o/c

ENGINEERING STANDING ORDER NO.73 Dt. 05.05.2011

1. It is mandatory to provide Height Gauges at all Road Under Bridges including Limited Use Subways. Height Gauges shall be provided as per arrangements mentioned below:

   i) All Limited Use Subways & RUBs, which are vulnerable to frequent damage by road vehicles, and all RUBs having PSC girders or Steel girders as superstructure (covered under Sl.No.1 of table in Para 2.0 below) shall be provided with two sets of Height gauges as per the sketch No. 1/Ht.Gauge (Copy enclosed)

   ii) All Limited Use Subways and RUBs, which are not vulnerable to damage by road vehicles and other than those covered under (iii) below shall be provided with Height Gauges as per sketch No.2/Ht.Gauge (Copy enclosed). Please see Sl.No.2 of table in Para 2.0 below.

   iii) All remaining Limited Use subways not having Steel & PSC girders and which are meant for two wheeler/3 wheeler traffic and cars only, shall be provided with Height Gauges as per sketch No.3/Ht.Gauge.(Copy enclosed). Please see Sl.No.3 of Para 2.0 below.

2. The Height gauge to be provided at Limited Use Subways and RUBs, shall be as per the standard drawings mentioned below:

S. No.	Category of Limited Use subway and RUBs	Type of Road Traffic	No of Height Gauges	Drawing No.	Classification of Height Gauge
1	Vulnerable to frequent damage by road vehicles and all PSC & Steel girder Bridges	Two way	2	Hqrs Drg. No. GM(W) SC/BR/2729/ 2010	Heavy Duty
			2	Hqrs Drg. No. GM(W) SC/BR/2728/ 2011	Medium Duty
		One Way	2	Hqrs Drg. No. GM(W) SC/BR/2729/ 2011	Heavy Duty
			4	Hqrs Drg. No. GM(W) SC/BR/2728/ 2011	Medium Duty
2	Non-Vulnerable to damage by road vehicles and which do not fall in the category mentioned under Sl.No.3 below.	Two way	2	Hqrs Drg. No. GM(W) SC/BR/2729/ 2010	Heavy Duty
		One Way	4	Hqrs Drg. No.GM(W) SC/BR/2729/ 2010	Heavy Duty
3	Limited Use subway for 2 wheeler/3wheeler traffic and cars only and where Super Structure is not of PSC/Steel Girders.	Two way	2	Hqrs. Drg. No. GM(W)SC/BR/ 2727/2011	Light Duty
		One Way	4	Hqrs. Drg. No. GM(W)SC/BR/ 2727/2011	Light Duty

3. Sectional Senior Divisional Engineer/Divisional Engineer shall categorise the existing RUBs, Limited Use Subways in the three categories mentioned in table above. It shall be revised periodically.

4. The responsibility of Laying & Maintenance of above mentioned Height Gauges shall be as mentioned below:

S. No.	Category of Limited Use Subway and RUBs	Laying/ Repairs/ replacement	Inspection	Painting
1	Vulnerable to frequent damage by road vehicles and all PSC & Steel girder Bridges	SSE/Bridges	i) Key Man- Daily. He will report to Mate and SSE/JE/P.Way if it is damaged. ii) SSE/JE/P.Way- as per P.T. inspection schedule iii) Sectional ADENs - as per P.T. Inspection schedule iv) SSE/Bridges - once in 6 months	SSE/Bridges
2	Non-Vulnerable to damage by road vehicles and which do not fall in the category mentioned under Sl.No.3 below.	SSE/Bridges		SSE/Bridges
3	Limited Height subway for 2 wheeler/3 wheeler traffic and cars only and where superstructure is not of PSC/Steel girders.	SSE/P.Way	i) Key Man- Daily. He will report to Mate and SSE/JE/P.Way if it is damaged. ii) SSE/JE/P.Way as per P.T. inspection schedule iii) Sectional ADENs - as per P.T. Inspection schedule	SSE/P.Way

5. The inspecting officials shall advise concerned officials as mentioned above in case of non-availability/damage of Height Gauge for taking action for its replacement/repairs. The division shall keep fabricated Height Gauges vertical & Horizontal members and other accessories as reserve at least 10% of its total requirement for immediate replacement for those RUBs which are vulnerable for damage as per past records. The division shall always keep a live contract available for repairs/replacement of the Height Gauges as per need.

6. The vertical clearance at Height Gauge shall be 150mm lesser than that of minimum clearance available just below the RUB. In case of single line, the vertical clearance shall be measured at bottom most part of the particular bridge. In case of multiple lines, the vertical clearance shall be measured at bottom most part of the particular bridge where vertical clearance is the minimum. The clearance shall be measured with respect to road surface top.

7. Minimum clearance at RUB shall be maintained. The vertical clearance shall be marked and neatly painted on both abutments and regular checks shall be carried out to ensure the same. In case the clearance is reduced/not available, action shall be taken to get the Road surface lowered by Road authorities.

8. Road signage board (Retro Reflective type) displaying Height Limit shall be provided as per fig. 13.24 and displaying prohibition of type of vehicles which are not fit to cross the RUB as per fig. 13.8 (if required) of IRC 67-2001, Code of practice for road signs, at a distance of 20m from Height Gauge (Copy enclosed)

9. In case of non-functioning of Height Gauge due to damage by Road vehicle, a watch man shall be posted by SSE/P.Way for all three types of RUBs/LHSs for protection of track till the Height Gauge is provided. The watchman should protect the track and stop the train if any vehicle hit the girders and damage the girder/track and inform SSE/P.Way for further course of action. Speed restrictions, as felt necessary, should also be imposed in such cases.

10. Divisions should take action for immediate replacement of Height Gauges, in case of damages, this being a safety item. Divisions shall keep necessary reserve with the officials mentioned in 3rd column of Table in Para 4 above at nominated places.

11. If any Height Gauge has been hit by a road vehicle, a complaint shall be lodged immediately by section SSE/P.Way in the local Civil police Station or with Traffic Police wherever a separate department exists to take necessary action against the road vehicle driver and to post a traffic policeman also at the bridge location till the Height Gauge is repaired/ replaced.

12. Concerned Road authorities may be advised to provide a Speed breaker/ Rumble strip ahead of the Height Gauge at a distance of 20.0 to 22.0m as shown in the drawing. However, in case they do not provide the same, it should be provided by Railways at their own cost in the interest of safety.

13. It shall be impressed upon Road authorities for providing concrete road at RUB between Height Gauges on both sides so as to avoid frequent repairs and also possibility of reduction in vertical clearance due to re-surfacing.

14. In case of repairs/re-surfacing of road prior permission of railway shall be obtained by road authorities and due care shall be taken to ensure that the existing vertical clearance as marked on the abutment is not reduced. There shall be no increase in the road level at any time. The division shall keep liaison with concerned State Govt. road authorities.

5/5/2011

Chief Bridge Engineer

Head Quarters Office
Works Branch
Rail Nilayam
Secunderabad-071
Dt: 02.05.2011

No: W.71/Br/P/9/Policy/Vol.VI

Chief Bridge Engineer

Copy to: DRM/Works/SC, BZA, GTL, GNT, HYB & NED
CAO/C/SC, CTE, CE/TP, CE/Works, CE/P&D, CE/TM, CE/WS & F, CGE, CSO/SC,
Secy. to PCE for information of PCE

3.12. Truck-Tractor

A motor vehicle designed for drawing other vehicles, but not for a load other than part of the weight of the vehicle and load drawn.

3.13. Truck-Trailer Combination

A truck or a tractive unit with a trailer.

3.14. Width Overall

The total outside transverse dimension of a vehicle including any load or load holding devices thereon, but excluding approved safety devices and tyre bulge due to load.

4. NOTATIONS FOR VEHICLE TYPES

The Figure shows the outline of the vehicle types covered by this Standard. The first digit indicates the number of axles of the truck or truck-tractor. The letter "S" indicates a semi-trailer and the letter immediately following an "S" indicates the number of axles on the semi-trailer. Any digit other than the first in a combination, when not preceded by "S" indicates a trailer and the

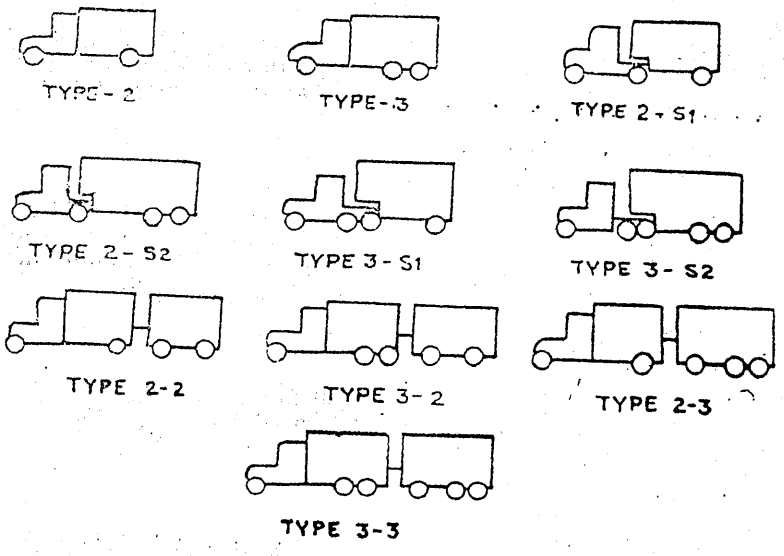


Fig. Vehicle Types

number of its axles. For instance, a 2-S2 combination is a two-axle truck-tractor with a tandem-axle semi-trailer. Combination 2-2 is a two-axle truck with a two-axle trailer.

5. DIMENSIONS OF ROAD DESIGN VEHICLES

5.1. Width

No vehicle shall have a width exceeding 2.5 m.

5.2. Height

No vehicle other than a double-decker bus shall have a height exceeding 3.8 m for normal application and 4.2 m when carrying ISO series 1 freight containers. Double decker buses may, however, have a height not exceeding 4.75 m.

5.3. Length

5.3.1. The maximum overall length of a single unit truck, exclusive of front and rear bumpers, having two or more axles, shall be 11 m.

5.3.2. The maximum overall length of a single unit bus, exclusive of front and rear bumpers, having two or more axles shall be 12 m.

5.3.3. The maximum overall length of a truck-tractor semi-trailer combination, exclusive of front and rear bumpers, shall be 16 m.

5.3.4. The maximum overall length of a truck-trailer combination, exclusive of front and rear bumpers, shall be 18 m.

5.3.5. No combination of vehicles shall comprise more than two vehicles.

6. MAXIMUM PERMISSIBLE WEIGHTS

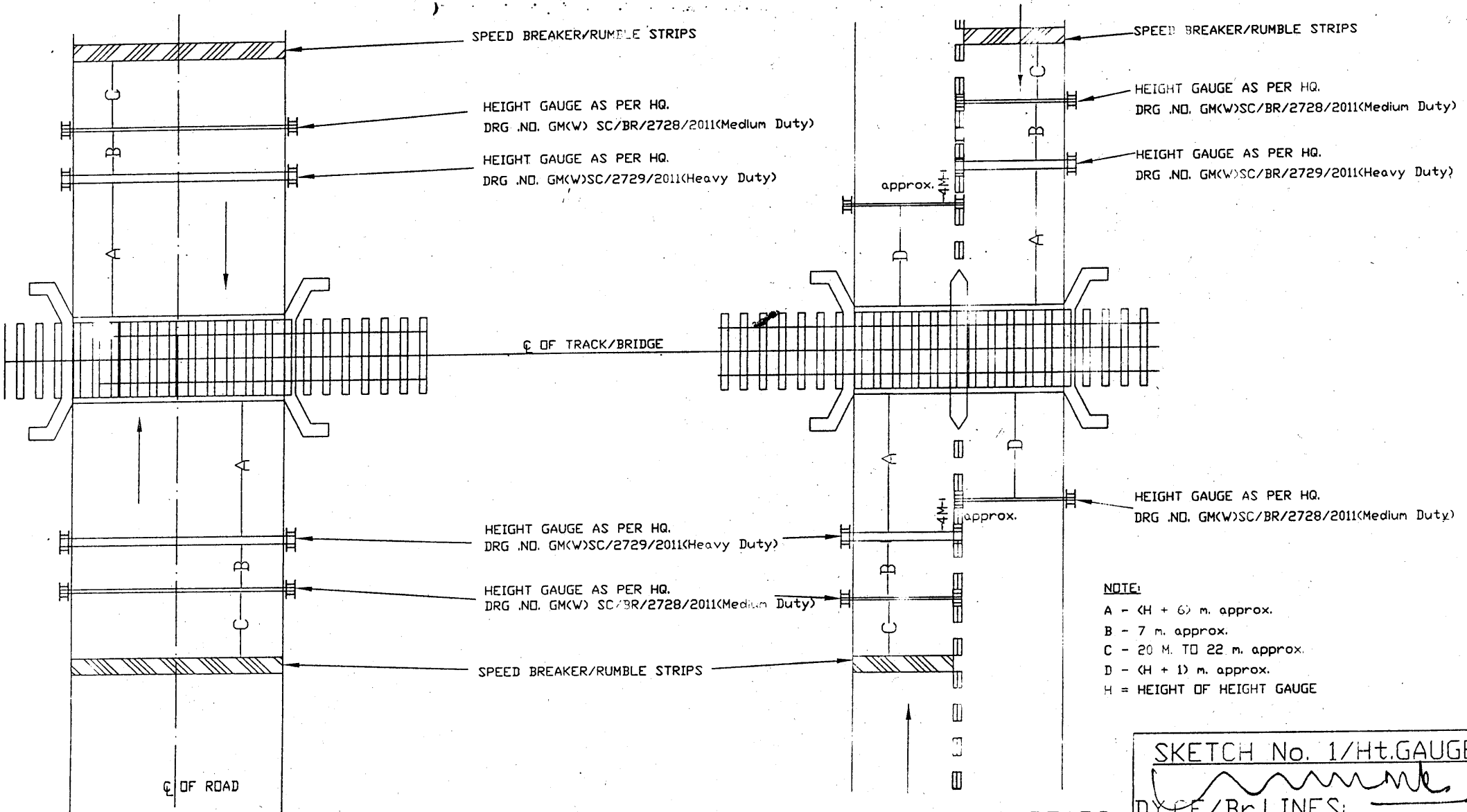
6.1. Single Axle Weight

The total gross weight imposed on the highway by a single axle fitted with dual wheels shall not exceed 10.2 tonnes. In the case of axles with single wheels, the axle weight shall not exceed 6 tonnes.

6.2. Tandem Axle Weight

The total gross weight imposed on the highway by two axles in tandem articulated from a common attachment to the vehicle or

SCHEMATIC SKETCH SHOWING PROVISION OF HEIGHT GAUGES AT ALL PSC & STEEL GIRDER RUBs & VULNERABLE TO DAMAGE BY ROAD VEHICLES



TWO WAY TRAFFIC ROADS WITHOUT DEVIDERS(MEDIAN)

ONE WAY TRAFFIC ROADS WITH DEVIDERS (MEDIAN)

NOTE:

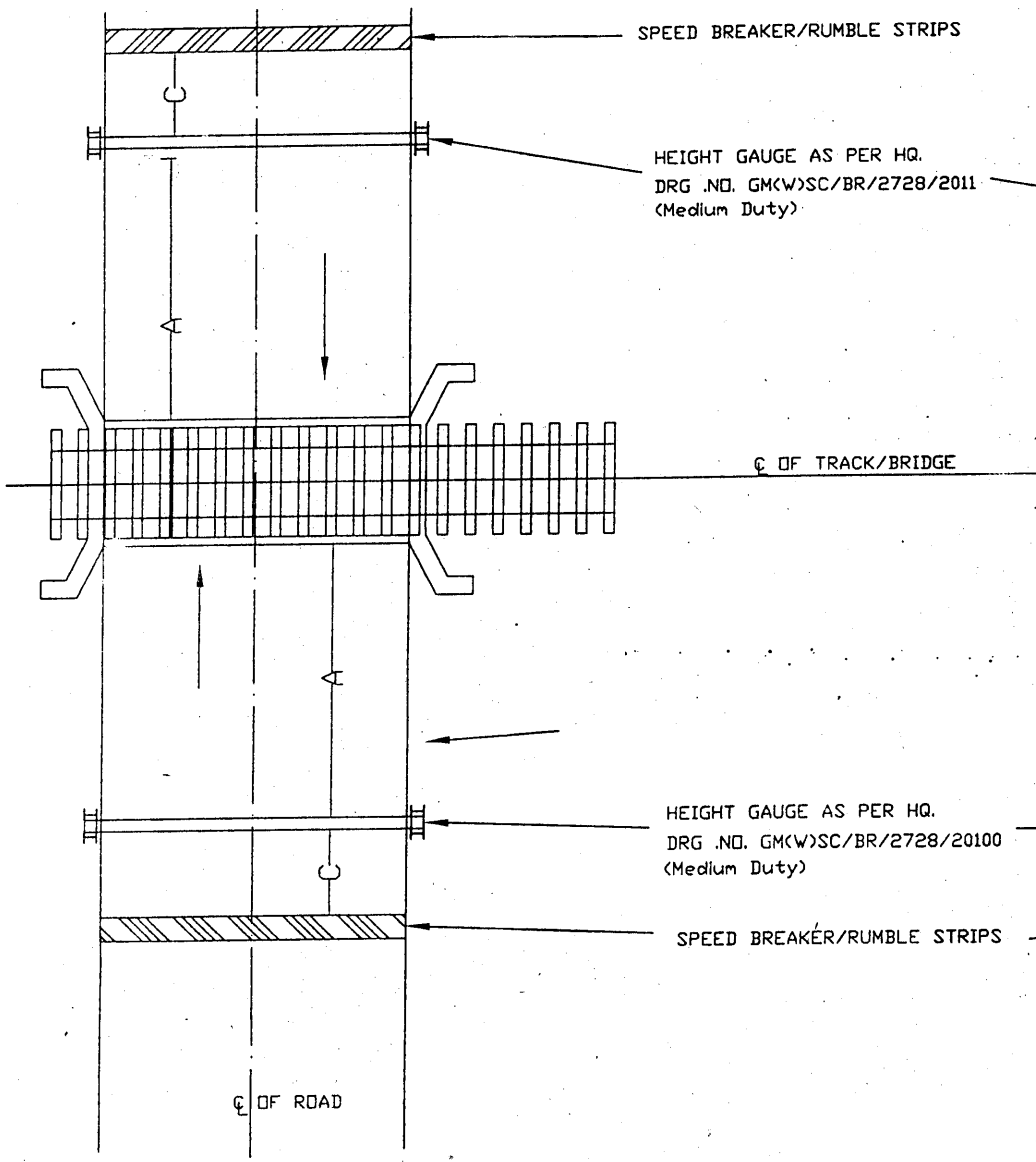
A - (H + 6) m. approx.
B - 7 m. approx.
C - 20 M. TO 22 m. approx.
D - (H + 1) m. approx.
H = HEIGHT OF HEIGHT GAUGE

SKETCH No. 1/Ht.GAUGE

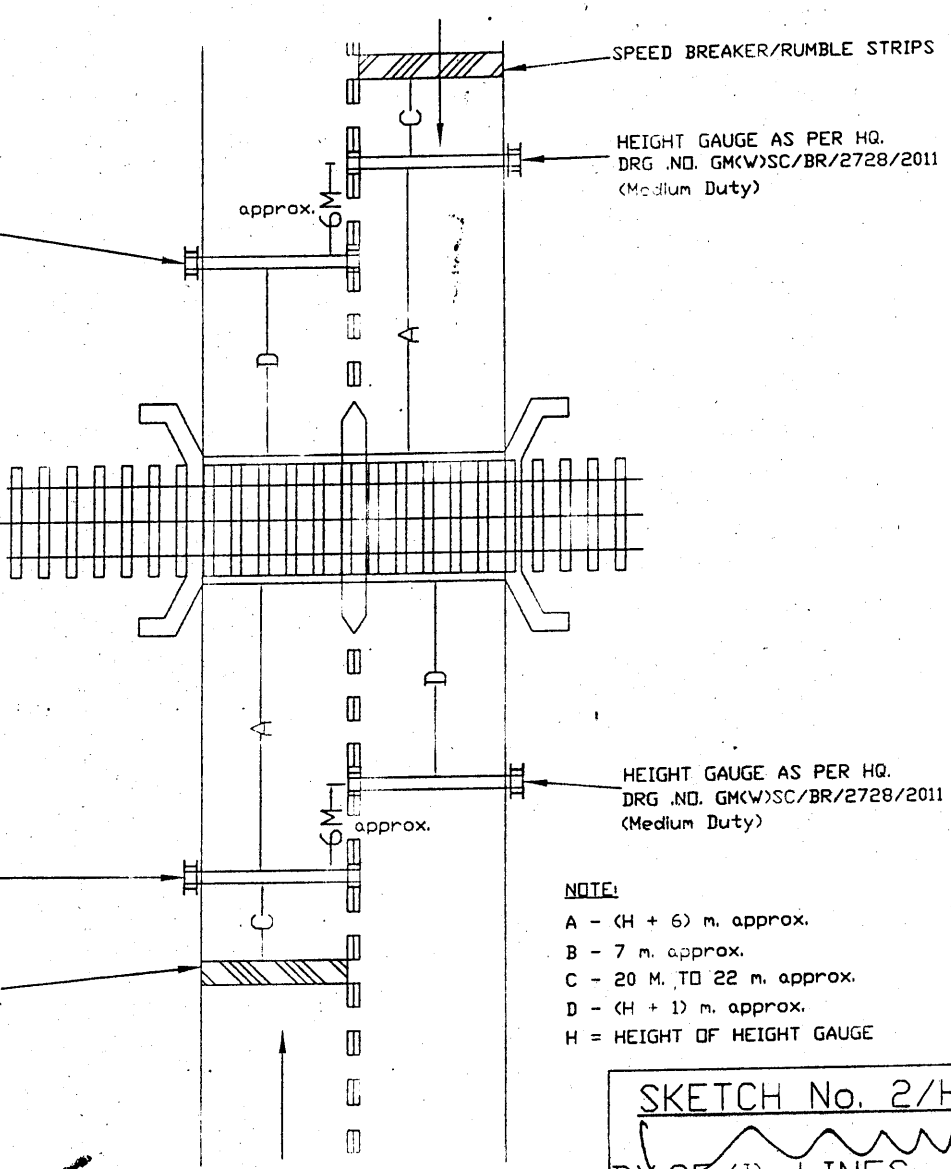
DY.CE/Br.LINES:

DATE: 05/05/11.

SCHEMATIC SKETCH SHOWING PROVISION OF HEIGHT GAUGES AT RUBS - NON-VULNERABLE TO DAMAGE BY ROAD VEHICLES



TWO WAY TRAFFIC ROADS WITHOUT DEVIDERS(MEDIAN)



ONE WAY TRAFFIC ROADS WITH DEVIDERS (MEDIAN)

NOTE:

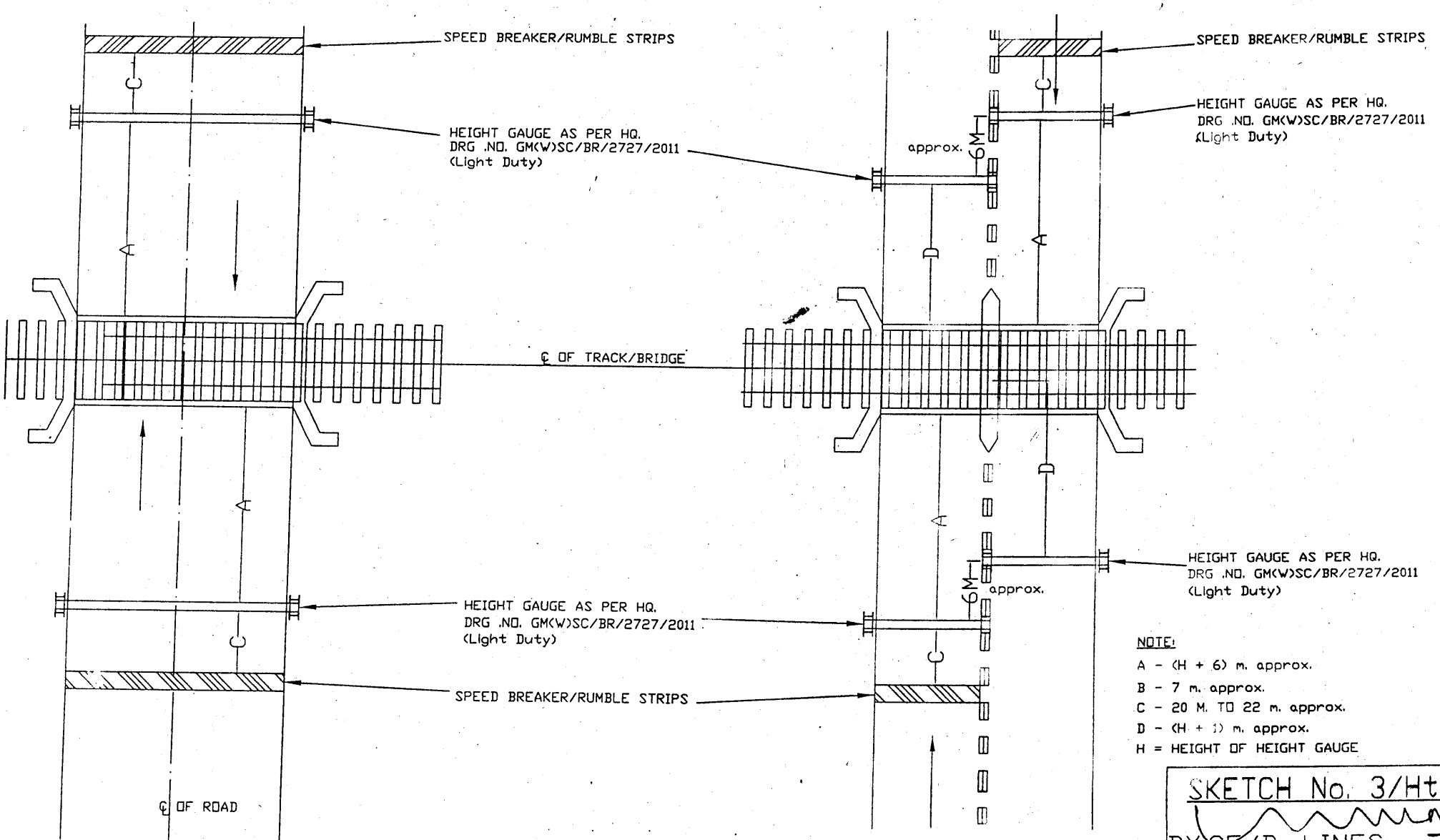
A - (H + 6) m. approx.
B - 7 m. approx.
C - 20 M. TO 22 m. approx.
D - (H + 1) m. approx.
H = HEIGHT OF HEIGHT GAUGE

SKETCH No. 2/Ht.GAUGE

DY.CE/Br.LINES:

DATE: 05/05/11

SCHEMATIC SKETCH SHOWING PROVISION OF HEIGHT GAUGES AT LIMITED USE SUBWAYS (2 WHEELERS, 3 WHEELERS & CARS) & SUPER STRUCTURE OTHER THAN STEEL & PSC GIRDERS



TWO WAY TRAFFIC ROADS WITHOUT DEVIDERS (MEDIAN)

ONE WAY TRAFFIC ROADS WITH DEVIDERS (MEDIAN)

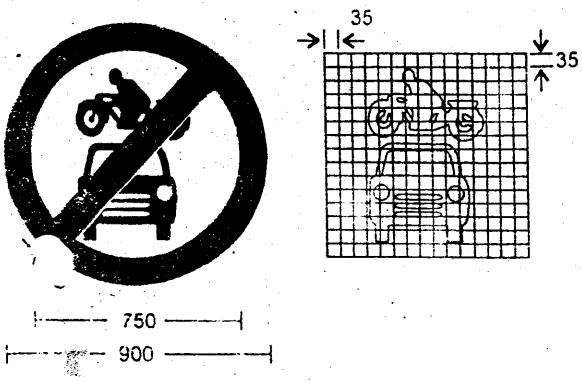
NOTE:

A - (H + 6) m. approx.
B - 7 m. approx.
C - 20 M. TO 22 m. approx.
D - (H + 1) m. approx.
H = HEIGHT OF HEIGHT GAUGE

SKETCH No. 3/Ht.GAUGE

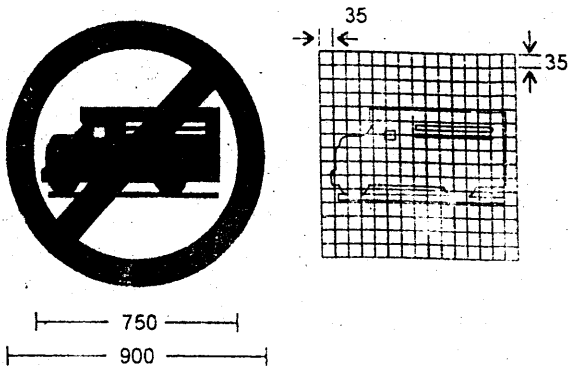
DY.CE/Br.LINES: 05/05/11

DATE:



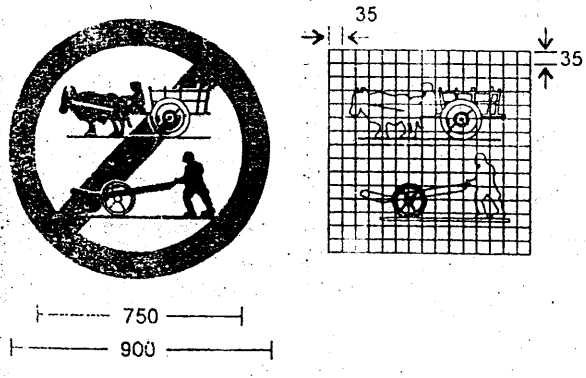
ALL MOTOR VEHICLES PROHIBITED

Fig. 13.7



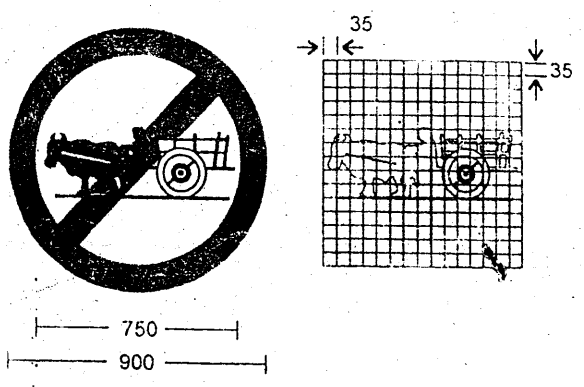
TRUCK PROHIBITED

Fig. 13.8



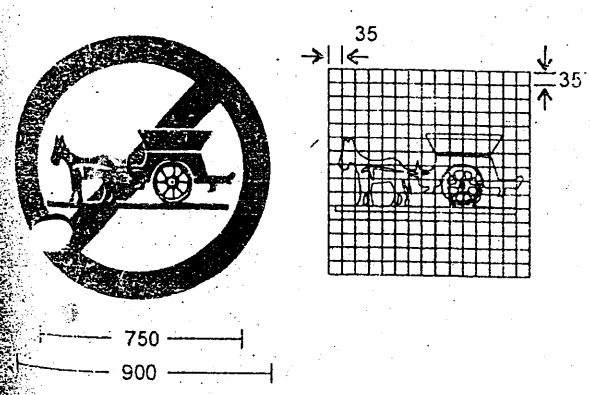
BULLOCK CART & HAND CART PROHIBITED

Fig. 13.9



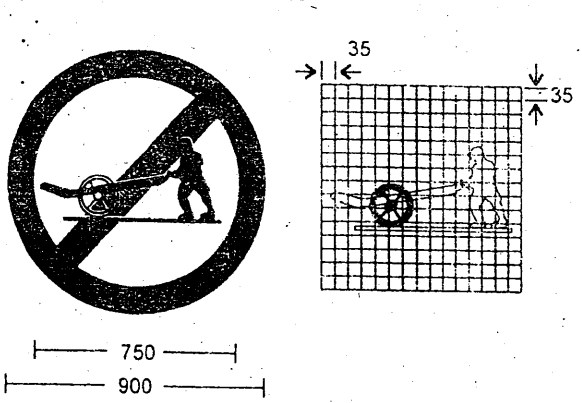
BULLOCK CART PROHIBITED

Fig. 13.10



TONGA PROHIBITED

Fig. 13.11

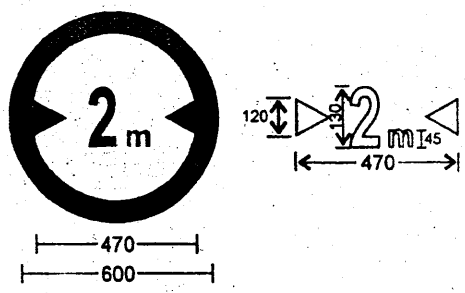


HAND CART PROHIBITED

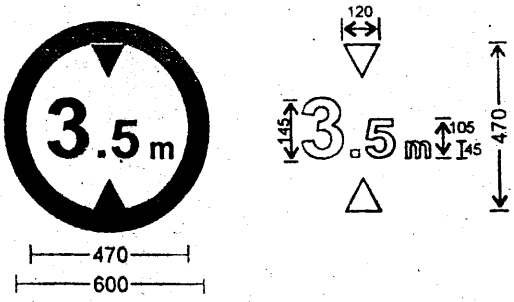
Fig. 13.12

1. Dimensions shown are for normal sized signs
2. All dimensions are in millimetres

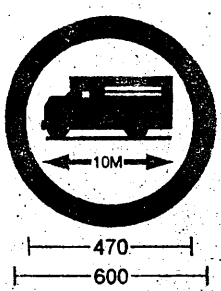
PLATE-1
(Continued)

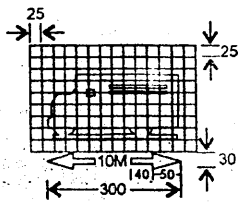


WIDTH LIMIT
Fig. 13.23

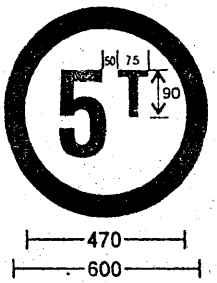


HEIGHT LIMIT
Fig. 13.24

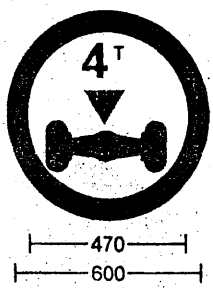


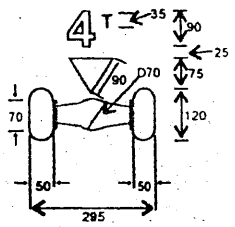


LENGTH LIMIT
Fig. 13.25



LOAD LIMIT
Fig. 13.26





AXLE LOAD LIMIT
Fig. 13.27

RESTRICTION ENDS SIGNS

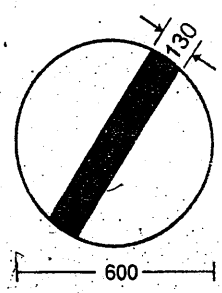


Fig. 13.28

1. Dimensions shown are for normal sized signs
2. All dimensions are in millimetres