

## HIGHWAYS DEPARTMENT

**176<sup>th</sup> MEETING OF THE BOARD OF ENGINEERS held on  
09.11.2019 at 03.00 PM in the Conference Hall of  
Director General, Guindy, Chennai.**

### **MEMBERS PRESENT:**

#### **Thiruvallargal/Thirumathigai**

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|------------|--|-----------------|
| <b>1.</b>  | <b>R.GOTHANDARAMAN, M.E.,</b><br>Director General ,<br>Highways,<br>Chennai - 600 025.   | <b>Chairman</b> |
| <b>2.</b>  | <b>N.SHANTHY, M.E.,</b><br>Chief Engineer,<br>Construction & Maintenance,<br>Chennai-600 025.                                    | <b>Member</b>   |
| <b>3.</b>  | <b>M.K.SELVAN, B.E.,</b><br>Chief Engineer (H),<br>NABARD and Rural Roads,<br>Chennai - 600 025.                                 | <b>Member</b>   |
| <b>4.</b>  | <b>S.SUMATHI, M.E.,</b><br>Chief Engineer (H),<br>Metro,<br>Chennai - 600 025.   | <b>Member</b>   |
| <b>5.</b>  | <b>N.BALAMURUGAN, B.E.,M.B.A.,M.Tech.,</b><br>Chief Engineer,<br>National Highways,<br>Chennai - 600 025.                        | <b>Member</b>   |
| <b>6.</b>  | <b>M.MURUGESAN,B.E.,</b><br>Chief Engineer (H),<br>Projects,<br>Chennai-600 025.   | <b>Member</b>   |
| <b>7.</b>  | <b>B.R.KUMAR, M.E.,</b><br>Chief Engineer (H),<br>Planning, Designs & Investigation,<br>Chennai - 600 025.                       | <b>Member</b>   |
| <b>8.</b>  | <b>R.GEETHA, B.E.,M.Tech.,</b><br>Director,<br>Highways Research Station,<br>Chennai - 600 025.                                  | <b>Member</b>   |
| <b>9.</b>  | <b>M.VIJAYA, B.E,</b><br>Chief Engineer (H),<br>Tamil Nadu Road Sector Project II,<br>Chennai - 600 028.                         | <b>Member</b>   |
| <b>10.</b> | <b>R.CHANDRASEKAR, M.Tech.,</b><br>Chief Engineer (H),<br>Chennai Kanyakumari Industrial Corridor Project,<br>Chennai - 600 025. | <b>Member</b>   |

**MINUTES OF THE 176<sup>th</sup> MEETING OF  
THE BOARD OF ENGINEERS**

**Date: 09.11.2019, Time: 03.00 PM**

**Item No.1**

**Basic Rates of Road Furniture Items**

The Chief Engineer (H), Construction and Maintenance placed the above agenda before the Board of Engineers.

The Chief Engineer (H), Construction and Maintenance has recommended for the approval of certain new Road Furniture items viz., Overhead Cantilever Gantry Informatory Sign Board, Overhead Gantry Informatory Sign Board, Digitally Printed Retro-Reflectorized Sign Board using UV Inkjet Printer and Digitally Printed Fluorescent Coloured Retro-Reflectorized Sign Board using Latex Printer to promote road safety and efficiency for the orderly movement of all road users and to support the vehicular drivers in multilane traffic to avoid collision due to inter changing of lanes without any hindrance under harsh and low lighting conditions.

Gantry Sign Board provides overhead place identification signs, informatory signs, etc., in multilane roads, enabling the vehicular drivers to choose the lane in advance based on the direction they are heading.

Digitally Printed Retro-Reflectorized Sign Board using UV Inkjet Printer provides informatory signs and images of tourist and important places along with directions, enabling easy identification of places without language barriers.

Digitally Printed Fluorescent Coloured Retro-Reflectorized Sign Board using Latex Printer provides direction, information and place identification signs digitally printed over fluorescent coloured sheet which has a high illumination that can be seen from far away distance helping in easy identification of direction/sign boards during night and day time in turn reducing accidents and congestions.

***The Board of Engineers discussed and analysed the proposal in detail. Based on the recommendations of the Chief Engineer (H), Construction and Maintenance, it is resolved to approve the Basic Rates of the following Road Furniture Items as below.***

Sl. No.	Description of Item	Unit	Basic Rates approved (Excluding GST) (in Rs.)
1.	<b>Digitally Printed Retro-Reflectorized Overhead Cantilever Gantry Informatory Sign Board</b>		
<p>Providing and fixing of Digitally Printed Retro-Reflectorized Overhead Cantilever Gantry Informatory Sign Board made out of cube corner Micro Prismatic grade sheeting of Type XI standards of IRC67 - 2012 and ASTM D 4956 - 09 specification, Digitally Printed using Latex Printer for traffic color logos/ text and laminated with clear electro-cutable film and applied to properly prepared sign substrates, fixed over 2mm thick aluminum sheet with back supporting frame of size 50mm x 50mm x 6mm MS angle and supported on a vertical post of 300 NB (Nominal Bore) MS pipe of 12 mm thick with a ground clearance of 6meters along with 80NB (Nominal Bore) MS Pipe with 4mm thick and 40NB (Nominal Bore) MS Pipe with 3.20 mm thick support posts. The sign board should be painted as per IRC 67-2012 and firmly fixed to the ground by means of properly designed substructure and foundation with Reinforced Cement Concrete M20 grade column (1.25m x 1.25m x 1.90m) and footing (1.80m x 1.80m x 0.30m) with Fe 500 steel over Plain Cement Concrete M15 grade levelling course of 100 mm thick. The minimum depth of foundation shall not be less than 2.00m. 1 number of MS Base plate of size 1200mm x 1200mm x 25mm with Anchor bolts of 25mm dia and 1000mm length, 2 numbers of MS Top plates of size 900mm x 2100mm x 16mm with suitable bolts, nuts and washers, suitable numbers of MS stiffener plates of 8mm thick are to be used to hold the sign board at the bottom and top respectively including cost and conveyance of all materials, equipment, machinery and labour with all leads and lifts, loading charges and fixing the overhead cantilever sign board in position, etc., for satisfactory completion of the work as per structural and foundation drawings approved by the competent authority and as directed by the Engineer-in-charge. The micro prismatic grade retro-reflector sheet should have minimum co-efficient of Retro-reflection values as per Table 6.9 of IRC 67-2012. The retro-reflective sheeting shall be covered under 10 years warranty issued for field performance as per IRC 67-2012 and a certified copy of 3 years outdoor exposure report shall be obtained. The warranty shall be inclusive of digitally printed logos/text/legends and their bonding to the retro-reflective sheeting (as per MoRT&amp;H specification No.801). The Latex printer used for digital printing should be used with inks of low VOC emissions and should have green guard, eco logo certificates as per UL 2801 standards.</p>			
<b>Digitally Printed Retro-Reflectorized Overhead Cantilever Gantry Informatory Sign Board of size 5.00m x 1.80m</b>		<b>1 No.</b>	<b>4,68,127.00</b>

Sl. No.	Description of Item	Unit	Basic Rates approved (Excluding GST) (in Rs.)
2.	<b>Digitally Printed Retro-Reflectorized Overhead Gantry Informatory Sign Board</b>		
<p>Providing and fixing of Digitally Printed Retro-Reflectorized Overhead Gantry Informatory Sign Board made out of cube corner Micro Prismatic grade sheeting of Type XI standards of IRC 67 - 2012 and ASTM D 4956 - 09 specification, Digitally Printed using Latex Printer for traffic color logos/ text and laminated with clear electro-cutttable film and applied to properly prepared sign substrates, fixed over 2 mm thick aluminum sheet with back supporting frame of size 50mm x 50mm x 6mm MS angle and supported on 2 numbers of vertical posts of 300 NB (Nominal Bore) MS pipe of 12 mm thick with a ground clearance of 6metres along with 80NB (Nominal Bore) MS Pipes with 4mm thick and 40NB (Nominal Bore) MS Pipes with 3.20 mm thick support posts. The sign board should be painted as per IRC 67-2012 and firmly fixed to the ground by means of properly designed substructure and foundation with Reinforced Cement Concrete M20 grade column (1.25m x 1.25m x 1.90m) and footing (1.80m x 1.80m x 0.30m) with Fe 500 steel over Plain Cement Concrete M15 grade levelling course of 100 mm thick for each vertical post. The minimum depth of foundation shall not be less than 2.00m. 1 number of MS Base plate of size 1200mm x 1200mm x 25mm with Anchor bolts of 25mm dia and 1000mm length, 2 numbers of MS Top plates of size 900mm x 900mm x 16mm with suitable bolts, nuts and washers, suitable numbers of MS stiffener plates of 8mm thick are to be used for each vertical post, to hold the sign board at the bottom and top respectively including cost and conveyance of all materials, equipment, machinery and labour with all leads and lifts, loading charges and fixing the overhead sign board in position, etc., for satisfactory completion of the work as per structural and foundation drawings approved by the competent authority and as directed by the Engineer-in-charge. The micro prismatic grade retro-reflector sheet should have minimum co-efficient of Retro-reflection values as per Table 6.9 of IRC 67-2012. The retro-reflective sheeting shall be covered under 10 years warranty issued for field performance as per IRC 67-2012 and a certified copy of 3 years outdoor exposure report shall be obtained. The warranty shall be inclusive of digitally printed logos/text/legends and their bonding to the retro-reflective sheeting (as per MoRT&amp;H specification No.801). The Latex printer used for digital printing should be used with inks of low VOC emissions and should have green guard, eco logo certificates as per UL 2801 standards.</p>			
<b>Digitally Printed Retro-Reflectorized Overhead Gantry Informatory Sign Board of Size 12.00 m x 1.80 m</b>		<b>1 No.</b>	<b>8,81,911.00</b>

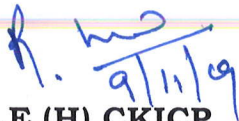
Sl. No.	Description of Item	Unit	Basic Rates approved (Excluding GST) (in Rs.)
3.	<b>Digitally Printed Retro-Reflectorized Sign Board using UV Inkjet Printer</b>		
<p>Providing and fixing of Digitally Printed Retro-Reflectorized Sign Board using UV Inkjet Printer made out of cube corner micro prismatic grade sheeting of Type-XI standards of IRC 67 – 2012 and ASTM D 4956 – 09 specification, Digitally Printed using UV Inkjet Printer (UVIJ) for traffic colour images/ logos/ text and laminated with clear electro-cuttable film and applied to properly prepared sign substrates, fixed over 2mm thick Aluminium sheet with back supporting frame of size 50mm x 50mm x 6mm MS angle and supported on 2 numbers of 150NB (Nominal Bore) MS pipes of 4.50mm thick with an overall height covering from top of the board to the bottom of foundation. The clear height of the posts from the ground level to the bottom of the sign board shall not be less than 2.10m and the depth below ground level shall not be less than 1.10m. The sign post should be painted as per IRC 67-2012 and firmly fixed to the ground by means of properly designed foundation with cement concrete M15 grade of size 45cm x 45cm x 110cm including cost and conveyance of all materials, equipment, machinery and labour with all leads and lifts, loading charges and fixing in position for satisfactory completion of the work as directed by the Engineer-in-charge etc., The micro prismatic grade retro-reflector sheet should have minimum co-efficient of Retro-reflection values as per Table 6.9 of IRC 67 – 2012. The retro-reflective sheeting shall be covered under 10 years warranty issued for field performance as per IRC 67-2012 and a certified copy of 3 years outdoor exposure report shall be obtained. The warranty shall be inclusive of digitally printed images/ logos/ text/ legends and their bonding to the retro-reflective sheeting (as per MoRT&amp;H specification No.801).</p>			
<b>Digitally Printed Retro-Reflectorized Sign Board using UV Inkjet Printer of size 3.64m x 2.42m</b>		<b>1 No.</b>	<b>1,37,235.00</b> ✓


4.	<b>Digitally Printed Fluorescent Coloured Retro-Reflectorized Sign Board using Latex Printer</b>		
<p>Providing and fixing of Digitally Printed Fluorescent Coloured Retro-Reflectorized Sign Board made out of cube corner micro prismatic grade Fluorescent coloured sheeting of Type - XI standards of IRC 67 – 2012 and ASTM D 4956 – 09 specification, Digitally Printed using Latex Printer for traffic color images/ logos/ text and laminated with clear electro-cuttable film and applied to properly prepared sign substrates, fixed over 2mm thick Aluminium sheet with back supporting frame of size 50mm x 50mm x 6mm MS angle and supported on 2 numbers of 150NB (Nominal Bore) MS pipes of 4.50mm thick with an overall height covering from top of the board to the bottom of foundation. The clear height of the posts from the ground level to</p>			


the bottom of the sign board shall not be less than 2.10m and the depth below ground level shall not be less than 1.10m. The sign post should be painted as per IRC 67-2012 and firmly fixed to the ground by means of properly designed foundation with cement concrete M15 grade of size 45cm x 45cm x 110cm including cost and conveyance of all materials, equipment, machinery and labour with all leads and lifts, loading charges and fixing in position for satisfactory completion of the work as directed by the Engineer-in-charge etc., The micro prismatic grade Fluorescent coloured sheeting of Type - XI should have minimum co-efficient of Retro-reflection values as per Table 6.9 of IRC 67 - 2012. The retro-reflective sheeting shall be covered under 10 years warranty issued for field performance as per IRC 67-2012 and a certified copy of 3 years outdoor exposure report shall be obtained. The warranty shall be inclusive of digitally printed images/ logos/ text/ legends and their bonding to the retro-reflective sheeting (as per MoRT&H specification No.801).

<b>Digitally Printed Fluorescent Coloured Retro-Reflectorized Sign Board using Latex Printer of size 3.64m x 2.42m</b>	<b>1 No.</b>	<b>1,33,711.00</b>
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**Action: All Chief Engineers,  
Highways Department.**

  
C.E (H) CKICP

  
C.E (H) TNRSP-II

  
C.E (H) Metro

  
C.E (H) N&RR

  
C.E (H) Projects

  
C.E (H) P.D&I

  
DIRECTOR HRS

  
C.E NH

  
C.E (H) C&M

  
DG HIGHWAYS