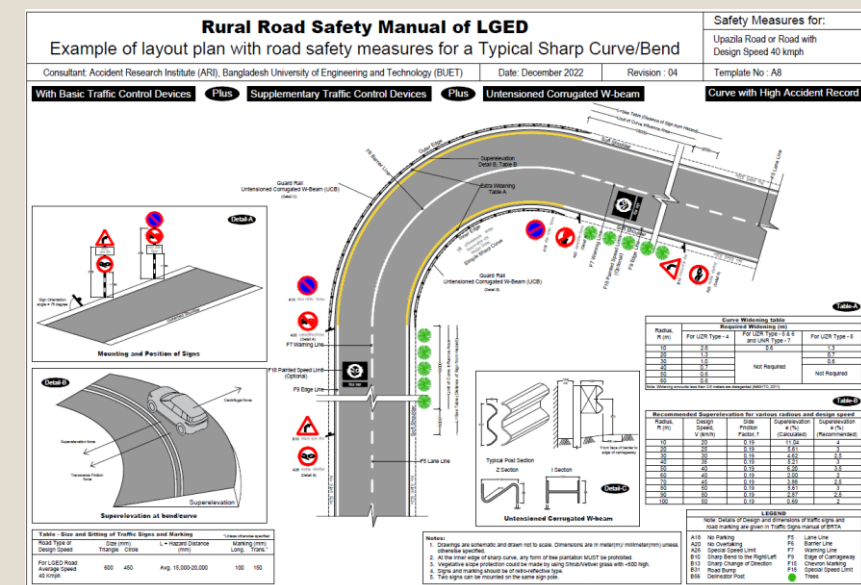
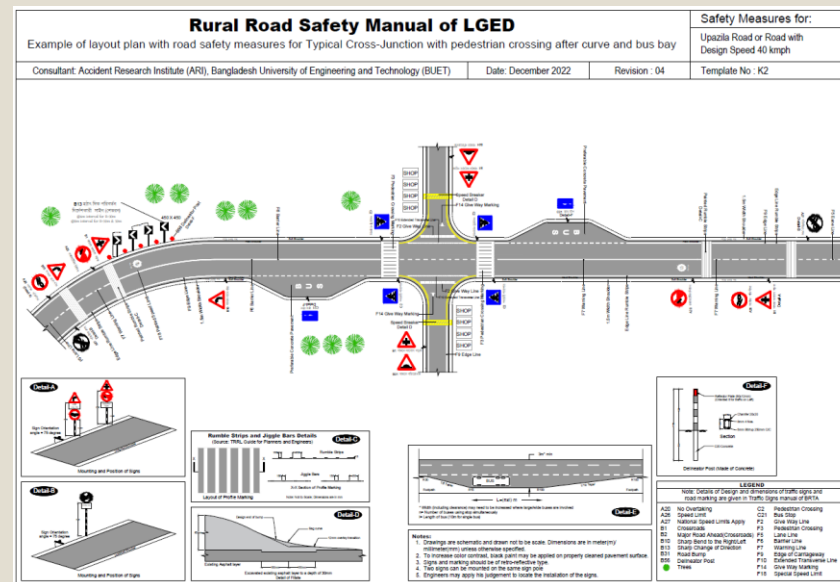


Rural Road Safety Manual (Typical Templates)

Layout Plan with Road Safety Measures



SECOND RURAL TRANSPORT IMPROVEMENT PROJECT

Local Government Engineering Department (LGED)
Ministry of Local Government, Rural Development and Co-operatives
Government of the People's Republic of Bangladesh



Accident Research Institute (ARI)
Bangladesh University of Engineering and Technology
Dhaka-1000, Bangladesh



Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : A7

With Basic Traffic Control Devices

Plus

Supplementary Traffic Control Devices

Plus

Curve Delineating Concrete Posts

Curve with High Accident Record

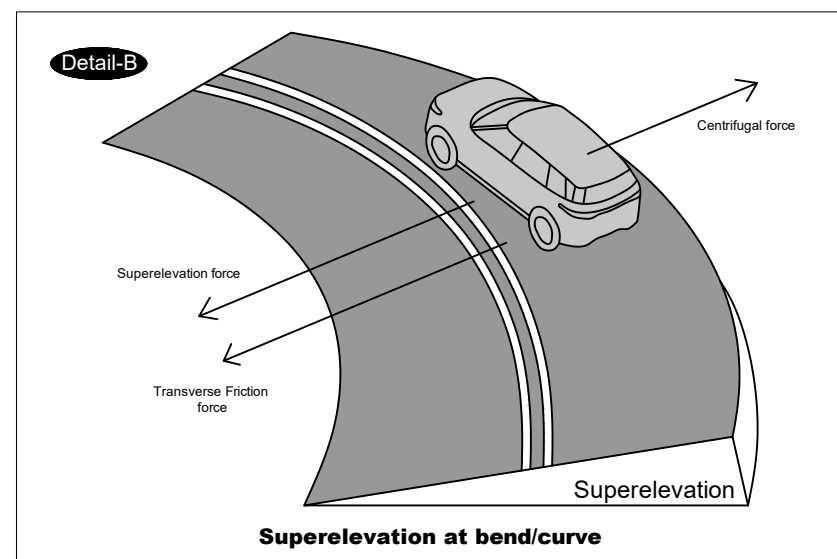
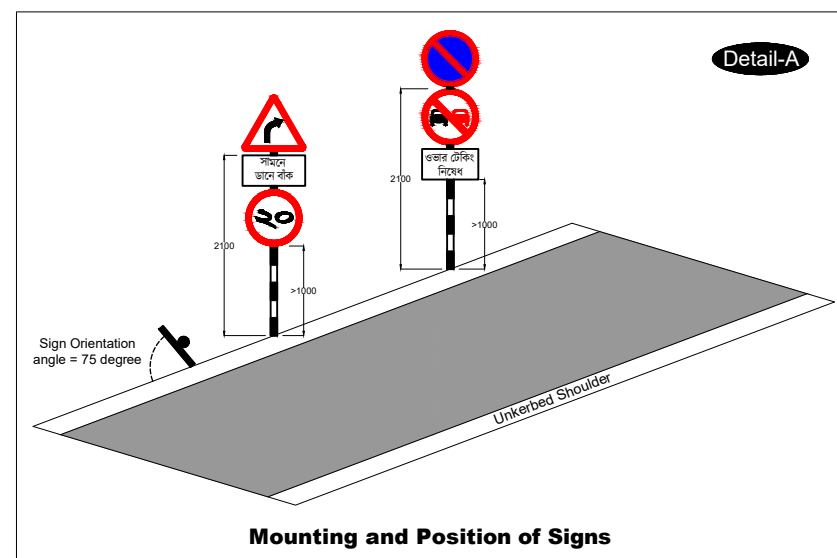
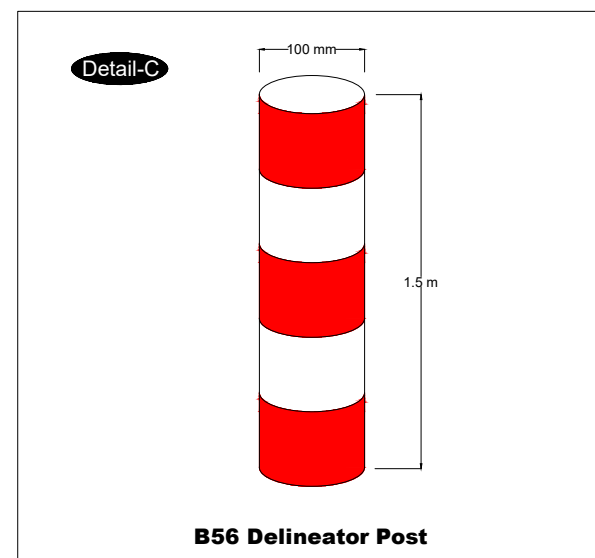
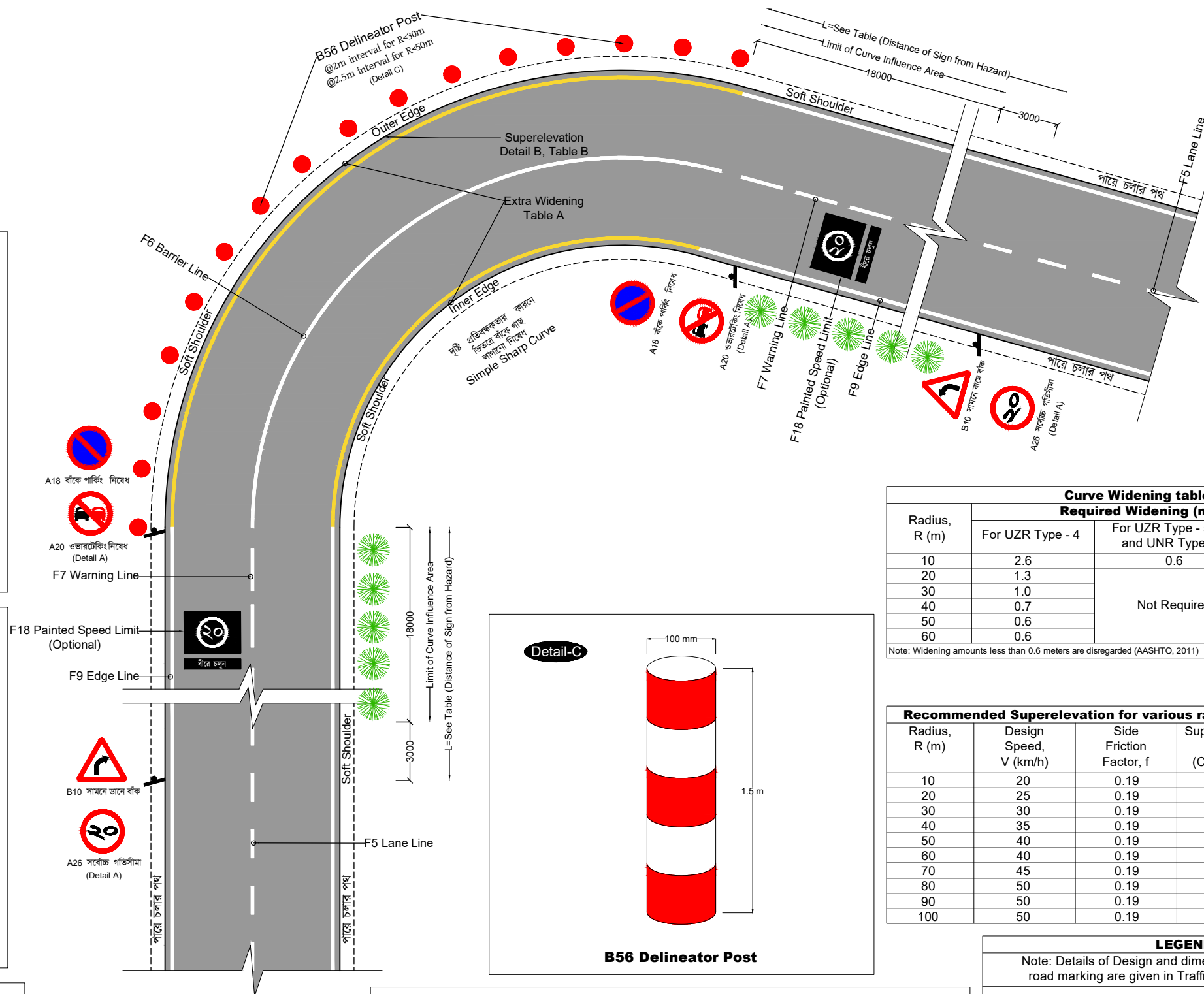


Table - Size and Sitting of Traffic Signs and Marking					*Unless otherwise specified	
Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)		
	Triangle	Circle		Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	



- Notes:**
- Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
 - At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.
 - Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high.
 - Signs and marking should be of retro-reflective type.
 - Two signs can be mounted on the same sign pole.

Table-A

Curve Widening table			
Radius, R (m)	Required Widening (m)		
	For UZR Type - 4	For UZR Type - 5 & 6 and UNR Type - 7	For UZR Type - 8
10	2.6	0.6	1.3
20	1.3	Not Required	0.7
30	1.0		0.6
40	0.7		Not Required
50	0.6		
60	0.6		
Note: Widening amounts less than 0.6 meters are disregarded (AASHTO, 2011)			

Note: Widening amounts less than 0.6 meters are disregarded (AASHTO, 2011)

Table-B

Recommended Superelevation for various radius and design speed				
Radius, R (m)	Design Speed, V (km/h)	Side Friction Factor, f	Superelevation e (%) (Calculated)	Superelevation e (%) (Recommended)
10	20	0.19	11.04	4
20	25	0.19	5.61	3
30	30	0.19	4.62	2.5
40	35	0.19	5.21	3
50	40	0.19	6.20	3.5
60	40	0.19	2.00	2
70	45	0.19	3.88	2.5
80	50	0.19	5.61	3
90	50	0.19	2.87	2.5
100	50	0.19	0.69	2

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A18	No Parking	F5	Lane Line
A20	No Overtaking	F6	Barrier Line
A26	Special Speed Limit	F7	Warning Line
B10	Sharp Bend to the Right/Left	F9	Edge of Carriageway
B13	Sharp Change of Direction	F15	Chevron Marking
B31	Road Bump	F18	Special Speed Limit
B56	Delineator Post		Trees

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : A8

With Basic Traffic Control Devices

Plus

Supplementary Traffic Control Devices

Plus

Untensioned Corrugated W-beam

Curve with High Accident Record

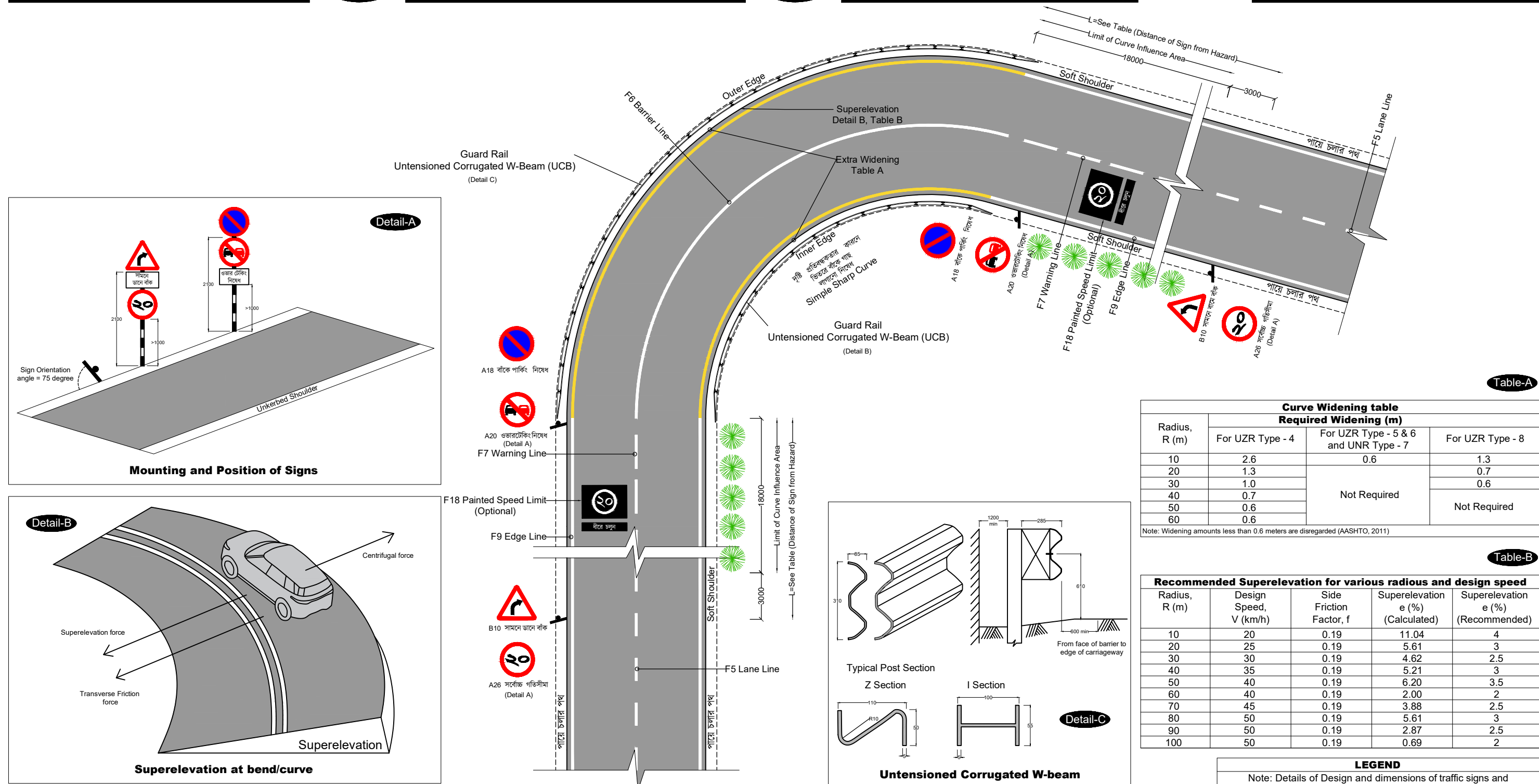


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

- Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.
- Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high.
- Signs and marking should be of retro-reflective type.
- Two signs can be mounted on the same sign pole.

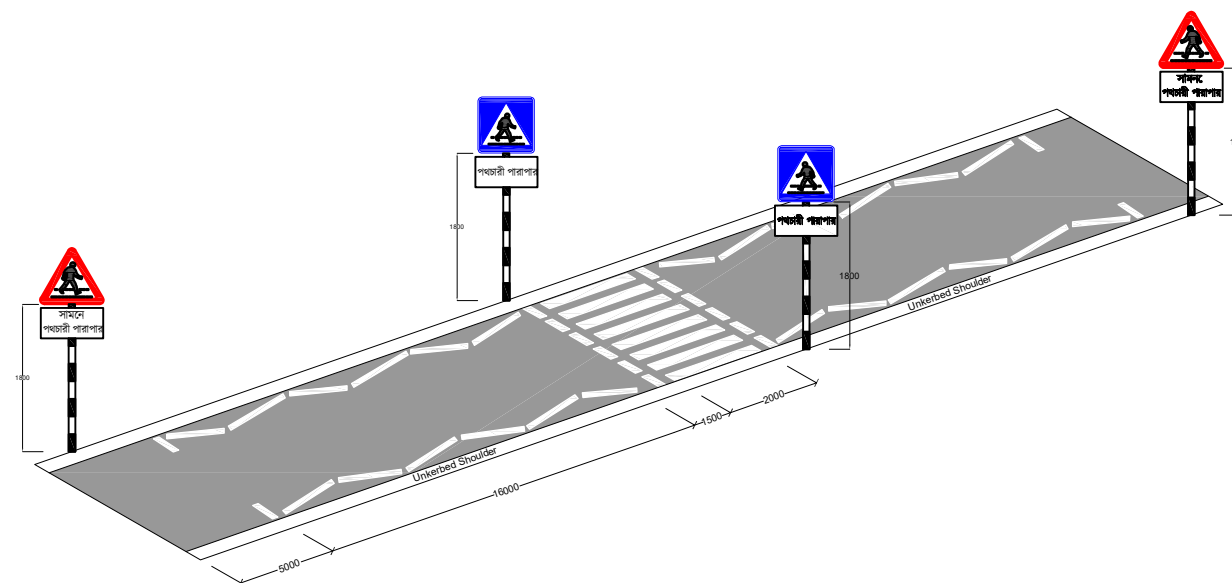
Example of layout plan with road safety measures for Standard Pedestrian Crossing

Upazila Road or Road with
Design Speed 40 kmph

Template No : B1

The diagram illustrates a pedestrian crossing on a two-lane road. Key features include:

- Dimensions:**
 - Overall road width: 5500 mm.
 - Shoulder width: 2150 mm.
 - Distance from road edge to terminal lines: 10500 mm.
 - Distance between terminal lines: 1000 mm.
 - Distance from terminal lines to F20 Zig-Zag: 4000 mm.
 - Distance between F20 Zig-Zag and F6 Barrier Line: 1500 mm.
 - Distance between F6 Barrier Line and F9 Edge Line: 8000 mm.
 - Distance between F9 Edge Line and F7 Warning Line: 3150 mm.
 - Distance between F7 Warning Line and F5 Lane Line: 3150 mm.
- Signage:**
 - C2** (Blue square with white border and pedestrian symbol) is placed at the crossing.
 - B23** (Red triangular warning sign with pedestrian symbol) is placed at the approach and exit.
- Other Features:**
 - F20 Zig-Zag:** 100 thick 6 nos.
 - F6 Barrier Line:** 100 thick.
 - F9 Edge Line:** 100 thick.
 - F7 Warning Line:** 100 thick.
 - F5 Lane Line:** 100 thick.



Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.

A20	No Overtaking	F2	Give Way Line
A26	Special Speed Limit	F3	Pedestrian Crossing
B23	Pedestrian Crossing	F5	Lane Line
B31	Road Hump	F6	Barrier Line
C2	Location of Pedestrian Crossing	F7	Warning Line
		F9	Edge of Carriageway
		F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : B2

With Basic Traffic Control Devices

Plus

Supplementary Traffic Control Devices

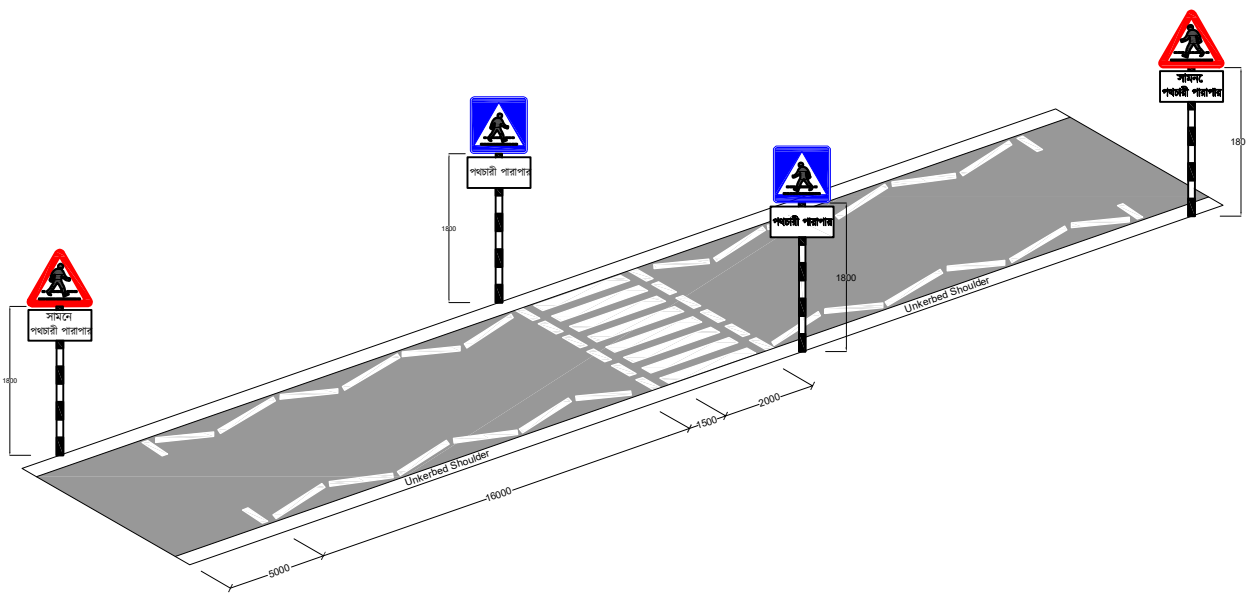
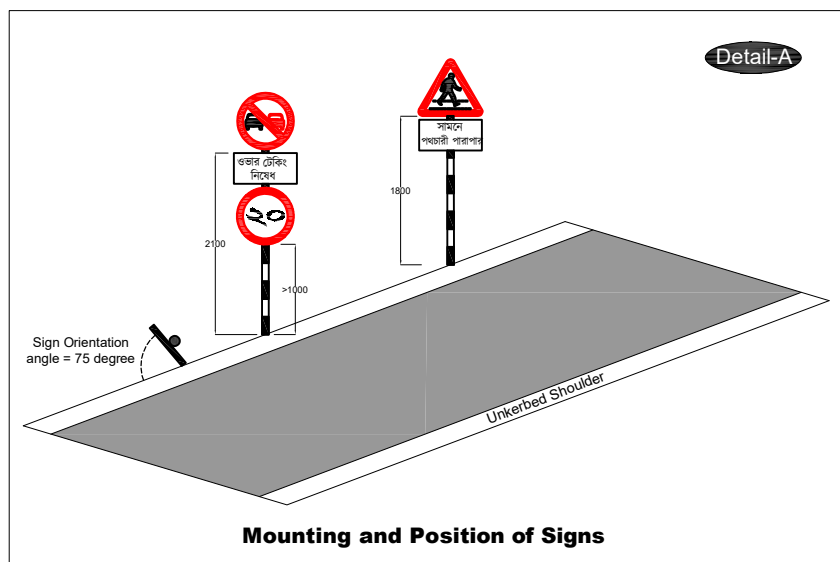
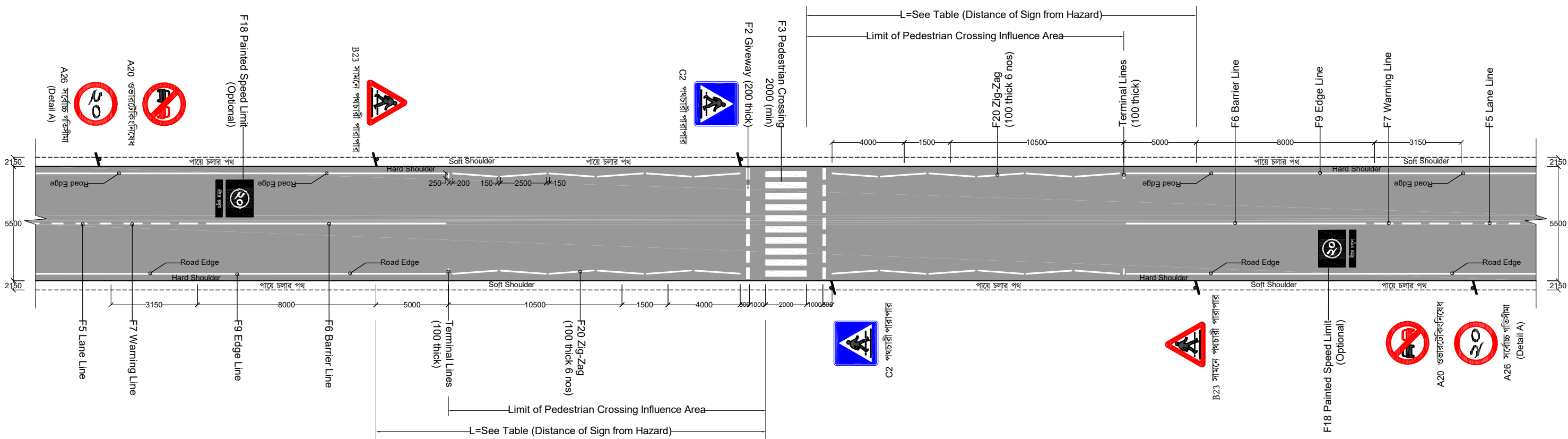


Table - Size and Sitting of Traffic Signs and Marking

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

*Unless otherwise specified

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F2	Give Way Line
A26	Special Speed Limit	F3	Pedestrian Crossing
B23	Pedestrian Crossing	F5	Lane Line
B31	Road Hump	F6	Barrier Line
C2	Location of Pedestrian Crossing	F7	Warning Line
		F9	Edge of Carriageway
		F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : B3

With Basic Traffic Control Devices

Plus

Supplementary Traffic Control Devices

Plus

Speed Reducing Rumble Device

Very High Accident Record

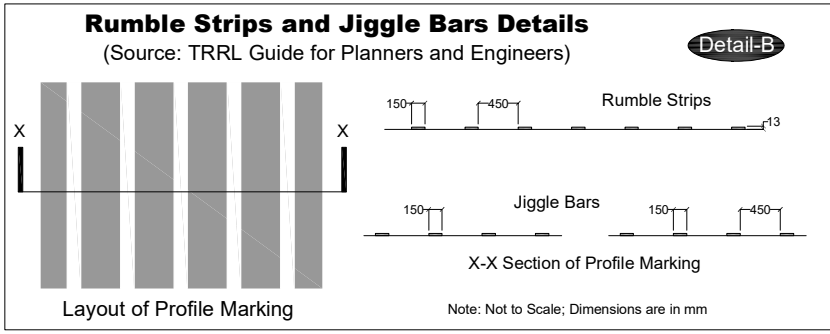
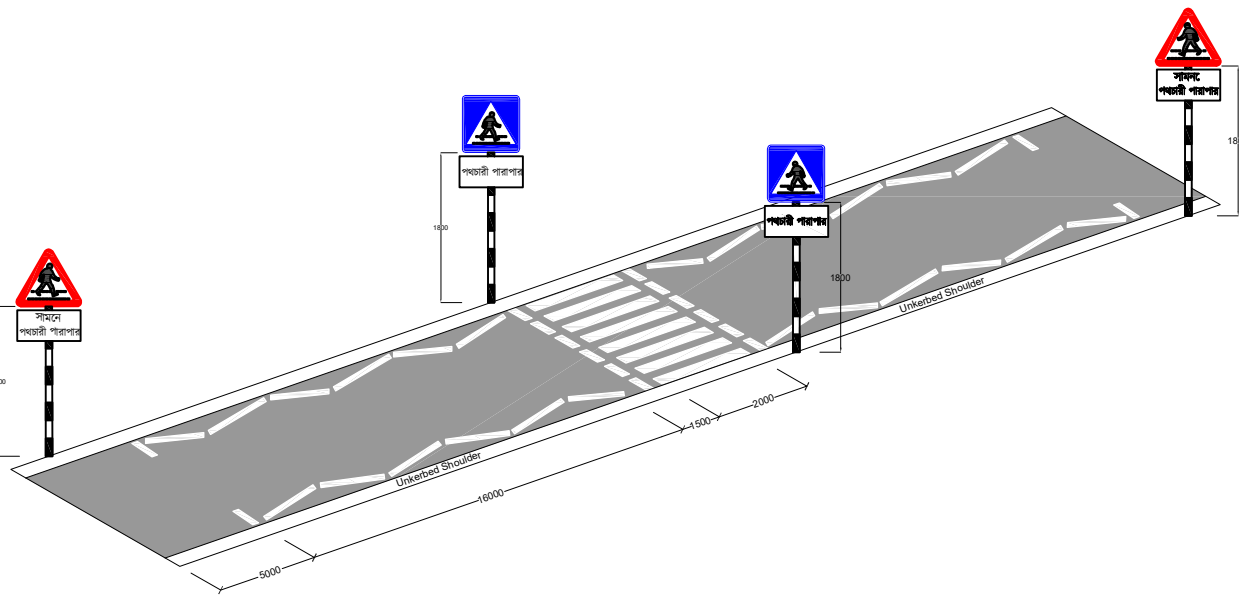
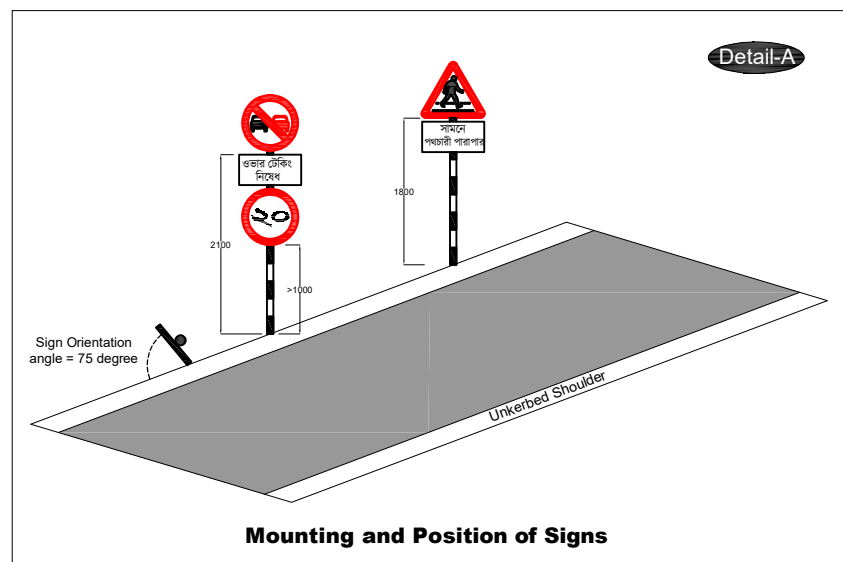
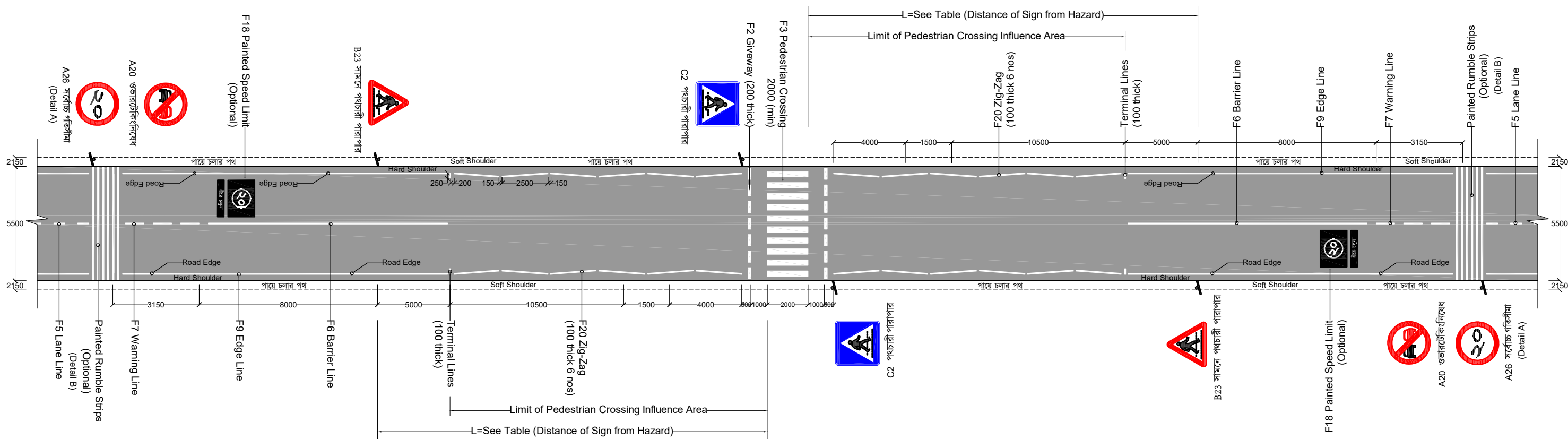


Table - Size and Sitting of Traffic Signs and Marking					*Unless otherwise specified	
Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)		
	Triangle	Circle		Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	

- Notes:**
1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
 3. Signs and marking should be of retro-reflective type.
 4. Two signs can be mounted on the same sign pole.

LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	F2	Give Way Line
A26	Special Speed Limit	F3	Pedestrian Crossing
B23	Pedestrian Crossing	F5	Lane Line
B31	Road Hump	F6	Barrier Line
C2	Location of Pedestrian Crossing	F7	Warning Line
		F9	Edge of Carriageway
		F18	Special Speed Limit

A20	No Overtaking	F2	Give Way Line
A26	Special Speed Limit	F3	Pedestrian Crossing
B23	Pedestrian Crossing	F5	Lane Line
B31	Road Hump	F6	Barrier Line
C2	Location of Pedestrian Crossing	F7	Warning Line
		F9	Edge of Carriageway
		F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : B5

With Basic Traffic Control Devices

Plus

Supplementary Traffic Control Devices

Plus

Speed Reducing Rough Surface

Very High Accident Record

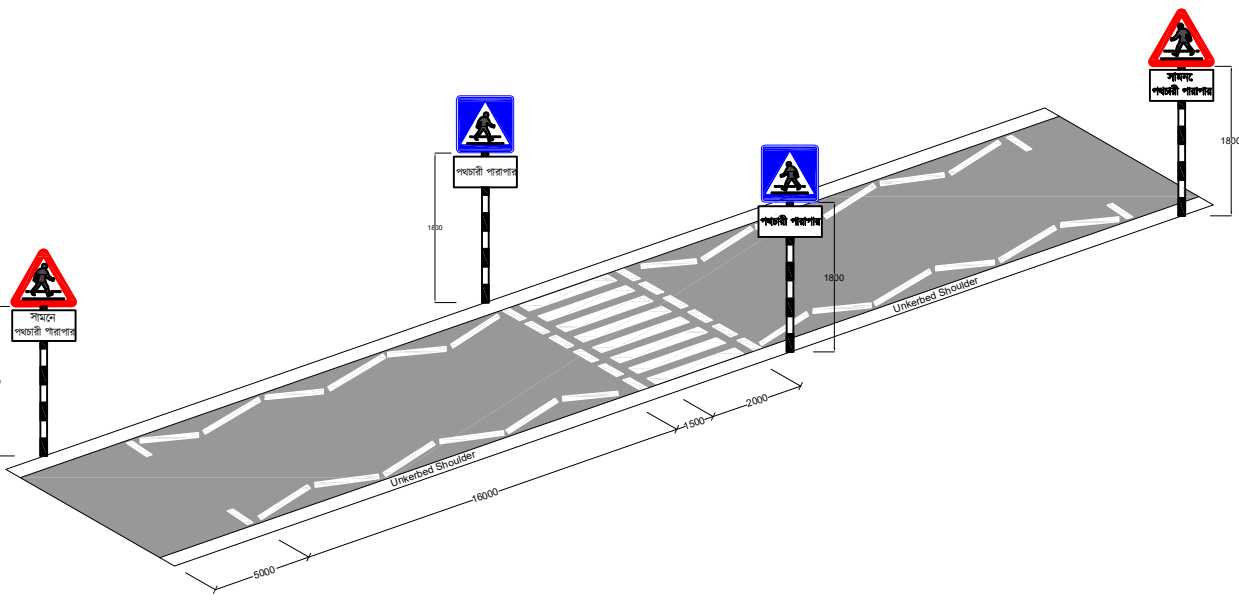
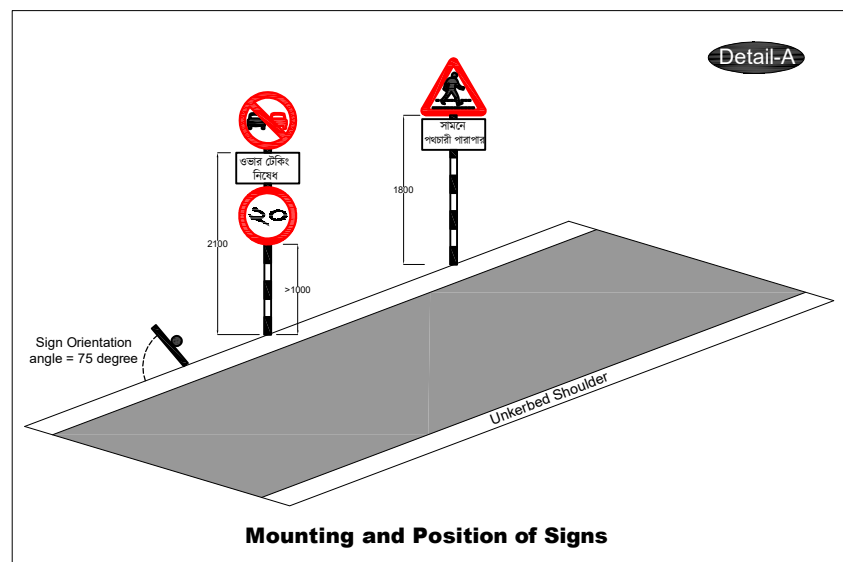
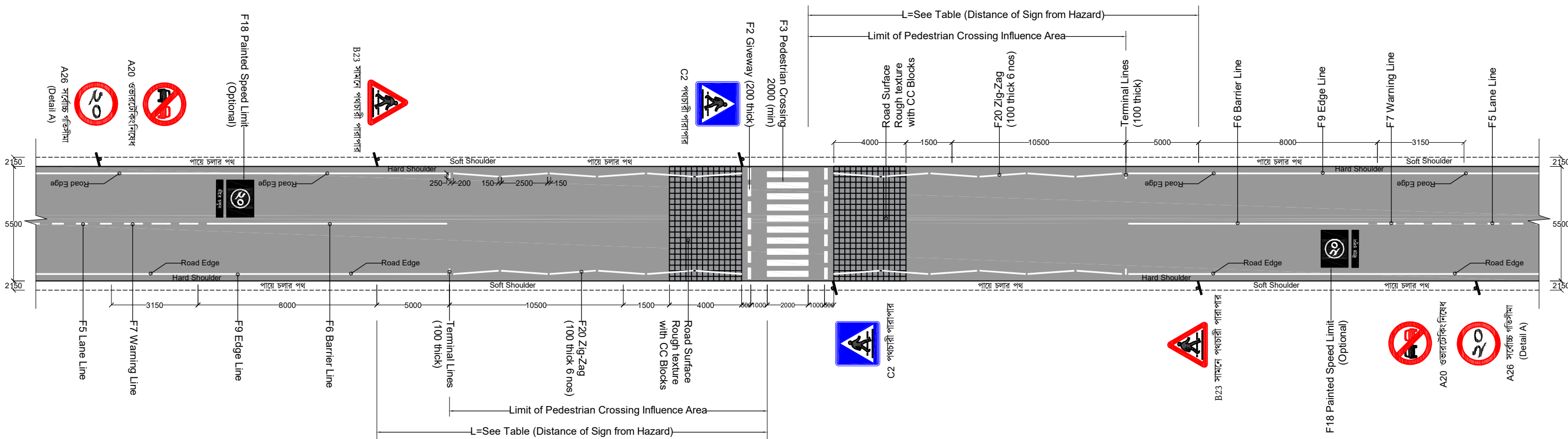


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F2	Give Way Line
A26	Special Speed Limit	F3	Pedestrian Crossing
B23	Pedestrian Crossing	F5	Lane Line
B31	Road Hump	F6	Barrier Line
C2	Location of Pedestrian Crossing	F7	Warning Line
		F9	Edge of Carriageway
		F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : B6

With Basic Traffic Control Devices

Plus

Supplementary Traffic Control Devices

Plus

Raised Zebra Crossing

Very High Accident Record

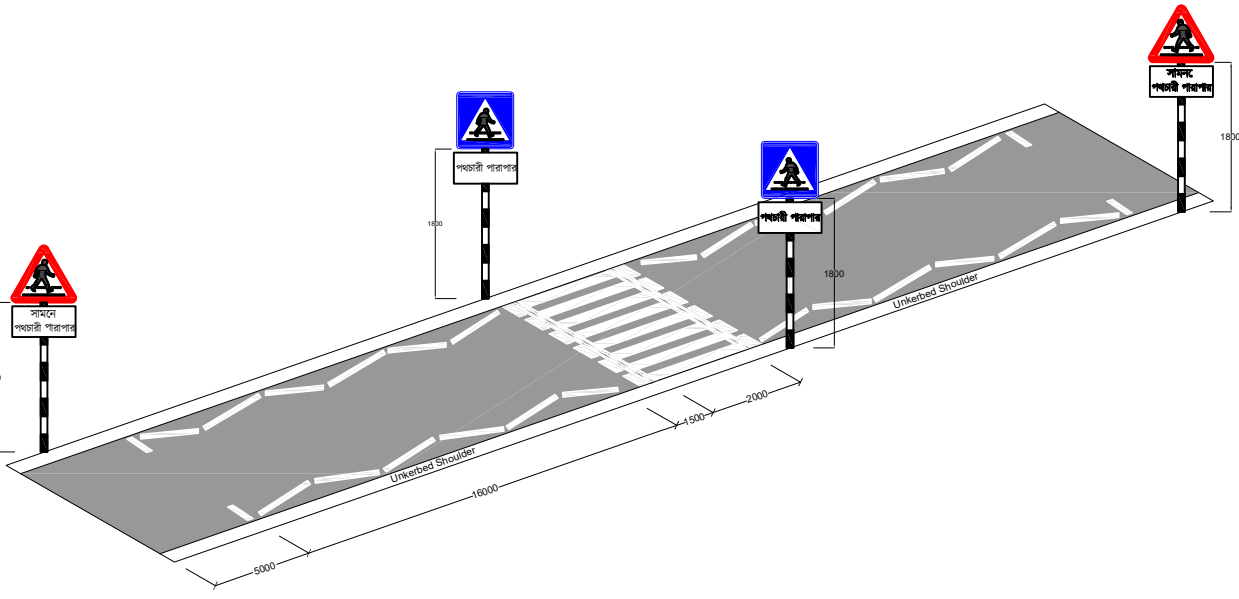
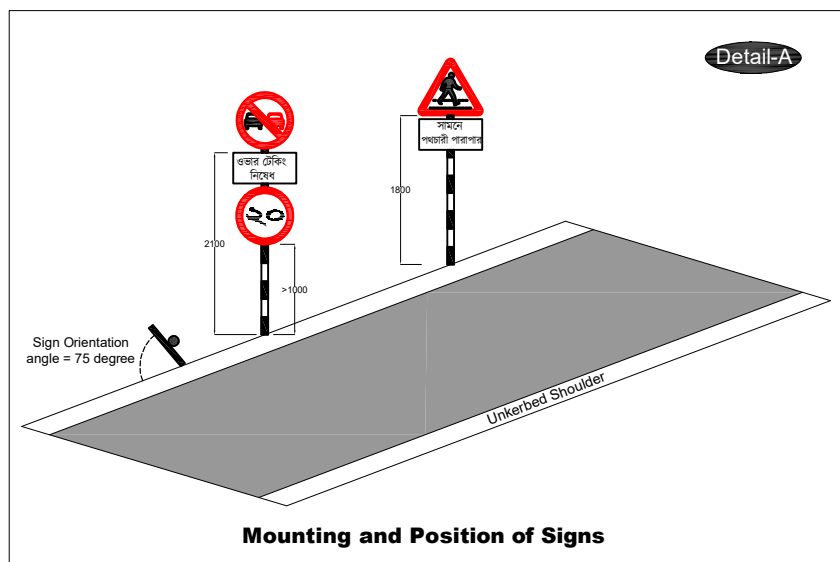
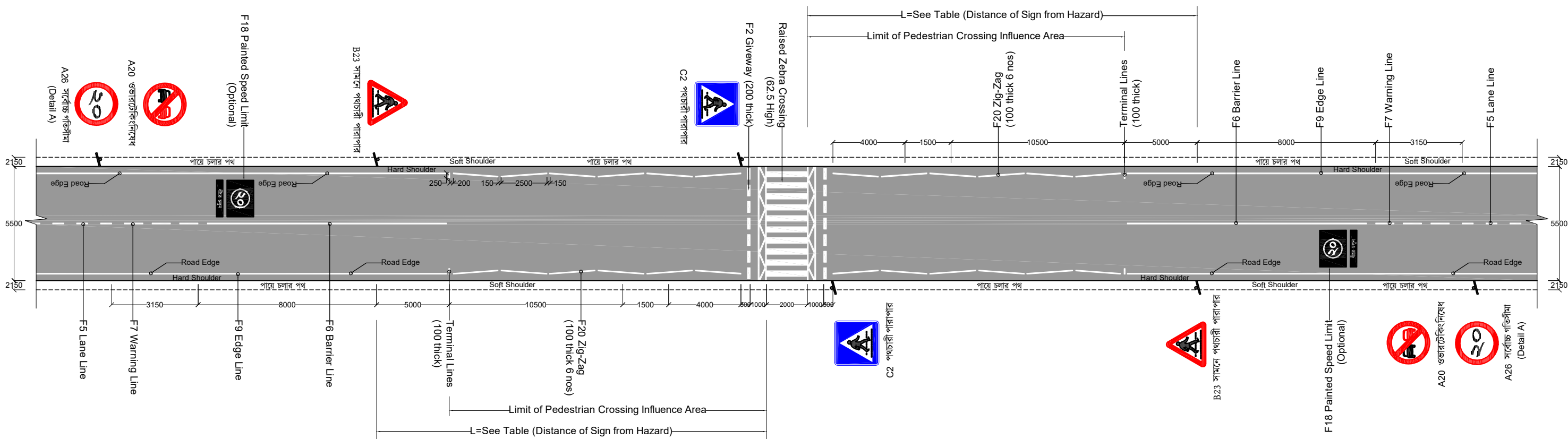


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F2	Give Way Line
A26	Special Speed Limit	F3	Pedestrian Crossing
B23	Pedestrian Crossing	F5	Lane Line
B31	Road Hump	F6	Barrier Line
C2	Location of Pedestrian Crossing	F7	Warning Line
		F9	Edge of Carriageway
		F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures of Railway Crossing with gate or barrier

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : C2

With Basic Traffic Control Devices

Plus

Supplementary Traffic Control Devices

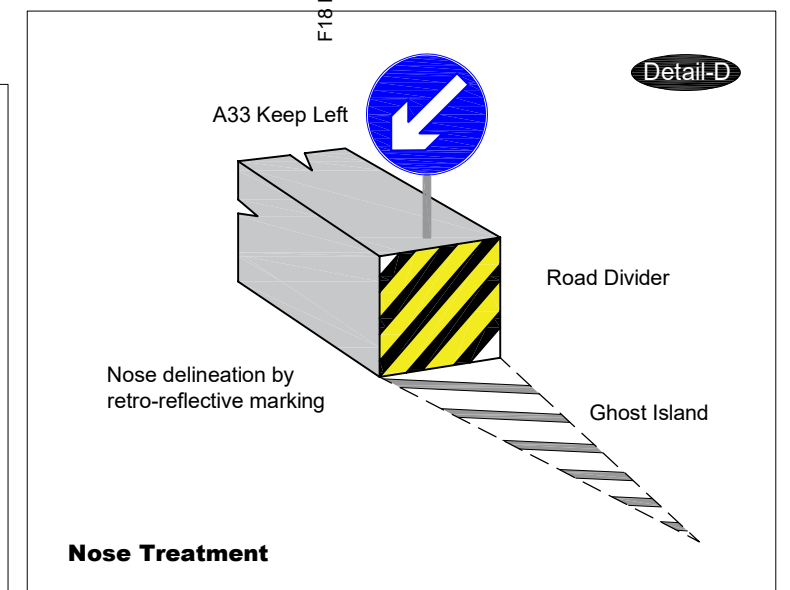
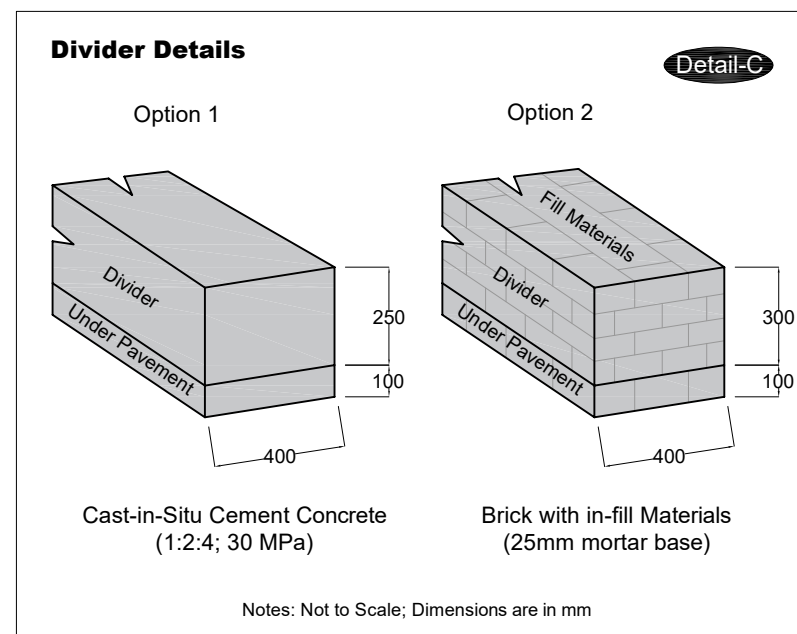
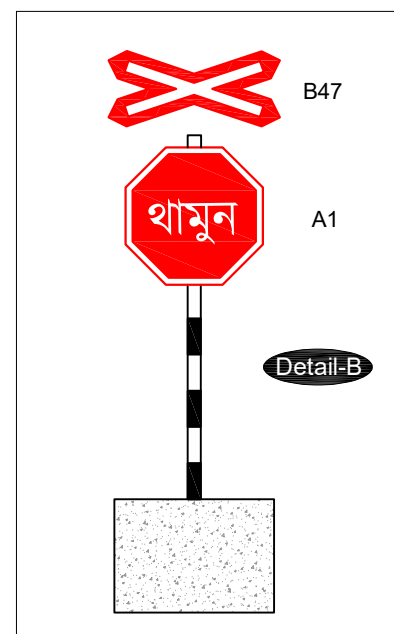
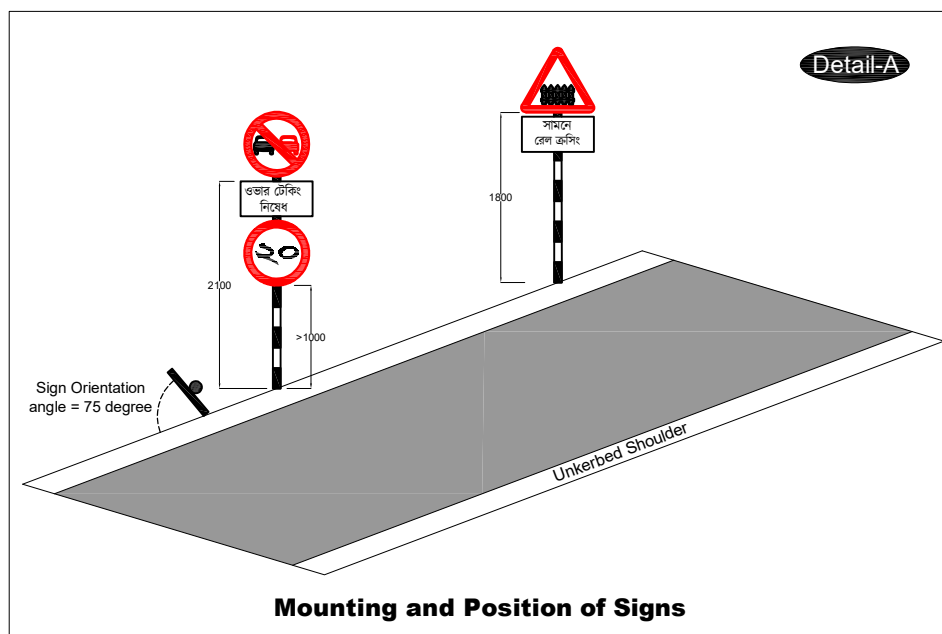
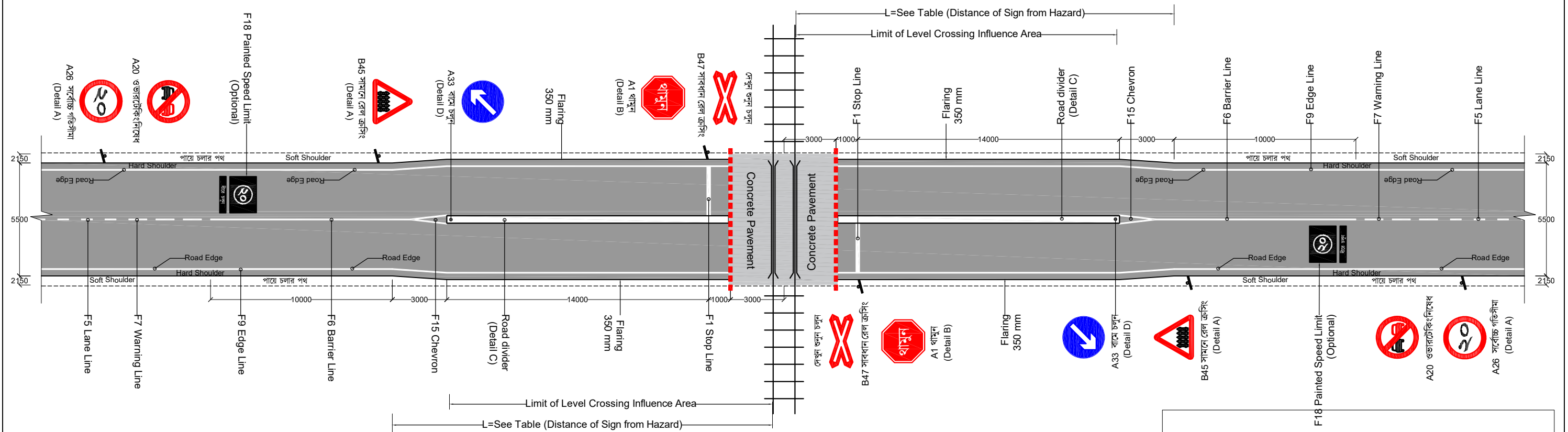


Table - Size and Sitting of Traffic Signs and Marking					*Unless otherwise specified	
Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)		
	Triangle	Circle		Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. Road level should be made to the same level of railway tracks so that NMV/NSV* can pass the rail crossing smoothly.
3. Approval of rail crossing plan, drawings and signs/markings should be taken from the Bangladesh Railway (BR) Authority.
4. Signs and marking should be of retro-reflective type.
5. Two signs can be mounted on the same sign pole.

*NMV: Non-motorised Vehicle; NSV: Non-Standard Vehicle (locally made)

LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A1	Stop and Give Way	F1	Stop Line
A2	Give Way	F5	Lane Line
A20	No Overtaking	F6	Barrier Line
A26	Special Speed Limit	F7	Warning Line
A33	Keep Left	F9	Edge of Carriageway
B31	Road Hump	F18	Special Speed Limit
B44	Railway Crossing without Gate		
B45	Railway Crossing with Gate		
B47	Location of Railway Crossing		

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures of Railway Crossing with gate or barrier

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

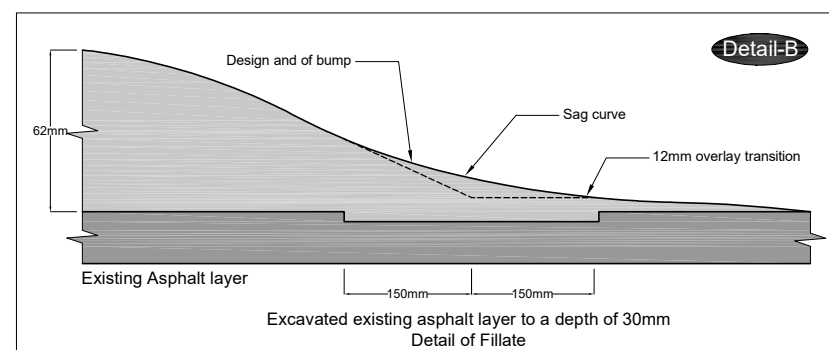
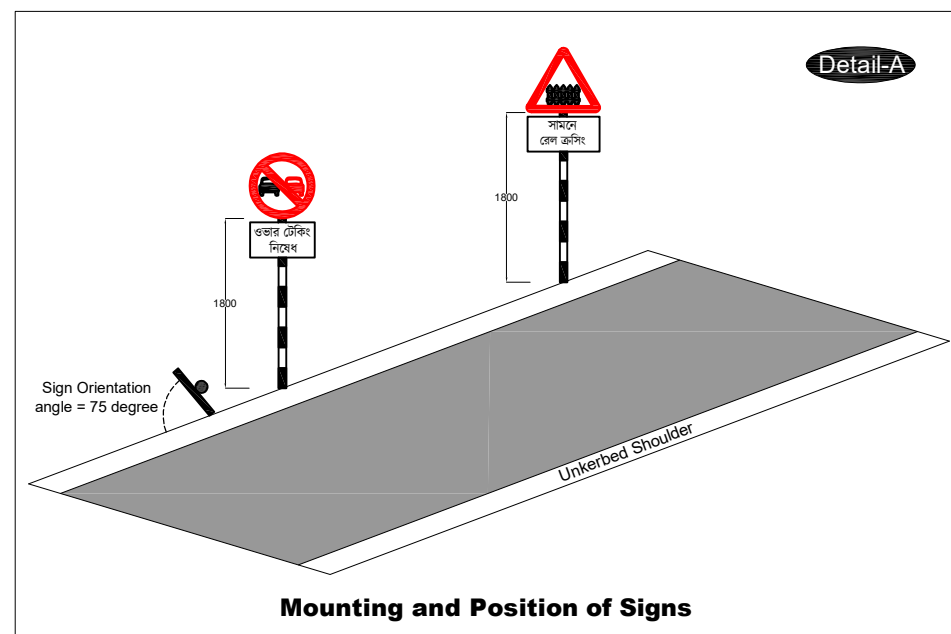
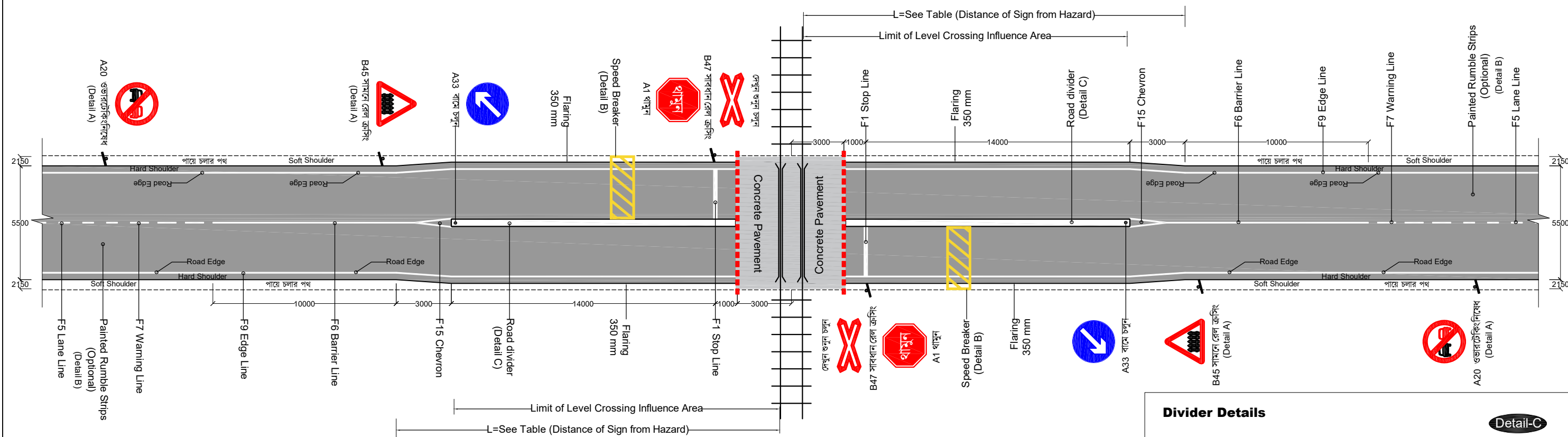
Template No : C5

With Basic Traffic Control Devices

Plus

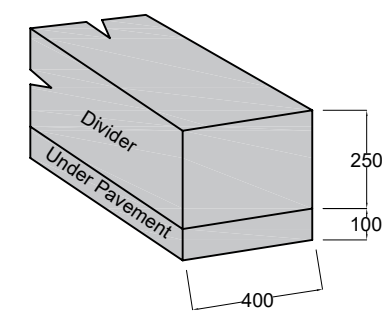
Speed Reducing Bump Device

Very High Accident Record



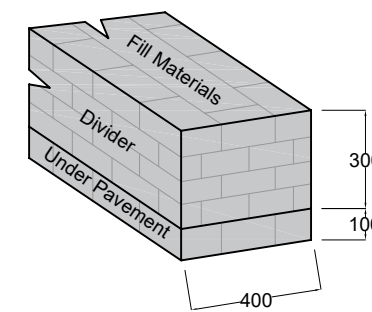
Divider Details

Option 1



Cast-in-Situ Cement Concrete
(1:2:4; 30 MPa)

Option 2



Brick with in-fill Materials
(25mm mortar base)

Notes: Not to Scale; Dimensions are in mm

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A1	Stop and Give Way	F1	Stop Line
A2	Give Way	F5	Lane Line
A20	No Overtaking	F6	Barrier Line
A26	Special Speed Limit	F7	Warning Line
A33	Keep Left	F9	Edge of Carriageway
B31	Road Hump	F18	Special Speed Limit
B44	Railway Crossing without Gate		
B45	Railway Crossing with Gate		
B47	Location of Railway Crossing		

Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

- Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- Road level should be made to the same level of railway tracks so that NMV/NSV* can pass the rail crossing smoothly.
- Approval of rail crossing plan, drawings and signs/markings should be taken from the Bangladesh Railway (BR) Authority.
- Signs and marking should be of retro-reflective type.
- Two signs can be mounted on the same sign pole.

*NMV: Non-motorised Vehicle; NSV: Non-Standard Vehicle (locally made)

Example of layout plan with road safety measures of Railway Crossing without gate or barrier

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : C6

With Basic Traffic Control Devices



Speed Reducing Bump Device

Very High Accident Record

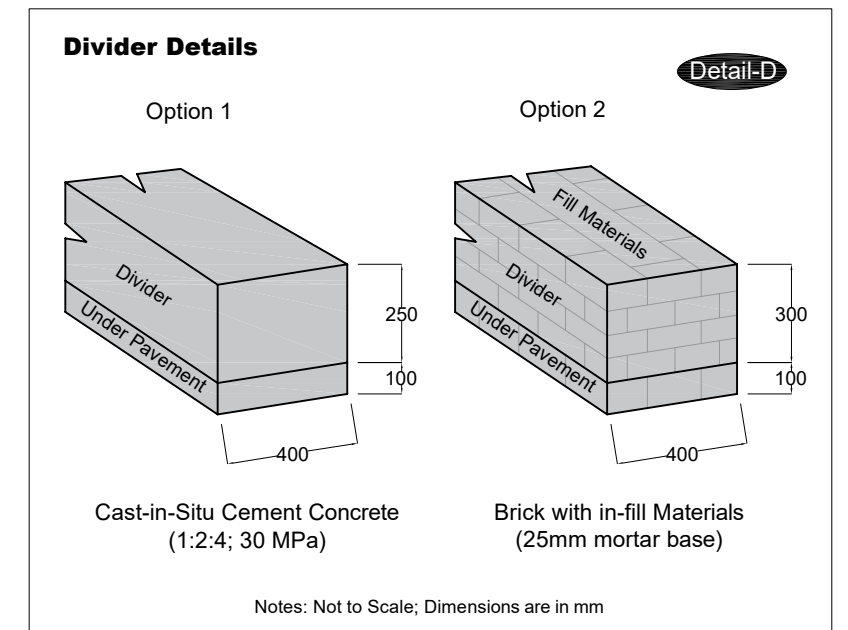
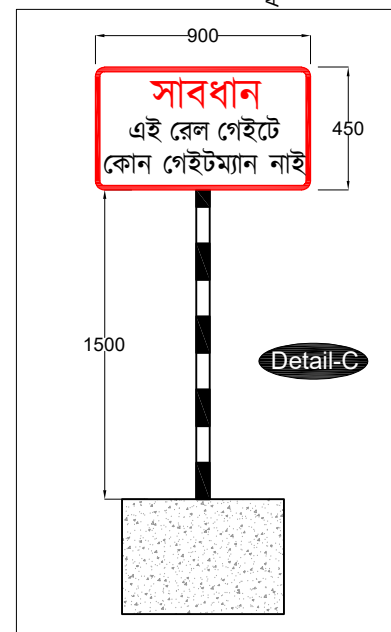
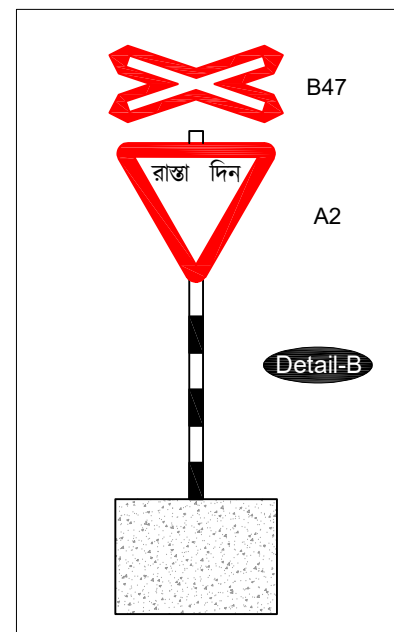
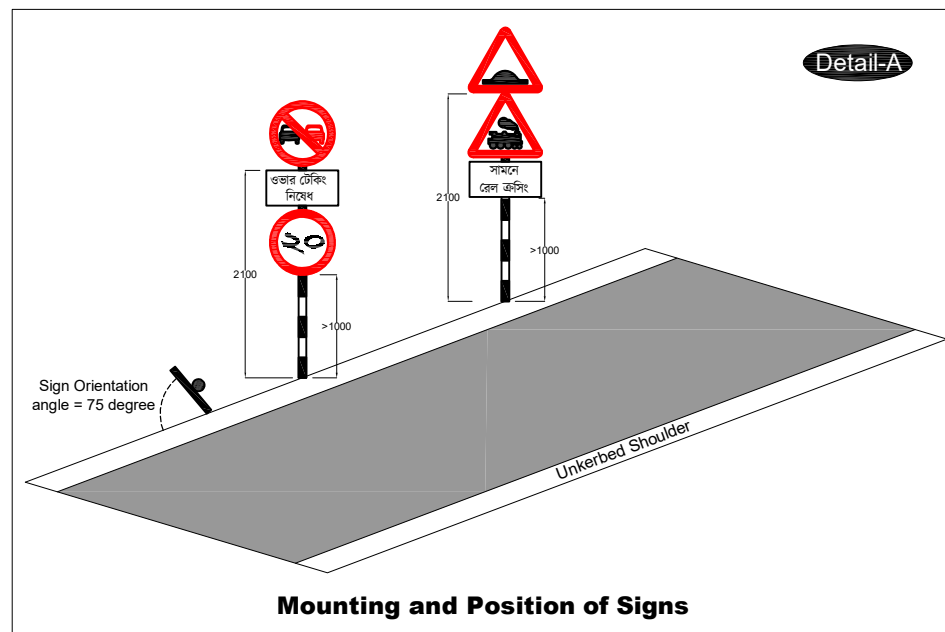
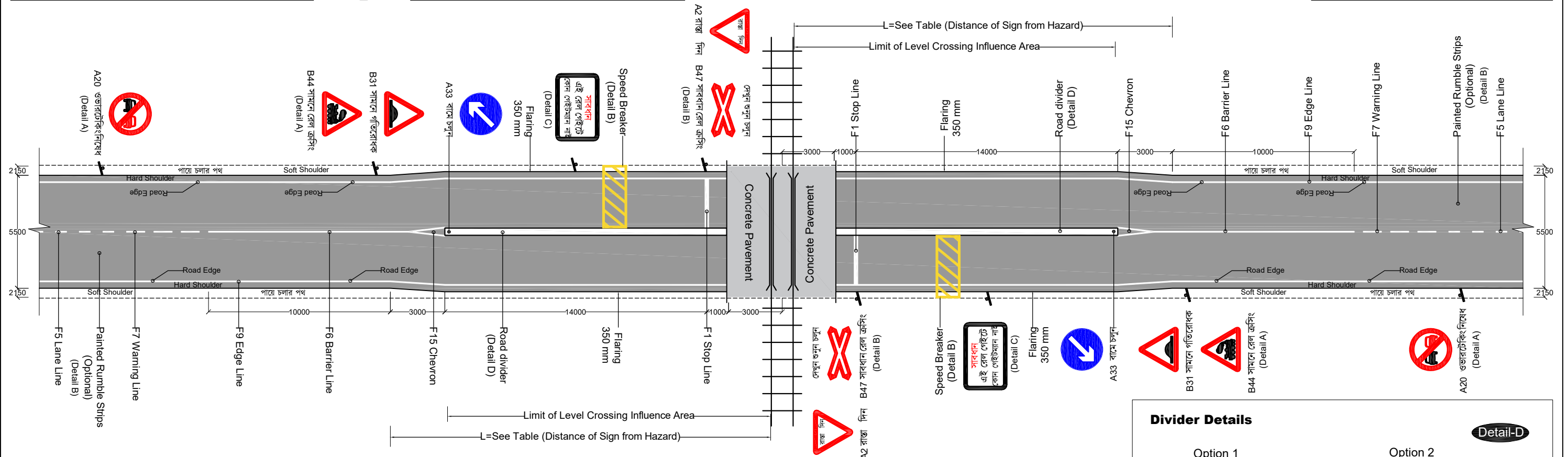


Table - Size and Sitting of Traffic Signs and Marking					*Unless otherwise specified	
Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)		
	Triangle	Circle		Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. Road level should be made to the same level of railway tracks so that NMV/NSV* can pass the rail crossing smoothly.
3. Approval of rail crossing plan, drawings and signs/markings should be taken from the Bangladesh Railway (BR) Authority.
4. Signs and marking should be of retro-reflective type.
5. Two signs can be mounted on the same sign pole.

*NMV: Non-motorised Vehicle; NSV: Non-Standard Vehicle (locally made)

LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A1	Stop and Give Way	F1	Stop Line
A2	Give Way	F5	Lane Line
A20	No Overtaking	F6	Barrier Line
A26	Special Speed Limit	F7	Warning Line
A33	Keep Left	F9	Edge of Carriageway
B31	Road Hump	F18	Special Speed Limit
B44	Railway Crossing without Gate		
B45	Railway Crossing with Gate		
B47	Location of Railway Crossing		

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : D1

With Basic Traffic Control Devices

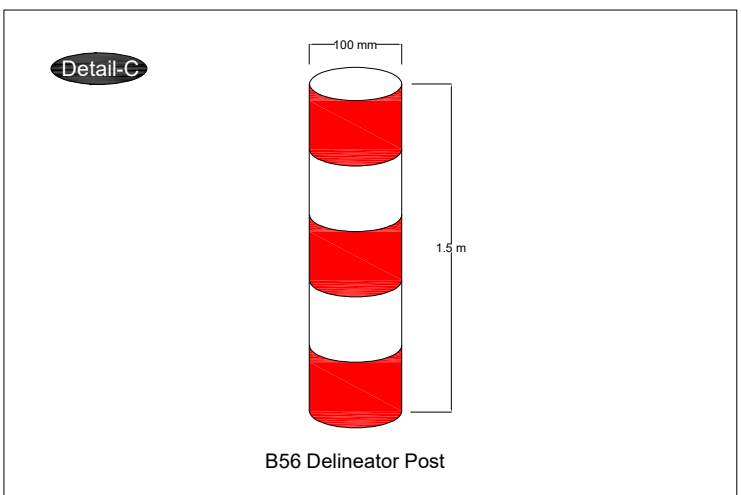
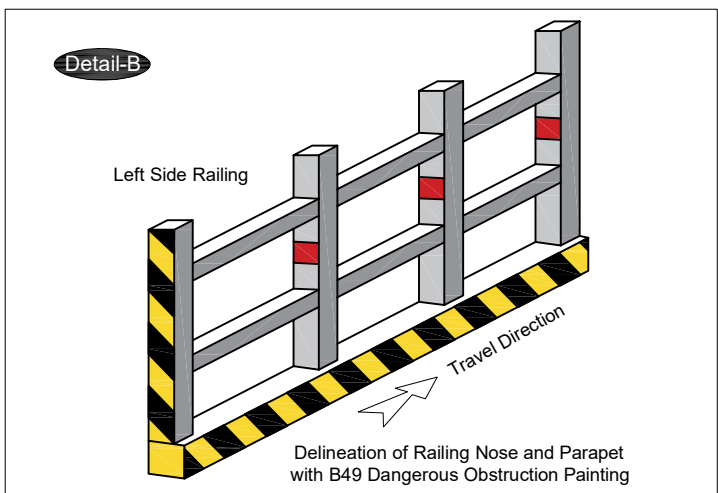
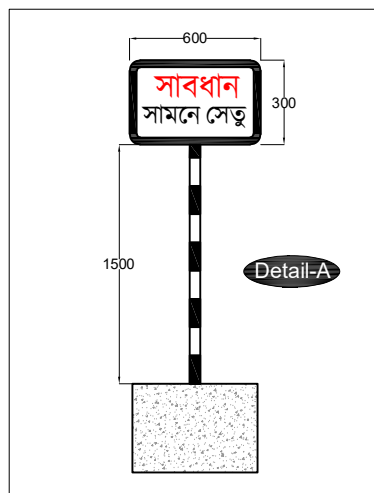
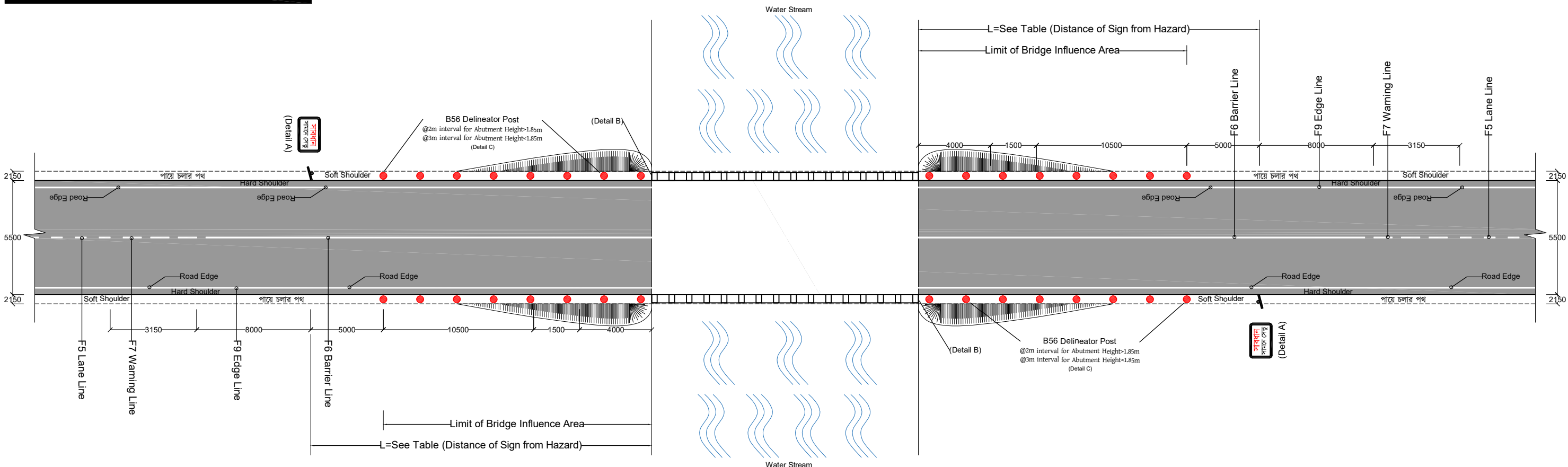


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

- Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- Bridge approaches MUST be connected by parabolic profile.
- Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
- At the bridge approaches drainage should be provided by using gutter.
- Signs and marking should be of retro-reflective type.
- Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F5	Lane Line
A26	Special Speed Limit	F6	Barrier Line
B31	Road Hump	F7	Warning Line
B35	Narrow Bridge	F9	Edge of Carriageway
B56	Delineator Post	F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : D3

With Basic Traffic Control Devices

Plus

Speed Reducing Bump Device

Bridge with High Accident Record

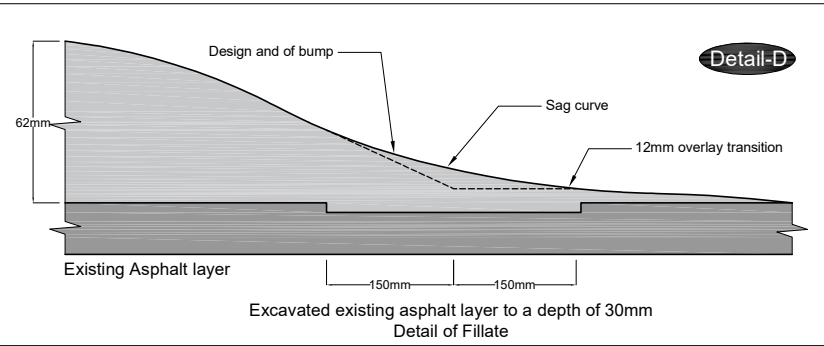
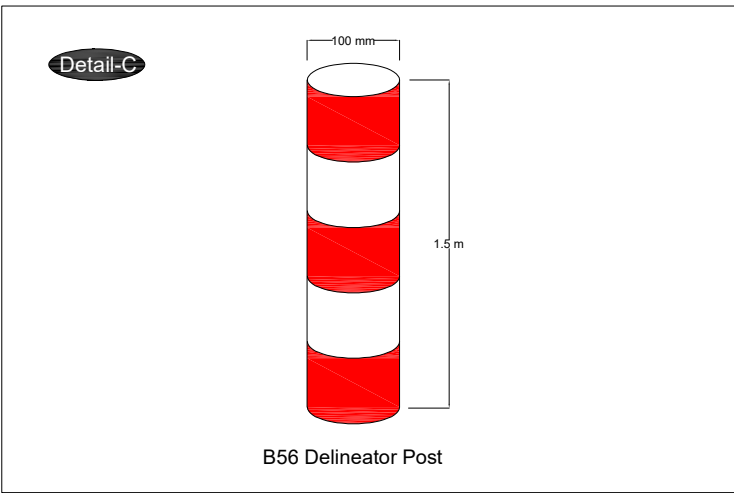
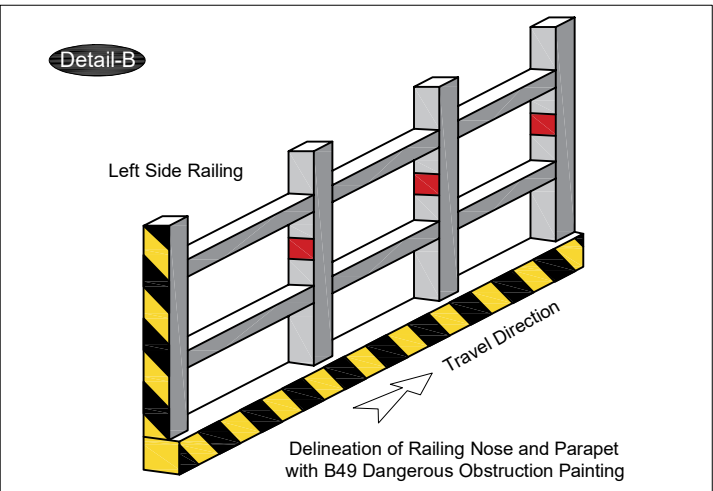
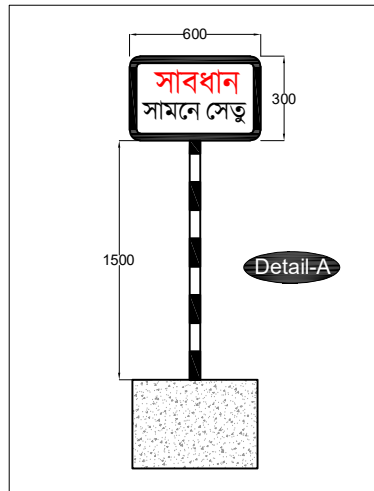
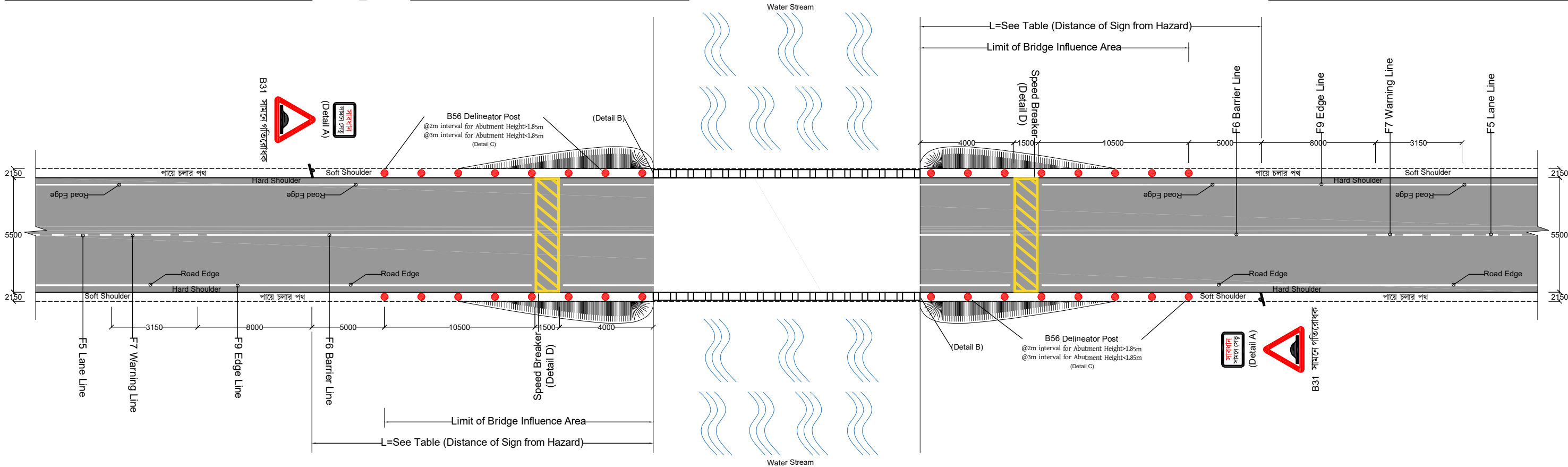


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. Bridge approaches MUST be connected by parabolic profile.
3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
4. At the bridge approaches drainage should be provided by using gutter.
5. Signs and marking should be of retro-reflective type.
6. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F5	Lane Line
A26	Special Speed Limit	F6	Barrier Line
B31	Road Hump	F7	Warning Line
B35	Narrow Bridge	F9	Edge of Carriageway
B56	Delineator Post	F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : D4

With Basic Traffic Control Devices

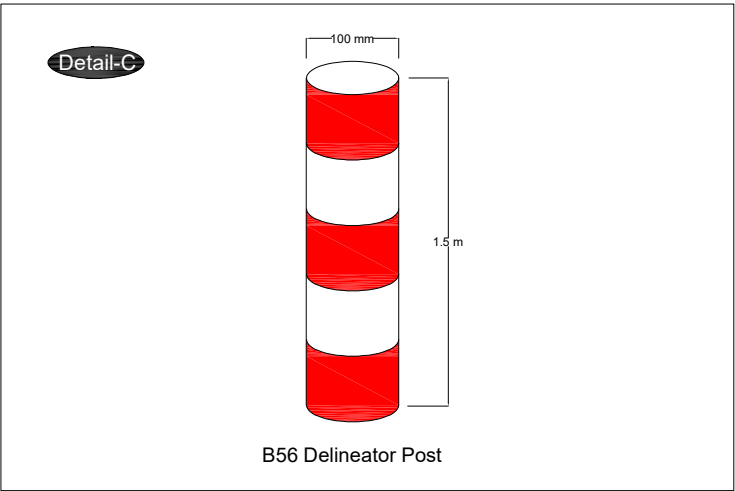
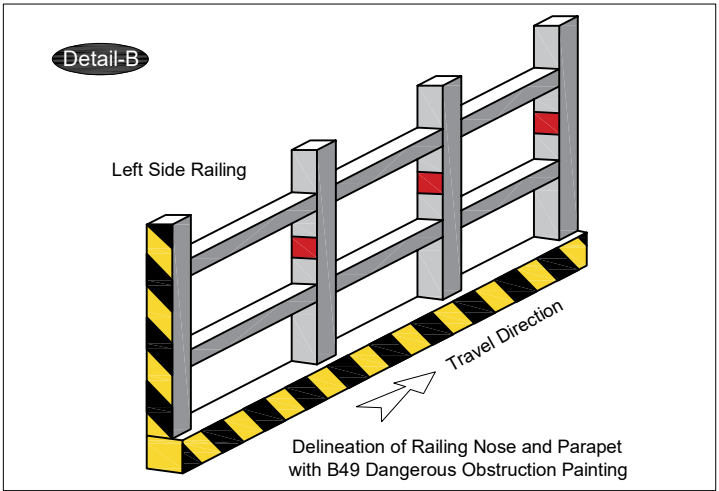
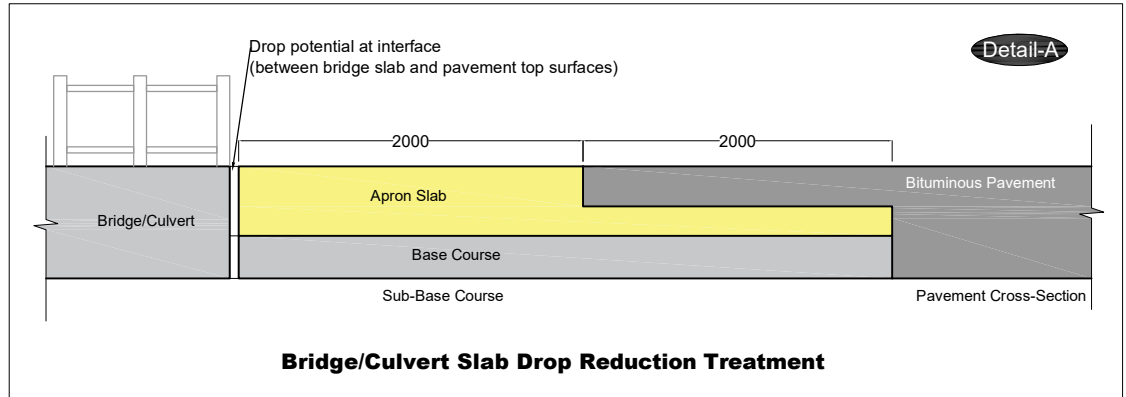
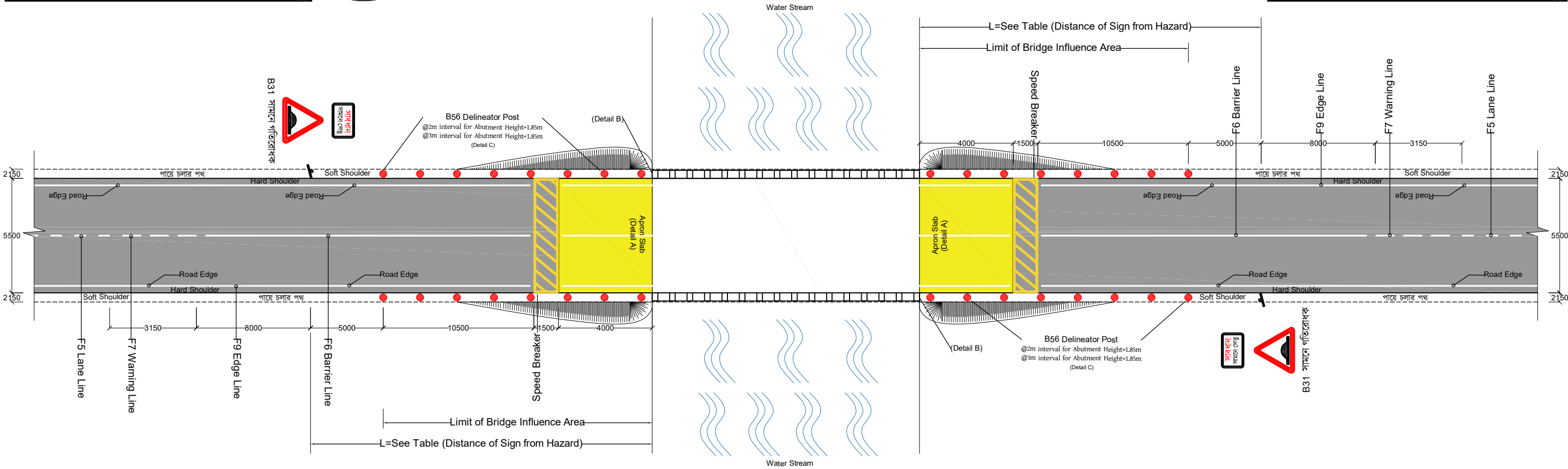
Plus

Speed Reducing Bump Device

Plus

Apron Slab

Bridge with High Accident Record



Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. Bridge approaches MUST be connected by parabolic profile.
3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
4. At the bridge approaches drainage should be provided by using gutter.
5. Signs and marking should be of retro-reflective type.
6. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F5	Lane Line
A26	Special Speed Limit	F6	Barrier Line
B31	Road Hump	F7	Warning Line
B35	Narrow Bridge	F9	Edge of Carriageway
B56	Delineator Post	F18	Special Speed Limit

Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : D5

With Basic Traffic Control Devices

Plus

Speed Reducing Bump Device

Plus

Apron Slab

Plus

Parabolic Approach

Bridge with Poor Accident Record

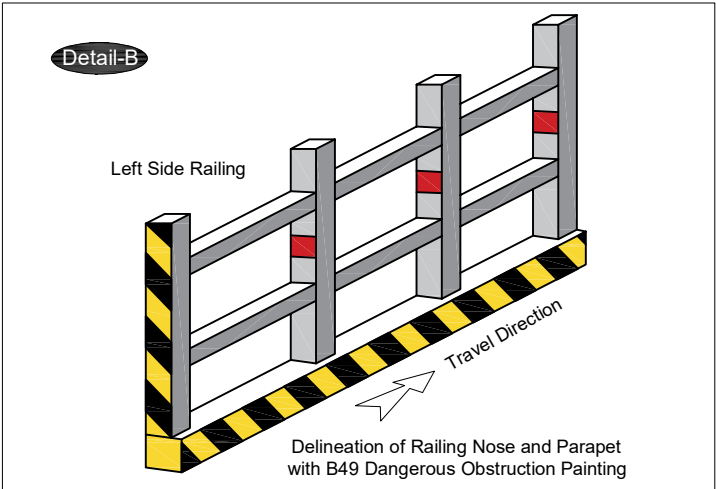
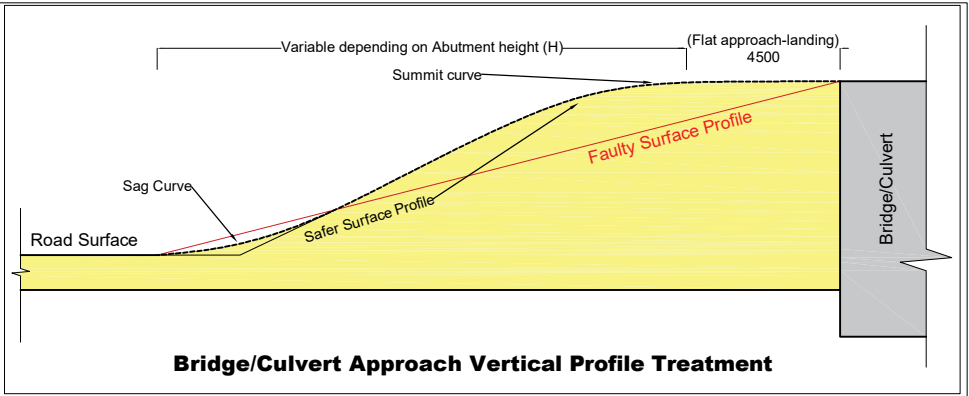
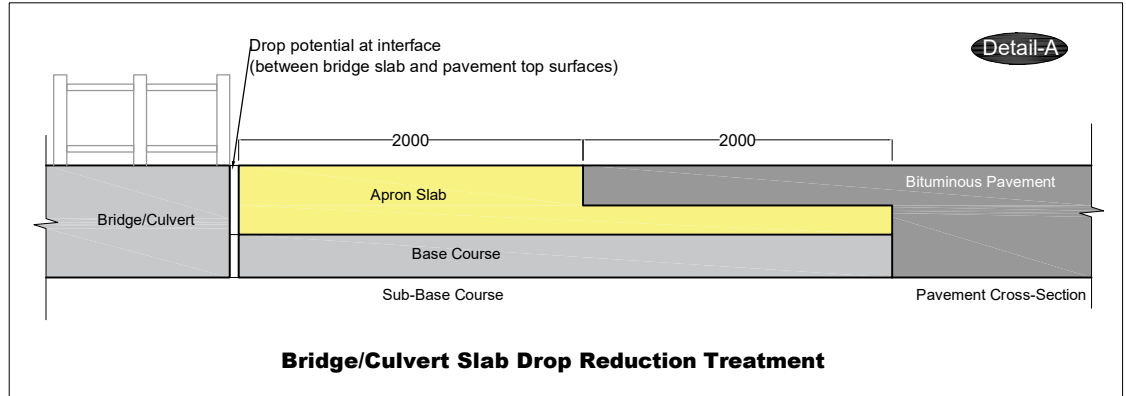
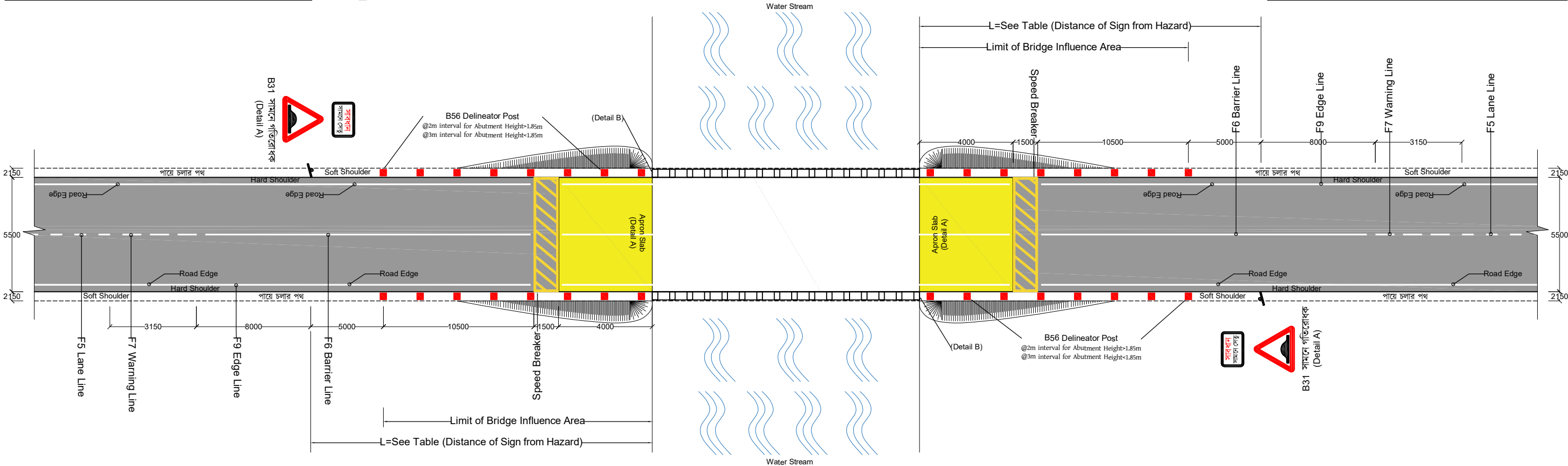


Table - Size and Sitting of Traffic Signs and Marking					*Unless otherwise specified	
Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)		
	Triangle	Circle		Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	

- Notes:**
1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
 2. Bridge approaches MUST be connected by parabolic profile.
 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
 4. At the bridge approaches drainage should be provided by using gutter.
 5. Signs and marking should be of retro-reflective type.
 6. Two signs can be mounted on the same sign pole.

LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	F5	Lane Line
A26	Special Speed Limit	F6	Barrier Line
B31	Road Hump	F7	Warning Line
B35	Narrow Bridge	F9	Edge of Carriageway
B56	Delineator Post	F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Narrow Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : D6

With Basic Traffic Control Devices

Plus

Speed Reducing Bump Device

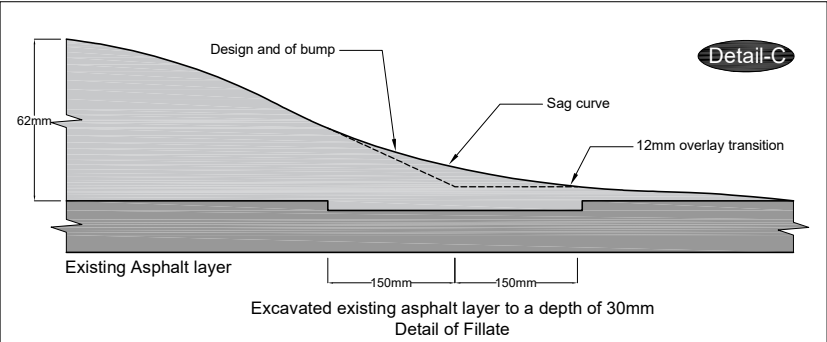
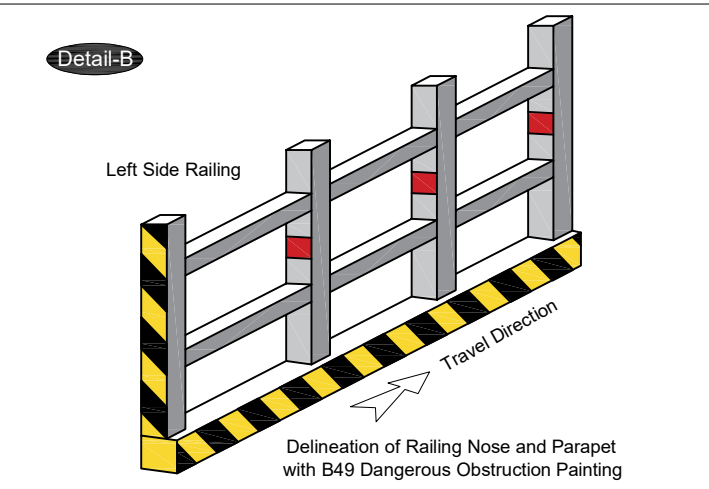
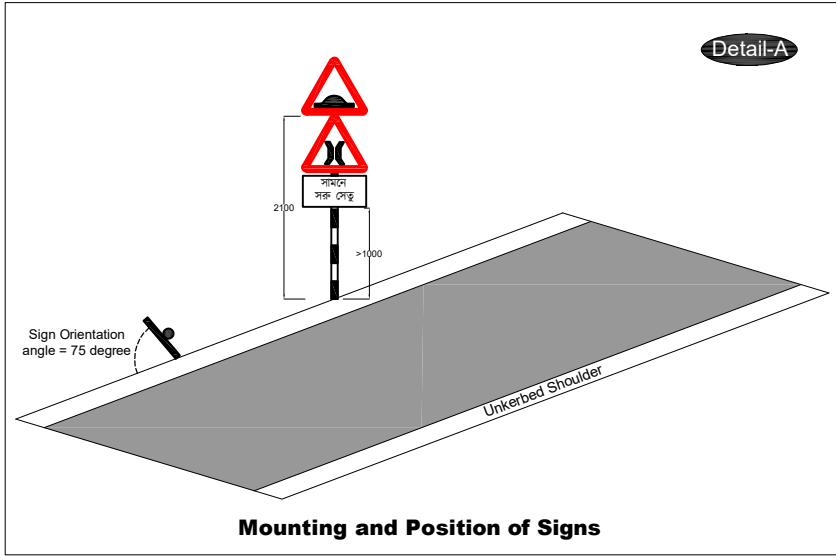
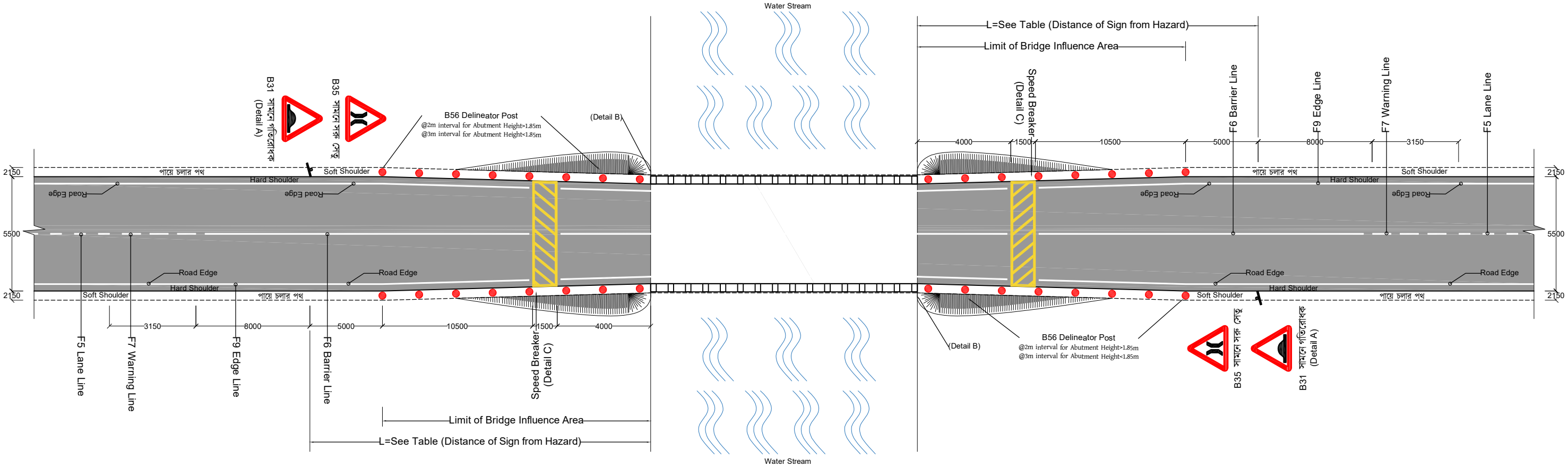


Table - Size and Sitting of Traffic Signs and Marking					*Unless otherwise specified	
Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)		
	Triangle	Circle		Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	

- Notes:**
1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
 2. Bridge approaches MUST be connected by parabolic profile.
 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
 4. At the bridge approaches drainage should be provided by using gutter.
 5. Signs and marking should be of retro-reflective type.
 6. Two signs can be mounted on the same sign pole.

LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	F5	Lane Line
A26	Special Speed Limit	F6	Barrier Line
B31	Road Hump	F7	Warning Line
B35	Narrow Bridge	F9	Edge of Carriageway
B56	Delineator Post	F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Narrow Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : D7

With Basic Traffic Control Devices

Plus

Speed Reducing Bump Device

Plus

Supplementary Traffic Control Devices

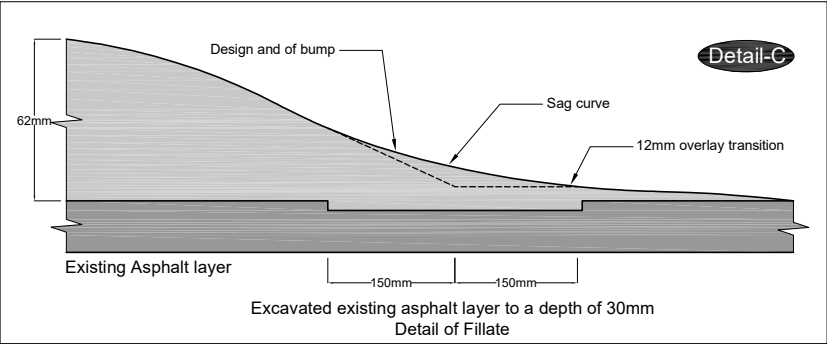
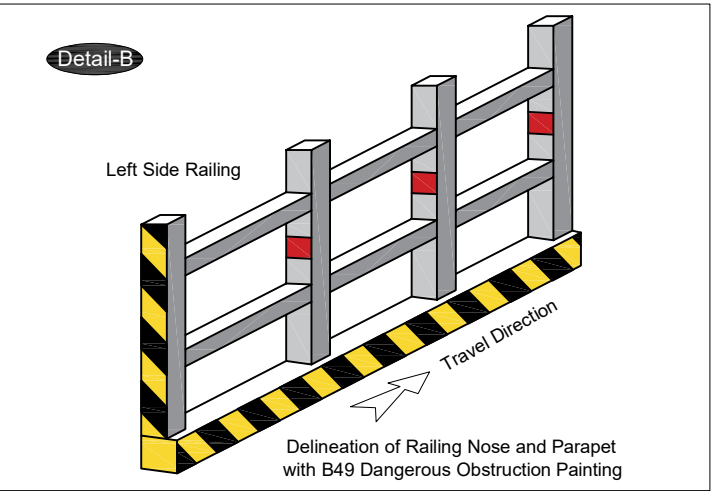
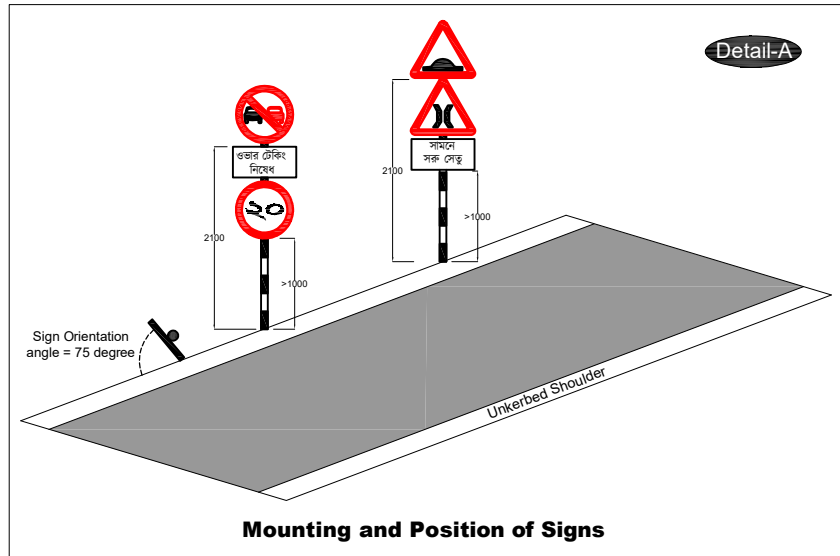
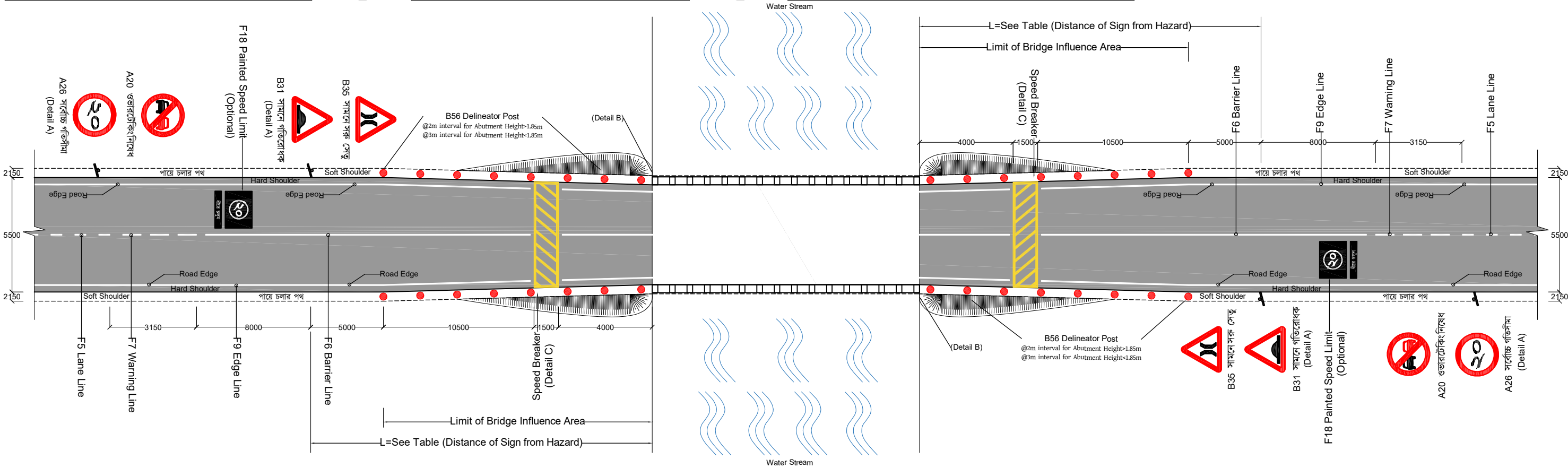


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. Bridge approaches MUST be connected by parabolic profile.
3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
4. At the bridge approaches drainage should be provided by using gutter.
5. Signs and marking should be of retro-reflective type.
6. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F5	Lane Line
A26	Special Speed Limit	F6	Barrier Line
B31	Road Hump	F7	Warning Line
B35	Narrow Bridge	F9	Edge of Carriageway
B56	Delineator Post	F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Narrow Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : D8

With Basic Traffic Control Devices

Plus

Speed Reducing Bump Device

Plus

Apron Slab

Plus

Parabolic Approach

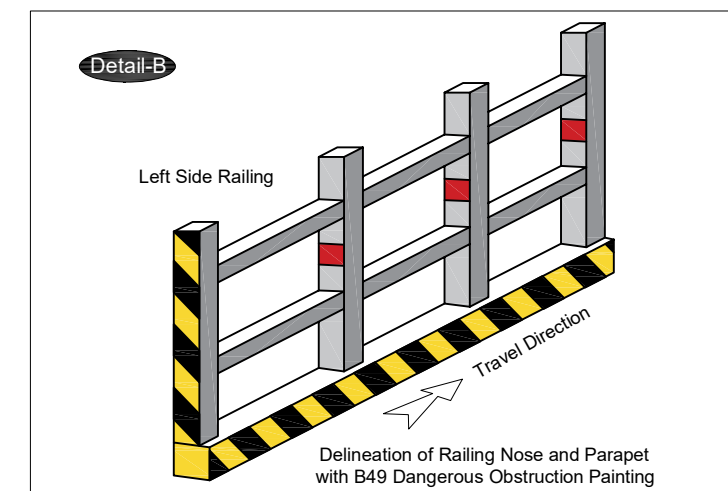
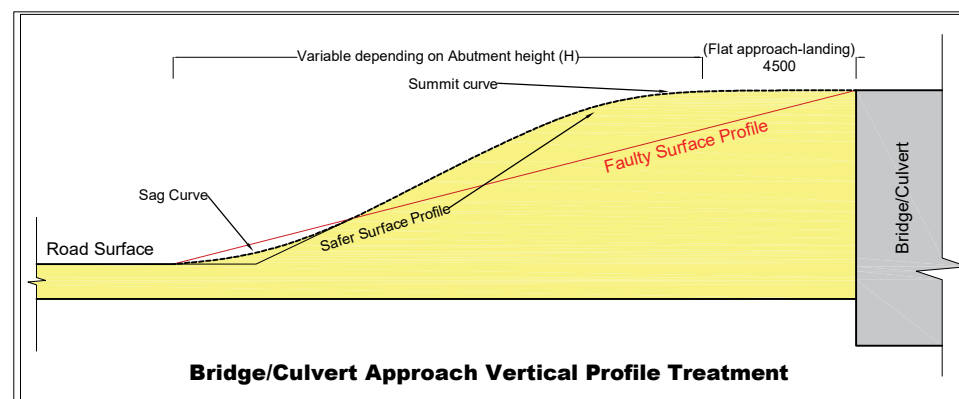
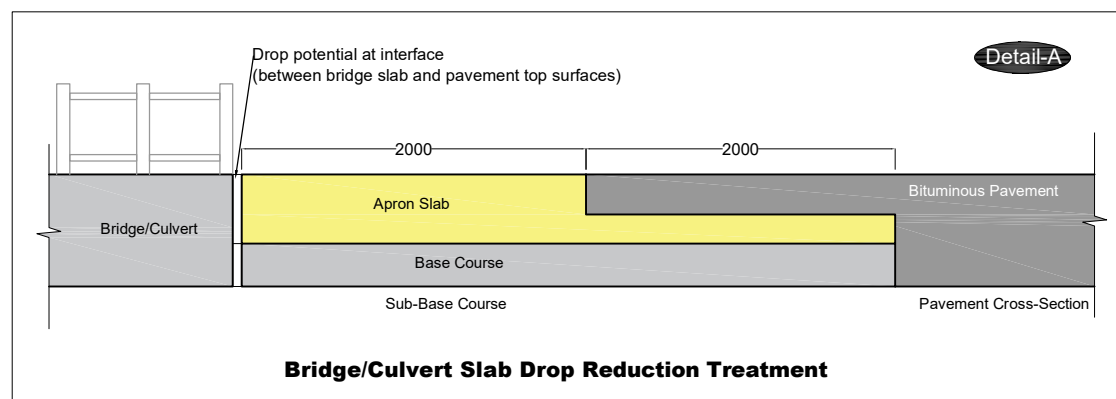
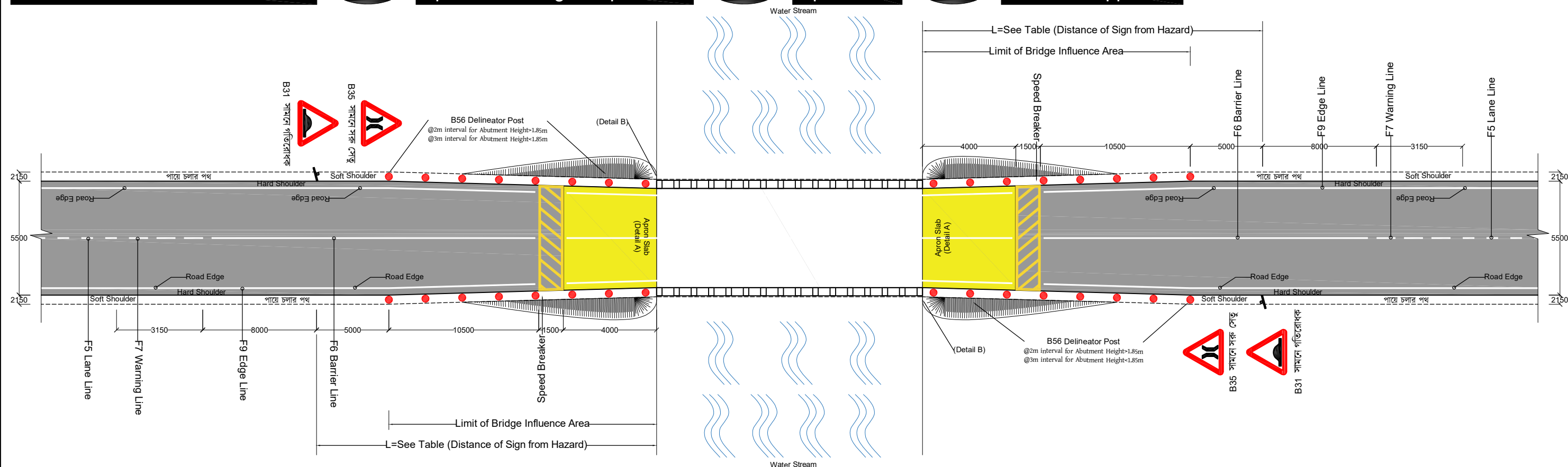


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. Bridge approaches MUST be connected by parabolic profile.
3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
4. At the bridge approaches drainage should be provided by using gutter.
5. Signs and marking should be of retro-reflective type.
6. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F5	Lane Line
A26	Special Speed Limit	F6	Barrier Line
B31	Road Hump	F7	Warning Line
B35	Narrow Bridge	F9	Edge of Carriageway
B56	Delineator Post	F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical Bus Stoppage

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : E1

With Basic Traffic Control Devices

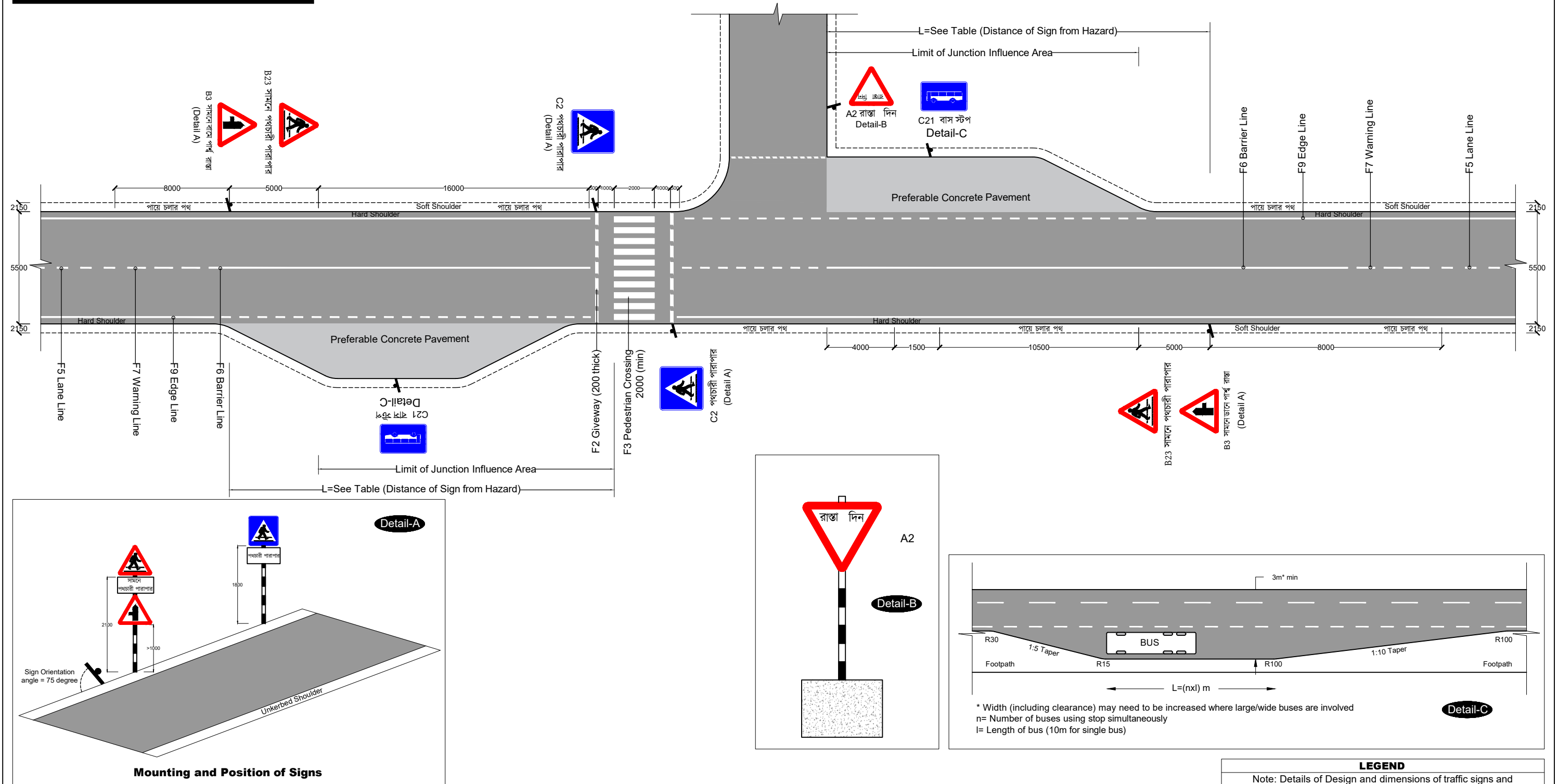


Table - Size and Sitting of Traffic Signs and Marking

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

*Unless otherwise specified

Notes:

- Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- To increase color contrast, black paint may be applied on properly cleaned pavement surface.
- Signs and marking should be of retro-reflective type.
- Two signs can be mounted on the same sign pole.
- At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
- Community level enforcement is needed to ensure Bus-bay compliance.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

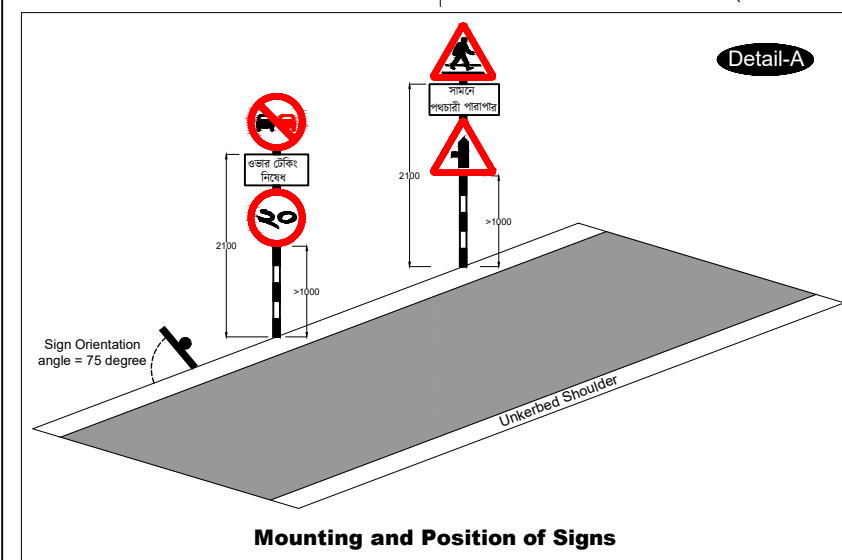
A2	Give Way	F2	Give Way Line
A20	No Overtaking	F3	Pedestrian Crossing
A26	Special Speed Limit	F5	Lane Line
B23	Pedestrian Crossing	F6	Barrier Line
B31	Road Bump	F7	Warning Line
C2	Location of Pedestrian Crossing	F9	Edge of Carriageway
C21	Bus Stop	F18	Special Speed Limit

Safety Measures for:

Example of layout plan with road safety measures for Typical Bus Stoppage

Template No : E2

Supplementary Traffic Control Devices



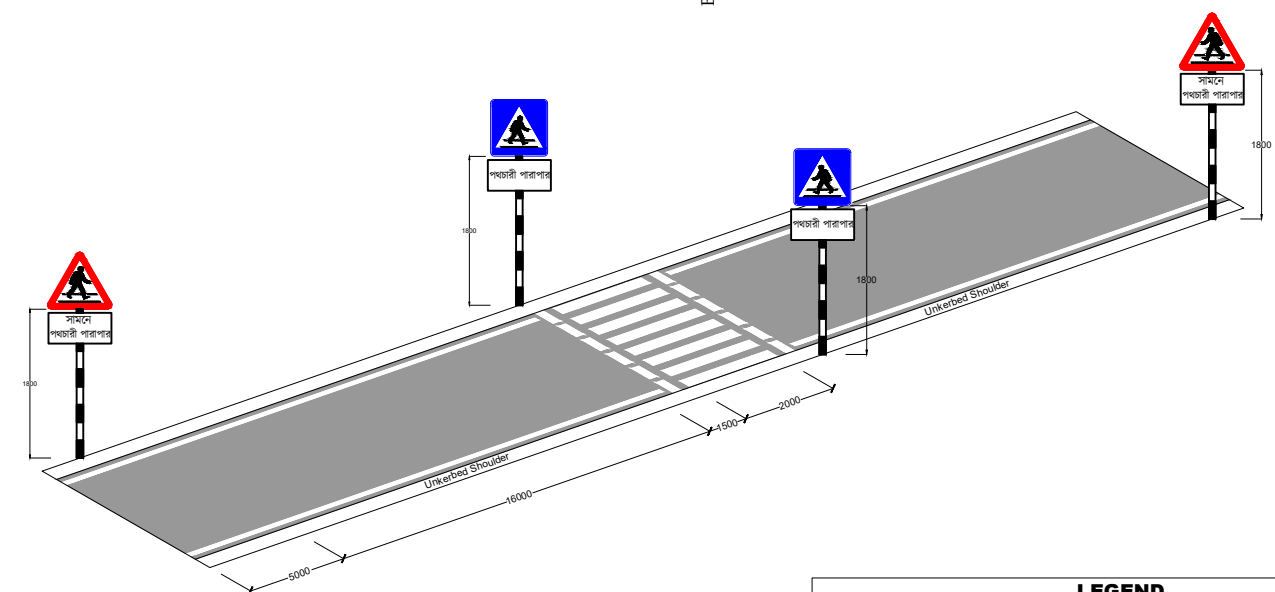
Mounting and Position of Signs

ৱাঙা দিন

A2

Detail-B

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.
5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
6. Community level enforcement is needed to ensure Bus-bay compliance.



Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A2	Give Way	F2	Give Way Line
A20	No Overtaking	F3	Pedestrian Crossing
A26	Special Speed Limit	F5	Lane Line
B23	Pedestrian Crossing	F6	Barrier Line
B31	Road Bump	F7	Warning Line
C2	Location of Pedestrian Crossing	F9	Edge of Carriageway
C21	Bus Stop	F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical Bus Stoppage

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : E3

With Basic Traffic Control Devices

Plus

Speed Reducing Bump Device

Junction with High Accident Record

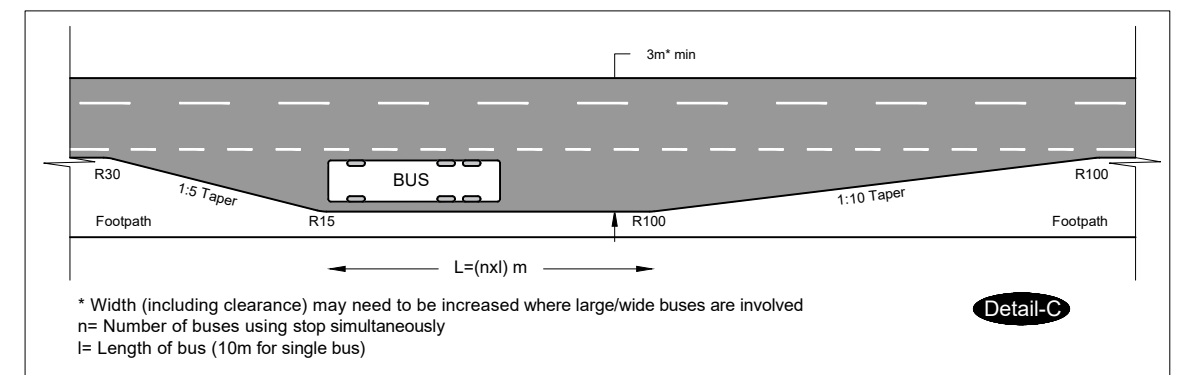
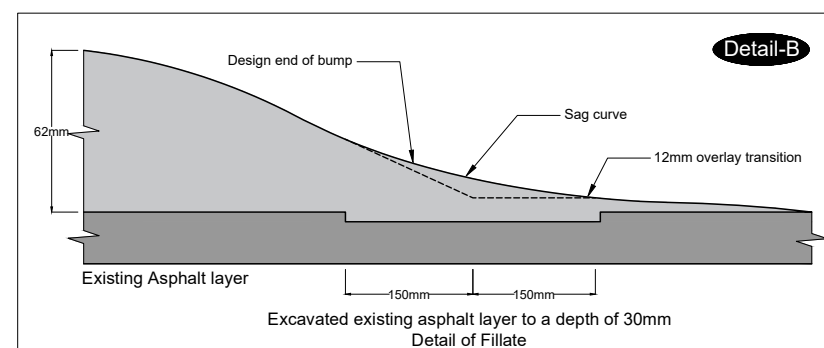
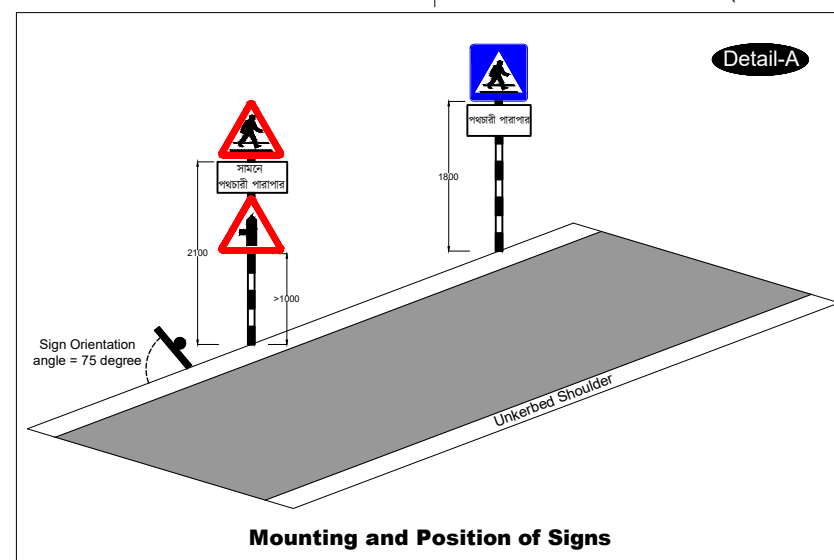
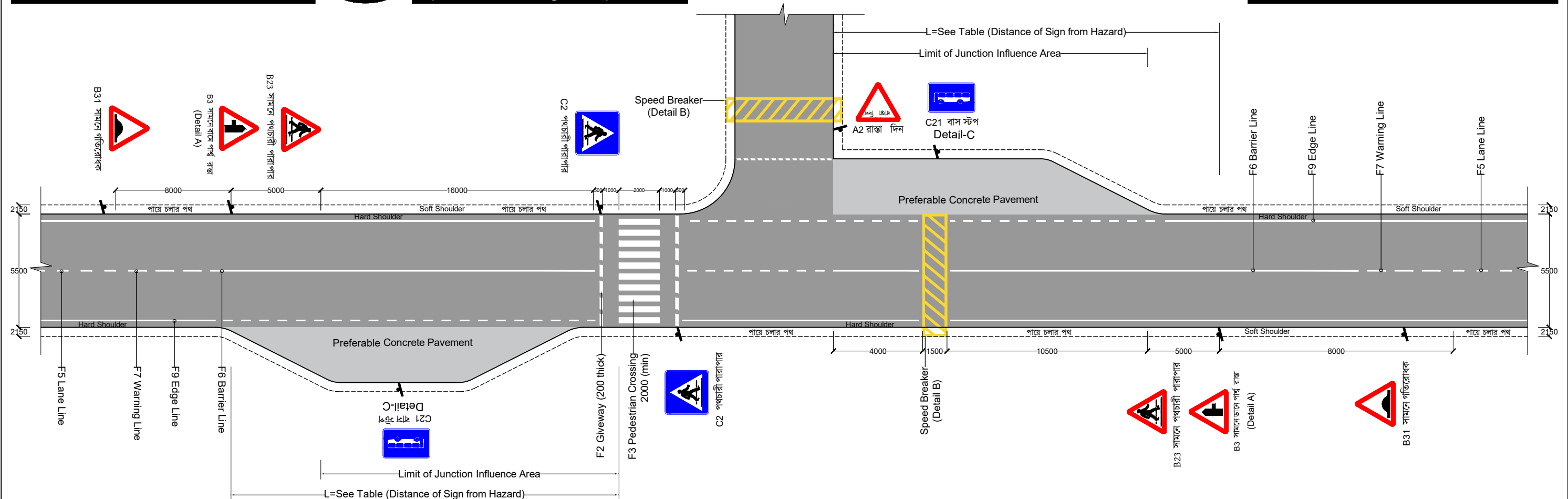


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.
5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
6. Community level enforcement is needed to ensure Bus-bay compliance.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A2	Give Way	F2	Give Way Line
A20	No Overtaking	F3	Pedestrian Crossing
A26	Special Speed Limit	F5	Lane Line
B23	Pedestrian Crossing	F6	Barrier Line
B31	Road Bump	F7	Warning Line
C2	Location of Pedestrian Crossing	F9	Edge of Carriageway
C21	Bus Stop	F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical Bus Stoppage

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : E4

With Basic Traffic Control Devices

Plus

Speed Reducing Bump Device

Plus

Raised Zebra Crossing

Junction with High Accident Record

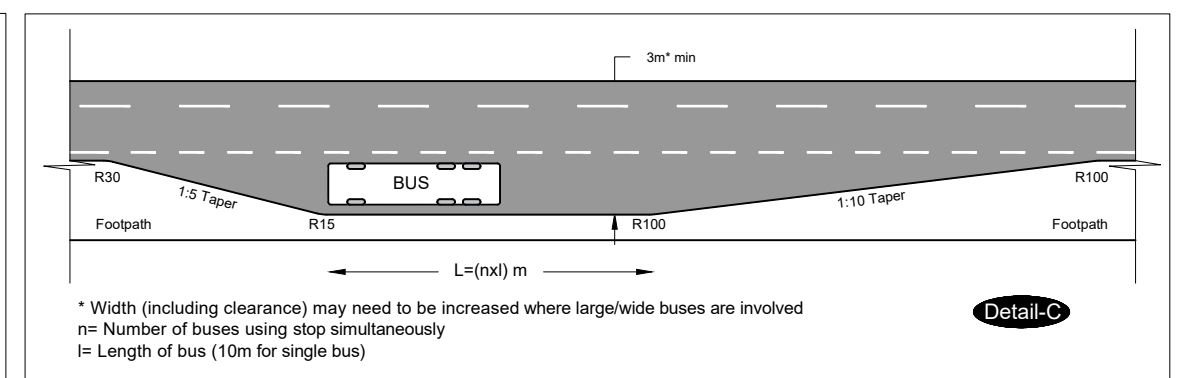
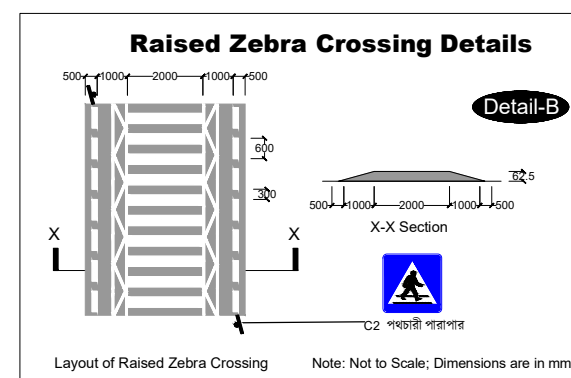
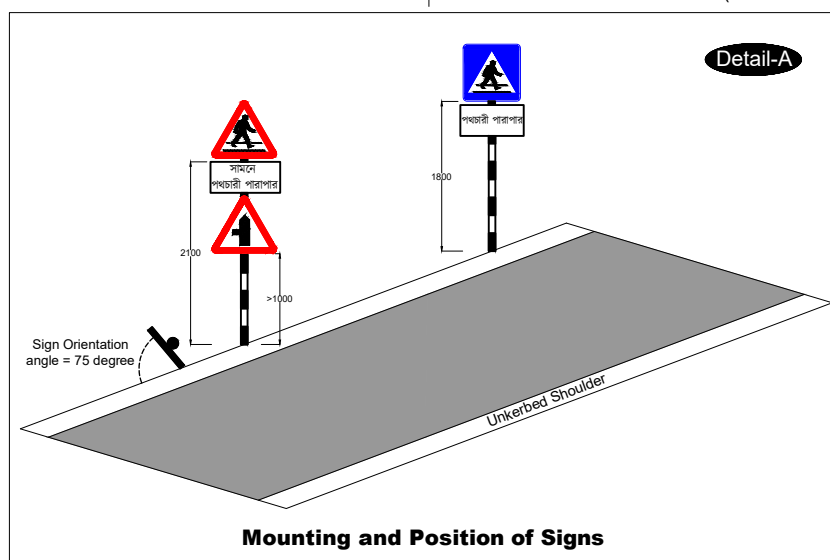
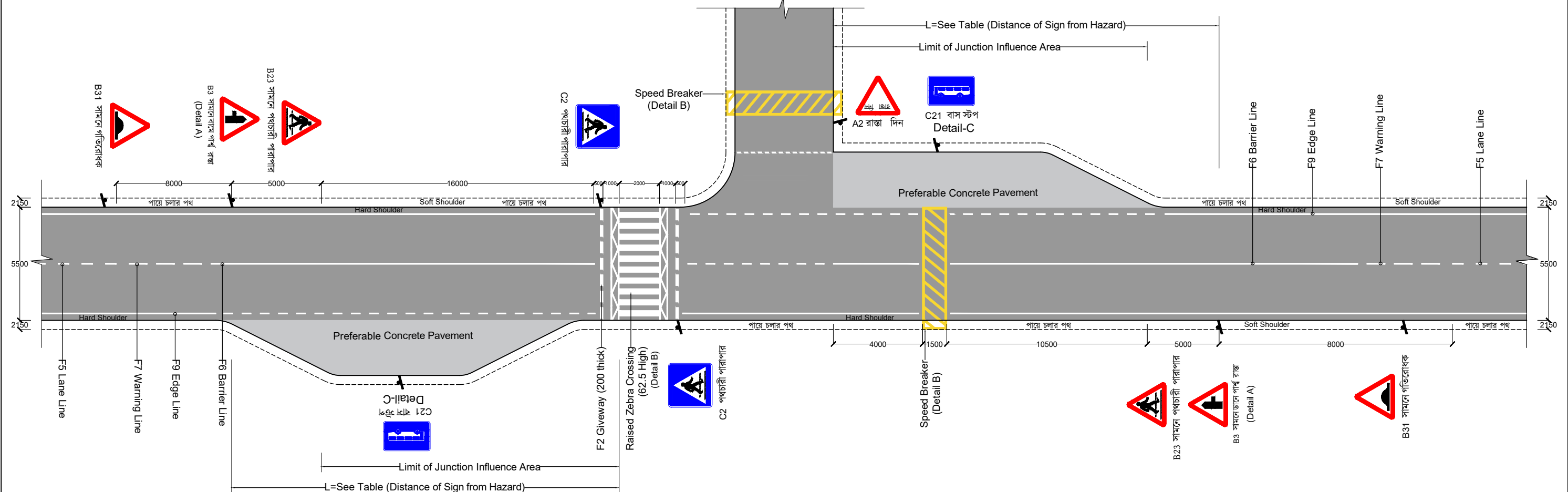


Table - Size and Sitting of Traffic Signs and Marking					*Unless otherwise specified	
Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)		
	Triangle	Circle		Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	

*Unless otherwise specified

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.
5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
6. Community level enforcement is needed to ensure Bus-bay compliance.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A2	Give Way	F2	Give Way Line
A20	No Overtaking	F3	Pedestrian Crossing
A26	Special Speed Limit	F5	Lane Line
B23	Pedestrian Crossing	F6	Barrier Line
B31	Road Bump	F7	Warning Line
C2	Location of Pedestrian Crossing	F9	Edge of Carriageway
C21	Bus Stop	F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical T-Junction

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

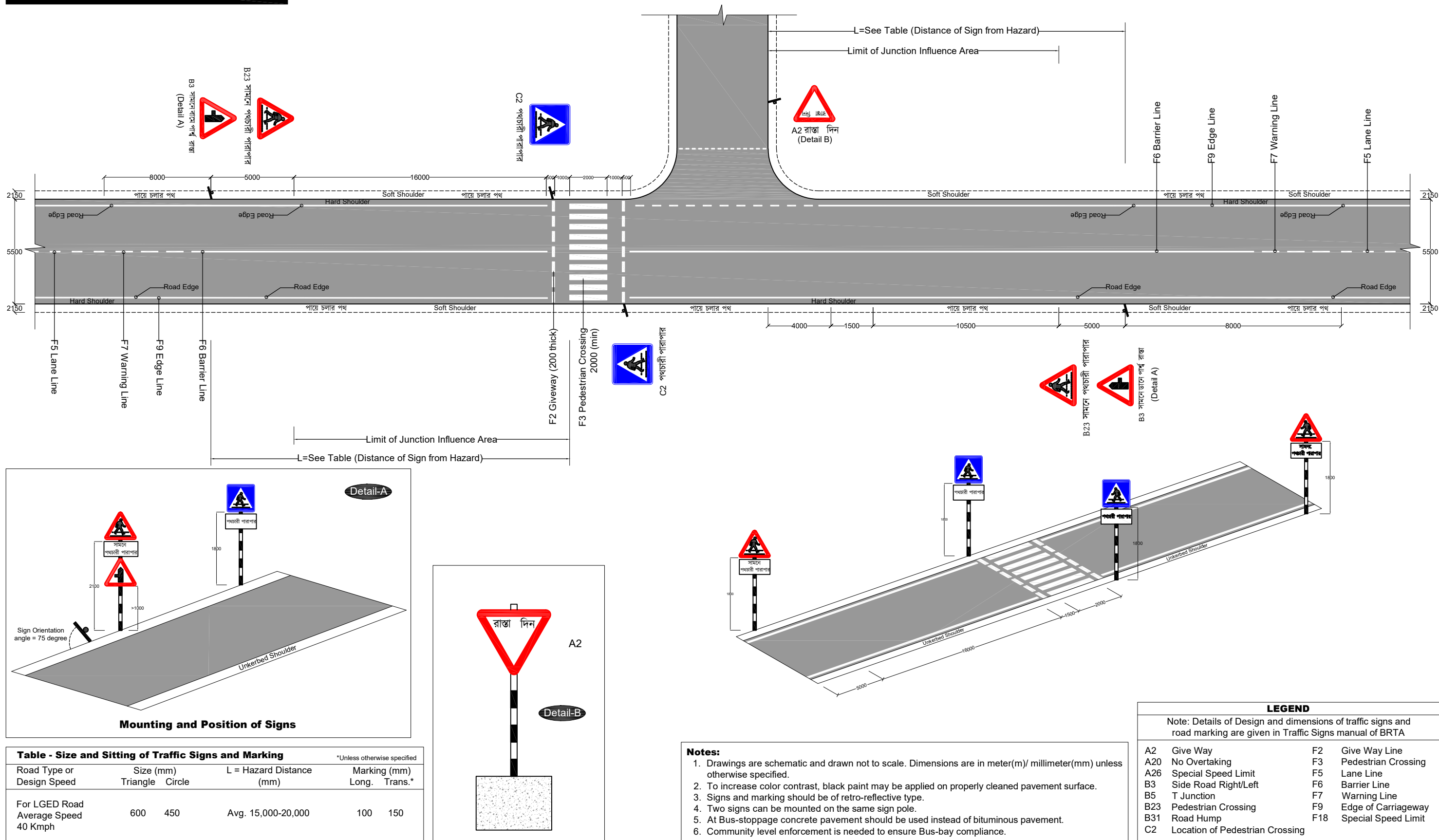
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : F1

With Basic Traffic Control Devices



Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical T-Junction

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

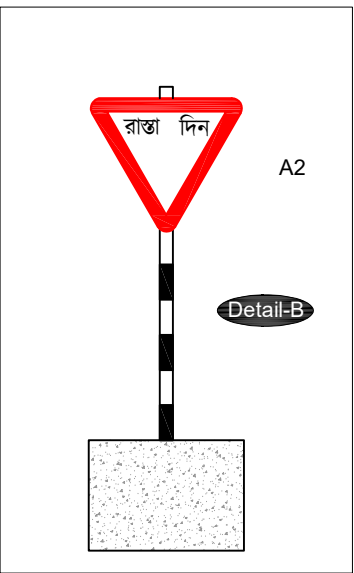
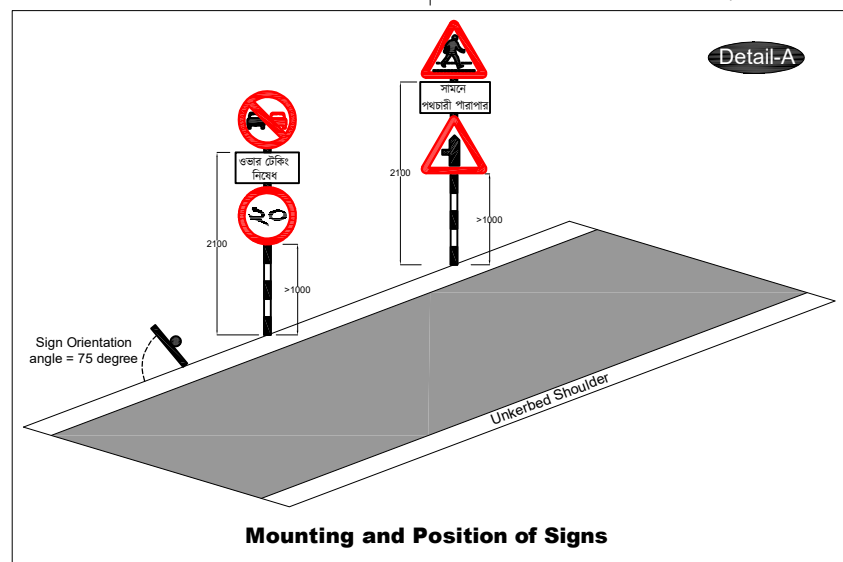
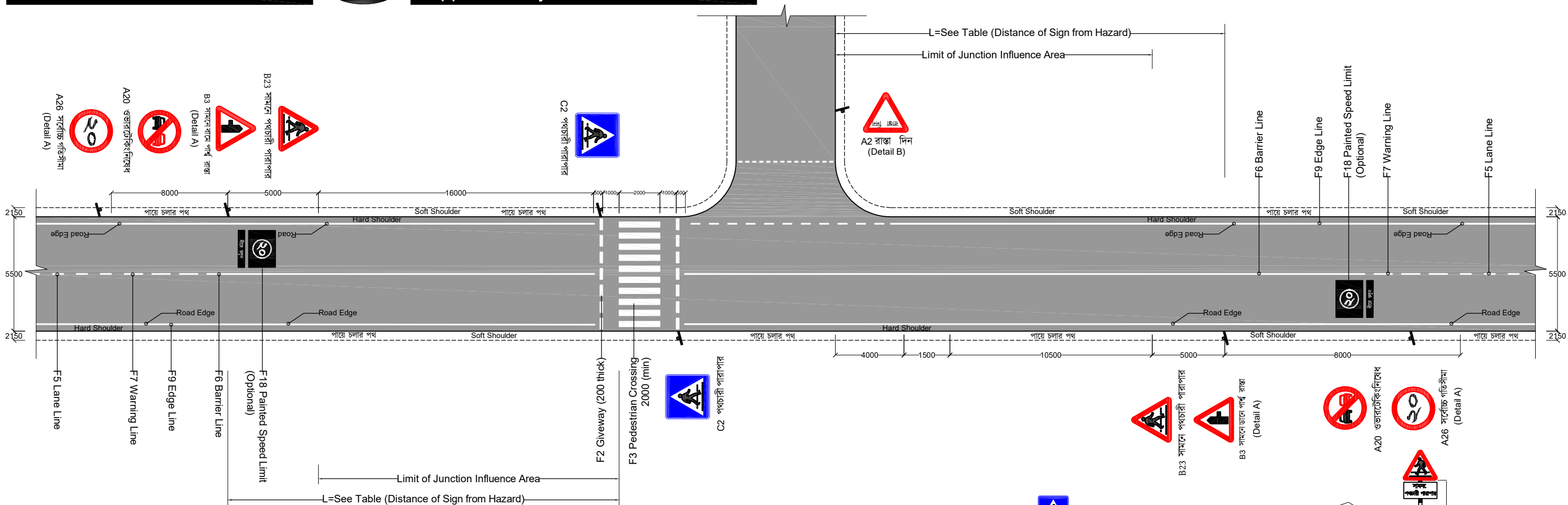
Revision : 04

Template No : F2

With Basic Traffic Control Devices

Plus

Supplementary Traffic Control Devices



- Notes:**
1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
 3. Signs and marking should be of retro-reflective type.
 4. Two signs can be mounted on the same sign pole.
 5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
 6. Community level enforcement is needed to ensure Bus-bay compliance.

LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A2	Give Way	F2	Give Way Line
A20	No Overtaking	F3	Pedestrian Crossing
A26	Special Speed Limit	F5	Lane Line
B3	Side Road Right/Left	F6	Barrier Line
B5	T Junction	F7	Warning Line
B23	Pedestrian Crossing	F9	Edge of Carriageway
B31	Road Hump	F18	Special Speed Limit
C2	Location of Pedestrian Crossing		

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical T-Junction

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision : 04

Template No : F3

With Basic Traffic Control Devices

Plus

Speed Reducing Bump Device

Junction with High Accident Record

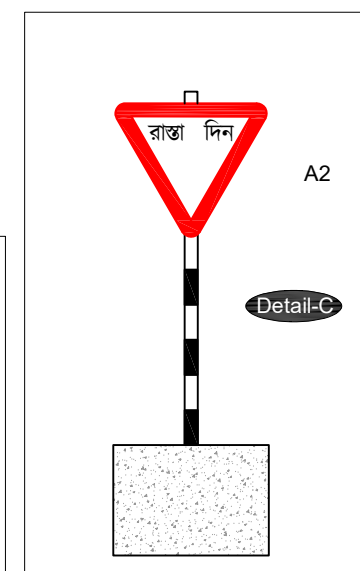
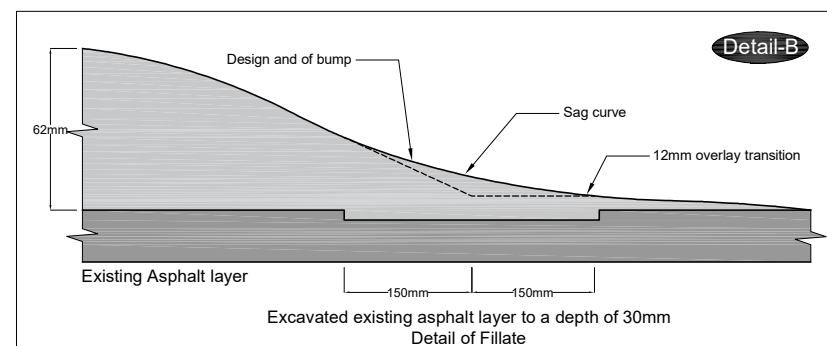
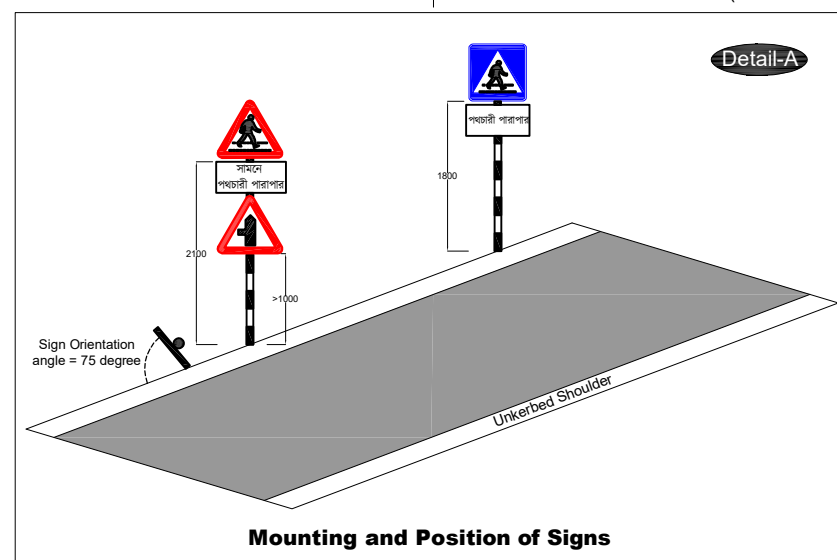
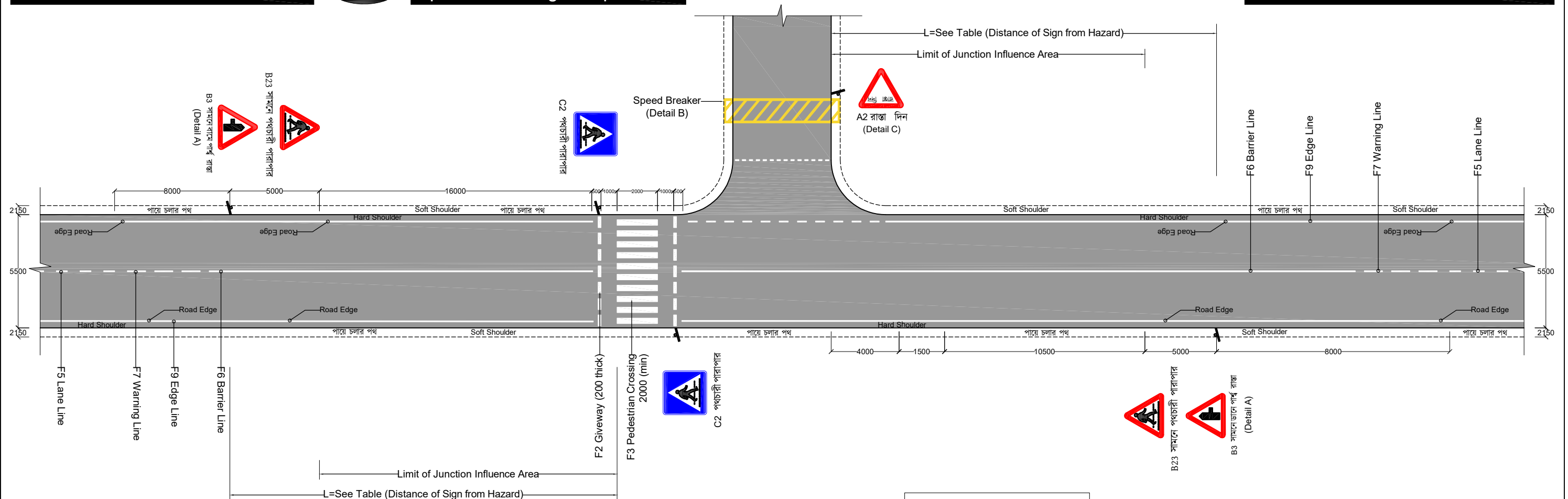


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

- Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- To increase color contrast, black paint may be applied on properly cleaned pavement surface.
- Signs and marking should be of retro-reflective type.
- Two signs can be mounted on the same sign pole.
- At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
- Community level enforcement is needed to ensure Bus-bay compliance.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

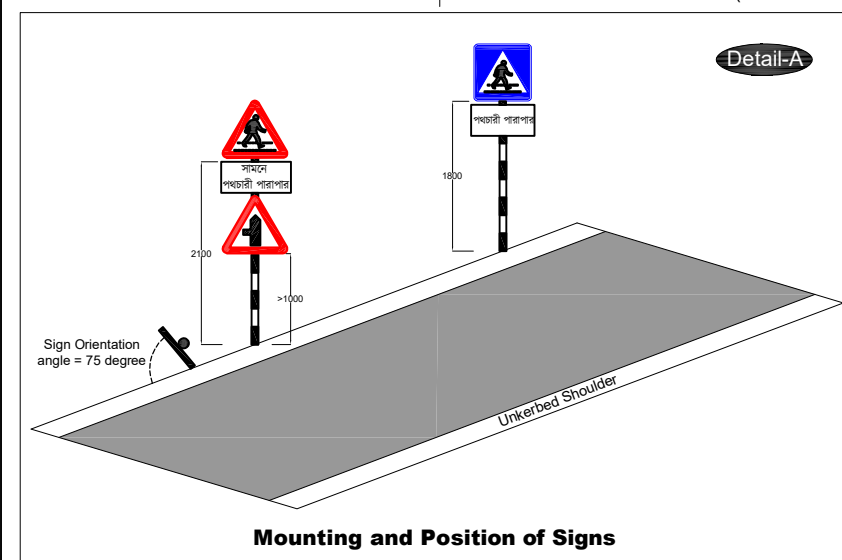
A2	Give Way	F2	Give Way Line
A20	No Overtaking	F3	Pedestrian Crossing
A26	Special Speed Limit	F5	Lane Line
B3	Side Road Right/Left	F6	Barrier Line
B5	T Junction	F7	Warning Line
B23	Pedestrian Crossing	F9	Edge of Carriageway
B31	Road Hump	F18	Special Speed Limit
C2	Location of Pedestrian Crossing		

Example of layout plan with road safety measures for Typical T-Junction

Upazila Road or Road with
Design Speed 40 kmph

Template No : F4

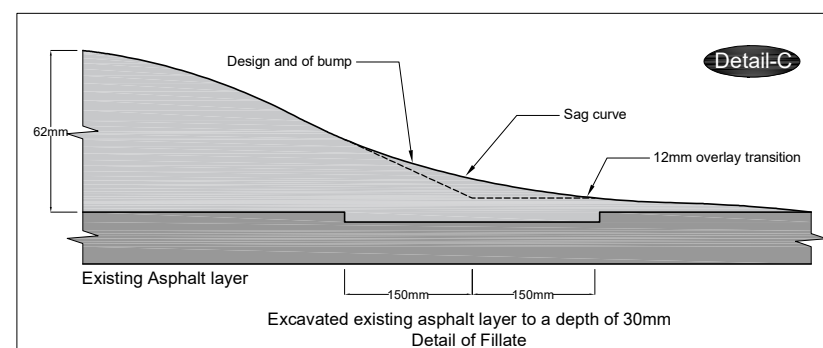
Junction with High Accident Record



Mounting and Position of Signs

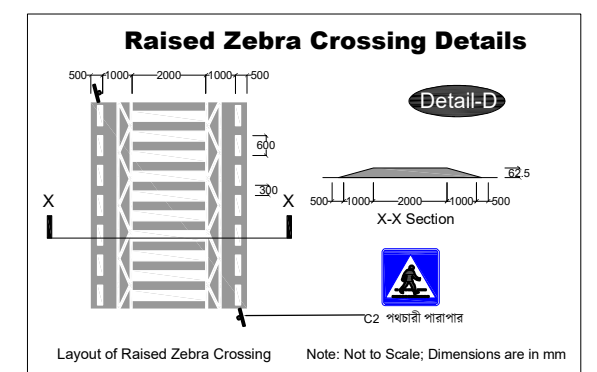
A2

Detail-B



Detail-C

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.
5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
6. Community level enforcement is needed to ensure Bus-bay compliance.



Raised Zebra Crossing Details

Detail-D

Layout of Raised Zebra Crossing Note: Not to Scale; Dimensions are in mm

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A2	Give Way	F2	Give Way Line
A20	No Overtaking	F3	Pedestrian Crossing
A26	Special Speed Limit	F5	Lane Line
B3	Side Road Right/Left	F6	Barrier Line
B5	T Junction	F7	Warning Line
B23	Pedestrian Crossing	F9	Edge of Carriageway
B31	Road Hump	F18	Special Speed Limit
C2	Location of Pedestrian Crossing		

Rural Road Safety Manual of LGED

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Example of layout plan with road safety measures of RHD - LGED Intersection

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

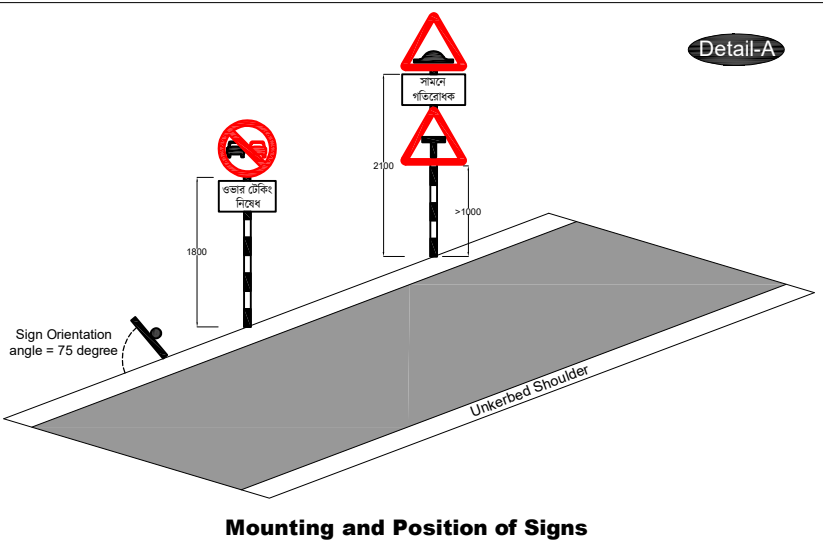
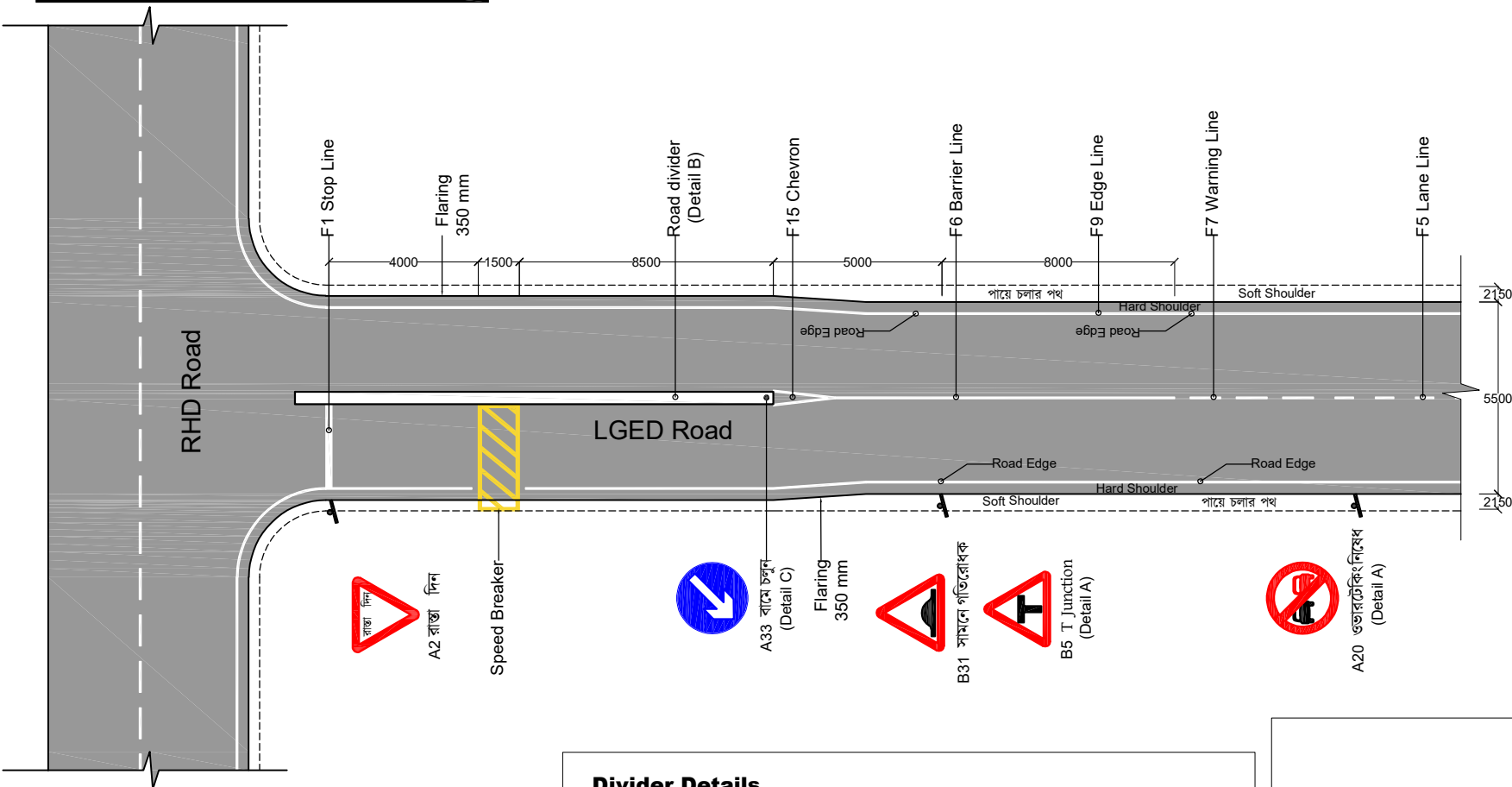
Revision : 04

Template No : F5

With Basic Traffic Control Devices

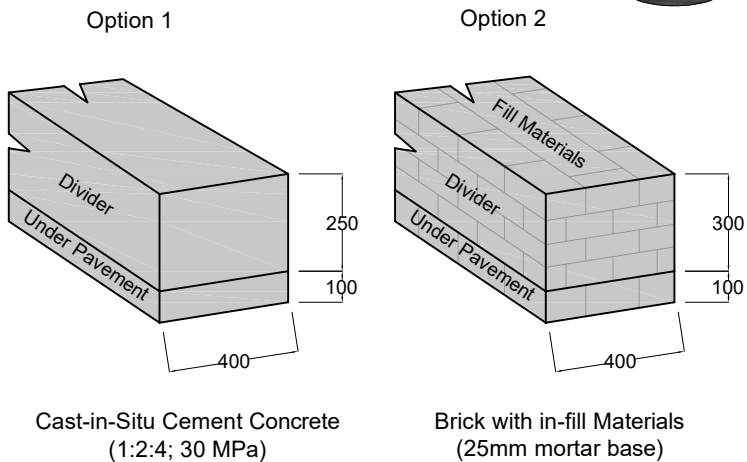
Plus

Speed Reducing Bump Device



Mounting and Position of Signs

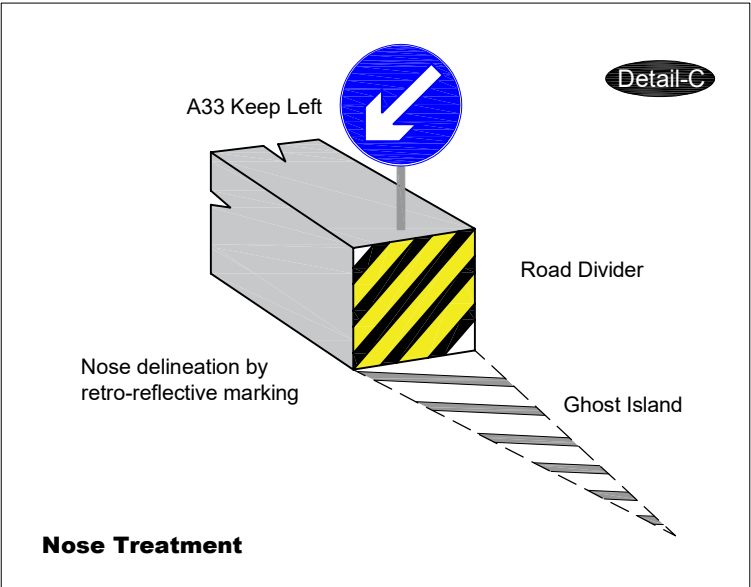
Divider Details



Notes: Not to Scale; Dimensions are in mm

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.
5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
6. Community level enforcement is needed to ensure Bus-bay compliance.



Nose Treatment

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A2	Give Way	F2	Give Way Line
A20	No Overtaking	F3	Pedestrian Crossing
A26	Special Speed Limit	F5	Lane Line
B3	Side Road Right/Left	F6	Barrier Line
B5	T Junction	F7	Warning Line
B23	Pedestrian Crossing	F9	Edge of Carriageway
B31	Road Hump	F18	Special Speed Limit
C2	Location of Pedestrian Crossing		

Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Rural Road Safety Manual of LGED

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Example of layout plan with road safety measures of RHD - LGED Intersection

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

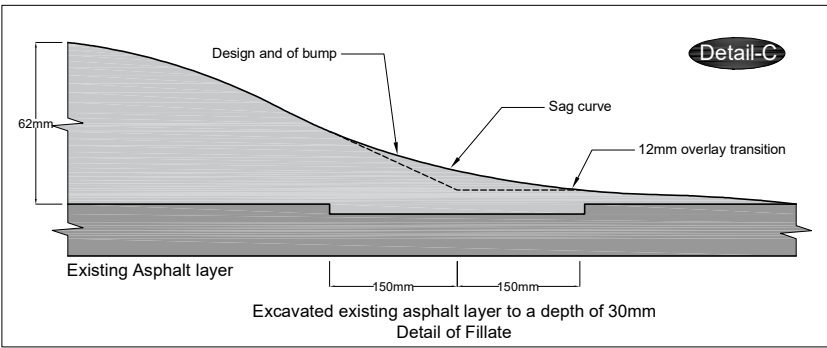
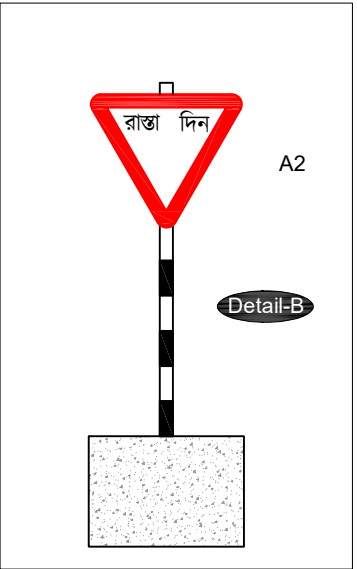
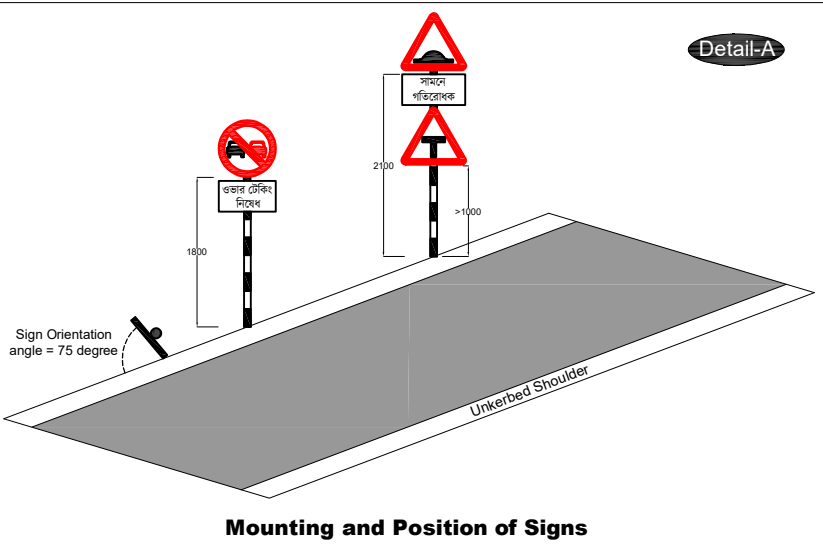
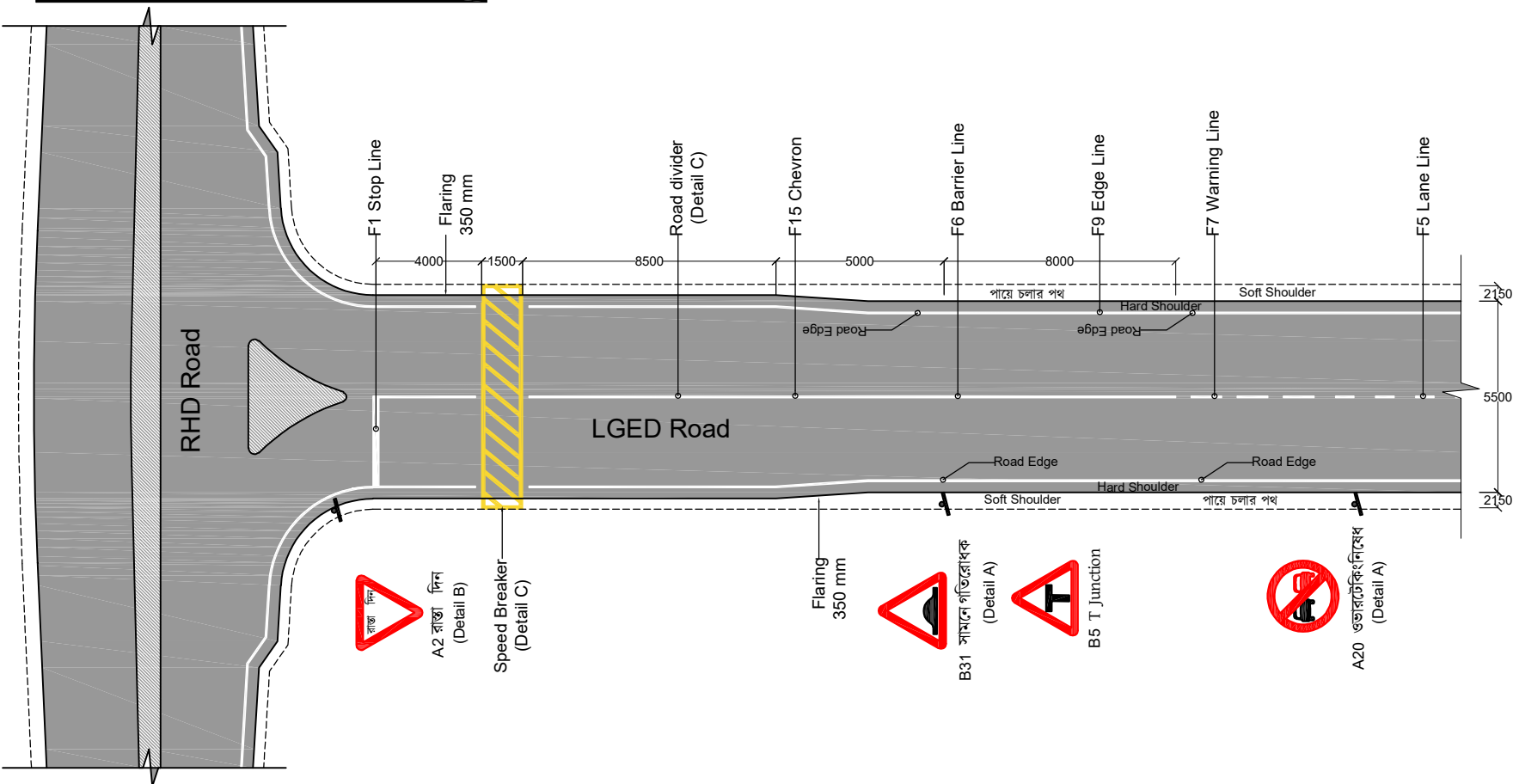
Revision : 04

Template No : F6

With Basic Traffic Control Devices

Plus

Speed Reducing Bump Device



- Notes:**
1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
 3. Signs and marking should be of retro-reflective type.
 4. Two signs can be mounted on the same sign pole.
 5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
 6. Community level enforcement is needed to ensure Bus-bay compliance.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A2	Give Way	F2	Give Way Line
A20	No Overtaking	F3	Pedestrian Crossing
A26	Special Speed Limit	F5	Lane Line
B3	Side Road Right/Left	F6	Barrier Line
B5	T Junction	F7	Warning Line
B23	Pedestrian Crossing	F9	Edge of Carriageway
B31	Road Hump	F18	Special Speed Limit
C2	Location of Pedestrian Crossing		

Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical Hat/Bazar

Safety Measures for:

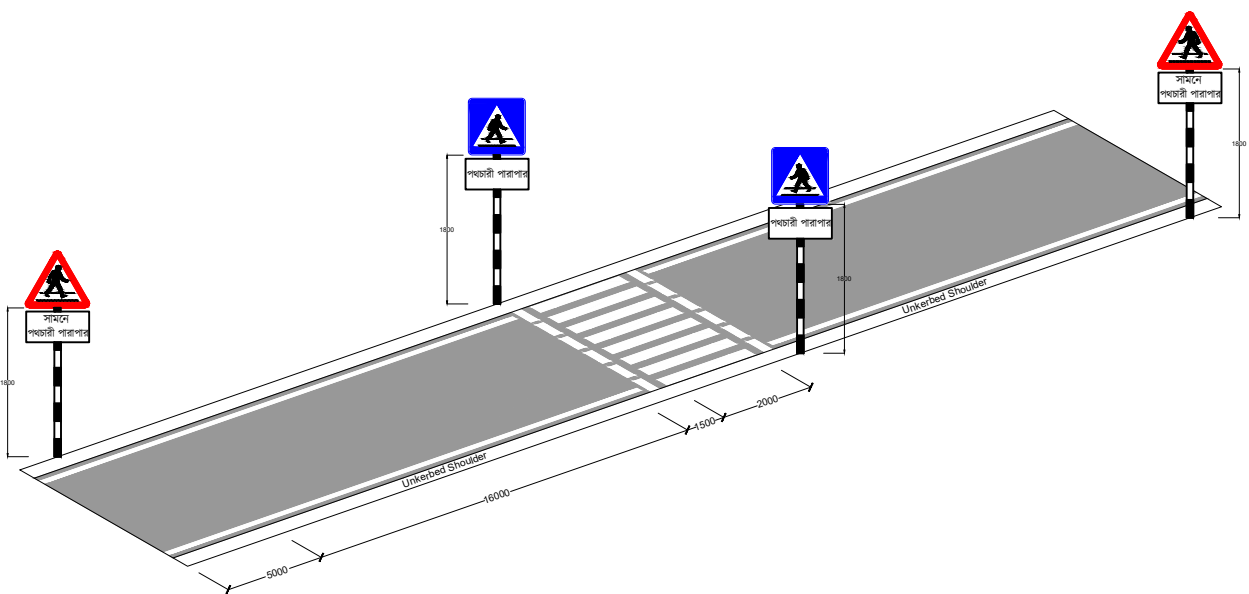
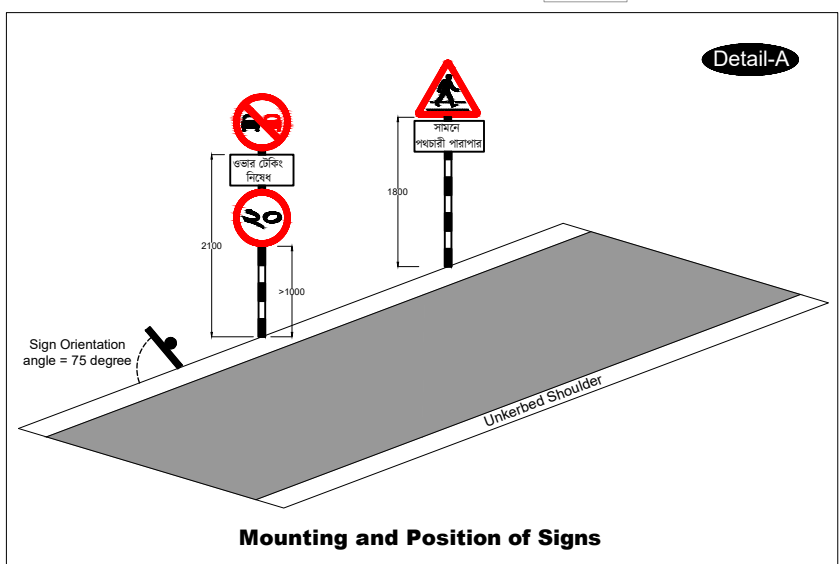
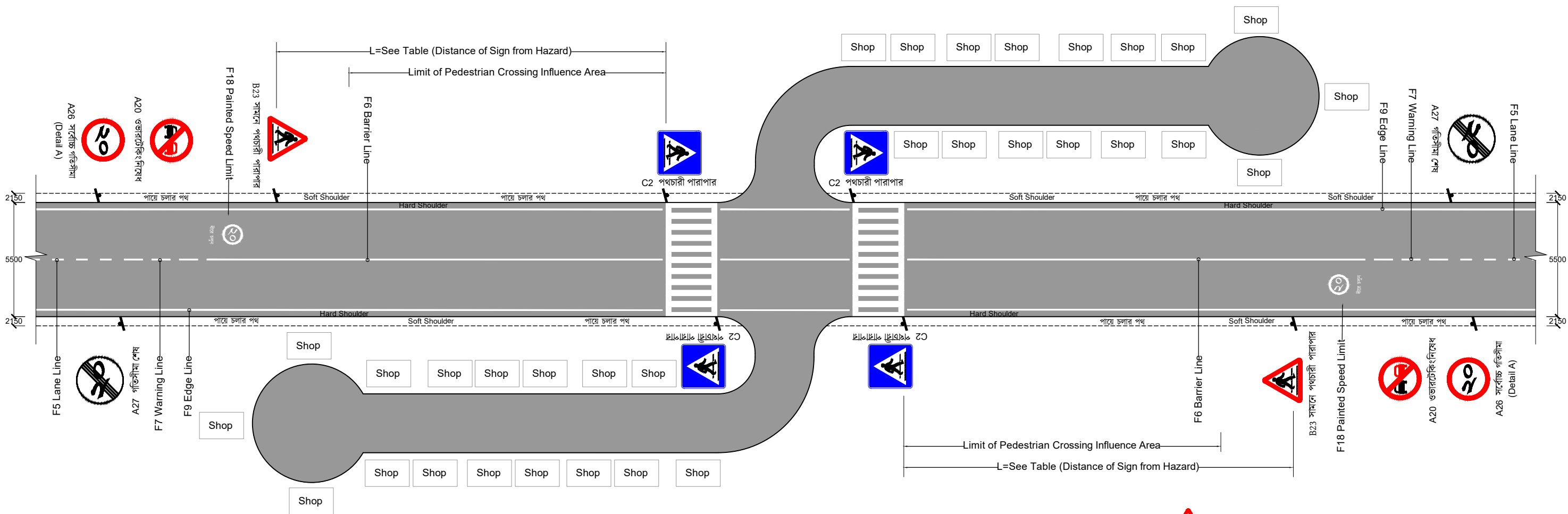
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : G1



Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.
5. At Bazar area concrete pavement should be used instead of bituminous pavement.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F2	Give Way Line
A26	Special Speed Limit	F3	Pedestrian Crossing
A27	National Speed Limits Apply	F5	Lane Line
B23	Pedestrian Crossing	F6	Barrier Line
C2	Location of Pedestrian Crossing	F7	Warning Line
		F9	Edge of Carriageway

Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical Hat/Bazar

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : G2

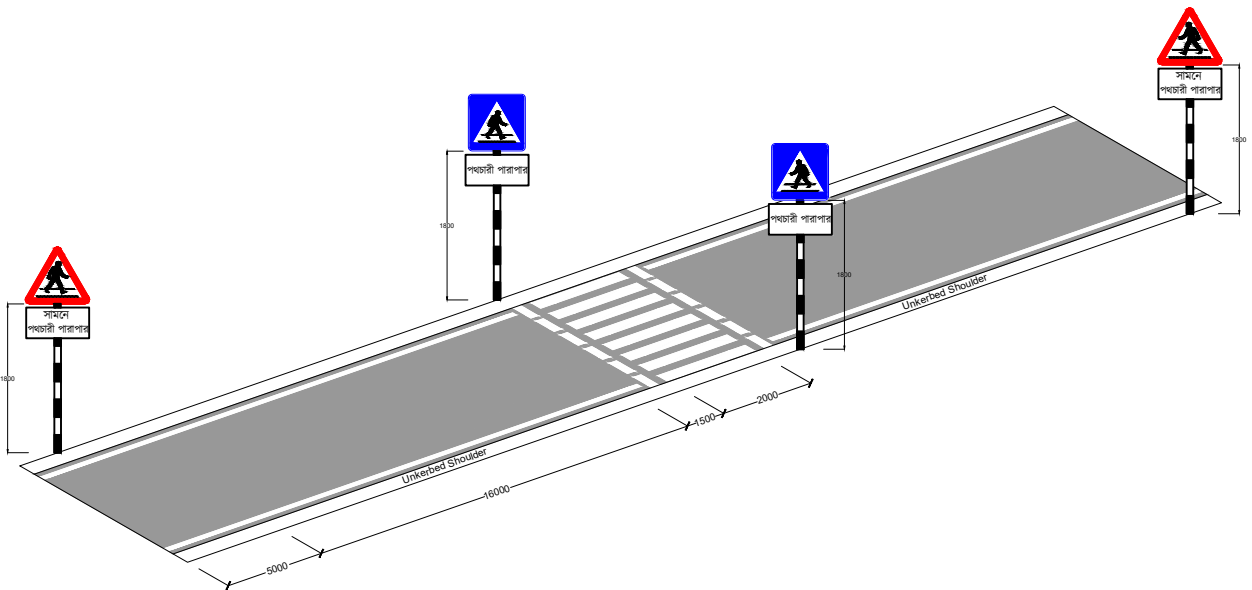
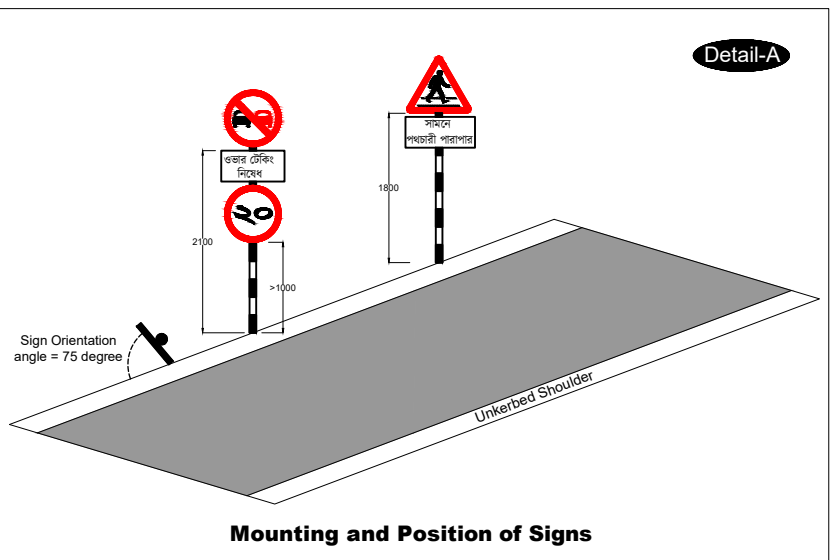
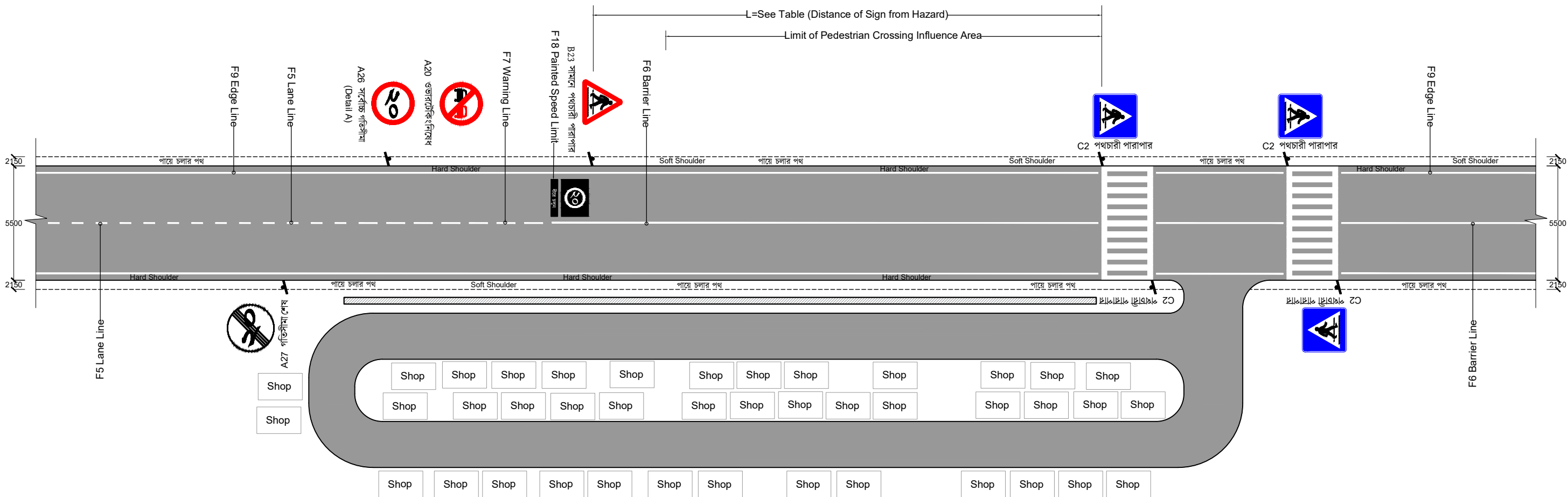


Table - Size and Sitting of Traffic Signs and Marking

*Unless otherwise specified

Road Type or Design Speed	Size (mm)		L = Hazard Distance (mm)	Marking (mm)	
	Triangle	Circle		Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

Notes:

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole.
5. At Bazar area concrete pavement should be used instead of bituminous pavement.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F2	Give Way Line
A26	Special Speed Limit	F3	Pedestrian Crossing
A27	National Speed Limits Apply	F5	Lane Line
B23	Pedestrian Crossing	F6	Barrier Line
C2	Location of Pedestrian Crossing	F7	Warning Line
		F9	Edge of Carriageway

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Bridge/Culvert

Safety Measures for:

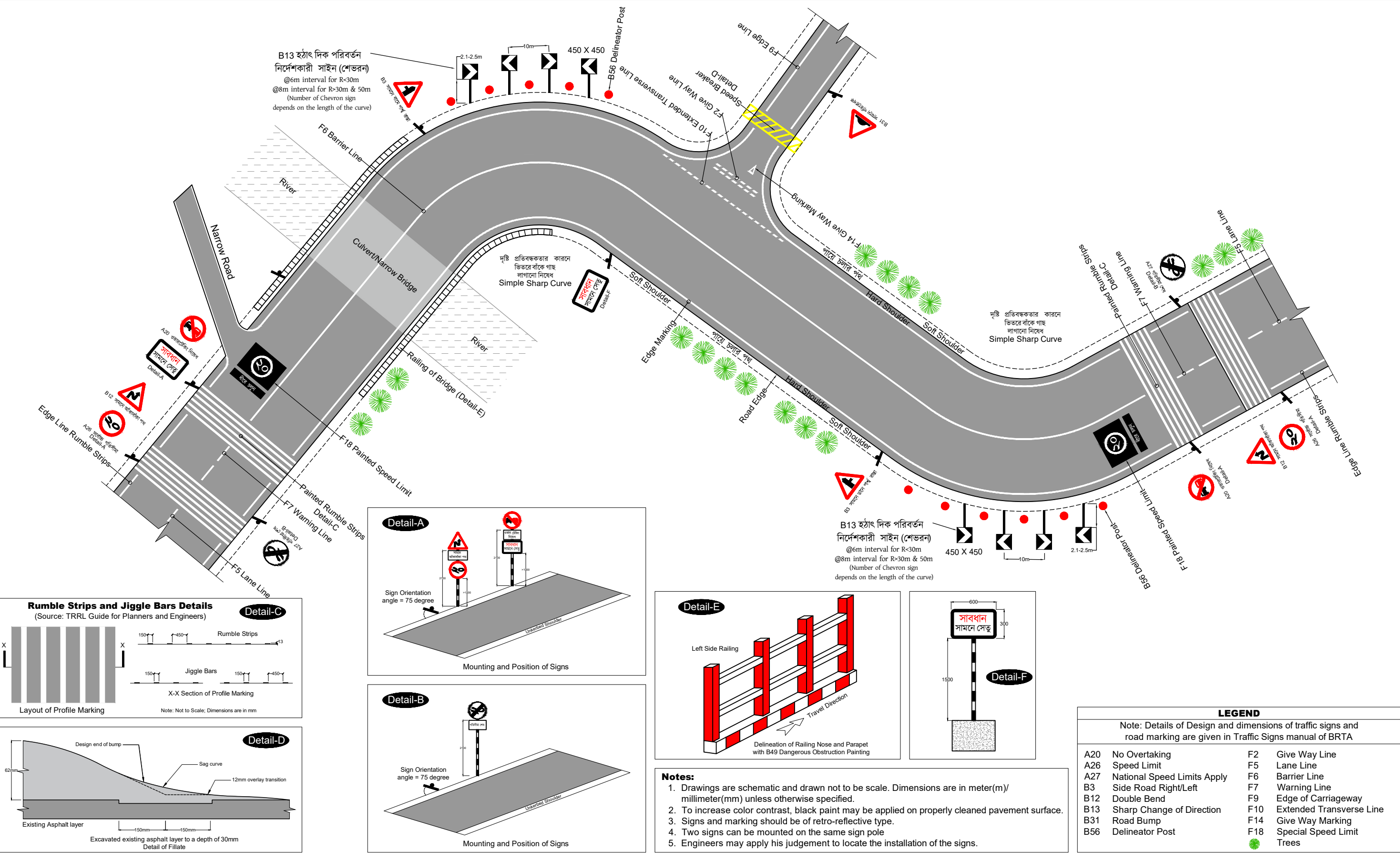
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : H1



Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

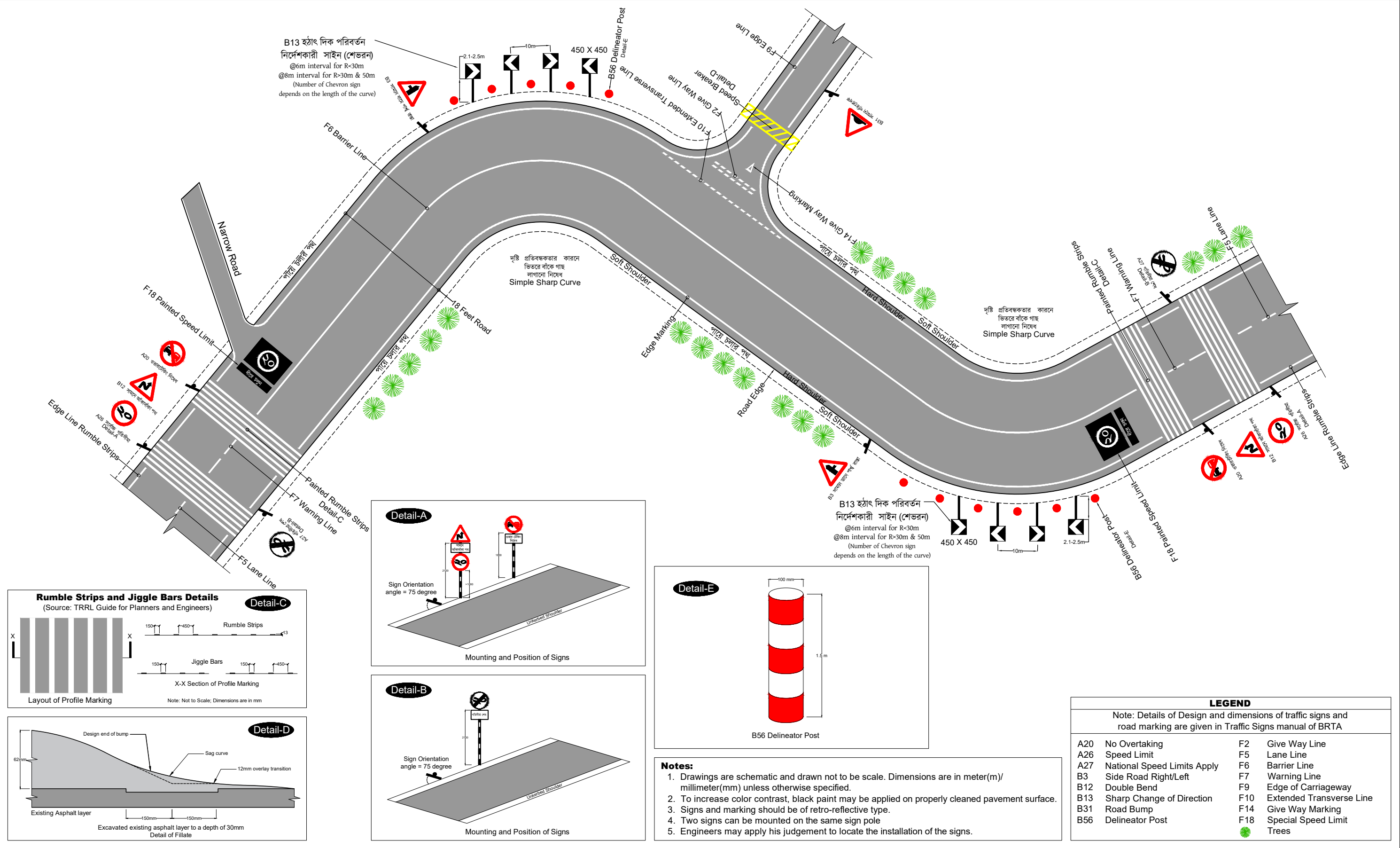
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : H2



Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

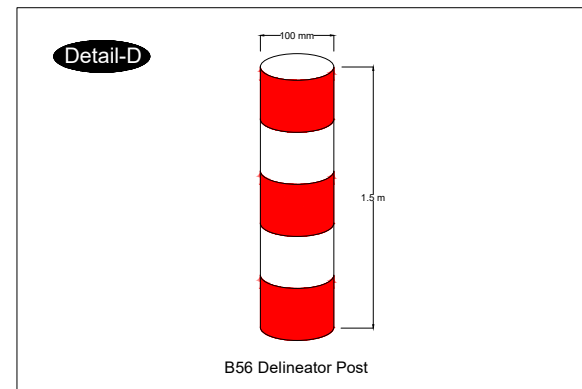
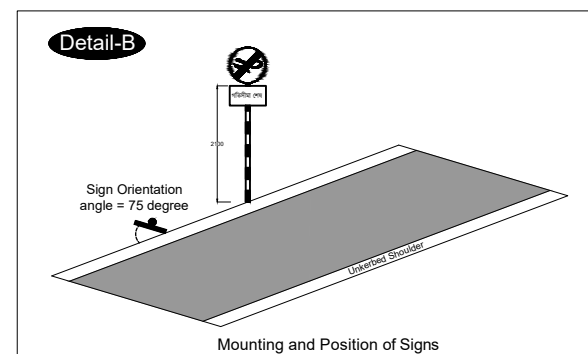
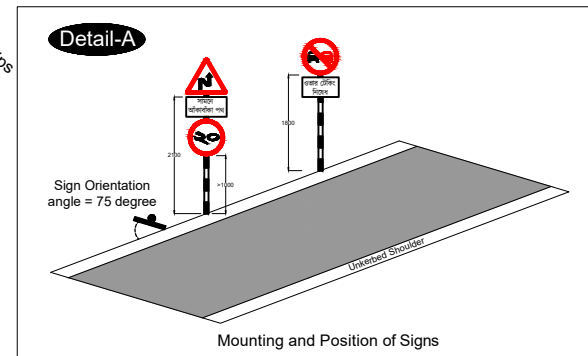
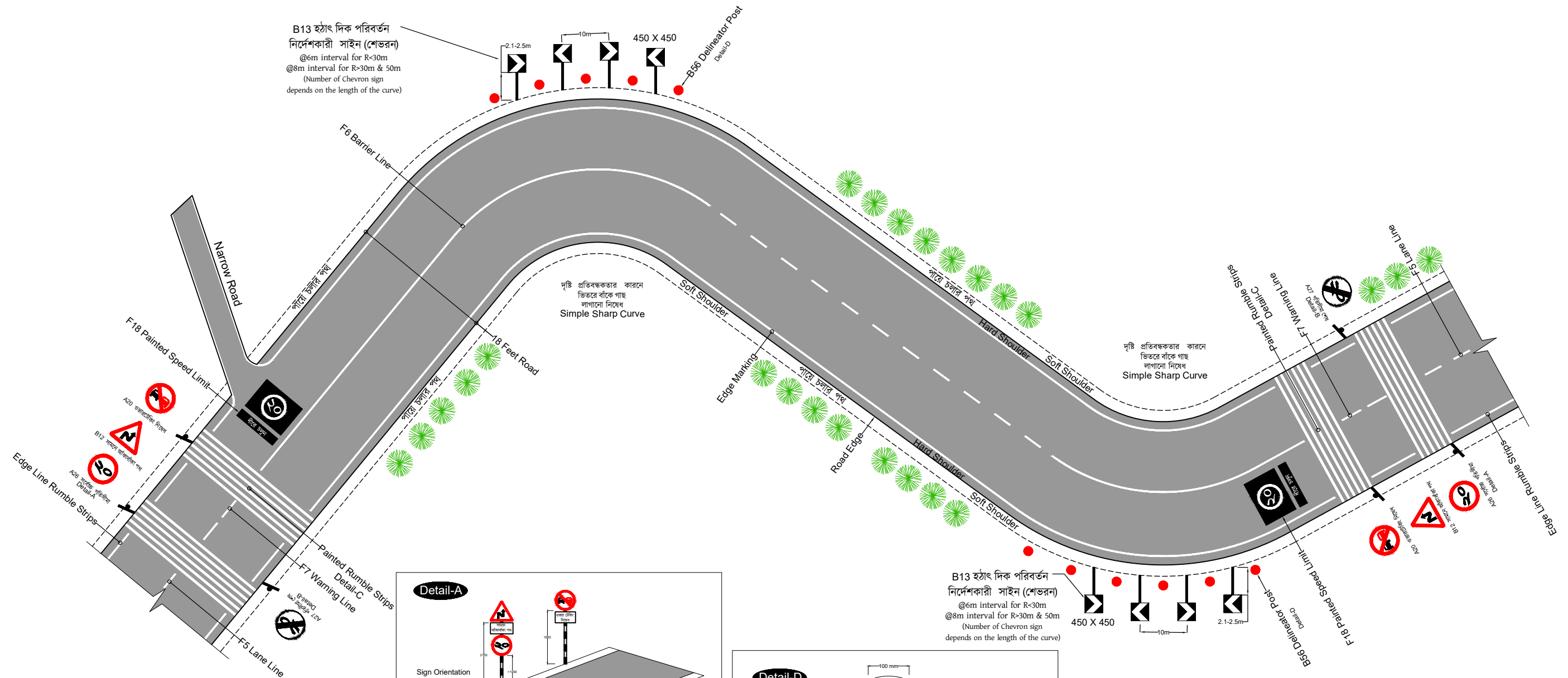
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

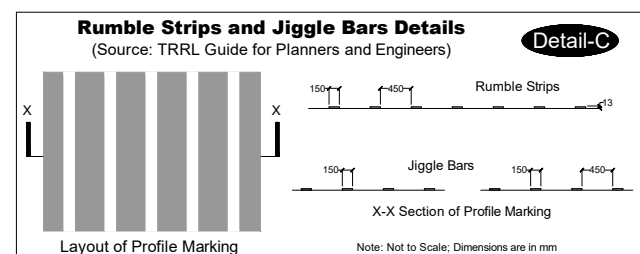
Revision : 04

Template No : H3



Notes:

1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole
5. Engineers may apply his judgement to locate the installation of the signs.



LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	F2	Give Way Line
A26	Speed Limit	F5	Lane Line
A27	National Speed Limits Apply	F6	Barrier Line
B3	Side Road Right/Left	F7	Warning Line
B12	Double Bend	F9	Edge of Carriageway
B13	Sharp Change of Direction	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
			Trees

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

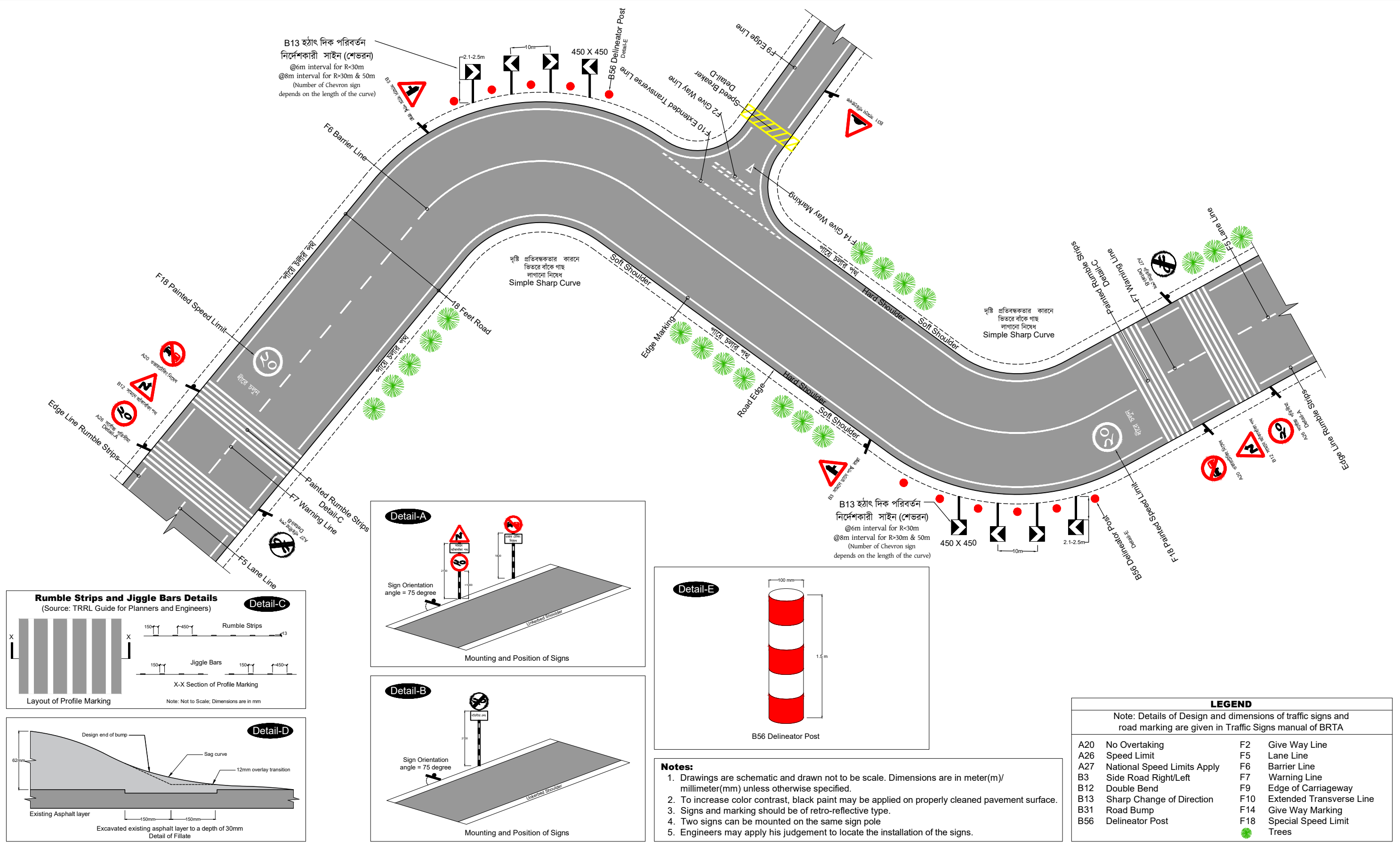
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : H4



Rural Road Safety Manual of LGED

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

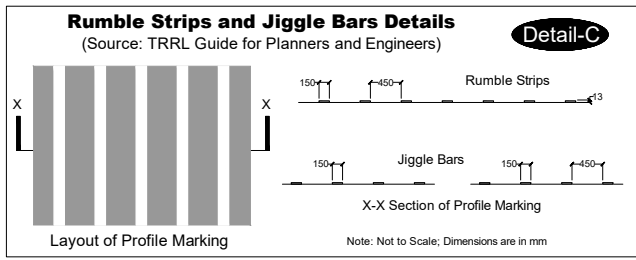
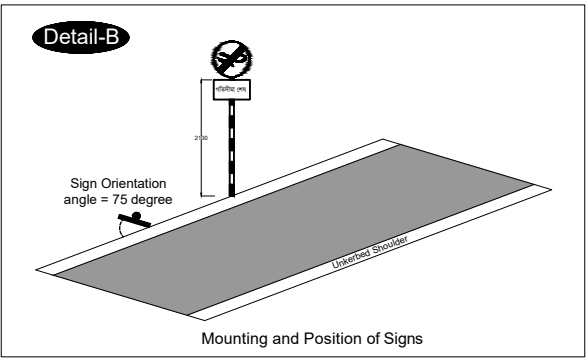
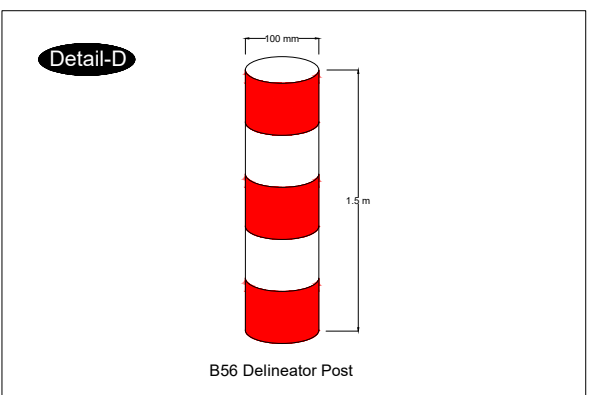
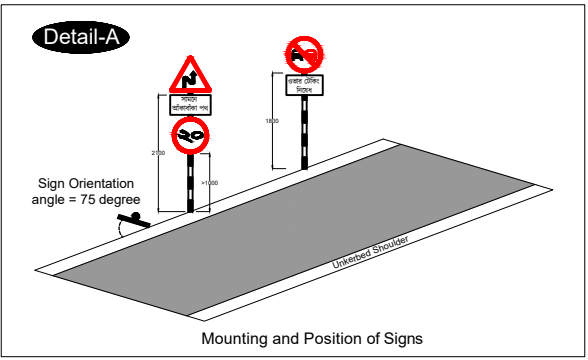
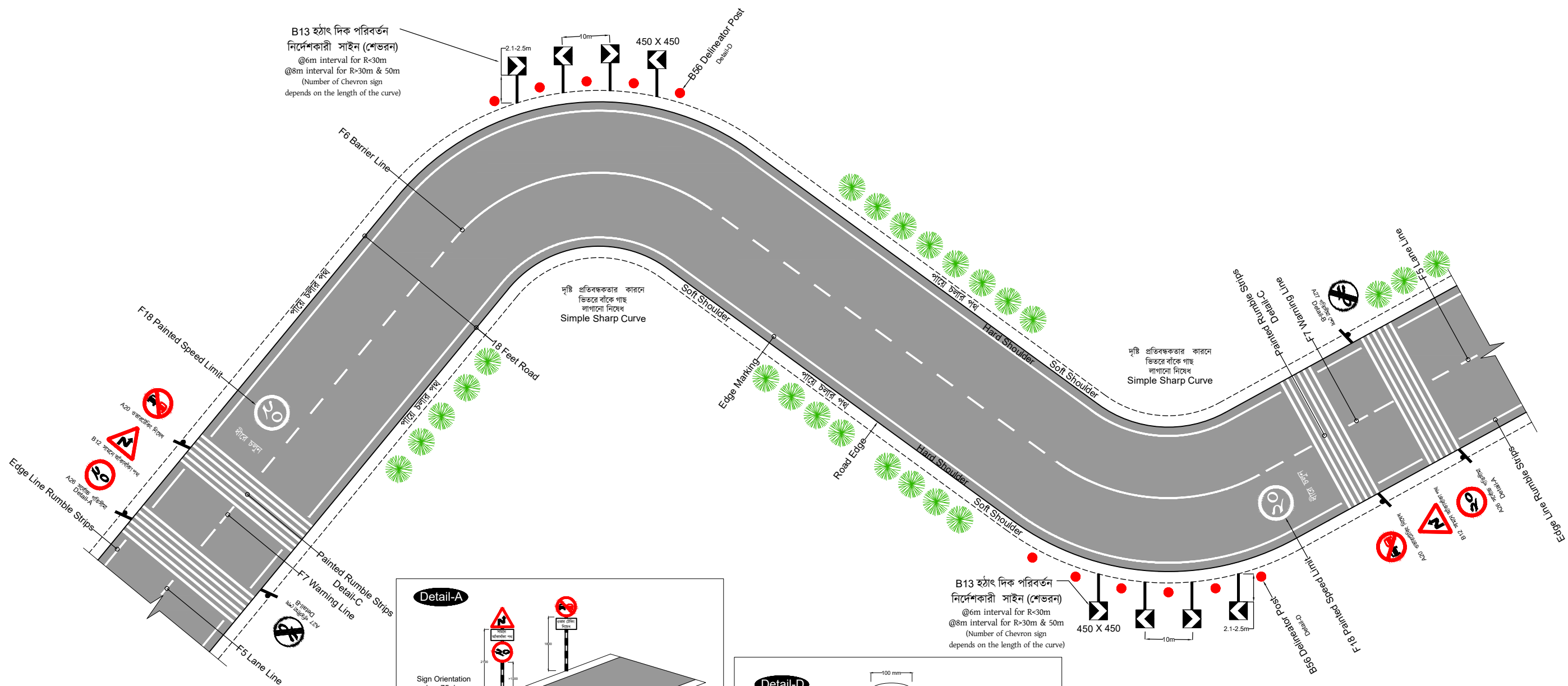
Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : H5



- Notes:**
1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
 3. Signs and marking should be of retro-reflective type.
 4. Two signs can be mounted on the same sign pole
 5. Engineers may apply his judgement to locate the installation of the signs.

LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	F2	Give Way Line
A26	Speed Limit	F5	Lane Line
A27	National Speed Limits Apply	F6	Barrier Line
B3	Side Road Right/Left	F7	Warning Line
B12	Double Bend	F9	Edge of Carriageway
B13	Sharp Change of Direction	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
			Trees

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Hat/Bazar

Safety Measures for:

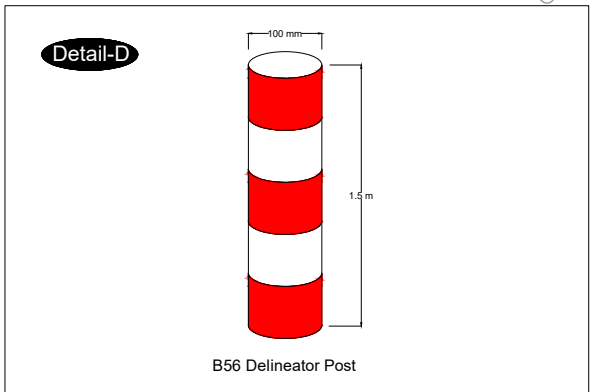
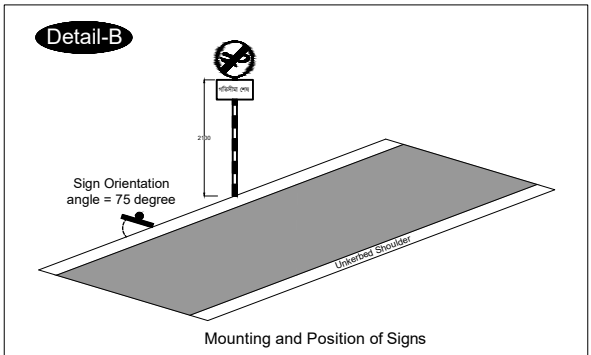
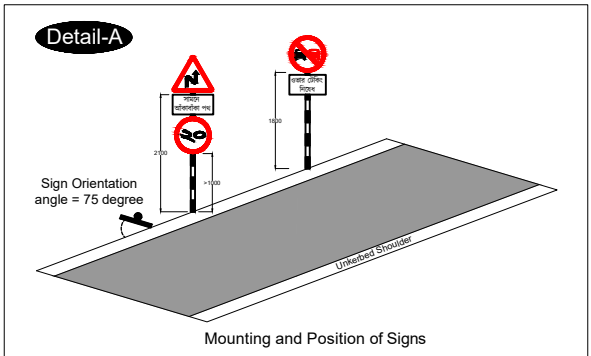
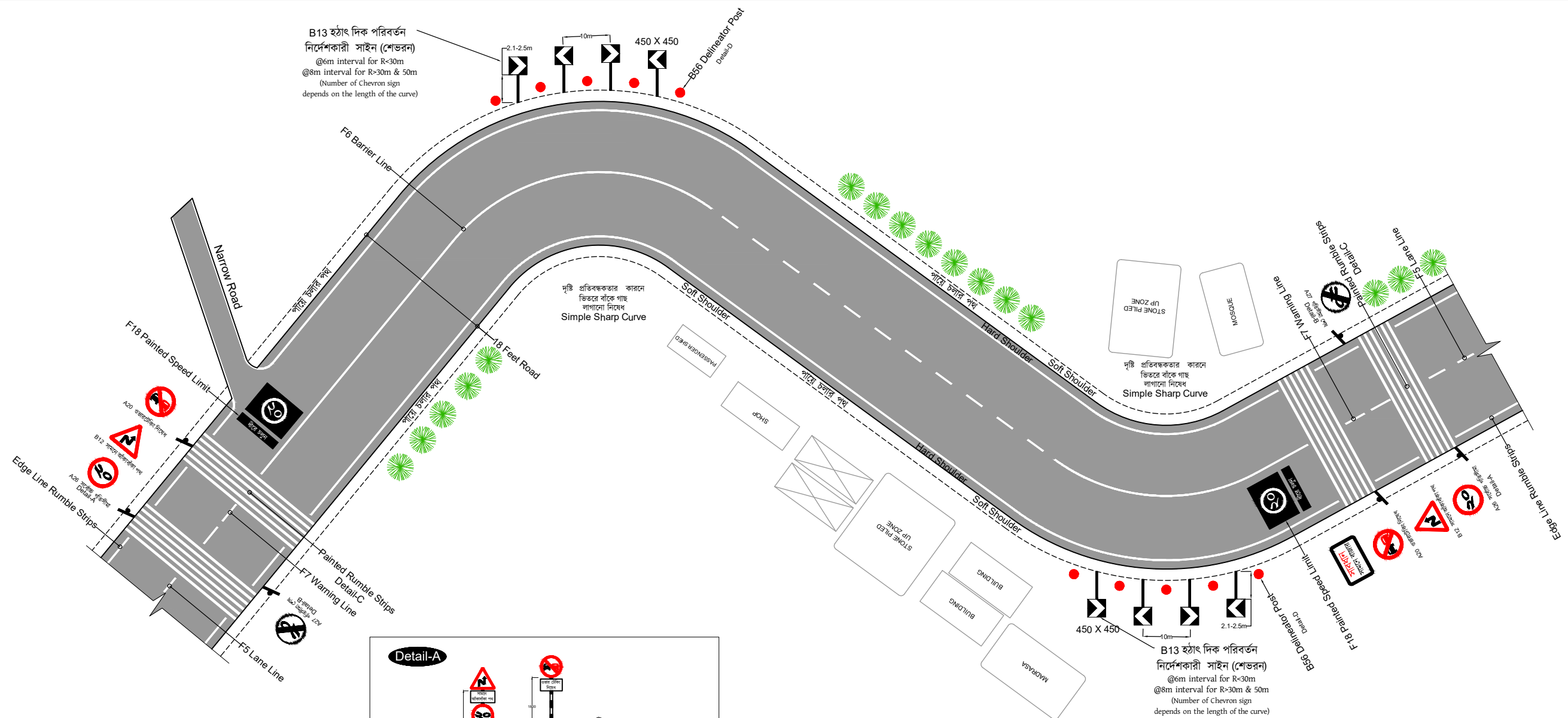
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

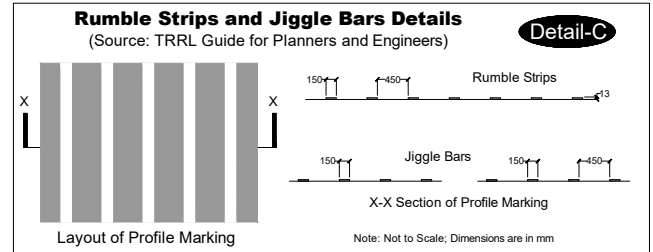
Revision : 04

Template No : H6



Notes:

1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole
5. Engineers may apply his judgement to locate the installation of the signs.



LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	F2	Give Way Line
A26	Speed Limit	F5	Lane Line
A27	National Speed Limits Apply	F6	Barrier Line
B3	Side Road Right/Left	F7	Warning Line
B12	Double Bend	F9	Edge of Carriageway
B13	Sharp Change of Direction	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
			Trees

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Hat/Bazar and Side Road

Safety Measures for:

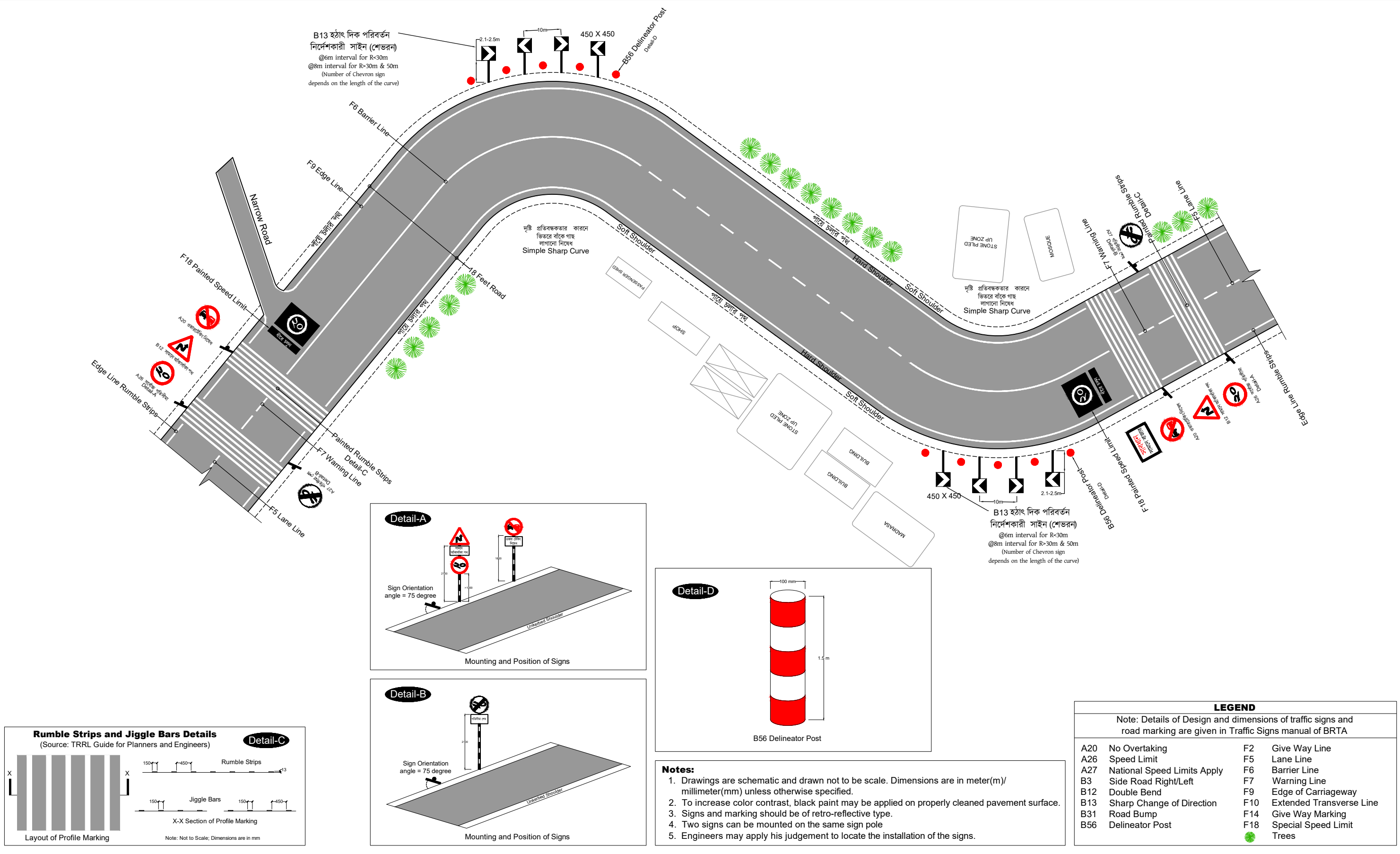
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : I1



Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

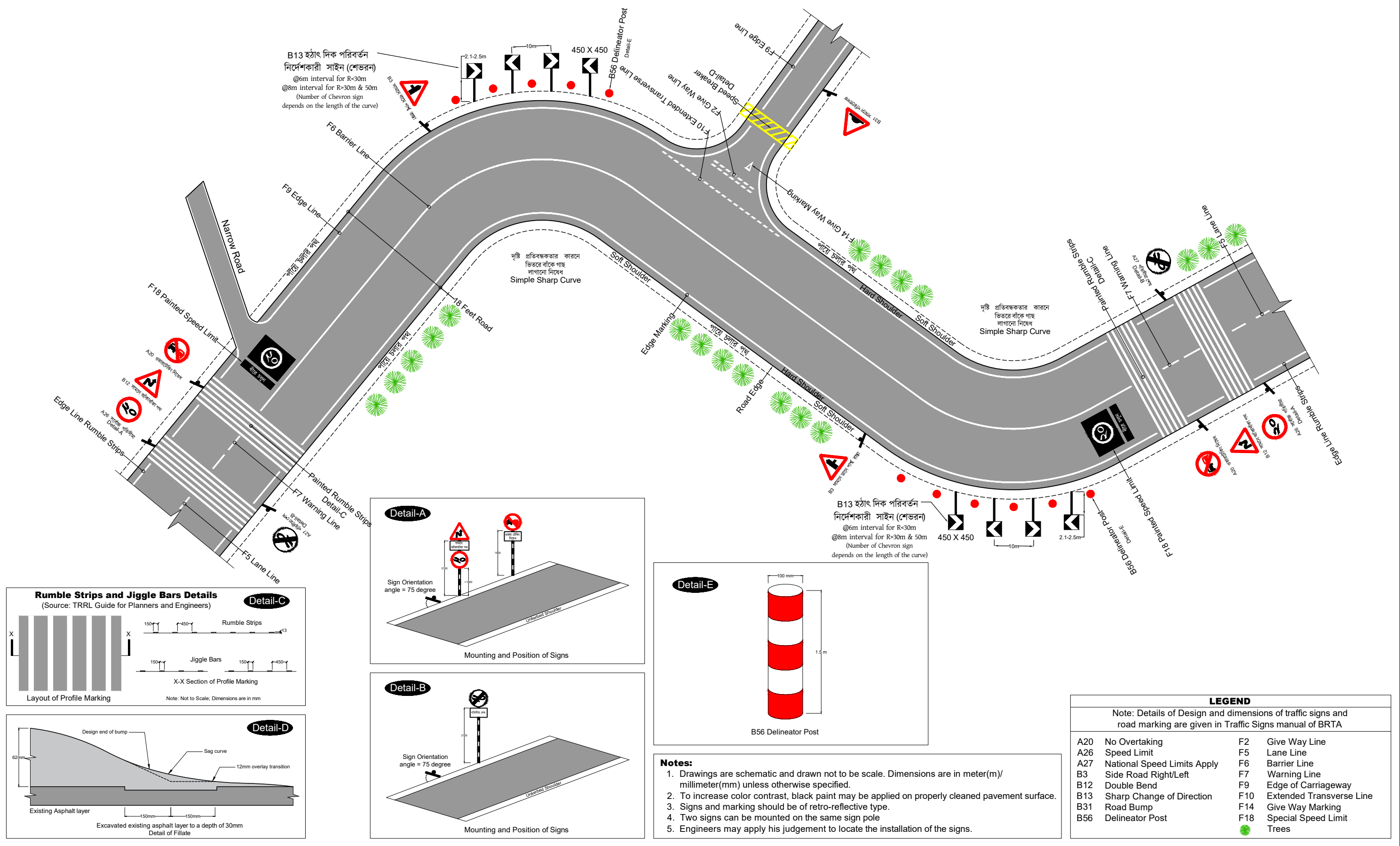
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : I2



Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

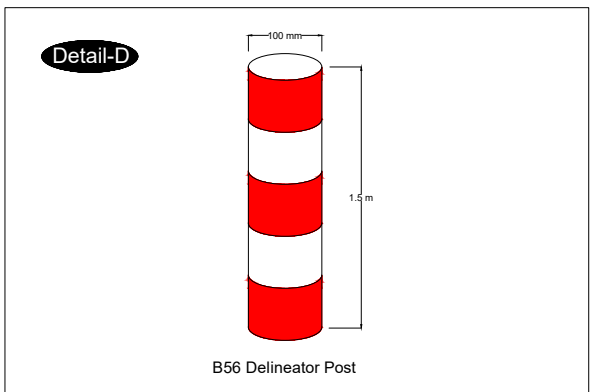
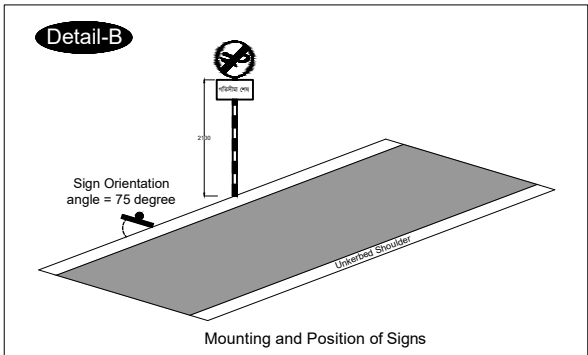
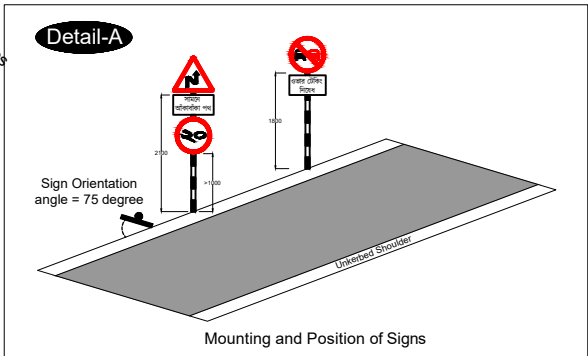
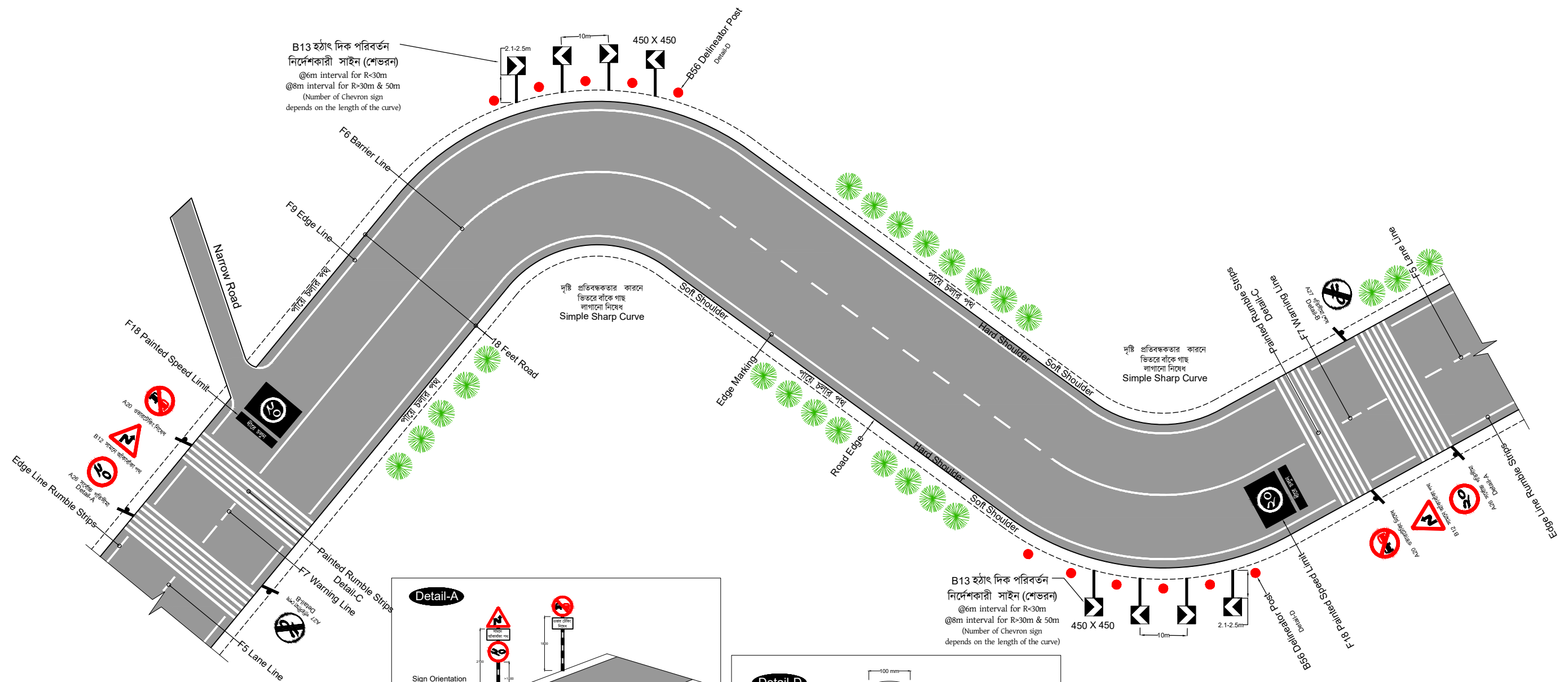
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

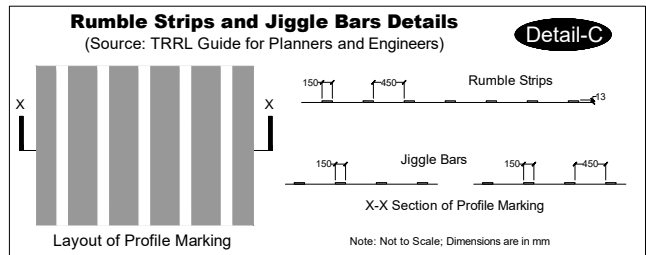
Revision : 04

Template No : I3



Notes:

1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole
5. Engineers may apply his judgement to locate the installation of the signs.



LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	F2	Give Way Line
A26	Speed Limit	F5	Lane Line
A27	National Speed Limits Apply	F6	Barrier Line
B3	Side Road Right/Left	F7	Warning Line
B12	Double Bend	F9	Edge of Carriageway
B13	Sharp Change of Direction	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
			Trees

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

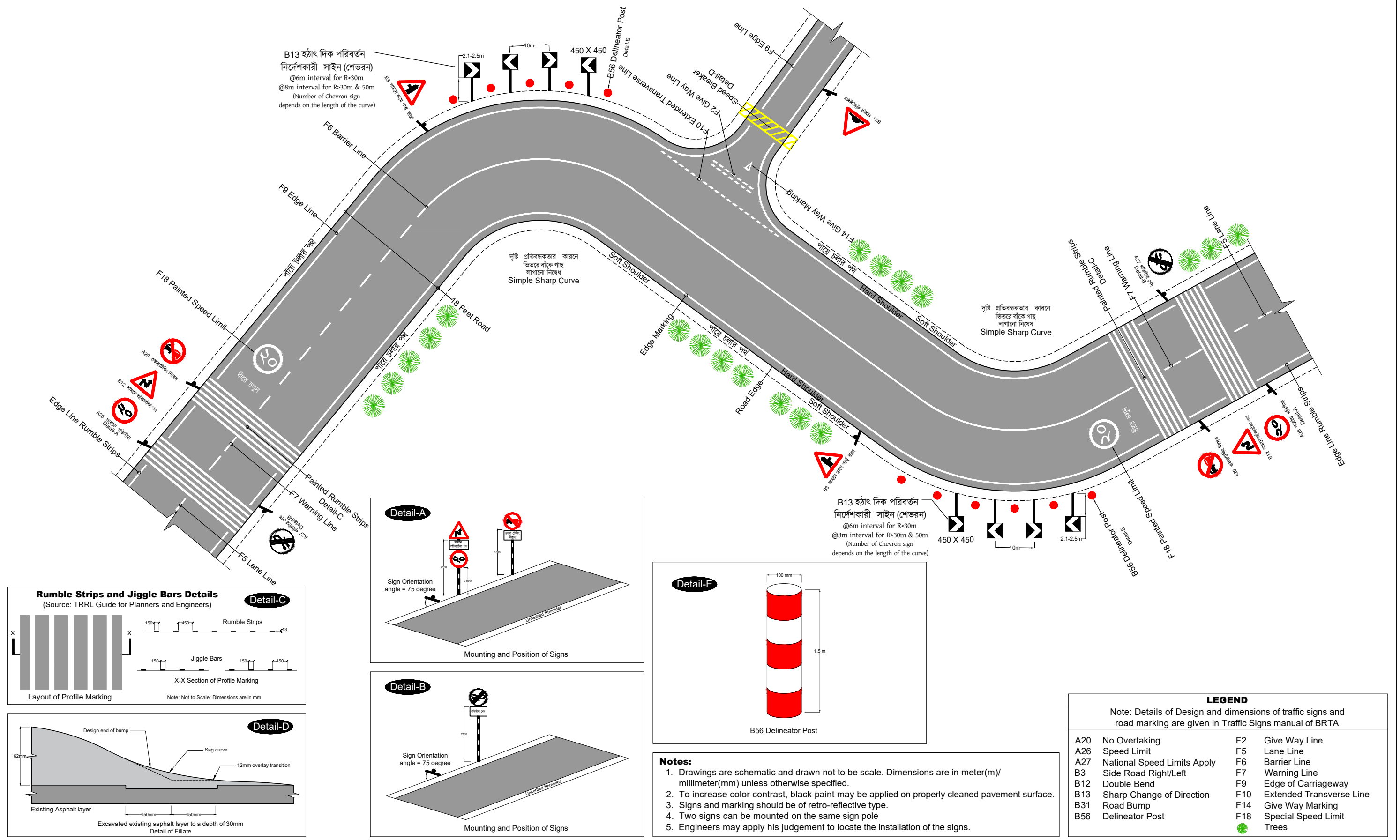
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : I4



Rural Road Safety Manual of LGED

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

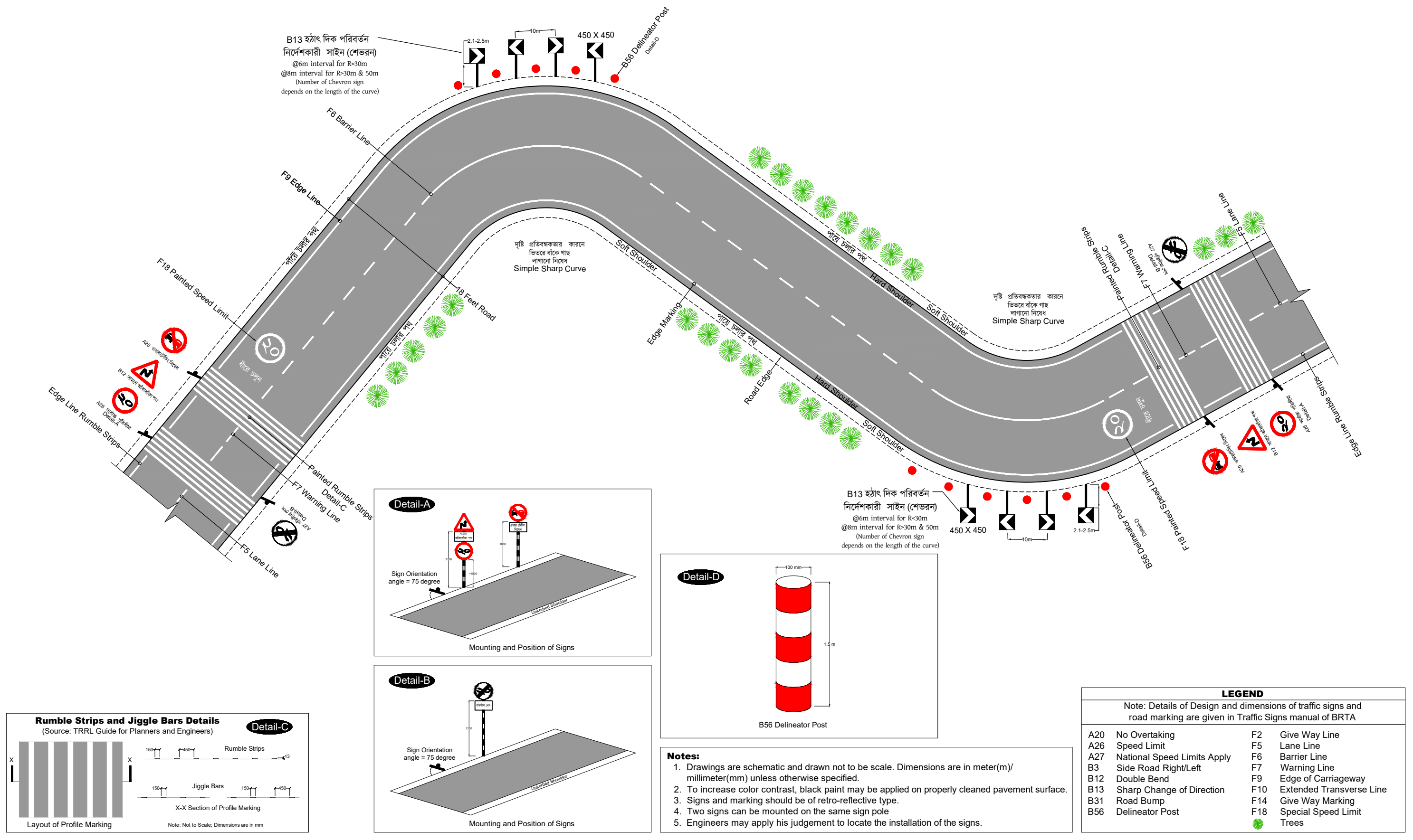
Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : I5



Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Bridge/Culvert

Safety Measures for:

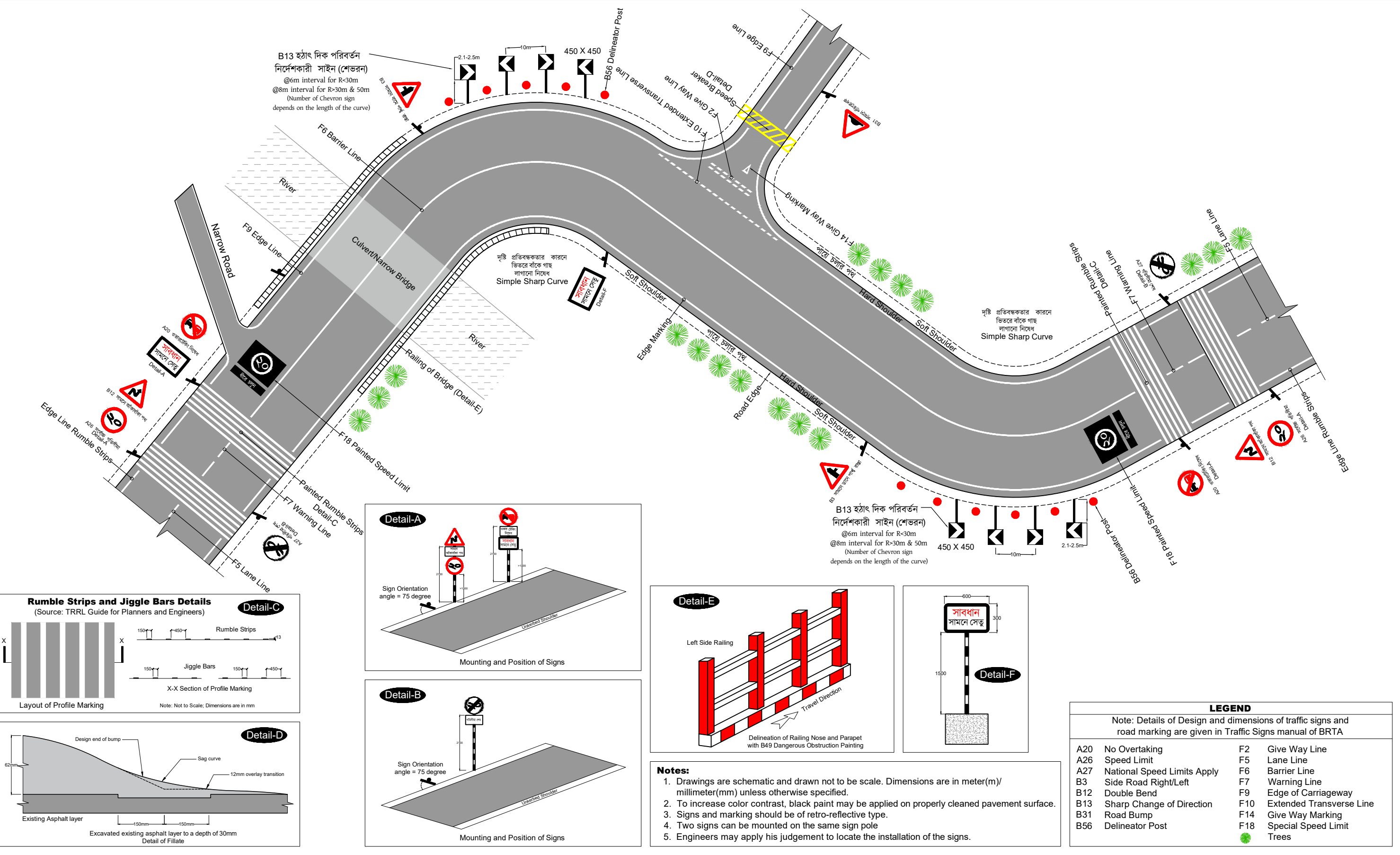
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : I6



Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with W-beam

Safety Measures for:

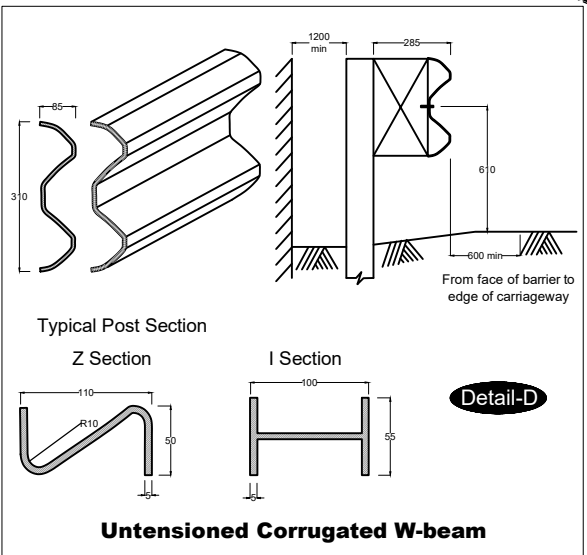
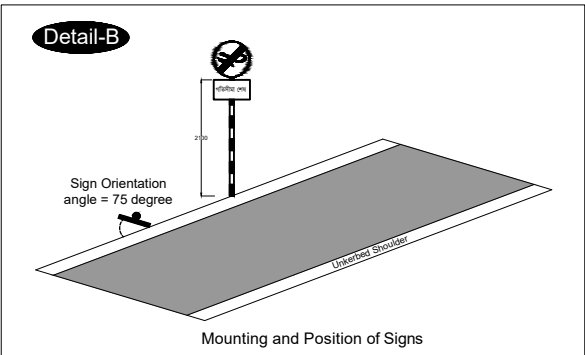
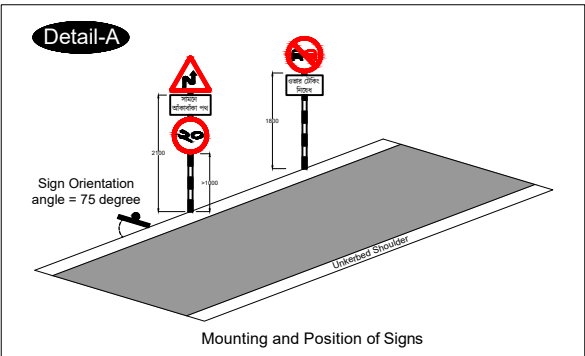
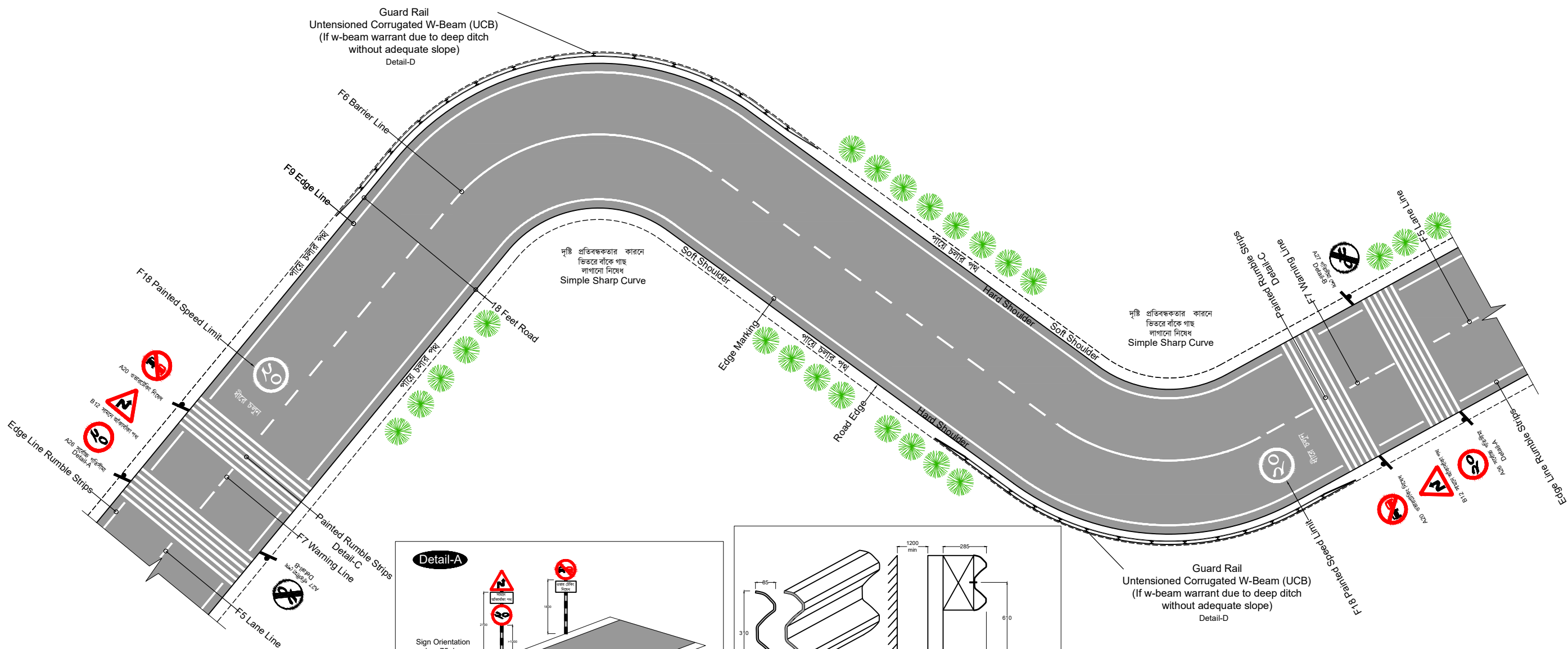
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

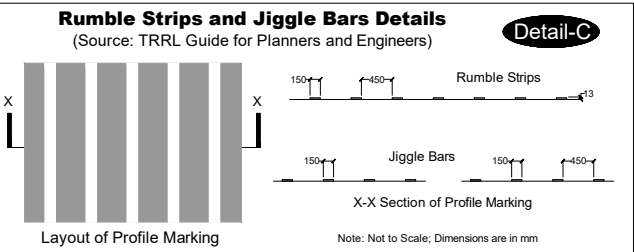
Date: December 2022

Revision : 04

Template No : I7



- Notes:**
1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
 3. Signs and marking should be of retro-reflective type.
 4. Two signs can be mounted on the same sign pole
 5. Engineers may apply his judgement to locate the installation of the signs.



LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	F2	Give Way Line
A26	Speed Limit	F5	Lane Line
A27	National Speed Limits Apply	F6	Barrier Line
B3	Side Road Right/Left	F7	Warning Line
B12	Double Bend	F9	Edge of Carriageway
B13	Sharp Change of Direction	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
			Trees

Rural Road Safety Manual of LGED

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

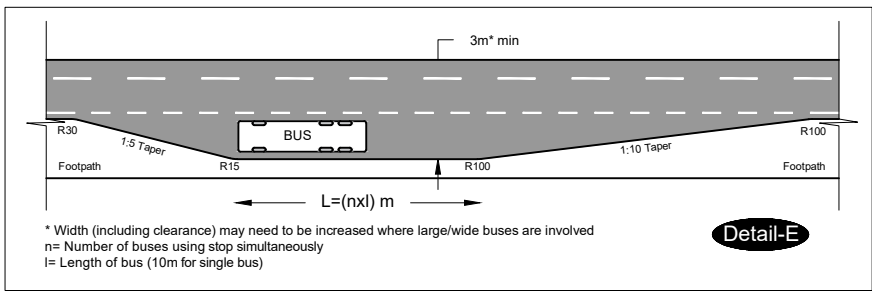
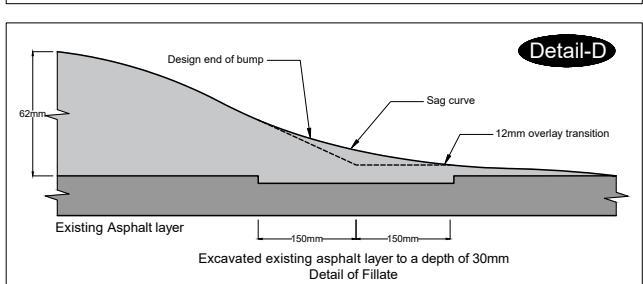
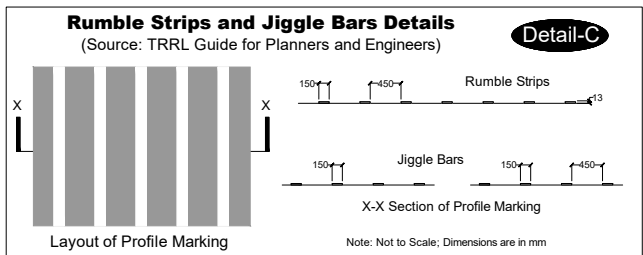
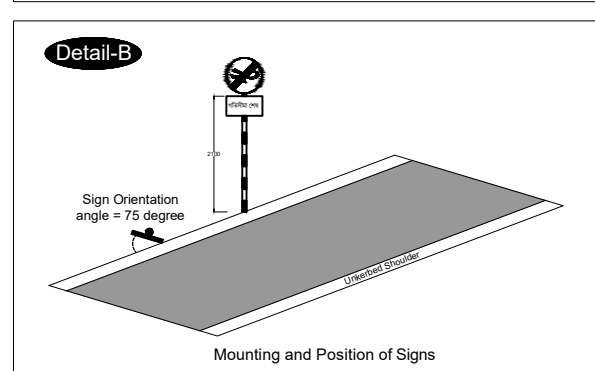
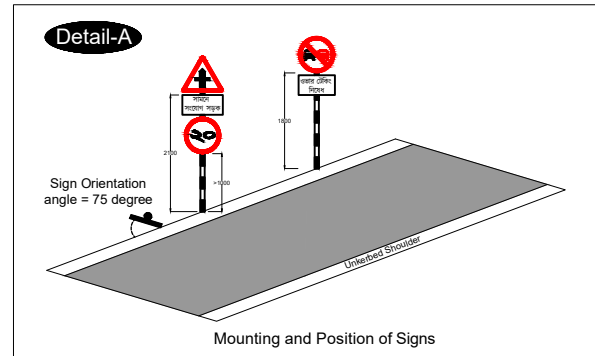
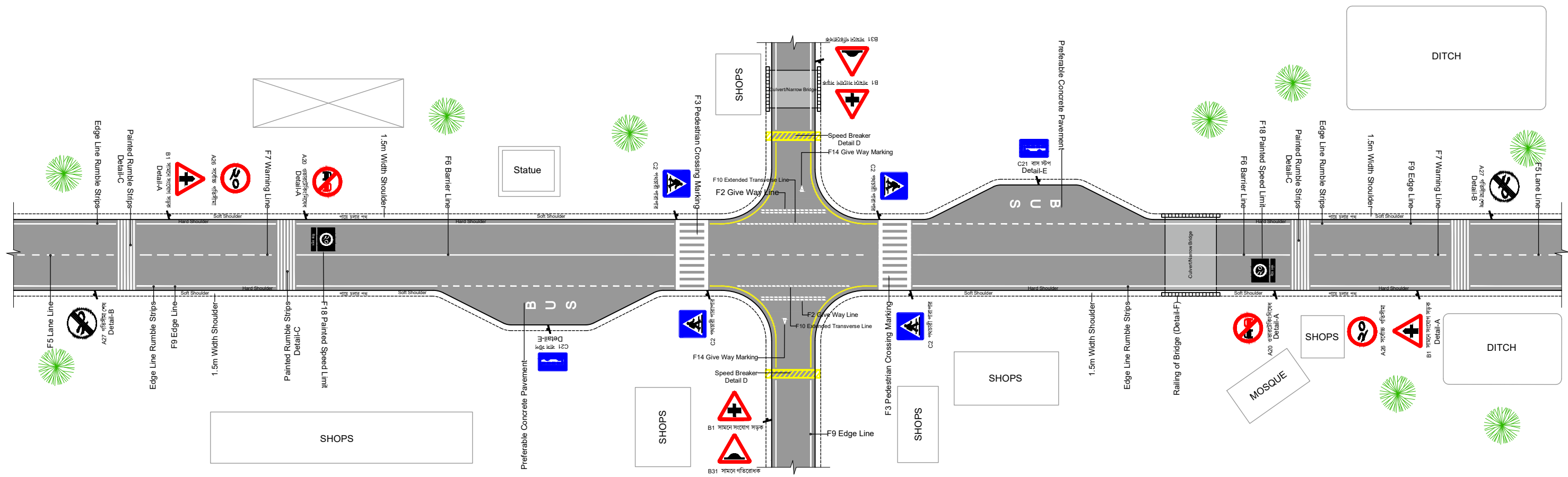
Template No : J1

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

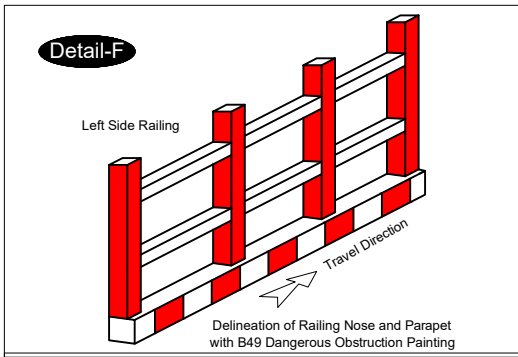
Date: December 2022

Revision : 04

Template No : J1



- Notes:**
1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
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 4. Two signs can be mounted on the same sign pole
 5. Engineers may apply his judgement to locate the installation of the signs.



LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	C21	Bus Stop
A26	Speed Limit	F2	Give Way Line
A27	National Speed Limits Apply	F3	Pedestrian Crossing
A32	Turn Left	F5	Lane Line
A33	Keep Left	F6	Barrier Line
B1	Crossroads	F7	Warning Line
B2	Major Road Ahead(Crossroads)	F9	Edge of Carriageway
B9	Roundabout	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
C2	Pedestrian Crossing		Trees

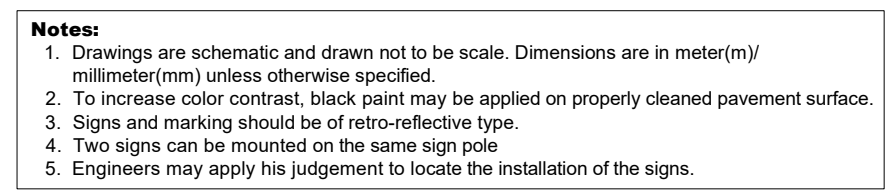
Safety Measures for:


Upazila Road or Road with
Design Speed 40 kmph

Date: December 2022

Revision : 04

Template No : J2



<p style="text-align: center;">LEGEND</p> <p style="text-align: center;">Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA</p>			
A20	No Overtaking	C21	Bus Stop
A26	Speed Limit	F2	Give Way Line
A27	National Speed Limits Apply	F3	Pedestrian Crossing
A32	Turn Left	F5	Lane Line
A33	Keep Left	F6	Barrier Line
B1	Crossroads	F7	Warning Line
B2	Major Road Ahead(Crossroads)	F9	Edge of Carriageway
B9	Roundabout	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
C2	Pedestrian Crossing		Trees

Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Date: December 2022

Revision : 04

Template No : J3



Sign Orientation
angle = 75 degree

Mounting and Position of Signs



Sign Orientation
angle = 75 degree

Mounting and Position of Signs



Lay

Detail-C

Note: Not to Scale: Dimensions are in mm



Ex

Excavated existing asphalt layer to a depth of 30mm
Detail of Fillate



Left Side Railing

Delineation of Railing Nose and Parapet
with B49 Dangerous Obstruction Painting

1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
3. Signs and marking should be of retro-reflective type.
4. Two signs can be mounted on the same sign pole
5. Engineers may apply his judgement to locate the installation of the signs.

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

A20	No Overtaking	C21	Bus Stop
A26	Speed Limit	F2	Give Way Line
A27	National Speed Limits Apply	F3	Pedestrian Crossing
A32	Turn Left	F5	Lane Line
A33	Keep Left	F6	Barrier Line
B1	Crossroads	F7	Warning Line
B2	Major Road Ahead(Crossroads)	F9	Edge of Carriageway
B9	Roundabout	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
C2	Pedestrian Crossing		Trees

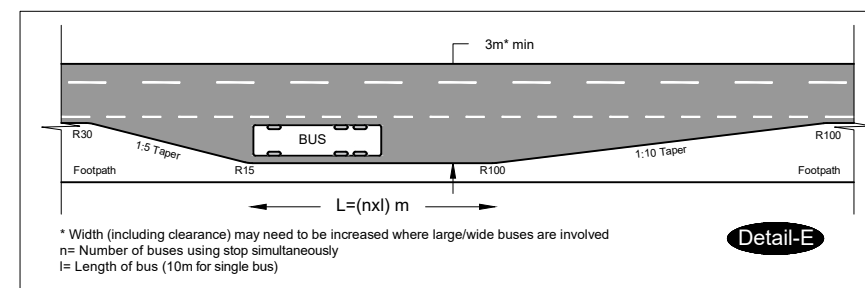
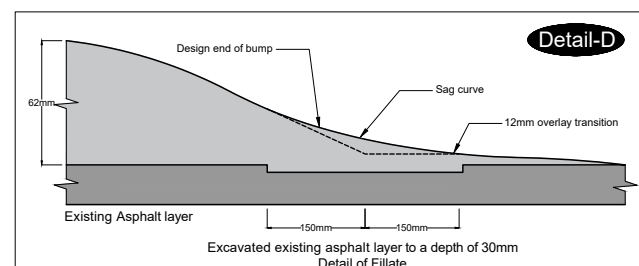
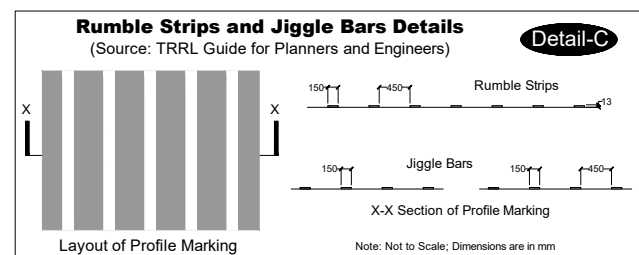
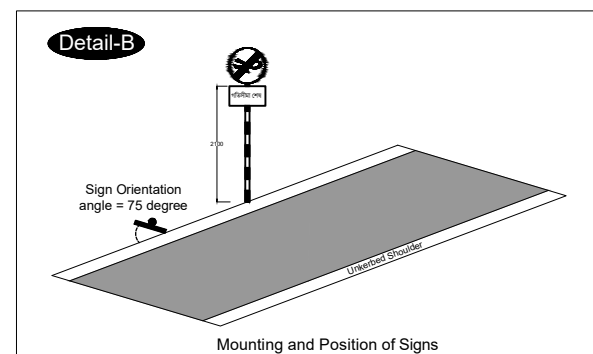
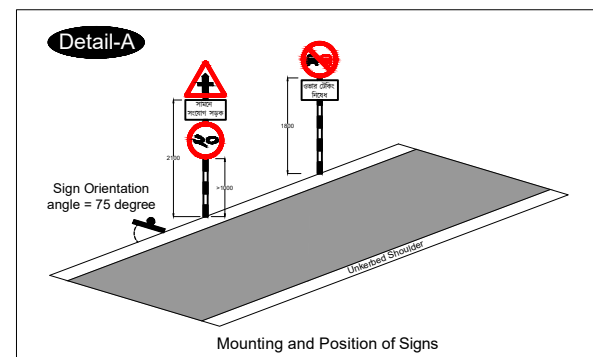
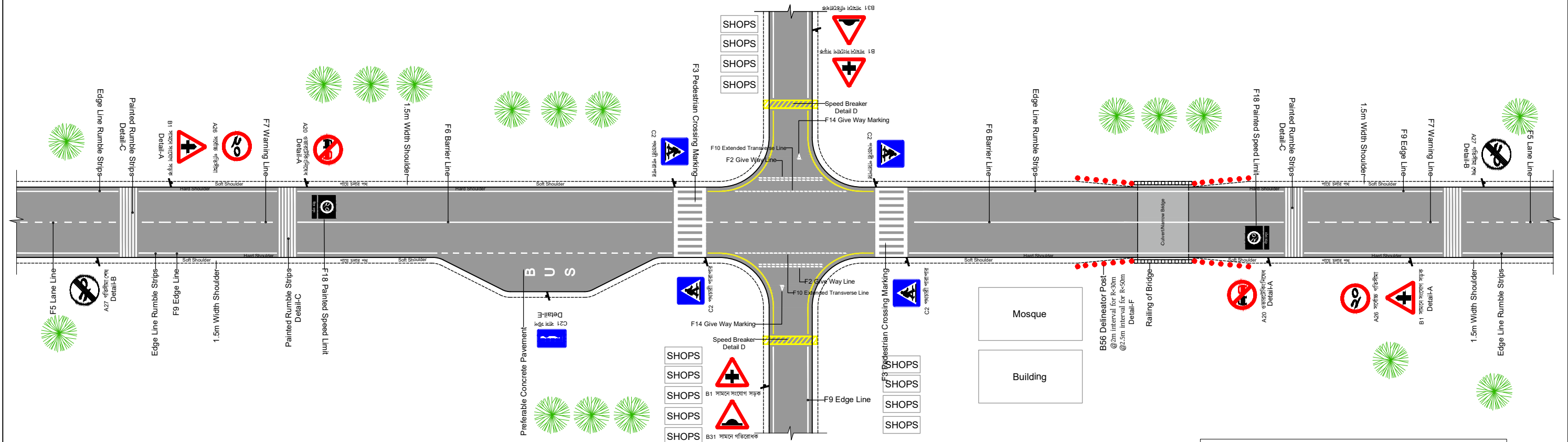
Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

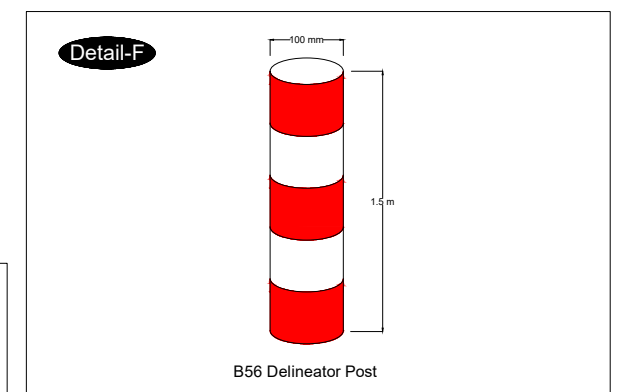
Date: December 2022

Revision : 04

Template No : J4



- Notes:**
1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
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 4. Two signs can be mounted on the same sign pole
 5. Engineers may apply his judgement to locate the installation of the signs.



LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

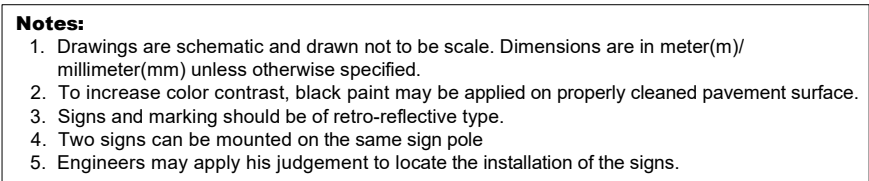
A20	No Overtaking	C21	Bus Stop
A26	Speed Limit	F2	Give Way Line
A27	National Speed Limits Apply	F3	Pedestrian Crossing
A32	Turn Left	F5	Lane Line
A33	Keep Left	F6	Barrier Line
B1	Crossroads	F7	Warning Line
B2	Major Road Ahead(Crossroads)	F9	Edge of Carriageway
B9	Roundabout	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
C2	Pedestrian Crossing		Trees

<h1 style="text-align: center;">Rural Road Safety Manual of LGED</h1> <p>Example of layout plan with road safety measures for Typical Cross-Junction with pedestrian crossing and roundabout</p>			Safety Measures for:
			Upazila Road or Road with Design Speed 40 kmph
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)	Date: December 2022	Revision : 04	Template No : J5

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Revision : 04

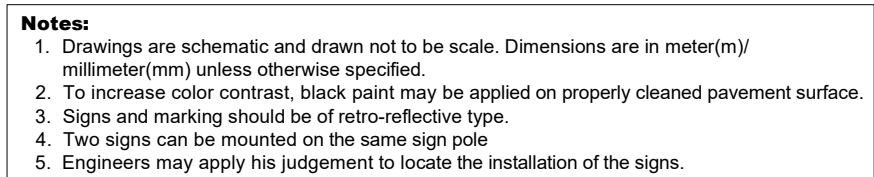
Template No : J5




Safety Measures for:

Upazila Road or Road with
Design Speed 40 kmph

Template No : J6



<p align="center">LEGEND</p> <p align="center">Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA</p>			
A20	No Overtaking	C21	Bus Stop
A26	Speed Limit	F2	Give Way Line
A27	National Speed Limits Apply	F3	Pedestrian Crossing
A32	Turn Left	F5	Lane Line
A33	Keep Left	F6	Barrier Line
B1	Crossroads	F7	Warning Line
B2	Major Road Ahead(Crossroads)	F9	Edge of Carriageway
B9	Roundabout	F10	Extended Transverse Line
B31	Road Bump	F14	Give Way Marking
B56	Delineator Post	F18	Special Speed Limit
C2	Pedestrian Crossing		Trees

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical Cross-Junction with pedestrian crossing after curve

Safety Measures for:

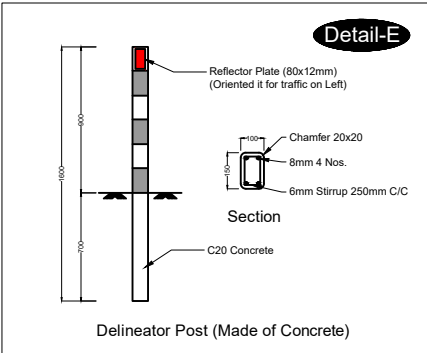
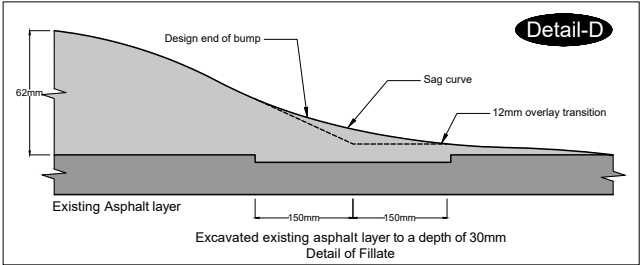
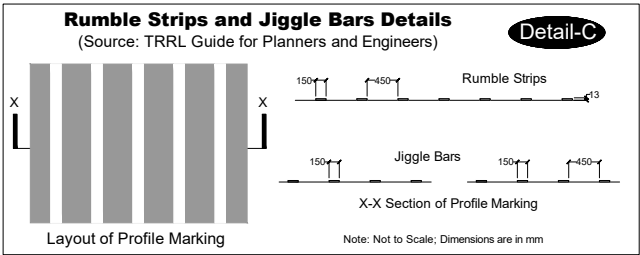
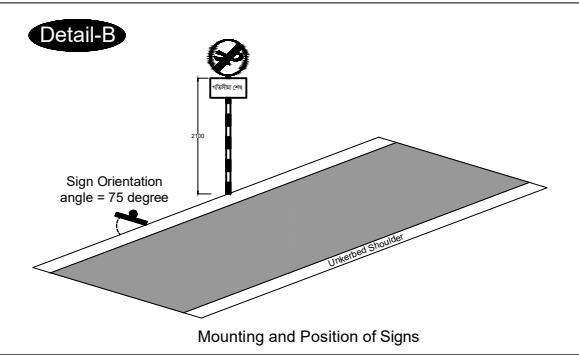
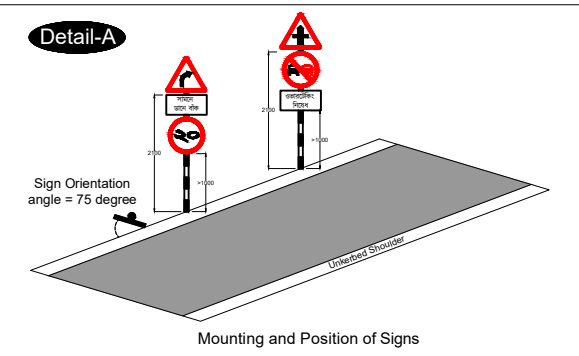
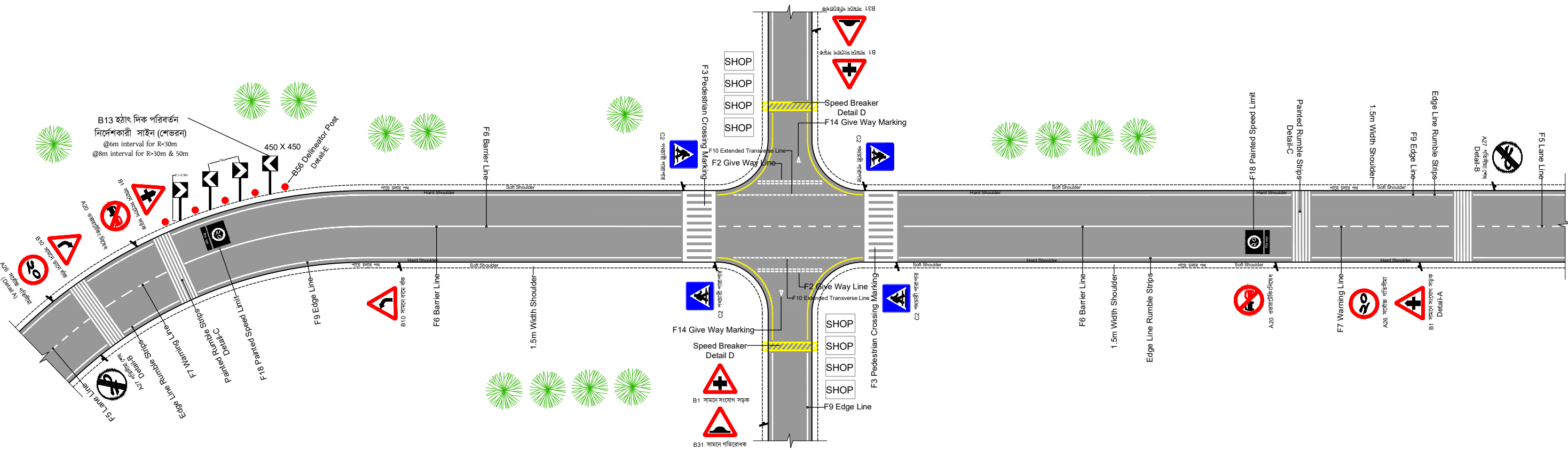
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision : 04

Template No : K1



- Notes:**
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 5. Engineers may apply his judgement to locate the installation of the signs.

LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	C2	Pedestrian Crossing
A26	Speed Limit	C21	Bus Stop
A27	National Speed Limits Apply	F2	Give Way Line
B1	Crossroads	F3	Pedestrian Crossing
B2	Major Road Ahead(Crossroads)	F5	Lane Line
B10	Sharp Bend to the Right/Left	F6	Barrier Line
B13	Sharp Change of Direction	F7	Warning Line
B31	Road Bump	F9	Edge of Carriageway
B56	Delineator Post	F10	Extended Transverse Line
Trees		F14	Give Way Marking
		F18	Special Speed Limit

Rural Road Safety Manual of LGED

Example of layout plan with road safety measures for Typical Cross-Junction with pedestrian crossing after curve and bus bay

Safety Measures for:

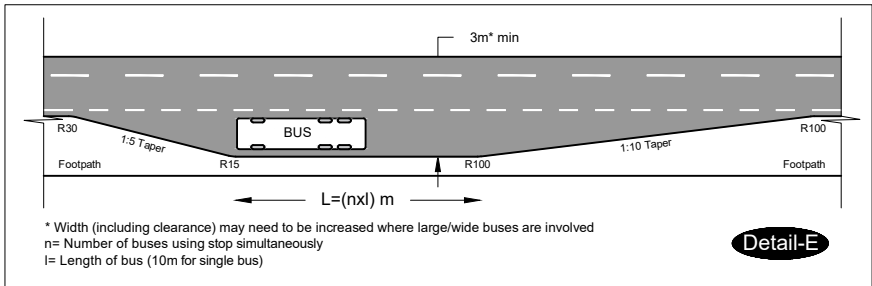
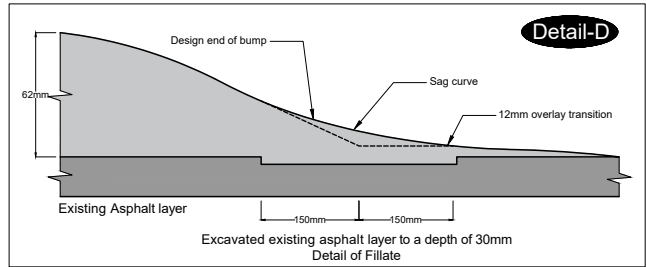
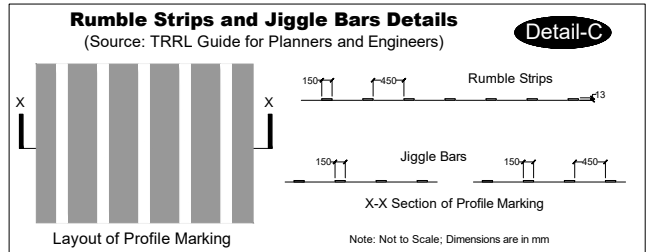
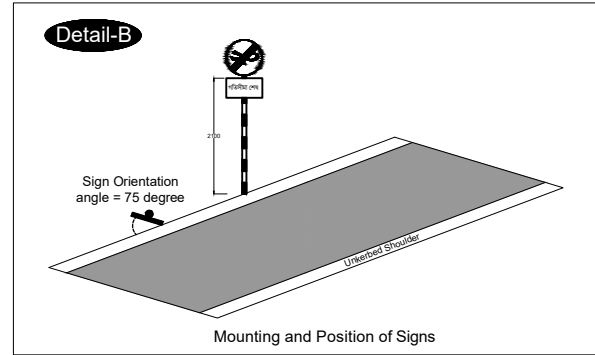
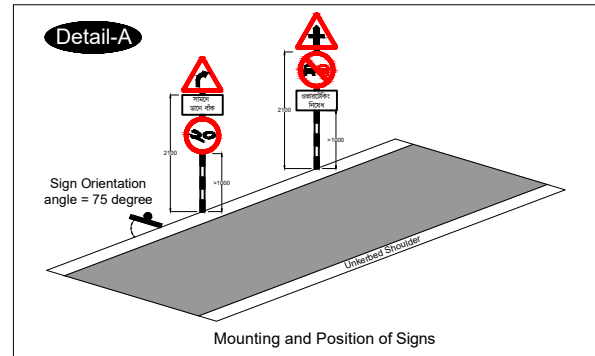
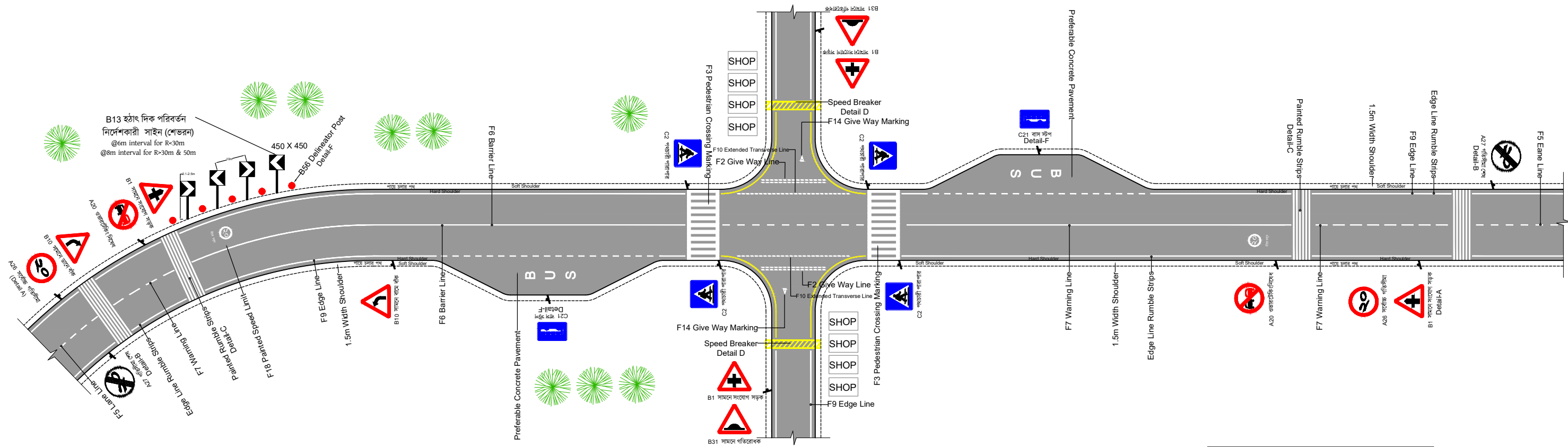
Upazila Road or Road with
Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

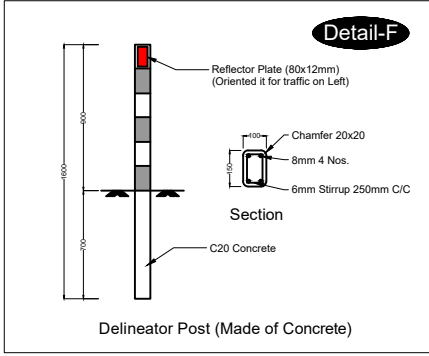
Date: December 2022

Revision : 04

Template No : K2



- Notes:**
1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
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 4. Two signs can be mounted on the same sign pole
 5. Engineers may apply his judgement to locate the installation of the signs.



LEGEND			
Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
A20	No Overtaking	C2	Pedestrian Crossing
A26	Speed Limit	C21	Bus Stop
A27	National Speed Limits Apply	F2	Give Way Line
B1	Crossroads	F3	Pedestrian Crossing
B2	Major Road Ahead(Crossroads)	F5	Lane Line
B10	Sharp Bend to the Right/Left	F6	Barrier Line
B13	Sharp Change of Direction	F7	Warning Line
B31	Road Bump	F9	Edge of Carriageway
B56	Delineator Post	F10	Extended Transverse Line
Trees		F14	Give Way Marking
		F18	Special Speed Limit