

DRAFT

No.RW/NH-33044/22/2020-S&R (P&B) (Computer No.186381)

**Government of India
Ministry of Road Transport & Highways
(S&R Zone)**

Transport Bhawan, 1, Parliament Street, New Delhi-110001

Dated: ----- March, 2024

To

1. The Chief Secretaries of all the State Governments/ UTs.
2. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department/ Road Construction Department/ Highways Department (dealing with National Highways and other centrally sponsored schemes).
3. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
4. The Managing Director, NHIDCL, PTI Building, New Delhi-110001.
5. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi- 110 010.
6. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs/ Road Construction Department/ Highways Departments (dealing with National Highways and other centrally sponsored schemes).
7. The Secretary General, Indian Roads Congress
8. The Director, IAHE, Noida, UP
9. All CE-ROs, ROs and ELOs of the Ministry.

Subject: - Width of Shoulder (Paved & Earthen) for National Highways- Reg.

Reference: i) Ministry's Circular No. even dated 17.07.2020

ii) Ministry's Circular No: RW/NH-33044/10/2021-S&R (P&B) (192344) dated 06.02.2023

Madam/Sir,

Manual of Standards and Specifications for two/four/six laning (IRC:SP:73-2018/ IRC:SP:84-2019 / IRC:SP:87-2019) specifies 2.5 m wide paved shoulders and 1.5 m wide earthen shoulder for two/four/six lane Highways in open country with isolated built-up area in plain & rolling terrain. However, Ministry vide circular no. RW/NH-33044/22/2020-S&R (P&B) dt. 17.07.2020 specified that for two lane National Highways, width of paved shoulder and earthen shoulder in open country and isolated built-up area in plain and rolling terrain should be 1.5 m and 1.0 m respectively.

2.0 IRC:73-2023 "Geometric Design Standards for Non-Urban Roads"

specifies 1.5 m wide paved shoulder and 1.0 m width earthen shoulder for 2 lane highways in open country and isolated built up areas in plain and hilly terrain whereas for 4/6 lane highways 2.0 m wide paved shoulder and 1.5 m wide earthen shoulder is specified.

3.0 It is highly desirable that the width of shoulder should be sufficient enough to protect pavement edge break, parking of errant/broken down vehicles, sufficient offset for placing of safety barrier etc. To serve all the intended functions mentioned above in cost-effective manner, it has been decided that in two/four/six laning of National Highways, width of paved shoulder and earthen shoulder shall be as detailed in **Annexure**.

4 . 0 Clear width of Culverts (measured from inside of Head Wall to inside of Head Wall) should be equal to the overall roadway width of its approach (Width of Carriageway+ Width of Paved Shoulder + Width of Shyness+ Earthen Shoulder+Width of Median including shyness strip towards median as applicable).

5.0 It is utmost important to have continuity & uniformity of roadway width (Carriageway Width+ Paved Shoulder Width+ Earthen Shoulder Width + Shyness for raised Median Kerb/depressed Median) in approaches to bridges/grade separated structures/RoBs as well as clear deck width of structures to avoid vehicles crashes with parapets/crash barrier. Thus, Full Carriageway, Paved shoulder, Earthen shoulder and Shyness for raised Median Kerb/depressed Median should continue on bridge. In view of this, the provision of width of bridges as mentioned in earlier Ministry's circular no. RW/NH-33044/10/2021-S&R (P&B) (192344) dated 06th February, 2023 is superseded with "Clear deck width of bridges/grade separated structures/RoBs (measured from inside to inside of crash barrier) shall be equal to the roadway width (Carriageway Width+ Paved Shoulder Width+ Earthen Shoulder Width+ Shyness for raised Median Kerb/depressed Median in case of divided carriageway as applicable) in approaches to bridges/grade separated structures/RoBs. Wherever footpath is provided for bridge, RCC Crash Barrier should be provided between footpath and carriageway and pedestrian guard rail at outer edges of the bridge.

6.0 It should be applicable in case of all new projects for which bids invited after 60days of the issue of this circular. The contents of the Circular may be brought into the notice of all concerned for needful compliance.

7.0 This issues with the approval of competent authority in supersession of earlier Guidelines of Ministry / IRC Manuals/IRC: 73:2023.

Yours sincerely,

(Bidur Kant Jha)
Director

(New Technology for Highway Development)

For Director General (Road Development) & Special Secretary

Copy to:

1. All CEs in the Ministry of Road Transport & Highways
2. All ROs of the Ministry of Road Transport & Highways

3. The Secretary General, Indian Roads Congress
4. Technical circular file of S&R (P&B) Section
5. NIC-for uploading on Ministry's website under "What's new"

Copy for kind information to:

1. PS to Hon'ble Minister (RT&H, MS&ME)
2. PS to Hon'ble MOS (RT&H)
3. Sr. PPS to Secretary (RT&H)
4. PPS to DG (RD) & SS
5. Sr. PPS/ PPS to Addl. Secretary (Road Safety)/ Addl. Secretary (RT&H & LA)
6. Sr. PPS/ PPS to AS&FA
7. Sr. PPS/ PPS to ADG (SKN) / ADG (RP)/ ADG(DS)
8. Sr. PPS/ PPS to JS (RT&MVL)/ JS (EIC) / JS (Logistics)/ JS (NHIDCL)

Annexure

Width of Shoulders in Plain and Rolling Terrain (2/4/6/8 Lane Highways)

Type of Section	Width of Shoulder (m)		
	Paved	Earthen	Total
Open country with isolated built up area	1.5	1.0*	2.5
Built up area	2.5	-	2.5
Approaches to grade separated structures**	2.5	-	2.5
Approaches to bridges	1.5	1.0	2.5

Width of Shoulders in Mountainous and Steep Terrain (Hilly Area)

Type of Section		Width of Shoulder (m)		
		Paved	Earthen	Total
Open country with isolated built up area***	Hill Side	0.9	-	0.9
	Valley Side	0.9	1.0	0.9
Built up area	Hill Side	0.9	-	0.9
	Valley Side	0.9	-	0.9
Approaches to grade separated structures**	Hill Side	0.9	-	0.9
	Valley Side	0.9	-	0.9
Approaches to bridges***	Hill Side	0.9	-	0.9
	Valley	0.9	1.0	0.9

	Side			
--	------	--	--	--

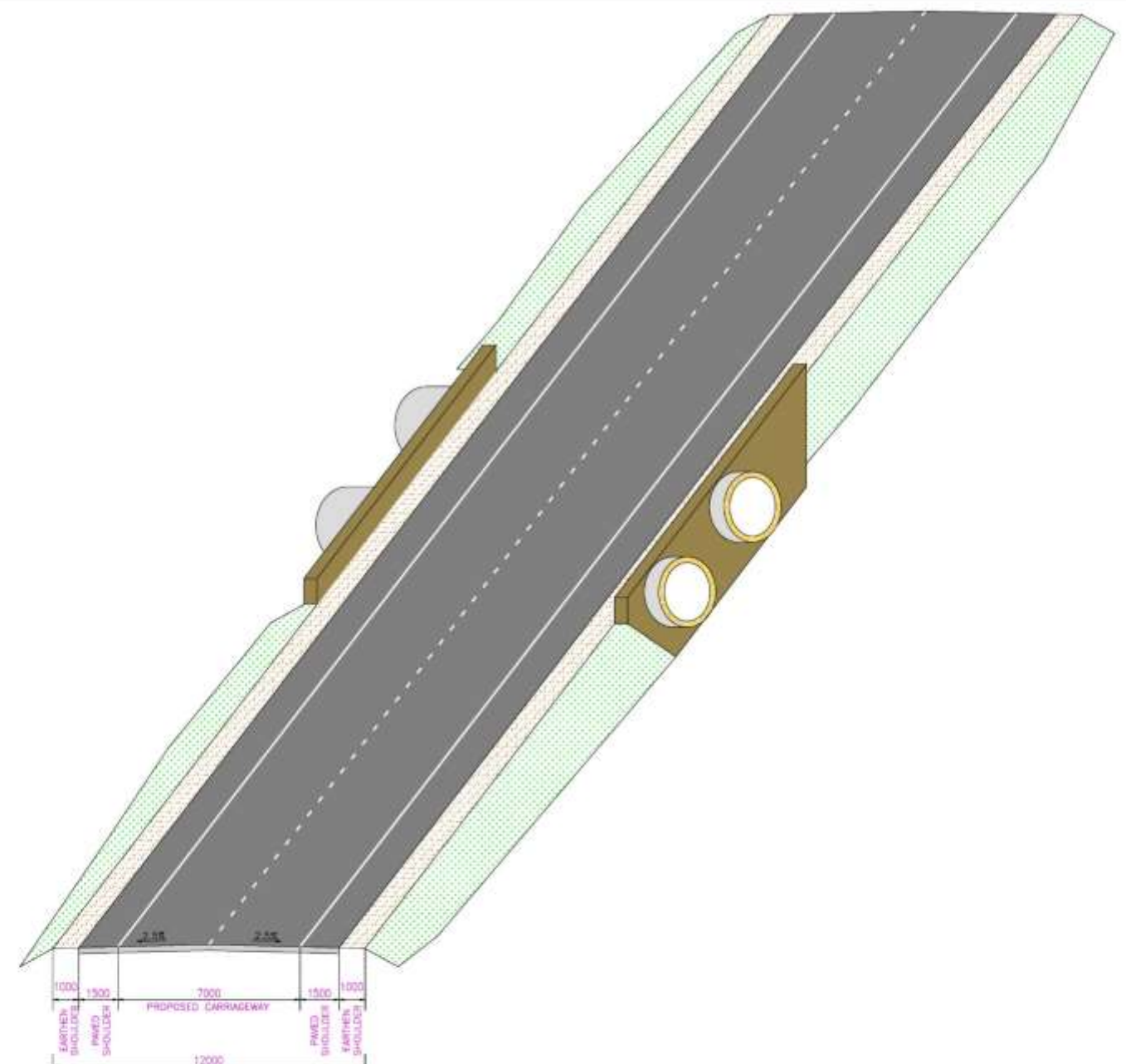
Note:

*To have sufficient offset for installation of W-beam Crash Barrier along free slope stretches and also augmented safety/setback distance for embankment height more than 3.0m, additional 1.0m earthen width shall be constructed. This additional earthen width is not to be considered for the calculation as specified in para 4.0 and 5.0 of the circular.

** * Inclusive of 0.5m width for shyness provided on crash barrier/parapet/drain side.*

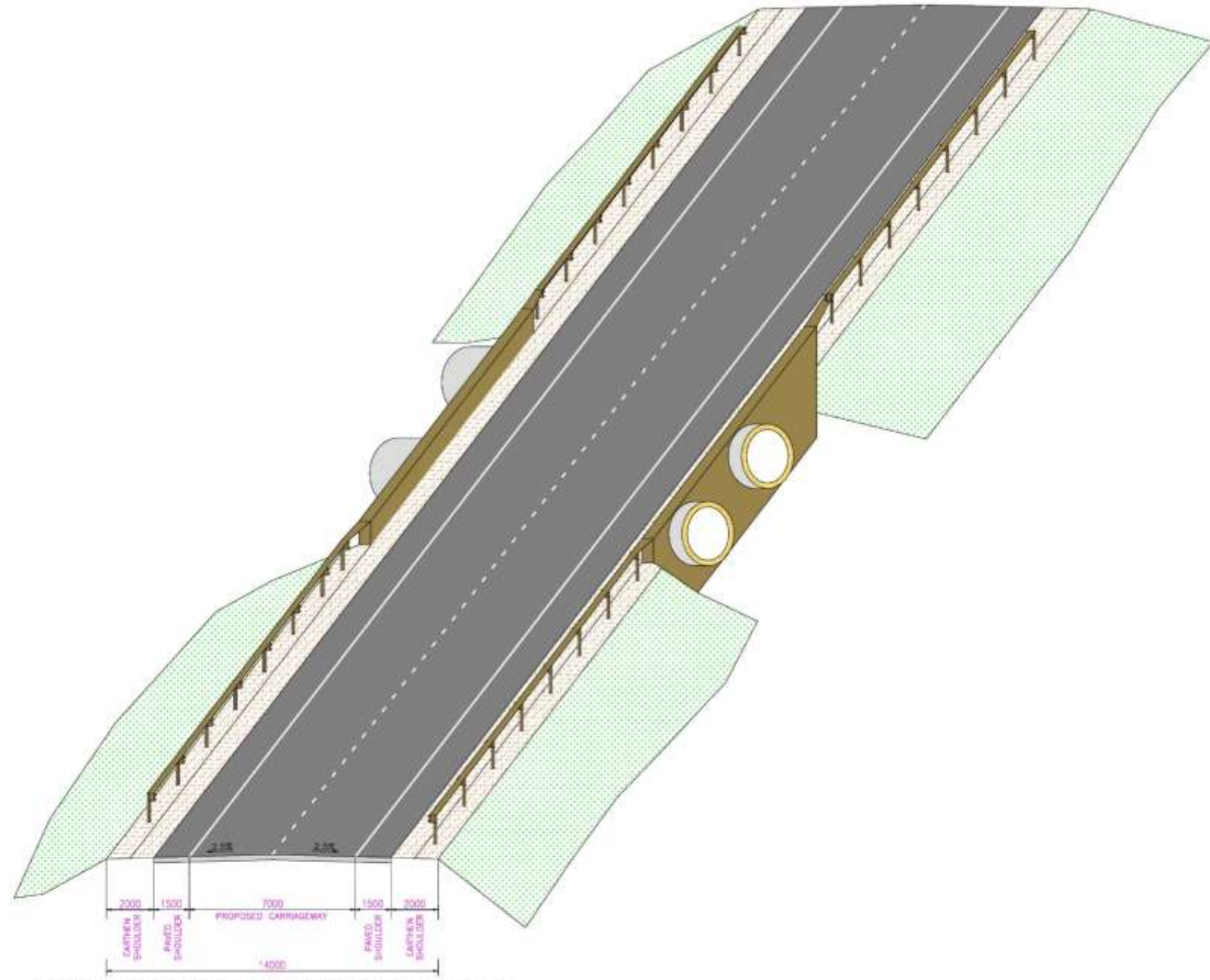
**** 1.0m earthen shoulder on valley side will be used for placement of Crash Barrier/Parapet. Besides, minimum 0.6 m wide drain shall be provided on hill side.*

TCS –
2-lane
Open
Country



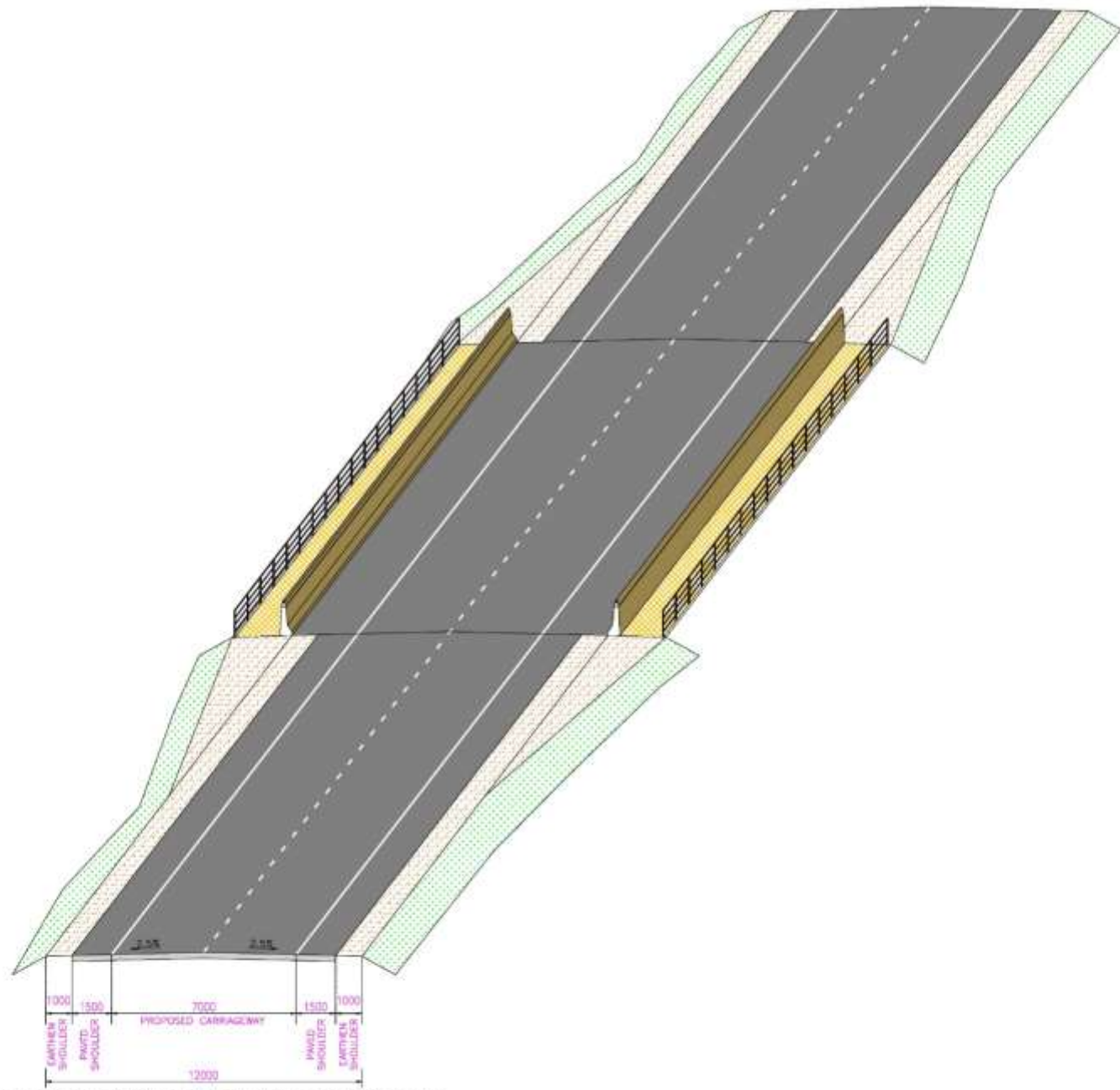
**TYPICAL CROSS SECTION OF CULVERTS ALONG WITH ITS APPROACHES
FOR EMBANKMENT HEIGHT LESS THAN 3.0m WITHOUT CRASH BARRIER
(AS PER DRAFT CIRCULAR)**

TCS –
2-lane
Open
Country
with
Crash
Barrier



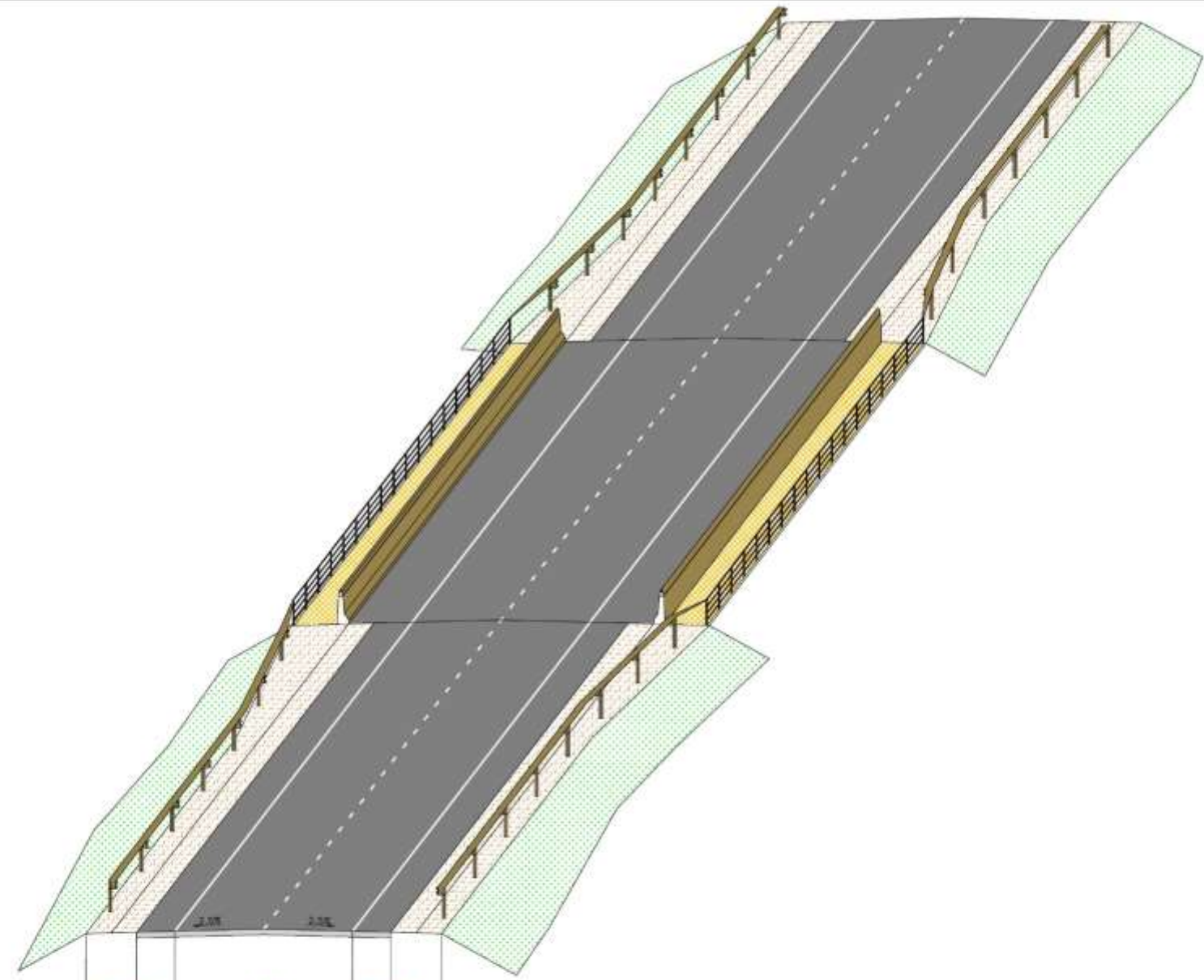
**TYPICAL CROSS SECTION OF CULVERTS ALONG WITH ITS APPROACHES
FOR EMBANKMENT HEIGHT MORE THAN 3.0m WITH CRASH BARRIER
(AS PER DRAFT CIRCULAR)**

TCS –
2-lane
Bridge
with
Footpath



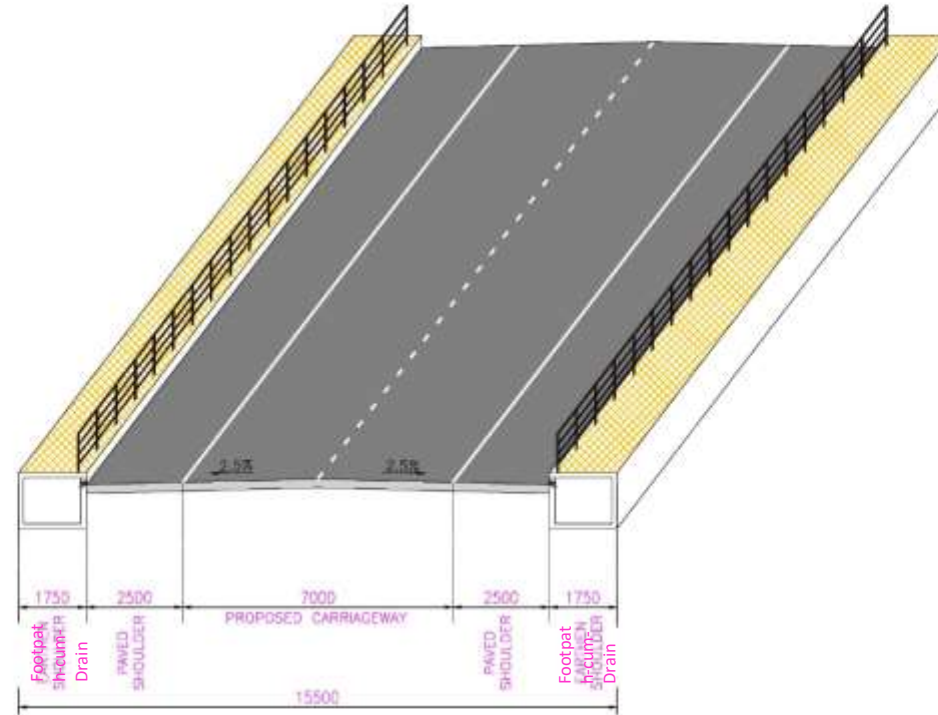
**TYPICAL CROSS SECTION OF BRIDGE OF 2-LANE CARRIAGEWAY
WITH FOOTPATH AND ITS APPROACHES FOR EMBANKMENT HEIGHT
LESS THAN 3.0m (AS PER DRAFT CIRCULAR)**

TCS –
2-lane
Bridge
with
Footpath



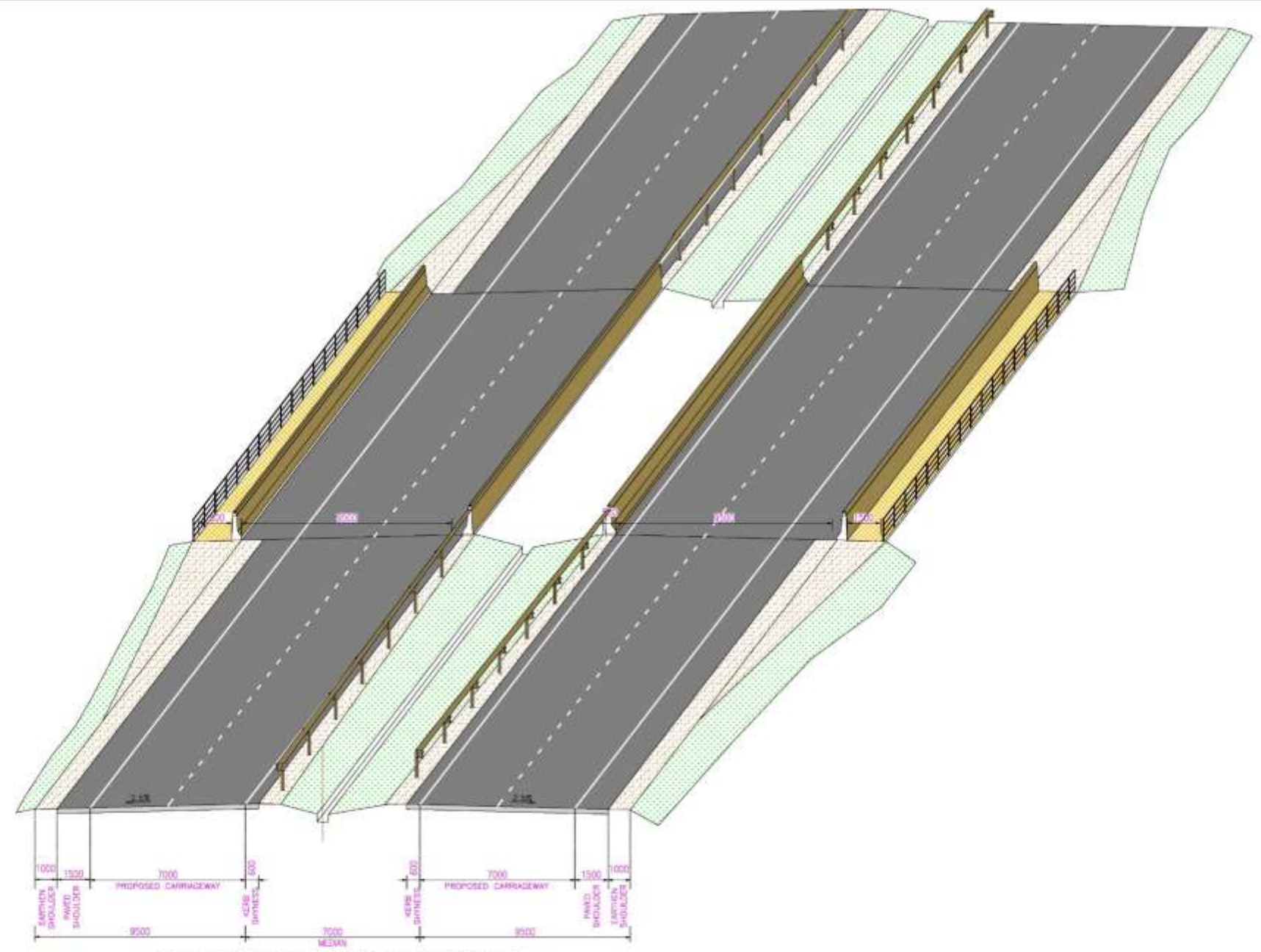
**TYPICAL CROSS SECTION OF BRIDGE OF 2-LANE CARRIAGEWAY
WITH FOOTPATH AND ITS APPROACHES FOR EMBANKMENT HEIGHT
MORE THAN 3.0m (AS PER DRAFT CIRCULAR)**

TCS –
2-lane
Built-up
Section



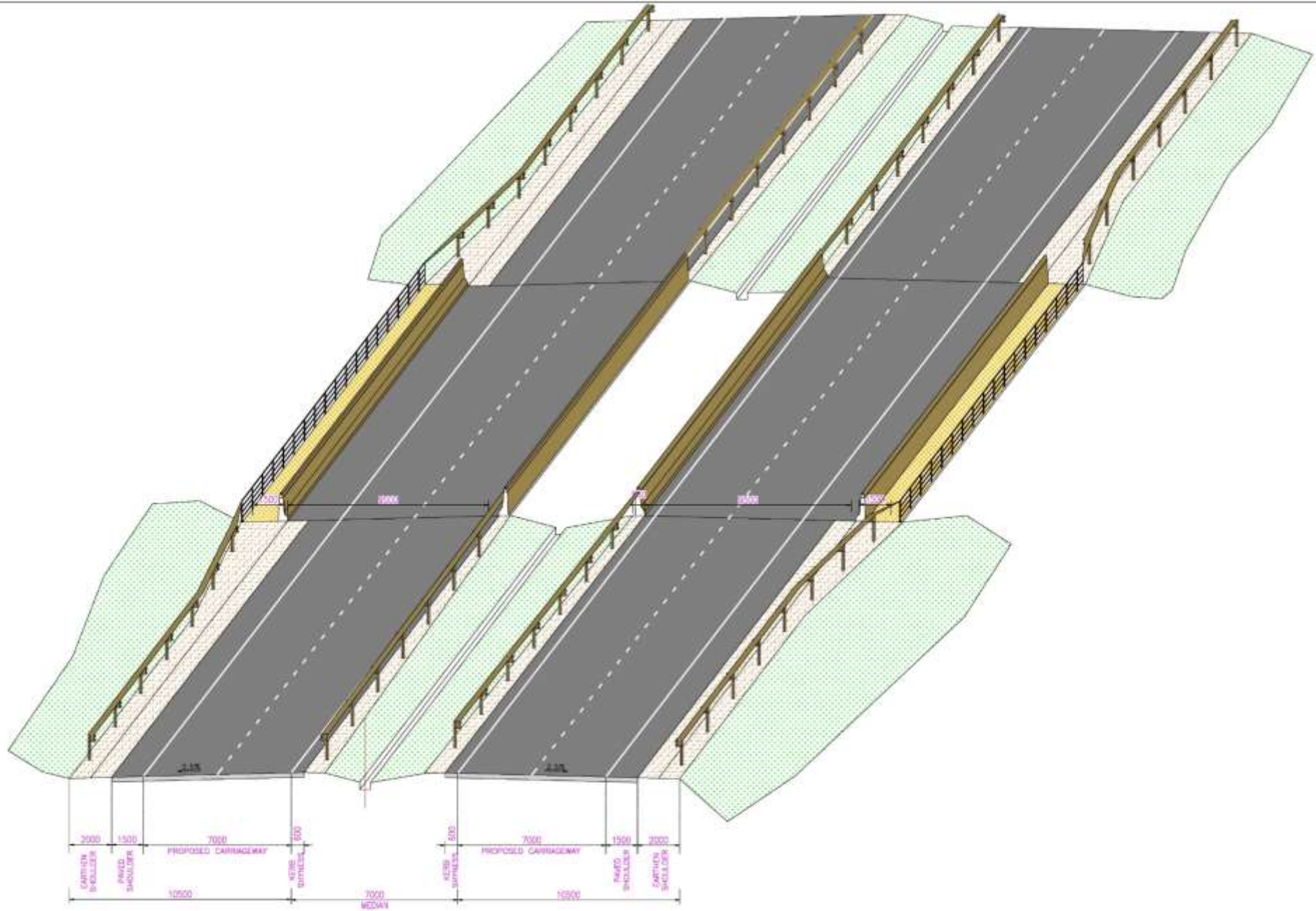
**TYPICAL CROSS SECTION OF 2-LANE CARRIAGEWAY
WITHOUT SERVICE ROAD
(AS PER EXISTING PROVISION/DRAFT CIRCULAR)**

TCS –
4-lane
Bridge
with
Footpath



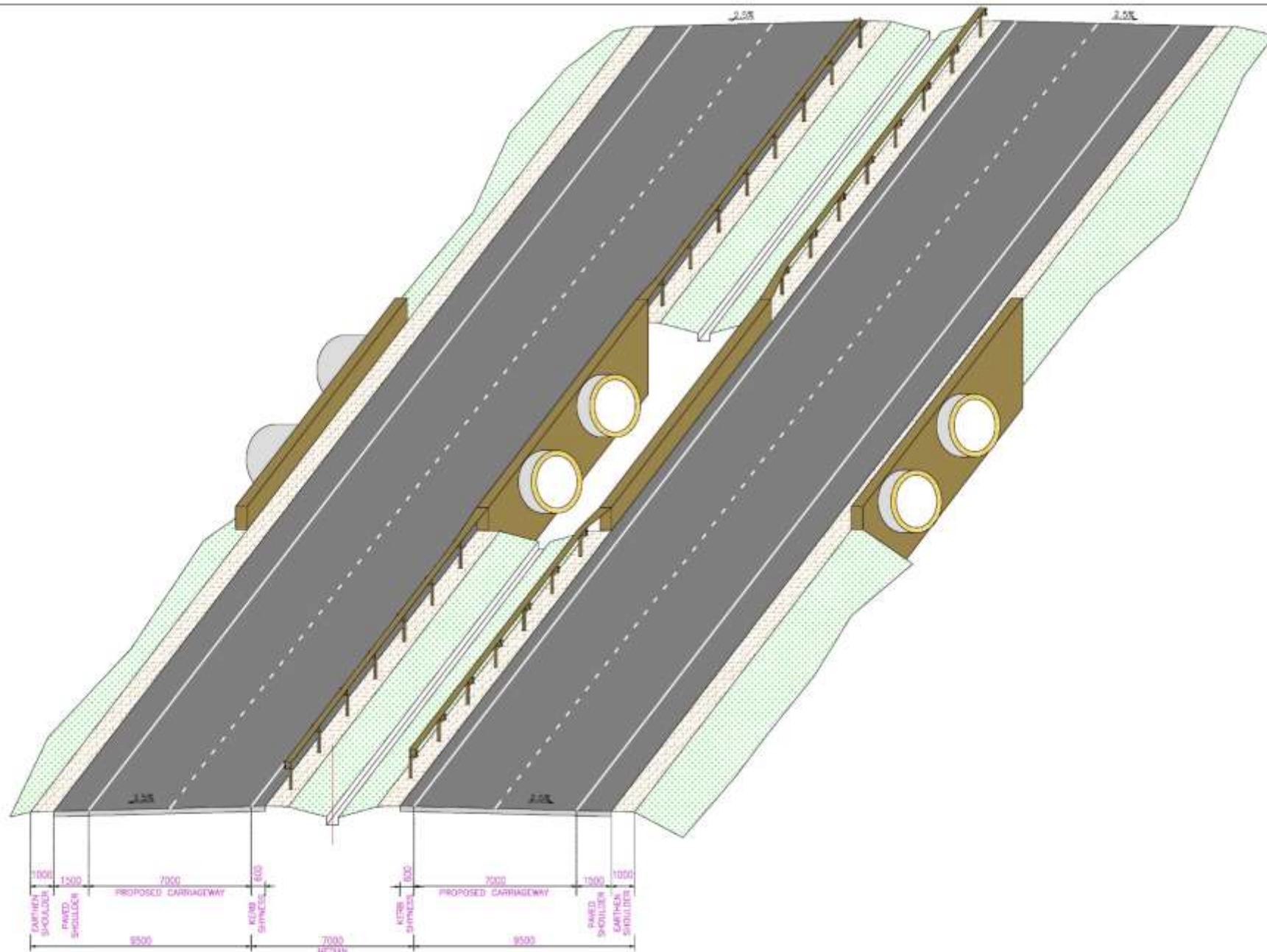
TYPICAL CROSS SECTION OF BRIDGE OF 4-LANE DIVIDED CARRIAGEWAY WITH FOOTPATH AND ITS APPROACHES FOR EMBANKMENT HEIGHT LESS THAN 3.0m WITH DEPRESSED MEDIAN (AS PER DRAFT CIRCULAR)

TCS –
4-lane
Bridge
with
Footpath



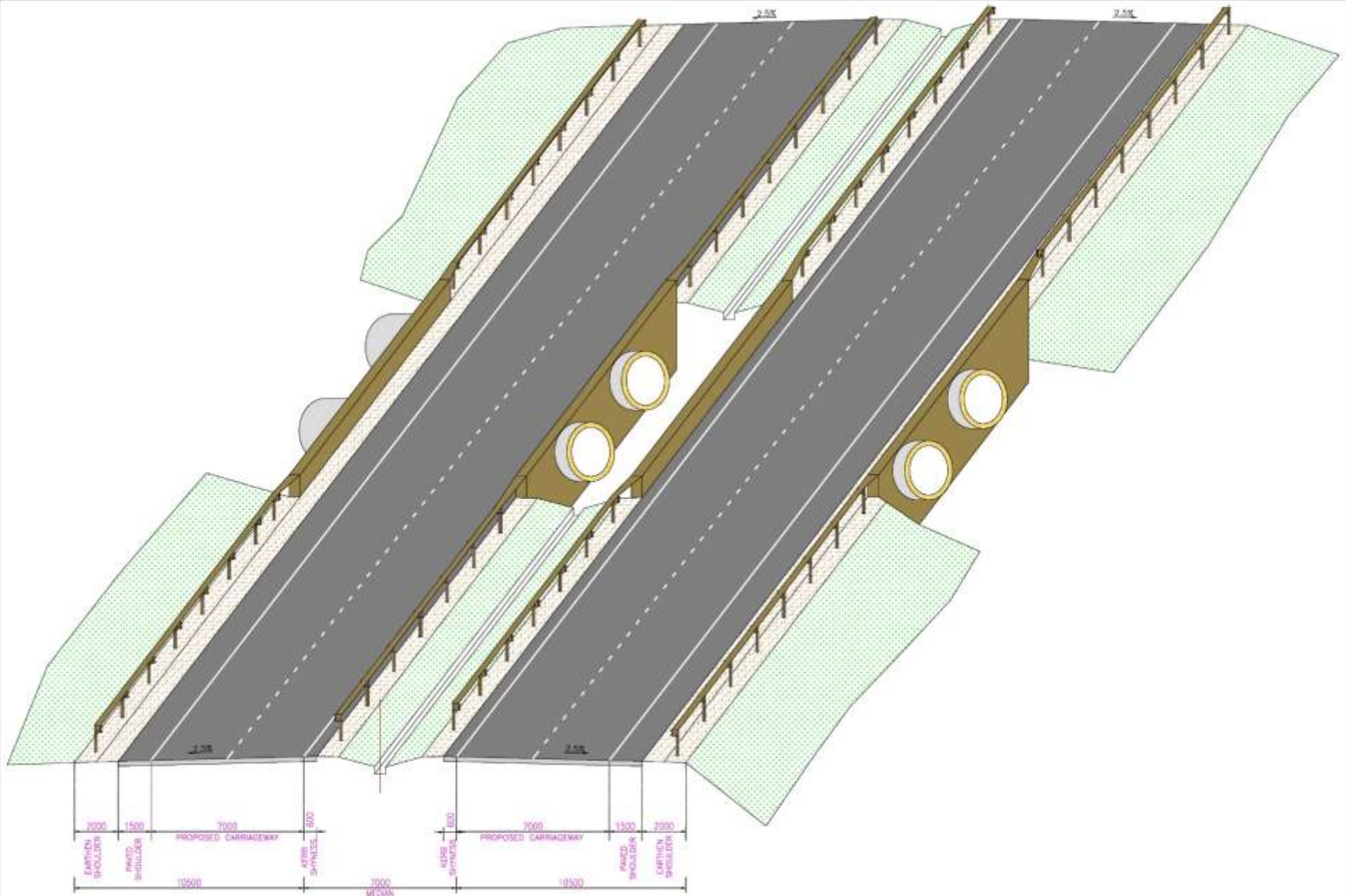
TYPICAL CROSS SECTION OF BRIDGE OF 4-LANE DIVIDED CARRIAGEWAY WITH FOOTPATH AND ITS APPROACHES FOR EMBANKMENT HEIGHT MORE THAN 3.0m WITH DEPRESSED MEDIAN (AS PER DRAFT CIRCULAR)

TCS –
4-lane
Open
Country



**TYPICAL CROSS SECTION OF CULVERTS ALONG WITH ITS
APPROACHES FOR EMBANKMENT HEIGHT LESS THAN 3.0m
WITHOUT CRASH BARRIER
(AS PER DRAFT CIRCULAR)**

TCS –
4-lane
Open
Country
with
Crash
barrier



TYPICAL CROSS SECTION OF CULVERTS ALONG WITH ITS APPROACHES FOR EMBANKMENT HEIGHT MORE THAN 3.0m WITH CRASH BARRIER (AS PER DRAFT CIRCULAR)

Feedback on Draft Circular: Width of Shoulder		
Name		
Designation		
Organisation		
S. No.	Suggestions	Basis of suggestions