







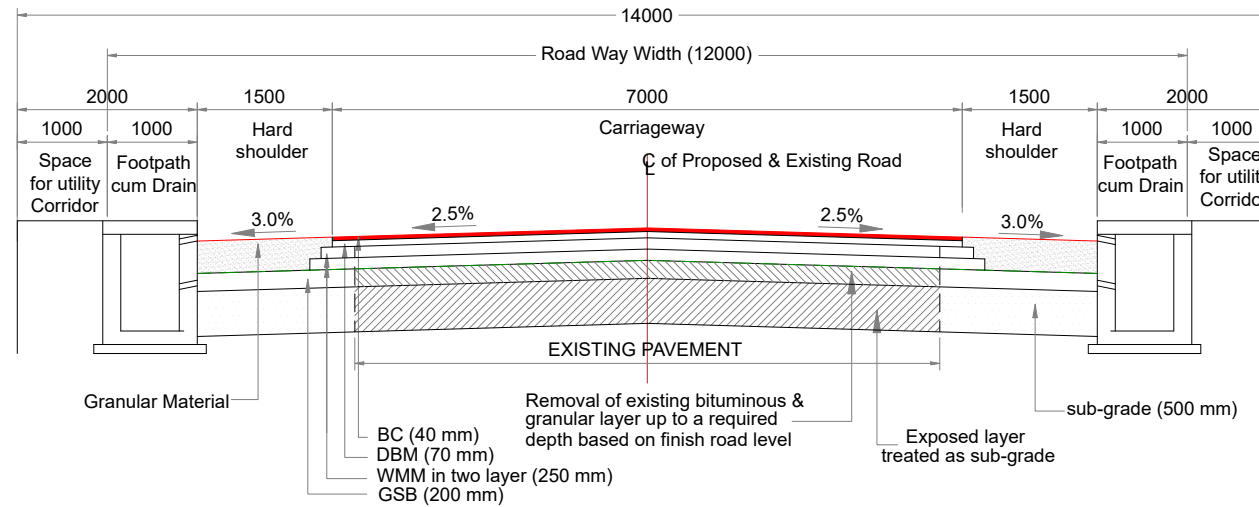
# TYPICAL CROSS SECTION

TYPE	DESCRIPTION	LENGTH(M)
TCS-1	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN BUILT UP AREA WITH BOTH SIDE FOOTPATH CUM RCC RECTENGULAR DRAIN (RECONSTRUCTION OF EXISTING PAVEMENT)	1300
TCS-5	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH TOE WALL ON VALLEY SIDE & OPEN TRAPEZOIDAL DRAIN ON HILL SIDE (RECONSTRUCTION OF EXISTING PAVEMENT)	1125
TCS-6	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH BOTH SIDE OPEN TRAPEZOIDAL DRAIN ON HILL SECTION (RECONSTRUCTION OF EXISTING PAVEMENT)	1275
TCS-7	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH OPEN TRAPEZOIDAL DRAIN ON HILL SIDE AND EARTHEN SHOULDER ON VALLEY SIDE(RECONSTRUCTION OF EXISTING PAVEMENT)	1576
TCS-8	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOILDER IN RURAL AREA WITH BREAST WALL ON HILL SIDE(RECONSTRUCTION OF EXISTING PAVEMENT)	1250
TCS-9	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER AT CUTTING SECTION IN RURAL AREA WITH BREAST WALL ON HILL SIDE(RECONSTRUCTION OF EXISTING PAVEMENT)	2100
TCS-10	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH RETAINING WALL ON VALLEY SIDE(RECONSTRUCTION OF EXISTING PAVEMENT)	100
TCS-11	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH RETAINING WALL ON VALLEY SIDE AND OPEN TRAPEZOIDAL DRAIN ON HILL SIDE(RECONSTRUCTION OF EXISTING PAVEMENT)	3266
TCS-12	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER AT RECONSTRUCTION STRETCH IN RURAL AREA WITH RETAINING WALL ON VALLEY SIDE AND BREAST WALL ON HILL SIDE (RECONSTRUCTION OF EXISTING PAVEMENT)	820
TCS-13	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH BOTH SIDE RETAINING WALL ON VALLEY SIDE(RECONSTRUCTION OF EXISTING PAVEMENT)	50
TCS-14	TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER AT RECONSTRUCTION STRETCH IN RURAL AREA WITH TOE WALL ON VALLEY SIDE AND BREAST WALL ON HILL SIDE (RECONSTRUCTION OF EXISTING PAVEMENT)	325
	TOTAL LENGTH	13187

Chainage (Km)		Length of TCS	TCS No.
From	To		
118850	118920	70	TCS-12
118920	119020	100	TCS-8
119020	119070	50	TCS-12
119070	119120	50	TCS-13
119120	119370	250	TCS-5
119370	119470	100	TCS-14
119470	120070	600	TCS-11
120070	120220	150	TCS-1
120220	120620	400	TCS-11
120620	120720	100	TCS-5
120720	120970	250	TCS-7
120970	121870	900	TCS-9
121870	122070	200	TCS-7
122070	122120	50	TCS-11
122120	122220	100	TCS-8
122220	122620	400	TCS-12
122620	123320	700	TCS-11
123320	123470	150	TCS-14
123470	123620	150	TCS-5
123620	123720	100	TCS-8
123720	124020	300	TCS-11
124020	124320	300	TCS-8
124320	124370	50	TCS-12
124370	124820	450	TCS-9
124820	124970	150	TCS-7
124970	125070	100	TCS-11
125070	125170	100	TCS-7
125170	125220	50	TCS-10
125220	125370	150	TCS-7
125370	125406	36	TCS-11
125406	125456	50	TCS-5
125456	125506	50	TCS-6
125506	125556	50	TCS-7
125556	125581	25	TCS-10

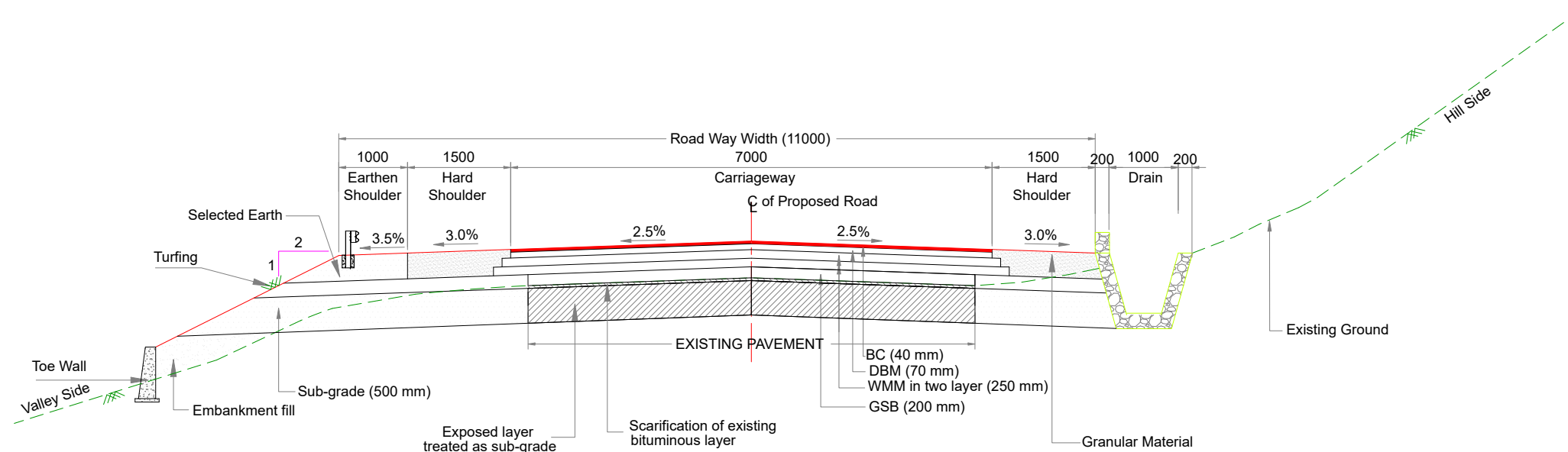
Chainage (Km)		Length of TCS	TCS No.
From	To		
125581	125606	25	TCS-7
125606	125681	75	TCS-9
125681	125706	25	TCS-10
125706	125806	100	TCS-8
125806	125856	50	TCS-11
125856	125881	25	TCS-8
125881	125931	50	TCS-5
125931	125956	25	TCS-14
125956	126031	75	TCS-8
126031	126081	50	TCS-11
126081	126156	75	TCS-6
126156	126206	50	TCS-5
126206	126256	50	TCS-6
126256	126381	125	TCS-11
126381	126531	150	TCS-12
126531	126656	125	TCS-5
126656	126706	50	TCS-11
126706	126731	25	TCS-6
126731	127031	300	TCS-11
127031	127056	25	TCS-7
127056	127156	100	TCS-9
127156	127356	200	TCS-11
127356	127506	150	TCS-6
127506	127556	50	TCS-5
127556	127606	50	TCS-11
127606	128031	425	TCS-6
128031	128256	225	TCS-9
128256	128381	125	TCS-6
128381	128456	75	TCS-8
128456	128506	50	TCS-6
128506	128581	75	TCS-11
128581	128806	225	TCS-8
128806	129006	200	TCS-7
129006	129081	75	TCS-6
129081	129381	300	TCS-7
129381	129531	150	TCS-11
129531	130681	1150	TCS-1
130681	130807	126	TCS-7
130807	130857	50	TCS-9
130857	131157	300	TCS-5
131157	131407	250	TCS-6
131407	131707	300	TCS-9
131707	131807	100	TCS-12
131807	131907	100	TCS-8
131907	131957	50	TCS-14
131957	132007	50	TCS-8
132007	132037	30	TCS-11
Total Length		13187	

					Scale :- 1 : 75		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION		CONSULTANT :  <b>CE TESTING COMPANY PVT. LTD.</b> Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO:-CET/4047/NHIDCL/NH-102B/C-T/FDPR/PKG-IVA/TCS								
										REVISION MKD. - R0		SHEET NO. - 01 OF 07							
										DRAWN BY		DESIGNED BY		CHECKED BY		ISSUED BY			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: Dec, 2019	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF <b>CHURACHANDPUR – TUVAI ROAD SECTION(LENGTH = 162 KM) ON NH-102B (MANIPUR)</b> ON ENGINEERING,PROCUREMENT AND CONSTRUCTION MODE IN THE STATES OF MANIPUR (PKG:-NHIDCL/DPR/CT-IJ-TP/Manipur/2017)		SUBMISSION TYPE :  <b>FINAL DETAILED PROJECT REPORT</b>				 S.MANDAL		 B.DAS		 S.SADHU		 A.K.DAS	
REVISIONS								PACKAGE - IVA											










TCS - 01		
CHAINAGE (M)		LENGTH (M)
FROM	TO	
120070	120220	150
129531	130681	1150
TOTAL LENGTH (M)		1300

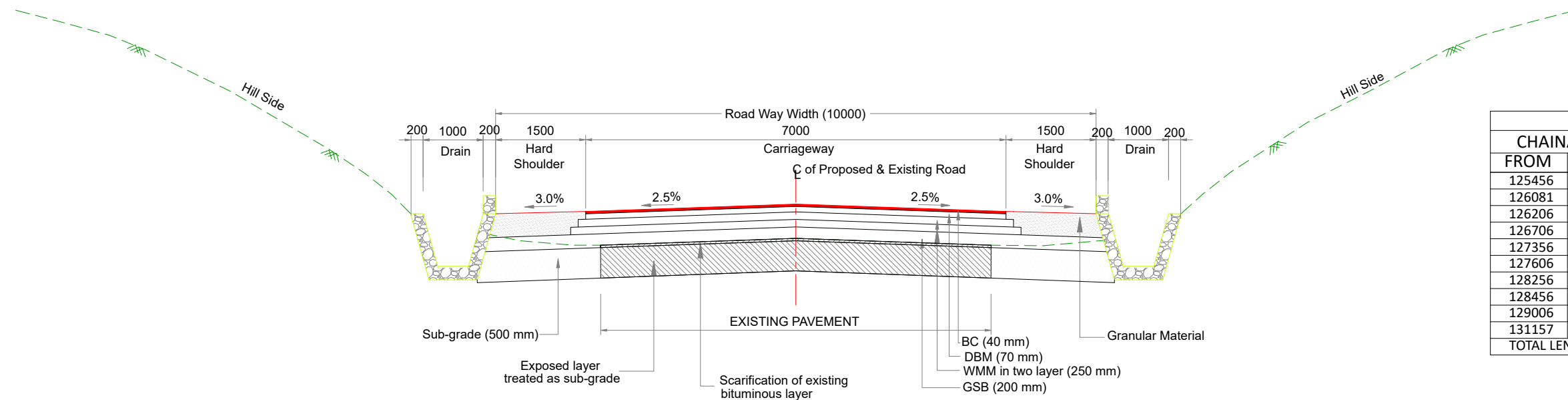
**TCS-1 :- TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN BUILT UP AREA WITH BOTH SIDE FOOTPATH CUM RCC RECTANGULAR DRAIN (RECONSTRUCTION OF EXISTING PAVEMENT)**



TCS - 05		
CHAINAGE (M)		LENGTH (M)
FROM	TO	
119120	119370	250
120620	120720	100
123470	123620	150
125406	125456	50
125881	125931	50
126156	126206	50
126531	126656	125
127506	127556	50
130857	131157	300
TOTAL LENGTH (M)		1125

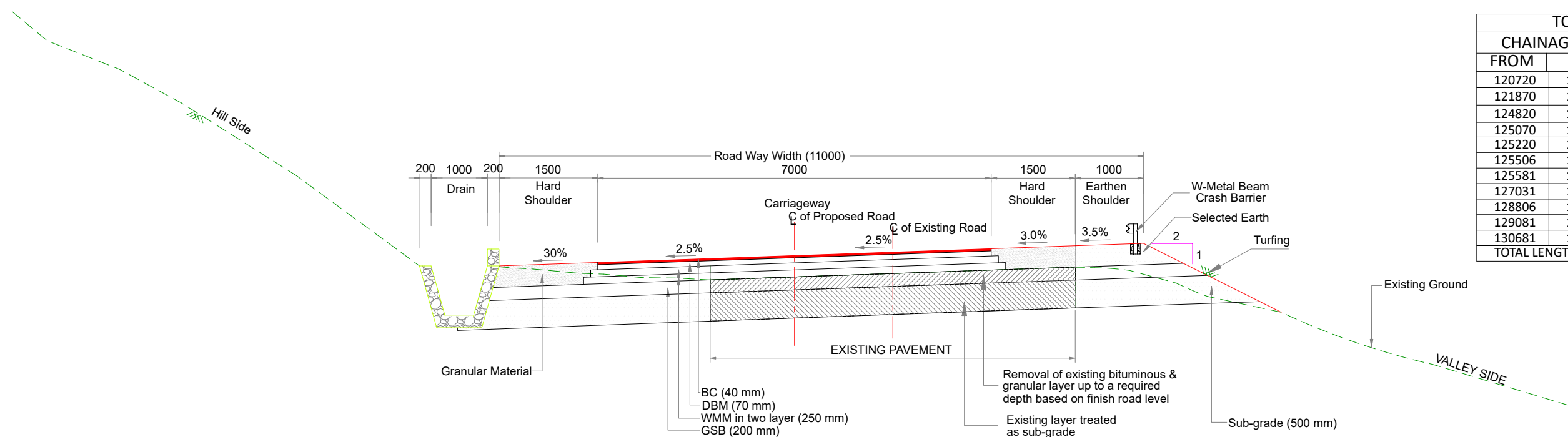
**TCS-5 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH TOE WALL ON VALLEY SIDE & OPEN TRAPEZOIDAL DRAIN ON HILL SIDE (RECONSTRUCTION OF EXISTING PAVEMENT)**

					<div>Scale :- 1 : 75</div> <div></div> <div>CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4 Parliament Street, New Delhi - 110001</div>	TYPICAL CROSS SECTION	CONSULTANT : <div> <b>CETEST</b> CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 &amp; OHSAS 18001 Certified Company</div> <div>124-A, N.S.C. Bose Road Kolkata - 700092</div> <div></div>	DWG NO:-CET/4047/NHIDCL/NH-102B/C-T/FDPR/PKG-IVA/TCS			
								REVISION MKD. - R0	SHEET NO. - 02 OF 07		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF <b>CHURACHANDPUR – TUIVAI ROAD SECTION(LENGTH = 162 KM) ON NH-102B (MANIPUR)</b> ON ENGINEERING,PROCUREMENT AND CONSTRUCTION MODE IN THE STATES OF MANIPUR (PKG:-NHIDCL/DPR/CT-IJ-TP/Manipur/2017)	SUBMISSION TYPE :  FINAL DETAILED PROJECT REPORT	DRAWN BY   S.MANDAL	DESIGNED BY   B.DAS	CHECKED BY   S.SADHU	ISSUED BY   A.K.DAS	
REVISIONS											



TCS - 06		
CHAINAGE (M)	FROM	TO
LENGTH (M)		
125456	125506	50
126081	126156	75
126206	126256	50
126706	126731	25
127356	127506	150
127606	128031	425
128256	128381	125
128456	128506	50
129006	129081	75
131157	131407	250
TOTAL LENGTH (M)		1275

**TCS-6 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH BOTH SIDE OPEN TRAPEZOIDAL DRAIN ON HILL SECTION**  
**(RECONSTRUCTION OF EXISTING PAVEMENT)**

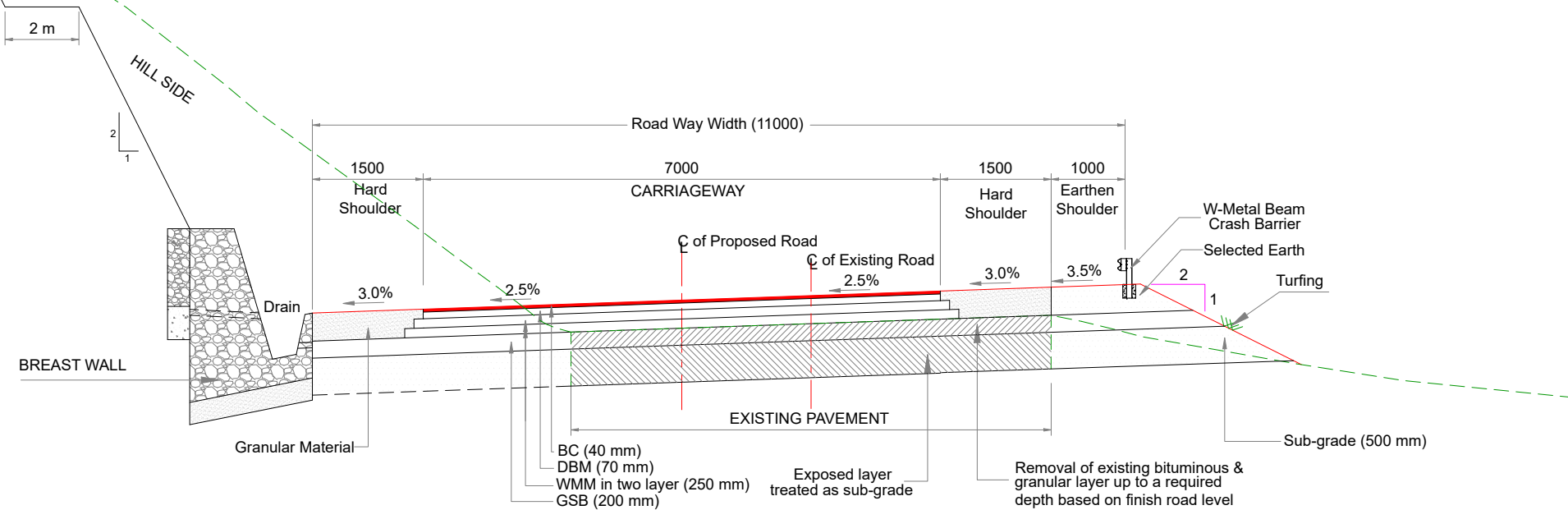


TCS - 07		
CHAINAGE (M)	FROM	TO
LENGTH (M)		
120720	120970	250
121870	122070	200
124820	124970	150
125070	125170	100
125220	125370	150
125506	125556	50
125581	125606	25
127031	127056	25
128806	129006	200
129081	129381	300
130681	130807	126
TOTAL LENGTH (M)		1576

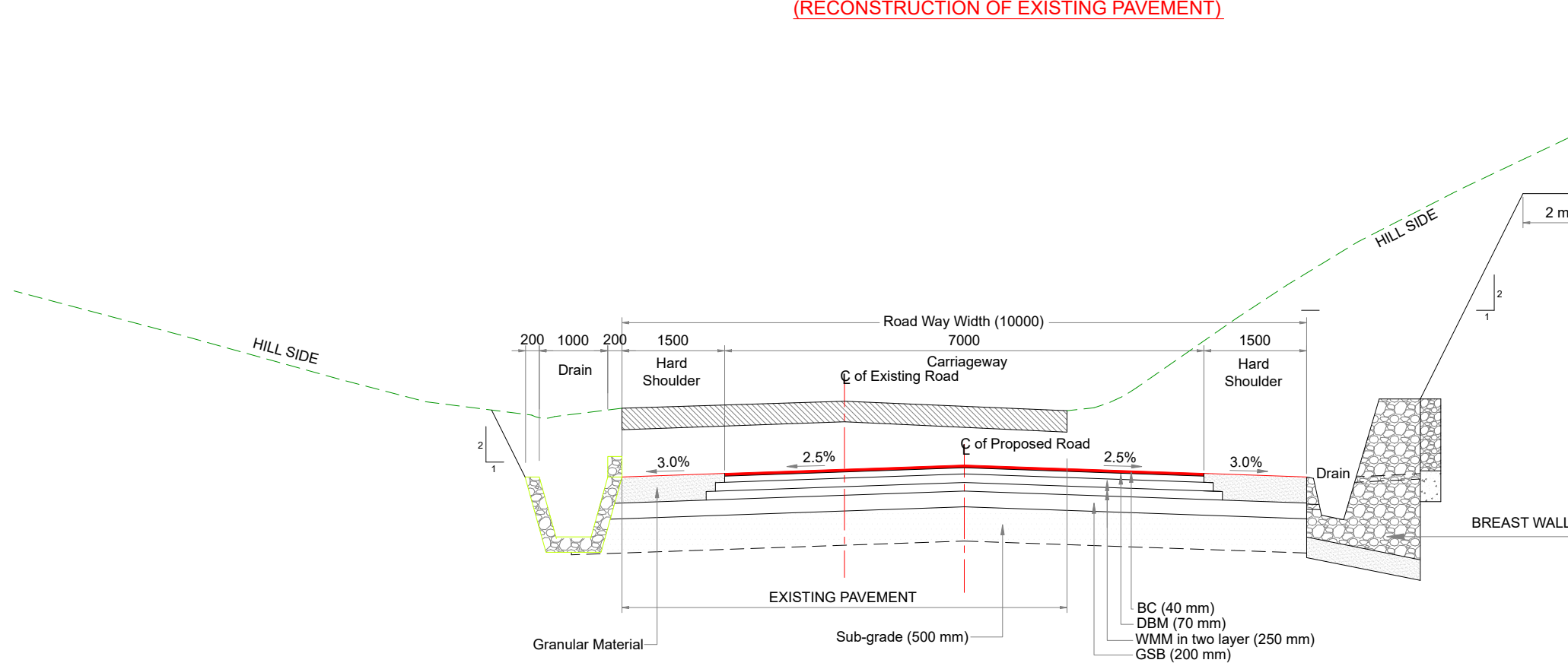
**TCS-7 : TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH OPEN TRAPEZOIDAL DRAIN ON HILL SIDE AND EARTHEN SHOULDER ON VALLEY SIDE**  
**(RECONSTRUCTION OF EXISTING PAVEMENT)**

					Scale :- 1 : 75		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4 Parliament Street, New Delhi - 110001		TYPICAL CROSS SECTION		CONSULTANT : <b>CETEST</b> CE TESTING COMPANY PVT. LTD. Engineering Consultants 124-A, N.S.C. Bose Road Kolkata - 700092		DWG NO:-CET/4047/NHIDCL/NH-102B/C-T/FDPR/PKG-IVA/TCS			
					DATE: Dec, 2019		PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF CHURACHANDPUR - TUIVAI ROAD SECTION (LENGTH = 162 KM) ON NH-102B (MANIPUR) ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATES OF MANIPUR (PKG:-NHIDCL/DPR/CT-IJ-TP/Manipur/2017)		SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		PACKAGE - IVA		REVISION MKD. - R0		SHEET NO. - 03 OF 07	
													DRAWN BY		DESIGNED BY	
													CHECKED BY		ISSUED BY	
													S.MANDAL		B.DAS	
													S.SADHU		A.K.DAS	










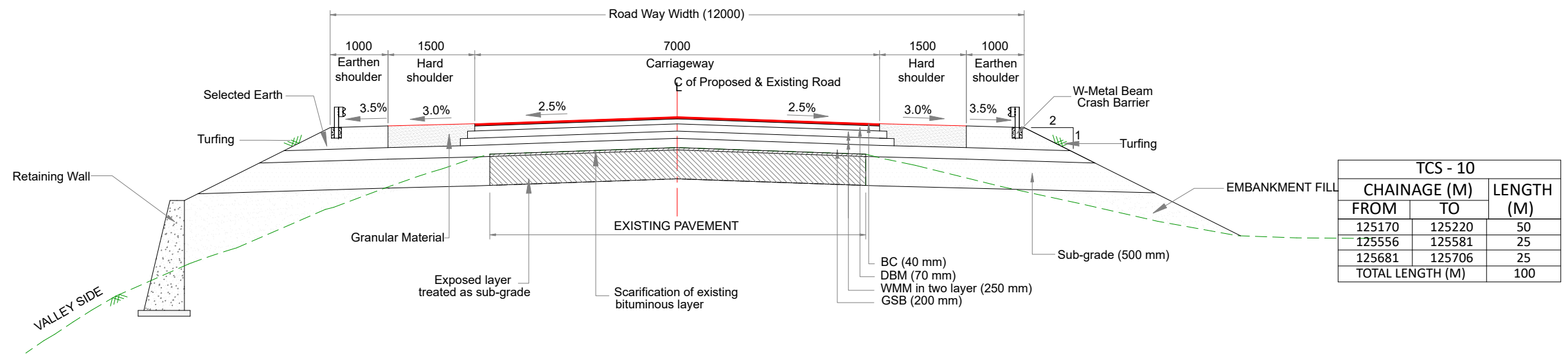


**TCS-8 :- TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH BREAST WALL ON HILL SIDE  
(RECONSTRUCTION OF EXISTING PAVEMENT)**

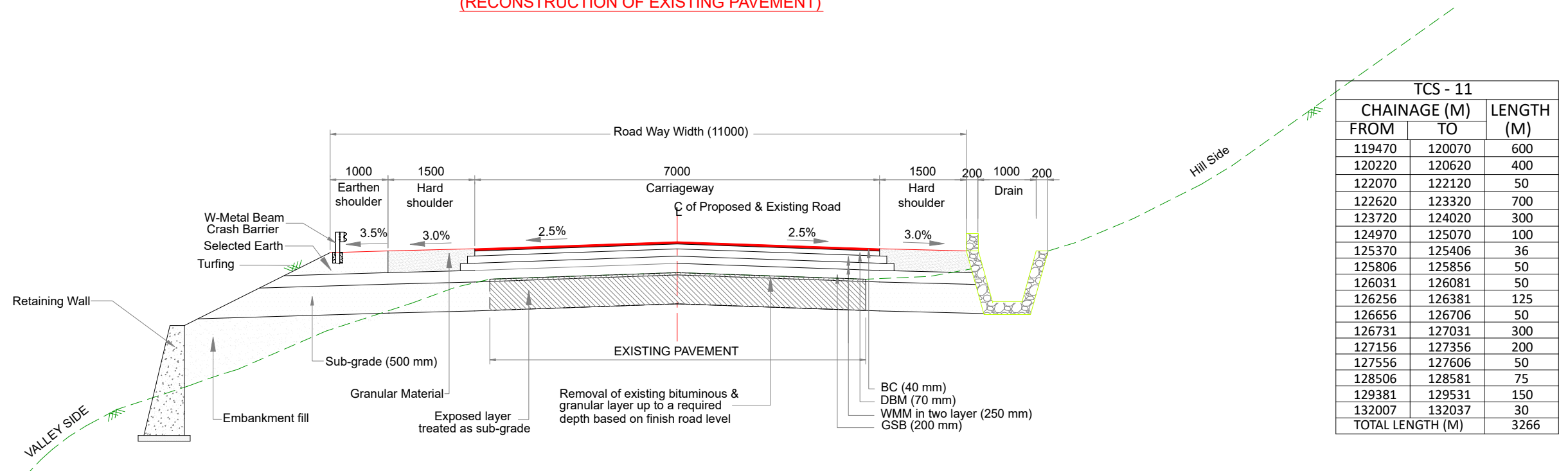


**TCS-9 :- TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER AT CUTTING SECTION IN RURAL AREA WITH BREAST WALL ON HILL SIDE  
(RECONSTRUCTION OF EXISTING PAVEMENT)**


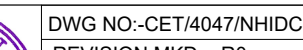



					<div>Scale :- 1 : 75</div> <div></div> <div>CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4 Parliament Street, New Delhi - 110001</div>	TYPICAL CROSS SECTION		<div>CONSULTANT :  <b>CETEST</b> CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 &amp; OHSAS 18001 Certified Company 124-A, N.S.C. Bose Road Kolkata - 700092</div> <div></div>		DWG NO:-CET/4047/NHIDCL/NH-102B/C-T/FDPR/PKG-IVA/TCS			
										REVISION MKD. - R0		SHEET NO. - 04 OF 07	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.						DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
													
REVISIONS										S.MANDAL	B.DAS	S.SADHU	A.K.DAS
										SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			
					PACKAGE - IVA								

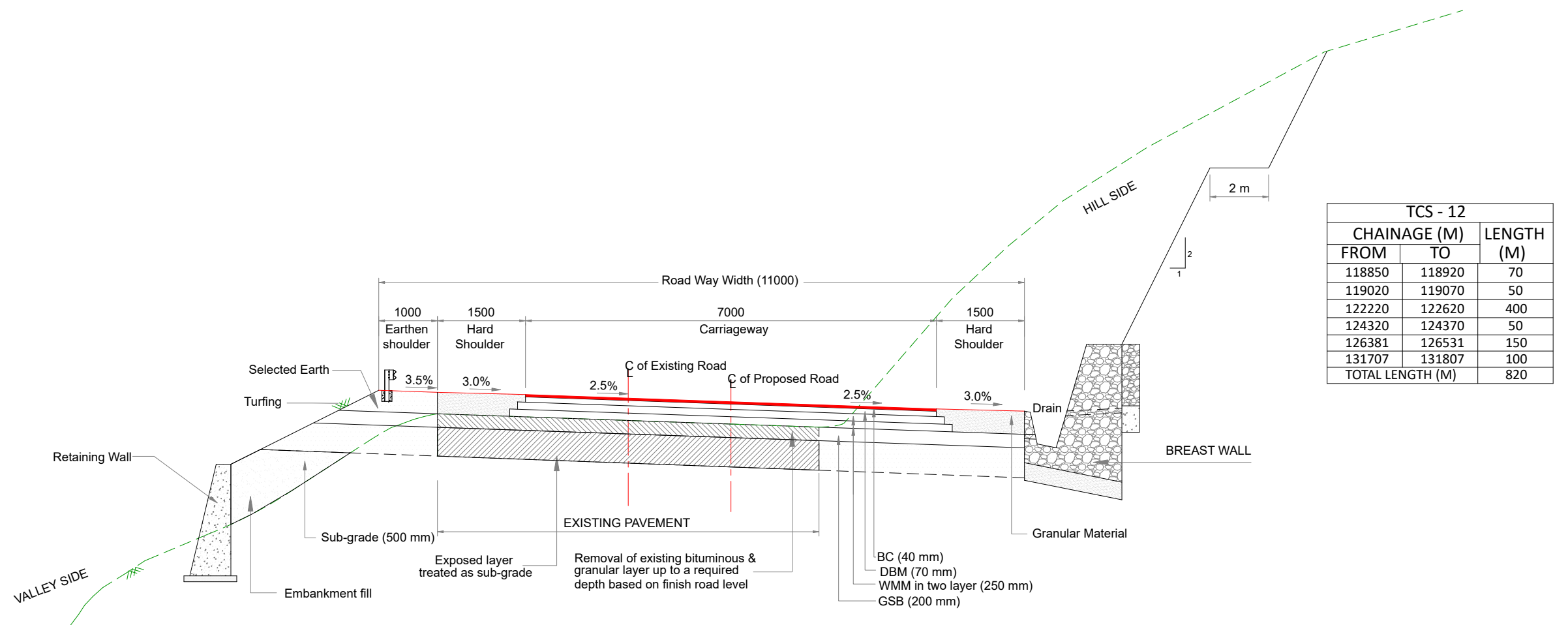


**TCS-10 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH RETAINING WALL ON VALLEY SIDE  
(RECONSTRUCTION OF EXISTING PAVEMENT)**

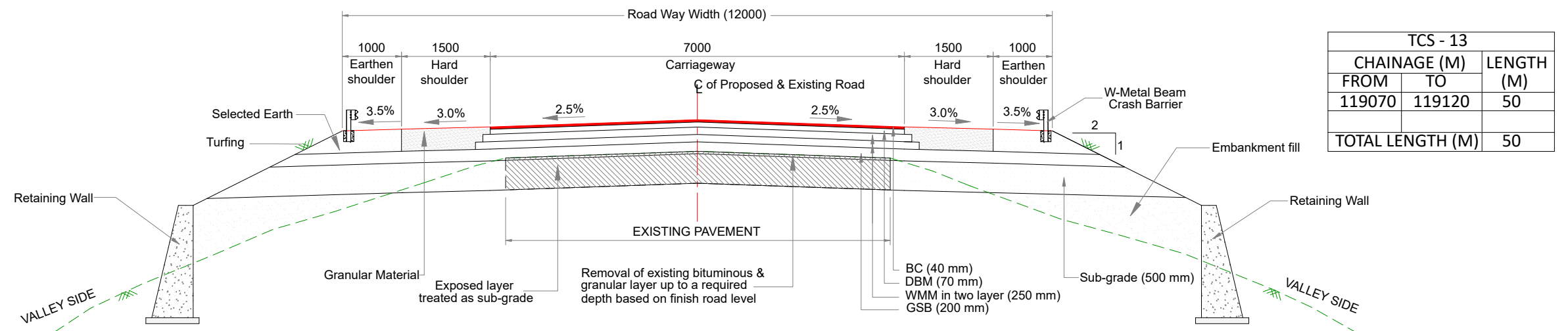


**TCS-11 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH RETAINING WALL ON VALLEY SIDE AND OPEN TRAPEZOIDAL DRAIN ON HILL SIDE  
(RECONSTRUCTION OF EXISTING PAVEMENT)**







					<div><p>Scale :- 1 : 75</p></div> <div><p>CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building,3rd Floor, 4 Parliament Street, New Delhi - 110001</p></div> <div><p>PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF <b>CHURACHANDPUR – TUIVAI ROAD SECTION(LENGTH = 162 KM) ON NH-102B (MANIPUR)</b> ON ENGINEERING, PROCUREMENT AND CONSTRUCTION MODE IN THE STATES OF MANIPUR (PKG:-NHIDCL/DPR/CT-IJ-TP/Manipur/2017)</p></div>	TYPICAL CROSS SECTION		<div><p>CONSULTANT : <b>CETEST</b> CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 &amp; OHSAS 18001 Certified Company</p><p>124-A, N.S.C. Bose Road Kolkata - 700092</p><div></div></div>	DWG NO:-CET/4047/NHIDCL/NH-102B/C-T/FDPR/PKG-IVA/TCS							
									REVISION MKD. - R0		SHEET NO. - 05 OF 07					
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.		SUBMISSION TYPE :  FINAL DETAILED PROJECT REPORT			DRAWN BY		DESIGNED BY		CHECKED BY		ISSUED BY	
REVISIONS									PACKAGE - IVA		 S.MANDAL		 B.DAS		 S.SADHU	

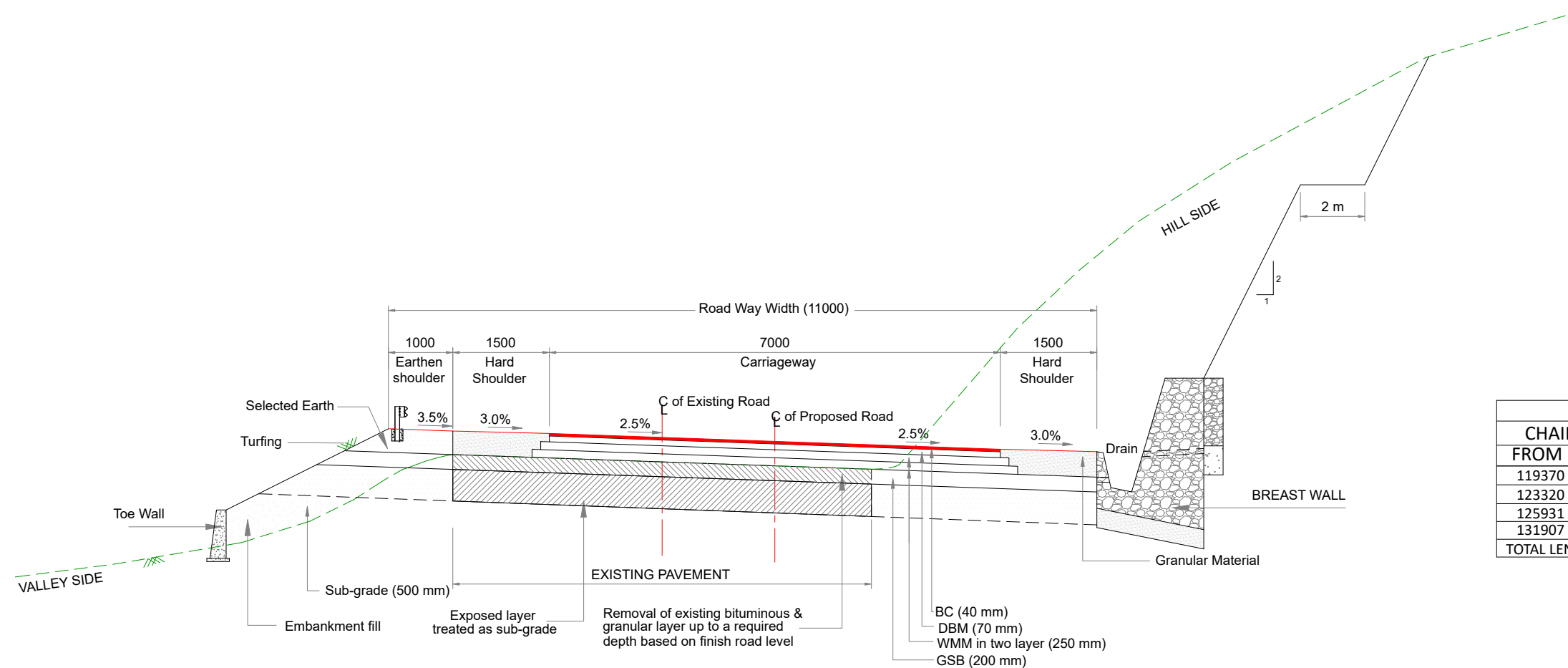


**TCS-12 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER AT RECONSTRUCTION STRETCH IN RURAL AREA WITH RETAINING WALL ON VALLEY SIDE AND BREAST WALL ON HILL SID**  
**(RECONSTRUCTION OF EXISTING PAVEMENT)**




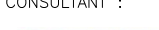
**TCS-13 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER IN RURAL AREA WITH BOTH SIDE RETAINING WALL ON VALLEY SIDE**  
**(RECONSTRUCTION OF EXISTING PAVEMENT)**

					Scale :- 1 : 75	 CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO:-CET/4047/NHIDCL/NH-102B/C-T/FDPR/PKG-IVA/TCS						
					DATE: Dec, 2019				REVISION MKD. - R0		SHEET NO. - 06 OF 07				
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.					DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY			
REVISIONS									SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		 S.MANDAL		 B.DAS	 S.SADHU	 A.K.DAS
									PACKAGE - IVA						



TCS - 14		
CHAINAGE (M)		LENGTH (M)
FROM	TO	
119370	119470	100
123320	123470	150
125931	125956	25
131907	131957	50
TOTAL LENGTH (M)		325

TCS-14 :-TYPICAL CROSS SECTION OF TWO LANE CARRIAGEWAY WITH HARD SHOULDER AT RECONSTRUCTION STRETCH IN RURAL AREA WITH TOE WALL ON VALLEY SIDE AND BREAST WALL ON HILL SIDE  
(RECONSTRUCTION OF EXISTING PAVEMENT)

					Scale :- 1 : 75		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4 Parliament Street, New Delhi - 110001	TYPICAL CROSS SECTION	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. Bose Road Kolkata - 700092	DWG NO:-CET/4047/NHIDCL/NH-102B/C-T/FDPR/PKG-IVA/TCS			
										REVISION MKD. - R0		SHEET NO. - 07 OF 07	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: Dec, 2019	PROJECT: CONSULTANCY SERVICES FOR CARRYING OUT FEASIBILITY STUDY, PREPARATION OF DETAILED PROJECT REPORT AND PROVIDING PRE-CONSTRUCTION SERVICES IN RESPECT OF 2 LANING OF <b>CHURACHANDPUR – TUIVAI ROAD SECTION(LENGTH = 162 KM) ON NH-102B (MANIPUR)</b> ON ENGINEERING,PROCUREMENT AND CONSTRUCTION MODE IN THE STATES OF MANIPUR (PKG:-NHIDCL/DPR/CT-IJ-TP/Manipur/2017)	SUBMISSION TYPE :  <b>FINAL DETAILED PROJECT REPORT</b>	PACKAGE - IVA		DRAWN BY	DESIGNED BY	CHECKED BY	ISSUED BY
REVISIONS										S.MANDAL	B.DAS	S.SADHU	A.K.DAS