

CLIENT:-



NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

(Ministry of Road Transport & Highways)

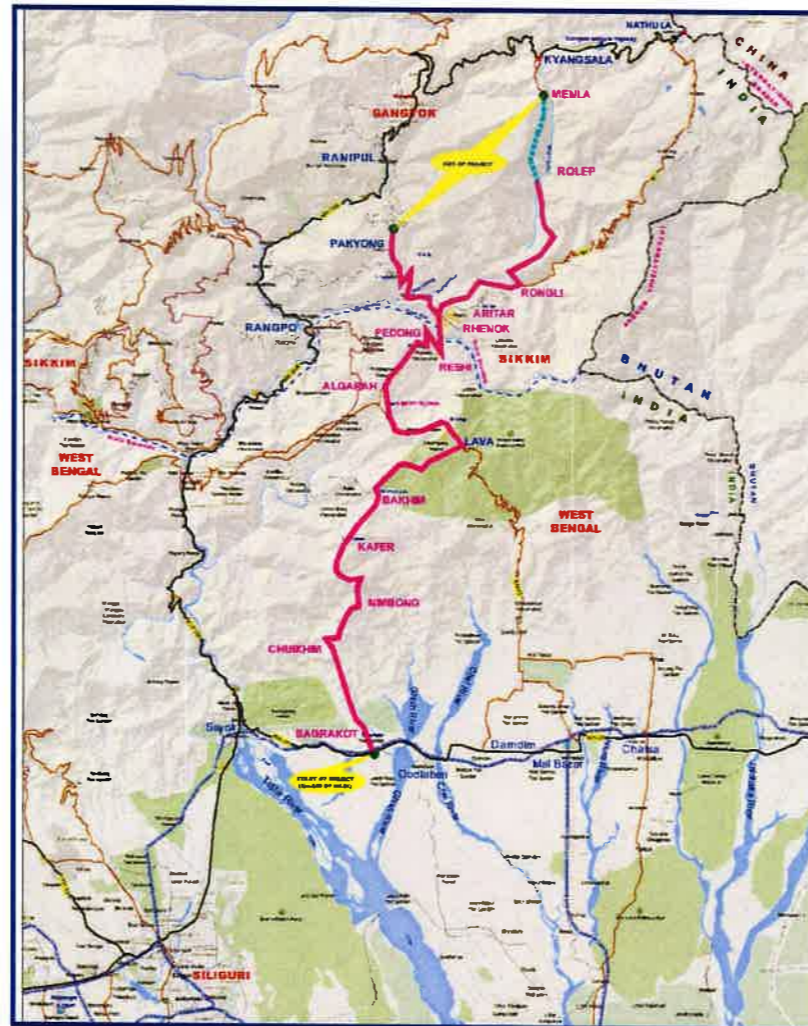
Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim -Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

DRAFT DETAILED PROJECT REPORT

PACKAGE- III (B)

(Km 82+000 To Km 94+030)

DRAWING VOLUME HIGHWAY:-PLAN & PROFILE



OCTOBER-2020

CONSULTANT :-

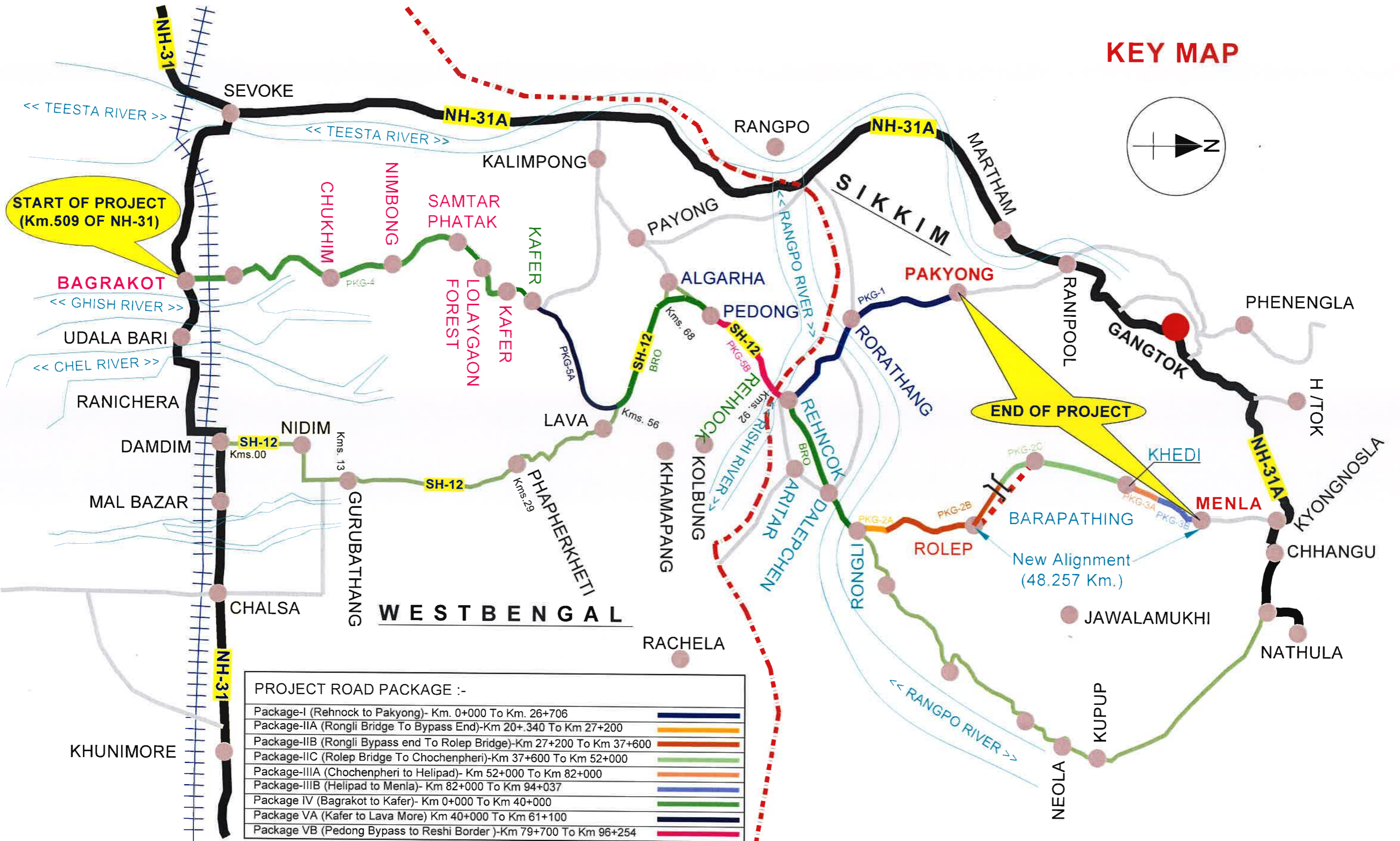
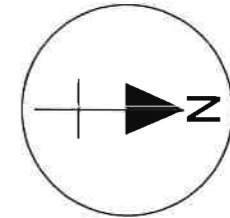
SA INFRASTRUCTURE CONSULTANTS PVT. LTD.



In Association with
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.

GENERAL DRAWING

KEY MAP



START OF PROJECT
(Km.509 OF NH-31)

END OF PROJECT

PROJECT ROAD PACKAGE :-

Package-I (Rehnoek to Pakyong)- Km. 0+000 To Km. 26+706	
Package-IIA (Rongli Bridge To Bypass End)-Km 20+340 To Km 27+200	
Package-IIB (Rongli Bypass end To Rolep Bridge)-Km 27+200 To Km 37+600	
Package-IIC (Rolep Bridge To Chochenpheri)-Km 37+600 To Km 52+000	
Package-IIIA (Chochenpheri to Helipad)- Km 52+000 To Km 82+000	
Package-IIIB (Helipad to Menla)- Km 82+000 To Km 94+037	
Package IV (Bagrakot to Kafer)- Km 0+000 To Km 40+000	
Package VA (Kafer to Lava More) Km 40+000 To Km 61+100	
Package VB (Pedong Bypass to Reshi Border)-Km 79+700 To Km 96+254	

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RO	APRIL 2019	FINAL FEASIBILITY REPORT	
REV	DATE	DESCRIPTION OF REVISIONS	INITIALS

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(Ministry of Road Transport & Highways)

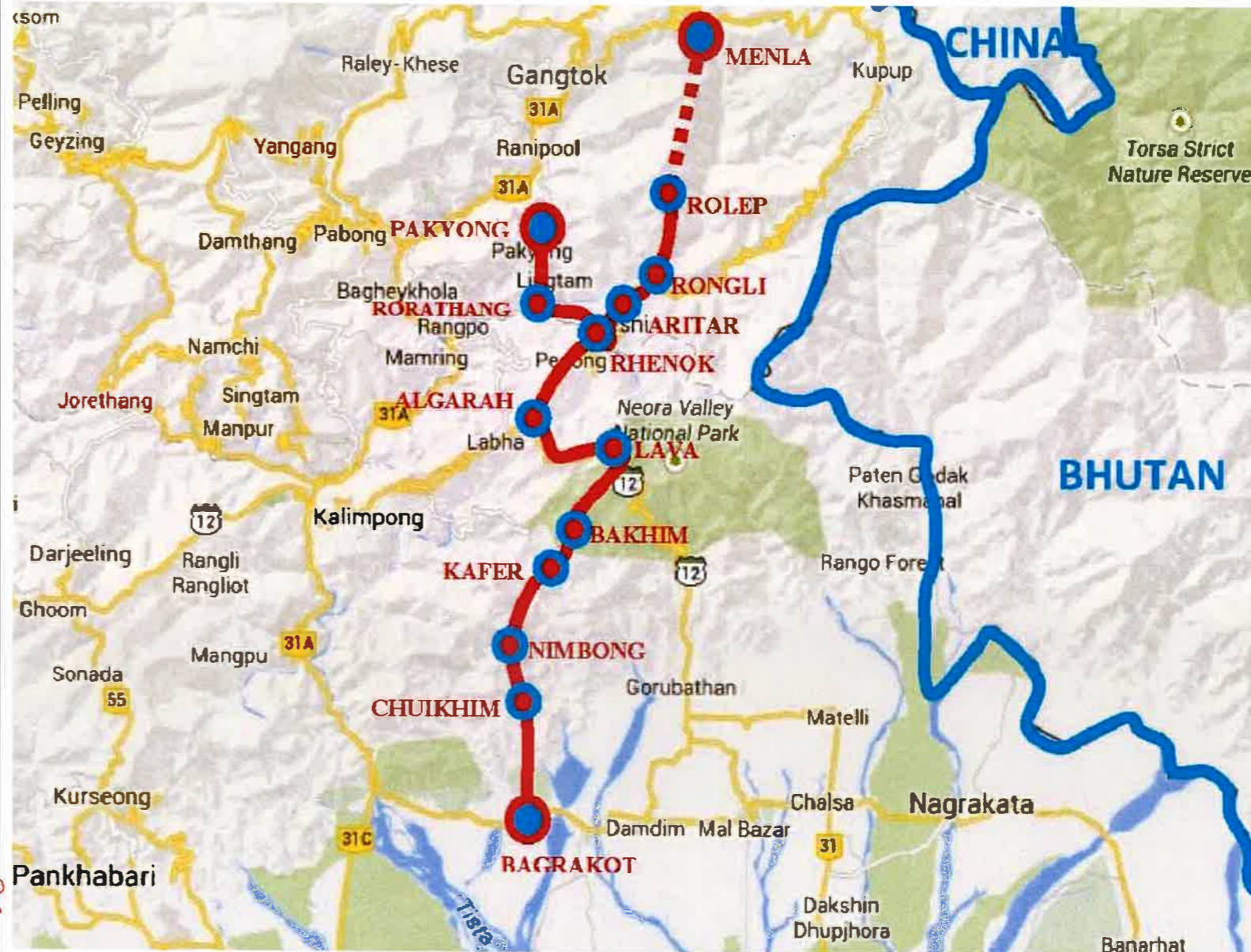
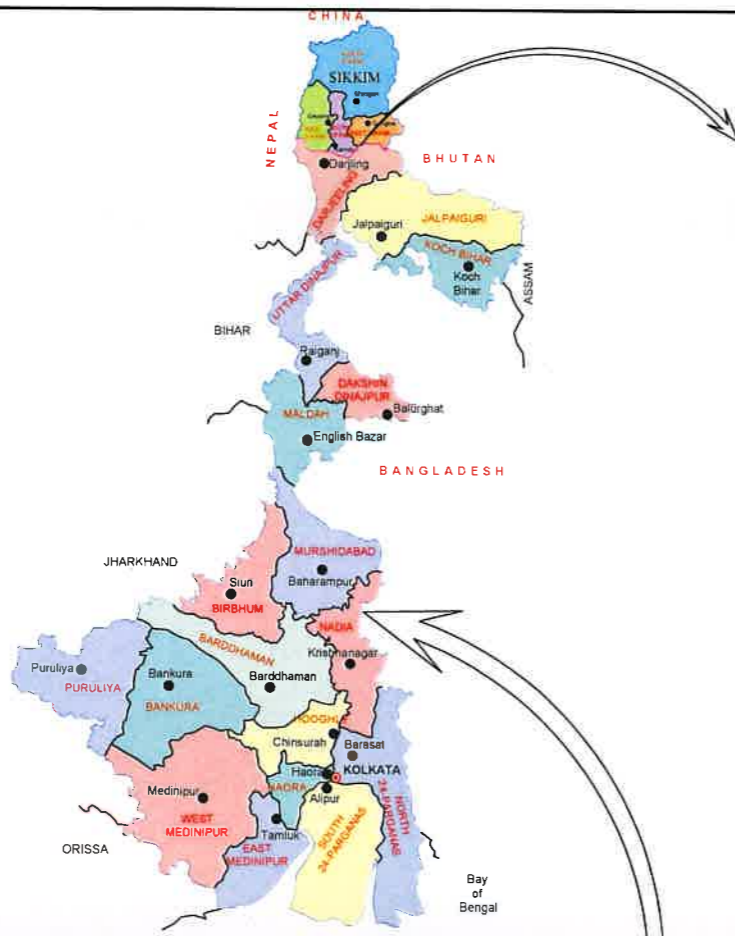
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kafer-Bakhim-Algarha-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Artar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla
SCALE:-			

PACKAGE-3B
HELIPAD TO MENLA
KEY PLAN

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/



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REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	

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PACKAGE-3B
HELIPAD TO MENLA
LOCATION MAP

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/

HORIZONTAL & VERTICAL DETAIL

HORIZONTAL REPORT SIKKIM PACKAGE -3

HIP No.	Chainage	LC	Transition length (Ls)	Circular Angle	Radius	Length of curve (Lc)	ARC DETAILS				Spiral Angle	Total Deflection	Shift (s)	Tangent Dist (Ts)	Apex Dist (Es)	HIP CO ORDINATE		Speed V	Superelevation From Super .xls file	Hand of Arc
							Start X	Start Y	End X	End Y						EASTING	NORTHING			
01	82+257	118.87	0	45.404	150	118.867	668933.5	3022899.495	668946.254	3022784.419	0	45.40	0.000	62.75	12.59	668963.948	3022844.625	40	4.74	Right
02	82+394	146.77	0	33.637	250	146.771	668944.629	3022778.889	668965.42	3022657.828	0	33.64	0.000	75.57	11.17	668923.321	3022706.387	40	2.84	Right
03	82+678	159.14	0	91.183	100	159.144	668780.559	3022586.659	668638.369	3022600.617	0	91.18	0.000	102.08	42.90	668702.339	3022521.059	40	7.00	Right
04	83+063	162.01	0	61.881	150	162.005	668489.58	3022785.66	668468.483	3022938.455	0	61.88	0.000	89.92	24.89	668433.235	3022855.734	40	4.74	Right
05	83+231	114.75	0	65.748	100	114.753	668480.772	3022967.296	668570.723	3023028.075	0	65.75	0.000	64.63	19.07	668506.107	3023026.753	40	7.00	Right
06	83+425	180.18	0	68.824	-150	180.182	668612.136	3023028.922	668750.019	3023127.579	0	68.82	0.000	102.75	31.81	668714.869	3023031.024	40	4.74	Left
07	83+841	143.18	0	32.813	250	143.175	668840.596	3023376.391	668924.422	3023490.048	0	32.81	0.000	73.60	10.61	668865.776	3023445.56	40	2.84	Right
08	84+041	42.60	0	9.763	-250	42.598	669011.708	3023556.262	669043.294	3023584.766	0	9.76	0.000	21.34	0.91	669028.718	3023569.165	40	2.84	Left
09	84+133	103.91	0	11.907	500	103.911	669055.545	3023597.879	669133.836	3023665.917	0	11.91	0.000	52.16	2.71	669091.143	3023635.981	40	2.5%	Right
10	84+321	176.91	0	77.971	-130	176.91	669159.812	3023684.162	669203.757	3023841.719	0	77.97	0.000	105.22	37.24	669245.545	3023745.157	40	0.054700855	Left
11	84+628	160.44	0	22.981	-400	160.437	669142.599	3023983.04	669051.439	3024113.757	0	22.98	0.000	81.31	8.18	669110.305	3024057.664	40	0.025	Left
12	84+922	150.41	0	86.178	100	150.408	668963.595	3024197.464	668955.747	3024333.864	0	86.18	0.000	93.55	36.93	668895.875	3024261.993	40	0.07	Right
13	85+137	17.96	0	13.722	75	17.962	669051.029	3024448.242	669064.061	3024460.541	0	13.72	0.000	9.02	0.54	669056.805	3024455.176	40	0.07	Right
14	85+260	30.29	0	23.139	-75	30.289	669143.661	3024519.403	669163.77	3024541.778	0	23.14	0.000	15.35	1.56	669156.006	3024526.532	40	0.07	Left
15	85+359	56.94	0	43.502	75	56.944	669191.061	3024588.334	669234.941	3024622.457	0	43.50	0.000	29.92	5.75	669206.194	3024614.149	40	0.07	Right
16	85+561	287.71	0	41.212	-400	287.711	669258.457	3024629.253	669484.124	3024797.612	0	41.21	0.000	150.39	27.34	669402.941	3024671.008	40	0.025	Left
17	85+804	124.83	30	47.682	150	124.832	669506.301	3024830.347	669613.606	3024886.826	5.73	59.14	0.250	100.25	22.75	669547.474	3024882.296	40	0.047407407	Right
18	86+019	61.53	50	44.065	-80	61.526	669736.938	3024889.102	669784.153	3024926.159	17.90625	79.88	1.302	93.08	26.04	669768.044	3024898.077	40	0.07	Left
19	86+472	111.02	25	159.02	40	111.017	669834.509	3025126.864	669908.728	3025100.799	17.90625	194.83	0.651	-299.86	-354.99	669942.003	3025314.25	20	0.044444444	Right
20	86+737	71.70	30	132.523	-31	71.702	669780.727	3024830.712	669833.054	3024808.737	27.72580645	187.97	1.210	-447.36	-494.48	669781.906	3024760.23	20	0.05734767	Left
21	86+934	100.31	0	11.495	500	100.314	669884.252	3024944.405	669925.849	3025035.503	0	11.50	0.000	50.35	2.53	669900.466	3024992.047	40	0.025	Right
22	87+042	91.01	0	26.073	-200	91.012	669931.75	3025045.606	669958.511	3025131.774	0	26.07	0.000	46.30	5.29	669955.106	3025085.592	40	0.035555556	Left
23	87+390	124.94	40	159.082	45	124.942	669968.649	3025189.809	670052.219	3025160.67	25.46666667	210.02	1.481	-153.35	-224.47	670089.358	3025401.591	20	0.039506173	Right
24	87+389	84.90	0	9.729	-500	84.9	670015.244	3025095.932	669973.663	3025022.028	0	9.73	0.000	42.56	1.81	669991.309	3025060.749	40	0.025	Left
25	87+601	8.05	0	4.609	-100	8.045	669904.928	3024871.197	669901.89	3024863.751	0	4.61	0.000	4.03	0.08	669903.259	3024867.535	40	0.07	Left
26	87+970	149.79	40	156.045	-55	149.792	669870.724	3024763.49	669976.34	3024742.898	20.83636364	197.72	1.212	-340.61	-419.96	669874.999	3024504.272	20	0.032323232	Left
27	88+019	114.89	15	21.942	300	114.888	669985.079	3024843.119	670013.821	3024953.629	1.4325	24.81	0.031	73.49	7.20	669988.738	3024901.16	40	0.025	Right
28	88+587	103.45	30	39.514	-150	103.448	670220.346	3025361.745	670222.993	3025463.121	5.73	50.97	0.250	86.62	16.45	670239.876	3025411.958	40	0.047407407	Left
29	88+764	143.49	15	27.404	300	143.489	670201.96	3025513.147	670180.078	3025653.577	1.4325	30.27	0.031	88.65	10.81	670173.899	3025580.695	40	0.025	Right
30	89+191	125.24	15	23.918	-300	125.235	670211.802	3025944.244	670196.406	3026067.615	1.4325	26.78	0.031	78.92	8.41	670217.17	3026007.56	20	0.025	Left
31	89+332	61.88	20	17.727	-200	61.878	670179.332	3026112.675	670146.459	3026164.808	2.865	23.46	0.083	51.54	4.35	670166.96	3026141.305	20	0.025	Left
32	89+417	27.18	20	15.57	100	27.175	670118.833	3026194.894	670105.104	3026218.25	5.73	27.03	0.167	34.08	3.02	670110.372	3026205.634	40	0.07	Right
33	89+818	67.18	30	128.305	-30	67.18	670005.186	3026527.306	669954.36	3026509.075	28.65	185.61	1.250	-622.81	-668.58	669960.956	3026570.649	20	0.059259259	Left
34	89+930	74.14	0	8.495	500	74.136	669976.383	3026443.176	669999.622	3026372.847	0	8.50	0.000	37.16	1.38	669990.614	3026408.875	40	0.025	Right
35	90+148	24.38	20	13.969	-100	24.381	670041.143	3026209.529	670052.09	3026187.812	5.73	25.43	0.167	32.60	2.69	670045.286	3026198	40	0.07	Left
36	90+470	93.14	25	152.465	35	93.136	670155.308	3026056.758	670098.14	3026019.957	20.46428571	193.39	0.744	-292.00	-341.59	670201.821	3025921.699	20	0.050793651	Right
37	90+553	54.73	0	6.272	500	54.73	670049.351	3026112.948	670028.03	3026163.324	0	6.27	0.000	27.39	0.75	670037.31	3026137.552	40	0.025	Right
38	90+878	11.66	20	6.679	100	11.657	669929.693	3026438.374	669927.523	3026449.821	5.73	18.14	0.167	25.99	1.44	669928.274	3026444.034	40	0.07	Right
39	90+996	104.58	20	59.922	-100	104.584	669924.614	3026503.98	669864.008	3026583.374	5.73	71.38	0.167	81.95	23.33	669917.195	3026561.145	40	0.07	Left
40	91+248	231.02	20	66.183	200	231.023	669793.409	3026605.939	669661.701	3026780.146	2.865	71.91	0.083	155.13	47.18	669670.791	3026650.126	40	0.035555556	Right
41	91+680	233.74	0	26.784	500	233.738	669657.155	3026992.841	669706.329	3027219.176	0	26.78	0.000	119.02	13.97	669654.798	3027111.863	40	0.025	Right
42	91+930	72.19	30	137.877	-30	72.192	669726.422	3027272.366	669673.189	3027289.727	28.65	195.18	1.250	-219.52	-266.59	669722.347	3027350.163	20	0.059259259	Left
43	91+998	35.82	20	10.262	200	35.822	669658.086	3027236.891	669646.75	3027202.96	2.865	15.99	0.083	38.10	2.05	669653.941	3027219.417	40	0.035555556	Right
44	92+083	32.94	30	12.584	-150	32.944	669625.073	3027156.433	669616.871	3027124.595	5.73	24.04	0.250	46.99	3.62	669619.217	3027140.966	40	0.047407407	Left
45	92+322	56.73	25	130.013	25	56.729	669604.681	3026957.162	669559.618	3026961.962	28.65	187.31	1.042	-395.18	-433.51	669577.001	3026911.229	20	0.07	Right
46	92+652	153.71	20	44.034	200	153.707	669597.372	3027204.267	669682.557	3027327.674	2.865	49.76	0.083	102.79	20.55	669615.013	3027283.194	40	0.035555556	Right
47	93+132	194.14	0	139.041	-80	194.137	669849.329	3027426.305	669823.244	3027573.905	0	139.04	0.000	214.20	148.65	670033.887	3027535.027	40	0.07	Left
48	93+339	239.86	35	98.165	140	239.861	669759.463	3027587.158	669675.778	3027781.488	7.1625	112.49	0.365	227.53	112.62	669605.52	3027636.049	20	0.025	Right
49	93+589	207.76	0	59.519	-200	207.762	669705.818	3027830.52	669716.853	3028028.758	0	59.52	0.000	114.36	30.38	669768.009	3027926.484	40	0.035555556	Left
50	93+999	42.68	0	27.168	90	42.675	669585.228	3028291.911	669575.725	3028333.105	0	27.17	0.000	21.75	2.59	669575.5	3028311.36	40	0.07	Right

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



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Noida 2

VERTICAL ALIGNMENT REPORT PACKAGE 3B

IP		Type of Curve	Curve Length	K Value	Start		End		Gradient	
Chainage	Level				Chainage	Level	Chainage	Level	In	Out
82818.812	2969.837	Sag	252.176	64	82692.724	2967.87	82944.9	2976.772	1.56	5.5
83439.962	3004	Hog	200	36.364	83339.962	2998.5	83539.962	3004	5.5	0
84556.532	3004	Hog	300	141.741	84406.532	3004	84706.532	3000.825	0	-2.117
84981.754	2995	Sag	200	94.494	84881.754	2997.117	85081.754	2995	-2.117	0
85288.177	2995	Sag	200	36.364	85188.177	2995	85388.177	3000.5	0	5.5
86252.711	3048.049	Hog	700	63.636	85902.711	3028.799	86602.711	3028.799	5.5	-5.5
87933.865	2955.586	Sag	300	54.545	87783.865	2963.836	88083.865	2955.586	-5.5	0
88669.578	2955.586	Sag	300	177.93	88519.578	2955.586	88819.578	2958.115	0	1.686
89814.746	2974.894	Sag	600	157.317	89514.746	2969.836	90114.746	2991.394	1.686	5.5
93366.234	3170.226	Hog	400	88.889	93166.234	3159.226	93566.234	3172.226	5.5	1

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REV DATE DESCRIPTION OF REVISIONS INITIALS	SAICPL.COM		SCALE:-				

TYPICAL CROSS SECTION

Type of alignment	TCS
Two lane with Paved shoulder New alignment (Both Side Hill section)	I
Two lane with Paved shoulder New alignment (Both Side Valley section)	II
Two lane with Paved shoulder New alignment (One Side Valley section, One Side Hill Section)	III
Elevated Structure (including box abutment length)	IV

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1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida-201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot- Chuikhim -Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

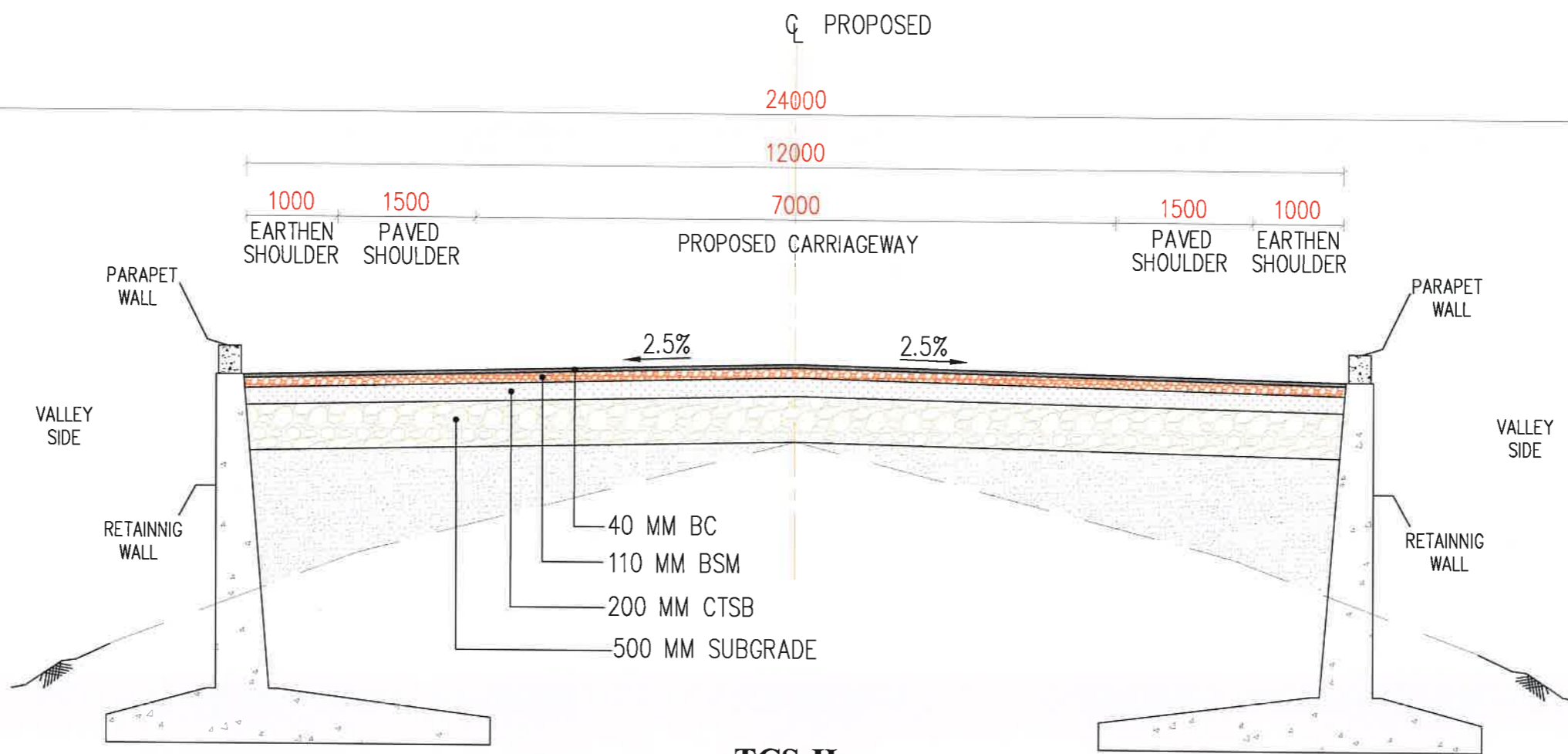
DATE : OCT-2020	Revision : RO
DESIGNED BY Vijay Gupta	DRAWN BY Naresh
CHECKED BY Vijay Gupta	APPROVED BY Sanjay Shukla
SCALE:-	

PACKAGE-3B
HELIPAD TO MENLA
TYPICAL CROSS SECTION
TCS SCHEDULE

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/

PROPOSED RIGHT OF WAY

PROPOSED RIGHT OF WAY



TCS-II
Two Lane With Paved Shoulder New alignment (One Side Hill One Side Valley Section)

DATE: 17/10/2020 - 10:26am
 PATH: D:\G...TCS-II.dwg

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
 (Ministry of Road Transport & Highways)

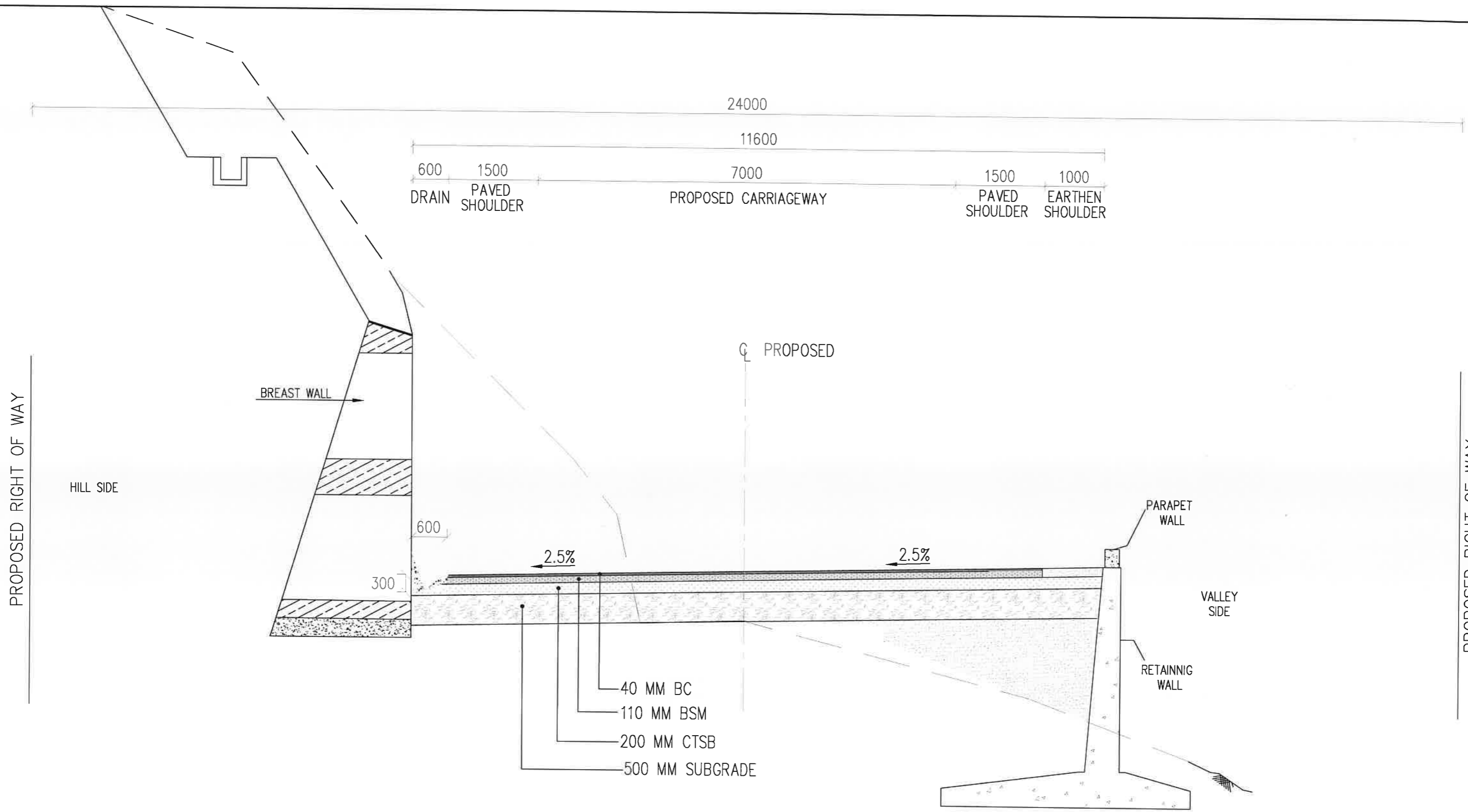
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
 Specialized Engineering Service Pvt. Ltd.
 1101A, 11th Floor, Tower A-II, Corporate Park,
 Plot No. 7A/1, Sector-142,
 Noida, 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Antar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020		Revision : RO	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla
SCALE:-			

PACKAGE-3B
 HELIPAD TO MENLA
 TYPICAL CROSS SECTION

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/



TCS-III
Two Lane With Paved Shoulder New alignment (One Side Hill One Side Valley Section)

DATE: 17/10/2020 - 12:28:00
 PATH: D:\G. dha\Sep 20\Sikkim-3rd\TCS\TCS.dwg

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	APRIL 2019	FINAL FEASIBILITY REPORT	

Client :
 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
 (Ministry of Road Transport & Highways)

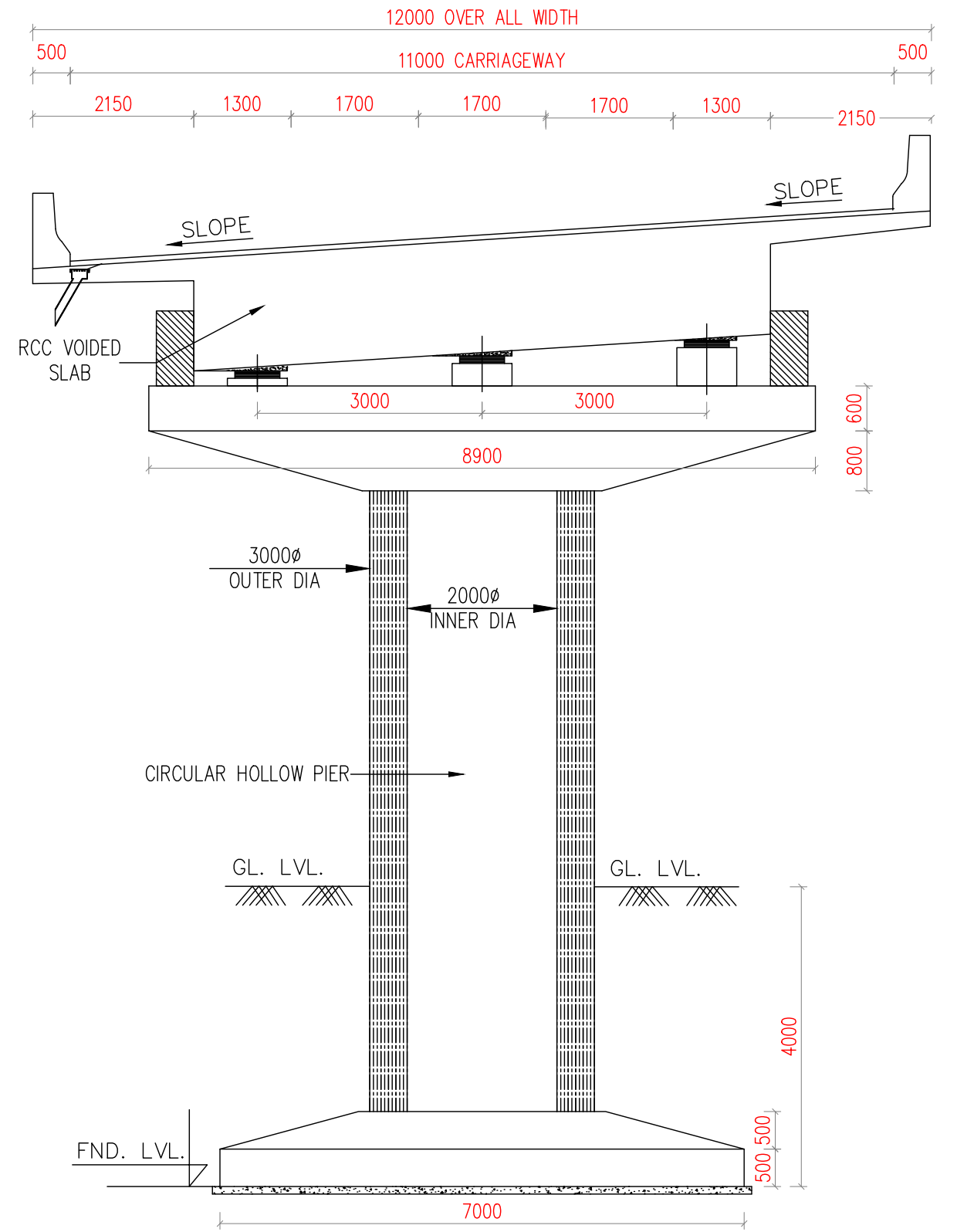
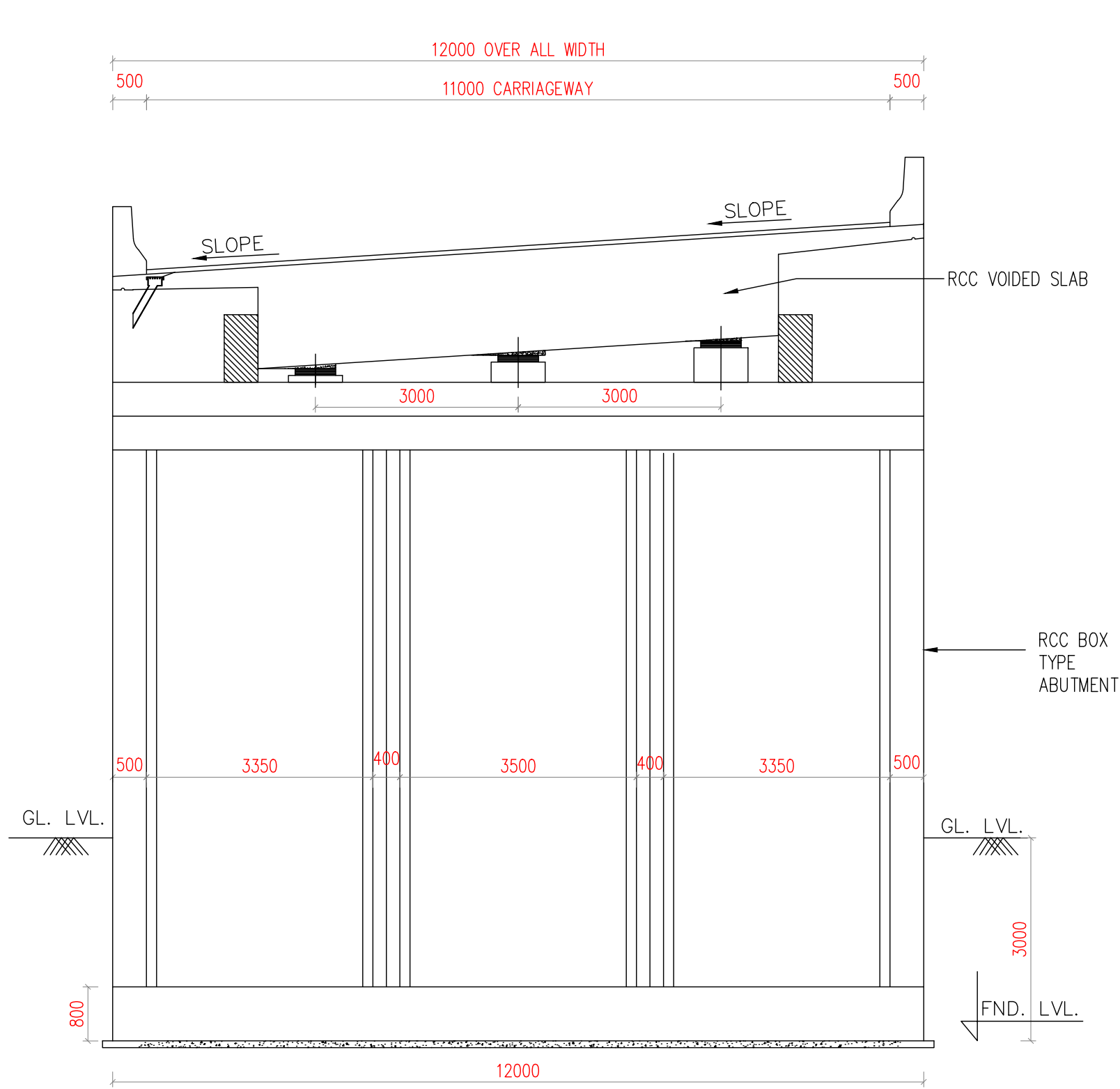
Consultant :
 SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
 In Association with
 Specialized Engineering Service Pvt. Ltd.
 1101A, 11th Floor, Tower A-II, Corporate Park,
 Plot No. 74/1, Sector-142,
 Noida 201301, Uttar Pradesh.

Project :
 Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla
SCALE:-			

PACKAGE-3B
 HELIPAD TO MENLA
 TYPICAL CROSS SECTION

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/



TCS-IV
TYPICAL CROSS SECTION FOR ELEVATED STRUCTURE
(Including Box Abutment Length)

DATE: 17/10/2020 - 1:19pm
 PATH: D:\G_drive\Sep_20\Sikkim-3b\TCS.dwg

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
 (Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
 In Association with
 Specialized Engineering Service Pvt. Ltd.
 1101A, 11th Floor, Tower A-II, Corporate Park,
 Plot No. 7A/1, Sector-142,
 Noida 201301, Uttar Pradesh.

Project :
 Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

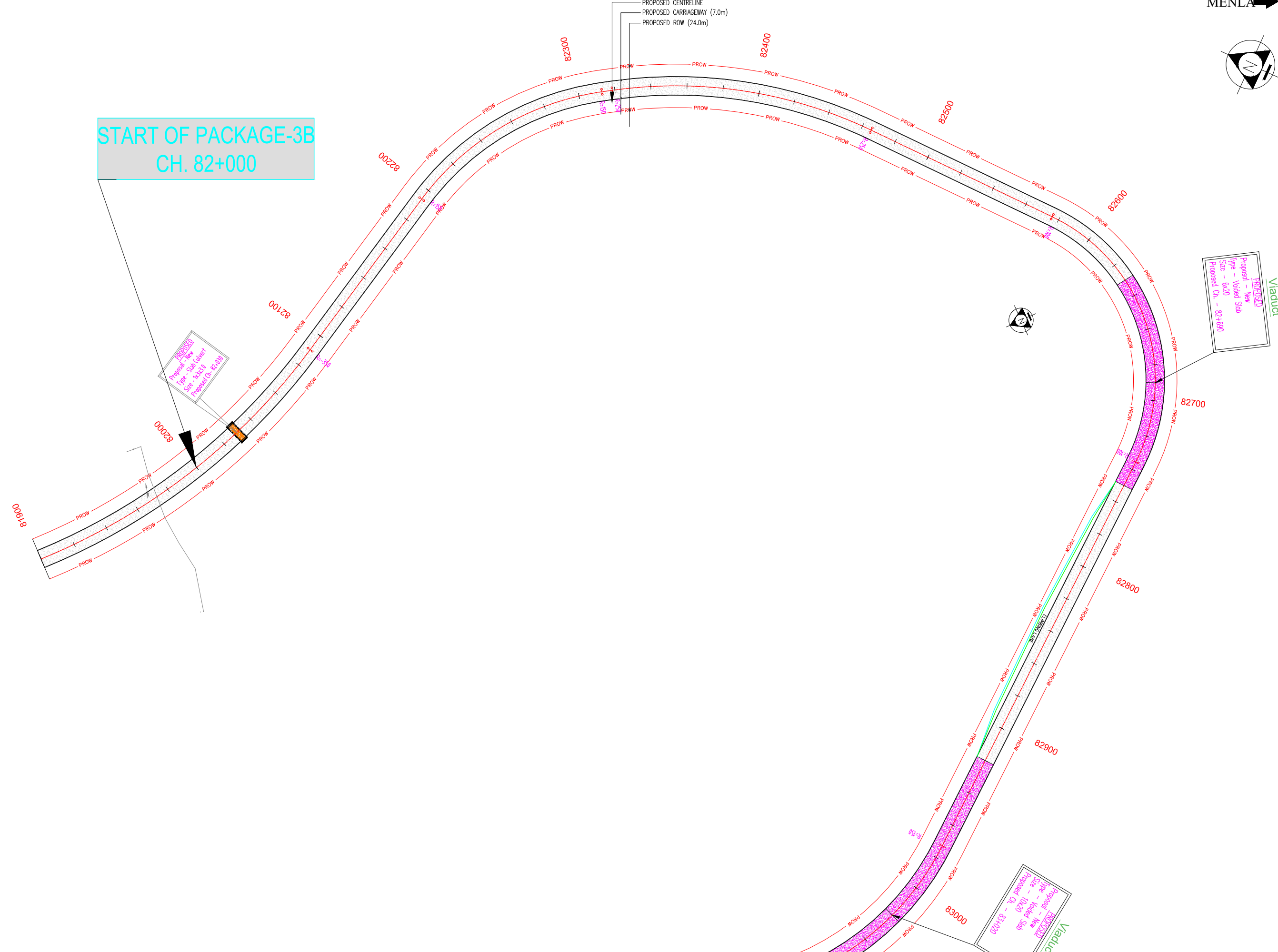
DATE : OCT-2020	Revision : R0
DESIGNED BY Vijay Gupta	DRAWN BY Naresh
CHECKED BY Vijay Gupta	APPROVED BY Sanjay Shukla
SCALE:-	

PACKAGE-3B
HELIPAD TO MENLA
TYPICAL CROSS SECTION

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/

PLAN & PROFILE





DATE: 27/10/2020 - 5:53pm
PATH: D:\G_drive\Sep_20\Sikkim-367\Plan_Layout-1.dwg

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

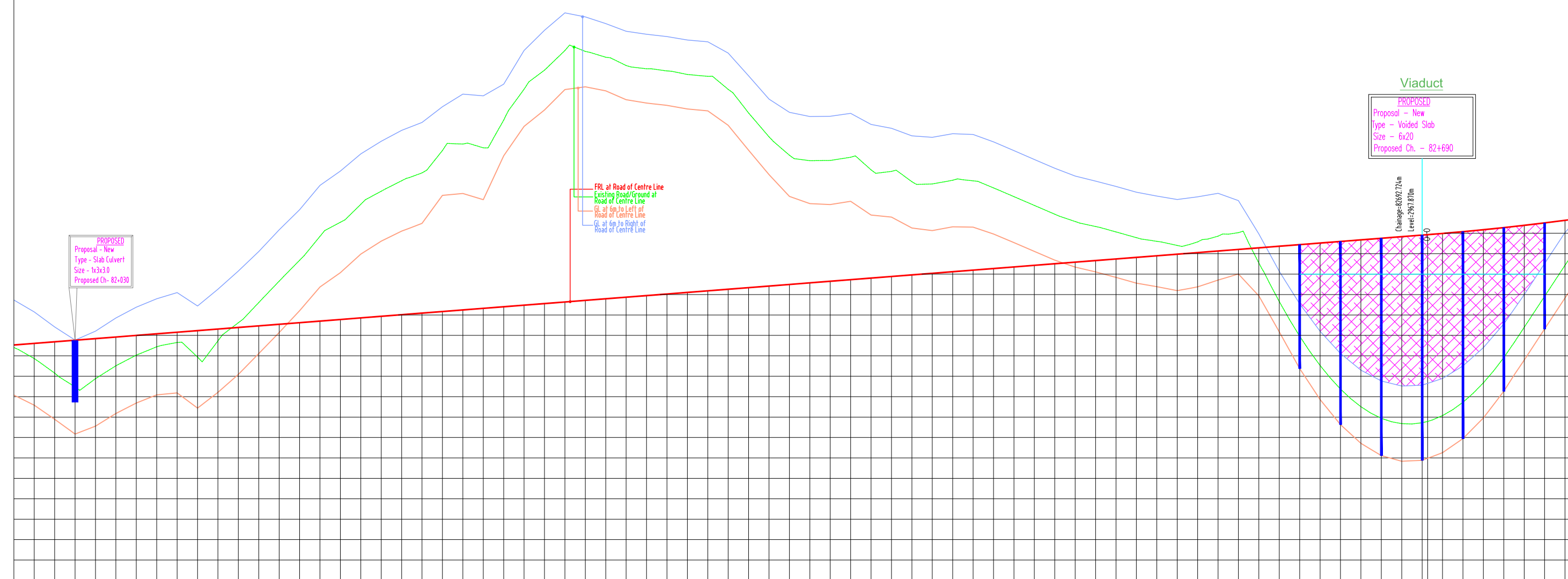
DATE : OCT-2020		Revision : RO	
DESIGNED BY Vijay Gupta	DRAWN BY Naresh	CHECKED BY Vijay Gupta	APPROVED BY Sanjay Shukla

PACKAGE-3B
HELIPAD TO MENLA
PLAN & PROFILE
(PLAN - Km 82+000 To Km 82+750)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/01

SCALE:- H-1:2000,
V-1:100, For A3 Paper Size

HOR 10 0 10 20
VER 2 0 2 5



PROPOSED
Proposal - New
Type - Slab Culvert
Size - 1x3x3.0
Proposed Ch. - 82+030

Viaduct
PROPOSED
Proposal - New
Type - Voided Slab
Size - 6x20
Proposed Ch. - 82+690

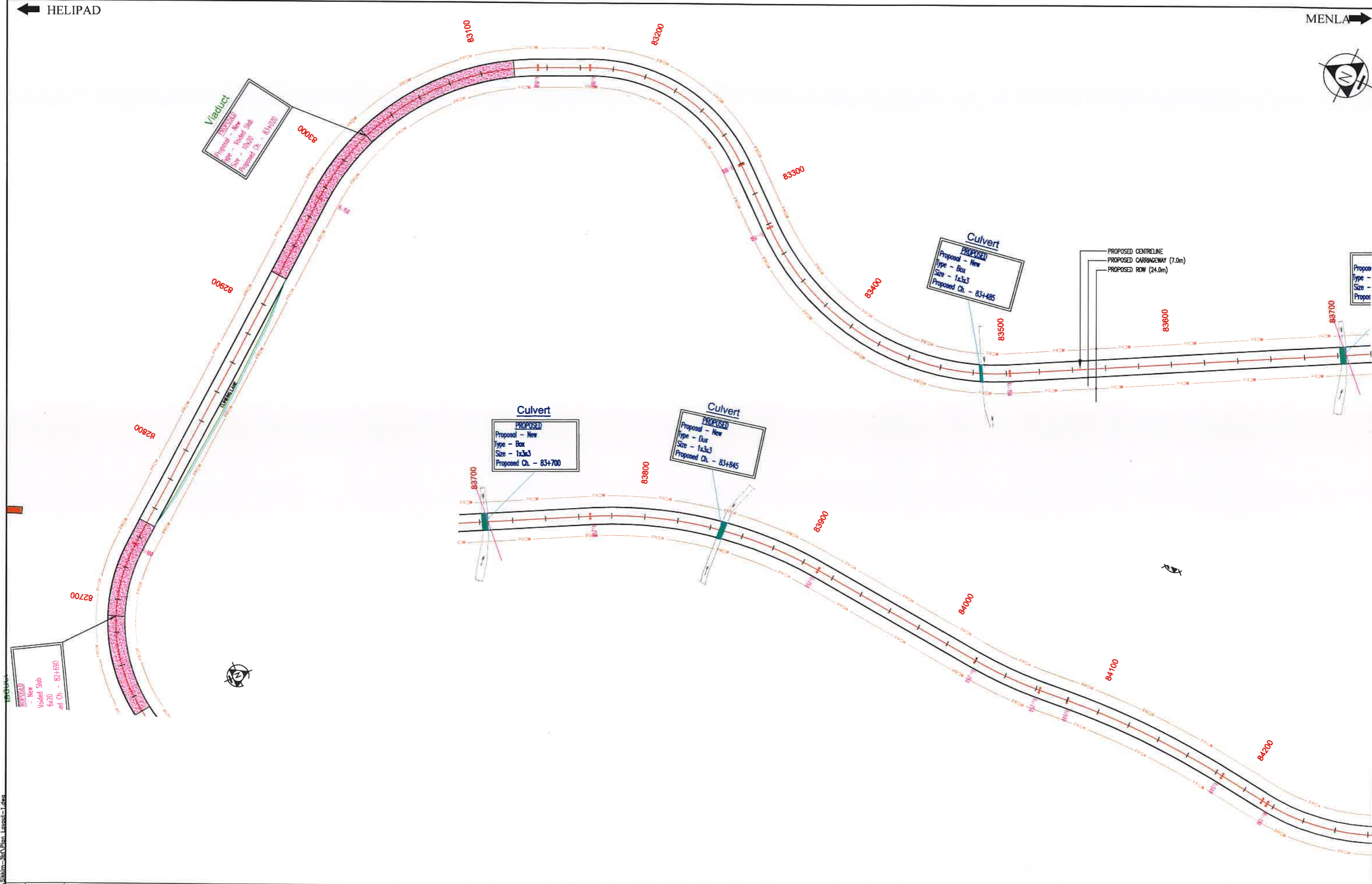
FRL at Road of Centre Line
Existing Road/Ground at Road of Centre Line
GL at 6m to Left of Road of Centre Line
GL at 6m to Right of Road of Centre Line

Chainage=82697.724m
Level=2967.870m

Datum:	
FRL at Road of Centre Line	2952.065 2956.722 2951.221 2951.377 2951.533 2951.689 2951.845 2958.001 2958.157 2958.313 2958.469 2958.625 2958.781 2958.937 2959.093 2959.249 2959.405 2959.561 2959.717 2959.873 2960.029 2960.185 2960.341 2960.497 2960.653 2960.809 2960.965 2961.121 2961.277 2961.433 2961.589 2961.745 2961.901 2962.057 2962.213 2962.369 2962.524 2962.680 2962.836 2962.992 2963.148 2963.304 2963.460 2963.616 2963.772 2963.928 2964.084 2964.240 2964.396 2964.552 2964.708 2964.864 2965.020 2965.176 2965.332 2965.488 2965.644 2965.800 2965.956 2966.112 2966.268 2966.424 2966.580 2966.736 2966.892 2967.048 2967.204 2967.360 2967.516 2967.672 2967.828 2967.984 2968.140 2968.296 2968.452 2968.608 2968.764 2968.920 2969.076 2969.232 2969.388 2969.544 2969.700 2969.856 2969.912 2970.068 2970.224 2970.380 2970.536 2970.692 2970.848 2971.004 2971.160 2971.316 2971.472 2971.628 2971.784 2971.940 2972.096 2972.252 2972.408 2972.564 2972.720 2972.876 2973.032 2973.188 2973.344 2973.500 2973.656 2973.812 2973.968 2974.124 2974.280 2974.436 2974.592 2974.748 2974.904 2975.060 2975.216 2975.372 2975.528 2975.684 2975.840 2975.996 2976.152 2976.308 2976.464 2976.620 2976.776 2976.932 2977.088 2977.244 2977.400 2977.556 2977.712 2977.868 2978.024 2978.180 2978.336 2978.492 2978.648 2978.804 2978.960 2979.116 2979.272 2979.428 2979.584 2979.740 2979.896 2980.052 2980.208 2980.364 2980.520 2980.676 2980.832 2980.988 2981.144 2981.300 2981.456 2981.612 2981.768 2981.924 2982.080 2982.236 2982.392 2982.548 2982.704 2982.860 2983.016 2983.172 2983.328 2983.484 2983.640 2983.796 2983.952 2984.108 2984.264 2984.420 2984.576 2984.732 2984.888 2985.044 2985.200 2985.356 2985.512 2985.668 2985.824 2985.980 2986.136 2986.292 2986.448 2986.604 2986.760 2986.916 2987.072 2987.228 2987.384 2987.540 2987.696 2987.852 2988.008 2988.164 2988.320 2988.476 2988.632 2988.788 2988.944 2990.000 2990.156 2990.312 2990.468 2990.624 2990.780 2990.936 2991.092 2991.248 2991.404 2991.560 2991.716 2991.872 2992.028 2992.184 2992.340 2992.496 2992.652 2992.808 2992.964 2993.120 2993.276 2993.432 2993.588 2993.744 2993.900 2994.056 2994.212 2994.368 2994.524 2994.680 2994.836 2994.992 2995.148 2995.304 2995.460 2995.616 2995.772 2995.928 2996.084 2996.240 2996.396 2996.552 2996.708 2996.864 2997.020 2997.176 2997.332 2997.488 2997.644 2997.800 2997.956 2998.112 2998.268 2998.424 2998.580 2998.736 2998.892 2999.048 2999.204 2999.360 2999.516 2999.672 2999.828 2999.984 3000.140 3000.296 3000.452 3000.608 3000.764 3000.920 3001.076 3001.232 3001.388 3001.544 3001.700 3001.856 3002.012 3002.168 3002.324 3002.480 3002.636 3002.792 3002.948 3003.104 3003.260 3003.416 3003.572 3003.728 3003.884 3004.040 3004.196 3004.352 3004.508 3004.664 3004.820 3004.976 3005.132 3005.288 3005.444 3005.600 3005.756 3005.912 3006.068 3006.224 3006.380 3006.536 3006.692 3006.848 3007.004 3007.160 3007.316 3007.472 3007.628 3007.784 3007.940 3008.096 3008.252 3008.408 3008.564 3008.720 3008.876 3009.032 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3026.504 3026.660 3026.816 3026.972 3027.128 3027.284 3027.440 3027.596 3027.752 3027.908 3028.064 3028.220 3028.376 3028.532 3028.688 3028.844 3029.000 3029.156 3029.312 3029.468 3029.624 3029.780 3029.936 3030.092 3030.248 3030.404 3030.560 3030.716 3030.872 3031.028 3031.184 3031.340 3031.496 3031.652 3031.808 3031.964 3032.120 3032.276 3032.432 3032.588 3032.744 3032.900 3033.056 3033.212 3033.368 3033.524 3033.680 3033.836 3033.992 3034.148 3034.304 3034.460 3034.616 3034.772 3034.928 3035.084 3035.240 3035.396 3035.552 3035.708 3035.864 3036.020 3036.176 3036.332 3036.488 3036.644 3036.800 3036.956 3037.112 3037.268 3037.424 3037.580 3037.736 3037.892 3038.048 3038.204 3038.360 3038.516 3038.672 3038.828 3038.984 3039.140 3039.296 3039.452 3039.608 3039.764 3039.920 3040.076 3040.232 3040.388 3040.544 3040.700 3040.856 3041.012 3041.168 3041.324 3041.480 3041.636 3041.792 3041.948 3042.104 3042.260 3042.416 3042.572 3042.728 3042.884 3043.040 3043.196 3043.352 3043.508 3043.664 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3112.884 3113.040 3113.196 3113.352 3113.508 3113.664 3113.820 3113.976 3114.132 3114.288 3114.444 3114.600 3114.756 3114.912 3115.068 3115.224 3115.380 3115.536 3115.692 3115.848 3116.004 3116.160 3116.316 3116.472 3116.628 3116.784 3116.940 3117.096 3117.252 3117.408 3117.564 3117.720 3117.876 3118.032 3118.188 3118.344 3118.500 3118.656 3118.812 3118.968 3119.124 3119.280 3119.436 3119.592 3119.748 3119.904 3120.060 3120.216 3120.372 3120.528 3120.684 3120.840 3120.996 3121.152 3121.308 3121.464 3121.620 3121.776 3121.932 3122.088 3122.244 3122.400 3122.556 3122.712 3122.868 3123.024 3123.180 3123.336 3123.492 3123.648 3123.804 3123.960 3124.116 3124.272 3124.428 3124.584 3124.740 3124.896 3125.052 3125.208 3125.364 3125.520 3125.676 3125.832 3125.988 3126.144 3126.300 3126.456 3126.612 3126.768 3126.924 3127.080 3127.236 3127.392 3127.548 3127.704 3127.860 3128.016 3128.172 3128.328 3128.484 3128.640 3128.796 3128.952 3129.108 3129.264 3129.420 3129.576 3129.732 3129.888 3129.944 3130.100 3130.256 3130.412 3130.568 3130.724 3130.880 3131.036 3131.192 3131.348 3131.504 3131.660 3131.816 3131.972 3132.128 3132.284 3132.440 3132.596 3132.752 3132.908 3133.064 3133.220 3133.376 3133.532 3133.688 3133.844 3134.000 3134.156 3134.312 3134.468 3134.624 3134.780 3134.936 3135.092 3135.248 3135.404 3135.560 3135.716 3135.872 3136.028 3136.184 3136.340 3136.496 3136.652 3136.808 3136.964 3137.120 3137.276 3137.432 3137.588 3137.744 3137.900 3138.056 3138.212 3138.368 3138.524 3138.680 3138.836 3138.992 3139.148 3139.304 3139.460 3139.616 3139.772 3139.928 3140.084 3140.240 3140.396 3140.552 3140.708 3140.864 3141.020 3141.176 3141.332 3141.488 3141.644 3141.800 3141.956 3142.112 3142.268 3142.424 3142.580 3142.736 3142.892 3143.048 3143.204 3143.360 3143.516 3143.672 3143.828 3143.984 3144.140 3144.296 3144.452 3144.608 3144.764 3144.920 3145.076 3145.232 3145.388 3145.544 3145.700 3145.856 3146.012 3146.168 3146.324 3146.480 3146.636 3146.792 3146.948 3147.104 3147.260 3147.416 3147.572 3147.728 3147.884 3148.040 3148.196 3148.352 3148.508 3148.664 3148.820 3148.976 3149.132 3149.288 3149.444 3149.600 3149.756 3149.912 3150.068 3150.224 3150.380 3150.536 3150.692 3150.848 3151.004 3151.160 3151.316 3151.472 3151.628 3151.784 3151.940 3152.096 3152.252 3152.408 3152.564 3152.720 3152.876 3153.032 3153.188 3153.344 3153.500 3153.656 3153.812 3153.968 3154.124 3154.280 3154.436 3154.592 3154.748 3154.904 3155.060 3155.216 3155.372 3155.528 3155.684 3155.840 3155.996 3156.152 3156.308 3156.464 3156.620 3156.776 3156.932 3157.088 3157.244 3157.400 3157.556 3157.712 3157.868 3158.024 3158.180 3158.336 3158.492 3158.648 3158.804 3158.960 3159.116 3159.272 3159.428 3159.584 3159.740 3159.896 3159.952 3160.108 3

← HELIPAD

MENLA →



REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. (Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh)

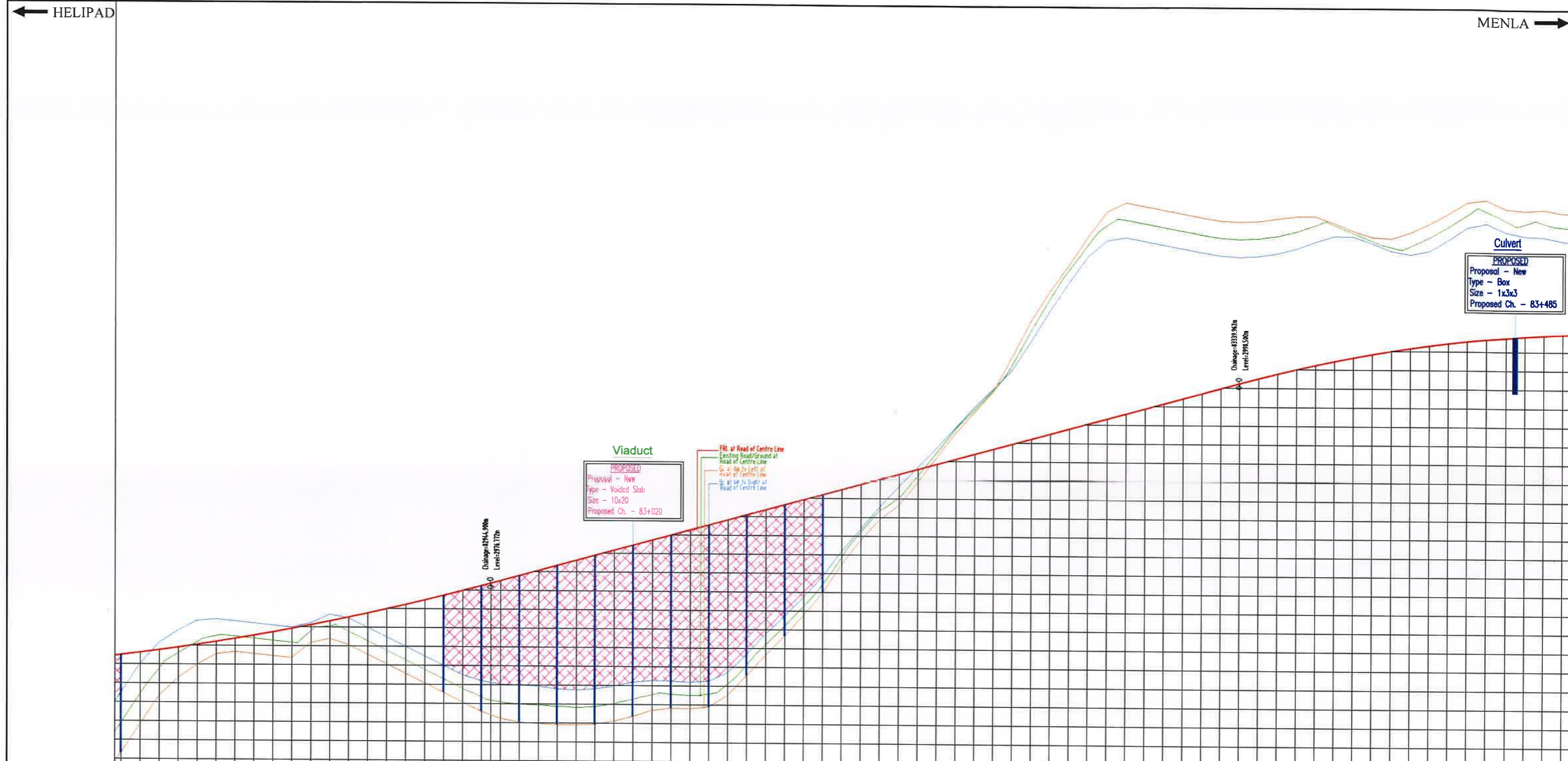
Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakol-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Arilar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020	Revision : RO
DESIGNED BY Vijay Gupta	DRAWN BY Naresh
CHECKED BY Vijay Gupta	APPROVED BY Sanjay Shukla

PACKAGE-3B
HELIPAD TO MENLA
PLAN & PROFILE
(PLAN - Km 82+750 To Km 84+250)

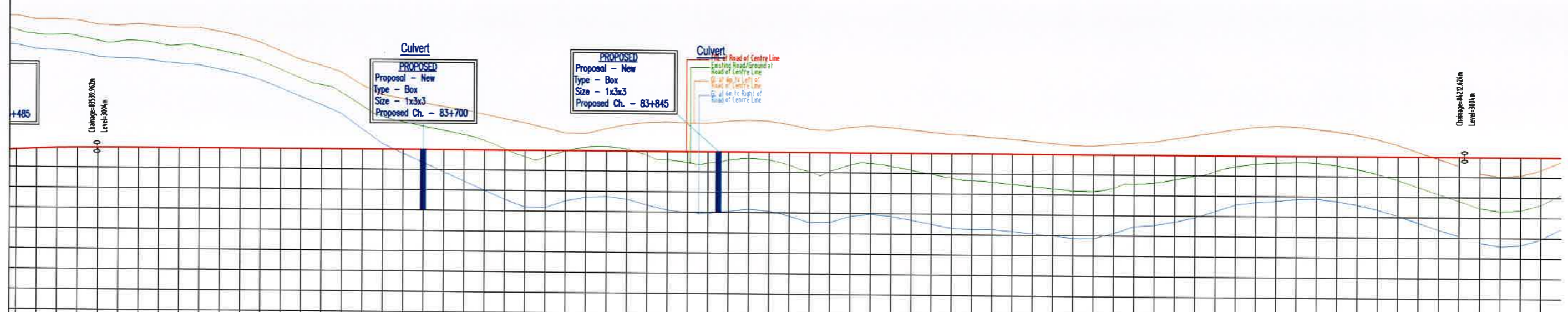
Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/02

DATE: 17/10/2020 - 11:56am
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Datum:	
FRL at Road of Centre Line	2968.000 2968.738 2969.777 2970.542 2971.027 2971.442 2971.774 2972.021 2972.184 2972.256 2972.245 2972.159 2971.996 2971.751 2971.426 2970.941 2969.308 2967.422 2965.200 2962.655 2959.702 2956.352 2952.542 2948.200 2943.352 2938.000 2932.152 2925.800 2918.952 2911.600 2903.752 2995.400 2986.552 2977.200 2967.352 2956.900 2945.852 2934.100 2921.652 2909.400 2896.452 2882.800 2868.452 2853.200 2837.052 2819.900 2801.752 2782.600 2762.452 2741.200 2718.852 2695.200 2670.052 2643.400 2615.252 2585.600 2553.452 2518.800 2482.152 2443.500 2401.852 2357.200 2310.552 2261.900 2211.252 2157.600 2101.952 2043.300 1981.652 1917.000 1850.352 1781.700 1708.052 1628.400 1542.752 1451.100 1348.452 1234.800 1111.152 977.500 822.852 647.200 451.552 234.900 0.252
GL at 6m to Left of Road of Centre Line	2968.812 2969.550 2970.288 2970.926 2971.464 2971.902 2972.240 2972.478 2972.616 2972.654 2972.592 2972.430 2972.168 2971.806 2971.344 2970.782 2970.120 2969.258 2968.096 2966.534 2964.572 2962.110 2959.248 2955.986 2952.324 2948.162 2943.400 2938.038 2932.076 2925.514 2918.352 2910.490 2901.828 2892.266 2881.704 2870.142 2857.580 2843.018 2827.456 2810.894 2792.332 2771.770 2748.208 2722.646 2696.084 2667.522 2636.960 2604.398 2569.836 2534.274 2487.712 2429.150 2358.588 2276.026 2181.464 2074.902 1957.340 1829.778 1692.216 1544.654 1387.092 1219.530 1041.968 854.406 656.844 449.282 231.720 14.158
GL at 6m to Right of Road of Centre Line	2968.192 2968.930 2969.668 2970.306 2970.844 2971.282 2971.620 2971.858 2972.096 2972.234 2972.272 2972.210 2972.048 2971.786 2971.424 2970.962 2970.400 2969.738 2968.876 2967.714 2966.252 2964.490 2962.328 2959.866 2956.204 2952.142 2947.680 2942.818 2937.456 2931.494 2924.932 2917.770 2909.908 2891.346 2871.784 2851.222 2829.660 2807.098 2783.536 2758.974 2733.412 2706.850 2679.288 2650.726 2621.164 2590.602 2559.040 2526.478 2492.916 2458.354 2422.792 2386.230 2348.668 2310.106 2270.544 2230.982 2191.420 2151.858 2112.296 2072.734 2033.172 1993.610 1954.048 1914.486 1874.924 1835.362 1795.800 1756.238 1716.676 1677.114 1637.552 1597.990 1558.428 1518.866 1479.304 1439.742 1399.180 1359.618 1319.056 1279.494 1239.932 1199.370 1159.808 1119.246 1079.684 1039.122 998.560 957.998 917.436 876.874 836.312 795.750 755.188 714.626 674.064 633.502 592.940 552.378 511.816 471.254 430.692 390.130 349.568 308.006 267.444 226.882 186.320 145.758 105.196 64.634 24.072 13.510 0.948 0.386 0.824 0.262 0.700 0.138 0.576 0.014
Horizontal	L=231.443m
Vertical	L=252.176m
Superelevation	e=4.740
Chainage	8250 8260 8270 8280 8290 8300 8310 8320 8330 8340 8350 8360 8370 8380 8390 8400 8410 8420 8430 8440 8450 8460 8470 8480 8490 8500 8510 8520 8530 8540 8550 8560

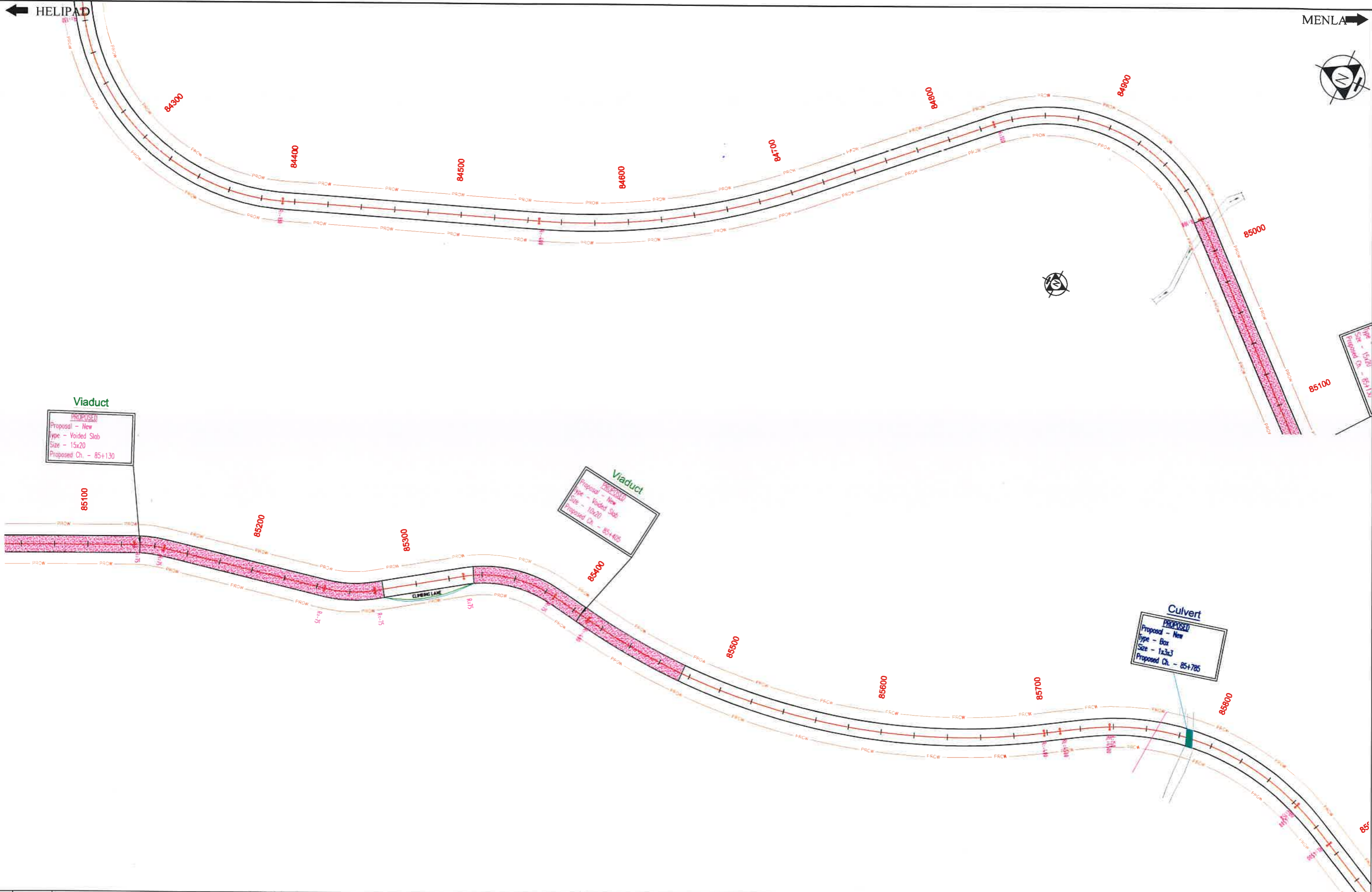
Client :	NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project :	Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menta in the State of Sikkim.	DATE :	OCT-2020	Revision :	RO
Consultant :	SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.	DESIGNED BY :	Vijay Gupta	DRAWN BY :	Noresh	CHECKED BY :	Vijay Gupta
RO	APRIL 2019	FINAL FEASIBILITY REPORT		APPROVED BY :	Sanjay Shukla	PACKAGE-B HELIPAD TO MENLA PLAN & PROFILE (PROFILE - Km 82+750 To Km 83+500)	
REV	DATE	DESCRIPTION OF REVISIONS	INITIALS	SCALE:	H-1:2000, V-1:100, For A3 Paper Size	Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/02.0	



Station	FRL at Road of Centre Line	GL at 6m to Left of Road of Centre Line	GL at 6m to Right of Road of Centre Line
83500	3003.780	3004.935	3004.037
83510	3003.877	3005.560	3004.608
83520	3003.945	3006.570	3005.448
83530	3003.986	3007.444	3006.101
83540	3004.000	3008.171	3006.600
83550	3004.000	3008.757	3007.000
83560	3004.000	3009.199	3007.300
83570	3004.000	3009.506	3007.500
83580	3004.000	3009.684	3007.600
83590	3004.000	3009.728	3007.600
83600	3004.000	3009.741	3007.600
83610	3004.000	3009.728	3007.600
83620	3004.000	3009.684	3007.500
83630	3004.000	3009.506	3007.300
83640	3004.000	3009.199	3006.900
83650	3004.000	3008.757	3006.400
83660	3004.000	3008.171	3005.800
83670	3004.000	3007.444	3005.000
83680	3004.000	3006.570	3004.000
83690	3004.000	3005.560	3002.900
83700	3004.000	3004.444	3001.600
83710	3004.000	3003.228	3000.100
83720	3004.000	3001.944	3000.000
83730	3004.000	3000.600	3000.000
83740	3004.000	2999.200	3000.000
83750	3004.000	2997.750	3000.000
83760	3004.000	2996.250	3000.000
83770	3004.000	2994.700	3000.000
83780	3004.000	2993.100	3000.000
83790	3004.000	2991.450	3000.000
83800	3004.000	2989.750	3000.000
83810	3004.000	2988.000	3000.000
83820	3004.000	2986.200	3000.000
83830	3004.000	2984.350	3000.000
83840	3004.000	2982.450	3000.000
83850	3004.000	2980.500	3000.000
83860	3004.000	2978.500	3000.000
83870	3004.000	2976.450	3000.000
83880	3004.000	2974.350	3000.000
83890	3004.000	2972.200	3000.000
83900	3004.000	2970.000	3000.000
83910	3004.000	2967.750	3000.000
83920	3004.000	2965.450	3000.000
83930	3004.000	2963.100	3000.000
83940	3004.000	2960.700	3000.000
83950	3004.000	2958.250	3000.000
83960	3004.000	2955.750	3000.000
83970	3004.000	2953.200	3000.000
83980	3004.000	2950.600	3000.000
83990	3004.000	2947.950	3000.000
84000	3004.000	2945.250	3000.000
84010	3004.000	2942.500	3000.000
84020	3004.000	2939.700	3000.000
84030	3004.000	2936.850	3000.000
84040	3004.000	2933.950	3000.000
84050	3004.000	2931.000	3000.000
84060	3004.000	2928.000	3000.000
84070	3004.000	2925.000	3000.000
84080	3004.000	2922.000	3000.000
84090	3004.000	2919.000	3000.000
84100	3004.000	2916.000	3000.000
84110	3004.000	2913.000	3000.000
84120	3004.000	2910.000	3000.000
84130	3004.000	2907.000	3000.000
84140	3004.000	2904.000	3000.000
84150	3004.000	2901.000	3000.000
84160	3004.000	2898.000	3000.000
84170	3004.000	2895.000	3000.000
84180	3004.000	2892.000	3000.000
84190	3004.000	2889.000	3000.000
84200	3004.000	2886.000	3000.000
84210	3004.000	2883.000	3000.000
84220	3004.000	2880.000	3000.000
84230	3004.000	2877.000	3000.000
84240	3004.000	2874.000	3000.000
84250	3004.000	2871.000	3000.000

<p>Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)</p> <p>Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. (Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.)</p>	<p>Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakol-Chukhim-Nimbong-Kafer-Bakhm-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Artar-Rolep-Menla in the State of Sikkim.</p>	<p>DATE : OCT-2020</p> <p>DESIGNED BY : Vijay Gupta</p> <p>DRAWN BY : Naresh</p> <p>CHECKED BY : Vijay Gupta</p> <p>APPROVED BY : Sanjay Shukla</p> <p>SCALE: H-1:2000, V-1:100, For A3 Paper Size</p>	<p>Revision : RO</p> <p>PACKAGE-B HELIPAD TO MENLA PLAN & PROFILE (PROFILE - Km 83+500 To Km 84+250)</p> <p>Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/02 b</p>
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DATE: 17/10/2020 - 11:46am
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Viaduct
 PROPOSED
 Proposal - New
 Type - Voided Slab
 Size - 15x20
 Proposed Ch. - 85+130

Viaduct
 PROPOSED
 Proposal - New
 Type - Voided Slab
 Size - 10x20
 Proposed Ch. - 85+405

Culvert
 PROPOSED
 Proposal - New
 Type - Box
 Size - 1x3x3
 Proposed Ch. - 85+785

DATE: 17/10/2020 - 11:43am
 PATH: D:\G. arora\Sep. 20\Sikkim-3b\A.Plan_Layout-1.dwg

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
 (Ministry of Road Transport & Highways)

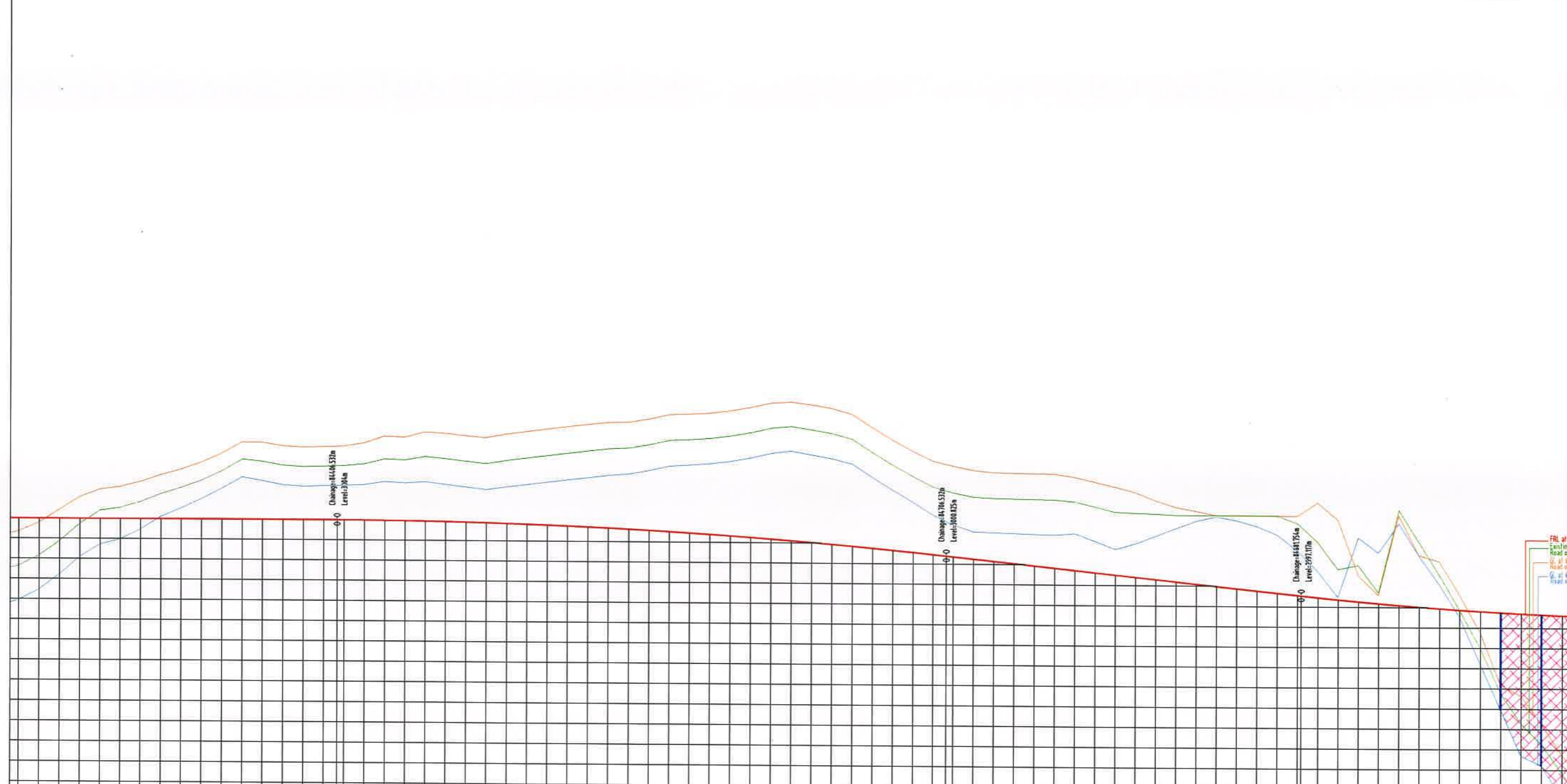
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
 Specialized Engineering Service Pvt. Ltd.
 1101A, 11th Floor, Tower A-II, Corporate Park,
 Plot No. 7A/1, Sector-142,
 Road 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjoy Shukla
SCALE: H-1:2000, V-1:100,		For A3 Paper Size	
		HOR 10 0 10 20	VER 2 0 2 5

PACKAGE-3B
 HELIPAD TO MENLA
 PLAN & PROFILE
 (PLAN - Km 84+250 To Km 85+750)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/03



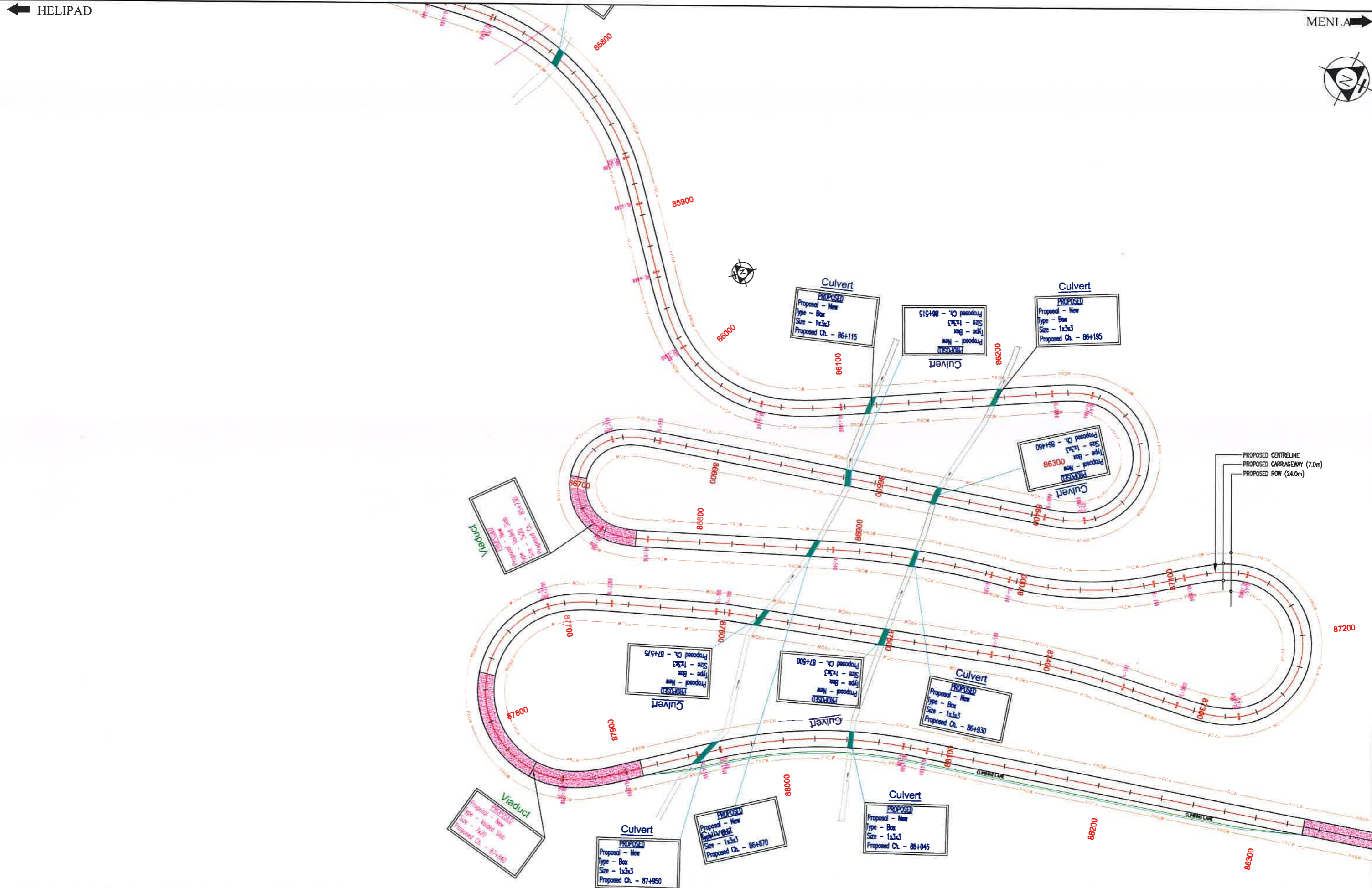
Chainage	FRL at Road of Centre Line	GL at 6m to Left of Road of Centre Line	GL at 6m to Right of Road of Centre Line
84250	3004.000	2995.845	3002.773
84260	3004.000	2996.640	3003.570
84270	3004.000	2998.436	3004.363
84280	3004.000	3000.207	3005.151
84290	3004.000	3001.943	3005.931
84300	3004.000	3003.639	3006.704
84310	3004.000	3005.290	3007.471
84320	3004.000	3006.904	3008.223
84330	3004.000	3008.480	3008.970
84340	3004.000	3010.027	3009.712
84350	3004.000	3011.536	3010.449
84360	3003.994	3013.007	3011.181
84370	3003.987	3014.439	3011.900
84380	3003.979	3015.832	3012.615
84390	3003.970	3017.187	3013.316
84400	3003.960	3018.504	3014.013
84410	3003.949	3019.782	3014.706
84420	3003.937	3021.021	3015.395
84430	3003.924	3022.221	3016.080
84440	3003.910	3023.382	3016.761
84450	3003.895	3024.504	3017.438
84460	3003.879	3025.587	3018.112
84470	3003.862	3026.632	3018.783
84480	3003.844	3027.639	3019.451
84490	3003.825	3028.608	3020.116
84500	3003.805	3029.549	3020.778
84510	3003.784	3030.462	3021.437
84520	3003.762	3031.337	3022.093
84530	3003.739	3032.174	3022.746
84540	3003.715	3032.973	3023.396
84550	3003.690	3033.734	3024.042
84560	3003.664	3034.457	3024.685
84570	3003.637	3035.142	3025.325
84580	3003.609	3035.789	3025.962
84590	3003.580	3036.398	3026.596
84600	3003.550	3036.969	3027.227
84610	3003.519	3037.502	3027.855
84620	3003.487	3038.007	3028.480
84630	3003.454	3038.484	3029.102
84640	3003.420	3038.933	3029.721
84650	3003.385	3039.354	3030.338
84660	3003.349	3039.747	3030.952
84670	3003.312	3040.112	3031.563
84680	3003.274	3040.449	3032.171
84690	3003.235	3040.758	3032.776
84700	3003.195	3041.039	3033.378
84710	3003.154	3041.292	3033.977
84720	3003.112	3041.517	3034.573
84730	3003.069	3041.714	3035.166
84740	3003.025	3041.883	3035.756
84750	3002.980	3042.024	3036.343
84760	3002.934	3042.137	3036.927
84770	3002.887	3042.222	3037.508
84780	3002.839	3042.279	3038.085
84790	3002.790	3042.308	3038.659
84800	3002.740	3042.309	3039.230
84810	3002.689	3042.282	3039.797
84820	3002.637	3042.227	3040.360
84830	3002.584	3042.144	3040.919
84840	3002.530	3042.033	3041.474
84850	3002.475	3041.895	3042.025
84860	3002.419	3041.730	3042.572
84870	3002.362	3041.539	3043.115
84880	3002.304	3041.322	3043.655
84890	3002.245	3041.080	3044.192
84900	3002.185	3040.813	3044.726
84910	3002.124	3040.521	3045.257
84920	3002.062	3040.204	3045.784
84930	3001.999	3039.862	3046.308
84940	3001.935	3039.495	3046.828
84950	3001.870	3039.103	3047.344
84960	3001.804	3038.686	3047.856
84970	3001.737	3038.244	3048.364
84980	3001.669	3037.777	3048.868
84990	3001.600	3037.285	3049.368
85000	3001.530	3036.768	3049.864

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)		Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.		DATE : OCT-2020 Revision : R0	
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Mohle 201321, Uttar Pradesh.		DESIGNED BY : Vijay Gupta DRAWN BY : Naresh CHECKED BY : Vijay Gupta APPROVED BY : Sanjay Shukla		PACKAGE-B HELIPAD TO MENLA PLAN & PROFILE (PROFILE - Km 84+250 To Km 85+000)	
RO APRIL 2019 FINAL FEASIBILITY REPORT REV DATE DESCRIPTION OF REVISIONS INITIALS	SCALE: H-1:2000, V-1:100, For A3 Paper Size		HOR 10 0 10 20 VER 2 0 2 5		Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/030

DATE: 17/10/2020 - 11:48am
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← HELIPAD

MENLA →



DATE: 17/10/2020 - 12:00pm
PATH: D:\G... \S... \3A\Plan Layout - L.dwg

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(Ministry of Road Transport & Highways)

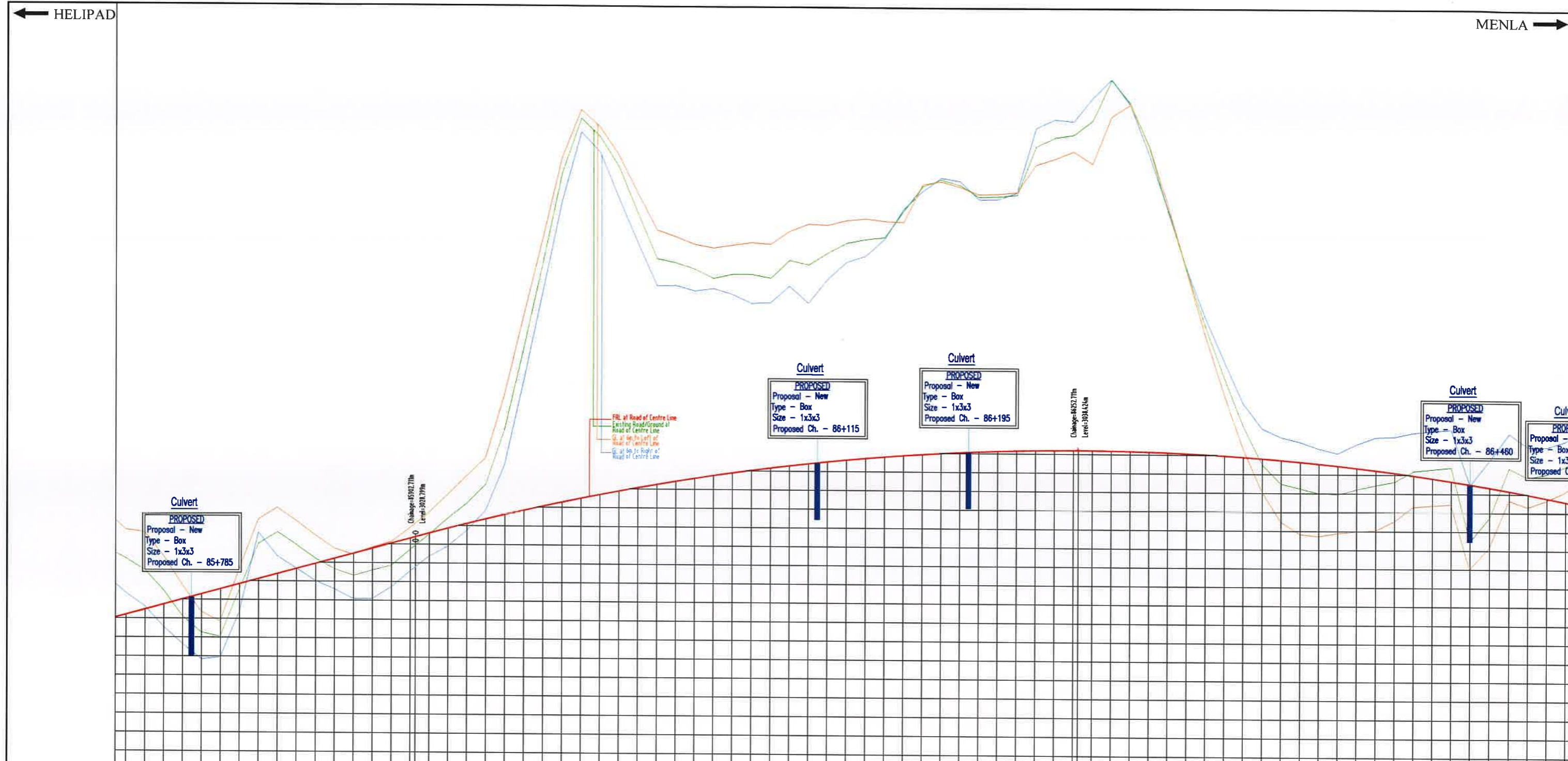
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05 12 2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kaler-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020		Revision : RO	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla
SCALE: H-1:2000, V-1:100.		For A3 Paper Size	

PACKAGE-3B
HELIPAD TO MENLA
PLAN & PROFILE
(PLAN - Km 85+750 To Km 88+000)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/04



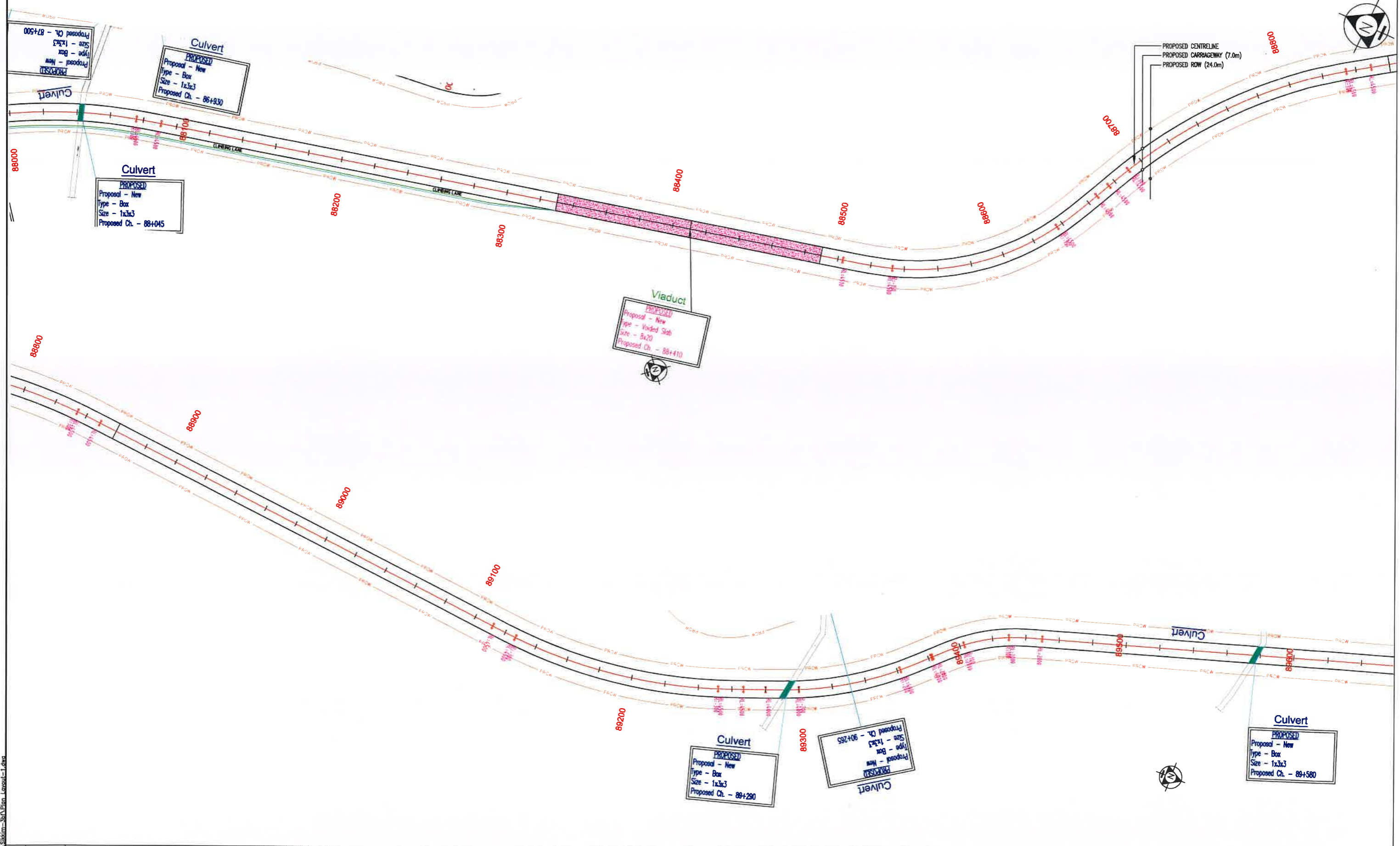
Chainage	FRL at Road of Centre Line	Existing Road/Ground at Road of Centre Line	Proposed Road Level at Road of Centre Line	CL at 6m to Left of Road of Centre Line	CL at 6m to Right of Road of Centre Line
85750	3028.00	3028.00	3028.00	3027.05	3028.95
85760	3028.00	3028.00	3028.00	3027.05	3028.95
85770	3028.00	3028.00	3028.00	3027.05	3028.95
85780	3028.00	3028.00	3028.00	3027.05	3028.95
85790	3028.00	3028.00	3028.00	3027.05	3028.95
85800	3028.00	3028.00	3028.00	3027.05	3028.95
85810	3028.00	3028.00	3028.00	3027.05	3028.95
85820	3028.00	3028.00	3028.00	3027.05	3028.95
85830	3028.00	3028.00	3028.00	3027.05	3028.95
85840	3028.00	3028.00	3028.00	3027.05	3028.95
85850	3028.00	3028.00	3028.00	3027.05	3028.95
85860	3028.00	3028.00	3028.00	3027.05	3028.95
85870	3028.00	3028.00	3028.00	3027.05	3028.95
85880	3028.00	3028.00	3028.00	3027.05	3028.95
85890	3028.00	3028.00	3028.00	3027.05	3028.95
85900	3028.00	3028.00	3028.00	3027.05	3028.95
85910	3028.00	3028.00	3028.00	3027.05	3028.95
85920	3028.00	3028.00	3028.00	3027.05	3028.95
85930	3028.00	3028.00	3028.00	3027.05	3028.95
85940	3028.00	3028.00	3028.00	3027.05	3028.95
85950	3028.00	3028.00	3028.00	3027.05	3028.95
85960	3028.00	3028.00	3028.00	3027.05	3028.95
85970	3028.00	3028.00	3028.00	3027.05	3028.95
85980	3028.00	3028.00	3028.00	3027.05	3028.95
85990	3028.00	3028.00	3028.00	3027.05	3028.95
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86010	3028.00	3028.00	3028.00	3027.05	3028.95
86020	3028.00	3028.00	3028.00	3027.05	3028.95
86030	3028.00	3028.00	3028.00	3027.05	3028.95
86040	3028.00	3028.00	3028.00	3027.05	3028.95
86050	3028.00	3028.00	3028.00	3027.05	3028.95
86060	3028.00	3028.00	3028.00	3027.05	3028.95
86070	3028.00	3028.00	3028.00	3027.05	3028.95
86080	3028.00	3028.00	3028.00	3027.05	3028.95
86090	3028.00	3028.00	3028.00	3027.05	3028.95
86100	3028.00	3028.00	3028.00	3027.05	3028.95
86110	3028.00	3028.00	3028.00	3027.05	3028.95
86120	3028.00	3028.00	3028.00	3027.05	3028.95
86130	3028.00	3028.00	3028.00	3027.05	3028.95
86140	3028.00	3028.00	3028.00	3027.05	3028.95
86150	3028.00	3028.00	3028.00	3027.05	3028.95
86160	3028.00	3028.00	3028.00	3027.05	3028.95
86170	3028.00	3028.00	3028.00	3027.05	3028.95
86180	3028.00	3028.00	3028.00	3027.05	3028.95
86190	3028.00	3028.00	3028.00	3027.05	3028.95
86200	3028.00	3028.00	3028.00	3027.05	3028.95
86210	3028.00	3028.00	3028.00	3027.05	3028.95
86220	3028.00	3028.00	3028.00	3027.05	3028.95
86230	3028.00	3028.00	3028.00	3027.05	3028.95
86240	3028.00	3028.00	3028.00	3027.05	3028.95
86250	3028.00	3028.00	3028.00	3027.05	3028.95
86260	3028.00	3028.00	3028.00	3027.05	3028.95
86270	3028.00	3028.00	3028.00	3027.05	3028.95
86280	3028.00	3028.00	3028.00	3027.05	3028.95
86290	3028.00	3028.00	3028.00	3027.05	3028.95
86300	3028.00	3028.00	3028.00	3027.05	3028.95
86310	3028.00	3028.00	3028.00	3027.05	3028.95
86320	3028.00	3028.00	3028.00	3027.05	3028.95
86330	3028.00	3028.00	3028.00	3027.05	3028.95
86340	3028.00	3028.00	3028.00	3027.05	3028.95
86350	3028.00	3028.00	3028.00	3027.05	3028.95
86360	3028.00	3028.00	3028.00	3027.05	3028.95
86370	3028.00	3028.00	3028.00	3027.05	3028.95
86380	3028.00	3028.00	3028.00	3027.05	3028.95
86390	3028.00	3028.00	3028.00	3027.05	3028.95
86400	3028.00	3028.00	3028.00	3027.05	3028.95
86410	3028.00	3028.00	3028.00	3027.05	3028.95
86420	3028.00	3028.00	3028.00	3027.05	3028.95
86430	3028.00	3028.00	3028.00	3027.05	3028.95
86440	3028.00	3028.00	3028.00	3027.05	3028.95
86450	3028.00	3028.00	3028.00	3027.05	3028.95
86460	3028.00	3028.00	3028.00	3027.05	3028.95
86470	3028.00	3028.00	3028.00	3027.05	3028.95
86480	3028.00	3028.00	3028.00	3027.05	3028.95
86490	3028.00	3028.00	3028.00	3027.05	3028.95
86500	3028.00	3028.00	3028.00	3027.05	3028.95

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kaler-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aitar-Rolep-Menla in the State of Sikkim.	DATE : OCT-2020	Revision : RO	PACKAGE-B HELIPAD TO MENLA PLAN & PROFILE (PROFILE - Km 85+750 To Km 86+500)
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Services Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Inside 201301, Uttar Pradesh.	DESIGNED BY : Vijay Gupta	DRAWN BY : Naresh	CHECKED BY : Vijay Gupta	
RD APRIL 2019 FINAL FEASIBILITY REPORT REV DATE DESCRIPTION OF REVISIONS INITIALS	SCALE: H-1:2000, V-1:100, For A3 Paper Size	HOR 10 0 10 20 VER 2 0 2 5		Dwg. No. : SAICPL-SESPL/NHIDCL/WB-SKM/P&P/040

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MENLA →



DATE: 17/10/2020 - 15:04:44
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REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(Ministry of Road Transport & Highways)

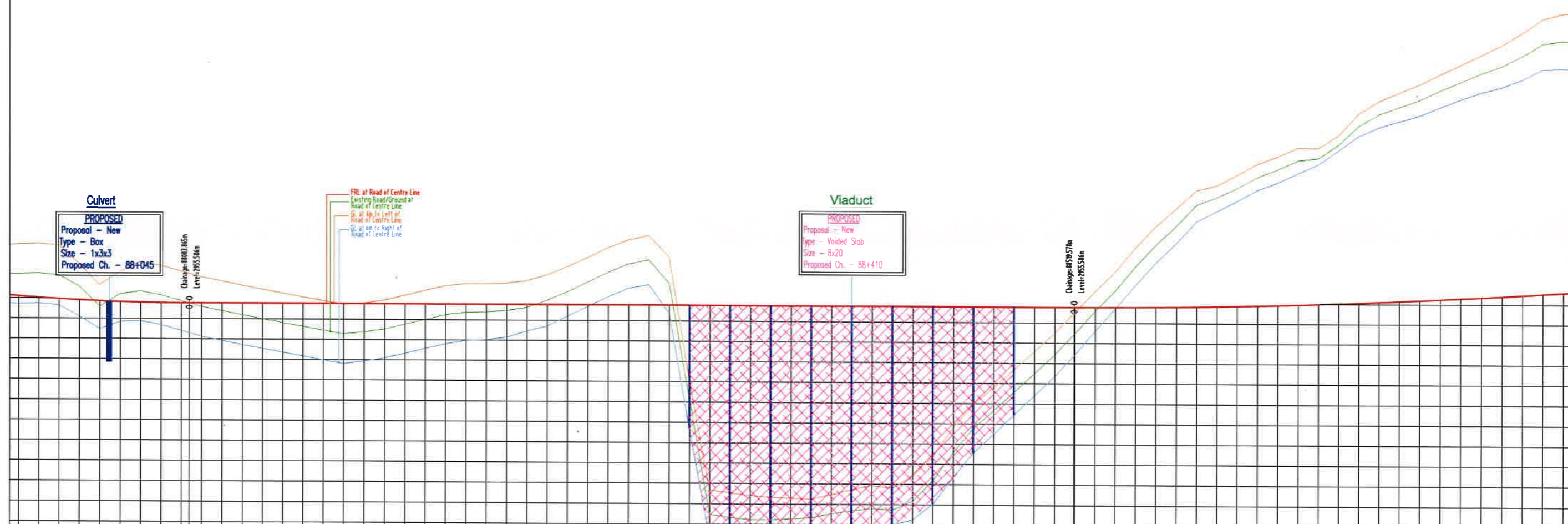
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Artar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla
SCALE:- H-1:2000, V-1:100,		For A3 Paper Size	

PACKAGE-3B
HELIPAD TO MENLA
PLAN & PROFILE
(PLAN - Km 88+000 To Km 89+500)

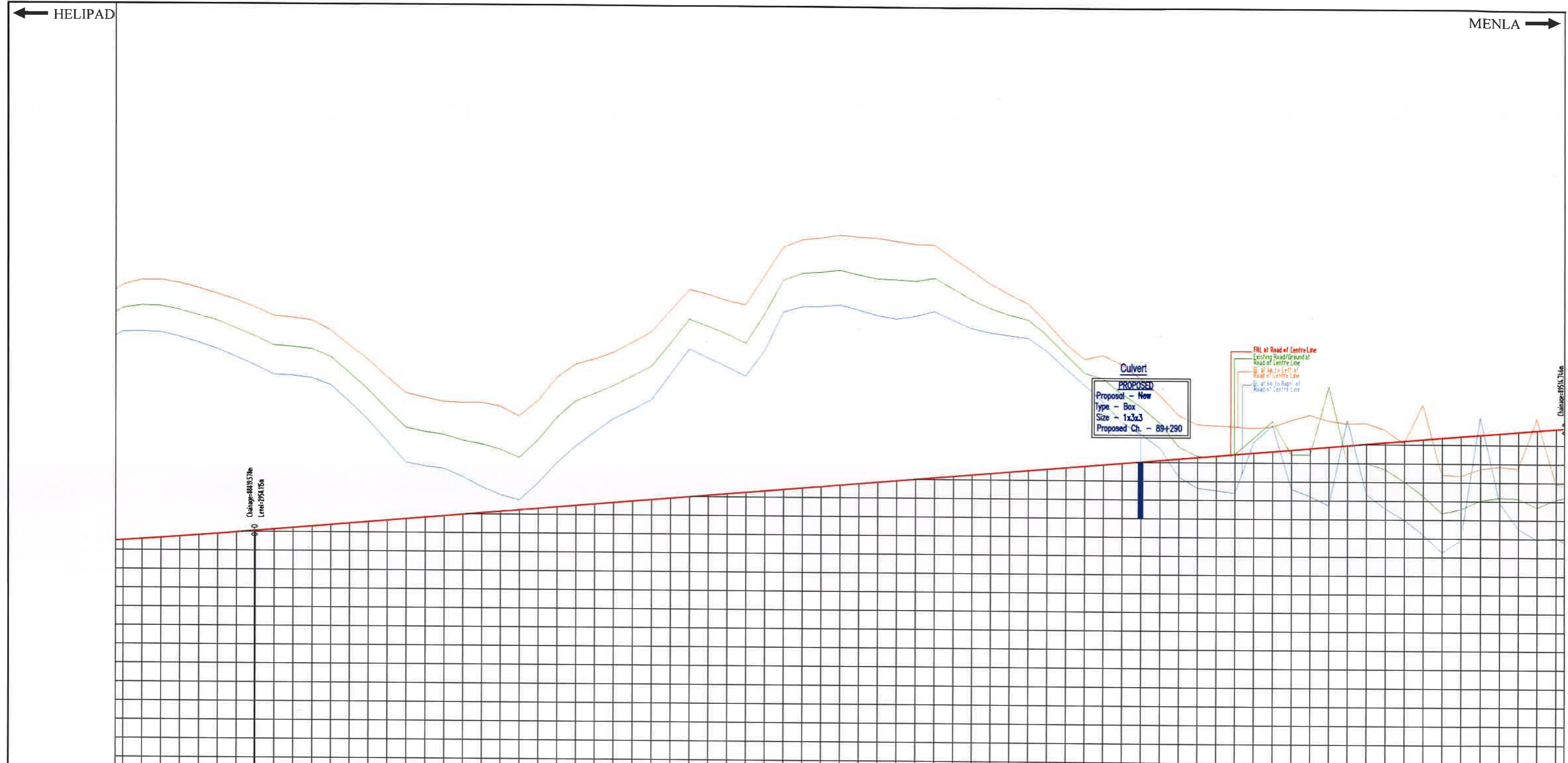
Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/05



Chainage	FRL at Road of Centre Line	GL at 6m to Left of Road of Centre Line	GL at 6m to Right of Road of Centre Line
88000	2956.231	2961.543	2955.659
88010	2956.006	2961.426	2955.570
88020	2955.940	2961.351	2955.511
88030	2955.852	2961.317	2955.476
88040	2955.762	2961.243	2955.395
88050	2955.691	2961.185	2955.324
88060	2955.638	2961.143	2955.263
88070	2955.603	2961.101	2955.211
88080	2955.547	2961.059	2955.159
88090	2955.546	2961.017	2955.107
88100	2955.546	2960.975	2955.055
88110	2955.546	2960.933	2955.003
88120	2955.546	2960.891	2954.951
88130	2955.546	2960.849	2954.899
88140	2955.546	2960.807	2954.847
88150	2955.546	2960.765	2954.795
88160	2955.546	2960.723	2954.743
88170	2955.546	2960.681	2954.691
88180	2955.546	2960.639	2954.639
88190	2955.546	2960.597	2954.587
88200	2955.546	2960.555	2954.535
88210	2955.546	2960.513	2954.483
88220	2955.546	2960.471	2954.431
88230	2955.546	2960.429	2954.379
88240	2955.546	2960.387	2954.327
88250	2955.546	2960.345	2954.275
88260	2955.546	2960.303	2954.223
88270	2955.546	2960.261	2954.171
88280	2955.546	2960.219	2954.119
88290	2955.546	2960.177	2954.067
88300	2955.546	2960.135	2954.015
88310	2955.546	2960.093	2953.963
88320	2955.546	2960.051	2953.911
88330	2955.546	2960.009	2953.859
88340	2955.546	2959.967	2953.807
88350	2955.546	2959.925	2953.755
88360	2955.546	2959.883	2953.703
88370	2955.546	2959.841	2953.651
88380	2955.546	2959.799	2953.599
88390	2955.546	2959.757	2953.547
88400	2955.546	2959.715	2953.495
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88420	2955.546	2959.631	2953.391
88430	2955.546	2959.589	2953.339
88440	2955.546	2959.547	2953.287
88450	2955.546	2959.505	2953.235
88460	2955.546	2959.463	2953.183
88470	2955.546	2959.421	2953.131
88480	2955.546	2959.379	2953.079
88490	2955.546	2959.337	2953.027
88500	2955.546	2959.295	2952.975
88510	2955.546	2959.253	2952.923
88520	2955.546	2959.211	2952.871
88530	2955.546	2959.169	2952.819
88540	2955.546	2959.127	2952.767
88550	2955.546	2959.085	2952.715
88560	2955.546	2959.043	2952.663
88570	2955.546	2959.001	2952.611
88580	2955.546	2958.959	2952.559
88590	2955.546	2958.917	2952.507
88600	2955.546	2958.875	2952.455
88610	2955.546	2958.833	2952.403
88620	2955.546	2958.791	2952.351
88630	2955.546	2958.749	2952.299
88640	2955.546	2958.707	2952.247
88650	2955.546	2958.665	2952.195
88660	2955.546	2958.623	2952.143
88670	2955.546	2958.581	2952.091
88680	2955.546	2958.539	2952.039
88690	2955.546	2958.497	2951.987
88700	2955.546	2958.455	2951.935
88710	2955.546	2958.413	2951.883
88720	2955.546	2958.371	2951.831
88730	2955.546	2958.329	2951.779
88740	2955.546	2958.287	2951.727
88750	2955.546	2958.245	2951.675
88760	2955.546	2958.203	2951.623
88770	2955.546	2958.161	2951.571
88780	2955.546	2958.119	2951.519
88790	2955.546	2958.077	2951.467
88800	2955.546	2958.035	2951.415

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakol-Chukkhim-Nimbong-Kafer-Bakhim-Algaran-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.	DATE : OCT-2020	Revision : RO	PACKAGE-B HELIPAD TO MENLA PLAN & PROFILE (PROFILE - Km 88+000 To Km 88+750)	
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. (Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 72/1, Sector-142, Noida 201301, Uttar Pradesh)	DESIGNED BY : Vijay Gupta	DRAWN BY : Naresh	CHECKED BY : Vijay Gupta		APPROVED BY : Sanjay Shukla
RO APRIL 2019 FINAL FEASIBILITY REPORT REV DATE DESCRIPTION OF REVISIONS INITIALS	SCALE: H-1:2000, V-1:100, For A3 Paper Size	HOR 10 0 10 20 VER 5 0 5			Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/052

DATE: 17/10/2020, 11:45am, Path: D:\Work\2020\SAICPL-SESPL\WB-SKM\Road-Profile-1.dwg

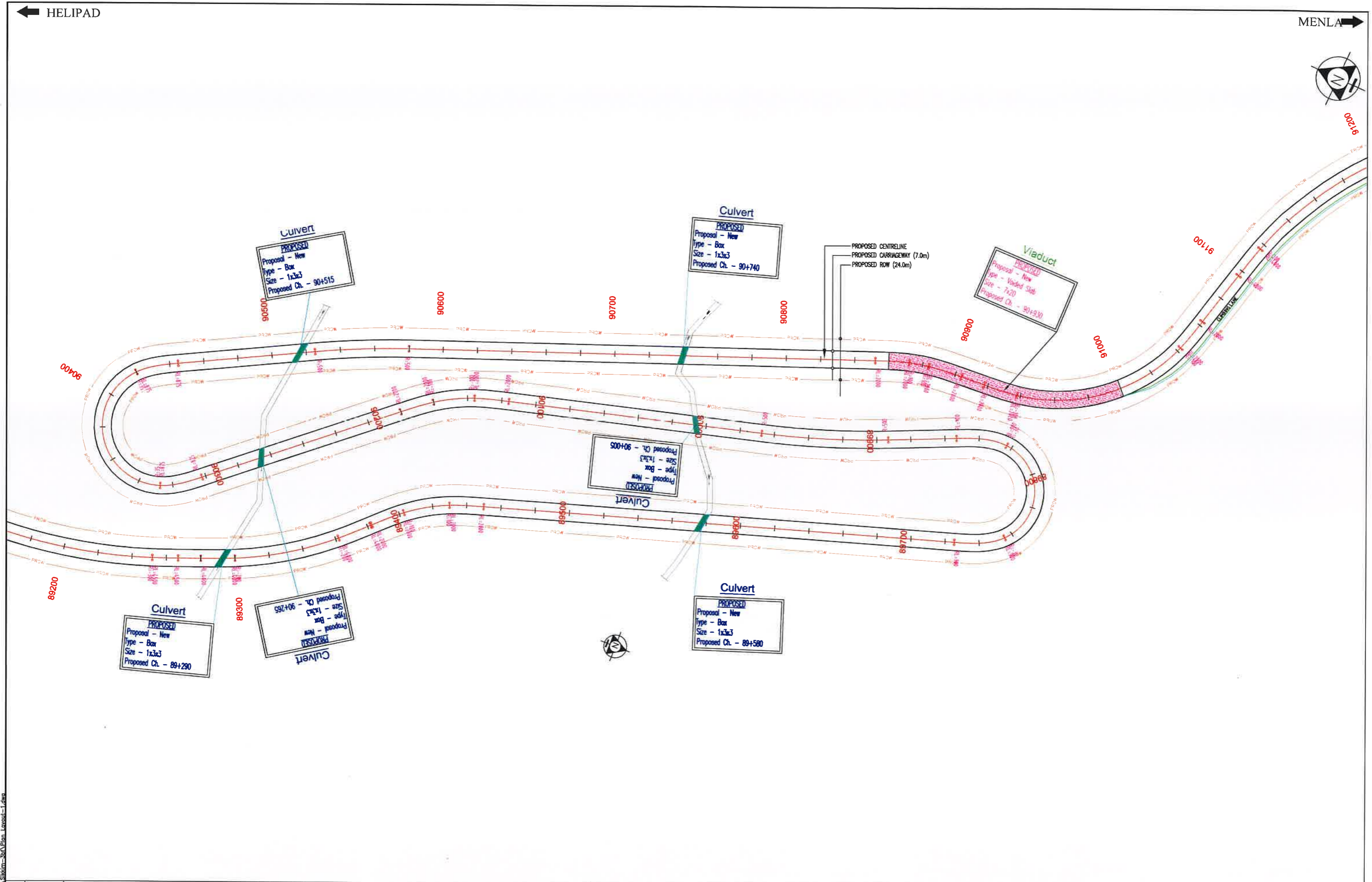


Station	FRL at Road of Centre Line	GL at 6m to Left of Road of Centre Line	GL at 6m to Right of Road of Centre Line
88+50	2951.078	2944.238	2979.271
88+60	2951.710	2944.373	2979.331
88+70	2951.344	2944.104	2979.208
88+80	2951.492	2944.437	2979.316
88+90	2951.641	2944.909	2979.817
89+00	2951.796	2945.440	2979.463
89+10	2951.956	2946.040	2979.679
89+20	2952.122	2946.824	2979.651
89+30	2952.291	2947.883	2979.824
89+40	2952.459	2949.205	2979.883
89+50	2952.640	2950.819	2979.818
89+60	2952.828	2952.729	2979.729
89+70	2953.028	2954.949	2979.628
89+80	2953.236	2957.469	2979.516
89+90	2953.455	2960.289	2979.395
90+00	2953.684	2963.409	2979.266
90+10	2953.924	2966.829	2979.130
90+20	2954.174	2970.549	2978.988
90+30	2954.434	2974.569	2978.841
90+40	2954.704	2978.889	2978.690
90+50	2954.984	2983.509	2978.536
90+60	2955.274	2988.429	2978.379
90+70	2955.574	2993.649	2978.219
90+80	2955.884	2999.169	2978.057
90+90	2956.204	3004.989	2977.893
91+00	2956.534	3011.109	2977.727
91+10	2956.874	3017.529	2977.559
91+20	2957.224	3024.249	2977.389
91+30	2957.584	3031.269	2977.217
91+40	2957.954	3038.589	2977.043
91+50	2958.334	3046.209	2976.867
91+60	2958.724	3054.129	2976.689
91+70	2959.124	3062.349	2976.509
91+80	2959.534	3070.869	2976.327
91+90	2959.954	3079.689	2976.143
92+00	2960.384	3088.809	2975.957
92+10	2960.824	3098.229	2975.769
92+20	2961.274	3107.949	2975.579
92+30	2961.734	3117.969	2975.387
92+40	2962.204	3128.289	2975.193
92+50	2962.684	3138.909	2975.000
92+60	2963.174	3149.829	2974.807
92+70	2963.674	3161.049	2974.613
92+80	2964.184	3172.569	2974.419
92+90	2964.704	3184.389	2974.227
93+00	2965.234	3196.509	2974.033
93+10	2965.774	3208.929	2973.839
93+20	2966.324	3221.649	2973.643
93+30	2966.884	3234.669	2973.447
93+40	2967.454	3247.989	2973.251
93+50	2968.034	3261.609	2973.057
93+60	2968.624	3275.529	2972.863
93+70	2969.224	3289.749	2972.669
93+80	2969.834	3304.269	2972.475
93+90	2970.454	3319.089	2972.281
94+00	2971.084	3334.209	2972.087
94+10	2971.724	3349.629	2971.893
94+20	2972.374	3365.349	2971.700
94+30	2973.034	3381.369	2971.507
94+40	2973.704	3397.689	2971.313
94+50	2974.384	3414.309	2971.119
94+60	2975.074	3431.229	2970.925
94+70	2975.774	3448.449	2970.731
94+80	2976.484	3465.969	2970.537
94+90	2977.204	3483.789	2970.343
95+00	2977.934	3501.909	2970.149

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)		Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chulkhim-Nimbong-Kaifer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aitar-Rolep-Menla in the State of Sikkim.		DATE : OCT-2020 DESIGNED BY : Vijay Gupta DRAWN BY : Naresh CHECKED BY : Vijay Gupta APPROVED BY : Sanjay Shukla		Revision : RO PACKAGE-B HELIPAD TO MENLA PLAN & PROFILE (PROFILE - Km 88+750 To Km 89+500)	
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.		SCALE: H-1:2000, V-1:100, For A3 Paper Size		HOR 10 0 10 20 VER 2 0 2 5		Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/056	
DATE: 17/10/2020 - 11:47am PATH: C:\g...	RO APRIL 2019 FINAL FEASIBILITY REPORT REV DATE DESCRIPTION OF REVISIONS INITIALS						

← HELIPAD

MENLA →



DATE: 17/10/2020 - 15:07:pm
PATH: D:\19 Final\Sp. 20\2020\36A Plan Layout-1.dwg

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(Ministry of Road Transport & Highways)

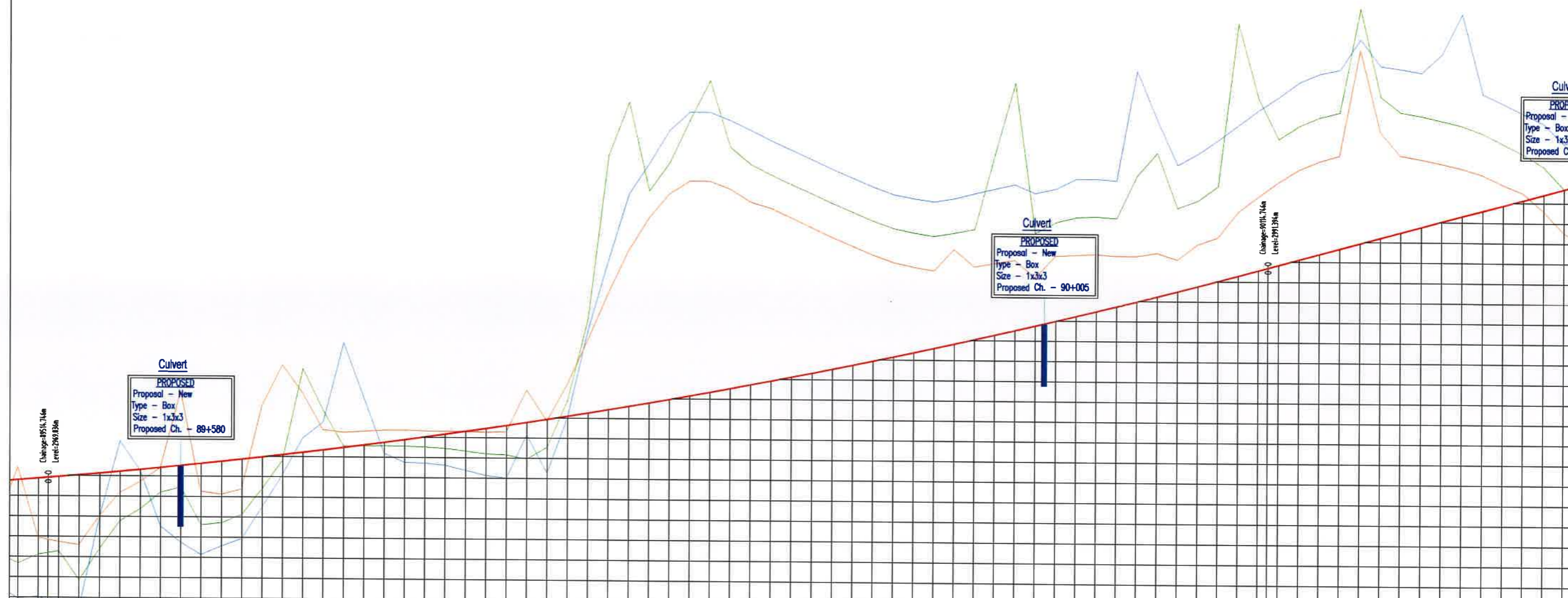
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05 12 2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakol-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Noresh	Vijay Gupta	Sanjay Shukla
SCALE: H-1:2000, V-1:100, For A3 Paper Size		HOR 10 0 10 20 VER 2 0 2 5	

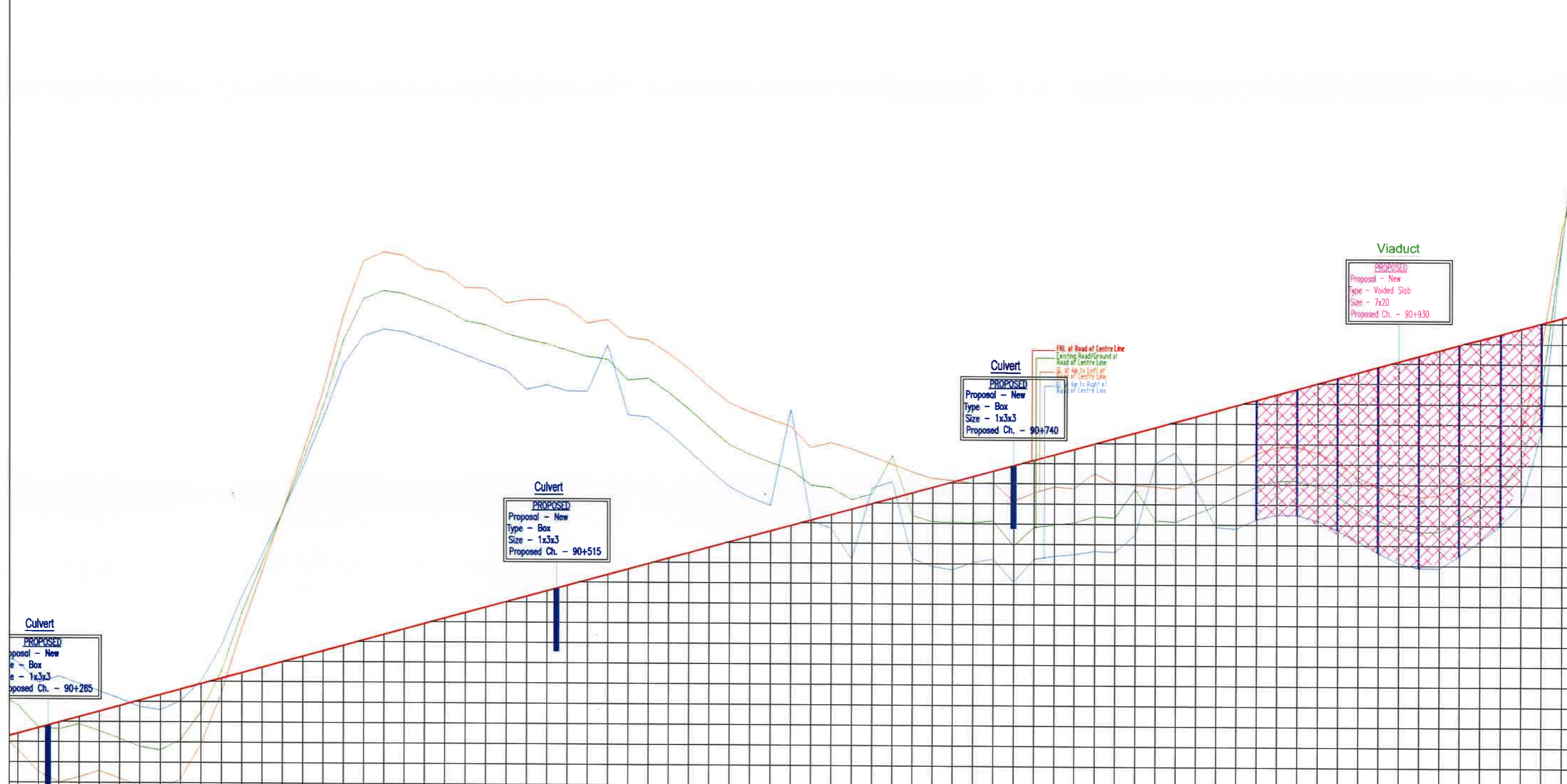
PACKAGE-3B
HELIPAD TO MENLA
PLAN & PROFILE
(PLAN - Km 89+500 To Km 91+000)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/06



Datum:	FRL at Road of Centre Line	GL at 6m to Left of Road of Centre Line	GL at 6m to Right of Road of Centre Line
89500	2969.87	2961.376	2957.901
89510	2969.758	2962.241	2958.119
89520	2969.825	2963.584	2957.866
89530	2970.000	2965.165	2958.294
89540	2970.242	2966.864	2958.991
89550	2970.470	2968.597	2969.654
89560	2970.644	2970.466	2970.509
89570	2970.844	2972.433	2971.586
89580	2971.071	2974.433	2972.815
89590	2971.285	2976.427	2974.104
89600	2971.504	2978.407	2975.442
89610	2971.730	2980.368	2976.828
89620	2971.963	2982.311	2978.251
89630	2972.201	2984.231	2979.701
89640	2972.444	2986.126	2981.176
89650	2972.690	2988.000	2982.676
89660	2972.935	2989.851	2984.199
89670	2973.178	2991.681	2985.744
89680	2973.426	2993.491	2987.311
89690	2973.670	2995.281	2988.899
89700	2973.910	2997.051	2990.508
89710	2974.146	2998.801	2992.138
89720	2974.378	2999.531	2993.788
89730	2974.606	3000.241	2995.458
89740	2974.830	3000.931	2997.148
89750	2975.049	3001.601	2998.858
89760	2975.264	3002.251	2999.588
89770	2975.474	3002.881	3000.338
89780	2975.679	3003.491	3001.108
89790	2975.879	3004.081	3001.898
89800	2976.074	3004.651	3002.708
89810	2976.264	3005.201	3003.538
89820	2976.449	3005.731	3004.388
89830	2976.629	3006.241	3005.258
89840	2976.804	3006.731	3006.148
89850	2976.974	3007.201	3007.058
89860	2977.139	3007.651	3007.988
89870	2977.299	3008.081	3008.938
89880	2977.454	3008.491	3009.908
89890	2977.604	3008.881	3010.898
89900	2977.749	3009.251	3011.908
89910	2977.889	3009.601	3012.938
89920	2978.024	3009.931	3013.988
89930	2978.154	3010.241	3015.058
89940	2978.279	3010.531	3016.148
89950	2978.399	3010.801	3017.258
89960	2978.514	3011.051	3018.388
89970	2978.624	3011.281	3019.538
89980	2978.729	3011.491	3020.708
89990	2978.829	3011.681	3021.898
90000	2978.924	3011.851	3023.108
90010	2979.014	3011.991	3024.338
90020	2979.099	3012.111	3025.588
90030	2979.179	3012.211	3026.858
90040	2979.254	3012.291	3028.148
90050	2979.324	3012.351	3029.458
90060	2979.389	3012.391	3030.788
90070	2979.449	3012.411	3032.138
90080	2979.504	3012.411	3033.508
90090	2979.554	3012.391	3034.898
90100	2979.599	3012.351	3036.308
90110	2979.639	3012.291	3037.738
90120	2979.674	3012.211	3039.188
90130	2979.704	3012.111	3040.658
90140	2979.729	3011.991	3042.148
90150	2979.749	3011.851	3043.658
90160	2979.764	3011.681	3045.188
90170	2979.774	3011.491	3046.738
90180	2979.779	3011.281	3048.308
90190	2979.779	3011.051	3049.898
90200	2979.774	3010.801	3051.508
90210	2979.764	3010.531	3053.138
90220	2979.749	3010.241	3054.788
90230	2979.729	3009.931	3056.458
90240	2979.704	3009.601	3058.148
90250	2979.674	3009.251	3059.858
90260	2979.639	3008.881	3061.588

<p>Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)</p> <p>Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.</p>	<p>Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kaler-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Roieip-Menla in the State of Sikkim.</p>	<p>DATE : OCT-2020</p> <p>DESIGNED BY : Vijay Gupta</p> <p>DRAWN BY : Naresh</p> <p>CHECKED BY : Vijay Gupta</p> <p>APPROVED BY : Sanjay Shukla</p> <p>Revision : RO</p>	<p>PACKAGE-B HELIPAD TO MENLA PLAN & PROFILE (PROFILE - Km 89+500 To Km 90+250)</p> <p>Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/06a</p>								
<p>DATE: 17/10/2020 - 11:47am</p> <p>PATH: D:\G. Infra\SAICPL-SESPL\WB-SKM\Profile-1.dwg</p>	<table border="1"> <tr> <th>RO</th> <th>DATE</th> <th>DESCRIPTION OF REVISIONS</th> <th>INITIALS</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	RO	DATE	DESCRIPTION OF REVISIONS	INITIALS					<p>SCALE: H-1:2000, V-1:100, For A3 Paper Size</p> <p>HOR 10 0 10 20</p> <p>VER 2 0 2</p>	<p>DATE : OCT-2020</p> <p>Revision : RO</p>
RO	DATE	DESCRIPTION OF REVISIONS	INITIALS								

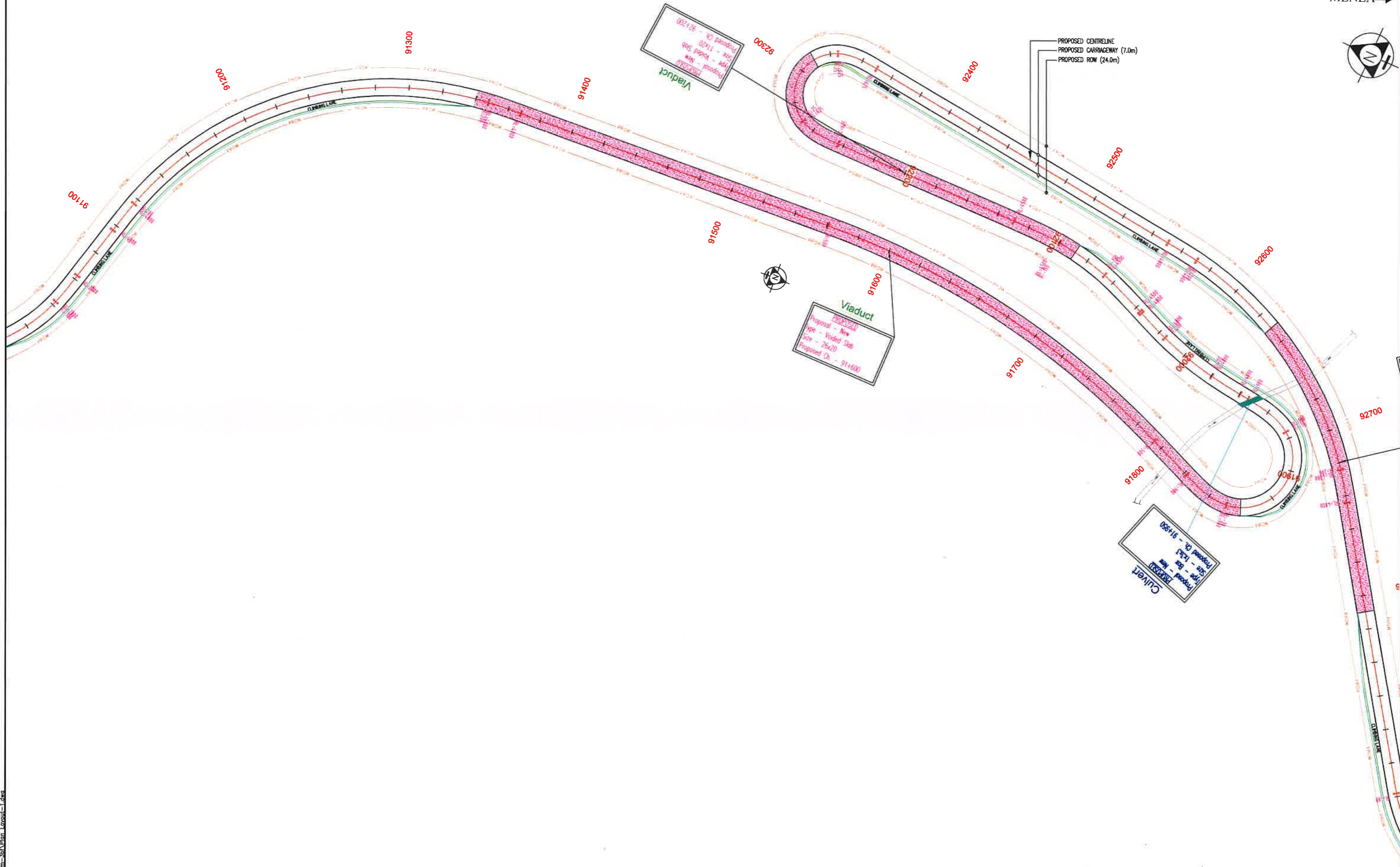


Datum:	90+00	90+05	90+10	90+15	90+20	90+25	90+30	90+35	90+40	90+45	90+50	90+55	90+60	90+65	90+70	90+75	90+80	90+85	90+90	90+95	91+00	
FRL at Road of Centre Line	2998.833	2999.343	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853	2999.853
GL at 6m to Left of Road of Centre Line	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218	2997.218
GL at 6m to Right of Road of Centre Line	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871	3005.871
Horizontal	[Profile view diagram showing horizontal alignment with vertical curves and grades]																					
Vertical	[Profile view diagram showing vertical alignment with grades and curves]																					
Superelevation	[Superelevation diagram showing cross-slopes of e=5.000 and e=2.500]																					
Chainage	90+00	90+05	90+10	90+15	90+20	90+25	90+30	90+35	90+40	90+45	90+50	90+55	90+60	90+65	90+70	90+75	90+80	90+85	90+90	90+95	91+00	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)		Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.08.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakol-Chukhim-Nimbong-Kaler-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Arilar-Rolep-Menla in the State of Sikkim.		DATE : OCT-2020 Revision : R0	
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.		DESIGNED BY: Vijay Gupta DRAWN BY: Naresh CHECKED BY: Vijay Gupta APPROVED BY: Sanjay Shukla		PACKAGE-B HELIPAD TO MENLA PLAN & PROFILE (PROFILE - Km 90+250 To Km 91+000)	
DATE: 17/10/2020 - 11:47am PATH: D:\C:\Users\sa\Documents\SA\Project\Profile-1.dwg		SCALE: H-1:2000, V-1:100, For A3 Paper Size		Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/056	

← HELIPAD

MENLA →



DATE: 17/10/2020 - 11:44am
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REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Nokla 301301, Udaipur, Rajasthan.

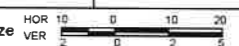
Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

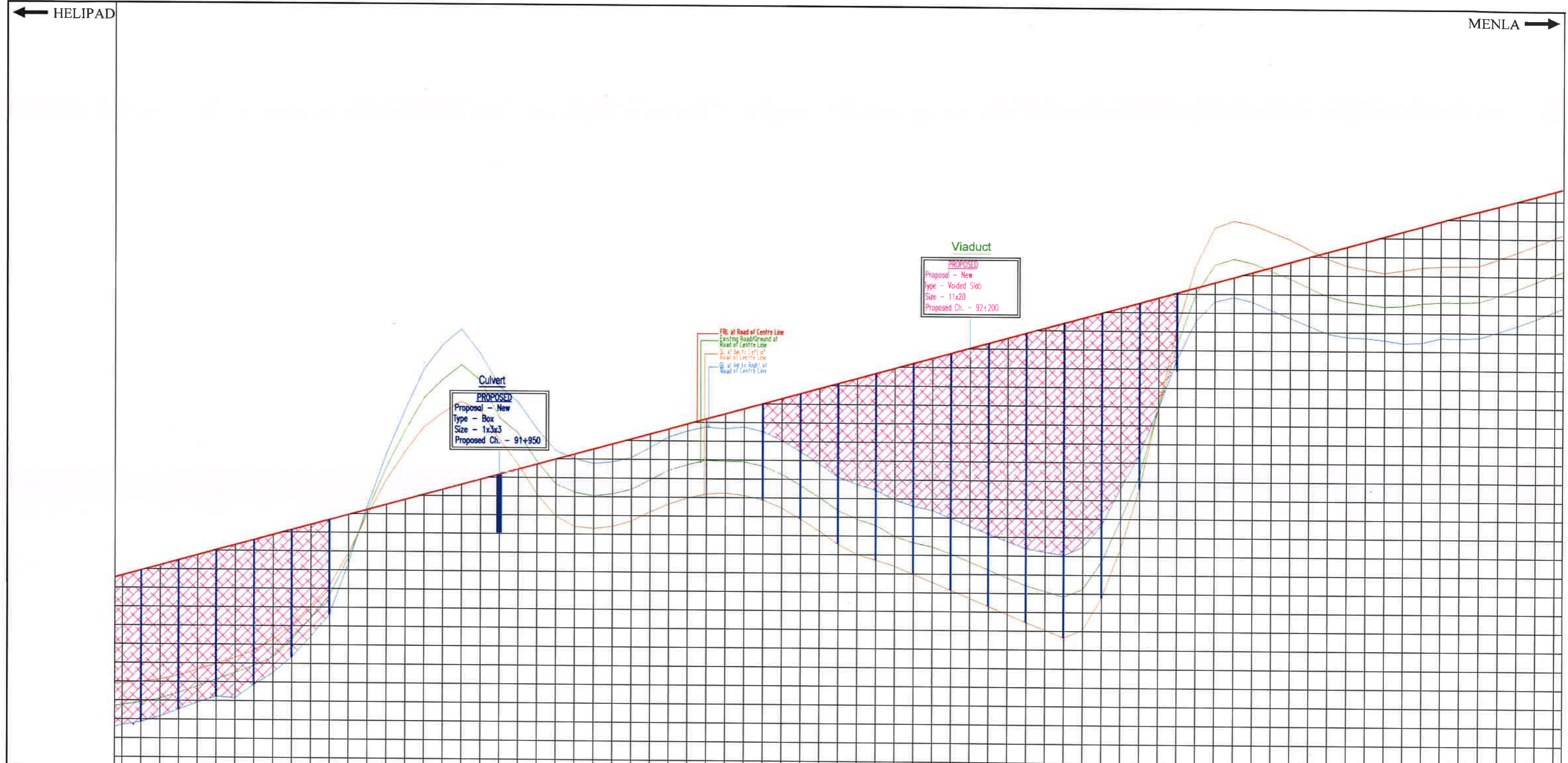
DATE : OCT-2020		Revision : RO	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla

PACKAGE-3B
HELIPAD TO MENLA
PLAN & PROFILE
(PLAN - Km 91+000 To Km 92+500)

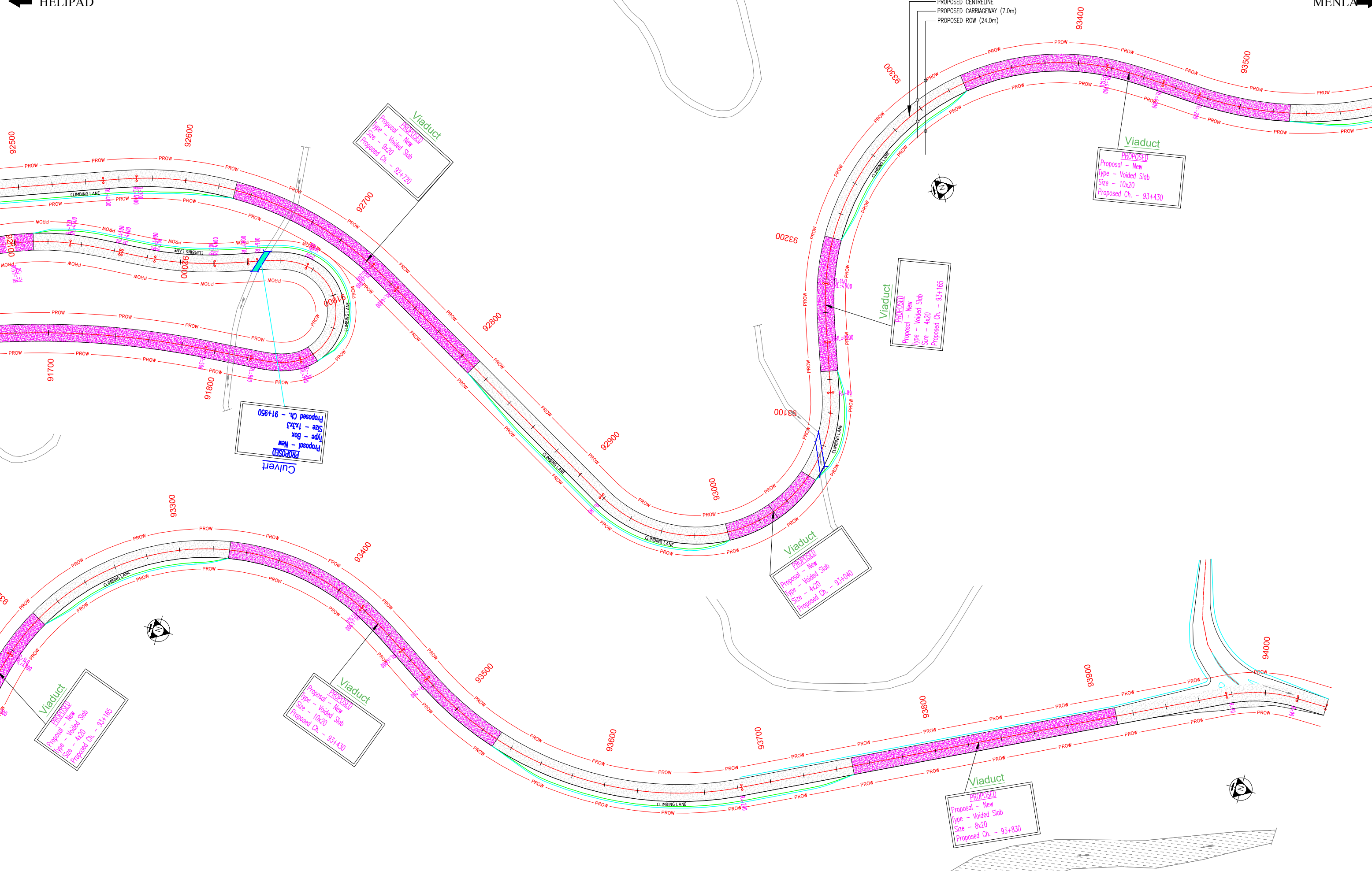
Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/07

SCALE: H-1:2000, V-1:100, For A3 Paper Size





Datum:	
FRL at Road of Centre Line	3041.333, 3041.552, 3041.870, 3042.282, 3042.794, 3043.306, 3043.818, 3044.330, 3044.842, 3045.354, 3045.866, 3046.378, 3046.890, 3047.402, 3047.914, 3048.426, 3048.938, 3049.450, 3049.962, 3050.474, 3050.986, 3051.498, 3052.010, 3052.522, 3053.034, 3053.546, 3054.058, 3054.570, 3055.082, 3055.594, 3056.106, 3056.618, 3057.130, 3057.642, 3058.154, 3058.666, 3059.178, 3059.690, 3060.202, 3060.714, 3061.226, 3061.738, 3062.250, 3062.762, 3063.274, 3063.786, 3064.298, 3064.810, 3065.322, 3065.834, 3066.346, 3066.858, 3067.370, 3067.882, 3068.394, 3068.906, 3069.418, 3069.930, 3070.442, 3070.954, 3071.466, 3071.978, 3072.490, 3073.002, 3073.514, 3074.026, 3074.538, 3075.050, 3075.562, 3076.074, 3076.586, 3077.098, 3077.610, 3078.122, 3078.634, 3079.146, 3079.658, 3080.170, 3080.682, 3081.194, 3081.706, 3082.218, 3082.730, 3083.242, 3083.754, 3084.266, 3084.778, 3085.290, 3085.802, 3086.314, 3086.826, 3087.338, 3087.850, 3088.362, 3088.874, 3089.386, 3089.898, 3090.410, 3090.922, 3091.434, 3091.946, 3092.458, 3092.970, 3093.482, 3093.994, 3094.506, 3095.018, 3095.530, 3096.042, 3096.554, 3097.066, 3097.578, 3098.090, 3098.602, 3099.114, 3099.626, 3100.138, 3100.650, 3101.162, 3101.674, 3102.186, 3102.698, 3103.210, 3103.722, 3104.234, 3104.746, 3105.258, 3105.770, 3106.282, 3106.794, 3107.306, 3107.818, 3108.330, 3108.842, 3109.354, 3109.866, 3110.378, 3110.890, 3111.402, 3111.914, 3112.426, 3112.938, 3113.450, 3113.962, 3114.474, 3114.986, 3115.498, 3116.010, 3116.522, 3117.034, 3117.546, 3118.058, 3118.570, 3119.082, 3119.594, 3120.106, 3120.618, 3121.130, 3121.642, 3122.154, 3122.666, 3123.178, 3123.690, 3124.202, 3124.714, 3125.226, 3125.738, 3126.250, 3126.762, 3127.274, 3127.786, 3128.298, 3128.810, 3129.322, 3129.834, 3130.346, 3130.858, 3131.370, 3131.882, 3132.394, 3132.906, 3133.418, 3133.930, 3134.442, 3134.954, 3135.466, 3135.978, 3136.490, 3137.002, 3137.514, 3138.026, 3138.538, 3139.050, 3139.562, 3140.074, 3140.586, 3141.098, 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REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

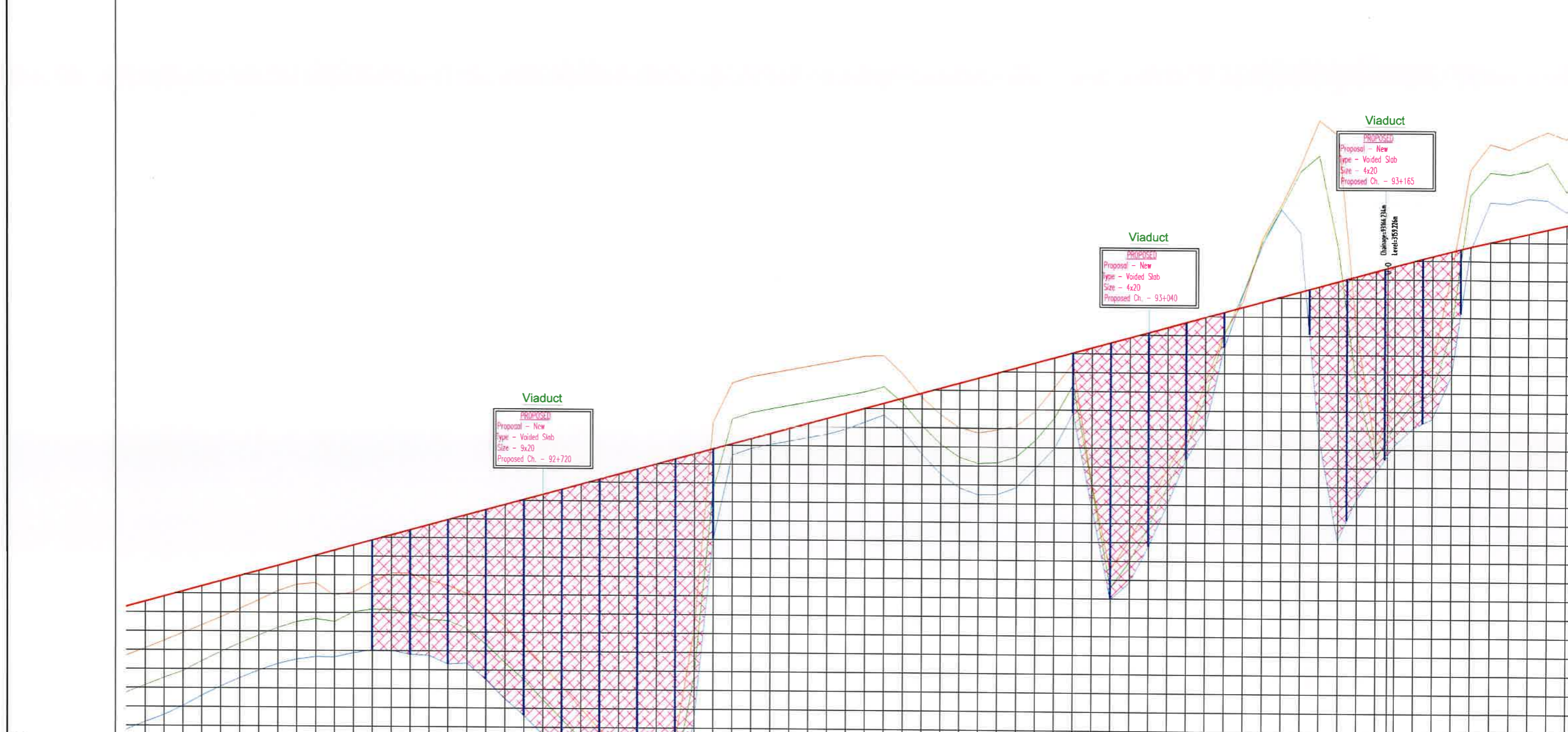
DATE : OCT-2020		Revision : RO	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla

PACKAGE-3B
HELIPAD TO MENLA
PLAN & PROFILE
(PLAN - Km 92+500 To Km 94+000)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/8

SCALE:- H-1:2000,
V-1:100, For A3 Paper Size

HOR 10 0 10 20
VER 2 0 2 5



Station	FRL at Road of Centre Line	GL at 6m to Left of Road of Centre Line	GL at 6m to Right of Road of Centre Line
92300	3072.88	3095.71	3085.07
92310	3073.03	3096.00	3085.37
92320	3073.48	3096.94	3086.07
92330	3074.23	3098.05	3087.05
92340	3075.78	3099.41	3088.42
92350	3076.73	3100.84	3089.66
92360	3078.22	3102.34	3091.06
92370	3079.03	3103.84	3092.42
92380	3080.43	3105.34	3093.84
92390	3081.93	3106.84	3095.22
92400	3083.43	3108.34	3096.66
92410	3084.93	3109.84	3098.06
92420	3086.43	3111.34	3099.42
92430	3087.93	3112.84	3100.78
92440	3089.43	3114.34	3102.14
92450	3090.93	3115.84	3103.50
92460	3092.43	3117.34	3104.86
92470	3093.93	3118.84	3106.22
92480	3095.43	3120.34	3107.58
92490	3096.93	3121.84	3108.94
92500	3098.43	3123.34	3110.30
92510	3099.93	3124.84	3111.66
92520	3101.43	3126.34	3113.02
92530	3102.93	3127.84	3114.38
92540	3104.43	3129.34	3115.74
92550	3105.93	3130.84	3117.10
92560	3107.43	3132.34	3118.46
92570	3108.93	3133.84	3119.82
92580	3110.43	3135.34	3121.18
92590	3111.93	3136.84	3122.54
92600	3113.43	3138.34	3123.90
92610	3114.93	3139.84	3125.26
92620	3116.43	3141.34	3126.62
92630	3117.93	3142.84	3127.98
92640	3119.43	3144.34	3129.34
92650	3120.93	3145.84	3130.70
92660	3122.43	3147.34	3132.06
92670	3123.93	3148.84	3133.42
92680	3125.43	3150.34	3134.78
92690	3126.93	3151.84	3136.14
92700	3128.43	3153.34	3137.50
92710	3129.93	3154.84	3138.86
92720	3131.43	3156.34	3140.22
92730	3132.93	3157.84	3141.58
92740	3134.43	3159.34	3142.94
92750	3135.93	3160.84	3144.30
92760	3137.43	3162.34	3145.66
92770	3138.93	3163.84	3147.02
92780	3140.43	3165.34	3148.38
92790	3141.93	3166.84	3149.74
92800	3143.43	3168.34	3151.10
92810	3144.93	3169.84	3152.46
92820	3146.43	3171.34	3153.82
92830	3147.93	3172.84	3155.18
92840	3149.43	3174.34	3156.54
92850	3150.93	3175.84	3157.90
92860	3152.43	3177.34	3159.26
92870	3153.93	3178.84	3160.62
92880	3155.43	3180.34	3161.98
92890	3156.93	3181.84	3163.34
92900	3158.43	3183.34	3164.70
92910	3159.93	3184.84	3166.06
92920	3161.43	3186.34	3167.42
92930	3162.93	3187.84	3168.78
92940	3164.43	3189.34	3170.14
92950	3165.93	3190.84	3171.50
92960	3167.43	3192.34	3172.86
92970	3168.93	3193.84	3174.22
92980	3170.43	3195.34	3175.58
92990	3171.93	3196.84	3176.94
93000	3173.43	3198.34	3178.30
93010	3174.93	3199.84	3179.66
93020	3176.43	3201.34	3181.02
93030	3177.93	3202.84	3182.38
93040	3179.43	3204.34	3183.74
93050	3180.93	3205.84	3185.10
93060	3182.43	3207.34	3186.46
93070	3183.93	3208.84	3187.82
93080	3185.43	3210.34	3189.18
93090	3186.93	3211.84	3190.54
93100	3188.43	3213.34	3191.90
93110	3189.93	3214.84	3193.26
93120	3191.43	3216.34	3194.62
93130	3192.93	3217.84	3195.98
93140	3194.43	3219.34	3197.34
93150	3195.93	3220.84	3198.70
93160	3197.43	3222.34	3199.06
93170	3198.93	3223.84	3200.42
93180	3199.43	3225.34	3201.78
93190	3200.93	3226.84	3203.14
93200	3202.43	3228.34	3204.50
93210	3203.93	3229.84	3205.86
93220	3205.43	3231.34	3207.22
93230	3206.93	3232.84	3208.58
93240	3208.43	3234.34	3209.94
93250	3209.93	3235.84	3211.30
93260	3211.43	3237.34	3212.66
93270	3212.93	3238.84	3214.02
93280	3214.43	3240.34	3215.38
93290	3215.93	3241.84	3216.74
93300	3217.43	3243.34	3218.10

RO	DATE	DESCRIPTION OF REVISIONS	INITIALS

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida-201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kaler-Bakhim-Agarah-Rhenok in the State of West Bengal and from Rhenok-Rorahang-Pakyong along with spur from Antar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020 **Revision :** R0

DESIGNED BY Vijay Gupta	DRAWN BY Noresh	CHECKED BY Vijay Gupta	APPROVED BY Sanjay Shukla
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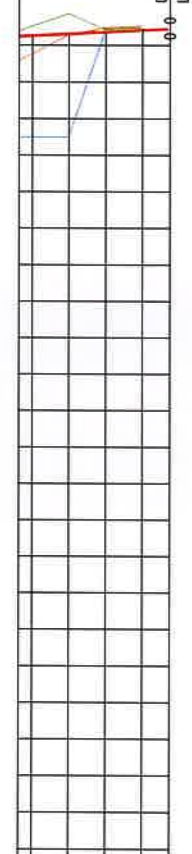
SCALE: H-1:2000, V-1:100, For A3 Paper Size

PACKAGE-B
HELIPAD TO MENLA
PLAN & PROFILE
(PROFILE - Km 92+500 To Km 93+250)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/099

DATE: 17/10/2020 - 11:47am
PATH: D:\a_sapra\300_20\300000-30\A00000-Profile-1.dwg

Road of Centre Line
 Road/Gravel at Centre Line
 1/2m Left of Centre Line
 1/2m Right of Centre Line



Datum:	
FRL at Road of Centre Line	3176.644
GL of 6m to Left of Road of Centre Line	3176.892
GL at 6m to Right of Road of Centre Line	3176.892
Horizontal	1:4000
Vertical	1:4000
Superelevation	±2.500
Chainage	94000 to 94020

DATE: 17/10/2020 - 11:47am
 PATH: D:\C:\Users\...

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
 (Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
 Specialized Engineering Service Pvt. Ltd.
 1101A, 11th Floor, Tower A-II, Corporate Park,
 Plot No. 7A/1, Sector-142,
 Noida-201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakol-Chukhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Arilar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020	Revision :	RO	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla
SCALE: H-1:2000, V-1:100,) For A3 Paper Size		HOR 10 0 10 20 VER 2 0 2 5	

PACKAGE-B
HELIPAD TO MENLA
PLAN & PROFILE
 (PROFILE - Km 94+000 To Km 94+030)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/003

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	

STANDARD DRAWING

CAUTIONARY/WARNING SIGNS



REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	Sep 2017	Final Feasibility Report	
RO	Nov 2016	Draft Feasibility Report	
RO	Dec 2014	Linear Plan	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT LTD
 In Association with Specialized Engineering Service Pvt Ltd
 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida-201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Anitar-Rolep-Menta in the State of Sikkim.

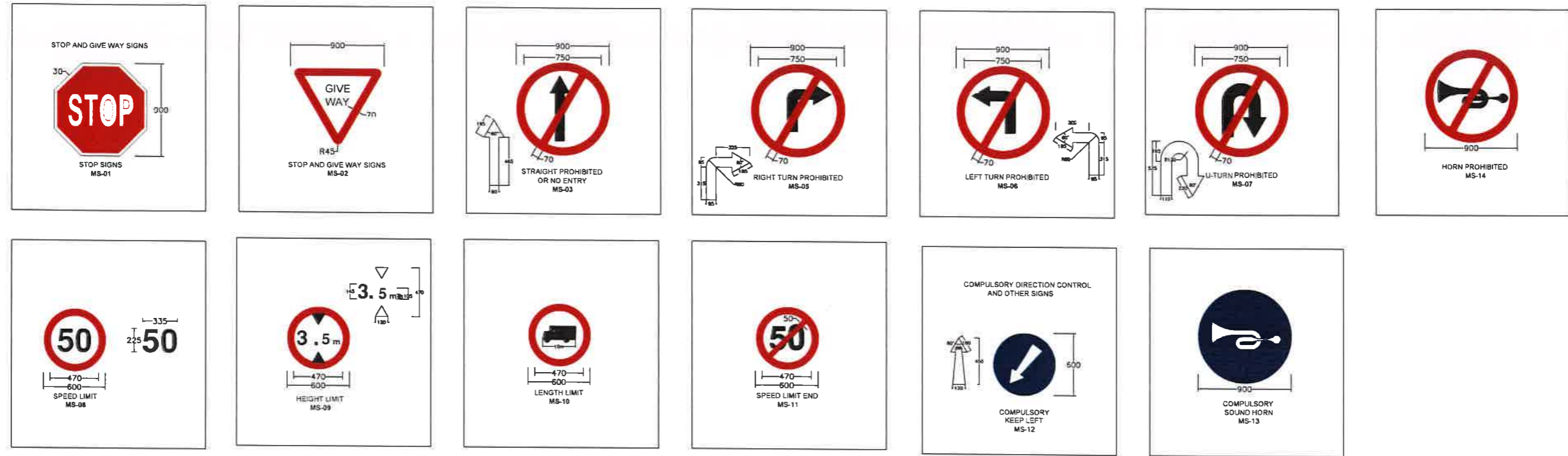
DATE : June 2020		Revision RO	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla

SCALE:-NTS

PACKAGE-01
 ROAD SIGN
 (Sheet 1 of 3)

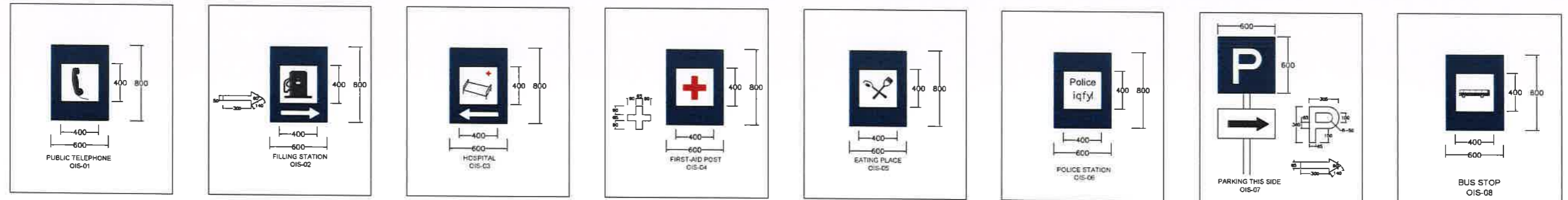
Dwg. No. :- SACPL-SESPL/NHIDCL/WB-SKM/Misc/01

MANDATORY/REGULATORY SIGNS

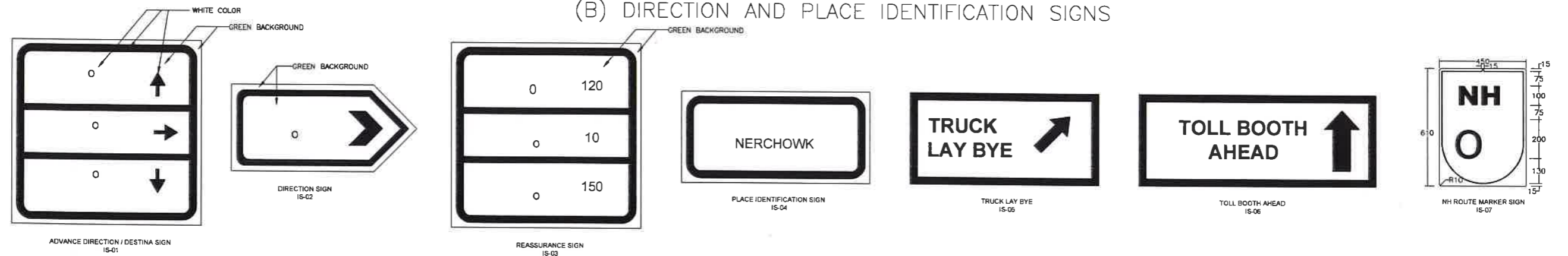


INFORMATORY SIGN BOARD:-

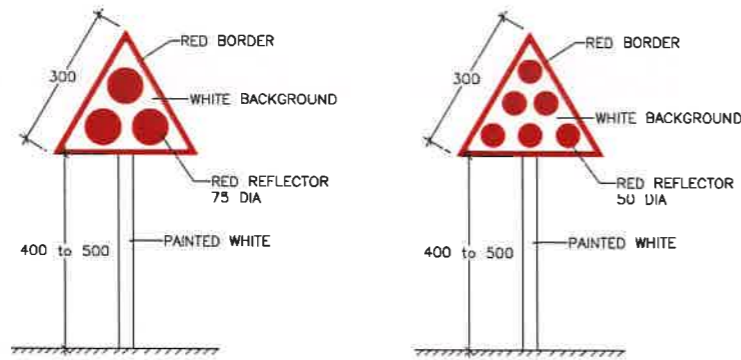
(A) FACILITY INFORMATION SIGNS



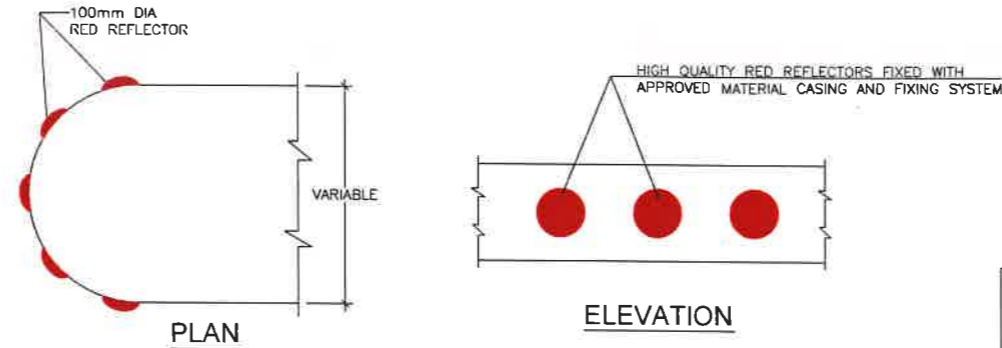
(B) DIRECTION AND PLACE IDENTIFICATION SIGNS



RO	Sep 2017	Final Feasibility Report				Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Rafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Antar-Rolep-Menta in the State of Sikkim.	DATE :	June 2020	Revision	RO				
RO	Nov 2016	Draft Feasibility Report						DESIGNED BY	Vijay Gupta	DRAWN BY	Naresh	CHECKED BY	Vijay Gupta	APPROVED BY	Sanjay Shukla
RO	Dec 2014	Linear Plan						SCALE:-	NTS						
REV	DATE	DESCRIPTION OF REVISIONS			INITIALS	Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. In Association with Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida-201301, Uttar Pradesh.	PACKAGE-1 ROAD SIGN (Sheet 2 of 3)	Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/Misc/02							



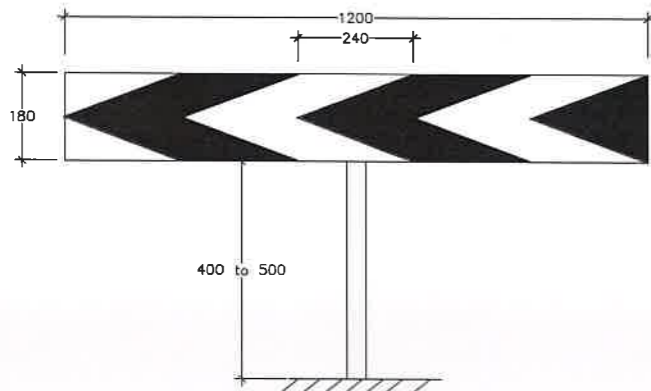
CLUSTER OF RED REFLECTORS
TA-1



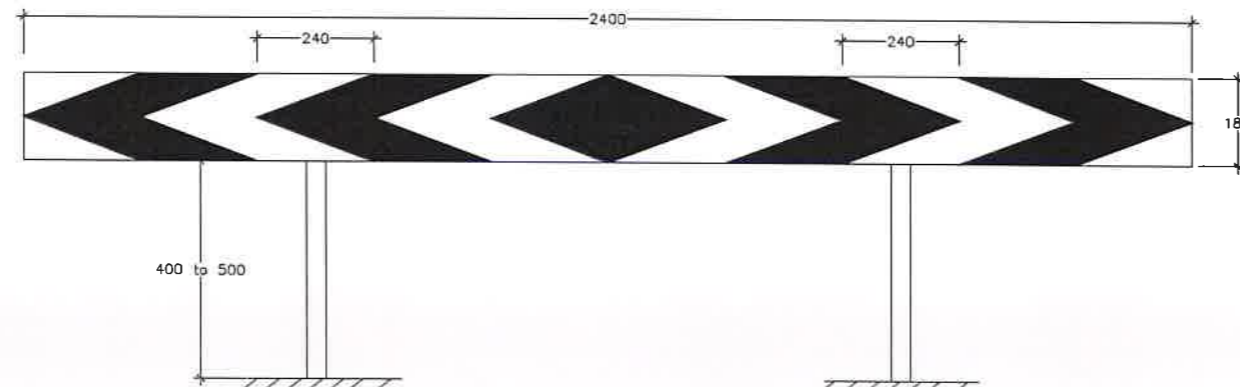
MEDIAN TIP REFLECTORS
TA-2

HIGH QUALITY RED REFLECTORS OF APPROVED SIZE AND SHAPE (TO FIXED IN THE SHAPE OF W-BEAM), FIXED WITH APPROVED MATERIAL, CASING ANF FIXUP SYSTEM

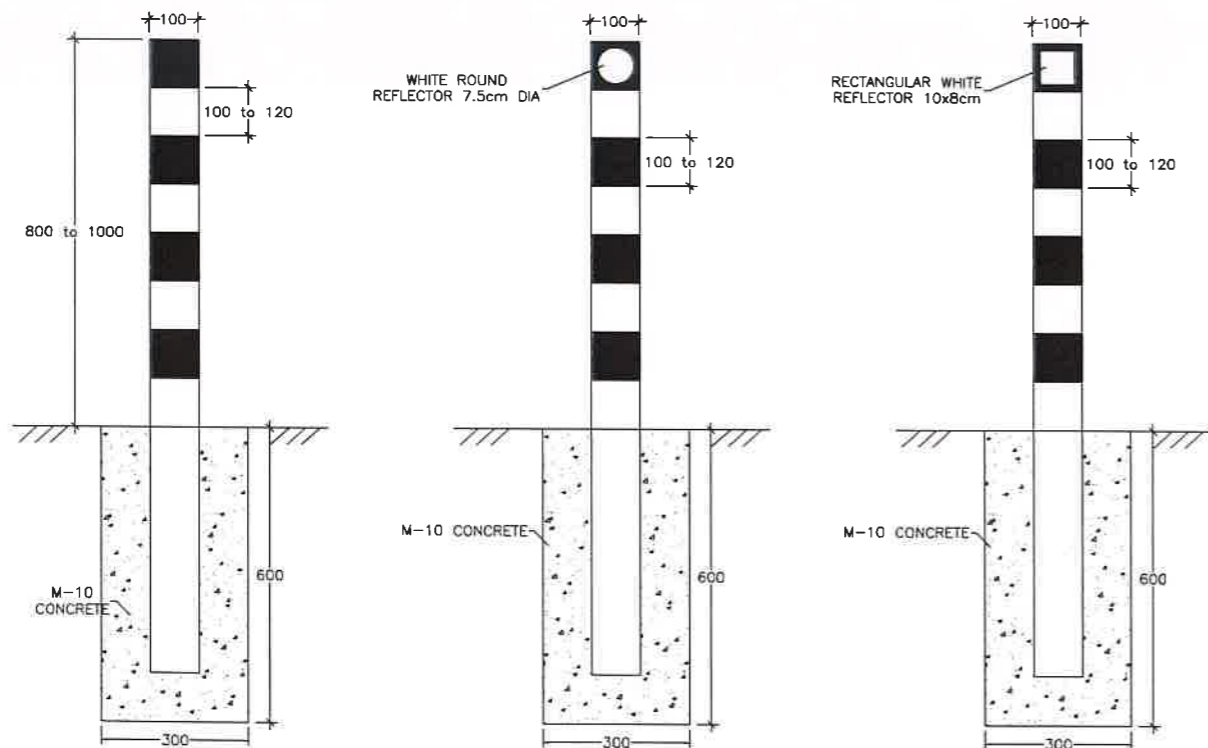
ON W-BEAM OF METAL BEAM CRASH BARRIER
TA-3



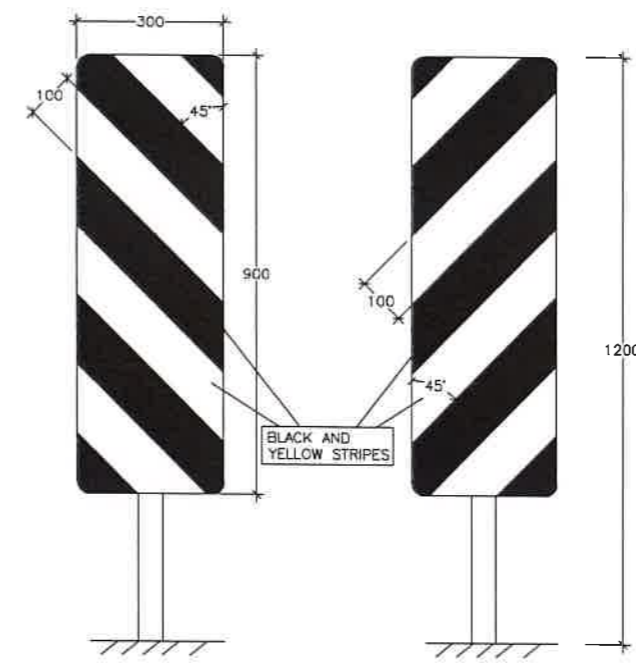
ONE-WAY HAZARD MARKER



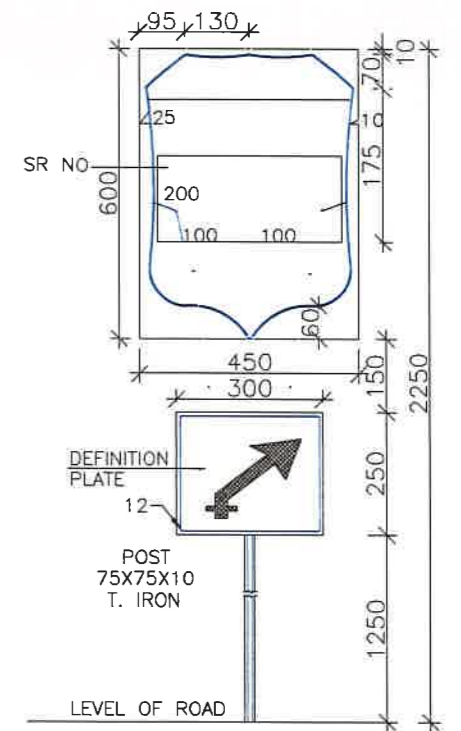
TWO-WAY HAZARD MARKER



DELINEATOR WITHOUT REFLECTOR
DELINEATOR WITH CIRCULAR REFLECTOR
DELINEATOR WITH RECTANGULAR REFLECTOR
ROADWAY DELINEATORS



LEFT
RIGHT
OBJECT HAZARD MARKERS



ASSEMBLY OF ROUTE MARK SIGN
ARRANGEMENT FOR ERECTION OF
STATE ROUTE MARKER SIGN

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	Sep 2017	Final Feasibility Report	
R0	Nov 2016	Draft Feasibility Report	
R0	Dec 2014	Linear Plan	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. TA/1, Sector-142, Noida 201301, Uttar Pradesh.

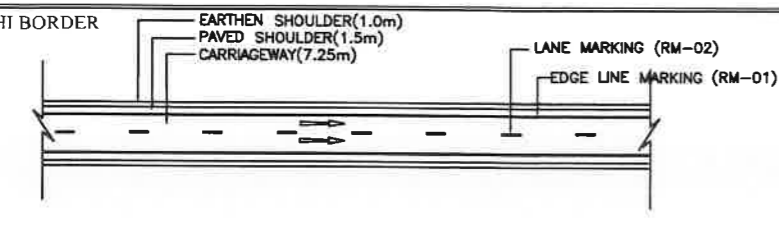
Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorahang-Pakyong along with spur from Aritar-Rolep-Menia in the State of Sikkim.

DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
June 2020	Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla

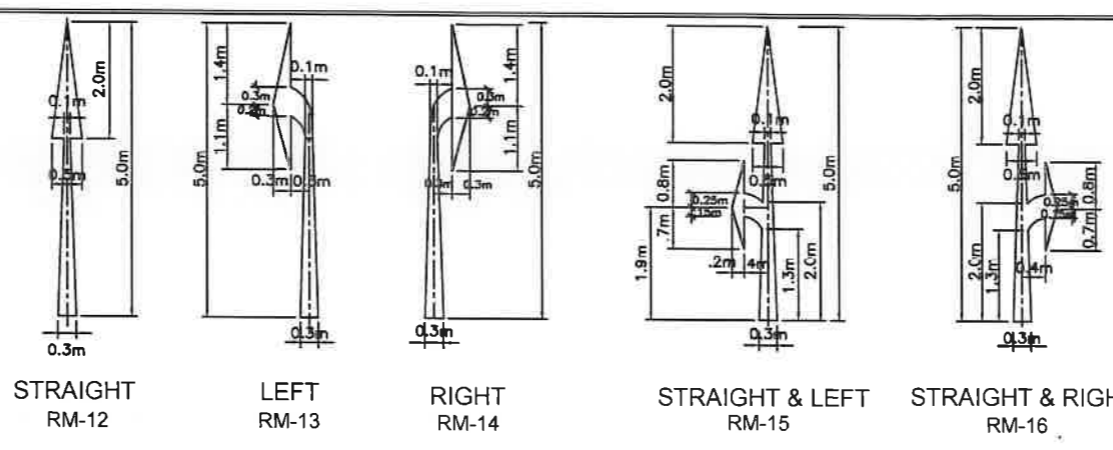
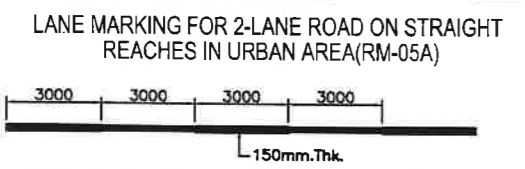
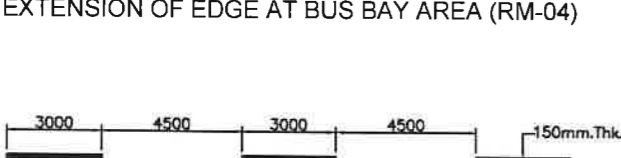
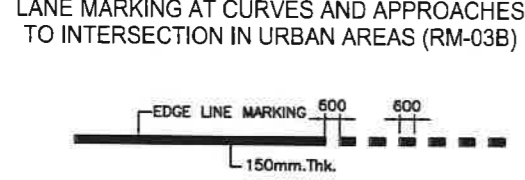
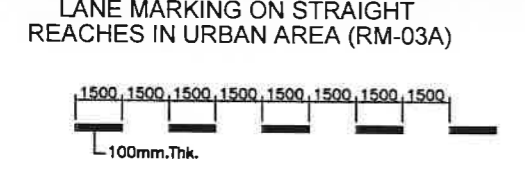
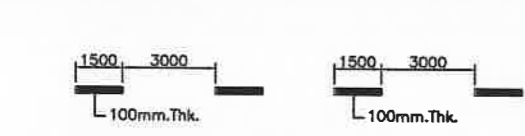
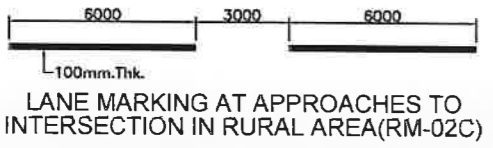
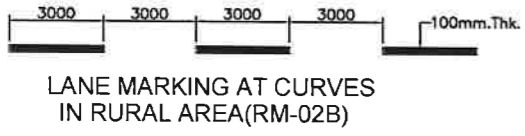
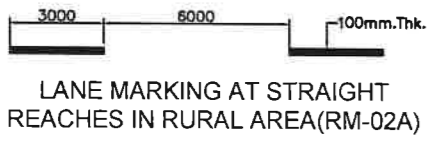
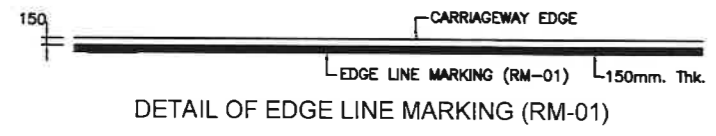
Revision: RO
SCALE: -NTS

PACKAGE- 04
ROAD SIGN
(Sheet 03 of 03)

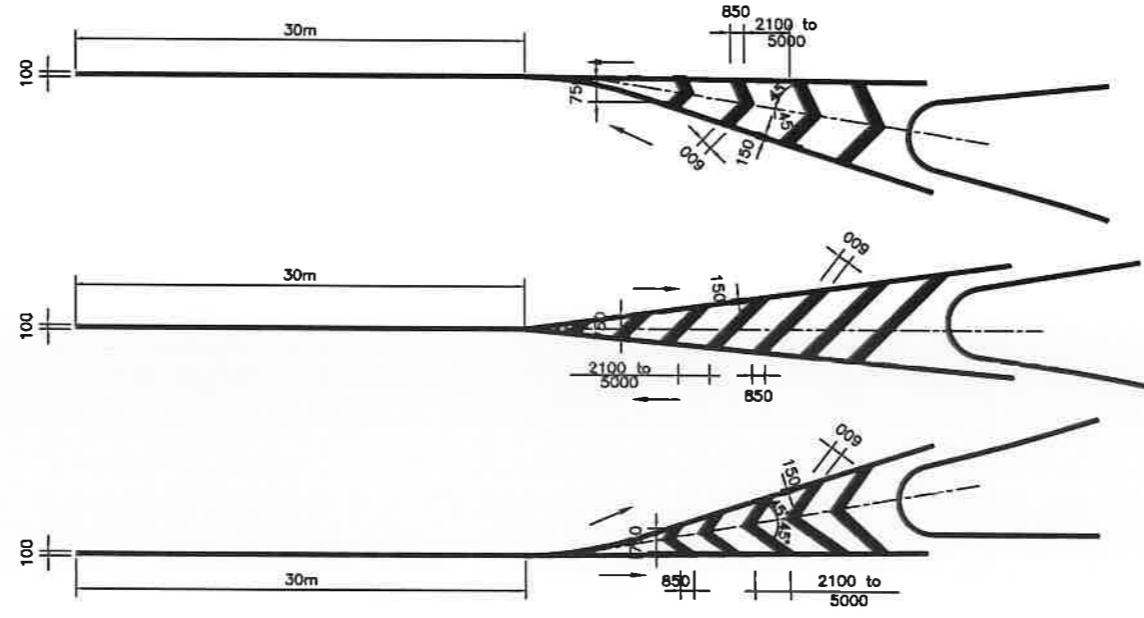
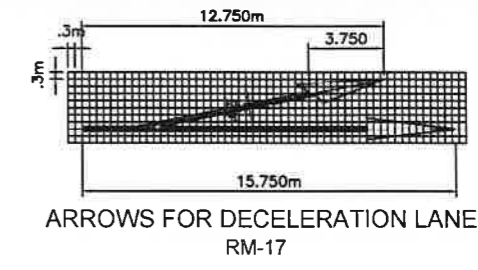
Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/Misc/03



TYPICAL LAYOUT OF ROAD MARKINGS FOR 2-LANE



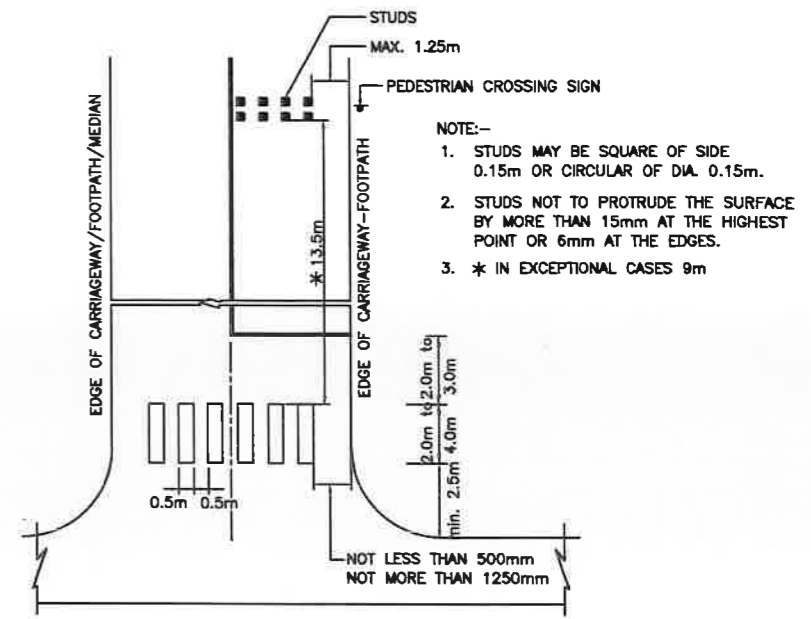
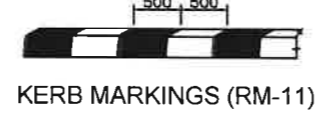
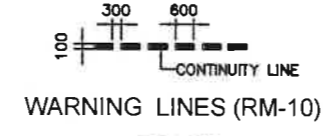
ROUTE DIRECTIONAL ARROWS FOR PROJECT ROAD
(ALL THE ARROWS ARE IN WHITE COLOUR)



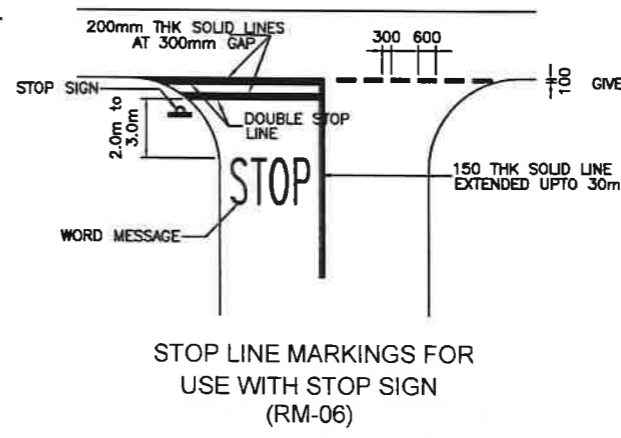
TOTAL LENGTH OF MARKING (m)	CLEAR SPACING BETWEEN DIAGONALS OR CHEVRONS(mm)	
	SPEED(<75km/h)	SPEED(>75km/h)
<6	2100	-
6 TO 22	3500	-
>22	5000	-
<10	-	4000
>10	-	6000

- ALL LENGTHS AND SPACINGS IN THE TABLE ARE MEASURED PARALLEL TO ROAD CENTRE LANE.
- FIRST DIAGONAL OR CHEVRON IS TO BE SO LOCATED THAT ITS LENGTH IS AT LEAST EQUAL TO ITS WIDTH.
- WIDTH OF ALL DIAGONALS/CHEVRONS MEASURED AT RIGHT ANGLES TO THE DIAGONALS OR CHEVRONS IS 600mm.

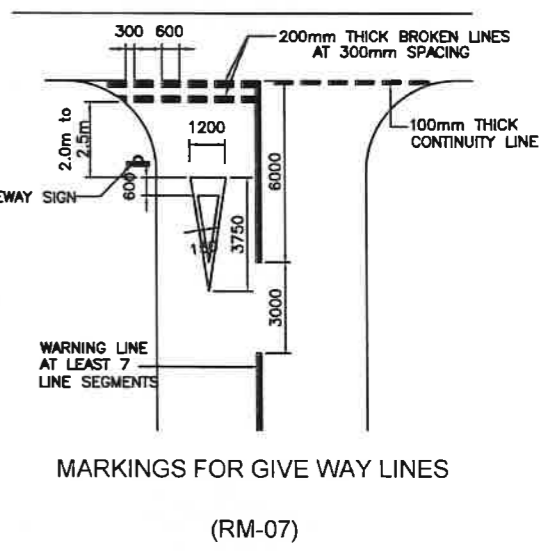
DETAILS OF DIAGONAL AND CHEVRON MARKINGS (RM-09)



PEDISTRIAN CROSSING AT AN UNSIGNALISED INTERSECTION (RM-08)



STOP LINE MARKINGS FOR USE WITH STOP SIGN (RM-06)



MARKINGS FOR GIVE WAY LINES (RM-07)

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	Sep 2017	Final Feasibility Report	
R0	Nov 2016	Draft Feasibility Report	
R0	Dec 2014	Linear Plan	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

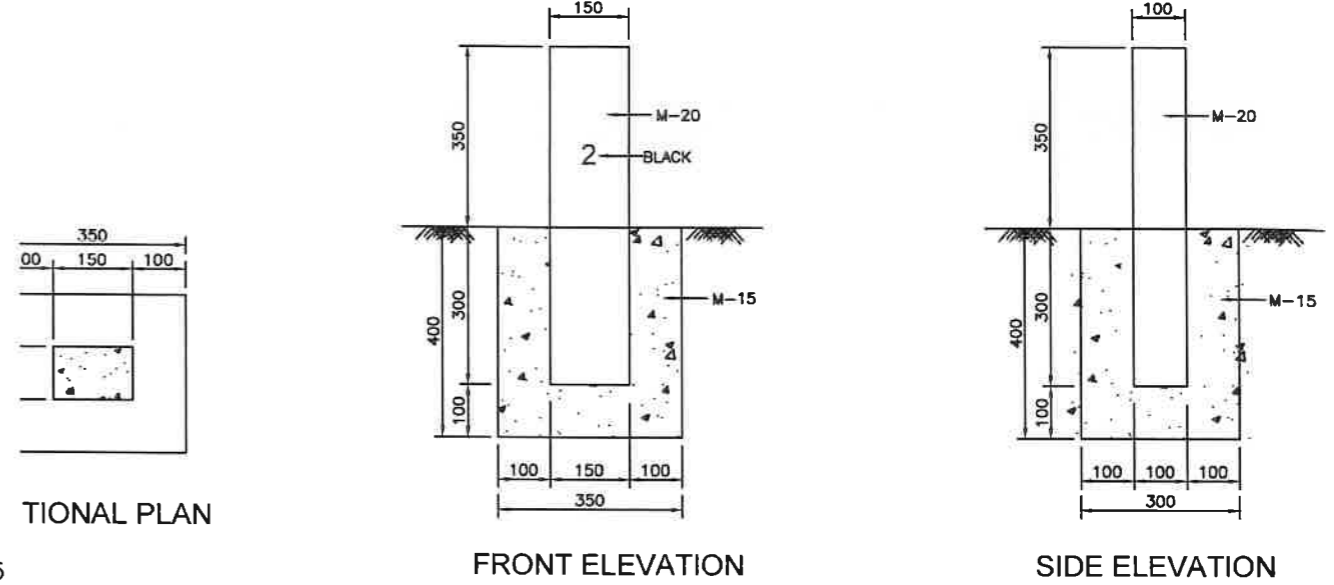
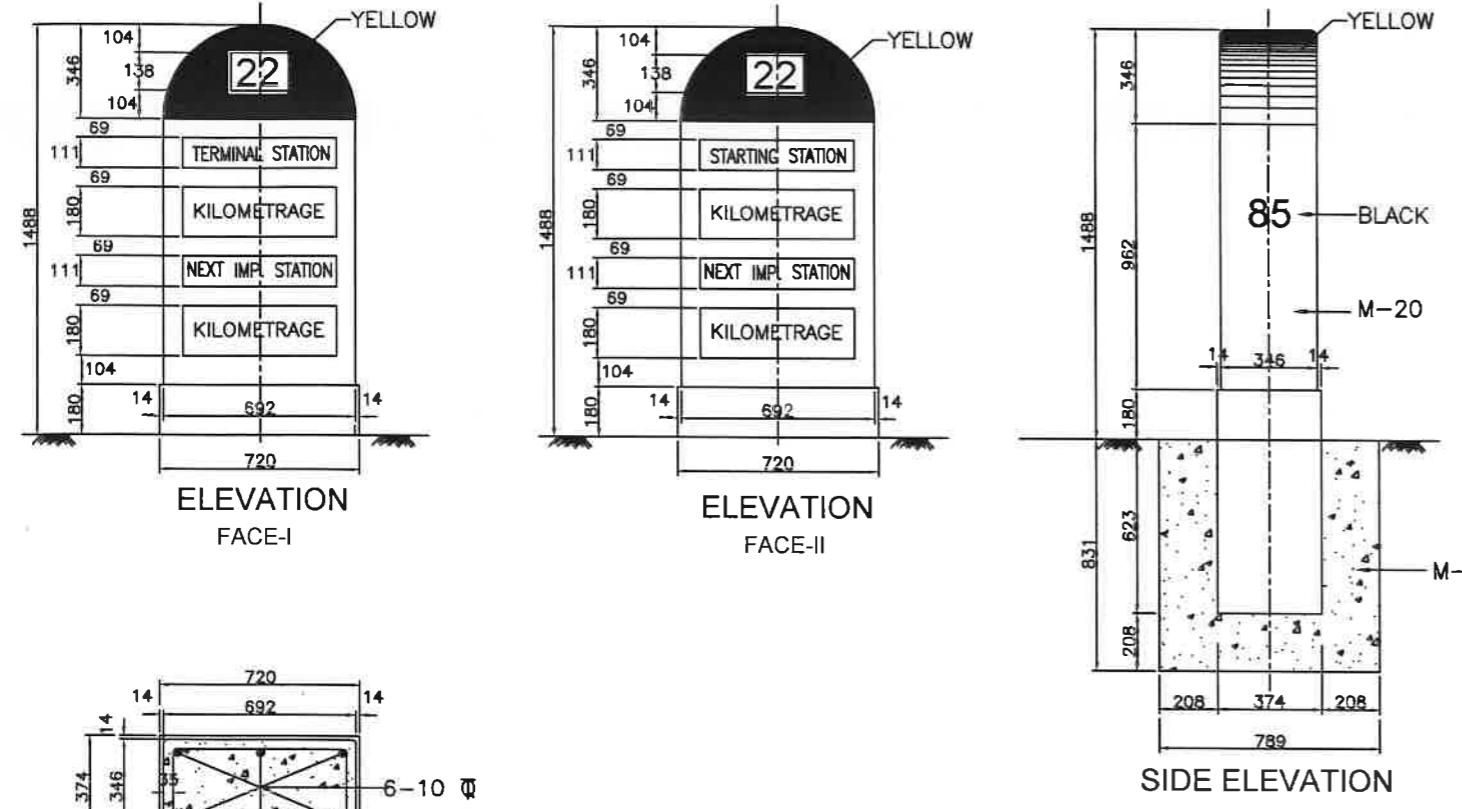
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-11, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR for 'Alternative work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Roralhang-Pakyong along with spur from Antar-Rolep-Menta in the State of Sikkim.

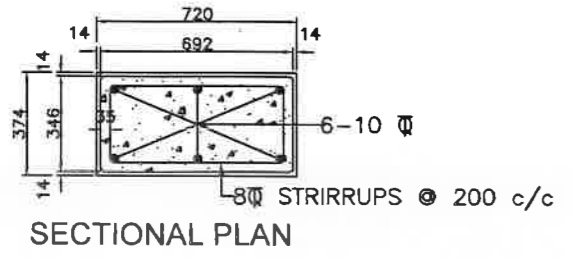
DATE	Revision	RO
June 2020		
DESIGNED BY	DRAWN BY	CHECKED BY
Vijay Gupta	Naresh	Vijay Gupta
		APPROVED BY
		Sanjay Shukla

PACKAGE- 2/4
DETAIL OF ROAD MARKING

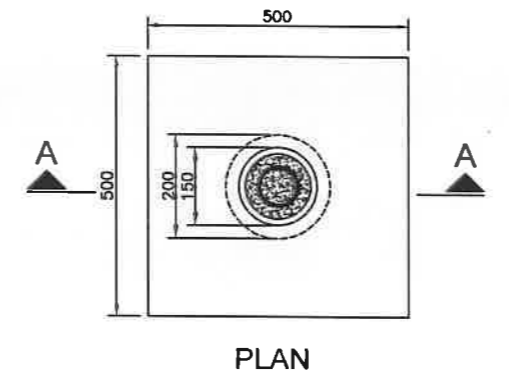
Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/Misc/04



DETAIL OF 200 METRE STONE
(SCALE 1:10)

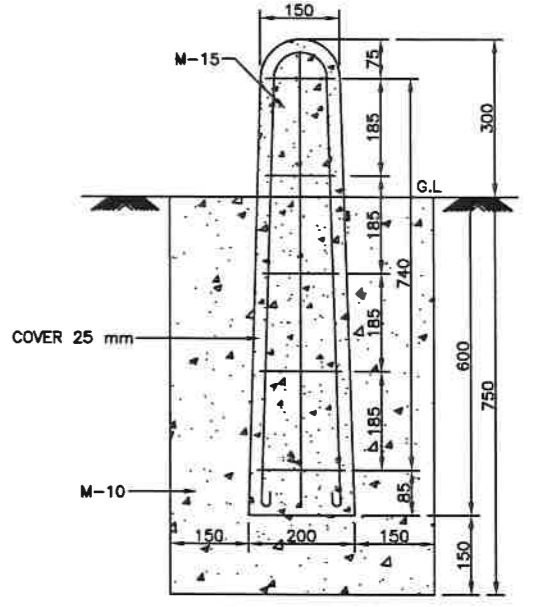
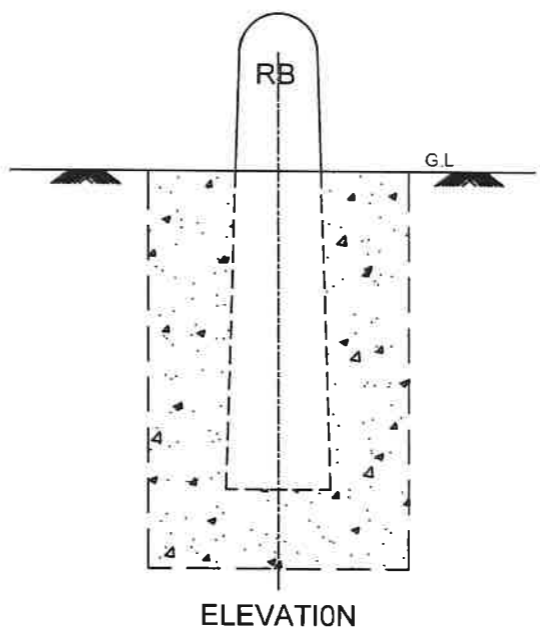
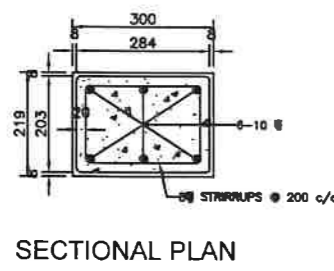
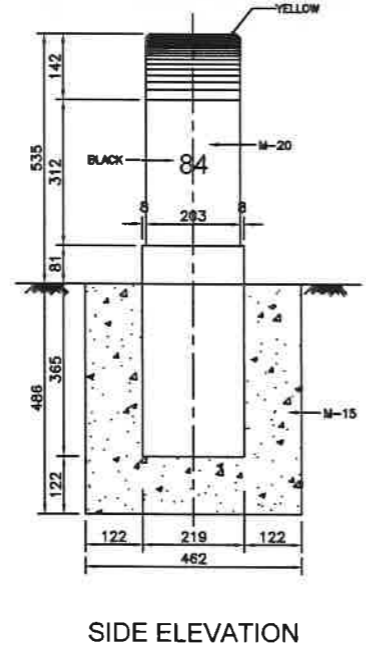
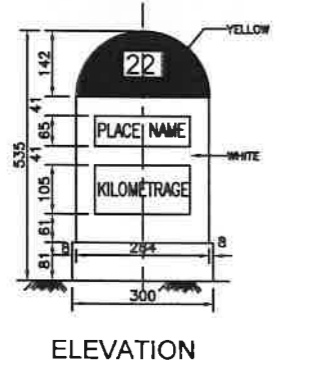


DETAIL OF FIFTH KILOMETRE STONE
(SCALE 1:20)



BAR BENDING SCHEDULE FOR BOUNDARY STONE

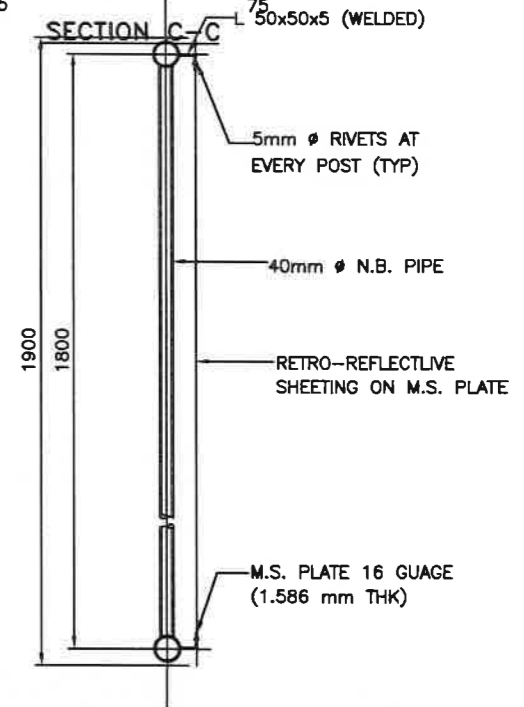
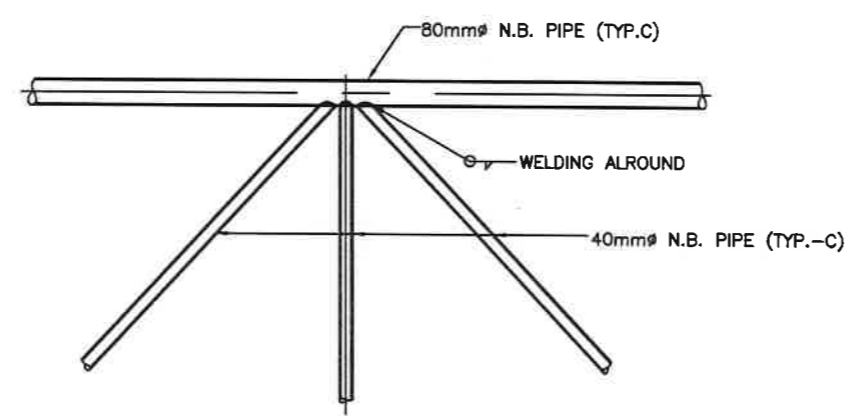
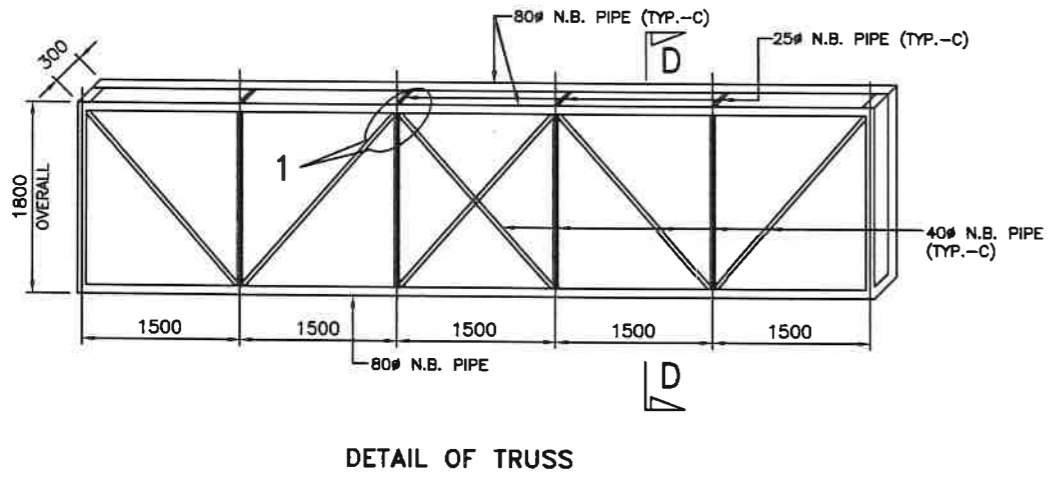
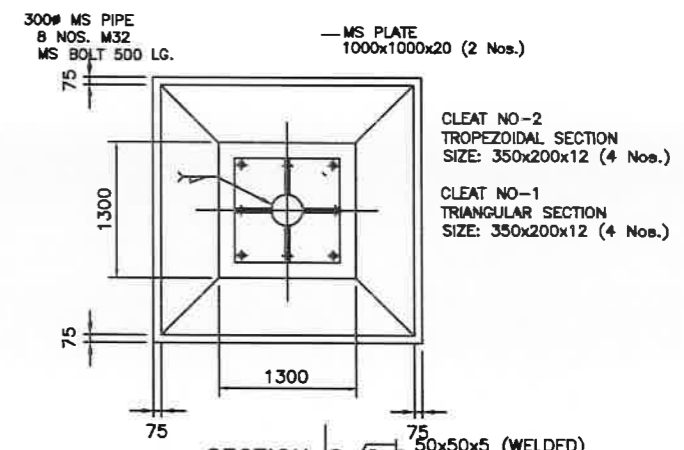
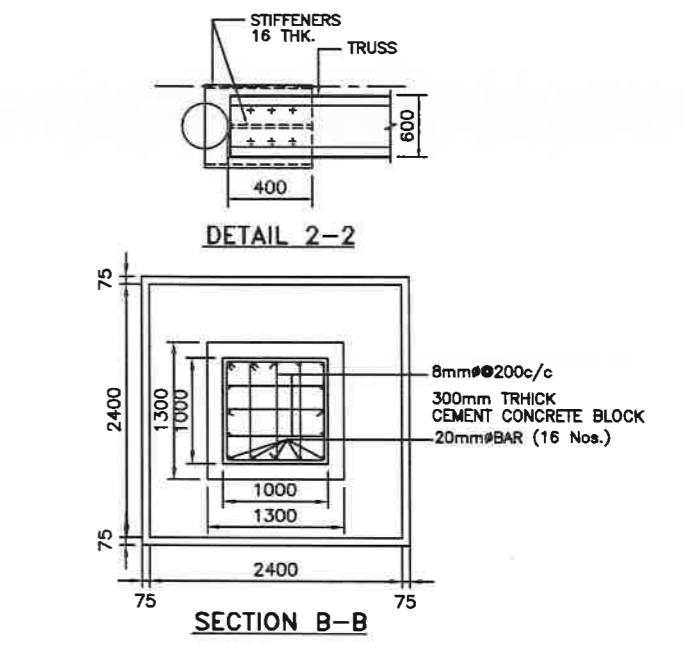
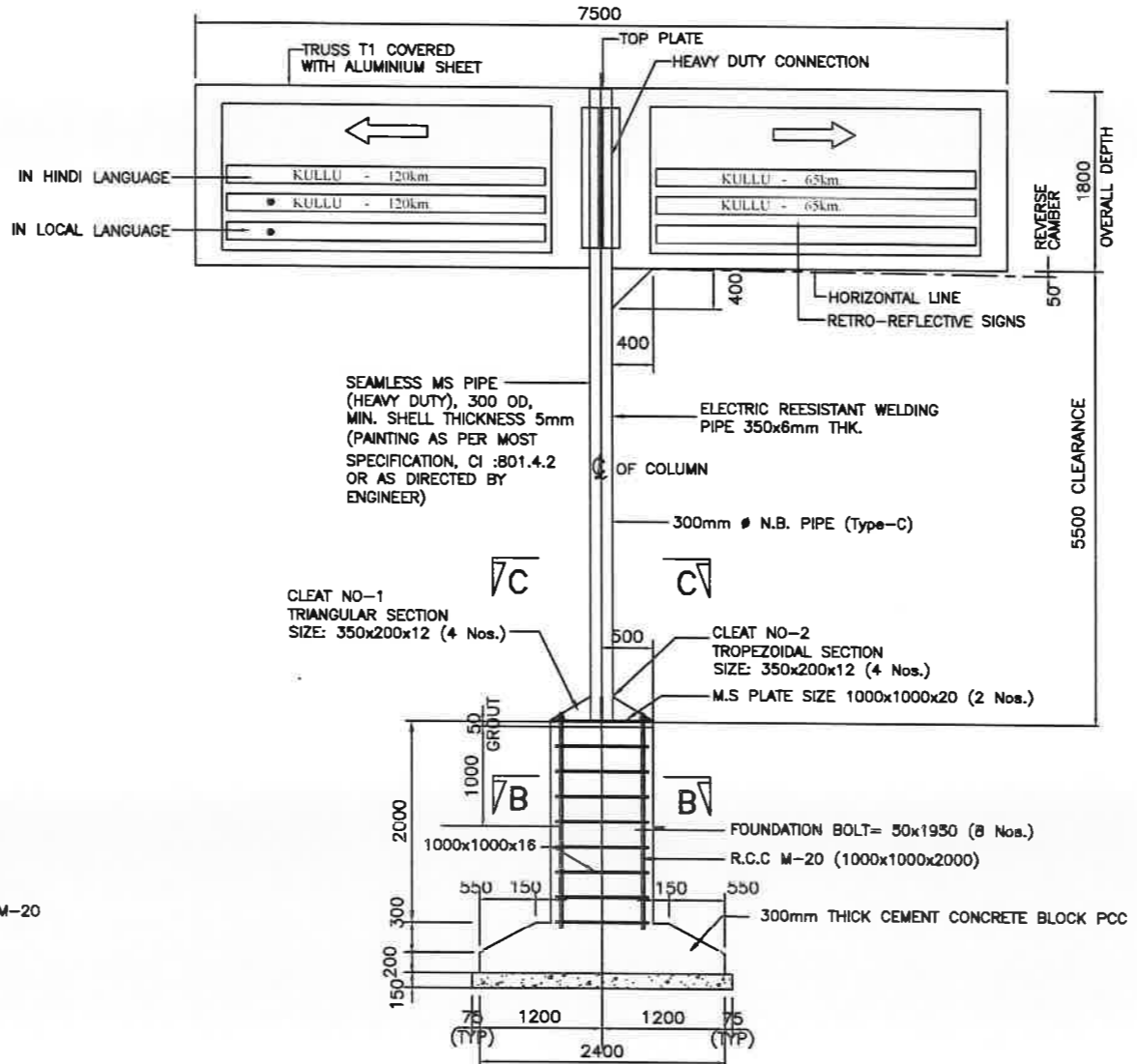
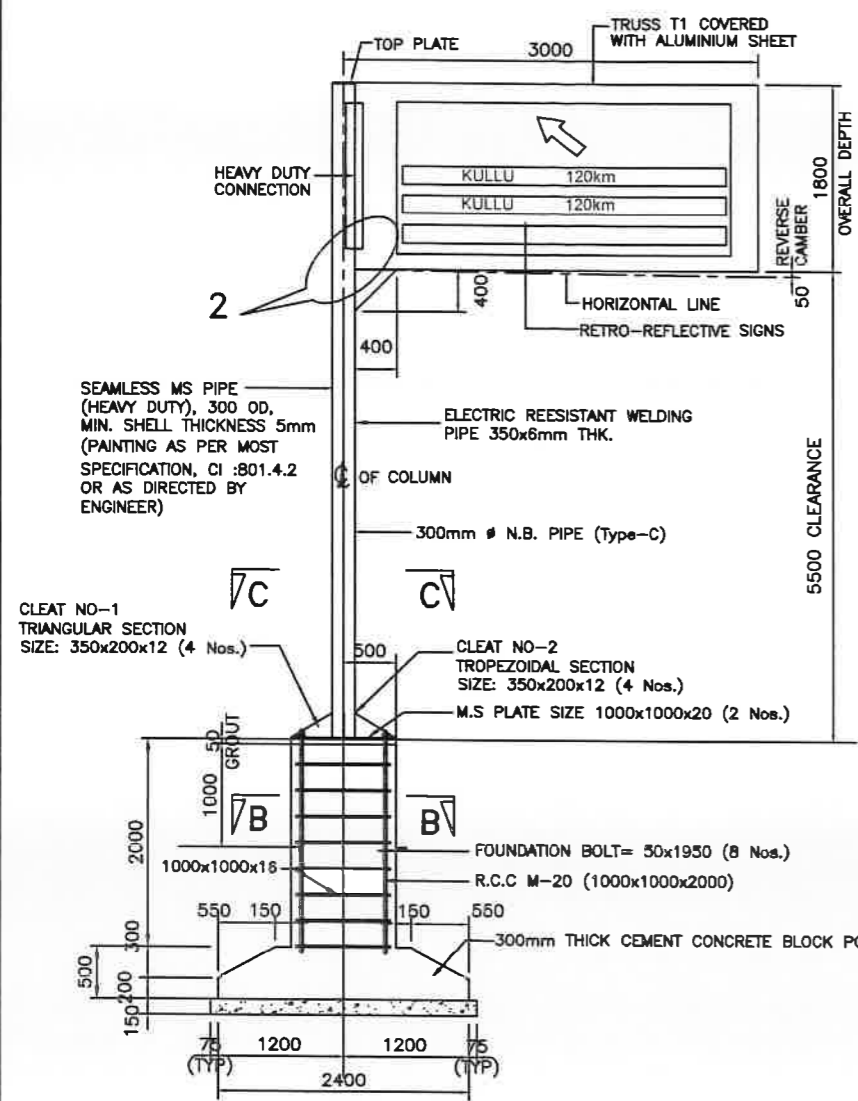
S NO.	TYPE OF M.S. BAR	NO OF BARS	SHAPE OF BARS	DIA IN mm	LENGTH OF ONE BAR INCLUDING HOOKS
1.	MAIN BARS	2	⊥	6 mm	1.48 m
2.	TOPMOST STIRRUP	1	⊙	6 mm	370 mm
3.	STIRRUP (FIRST FROM TOP)	1	⊙	6 mm	405 mm
4.	STIRRUP (SECOND FROM TOP)	1	⊙	6 mm	440mm
5.	STIRRUP (THIRD FROM TOP)	1	⊙	6 mm	475 mm
6.	BOTTOMMOST STIRRUP	1	⊙	6 mm	810 mm



DETAIL OF KILOMETRE STONE
(SCALE 1:10)

DETAIL OF BOUNDARY STONE
(SCALE 1:10)

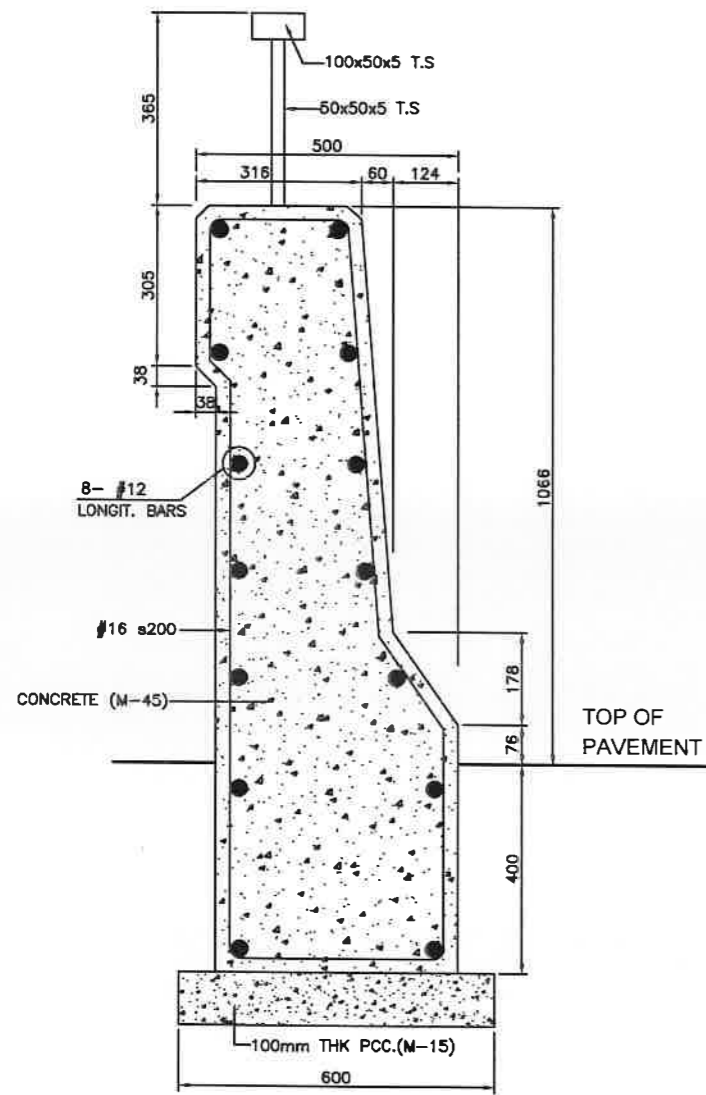
Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakol-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Roralhang-Pakyong along with spur from Aritar-Rolep-Menta in the State of Sikkim.	DATE : June 2020	Revision	RO	PACKAGE-II DETAIL OF DISTANCE STONE & BOUNDARY STONE
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT LTD (Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.)	DESIGNED BY : Vijay Gupta	DRAWN BY : Naresh	CHECKED BY : Vijay Gupta	APPROVED BY : Sanjay Shukla	
REV	DATE	DESCRIPTION OF REVISIONS	INITIALS	SCALE: -NTS	



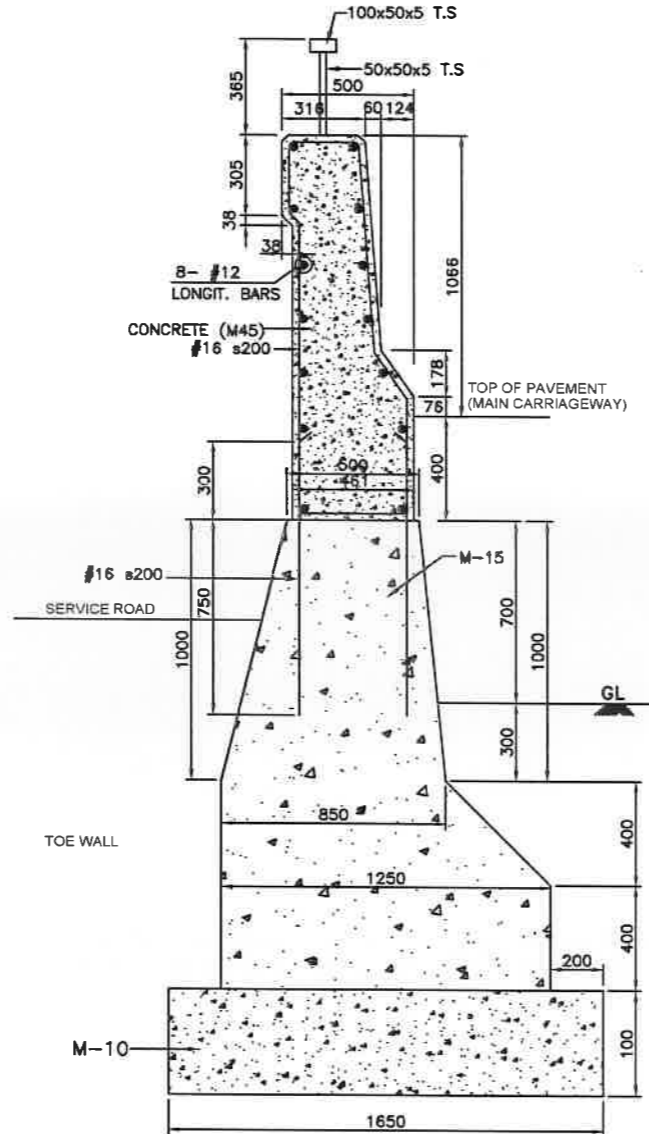
Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)		Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Antar-Rolep-Menla in the State of Sikkim.		DATE : June 2020	Revision	RO
RD Sep 2017	Final Feasibility Report.	Consultant : SA INFRASTRUCTURE CONSULTANTS PVT LTD	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
RD Nov 2016	Draft Feasibility Report	Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Gurgaon, Haryana	Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla
RD Dec 2014	Linear Plan		SCALE:-NTS			
REV	DATE	DESCRIPTION OF REVISIONS	INITIALS	PACKAGE- II DETAILS OF OVERHEAD GANTRY SIGN		
				Dwg. No. :- SACPL-SESPL/NHIDCL/WB-SKM/Misc/06		

RESHI BORDER ←

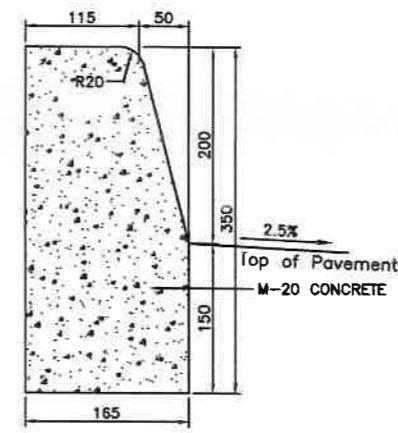
→ ROLEP



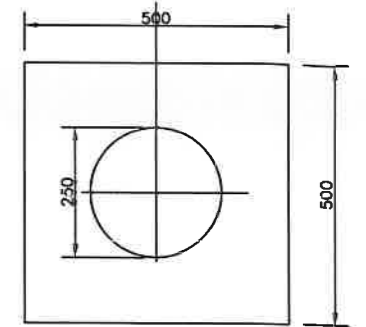
DETAILS OF JERCY TYPE CRASH BARRIER



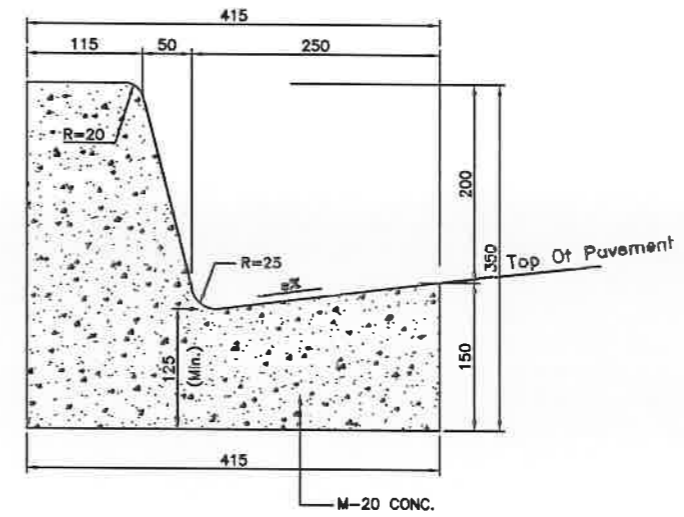
NEWJERSY TYPE CRASH BARRIER BETWEEN MAIN CARRIAGEWAY AND SERVICE ROAD



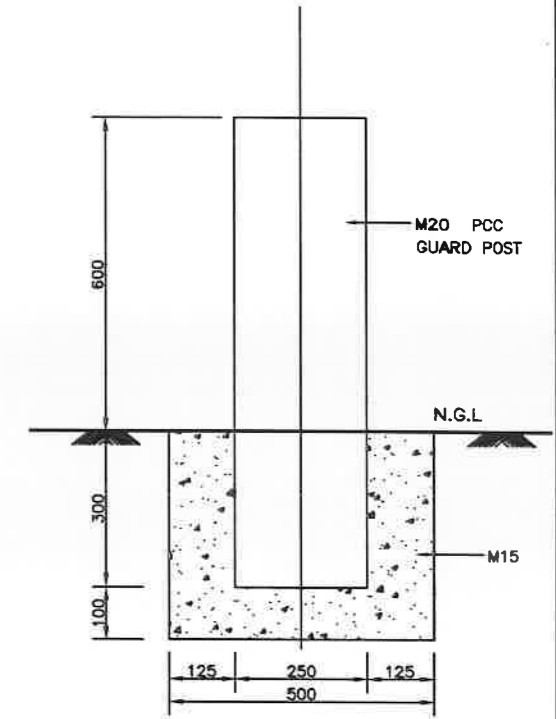
CENTRAL MEDIAN KERB STONE (ON MEDIAN SIDE FOR NORMAL CAMBERED SECTIONS)



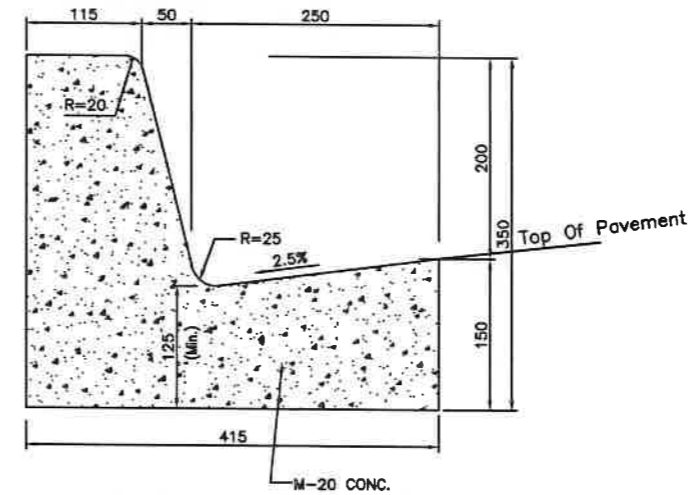
PLAN



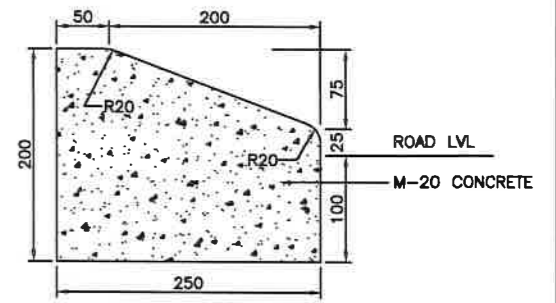
KERB WITH CHANNEL (ON MEDIAN SIDE FOR SUPER ELEVATED SECTIONS)



ELEVATION OF GUARD POST



KERB WITH CHANNEL (ON FOOTPATH SIDE)



MOUNTABLE TYPE KERB STONE (ON CHANNELISING ISLANDS AT INTERSECTIONS)

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	Sep 2017	Final Feasibility Report	
R0	Nov 2016	Draft Feasibility Report	
R0	Dec 2014	Linear Plan	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Anlar-Rolep-Menla in the State of Sikkim.

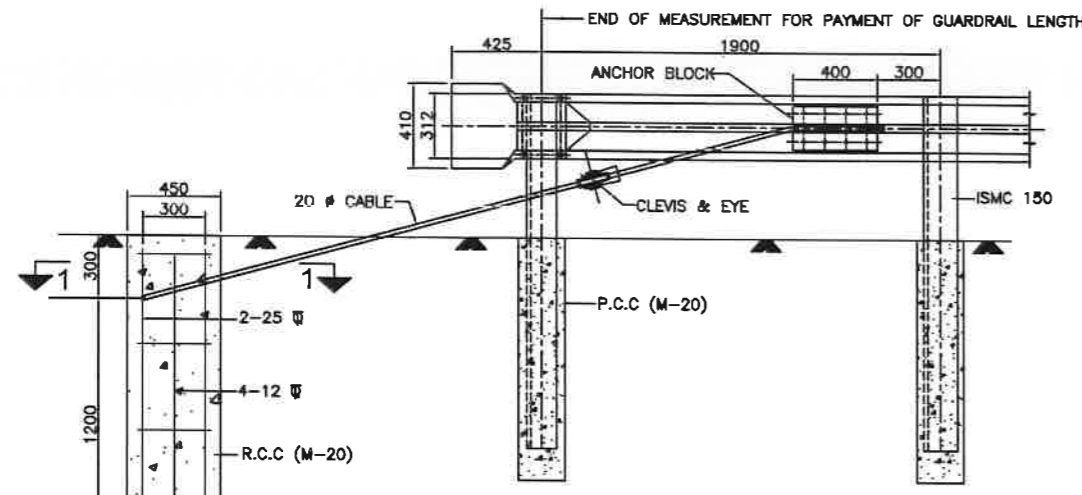
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla

DATE : June 2020
Revision : R0
SCALE : -NTS

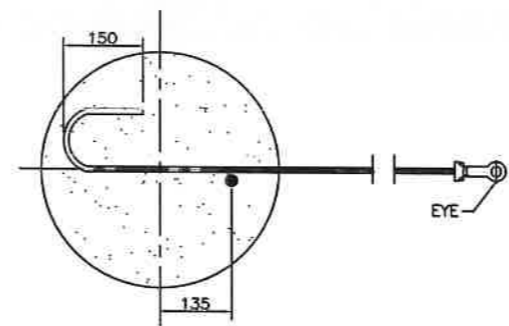
PACKAGE- 3
DETAIL OF CRASH BARRIER, KERB STONE & MEDIAN

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/Misc/07

RESHI BORDER

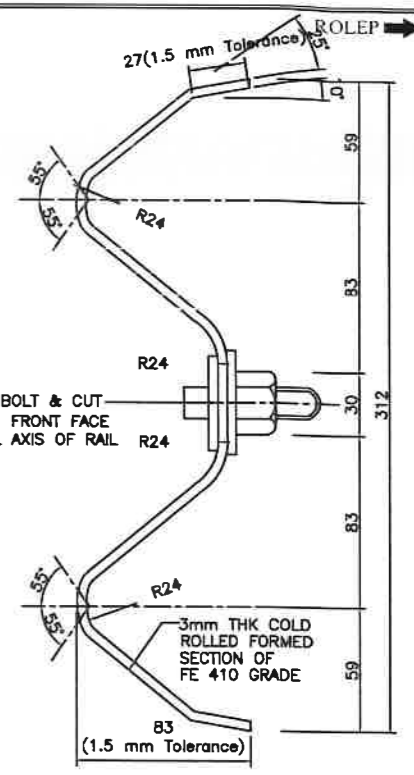


DETAIL OF BREAKAWAY CABLE ANCHOR ASSEMBLY
SCALE 1:25

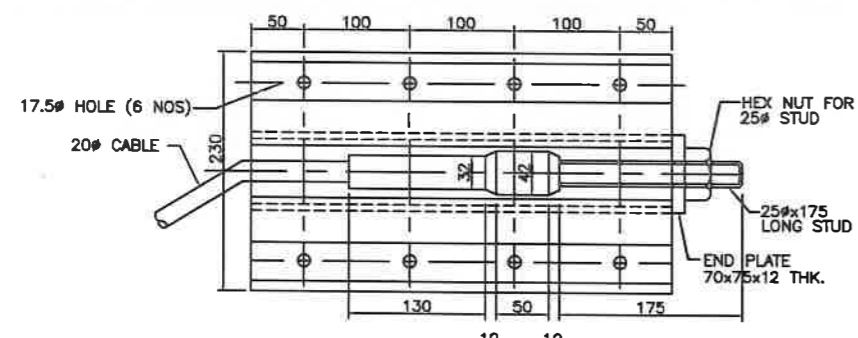


SECTION 1-1
SCALE 1:10

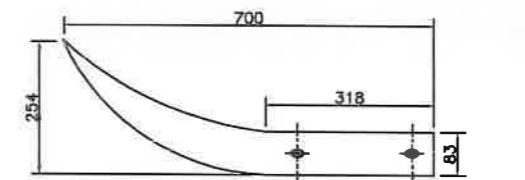
* PARABOLIC CURVE
EQUATION: $y = \frac{wx^2}{l}$
WHERE
w = TANGENT OFFSET AT MAXIMUM FLARE (1200mm)
l = TOTAL LENGTH OF FLARE (11400mm)
y = TANGENT OFFSET AT ANY POINT IN GUARDRAIL FLARE
x = DISTANCE FROM POINT OF TANGENT TO ANY POINT OF OFFSET



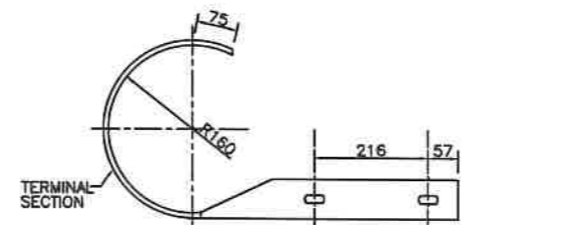
W-BEAM
(SCALE 1:5)



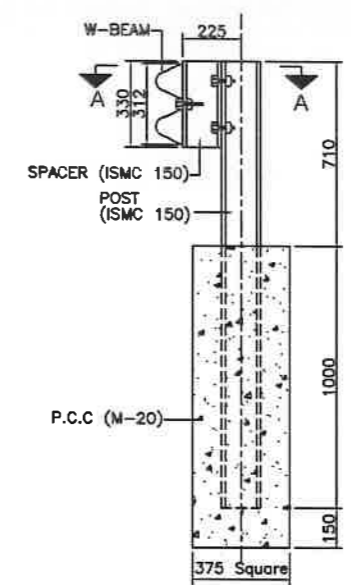
ANCHOR BLOCK DETAILS
(SCALE 1:5)



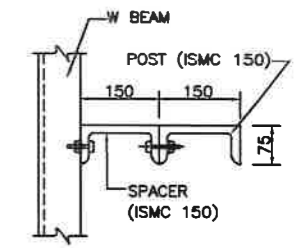
TOP VIEW OF END SECTION TYPE-A
(FLARED END SECTION)
SCALE 1:10



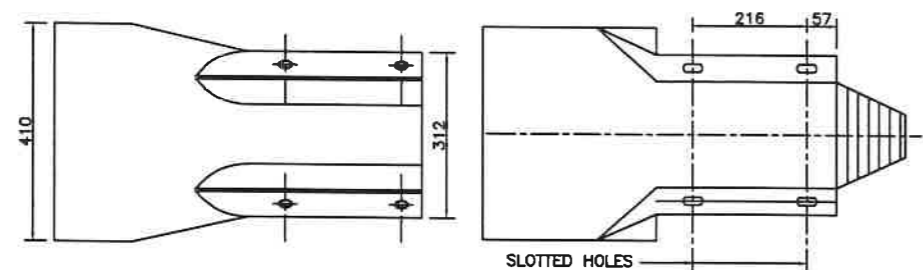
TOP VIEW OF END SECTION OF TYPE-B
(ROUNDED END SECTION)
SCALE 1:10



SECTION 2-2
SCALE 1:20

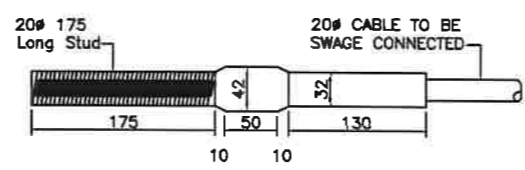


VIEW A-A
SCALE 1:10

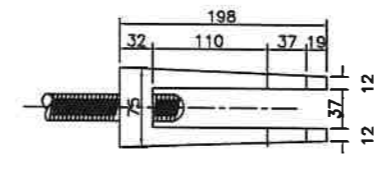


END SECTION TYPE-A
(FLARED END SECTION)
SIDE VIEW
(SCALE 1:10)

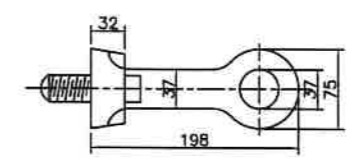
END SECTION TYPE-B
(ROUNDED END SECTION)
SIDE VIEW
(SCALE 1:10)



SWAGED FITTING AND STUD
(SCALE 1:5)



DETAIL OF CLEVIS
(SCALE 1:5)

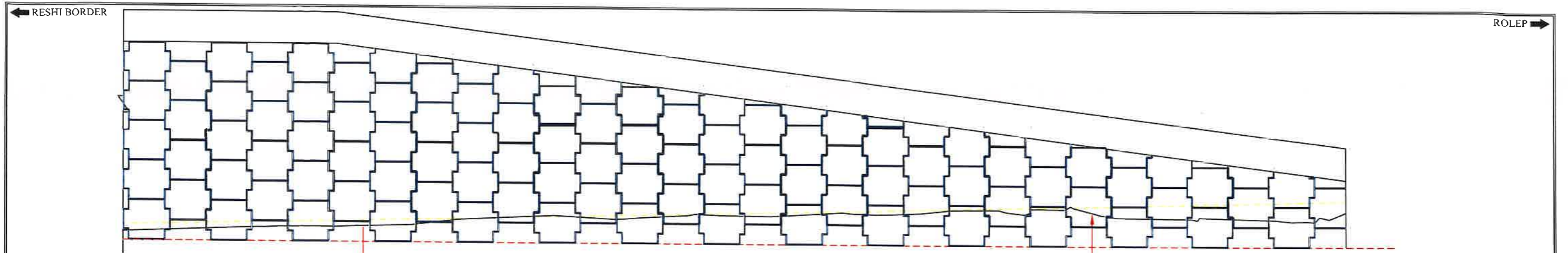


DETAIL OF EYE
(SCALE 1:5)

NOTES:

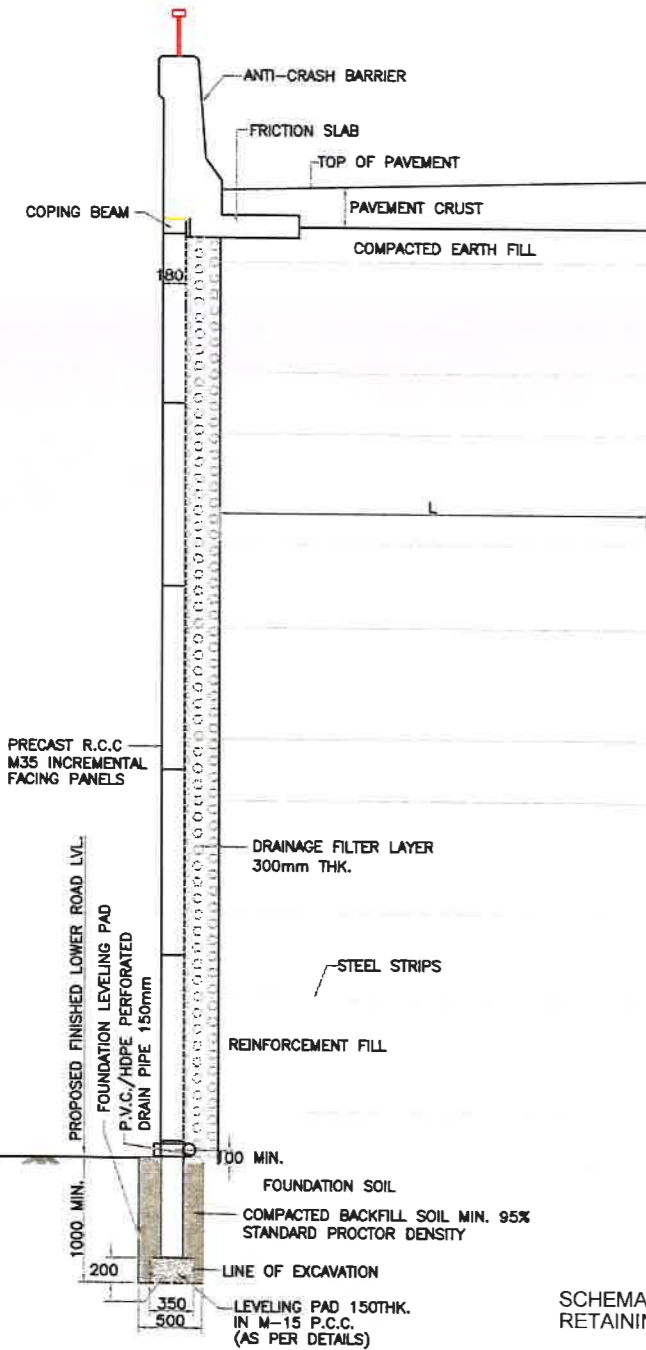
- METAL BEAM CRASH BARRIERS SHALL BE PROVIDED AT LOCATIONS SPECIFIED IN DRAWINGS AND WHERE INSTRUCTED BY THE ENGINEER
- SUITABLE REFLECTORS ARE TO BE PROVIDED ON W-BEAM AT A SPACING OF 3 M C/C
- ANCHOR CABLE HOOKS TO BE IN CONTACT WITH ANCHOR REINFORCEMENT WHEN CONCRETE IS PLACED
- ALL HOLES IN POSTS AND BLOCKS SHALL BE 21.50MM MAX
- W-BEAM SHALL BE AS PER IS : 5986 - 1992 AND POST, SPACERS ETC SHALL BE PER IS : 2062 - 1992
- W-BEAM, POSTS & SPACERS SHALL BE HOT DIP GALVANISED AS PER SPECIFICATIONS
- AT BRIDGE LOCATIONS, THE METAL BEAM CRASH BARRIER SHALL TERMINATE PREFERABLY WITH END SECTION TYPE A AND CONNECTED WITH BRIDGE/CULVERT RAILING/CRASH BARRIER IN A SUITABLE MANNER AS APPROVED.

Client:	NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project:	Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kater-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Antar-Rolep-Menla in the State of Sikkim.	DATE:	June 2020	Revision:	RO
Consultant:	SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Huda 201301, Uttar Pradesh.	DESIGNED BY:	Vijay Gupta	DRAWN BY:	Naresh	CHECKED BY:	Vijay Gupta
REV	DATE	DESCRIPTION OF REVISIONS	INITIALS	APPROVED BY:	Sanjay Shukla	PACKAGE-1 TYPICAL DETAIL OF METAL BEAM CRASH BARRIER	
				SCALE:	NTS		
				Dwg. No. :- SNICPL-SESPL/NHIDCL/WB-SKM/Misc/08			

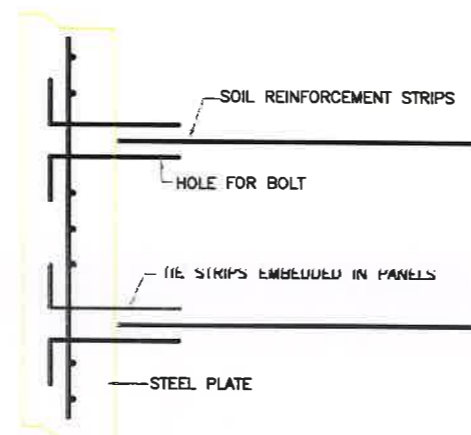


ELEVATION OF REINFORCED EARTH WALL

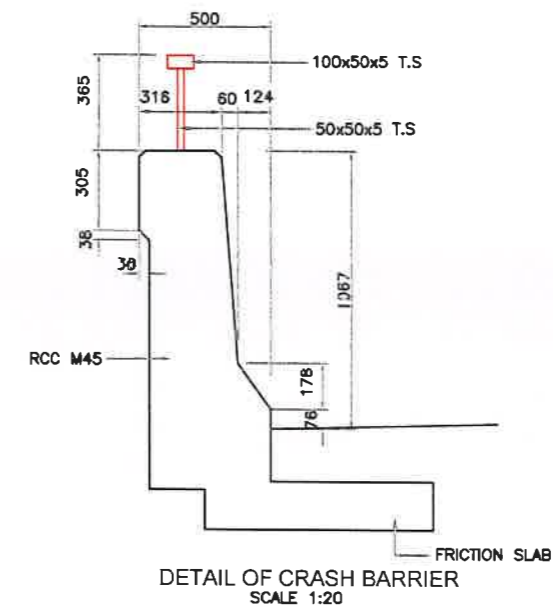
SCALE: H-1:500
V-1:50



SCHEMATIC C/S OF REINFORCED SOIL RETAINING WALL FOR APPROACHES (SCALE 1:40)



SCHEMATIC C/S OF FACING PANELS WITH TIE STRIPS (NOT TO SCALE)



DETAIL OF CRASH BARRIER SCALE 1:20

1. All dimensions are in mm unless otherwise mentioned.
2. Grade of concrete used in precast concrete panels is of M35
3. Reinforcement used in precast concrete panel is of Fe415.
4. The scheme shown in the drawing is indicative. The contractor shall supply detail design as per manufacturer's design. The design shall conform to the specifications and shall be approved by the Engineer.
5. The paved/ segment layout shall be prepared for each location and got approved by Engineer.

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	Sep 2017	Final Feasibility Report	
R0	Nov 2016	Draft Feasibility Report	
R0	Dec 2014	Linear Plan	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

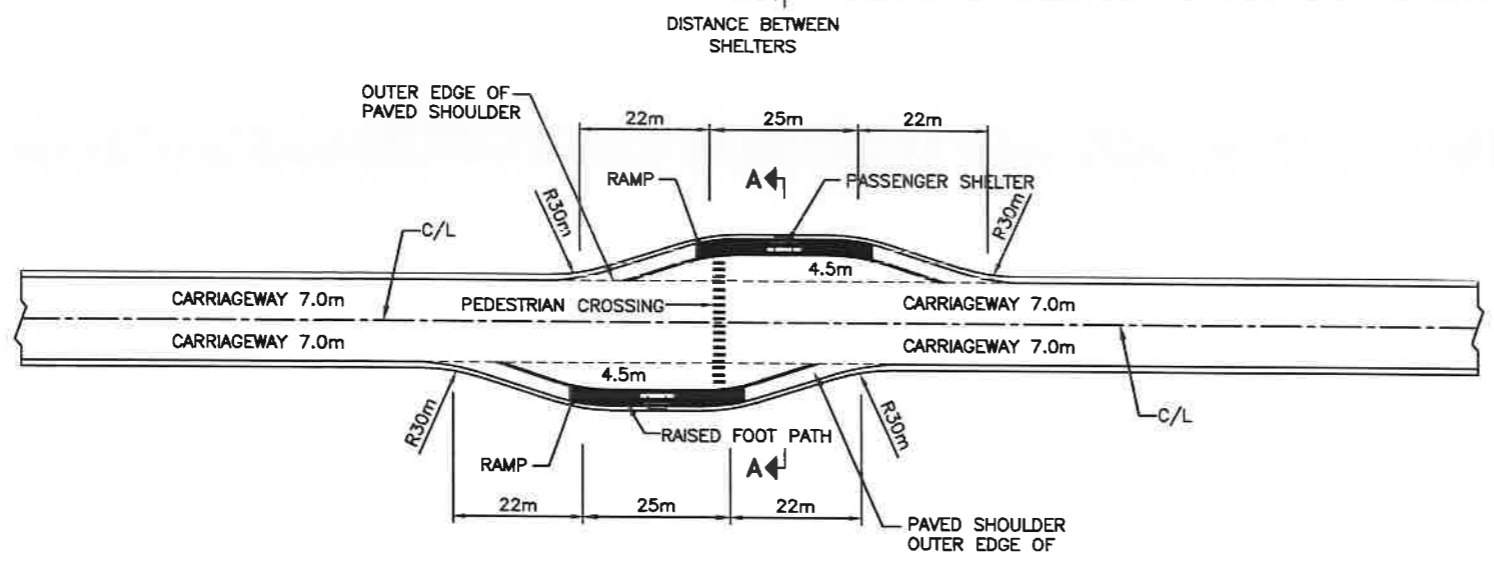
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT LTD
Specialized Engineering Service Pvt Ltd
1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Arilar-Rolep-Menla in the State of Sikkim.

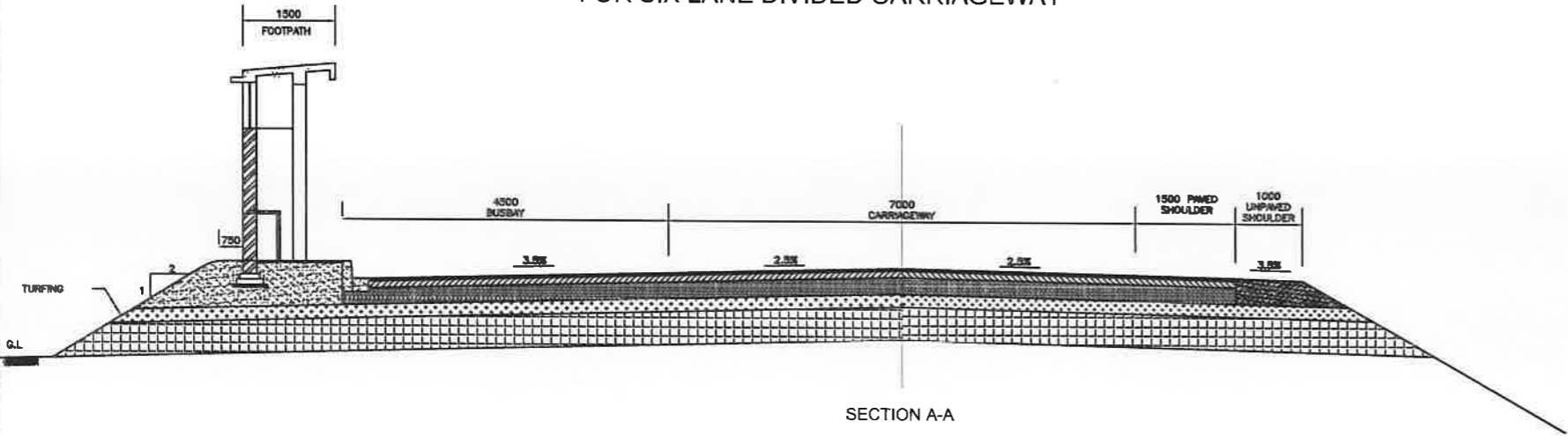
DATE : June 2020		Revision	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla

PACKAGE - SA
DETAIL OF RE WALL

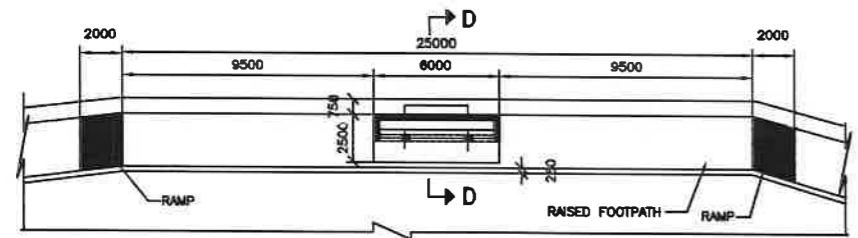
Dwg. No. : SAICPL-SESPL/NHIDCL/WB-SKM/Misc/09



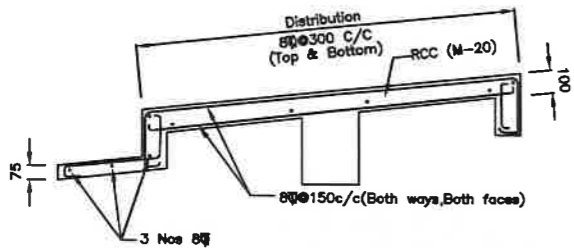
TYPICAL LAYOUT FOR BUS BAY FOR SIX LANE DIVIDED CARRIAGEWAY



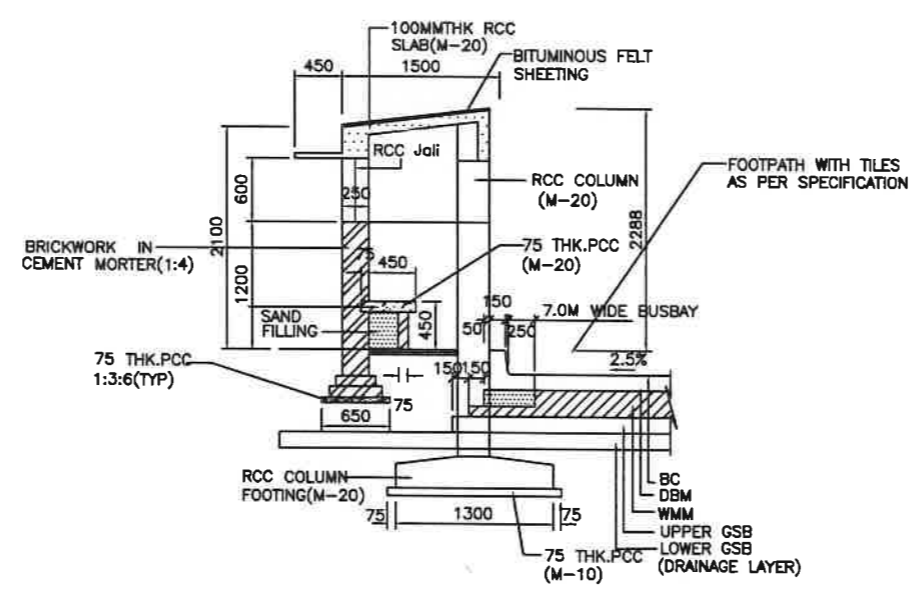
SECTION A-A



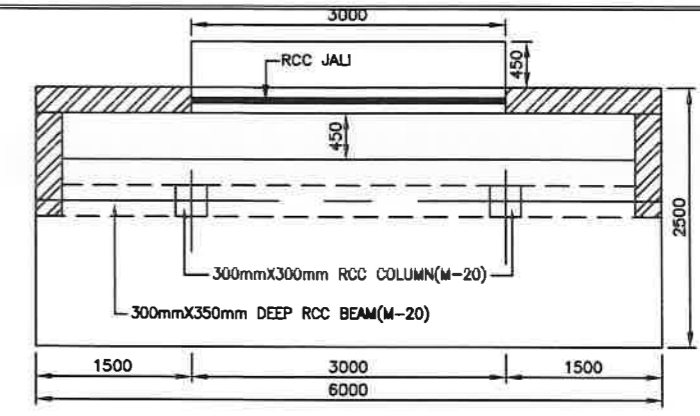
LOCATION OF PASSENGER SHELTER SCALE 1:250



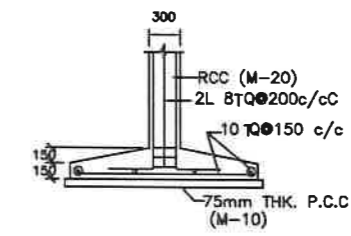
RCC DETAIL OF SLAB



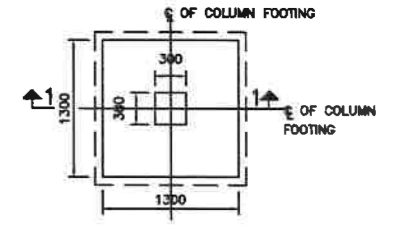
SECTION-D-D Scale 1:50



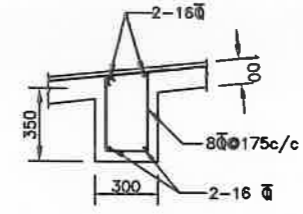
PLAN OF PASSENGER SHELTER SCALE 1:50



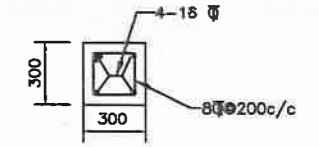
SECTION 1-1 SCALE 1:50



PLAN SHOWING COLUMN FOUNDATION SCALE 1:50



RCC DETAIL OF BEAM SCALE 1:25



RCC DETAIL OF COLUMN SCALE 1:25

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	Sep 2017	Final Feasibility Report	
RO	Nov 2016	Draft Feasibility Report	
RO	Dec 2014	Linear Plan	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida 201301, Uttar Pradesh.

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DATE :	Revision	RO
June 2020		
DESIGNED BY	DRAWN BY	CHECKED BY
Vijay Gupta	Naresh	Vijay Gupta
		APPROVED BY
		Sanjay Shukla

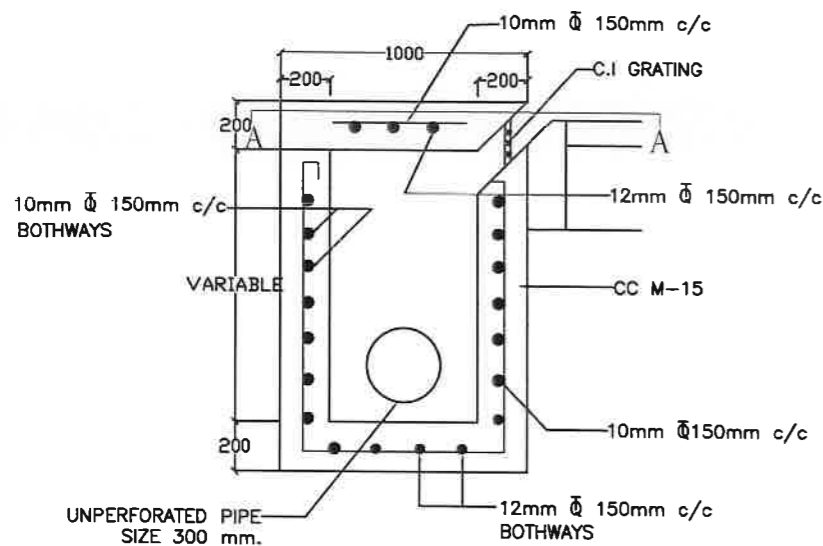
SCALE:-NTS

PACKAGE-03
LAYOUT OF BUSBAY, DETAILS OF PASSENGER SHELTER

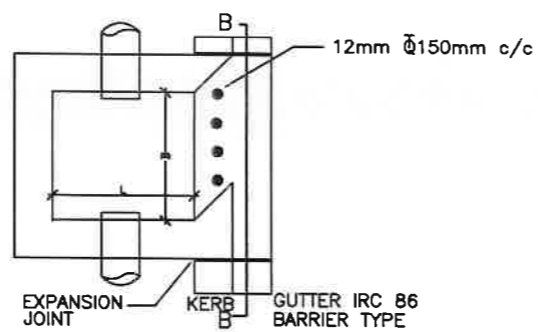
Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/Misc/10

RESHI BORDER ←

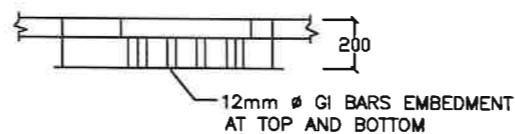
→ ROLEP



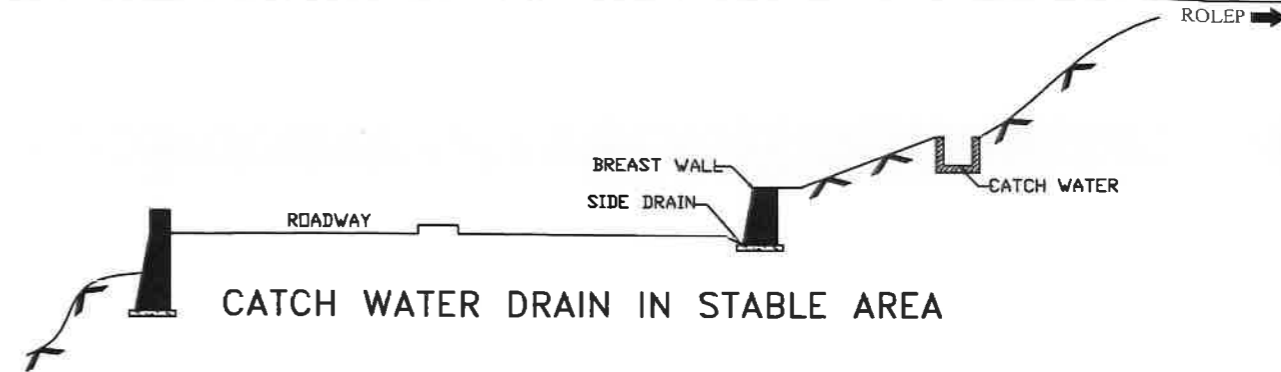
**CATCH BASIN
INLET CHAMBER**



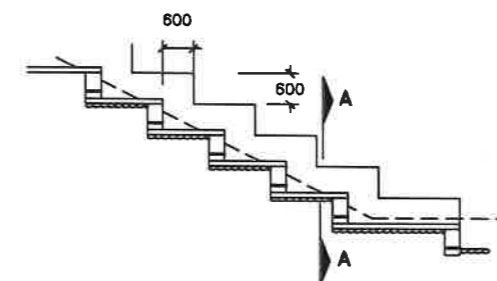
SECTION A-A



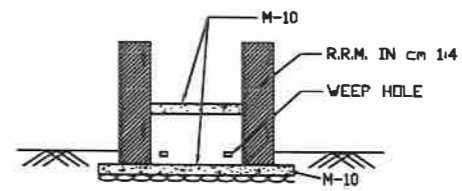
INLET DETAIL AT B-B



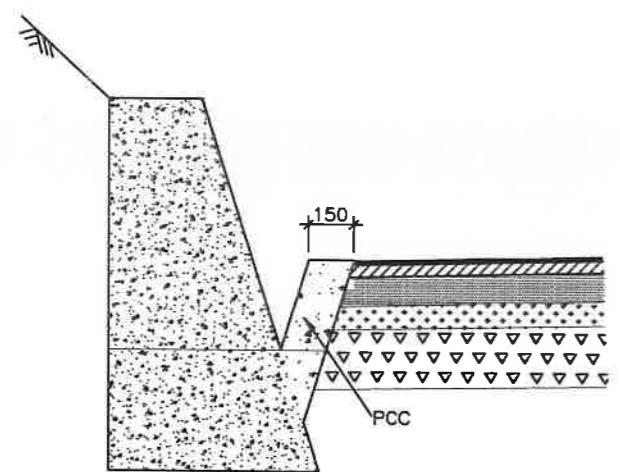
CATCH WATER DRAIN IN STABLE AREA



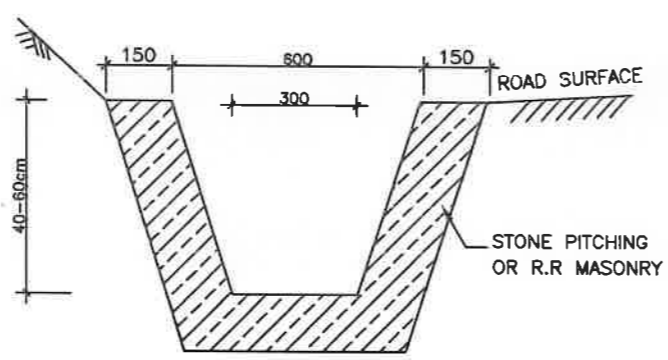
**LONGITUDINAL
SECTION OF CHUTE**



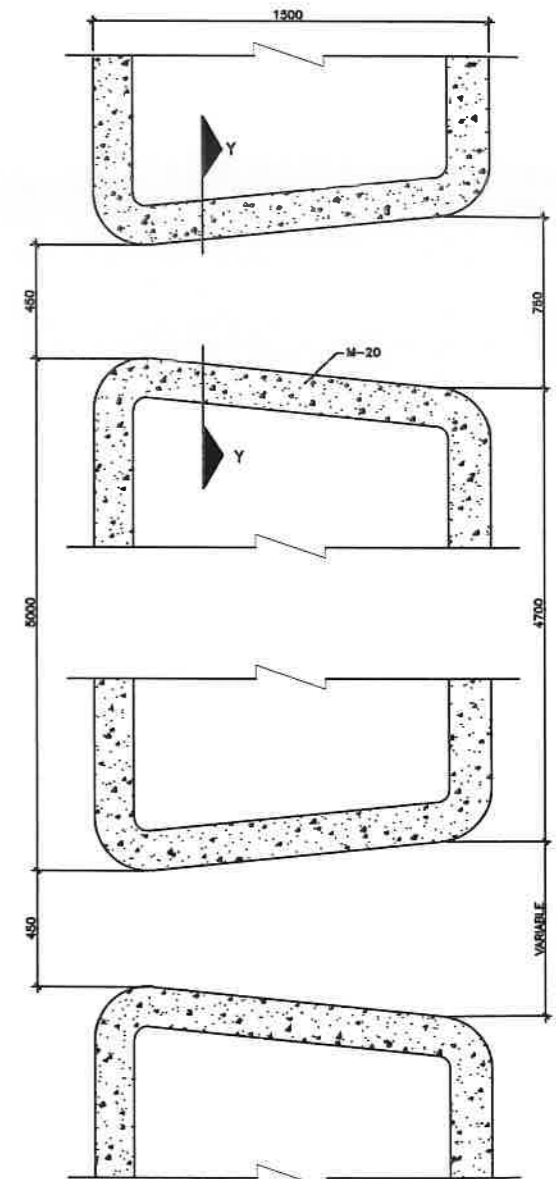
SECTION A-A



HILL SIDE DRAIN



TRAPEZOIDAL DRAIN



REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
RD	Sep 2017	Final Feasibility Report	
RD	Nov 2016	Draft Feasibility Report	
RD	Dec 2014	Linear Plan	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

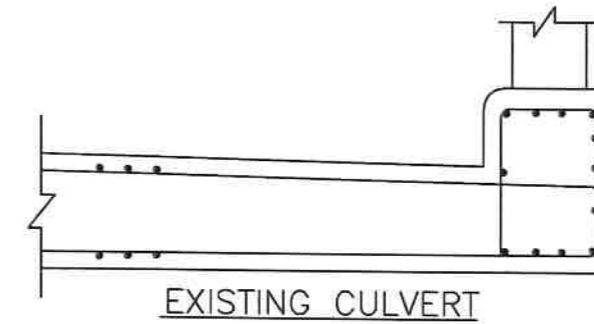
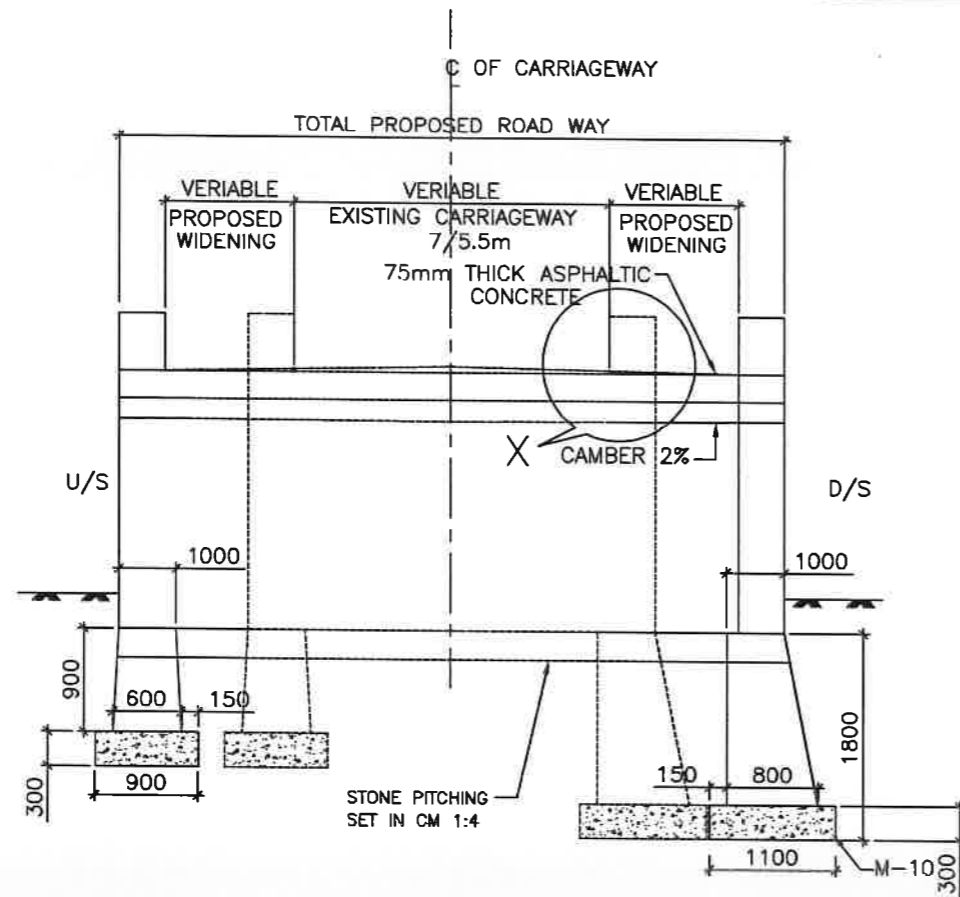
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Huda 201301, Uttar Pradesh.

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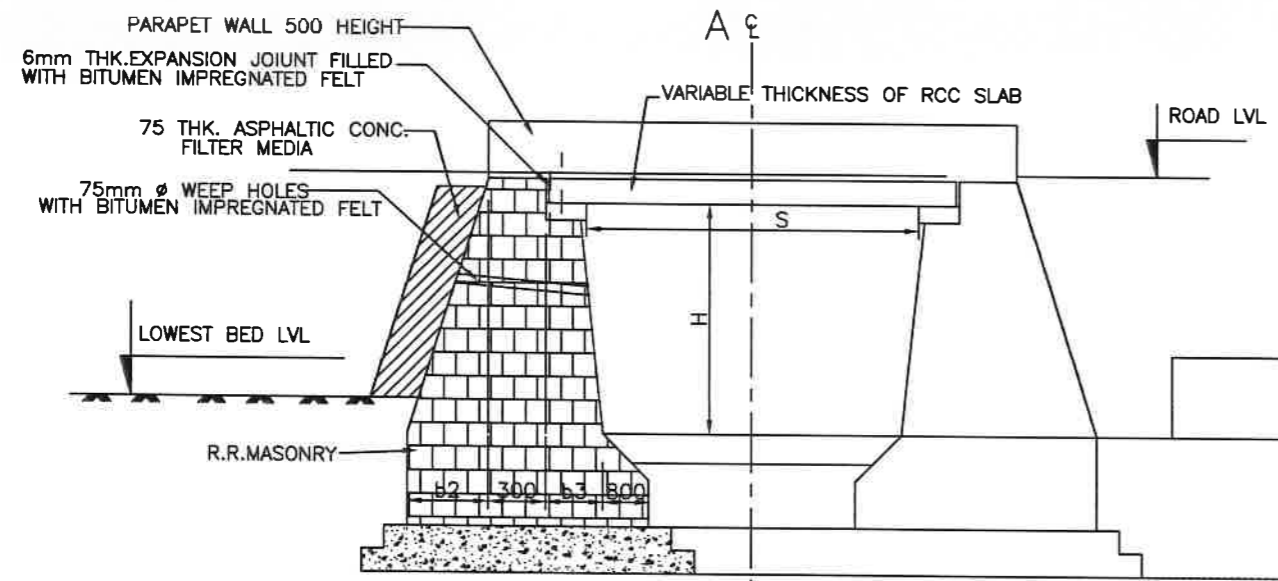
DATE : June 2020		Revision	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla

SCALE:-NTS

PACKAGE-05
 ROAD INFRASTRUCTURE
 DETAIL OF SIDE DRAIN, INLET CHAMBER & MEDIAN CUT DRAIN
 Dwg. No. :- SACPL-SESPL/NHIDCL/WB-SKM/Misc/11

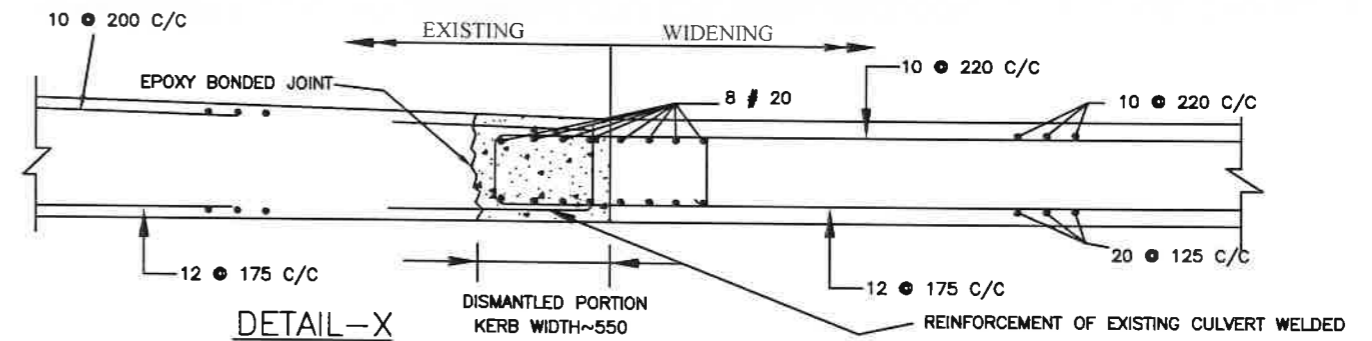


EXISTING CULVERT



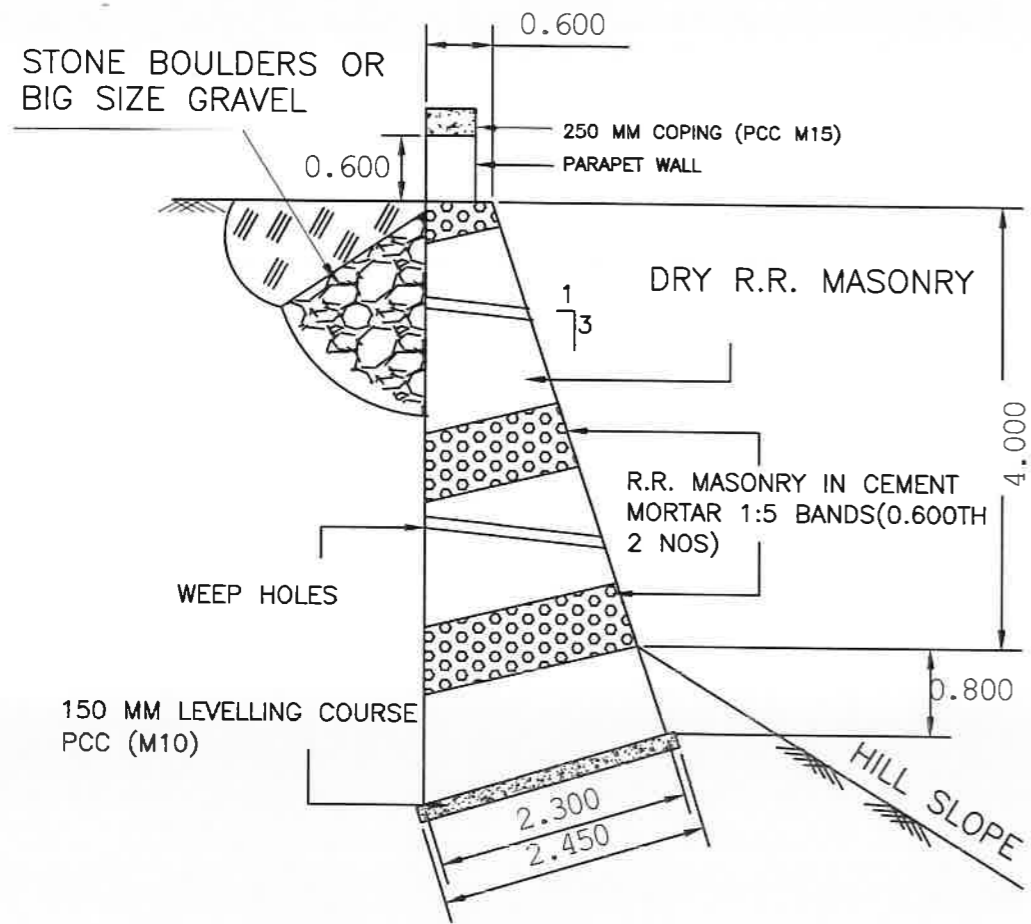
HALF SECTIONAL ELEVATION
SHOWING ABUTMENT

H = HEIGHT
S = CLEAR SPAN

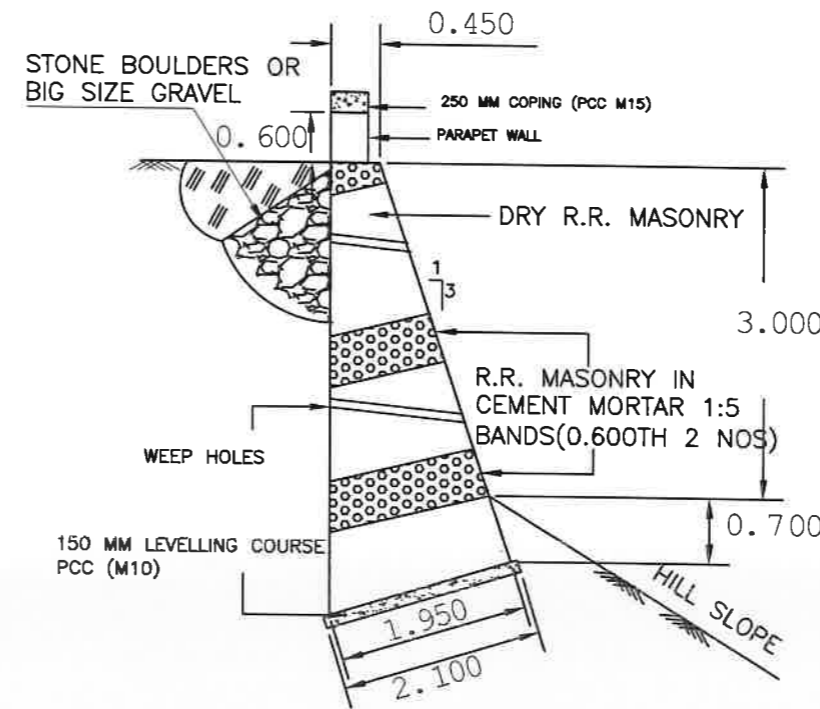


DETAIL-X
SECTION SHOWING REINFORCEMENT ARRANGEMENT OF
EXISTING AND NEW CULVERT SLAB

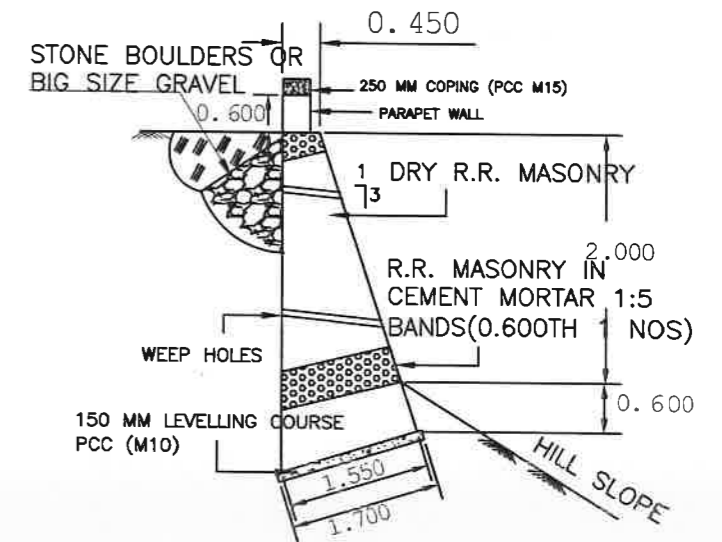
<p>Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)</p>		<p>Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Antar-Rolep-Menta in the State of Sikkim.</p>		<p>DATE : June 2020</p>		<p>Revision RO</p>		<p>PACKAGE- 02 TYPICAL EXTENSION ARRANGEMENT FOR SLAB CULVERT</p>	
<p>Consultant : SA INFRASTRUCTURE CONSULTANTS PVT LTD Specialized Engineering Service Pvt Ltd 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Huda, Gurgaon, Haryana</p>		<p>DESIGNED BY: Vijay Gupta</p>		<p>DRAWN BY: Naresh</p>		<p>CHECKED BY: Vijay Gupta</p>		<p>APPROVED BY: Sanjay Shukla</p>	
<p>REV DATE DESCRIPTION OF REVISIONS INITIALS</p>		<p>SCALE:-NTS</p>		<p>Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/Misc/12</p>					



RETAINING WALL 4 M. HT.



RETAINING WALL 3 M. HT.

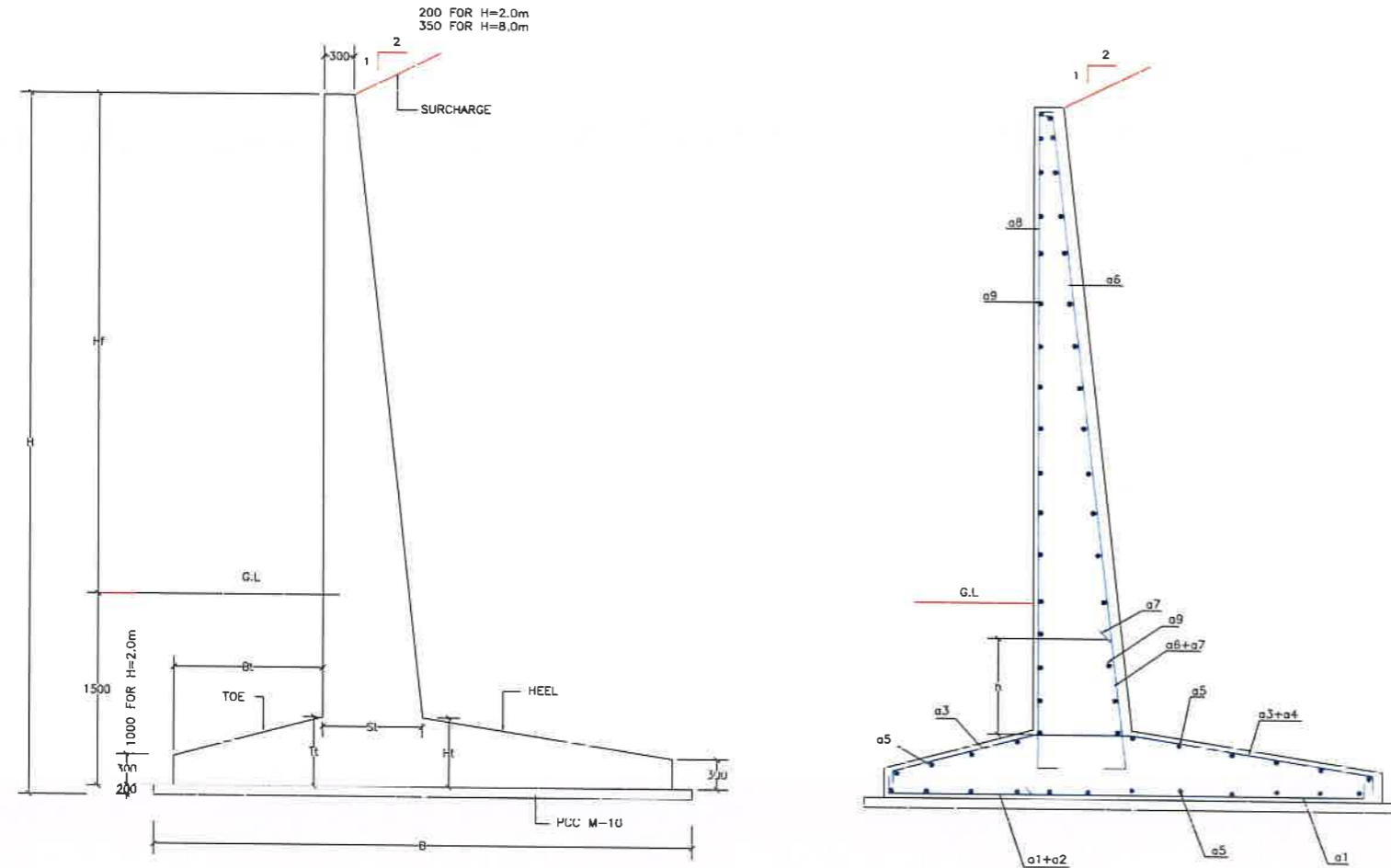


RETAINING WALL 2 M. HT.

NOTES:-

1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE SPECIFIED
2. DESIGN AS PER GUIDELINES OF IRC:SP:48-1998 (HILL ROAD MANNUAL)
3. BATTER TO BE KEPT AS 1:3 UP TO 4.0 M HT. ADJUSTING THE BASE DIMENSIONS SUITABLY

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS	<p>Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)</p> <p>Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Haryana 201301, Uttar Pradesh.</p>	<p>Project :</p> <p>Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chaikhim-Nimbong-Kater-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Merla in the State of Sikkim.</p>	<p>DATE : June 2020</p> <p>DESIGNED BY : Vijay Gupta</p> <p>DRAWN BY : Naresh</p> <p>CHECKED BY : Vijay Gupta</p> <p>APPROVED BY : Sanjay Shukla</p> <p>Revision : R0</p>	<p>PACKAGE- II HILL ROAD PROJECT DETAIL OF RETAINING WALL (MASONARY WALL)</p> <p>SCALE:-NTS</p>
				<p>Dwg. No. :- SAICPL-SESPL/NHDCL/WB-SKM/Misc/13</p>			



TYPICAL CROSS SECTION FOR RETAINING WALL.

DIMENSIONAL DETAILS OF RETAINING WALL

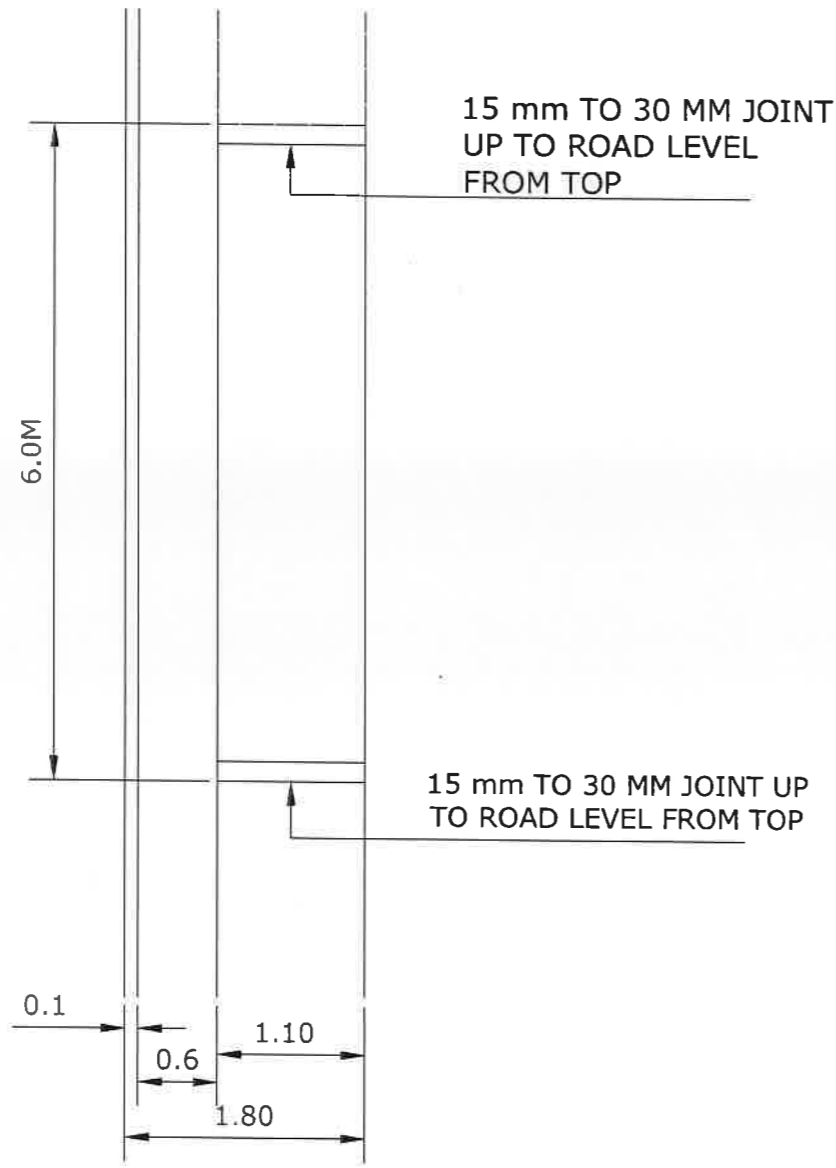
HEIGHT OF RET. WALL	Hf	B	Bt	St	Sb	Ht	Tt	CONC. GRADE
2.0m	1000	1200	100	200	200	200	200	M25
3.0m	1500	1800	150	300	300	300	300	M25
3.5m	2000	2100	250	300	300	300	300	M25
4.0m	2500	2600	400	300	350	300	300	M25
4.5m	3000	3000	600	300	450	300	300	M25
5.0m	3500	3500	800	300	500	300	300	M25
5.5m	4000	3900	1000	300	550	400	400	M25
6.0m	4500	4400	1200	300	650	400	400	M25
6.5m	5000	4900	1400	300	700	450	450	M25
7.0m	5500	5400	1600	300	1000	500	500	M25
7.5m	6000	6050	1850	300	800	550	550	M30
8.0m	6500	6200	2000	350	800	500	500	M30

REINFORCEMENT DETAILS OF RETAINING WALL

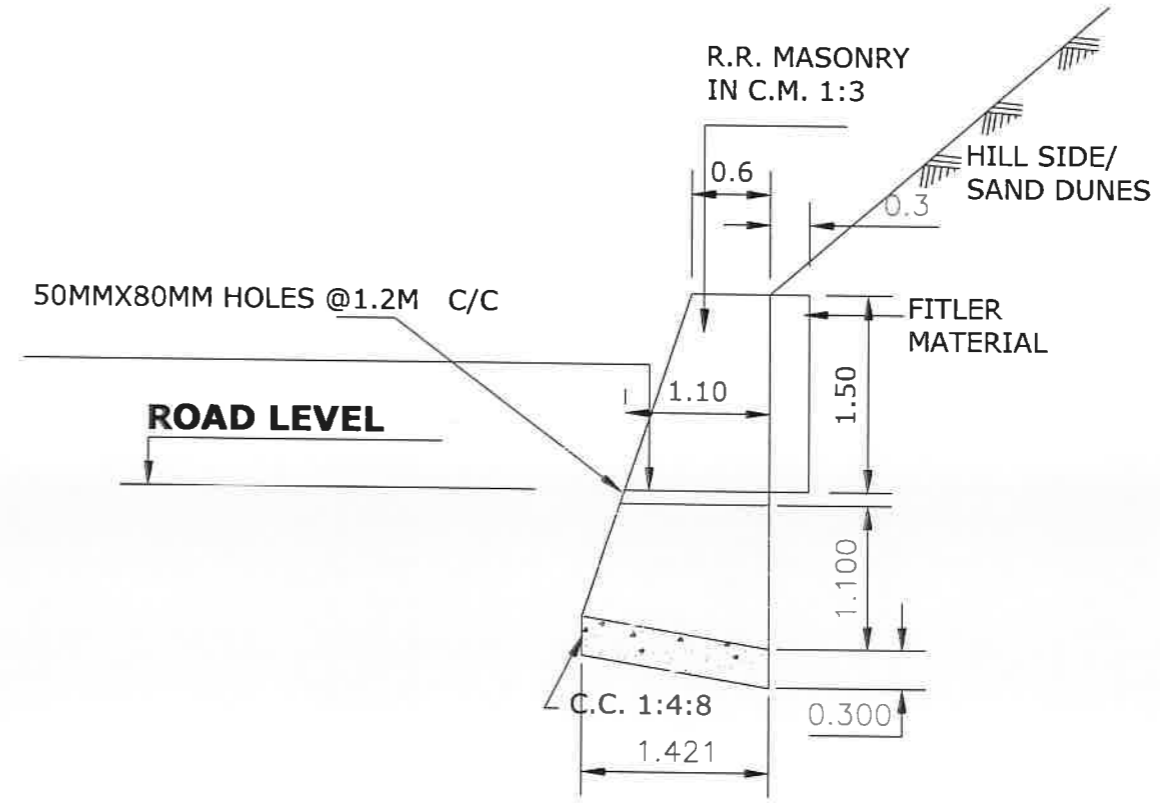
HEIGHT OF RET. WALL	h(mm)	a1	a2	a3	a4	a5	a6	a7	a8	a9
2.0m	NIL	10ϕ150C/C	NIL	10ϕ150C/C	NIL	10ϕ200C/C	10ϕ150C/C	NIL	10ϕ150C/C	10ϕ200C/C
3.0m	NIL	10ϕ140C/C	NIL	10ϕ140C/C	NIL	10ϕ200C/C	12ϕ140C/C	NIL	10ϕ140C/C	10ϕ200C/C
3.5	1450	10ϕ140C/C	NIL	12ϕ140C/C	NIL	10ϕ200C/C	12ϕ140C/C	10ϕ140C/C	10ϕ140C/C	10ϕ200C/C
4.0m	1950	10ϕ140C/C	NIL	10ϕ140C/C	10ϕ140C/C	10ϕ200C/C	12ϕ140C/C	12ϕ140C/C	10ϕ140C/C	10ϕ200C/C
4.5m	3000	10ϕ150C/C	NIL	10ϕ150C/C	12ϕ150C/C	10ϕ200C/C	12ϕ150C/C	16ϕ150C/C	10ϕ150C/C	10ϕ200C/C
5.0m	2350	10ϕ150C/C	10ϕ150C/C	12ϕ150C/C	12ϕ150C/C	10ϕ200C/C	16ϕ150C/C	16ϕ150C/C	10ϕ150C/C	10ϕ200C/C
5.5m	2700	10ϕ140C/C	10ϕ140C/C	10ϕ140C/C	12ϕ140C/C	10ϕ200C/C	16ϕ140C/C	16ϕ140C/C	10ϕ140C/C	10ϕ200C/C
6.0m	3300	10ϕ140C/C	12ϕ140C/C	10ϕ140C/C	12ϕ140C/C	10ϕ200C/C	16ϕ140C/C	20ϕ140C/C	10ϕ140C/C	10ϕ200C/C
6.5m	3750	12ϕ140C/C	12ϕ140C/C	10ϕ140C/C	12ϕ140C/C	10ϕ200C/C	16ϕ140C/C	20ϕ140C/C	10ϕ140C/C	10ϕ200C/C
7.0m	5000	12ϕ150C/C	16ϕ150C/C	10ϕ150C/C	10ϕ150C/C	10ϕ200C/C	16ϕ150C/C	20ϕ150C/C	10ϕ150C/C	10ϕ150C/C
7.5m	4100	12ϕ140C/C	16ϕ140C/C	10ϕ140C/C	12ϕ140C/C	10ϕ150C/C	20ϕ140C/C	25ϕ140C/C	10ϕ150C/C	10ϕ150C/C
8.0m	3900	16ϕ150C/C	20ϕ150C/C	12ϕ150C/C	16ϕ150C/C	10ϕ150C/C	25ϕ150C/C	25ϕ150C/C	10ϕ150C/C	10ϕ150C/C

SR N	FROM	TO	LENGTH		
01	20100	20140	40	Both Side Retaining Wall	Avg Ht c3m
02	20140	20500	360	Left Side Retaining Wall	Avg Ht c3m
03	20500	20640	140	Left Side Retaining Wall	Avg Ht c4m
04	21240	21540	300	Left Side Retaining Wall	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot- Chukhim -Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Antar-Rolep-Merla in the State of Sikkim.	DATE : June 2020	Revision : RO	DESIGNED BY: <i>Vijay Gupta</i> DRAWN BY: <i>Naresh</i> CHECKED BY: <i>Vijay Gupta</i> APPROVED BY: <i>Sanjay Shukla</i>	PACKAGE- 104 TYPICAL DETAILS OF RCC RETAINING WALL
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD. (Specialized Engineering Service Pvt. Ltd. 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida-201301, Uttar Pradesh)		SCALE: -NTS	Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/Misc/14		
REVISIONS: R0 Sep 2017 Final Feasibility Report R0 Nov 2016 Draft Feasibility Report R0 Dec 2014 Linear Plan	INITIALS				



PLAN
(AT ROAD LEVEL)



TYPICAL CROSS SECTION OF BREAST WALL

Client :	NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project :	Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aitar-Rolep-Menda in the State of Sikkim.	DATE :	June 2020	Revision	RO	PACKAGE-02 BREAST WALL AT ROAD LEVEL TYPICAL DRAWING OF BREAST WALL	
Consultant :	SA INFRASTRUCTURE CONSULTANTS PVT LTD Specialized Engineering Service Pvt. Ltd 1101A, 11th Floor, Tower A-II, Corporate Park, Plot No. 7A/1, Sector-142, Noida-201301, Uttar Pradesh.	DESIGNED BY	Vijay Gupta	DRAWN BY	Noresh	CHECKED BY	Vijay Gupta		APPROVED BY
REV	DATE	DESCRIPTION OF REVISIONS	INITIALS	SCALE:-NTS					Dwg. No. :- SAICPL-SESPL/NHDCL/WB-SKM/Misc/15



REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	APRIL 2019	FINAL FEASIBILITY REPORT	

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(Ministry of Road Transport & Highways)

Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.,
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida 201301, Uttar Pradesh.

Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakot-Chukhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.

DATE : OCT-2020		Revision : R0	
DESIGNED BY Vijay Gupta	DRAWN BY Naresh	CHECKED BY Vijay Gupta	APPROVED BY Sanjay Shukla
SCALE:-			

PACKAGE-3B
HELIPAD TO MENLA

TYPICAL Y JUNCTION

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/13