

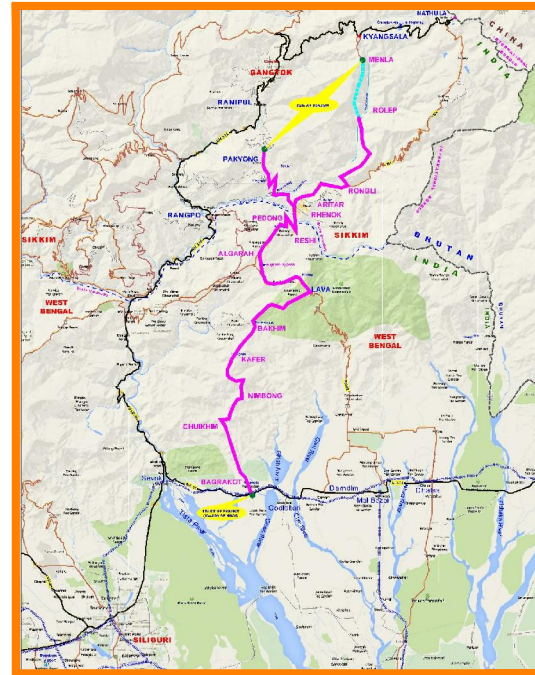
CLIENT:-



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

Consultancy for Preparation of Feasibility Report cum Preliminary Design for Alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenock in the State of West Bengal and From Rhencok-Rorathang-Pakyong along with Spur From Aritar-Relop-Menla in the State of Sikkim.

STRUCTURE DRAWINGS
PACKAGE-IVA (Ch.0+000 To 13+000)
OF BAGRAKOT TO KAFER



JANUARY-2018

CONSULTANT :-

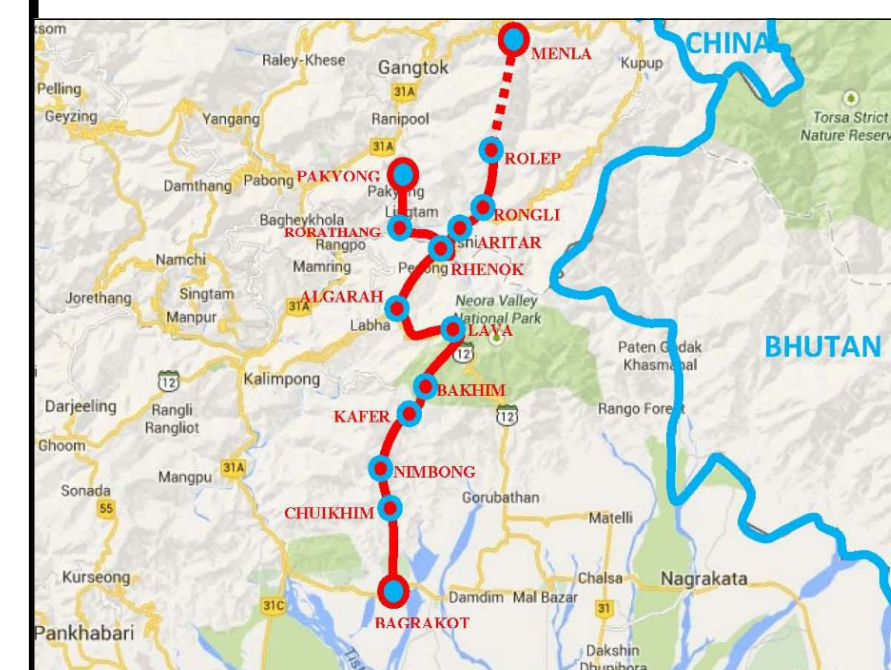


SA INFRASTRUCTURE CONSULTANTS PVT. LTD.

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.

NH-717A (SIKKIM) PACKAGE-IVA

Sl. No	DRAWING TITLE	SKEW	SPAN ARRANGEMENT
MINOR BRIDGE			
1	GENERAL ARRANGEMENT DRAWING MNB AT CH.	1+383	0
2	GENERAL ARRANGEMENT DRAWING MNB AT CH.	3+585	0
LOOP			
3	GENERAL ARRANGEMENT DRAWING ELEVATED LOOP STRUCTURE	0	3x25.0m+1x45.4.0m+1x40.5.0m
4	GENERAL ARRANGEMENT DRAWING ELEVATED LOOP STRUCTURE	0	3x25.0m+1x45.4.0m+1x40.5.0m
ROBs			
5	GENERAL ARRANGEMENT DRAWING OF ROB AT CH.	0+057.820	0



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

Project :
 Consultancy 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-Menia in the State of Sikkim.

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS

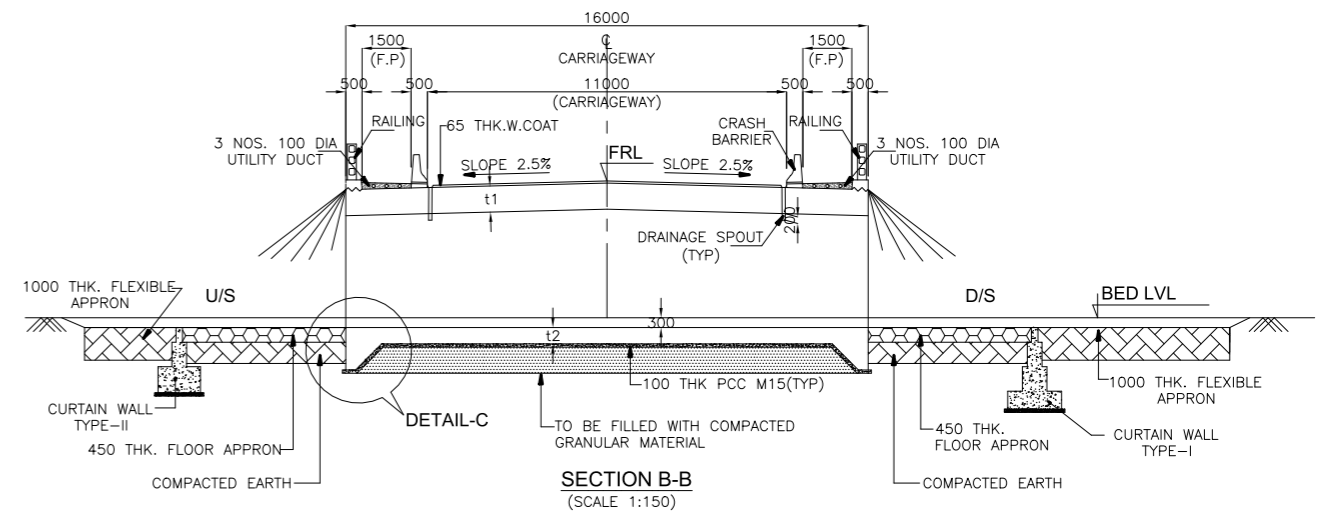
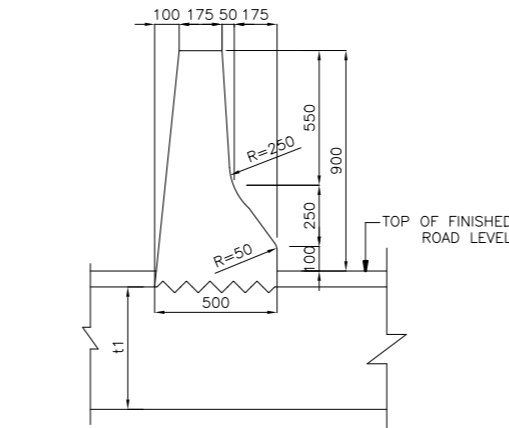
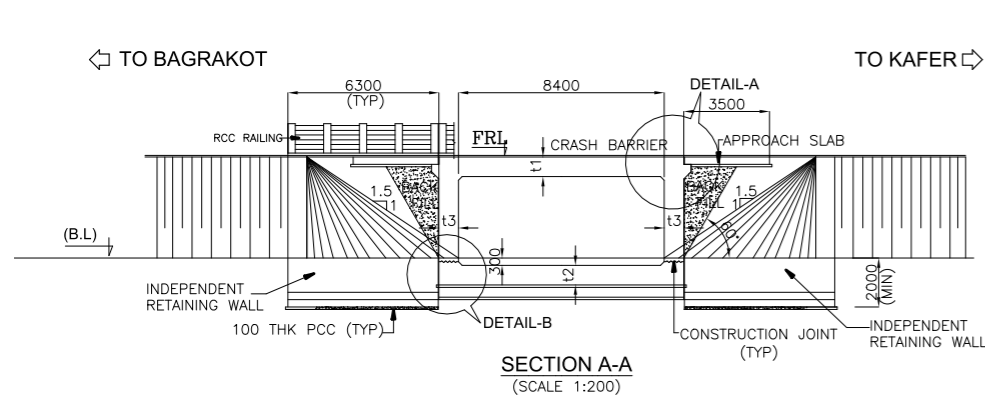
DATE : JAN.-2018		Revision A	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
<i>DMKAR</i>	<i>A.S</i>	<i>S.D</i>	<i>L.A.Z.</i>

SCALE:- AS SHOWN	SHEET:- 01 OF 01
------------------	------------------

LIST OF DRAWINGS PACKAGE -IVA
Dwg. No. :- SAICPL-SESPL/NHIDC/WB-SKM/LIST/S-100

MINOR BRIDGE



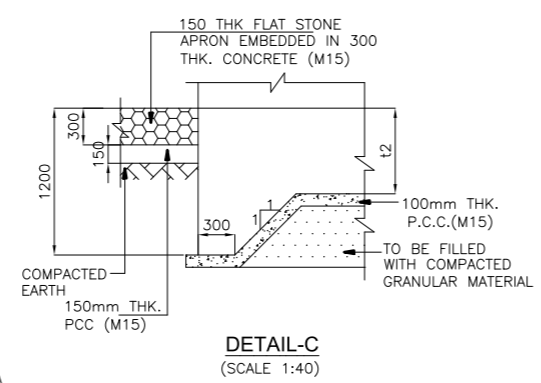
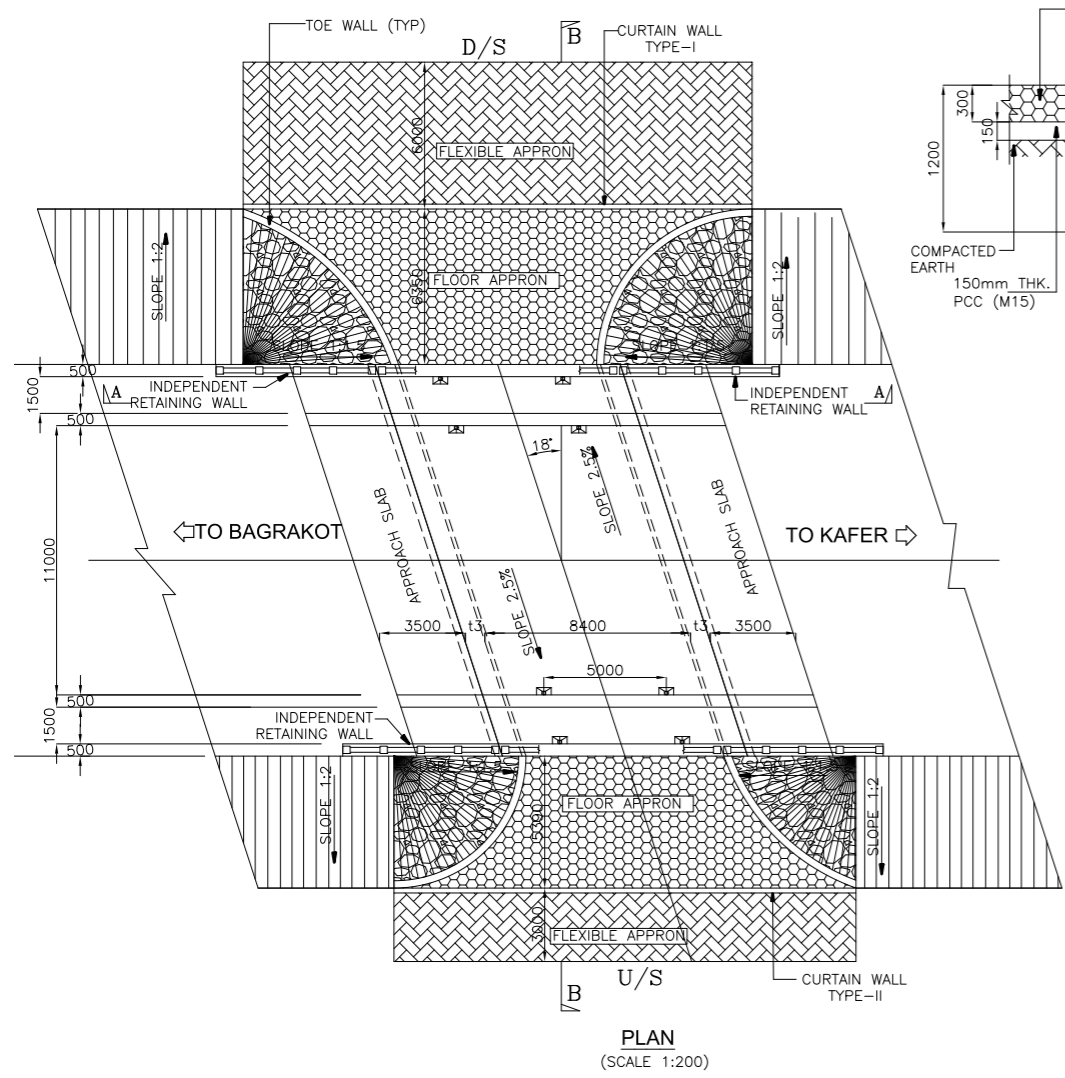


TABLE

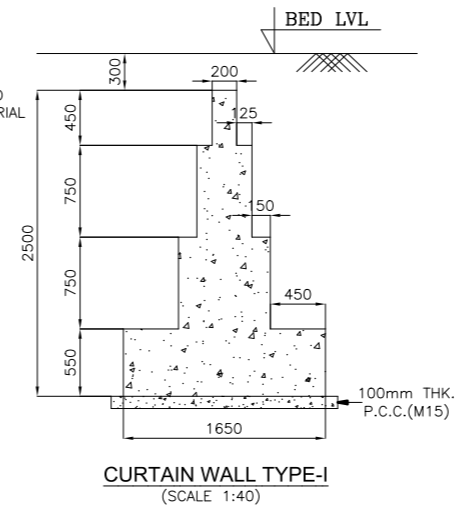
PROPOSED FRL(m)	BED LEVEL (m)	SPAN	t1	t2	t3	t4
186.427	182.235	1x10000	800	800	800	800

CRASH BARRIER WITH DECK SLAB
(SHOWING DIMENSIONS ONLY)
(SCALE 1:20)

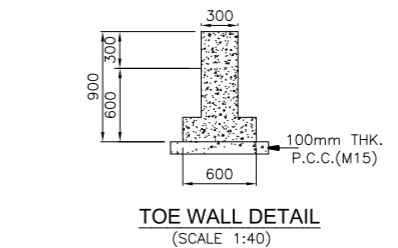
SECTION B-B
(SCALE 1:150)



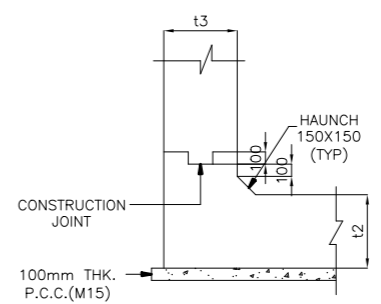
DETAIL-C
(SCALE 1:40)



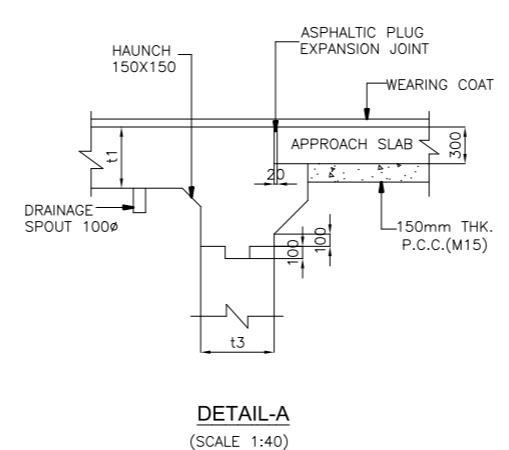
CURTAIN WALL TYPE-I
(SCALE 1:40)



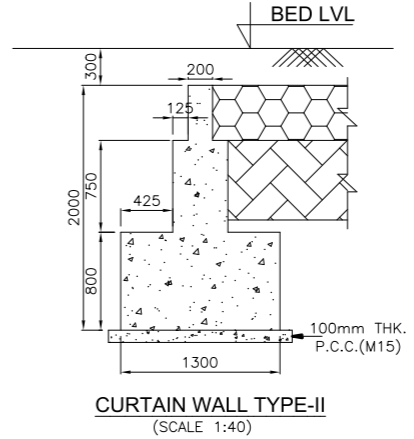
TOE WALL DETAIL
(SCALE 1:40)



DETAIL-B
(SCALE 1:40)



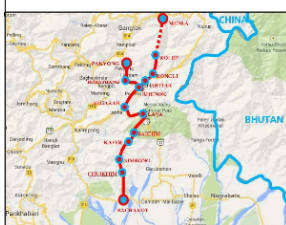
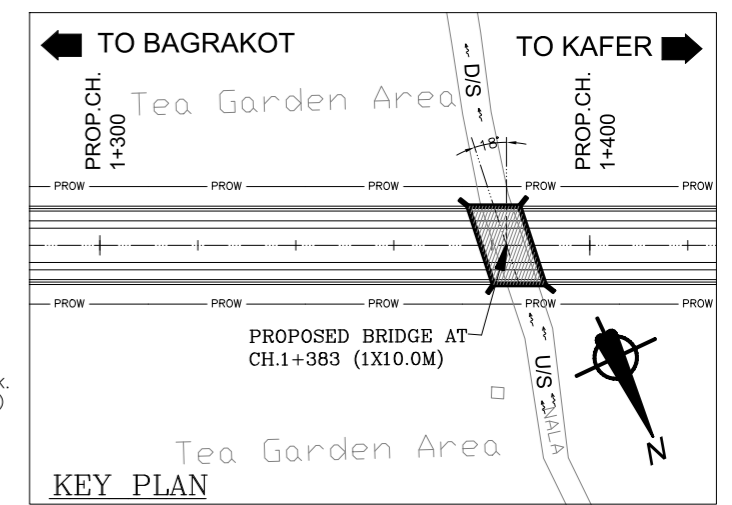
DETAIL-A
(SCALE 1:40)



CURTAIN WALL TYPE-II
(SCALE 1:40)

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- THE DIMENSIONS AND LEVELS INDICATED ARE TENTATIVE AND MAY UNDERGO SAME CHANGES AS PER ACTUAL STRUCTURE.
- GRADE OF CONCRETE IN VARIOUS COMPONENTS SHALL BE AS UNDER:
 - R.C.C. BOX STRUCTURE.....M30
 - RETAINING WALL.....M30
 - R.C.C. CRASH BARRIER.....M40
 - P.C.C. CURTAIN WALL.....M20
 - R.C.C. RAILING.....M30
- MAXIMUM BEARING CAPACITY OF SOIL HAS BEEN CONSIDERED 10.0t/sqm. THE SAME MAY BE ENSURED AT SITE PRIOR TO EXECUTION. IF SBC IS NOT ACHIEVED, GROUND TREATMENT WILL BE DONE WITH TOP 600mm BELOW BOX OF WELL COMPACTED GRANULAR MATERIAL.
- 100mm DIA. PVC PIPES (HEAVY DUTY) FILLED WITH NO-FINE CONCRETE SHALL BE PROVIDED AT 1.0M C/C HORIZONTALLY AS WELL AS VERTICALLY AS WEEP HOLES IN ABUTMENT WALL & RETAINING WALLS. 600mm THICK STANDARD FILTER SHALL BE PROVIDED IMMEDIATELY BEHIND THE WALLS FOR FULL WIDTH. FILLING BEHIND SIDE WALL SHALL BE STANDARD TYPE AS PER APPENDIX 6 OF IRC-78.
- ALL REINFORCING BARS SHALL BE THERMO MECHANICALLY TREATED (TMT) BARS (GRADE DESIGNATION Fe-500D) CONFORMING TO IS:1786 STANDARDS.
- BRIDGE HAS BEEN DESIGNED CONSIDERING SEISMIC ZONE AS IV.



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.

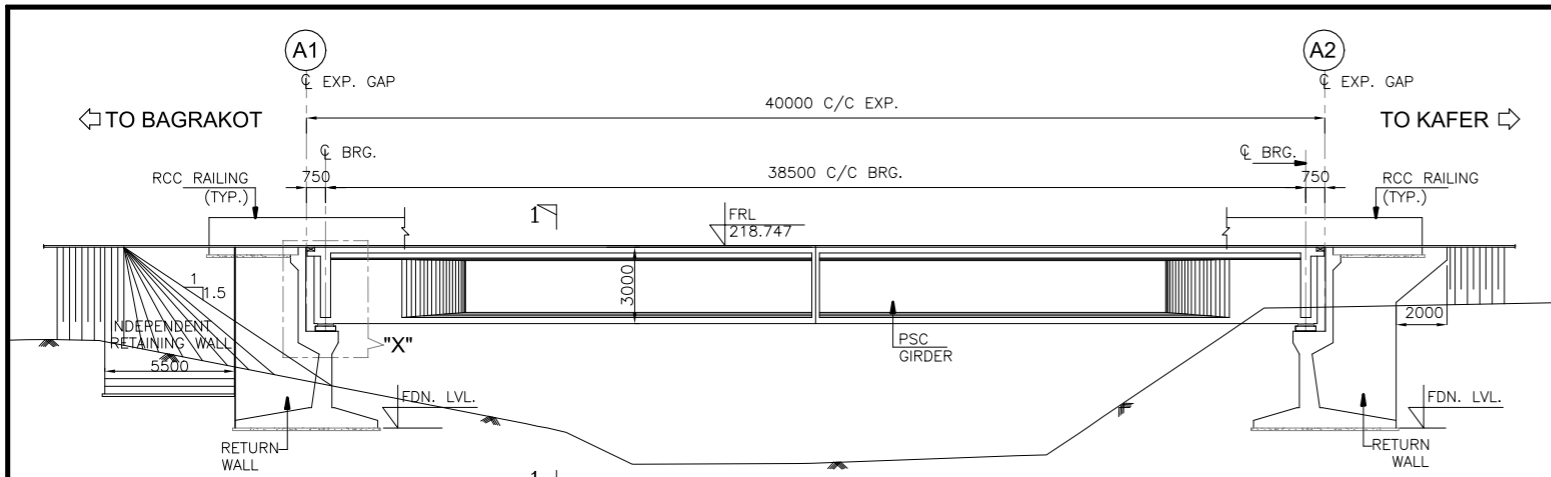
Project : Consultancy for Preparation of Feasibility Report cum Preliminary Design for Alternative Highway to Gangtok in Sikkim via Bagrakot-Chuikhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and From Rhenok-Rorathang-Pakyong along with Spur From Aritar-Rolep-Menla in the State of Sikkim.

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS

DATE : MAR.-2017	Revision A		
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
OMKAR	A.SEN	APAL	L.A.Z.
SCALE:- AS SHOWN		SHEET:- 01 OF 01	

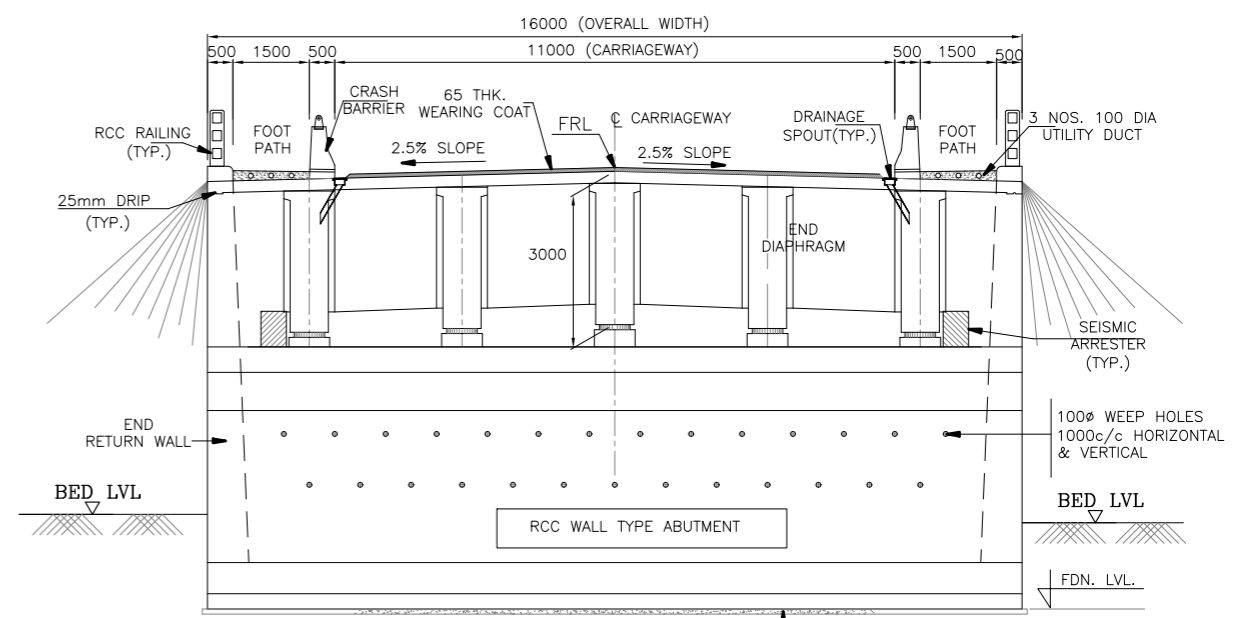
GENERAL ARRANGEMENT DRAWING
MINOR BRIDGE AT CH. 1+383
PACKAGE - IV

Dwg. No. :- SAICPL-SESPL/NHIDC/WB-SKM/1+383/GAD/S-101



SECTIONAL ELEVATION (SCALE 1:200)

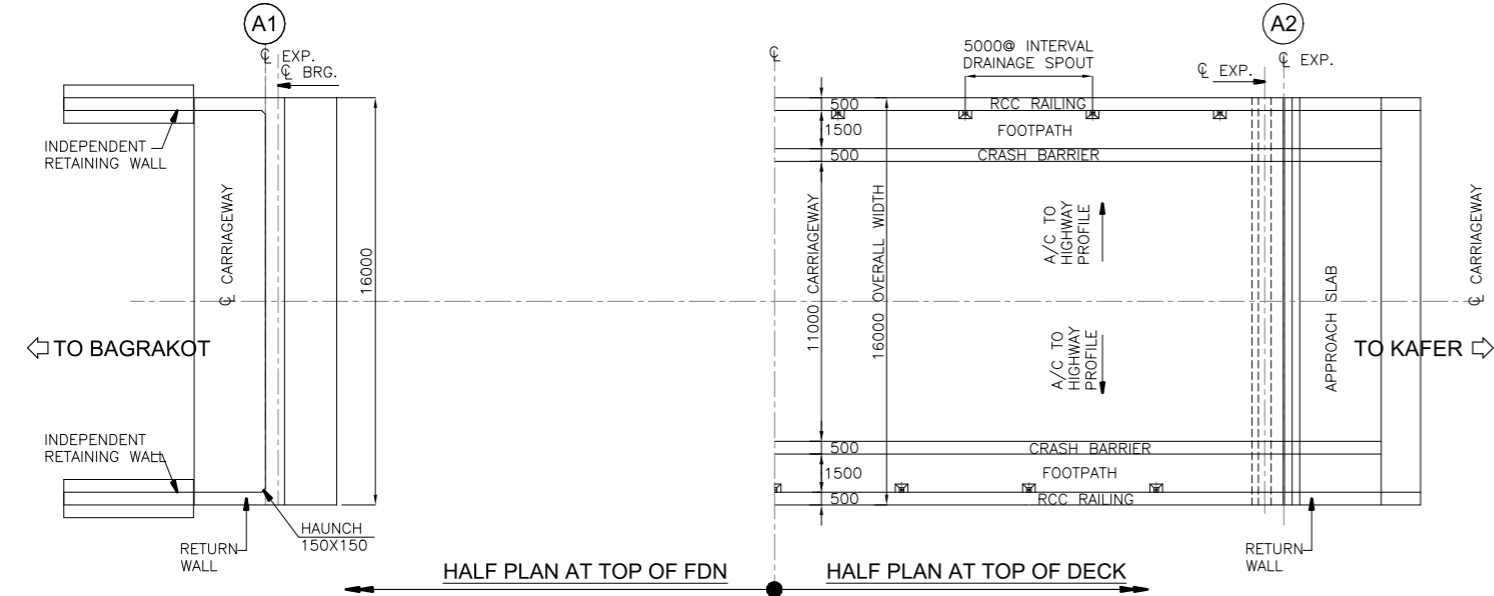
FORMATION LVL.	218.747	218.747	218.747
GROUND LVL.	213.433	210.199	216.330
CHAINAGE.	3+565	3+585	3+605



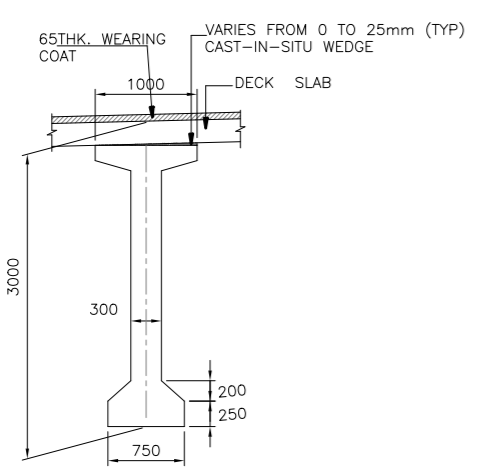
SECTION AT 1-1 (SCALE 1:100)

NOTES

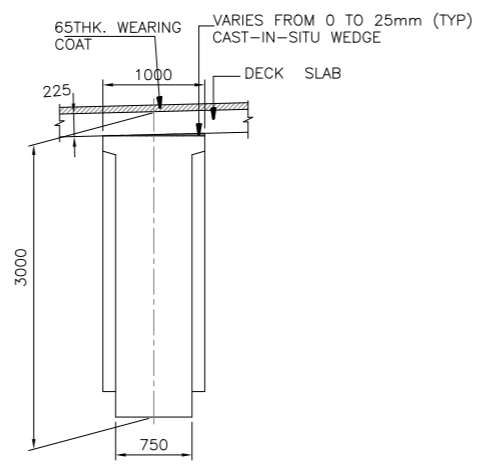
- ALL DIMENSIONS ARE MILLIMETERS AND LEVELS ARE IN METERS.
- DIMENSIONS ARE NOT TO SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- THE DIMENSION OF THE FOUNDATION SHOWN HERE TENTATIVE ONLY. THIS SHALL BE FINALIZED AFTER DETAILED SUBSOIL INVESTIGATION.
- BRIDGE HAS BEEN DESIGNED FOR CARRIAGEWAY LIVE LOAD OF 1 LANE 70R & 1 LANE CLASS A OR 3 LANES OF CLASS A WHICH EVER GIVES WORST EFFECT.
- GRADE OF CONCRETE FOR VARIOUS ELEMENTS ARE AS FOLLOWS:-
 - (i) SUPERSTRUCTURE(PSC) --- M45
 - (ii) RCC SUBSTRUCTURE & FOUNDATION --- M35
 - (iii) RCC RAILING ----- M30
 - (iv) RCC CRASH BARRIER ----- M40
 - (v) APPROACH SLAB ----- M30
 - (vi) PEDESTAL ----- M40
- TYPE OF BEARING PROPOSED HERE IS POT-PTFE AS PER IRC:83, PART-III
- SINGLE STRIP SEAL EXPANSION JOINT IS USED.
- GRADE OF CEMENT IS USED HERE IS OPC 43/OPc 53.
- ALL REINFORCEMENT BARS ARE TMT BARS (GRADE DESIGNATION Fe500D) AS PER IS:1786.
- BRIDGE HAS BEEN DESIGNED CONSIDERING SEISMIC ZONE AS IV.



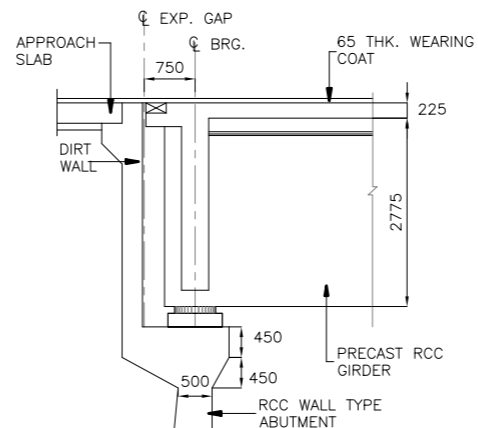
PLAN (SCALE 1:200)



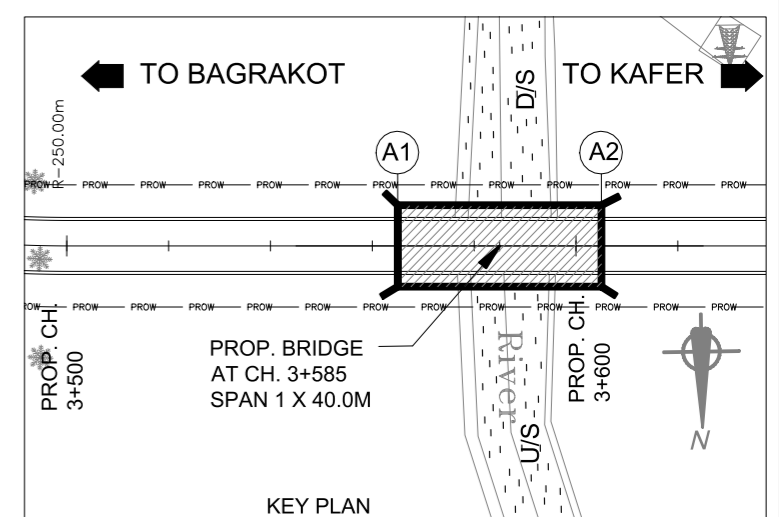
SECTION OF PSC GIRDER AT MID 40M SPAN (SCALE 1:50)



SECTION OF PSC GIRDER AT SUPPORT 40M SPAN (SCALE 1:50)



DETAIL-X (SCALE 1:75)



KEY PLAN

DATE: 09/01/2019 - 11:18am
PATH: X:\1. BRIDGE DATA\chandan\GADs\GAD CH. 3+585.dwg



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 : Consultancy 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.

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS

DATE : MAR.-2017

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
OMKAR	A SEN	A PAI	L.A.Z.

SCALE:- AS SHOWN

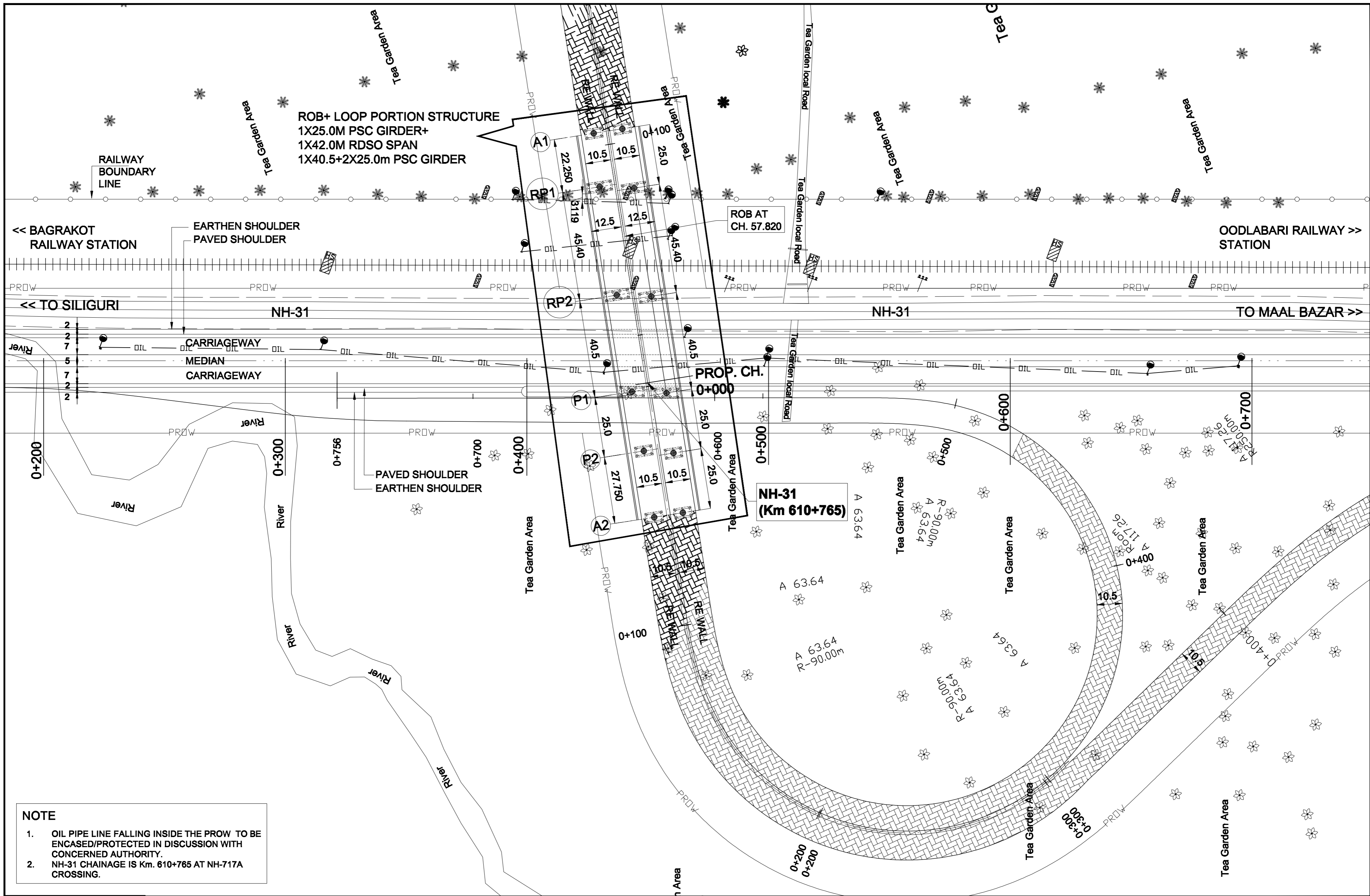
SHEET:- 01 OF 01

GENERAL ARRANGEMENT DRAWING
MINOR BRIDGE AT CH. 3+585
PACKAGE - IV

Dwg. No. :- SAICPL-SESPL/NHDC/WB-SKM/3+585/GAD/S-101

LOOP

A diagram consisting of a horizontal line and a vertical line. The vertical line intersects the horizontal line from above, forming a T-shape. The word "LOOP" is centered above the horizontal line.



NOTE

- OIL PIPE LINE FALLING INSIDE THE PROW TO BE ENCASED/PROTECTED IN DISCUSSION WITH CONCERNED AUTHORITY.
- NH-31 CHAINAGE IS Km. 610+765 AT NH-717A CROSSING.

DATE: 02/01/2019 - 2:40pm
 PATH: E:\Projects\Sikkim\Feb 2017\sikkim_data\Fig 4 ROB+LOOP CAD\Job gnd\CAD SIKKIM LOOP revised.dwg

D:\ANIL DATA\Sikkim\Final plan\map.jpg

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 :
 Consultancy for Preparation of Feasibility Report cum Preliminary Design for Alternative Highway to Gangtok in Sikkim via Bagrakot-Chulkhim-Nimbong-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and From Rhenok-Rorathang-Pakyong along with Spur From Artar-Rolep-Menia in the State of Sikkim.

REV	DATE	DESCRIPTION OF REVISIONS	INITIALS

DATE : FEB.-2017

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
S.K.M	P.K.	S.D	L.A.Z.

Revision A

SCALE:- AS SHOWN

SHEET:- 01 OF 02

GENERAL ARRANGEMENT DRAWING
ELEVATED LOOP STRUCTURE
PACKAGE - IV
(NH-31 & NH-717A CROSSING)

Dwg. No. :-
 SAICPL-SESPL/NHDC/WB-SKM/AR/GAD/S-101

ROB