

CLIENT:-



NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

(Ministry of Road Transport & Highways)

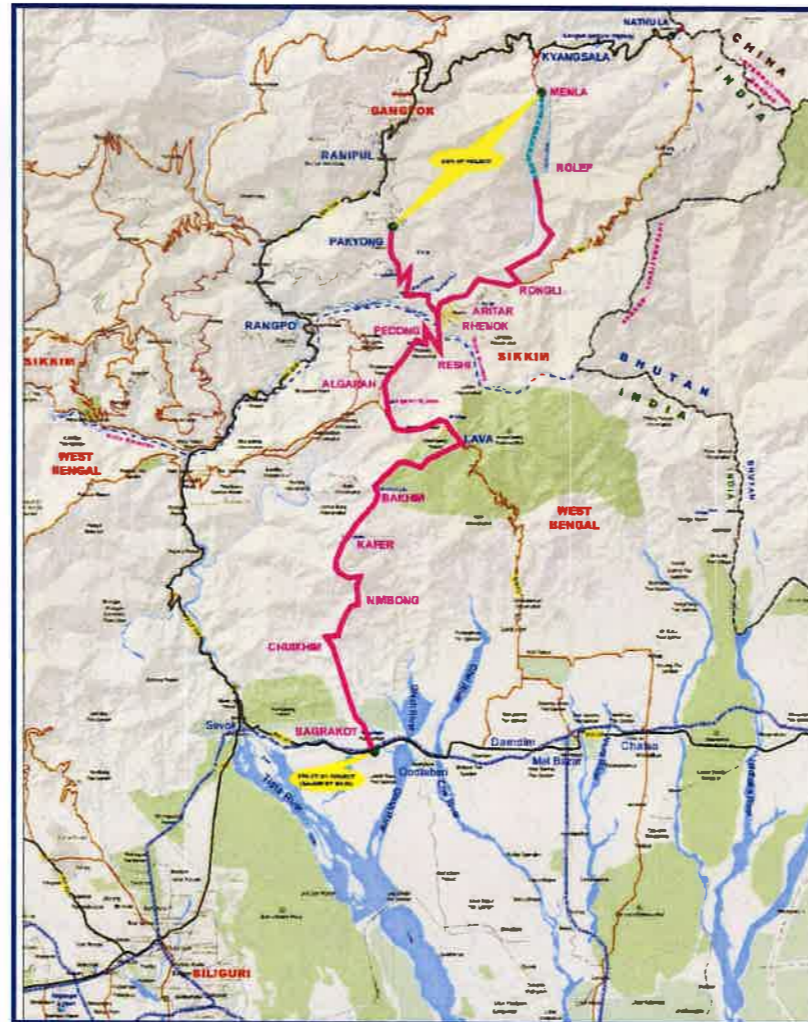
Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to 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: STRUCTURE (GAD)



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.

Sr. No.	From	To	Length (m)	Span-Arrangement
1	82+630	82+750	120	6x 20m
2	82+920	83+120	200	10x 20m
3	84+980	85+280	300	15x 20m
4	85+335	85+475	140	7x 20m
5	86+700	86+760	60	3x 20m
6	87+770	87+910	140	7x 20m
7	88+330	88+490	160	8x 20m
8	90+860	91+000	140	7x 20m
9	91+340	91+860	520	26x 20m
10	92+090	92+310	220	11x 20m
11	92+630	92+810	180	9x 20m
12	93+000	93+080	80	4x 20m
13	93+125	93+205	80	4x 20m
14	93+330	93+530	200	10x 20m
15	93+750	93+910	160	8x 20m

DATE: 16/10/2020 - 5:37pm
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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)

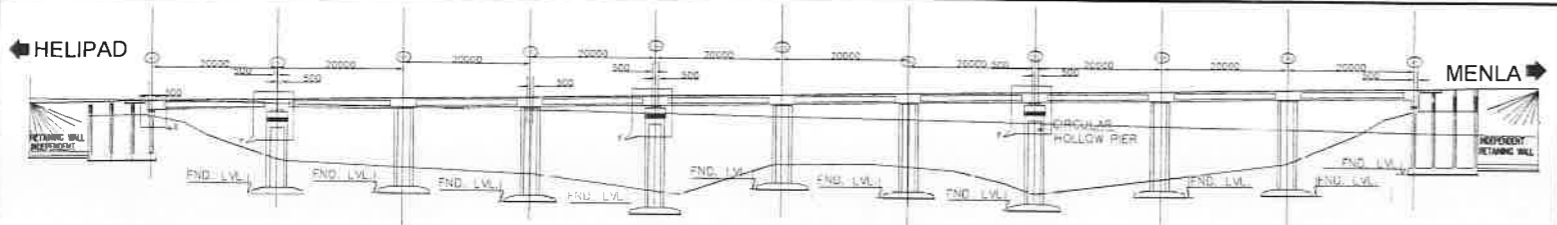
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Services Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
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Noida 201301, Uttar Pradesh.

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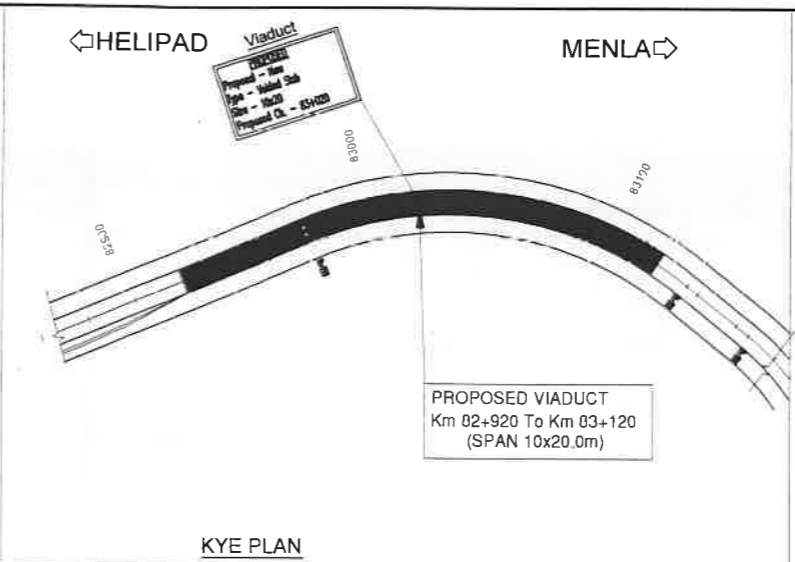
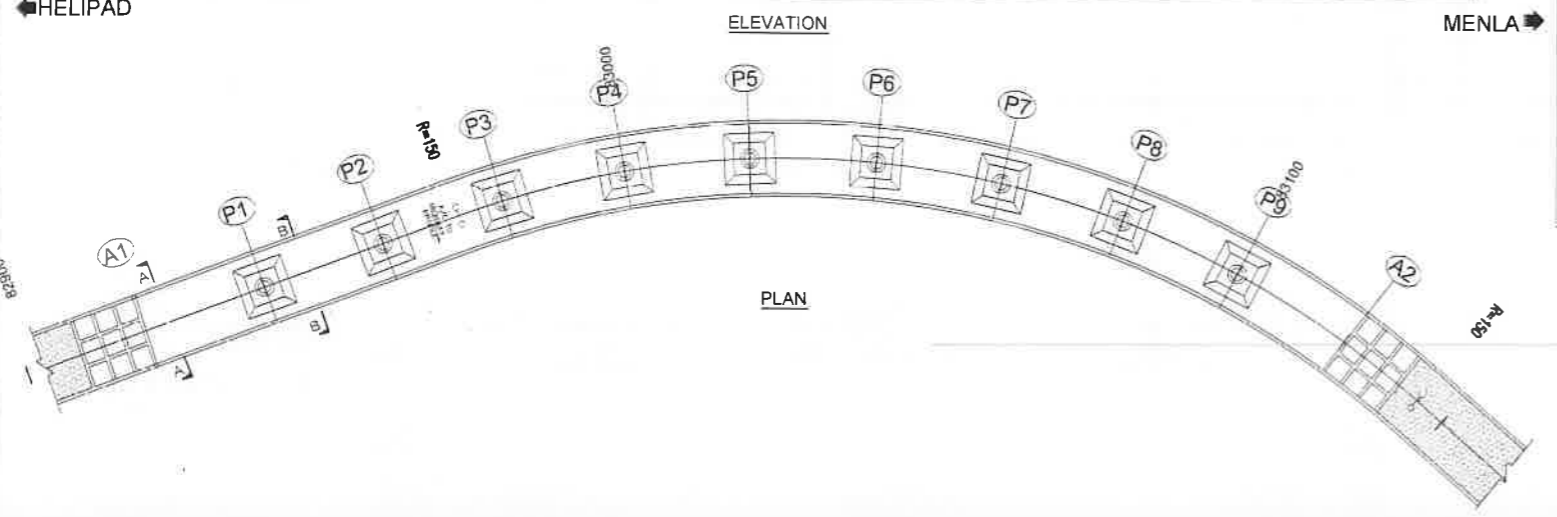
DATE : OCT-2020		Revision : RO	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Vijay Gupta	Naresh	Vijay Gupta	Sanjay Shukla
SCALE:-			

PACKAGE-3B
HELIPAD TO MENLA
LIST OF DRAWINGS

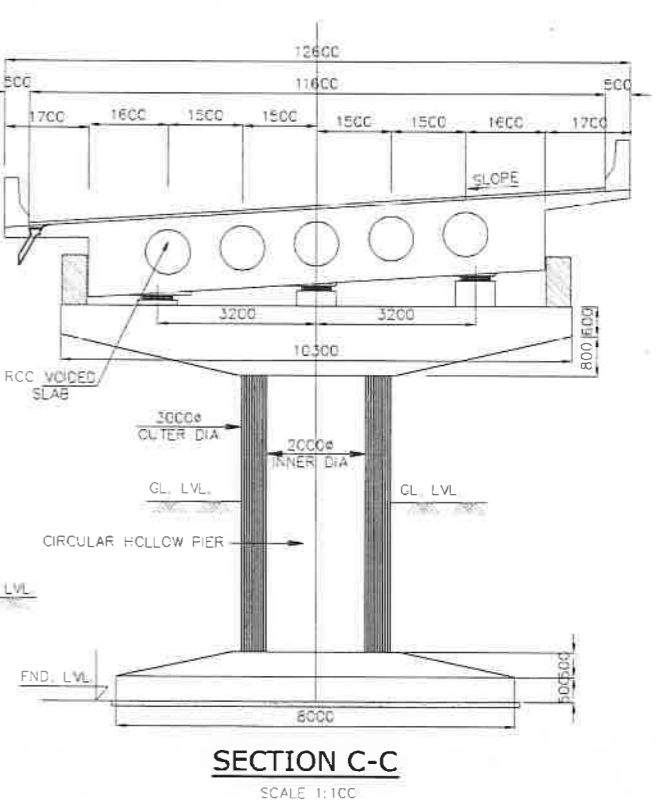
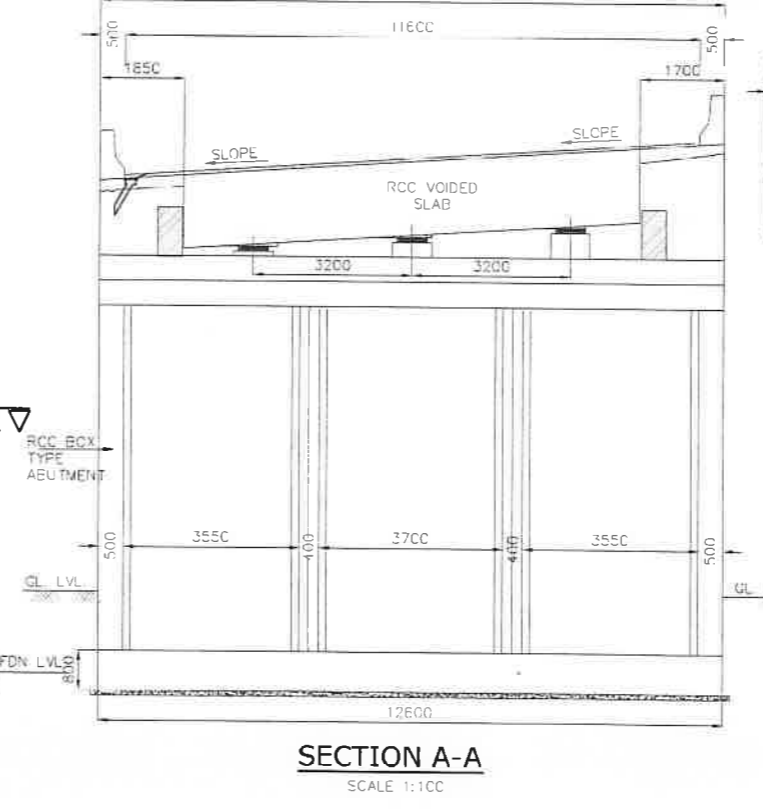
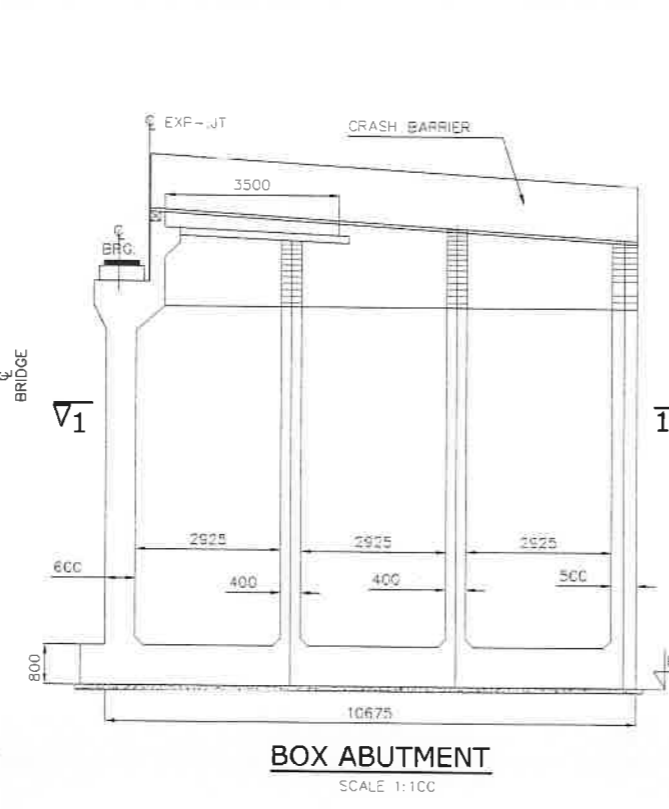
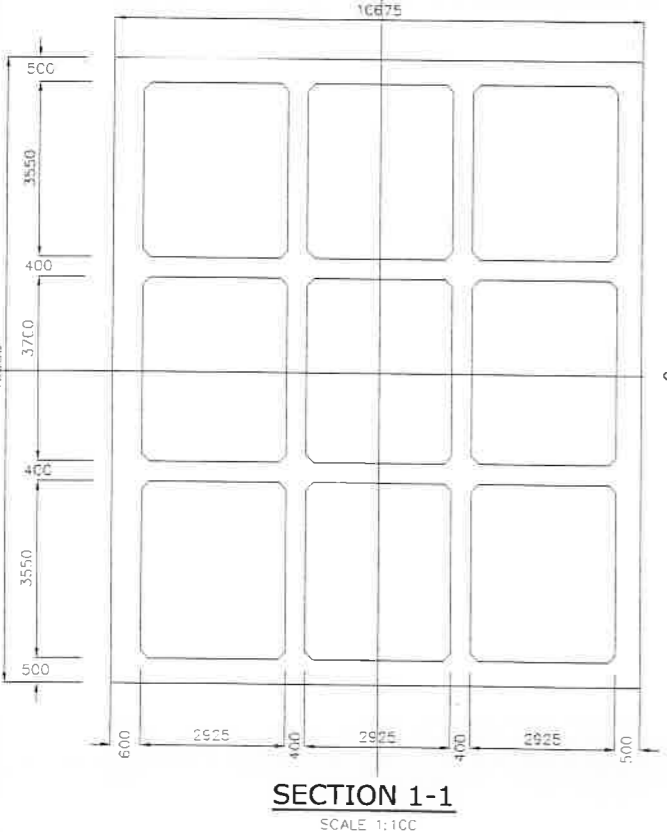
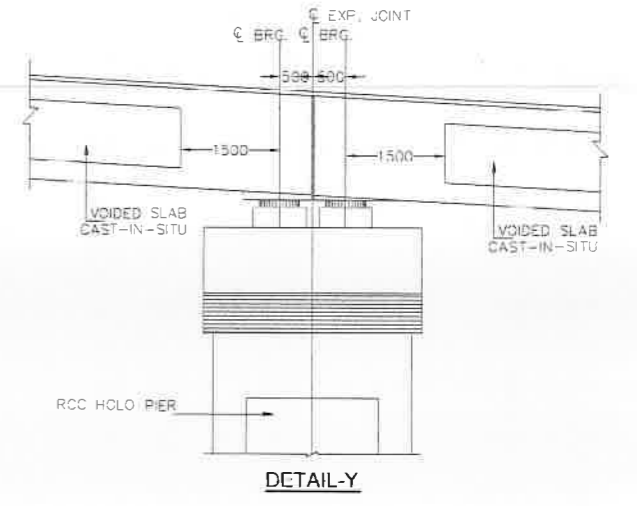
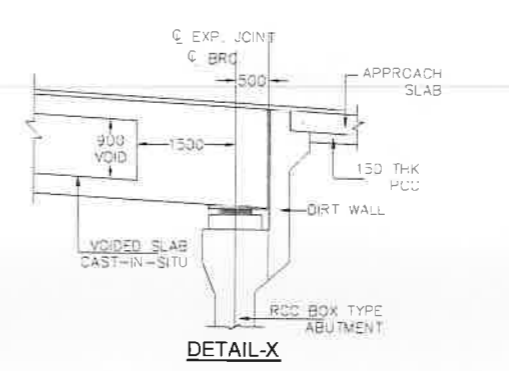
Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/P&P/



FORMATION LEVEL	2975.451	2976.504	2977.602	2978.702	2979.802	2980.902	2982.002	2983.102	2984.202	2985.302	2986.402
EXP. GROUND LEVEL	2964.511	2964.627	2963.901	2963.630	2963.925	2964.172	2963.021	2965.063	2966.187	2972.124	2976.501
CHAINAGE	82920	82940	82960	82980	83000	83020	83040	83060	83080	83100	83120



- NOTES**
- ALL DIMENSIONS ARE MILLIMETERS AND LEVELS ARE IN METERS.
 - DIMENSIONS ARE NOT TO SCALE, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
 - THE DIMENSION OF THE FOUNDATION SHOWN HERE TENTATIVE ONLY THIS SHALL BE FINALIZED AFTER DETAILED SUBSIL INVESTIGATION.
 - BRIDGE HAS BEEN DESIGNED FOR CARRIAGEWAY LIVE LOAD OF 1 LANE 7CR + 1 LANE CLASS A 3 LANES OF CLASS A WHICHEVER GIVES WORST EFFECT
 - GRADE OF CONCRETE FOR VARIOUS ELEMENTS ARE AS FOLLOWS:-
 - (i) SUPERSTRUCTURE/VOIDED) ----- M40
 - (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-PIE 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 Fe500S) AS PER IS:1786.
 - BRIDGE HAS BEEN DESIGNED CONSIDERING SEISMIC ZONE AS IV.
 - SUPERELEVATION SHALL BE MAINTAINED AS PER HIGHWAY PLAN & PROFILE.
 - SAFE BEARING CAPACITY FOR PRELIMINARY DESIGN AT FOUNDING LEVEL IS CONSIDERED AS 40t/m²
 - CONSTRUCTION JOINT



DATE: 16/10/2020 - 4:58 PM
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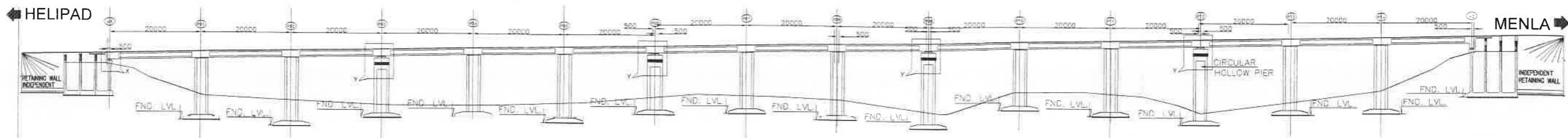
REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	APRIL 2019	FINAL FEASIBILITY REPORT	

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 Plot No. 7A/1, Sector 142,
 Noida-201305, Uttar Pradesh

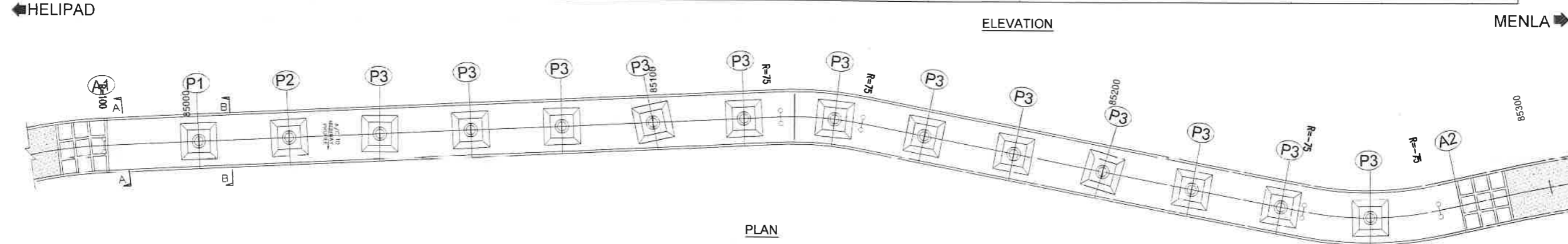
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DATE : OCT-2020	Revision : R0
DESIGNED BY RAVI KUMAR	DRAWN BY A SEN
CHECKED BY A. P. BHANU	APPROVED BY Srijov Shukla
SCALE - AS SHOWN	

PACKAGE-3B
HELIPAD TO MENLA
GENERAL ARRANGEMENT DRAWINGS
 Km 82+920 To Km 83+120
 (SPAN 10x20.0m)
 Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/GAD/



FORMATION LEVEL	2995.548	2995.354	2995.202	2995.092	2995.025	2995.000	2995.000	2995.000	2995.000	2995.000	2995.019	2995.139	2995.369	2995.709	2996.159	
EX. CROUND LEVEL	2987.501	2982.526	2977.200	2973.997	2971.207	2970.697	2970.472	2970.331	2973.089	2977.480	2980.078	2980.287	2980.825	2980.483	2993.560	2987.338
CHAINAGE	84980	85000	85020	85040	85060	85080	85100	85120	85140	85160	85180	85200	85220	85240	85260	85280



Viaduct
PROPOSED
 Proposal - New
 Type - Voided Slab
 Size - 15x20
 Proposed Ch. - 85+130

PROPOSED VIADUCT
 Km 84+980 To Km 85+280
 (SPAN 15x20.0m)

- NOTES**
- ALL DIMENSIONS ARE MILLIMETERS AND LEVELS ARE IN METERS.
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 - THE DIMENSION OF THE FOUNDATION SHOWN HERE IS TENTATIVE ONLY. THIS SHALL BE FINALIZED AFTER DETAILED SUBSOIL INVESTIGATION.
 - BRIDGE HAS BEEN DESIGNED FOR CARRIAGEWAY LIVE LOAD OF 1 LANE 7CP. LANE CLASS A 3 LANES OF CLASS A WHICHEVER GIVES WORST EFFECT.
 - GRADE OF CONCRETE FOR VARIOUS ELEMENTS ARE AS FOLLOWS: -
 (i) SUPERSTRUCTURE (VOIDED) ----- M40
 (ii) RCC SUBSTRUCTURE & FOUNDATION --- M35
 (iii) RCC RAILING ----- M20
 (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.
 - SUPERELEVATION SHALL BE MAINTAINED AS PER HIGHWAY PLAN & PROFILE.
 - SAFE BEARING CAPACITY FOR PRELIMINARY DESIGN AT FOUNDING LEVEL IS CONSIDERED AS 4CL/m².
 - CONSTRUCTION JOINT

DATE: 16/10/2020 - 5:01 PM
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KYE PLAN



NO	DATE	DESCRIPTION OF REVISIONS	INITIALS
RO	APRIL 2019	FINAL FEASIBILITY REPORT	
RCV			

Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
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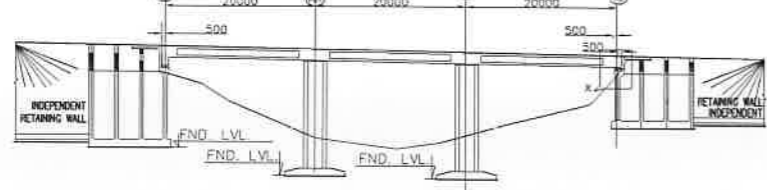
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 Package-3B Helipad-Menia

DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
B RAVI KUMAR	A A SEN	A AREHMAN	S Srijay Shukla
SCALE - AS SHOWN			

PACKAGE-3B
HELIPAD TO MENLA
GENERAL ARRANGEMENT DRAWINGS
 Km 84+980 To Km 85+280
 (SPAN 15x20.0m)

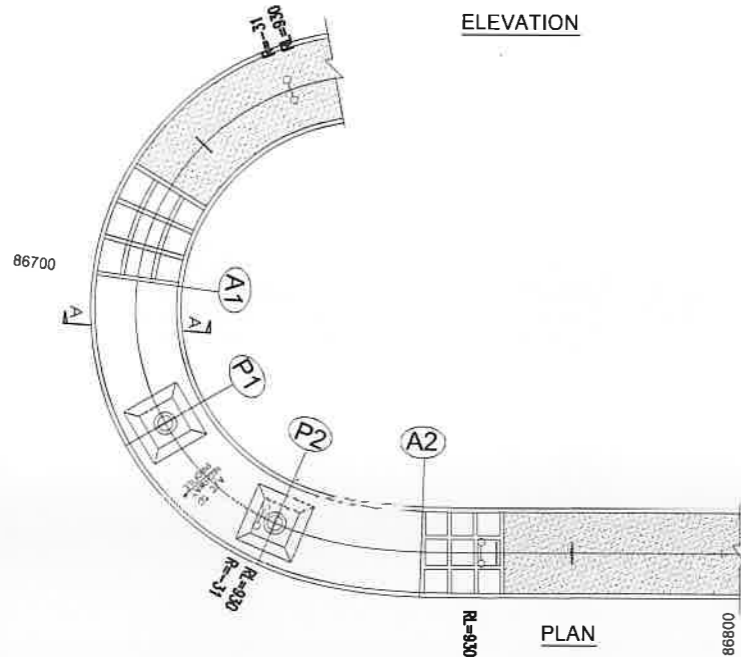
Dwg. No. :- SAICPL-SESPL/NHDCL/WB-SKM/GAD/01

← HELIPAD MENLA →



FORMATION LEVEL	3023.448	3022.348	3021.248	3020.148
EX.GROUND LEVEL	3016.305	3010.436	3011.705	3013.557
CHAINAGE	86700	86720	86740	86760

ELEVATION



PLAN

← HELIPAD MENLA →

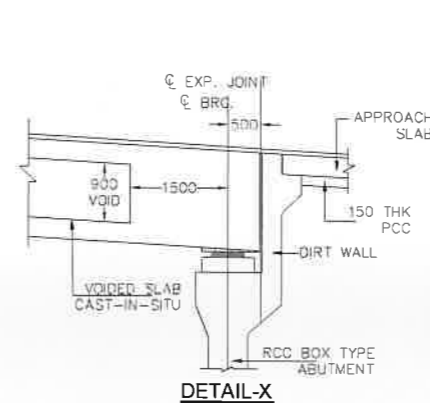
← HELIPAD MENLA →

KYE PLAN

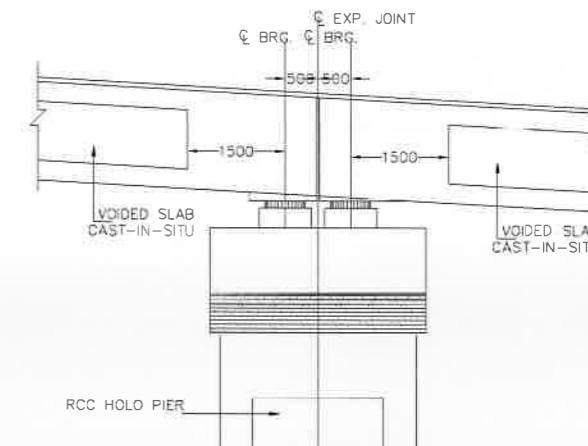
PROPOSED VIADUCT
Km 86+700 To Km 86+760
(SPAN 3x20.0m)

NOTES

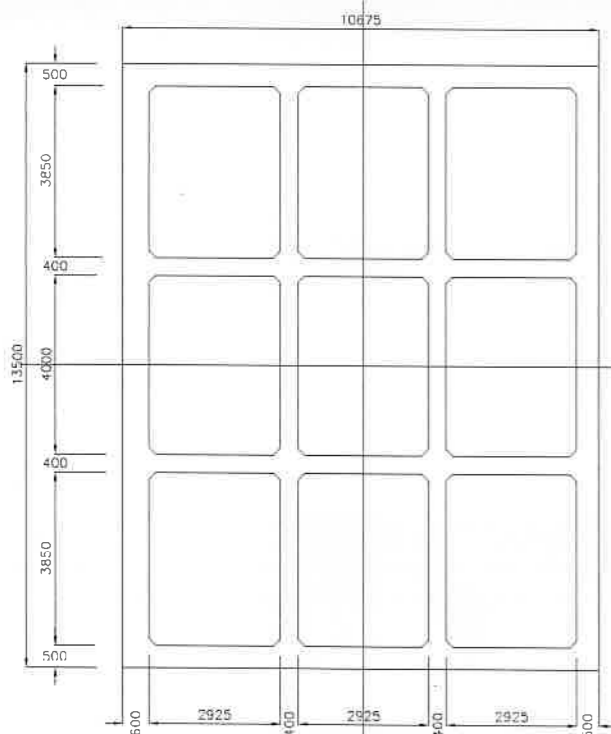
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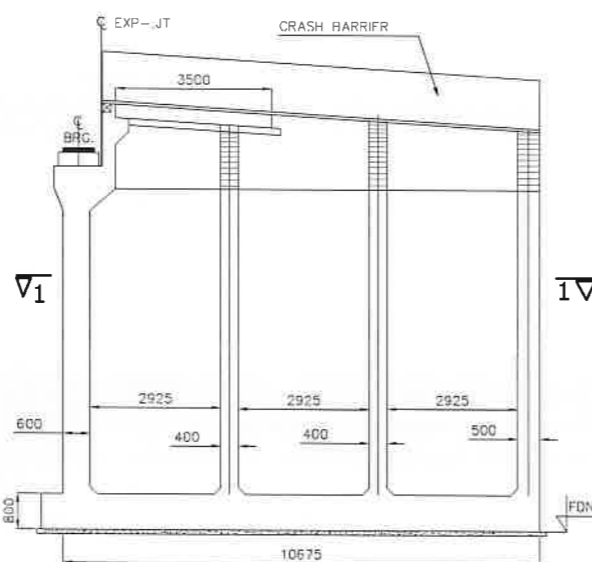
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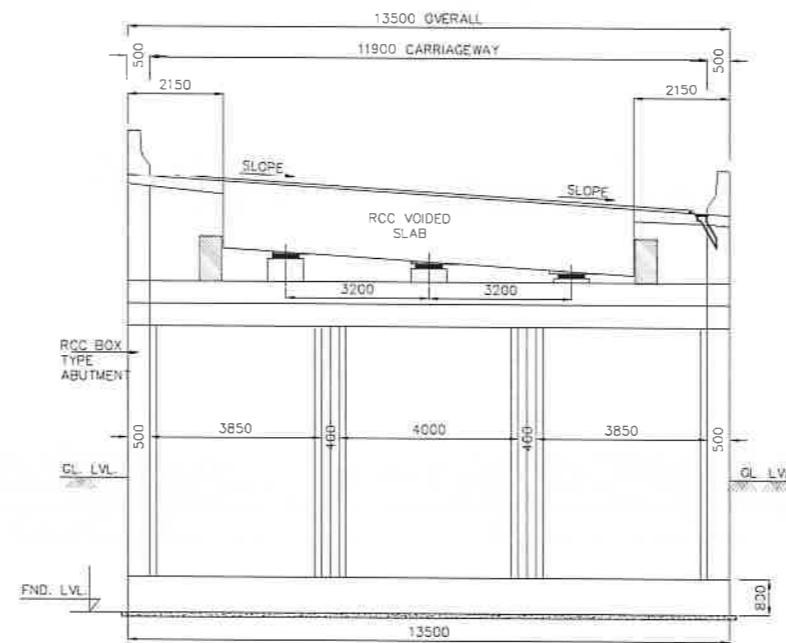
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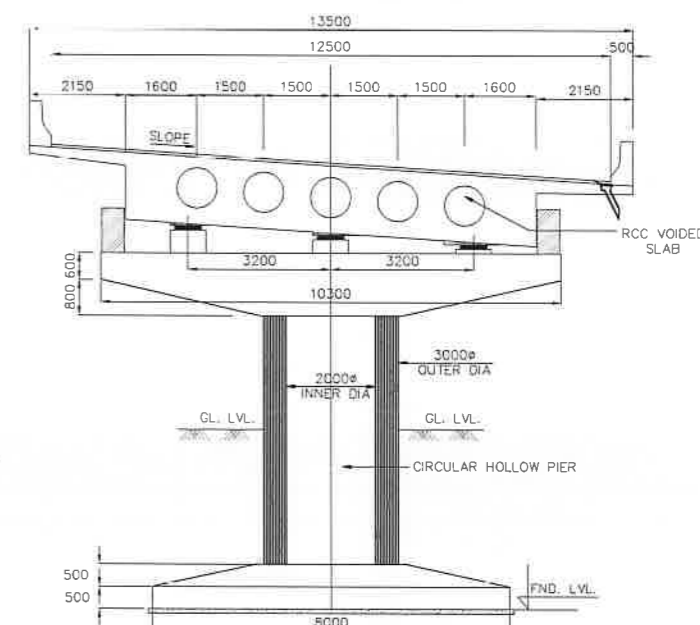
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SCALE 1:100



BOX ABUTMENT
SCALE 1:100



SECTION A-A
SCALE 1:100



SECTION C-C
SCALE 1:100

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

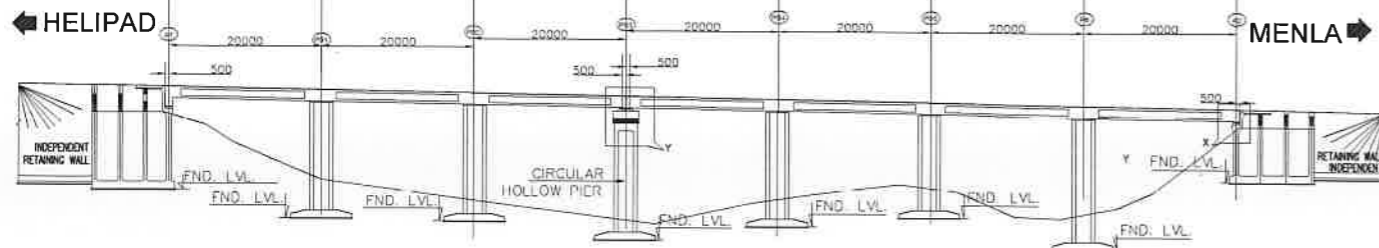
Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)

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.

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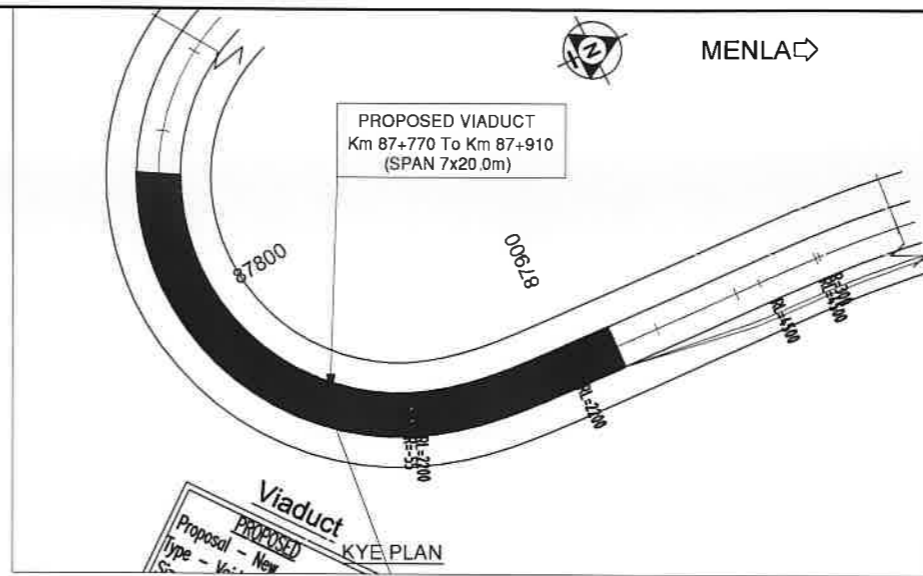
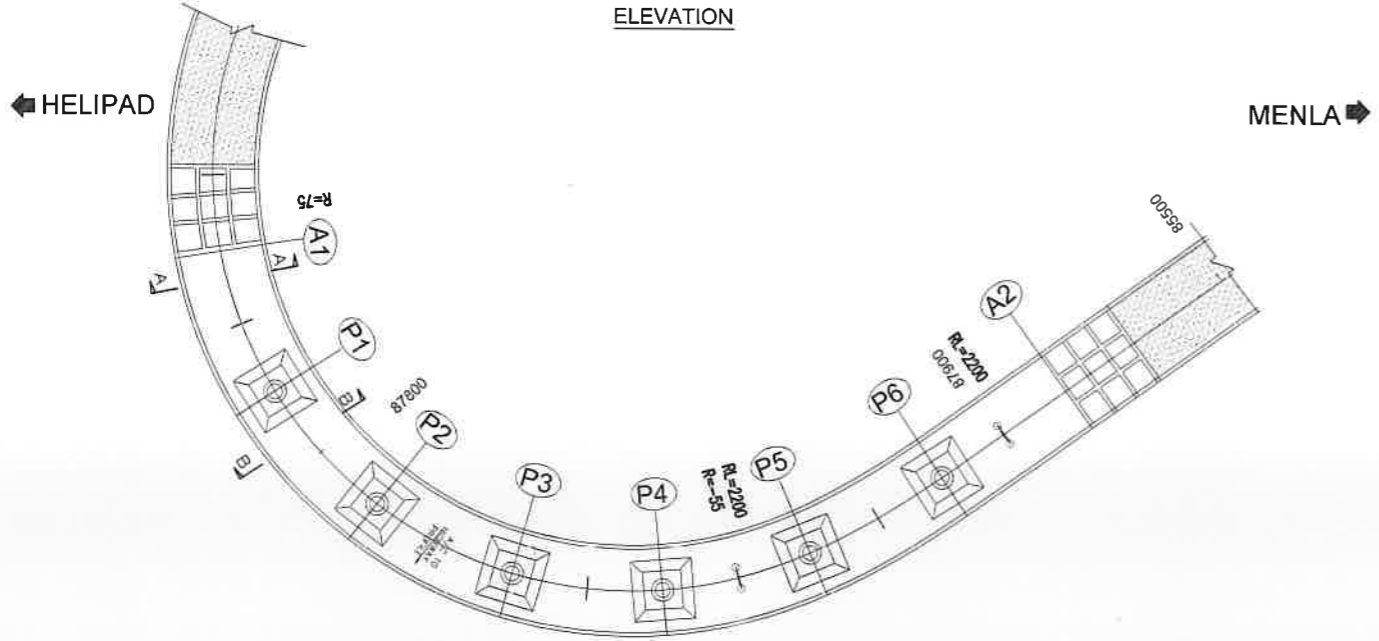
DATE : OCT-2020	Revision : R0		
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
RAW KUMAR	A SEN	APEHMAN	Sanjoy Shukla
SCALE - AS SHOWN			

PACKAGE-3B HELIPAD TO MENLA
GENERAL ARRANGEMENT DRAWINGS
Km 86+700 To Km 86+760 (SPAN 3x20.0m)
Dwg. No. :- SAICPL-SESP/NHIDCL/WB-SKM/GAD/



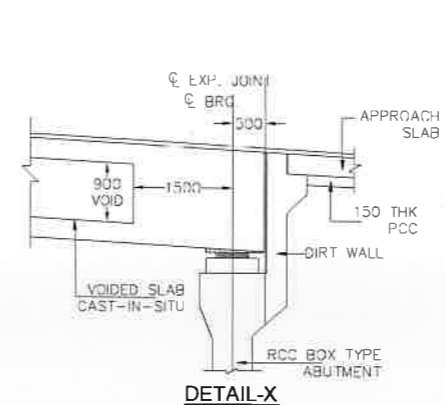
FORMATION LEVEL	2964.598	2963.502	2962.461	2961.494	2960.599	2959.779	2959.031	2958.357
EX GROUND LEVEL	2956.128	2951.208	2947.625	2946.881	2944.711	2945.703	2948.049	2951.118
CHAINAGE	87770	87790	87810	87830	87850	87870	87890	87910

ELEVATION

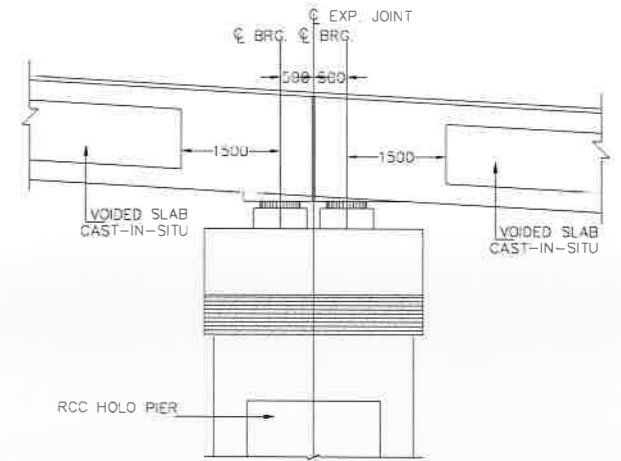


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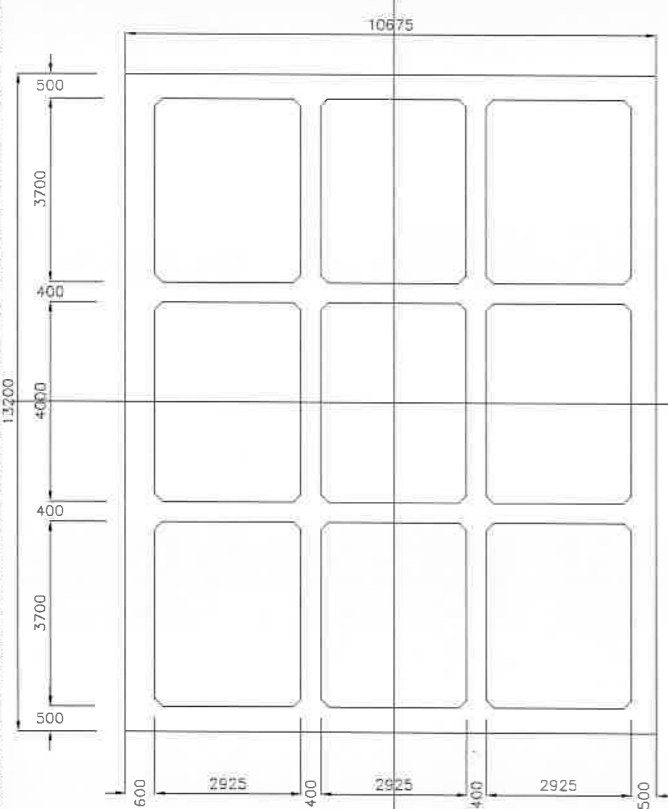
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- TYPE OF BEARING PROPOSED HERE IS POT-PTEE AS PER IRC:83, PART-III
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- CONSTRUCTION JOINT



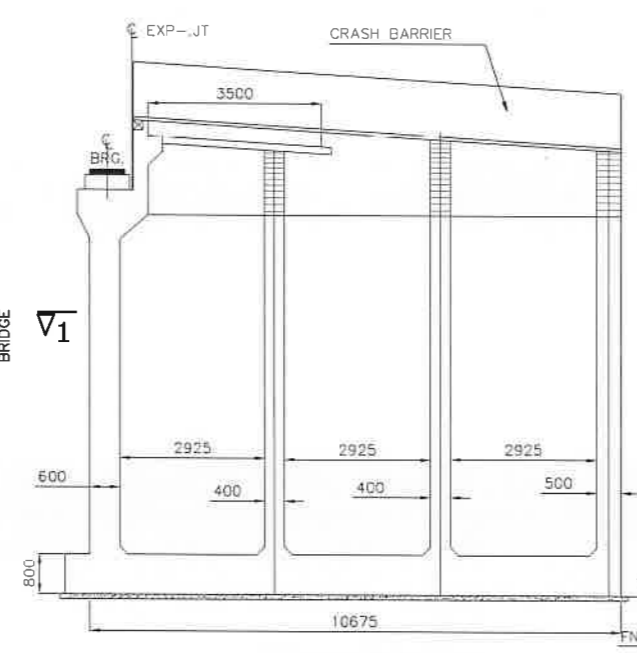
DETAIL-X



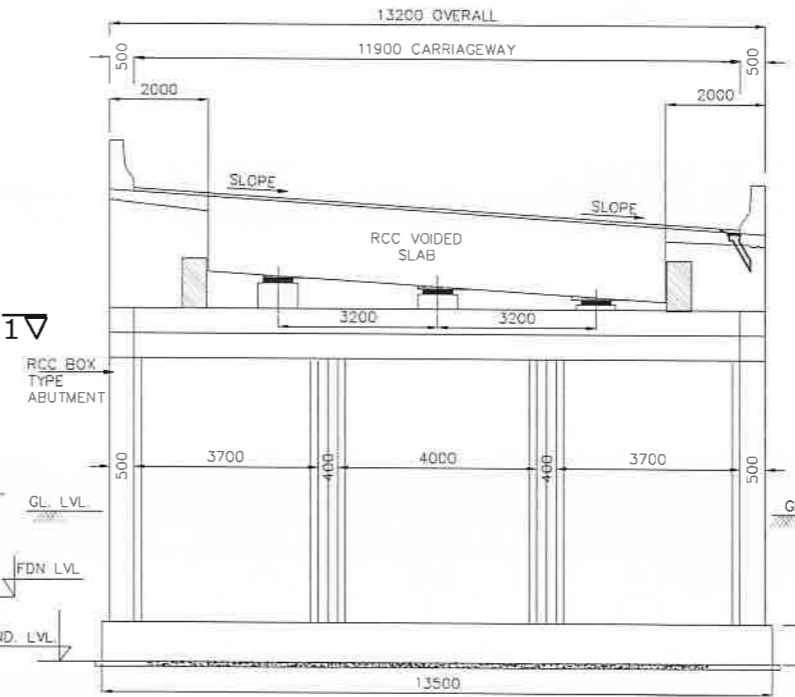
DETAIL-Y



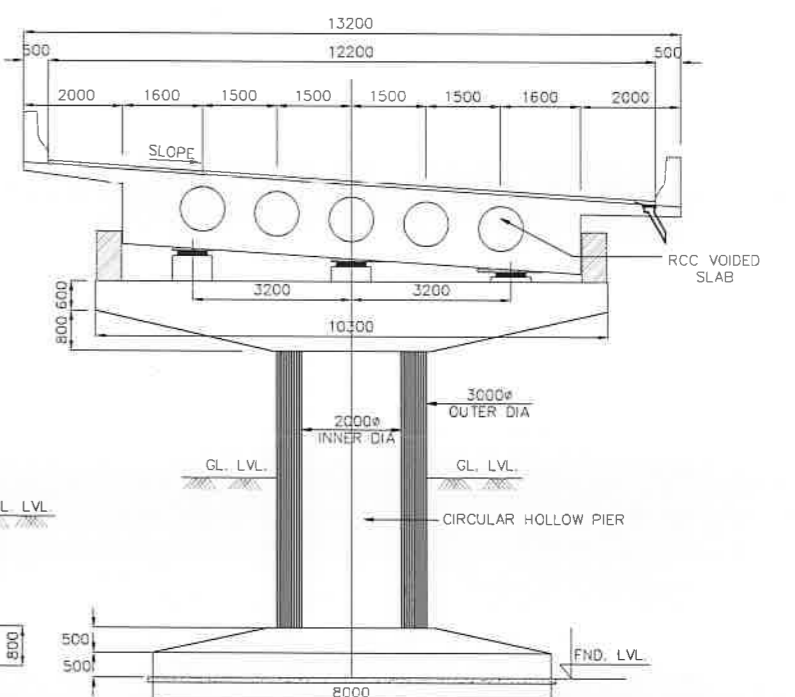
SECTION 1-1
SCALE 1:100



BOX ABUTMENT
SCALE 1:100



SECTION A-A
SCALE 1:100



SECTION C-C
SCALE 1:100

DATE: 16/10/2020 - 5:04PM
PATH: D:\D. Prasad\LOGS\SEN\SJKM\PROJECT AUGUST - 2016\SJKM-BAG\GAD_6.GAD.km_87+770-87+910_1.GAD.dwg

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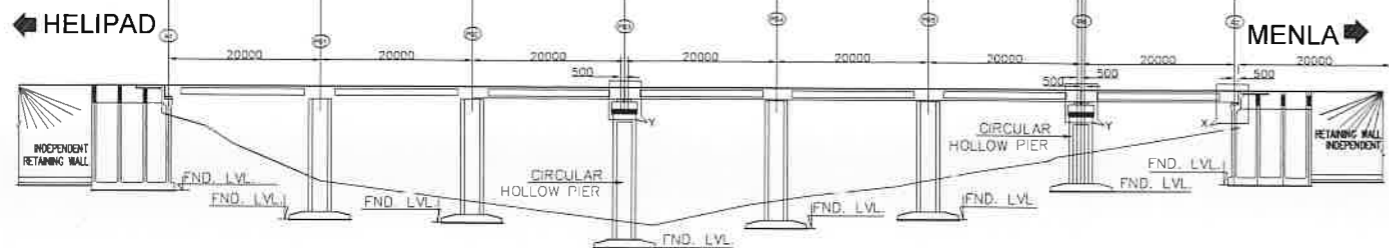
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida 201301, Uttar Pradesh

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 Arlar-Rolep-Menla in the State of Sikkim. Package-3B Helipad-Menla

DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Ravi Kumar	A Sen	AREHMAN	Sanjay Shukla
SCALE:- AG GI OWN			

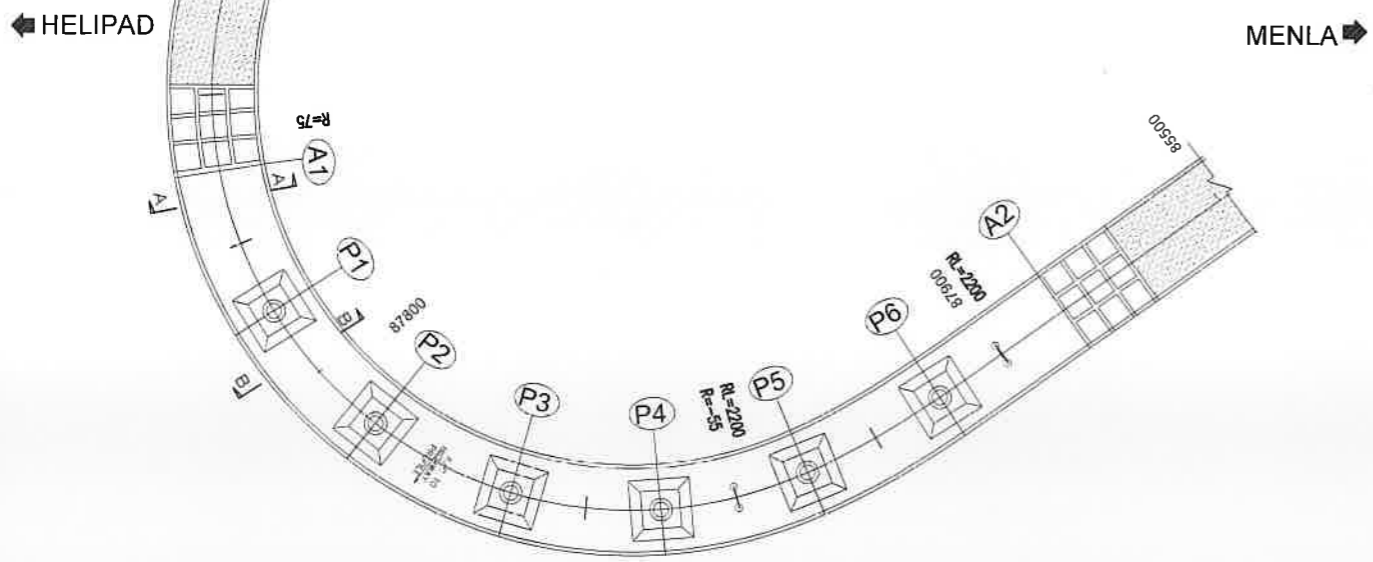
PACKAGE-3B
HELIPAD TO MENLA
GENERAL ARRANGEMENT DRAWINGS
Km 87+770 To Km 87+910
(SPAN 7x20.0m)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/GAD/

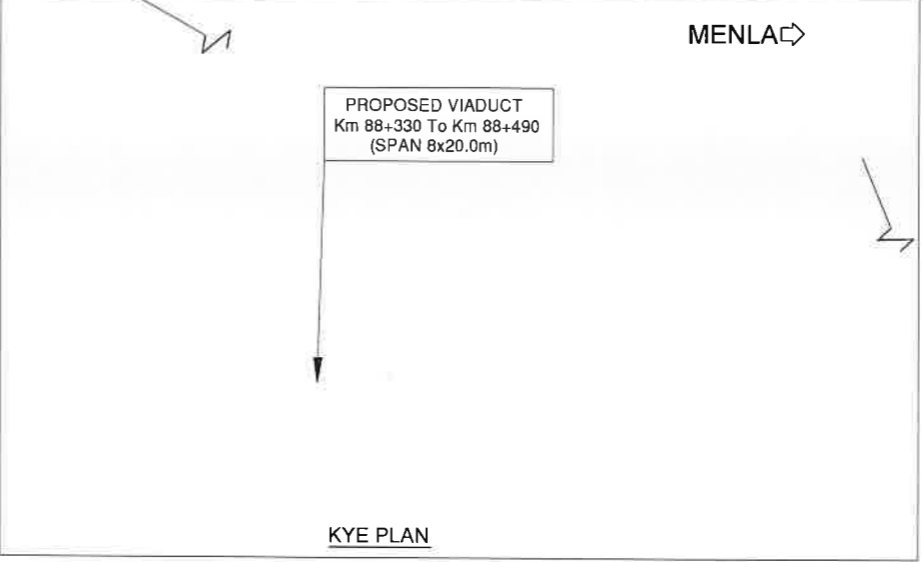


FORMATION LEVEL	2964.598	2963.502	2962.461	2961.494	2960.599	2959.779	2959.031	2958.357
EX.GROUND LEVEL	2956.128	2951.208	2947.625	2946.881	2944.711	2945.703	2948.049	2951.118
CHAINAGE	87770	87790	87810	87830	87850	87870	87890	87910

ELEVATION



ELEVATION

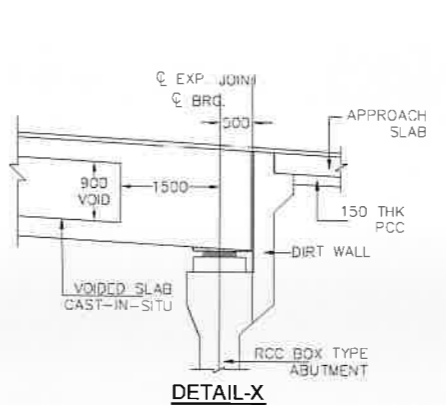


PROPOSED VIADUCT
Km 88+330 To Km 88+490
(SPAN 8x20.0m)

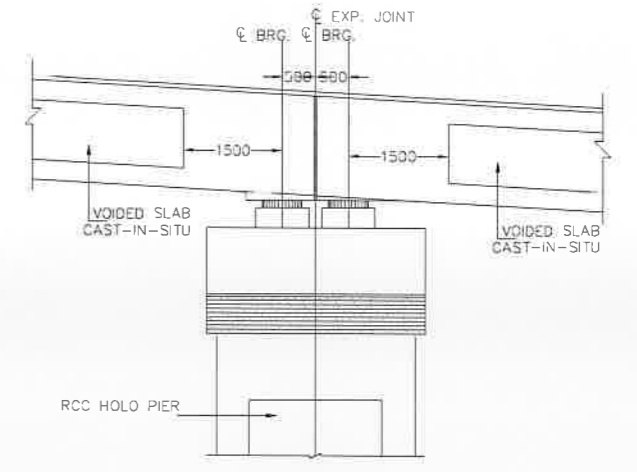
KEY PLAN

NOTES

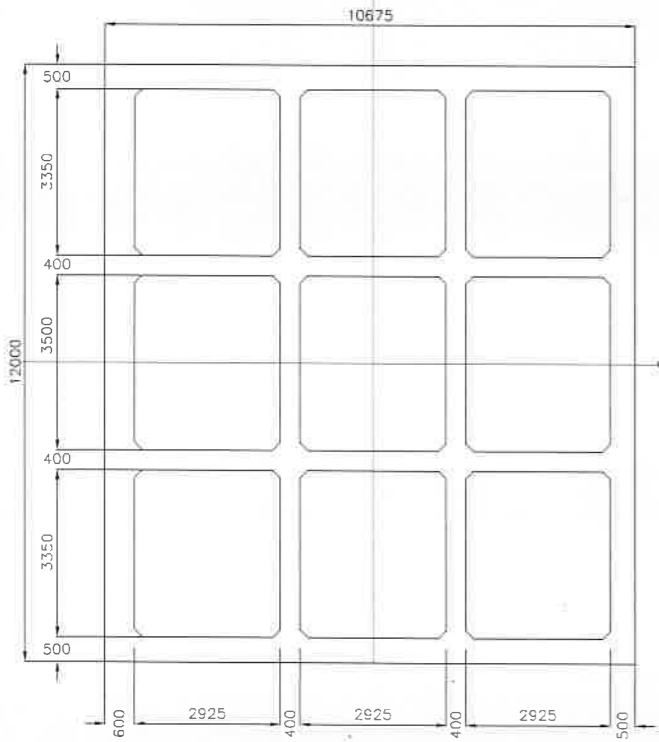
1. ALL DIMENSIONS ARE MILLIMETERS AND LEVELS ARE IN METERS.
2. DIMENSIONS ARE NOT TO SCALE, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. THE DIMENSION OF THE FOUNDATION SHOWN HERE TENTATIVE ONLY, THIS SHALL BE FINALIZED AFTER DETAILED SUBSOIL INVESTIGATION.
4. BRIDGE HAS BEEN DESIGNED FOR CARRIAGEWAY LIVE LOAD OF 1 LANE 70R + 1 LANE CLASS A J LANE'S OF CLASS A WHICHEVER GIVES WORST EFFECT
5. GRADE OF CONCRETE FOR VARIOUS ELEMENTS ARE AS FOLLOWS: -
 - (i) SUPERSTRUCTURE(VOIDED) ----- M40
 - (ii) RCC SUBSTRUCTURE & FOUNDATION ---- M35
 - (iii) RCC RAILING -----M30
 - (iv) RCC CRASH BARRIER ----- M40
 - (v) APPROACH SLAB ----- M30
 - (vi) PEDESTAL ----- M40
6. TYPE OF BEARING PROPOSED HERE IS POT-PTFE AS PER IRC:83, PART-III
7. SINGLE STRIP SEAL EXPANSION JOINT IS USED.
8. GRADE OF CEMENT IS USED HERE IS OPC 43/OPC 53.
9. ALL REINFORCEMENT BARS ARE TMT BARS (GRADE DESIGNATION Fe500D) AS PER IS:1786.
10. BRIDGE HAS BEEN DESIGNED CONSIDERING SEISMIC ZONE AS IV.
11. SUPERELEVATION SHALL BE MAINTAINED AS PER HIGHWAY PLAN & PROFILE.
12. SAFE BEARING CAPACITY FOR PRELIMINARY DESIGN AT FOUNDING LEVEL IS CONSIDERED AS 40t/m²
13. CONSTRUCTION JOINT



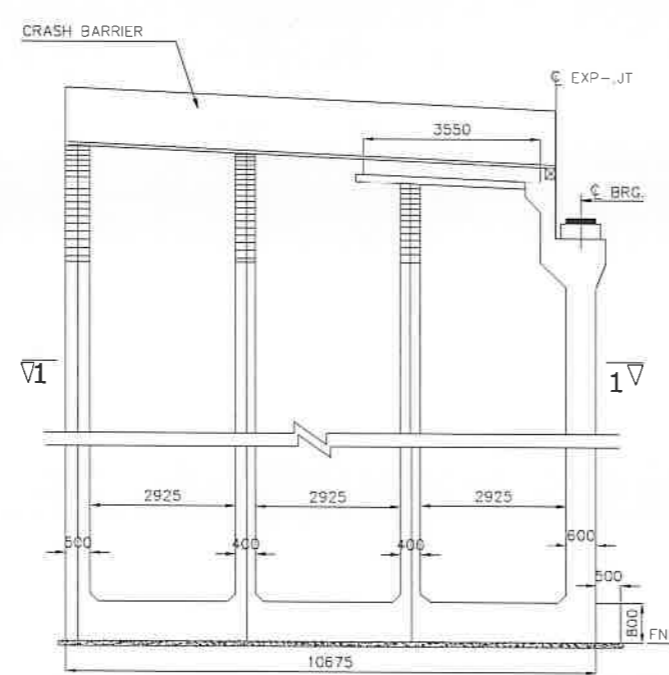
DETAIL-X



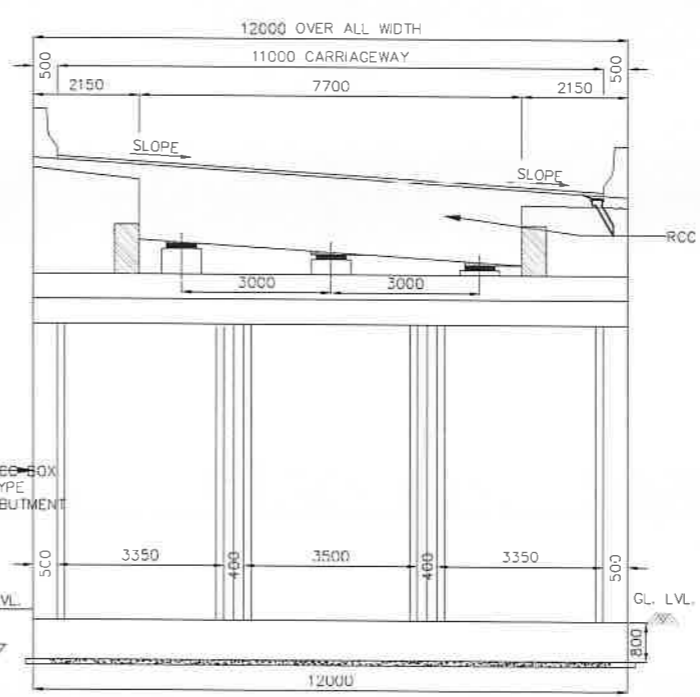
DETAIL-Y



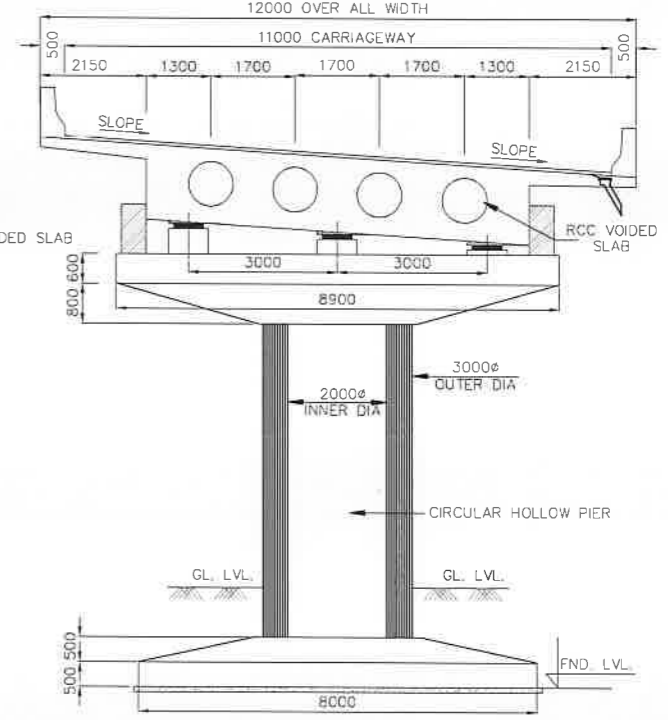
SECTION-1-1



BOX ABUTMENT



SECTION-A-A



SECTION-B-B

DATE: 16/10/2020 - 5:07pm
PATH: D:\A\PROJECTS\SEN\SJKM\SEN\SJKM PROJECT AUGUST - 2016\SJKM - BAW\SJKM-3B_GAD_Bv_Norath_(OCTOBER_2020)\GAD_7.GAD_Km_88+330_Km_88+490\1_GAD.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)

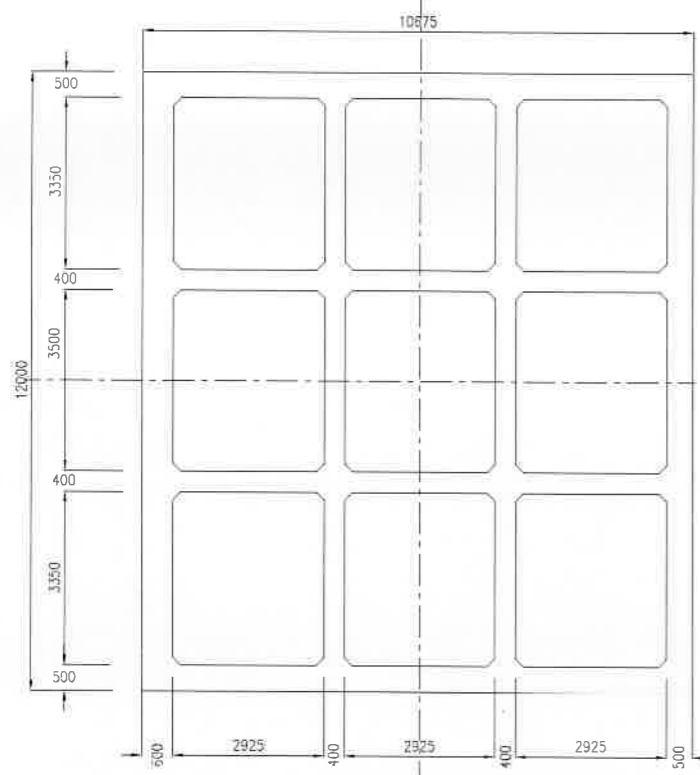
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida-201301, Uttar Pradesh.

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 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, Package-3B Helipad-Menla

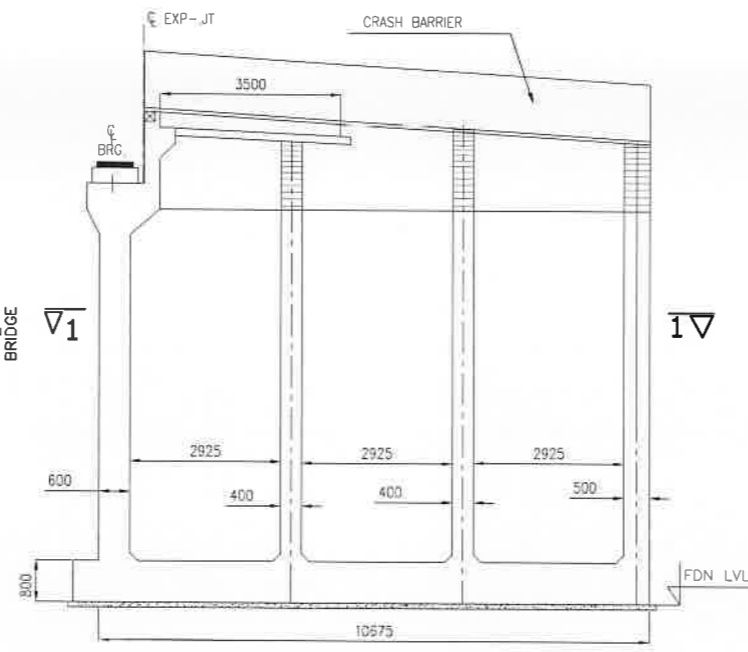
DATE : OCT-2020	Revision : R0		
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Ravi Kumar	A Sen	Arman	Sanjiv Shukla
SCALE: AS SHOWN			

PACKAGE-3B
HELIPAD TO MENLA
GENERAL ARRANGEMENT DRAWINGS
Km 88+330 To Km 88+490
(SPAN 8x20.0m)

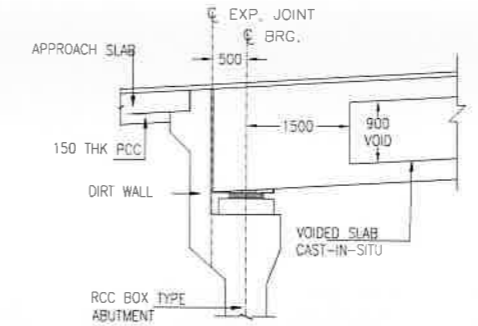
Dwg. No. :- SAICPL-SESPL/NHIUCL/WB-SKM/GAU/



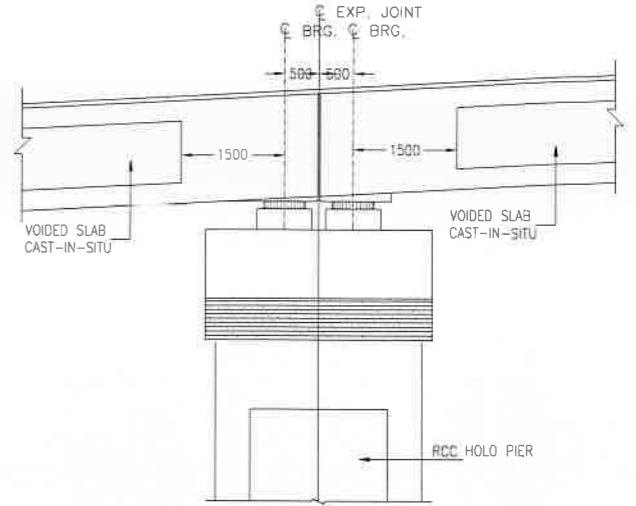
SECTION 1-1
SCALE 1:100



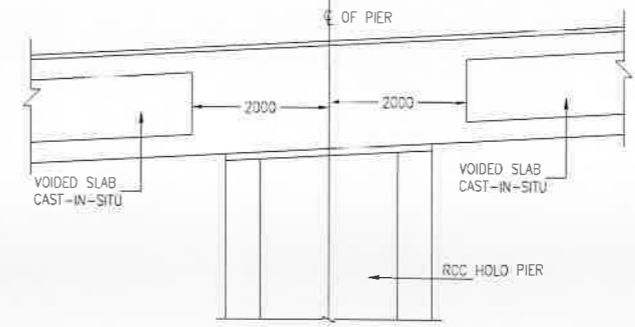
BOX ABUTMENT
SCALE 1:100



DETAIL-X
(SCALE 1:75)

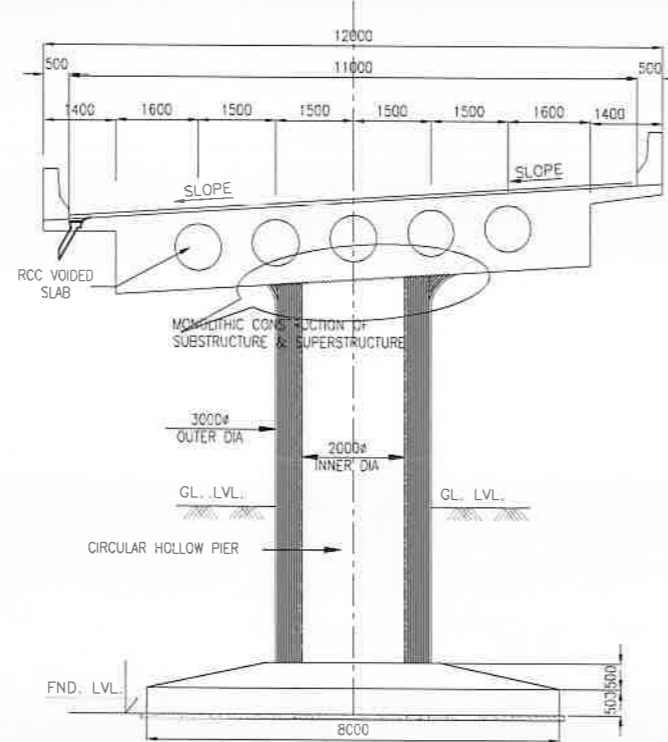
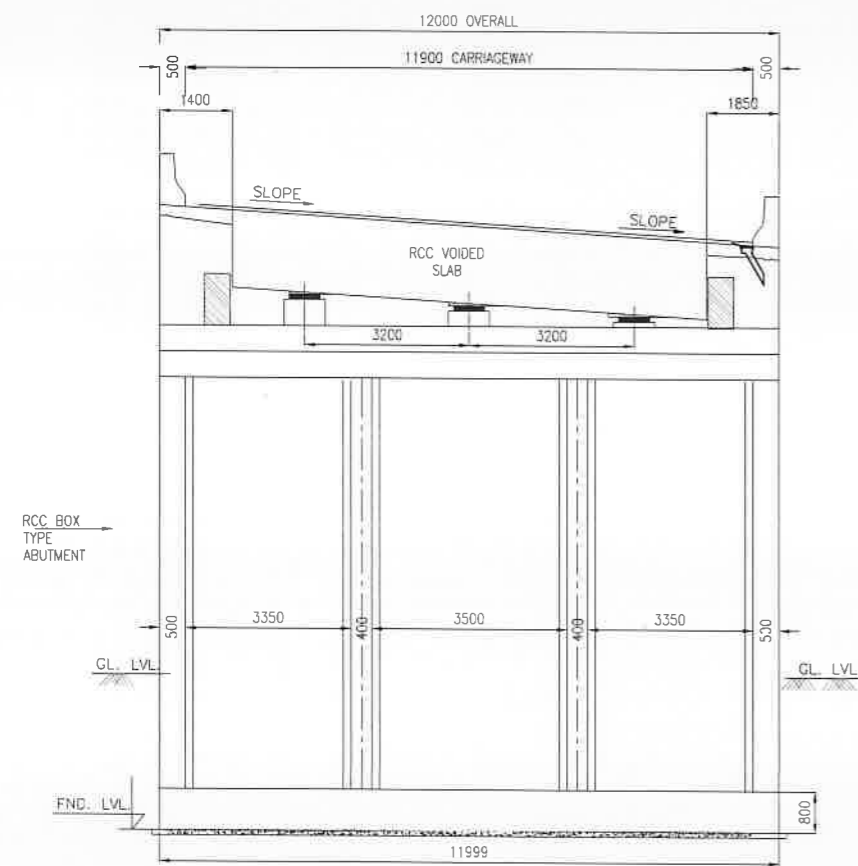


DETAIL-Y
(SCALE 1:75)

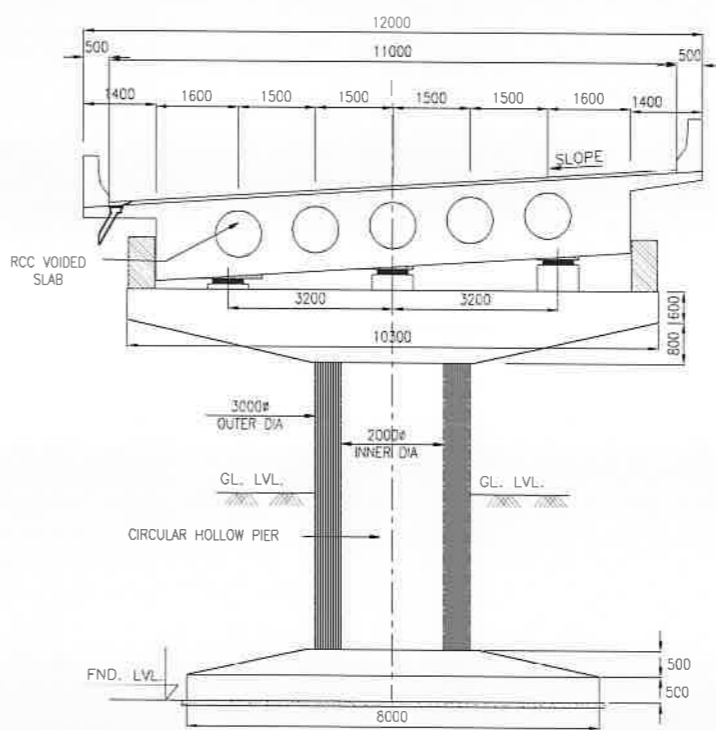


DETAIL-Z
(SCALE 1:75)

- NOTES**
1. ALL DIMENSIONS ARE MILLIMETERS AND LEVELS ARE IN METERS.
 2. DIMENSIONS ARE NOT TO SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
 3. THE DIMENSION OF THE FOUNDATION SHOWN HERE TENTATIVE ONLY. THIS SHALL BE FINALIZED AFTER DETAILED SUBSOIL INVESTIGATION.



SECTION B-B
SCALE 1:100



SECTION C-C
SCALE 1:100

DATE: 16/10/2020 - 5:00pm
PATH: D:\D Drive\LAOKE_S&A_S&M_PROJECT_AUGUST-2018\S&A_S&M-PAV\S&M-3B_GAD_Bv_Norath_(OCTOBER_2020)\GAD\3_GAD_Km_91+340-Km_91+860\91.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)

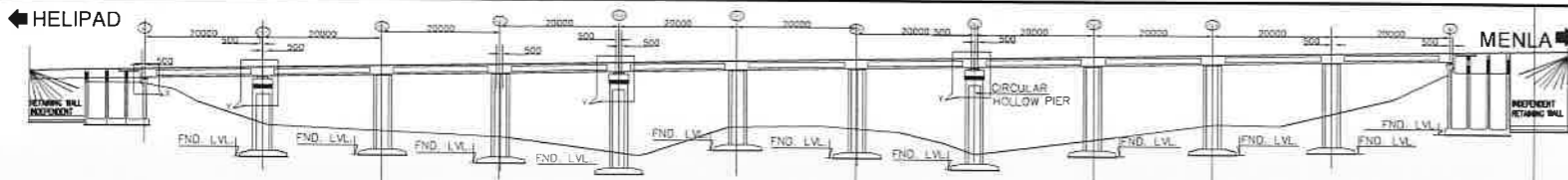
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
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Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work 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 Arlar-Rolep-Menia in the State of Sikkim.
Package-3B Helipad-Menia

DATE : OCT-2020	Revision : R0
DESIGNED BY RAVI KUMAR	DRAWN BY A SEN
CHECKED BY AREHMAN	APPROVED BY Sanjay Shukla
SCALE - AS SHOWN	

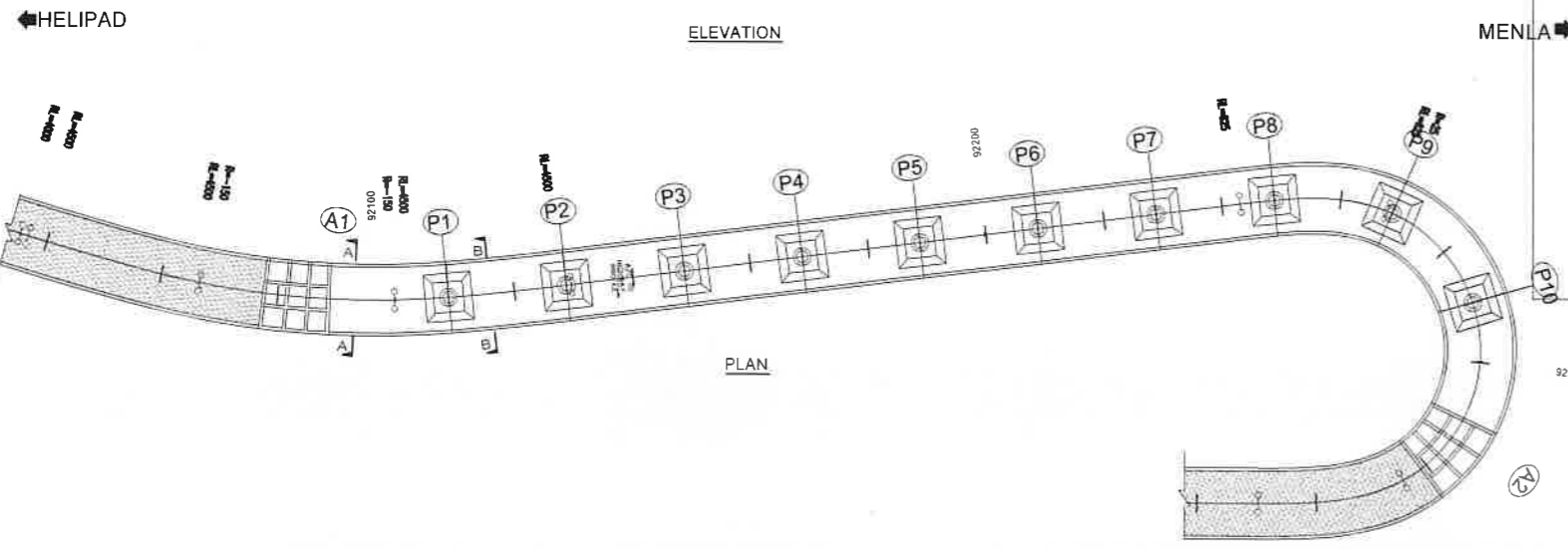
PACKAGE-3B
HELIPAD TO MENLA
GENERAL ARRANGEMENT DRAWINGS
VIADUCT AT Km 91+340 To Km 91+860
(SPAN 26x20.0m)

Dwg. No. :- SAICPL-SESP/L/NHIDCL/WB-SKM/GAD/

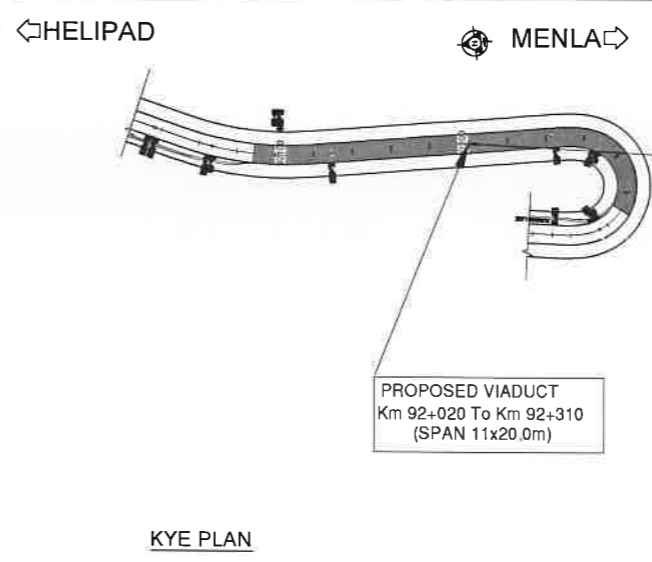


ELEVATION LEVEL	3100.033	3101.133	3102.233	3103.333	3104.433	3105.533	3106.633	3107.733	3108.833	3109.933	3111.033	3112.133
EK GROUND LEVEL	3073.396	3091.308	3088.722	3087.178	3085.356	3084.181	3082.507	3080.847	3079.676	3081.444	3092.749	3106.658
CHARANGE	92090	92110	92130	92150	92170	92190	92210	92230	92250	92270	92290	92310

ELEVATION



PLAN

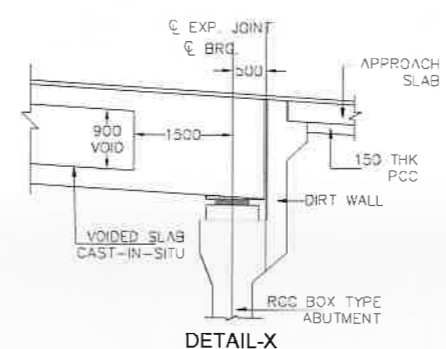


KEY PLAN

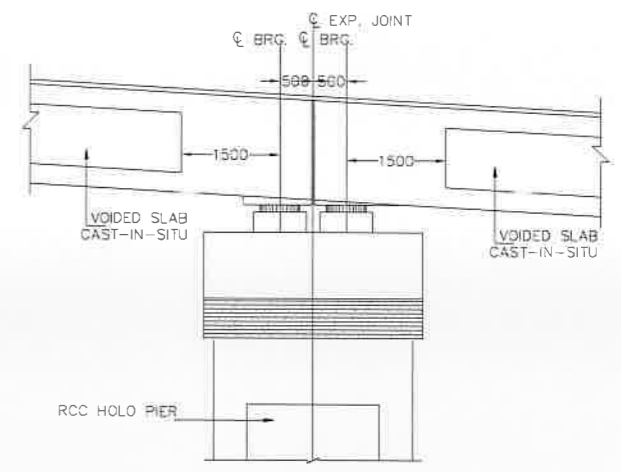
PROPOSED VIADUCT
Km 92+020 To Km 92+310
(SPAN 11x20.0m)

NOTES

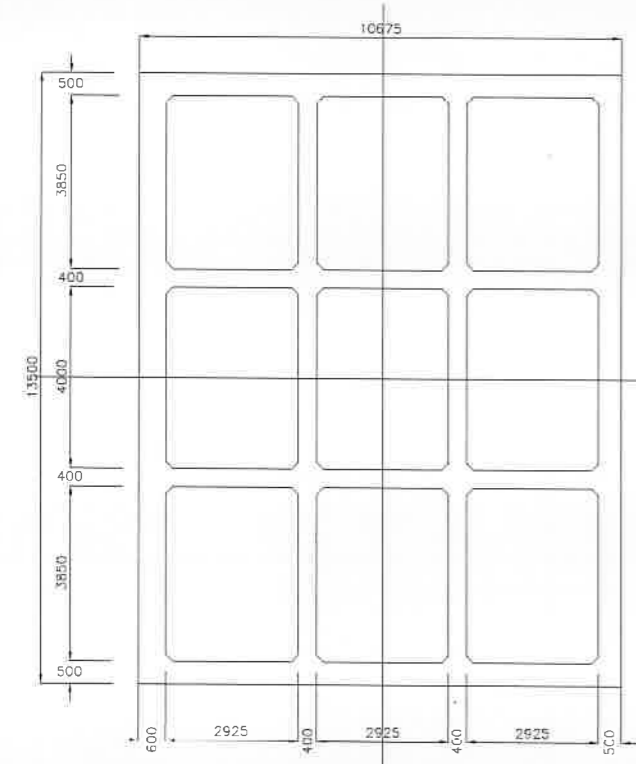
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- GRADE OF CONCRETE FOR VARIOUS ELEMENTS ARE AS FOLLOWS:-
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(ii) RCC SUBSTRUCTURE & FOUNDATION ---- M35
(iii) RCC RAILING -----M30
(iv) RCC CRASH BARRIER ----- M40
(v) APPROACH SLAB ----- M30
(vi) 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.
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- SAFE BEARING CAPACITY FOR PRELIMINARY DESIGN AT FOUNDING LEVEL IS CONSIDERED AS 40t/m²
- CONSTRUCTION JOINT



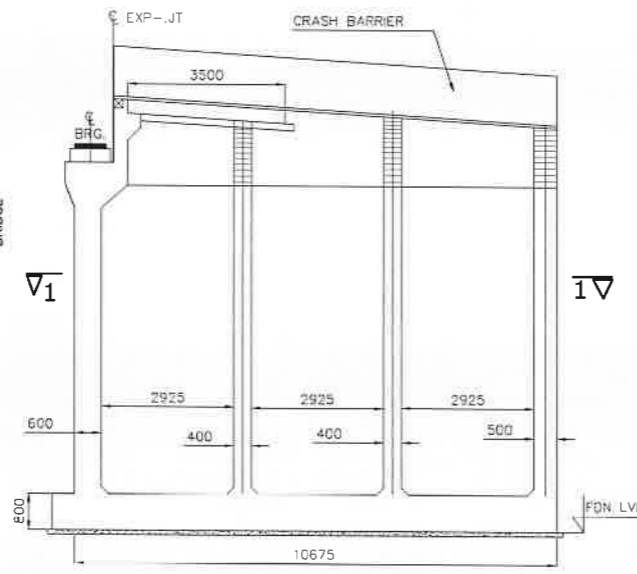
DETAIL-X



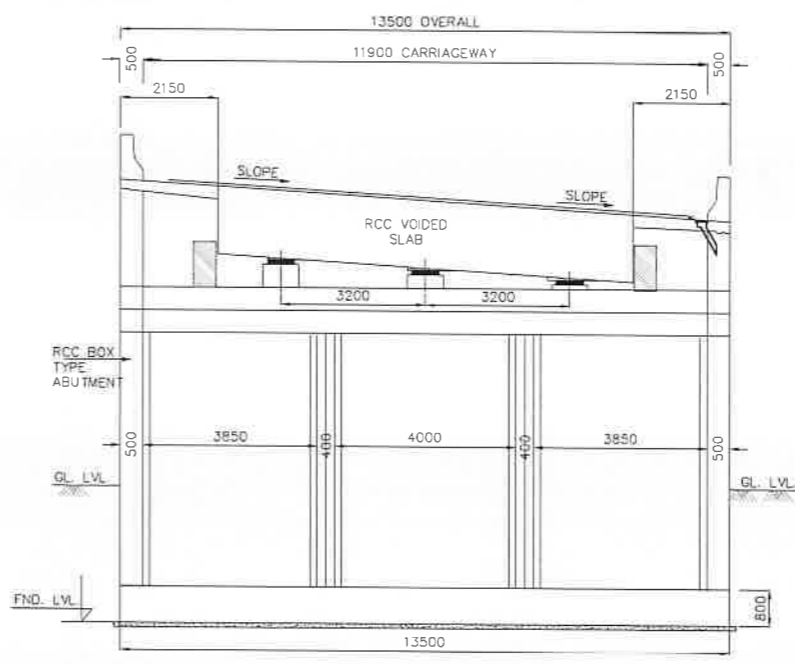
DETAIL-Y



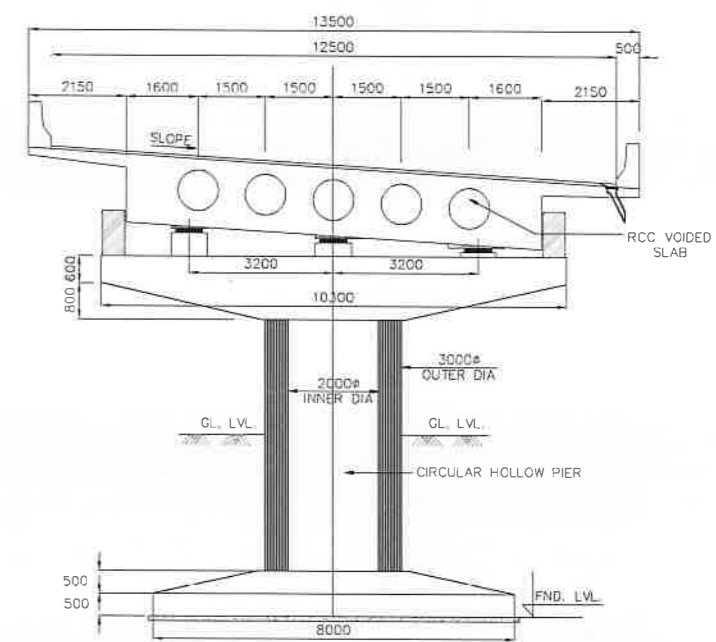
SECTION 1-1
SCALE 1:100



BOX ABUTMENT
SCALE 1:100



SECTION A-A
SCALE 1:100



SECTION C-C
SCALE 1:100

DATE: 16/10/2020 - 5:12PM
PATH: D:\D:\PROJECTS\2020\10\GAD - HELIPAD - MENLA\PROJECT AUGUST - 2016\SHIKHIM - BAKHIM\SHIKHIM - 3B_GAD - HELIPAD - MENLA\PROJECT AUGUST - 2016\SHIKHIM - BAKHIM\SHIKHIM - 3B_GAD - HELIPAD - MENLA\GAD.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)

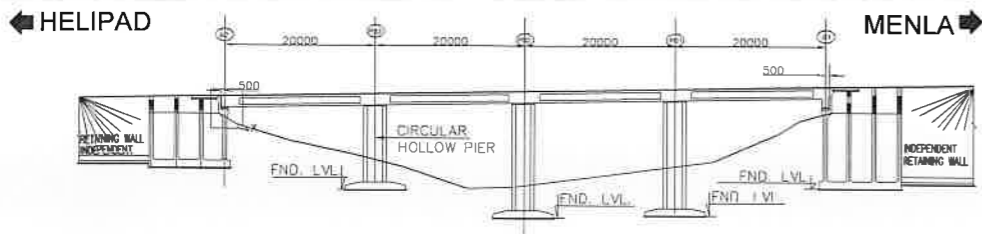
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
Specialized Engineering Service Pvt. Ltd.
1101A, 11th Floor, Tower A-II, Corporate Park,
Plot No. 7A/1, Sector-142,
Noida-201301, Uttar Pradesh

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 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.
Package-3B Helipad-Menla

DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
RAVI KUMAR	A SEN	AREHWAN	Srijay Shukla
SCALE: AS SHOWN			

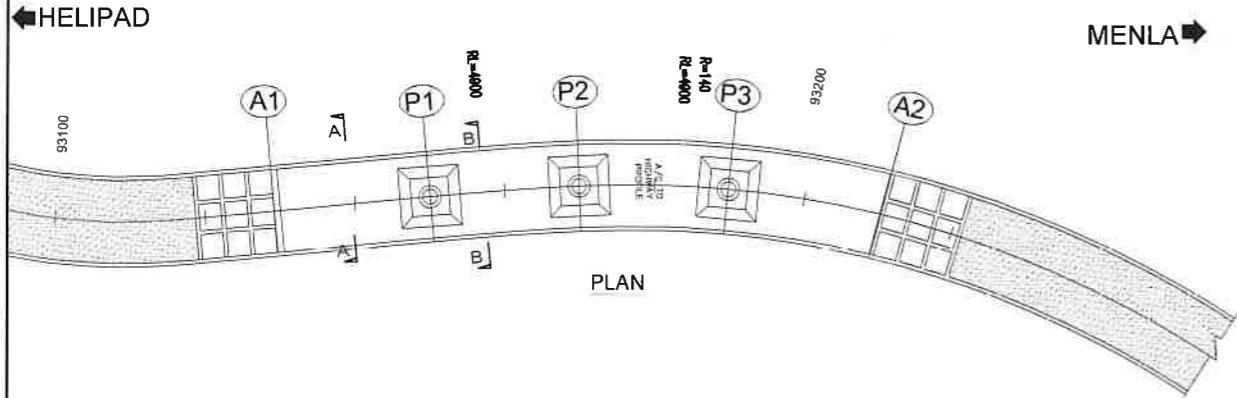
PACKAGE-3B
HELIPAD TO MENLA
GENERAL ARRANGEMENT DRAWINGS
Km 92+020 To Km 92+310
(SPAN 11x20.0m)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/GAD/

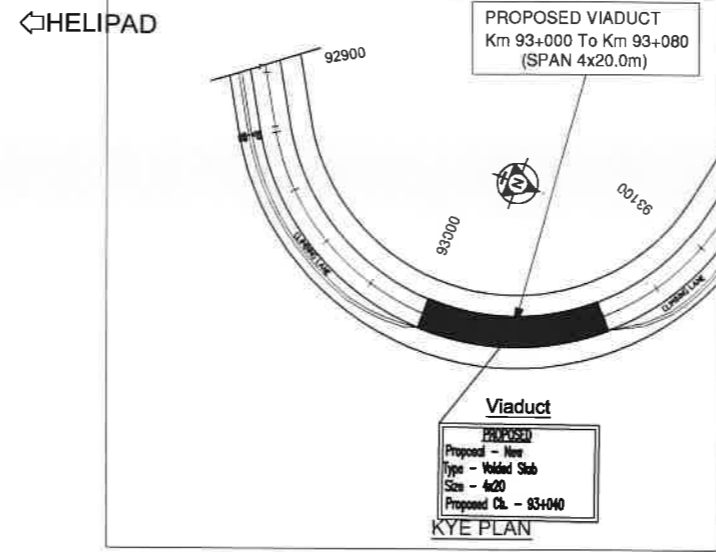


FORMATION LEVEL	3150.083	3151.183	3152.283	3153.383	3154.483
EX.GROUND LEVEL	3146.705	3125.201	3131.710	3139.999	3152.004
CHAINAGE	93000	93020	93040	93060	93080

ELEVATION



PLAN

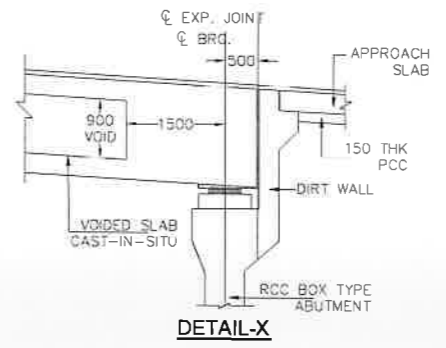


PROPOSED
 Proposed - New
 Type - Voided Slab
 Size - 4x20
 Proposed Cl. - 93+040
KYE PLAN

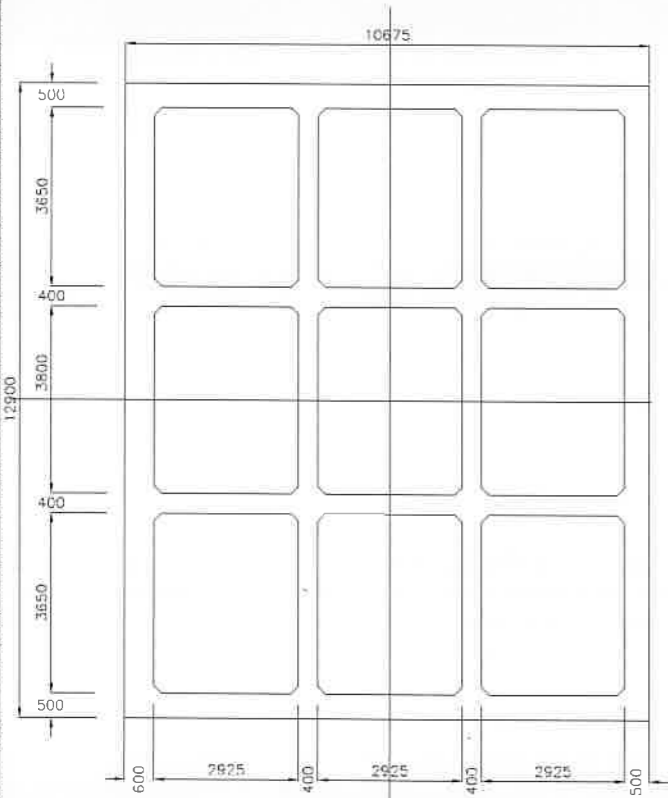
HELIPAD ← MENLA →

NOTES

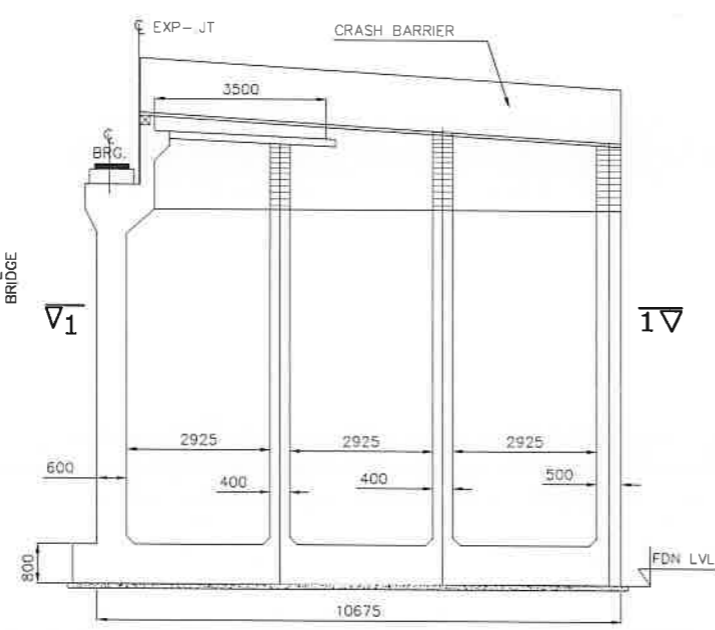
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- GRADE OF CONCRETE FOR VARIOUS ELEMENTS ARE AS FOLLOWS:-
 (i) SUPERSTRUCTURE(VOIDED) ----- M40
 (ii) RCC SUBSTRUCTURE & FOUNDATION --- M35
 (iii) RCC RAILING -----M30
 (iv) RCC CRASH BARRIER ----- M40
 (v) APPROACH SLAB ----- M30
 (vi) PEDESTAL ----- M40
- TYPE OF BEARING PROPOSED HERE IS POT-PITFE AS PER IRC:83, PART-III
- SINGLE STRIP SEAL EXPANSION JOINT IS USED.
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- CONSTRUCTION JOINT



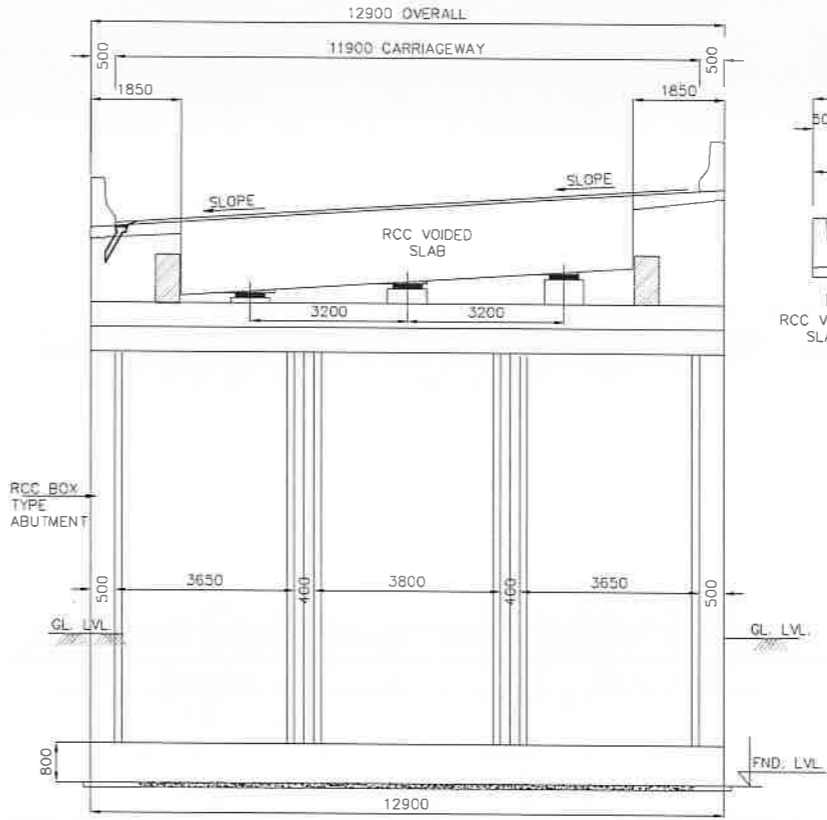
DETAIL-X



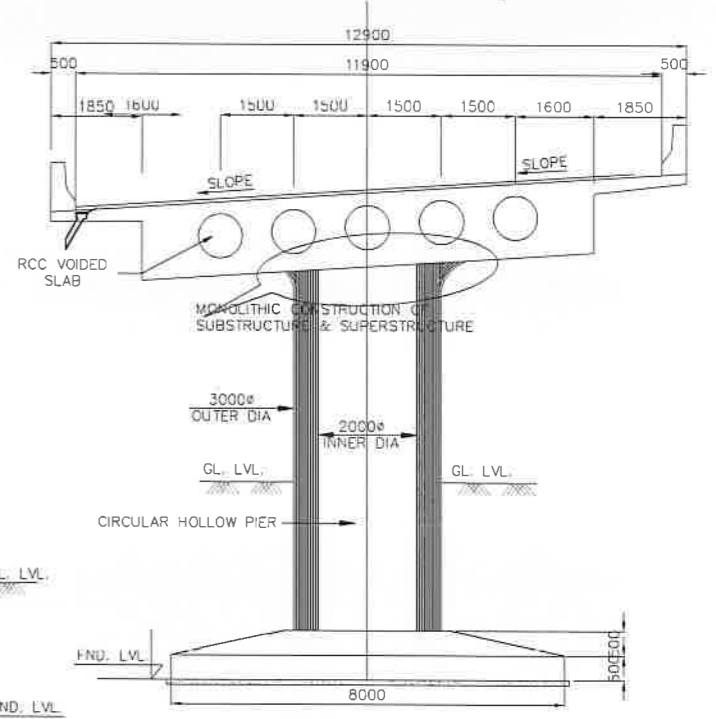
SECTION 1-1
SCALE 1:100



BOX ABUTMENT
SCALE 1:100



SECTION A-A
SCALE 1:100

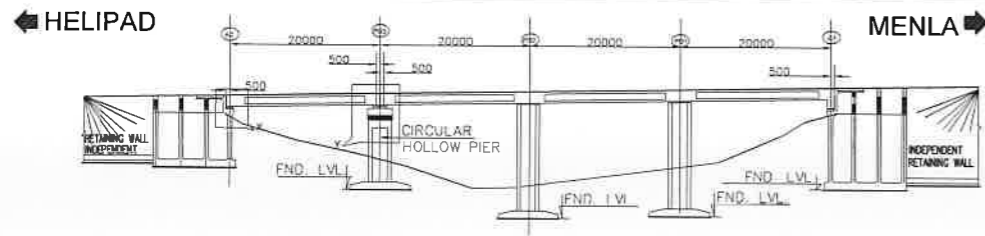


SECTION B-B
SCALE 1:100

DATE: 18/10/2020 - 8:15 AM
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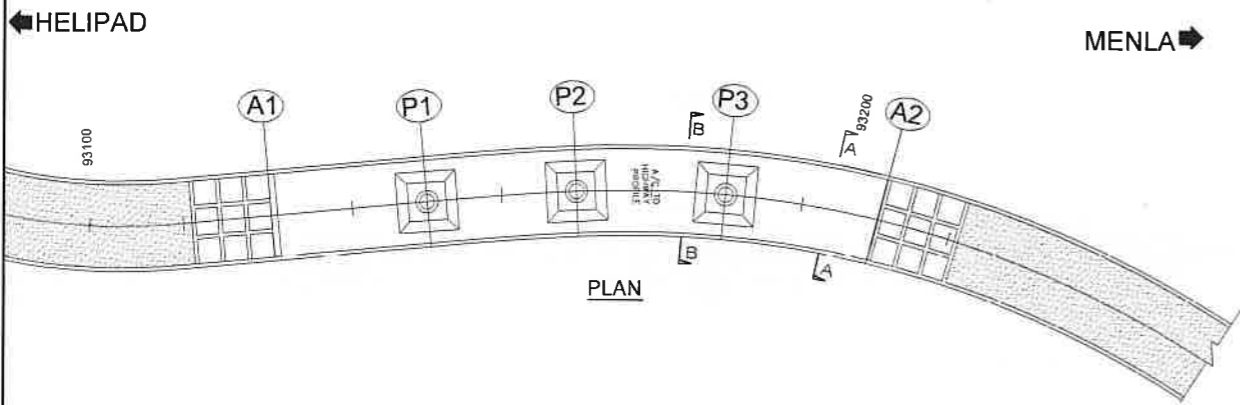
Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project : Against Supplementary Agreement dated 05.12.2019 - To execute the work of preparation of DPR as 'Additional work' for Package-II, III, IV-C and V which forms part of the original Contract Agreement dated 30.09.2014 for Preparation of Feasibility Report cum Preliminary Design for alternative Highway to Gangtok in Sikkim via Bagrakel-Chuikhim-Nimbung-Kafer-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rorahang-Pakyong along with spur from Aritar-Rolep-Menta in the State of Sikkim. Package-3B Helipad-Menta	DATE : OCT-2020	Revision : R0	PACKAGE-3B HELIPAD TO MENLA GENERAL ARRANGEMENT DRAWINGS Km 93+000 To Km 93+080 (SPAN 4x20.0m)
		DESIGNED BY RAVI KUMAR	DRAWN BY A SEN	
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, No. 20/501, Uttar Pradesh.		SCALE - AS SHOWN		Dwg. No. :- SACPL-SESPL/NHIDCL/WB-SKM/GAD/

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

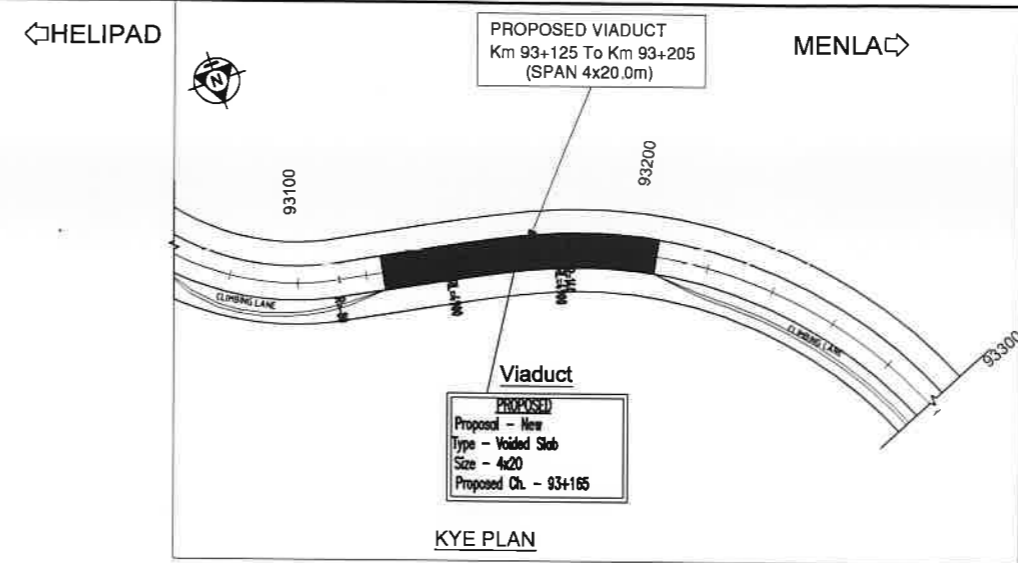


FORMATION LEVEL	3156.683	3157.783	3158.883	3159.972	3161.019
EX.GROUND LEVEL	3169.372	3161.411	3138.932	3144.954	3152.678
CHAINAGE	93125	93145	93165	93185	93205

ELEVATION



PLAN

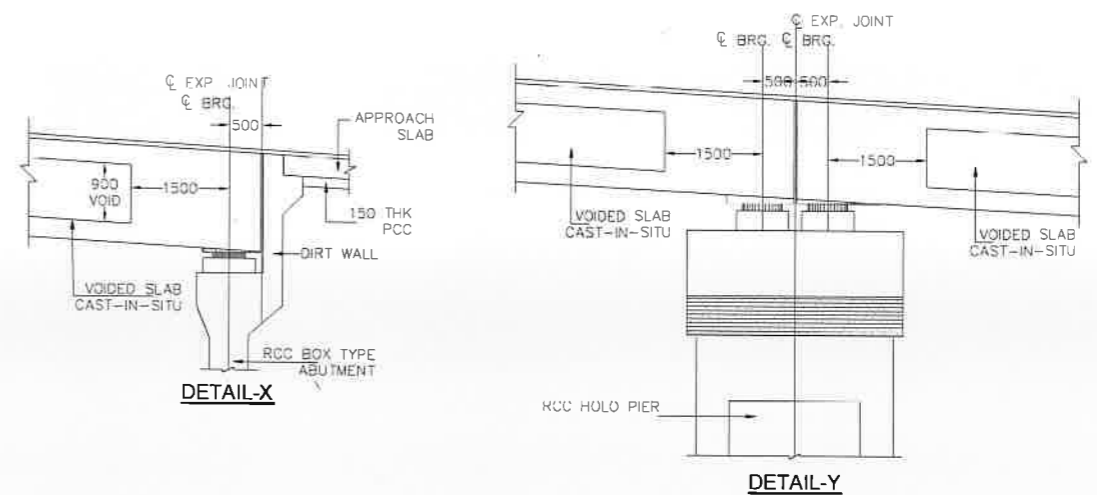


PROPOSED
 Proposal - New
 Type - Voided Slab
 Size - 4x20
 Proposed Ch. - 93+165

KYE PLAN

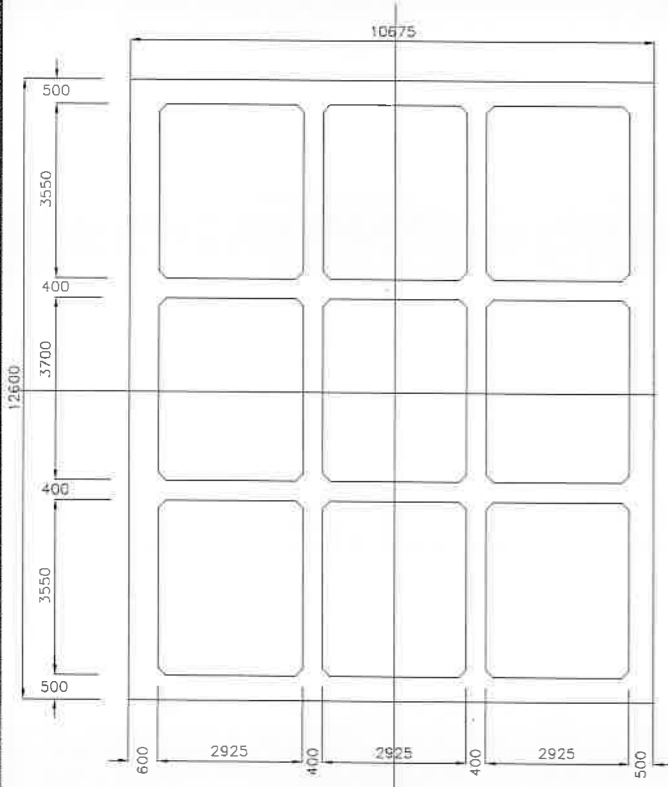
NOTES

1. ALL DIMENSIONS ARE MILLIMETERS AND LEVELS ARE IN METERS.
2. DIMENSIONS ARE NOT TO SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. THE DIMENSION OF THE FOUNDATION SHOWN HERE TENTATIVE ONLY. THIS SHALL BE FINALIZED AFTER DETAILED SUBSOIL INVESTIGATION.
4. BRIDGE HAS BEEN DESIGNED FOR CARRIAGEWAY LIVE LOAD OF 1 LANE 70R + 1 LANE CLASS A 3 LANES OF CLASS A WHICHEVER GIVES WORST EFFECT.
5. GRADE OF CONCRETE FOR VARIOUS ELEMENTS ARE AS FOLLOWS:-
 (i) SUPERSTRUCTURE (VOIDED) ----- M40
 (ii) RCC SUBSTRUCTURE & FOUNDATION ---- M35
 (iii) RCC RAILING ----- M30
 (iv) RCC CRASH BARRIER ----- M40
 (v) APPROACH SLAB ----- M30
 (vi) PEDESTAL ----- M40
6. TYPE OF BEARING PROPOSED HERE IS POT-PTFE AS PER IRC:83, PART-III
7. SINGLE STRIP SEAL EXPANSION JOINT IS USED.
8. GRADE OF CEMENT IS USED HERE IS OPC 43/OPC 53.
9. ALL REINFORCEMENT BARS ARE TMT BARS (GRADE DESIGNATION Fe500D) AS PER IS:1786.
10. BRIDGE HAS BEEN DESIGNED CONSIDERING SEISMIC ZONE AS IV.
11. SUPERELEVATION SHALL BE MAINTAINED AS PER HIGHWAY PLAN & PROFILE.
12. SAFE BEARING CAPACITY FOR PRELIMINARY DESIGN AT FOUNDING LEVEL IS CONSIDERED AS 40t/m²
13. CONSTRUCTION JOINT

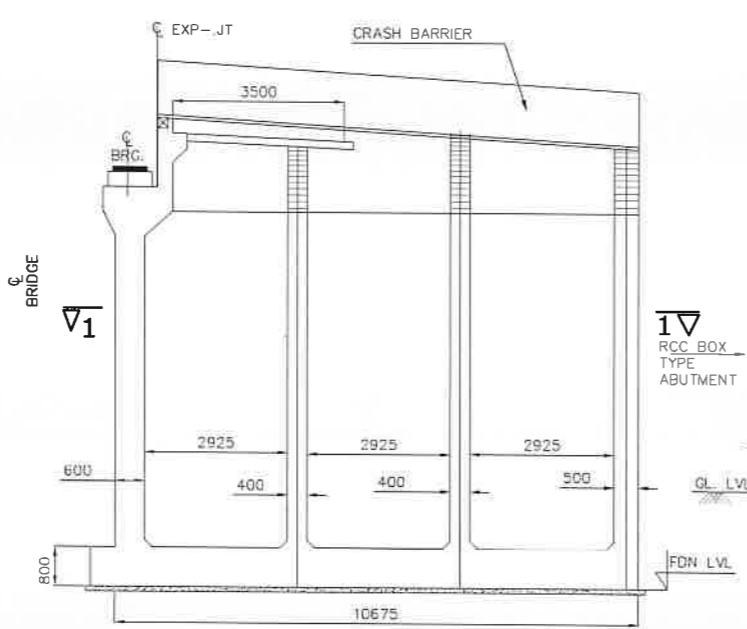


DETAIL-X

DETAIL-Y

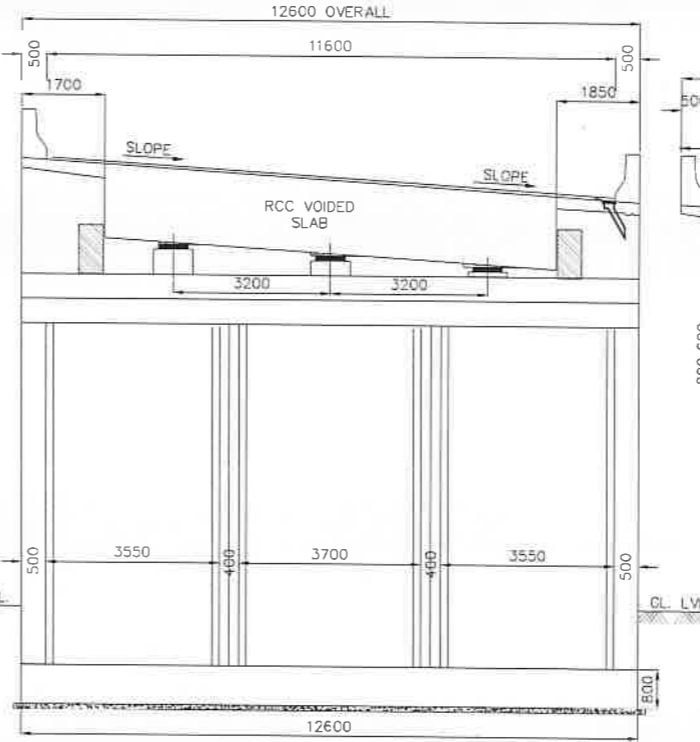


SECTION 1-1



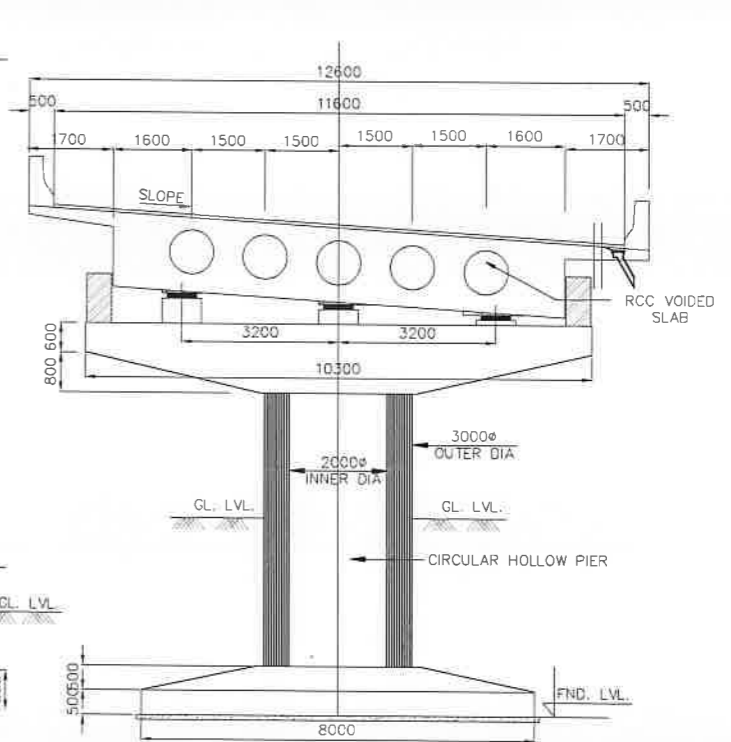
BOX ABUTMENT

SCALE 1:100



SECTION A-A

SCALE 1:100

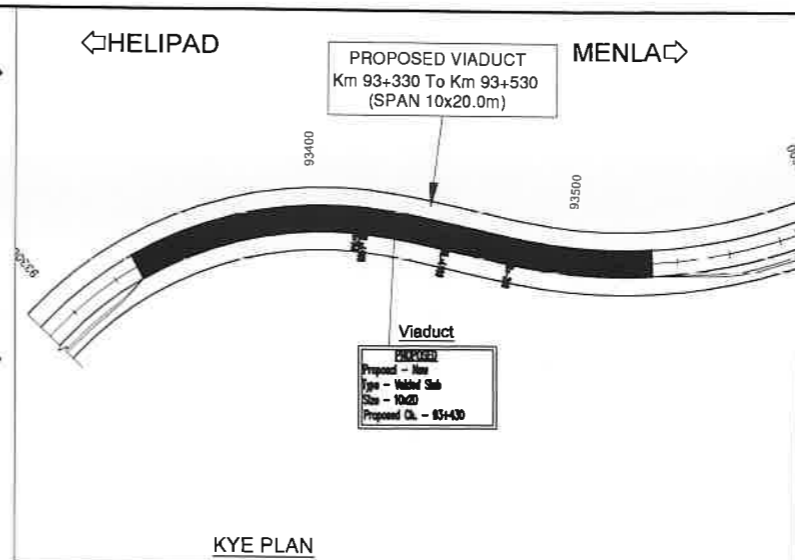
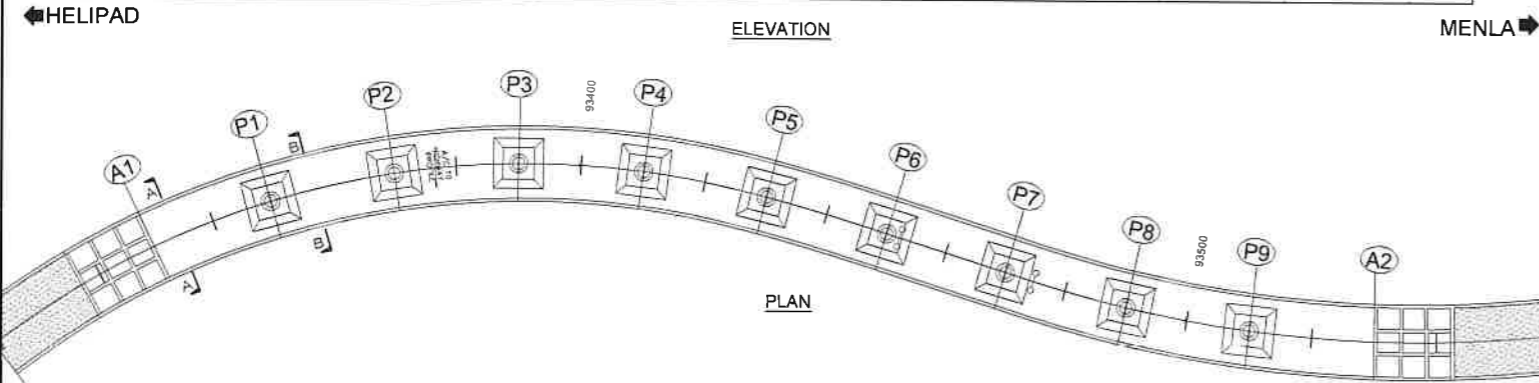
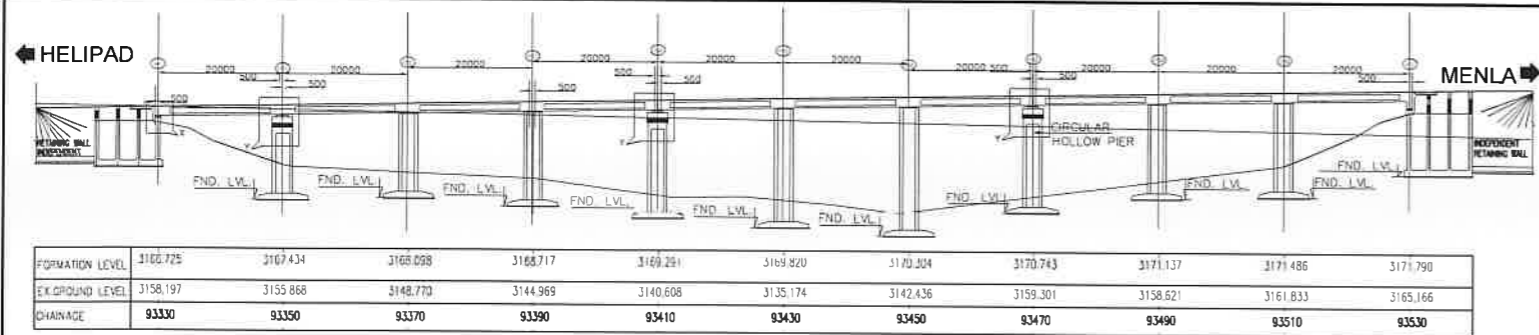


SECTION C-C

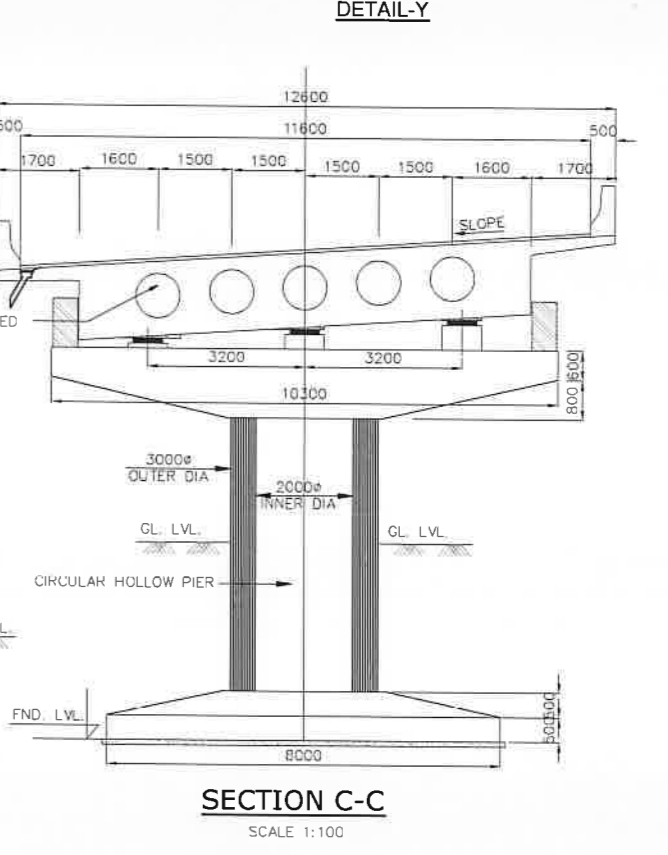
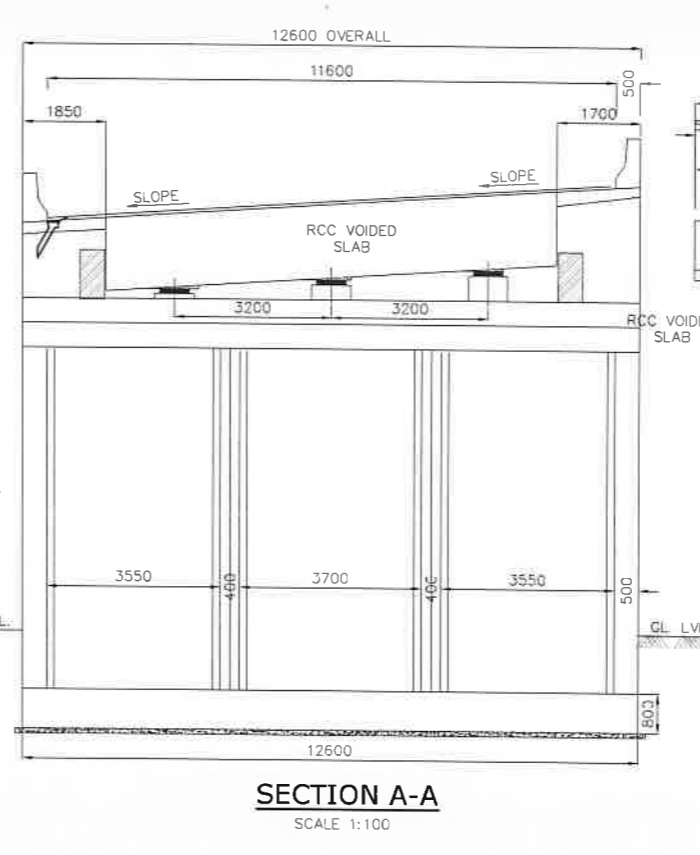
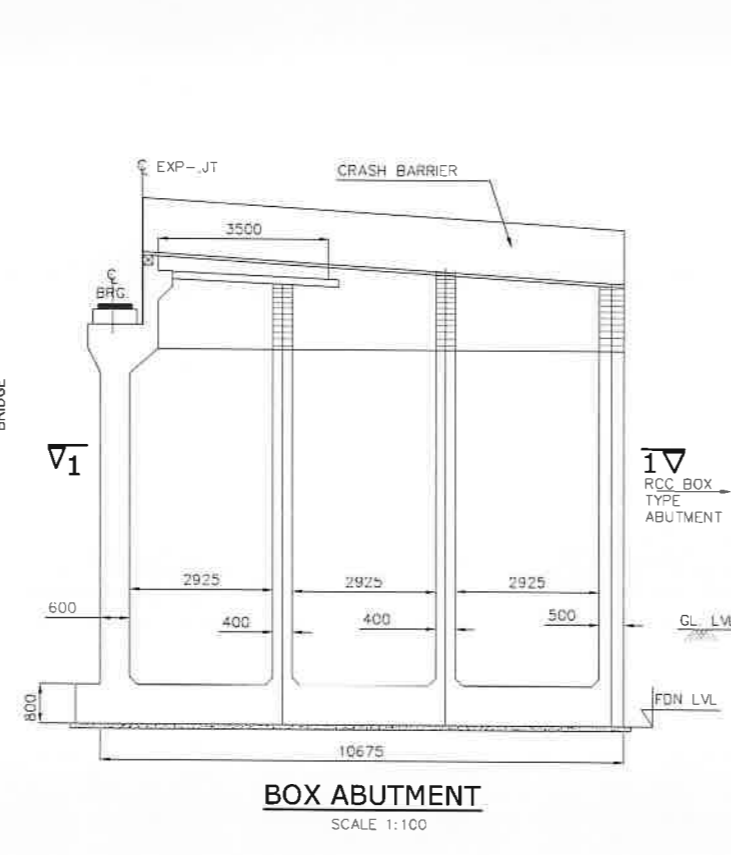
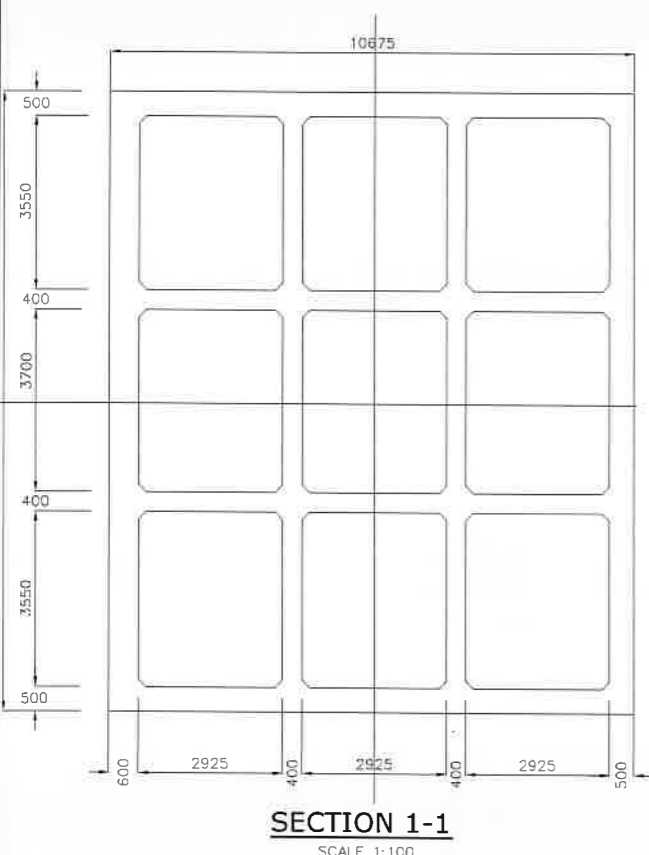
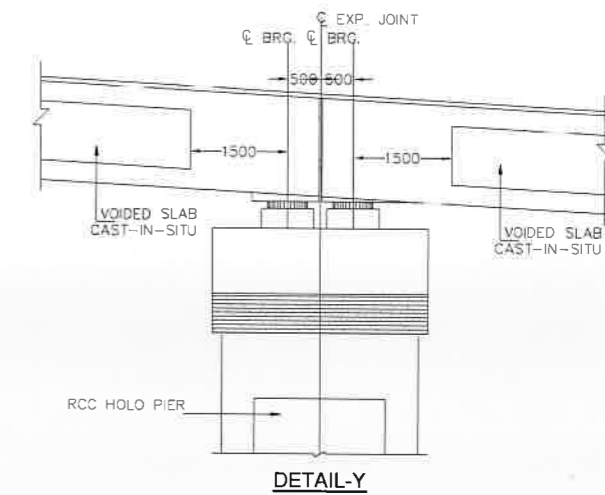
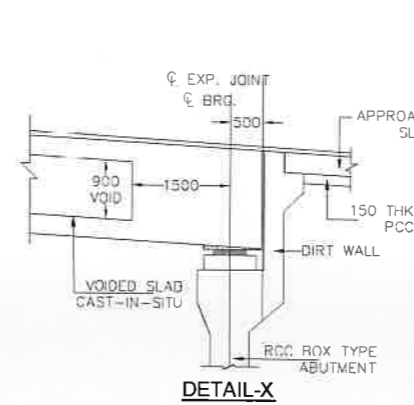
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DATE: 16/10/2020 5:17pm
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Client : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (Ministry of Road Transport & Highways)	Project : Against Supplementary Agreement dated 05.12.2019 - 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-Chulkhin-Nimbong-Kafer-Bakhin-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rerathang-Pakyong along with spur from Arter-Rolep-Menla in the State of Sikkim. Package-3B Helipad-Menla	DATE : OCT-2020	Revision : R0	PACKAGE-3B HELIPAD TO MENLA GENERAL ARRANGEMENT DRAWINGS Km 93+125 To Km 93+205 (SPAN 4x20.0m)
		DESIGNED BY : RAVI KUMAR	DRAWN BY : A SEN	
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 - AS SHOWN		Dwg. No. :- SAICPL-SESP/L/NHIDCL/WB-SKM/GAD/



- NOTES**
- ALL DIMENSIONS ARE MILLIMETERS AND LEVELS ARE IN METERS.
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 - SAFE BEARING CAPACITY FOR PRELIMINARY DESIGN AT FOUNDING LEVEL IS CONSIDERED AS 40t/m²
 - CONSTRUCTION JOINT



DATE: 16/10/2020 - 5:26pm
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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)

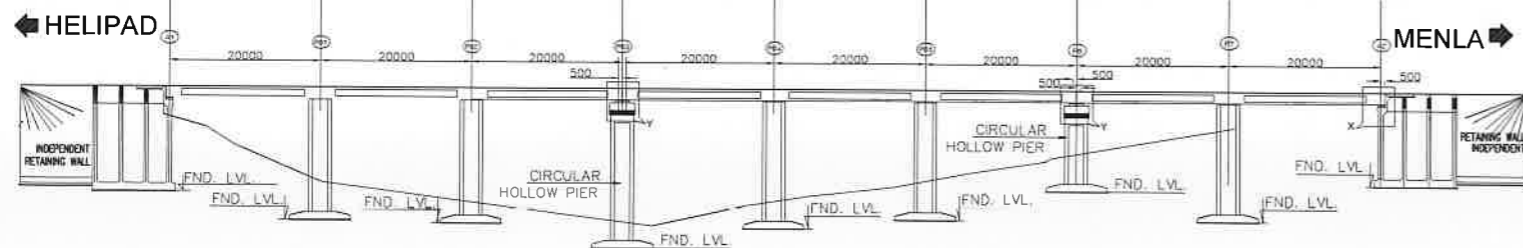
Consultant : SA INFRASTRUCTURE CONSULTANTS PVT. LTD.
 Specialized Engineering Service Pvt. Ltd.
 1101A, 11th Floor, Tower A-II, Corporate Park,
 Plot No. 7A/1, Sector-142,
 Noida-201307, Uttar Pradesh.

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-Kater-Bakhim-Algarah-Rhenok in the State of West Bengal and from Rhenok-Rerathang-Pakyong along with spur from Aritar-Rolep-Menla in the State of Sikkim.
 Package-3B Helipad-Menla

DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
RAVI KUMAR	A SEN	AREHMAN	Sonjay Shukla
SCALE - AS SHOWN			

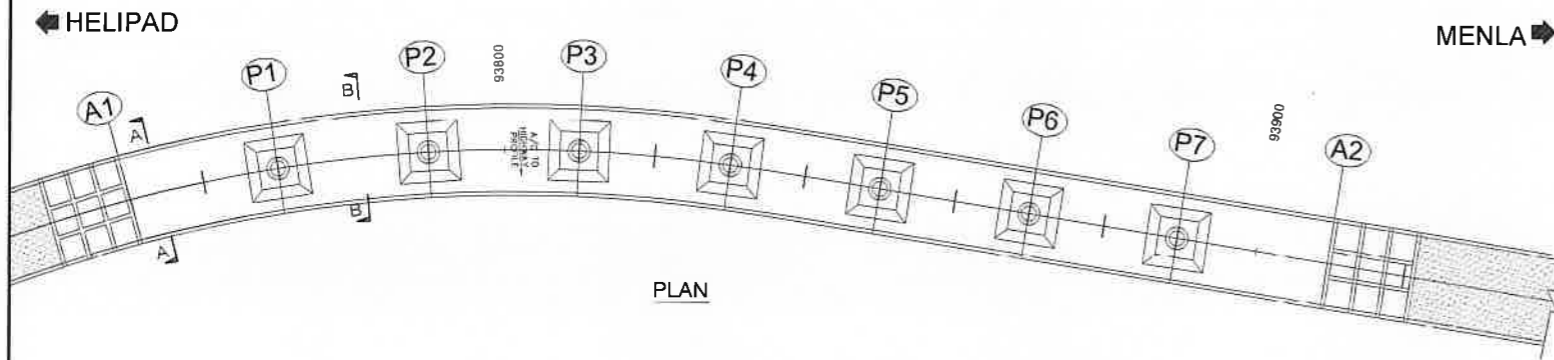
PACKAGE-3B
HELIPAD TO MENLA
GENERAL ARRANGEMENT DRAWINGS
 Km 93+330 To Km 93+530
 (SPAN 10x20.0m)

Dwg. No. :- SAICPL-SESP/L/NHIDCL/WB-SKM/GAD/

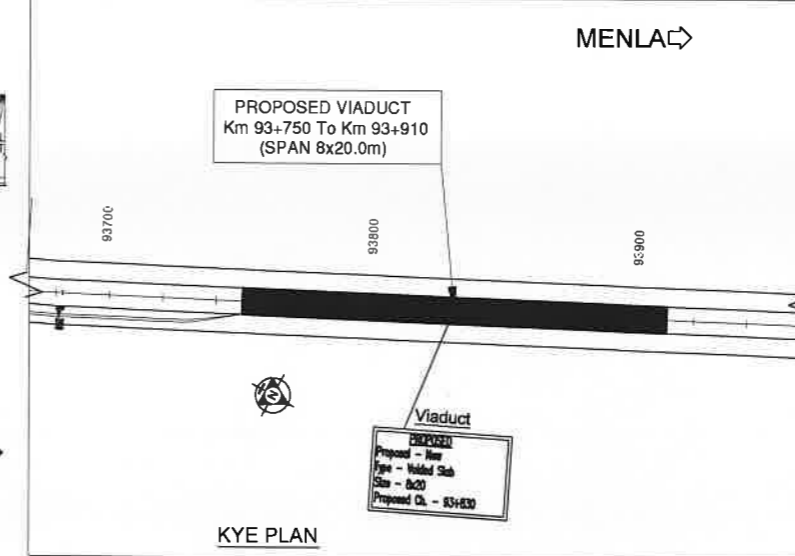


FORMATION LEVEL	3174.264	3174.464	3174.664	3174.864	3175.064	3175.264	3175.464	3175.664
EX.GROUND LEVEL	3151.277	3159.959	3155.529	3151.716	3148.343	3150.627	3157.495	3165.780
CHAINAGE	93770	93790	93810	93830	93850	93870	93890	93910

ELEVATION



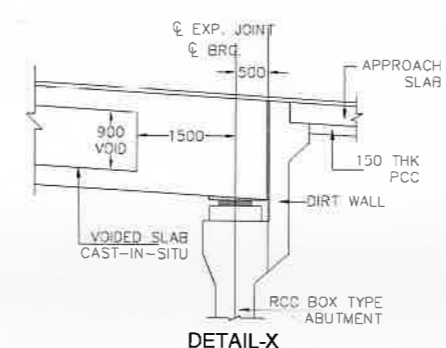
PLAN



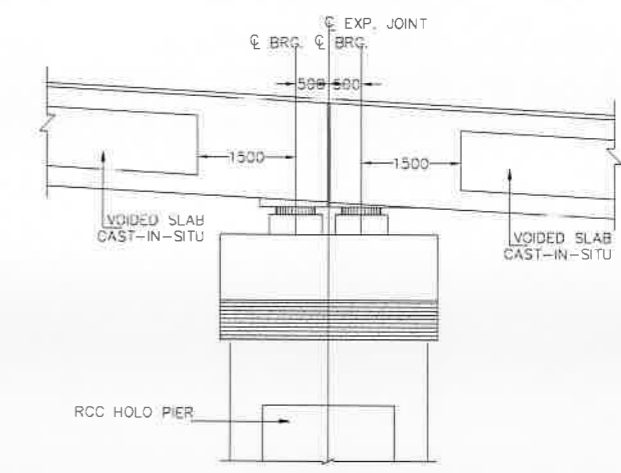
KYE PLAN

NOTES

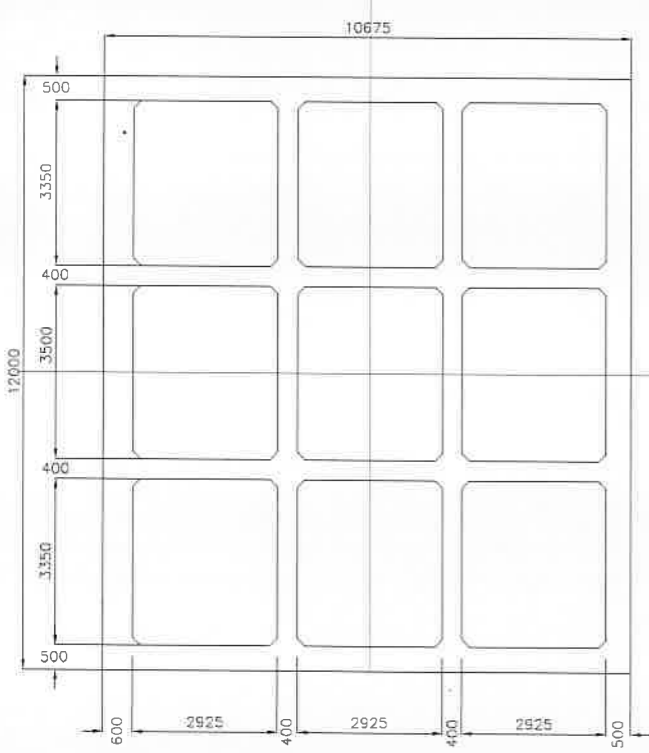
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- CONSTRUCTION JOINT



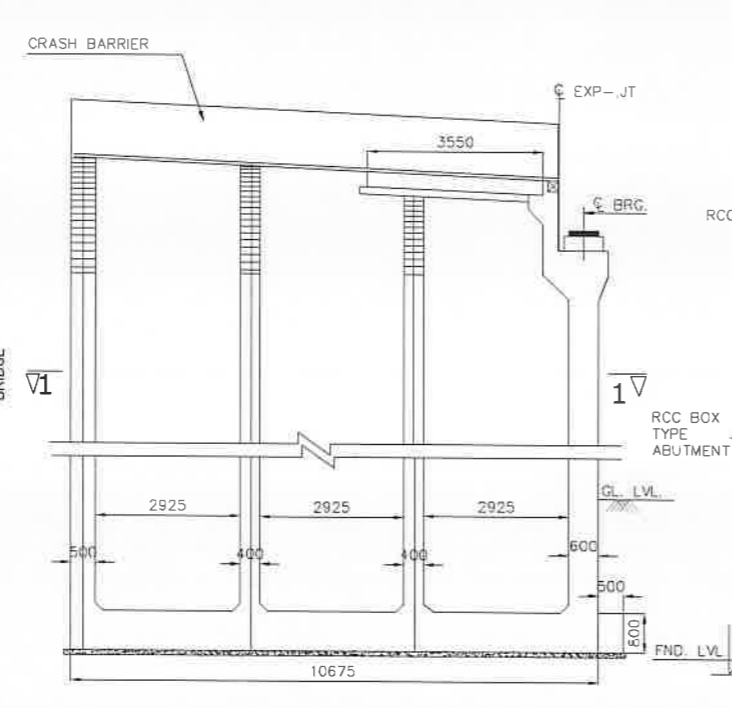
DETAIL-X



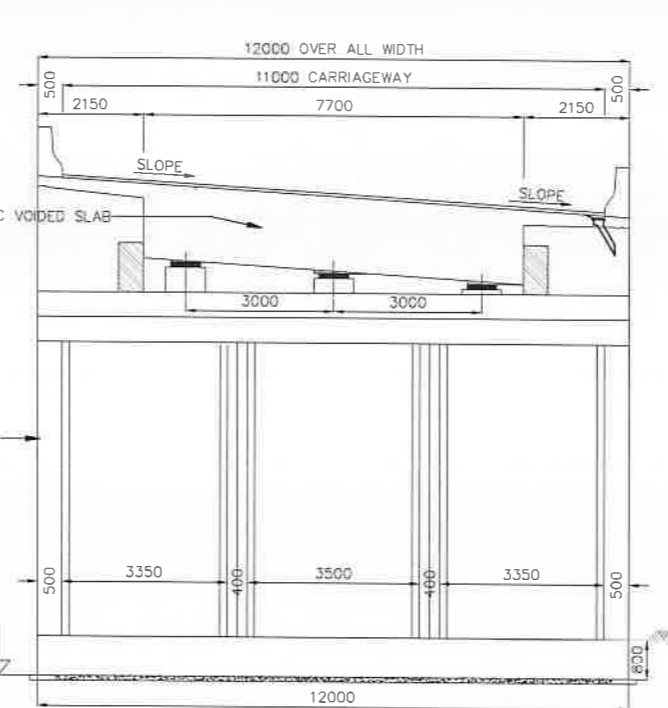
DETAIL-Y



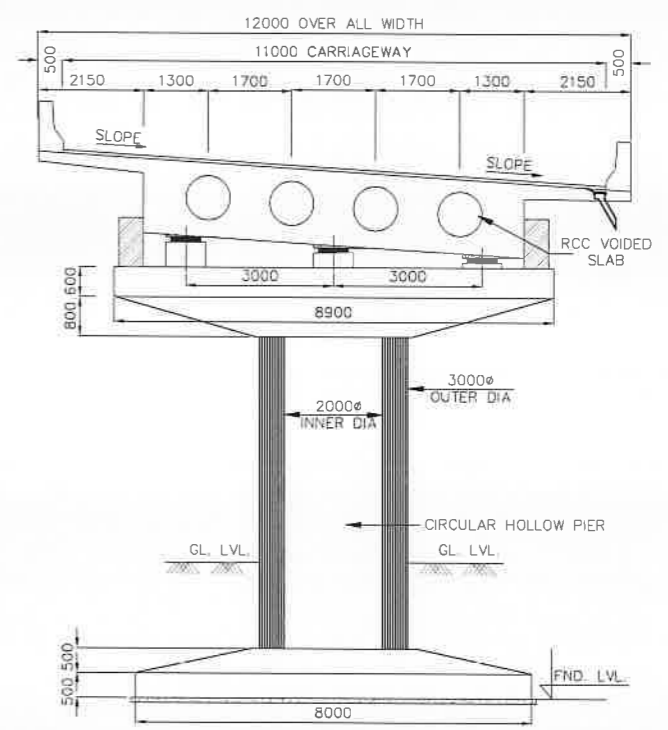
SECTION-1-1



BOX ABUTMENT



SECTION-A-A



SECTION-B-B

DATE: 16/10/2020 - 5:22pm
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REV	DATE	DESCRIPTION OF REVISIONS	INITIALS
R0	APRIL 2019	FINAL FEASIBILITY REPORT	

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DATE : OCT-2020		Revision : R0	
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
Ravi Kumar	A Sen	APEHMAN	Sanjey Shukla
SCALE : AS SHOWN			

PACKAGE-3B
HELIPAD TO MENLA
GENERAL ARRANGEMENT DRAWINGS
Km 93+750 To Km 93+910
(SPAN 8x20.0m)

Dwg. No. :- SAICPL-SESPL/NHIDCL/WB-SKM/GAD/