LIST OF STRUCTURAL DRAWINGS

	STRUCTURAL DRAWING			
SL. No.	DRAWING TITLE	DETAILS OF DRAWING	Rev No.	NO OF SHEETS
1	GENERAL ARRANGEMENT DRAWINGS OF MAJOR BRIDGE AT Km. Ch. 119+535.00	VSPL/1718-081/DPR/PKG-2/MJBR-01_Sht-1	R0	01
2	GENERAL ARRANGEMENT DRAWINGS OF MAJOR BRIDGE AT Km. Ch. 119+535.00	VSPL/1718-081/DPR/PKG-2/MJBR-01_Sht-2	R0	01
3	GENERAL ARRANGEMENT DRAWINGS OF MAJOR BRIDGE AT Km. Ch. 129+535.00	VSPL/1718-081/DPR/PKG-2/MJBR-02_Sht-1	R0	01
4	GENERAL ARRANGEMENT DRAWINGS OF MAJOR BRIDGE AT Km. Ch. 129+535.00	VSPL/1718-081/DPR/PKG-2/MJBR-02_Sht-2	R0	01
5	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 116+643.00	VSPL/1718-081/DPR/PKG-2/MNB-01_Sht-1	R0	01
6	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 116+643.00	VSPL/1718-081/DPR/PKG-2/MNB-01_Sht-2	R0	01
7	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 117+170.00	VSPL/1718-081/DPR/PKG-2/MNB-02_Sht-1	R0	01
8	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 117+170.00	VSPL/1718-081/DPR/PKG-2/MNB-02_Sht-2	R0	01
9	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 121+200.00	VSPL/1718-081/DPR/PKG-2/MNB-03_Sht-1	R0	01
10	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 121+200.00	VSPL/1718-081/DPR/PKG-2/MNB-03_Sht-2	R0	01
11	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 126+870.00	VSPL/1718-081/DPR/PKG-2/MNB-04_Sht-1	R0	01
12	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 126+870.00	VSPL/1718-081/DPR/PKG-2/MNB-04_Sht-2	R0	01
13	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 128+306.00	VSPL/1718-081/DPR/PKG-2/MNB-05_Sht-1	R0	01
14	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 128+306.00	VSPL/1718-081/DPR/PKG-2/MNB-05_Sht-2	R0	01
15	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 128+710.00	VSPL/1718-081/DPR/PKG-2/MNB-06_Sht-1	R0	01
16	GENERAL ARRANGEMENT DRAWINGS OF MINOR BRIDGE AT Km. Ch. 128+710.00	VSPL/1718-081/DPR/PKG-2/MNB-06_Sht-2	R0	01
17	TYPICAL GENERAL ARRANGEMENT DRAWING OF SINGLE CELL PIPE CULVERT	VSPL/1718-081/DPR/PKG-2/PC-01	R0	01
18	SCHEDULE OF PIPE CULVERT	VSPL/1718-081/DPR/PKG-2/PC-01	R0	02

CLIENT :

NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. (MINISTRY OF ROAD TRANSPORT AND HIGHWAYS) GOVERNMENT OF INDIA

PROJECT :

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENTS IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1:PACKAGE II)

DESIGN CONSULTANT:

VOYANTS SOLUTIONS PVT LTD.
403, 4th Floor, Park Centra,
Sector-30, NH-8
Gurugram-122001, Haryana, India
CIN- U74140HR2004PTC046918
Ph: 0124-4598200, Fax: 0124-4019051,
E-mail: info@voyants.in, www.voyants.in

Detaild Project Report

REV.	DATE	DESCRIPTION

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY

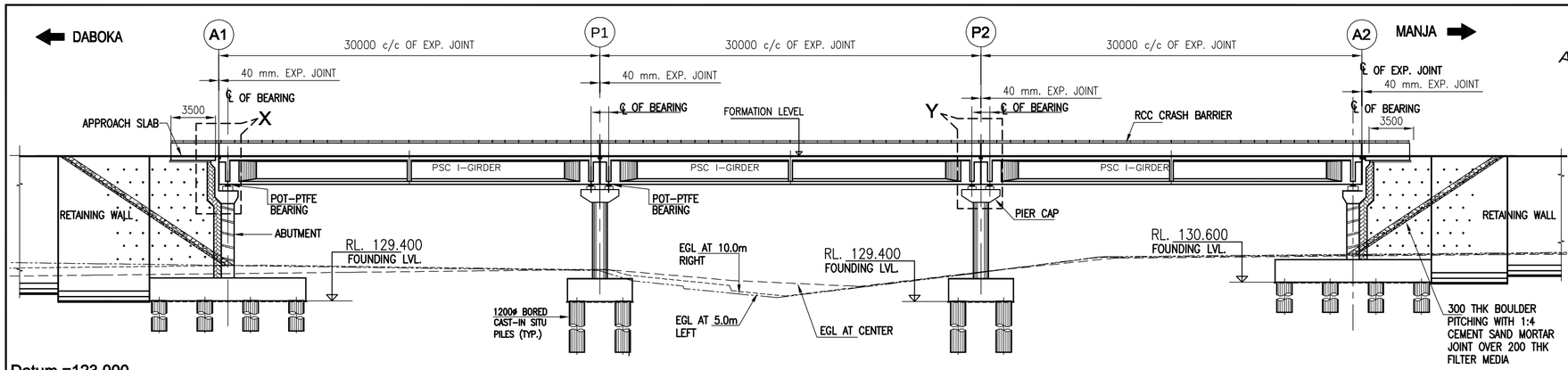
SCALE : AS SHOWN | SHEET SIZE : A2

TITLE :

TABLE OF CONTENTS
PKG-II (PHASE-6)

DRG. No. :

REVISION: R0 | April, 2020

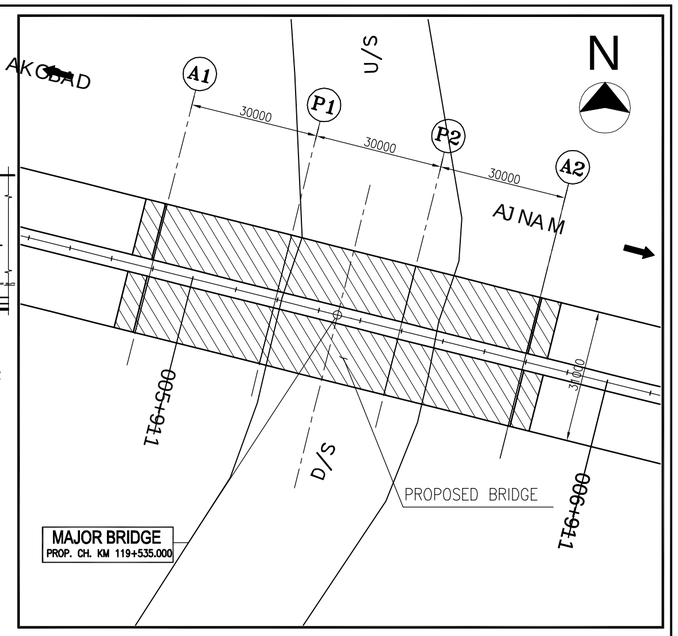


Datum =123.000

PROPOSED FRL (m)	141.000	141.000	141.000	141.000
EGL AT CENTER	132.360	131.924	131.799	133.232
EGL AT 5.0m LEFT	132.331	132.01	131.835	133.170
EGL AT 10.0m RIGHT	131.709	132.034	131.843	133.109
CHAINAGE(Km)	119+490.00	119+520.00	119+535.00	119+550.00	119+580.00

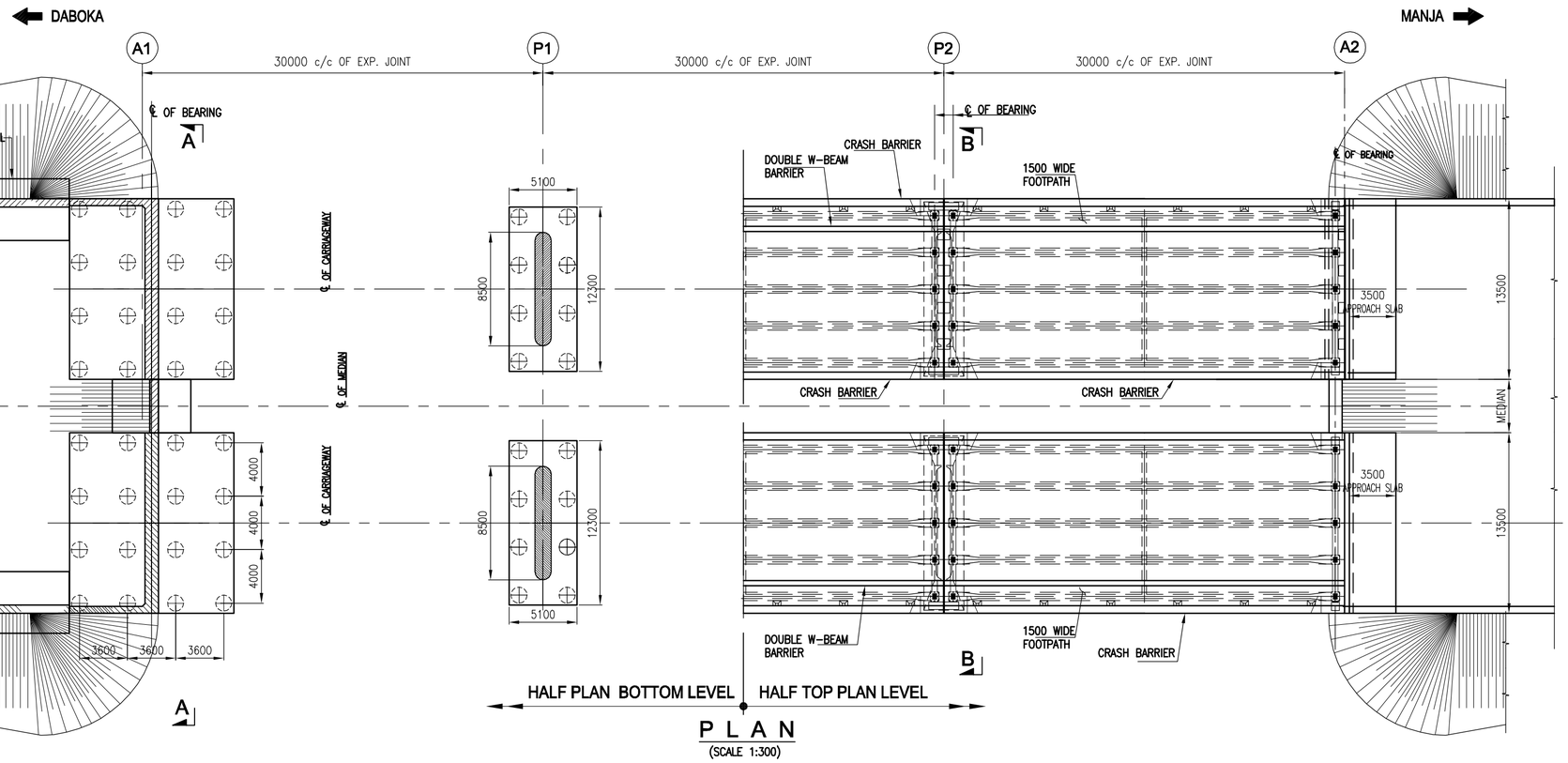
SECTIONAL ELEVATION

(SCALE 1:300)



KEY PLAN

(SCALE 1:1000)



P L A N

(SCALE 1:300)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES. UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. EXPANSION JOINTS SHALL BE OF STRIP SEAL TYPE AS PER SPECIFICATION.
4. POT PTFE BEARING SHALL BE USED.
5. GRADE OF CONCRETE :-
   - PSC I-GIRDER — M45
   - RCC DECK SLAB — M45
   - RCC CRASH BARRIER — M40
   - ABUTMENT, ABUTMENT CAP — M35
   - PIER & PIER CAP — M35
   - PILE, PILE CAP — M35
   - APPROACH SLAB — M35
   - PCC LEVELING COURSE — M15
6. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWING VSPL/1718-081/FSR/PKG-4/MJBR-05 (Sht. 2 & 2)

CLIENT :

NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. (MINISTRY OF ROAD TRANSPORT AND HIGHWAYS) GOVERNMENT OF INDIA

PROJECT :

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENTS IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1:PACKAGE IV)

DESIGN CONSULTANT:

VOYANTS SOLUTIONS PVT LTD.
403, 4th Floor, Park Centra,
Sector-30, NH-8
Gurugram-122001, Haryana, India
CIN- U74140HR2004PTC046918
Ph: 0124-4598200, Fax: 0124-4019051,
E-mail: info@voyants.in, www.voyants.in

Detaild Project Report

REV.	DATE	DESCRIPTION

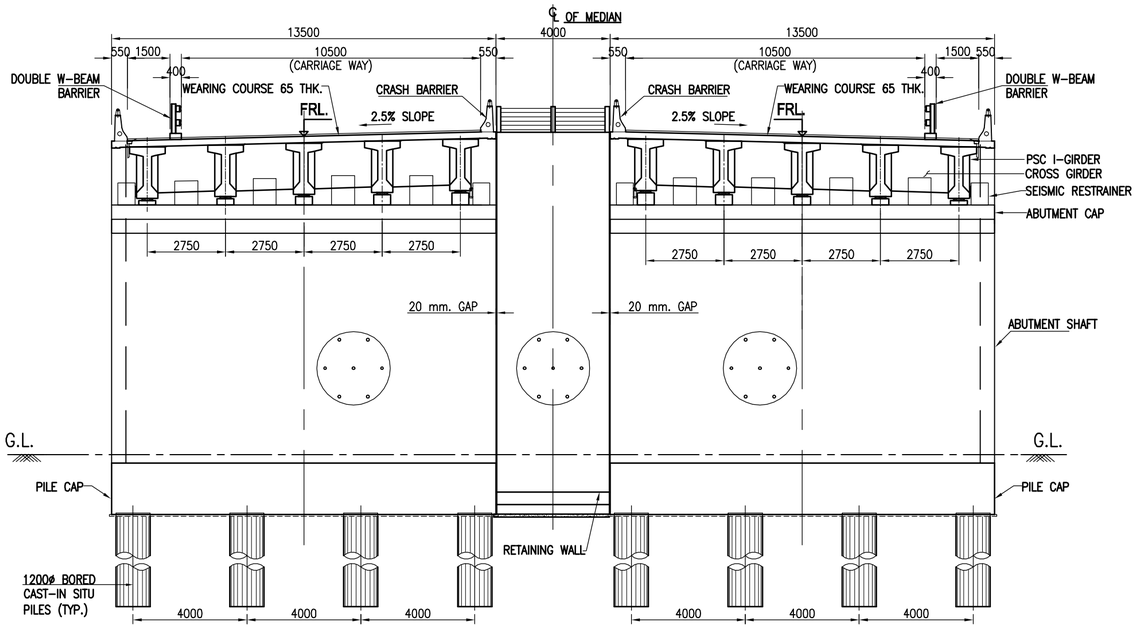
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SB	G. Das	SG	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

TITLE : GENERAL ARRANGEMENT DRAWING OF MAJOR BRIDGE AT KM. CH. 119+535.000

DRG. No. : VSPL/1718-081/DPR/PKG-2/MJBR-01 **(Sht. 1 of 2)**

REVISION: R0 | April, 2020



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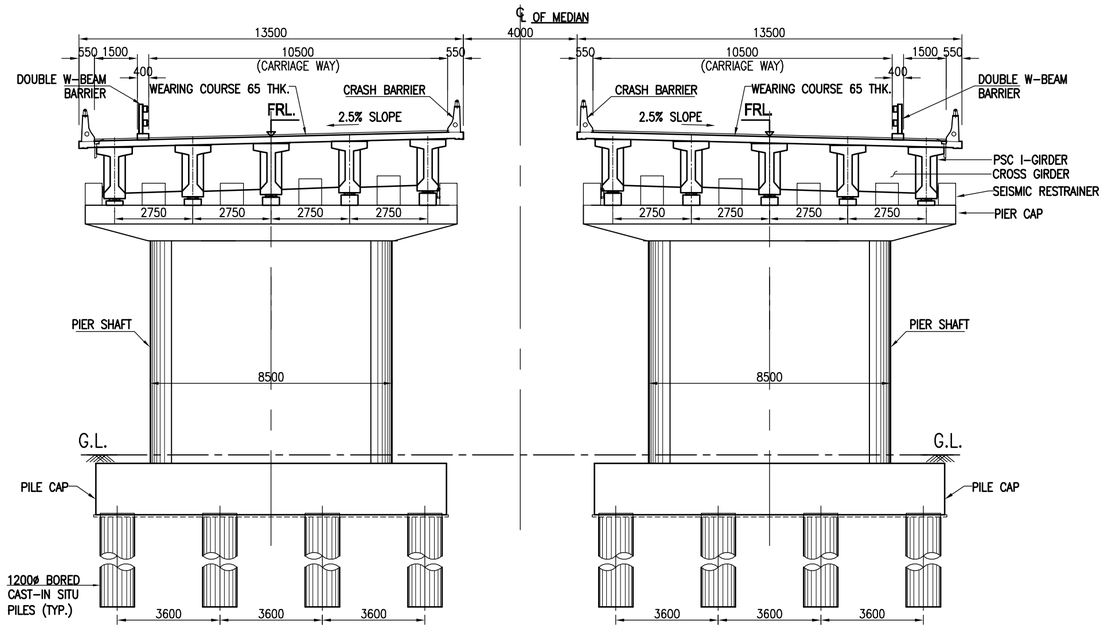

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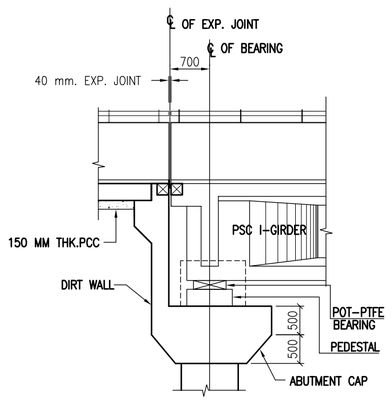

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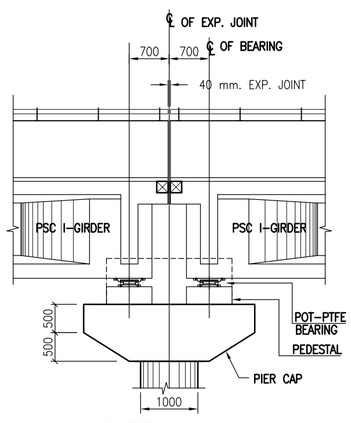

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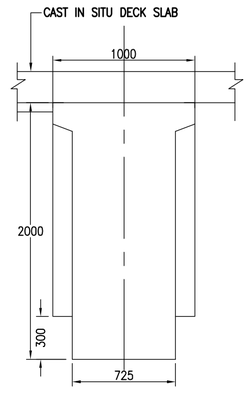

PSC GIRDER AT SUPPORT SECTION
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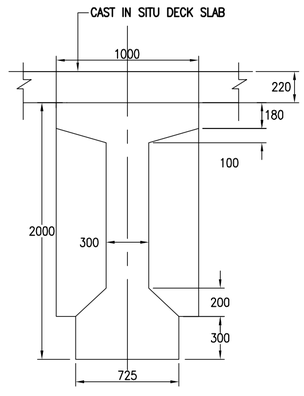

PSC GIRDER AT MID SECTION
(SCALE 1:30)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES. UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWING VSPL/1718-081/DPR/PKG-2/MJBR-01 (Sht. 1 & 2)

CLIENT :

NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. (MINISTRY OF ROAD TRANSPORT AND HIGHWAYS) GOVERNMENT OF INDIA

PROJECT :

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENTS IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1:PACKAGE IV)

DESIGN CONSULTANT:

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403, 4th Floor, Park Centra,
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Gurugram-122001, Haryana, India
CIN- U74140HR2004PTC046918
Ph: 0124-4598200, Fax: 0124-4019051,
E-mail: info@voyants.in, www.voyants.in

Detaild Project Report

REV.	DATE	DESCRIPTION

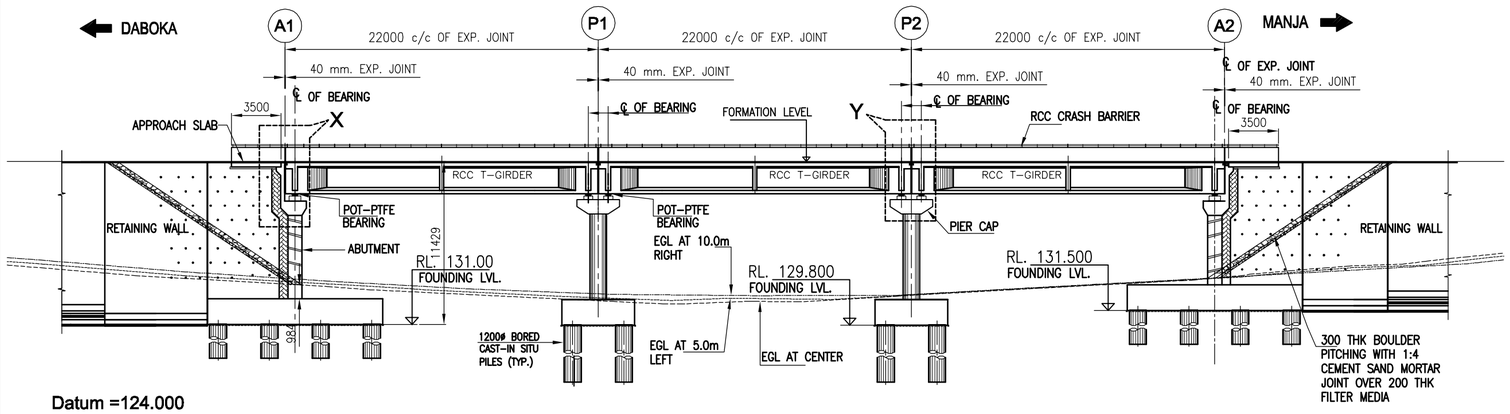
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SB	G Das	SG	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

TITLE :
GENERAL ARRANGEMENT DRAWING OF MAJOR BRIDGE AT KM. CH. 119+535.000

DRG. No. : VSPL/1718-081/DPR/PKG-2/MJBR-01 (Sht. 1 of 2)

REVISION: R0 | April, 2020

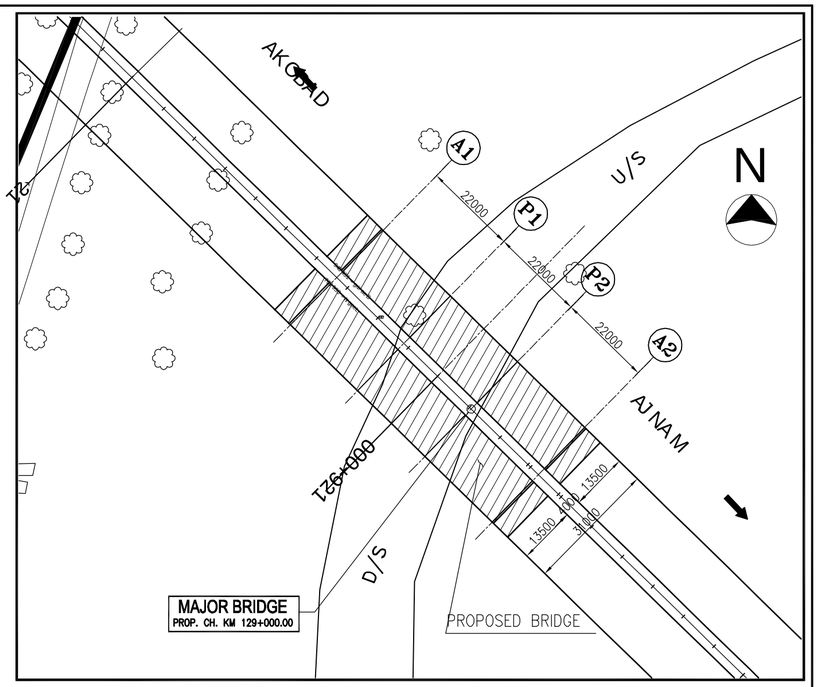


Datum =124.000

PROPOSED FRL (m)	142.000	142.000	142.000	142.000
EGL AT CENTER	133.801	132.718	132.670	133.874
EGL AT 5.0m LEFT	133.586	132.440	132.638	133.836
EGL AT 10.0m RIGHT	133.394	132.229	132.608	133.889
CHAINAGE(Km)	128.967.00	128.989.00	129+000.000	129+011.00	129+033.00

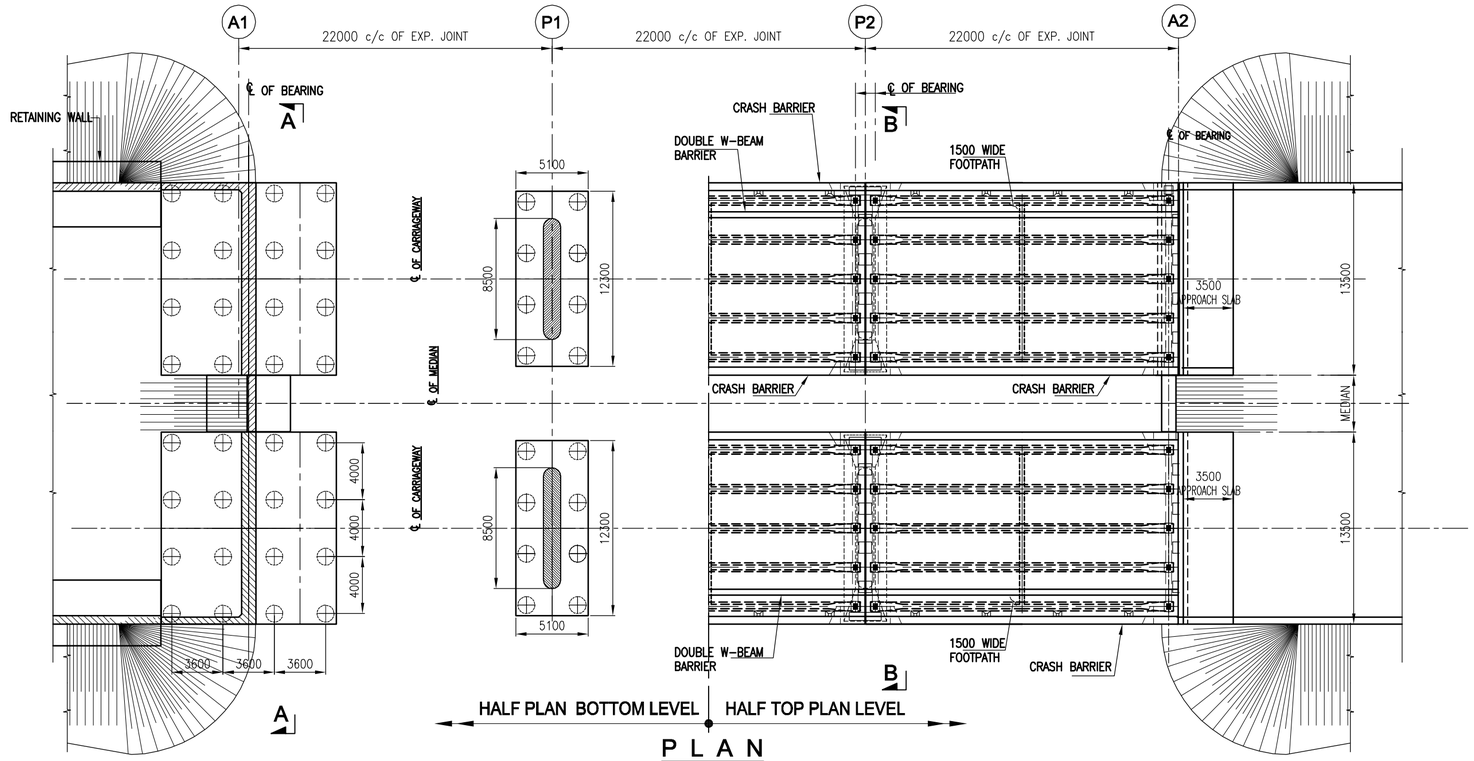
SECTIONAL ELEVATION

(SCALE 1:300)



KEY PLAN

(SCALE 1:1000)



P L A N

(SCALE 1:300)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES. UNLESS OTHERWISE SPECIFIED.
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   - RCC T-GIRDER — M35
   - RCC CRASH BARRIER — M40
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   - PIER & PIER CAP — M35
   - PILE, PILE CAP — M35
   - APPROACH SLAB — M35
   - PCC LEVELING COURSE — M15
6. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWING VSPL/1718-081/DPR/PKG-2/MJBR-02 (Sht. 2 & 2)

CLIENT :

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CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENTS IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1:PACKAGE IV)

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Detaild Project Report

REV.	DATE	DESCRIPTION

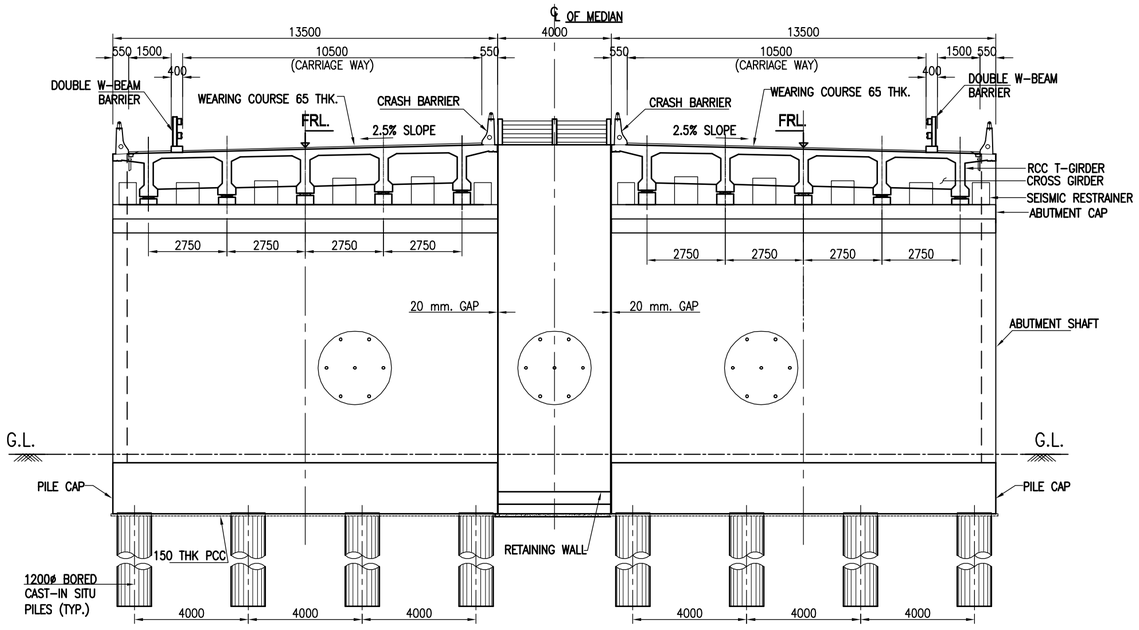
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SB	G. Das	SG	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

TITLE : GENERAL ARRANGEMENT DRAWING OF MAJOR BRIDGE AT KM. CH. 129+000.000

DRG. No. : VSPL/1718-081/DPR/PKG-2/MJBR-02 **(Sht. 1 of 2)**

REVISION: R0 | April, 2020



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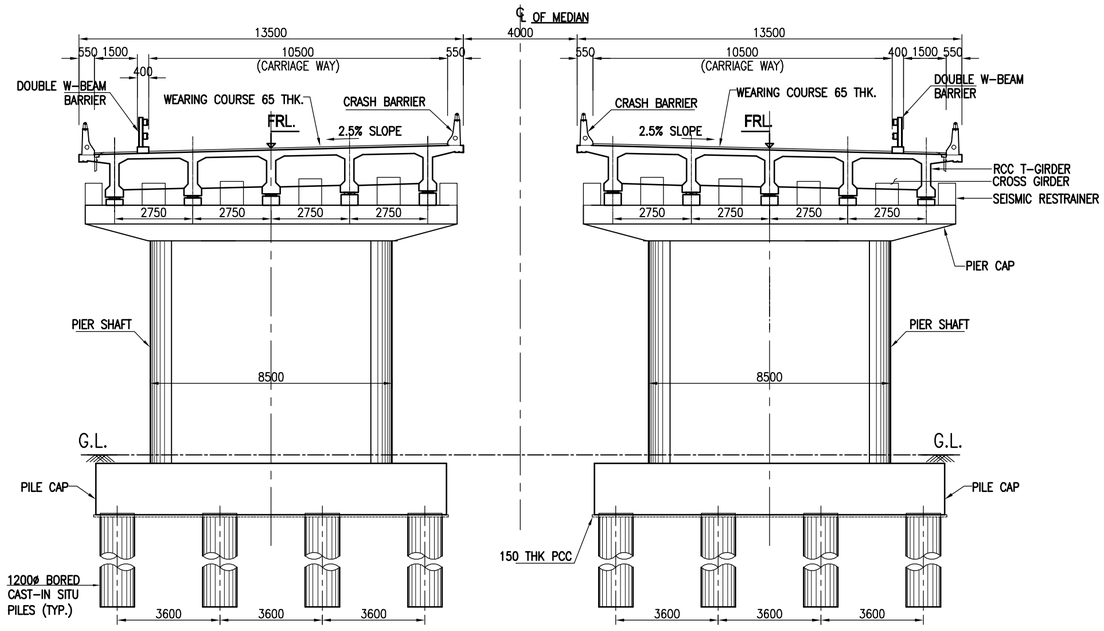

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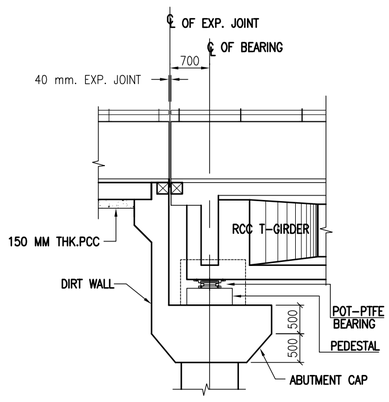

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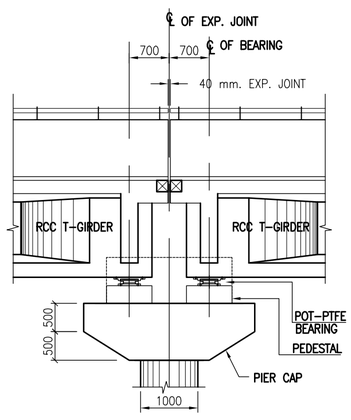
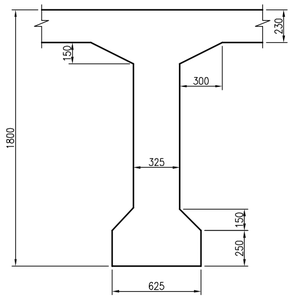
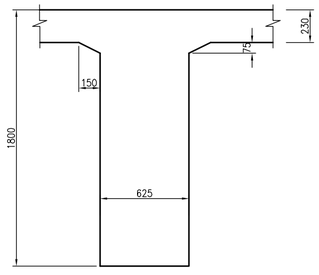
(SCALE 1:75)



DETAIL - Y
(SCALE 1:75)



RCC GIRDER AT MID SECTION
(SCALE 1:25)



RCC GIRDER AT SUPPORT SECTION
(SCALE 1:50)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES. UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWING VSPL/1718-081/DPR/PKG-2/MJBR-02 (Sht. 1 & 2)

CLIENT :

NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. (MINISTRY OF ROAD TRANSPORT AND HIGHWAYS) GOVERNMENT OF INDIA

PROJECT :

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENTS IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1:PACKAGE IV)

DESIGN CONSULTANT:
VOYANTS SOLUTIONS PVT LTD.
403, 4th Floor, Park Centra,
Sector-30, NH-8
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CIN- U74140HR2004PTC046918
Ph: 0124-4598200, Fax: 0124-4019051,
E-mail: info@voyants.in, www.voyants.in

Detaild Project Report

REV.	DATE	DESCRIPTION

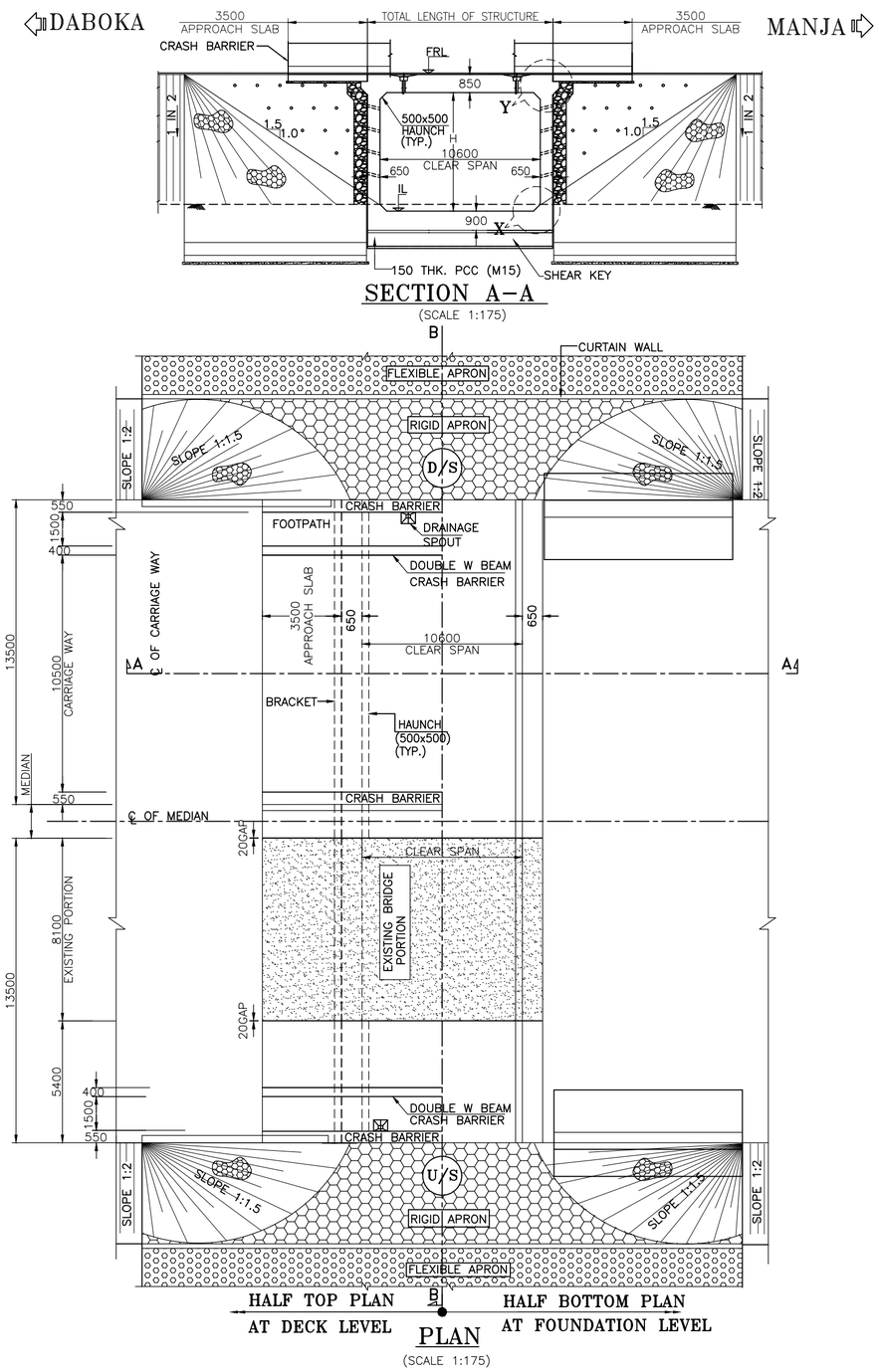
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SB	G Das	SG	SKC

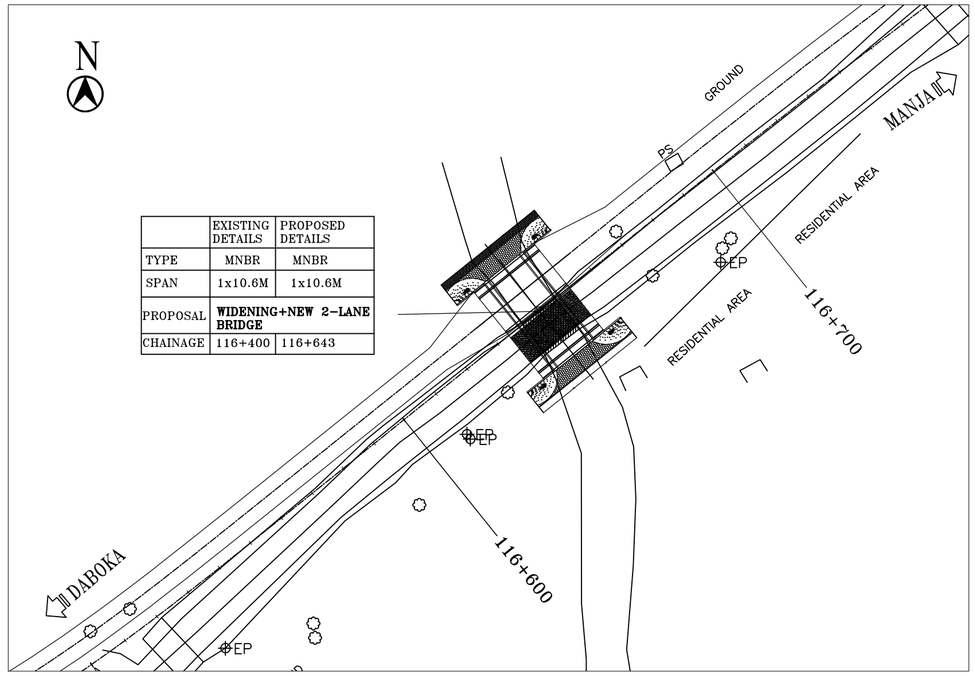
SCALE : AS SHOWN | SHEET SIZE : A2

TITLE :
GENERAL ARRANGEMENT DRAWING OF MAJOR BRIDGE AT KM. CH. 129+000.000

DRG. No. : VSPL/1718-081/DPR/PKG-2/MJBR-02 (Sht. 1 of 2)

REVISION: R0 | April, 2020





	EXISTING DETAILS	PROPOSED DETAILS
TYPE	MNBR	MNBR
SPAN	1x10.6M	1x10.6M
PROPOSAL	**WIDENING+NEW 2-LANE BRIDGE**	
CHAINAGE	116+400	116+643

KEY PLAN
(SCALE-1:1000)

NOTES :-

1. ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN M UNLESS MENTIONED OTHERWISE.
2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. FOR KEY PLAN, PROPOSED CHAINAGE & LOCATION REFER RELEVANT HIGHWAY DRAWING.
4. GRADE OF CONCRETE USED:
   a) RCC BOX, RETURN WALL M35
   b) CRASH BARRIER.....M40
   c) APPROACH SLAB.....M30
   d) PCC LEVELLING COURSE.....M15
5. ALL REINFORCEMENT STEEL SHALL BE HIGH STRENGTH DEFORMED BARS OF GRADE Fe500 CONFORMING TO IS: 1786-1985
6. THE STRUCTURE IS DESIGNED TO CATER LIVE LOAD COMBINATION OF 3-LANES OF CLASS A OR 1-LANE OF 70R WHILE + 1 LANE A OR IRC SV WHICHEVER PRODUCE SEVER EFFECT.
7. VARIOUS LEVELS (FRL,EGL) & SUPER ELEVATIONS SHOWN IN DRAWINGS SHALL BE VERIFIED WITH THE HIGHWAY PLAN & PROFILE PRIOR TO ACTUAL EXECUTION IN SITE.
8. LAYING, COMPACTION & EXTENT OF BACKFILL BEHIND ABUTMENT & RETAINING WALLS SHALL CONSIST OF SELECTED EARTH CONFIRMING TO THE APPENDIX-6 OF IRC:78-2014 HAVING PROPERTIES C=0, $\phi \geq 30°$ & DENSITY=20KN/m^3
9. WEEP HOLES ON THE ABUTMENT & RETAINING WALLS SHALL BE SPACED 1000 c/c HORIZANTALY & VERTICALLY IN STAGGERED MANNER FROM 500MM ABOVE LWL TO HFL.
10. SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300MM.
11. COMPRESSIBLE FILLER BOARD SHALL BE PROVIDED IN ALL EXPANSION GAPS AND SEALED WITH POLY-SULPHIDE SEALANT.

CLIENT :

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Detailed Project Report

REV.	DATE	DESCRIPTION

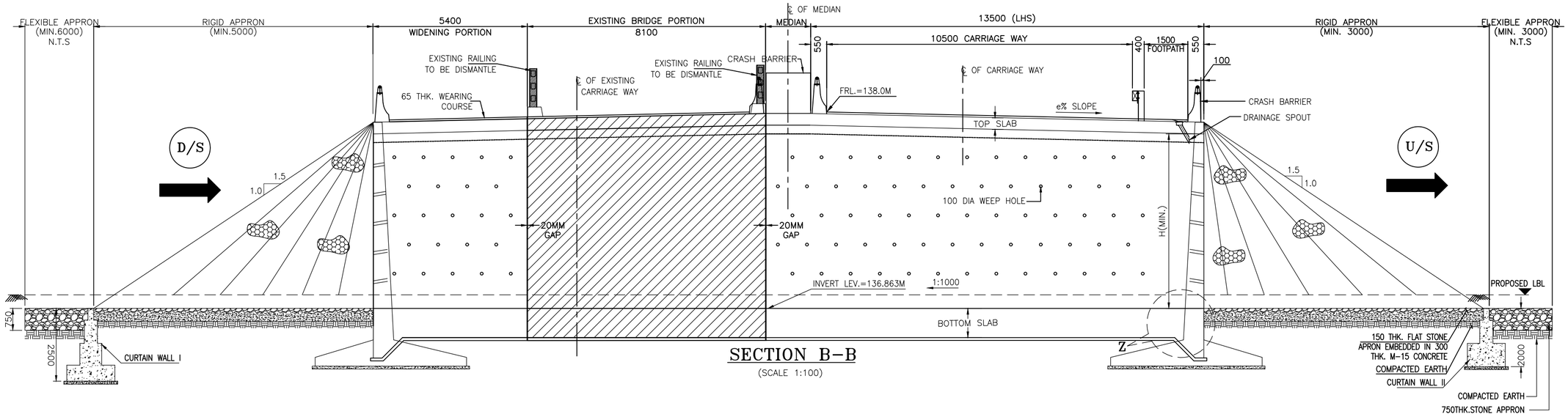
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

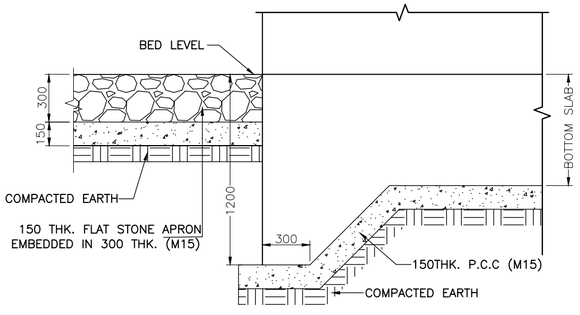
TITLE :
GENERAL ARRANGEMENT DRAWING OF BOX TYPE MINOR BRIDGE
AT KM. CH.-116+643

DRG. No. : VSPL/1718-081/DPR/PKG-2/MNB-01 (SHEET 01 OF 02)

REVISION:R0 | APRIL 2020



SECTION B–B
(SCALE 1:100)



DETAIL 'Z'
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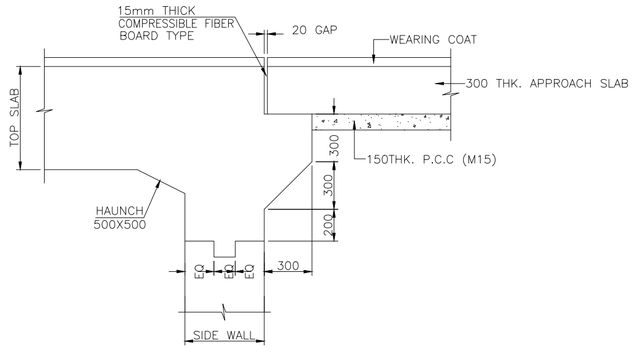

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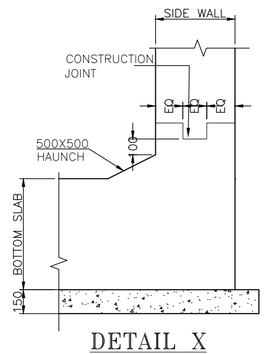
(SCALE 1:25)



DETAIL X
(SCALE 1:25)

NOTES :-

1. ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN M UNLESS MENTIONED OTHERWISE.
2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. FOR KEY PLAN, PROPOSED CHAINAGE & LOCATION REFER RELEVANT HIGHWAY DRAWING.

CLIENT :

NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
(MINISTRY OF ROAD TRANSPORT AND HIGHWAYS)
GOVERNMENT OF INDIA

PROJECT :

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENTS IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1:PACKAGE II)

DESIGN CONSULTANT:
VOYANTS SOLUTIONS PVT LTD.
403, 4th Floor, Park Centra,
Sector-30, NH-8
Gurugram-122001, Haryana, India
CIN- U74140HR2004PTC046918
Ph: 0124-4598200, Fax: 0124-4019051,
E-mail: info@voyants.in, www.voyants.in

Detailed Project Report

REV.	DATE	DESCRIPTION

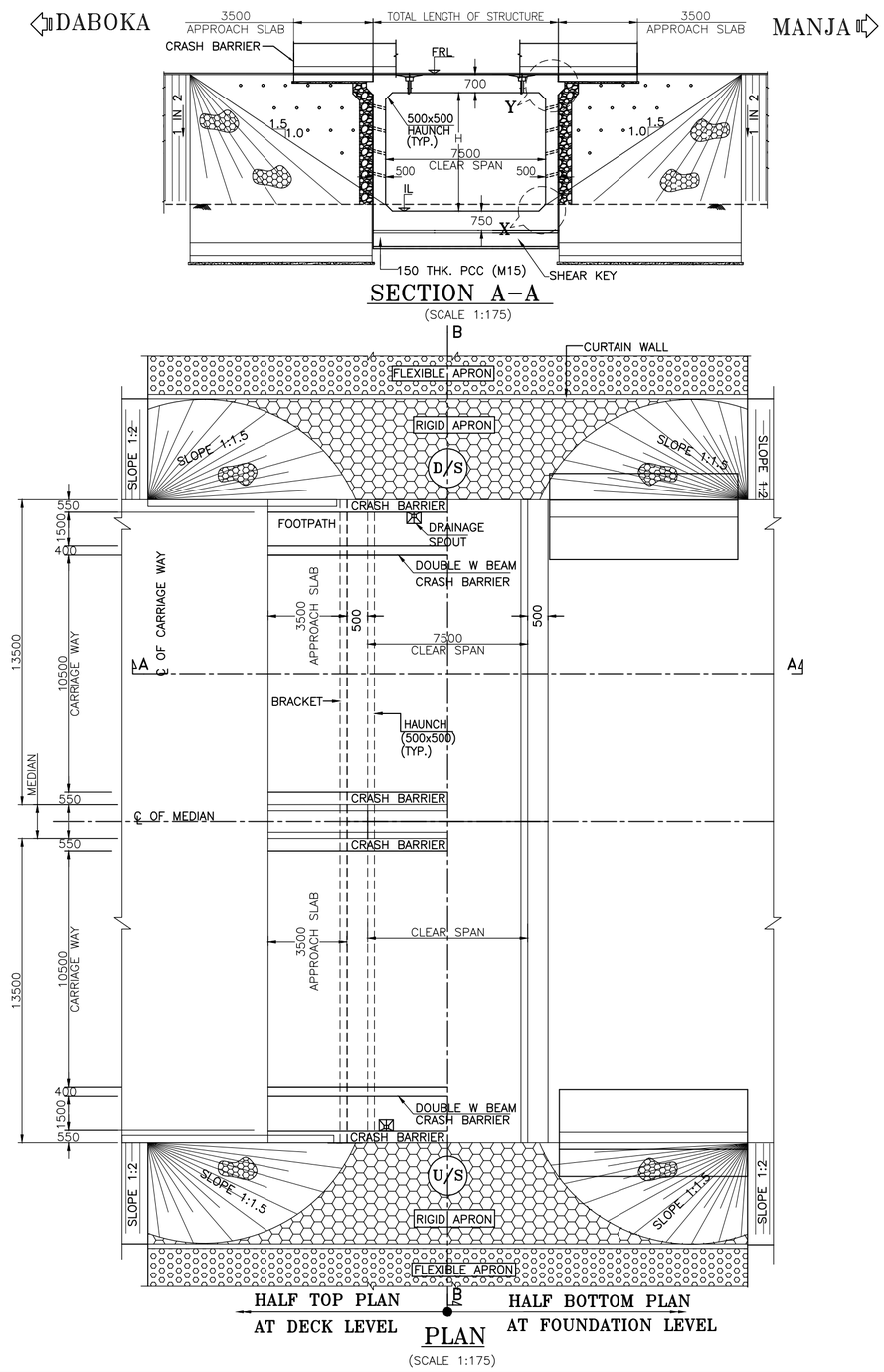
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

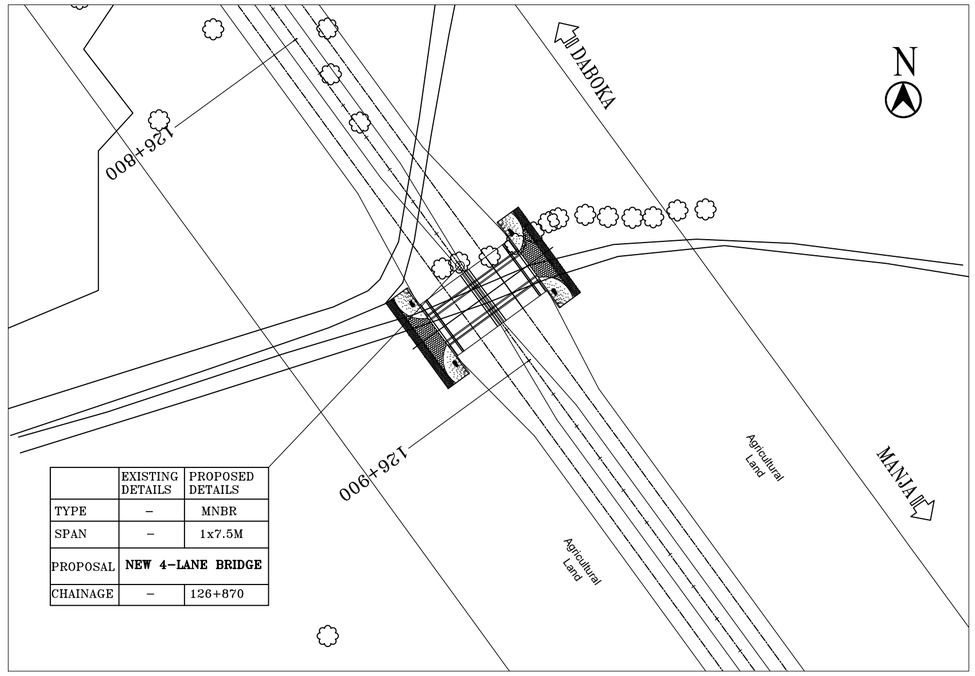
SCALE : AS SHOWN | SHEET SIZE : A2

TITLE : GENERAL ARRANGEMENT DRAWING OF BOX TYPE MINOR BRIDGE AT KM. CH.-116+643

DRG. No. : VSPL/1718-081/DPR/PKG-2/MNB-01 (SHEET 02 OF 02)

REVISION:R0 | APRIL 2020





	EXISTING DETAILS	PROPOSED DETAILS
TYPE	–	MNBR
SPAN	–	1x7.5M
PROPOSAL	**NEW 4-LANE BRIDGE**	
CHAINAGE	–	126+870

KEY PLAN
(SCALE–1:1000)

NOTES :–

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3. FOR KEY PLAN, PROPOSED CHAINAGE & LOCATION REFER RELEVANT HIGHWAY DRAWING.
4. GRADE OF CONCRETE USED:
   a) RCC BOX, RETURN WALL M35
   b) CRASH BARRIER.....M40
   c) APPROACH SLAB.....M30
   d) PCC LEVELLING COURSE.....M15
5. ALL REINFORCEMENT STEEL SHALL BE HIGH STRENGTH DEFORMED BARS OF GRADE Fe500 CONFORMING TO IS: 1786–1985
6. THE STRUCTURE IS DESIGNED TO CATER LIVE LOAD COMBINATION OF 3–LANES OF CLASS A OR 1–LANE OF 70R WHILE + 1 LANE A OR IRC SV WHICHEVER PRODUCE SEVER EFFECT.
7. VARIOUS LEVELS (FRL,EGL) & SUPER ELEVATIONS SHOWN IN DRAWINGS SHALL BE VERIFIED WITH THE HIGHWAY PLAN & PROFILE PRIOR TO ACTUAL EXECUTION IN SITE.
8. LAYING, COMPACTION & EXTENT OF BACKFILL BEHIND ABUTMENT & RETAINING WALLS SHALL CONSIST OF SELECTED EARTH CONFIRMING TO THE APPENDIX–6 OF IRC:78–2014 HAVING PROPERTIES C=0, $\phi \geq 30°$ & DENSITY=20KN/m^3
9. WEEP HOLES ON THE ABUTMENT & RETAINING WALLS SHALL BE SPACED 1000 c/c HORIZANTALY & VERTICALLY IN STAGGERED MANNER FROM 500MM ABOVE LWL TO HFL.
10. SOFT AND LOOSE PATCHES IN THE BEARING AREA ARE TO BE REPLACED BY COMPACTED GRANULAR FILLS WITH LAYERS NOT EXCEEDING 300MM.
11. COMPRESSIBLE FILLER BOARD SHALL BE PROVIDED IN ALL EXPANSION GAPS AND SEALED WITH POLY–SULPHIDE SEALANT.

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GOVERNMENT OF INDIA

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Detailed Project Report

REV.	DATE	DESCRIPTION

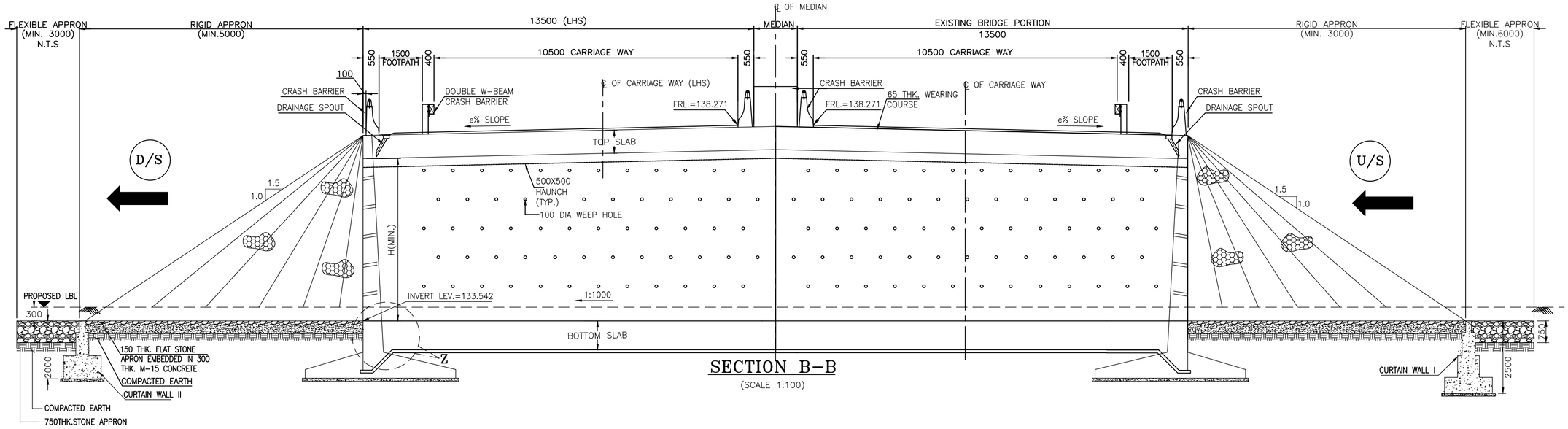
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

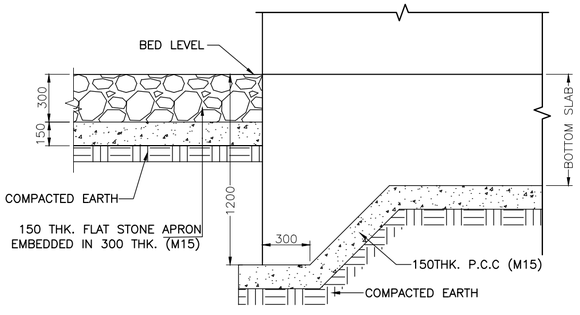
TITLE :
GENERAL ARRANGEMENT DRAWING OF BOX TYPE MINOR BRIDGE
AT KM. CH.-126+870

DRG. No. : VSPL/1718-081/DPR/PKG-2/MNB-04 (SHEET 01 OF 02)

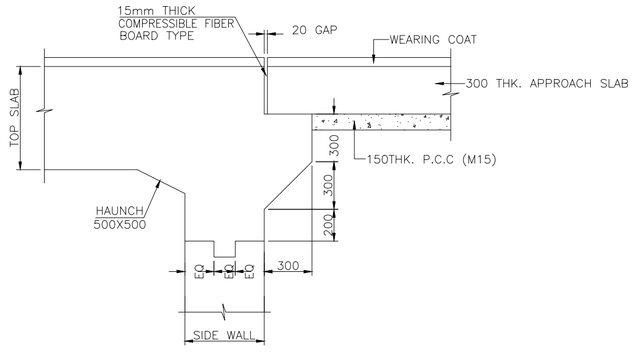
REVISION:R0 | APRIL 2020



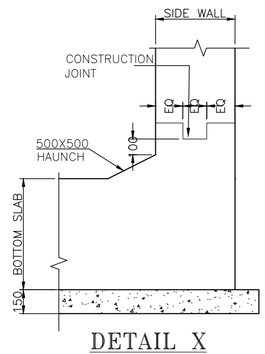
SECTION B-B
(SCALE 1:100)



DETAIL 'Z'
(SCALE 1:25)



DETAIL Y
(SCALE 1:25)



DETAIL X
(SCALE 1:25)

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GOVERNMENT OF INDIA

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Detailed Project Report

REV.	DATE	DESCRIPTION

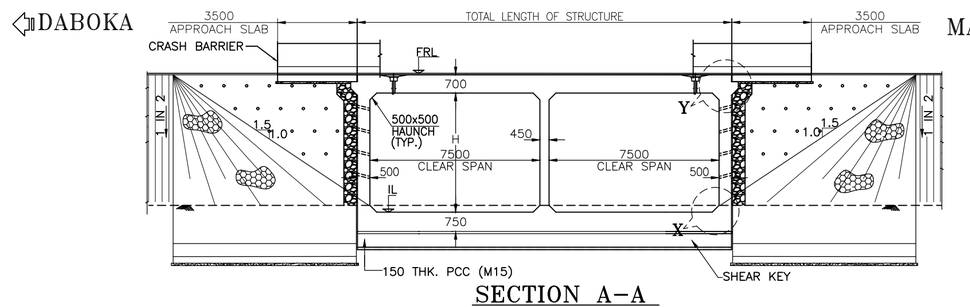
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

TITLE : GENERAL ARRANGEMENT DRAWING OF BOX TYPE MINOR BRIDGE AT KM. CH.-126+870

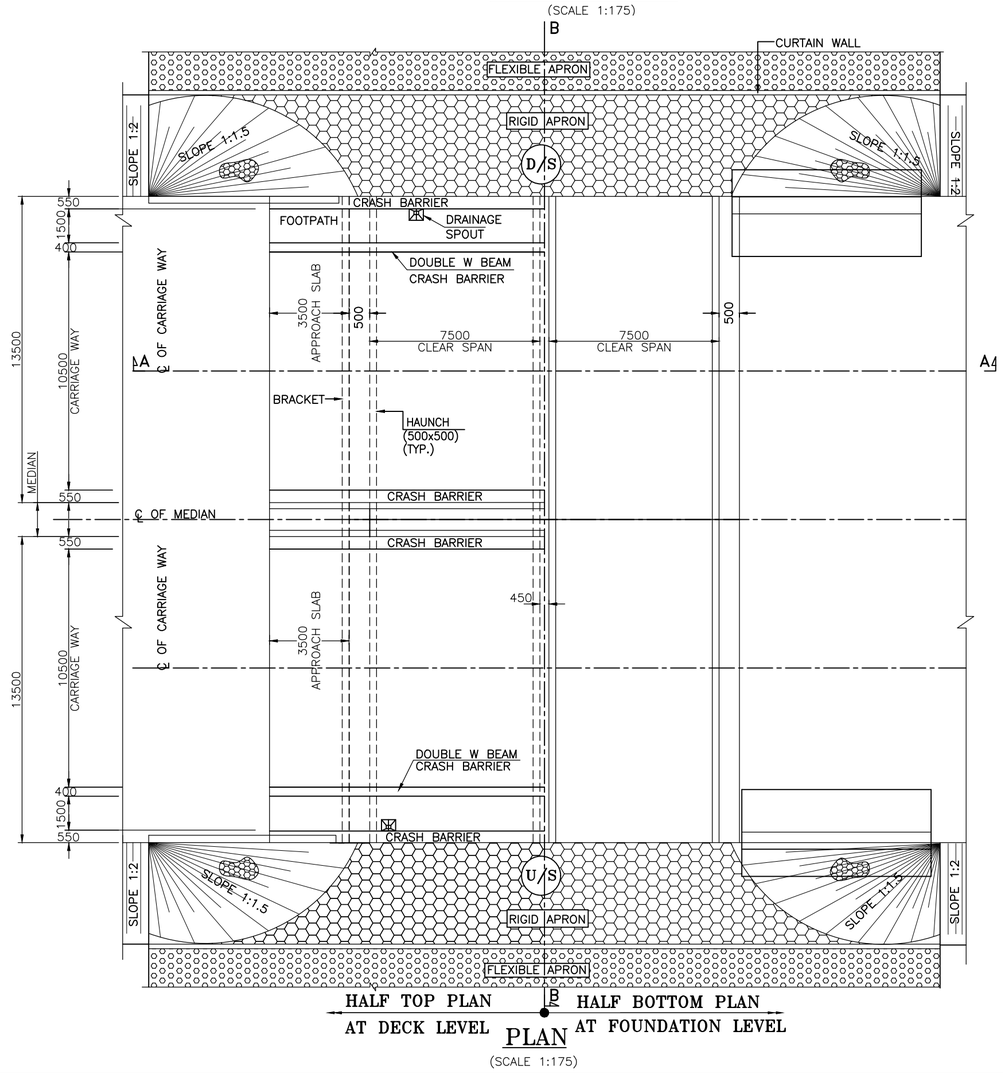
DRG. No. : VSPL/1718-081/DPR/PKG-2/MNB-04 (SHEET 02 OF 02)

REVISION:R0 | APRIL 2020



SECTION A-A

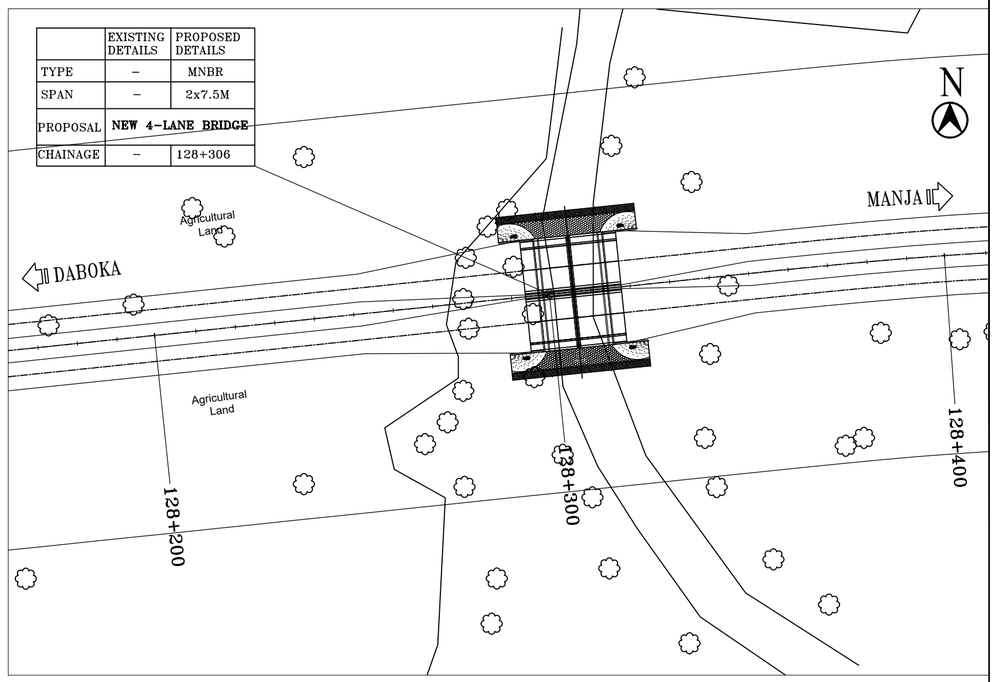
(SCALE 1:175)



PLAN

(SCALE 1:175)

	EXISTING DETAILS	PROPOSED DETAILS
TYPE	–	MNBR
SPAN	–	2x7.5M
PROPOSAL	**NEW 4-LANE BRIDGE**	
CHAINAGE	–	128+306



KEY PLAN

(SCALE–1:1000)

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CLIENT :

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GOVERNMENT OF INDIA

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DESIGN CONSULTANT:

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403, 4th Floor, Park Centra,
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Gurugram-122001, Haryana, India
CIN- U74140HR2004PTC046918
Ph: 0124-4598200, Fax: 0124-4019051,
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Detailed Project Report

REV.	DATE	DESCRIPTION

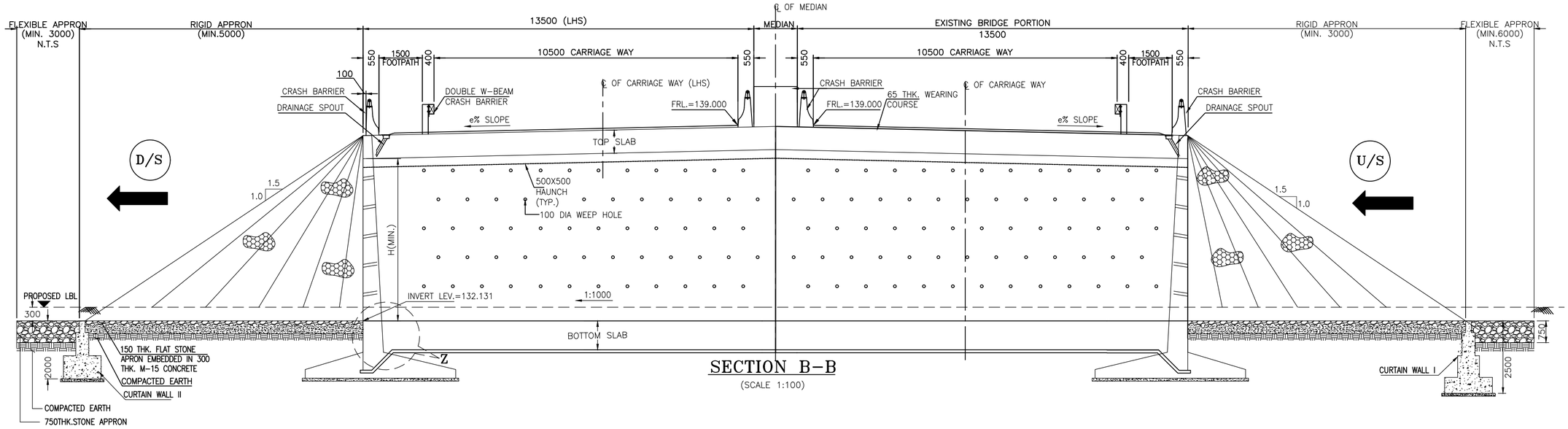
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

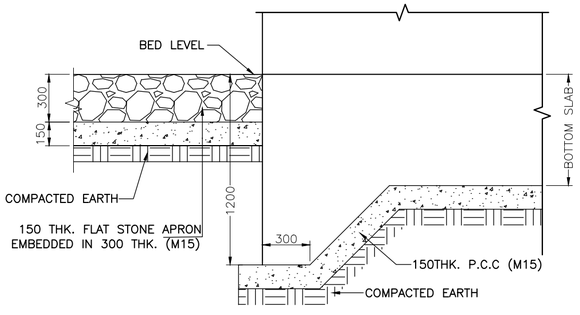
TITLE :
GENERAL ARRANGEMENT DRAWING OF BOX TYPE MINOR BRIDGE
AT KM. CH.-128+306

DRG. No. : VSPL/1718-081/DPR/PKG-2/MNB-05 (SHEET 01 OF 02)

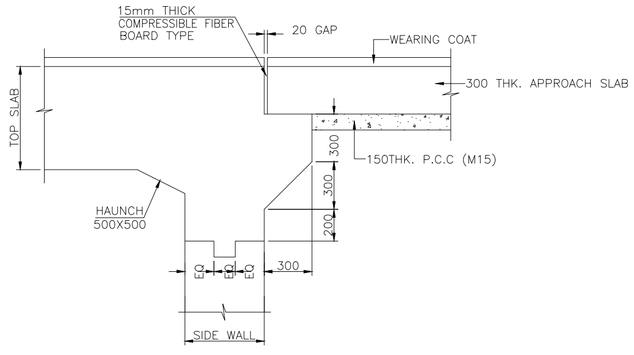
REVISION:R0 | APRIL 2020



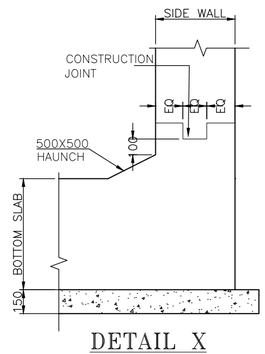
SECTION B-B
(SCALE 1:100)



DETAIL 'Z'
(SCALE 1:25)



DETAIL Y
(SCALE 1:25)



DETAIL X
(SCALE 1:25)

NOTES :-

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GOVERNMENT OF INDIA

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DESIGN CONSULTANT:
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CIN- U74140HR2004PTC046918
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Detailed Project Report

REV.	DATE	DESCRIPTION

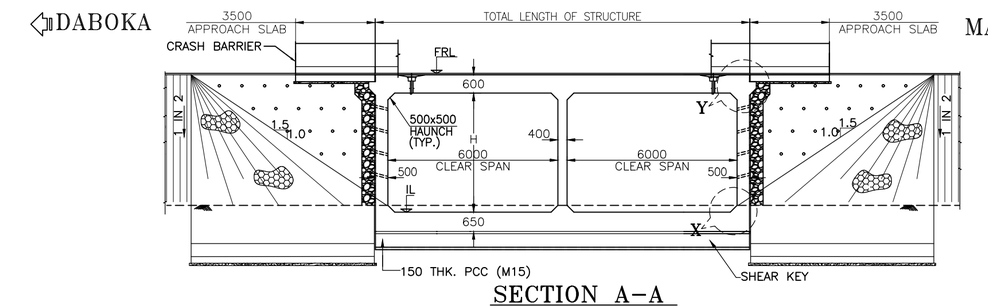
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

TITLE : GENERAL ARRANGEMENT DRAWING OF BOX TYPE MINOR BRIDGE AT KM. CH.-128+306

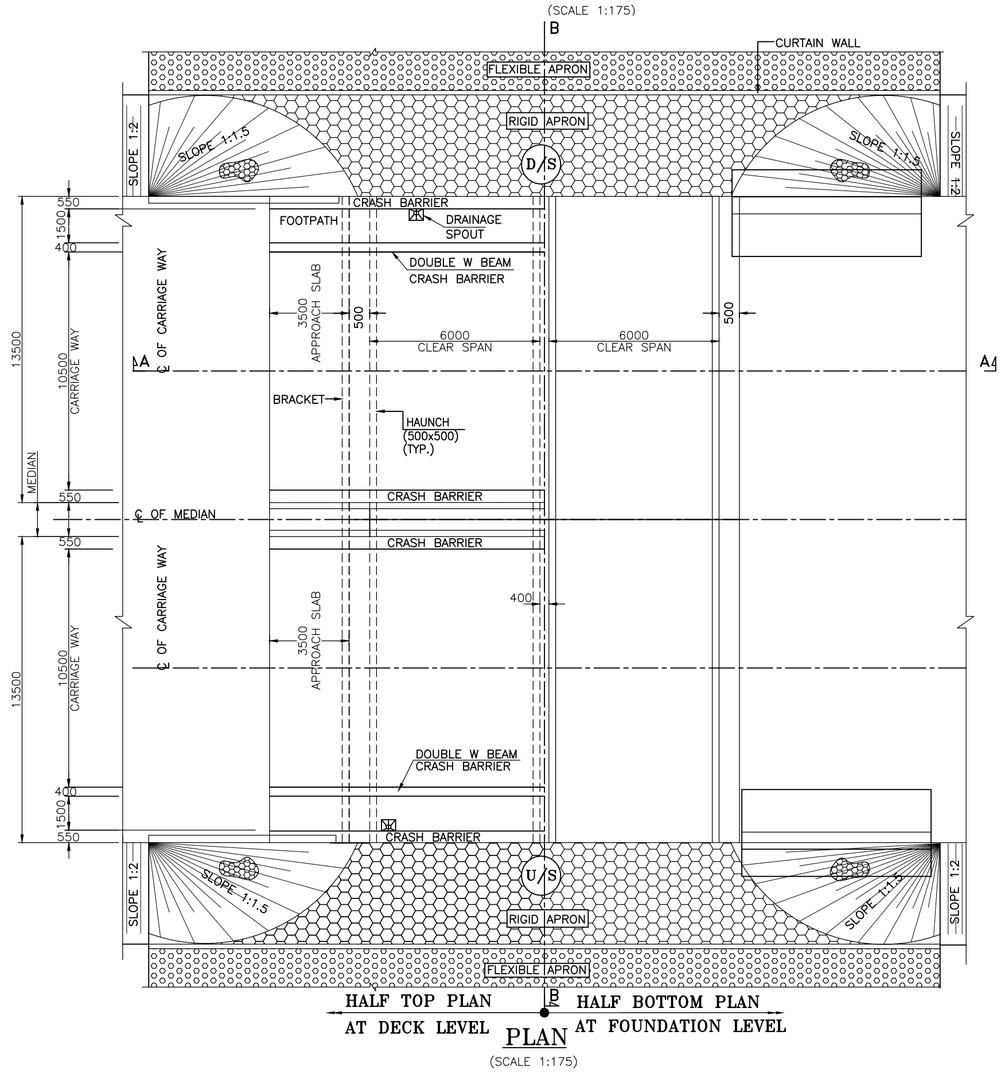
DRG. No. : VSPL/1718-081/DPR/PKG-2/MNB-05 (SHEET 02 OF 02)

REVISION:R0 | APRIL 2020



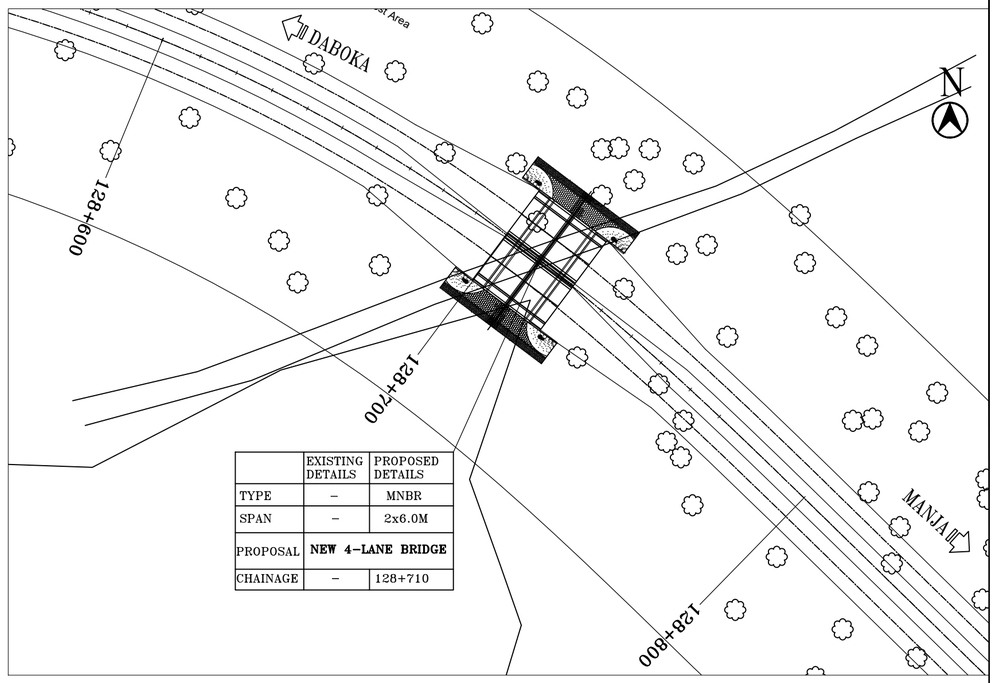
SECTION A-A

(SCALE 1:175)



PLAN

(SCALE 1:175)



	EXISTING DETAILS	PROPOSED DETAILS
TYPE	–	MNBR
SPAN	–	2x6.0M
PROPOSAL	**NEW 4-LANE BRIDGE**	
CHAINAGE	–	128+710

KEY PLAN

(SCALE-1:1000)

NOTES :-

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Detailed Project Report

REV.	DATE	DESCRIPTION

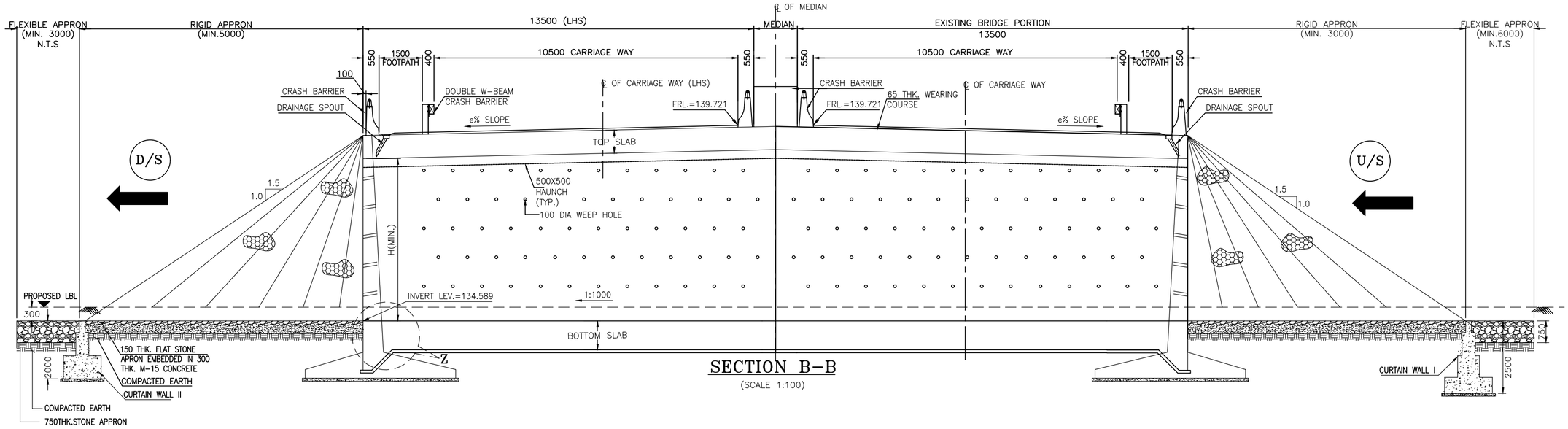
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

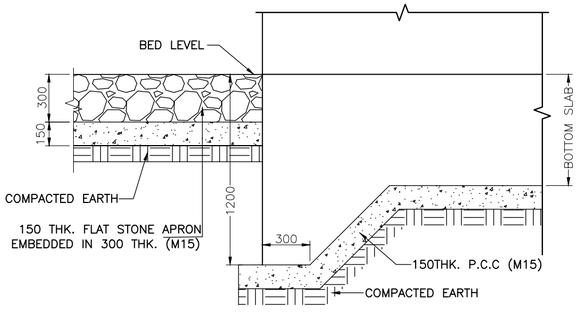
TITLE :
GENERAL ARRANGEMENT DRAWING OF BOX TYPE MINOR BRIDGE
AT KM. CH.-128+710

DRG. No. : VSPL/1718-081/DPR/PKG-2/MNB-06 (SHEET 01 OF 02)

REVISION:R0 | APRIL 2020



SECTION B-B
(SCALE 1:100)



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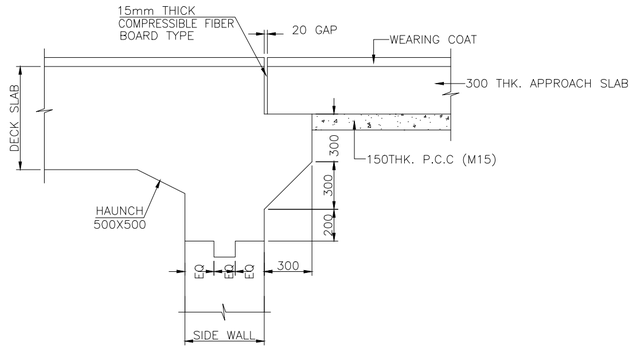

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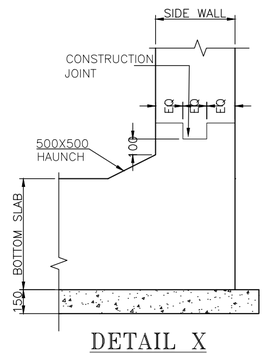

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2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. FOR KEY PLAN, PROPOSED CHAINAGE & LOCATION REFER RELEVANT HIGHWAY DRAWING.

CLIENT :

NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
(MINISTRY OF ROAD TRANSPORT AND HIGHWAYS)
GOVERNMENT OF INDIA

PROJECT :

CONSULTANCY SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENTS IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1:PACKAGE II)

DESIGN CONSULTANT:
VOYANTS SOLUTIONS PVT LTD.
403, 4th Floor, Park Centra,
Sector-30, NH-8
Gurugram-122001, Haryana, India
CIN- U74140HR2004PTC046918
Ph: 0124-4598200, Fax: 0124-4019051,
E-mail: info@voyants.in, www.voyants.in

Detailed Project Report

REV.	DATE	DESCRIPTION

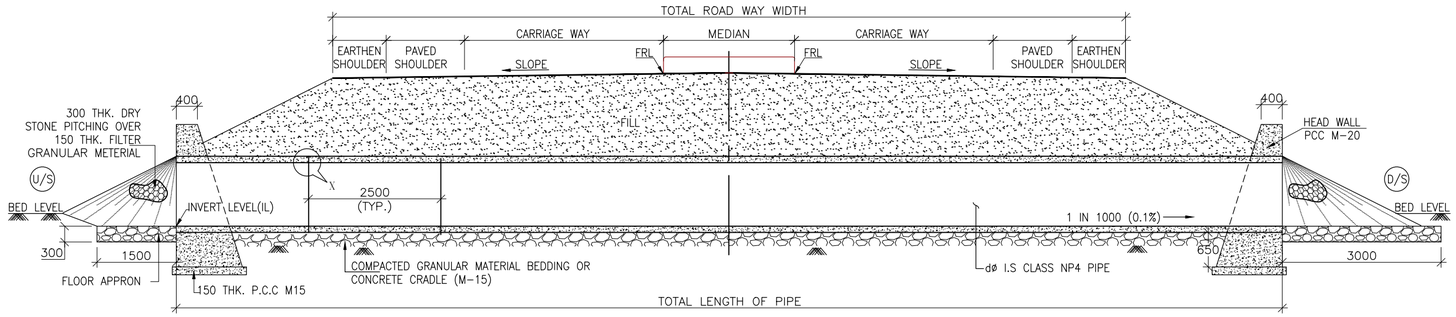
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

TITLE :
GENERAL ARRANGEMENT DRAWING OF BOX TYPE MINOR BRIDGE
AT KM. CH.-128+710

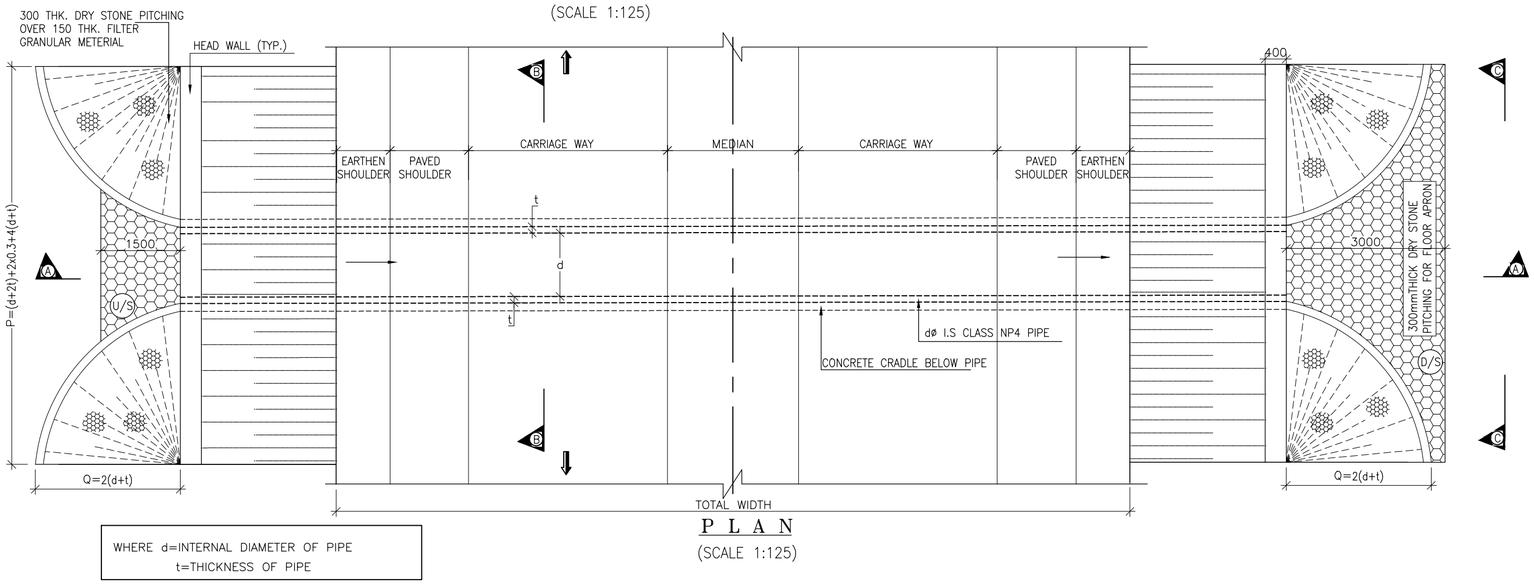
DRG. No. : VSPL/1718-081/DPR/PKG-2/MNB-06 (SHEET 02 OF 02)

REVISION:R0 | APRIL 2020



SECTION AT A-A

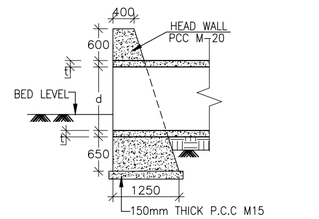
(SCALE 1:125)



P L A N

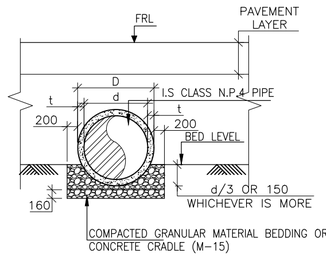
(SCALE 1:125)

WHERE d=INTERNAL DIAMETER OF PIPE
t=THICKNESS OF PIPE



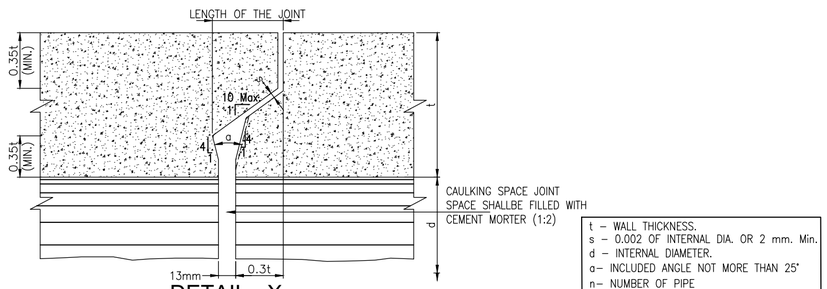
SECTION OF HEADWALL (OVER PIPE)

SCALE (1:75)



SECTION AT B-B

SCALE (1:75)

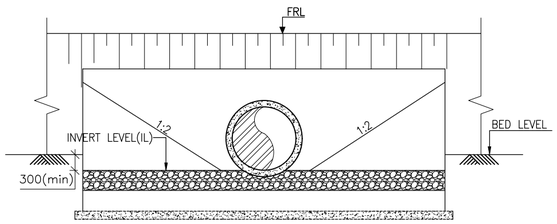


DETAIL - X

SHOWING DETAILS OF TYP. PIPE JOINT

SCALE (1:75)

t - WALL THICKNESS.
s - 0.002 OF INTERNAL DIA. OR 2 mm. Min.
d - INTERNAL DIAMETER.
α- INCLUDED ANGLE NOT MORE THAN 25°
n- NUMBER OF PIPE
α- INCLUDED ANGLE NOT MORE THAN 25°



SECTION AT C-C

SCALE (1:75)

NOTES:-

1. ALL DIMENSIONS ARE IN mm, EXCEPT WHERE OTHERWISE MENTIONED.
2. NO DIMENSION SHALL BE SCALED,ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT HIGHWAY DRAWINGS. FRL & CAMBER / SUPER ELEVATION AT PARTICULAR LOCATION SHALL BE VERIFIED WITH THE HIGHWAY DWG. DISCREPANCY, IF ANY, IS TO BE IMMEDIALELY BROUGHT TO THE NOTICE OF ENGINEER FOR NECESSARY MODIFICATION IN THE DRAWING.
4. HUME PIPE (NP4 TYPE), SHALL CONFORM TO IS : 458-2003.
5. COMPACTED GRANULAR BED SHALL CONFORM TO MORT&H SPECIFICATION CLAUSE NO.2904.
6. LONGITUDINAL SLOPE OF WIDENED PIPE SHALL BE 1 : 1000 (MIN.)
7. LENGTH, LOCATION, ORIENTATION & INVERT LEVEL OF PIPE CULVERT SHALL BE ADJUSTED TO SUIT SITE CONDITION AND AS APPROVED BY THE ENGINEER.
8. TRENCHES SHALL BE BACKFILLED IMMEDIATELY AFTER THE PIPES HAVE BEEN LAID AND THE JOINTING MATERIAL HAS HARDENED.
9. PIPE SHALL BE JOINTED BY FLUSH JOINT METHOD AS PER THE DETAILS GIVEN IN SECTION 2906 OF MORT&H SPECIFICATIONS OF ROAD & BRIDGE WORKS.
10. FLOOR APPRON SHALL BE PROVIDED AT NON-IRRIGATION CROSS DRAINAGE WORKS ONLY.

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DESIGN CONSULTANT:

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Detailed Project Report

REV.	DATE	DESCRIPTION

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

TITLE :
TYPICAL GENERAL ARRANGEMENT DRAWING OF SINGLE CELL PIPE CULVERT

DRG. No. : VSPL/1718-081/DPR/PKG-2/PC (SHEET 01 OF 01)

REVISION:R0 | APRIL 2020

Improvement Proposal of Culverts Pkg-2 (From 38+370To 76+822)

Existing Details							Proposal Details								
Sl. No.	Existing Chainage (km)	Type of Culvert	Span Arrangement/Dia. (m)	Total Width of Structure (m)	Total Roadway Width (m)	Remarks	Improvement Proposal	Sl. No.	Design Chainage (km)	Span Arrangement (m)	Type of Culvert	FRL (m)	Proposed Pipe top Level (m)	Invert Level (m)	Proposed width (as per TCS)	Phase Details
1	113+500	Pipe Culvert	1x1.2	13.200	12.100	Ext. Retain	New 2Lane	1	113+935	1x1.2	Pipe Culvert	144.165	144.326	143.006	2	
2	113+600	HP Culvert	1x0.6	17.566	9.923	Reconstruction	New 4Lane	2	114+090	1x1.2	Pipe Culvert	142.230	141.077	139.757	2	
3							New 4Lane	3	114+570	1x1.2	Pipe Culvert	138.438	137.991	136.671	1A	
4	114+500	HP Culvert	1x1.2	13.200	12.100	Ext. Retain	New 2Lane	4	114+820	1x1.2	Pipe Culvert	140.718	138.526	137.206	1A	
5						Chocked	New 4Lane	5	115+765	1x1.2	Pipe Culvert	153.663	152.605	151.285	2	
6						Chocked	New 4Lane	6	115+920	1x1.2	Pipe Culvert	149.250	148.019	146.699	1A	
7		Pipe Culvert	1x0.6	17.98	12.54	Reconstruction	New 4Lane	7	115+980	1x1.2	Pipe Culvert	147.478	147.266	145.946	2	
8		Pipe Culvert	1x0.6	17.64	11	Reconstruction	New 4Lane	8	116+090	1x1.2	Pipe Culvert	144.122	144.154	142.834	2	
9		Pipe Culvert	1x0.6	17.6	11.2	Reconstruction	New 4Lane	9	116+340	1x1.2	Pipe Culvert	138.363	138.045	136.725	1A	
10						Reconstruction	New 4Lane	10	116+525	1x1.2	Pipe Culvert	137.773	136.196	134.876	2	
11	116+500	HP Culvert	1x1.2	22.82		Ext. Retain	New 2Lane	11	116+770	1x1.2	Pipe Culvert	138.000	137.610	136.290	2	
12	116+650					Chocked	New 4Lane	12	116+920	1x1.2	Pipe Culvert	138.425	138.022	136.702	2	
13	116+900					Chocked	New 4Lane	13	117+350	1x1.2	Pipe Culvert	141.000	141.156	139.836	2	
14	117+120					Chocked	New 4Lane	14	117+530	1x1.2	Pipe Culvert	142.194	140.721	139.401	1	**Phase-6**
15							New 4Lane	15	117+660	1x1.2	Pipe Culvert	145.446	143.488	142.168	1A	Km.113+830 to
16	117+500					Chocked	New 4Lane	16	117+780	1x1.2	Pipe Culvert	148.467	147.934	146.614	2	km.131+152
17						Reconstruction	New 4Lane	17	117+920	1x1.2	Pipe Culvert	149.598	148.154	146.834	1A	Length-17.3km
18							New 4Lane	18	118+060	1x1.2	Pipe Culvert	145.762	144.818	143.498	1A	
19	118+200					Chocked	New 4Lane	19	118+350	1x1.2	Pipe Culvert	141.448	140.082	138.762	1A	
20							New 4Lane	20	118+390	1x1.2	Pipe Culvert	141.661	141.088	139.768	1A	
21	118+450					Chocked	New 4Lane	21	118+470	1x1.2	Pipe Culvert	141.938	140.752	139.432	2	
22							New 4Lane	22	118+670	1x1.2	Pipe Culvert	141.041	140.767	139.447	2	
23	118+800	HP Culvert					New 4Lane	23	118+850	1x1.2	Pipe Culvert	139.482	138.772	137.452	1A	
24	119+000					Chocked	New 4Lane	24	120+000	1x1.2	Pipe Culvert	138.058	137.165	135.845	1	
25	119+320					Chocked	New 4Lane	25	120+250	1x1.2	Pipe Culvert	137.299	136.054	134.734	2	
26							New 4Lane	26	120+510	1x1.2	Pipe Culvert	136.717	135.696	134.376	2	
27	119+730					Chocked	New 4Lane	27	120+630	1x1.2	Pipe Culvert	137.214	136.807	135.487	2	
28	121+300	HP Culvert					New 4Lane	28	120+900	1x1.2	Pipe Culvert	137.098	135.937	134.617	1A	
29							New 4Lane	29	121+330	1x1.2	Pipe Culvert	136.000	134.943	133.623	1A	
30	121+800	HP Culvert	1x1.2	17.64	11	Ext. Retain	New 2Lane	30	121+520	1x1.2	Pipe Culvert	135.992	134.585	133.265	2	

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DESIGN CONSULTANT:
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Detailed Project Report

REV.	DATE	DESCRIPTION

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
DSR	SJC	SB	SKC

SCALE : AS SHOWN | SHEET SIZE : A2

TITLE : SCHEDULE OF PIPE CULVERTS

DRG. No. : VSPL/1718-081/DPR/PKG-2/PC (SHEET 01 OF 02)

REVISION:R0 | APRIL 2020

Improvement Proposal of Culverts Pkg-2 (From 38+370To 76+822)

Existing Details							Proposal Details									
Sl. No.	Existing Chainage (km)	Type of Culvert	Span Arrangement/Dia. (m)	Total Width of Structure (m)	Total Roadway Width (m)	Remarks	Improvement Proposal	Sl. No.	Design Chainage (km)	Span Arrangement (m)	Type of Culvert	FRL (m)	Proposed Pipe top Level (m)	Invert Level (m)	Proposed width (as per TCS)	Phase Details
31	122+700					Chocked	New 4Lane	31	122+340	1x1.2	Pipe Culvert	141.503	140.970	139.650	2	
32	123+500	HP Culvert				Chocked	New 4Lane	32	123+060	1x1.2	Pipe Culvert	141.496	141.070	139.750	1	
33							New 4Lane	33	123+300	1x1.2	Pipe Culvert	144.073	143.242	141.922	1A	
34							New 4Lane	34	123+540	1x1.2	Pipe Culvert	144.593	143.053	141.733	1A	
35						Reconstruction	New 4Lane	35	123+600	1x1.2	Pipe Culvert	145.663	144.318	142.998	1A	
36	124+300	HP Culvert				Chocked	New 4Lane	36	123+820	1x1.2	Pipe Culvert	146.082	145.382	144.062	2	
37	124+400	HP Culvert				Reconstruction	New 4Lane	37	124+220	1x1.2	Pipe Culvert	143.827	142.305	140.985	2	
38	124+800	HP Culvert				Reconstruction	New 4Lane	38	124+330	1x1.2	Pipe Culvert	142.702	141.321	140.001	2	
39	127+500	HP Culvert	1x1.2	17.776	10.932	Ext. Retain	New 2Lane	39	124+740	1x1.2	Pipe Culvert	146.176	145.461	144.141	2	
40	127+750	HP Culvert	1x1.2	17.725	11.703	Ext. Retain	New 2Lane	40	124+980	1x1.2	Pipe Culvert	147.533	146.043	144.723	2	
41	128+120	HP Culvert	1x1.2	24.864	9.469	Ext. Retain	New 2Lane	41	125+260	1x1.2	Pipe Culvert	143.262	141.498	140.178	2	
42						Manja Bypass	New 4Lane	42	125+960	1x1.2	Pipe Culvert	156.998	154.940	153.620	1A	
43						Manja Bypass	New 4Lane	43	126+220	1x1.2	Pipe Culvert	152.268	151.490	150.170	1A	
44						Manja Bypass	New 4Lane	44	126+570	1x1.2	Pipe Culvert	141.703	139.907	138.587	1A	**Phase-6**
45						Manja Bypass	New 4Lane	45	126+760	1x1.2	Pipe Culvert	138.994	137.526	136.206	1A	Km.113+830 to
46						Manja Bypass	New 4Lane	46	127+080	1x1.2	Pipe Culvert	137.148	134.669	133.349	1A	km.131+152
47						Manja Bypass	New 4Lane	47	127+280	1x1.2	Pipe Culvert	136.082	132.219	130.899	1A	Length-17.3km
48						Manja Bypass	New 4Lane	48	127+580	1x1.2	Pipe Culvert	136.744	133.820	132.500	1A	
49						Manja Bypass	New 4Lane	49	127+940	1x1.2	Pipe Culvert	136.213	134.490	133.170	1A	
50						Manja Bypass	New 4Lane	50	128+210	1x1.2	Pipe Culvert	138.949	134.820	133.500	1A	
51						Manja Bypass	New 4Lane	51	128+550	1x1.2	Pipe Culvert	138.771	132.820	131.500	1A	
52						Manja Bypass	New 4Lane	52	128+940	1x1.2	Pipe Culvert	142.000	136.722	135.402	1A	
53						Manja Bypass	New 4Lane	53	129+290	1x1.2	Pipe Culvert	143.281	142.717	141.397	1A	
54						Manja Bypass	New 4Lane	54	129+600	1x1.2	Pipe Culvert	143.265	142.818	141.498	1A	
55						Manja Bypass	New 4Lane	55	129+850	1x1.2	Pipe Culvert	146.091	145.106	143.786	1A	
56						Manja Bypass	New 4Lane	56	130+220	1x1.2	Pipe Culvert	146.054	145.696	144.376	1A	
57						Manja Bypass	New 4Lane	57	130+480	1x1.2	Pipe Culvert	148.649	146.696	145.376	1A	
58						Manja Bypass	New 4Lane	58	130+620	1x1.2	Pipe Culvert	149.814	147.818	146.498	1A	
59						Manja Bypass	New 4Lane	59	130+850	1x1.2	Pipe Culvert	147.825	146.151	144.831	1A	
60						Manja Bypass	New 4Lane	60	130+950	1x1.2	Pipe Culvert	147.758	146.600	145.280	1A	

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SCALE : AS SHOWN | SHEET SIZE : A2

TITLE : SCHEDULE OF PIPE CULVERTS

DRG. No. : VSPL/1718-081/DPR/PKG-2/PC (SHEET 02 OF 02)

REVISION:R0 | APRIL 2020