

SCHEDULE- A

(See Clauses 2.1 & 8.1)

SITE OF THE PROJECT HIGHWAY

1. The Site

- (i) Site of the Two Lane/Four Lane Project Highway shall include the land, buildings, structures and road works as described in Annex-I of this Schedule A.
- (ii) The dates of handing over the Right of Way to the Concessionaire are specified in Annex-II of this Schedule-A.
- (iii) An inventory of the Site including the land, buildings, structures, road works, trees and any other immovable property on, or attached to, the site shall be prepared jointly by the Authority Representative and the Concessionaire, and such inventory shall form part of the memorandum referred to in Clause 10.3.1 of this Agreement.
- (iv) The alignment plans of the Project Highway are specified in Annex-III. In the case of sections where no modification in the existing alignment of the Project Highway is contemplated, the alignment plan has not been provided. Alignment plans have only been given for sections where the existing alignment is proposed to be upgraded. The proposed profile of the Project Highways shall be followed by the Concessionaire with minimum FRL as indicated in the alignment plan. The Concessionaire, however, improve/upgrade the Road Profile as indicated in Annex-III based on site/design requirement.

Annex – I
(Schedule – A)

Site

1. Site

The project road starts from km 0+000 from the junction of NH-28 (to Gorakhpur, Bihar & Kushinagar, formerly known as NH 27) in Kushinagar and ends at km 58+004 at the Border of Uttar Pradesh/Bihar at NH-727 (formerly known as NH 28B) connecting Kasya & Padrauna. The road stretch passes through mostly agriculture areas and NH-28-B built-up sections along Kasya and Padrauna.

2. Land

The site of the Project highway comprises the land as described below –

S. No.	Existing Chainage (km)		Length (m)	EROW (m)	PROW (m)	Remarks
	From	To				
1	0+000	0+124	124	-		
2	0+124	4+115	3991	-		
3	4+115	13+620	9505	18-24	30	
4	13+620	23+070/23+800	9450	-	60	Padrauna Bypass
5	23+800	39+800	16000	18-20	25	
6	39+800	40+900	1100	15-18	18	
7	40+900	46+500	5600	18-20	25	
8	46+500	58+004	11504	18-24	-	

- The length of Padrauna bypass is 9.450 Km starting from 13+620 to 23+070. Further, the project will continue from 23+800 on existing NH-727 in order to match project chainage.

3. Carriageway

The present carriageway of the project highway is two lane configurations. 4 Lane configuration exists in 600m. The type of the existing pavement is flexible alignment.

4. Major Bridges

The Site includes the following Major Bridges: -

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No.	Existing Chainage (km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub-Structure	Super structure		
1.	55+871	Well	RCC Wall type	PSC Box	14 x 64	10.0

5. Road Over-Bridge (ROB)/ Road under – Bridge (RUB)

The Site includes the following ROB (road over railway line)

Sl. No.	Existing Chainage (km)	No. of Spans with Span length(m)	Width (m)	Remark
1.	52+630	595m		Under Construction

6. Grade separators

The site includes the following grade separators:

Sl. No.	Existing Chainage (km)	Type of Structure		No. of Spans with Span length(m)	Width (m)
		Foundation	Super Structure		
Nil					

7. Minor Bridge

The Site includes the following minor Bridges:

Sl. No.	Existing Chainage (km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub-Structure	Super structure		
1.	0+137	RCC	Wall Type	Slab	1 x 30	12.10
2.	6+700	RCC	Wall Type	Slab	3 x 8.0	11.80
3.	27+039	RCC	Wall Type	Slab	2 x 4.0	9.20
4.	36+094	RCC	Wall Type	Slab	1 x 8.0	11.20
5.	42+677	RCC	Wall Type	Slab	2 X 8.0	11.20
6.	49+010	RCC	Wall Type	Slab	2 x 10	8.50

8. Railway level crossings/Railway Track

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

The Site includes the following railway level crossings/Railway Track:

Sl. No.	Chainage	Location (Railway)
1.	Near Design Chainage 21+990 of NH-727 (Padrauna Bypass)	Near LC No-74C (to be bypassed)
2.	Near Existing Km 22+600 (On NH-727) (Padrauna Town)	LC No 72 B/E2 near Sewak Chhapra, Khadda Padrauna town (on existing road)

9. Underpasses (vehicular, Non-vehicular)

The Site includes the following underpasses:

Sl. No.	Existing Chainage	Type of Structure	No. of Spans with span length (m)	Width (m)
NIL				

10. Culverts:

a) The Site has the following culverts (Arch/Slab): -

Sl. No.	Existing Chainage	Type Of Structures	Span Arrangement and Total Vent way (No. X Length) (m)	Width (m)
1.	4+424	Solid Slab	2.6x1.3	11
2.	4+524	Solid Slab	2.7x1.9	11.3
3.	4+577	Solid Slab	1x2.9	11.3
4.	4+080	Solid Slab	1x4.5	11.2
5.	6+216	Solid Slab	1X3.7	12.75
6.	6+874	Solid Slab	1X4	13
7.	8+660	Solid Slab	1x1.5	13
8.	9+942	Solid Slab	1X3.6	13
9.	9+97	Solid Slab	1X3.6	11.2
10.	10+738	Pipe Culvert	1x3.3	18
11.	11+589	Pipe culvert	2X1	12

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No.	Existing Chainage	Type Of Structures	Span Arrangement and Total Vent way (No. X Length) (m)	Width (m)
12.	12+429	Solid Slab	1X1.8	10
13.	13+54	Solid Slab	1X1.5	9
14.	13+603	Solid Slab	1X1.4	12.8
15.	24+303	Solid Slab	1X0.9	17.5
16.	24+424	Pipe	Damage	19.7
17.	24+787	Slab Culvert	1X1.5	12.7
18.	25+033	Solid Slab	1.5X2.2	12
19.	26+900	Solid Slab	1x3.9	12.1
20.	27+039	Solid Slab	1x2.6	13
21.	27+275	Solid Slab	1X2.9	11.4
22.	27+936	Solid Slab	1X1.2	15.7
23.	28+143	Pipe	1X0.9	17.5
24.	28+423	Solid Slab	1x1.4	8.3
25.	29+598	Pipe Culvert	1x1.0	17.7
26.	30+336	Solid Slab	1X4.5	13.5
27.	31+468	Pipe culvert	1x0.9	13.8
28.	31+780	Arch Slab	1x1.0	17.9
29.	32+155	Pipe Culvert	1x0.9	17.3
30.	32+587	Pipe Culvert	Damage	12.9
31.	32+918	Pipe Culvert	1x0.9	14
32.	33+447	Solid Slab	1x2.5	11
33.	34+344	Solid Slab	1x1.6	10.5
34.	36+094	Solid Slab	1x5.7	12
35.	36+305	Pipe Culvert	1x0.9	14
36.	37+147	Pipe Culvert	1x1.0	17.7
37.	37+356	Solid Slab	1x1.0	14
38.	37+766	Solid Slab	1x2.5	11.7
39.	38+324	Solid Slab	1x5.0	11.7
40.	38+368	Solid Slab	2X4.6	12
41.	38+929	Solid Slab	1x2.8	12

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Sl. No.	Existing Chainage	Type Of Structures	Span Arrangement and Total Vent way (No. X Length) (m)	Width (m)
42.	41+471	Pipe Culvert	1 x 0.9	17.5
43.	41+657	Solid Slab	1x1.8	11.7
44.	42+176	Pipe Culvert	1 x 0.6	7.4
45.	43+013	Solid Slab	1 X 4.5	12.3
46.	44+989	Solid Slab	1x2.2	12.8
47.	45+999	Solid Slab	1 X 6	14.1
48.	46+300	Pipe Culvert	1x1.0	17.6
49.	48+053	Solid Slab	3.1X2.6	12.4
50.	48+484	Solid Slab	1x2.6	12.8
51.	49+513	Pipe Culvert	2x1	17.5
52.	50+449	Solid Slab	3x1.6	12.2
53.	50+856	Pipe Culvert	1x0.9	12.2
54.	51+010	Pipe Culvert	1x0.9	17.5
55.	51+212	Pipe Culvert	1x0.9	17.5
56.	51+476	Pipe Culvert	2x0.9	17.5
57.	52+040	Pipe Culvert	3x1.6	12.4
58.	52+223	Pipe Culvert	1x0.9	17.3

11. Total Number of Structure

The numbers of structures on site are as follows: -

- a. Major Bridges:1 (Km 55+871)
- b. Road Over-Bridges (ROB):1 (Km 52+630 (Under Construction))
- c. Road Under-Bridges (RUB): Nil
- d. Grade separators: Nil
- e. Minor Bridges: 6
- f. Railway level crossings: 2
- g. Slab Culverts: 36
- h. Hume Pipe Culverts: 21
- i. Arch Culverts: 1

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12. Bus Bays

The details of bus bays at site are as follows:

SL. No	Existing Chainage (Km)	Length (m)	Left Hand Side	Right Hand Side
Nil				

13. Truck Lay byes

The details of truck laybys are as follows:

Sl. No.	Existing Chainage (Km)	Length (m)	Left Hand Side	Right Hand Side
Nil				

14. Road side drains

The detail of the road side drains are as follows:

Sl. No.	Existing Chainage		Type	
	From (Km)	To (Km)	Masonry/cc	Earthen
			(Pucca)	(Kutcha)
1.	0+788	3+900	Masonry/cc	
2.	13+650	23+000	Masonry/cc	
3.	39+800	40+900	Masonry/cc	

15. Major junctions:

The details of major junctions / cross roads are as follows:

Sr. No	Existing Chainage (Km.)	Type of Junction	Category of Cross Road			
			NH	SH	MDR	Others
1	0+200	Y	NH-28			
2	1+550	X				Airport connecting Road
3	2+580	X				Kasya Ram kola Road

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4	3+465	+				Kasya Ram kola Road
5	15+180	+				Nebua Raiganj Road
6	24+300	X	NH-730			Kasya – Padrauna Road
7	26+900	X				Badhara-Kushinagar-Road

16. Minor junction:

The details of the minor cross roads are as follows: -

Sr. No.	Existing Chainage	Type	Side	Destination
1.	0+790	T	Left	Shahpur
2.	1+080	Y	Left	Airport
3.	1+430	T	Left	village
4.	1+500	X	BHS	Airport
5.	1+860	X	BHS	Bishunpur Magurahi
6.	2+000	T	Left	Kasya Bypass
7.	2+100	T	Left	Village
8.	2+320	X	BHS	Village road
9.	2+580	X	BHS	Kasya Ram kola Road
10.	2+770	X	BHS	Village Road
11.	3+480	X	BHS	Belwa Ramjas Village
12.	4+050	T	LHS	Belwa Ramajs Village
13.	4+100	X	BHS	Nrainpur Village
14.	4+150	T	RHS	Semari Village
15.	4+190	T	RHS	Kanhoriya Village
16.	4+900	T	LHS	Village Road
17.	5+040	T	RHS	Village Road

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Sr. No.	Existing Chainage	Type	Side	Destination
18.	5+100	T	Right	Kanhoriya Village
19.	5+620	T	RHS	Village Road
20.	5+960	T	LHS	Village Road
21.	6+360	T	Right	Chanmpur Dhusi
22.	7+310	T	Right	Shampur Village
23.	7+940	T	RHS	Village Road
24.	8+160	T	Left	Ramwalia Village
25.	9+130	T	Right	Ramwalia Village
26.	9+680	T	Right	Ramwalia Village
27.	10+750	T	Right	Narsar Village
28.	11+030	T	Left	Karhia Hazari Patti village
29.	11+310	T	Left	Nadah village
30.	12+180	T	Right	Parsuna village
31.	12+200	T	Left	Nadah village
32.	12+430	X	BHS	Village Road
33.	13+135	X	Left	Dumar Bhar village
34.	13+140	T	Right	Sohanaria village
35.	24+200	T	Right	Nagari Village
36.	24+300	Y	Left	Barahra Village
37.	24+300	Y	Right	Nagari Village
38.	24+510	T	Right	Nagari Village
39.	25+280	T	Right	Basdila Village
40.	25+300	T	Left	Dandopur Village
41.	25+380	Y	Left	Dandopur Village
42.	26+300	Y	Left	Semra Village
43.	26+700	T	Left	Village Road
44.	26+920	X	BHS	Village Road
45.	27+280	Y	Right	Kukraha Village
46.	27+300	Y	Left	Semra Village
47.	27+340	T	Left	Semra Village
48.	28+780	T	Right	To Village

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Sr. No.	Existing Chainage	Type	Side	Destination
49.	28+840	T	Left	Dhamauli Village
50.	29+340	T	Right	Dhamauli Village
51.	29+545	T	Right	Dhamauli Village
52.	29+990	Y	Left	Fakira Chhapra Village
53.	30+340	X	BHS	Village Road
54.	31+350	Y	Left	Mithha Mafi Village
55.	31+420	Y	Right	Mithha Mafi Village
56.	32+770	Y	Left	Village Road
57.	33+220	T	Right	Village Road
58.	33+240	T	Left	Village Road
59.	33+360	T	Right	Pipra Buzurg Village
60.	33+420	T	Left	Sadi Chhapra Village
61.	33+445	T	Left	Sadi Chhapra Village
62.	33+695	T	Left	Sukhari Chhapra Village
63.	33+825	T	Right	Mudmudwa Village
64.	34+630	T	RHS	Village Road
65.	35+195	X	BHS	Harju Chhapra Village
66.	36+095	Y	Right	Village Road
67.	36+120	X	BHS	Nebua Naurangia Village
68.	37+000	T	Left	Nebua Naurangia Village
69.	37+020	T	Left	Nebua Naurangia Village
70.	37+040	Y	Right	Nebua Naurangia Village
71.	37+090	T	Left	Nebua Naurangia Village
72.	37+190	T	Right	Nebua Naurangia Village
73.	37+430	T	Left	Kaptanganj Road
74.	37+590	T	Right	To Field
75.	37+760	T	Right	To Field
76.	37+920	T	Right	Mansha Chhapra Village
77.	38+580	Y	Right	To Field
78.	38+645	Y	Left	Earthen Road
79.	38+940	X	BHS	Village Road
80.	39+320	Y	Right	Mansha Chhapra Village

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Sr. No.	Existing Chainage	Type	Side	Destination
81.	39+410	Y	Right	Mansha Chhapra Village
82.	39+665	T	Left	Village Road
83.	40+025	T	Left	Nebua Raiganj village
84.	40+145	T	Right	Village Road
85.	40+810	Y	Left	Khadda Road
86.	41+660	X	BHS	Village Road
87.	42+220	Y	Right	Deogaon village
88.	42+265	T	Right	Sakhui village
89.	42+430	T	Left	Sakhui village
90.	42+480	T	Left	Sakhui village
91.	42+695	X	BHS	Village Road
92.	43+860	T	Right	To Village
93.	44+200	X	BHS	Dharampur Village
94.	45+000	X	BHS	Village Road
95.	45+840	Y	Right	Ramji Patti Village
96.	46+340	X	BHS	Doman Patti Village

17. Bypasses: -

Sl. No.	Name of Bypass (town)	Existing Chainage (Km)		Length (Km)	Carriageway	
		From	To		Width (m)	Type
Nil – No Existing Bypass in the existing project site						

18. Details of Existing Utilities

Details of Existing Utilities are given below

(i) Electrical Utilities

The site includes the following electrical utilities: -

(a) Extra High-Tension Lines (EHT Lines) *

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Sl No.	Design Chainage (Km)	Length (in Km)				Crossings			
		400 KV	220 KV	110 KV	66 KV	400 KV	220 KV	132 KV	110 KV
1.	29+550							01	

(b) High Tension / Low Tension Lines (HT/ LT Lines) *

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
1.	0+000	0+250			0.250 km	0.250 km							LHS
2.	4+115	6+200	2.085 km										RHS
3.	6+200	6+500	0.3 km										LHS
4.	6+200						1						
5.	6+900	13+500	6.6 km										RHS
6.	8+700									1			
7.	8+700	8+850				0.150 km							RHS
8.	8+850									1	1	63 KVA	LHS
9.	8+850	9+200			0.350 km								LHS
10.	8+950	9+150				0.2 km							RHS
11.	9+000										1	25 KVA	LHS

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Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
12.	9+150								1				
13.	9+200										1	25 KVA	LHS
14.	9+200	9+650				0.450 km							LHS
15.	10+400										1	10 KVA	RHS
16.	10+400	10+500			0.1 km								LHS
17.	10+740									1			
18.	10+750	11+300	0.550 km							1			LHS
19.	11+300								1				
20.	11+600	11+700			0.1 km								LHS
21.	11+600								1		1	100 KVA	LHS
22.	11+700								1		1	100 KVA	LHS
23.	11+900	12+700				0.8 km							LHS
24.	12+100	13+500			1.4 km						1	25 KVA	LHS
25.	12+200										1	10 KVA	LHS
26.	12+500								1	3	2	250+25 KVA	LHS
27.	13+100								1				
28.	13+150										1	10KVA	LHS
29.	13+700						1						

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Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
30.	14+100								1				
31.	14+700									1			
32.	15+150									1			
33.	15+350								1				
34.	16+900									1			
35.	17+400								1				
36.	18+600								1				
37.	20+650								1				
38.	21+000								1				
39.	21+000	21+500			0.5 km								
40.	21+600								1				
41.	22+000									1			
42.	22+300								1				
43.	22+400								1				
44.	24+300									1			
45.	24+300	24+700				0.4 km							RHS

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Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
46.	24+450									1			
47.	24+700									1			
48.	24+900	25+250				0.350km							LHS
49.	25+250								1	1	1	10KVA	LHS
50.	25+250	25+400			0.150km	0.150km							BHS
51.	25+350								1	1			LHS
52.	25+420								1		1	100KVA	LHS
53.	25+420	25+700				0.280km							LHS
54.	25+420	26+300			0.880km								RHS
55.	25+650										2	10-10KVA	RHS
56.	25+850									1			
57.	26+010										1	10KVA	RHS
58.	26+100										1	10KVA	RHS
59.	26+100	26+500				0.400km							RHS

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
60.	26+200										1	63KVA	RHS
61.	26+300										1	25KVA	RHS
62.	26+450									1			
63.	27+200	27+700				0.500km				1			LHS
64.	27+500									1			
65.	27+550									1			
66.	27+650								1	1			
67.	27+700	28+350			0.650km								RHS
68.	27+700										1	63kva	RHS
69.	27+700										1	100kva	RHS
70.	28+200										1	16kva	LHS
71.	28+350										1	10kva	LHS
72.	28+700								1				
73.	28+700	28+800			0.100km								LHS

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
74.	28+850									1			
75.	29+200	29+500				0.3km							RHS
76.	29+300								1				
77.	29+800	30+100				0.3km							RHS
78.	29+850	30+350				0.5km							LHS
79.	30+000									1			
80.	30+100									1			
81.	30+250	30+700				0.450km							RHS
82.	30+600									1	1	10KVA	LHS
83.	30+700									1			
84.	30+800												
85.	30+800	31+450				0.650km							RHS
86.	30+900									1			
87.	31+050									1			

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
88.	31+200									1			
89.	31+350								1		1	10kva	RHS
90.	31+350	31+450			0.1km								LHS
91.	31+450								1		1	16KVA	RHS
92.	31+550	32+250				0.7 km							LHS
93.	31+600	31+800				0.2 km							RHS
94.	31+700								1		1	63KVA	LHS
95.	31+700	31+800			0.1 km						1	10kva	RHS
96.	31+900	33+700				1.8 km							RHS
97.	32+100									1			
98.	32+450									1			
99.	32+700										1	25kva	LHS
100.	32+700	32+800			0.1 km								LHS
101.	32+800								1				

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
102.	32+80 0	32+85 0				0.05 0 km							LHS
103.	32+85 0									1			
104.	32+90 0	33+90 0				1.0 km							LHS
105.	33+10 0	33+20 0			0.1 km								RHS
106.	33+15 0								1				
107.	33+20 0									3			
108.	33+70 0										2	25KVA	LHS
109.	33+70 0	33+85 0			0.15 0km								RHS
110.	33+85 0								1				
111.	33+90 0							1					
112.	34+15 0						1						
113.	34+40 0									1			
114.	34+50 0	35+35 0				0.85 0km							LHS
115.	34+50 0	35+00 0				0.5 km							RHS

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
116.	34+90 0								1				
117.	35+20 0							1	1				
118.	35+40 0							1					
119.	35+40 0	36+40 0			1.0 km								RH S
120.	35+55 0	35+60 0				0.05 0km							LHS
121.	35+95 0										2	10KVA	RH S
122.	36+10 0								1		2	16- 10KVA	RH S
123.	36+20 0										1	10KVA	RH S
124.	36+25 0									1			
125.	36+27 0									1			
126.	36+40 0								1		1	10KVA	RH S
127.	36+40 0	36+50 0			0.1 km								LHS
128.	36+45 0										1	16KVA	LHS
129.	36+45 0	37+10 0				0.65 0km							RH S

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
130.	36+50 0										1	16KVA	LHS
131.	36+50 0	37+10 0				0.6 km							LHS
132.	37+05 0									1			
133.	37+10 0									1	1	16KVA	RH S
134.	37+10 0	37+45 0			0.35 0km								RH S
135.	37+15 0									1	1	25kva	RH S
136.	37+20 0										1	10kva	RH S
137.	37+30 0										1	10kva	RH S
138.	37+40 0								1				
139.	37+45 0										2	16- 10kva	RH S
140.	37+45 0	38+00 0				0.55 0km							RH S
141.	37+50 0										1	16KVA	LHS
142.	36+50 0	37+10 0				0.6 km							LHS
143.	38+40 0	38+65 0				0.25 0 km							RH S

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
144.	38+65 0									1			
145.	38+65 0	38+70 0				0.05 0km							RH S
146.	38+70 0								1		2	25- 10KVA	BH S
147.	38+70 0	39+05 0			0.35 0km								RH S
148.	39+00 0								1		1	10KVA	RH S
149.	40+15 0	41+00 0				0.85 0km							RH S
150.	40+20 0	40+80 0			0.6 km								LHS
151.	40+20 0										1	16KVA	LHS
152.	40+30 0										1	16KVA	LHS
153.	40+60 0								1				
154.	40+80 0										2	250- 10KVA	LHS
155.	40+80 0									1	2		
156.	41+00 0										1		
157.	41+00 0	41+30 0				0.3 km							LHS

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
158.	41+050										1	25KVA	LHS
159.	41+150									1			
160.	41+200										1	10KVA	LHS
161.	41+650					1.0 km							
162.	41+950				1.0 km								
163.	41+950	42+250			0.3 km								RHS
164.	42+100										1	10KVA	RHS
165.	42+250										1	100KVA	RHS
166.	42+250	42+600				0.350km							RHS
167.	42+300									1			
168.	42+300	42+500				0.2 km							RHS
169.	42+400									2			
170.	42+700	42+950				0.250km							RHS
171.	42+700	42+800				0.1 km							LHS

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
172.	43+20 0	43+55 0			0.35 0km								LHS
173.	43+25 0	43+55 0				0.3 km							RHS
174.	43+55 0								1		1	10KVA	LHS
175.	43+60 0	43+85 0				0.25 0km							RHS
176.	43+60 0	43+65 0				0.05 0km							LHS
177.	43+80 0	44+20 0				0.4 km							LHS
178.	43+85 0								1		1	16KVA	LHS
179.	44+00 0									1			
180.	44+50 0	45+50 0				1.0 km							LHS
181.	44+50 0	45+00 0				0.5 km							RHS
182.	44+70 0									1	2	25-10 KVA	RHS
183.	44+70 0	45+00 0			0.3 km								RHS
184.	45+00 0									1			
185.	45+00 0	45+10 0				0.1 km							RHS

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage (km)		Length (in Km)				Crossings (no's)				Transformer		Side
	From	To	33KV	22KV	11KV	LT	33KV	22KV	11KV	LT	No	Capacity	
186.	45+100										1	16KVA	RHS
187.	46+350	46+500	0.150 km										RHS
188.	46+350								1				
Total			9.7		9.38	19.63	3	3	38	51	65		

(ii) Public Health Utilities (Water/Sewage Pipe Lines)

- (a) The site includes the following Public Health Utilities wherein the tabulated stretches of the road are affected by Water supply pipeline: -

Sl. No	Design Chainage (km)		Length along NH (in Km)				Falling in ROW				Side
	From	To	Water Supply line		Sewage line		Hand Pump		Sewage line		
			With Pumping	With Gravity	With Pumping	With Gravity	LHS	RHS	With Pumping	With Gravity	
1.	0+000	46+500	48.94								BHS

(iii) Broadband Network Utilities:

The site includes the following broadband network utilities: -

Sl. No	Design Chainage(km)		Length along NH (in Km)		ROW Crossings (in km)		Side
	From	To	Cable	Pipe	Cable	Pipe	
1.	4+115	6+350	2.235 km	1.935 km			RHS

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage(km)		Length along NH (in Km)		ROW Crossings (in km)		Side
	From	To	Cable	Pipe	Cable	Pipe	
2.	6+900	13+600	7.370 km	6.7 km			RHS
3.	8+650				0.033 km	0.030 km	
4.	10+700				0.033 km	0.030 km	
5.	3+900	13+600	10.670 km	9.700 km			LHS
6.	23+000	29+550	7.205 km	6.550 km			LHS
7.	29+550				0.275 km	0.025km	
8.	25+300	30+000	5.170 km	4.7 km			RHS
9.	30+000	33+200	3.520 km	3.2 km			LHS
10.	25+300				0.275 km	0.025 km	
11.	26+300				0.275 km	0.025 km	
12.	27+320				0.275 km	0.025 km	
13.	28+820				0.275 km	0.025 km	
14.	30+000				0.275 km	0.025 km	
15.	30+100				0.275 km	0.025 km	
16.	31+850				0.275 km	0.025 km	
17.	23+000	33+200	11.220 km	10.2 km			RHS
18.	33+200				0.275 km	0.025 km	
19.	33+200	33+800	0.660 km	0.660 km			LHS
20.	33+800				0.075 km	0.025 km	
21.	34+750	41+100	6.985 km	6.350 km			LHS
22.	35+000				0.275 km	0.025 km	
23.	36+100				0.275 km	0.025 km	
24.	37+450	41+100	4.015 km	3.65 km			LHS
25.	37+550				0.275 km	0.025 km	
26.	39+300				0.275 km	0.025 km	
27.	40+150				0.275 km	0.025 km	
28.	33+200	41+100	8.69 km	7.9 km			LHS
29.	33+200				0.275 km	0.025 km	
30.	41+100				0.275 km	0.025 km	
31.	41+100	42+550	1.595 km	1.450 km			LHS
32.	41+900				0.275 km	0.025 km	
33.	42+700	46+500	4.18 km	3.8 km			

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No	Design Chainage(km)		Length along NH (in Km)		ROW Crossings (in km)		Side
	From	To	Cable	Pipe	Cable	Pipe	
34.	43+600				0.275 km	0.025 km	
Total			73.515 km	66.795 km	5.091 km	0.535 km	

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Annex – II

(As per Clause 8.3 (i))

(Schedule-A)

Dates for providing Right of Way

The dates on which the Authority shall provide Right of Way to the Concessionaire on different stretches of the Site are stated below.

Sl. No	Design Chainage		Length (km)	Width(m)	Date of providing Right of Way*
	From	To		Width	
(1)	(2)	(3)	(4)	(5)	(6)
(i) Full Right of Way (full width) (a) Stretch (b) Stretch (c) Stretch (d) Stretch	4+090	13+620	9.530	30	On Appointed Date
	23+800	39+800	16.000	25	
	39+800	40+900	1.100	18	
	40+900	46+500	5.600	25	
	13+620	23+070/2 3+800	9.450	60	
(ii) Part Right of Way (part width) (a) Stretch	0+000	0+800	0.8	60	Existing ROW on appointed date and proposed ROW on 150 days from the Appointed date
(iii) Balance Right of Way (width) (a) Stretch (* Kasya Bypass)	0+800	4+090	3.290	60	150 days from the Appointed date

Kasya bypass is not the part of the project. Widening from design km 0+000 to km 4+115 is not included in scope of work, only one-time improvement of the existing road.

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Annex-III
(Schedule-A)

Alignment

The existing alignment of the Project Highway shall be modified in the following sections as per the alignment plan indicated below:

- (i) The alignment of the Project Highway is enclosed in plan & profile. Finished road level indicated in the plan & profile shall be followed by the Concessionaire as minimum FRL. In any case, the finished road level of the project highway shall not be less than those indicated in the alignment plan. The Concessionaire shall, however, improve/upgrade the Road profile as indicated in Annex-III based on site/design requirement.
- (ii) The Concessionaire shall, however, improve/upgrade upon the traffic signage plan as indicated in Annex-III based on site/design requirement as per the relevant specifications/IRC Codes/Manual.

Annex-IV
(Schedule-A)

Environment Clearances

The Length of project highway is less than 100 km. Therefore, as per MOEF notification No.S.O.2559(E) dated 22.08.2013, environmental clearance is not required.

Annex - V

(Schedule-A)

Details of Existing Utility

- (i) Details of existing utilities have been provided in the clause 18 of Schedule-A.

- (ii) Utility Shifting plan enclosed.

SCHEDULE - B

(See Clause 2.1)

Development of the Project Highway

1. Development of the Project Highway

Development of the Project Highway shall include design and construction of the Project Highway as described in this Schedule-B & in Schedule-C.

2. Rehabilitation and augmentation

Improvement, Rehabilitation, Upgradation and Augmentation shall include four lane with paved shoulder and two lane with paved shoulder of the Project Highway as described in Annex-I of this Schedule-B and in Schedule-C.

3. Specifications and Standards

The Project Highway shall be designed and constructed in conformity with the Specifications and Standards specified in Annex-I of Schedule-D.

Annex-I (Schedule-B)

1. Development of the Project Highway

- (i) Development of the Project Highway shall include design and construction of the Project Highway as described in this Schedule-B and in Schedule-C. All drawings including alignment plans & Profile drawings, traffic signage drawings, miscellaneous drawings etc. of the project highway are specified in Drawing Volume shall be deemed to be part of this Schedule B. The proposed profile of the project highway as indicated in the Annex-III of Schedule A shall be followed by the Concessionaire (as minimum FRL) as given in the alignment plan. Based on site/design requirement, the Concessionaire may, however, improve/upgrade upon the alignment plans and profiles as indicated in Annexure-III of Schedule A and raise the finished roadway level (FRL) with the approval from the Authority Engineer within the available Right of Way.

(i) Width of Carriageway

- a) Two / four Lanning with paved shoulders shall be undertaken. The width of carriageway, paved shoulders, and earthen shoulders, median and other cross-sectional elements shall be as per the Manual and the TCS drawings (Appendix B-I of Schedule-B).

(i) In Open Area: -

S.NO	FROM (km)	TO (km)	LENGTH (m)	Carriageway (m)	TCS
1	4+115	6+500	2385	2 x 7.0	TCS-6
2	6+500	6+718	218	2 x 7.0	TCS-17
3	6+718	6+742	24	2 x 10.5	4 Lane Bridge
4	6+742	6+900	158	2 x 7.0	TCS-17
5	6+900	8+415	1515	2 x 7.0	TCS-6
6	9+315	11+915	2600	2 x 7.0	TCS-6
7	12+915	13+620	705	2 x 7.0	TCS-6
8	13+620	16+753	3133	2 x 7.0	TCS-5
9	16+753	16+768	15	2 x 10.5	TCS-11
10	16+768	17+684	916	2 x 7.0	TCS-5
11	17+684	17+696	12	2 x 10.5	TCS-11
12	17+696	17+700	4	2 x 7.0	TCS-5
13	17+700	18+400	700	Toll Plaza	Toll Plaza

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

S.NO	FROM (km)	TO (km)	LENGTH (m)	Carriageway (m)	TCS
14	18+400	18+516	116	2 x 7.0	TCS-5
15	18+516	18+524	8	2 x 10.5	TCS-11
16	18+524	18+610	86	2 x 7.0	TCS-5
17	18+610	19+155	545	2 x 10.5	TCS-12
18	19+155	19+545	390	2 x 10.5	TCS-11
19	19+545	20+180	635	2 x 10.5	TCS-8
20	20+180	20+440	260	2 x 10.5	TCS-8A
21	20+440	20+630	190	2 x 10.5	TCS-8
22	20+630	20+690	60	2 x 10.5	TCS-13
23	20+690	20+803	113	2 x 10.5	TCS-8
24	20+803	20+818	15	2 x 10.5	TCS-11
25	20+818	21+400	582	2 x 10.5	TCS-8
26	21+400	21+951	551	2 x 10.5	TCS-12
27	21+951	22+029	78	2 x 10.5	TCS-11
28	22+029	22+530	501	2 x 10.5	TCS-12
29	22+530	23+070	540	2 x 7.0	TCS-5
30	23+800	24+015	215	1 x 7.0	TCS-1A
31	24+815	26+000	1185	2 x 7.0	TCS-1
32	26+500	27+100	600	2 x 7.0	TCS-1
33	27+800	29+100	1300	2 x 7.0	TCS-1
34	30+500	31+415	915	2 x 7.0	TCS-1
35	34+000	34+500	500	2 x 7.0	TCS-1
36	38+000	38+700	700	1 x 7.0	TCS-1A
37	39+000	39+800	800	1 x 7.0	TCS-1A
38	41+471	42+085	614	2 x 7.0	TCS-1
39	42+669	42+685	16	2 x 10.5	Four lane bridge
40	43+013	43+065	052	1 x 7.0	TCS-1A
41	43+615	44+340	725	1 x 7.0	TCS-1A
42	45+135	46+500	1365	2 x 7.0	TCS-1

Provided that in the built-up areas [refer to paragraphs 2.1 (ii) (a) of the Manuals and provided necessary details] the width of the carriageway shall be as specified in the following table:

(ii) In Built-Up Area

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

S.NO	FROM (km)	TO (km)	LENGTH (m)	Carriageway (m)	TCS	Village Name
1	8+415	9+315	900	2 x 7.0	TCS - 7	Sakhopar
2	11+915	12+915	1000	2 x 7.0	TCS - 7	Sohanaria
3	24+015	24+815	800	1 x 7.0	TCS - 4	Khadda Bujurg
4	26+000	26+500	500	1 x 7.0	TCS - 2	Bhujauli
5	27+100	27+800	700	1 x 7.0	TCS - 2	Sarpathi Khurd
6	29+100	29+650	550	1 x 7.0	TCS - 4	Dorahi
7	29+650	30+150	500	1 x 7.0	TCS - 4B	Khajuria
8	30+150	30+500	350	1 x 7.0	TCS - 2	Suraj Nagar Bazar
9	31+415	32+815	1400	1 x 7.0	TCS - 4A	Liladhar Chappra
10	32+815	34+000	1185	1 x 7.0	TCS - 4	Pipra Bujurg
11	34+500	36+090	1590	1 x 7.0	TCS - 4A	Jai Chapra
12	36+090	36+200	110	1 x 7.0	TCS - 4	Nebua Naurangia
13	36+200	37+600	1400	1 x 7.0	TCS - 4B	Nebua Naurangia
14	37+600	38+000	400	1 x 7.0	TCS - 2	Naurangia Bazar
15	38+700	39+000	300	1 x 7.0	TCS - 2	Naurangia Bazar
16	39+800	41+471	1671	1 x 7.0	TCS - 2	Nebua Raiganj
17	42+085	42+669	584	1 x 7.0	TCS - 3A	Sekhui Khas
18	42+685	43+013	328	1 x 7.0	TCS - 3A	Sekhui Khas
19	43+065	43+615	550	1 x 7.0	TCS - 3	Dharni Patti
20	44+340	45+135	795	1 x 7.0	TCS - 4	PatharPur

- b) Except as otherwise provided in this Agreement, the width of the paved carriageway and cross-sectional features shall confirm to Manuals.
- c) The entire cross-sectional elements shall be accommodated in the available/proposed ROW. If required, suitable retaining structures shall be provided to accommodate the highway cross section within the available/proposed ROW.

2. Geometric design and general features

(i) General

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Geometric design and general features of the 2/4 Lane Project Highway shall be in accordance with the Two-lane Manual (IRC SP:73-2018) & four lane manual (IRC SP: 84- 2019) respectively.

(ii) Design speed

The minimum design speed of 100/80 km/hr for Plain/rolling terrain as per manual.

(iii) Improvement of the existing road geometrics

- a) The existing road geometrics shall be improved as per the codal provisions. In the sections, In the following sections, where improvement of the existing road geometrics to the prescribed standards is not possible, the existing road geometrics shall be improved to the extent possible within the given right of way and appropriate road signs, pavement markings and safety measures shall be provided

S.No.	Design Chainage (Km)		Total length (km.)	Remarks
	From	To		
1.	6+500	7+000	0.500	Re-alignment at Banipul Village
Total Length			0.500	

b) Bypass-

S. No.	Design Chainage (Km)		Length (km)	Remarks
	From	TO		
1.	13+620	23+070/23+800	9.450	Padrauna Bypass
	Total Length		9.450	

- The length of Padrauna bypass is 9.450 Km starting from 13+620 to 23+070. Further, the project will continue from 23+800 on existing NH-727 in order to match project chainage.

(iv) Right of way

Details of Right of Way are given in Annex– II of Schedule-A.

(v) Type of shoulders

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

- (a) In built-up sections, paved shoulder shall be provided in the following section as per TCS:

Sl. No.	Built-up Stretch (Township)	Design Km		Length (m)	Paved Shoulder (m)	TCS
		From	To			
1.	Sakhopar	8+415	9+315	900	2 x 2.5	TCS - 7
2.	Sohanaria	11+915	12+915	1000	2 x 2.5	TCS - 7
3.	Khadda Bujurg	24+015	24+815	800	2 x 2.5	TCS - 4
4.	Bhujauli	26+000	26+500	500	2 x 2.5	TCS - 2
5.	Sarpathi Khurd	27+100	27+800	700	2 x 2.5	TCS - 2
6.	Dorahi	29+100	29+650	550	2 x 2.5	TCS - 4
7.	Khajuria	29+650	30+150	500	2 x 2.5	TCS - 4B
8.	Suraj Nagar Bazar	30+150	30+500	350	2 x 2.5	TCS - 2
9.	Liladhar Chappra	31+415	32+815	1400	2 x 2.5	TCS - 4A
10.	Pipra Bujurg	32+815	34+000	1185	2 x 2.5	TCS - 4
11.	Jai Chapra	34+500	36+090	1590	2 x 2.5	TCS - 4A
12.	Nebua Naurangia	36+090	36+200	110	2 x 2.5	TCS - 4
13.	Nebua Naurangia	36+200	37+600	1400	2 x 2.5	TCS - 4B
14.	Naurangia Bazar	37+600	38+000	400	2 x 2.5	TCS - 2
15.	Naurangia Bazar	38+700	39+000	300	2 x 2.5	TCS - 2
16.	Nebua Raiganj	39+800	41+471	1671	2 x 2.5	TCS - 2
17.	Sekhui Khas	42+085	42+669	584	2 x 2.5	TCS - 3A
18.	Sekhui Khas	42+685	43+013	328	2 x 2.5	TCS - 3A
19.	Dharni Patti	43+065	43+615	550	2 x 2.5	TCS - 3
20.	Pathar Pur	44+340	45+135	795	2 x 2.5	TCS - 4

(b) **Shoulder in Open Area**

In open country, width of earthen shoulders shall be as per the discretion below.

S. NO	FROM (km)	TO (km)	LENGTH (m)	TCS	Paved Shoulder (m)	Earthen Shoulder (m)
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Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

S. NO	FROM (km)	TO (km)	LENGTH (m)	TCS	Paved Shoulder (m)	Earthen Shoulder (m)
1	4+115	6+500	2385	TCS-6	2 x 1.5	2 x 1.0
2	6+500	6+718	218	TCS-17	2 x 1.5	2 x 1.0
3	6+718	6+742	24	4 Lane Bridge	2 x 2.5	-
4	6+742	6+900	158	TCS-17	2 x 1.5	2 x 1.0
5	6+900	8+415	1515	TCS-6	2 x 1.5	2 x 1.0
6	9+315	11+915	2600	TCS-6	2 x 1.5	2 x 1.0
7	12+915	13+620	705	TCS-6	2 x 1.5	2 x 1.0
8	13+620	16+753	3133	TCS-5	2 x 1.5	2 x 1.0
9	16+753	16+768	15	TCS-5	2 x 2.5	
10	16+768	17+684	916	TCS-5	2 x 1.5	2 x 1.0
11	17+684	17+696	12	TCS-11	2 x 2.5	
12	17+696	17+700	4	TCS-5	2 x 1.5	2 x 1.0
13	17+700	18+400	700	Toll Plaza		
14	18+400	18+516	116	TCS-5	2 x 1.5	2 x 1.0
15	18+516	18+524	8	TCS-11	2 x 2.5	
16	18+524	18+610	86	TCS-5	2 x 1.5	2 x 1.0
17	18+610	19+155	545	TCS-12	2 x 2.5	
18	19+155	19+545	390	TCS-11	2 x 2.5	-
19	19+545	20+180	635	TCS-8	2 x 2.5	-
20	20+180	20+440	260	TCS-8A	2 x 2.5	
21	20+440	20+630	190	TCS-8	2 x 2.5	-
22	20+630	20+690	60	TCS-13	2 x 2.5	-
23	20+690	20+803	113	TCS-8	2 x 2.5	-
24	20+803	20+818	15	TCS-11	2 x 2.5	
25	20+818	21+400	582	TCS-8	2 x 2.5	
26	21+400	21+951	551	TCS-12	2 x 2.5	
27	21+951	22+029	78	TCS-11	2 x 2.5	
28	22+029	22+530	501	TCS-12	2 x 2.5	
29	22+530	23+070	540	TCS-5	2 x 1.5	2 x 1.0
30	23+800	24+015	215	TCS-1A	2 x 1.5	2 x 1.0
31	24+815	26+000	1185	TCS-1	2 x 1.5	2 x 1.0
32	26+500	27+100	600	TCS-1	2 x 1.5	2 x 1.0
33	27+800	29+100	1300	TCS-1	2 x 1.5	2 x 1.0
34	30+500	31+415	915	TCS-1	2 x 1.5	2 x 1.0

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

S. NO	FROM (km)	TO (km)	LENGTH (m)	TCS	Paved Shoulder (m)	Earthen Shoulder (m)
35	34+000	34+500	500	TCS-1	2 x 1.5	2 x 1.0
36	38+000	38+700	700	TCS-1A	2 x 1.5	2 x 1.0
37	39+000	39+800	800	TCS-1A	2 x 1.5	2 x 1.0
38	41+471	42+085	614	TCS-1	2 x 1.5	2 x 1.0
39	42+669	42+685	16	Four lane bridge	2 x 2.5	-
40	43+013	43+065	052	TCS-1A	2 x 1.5	2 x 1.0
41	43+615	44+340	725	TCS-1A	2 x 1.5	2 x 1.0
42	45+135	46+500	1365	TCS-1	2 x 1.5	2 x 1.0

Note: The specifications related to Paver block shall be provided as per the manual IRC: SP:63-2018, table 1 (GSB – 250 & WMM -250mm).

(a) Design and specifications of Paver blocks shall conform to the requirements specified in IRC: SP:63-2018.

(b) Design and specifications of paved shoulders and granular material shall conform to the requirements specified in the relevant manuals.

(c) The entire cross-sectional elements shall be accommodated in the proposed RoW. If required, suitable retaining structures shall be provided to accommodate the highway cross section within the proposed ROW.

(d) Entry/Exit Arrangement with Slip/Service Road shall be provided as per manual.

(vi) Lateral and vertical clearances at underpasses

a) Lateral and vertical clearances at underpasses and provision of guard rails/ crash barriers shall be as per paragraph 2.10 of the Manuals/schedule -D.

b) Lateral clearance: The width of the opening at the underpasses shall be as follows:

Sl. No.	Design Chainage (Km)	Span / Opening (m)	Vertical clearance (m) minimum	Remarks	Width (m)
1.	20+660	2 X 30	5.5	Grade separator (VUP) with slip	60.0

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Note

- ☐ Proper Drainage arrangements have to be made at the Underpasses such that there shall be no flooding.

(vii) Lateral and vertical clearances at overpasses

- a) Lateral and vertical clearances at over passes shall be as the provision of relevant Manuals.
- b) Lateral clearance: The width of the opening at the overpasses shall be as follows:

Sl. No.	Design Chainage (From km to km)	Span / Opening (m)	Remarks
Nil			

(viii) Service roads / Slip roads

The service/slip road shall be provided in continuous lengths on both sides along the Project Highway as per the cross-sectional elements shown in Typical Cross Sections in Appendix- BI. Service/Slip Roads of 7.0 m carriageway width to be provided at the following locations and for the lengths indicated below:

S.No.	Design Chainage (Km)		Side RHS/LHS or Both Side	Length (m)	TCS Type	Remark
	From	To				
1	19+545	20+180	Both Side	635	TCS-8	Service Road
2	20+440	20+630	Both Side	190	TCS-8	Service Road
3	20+690	20+803	Both Side	113	TCS-8	Service Road
4	20+180	20+440	Both Side	260	TCS-8A	Service Road
5	20+180	20+440	Both Side	260	TCS-8A	Slip Road
6	20+818	21+400	Both Side	582	TCS-8	Service Road
Total Length				2040X 2 = 4080 m		

Note:

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

- The pavement for service road/slip roads shall be designed for projected traffic as per Ministry's circular no. RW/NH-33044/33/2025-S&R(P&B) (computer no.254799) dated 03.11.2025
- Above length of service/slip road is excluding the length of the taper portion of entry/exit.

(ix) Grade separated structures

- a) Grade separated structures shall be provided as per paragraph 2.13 of the Manuals.
The requisite particulars are given below:

Sl. No.	Design Chainage (Km)	Number, length of spans & Vertical Clearance (m)	Remarks, If any
1.	20+660	2 X 30	Grade separator with slip road (NH-730)

- b) In the case of grade separated structures, the type of structure and the level of the Project Highway and the cross roads shall be as follows:

Sl. No.	Design Chainage (Km)	Type of Structure Length (m)	Cross Road			Remarks, if any
			Existing level	Raised level	Lowered level	
1.	20+660	2 X 30	88.909	97.930	-	Grade separator with slip road on NH-730

(x) Cattle and pedestrian underpass /overpass

Cattle and pedestrian underpass/ overpass shall be constructed as follows:

Sl. No.	Design Chainage (Km)	Type of Crossing
Nil		

(xi) Typical cross-sections of the Project Highway

Project Highway shall be developed as per the Typical Cross Section indicated in **Appendix B-I.**

S.NO	FROM (km)	TO (km)	LENGTH (m)	TCS	Remarks
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Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

1	0+000	4+115	4115	TCS-15	One time improvement in 5.3 km existing road length
2	4+115	6+500	2385	TCS - 6	4-Lane highway without service road with Flush median
3	6+500	6+718	218	TCS - 17	4-Lane highway without service road with Flush median
4	6+718	6+742	24	MNB	Minor bridge
5	6+742	6+900	158	TCS - 17	4-Lane highway without service road with Flush median
6	6+900	8+415	1515	TCS - 6	4-Lane highway without service road with Flush median
7	8+415	9+315	900	TCS - 7	4-lane without service road (Built-Up section)
8	9+315	11+915	2600	TCS - 6	4-Lane highway without service road with Flush median
9	11+915	12+915	1000	TCS - 7	4-lane without service road (Built-Up section)
10	12+915	13+620	705	TCS - 6	4-Lane highway without service road with Flush median
11	13+620	16+753	3133	TCS - 5	4 Lane bypass without service road
12	16+753	16+768	15	TCS - 11	MNB
13	16+768	17+684	916	TCS - 5	4 Lane bypass without service road
14	17+684	17+696	12	TCS - 11	MNB
15	17+696	17+700	4	TCS - 5	4 Lane bypass without service road
16	17+700	18+400	700	Toll Plaza	16 Lane Toll Plaza
17	18+400	18+516	116	TCS - 5	4 Lane bypass without service road
18	18+516	18+524	8	TCS - 11	MNB
19	18+524	18+610	86	TCS - 5	4 Lane bypass without service road
20	18+610	19+155	545	TCS - 12	6 - LANE HIGHWAY (APPROACH)
21	19+155	19+545	390	TCS - 11	Major Bridge over Gandak Canal & RoB
22	19+545	20+180	635	TCS - 8	6 Lane grade separated structure with slip road
23	20+180	20+440	260	TCS - 8A	6 Lane grade separated structure with slip road & service road
24	20+440	20+630	190	TCS - 8	6 Lane grade separated structure with slip road
25	20+630	20+690	60	TCS - 13	Grade Separated Structure Vehicular Underpass & Elevated Section
26	20+690	20+803	113	TCS - 8	6 Lane grade separated structure with slip road
27	20+803	20+818	15	TCS - 11	MNB
28	20+818	21+400	582	TCS - 8	6 Lane grade separated structure with slip road
29	21+400	21+951	551	TCS - 12	6 - LANE HIGHWAY (APPROACH)
30	21+951	22+029	78	TCS -	ROB

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

				11	
31	22+029	22+530	501	TCS - 12	6 - LANE HIGHWAY (APPROACH)
32	22+530	23+070	540	TCS - 5	4 Lane bypass without service road
33	23+800	24+015	215	TCS - 1A	2-Lane Highway without service road (overlay)
34	24+015	24+815	800	TCS - 4	2-Lane Highway without service road (Built-up Area)
35	24+815	26+000	1185	TCS - 1	2-Lane Highway Without Service Road
36	26+000	26+500	500	TCS - 2	2-Lane Highway without service road (Built-up Area)
37	26+500	27+100	600	TCS - 1	2-Lane Highway Without Service Road
38	27+100	27+800	700	TCS - 2	2-Lane Highway without service road (Built-up Area)
39	27+800	29+100	1300	TCS - 1	2-Lane Highway Without Service Road
40	29+100	29+650	550	TCS - 4	2-Lane Highway without service road (Built-up Area)
41	29+650	30+150	500	TCS - 4B	2-Lane Highway without service road (Built-up Area)
42	30+150	30+500	350	TCS - 2	2-Lane Highway without service road (Built-up Area)
43	30+500	31+415	915	TCS - 1	2-Lane Highway Without Service Road
44	31+415	32+815	1400	TCS - 4A	2-Lane Highway without service road (overlay) (Built-up Area)
45	32+815	34+000	1185	TCS - 4	2-Lane Highway without service road (Built-up Area)
46	34+000	34+500	500	TCS - 1	2-Lane Highway Without Service Road
47	34+500	36+090	1590	TCS - 4A	2-Lane Highway without service road (overlay) (Built-up Area)
48	36+090	36+200	110	TCS - 4	2-Lane Highway without service road (Built-up Area)
49	36+200	37+600	1400	TCS - 4B	2-Lane Highway without service road (Built-up Area)
50	37+600	38+000	400	TCS - 2	2-Lane Highway without service road (Built-up Area)
51	38+000	38+700	700	TCS - 1A	2-Lane Highway without service road (overlay)
52	38+700	39+000	300	TCS - 2	2-Lane Highway without service road (Built-up Area)
53	39+000	39+800	800	TCS - 1A	2-Lane Highway without service road (overlay)
54	39+800	41+471	1671	TCS - 2	2-Lane Highway without service road (Built-up Area)
55	41+471	42+085	614	TCS - 1	2-Lane Highway Without Service Road
56	42+085	42+669	584	TCS - 3A	2-Lane Highway without service road (Built-up Area)
57	42+669	42+685	16	MNB	Minor Bridge

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

58	42+685	43+013	328	TCS - 3A	2-Lane Highway without service road (Built-up Area)
59	43+013	43+065	52	TCS - 1A	2-Lane Highway without service road (overlay)
60	43+065	43+615	550	TCS - 3	2-Lane Highway without service road (Built-up Area)
61	43+615	44+340	725	TCS - 1A	2-Lane Highway without service road (overlay)
62	44+340	45+135	795	TCS - 4	2-Lane Highway without service road (Built-up Area)
63	45+135	46+500	1365	TCS - 1	2-Lane Highway Without Service Road
64	46+500	58+004	11504	TCS-15	One time Improvement

3. Intersection and grade Separators

All intersections and grade separated structures shall be as per provision of relevant Manuals. Existing Intersections which are deficient shall be improved to the prescribed standards.

Properly designed intersections shall be provided at the locations and of the types and features given in the tables below.

(i) At-Grade Intersections (shall be designed as per relevant Manuals)

(a) Major junctions

Details of junctions are presented in Table below –

Sr. No.	Design Chainage (Km)	Type	Side	Type of Pavement	Destination	Development Proposal
1.	13+620	Y	RHS	BT	Existing NH-727	Padrauna (At grade)
2.	20+660	X	BHS	BT	Junction with NH-730	Grade separator with slip road
3.	23+800	Y	RHS	BT	Existing NH-727	At Grade

Note: Junction improvement shall be carried out as per IRC codes/ Manual under grade separators with proper entry/exit to cross roads and slip/service roads.

(b) Minor junctions

The details of the minor junctions are as follows:

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sr. No.	Design Chainage (Km)	Type	Side	Destination
1.	4+150	T	RHS	Belwa Ramjas
2.	4+900	T	RHS	Belwa Ramjas
3.	5+040	T	RHS	Belwa Ramjas
4.	5+100	T	LHS	Khartari Village
5.	5+610	T	RHS	Kankhoriya village
6.	6+370	T	RHS	Kakhoria village
7.	6+500	Y	LHS	BT
8.	6+890	T	RHS	Village
9.	6+900	Y	LHS	BT
10.	7+310	T	RHS	Shampur Village
11.	7+950	T	RHS	Shampur Village
12.	8+180	T	LHS	Bhaisahi Village
13.	9+120	T	RHS	Ramhwalia Village
14.	9+690	T	RHS	Ramhwalia Village
15.	10+750	T	RHS	Narsar Village
16.	11+030	T	LHS	Karhia Hazari Patti vill.
17.	11+310	T	LHS	Nadah Village
18.	12+190	T	RHS	Parsauna village
19.	12+210	T	LHS	Nadah Village
20.	12+420	Y	RHS	Canal Road
21.	13+130	X	BHS	Dumarbhar Village, Sohanaria Village
22.	13+940	T	LHS	Village Road
23.	14+040	Y	LHS	Village Road
24.	14+440	T	RHS	Village Road

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sr. No.	Design Chainage (Km)	Type	Side	Destination
25.	14+700	T	LHS	Village Road
26.	15+000	X	LHS	Village Road
27.	15+180	T	LHS	Village Road
28.	15+850	T	RHS	Village Road
29.	16+000	T	LHS	Village Road
30.	16+180	T	BHS	Village Road
31.	16+420	T	RHS	Village Road
32.	17+700	T	RHS	Village Road
33.	18+120	T	RHS	Village Road
34.	18+350	Y	RHS	Village Road
35.	18+500	X	RHS	Village Road
36.	18+700	T	RHS	Village Road
37.	19+500	X	BHS	Village Road
38.	20+150	Y	RHS	Village Road
39.	21+300	X	BHS	Village Road
40.	21+600	X	LHS	Village Road
41.	22+000	X	LHS	Village Road
42.	22+250	Y	RHS	Village Road
43.	24+190	T	RHS	Nagari Village
44.	24+300	Y	RHS	Nagari Village
45.	24+310	Y	LHS	Braraha village
46.	24+510	T	RHS	Nagari Village
47.	25+250	T	RHS	Basdila Village
48.	25+300	T	LHS	Dandoopur Village

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sr. No.	Design Chainage (Km)	Type	Side	Destination
49.	25+390	Y	LHS	Dandoopur Village
50.	26+310	T	LHS	Mathiya village
51.	26+700	T	LHS	Mathiya village
52.	26+900	X	BHS	Canal Road
53.	27+280	Y	RHS	Kukraha Village
54.	27+290	Y	LHS	Simra Village
55.	27+340	T	LHS	Simra Village
56.	28+780	T	RHS	To village
57.	28+840	T	LHS	Dhamauli village
58.	29+320	T	RHS	Dhamauli village
59.	29+550	T	RHS	Dhamauli village
60.	29+990	T	LHS	Fakira Chapra Village
61.	30+340	X	BHS	Canal Road
62.	31+340	Y	LHS	Mitha Mafi Village
63.	31+400	Y	RHS	Mitha Mafi Village
64.	32+780	T	LHS	Dangarha Village
65.	33+230	T	RHS	Village Road
66.	33+250	T	LHS	Village Road
67.	33+350	T	RHS	Pipra Buzurg Village
68.	33+430	T	LHS	SadiChapra Village
69.	33+450	T	LHS	SadiChapra Village
70.	33+690	T	LHS	Sugahi Chapra village
71.	33+820	T	RHS	Mudmudwa Village
72.	34+620	T	RHS	PalatChapra Village

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Sr. No.	Design Chainage (Km)	Type	Side	Destination
73.	35+180	X	BHS	jai Chapra Village
74.	36+090	X	BHS	Canal Road
75.	36+110	T	RHS	Nebua Naurangia Vill.
76.	37+000	T	LHS	Nebua Naurangia Vill.
77.	37+010	T	LHS	Nebua Naurangia Vill.
78.	37+020	T	RHS	Nebua Naurangia Vill.
79.	37+100	T	LHS	Nebua Naurangia Vill.
80.	37+200	T	RHS	Nebua Naurangia Vill.
81.	37+420	T	LHS	Kaptanganj Road
82.	37+590	T	RHS	Village Road
83.	37+750	T	RHS	Village Road
84.	37+920	T	RHS	Mansha Chapra Village
85.	38+580	T	RHS	Village Road
86.	38+670	T	LHS	Village Road
87.	38+900	X	BHS	Canal Road
88.	39+300	T	RHS	Mansha Chapra Village
89.	39+400	T	RHS	Mansha Chapra Village
90.	39+650	T	LHS	Nebua Bazar
91.	40+010	T	LHS	Nebua Raiganj Village
92.	40+150	T	RHS	Nebua Raiganj Village
93.	40+800	Y	LHS	Nebua Raiganj Village
94.	41+650	X	BHS	Canal Road
95.	42+210	Y	RHS	Deogaon village
96.	42+280	T	RHS	Sakhui Village

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Sr. No.	Design Chainage (Km)	Type	Side	Destination
97.	42+430	T	LHS	Sakhui Village
98.	42+500	T	LHS	Sakhui Village
99.	42+700	X	BHS	Canal Road
100.	43+870	T	RHS	Dharampur village
101.	44+200	X	BHS	Dharampur village
102.	45+000	X	BHS	Canal Road
103.	45+840	Y	RHS	Ramji Patti Village
104.	46+350	X	BHS	Makramha Village

Note:

- (a) The Concessionaire/ Contractor shall take up 'Detailed Engineering study' to ascertain further details of all intersections and treatment of the intersections shall be designed in accordance with the latest guidelines mentioned out in section-3 of the relevant Manual.
- (b) The cross road at the junctions which are having a level difference from the main carriageway, are to be improved at the level of main carriageway for the length of 30 metre and then to be merged with the cross road at the gradient not more than 1:50.
- (c) For minor / major layout for left-in / left out arrangement with physical islands with hazard marking. Where there is space constraint to provide physical islands, the effect of junction kept wide opened can be avoided by ghost island with marking.
- (d) Rumble Strips: -The cross road in junctions as mentioned above shall be provided with Rumble strips at the approach of junctions as per IRC: 99.

(ii) Grade separated intersections without ramps

Sl. No	Design Chainage (Km)	Salient features	Minimum length of viaduct to be provided	Road to be carried over/under the structure
NIL				

4. Road Embankment and cut section

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

- i. Widening and improvement of the existing road embankment/cuttings and construction of new road embankment/ cuttings shall conform to the Specifications and Standards given in Section 4 of the Manuals and the specified cross-sectional details. Deficiencies in the plan and profile of the existing road shall be corrected with approval of authority.

- ii. **Raising of the existing road**

The existing road shall be raised in the following sections:

Sl. No.	Design Chainage (Km)	Length (km)	Extent of raising [Top of finished road level]
As per design plan & profile			

- (iii) Notwithstanding anything to the contrary contained in this Agreement, the proposed profile of the project highway as indicated in the Annex-III of Schedule A shall be deemed to be part of this Schedule B and shall be treated as minimum requirement. Based on site/design requirement specified in Schedule-D, the Concessionaire shall design the alignment plans and profiles of the project highway within the available Right of Way.
- (iv) The side slopes shall not be steeper than 2H:1 V. In case, there is a ROW constraint then suitable soil retaining structures shall be provided.
- (v) For stability of slope upto 3 metre height the turfing can be adapted. For the slope from 3-6 metre suitable, geocell, geo-grid, geo-green etc. can be provided with suitable drainage chutes and suitable energy dissipaters as per IRC 56. For the slope more than 6 metre height, a complete slope stability analysis as per IRC:75 shall be done and the slopes shall be compulsory protected with stone pitching within stone masonry grid structure of 4x4 metre and suitable drains/chutes and energy dissipaters etc. shall be provided for effective drainage of the water.

5 Pavement Design

- (i) Pavement design shall be carried out in accordance with **Section-5 of the Manuals** specified in Schedule-D.
- (ii) **Type of pavement**
Flexible pavement shall be adopted for Project Highway, except at Toll Plaza locations, where Concrete Pavement is to be provided.
- (iii) **Design requirements**

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

a) **Design Period:**

Flexible pavement shall be designed for a minimum design period of 20 years.

Rigid pavement to be designed for a minimum design period of 30 years.

Stage construction shall not be permitted.

b) **Design Traffic (minimum):**

Notwithstanding anything to the contrary contained in this Agreement or the Manual, the Concessionaire shall design the pavement for minimum design traffic of shown below. In case the MSA is more than specified above at the time of traffic survey done by Concessionaire at the time of design of project highway, then the higher traffic will be adopted for design & No change of scope shall be claimed.

S.NO.	From (km)	To (km)	MSA	Remarks
1.	4+115	23+070/23+800	64	End of Padrauna bypass
2.	23+070/23+800	46+500	20	

c) **One Time improvement:** - One time improvement over existing road (over existing bituminous width) with bituminous overlay shall not be less than as mentioned in table below: –

Sl. No.	Design Chainage (Km)	Minimum length in km	Crust Composition	Remarks
1.	From km 0+000 to km 4+115	5.300	BC – 40mm, DBM – 50mm	On existing road
2.	From km 6+500 to km 7+000	0.500		On existing road in Banipul Village
3.	From km 13+620 to km 23+070/23+800	11.145		On existing road in Padrauna town.
4.	From km 46+500 to km 58+004	11.504		On existing road

(iv) **Re-construction/ Widening of stretches**

The following stretches of the existing road shall be partially reconstructed. These shall be designed as new pavement.

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Sl. No.	Design Chainage (Km)		Length (m)	Reference
	From	To		
1.	4+115	6+500	2385	TCS-6
2.	6+900	8+415	1515	TCS-6
3.	8+415	9+315	900	TCS-7
4.	9+315	11+915	2600	TCS-6
5.	11+915	12+915	1000	TCS-7
6.	12+915	13+620	705	TCS-6
7.	23+070/23+800	24+015	215	TCS-1A
8.	24+015	24+815	800	TCS-4
9.	24+815	26+000	1185	TCS-1
10.	26+000	26+500	500	TCS-2
11.	26+500	27+100	600	TCS-1
12.	27+100	27+800	700	TCS-2
13.	27+800	29+100	1300	TCS-1
14.	29+100	29+650	550	TCS-4
15.	29+650	30+150	500	TCS-4B
16.	30+150	30+500	350	TCS-2
17.	30+500	31+415	915	TCS-1
18.	31+415	32+815	1400	TCS-4A
19.	32+815	34+000	1185	TCS-4
20.	34+000	34+500	500	TCS-1
21.	34+500	36+090	1590	TCS-4A
22.	36+090	36+200	110	TCS-4
23.	36+200	37+600	1400	TCS-4B
24.	37+600	38+000	400	TCS-2
25.	38+000	38+700	700	TCS-1A
26.	38+700	39+000	300	TCS-2
27.	39+000	39+800	800	TCS-1A
28.	39+800	41+471	1671	TCS-2
29.	41+471	42+085	614	TCS-1
30.	42+085	42+669	584	TCS-3A
31.	42+685	43+013	328	TCS-3A
32.	43+013	43+065	052	TCS-1A
33.	43+065	43+615	550	TCS-3
34.	43+615	44+340	725	TCA-1A
35.	44+340	45+135	795	TCS-4
36.	45+135	46+500	1365	TCS-1
Total Length (m)			31789	

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Note: - (i) Waste Plastic in Hot Bituminous Mixes (Dry Process) in Wearing Courses has to be used by concessionaire as per IRC: SP:98 & MoRT&H circular: RW/NH 35083/02/2024-S&R (Computer no: -238879) dated 26th November 2024.

(ii) Use of Bitumen type & grade shall be in accordance with MoRT&H circular: RW/NH-35072/05/2018-S&R (P&B) (Computer no: -165688) dated 19th April 2024.

6 Road Side Drainage

Drainage system including surface and subsurface drains for the Project Highway shall be provided as per provisions of the relevant Manual & TCS. Footpath cum Drain shall be provided along the length of the Project Highway on both sides of Built-up areas as shown in Typical Cross Sections and as per detailed design of drainage system interconnecting all the drains with CD works for efficient function of drainage in the Project Highway. Details of location of Road side drains :

Sl. No.	Design Chainage (Km)		Length (m)	Remark
	From	To		
1.	8+415	9+315	900	TCS-7
2.	11+915	12+915	1000	TCS-7
3.	24+015	24+815	800	TCS-4
4.	26+000	26+500	500	TCS-2
5.	27+100	27+800	700	TCS-2
6.	29+100	29+650	550	TCS-4
7.	29+650	30+150	500	TCS-4B
8.	30+150	30+500	350	TCS-2
9.	31+415	32+815	1400	TCS-4A
10.	32+815	34+000	1185	TCS-4
11.	34+500	36+090	1590	TCS-4A
12.	36+090	36+200	110	TCS-4
13.	36+200	37+600	1400	TCS-4B
14.	37+600	38+000	400	TCS-2

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Sl. No.	Design Chainage (Km)		Length (m)	Remark
	From	To		
15.	38+700	39+000	300	TCS-2
16.	39+800	41+471	1671	TCS-2
17.	42+085	42+669	584	TCS-3A
18.	42+685	43+013	328	TCS-3A
19.	43+065	43+615	550	TCS-3
20.	44+340	45+135	795	TCS-4
	Total length...		15613 X 2 = 31226	

Note:

1. The drain chainages indicated above shall be as per cross sections drawings enclosed and conforming to Manual. In all built up areas, RCC drains cum Footpath shall be provided. Suitable crossing shall be provided at approaches to properties etc. invert levels of drains shall be decided on the basis of ground slopes of adjoining properties and open grounds. RCC cover over RCC drain shall be provided with locking arrangement in order to prevent cover from sliding into drain.

2. RCC covers on drains shall be designed for traffic load at the locations of access to properties.

3. The drains shall be taken up to nearest fall out as decided by the Authority/ Independent Engineer.

4. Earthen drains shall be provided in the entire length of project except in the locations where RCC drains/ lined drains are proposed

7 Design of structures

7.1 General

(a) All bridges, culverts and structures shall be designed and constructed in accordance with section 7 of the Manuals and shall conform to the cross- sectional features and other details specified therein.

(b) Special vehicle loading is to be considered in design of all bridges, culverts and

structures as per IRC 6: 2017.

- (c) Span arrangement of Major and Minor Bridge shall be designed by concessionaire on the basis of detailed surveys & investigations subject to minimum specified in GAD as per Para 7.3.2 of this schedule. Founding levels shall be decided after detailed Geo-Technical investigation, Waterway, road top level, soffit etc. shall be decided on the basis of land survey conforming to various codal provision applicable.

7.2 Culverts:

7.2.1 Overall width of all culverts shall be equal to the roadway width of the approaches.
(Circular => width of culvert)

7.2.2 Reconstruction of Existing Culverts:

The existing culverts at the following locations shall be re-constructed as new box culverts: 45 Nos.

Sl. No.	Design Chainage (Km)	Span/Opening (m)	Remarks, if any
1.	4+424	1x3x3	Box Culvert
2.	4+524	1x3x3	Box Culvert
3.	4+577	1x3x3	Box Culvert
4.	6+216	1x4x3	Box Culvert
5.	8+660	1x2x2	Box Culvert
6.	9+942	2x2x3	Box Culvert
7.	9+976	2x3x3	Box Culvert
8.	10+738	2x3x2	Box Culvert
9.	11+589	1x2x2	Box Culvert
10.	12+429	1x2x2	Box Culvert
11.	13+546	1x2x2	Box Culvert
12.	13+603	1x2x2	Box Culvert
13.	24+303	1x2x2	Box Culvert
14.	24+424	1x2x2	Box Culvert

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Sl. No.	Design Chainage (Km)	Span/Opening (m)	Remarks, if any
15.	24+787	1x2x2	Box Culvert
16.	25+033	1x2x2	Box Culvert
17.	25+270	1x2x2	Box Culvert
18.	26+909	1x4x3	Box Culvert
19.	27+275	1x3x2	Box Culvert
20.	27+936	1x2x2	Box Culvert
21.	28+143	1x2x2m	Box Culvert
22.	28+423	1x2x2m	Box Culvert
23.	29+598	1x2x2	Box Culvert
24.	30+336	2x3x2	Box Culvert
25.	31+468	1x2x2	Box Culvert
26.	31+780	1x2x2	Box Culvert
27.	32+155	1x2x2	Box Culvert
28.	32+587	1x2x2	Box Culvert
29.	32+918	1x2x2	Box Culvert
30.	33+447	1x3x3	Box Culvert
31.	34+344	1x2x2	Box Culvert
32.	36+305	1x2x2	Box Culvert
33.	37+147	1x2x2	Box Culvert
34.	37+356	1x2x2	Box Culvert
35.	37+766	1x3x3	Box Culvert
36.	38+324	2x3x3	Box Culvert
37.	38+368	2x3x3	Box Culvert
38.	38+929	1x3x2	Box Culvert

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Sl. No.	Design Chainage (Km)	Span/Opening (m)	Remarks, if any
39.	41+471	1x2x2	Box Culvert
40.	41+657	1x2x3	Box Culvert
41.	42+176	1x2x2	Box Culvert
42.	43+013	2x3x2	Box Culvert
43.	44+989	1x3x2	Box Culvert
44.	45+999	2x3x4	Box Culvert
45.	46+300	1x2x2	Box Culvert

7.2.3 Widening of existing culverts

All existing culverts which are not to be reconstructed shall be widened to the road way width of the Project Highway as per the typical cross section given in section 7 of the Manuals. Repairs and strengthening of existing structures where required shall be carried out.

Sl. No.	Design Chainage (Km)	Type, span, height and width of existing culvert(m)	Repairs to be carried out
Nil			

7.2.4 Additional new Box culverts shall be constructed as per particulars given in the table below: 12 Nos.

S.NO.	Design Chainage (Km)	Span/Opening (m)	Proposed Width (m)	Remarks
1.	6+874	2x3	2	Realignment
2.	13+900	1x5	5	Padrauna Bypass
3.	14+620	1x3	2	
4.	15+115	1x5	3	
5.	15+548	1x5	3	
6.	16+120	1x3	2.5	
7.	17+200	1x3	3	
8.	18+920	1x3	2.5	

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S.NO.	Design Chainage (Km)	Span/Opening (m)	Proposed Width (m)	Remarks
9.	19+730	1x3	3	
10.	20+100	1x2	2.5	
11.	21+484	1x3	2.5	
12.	22+470	1x2	2.5	

7.2.5 Replacement of Railing/Parapets, flooring and protection works of the existing culverts shall be undertaken as follows:

Sl. No.	Design Chainage (Km)	Type of repair required
1.	0+137	Replacement of railing by crash barrier & other rehabilitation works as per site requirement

7.2.6 Floor protection works shall be as specified in the relevant IRC Codes and specifications.

7.3 Bridges

7.3.1 Major Bridges

7.3.1.1 Repairs, Retain and strengthening of major bridges

Sr. No.	Design Chainage (Km)	Category	Span Arrangement (m)	Skew Angle (deg)	Structure Width (m)	Vertical Clearance (m)	Remark
Nil							

7.3.1.2 Reconstruction of Existing Major Bridges

Sr. No.	Design Chainage (Km)	Category	Span Arrangement (m)	Skew Angle (deg)	Structure Width (m)	Vertical Clearance (m)	Remark
Nil							

7.3.1.3 Construction of Additional New Major Bridges on Main Carriageway (Over

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River/Streams/Nallah/Pond)

Sr. No.	Design Chainage (Km)	Category	Span Arrangement (m)	Skew Angle (deg)	Structure Width (m)	Vertical Clearance (m)	Remark
1.	19+340	Major bridge	11x30+1x60=390	0	(2 x 17) + (3 median)	5.5	Major bridge on Gandak Nahar at Padrauna bypass

7.4 Minor Bridges

7.4.1 Repair/Rehabilitation of Existing Minor Bridges

Sr. No.	Design Chainage (Km)	Existing Span arrangements (m)	Proposed Structure		
			Existing Bridges (No. X Span)	New Bridge (No. Span)	Remarks
1.	0+137	1x30	1x30	1x30	1. Replacement of railing by crash barrier. 2. Rehabilitation of entire structure should be done. 3. All protection works. 4. Drainage system for bridge deck.

7.4.2 Reconstruction of Existing Minor Bridges

Sr. No.	Design Chainage (Km)	Existing Span arrangements (m)	Proposed Structure		
			Existing Bridges (No. X Span)	New Bridge (No. Span)	Remarks
1.	27+039	2.6	1 x 2.6	2 x 4	Reconstruction
2.	36+094	5.7	1 x 5.7	1 x 8	Reconstruction
3.	42+677	15	5 x 2.5	2 x 8	Reconstruction

7.4.3 Construction of Additional New Minor Bridges on Main Carriageway (Over River/Streams/Nallah/Pond)

Sr. No.	Design Chainage (Km)	Existing Span arrangements (m)	Proposed Structure		
			Existing Bridges (No. X Span)	New Bridge (No. Span)	Remarks
1.	6+730	24	3 x 8	3 x 8	New 4 lane bridge proposed on realignment
2.	16+760	-	-	1x15	Minor bridge proposed
3.	17+690	-	-	1x12	Minor bridge proposed
4.	18+520	-	-	1x8	Minor Bridge proposed

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sr. No.	Design Chainage (Km)	Existing Span arrangements (m)	Proposed Structure		
			Existing Bridges (No. X Span)	New Bridge (No. Span)	Remarks
5.	20+810	-	-	1x15	Minor bridge proposed

7.5 Drainage system for bridge decks

An effective drainage system for bridge decks shall be provided as specified in paragraph 7.20 of the relevant Manual. The arrangement at shall take away the runoff water away from the super structure and sub-structure to avoid corrosion.

3.6 Rail- Road Bridges

3.6.1 Design, construction and detailing of ROB/RUB shall be as specified in section 7 of the Manuals and as per approval accorded by Railway authorities.

7.7.2 Road Over-Bridges (Six lane RoB)

Road over-bridges (road over rail) shall be provided at the following level crossings as per GAD drawings attached:

Sl. No.	Design Chainage (Km)	Nos. x Span length (m)	Remarks
1.	21+990	1 x 18 (viaduct) + 1 x 46 (Railway span) + 1 x 18 (viaduct)	18.0m Viaduct on both side of Railway span.(Clear span 42m)

Note:

- ☐ ROB shall be designed, constructed and maintained as per the requirement of the Railway Authority. The plans and design shall be prepared in consultation with the concerned Railway Authority.
- ☐ Gradients of the approaches shall conform to the provisions specified in the relevant manuals.

7.7.3 Road under-Bridges

Road under-bridges (road under railway line) shall be provided at the following level crossings, as per GAD drawings attached:

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Sl. No.	Location of Level crossings Design Chainage (Km)	Number and length of Span (m)
1.	21+990 (Near LC No-74-C)	Approach road length = 150+260=410m Low height subway =3.6x5.5m

7.8 Grade separated structures

The grade separated structures shall be provided at the locations and of the type and length specified in table below: -

Sl. No.	Design Chainage (Km)	Number, length of spans (m)	Remarks, If any
1.	20+660	2 X 30	Grade separator (VUP) with slip road

7.9 List of Major Bridges, Minor bridge & RoB

The following is the list of the Major Bridges, Minor bridge & RoB

Sl. no.	Design Chainage (Km)	Type
1	6+730	Minor Bridge
2	16+760	Minor Bridge
3	17+690	Minor Bridge
4	18+520	Minor Bridge
5	19+340	Major Bridge
6	20+660	Grade Separator
7	20+810	Minor Bridge
8	21+990	ROB
9	21+990	Low height subway
10	27+039	Minor Bridge
11	36+094	Minor Bridge
12	42+677	Minor Bridge

8. TRAFFIC CONTROL DEVICES AND ROAD SAFETY WORKS

8.1 Traffic control devices and road safety works shall be provided along the project

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

corridor in accordance with relevant section of the Manuals specified in Schedule-D.

8.2 Traffic Signs: Traffic Signs include roadside signage, overhead signs and curb mounted signs along the entire project highway.

8.3 Pavement Marking: Pavement marking shall cover road marking for the entire project highway as per Manuals and relevant IRC codes.

8.4 Safety Barrier: Metal Beam crash barrier shall be provided along the project highway at the locations as given in relevant Manual and this Schedule. RCC M-40 crash barrier shall be provided as given in GADs of structures and on RE/ retaining wall.

9. ROADSIDE FURNITURE

9.1 Roadside furniture shall be provided in accordance with the provisions of relevant section.

9.2 Overhead traffic signs shall be provided in accordance with the provisions of relevant sections of the Manuals and relevant IRC codes.

10. Compulsory Afforestation

Compulsory afforestation should be provided as per Section 11 of the manual. Minimum 23,041 Nos. of trees with MS tree guard 60 cm dia and 2 metre high above ground level formed of including painting two coats with paint of approved brand over a coat of priming, complete in all respects shall be planted all along the project highway. The species of the trees shall be finalized in consultation with authority. The planted trees shall be maintained for five years from completion date.

11. Hazardous Locations

The safety barriers shall be provided at the hazardous locations as per section 9 of the Manual.

12. Special Requirement for Hill Roads: Nil

13. Change of Scope

The length of Structures, RE wall and bridges specified hereinabove shall be treated as an approximate assessment. The actual lengths as required on the basis of detailed investigations shall be determined by the Contractor in accordance with the Specifications and Standards. Any variations in the lengths specified in this Schedule-B shall not constitute a Change of Scope, save and except any variations in the length arising out of a Change of Scope expressly undertaken in accordance

with the provisions of Article 16.

15. Rain water Harvesting

As per Ministry of Environment and Forests Notification, New Delhi dated 14.01.1997 (as amended on 13.01.1998, 05.01.1999 & 6.11.2000), the construction of Rain water harvesting structure is mandatory in and around Water Crisis area, notified by the Central Ground Water Board. The rain water harvesting structures shall be provided at a spacing of 500m staggered on either side as per IRC SP: 42-2014 and IRC SP-50:1999.

15. Utility Service Duct/Corridor: -

Utility Corridor at end of ROW shall be provided as per Clause 2.15 & 2.16 of relevant Manual on both side along the highway.

Concessionaire shall provide the utility ducts in the form of 600 mm diameter NP-4 Pipe across the Project Highway along with inspection box/chamber at a spacing of 0.50 km along the project highway.

16. Utility shifting

Shifting of obstructing utilities shall be done as mentioned in Annexure V schedule A, the quantity of existing utilities has been verified by the concerned department at site and the same has been mentioned here in schedule A, any changes in quantity of any type of existing utility during execution shall not be treated as Change of Scope. The Concessionaire/Concessionaire shall be responsible for getting the utilities shifted as per approval of the concerned utility department. The assistance of the Authority is limited to giving a forwarding letter on the proposal of Concessionaire/Concessionaire to the utility owning department whenever asked by the Concessionaire/Concessionaire. The decision/approval of the utility owning department shall be binding on the Concessionaire. Further deposition of supervision charges will also be the responsibility of authority.

17. Black Spot Location

The stretch under project scope includes 05 nos. of Black spots, these locations have to be rectified during construction of project road,

The black spot location is mentioned below: -

Sl. No.	Black Spot Location	Km. (Existing / Design chainage)
----------------	----------------------------	---

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

1.	Sakhopar	9.000 (Design chainage)
2.	Arjunha FCI Godam	11.000 (Design chainage)
3.	Janki Nagar Chauraha to Petrol Pump	12.000 (Design chainage)
4.	Bawli Chowk	21.500 (Existing chainage)
5.	Naurangiya	38.000 (Design chainage)

Note: - (i) These locations shall be rectified through providing cautionary signs, rumble strips, solar blinkers, and transverse bar markings, road studs, delineators, traffic warning signs, humps at approach roads, bar markings, Pedestrian facilities including zebra crossings with advance warning signs.

18. Maintenance of existing road & Road safety during construction

The contractor shall maintain existing road as free of pot holes & repair of patchworks during entire period of construction.

All precaution shall be taken for road user safety & Safety of works as per manual such as Bollard, tapes etc. has to be maintained by the Concessionaire compulsory at side

19. Others:

(i) Mandatory Use of Precast Concrete Components shall be done in accordance with Ministry's Circular no. RW/NH-34049/ 01/2020-S&R (B) (Computer No. - 1 82692) dated 24.06.2025.

(ii) Use of Reinforced Soil wall to be done as per ministry's circular RW/NH-35083/05/2021-S&R (P&B) Computer no (192770) dated 16th March 2026 and IS 18591-2024.

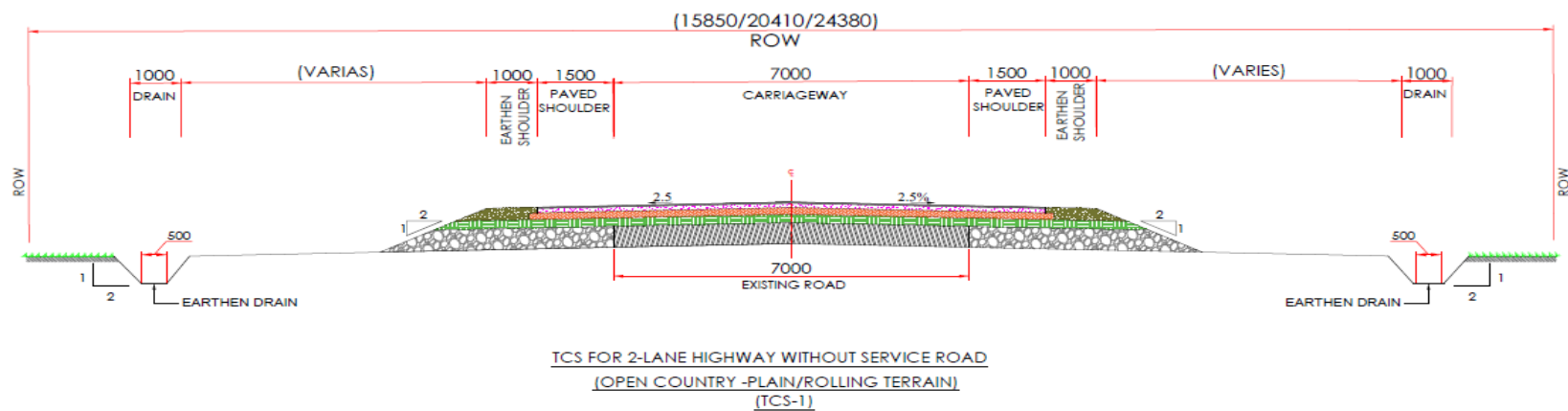
(iii) NSV to be carried out as per Ministry's circular no RW/NH-33044/32/2019-S&R(P&B) dated 13.11.2019.

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Appendix B-I

The construction shall be carried out as per typical cross section mentioned below: -

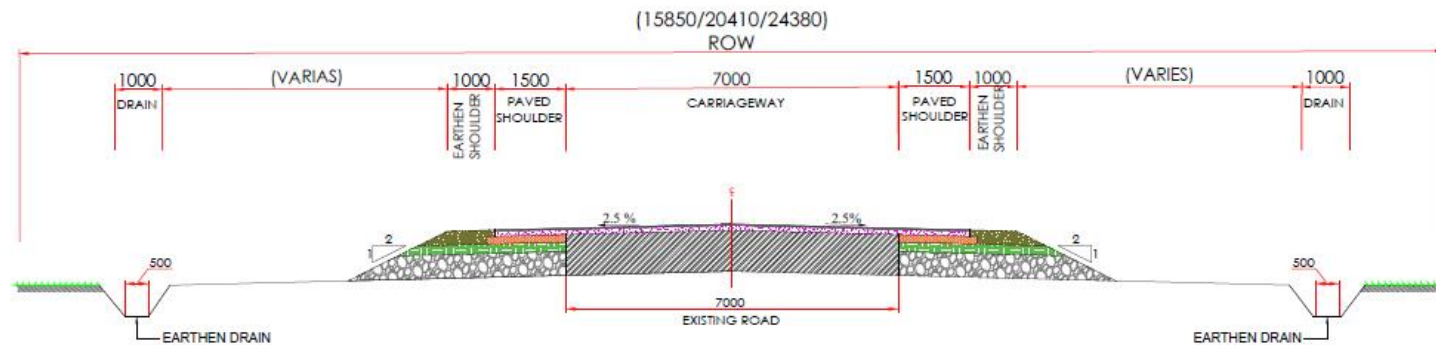
Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh



S.No	From (km)	To (km)	Length (m)	Type
1	24+815	26+000	1185	TCS - 1
2	26+500	27+100	600	TCS - 1
3	27+800	29+100	1300	TCS - 1
4	30+500	31+415	915	TCS - 1
5	34+000	34+500	500	TCS - 1
6	41+471	42+085	614	TCS - 1
7	45+135	46+500	1365	TCS - 1
Total			6479	

 MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWiL Limited Ground Floor, 1st Floor, 2nd Floor, Office No. 2, Plot No. 1, Sector-45, New Delhi, New Building 400010 Phone: 011-2770 2080 / 88 / 81, Fax: 011-2770 2094	PROJECT: Consulting Services for Feasibility Study of Detailed Project Report for improvement and upgradation of newly declared National Highway including widening from 7.5 m to 23.5 m to the state of Uttar Pradesh (HAM) basis) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh	Prepared by: M.S. Bhat Checked by: Akshay Kumar Singh Approved by: Pardeep Singh Revisions: <table><thead><tr><th>No.</th><th>Date</th><th>Description</th></tr></thead><tbody><tr><td>01</td><td>May, 2023</td><td>FINAL FEASIBILITY PROJECT REPORT</td></tr></tbody></table>	No.	Date	Description	01	May, 2023	FINAL FEASIBILITY PROJECT REPORT	DRAWING TITLE:-TYPICAL CROSS SECTION DRAWING No:-KN-D-FDR-HWY-TCS-02 SCALE: 1:50 @ (A2) SHEET: 01 OF 26 REV: 04
	No.	Date	Description							
01	May, 2023	FINAL FEASIBILITY PROJECT REPORT								

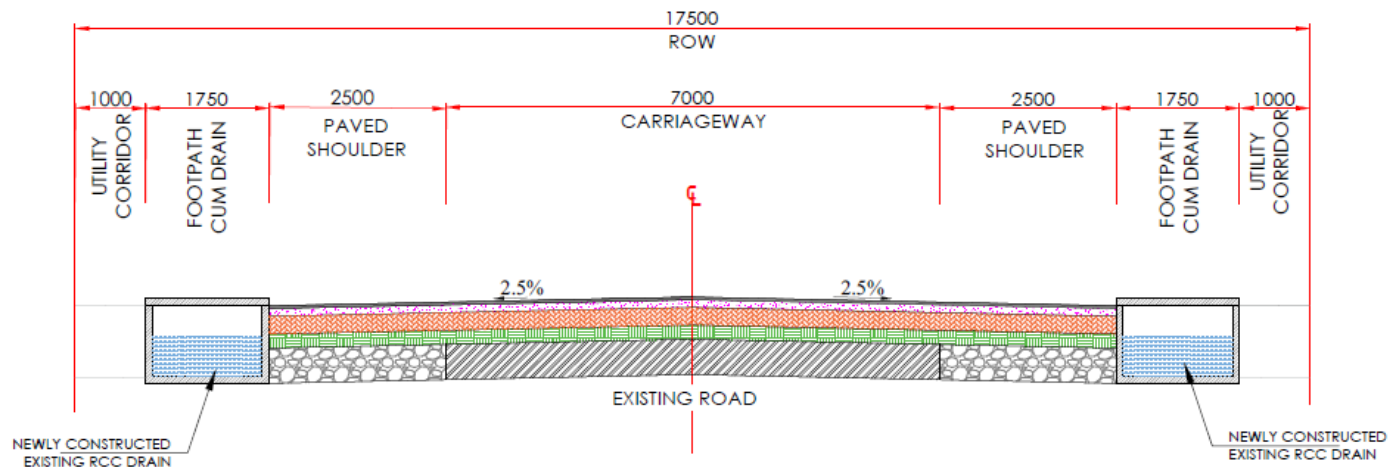
Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh



TCS FOR 2-LANE HIGHWAY WITHOUT SERVICE ROAD(OVERLAY)
(OPEN COUNTRY -PLAIN/ROLLING TERRAIN)
(TCS-1A)

S.No	From (km)	To (km)	Length (m)	Type
1	23+800	24+015	215	TCS - 1A
2	38+000	38+700	700	TCS - 1A
3	39+000	39+800	800	TCS - 1A
4	43+013	43+065	052	TCS - 1A
5	43+615	44+340	725	TCS - 1A
Total			2492	

CLIENT:  MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWIL Limited Souheil Avenue, 1st Floor, 1st Wing, Office No. 1, Plot No. 1, Sector 46, Noida (Uttar Pradesh), India. Telephone: 0120-2770-2559, Fax: 0120-2770-2558	PROJECT: Consultancy Services for Feasibility Study of Detailed Project Report for Improvement and upgradation of newly declared National Highways including existing NH-27 & NH-203 in the state of Uttar Pradesh (UP) (Chhapra-Dumraon-Chhapra-Dumraon Road-NH-203 (B) Chhapra-Dumraon-Chhapra-Dumraon Road-NH-203 (B) Chhapra-Dumraon-Chhapra-Dumraon Road-NH-203 (B) and Length 110.42 Km)	Prepared by: M.S. Shah	Reviewed by: RA	Date: May, 2023	Description: FINAL FEASIBILITY PROJECT REPORT	DRAWING TITLE:- TYPICAL CROSS SECTION	
			Designed by: Gajendra Kumar	Checked by: Anil Kumar Singh	Approved by: Pankaj Vora	DRAWING No:- KH-D_FOFR_Hwy_TC8-02	SCALE: 1:50 @ (A2)	SHEET: 02 OF 25 REV: RA

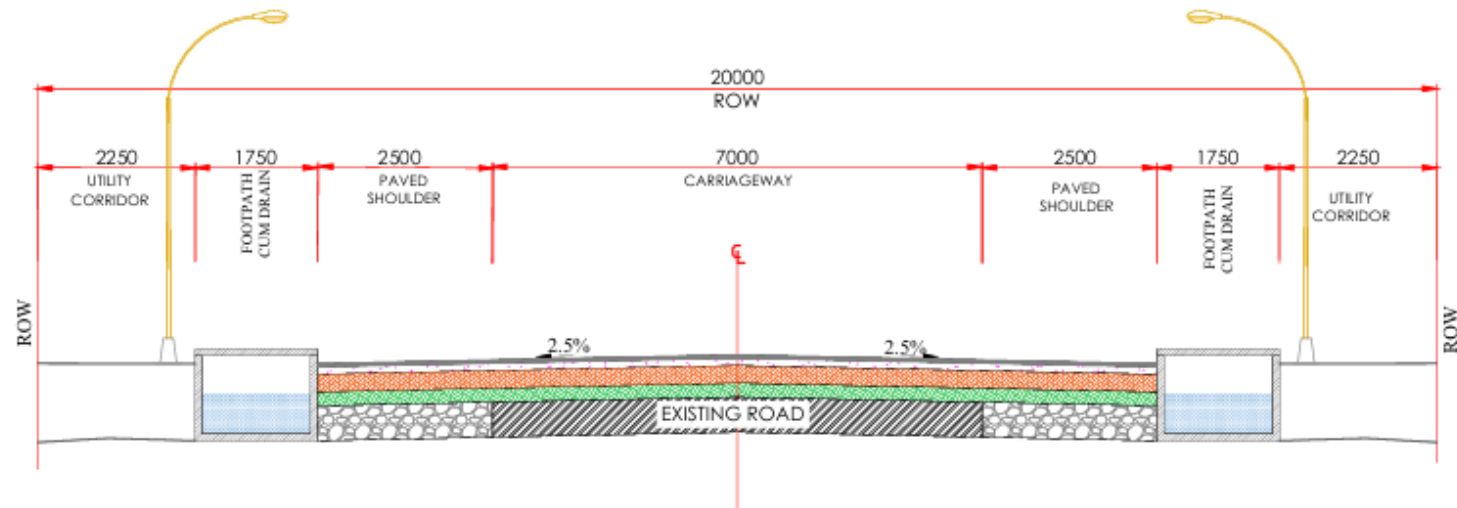


TCS FOR 2-LANE HIGHWAY WITHOUT SERVICE ROAD
(BUILTUP AREA -PLAIN/ROLLING TERRAIN)
(TCS-2)

S.No	From (km)	To (km)	Length (m)	Type
1	26+000	26+500	500	TCS - 2
2	27+100	27+800	700	TCS - 2
3	30+150	30+500	350	TCS - 2
4	37+600	38+000	400	TCS - 2
5	38+700	39+000	300	TCS - 2
6	39+800	41+471	1671	TCS - 2
Total			3921	

 MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWIL Limited Ground Floor, Plot No. 1, 1st Floor, Office No. 2, Plot No. 1, Sector-46, Noida (Uttar Pradesh), India. Mobile: 9810010000, 9810010001, Fax: 0522-27710209	PROJECT: Consultancy Services for Feasibility Study of Detailed Project Report for Improvement and upgradation of newly declared National Highways including existing NH-27 & NH-203 in the state of Uttar Pradesh (U.P.) (Chennai-Belgaum-Chandigarh-Kashmir) Road-III-2020 (S) Ghazipur-Jamunaganj-Durgam Road-III-147 and Length 116.43 Km.]	Designed by	M.S. Bhat	Reviewed by	RA	May	2023	Description FINAL FEASIBILITY PROJECT REPORT	DRAWING TITLE:- TYPICAL CROSS SECTION	
			Prepared by	Gulab Parveen	Checked by	Anil Kumar Singh					
			Approved by	Pardeep Verma							
DRAWING No:- KN-0_FOPR_Hwy_TCS-02										SHEET 03 OF 26	
SCALE: 1:50 @ (A2)										DATE: May 2023	REV: RA

time



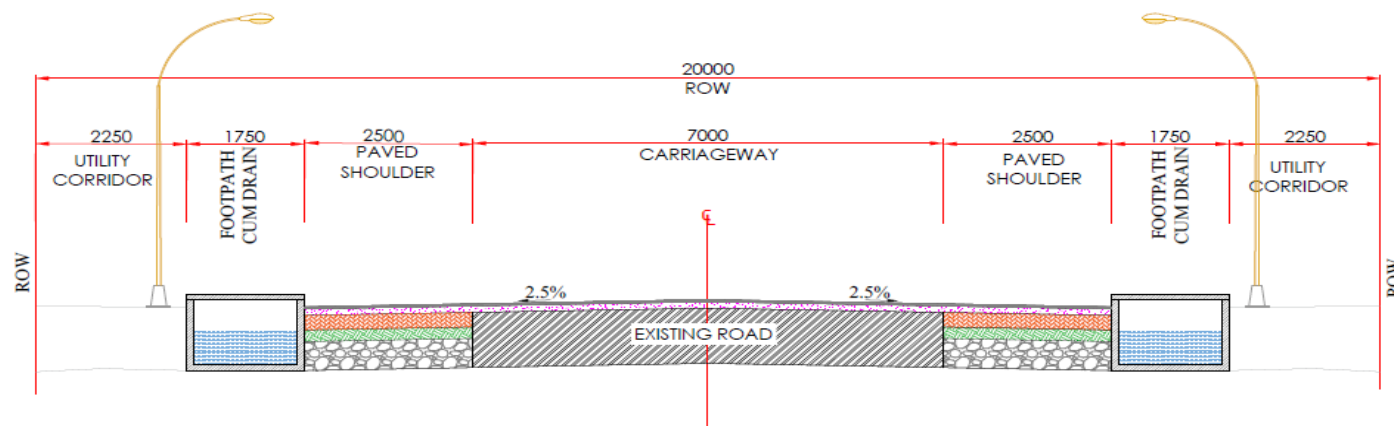
TCS FOR 2-LANE HIGHWAY WITHOUT SERVICE ROAD
(BUILTUP AREA -PLAIN/ROLLING TERRAIN)
(TCS-3)

S.No	From (km)	To (km)	Length (m)	Type
1	43+065	43+615	550	TCS - 3
Total			550	

CLIENT: MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWIL Limited Consultancy Services for Feasibility Study of Orissa Road Project Report for improvement and upgradation of existing Orissa National Highway including existing NH-167 & NH-208 in the state of Odisha, India. (Bharat) (C) Orissa Road Transport & Highways Road No. 10, 208 (1) Orissa Road Transport & Highways Road No. 10, 208 (1)	PROJECT: Consultancy Services for Feasibility Study of Orissa Road Project Report for improvement and upgradation of existing Orissa National Highway including existing NH-167 & NH-208 in the state of Odisha, India. (Bharat) (C) Orissa Road Transport & Highways Road No. 10, 208 (1) Orissa Road Transport & Highways Road No. 10, 208 (1)	Prepared by: M. S. Bhowmik Checked by: G. K. S. Bhowmik Approved by: Arun Kumar Das Project No:	Project No: 10, 208 (1) Date: May 2021 Scale: 1:500 (A2)	DRAWING TITLE:- TYPICAL CROSS SECTION DRAWING No:- NH-D_FDR_Hwy_TCS-02 SCALE: 1:50 (A2)	DATE: May 2021 REV: 01 OF 21

time

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

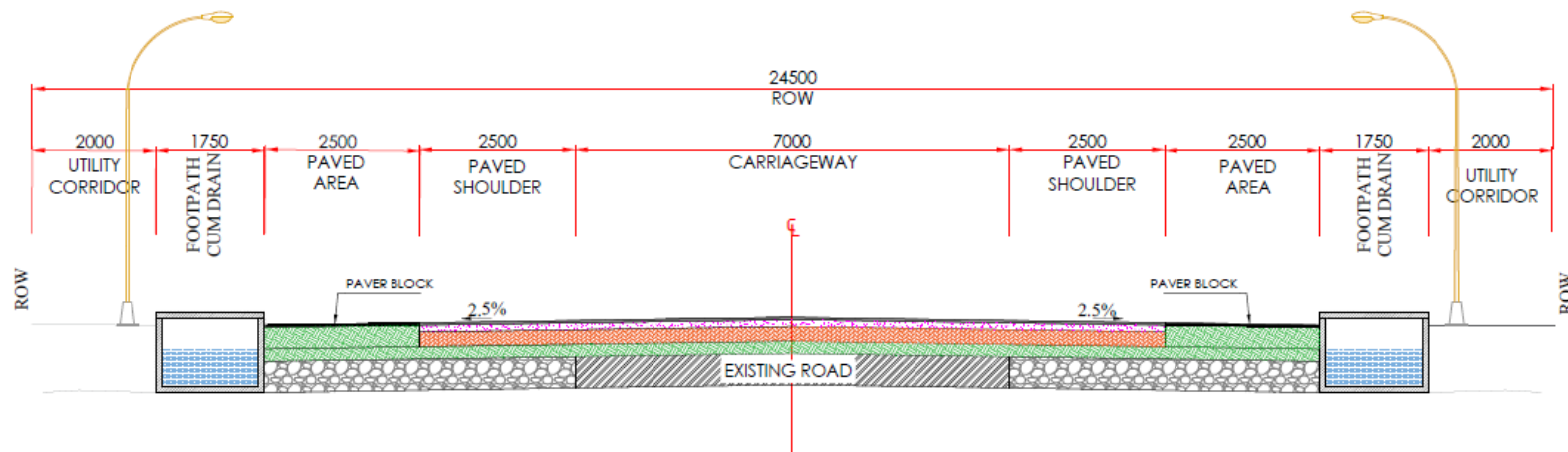


TCS FOR 2-LANE HIGHWAY WITHOUT SERVICE ROAD
(BUILTUP AREA -PLAIN/ROLLING TERRAIN)
(TCS-3A)

S.No	From (km)	To (km)	Length (m)	Type
1	42+085	42+669	584	TCS - 3A
2	42+685	43+013	328	TCS - 3A
Total			912	

CLIENT: MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWIL Limited Ground Floor, Sector 17, Plot No. 17, Phase 1, Gurgaon, Haryana - 122001 Phone: 0122-2771200, 2771201, Fax: 0122-2771202	PROJECT: Consultancy Services for Feasibility Study of Detailed Project Report for Improvement and Upgradation of newly declared National Highways including widening NH-27 & NH-203 in the state of Uttar Pradesh (U.P.) (Detailed II) Chhapra-Bahar-Chhapra-Lalitpur Road (NH-203) [S] Ghatapuri-Jamunsiya-Gajpur Road (NH-147) and Length 110.43 Km.	Prepared by: M.S. Bhat Reviewed by: RA Date: May, 2023	Description: FINAL FEASIBILITY PROJECT REPORT	DRAWING TITLE:- TYPICAL CROSS SECTION
			Designed by: Gulab Prasad Checked by: Anil Kumar Bag Approved by: Parag Vora	DRAWING No:- KNH-FDPR-HWY-TCS-02 SCALE: 1:50 @ (A2)	DATE: May 2023 REV: RA SHEET: 05 OF 25

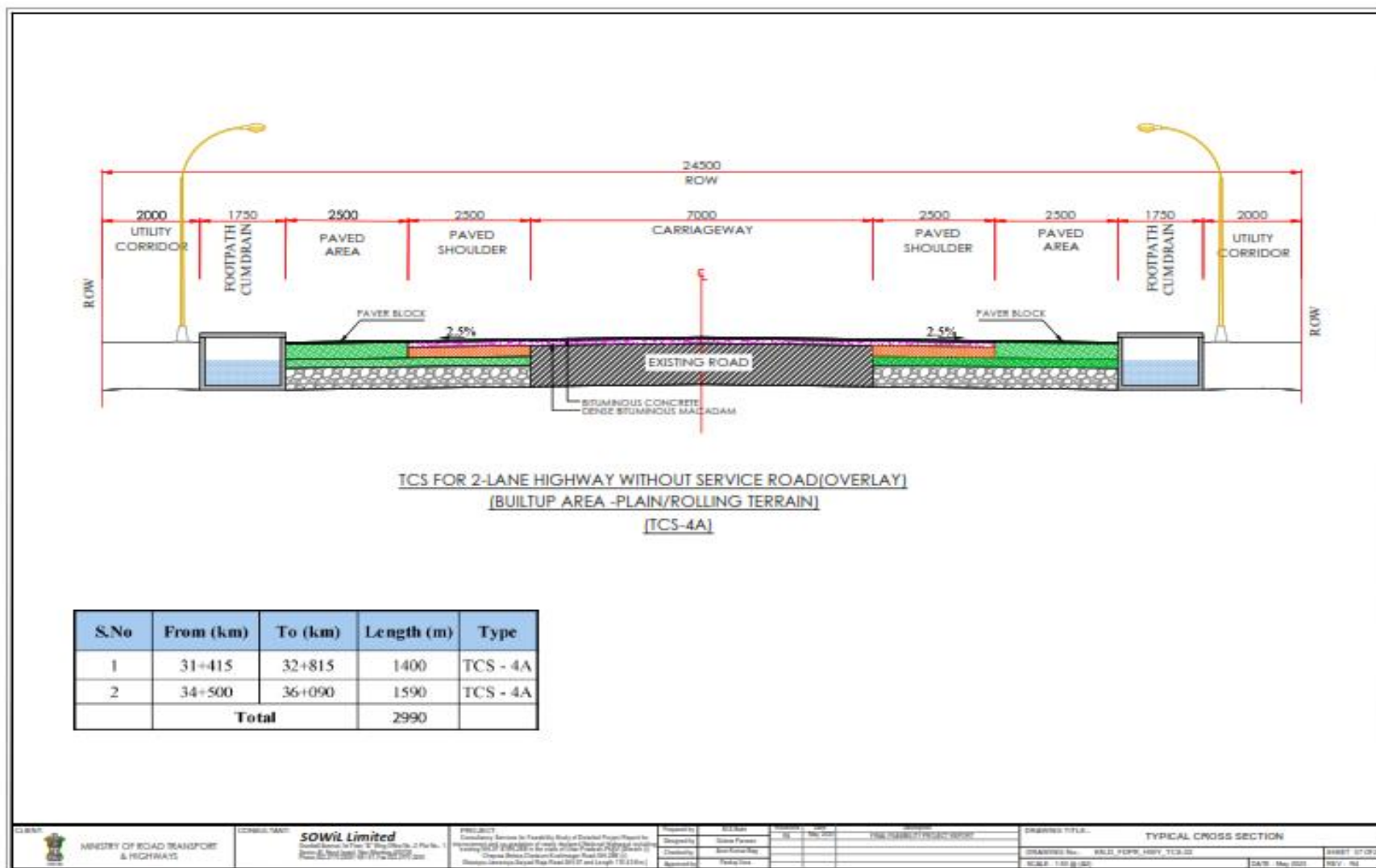
Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh



TCS FOR 2-LANE HIGHWAY WITHOUT SERVICE ROAD
(BUILTUP AREA -PLAIN/ROLLING TERRAIN)
(TCS-4)

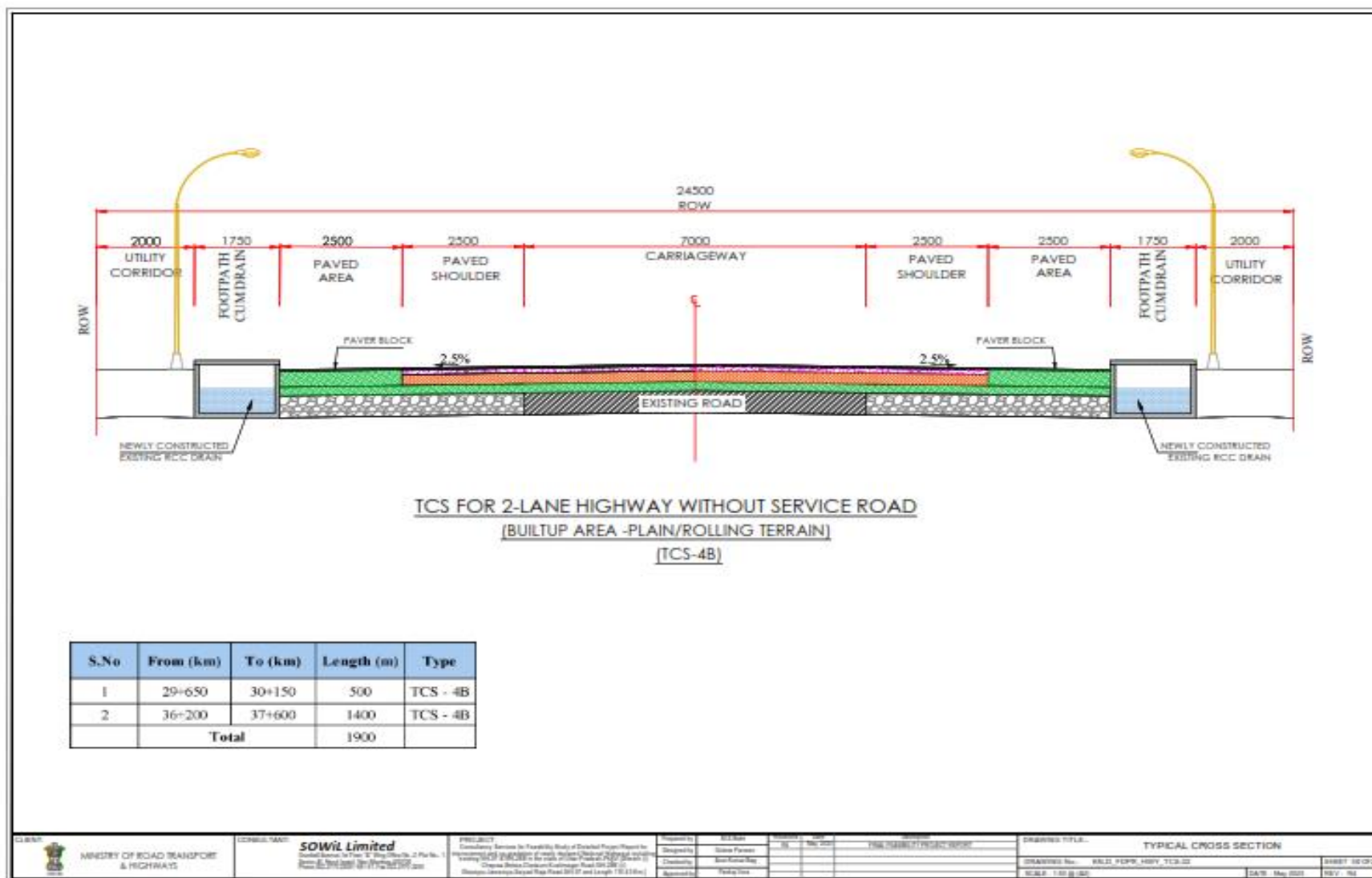
S.No	From (km)	To (km)	Length (m)	Type
1	24+015	24+815	800	TCS - 4
2	29+100	29+650	550	TCS - 4
3	32+815	34+000	1185	TCS - 4
4	36+090	36+200	110	TCS - 4
5	44+340	45+135	795	TCS - 4
Total			3440	

CLIENT: MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWIL Limited Goshal Avenue 1st Floor, 10 Wing Office No.-2, Plot No.-1, Sector-45, Noida (Uttar Pradesh), India. Mobile: 9810271025 Phone: 0120-2771025 / 88 / 91, Fax: 0120-27710259	PROJECT: Consultancy Services for Feasibility Study of Detailed Project Report for improvement and up-gradation of newly declared National Highways including existing NH-47 & NH-203 in the state of Uttar Pradesh-Part II (Stretch II) Chhapra-Bihar-Chauran-Luxmiganj Road-NH-203 (II) Ghazipur-Jamunghar-Gajay Road-NH-47 and Length 110.43 Km.	Prepared by: M.S. Shah Designed by: Gulab Parmar Checked by: Anur Kumar Bag Approved by: Parag Vora	Revision: R4 Date: May, 2023	Description: FINAL FEASIBILITY PROJECT REPORT	DRAWING TITLE:- TYPICAL CROSS SECTION
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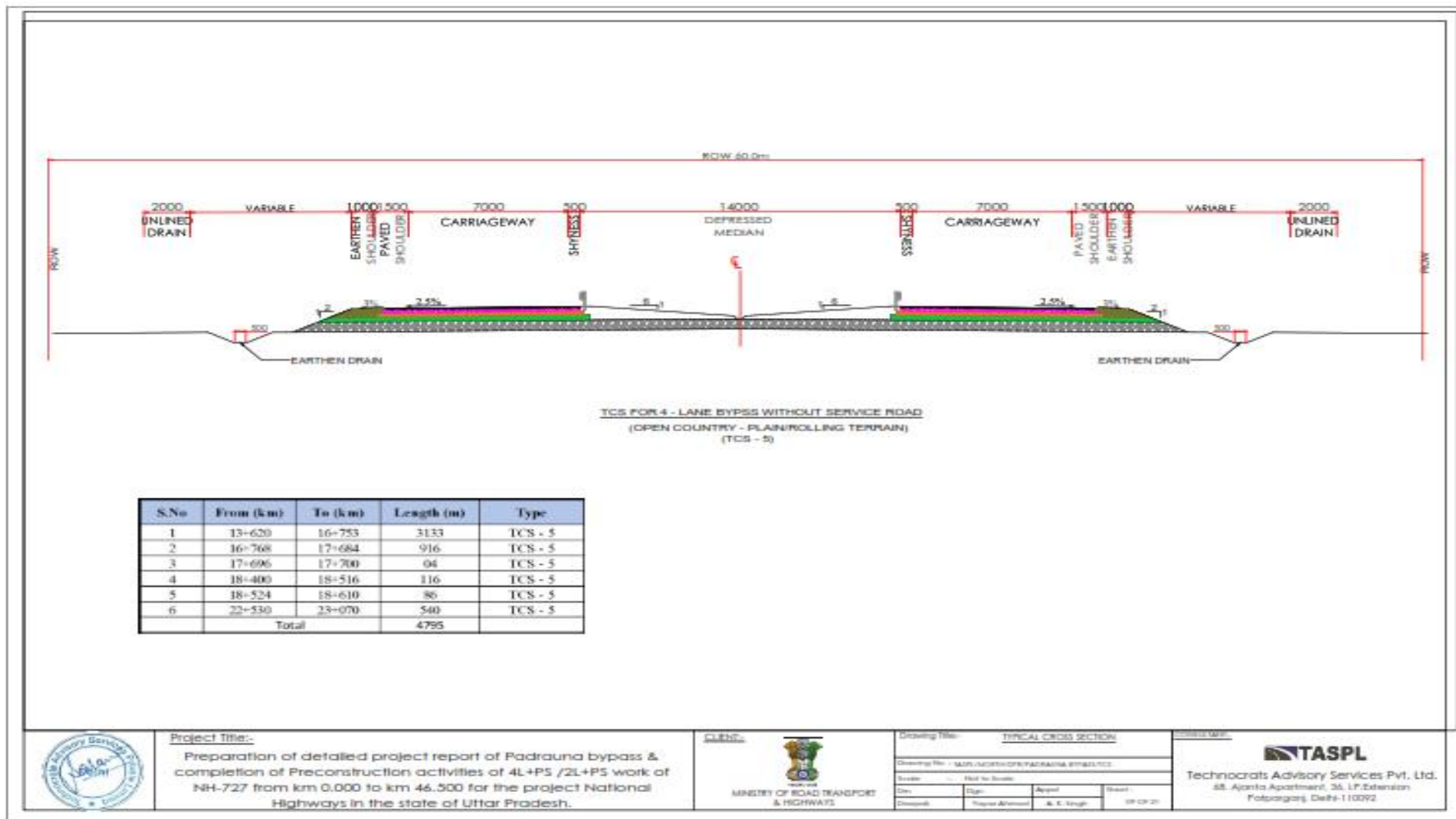


Construction of Four Lining of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

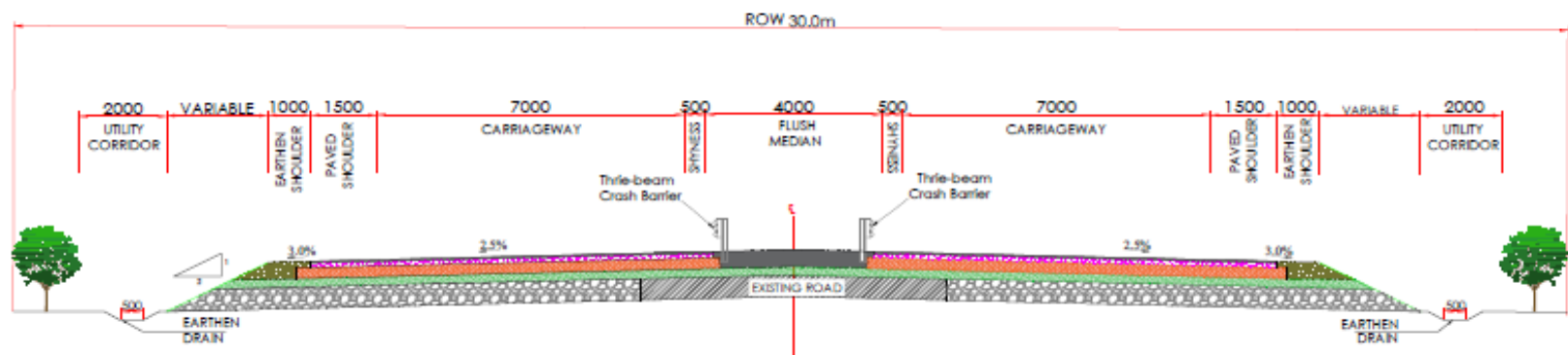
Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh



Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh



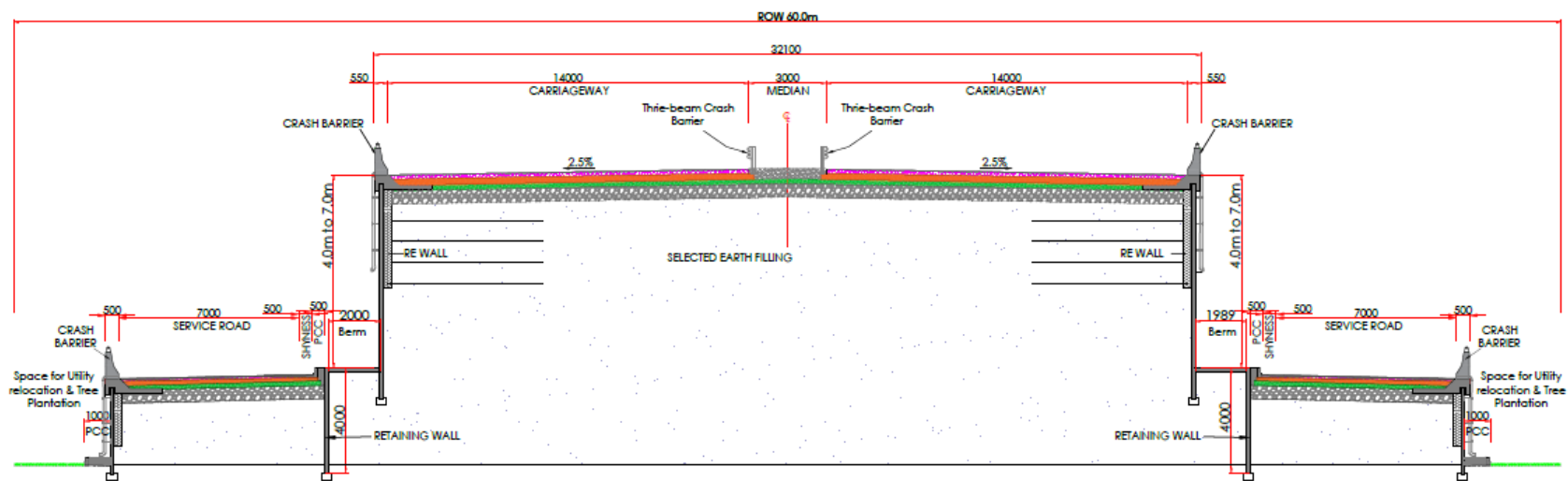
Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh



TCS FOR 4 - LANE HIGHWAY WITHOUT SERVICE ROAD WITH FLUSH MEDIAN
(OPEN COUNTRY - PLAIN/ROLLING TERRAIN)
(TCS - 6)

S.No	From (km)	To (km)	Length(m)	Type
1	4+115	6+500	2385	TCS - 6
2	6+900	8+415	1515	TCS - 6
3	9+315	11+915	2600	TCS - 6
4	12+915	13+620	705	TCS - 6
Total			7205	

CLIENT: MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWIL Limited General Office: Plot No. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 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RE WALL CONFIGURATION (WHERE HEIGHT OF FRL-OGL IS MORE THAN 7.0m)



Project Title:-

Preparation of detailed project report of Padrauna bypass & completion of Preconstruction activities of 4L+PS /2L+PS work of NH-727 from km 0.000 to km 46.500 for the project National Highways in the state of Uttar Pradesh.

CLIENT:-



Drawing Title:-

TYPICAL CROSS SECTION

Drawing No. :TASPL/MORTH/DP/PADRAUNA BYPASS/TCS

Scale : Not to Scale

Drn

Dgn.

Appd

Sheet

Deepak

Fayaz Ahmad

A. K. Singh

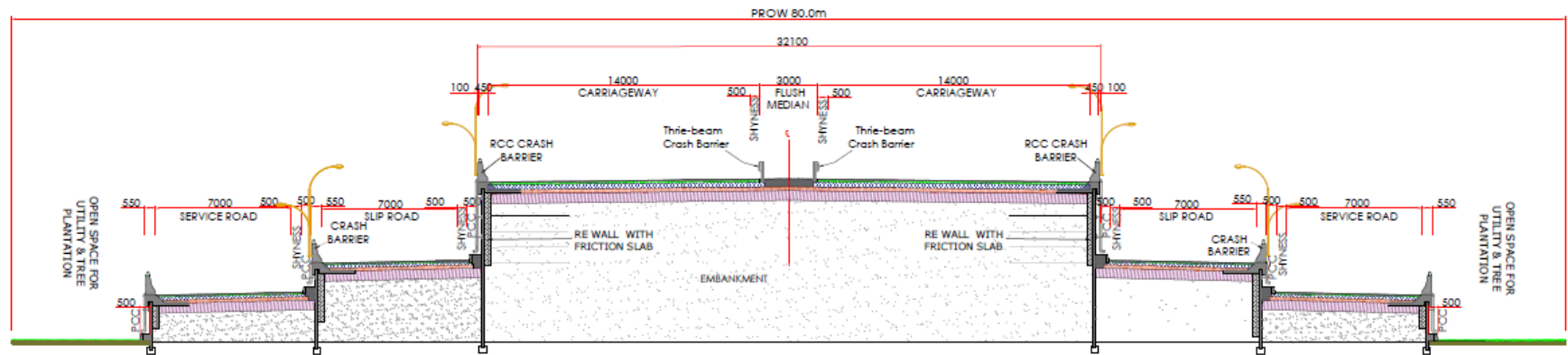
13 of 25

CONSULTANT:-



Technocrats Advisory Services Pvt. Ltd.
68, Ajanta Apartment, 36, I.P. Extension
Patparganj, Delhi-110092

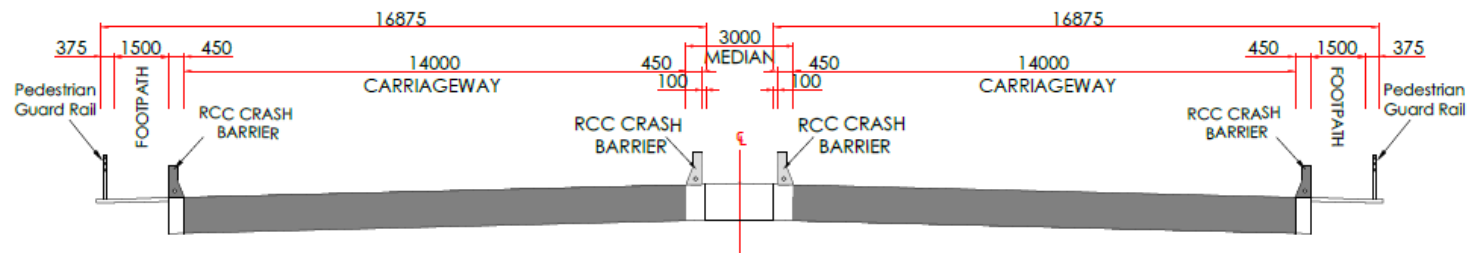
time



**TCS OF 6-LANE GRADE SEPARATED STRUCTURE & ELEVATED SECTION WITH
SLIP ROAD & SERVICE ROAD (RE WALL SECTION)
(TCS - 8A)**

S.No	From(km)	To (km)	Length (m)	Type
1	20+180	20+440	220	TCS-8A
Total			220	

 MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWil Limited Goodwill Avenue, 1st Floor, 4th Wing Office No.-2, Plot No.-1, Sector-4B, Vardh (West), Near Muramba, 430108 Ph:022-27712287, 22867186, 27712259, Fax:022-27712259	PROJECT: Consultancy Services for Feasibility Study of Detailed Project Report for Improvement and upgradation of newly declared National Highways including existing NH-47 & NH-228 in the state of Uttar Pradesh (Stretch II) Chhapra-Dumrao-Chhapra-Bhithar Road (NH-228 (II)) Ghatpur-Jamunja-Sajid Raja Road-NH-47 and Length 116.43 Km.	Prepared by: M.S. Bhat	Reviewed by: S.R.	Date: May 2023	Description: FINAL FEASIBILITY PROJECT REPORT	DRAWING TITLE:- TYPICAL CROSS SECTION
			Designed by: Gulshara Khan	Checked by: Anil Kumar Bag	Approved by: Parag Vora	DRAWING No:- KN-O_FDR_HWY_TCS-02	SHEET 14 OF 25
						SCALE: 1:50 @ (A2)	DATE: May 2023



TYPICAL CROSS SECTION FOR SIX LANE BRIDGE AND ROB
(Between Km.13+600 to Km.23+000)

(TCS-11)

IRC SP 84-2019-Fig-7.3 Page No-68
& MORT&H Circular Dated 06-02-2023



Project Title:-

Preparation of detailed project report of Padrauna bypass & completion of Preconstruction activities of 4L+PS /2L+PS work of NH-727 from km 0.000 to km 46.500 for the project National Highways in the state of Uttar Pradesh.

CLIENT:-



Drawing Title:-

TYPICAL CROSS SECTION

Drawing No. >TASPL/MORTH/DPR/PADRAUNA BYPASS/TCS

Scale > Not to Scale

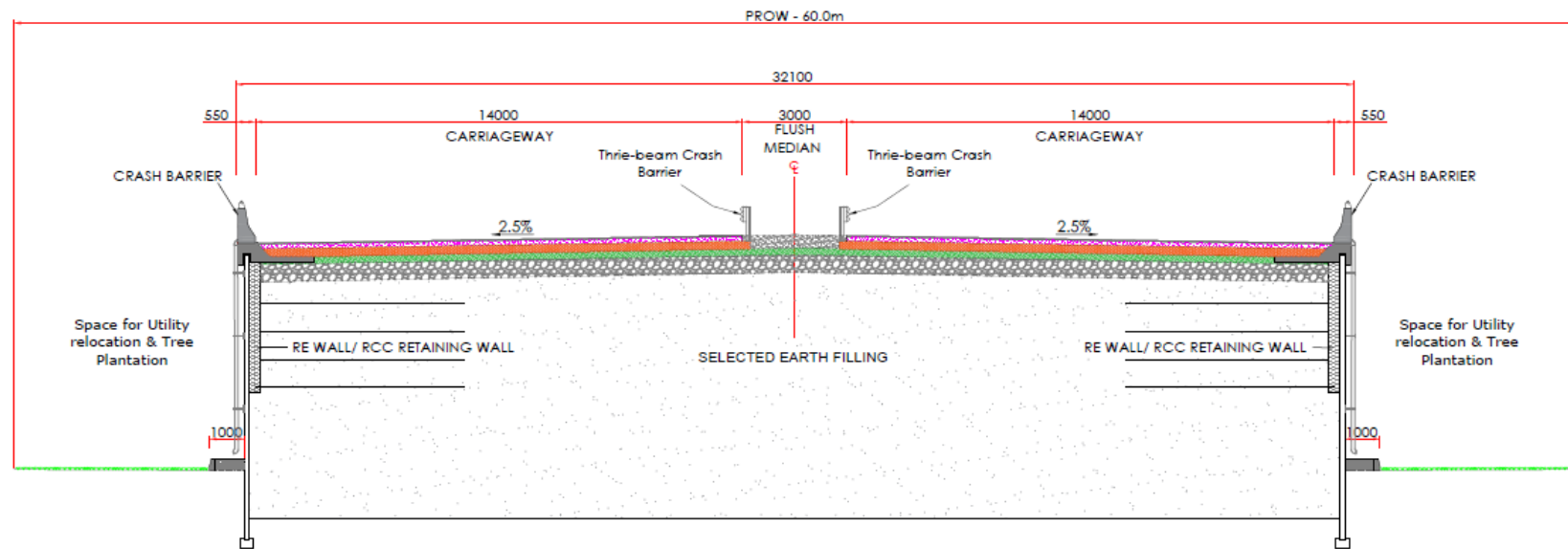
Dr. Dgn. Appd. Sheet:

Deepak Fayaz Ahmad A. K. Singh 18 OF 25

CONSULTANT:-



Technocrats Advisory Services Pvt. Ltd.
68, Ajanta Apartment, 36, I.P. Extension
Patparganj, Delhi-110092

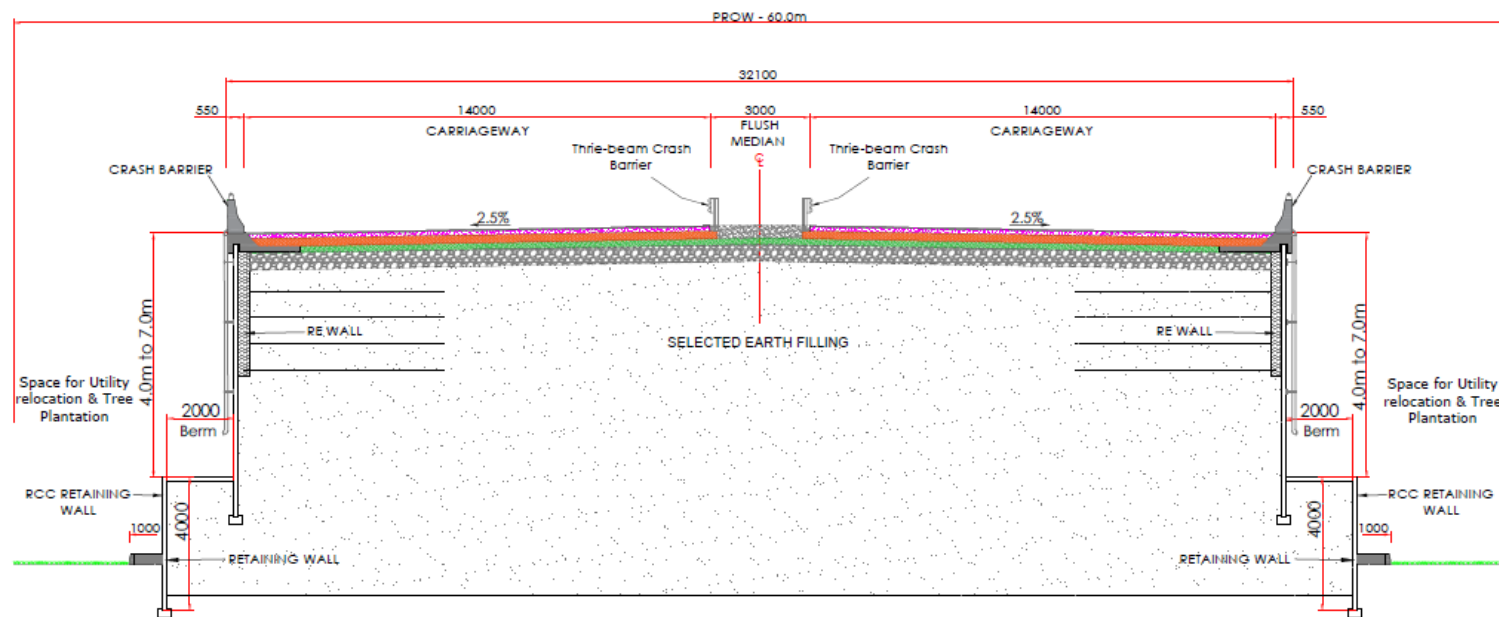


TCS FOR 6 - LANE HIGHWAY (APPROACH)
(PLAIN/ROLLING TERRAIN)
(TCS - 12)

S.No	From(km)	To (km)	Length (m)	Type	Remark
1	18+610	19+000	390	TCS-12	RE WALL
2	19+000	19+155	155	TCS-12	RCC RETAINING WALL
3	21+400	21+951	551	TCS-12	RE WALL
4	22+029	22+530	501	TCS-12	RE WALL
Total			1597		

CLIENT: MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWIL Limited Goodwill Avenue 1st Floor, 1st Wing Office No.-2, Plot No.-1, Sector-46, Noida (Uttar Pradesh), India. Telephone: +91-0120-2770 2255 / 2770 2256 / 2770 2257 Fax: +91-0120-2770 2259	PROJECT: Consultancy Services for Feasibility Study of Detailed Project Report for Improvement and upgradation of newly declared National Highways including existing NH-47 & NH-203 in the state of Uttar Pradesh-Prayagraj District (I) Chhapra-Dumraon-Chhapra-Dumraon Road-NH-203 (I) Ghazipur-Jamunghar-Dumraon Road-NH-47 and Length 118.43 Km.	Prepared by: M.S. Bhat Designed by: Gulsara Preeti Checked by: Ansh Kumar Singh Approved by: Pankaj Verma	Revision: RA Date: May, 2023 Description: FINAL FEASIBILITY PROJECT REPORT	DRAWING TITLE:- TYPICAL CROSS SECTION
			DRAWING NO:- KH-D_FDRP_Hwy_TCS-02 SCALE: 1:50 @ (A2)	DATE: May 2023 REV: RA	SHEET: 18 OF 25

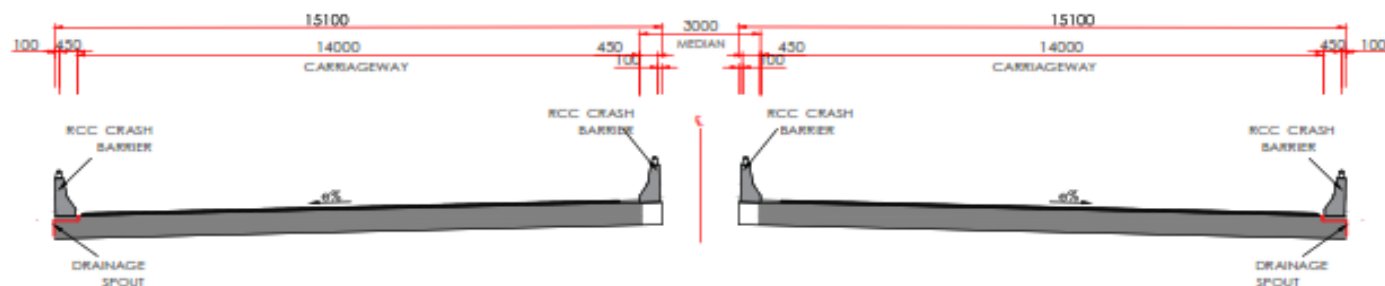
time



RE WALL CONFIGURATION (WHERE HEIGHT OF FRL-OGI IS MORE THAN 7.0m)

CLIENT:  MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWIL Limited Goodwill Avenue, 1st Floor, "A" Wing Office No. 2, Plot No. 1, Sector 48, Noida (West), Uttar Pradesh-201301 Phone: 0120-27702255 / 27702256 / 27702257 Fax: 0120-27702258	PROJECT: Consultancy Services for Feasibility Study of Detailed Project Report for Improvement and upgradation of newly declared National Highways including widening NH-47 & NH-203 in the state of Uttar Pradesh (Phase II) Chhapra-Delwa-Chauran-Kushinagar Road-NH-203 (II) Ghazipur-Jamunja-Gajpur Raja Road-NH-47 and Length 118.43 Km.	Prepared by: N.S. Bhat Designed by: Gulab Puriwal Checked by: Anil Kumar Singh Approved by: Pankaj Vora	Revision: 04 Date: May, 2023	Description: FINAL FEASIBILITY PROJECT REPORT	DRAWING TITLE:- TYPICAL CROSS SECTION DRAWING NO:- KN-D_FOFR_HWY_TC8-02 SCALE: 1:50 @ (A2) DATE: May 2023 REV: 04 SHEET: 20 OF 25
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time



**TCS- 13 : Grade Separated Structure Vehicular Underpass & Elevated Section
(6-Lane divided highway)**

Ref. :: Fig. 7.8 of IRC-SP-84-2019. (Page No. 72)

S.No	From (km)	To (km)	Length (m)	Type
1	20+630	20+690	60	TCS-13
Total			60	



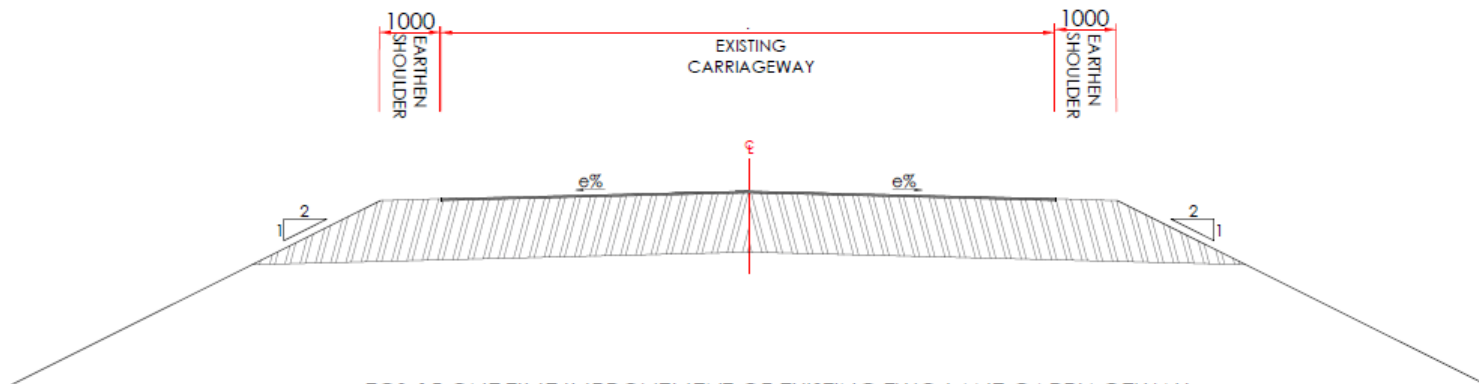
Project Title:-
Preparation of detailed project report of Padrauna bypass & completion of Preconstruction activities of 4L+PS /2L+PS work of NH-727 from km 0.000 to km 46.500 for the project National Highways in the state of Uttar Pradesh.



Drawing Title:- TYPICAL CROSS SECTION
Drawing No. : NH/UP/NOTES/OP/PADRAUNA BYPASS/13
Scale : Not to Scale
Date : / /
Drawn by : / / / /
Checked by : / / / /

COORDINATE:-
TASPL
Technocrats Advisory Services Pvt. Ltd.
58, Ajanta Apartment, 36, I.P. Extension
Patparganj, Delhi-110092

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh



TCS-15 ONE TIME IMPROVEMENT OF EXISTING TWO LANE CARRIAGEWAY

S.NO	From (km)	To (km)	Existing Road Length (m)
1	0+000	4+115	5300
2	Existing Road (Re-alignment)		500
3	Existing Road (Padrauna)		11145
4	46+500	58+004	11504

 MINISTRY OF ROAD TRANSPORT & HIGHWAYS	CONSULTANT: SOWIL Limited Goswami Avenue, 1st Floor, 1st Wing, Office No. 101, Plot No. 1, Sector-46, Noida (Uttar Pradesh), India. Phone: +91-11-26111111, Phone: +91-272-2775 188 181, Fax: +91-272-2775 2256	PROJECT: Consultancy Services for Feasibility Study of Detailed Project Report for Improvement and up-gradation of newly declared National Highways including existing NH-27 & NH-220 in the state of Uttar Pradesh (UP) Districts of Chhapra-Buxa-Chauri-Katihar Road (NH-220 (B)) Ghazipur-Jamunghar-Sahyad Road (NH-27) and Length 115.40 Km.	Prepared by M. S. Ghosh	Reviewed by RA	Date May, 2023	Description FINAL FEASIBILITY PROJECT REPORT	DRAWING TITLE:- TYPICAL CROSS SECTION
			Designed by Gulistan Prakash	Checked by Anil Kumar Singh	Approved by Pardeep Singh	DRAWING NO:- IKN-D_FDR_HMY_TCS-02	SHEET 23OF28

Annexure-II

Utility Shifting (Circular MoRT&H 11.02.2021)

Shifting of obstructing existing utilities indicated in Schedule A to an appropriate location in accordance with the standards and specifications of concerned Utility Owning Department is part of the scope of work of the Concessionaire / Concessionaire*. The bidders may visit the site and assess the quantum of shifting of utilities for the projects before submission of their bid. Copy of utility relocation plan is enclosed. The specifications of the concerned Utility Owning Department shall be applicable and followed.

Notes: -

- (a) The **type/ spacing/ size/ specifications of poles/ towers/ lines/ cables** to be used in shifting work shall be as per the guidelines of utility owning department and it is to be agreed solely between the Concessionaire /Concessionaire* and the utility owning department. **No change of scope** shall be admissible and no cost shall be paid for using different type/ spacing / size/ specifications in shifted work in comparison to those in the existing work or for making any overhead crossings to underground as per requirement of utility owning department and/or construction of project highway. The Concessionaire/Concessionaire* shall carry out joint inspection with the utility owning department and get the estimates from the utility owning department. The assistance of the Authority is limited to giving forwarding letter on the proposal of Concessionaire/Concessionaire* to utility owning department whenever asked by the Concessionaire/Concessionaire*. The decision/ approval of utility owning department shall be binding on the Concessionaire/Concessionaire*.
- (b) The **supervision charges** at the rates/ charges applicable of the utility owning department shall be paid directly by the Authority to the Utility Owning department as and when Concessionaire/Concessionaire* furnishes demand of the Utility Owning Department along with a copy of estimated cost given by the latter.
- (c) The **dismantled material/scrap** of existing Utility to be shifted/ dismantled shall belong to the Concessionaire/ Concessionaire* who would be free to dispose-off the dismantled material as deemed fit by them unless the Concessionaire/Concessionaire* is required to deposit the dismantled material to utility owning department as per the norm and practice and in that case the amount of credit for dismantled material may be availed by the Concessionaire/Concessionaire* as per estimate agreed between them.
- (d) The **utilities shall be handed over** after shifting work is completed **to the Utility Owning Department to their entire satisfaction**. The maintenance liability shall rest with the Utility Owning Department after the handing over process is complete as far as utility shifting works are concerned.
- (e) All other small works involved in shifting/crossing of lines is included in the Concessionaire scope and doesn't qualify for change in scope.

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Note: The contract is inclusive of entire cost of utility shifting, any change in length of utilities, no. of crossings, nos. of transformers and capacity, hand pumps, specifications etc. shall not constitute to change of scope.

Annex – I
(Schedule-C)
Project Facilities

1. Project Facilities

The Concessionaire shall construct the Project Facilities described in this Annex-I to form part of the two / four - Lane Project Highway. The Project Facilities shall include:

- a) Toll plazas.
- b) Traffic control devices/ road safety devices / roadside furniture.
- c) Roadside Furniture
- d) Pedestrian facilities.
- e) Landscaping and tree plantation.
- f) Truck lay-bys / truck terminal / wayside amenities.
- g) Bus-bays and bus shelters.
- h) Cattle crossings.
- i) Development of site for wayside amenities.
- j) Traffic aid post.
- k) Medical aid post.
- l) Vehicle rescue post.
- m) Telecom system; and

2. Description of Project Facilities

Each of the Project Facilities is briefly described below:

a) Toll Plaza

Sl. No.	Design Chainage (Km)
1.	One 16 lane Toll Plaza near km 18.000 (from km 17.700 to km 18.400)

(i) The Toll Plaza shall be constructed as per Manual (Schedule D) considering the modification as per NHA Circular NHA/Policy Guidelines/Management of Toll Plaza/2021 Policy Circular No. 17.5.82 dated 24th May, 2021. However, layout as mentioned in Schedule-C shall be followed.

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

(ii) Based on the toll lanes as given above, toll Booth complex, weigh bridges, electrical systems, and all other facilities required/ mentioned in Manual shall be provided as per specification mentioned in Schedule D.

(iii) Number of toll lane specified above are for minimum & indicative. The Concessionaire shall design and provide toll lane as per Manual (Schedule-D) & NHAI Circular NHAI/Policy Guidelines/Management of Toll Plaza/2021 Policy Circular No.17.5.82 dated 24th May 2021.

(iv) All Toll Lanes shall be equipped with fully ETC compliant.

(v) Overhead signs shall be provided as per IRC: SP: 73-2018.

(vi) The toilets facilities must be constructed as per NHAI guideline drawings and 24 hours functionality. Operation and maintenance of the Toilets shall be carried out by the Concessionaire during entire O&M period. The toilet facilities shall follow CPWD specifications including sanitary ware items and fitting. The number of persons that shall be deployed at each Toilet complex shall be, at a minimum 3 Safai wale (1 in each 8-hour shift). Each side (LHS/RHS) shall be treated as one Mini and Toilet complex. The operation and maintenance of the Nest-mini and toilet complex is in the scope of Concessionaire for the entire construction and O&M period.

(vii) Solar panels shall be erected over the either on FOB or over Toll Plaza / Admin building to generate the green energy. Same shall be utilized for toll plaza lighting and other energy requirement within toll plaza area along with conventional lighting.

(viii) Medium speed Weigh in Motion (MSWIM) devices shall be provided in all toll lanes at Toll Plaza Location. In addition to MSWIM, Static weigh Bridge (SWBs) shall be provided on each direction as per manual.

(ix) Rigid pavement shall be provided at toll plaza location including tapers

b) Traffic control devices/ road safety devices / roadside furniture

The provision of traffic control devices/ road safety devices shall be made as per specifications and standards as specified in Schedule D and in consultation with the Independent Engineer/Authority.

Road safety barriers shall be provided at all locations of hazards such as high embankment, roadside obstacles, sharp curves and bridge approaches ROB and any other locations identified in consultation with Independent Engineer/Authority during the execution of the project highway.

c) **Roadside Furniture**

The roadside furniture shall include the following provisions;

i. **Traffic Signs**

Traffic signs include roadside signs, overhead signs and curb mounted signs along the entire Project Highway as per manual recommended in Schedule D.

However, the minimum no. of Overhead signs to be provided are as detailed below:

S. No.	Type of overhead sign	Minimum numbers
1	Cantilever type overhead sign	10
2	Overhead sign	5

ii. **Pavement Markings**

Pavement markings shall cover road marking for the entire Project Highway as per Manuals specified in Schedule D.

iii. **LED Traffic Blinkers**

For all Pedestrian cross walks along the alignment, at all Major Junction locations and at Curve locations where curve radius not confirming to minimum radius as per design standards and any other locations specified in relevant manual, Solar Traffic Blinkers shall be provided by the Concessionaire.

iv. **Crash barrier**

Provide Thrie beam crash barrier along the project highway. The length crash barrier is given below as minimum criteria in line with the standard recommended in Schedule D.

Sl. No.	Item	Minimum Length (m)	Reference
1.	New Jersey Crash Barrier	1900	TCS-7
2.	Thrie Beam Crash Barrier	32590	TCS 5,6,8,8A,12,17 & bridge sections
3.	RCC Crash Barrier (with friction slab)	15296	TCS-8,8A,12 & bridge sections

Note:-

Safety barriers to be constructed as shown in TCS and structure drawings.

v. **Traffic Control Devices: -**

Traffic Control Devices for the entire Project Highway shall be provided. The minimum numbers shall be as follows: -

Sl. No.	Item	Unit	Quantity
1.	Post type delineators with circular reflector	Nos.	774
2.	Hazard Markers (900mm X 300mm)	Nos.	202
3.	Road Studs	Nos.	17590
4.	Barrier type kerb	Rm.	20136

vi. **Boundary stones**

- a) Road Boundary Stones (RBS) shall be provided at every 50m intervals on both sides for the entire length of bypasses (Kasya & Padrauna).

i. **Hectometre / Kilometre stones/5th Kilometre Stone**

For the entire Project Highway length as suggested in relevant IRC Manuals recommended in Schedule D.

b) **Street Lighting**

Following lights shall be provided as per specifications and standards specified in Schedule D.

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

- a) High Mast Lights – Minimum 10 Nos.as per Appendix C-II
- b) Double Arm: For Fixing in Median - 2.4 km minimum,
- c) Single Arm: fixing in Footpath – 41.3 km minimum

c) **Pedestrian Facilities**

The length of footpath, pedestrian guard rail is minimum and may be change as per site requirements, any change in length shall not be constitute as Change of Scope,

The details are mentioned below: -

d) **Landscaping and Tree Plantation**

Landscaping: at major intersections, interchange etc. within ROW of the project highway shall be done as per specifications and standards specified in Schedule D.

Tree Plantation: Minimum 23,041 nos of Tree plantation shall be done along bypasses of project highway and its upkeep during concession period.

Planting and maintaining of flowering plants and shrubs in central verge including watering, spreading manure, spraying pesticides, cost of all material, labour, lead, lift, hire charges of machineries, transportation etc. during concession period.

e) **Truck Terminal / Wayside Amenities / Truck Lay-Bys**

Tentative locations of truck terminal / wayside amenities / truck lay-bys on either side of the road are given below; however, suitable locations shall be decided in consultation with Independent Engineer/Authority.

Sl. No	Design Chainage (Km)	Side
1.	45+675	LHS (Truck Lay-Bys)

The Truck Terminal / Wayside Amenities / Truck Lay-Bys shall be provided as per specifications and standards specified in Schedule D.

f) **Bus Bays / Bus Shelters**

The concessionaire shall provide a minimum of 23 Bus bays along the project highway and the locations are given in **Appendix C-III** as per specifications and standards specified in Schedule D. The locations of these bus bays shall be finalized by the concessionaire in consultation with the Independent Engineer/Authority.

For location of bus bays refer appendix C-III of Schedule C

3. Utilities

Providing 600mm Dia across the road at every 500m interval (Single Row) in open section and bypasses & 200m interval in built-up section.

4. Rainwater Harvesting

As per Ministry of Environment and Forests Notification, New Delhi dated 14.01.1997 (as amended on 13.01.1998, 05.01.1999 & 6.11.2000), the construction of Rain water, harvesting structure is mandatory in and around Water Crisis area, notified by the Central Ground Water Board. Minimum 56 number of Rain water harvesting has to be constructed.

Appendix C-I

Location (Hazardous) that require safety barriers

Details of the site and the number of intersections are given in the schedules. On the basis of these details as well as site surveys done by the concessioner, location, size and numbers will be identified in consultation with the Independent Engineer/Authority.

Note: All Road Safety items as per the relevant manuals.

Appendix C-II

Apart from the locations specified in IRC: SP: 73-2018 and IRC: SP 84-2019 for street lighting, the High Mast Lighting shall be provided at the following tentative locations also.

Sl. No.	Design Chainage (Km)	Type
1.	6+500	Starting point of Banipul Realignment
2.	6+900	End point of Banipul Realignment
3.	13+650	Padrauna Bypass Start Point
4.	20+660	Grade Separator
5.	23+000	Padrauna Bypass End Point
6.	27+039	Chakdhar Chhapra Village
7.	36+094	Nebua Naurangia Village
8.	42+677	Sakhui Village

Note: Any other location, if required, as per applicable Codal provisions shall be provided in consultation with the Independent Engineer/Authority. In addition, in all Flyovers/ROBs the lighting is required to be provided as per codal provisions on the structures and is inclusive of Concessionaire's scope, without any change of scope.

Appendix C-III

Locations of Bus Bays along the Project Stretch

Sl. No.	Design Chainage (km)	Side
1.	9+420	RHS
2.	11+560	LHS
3.	12+985	RHS
4.	14+440	LHS
5.	14+490	RHS
6.	16+570	RHS
7.	22+745	RHS
8.	22+800	LHS
9.	24+070	LHS
10.	24+835	RHS
11.	29+480	LHS
12.	30+800	LHS
13.	32+420	LHS
14.	34+110	RHS
15.	34+365	LHS
16.	37+900	LHS
17.	39+920	LHS
18.	41+300	RHS
19.	42+000	LHS
20.	43+080	RHS
21.	43+080	LHS
22.	44+400	LHS

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Sl. No.	Design Chainage (km)	Side
23.	45+500	RHS

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

SCHEDULE- D
(See Clause 2.1)

SPECIFICATIONS AND STANDARDS

1 Construction

The Concessionaire shall comply with the Specifications and Standards set forth in Annex-I of this Schedule-D for construction of the Project Highway.

2 Design Standards

The Project including Project Facilities shall conform to design requirements set out in the following documents:

[Manual of Standards and Specifications for Two Lanning & Four Lanning of Highways (IRC: SP: 73:2018 & IRC: SP: 84:2019), referred to herein as the Manual.]

[Note: Specify the relevant manual, specification and standards]

3 Utility Shifting

“As regards, the work of utility shifting, the relevant specifications, relevant rules, regulations and acts of Utility Owning Department/agencies shall be applicable.

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

Annex-I
(Schedule-D)

Specifications and Standards for Construction

1 Specifications and Standards

All Materials, works and construction operations shall conform to the Manual of Standards and Specification for Two Lanning & Four Lanning of Highways (IRC: SP: 73:2018 &IRC: SP: 84:2019), referred to as the Manual, and MORTH Specifications for Road and Bridge Works. Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Independent Engineer.

2 Deviations from the Specifications and Standards

2.1 Notwithstanding anything to the contrary contained in Paragraph 1 above, the following Specifications and Standards shall apply to the Project, and for purposes of this Agreement, the aforesaid Specifications and Standards shall be deemed to be amended to the extent as set forth below: -

As per Typical Cross Section Schedule provided in Schedule B

Sl. No.	Item	As per IRC	Adopted
1	Design Speed	Ruling-100 kmph& Minimum-80 Kmph	Two Lanning & Four Lanning of Highways (IRC: SP: 73:2018 &IRC: SP: 84:2019) with exception in design speed as per table below.

S.NO	Chainage	Speed
1.	6+900	80kmph
2.	7+200	80kmph
3.	24+000	80kmph
4.	24+100	80kmph
5.	24+200	80kmph
6.	24+300	80kmph
7.	24+500	80kmph

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

S.NO	Chainage	Speed
8.	24+800	80kmph
9.	25+000	80kmph
10.	25+200	80kmph
11.	25+400	80kmph
12.	25+700	80kmph
13.	25+900	80kmph
14.	26+000	80kmph
15.	26+300	80kmph
16.	26+700	80kmph
17.	26+800	80kmph
18.	26+900	60kmph
19.	27+200	40kmph
20.	27+300	60kmph
21.	27+500	80kmph
22.	27+700	80kmph
23.	28+000	80kmph
24.	28+100	80kmph
25.	28+200	80kmph
26.	28+300	80kmph
27.	28+500	80kmph
28.	28+700	80kmph
29.	28+900	80kmph
30.	29+000	80kmph
31.	29+100	80kmph
32.	29+200	80kmph
33.	29+300	80kmph
34.	29+400	80kmph
35.	29+600	80kmph
36.	30+100	80kmph
37.	30+800	80kmph
38.	31+000	80kmph
39.	31+300	80kmph
40.	31+400	80kmph
41.	31+600	80kmph
42.	31+800	80kmph
43.	31+900	80kmph
44.	32+000	80kmph
45.	32+100	80kmph
46.	32+300	80kmph
47.	32+500	80kmph
48.	32+600	80kmph

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

S.NO	Chainage	Speed
49.	32+700	80kmph
50.	32+900	80kmph
51.	33+000	80kmph
52.	33+100	80kmph
53.	33+200	80kmph
54.	33+400	80kmph
55.	33+700	80kmph
56.	34+300	80kmph
57.	34+500	80kmph
58.	34+700	80kmph
59.	34+800	80kmph
60.	34+900	80kmph
61.	35+100	80kmph
62.	35+300	80kmph
63.	35+800	80kmph
64.	36+000	80kmph
65.	36+200	80kmph
66.	36+500	80kmph
67.	36+600	80kmph
68.	36+800	80kmph
69.	36+900	80kmph
70.	37+000	80kmph
71.	37+300	80kmph
72.	37+700	80kmph
73.	38+100	80kmph
74.	38+300	80kmph
75.	38+400	80kmph
76.	38+500	80kmph
77.	38+700	80kmph
78.	39+100	80kmph
79.	39+500	80kmph
80.	39+700	80kmph
81.	40+100	80kmph
82.	40+400	80kmph
83.	40+600	80kmph
84.	40+800	80kmph
85.	40+900	80kmph
86.	41+200	80kmph
87.	41+400	80kmph
88.	41+700	80kmph
89.	41+900	60kmph

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh

S.NO	Chainage	Speed
90.	42+200	50kmph
91.	42+500	50kmph
92.	42+700	50kmph
93.	42+800	50kmph
94.	43+000	80kmph
95.	43+100	80kmph
96.	43+500	80kmph
97.	44+200	80kmph
98.	44+400	80kmph
99.	45+100	80kmph
100.	45+300	80kmph

2.3 Notwithstanding anything to the contrary contained in the aforesaid Manual, the following Specification and Standards shall apply to the [Two/Four-Lane] Project Highway, and for purposes of this agreement, the aforesaid Manual shall be deemed to be amended to the extent set forth below.

Construction of Four Laning of NH-727 from Km. 4.115 to km 23.800 i/c Padrauna bypass & Two lane with paved shoulder from km 23.800 to km 46.500 along with One time improvement in 28.50 km (km 0.00 to km 4.115, km 46.500 to km 58.004 & project realignment/bypass) on Hybrid Annuity Mode (HAM) basis in the State of Uttar Pradesh