



**STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM
EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM
54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE
(PACKAGE-4)**

DETAILED PROJECT REPORT VOLUME - IX

DRAWING VOLUME

PACKAGE-IV-(CH.45/600 km – CH.54/212 km)



Client:



Consultant:



S. M. CONSULTANTS
Plot No. 130, S.M. Tower, Mancheswar Industrial Estate
Rasulgarh, Bhubaneswar-751010, ODISHA
☎ : (0674)2580682-85, Fax-2580686

**STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520
TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF
MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)**



**NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD.**

Prepared By :-

S.M.CONSULTANTS



Bhubaneswar / Balasore / Secunderabad / South Andaman/NewDelhi
Web : [http:// www.smcindia.com](http://www.smcindia.com) , e-mail: support@smcindia.com

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TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF
MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

Sl.No.	TITLE	No. of Sheets
1	Salient Feature	
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3	Location Plan	
4	Typical Cross Section	
5	DGPS List & TBM List	
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Miscellaneous Drawing		
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11	Kilometer Stone And Hectometer Stone	
12	Typical Pavement Marking	
13	-	
General Arrangement Drawing		
14	-	
15	-	

Salient feature

Name of The Work : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

Alignment Details

(Ch-30.970 Km To 45.600km)
Total Length = 8.612 Km

CBR

-%

Traffic

- msa (- years)

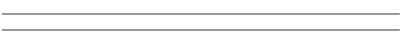
Proposed Road Details:

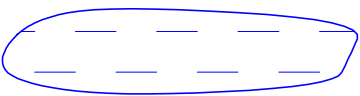
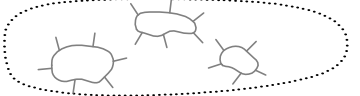
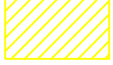
Carriageway width = 7 .0 m
RCC Drain Width = 0.8m (Built up)

Proposed Crust Details:

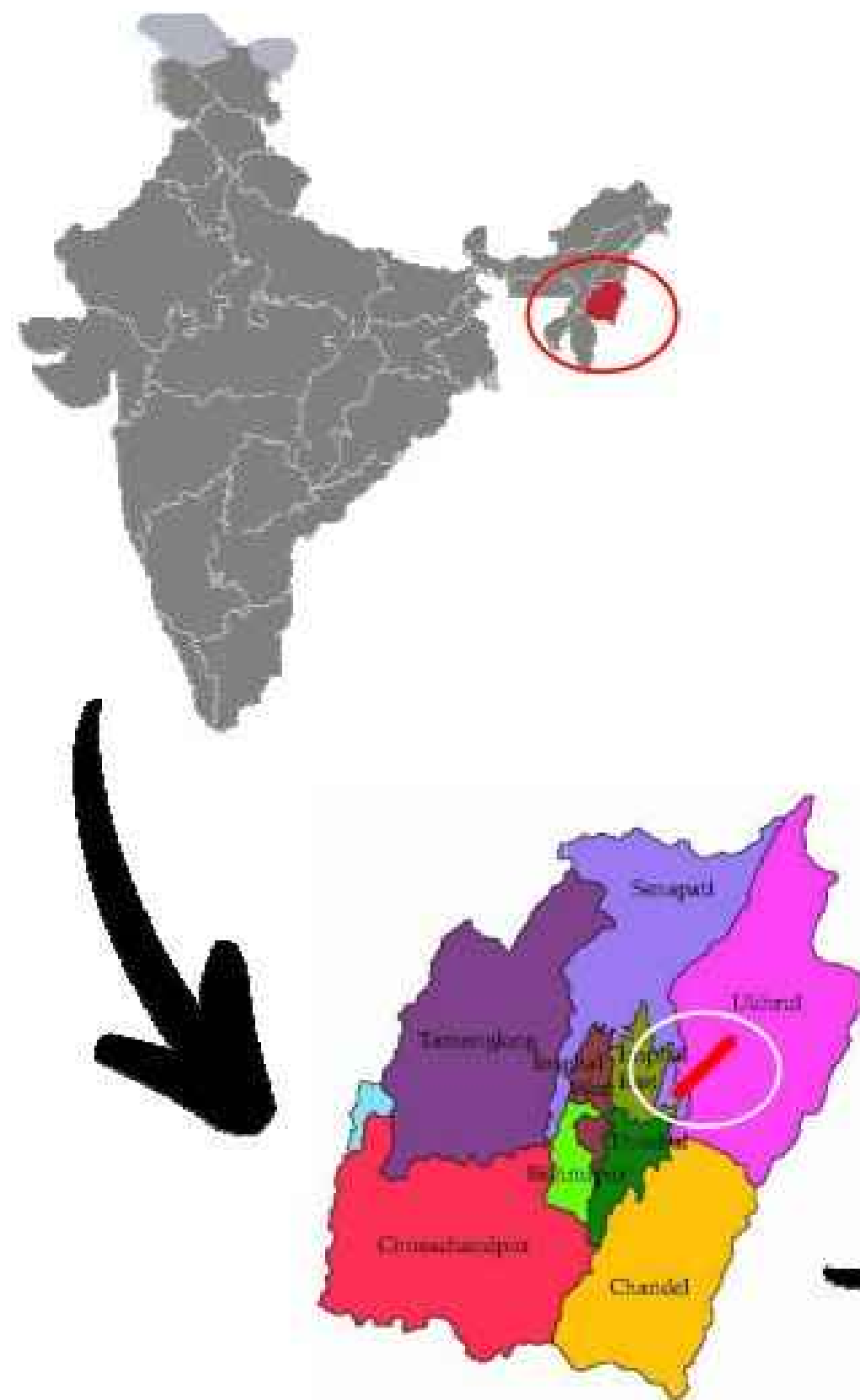
Bituminous Concrete (BC)-Overlay
Dense Bituminous Macadam (DBM) -Overlay
Wet Mix Macadam (WMM)-Overlay

LEGEND :-

COMPOUND WALL	
EXISTING BITUMEN ROAD	
EXISTING CONCRETE ROAD	
BOUNDARY LIMIT	
CART TRACK	
VILLAGE LIMIT	
CULVERT	
GATE	
BUILDING, SHED, HUT	
CABIN, PAVEMENT	
WOODEN FENCE	
GRILL FENCE	
MASONRY DRAIN	
TREE PLANTATION	
CULTIVATION LAND	
EXISTING CENTER LINE	
PROPOSED CENTER LINE	

TELEPHONE POLE	 Telephone Pole 
WATER LOGGED AREA	
BOULDERS WITH RELATIVE HEIGHT	
TREE (Coconut, Datepalm, Palmyra, Others)	   
TBM WITH VALUE	 (100.000)
TEMPLE, SIGN BOARD, OFC MARK	  
FLAG POST, TELEPHONE POLE	 
TRANSFORMER, VALVE, WELL	  
PROPOSED CARRIAGEWAY	
PROPOSED SHOULDER	
EMBANKMENT SLOPE	
GROUND LEVEL	
GROUND LEFT TOE	
GROUND RIGHT TOE	
TOILET	
PROPOSED ROW	

LOCATION MAP



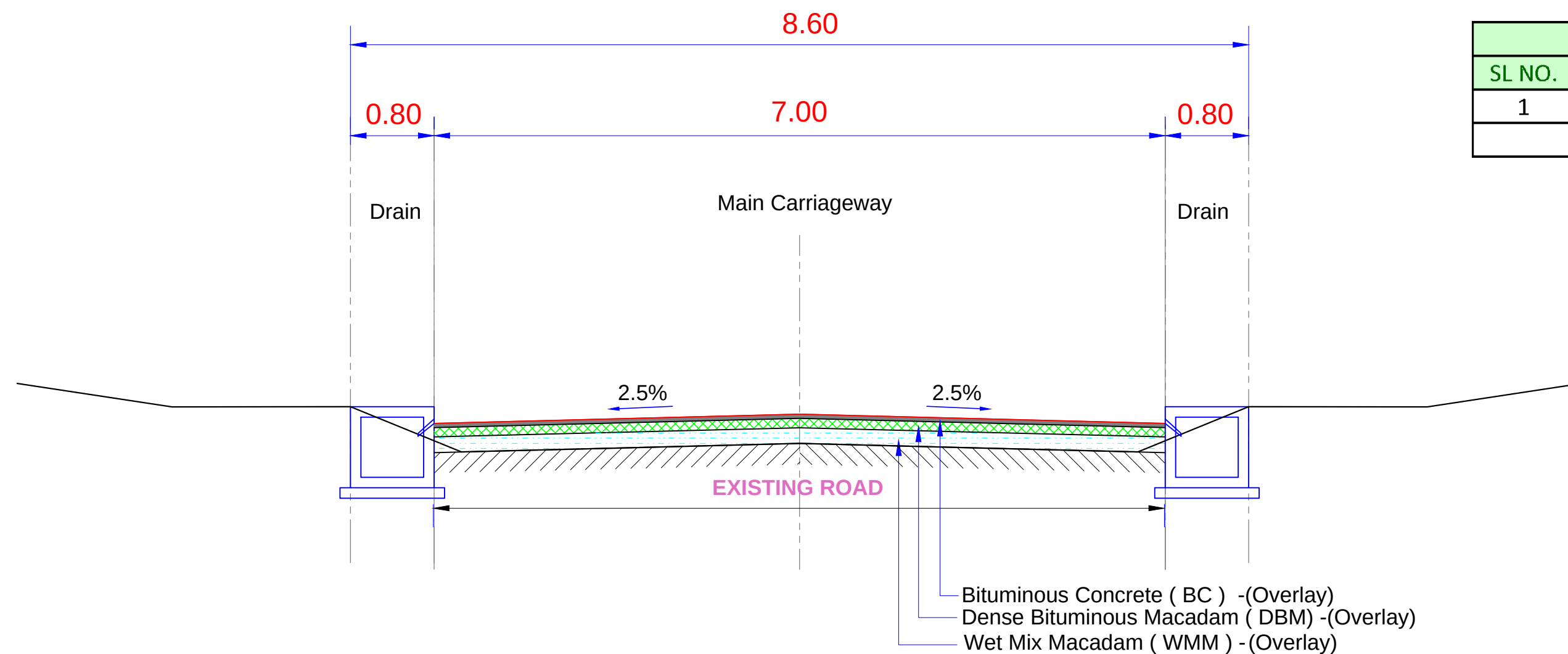
					DESIGN CONSULTANTS : S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com						CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.				SCALE	TITLE : LOCATION MAP	
	16.11.23	R-5										PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)	NTS	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE A2		
MKD	DATE	DESCRIPTION		PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N	Date DEC- 23			Rev. No. R5			
REVISIONS																	

TBM & DGPS DETAILS

LIST OF TBMs ❏			
TBM - NO.	EASTING	NORTHING	HEIGHT
TBM - 1	632291.583	2767229.713	1356.789
TBM - 1A	632267.955	2767207.356	1357.510
TBM - 2	633174.389	2767963.961	1265.689
TBM - 2A	633174.350	2767974.746	1266.007
TBM - 3	633197.248	2768386.510	1223.891
TBM - 3A	633068.186	2768389.324	1220.223
TBM - 4	632814.984	2769094.473	1187.664
TBM - 4A	632854.152	2769112.716	1188.417
TBM - 5	633179.363	2769511.749	1230.196
TBM - 5A	633152.575	2769473.440	1231.656
TBM - 6	632489.620	2770174.174	1295.205
TBM - 6A	632496.838	2770183.872	1296.558
TBM - 7	634232.386	2770885.119	1446.939
TBM - 7A	634249.494	2770919.127	1447.987
TBM - 8	634534.540	2771725.661	1503.282
TBM - 8A	634768.754	2771749.796	1506.236
TBM - 9	380568.969	2772825.998	1579.709
TBM - 9A	634775.116	2772806.599	1580.318
TBM - 10	635008.856	2773002.920	1652.740
TBM - 10A	635050.290	2773032.042	1655.377
TBM - 11	635601.137	2773298.396	1692.051
TBM - 11A	635633.217	2773316.053	1693.880
TBM - 12	635155.306	2772416.041	1755.608
TBM - 12A	635159.529	2772395.943	1756.502
TBM - 13	636105.171	2772983.974	1815.624
TBM - 13A	636130.658	2773015.210	1817.729
TBM - 14	636332.468	2774069.546	1769.993
TBM - 14A	636345.658	2774087.803	1770.327
TBM - 15	636851.484	2775007.622	1841.228
TBM - 15A	636873.773	2774989.631	1840.411
TBM - 16	639051.738	2776163.478	1673.531
TBM - 16A	639035.188	2776156.187	1673.877

						DESIGN CONSULTANTS :						CLIENT :  NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	SCALE	TITLE : TBM LIST		
						 S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com										
	16.11.23	R-5										PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)	NTS	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE	
MKD	DATE	DESCRIPTION				PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S				Issued By S.N	Date DEC- 23
REVISIONS																

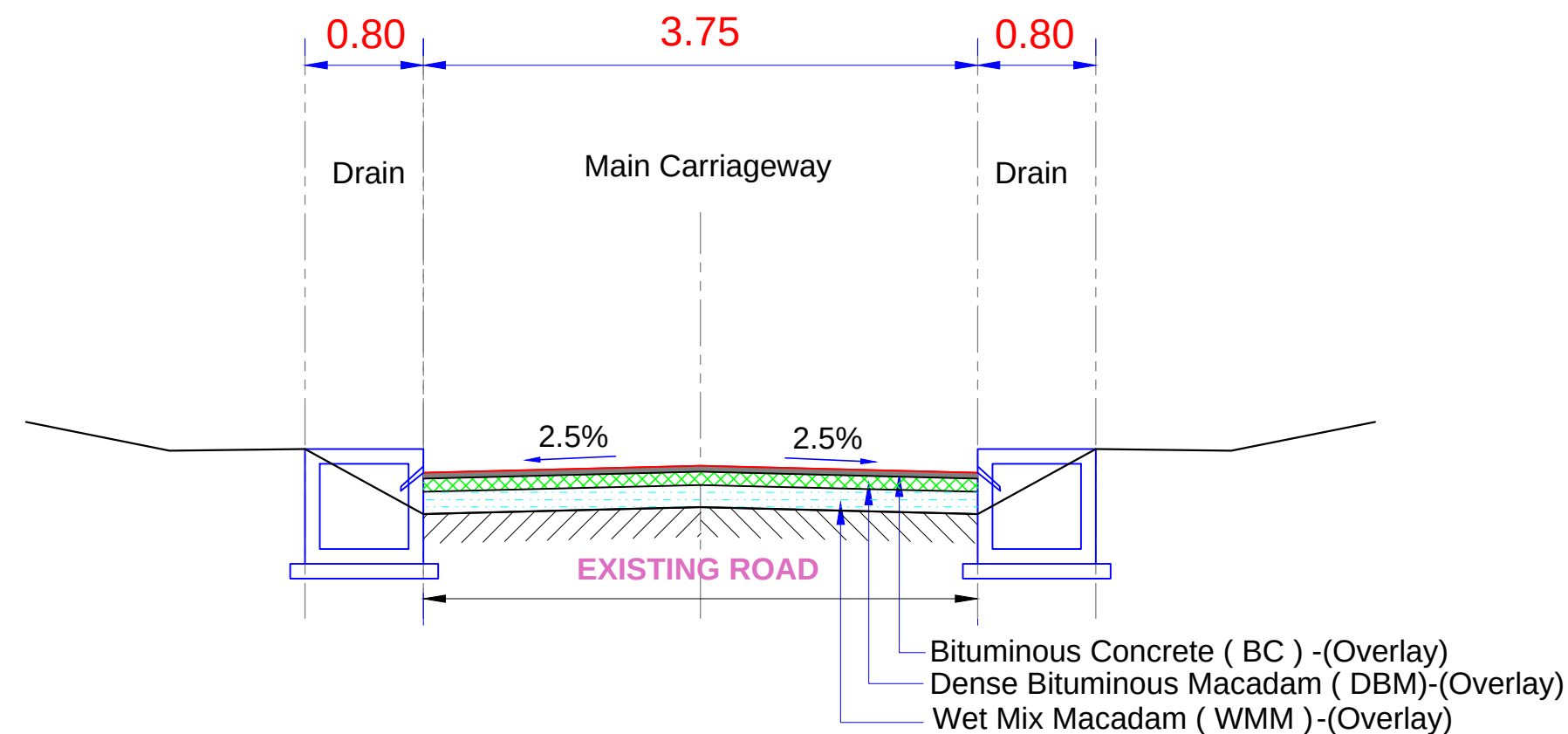
TYPICAL CROSS SECTION



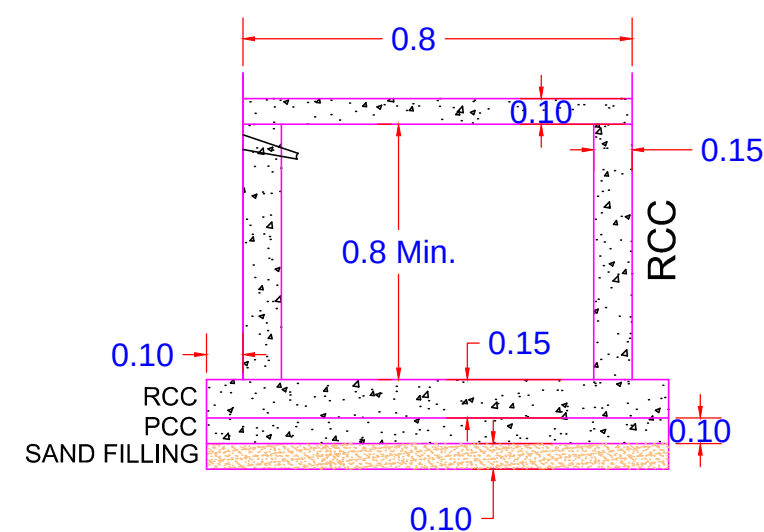
TYPICAL CROSS SECTION-8			
SL NO.	FROM-(M)	TO-(TO)	LENGTH
1	45600	49600	4000
TOTAL LENGTH			4000

Bituminous Concrete (BC)
Dense Bituminous Macadam (DBM)
Wet Mix Macadam (WMM)
Cement Treated Sub Base (CTSB)
Subgrade

TCS-1: TYPICAL CROSS SECTION



TYPICAL CROSS SECTION-9			
SL NO.	FROM-(M)	TO-(TO)	LENGTH
1	49600	54212	4612
TOTAL LENGTH			4612



RCC DRAIN SECTION

Notes : All Dimensions are in meter unless otherwise specified.

						DESIGN CONSULTANTS : S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com				CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		SCALE		TITLE : TYPICAL CROSS SECTION	
	15.11.23	R-5								PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)		FTS	DRAWING NO : - SMC/HIGHWAY/MANIPUR/2222		SHEET SIZE
MKD	DATE	DESCRIPTION			PREP.	CHK.	APPD.	Prep. By	Chk. By	Issued By	Date		Rev. No.		
		R.EVISIONS						R.B	S.K.S	S.N	DEC-2023	R5			

REPORT

CENTERLINE CO-ORDINATE

POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES
1	45600	635258.794	2772682.316	51	46100	635282.357	2772472.92	101	46600	635481.1	2772814.202	151	47100	635738.284	2772943.306	201	47600	636098.58	2772919.848
2	45610	635254.42	2772673.324	52	46110	635286.475	2772481.984	102	46610	635489.07	2772808.162	152	47110	635742.201	2772952.492	202	47610	636100.936	2772929.563
3	45620	635250.047	2772664.331	53	46120	635289.629	2772491.47	103	46620	635497.04	2772802.122	153	47120	635747.713	2772960.819	203	47620	636103.528	2772939.222
4	45630	635246.359	2772655.045	54	46130	635291.664	2772501.255	104	46630	635504.829	2772795.857	154	47130	635754.641	2772968.012	204	47630	636106.12	2772948.88
5	45640	635242.942	2772645.647	55	46140	635292.811	2772511.188	105	46640	635511.821	2772788.717	155	47140	635762.667	2772973.963	205	47640	636108.137	2772958.665
6	45650	635239.432	2772636.286	56	46150	635293.918	2772521.127	106	46650	635517.956	2772780.823	156	47150	635771.201	2772979.175	206	47650	636109.666	2772968.547
7	45660	635234.928	2772627.358	57	46160	635295.026	2772531.065	107	46660	635523.924	2772772.799	157	47160	635779.811	2772984.262	207	47660	636111.436	2772978.384
8	45670	635230.42	2772618.432	58	46170	635296.133	2772541.004	108	46670	635529.891	2772764.775	158	47170	635788.42	2772989.348	208	47670	636114.604	2772987.865
9	45680	635225.912	2772609.506	59	46180	635297.241	2772550.942	109	46680	635536.153	2772756.984	159	47180	635797.03	2772994.435	209	47680	636117.965	2772997.283
10	45690	635222.018	2772600.306	60	46190	635298.978	2772560.784	110	46690	635543.314	2772750.014	160	47190	635805.639	2772999.522	210	47690	636121.326	2773006.702
11	45700	635219.398	2772590.712	61	46200	635301.906	2772570.339	111	46700	635551.259	2772743.949	161	47200	635814.249	2773004.609	211	47700	636123.992	2773016.3
12	45710	635219.866	2772580.777	62	46210	635305.226	2772579.772	112	46710	635559.397	2772738.136	162	47210	635822.859	2773009.695	212	47710	636122.265	2773026.044
13	45720	635223.24	2772571.365	63	46220	635308.546	2772589.205	113	46720	635567.534	2772732.324	163	47220	635831.468	2773014.783	213	47720	636116.18	2773033.883
14	45730	635227.783	2772562.502	64	46230	635311.866	2772598.638	114	46730	635575.671	2772726.512	164	47230	635839.789	2773020.313	214	47730	636108.999	2773040.842
15	45740	635233.158	2772554.069	65	46240	635315.185	2772608.071	115	46740	635583.809	2772720.7	165	47240	635846.526	2773027.645	215	47740	636103.151	2773048.844
16	45750	635238.519	2772545.628	66	46250	635318.33	2772617.562	116	46750	635592.285	2772715.464	166	47250	635851.107	2773036.519	216	47750	636101.784	2773058.645
17	45760	635243.8	2772537.136	67	46260	635320.585	2772627.3	117	46760	635602.131	2772714.667	167	47260	635854.995	2773045.732	217	47760	636105.283	2773067.902
18	45770	635248.279	2772528.243	68	46270	635321.857	2772637.214	118	46770	635610.984	2772719.05	168	47270	635859.627	2773054.576	218	47770	636112.792	2773074.348
19	45780	635249.109	2772518.443	69	46280	635322.134	2772647.206	119	46780	635616.32	2772727.364	169	47280	635866.666	2773061.594	219	47780	636122.47	2773076.489
20	45790	635244.941	2772509.377	70	46290	635321.411	2772657.176	120	46790	635616.853	2772737.27	170	47290	635875.821	2773065.463	220	47790	636132.457	2773076.998
21	45800	635239.957	2772500.738	71	46300	635319.922	2772667.064	121	46800	635616.059	2772747.238	171	47300	635885.758	2773065.614	221	47800	636142.444	2773077.506
22	45810	635233.475	2772493.124	72	46310	635318.383	2772676.945	122	46810	635615.649	2772757.221	172	47310	635895.042	2773062.053	222	47810	636152.256	2773079.297
23	45820	635227.864	2772484.851	73	46320	635316.96	2772686.841	123	46820	635617.087	2772767.1	173	47320	635903.086	2773056.129	223	47820	636161.32	2773083.46
24	45830	635222.361	2772476.502	74	46330	635316.783	2772696.83	124	46830	635620.46	2772776.497	174	47330	635910.807	2773049.774	224	47830	636169.072	2773089.736
25	45840	635216.723	2772468.247	75	46340	635318.14	2772706.728	125	46840	635625.286	2772785.253	175	47340	635918.522	2773043.411	225	47840	636175.031	2773097.734
26	45850	635209.846	2772461.065	76	46350	635320.998	2772716.3	126	46850	635629.594	2772794.268	176	47350	635925.991	2773036.766	226	47850	636178.857	2773106.949
27	45860	635201.878	2772455.022	77	46360	635325.288	2772725.322	127	46860	635632.398	2772803.858	177	47360	635932.709	2773029.367	227	47860	636181.873	2773116.483
28	45870	635193.302	2772449.957	78	46370	635330.836	2772733.636	128	46870	635634.456	2772813.644	178	47370	635938.73	2773021.385	228	47870	636184.888	2773126.018
29	45880	635184.241	2772445.725	79	46380	635336.655	2772741.768	129	46880	635636.475	2772823.438	179	47380	635944.59	2773013.281	229	47880	636187.904	2773135.552
30	45890	635175.604	2772440.777	80	46390	635342.474	2772749.901	130	46890	635638.748	2772833.173	180	47390	635949.548	2773004.645	230	47890	636190.762	2773145.132
31	45900	635169.689	2772432.773	81	46400	635347.554	2772758.495	131	46900	635642.852	2772842.251	181	47400	635953.695	2772995.548	231	47900	636192.009	2773155.037
32	45910	635165.139	2772423.912	82	46410	635350.83	2772767.926	132	46910	635649.634	2772849.537	182	47410	635959.356	2772987.345	232	47910	636192.303	2773165.033
33	45920	635162.376	2772414.311	83	46420	635352.167	2772777.819	133	46920	635658.426	2772854.203	183	47420	635967.241	2772981.251	233	47920	636192.597	2773175.028
34	45930	635163.341	2772404.457	84	46430	635351.511	2772787.781	134	46930	635668.261	2772855.736	184	47430	635976.124	2772976.665	234	47930	636193	2773185.019
35	45940	635166.827	2772395.116	85	46440	635349.249	2772797.519	135	46940	635678.145	2772854.352	185	47440	635985.006	2772972.074	235	47940	636193.79	2773194.988
36	45950	635173.778	2772388.038	86	46450	635348.372	2772807.418	136	46950	635687.832	2772851.872	186	47450	635993.085	2772966.217	236	47950	636194.32	2773204.971
37	45960	635182.071	2772382.55	87	46460	635351.391	2772816.882	137	46960	635697.51	2772849.354	187	47460	635999.654	2772958.697	237	47960	636193.889	2773214.957
38	45970	635191.835	2772383.683	88	46470	635357.856	2772824.423	138	46970	635707.188	2772846.836	188	47470	636005.407	2772950.518	238	47970	636192.583	2773224.87
39	45980	635200.748	2772388.01	89	46480	635366.748	2772828.851	139	46980	635716.888	2772844.409	189	47480	636011.163	2772942.341	239	47980	636191.15	2773234.767
40	45990	635206.782	2772395.907	90	46490	635376.663	2772829.467	140	46990	635726.82	2772843.787	190	47490	636017.749	2772934.836	240	47990	636189.717	2773244.664
41	46000	635211.359	2772404.789	91	46500	635386.506	2772827.707	141	47000	635736.056	2772847.369	191	47500	636025.788	2772928.916	241	48000	636188.284	2773254.561
42	46010	635215.707	2772413.795	92	46510	635396.399	2772826.279	142	47010	635742.622	2772854.786	192	47510	636034.453	2772923.925	242	48010	636186.85	2773264.457
43	46020	635220.912	2772422.32	93	46520	635406.39	2772826.058	143	47020	635745.079	2772864.386	193	47520	636043.159	2772919.005	243	48020	636185.429	2773274.356
44	46030	635227.458	2772429.864	94	46530	635416.337	2772827.043	144	47030	635744.063	2772874.315	194	47530	636051.864	2772914.084	244	48030	636184.531	2773284.31
45	46040	635234.818	2772436.634	95	46540	635426.248	2772828.37	145	47040	635742.237	2772884.147	195	47540	636059.905	2772908.147	245	48040	636185.176	2773294.276
46	46050	635242.835	2772442.592	96	46550	635436.16	2772829.697	146	47050	635740.409	2772893.979	196	47550	636067.857	2772902.083	246	48050	636187.613	2773303.96
47	46060	635251.16	2772448.132	97	46560	635446.075	2772830.993	147	47060	635738.581	2772903.81	197	47560	636076.074	2772896.409	247	48060	636191.761	2773313.044
48	46070	635259.485	2772453.673	98	46570	635455.998	2772830.21	148	47070	635736.81	2772913.652	198	47570	636085.735	2772894.823	248	48070	636197.481	2773321.23
49	46080	635267.615	2772459.483	99	46580	635465.118	2772826.223	149	47080	635735.698	2772923.585	199	47580	636093.565	2772900.593	249	48080	636204.35	2773328.492
50	46090	635275.414	2772465.739	100	46590	635473.131	2772820.242	15											

POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES
251	48100	636217.158	2773343.707	301	48600	636228.84	2773760.589	351	49100	636392.377	2774172.741	401	49600	636517.699	2774554.98	451	50100	636746.242	2774895.136
252	48110	636220.65	2773353.05	302	48610	636222.227	2773768.072	352	49110	636394.33	2774182.547	402	49610	636516.568	2774564.87	452	50110	636748.115	2774904.913
253	48120	636222.926	2773362.787	303	48620	636217.077	2773776.628	353	49120	636396.085	2774192.392	403	49620	636518.733	2774574.585	453	50120	636747.374	2774914.873
254	48130	636225.201	2773372.525	304	48630	636213.559	2773785.974	354	49130	636397.839	2774202.237	404	49630	636523.026	2774583.616	454	50130	636745.975	2774924.774
255	48140	636227.477	2773382.262	305	48640	636211.788	2773795.802	355	49140	636399.594	2774212.082	405	49640	636527.374	2774592.621	455	50140	636746.823	2774934.691
256	48150	636229.753	2773392	306	48650	636211.823	2773805.788	356	49150	636401.349	2774221.927	406	49650	636530.716	2774602.038	456	50150	636750.556	2774943.95
257	48160	636231.916	2773401.763	307	48660	636213.664	2773815.603	357	49160	636403.104	2774231.771	407	49660	636533.868	2774611.528	457	50160	636754.746	2774953.03
258	48170	636233.78	2773411.587	308	48670	636217.249	2773824.923	358	49170	636404.859	2774241.616	408	49670	636538.035	2774620.595	458	50170	636760.525	2774961.134
259	48180	636235.565	2773421.427	309	48680	636222.461	2773833.442	359	49180	636406.18	2774251.521	409	49680	636542.669	2774629.457	459	50180	636768.559	2774967.039
260	48190	636237.318	2773431.272	310	48690	636228.906	2773841.084	360	49190	636406.014	2774261.51	410	49690	636547.304	2774638.318	460	50190	636776.931	2774972.488
261	48200	636237.878	2773441.231	311	48700	636235.476	2773848.623	361	49200	636404.319	2774271.355	411	49700	636551.938	2774647.179	461	50200	636781.135	2774981.29
262	48210	636235.063	2773450.757	312	48710	636242.047	2773856.161	362	49210	636401.135	2774280.825	412	49710	636556.636	2774656.005	462	50210	636778.033	2774990.539
263	48220	636228.928	2773458.6	313	48720	636249.673	2773862.497	363	49220	636396.538	2774289.694	413	49720	636563.855	2774662.775	463	50220	636769.553	2774995.616
264	48230	636221.424	2773465.208	314	48730	636259.366	2773864.492	364	49230	636390.635	2774297.754	414	49730	636573.435	2774665.255	464	50230	636760.35	2774999.528
265	48240	636213.867	2773471.755	315	48740	636269.326	2773863.602	365	49240	636383.568	2774304.815	415	49740	636583.032	2774662.839	465	50240	636751.494	2775004.088
266	48250	636207.896	2773479.726	316	48750	636279.285	2773862.695	366	49250	636375.728	2774311.022	416	49750	636591.178	2774657.052	466	50250	636745.525	2775011.981
267	48260	636204.664	2773489.147	317	48760	636289.199	2773863.578	367	49260	636368.145	2774317.516	417	49760	636599.248	2774651.15	467	50260	636744.07	2775021.769
268	48270	636204.486	2773499.105	318	48770	636298.279	2773867.657	368	49270	636362.795	2774325.91	418	49770	636608.674	2774648.134	468	50270	636747.486	2775031.057
269	48280	636206.858	2773508.811	319	48780	636305.525	2773874.481	369	49280	636360.485	2774335.592	419	49780	636618.391	2774650.006	469	50280	636753.617	2775038.956
270	48290	636209.485	2773518.46	320	48790	636310.139	2773883.301	370	49290	636361.352	2774345.522	420	49790	636627.018	2774655.058	470	50290	636759.778	2775046.833
271	48300	636212.472	2773527.999	321	48800	636311.694	2773893.143	371	49300	636363.1	2774355.368	421	49800	636633.831	2774662.202	471	50300	636765.984	2775054.673
272	48310	636216.97	2773536.909	322	48810	636312.251	2773903.127	372	49310	636363.92	2774365.3	422	49810	636635.855	2774671.865	472	50310	636773.131	2775061.664
273	48320	636223.312	2773544.614	323	48820	636312.807	2773913.112	373	49320	636362.047	2774375.112	423	49820	636635.344	2774681.852	473	50320	636780.346	2775068.588
274	48330	636231.19	2773550.74	324	48830	636312.408	2773923.087	374	49330	636359.852	2774384.868	424	49830	636635.497	2774691.816	474	50330	636787.562	2775075.511
275	48340	636239.975	2773555.51	325	48840	636310.454	2773932.892	375	49340	636359.924	2774394.774	425	49840	636639.317	2774701.023	475	50340	636794.57	2775082.628
276	48350	636248.935	2773559.95	326	48850	636308.385	2773942.676	376	49350	636364.528	2774403.545	426	49850	636643.368	2774710.152	476	50350	636798.312	2775091.79
277	48360	636257.896	2773564.389	327	48860	636306.322	2773952.461	377	49360	636372.64	2774409.229	427	49860	636644.665	2774720.021	477	50360	636799.608	2775101.705
278	48370	636266.857	2773568.829	328	48870	636306.104	2773962.412	378	49370	636382.453	2774410.855	428	49870	636643.632	2774729.966	478	50370	636800.905	2775111.621
279	48380	636275.456	2773573.853	329	48880	636309.035	2773971.94	379	49380	636392.433	2774411.491	429	49880	636642.698	2774739.921	479	50380	636807.688	2775117.793
280	48390	636280.669	2773582.237	330	48890	636312.214	2773981.408	380	49390	636402.412	2774412.14	430	49890	636642.64	2774749.915	480	50390	636814.86	2775111.982
281	48400	636280.677	2773592.109	331	48900	636314.644	2773991.108	381	49400	636411.917	2774415.024	431	49900	636643.441	2774759.882	481	50400	636817.603	2775102.398
282	48410	636275.529	2773600.55	332	48910	636317.075	2774000.808	382	49410	636419.549	2774421.382	432	49910	636644.413	2774769.835	482	50410	636816.637	2775092.479
283	48420	636269.169	2773608.249	333	48920	636319.506	2774010.508	383	49420	636424.184	2774430.183	433	49920	636645.385	2774779.787	483	50420	636815.021	2775082.611
284	48430	636264.777	2773617.204	334	48930	636321.937	2774020.208	384	49430	636427.553	2774439.594	434	49930	636646.357	2774789.74	484	50430	636812.578	2775072.941
285	48440	636262.736	2773626.967	335	48940	636324.367	2774029.908	385	49440	636428.456	2774449.507	435	49940	636648.764	2774799.363	485	50440	636809.365	2775063.471
286	48450	636263.174	2773636.931	336	48950	636326.824	2774039.601	386	49450	636427.794	2774459.485	436	49950	636655.377	2774806.726	486	50450	636806.154	2775054.001
287	48460	636265.962	2773646.517	337	48960	636329.753	2774049.159	387	49460	636427.2	2774469.467	437	49960	636664.71	2774810.016	487	50460	636804	2775044.253
288	48470	636269.342	2773655.928	338	48970	636333.75	2774058.319	388	49470	636428.322	2774479.357	438	49970	636674.707	2774809.96	488	50470	636803.825	2775034.271
289	48480	636272.722	2773665.34	339	48980	636338.857	2774066.908	389	49480	636433.553	2774487.757	439	49980	636684.703	2774809.96	489	50480	636806.116	2775024.6
290	48490	636276.102	2773674.751	340	48990	636344.933	2774074.846	390	49490	636441.952	2774493.094	440	49990	636694.551	2774811.599	490	50490	636811.966	2775016.572
291	48500	636279.468	2773684.167	341	49000	636351.445	2774082.435	391	49500	636451.214	2774496.863	441	50000	636704.118	2774814.511	491	50500	636820.481	2775011.456
292	48510	636282.095	2773693.804	342	49010	636357.948	2774090.031	392	49510	636460.505	2774500.559	442	50010	636713.676	2774817.449	492	50510	636830	2775008.394
293	48520	636282.365	2773703.767	343	49020	636363.318	2774098.447	393	49520	636469.797	2774504.255	443	50020	636722.311	2774822.291	493	50520	636839.524	2775005.344
294	48530	636279.816	2773713.401	344	49030	636367.565	2774107.5	394	49530	636478.965	2774508.228	444	50030	636727.577	2774830.67	494	50530	636849.047	2775002.294
295	48540	636274.655	2773721.927	345	49040	636371.79	2774116.564	395	49540	636487.855	2774512.807	445	50040	636728.26	2774840.557	495	50540	636858.571	2774999.243
296	48550	636267.534	2773728.928	346	49050	636376.015	2774125.628	396	49550	636496.745	2774517.386	446	50050	636727.256	2774850.507	496	50550	636868.094	2774996.193
297	48560	636259.791	2773735.256	347	49060	636380.24	2774134.691	397	49560	636505.635	2774521.965	447	50060	636726.952	2774860.472	497	50560	636877.792	2774993.812
298	48570	636252.029	2773741.561	348	49070	636384.061	2774143.922	398	49570	636514.138	2774527.154	448	50070	636730.229	2774869.849	498	50570	636887.766	2774993.377
299	48580	636244.267	2773747.865	349	49080	636386.929	2774153.502	399	49580	636519.528	2774535.454	449	50080	636735.896	2774878.086	499	50580	636897.708	2774994.433
300	48590	636236.504	2773754.17</																

POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES	POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES
501	50600	636917.598	2774996.155	551	51100	637124.74	2775180.2	601	51600	637450.949	2775390.507	651	52100	637779.789	2775596.685	701	52600	637918.936	2775938.438
502	50610	636926.818	2774992.559	552	51110	637115.54	2775184.12	602	51610	637460.029	2775394.618	652	52110	637788.688	2775601.221	702	52610	637928.114	2775934.736
503	50620	636933.203	2774984.992	553	51120	637108.172	2775190.443	603	51620	637469.799	2775396.72	653	52120	637798.216	2775604.218	703	52620	637936.148	2775928.783
504	50630	636937.932	2774976.182	554	51130	637108.496	2775200.097	604	51630	637479.669	2775398.327	654	52130	637808.106	2775605.634	704	52630	637944.183	2775922.829
505	50640	636942.693	2774967.388	555	51140	637116.31	2775205.781	605	51640	637489.539	2775399.933	655	52140	637818.06	2775606.59	705	52640	637952.663	2775917.587
506	50650	636948.266	2774959.102	556	51150	637126.215	2775205.611	606	51650	637499.319	2775401.972	656	52150	637827.949	2775608.061	706	52650	637962.344	2775915.276
507	50660	636955.714	2774952.48	557	51160	637136.009	2775203.595	607	51660	637508.845	2775405.016	657	52160	637837.792	2775609.828	707	52660	637972.31	2775915.88
508	50670	636964.726	2774948.226	558	51170	637145.804	2775201.579	608	51670	637518.368	2775408.065	658	52170	637847.484	2775612.239	708	52670	637982.28	2775916.601
509	50680	636974.557	2774946.517	559	51180	637155.484	2775199.087	609	51680	637527.958	2775410.881	659	52180	637856.024	2775617.319	709	52680	637992.145	2775915.229
510	50690	636984.548	2774946.12	560	51190	637164.922	2775195.783	610	51690	637537.767	2775412.818	660	52190	637861.925	2775625.309	710	52690	638001.071	2775910.809
511	50700	636994.544	2774945.83	561	51200	637174.373	2775192.52	611	51700	637546.832	2775416.93	661	52200	637864.249	2775634.967	711	52700	638008.919	2775904.618
512	50710	637004.543	2774945.797	562	51210	637184.116	2775190.296	612	51710	637554.052	2775423.782	662	52210	637863.18	2775644.884	712	52710	638016.567	2775898.175
513	50720	637014.493	2774946.726	563	51220	637194.06	2775189.305	613	51720	637558.959	2775432.476	663	52220	637860.926	2775654.627	713	52720	638024.223	2775891.743
514	50730	637024.331	2774948.517	564	51230	637204.05	2775189.56	614	51730	637563.215	2775441.518	664	52230	637858.64	2775664.362	714	52730	638032.933	2775886.924
515	50740	637034.136	2774950.481	565	51240	637213.957	2775190.905	615	51740	637565.46	2775451.236	665	52240	637858.34	2775674.259	715	52740	638042.74	2775885.221
516	50750	637044.033	2774950.152	566	51250	637223.844	2775192.405	616	51750	637565.232	2775461.207	666	52250	637860.966	2775683.908	716	52750	638052.703	2775886.033
517	50760	637053.763	2774947.843	567	51260	637233.731	2775193.905	617	51760	637562.936	2775470.934	667	52260	637863.558	2775693.565	717	52760	638062.586	2775887.513
518	50770	637063.642	2774946.879	568	51270	637243.618	2775195.404	618	51770	637560.496	2775480.63	668	52270	637863.937	2775703.512	718	52770	638071.902	2775891.054
519	50780	637073.127	2774949.96	569	51280	637253.505	2775196.904	619	51780	637561.483	2775490.465	669	52280	637861.04	2775713.035	719	52780	638079.912	2775896.998
520	50790	637082.321	2774953.884	570	51290	637263.392	2775198.404	620	51790	637567.277	2775498.474	670	52290	637855.731	2775721.501	720	52790	638086.907	2775904.141
521	50800	637091.212	2774958.46	571	51300	637273.278	2775199.904	621	51800	637576.036	2775503.242	671	52300	637850.301	2775729.896	721	52800	638093.902	2775911.284
522	50810	637100.086	2774963.069	572	51310	637283.15	2775201.497	622	51810	637585.335	2775506.889	672	52310	637848.85	2775739.604	722	52810	638102.295	2775916.599
523	50820	637109.036	2774967.527	573	51320	637292.669	2775204.472	623	51820	637595.229	2775507.982	673	52320	637853.712	2775748.131	723	52820	638112.15	2775917.549
524	50830	637118.147	2774971.648	574	51330	637301.001	2775209.959	624	51830	637604.939	2775505.788	674	52330	637862.524	2775752.759	724	52830	638121.754	2775914.837
525	50840	637127.259	2774975.768	575	51340	637308.574	2775216.489	625	51840	637613.767	2775501.118	675	52340	637871.68	2775756.781	725	52840	638131.106	2775911.297
526	50850	637136.37	2774979.889	576	51350	637316.358	2775222.752	626	51850	637622.24	2775495.807	676	52350	637880.79	2775760.897	726	52850	638140.458	2775907.754
527	50860	637145.475	2774984.024	577	51360	637325.164	2775227.455	627	51860	637630.71	2775490.49	677	52360	637887.921	2775767.758	727	52860	638149.809	2775904.212
528	50870	637154.166	2774988.94	578	51370	637334.729	2775230.315	628	51870	637639.2	2775485.207	678	52370	637891.596	2775777.024	728	52870	638158.559	2775899.52
529	50880	637161.155	2774996.028	579	51380	637344.672	2775231.217	629	51880	637647.834	2775480.163	679	52380	637890.059	2775786.691	729	52880	638164.129	2775891.34
530	50890	637165.574	2775004.962	580	51390	637354.667	2775230.933	630	51890	637656.627	2775475.4	680	52390	637882.566	2775792.989	730	52890	638165.302	2775881.479
531	50900	637168.41	2775014.549	581	51400	637364.663	2775230.64	631	51900	637665.501	2775470.791	681	52400	637872.722	2775794.659	731	52900	638165.951	2775871.528
532	50910	637171.082	2775024.186	582	51410	637374.629	2775231.091	632	51910	637674.406	2775466.244	682	52410	637862.931	2775796.572	732	52910	638169.639	2775862.282
533	50920	637172.467	2775034.017	583	51420	637384.089	2775234.227	633	51920	637683.929	2775463.271	683	52420	637854.553	2775801.894	733	52920	638176.149	2775854.753
534	50930	637169.159	2775043.344	584	51430	637392.39	2775239.769	634	51930	637693.885	2775462.628	684	52430	637849.12	2775810.199	734	52930	638184.762	2775849.761
535	50940	637162.17	2775050.451	585	51440	637400.352	2775245.819	635	51940	637703.711	2775464.351	685	52440	637847.599	2775820.007	735	52940	638194.051	2775846.058
536	50950	637154.737	2775057.141	586	51450	637408.202	2775252.011	636	51950	637712.854	2775468.343	686	52450	637850.263	2775829.567	736	52950	638203.34	2775842.354
537	50960	637147.728	2775064.253	587	51460	637415.076	2775259.245	637	51960	637720.797	2775474.379	687	52460	637856.635	2775837.176	737	52960	638212.629	2775838.651
538	50970	637142.395	2775072.688	588	51470	637420.005	2775267.917	638	51970	637727.093	2775482.118	688	52470	637865.269	2775842.197	738	52970	638222.054	2775835.375
539	50980	637139.054	2775082.091	589	51480	637422.892	2775277.478	639	51980	637732.163	2775490.737	689	52480	637874.072	2775846.94	739	52980	638231.917	2775836.192
540	50990	637137.866	2775092	590	51490	637424.919	2775287.27	640	51990	637737.125	2775499.419	690	52490	637882.876	2775851.683	740	52990	638240.18	2775841.637
541	51000	637138.892	2775101.927	591	51500	637426.905	2775297.071	641	52000	637741.175	2775508.549	691	52500	637891.405	2775856.867	741	53000	638245.755	2775849.923
542	51010	637142.081	2775111.383	592	51510	637428.607	2775306.923	642	52010	637743.47	2775518.268	692	52510	637897.997	2775864.325	742	53010	638251.074	2775858.391
543	51020	637147.033	2775120.064	593	51520	637429.332	2775316.891	643	52020	637744.632	2775528.199	693	52520	637901.786	2775873.529	743	53020	638256.479	2775866.803
544	51030	637152.217	2775128.615	594	51530	637429.238	2775326.89	644	52030	637745.649	2775538.148	694	52530	637902.355	2775883.467	744	53030	638262.843	2775874.494
545	51040	637156.554	2775137.587	595	51540	637429.003	2775336.887	645	52040	637747.025	2775548.049	695	52540	637900.248	2775893.235	745	53040	638270.826	2775880.474
546	51050	637157.815	2775147.461	596	51550	637429.747	2775346.843	646	52050	637749.867	2775557.62	696	52550	637898.159	2775903.012	746	53050	638279.875	2775884.713
547	51060	637155.775	2775157.203	597	51560	637432.121	2775356.554	647	52060	637754.282	2775566.585	697	52560	637896.616	2775912.892	747	53060	638289.171	2775888.396
548	51070	637150.66	2775165.742	598	51570	637434.673	2775366.222	648	52070	637759.207	2775575.289	698	52570	637896.488	2775922.817	748	53070	638298.151	2775892.771
549	51080	637143.033	2775172.138	599	51580	637437.966	2775375.653	649	52080	637764.841	2775583.536	699	52580	637900.97	2775931.64	749	53080	638305.832	2775899.124
550	51090	637133.94	2775176.281																

POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES
751	53100	638317.765	2775915.153
752	53110	638321.68	2775924.318
753	53120	638322.936	2775934.213
754	53130	638323.371	2775944.203
755	53140	638323.806	2775954.194
756	53150	638324.325	2775964.18
757	53160	638325.962	2775974.029
758	53170	638329.832	2775983.222
759	53180	638335.43	2775991.5
760	53190	638341.462	2775999.475
761	53200	638346.355	2776008.113
762	53210	638348.844	2776017.798
763	53220	638351.322	2776027.486
764	53230	638354.718	2776036.837
765	53240	638361.783	2776043.781
766	53250	638371.244	2776046.713
767	53260	638380.998	2776044.982
768	53270	638390.046	2776040.726
769	53280	638399.373	2776037.175
770	53290	638409.276	2776035.985
771	53300	638419.165	2776037.282
772	53310	638428.457	2776040.924
773	53320	638437.476	2776045.244
774	53330	638445.439	2776051.133
775	53340	638449.644	2776060.093
776	53350	638451.772	2776069.864
777	53360	638454.009	2776079.61
778	53370	638457.26	2776089.054
779	53380	638462.218	2776097.722
780	53390	638468.203	2776105.731
781	53400	638474.33	2776113.634
782	53410	638480.458	2776121.537
783	53420	638486.585	2776129.44
784	53430	638492.712	2776137.343
785	53440	638498.879	2776145.216
786	53450	638505.061	2776153.076
787	53460	638511.243	2776160.936
788	53470	638517.459	2776168.768
789	53480	638523.835	2776176.46
790	53490	638529.595	2776184.634
791	53500	638533.106	2776193.887
792	53510	638533.316	2776203.881
793	53520	638533.42	2776213.881
794	53530	638533.525	2776223.88
795	53540	638533.63	2776233.88
796	53550	638534.301	2776243.845
797	53560	638536.872	2776253.492
798	53570	638540.279	2776262.893
799	53580	638544.881	2776271.753
800	53590	638550.268	2776280.178

POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES
801	53600	638555.655	2776288.603
802	53610	638561.221	2776296.908
803	53620	638567.96	2776304.268
804	53630	638576.276	2776309.774
805	53640	638585.696	2776313.051
806	53650	638595.634	2776313.897
807	53660	638605.473	2776312.257
808	53670	638614.752	2776308.555
809	53680	638623.738	2776304.169
810	53690	638632.716	2776299.764
811	53700	638642.371	2776297.592
812	53710	638651.886	2776300.311
813	53720	638658.933	2776307.26
814	53730	638663.241	2776316.28
815	53740	638667.612	2776325.267
816	53750	638674.667	2776332.232
817	53760	638684.065	2776335.392
818	53770	638693.961	2776334.359
819	53780	638703.756	2776332.346
820	53790	638713.071	2776328.935
821	53800	638719.692	2776321.58
822	53810	638723.193	2776312.222
823	53820	638726.555	2776302.804
824	53830	638730.863	2776293.795
825	53840	638737.107	2776286.018
826	53850	638745.075	2776280.016
827	53860	638754.021	2776275.559
828	53870	638763.149	2776271.474
829	53880	638772.174	2776267.17
830	53890	638781.07	2776262.602
831	53900	638789.959	2776258.021
832	53910	638798.867	2776253.476
833	53920	638807.868	2776249.121
834	53930	638816.883	2776244.793
835	53940	638825.897	2776240.464
836	53950	638834.912	2776236.135
837	53960	638844.016	2776232.001
838	53970	638853.282	2776228.24
839	53980	638862.784	2776225.203
840	53990	638872.745	2776224.863
841	54000	638882.397	2776227.343
842	54010	638891.329	2776231.833
843	54020	638900.473	2776235.867
844	54030	638910.132	2776238.396
845	54040	638920.099	2776238.964
846	54050	638929.985	2776237.561
847	54060	638939.568	2776234.718
848	54070	638948.995	2776231.383
849	54080	638958.416	2776228.029
850	54090	638967.837	2776224.675

POINT	CHAINAGE	X-COORDINATES	Y-COORDINATES
851	54100	638977.257	2776221.321
852	54110	638986.678	2776217.967
853	54120	638996.08	2776214.56
854	54130	639005.321	2776210.744
855	54140	639014.187	2776206.128
856	54150	639022.549	2776200.651
857	54160	639030.322	2776194.367
858	54170	639037.429	2776187.338
859	54180	639043.799	2776179.634
860	54190	639049.367	2776171.333
861	54200	639054.08	2776162.518
862	54210	639057.888	2776153.276

	16.11.23	R-3			
MKD	DATE	DESCRIPTION	PREP.	CHK.	APPD.
R E V I S I O N S					

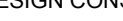
DESIGN CONSULTANTS :					
 S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http://www.smcindia.com , e-mail: support@smcindia.com					
Design. By	Prep. By	Chk. By	Issued By	Date	Rev. No.
S.K.S	R.B	S.K.S	S.N	DEC- 23	R5

CLIENT :	 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PROJECT :	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

SCALE	TITLE : CO-ORDINATE	
NTS	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE A2

HORIZONTAL REPORT

SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)	in Kmph.	
1	45600.000	635258.794	2772682.316	205	56	13.5	21.781	STRAIGHT							
2	45621.781	635249.268	2772662.729	205	56	13.5	2.079	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-77
3	45623.860	635248.457	2772660.816	199	58	55.1	24.149	STRAIGHT							
4	45648.009	635240.205	2772638.121	199	58	55.1	2.378	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-78
5	45650.387	635239.261	2772635.939	206	47	42.5	32.075	STRAIGHT							
6	45682.462	635224.802	2772607.308	206	47	42.5	2.069	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-79
7	45684.531	635223.966	2772605.416	200	52	3.3	9.217	STRAIGHT							
8	45693.748	635220.683	2772596.804	200	52	3.3	6.264	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-80
9	45700.012	635219.397	2772590.699	182	55	21.7	3.718	STRAIGHT							
10	45703.730	635219.207	2772586.986	182	55	21.7	8.064	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-81
11	45711.794	635220.409	2772579.067	159	49	13.2	10.412	STRAIGHT							
12	45722.206	635224.001	2772569.295	159	49	13.2	4.304	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-82
13	45726.510	635225.907	2772565.445	147	29	16.5	21.905	STRAIGHT							
14	45748.415	635237.68	2772546.974	147	29	16.5	0.222	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-83
15	45748.637	635237.799	2772546.786	148	7	25.3	15.166	STRAIGHT							
16	45763.803	635245.808	2772533.906	148	7	25.3	4.615	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-84
17	45768.418	635247.773	2772529.742	161	20	38.3	3.073	STRAIGHT							
18	45771.491	635248.756	2772526.831	161	20	38.3	11.934	CIRCULAR CURVE	15.000	RIGHT		1.500	10.000	20	C-85
19	45783.425	635247.918	2772515.239	206	55	41.4	11.958	STRAIGHT							
20	45795.383	635242.503	2772504.578	206	55	41.4	4.707	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-86
21	45800.090	635239.899	2772500.67	220	24	46	9.758	STRAIGHT							
22	45809.848	635233.573	2772493.24	220	24	46	2.452	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-87
23	45812.300	635232.101	2772491.28	213	23	17.8	24.581	STRAIGHT							
24	45836.881	635218.574	2772470.756	213	23	17.8	1.353	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-88
25	45838.234	635217.792	2772469.653	217	15	46.1	4.874	STRAIGHT							
26	45843.108	635214.842	2772465.774	217	15	46.1	5.431	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-89
27	45848.539	635211.01	2772461.948	232	49	24.4	13.899	STRAIGHT							
28	45862.438	635199.936	2772453.549	232	49	24.4	4.238	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-90
29	45866.676	635196.314	2772451.364	244	57	49.3	17.549	STRAIGHT							
30	45884.225	635180.413	2772443.937	244	57	49.3	11.702	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-91
31	45895.927	635171.814	2772436.249	211	26	26.4	8.586	STRAIGHT							
32	45904.513	635167.335	2772428.923	211	26	26.4	4.898	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-92
33	45909.411	635165.315	2772424.474	197	24	24.9	7.510	STRAIGHT							
34	45916.921	635163.068	2772417.308	197	24	24.9	12.057	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-93
35	45928.978	635163.04	2772405.433	162	51	57.8	6.196	STRAIGHT							
36	45935.174	635164.865	2772399.512	162	51	57.8	12.455	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-94
37	45947.629	635171.889	2772389.471	127	11	10.1	8.774	STRAIGHT							
38	45956.403	635178.88	2772384.167	127	11	10.1	9.218	CIRCULAR CURVE	10.000	LEFT		1.500	10.000	20	C-95
39	45965.621	635187.618	2772382.504	74	22	26.4	5.912	STRAIGHT							
40	45971.533	635193.311	2772384.096	74	22	26.4	15.134	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-96
41	45986.667	635205.064	2772393.051	31	1	4.8	5.315	STRAIGHT							
42	45991.982	635207.803	2772397.606	31	1	4.8	1.847	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-97
43	45993.829	635208.68	2772399.23	25	43	45.5	15.230	STRAIGHT							
44	46009.059	635215.292	2772412.95	25	43	45.5	22.854	CIRCULAR CURVE	60.000	RIGHT		1.200	2.963	20	C-98
45	46031.913	635228.849	2772431.177	47	33	11.7	7.612	STRAIGHT							
46	46039.525	635234.466	2772436.314	47	33	11.7	7.680	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-99
47	46047.205	635240.508	2772441.043	56	21	16.1	27.976	STRAIGHT							
48	46075.181	635263.798	2772456.543	56	21	16.1	1.670	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-100
49	46076.851	635265.147	2772457.525	51	34	16.9	11.691	STRAIGHT							
50	46088.542	635274.306	2772464.792	51	34	16.9	2.119	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-101

						DESIGN CONSULTANTS : S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com						CLIENT :  NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		SCALE	TITLE : HORIZONTAL REPORT	
												NTS	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222		SHEET SIZE A2	
	16.11.23	R-5											PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)			
MKD	DATE	DESCRIPTION			PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N	Date DEC- 23		Rev. No. R5		
REVISIONS																

SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)	in Kmph.	
51	46090.661	635275.893	2772466.194	45	30	5.2	6.066	STRAIGHT							
52	46096.727	635280.22	2772470.446	45	30	5.2	8.981	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-102
53	46105.708	635285.023	2772477.946	19	46	20.6	8.087	STRAIGHT							
54	46113.795	635287.759	2772485.556	19	46	20.6	18.730	CIRCULAR CURVE	80.000	LEFT		0.900	NC	20	C-103
55	46132.525	635291.983	2772503.759	6	21	29	47.379	STRAIGHT							
56	46179.904	635297.23	2772550.846	6	21	29	18.194	CIRCULAR CURVE	80.000	RIGHT		0.900	NC	20	C-104
57	46198.098	635301.275	2772568.545	19	23	18.5	45.825	STRAIGHT							
58	46243.923	635316.488	2772611.771	19	23	18.5	49.295	CIRCULAR CURVE	100.000	LEFT		0.900	NC	20	C-105
59	46293.218	635320.966	2772660.363	351	8	39.2	22.881	STRAIGHT							
60	46316.099	635317.444	2772682.971	351	8	39.2	50.417	CIRCULAR CURVE	65.000	RIGHT		0.900	2.735	20	C-106
61	46366.516	635328.808	2772730.802	35	35	7.5	24.145	STRAIGHT							
62	46390.661	635342.859	2772750.438	35	35	7.5	43.221	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-107
63	46433.882	635350.723	2772791.581	346	3	26.3	7.315	STRAIGHT							
64	46441.197	635348.961	2772798.68	346	3	26.3	49.828	CIRCULAR CURVE	25.000	RIGHT		1.500	7.111	20	C-108
65	46491.025	635377.675	2772829.305	100	15	20.3	11.424	STRAIGHT							
66	46502.449	635388.917	2772827.271	100	15	20.3	24.967	CIRCULAR CURVE	80.000	LEFT		0.900	NC	20	C-109
67	46527.416	635413.776	2772826.7	82	22	28	31.227	STRAIGHT							
68	46558.643	635444.727	2772830.844	82	22	28	23.449	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-110
69	46582.092	635466.828	2772825.018	127	9	27.9	41.118	STRAIGHT							
70	46623.210	635499.599	2772800.182	127	9	27.9	22.628	CIRCULAR CURVE	80.000	RIGHT		0.900	NC	20	C-111
71	46645.838	635515.473	2772784.163	143	21	48.3	26.404	STRAIGHT							
72	46672.242	635531.229	2772762.975	143	21	48.3	24.892	CIRCULAR CURVE	80.000	LEFT		0.900	NC	20	C-112
73	46697.134	635548.926	2772745.615	125	32	10.7	47.887	STRAIGHT							
74	46745.021	635587.895	2772717.781	125	32	10.7	42.005	CIRCULAR CURVE	18.500	LEFT		1.500	9.610	20	C-113
75	46787.026	635617.089	2772734.305	355	26	44.8	16.771	STRAIGHT							
76	46803.797	635615.757	2772751.023	355	26	44.8	30.076	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-114
77	46833.873	635622.259	2772779.925	29	54	35.8	0.835	STRAIGHT							
78	46834.708	635622.675	2772780.649	29	54	35.8	15.000	TRANSITION			15.000				
79	46849.708	635629.489	2772793.995	21	18	56.1	0.935	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-115
80	46850.643	635629.821	2772794.869	20	14	39.5	15.000	TRANSITION			15.000				
81	46865.643	635633.576	2772809.376	11	38	59.8	15.471	STRAIGHT							
82	46881.114	635636.7	2772824.529	11	38	59.8	15.000	TRANSITION			15.000				
83	46896.114	635640.929	2772838.877	25	58	26	33.661	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-116
84	46929.775	635668.036	2772855.738	90	15	39.7	15.000	TRANSITION			15.000				
85	46944.775	635682.775	2772853.188	104	35	5.9	29.610	STRAIGHT							
86	46974.385	635711.431	2772845.732	104	35	5.9	15.000	TRANSITION			15.000				
87	46989.385	635726.21	2772843.715	84	7	19.9	27.193	CIRCULAR CURVE	21.000	LEFT		1.500	8.466	20	C-117
88	47016.578	635744.744	2772860.984	9	55	44.9	15.000	TRANSITION			15.000				
89	47031.578	635743.777	2772875.867	349	27	58.9	31.146	STRAIGHT							
90	47062.724	635738.083	2772906.488	349	27	58.9	20.000	TRANSITION			20.000				
91	47082.724	635735.628	2772926.307	359	53	1.6	47.155	CIRCULAR CURVE	55.000	RIGHT		1.200	3.232	20	C-118
92	47129.879	635754.549	2772967.932	49	0	25.8	20.000	TRANSITION			20.000				
93	47149.879	635771.097	2772979.113	59	25	28.5	68.849	STRAIGHT							
94	47218.728	635830.373	2773014.135	59	25	28.5	15.000	TRANSITION			15.000				
95	47233.728	635842.574	2773022.789	45	6	2.3	4.184	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-119
96	47237.912	635845.322	2773025.939	37	6	35	15.000	TRANSITION			15.000				
97	47252.912	635852.243	2773039.2	22	47	8.8	4.483	STRAIGHT							
98	47257.395	635853.979	2773043.334	22	47	8.8	15.000	TRANSITION			15.000				
99	47272.395	635861.062	2773056.493	39	18	48.3	33.406	CIRCULAR CURVE	26.000	RIGHT		1.500	6.838	20	C-120
100	47305.801	635891.308	2773063.966	112	55	44.1	15.000	TRANSITION			15.000				

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	16.11.23	R-5											PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)	NTS	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE	
MKD	DATE	DESCRIPTION			PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N	Date DEC- 23					Rev. No. R5
R E V I S I O N S																	

SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)	in Kmph.	
101	47320.801	635903.704	2773055.62	129	27	23.5	15.047	STRAIGHT							
102	47335.848	635915.322	2773046.058	129	27	23.5	15.000	TRANSITION			15.000				
103	47350.848	635926.596	2773036.172	134	49	40.9	5.492	CIRCULAR CURVE	80.000	RIGHT		0.900	NC	20	C-121
104	47356.340	635930.355	2773032.17	138	45	40.5	15.000	TRANSITION			15.000				
105	47371.340	635939.515	2773020.299	144	7	57.8	11.656	STRAIGHT							
106	47382.996	635946.345	2773010.853	144	7	57.8	4.338	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-122
107	47387.334	635948.487	2773007.091	156	33	31.5	4.707	STRAIGHT							
108	47392.041	635950.36	2773002.772	156	33	31.5	15.000	TRANSITION			15.000				
109	47407.041	635957.431	2772989.591	142	14	5.3	6.169	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-123
110	47413.210	635961.682	2772985.136	130	27	13.8	15.000	TRANSITION			15.000				
111	47428.210	635974.517	2772977.453	116	7	47.6	2.667	STRAIGHT							
112	47430.877	635976.911	2772976.279	116	7	47.6	15.000	TRANSITION			15.000				
113	47445.877	635989.919	2772968.856	126	52	22.3	5.336	CIRCULAR CURVE	40.000	RIGHT		1.500	4.444	20	C-124
114	47451.213	635993.962	2772965.38	134	30	59.2	15.000	TRANSITION			15.000				
115	47466.213	636003.248	2772953.63	145	15	33.8	7.454	STRAIGHT							
116	47473.667	636007.497	2772947.504	145	15	33.8	15.000	TRANSITION			15.000				
117	47488.667	636016.783	2772935.754	134	30	59.2	3.004	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-125
118	47491.671	636019.002	2772933.73	130	12	51.1	15.000	TRANSITION			15.000				
119	47506.671	636031.555	2772925.562	119	28	16.4	23.083	STRAIGHT							
120	47529.754	636051.651	2772914.206	119	28	16.4	2.743	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-126
121	47532.497	636053.939	2772912.697	127	19	45.9	19.516	STRAIGHT							
122	47552.013	636069.458	2772900.863	127	19	45.9	15.000	TRANSITION			15.000				
123	47567.013	636082.77	2772894.532	91	31	10.4	9.445	CIRCULAR CURVE	12.000	LEFT		1.500	10.000	20	C-127
124	47576.458	636091.36	2772897.834	46	25	31.7	15.000	TRANSITION			15.000				
125	47591.458	636097.004	2772911.452	10	36	56.2	7.821	STRAIGHT							
126	47599.279	636098.445	2772919.14	10	36	56.2	7.688	CIRCULAR CURVE	100.000	RIGHT		0.900	NC	20	C-128
127	47606.967	636100.15	2772926.634	15	1	13.4	24.903	STRAIGHT							
128	47631.870	636106.604	2772950.686	15	1	13.4	5.434	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-129
129	47637.304	636107.725	2772956	8	47	38.5	17.737	STRAIGHT							
130	47655.041	636110.436	2772973.529	8	47	38.5	9.463	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-130
131	47664.504	636112.757	2772982.689	19	38	20	30.132	STRAIGHT							
132	47694.636	636122.884	2773011.068	19	38	20	22.877	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-131
133	47717.513	636117.966	2773032.152	314	5	59.8	14.237	STRAIGHT							
134	47731.750	636107.742	2773042.06	314	5	59.8	46.421	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-132
135	47778.171	636120.643	2773076.396	87	5	9.3	21.642	STRAIGHT							
136	47799.813	636142.258	2773077.497	87	5	9.3	48.545	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-133
137	47848.358	636178.362	2773105.383	17	33	3.9	37.589	STRAIGHT							
138	47885.947	636189.697	2773141.222	17	33	3.9	13.847	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-134
139	47899.794	636192.003	2773154.831	1	41	2.2	25.531	STRAIGHT							
140	47925.325	636192.754	2773180.351	1	41	2.2	4.972	CIRCULAR CURVE	100.000	RIGHT		0.900	NC	20	C-135
141	47930.297	636193.023	2773185.315	4	31	57.1	12.481	STRAIGHT							
142	47942.778	636194.009	2773197.757	4	31	57.1	22.293	CIRCULAR CURVE	100.000	LEFT		0.900	NC	20	C-136
143	47965.071	636193.29	2773219.992	351	45	34.6	50.962	STRAIGHT							
144	48016.033	636185.986	2773270.428	351	45	34.6	15.000	TRANSITION			15.000				
145	48031.033	636184.514	2773285.343	359	34	21.6	37.001	CIRCULAR CURVE	55.000	RIGHT		1.200	3.232	20	C-137
146	48068.034	636196.242	2773319.704	38	7	7.4	15.000	TRANSITION			15.000				
147	48083.034	636206.526	2773330.607	45	55	54.4	4.207	STRAIGHT							
148	48087.241	636209.548	2773333.533	45	55	54.4	22.883	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-138
149	48110.124	636220.678	2773353.17	13	9	16.3	41.403	STRAIGHT							
150	48151.527	636230.101	2773393.487	13	9	16.3	15.547	CIRCULAR CURVE	310.000	LEFT			NC	20	C-139

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	16.11.23	R-5											PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)	NTS	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE	
MKD	DATE	DESCRIPTION			PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N	Date DEC- 23			Rev. No. R5	A2	
REVISIONS																	

SL.NO.	CHANNAGE	X-CoOrdinates	Y-CoOrdinates	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	ELEVATION (%)	in Kmph.		
151	48167.074	636233.258	2773408.708	10	16	51.8	18.756	STRAIGHT							
152	48185.830	636236.605	2773427.163	10	16	51.8	15.000	TRANSITION			15.000				
153	48200.830	636237.792	2773442.056	353	5	32.4	11.072	CIRCULAR CURVE	25.000	LEFT		1.500	7.111	20	C-140
154	48211.902	636234.109	2773452.402	327	43	3.7	15.000	TRANSITION			15.000				
155	48226.902	636223.779	2773463.195	310	31	44.3	11.042	STRAIGHT							
156	48237.944	636215.386	2773470.37	310	31	44.3	36.132	CIRCULAR CURVE	32.000	RIGHT		1.500	5.556	20	C-141
157	48274.076	636205.303	2773503.095	15	13	21.1	14.389	STRAIGHT							
158	48288.465	636209.081	2773516.979	15	13	21.1	15.000	TRANSITION			15.000				
159	48303.465	636213.811	2773531.195	24	46	18.6	23.031	CIRCULAR CURVE	45.000	RIGHT		1.200	3.951	20	C-142
160	48326.496	636228.281	2773548.789	54	5	45.2	15.000	TRANSITION			15.000				
161	48341.496	636241.316	2773556.175	63	38	42.6	33.523	STRAIGHT							
162	48375.019	636271.354	2773571.057	63	38	42.6	33.362	CIRCULAR CURVE	18.000	LEFT		1.500	9.877	20	C-143
163	48408.381	636276.623	2773599.358	317	26	56.9	5.155	STRAIGHT							
164	48413.536	636273.138	2773603.155	317	26	56.9	43.498	CIRCULAR CURVE	40.000	RIGHT		1.500	4.444	20	C-144
165	48457.034	636264.959	2773643.726	19	45	23.1	39.346	STRAIGHT							
166	48496.380	636278.259	2773680.755	19	45	23.1	15.000	TRANSITION			15.000				
167	48511.380	636282.301	2773695.169	7	28	43.5	28.171	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-145
168	48539.551	636274.937	2773721.578	321	21	41.3	15.000	TRANSITION			15.000				
169	48554.551	636264.021	2773731.821	309	5	1.7	41.377	STRAIGHT							
170	48595.928	636231.903	2773757.907	309	5	1.7	88.307	CIRCULAR CURVE	55.000	RIGHT		1.200	3.232	20	C-146
171	48684.235	636225.118	2773836.738	41	4	36.1	27.748	STRAIGHT							
172	48711.983	636243.35	2773857.656	41	4	36.1	18.899	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-147
173	48730.882	636260.246	2773864.432	95	13	8.3	18.721	STRAIGHT							
174	48749.603	636278.889	2773862.729	95	13	8.3	48.186	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-148
175	48797.789	636311.571	2773890.935	3	11	22.5	22.432	STRAIGHT							
176	48820.221	636312.819	2773913.332	3	11	22.5	13.203	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-149
177	48833.424	636311.815	2773926.459	348	3	34.5	25.982	STRAIGHT							
178	48859.406	636306.439	2773951.879	348	3	34.5	17.804	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-150
179	48877.210	636307.987	2773969.354	22	3	43.4	4.919	STRAIGHT							
180	48882.129	636309.835	2773973.913	22	3	43.4	6.976	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-151
181	48889.105	636311.996	2773980.54	14	4	5.2	55.122	STRAIGHT							
182	48944.227	636325.395	2774034.008	14	4	5.2	15.000	TRANSITION			15.000				
183	48959.227	636329.492	2774048.432	19	26	22.5	22.411	CIRCULAR CURVE	80.000	RIGHT		0.900	NC	20	C-152
184	48981.638	636339.795	2774068.252	35	29	26.5	15.000	TRANSITION			15.000				
185	48996.638	636349.246	2774079.893	40	51	43.8	11.098	STRAIGHT							
186	49007.736	636356.506	2774088.286	40	51	43.8	13.849	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-153
187	49021.585	636364.01	2774099.873	24	59	30	41.806	STRAIGHT							
188	49063.391	636381.672	2774137.765	24	59	30	7.289	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-154
189	49070.680	636384.26	2774144.572	16	38	22.4	19.997	STRAIGHT							
190	49090.677	636389.986	2774163.731	16	38	22.4	17.101	CIRCULAR CURVE	150.000	LEFT		0.600	NC	20	C-155
191	49107.778	636393.94	2774180.36	10	6	26.1	64.673	STRAIGHT							
192	49172.451	636405.289	2774244.029	10	6	26.1	70.467	CIRCULAR CURVE	65.000	LEFT		0.900	2.735	20	C-156
193	49242.918	636381.309	2774306.662	307	59	33.8	11.876	STRAIGHT							
194	49254.794	636371.95	2774313.973	307	59	33.8	32.503	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-157
195	49287.297	636360.879	2774342.86	10	4	9.4	15.218	STRAIGHT							
196	49302.515	636363.54	2774357.844	10	4	9.4	11.911	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-158
197	49314.426	636363.27	2774369.674	347	19	15.1	15.776	STRAIGHT							
198	49330.202	636359.808	2774385.065	347	19	15.1	36.296	CIRCULAR CURVE	21.000	RIGHT		1.500	8.466	20	C-159
199	49366.498	636378.959	2774410.632	86	21	2.5	22.729	STRAIGHT							
200	49389.227	636401.641	2774412.078	86	21	2.5	28.695	CIRCULAR CURVE	25.000	LEFT		1.500	7.111	20	C-160

SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)		
201	49417.922	636423.454	2774428.238	20	35	5.3	9.022	STRAIGHT							
202	49426.944	636426.626	2774436.684	20	35	5.3	12.766	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-161
203	49439.710	636428.475	2774449.218	356	12	11.8	15.327	STRAIGHT							
204	49455.037	636427.46	2774464.511	356	12	11.8	15.000	TRANSITION			15.000				
205	49470.037	636428.333	2774479.392	17	41	21.1	10.169	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-162
206	49480.206	636433.702	2774487.899	46	49	19.6	15.000	TRANSITION			15.000				
207	49495.206	636446.759	2774495.091	68	18	28.9	30.697	STRAIGHT							
208	49525.903	636475.283	2774506.437	68	18	28.9	1.941	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-163
209	49527.844	636477.048	2774507.241	62	44	54.7	36.772	STRAIGHT							
210	49564.616	636509.739	2774524.079	62	44	54.7	27.310	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-164
211	49591.926	636519.855	2774547.199	344	30	47.7	8.387	STRAIGHT							
212	49600.313	636517.615	2774555.281	344	30	47.7	21.604	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-165
213	49621.917	636519.511	2774576.337	25	46	28.7	18.374	STRAIGHT							
214	49640.291	636527.5	2774592.883	25	46	28.7	2.584	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-166
215	49642.875	636528.471	2774595.276	18	22	10.2	18.680	STRAIGHT							
216	49661.555	636534.358	2774613.004	18	22	10.2	3.226	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-167
217	49664.781	636535.616	2774615.97	27	36	33.9	43.508	STRAIGHT							
218	49708.289	636555.78	2774654.524	27	36	33.9	34.528	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-168
219	49742.817	636585.406	2774661.327	126	31	33.6	15.627	STRAIGHT							
220	49758.444	636597.963	2774652.026	126	31	33.6	23.543	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-169
221	49781.987	636620.143	2774650.94	59	4	51.7	8.163	STRAIGHT							
222	49790.150	636627.147	2774655.135	59	4	51.7	19.481	CIRCULAR CURVE	18.000	LEFT		1.500	9.877	20	C-170
223	49809.631	636635.874	2774671.496	357	4	16.4	15.211	STRAIGHT							
224	49824.842	636635.097	2774686.688	357	4	16.4	10.117	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-171
225	49834.959	636637.103	2774696.494	26	3	16.1	10.319	STRAIGHT							
226	49845.278	636641.636	2774705.764	26	3	16.1	17.007	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-172
227	49862.285	636644.496	2774722.299	353	34	21.4	6.688	STRAIGHT							
228	49868.973	636643.747	2774728.945	353	34	21.4	15.000	TRANSITION			15.000				
229	49883.973	636642.535	2774743.89	358	56	38.7	1.764	CIRCULAR CURVE	80.000	RIGHT		0.900	NC	20	C-173
230	49885.737	636642.522	2774745.654	0	12	25.8	15.000	TRANSITION			15.000				
231	49900.737	636643.513	2774760.615	5	34	43.1	31.574	STRAIGHT							
232	49932.311	636646.582	2774792.04	5	34	43.1	29.804	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-174
233	49962.115	636666.823	2774810.093	90	57	38.2	13.800	STRAIGHT							
234	49975.915	636680.621	2774809.861	90	57	38.2	15.751	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-175
235	49991.666	636696.152	2774812.062	72	54	38.3	19.107	STRAIGHT							
236	50010.773	636714.415	2774817.677	72	54	38.3	27.462	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-176
237	50038.235	636728.437	2774838.801	354	14	22	15.847	STRAIGHT							
238	50054.082	636726.847	2774854.568	354	14	22	17.745	CIRCULAR CURVE	25.000	RIGHT		1.500	7.111	20	C-177
239	50071.827	636731.219	2774871.384	34	54	35.3	13.058	STRAIGHT							
240	50084.885	636738.692	2774882.092	34	54	35.3	15.000	TRANSITION			15.000				
241	50099.885	636746.202	2774895.029	20	35	9.1	7.705	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-178
242	50107.590	636747.96	2774902.509	5	52	13.1	15.000	TRANSITION			15.000				
243	50122.590	636747	2774917.436	351	32	46.9	5.426	STRAIGHT							
244	50128.016	636746.202	2774922.803	351	32	46.9	17.377	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-179
245	50145.393	636748.628	2774939.766	24	44	2.8	13.974	STRAIGHT							
246	50159.367	636754.475	2774952.457	24	44	2.8	17.540	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-180
247	50176.907	636765.929	2774965.411	58	13	59.9	10.673	STRAIGHT							
248	50187.580	636775.004	2774971.03	58	13	59.9	28.408	CIRCULAR CURVE	13.000	LEFT		1.500	10.000	20	C-181
249	50215.988	636773.245	2774994.047	293	1	50	18.586	STRAIGHT							
250	50234.574	636756.14	2775001.318	293	1	50	36.653	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-182

						DESIGN CONSULTANTS : S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com						CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		SCALE	TITLE : HORIZONTAL REPORT		
	16.11.23	R-5									PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)	NTS	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222		SHEET SIZE		
MKD	DATE	DESCRIPTION			PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N		Date DEC- 23	Rev. No. R5			A2
REVISIONS																	

SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)		
251	50271.227	636748.212	2775032.046	38	2	1.9	26.914	STRAIGHT							
252	50298.141	636764.794	2775053.245	38	2	1.9	4.267	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-183
253	50302.408	636767.653	2775056.408	46	10	58.5	34.225	STRAIGHT							
254	50336.633	636792.348	2775080.104	46	10	58.5	13.521	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-184
255	50350.154	636798.332	2775091.942	7	26	52.9	19.928	STRAIGHT							
256	50370.082	636800.915	2775111.703	7	26	52.9	18.709	CIRCULAR CURVE	7.000	RIGHT		1.500	10.000	20	C-185
257	50388.791	636814.458	2775113.122	160	34	52.4	6.298	STRAIGHT							
258	50395.089	636816.552	2775107.183	160	34	52.4	10.025	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-186
259	50405.114	636817.427	2775097.301	189	18	1.4	18.074	STRAIGHT							
260	50423.188	636814.506	2775079.465	189	18	1.4	3.296	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-187
261	50426.484	636813.708	2775076.271	198	44	33.8	23.034	STRAIGHT							
262	50449.518	636806.307	2775054.458	198	44	33.8	20.245	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-188
263	50469.763	636803.806	2775034.508	175	32	40.2	1.437	STRAIGHT							
264	50471.200	636803.918	2775033.074	175	32	40.2	29.577	CIRCULAR CURVE	25.000	LEFT		1.500	7.111	20	C-189
265	50500.777	636821.217	2775011.208	107	45	36.9	50.903	STRAIGHT							
266	50551.680	636869.694	2774995.681	107	45	36.9	21.203	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-190
267	50572.883	636890.637	2774993.623	83	27	47.4	22.399	STRAIGHT							
268	50595.282	636912.891	2774996.173	83	27	47.4	23.844	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-191
269	50619.126	636932.789	2774985.763	151	46	15.5	16.076	STRAIGHT							
270	50635.202	636940.393	2774971.598	151	46	15.5	15.000	TRANSITION			15.000				
271	50650.202	636948.397	2774958.948	139	29	35.9	21.711	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-192
272	50671.913	636966.569	2774947.714	103	57	11.3	15.000	TRANSITION			15.000				
273	50686.913	636981.462	2774946.21	91	40	31.7	10.738	STRAIGHT							
274	50697.651	636992.196	2774945.896	91	40	31.7	15.000	TRANSITION			15.000				
275	50712.651	637007.191	2774945.927	86	18	14.3	3.149	CIRCULAR CURVE	80.000	LEFT		0.900	NC	20	C-193
276	50715.800	637010.328	2774946.191	84	2	55.2	15.000	TRANSITION			15.000				
277	50730.800	637025.115	2774948.674	78	40	37.9	9.534	STRAIGHT							
278	50740.334	637034.464	2774950.546	78	40	37.9	8.613	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-194
279	50748.947	637043.009	2774950.395	103	21	2.1	13.681	STRAIGHT							
280	50762.628	637056.32	2774947.236	103	21	2.1	12.020	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-195
281	50774.648	637068.133	2774948.035	68	54	57.9	6.938	STRAIGHT							
282	50781.586	637074.607	2774950.531	68	54	57.9	11.099	CIRCULAR CURVE	100.000	LEFT		0.900	NC	20	C-196
283	50792.685	637084.72	2774955.089	62	33	24.4	21.497	STRAIGHT							
284	50814.182	637103.798	2774964.996	62	33	24.4	5.425	CIRCULAR CURVE	100.000	RIGHT		0.900	NC	20	C-197
285	50819.607	637108.677	2774967.365	65	39	53.5	36.866	STRAIGHT							
286	50856.473	637142.269	2774982.557	65	39	53.5	15.000	TRANSITION			15.000				
287	50871.473	637155.338	2774989.833	51	20	27.3	11.269	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-198
288	50882.742	637162.625	2774998.341	29	49	8	15.000	TRANSITION			15.000				
289	50897.742	637167.807	2775012.374	15	29	41.8	15.032	STRAIGHT							
290	50912.774	637171.823	2775026.859	15	29	41.8	22.170	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-199
291	50934.944	637165.928	2775047.069	311	59	2.8	17.711	STRAIGHT							
292	50952.655	637152.763	2775058.916	311	59	2.8	62.237	CIRCULAR CURVE	45.000	RIGHT		1.200	3.951	20	C-200
293	51014.892	637144.385	2775115.696	31	13	37.6	17.567	STRAIGHT							
294	51032.459	637153.492	2775130.717	31	13	37.6	51.390	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-201
295	51083.849	637139.598	2775173.869	293	4	44.3	27.934	STRAIGHT							
296	51111.783	637113.9	2775184.82	293	4	44.3	27.809	CIRCULAR CURVE	11.000	RIGHT		1.500	10.000	20	C-202
297	51139.592	637115.911	2775205.696	77	55	33.2	0.762	STRAIGHT							
298	51140.354	637116.656	2775205.855	77	55	33.2	8.275	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-203
299	51148.629	637124.872	2775205.887	101	37	50	21.474	STRAIGHT							
300	51170.103	637145.905	2775201.558	101	37	49.6	14.375	CIRCULAR CURVE	100.000	RIGHT		0.900	NC	20	C-204

						DESIGN CONSULTANTS :				CLIENT :		NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		SCALE		TITLE :	
						 S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com								NTS		HORIZONTAL REPORT	
						Design. By S.K.S Prep. By R.B Chk. By S.K.S Issued By S.N Date DEC- 23 Rev. No. R5				PROJECT :		STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)				JOB ORDER : -	
																SMC/HIGHWAY/MANIPUR/2222	
																SHEET SIZE	
																A2	

SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)		
351	52063.915	637756.203	2775569.997	29	34	31.4	6.094	STRAIGHT							
352	52070.009	637759.211	2775575.297	29	34	31.4	57.763	CIRCULAR CURVE	60.000	RIGHT		1.200	2.963	20	C-223
353	52127.772	637805.887	2775605.43	84	44	4.7	8.843	STRAIGHT							
354	52136.615	637814.693	2775606.241	84	44	4.7	12.842	CIRCULAR CURVE	150.000	LEFT		0.600	NC	20	C-224
355	52149.457	637827.415	2775607.966	79	49	45.7	9.114	STRAIGHT							
356	52158.571	637836.386	2775609.575	79	49	45.7	15.000	TRANSITION			15.000				
357	52173.571	637850.755	2775613.667	62	38	26.3	25.598	CIRCULAR CURVE	25.000	LEFT		1.500	7.111	20	C-225
358	52199.169	637864.205	2775634.137	3	58	31.7	15.000	TRANSITION			15.000				
359	52214.169	637862.258	2775648.95	346	47	12.3	16.878	STRAIGHT							
360	52231.047	637858.4	2775665.381	346	47	12.3	9.979	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-226
361	52241.026	637858.587	2775675.255	15	22	27.9	17.065	STRAIGHT							
362	52258.091	637863.111	2775691.709	15	22	27.9	25.496	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-227
363	52283.587	637859.253	2775716.143	326	40	48.8	14.916	STRAIGHT							
364	52298.503	637851.06	2775728.607	326	40	48.8	26.077	CIRCULAR CURVE	15.000	RIGHT		1.500	10.000	20	C-228
365	52324.580	637857.562	2775750.58	66	17	15.9	23.374	STRAIGHT							
366	52347.954	637878.963	2775759.98	66	17	15.9	16.059	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-229
367	52364.013	637889.68	2775771.358	20	16	56.4	3.825	STRAIGHT							
368	52367.838	637891.005	2775774.946	20	16	56.4	24.996	CIRCULAR CURVE	14.000	LEFT		1.500	10.000	20	C-230
369	52392.834	637879.818	2775793.663	277	59	7.4	12.142	STRAIGHT							
370	52404.976	637867.794	2775795.35	277	59	7.4	58.939	CIRCULAR CURVE	23.500	RIGHT		1.500	7.565	20	C-231
371	52463.915	637859.912	2775839.311	61	41	9.7	30.501	STRAIGHT							
372	52494.416	637886.764	2775853.777	61	41	9.7	39.399	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-232
373	52533.815	637901.698	2775887.222	346	26	25.2	7.325	STRAIGHT							
374	52541.140	637899.981	2775894.343	346	26	25.2	13.188	CIRCULAR CURVE	150.000	RIGHT		0.600	NC	20	C-233
375	52554.328	637897.456	2775907.282	351	28	40.2	8.296	STRAIGHT							
376	52562.624	637896.227	2775915.487	351	28	40.2	23.400	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-234
377	52586.024	637905.56	2775935.507	58	30	49.2	0.316	STRAIGHT							
378	52586.340	637905.829	2775935.672	58	30	49.2	23.745	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-235
379	52610.085	637928.183	2775934.685	126	32	18.2	22.813	STRAIGHT							
380	52632.898	637946.511	2775921.104	126	32	18.2	22.290	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-236
381	52655.188	637967.525	2775915.374	83	58	2	5.179	STRAIGHT							
382	52660.367	637972.675	2775915.918	83	58	2	15.000	TRANSITION			15.000				
383	52675.367	637987.63	2775916.247	98	17	28.2	9.158	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-237
384	52684.525	637996.353	2775913.574	115	46	56.1	15.000	TRANSITION			15.000				
385	52699.525	638008.555	2775904.923	130	6	22.3	19.634	STRAIGHT							
386	52719.159	638023.572	2775892.275	130	6	22.3	23.902	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-238
387	52743.061	638045.796	2775885.361	84	27	25.3	5.148	STRAIGHT							
388	52748.209	638050.921	2775885.858	84	27	25.3	15.000	TRANSITION			15.000				
389	52763.209	638065.679	2775888.364	72	10	45.7	10.108	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-239
390	52773.317	638074.725	2775892.794	55	37	57	15.000	TRANSITION			15.000				
391	52788.317	638085.752	2775902.918	43	21	17.4	4.780	STRAIGHT							
392	52793.097	638089.033	2775906.393	43	21	17.4	15.000	TRANSITION			15.000				
393	52808.097	638100.537	2775915.873	64	50	26.7	8.524	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-240
394	52816.621	638108.782	2775917.769	89	15	43.4	15.000	TRANSITION			15.000				
395	52831.621	638123.271	2775914.265	110	44	52.7	31.162	STRAIGHT							
396	52862.783	638152.411	2775903.226	110	44	52.7	24.336	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-241
397	52887.119	638165.325	2775884.361	180	27	54.4	6.250	STRAIGHT							
398	52893.369	638165.275	2775878.11	180	27	54.4	35.986	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-242
399	52929.355	638184.163	2775850	111	44	13.3	36.404	STRAIGHT							
400	52965.759	638217.979	2775836.518	111	44	13.3	27.787	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-243

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16.11.23	R-5					PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)						NTS					
MKD	DATE	DESCRIPTION					PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B		Chk. By S.K.S	Issued By S.N	Date DEC- 23	Rev. No. R5	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222
REVISIONS																	

SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)	in Kmph.	
451	53828.907	638730.303	2776294.735	149	58	14.7	17.546	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-263
452	53846.453	638742.084	2776281.921	124	50	15.5	15.000	TRANSITION			15.000				
453	53861.453	638755.347	2776274.965	114	5	40.9	7.432	STRAIGHT							
454	53868.885	638762.132	2776271.931	114	5	40.9	13.832	CIRCULAR CURVE	250.000	RIGHT		0.600	NC	20	C-264
455	53882.717	638774.596	2776265.938	117	15	52.7	21.922	STRAIGHT							
456	53904.639	638794.083	2776255.896	117	15	52.7	9.860	CIRCULAR CURVE	350.000	LEFT			NC	20	C-265
457	53914.499	638802.909	2776251.503	115	39	2.2	37.488	STRAIGHT							
458	53951.987	638836.703	2776235.275	115	39	2.2	9.426	CIRCULAR CURVE	150.000	LEFT		0.600	NC	20	C-266
459	53961.413	638845.322	2776231.464	112	3	1.6	11.315	STRAIGHT							
460	53972.728	638855.81	2776227.216	112	3	1.6	30.420	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-267
461	54003.148	638885.245	2776228.681	62	15	7.4	0.481	STRAIGHT							
462	54003.629	638885.671	2776228.905	62	15	7.4	20.000	TRANSITION			20.000				
463	54023.629	638903.92	2776237.003	73	42	40.4	21.316	CIRCULAR CURVE	50.000	RIGHT		1.200	8.000	30	C-268
464	54044.945	638925.021	2776238.507	98	8	14.9	20.000	TRANSITION			20.000				
465	54064.945	638944.233	2776233.078	109	35	47.8	46.268	STRAIGHT							
466	54111.213	638987.821	2776217.56	109	35	47.8	20.000	TRANSITION			20.000				
467	54131.213	639006.42	2776210.231	115	19	34.3	97.748	CIRCULAR CURVE	100.000	RIGHT		0.900	7.111	40	C-269
468	54228.961	639062.501	2776134.914	171	19	54.4	20.000	TRANSITION			20.000				

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VERTICAL REPORT

VERTICAL REPORT									
CHAINAGE		FRL		GRADIENT LENGTH	GRADIENT	GRADIENT TYPE	CURVE LENGTH	CURVE RADIUS	CURVE TYPE
FROM	TO	IN	OUT	m	(%)	UP/DN	m	m	Summit/Valley
45600.000	45613.754	1741.792	1742.306	13.754	3.739	UP			
45613.754	45643.754	1742.306	1743.221				30	2174.06	Summit
45643.754	45649.244	1743.221	1743.350	5.49	2.359	UP			
45649.244	45679.244	1743.350	1744.421				30	1239.337	Valley
45679.244	45682.791	1744.421	1744.591	3.547	4.779	UP			
45682.791	45712.791	1744.591	1745.633				30	1150.211	Summit
45712.791	45729.211	1745.633	1745.990	16.42	2.171	UP			
45729.211	45779.211	1745.990	1747.885				50	1543.316	Valley
45779.211	45894.964	1747.885	1754.148	115.753	5.411	UP			
45894.964	45924.964	1754.148	1755.503				30	1672.406	Summit
45924.964	45943.202	1755.503	1756.162	18.238	3.617	UP			
45943.202	45973.202	1756.162	1757.710				30	973.459	Valley
45973.202	46015.098	1757.710	1760.516	41.896	6.699	UP			
46015.098	46045.098	1760.516	1761.778				30	601.787	Summit
46045.098	46075.661	1761.778	1762.302	30.563	1.714	UP			
46075.661	46105.661	1762.302	1762.978				30	2778.449	Valley
46105.661	46175.000	1762.978	1764.915	69.339	2.793	UP			
46175.000	46205.000	1764.915	1766.083				30	1364.583	Valley
46205.000	46255.001	1766.083	1768.579	50.001	4.992	UP			
46255.001	46285.001	1768.579	1769.663				30	1088.373	Summit
46285.001	46335.000	1769.663	1770.781	49.999	2.236	UP			
46335.000	46365.000	1770.781	1771.755				30	1481.869	Valley
46365.000	46390.000	1771.755	1772.820	25	4.26	UP			
46390.000	46420.000	1772.820	1773.736				30	1242.329	Summit
46420.000	46525.203	1773.736	1775.677	105.203	1.845	UP			
46525.203	46565.203	1775.677	1776.959				40	1469.813	Valley
46565.203	46655.000	1776.959	1781.060	89.797	4.567	UP			
46655.000	46685.000	1781.060	1782.645				30	2096.172	Valley
46685.000	46746.667	1782.645	1786.343	61.667	5.998	UP			
46746.667	46776.667	1786.343	1787.596				30	823.551	Summit
46776.667	46832.982	1787.596	1788.922	56.315	2.355	UP			
46832.982	46872.982	1788.922	1790.367				40	1591.663	Valley
46872.982	46907.444	1790.367	1792.045	34.462	4.868	UP			
46907.444	46937.444	1792.045	1793.044				30	975.021	Summit
46937.444	46966.564	1793.044	1793.565	29.12	1.791	UP			
46966.564	46996.564	1793.565	1794.242				30	3229.711	Valley
46996.564	47020.789	1794.242	1794.901	24.225	2.72	UP			
47020.789	47050.789	1794.901	1795.453				30	1702.544	Summit
47050.789	47095.000	1795.453	1795.876	44.211	0.958	UP			
47095.000	47125.000	1795.876	1796.458				30	1529.654	Valley
47125.000	47218.728	1796.458	1799.194	93.728	2.919	UP			
47218.728	47248.728	1799.194	1799.764				30	1472.123	Summit
47248.728	47275.000	1799.764	1799.996	26.272	0.881	UP			
47275.000	47305.000	1799.996	1800.846				30	767.658	Valley
47305.000	47318.418	1800.846	1801.489	13.418	4.789	UP			
47318.418	47338.418	1801.489	1802.179				20	746.648	Summit
47338.418	47348.170	1802.179	1802.385	9.752	2.111	UP			
47348.170	47368.170	1802.385	1803.272				20	429.945	Valley
47368.170	47392.959	1803.272	1804.949	24.789	6.763	UP			
47392.959	47422.959	1804.949	1806.316				30	680.225	Summit

VERTICAL REPORT									
CHAINAGE		FRL		GRADIENT LENGTH	GRADIENT	GRADIENT TYPE	CURVE LENGTH	CURVE RADIUS	CURVE TYPE
FROM	TO	IN	OUT	m	(%)	UP/DN	m	m	Summit/Valley
47422.959	47482.130	1806.316	1807.708	59.171	2.352	UP			
47482.130	47532.130	1807.708	1809.708				50	1516.701	Valley
47532.130	47562.326	1809.708	1811.414	30.196	5.649	UP			
47562.326	47592.326	1811.414	1812.596				30	879.101	Summit
47592.326	47630.922	1812.596	1813.460	38.596	2.236	UP			
47630.922	47660.922	1813.460	1814.777				30	695.502	Valley
47660.922	47693.256	1814.777	1816.895	32.334	6.55	UP			
47693.256	47723.256	1816.895	1818.109				30	598.912	Summit
47723.256	47825.988	1818.109	1819.692	102.732	1.541	UP			
47825.988	47975.988	1819.692	1816.891				150	2200.756	Summit
47975.988	48085.448	1816.891	1811.116	109.46	5.275	DN			
48085.448	48115.448	1811.116	1809.105				30	1049.174	Summit
48115.448	48133.736	1809.105	1807.617	18.288	8.135	DN			
48133.736	48163.736	1807.617	1805.644				30	963.295	Valley
48163.736	48194.789	1805.644	1804.085	31.053	5.02	DN			
48194.789	48224.789	1804.085	1801.976				30	746.636	Summit
48224.789	48254.860	1801.976	1799.258	30.071	9.038	DN			
48254.860	48334.860	1799.258	1794.633				80	1228.073	Valley
48334.860	48386.397	1794.633	1793.333	51.537	2.524	DN			
48386.397	48416.397	1793.333	1791.764				30	554.486	Summit
48416.397	48460.000	1791.764	1788.304	43.603	7.934	DN			
48460.000	48490.000	1788.304	1786.323				30	1127.209	Valley
48490.000	48509.776	1786.323	1785.280	19.776	5.273	DN			
48509.776	48559.776	1785.280	1782.249				50	3168.075	Summit
48559.776	48619.285	1782.249	1778.172	59.509	6.851	DN			
48619.285	48649.285	1778.172	1776.642				30	857.336	Valley
48649.285	48740.410	1776.642	1773.587	91.125	3.352	DN			
48740.410	48790.410	1773.587	1771.615				50	4223.663	Summit
48790.410	48831.666	1771.615	1769.744	41.256	4.536	DN			
48831.666	48941.666	1769.744	1768.514				110	1609.23	Valley
48941.666	49045.603	1768.514	1770.904	103.937	2.3	UP			
49045.603	49105.603	1770.904	1773.121				60	2150.9	Valley
49105.603	49254.778	1773.121	1780.713	149.175	5.089	UP			
49254.778	49284.778	1780.713	1782.662				30	1065.681	Valley
49284.778	49297.460	1782.662	1783.664	12.682	7.904	UP			
49297.460	49327.460	1783.664	1785.368				30	674.471	Summit
49327.460	49398.059	1785.368	1787.808	70.599	3.456	UP			
49398.059	49448.059	1787.808	1790.740				50	1038.69	Valley
49448.059	49460.758	1790.740	1791.790	12.699	8.27	UP			
49460.758	49510.758	1791.790	1794.955				50	1288.257	Summit
49510.758	49565.000	1794.955	1797.336	54.242	4.389	UP			
49565.000	49615.000	1797.336	1799.035				50	2522.835	Summit
49615.000	49650.000	1799.035	1799.877	35	2.407	UP			
49650.000	49700.000	1799.877	1801.866				50	1592.576	Valley
49700.000	49847.285	1801.866	1810.035	147.285	5.547	UP			
49847.285	49877.285	1810.035	1811.992				30	1538.23	Valley
49877.285	49971.017	1811.992	1819.019	93.732	7.497	UP			
49971.017	50001.017	1819.019	1820.613				30	687.529	Summit
50001.017	50046.821	1820.613	1822.048	45.804	3.133	UP			
50046.821	50076.821	1822.048	1822.660				30	1369.224	Summit

						DESIGN CONSULTANTS : S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com						CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		SCALE	TITLE : VERTICAL REPORT	
												NTS	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222		SHEET SIZE	
	16.11.23	R-5														
MKD	DATE	DESCRIPTION			PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N	Date DEC- 23	Rev. No. R5	PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)		
R E V I S I O N S																

VERTICAL REPORT									
CHAINAGE		FRL		GRADIENT LENGTH	GRADIENT	GRADIENT TYPE	CURVE LENGTH	CURVE RADIUS	CURVE TYPE
FROM	TO	IN	OUT	m	(%)	UP/DN	m	m	Summit/Valley
50076.821	50130.393	1822.660	1823.165	53.572	0.942	UP			
50130.393	50160.393	1823.165	1824.233				30	573.097	Valley
50160.393	50226.667	1824.233	1828.326	66.274	6.177	UP			
50226.667	50256.667	1828.326	1829.582				30	752.992	Summit
50256.667	50346.014	1829.582	1831.541	89.347	2.193	UP			
50346.014	50386.014	1831.541	1833.011				40	1351.36	Valley
50386.014	50506.129	1833.011	1839.200	120.115	5.153	UP			
50506.129	50626.129	1839.200	1838.897				120	1109.914	Summit
50626.129	50630.000	1838.897	1838.678	3.871	5.659	DN			
50630.000	50660.000	1838.678	1837.260				30	1607.712	Valley
50660.000	50717.117	1837.260	1835.094	57.117	3.793	DN			
50717.117	50747.117	1835.094	1834.216				30	1733.059	Valley
50747.117	50758.639	1834.216	1833.978	11.522	2.062	DN			
50758.639	50788.639	1833.978	1832.934				30	1057.8	Summit
50788.639	50830.000	1832.934	1830.909	41.361	4.898	DN			
50830.000	50860.000	1830.909	1829.748				30	1458.927	Valley
50860.000	50986.929	1829.748	1826.141	126.929	2.841	DN			
50986.929	51036.929	1826.141	1824.132				50	2124.925	Summit
51036.929	51080.000	1824.132	1821.895	43.071	5.194	DN			
51080.000	51110.000	1821.895	1820.647				30	1448.826	Valley
51110.000	51145.103	1820.647	1819.551	35.103	3.124	DN			
51145.103	51195.103	1819.551	1817.210				50	1605.244	Summit
51195.103	51260.000	1817.210	1813.162	64.897	6.239	DN			
51260.000	51290.000	1813.162	1811.597				30	1468.908	Valley
51290.000	51383.193	1811.597	1807.686	93.193	4.196	DN			
51383.193	51433.193	1807.686	1805.146				50	2829.409	Summit
51433.193	51446.886	1805.146	1804.330	13.693	5.963	DN			
51446.886	51476.886	1804.330	1802.998				30	984.331	Valley
51476.886	51562.835	1802.998	1800.492	85.949	2.916	DN			
51562.835	51612.835	1800.492	1798.536				50	2510.227	Summit
51612.835	51720.000	1798.536	1793.277	107.165	4.907	DN			
51720.000	51750.000	1793.277	1792.092				30	1569.014	Valley
51750.000	51770.927	1792.092	1791.465	20.927	2.995	DN			
51770.927	51820.927	1791.465	1789.472				50	2524.728	Summit
51820.927	51911.176	1789.472	1784.981	90.249	4.976	DN			
51911.176	51941.176	1784.981	1783.785				30	1516.625	Valley
51941.176	51983.489	1783.785	1782.517	42.313	2.998	DN			
51983.489	52013.489	1782.517	1781.361				30	1750.845	Summit
52013.489	52161.148	1781.361	1774.404	147.659	4.711	DN			
52161.148	52211.148	1774.404	1771.476				50	2182.23	Summit
52211.148	52241.167	1771.476	1769.374	30.019	7.002	DN			
52241.167	52271.167	1769.374	1767.513				30	1872.56	Valley
52271.167	52341.667	1767.513	1763.706	70.5	5.4	DN			
52341.667	52371.667	1763.706	1761.856				30	1958.61	Summit
52371.667	52400.000	1761.856	1759.892	28.333	6.932	DN			
52400.000	52430.000	1759.892	1758.167				30	1269.55	Valley
52430.000	52552.330	1758.167	1752.578	122.33	4.569	DN			
52552.330	52602.330	1752.578	1749.785				50	2457.045	Summit
52602.330	52656.342	1749.785	1746.218	54.012	6.604	DN			
52656.342	52686.342	1746.218	1744.367				30	3441.751	Valley

VERTICAL REPORT									
CHAINAGE		FRL		GRADIENT LENGTH	GRADIENT	GRADIENT TYPE	CURVE LENGTH	CURVE RADIUS	CURVE TYPE
FROM	TO	IN	OUT	m	(%)	UP/DN	m	m	Summit/Valley
52686.342	52764.658	1744.367	1739.878	78.316	5.732	DN			
52764.658	52794.658	1739.878	1738.512				30	1273.254	Valley
52794.658	52805.000	1738.512	1738.162	10.342	3.376	DN			
52805.000	52835.000	1738.162	1736.515				30	709.354	Summit
52835.000	52846.392	1736.515	1735.649	11.392	7.605	DN			
52846.392	52876.392	1735.649	1733.910				30	828.987	Valley
52876.392	52887.285	1733.910	1733.476	10.893	3.986	DN			
52887.285	52907.285	1733.476	1732.398				20	712.137	Summit
52907.285	52909.678	1732.398	1732.235	2.393	6.795	DN			
52909.678	52939.678	1732.235	1730.980				30	574.232	Valley
52939.678	52955.000	1730.980	1730.740	15.322	1.571	DN			
52955.000	52985.000	1730.740	1729.707				30	801.473	Summit
52985.000	53014.856	1729.707	1728.120	29.856	5.314	DN			
53014.856	53034.856	1728.120	1727.252				20	1028.323	Valley
53034.856	53081.727	1727.252	1725.673	46.871	3.369	DN			
53081.727	53111.727	1725.673	1724.179				30	930.45	Summit
53111.727	53154.999	1724.179	1721.326	43.272	6.593	DN			
53154.999	53194.999	1721.326	1719.218				40	1512.908	Valley
53194.999	53255.000	1719.218	1716.848	60.001	3.949	DN			
53255.000	53305.000	1716.848	1714.526				50	3597.349	Summit
53305.000	53367.323	1714.526	1711.199	62.323	5.339	DN			
53367.323	53397.323	1711.199	1709.749				30	2960.869	Valley
53397.323	53495.000	1709.749	1705.524	97.677	4.326	DN			
53495.000	53525.000	1705.524	1704.140				30	5219.858	Summit
53525.000	53700.000	1704.140	1695.564	175	4.9	DN			
53700.000	53730.000	1695.564	1694.027				30	6744.327	Summit
53730.000	53822.500	1694.027	1689.083	92.5	5.345	DN			
53822.500	53852.500	1689.083	1687.509				30	15221.651	Valley
53852.500	53897.322	1687.509	1685.201	44.822	5.148	DN			
53897.322	53927.322	1685.201	1683.829				30	2609.461	Valley
53927.322	54003.639	1683.829	1680.778	76.317	3.999	DN			
54003.639	54053.639	1680.778	1679.572				50	1575.69	Valley
54053.639	54153.952	1679.572	1678.744	100.313	0.825	DN			
54153.952	54253.952	1678.744	1680.448				100	1976.77	Valley
54253.952	54260.595	1680.448	1680.729	6.643	4.233	UP			

16.11.23		R-5			
MKD	DATE	DESCRIPTION	PREP.	CHK.	APPD.
R E V I S I O N S					

DESIGN CONSULTANTS :					
 S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com					
Design. By	Prep. By	Chk. By	Issued By	Date	Rev. No.
S.K.S	R.B	S.K.S	S.N	DEC- 23	R5

CLIENT :	 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PROJECT :	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

SCALE	TITLE :	
NTS	VERTICAL REPORT	
	JOB ORDER : -	SHEET SIZE
	SMC/HIGHWAY/MANIPUR/2222	A2

PLAN & PROFILE

To Finch Corner

To Ukhrul

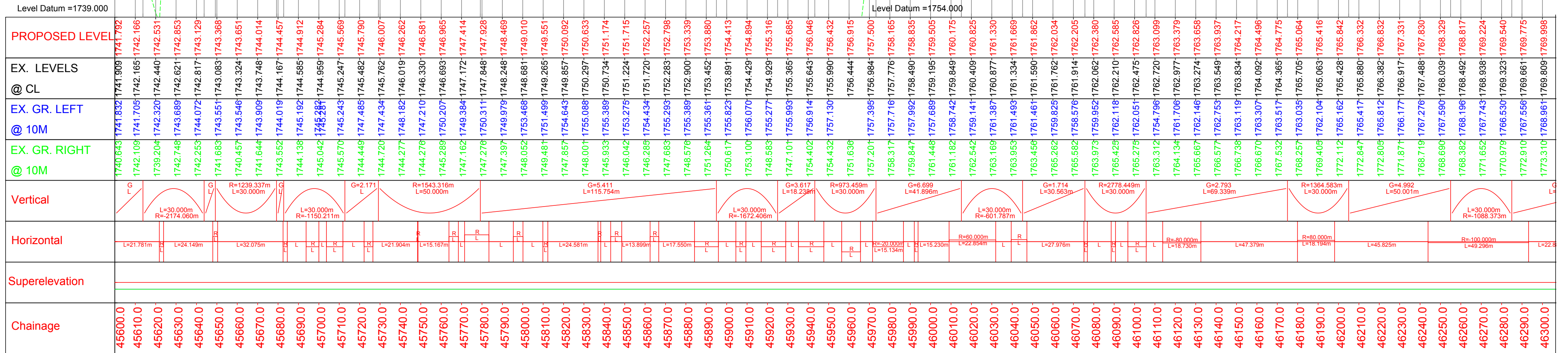
SL.NO.	CHAINAGE in M.	X-CoOrdinates in M.	Y-CoOrdinates in M.	FRL in M.	BEARING			LENGTH in M.	ALIGNMENT	RADIUS in M.	HAND OF CURVE	TRANSITION in M.	EXTRA Wd (DL) in M.	SUPER ELEVATION (%)	SPEED in Kmph.	CURVE NO.
1	45600	635258.794	2772682.316	1741.79	205	56	13.5	21.781	STRAIGHT	20.000	LEFT				20	C-77
2	45621.781	635249.268	2772662.729	1742.59	205	56	13.5	2.079	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-78
3	45623.86	635248.457	2772660.816	1742.66	199	58	55.1	24.149	STRAIGHT	20.000	RIGHT			8.889	20	C-79
4	45648.009	635240.205	2772638.121	1743.32	199	58	55.1	2.378	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-80
5	45650.387	635239.261	2772635.939	1743.38	206	47	42.5	32.075	STRAIGHT	20.000	LEFT			8.889	20	C-81
6	45682.462	635224.802	2772607.308	1744.58	206	47	42.5	2.089	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-82
7	45684.531	635223.966	2772605.416	1744.67	200	52	3.3	9.217	STRAIGHT	20.000	LEFT			8.889	20	C-83
8	45693.748	635220.683	2772596.804	1745.06	200	52	3.3	6.284	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-84
9	45700.012	635219.397	2772590.699	1745.29	182	55	21.7	3.718	STRAIGHT	20.000	RIGHT			8.889	20	C-85
10	45703.73	635219.207	2772586.986	1745.4	182	55	21.7	8.064	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-86
11	45711.794	635220.409	2772579.067	1745.61	159	49	13.2	10.412	STRAIGHT	20.000	LEFT			8.889	20	C-87
12	45722.206	635224.001	2772569.295	1745.84	159	49	13.2	4.304	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-88
13	45726.51	635225.907	2772565.445	1745.93	147	29	16.5	21.905	STRAIGHT	20.000	RIGHT			8.889	20	C-89
14	45748.415	635237.68	2772546.974	1746.53	147	29	16.5	0.222	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-90
15	45748.637	635237.799	2772546.786	1746.53	148	7	25.3	15.166	STRAIGHT	20.000	RIGHT			8.889	20	C-91
16	45763.803	635245.808	2772533.906	1747.13	148	7	25.3	4.615	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-92
17	45768.418	635247.773	2772529.742	1747.34	161	20	38.3	3.073	STRAIGHT	20.000	RIGHT			8.889	20	C-93
18	45771.491	635248.756	2772526.831	1747.49	161	20	38.3	11.934	CIRCULAR CURVE	15.000	RIGHT		1.500	10.000	20	C-94
19	45783.425	635247.918	2772515.339	1748.11	206	55	41.4	11.958	STRAIGHT	20.000	RIGHT			8.889	20	C-95
20	45795.383	635242.503	2772504.578	1748.76	206	55	41.4	4.707	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-96
21	45800.09	635239.899	2772500.67	1749.02	220	24	46	9.758	STRAIGHT	20.000	LEFT			8.889	20	C-97
22	45809.848	635233.573	2772493.24	1749.54	220	24	46	2.452	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-98
23	45812.3	635232.101	2772491.28	1749.68	213	23	17.8	24.581	STRAIGHT	20.000	RIGHT			8.889	20	C-99
24	45836.881	635218.574	2772470.756	1751.01	213	23	17.8	1.353	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-100
25	45838.234	635217.792	2772469.653	1751.08	217	15	46.1	4.874	STRAIGHT	20.000	LEFT			8.889	20	C-101
26	45843.108	635214.842	2772465.774	1751.34	217	15	46.1	5.431	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-102
27	45848.539	635211.01	2772461.948	1751.64	232	49	24.4	13.899	STRAIGHT	20.000	RIGHT			8.889	20	C-103
28	45862.438	635199.936	2772453.549	1752.39	232	49	24.4	4.238	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-104
29	45866.676	635196.314	2772451.364	1752.62	244	57	49.3	17.549	STRAIGHT	20.000	LEFT			8.889	20	C-105
30	45884.225	635180.413	2772443.937	1753.57	244	57	49.3	11.702	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-106
31	45895.927	635171.814	2772436.249	1754.2	211	26	26.4	8.586	STRAIGHT	20.000	LEFT			8.889	20	C-107
32	45904.513	635167.335	2772428.923	1754.64	211	26	26.4	4.896	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-108
33	45909.411	635165.315	2772424.474	1754.87	197	24	24.9	7.510	STRAIGHT	20.000	LEFT			8.889	20	C-109
34	45916.921	635163.068	2772417.308	1755.19	197	24	24.9	12.057	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-110
35	45928.978	635163.04	2772405.433	1755.65	162	51	57.8	8.196	STRAIGHT	20.000	LEFT			8.889	20	C-111
36	45935.174	635164.865	2772399.512	1755.87	162	51	57.8	12.455	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-112
37	45947.629	635171.889	2772389.471	1756.33	127	11	10.1	8.774	STRAIGHT	20.000	LEFT			8.889	20	C-113
38	45956.403	635178.88	2772384.167	1756.73	127	11	10.1	9.218	CIRCULAR CURVE	10.000	LEFT		1.500	10.000	20	C-114
39	45965.621	635187.618	2772382.504	1757.23	74	22	26.4	5.912	STRAIGHT	20.000	LEFT			8.889	20	C-115
40	45971.533	635193.311	2772384.096	1757.6	74	22	26.4	15.134	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-116
41	45985.667	635205.064	2772393.051	1758.61	31	1	4.8	5.315	STRAIGHT	20.000	LEFT			8.889	20	C-117
42	45991.982	635207.803	2772397.606	1758.97	31	1	4.8	1.847	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-118
43	45993.829	635208.68	2772399.23	1759.09	25	43	45.5	15.230	STRAIGHT	20.000	RIGHT			8.889	20	C-119
44	46009.059	635215.292	2772412.95	1760.11	25	43	45.5	22.854	CIRCULAR CURVE	60.000	RIGHT		1.200	2.963	20	C-120
45	46031.913	635228.849	2772431.177	1761.41	47	33	11.7	7.612	STRAIGHT	20.000	RIGHT			8.889	20	C-121
46	46039.525	635234.466	2772436.314	1761.66	47	33	11.7	7.680	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-122
47	46047.205	635240.508	2772441.043	1761.81	56	21	16.1	27.976	STRAIGHT	20.000	LEFT			8.889	20	C-123
48	46075.181	635263.798	2772456.543	1762.29	56	21	16.1	1.670	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-124
49	46076.851	635265.147	2772457.525	1762.32	51	34	16.9	11.691	STRAIGHT	20.000	LEFT			8.889	20	C-125
50	46088.542	635274.306	2772464.792	1762.55	51	34	16.9	2.119	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-126
51	46090.661	635275.893	2772466.194	1762.6	45	30	5.2	6.066	STRAIGHT	20.000	LEFT			8.889	20	C-127
52	46096.727	635280.22	2772470.446	1762.74	45	30	5.2	8.991	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-128
53	46105.708	635285.023	2772477.946	1762.98	19	46	20.6	8.087	STRAIGHT	20.000	LEFT			8.889	20	C-129
54	46113.795	635287.759	2772485.596	1763.21	19	46	20.6	18.730	CIRCULAR CURVE	80.000	LEFT		0.900	NC	20	C-130
55	46132.525	635291.983	2772503.759	1763.73	6	21	29	47.379	STRAIGHT	20.000	RIGHT			8.889	20	C-131
56	46179.904	635297.23	2772590.846	1765.06	6	21	29	18.194	CIRCULAR CURVE	80.000	RIGHT		0.900	NC	20	C-132
57	46198.098	635301.275	2772568.545	1765.76	19	23	18.5	45.825	STRAIGHT	20.000	LEFT			8.889	20	C-133
58	46243.923	635316.488	2772611.771	1768.03	19	23	18.5	49.295	CIRCULAR CURVE	100.000	LEFT		0.900	NC	20	C-134
59	46293.218	635320.966	2772660.363	1769.85	35	8	39.2	22.881	STRAIGHT	20.000	LEFT			8.889	20	C-135

BETWEEN METAL ROAD	CHURCH	BITUM
CAST TRACK	CHURCH LIMIT	STONE PITCHING PROJECTION
CONCRETE ROAD	PLANTATION LIMIT, PAVEMENT	GATE
CULVERT	BANDED WIRE FENCE	POWER LINE WITH POLE
BRIDGE WITH PIER	WOODEN FENCE	HAND PUMP, BORE WELL, WELL
RETAINING WALL	DRY ROAD	TEMPLE, MOSQUE, PLANT AREA
COMPOUND WALL	NALA WITH FLOW ARROW	TREE (Don't Pass, Other)
GUARD WALL	DRY NALA	GRAVE YARD, BOLDER AREA
WIND WALL	RIVER	WATER TANK, STAGE
BUILDING, SHED, CABIN	ROAD	KM STONE, SIGN BOARD, PILLAR

DATE	DESCRIPTION	PREP	CHK	APPD
	REVISIONS			

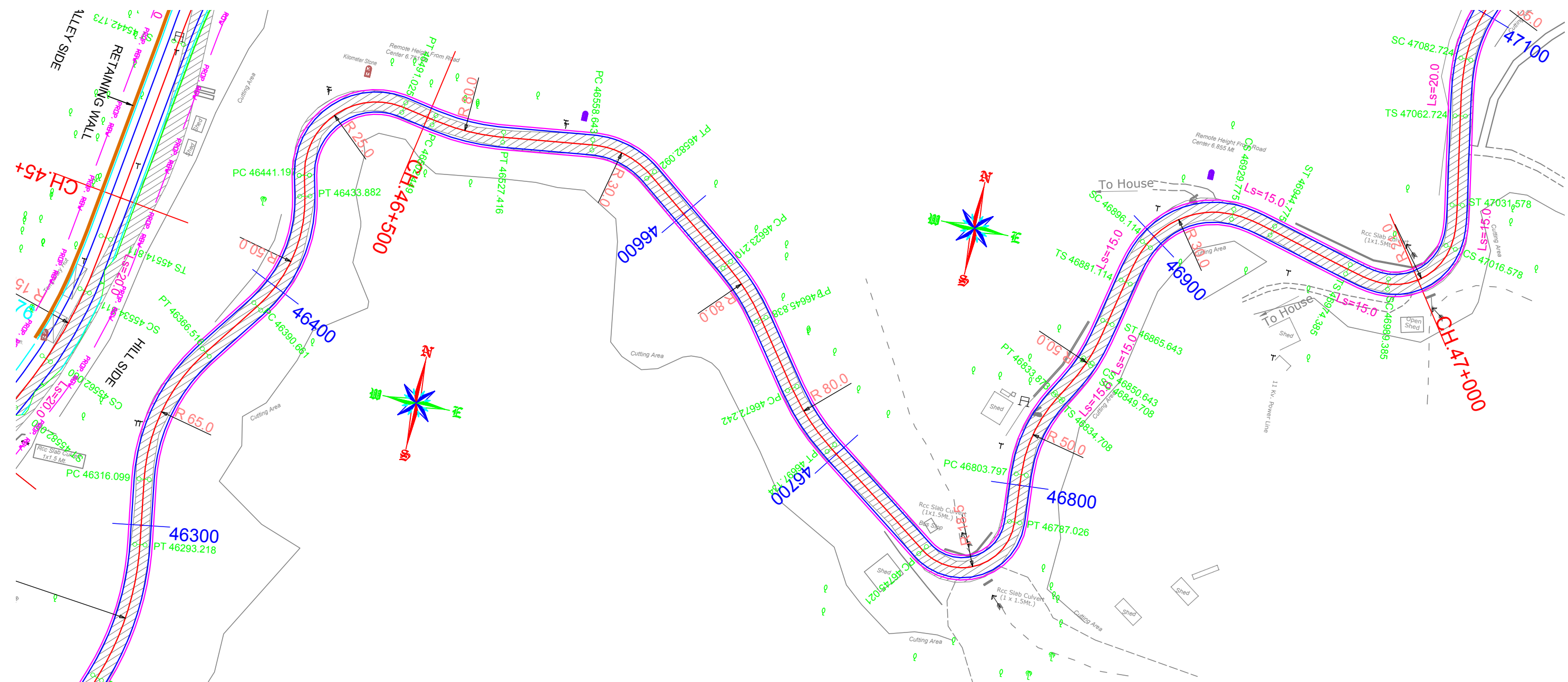
DESIGN CONSULTANTS :				
S.M. CONSULTANTS				
Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman				
Web : http://www.smcindia.com , e-mail: support@smcindia.com				
Prep. By	Chk. By	Issued By	Date	Rev. No.
R.B	S.K.S	S.N	DEC-23	R5

CLIENT :	 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		
PROJECT :	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)		
SCALE		TITLE :	
H.Scale-1:2000		PLAN	
V.Scale-1:200		Ch-(45/600 to 46/300KM)	
		DRAWING NO. :-	SHEET
		SMC/HIGHWAY/MANIPUR/2222	SIZE
			A2

[illegible]

To Finch Corner

To Ukhurul



SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	FRL	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	ELEVATION (%)	in Kmph.		
60	46316.099	635317.444	2772682.971	1770.36	351	8	39.2	50.417	CIRCULAR CURVE	65.000	RIGHT		0.900	2.735	20	C-106
61	46366.516	635328.808	2772730.802	1771.82	35	35	7.5	24.145	STRAIGHT							
62	46390.661	635342.859	2772750.438	1772.85	35	35	7.5	43.221	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-107
63	46433.882	635350.723	2772791.581	1773.99	346	3	26.3	7.315	STRAIGHT							
64	46441.197	635348.961	2772798.68	1774.13	346	3	26.3	49.828	CIRCULAR CURVE	25.000	RIGHT		1.500	7.111	20	C-108
65	46491.025	635377.675	2772829.305	1775.05	100	15	20.3	11.424	STRAIGHT							
66	46502.449	635388.917	2772827.271	1775.26	100	15	20.3	24.967	CIRCULAR CURVE	80.000	LEFT		0.900	NC	20	C-109
67	46527.416	635413.776	2772826.7	1775.72	82	22	28	31.227	STRAIGHT							
68	46558.643	635444.727	2772830.844	1776.67	82	22	28	23.449	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-110
69	46582.092	635466.828	2772825.018	1777.73	127	9	27.9	41.118	STRAIGHT							
70	46623.21	635499.599	2772800.182	1779.61	127	9	27.9	22.628	CIRCULAR CURVE	80.000	RIGHT		0.900	NC	20	C-111
71	46645.838	635515.473	2772784.163	1780.64	143	21	48.3	26.404	STRAIGHT							
72	46672.242	635531.229	2772762.975	1781.92	143	21	48.3	24.892	CIRCULAR CURVE	80.000	LEFT		0.900	NC	20	C-112
73	46697.134	635548.926	2772745.615	1783.37	125	32	10.7	47.887	STRAIGHT							
74	46745.021	635587.895	2772717.781	1786.25	125	32	10.7	42.005	CIRCULAR CURVE	18.500	LEFT		1.500	9.610	20	C-113
75	46787.026	635617.089	2772734.305	1787.84	355	26	44.8	16.771	STRAIGHT							
76	46803.797	635615.757	2772751.023	1788.24	355	26	44.8	30.076	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-114
77	46833.873	635622.259	2772779.925	1788.94	29	54	35.8	0.835	STRAIGHT							
78	46834.708	635622.675	2772780.649	1788.96	29	54	35.8	15.000	TRANSITION			15.000				
79	46849.708	635629.489	2772793.995	1789.4	21	18	56.1	0.935	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-115
80	46850.643	635629.821	2772794.869	1789.44	20	14	39.5	15.000	TRANSITION			15.000				
81	46865.643	635633.576	2772809.376	1790.03	11	38	59.8	15.471	STRAIGHT							
82	46881.114	635636.7	2772824.529	1790.76	11	38	59.8	15.000	TRANSITION			15.000				
83	46896.114	635640.929	2772838.877	1791.49	25	58	26	33.661	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-116
84	46929.775	635668.036	2772855.738	1792.88	90	15	39.7	15.000	TRANSITION			15.000				
85	46944.775	635682.775	2772853.188	1793.18	104	35	5.9	29.610	STRAIGHT							
86	46974.385	635711.431	2772845.732	1793.72	104	35	5.9	15.000	TRANSITION			15.000				
87	46989.385	635726.21	2772843.715	1794.06	84	7	19.9	27.193	CIRCULAR CURVE	21.000	LEFT		1.500	8.466	20	C-117
88	47016.578	635744.744	2772860.984	1794.79	9	55	44.9	15.000	TRANSITION			15.000				

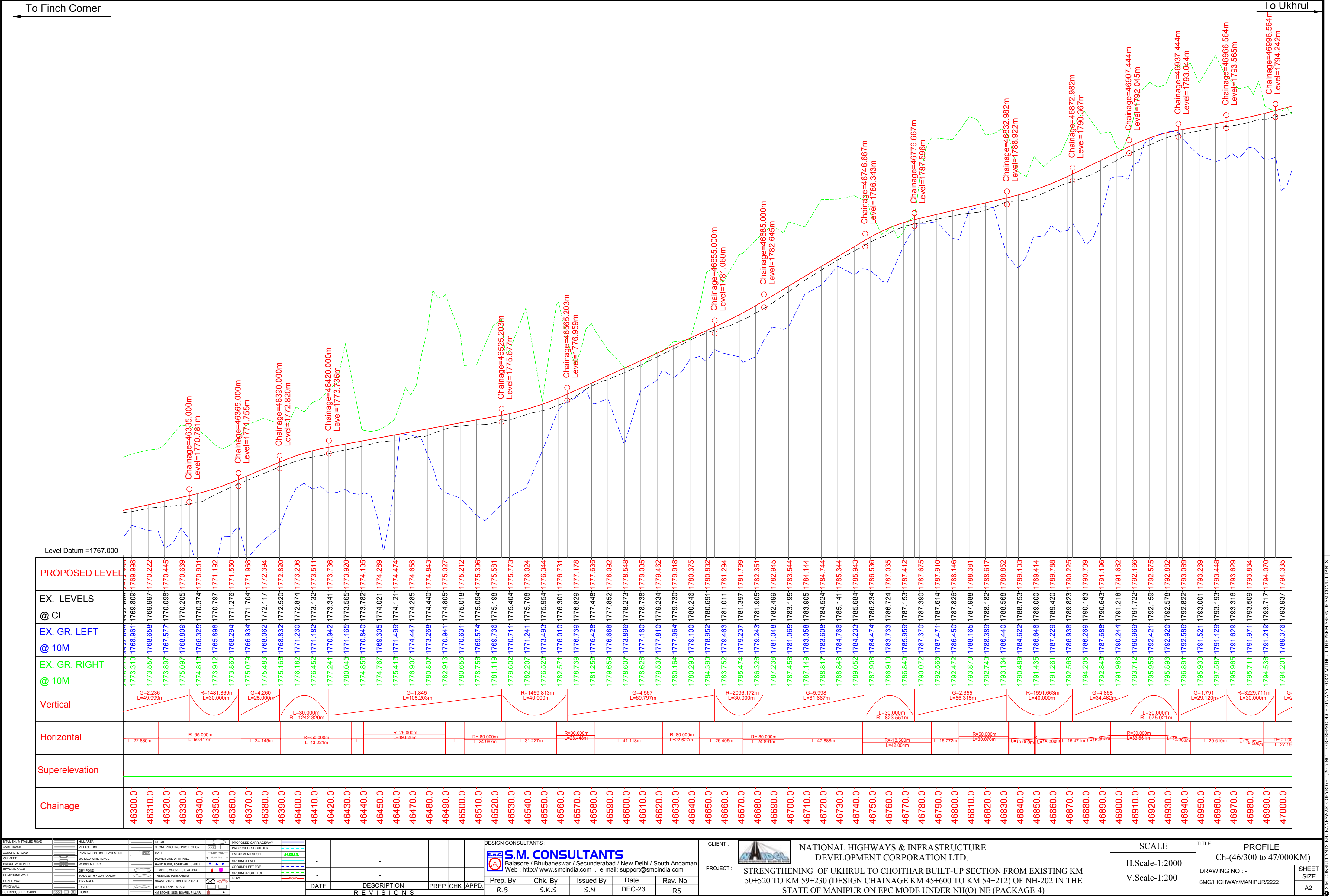
BITUMEN, METALLIZED ROAD	HILL AREA	DITCH
CRACK TRUCK	VILLAGE LIMIT	STONE PITCHING, PROTECTION
CONCRETE ROAD	PAVEMENT, GRAVEL, STONE	STATE
CULVERT	BARBED WIRE FENCE	POWER LINE WITH POLE
WALL WITH PIER	WOODEN FENCE	HAND PUMP, BORE WELL, WELL
RETAINING WALL	DRY POND	TEMPLE, MOSQUE, FLAG POST
CONCRETE WALL	DRY POND WITH FLOW ARROW	THREE SHAPES, OTHERS
CLAYD WALL	DRY NALA	CLAY, YARD, LIME, BRICK
WIND WALL	RIVER	WATER TANK, STAGE
BUILDING, SHED, CABIN	RUND	AK STONE, BORN BOARD, PILLAR

PROPOSED CARRIAGEWAY						
PROPOSED SHOULDER						
EMBANKMENT SLOPE						
GROUND LEVEL		-	-			
GROUND LEFT TOE						
GROUND RIGHT TOE		-	-			
ROW						
		DATE	DESCRIPTION	PREP.	CHK.	APPD.
		REV I S I O N S				

DESIGN CONSULTANTS :				
 S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com				
Prep. By	Chk. By	Issued By	Date	Rev. No.
R.B	S.K.S	S.N	DEC-23	R5

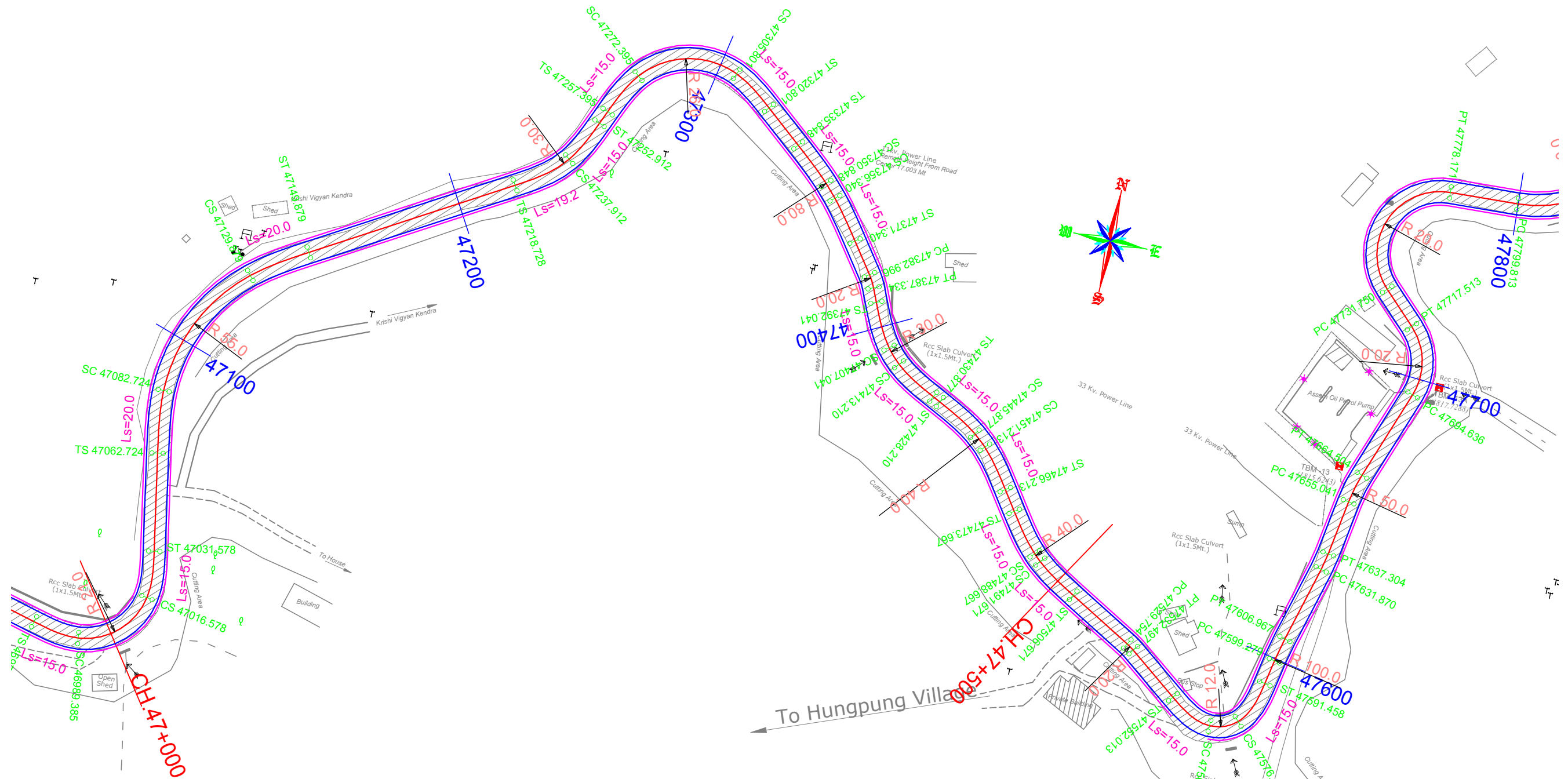
CLIENT :	 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PROJECT :	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

SCALE	TITLE : PLAN	
H.Scale-1:2000	Ch-(46/300 to 47/000KM)	
V.Scale-1:200	DRAWING NO : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE A2



To Finch Corner

To Ukhrul



SL.NO.	CHAINAGE		X-CoOrdinates		Y-CoOrdinates		FRL	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION		EXTRA Wd (DL)	SUPER ELEVATION (%)	SPEED	CURVE NO.
	in M.		in M.		in M.			DEGREE	MIN	SEC	in M.				in M.		in M.		in Kmph.	
89	47031.578		635743.777		2772875.867		1795.16	349	27	58.9	31.146	STRAIGHT								
90	47062.724		635738.083		2772906.488		1795.57	349	27	58.9	20.000	TRANSITION			20.000					
91	47082.724		635735.628		2772926.307		1795.76	359	53	1.6	47.155	CIRCULAR CURVE	55.000	RIGHT			1.200	3.232	20	C-118
92	47129.879		635754.549		2772967.932		1796.6	49	0	25.8	20.000	TRANSITION			20.000					
93	47149.879		635771.097		2772979.113		1797.18	59	25	28.5	68.849	STRAIGHT								
94	47218.728		635830.373		2773014.135		1799.19	59	25	28.5	15.000	TRANSITION			15.000					
95	47233.728		635842.574		2773022.789		1799.56	45	6	2.3	4.184	CIRCULAR CURVE	30.000	LEFT			1.500	5.926	20	C-119
96	47237.912		635845.322		2773025.939		1799.63	37	6	35	15.000	TRANSITION			15.000					
97	47252.912		635852.243		2773039.2		1799.8	22	47	8.8	4.483	STRAIGHT								
98	47257.395		635853.979		2773043.334		1799.84	22	47	8.8	15.000	TRANSITION			15.000					
99	47272.395		635861.062		2773056.493		1799.97	39	18	48.3	33.406	CIRCULAR CURVE	26.000	RIGHT			1.500	6.838	20	C-120
100	47305.801		635891.308		2773063.966		1800.89	112	55	44.1	15.000	TRANSITION			15.000					
101	47320.801		635903.704		2773055.62		1801.6	129	27	23.5	15.047	STRAIGHT								
102	47335.848		635915.322		2773046.058		1802.12	129	27	23.5	15.000	TRANSITION			15.000					
103	47350.848		635926.596		2773036.172		1802.45	134	49	40.9	5.492	CIRCULAR CURVE	80.000	RIGHT			0.900	NC	20	C-121
104	47356.34		635930.355		2773032.17		1802.64	138	45	40.5	15.000	TRANSITION			15.000					
105	47371.34		635939.515		2773020.799		1803.49	144	7	57.8	11.656	STRAIGHT								
106	47382.996		635946.345		2773010.853		1804.28	144	7	57.8	4.338	CIRCULAR CURVE	20.000	RIGHT			1.500	8.889	20	C-122
107	47387.334		635948.487		2773007.091		1804.57	156	33	31.5	4.707	STRAIGHT								
108	47392.041		635950.36		2773002.772		1804.89	156	33	31.5	15.000	TRANSITION			15.000					
109	47407.041		635957.431		2772989.591		1805.76	142	14	5.3	6.169	CIRCULAR CURVE	30.000	LEFT			1.500	5.926	20	C-123
110	47413.21		635961.682		2772985.136		1806.02	130	27	13.8	15.000	TRANSITION			15.000					
111	47428.21		635974.517		2772977.453		1806.44	116	7	47.6	2.667	STRAIGHT								
112	47430.877		635976.911		2772976.279		1806.5	116	7	47.6	15.000	TRANSITION			15.000					
113	47445.877		635989.919		2772968.856		1806.86	126	52	22.3	5.336	CIRCULAR CURVE	40.000	RIGHT			1.500	4.444	20	C-124
114	47451.213		635993.962		2772965.38		1806.98	134	30	59.2	15.000	TRANSITION			15.000					
115	47466.213		636003.248		2772953.63		1807.33	145	15	33.8	7.454	STRAIGHT								
116	47473.667		636007.497		2772947.504		1807.51	145	15	33.8	15.000	TRANSITION			15.000					
117	47488.667		636016.783		2772935.754		1807.88	134	30	59.2	3.004	CIRCULAR CURVE	40.000	LEFT			1.500	4.444	20	C-125
118	47491.671		636019.002		2772933.73		1807.96	130	12	51.1	15.000	TRANSITION			15.000					
119	47506.671		636031.555		2772925.562		1808.48	119	28	16.4	23.083	STRAIGHT								
120	47529.754		636051.651		2772914.206		1809.58	119	28	16.4	2.743	CIRCULAR CURVE	20.000	RIGHT			1.500	8.889	20	C-126
121	47532.497		636053.939		2772912.697		1809.73	127	19	45.9	19.516	STRAIGHT								
122	47552.013		636069.458		2772900.863		1810.83	127	19	45.9	15.000	TRANSITION			15.000					
123	47567.013		636082.77		2772894.532		1811.67	91	31	10.4	9.445	CIRCULAR CURVE	12.000	LEFT			1.500	10.000	20	C-127
124	47576.458		636091.36		2772897.834		1812.1	46	25	31.7	15.000	TRANSITION			15.000					
125	47591.458		636097.004		2772911.452		1812.58	10	36	56.2	7.821	STRAIGHT								
126	47599.279		636098.445		2772919.14		1812.75	10	36	56.2	7.688	CIRCULAR CURVE	100.000	RIGHT			0.900	NC	20	C-128
127	47606.967		636100.15		2772926.634		1812.92	15	1	13.4	24.903	STRAIGHT								
128	47631.87		636106.604		2772950.686		1813.48	15	1	13.4	5.434	CIRCULAR CURVE	50.000	LEFT			1.200	3.556	20	C-129
129	47637.304		636107.725		2772956		1813.63	8	47	38.5	17.737	STRAIGHT								
130	47655.041		636110.436		2772973.529		1814.42	8	47	38.5	9.463	CIRCULAR CURVE	50.000	RIGHT			1.200	3.556	20	C-130
131	47664.504		636112.757		2772982.689		1815.01	19	38	20	30.132	STRAIGHT								
132	47694.636		636122.884		2773011.058		1816.98	19	38	20	22.877	CIRCULAR CURVE	20.000	LEFT			1.500	8.889	20	C-131

BARRIER METAL ROAD	CHALK LINE	BITUM	PROPOSED CARRIAGEWAY
CONCRETE ROAD	PLANTATION LIMIT	STONE PITCHING PROJECTION	PROPOSED SHOULDER
BRIDGE WITH PER	WOODEN FENCE	DATE	EMBANKMENT SLOPE
RETAINING WALL	BARBED WIRE FENCE	POWER LINE WITH POLE	GROUND LEVEL
COMPOUND WALL	DRY NA	HAND PUMP, BORE WELL, WELL	GROUND LEFT TOE
GUARD WALL	WATER TANK, STAGE	TRIPLE, DOUBLE, PLANT POST	GROUND RIGHT TOE
BUILDING, SHED, CABIN	ROAD	TREE (Data Para, Other)	ROW
		GRAVE YARD, BOLDER AREA	
		KM STONE, SIGN BOARD, PILLAR	

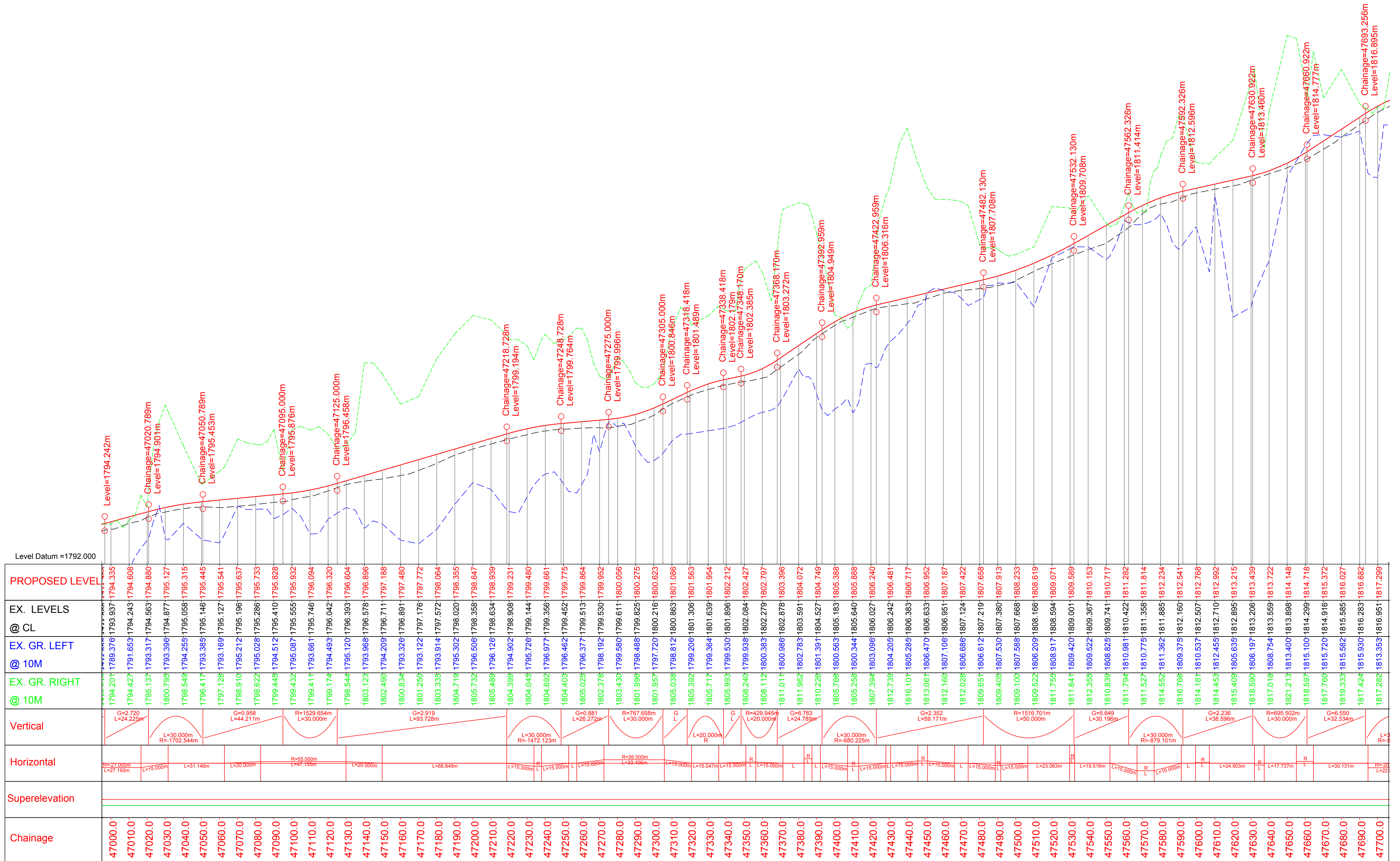
DESIGN CONSULTANTS :				
S.M. CONSULTANTS				
Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman				
Web : http://www.smcindia.com , e-mail: support@smcindia.com				
Prep. By	Chk. By	Issued By	Date	Rev. No.
R.B	S.K.S	S.N	DEC-23	R5

CLIENT :	NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
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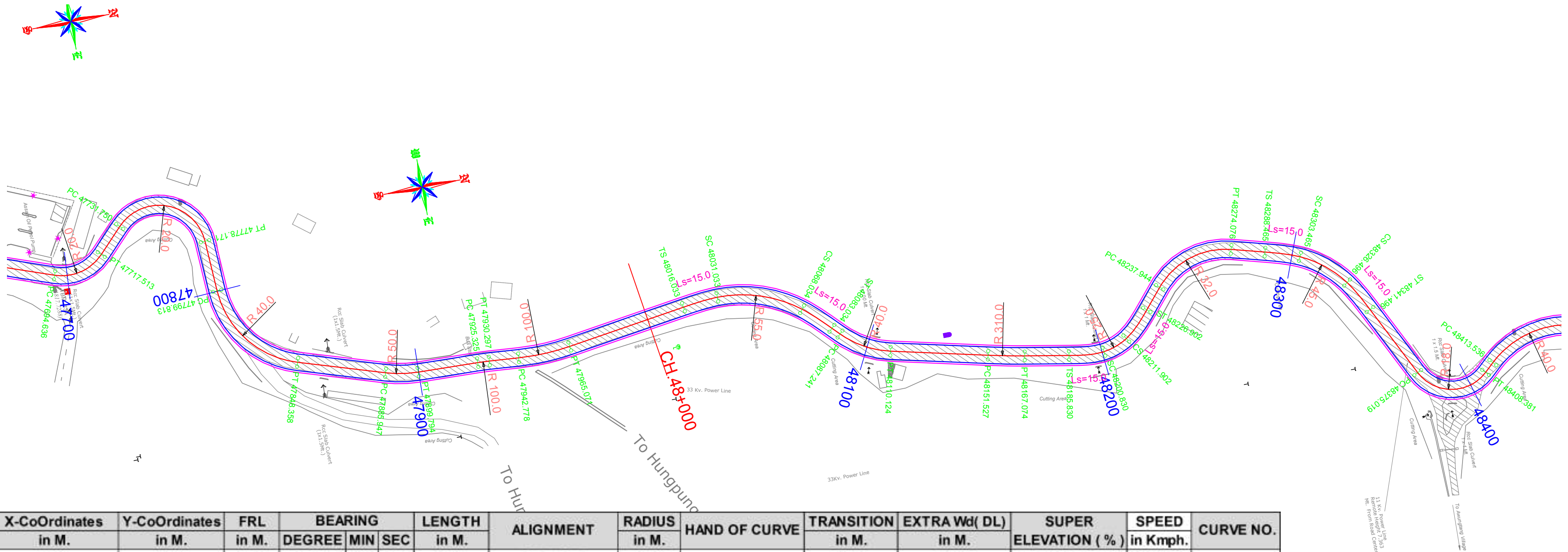
SCALE	TITLE : PLAN
H.Scale-1:2000	Ch-(47/000 to 47/700KM)
V.Scale-1:200	DRAWING NO : -
	SMC/HIGHWAY/MANIPUR/2222
	SHEET SIZE
	A2

To Finch Corner

To Ukhru

[illegible]

to Ukhrul



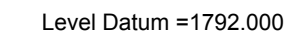
SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	FRL	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)	in Kmph.	
133	47717.513	636117.966	2773032.152	1817.99	314	5	59.8	14.237	STRAIGHT							
134	47731.75	636107.742	2773042.06	1818.24	314	5	59.8	46.421	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-132
135	47778.171	636120.643	2773076.396	1818.96	87	5	9.3	21.642	STRAIGHT							
136	47799.813	636142.258	2773077.497	1819.29	87	5	9.3	48.545	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-133
137	47848.358	636178.362	2773105.383	1819.92	17	33	3.9	37.589	STRAIGHT							
138	47885.947	636189.697	2773141.222	1819.8	17	33	3.9	13.847	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-134
139	47899.794	636192.003	2773154.831	1819.59	1	41	2.2	25.531	STRAIGHT							
140	47925.325	636192.754	2773180.351	1818.98	1	41	2.2	4.972	CIRCULAR CURVE	100.000	RIGHT		0.900	NC	20	C-135
141	47930.297	636193.023	2773185.315	1818.83	4	31	57.1	12.481	STRAIGHT							
142	47942.778	636194.009	2773197.757	1818.39	4	31	57.1	22.293	CIRCULAR CURVE	100.000	LEFT		0.900	NC	20	C-136
143	47965.071	636193.29	2773219.992	1817.44	351	45	34.6	50.962	STRAIGHT							
144	48016.033	636185.986	2773270.428	1814.78	351	45	34.6	15.000	TRANSITION			15.000				
145	48031.033	636184.514	2773285.343	1813.99	359	34	21.6	37.001	CIRCULAR CURVE	55.000	RIGHT		1.200	3.232	20	C-137
146	48068.034	636196.242	2773319.704	1812.04	38	7	7.4	15.000	TRANSITION			15.000				
147	48083.034	636206.526	2773330.607	1811.24	45	55	54.4	4.207	STRAIGHT							
148	48087.241	636209.548	2773333.533	1811.02	45	55	54.4	22.883	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-138
149	48110.124	636220.678	2773353.17	1809.52	13	9	16.3	41.403	STRAIGHT							
150	48151.527	636230.101	2773393.487	1806.33	13	9	16.3	15.547	CIRCULAR CURVE	310.000	LEFT			NC	20	C-139
151	48167.074	636233.258	2773408.708	1805.48	10	16	51.8	18.756	STRAIGHT							
152	48185.83	636236.605	2773427.163	1804.54	10	16	51.8	15.000	TRANSITION			15.000				
153	48200.83	636237.792	2773442.056	1803.76	353	5	32.4	11.072	CIRCULAR CURVE	25.000	LEFT		1.500	7.111	20	C-140
154	48211.902	636234.109	2773452.402	1803.03	327	43	3.7	15.000	TRANSITION			15.000				
155	48226.902	636223.779	2773463.195	1801.79	310	31	44.3	11.042	STRAIGHT							
156	48237.944	636215.386	2773470.37	1800.79	310	31	44.3	36.132	CIRCULAR CURVE	32.000	RIGHT		1.500	5.556	20	C-141
157	48274.076	636205.303	2773503.095	1797.67	15	13	21.1	14.389	STRAIGHT							
158	48288.465	636209.081	2773516.979	1796.68	15	13	21.1	15.000	TRANSITION			15.000				
159	48303.465	636213.811	2773531.195	1795.83	24	46	18.6	23.031	CIRCULAR CURVE	45.000	RIGHT		1.200	3.951	20	C-142
160	48326.496	636228.281	2773548.789	1794.87	54	5	45.2	15.000	TRANSITION			15.000				
161	48341.496	636241.316	2773556.175	1794.47	63	38	42.6	33.523	STRAIGHT							
162	48375.019	636271.354	2773571.057	1793.62	63	38	42.6	33.362	CIRCULAR CURVE	18.000	LEFT		1.500	9.877	20	C-143
163	48408.381	636276.623	2773599.358	1792.34	317	26	56.9	5.155	STRAIGHT							

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DESIGN CONSULTANTS :				
 S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http://www.smcindia.com , e-mail: support@smcindia.com				
Prep. By	Chk. By	Issued By	Date	Rev. No.
R.B	S.K.S	S.N	DEC-23	R5

CLIENT :	 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PROJECT :	STRENGTHENING OF UKHRL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

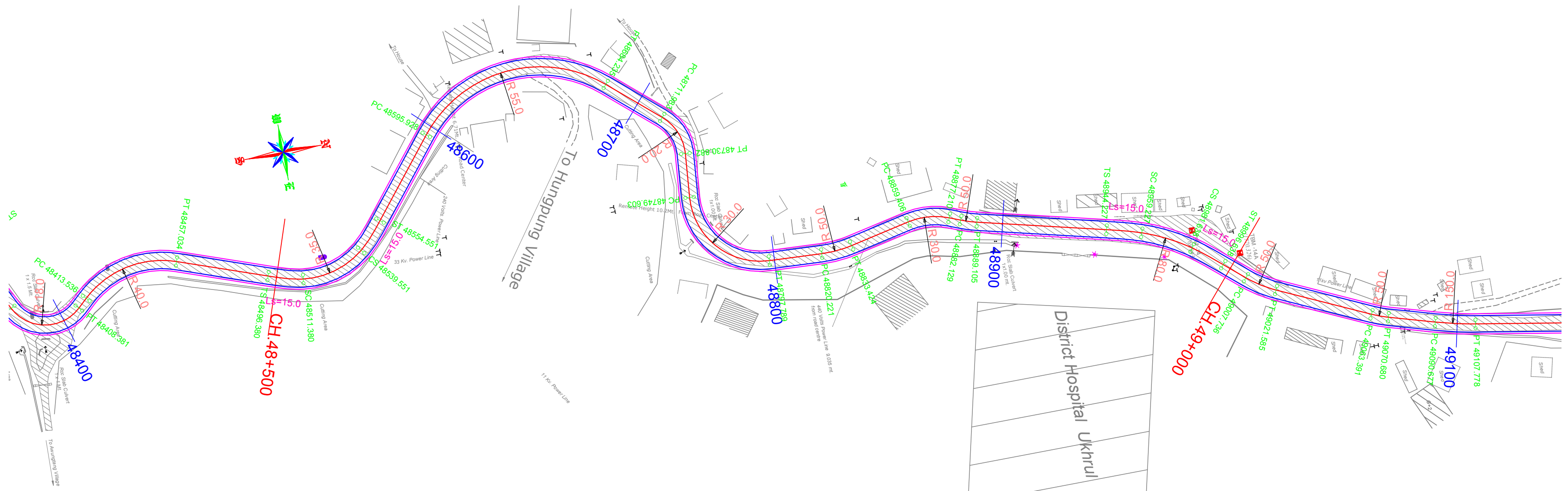
SCALE		TITLE : PLAN	
H.Scale-1:2000		Ch-(47/700 to 48/400KM)	
V.Scale-1:200		DRAWING NO : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE A2



HILL AREA VILLAGE LIMIT PLANTATION LIMIT PAVEMENT BANDED WIRE FENCE WOODEN FENCE DRY POND NALA WITH FLOW ARROW DRY NALA RIVER BUND DITCH STONE PITCHING PROJECTION GATE KOWLING WITH PILE HAND PUMP, BORE WELL, WELL TEMPLE, MOSQUE, FLAG POST TREE (Data, Palm, Others) GRASS, SAND, BOULDER AREA WATER TANK, STAGE KM STONE, SIGN BOARD, PILLAR PROPOSED CARRIAGEWAY PROPOSED SHOULDER BARIKADE SLOPE GROUND LEVEL GROUND LEFT TOE GROUND RIGHT TOE ROW										DESIGN CONSULTANTS : S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http://www.smcindia.com , e-mail: support@smcindia.com CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PROJECT : STRENGTHENING OF UKHRL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)										SCALE H.Scale-1:2000 V.Scale-1:200		TITLE : PROFILE Ch-(47/700 to 48/400) DRAWING NO :- SMC/HIGHWAY/MANIPUR/2222	
										PREP. By Chk. By Issued By DATE Rev. No. R.B S.K.S S.N DEC-23 R5													
										DATE DESCRIPTION PREP CHK APPD REVISIONS													

To Finch Corner

To Ukhrul



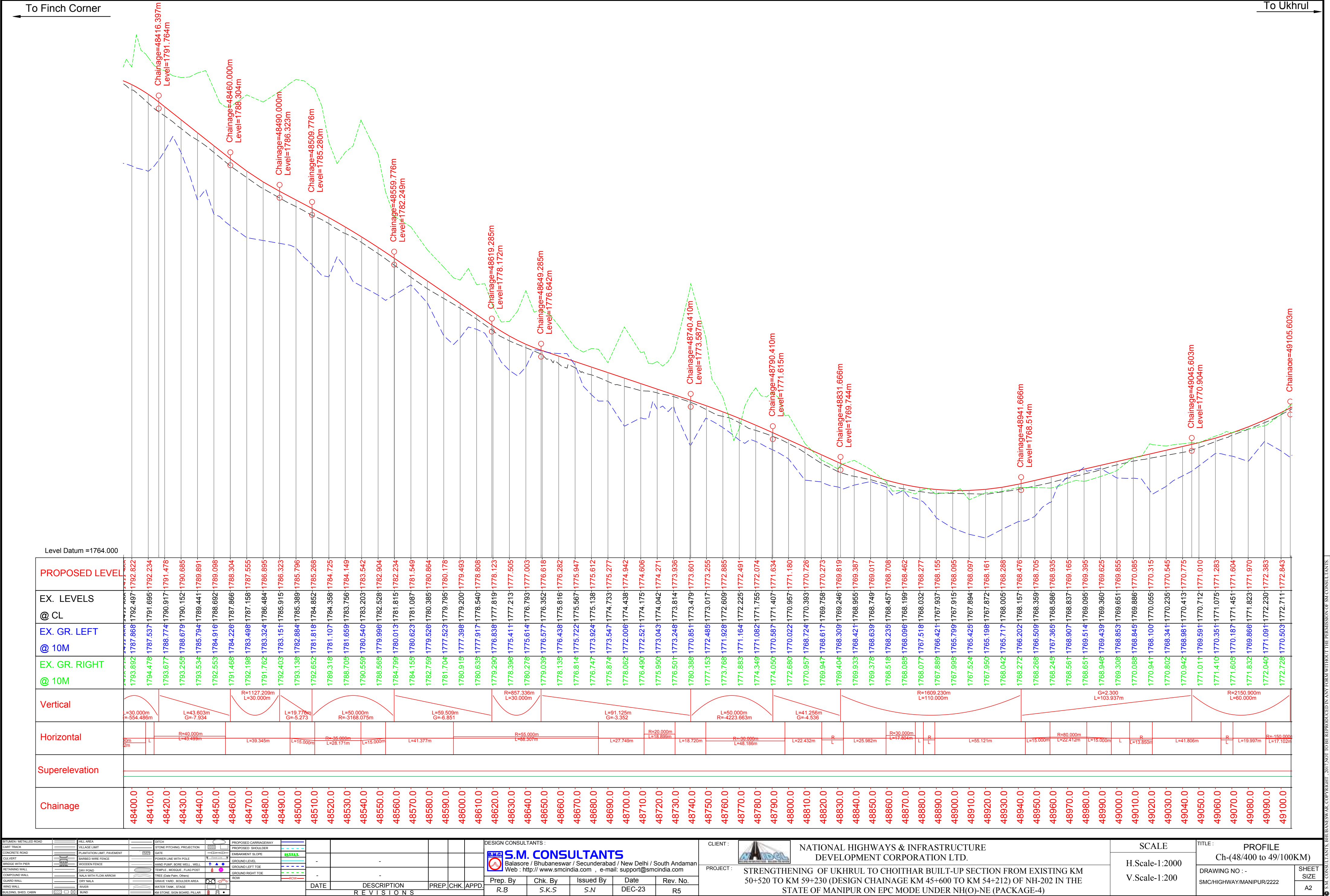
SL.NO.	CHAINAGE in M.	X-CoOrdinates in M.	Y-CoOrdinates in M.	FRL in M.	BEARING			LENGTH in M.	ALIGNMENT	RADIUS in M.	HAND OF CURVE	TRANSITION in M.	EXTRA Wd(DL) in M.	SUPER ELEVATION (%)	SPEED in Kmph.	CURVE NO.
					DEGREE	MIN	SEC									
164	48413.536	636273.138	2773603.155	1791.98	317	26	56.9	43.498	CIRCULAR CURVE	40.000	RIGHT		1.500	4.444	20	C-144
165	48457.034	636264.959	2773643.726	1788.54	19	45	23.1	39.346	STRAIGHT							
166	48496.38	636278.259	2773680.755	1785.99	19	45	23.1	15.000	TRANSITION			15.000				
167	48511.38	636282.301	2773695.169	1785.2	7	28	43.5	28.171	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-145
168	48539.551	636274.937	2773721.578	1783.57	321	21	41.3	15.000	TRANSITION			15.000				
169	48554.551	636264.021	2773731.821	1782.6	309	5	1.7	41.377	STRAIGHT							
170	48595.928	636231.903	2773757.907	1779.77	309	5	1.7	88.307	CIRCULAR CURVE	55.000	RIGHT		1.200	3.232	20	C-146
171	48684.235	636225.118	2773836.738	1775.47	41	4	36.1	27.748	STRAIGHT							
172	48711.983	636243.35	2773857.656	1774.54	41	4	36.1	18.899	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-147
173	48730.882	636260.246	2773864.432	1773.91	95	13	8.3	18.721	STRAIGHT							
174	48749.603	636278.889	2773862.729	1773.27	95	13	8.3	48.186	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-148
175	48797.789	636311.571	2773890.935	1771.28	3	11	22.5	22.432	STRAIGHT							
176	48820.221	636312.819	2773913.332	1770.26	3	11	22.5	13.203	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-149
177	48833.424	636311.815	2773926.459	1769.67	348	3	34.5	25.982	STRAIGHT							
178	48859.406	636306.439	2773951.879	1768.73	348	3	34.5	17.804	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-150
179	48877.21	636307.987	2773969.354	1768.32	22	3	43.4	4.919	STRAIGHT							
180	48882.129	636309.835	2773973.913	1768.25	22	3	43.4	6.976	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-151
181	48889.105	636311.996	2773980.54	1768.16	14	4	5.2	55.122	STRAIGHT							
182	48944.227	636325.395	2774034.008	1768.57	14	4	5.2	15.000	TRANSITION			15.000				
183	48959.227	636329.492	2774048.432	1768.92	19	26	22.5	22.411	CIRCULAR CURVE	80.000	RIGHT		0.900	NC	20	C-152
184	48981.638	636339.795	2774068.252	1769.43	35	29	26.5	15.000	TRANSITION			15.000				
185	48996.638	636349.246	2774079.893	1769.78	40	51	43.8	11.098	STRAIGHT							
186	49007.736	636356.506	2774088.286	1770.03	40	51	43.8	13.849	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-153
187	49021.585	636364.01	2774099.873	1770.35	24	59	30	41.806	STRAIGHT							
188	49063.391	636381.672	2774137.765	1771.39	24	59	30	7.289	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-154
189	49070.68	636384.26	2774144.572	1771.63	16	38	22.4	19.997	STRAIGHT							
190	49090.677	636389.986	2774163.731	1772.41	16	38	22.4	17.101	CIRCULAR CURVE	150.000	LEFT		0.600	NC	20	C-155

BROWN METAL ROAD	RAIL AREA	DITCH	PROPOSED CARRIAGEWAY
CAST TRACK	VILLAGE LIMIT	STONE PITCHING PROJECTION	PROPOSED SHOULDER
CONCRETE ROAD	PLANTATION LIMIT, PAVEMENT	GATE	EMBANKMENT SLOPE
CLAVERT	BARBED WIRE FENCE	POWER LINE WITH POLE	GROUND LEVEL
BRIDGE WITH PIER	WOODEN FENCE	HAND PUMP, BORE WELL, WELL	GROUND LEFT TOE
RETAINING WALL	DRY FOND	TEMPLE, MOSQUE, PLANT POST	GROUND RIGHT TOE
COMPOUND WALL	NALA WITH FLOW ARROW	TREE (Data Para, Other)	ROW
GUARD WALL	DRY NALA	GRAVE YARD, BOULDER AREA	
RIVER	WATER TANK, STAGE		
BUILDING, SHED, CABIN	ROAD	KM STONE, SIGN BOARD, PILLAR	

DESIGN CONSULTANTS :				
S.M. CONSULTANTS				
Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman				
Web : http://www.smcindia.com , e-mail: support@smcindia.com				
Prep. By	Chk. By	Issued By	Date	Rev. No.
R.B	S.K.S	S.N	DEC-23	R5
DATE DESCRIPTION PREP.CHK.APPD.				
R E V I S I O N S				

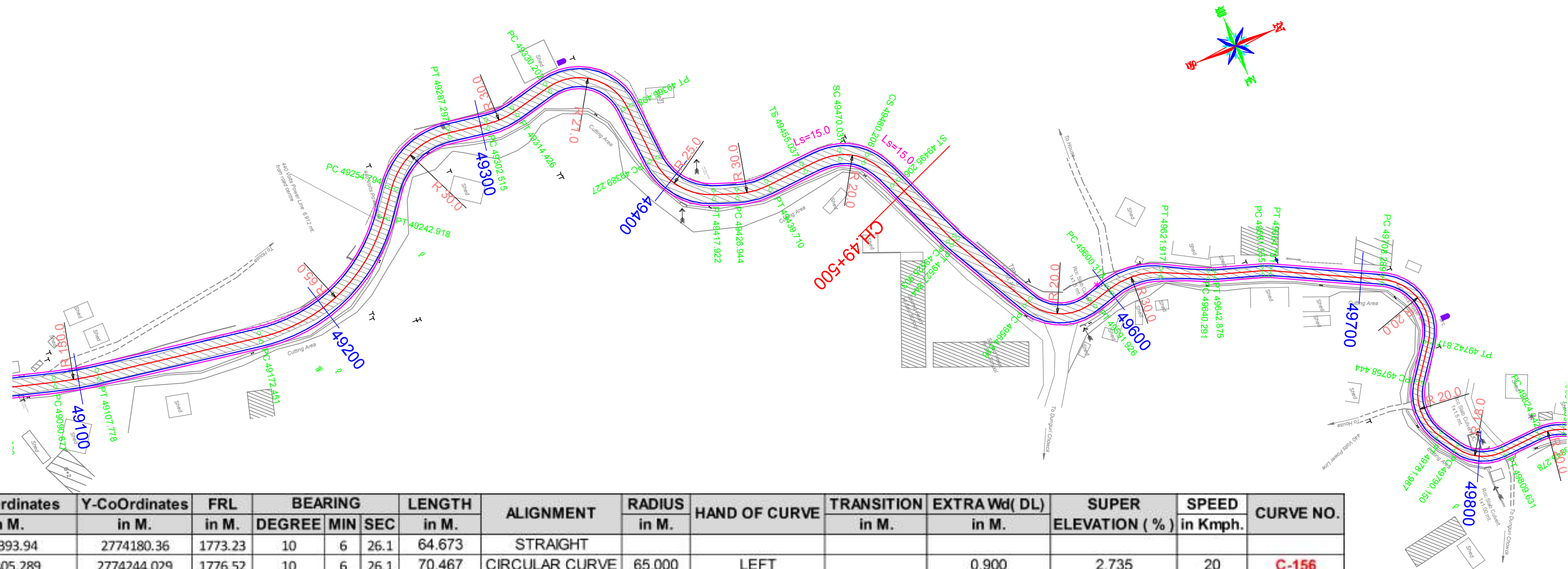
CLIENT :		NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PROJECT :	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)	

SCALE	TITLE : PLAN	
	Ch-(48/400 to 49/100KM)	
H.Scale-1:2000	DRAWING NO : -	SHEET SIZE
V.Scale-1:200	SMC/HIGHWAY/MANIPUR/2222	A2



To Finch Corner

To Ukhrul



SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	FRL	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER ELEVATION (%)	SPEED in Kmph.	CURVE NO.
	in M.	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.			
191	49107.778	636393.94	2774180.36	1773.23	10	6	26.1	64.673	STRAIGHT							
192	49172.451	636405.289	2774244.029	1776.52	10	6	26.1	70.467	CIRCULAR CURVE	65.000	LEFT		0.900	2.735	20	C-156
193	49242.918	636381.309	2774306.662	1780.11	307	59	33.8	11.876	STRAIGHT							
194	49254.794	636371.95	2774313.973	1780.71	307	59	33.8	32.503	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-157
195	49287.297	636360.879	2774342.86	1782.86	10	4	9.4	15.218	STRAIGHT							
196	49302.515	636363.54	2774357.844	1784.05	10	4	9.4	11.911	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-158
197	49314.426	636363.27	2774369.674	1784.79	347	19	15.1	15.776	STRAIGHT							
198	49330.202	636359.808	2774385.065	1785.46	347	19	15.1	36.296	CIRCULAR CURVE	21.000	RIGHT		1.500	8.466	20	C-159
199	49366.498	636378.959	2774410.632	1786.72	86	21	2.5	22.729	STRAIGHT							
200	49389.227	636401.641	2774412.078	1787.5	86	21	2.5	28.695	CIRCULAR CURVE	25.000	LEFT		1.500	7.111	20	C-160
201	49417.922	636423.454	2774428.238	1788.69	20	35	5.3	9.022	STRAIGHT							
202	49426.944	636426.626	2774436.684	1789.21	20	35	5.3	12.766	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-161
203	49439.71	636428.475	2774449.218	1790.08	356	12	11.8	15.327	STRAIGHT							
204	49455.037	636427.46	2774464.511	1791.32	356	12	11.8	15.000	TRANSITION			15.000				
205	49470.037	636428.333	2774479.392	1792.52	17	41	21.1	10.169	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-162
206	49480.206	636433.702	2774487.899	1793.25	46	49	19.6	15.000	TRANSITION			15.000				
207	49495.206	636446.759	2774495.091	1794.18	68	18	28.9	30.697	STRAIGHT							
208	49525.903	636475.283	2774506.437	1795.62	68	18	28.9	1.941	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-163
209	49527.844	636477.048	2774507.241	1795.71	62	44	54.7	36.772	STRAIGHT							
210	49564.616	636509.739	2774524.079	1797.32	62	44	54.7	27.310	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-164
211	49591.926	636519.855	2774547.199	1798.37	344	30	47.7	8.387	STRAIGHT							
212	49600.313	636517.615	2774555.281	1798.64	344	30	47.7	21.604	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-165
213	49621.917	636519.511	2774576.337	1799.2	25	46	28.7	18.374	STRAIGHT							
214	49640.291	636527.5	2774592.883	1799.64	25	46	28.7	2.584	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-166
215	49642.875	636528.471	2774595.276	1799.71	18	22	10.2	18.680	STRAIGHT							
216	49661.555	636534.358	2774613.004	1800.2	18	22	10.2	3.226	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-167
217	49664.781	636535.616	2774615.97	1800.3	27	36	33.9	43.508	STRAIGHT							
218	49708.289	636555.78	2774654.524	1802.33	27	36	33.9	34.528	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-168
219	49742.817	636585.406	2774661.327	1804.24	126	31	33.6	15.627	STRAIGHT							
220	49758.444	636597.963	2774652.026	1805.11	126	31	33.6	23.543	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-169
221	49781.987	636620.143	2774650.94	1806.41	59	4	51.7	8.163	STRAIGHT							
222	49790.15	636627.147	2774655.135	1806.87	59	4	51.7	19.481	CIRCULAR CURVE	18.000	LEFT		1.500	9.877	20	C-170

BARRIER, METALLED ROAD	CHALK AREA	BITUM
CAST TRACK	CHALK LIMIT	STONE PITCHING, PROJECTION
CONCRETE ROAD	PLANTATION LIMIT, PAVEMENT	GATE
CULVERT	BARBED WIRE FENCE	POWER LINE WITH POLE
BRIDGE WITH PIER	WOODEN FENCE	HAND PUMP, BORE WELL, WELL
RETAINING WALL	DRY ROAD	TEMPLE, MOSQUE, PLANT POST
COMPOUND WALL	NALA WITH FLOW ARROW	TREE (Data Pass, Other)
GUARD WALL	DRY NALA	GRAVE YARD, BOULDER AREA
WIND WALL	RIVER	WATER TANK, STAGE
BUILDING, SHED, CABIN	ROAD	KM STONE, SIGN BOARD, PILLAR

DATE	DESCRIPTION	PREP	CHK	APPD
	REVISIONS			

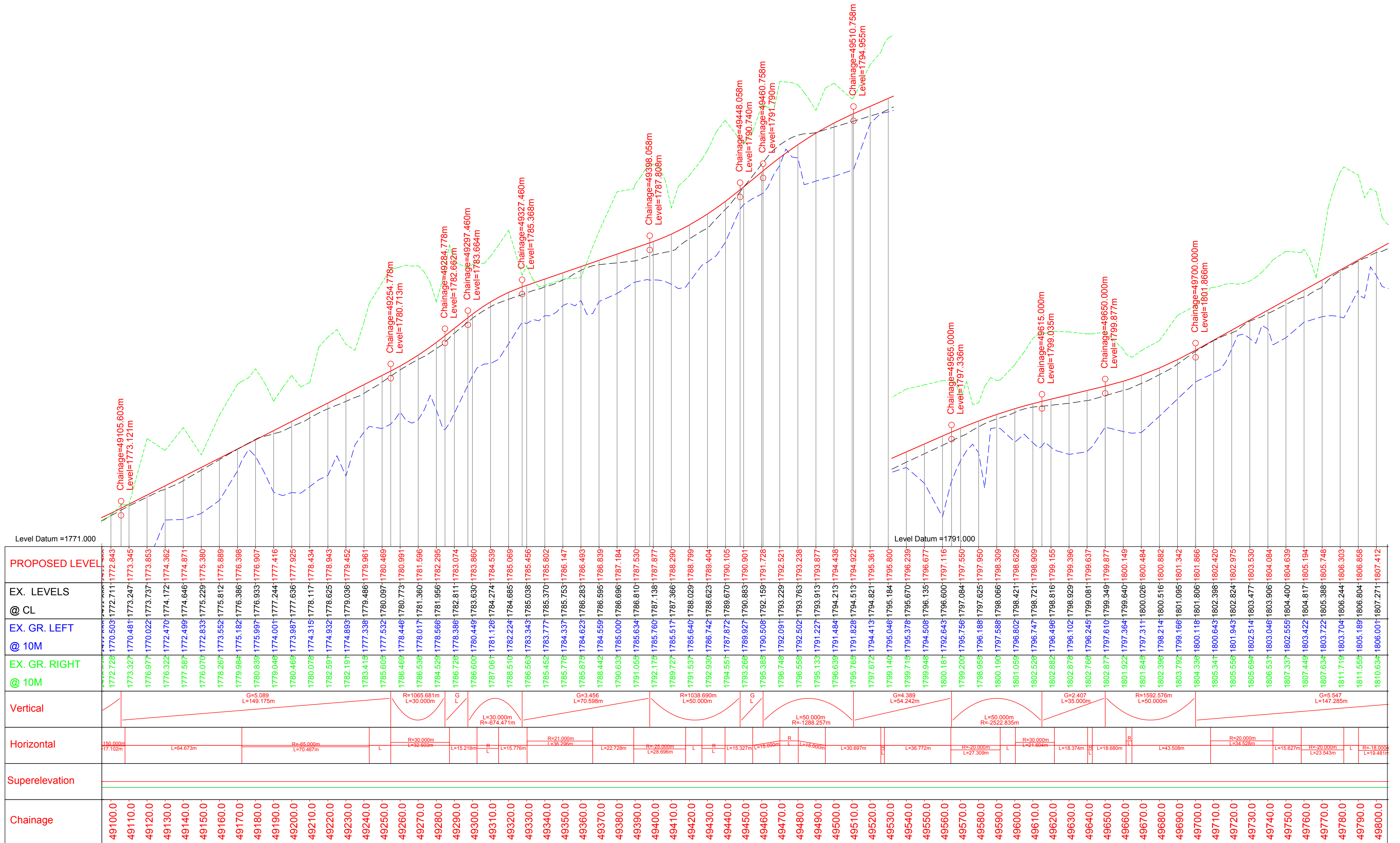
DESIGN CONSULTANTS :				
S.M. CONSULTANTS				
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Web : http://www.smcindia.com , e-mail: support@smcindia.com				
Prep. By	Chk. By	Issued By	Date	Rev. No.
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CLIENT :		NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PROJECT :	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)	

SCALE		TITLE :	
H.Scale-1:2000		PLAN	
V.Scale-1:200		Ch-(49/700 to 49/800KM)	
		DRAWING NO : -	SHEET SIZE
		SMC/HIGHWAY/MANIPUR/2222	A2

To Finch Corner

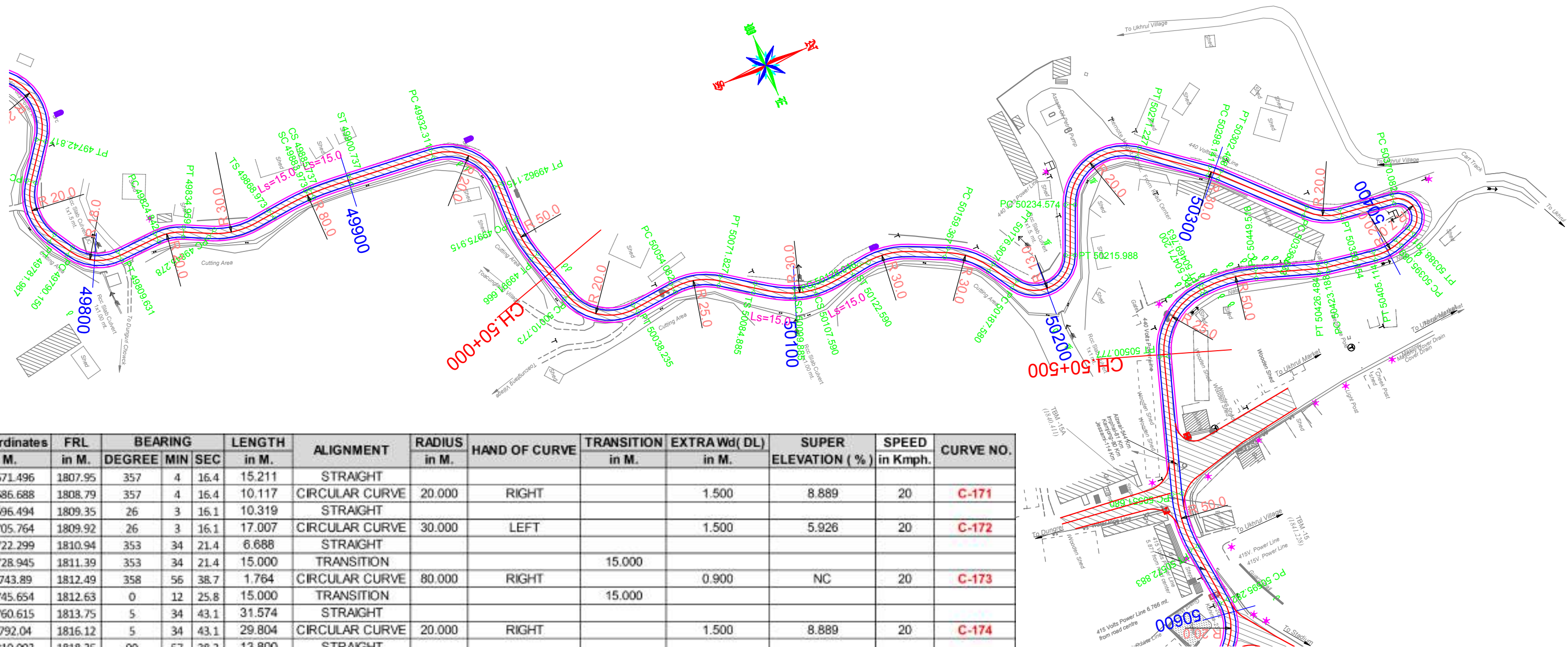
To Ukhru



BITUMEN / METALLIC ROAD	HILL AREA	DITCH	PROPOSED CARRIAGEWAY	STONE PITCHING, PROJECTION	PROPOSED SHOULDER	DATE	EMBANKMENT SLOPE	CONCRETE ROAD	PLANTATION LIMIT, PAVEMENT	POWER LINE WITH POLE	HAND PUMP, BORE WELL, WELL	TEMPLE, MOSQUE, FLAG POST	TREE (CLASS PARK, OTHERS)	GRAVE YARD, BOLLARD AREA	WATER TANK, STAGE	CUM STONE, SIGN BOARD, PILLAR	BOUNDARY WALL	RETAINING WALL	COMPOUND WALL	CHIMNEY WALL	DRY WALL	RIVER	WIND WALL	BUILDING, SHED, CABIN					
DESIGN CONSULTANTS : S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http://www.smcindia.com , e-mail: support@smcindia.com															CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	SCALE H.Scale-1:2000 V.Scale-1:200	TITLE : PROFILE Ch-(49/100 to 49/800KM)												
PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)															DRAWING NO. : - SMC/HIGHWAY/MANIPUR/2222			SHEET SIZE A2											
PREP. By R.B															CHK. By S.K.S			ISSUED By S.N	DATE DEC-23	REV. No. R5									
DATE															DESCRIPTION					PREP,CHK,APPD					REVISIONS				

To Finch Corner

To Ukhrul



SL.NO.	CHAINAGE in M.	X-CoOrdinates in M.	Y-CoOrdinates in M.	FRL in M.	BEARING			LENGTH in M.	ALIGNMENT	RADIUS in M.	HAND OF CURVE	TRANSITION in M.	EXTRA Wd (DL) in M.	SUPER ELEVATION (%)	SPEED in Kmph.	CURVE NO.
223	49809.631	636635.874	2774671.496	1807.95	357	4	16.4	15.211	STRAIGHT							
224	49824.842	636635.097	2774686.688	1808.79	357	4	16.4	10.117	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-171
225	49834.959	636637.103	2774696.494	1809.35	26	3	16.1	10.319	STRAIGHT							
226	49845.278	636641.636	2774705.764	1809.92	26	3	16.1	17.007	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-172
227	49862.285	636644.496	2774722.299	1810.94	353	34	21.4	6.688	STRAIGHT							
228	49868.973	636643.747	2774728.945	1811.39	353	34	21.4	15.000	TRANSITION			15.000				
229	49883.973	636642.535	2774743.89	1812.49	358	56	38.7	1.764	CIRCULAR CURVE	80.000	RIGHT		0.900	NC	20	C-173
230	49885.737	636642.522	2774745.654	1812.63	0	12	25.8	15.000	TRANSITION			15.000				
231	49900.737	636643.513	2774760.615	1813.75	5	34	43.1	31.574	STRAIGHT							
232	49932.311	636646.582	2774792.04	1816.12	5	34	43.1	29.804	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-174
233	49962.115	636666.823	2774810.093	1818.35	90	57	38.2	13.800	STRAIGHT							
234	49975.915	636680.621	2774809.861	1819.37	90	57	38.2	15.751	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-175
235	49991.666	636696.152	2774812.062	1820.26	72	54	38.3	19.107	STRAIGHT							
236	50010.773	636714.415	2774817.677	1820.92	72	54	38.3	27.462	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-176
237	50038.235	636728.437	2774838.801	1821.78	354	14	22	15.847	STRAIGHT							
238	50054.082	636726.847	2774854.568	1822.26	354	14	22	17.745	CIRCULAR CURVE	25.000	RIGHT		1.500	7.111	20	C-177
239	50071.827	636731.219	2774871.384	1822.6	34	54	35.3	13.058	STRAIGHT							
240	50084.885	636738.692	2774882.092	1822.74	34	54	35.3	15.000	TRANSITION			15.000				
241	50099.885	636746.202	2774895.029	1822.88	20	35	9.1	7.705	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-178
242	50107.59	636747.96	2774902.509	1822.95	5	52	13.1	15.000	TRANSITION			15.000				
243	50122.59	636747	2774917.436	1823.09	351	32	46.9	5.426	STRAIGHT							
244	50128.016	636746.202	2774922.803	1823.14	351	32	46.9	17.377	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-179
245	50145.393	636748.628	2774939.766	1823.5	24	44	2.8	13.974	STRAIGHT							
246	50159.367	636754.475	2774952.457	1824.17	24	44	2.8	17.540	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-180
247	50176.907	636765.929	2774965.411	1825.25	58	13	59.9	10.673	STRAIGHT							
248	50187.58	636775.004	2774971.03	1825.91	58	13	59.9	28.408	CIRCULAR CURVE	13.000	LEFT		1.500	10.000	20	C-181
249	50215.988	636773.245	2774994.047	1827.67	293	1	50	18.586	STRAIGHT							
250	50234.574	636756.14	2775001.318	1828.77	293	1	50	36.653	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-182
251	50271.227	636748.212	2775032.046	1829.9	38	2	1.9	26.914	STRAIGHT							
252	50298.141	636764.794	2775053.245	1830.49	38	2	1.9	4.267	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-183
253	50302.408	636767.653	2775056.408	1830.59	46	10	58.5	34.225	STRAIGHT							
254	50336.633	636792.348	2775080.104	1831.34	46	10	58.5	13.521	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-184
255	50350.154	636798.332	2775091.942	1831.64	7	26	52.9	19.928	STRAIGHT							
256	50370.082	636800.915	2775111.703	1832.28	7	26	52.9	18.709	CIRCULAR CURVE	7.000	RIGHT		1.500	10.000	20	C-185
257	50388.791	636814.458	2775113.122	1833.15	160	34	52.4	6.298	STRAIGHT							
258	50395.089	636816.552	2775107.183	1833.48	160	34	52.4	10.025	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-186
259	50405.114	636817.427	2775097.301	1834	189	18	1.4	18.074	STRAIGHT							
260	50423.188	636814.506	2775079.465	1834.93	189	18	1.4	3.296	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-187
261	50426.484	636813.708	2775076.271	1835.1	198	44	33.8	23.034	STRAIGHT							
262	50449.518	636806.307	2775054.458	1836.28	198	44	33.8	20.245	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-188
263	50469.763	636803.806	2775034.508	1837.33	175	32	40.2	1.437	STRAIGHT							
264	50471.2	636803.918	2775033.074	1837.4	175	32	40.2	29.577	CIRCULAR CURVE	25.000	LEFT		1.500	7.111	20	C-189

BRICKEN METALLED ROAD	CHALK AREA	BITUM	PROPOSED CARRIAGEWAY
CAST TRACK	CHALK LIMIT	STONE PITCHING PROJECTION	PROPOSED SHOULDER
CONCRETE ROAD	PLANTATION LIMIT, PAVEMENT	GATE	EMBANKMENT SLOPE
CULVERT	BARBED WIRE FENCE	POWER LINE WITH POLE	GROUND LEVEL
BRIDGE WITH PIER	WOODEN FENCE	HAND PUMP, BORE WELL, WELL	GROUND LEFT TOE
RETAINING WALL	DRY POND	TEMPLE, MOSQUE, PLANT POST	GROUND RIGHT TOE
COMPOUND WALL	NALA WITH FLOW ARROW	TREE (Data Para, Other)	ROW
GUARD WALL	DRY NALA	GRAVE YARD, BOULDER AREA	
RING WALL	RIVER	WATER TANK, STAGE	
BUILDING, SHED, CABIN	ROAD	KM STONE, SIGN BOARD, PILLAR	

DATE DESCRIPTION PREP CHK APPD

DESIGN CONSULTANTS :

S.M. CONSULTANTS

Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman
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Prep. By	Chk. By	Issued By	Date	Rev. No.
R.B	S.K.S	S.N	DEC-23	R5

CLIENT :



NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD.

PROJECT :

STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM
50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE
STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

SCALE

H.Scale-1:2000

V.Scale-1:200

TITLE :

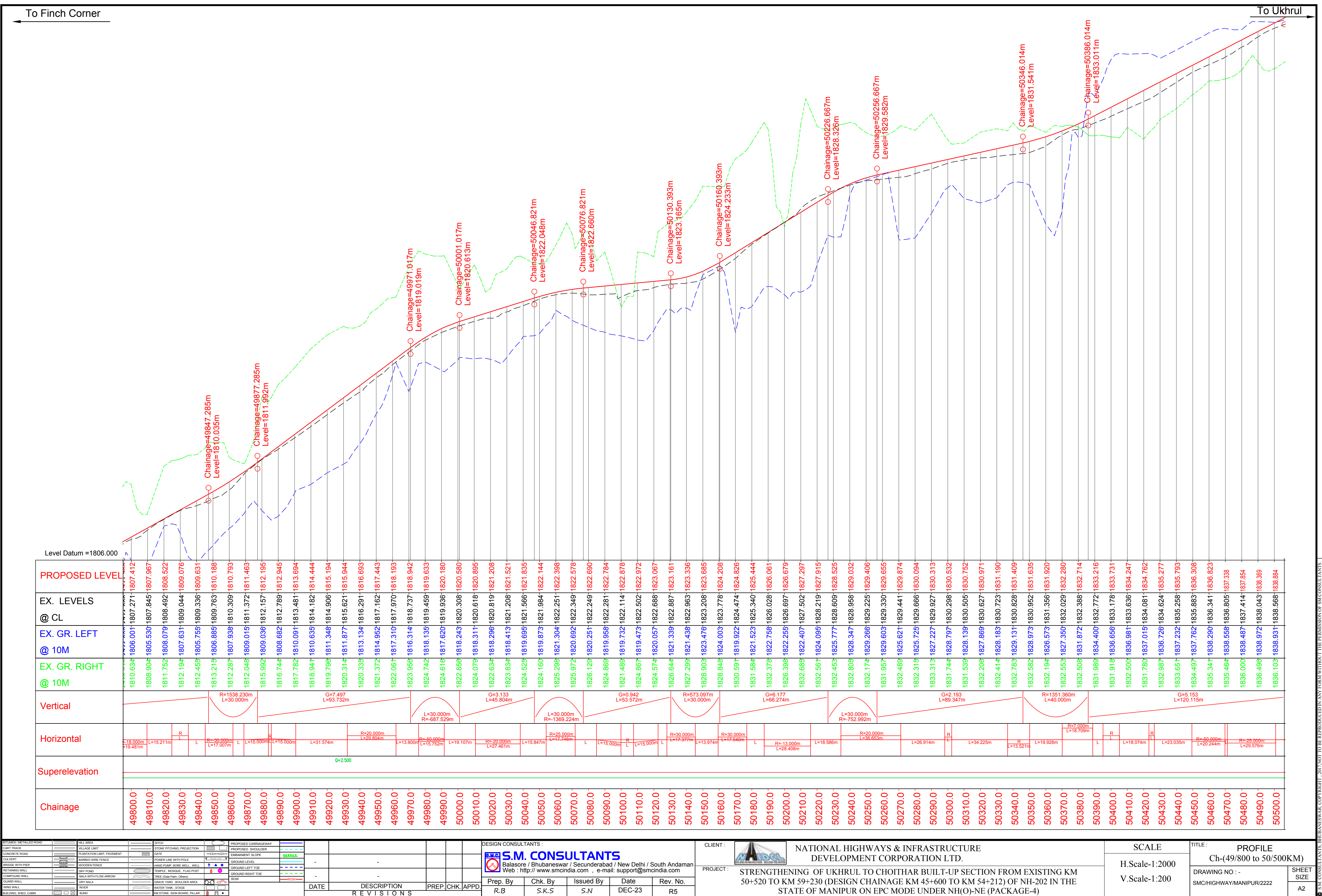
PLAN
Ch-(49/800 to 50/500KM)

DRAWING NO : -

SMC/HIGHWAY/MANIPUR/2222

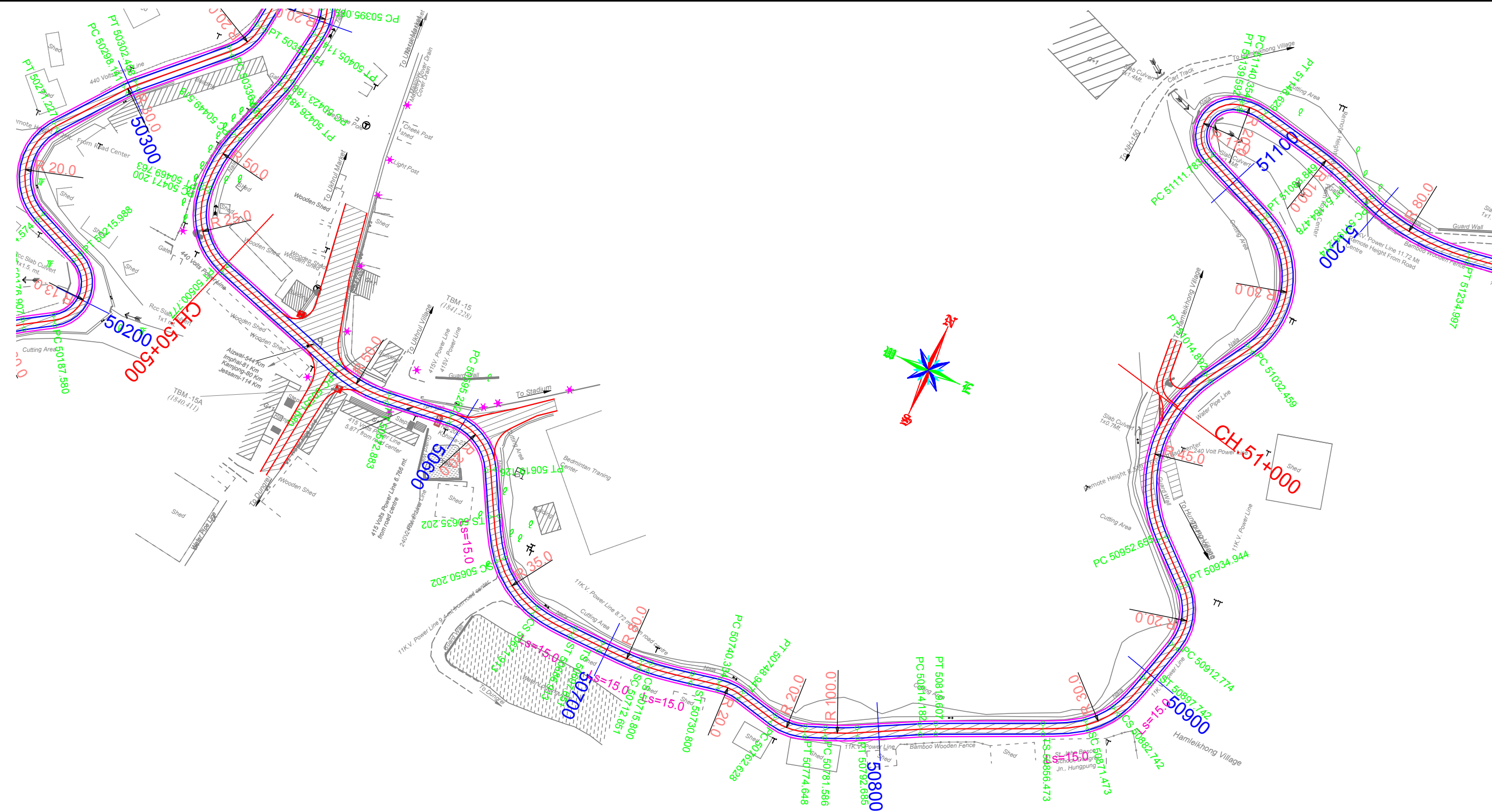
SHEET

SIZE
A2



To Finch Corner

To Ukhrul



SL.NO.	CHAINAGE in M.	X-CoOrdinates in M.	Y-CoOrdinates in M.	FRL in M.	BEARING			LENGTH in M.	ALIGNMENT	RADIUS in M.	HAND OF CURVE	TRANSITION in M.	EXTRA Wd(DL) in M.	SUPER ELEVATION (%)	SPEED in Kmph.	CURVE NO.
					DEGREE	MIN	SEC									
265	50500.777	636821.217	2775011.208	1838.92	107	45	36.9	50.903	STRAIGHT							
266	50551.68	636869.694	2774995.681	1840.61	107	45	36.9	21.203	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-190
267	50572.883	636890.637	2774993.623	1840.63	83	27	47.4	22.399	STRAIGHT							
268	50595.282	636912.891	2774996.173	1840.21	83	27	47.4	23.844	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-191
269	50619.126	636932.789	2774985.763	1839.27	151	46	15.5	16.076	STRAIGHT							
270	50635.202	636940.393	2774971.598	1838.39	151	46	15.5	15.000	TRANSITION			15.000				
271	50650.202	636948.397	2774958.948	1837.66	139	29	35.9	21.711	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-192
272	50671.913	636966.569	2774947.714	1836.81	103	57	11.3	15.000	TRANSITION			15.000				
273	50686.913	636981.463	2774946.21	1836.24	91	40	31.7	10.738	STRAIGHT							
274	50697.651	636992.196	2774945.896	1835.83	91	40	31.7	15.000	TRANSITION			15.000				
275	50712.651	637007.191	2774945.927	1835.26	86	18	14.3	3.149	CIRCULAR CURVE	80.000	LEFT		0.900	NC	20	C-193
276	50715.8	637010.328	2774946.191	1835.14	84	2	55.2	15.000	TRANSITION			15.000				
277	50730.8	637025.115	2774948.674	1834.63	78	40	37.9	9.534	STRAIGHT							
278	50740.334	637034.464	2774950.546	1834.37	78	40	37.9	8.613	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-194
279	50748.947	637043.009	2774950.395	1834.18	103	21	2.1	13.681	STRAIGHT							
280	50762.628	637056.32	2774947.236	1833.89	103	21	2.1	12.020	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-195
281	50774.648	637068.133	2774948.035	1833.53	68	54	57.9	6.938	STRAIGHT							
282	50781.586	637074.607	2774950.531	1833.26	68	54	57.9	11.099	CIRCULAR CURVE	100.000	LEFT		0.900	NC	20	C-196
283	50792.685	637084.72	2774955.089	1832.74	62	33	24.4	21.497	STRAIGHT							
284	50814.182	637103.798	2774964.996	1831.68	62	33	24.4	5.425	CIRCULAR CURVE	100.000	RIGHT		0.900	NC	20	C-197
285	50819.607	637108.677	2774967.365	1831.42	65	39	53.5	36.866	STRAIGHT							
286	50856.473	637142.269	2774982.557	1829.85	65	39	53.5	15.000	TRANSITION			15.000				
287	50871.473	637155.338	2774989.833	1829.42	51	20	27.3	11.269	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-198
288	50882.742	637162.625	2774998.341	1829.1	29	49	8	15.000	TRANSITION			15.000				
289	50897.742	637167.807	2775012.374	1828.68	15	29	41.8	15.032	STRAIGHT							
290	50912.774	637171.823	2775026.859	1828.25	15	29	41.8	22.170	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-199
291	50934.944	637165.928	2775047.069	1827.62	311	59	2.8	17.711	STRAIGHT							
292	50952.655	637152.763	2775058.916	1827.12	311	59	2.8	62.237	CIRCULAR CURVE	45.000	RIGHT		1.200	3.951	20	C-200
293	51014.892	637144.385	2775115.696	1825.16	31	13	37.6	17.567	STRAIGHT							
294	51032.459	637153.492	2775130.717	1824.36	31	13	37.6	51.390	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-201
295	51083.849	637139.598	2775173.869	1821.7	293	4	44.3	27.934	STRAIGHT							
296	51111.783	637113.9	2775184.82	1820.59	293	4	44.3	27.809	CIRCULAR CURVE	11.000	RIGHT		1.500	10.000	20	C-202
297	51139.592	637115.911	2775205.696	1819.72	77	55	33.2	0.762	STRAIGHT							
298	51140.354	637116.656	2775205.855	1819.7	77	55	33.2	8.275	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-203
299	51148.629	637124.872	2775205.887	1819.44	101	37	50	21.474	STRAIGHT							
300	51170.103	637145.905	2775201.558	1818.58	101	37	49.6	14.375	CIRCULAR CURVE	100.000	RIGHT		0.900	NC	20	C-204
301	51184.478	637159.729	2775197.66	1817.84	109	52	0.8	10.736	STRAIGHT							
302	51195.214	637169.825	2775194.011	1817.2	109	52	0.8	39.783	CIRCULAR CURVE	80.000	LEFT		0.900	NC	20	C-205

BITUMEN / METALLOID ROAD CART TRACK CONCRETE ROAD CULVERT BRIDGE WITH FESS RETAINING WALL COMPOUND WALL DRAIN WALL BRIDGE WALL BUILDING, SHED, CHAN ROAD	HILL AREA PLANTATION LIMIT PLANTATION LIMIT, PAVEMENT BARBED WIRE FENCE WOODEN FENCE RIVER FENCE NAHA WITH FLOW ARROW TRY NAHA RIVER BUND ROAD	DTOTHI STONE PITCHING PROJECTION GATE POWER LINE WITH POLE HAND PUMP, BORE WELL, WELL FENCE, MOUSSE, FLAG POOL TREE (Date Palm, Others) GRAVE YARD, BOLDER AREA WATER TANK, STONE NAHA, STONE, BOLDER, PILLAR	 	PROPOSED CARRIAGEWAY PROPOSED SHOULDER EMBANKMENT SLOPE GROUND LEVEL GROUND LEFT TO GROUND RIGHT TO ROW	DATE DESCRIPTION PREP. CHK. APPD.	REVISIONS
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DESIGN CONSULTANTS :

S.M.C. CONSULTANTS

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Prep. By	Chk. By	Issued By	Date	Rev. No.
R.B	S.K.S	S.N	DEC-23	R5

DESIGN CONSULTANTS :

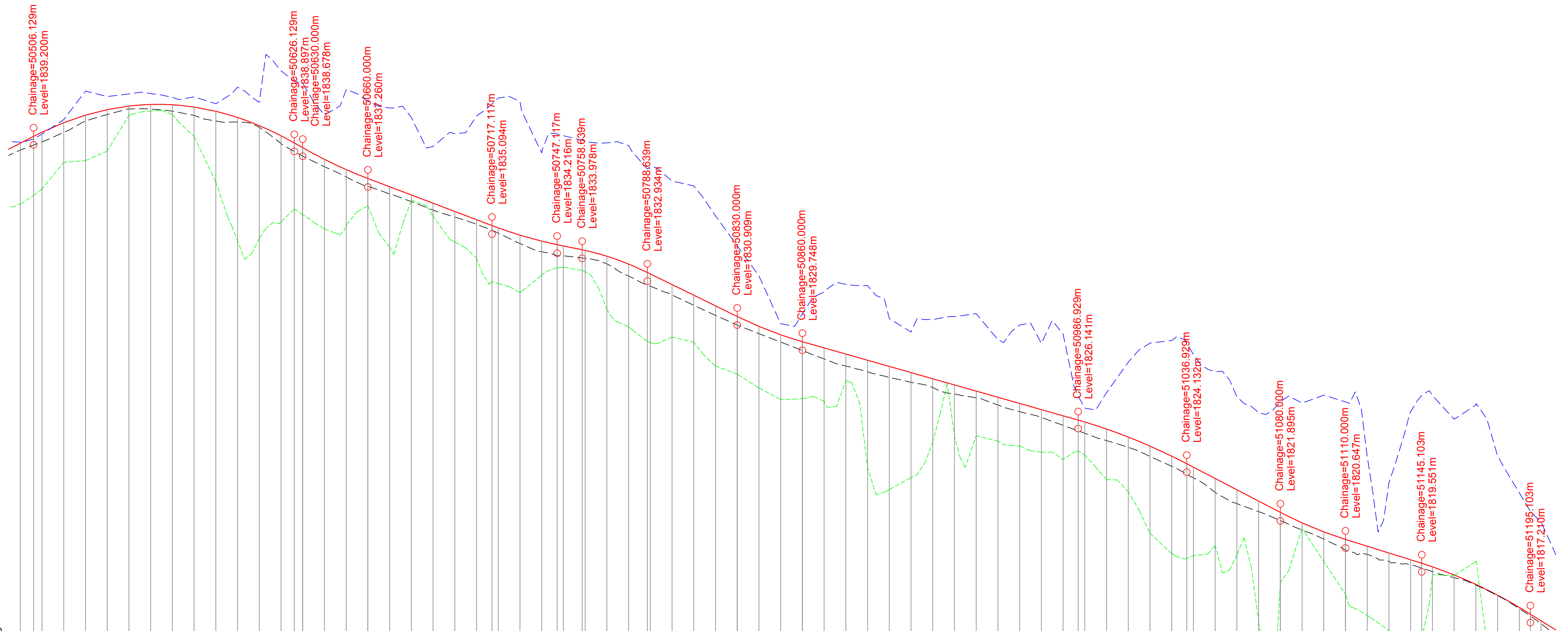
 **S.M. CONSULTANTS**
Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman
Web : [http:// www.smcindia.com](http://www.smcindia.com) , e-mail: support@smcindia.com

CLIENT :	 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PROJECT :	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

SCALE		TITLE : PLAN	
H.Scale-1:2000		Ch-(50/500 to 51/200KM)	
V.Scale-1:200		DRAWING NO : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE A2

To Finch Corner

To Ukhrul →



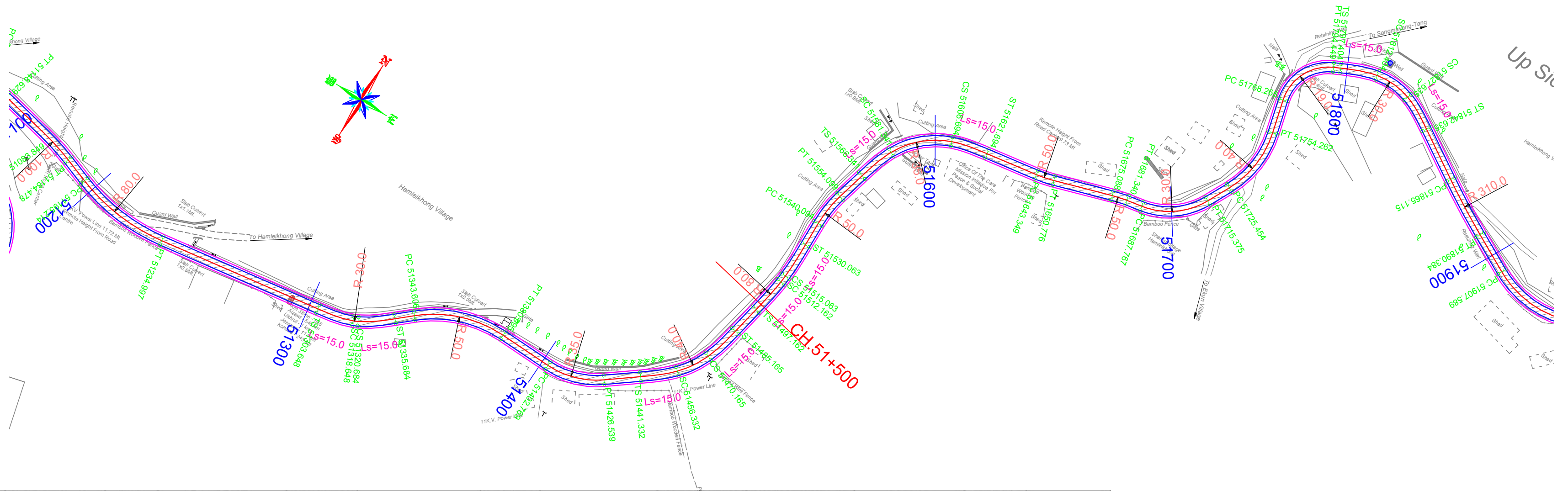
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ELEMENT METALLED BORD CHART TRACK CONCRETE ROAD CULVERT BRIDGE WITH PIER RETAINING WALL COMPOUND WALL GRAVED WALL BRICK WALL BUILDING, SHED, CABIN	HILL AREA VILLAGE LIMIT PLANTATION LIMIT, PAVEMENT BARBED WIRE FENCE WOODEN FENCE DRY POND NALA WITH FLOW ARROW DRY NALA GRAVED NALA BRICK	STON STONE PITCHING, PROJECTION GATE POWER LINE WITH POLE HAND PUMP, ROSE WELL, WELL TEMPLE, MOSQUE, FLAG POST TREE (Shak Padm, Others) GRAVE YARD, BOLDER AREA WATER TANK, STAGE BRICK K.M. STONE, SIGN BOARD, PILLAR	 PROPOSED CARRIAGEWAY PROPOSED SHOULDER EMBANKMENT SLOPE GROUND LEVEL GROUND LEFT TOE GROUND RIGHT TOE ROW	DATE DESCRIPTION PREP. CHK. APPD.	REVISIONS	DESIGN CONSULTANTS : S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http://www.smcindia.com , e-mail: support@smcindia.com	CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)	SCALE H.Scale-1:2000 V.Scale-1:200	TITLE : PROFILE Ch-(50/500 to 51/200KM)	DRAWING NO : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE A2
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To Finch Corner

To Ukhrul



SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	FRL	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)	in Kmph.	
303	51234.997	637209.01	2775190.155	1814.72	81	22	28.5	68.651	STRAIGHT							
304	51303.648	637276.885	2775200.451	1811.02	81	22	28.5	15.000	TRANSITION			15.000				
305	51318.648	637291.437	2775203.917	1810.39	67	3	2.3	2.036	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-206
306	51320.684	637293.283	2775204.774	1810.31	63	9	45.5	15.000	TRANSITION			15.000				
307	51335.684	637305.324	2775213.648	1809.68	48	50	19.3	7.922	STRAIGHT							
308	51343.606	637311.289	2775218.862	1809.35	48	50	19.3	37.389	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-207
309	51380.995	637345.667	2775231.198	1807.78	91	40	59.6	21.774	STRAIGHT							
310	51402.769	637367.431	2775230.558	1806.8	91	40	59.6	23.770	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-208
311	51426.539	637389.634	2775237.675	1805.54	52	46	19.6	14.793	STRAIGHT							
312	51441.332	637401.413	2775246.625	1804.66	52	46	19.6	15.000	TRANSITION			15.000				
313	51456.332	637412.749	2775256.412	1803.81	42	1	44.9	13.833	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-209
314	51470.165	637420.067	2775268.069	1803.22	22	12	55.8	15.000	TRANSITION			15.000				
315	51485.165	637423.957	2775282.532	1802.76	11	28	21.1	11.997	STRAIGHT							
316	51497.162	637426.343	2775294.289	1802.41	11	28	21.1	15.000	TRANSITION			15.000				
317	51512.162	637428.865	2775309.069	1801.97	6	6	3.8	2.901	CIRCULAR CURVE	80.000	LEFT		0.900	5.000	30	C-210
318	51515.063	637429.121	2775311.959	1801.89	4	1	24.1	15.000	TRANSITION			15.000				
319	51530.063	637429.237	2775326.953	1801.45	358	39	6.8	10.031	STRAIGHT							
320	51540.094	637429	2775336.982	1801.16	358	39	6.8	14.005	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-211
321	51554.099	637430.623	2775350.846	1800.75	14	41	59.2	12.242	STRAIGHT							
322	51566.341	637433.73	2775362.687	1800.39	14	41	59.2	15.000	TRANSITION			15.000				
323	51581.341	637438.552	2775376.859	1799.88	26	58	38.8	25.353	CIRCULAR CURVE	35.000	RIGHT		1.500	5.079	20	C-212
324	51606.694	637456.904	2775393.541	1798.83	68	28	49.8	15.000	TRANSITION			15.000				
325	51621.694	637471.47	2775396.993	1798.1	80	45	29.4	21.655	STRAIGHT							
326	51643.349	637492.845	2775400.471	1797.04	80	45	29.4	7.427	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-213
327	51650.776	637500.06	2775402.203	1796.67	72	14	52.3	24.312	STRAIGHT							
328	51675.088	637523.214	2775409.616	1795.48	72	14	52.3	6.252	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-214
329	51681.34	637529.272	2775411.145	1795.17	79	24	44.4	6.427	STRAIGHT							
330	51687.767	637535.589	2775412.326	1794.86	79	24	44.4	27.608	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-215
331	51715.375	637556.882	2775428.343	1793.5	26	41	3.5	10.079	STRAIGHT							
332	51725.454	637561.408	2775437.349	1793.02	26	41	3.5	28.808	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-216
333	51754.262	637564.38	2775465.381	1791.96	345	25	11.2	14.003	STRAIGHT							
334	51768.265	637560.856	2775478.933	1791.55	345	25	11.2	26.184	CIRCULAR CURVE	19.000	RIGHT		1.500	9.357	20	C-217
335	51794.449	637571.029	2775500.848	1790.65	64	22	55.8	2.955	STRAIGHT							
336	51797.404	637573.693	2775502.125	1790.53	64	22	55.8	15.000	TRANSITION			15.000				
337	51812.404	637587.672	2775507.448	1789.88	78	42	22	15.231	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-218
338	51827.635	637602.715	2775506.594	1789.14	107	47	37.3	15.000	TRANSITION			15.000				
339	51842.635	637616.002	2775499.723	1788.39	122	7	3.5	22.480	STRAIGHT							
340	51865.115	637635.042	2775487.771	1787.27	122	7	3.5	25.269	CIRCULAR CURVE	310.000	LEFT			NC	20	C-219
341	51890.384	637656.968	2775475.223	1786.02	117	26	50.2	17.205	STRAIGHT							

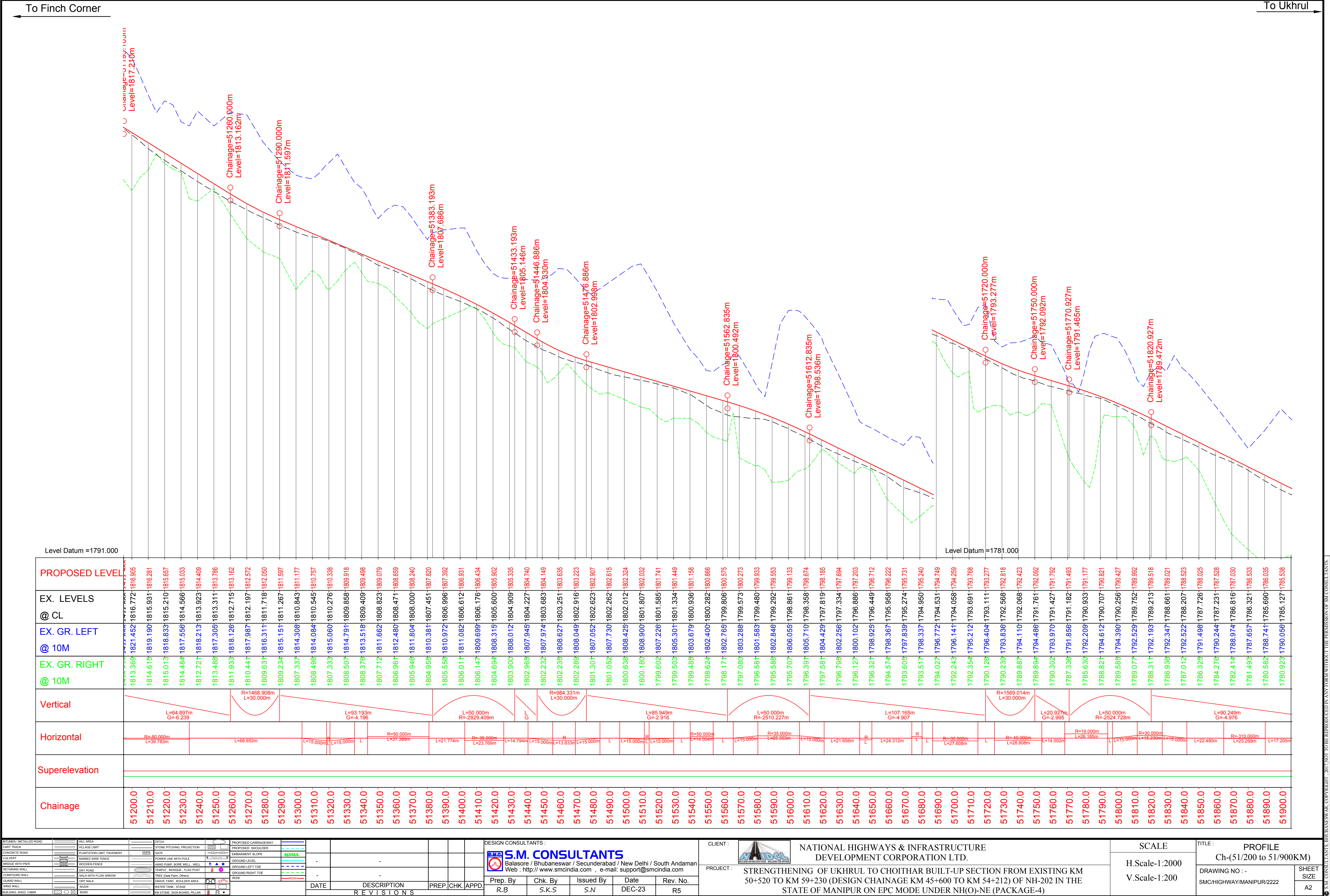
EXISTING METALLED ROAD	CHILL AREA	DRYCH	PROPOSED CARRIAGEWAY
CAST TRACK	CHILLAGE LIMIT	STONE PITCHING PROJECTION	PROPOSED SHOULDER
CONCRETE ROAD	PLANTATION LIMIT, PAVEMENT	DATE	EMBANKMENT SLOPE
CULVERT	BANDED WIRE FENCE	POWER LINE WITH POLE	GROUND LEVEL
RETAINING WALL	WOODEN FENCE	HAND PUMP, BORE WELL, WELL	GROUND LEFT TOE
COMPOUND WALL	DRY FOND	TEMPLE, MOSQUE, PLANT POST	GROUND RIGHT TOE
GUARD WALL	NALA WITH FLOW ARROW	TREE (DMS PASS, OTHER)	ROW
WIND WALL	DRY NALA	GRAVE YARD, BOULDER AREA	
BUILDING, SHED, CHBN	RIVER	WATER TANK, STAGE	
	ROAD	KM STONE, SIGN BOARD, PILLAR	

DATE DESCRIPTION PREP CHK APPD

DESIGN CONSULTANTS :				
S.M. CONSULTANTS				
Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman				
Web : http://www.smcindia.com , e-mail: support@smcindia.com				
Prep. By	Chk. By	Issued By	Date	Rev. No.
R.B	S.K.S	S.N	DEC-23	R5

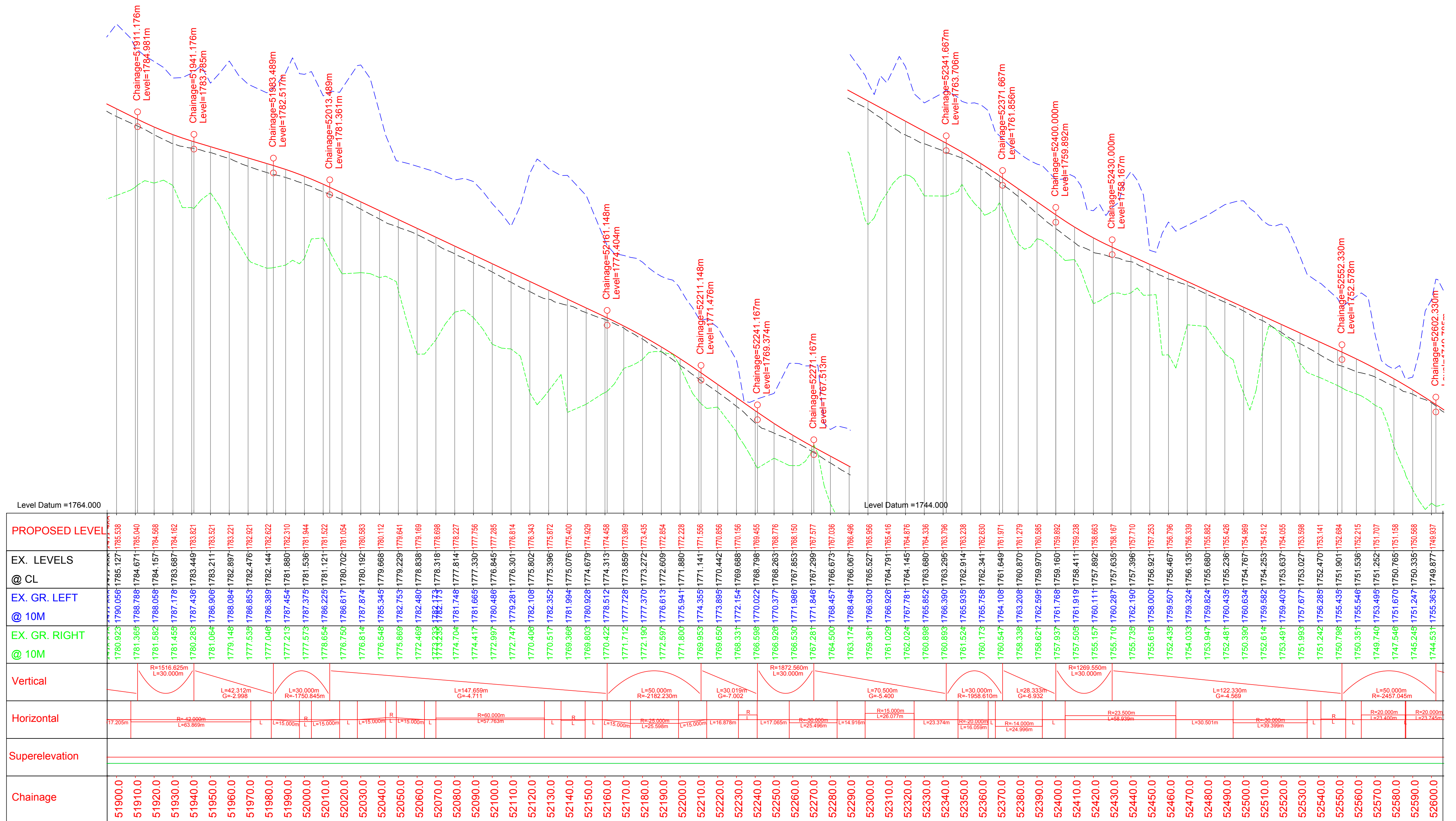
CLIENT :	NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PROJECT :	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

SCALE	TITLE : PLAN	SHEET SIZE
H.Scale-1:2000	Ch-(51/200 to 51/900KM)	
V.Scale-1:200	DRAWING NO : - SMC/HIGHWAY/MANIPUR/2222	A2



To Finch Corner

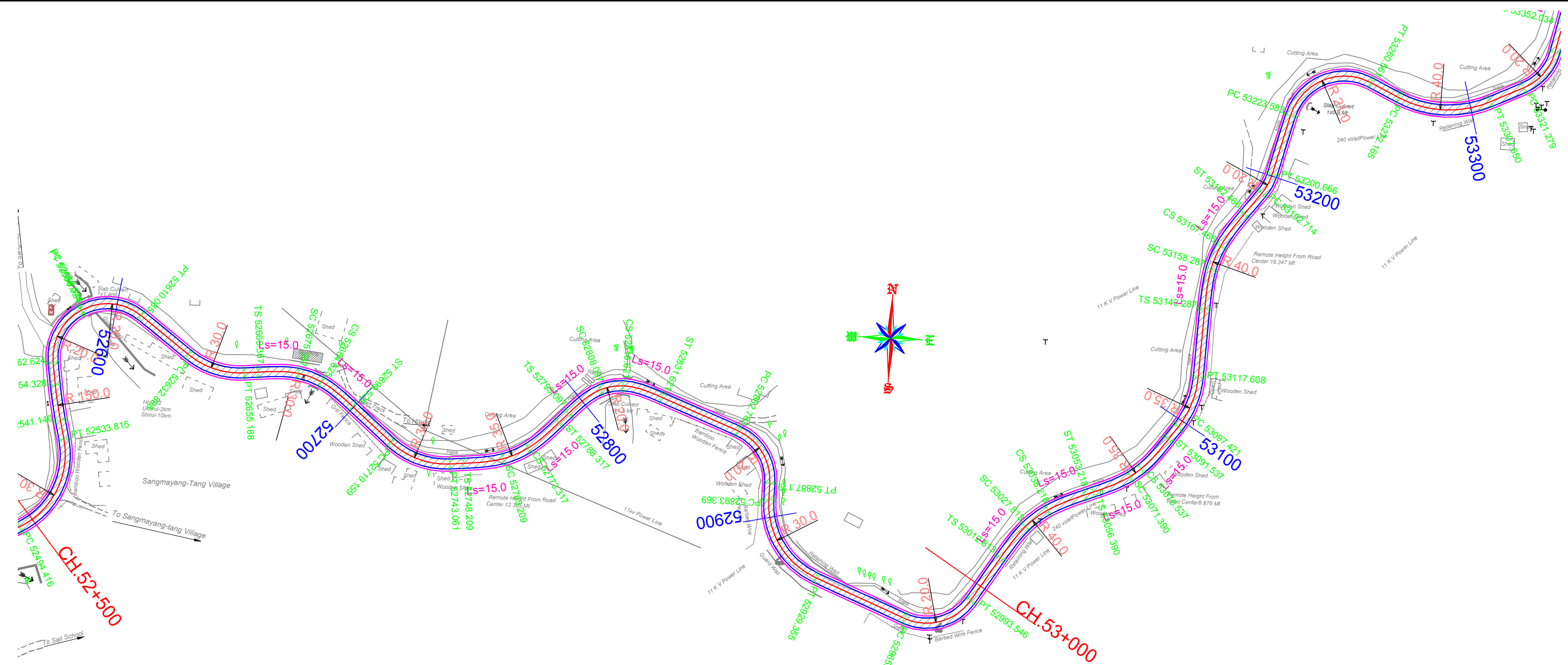
To Ukhru



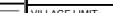
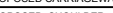
HILL AREA VILLAGE LIMIT CONCRETE ROAD BRIDGE WITH PIER RETAINING WALL CONCRETE WALL CLAYED WALL WING WALL BUILDING, SHED, CABIN	HILL AREA VILLAGE LIMIT PLANTATION LIMIT, PAVEMENT CHANING WIRE FENCE HAND PUMP, BORE WELL, WELL CLOUSET TEMPLE, MOSQUE, FLAG POST TREE (Giant Palm, Others) GRAVE YARD, BOLLARD AREA WATER TANK, STAGE BUILT-UP, SIGN BOARD, PILAR	DITCH STONE PITCHING, PROJECTION GATE POWERLINE WITH POLE FENCE GROUND LEFT TOE GROUND RIGHT TOE DOWN		PROPOSED CARRIAGEWAY PROPOSED SHOULDER SUBSURGMENT SLOPE GROUND LEVEL GROUND LEFT TOE GROUND RIGHT TOE DOWN	DATE DESCRIPTION PREP,CHK,APPD	REVISIONS	DESIGN CONSULTANTS : S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http://www.smcindia.com , e-mail: support@smcindia.com	CLIENT : NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	SCALE H.Scale:1:2000 V.Scale:1:200	TITLE : PROFILE Ch-(51/900 to 52/600KM)	DRAWING NO. : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE A2
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To Finch Corner

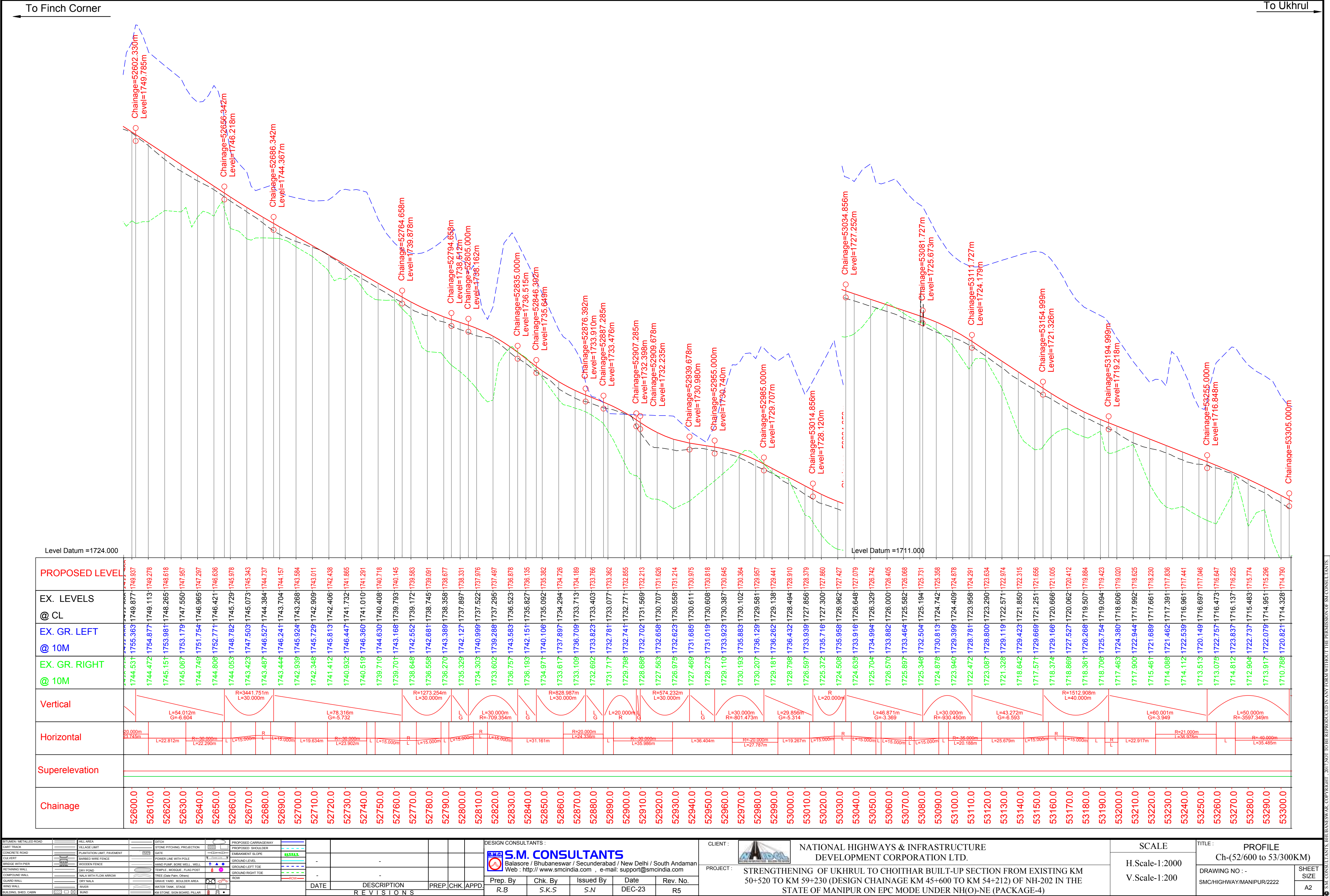
To Ukhrul →



SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	FRL	BEARING			LENGTH	ALIGNMENT	RADIUS in M.	HAND OF CURVE	TRANSITION	EXTRA Wd (DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.				in M.	in M.	ELEVATION (%)	in Kmph.	
379	52610.085	637928.183	2775934.685	1749.27	126	32	18.2	22.813	STRAIGHT							
380	52632.898	637946.511	2775921.104	1747.77	126	32	18.2	22.290	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-236
381	52655.188	637967.525	2775915.374	1746.29	83	58	2	5.179	STRAIGHT							
382	52660.367	637972.675	2775915.918	1745.95	83	58	2	15.000	TRANSITION			15.000				
383	52675.367	637987.63	2775916.247	1745.01	98	17	28.2	9.158	CIRCULAR CURVE	30.000	RIGHT		1.500	5.926	20	C-237
384	52684.525	637996.353	2775913.574	1744.47	115	46	56.1	15.000	TRANSITION			15.000				
385	52699.525	638008.555	2775904.923	1743.61	130	6	22.3	19.634	STRAIGHT							
386	52719.159	638023.572	2775892.275	1742.49	130	6	22.3	23.902	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-238
387	52743.061	638045.796	2775885.361	1741.12	84	27	25.3	5.148	STRAIGHT							
388	52748.209	638050.921	2775885.858	1740.82	84	27	25.3	15.000	TRANSITION			15.000				
389	52763.209	638065.679	2775888.364	1739.96	72	10	45.7	10.108	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-239
390	52773.317	638074.725	2775892.794	1739.41	55	37	57	15.000	TRANSITION			15.000				
391	52788.317	638085.752	2775902.918	1738.74	43	21	17.4	4.780	STRAIGHT							
392	52793.097	638089.033	2775906.393	1738.57	43	21	17.4	15.000	TRANSITION			15.000				
393	52808.097	638100.537	2775915.873	1738.05	64	50	26.7	8.524	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-240
394	52816.621	638108.782	2775917.769	1737.68	89	15	43.4	15.000	TRANSITION			15.000				
395	52831.621	638123.271	2775914.265	1736.76	110	44	52.7	31.162	STRAIGHT							
396	52862.783	638152.411	2775903.226	1734.56	110	44	52.7	24.336	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-241
397	52887.119	638165.325	2775884.361	1733.48	180	27	54.4	6.250	STRAIGHT							
398	52893.369	638165.275	2775878.11	1733.21	180	27	54.4	35.986	CIRCULAR CURVE	30.000	LEFT		1.500	5.926	20	C-242
399	52929.355	638184.163	2775850	1731.24	111	44	13.3	36.404	STRAIGHT							
400	52965.759	638217.979	2775836.518	1730.5	111	44	13.3	27.787	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-243
401	52993.546	638242.322	2775844.458	1729.25	32	8	0.8	19.267	STRAIGHT							
402	53012.813	638252.57	2775860.773	1728.23	32	8	0.8	15.000	TRANSITION			15.000				
403	53027.813	638261.312	2775872.933	1727.51	42	52	35.4	10.405	CIRCULAR CURVE	40.000	RIGHT		1.500	4.444	20	C-244
404	53038.218	638269.298	2775879.557	1727.14	57	46	49.5	15.000	TRANSITION			15.000				
405	53053.218	638282.866	2775885.899	1726.63	31	24.2	3.172		STRAIGHT							
406	53056.39	638285.817	2775887.061	1726.53	68	31	24.2	15.000	TRANSITION			15.000				
407	53071.39	638299.321	2775893.521	1726.02	56	14	44.6	5.147	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-245
408	53076.537	638303.375	2775896.685	1725.85	47	49	12.5	15.000	TRANSITION			15.000				
409	53091.537	638312.923	2775908.213	1725.29	35	32	32.9	5.884	STRAIGHT							
410	53097.421	638316.344	2775913.001	1725.01	35	32	32.9	20.187	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-246
411	53117.608	638322.832	2775931.823	1723.79	2	29	40.6	25.679	STRAIGHT							
412	53143.287	638323.949	2775957.478	1722.1	2	29	40.6	15.000	TRANSITION			15.000				
413	53158.287	638325.534	2775972.37	1721.11	13	14	15.2	9.179	CIRCULAR CURVE	40.000	RIGHT		1.500	4.444	20	C-247
414	53167.466	638328.638	2775980.987	1720.56	26	23	5.9	15.000	TRANSITION			15.000				
415	53182.466	638336.915	2775993.468	1719.77	37	7	40.5	10.248	STRAIGHT							
416	53192.714	638343.101	2776001.639	1719.31	37	7	40.5	7.952	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-248
417	53200.666	638346.531	2776008.755	1718.99	14	20	50	22.917	STRAIGHT							
418	53223.583	638352.21	2776030.958	1718.09	14	20	50	36.978	CIRCULAR CURVE	21.000	RIGHT		1.500	8.466	20	C-249
419	53260.561	638381.509	2776044.75	1716.62	115	14	13.2	11.604	STRAIGHT							
420	53272.165	638392.005	2776039.803	1716.13	115	14	13.2	35.485	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-250

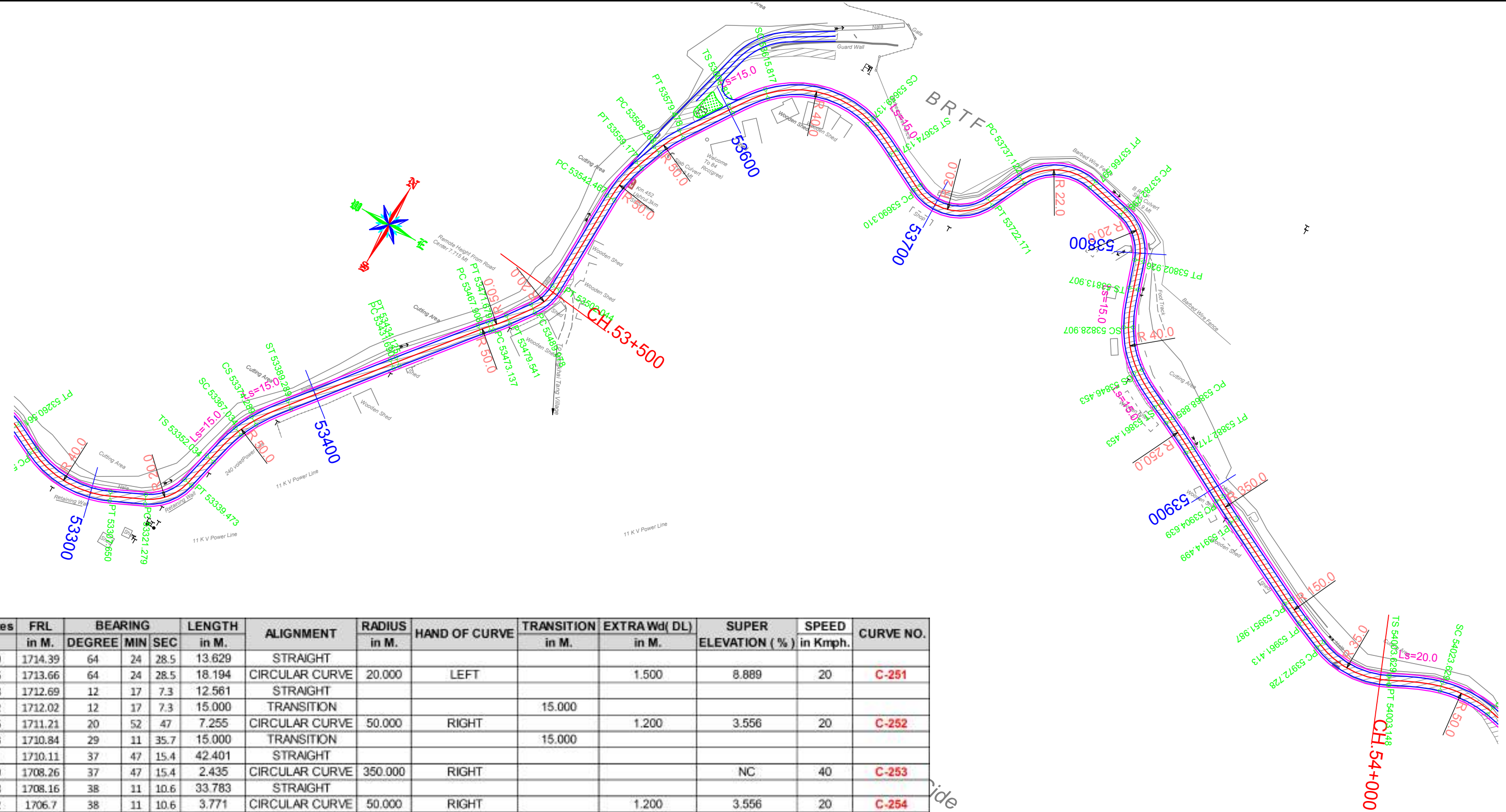
 UNREINFORCED METAL ROAD  HILL AREA  CART TRACK  CONCRETE ROAD  CULVERT  WOODEN FENCE  RETAINING WALL  COMPOUND WALL  GUARD WALL  WING WALL  BUILDING, SHED, CABIN	 GATE  POWER LINE WITH POLE  HAND PUMP, STONE WELL, WELL  TEMPLE, MOSQUE, FLAG POST  TREE (Date Palm, Others)  GRAVE YARD, BOULDER AREA  WATER TANK, STAGE  KM STONE, SIGN BOARD, PILLAR	 PROPOSED CARRIAGEWAY  PROPOSED SHOULDER  EMBANKMENT SLOPE  GROUND LEVEL  GROUND LEFT TOE  GROUND RIGHT TOE  ROAD	 DATE  DESCRIPTION  REVISIONS  PREP  CHK  APPD	 DESIGN CONSULTANTS :  S.M. CONSULTANTS  Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman  Web : http://www.smcindia.com , e-mail: support@smcindia.com
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CLIENT :	 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	SCALE	TITLE : PLAN Ch-(52/600 to 53/300Km)	
PROJECT :		H.Scale-1:2000 V.Scale-1:200	DRAWING NO : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE A2
	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)			



To Finch Corner

To Ukhrul

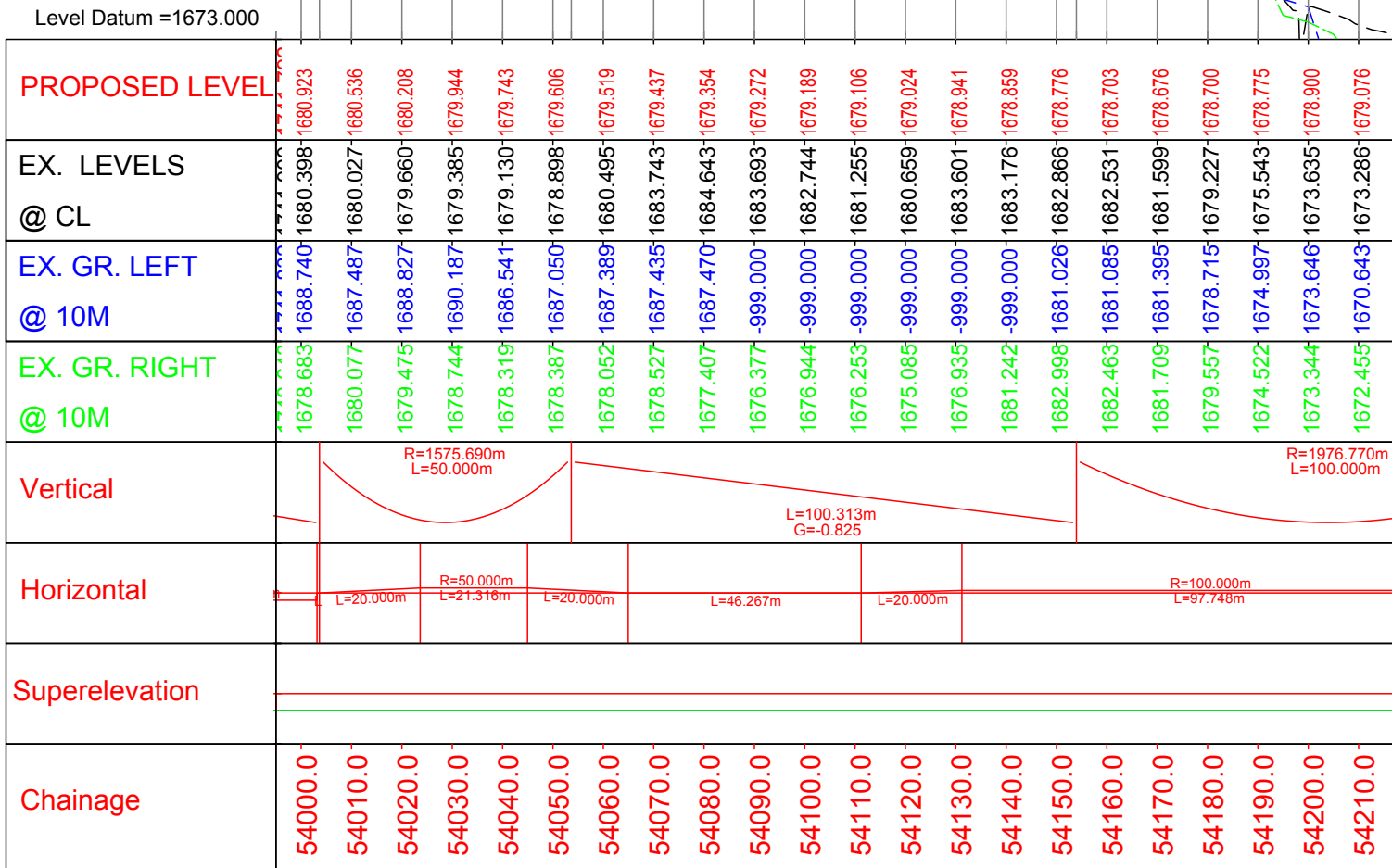


SL.NO.	CHANNAGE	X-CoOrdinates	Y-CoOrdinates	FRL	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd (DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.	in M.	in M.		in M.	in M.	ELEVATION (%)		
421	53307.65	638426.338	2776039.909	1714.39	64	24	28.5	13.629	STRAIGHT							
422	53321.279	638438.63	2776045.796	1713.66	64	24	28.5	18.194	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-251
423	53339.473	638449.532	2776059.578	1712.69	12	17	7.3	12.561	STRAIGHT							
424	53352.034	638452.205	2776071.852	1712.02	12	17	7.3	15.000	TRANSITION			15.000				
425	53367.034	638456.121	2776086.316	1711.21	20	52	47	7.255	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-252
426	53374.289	638459.189	2776092.883	1710.84	29	11	35.7	15.000	TRANSITION			15.000				
427	53389.289	638467.767	2776105.17	1710.11	37	47	15.4	42.401	STRAIGHT							
428	53431.69	638493.748	2776138.679	1708.26	37	47	15.4	2.435	CIRCULAR CURVE	350.000	RIGHT			NC	40	C-253
429	53434.125	638495.247	2776140.598	1708.16	38	11	10.6	33.783	STRAIGHT							
430	53467.908	638516.132	2776167.152	1706.7	38	11	10.6	3.771	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-254
431	53471.679	638518.572	2776170.024	1706.53	42	30	24.1	1.458	STRAIGHT							
432	53473.137	638519.558	2776171.099	1706.47	42	30	24.1	6.404	CIRCULAR CURVE	50.000	LEFT		1.200	3.556	20	C-255
433	53479.541	638523.571	2776176.084	1706.19	35	10	6.7	10.437	STRAIGHT							
434	53489.978	638529.582	2776184.616	1705.74	35	10	6.7	12.066	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-256
435	53502.044	638533.232	2776195.926	1705.21	0	36	3.5	40.423	STRAIGHT							
436	53542.467	638533.656	2776236.347	1703.28	0	36	3.5	16.710	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-257
437	53559.177	638536.594	2776252.717	1702.47	19	44	55.8	9.091	STRAIGHT							
438	53568.268	638539.666	2776261.273	1702.02	19	44	55.8	11.210	CIRCULAR CURVE	50.000	RIGHT		1.200	3.556	20	C-258
439	53579.478	638544.6	2776271.313	1701.47	32	35	43.3	21.339	STRAIGHT							
440	53600.817	638556.096	2776289.292	1700.43	32	35	43.3	15.000	TRANSITION			15.000				
441	53615.817	638564.936	2776301.381	1699.69	43	20	18	43.320	CIRCULAR CURVE	40.000	RIGHT		1.500	4.444	20	C-259
442	53659.137	638604.643	2776312.495	1697.57	105	23	17.8	15.000	TRANSITION			15.000				
443	53674.137	638618.474	2776306.751	1696.83	116	7	52.5	16.173	STRAIGHT							
444	53690.31	638632.995	2776299.628	1696.04	116	7	52.5	31.861	CIRCULAR CURVE	20.000	LEFT		1.500	8.889	20	C-260
445	53722.171	638659.951	2776309.177	1694.44	24	51	21.2	14.951	STRAIGHT							
446	53737.122	638666.235	2776322.743	1693.65	24	51	21.2	29.475	CIRCULAR CURVE	22.000	RIGHT		1.500	8.081	20	C-261
447	53766.597	638690.628	2776335.045	1692.07	101	37	2.9	15.701	STRAIGHT							
448	53782.298	638706.007	2776331.883	1691.23	101	37	2.9	20.628	CIRCULAR CURVE	20.000	RIGHT		1.500	8.889	20	C-262
449	53802.926	638720.857	2776318.898	1690.13	160	42	49.4	10.981	STRAIGHT							
450	53813.907	638724.484	2776308.534	1689.54	160	42	49.4	15.000	TRANSITION			15.000				
451	53828.907	638730.303	2776294.735	1688.74	149	58	14.7	17.546	CIRCULAR CURVE	40.000	LEFT		1.500	4.444	20	C-263
452	53846.453	638742.084	2776281.921	1687.82	124	50	15.5	15.000	TRANSITION			15.000				
453	53861.453	638755.347	2776274.965	1687.05	114	5	40.9	7.432	STRAIGHT							
454	53868.885	638762.132	2776271.931	1686.67	114	5	40.9	13.832	CIRCULAR CURVE	250.000	RIGHT		0.600	NC	20	C-264
455	53882.717	638774.596	2776265.938	1685.95	117	15	52.7	21.922	STRAIGHT							
456	53904.639	638794.083	2776255.896	1684.84	117	15	52.7	9.860	CIRCULAR CURVE	350.000	LEFT			NC	20	C-265
457	53914.499	638802.909	2776251.503	1684.37	115	39	2.2	37.488	STRAIGHT							
458	53951.987	638836.703	2776235.275	1682.84	115	39	2.2	9.426	CIRCULAR CURVE	150.000	LEFT		0.600	NC	20	C-266
459	53961.413	638845.322	2776231.464	1682.47	112	3	1.6	11.315	STRAIGHT							
460	53972.728	638855.81	2776227.216	1682.01	112	3	1.6	30.420	CIRCULAR CURVE	35.000	LEFT		1.500	5.079	20	C-267
461	54003.148	638885.245	2776228.681	1680.8	62	15	7.4	0.481	STRAIGHT							

                                       	                                       	                                       	                                    
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CLIENT :	 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.	SCALE	TITLE : PLAN Ch-(53/300 to 54/000KM)	
PROJECT :		H.Scale-1:2000 V.Scale-1:200	DRAWING NO : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE A2
STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)				

o Ukhru



SL.NO.	CHAINAGE	X-CoOrdinates	Y-CoOrdinates	FRL	BEARING			LENGTH	ALIGNMENT	RADIUS	HAND OF CURVE	TRANSITION	EXTRA Wd(DL)	SUPER	SPEED	CURVE NO.
	in M.	in M.	in M.	in M.	DEGREE	MIN	SEC	in M.		in M.		in M.	in M.	ELEVATION (%)	in Kmph.	
462	54003.629	638885.671	2776228.905	1680.78	62	15	7.4	20.000	TRANSITION			20.000				
463	54023.629	638903.92	2776237.003	1680.11	73	42	40.4	21.316	CIRCULAR CURVE	50.000	RIGHT		1.200	8.000	30	C-268
464	54044.945	638925.021	2776238.507	1679.67	98	8	14.9	20.000	TRANSITION			20.000				
465	54064.945	638944.233	2776233.078	1679.48	109	35	47.8	46.268	STRAIGHT							
466	54111.213	638987.821	2776217.56	1679.1	109	35	47.8	20.000	TRANSITION			20.000				
467	54131.213	639006.42	2776210.231	1678.93	115	19	34.3	97.748	CIRCULAR CURVE	100.000	RIGHT		0.900	7.111	40	C-269
468	54228.961	639062.501	2776134.914	1679.55	171	19	54.4	20.000	TRANSITION			20.000				

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DESIGN CONSULTANTS :

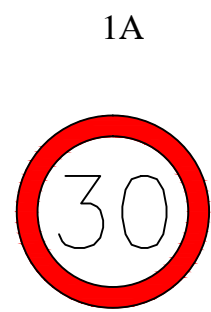
 **S.M. CONSULTANTS**
 Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman
 Web : <http://www.smcindia.com> , e-mail: support@smcindia.com

Prep. By	Chk. By	Issued By	Date	Rev. No.
R.B	S.K.S	S.N	DEC-23	R5

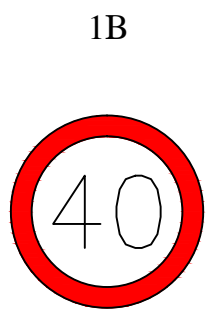
CLIENT :	 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
PROJECT :	STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)

SCALE	TITLE : PLAN & PROFILE Ch-(54/000 to 54/212KM)	
H.Scale-1:2000	DRAWING NO : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE
V.Scale-1:200		A2

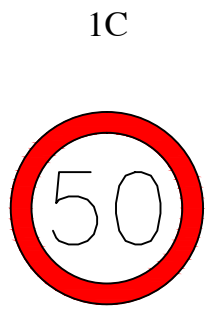
MISCELLANEOUS DRAWING



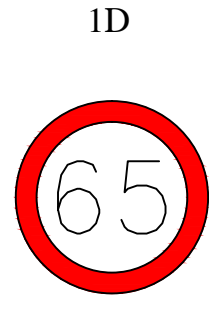
SPEED LIMIT



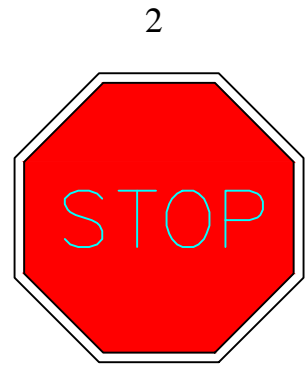
SPEED LIMIT



SPEED LIMIT



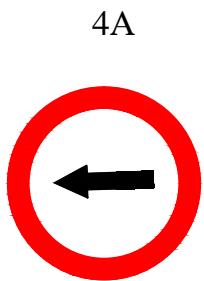
SPEED LIMIT



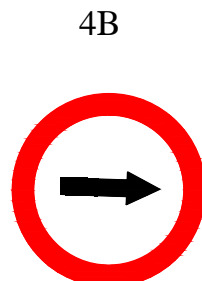
STOP



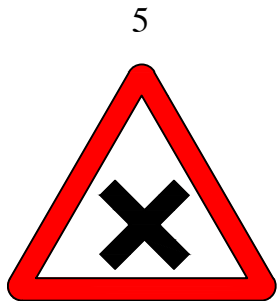
GIVE WAY



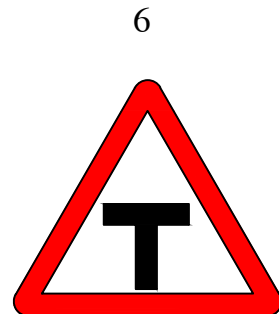
TURN LEFT



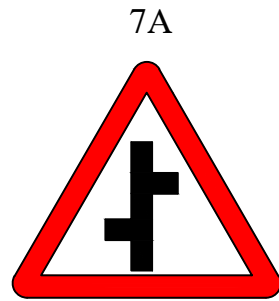
TURN RIGHT



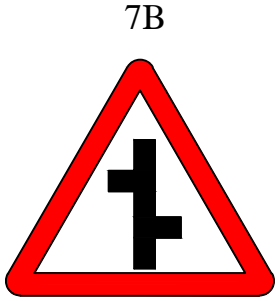
CROSS ROAD



T-INTERSECTION



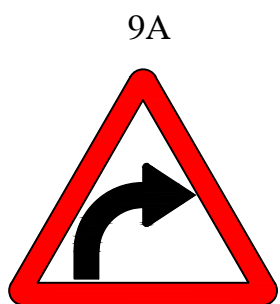
STAGGERED
INTERSECTION



STAGGERED
INTERSECTION



PEDESTRIAN
CROSSING



RIGHT HAND
CURVE



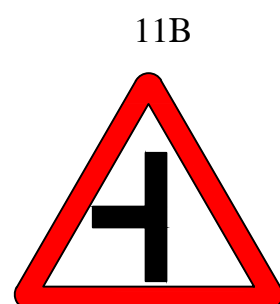
LEFT HAND
CURVE



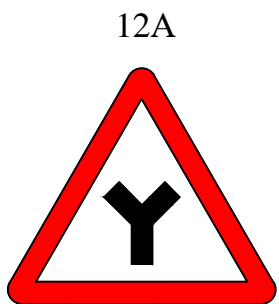
SCHOOL ZONE



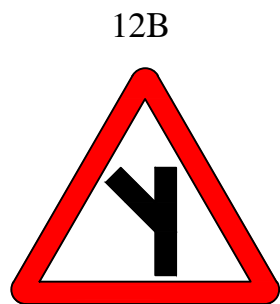
RIGHT SIDE ROAD



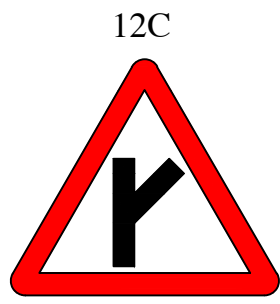
LEFT SIDE ROAD



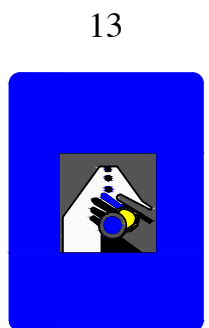
Y-INTERSECTION



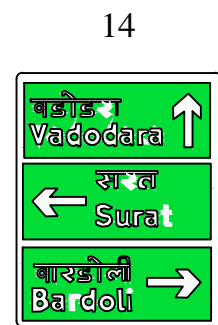
Y-INTERSECTION



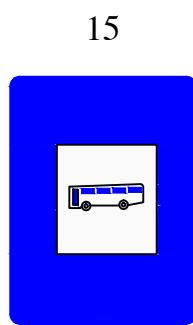
Y-INTERSECTION



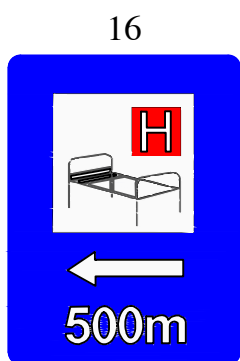
TOLL ROAD AHEAD



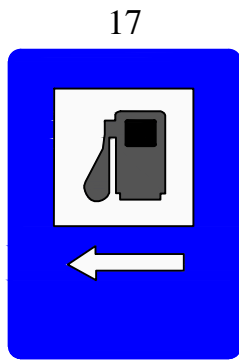
PLACE IDENTIFICATION



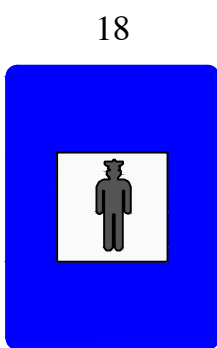
BUS STOP



HOSPITAL



FILLING STATION



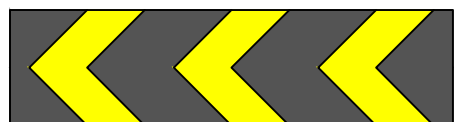
POLICE STATION



NH ROUTE MARK

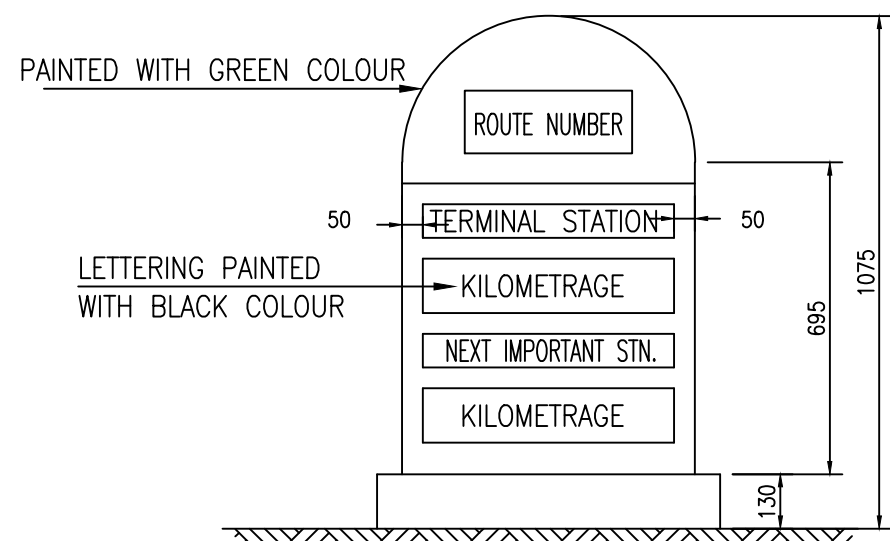


DOUBLE CHEVRON

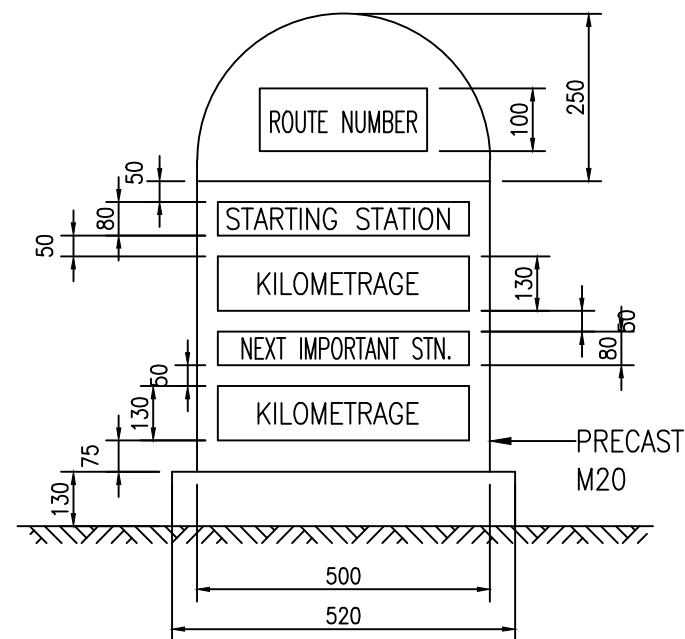


TRIPLE CHEVRON

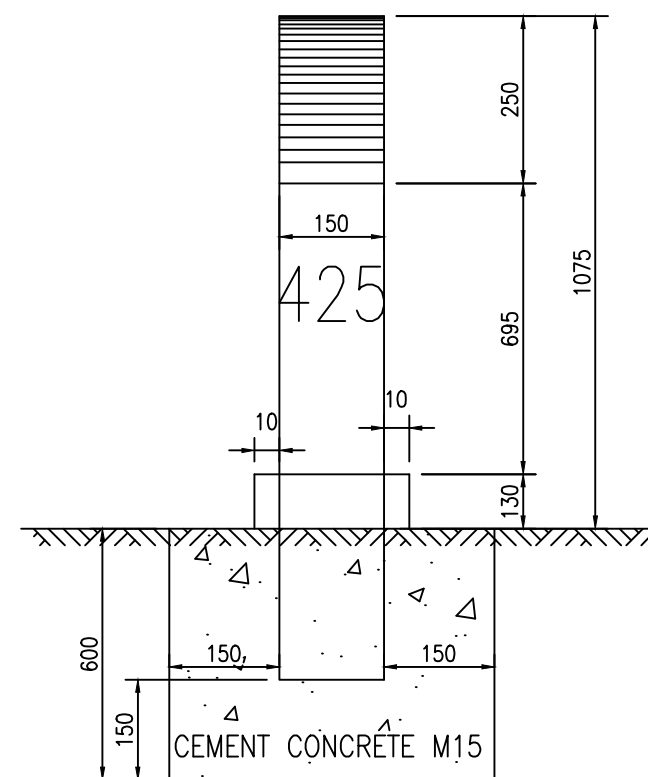
						DESIGN CONSULTANTS :  S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com						CLIENT :  NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		SCALE	TITLE : TRAFFIC SIGNAL	
	16.11.23	R-5									PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)		NTS	JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222		SHEET SIZE
MKD	DATE	DESCRIPTION			PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N	Date DEC- 23		Rev. No. R5	SMC/HIGHWAY/MANIPUR/2222	
R E V I S I O N S																



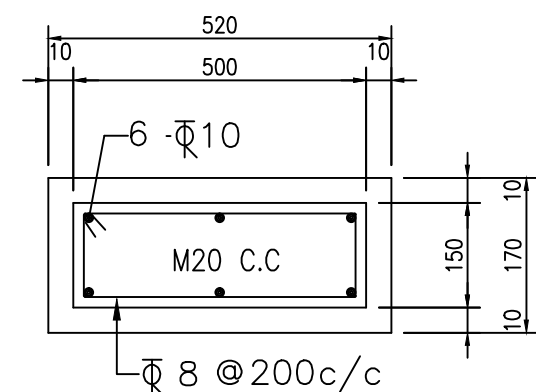
FACE 1



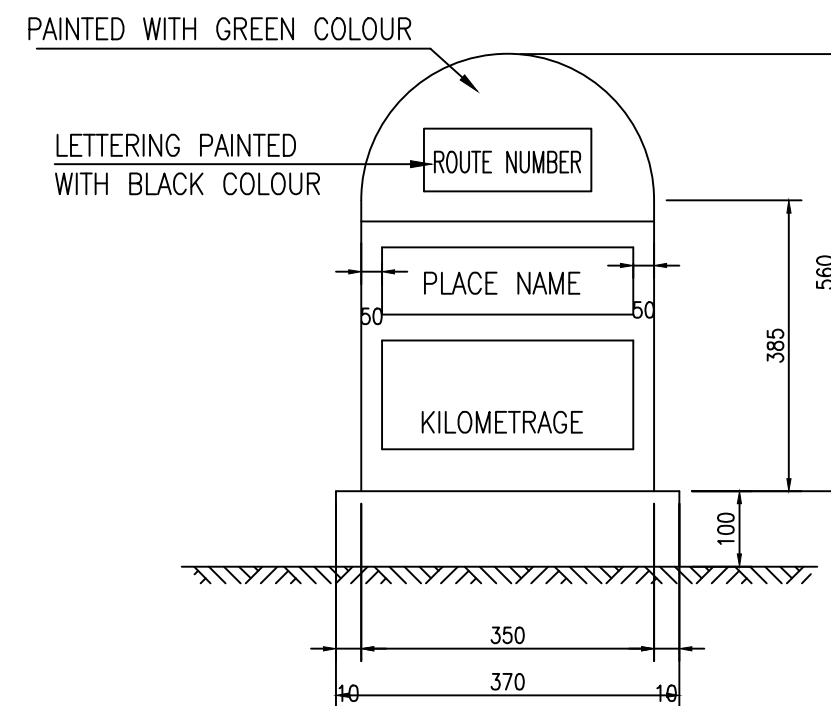
FACE 2



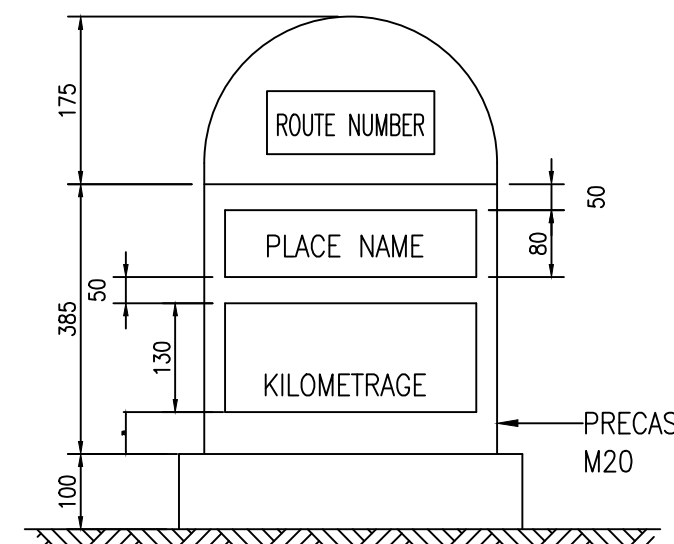
SIDE ELEVATION



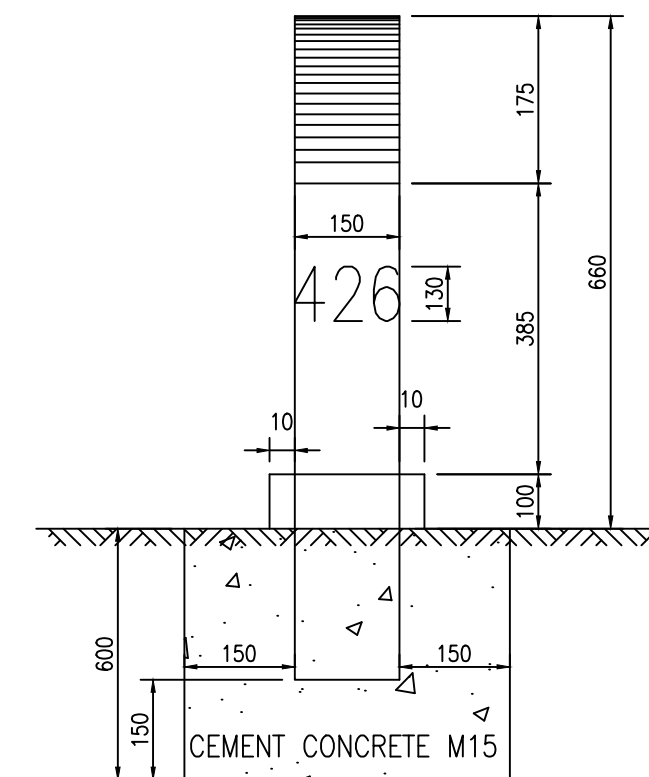
SECTIONAL PLAN



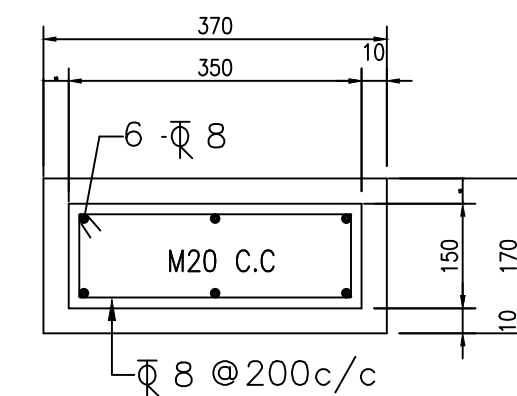
FACE 1



FACE 2



SIDE ELEVATION



SECTIONAL PLAN

TYPICAL DESIGN FOR THE 5TH KILOMETRE STONE

INDEX FOR KILOMETRE STONES		
Km No.	SCRIPT FOR PLACE NAMES	PLACE TO BE SHOWN
0	ROMAN	TERMINAL/STARTING STATION AND NEXT IMPORTANT TOWN
1	HINDI (DEVANAGARI SCRIPT)	NEXT IMPORTANT TOWN
2	LOCAL LANGUAGE (ORIYA)	NEXT IMPORTANT TOWN
3	HINDI (DEVANAGARI SCRIPT)	TERMINAL / STARTING STATION
4	LOCAL LANGUAGE (ORIYA)	TERMINAL / STARTING STATION
5	ROMAN	TERMINAL/STARTING STATION AND NEXT IMPORTANT TOWN
6	HINDI (DEVANAGARI SCRIPT)	NEXT IMPORTANT TOWN
.....TO BE REPEATED IN THE SAME ORDER.		

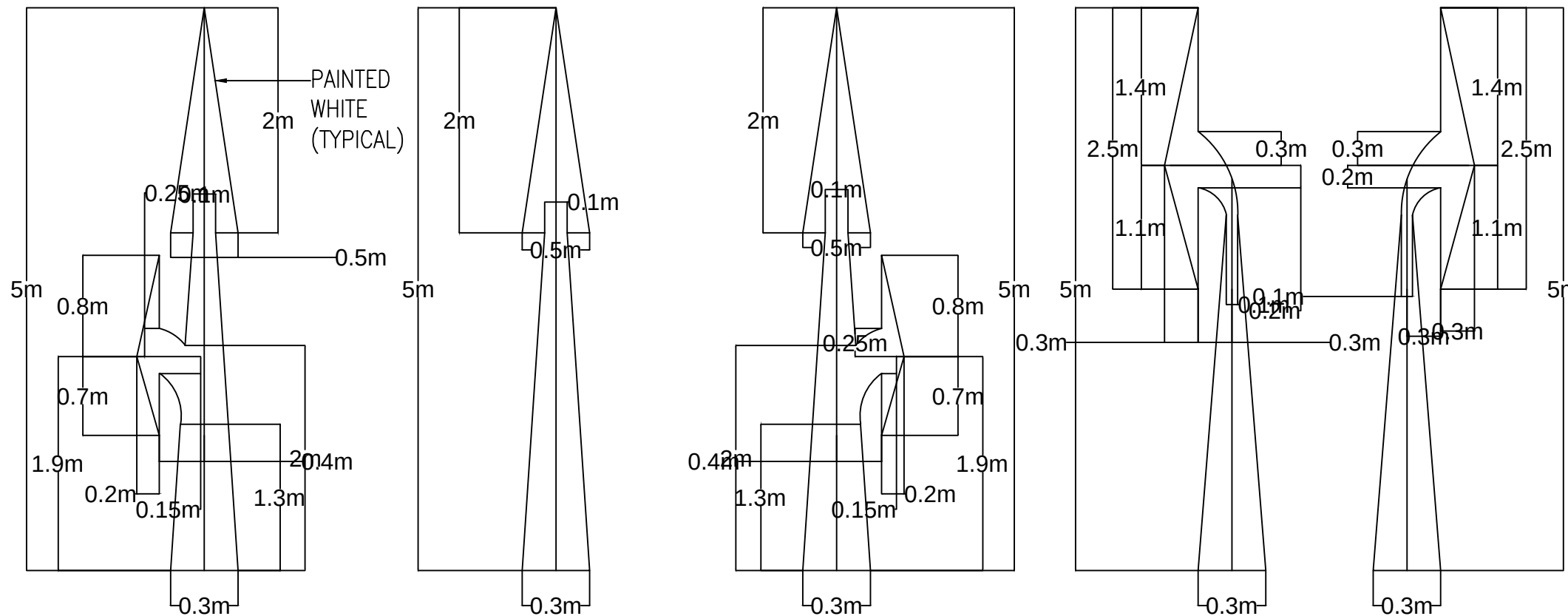
TYPICAL DESIGN FOR ORDINARY KILOMETRE STONE

NOTES:

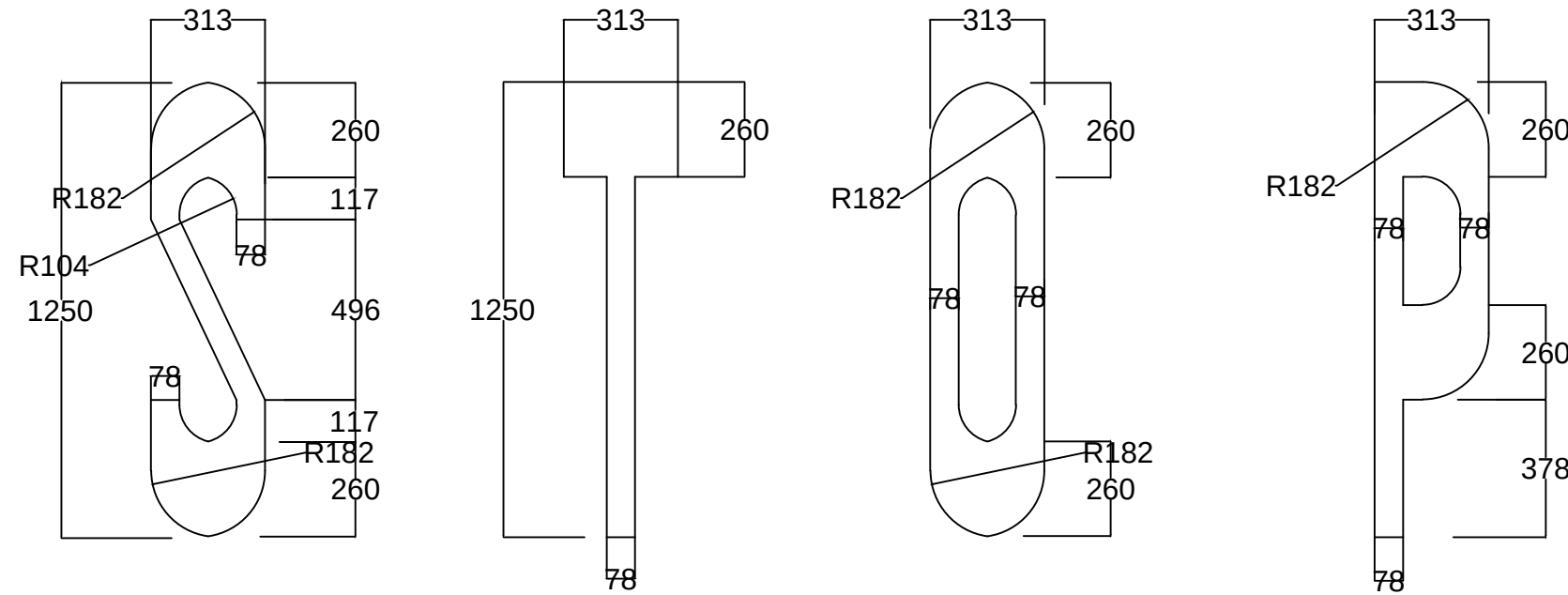
- ALL DIMENSIONS ARE IN MILLIMETRES.
- REFLECTORISED PAINT SHALL BE IN ACCORDANCE WITH CL.803.5 OF M.O.R.T & H SPEC.
- FOR TYPE & STYLE SIZE OF LETTERING RELEVANT IRC CODE OF PRATICE SHALL BE REFERED.
- LETTERING IS DONE WITH APPROVED QUALITY BLACK ENAMEL PAINT USING STENCIL

						DESIGN CONSULTANTS :						CLIENT :		 NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		SCALE	TITLE : KILOMETER STONE		
						 S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com										NTS			
	16.11.23	R-5										PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)						JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222	SHEET SIZE
MKD	DATE	DESCRIPTION			PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N	Date DEC- 23	Rev. No. R5						
REVISIONS																			A2

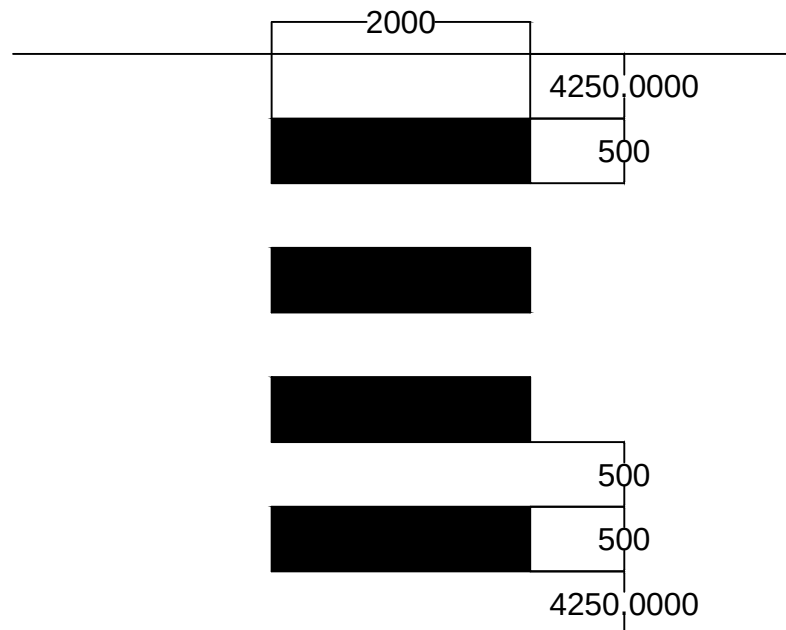
DIRECTIONAL ARROWS



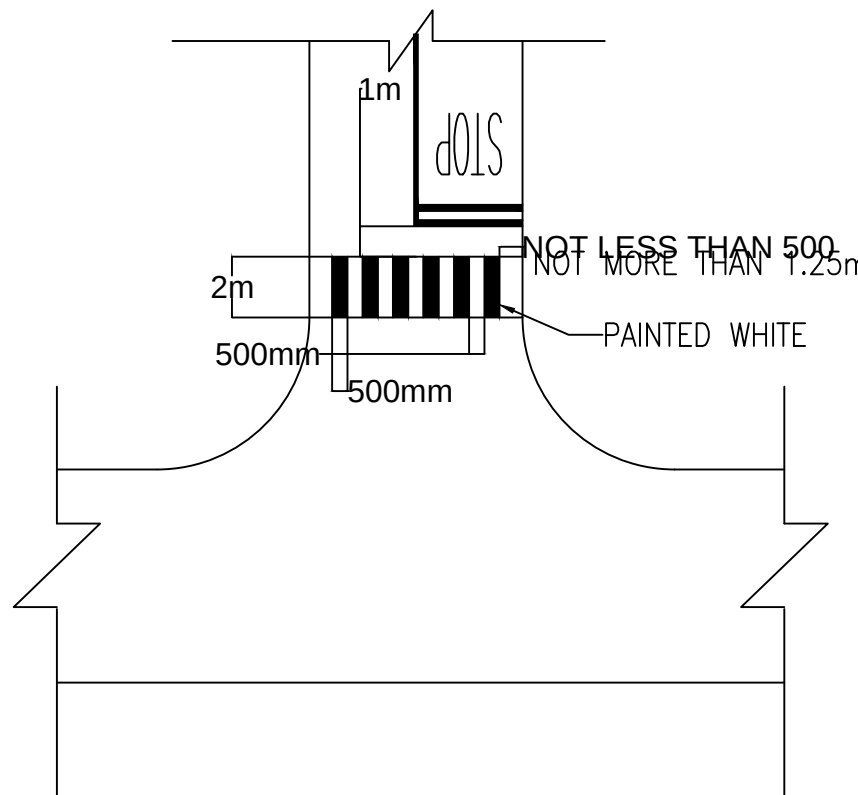
SIZE OF LETTERS



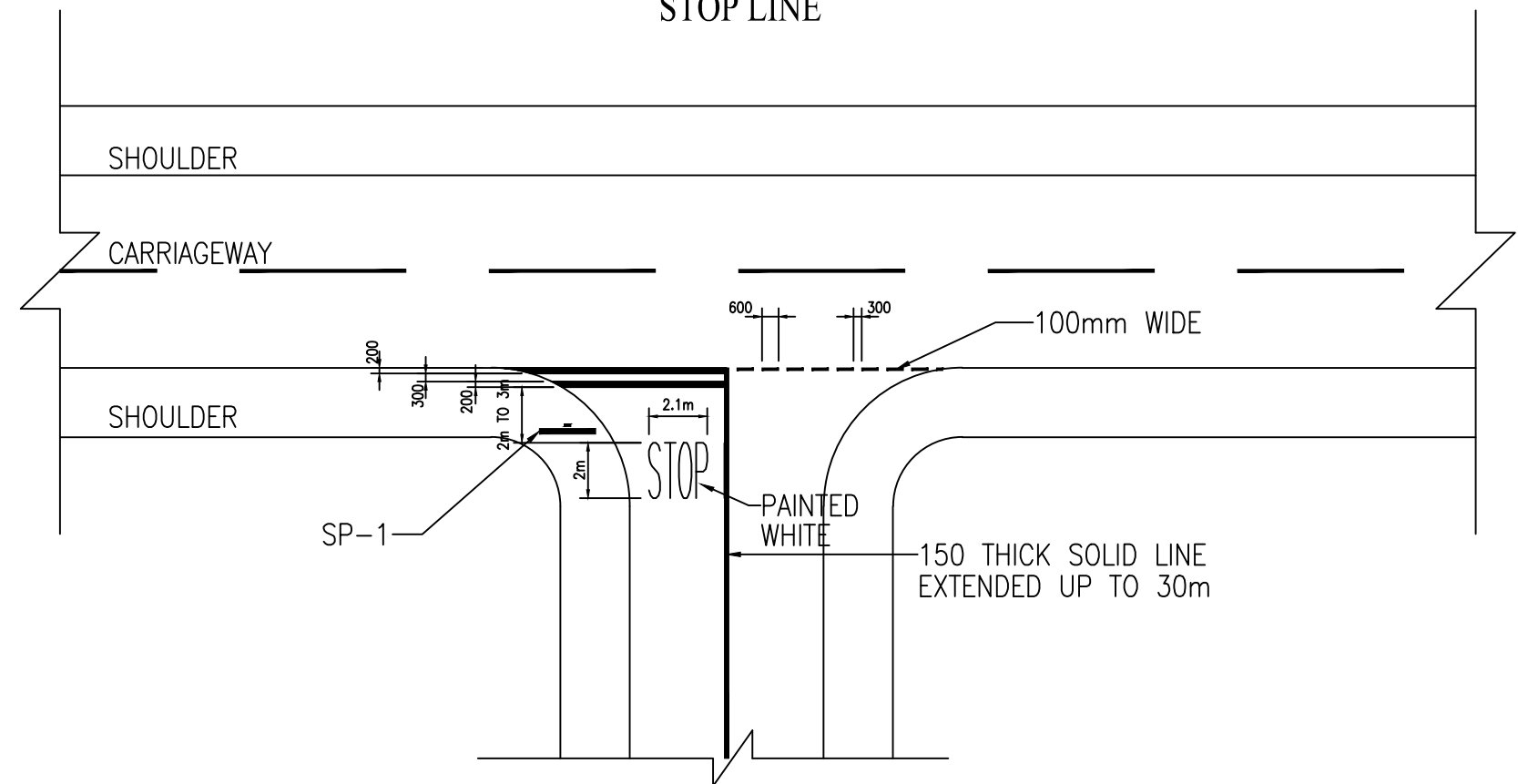
DIAGONAL MARKINGS



PEDESTRIAN CROSSING



STOP LINE



PEDESTRIAN CROSSING

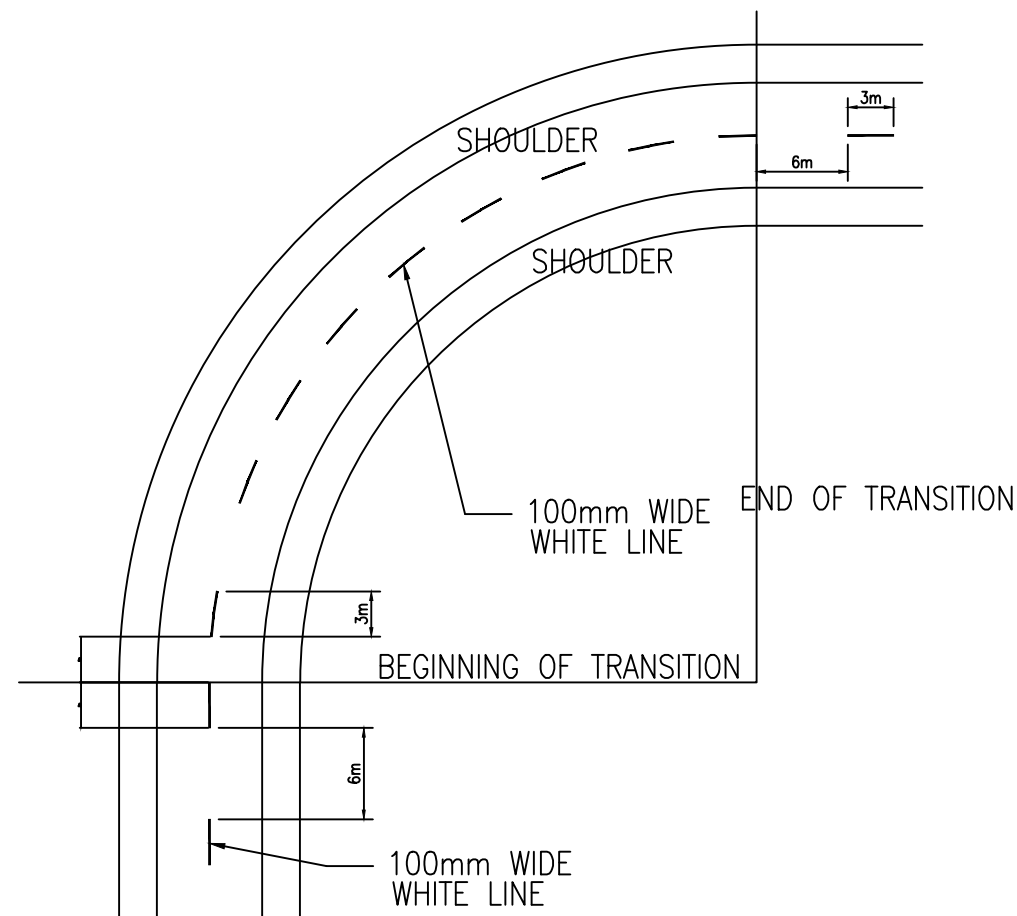
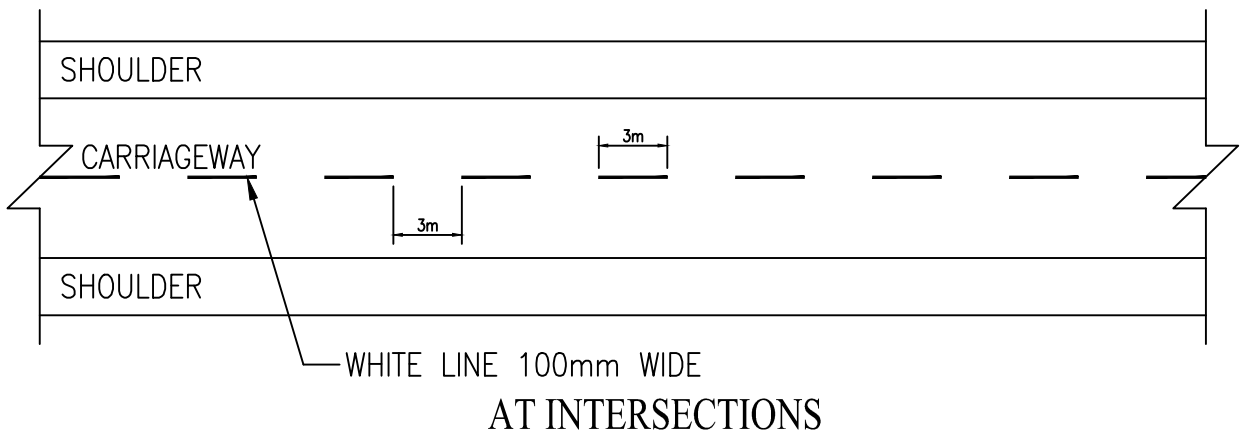
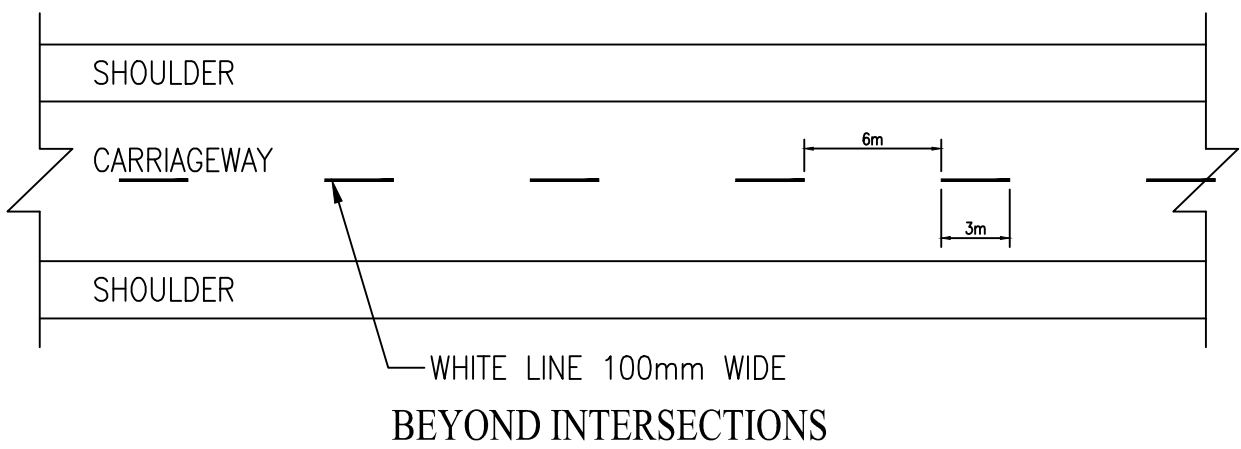
NOTE

1. ALL LENGTHS AND SPACINGS IN THE TABLE ARE MEASURED PARALLEL TO ROAD CENTRE LANE.
2. FIRST DIAGONAL OR CHEVRON IS TO BE SO LOCATED THAT ITS LENGTH IS ATLEAST EQUAL TO ITS WIDTH
3. WIDTH OF ALL DIAGONALS/CHEVRONS MEASURED AT RIGHT ANGLES TO THE DIAGONALS OR CHEVRONS IS 600mm.
4. ROAD MARKING SHOULD BE DONE WITH THERMOPLASTIC PAINT CONFORMING TO CL. 803.4 OF M.O.R.T & H SPECIFICATIONS
5. DETAILS OF MARKING AT INTERSECTIONS ARE AS PER M.O.R.T & H TYPE DESIGNS FOR INTERSECTIONS ON NATIONAL HIGHWAYS

						DESIGN CONSULTANTS :  S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com						CLIENT :  NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		SCALE NTS	TITLE : PAVEMENT MARKINGS FOR INTERSECTIONS		
16.11.23	R-5										PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)		JOB ORDER : - SMC/HIGHWAY/MANIPUR/2222		SHEET SIZE A2		
MKD	DATE	DESCRIPTION			PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N	Date DEC- 23	Rev. No. R5				
			REVISIONS														

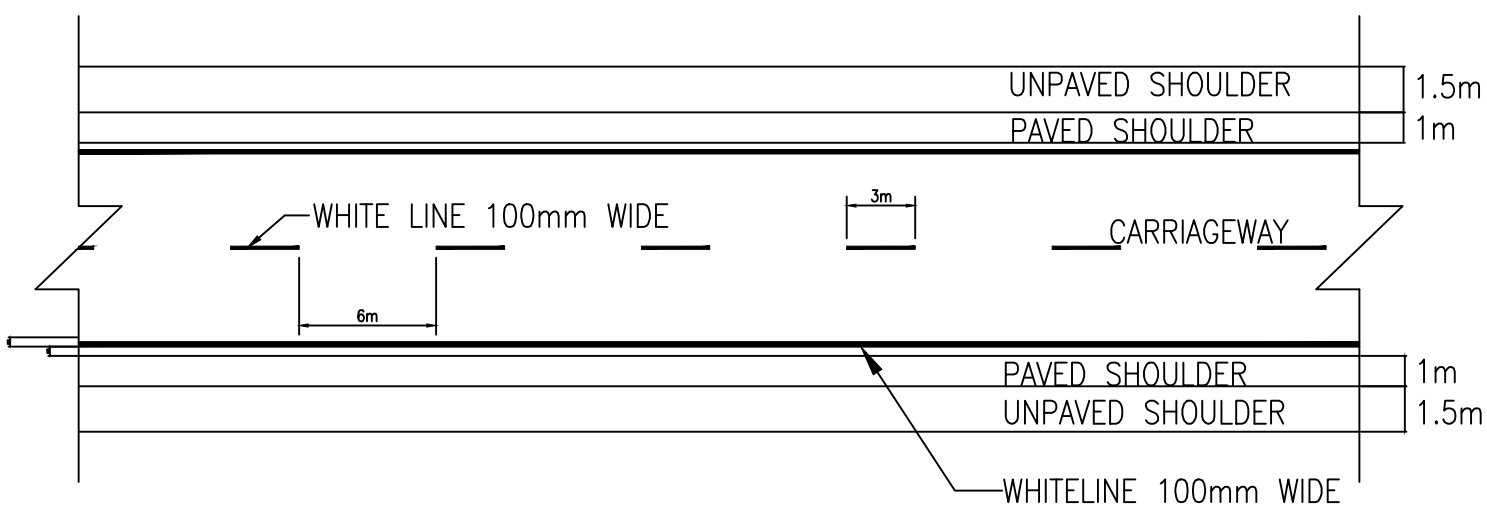
LONGITUDINAL MARKING

DETAILS OF CENTRE LINE

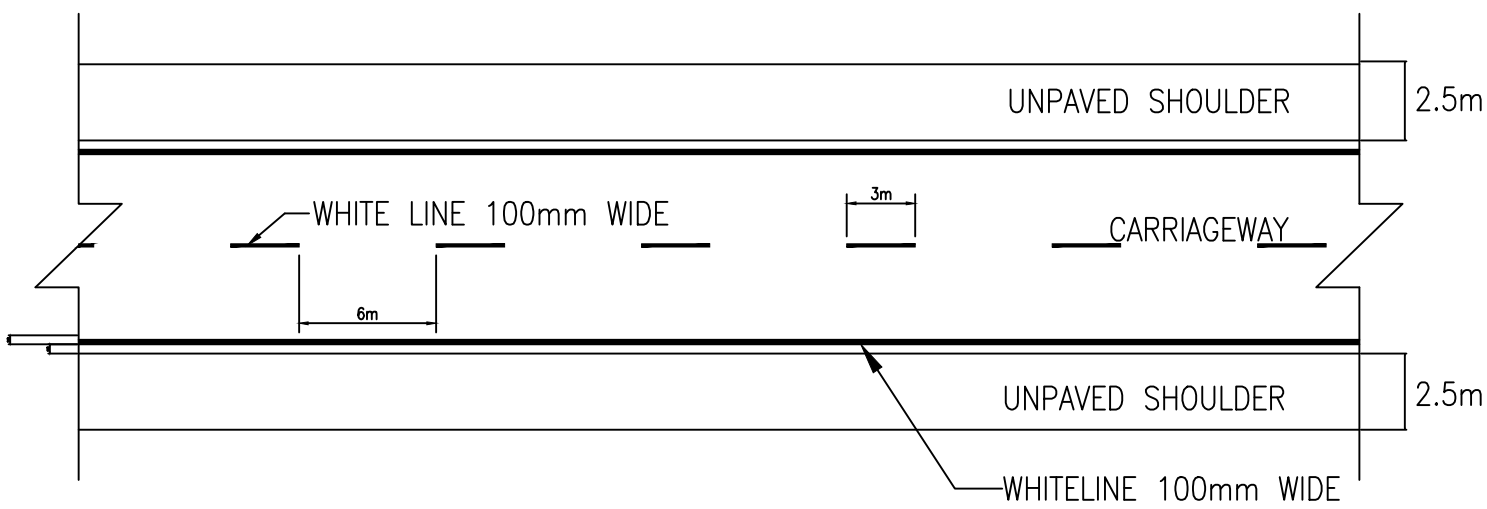


DETAILS AT CURVES

DETAILS OF EDGE LINE MARKING



DETAILS OF EDGE LINE MARKING



NOTE:

1. EDGE LINE MARKINGS SHOULD NOT BE CARRIED ACROSS THE MOUTHS OF SIDE ROADS
2. CENTRE LINE & EDGE MARK SHALL END AT THE STOP LINE & SHALL NOT BE CONTINUED.
3. ROAD MARKING SHOULD BE DONE WITH THERMOPLASTIC PAINT CONFORMING TO CL. 803.4 OF M.O.R.T & H SPECIFICATIONS
4. DETAILS OF ROAD MARKING ARE AS PER IRC: 35-1997, CODE OF PRACTICE FOR ROAD MARKINGS

						DESIGN CONSULTANTS :						CLIENT :		NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.		SCALE	TITLE : PAVEMENT MARKINGS FOR INTERSECTIONS	
						 S.M. CONSULTANTS Balasore / Bhubaneswar / Secunderabad / New Delhi / South Andaman Web : http:// www.smcindia.com , e-mail: support@smcindia.com										NTS		
	16.11.23	R-5										PROJECT : STRENGTHENING OF UKHRUL TO CHOITHAR BUILT-UP SECTION FROM EXISTING KM 50+520 TO KM 59+230 (DESIGN CHAINAGE KM 45+600 TO KM 54+212) OF NH-202 IN THE STATE OF MANIPUR ON EPC MODE UNDER NH(O)-NE (PACKAGE-4)		SMC/HIGHWAY/MANIPUR/2222	JOB ORDER : -		SHEET SIZE	
MKD	DATE	DESCRIPTION				PREP.	CHK.	APPD.	Design. By S.K.S	Prep. By R.B	Chk. By S.K.S	Issued By S.N	Date DEC- 23		Rev. No. R5			A2
REVISIONS																		

