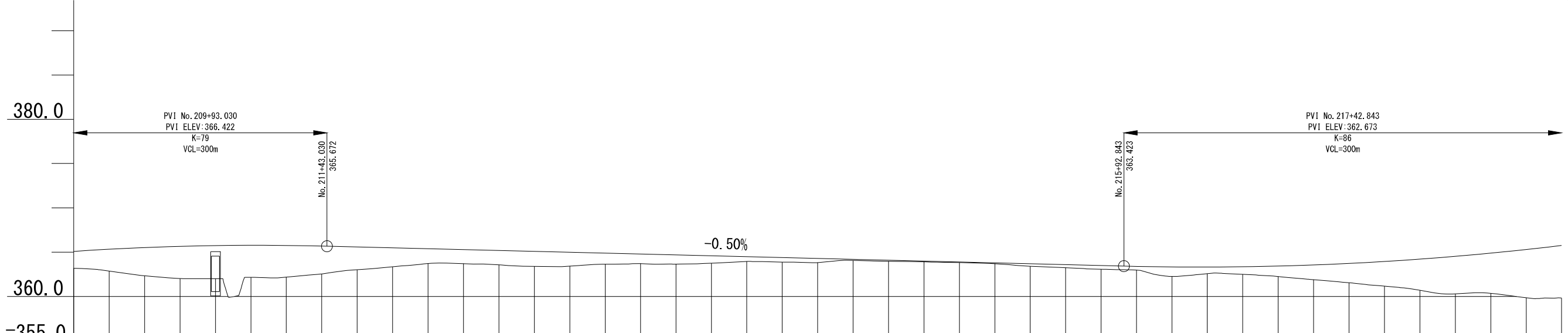


Japan International Cooperation Agency National Road Administration (ANE)	Oriental Consultants Global Co., Ltd. Eight-Japan Engineering Consultants Inc. Kokusai Kogyo Co., Ltd.	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor          Road Network Upgrading Project          (Nampula Southern Bypass Road)</b>	DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
		NAME				SCALE	SHEET NO.	DRAWING NO.	REV. NO.
		SIGNATURE				1/2500		C-26	
		DATE							

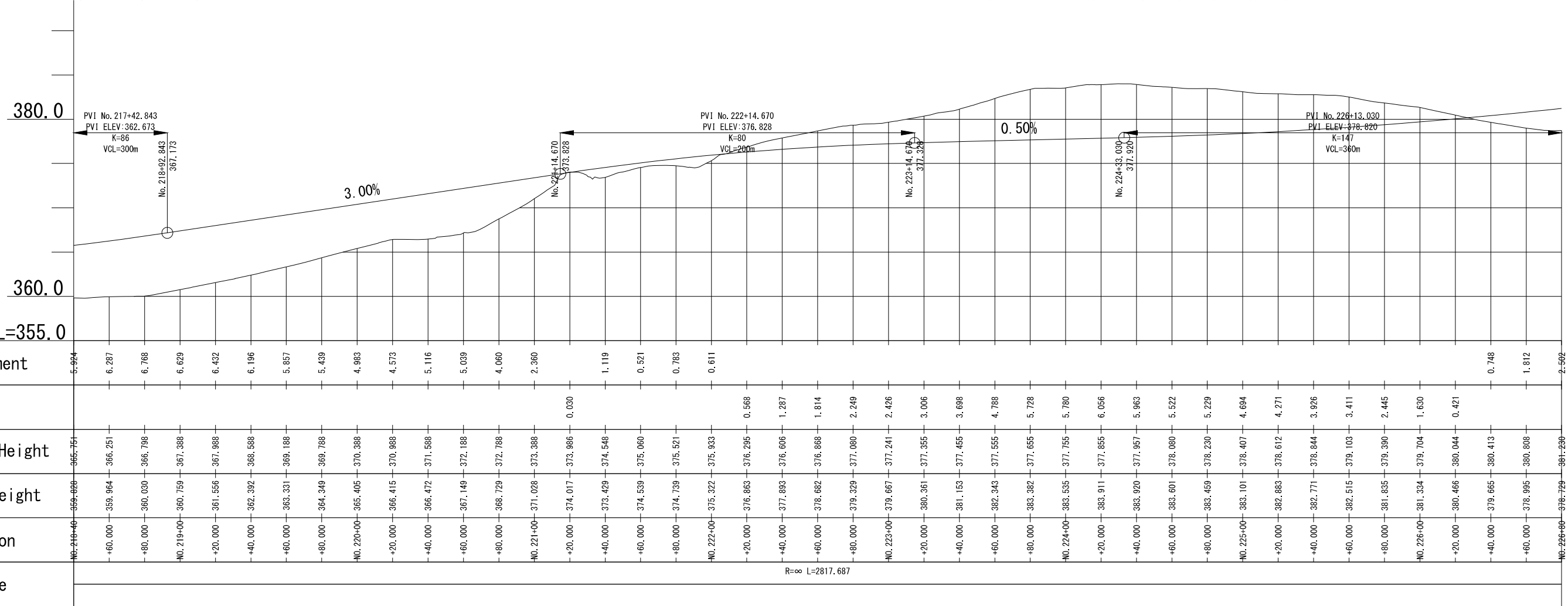




Station	Ground Height	Proposal Height	Cut	Embankment
No. 210+00	365.173	365.988		1.915
+20,000	362.862	365.326		2.464
+40,000	362.337	365.513		3.177
+60,000	362.020	365.650		3.630
+80,000	362.006	365.735		3.729
No. 211+00	362.162	365.770		3.608
+20,000	362.188	365.754		3.566
+40,000	362.541	365.687		3.146
+60,000	363.013	365.588		2.575
+80,000	363.345	365.488		2.143
No. 212+00	363.716	365.388		1.672
+20,000	363.705	365.288		1.583
+40,000	363.565	365.188		1.622
+60,000	363.406	365.088		1.681
+80,000	363.422	364.988		1.566
No. 213+00	363.648	364.888		1.240
+20,000	363.719	364.788		1.069
+40,000	363.651	364.688		1.036
+60,000	363.753	364.588		0.834
+80,000	363.948	364.488		0.539
No. 214+00	363.883	364.388		0.505
+20,000	363.822	364.288		0.466
+40,000	364.061	364.188		0.127
+60,000	363.977	364.088		0.111
+80,000	363.896	363.988		0.092
No. 215+00	363.817	363.888		0.071
+20,000	363.695	363.788		0.093
+40,000	363.410	363.688		0.277
+60,000	363.242	363.588		0.346
+80,000	363.076	363.488		0.412
No. 216+00	362.981	363.391		0.410
+20,000	362.258	363.331		1.072
+40,000	362.569	363.317		0.748
+60,000	362.500	363.351		0.851
+80,000	362.249	363.431		1.181
No. 217+00	361.896	363.557		1.662
+20,000	361.547	363.731		2.184
+40,000	361.162	363.951		2.789
+60,000	360.688	364.218		3.530
+80,000	360.297	364.531		4.234
No. 218+00	360.357	364.891		4.534
+20,000	359.855	365.298		5.443
No. 219+00	359.828	365.751		5.924

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		NAME				SCALE	SHEET NO.	DRAWING NO.	REV. NO.
		DATE				1/2500		C-27	

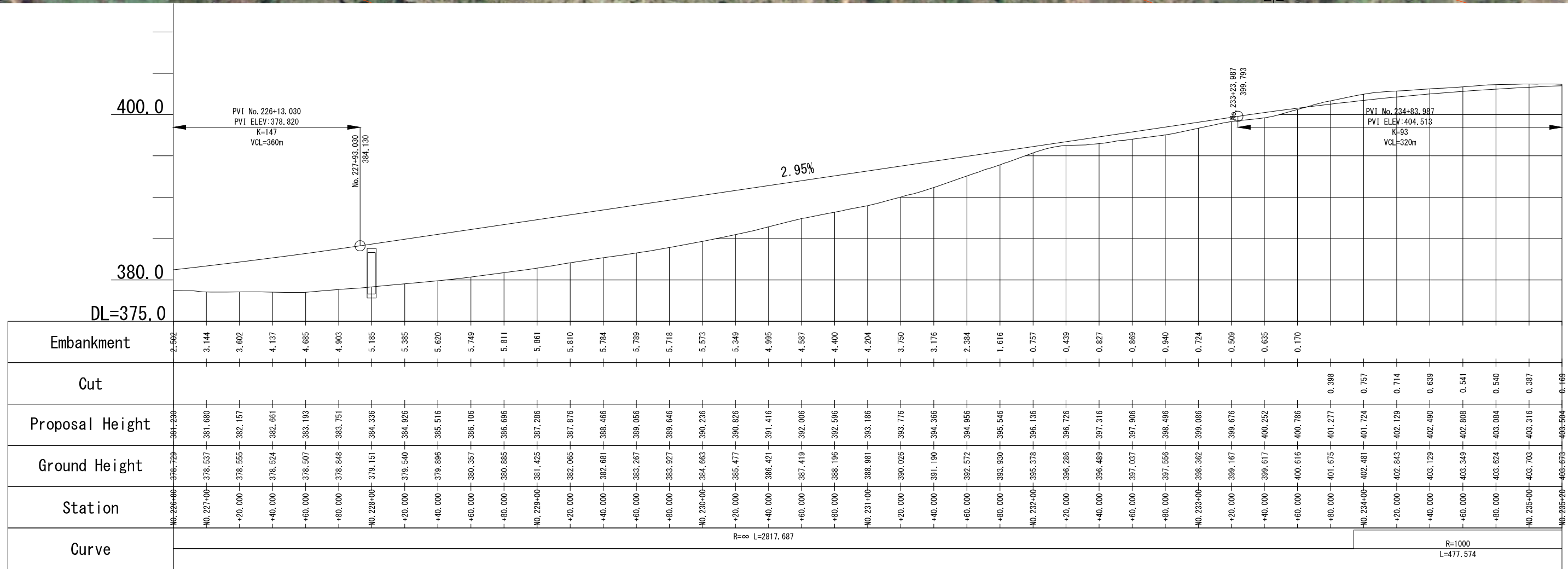




Station	Ground Height	Proposal Height	Cut	Embankment
No. 218+00	365.928	366.751		5.924
-60,000	359.964	366.251		6.287
-80,000	360.030	366.788		6.768
No. 219+00	360.759	367.388		6.629
+20,000	361.556	367.988		6.432
+40,000	362.392	368.588		6.196
+60,000	363.331	369.188		5.857
+80,000	364.349	369.788		5.439
No. 220+00	365.405	370.388		4.983
+20,000	366.415	370.988		4.573
+40,000	366.472	371.588		5.116
+60,000	367.149	372.188		5.039
+80,000	368.729	372.788		4.060
No. 221+00	371.028	373.388		2.360
+20,000	374.017	373.986	0.030	
+40,000	373.429	374.548		1.119
+60,000	374.539	375.060		0.521
+80,000	374.739	375.521		0.783
No. 222+00	375.322	375.933		0.611
+20,000	376.863	376.295	0.568	
+40,000	377.893	376.606	1.287	
+60,000	378.682	376.868	1.814	
+80,000	379.329	377.080	2.249	
No. 223+00	379.667	377.241	2.426	
+20,000	380.361	377.355	3.006	
+40,000	381.153	377.465	3.698	
+60,000	382.343	377.555	4.788	
+80,000	383.382	377.655	5.728	
No. 224+00	383.535	377.765	5.780	
+20,000	383.911	377.855	6.056	
+40,000	383.920	377.957	5.963	
+60,000	383.601	378.080	5.522	
+80,000	383.459	378.230	5.229	
No. 225+00	383.101	378.407	4.694	
+20,000	382.883	378.612	4.271	
+40,000	382.771	378.844	3.926	
+60,000	382.515	379.103	3.411	
+80,000	381.835	379.390	2.445	
No. 226+00	381.334	379.704	1.630	
+20,000	380.466	380.044	0.421	
+40,000	379.665	380.413		0.748
+60,000	378.995	380.808		1.812
No. 227+00	378.729	381.296		2.562

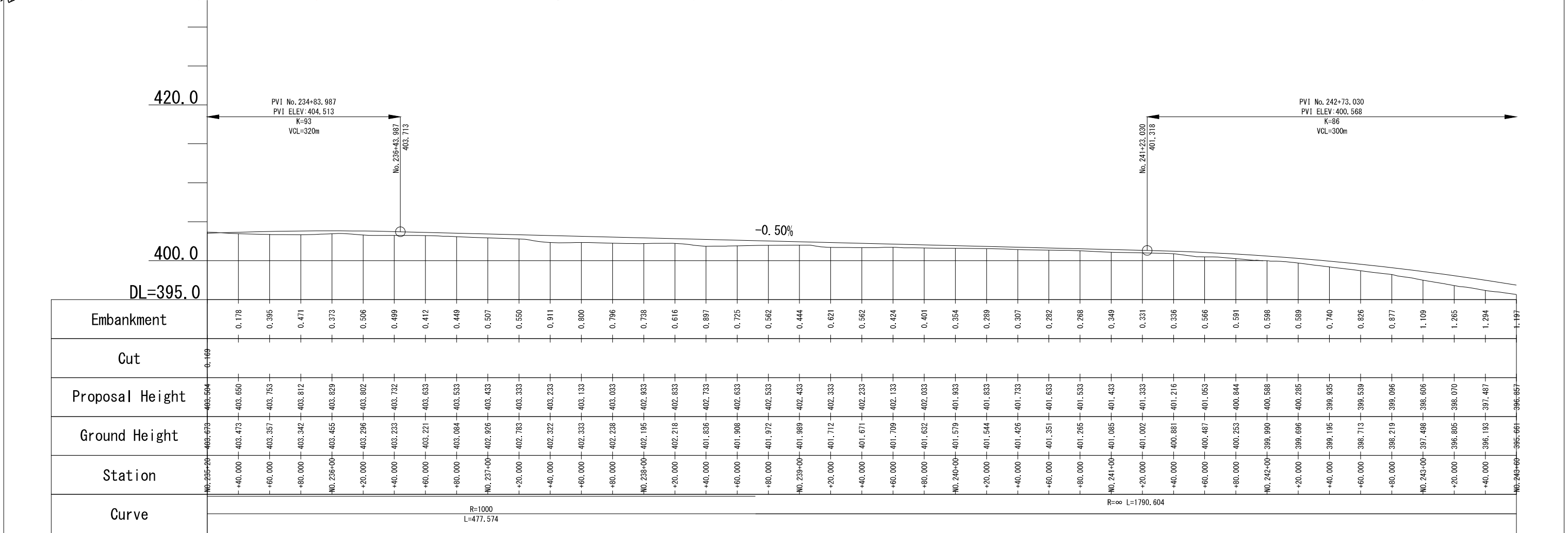
Japan International Cooperation Agency National Road Administration (ANE)	Oriental Consultants Global Co., Ltd. Eight-Japan Engineering Consultants Inc. Kokusai Kogyo Co., Ltd.	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor          Road Network Upgrading Project          (Nampula Southern Bypass Road)</b>	DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
		NAME				SCALE	SHEET NO.	DRAWING NO.	REV. NO.
		DATE				1/2500		C-28	





	Oriental Consultants Global Co., Ltd. Eight-Japan Engineering Consultants Inc. Kokusai Kogyo Co., Ltd.	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor          Road Network Upgrading Project          (Nampula Southern Bypass Road)</b>	DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
		NAME				SCALE	SHEET NO.	DRAWING NO.	REV. NO.
		SIGNATURE				1/2500		C-29	
		DATE							





Japan International Cooperation Agency  
 National Road Administration (ANE)

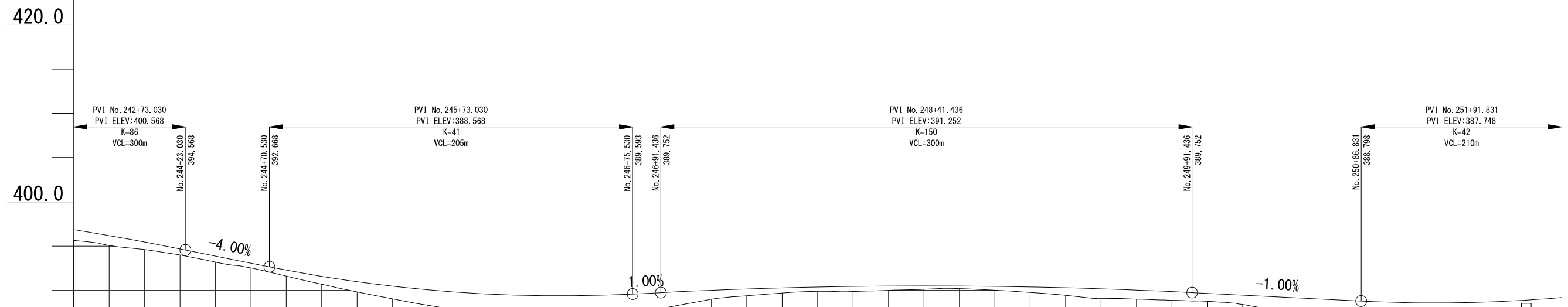
Oriental Consultants Global Co., Ltd.  
 Eight-Japan Engineering Consultants Inc.  
 Kokusai Kogyo Co., Ltd.

NAME	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE			
DATE			

PROJECT TITLE:  
**Preparatory Survey for Nacala Corridor  
 Road Network Upgrading Project  
 (Nampula Southern Bypass Road)**

DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
1/2500		C-30	

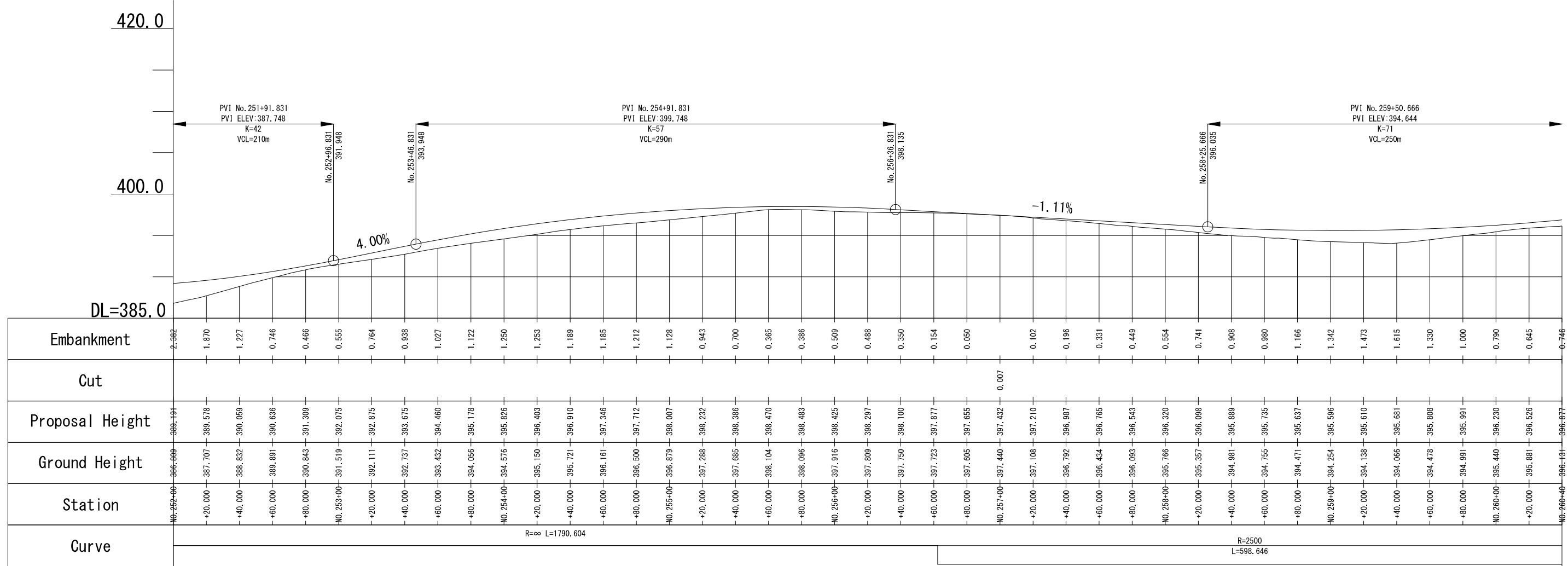




Station	Ground Height	Proposal Height	Cut	Embankment
No. 242+00	395.661	395.667		1.197
+20.000	395.074	395.181		1.107
No. 244+00	394.595	395.458		0.863
+20.000	394.003	394.689		0.686
+40.000	393.194	393.889		0.695
+60.000	392.549	393.089		0.541
+80.000	391.613	392.300		0.687
No. 245+00	390.703	391.595		0.892
+20.000	389.833	390.988		1.154
+40.000	389.048	390.478		1.430
+60.000	388.294	390.065		1.772
+80.000	387.733	389.751		2.017
No. 246+00	387.083	389.533		2.451
+20.000	386.598	389.414		2.816
+40.000	386.689	389.392		2.703
+60.000	387.244	389.467		2.223
+80.000	387.705	389.638		1.933
No. 247+00	388.262	389.835		1.573
+20.000	389.015	390.011		0.996
+40.000	389.399	390.159		0.760
+60.000	389.700	390.281		0.581
+80.000	389.901	390.376		0.476
No. 248+00	389.876	390.445		0.569
+20.000	390.003	390.487		0.484
+40.000	390.123	390.502		0.379
+60.000	390.197	390.491		0.294
+80.000	390.018	390.453		0.435
No. 249+00	389.770	390.388		0.618
+20.000	389.451	390.296		0.845
+40.000	389.080	390.178		1.098
+60.000	389.019	390.034		1.015
+80.000	388.884	389.862		0.978
No. 250+00	388.774	389.666		0.893
+20.000	388.410	389.466		1.057
+40.000	387.732	389.266		1.535
+60.000	387.028	389.066		2.038
+80.000	386.586	388.866		2.280
No. 251+00	386.185	388.687		2.502
+20.000	385.811	388.597		2.786
+40.000	385.836	388.603		2.767
+60.000	385.671	388.704		3.003
+80.000	385.887	388.900		3.034
No. 252+00	386.609	389.191		2.982

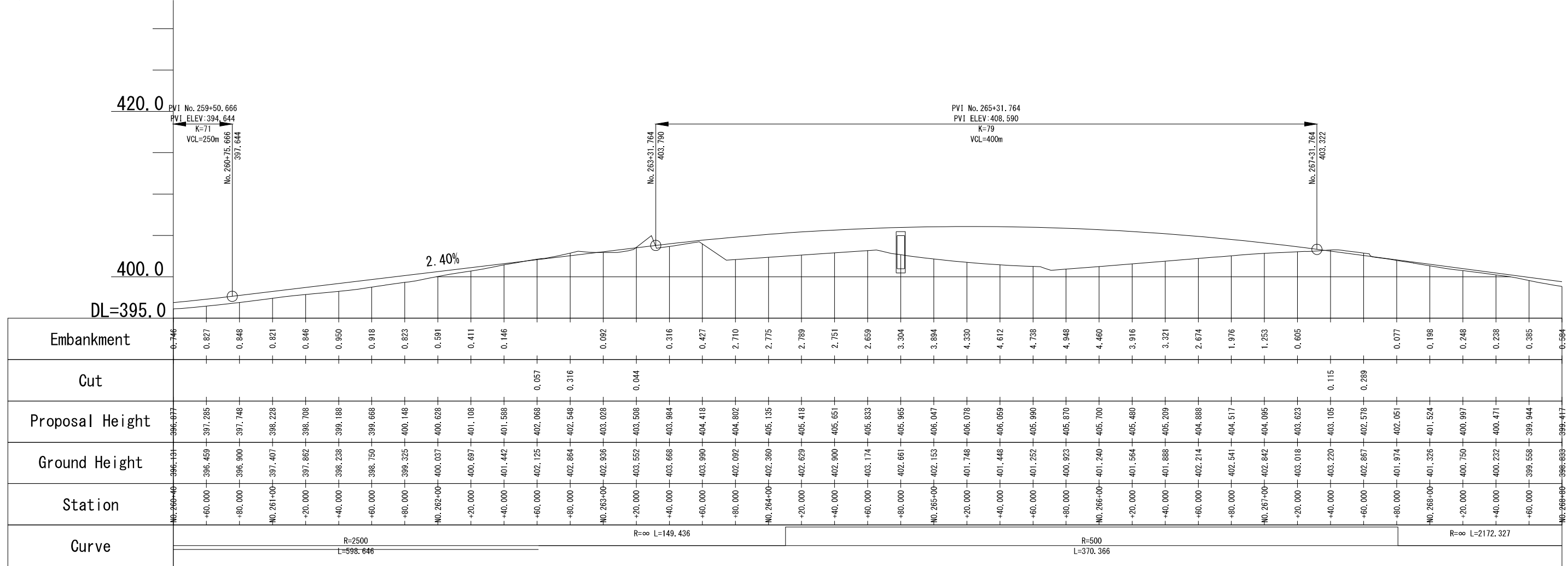
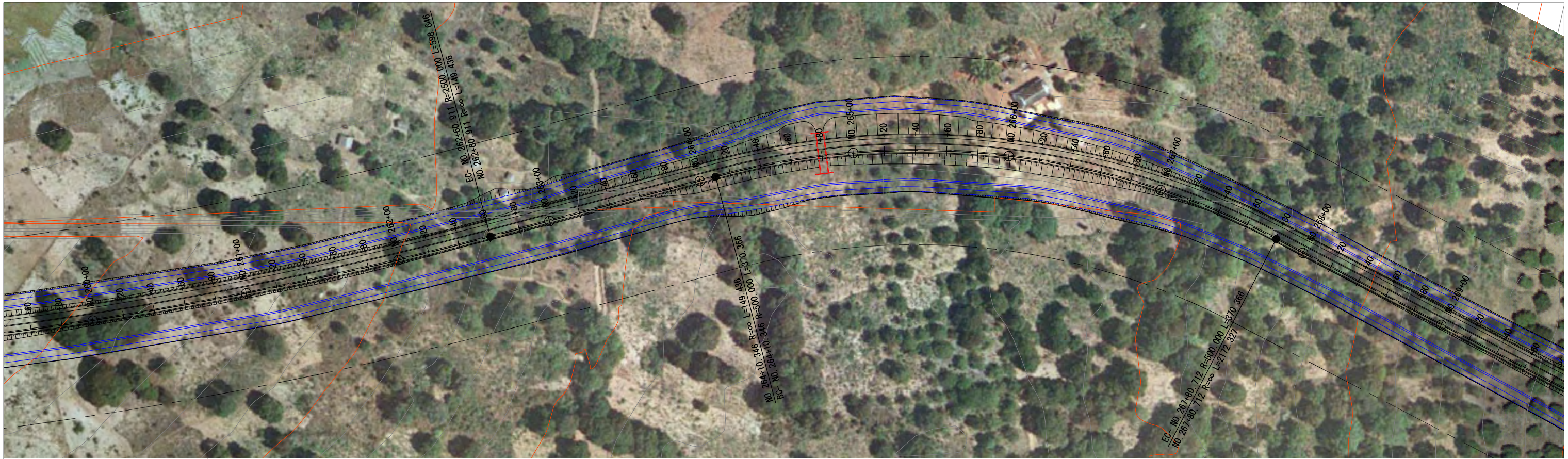
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	NAME SIGNATURE	SCALE SHEET NO.		DRAWING NO.	REV. NO.		
	DATE	1/2500		C-31			



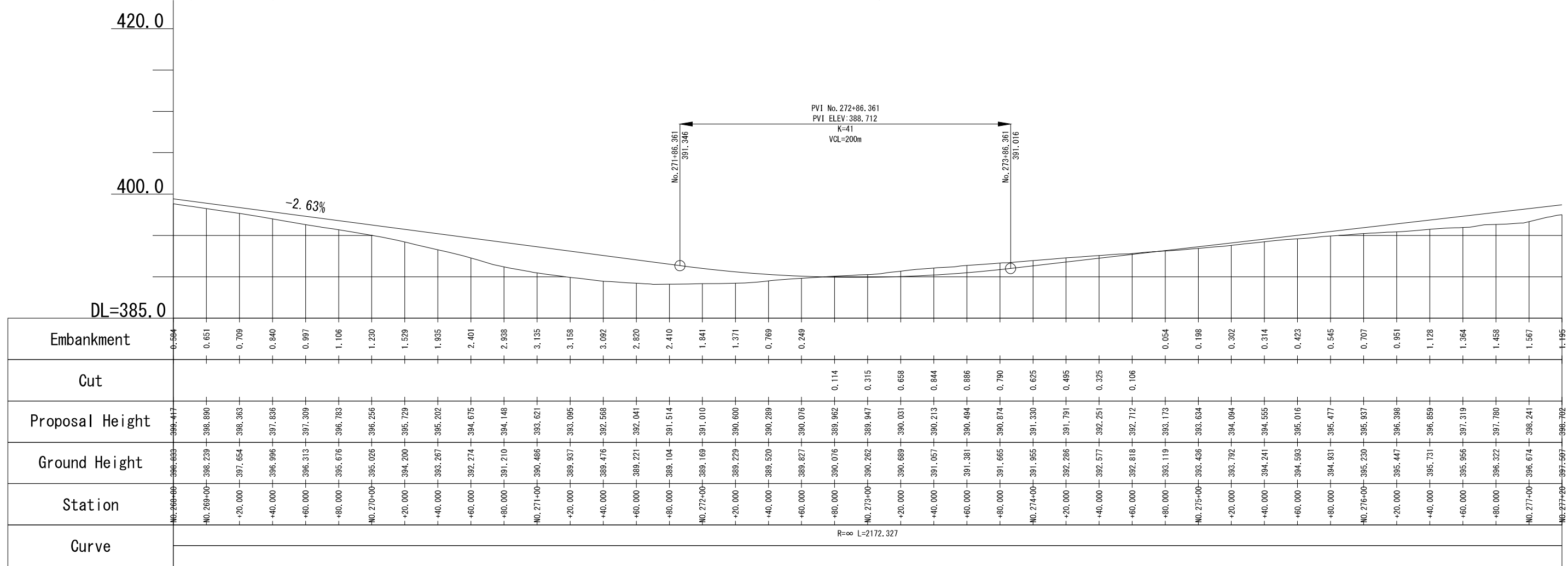
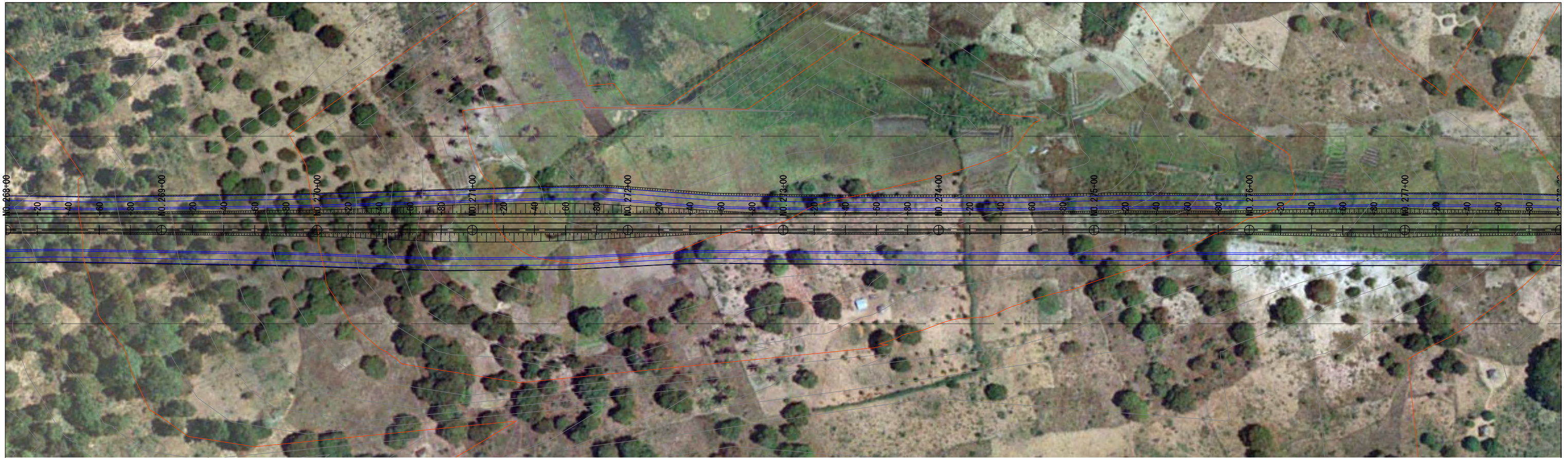


Japan International Cooperation Agency National Road Administration (ANE)	Oriental Consultants Global Co., Ltd. Eight-Japan Engineering Consultants Inc. Kokusai Kogyo Co., Ltd.	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor          Road Network Upgrading Project          (Nampula Southern Bypass Road)</b>	DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
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		SIGNATURE				1/2500		C-32	
		DATE							



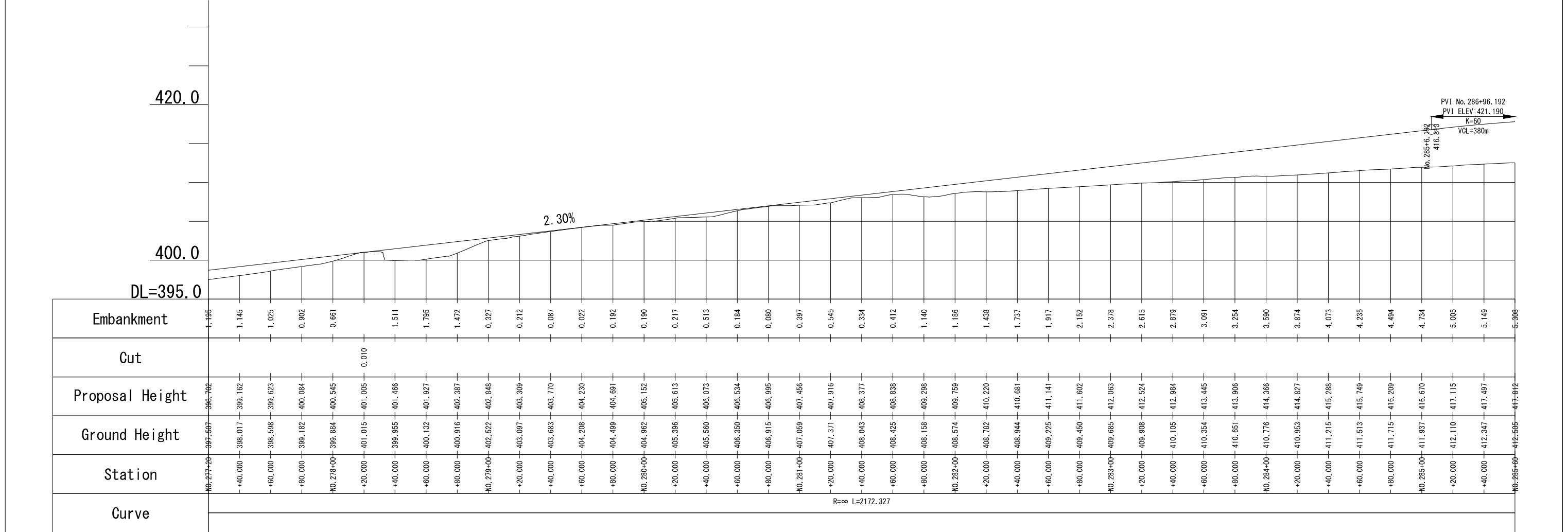






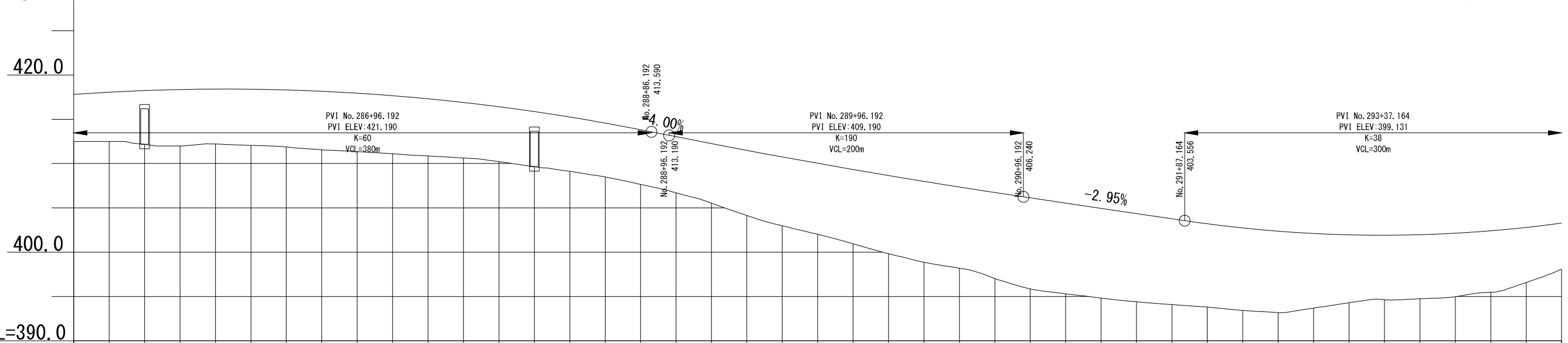
Japan International Cooperation Agency National Road Administration (ANE)	Oriental Consultants Global Co., Ltd. Eight-Japan Engineering Consultants Inc. Kokusai Kogyo Co., Ltd.	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor          Road Network Upgrading Project          (Nampula Southern Bypass Road)</b>	DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
		NAME				SCALE	SHEET NO.	DRAWING NO.	REV. NO.
		SIGNATURE				1/2500		C-34	
		DATE							





Japan International Cooperation Agency National Road Administration (ANE)	Oriental Consultants Global Co., Ltd. Eight-Japan Engineering Consultants Inc. Kokusai Kogyo Co., Ltd.	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor          Road Network Upgrading Project          (Nampula Southern Bypass Road)</b>	DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
		NAME				SCALE	SHEET NO.	DRAWING NO.	REV. NO.
		SIGNATURE				1/2500		C-35	
		DATE							





Station	DL=390.0	Ground Height	Proposal Height	Cut	Embankment
No. 285+00	412.595	417.812	5.996		
+20.000	412.500	418.061	5.561		
+40.000	412.180	418.244	6.064		
+60.000	412.000	418.360	6.360		
+80.000	412.221	418.410	6.189		
+100.000	412.070	418.394	6.324		
+120.000	411.882	418.311	6.429		
+140.000	411.573	418.162	6.589		
+160.000	411.365	417.946	6.582		
+180.000	411.114	417.665	6.551		
+200.000	410.863	417.316	6.454		
+220.000	410.625	416.902	6.277		
+240.000	410.206	416.421	6.215		
+260.000	409.642	415.874	6.232		
+280.000	409.117	415.260	6.143		
+300.000	408.477	414.580	6.103		
+320.000	407.646	413.834	6.188		
+340.000	406.698	413.038	6.339		
+360.000	405.534	412.252	6.718		
+380.000	404.137	411.488	7.351		
+400.000	402.976	410.744	7.768		
+420.000	402.013	410.022	8.009		
+440.000	400.940	409.320	8.380		
+460.000	399.827	408.640	8.812		
+480.000	398.861	407.980	9.119		
+500.000	398.189	407.342	9.153		
+520.000	397.025	406.724	9.700		
+540.000	395.860	406.127	10.267		
+560.000	395.306	405.537	10.232		
+580.000	394.820	404.947	10.127		
+600.000	394.397	404.357	9.960		
+620.000	394.088	403.767	9.679		
+640.000	393.802	403.199	9.397		
+660.000	393.432	402.730	9.298		
+680.000	393.181	402.367	9.187		
+700.000	393.697	402.110	8.413		
+720.000	394.293	401.959	7.666		
+740.000	394.631	401.914	7.284		
+760.000	394.741	401.975	7.234		
+780.000	394.985	402.142	7.158		
+800.000	395.474	402.415	6.941		
+820.000	396.585	402.794	6.209		
+840.000	398.069	403.279	5.210		

Japan International Cooperation Agency  
 National Road Administration (ANE)

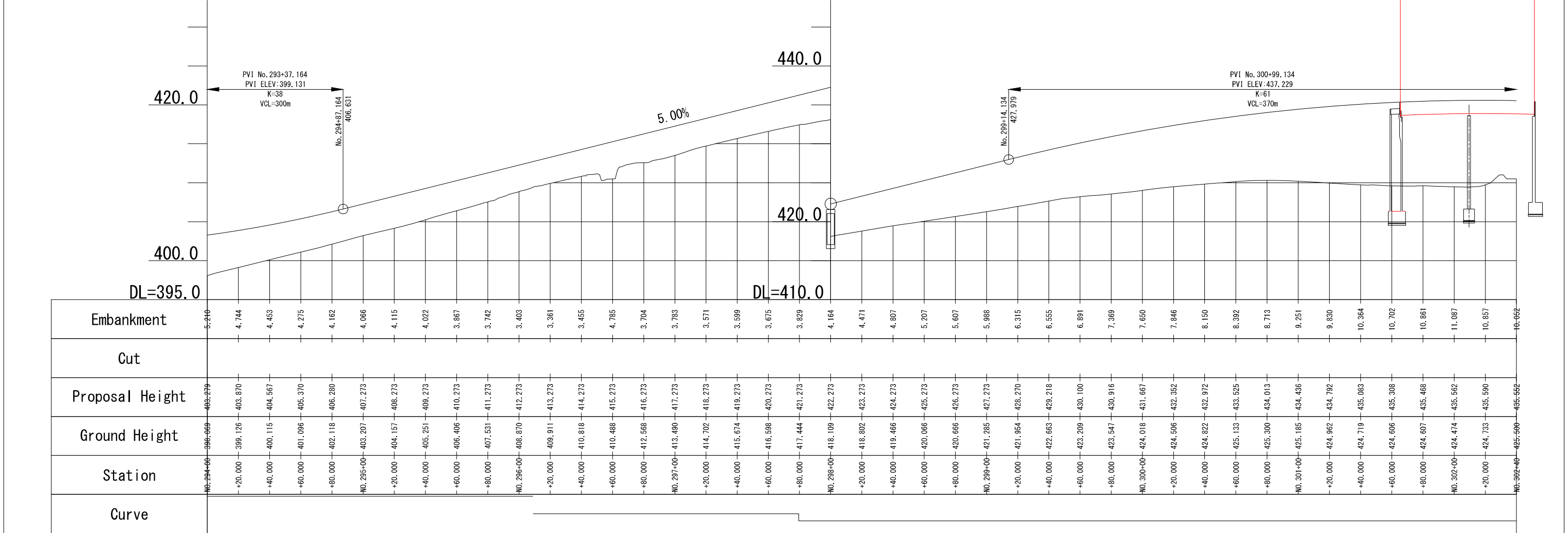
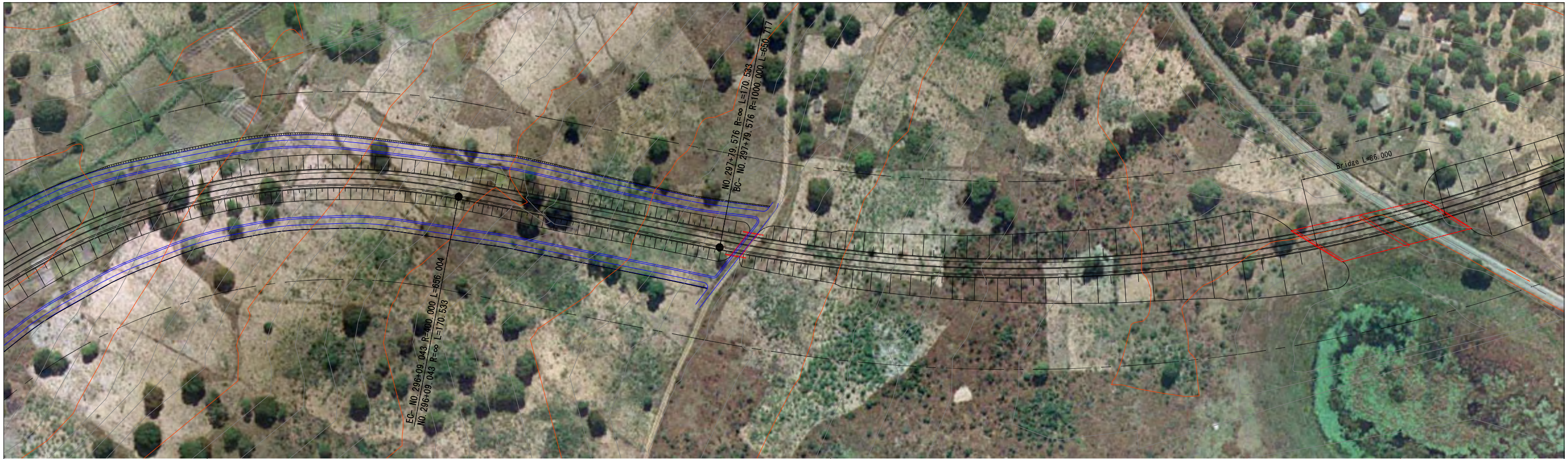
Oriental Consultants Global Co., Ltd.  
 Eight-Japan Engineering Consultants Inc.  
 Kokusai Kogyo Co., Ltd.

PREPARED BY	CHECKED BY	APPROVED BY
NAME		
SIGNATURE		
DATE		

PROJECT TITLE:  
**Preparatory Survey for Nacala Corridor  
 Road Network Upgrading Project  
 (Nampula Southern Bypass Road)**

DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
1/2500		C-36	





Japan International Cooperation Agency  
 National Road Administration (ANE)

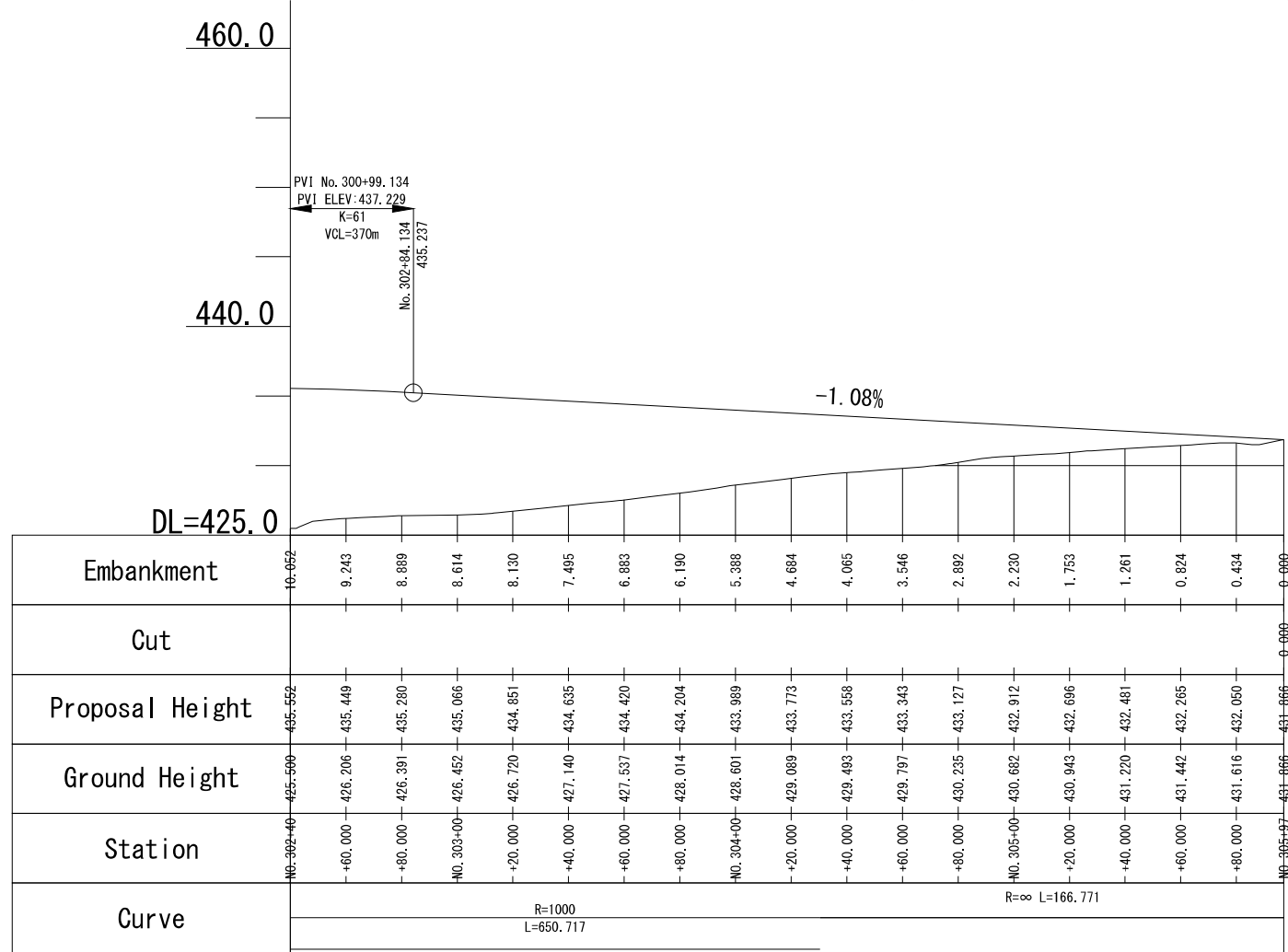
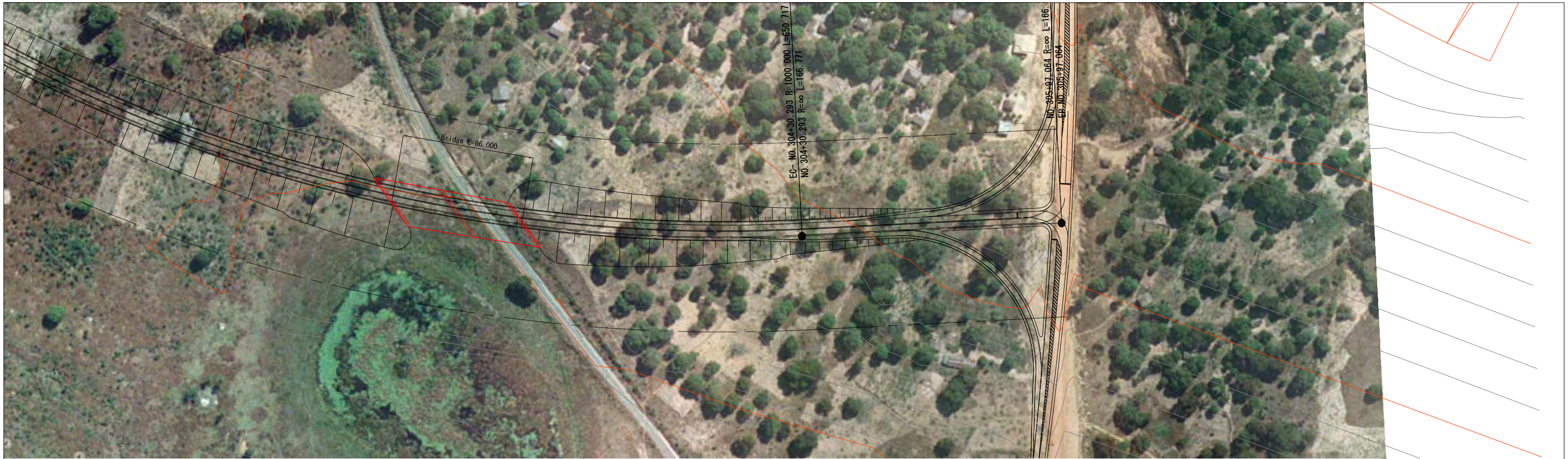
Oriental Consultants Global Co., Ltd.  
 Eight-Japan Engineering Consultants Inc.  
 Kokusai Kogyo Co., Ltd.

PREPARED BY	CHECKED BY	APPROVED BY
NAME		
SIGNATURE		
DATE		

PROJECT TITLE:  
**Preparatory Survey for Nacala Corridor  
 Road Network Upgrading Project  
 (Nampula Southern Bypass Road)**

DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
1/2500		C-37	





Japan International Cooperation Agency  
 National Road Administration (ANE)

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 Eight-Japan Engineering Consultants Inc.  
 Kokusai Kogyo Co., Ltd.

PREPARED BY	CHECKED BY	APPROVED BY
NAME		
SIGNATURE		
DATE		

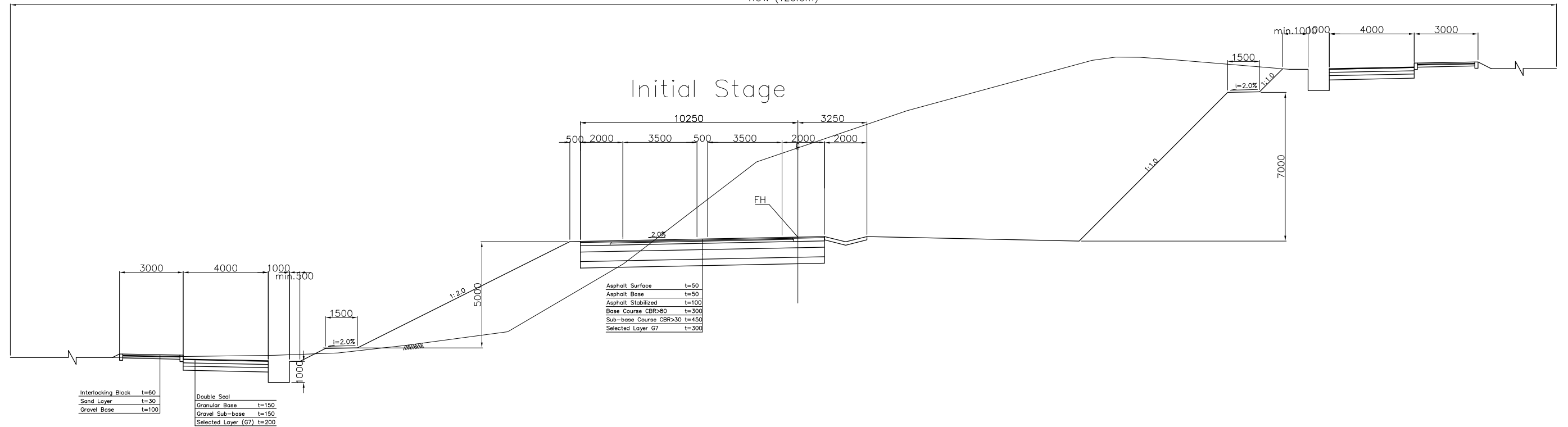
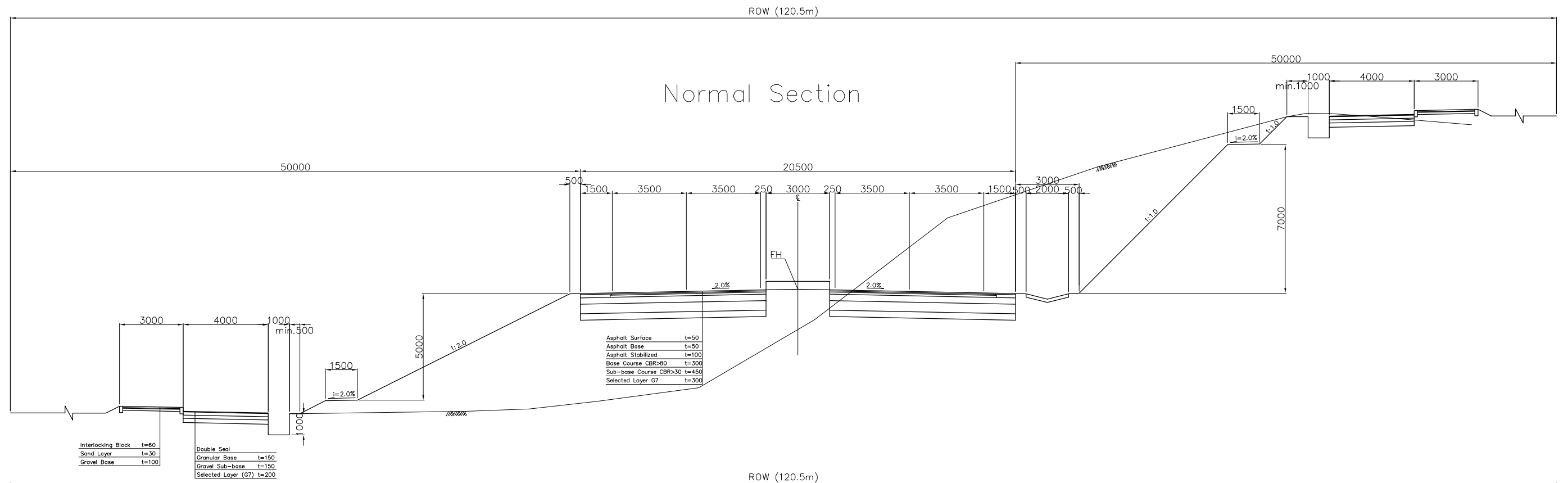
PROJECT TITLE:  
**Preparatory Survey for Nacala Corridor  
 Road Network Upgrading Project  
 (Nampula Southern Bypass Road)**

DRAWING TITLE: High-Spec Option (Initial Stage) Plan and Profile			
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
1/2500		C-38	



# NAMPULA SOUTHERN BYPASS ROAD

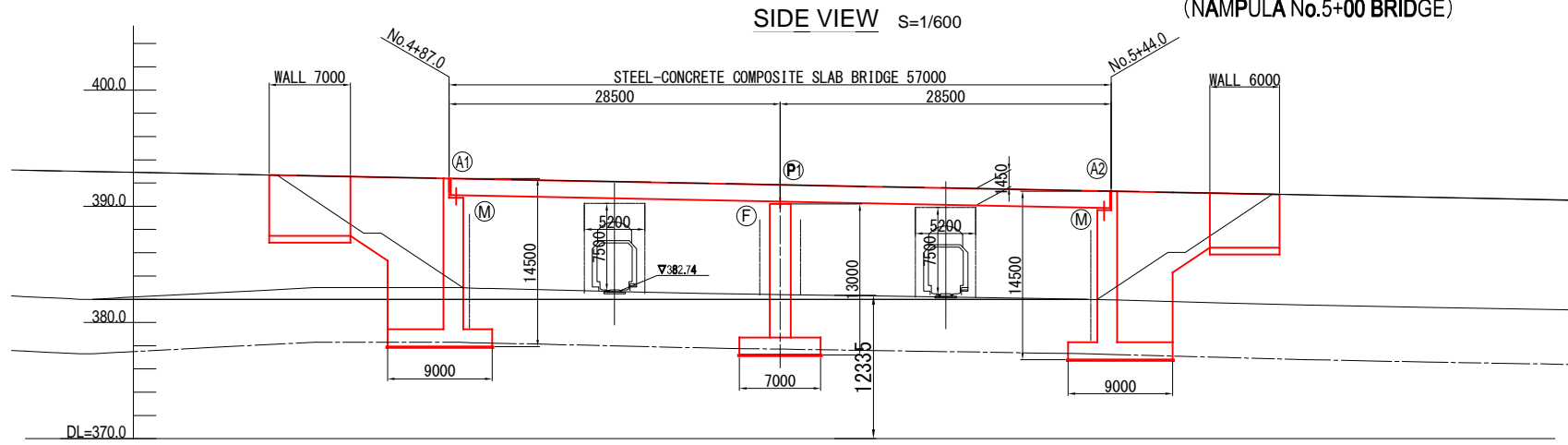
## Typical Cross Section



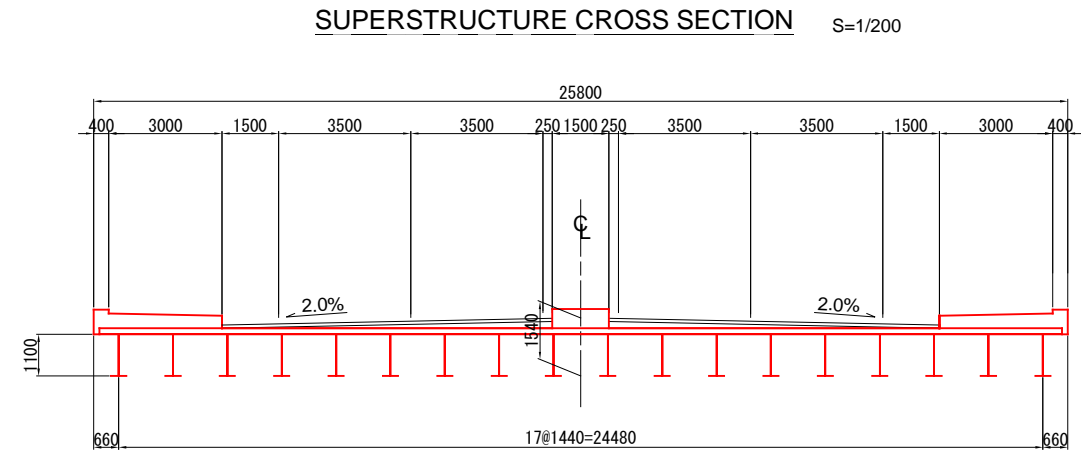
Japan International Cooperation Agency	Oriental Consultants Global Co., Ltd. Eight-Japan Engineering Consultants Inc. Kokusai Kogyo Co., Ltd.	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor          Road Network Upgrading Project          (NAMPULA SOUTHERN BYPASS ROAD)</b>	DRAWING TITLE: High-Spec Option (Initial Stage) Typical Cross Section			
		NAME					SCALE	SHEET NO.	DRAWING NO.
National Road Administration (ANE)		SIGNATURE				1/200		C-39	
		DATE							



# GENERAL VIEW (NAMPULA No.5+00 BRIDGE)

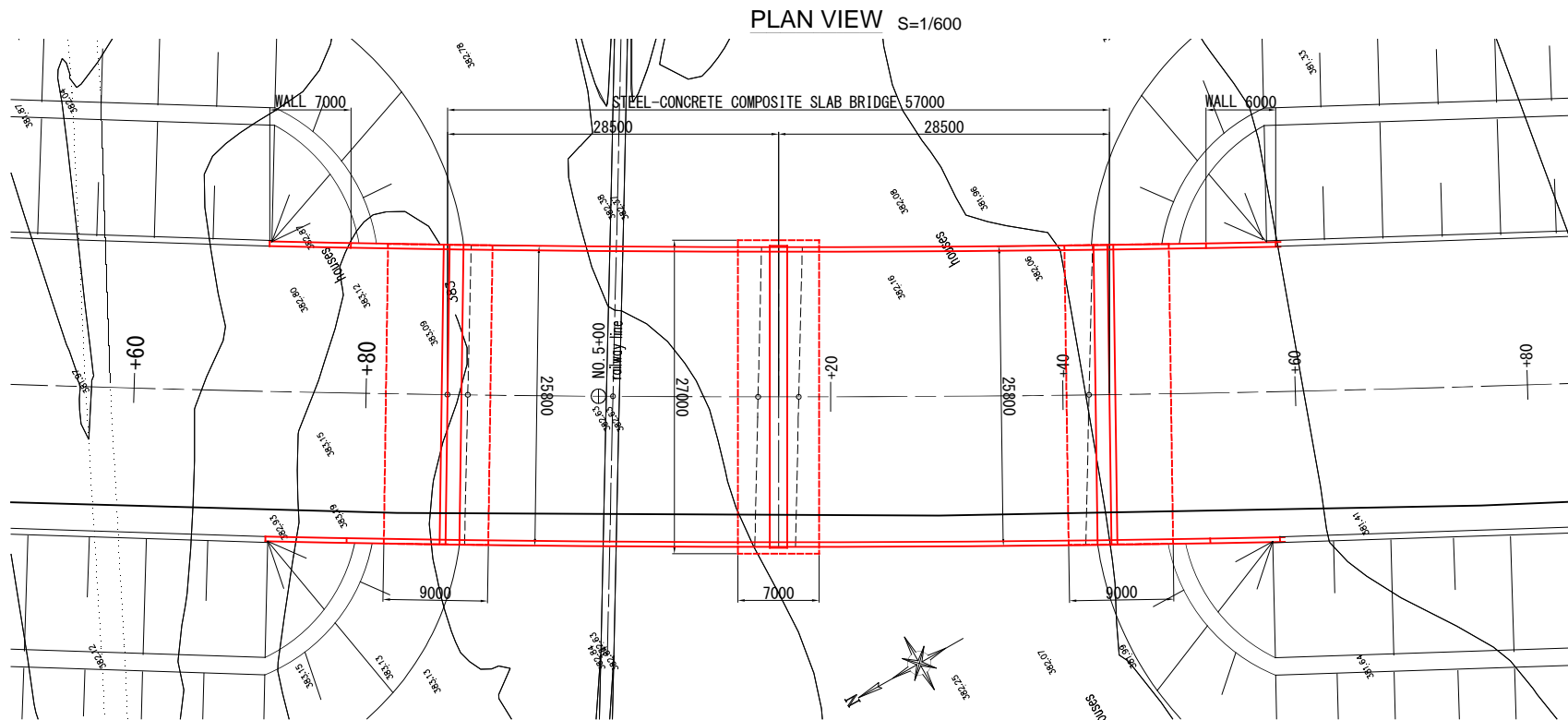


GRADIENT	-1.930% L=342.741m									
PROPOSED HEIGHT	392.535	392.400	392.149	391.850	391.763	391.377	391.300	390.989	390.570	
GROUND HEIGHT	383.000	383.000	382.710	382.402	382.335	382.031	381.946	381.519	381.147	
DISTANCE	20,000	7,000	13,000	15,500	4,500	20,000	4,000	16,000	20,000	
STATION	NO.4 +80.000	A1 +87.000	NO.5 +0.000	P1 +15.5000	+20.000	+40.000	A2 +44.000	+60.000	+80.000	
CURVE ELEMENT	R=2000 L=603.524									



### DESIGN CONDITION

TOTAL BRIDGE LENGTH	57.000m
GIRDER LENGTH	56.800m
SPAN	28.000m
WIDTH	---
ANGEL OF SKEW	90°00'00"
RADIUS OF CURVATURE	R=2000
LONGITUDINAL SLOPE	-1.930%
COMPRESSIVE STRENGTH	Floor Slab : $\sigma_{ck}$ =36N/mm <sup>2</sup>

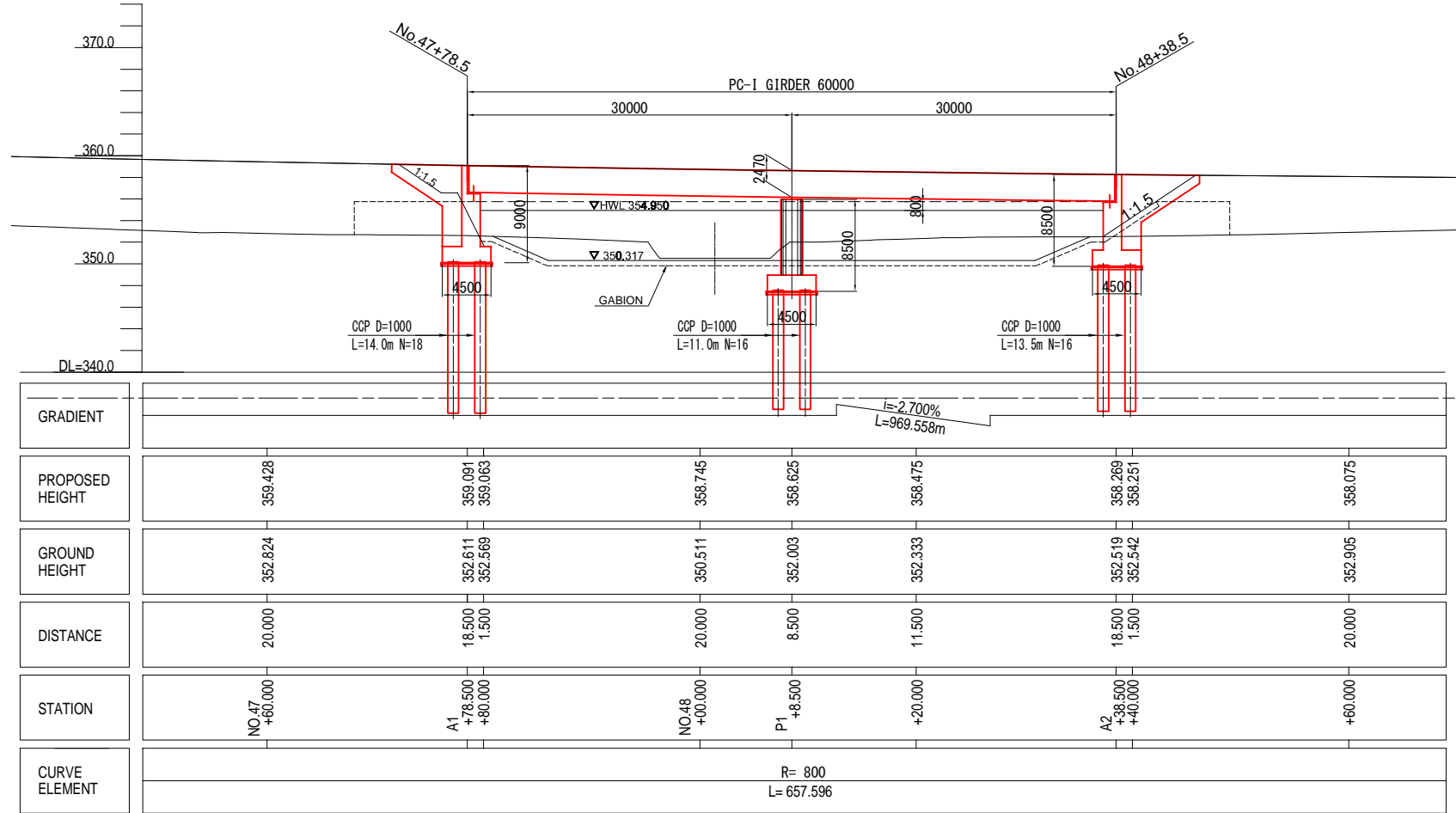


	Japan International Cooperation Agency Oriental Consultants Global Co., Ltd. Eight-Japan Engineering Consultants Inc. Kokusai Kogyo Co., Ltd.	PREPARED BY CHECKED BY APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor Road Network Upgrading Project (Nampula Southern Bypass Road)</b>	DRAWING TITLE: High-Spec. Option (Initial Stage) <b>GENERAL VIEW (NAMPULA No.5+00 BRIDGE)</b>
	NAME SIGNATURE DATE	SCALE SHEET NO. DRAWING NO. REV. NO.	C-40	

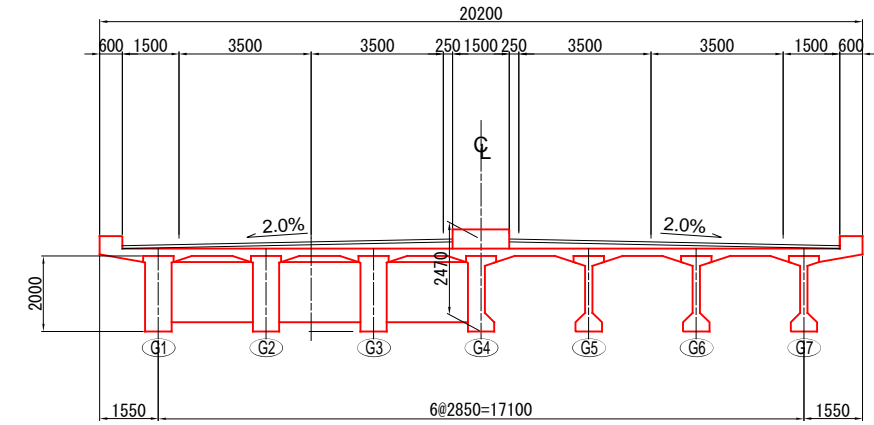


# GENERAL VIEW (NAMPULA No.47+80 BRIDGE)

SIDE VIEW S=1/600



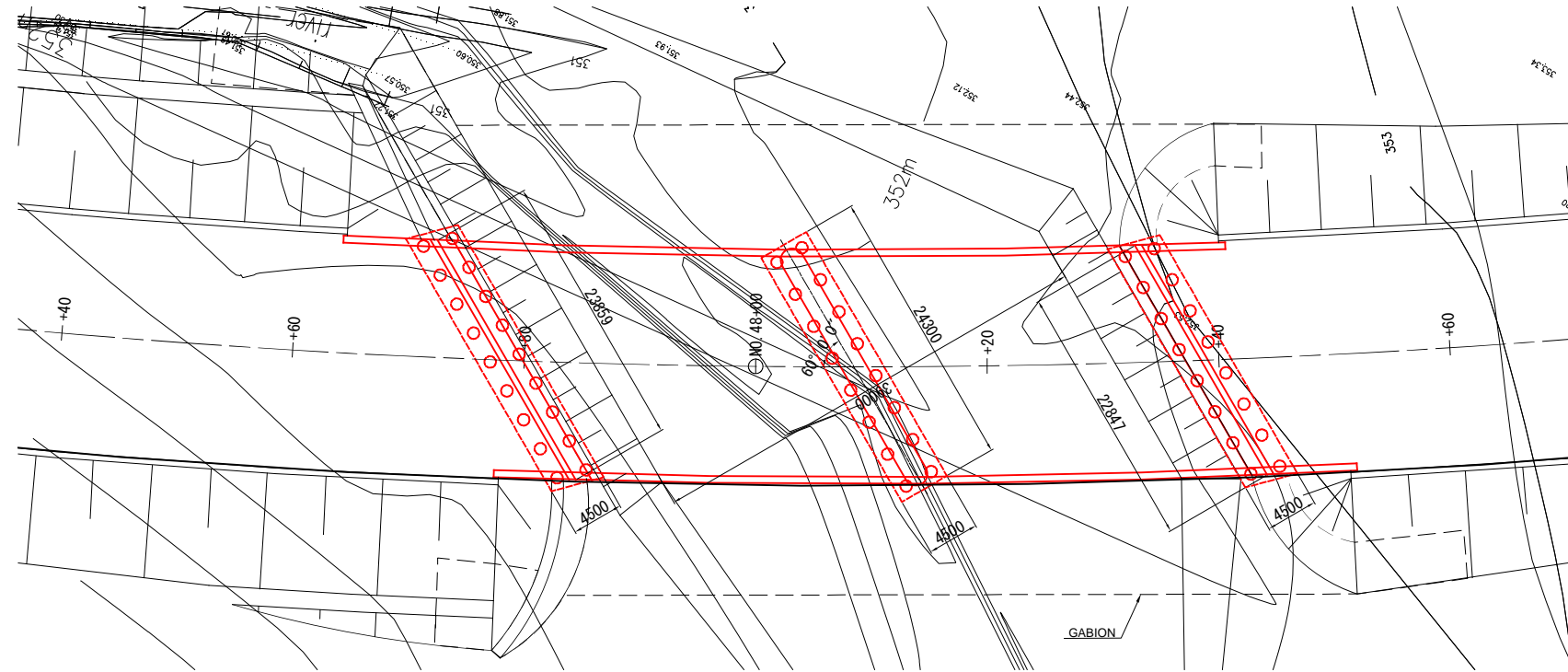
SUPERSTRUCTURE CROSS SECTION S=1/200



### DESIGN CONDITION

TOTAL BRIDGE LENGTH	90.000m
GIRDER LENGTH	2@29.850m
SPAN	2@29.050m
WIDTH	20.200m
ANGEL OF SKEW	60°00'00"
RADIUS OF CURVATURE	R= 800
LONGITUDINAL SLOPE	-2.700%
COMPRESSIVE STRENGTH	Main Girder :ack=40N/mm <sup>2</sup>
	Floor Slab :ack=30N/mm <sup>2</sup>

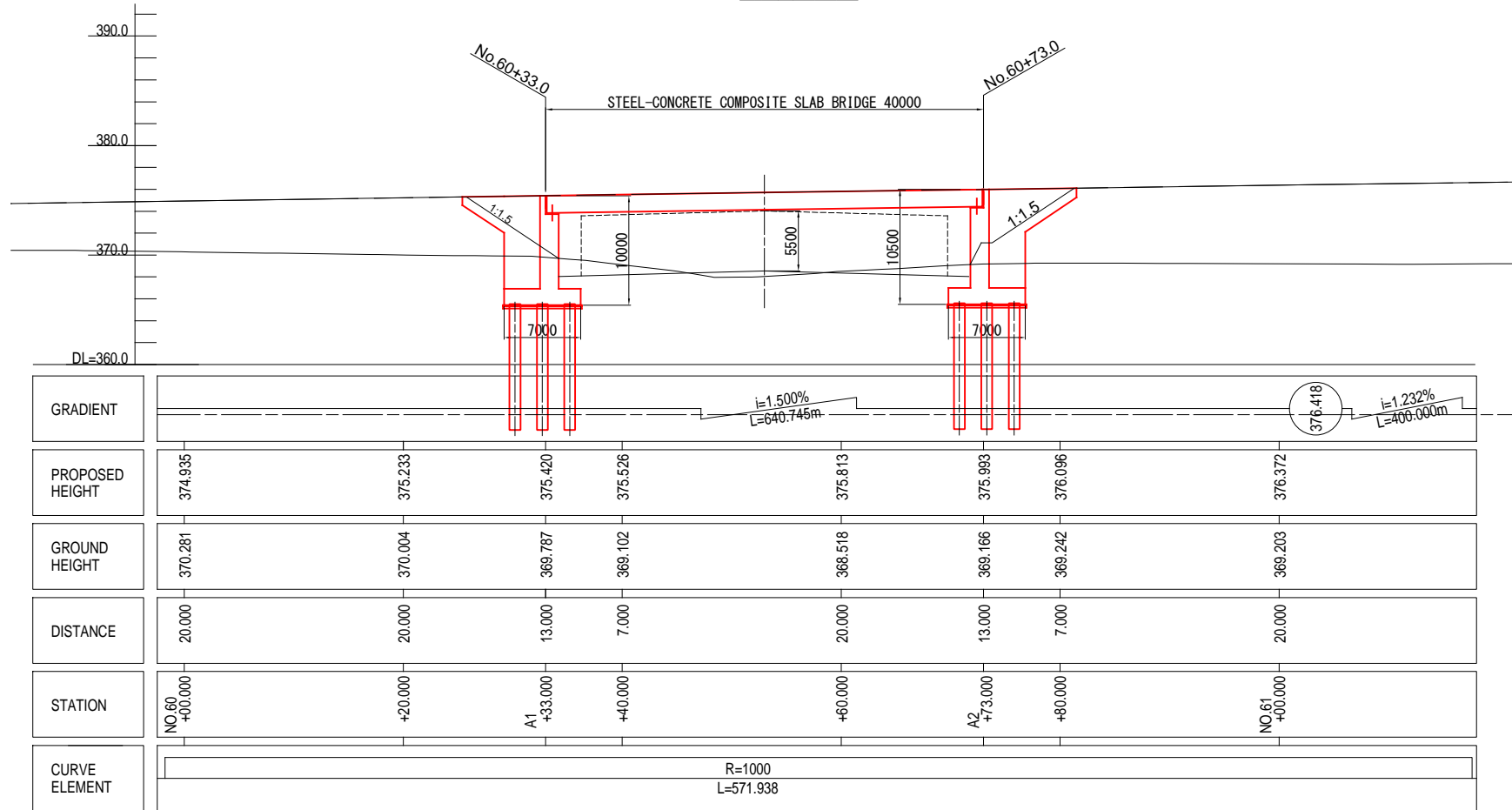
PLAN VIEW S=1/600



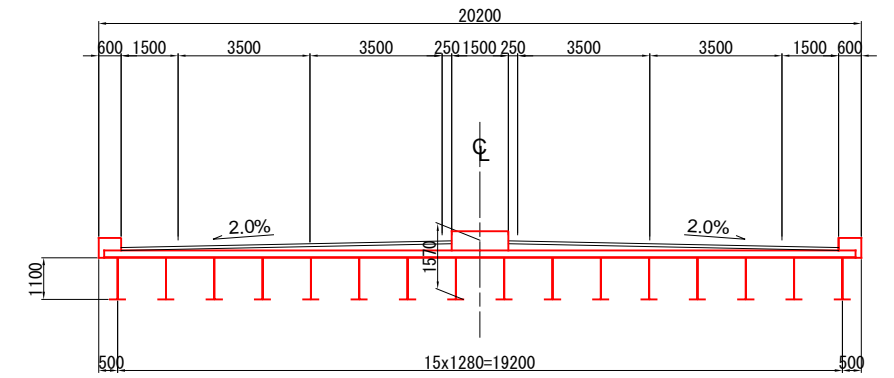


# GENERAL VIEW (NAMPULA R686 OVER BRIDGE)

SIDE VIEW S=1/600



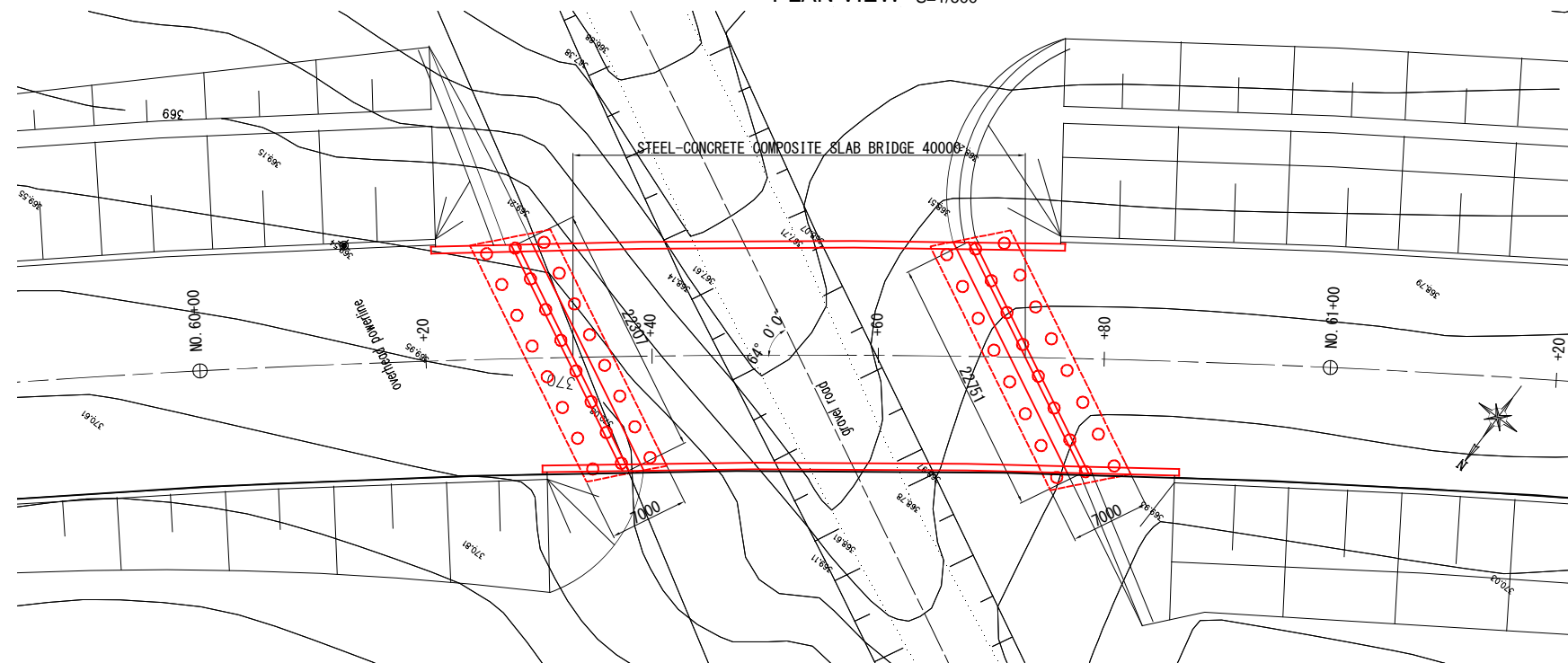
SUPERSTRUCTURE CROSS SECTION S=1/200



### DESIGN CONDITION

TOTAL BRIDGE LENGTH	40.000m
GIRDER LENGTH	39.800m
SPAN	39.000m
WIDTH	20.200m
ANGEL OF SKEW	64°00'00"
RADIUS OF CURVATURE	R=100
LONGITUDINAL SLOPE	1.500%
COMPRESSIVE STRENGTH	Floor Slab : $\sigma_{ck}=36\text{N/mm}^2$

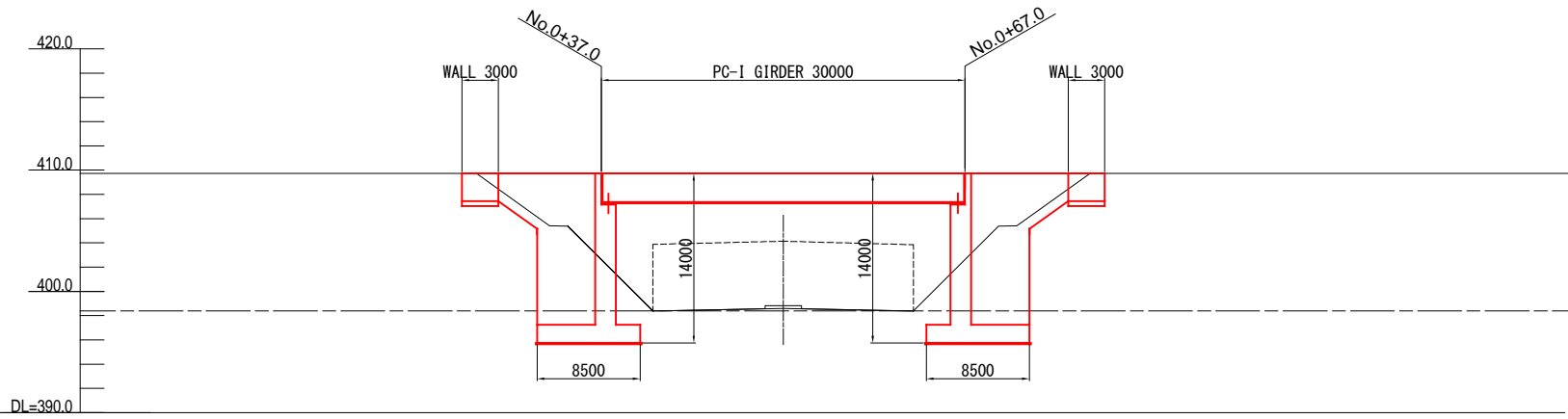
PLAN VIEW S=1/600





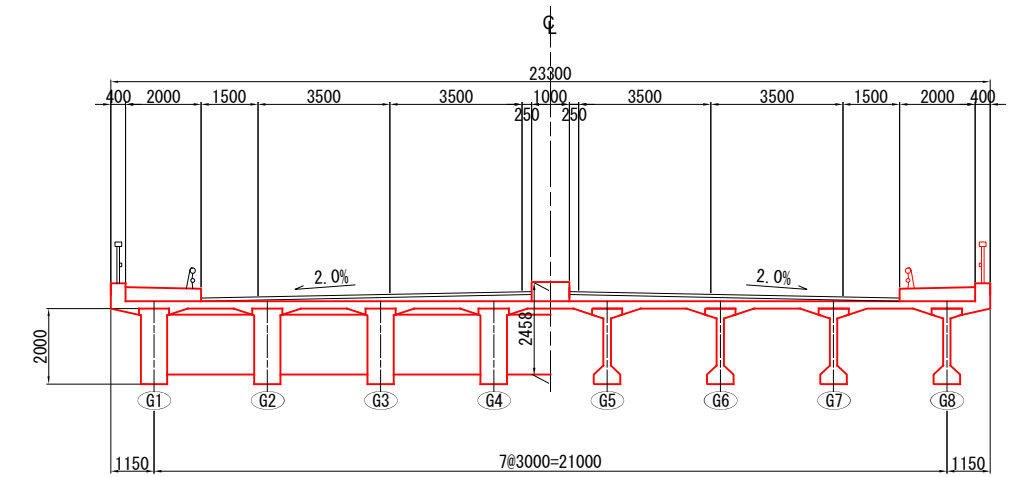
# GENERAL VIEW (NAMPULA N104 OVER BRIDGE)

SIDE VIEW S=1/300



GRADIENT	LEVEL						
PROPOSED HEIGHT	409.735	409.735	409.735	409.735	409.735	409.735	409.735
GROUND HEIGHT	409.601	409.690	409.746	409.748	409.721	409.712	409.695
DISTANCE	00.000	20.000	17.000	3.000	20.000	7.000	13.000
STATION	NO.0 +00.000	+20.000	A1 +37.000	+40.000	+60.000	A2 +67.000	+80.000
CURVE ELEMENT	R= 4700 L= 350.000						

SUPERSTRUCTURE CROSS SECTION S=1/100



## DESIGN CONDITION

TOTAL BRIDGE LENGTH	30.000m
GIRDER LENGTH	29.900m
SPAN	29.100m
WIDTH	23.300m
ANGLE OF SKEW	78°00'00"
RADIUS OF CURVATURE	R=4700
LONGITUDINAL SLOPE	LEVEL
COMPRESSIVE STRENGTH	Main Girder: $\sigma_{ck}=40\text{N/mm}^2$ Floor Slab: $\sigma_{ck}=30\text{N/mm}^2$

PLAN VIEW S=1/300



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DATE		

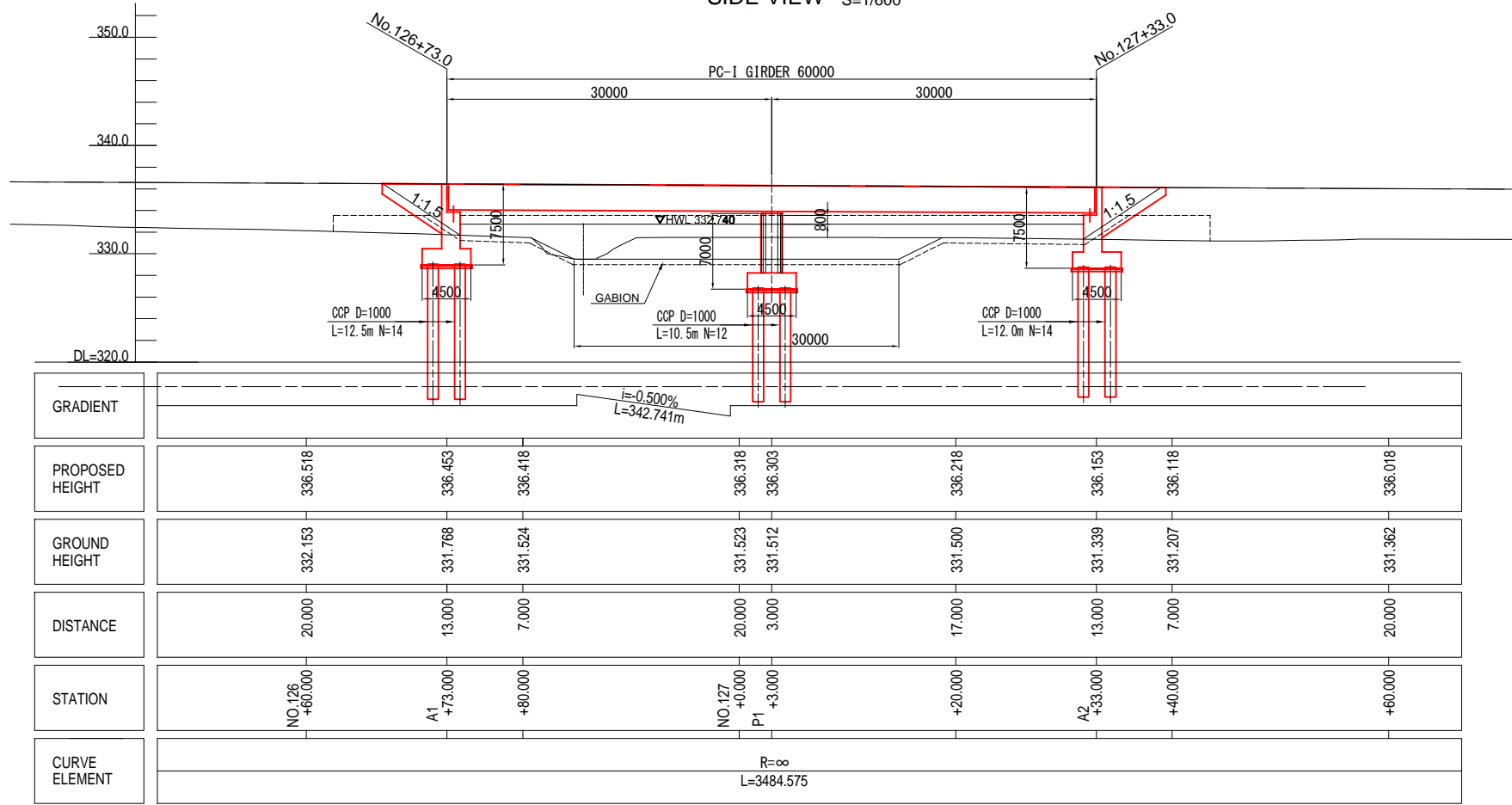
PROJECT TITLE:  
**Preparatory Survey for Nacala Corridor  
Road Network Upgrading Project  
(Nampula Southern Bypass Road)**

DRAWING TITLE: High-Spec. Option (Initial Stage)			
GENERAL VIEW (NAMPULA N104 OVER BRIDGE)			
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
		C-43	

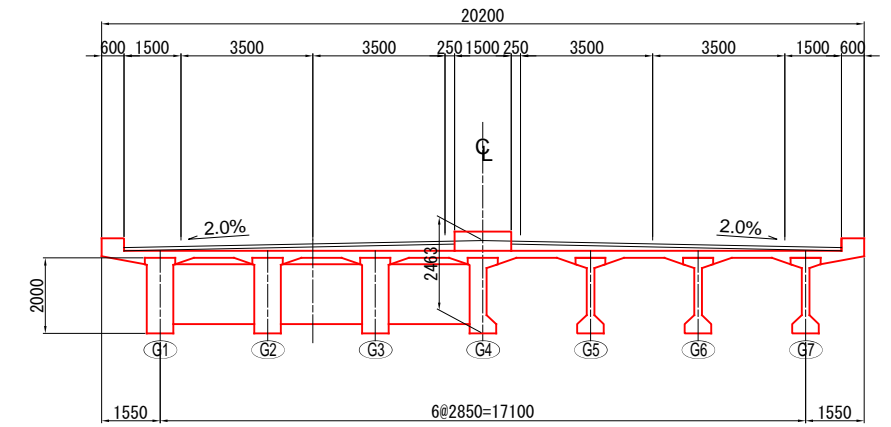


# GENERAL VIEW (NAMPULA No.126+70 BRIDGE)

SIDE VIEW S=1/600



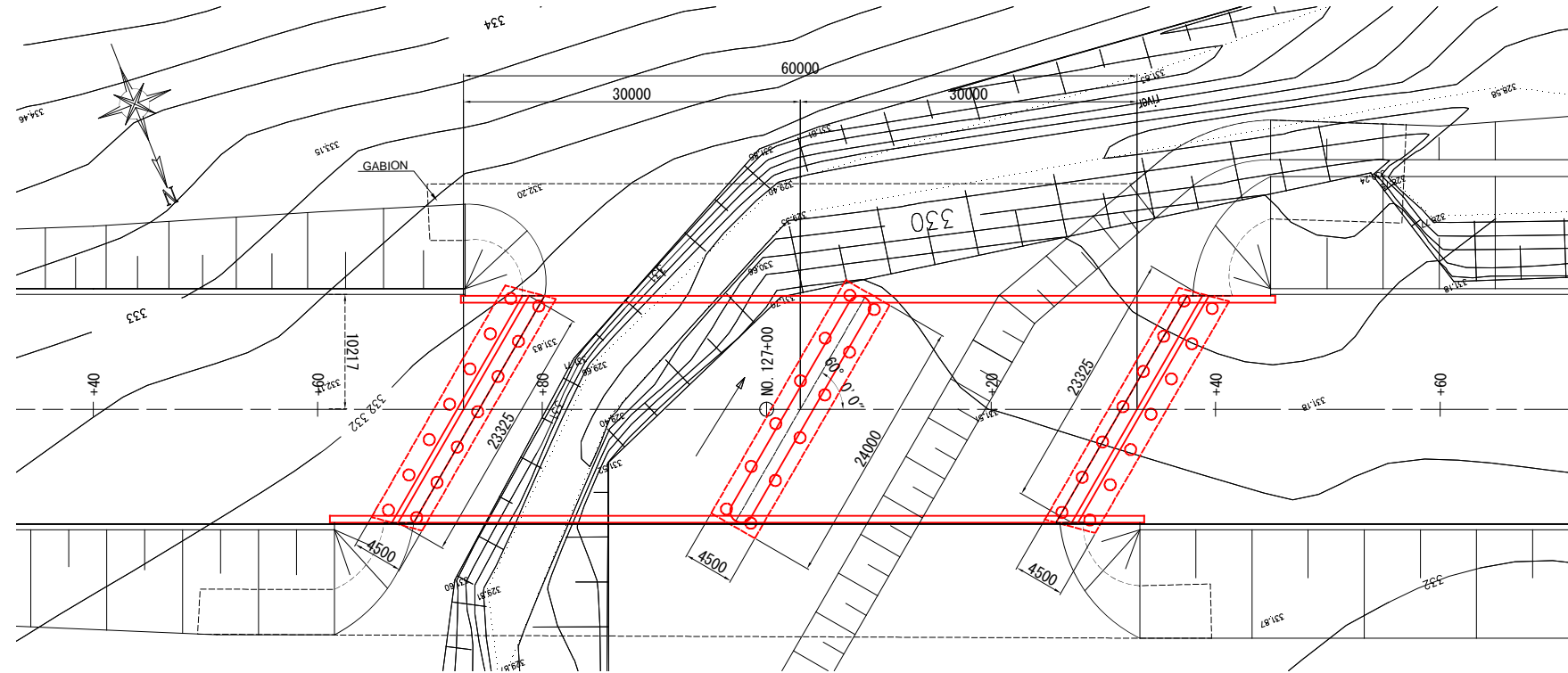
SUPERSTRUCTURE CROSS SECTION S=1/200



### DESIGN CONDITION

TOTAL BRIDGE LENGTH	60,000m
GIRDER LENGTH	2@29,850m
SPAN	2@29,050m
WIDTH	20,200m
ANGLE OF SKEW	60°00'00"
RADIUS OF CURVATURE	R=∞
LONGITUDINAL SLOPE	-0.500%
COMPRESSIVE STRENGTH	Main Girder: σ <sub>ck</sub> =40N/mm <sup>2</sup> Floor Slab: σ <sub>ck</sub> =30N/mm <sup>2</sup>

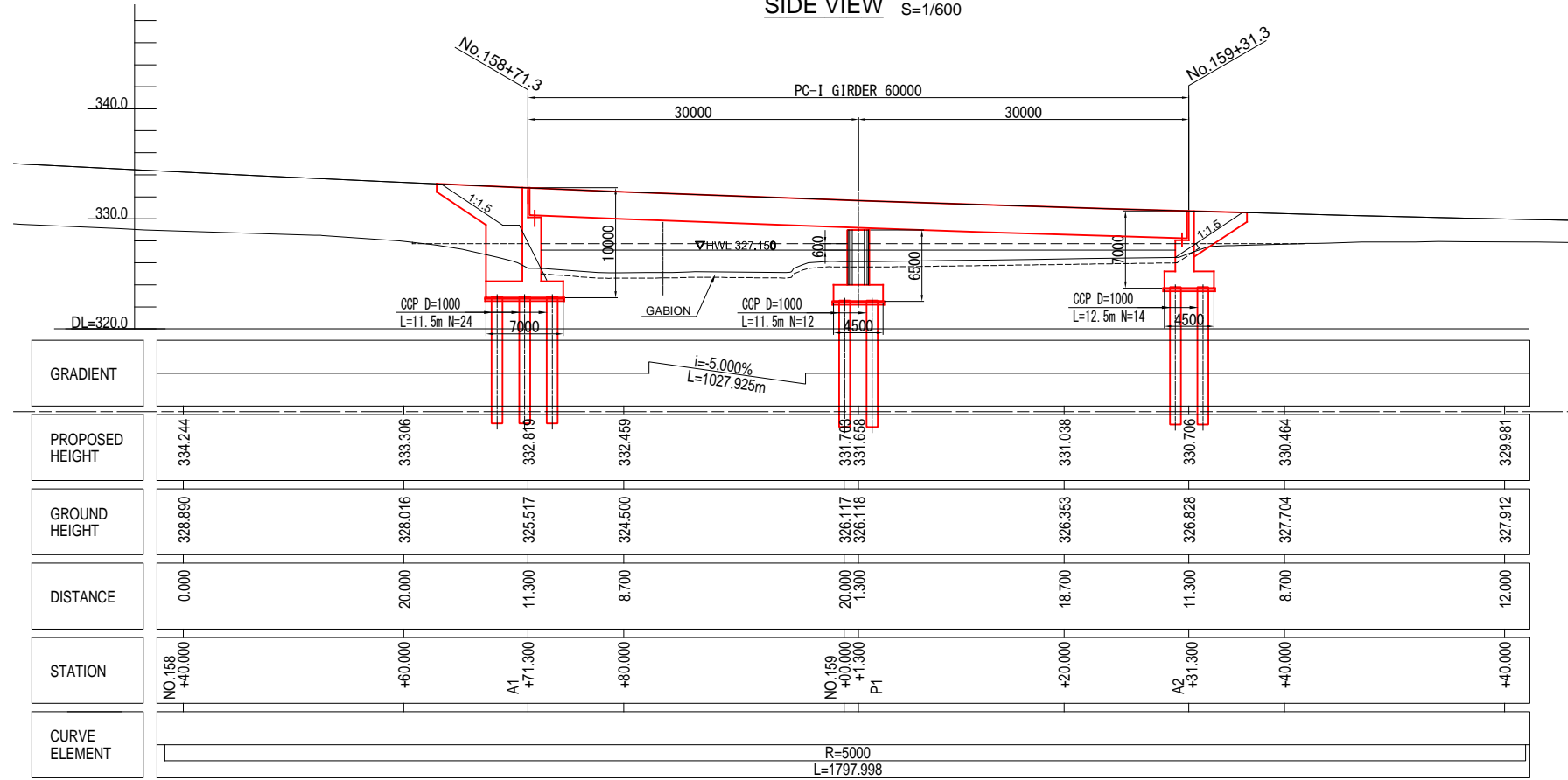
PLAN VIEW S=1/600



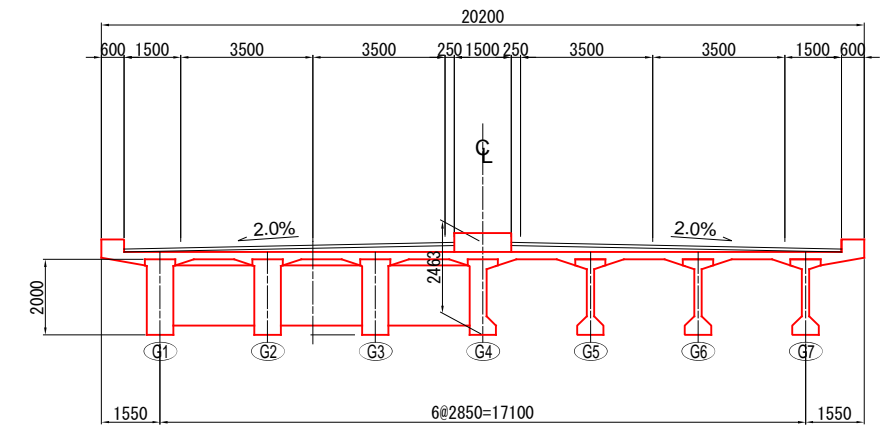


# GENERAL VIEW (NAMPULA No.158+70 BRIDGE)

SIDE VIEW S=1/600



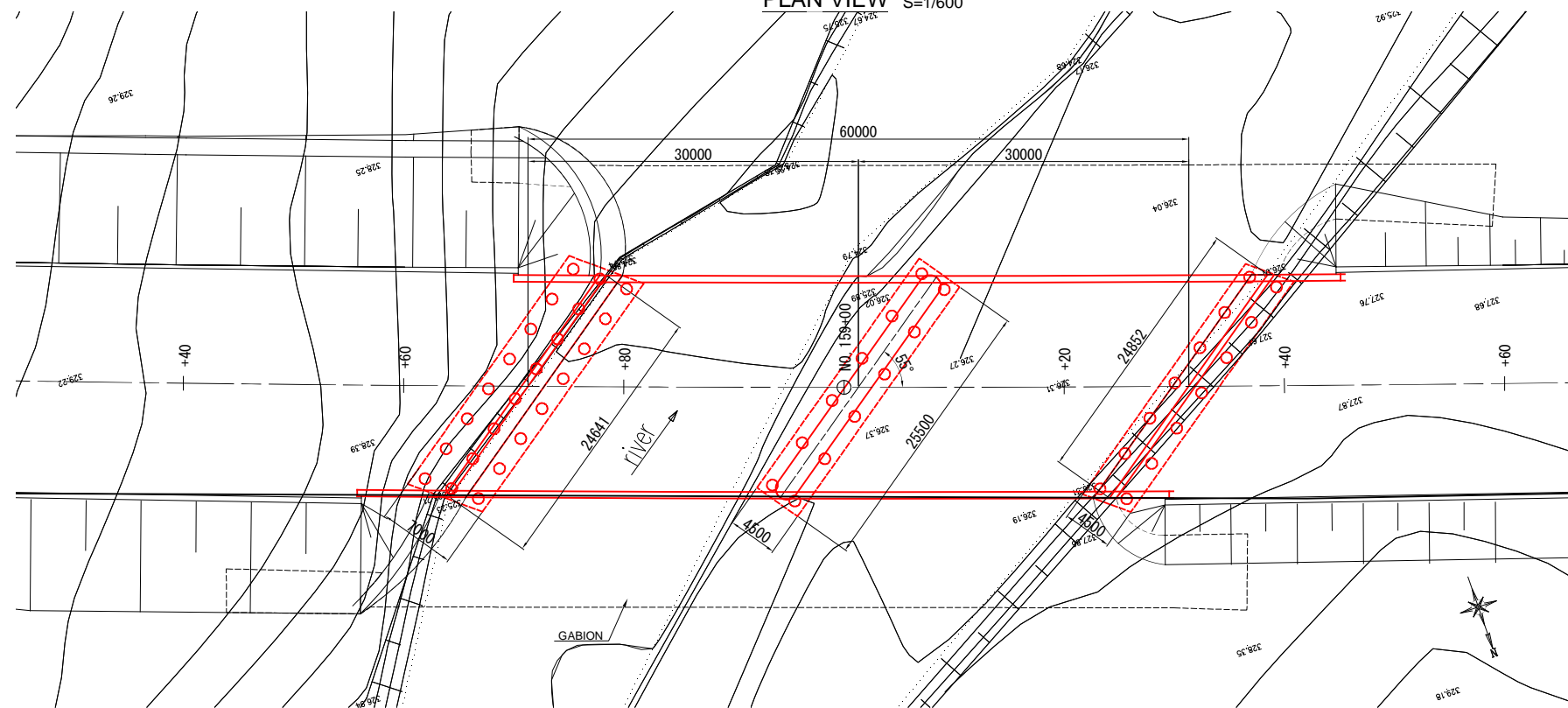
SUPERSTRUCTURE CROSS SECTION S=1/200



### DESIGN CONDITION

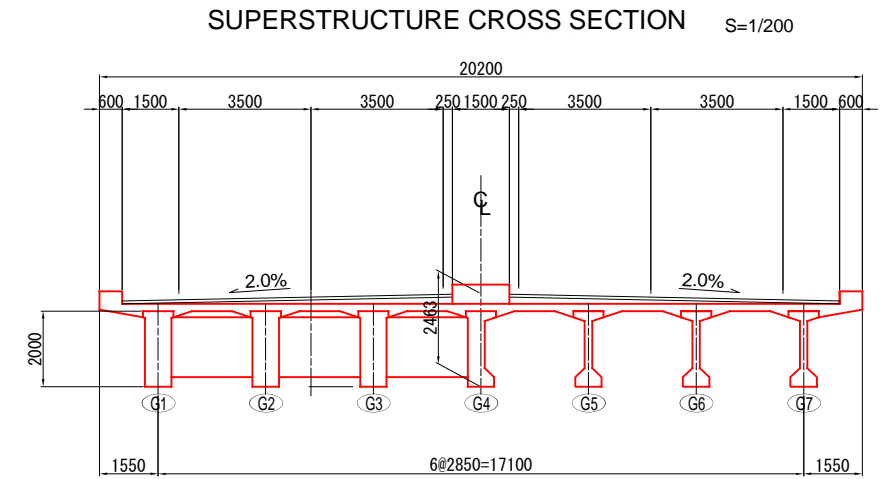
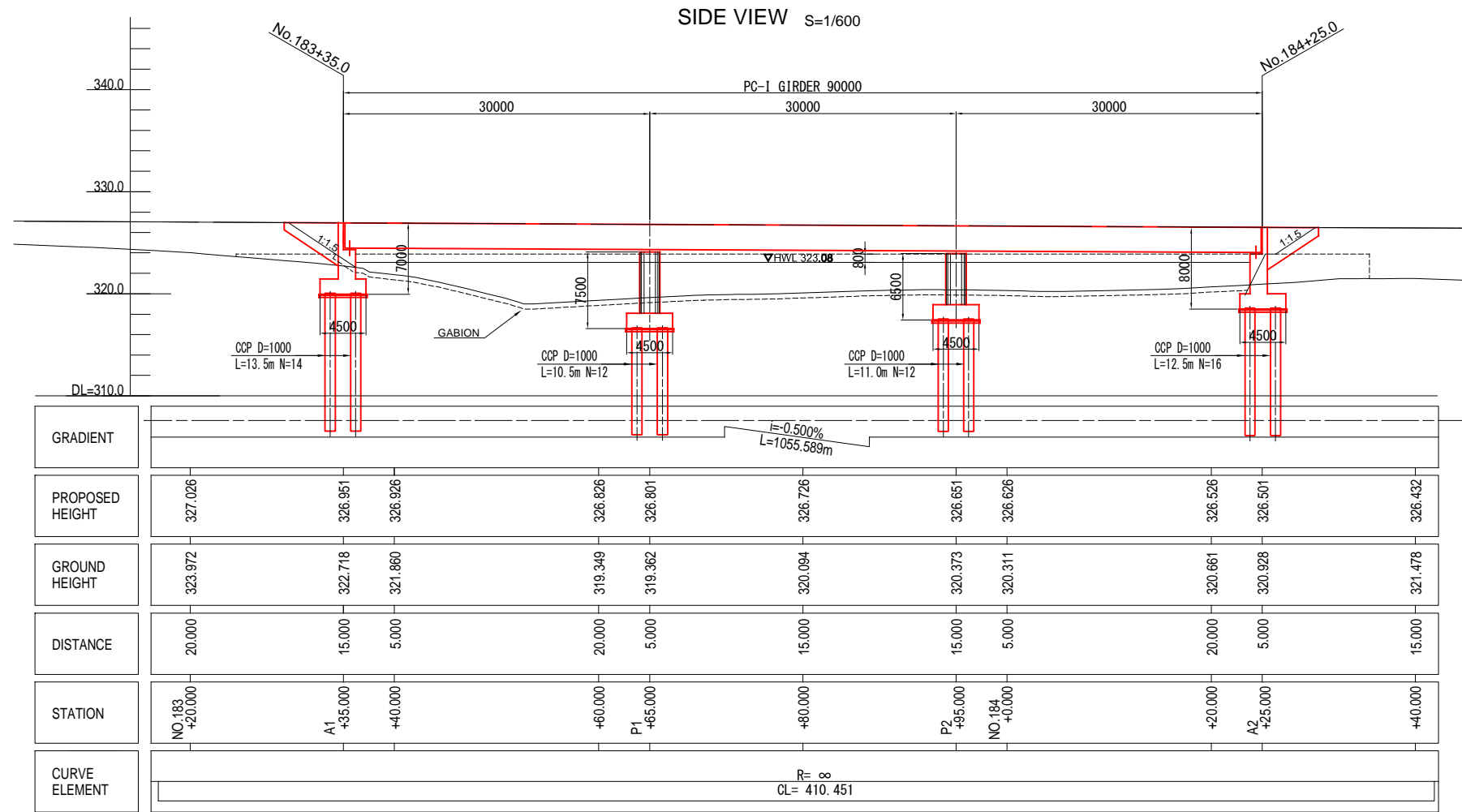
TOTAL BRIDGE LENGTH	90.000m
GIRDER LENGTH	2@29.850m
SPAN	2@29.050m
WIDTH	20.200m
ANGLE OF SKEW	60°00'00"
RADIUS OF CURVATURE	R= 800
LONGITUDINAL SLOPE	-2.700%
COMPRESSIVE STRENGTH	Main Girder:σck=40N/mm <sup>2</sup>
	Floor Slab :σck=30N/mm <sup>2</sup>

PLAN VIEW S=1/600



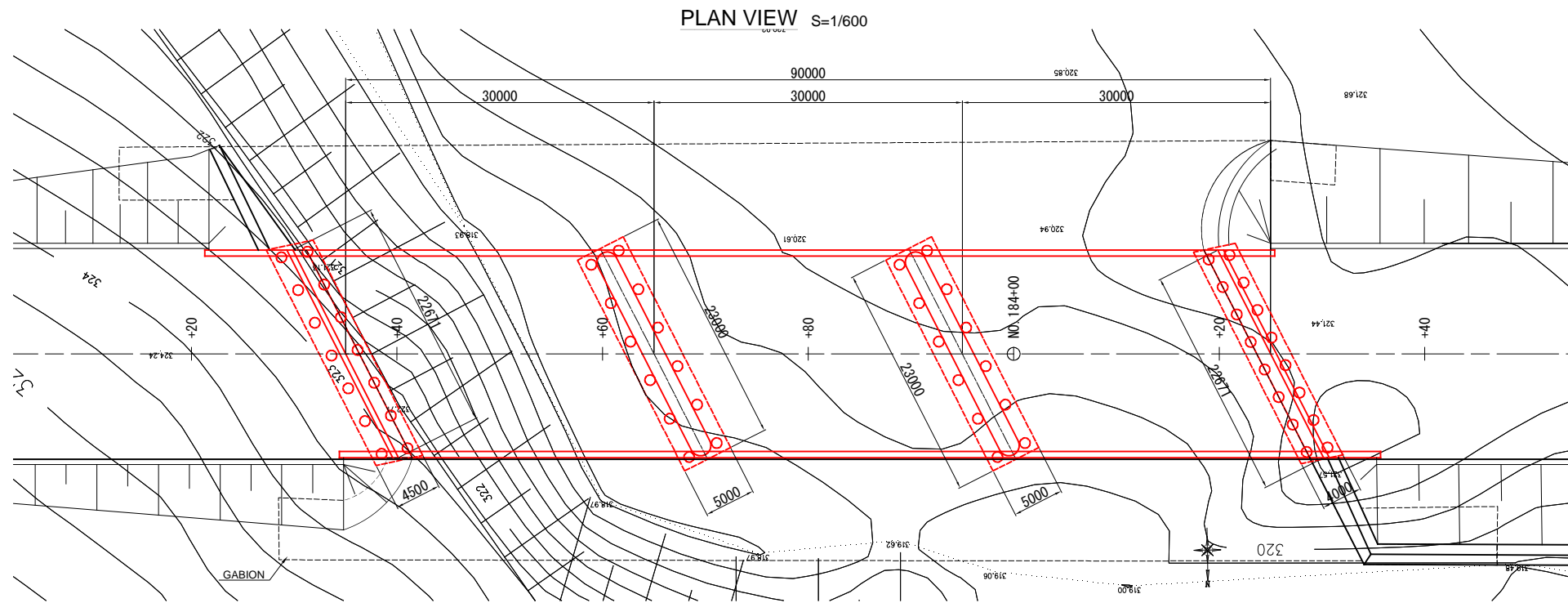


# GENERAL VIEW (NAMPULA No.183+30 BRIDGE)



### DESIGN CONDITION

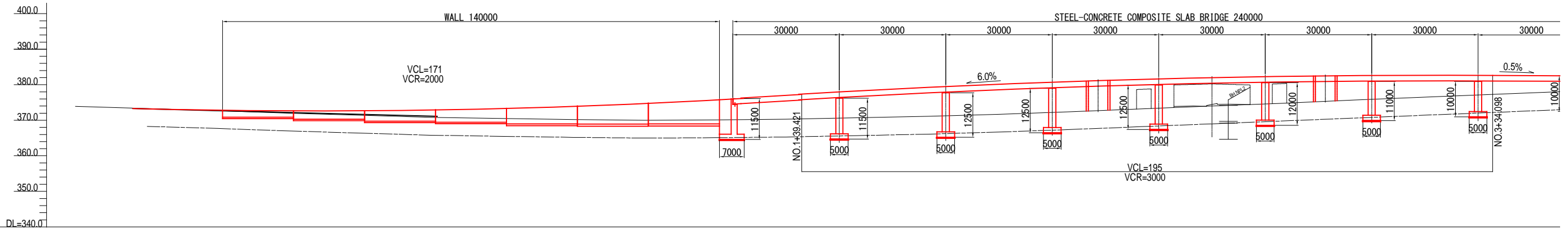
TOTAL BRIDGE LENGTH	90.000m
GIRDER LENGTH	29.850m+29.800m+29.850m
SPAN	29.050m+29.000m+29.050m
WIDTH	20.200m
ANGLE OF SKEW	90°00'00"
RADIUS OF CURVATURE	R=∞
LONGITUDINAL SLOPE	-0.500%
COMPRESSIVE STRENGTH	Main Girder:σ <sub>ck</sub> =40N/mm <sup>2</sup>
	Floor Slab :σ <sub>ck</sub> =30N/mm <sup>2</sup>





# GENERAL VIEW 1-2 (NAMPULA N1 OVER BRIDGE)

SIDE VIEW S=1/1200



GRADIENT	$i = -2.578\%$ $L = 85.722m$																				$i = 6.000\%$ $L = 200.000m$																				$i = -0.500\%$ $L = 105.821m$																			
PROPOSED HEIGHT	371.525	371.525	371.525	372.642	371.525	371.095	373.468	374.144	375.020	376.098	377.295	377.876	378.424	379.419	380.281	380.661	381.009	381.603	382.064	382.244	382.391	382.585	382.646	382.626	382.579																																			
GROUND HEIGHT	371.250	371.250	371.250	371.850	371.250	370.775	370.425	370.150	370.025	370.150	370.400	370.600	370.800	371.250	371.875	372.225	372.600	373.400	374.200	374.600	375.025	375.900	376.700	377.100	377.500																																			
DISTANCE	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	10,000	10,000	20,000	20,000	10,000	10,000	20,000	20,000	10,000	10,000	20,000	20,000	10,000	10,000																																			
STATION	+20,000	+20,000	+20,000	NO.0 +00,000	+20,000	+40,000	+60,000	+80,000	NO.1 +00,000	A1 +20,000	+40,000	P1 +50,000	+60,000	P2 +60,000	NO.2 +00,000	P3 -10,000	+20,000	P4 +40,000	+60,000	P5 -70,000	+80,000	P6 NO.3 +00,000	+20,000	P7 +30,000	+40,000																																			
CURVE ELEMENT	$R = 1978$ $CL = 400.000$																																																											

PLAN VIEW S=1/1200

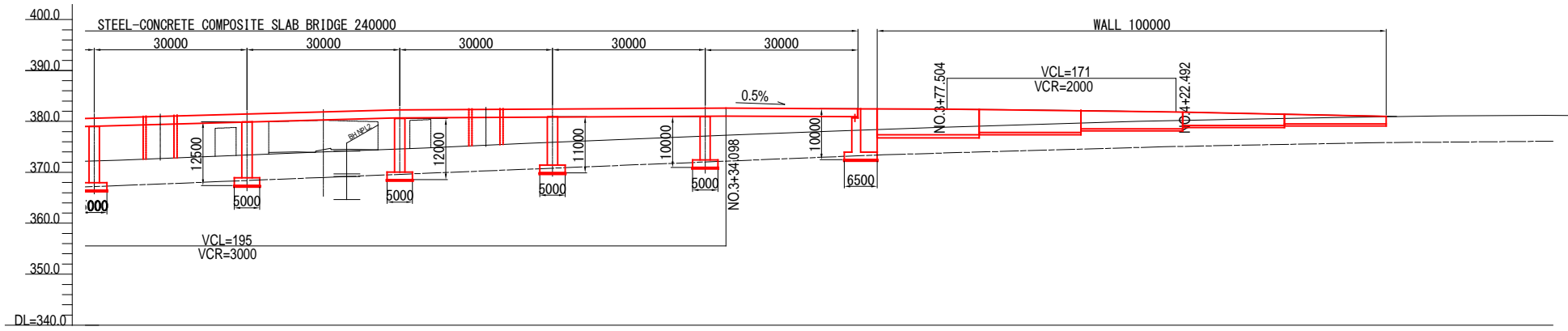


	Oriental Consultants Global Co., Ltd. Eight-Japan Engineering Consultants Inc. Kokusai Kogyo Co., Ltd.	PREPARED BY CHECKED BY APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor Road Network Upgrading Project (Nampula Southern Bypass Road)</b>	DRAWING TITLE: High-Spec. Option (Initial Stage) <b>GENERAL VIEW-1/2 (NAMPULA N1 OVER BRIDGE)</b>
	NAME SIGNATURE DATE	SCALE SHEET NO. DRAWING NO. REV. NO.	C-47	

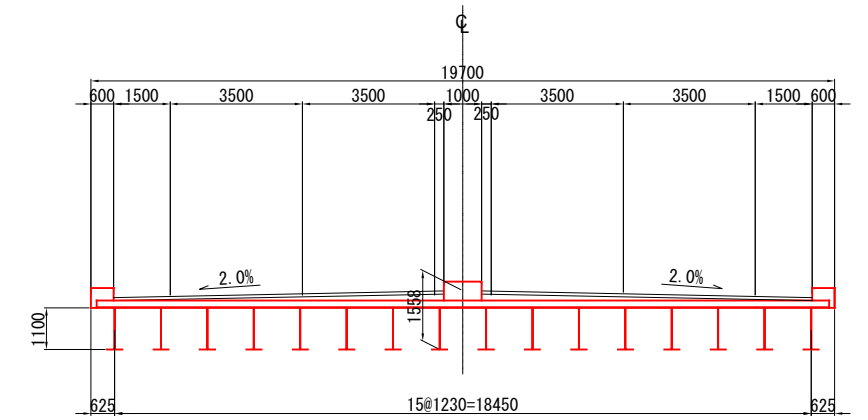


# GENERAL VIEW 2-2 (NAMPULA N1 OVER BRIDGE)

SIDE VIEW S=1/1200



N1 CROSS SECTION S=1/200

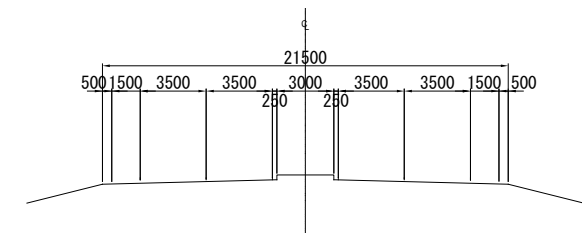


GRADIENT																	
PROPOSED HEIGHT	380.661	381.009	381.603	382.064	382.244	382.391	382.585	382.646	382.626	382.579	382.479	382.378	382.194	381.878	381.479	381.079	381.079
GROUND HEIGHT	372.225	372.600	373.400	374.200	374.600	375.025	375.900	376.700	377.100	377.500	378.275	378.950	379.550	380.100	380.500	380.875	380.875
DISTANCE	10.000	10.000	20.000	20.000	10.000	10.000	20.000	20.000	10.000	10.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000
STATION	-10.000	+20.000	P4 +40.000	+60.000	P5 +70.000	+80.000	P6 NO.3 +90.000	+20.000	P7 +30.000	+40.000	A2 +60.000	+80.000	NO.4 +90.000	+20.000	+40.000	+60.000	+80.000
CURVE ELEMENT	R= 1978 CL= 400.000																

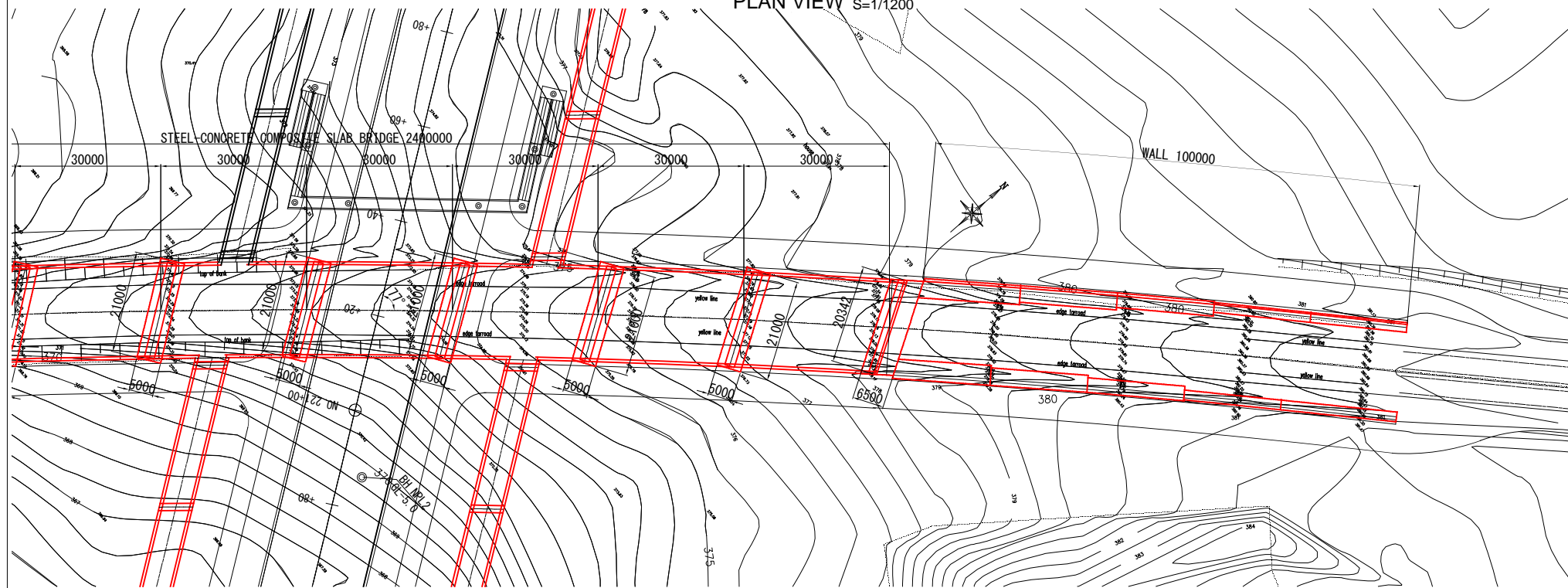
## DESIGN CONDITION

TOTAL BRIDGE LENGTH	240.000m
GIRDER LENGTH	239.600m
SPAN	30.000m
WIDTH	19.700m
SPECIAL LOAD SNOW	---
ANGEL OF SKEW	90°00'00"
RADIUS OF CURVATURE	R=∞
LONGITUDINAL SLOPE	6.000% / -0.500%
COMPRESSIVE STRENGTH	Main Girder: σ <sub>ck</sub> =30N/mm <sup>2</sup>
	Floor Slab: σ <sub>ck</sub> =24N/mm <sup>2</sup>

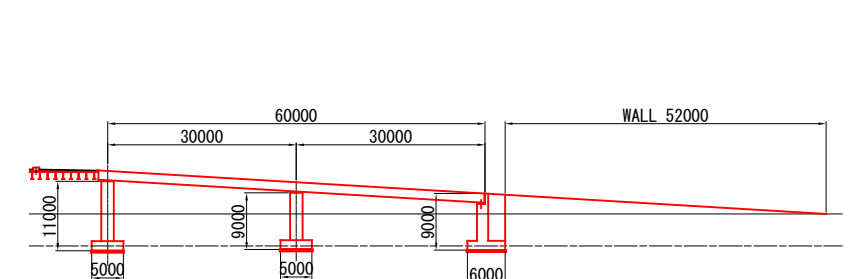
NAMUPLA BYPASS CROSS SECTION S=1/400



PLAN VIEW S=1/1200



RAMP SIDE VIEW S=1/1200

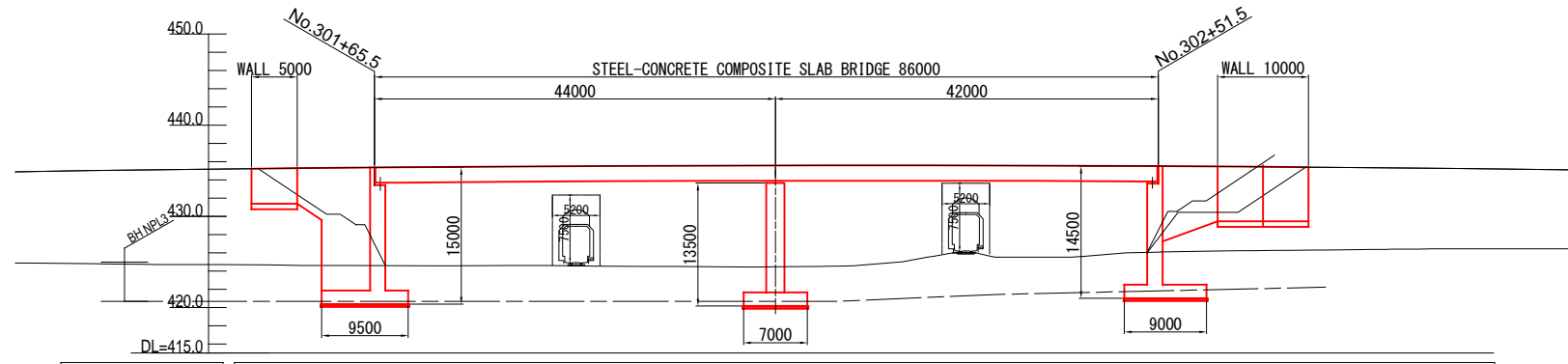


		PREPARED BY	CHECKED BY	APPROVED BY	PROJECT TITLE: <b>Preparatory Survey for Nacala Corridor Road Network Upgrading Project (Nampula Southern Bypass Road)</b>	DRAWING TITLE: High-Spec. Option (Initial Stage)			
		NAME				GENERAL VIEW-2/2 (NAMPULA N1 OVER BRIDGE)	SCALE	SHEET NO.	DRAWING NO.
		SIGNATURE						C-48	
		DATE							



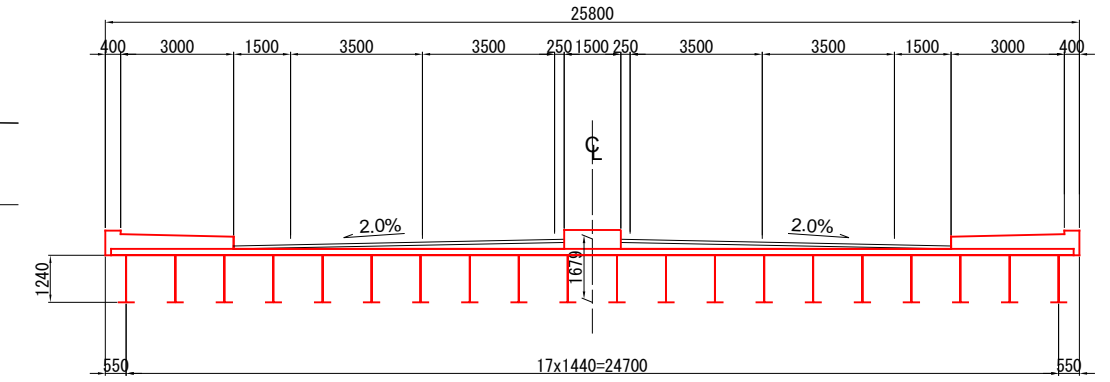
# GENERAL VIEW (NAMPULA No.301+60 BRIDGE)

SIDE VIEW S=1/800



GRADIENT	$i = -1.077\%$ $L = 497.932m$									
PROPOSED HEIGHT	435.308	435.357	435.468	435.562	435.581	435.590	435.552	435.489	435.449	435.277
GROUND HEIGHT	424.606	424.589	424.607	424.474	424.453	424.733	425.500	426.073	426.206	426.391
DISTANCE	20.000	5.500	14.500	20.000	9.500	10.500	20.000	11.500	8.500	20.000
STATION	NO.301 +60.000	A1 +65.500	+80.000	NO.302 +0.000	P1 +9.500	+20.000	+40.000	A2 +51.500	+60.000	+80.000
CURVE ELEMENT	$R = 1000$ $CL = 650.717$									

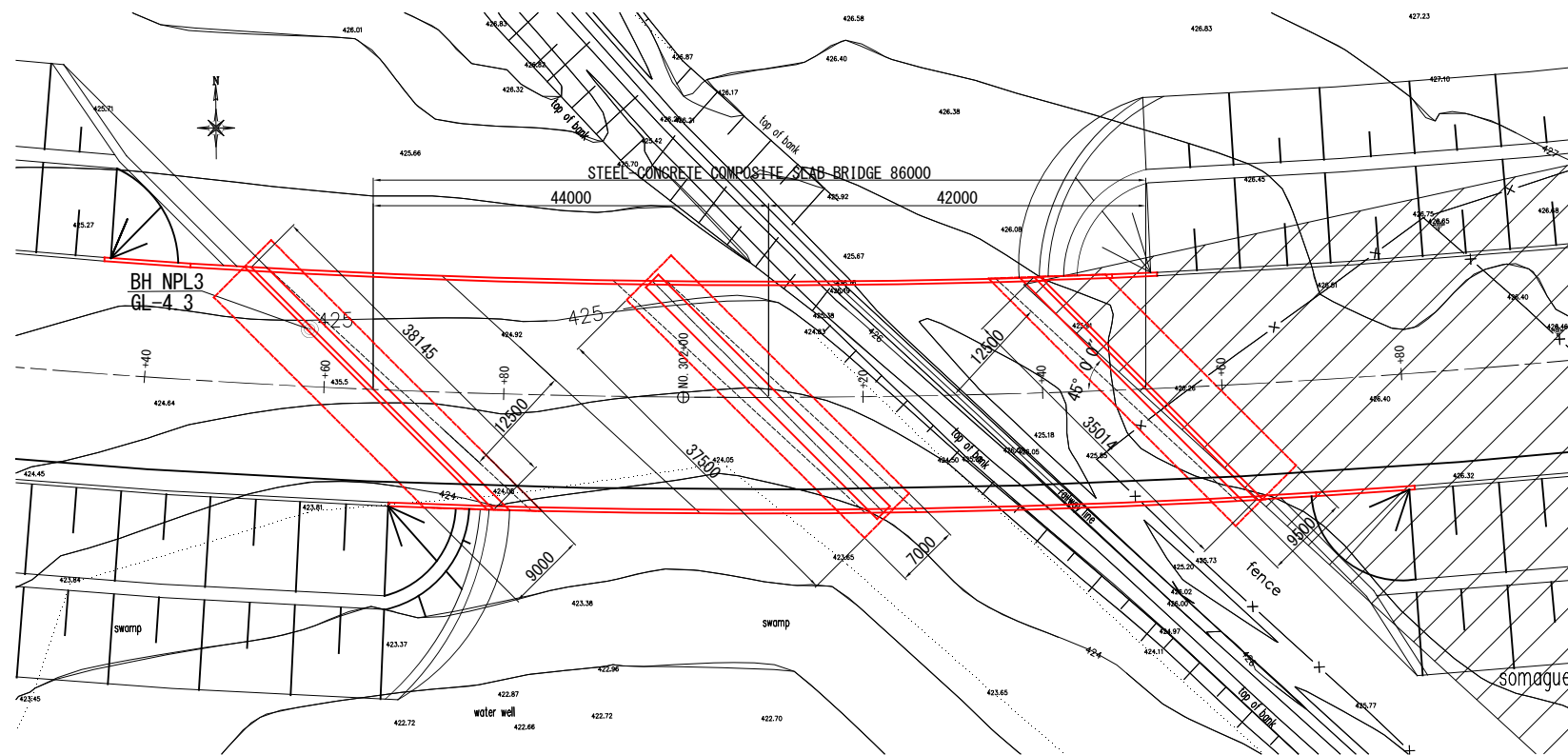
SUPERSTRUCTURE CROSS SECTION S=1/200



### DESIGN CONDITION

TOTAL BRIDGE LENGTH	86.000m
GIRDER LENGTH	43.900m+41.900m
SPAN	43.500m+41.500m
WIDTH	26.500m
ANGLE OF SKEW	45°00'00"
RADIUS OF CURVATURE	R=1000
LONGITUDINAL SLOPE	-1.077%
COMPRESSIVE STRENGTH	Floor Slab : $\sigma_{ck} = 36N/mm^2$

PLAN VIEW S=1/800



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SIGNATURE		
DATE		

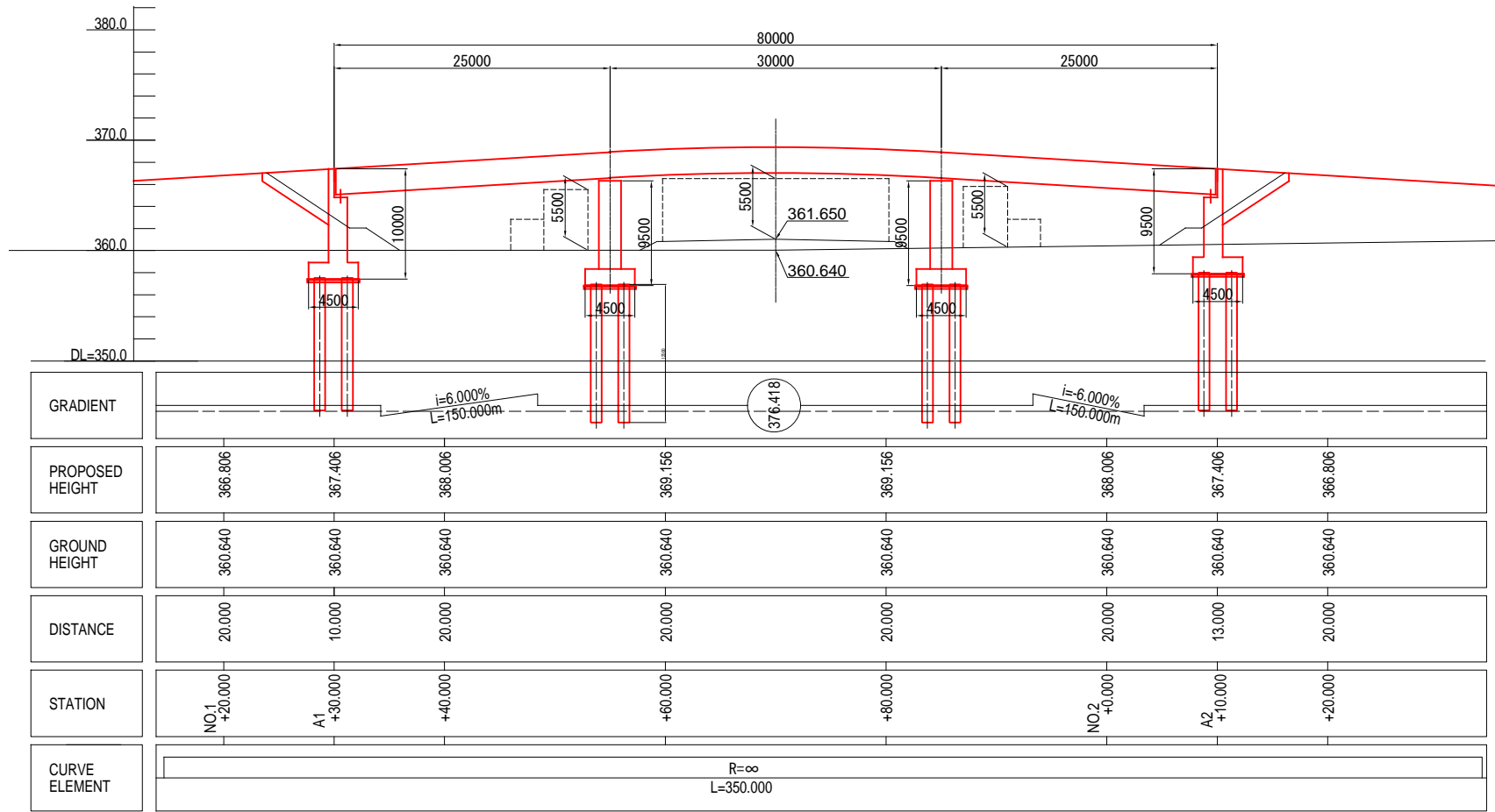
PROJECT TITLE:  
**Preparatory Survey for Nacala Corridor  
Road Network Upgrading Project  
(Nampula Southern Bypass Road)**

DRAWING TITLE: High-Spec. Option (Initial Stage)			
<b>GENERAL VIEW (NAMPULA No.301+60 BRIDGE)</b>			
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
		C-49	

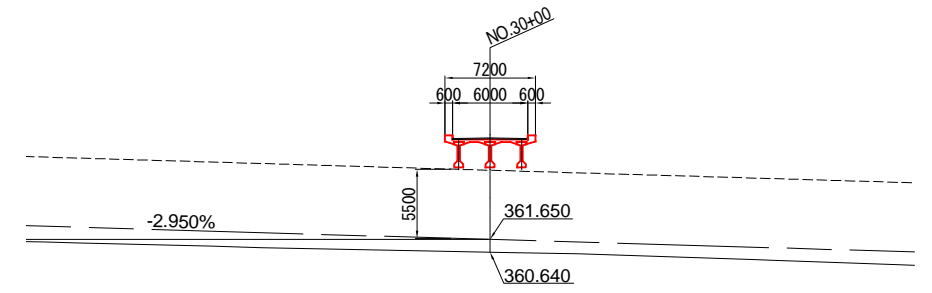


# GENERAL VIEW (COMPENSATION BRIDGE NAMPULA No.30+00)

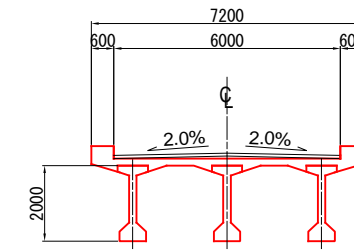
SIDE VIEW S=1/600



SUPERSTRUCTURE CROSS SECTION S=1/600



SUPERSTRUCTURE CROSS SECTION S=1/200



### DESIGN CONDITION

TOTAL BRIDGE LENGTH	80.000m
GIRDER LENGTH	24.850+29.800+24.850m
SPAN	24.050+29.500+24.050m
WIDTH	7.200m
ANGLE OF SKEW	90°00'00"
RADIUS OF CURVATURE	$R = \infty$
LONGITUDINAL SLOPE	$-6.000\%$ $-6.000\%$
COMPRESSIVE STRENGTH	Main Girder: $\sigma_{ck} = 40N/mm^2$ Floor Slab: $\sigma_{ck} = 30N/mm^2$

PLAN VIEW S=1/600

