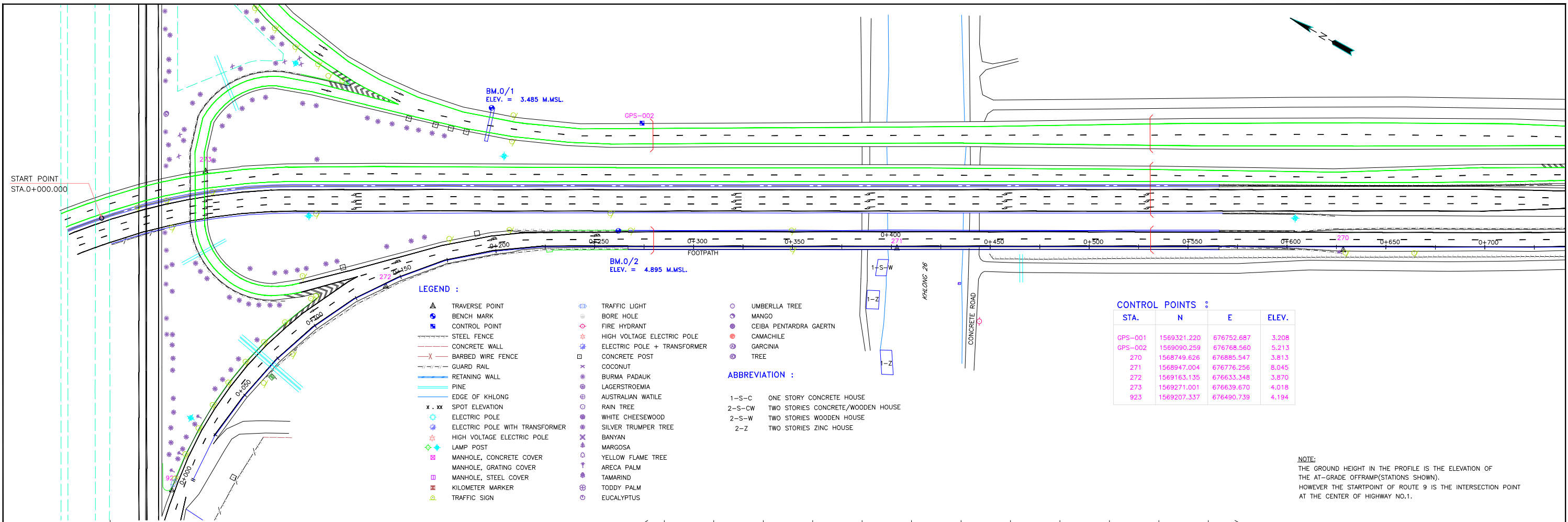


## **2-2 PLAN / PROFILE OF MOTORWAY**

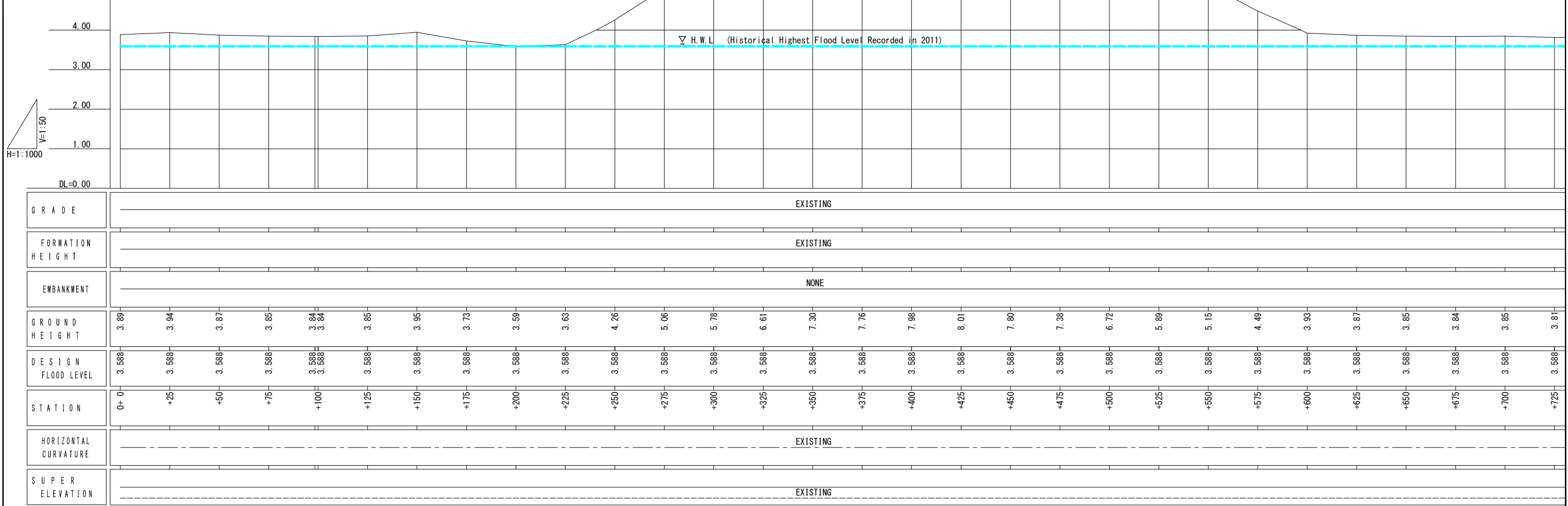


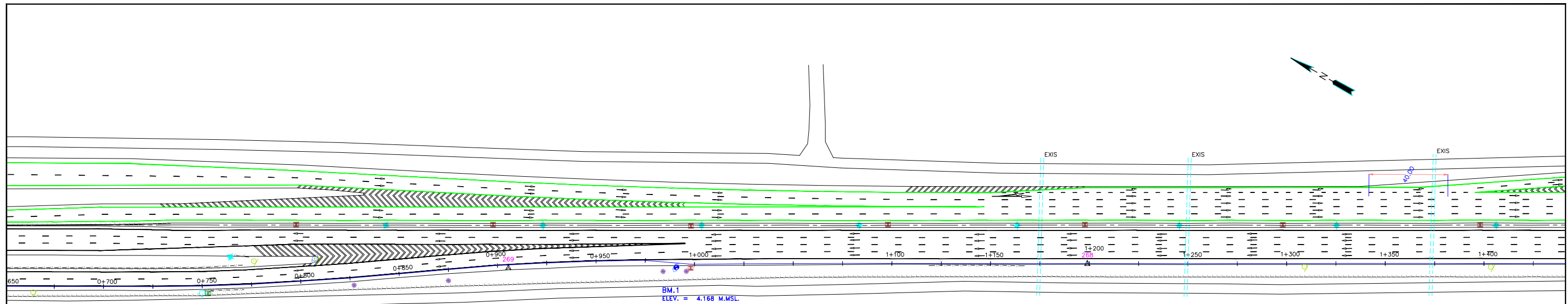


**CONTROL POINTS :**

STA.	N	E	ELEV.
GPS-001	1569321.220	676752.687	3.208
GPS-002	1569090.259	676768.560	5.213
270	1568749.626	676885.547	3.813
271	1568947.004	676776.256	8.045
272	1569163.135	676633.348	3.870
273	1569271.001	676639.670	4.018
923	1569207.337	676490.739	4.194

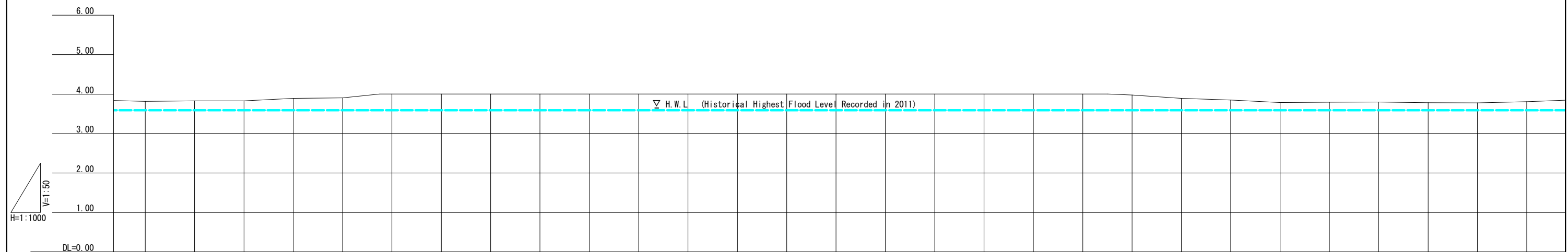
**NOTE:**  
 THE GROUND HEIGHT IN THE PROFILE IS THE ELEVATION OF THE AT-GRADE OFFRAMP(STATIONS SHOWN). HOWEVER THE STARTPOINT OF ROUTE 9 IS THE INTERSECTION POINT AT THE CENTER OF HIGHWAY NO.1.



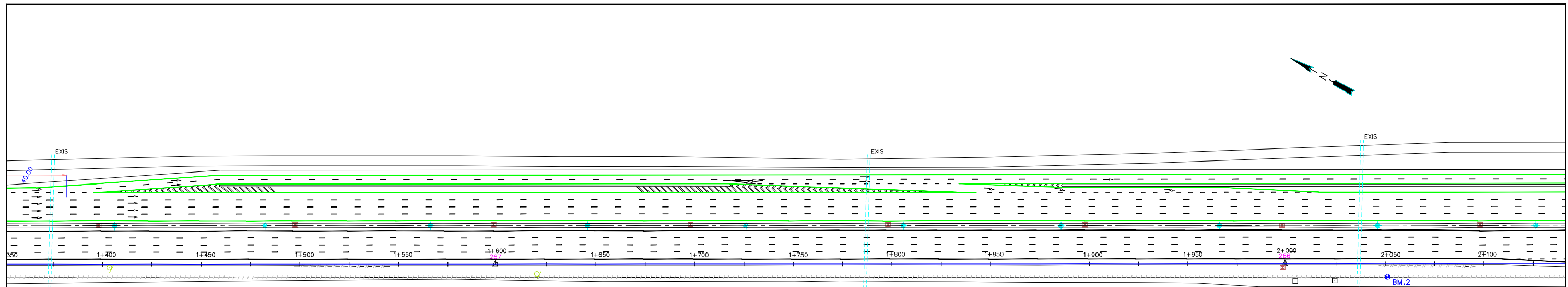


CONTROL POINTS :

STA.	N	E	ELEV.
268	1568258.220	677174.829	4.025
269	1568513.295	677029.875	4.079

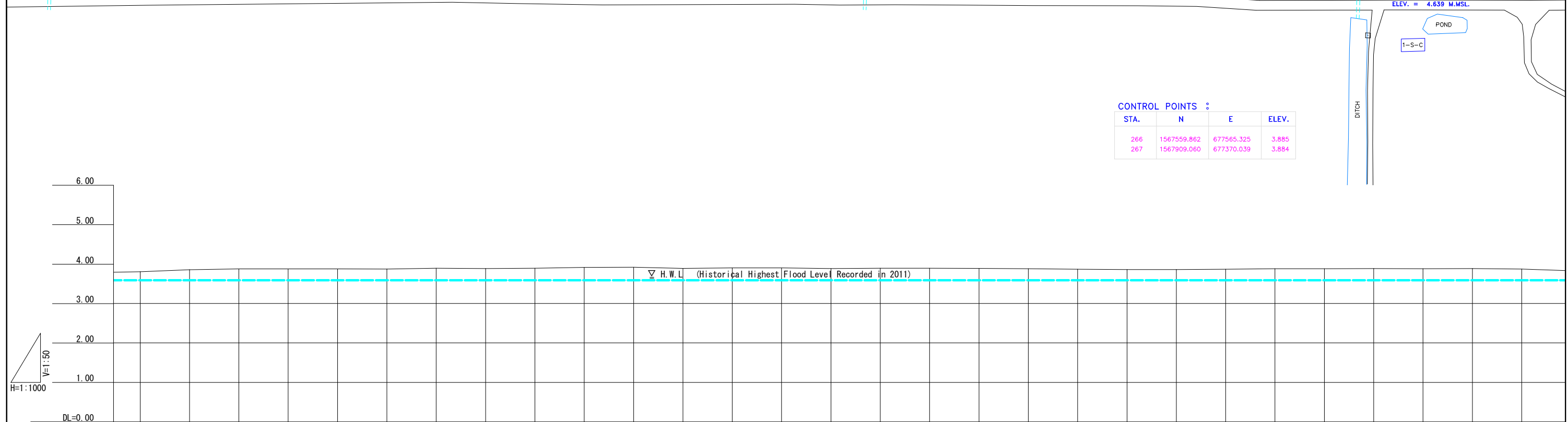


GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.81	3.83	3.83	3.89	3.90	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.98	3.89	3.85	3.78	3.79	3.80	3.78	3.78	3.80	
DESIGN FLOOD LEVEL	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	
STATION	0+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	1+0	+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												



**CONTROL POINTS :**

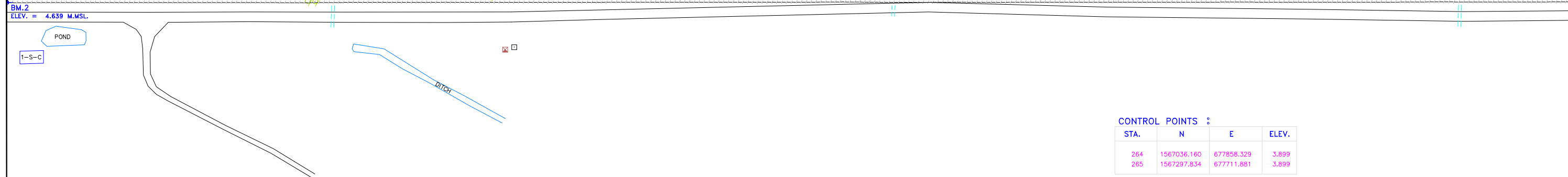
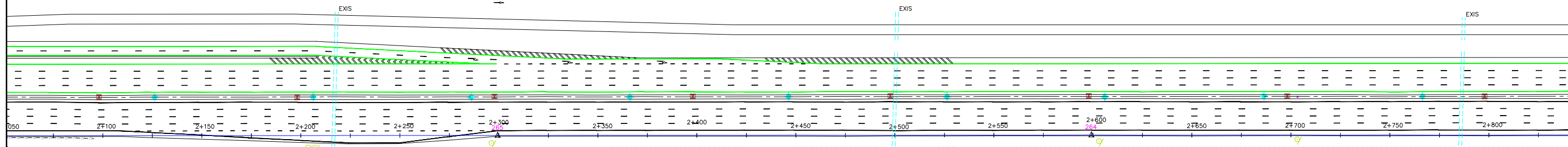
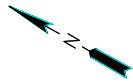
STA.	N	E	ELEV.
266	1567559.862	677565.325	3.885
267	1567909.060	677370.039	3.884



GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.80	3.85	3.88	3.88	3.88	3.87	3.89	3.88	3.89	3.92	3.92	3.89	3.90	3.90	3.89	3.89	3.89	3.88	3.87	3.86	3.86	3.87	3.88	3.88	3.89	3.88	3.87		
DESIGN FLOOD LEVEL	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588		
STATION	1+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	2+0	+25	+50	+75	+100	+125
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												

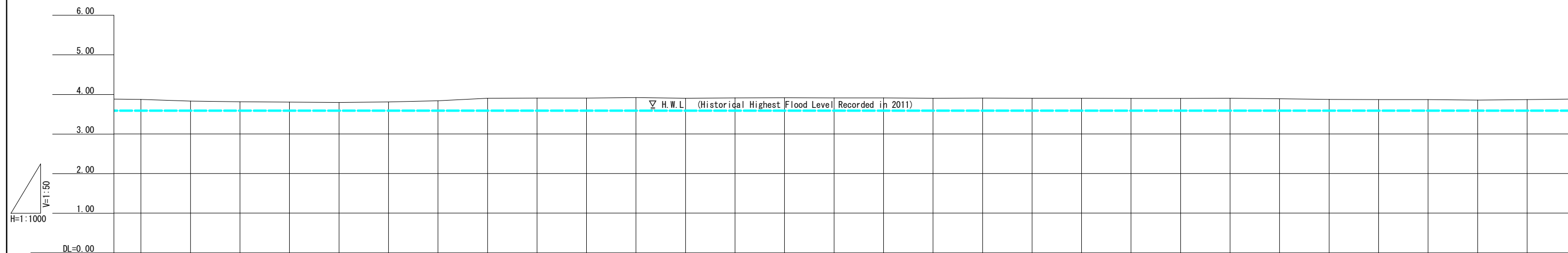
REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p><b>KINGDOM OF THAILAND</b> MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 3 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 1+400 TO KM. 2+100						DWG. NO.	SHEET NO.

MW-9 14



CONTROL POINTS :

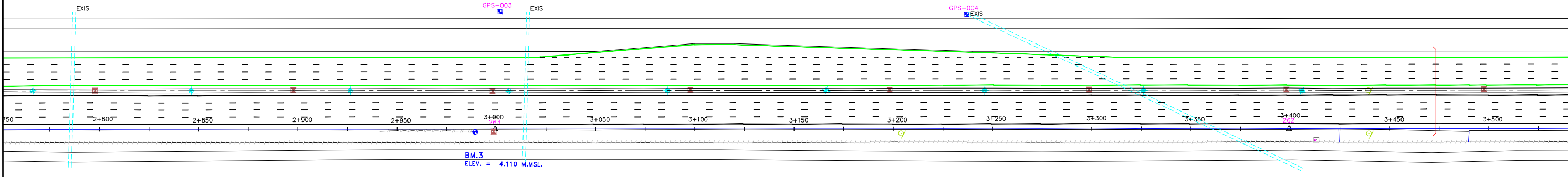
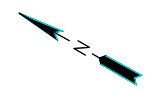
STA.	N	E	ELEV.
264	1567036.160	677858.329	3.899
265	1567297.834	677711.881	3.899



GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.87	3.83	3.81	3.80	3.80	3.81	3.84	3.90	3.91	3.91	3.92	3.90	3.91	3.92	3.91	3.91	3.90	3.91	3.90	3.90	3.90	3.89	3.87	3.87	3.87	3.85	3.87		
DESIGN FLOOD LEVEL	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	
STATION	2+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												

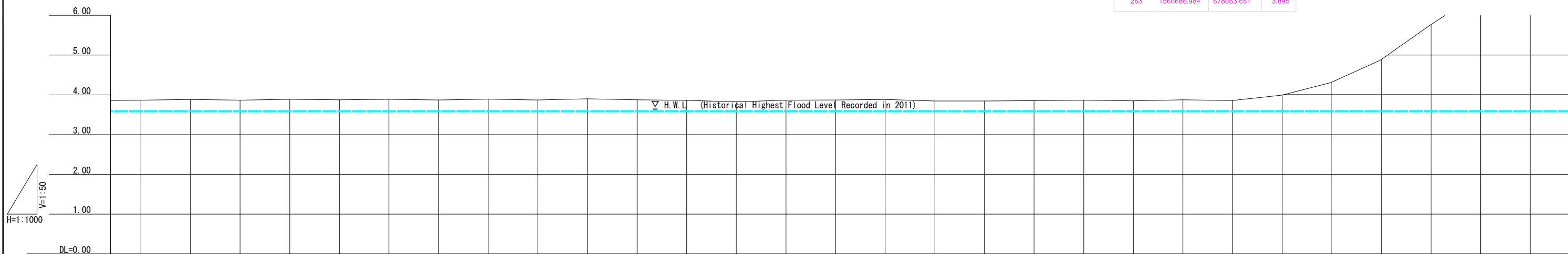
REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 4 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 2+100 TO KM. 2+800						DWG. NO.	SHEET NO.

DWG. NO. MW-10 SHEET NO. 15

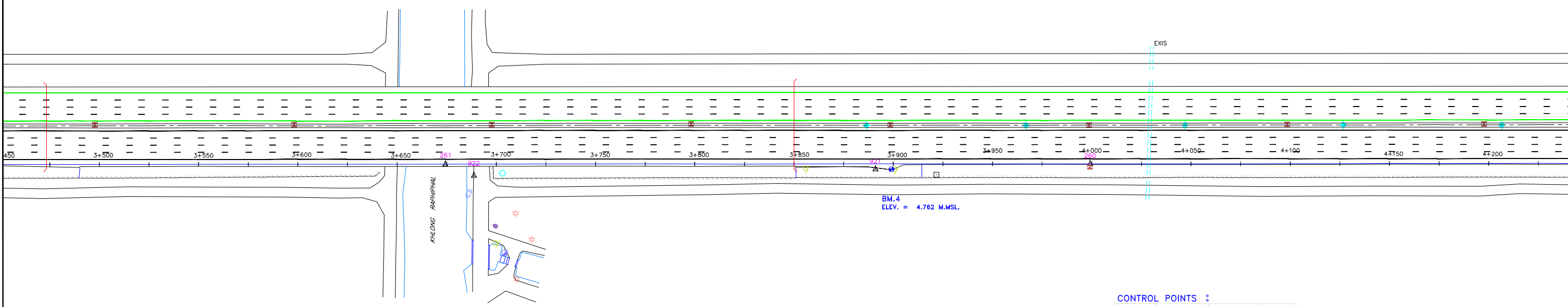
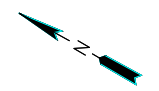


**CONTROL POINTS :**

STA.	N	E	ELEV.
GPS-003	1566713.681	678106.537	4.068
GPS-004	1566507.749	678219.993	3.855
262	1566337.870	678248.954	3.992
263	1566686.984	678053.651	3.895

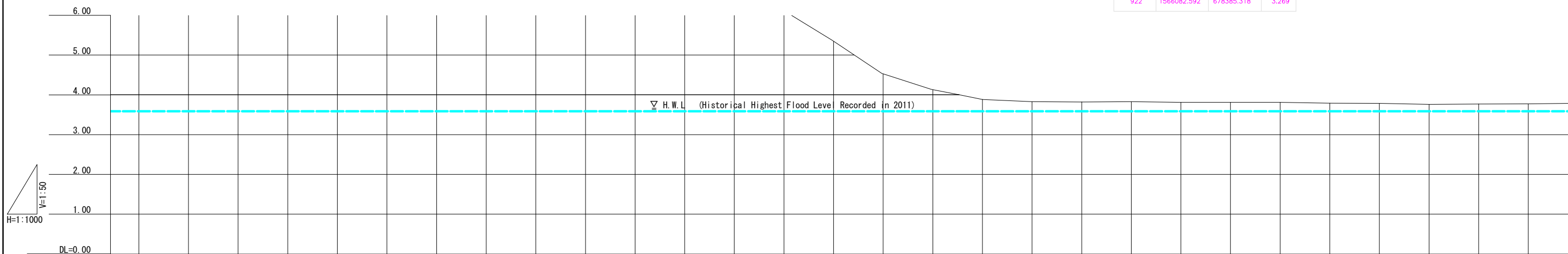


GRADE	EXISTING																														
FORMATION HEIGHT	EXISTING																														
EMBANKMENT	NONE																														
GROUND HEIGHT	3.87	3.88	3.87	3.89	3.87	3.89	3.87	3.89	3.87	3.89	3.87	3.90	3.88	3.86	3.82	3.87	3.87	3.88	3.84	3.85	3.85	3.87	3.85	3.87	3.86	3.99	4.32	4.89	5.77	6.58	7.39
DESIGN FLOOD LEVEL	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	
STATION	2+825	+850	+875	+900	+925	+950	+975	3+0	+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425	+450	+475	+500	+525		
HORIZONTAL CURVATURE	EXISTING																														
SUPER ELEVATION	EXISTING																														



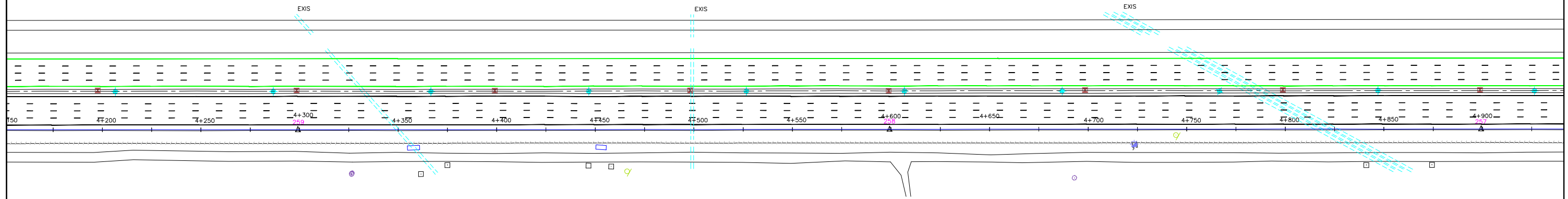
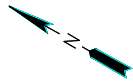
CONTROL POINTS :

STA.	N	E	ELEV.
260	1565814.404	678541.871	3.827
261	1566097.958	678383.235	9.554
921	1565907.568	678486.779	4.673
922	1566082.592	678385.318	3.269



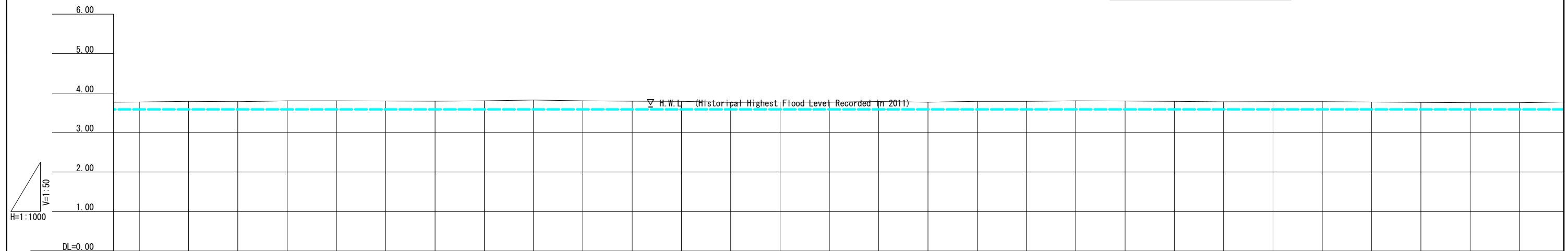
GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	7.39	8.10	8.66	9.08	9.37	9.52	9.55	9.45	9.23	8.87	8.37	7.74	6.98	6.12	5.35	4.53	4.13	3.88	3.83	3.82	3.83	3.81	3.81	3.81	3.79	3.78	3.76	3.77	3.77
DESIGN FLOOD LEVEL	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	
STATION	3+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	4+0	+25	+50	+75	+100	+125	+150	+175	+200	+225
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												





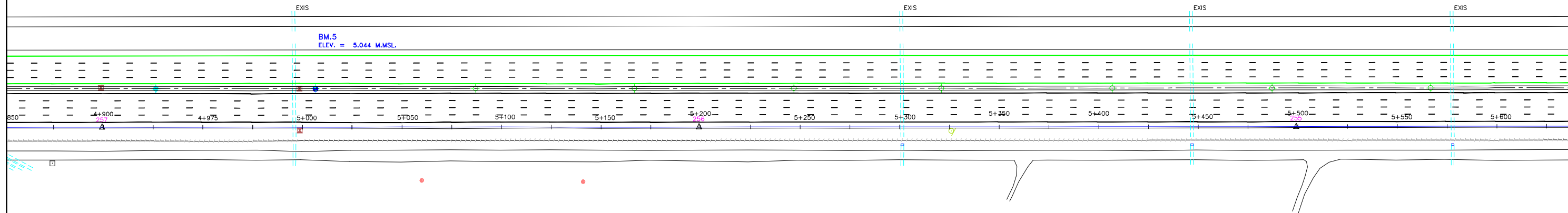
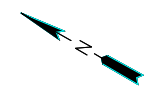
CONTROL POINTS :

STA.	N	E	ELEV.
257	1565028.862	678981.388	3.756
258	1565290.769	678834.860	3.787
259	1565552.616	678688.318	3.805



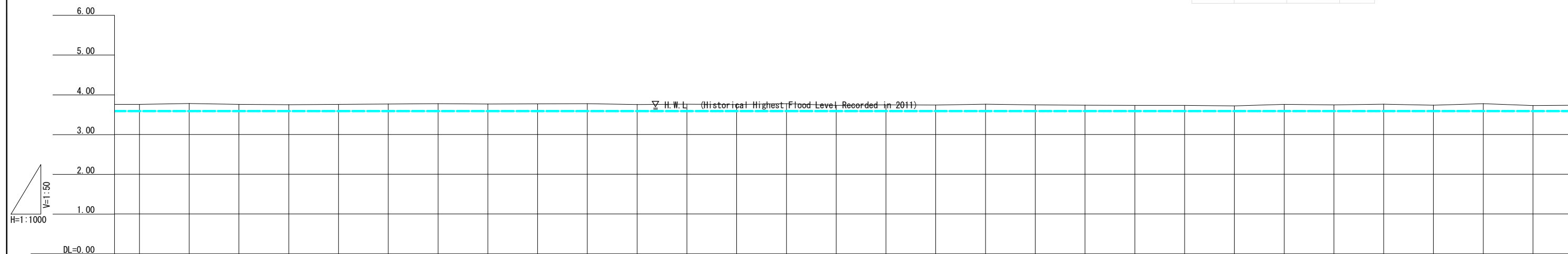
GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.77	3.79	3.78	3.81	3.81	3.80	3.80	3.80	3.80	3.83	3.80	3.80	3.79	3.76	3.77	3.77	3.79	3.77	3.79	3.79	3.80	3.80	3.79	3.78	3.78	3.77	3.77	3.76	3.76
DESIGN FLOOD LEVEL	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588
STATION	4+225	+250	+275	+300	+325	+350	+375	+400	+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	 <b>KINGDOM OF THAILAND</b> MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	 CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 7 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 4+200 TO KM. 4+900						DWG. NO.	SHEET NO.
												MW-13	18			



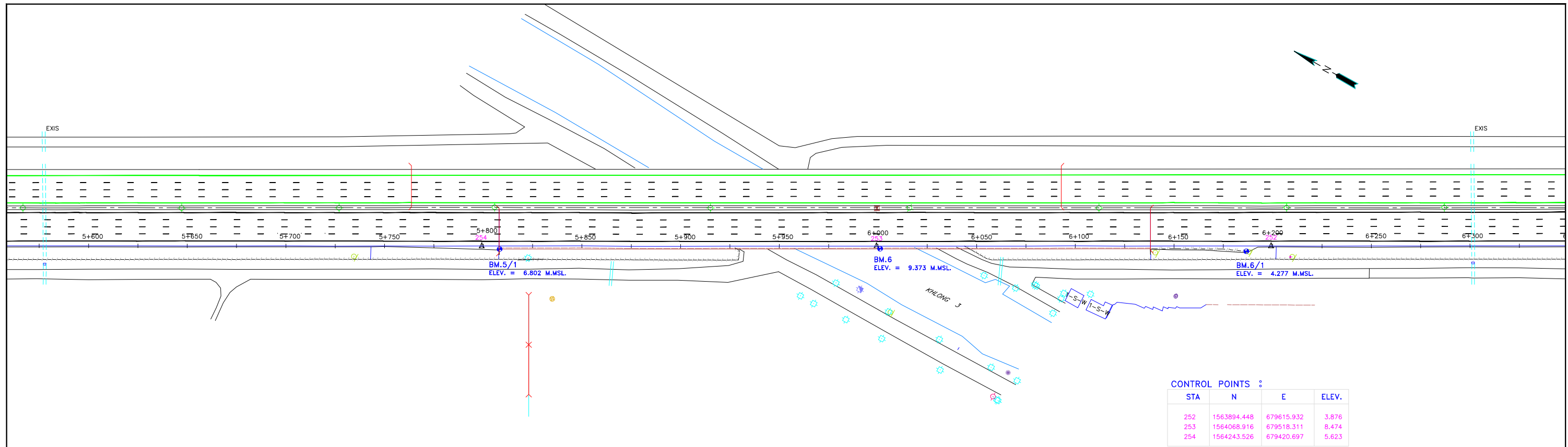
**CONTROL POINTS :**

STA	N	E	ELEV.
255	1564505.406	679274.236	3.756
256	1564767.188	679127.795	3.762
257	1565028.862	678981.388	3.756



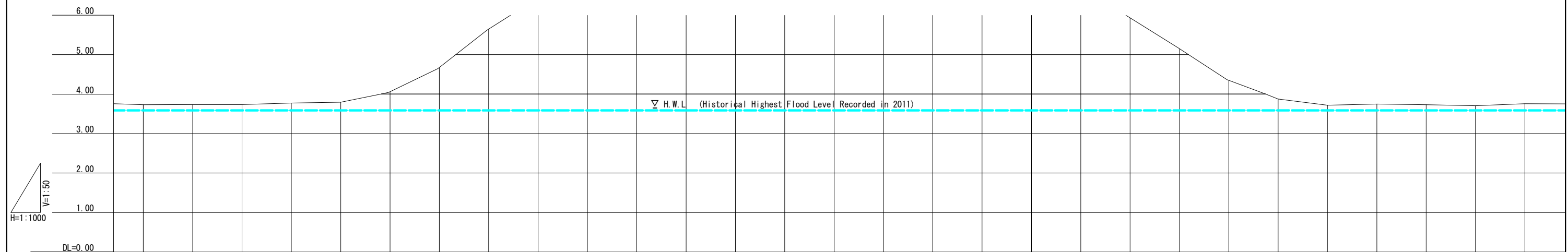
GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.76	3.78	3.76	3.75	3.76	3.76	3.78	3.77	3.77	3.77	3.75	3.76	3.75	3.77	3.73	3.74	3.74	3.76	3.74	3.73	3.73	3.72	3.76	3.74	3.76	3.74	3.77	3.73	
DESIGN FLOOD LEVEL	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	
STATION	4+925	+950	+975	5+0	+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425	+450	+475	+500	+525	+550	+575	+600	+625
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p><b>KINGDOM OF THAILAND</b> MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 8 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 4+900 TO KM. 5+600						DWG. NO.	SHEET NO.

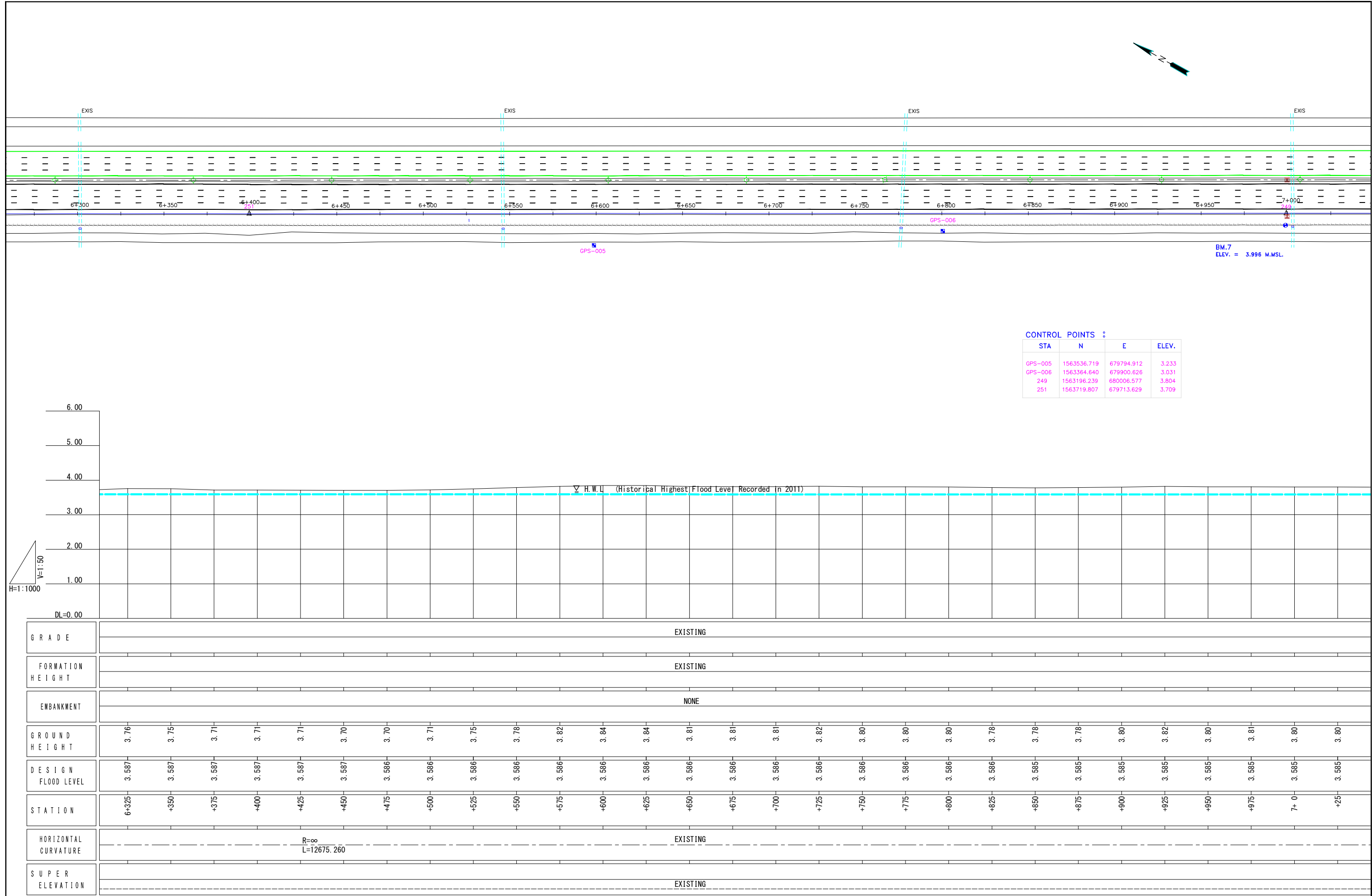
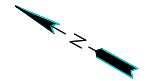


CONTROL POINTS :

STA	N	E	ELEV.
252	1563894.448	679615.932	3.876
253	1564068.916	679518.311	8.474
254	1564243.526	679420.697	5.623



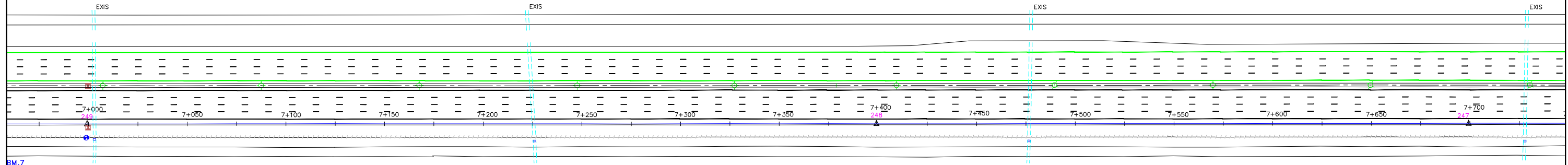
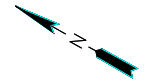
GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.73	3.74	3.74	3.77	3.80	4.06	4.67	5.66	6.44	7.13	7.68	8.09	8.37	8.53	8.57	8.47	8.21	7.85	7.33	6.68	5.99	5.15	4.35	3.88	3.72	3.75	3.73	3.71	3.76
DESIGN FLOOD LEVEL	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.588	3.587	3.587	3.587	3.587	3.587	3.587	3.587	3.587	3.587	3.587	3.587
STATION	5+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	6+0	+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												



**CONTROL POINTS :**

STA	N	E	ELEV.
GPS-005	1563536.719	679794.912	3.233
GPS-006	1563364.640	679900.626	3.031
249	1563196.239	680006.577	3.804
251	1563719.807	679713.629	3.709

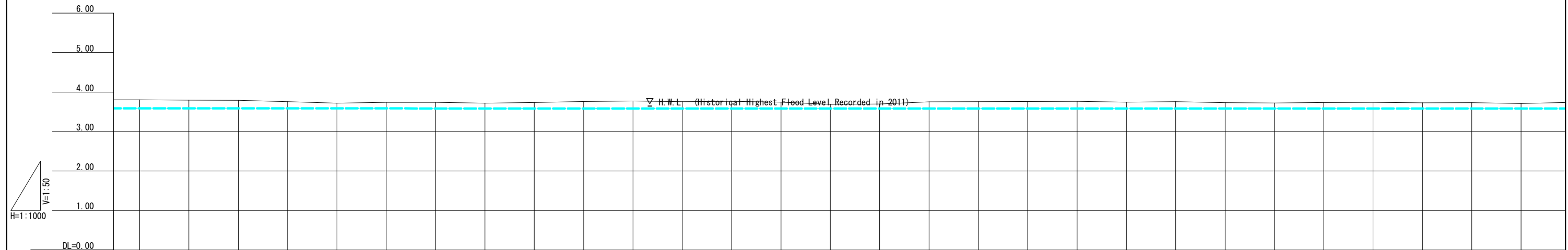
REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p><b>KINGDOM OF THAILAND</b> MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE (10 / 43)	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 6+300 TO KM. 7+000						MW-16	SHEET NO. 21



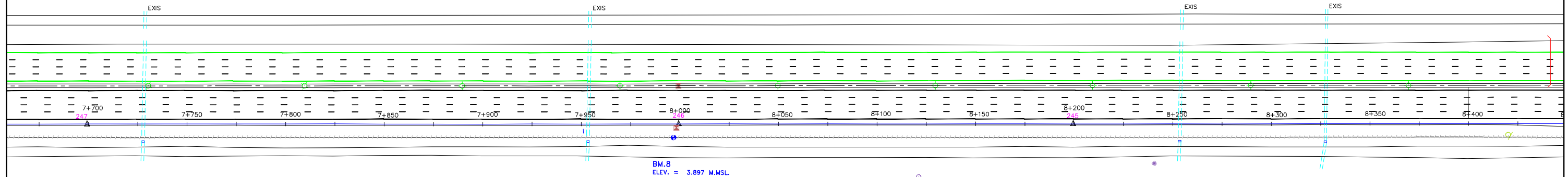
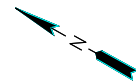
BM.7  
ELEV. = 3.996 M.MSL.

CONTROL POINTS :

STA	N	E	ELEV.
247	1562585.311	680348.420	3.732
248	1562847.153	680201.905	3.695

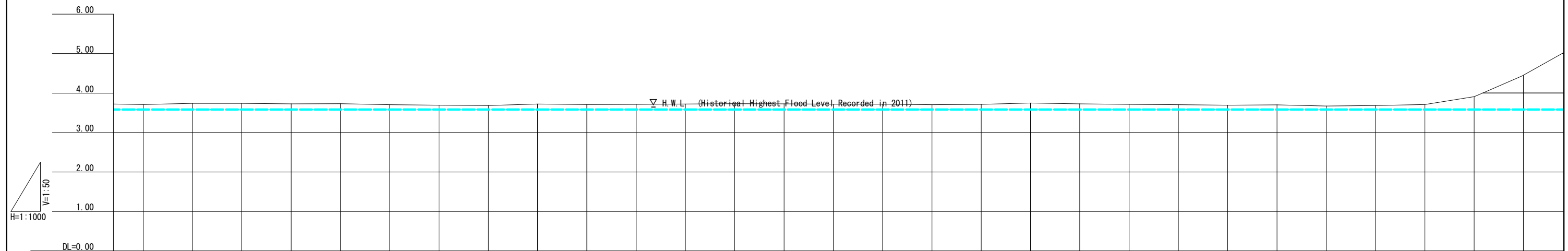


GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.80	3.79	3.79	3.76	3.72	3.74	3.74	3.72	3.74	3.76	3.77	3.76	3.77	3.75	3.69	3.70	3.75	3.76	3.76	3.74	3.76	3.73	3.72	3.74	3.74	3.73	3.73	3.71	
DESIGN FLOOD LEVEL	3.585	3.585	3.585	3.585	3.585	3.585	3.585	3.585	3.584	3.584	3.584	3.584	3.584	3.584	3.584	3.584	3.584	3.584	3.584	3.584	3.584	3.584	3.583	3.583	3.583	3.583	3.583	3.583	
STATION	7+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												



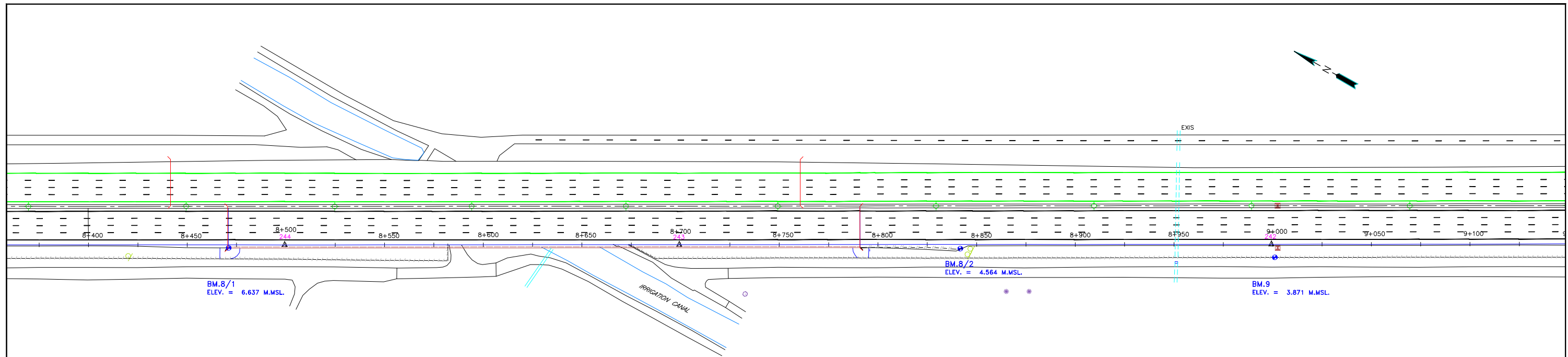
**CONTROL POINTS :**

STA	N	E	ELEV.
245	1562148.871	680592.645	3.725
246	1562323.468	680494.940	3.724



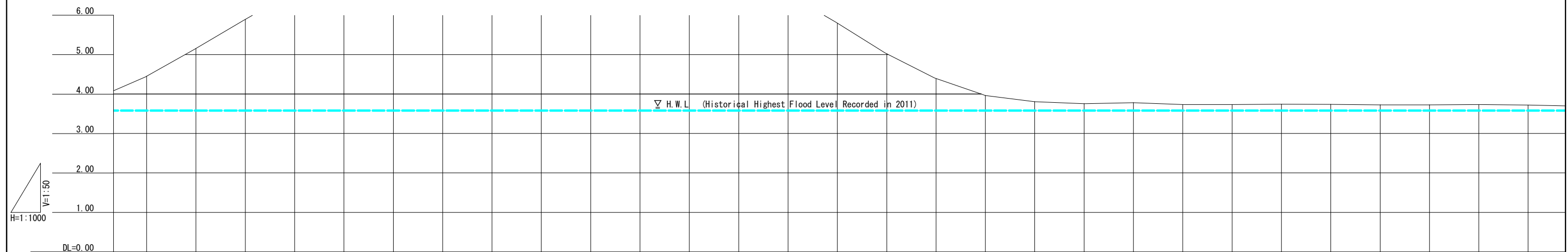
GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.71	3.74	3.74	3.73	3.73	3.71	3.69	3.68	3.72	3.71	3.71	3.72	3.73	3.73	3.72	3.72	3.71	3.71	3.75	3.73	3.71	3.70	3.69	3.70	3.67	3.68	3.71	3.91	4.45
DESIGN FLOOD LEVEL	3.583	3.583	3.583	3.583	3.583	3.583	3.583	3.583	3.583	3.583	3.582	3.582	3.582	3.582	3.582	3.582	3.582	3.582	3.582	3.582	3.582	3.582	3.582	3.582	3.582	3.581	3.581	3.581	3.581
STATION	7+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	8+0	+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p><b>KINGDOM OF THAILAND</b> MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE (12 / 43)	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 7+700 TO KM. 8+400						DWG. NO. MW-18	SHEET NO. 23

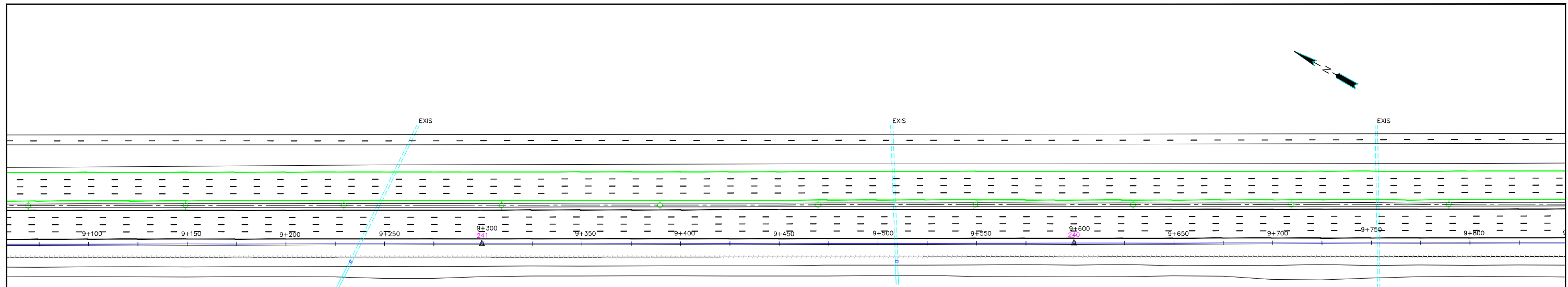


**CONTROL POINTS :**

STA	N	E	ELEV.
242	1561450.868	680983.342	3.742
243	1561712.609	680836.722	7.625
244	1561887.141	680739.066	6.584

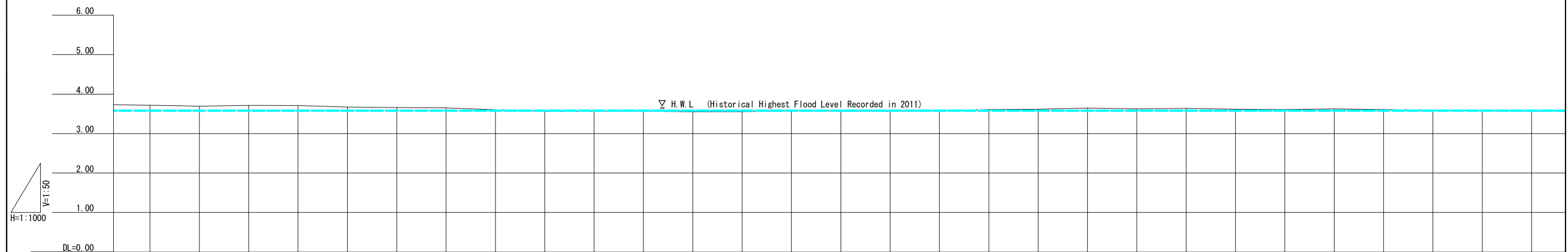


GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	4.45	5.15	5.88	6.60	7.19	7.66	8.01	8.17	8.25	8.15	7.94	7.61	7.13	6.54	5.79	5.22	4.39	3.96	3.80	3.75	3.78	3.73	3.73	3.74	3.74	3.73	3.73	3.73	3.72
DESIGN FLOOD LEVEL	3.581	3.581	3.581	3.581	3.581	3.581	3.581	3.581	3.581	3.581	3.581	3.581	3.580	3.580	3.580	3.580	3.580	3.580	3.580	3.580	3.580	3.580	3.580	3.580	3.580	3.580	3.580	3.579	3.579
STATION	8+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	9+0	+25	+50	+75	+100	+125
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												



**CONTROL POINTS :**

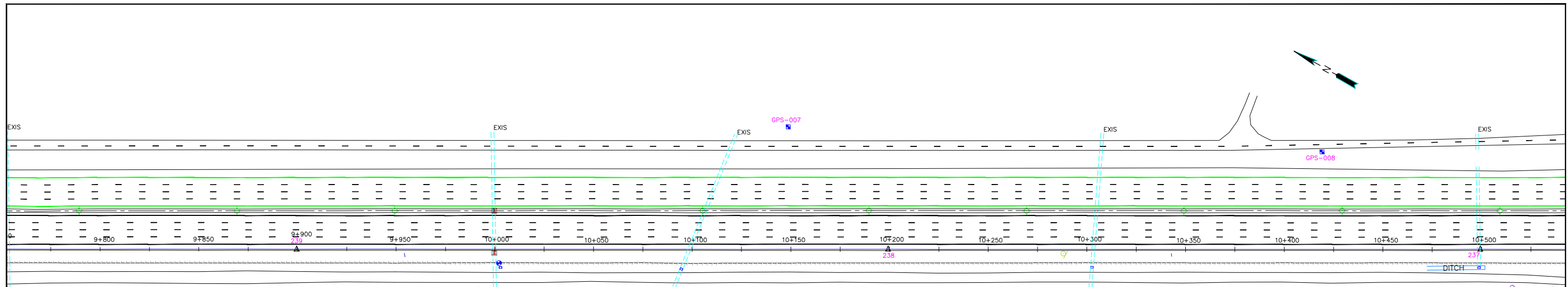
STA	N	E	ELEV.
240	1560927.464	681276.577	3.646
241	1561189.194	681129.932	3.603



STATION	9+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825
GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.72	3.69	3.72	3.71	3.67	3.66	3.65	3.60	3.56	3.57	3.57	3.55	3.55	3.58	3.57	3.56	3.58	3.61	3.62	3.65	3.63	3.64	3.62	3.61	3.62	3.61	3.59	3.59	3.56
DESIGN FLOOD LEVEL	3.579	3.579	3.579	3.579	3.579	3.579	3.579	3.579	3.579	3.579	3.579	3.579	3.579	3.579	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.578	3.577	
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												

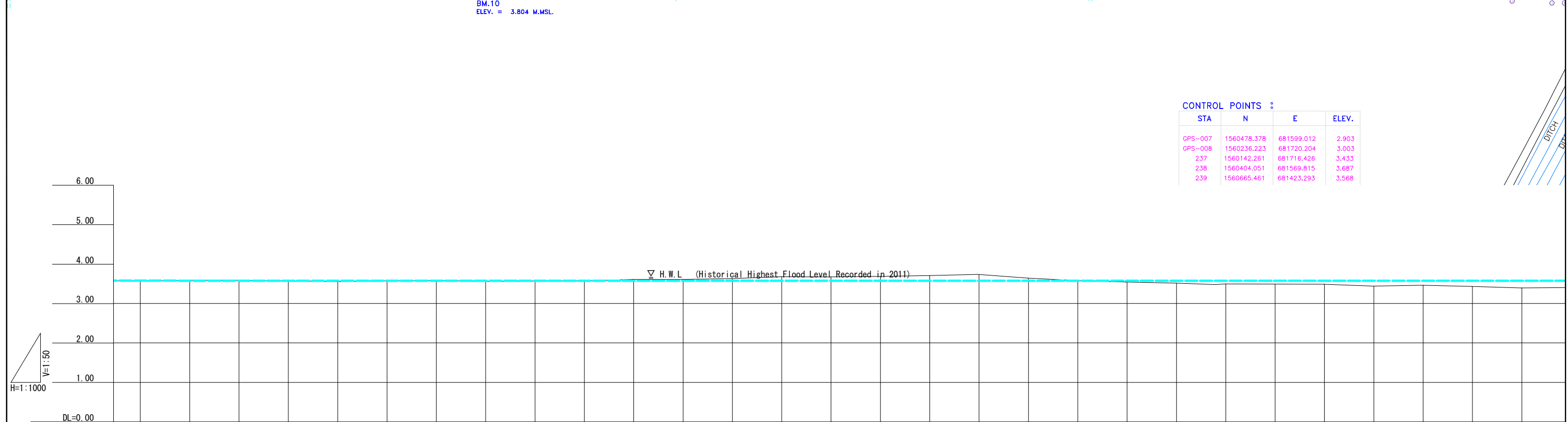
REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	 <b>KINGDOM OF THAILAND</b> MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	 CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE (14 / 43)	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 9+100 TO KM. 9+800						DWG. NO. MW-20	SHEET NO. 25





CONTROL POINTS :

STA	N	E	ELEV.
GPS-007	1560478.378	681599.012	2.903
GPS-008	1560236.223	681720.204	3.003
237	1560142.261	681716.426	3.433
238	1560404.051	681569.815	3.687
239	1560665.461	681423.293	3.568

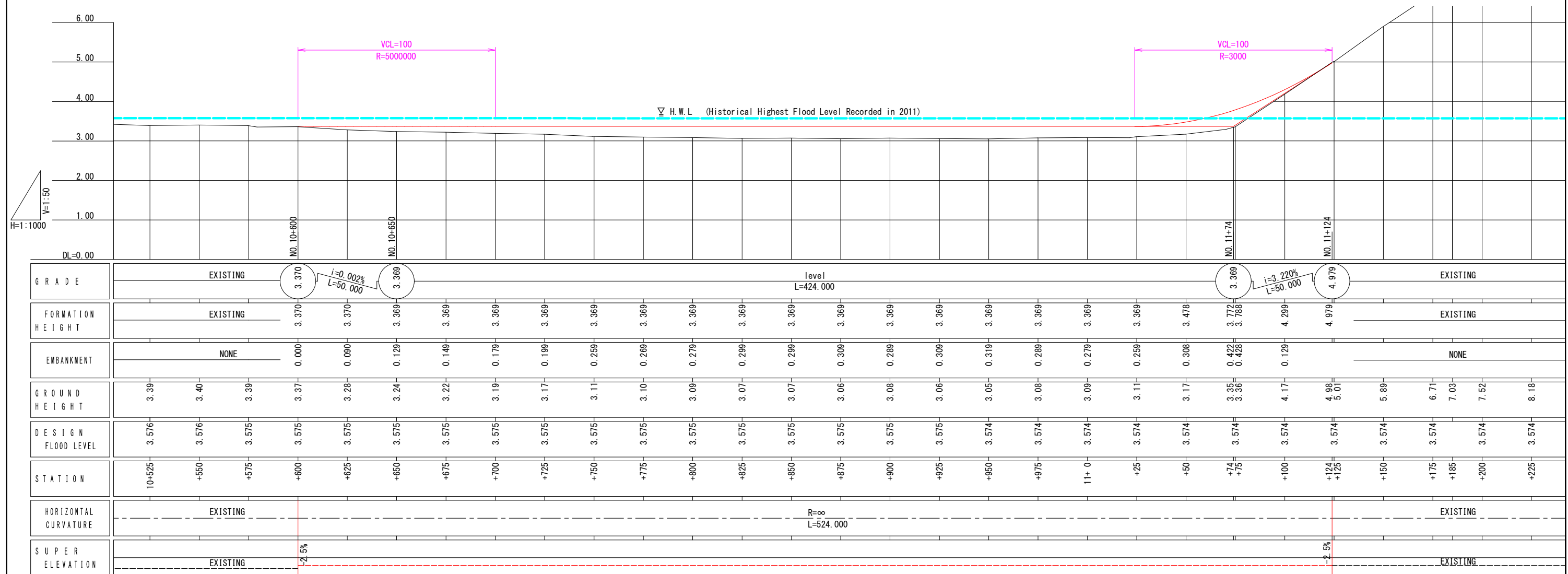
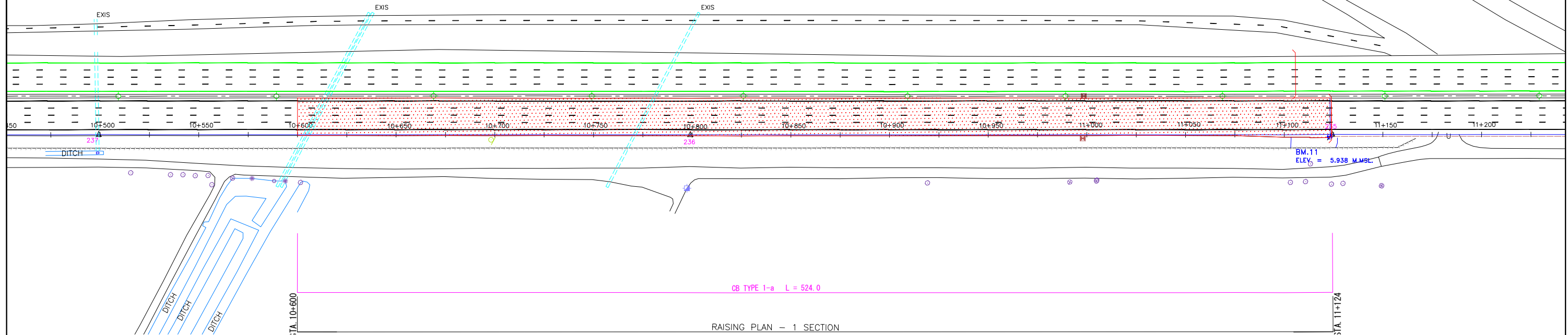


GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.56	3.59	3.59	3.57	3.56	3.57	3.59	3.56	3.57	3.57	3.61	3.61	3.63	3.68	3.67	3.69	3.71	3.73	3.64	3.58	3.54	3.51	3.49	3.49	3.49	3.44	3.46	3.43	3.39
DESIGN FLOOD LEVEL	3.577	3.577	3.577	3.577	3.577	3.577	3.577	3.577	3.577	3.577	3.577	3.577	3.577	3.577	3.577	3.576	3.576	3.576	3.576	3.576	3.576	3.576	3.576	3.576	3.576	3.576	3.576	3.576	3.576
STATION	9+825	+850	+875	+900	+925	+950	+975	10+0	+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425	+450	+475	+500	+525
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p>KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 15 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 9+800 TO KM. 10+500						DWG. NO. MW-21	SHEET NO. 26

CONTROL POINTS :

STA.	N	E	ELEV.
235	1559597.016	682022.022	5.013
236	1559880.716	681862.877	3.086
237	1560142.261	681716.426	3.433



REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE
								KM. 10+500 TO KM. 11+200	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
													DWG. NO.	SHEET NO.
													MW-22	27



CTI ENGINEERING INTERNATIONAL CO., LTD.  
ORIENTAL CONSULTANTS CO., LTD.  
NIPPON KOEI CO., LTD.  
CTI ENGINEERING CO., LTD.

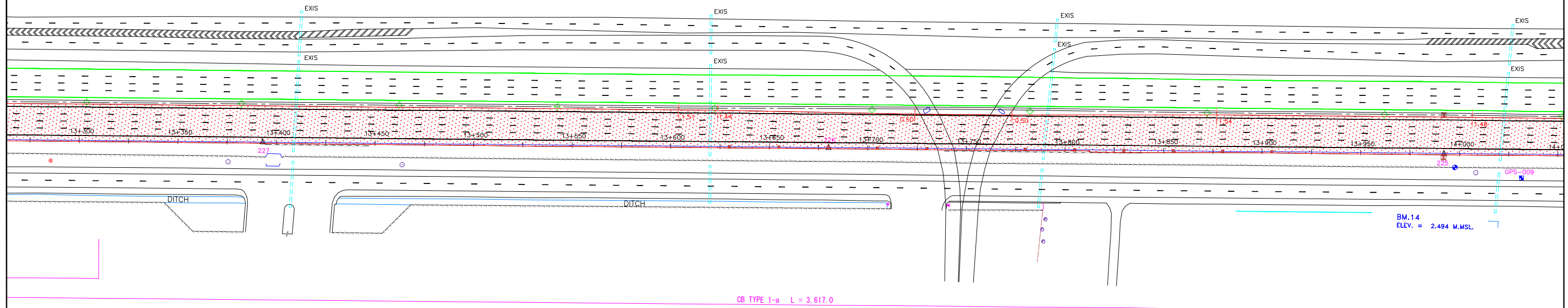
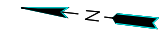






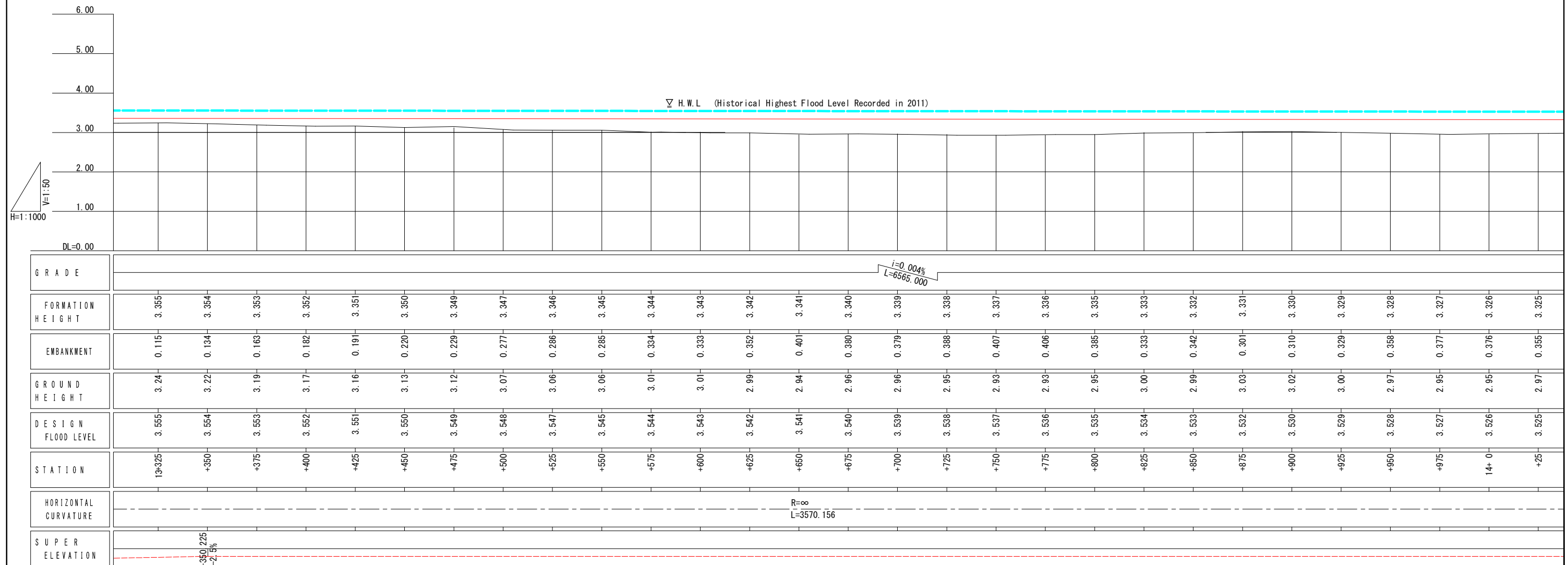
CONTROL POINTS :

STA.	N	E	ELEV.
225	1556969.663	683045.692	2.971
226	1557280.134	683013.094	2.961
227	1557565.613	682983.241	3.165



CB TYPE 1-a L = 3,617.0

RAISING PLAN - 1 SECTION



▽ H.W.L. (Historical Highest Flood Level Recorded in 2011)

H=1:1000  
V=1:50

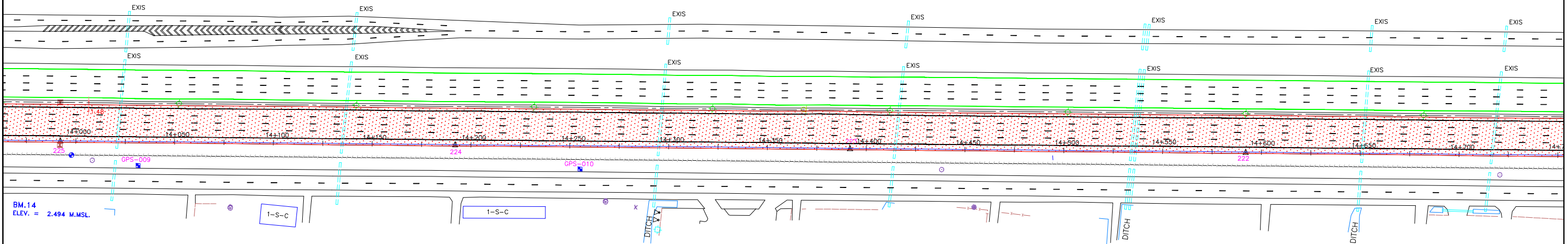
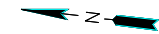
DL=0.00

GRADE	i=0.004% L=6565.000																												
FORMATION HEIGHT	3.355	3.354	3.353	3.352	3.351	3.350	3.349	3.347	3.346	3.345	3.344	3.343	3.342	3.341	3.340	3.339	3.338	3.337	3.336	3.335	3.333	3.332	3.331	3.330	3.329	3.328	3.327	3.326	3.325
EMBANKMENT	0.115	0.134	0.163	0.182	0.191	0.220	0.229	0.277	0.286	0.285	0.334	0.333	0.352	0.401	0.380	0.379	0.388	0.407	0.406	0.385	0.333	0.342	0.301	0.310	0.329	0.358	0.377	0.376	0.355
GROUND HEIGHT	3.24	3.22	3.19	3.17	3.16	3.13	3.12	3.07	3.06	3.06	3.01	3.01	2.99	2.94	2.96	2.96	2.95	2.93	2.93	2.95	3.00	2.99	3.03	3.02	3.00	2.97	2.95	2.95	2.97
DESIGN FLOOD LEVEL	3.555	3.554	3.553	3.552	3.551	3.550	3.549	3.548	3.547	3.545	3.544	3.543	3.542	3.541	3.540	3.539	3.538	3.537	3.536	3.535	3.534	3.533	3.532	3.530	3.529	3.528	3.527	3.526	3.525
STATION	13+325	+350	+375	+400	+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	14+0	+25
HORIZONTAL CURVATURE														R=∞ L=3570.156															
SUPER ELEVATION	+350.225 -2.5%																												

REV. NO.	DESCRIPTION	ENGINEER		DOH		REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS	HIGHWAY ROUTE NO. 9		OWNER The Inter-City Motorways Division Department of Highways Ministry of Transport	PROJECT TITLE The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	DESIGNED BY SAGARA Hidetaka ROAD ENGINEER	CHECKED BY WATANABE Ryohei CHIEF ENGINEER	DATE AUGUST 2012	SCALE V=1/50 H=1/1000
		CHECKED	DATE	CHECKED	DATE				KM. 13+300	TO KM. 14+000						

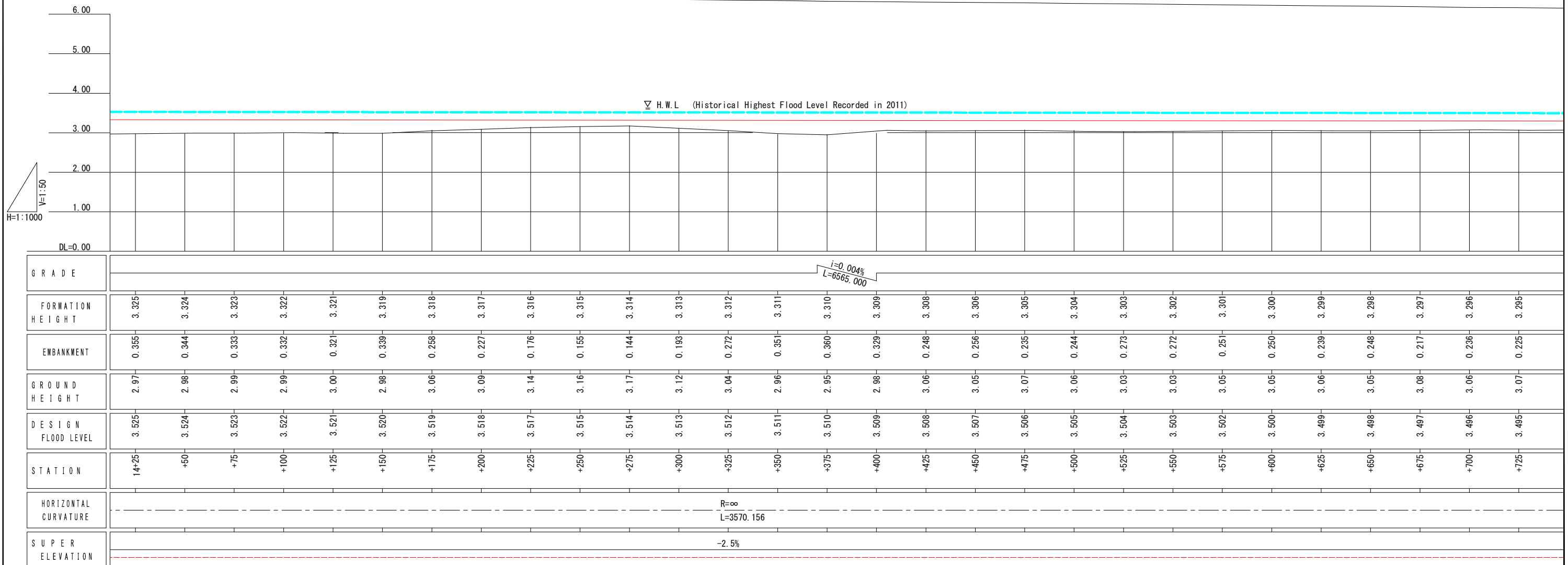
**CONTROL POINTS :**

STA.	N	E	ELEV.
GPS-009	1556929.187	683037.893	2.459
GPS-010	1556706.801	683061.625	2.599
222	1556373.106	683108.404	3.057
223	1556572.224	683087.385	3.034
224	1556770.993	683066.544	3.142



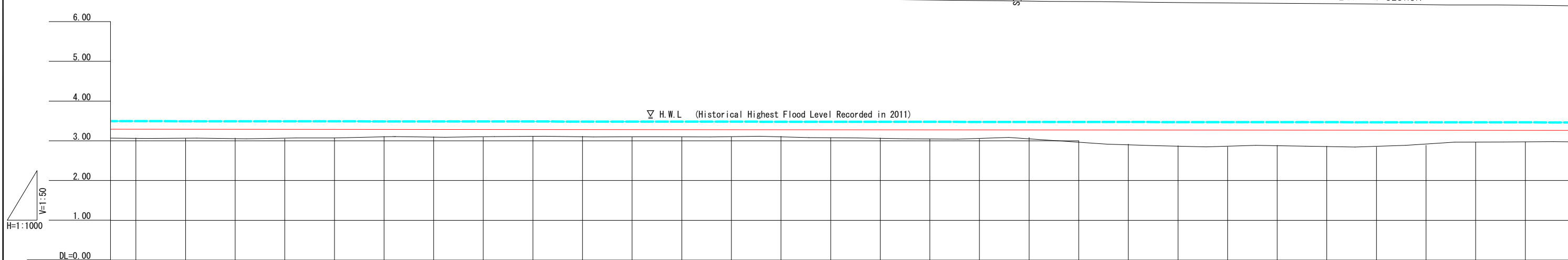
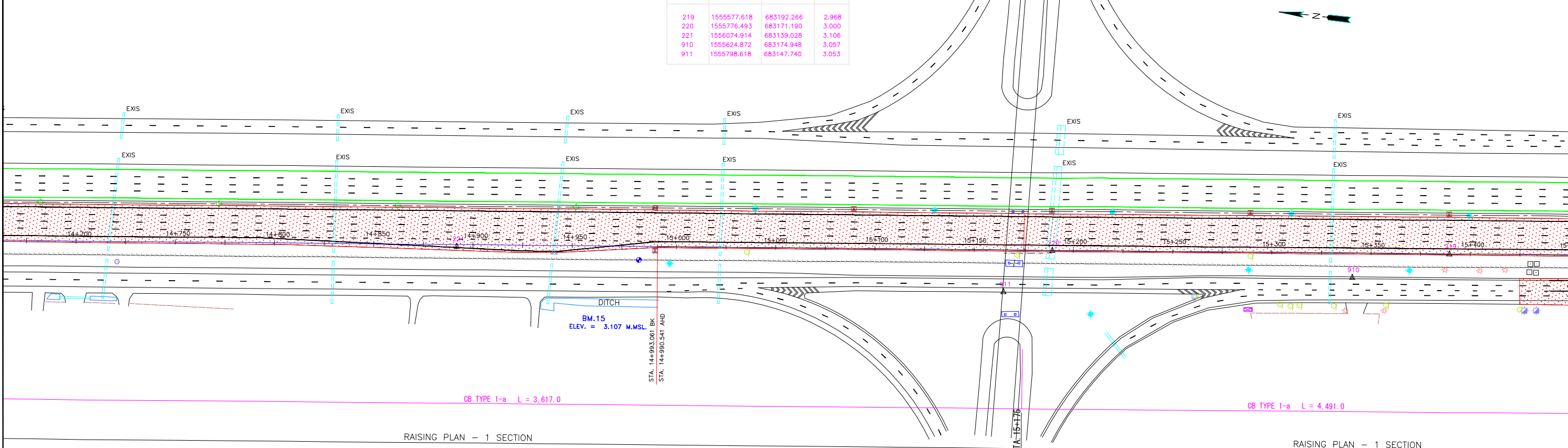
CB TYPE 1-a L = 3,617.0

RAISING PLAN - 1 SECTION



REV. NO.	DESCRIPTION	ENGINEER		DOH		REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS	HIGHWAY ROUTE NO. 9		OWNER The Inter-City Motorways Division Department of Highways Ministry of Transport	PROJECT TITLE The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	DESIGNED BY SAGARA Hidetaka ROAD ENGINEER	CHECKED BY WATANABE Ryohei CHIEF ENGINEER	DATE:	SCALE:
		CHECKED	DATE	CHECKED	DATE				KM. 14+000	TO KM. 14+700					AUGUST 2012	V=1/50 H=1/1000
															DWG. NO. <b>MW-27</b>	SHEET NO. <b>32</b>

219	1555577.618	683192.266	2.968
220	1555776.493	683171.190	3.000
221	1556074.914	683139.028	3.106
910	1555624.872	683174.948	3.057
911	1555798.618	683147.740	3.053

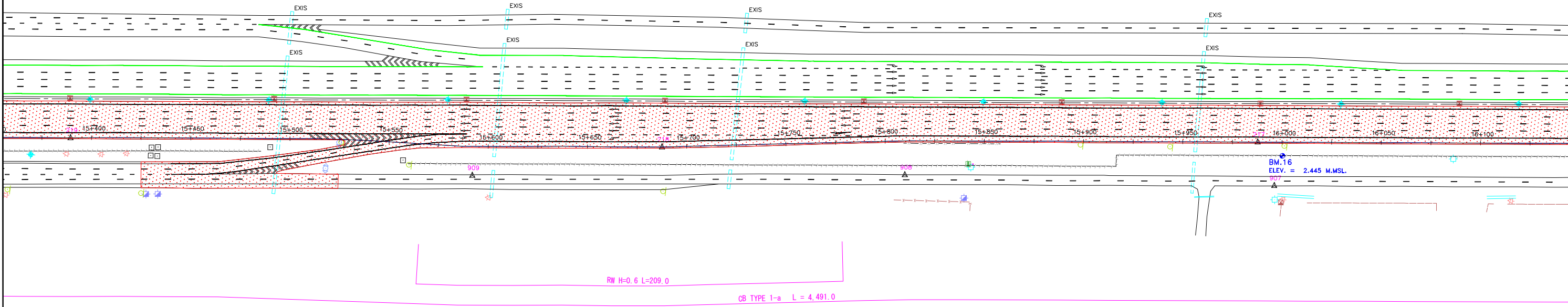
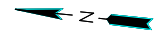


GRADE																													
FORMATION HEIGHT	3.295	3.294	3.292	3.291	3.290	3.289	3.288	3.287	3.286	3.285	3.284	3.283	3.282	3.281	3.280	3.278	3.277	3.276	3.275	3.274	3.273	3.272	3.271	3.270	3.269	3.268	3.267	3.266	3.264
EMBANKMENT	0.225	0.234	0.222	0.241	0.210	0.179	0.178	0.197	0.176	0.165	0.184	0.183	0.182	0.161	0.200	0.208	0.227	0.236	0.185	0.274	0.353	0.392	0.421	0.380	0.399	0.428	0.377	0.296	0.294
GROUND HEIGHT	3.07	3.06	3.07	3.05	3.08	3.11	3.11	3.09	3.11	3.12	3.10	3.10	3.10	3.12	3.08	3.07	3.05	3.04	3.09	3.00	2.92	2.88	2.85	2.80	2.87	2.84	2.89	2.97	2.97
DESIGN FLOOD LEVEL	3.495	3.494	3.493	3.492	3.491	3.490	3.489	3.488	3.487	3.486	3.484	3.483	3.482	3.481	3.480	3.479	3.478	3.477	3.476	3.475	3.474	3.473	3.472	3.471	3.469	3.468	3.467	3.466	3.465
STATION	14+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	15+0	+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425
HORIZONTAL CURVATURE	R=∞ L=3570.156																												
SUPER ELEVATION	-2.5%																												

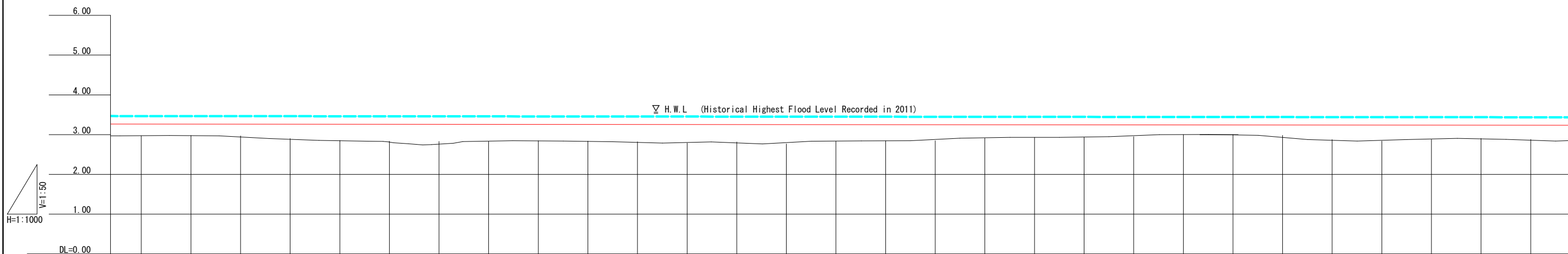


CONTROL POINTS :

STA.	N	E	ELEV.
217	1554982.775	683255.042	2.983
218	1555280.829	683219.994	2.786
907	1554972.068	683234.150	2.660
908	1555157.714	683219.368	2.687
909	1555374.331	683195.383	2.986



SECTION RAISING PLAN - 1 SECTION



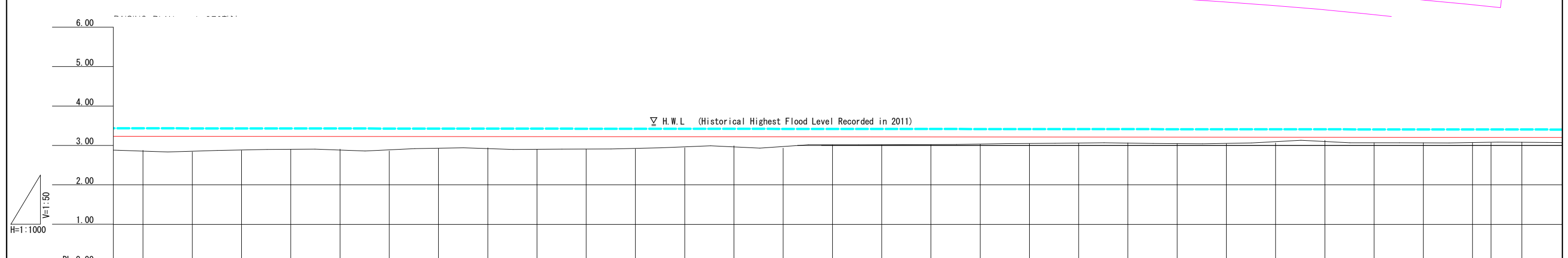
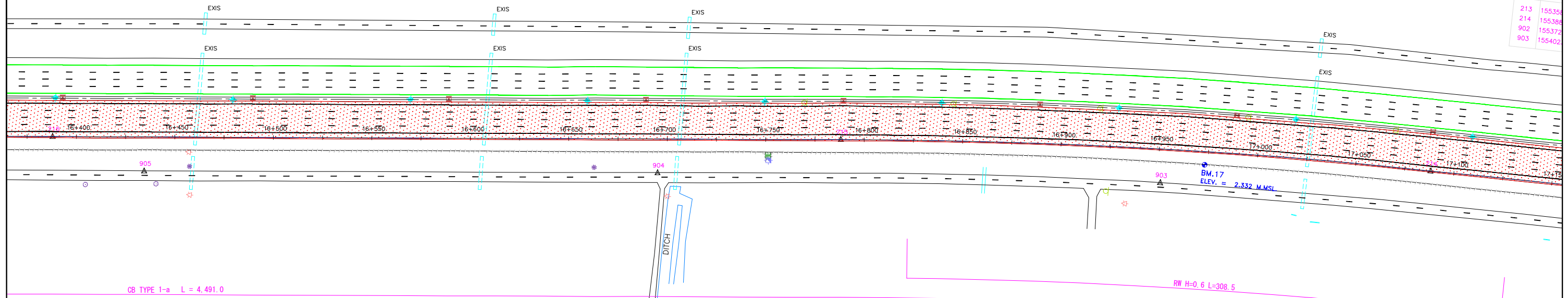
GRADE	i=0.004% L=6565.000																												
FORMATION HEIGHT	3.264	3.263	3.262	3.261	3.260	3.259	3.258	3.257	3.256	3.255	3.254	3.253	3.252	3.250	3.249	3.248	3.247	3.246	3.245	3.244	3.243	3.242	3.241	3.240	3.239	3.238	3.236	3.235	3.234
EMBANKMENT	0.294	0.283	0.292	0.361	0.410	0.419	0.428	0.427	0.406	0.415	0.434	0.463	0.432	0.480	0.419	0.408	0.397	0.336	0.315	0.314	0.293	0.242	0.241	0.260	0.369	0.398	0.356	0.325	0.354
GROUND HEIGHT	2.97	2.98	2.97	2.90	2.85	2.84	2.83	2.83	2.85	2.84	2.82	2.79	2.82	2.77	2.83	2.84	2.85	2.91	2.93	2.93	2.95	3.00	3.00	2.98	2.87	2.84	2.88	2.91	2.88
DESIGN FLOOD LEVEL	3.465	3.464	3.463	3.462	3.461	3.460	3.459	3.458	3.457	3.456	3.454	3.453	3.452	3.451	3.450	3.449	3.448	3.447	3.446	3.445	3.444	3.443	3.442	3.441	3.439	3.438	3.437	3.436	3.435
STATION	15+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	16+0	+25	+50	+75	+100	+125
HORIZONTAL CURVATURE																R=∞ L=3570.156													
SUPER ELEVATION																-2.5%													

**CONTROL POINTS :**

STA.	N	E	ELEV.
215	1554186.750	683338.788	3.062
216	1554584.746	683296.889	2.941
904	1554277.437	683311.871	2.610
905	1554536.621	683284.517	2.715
906	1554771.571	683259.834	2.758

**CONTROL POINTS :**

STA.	N	E	ELEV.
213	1553584.746	683296.889	2.941
214	1553884.746	683296.889	2.941
902	1553772.437	683311.871	2.610
903	1554021.571	683259.834	2.758

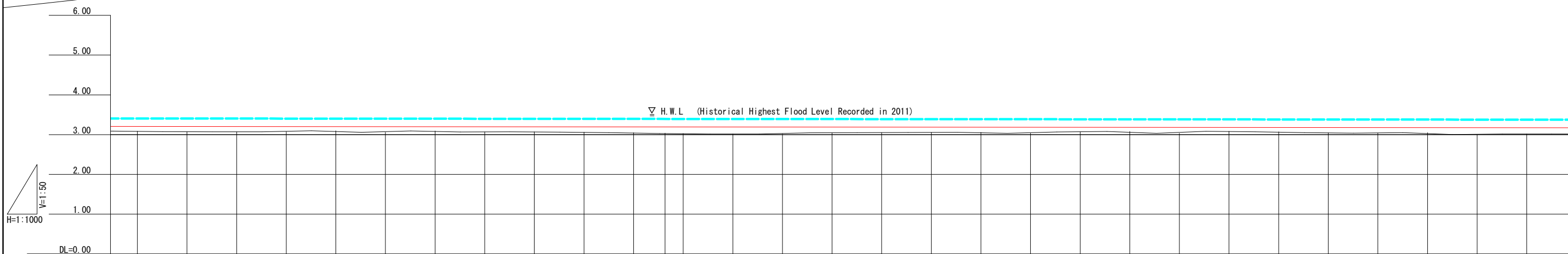
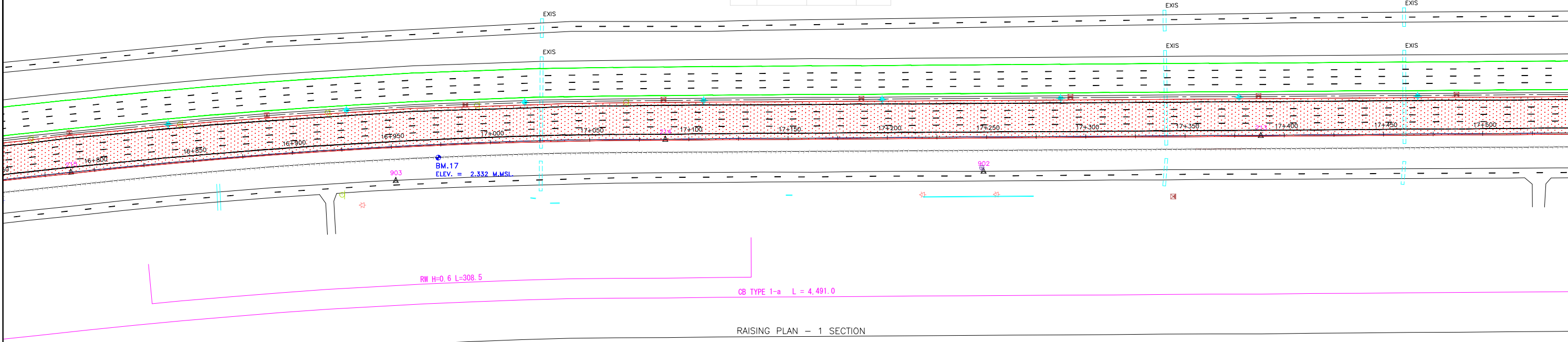
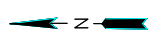


STATION	16+125	16+150	16+175	16+200	16+225	16+250	16+275	16+300	16+325	16+350	16+375	16+400	16+425	16+450	16+475	16+500	16+525	16+550	16+575	16+600	16+625	16+650	16+675	16+700	16+725	16+750	16+775	16+800	16+825
FORMATION HEIGHT	3.234	3.233	3.232	3.231	3.230	3.229	3.228	3.227	3.226	3.225	3.224	3.222	3.221	3.220	3.219	3.218	3.217	3.216	3.215	3.214	3.213	3.212	3.211	3.210	3.208	3.207	3.206	3.205	3.204
EMBANKMENT	0.354	0.393	0.362	0.331	0.320	0.369	0.308	0.287	0.326	0.315	0.314	0.282	0.231	0.290	0.199	0.198	0.197	0.196	0.165	0.154	0.143	0.162	0.171	0.140	0.078	0.137	0.136	0.145	0.135
GROUND HEIGHT	2.88	2.84	2.87	2.90	2.91	2.86	2.92	2.94	2.90	2.91	2.91	2.94	2.99	2.93	3.02	3.02	3.02	3.02	3.05	3.06	3.07	3.05	3.04	3.07	3.13	3.07	3.07	3.06	3.07
DESIGN FLOOD LEVEL	3.435	3.434	3.433	3.432	3.431	3.430	3.429	3.428	3.427	3.426	3.424	3.423	3.422	3.421	3.420	3.419	3.418	3.417	3.416	3.415	3.414	3.413	3.412	3.411	3.410	3.408	3.407	3.406	3.405
HORIZONTAL CURVATURE																R=∞ L=3570.156													
SUPER ELEVATION																-2.5%													

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p><b>KINGDOM OF THAILAND</b> MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 24 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 16+100 TO KM. 16+800						DWG. NO. MW-30	SHEET NO. 35

CONTROL POINTS :

STA.	N	E	ELEV.
213	1553587.310	683357.268	3.070
214	1553887.354	683355.340	3.027
902	1553727.028	683339.278	2.910
903	1554023.169	683334.574	2.757

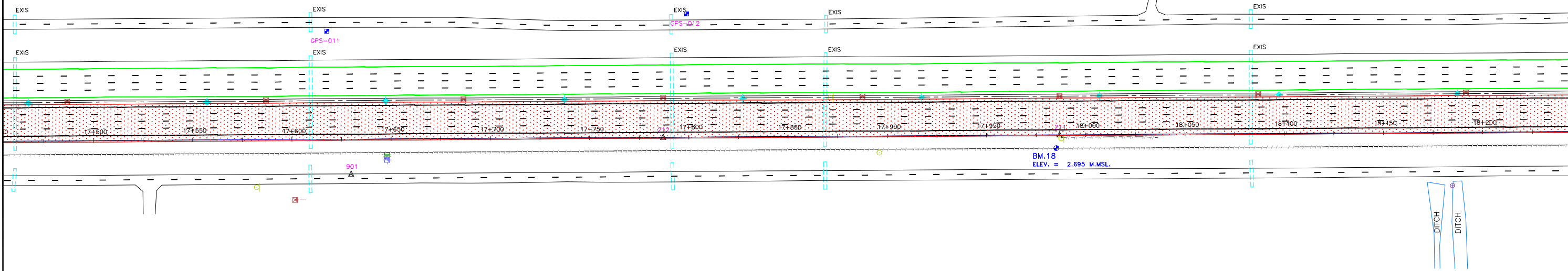
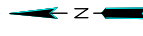


STATION	FORMATION HEIGHT	EMBANKMENT	GROUND HEIGHT	DESIGN FLOOD LEVEL	HORIZONTAL CURVATURE	SUPER ELEVATION
16+825	3.204	0.114	3.09	3.405	R=2864.779 L=281.457	+0.838 -2.5%
+850	3.203	0.123	3.08	3.404		
+875	3.202	0.132	3.07	3.403	R=∞ L=2641.893	-2.5%
+809.391	3.201	0.131	3.07	3.402		
+900	3.200	0.110	3.09	3.401		
+925	3.199	0.139	3.06	3.400		
+950	3.199	0.108	3.09	3.399		
+975	3.197	0.127	3.07	3.398		
17+0	3.195	0.125	3.07	3.397		
+25	3.194	0.134	3.06	3.396		
+50	3.193	0.143	3.05	3.395		
+75	3.193	0.163	3.03	3.394		
+90.838	3.192	0.162	3.03	3.393		
+100	3.191	0.181	3.01	3.392		
+125	3.190	0.170	3.02	3.391		
+150	3.189	0.149	3.04	3.390		
+175	3.188	0.138	3.05	3.389		
+200	3.187	0.137	3.05	3.388		
+225	3.186	0.126	3.06	3.387		
+250	3.185	0.155	3.03	3.386		
+275	3.184	0.124	3.06	3.385		
+300	3.183	0.103	3.08	3.384		
+325	3.181	0.151	3.03	3.383		
+350	3.180	0.100	3.08	3.382		
+375	3.179	0.109	3.07	3.381		
+400	3.178	0.128	3.05	3.380		
+425	3.177	0.137	3.04	3.378		
+450	3.176	0.126	3.05	3.377		
+475	3.175	0.175	3.00	3.376		
+500	3.174	0.164	3.01	3.375		
+525						

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE
								KM. 16+800 TO KM. 17+500	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
													DWG. NO. MW-31	SHEET NO. 36

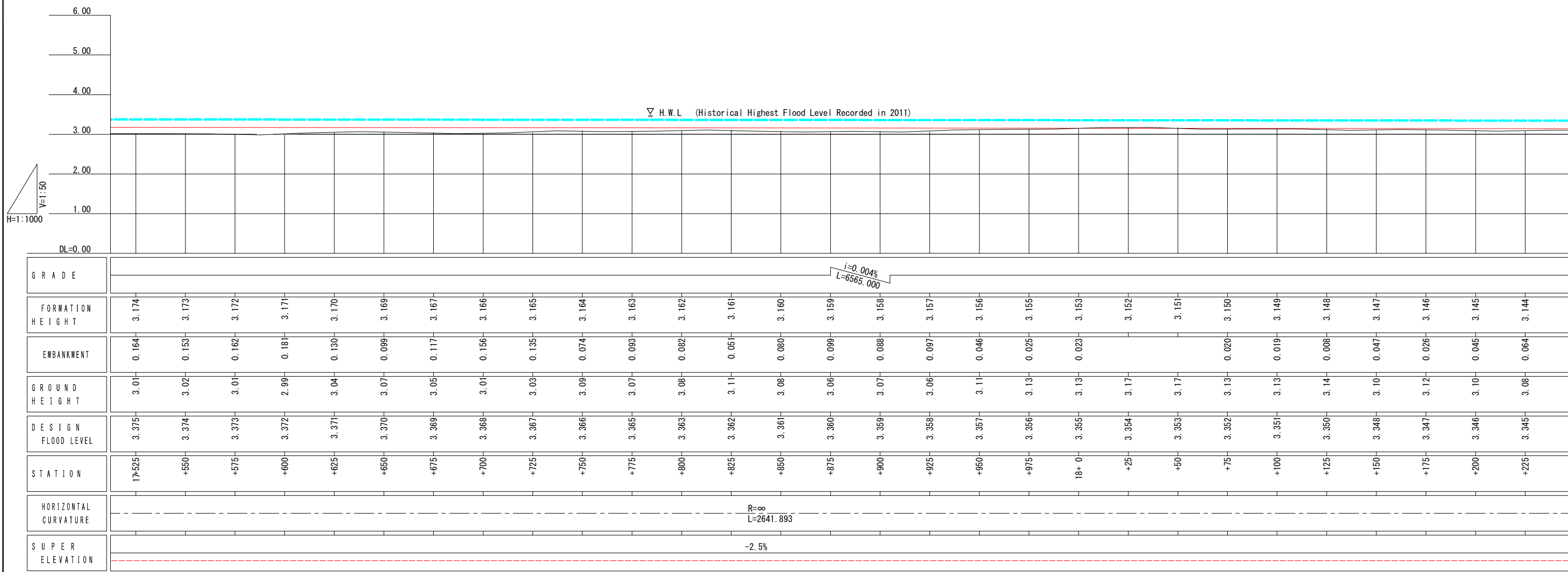
CONTROL POINTS :

STA.	N	E	ELEV.
211	1552988.718	683361.156	3.127
212	1553188.424	683359.869	3.078
901	1553345.620	683341.328	2.968
GPS-011	1553357.911	683413.464	2.608
GPS-012	1553176.610	683422.194	2.529



CB TYPE 1-a L = 4.491.0

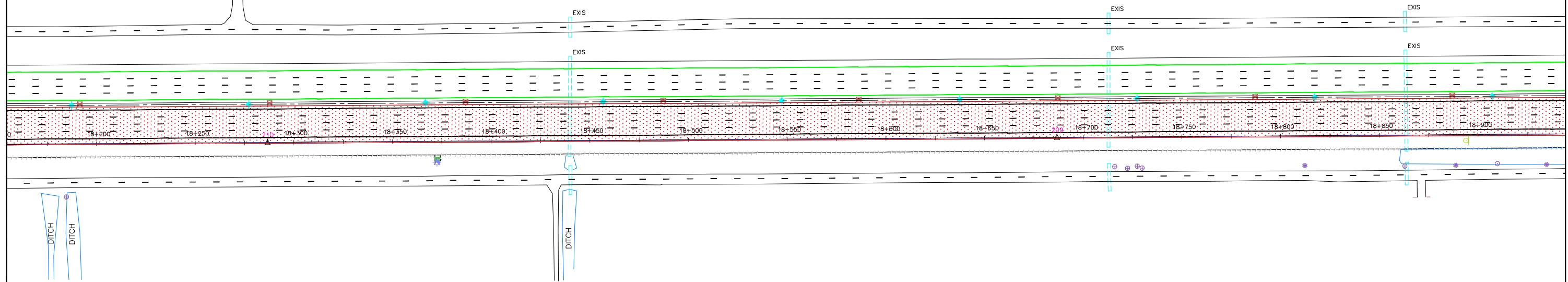
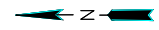
RAISING PLAN - 1 SECTION



REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p>KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 26 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 17+500 TO KM. 18+200						DWG. NO.	SHEET NO.

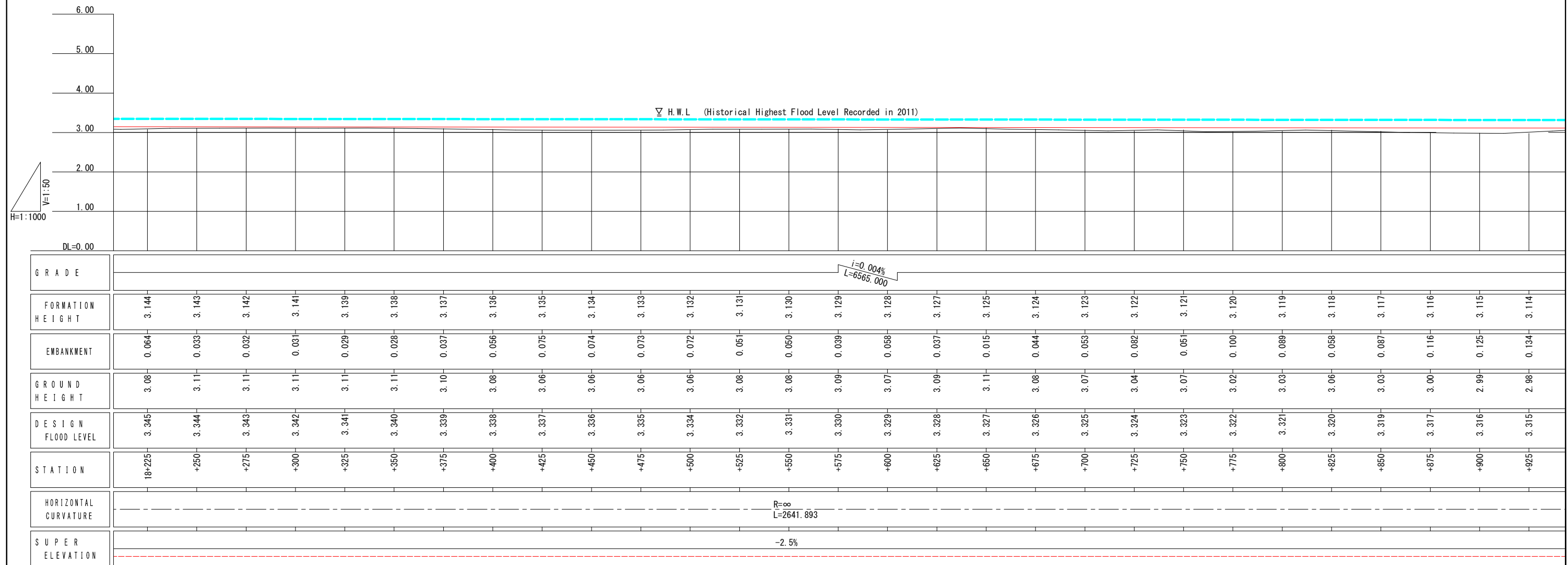
CONTROL POINTS :

STA.	N	E	ELEV.
209	1552288.848	683365.655	3.066
210	1552688.856	683363.101	3.113



CB TYPE 1-a L = 4.491.0

RAISING PLAN - 1 SECTION



REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE
								KM. 18+200 TO KM. 18+900	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
												DWG. NO.	SHEET NO.	
												MW-33	38	