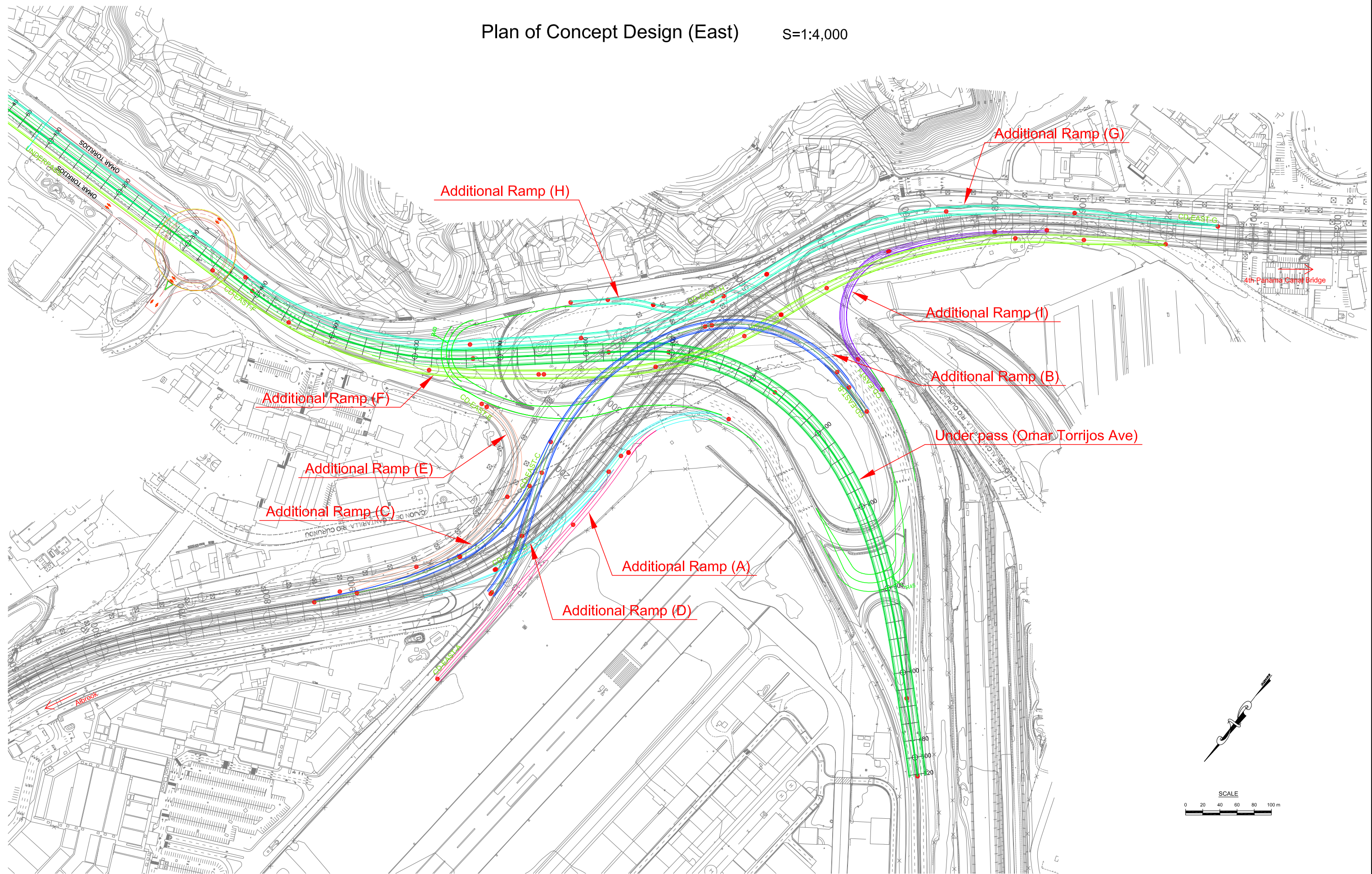


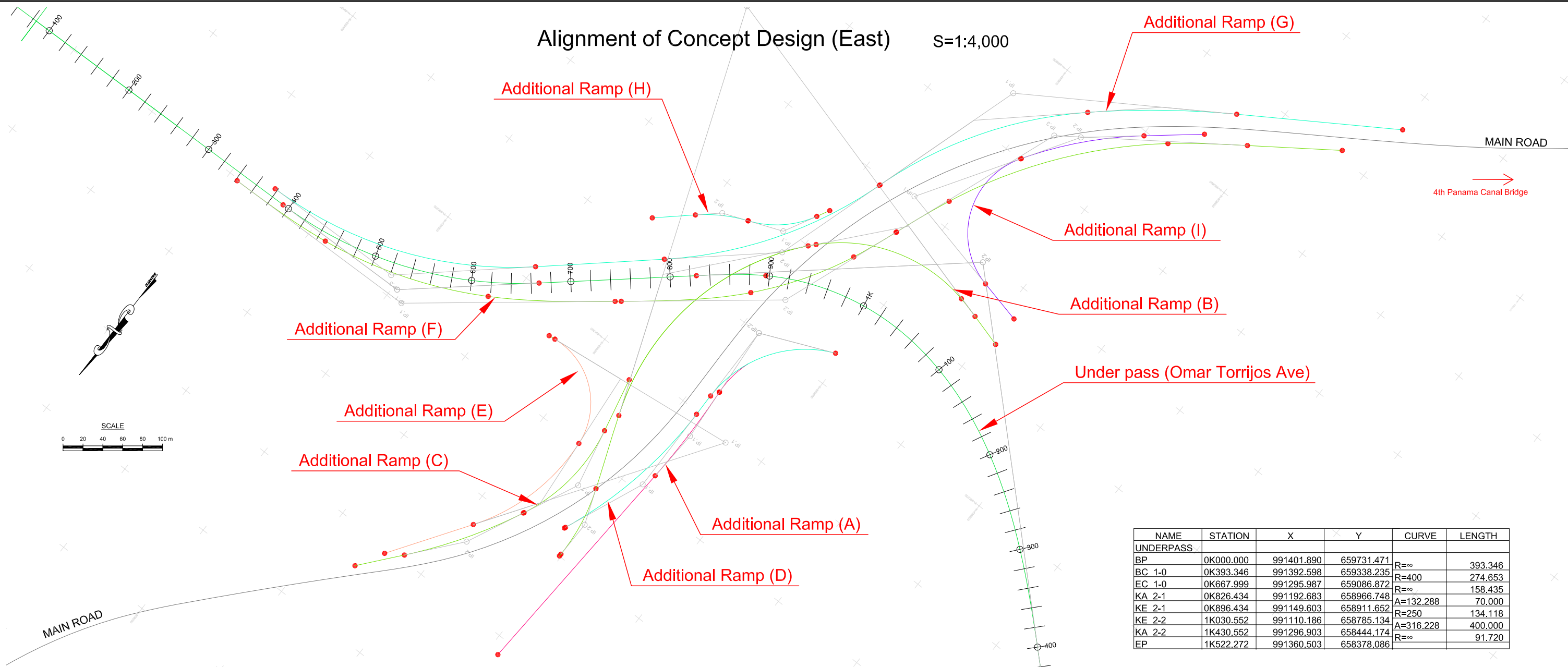
Appendix 5-2: Concept Design Drawings

Appendix 5-2-1 : East Side Area

Plan of Concept Design (East) S=1:4,000



Alignment of Concept Design (East) S=1:4,000



NAME	STATION	X	Y	CURVE	LENGTH
UNDERPASS					
BP	0K000.000	991401.890	659731.471	R=∞	393.346
BC 1-0	0K393.346	991392.598	659338.235	R=400	274.653
EC 1-0	0K667.999	991295.987	659086.872	R=∞	158.435
KA 2-1	0K826.434	991192.683	658966.748	A=132.288	70.000
KE 2-1	0K896.434	991149.603	658911.652	R=250	134.118
KA 2-2	1K430.552	991296.903	658444.174	A=316.228	400.000
EP	1K522.272	991360.503	658378.086	R=∞	91.720

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST A					
BP	0K000.000	991616.022	658889.335	R=∞	239.595
BC 1-0	0K239.595	991376.830	658875.445	R=800	106.070
EC 1-0	0K345.665	991270.841	658876.324	R=∞	0.263
BC 2-0	0K345.928	991270.578	658876.343	R=100	123.938
EC 2-0	0K469.867	991171.256	658816.114	R=∞	9.717
EP	0K479.583	991167.419	658807.188		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST B					
BP	0K000.000	991061.754	658686.915	R=∞	35.000
KA 1-1	0K035.000	991052.310	658720.617	A=60	22.500
KE 1-1	0K057.500	991046.749	658742.414	R=160	162.971
KEE 1-1	0K220.470	991093.805	658891.165	A=60	8.100
KAE 1-1	0K228.570	991099.825	658896.584	R=250	268.433
EC 1-0	0K497.003	991351.563	658941.549	R=∞	77.118
BC 2-0	0K574.121	991423.734	658914.375	R=200	75.184
EC 2-0	0K649.305	991497.372	658901.572	R=∞	2.260
EP	0K651.566	991499.632	658901.607		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST C					
BP	0K000.000	991,316.858	658,955.504	R=∞	56.876
BC 1-0	0K056.876	991,372.443	658,948.452	R=180	117.674
EC 1-0	0K174.550	991,487.290	658,956.524	R=∞	0.680
BC 2-0	0K175.230	991,487.906	658,956.814	R=500	127.384
EC 2-0	0K302.613	991,595.025	659,025.111	R=∞	50.836
EP	0K353.449	991,634.070	659,057.665		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST D					
BP	0K000.000	991474.442	658915.016	R=∞	1.236
BC 1-0	0K001.236	991473.302	658914.535	R=430	175.370
EC 1-0	0K176.605	991302.452	658880.759	R=∞	23.238
BC 2-0	0K199.843	991279.216	658880.962	R=120	140.825
EC 2-0	0K340.668	991167.922	658808.358	R=∞	1.274
EP	0K341.942	991167.419	658807.188		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST E					
BP	0K000.000	991331.460	659046.292	R=∞	6.805
BC 1-0	0K006.804	991330.655	659039.535	R=75	120.000
EBC 1-1	0K126.804	991398.439	658955.965	R=200	136.547
EC 1-0	0K263.351	991528.118	658989.360	R=∞	93.863
EP	0K357.214	991605.934	659041.848		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST F					
BP	0K000.000	991,409.886	659,731.282	R=∞	341.838
KA 1-1	0K341.838	991,401.969	659,389.535	A=220	107.556
KE 1-1	0K449.394	991,395.202	659,282.261	R=450	174.079
KE 1-2	0K623.473	991,338.148	659,118.945	A=240	128.000
KA 1-2	0K751.473	991,263.392	659,015.185	R=∞	6.120
KA 2-1	0K757.593	991,259.583	659,010.394	A=220	130.811
KE 2-1	0K888.404	991,172.408	658,913.109	R=370	110.001
KE 2-2	0K998.405	991,080.355	658,853.632	A=135	49.257
KA 2-2	1K047.662	991,034.632	658,835.337	R=∞	0.645
KA 3-1	1K048.307	991,034.028	658,835.110	A=175	61.250
KE 3-1	1K109.557	990,977.130	658,812.461	R=500	229.661
KE 3-2	1K339.218	990,795.812	658,674.812	A=200	80.000
KA 3-2	1K419.218	990,748.149	658,610.589	R=∞	95.554
EP	1K514.772	990,693.269	658,532.367		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST G					
BP	0K000.000	990639.477	658497.234	R=∞	167.766
BC 1-0	0K167.765	990729.967	658638.503	R=920	150.000
EBC 1-1	0K317.765	990820.791	658757.672	R=420	224.101
EC 1-0	0K541.866	991007.080	658877.410	R=∞	0.779
BC 2-0	0K542.645	991007.823	658877.643	R=425	231.489
EC 2-0	0K774.134	991199.469	659002.333	R=∞	129.810
BC 3-0	0K903.944	991285.224	659099.785	R=400	279.087
EC 3-0	1K183.031	991384.820	659354.463	R=∞	377.306
EP	1K560.337	991393.845	659731.661		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST H					
BP	0K000.000	991058.519	658901.340	R=∞	14.259
BC 1-0	0K014.258	991071.100	658908.051	R=100	70.636
EC 1-0	0K084.894	991117.107	658959.711	R=∞	0.066
BC 2-0	0K084.960	991117.131	658959.773	R=150	53.644
EC 2-0	0K138.604	991145.167	659005.172	R=∞	43.475
EP	0K182.080	991174.225	659037.510		



SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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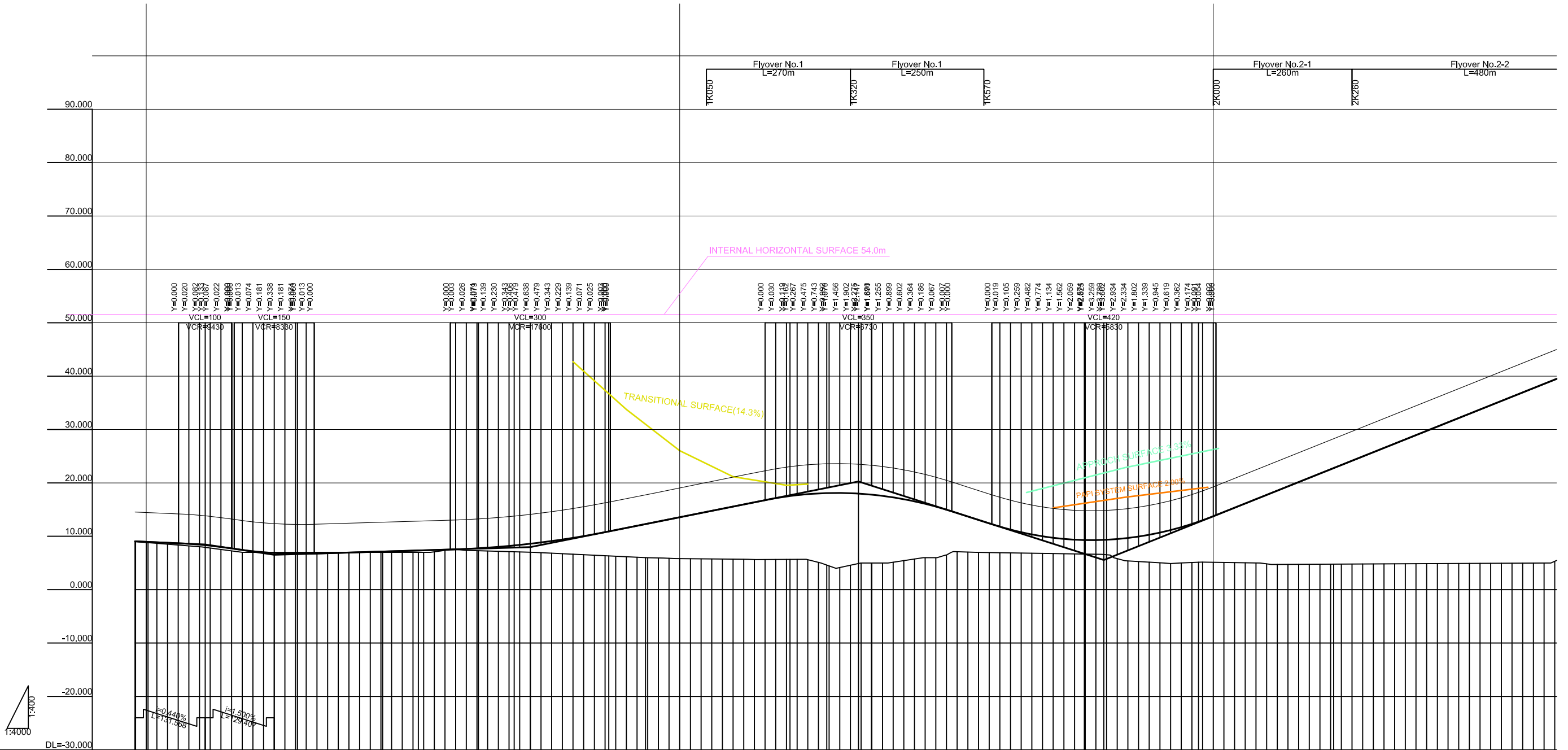
REMARKS:

Alignment of Concept Design (East)

2/6

Profile of Main Road (4th Panama Canal Bridge)

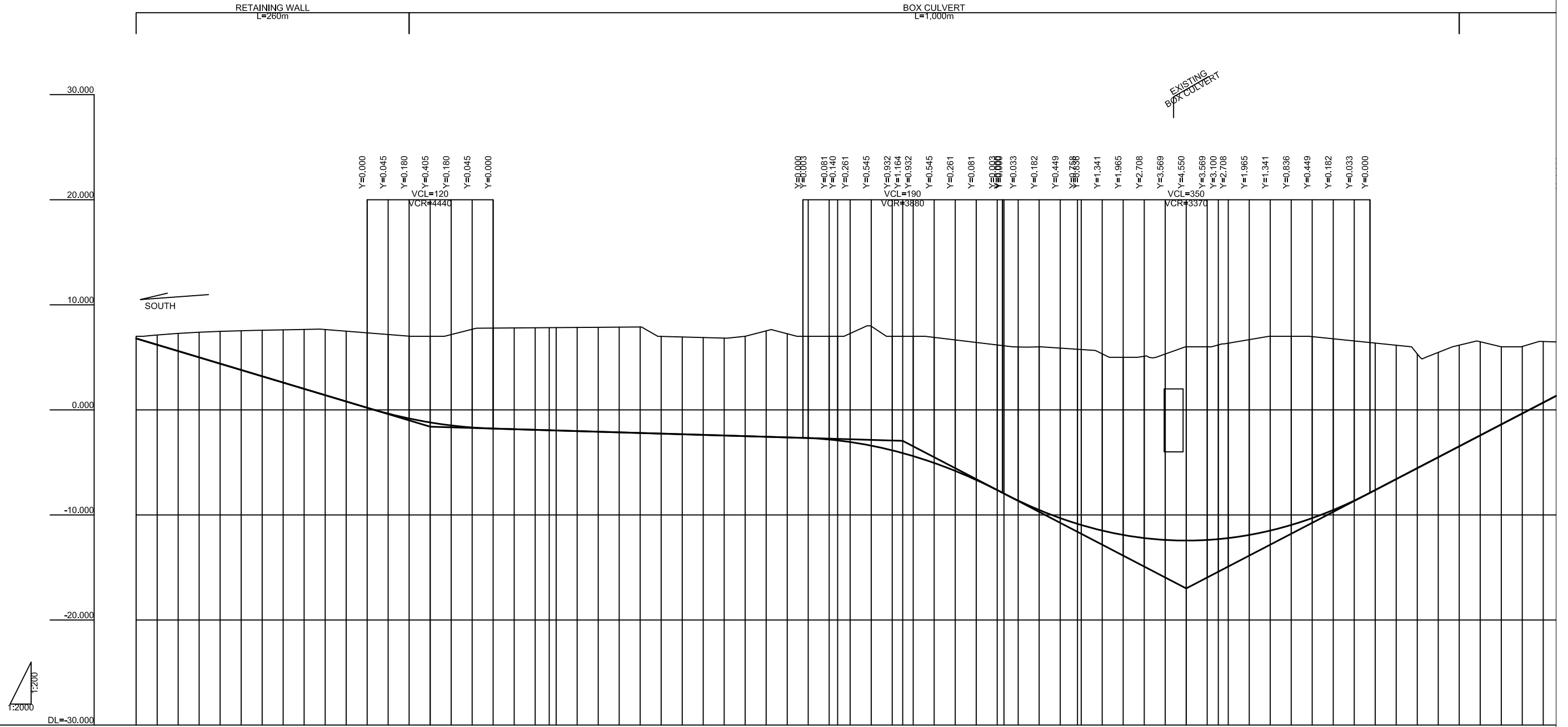
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H=1:4000



Gradient	Proposed Height	Ground Height	Station	Curve	Superelevation
9.050	9.046	8.002	0+000	R=1600.000, L=241.367	2.000
8.471	8.878	8.878	0+200	R=5000.000, L=280.116	2.000
6.530	7.012	7.012	0+400	R=∞, L=159.596	2.000
7.970	7.311	7.311	0+600	L=67.000, R=500.000, L=112.553	2.000
20.270	10.910	10.910	0+800	L=172.993, R=300.000, L=83.623	2.000
5.550	5.550	5.550	1+000	R=435.000, L=270.306	2.000
	5.550	5.550	1+200	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	1+400	R=435.000, L=270.306	2.000
	5.550	5.550	1+600	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	1+800	R=435.000, L=270.306	2.000
	5.550	5.550	2+000	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	2+200	R=435.000, L=270.306	2.000
	5.550	5.550	2+400	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	2+600	R=435.000, L=270.306	2.000
	5.550	5.550	2+800	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	3+000	R=435.000, L=270.306	2.000
	5.550	5.550	3+200	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	3+400	R=435.000, L=270.306	2.000
	5.550	5.550	3+600	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	3+800	R=435.000, L=270.306	2.000
	5.550	5.550	4+000	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	4+200	R=435.000, L=270.306	2.000
	5.550	5.550	4+400	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	4+600	R=435.000, L=270.306	2.000
	5.550	5.550	4+800	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	5+000	R=435.000, L=270.306	2.000
	5.550	5.550	5+200	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	5+400	R=435.000, L=270.306	2.000
	5.550	5.550	5+600	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	5+800	R=435.000, L=270.306	2.000
	5.550	5.550	6+000	L=172.993, R=300.000, L=83.623	2.000
	5.550	5.550	6+200	R=435.000, L=270.306	2.000
	5.550	5.550	6+400	L=172.993, R=300.000, L=83.623	2.000

Profile of Underpass (1 of 2)

V=1: 400
H=1:4000



Gradient	6.800		i=3.000% L=280.000		-1.600		i=0.300% L=450.000		-2.950		i=5.200% L=270.000		-16.990		i=5.200% L=430.000																																																											
Proposed Height	6.800	6.200	5.600	5.000	4.400	3.800	3.200	2.600	2.000	1.400	0.800	0.200	-0.355	-0.820	-1.195	-1.480	-1.675	-1.780	-1.840	-1.900	-1.940	-1.960	-2.020	-2.080	-2.140	-2.200	-2.260	-2.320	-2.380	-2.440	-2.500	-2.560	-2.620	-2.683	-2.821	-2.904	-3.061	-3.405	-3.852	-4.114	-4.402	-5.055	-5.811	-6.671	-7.633	-7.964	-8.637	-9.528	-10.301	-10.846	-10.964	-11.489	-11.905	-12.202	-12.381	-12.440	-12.381	-12.301	-12.202	-11.905	-11.489	-10.964	-10.301	-9.528	-8.637	-7.630	-6.590	-5.550	-4.510	-3.470	-2.430	-1.390	-0.350	0.690
Ground Height	7.000	7.100	7.246	7.390	7.457	7.527	7.573	7.617	7.662	7.650	7.491	7.332	7.173	7.014	7.000	7.165	7.672	7.782	7.798	7.813	7.823	7.828	7.844	7.859	7.874	7.890	6.991	6.936	6.882	6.827	7.003	7.518	7.243	7.000	7.000	7.000	7.000	6.897	6.656	6.416	6.176	6.096	5.988	5.997	5.876	5.765	5.741	5.330	5.000	5.103	5.313	6.000	6.000	6.180	6.345	6.683	7.000	7.000	6.969	6.764	6.559	6.355	6.150	5.331	5.468	6.158	6.481	6.002	6.029	6.507				
Station	BP	020.000	040.000	060.000	080.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	280.000	300.000	320.000	340.000	360.000	380.000	400.000	420.000	440.000	460.000	480.000	500.000	520.000	540.000	560.000	580.000	600.000	620.000	640.000	660.000	680.000	700.000	720.000	730.000	740.000	760.000	780.000	800.000	820.000	840.000	860.000	880.000	900.000	920.000	940.000	960.000	980.000	1000.000	1020.000	1040.000	1060.000	1080.000	1100.000	1120.000	1140.000	1160.000	1180.000	1200.000	1220.000	1240.000	1260.000	1280.000	1300.000	1320.000	1340.000	1360.000	1380.000	1400.000		
Curve	R=∞		L=393.346		R=400.000		L=274.653		R=∞		L=158.435		L=70.000		A=132.288		L=134.118		R=250.000		L=400.000		A=316.228																																																			



SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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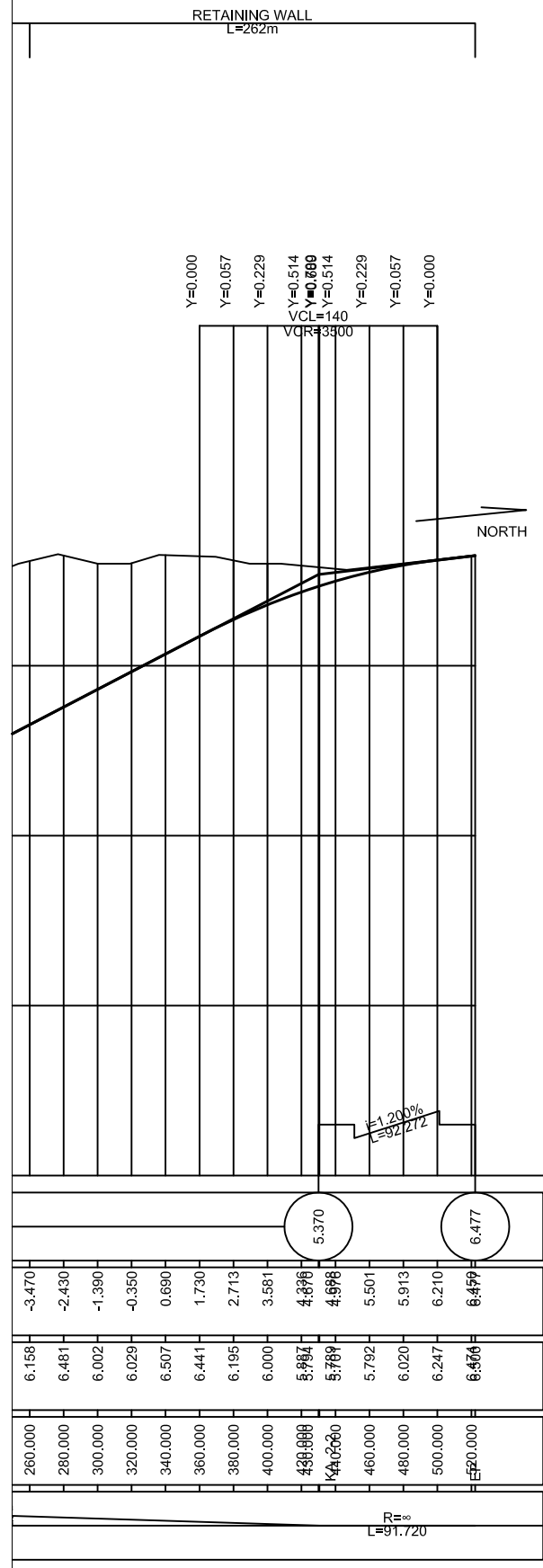
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4/6

REMARKS:
Profile of Underpass (1 of 2)

PROFILE OF UNDERPASS (2 of 2)

V=1: 400
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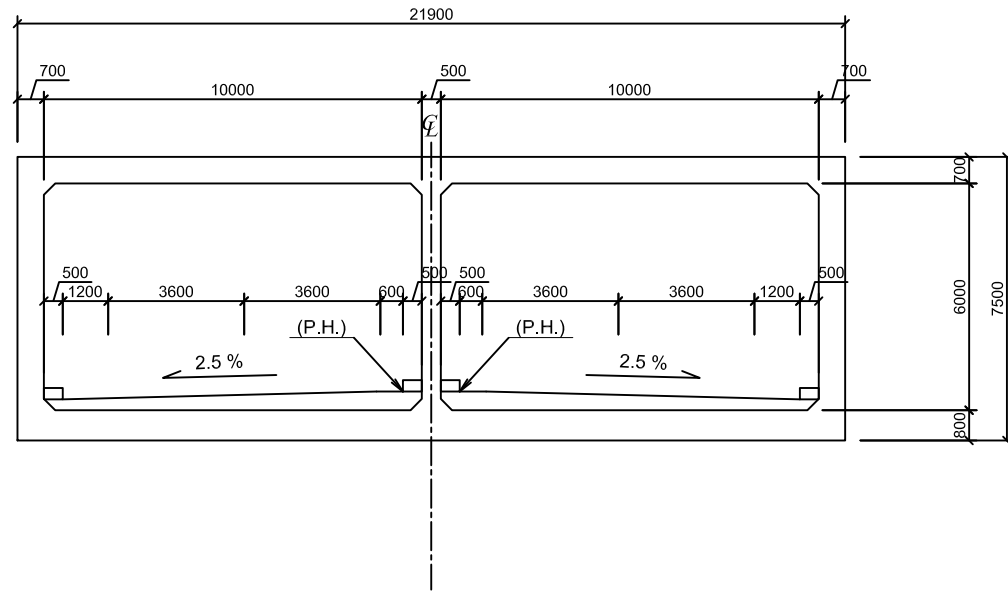
REMARKS:

Profile of Underpass (2 of 2)

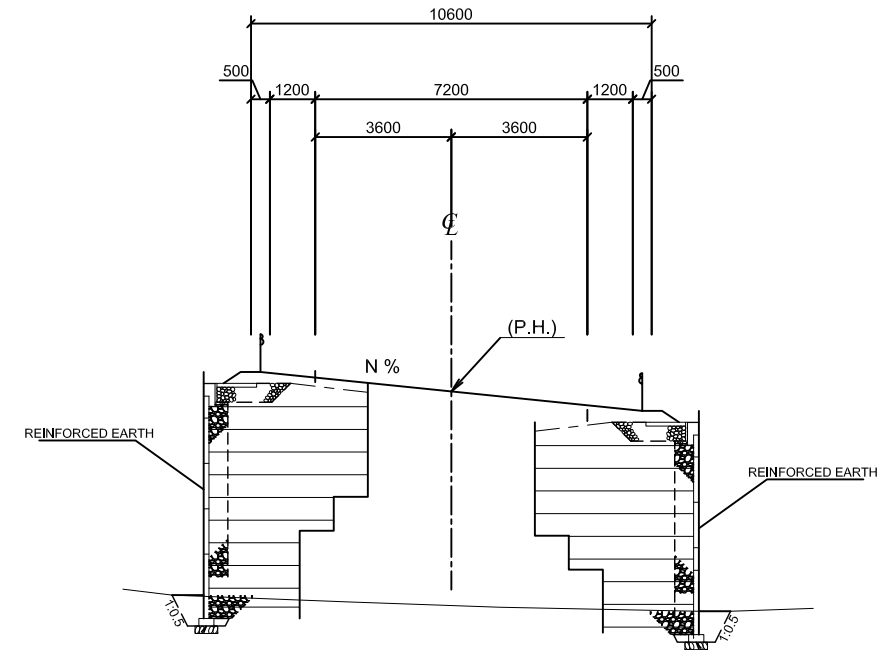
Typical Cross Sections (Concept Design at East Side)

S=1:200

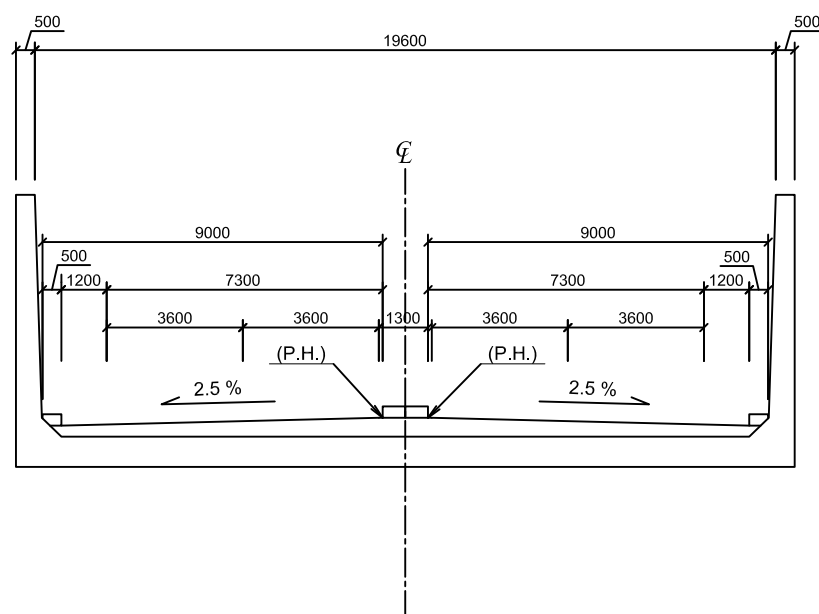
Box Culvert (Omar Torrijos Ave.)



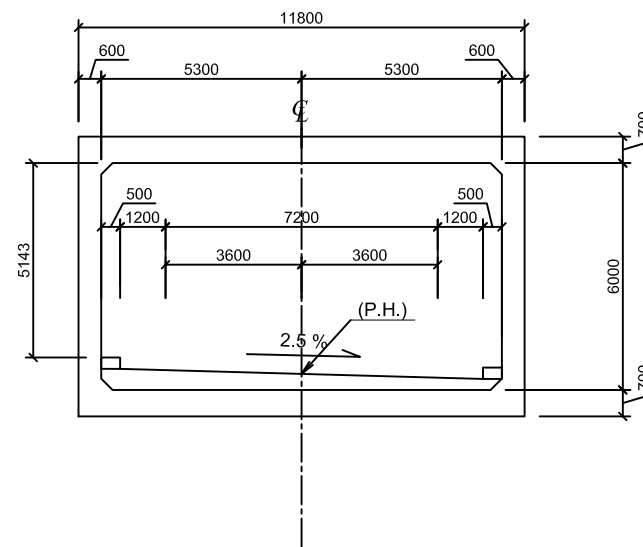
Earth Work (1 Way 2 Lane Ramp)



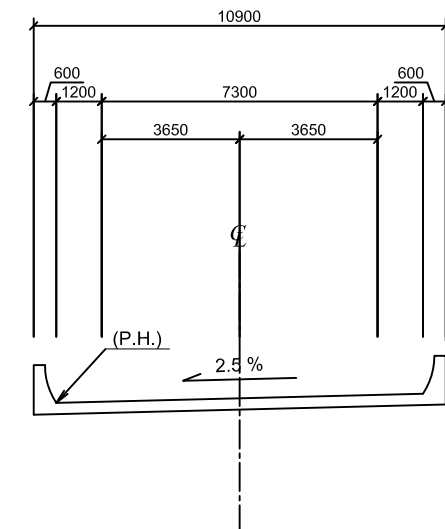
Under Pass (Omar Torrijos Ave.)



Box Culvert (1 Way 2 Lane Ramp)



On/Off Ramp (1 Way 2 Lane)



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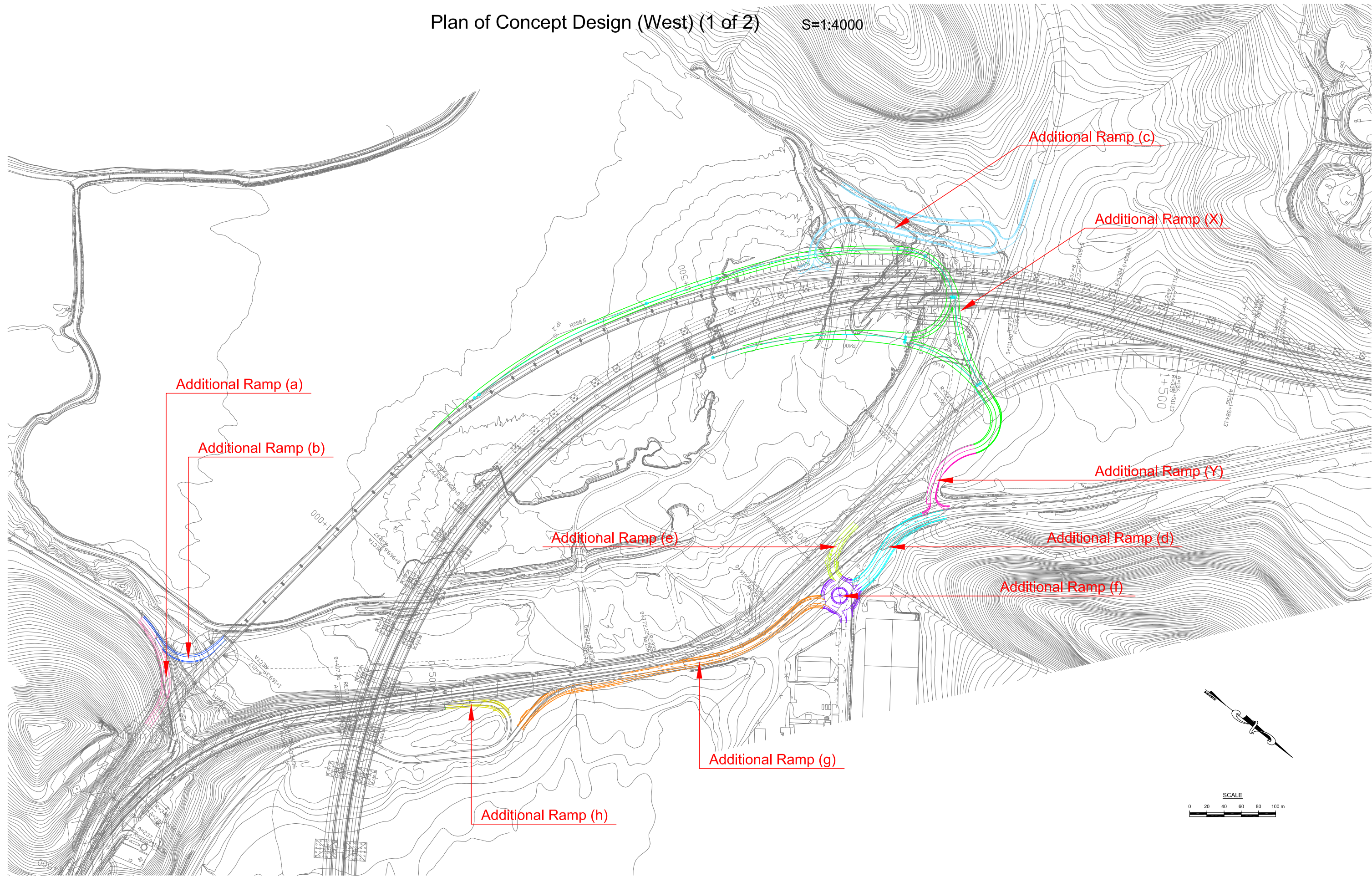
PAGE: 6/6

REMARKS:
Typical Cross Sections (Concept Design at East Side)

Appendix 5-2-2: West Side Area

Plan of Concept Design (West) (1 of 2)

S=1:4000



SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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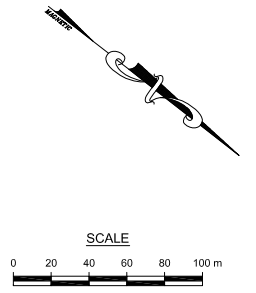
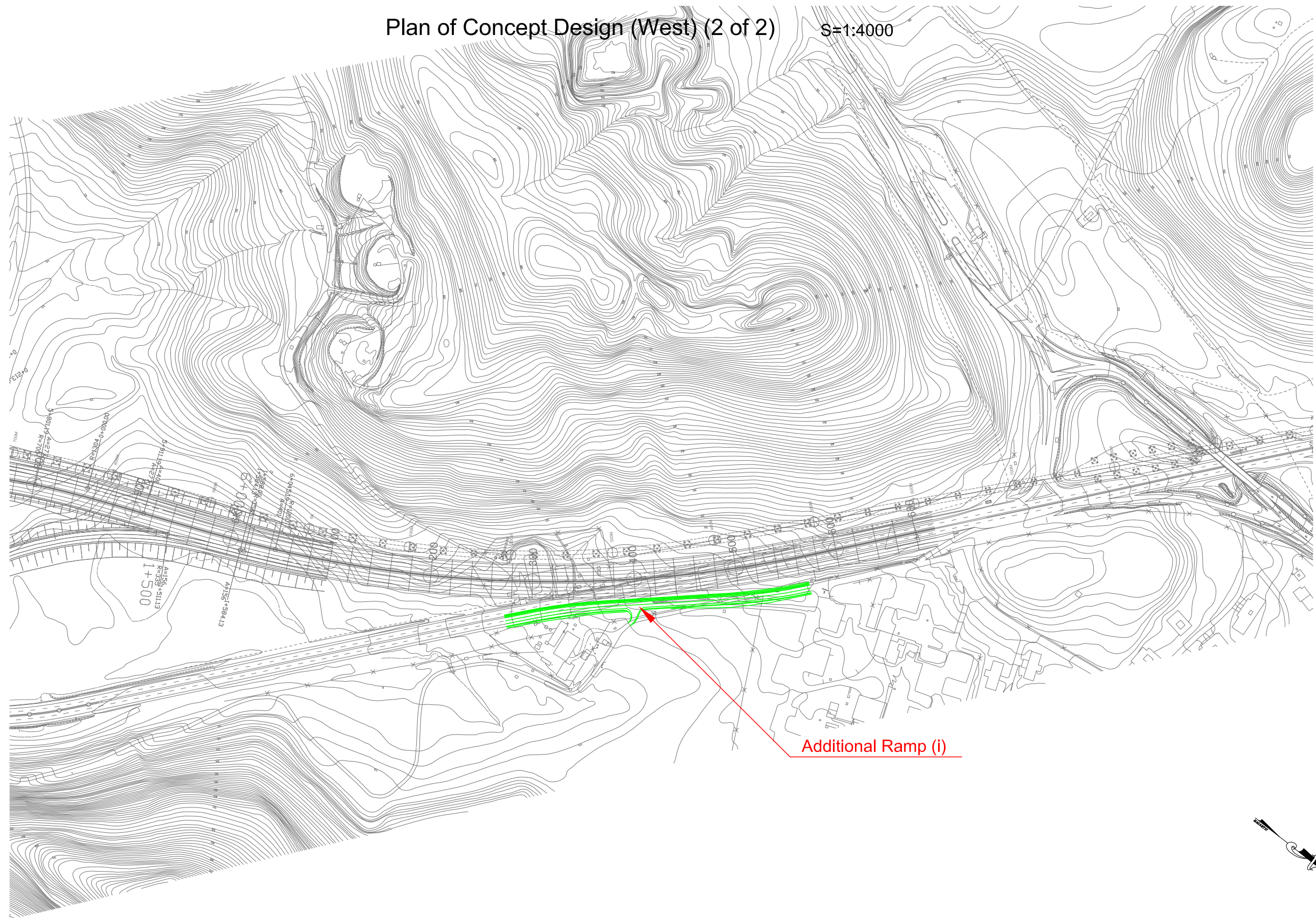
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REMARKS:
Plan of Concept Design (West) (1 of 2)

Plan of Concept Design (West) (2 of 2)

S=1:4000



	SECRETARIA DEL METRO DE PANAMA	 JAPAN INTERNATIONAL COOPERATION AGENCY	THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT					REMARKS: Plan of Concept Design (West) (2 of 2)
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Alignment of Additional Ramp (X)

S=1:4000



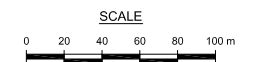
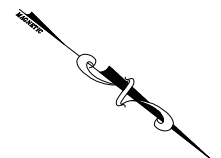
NAME	STATION	X	Y	CURVE	LENGTH
X-1					
BC 1-0	0K000.000	988778.671000	656099.620000		
EBC 1-1	0K092.394	988835.936000	656027.227000	R=605.000000	92.394
EP	0K226.661	988941.725219	655945.570672	R=400.000000	134.267

NAME	STATION	X	Y	CURVE	LENGTH
X-2					
BC 1-0	0K000.000	988943.113000	655948.194000		
EP	0K100.131	989040.305000	655935.558000	R=140.000000	100.131

NAME	STATION	X	Y	CURVE	LENGTH
X-3					
BC 1-0	0K000.000	988940.324000	655942.925000		
EP	0K077.845	988953.411000	655873.938000	R=50.000000	77.845

NAME	STATION	X	Y	CURVE	LENGTH
X-4					
BC 1-0	0K000.000	989041.708000	655931.793000		
EP	0K105.539	988956.843000	655871.127000	R=200.000000	105.539

NAME	STATION	X	Y	CURVE	LENGTH
X-5.1					
BC 1-0	0K000.000	988955.200000	655872.473000		
EP	0K059.959	988900.132000	655854.900000	R=64.200000	59.959
X-5.2					
BP	0K000.000	988900.132000	655854.900000	R=∞	0.000
BC 1-0	0K000.000	988900.132000	655854.900000	R=70.000000	33.109
EBC 1-1	0K033.109	988870.052429	655867.982202	R=600.000000	213.630
EC 1-0	0K246.739	988725.819414	656024.041728	R=∞	87.481
BC 2-0	0K334.220	988678.758653	656097.785642	R=700.000000	222.086
EC 2-0	0K556.306	988590.730142	656300.667441	R=∞	6.800
EP	0K563.106	988589.042929	656307.254660		



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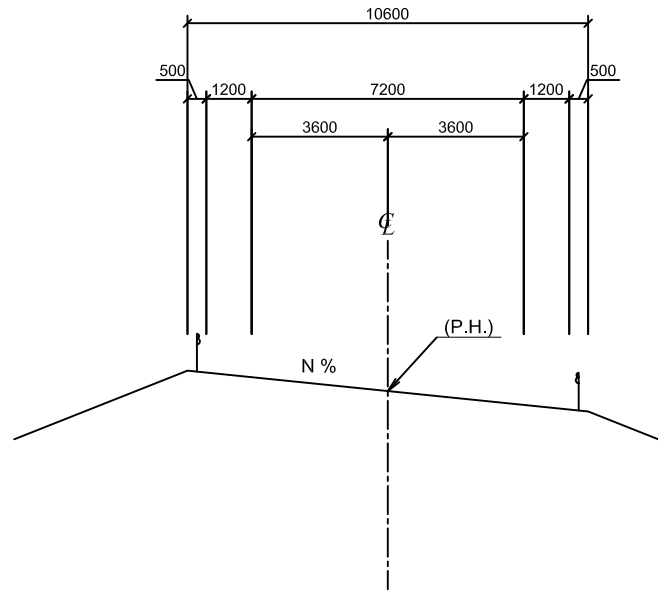
REMARKS:

Alignment of Additional Ramp (X)

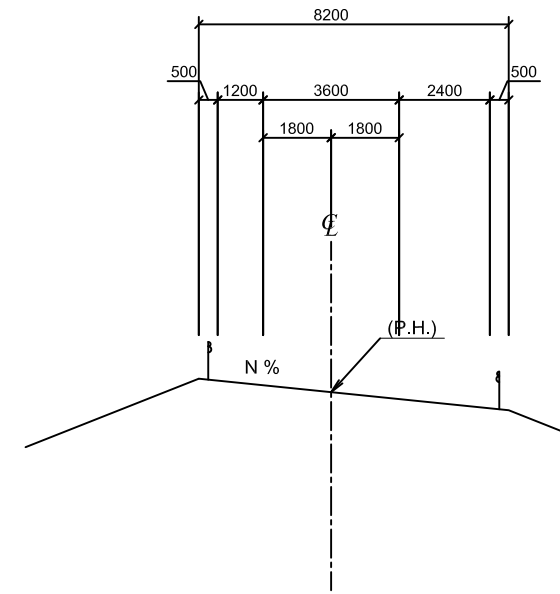
Typcal Cross Sections (Concept Design at West Side)

S=1:200

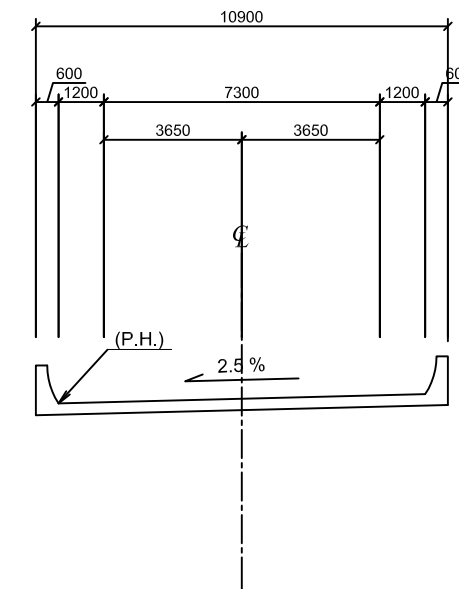
Earth Work (1 Way 2 Lane Ramp)



Earth Work (1 Way 1 Lane Ramp)



Conecting Road to America Bridge
(1 Way 2 Lane)



SECRETARIA DEL METRO DE PANAMÁ



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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DESIGNED:

DATE: May 2014
SCALE: S=1:200

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CIVIL AND FACILITY PLANNING

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PAGE: 5/5

REMARKS:

Typcal Cross Sections
(Concept Design at West Side)

Appendix 6: Location of Existing Utilities and Relocation Plan (4th Panama Canal Bridge)

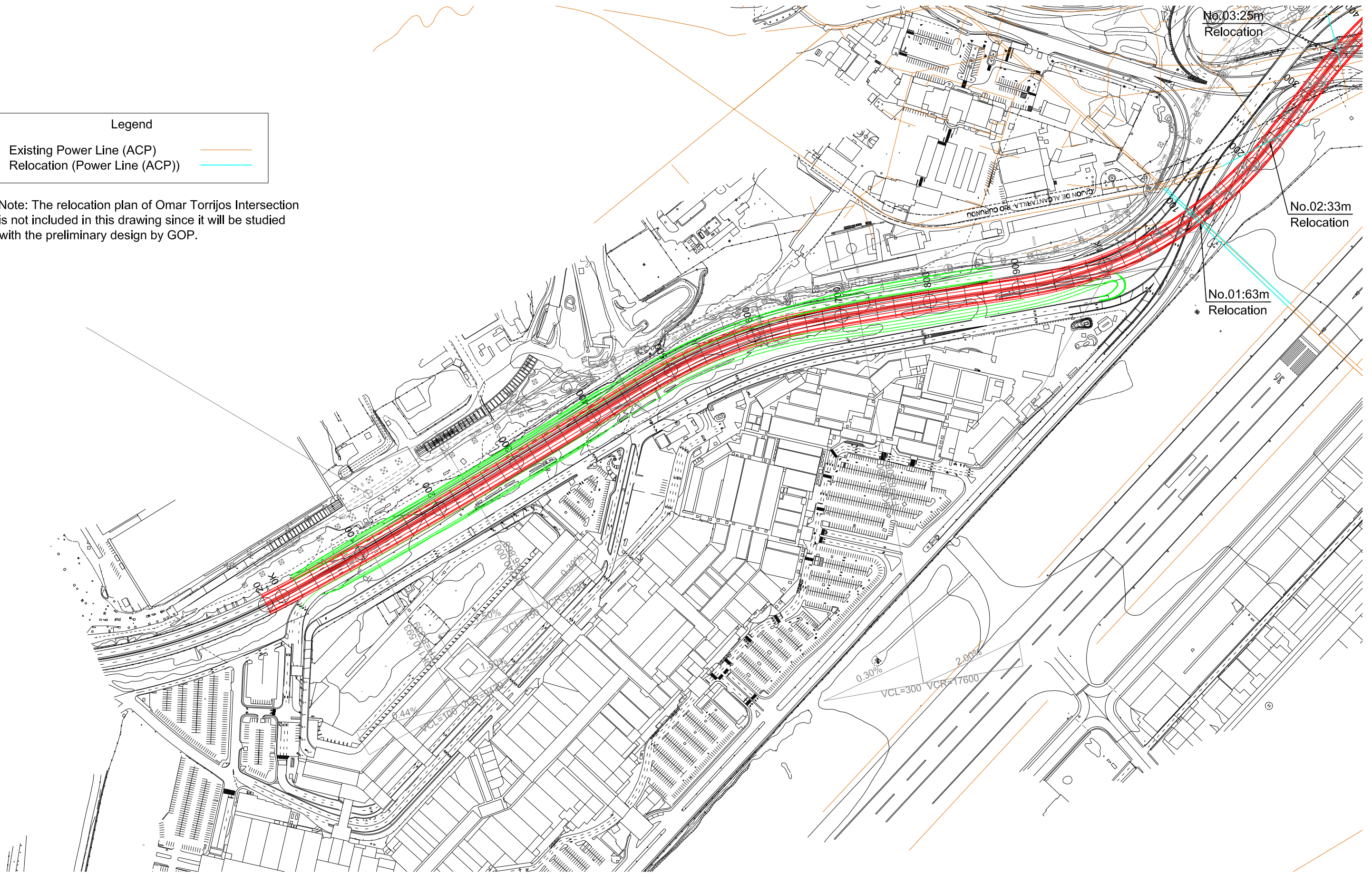
Location of Existing Utilities and Relocation Plan (Power Line) (1 of 5)

Legend

Existing Power Line (ACP) ————

Relocation (Power Line (ACP)) ————

Note: The relocation plan of Omar Torrijos Intersection is not included in this drawing since it will be studied with the preliminary design by GOP.



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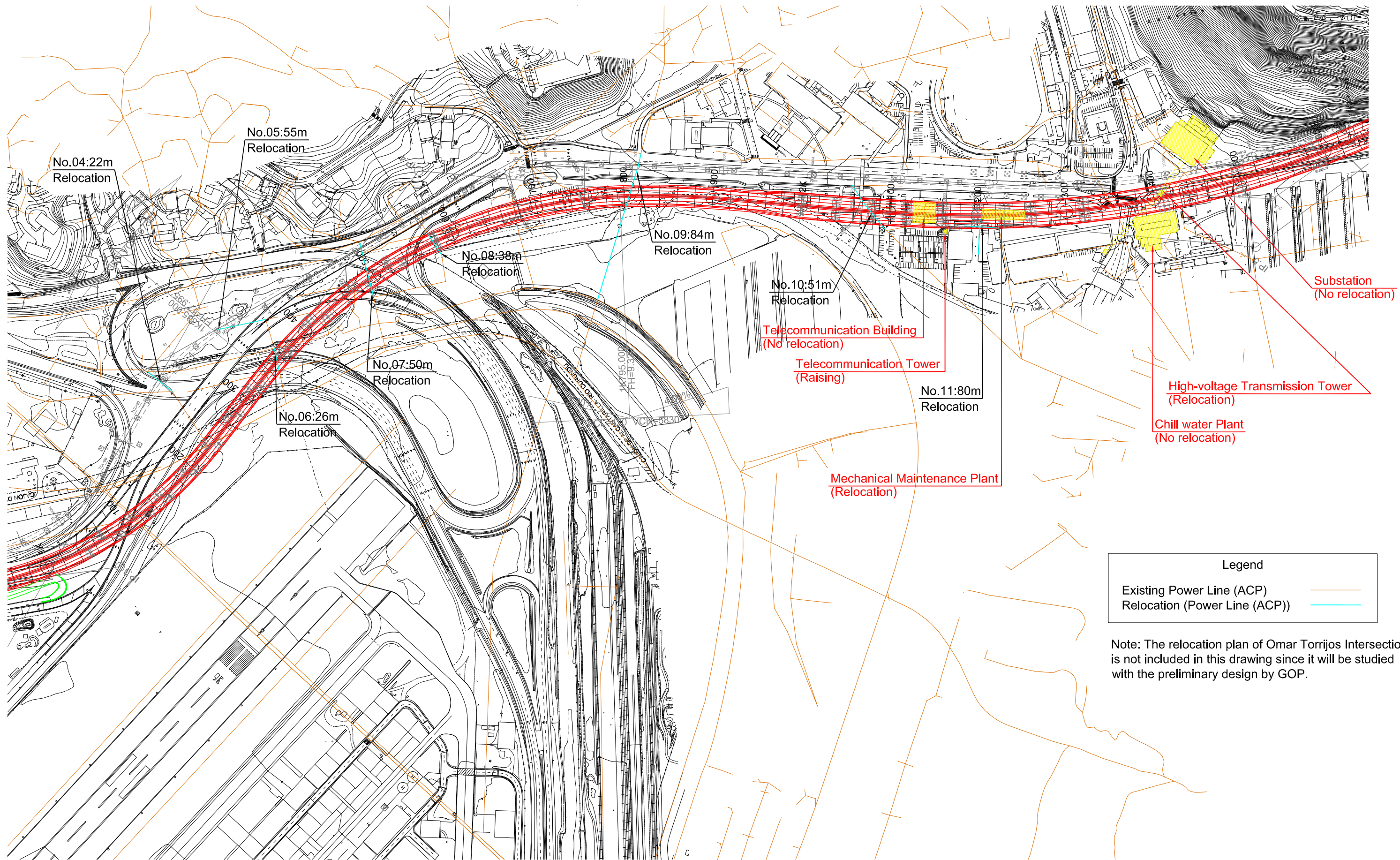
APPROVED BY:

1 / 5

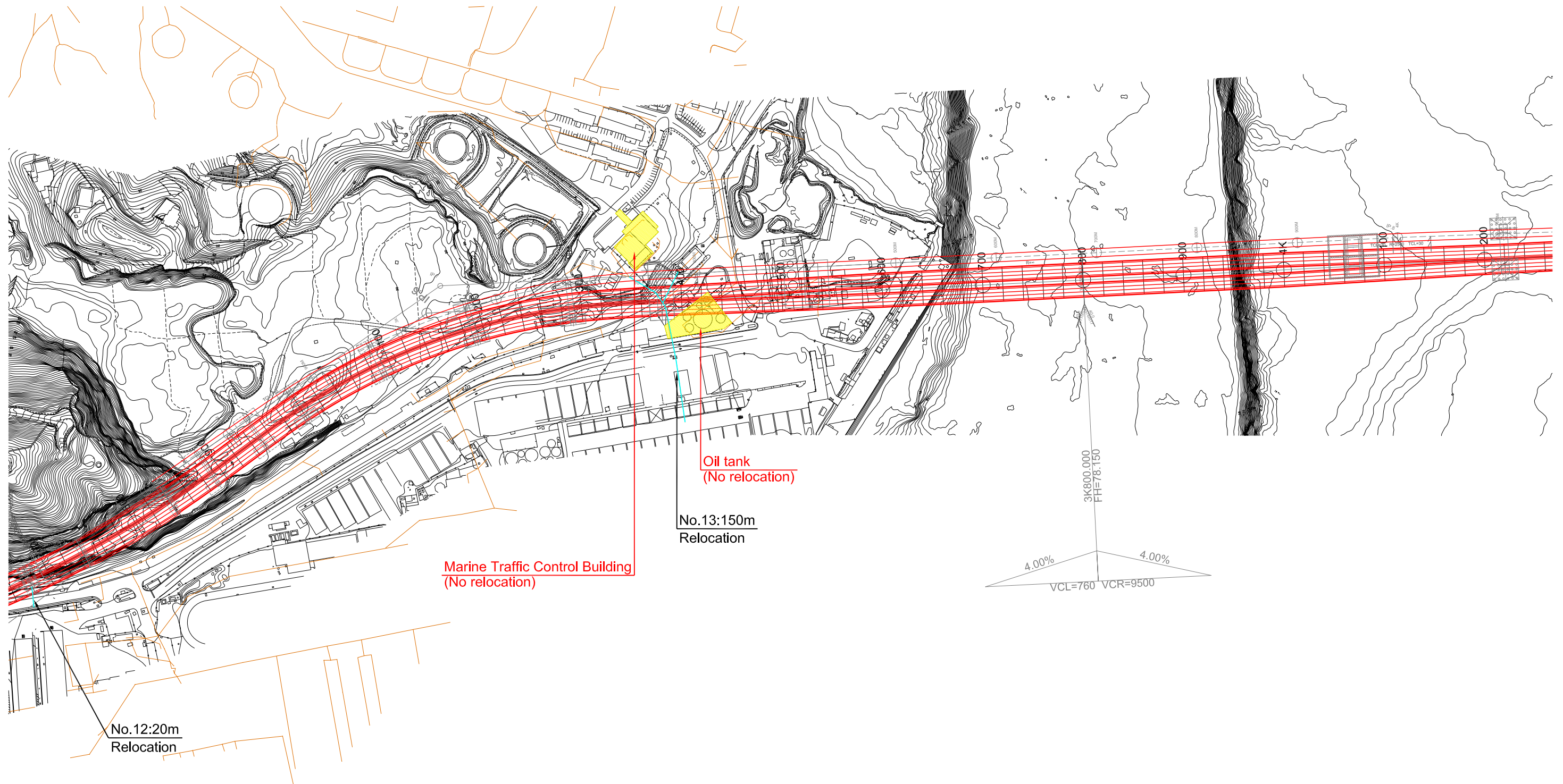
REMARKS:

Location of Existing Utilities and Relocation Plan (Power Line) (1 of 5)

Location of Existing Utilities and Relocation Plan (Power Line) (2 of 5)



Location of Existing Utilities and Relocation Plan (Power Line) (3 of 5)



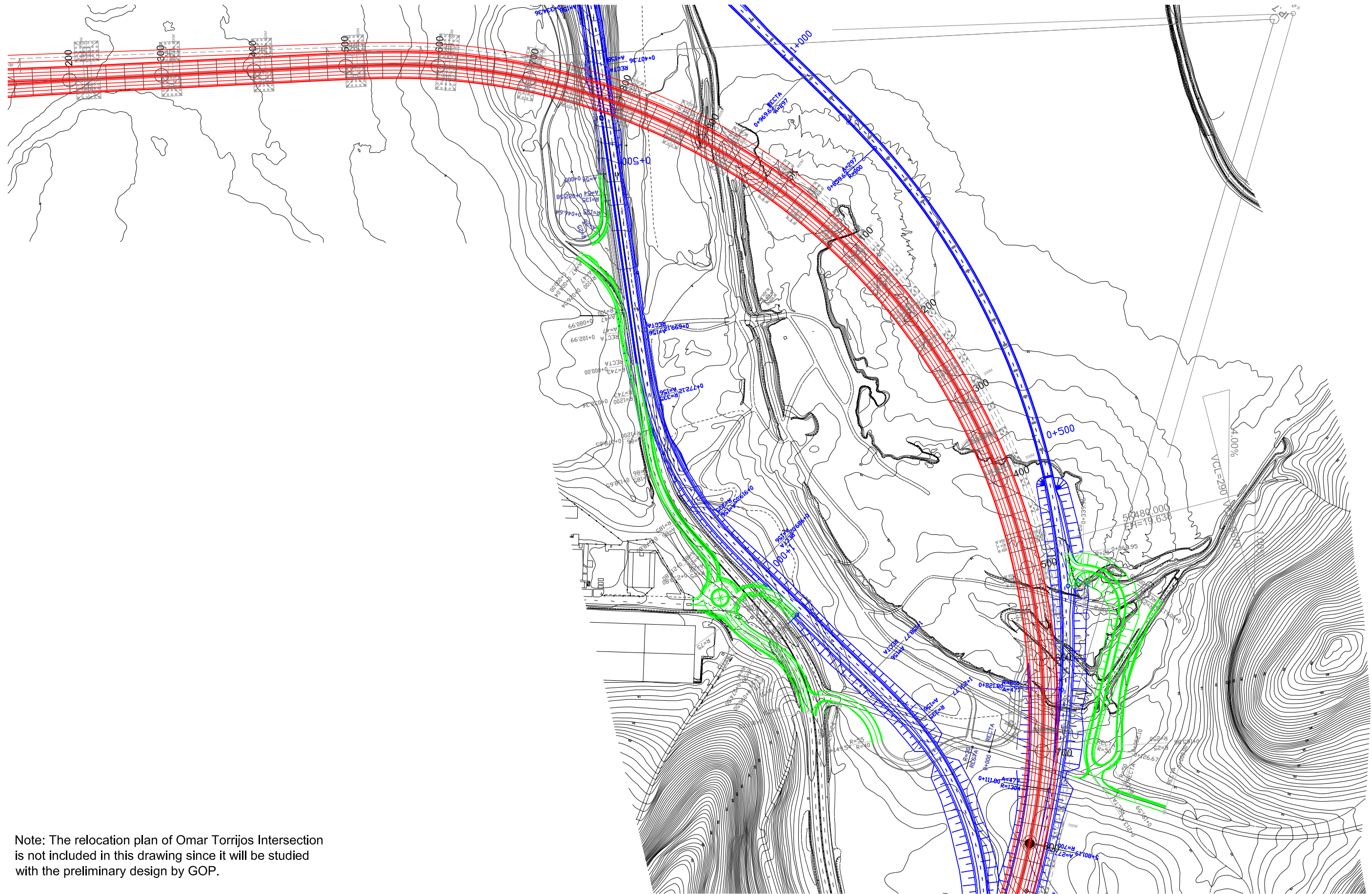
Legend

Existing Power Line (ACP) ————

Relocation (Power Line (ACP)) ————

Note: The relocation plan of Omar Torrijos Intersection is not included in this drawing since it will be studied with the preliminary design by GOP.

Location of Existing Utilities and Relocation Plan (Power Line) (4 of 5)



Note: The relocation plan of Omar Torrijos Intersection is not included in this drawing since it will be studied with the preliminary design by GOP.



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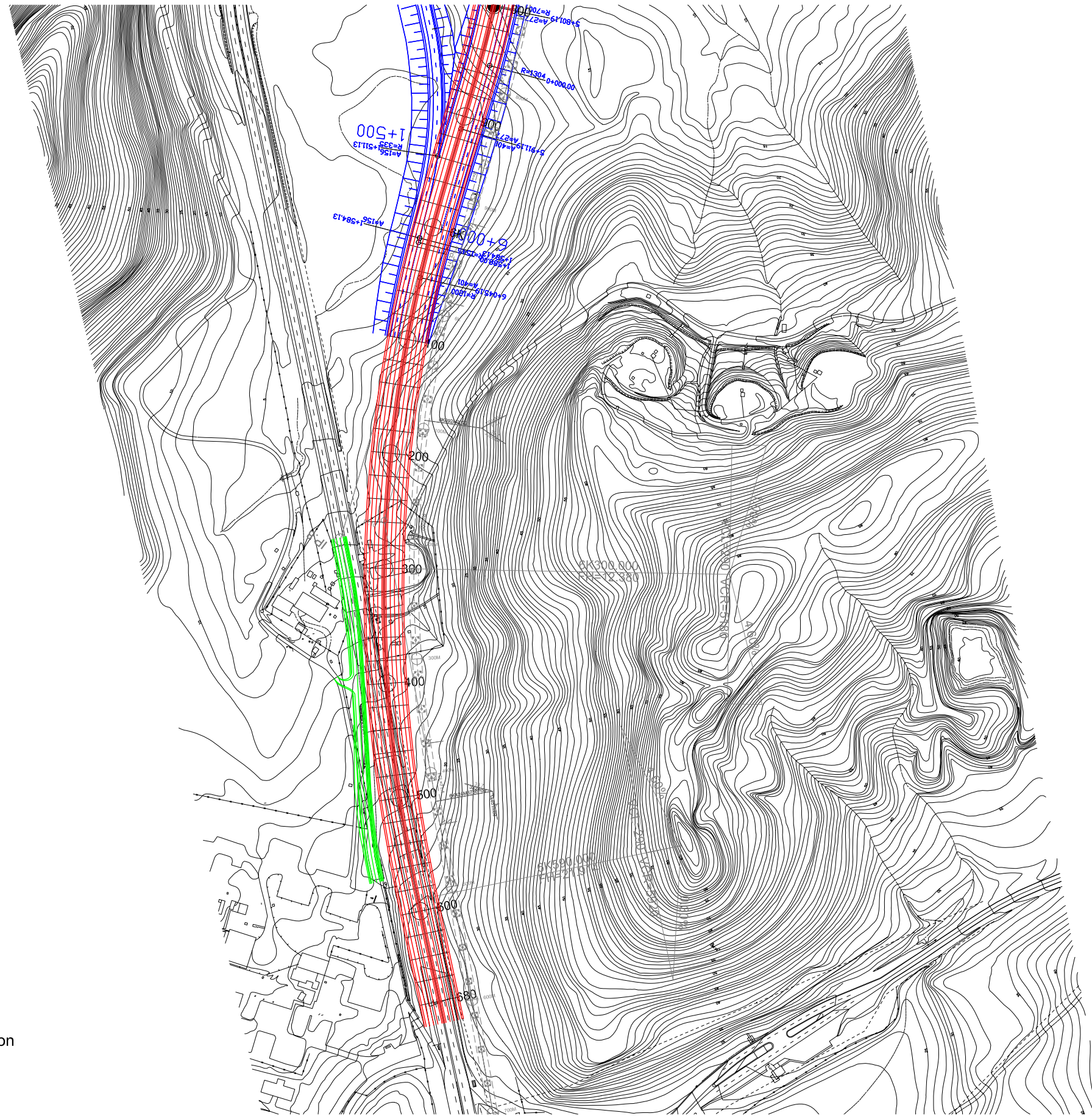
THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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REMARKS:

Location of Existing Utilities and Relocation Plan (Power Line) (4 of 5)

Location of Existing Utilities and Relocation Plan (Power Line) (5 of 5)



Note: The relocation plan of Omar Torrijos Intersection is not included in this drawing since it will be studied with the preliminary design by GOP.



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REMARKS:

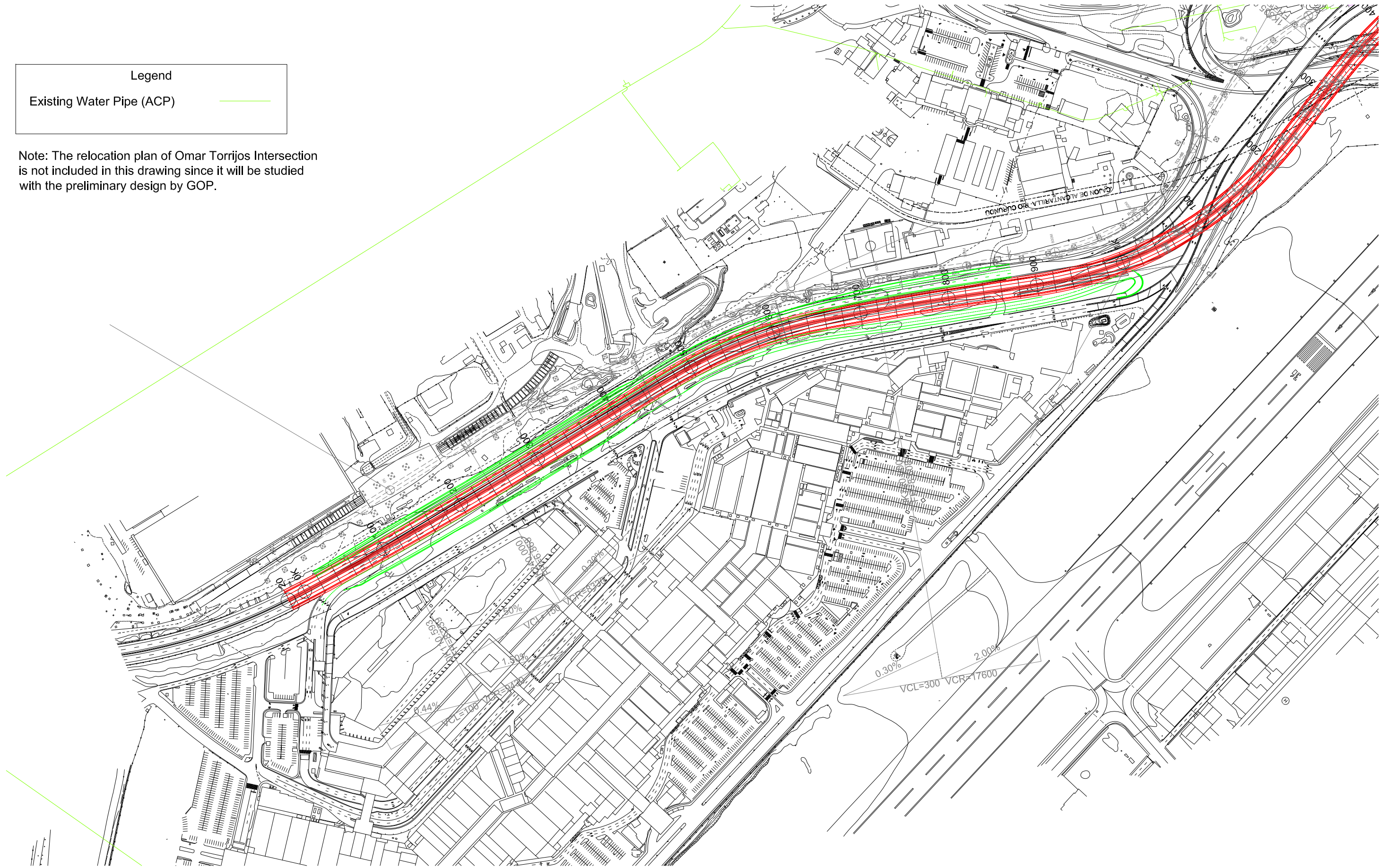
Location of Existing Utilities and Relocation Plan (Power Line) (5 of 5)

Location of Existing Utilities and Relocation Plan (Water Pipe) (1 of 5)

Legend

Existing Water Pipe (ACP) 

Note: The relocation plan of Omar Torrijos Intersection is not included in this drawing since it will be studied with the preliminary design by GOP.



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REMARKS:

Location of Existing Utilities and Relocation Plan (Water Pipe) (1 of 5)