





Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Predecessors	Successors	Total Float	2005												2006												2007												2008												2009												2010																							
								A	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D				
H60	Roadway Drawings West of Bridge	85*	30SEP05	03FEB06	300*	306*	36	H60 [red bar] Roadway Drawings West of Bridge																																																																																			
302	Stage 2 Road Safety Audit West of Bridge	10	14NOV05	25NOV05	300*	303*	36	302 [red bar] Stage 2 Road Safety Audit West of Bridge																																																																																			
303	MOT 50% Design Review West of Bridge	15	28NOV05	16DEC05	302*	304*	36	303 [green bar] MOT 50% Design Review West of Bridge																																																																																			
304	100% Roadway Drawings West of Bridge	10	19DEC05	06JAN06	303*	305*, 370*, 380*	36	304 [green bar] 100% Roadway Drawings West of Bridge																																																																																			
305	Stage 3 Road Safety Audit West of Bridge	5	09JAN06	13JAN06	304*	306*	36	305 [green bar] Stage 3 Road Safety Audit West of Bridge																																																																																			
306	MOT 100% Design Review West of Bridge	15	16JAN06	03FEB06	305*, 366, H60*	760*, 3000*	36	306 [green bar] MOT 100% Design Review West of Bridge																																																																																			
<b>DETOURS &amp; STAGING DESIGN</b>																																																																																											
316	50% Detours & Staging Design	20	30SEP05	28OCT05	35*	326*, H65*	46	316 [red bar] 50% Detours & Staging Design																																																																																			
H65	Detours & Staging Design	1	30SEP05	30SEP05	316*	366	120	H65 [red bar] Detours & Staging Design																																																																																			
326	Stage 2 Road Safety Audit	10	31OCT05	11NOV05	316*	336*	46	326 [green bar] Stage 2 Road Safety Audit																																																																																			
336	MOT 50% Design Review	15	14NOV05	02DEC05	326*	346*	46	336 [green bar] MOT 50% Design Review																																																																																			
346	100 % Detours & Staging Design	10	05DEC05	16DEC05	336*	356*	46	346 [green bar] 100 % Detours & Staging Design																																																																																			
356	Stage 3 Road Safety Audit	5	19DEC05	23DEC05	346*	366*	46	356 [green bar] Stage 3 Road Safety Audit																																																																																			
366	MOT 100% Design Review	15	02JAN06	20JAN06	356*, H65	306	46	366 [green bar] MOT 100% Design Review																																																																																			
<b>FINAL ROADWAY DESIGN PAVING, STRIPING &amp; SIGNING</b>																																																																																											
370	50% Paving, Striping, Signing Design	20	09JAN06	03FEB06	35, 304*	371*, H70*	51	370 [red bar] 50% Paving, Striping, Signing Design																																																																																			
H70	Final Roadway Design Paving, Striping & Signing	75*	09JAN06	24APR06	370*	375*	51	H70 [red bar] Final Roadway Design Paving, Striping & Signing																																																																																			
371	Stage 2 Road Safety Audit	10	06FEB06	17FEB06	370*	372*	51	371 [green bar] Stage 2 Road Safety Audit																																																																																			
372	MOT 50% Design Review	15	20FEB06	10MAR06	371*	373*	51	372 [green bar] MOT 50% Design Review																																																																																			
373	100 % Paving, Striping, Signing Design	10	13MAR06	24MAR06	372*	374*	51	373 [green bar] 100 % Paving, Striping, Signing Design																																																																																			
374	Stage 3 Road Safety Audit	5	27MAR06	31MAR06	373*	375*	51	374 [green bar] Stage 3 Road Safety Audit																																																																																			
375	MOT 100% Design Review	15	03APR06	24APR06	374*, H70*	755*	51	375 [green bar] MOT 100% Design Review																																																																																			
<b>LANDSCAPING DESIGN</b>																																																																																											
380	50% Landscaping Design	20	09JAN06	03FEB06	35, 304*	381*, H80*	283	380 [red bar] 50% Landscaping Design																																																																																			
H80	Landscaping Desing	75*	09JAN06	24APR06	380*	385*	283	H80 [red bar] Landscaping Desing																																																																																			
381	50% Concept Review/ Checking Team Review (TAF)	10	06FEB06	17FEB06	380*	382*	283	381 [red bar] 50% Concept Review/ Checking Team Review (TAF)																																																																																			
382	MOT 50% Design Review	15	20FEB06	10MAR06	381*	383*	283	382 [green bar] MOT 50% Design Review																																																																																			
383	100 % Landscaping Design	10	13MAR06	24MAR06	382*	384*	283	383 [green bar] 100 % Landscaping Design																																																																																			
384	100% Checking Team Review (TAF)	5	27MAR06	31MAR06	383*	385*	283	384 [green bar] 100% Checking Team Review (TAF)																																																																																			
385	MOT 100% Design Review	15	03APR06	24APR06	384*, H80*	3010	283	385 [green bar] MOT 100% Design Review																																																																																			
<b>STRUCTURES DESIGN FOLLOWING NTP</b>																																																																																											
<b>PIERS 1 - 4 SUBSTRUCTURE DESIGN</b>																																																																																											
490	50% Substructure Design	10	30SEP05	14OCT05	35*	491*, H75*	0	490 [red bar] 50% Substructure Design																																																																																			
H75	Piers 1-4 Substructure Design	60*	30SEP05	23DEC05	490*	495*	31	H75 [red bar] Piers 1-4 Substructure Design																																																																																			
491	50% Concept Review / Checking Team Review (TAF)	10	17OCT05	28OCT05	490*	492*	0	491 [red bar] 50% Concept Review / Checking Team Review (TAF)																																																																																			
492	MOT 50% Design Review Permanent & Temporary	15	31OCT05	18NOV05	491*	400*, 493*	0	492 [red bar] MOT 50% Design Review Permanent & Temporary Work																																																																																			
493	100% Substructure Design	5	21NOV05	25NOV05	492*	494*	31	493 [green bar] 100% Substructure Design																																																																																			
494	100% Concept Review/Checking Team Review (TAF)	5	28NOV05	02DEC05	493*	495*	31	494 [green bar] 100% Concept Review/Checking Team Review (TAF)																																																																																			
495	MOT 100% Design Review Permanent & Temp Works	15	05DEC05	23DEC05	494*, H75*	392*, 1220	31	495 [green bar] MOT 100% Design Review Permanent & Temp Works																																																																																			
<b>ABUT 1, 2 &amp; PIER 5 FOUNDATION DESIGN</b>																																																																																											
H85	Abutment 1, 2 & Pier 5 Foundation Design	145*	30SEP05	01MAY06	390*	398*	110	H85 [red bar] Abutment 1, 2 & Pier 5 Foundation Design																																																																																			
390	Bore Hole Investigations	20	30SEP05	28OCT05	35*	391*, H85*	140	390 [green bar] Bore Hole Investigations																																																																																			
391	Lab Test	10	31OCT05	11NOV05	390*	392	140	391 [green bar] Lab Test																																																																																			
392	Foundation Recommendations	10	02JAN06	13JAN06	391, 495*	393*	110	392 [green bar] Foundation Recommendations																																																																																			
393	50% Foundation Design	20	16JAN06	10FEB06	392*	394*	110	393 [green bar] 50% Foundation Design																																																																																			
394	50% Concept Review / Checking Team Review (TAF)	10	13FEB06	24FEB06	393*	395*	110	394 [green bar] 50% Concept Review / Checking Team Review (TAF)																																																																																			
395	MOT 50% Design Review Permanent & Temporary	15	27FEB06	17MAR06	394*	396*	110	395 [green bar] MOT 50% Design Review Permanent & Temporary Work																																																																																			
396	100% Foundation Design	10	20MAR06	31MAR06	395*	397*	110	396 [green bar] 100% Foundation Design																																																																																			
397	100% Concept Review/Checking Team Review (TAF)	5	03APR06	07APR06	396*	398*	110	397 [green bar] 100% Concept Review/Checking Team Review (TAF)																																																																																			
398	MOT 100% Design Review Permanent & Temp Works	15	10APR06	01MAY06	397*, H85*	1200, 1205*, 1210	110	398 [green bar] MOT 100% Design Review Permanent & Temp Works																																																																																			
<b>STRUCTURAL STEEL DESIGN</b>																																																																																											
400	50% Structural Steel Design	20	31OCT05	25NOV05	35, 492*	401*, H90*	0	400 [red bar] 50% Structural Steel Design																																																																																			

[red bar]	Early Bar
[green bar]	Progress Bar
[blue bar]	Critical Activity

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KHP1

Trans-Park Highway Group

Kicking Horse Canyon Project Phase 2

Fall 2007 Substantial Completion

Sheet 3 of 8

Date	Revision	Checked	Approved
01JUL05	Submission Design-Build Schedule		





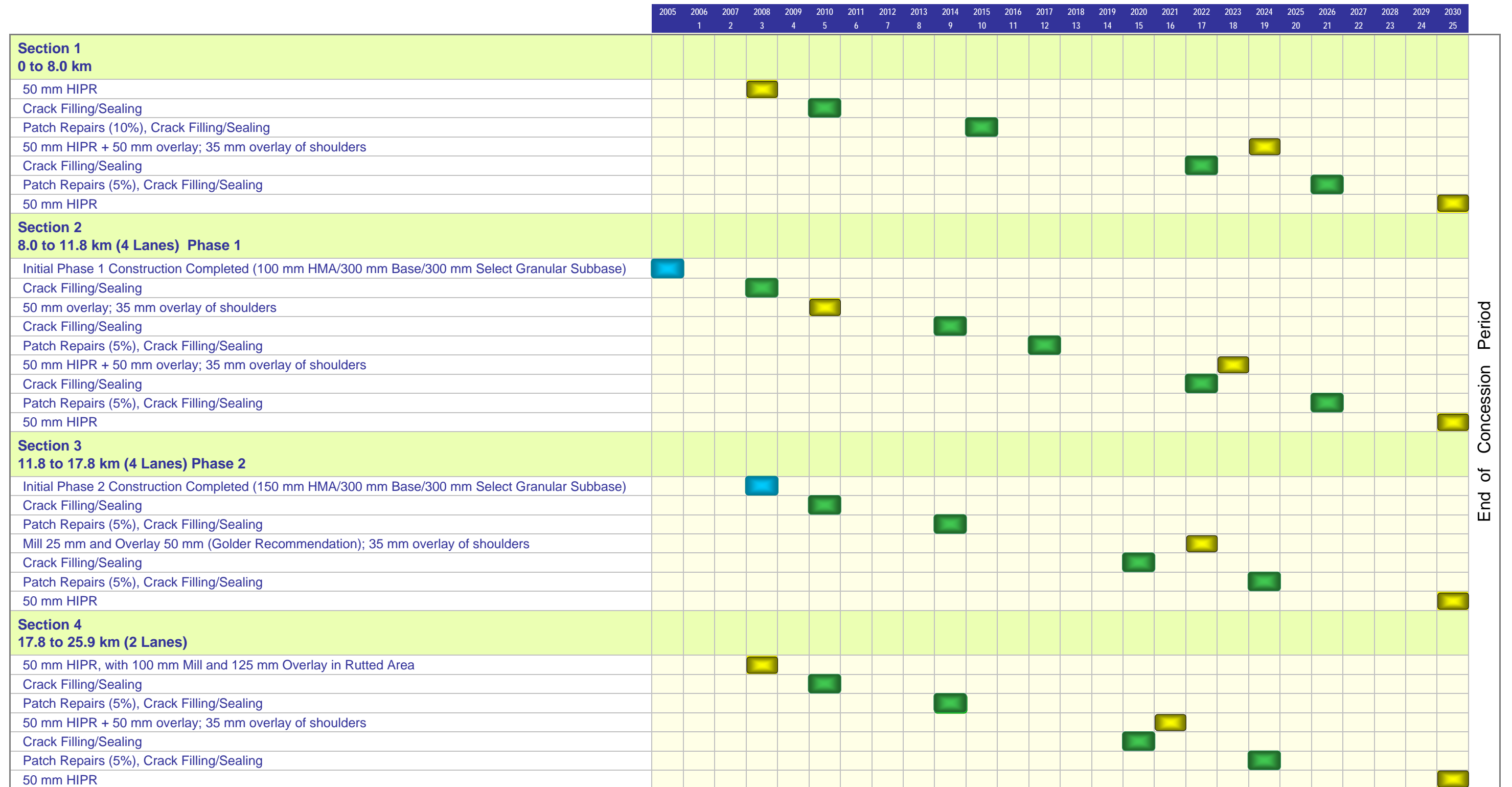




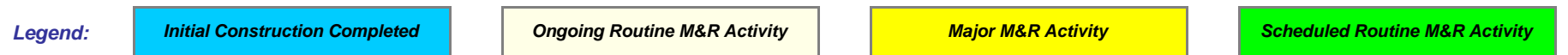




**Table 5.2-1  
Maintenance & Rehabilitation Schedule for Pavement**



End of Concession Period







BRITISH  
COLUMBIA

Ministry of Transportation

PROJECT NO. 09901-7005

KICKING HORSE CANYON PROJECT

PHASE 2

PRELIMINARY DESIGN DRAWINGS

JULY 2005



DRAWING No.

DESCRIPTION

COVER SHEET

R2-NNN-0000

DRAWING INDEX - TECHNICAL SUBMISSION

SCHEDULE

(REFERENCE SECTION 1.2 - SCHEDULING AND REPORTING)  
(REFERENCE SECTION 5.2 - ASSEST MANAGEMENT PLAN)

SHEET 1 TO 8

CONSTRUCTION SCHEDULE - GANT CHART

SHEET 1 TO 6

CONSTRUCTION SCHEDULE - LOGIC DIAGRAM (PROVIDED SEPARATELY FULL SIZE FOR READABILITY)

TABLE 5.2-1

MAINTENANCE AND REHABILITATION SCHEDULE FOR PAVEMENT

TABLE 5.2-2

MAINTENANCE AND REHABILITATION SCHEDULE FOR STRUCTURES

RAFTERS PULLOUT TO BRAKE CHECK - ROADS

(REFERENCE SECTION 3.1 - ROAD DESIGN REPORT & SECTION 3.7 DRAINAGE DESIGN REPORT)

R2-NNN-0001

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-0002

LEGEND

R2-NNN-0101 to 0122

PLAN SHEETS

R2-NNN-0201 to 0210

PROFILE SHEETS

R2-NNN-0301

TYPICAL SECTIONS

R2-NNN-0401 to 0416

GEOMETRICS AND LANING

R2-NNN-0501 to 0504

DRAINAGE AND AVALANCHE MAPS, NOTES AND DETAILS

RAFTERS PULLOUT TO BRAKE CHECK - CONSTRUCTION SEQUENCE AND STAGING

(REFERENCE SECTION 4.1 - CONSTRUCTION MANAGEMENT PLAN  
SECTION 4.2 - CONSTRUCTION STAGING PLAN  
SECTION 4.3 - TRAFFIC MANAGEMENT PLAN)

R2-NNN-2001

CONSTRUCTION SEQUENCE - RAFTERS PULLOUT

R2-NNN-2002

CONSTRUCTION SEQUENCE - BRAKE CHECK TO MOUNT HUNTER CREEK

R2-NNN-2003 to 2005

DETOURS AND STAGING - WEST CONFORM: STAGE 1

R2-NNN-2006 to 2008

DETOURS AND STAGING - WEST CONFORM: STAGE 2

R2-NNN-2009

DETOURS AND STAGING - WEST CONFORM: STAGE 3

R2-NNN-2010 to 2012

DETOURS AND STAGING - EAST CONFORM: STAGE 1

R2-NNN-2013

DETOURS AND STAGING - EAST CONFORM: STAGE 2

R2-NNN-2014 to 2015

CONSTRUCTION ACCESS DETAILS

RAFTERS PULLOUT TO BRAKE CHECK - GEOTECHNICAL

(REFERENCE SECTION 3.6 - GEOTECHNICAL DESIGN REPORT)

R2-NNN-5000

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-5001 to 5008

BORHOLE LOCATION PLAN SHEETS

R2-NNN-5009 to 5010

GEOTECHNICAL PROFILE

R2-NNN-5011 to 5018

TYPICAL CROSS SECTIONS

R2-NNN-5020

GEOTECHNICAL INFORMATION AND REFERENCES

DRAWING No.

DESCRIPTION

PARK BRIDGE - STRUCTURAL

(REFERENCE SECTION 3.2 - STRUCTURAL DESIGN REPORT)

R2-NNN-4000

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-4101 to 4103

GENERAL ARRANGEMENT

R2-NNN-4201 to 4206

CONSTRUCTION STAGING, ERECTION SEQUENCE

R2-NNN-4301

FOUNDATION PLAN

R2-NNN-4401 to 4402

ABUTMENT PLANS, ELEVATIONS AND SECTIONS

R2-NNN-4501 to 4510

PIER ELEVATIONS, SECTIONS, DETAILS, ALTERNATE FOOTING

R2-NNN-4601 to 4605

PLANS, PILE DETAILS CP RAIL IMPACT, AND PILE TABLE

R2-NNN-4701 to 4704

BRIDGE TYPICAL CROSS SECTION, PRECAST PANEL DECK FORM

R2-NNN-4800 to 4802

AND BRIDGE DETAILS

R2-NNN-4900 to 4904

MISCELLANEOUS  
RETAINING WALLS

RAFTERS PULLOUT TO BRAKE CHECK - AESTHETICS AND LANDSCAPING

(REFERENCE SECTION 3.9 - AESTHETICS AND LANDSCAPE DESIGN REPORT)

R2-NNN-9001

LANDSCAPE PLAN - RAFTERS PULLOUT AREA




R2-NNN-9002

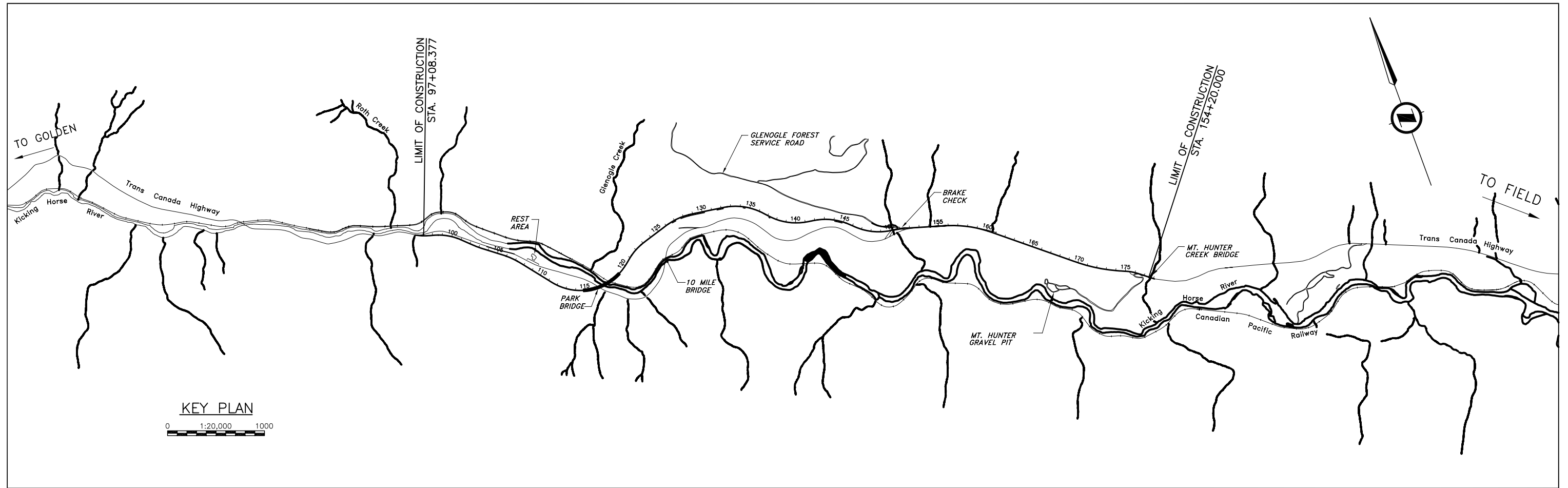
RETAINING WALL AESTHETIC TREATMENT

RAFTERS PULLOUT TO MOUNT HUNTER CREEK - DESIGN CROSS SECTIONS SHEETS  
(REFERENCE SECTION 3.1 - ROAD DESIGN REPORT)

DESIGN CROSS SECTIONS

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KEY PLAN  
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DRAWING INDEX	
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R2-NNN-5002	BOREHOLE LOCATION PLAN
R2-NNN-5003	BOREHOLE LOCATION PLAN
R2-NNN-5004	BOREHOLE LOCATION PLAN
R2-NNN-5005	BOREHOLE LOCATION PLAN
R2-NNN-5006	BOREHOLE LOCATION PLAN
R2-NNN-5007	BOREHOLE LOCATION PLAN
R2-NNN-5008	BOREHOLE LOCATION PLAN
R2-NNN-5009	GEOTECHNICAL PROFILE
R2-NNN-5010	GEOTECHNICAL PROFILE
R2-NNN-5011	TYPICAL CROSS SECTIONS
R2-NNN-5012	TYPICAL CROSS SECTIONS
R2-NNN-5013	TYPICAL CROSS SECTIONS
R2-NNN-5014	TYPICAL CROSS SECTIONS
R2-NNN-5015	TYPICAL CROSS SECTIONS
R2-NNN-5016	TYPICAL CROSS SECTIONS
R2-NNN-5017	TYPICAL CROSS SECTIONS
R2-NNN-5020	GEOTECHNICAL INFORMATION AND REFERENCES

PROVINCE OF BRITISH COLUMBIA  
MINISTRY OF TRANSPORTATION

PROJECT No. -

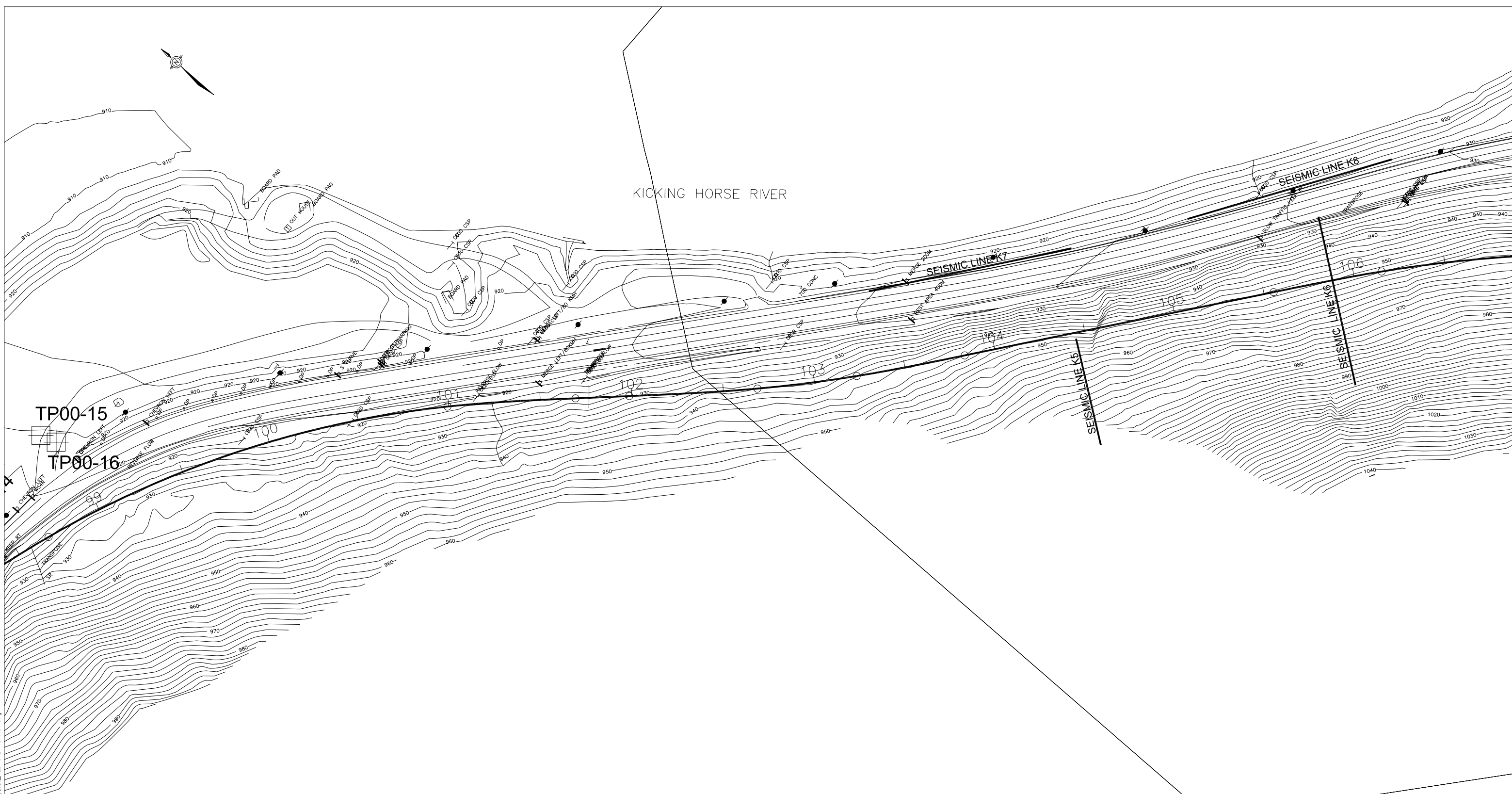
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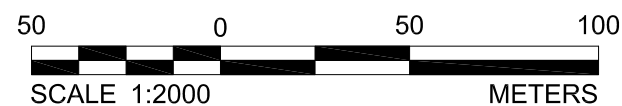
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ROCKY MOUNTAIN HIGHWAY DISTRICT

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**MINISTRY OF TRANSPORTATION**  
 KICKING HORSE CANYON PROJECT  
 PHASE 2



**BOREHOLE LOCATION PLAN**  
 RAFTERS PULL OUT TO BRAKE CHECK  
 SHEET 1 OF 8

SCALE AS SHOWN

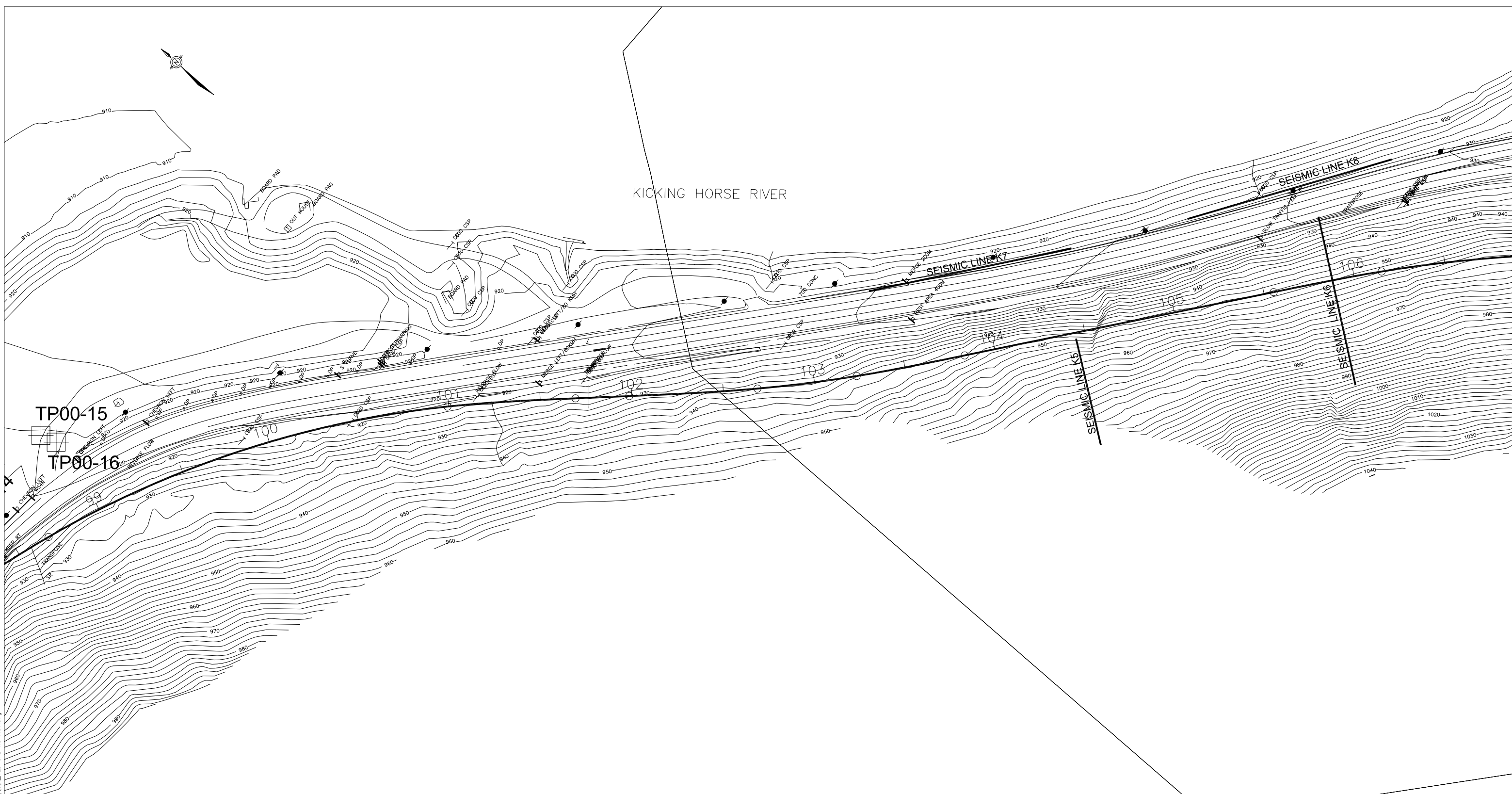
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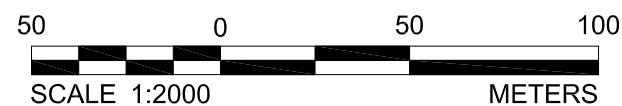
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**MINISTRY OF TRANSPORTATION**  
 KICKING HORSE CANYON PROJECT  
 PHASE 2



**BOREHOLE LOCATION PLAN**  
 RAFTERS PULL OUT TO BRAKE CHECK  
 SHEET 1 OF 8

SCALE AS SHOWN

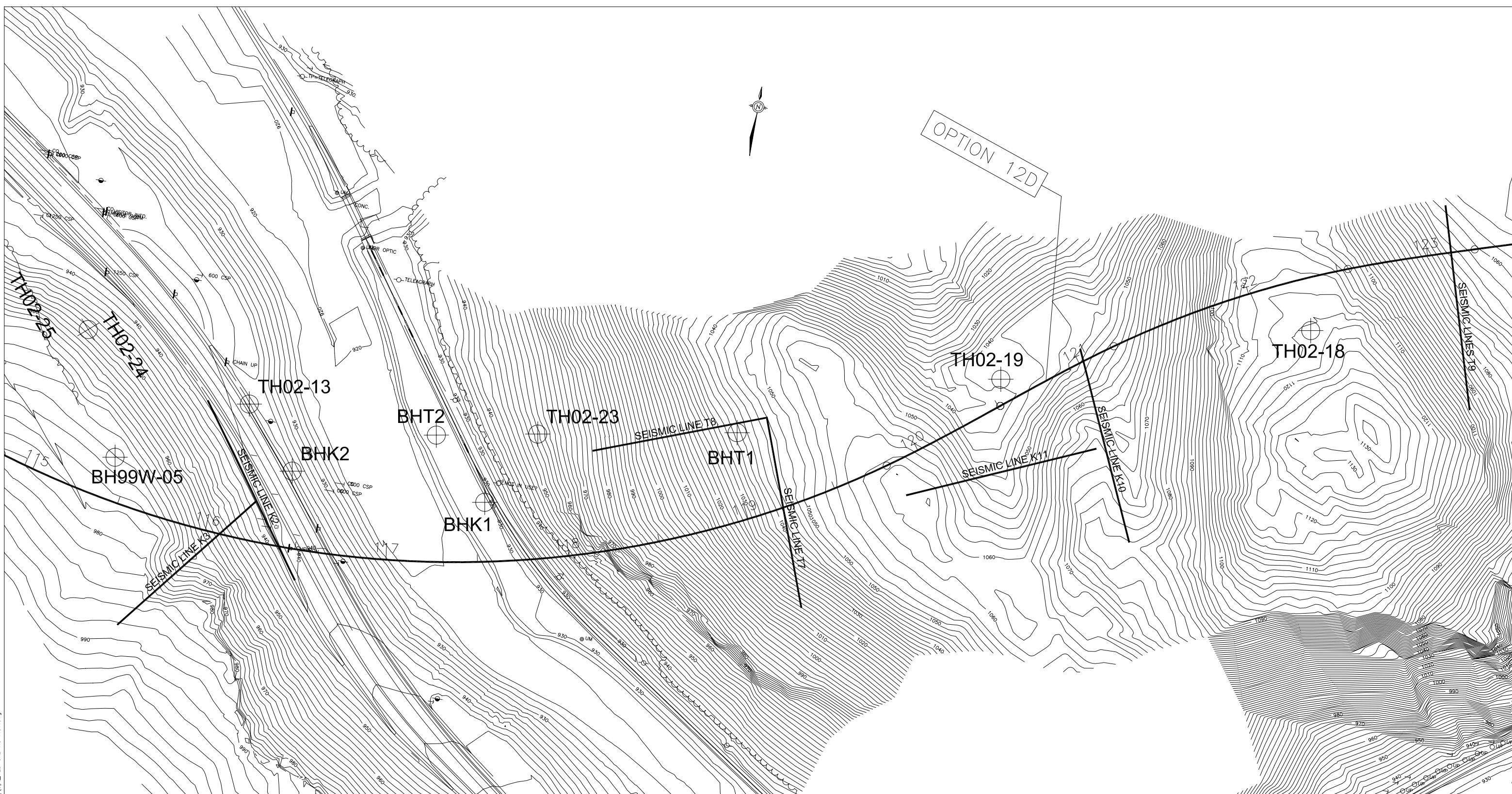
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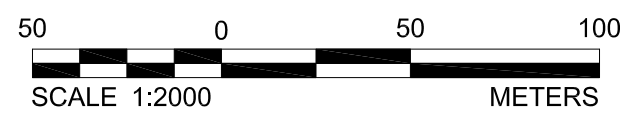
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 KICKING HORSE CANYON PROJECT  
 PHASE 2

SCALE AS SHOWN  
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**BOREHOLE LOCATION PLAN**  
 RAFTERS PULL OUT TO BRAKE CHECK  
 SHEET 3 OF 8

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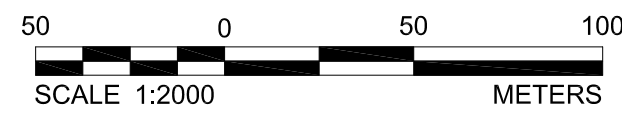
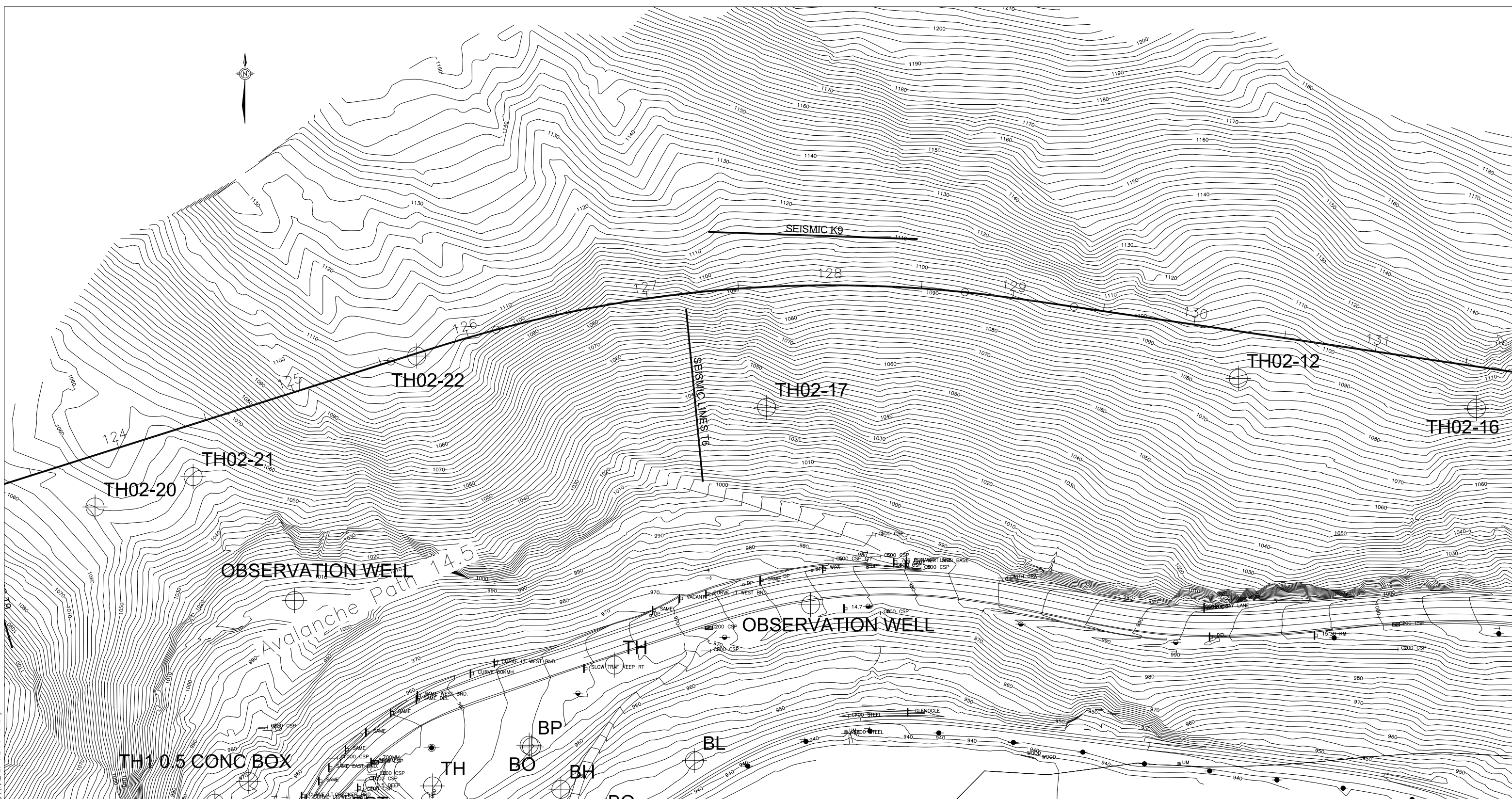
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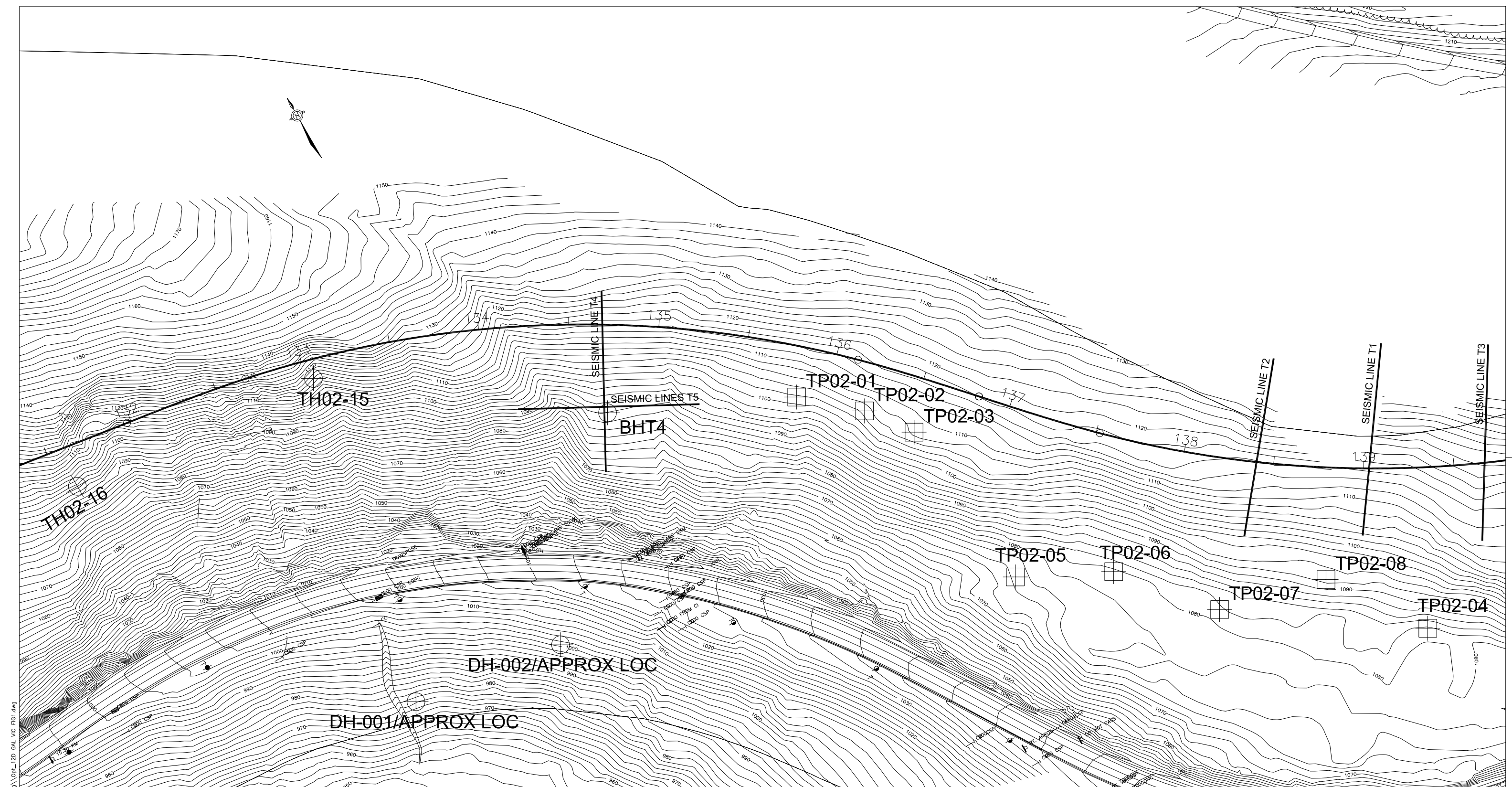
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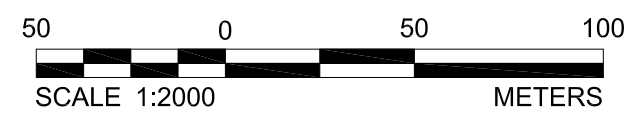
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		<b>BOREHOLE LOCATION PLAN</b> RAFTERS PULL OUT TO BRAKE CHECK SHEET 4 OF 8																			
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**TRANS-PARK HIGHWAY GROUP**

**Golder Associates**  
 Victoria BC

**MINISTRY OF TRANSPORTATION**  
 KICKING HORSE CANYON PROJECT  
 PHASE 2

SCALE AS SHOWN

DESIGNED SEM DATE MAY 05  
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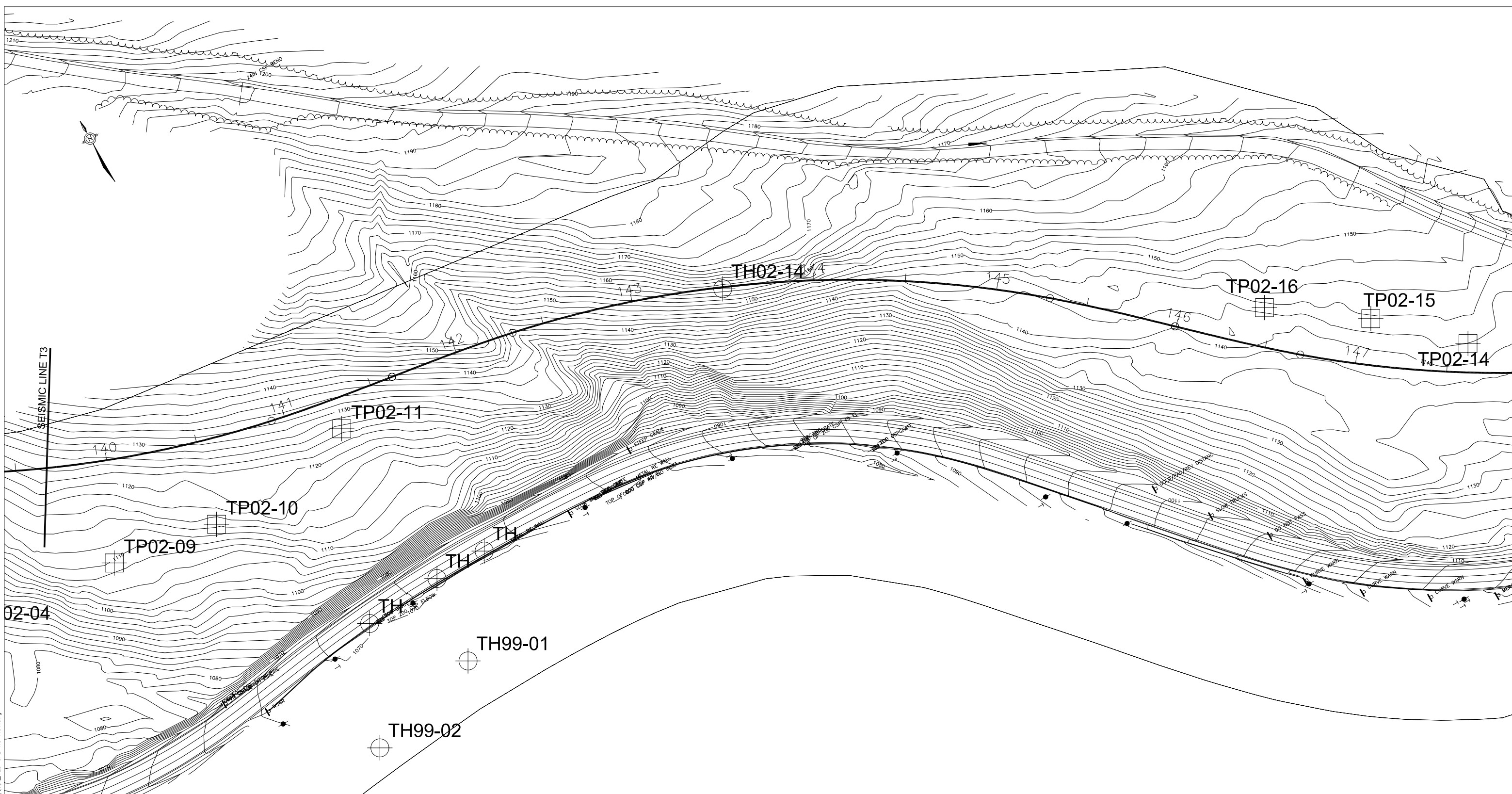
**BOREHOLE LOCATION PLAN**  
 RAFTERS PULL OUT TO BRAKE CHECK  
 SHEET 5 OF 8

Rev	Date	Description	Signature
0	07/14/05	ISSUED FOR PROPOSAL	

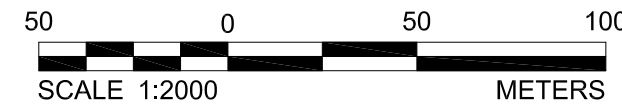
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FILE No.	PROJECT No.	REG.	DRAWING No.
04-1414-072	09901-7005	2	R2-NNN-5005

REVISIONS

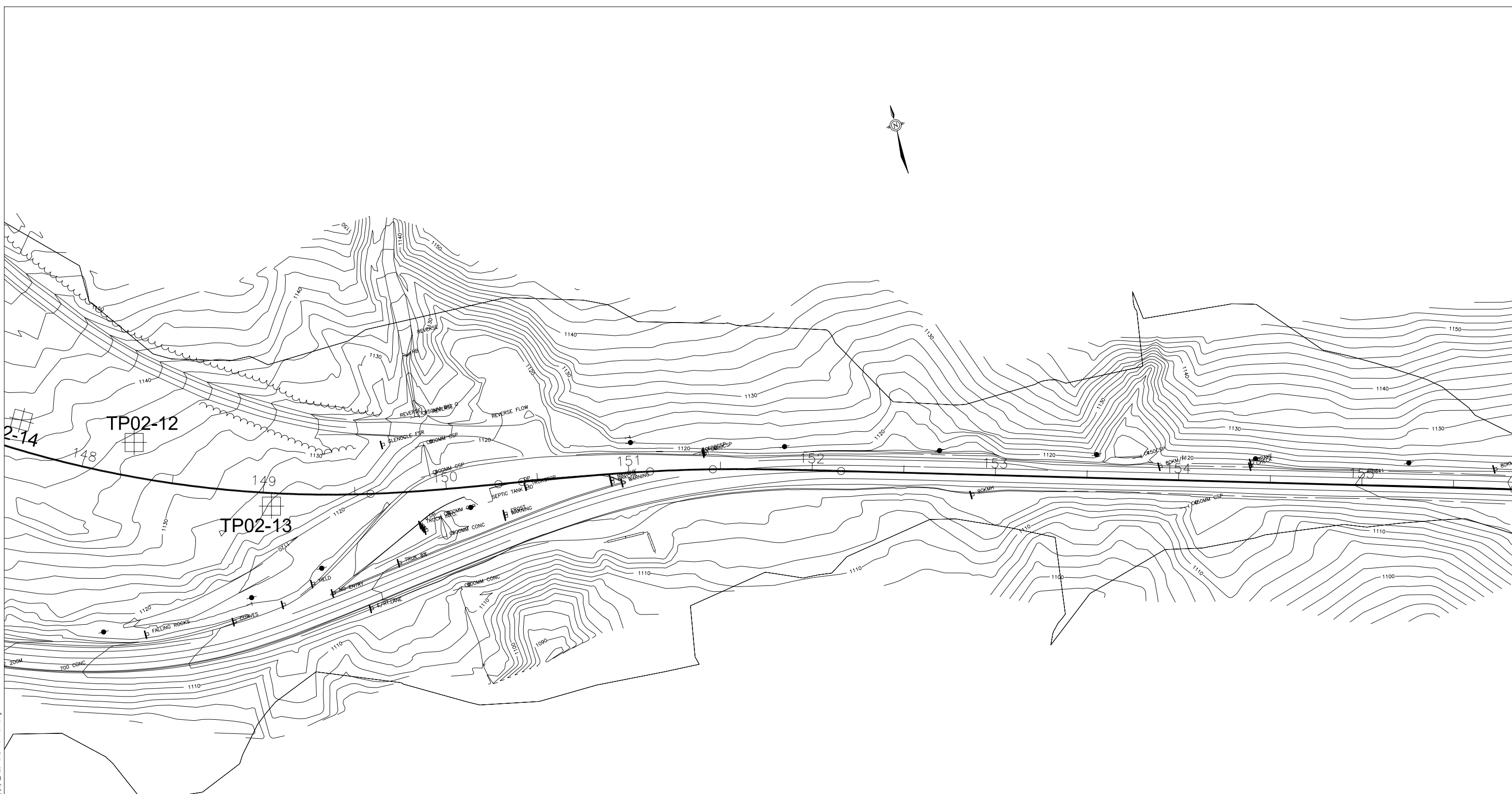
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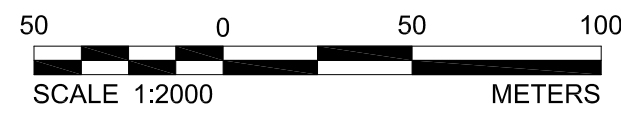
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		DESIGNED SEM DATE MAY 05 DRAWN DGM DATE MAY 05 CHECKED DRL DATE MAY 05 APPROVED DATE		<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2									
SCALE AS SHOWN		<b>BOREHOLE LOCATION PLAN</b> RAFTERS PULL OUT TO BRAKE CHECK SHEET 6 OF 8											
PROFESSIONAL SEAL		<table border="1"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>07/14/05</td> <td>ISSUED FOR PROPOSAL</td> <td></td> </tr> </tbody> </table>		Rev	Date	Description	Signature	0	07/14/05	ISSUED FOR PROPOSAL		SENIOR DESIGN ENGINEER _____ DATE _____	
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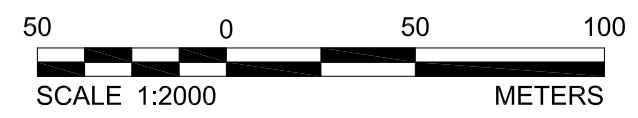
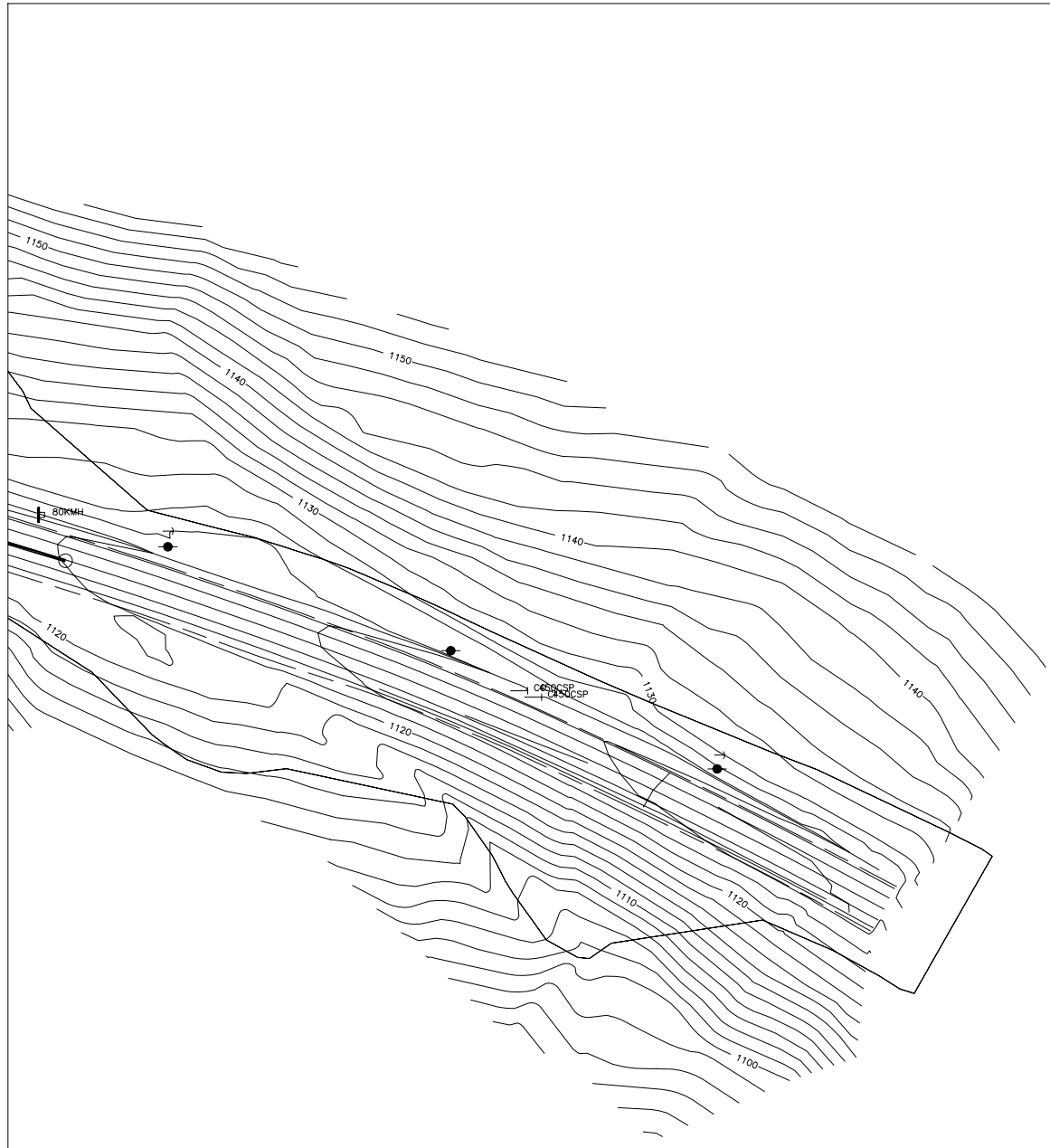


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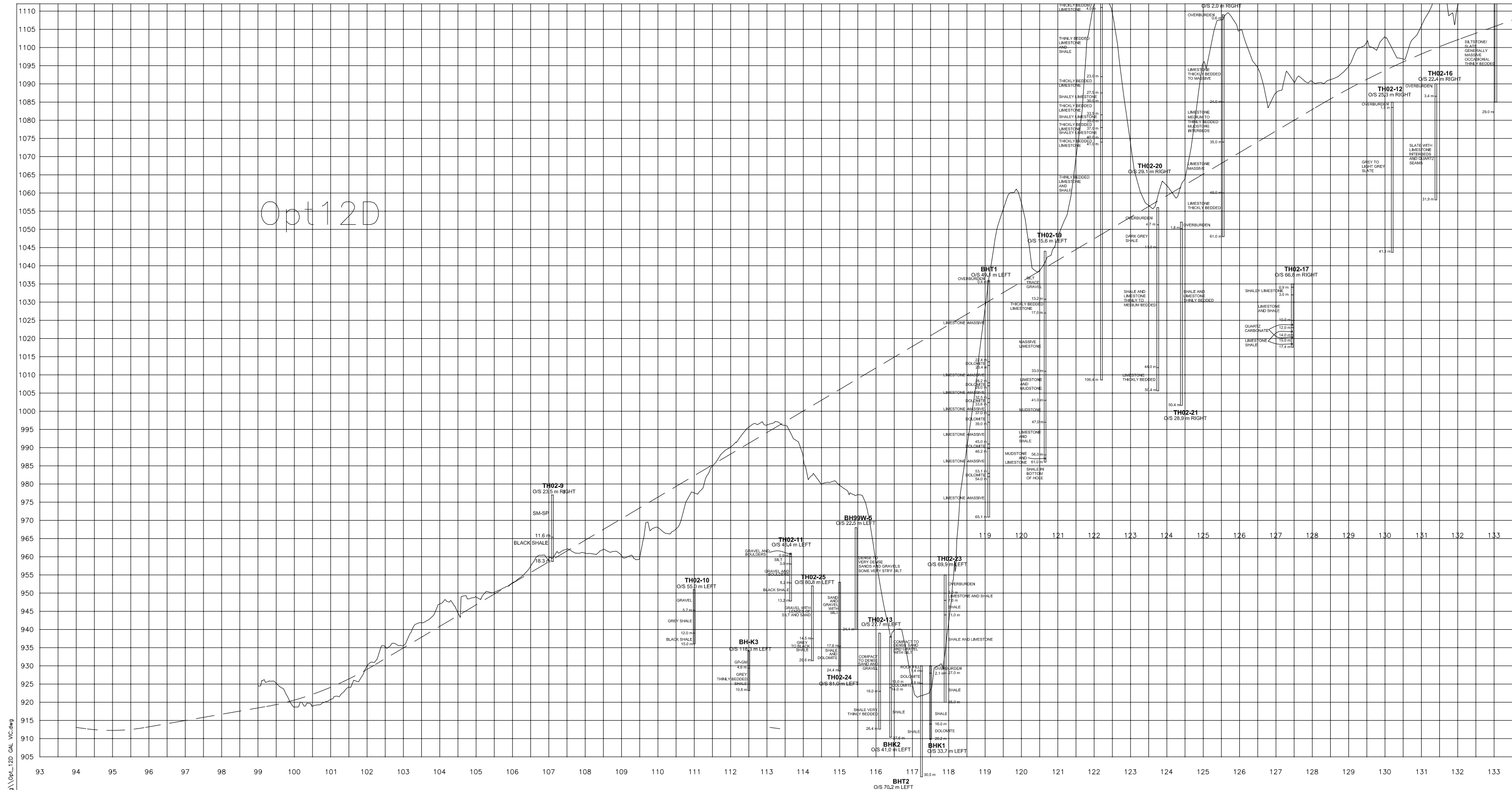


		<p><b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2</p>																								
SCALE AS SHOWN		<p><b>BOREHOLE LOCATION PLAN</b> RAFTERS PULL OUT TO BRAKE CHECK SHEET 7 OF 8</p>																								
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FILE No.	PROJECT No.	REG.	DRAWING No.																							
04-1414-072	09901-7005	2	R2-NNN-5007																							
REVISIONS		PA																								

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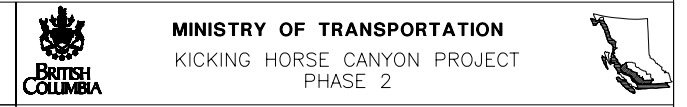
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		<b>BOREHOLE LOCATION PLAN</b> RAFTERS PULL OUT TO BRAKE CHECK SHEET 8 OF 8																		
SCALE AS SHOWN		DESIGNED <u>SEM</u> DATE <u>MAY 05</u> DRAWN <u>DGM</u> DATE <u>MAY 05</u> CHECKED <u>DRL</u> DATE <u>MAY 05</u> APPROVED _____ DATE _____	SENIOR DESIGN ENGINEER _____ DATE _____																	
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Rev	Date	Description	Signature																	
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DATE: 2005/06/22 - 3:35pm  
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**SCALE:**  
 HORIZONTAL 1:100  
 VERTICAL 1:1000

SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel - sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
GM	Silty gravels, gravel - sand - silt mixtures.	CH	Inorganic clays of high plasticity, fat clays.
GC	Clayey gravels, gravel - sand - clay mixtures.	OH	Organic clays of medium to high plasticity, organic silts.
SW	Well - graded sands or gravelly sands, trace fines.	Pt	Peat and other highly organic soils.
SP	Poorly - graded sands or gravelly sands, trace fines.	TS	Topsoil with roots, etc.
SM	Silty sands, sand - silt mixtures.	SB	Rock fragments and cobbles, particle size 75mm to 300mm.
SC	Clayey sands, sand-clay mixtures.	LB	Boulders, particle size over 300mm.
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	BR	Bedrock.
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	(F)	Fill.
		—	Asphalt.



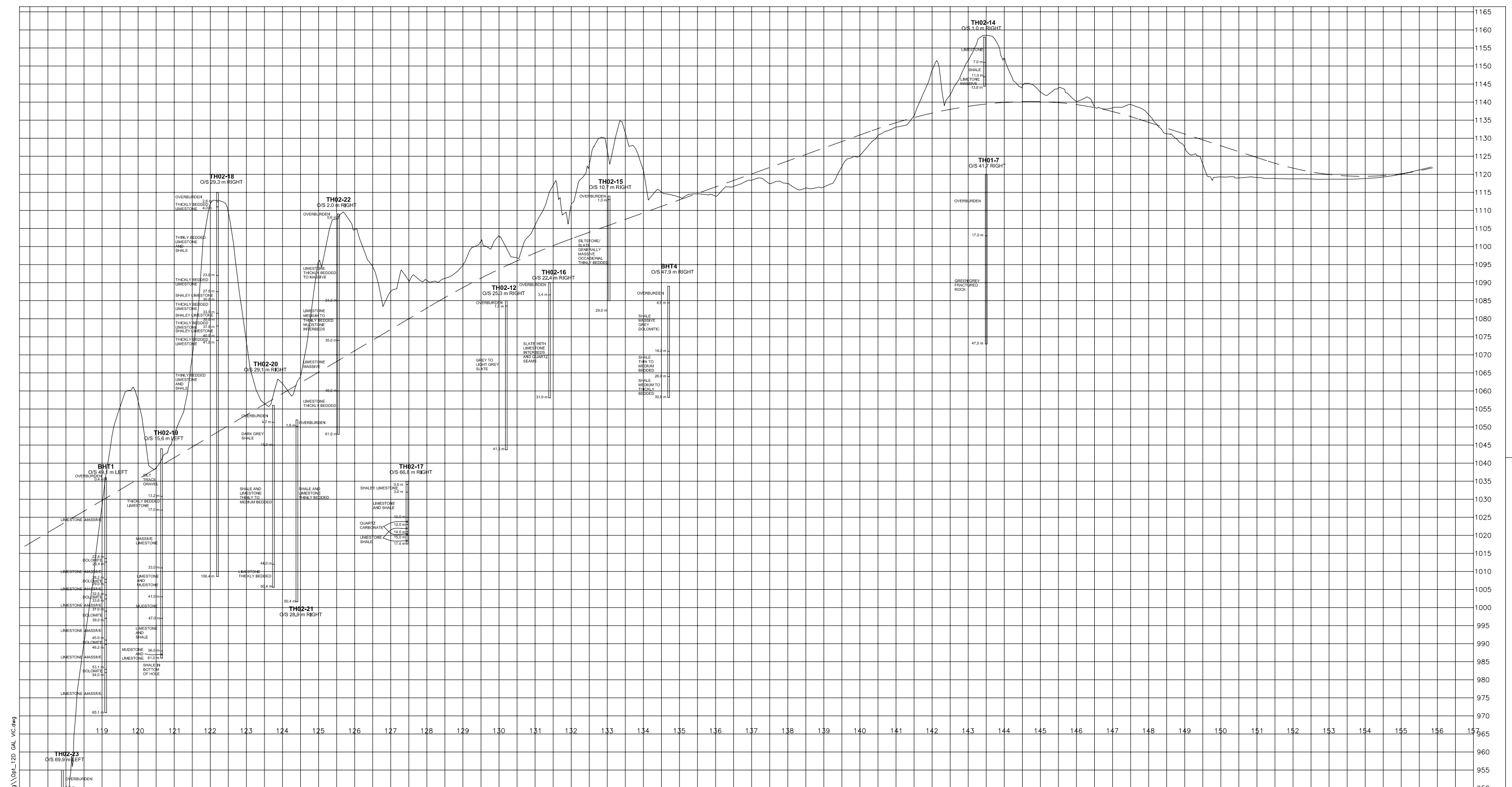
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 CHECKED DRL DATE MAY 05  
 APPROVED DATE

**GEOTECHNICAL PROFILE**  
 RAFTERS PULL OUT TO BRAKE CHECK  
 SHEET 1 OF 2

Rev	Date	Description	Signature
0	07/14/05	ISSUED FOR PROPOSAL	

SENIOR DESIGN ENGINEER		DATE	
FILE No.	PROJECT No.	REG.	DRAWING No.
04-1414-072	09901-7005	2	R2-NNN-5009

REVISIONS

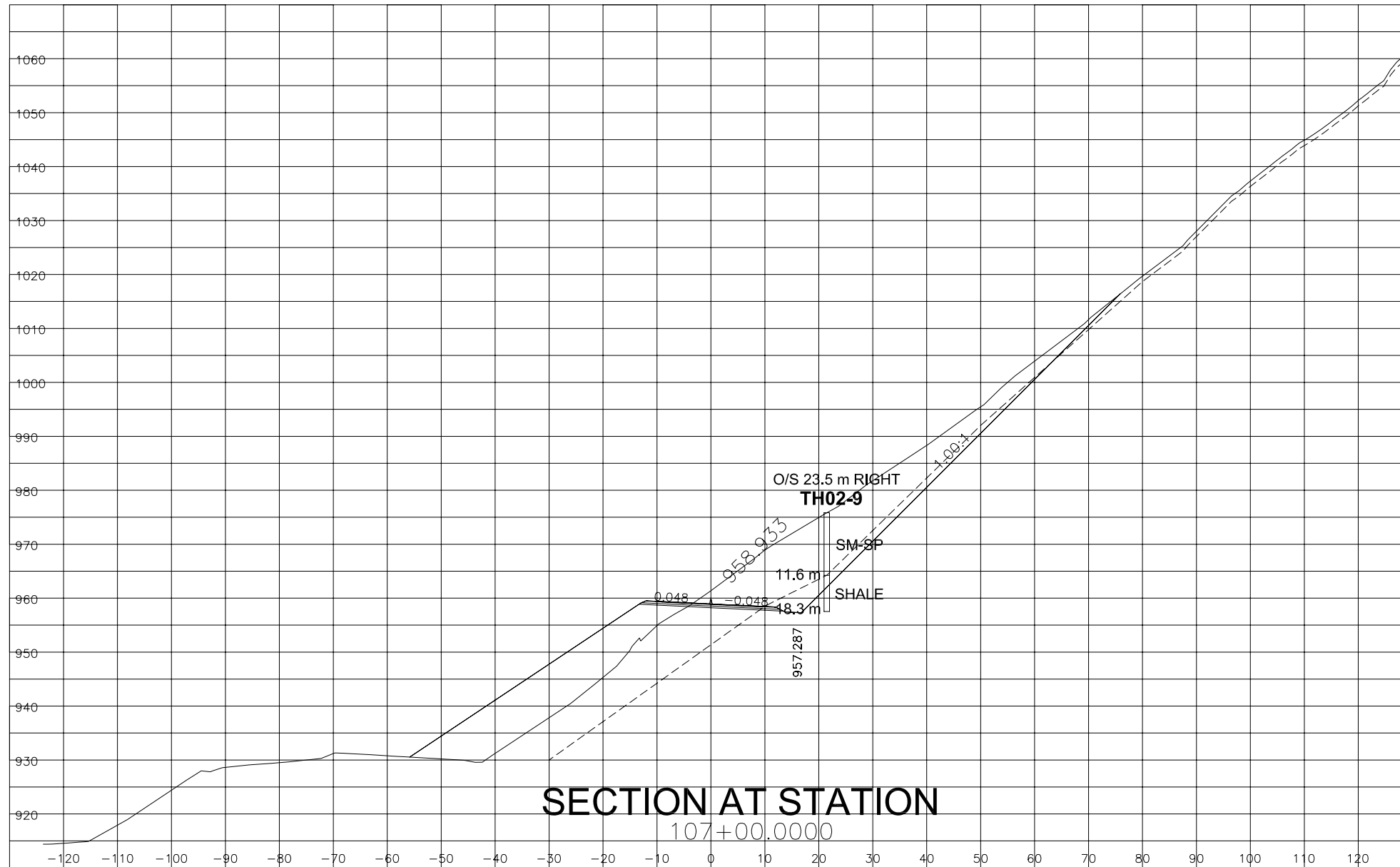


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SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel - sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
GM	Silty gravels, gravel - sand - silt mixtures.	CH	Inorganic clays of high plasticity, fat clays.
GC	Clayey gravels, gravel - sand - clay mixtures.	OH	Organic clays of medium to high plasticity, organic silts.
SW	Well - graded sands or gravelly sands, trace fines.	Pt	Peat and other highly organic soils.
SP	Poorly - graded sands or gravelly sands, trace fines.	TS	Topsoil with roots, etc.
SM	Silty sands, sand - silt mixtures.	SB	Rock fragments and cobbles, particle size 75mm to 300mm.
SC	Clayey sands, sand-clay mixtures.	LB	Boulders, particle size over 300mm.
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	BR	Bedrock.
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	(F)	Fill.
		—	Asphalt.

						<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2	
SCALE AS SHOWN		DESIGNED SEM DATE MAY 05 DRAWN DGM DATE MAY 05 CHECKED DRL DATE MAY 05 APPROVED DATE		<b>GEOTECHNICAL PROFILE</b> <b>RAFTERS PULL OUT TO BRAKE CHECK</b> <b>SHEET 2 OF 2</b>			
PROFESSIONAL SEAL		Rev Date Description Signature 0 07/14/05 ISSUED FOR PROPOSAL		SENIOR DESIGN ENGINEER DATE			
REVISIONS		FILE No. PROJECT No. REG. DRAWING No. 04-1414-072 09901-7005 2 R2-NNN-5010 PA					



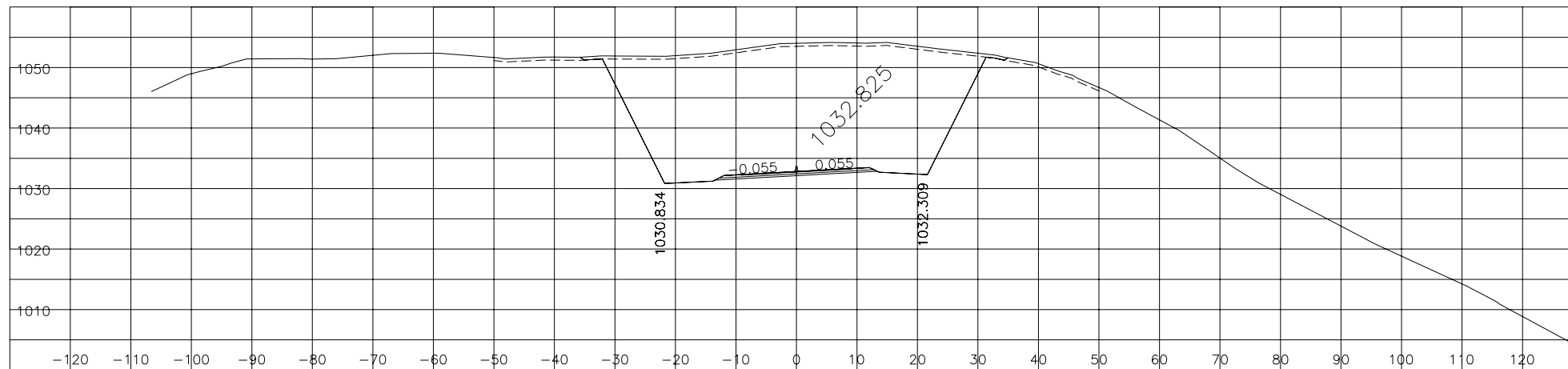
SECTION AT STATION

107+00.0000

SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel- sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
GM	Silty gravels, gravel - sand - silt mixtures.	CH	Inorganic clays of high plasticity, fat clays.
GC	Clayey gravels, gravel - sand- clay mixtures.	OH	Organic clays of medium to high plasticity, organic silts.
SW	Well - graded sands or gravelly sands, trace fines.	Pt	Peat and other highly organic soils.
SP	Poorly - graded sands or gravelly sands, trace fines.	TS	Topsoil with roots, etc.
SM	Silty sands, sand - silt mixtures.	SB	Rock fragments and cobbles, particle size 75mm to 300mm.
SC	Clayey sands, sand-clay mixtures.	LB	Boulders, particle size over 300mm.
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	BR	Bedrock.
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	(F)	Fill.
		—	Asphalt.




				<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2																	
		TYPICAL GEOTECHNICAL CROSS SECTION RAFTERS PULL OUT TO BRAKE CHECK STATION 98+00 TO 114+80																			
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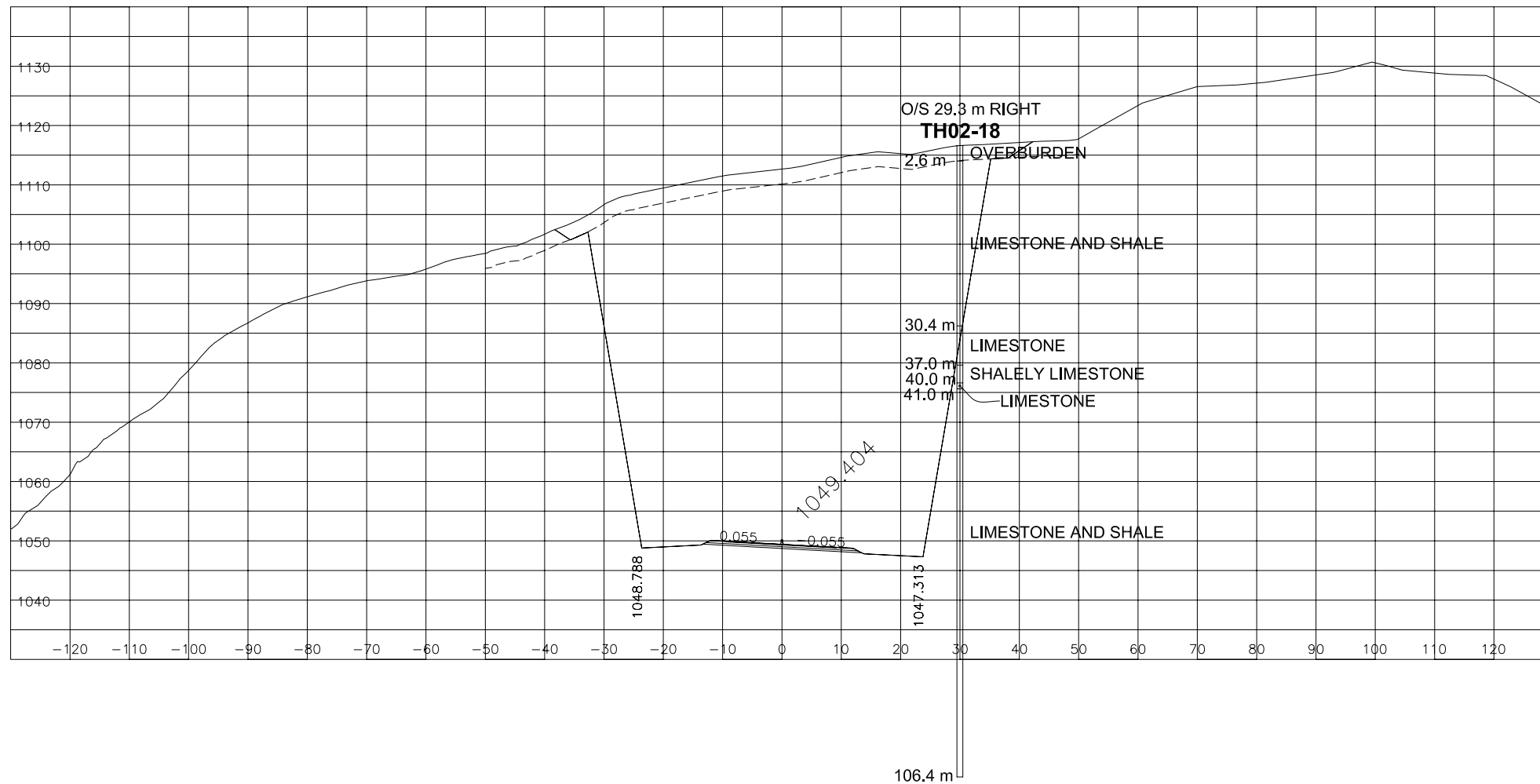


## SECTION AT STATION 119+40.0000

SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel- sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
GM	Silty gravels, gravel - sand - silt mixtures.	CH	Inorganic clays of high plasticity, fat clays.
GC	Clayey gravels, gravel - sand- clay mixtures.	OH	Organic clays of medium to high plasticity, organic silts.
SW	Well - graded sands or gravelly sands, trace fines.	Pt	Peat and other highly organic soils.
SP	Poorly - graded sands or gravelly sands, trace fines.	TS	Topsoil with roots, etc.
SM	Silty sands, sand - silt mixtures.	SB	Rock fragments and cobbles, particle size 75mm to 300mm.
SC	Clayey sands, sand-clay mixtures.	LB	Boulders, particle size over 300mm.
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	BR	Bedrock.
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	(F)	Fill.
		—	Asphalt.

		 <b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2
SCALE <b>1:1000</b>		TYPICAL GEOTECHNICAL CROSS SECTION RAFTERS PULL OUT TO BRAKE CHECK STATION 119+00 TO 120+40
DESIGNED <u>SEM</u> DATE <u>MAY 05</u> DRAWN <u>DGM</u> DATE <u>MAY 05</u> CHECKED <u>DRL</u> DATE <u>MAY 05</u> APPROVED _____ DATE _____		SENIOR DESIGN ENGINEER _____ DATE _____
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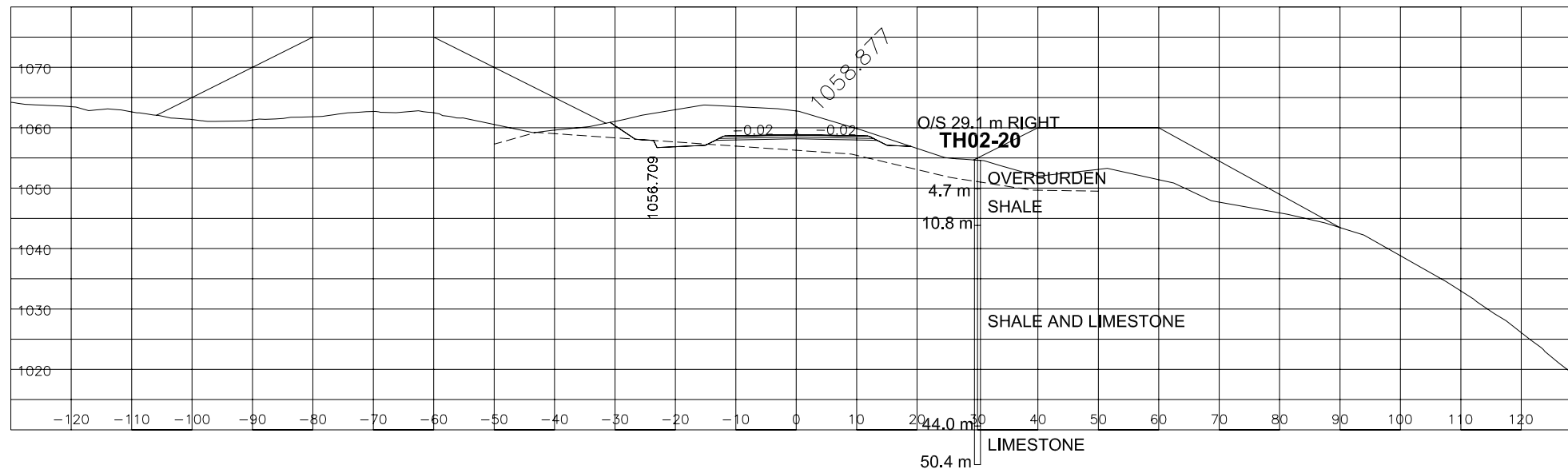
Rev	Date	Description	Signature
0	07/14/05	ISSUED FOR PROPOSAL	



**SECTION AT STATION**  
122+20.0000

SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel- sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
GM	Silty gravels, gravel - sand - silt mixtures.	CH	Inorganic clays of high plasticity, fat clays.
GC	Clayey gravels, gravel - sand- clay mixtures.	OH	Organic clays of medium to high plasticity, organic silts.
SW	Well - graded sands or gravelly sands, trace fines.	Pt	Peat and other highly organic soils.
SP	Poorly - graded sands or gravelly sands, trace fines.	TS	Topsoil with roots, etc.
SM	Silty sands, sand - silt mixtures.	SB	Rock fragments and cobbles, particle size 75mm to 300mm.
SC	Clayey sands, sand-clay mixtures.	LB	Boulders, particle size over 300mm.
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	BR	Bedrock.
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	(F)	Fill.
		—	Asphalt.

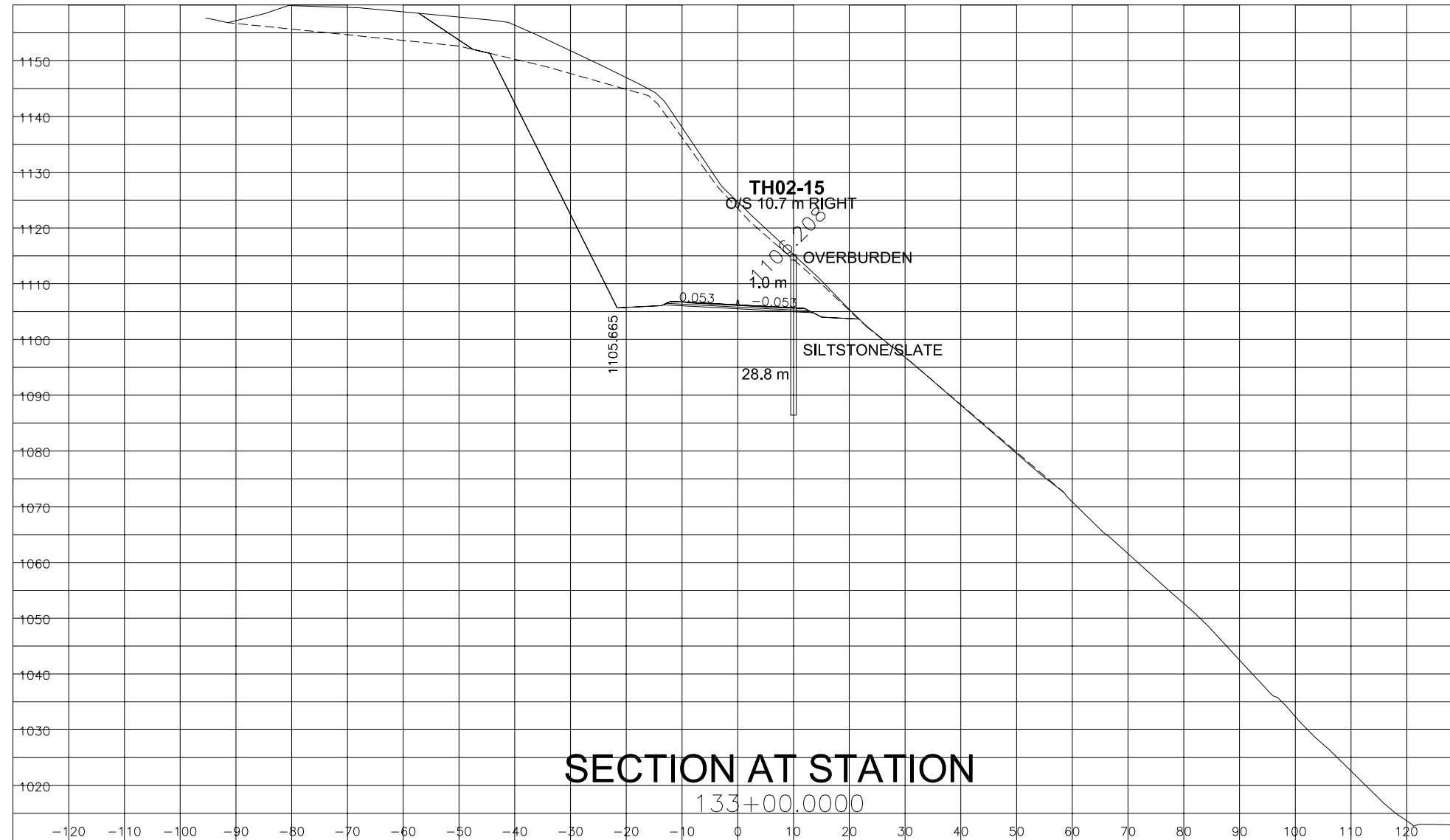
		<p><b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2</p>																												
<p>SCALE <b>1:1000</b></p>	<p>DESIGNED <u>SEM</u> DATE <u>MAY 05</u>          DRAWN <u>DGM</u> DATE <u>MAY 05</u>          CHECKED <u>DRL</u> DATE <u>MAY 05</u>          APPROVED _____ DATE _____</p>	<p><b>TYPICAL GEOTECHNICAL CROSS SECTION</b>          RAFTERS PULL OUT TO BRAKE CHECK          STATION 120+40 TO 123+40</p>																												
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FILE No.	PROJECT No.	REG.	DRAWING No.																											
04-1414-072	09901-7005	2	R2-NNN-5013																											
<p>REVISIONS</p>																														



## SECTION AT STATION 123+80.0000

SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel- sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
GM	Silty gravels, gravel - sand - silt mixtures.	CH	Inorganic clays of high plasticity, fat clays.
GC	Clayey gravels, gravel - sand- clay mixtures.	OH	Organic clays of medium to high plasticity, organic silts.
SW	Well - graded sands or gravelly sands, trace fines.	Pt	Peat and other highly organic soils.
SP	Poorly - graded sands or gravelly sands, trace fines.	TS	Topsoil with roots, etc.
SM	Silty sands, sand - silt mixtures.	SB	Rock fragments and cobbles, particle size 75mm to 300mm.
SC	Clayey sands, sand-clay mixtures.	LB	Boulders, particle size over 300mm.
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	BR	Bedrock.
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	(F)	Fill.
		—	Asphalt.

		<p><b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2</p>																
<p>SCALE <b>1:1000</b></p>		<p>TYPICAL GEOTECHNICAL CROSS SECTION RAFTERS PULL OUT TO BRAKE CHECK STATION 123+40 TO 124+40</p>																
<p>DESIGNED SEM DATE MAY 05 DRAWN DGM DATE MAY 05 CHECKED DRL DATE MAY 05 APPROVED DATE</p>		<p>SENIOR DESIGN ENGINEER DATE</p>																
<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>07/14/05</td> <td>ISSUED FOR PROPOSAL</td> <td></td> </tr> </tbody> </table>		Rev	Date	Description	Signature	0	07/14/05	ISSUED FOR PROPOSAL		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>FILE No.</th> <th>PROJECT No.</th> <th>REG.</th> <th>DRAWING No.</th> </tr> </thead> <tbody> <tr> <td>04-1414-072</td> <td>09901-7005</td> <td>2</td> <td>R2-NNN-5014</td> </tr> </tbody> </table>	FILE No.	PROJECT No.	REG.	DRAWING No.	04-1414-072	09901-7005	2	R2-NNN-5014
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FILE No.	PROJECT No.	REG.	DRAWING No.															
04-1414-072	09901-7005	2	R2-NNN-5014															



### SECTION AT STATION

133+00.000

SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel- sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
GM	Silty gravels, gravel - sand - silt mixtures.	CH	Inorganic clays of high plasticity, fat clays.
GC	Clayey gravels, gravel - sand- clay mixtures.	OH	Organic clays of medium to high plasticity, organic silts.
SW	Well - graded sands or gravelly sands, trace fines.	Pt	Peat and other highly organic soils.
SP	Poorly - graded sands or gravelly sands, trace fines.	TS	Topsoil with roots, etc.
SM	Silty sands, sand - silt mixtures.	SB	Rock fragments and cobbles, particle size 75mm to 300mm.
SC	Clayey sands, sand-clay mixtures.	LB	Boulders, particle size over 300mm.
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	BR	Bedrock.
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	(F)	Fill.
		—	Asphalt.



MINISTRY OF TRANSPORTATION  
KICKING HORSE CANYON PROJECT  
PHASE 2



TYPICAL GEOTECHNICAL CROSS SECTION  
RAFTERS PULL OUT TO BRAKE CHECK  
STATION 124+40 TO 136+00

SCALE 1:1000

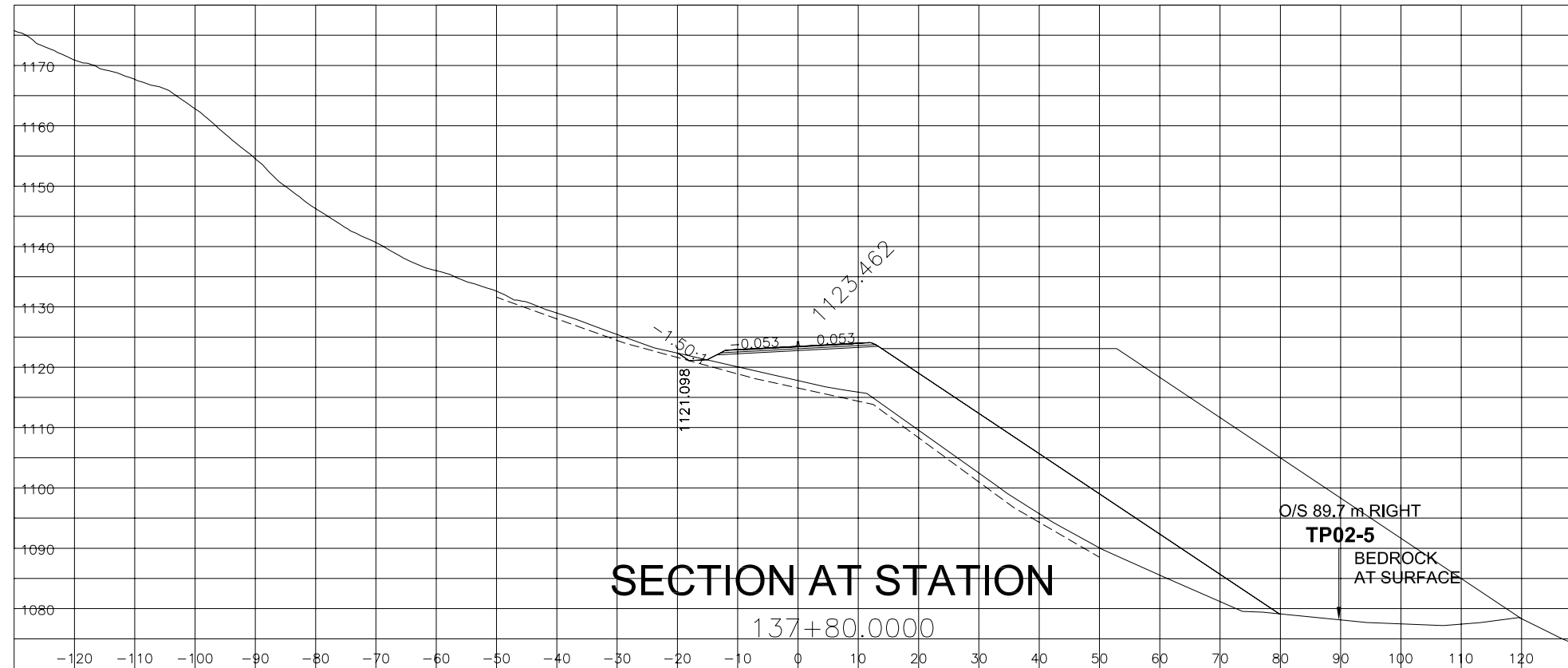
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DRAWN DGM DATE MAY 05  
CHECKED DRL DATE MAY 05  
APPROVED DATE

Rev	Date	Description	Signature
0	07/14/05	ISSUED FOR PROPOSAL	

PROFESSIONAL SEAL

SENIOR DESIGN ENGINEER		DATE	
FILE No.	PROJECT No.	REG.	DRAWING No.
04-1414-072	09901-7005	2	R2-NNN-5015 PA

REVISIONS

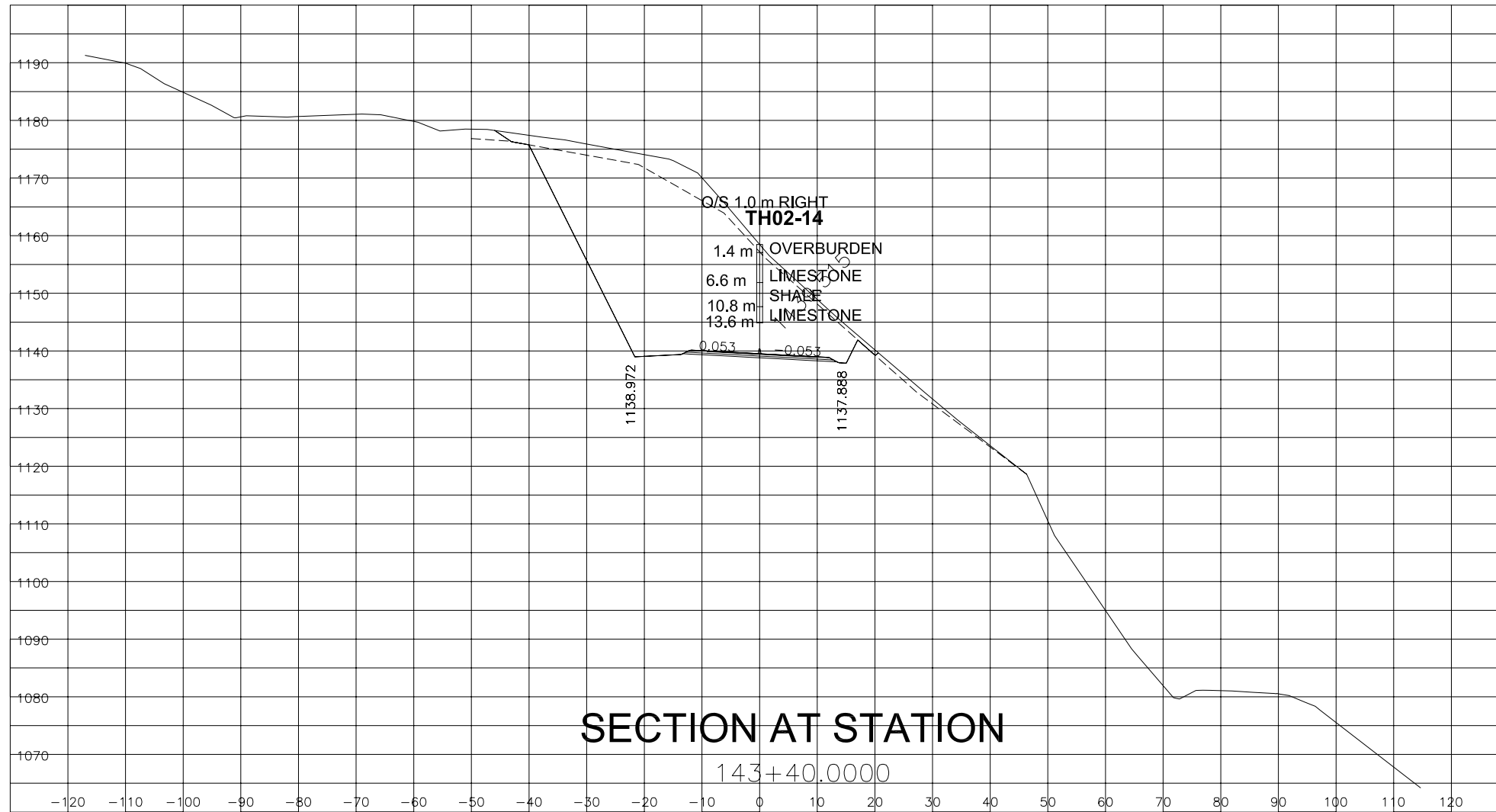


SECTION AT STATION

137+80.0000

SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel- sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
GM	Silty gravels, gravel - sand - silt mixtures.	CH	Inorganic clays of high plasticity, fat clays.
GC	Clayey gravels, gravel - sand- clay mixtures.	OH	Organic clays of medium to high plasticity, organic silts.
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SP	Poorly - graded sands or gravelly sands, trace fines.	TS	Topsoil with roots, etc.
SM	Silty sands, sand - silt mixtures.	SB	Rock fragments and cobbles, particle size 75mm to 300mm.
SC	Clayey sands, sand-clay mixtures.	LB	Boulders, particle size over 300mm.
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	BR	Bedrock.
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	(F)	Fill.
		—	Asphalt.

				<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2																	
		TYPICAL GEOTECHNICAL CROSS SECTION RAFTERS PULL OUT TO BRAKE CHECK STATION 136+00 TO 138+40																			
SCALE <b>1:1000</b>		DESIGNED SEM DATE MAY 05 DRAWN DSM DATE MAY 05 CHECKED DRL DATE MAY 05 APPROVED DATE		SENIOR DESIGN ENGINEER _____ DATE _____																	
REVISIONS		<table border="1"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>07/14/05</td> <td>ISSUED FOR PROPOSAL</td> <td></td> </tr> </tbody> </table>		Rev	Date	Description	Signature	0	07/14/05	ISSUED FOR PROPOSAL		<table border="1"> <thead> <tr> <th>FILE No.</th> <th>PROJECT No.</th> <th>REG.</th> <th>DRAWING No.</th> </tr> </thead> <tbody> <tr> <td>04-1414-072</td> <td>09901-7005</td> <td>2</td> <td>R2-NNN-50116</td> </tr> </tbody> </table>		FILE No.	PROJECT No.	REG.	DRAWING No.	04-1414-072	09901-7005	2	R2-NNN-50116
Rev	Date	Description	Signature																		
0	07/14/05	ISSUED FOR PROPOSAL																			
FILE No.	PROJECT No.	REG.	DRAWING No.																		
04-1414-072	09901-7005	2	R2-NNN-50116																		



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**MINISTRY OF TRANSPORTATION**  
KICKING HORSE CANYON PROJECT  
PHASE 2

**SCALE 1:1000**

DESIGNED SEM DATE MAY 05  
 DRAWN DGM DATE MAY 05  
 CHECKED DRL DATE MAY 05  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

**TYPICAL GEOTECHNICAL CROSS SECTION**  
 RAFTERS PULL OUT TO BRAKE CHECK  
 STATION 138+40 TO146+40

PROFESSIONAL SEAL

Rev	Date	Description	Signature
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SENIOR DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

FILE No. 04-1414-072

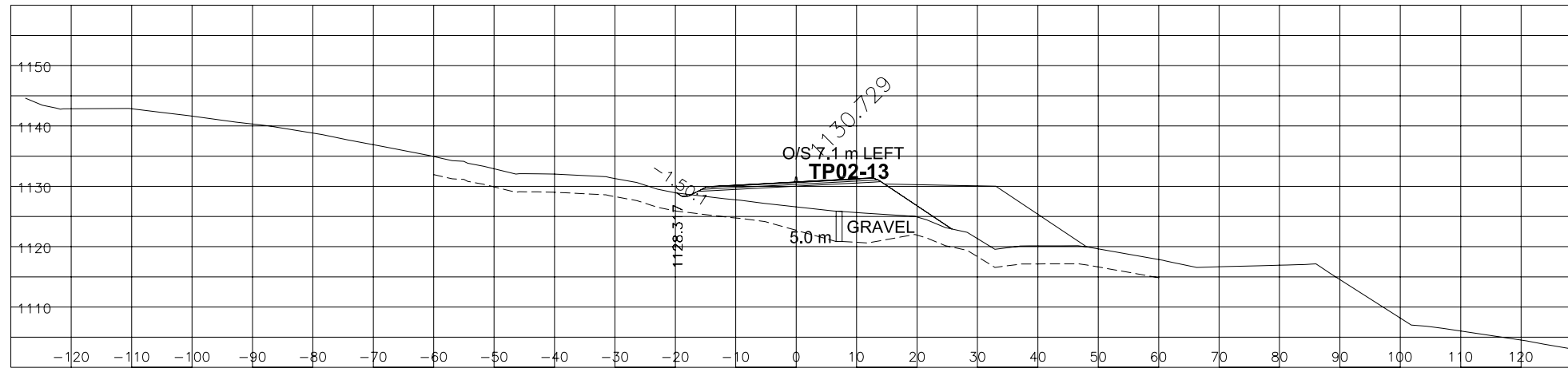
PROJECT No. 09901-7005

REG. 2

DRAWING No. R2-NNN-5017

PA

REVISIONS

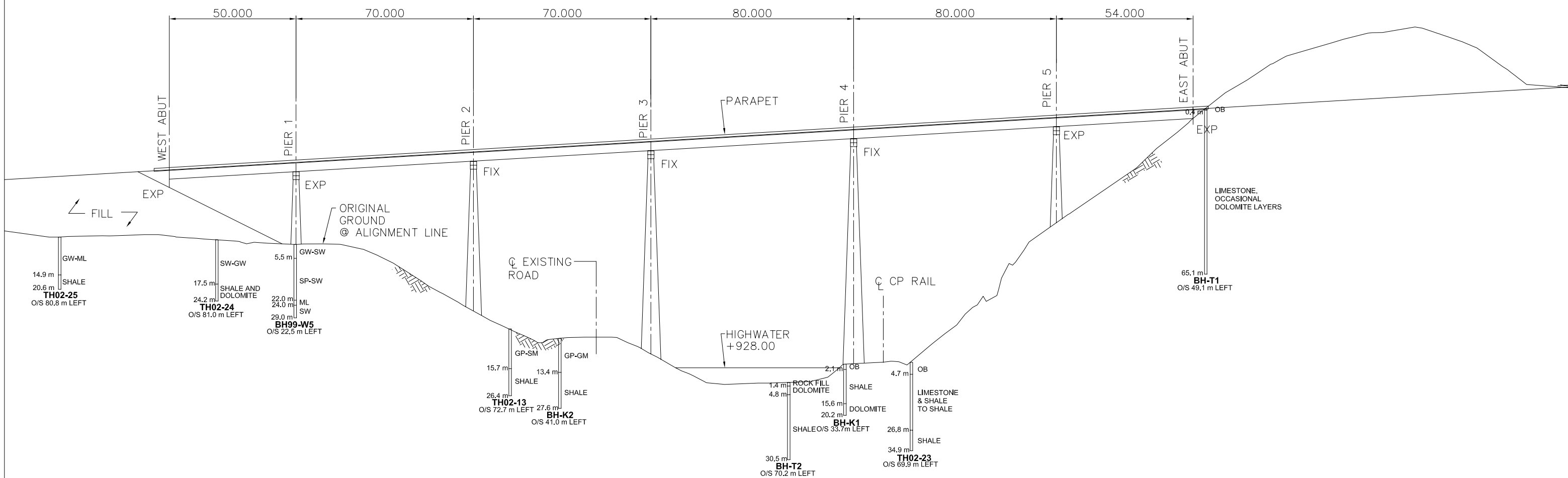
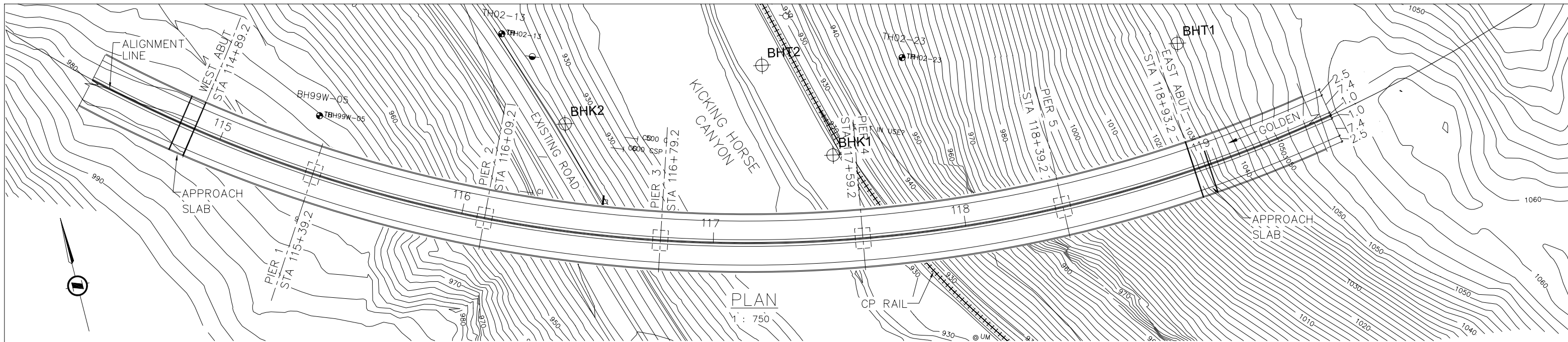


## SECTION AT STATION

149+00.0000

SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel- sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
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				<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2	
		TYPICAL GEOTECHNICAL CROSS SECTION RAFTERS PULL OUT TO BRAKE CHECK STATION 146+40 TO 156+00			
SCALE <b>1:1000</b>		DESIGNED SEM DATE MAY 05 DRAWN DGM DATE MAY 05 CHECKED DRL DATE MAY 05 APPROVED DATE		SENIOR DESIGN ENGINEER _____ DATE _____	
REVISIONS		FILE No. 04-1414-072 PROJECT No. 09901-7005 REG. 2 DRAWING No. R2-NNN-5018		PA	



SYMBOL	SOIL TYPE	SYMBOL	SOIL TYPE
GW	Well graded gravels or gravel - sand mixtures, trace fines.	OL	Organic silts and organic silt - clays of low plasticity.
GP	Poorly - graded gravels or gravel- sand mixtures, trace fines.	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, plastic silts.
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**MINISTRY OF TRANSPORTATION**  
KICKING HORSE CANYON PROJECT  
PHASE 2

**BRIDGE-GEOTECHNICAL PLAN AND PROFILE**  
RAFTERS PULL OUT TO BRAKE CHECK  
SHEET 1 OF 1

Rev	Date	Description	Signature
0	07/14/05	ISSUED FOR PROPOSAL	

SENIOR DESIGN ENGINEER		DATE	
FILE No.	PROJECT No.	REG.	DRAWING No.
04-1414-072	09901-7005	2	R2-NNN-5019

REVISIONS



**GEOTECHNICAL INFORMATION AND REFERENCES**

The geotechnical information contained in this report is based on our review of the following information, which was provided to the DBFO proponents in the Project data room:

Balkwill, H.R., D.B. Price, and E.W. Mountjoy (1980), Geological Map, Golden West Half, Map No. 1497A, Geological Survey of Canada, Ottawa.

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Buckland and Taylor Ltd., "Park Bridge 1357-TCH, Concept Advice Report, Alignment Option L12A," March, 2003.

Golder Associates, "Geotechnical Information Report, Park (10 Mile) Bridge, Trans-Canada Highway Cache Creek to the Rockies Program," July, 2000.

Golder Associates, "Summary of Geotechnical Design Work, Functional Planning Study, Roth Creek to Brake Check, Trans-Canada Highway Cache Creek to the Rockies Program," November, 2000.

Golder Associates, "Evaluation of Acid Rock Drainage Potential of Disturbed Rock Material, Trans-Canada Highway Upgrade at Park Bridge," September, 1999.

Golder Associates, "Evaluation of Acid Rock Drainage Potential of Disturbed Rock Material, Trans-Canada Highway Upgrade at Park Bridge," June, 1999.

Golder Associates, "Geotechnical Assessment of Park Bridge Slide, Trans-Canada Highway Near Golden, B.C.," October, 1999.

Golder Associates, "Seismic Survey - Park Bridge to Brake Check," November, 2002.

Golder Associates, "Preliminary Aggregate Source and Spoil Site Assessment, Proposed Upgrading of Trans-Canada Highway from West of Donald to Yoho National Park, B.C.," September, 1999.

Golder Associates, "Hydrological Study of Proposed Park Bridge Crossing of the Kicking Horse River Near Golden," February, 1999.

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Ministry of Transportation, "Revised Geotechnical Assessment of Alignment 5B, Park Bridge to Brake Check (Hwy. 1)," November, 2001.

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Ministry of Transportation and Highways, "Functional Geotechnical Recommendations for Ten Mile Hill Alignment," February, 2000.

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Ministry of Transportation, "2002 Driller's Borehole Logs."

Ministry of Transportation, "2002 Driller's Logs."

Ministry of Transportation, "2003 Driller's Borehole Logs."

Ministry of Transportation, "Rafters' Pull Out to Brake Check - Test Hole Logs for 2002 MOT Investigations," September, 2004.

Ministry of Transportation, "Rafters' Pull Out to Brake Check - Test Pit Logs for 2002 MOT Investigations," September, 2004.

Partnerships British Columbia, "Highway Site Investigation Drawings for Phase 2 Investigation," dated February, 2005.

Partnerships British Columbia, "Park Bridge to Brake Check - Test Hole Logs for 2005 Investigations," February, 2005.

Thurber Engineering Ltd., "Kicking Horse Canyon TCH Project - Aggregate Quality Test Report," June, 2005.

Wyllie & Norrish (2001), "Preliminary Design of Proposed Park Tunnel," Trans-Canada Highway No.1, CCR Project - Park Bridge to Brake Check, Kicking Horse Canyon, Report to the Ministry of Transportation dated November 2001, WNRE Project Number 011-1009

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SCALE _____		<b>GEOTECHNICAL INFORMATION AND REFERENCES</b>	
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	REVISIONS		FILE No. PROJECT No. REG. DRAWING No. 09901-7005 2 R2-NNN-5020 0



# BRITISH COLUMBIA

Ministry of Transportation

PROJECT NO. 09901-7005

KICKING HORSE CANYON PROJECT

PHASE 2

PRELIMINARY DESIGN DRAWINGS

JULY 2005



DRAWING No.

DESCRIPTION

COVER SHEET

R2-NNN-0000

DRAWING INDEX - TECHNICAL SUBMISSION

SCHEDULE

(REFERENCE SECTION 1.2 - SCHEDULING AND REPORTING)  
(REFERENCE SECTION 5.2 - ASSEST MANAGEMENT PLAN)

SHEET 1 TO 8

CONSTRUCTION SCHEDULE - GANT CHART

SHEET 1 TO 6

CONSTRUCTION SCHEDULE - LOGIC DIAGRAM (PROVIDED SEPARATELY FULL SIZE FOR READABILITY)

TABLE 5.2-1

MAINTENANCE AND REHABILITATION SCHEDULE FOR PAVEMENT

TABLE 5.2-2

MAINTENANCE AND REHABILITATION SCHEDULE FOR STRUCTURES

RAFTERS PULLOUT TO BRAKE CHECK - ROADS

(REFERENCE SECTION 3.1 - ROAD DESIGN REPORT & SECTION 3.7 DRAINAGE DESIGN REPORT)

R2-NNN-0001

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-0002

LEGEND

R2-NNN-0101 to 0122

PLAN SHEETS

R2-NNN-0201 to 0210

PROFILE SHEETS

R2-NNN-0301

TYPICAL SECTIONS

R2-NNN-0401 to 0416

GEOMETRICS AND LANING

R2-NNN-0501 to 0504

DRAINAGE AND AVALANCHE MAPS, NOTES AND DETAILS

RAFTERS PULLOUT TO BRAKE CHECK - CONSTRUCTION SEQUENCE AND STAGING

(REFERENCE SECTION 4.1 - CONSTRUCTION MANAGEMENT PLAN  
SECTION 4.2 - CONSTRUCTION STAGING PLAN  
SECTION 4.3 - TRAFFIC MANAGEMENT PLAN)

R2-NNN-2001

CONSTRUCTION SEQUENCE - RAFTERS PULLOUT

R2-NNN-2002

CONSTRUCTION SEQUENCE - BRAKE CHECK TO MOUNT HUNTER CREEK

R2-NNN-2003 to 2005

DETOURS AND STAGING - WEST CONFORM: STAGE 1

R2-NNN-2006 to 2008

DETOURS AND STAGING - WEST CONFORM: STAGE 2

R2-NNN-2009

DETOURS AND STAGING - WEST CONFORM: STAGE 3

R2-NNN-2010 to 2012

DETOURS AND STAGING - EAST CONFORM: STAGE 1

R2-NNN-2013

DETOURS AND STAGING - EAST CONFORM: STAGE 2

R2-NNN-2014 to 2015

CONSTRUCTION ACCESS DETAILS

RAFTERS PULLOUT TO BRAKE CHECK - GEOTECHNICAL

(REFERENCE SECTION 3.6 - GEOTECHNICAL DESIGN REPORT)

R2-NNN-5000

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-5001 to 5008

BORHOLE LOCATION PLAN SHEETS

R2-NNN-5009 to 5010

GEOTECHNICAL PROFILE

R2-NNN-5011 to 5018

TYPICAL CROSS SECTIONS

R2-NNN-5020

GEOTECHNICAL INFORMATION AND REFERENCES

DRAWING No.

DESCRIPTION

PARK BRIDGE - STRUCTURAL

(REFERENCE SECTION 3.2 - STRUCTURAL DESIGN REPORT)

R2-NNN-4000

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-4101 to 4103

GENERAL ARRANGEMENT

R2-NNN-4201 to 4206

CONSTRUCTION STAGING, ERECTION SEQUENCE

R2-NNN-4301

FOUNDATION PLAN

R2-NNN-4401 to 4402

ABUTMENT PLANS, ELEVATIONS AND SECTIONS

R2-NNN-4501 to 4510

PIER ELEVATIONS, SECTIONS, DETAILS, ALTERNATE FOOTING

R2-NNN-4601 to 4605

PLANS, PILE DETAILS CP RAIL IMPACT, AND PILE TABLE

R2-NNN-4701 to 4704

BRIDGE TYPICAL CROSS SECTION, PRECAST PANEL DECK FORM

R2-NNN-4800 to 4802

AND BRIDGE DETAILS

R2-NNN-4900 to 4904

MISCELLANEOUS  
RETAINING WALLS

RAFTERS PULLOUT TO BRAKE CHECK - AESTHETICS AND LANDSCAPING

(REFERENCE SECTION 3.9 - AESTHETICS AND LANDSCAPE DESIGN REPORT)

R2-NNN-9001

LANDSCAPE PLAN - RAFTERS PULLOUT AREA

R2-NNN-9002




RETAINING WALL AESTHETIC TREATMENT

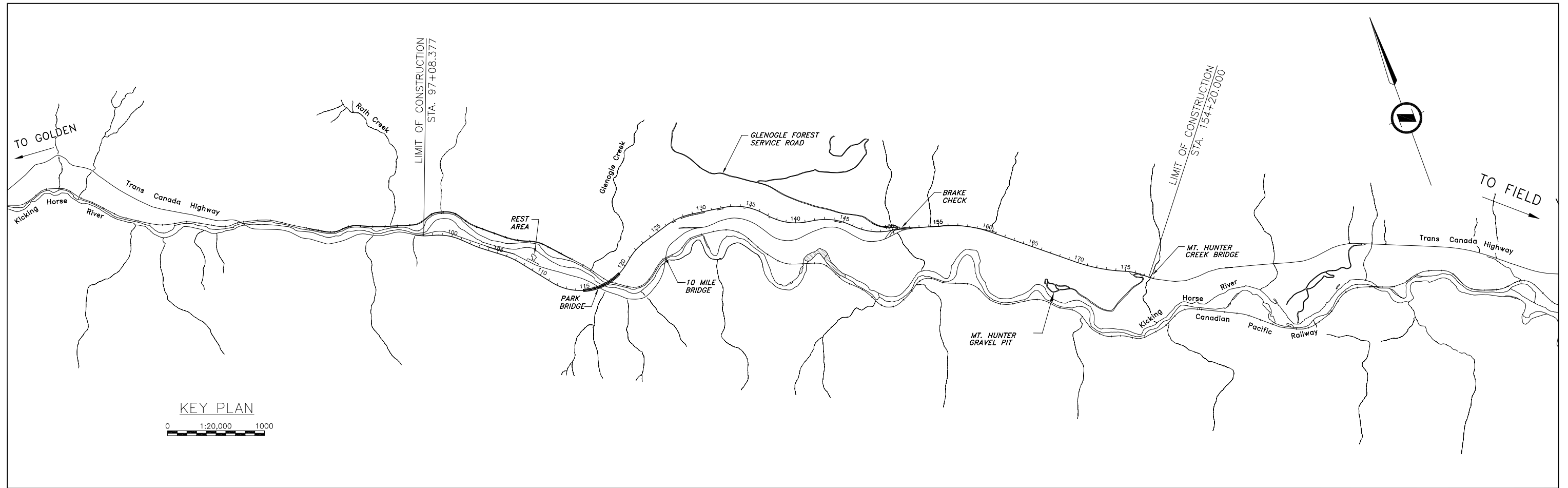
RAFTERS PULLOUT TO MOUNT HUNTER CREEK - DESIGN CROSS SECTIONS SHEETS

(REFERENCE SECTION 3.1 - ROAD DESIGN REPORT)

DESIGN CROSS SECTIONS

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CANCEL PRINTS BEARING PREVIOUS LETTER					



**DRAWING INDEX**

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R2-NNN-4101	GENERAL ARRANGEMENT
R2-NNN-4201	CONSTRUCTION STAGING
R2-NNN-4202	ERECTION SEQUENCE
R2-NNN-4203	LAUNCHING EQUIPMENT AT PIERS
R2-NNN-4204	LAUNCHING EQUIPMENT AT PIERS
R2-NNN-4205	LAUNCHING EQUIPMENT AT TEMPORARY SUPPORTS
R2-NNN-4206	TYPICAL JACKDOWN AT PIERS
R2-NNN-4301	FOUNDATION PLAN
R2-NNN-4401	WEST ABUTMENT PLAN AND SECTION
R2-NNN-4402	EAST ABUTMENT PLAN AND SECTION
R2-NNN-4501	PIER 1 & 2 ELEVATION AND SECTION
R2-NNN-4502	PIER 3 ELEVATION AND SECTION
R2-NNN-4503	PIER 4 ELEVATION AND SECTION
R2-NNN-4504	PIER 5 ELEVATION AND SECTION
R2-NNN-4505	PIER CROSS SECTIONS REINFORCING DETAILS
R2-NNN-4506	PIER CAP DETAILS
R2-NNN-4507	ALTERNATE FOOTING PLANS
R2-NNN-4508	PILE DETAILS
R2-NNN-4509	CP RAIL IMPACT DETAIL
R2-NNN-4510	PILE TABLE
R2-NNN-4601	TYPICAL SECTION
R2-NNN-4602	PRELIMINARY FRAMING PLAN SPANS A & B
R2-NNN-4603	PRELIMINARY FRAMING PLAN SPANS C & D
R2-NNN-4604	PRELIMINARY FRAMING PLAN SPANS E & F
R2-NNN-4605	PRELIMINARY GIRDER ELEVATION
R2-NNN-4701	BRIDGE TYPICAL CROSS SECTION
R2-NNN-4702	PRECAST PANEL DECK FORM (1)
R2-NNN-4703	PRECAST PANEL DECK FORM (2)
R2-NNN-4704	BRIDGE DRAINAGE DETAILS
R2-NNN-4801	MISCELLANEOUS DETAILS
R2-NNN-4802	MISCELLANEOUS DETAILS
R2-NNN-4901	RETAINING WALL ELEVATIONS (1)
R2-NNN-4902	RETAINING WALL ELEVATIONS (2)
R2-NNN-4903	RETAINING TYPICAL SECTIONS
R2-NNN-4904	CONCRETE AVALANCHE WALL

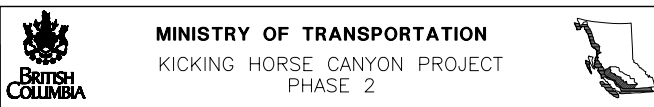
PROVINCE OF BRITISH COLUMBIA  
MINISTRY OF TRANSPORTATION

PROJECT No. -

TRANS CANADA HIGHWAY No.1

# PARK BRIDGE PRELIMINARY DESIGN

COLUMBIA-SHUSWAP ELECTORAL DISTRICT  
ROCKY MOUNTAIN HIGHWAY DISTRICT



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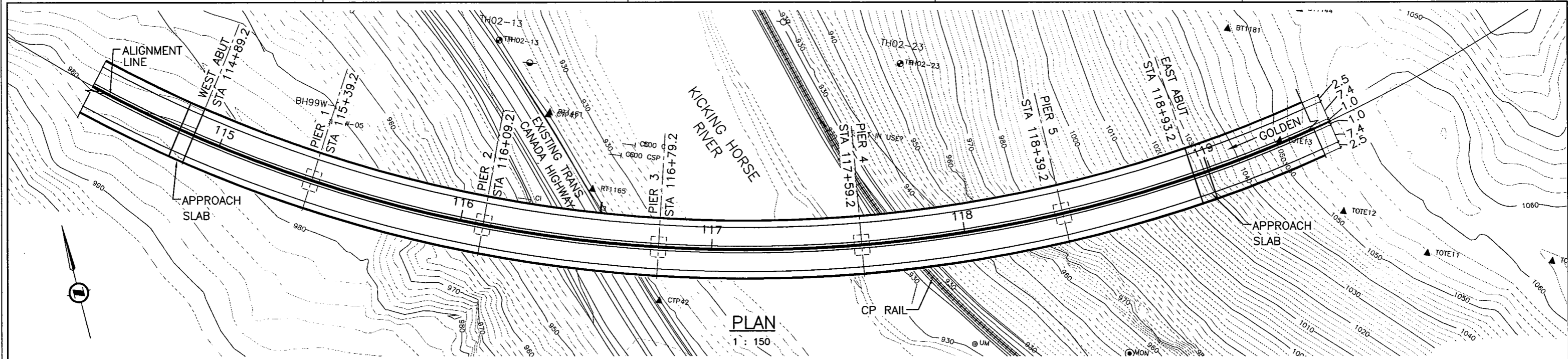
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**STRUCTURES COVER SHEET**  
**KEY PLAN AND DRAWING INDEX**

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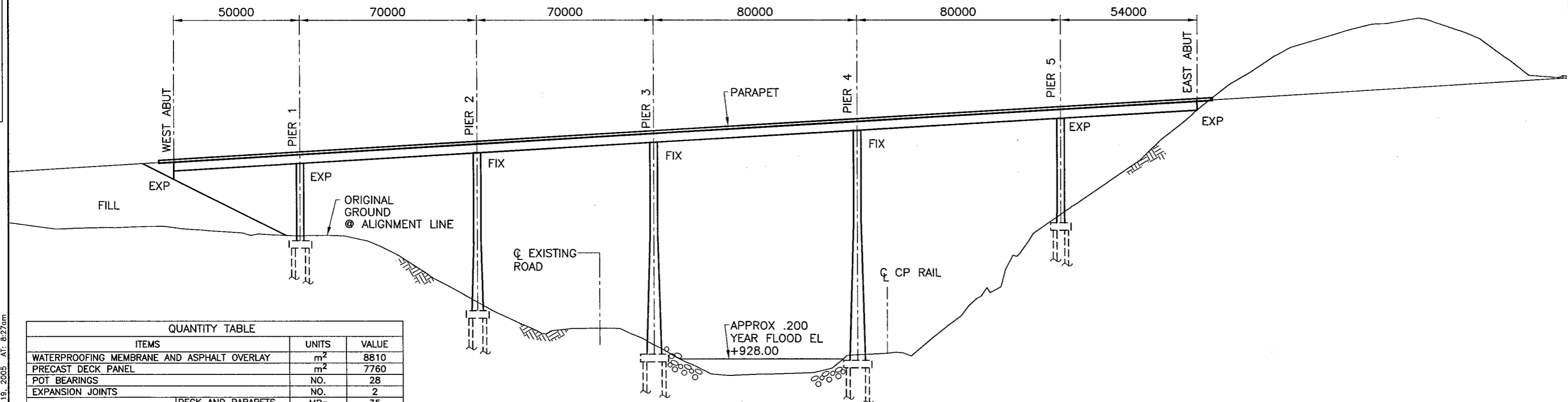
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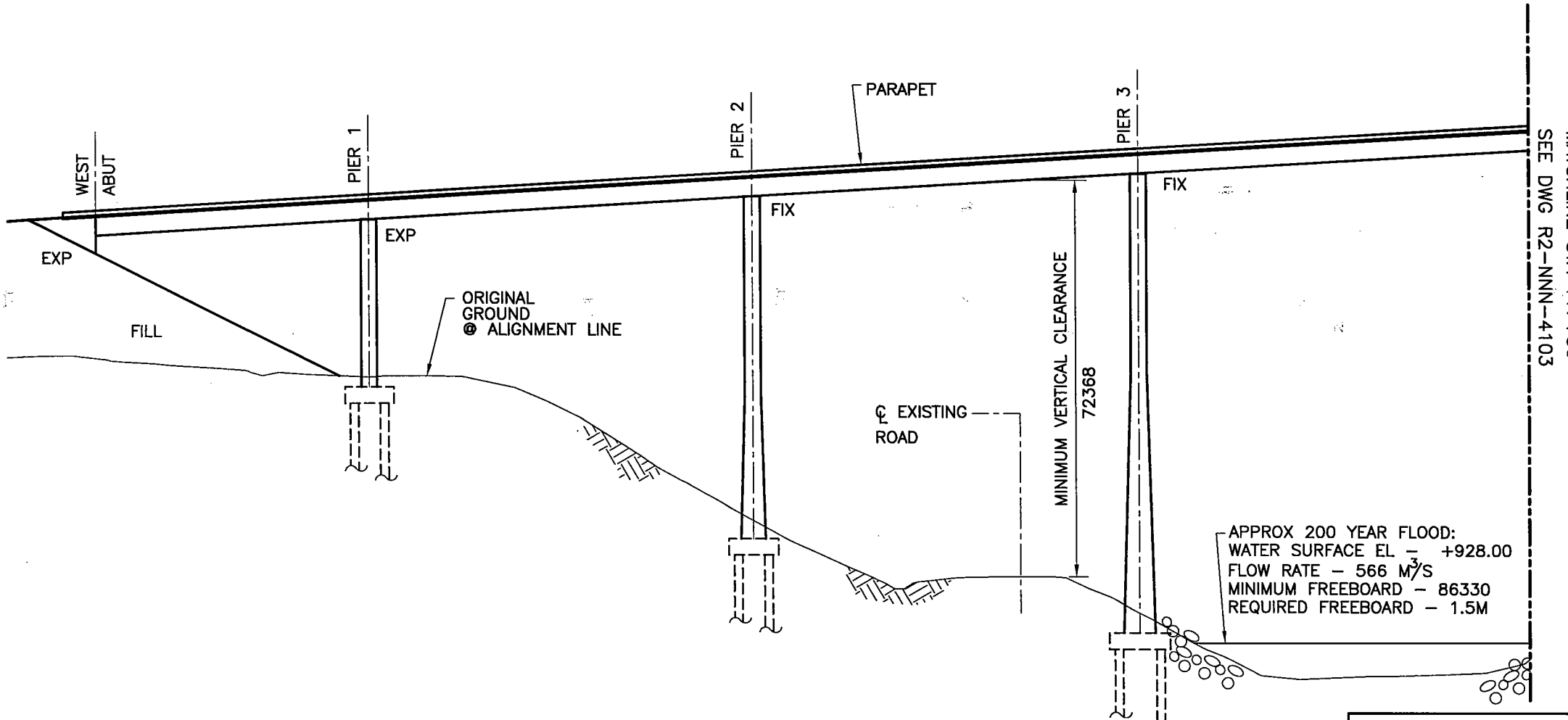
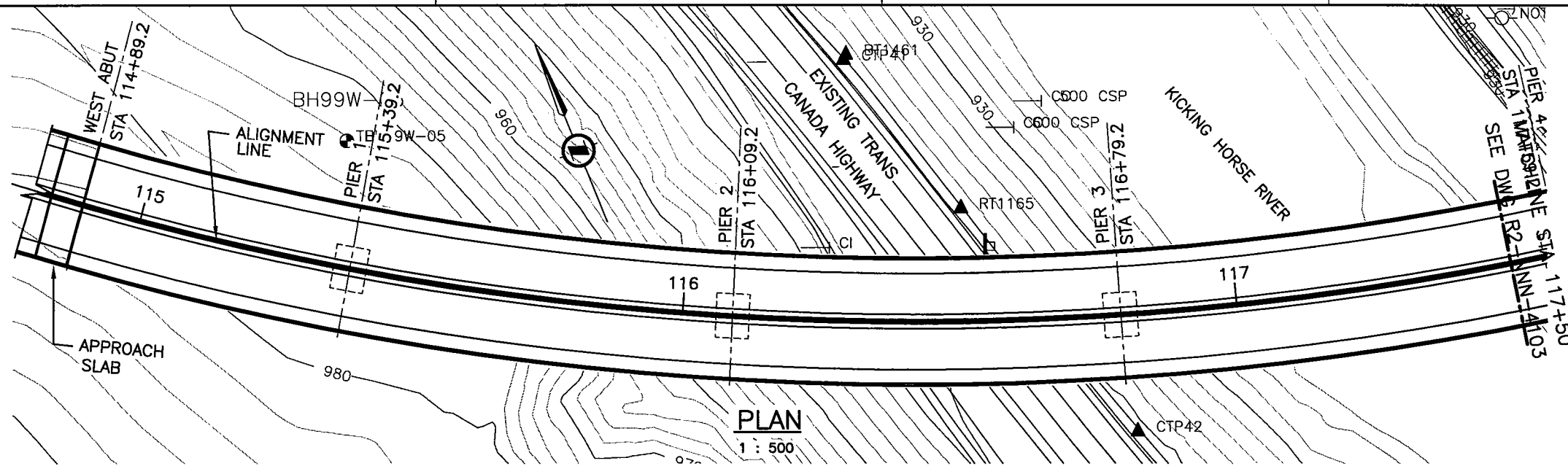


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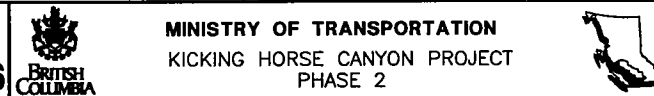
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PRECAST DECK PANEL	m <sup>2</sup>	7760		
POT BEARINGS	NO.	28		
EXPANSION JOINTS	NO.	2		
CONCRETE CLASS	DECK AND PARAPETS	MPa	35	
	PIERS	MPa	30	
	ABUTMENTS & FOOTINGS	MPa	30	
	PILES	MPa	45	
REINFORCEMENT DENSITY	DECK SLAB	PLAIN EPOXY	kg/m <sup>3</sup>	45
			kg/m <sup>3</sup>	100
	ABUTMENTS	kg/m <sup>3</sup>	60	
	WINGWALLS	kg/m <sup>3</sup>	150	
	PIERS	kg/m <sup>3</sup>	150	
	BENT CAP	kg/m <sup>3</sup>	110	
	FOOTINGS	kg/m <sup>3</sup>	120	
	PILES	kg/m	250	
	APPROACH SLAB-EPOXY	kg/m <sup>3</sup>	90	
CONCRETE FINISHES	BURIED SURFACE	CLASS 1		
	TOP OF DECK	TROWELLED FINISH		
	ABUTMENTS & PIERS	CLASS 2		
STRUCTURAL STEELWORK		kg		

			<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON IMPROVEMENTS KICKING HORSE CANYON	
	TRANS CANADA HIGHWAY NO. 1 <b>PARK BRIDGE</b> KICKING HORSE CANYON PROJECT - PHASE 2 <b>GENERAL ARRANGEMENT</b>			
DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____	SENIOR DESIGN ENGINEER _____ DATE _____		FILE No. _____ PROJECT No. _____ REG. _____ DRAWING No. _____	
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DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

**PARK BRIDGE**  
**GENERAL ARRANGEMENT**

Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	KO

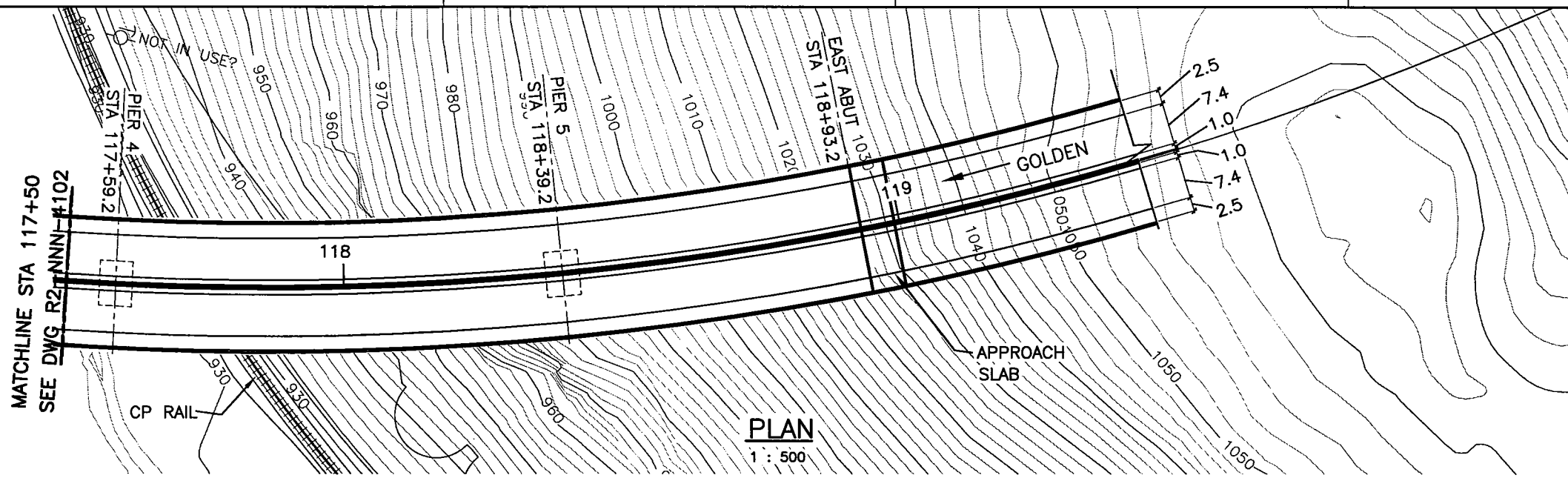
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FILE No.	PROJECT No.	REG.	DRAWING No.
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REVISIONS

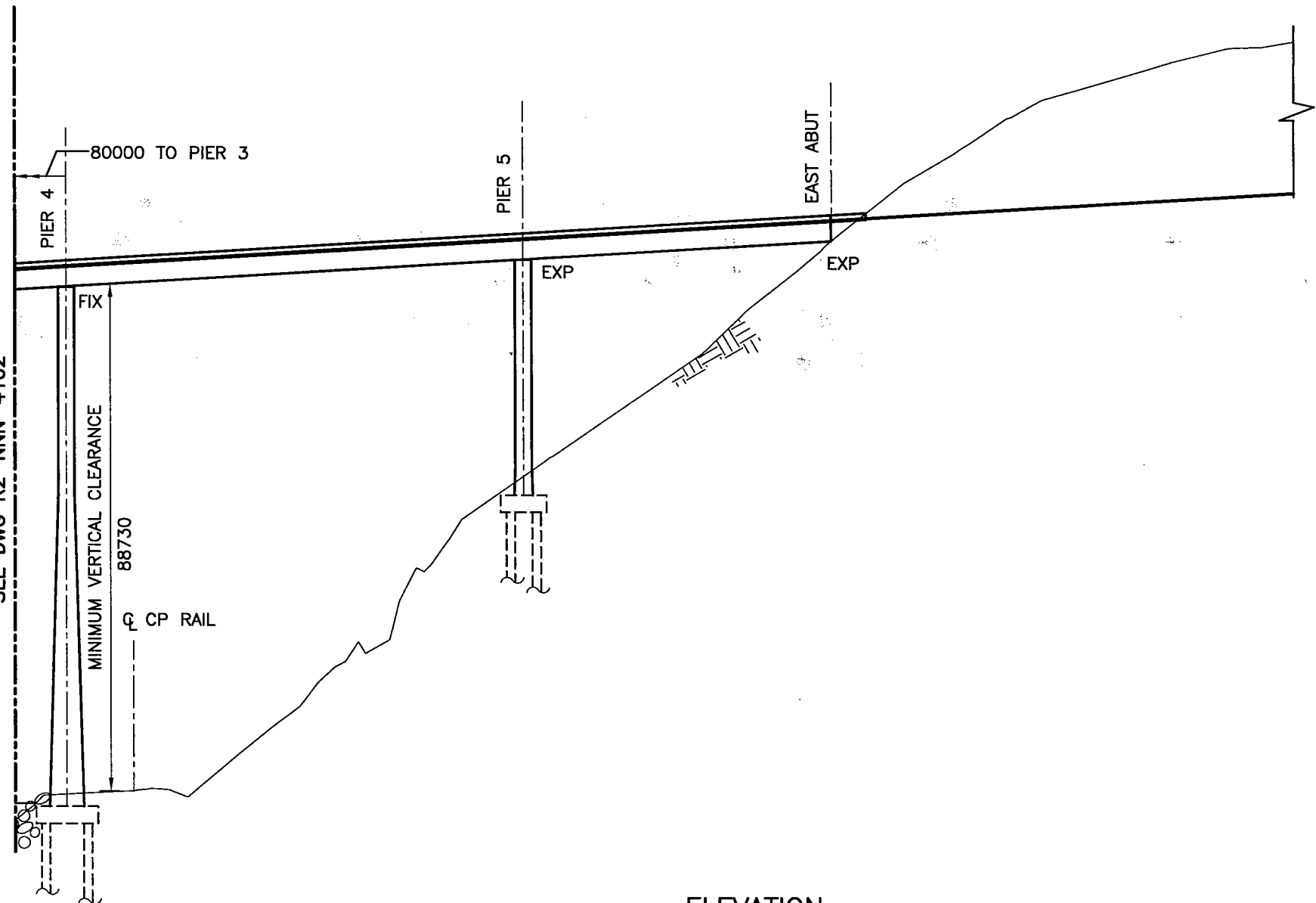
MATCHLINE STA 117+50  
SEE DWG R2-NNN-4102

MATCHLINE STA 117+50  
SEE DWG R2-NNN-4102

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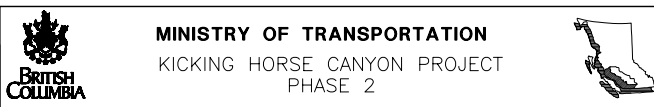
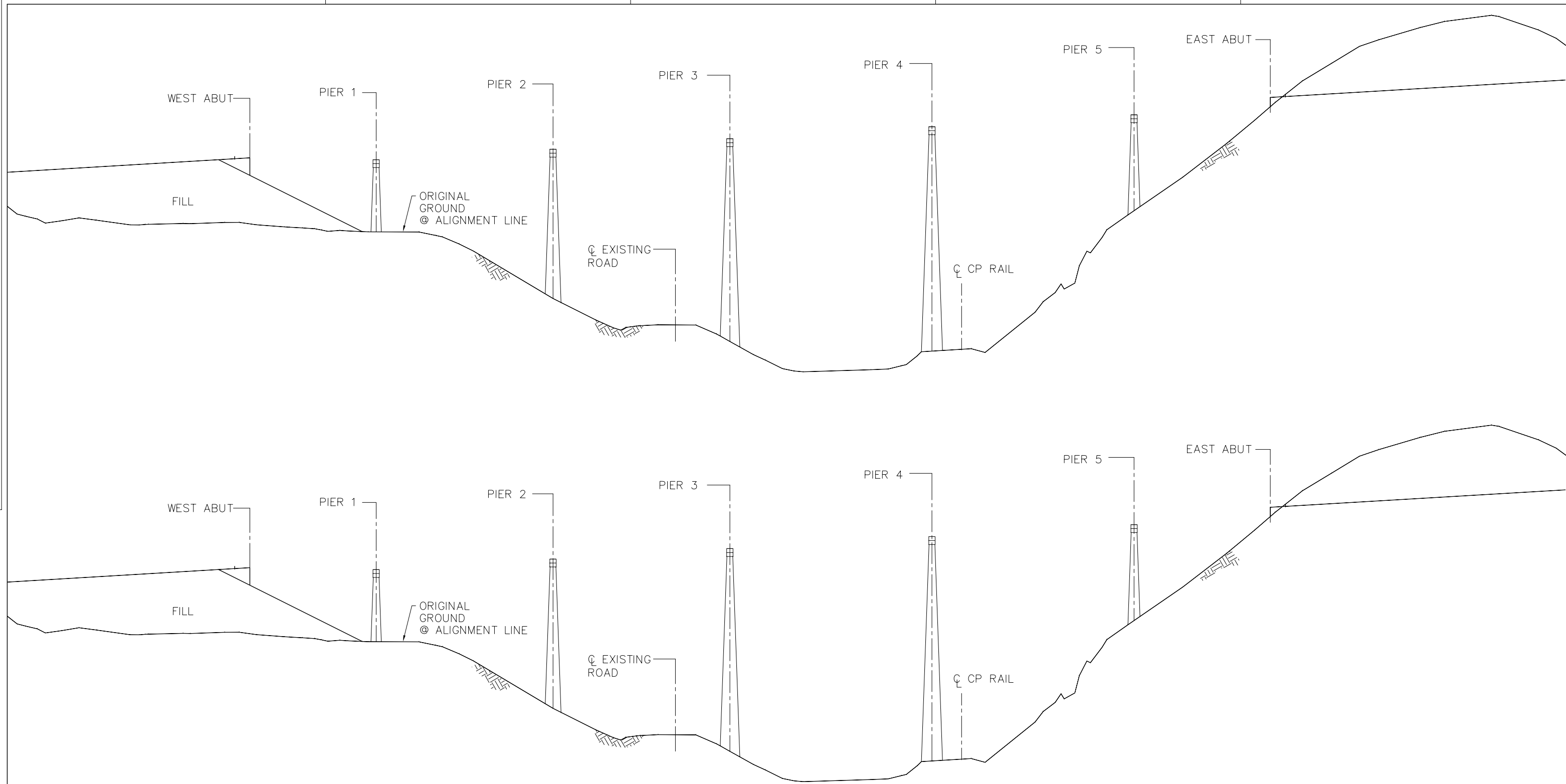


**PLAN**  
1 : 500



**ELEVATION**  
SCALE= 1 : 500

		MINISTRY OF TRANSPORTATION KICKING HORSE CANYON PROJECT PHASE 2																													
		<b>PARK BRIDGE</b> <b>GENERAL ARRANGEMENT</b>																													
SCALE _____ DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____		SENIOR DESIGN ENGINEER _____ DATE _____																													
PROFESSIONAL SEAL	<table border="1"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>7/14/05</td> <td>ISSUED FOR PROPOSAL</td> <td>KO</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Rev	Date	Description	Signature	0	7/14/05	ISSUED FOR PROPOSAL	KO													<table border="1"> <thead> <tr> <th>FILE No.</th> <th>PROJECT No.</th> <th>REG.</th> <th>DRAWING No.</th> </tr> </thead> <tbody> <tr> <td></td> <td>09901-7005</td> <td>2</td> <td>R2-NNN-4103</td> </tr> </tbody> </table>		FILE No.	PROJECT No.	REG.	DRAWING No.		09901-7005	2	R2-NNN-4103
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FILE No.	PROJECT No.	REG.	DRAWING No.																												
	09901-7005	2	R2-NNN-4103																												
REVISIONS																															



SCALE  
 DESIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

PARK BRIDGE  
 CONSTRUCTION STAGING  
 SHEET 1

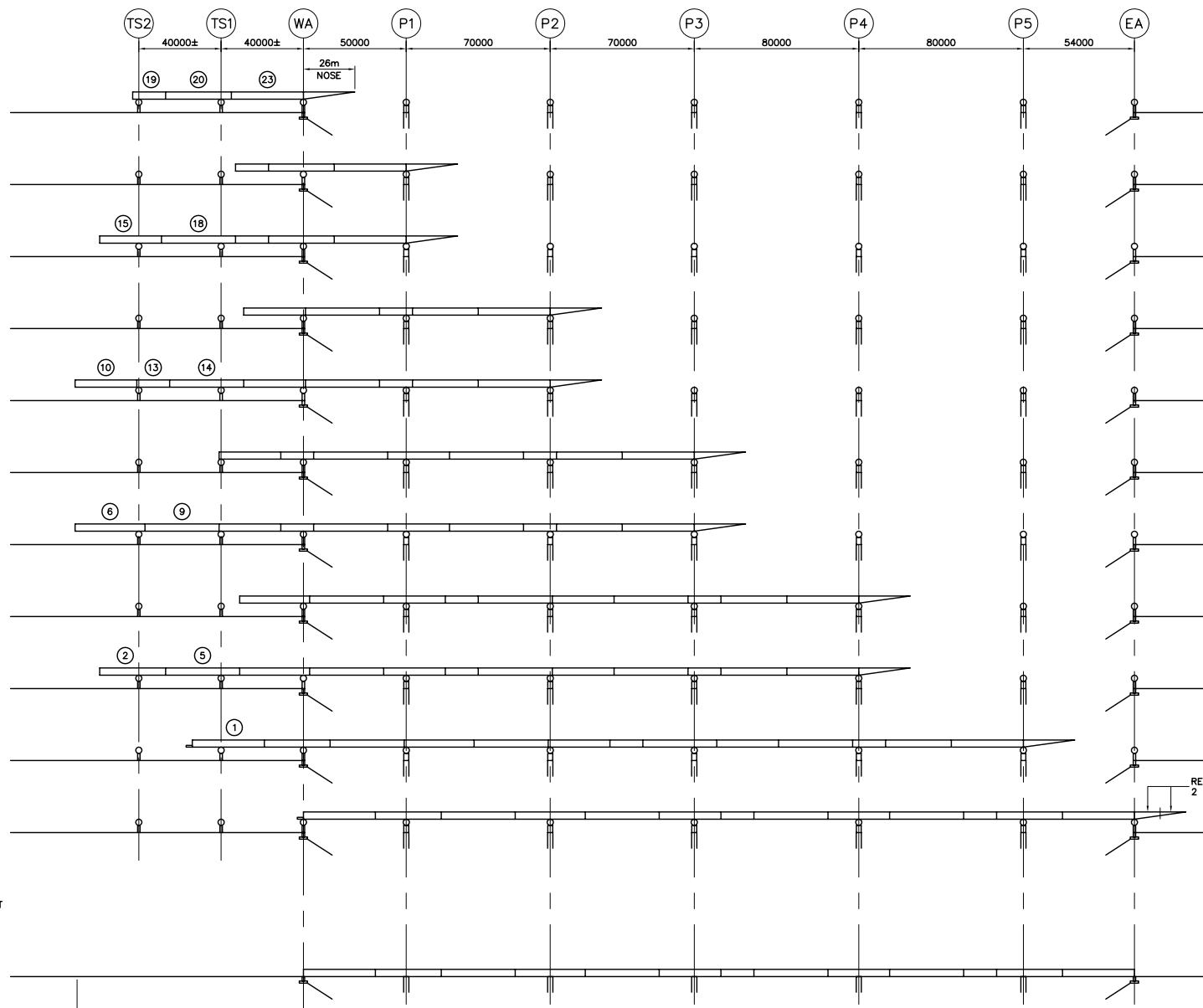
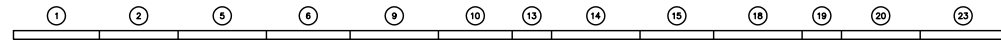
PROFESSIONAL SEAL

Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	KO

REVISIONS			

SENIOR DESIGN ENGINEER _____		DATE _____	
FILE No.	PROJECT No.	REG.	DRAWING No.
09901-7005	2	R2-NNN-4201	0





**STAGE 1**  
ASSEMBLE NOSE AND LEADING 3 GIRDERS OF FIRST HALF OF BRIDGE

**STAGE 2**  
LAUNCH TO PIER 1

**STAGE 3**  
ADD 2 GIRDERS

**STAGE 4**  
LAUNCH TO PIER 2

**STAGE 5**  
ADD 3 GIRDERS

**STAGE 6**  
LAUNCH TO PIER 3

**STAGE 7**  
ADD 2 GIRDERS

**STAGE 8**  
LAUNCH TO PIER 4

**STAGE 9**  
ADD 2 GIRDERS

**STAGE 10**  
ADD LAST GIRDER AND REAR EXTENSION. LAUNCH TO PIER 5

**STAGE 11**  
COMPLETE LAUNCH

**STAGE 12**  
REMOVE AND RELOCATE ALL TEMPORARY LAUNCHING EQUIPMENT FOR USE ON OTHER HALF OF GIRDERS

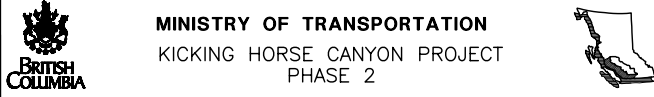
**STAGE 13**  
JACK DOWN FIRST HALF OF ERECTED STEEL GIRDERS AND INSTALL PERMANENT BEARINGS

**STAGE 14 TO 26**  
REPEAT STAGES 1 TO 13 FOR SECOND HALF OF STEEL GIRDERS

**STAGE 27**  
INSTALL DIAPHRAGMS AND LATERAL BRACING BETWEEN GIRDERS 2 AND 3

REMOVE NOSE IN 2 SECTION LENGTHS

110m ASSEMBLY AREA



DESIGNED	DATE
DRAWN	DATE
CHECKED	DATE
APPROVED	DATE

**PARK BRIDGE**  
**STEEL ERECTION SEQUENCE**

PROFESSIONAL SEAL

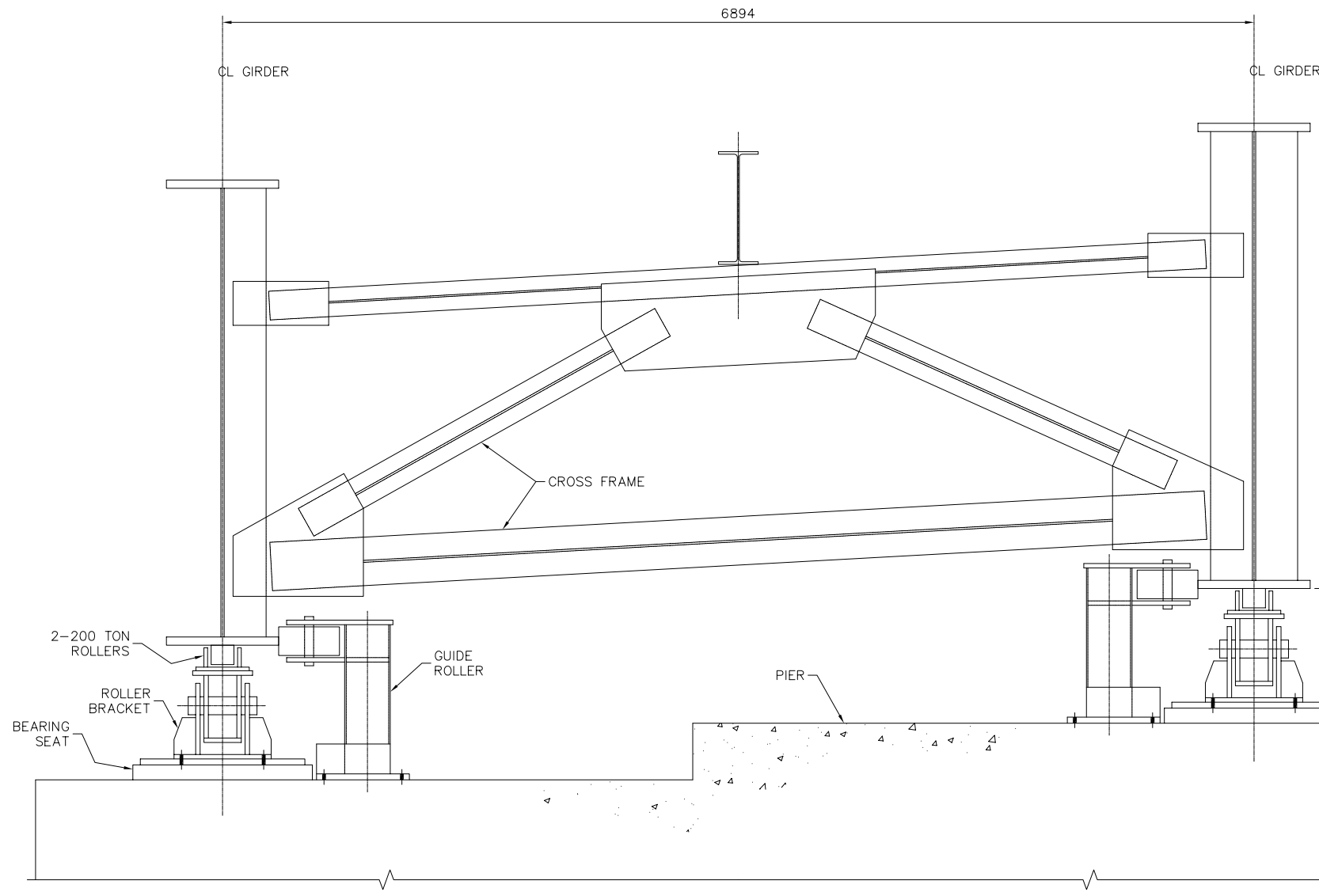
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0	7/14/05	ISSUED FOR PROPOSAL	KO

SENIOR DESIGN ENGINEER		DATE	
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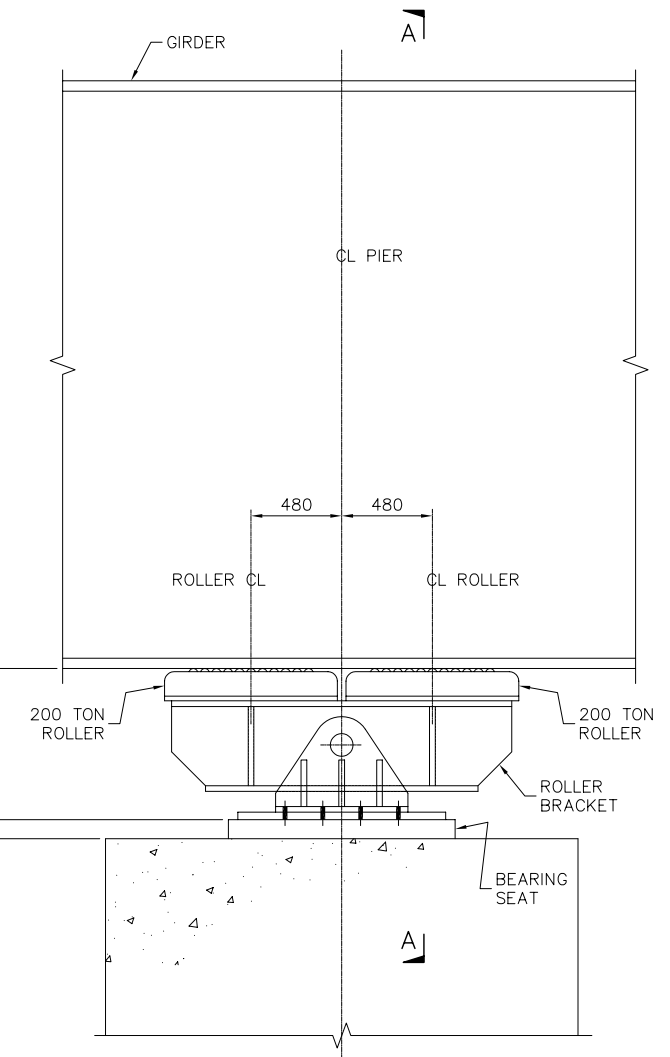
REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

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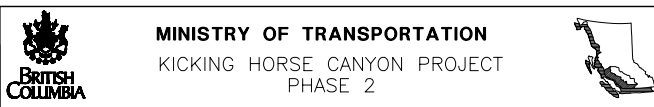


SECTION A-A  
SCALE 1:20



ELEVATION  
SCALE 1:20

DATE: 2005/06/24 - 2:50pm  
PATH: R:\967994\CADD\CHC dwgs\1R2-NNN-4203.dwg



SCALE  
 DESIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

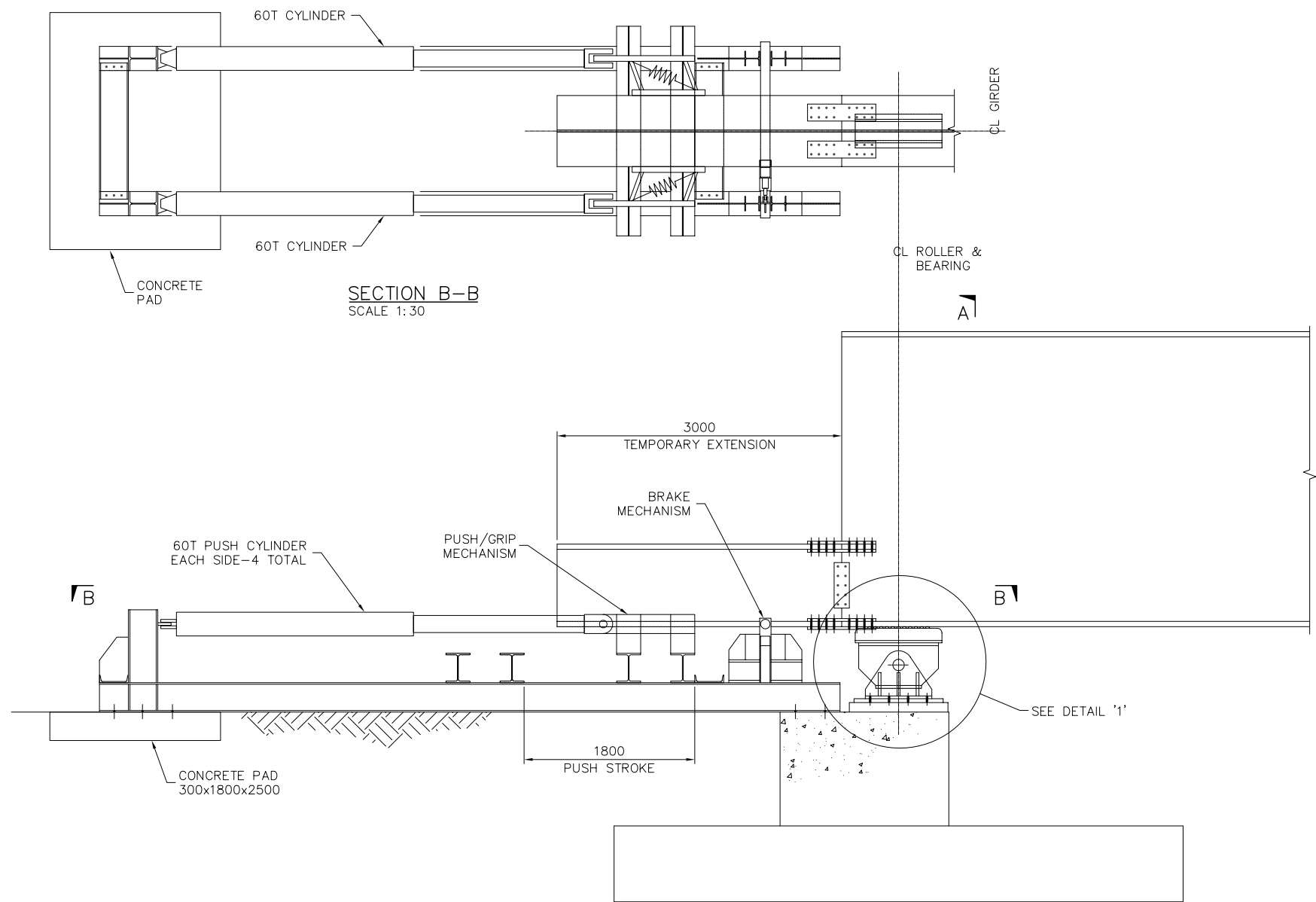
**PARK BRIDGE**  
**LAUNCHING EQUIPMENT AT PIERS**

Rev	Date	Description	Signature
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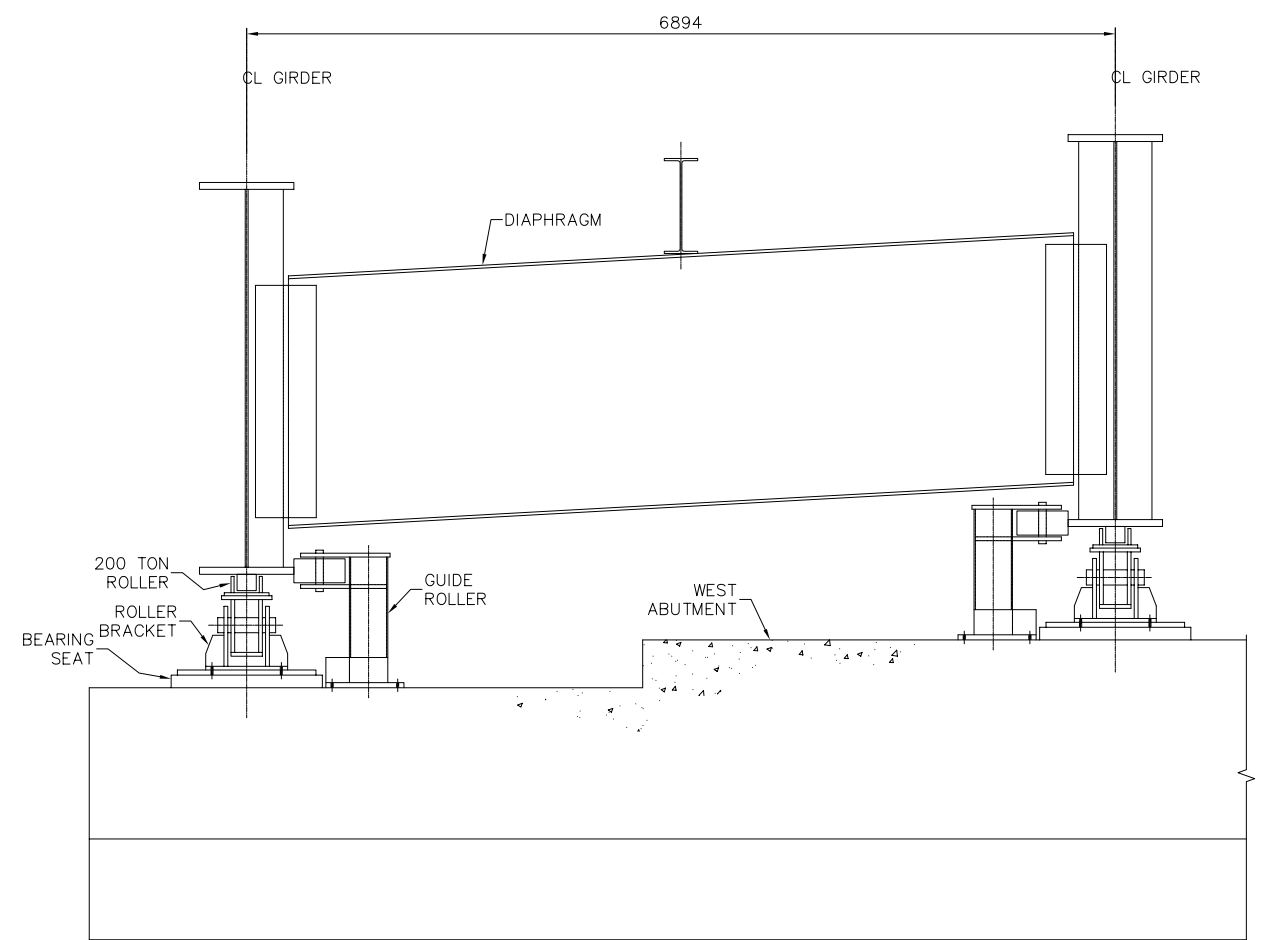
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FILE No.	PROJECT No.	REG.	DRAWING No.		
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REVISIONS

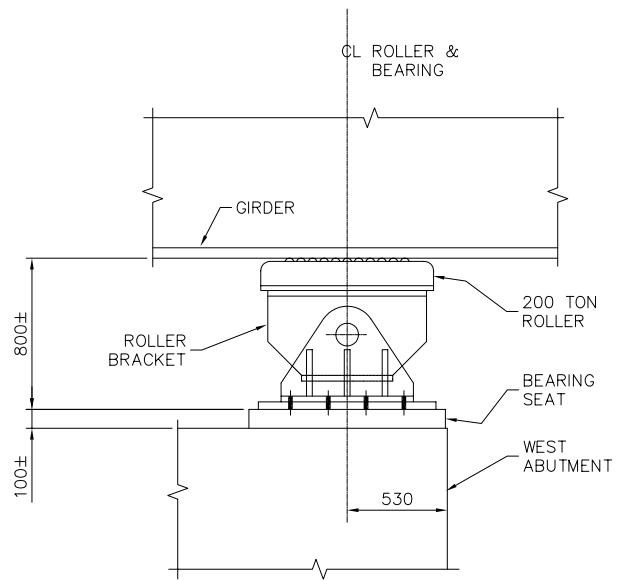
CANCEL PRINTS BEARING PREVIOUS LETTER



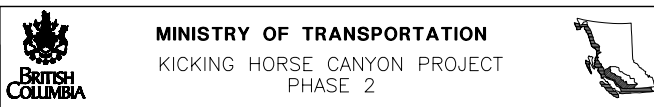
LAUNCHING EQUIPMENT - ELEVATION  
SCALE 1:30



SECTION A-A  
SCALE 1:30



DETAIL '1'  
SCALE 1:20



DESIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

PARK BRIDGE  
 LAUNCHING EQUIPMENT AT PIERS

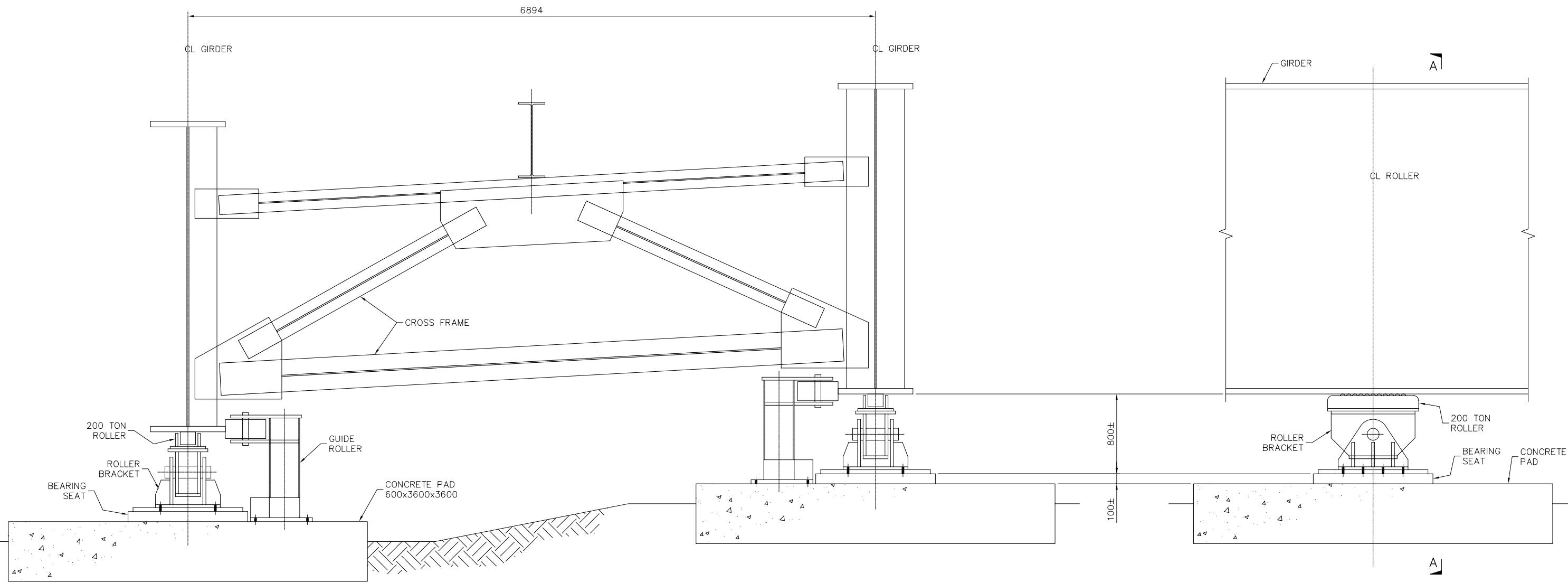
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0	7/14/05	ISSUED FOR PROPOSAL	KO

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FILE No.	PROJECT No.	REG.	DRAWING No.
09901-7005	2	R2-NNN-4204	0

REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

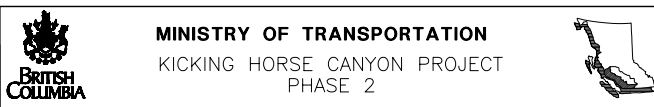
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SECTION A-A  
SCALE 1:20

ELEVATION  
SCALE 1:20

DATE: 2005/06/24 - 2:50pm  
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DESIGNED	DATE
DRAWN	DATE
CHECKED	DATE
APPROVED	DATE

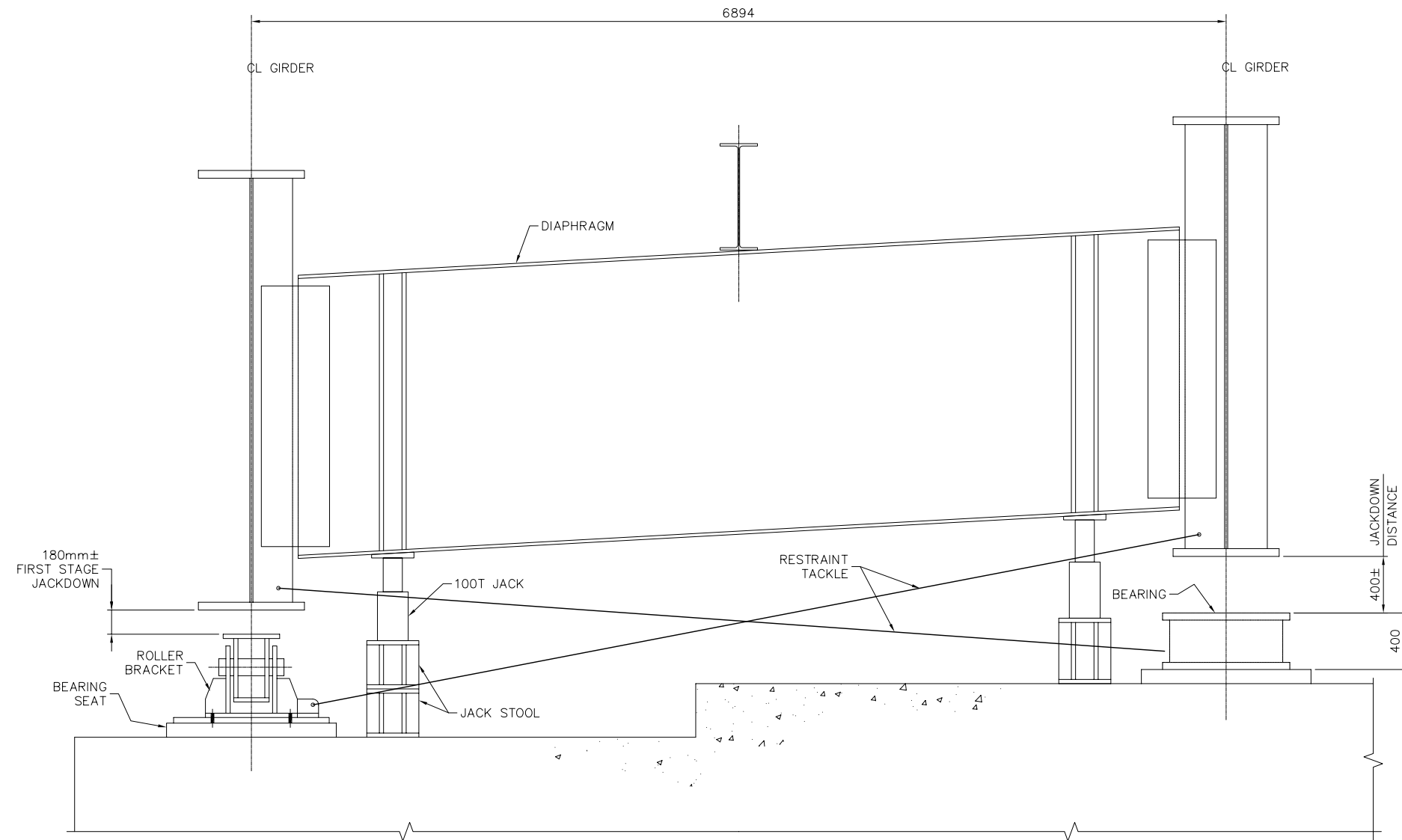
PARK BRIDGE  
LAUNCHING EQUIPMENT AT  
TEMPORARY SUPPORTS

Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	KO

SENIOR DESIGN ENGINEER		DATE	
FILE No.	PROJECT No.	REG.	DRAWING No.
09901-7005	2		R2-NNN-4205

REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER



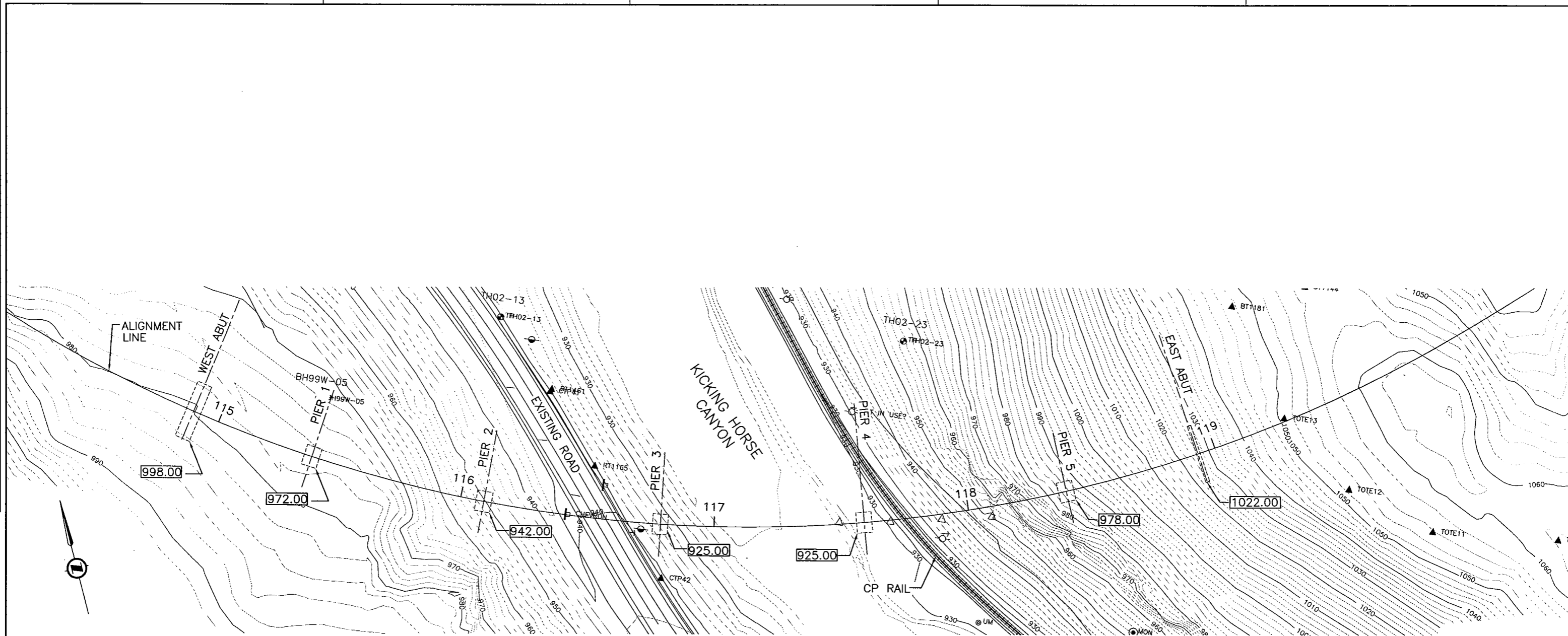
SECTION VIEW  
SCALE 1:20

**PROCEDURE**

1. INSTALL LATERAL RESTRAINT TACKLE. REMOVE GUIDE ROLLERS.
2. INSTALL JACKING EQUIPMENT. JACK UP, REMOVE MAIN ROLLERS AND LOWER GIRDERS APPROXIMATELY 180mm ONTO MAIN ROLLER BEAMS.
3. REMOVE JACK STOOLS AND RESET JACKS.
4. JACK UP AND REMOVE MAIN ROLLER BEAMS. INSTALL BEARINGS AND SOLE PLATES.

DATE: 2005/06/24 - 2:51 pm  
PATH: R:\967984\CADD\CHC dwgs\R2-NNN-4206.dwg





		<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2																												
SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____		<b>PARK BRIDGE</b>  <b>TYPICAL JACKDOWN AT PIERS</b>																												
PROFESSIONAL SEAL	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>7/14/05</td> <td>ISSUED FOR PROPOSAL</td> <td>KO</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Rev	Date	Description	Signature	0	7/14/05	ISSUED FOR PROPOSAL	KO									<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">SENIOR DESIGN ENGINEER _____</td> <td colspan="2">DATE _____</td> </tr> <tr> <td>FILE No.</td> <td>PROJECT No.</td> <td>REG.</td> <td>DRAWING No.</td> </tr> <tr> <td> </td> <td>09901-7005</td> <td>2</td> <td>R2-NNN-4206</td> </tr> </table>	SENIOR DESIGN ENGINEER _____		DATE _____		FILE No.	PROJECT No.	REG.	DRAWING No.		09901-7005	2	R2-NNN-4206
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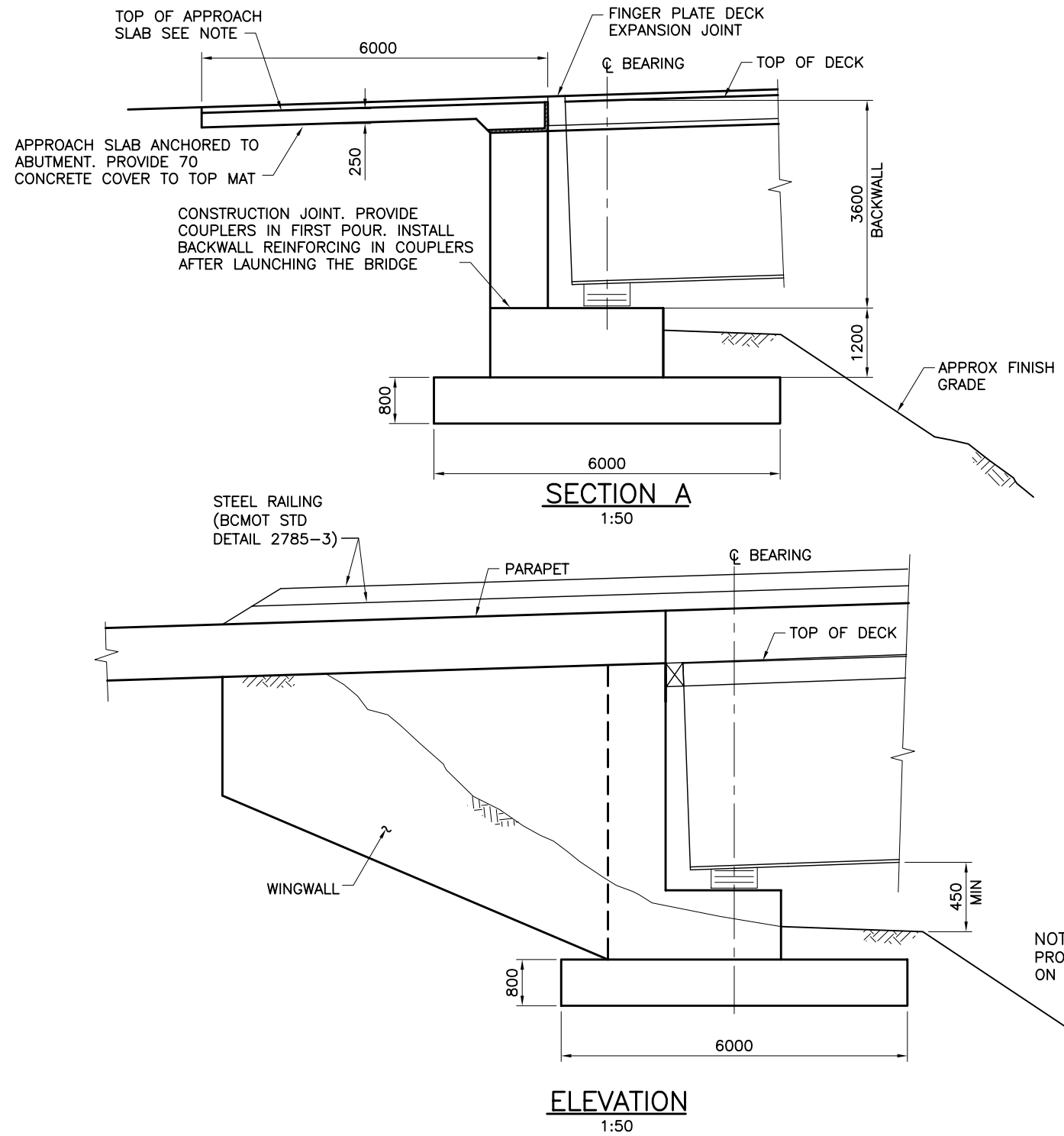
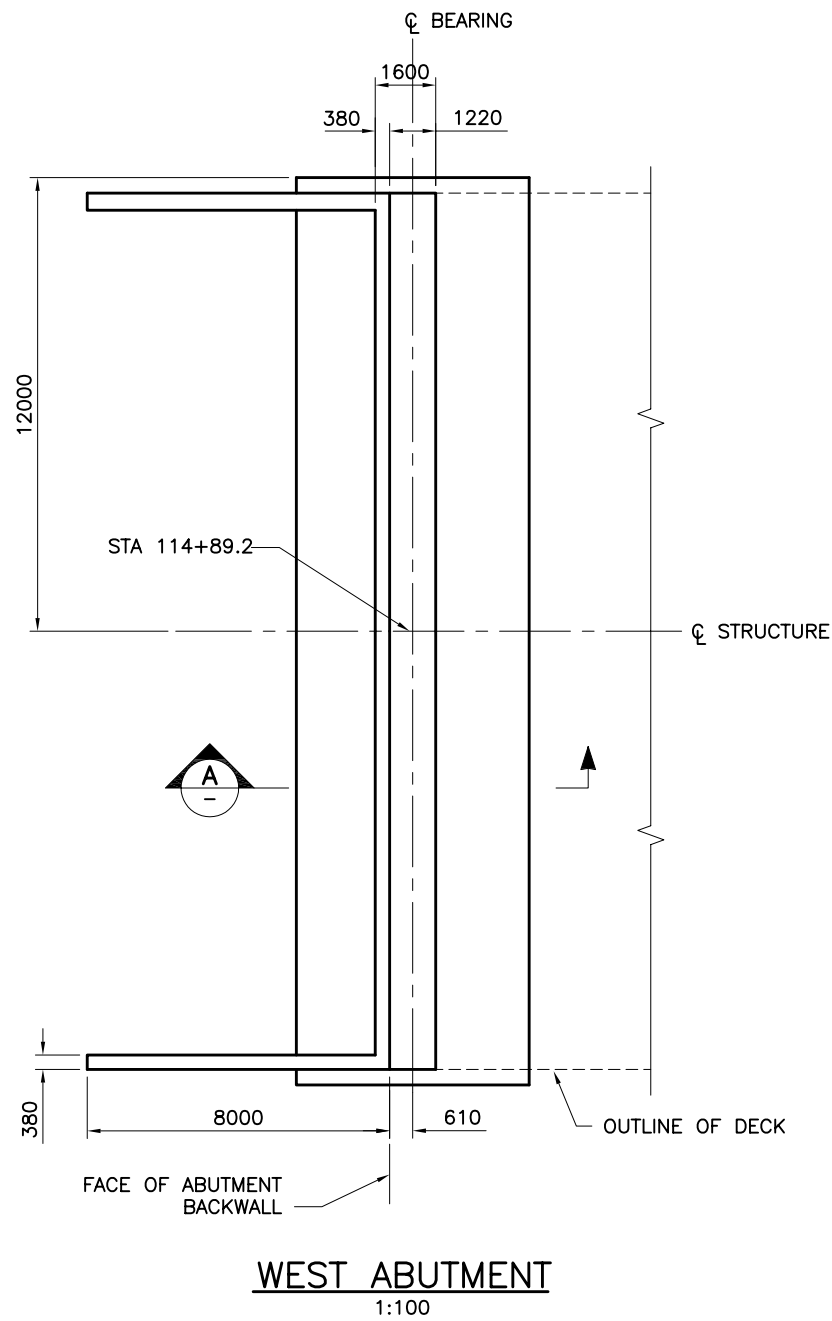


**FOUNDATION PLAN**  
SCALE= 1 : 150

**LEGEND**  
950.00 BOTTOM OF FOOTING ELEVATION

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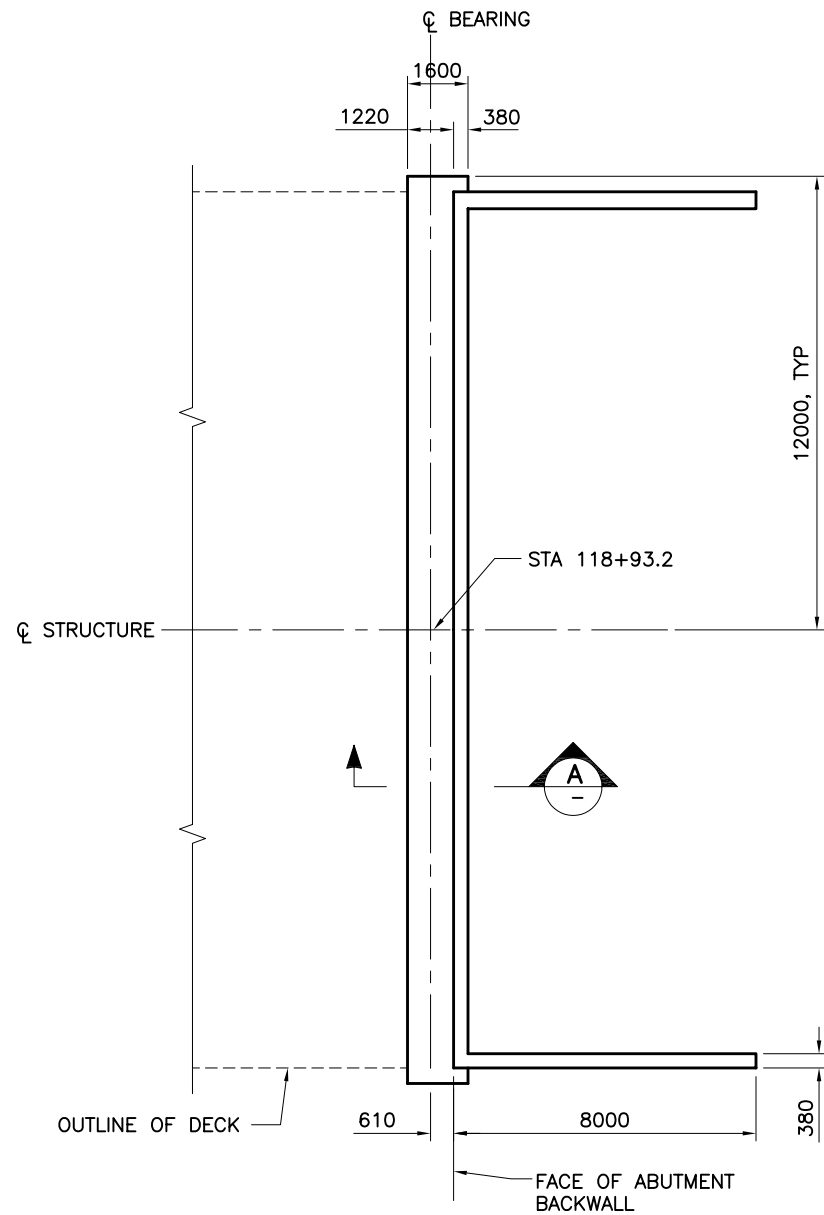
 	 <p><b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON IMPROVEMENTS KICKING HORSE CANYON</p>	 <p>TRANS CANADA HIGHWAY NO. 1 <b>PARK BRIDGE</b> KICKING HORSE CANYON PROJECT – PHASE 2 <b>FOUNDATION PLAN</b></p>																				
<p>DESIGNED _____ DATE _____</p> <p>DRAWN _____ DATE _____</p> <p>CHECKED _____ DATE _____</p> <p>APPROVED _____ DATE _____</p>	<p>SENIOR DESIGN ENGINEER _____ DATE _____</p>																					
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Rev	Date	Description	Signature																			
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2	4/27/05	REVISION 2	KO																			
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FILE No.	PROJECT No.	REC.	DRAWING No.																			
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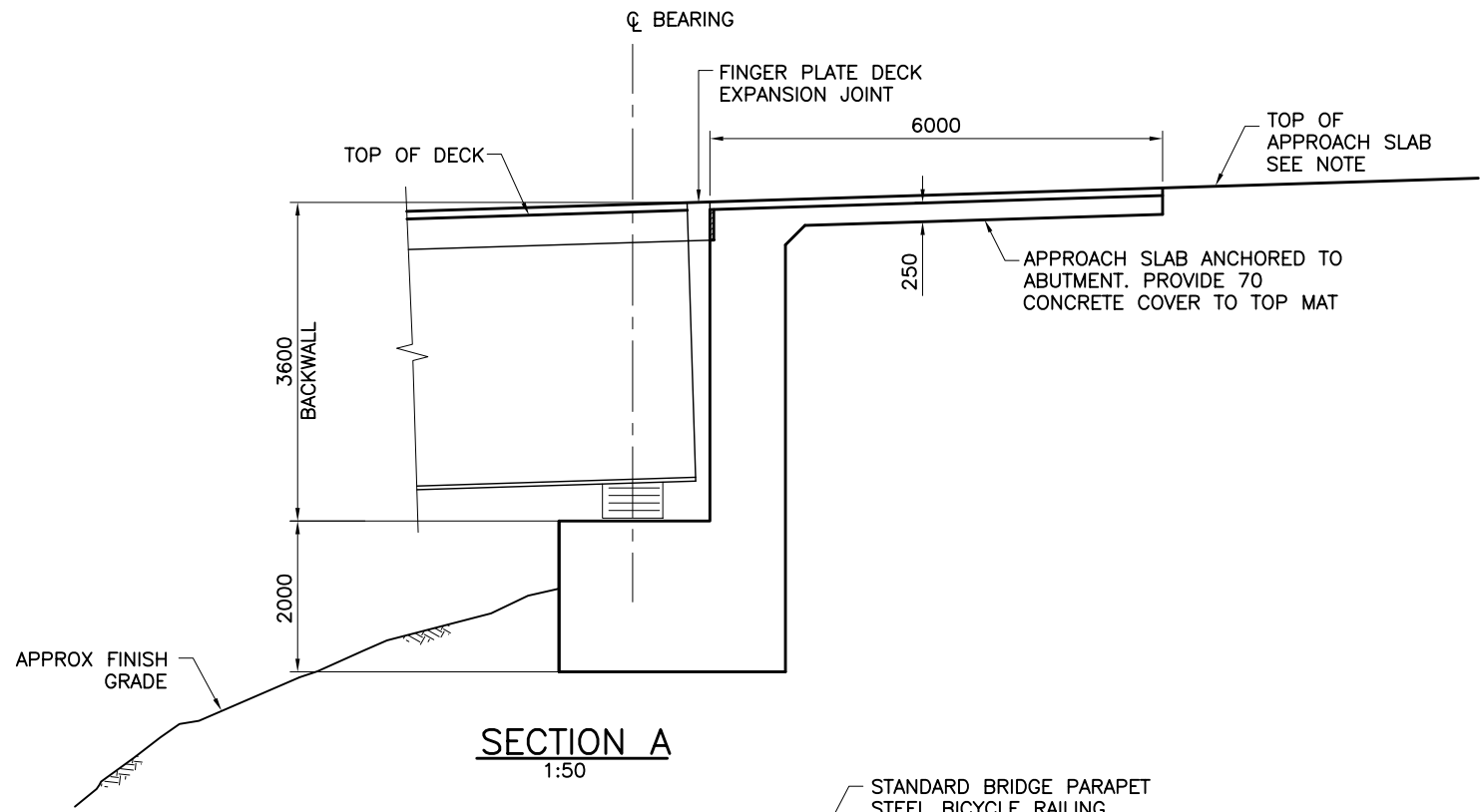
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DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____		<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2	
<b>PARK BRIDGE</b> <b>PLAN AND SECTION</b> <b>WEST ABUTMENT</b>		SENIOR DESIGN ENGINEER _____ DATE _____	
SCALE _____		FILE No. 09901-7005	REG. 2
REVISIONS		DRAWING No. R2-NNN-4401	
Rev Date Description Signature 0 7/14/05 ISSUED FOR PROPOSAL KO		0	

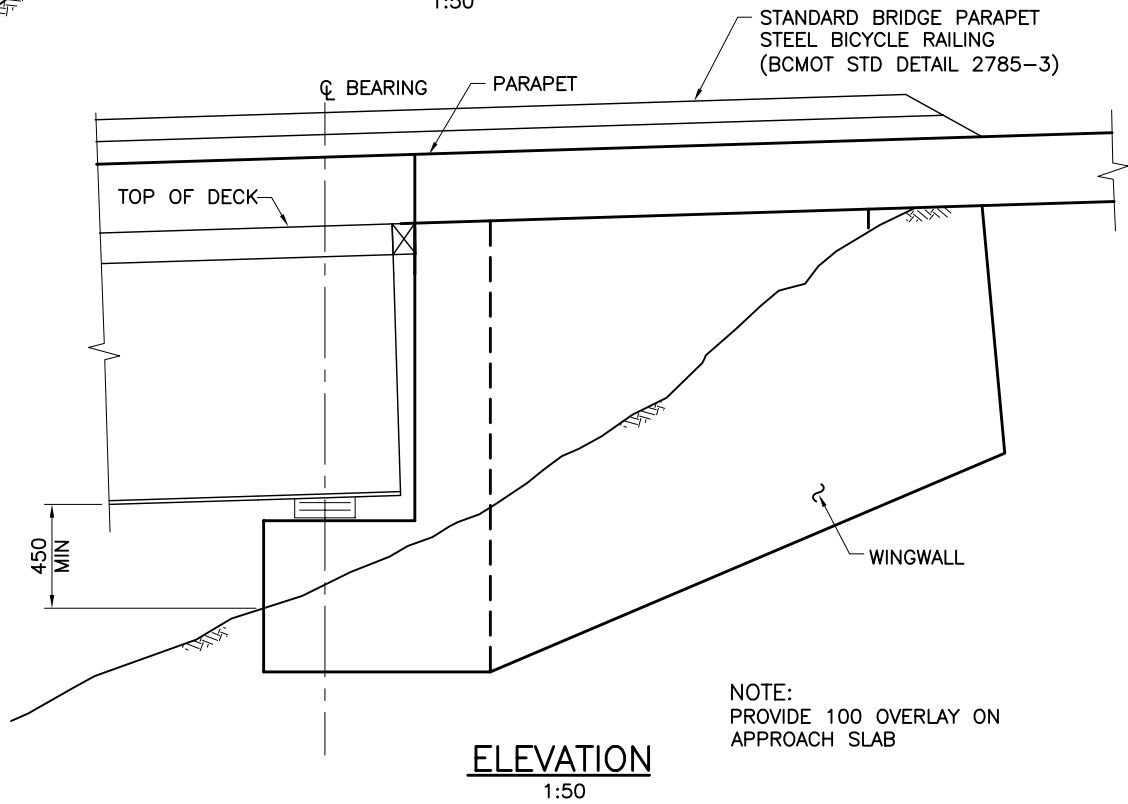
CANCEL PRINTS BEARING PREVIOUS LETTER



**EAST ABUTMENT**  
1:100



**SECTION A**  
1:50



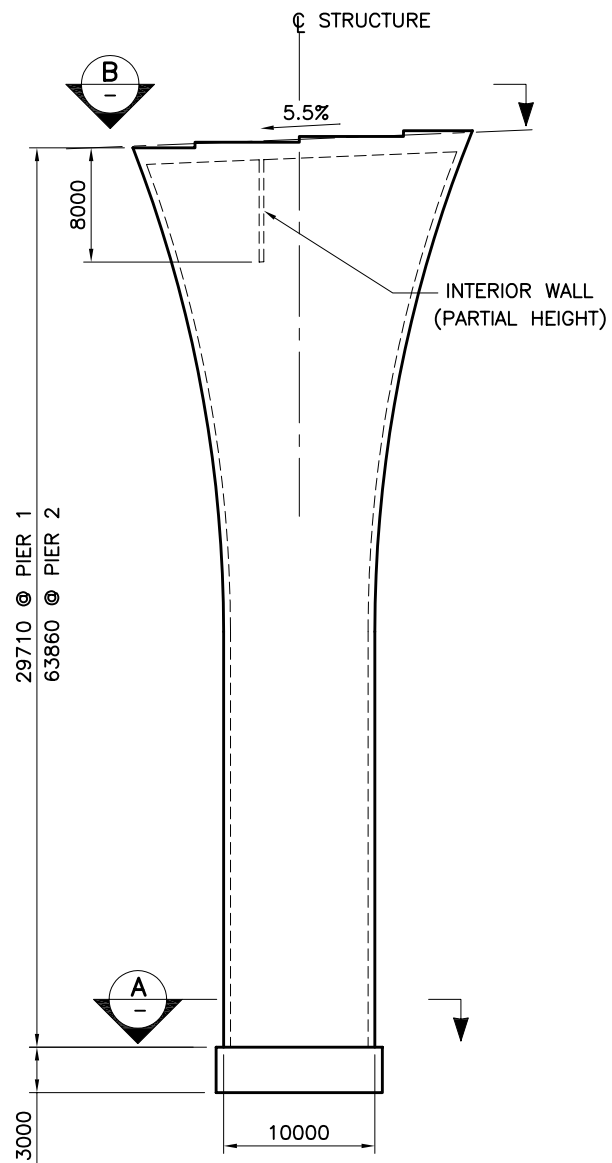
**ELEVATION**  
1:50

NOTE:  
PROVIDE 100 OVERLAY ON  
APPROACH SLAB

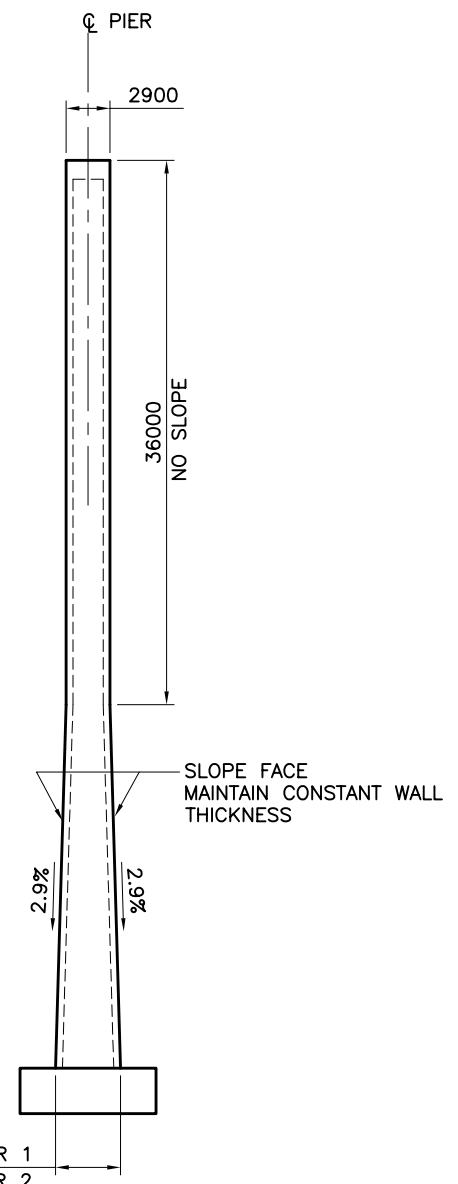
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MINISTRY OF TRANSPORTATION KICKING HORSE CANYON PROJECT PHASE 2																							
<b>PRELIMINARY ALIGNMENT</b> <b>PLAN AND SECTION</b> <b>EAST ABUTMENT</b>																							
SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____		SENIOR DESIGN ENGINEER _____ DATE _____																					
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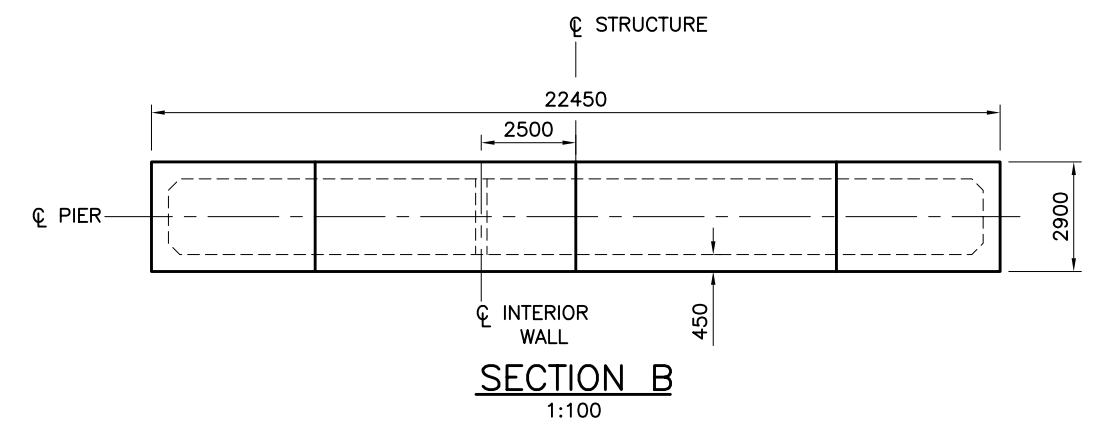




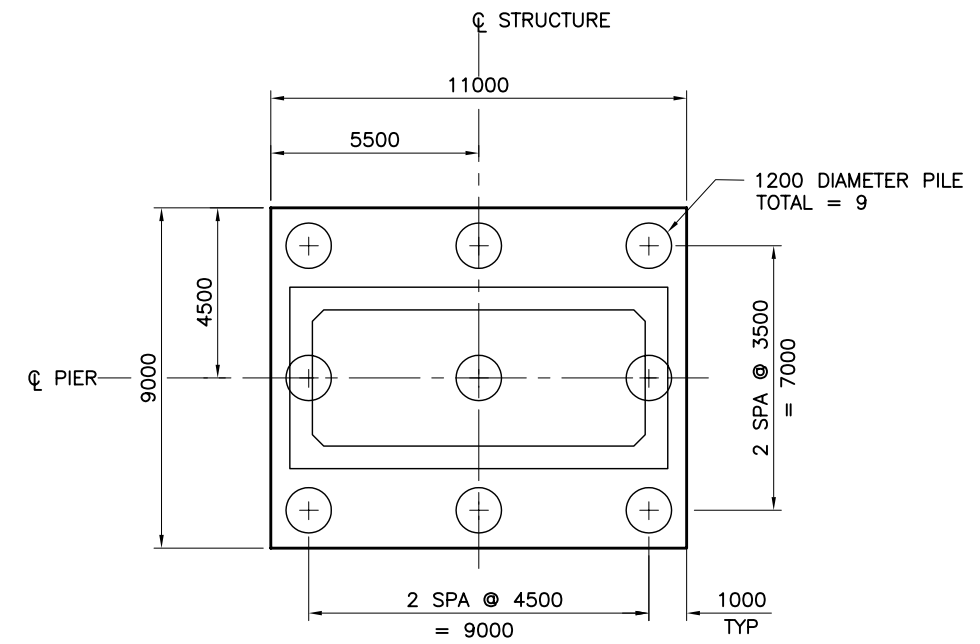
**PIER 2 ELEVATION A**  
1:250  
(PIER 2 SHOWN, PIER 1 SIMILAR)  
NOTE: DECK SECTION NOT SHOWN FOR CLARITY



**PIER 2 ELEVATION B**  
1:250



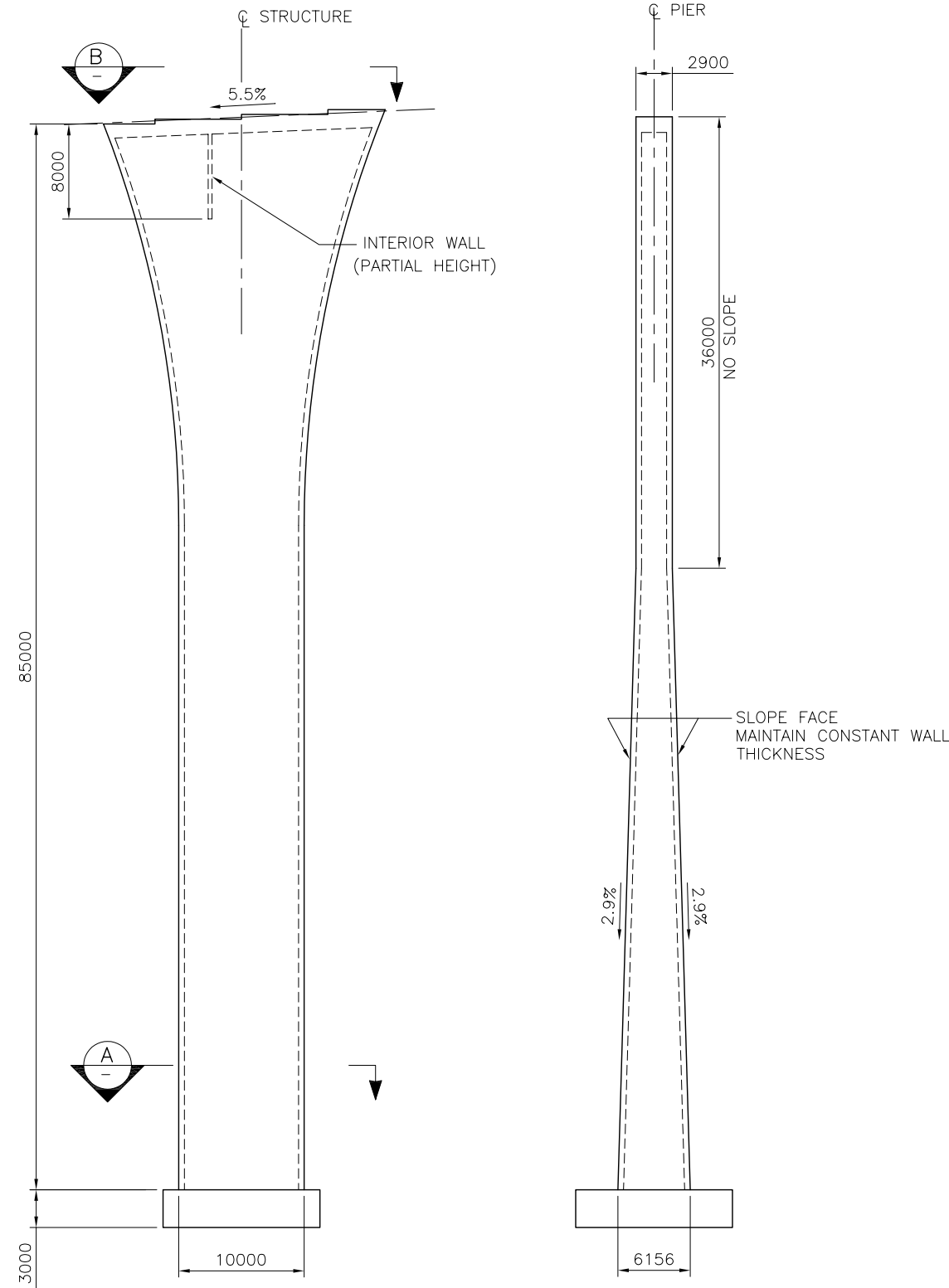
**SECTION B**  
1:100



**SECTION A**  
1:100

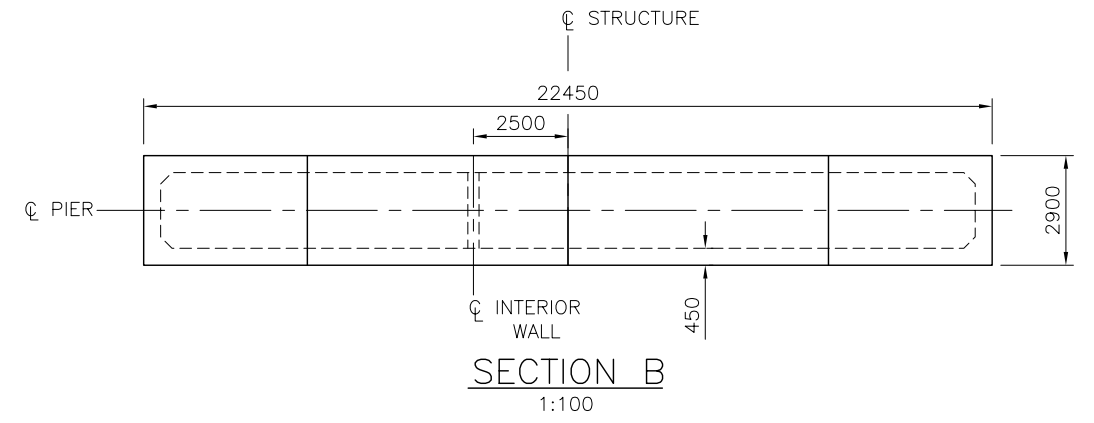
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			<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2																
<b>PARK BRIDGE</b> <b>ELEVATION AND SECTIONS</b> <b>PIER 1 &amp; 2</b>		SENIOR DESIGN ENGINEER _____ DATE _____ FILE No. _____ PROJECT No. _____ REG. _____ DRAWING No. _____																	
SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4/18/05</td> <td>PRELIMINARY</td> <td>KO</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			Rev	Date	Description	Signature	0	4/18/05	PRELIMINARY	KO								
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REVISIONS	09901-7005   2   R2-NNN-4501   0																		

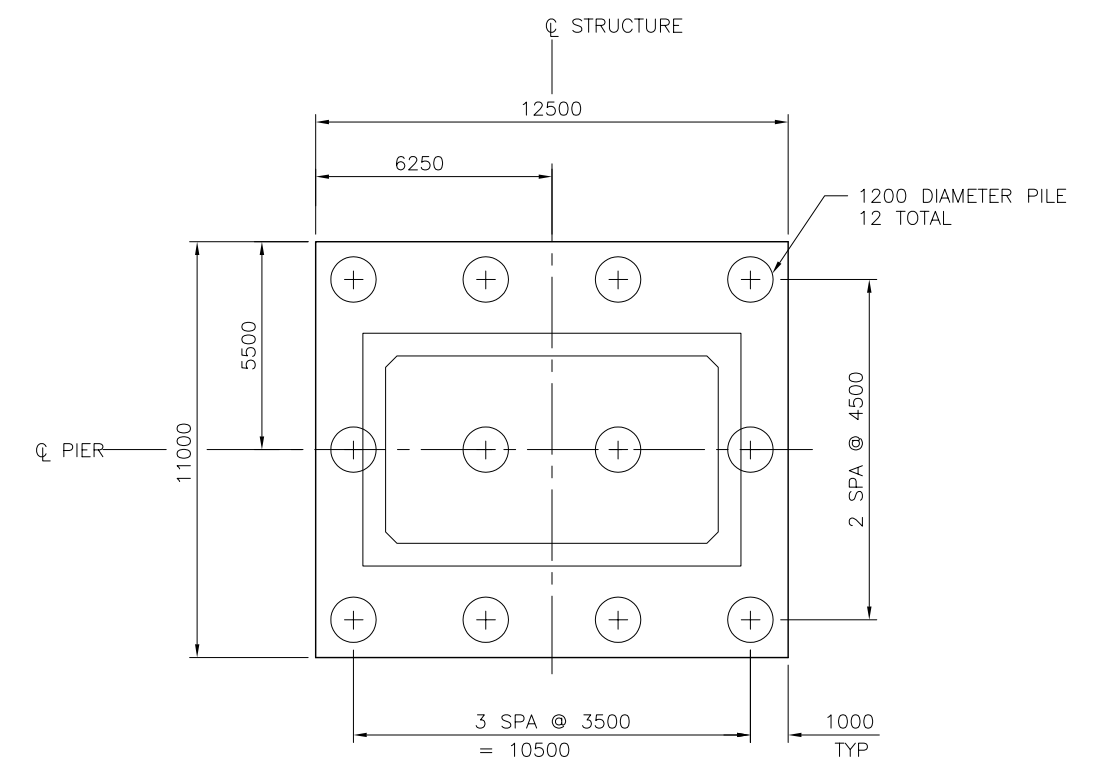


PIER 3 ELEVATION A 1:250 PIER 3 ELEVATION B 1:250

NOTE: DECK SECTION NOT SHOWN FOR CLARITY

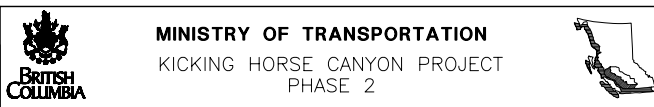


SECTION B 1:100



SECTION A 1:100

R:\967994\CADD\KHC dwgs\R2-NNN-4502.DWG ON: Jun 24, 2005 AT: 2:51pm



DESIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

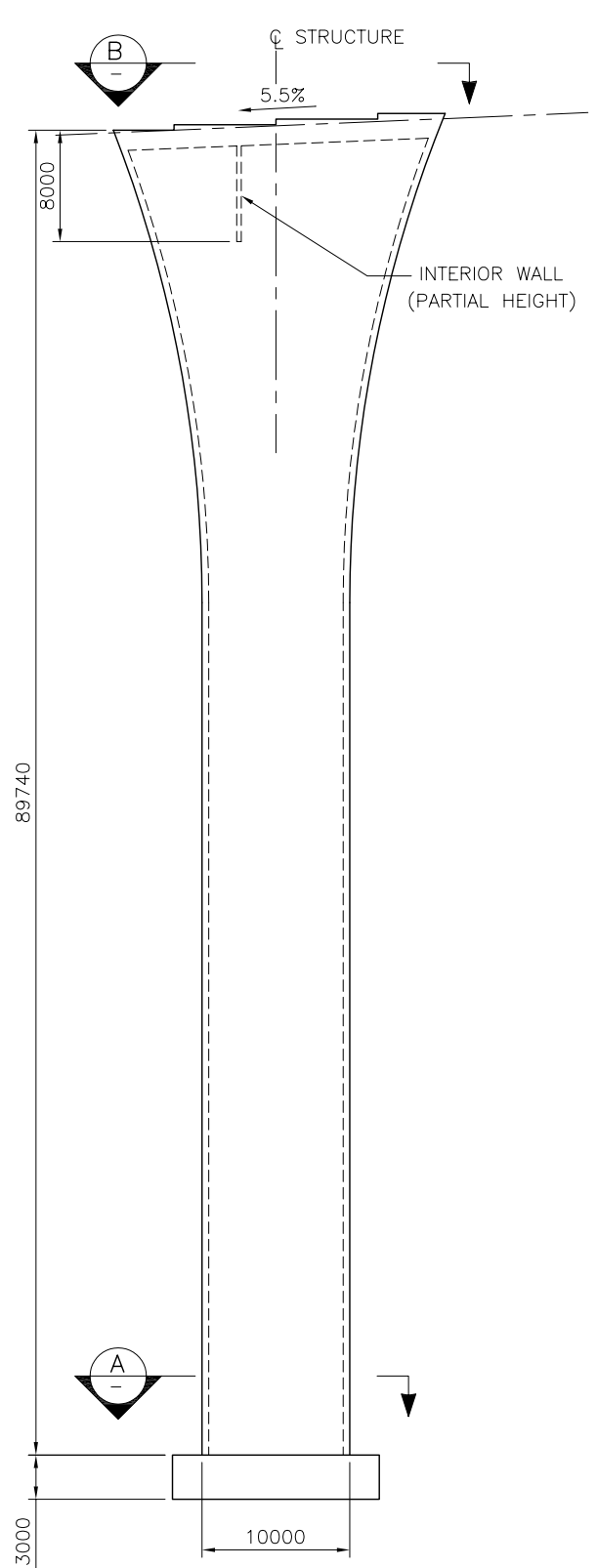
PARK BRIDGE  
 ELEVATION AND SECTIONS  
 PIER 3

Rev	Date	Description	Signature

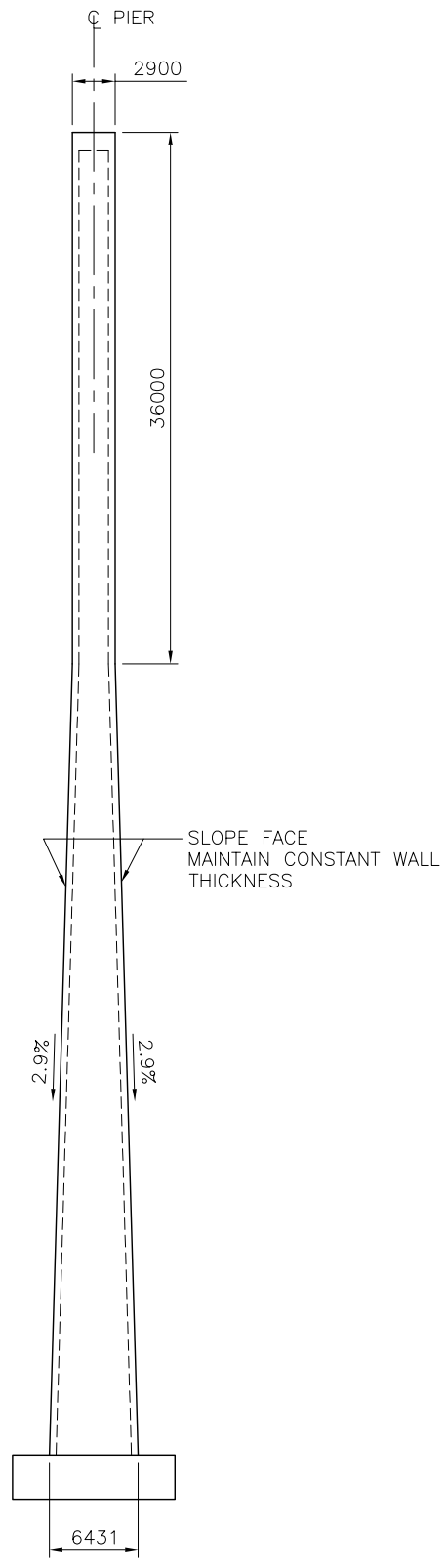
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FILE No.	PROJECT No.	REG.	DRAWING No.
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REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

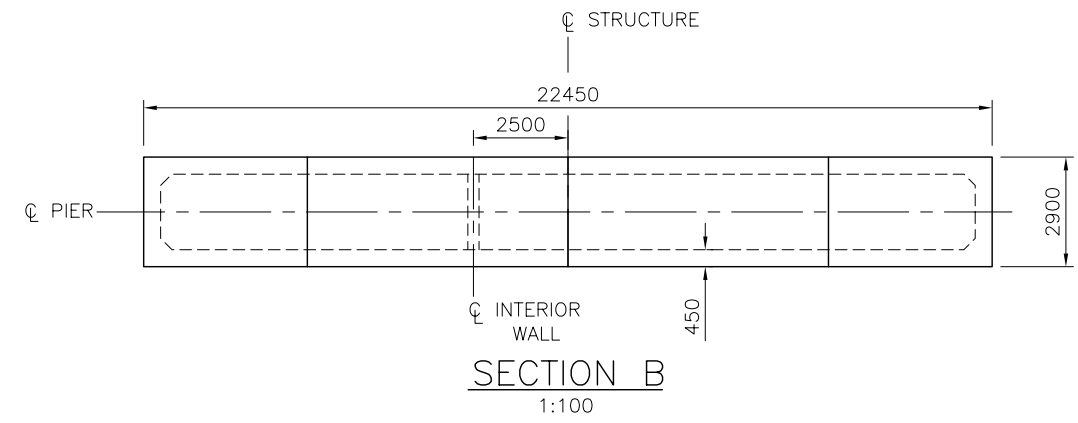


PIER 4 ELEVATION A  
1:250

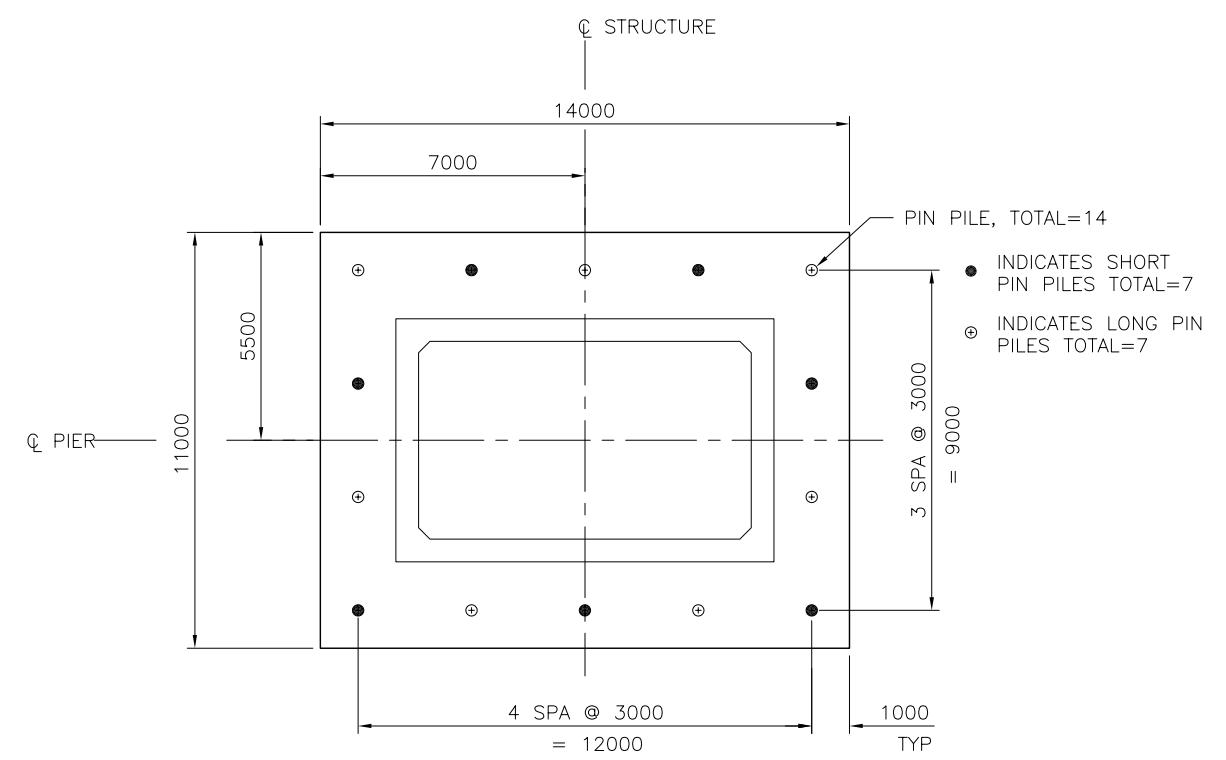


PIER 4 ELEVATION B  
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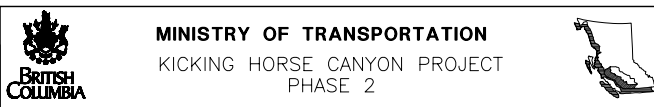
NOTE: DECK SECTION NOT SHOWN FOR CLARITY



SECTION B  
1:100



SECTION A  
1:100



DESIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
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PARK BRIDGE  
 ELEVATION AND SECTIONS  
 PIER 4

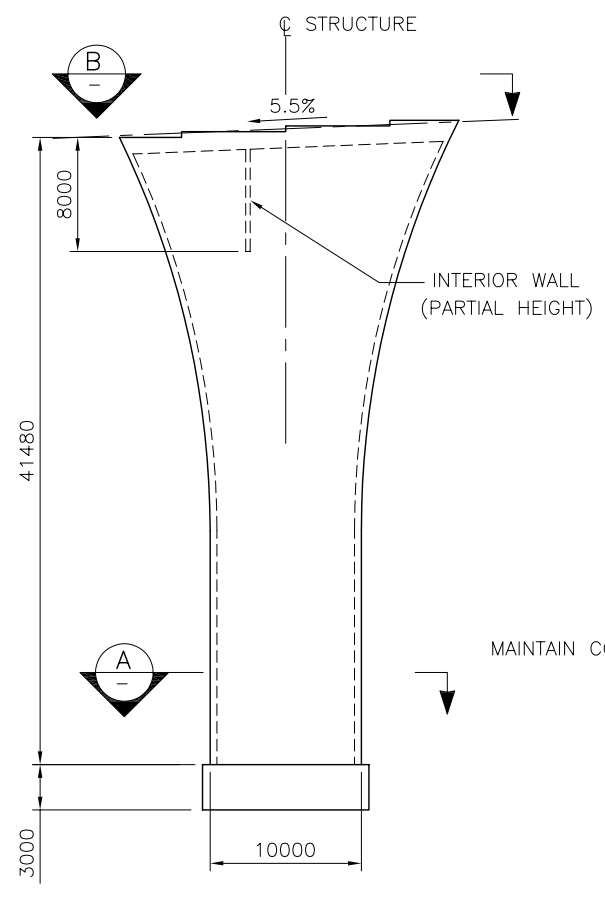
Rev	Date	Description	Signature
1	7/14/05	ISSUED FOR PROPOSAL	KO

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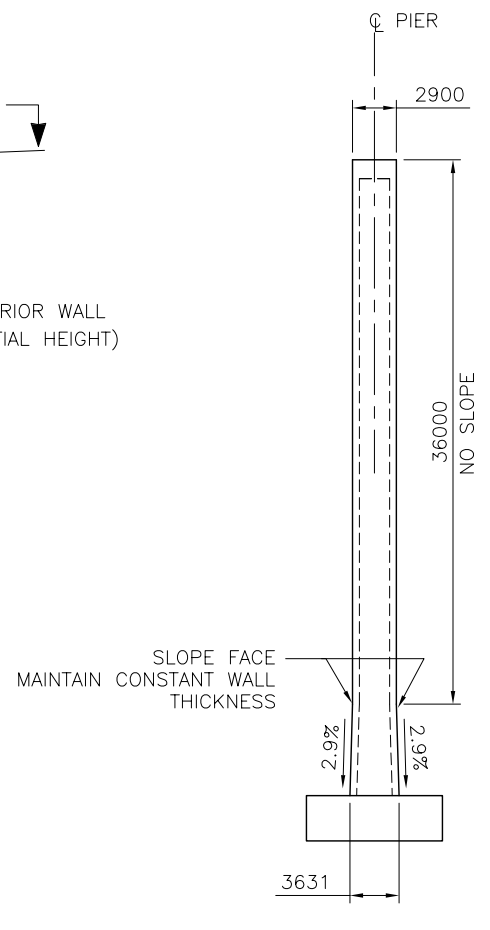
REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

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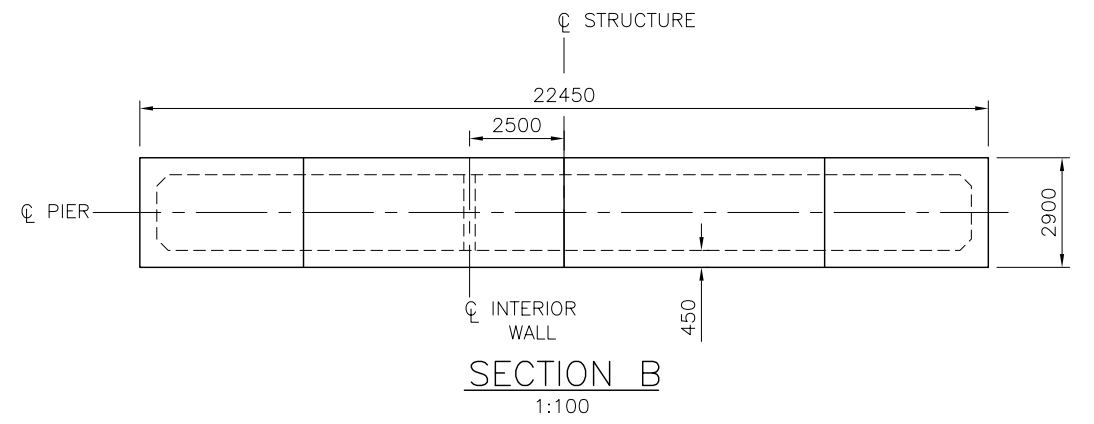


PIER 5 ELEVATION A  
1:250

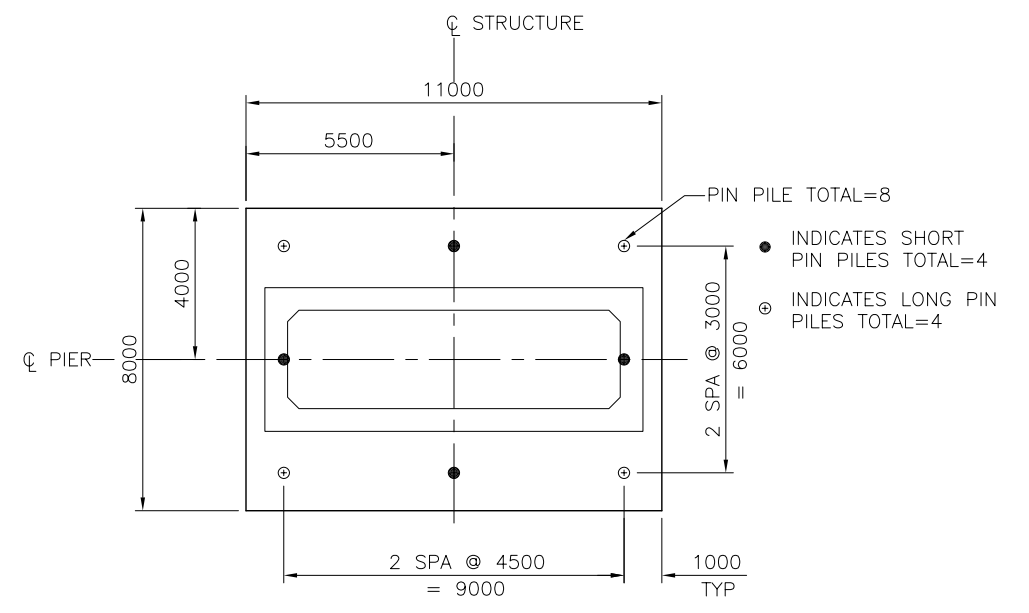


PIER 5 ELEVATION B  
1:250

NOTE: DECK SECTION NOT SHOWN FOR CLARITY

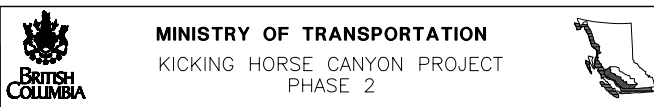


SECTION B  
1:100



SECTION A  
1:100

R:\967994\CADD\KHC dwgs\R2-NNN-4504.DWG ON: Jun 24, 2005 AT: 2:52pm



SCALE  
 DESIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
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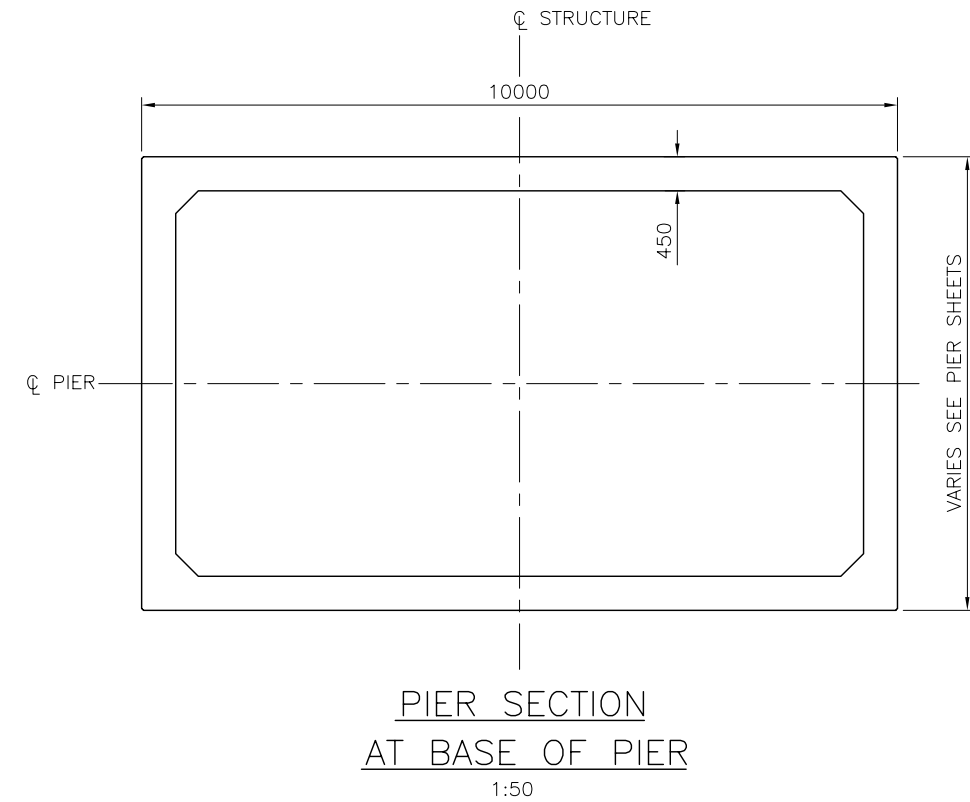
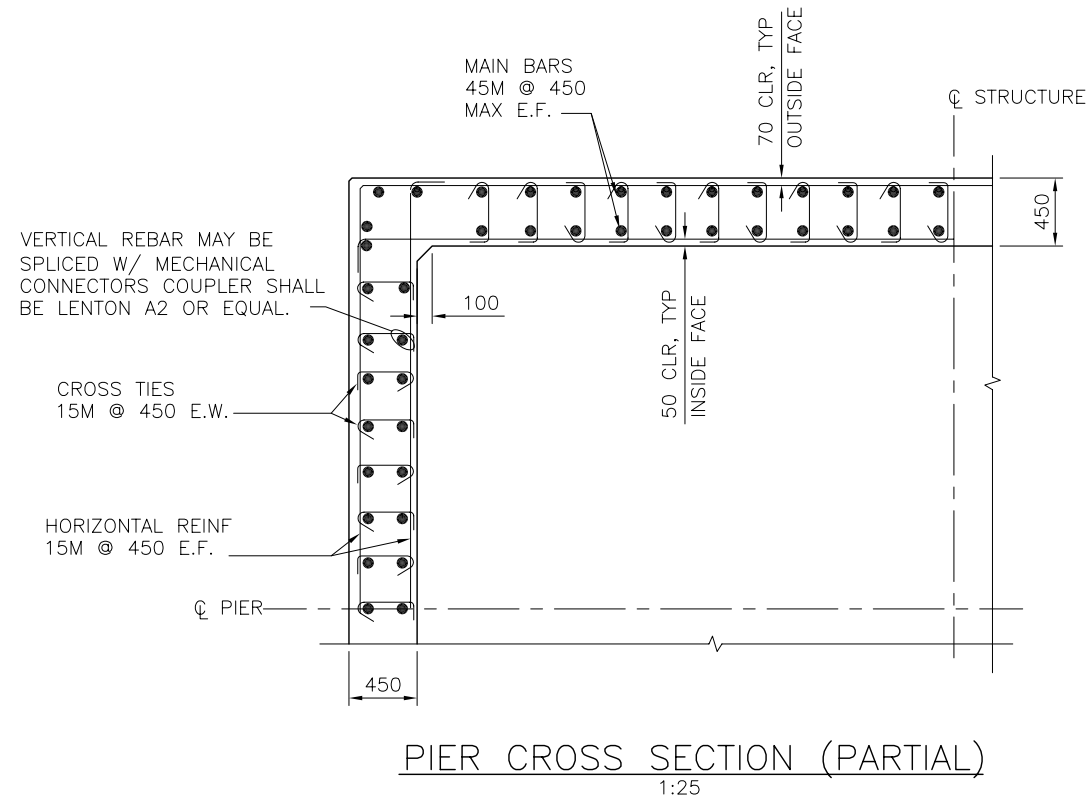
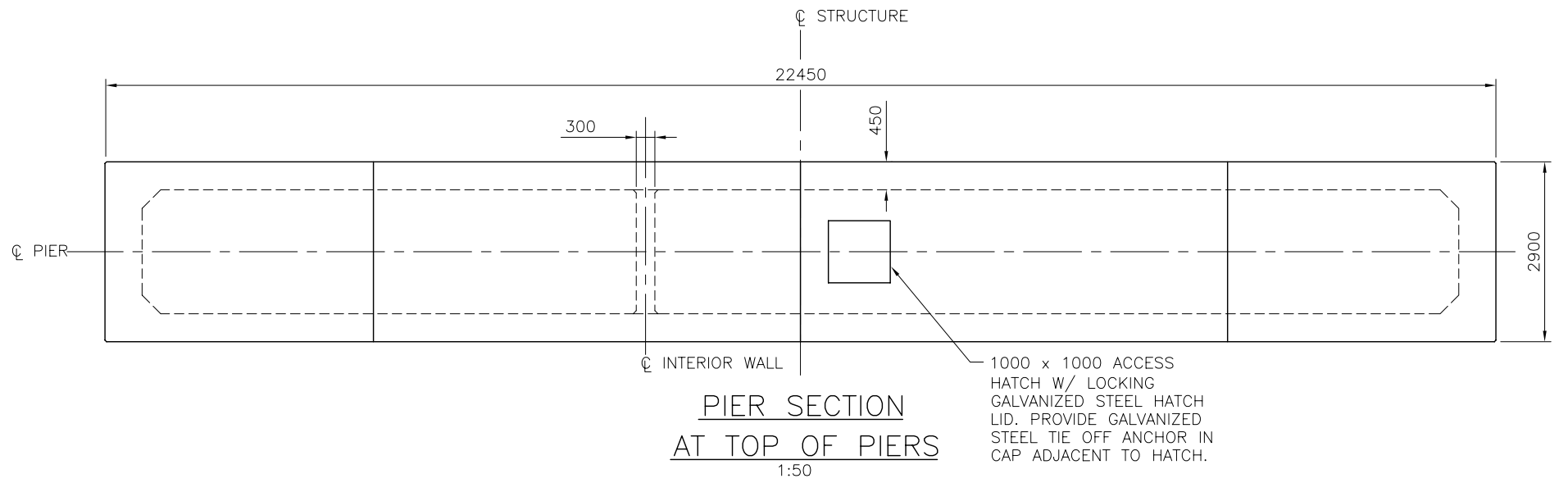
PARK BRIDGE  
 ELEVATION AND SECTIONS  
 PIER 5

Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	KO

SENIOR DESIGN ENGINEER _____		DATE _____	
FILE No.	PROJECT No.	REG.	DRAWING No.
	09901-7005	2	R2-NNN-4504

REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER



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DESIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

**PARK BRIDGE**  
**REINFORCING DETAILS**  
**PIER CROSS SECTIONS**

Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	KO

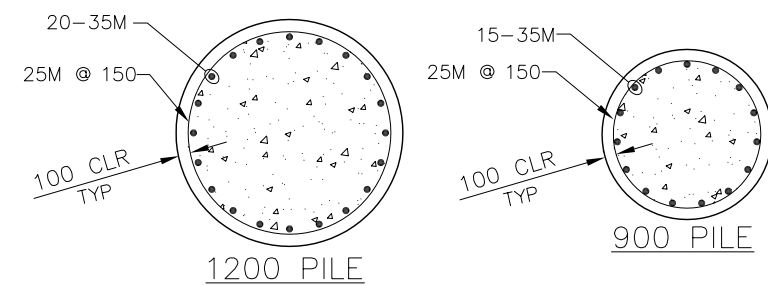
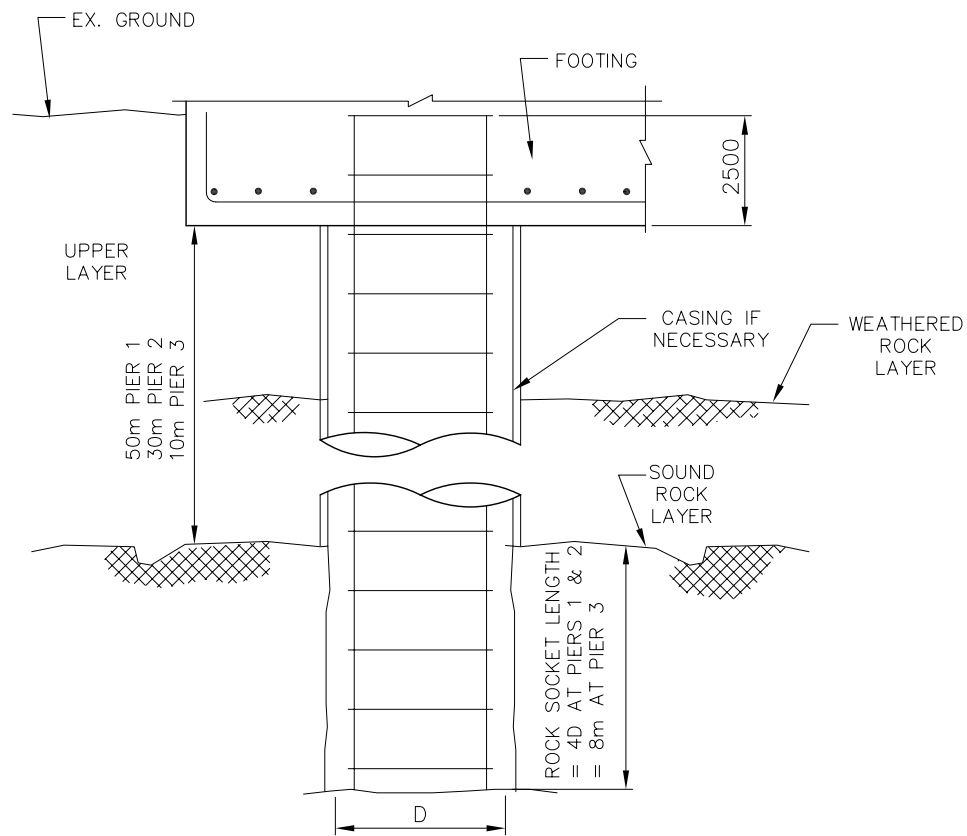
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FILE No.	PROJECT No.	REG.	DRAWING No.
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REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

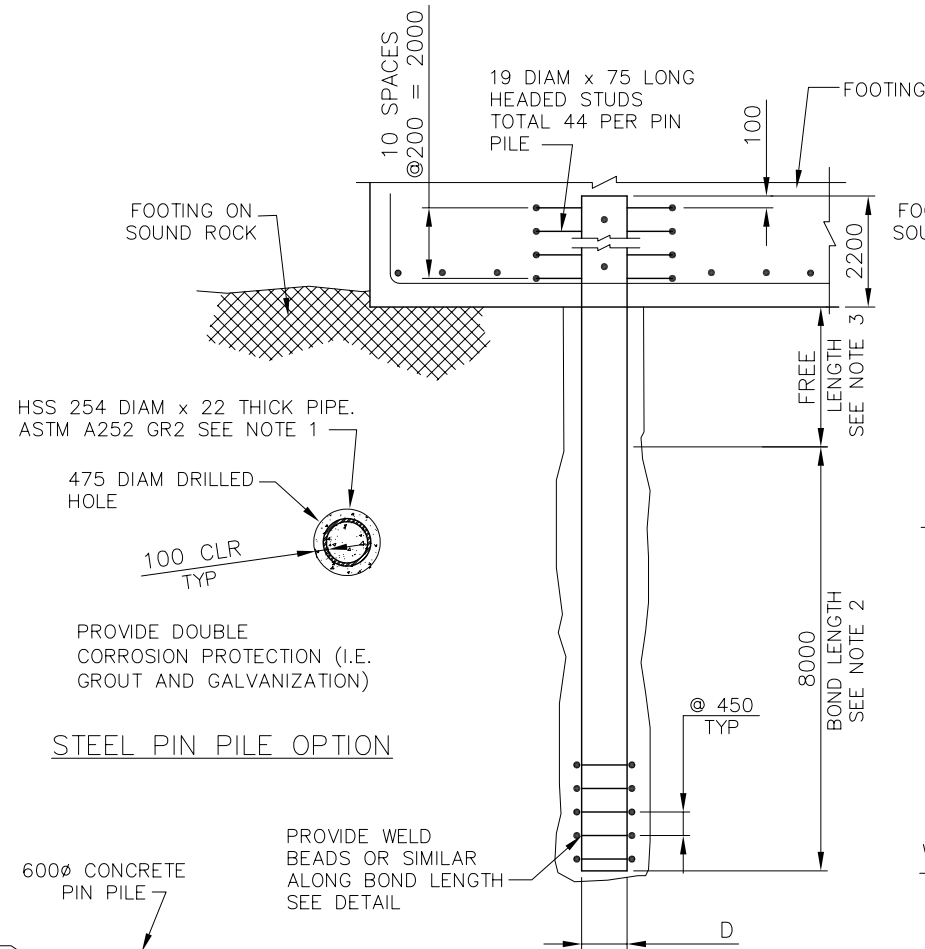




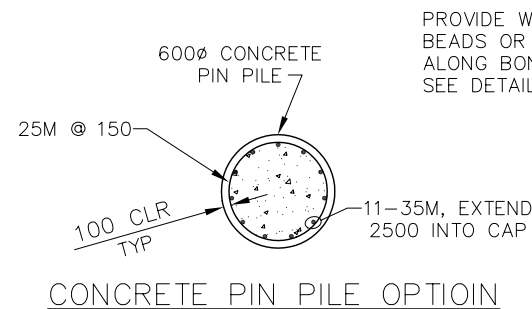


PILE DETAIL  
PIER 1, 2 & 3

- NOTES
1. AT CONTRACTOR'S OPTION, MAY SUBSTITUTE HSS 203 DIAM x 22 THICK PIPE, ASTM A252 GR3. PLACED IN 440 DRILLED HOLE.
  2. BOND LENGTH MUST BE STAGGERED VERTICALLY, SEE DETAIL.
  3. ALONG THE FREE LENGTH APPLY A BOND BREAKER BETWEEN THE STEEL PIPE AND THE GROUT. FOR THE 600Ø CONCRETE PIN PILE OPTION USE A STEEL CASING ON THE OUTSIDE OF THE PILE ALONG THE FREE LENGTH.

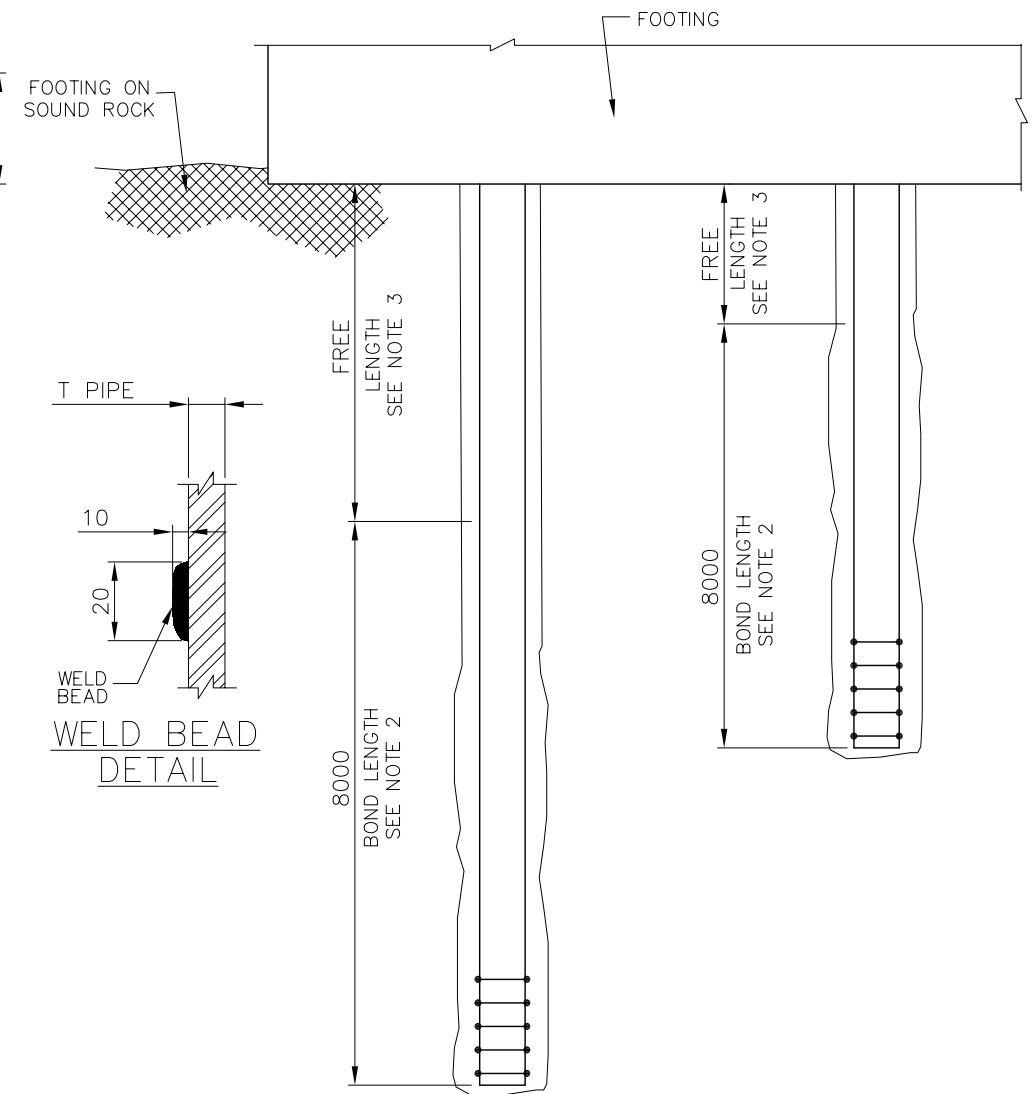


STEEL PIN PILE OPTION

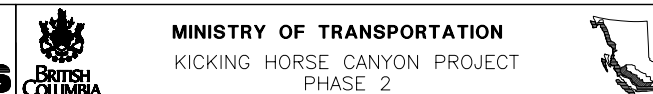


CONCRETE PIN PILE OPTION

PIN PILE DETAIL  
PIER 4 & 5



STAGGER DETAIL



DESIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

PARK BRIDGE  
 PILE DETAILS

Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	KO

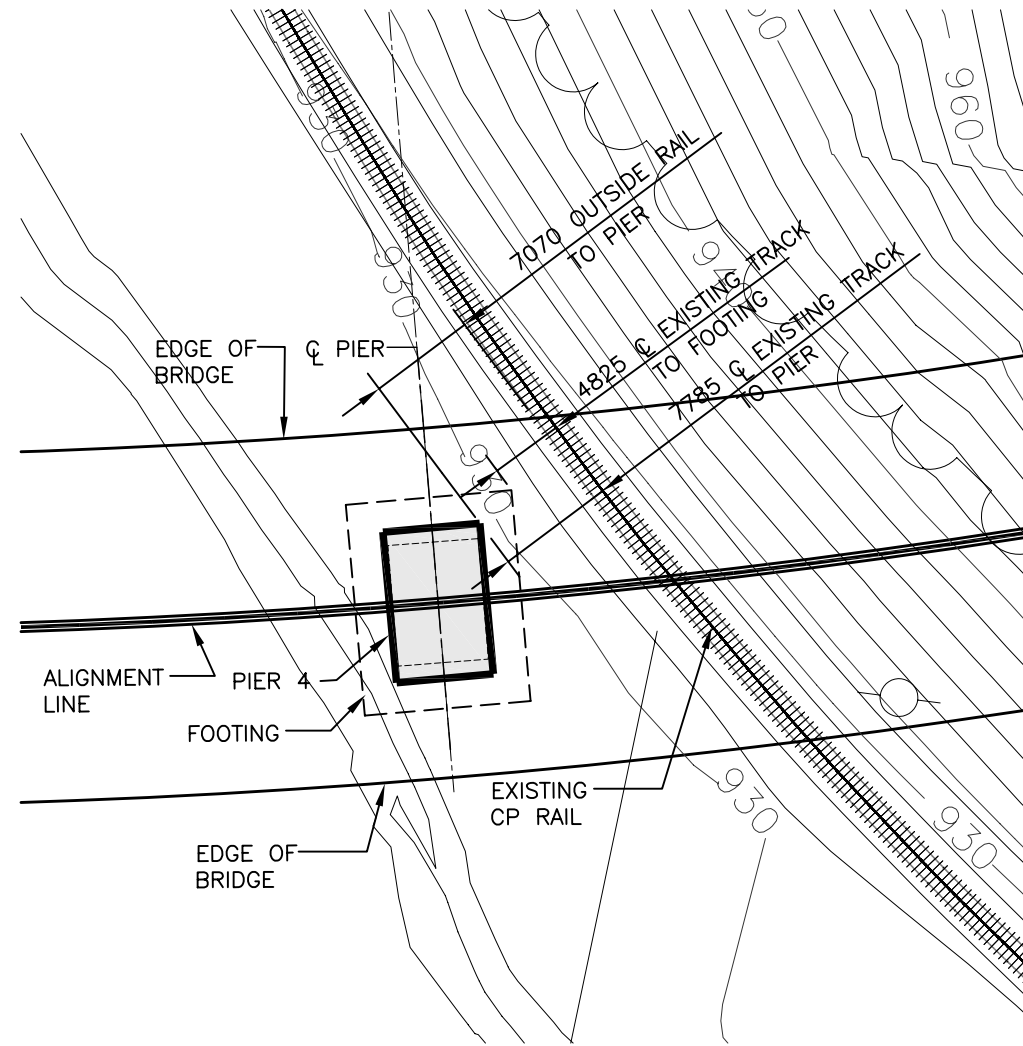
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FILE No.	PROJECT No.	REG.	DRAWING No.
09901-7005	2	R2-NNN-4508	0

REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER




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**CP RAIL IMPACT DETAIL**  
1 : 50

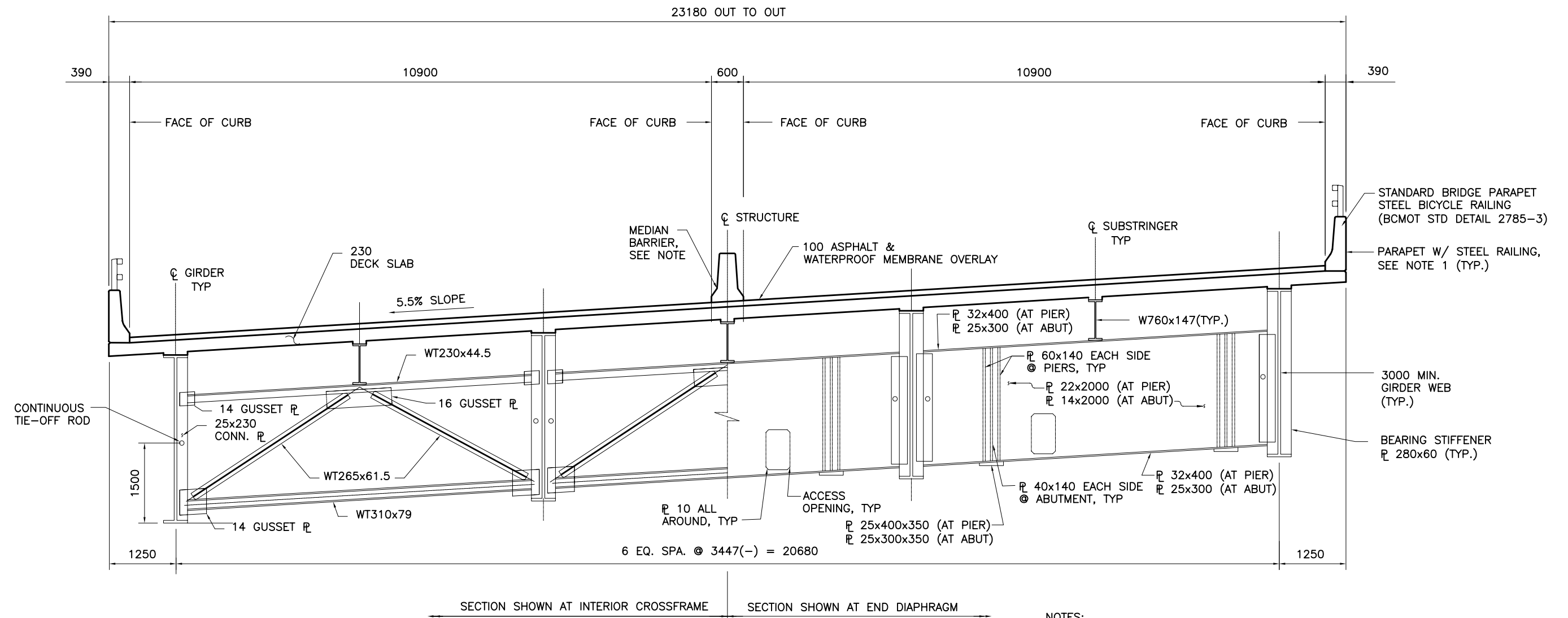
NOTE:  
VERTICAL CLEARANCE FROM TOP OF RAIL TO  
BOTTOM OF BRIDGE IN EXCESS OF 30m

 	 <b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2																																												
SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____	<b>PARK BRIDGE</b>  <b>CP RAIL IMPACT DETAIL</b> <b>PIER 4</b>																																												
PROFESSIONAL SEAL	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Rev</th> <th style="width: 5%;">Date</th> <th style="width: 60%;">Description</th> <th style="width: 30%;">Signature</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	Rev	Date	Description	Signature																																								
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SENIOR DESIGN ENGINEER _____ DATE _____																																													
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">FILE No.</td> <td style="width: 25%;">PROJECT No.</td> <td style="width: 10%;">REG.</td> <td style="width: 40%;">DRAWING No.</td> </tr> <tr> <td>09901-7005</td> <td>2</td> <td></td> <td>R2-NNN-4509</td> </tr> </table>		FILE No.	PROJECT No.	REG.	DRAWING No.	09901-7005	2		R2-NNN-4509																																				
FILE No.	PROJECT No.	REG.	DRAWING No.																																										
09901-7005	2		R2-NNN-4509																																										
REVISIONS																																													

DATE: 2005/07/01 - 3:42pm  
 PATH: R:\967984\CADD\CHC dwgs\1R2-NNN-4509.DWG

Pier Location	Bottom of Footing Elevation (m)	Pile Type	Bored Pile Length or Free Length (m)	Rock Socket Length or Bonded Length (m)	Total Pile Length (m)	Remarks
Pier 1	972	Bored Pile with Rock Socket - 900	50	3.6	53.6	900 diameter pile option.
		Bored Pile with Rock Socket - 1200	50	4.8	54.8	1200 diameter pile option.
Pier 2	942	Bored Pile with Rock Socket - 900	30	3.6	33.6	900 diameter pile option.
		Bored Pile with Rock Socket - 1200	30	4.8	34.8	1200 diameter pile option.
Pier 3	925	Bored Pile with Rock Socket - 900	10	8	18	900 diameter pile option.
		Bored Pile with Rock Socket - 1200	10	8	18	1200 diameter pile option.
Pier 4	925	Pin Pile - Short	8	8	16	Free length and the bonded length are the same for both pile options.
		Pin Pile - Long	12	8	20	Free length and the bonded length are the same for both pile options.
Pier 5	978	Pin Pile - Short	4	8	12	Free length and the bonded length are the same for both pile options.
		Pin Pile - Long	8	8	16	Free length and the bonded length are the same for both pile options.

 		 <b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2			
SCALE _____ DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____		PARK BRIDGE  PILE TABLE			
PROFESSIONAL SEAL	Rev	Date	Description	Signature	
	0	7/14/05	ISSUED FOR PROPOSAL	KO	
SENIOR DESIGN ENGINEER _____ DATE _____		FILE No. _____	PROJECT No. _____	REG. _____	DRAWING No. _____
REVISIONS		09901-7005	2	R2-NNN-4510	0

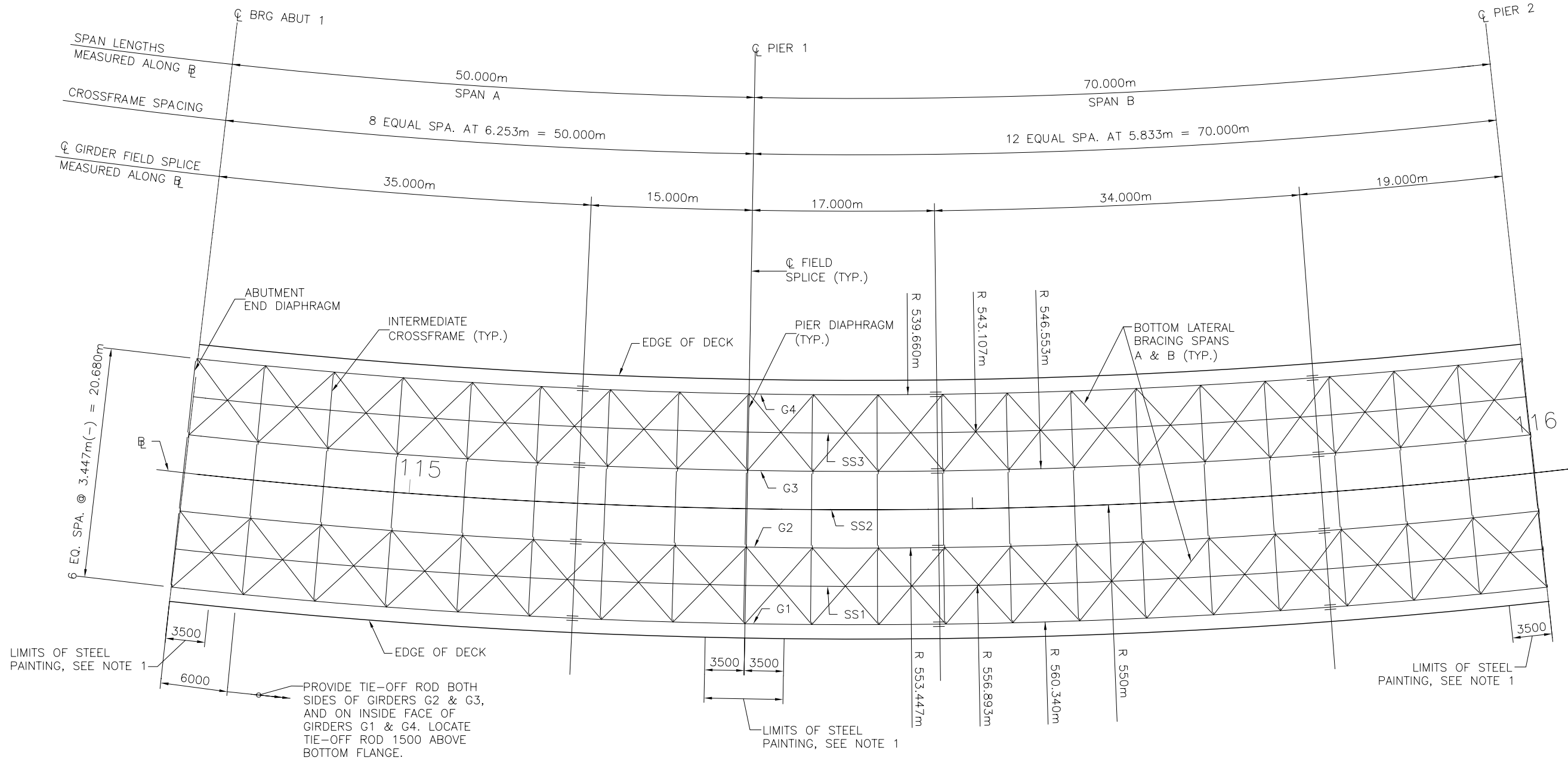


NOTES:  
 1. PARAPET AND BARRIER ARE CONSTRUCTED PERPENDICULAR TO THE DECK.

TYPICAL SECTION  
 1:40

DATE: 2005/07/05 - 10:19am  
 PATH: R:\967994\CADD\CHC dwgs\R2-NNN-4601.DWG

		<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2																																
<b>PARK BRIDGE</b> <b>TYPICAL SECTION</b>		SENIOR DESIGN ENGINEER _____ DATE _____ FILE No. _____ PROJECT No. _____ REG. _____ DRAWING No. _____																																
SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____	PROFESSIONAL SEAL <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>7/14/05</td> <td>ISSUED FOR PROPOSAL</td> <td>KO</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Rev	Date	Description	Signature	0	7/14/05	ISSUED FOR PROPOSAL	KO									<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">REVISIONS</th> </tr> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS				Rev	Date	Description	Signature								
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0	7/14/05	ISSUED FOR PROPOSAL	KO																															
REVISIONS																																		
Rev	Date	Description	Signature																															
REVISIONS		09901-7005   2   R2-NNN-4601   0 <small>CANCEL PRINTS BEARING PREVIOUS LETTER</small>																																



LIMITS OF STEEL PAINTING, SEE NOTE 1

PROVIDE TIE-OFF ROD BOTH SIDES OF GIRDERS G2 & G3, AND ON INSIDE FACE OF GIRDERS G1 & G4. LOCATE TIE-OFF ROD 1500 ABOVE BOTTOM FLANGE.

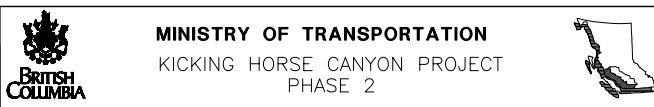
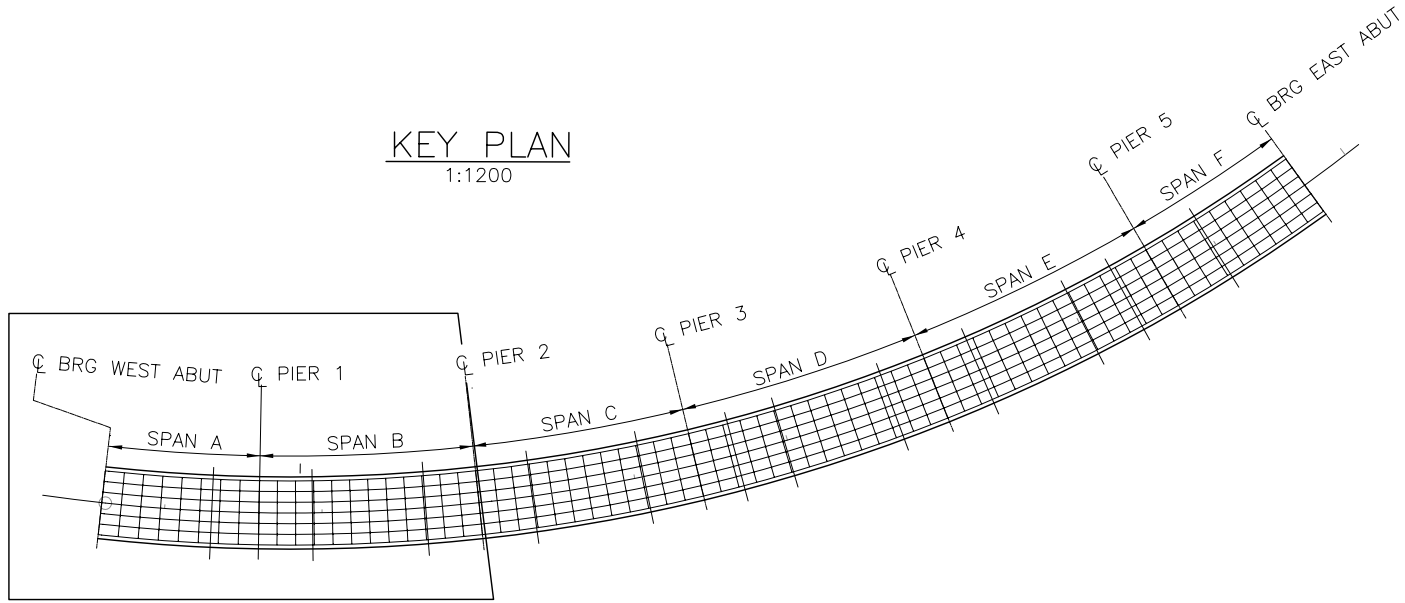
LIMITS OF STEEL PAINTING, SEE NOTE 1

LIMITS OF STEEL PAINTING, SEE NOTE 1

NOTES:  
1. ALL STEEL WITHIN THE LIMITS OF STEEL PAINTING SHALL BE PAINTED WITH AN APPROVED COATING SYSTEM.

FRAMING PLAN – SPANS A AND B  
1:200

KEY PLAN  
1:1200



DESIGNED	DATE
DRAWN	DATE
CHECKED	DATE
APPROVED	DATE

PARK BRIDGE  
PRELIMINARY FRAMING PLAN  
SPANS A & B

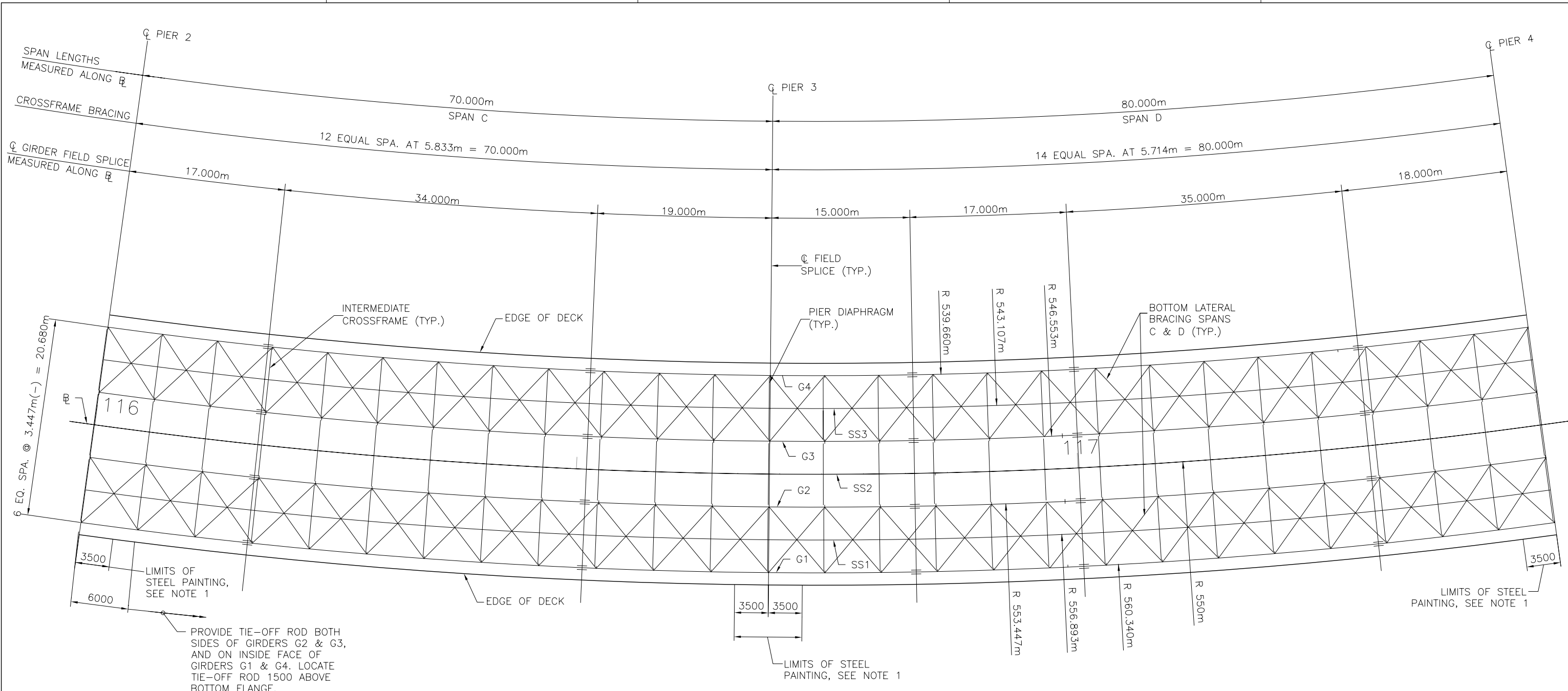
Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	KO

SENIOR DESIGN ENGINEER		DATE	
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09901-7005	2	R2-NNN-4602	0

REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

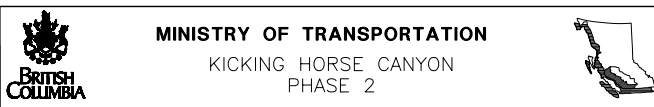
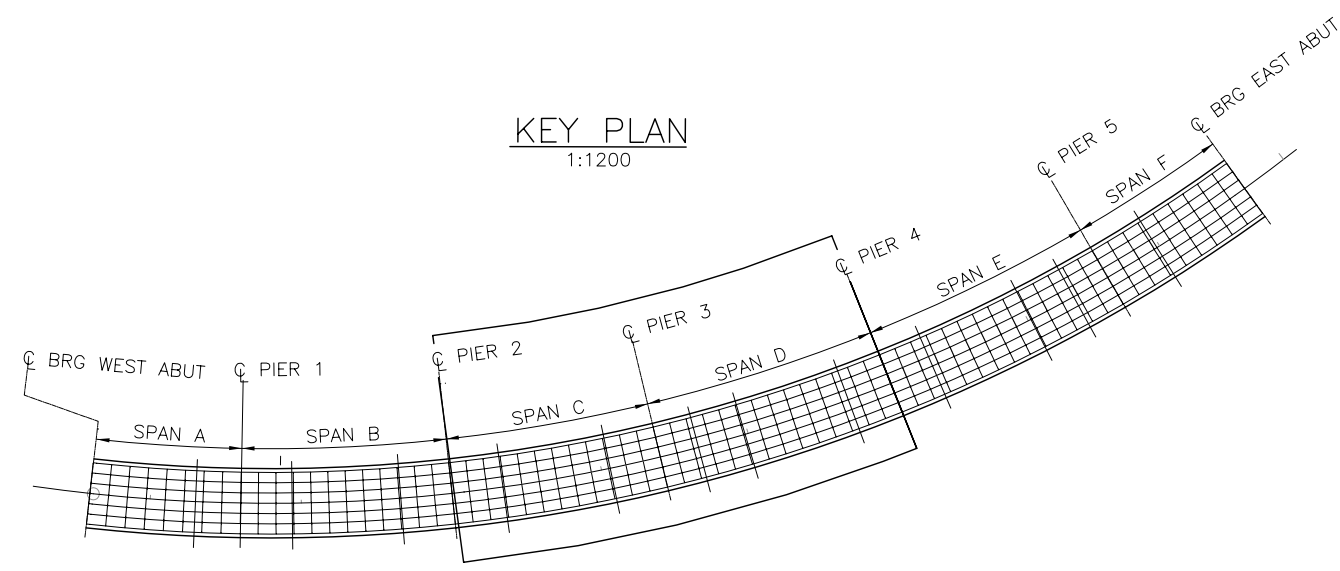
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FRAMING PLAN — SPANS C AND D  
1:200

NOTES:  
1. ALL STEEL WITHIN THE LIMITS OF STEEL PAINTING SHALL BE PAINTED WITH AN APPROVED COATING SYSTEM.

KEY PLAN  
1:1200



DESIGNED	DATE		
DRAWN	DATE		
CHECKED	DATE		
APPROVED	DATE		

Rev	Date	Description	Signature
0	4/18/05	PRELIMINARY	KO

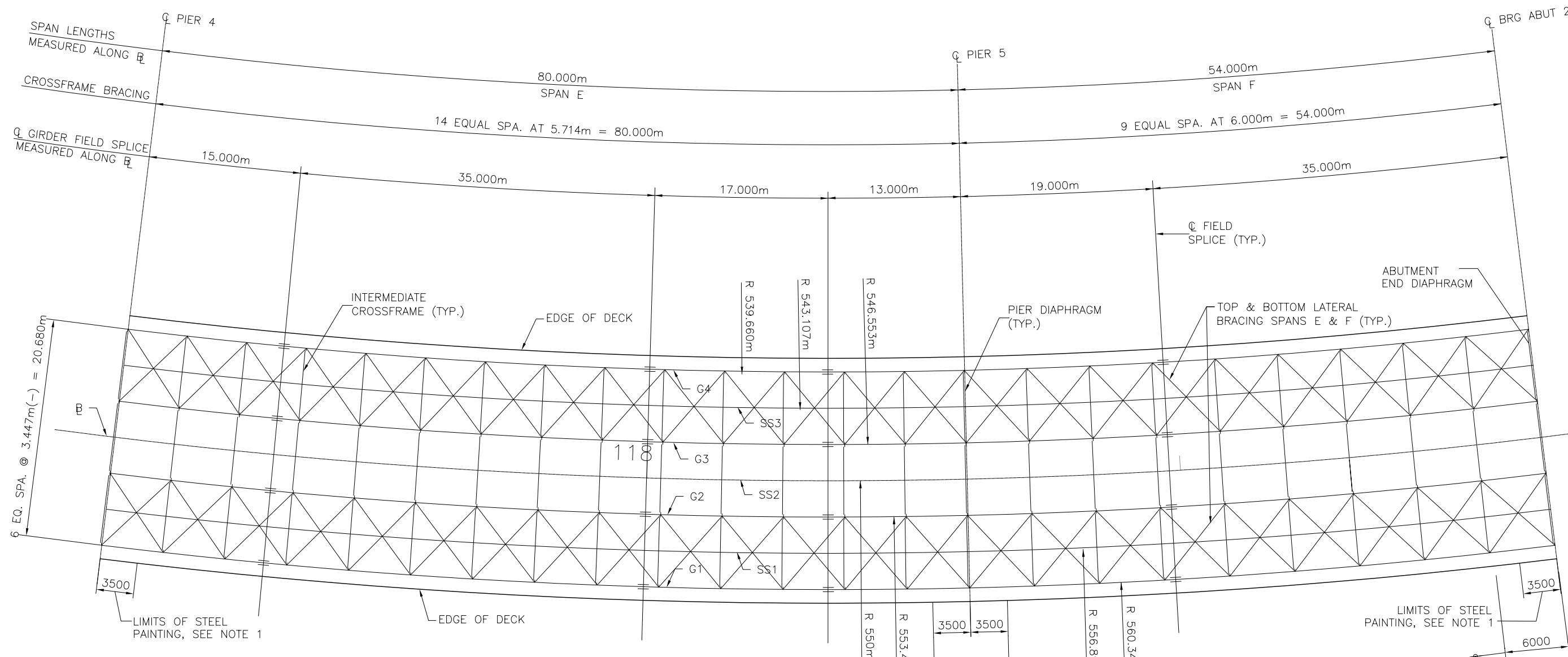
<b>PARK BRIDGE</b> <b>PRELIMINARY FRAMING PLAN</b> <b>SPANS C &amp; D</b>			
SENIOR DESIGN ENGINEER		DATE	
FILE No.	PROJECT No.	REG.	DRAWING No.
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PROFESSIONAL SEAL

REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

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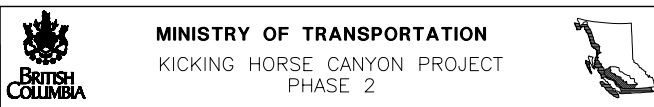
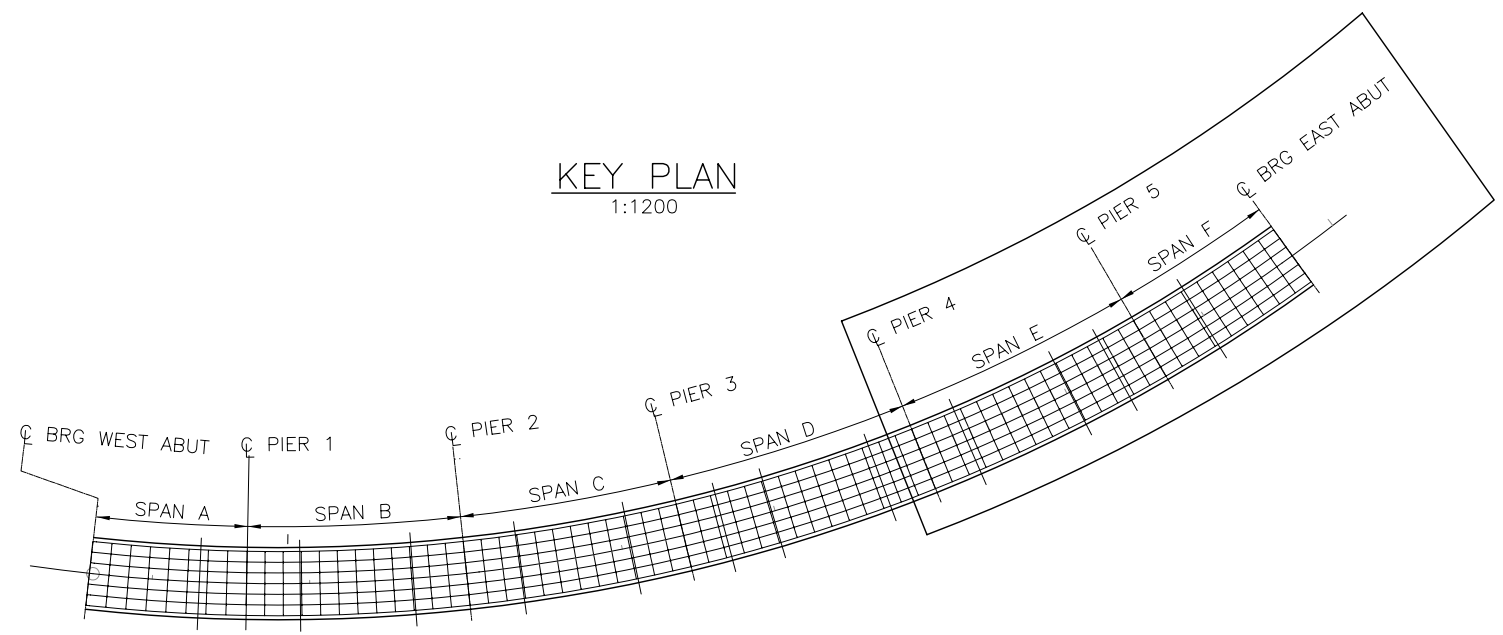


FRAMING PLAN — SPANS E AND F  
1:200

PROVIDE TIE-OFF ROD BOTH SIDES OF GIRDERS G2 & G3, AND ON INSIDE FACE OF GIRDERS G1 & G4. LOCATE TIE-OFF ROD 1500 ABOVE BOTTOM FLANGE.

- NOTES:  
1. ALL STEEL WITHIN THE LIMITS OF STEEL PAINTING SHALL BE PAINTED WITH AN APPROVED COATING SYSTEM.

KEY PLAN  
1:1200



DESIGNED	DATE		
DRAWN	DATE		
CHECKED	DATE		
APPROVED	DATE		

Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	KO

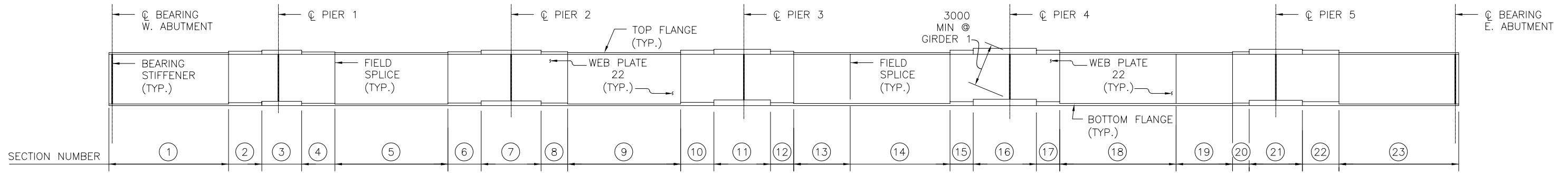
PARK BRIDGE			
PRELIMINARY FRAMING PLAN SPANS E & F			
SENIOR DESIGN ENGINEER		DATE	
FILE No.	PROJECT No.	REG.	DRAWING No.
09901-7005	2		R2-NNN-4604

PROFESSIONAL SEAL

REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

DATE: 2005/06/24 - 2:54pm  
PATH: R:\967994\CADD\CHC\dwg\R2-NNN-4604.DWG



GIRDER ELEVATION  
1:600

NOTE: INTERMEDIATE WEB STIFFENERS AND CONNECTION PLATES ARE NOT SHOWN.

GIRDER DIMENSION TABLE

GIRDER 1								GIRDER 2								GIRDER 3								GIRDER 4							
SECTION	LENGTH (mm)	TOP FLANGE		BOTTOM FLANGE		WEB		SECTION	LENGTH (mm)	TOP FLANGE		BOTTOM FLANGE		WEB		SECTION	LENGTH (mm)	TOP FLANGE		BOTTOM FLANGE		WEB		SECTION	LENGTH (mm)	TOP FLANGE		BOTTOM FLANGE		WEB	
		WIDTH (mm)	THICKNESS (mm)	WIDTH (mm)	THICKNESS (mm)	WIDTH (mm)	THICKNESS (mm)			WIDTH (mm)	THICKNESS (mm)	WIDTH (mm)	THICKNESS (mm)	WIDTH (mm)	THICKNESS (mm)			WIDTH (mm)	THICKNESS (mm)	WIDTH (mm)	THICKNESS (mm)	WIDTH (mm)	THICKNESS (mm)			WIDTH (mm)	THICKNESS (mm)	WIDTH (mm)	THICKNESS (mm)	WIDTH (mm)	THICKNESS (mm)
1	35680	600	25	750	32	3063	22	1	35227	600	25	750	32	3063	22	1	34773	600	25	750	32	3063	22	1	34320	600	25	750	32	3063	22
2	9175	750	32	750	38	3057	22	2	9058	750	32	750	38	3057	22	2	8942	750	32	750	38	3057	22	2	8825	750	32	750	32	3063	22
3	13253	750	55	750	60	3035	22	3	13084	750	55	750	60	3035	22	3	12916	750	50	750	60	3035	22	3	12747	750	45	750	45	3050	22
4	10194	750	32	750	38	3057	22	4	10065	750	32	750	32	3063	22	4	9935	750	32	750	32	3063	22	4	9806	750	25	750	32	3063	22
5	36700	600	25	750	38	3057	22	5	36233	600	25	750	32	3063	22	5	35767	600	25	750	32	3063	22	5	35300	600	25	750	32	3063	22
6	10194	750	38	750	38	3057	22	6	10065	750	38	750	32	3063	22	6	9935	750	32	750	38	3057	22	6	9806	750	32	750	32	3063	22
7	16311	750	65	750	65	3030	22	7	16104	750	65	750	60	3035	22	7	15896	750	55	750	70	3025	22	7	15689	750	50	750	55	3040	22
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10	10194	750	38	750	45	3050	22	10	10065	750	38	750	38	3057	22	10	9935	750	38	750	45	3050	22	10	9806	750	32	750	32	3063	22
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13	16311	600	25	750	55	3040	22	13	16104	600	25	750	45	3050	22	13	15896	600	25	750	38	3057	22	13	15689	600	25	750	32	3063	22
14	36700	600	25	750	55	3040	22	14	36233	600	25	750	45	3050	22	14	35767	600	25	750	38	3057	22	14	35300	600	25	750	38	3057	22
15	7136	750	50	750	55	3040	22	15	7045	750	45	750	45	3050	22	15	6955	750	45	750	45	3050	22	15	6864	750	38	750	38	3057	22
16	16311	900	80	750	95	3000	22	16	16104	900	75	750	90	3005	22	16	15896	900	70	750	90	3005	22	16	15689	750	70	750	75	3020	22
17	7136	750	50	750	55	3040	22	17	7045	750	45	750	45	3050	22	17	6955	750	38	750	45	3050	22	17	6864	750	38	750	45	3050	22
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23	35680	600	25	750	32	3063	22	23	35227	600	25	750	32	3063	22	23	34773	600	25	750	32	3063	22	23	34320	600	25	750	32	3063	22

NOTES:

- ALL STRUCTURAL STEEL SHALL BE AASHTO M270M GRADE 345W UNLESS NOTED OTHERWISE.
- THE END 3000 mm OF THE GIRDERS, UNDER THE EXPANSION JOINT, SHALL BE PAINTED.
- ALL FIELD CONNECTIONS SHALL BE MADE WITH 22 mm DIAMETER ASTM A 325M, "HIGH STRENGTH BOLTS".
- THE SUBSTRINGER IN THE LEADING SPAN "SPAN 6" SHALL BE ERECTED AFTER COMPLETE LAUNCHING.
- 22Ø HEADED SHEAR STUDS ARE REQUIRED ON ALL GIRDERS. GIRDERS SS1, SS2, SS3 USE TWO STUDS PER ROW. SPACE ROWS AT 450. GIRDERS G1, G2, G3, G4 USE THREE STUDS PER ROW. SPACE ROWS AT 450.

**MINISTRY OF TRANSPORTATION**  
KICKING HORSE CANYON PROJECT  
PHASE 2

**PARK BRIDGE**  
**PRELIMINARY GIRDER ELEVATION**

DESIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
DRAWN \_\_\_\_\_ DATE \_\_\_\_\_  
CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

SCALE \_\_\_\_\_

Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	KO

PROFESSIONAL SEAL

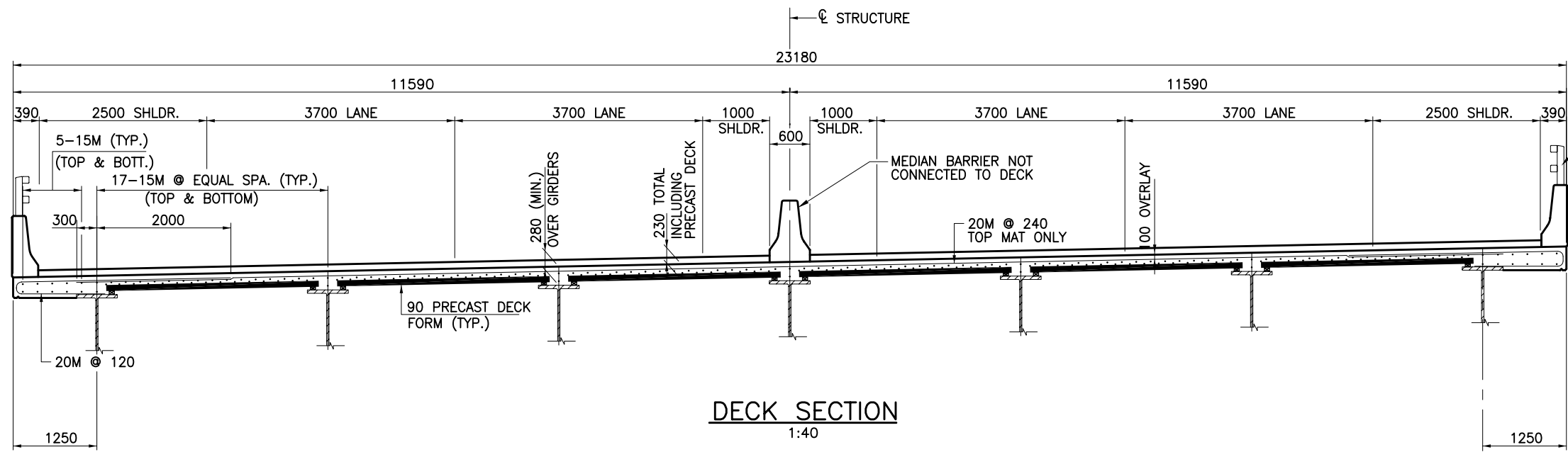
SENIOR DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

FILE No.	PROJECT No.	REG.	DRAWING No.
09901-7005	2	R2-NNN-4605	0

REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

DATE: 2005/06/24 - 2:54pm  
PATH: R:\967989\CADD\KHC dws\R2-NNN-4605.DWG ON: Jun 24, 2005 AT: 2:54pm



DECK SECTION  
1:40

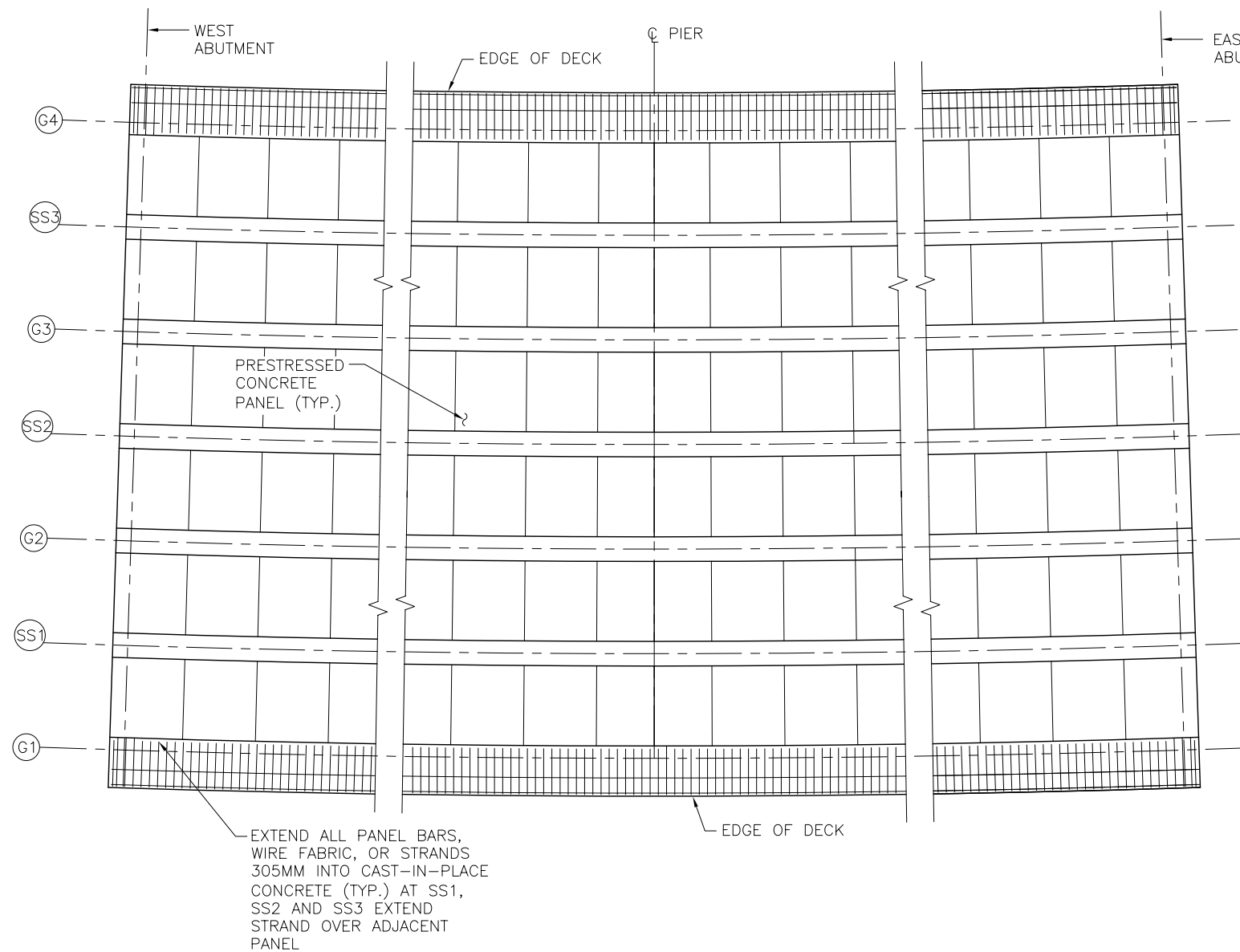
STANDARD BRIDGE PARAPET  
STEEL BICYCLE RAILING  
(BCMOT STD DETAIL  
2785-3)

R:\967994\CADD\KHC\_dwg\R2-NNN-4701.DWG ON: Jul 05, 2005 AT: 10:24am

		MINISTRY OF TRANSPORTATION KICKING HORSE CANYON PROJECT PHASE 2																	
		<b>PARK BRIDGE</b> <b>BRIDGE TYPICAL CROSS SECTION</b>																	
SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____		SENIOR DESIGN ENGINEER _____ DATE _____																	
PROFESSIONAL SEAL		<table border="1"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>7/14/05</td> <td>ISSUED FOR PROPOSAL</td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Rev	Date	Description	Signature	0	7/14/05	ISSUED FOR PROPOSAL									
Rev	Date	Description	Signature																
0	7/14/05	ISSUED FOR PROPOSAL																	
REVISIONS		<table border="1"> <thead> <tr> <th>FILE No.</th> <th>PROJECT No.</th> <th>REG.</th> <th>DRAWING No.</th> </tr> </thead> <tbody> <tr> <td>09901-7005</td> <td>2</td> <td></td> <td>R2-NNN-4701</td> </tr> </tbody> </table>		FILE No.	PROJECT No.	REG.	DRAWING No.	09901-7005	2		R2-NNN-4701								
FILE No.	PROJECT No.	REG.	DRAWING No.																
09901-7005	2		R2-NNN-4701																



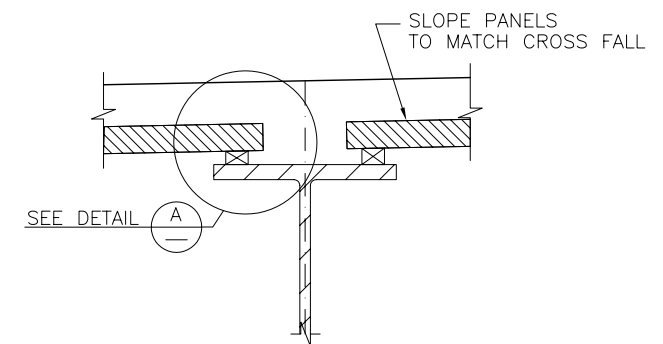
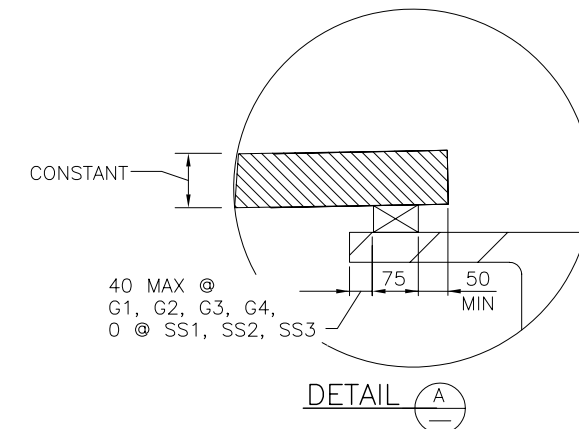




**PART PLAN AND BOTTOM SLAB REINFORCING**  
(SEE BRIDGE DECK TYPICAL SECTION SHEET FOR LAYOUT)

**NOTES:**

1. ALL CONCRETE SHALL HAVE RELEASE STRENGTH  $f'_{ci} = 31$  MPA AND MINIMUM 28 DAY STRENGTH  $f'_c = 42$  MPA. THE STRENGTH SHALL BE AT LEAST 34 MPA AT THE TIME OF THE DECK POUR.
2. USE SIZE 9 LOW RELAXATION STRANDS MEETING THE REQUIREMENTS OF ASTM A-416 GRADE 270. JACKING FORCE PER STRAND (FF) SHALL BE AT LEAST 76.5 KN. FINAL FORCE PER STRAND (FF) IS ESTIMATED TO BE 63.2 KN.
3. INSTALLATION OF BAR U (10M) IS MANDATORY. ALL FOUR BAR U (10M) LOOPS SHALL BE USED SIMULTANEOUSLY FOR LIFTING THE PANELS. ALTERNATE METHODS MAY BE USED, FOR LIFTING, PROVIDED THEY ARE SHOWN ON THE SHOP PLANS AND APPROVED BY THE ENGINEER.

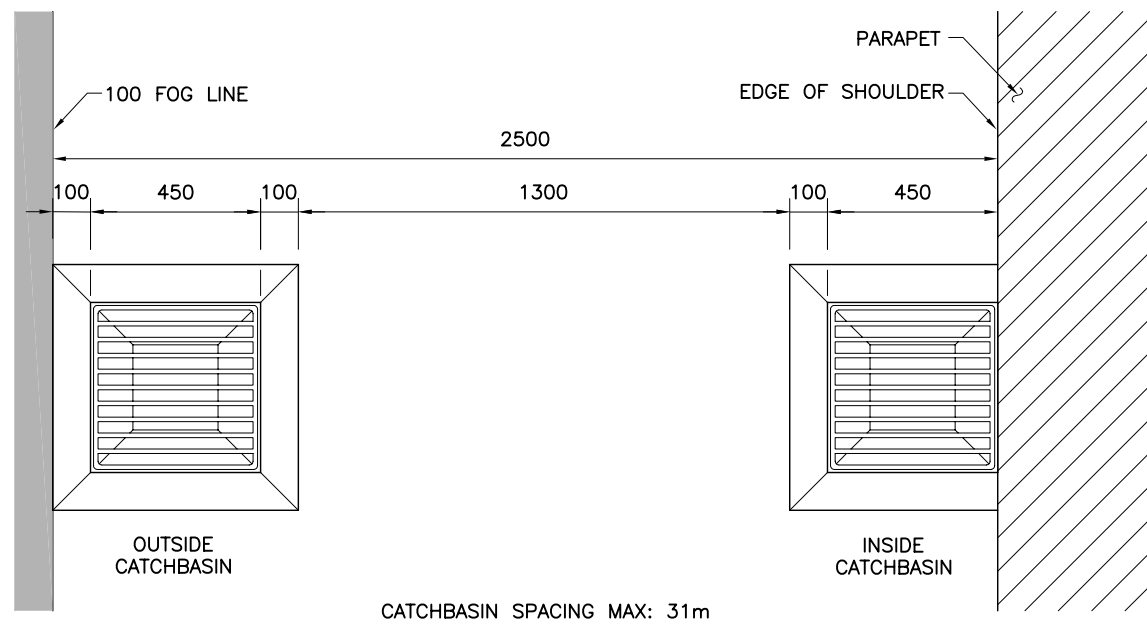


**SUPPORT DETAIL**

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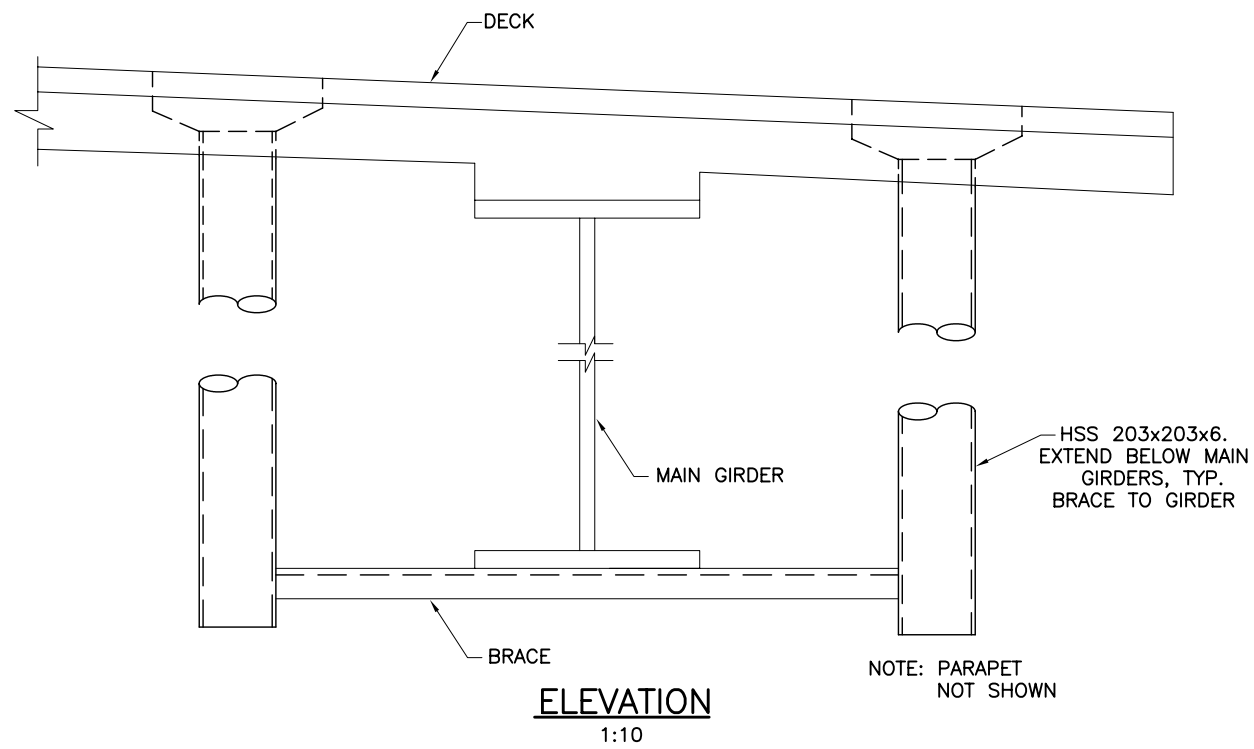
						KICKING HORSE CANYON PROJECT PHASE 2
		PARK BRIDGE PRECAST PANEL DECK FORM (2)				
SCALE	DESIGNED _____ DATE _____	DRAWN _____ DATE _____	CHECKED _____ DATE _____	APPROVED _____ DATE _____		
PROFESSIONAL SEAL	Rev	Date	Description	Signature		
	0	7/14/05	ISSUED FOR PROPOSAL	KO		
REVISIONS						
				SENIOR DESIGN ENGINEER	DATE	
		FILE No.	PROJECT No.	REG.	DRAWING No.	
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CANCEL PRINTS BEARING PREVIOUS LETTER

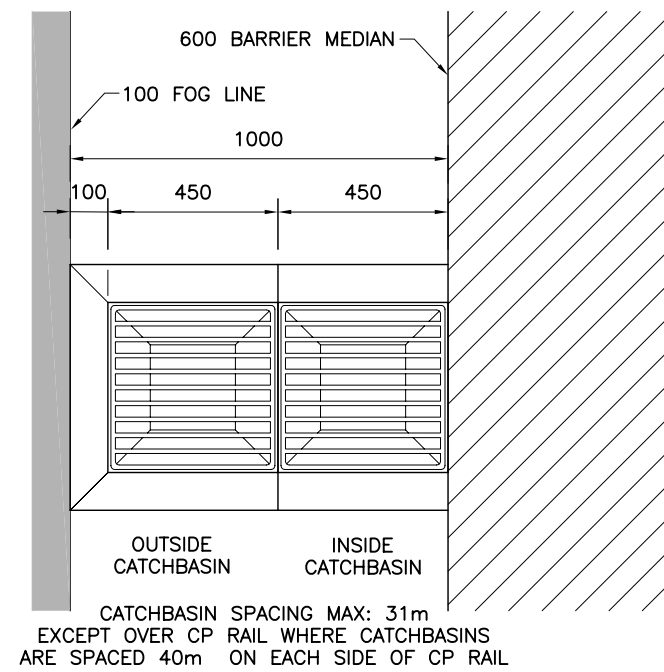


**OUTSIDE SHOULDER CATCHBASIN DETAIL**

1:10  
(PLACED AT NORTH EDGE OF WESTBOUND TRAFFIC)

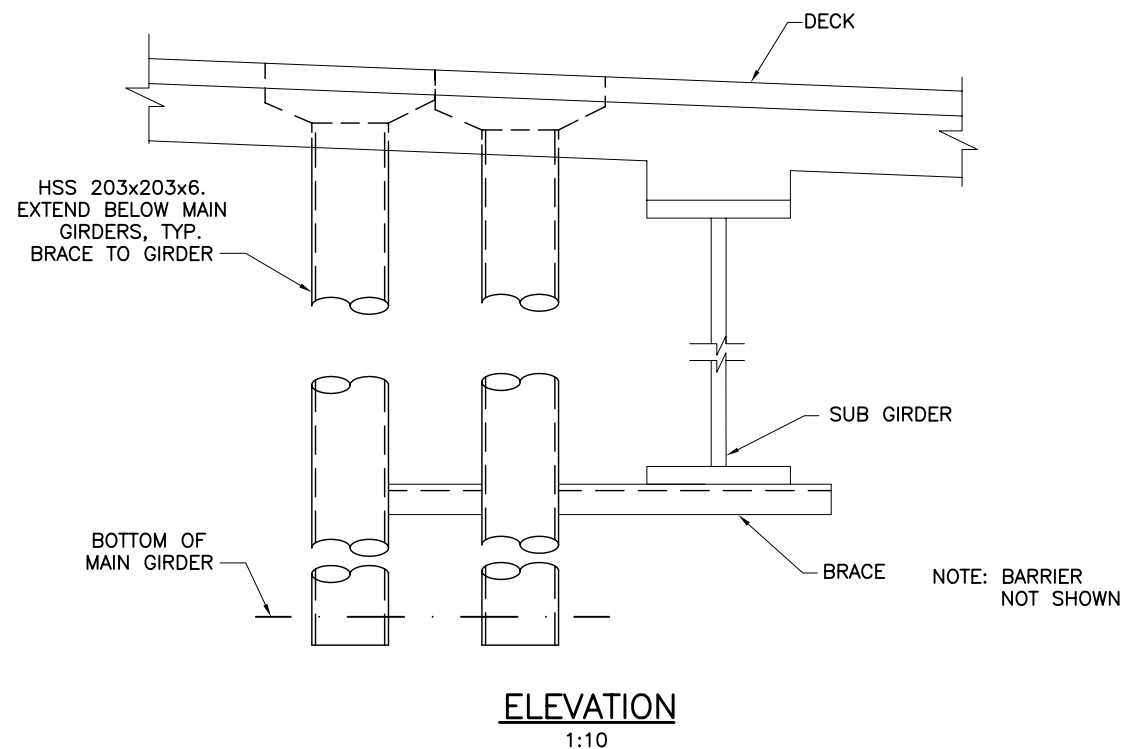


**ELEVATION**  
1:10



**MEDIAN SHOULDER CATCHBASIN DETAIL**

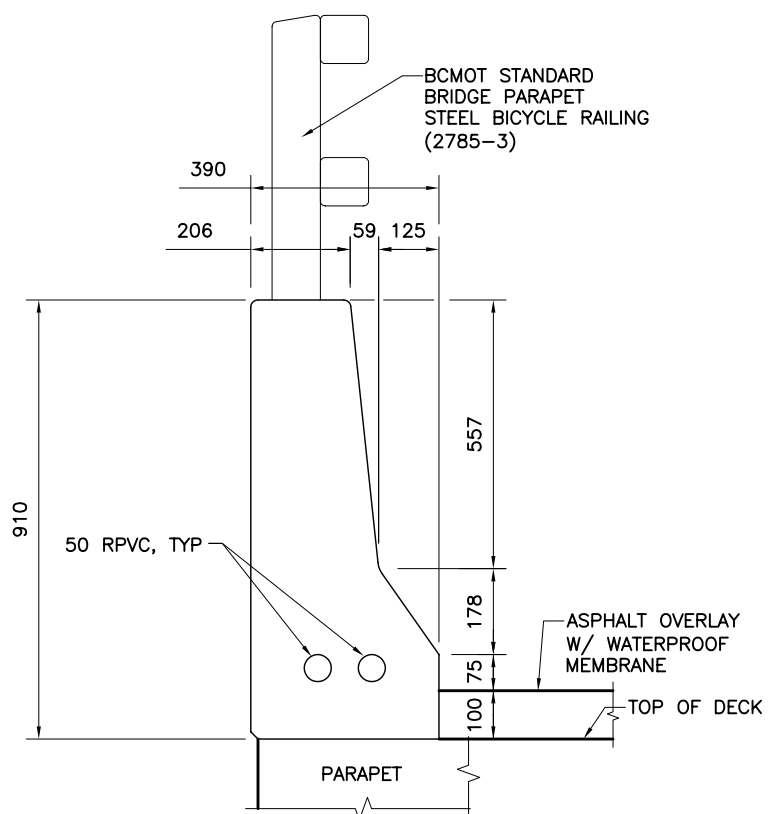
1:10  
(PLACED AT NORTH EDGE OF EASTBOUND TRAFFIC)



**ELEVATION**  
1:10

			<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2	
	<b>PARK BRIDGE</b> <b>BRIDGE DRAINAGE DETAILS</b>			
SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____	SENIOR DESIGN ENGINEER _____ DATE _____		FILE No. _____	PROJECT No. _____
PROFESSIONAL SEAL	Rev 0 Date 7/14/05 Description ISSUED FOR PROPOSAL Signature KO	REVISIONS	REG. 2 DRAWING No. R2-NNN-4704	0

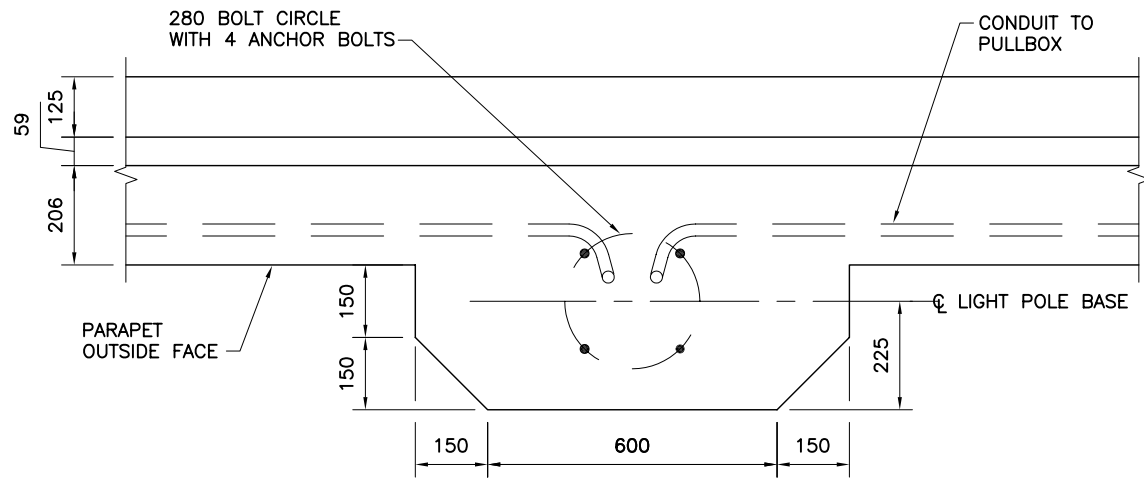
CANCEL PRINTS BEARING PREVIOUS LETTER



**TYPICAL SECTION WITH OVERLAY ELEVATION**  
1:7.5

**NOTE:**

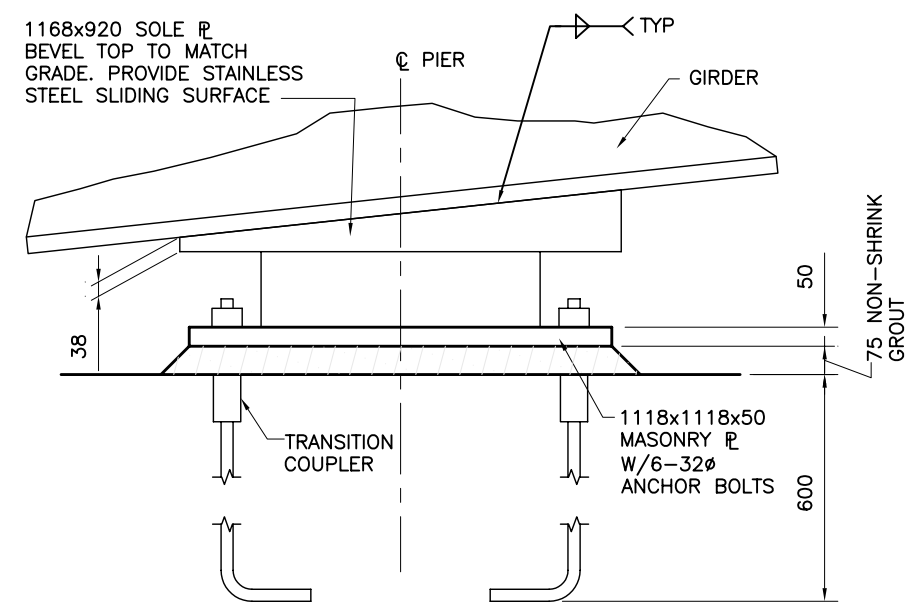
1. PROVIDE 9 JUNCTION BOXES ALONG THE LENGTH OF EACH BRIDGE PARAPET.
2. JUNCTION BOXES SHALL BE SCEPTER 12124 OR APPROVED EQUAL. DRAIN WITH 25 RPVC.



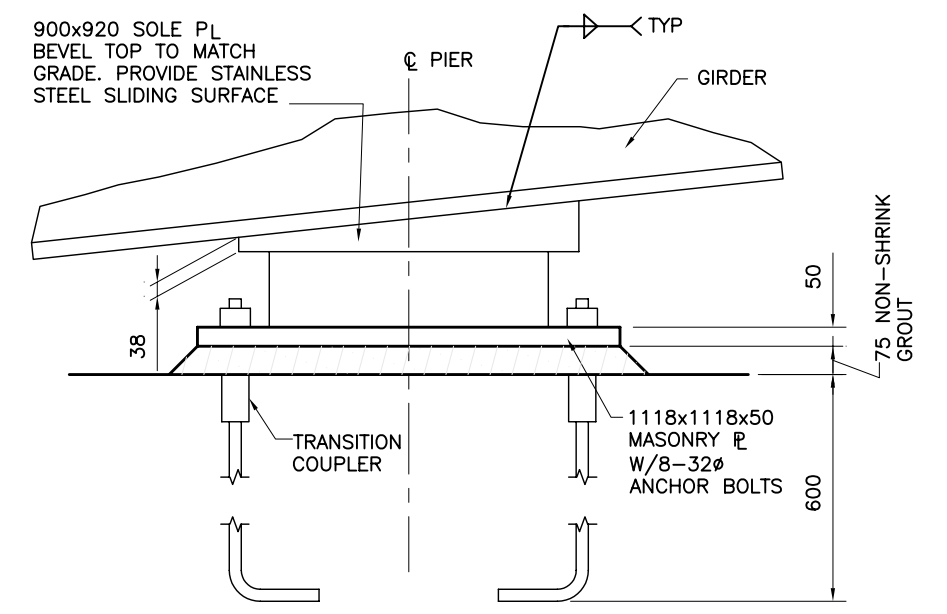
**LIGHT POLE BASE - PLAN**  
1:7.5

**NOTE:**

PROVIDE A TOTAL OF 9 LIGHT POST BASES. CONDUIT TO LIGHT BASE IS FROM PULLBOX THAT IS ADJACENT TO LIGHT POST BASE.



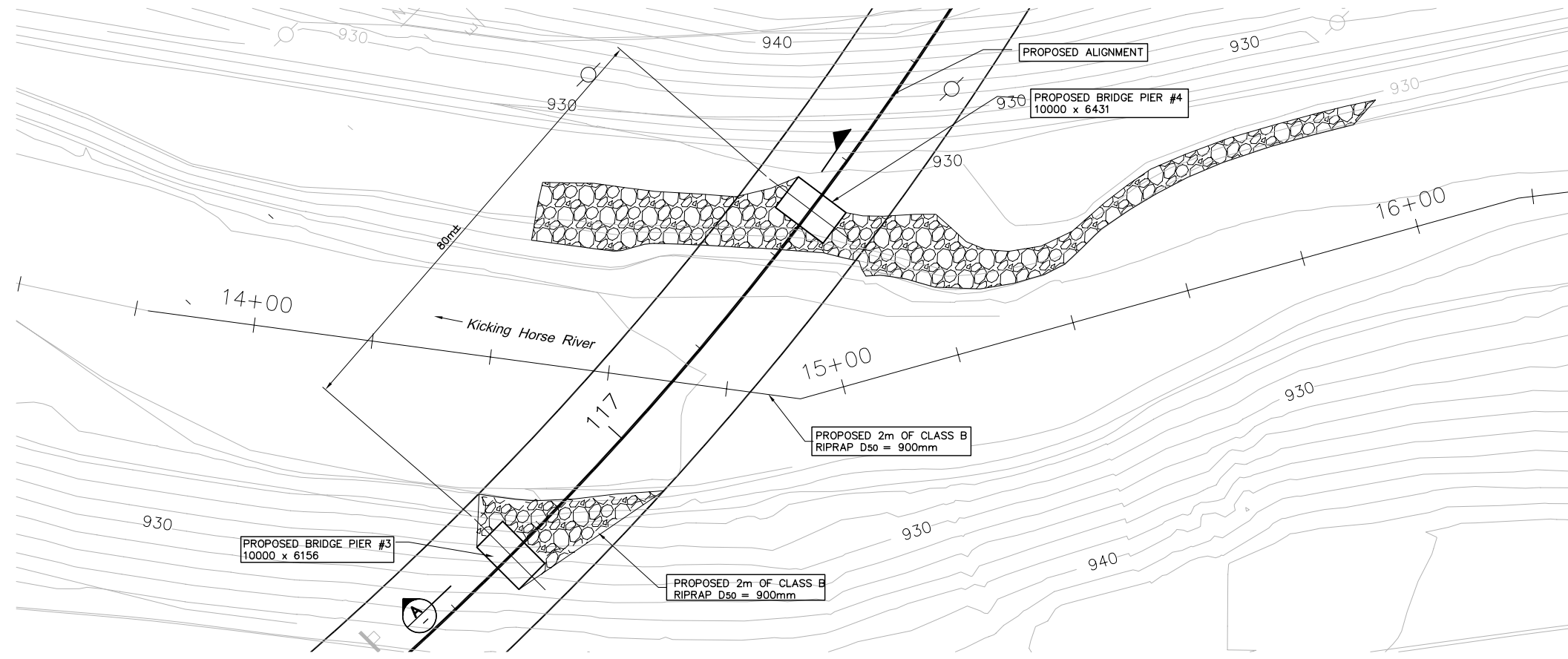
**EXPANSION BEARING**  
1:10



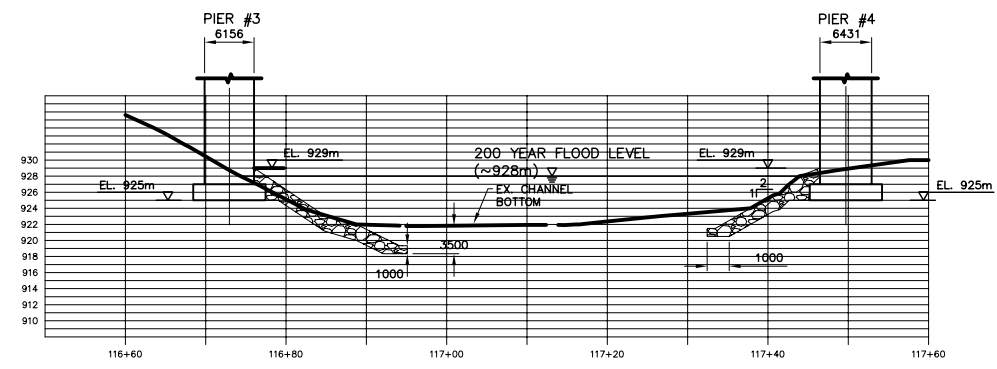
**FIXED BEARING**  
1:10

DATE: 2005/07/05 - 10:27am  
REVISED BY: [unclear] ON: Jul 05, 2005 AT: 10:27am  
REVISED BY: [unclear] ON: Jul 05, 2005 AT: 10:27am

			<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2	
	<b>PARK BRIDGE</b> <b>MISCELLANEOUS DETAILS</b>			
SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____	SENIOR DESIGN ENGINEER _____ DATE _____		FILE No. _____	PROJECT No. 09901-7005
PROFESSIONAL SEAL	Rev 0 Date 7/14/05 Description ISSUED FOR PROPOSAL Signature KO	REVISIONS		REG. 2 DRAWING No. R2-NNN-4801



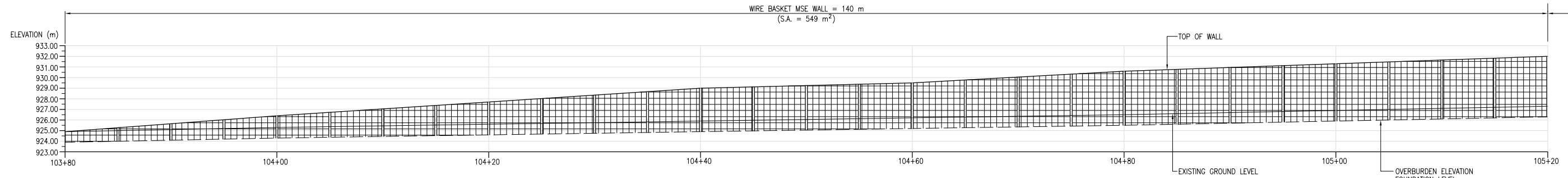
**PLAN**  
SCALE= 1:100



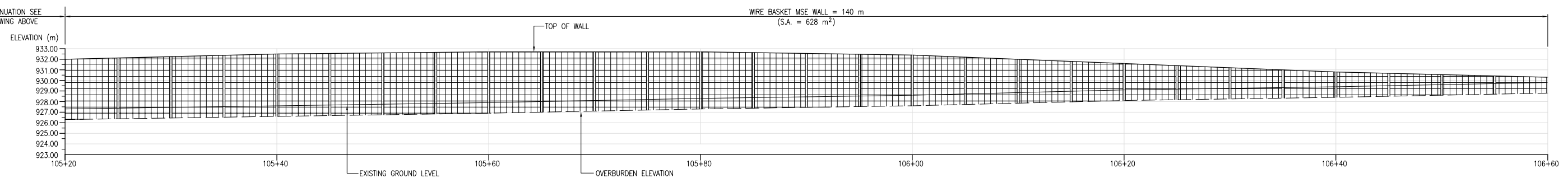
**SECTION A**  
SCALE= 1:100

	<b>MINISTRY OF TRANSPORTATION</b> KICKING HORSE CANYON PROJECT PHASE 2																										
SCALE _____ DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____	<h2 style="margin: 0;">PARK BRIDGE</h2> <h3 style="margin: 0;">RIPRAP DETAILS</h3>																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Rev</th> <th style="width: 10%;">Date</th> <th style="width: 60%;">Description</th> <th style="width: 20%;">Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>7/14/05</td> <td>ISSUED FOR PROPOSAL</td> <td>KO</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Rev	Date	Description	Signature	0	7/14/05	ISSUED FOR PROPOSAL	KO									<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">           SENIOR DESIGN ENGINEER _____ DATE _____         </td> </tr> <tr> <td style="width: 30%;">           FILE No. _____         </td> <td style="width: 30%;">           PROJECT No. _____         </td> <td style="width: 10%;">           REG. _____         </td> <td style="width: 30%;">           DRAWING No. _____         </td> </tr> <tr> <td colspan="2" style="text-align: center;"> <b>REVISIONS</b> </td> <td style="text-align: center;">           09901-7005         </td> <td style="text-align: center;">           2 R2-NNN-4802 0         </td> </tr> </table>	SENIOR DESIGN ENGINEER _____ DATE _____		FILE No. _____	PROJECT No. _____	REG. _____	DRAWING No. _____	<b>REVISIONS</b>		09901-7005	2 R2-NNN-4802 0
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SENIOR DESIGN ENGINEER _____ DATE _____																											
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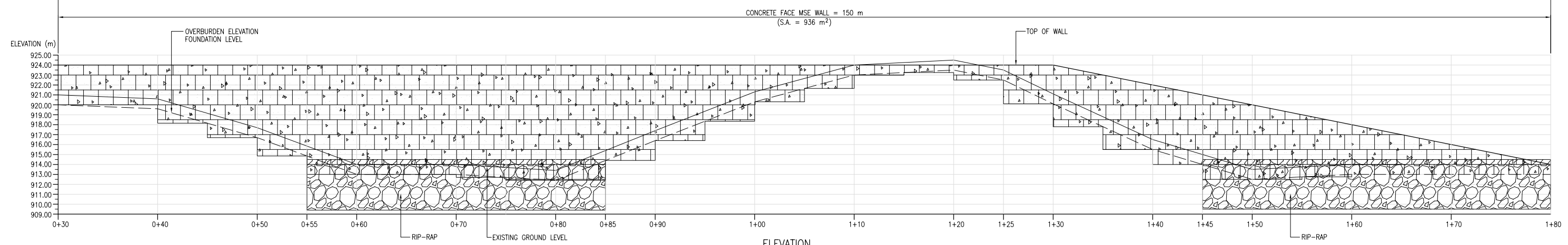


ELEVATION  
STATION 103+80 TO 106+60  
(WALL 1)



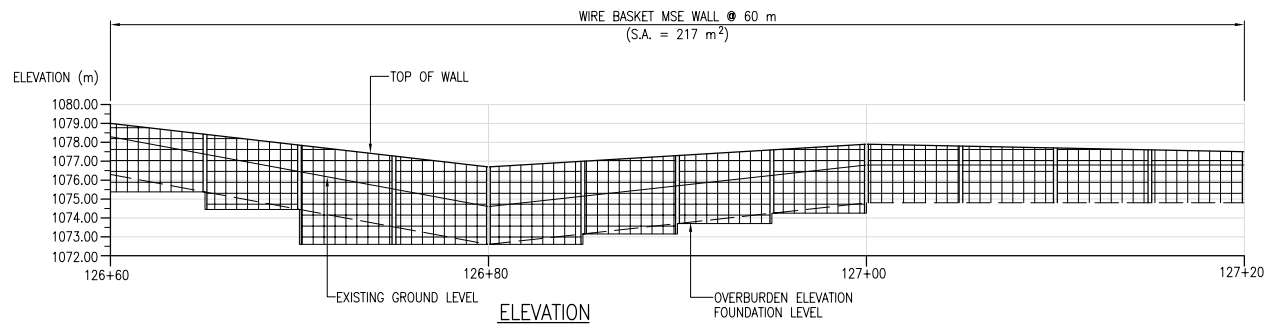
ELEVATION  
STATION 103+80 TO 106+60  
(WALL 1)

SEE ARCHITECTURAL TREATMENT DRAWING



ELEVATION  
STATION 0+30 TO 1+80  
(WALL 2)

NOTES:  
1. FOR WALL DETAILS SEE RETAINING WALL TYPICAL SECTION DRAWING.



ELEVATION  
STATION 126+60 TO 127+20  
(WALL 3)

PRELIMINARY  
NOT FOR CONSTRUCTION

**TRANS-PARK HIGHWAY GROUP** **DELCAN** ENGINEERS PLANNERS

**MINISTRY OF TRANSPORTATION**  
KICKING HORSE CANYON PROJECT  
PHASE 2

SCALE 1:400  
DESIGNED R.D.T. DATE \_\_\_\_\_  
DRAWN V.L. DATE \_\_\_\_\_  
CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

**RAFTERS PULLOUT TO BRAKE CHECK**  
  
RETAINING WALLS  
ELEVATIONS SHEET 1 OF 2

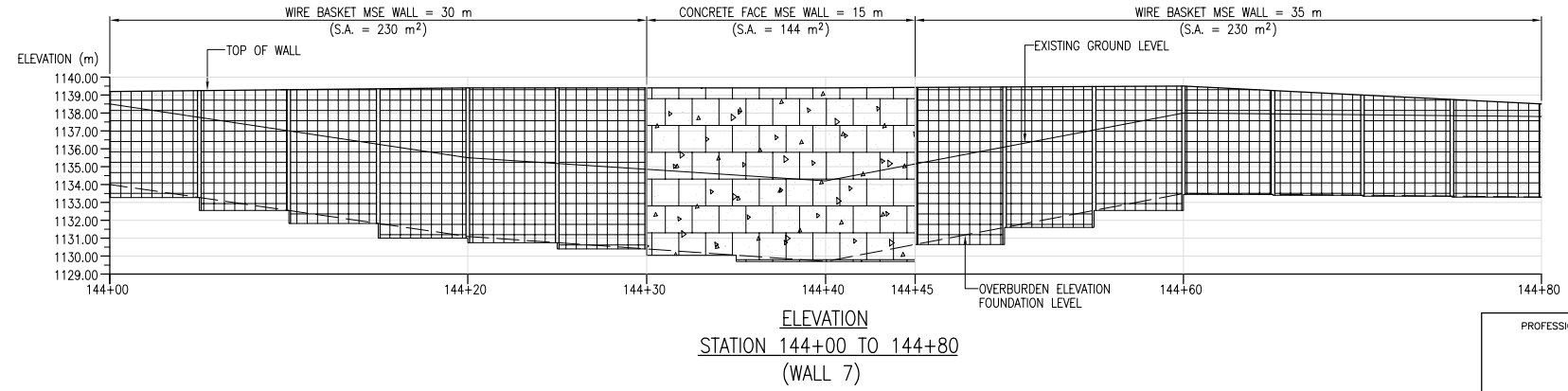
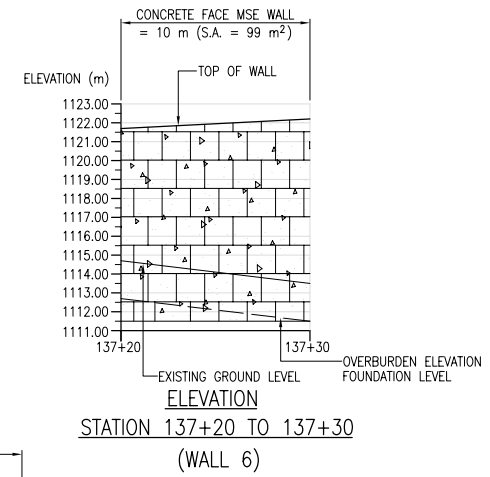
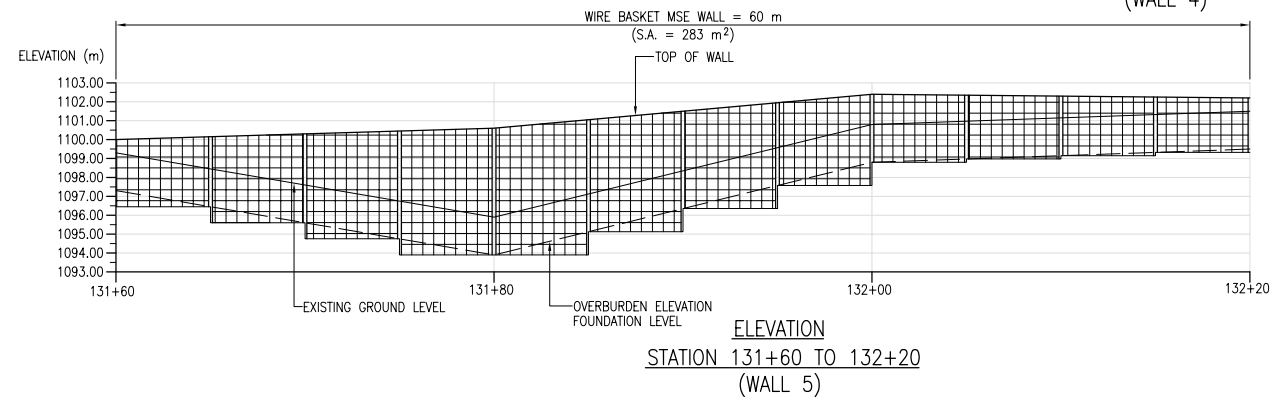
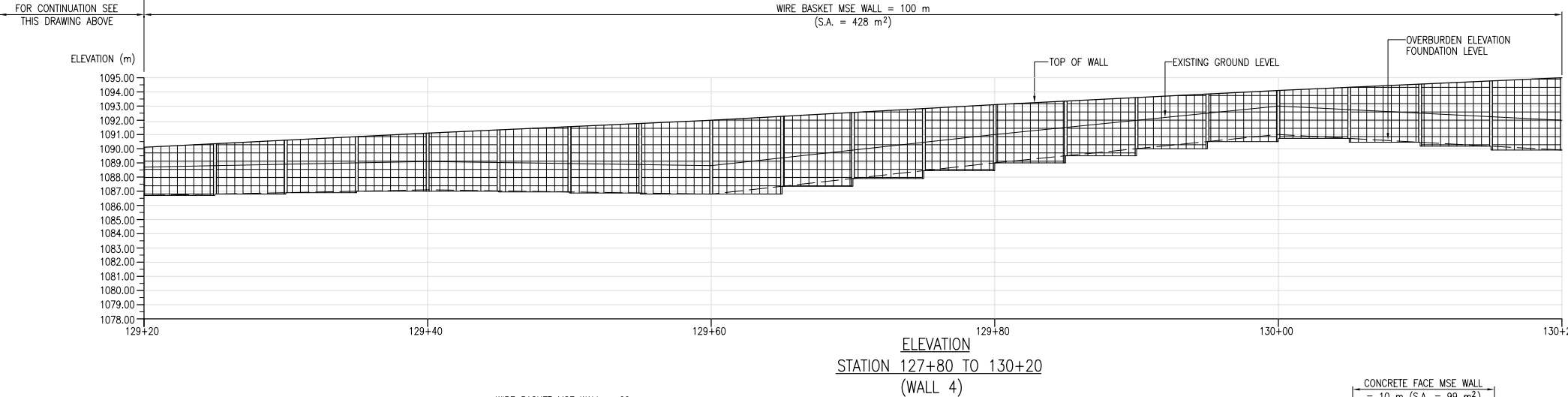
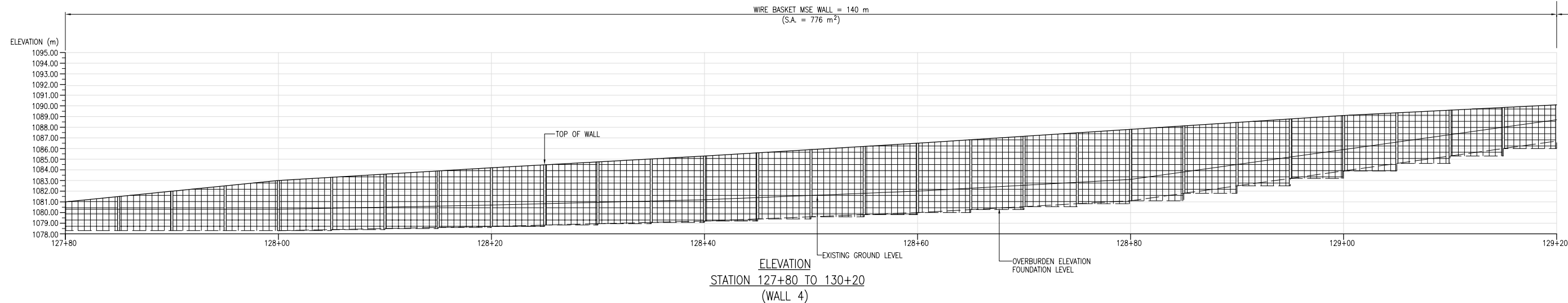
Rev	Date	Description	Signature
0	7/14/05	ISSUED FOR PROPOSAL	V.L.

SENIOR DESIGN ENGINEER _____		DATE _____	
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09901-7005	2	R2-NNN-4901	0

REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

DATE: 2005/06/22 - 11:17am  
PATH: K:\WEB\01\Drawings\Retaining Walls\R2-NNN-4901 (Rev. 0).dwg



PRELIMINARY  
NOT FOR CONSTRUCTION

NOTES:  
1. FOR WALL DETAILS SEE RETAINING WALL TYPICAL SECTION DRAWING.

**TRANS-PARK HIGHWAY GROUP** **DELCAN** ENGINEERS PLANNERS

**BRITISH COLUMBIA** **MINISTRY OF TRANSPORTATION**  
KICKING HORSE CANYON PROJECT  
PHASE 2

SCALE 1:400  
DESIGNED R.B.T. DATE \_\_\_\_\_  
DRAWN V.L. DATE \_\_\_\_\_  
CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

RAFTERS PULLOUT TO BRAKE CHECK  
RETAINING WALLS  
ELEVATIONS SHEET 2 OF 2

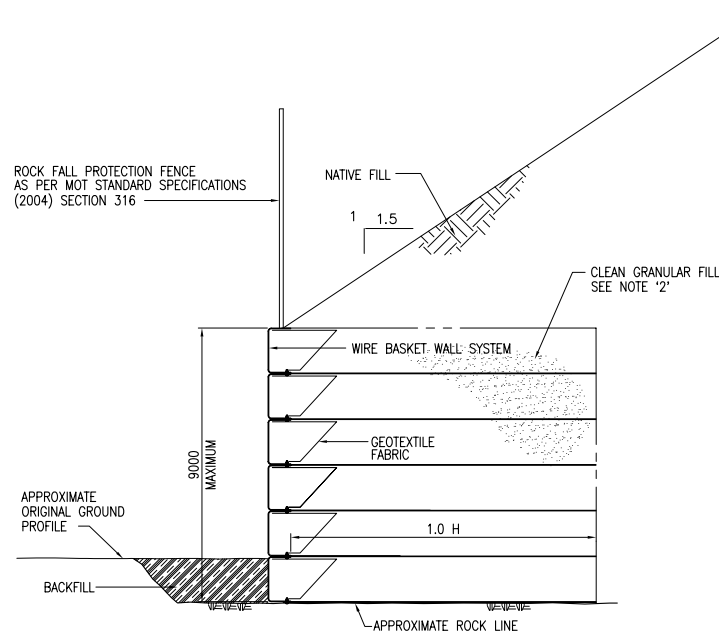
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SENIOR DESIGN ENGINEER		DATE	
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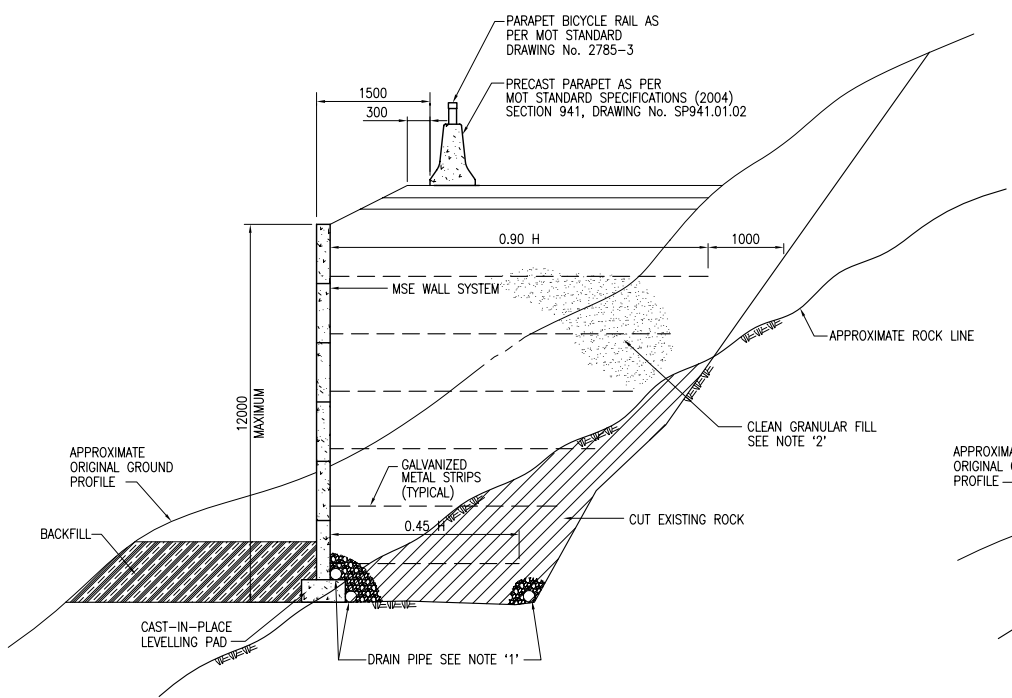
REVISIONS

CANCEL PRINTS BEARING PREVIOUS LETTER

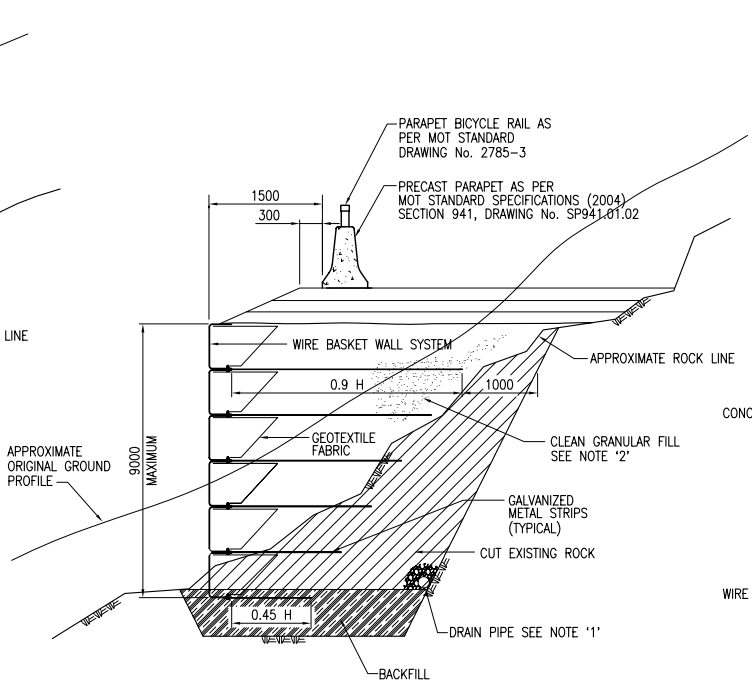
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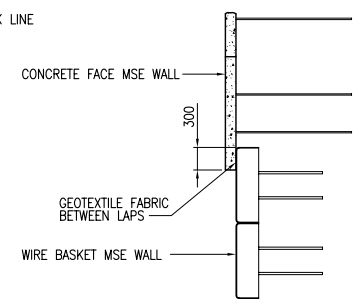
**WIRE BASKET MSE RETAINING WALL**  
(9m MAXIMUM)  
STATION 103+80 TO 106+60 (WALL 1)



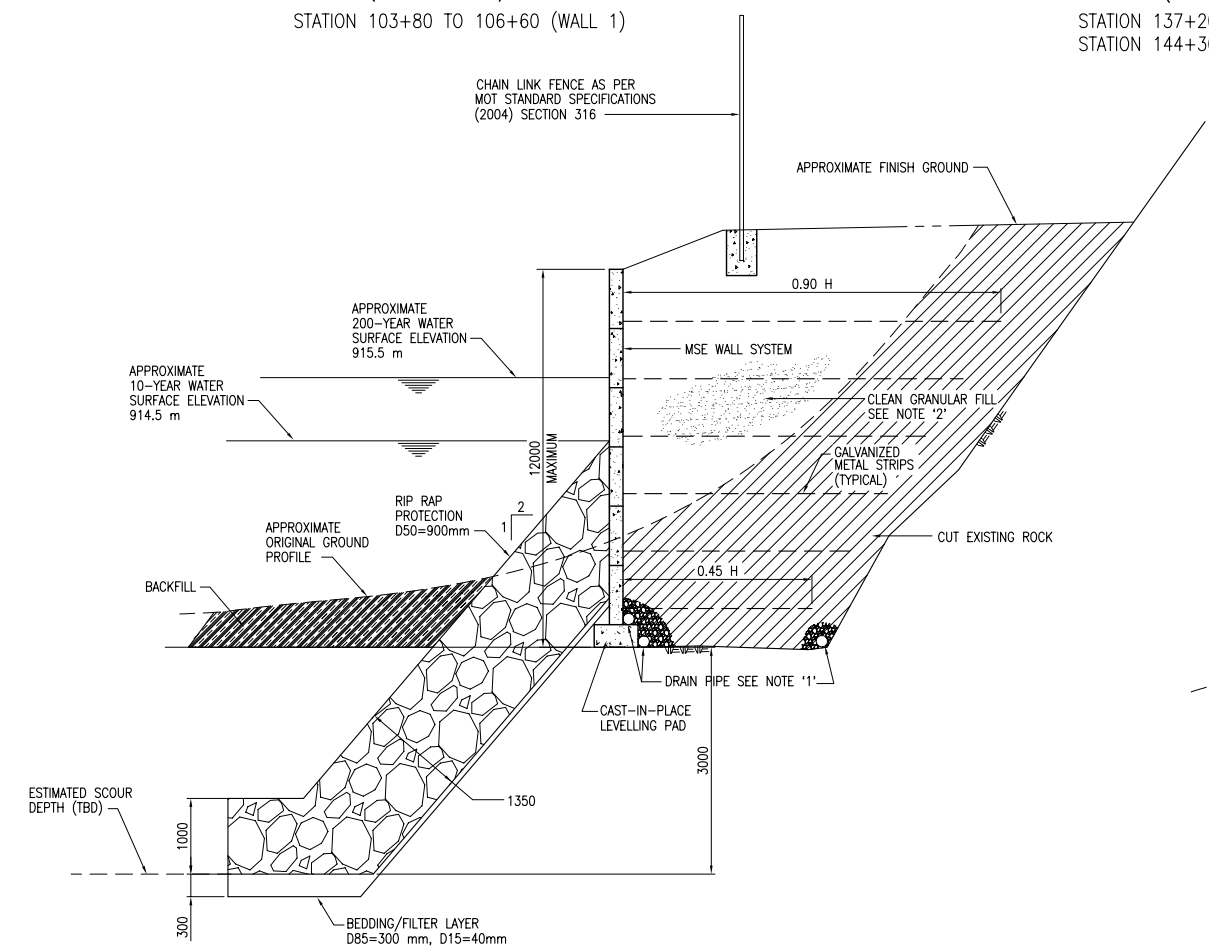
**CONCRETE FACE MSE RETAINING WALL**  
(12m MAXIMUM)  
STATION 137+20 TO 137+30 (WALL 6)  
STATION 144+30 TO 144+45 (WALL 7)



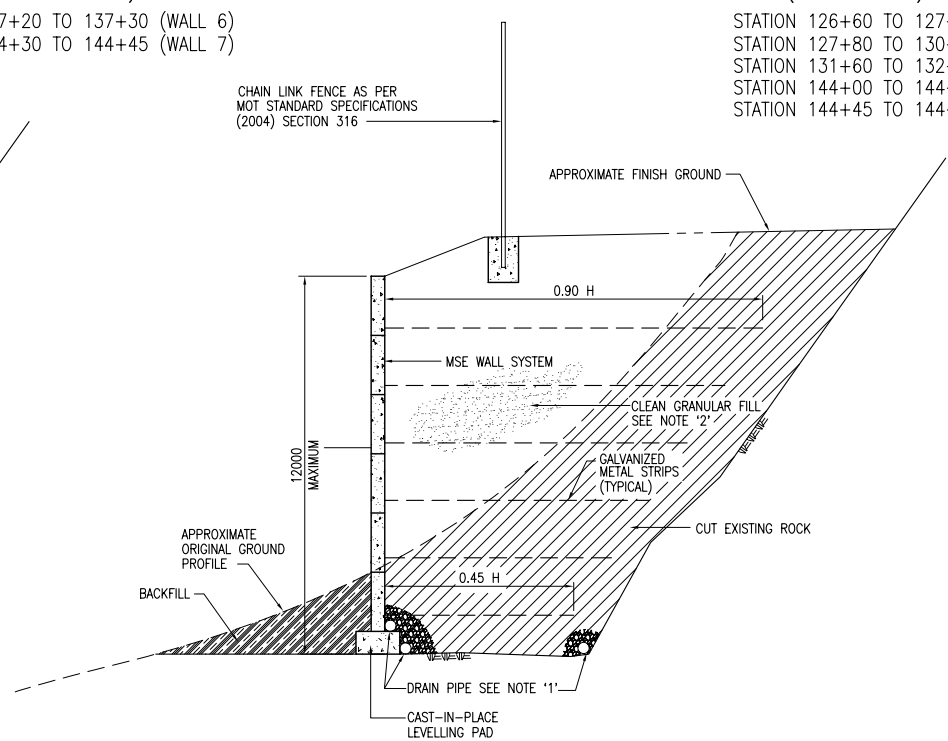
**WIRE BASKET MSE RETAINING WALL**  
(9m MAXIMUM)  
STATION 126+60 TO 127+20 (WALL 3)  
STATION 127+80 TO 130+20 (WALL 4)  
STATION 131+60 TO 132+20 (WALL 5)  
STATION 144+00 TO 144+30 (WALL 7)  
STATION 144+45 TO 144+80 (WALL 7)



**PLAN**  
**CONCRETE FACE AND WIRE BASKET**  
**MSE WALL VERTICAL CONNECTION DETAILS**



**RIP RAP PROTECTION DETAIL FOR CONCRETE FACE MSE RETAINING WALL**  
(12m MAXIMUM)  
STATION 0+55 TO 0+85 (WALL 2)  
STATION 1+45 TO 1+80 (WALL 2)



**CONCRETE FACE MSE RETAINING WALL**  
(12m MAXIMUM)  
STATION 0+30 TO 0+55 (WALL 2)  
STATION 0+85 TO 1+45 (WALL 2)

**PRELIMINARY**  
NOT FOR CONSTRUCTION

- NOTES:**
- ALL DRAINS ARE 150mm PERFORATED DRAINAGE PIPE ALONG FULL LENGTH OF WALL AS PER MOT STANDARD SPECIFICATIONS (2004) SECTION 303, DRAWING No. SP303-06. BRING DRAINAGE PIPE TO DAY LIGHT AT EACH STEP IN THE WALL.
  - CLEAN GRANULAR FILL AS PER MOT STANDARD SPECIFICATIONS SS 201.40

- NOTES:**
- THIS DETAIL IS ACCURATE FOR RIP RAP PROTECTION ONLY.
  - SEE RETAINING WALL TYPICAL SECTIONS FOR WALL CONSTRUCTION DETAILS.
  - WALL TO BE FREE DRAINING & DESIGNED FOR RAPID DRAWDOWN.
  - WATER SURFACE ELEVATIONS & SCOUR DEPTHS ARE ESTIMATES ONLY AND WILL NEED TO BE VERIFIED ONCE ADDITIONAL INFORMATION IS RECEIVED.
  - RIP RAP TO BE 1000 KG CLASS WITH GRADATION PER MOT STANDARDS.

**TRANS-PARK HIGHWAY GROUP** **DELCAN** ENGINEERS PLANNERS

SCALE 1:100

DESIGNED R.D.T. DATE \_\_\_\_\_  
DRAWN V.L. DATE \_\_\_\_\_  
CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

**MINISTRY OF TRANSPORTATION**  
KICKING HORSE CANYON PROJECT  
PHASE 2

**RAFTERS PULLOUT TO BRAKE CHECK**  
**RETAINING WALLS**  
**TYPICAL SECTIONS**

Rev	Date	Description	Signature
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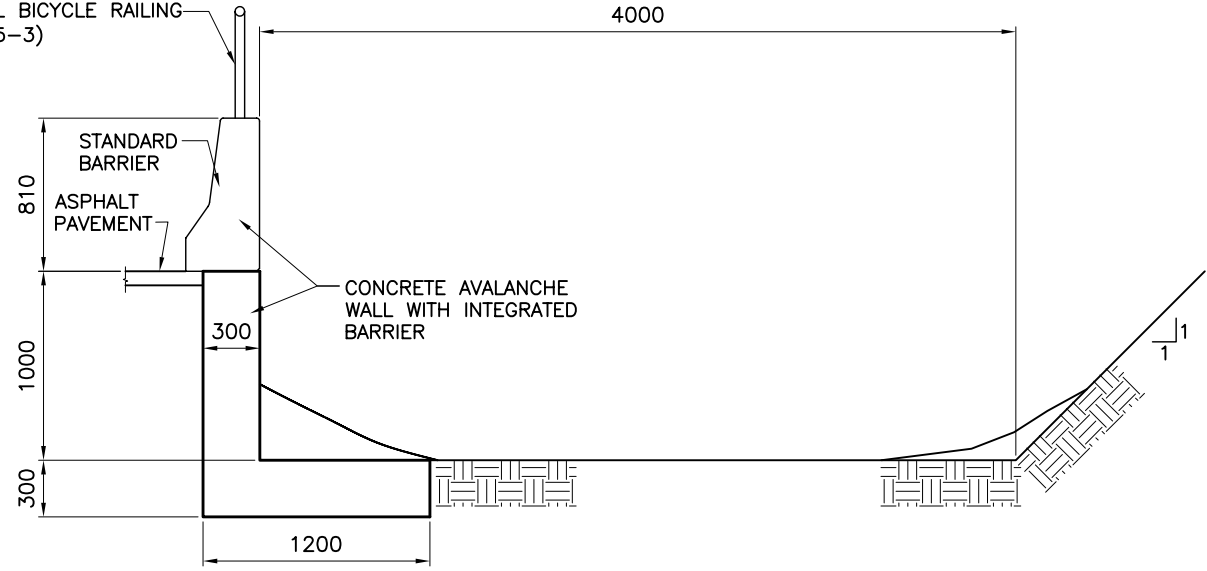
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REVISIONS

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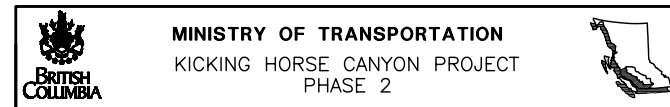


BCMOT STANDARD  
BRIDGE PARAPET  
STEEL BICYCLE RAILING  
(2785-3)



**CONCRETE AVALANCHE WALL**  
1:20

R:\967994\CADD\KHC dwgs\R2-NNN-4904.DWG ON: Jul 05, 2005 AT: 11:59am



**PARK BRIDGE**  
**CONCRETE AVALANCHE WALL**

Rev	Date	Description	Signature
0	7/14/05	REVISION 0	KO

REVISIONS

DESIGNED _____ DATE _____		DRAWN _____ DATE _____	
CHECKED _____ DATE _____		APPROVED _____ DATE _____	
SENIOR DESIGN ENGINEER _____		DATE _____	
FILE No. XXXXX	PROJECT No. 09901-7005	REG. 1	DRAWING No. R2-NNN-4904
			0



# BRITISH COLUMBIA

Ministry of Transportation

PROJECT NO. 09901-7005

KICKING HORSE CANYON PROJECT

PHASE 2

PRELIMINARY DESIGN DRAWINGS

JULY 2005



DRAWING No.

DESCRIPTION

COVER SHEET

R2-NNN-0000

DRAWING INDEX - TECHNICAL SUBMISSION

SCHEDULE

(REFERENCE SECTION 1.2 - SCHEDULING AND REPORTING)  
(REFERENCE SECTION 5.2 - ASSEST MANAGEMENT PLAN)

SHEET 1 TO 8

CONSTRUCTION SCHEDULE - GANT CHART

SHEET 1 TO 6

CONSTRUCTION SCHEDULE - LOGIC DIAGRAM (PROVIDED SEPARATELY FULL SIZE FOR READABILITY)

TABLE 5.2-1

MAINTENANCE AND REHABILITATION SCHEDULE FOR PAVEMENT

TABLE 5.2-2

MAINTENANCE AND REHABILITATION SCHEDULE FOR STRUCTURES

RAFTERS PULLOUT TO BRAKE CHECK - ROADS

(REFERENCE SECTION 3.1 - ROAD DESIGN REPORT & SECTION 3.7 DRAINAGE DESIGN REPORT)

R2-NNN-0001

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-0002

LEGEND

R2-NNN-0101 to 0122

PLAN SHEETS

R2-NNN-0201 to 0210

PROFILE SHEETS

R2-NNN-0301

TYPICAL SECTIONS

R2-NNN-0401 to 0416

GEOMETRICS AND LANING

R2-NNN-0501 to 0504

DRAINAGE AND AVALANCHE MAPS, NOTES AND DETAILS

RAFTERS PULLOUT TO BRAKE CHECK - CONSTRUCTION SEQUENCE AND STAGING

(REFERENCE SECTION 4.1 - CONSTRUCTION MANAGEMENT PLAN  
SECTION 4.2 - CONSTRUCTION STAGING PLAN  
SECTION 4.3 - TRAFFIC MANAGEMENT PLAN)

R2-NNN-2001

CONSTRUCTION SEQUENCE - RAFTERS PULLOUT

R2-NNN-2002

CONSTRUCTION SEQUENCE - BRAKE CHECK TO MOUNT HUNTER CREEK

R2-NNN-2003 to 2005

DETOURS AND STAGING - WEST CONFORM: STAGE 1

R2-NNN-2006 to 2008

DETOURS AND STAGING - WEST CONFORM: STAGE 2

R2-NNN-2009

DETOURS AND STAGING - WEST CONFORM: STAGE 3

R2-NNN-2010 to 2012

DETOURS AND STAGING - EAST CONFORM: STAGE 1

R2-NNN-2013

DETOURS AND STAGING - EAST CONFORM: STAGE 2

R2-NNN-2014 to 2015

CONSTRUCTION ACCESS DETAILS

RAFTERS PULLOUT TO BRAKE CHECK - GEOTECHNICAL

(REFERENCE SECTION 3.6 - GEOTECHNICAL DESIGN REPORT)

R2-NNN-5000

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-5001 to 5008

BORHOLE LOCATION PLAN SHEETS

R2-NNN-5009 to 5010

GEOTECHNICAL PROFILE

R2-NNN-5011 to 5018

TYPICAL CROSS SECTIONS

R2-NNN-5020

GEOTECHNICAL INFORMATION AND REFERENCES

DRAWING No.

DESCRIPTION

PARK BRIDGE - STRUCTURAL

(REFERENCE SECTION 3.2 - STRUCTURAL DESIGN REPORT)

R2-NNN-4000

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-4101 to 4103

GENERAL ARRANGEMENT

R2-NNN-4201 to 4206

CONSTRUCTION STAGING, ERECTION SEQUENCE

R2-NNN-4301

FOUNDATION PLAN

R2-NNN-4401 to 4402

ABUTMENT PLANS, ELEVATIONS AND SECTIONS

R2-NNN-4501 to 4510

PIER ELEVATIONS, SECTIONS, DETAILS, ALTERNATE FOOTING

R2-NNN-4601 to 4605

PLANS, PILE DETAILS CP RAIL IMPACT, AND PILE TABLE

R2-NNN-4701 to 4704

BRIDGE TYPICAL CROSS SECTION, PRECAST PANEL DECK FORM

R2-NNN-4800 to 4802

AND BRIDGE DETAILS

R2-NNN-4900 to 4904

MISCELLANEOUS  
RETAINING WALLS

RAFTERS PULLOUT TO BRAKE CHECK - AESTHETICS AND LANDSCAPING

(REFERENCE SECTION 3.9 - AESTHETICS AND LANDSCAPE DESIGN REPORT)

R2-NNN-9001

LANDSCAPE PLAN - RAFTERS PULLOUT AREA




R2-NNN-9002

RETAINING WALL AESTHETIC TREATMENT

RAFTERS PULLOUT TO MOUNT HUNTER CREEK - DESIGN CROSS SECTIONS SHEETS  
(REFERENCE SECTION 3.1 - ROAD DESIGN REPORT)

DESIGN CROSS SECTIONS

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PROFESSIONAL SEAL	Rev Date Description Signature 0 7/14/05 ISSUED FOR PROPOSAL	SENIOR DESIGN ENGINEER _____ DATE _____			
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**TRANS-PARK HIGHWAY GROUP**  
 LOMBARD NORTH GROUP  
 Landscape Architecture • Site Planning  
 300-238-10 AVENUE S.E.  
 SUITE 200 - VANCOUVER  
 B.C. V6A 4K5  
 TEL: 604-263-4422  
 FAX: 604-263-4423  
 www.transpark.com

**MINISTRY OF TRANSPORTATION**  
 KICKING HORSE CANYON PROJECT

DESIGNED LP/DT DATE \_\_\_\_\_  
 DRAWN LP DATE 05/17/05  
 CHECKED DT DATE \_\_\_\_\_  
 APPROVED DATE \_\_\_\_\_

**RAFTER'S PULLOUT TO BRAKE CHECK**  
 PRELIMINARY LANDSCAPE PLAN  
 RAFTERS PULLOUT

Rev	Date	Description	Signature
C	05/19/05	CONCEPT REVIEW	LP
	05/20/05	CONCEPT REVIEW	LP
	06/01/05	CONCEPT - COLOUR COPY	LP

SENIOR DESIGN ENGINEER _____		DATE _____	
FILE No.	PROJECT No.	REG.	DRAWING No.
09901-7005	1		R2-NNN-9001

REVISIONS

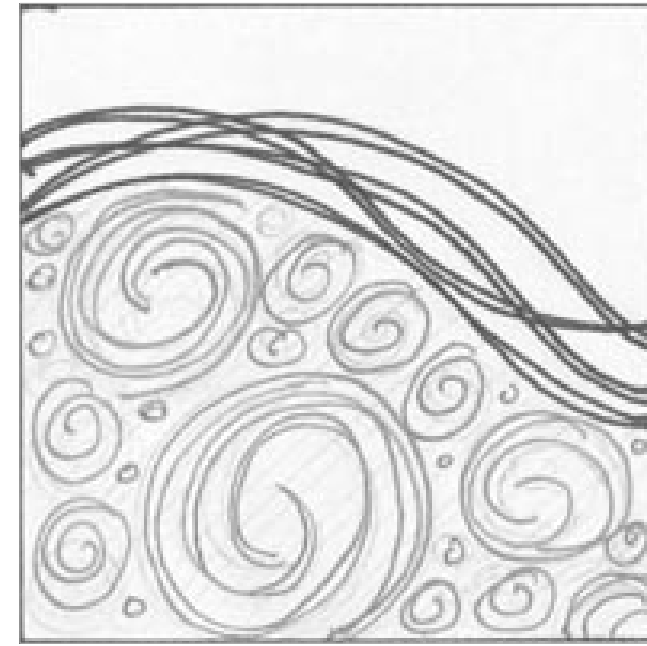
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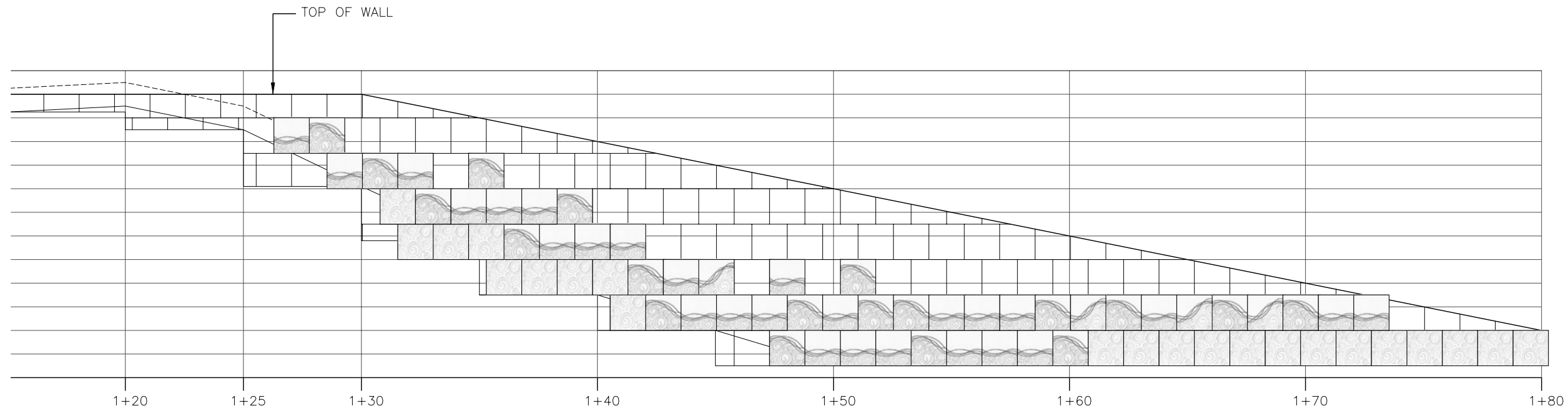
TREATMENT TYPE 2



TREATMENT TYPE 3



TREATMENT TYPE 4



ELEVATION  
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	<b>PARK BRIDGE</b> <b>RETAINING WALL</b> <b>AESTHETIC TREATMENT</b>																											
SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____	PROFESSIONAL SEAL	<table border="1"> <thead> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>7/14/05</td> <td>ISSUED FOR PROPOSAL</td> <td>KO</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Rev	Date	Description	Signature	0	7/14/05	ISSUED FOR PROPOSAL	KO									SENIOR DESIGN ENGINEER _____ DATE _____ <table border="1"> <thead> <tr> <th>FILE No.</th> <th>PROJECT No.</th> <th>REG.</th> <th>DRAWING No.</th> </tr> </thead> <tbody> <tr> <td>09901-7005</td> <td>2</td> <td>R2-NNN-9002</td> <td>0</td> </tr> </tbody> </table>		FILE No.	PROJECT No.	REG.	DRAWING No.	09901-7005	2	R2-NNN-9002	0
Rev	Date	Description	Signature																									
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REVISIONS		<small>CANCEL PRINTS BEARING PREVIOUS LETTER</small>																										



BRITISH  
COLUMBIA

Ministry of Transportation

PROJECT NO. 09901-7005

KICKING HORSE CANYON PROJECT

PHASE 2

PRELIMINARY DESIGN DRAWINGS

JULY 2005



DRAWING No.

DESCRIPTION

COVER SHEET

R2-NNN-0000

DRAWING INDEX - TECHNICAL SUBMISSION

SCHEDULE

(REFERENCE SECTION 1.2 - SCHEDULING AND REPORTING)  
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SHEET 1 TO 8

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R2-NNN-0002

LEGEND

R2-NNN-0101 to 0122

PLAN SHEETS

R2-NNN-0201 to 0210

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R2-NNN-0401 to 0416

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R2-NNN-2002

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R2-NNN-2006 to 2008

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R2-NNN-2009

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R2-NNN-2010 to 2012

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RAFTERS PULLOUT TO BRAKE CHECK - GEOTECHNICAL

(REFERENCE SECTION 3.6 - GEOTECHNICAL DESIGN REPORT)

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COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-5001 to 5008

BORHOLE LOCATION PLAN SHEETS

R2-NNN-5009 to 5010

GEOTECHNICAL PROFILE

R2-NNN-5011 to 5018

TYPICAL CROSS SECTIONS

R2-NNN-5020

GEOTECHNICAL INFORMATION AND REFERENCES

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PARK BRIDGE - STRUCTURAL

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R2-NNN-4000

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-4101 to 4103

GENERAL ARRANGEMENT

R2-NNN-4201 to 4206

CONSTRUCTION STAGING, ERECTION SEQUENCE

R2-NNN-4301

FOUNDATION PLAN

R2-NNN-4401 to 4402

ABUTMENT PLANS, ELEVATIONS AND SECTIONS

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R2-NNN-4601 to 4605

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MISCELLANEOUS  
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R2-NNN-9001

LANDSCAPE PLAN - RAFTERS PULLOUT AREA

R2-NNN-9002




RETAINING WALL AESTHETIC TREATMENT

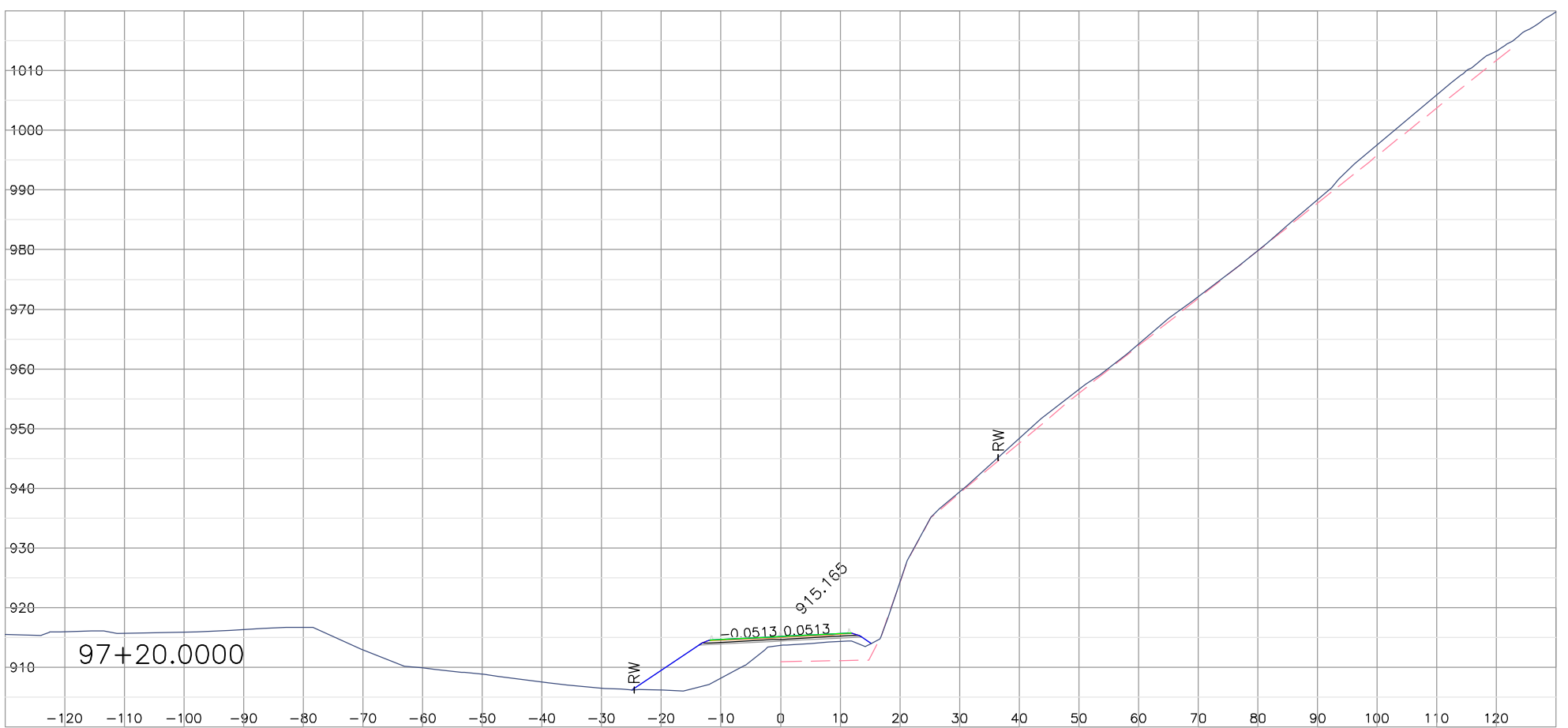
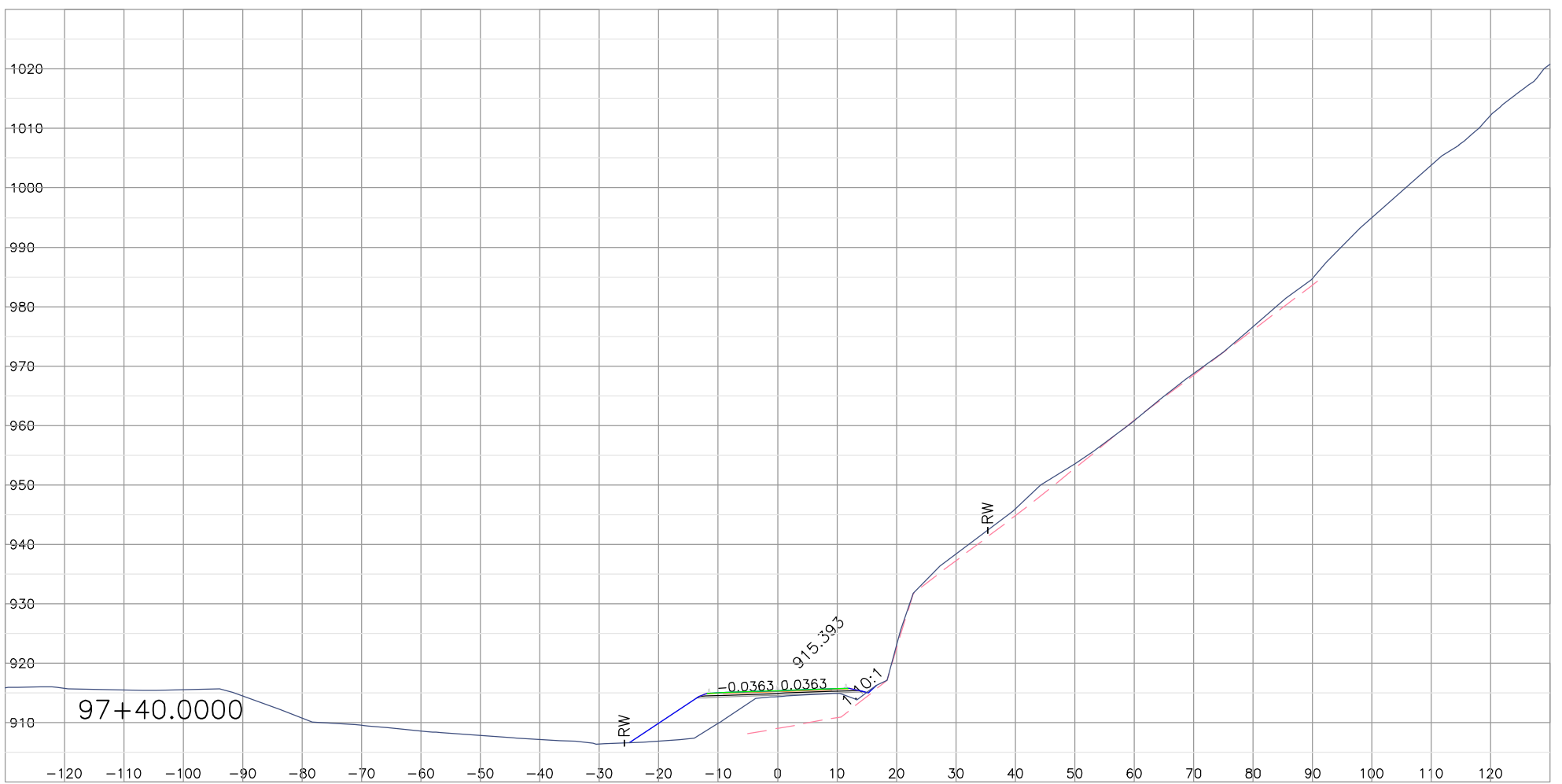
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DESIGN CROSS SECTIONS

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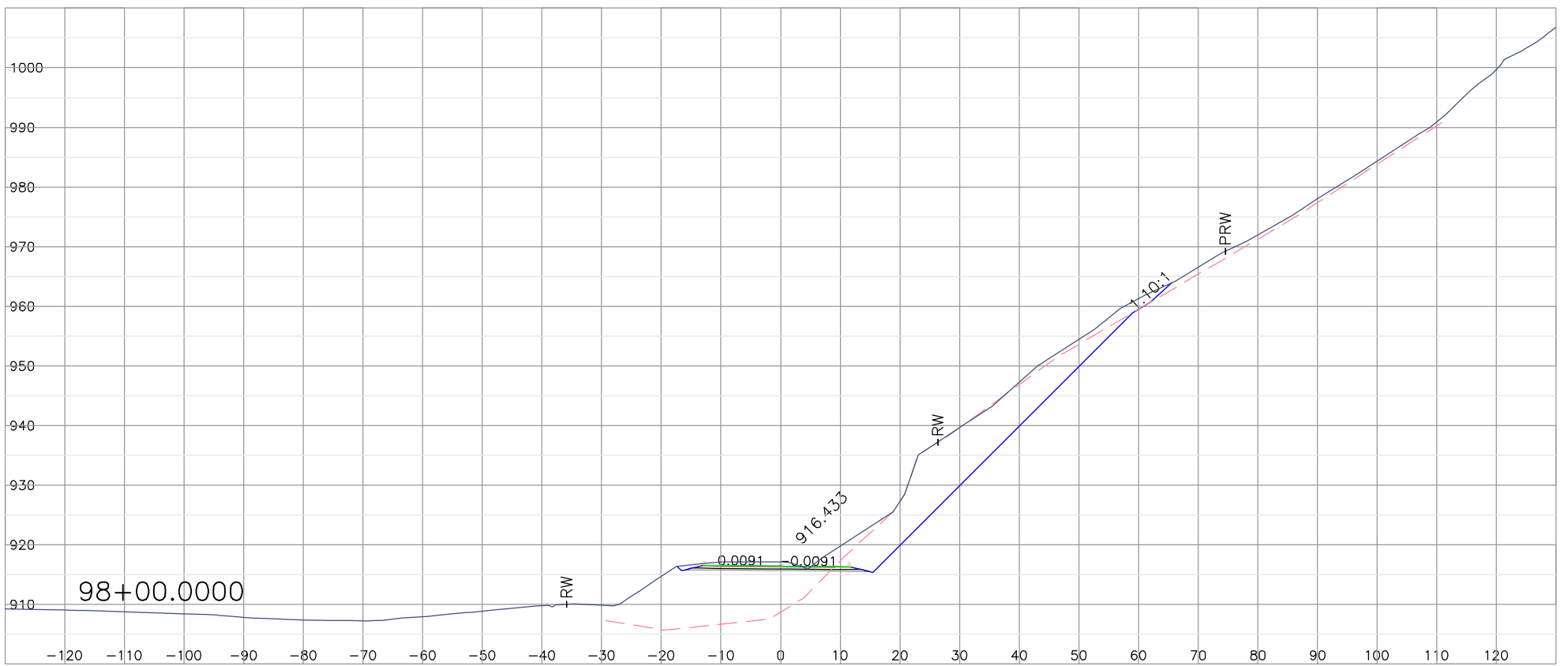
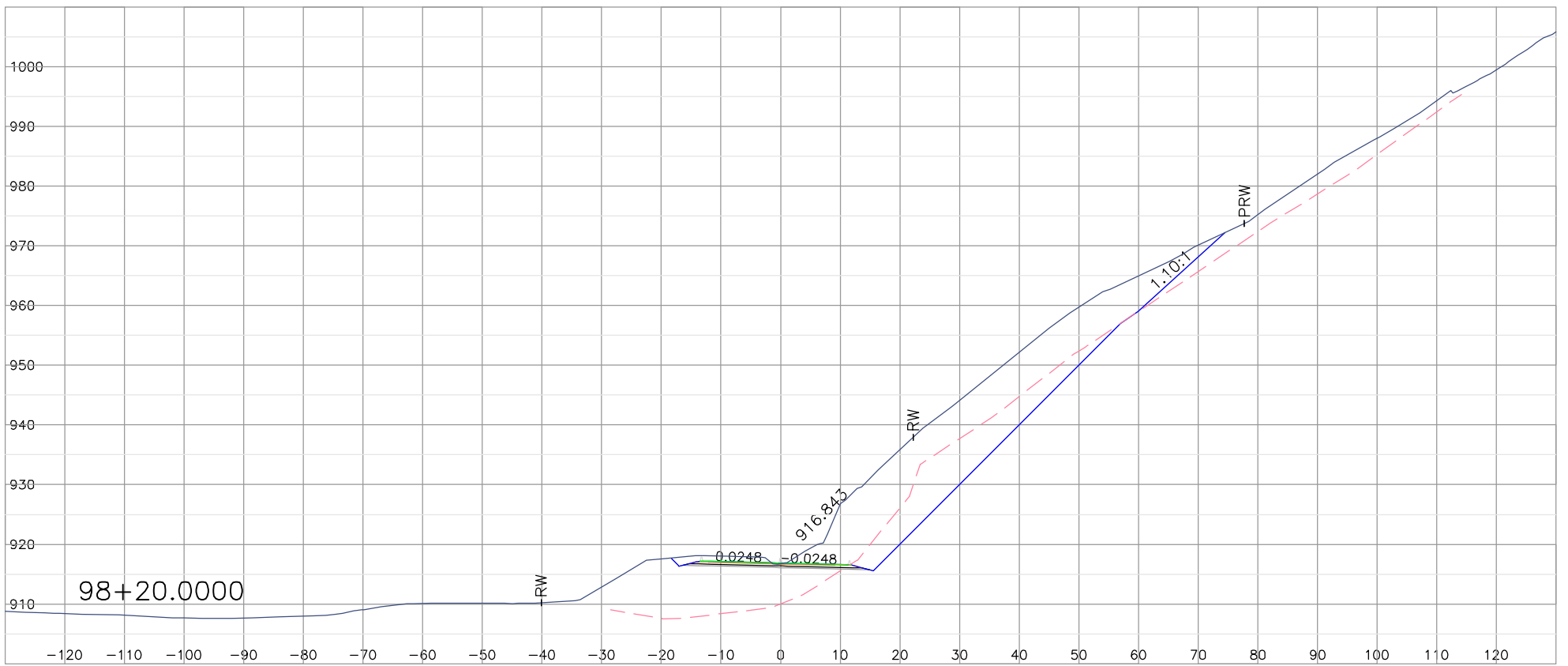
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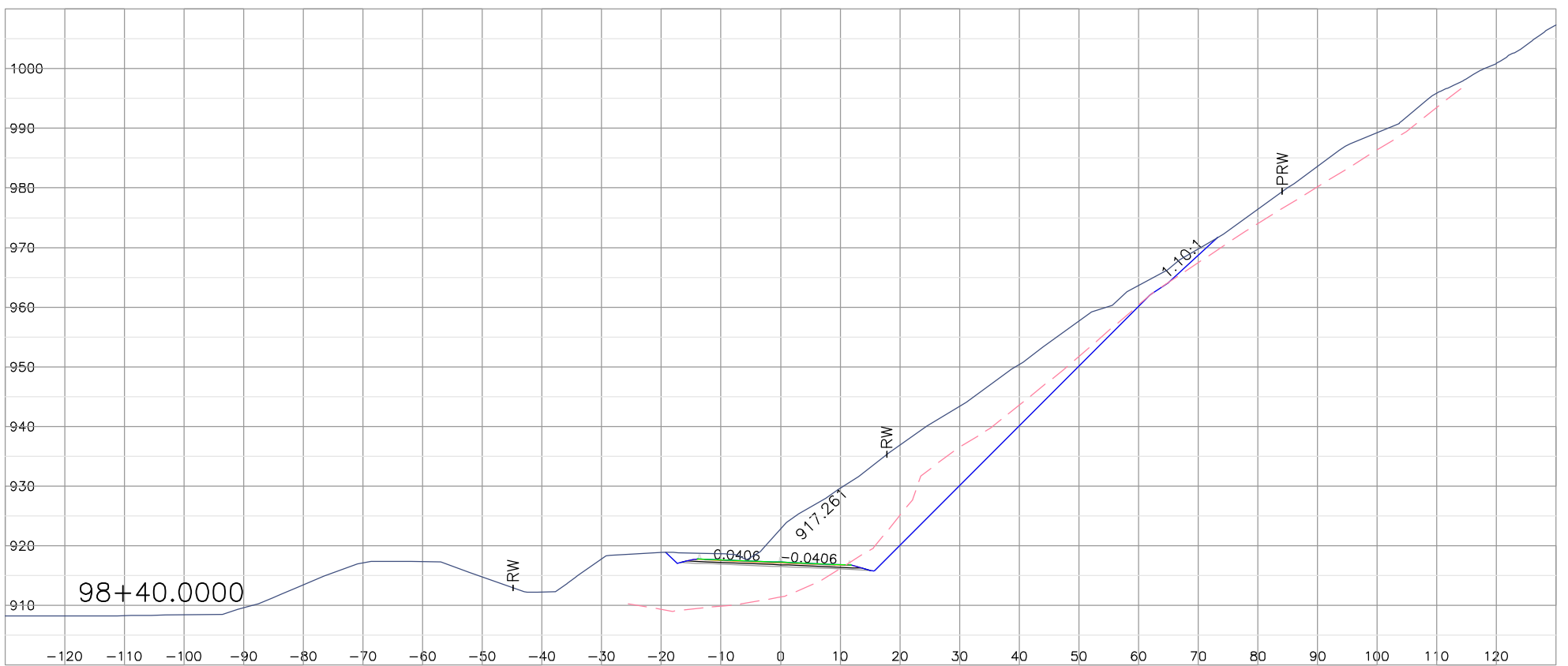
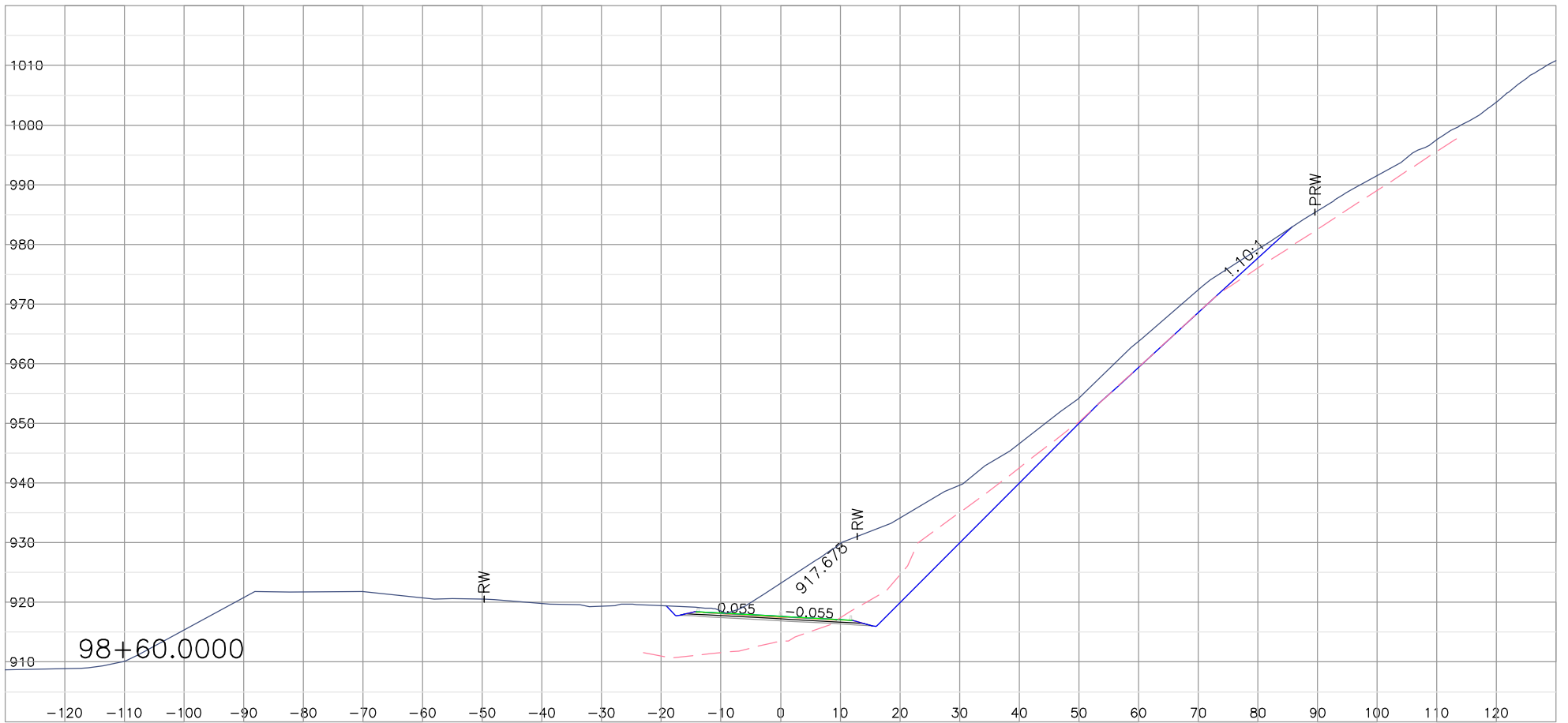
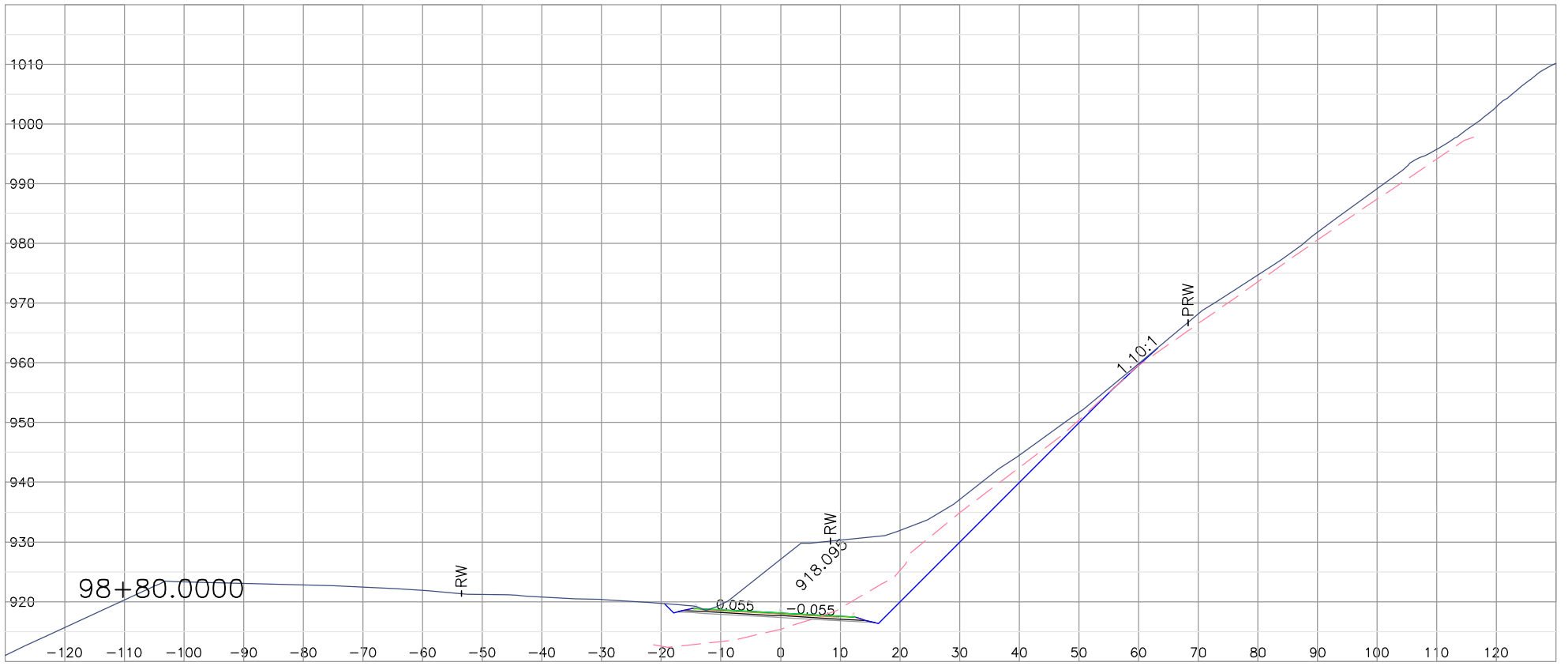


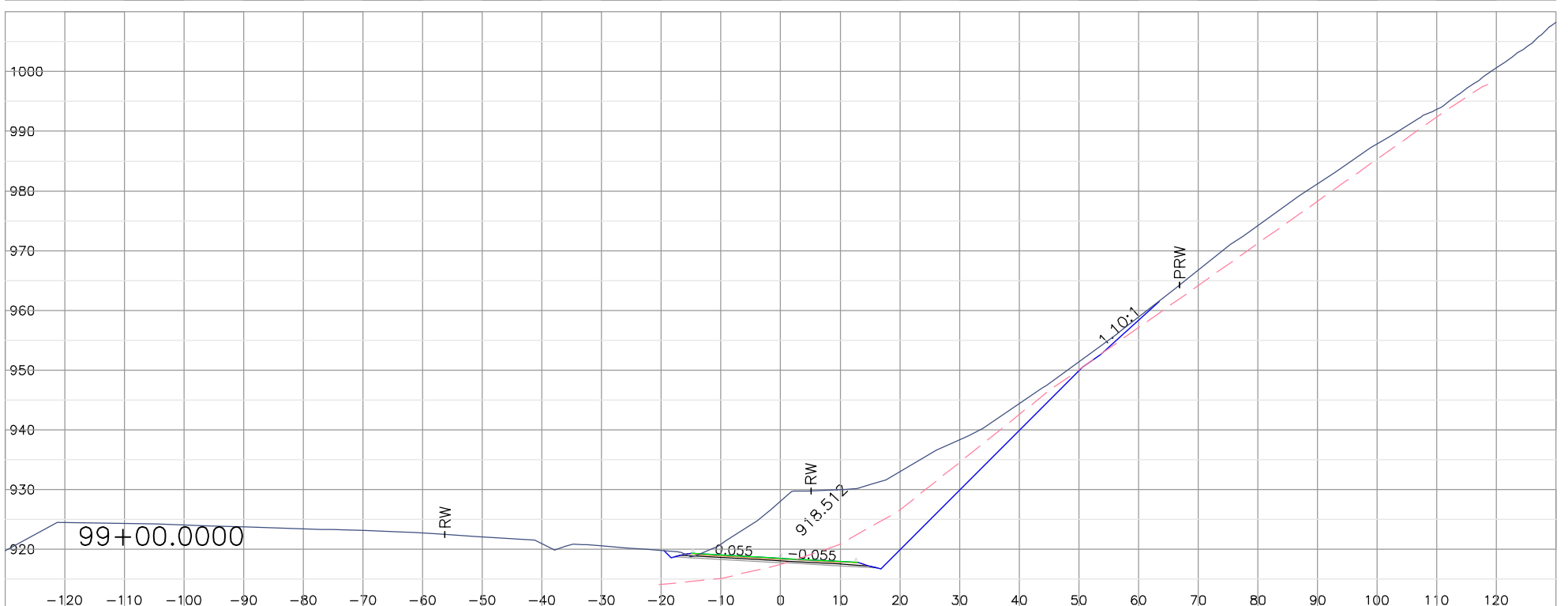
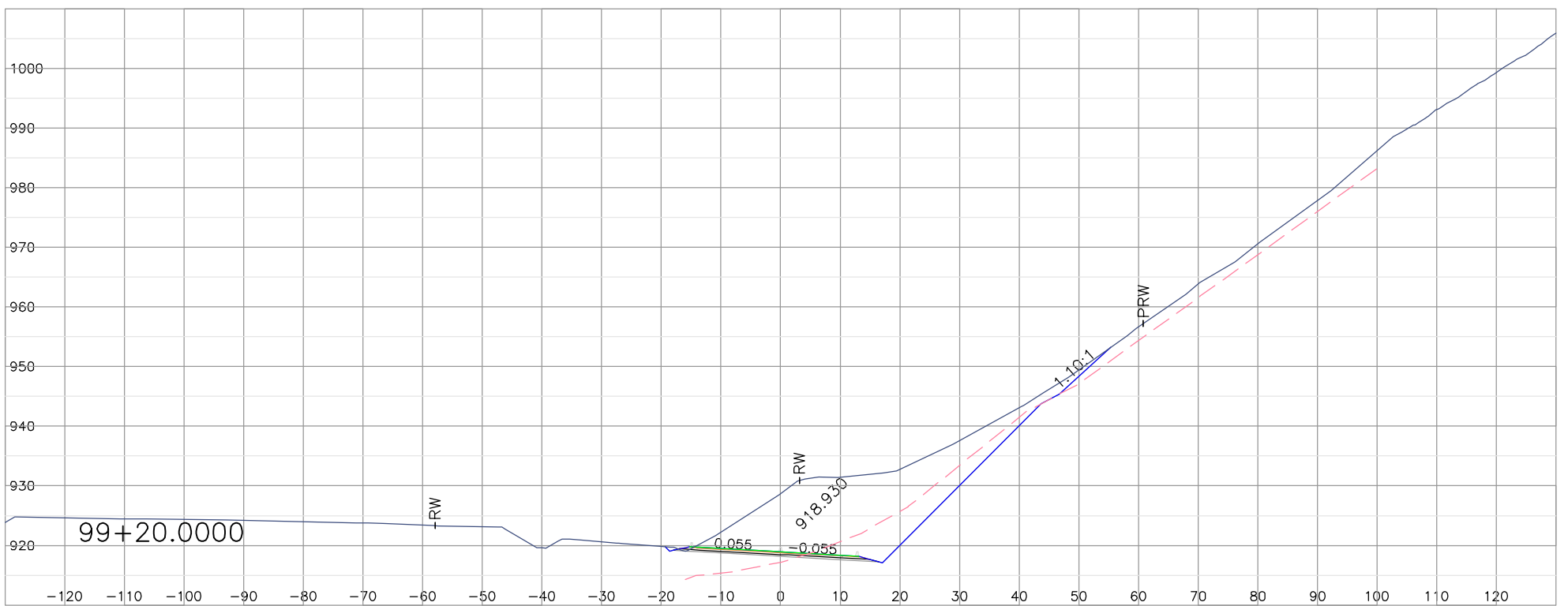
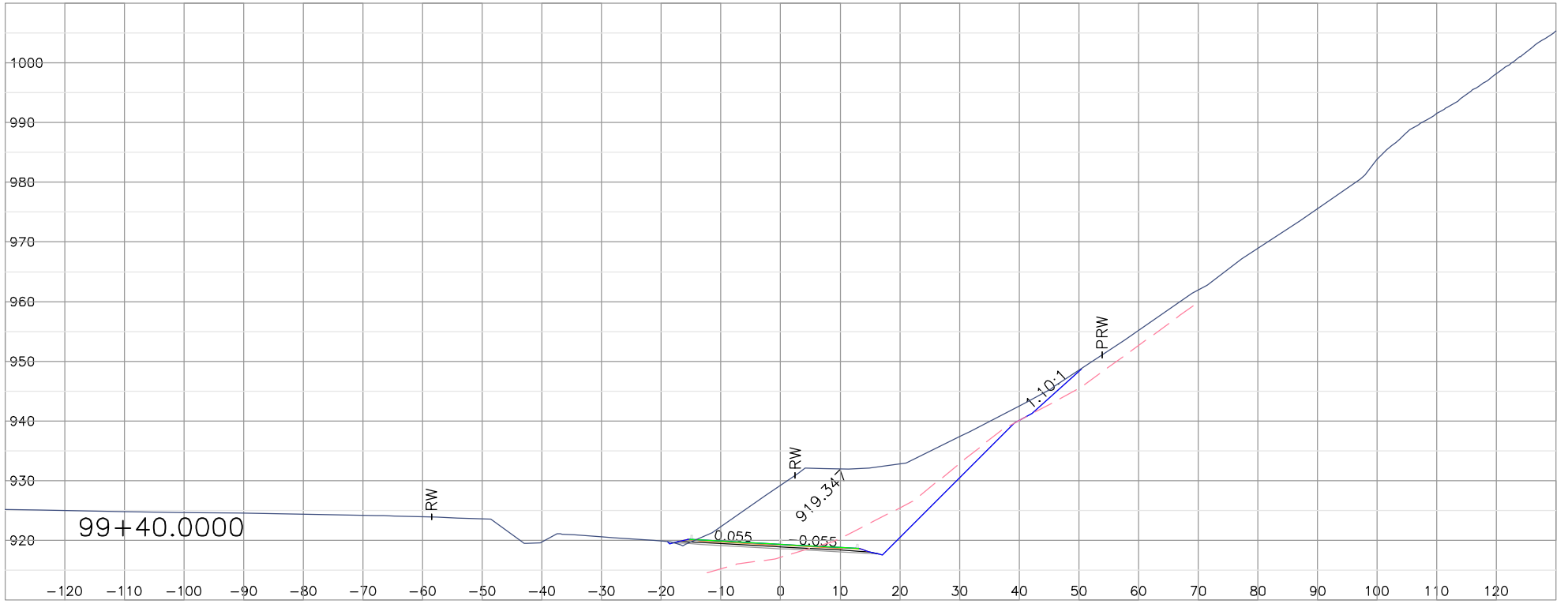
TPHG Proposed Alignment  
07-14-2005

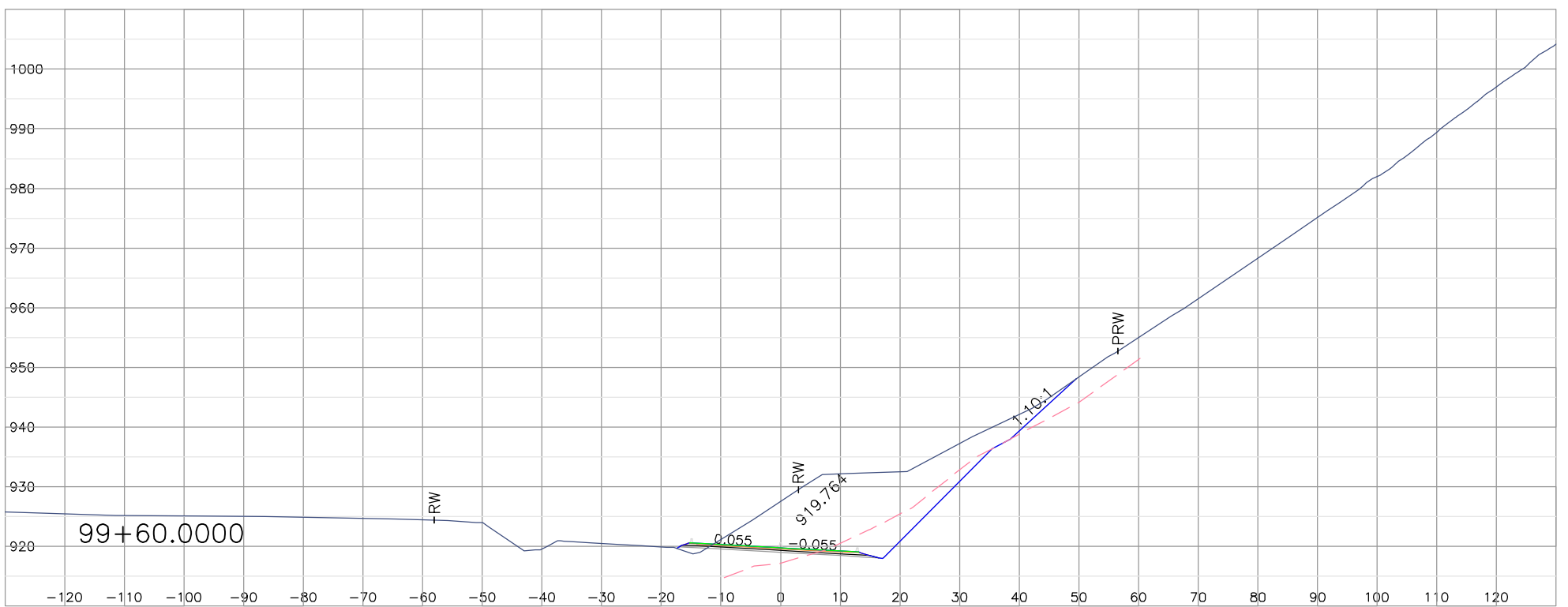
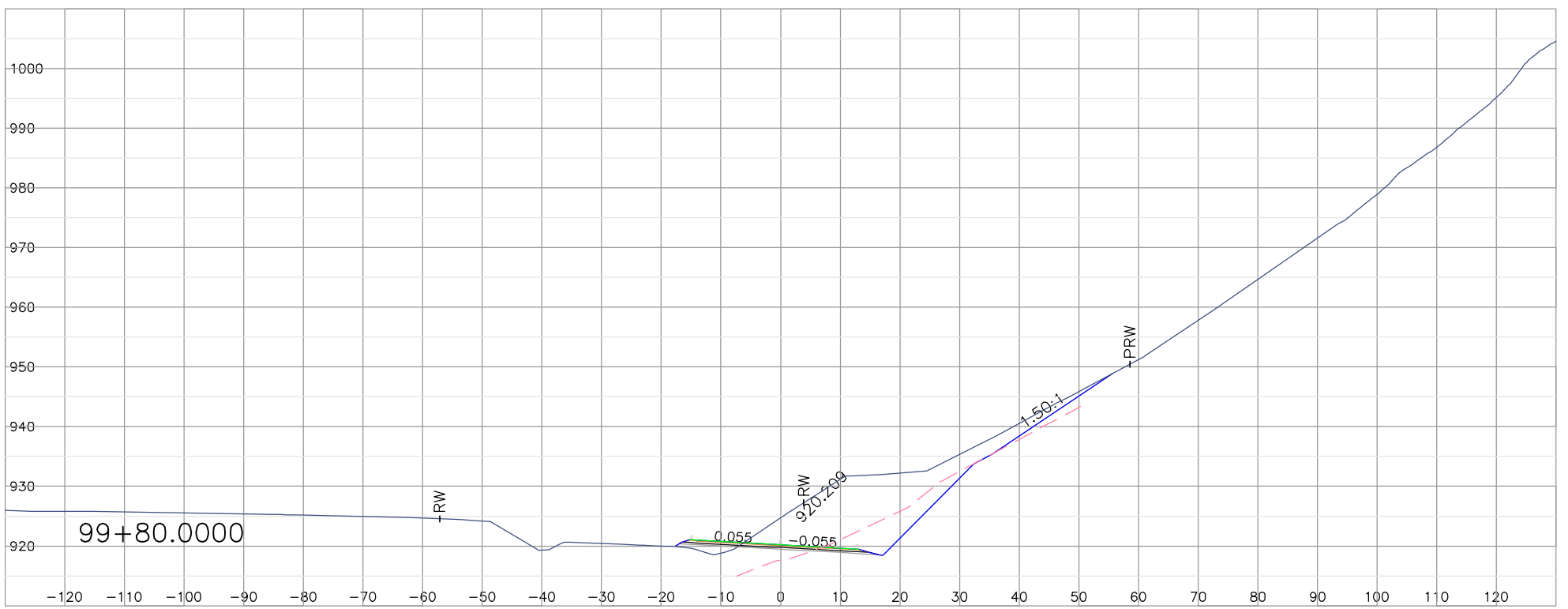
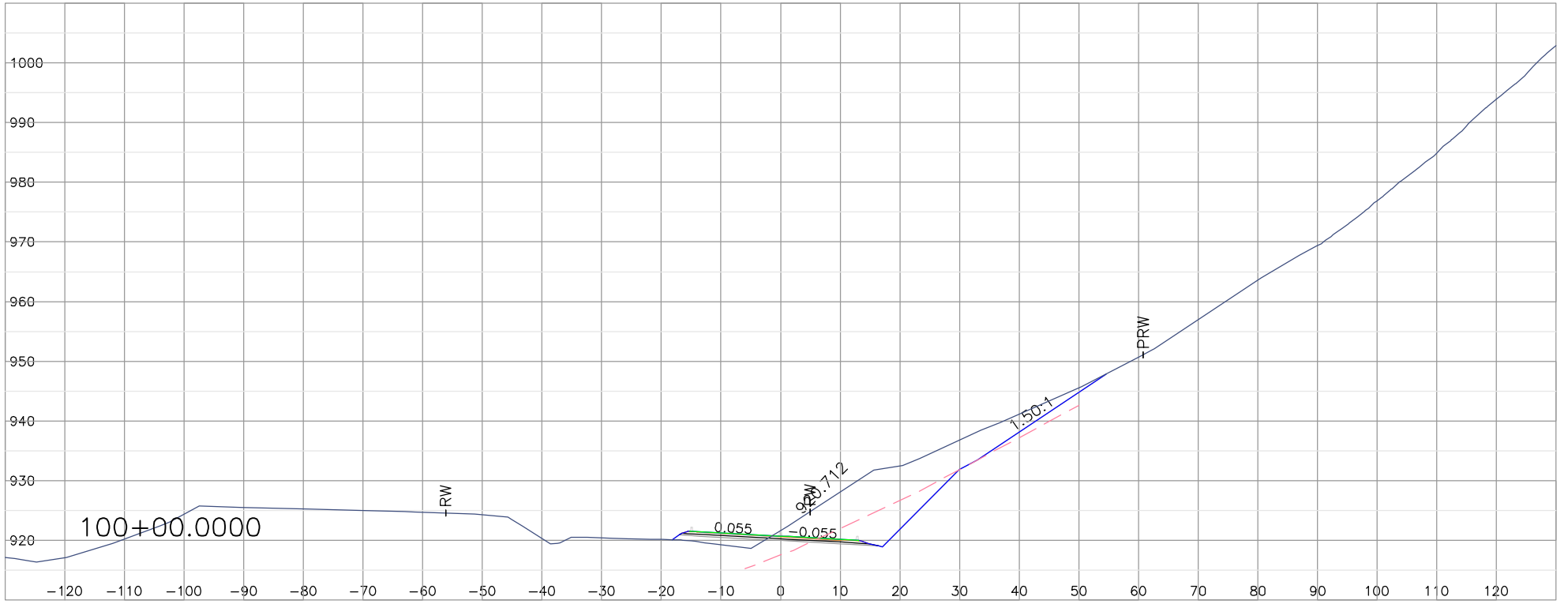
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Geometry Chain: L100D2  
Design Profile: L100DP2

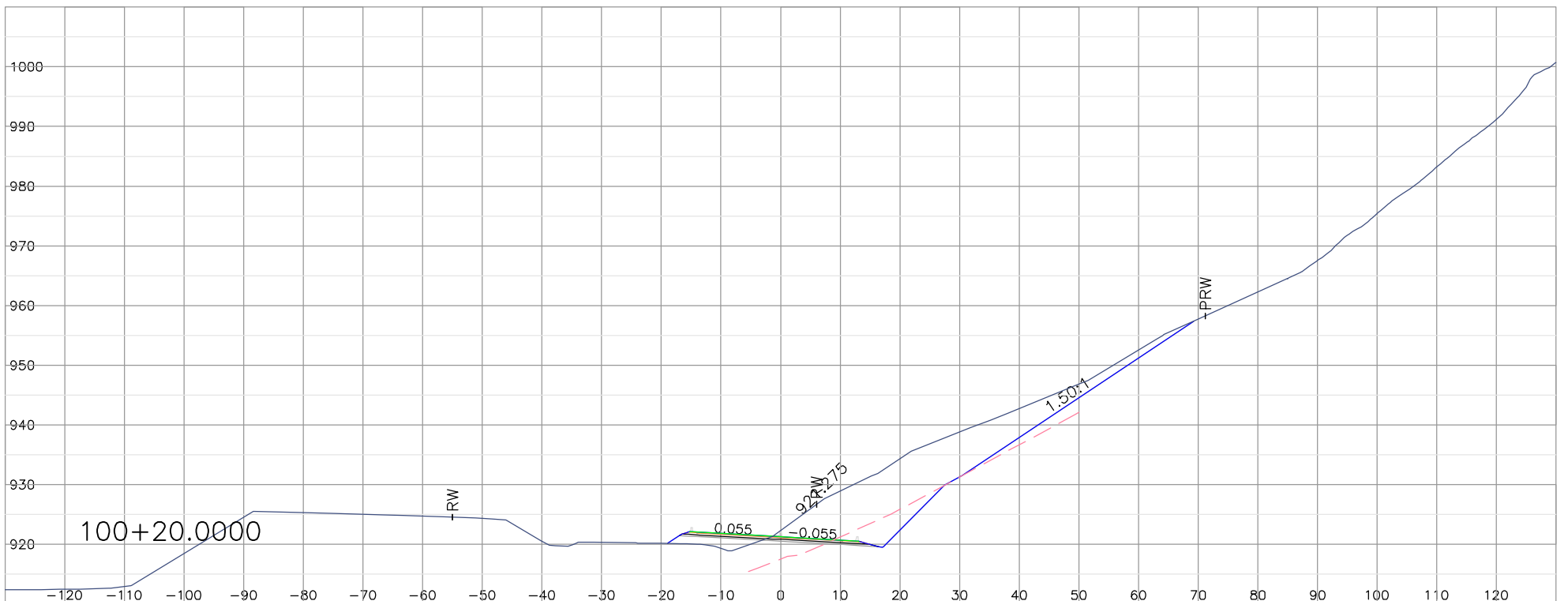
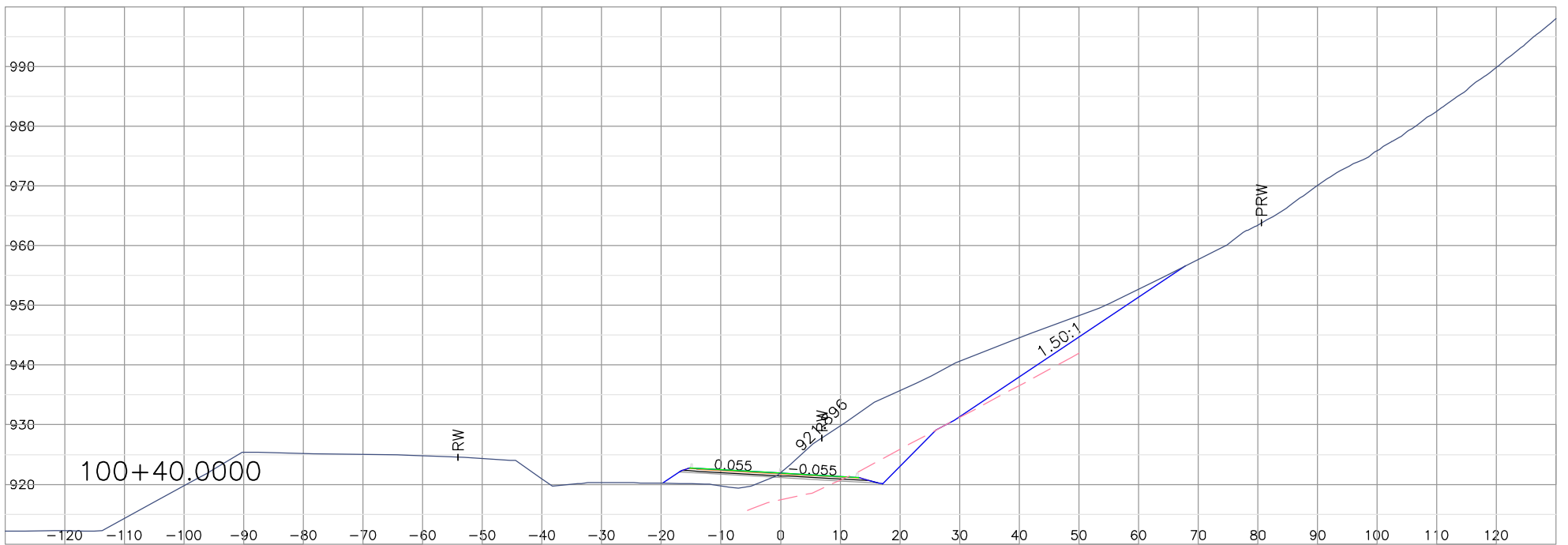
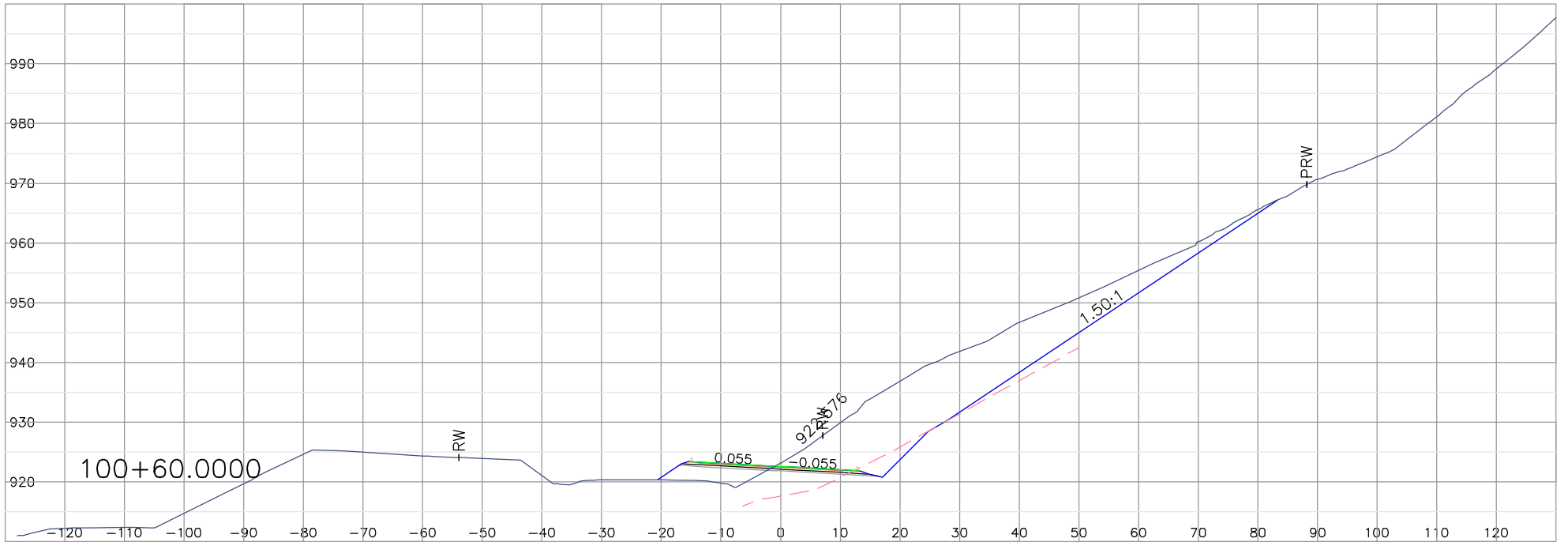






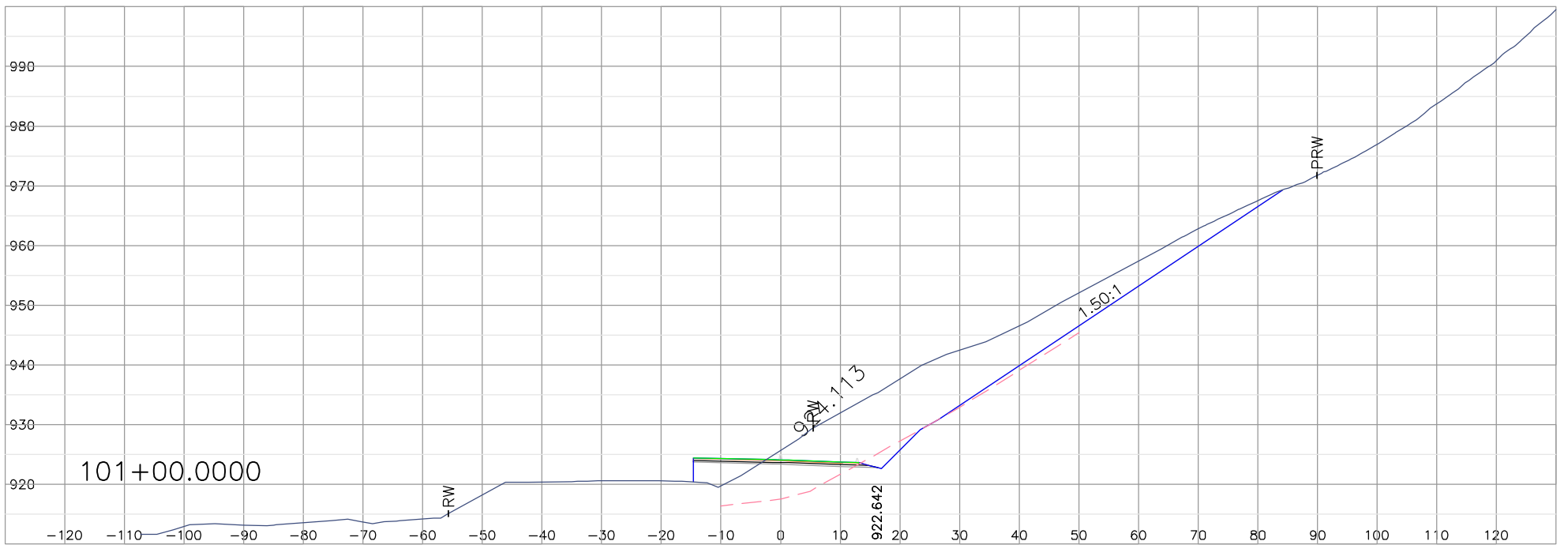
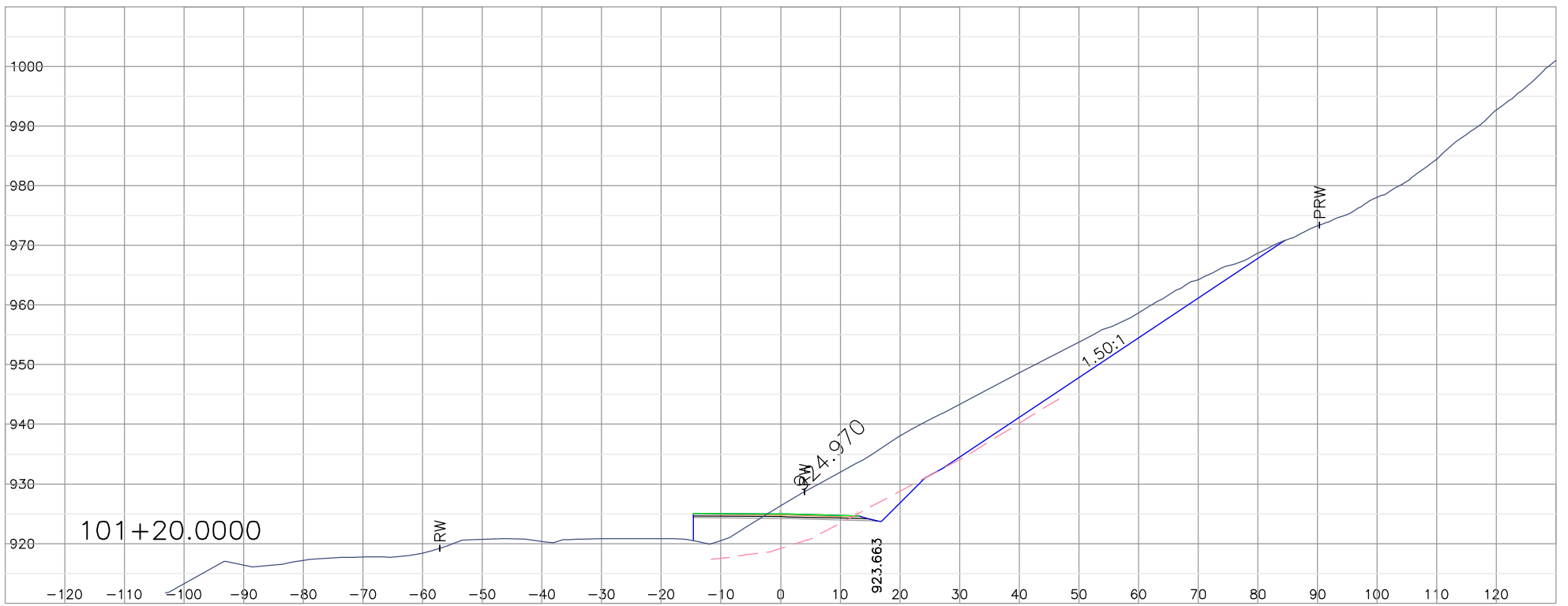
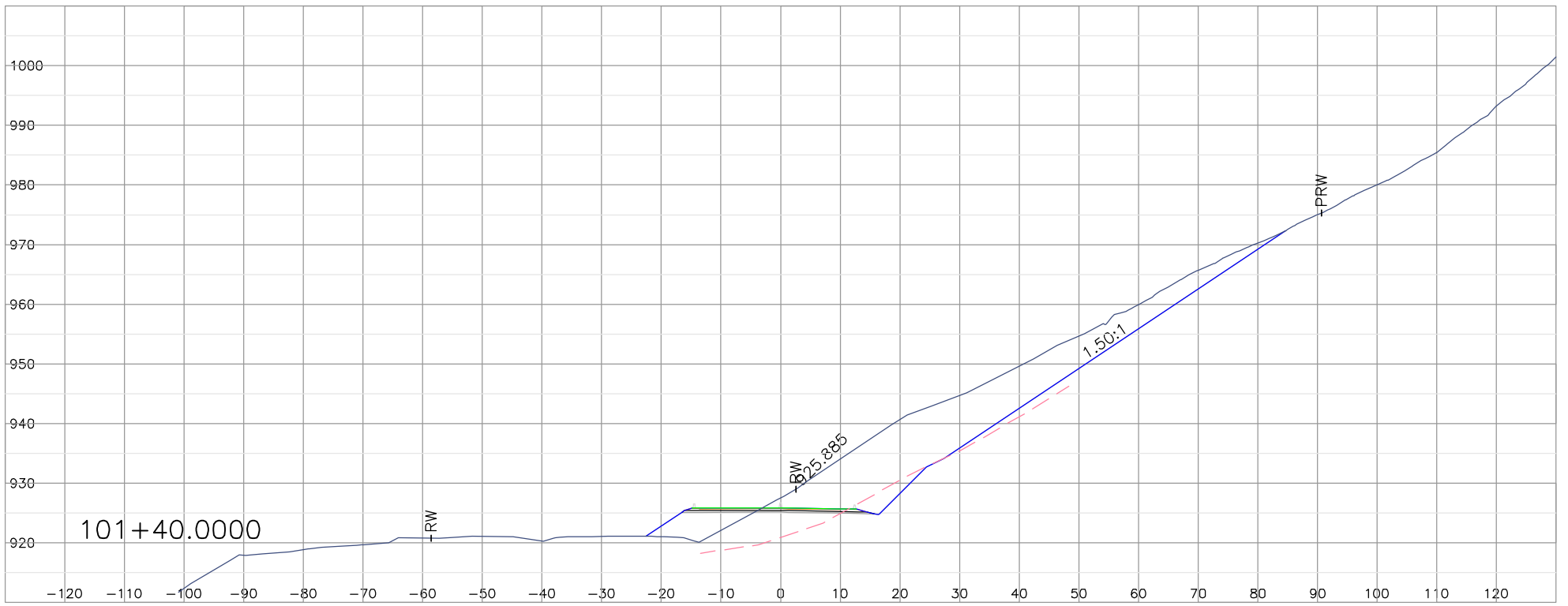
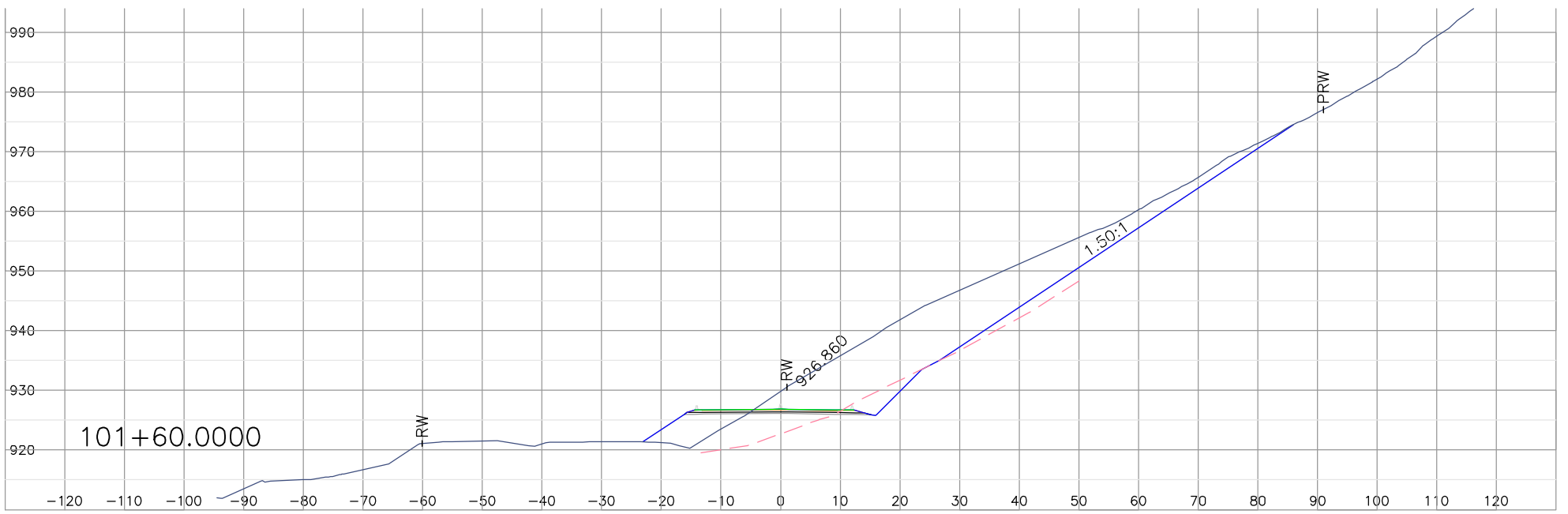


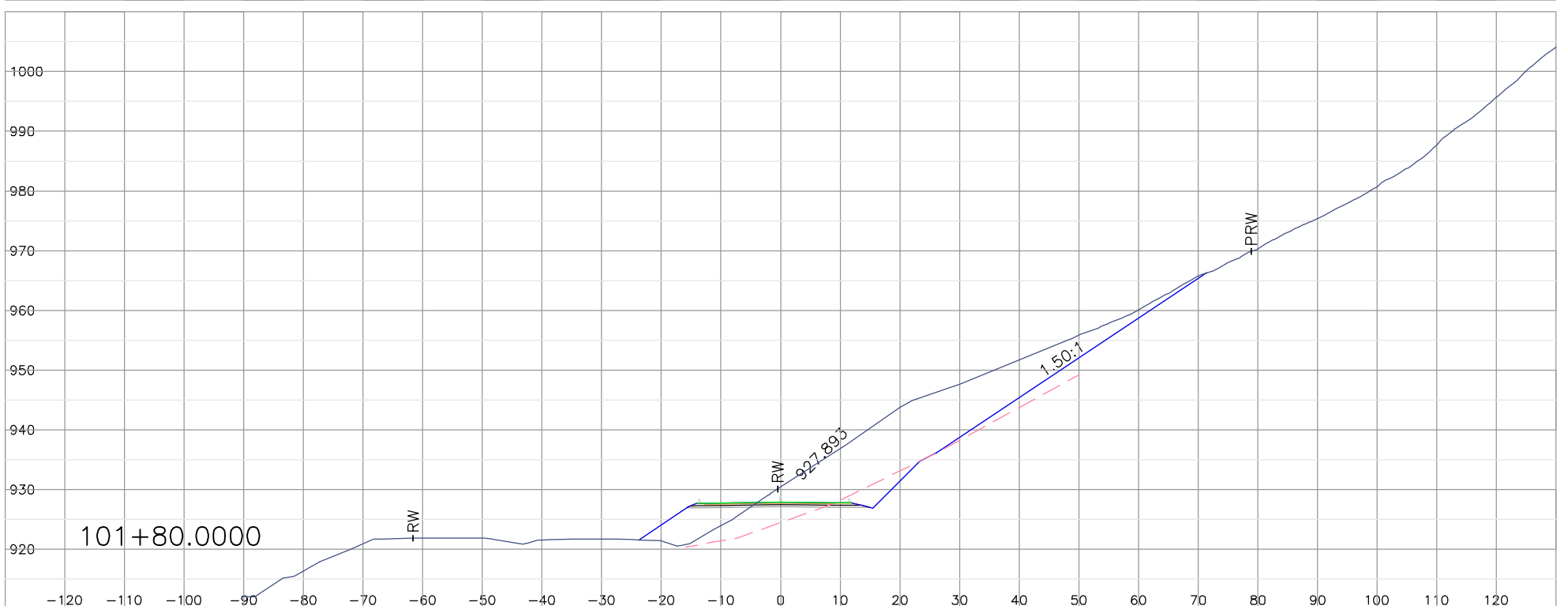
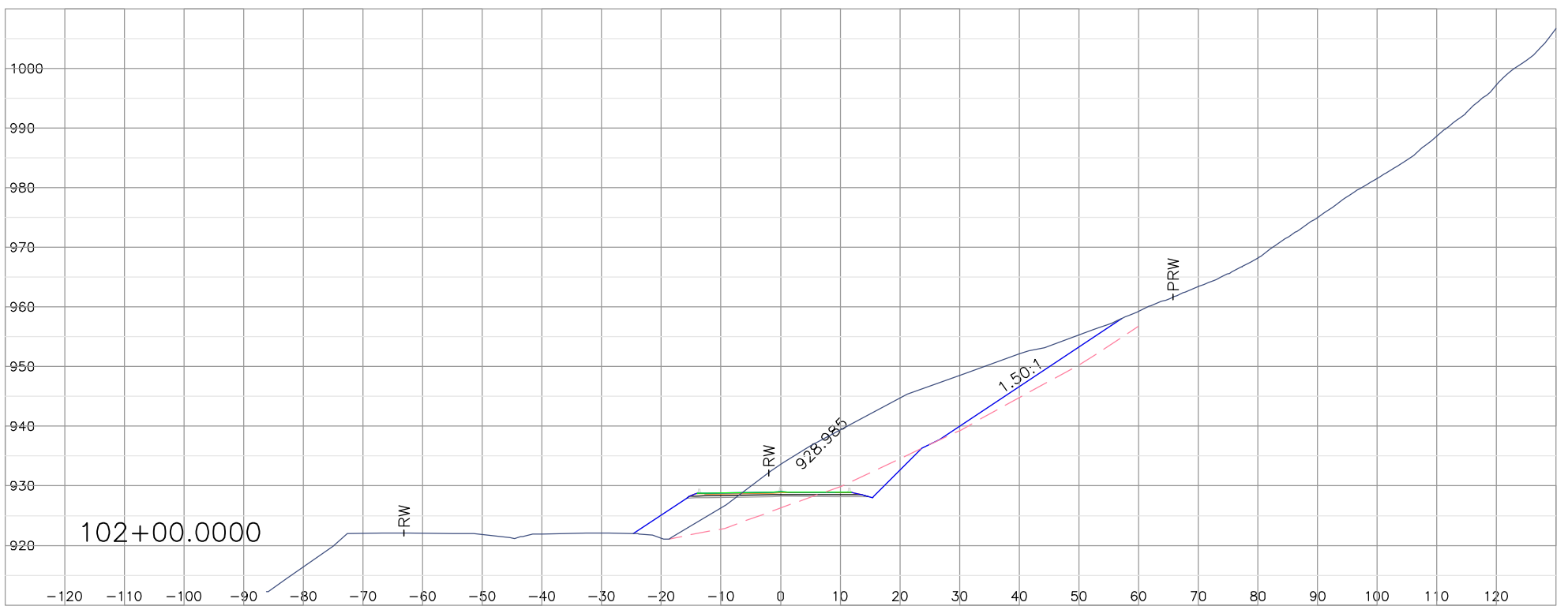
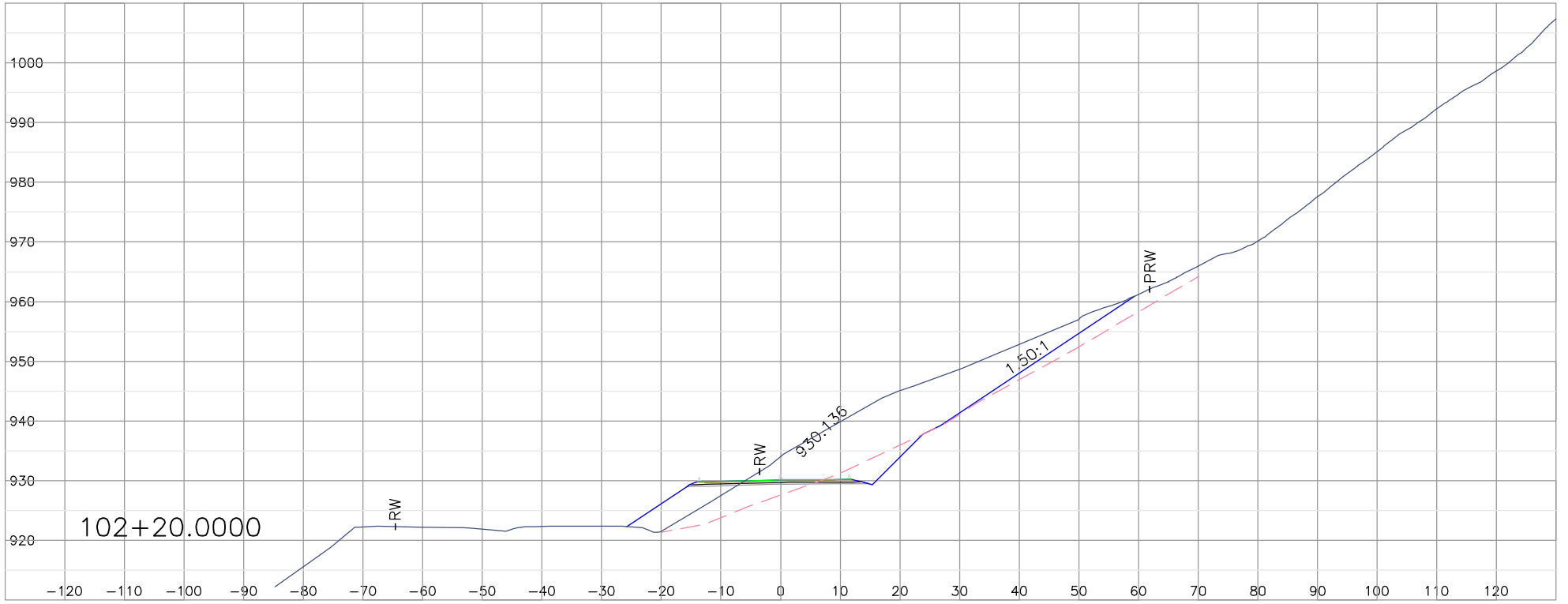


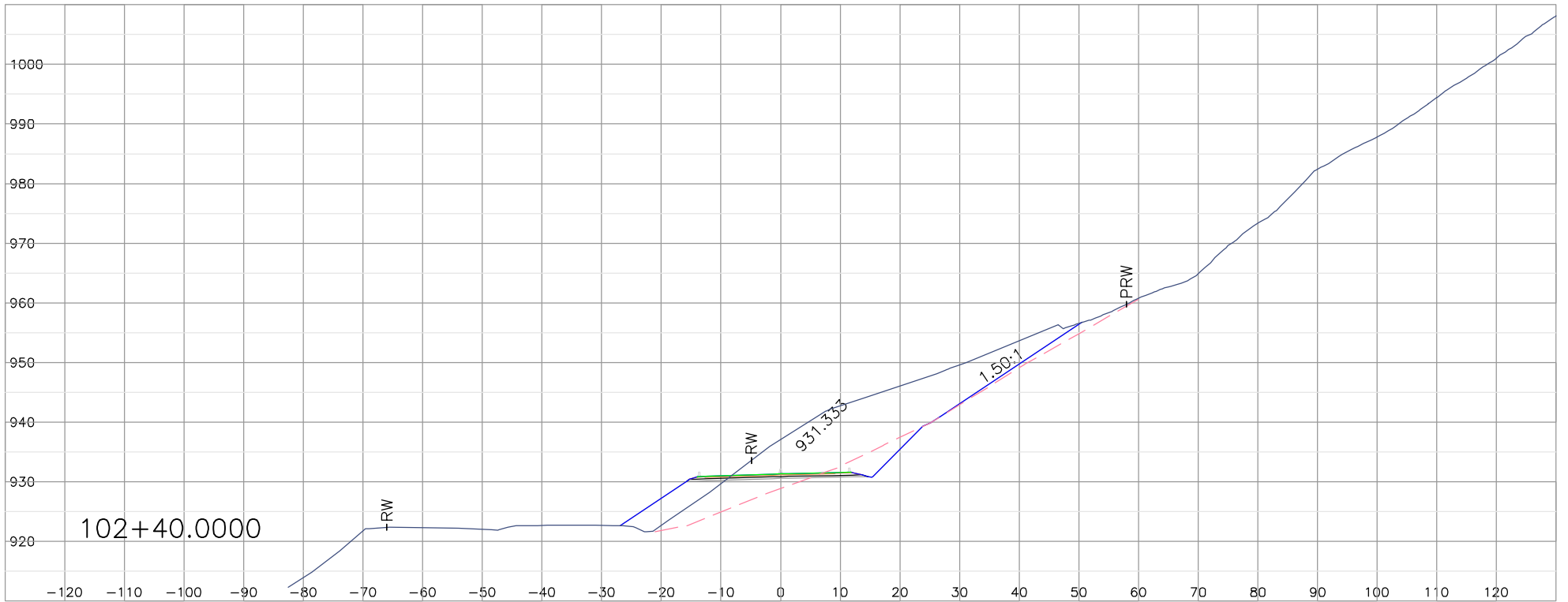
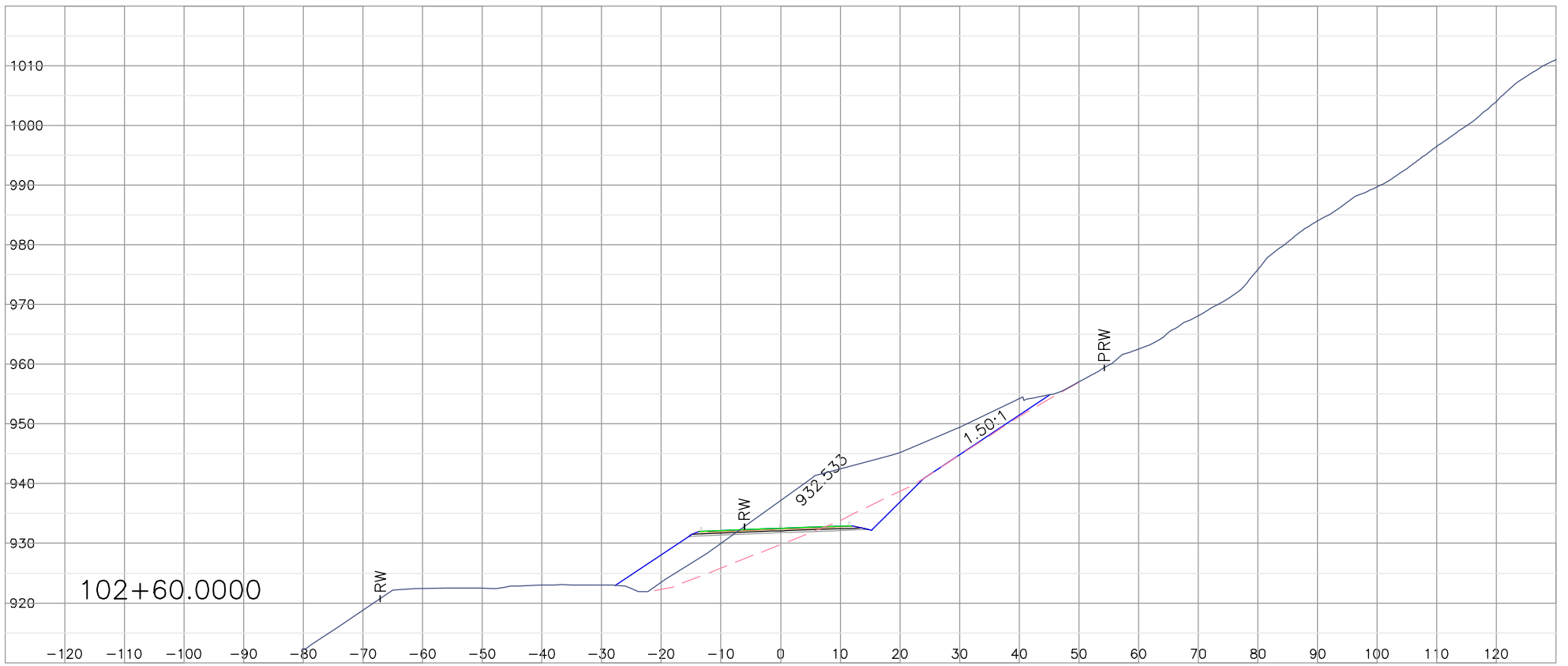
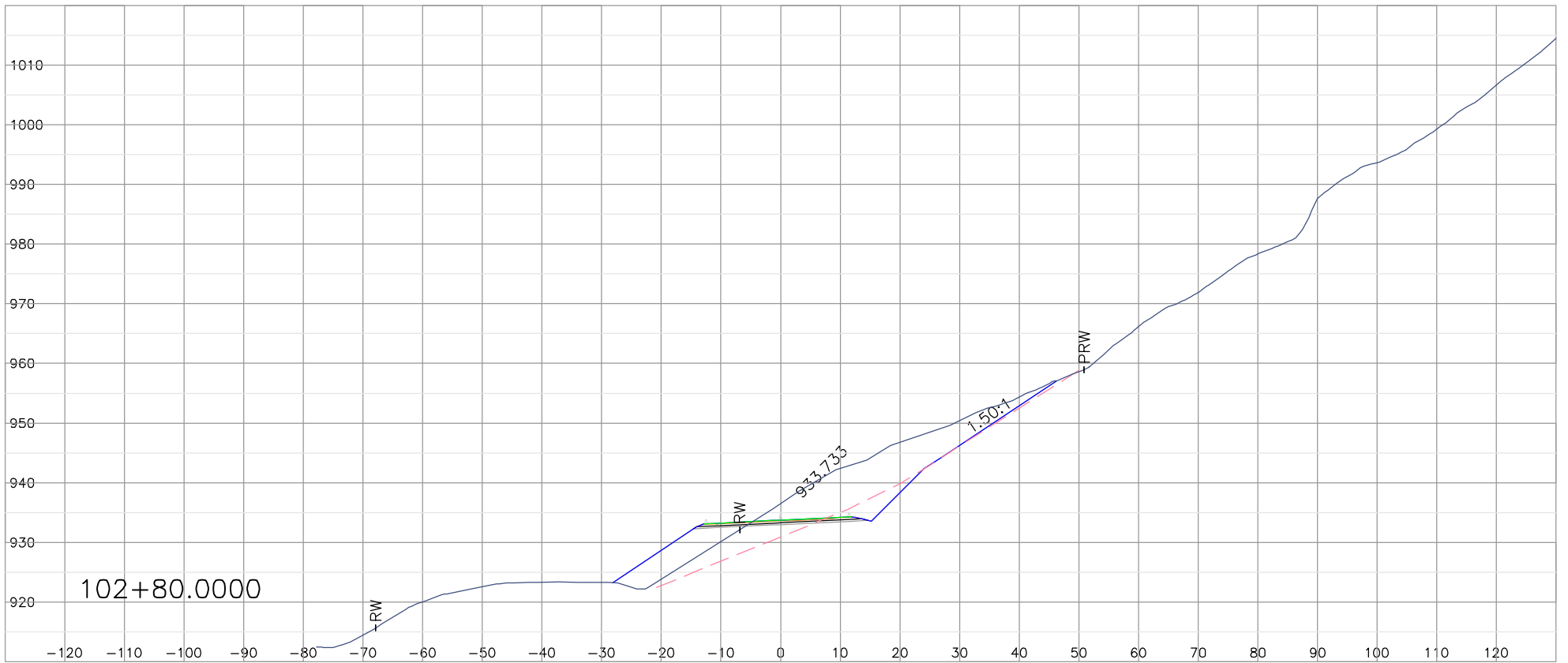


TPHG Proposed Alignment  
07-14-2005

CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2



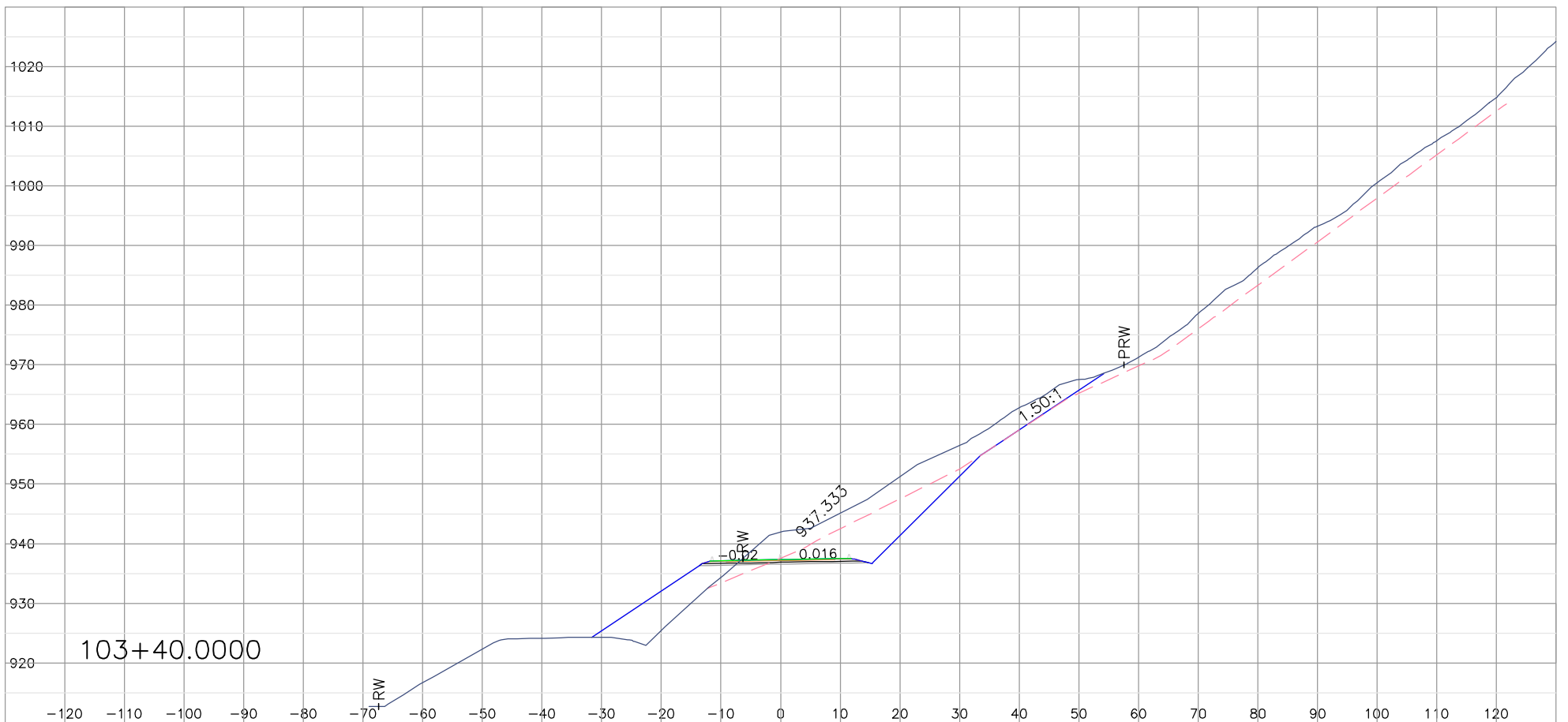


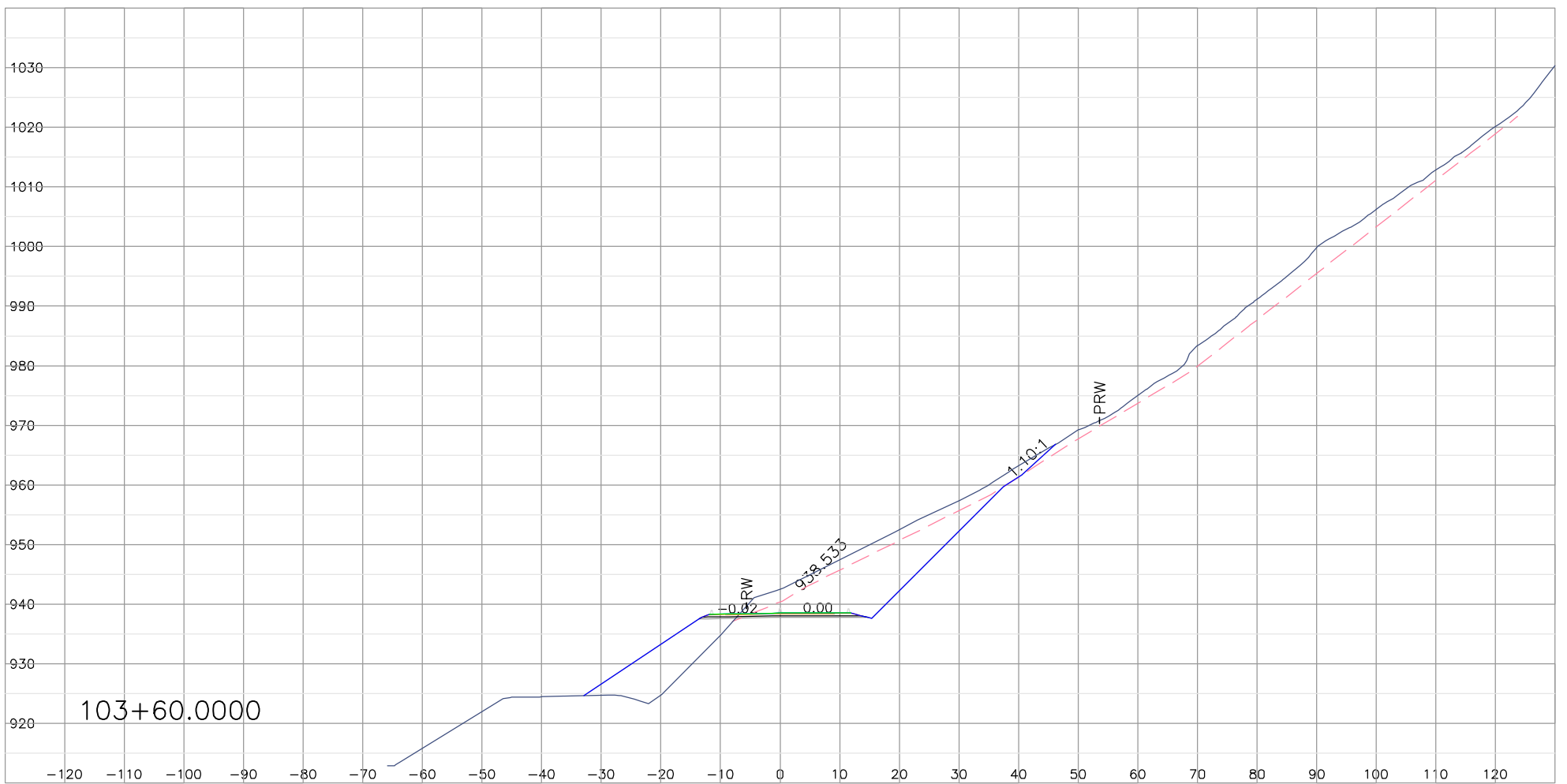
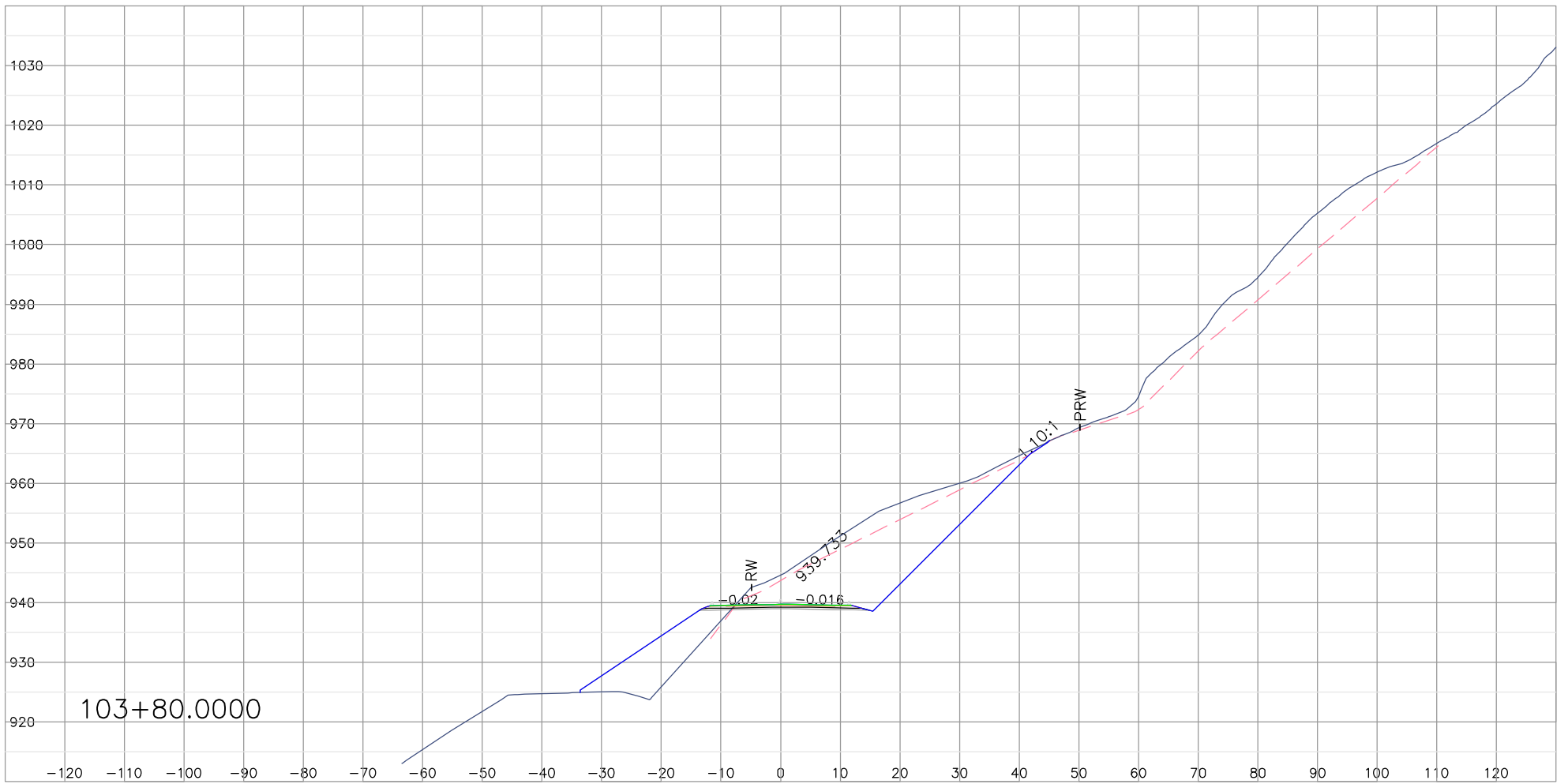


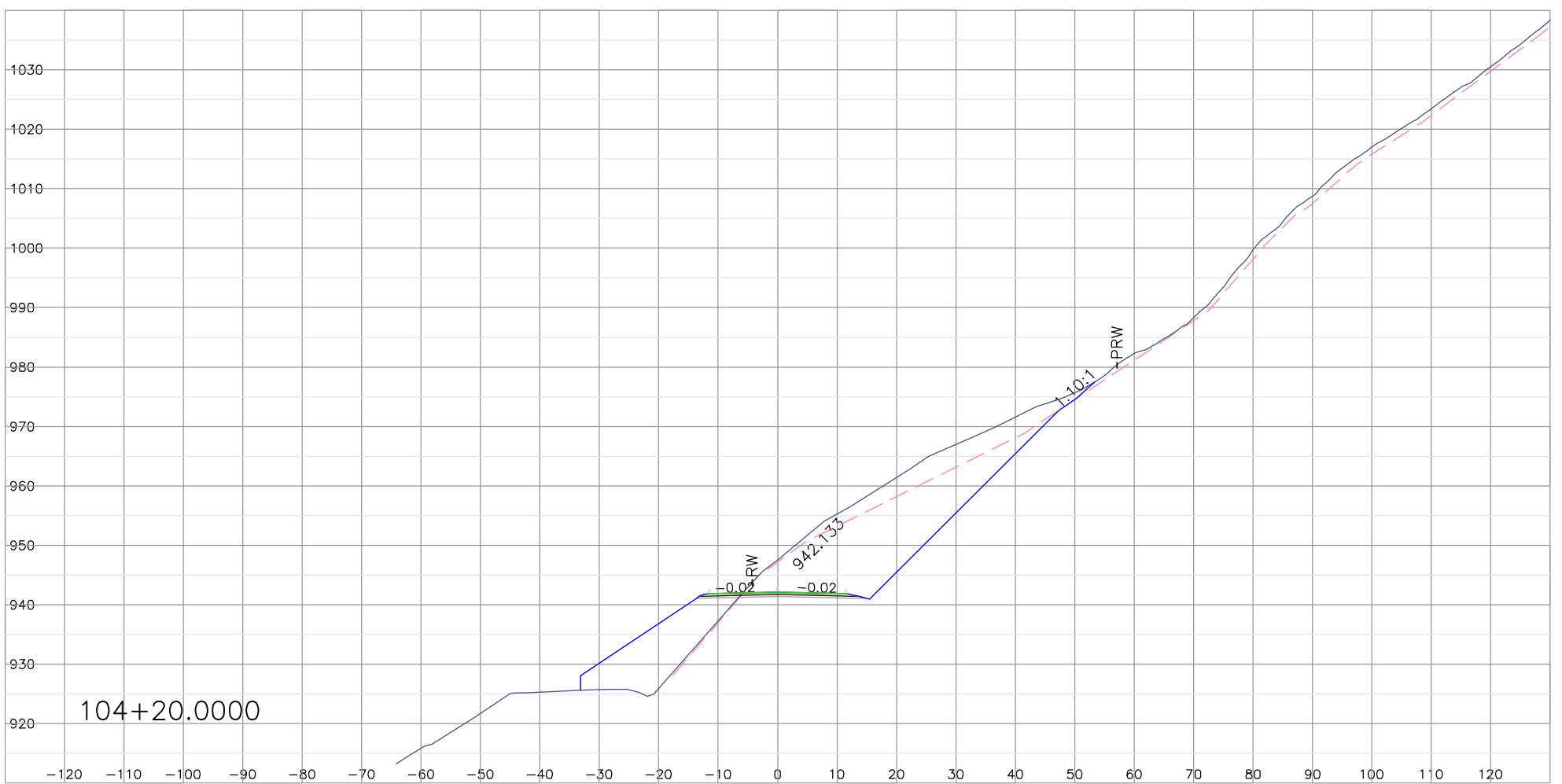
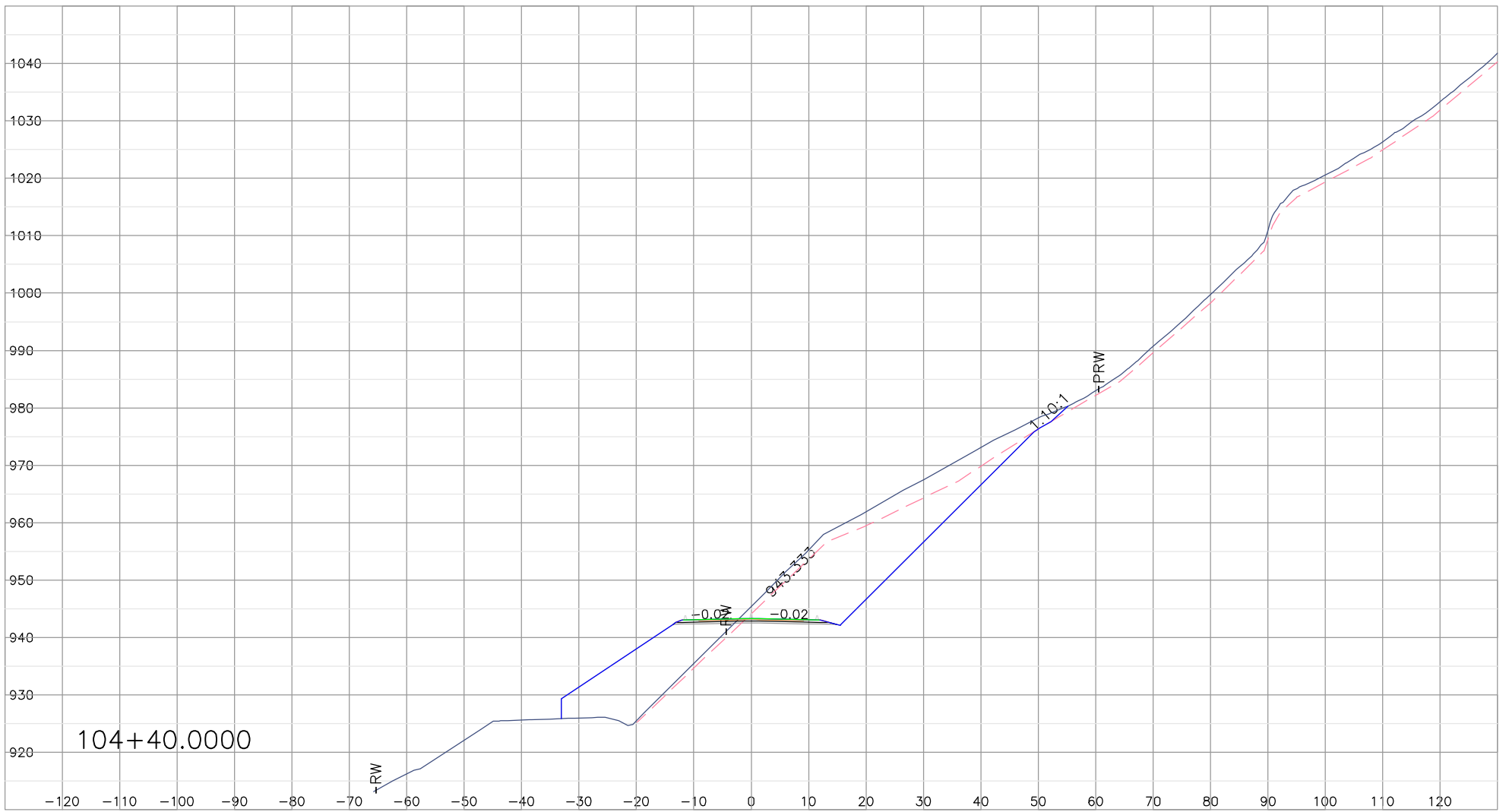
TPHG Proposed Alignment  
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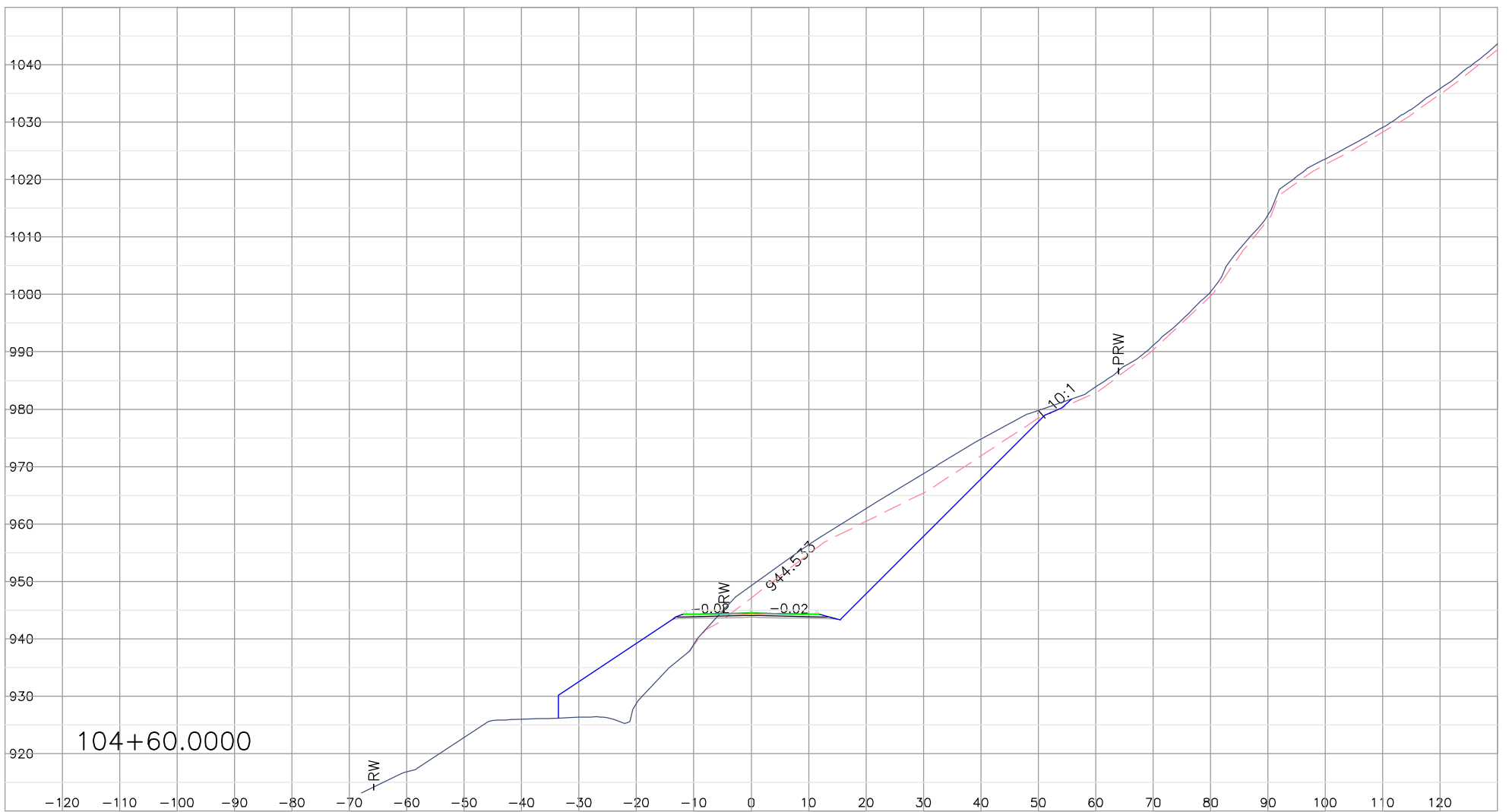
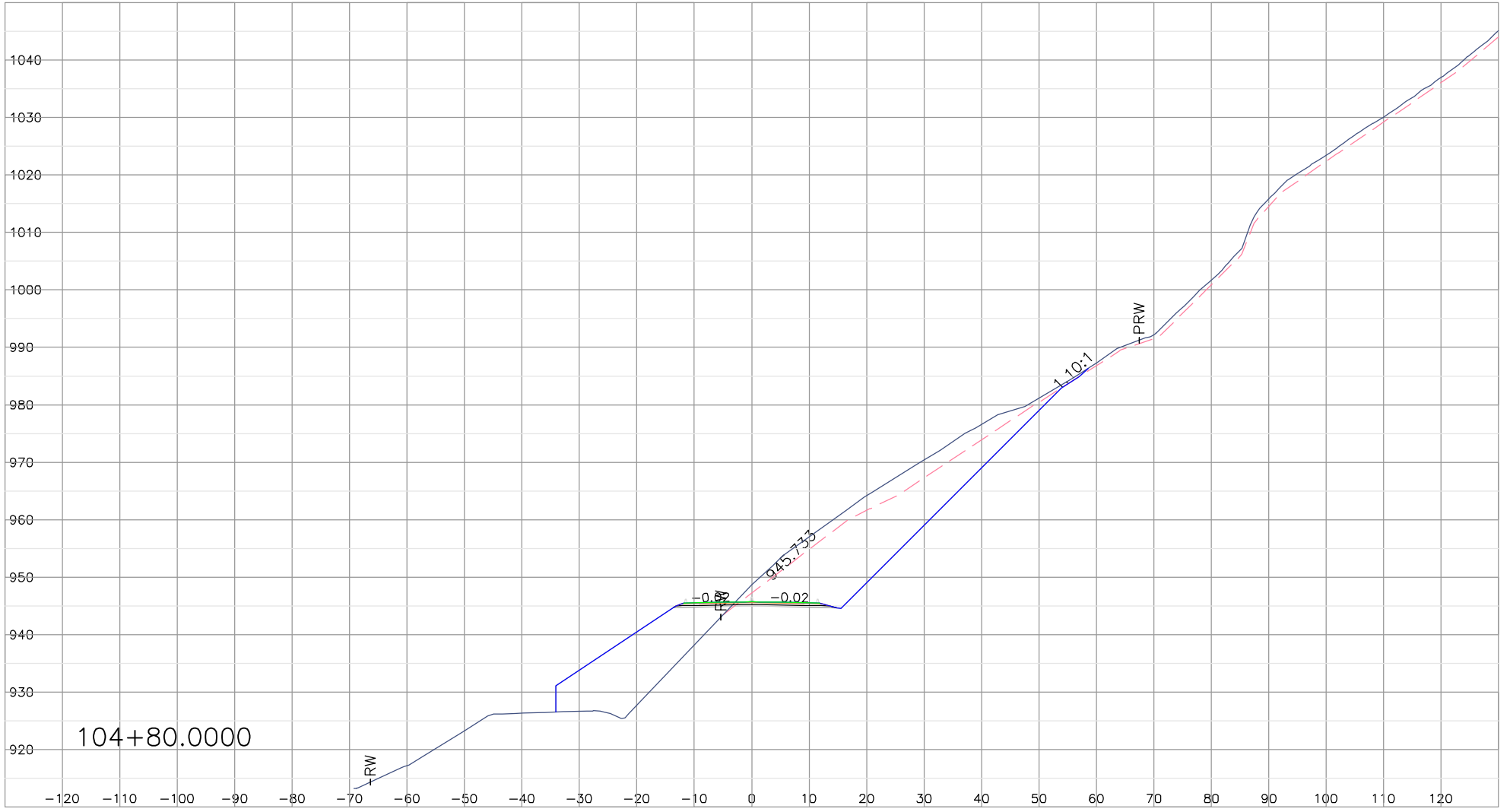
CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2

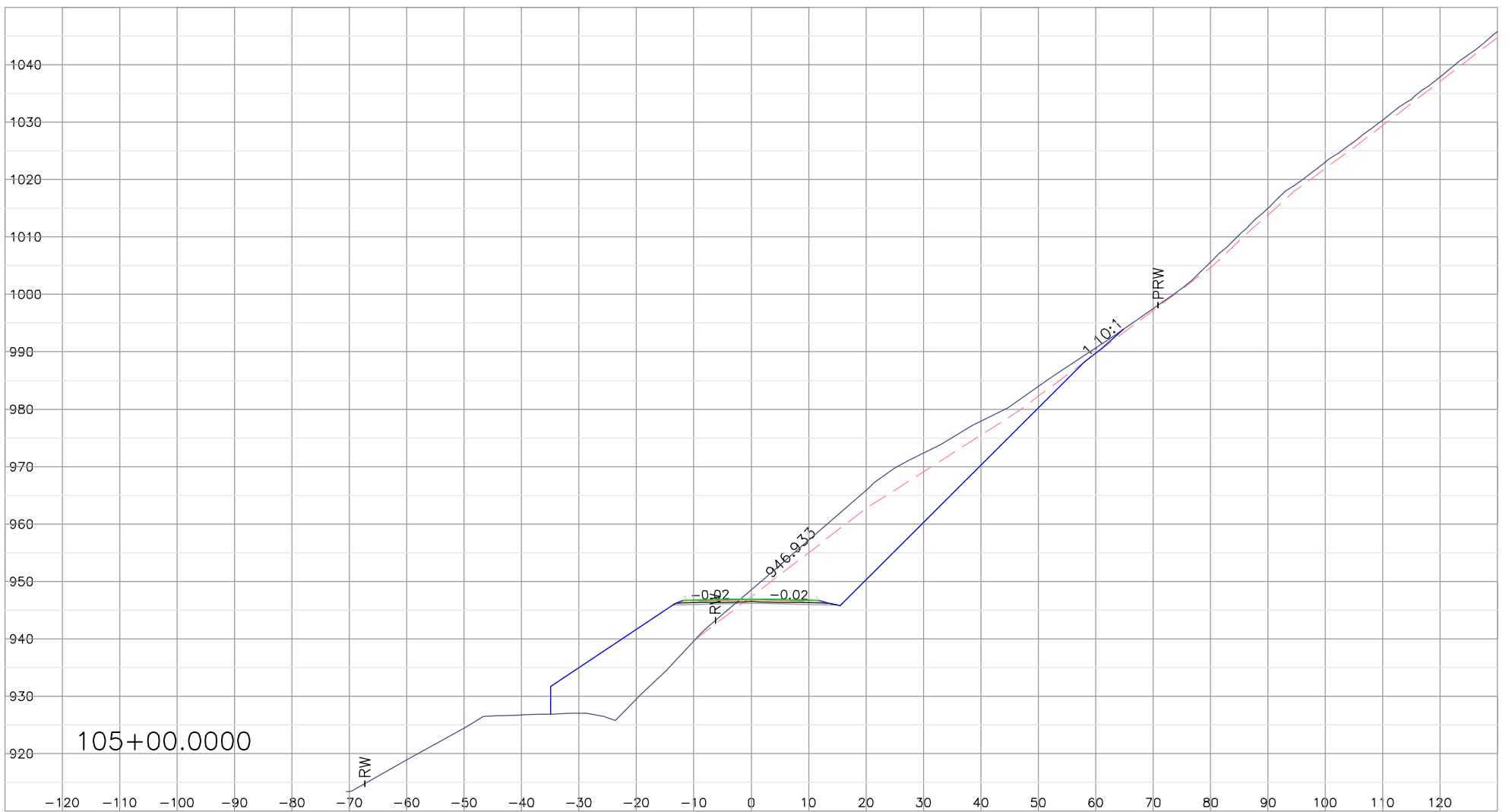
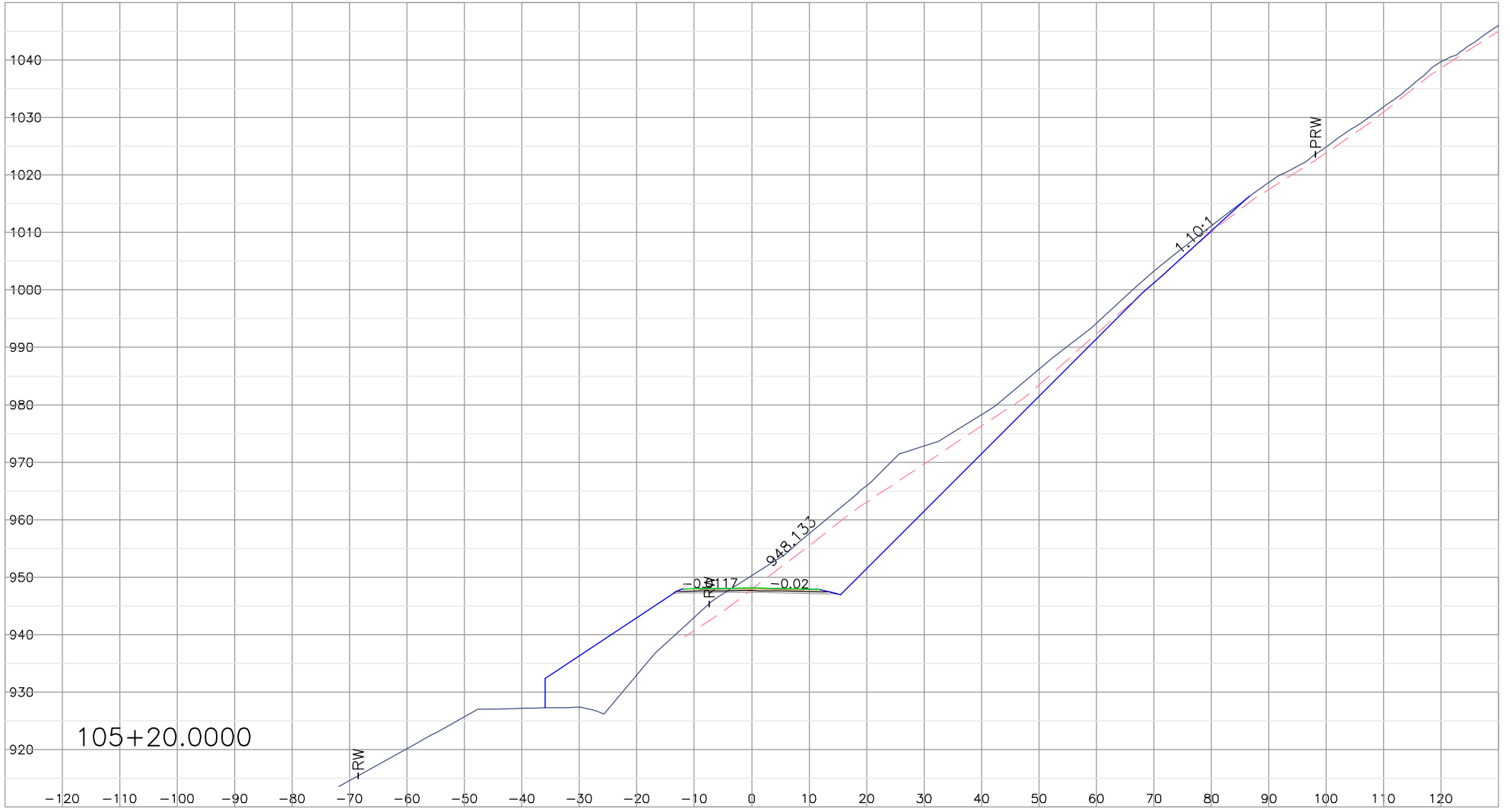


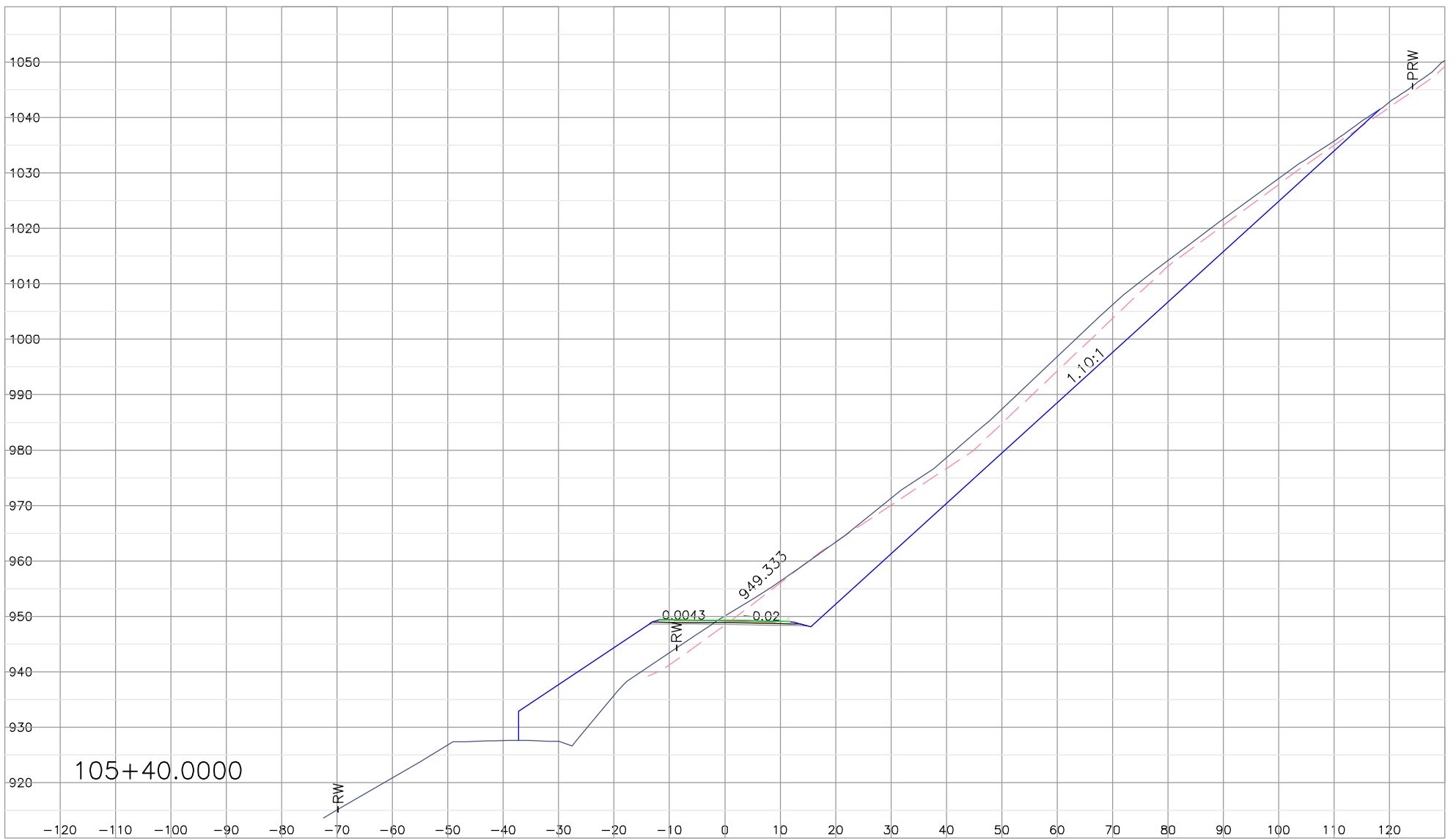
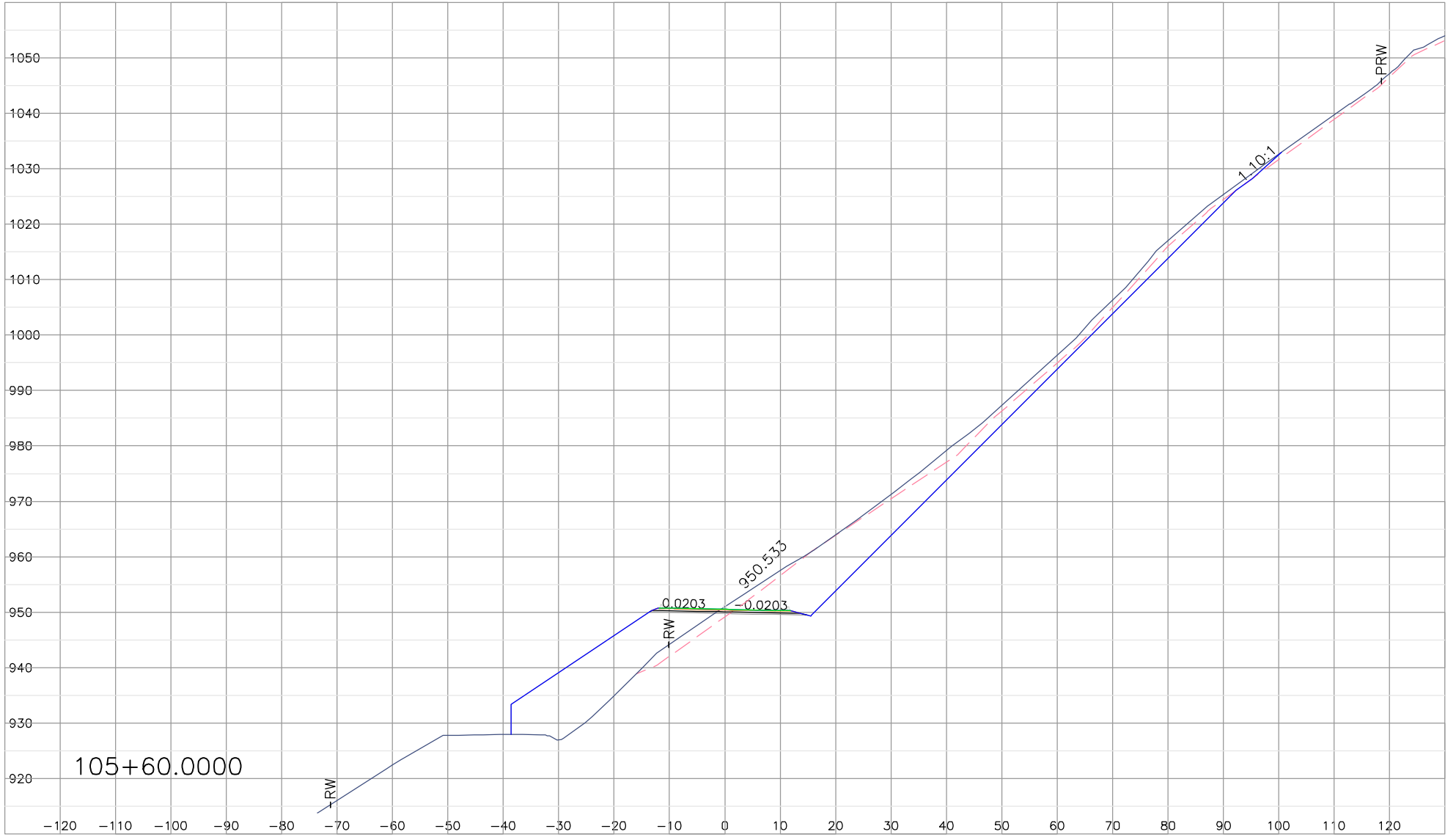




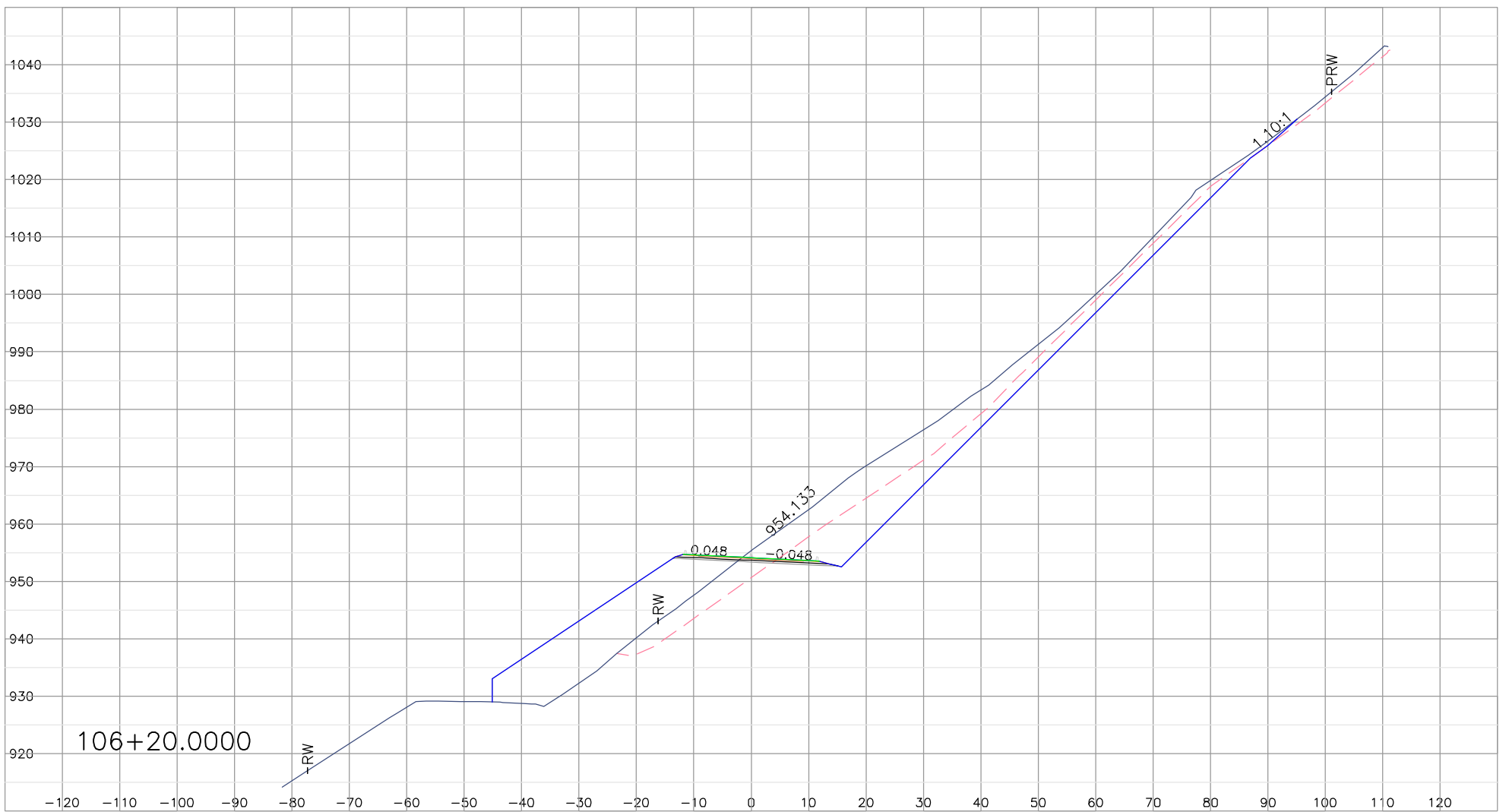
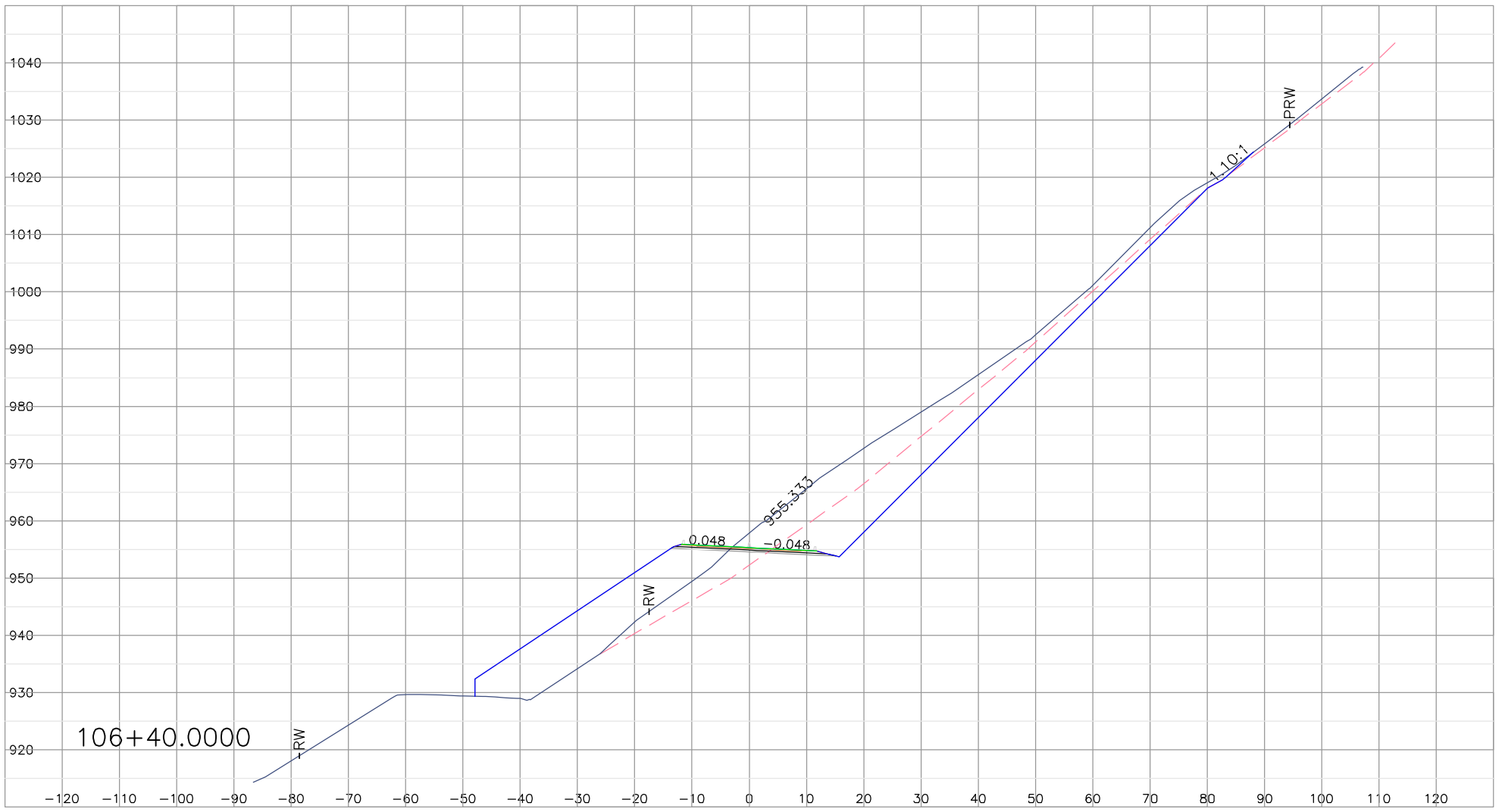




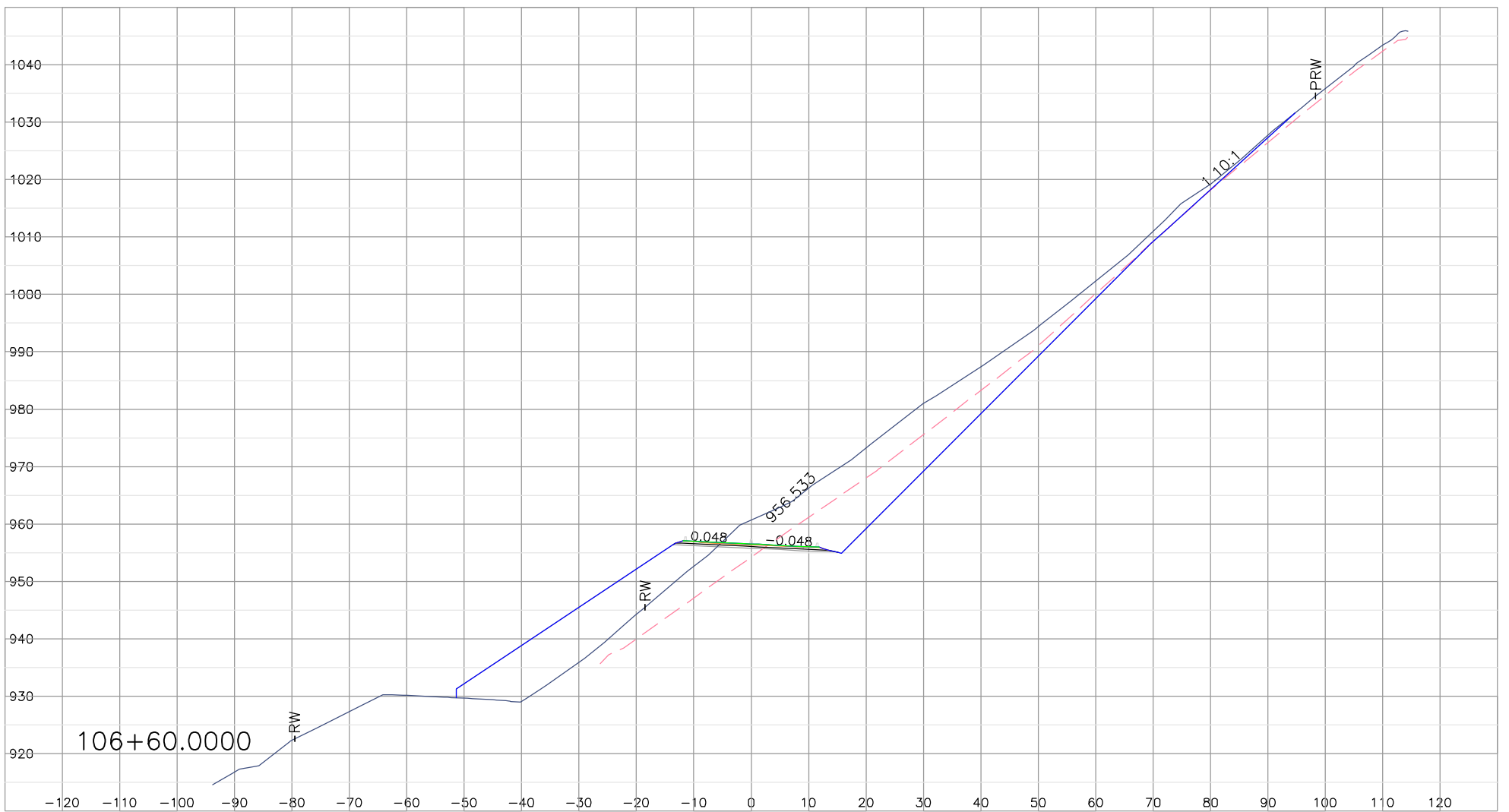
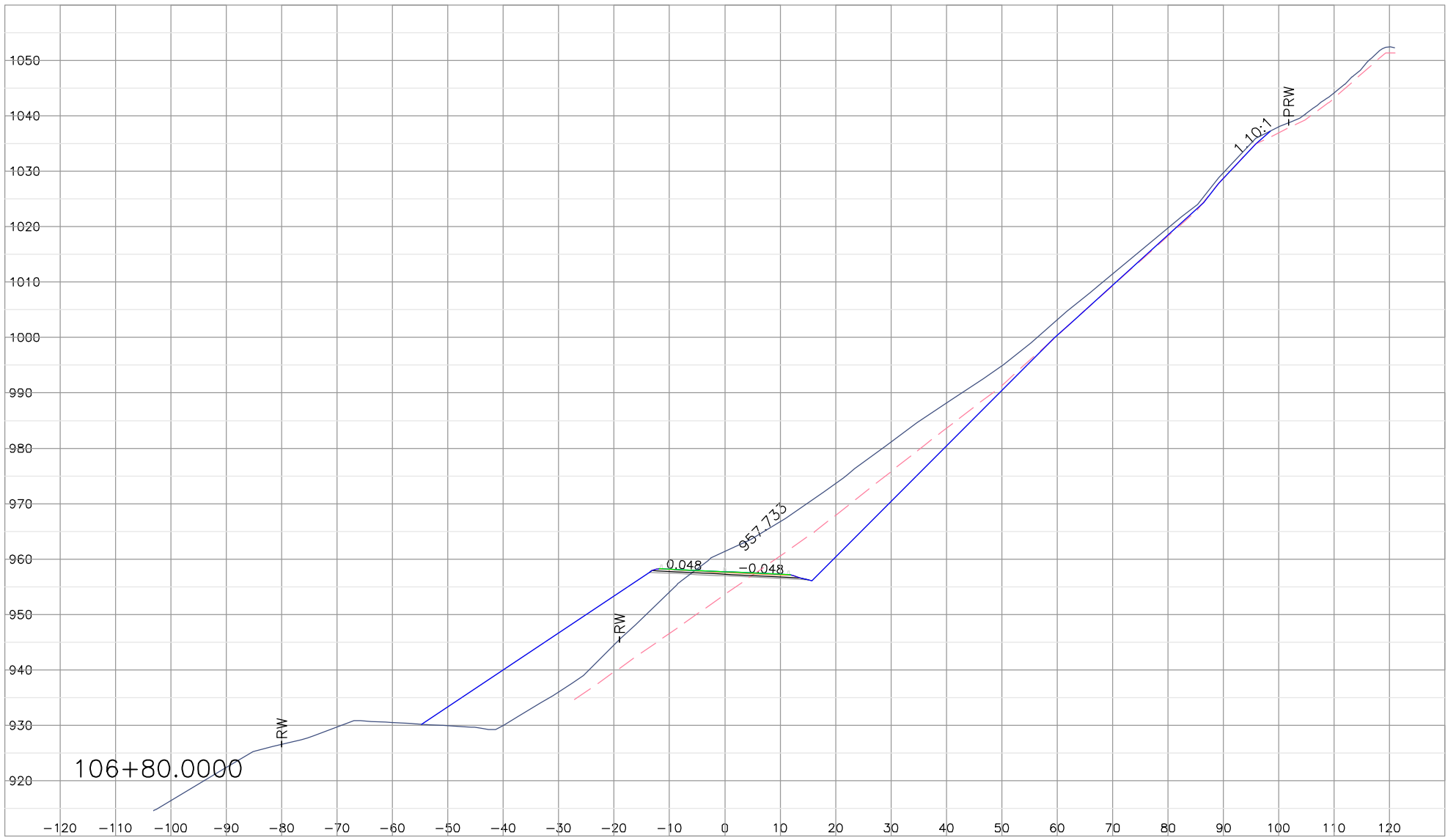


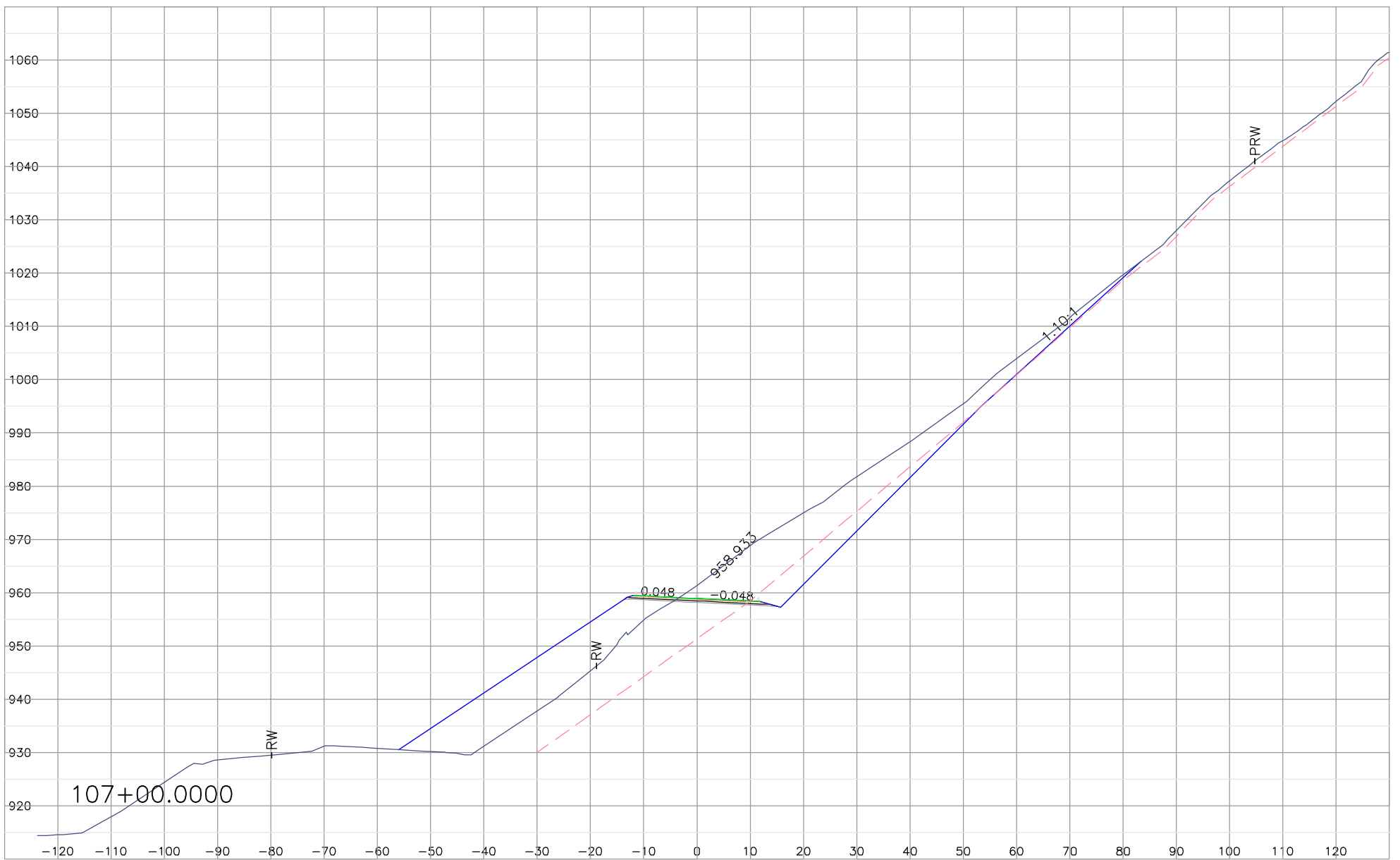
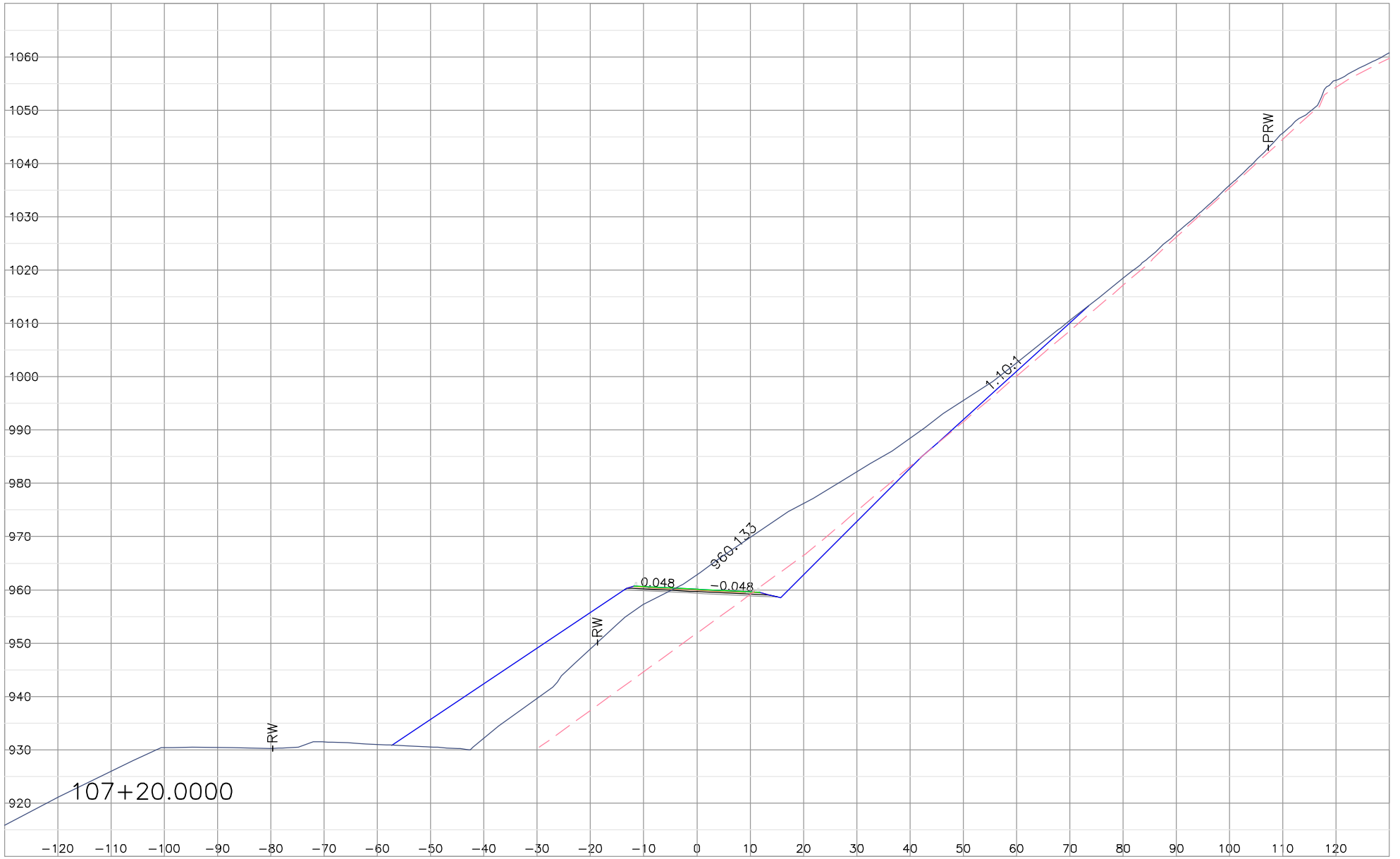




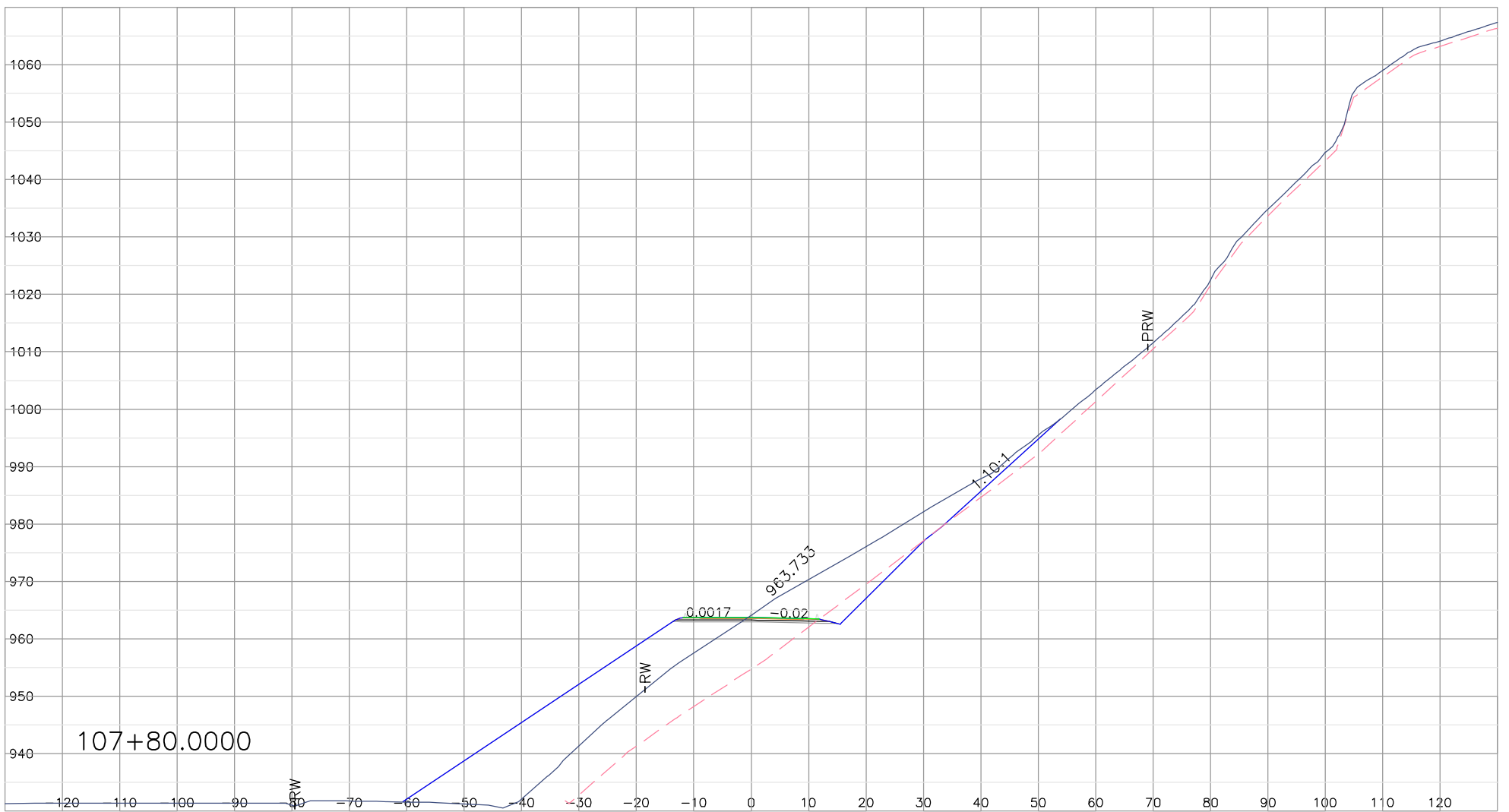
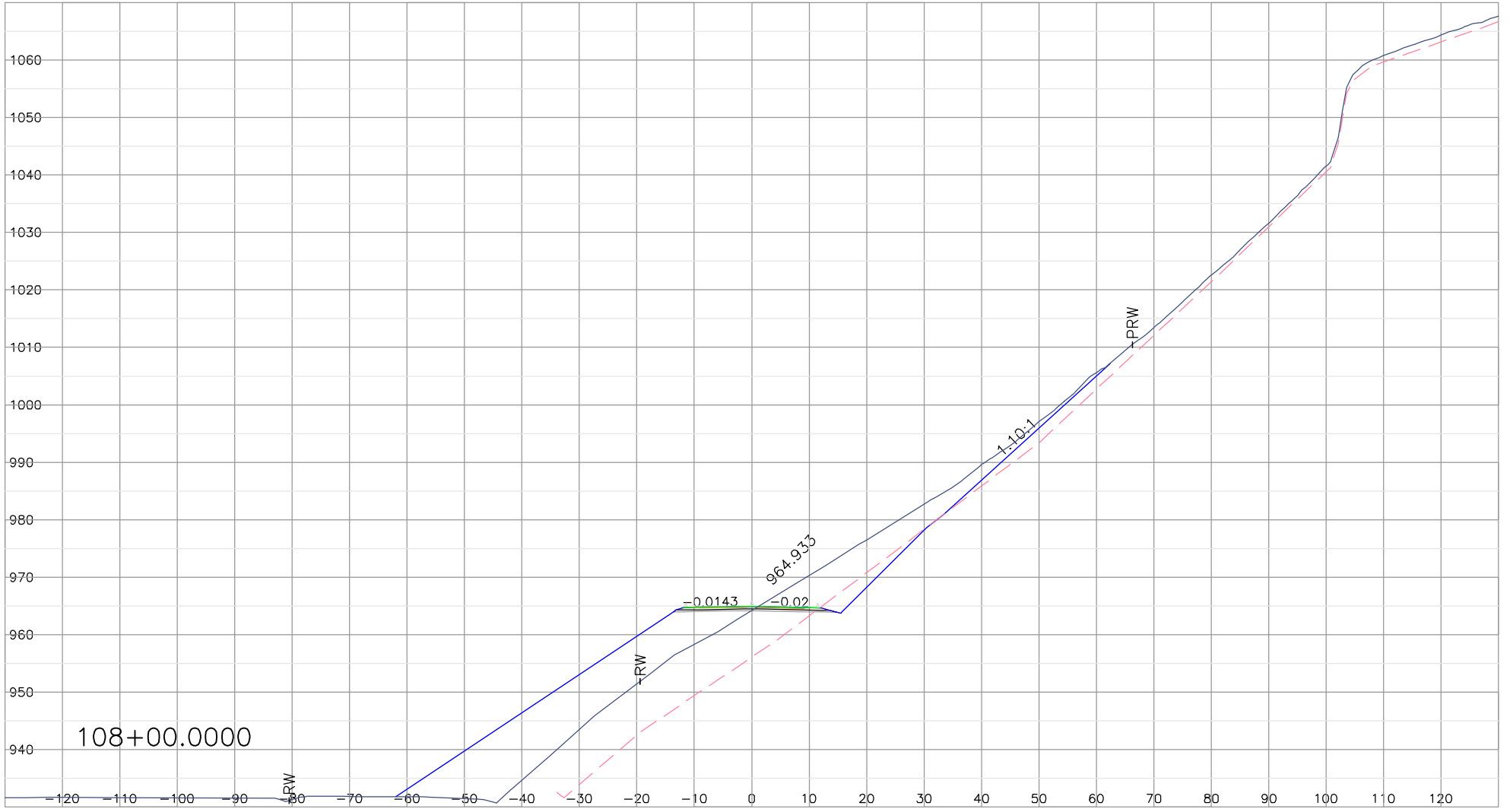






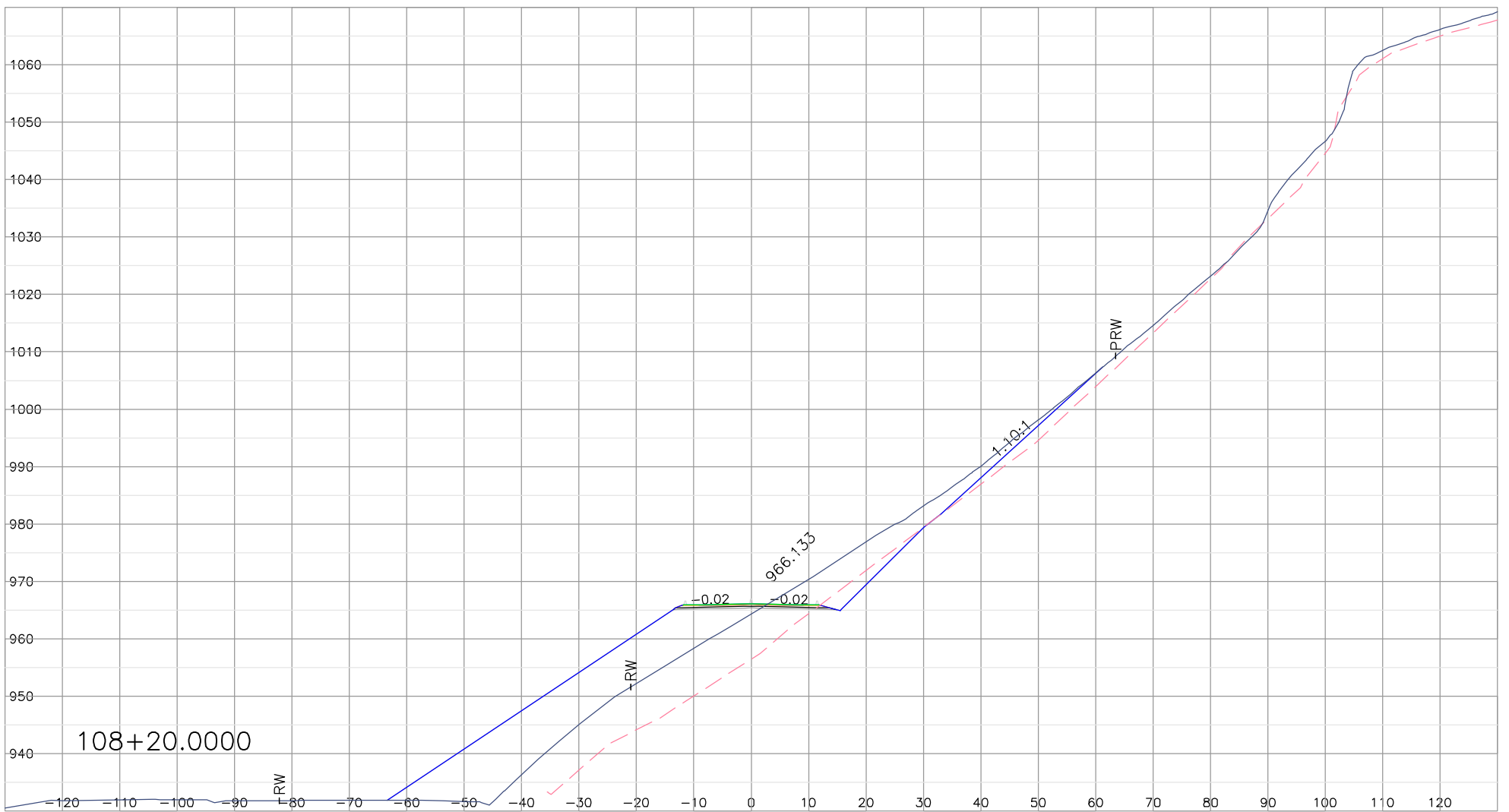
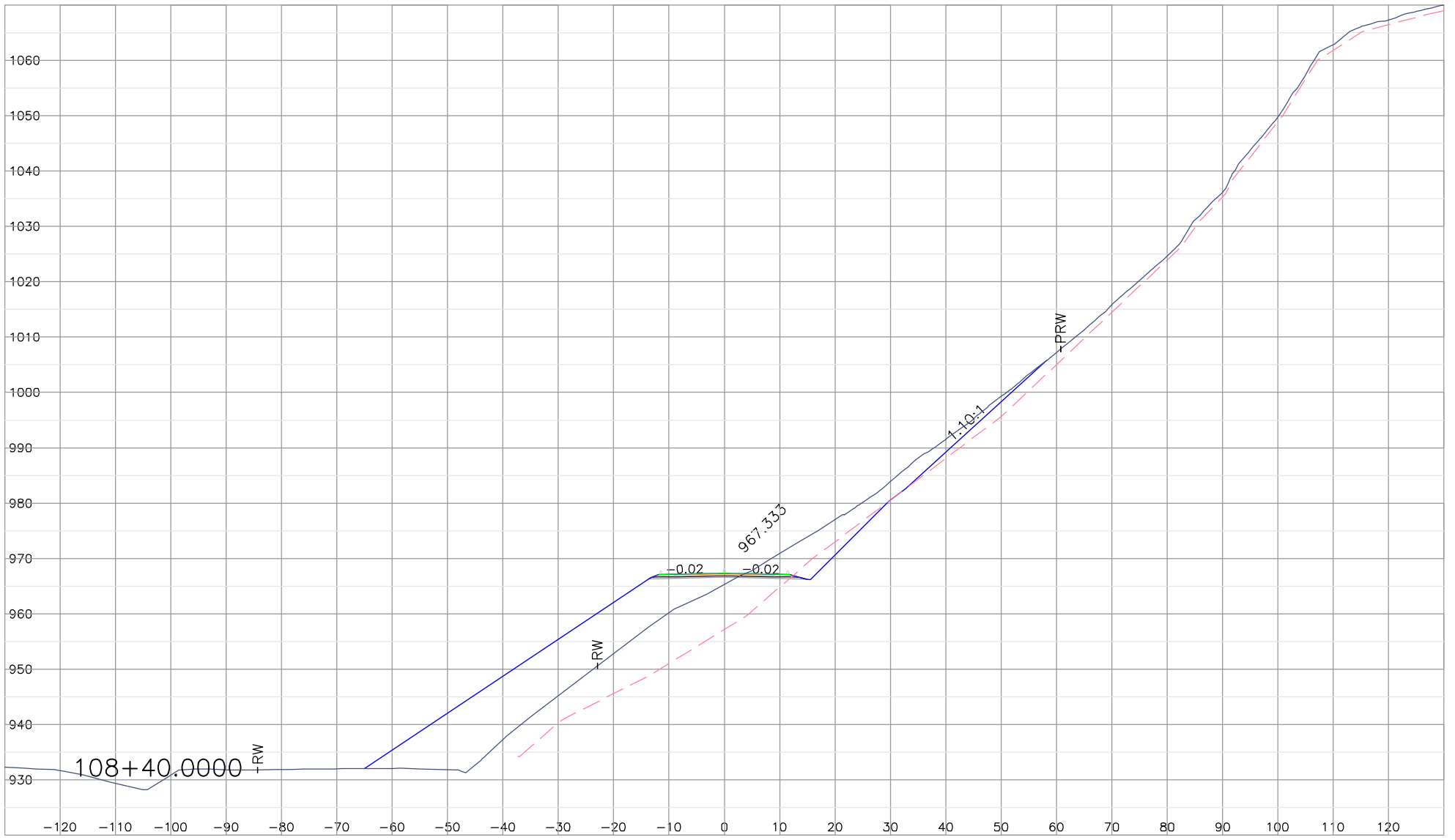


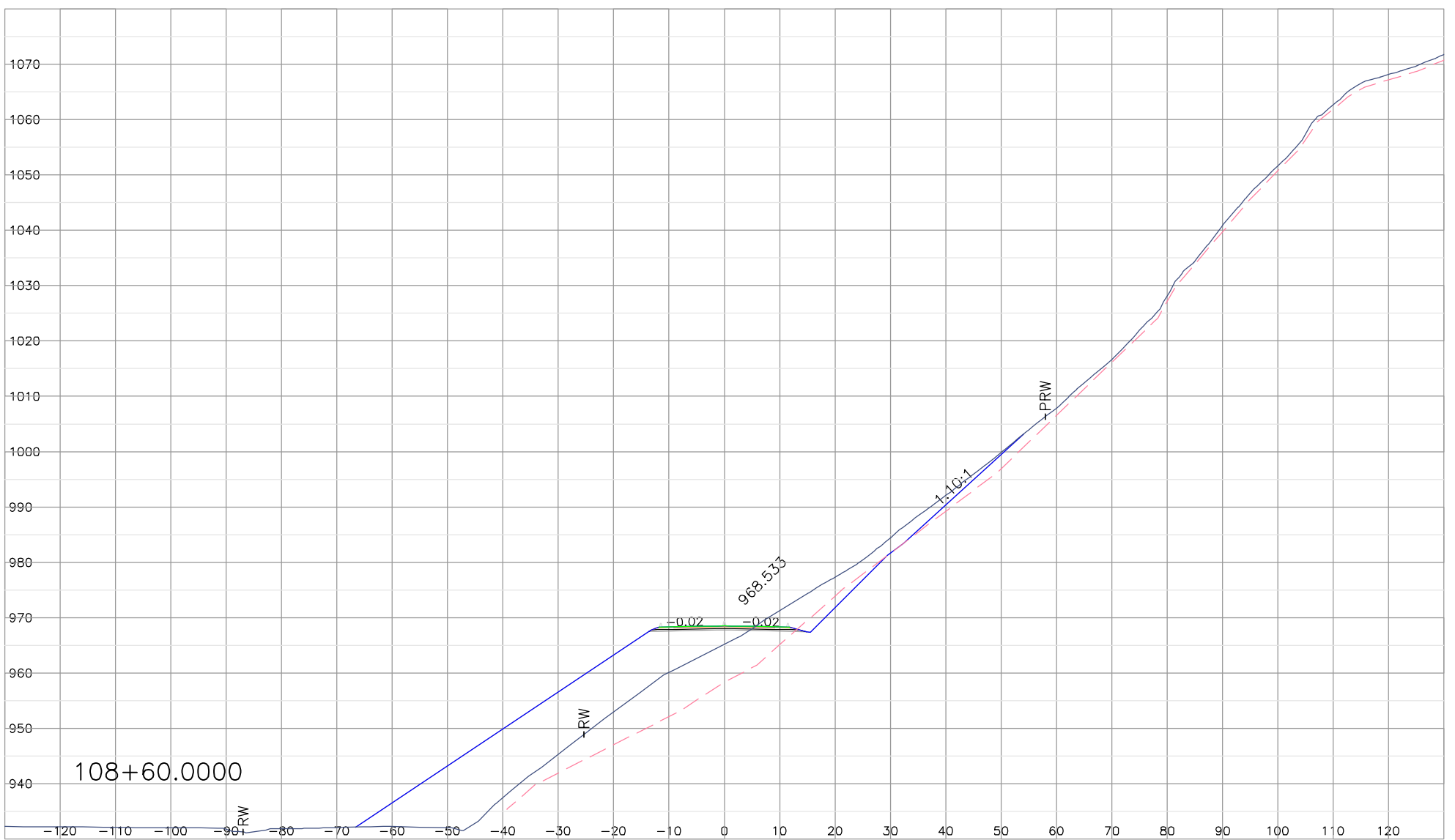
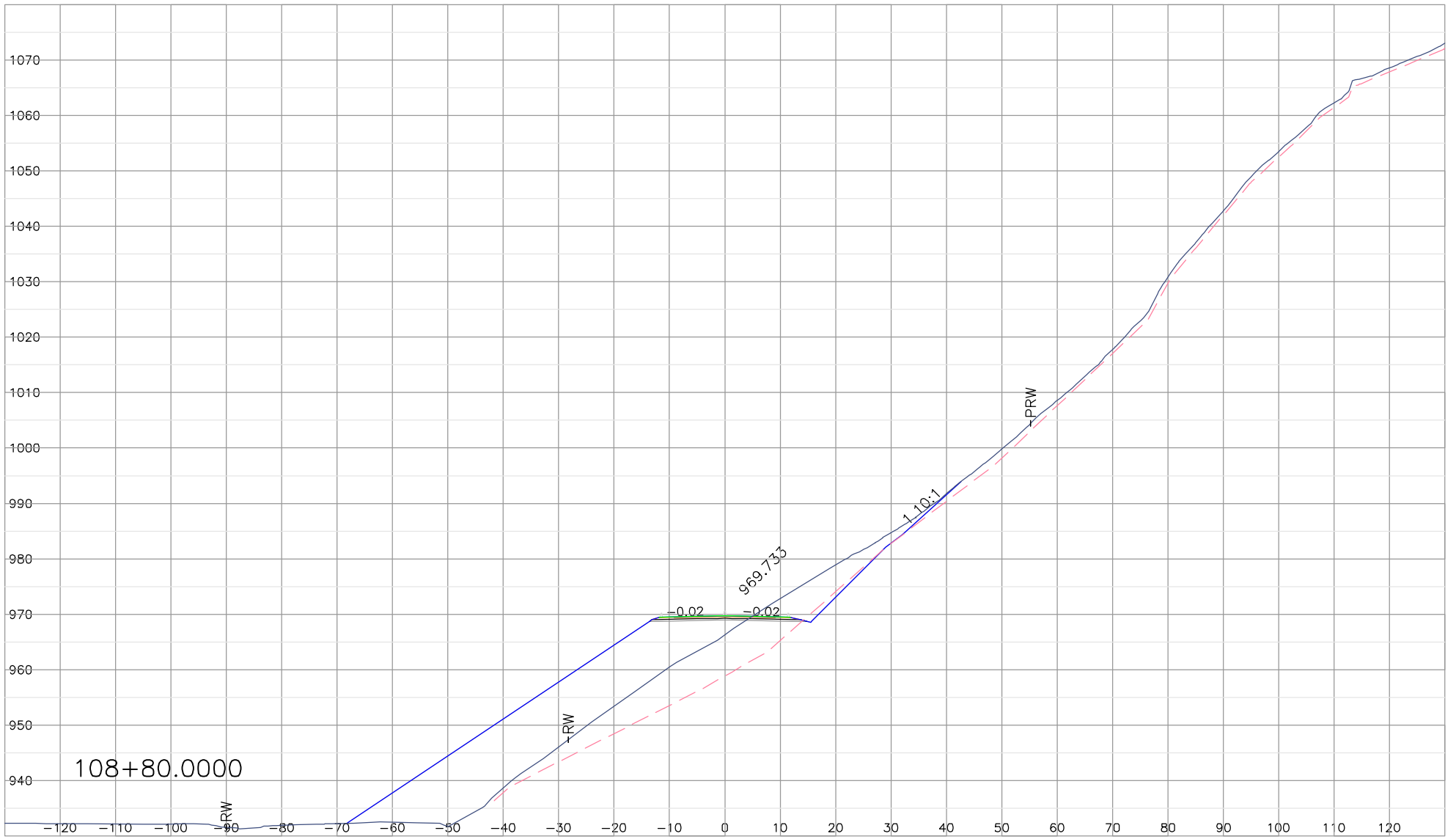


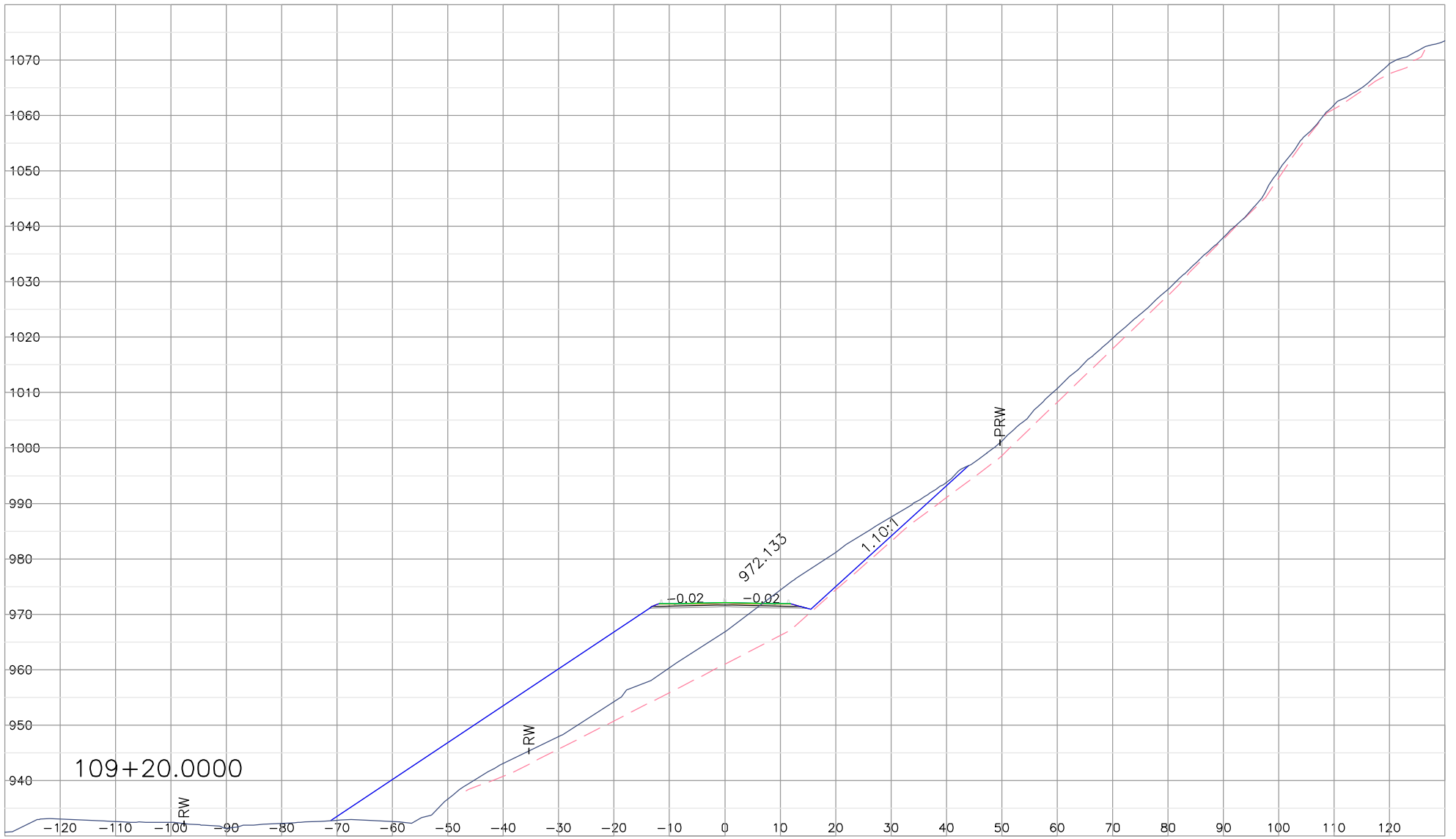


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CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2

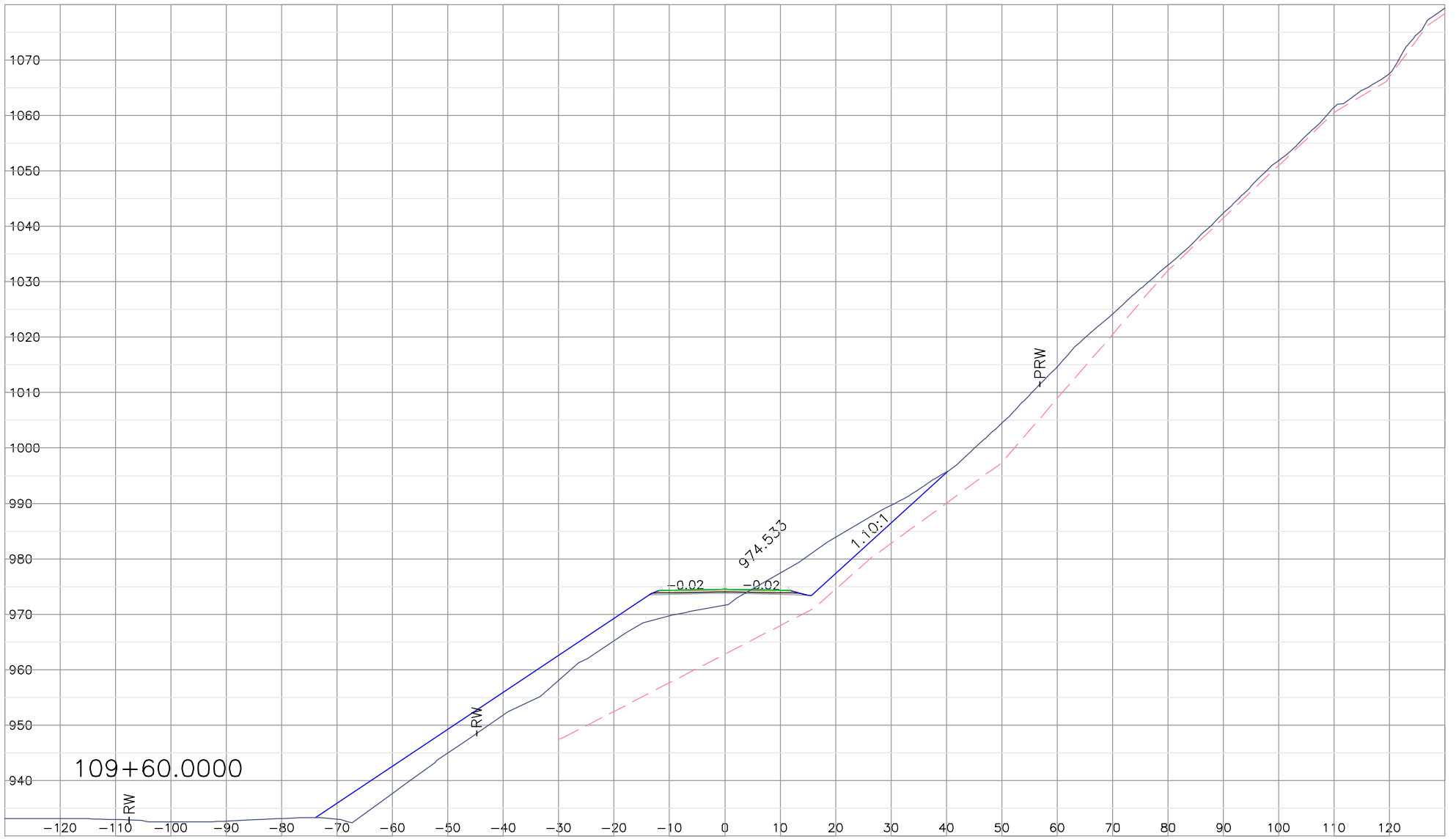




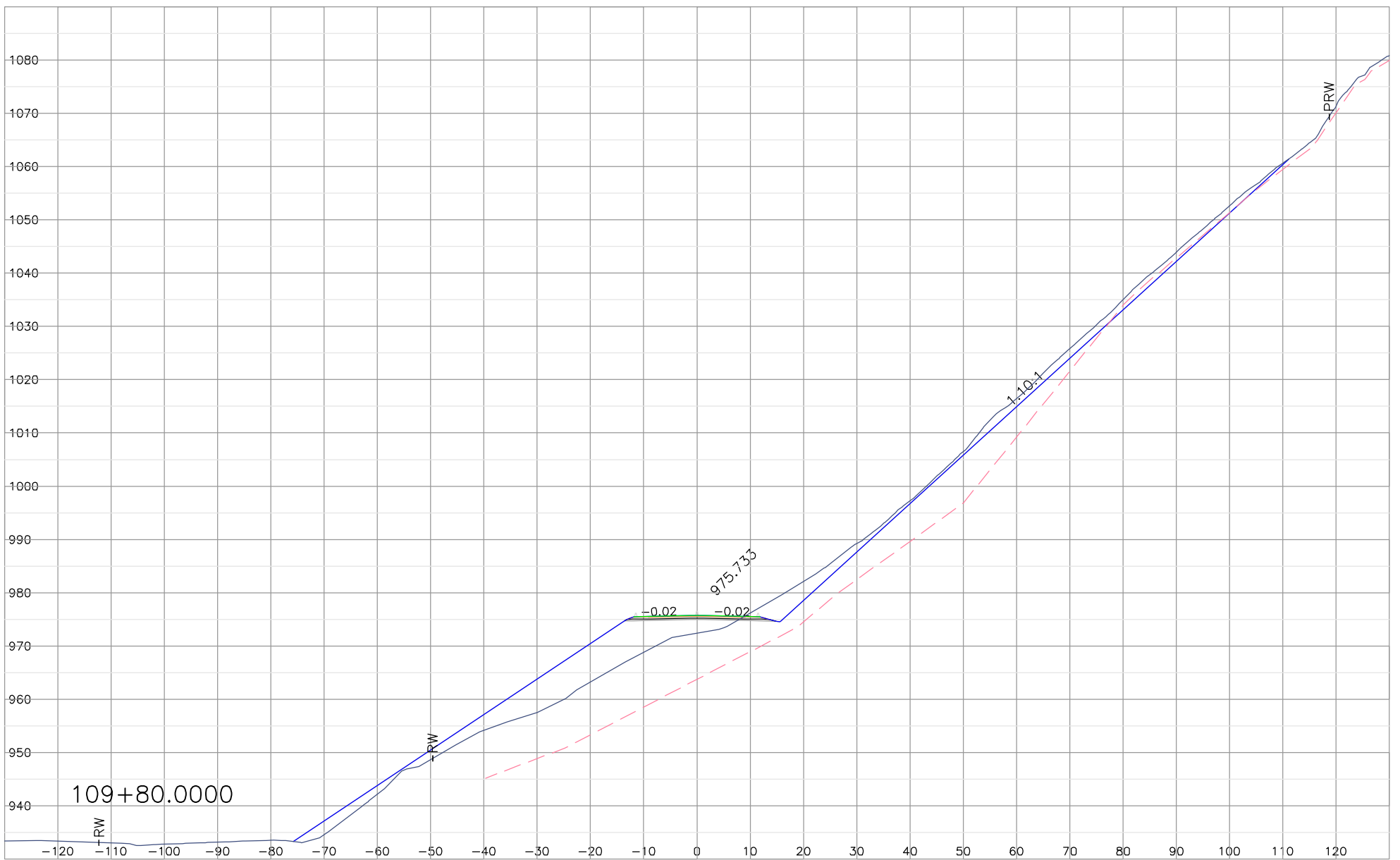
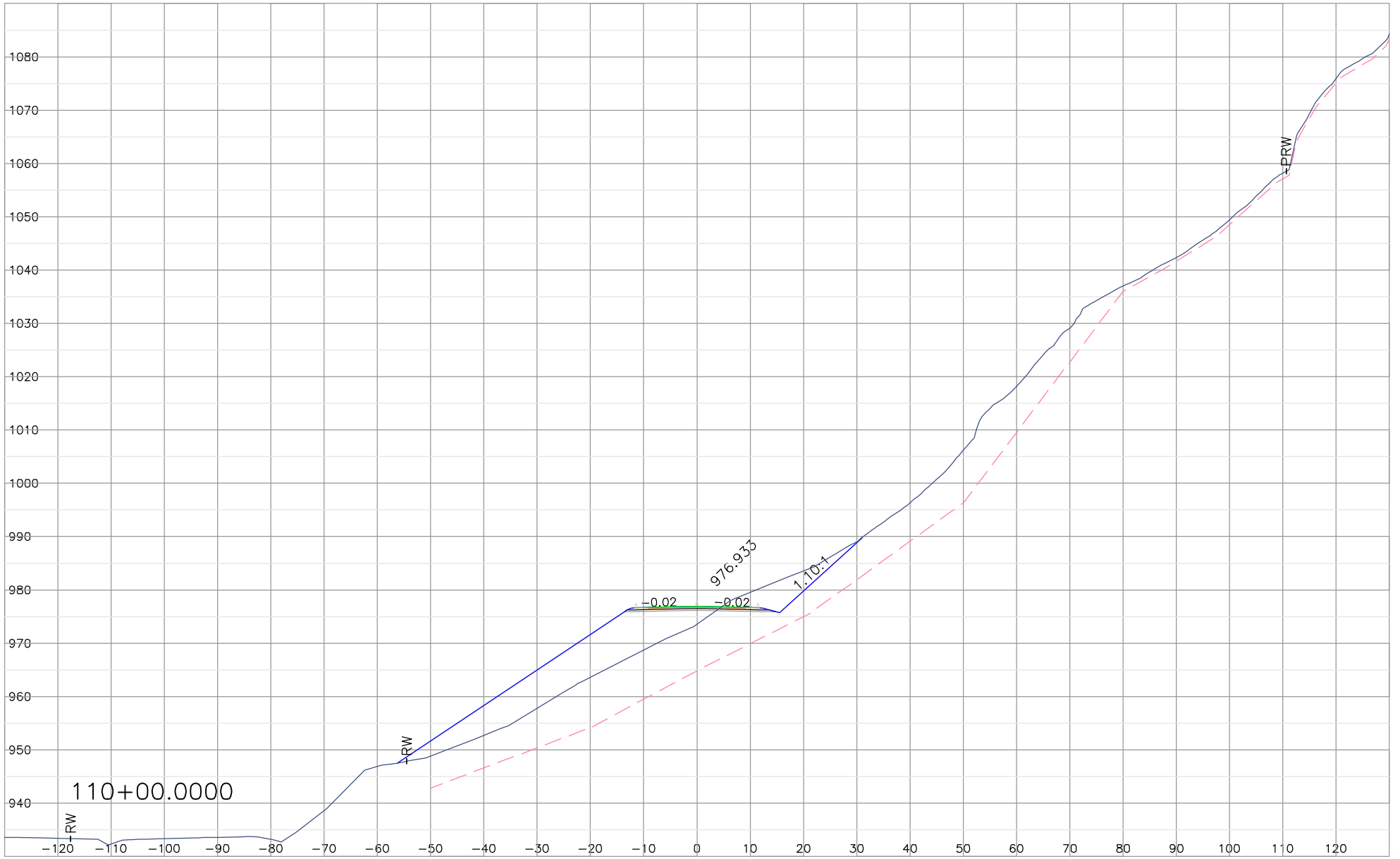


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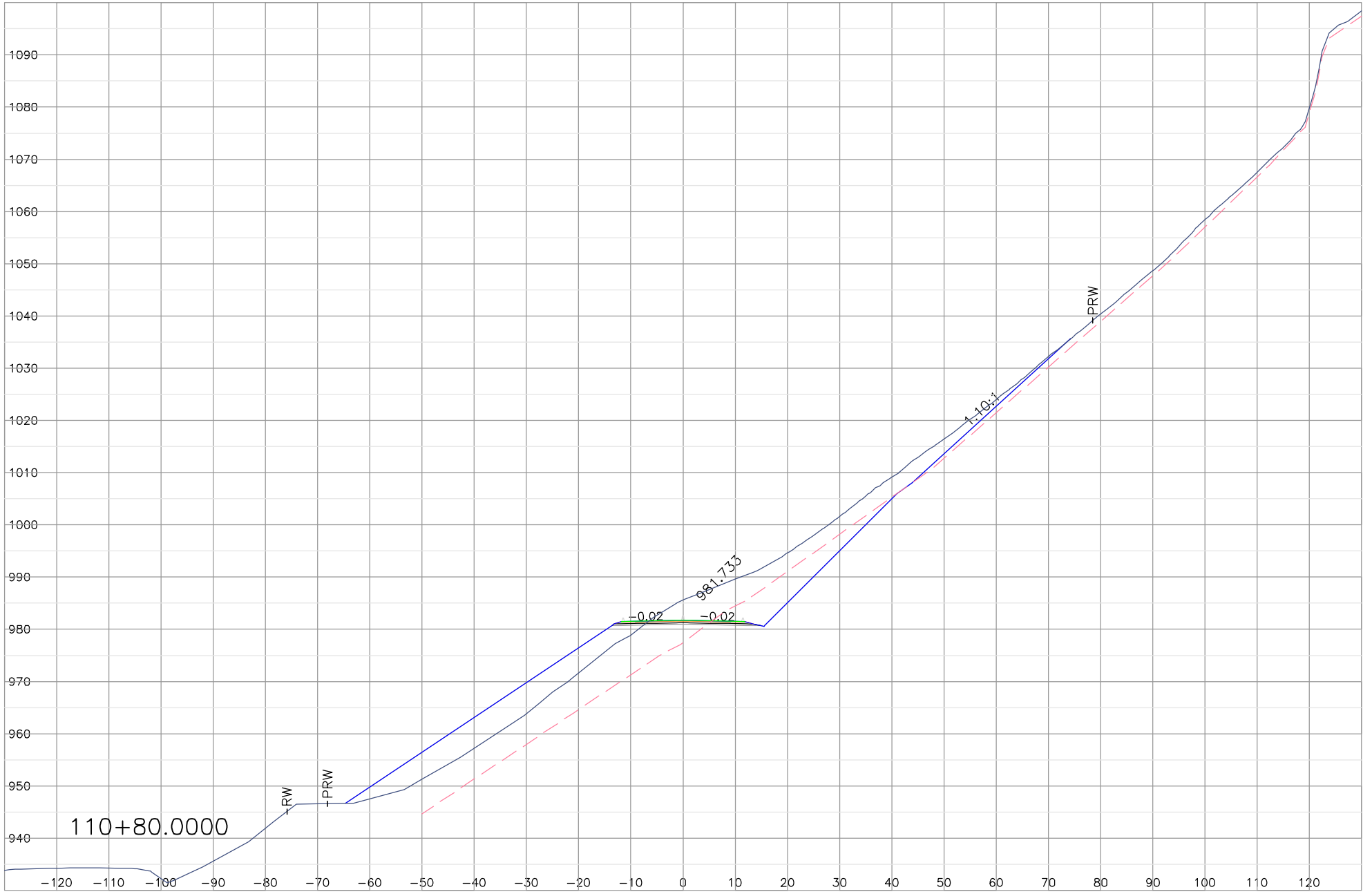
CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2

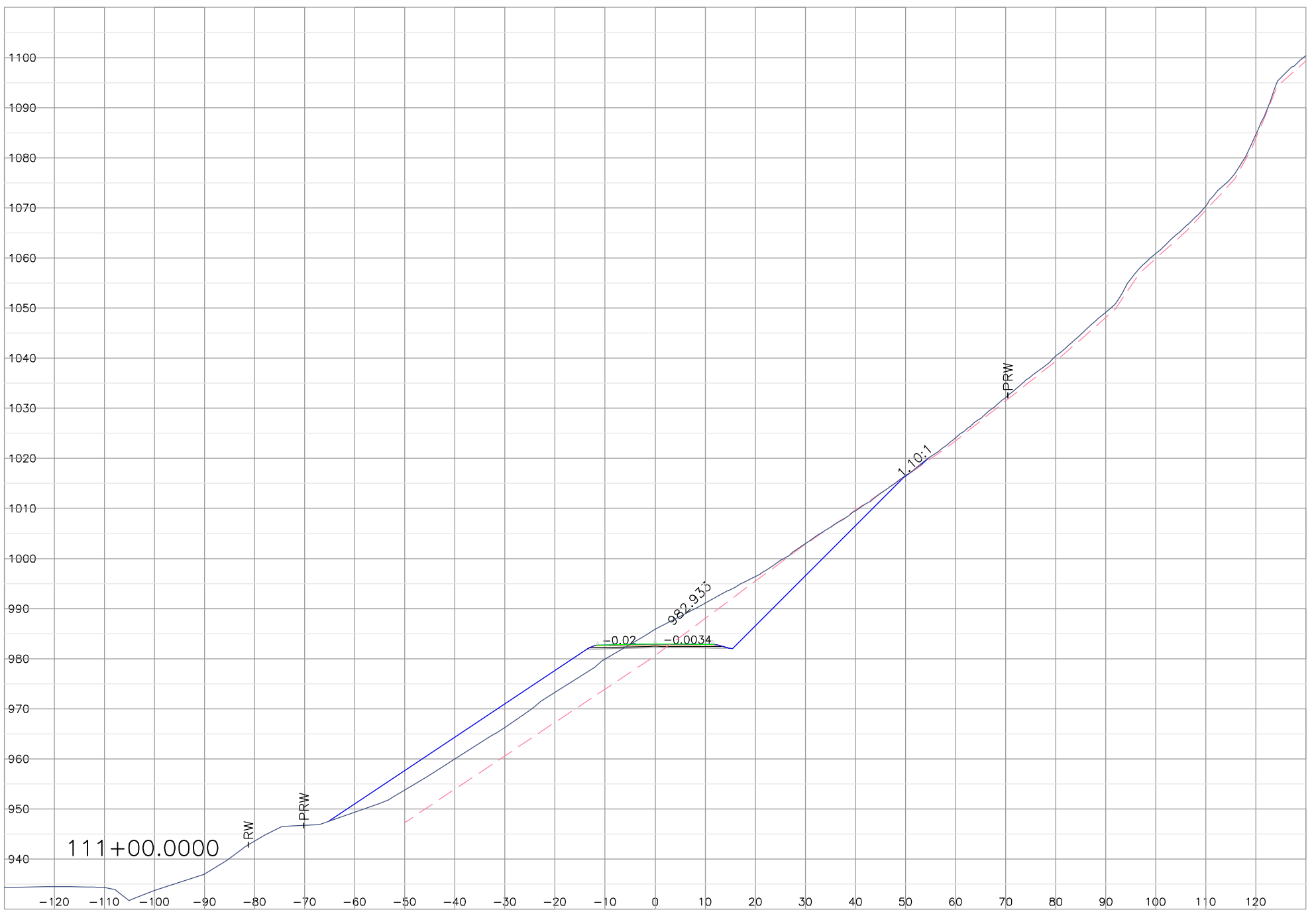
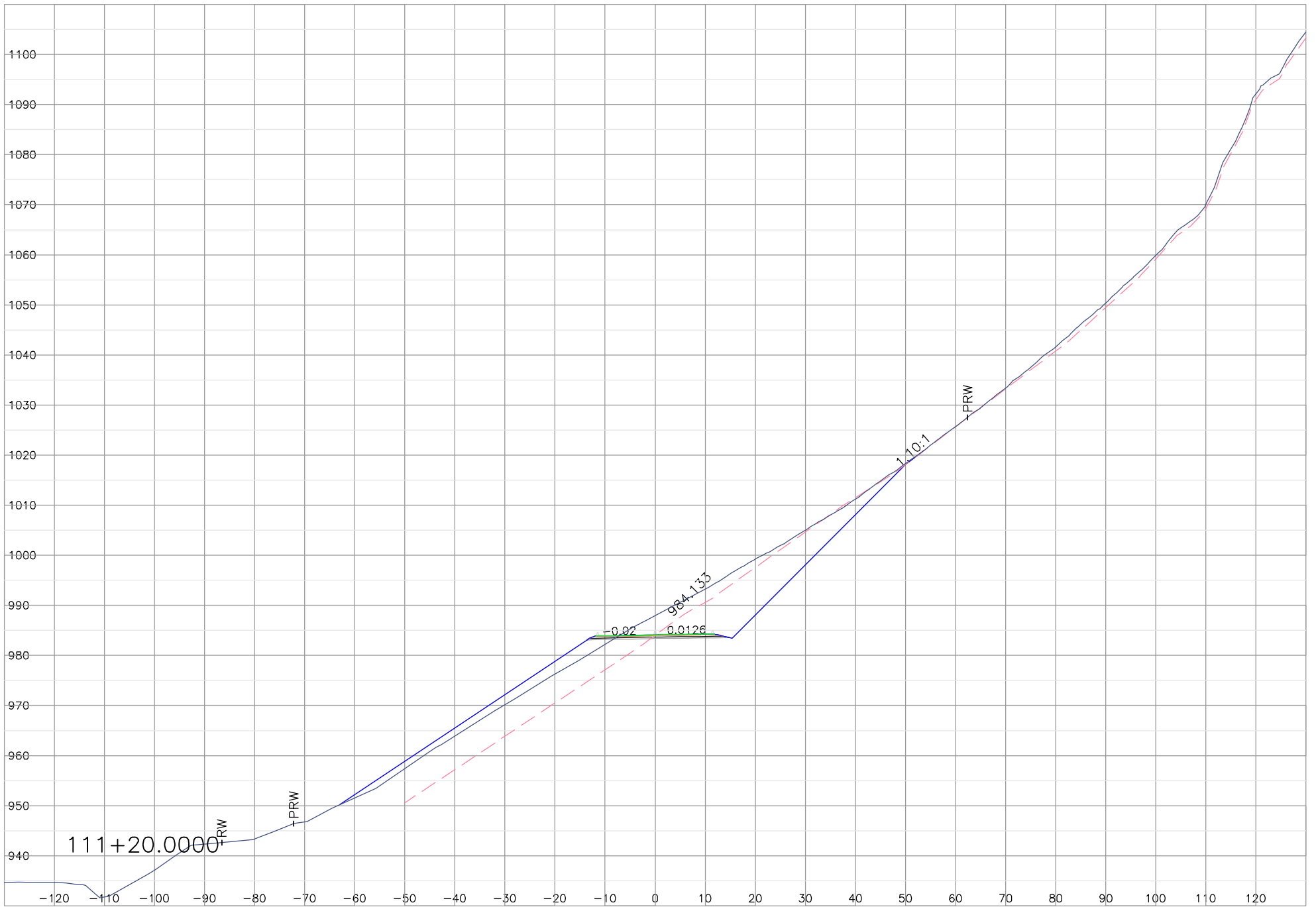






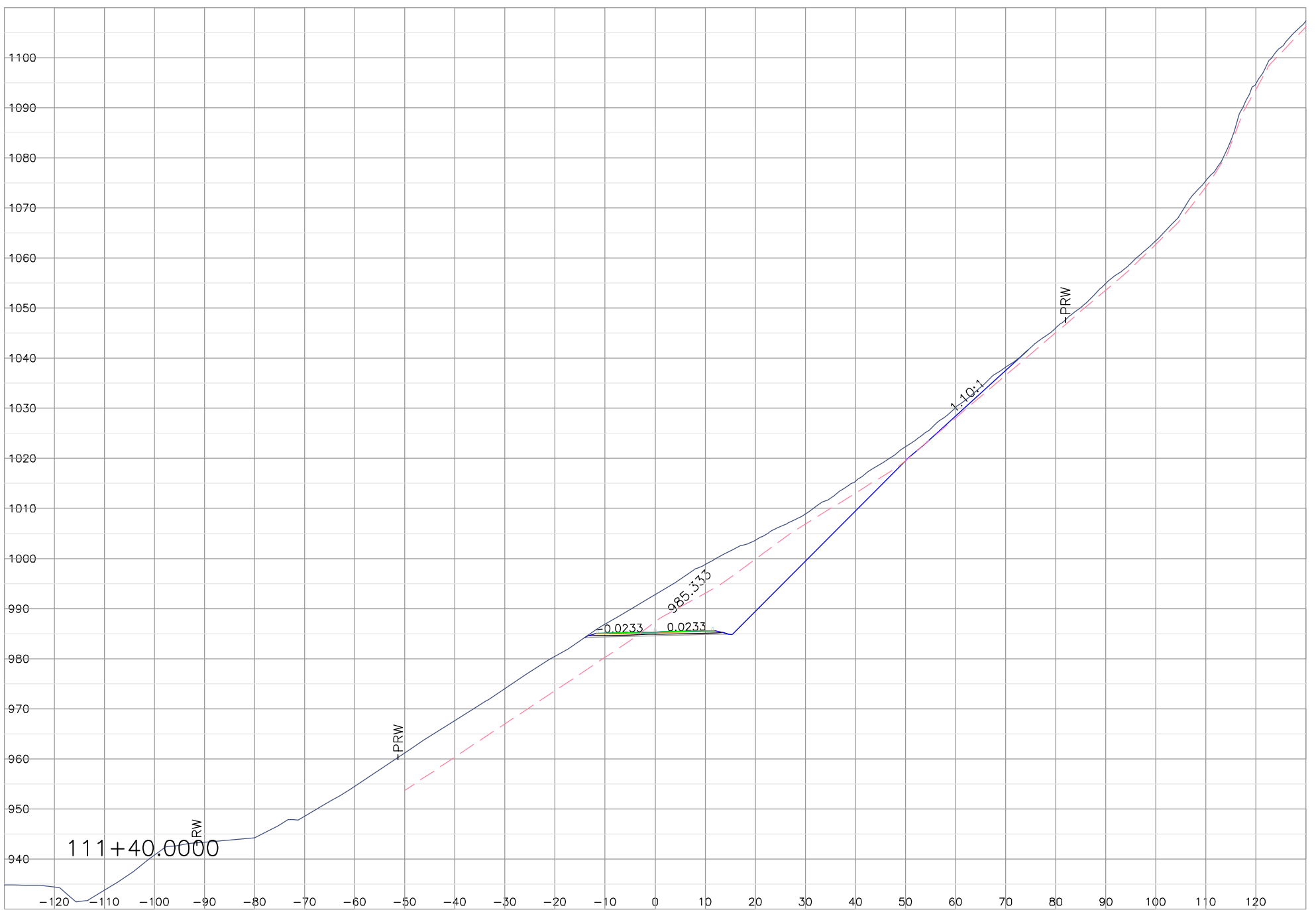


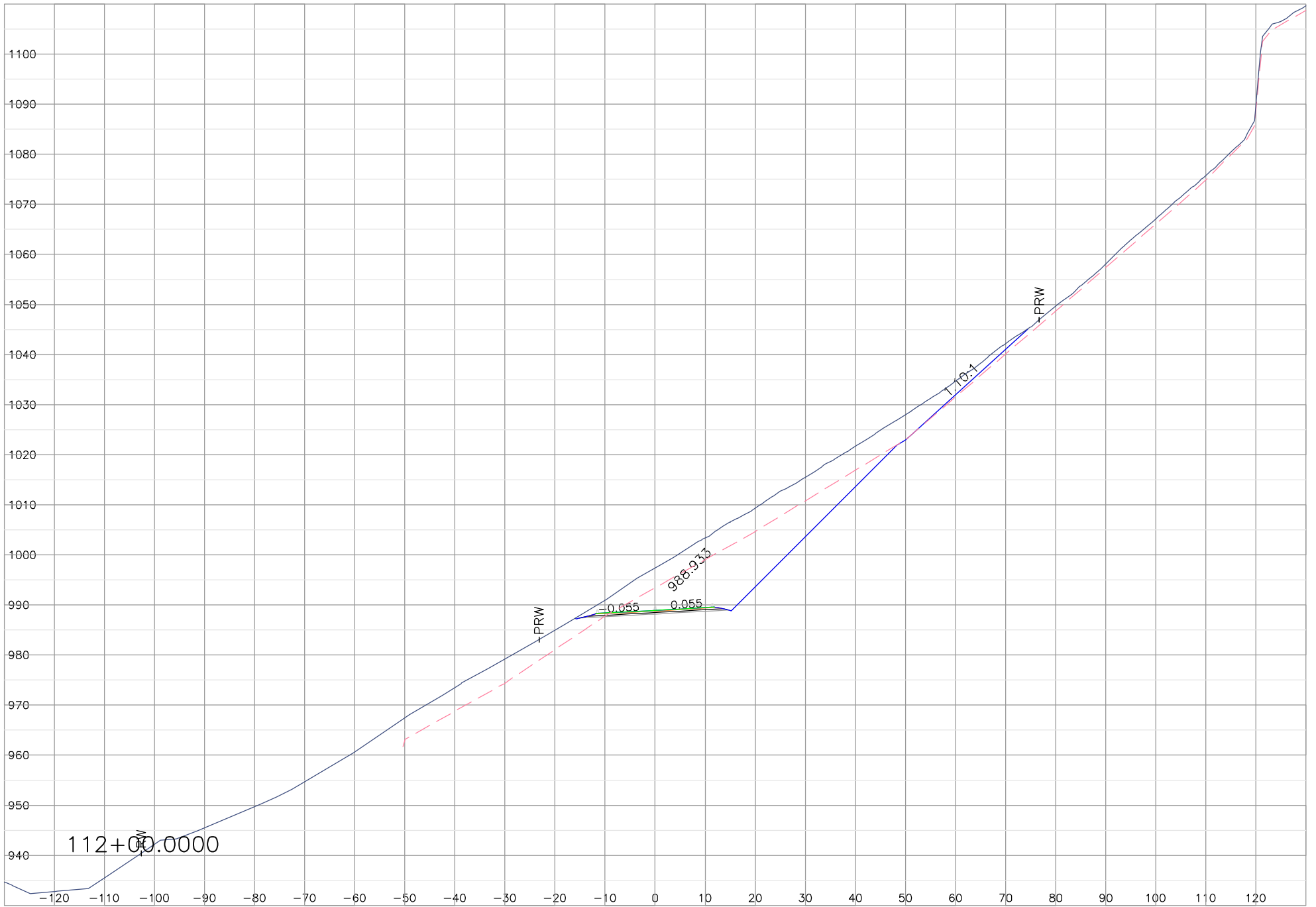


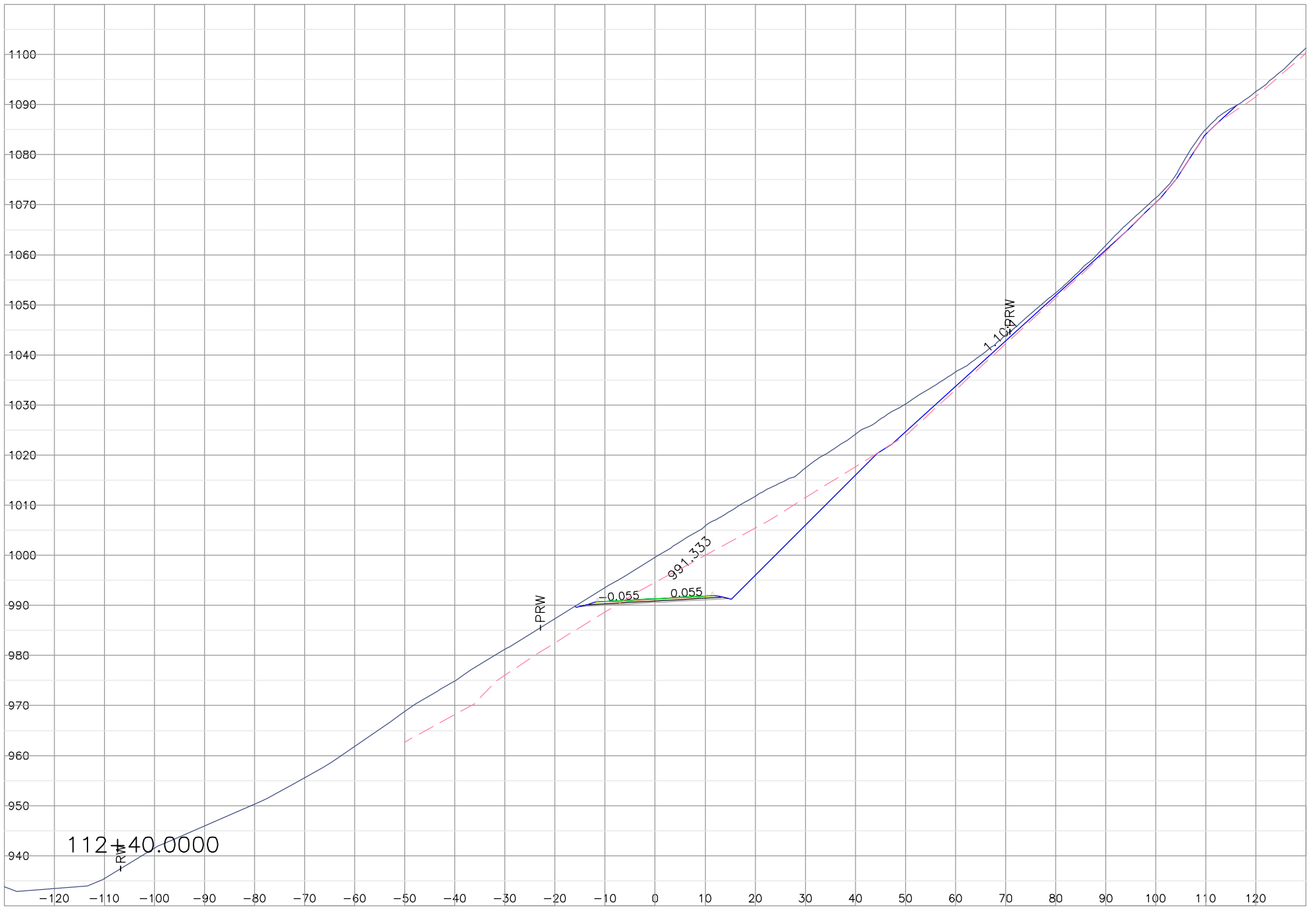


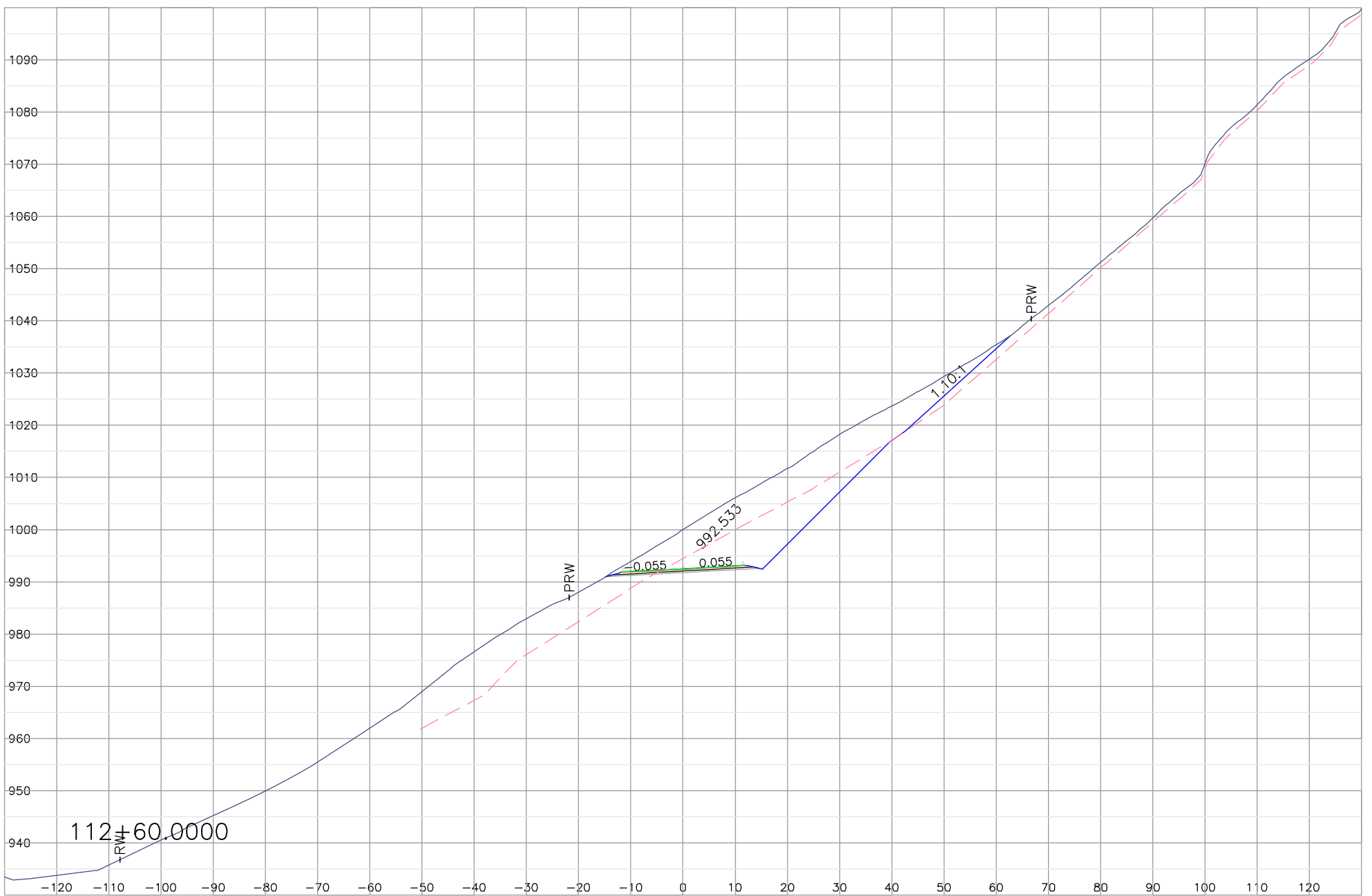
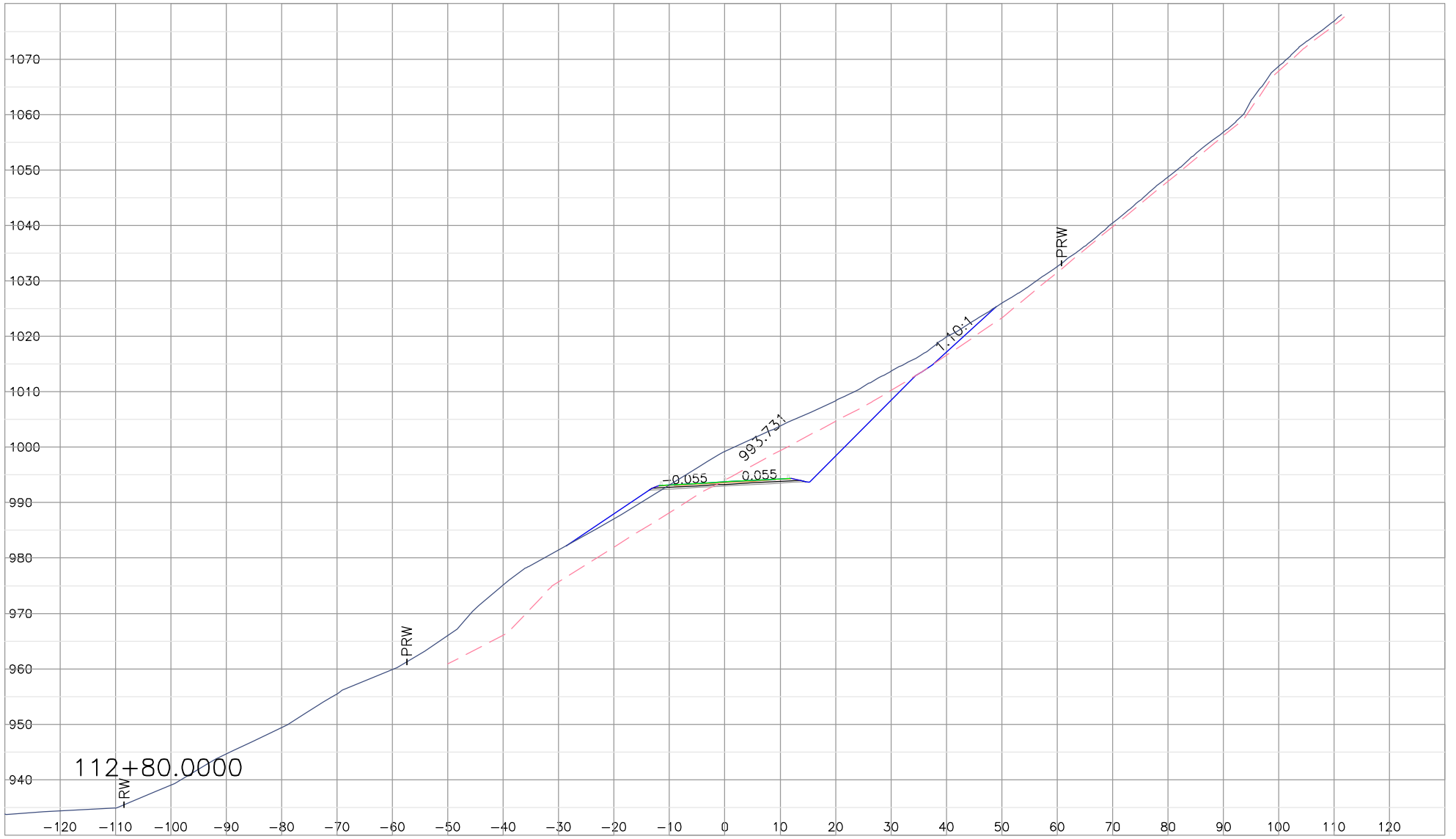
TPHG Proposed Alignment  
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CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2

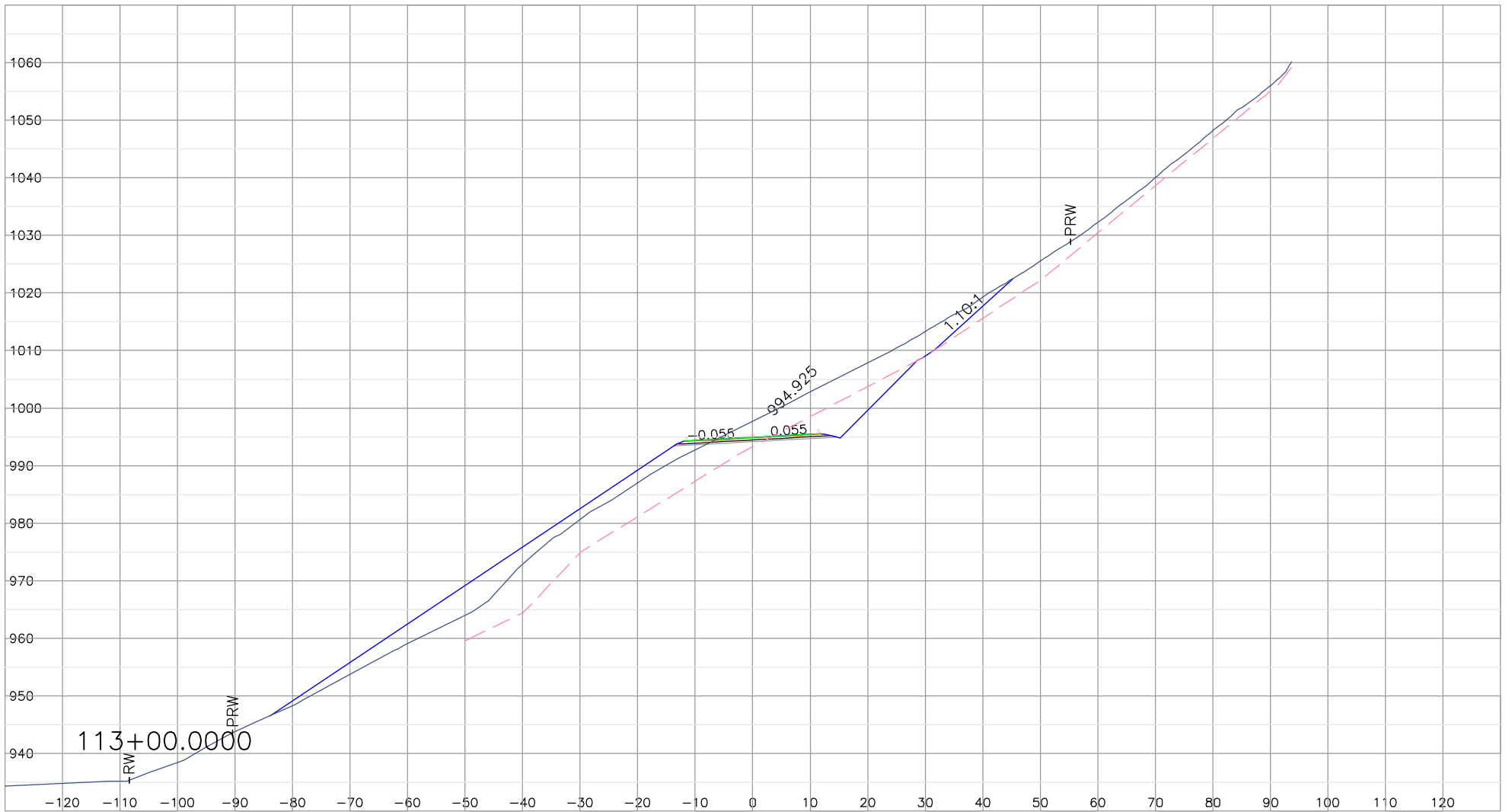
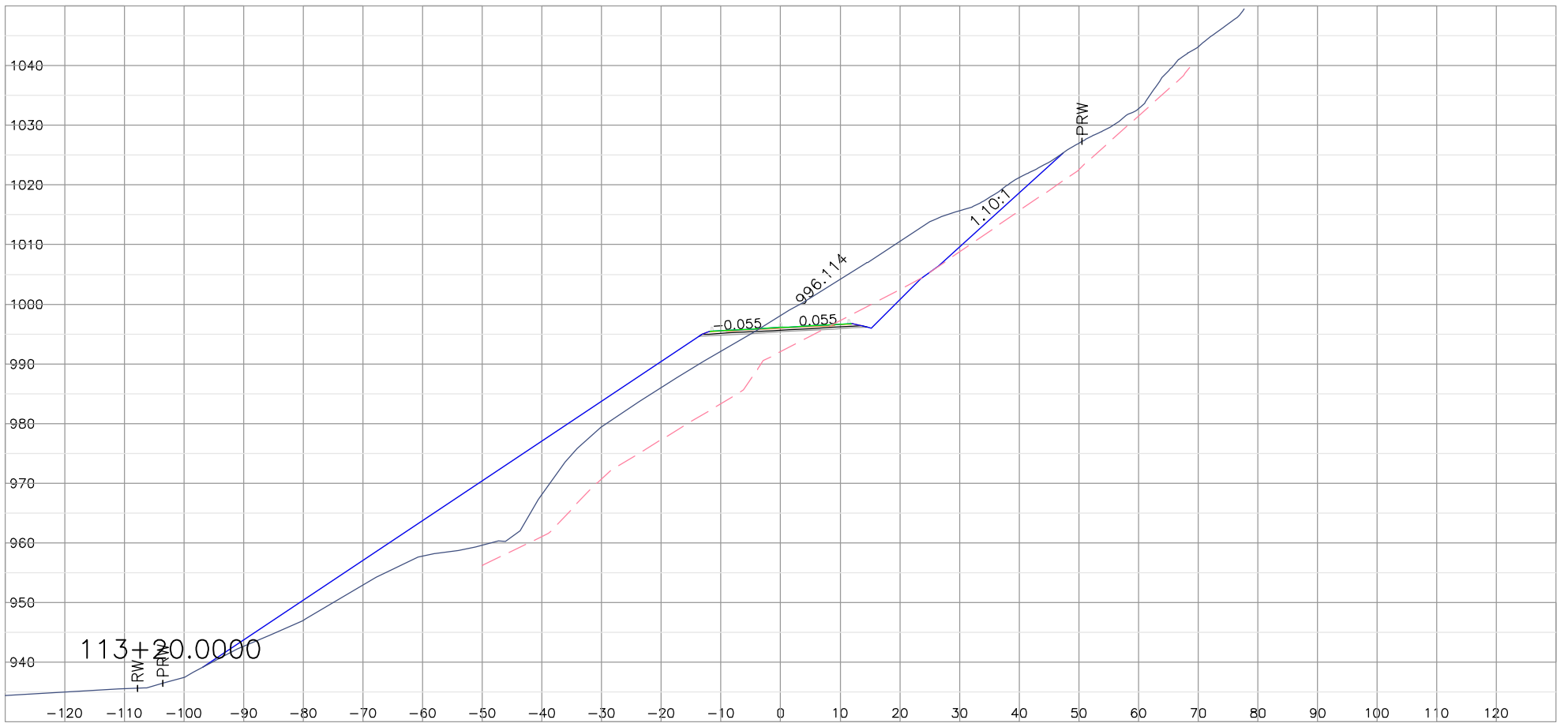
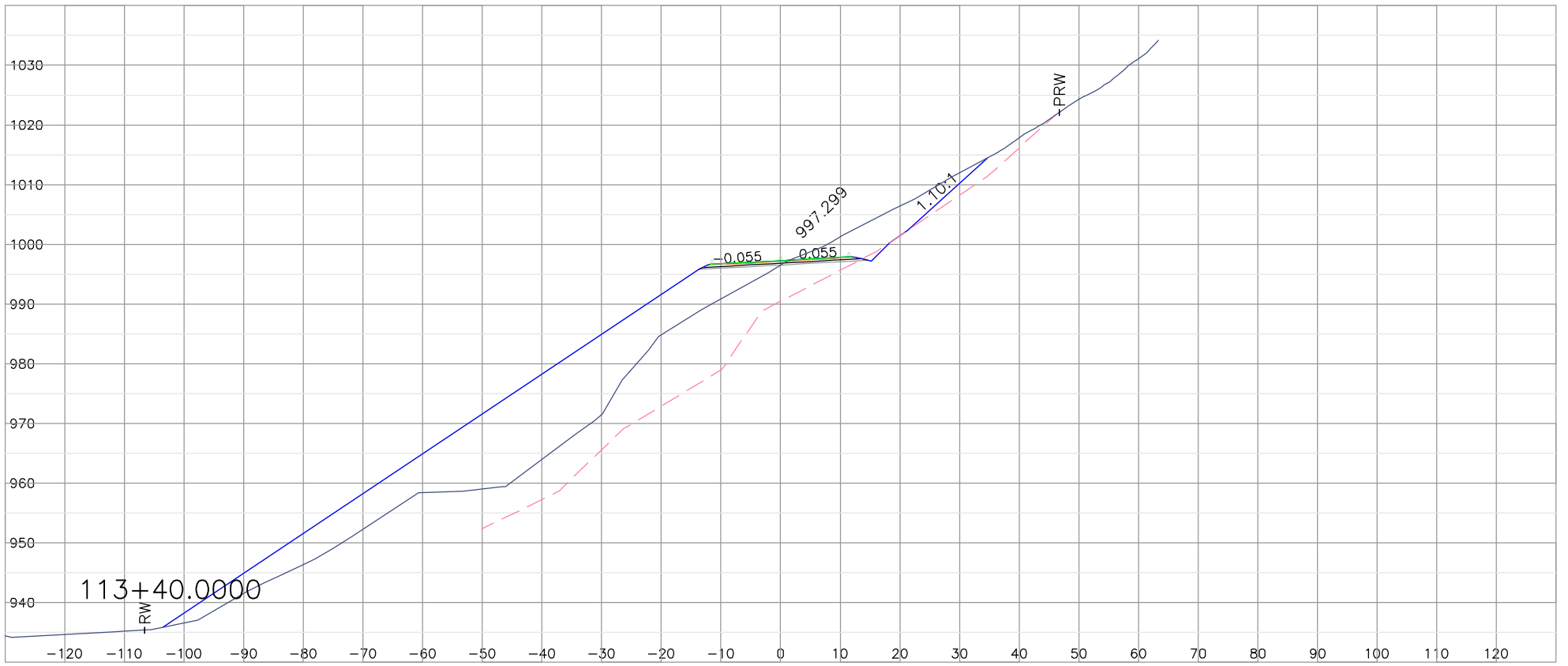


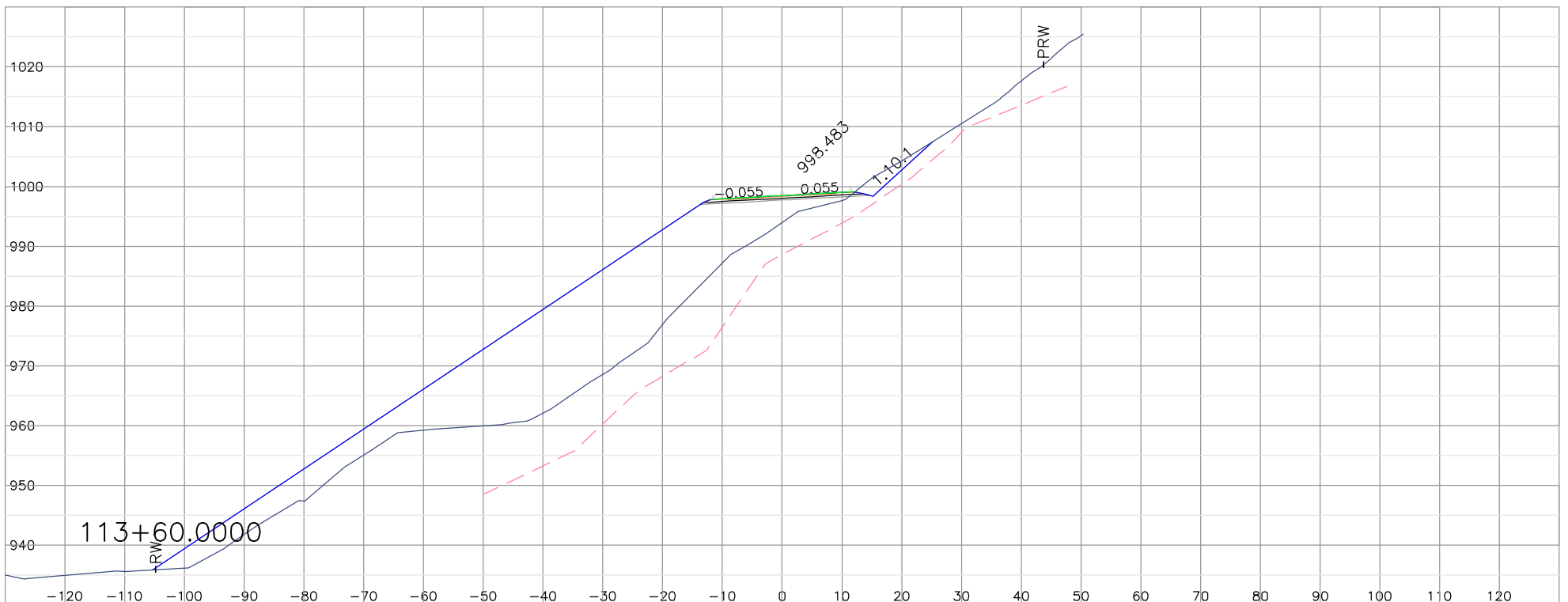
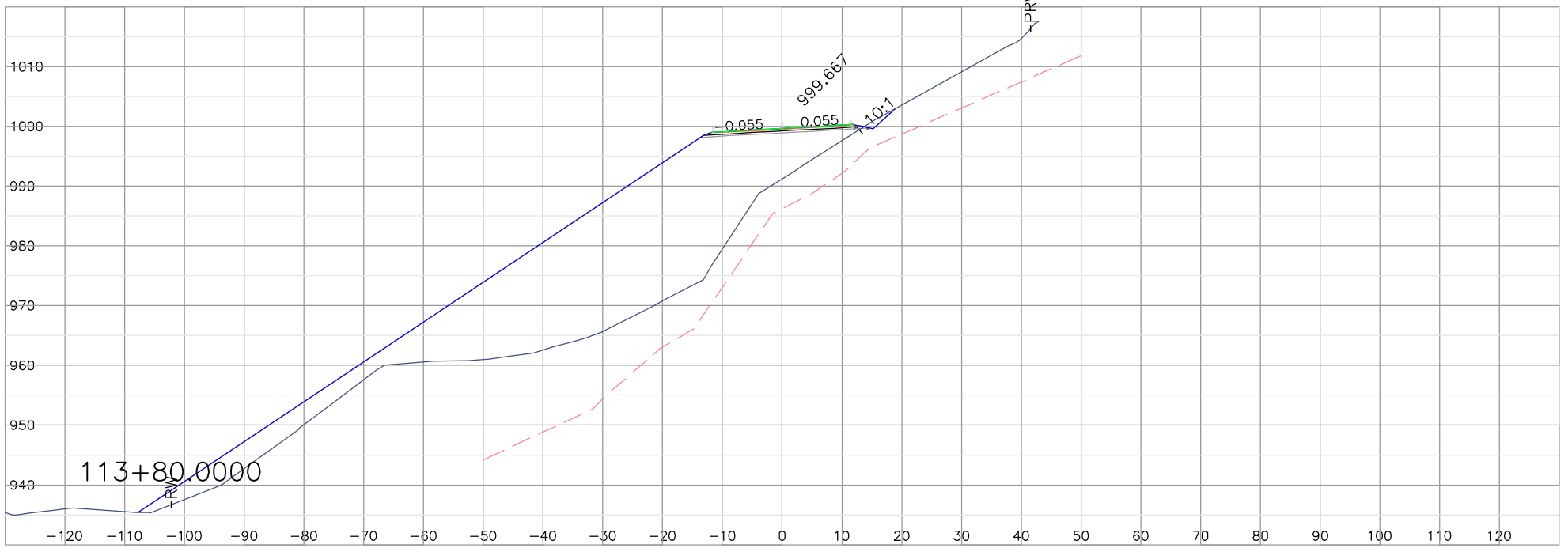
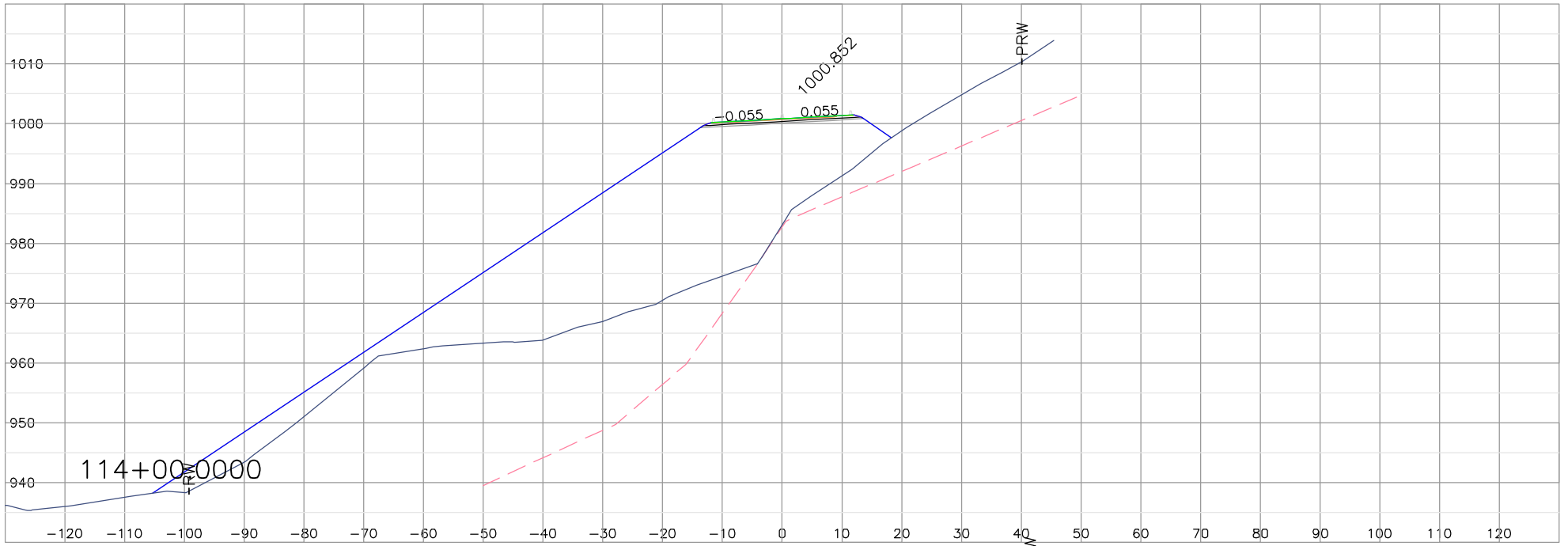
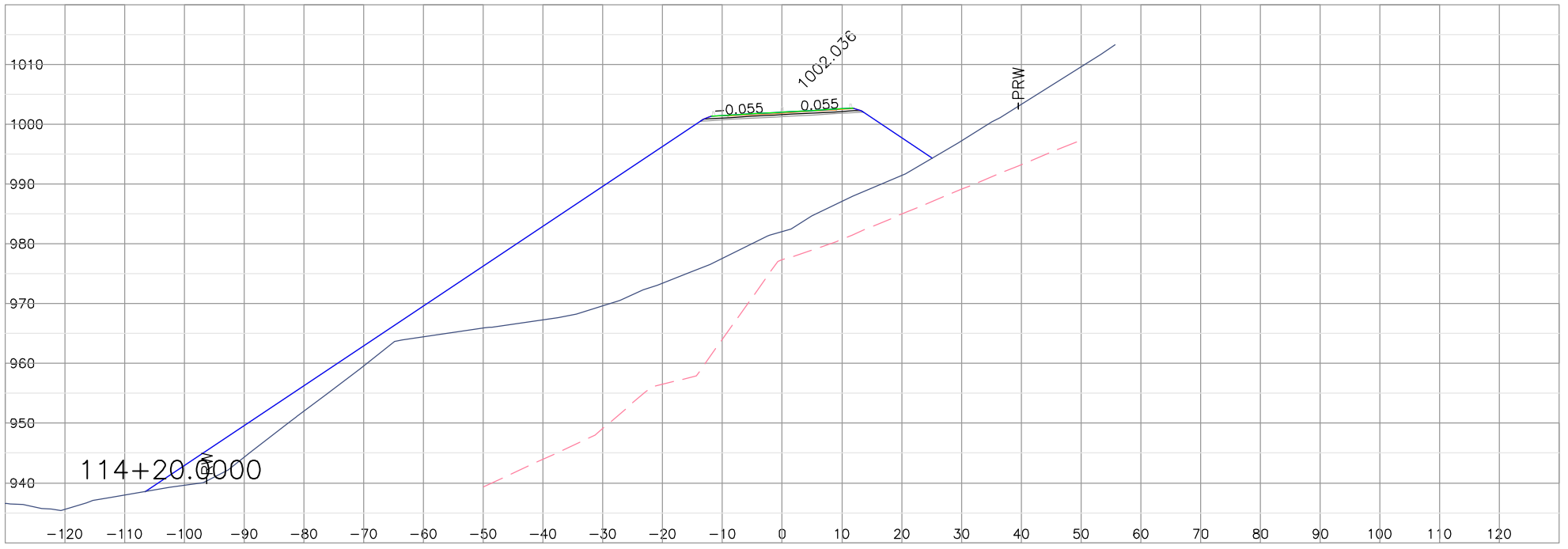


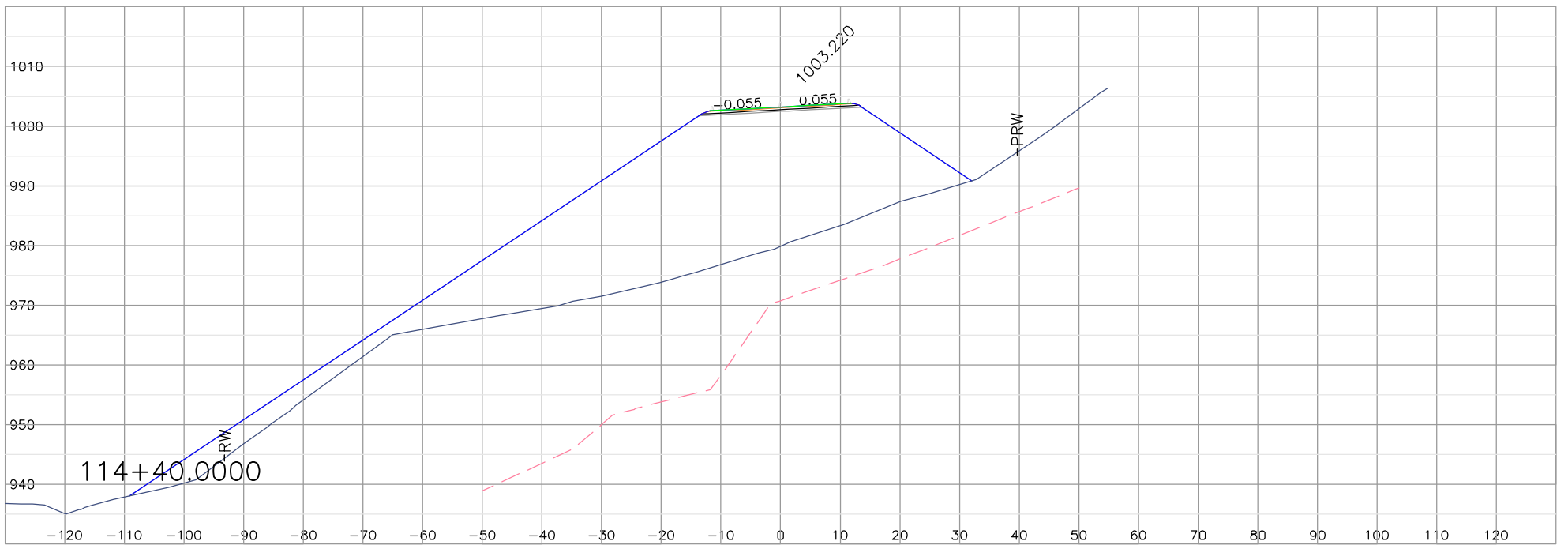
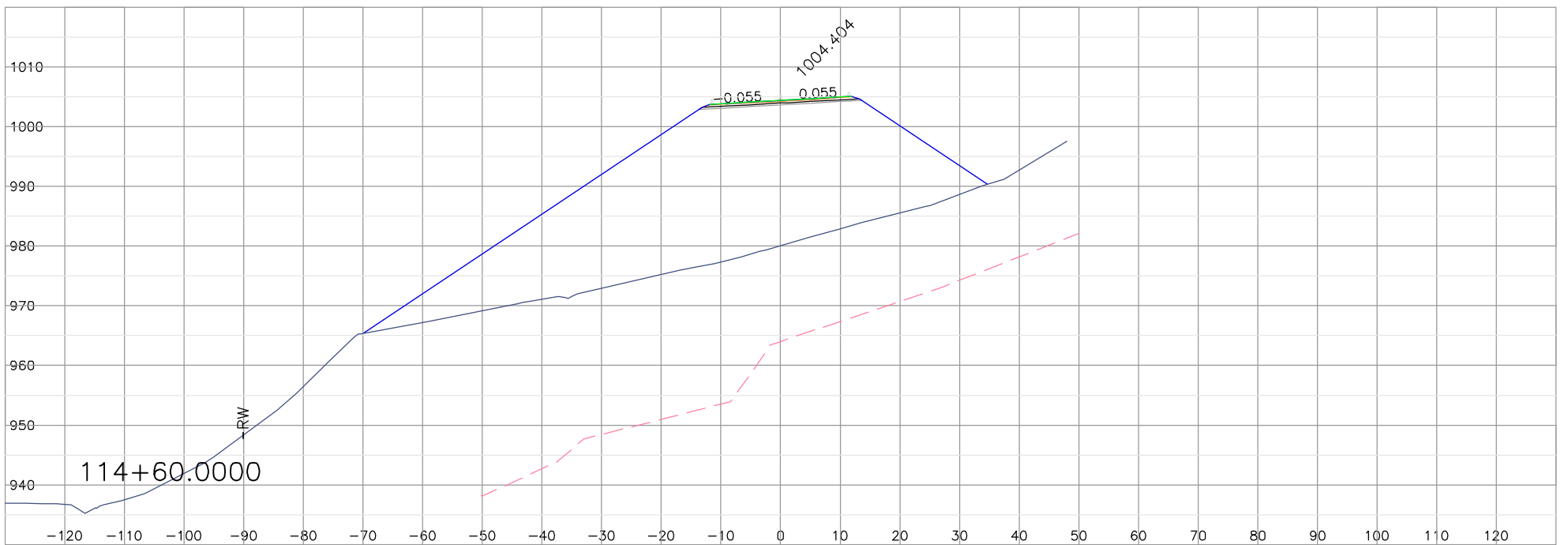
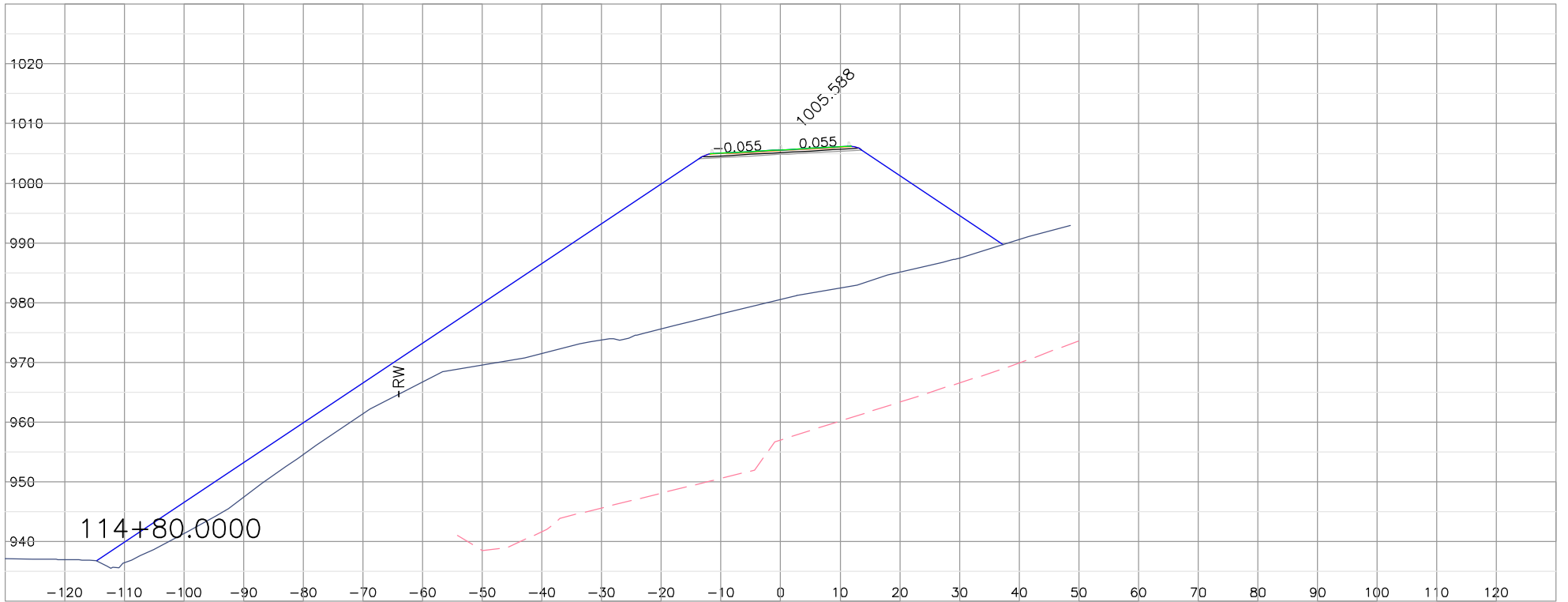
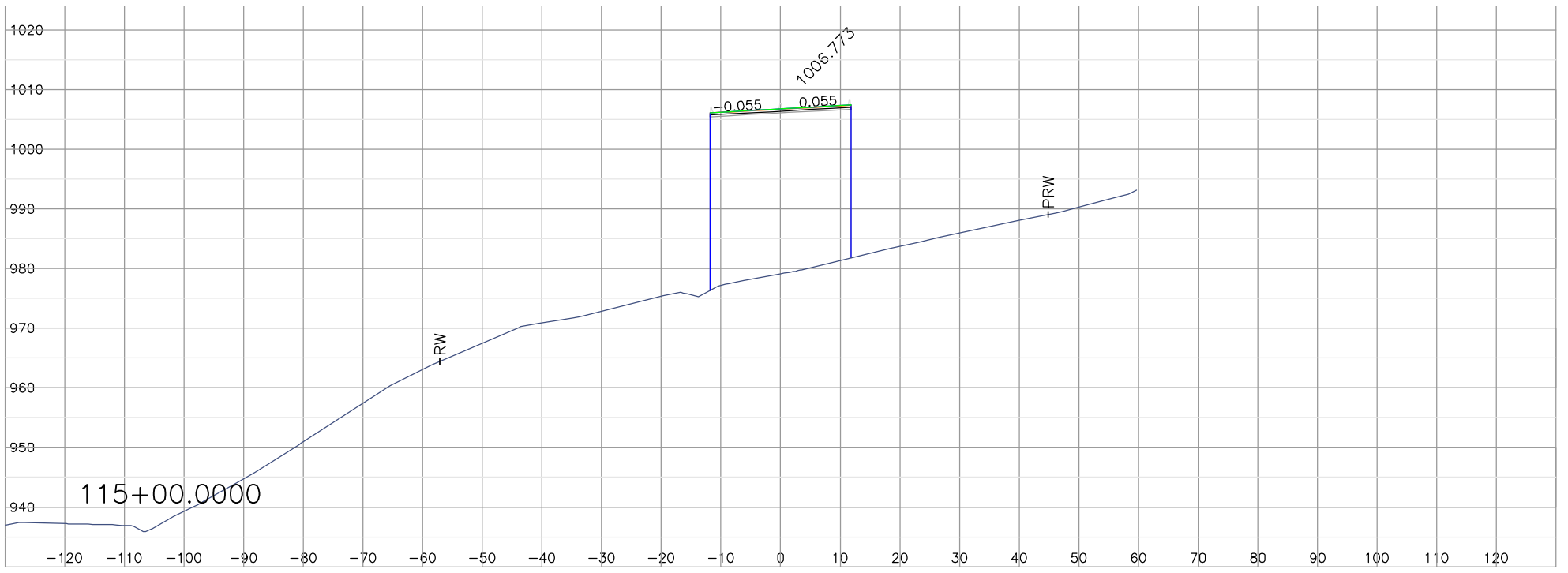


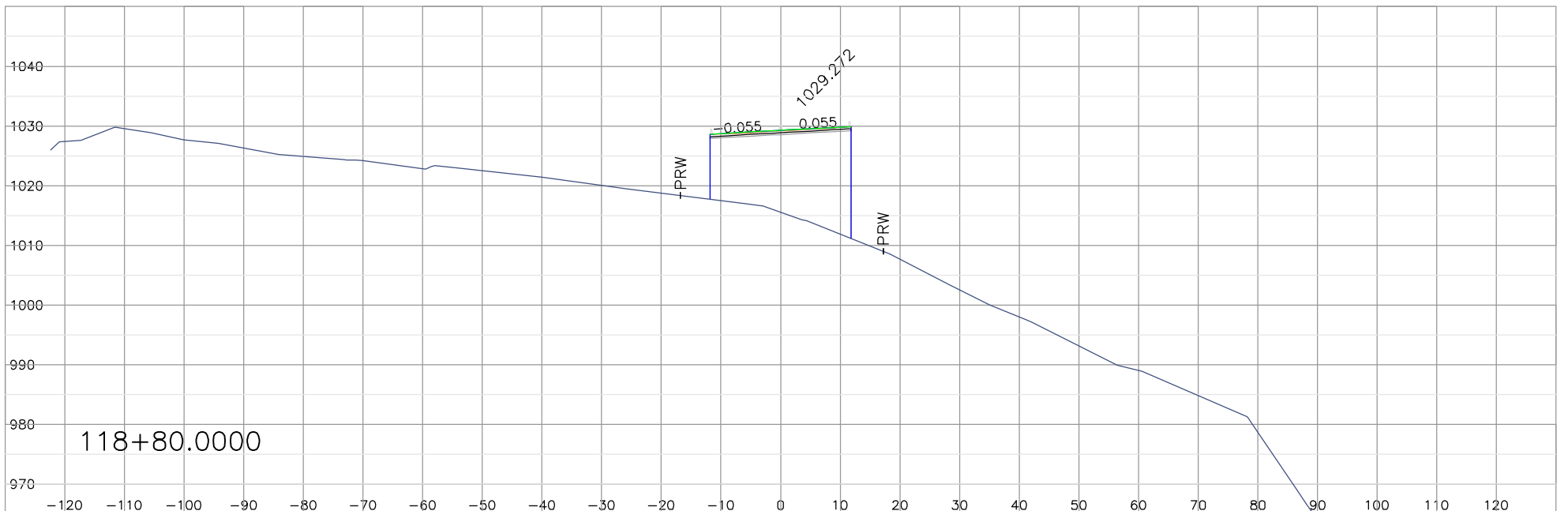
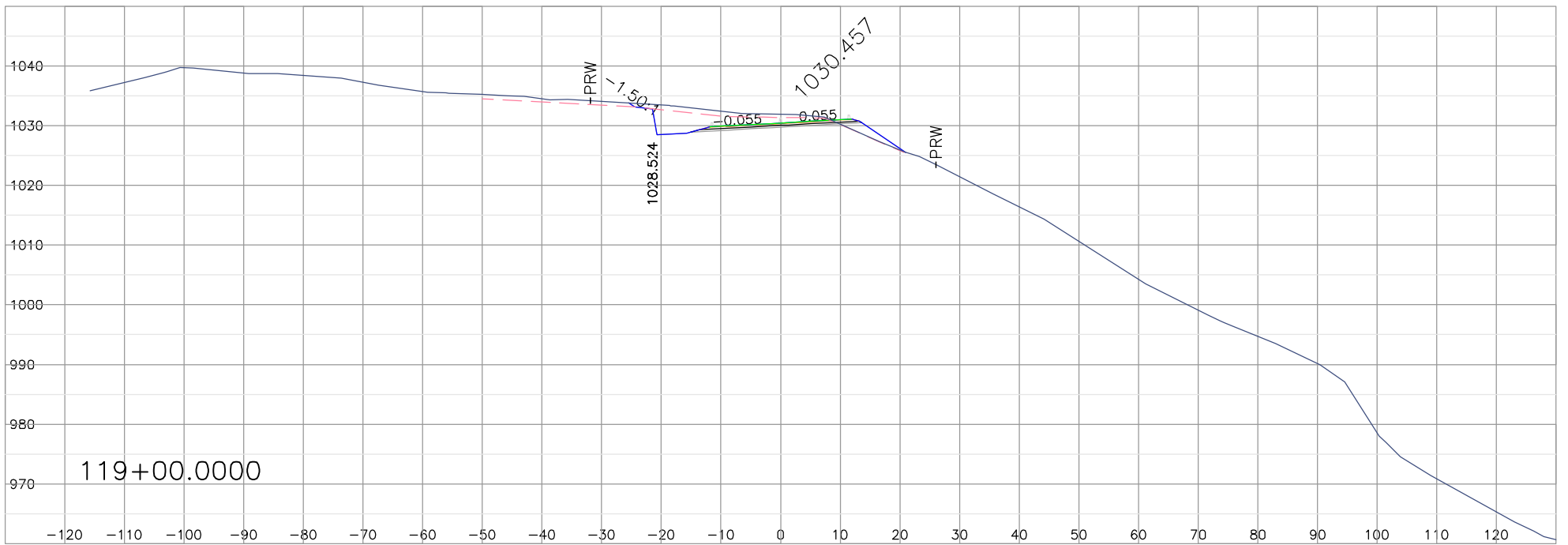
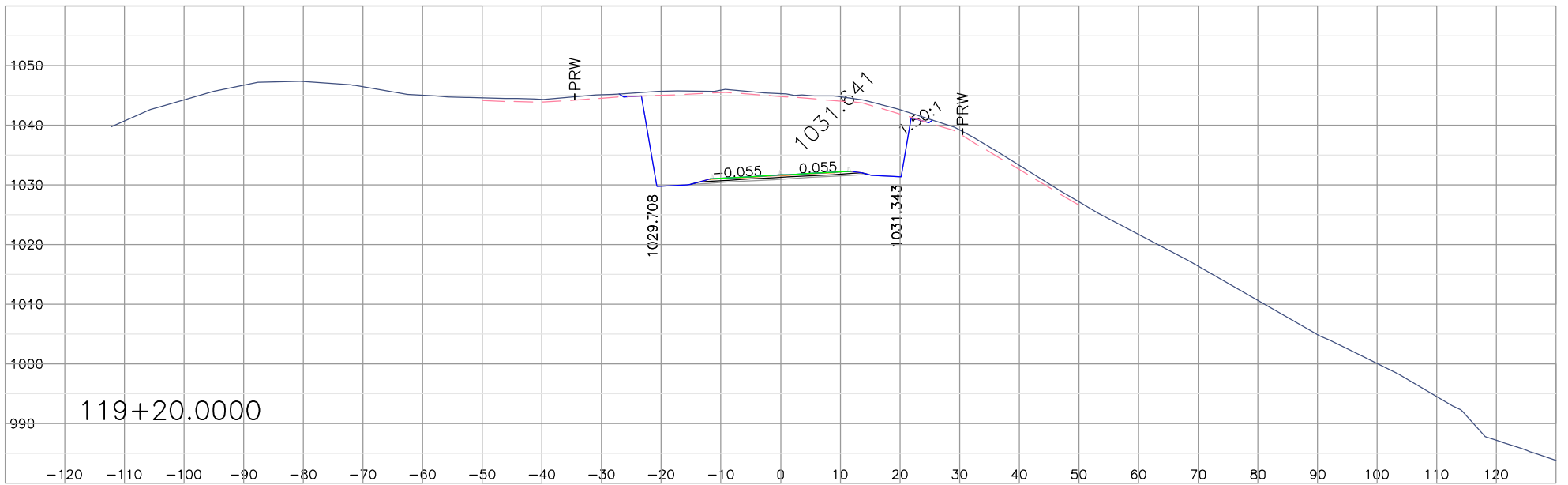
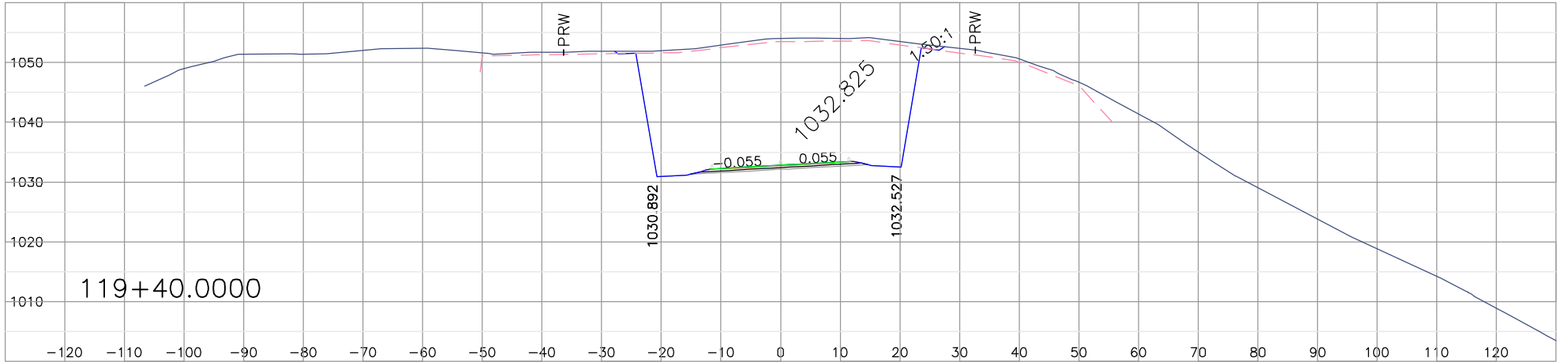
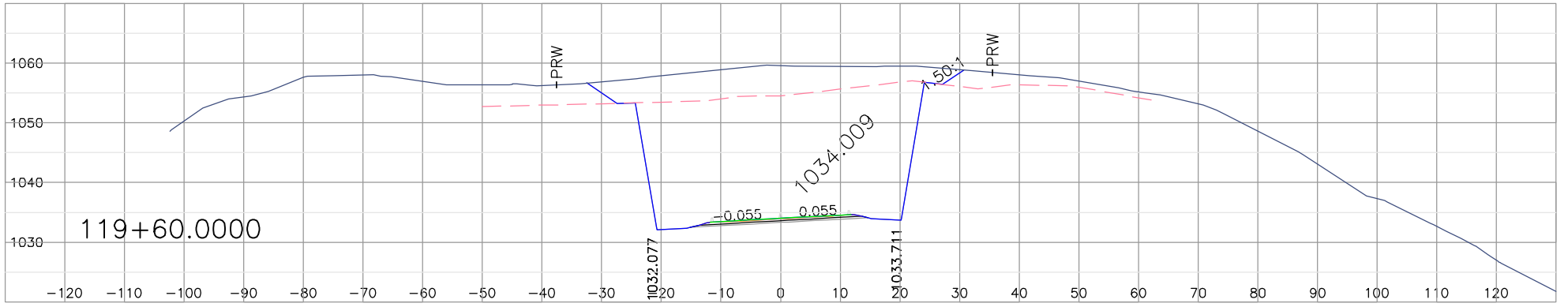


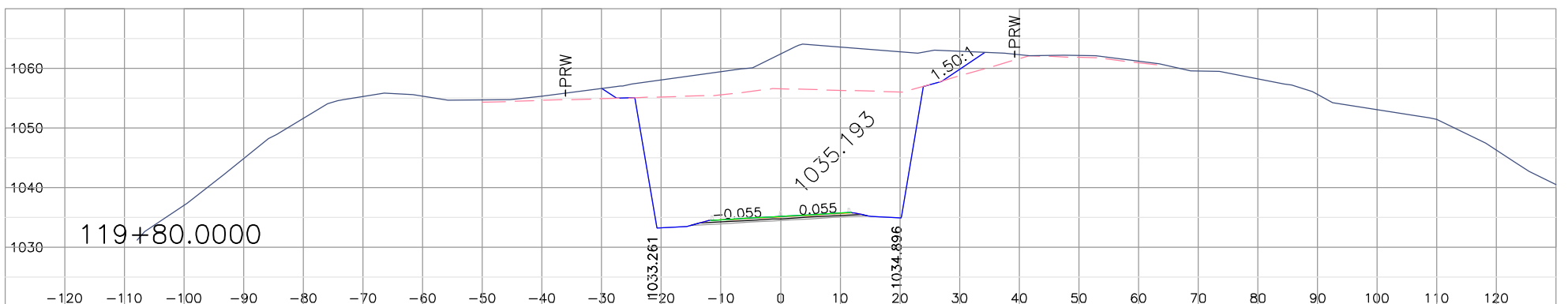
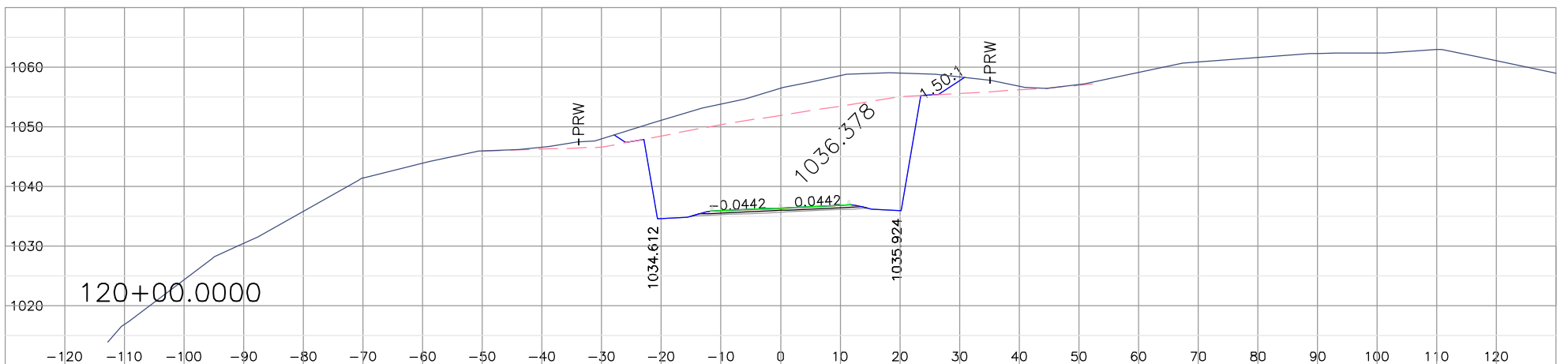
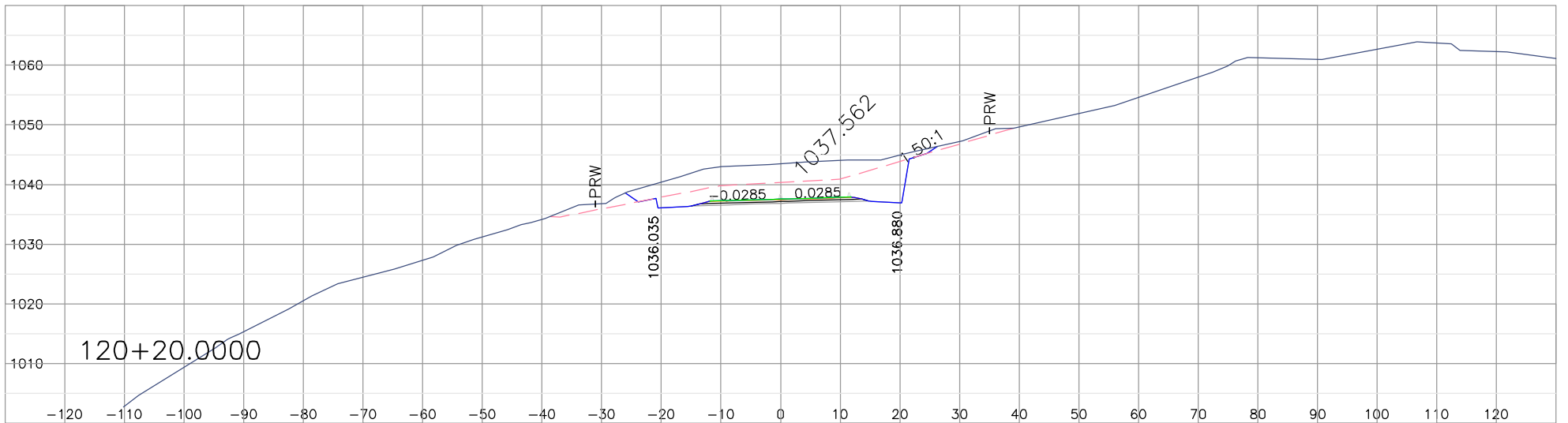
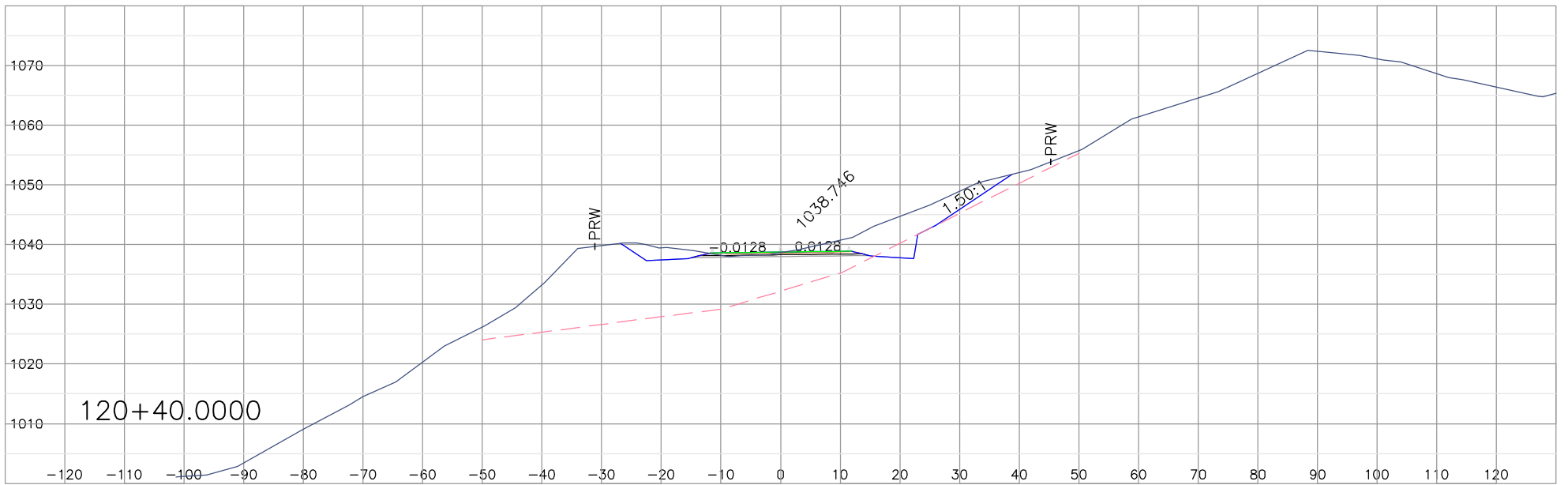
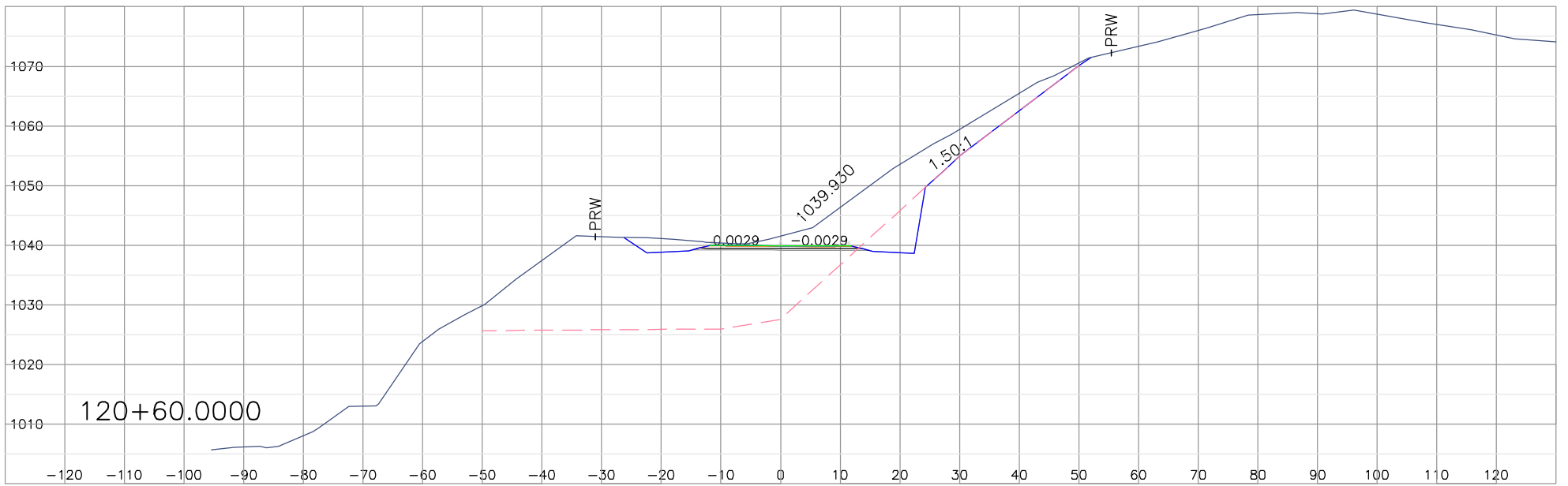






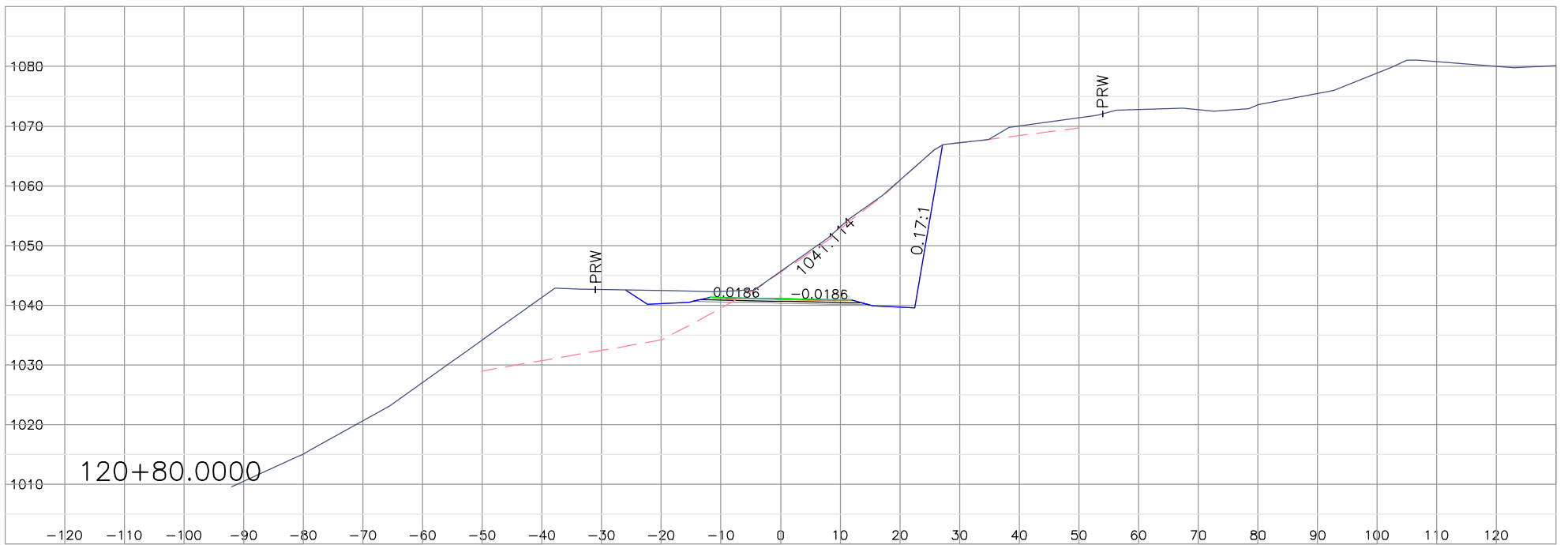
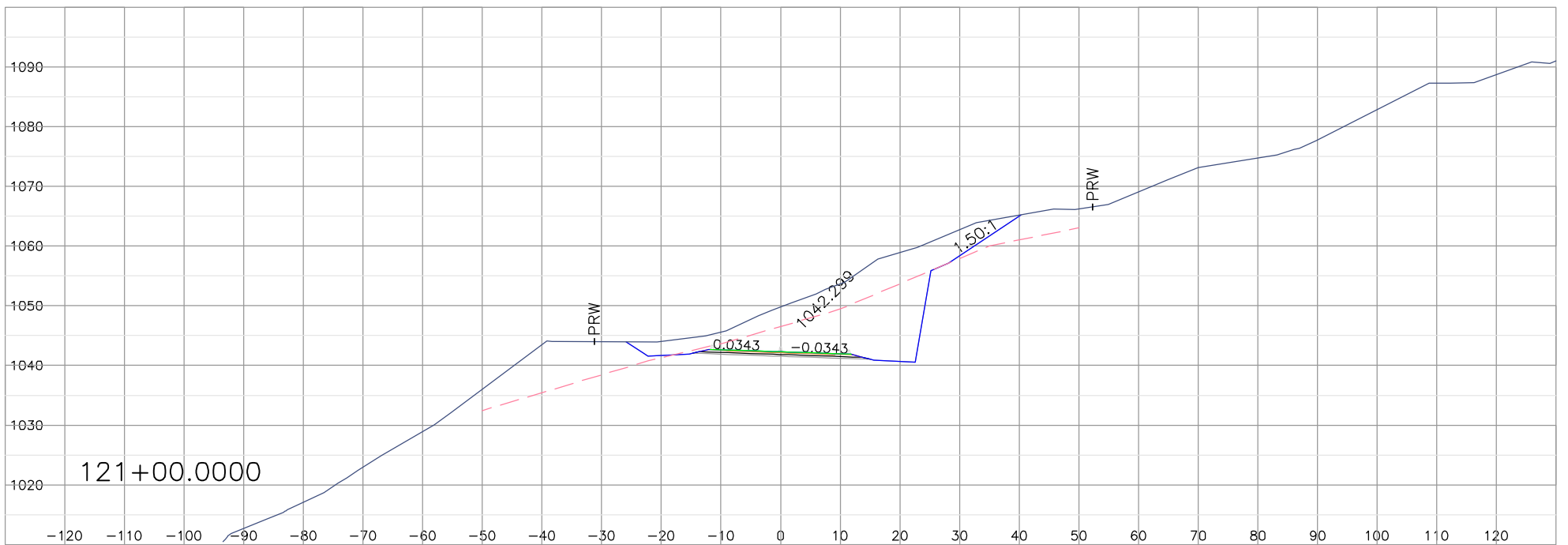
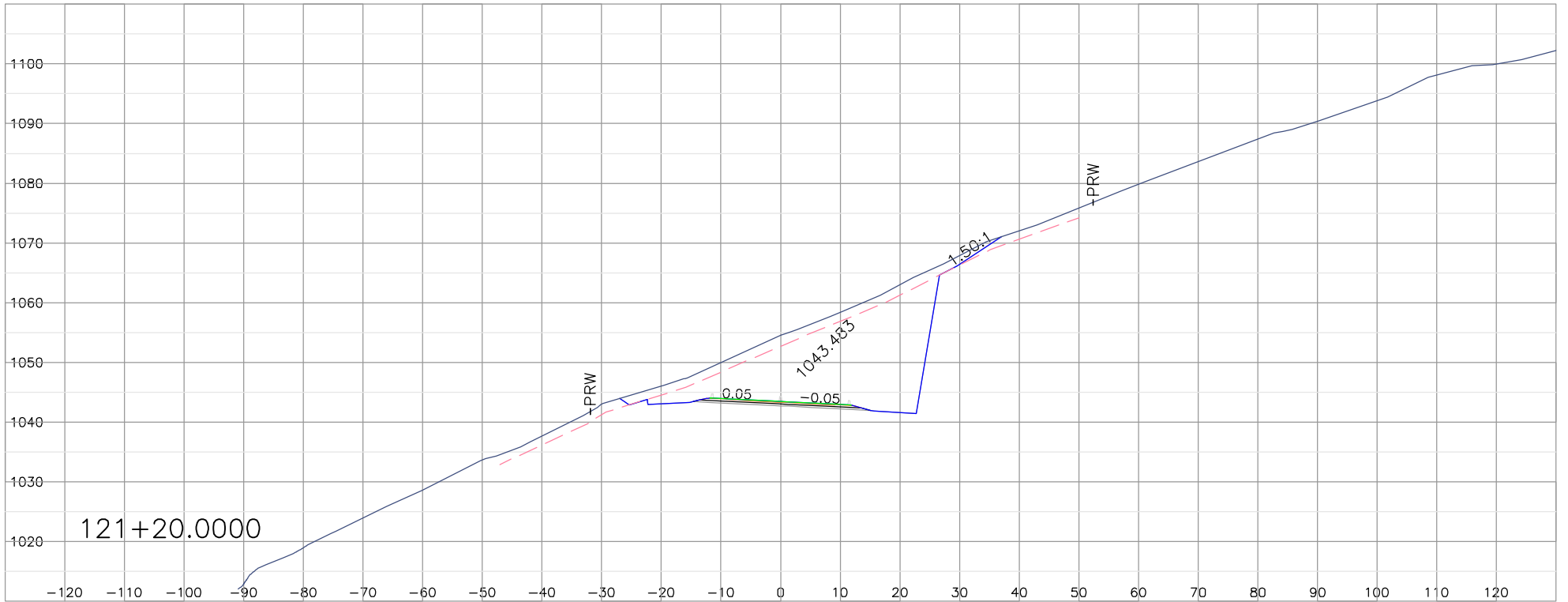
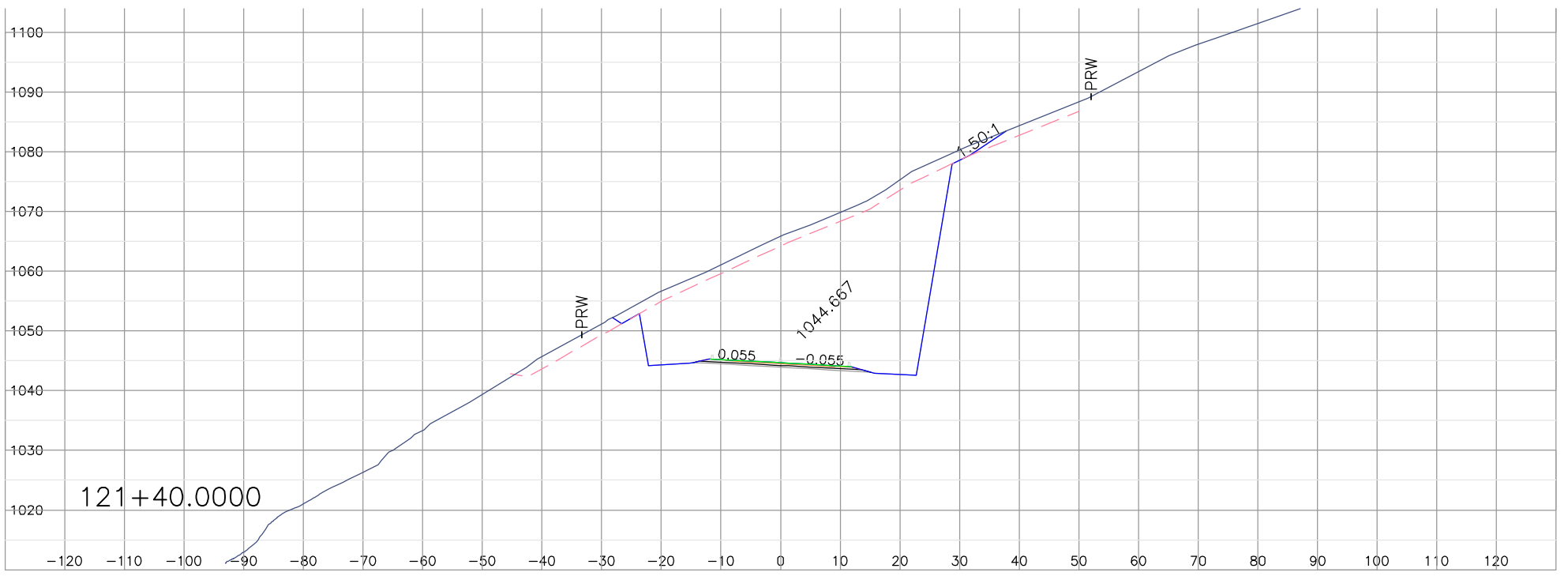


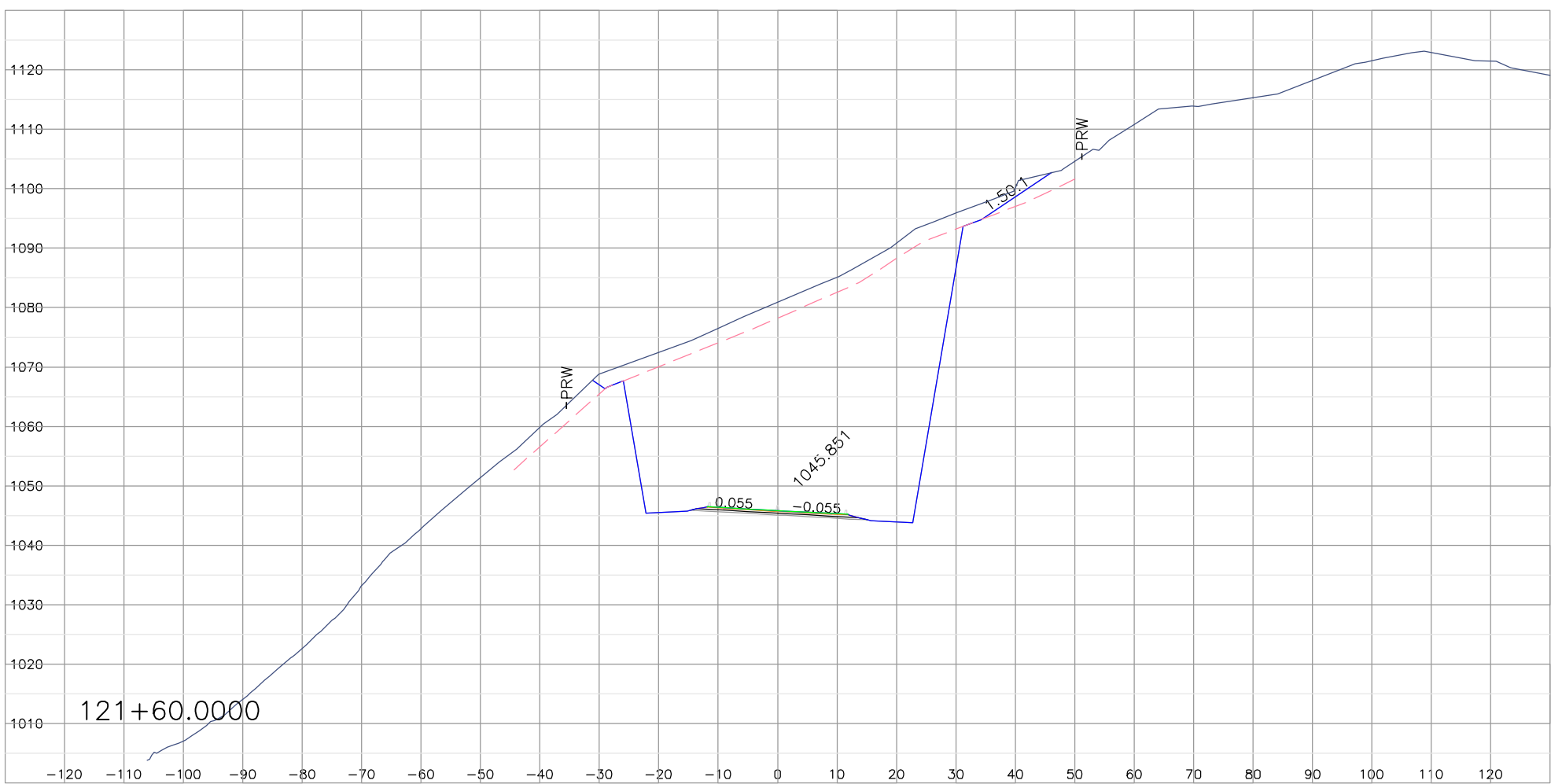
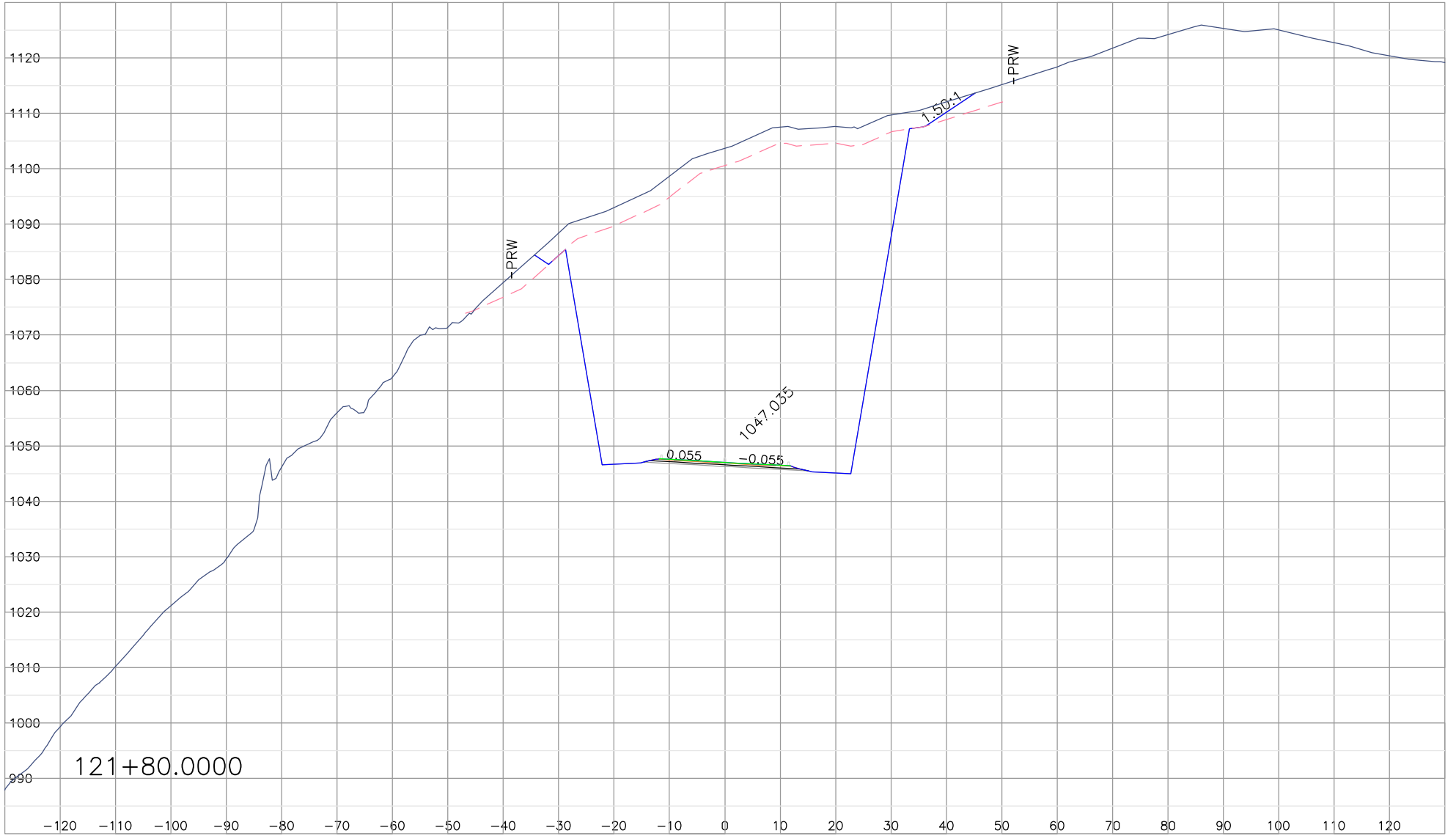


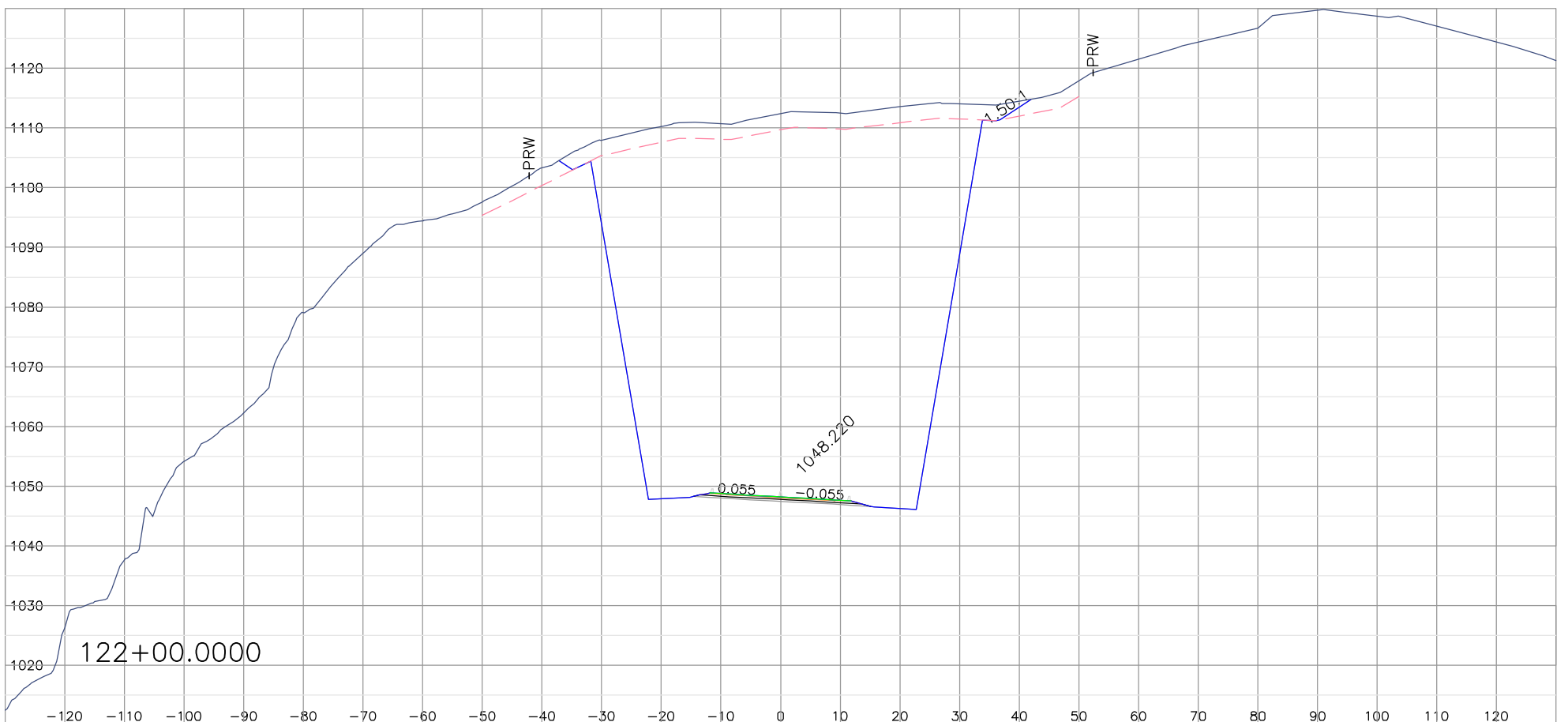
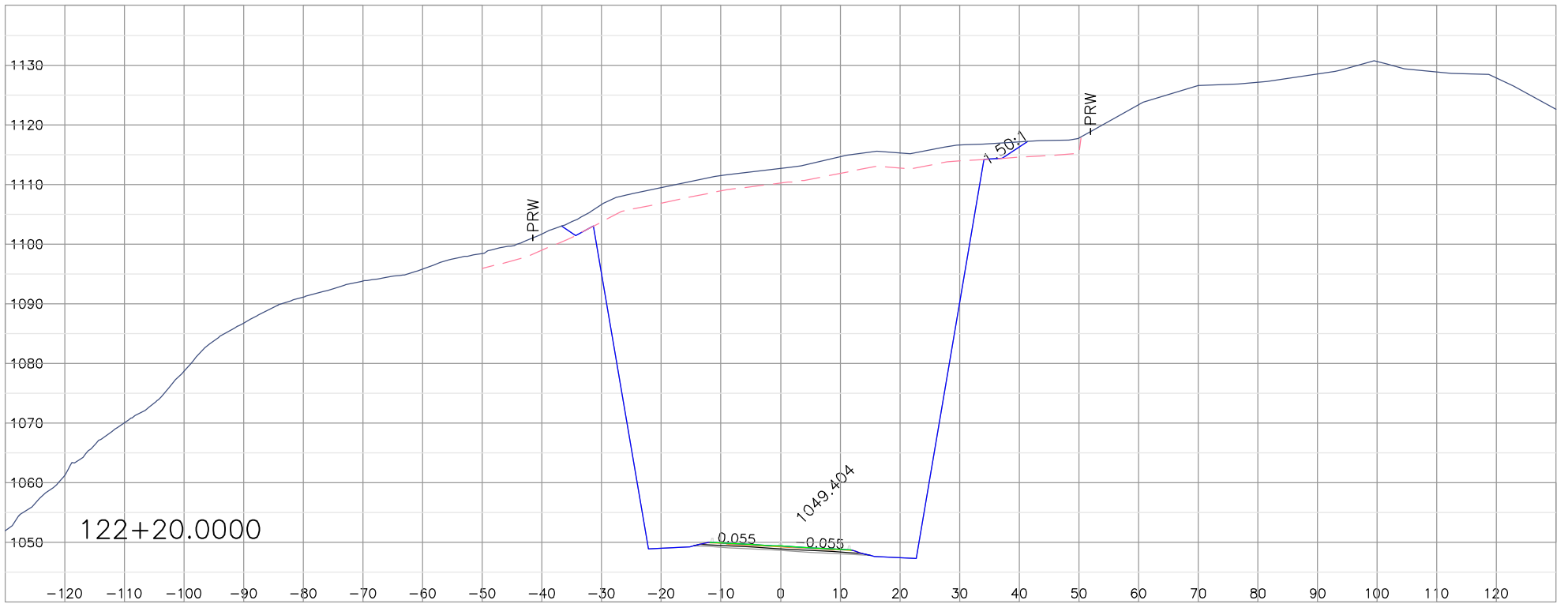
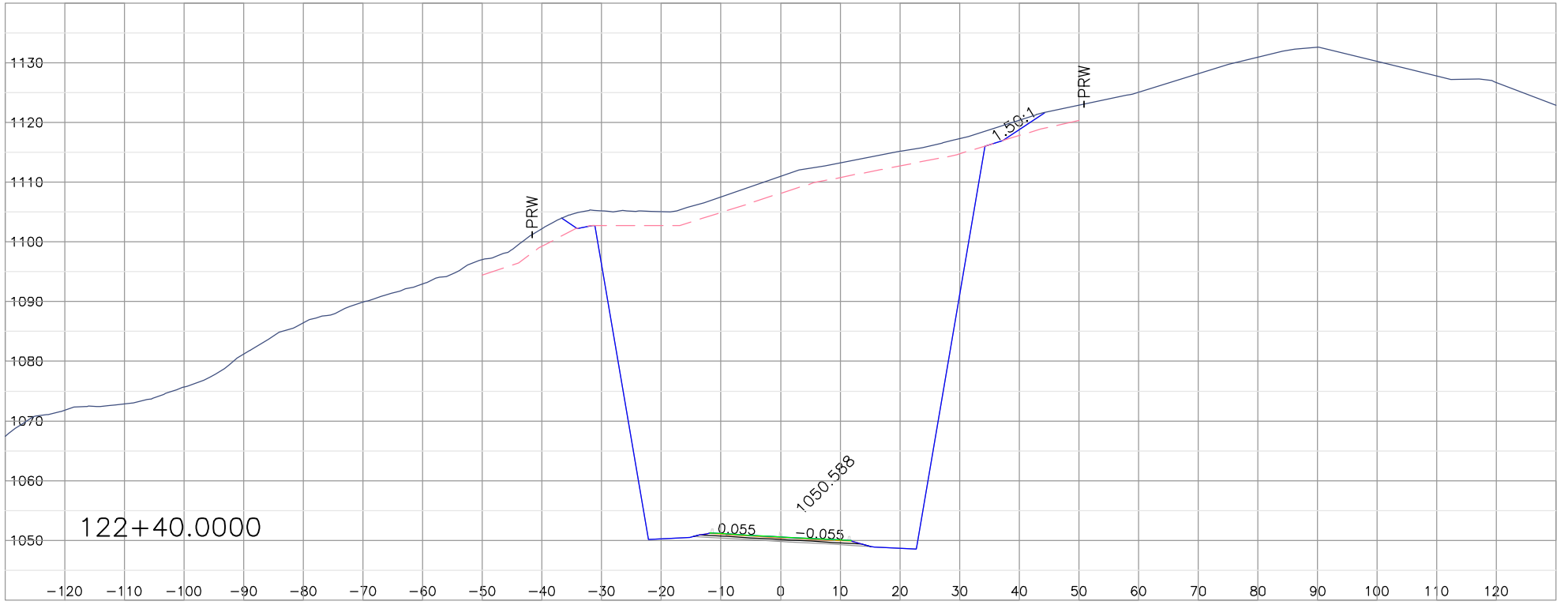


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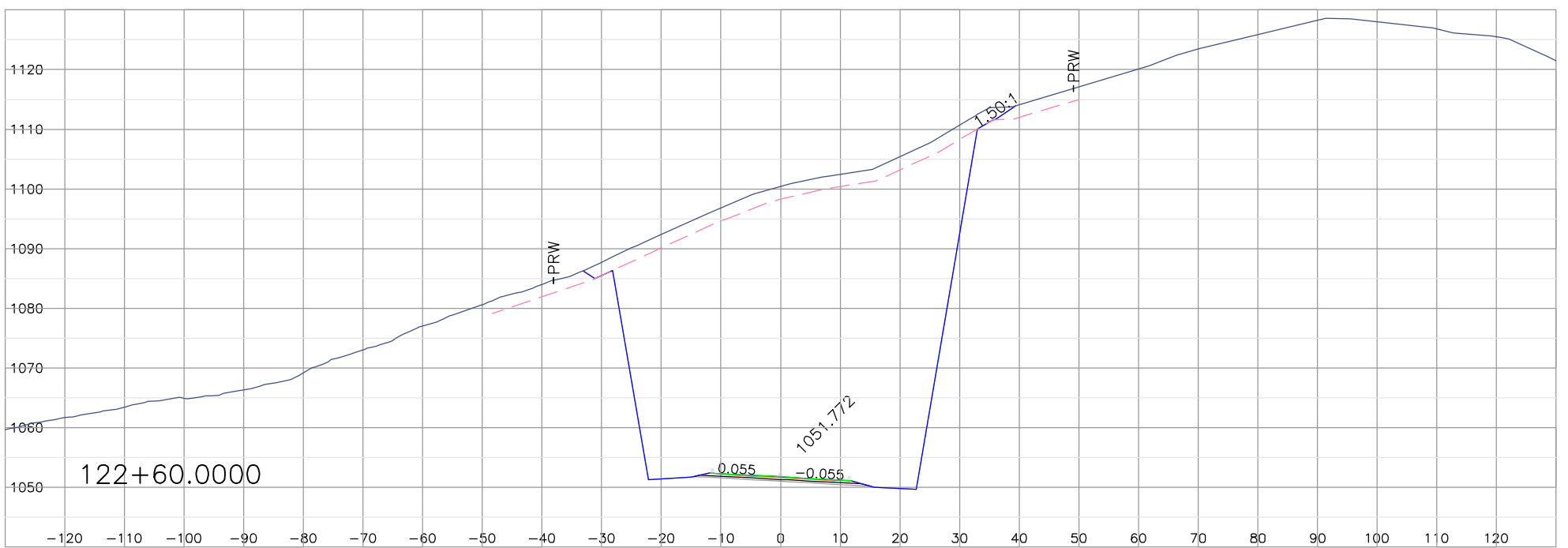
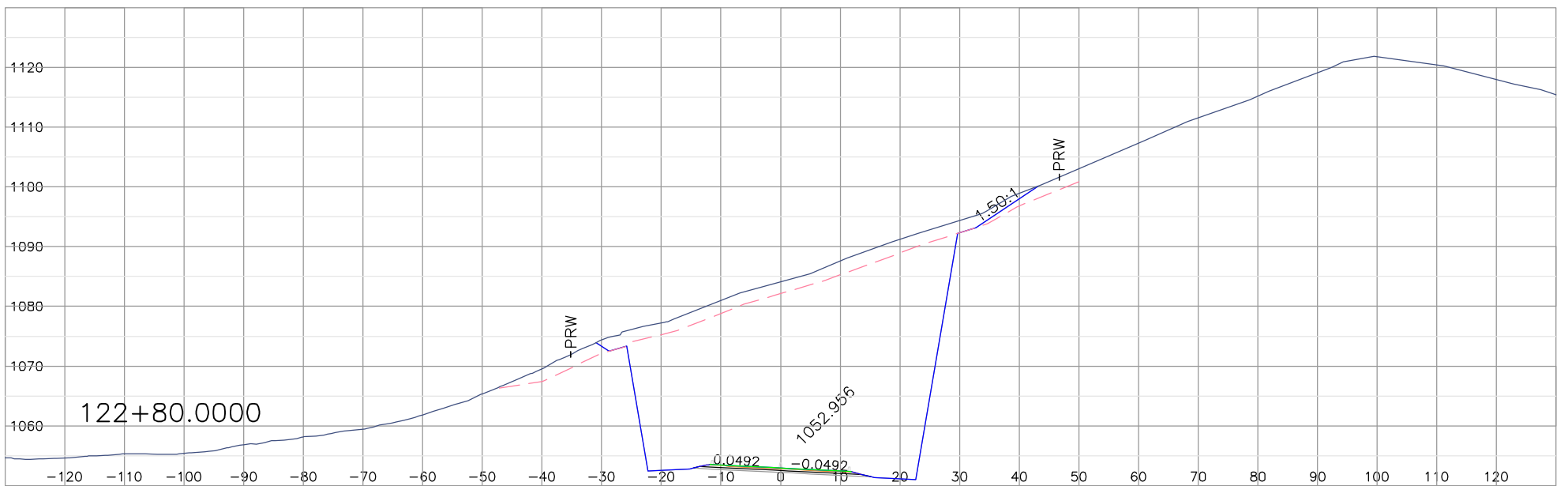
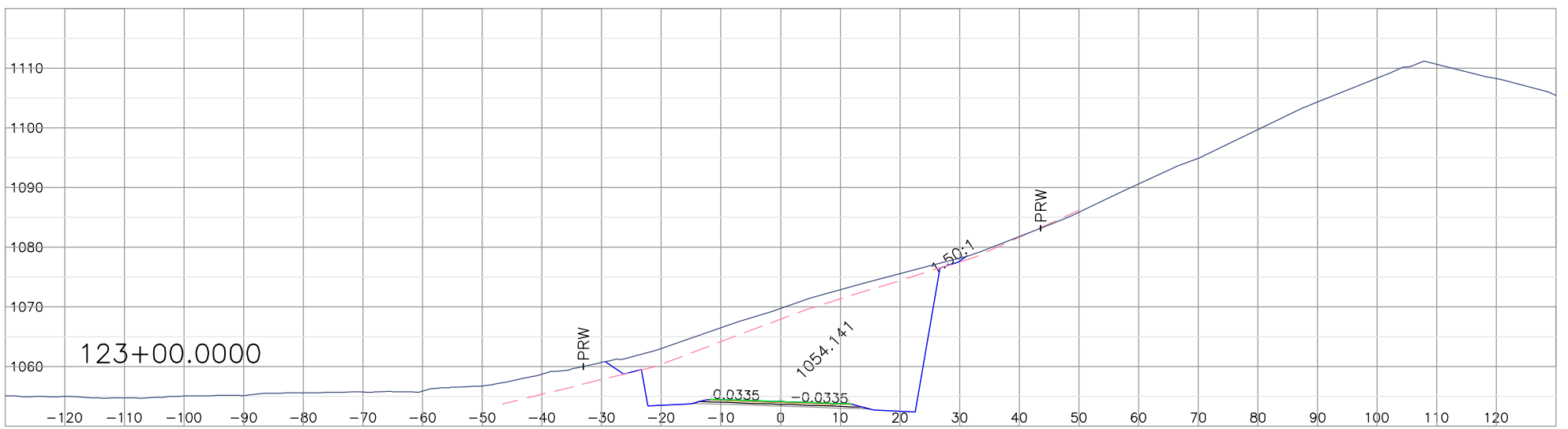
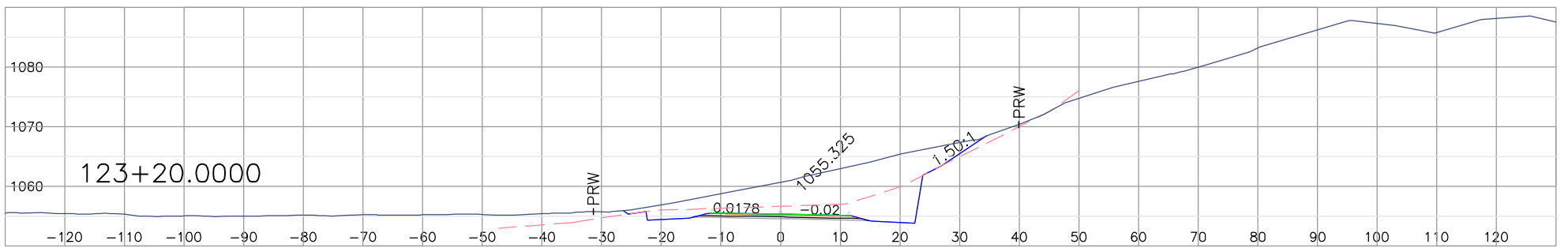
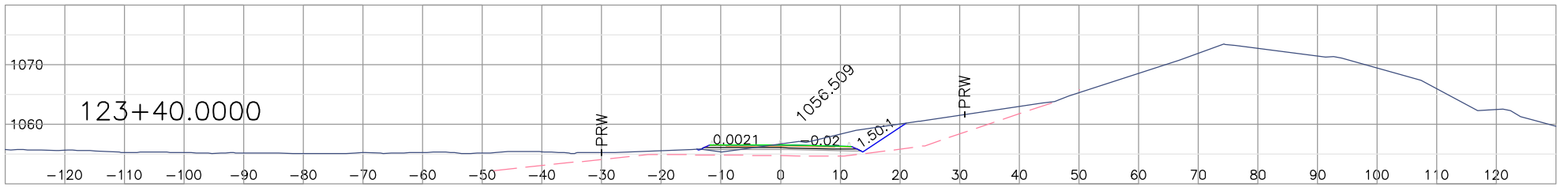
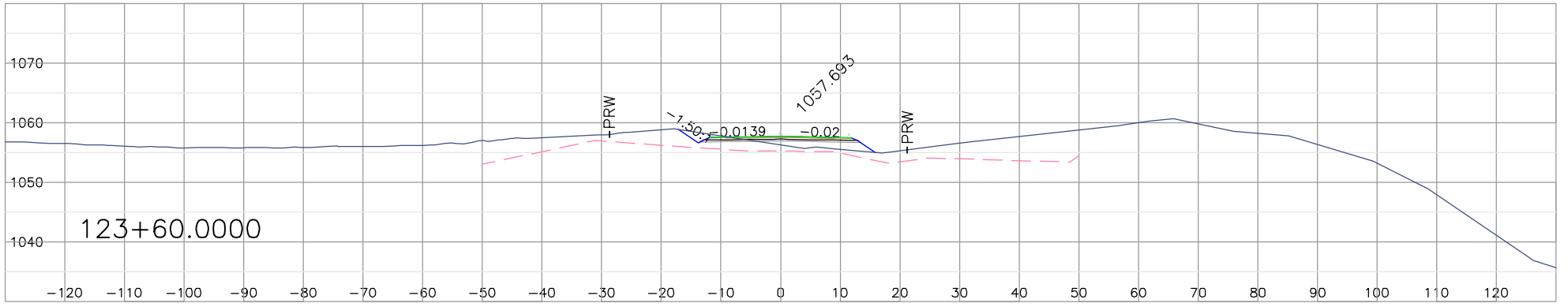
CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2

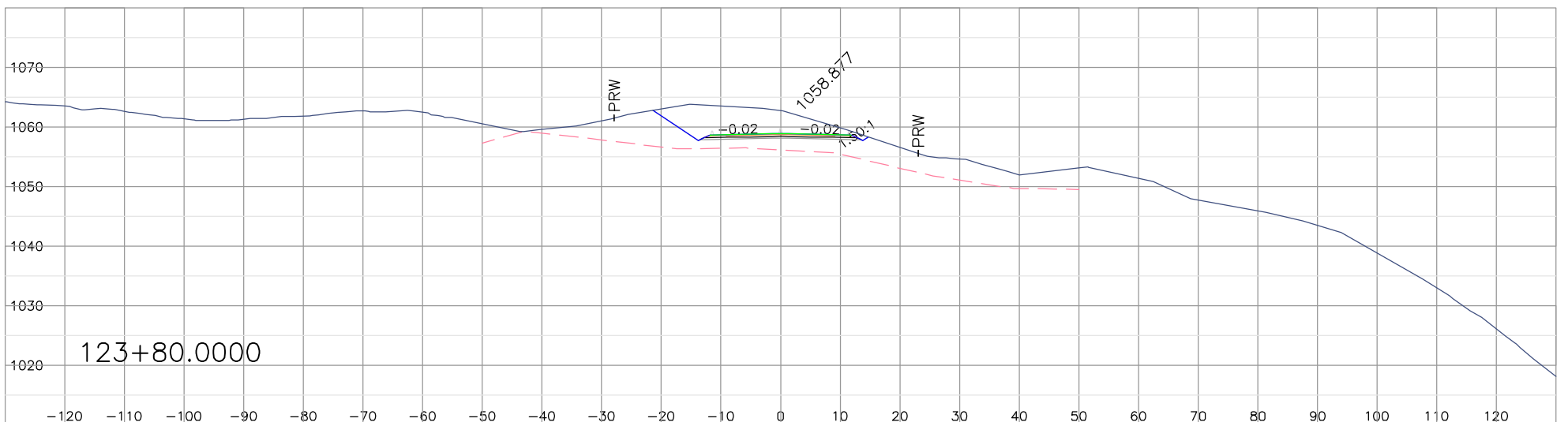
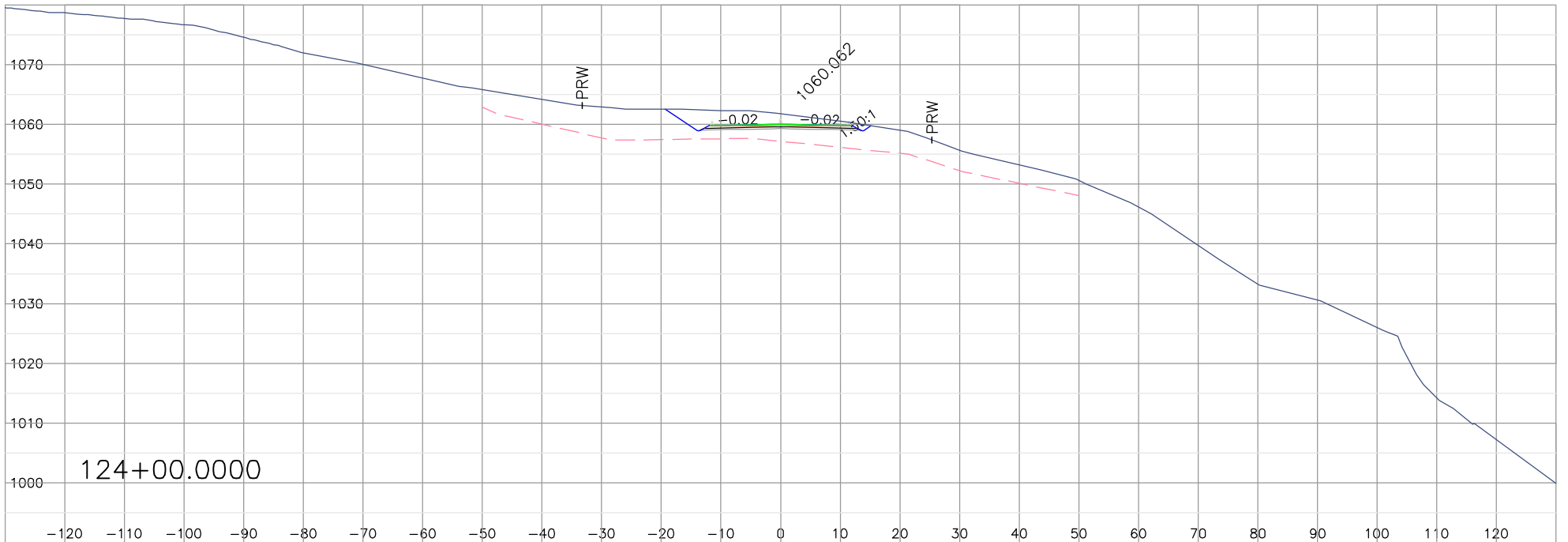
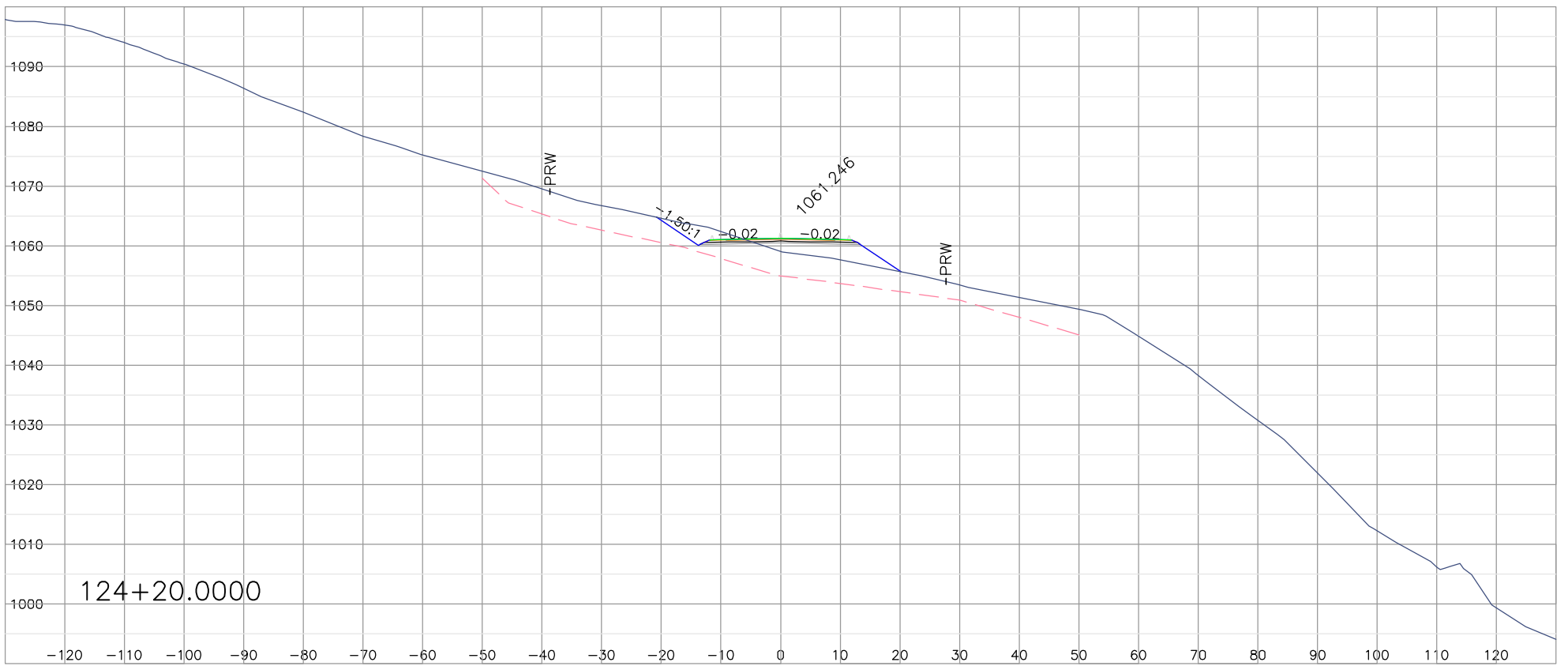
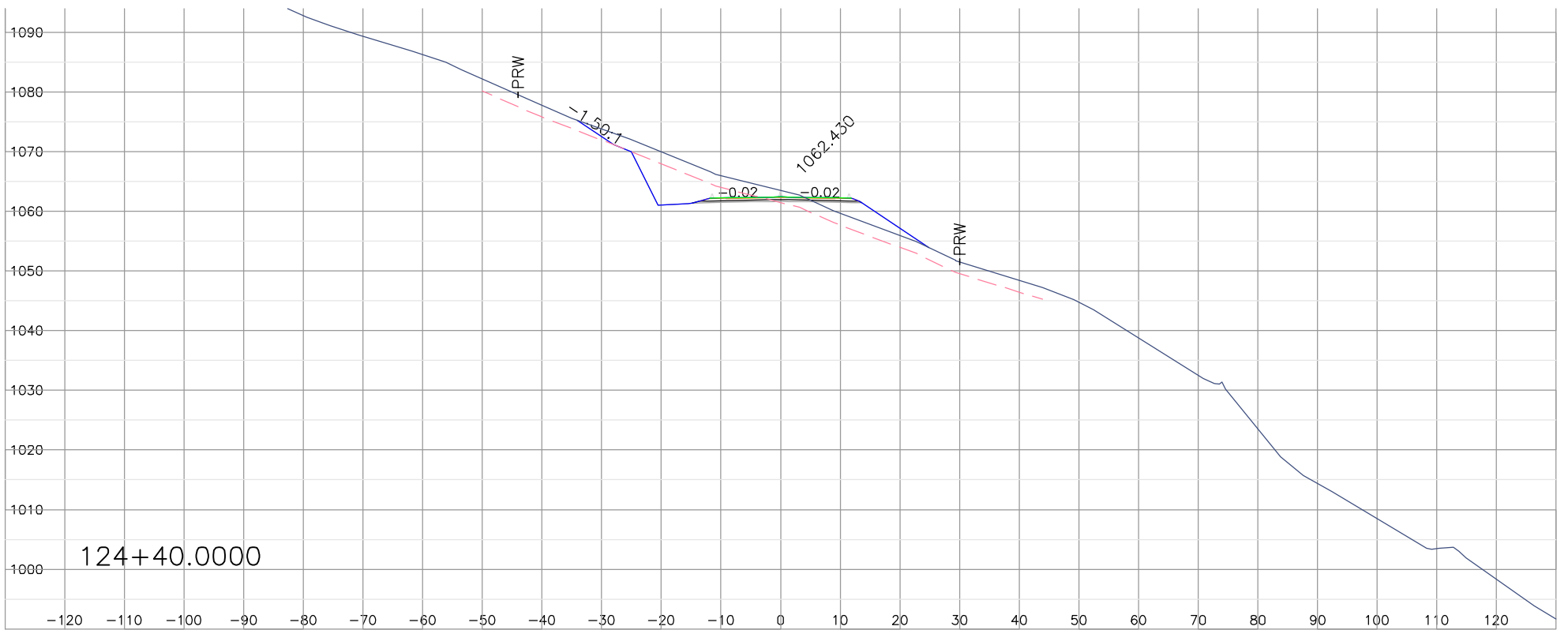


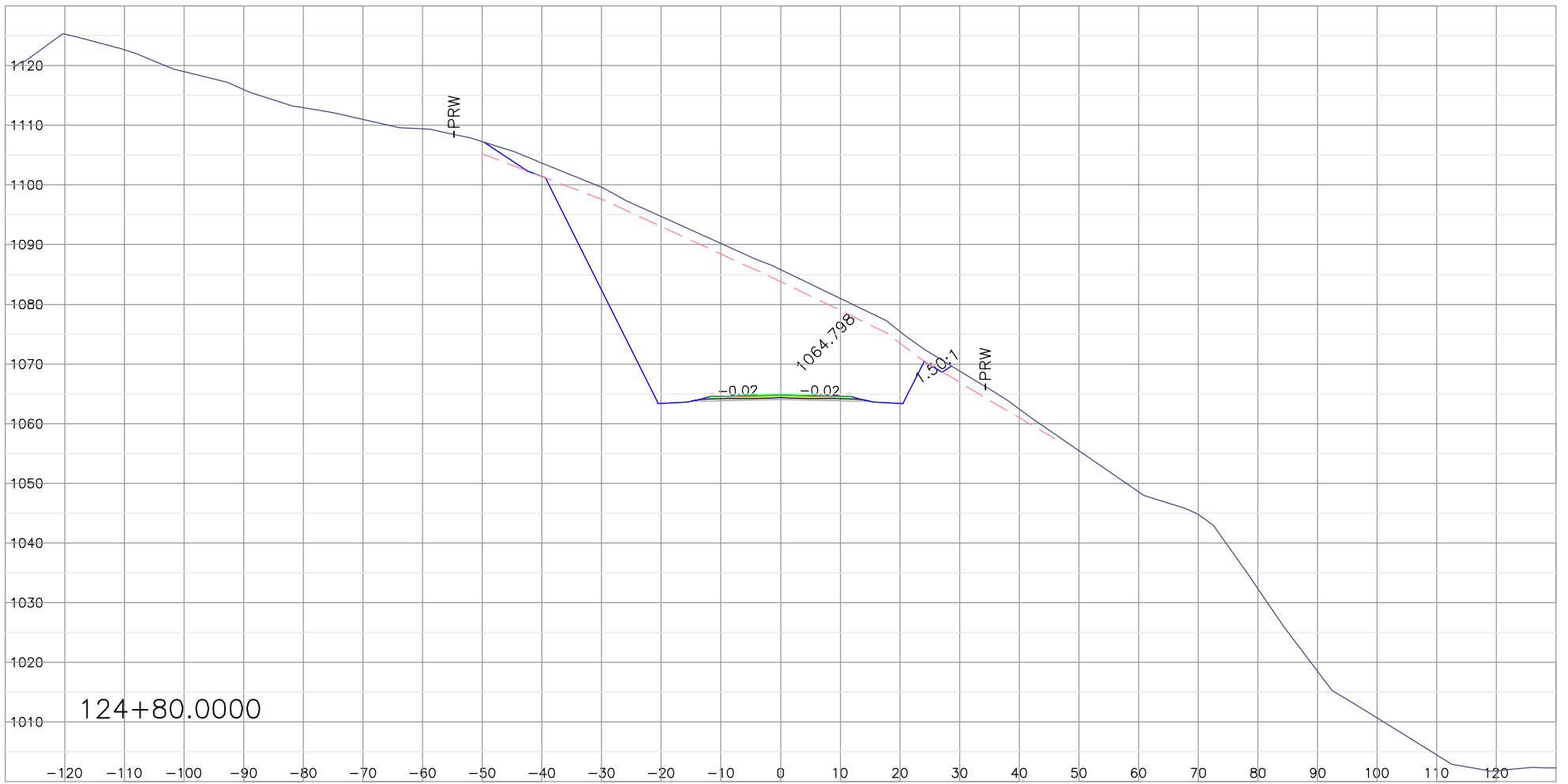


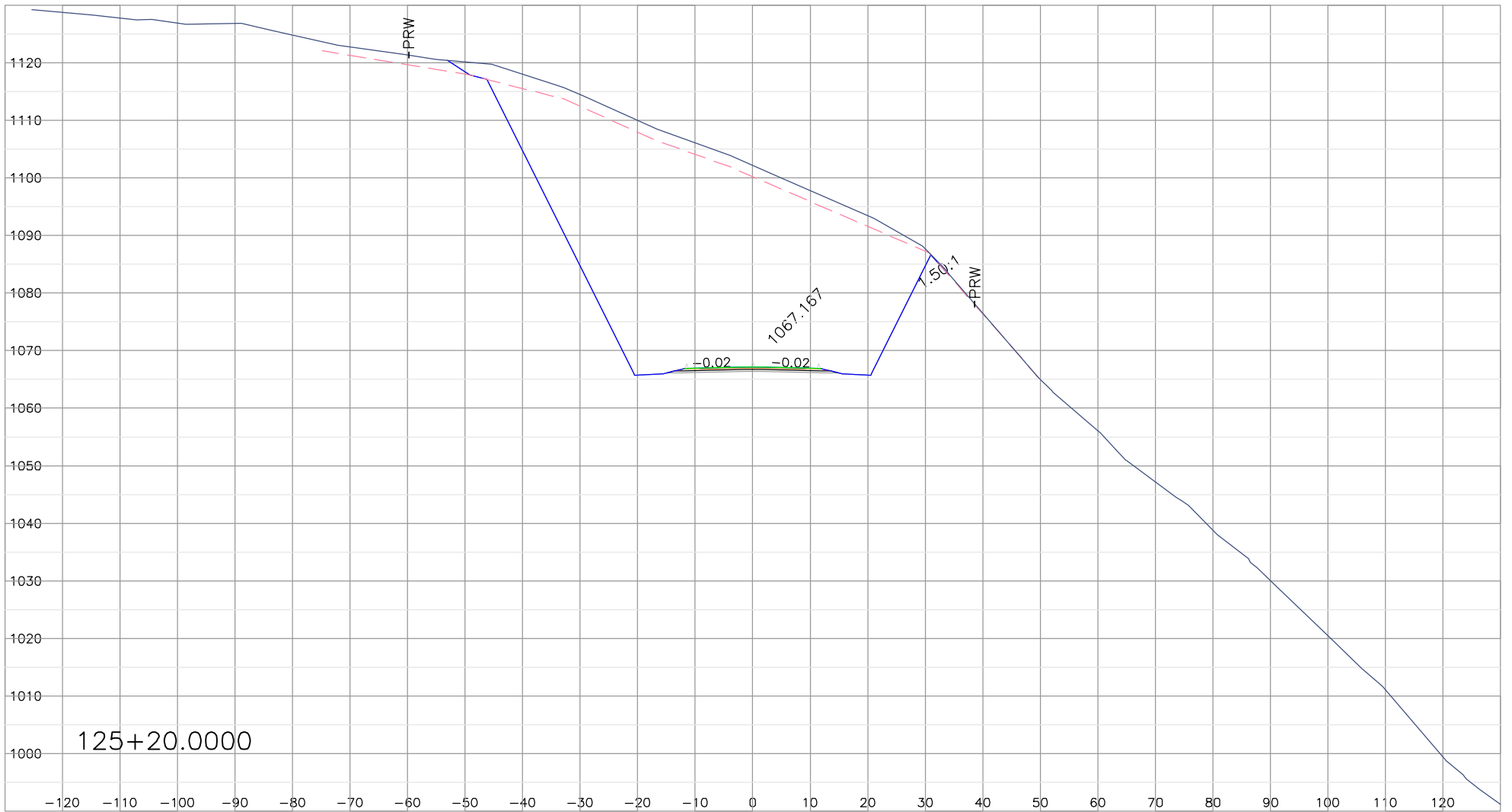
























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CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2







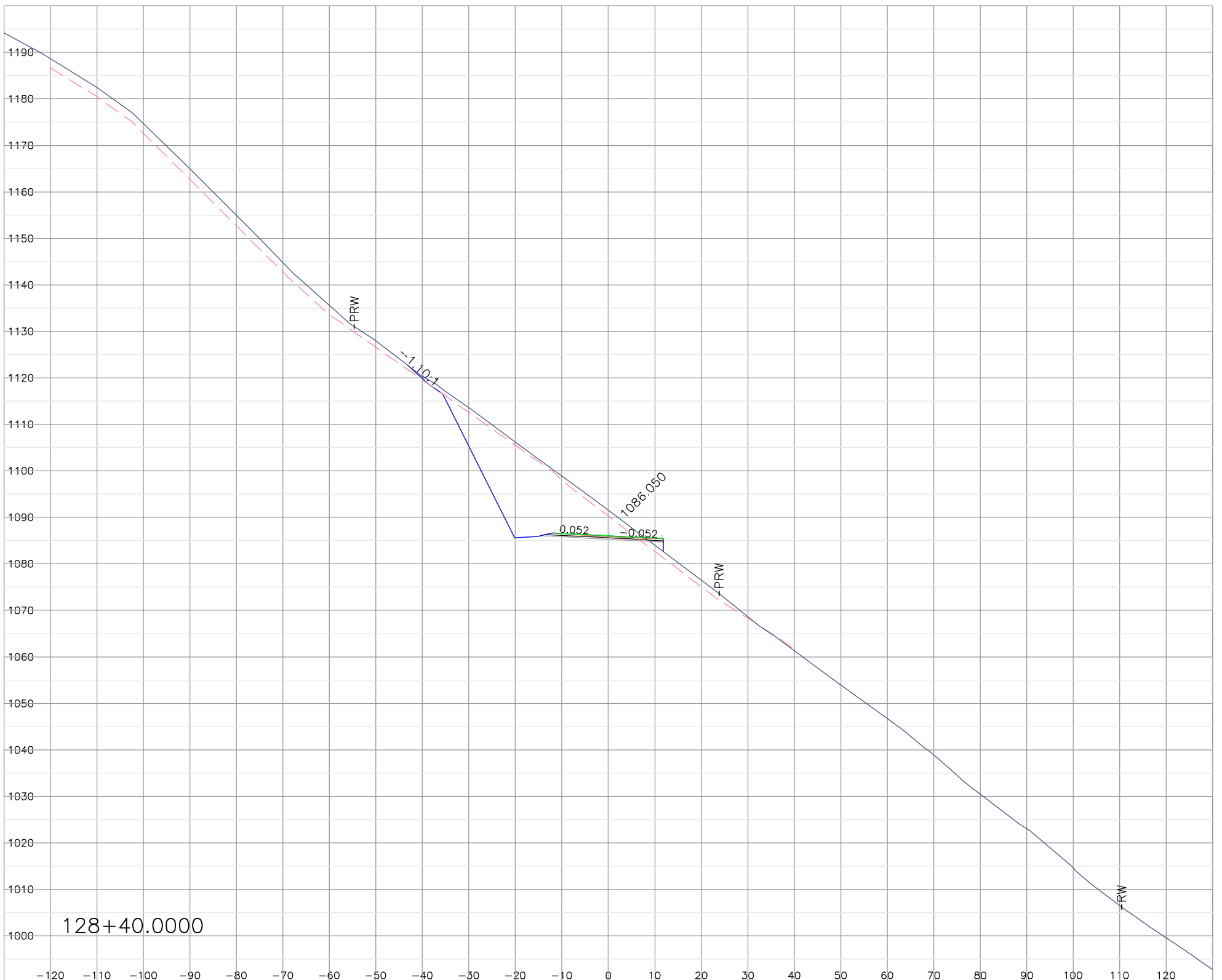
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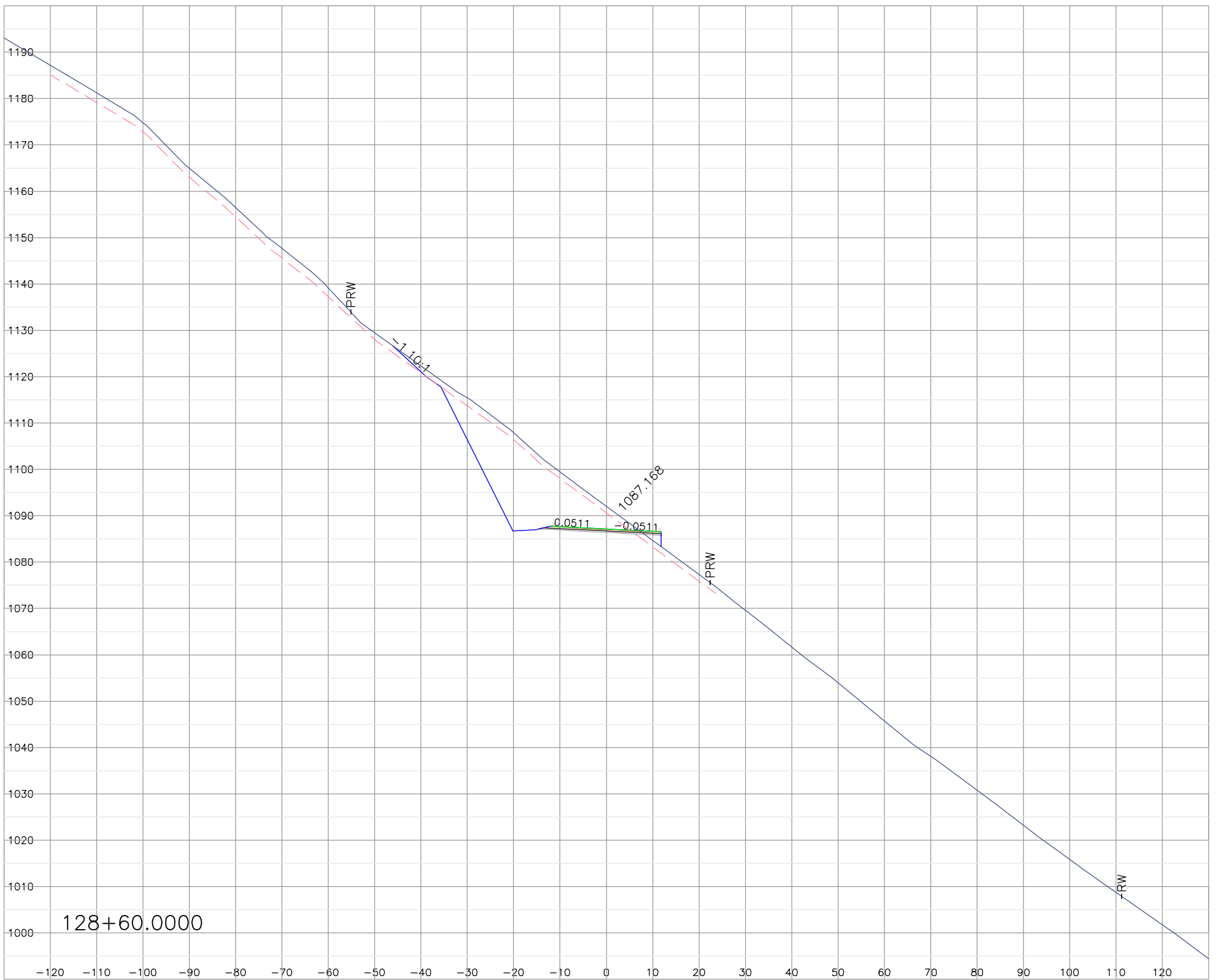


TPHG Proposed Alignment  
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CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2

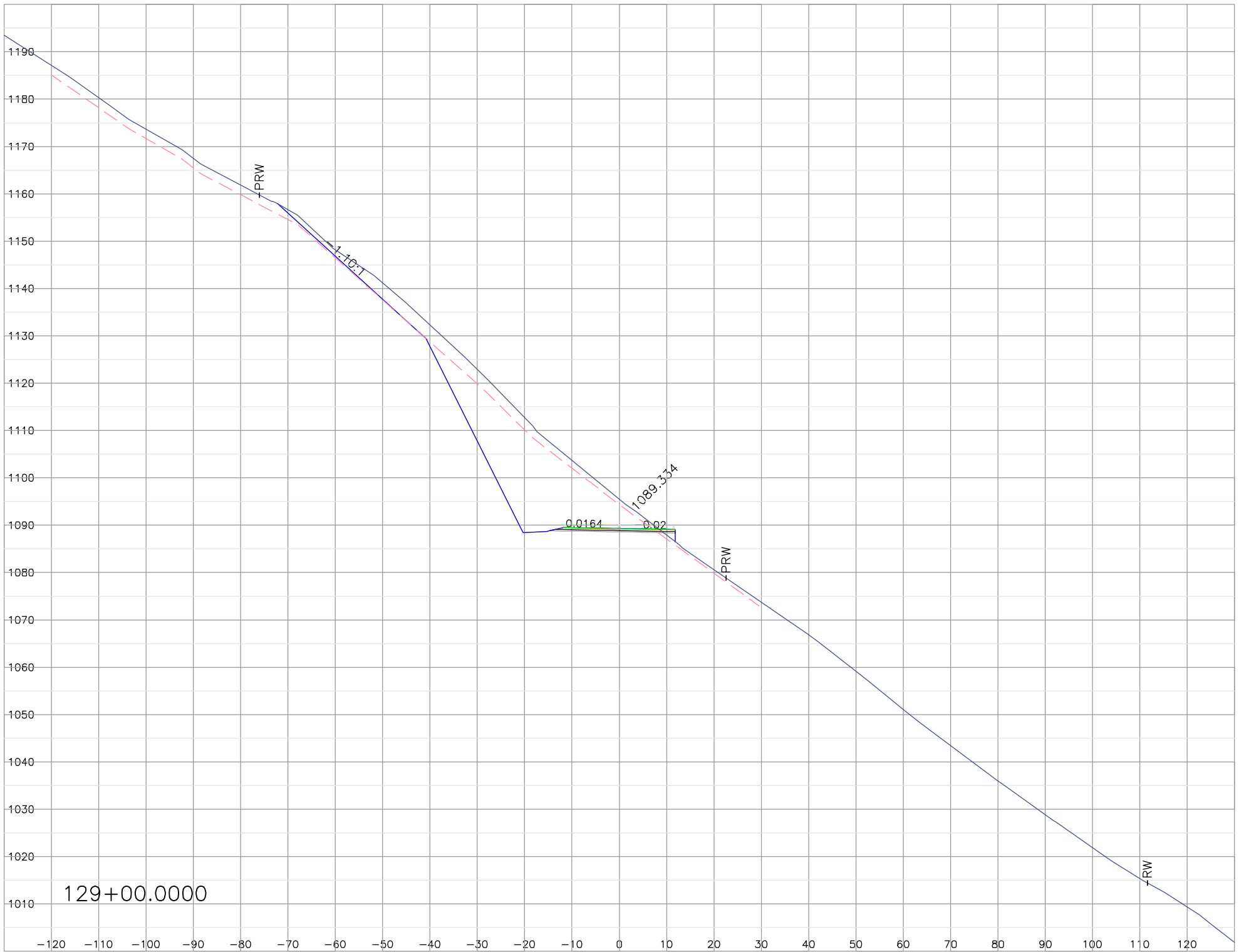








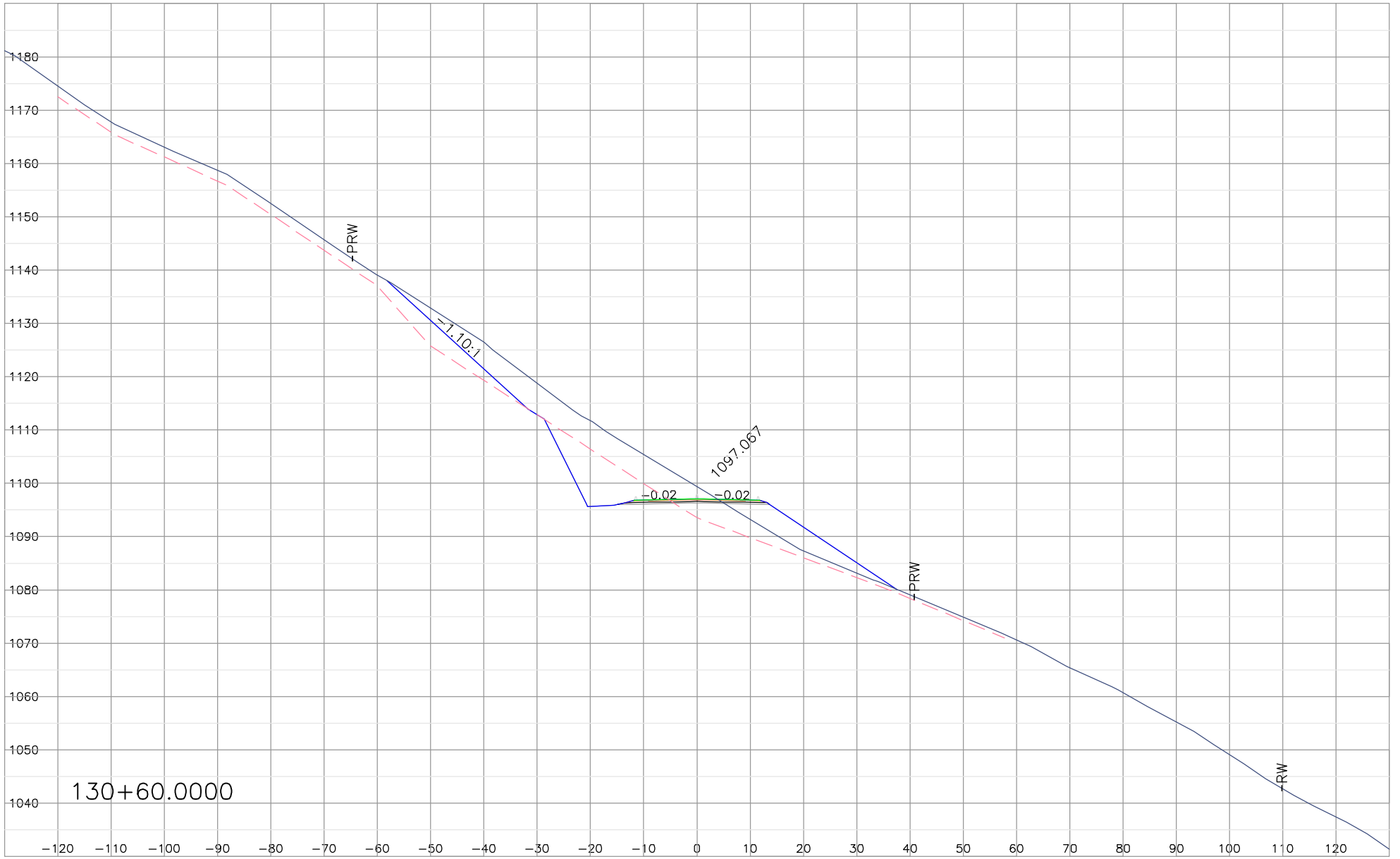


















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CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2







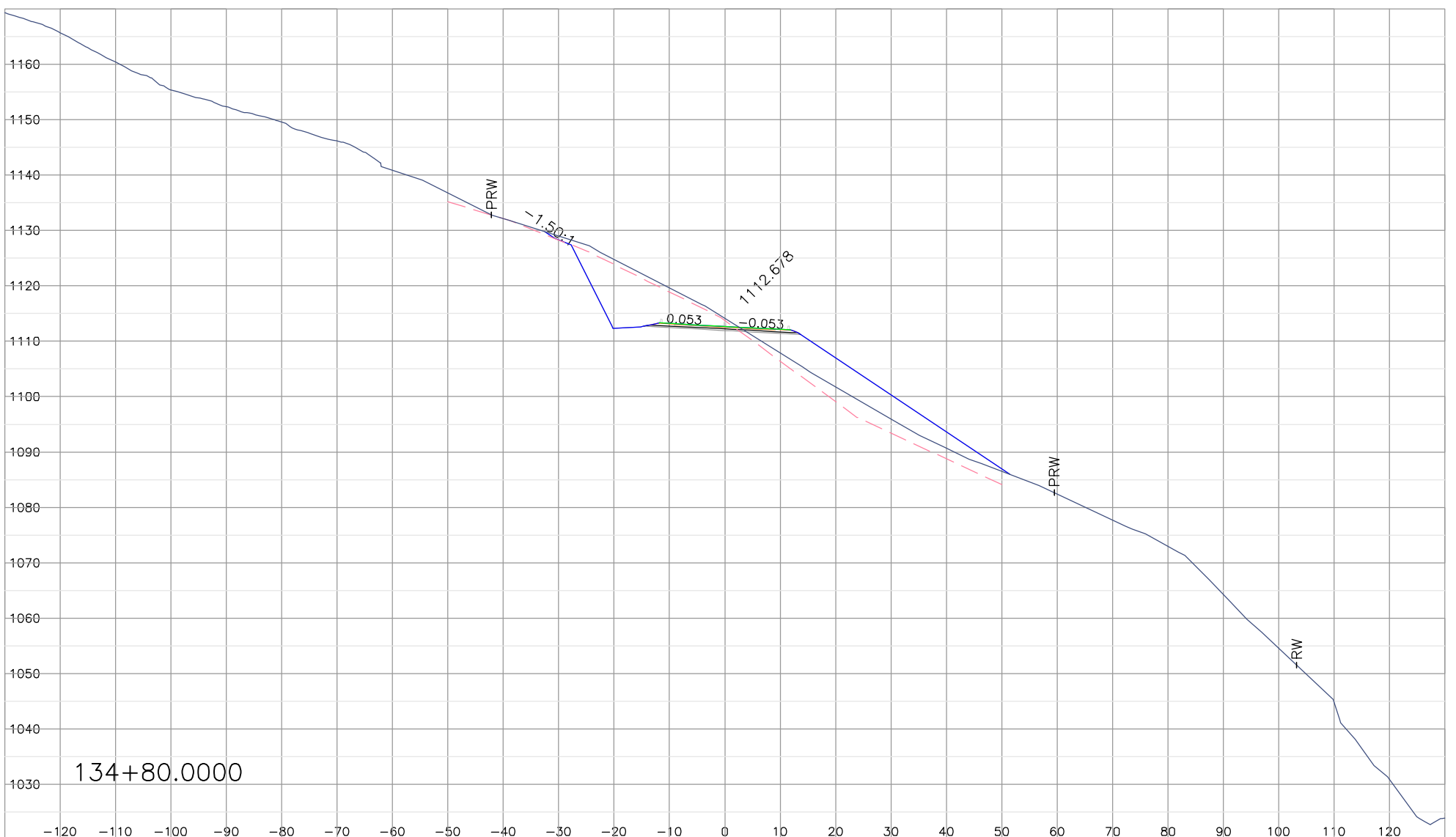








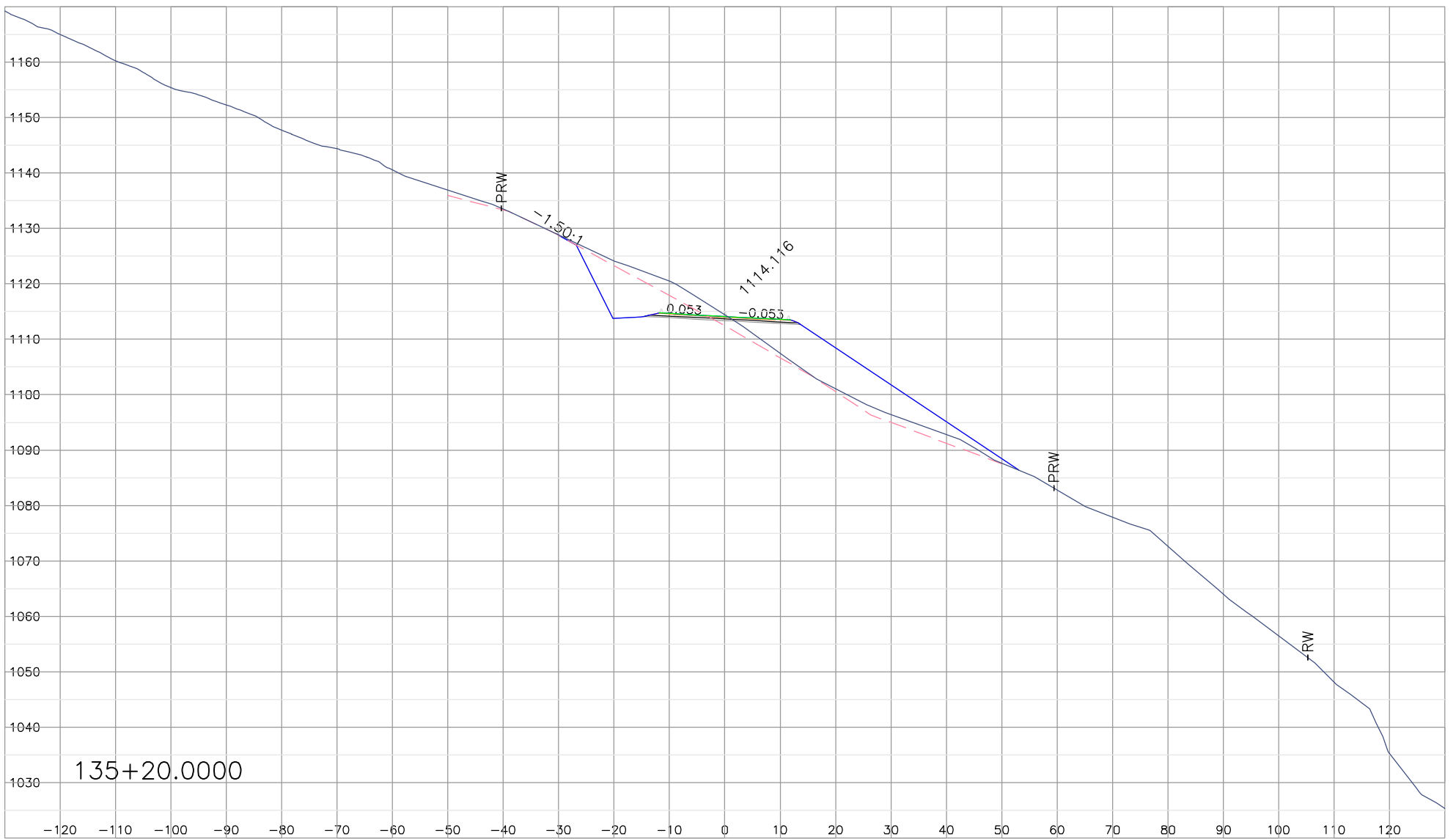
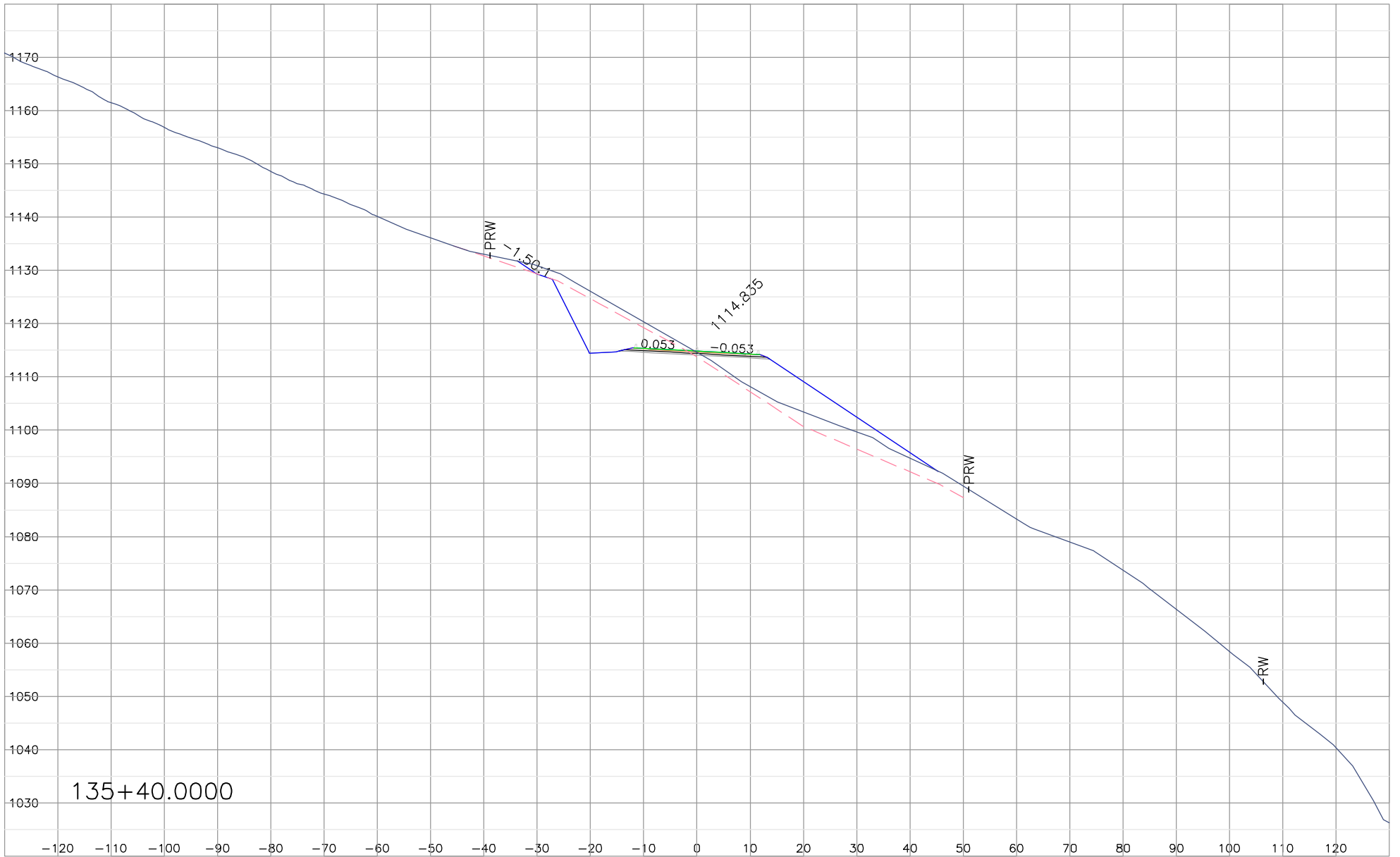


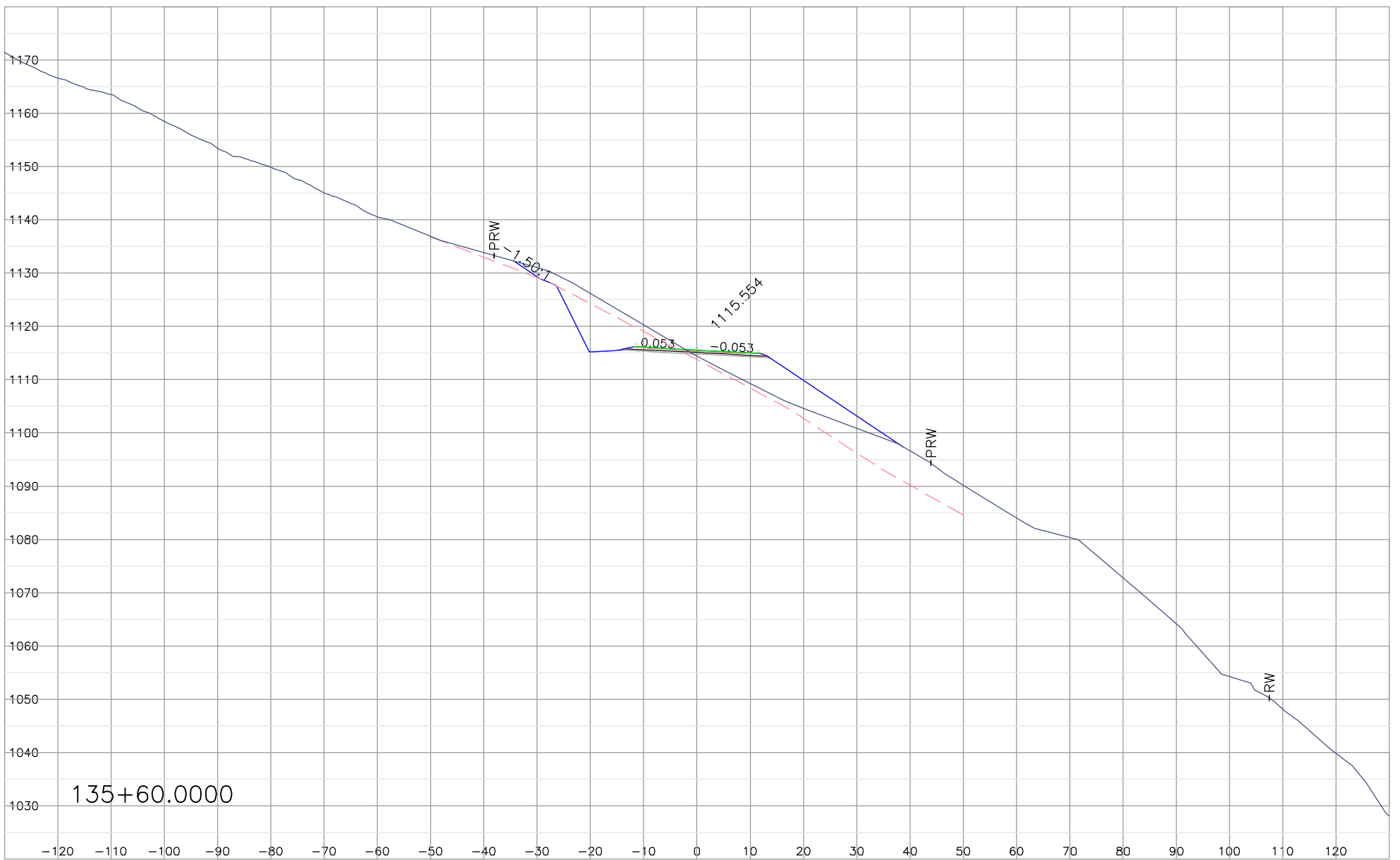
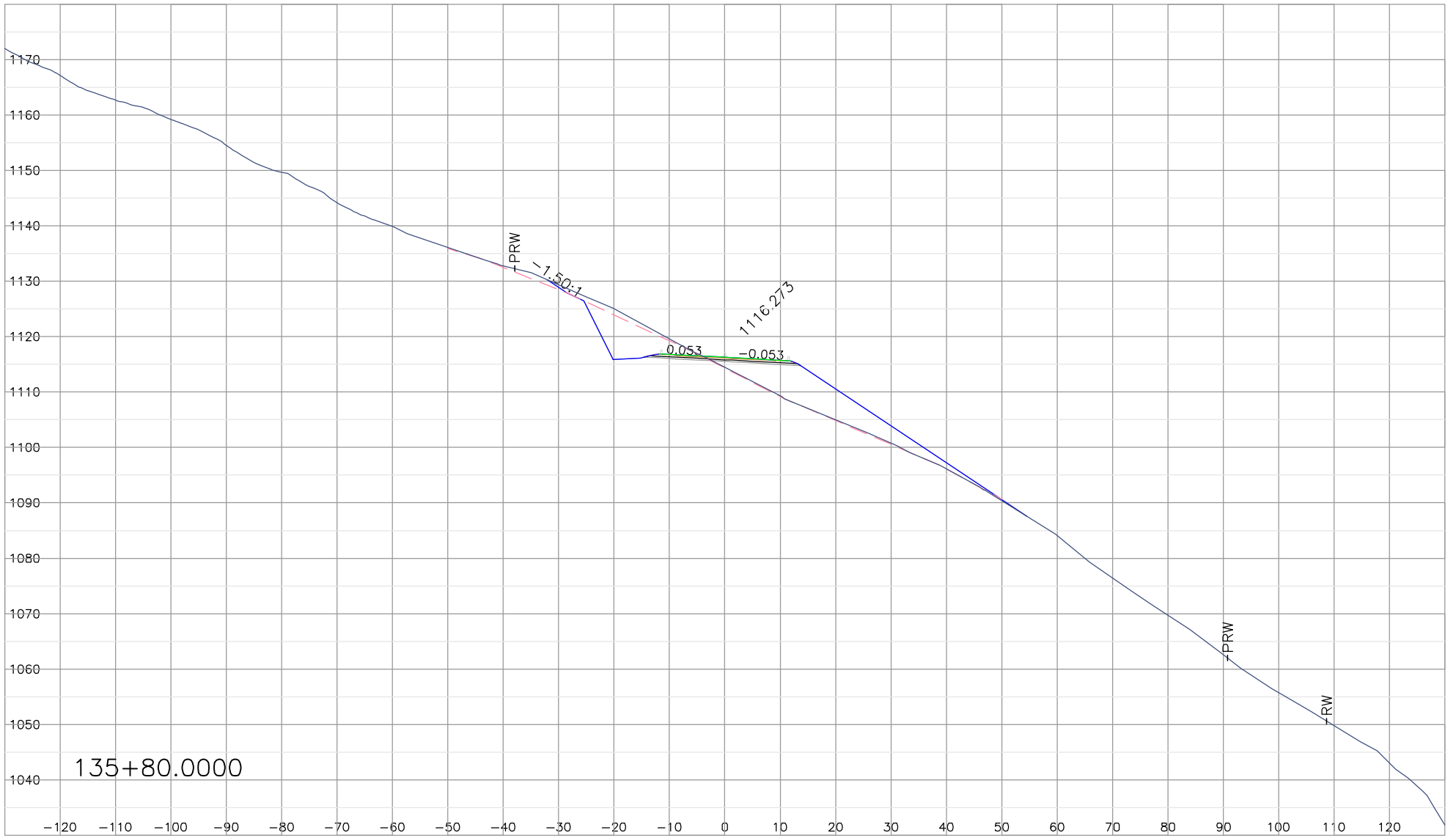


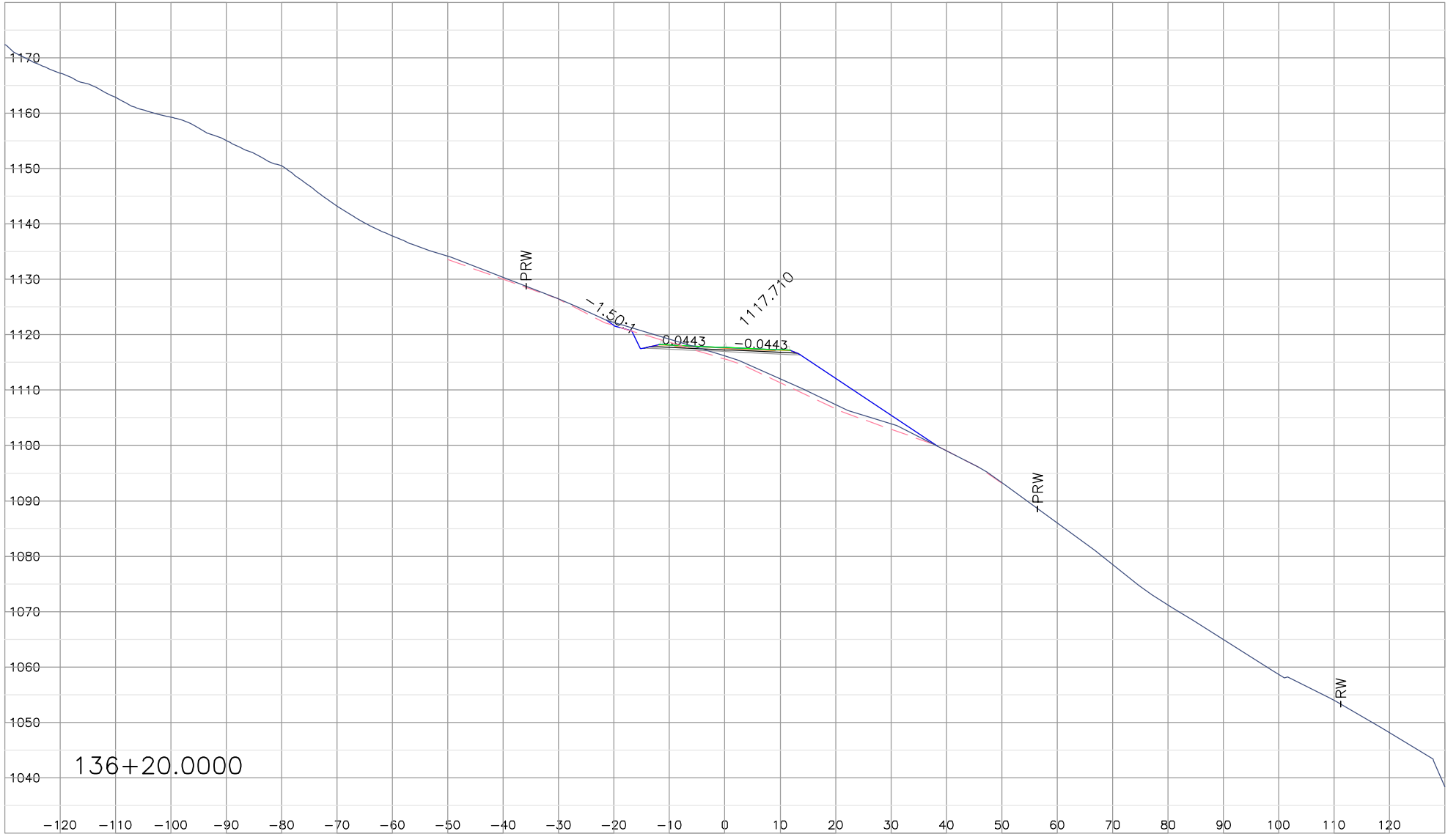
TPHG Proposed Alignment  
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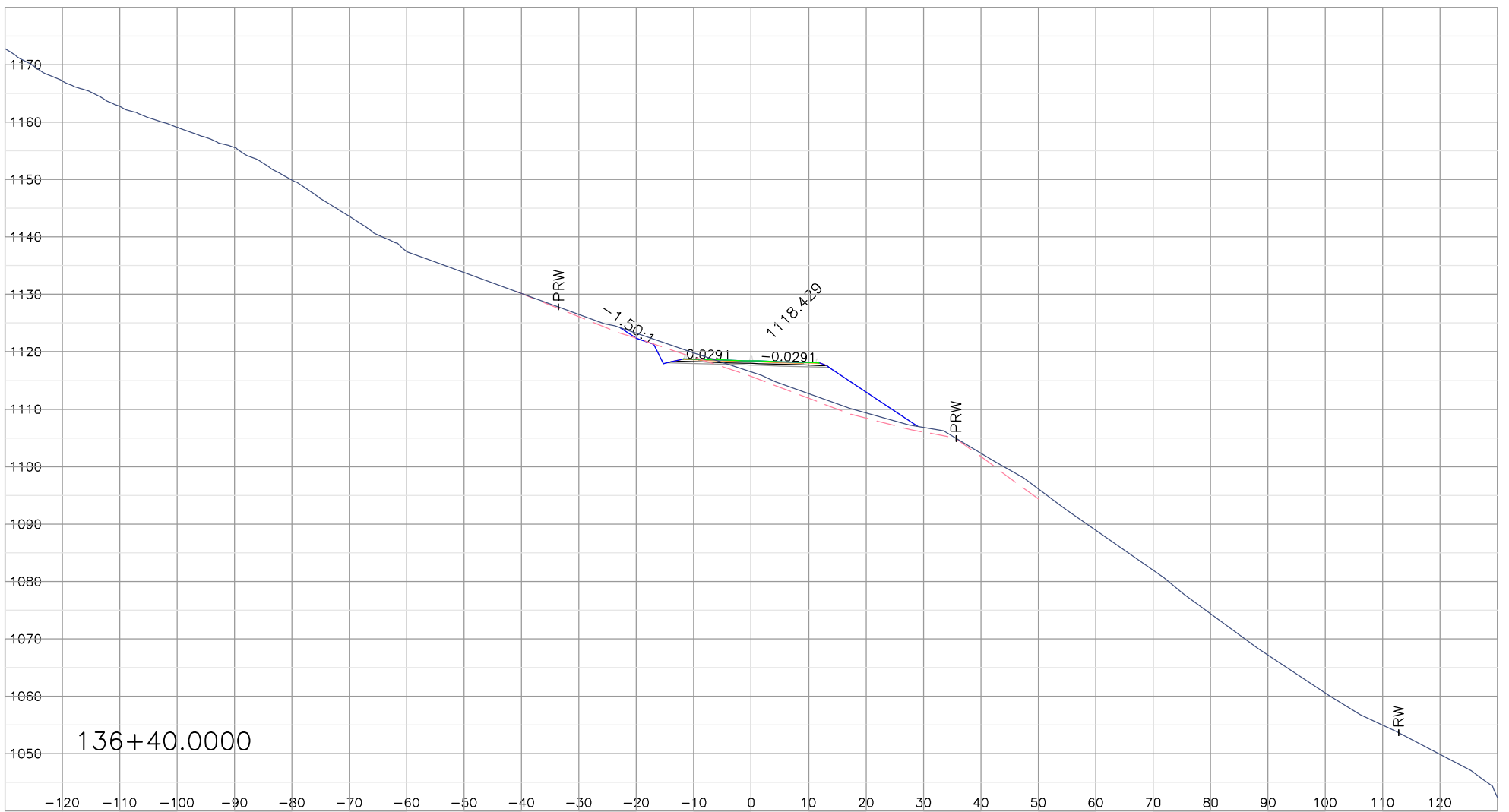
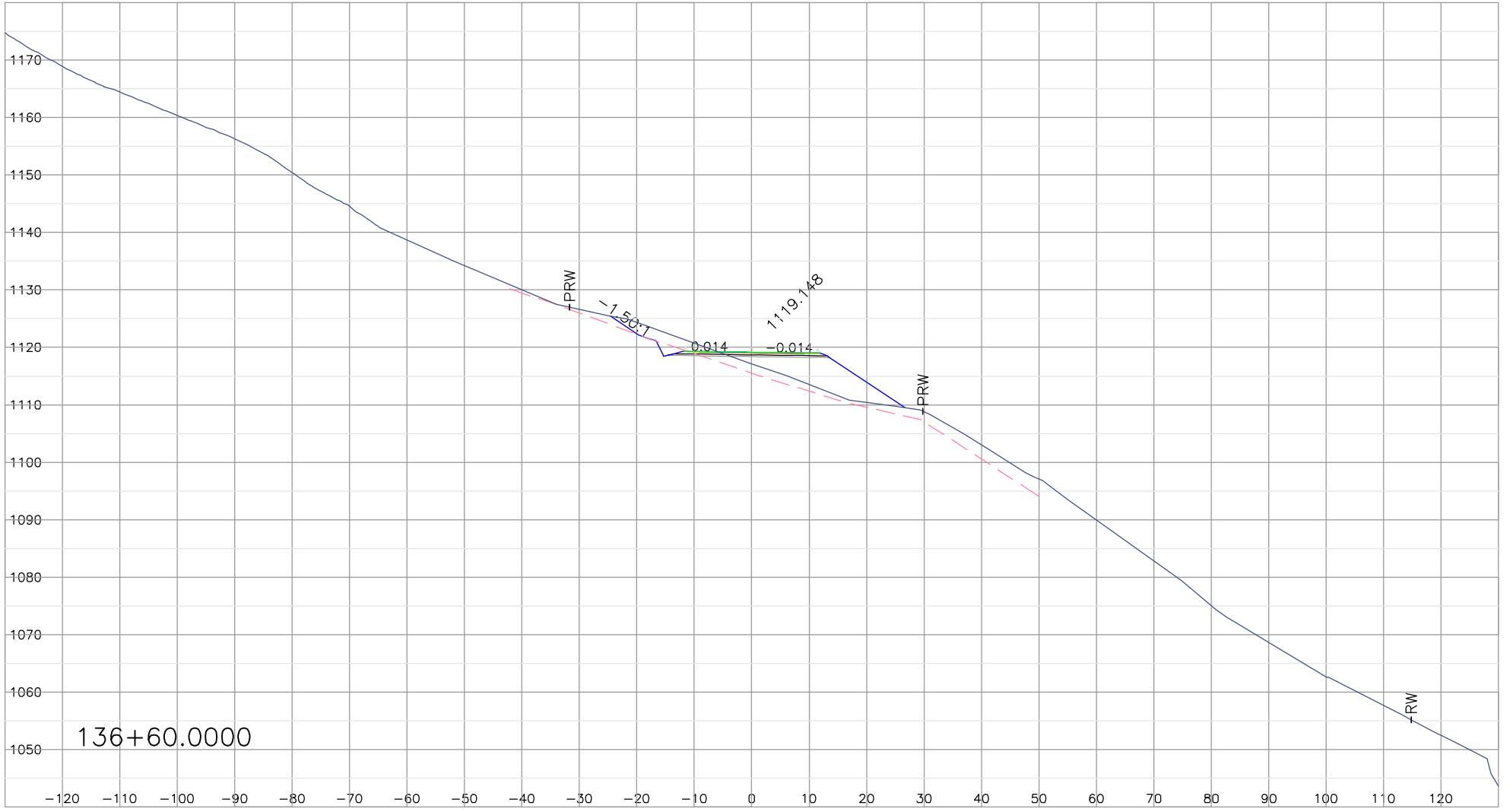
CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2

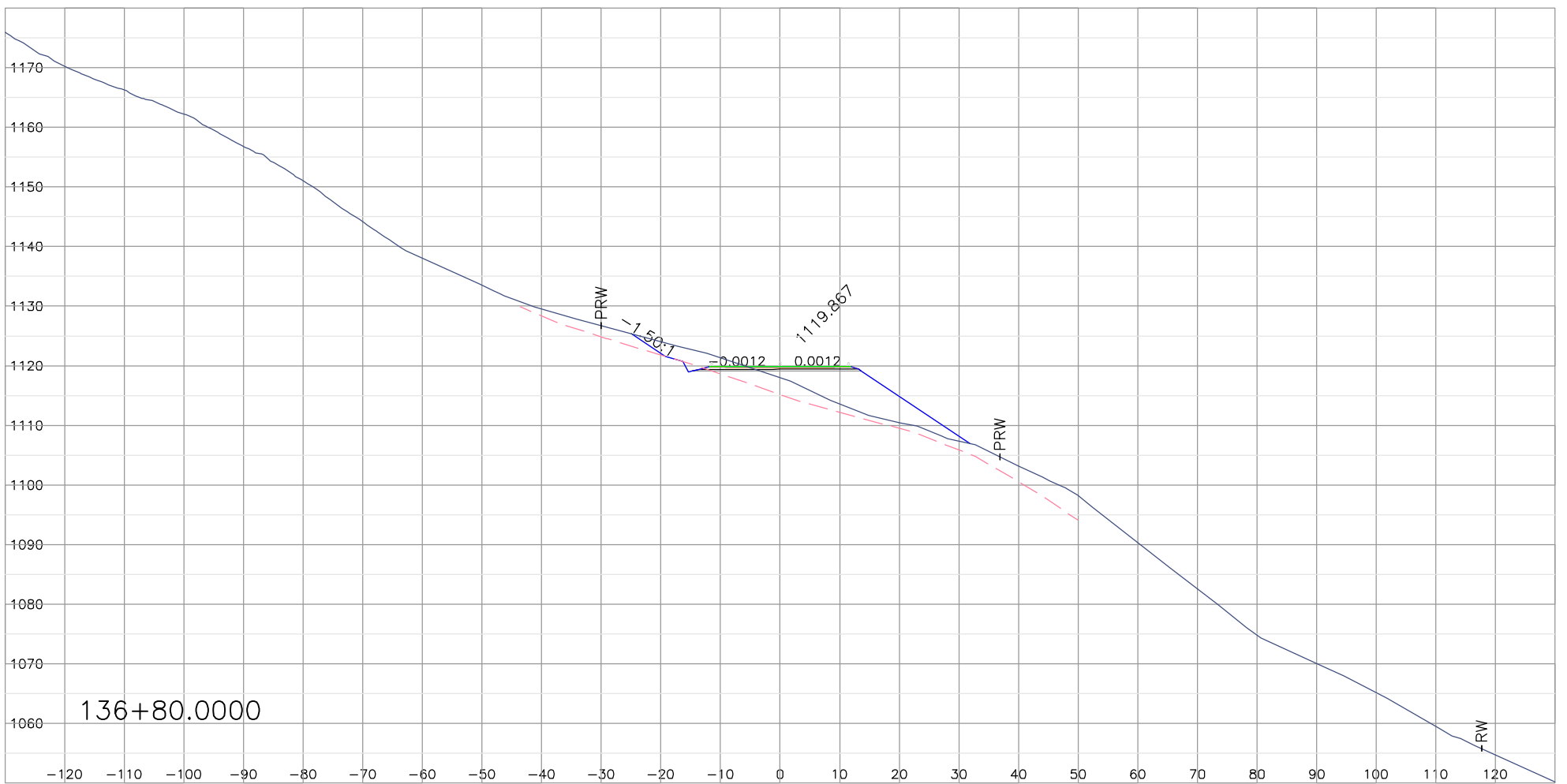
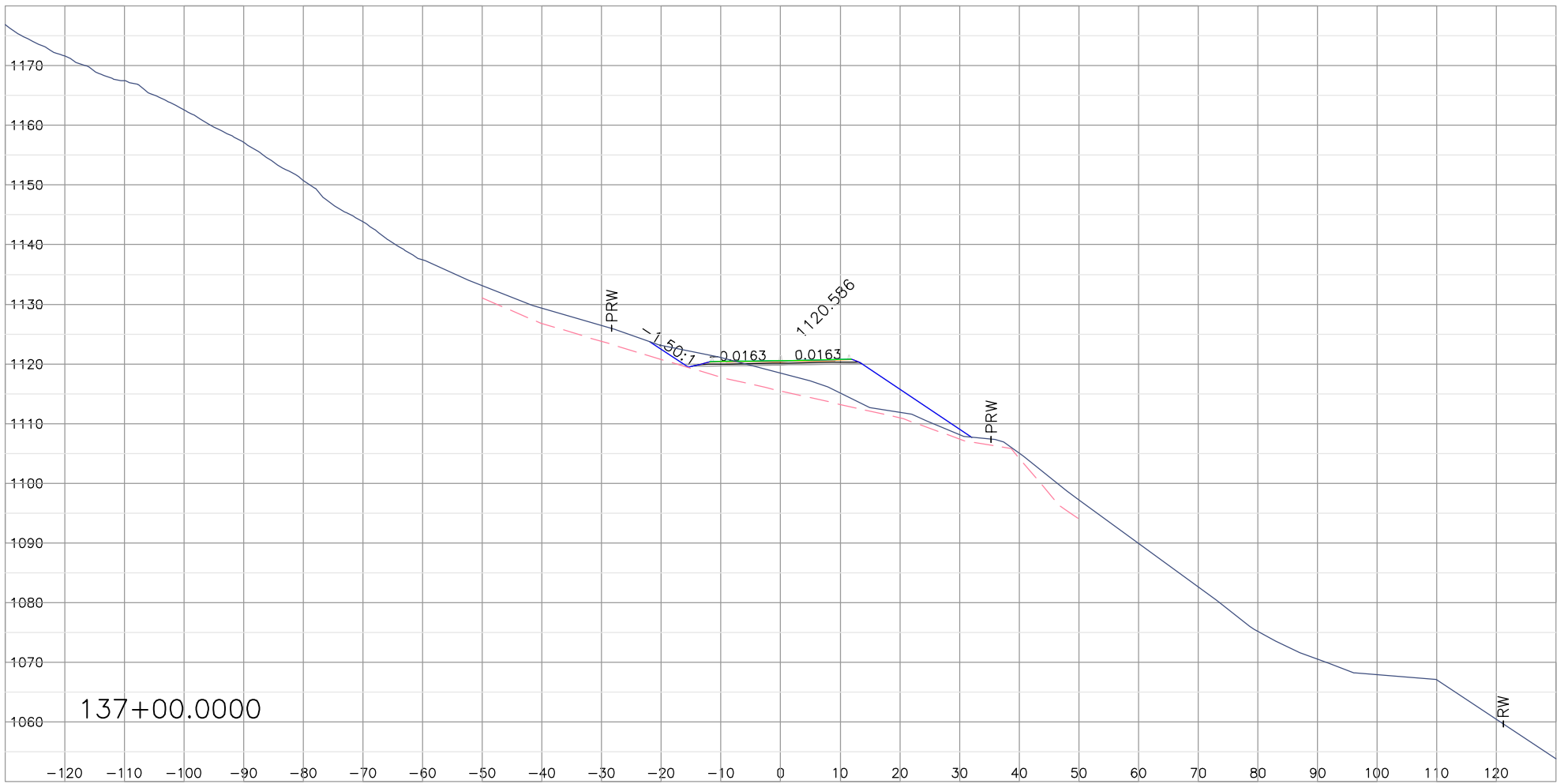
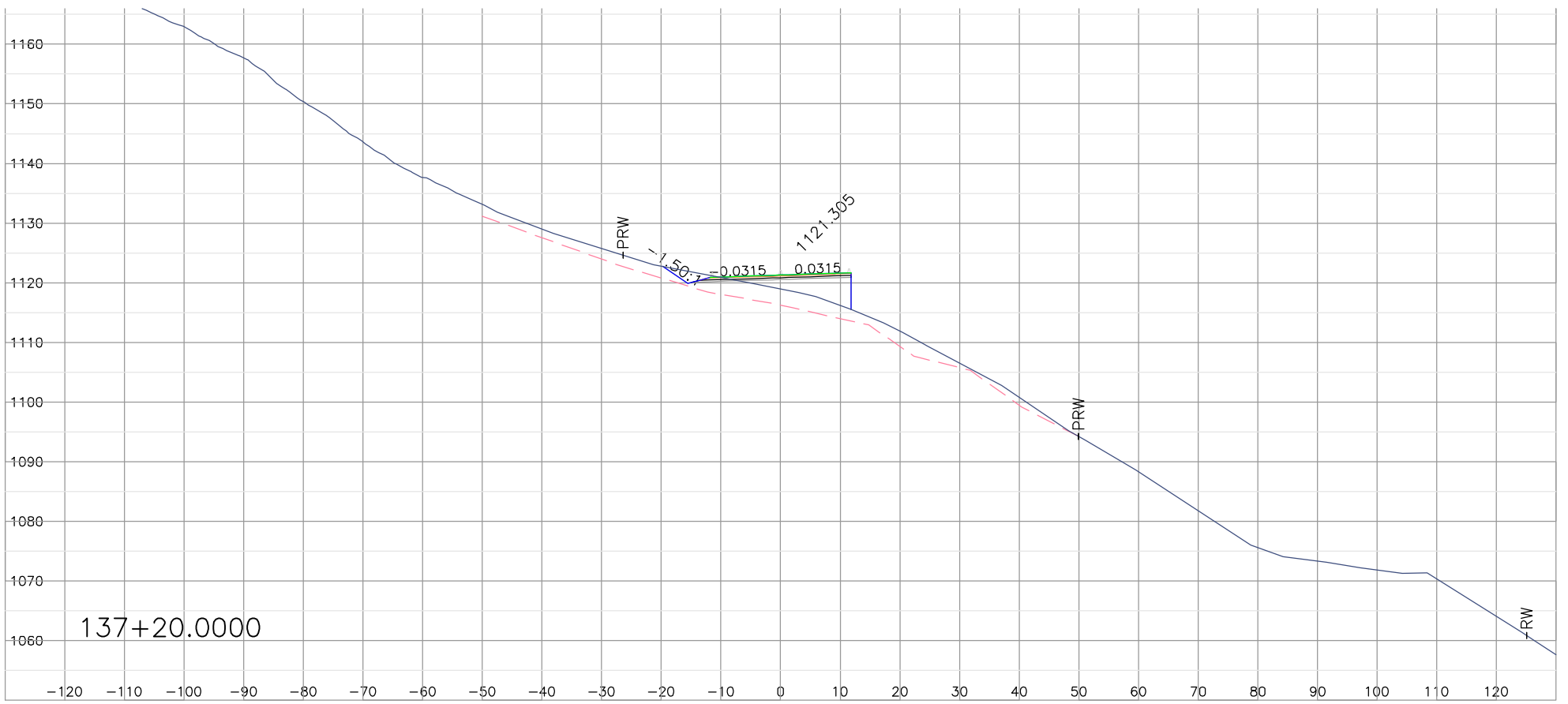


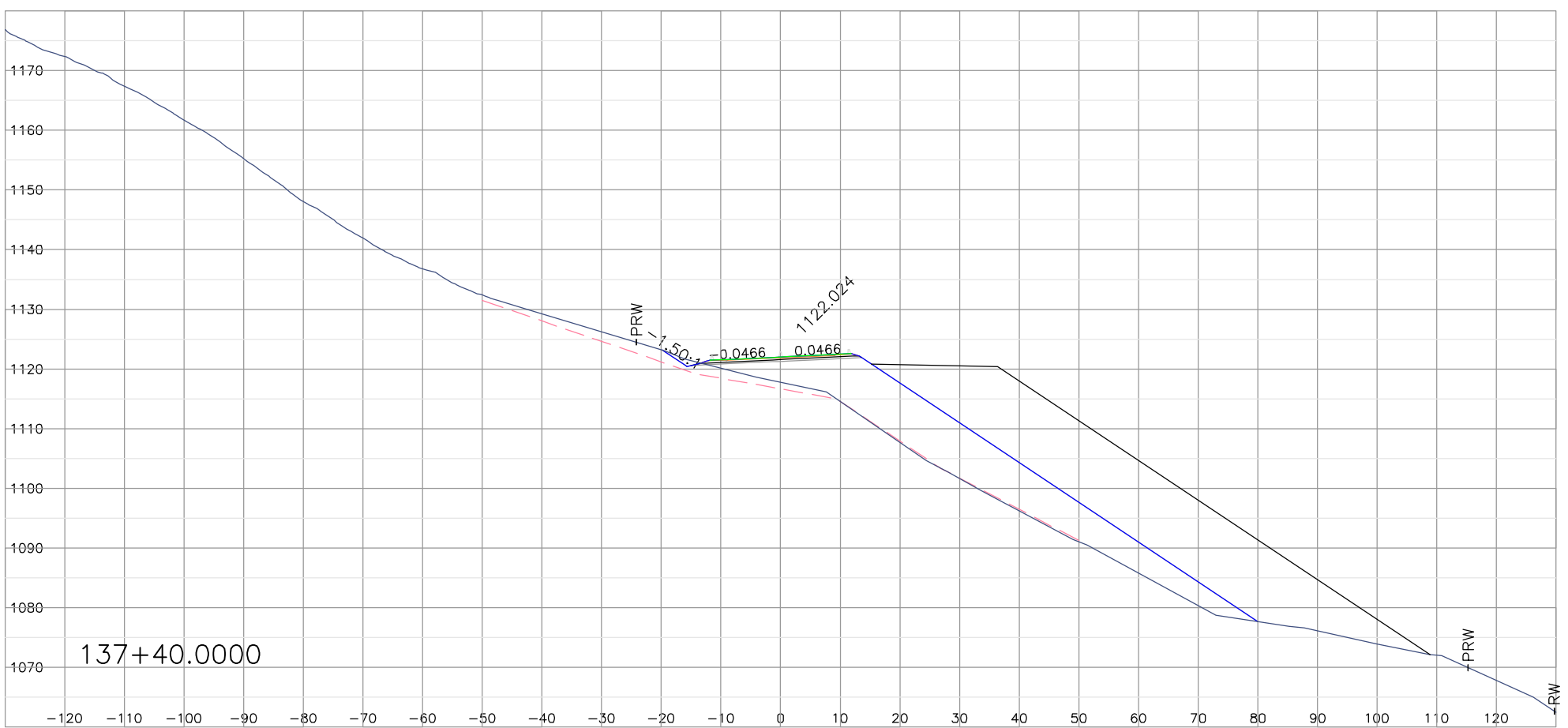
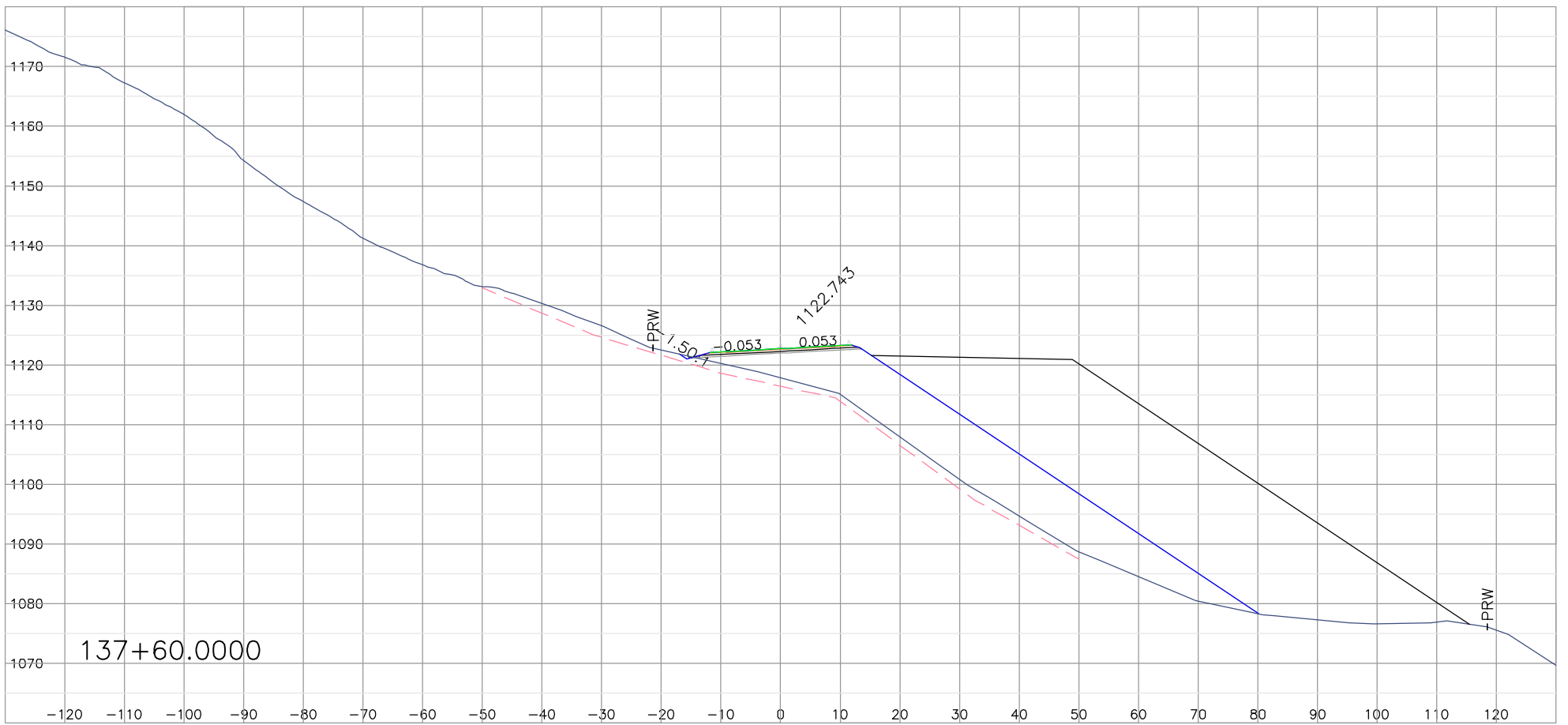
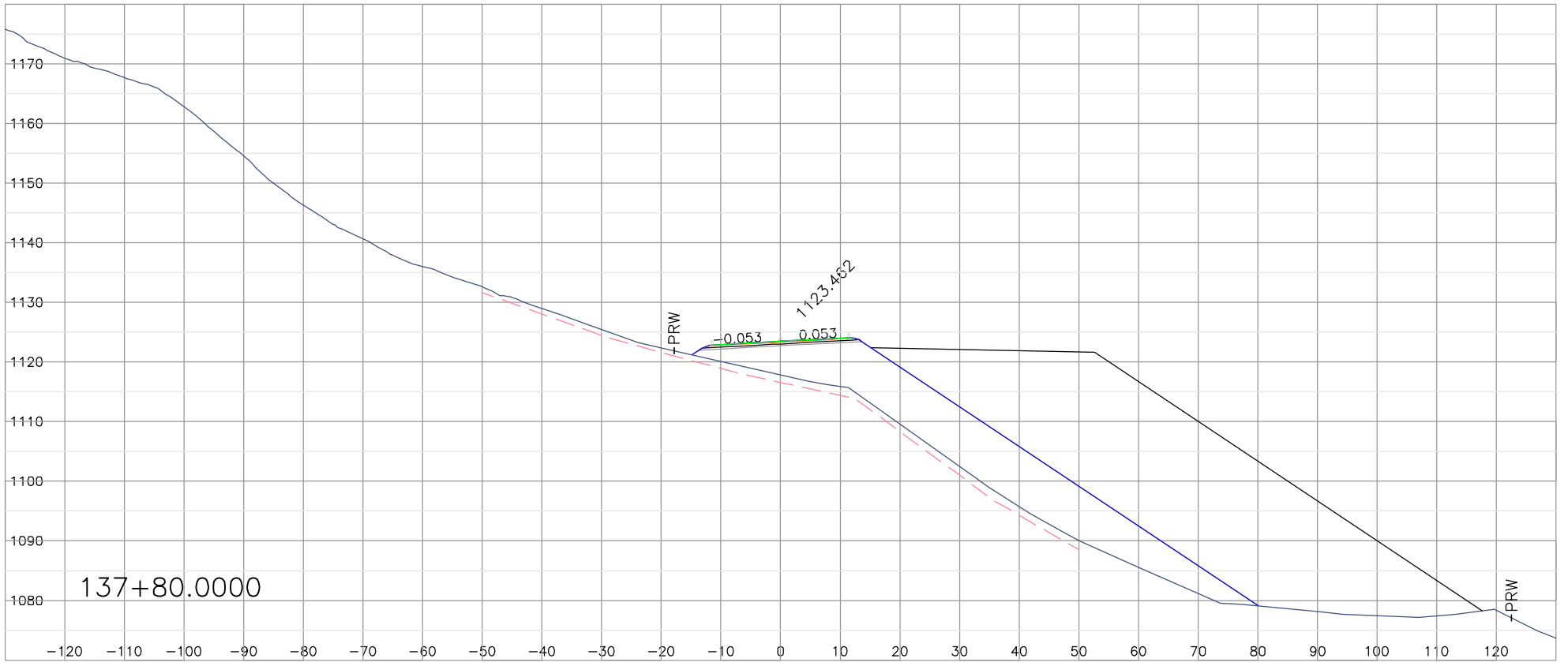






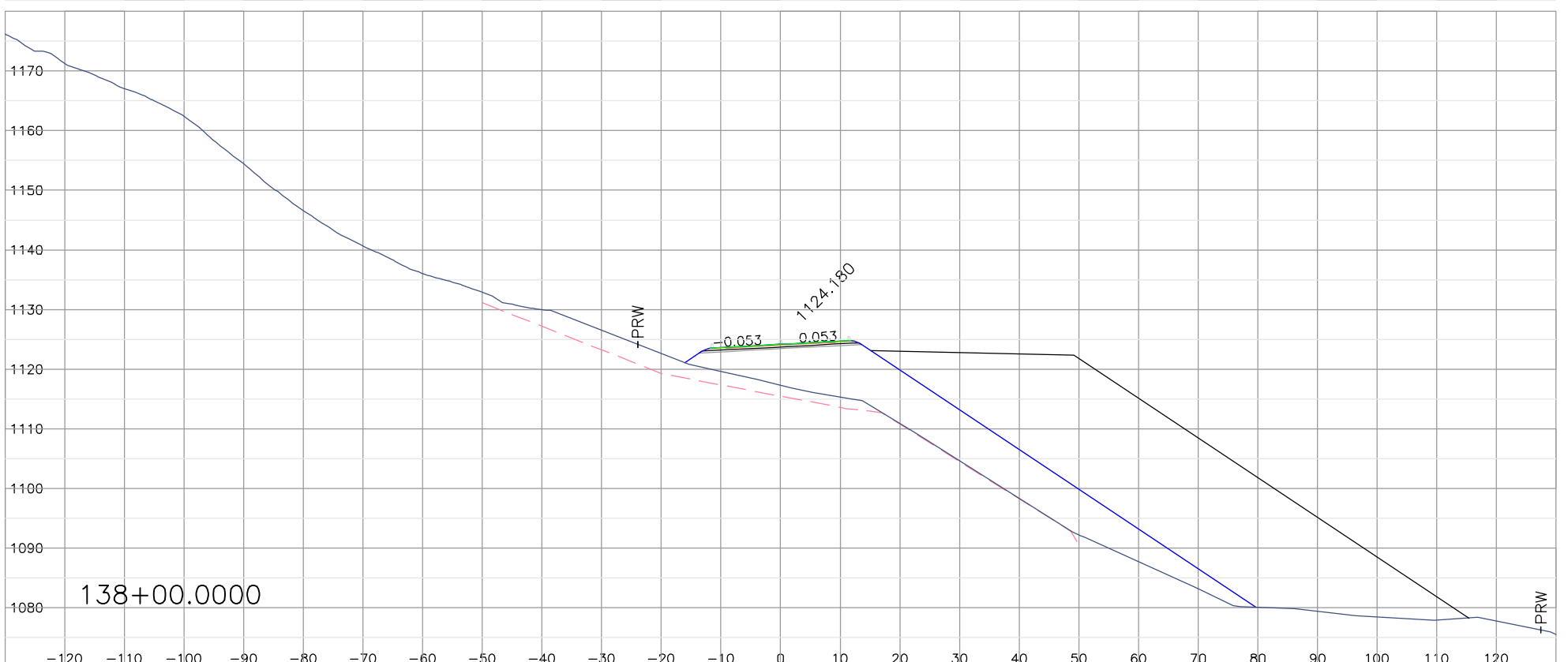
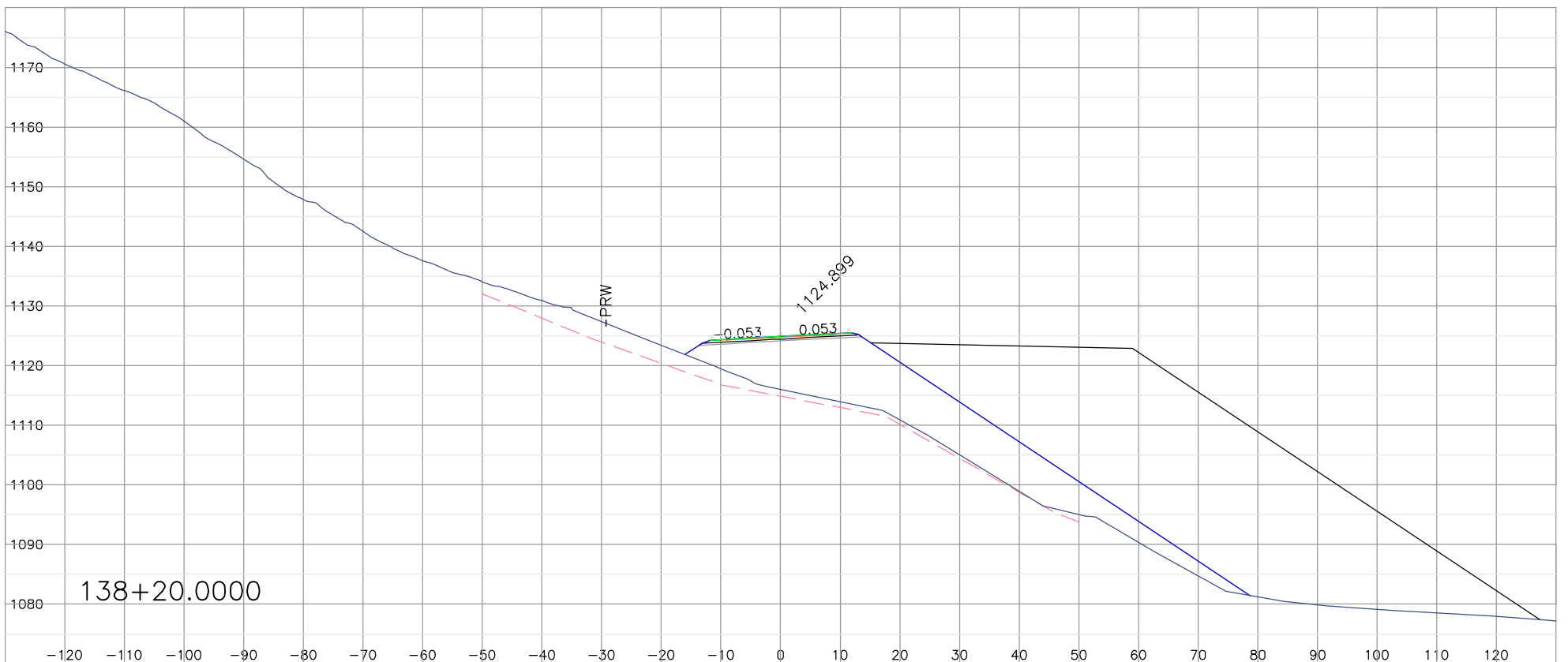
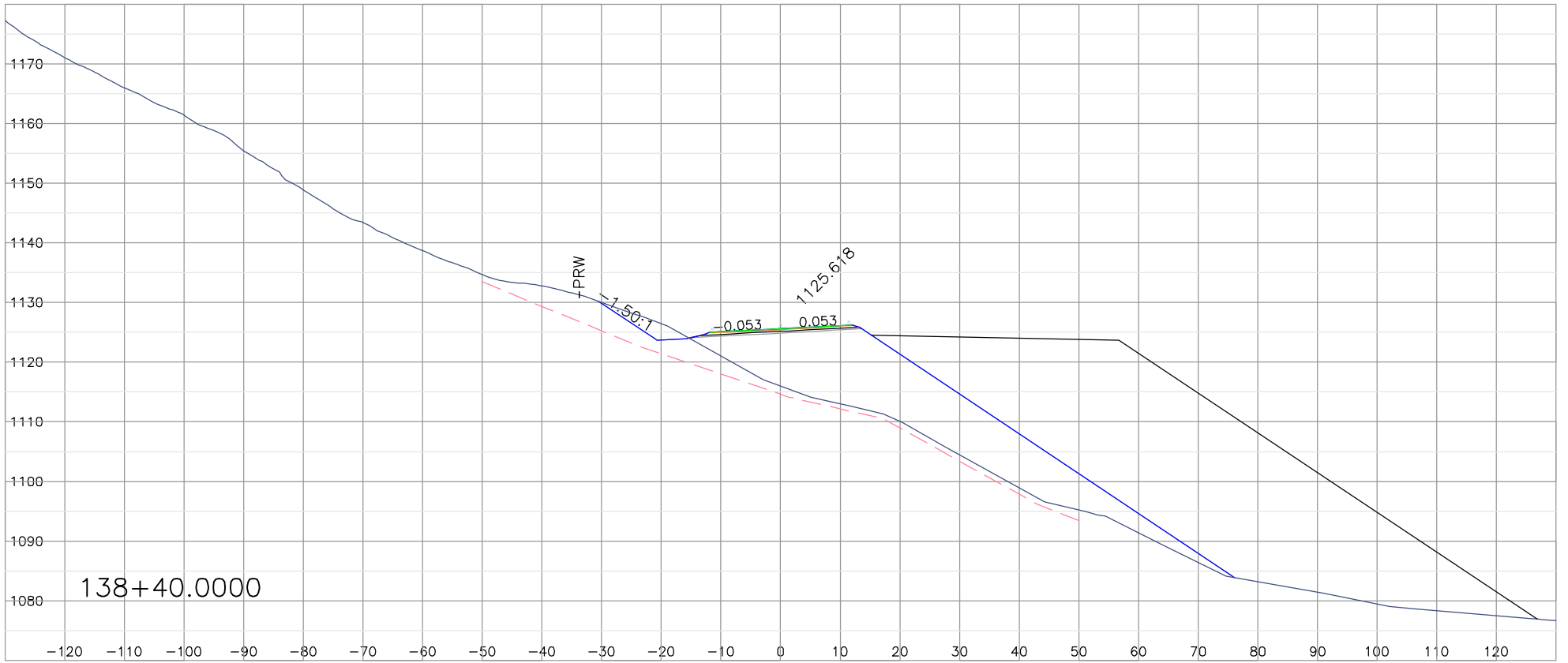


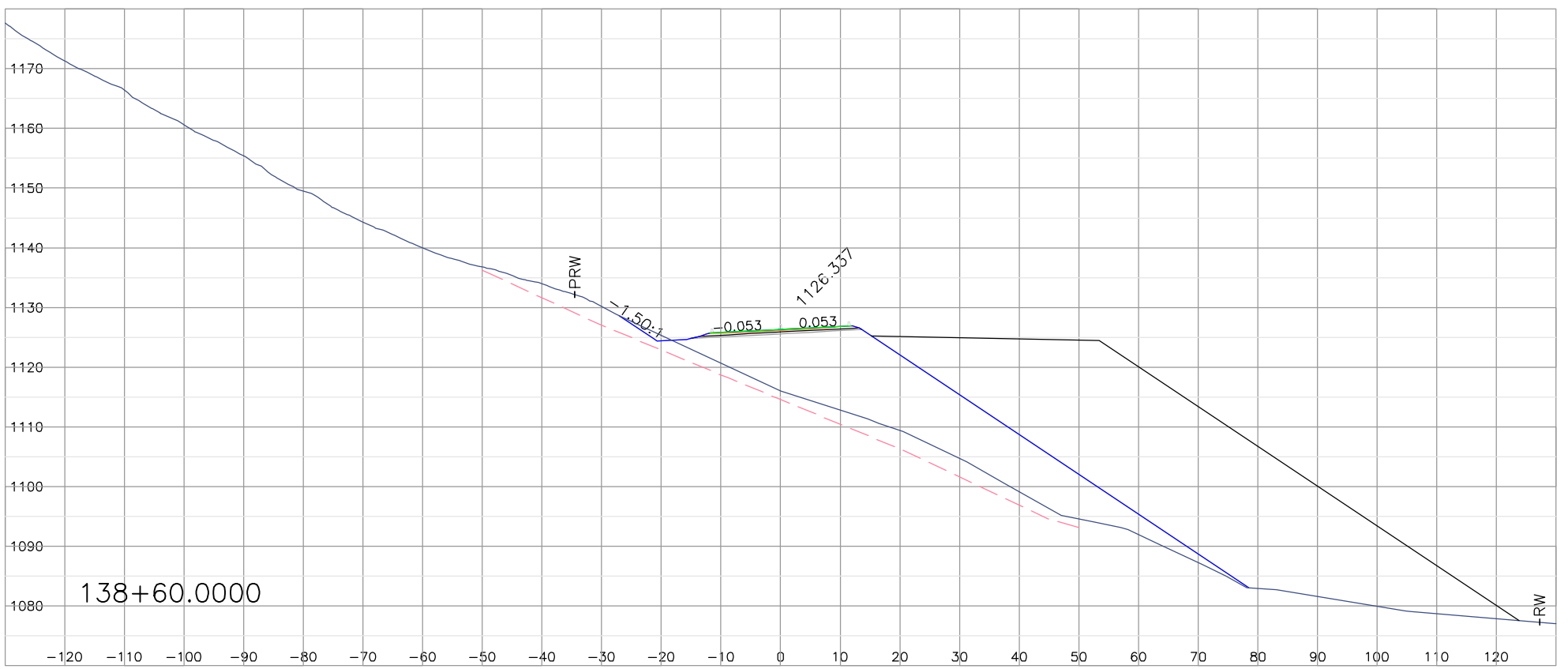
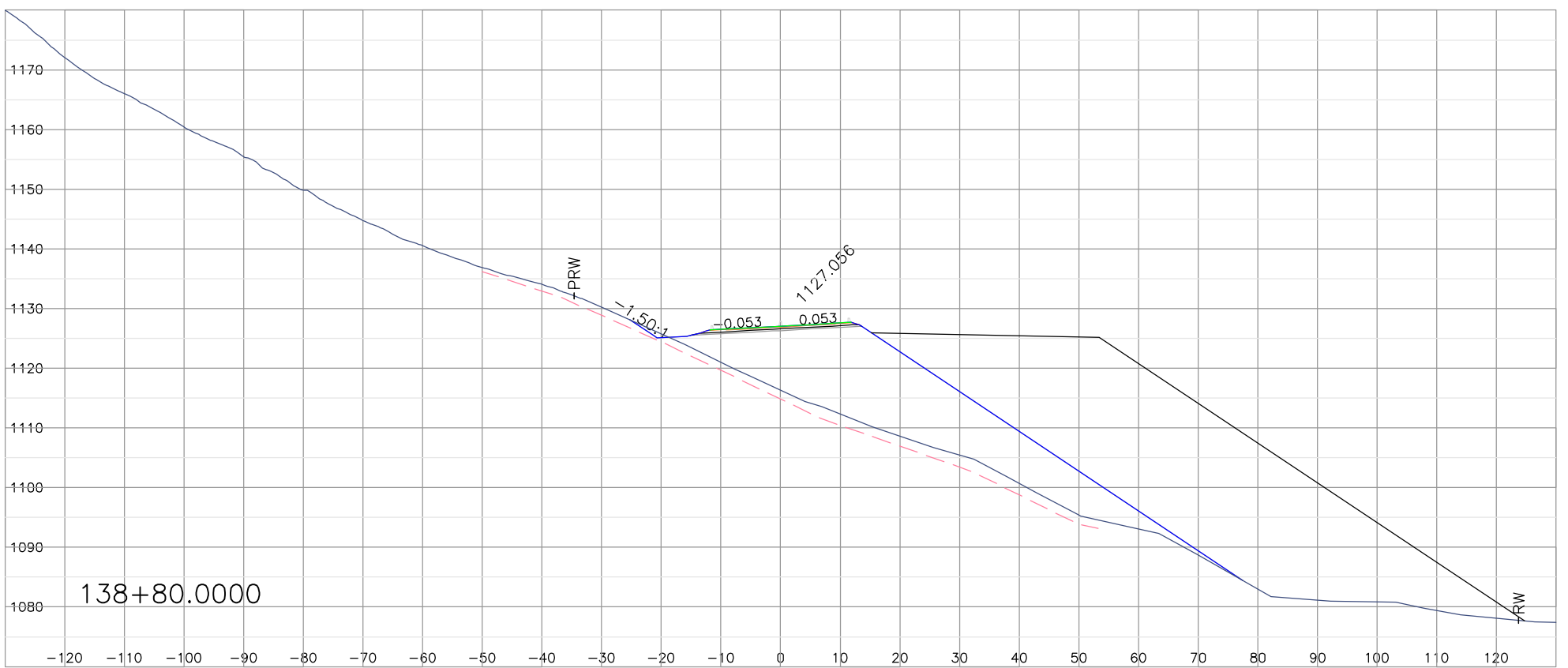




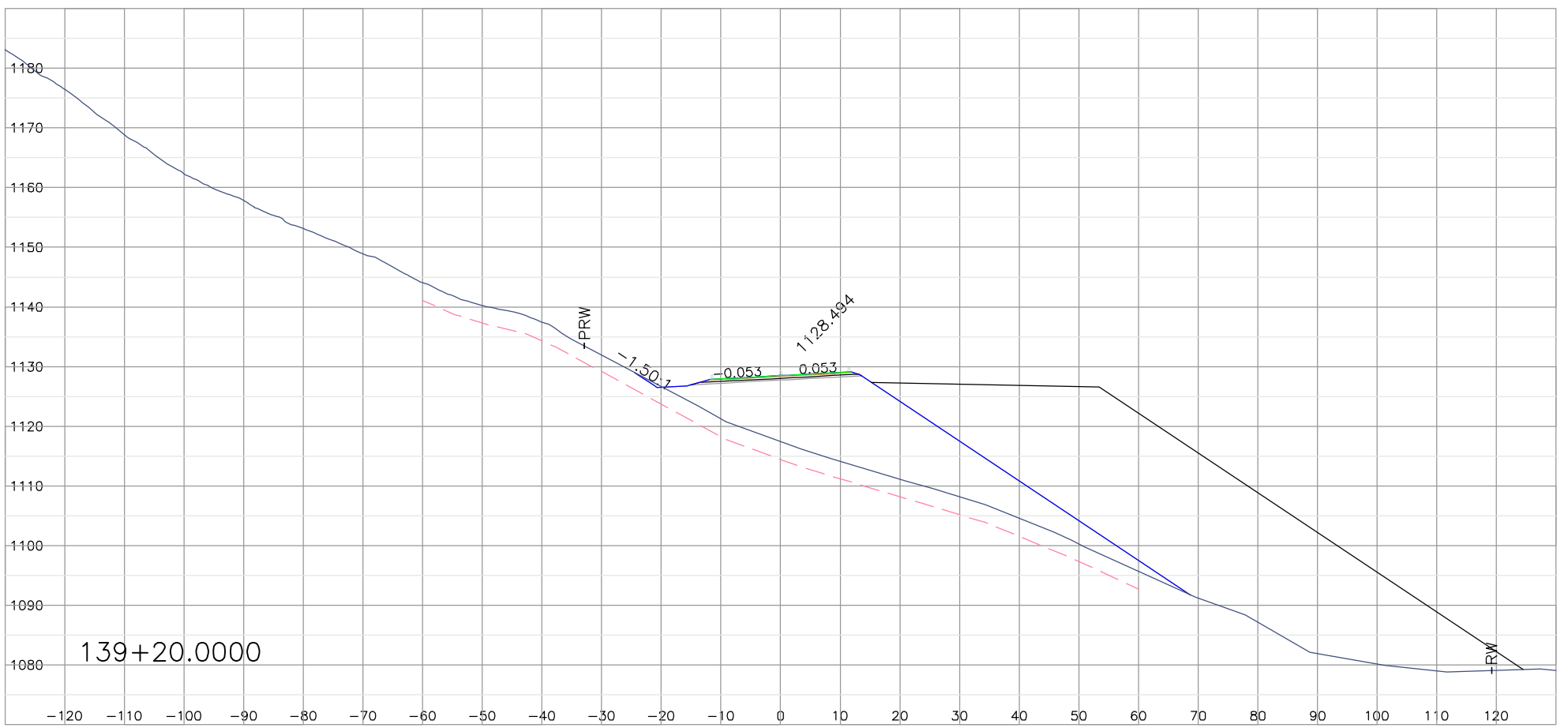
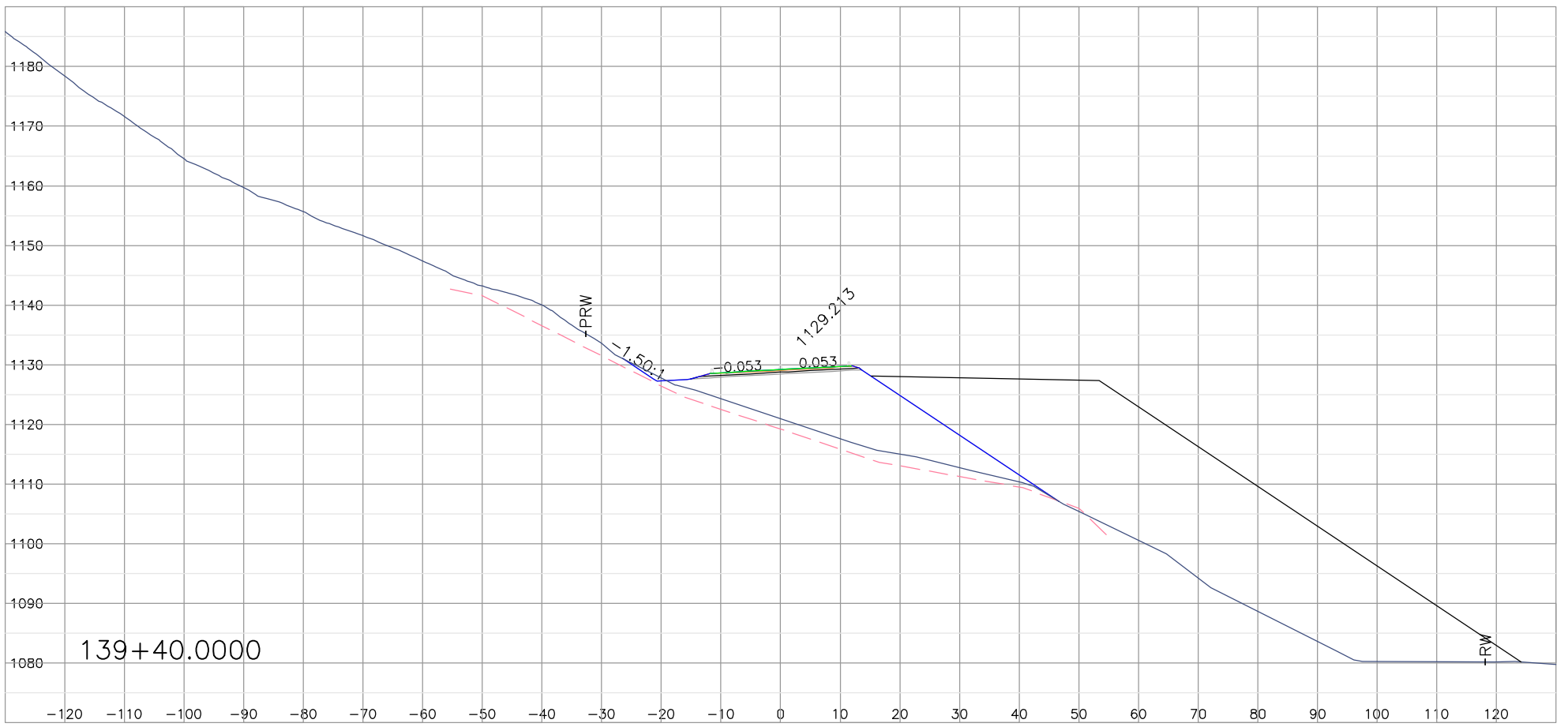
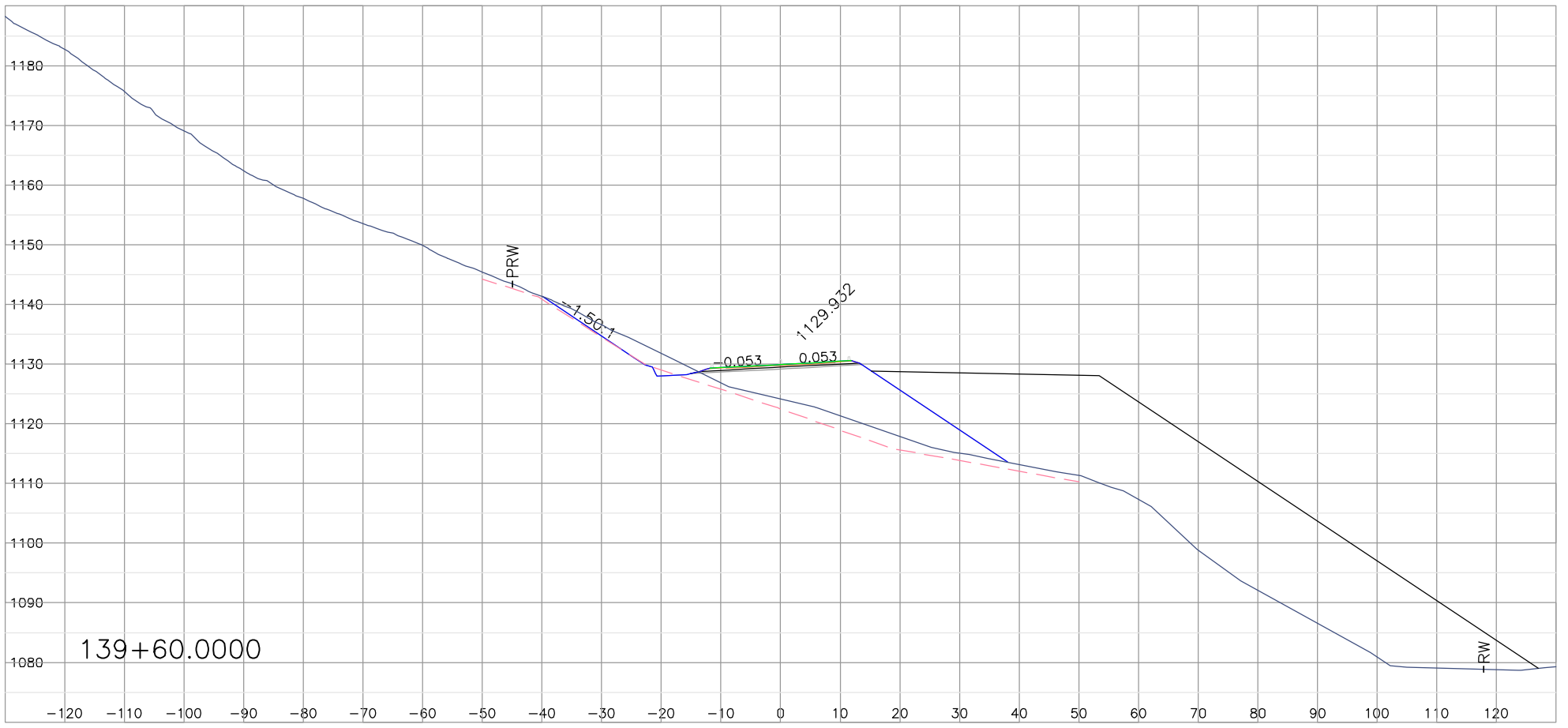
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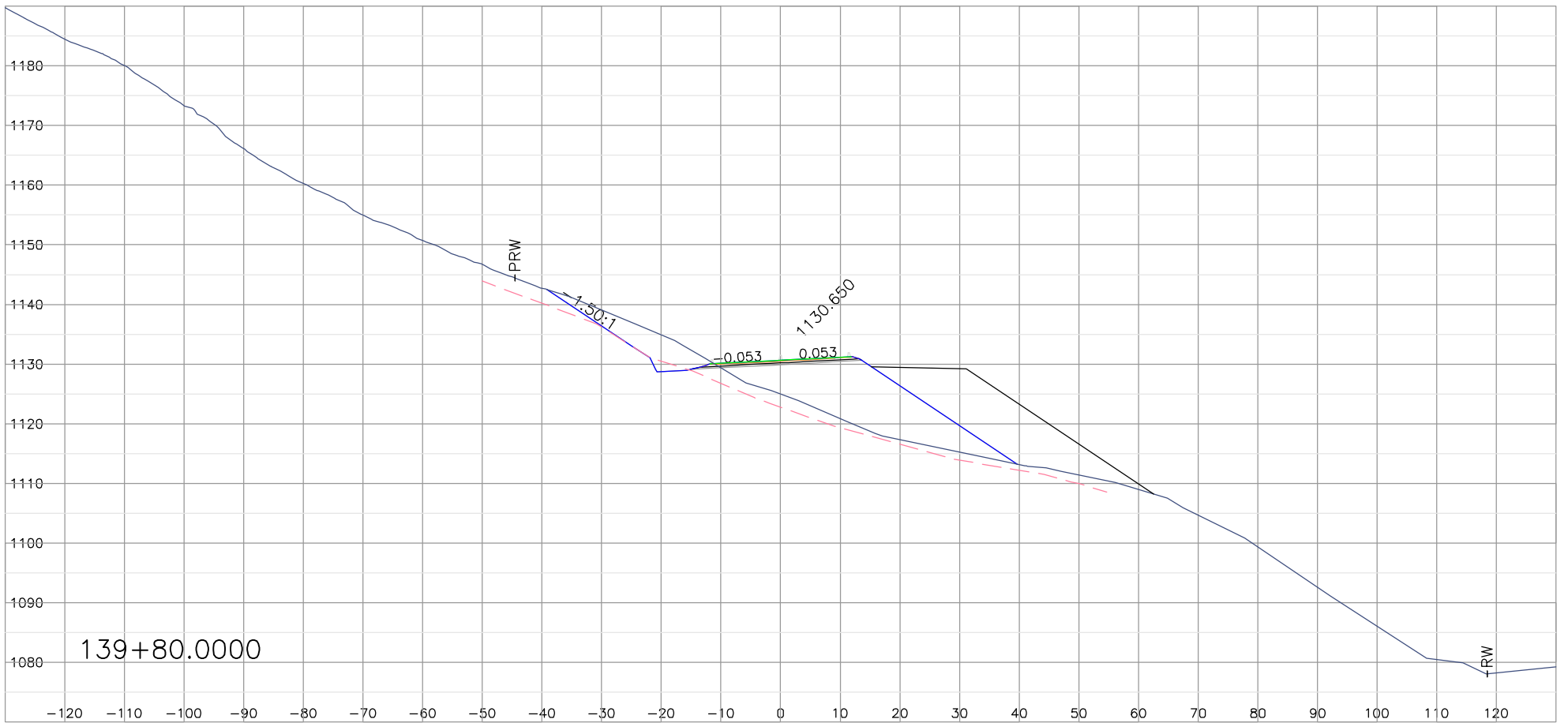
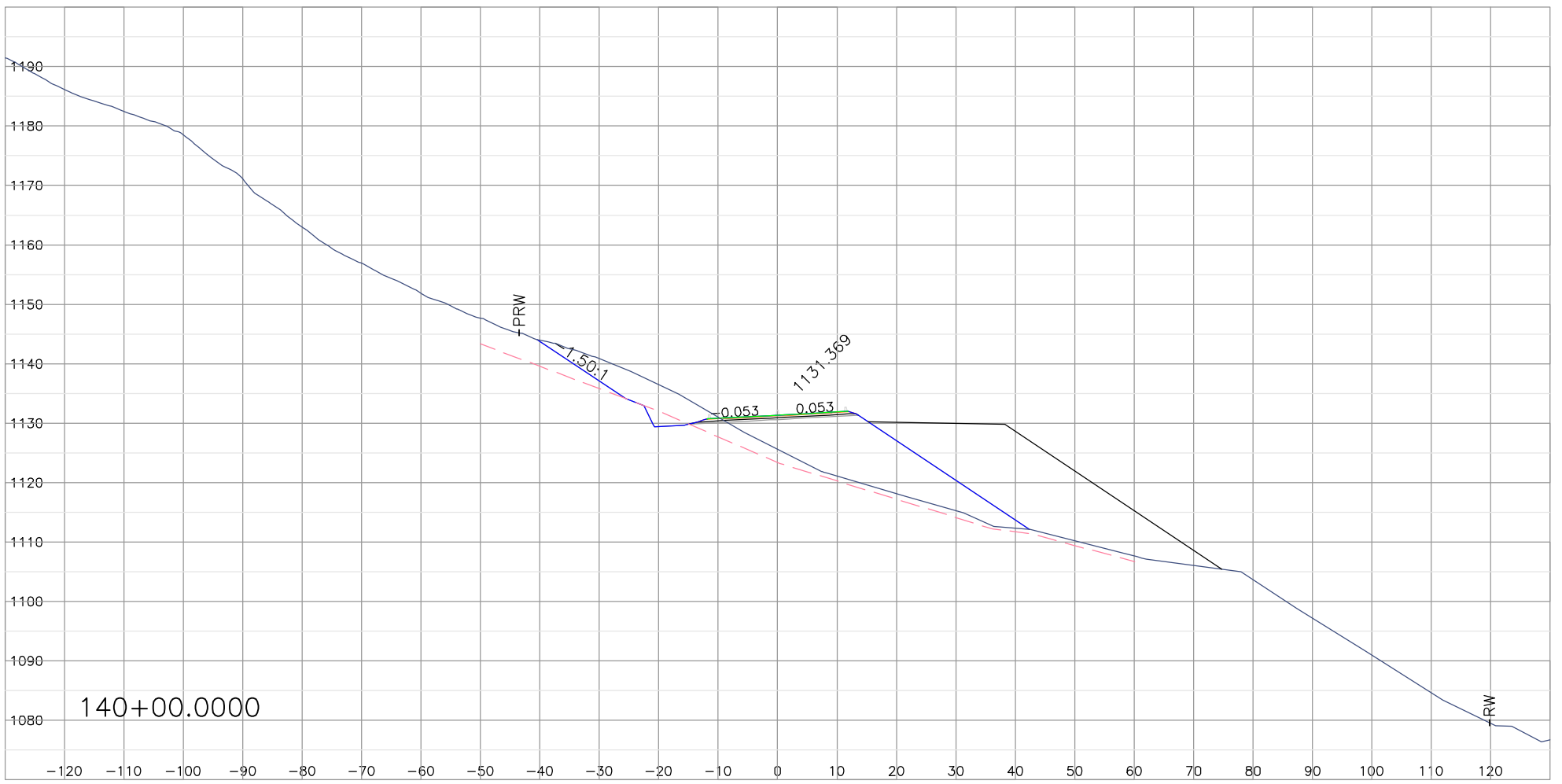
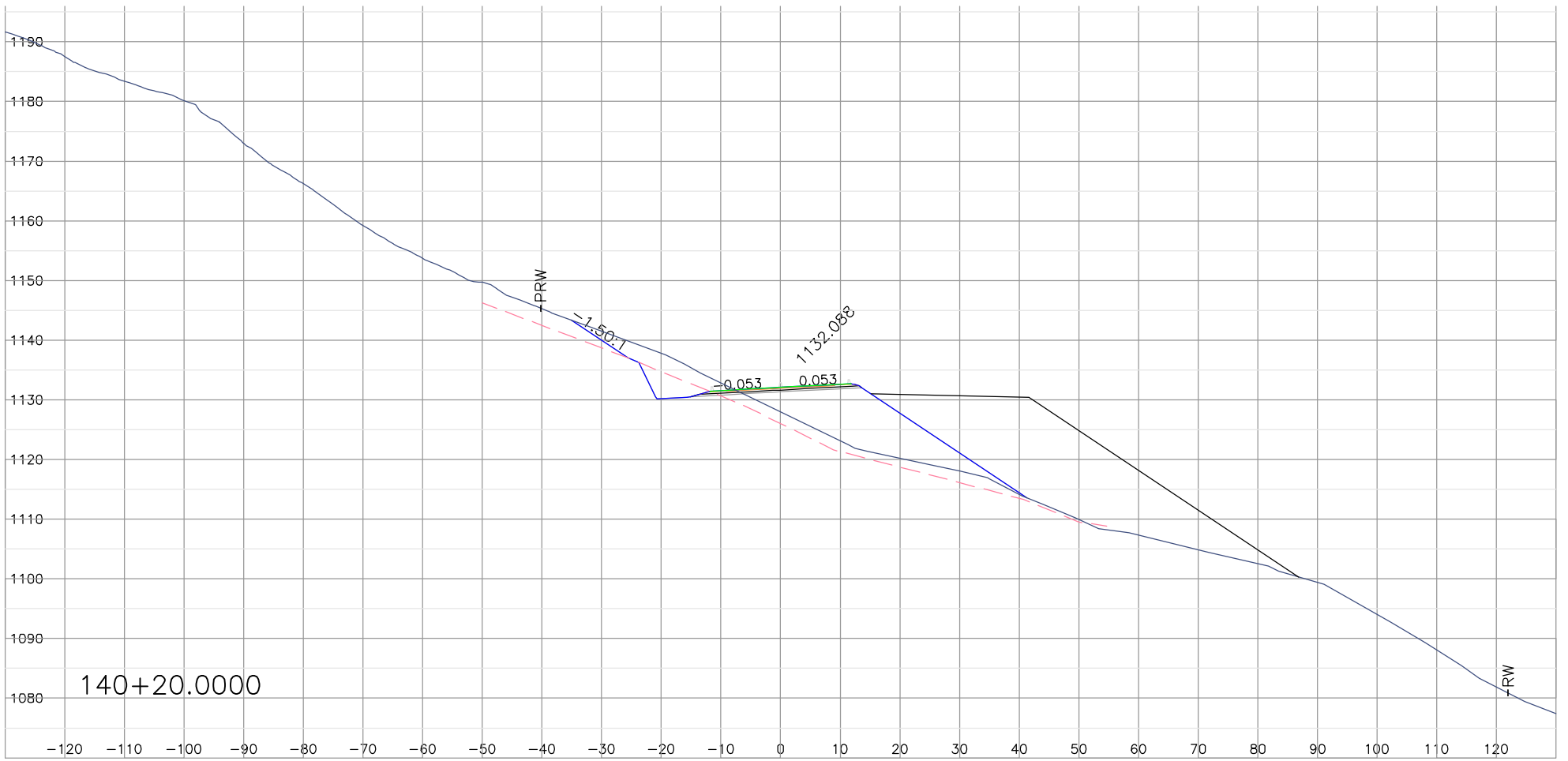
CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2

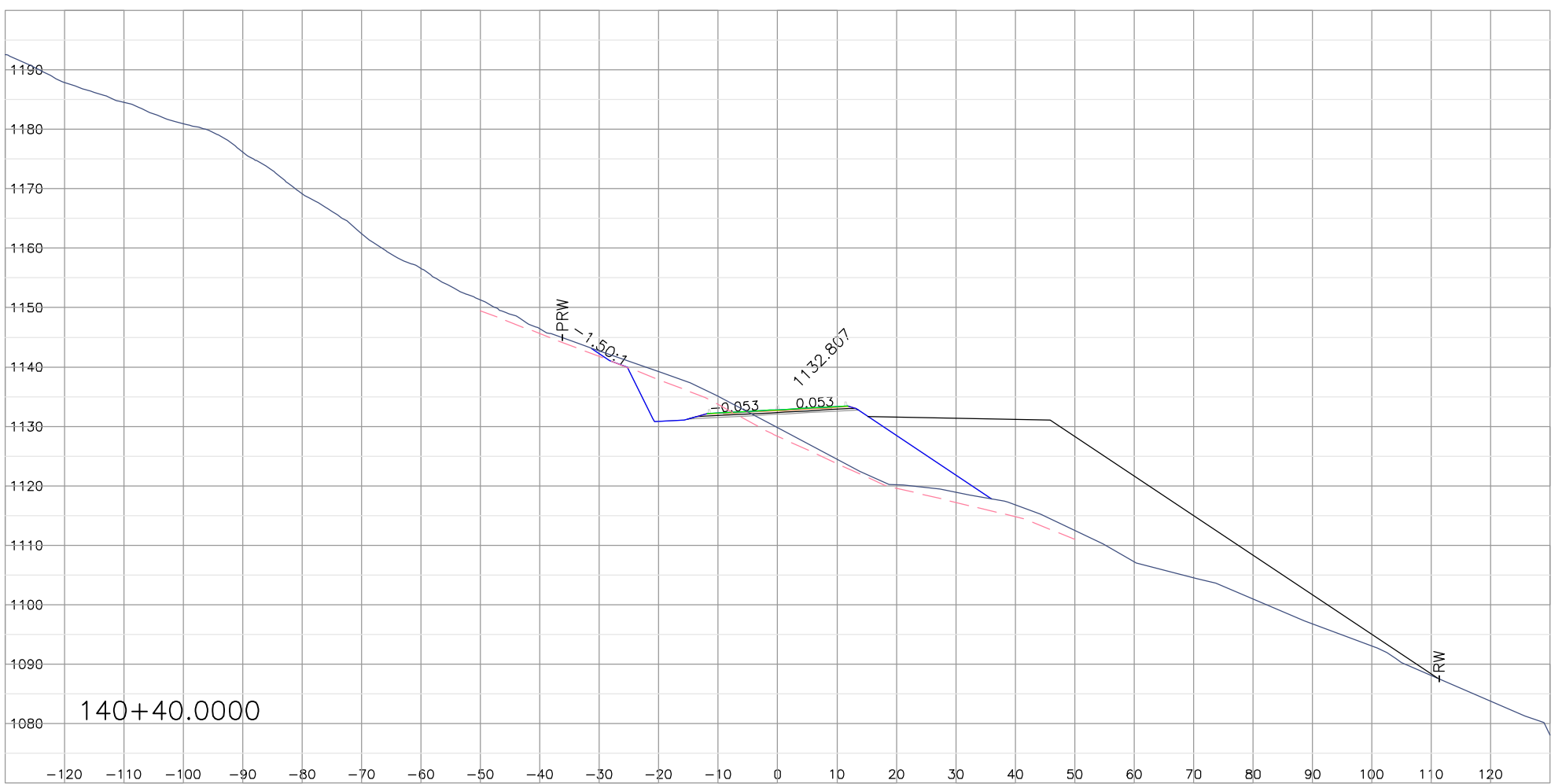
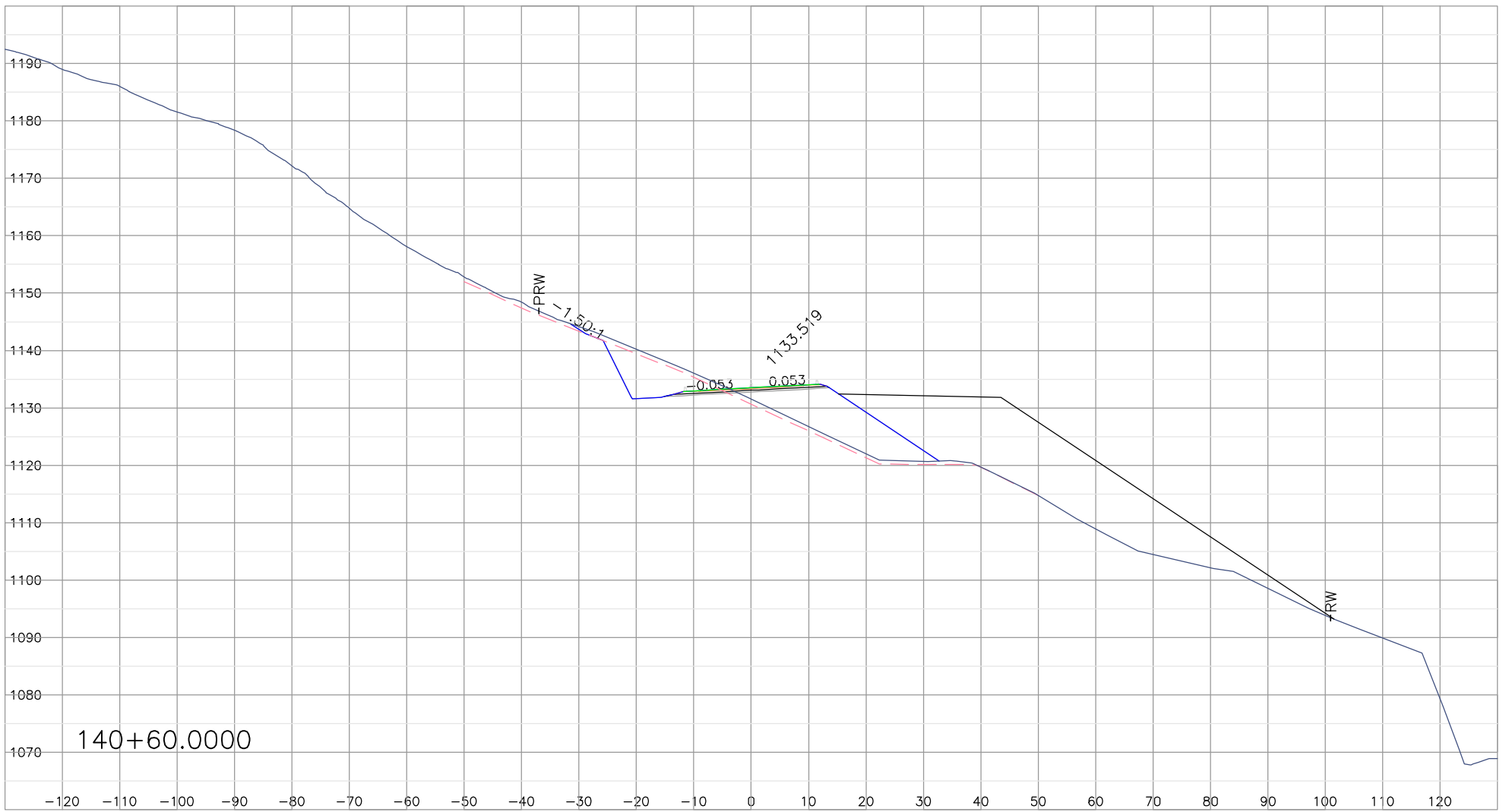


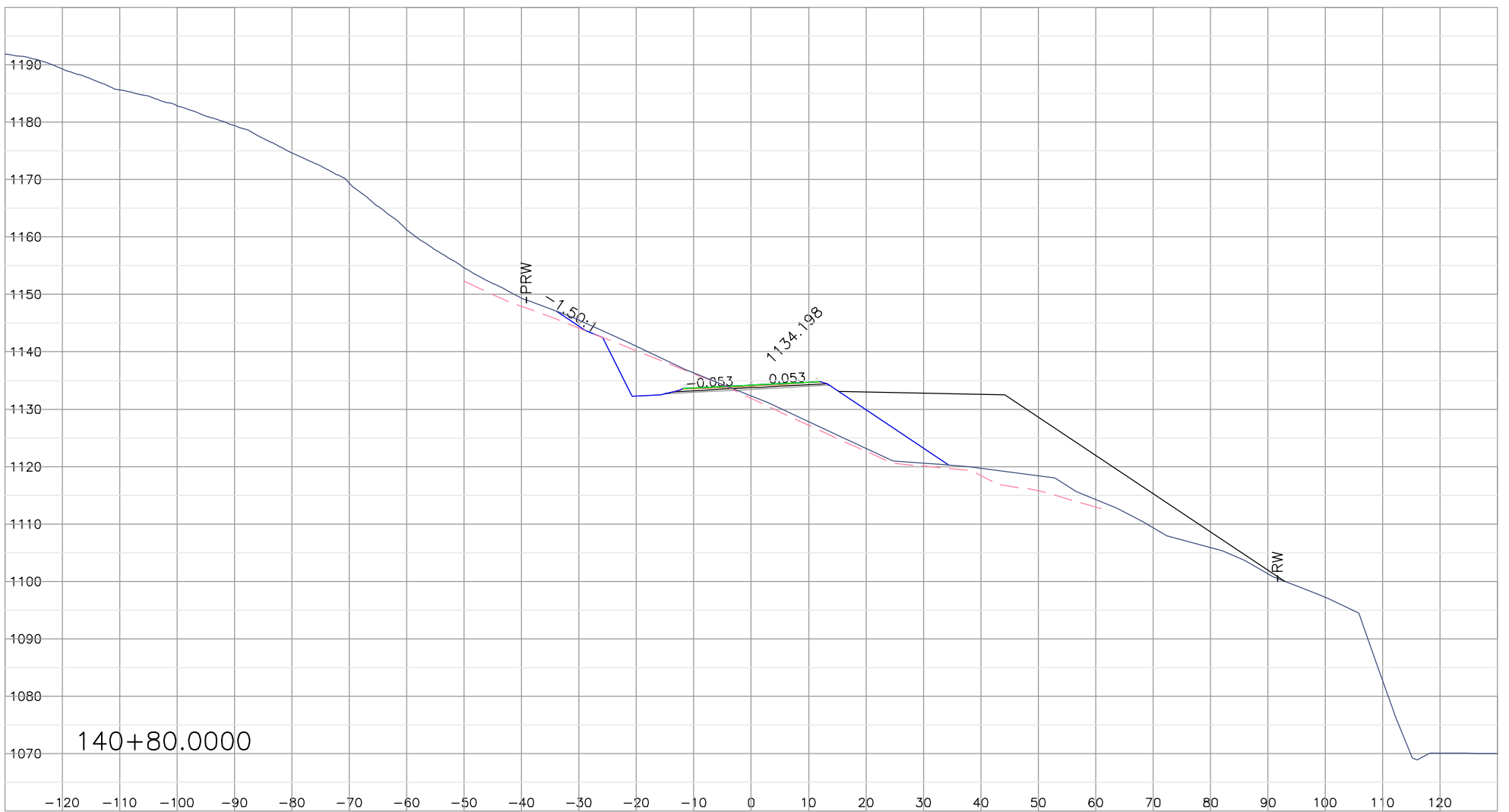
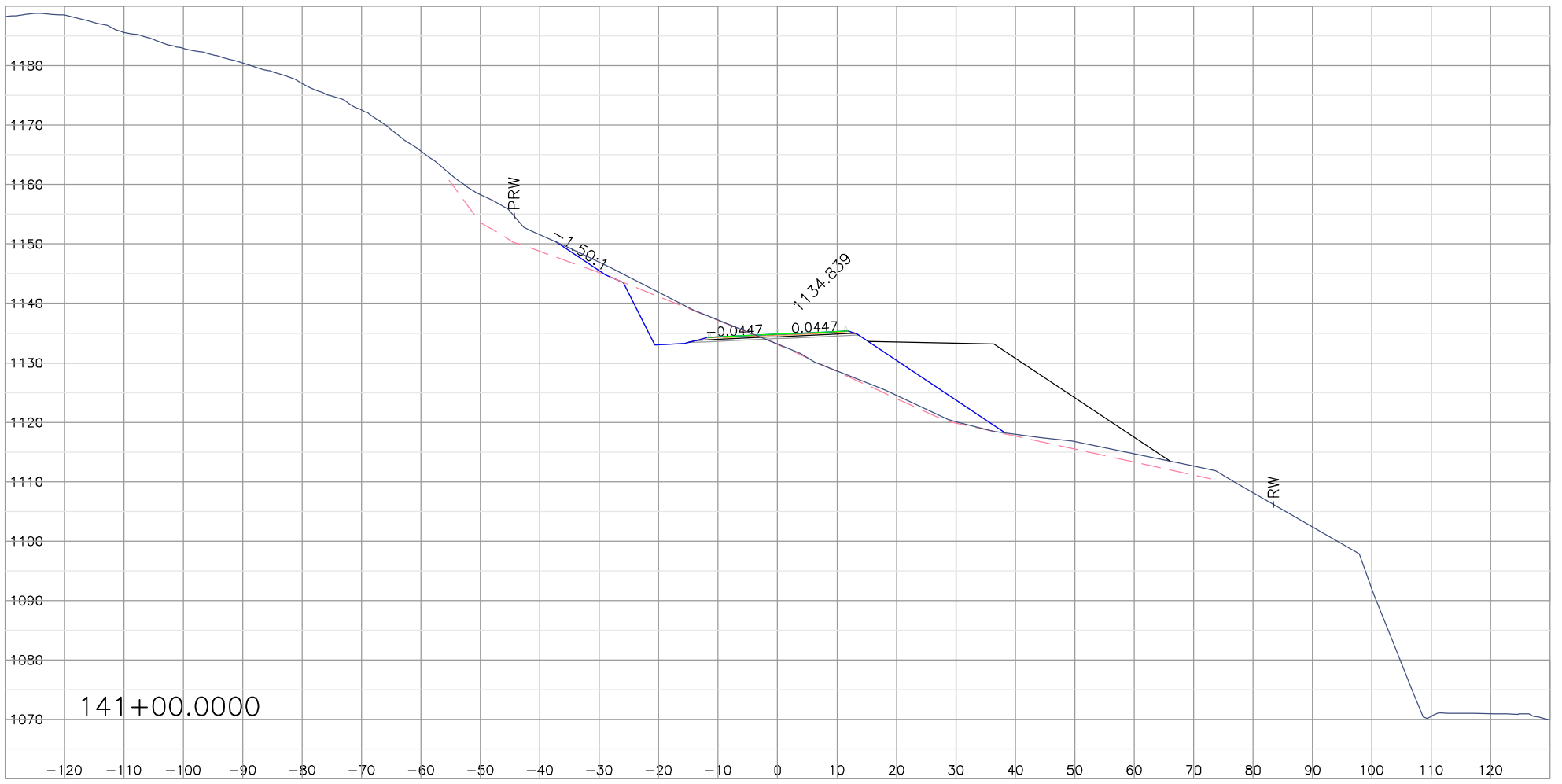


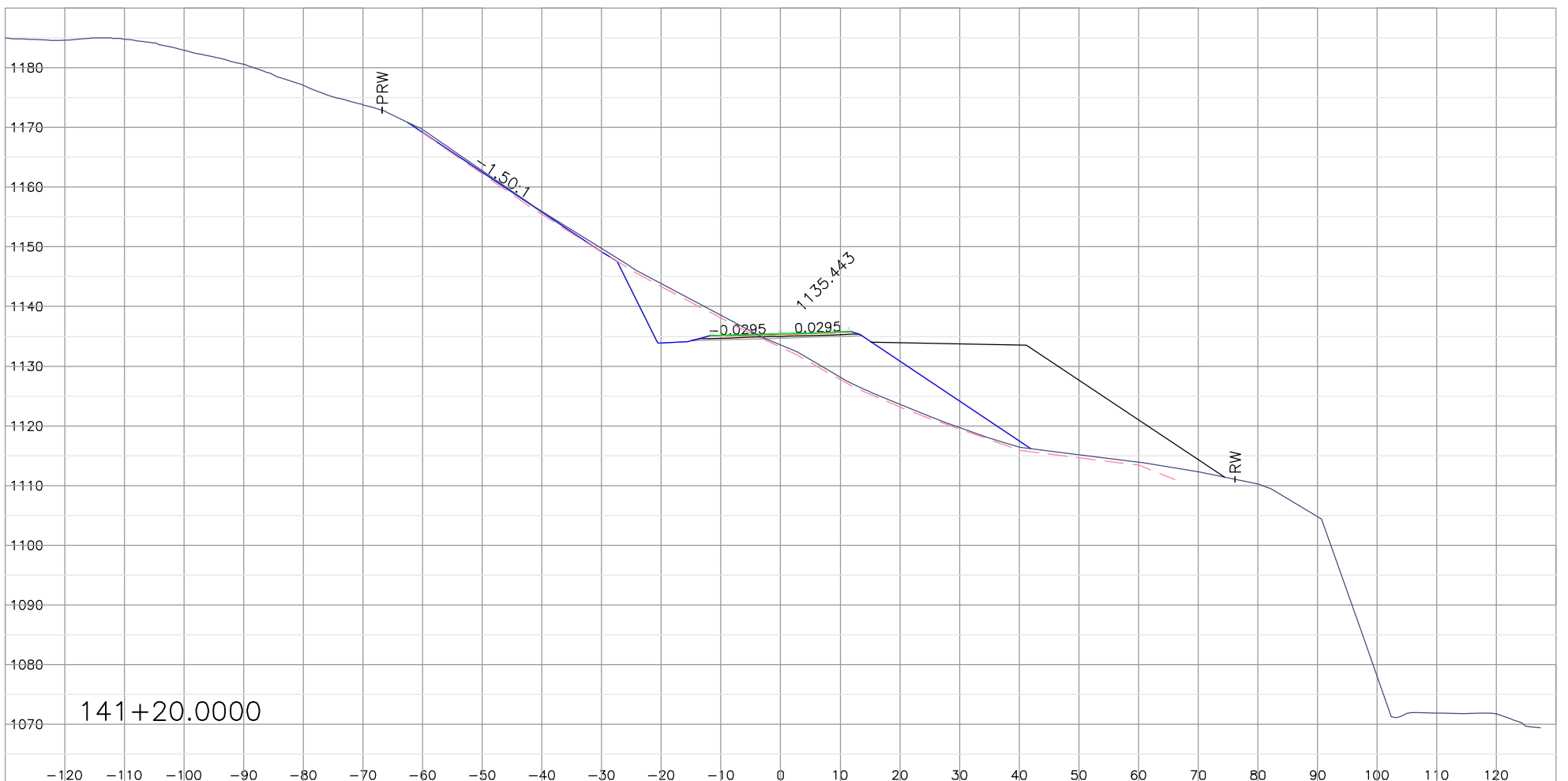
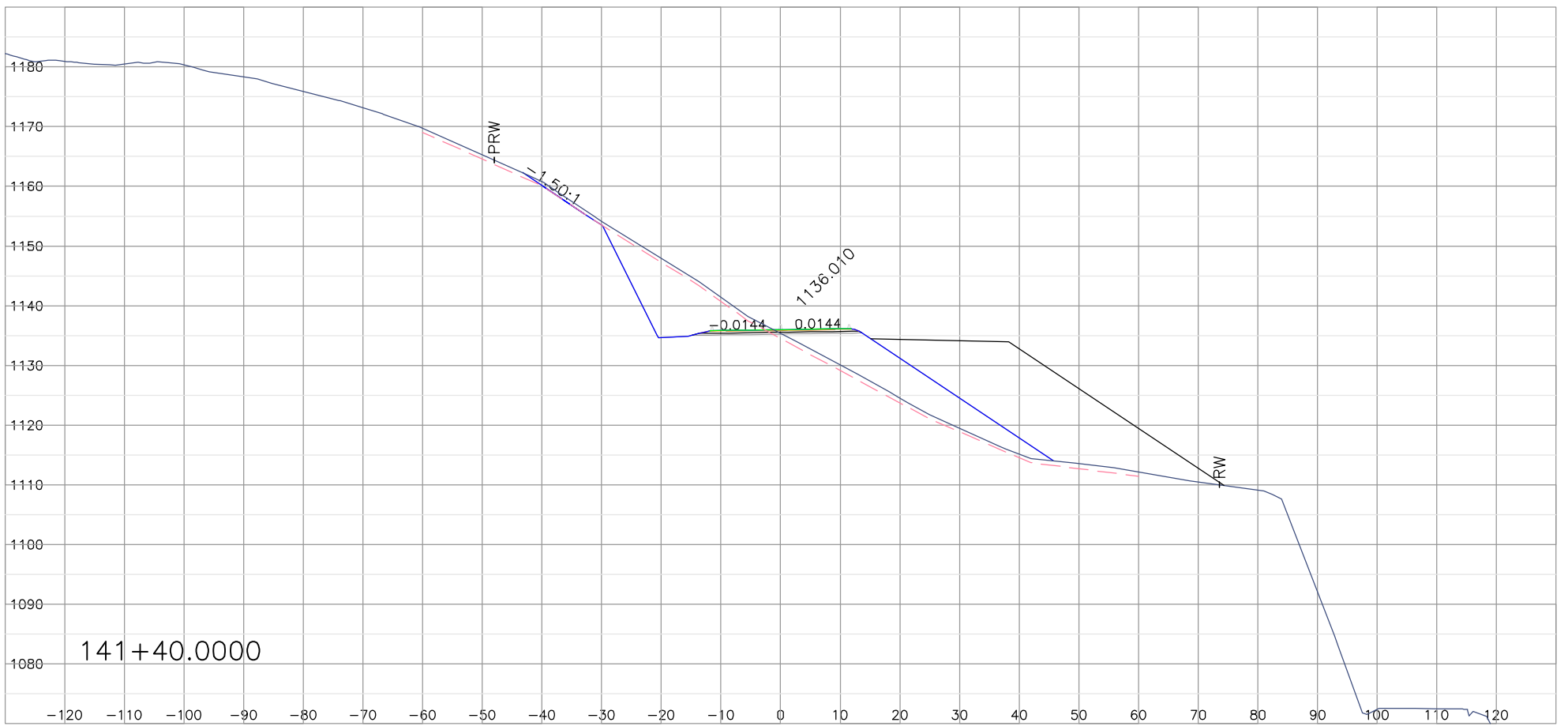
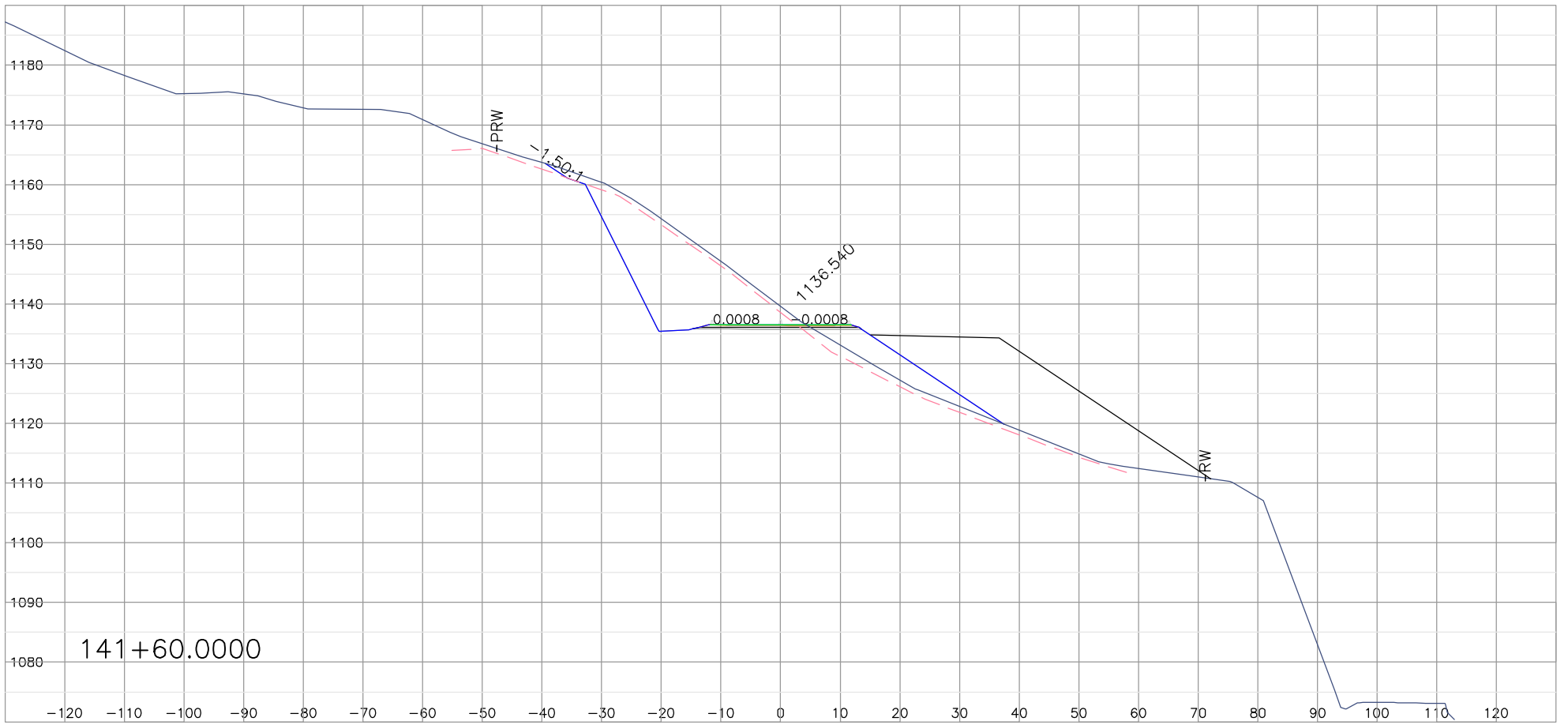


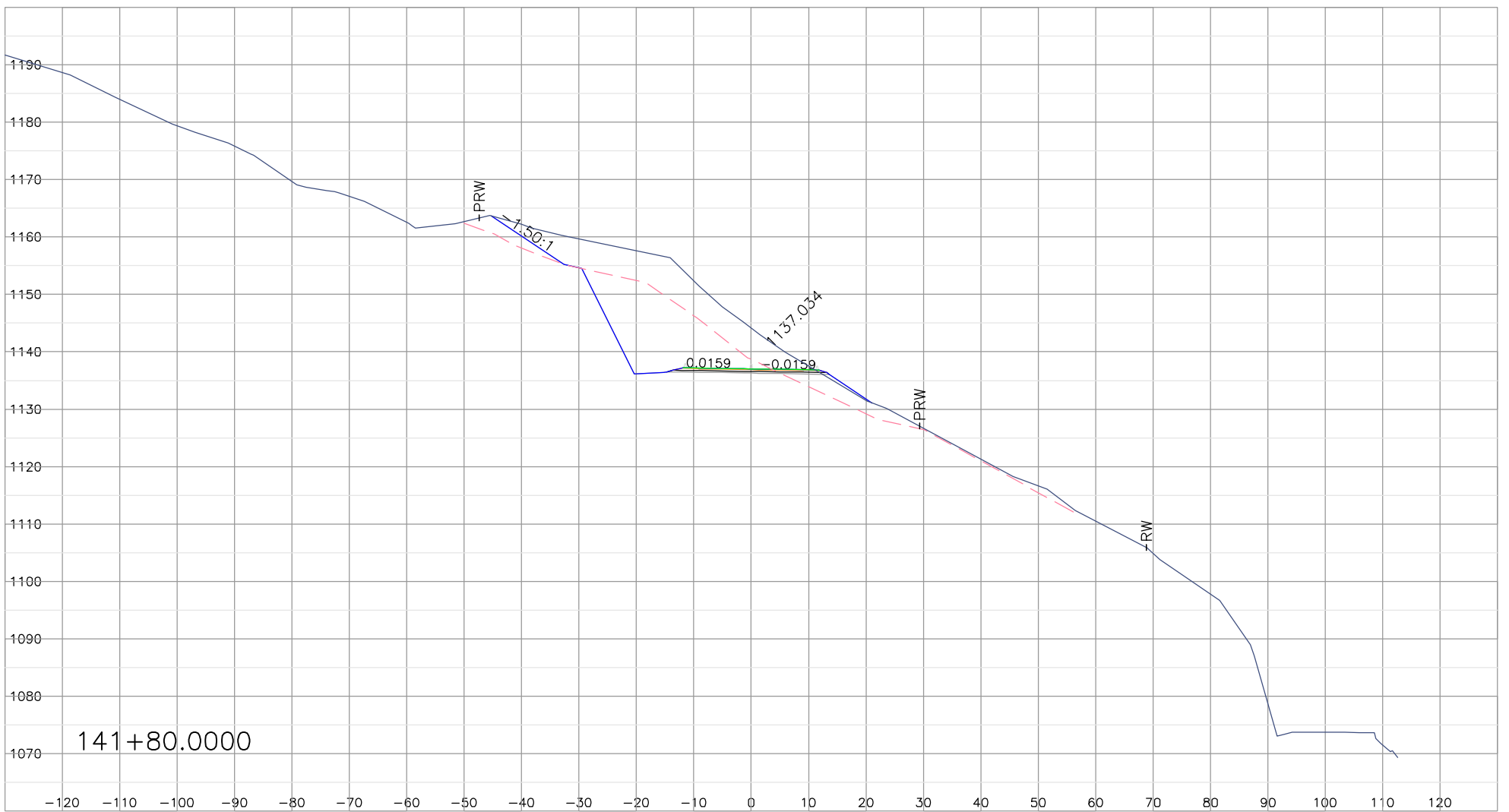
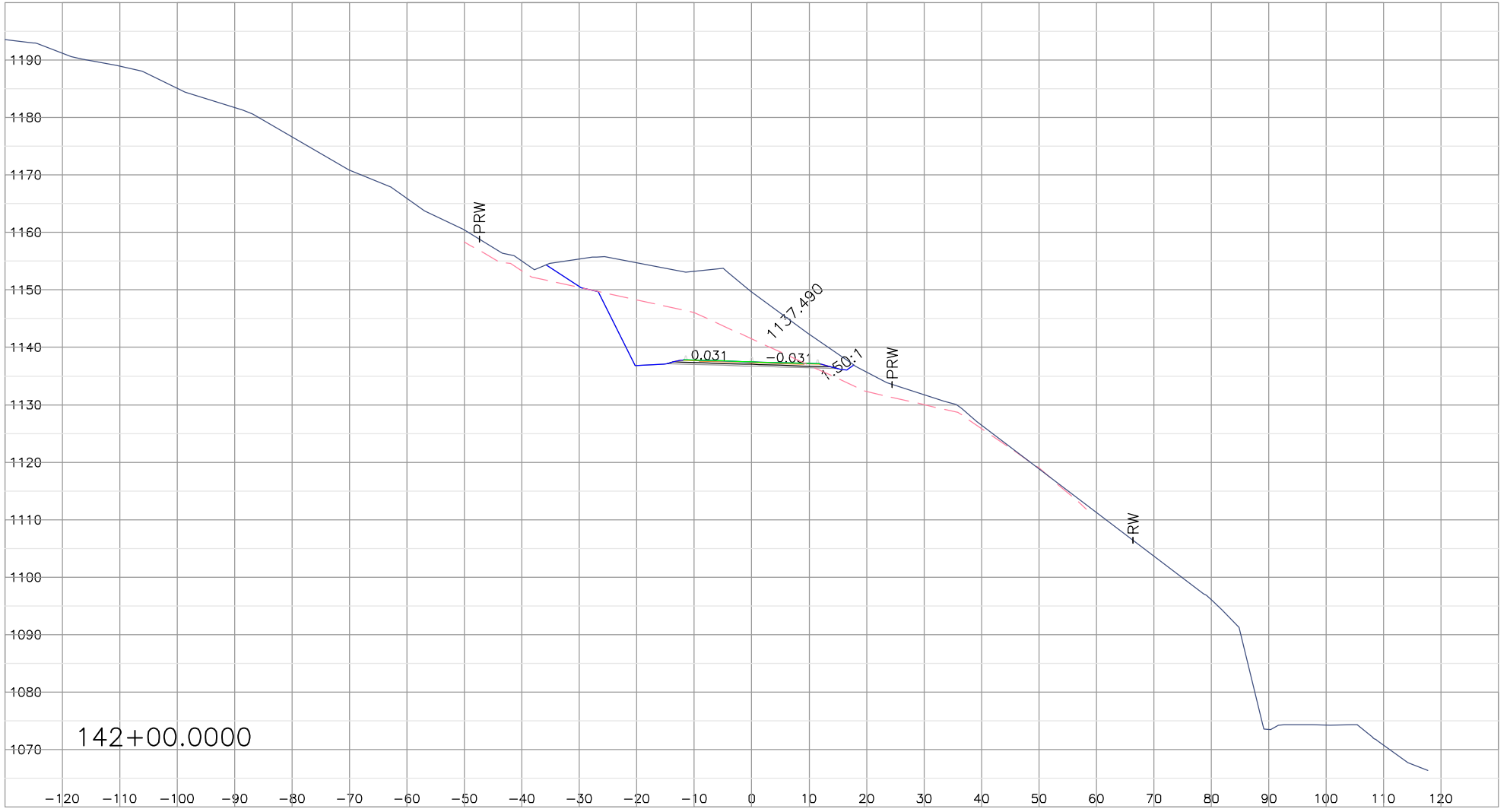


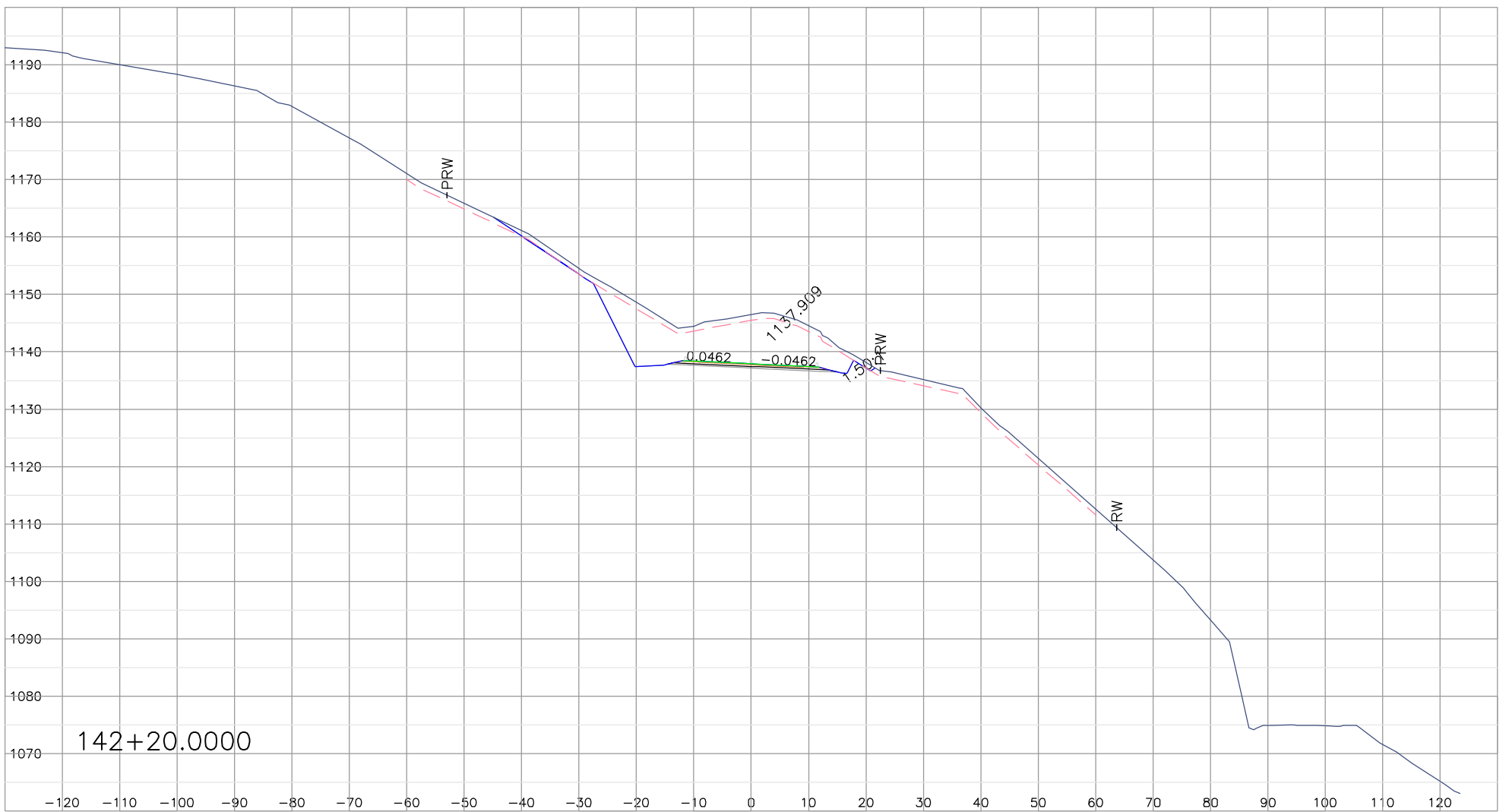
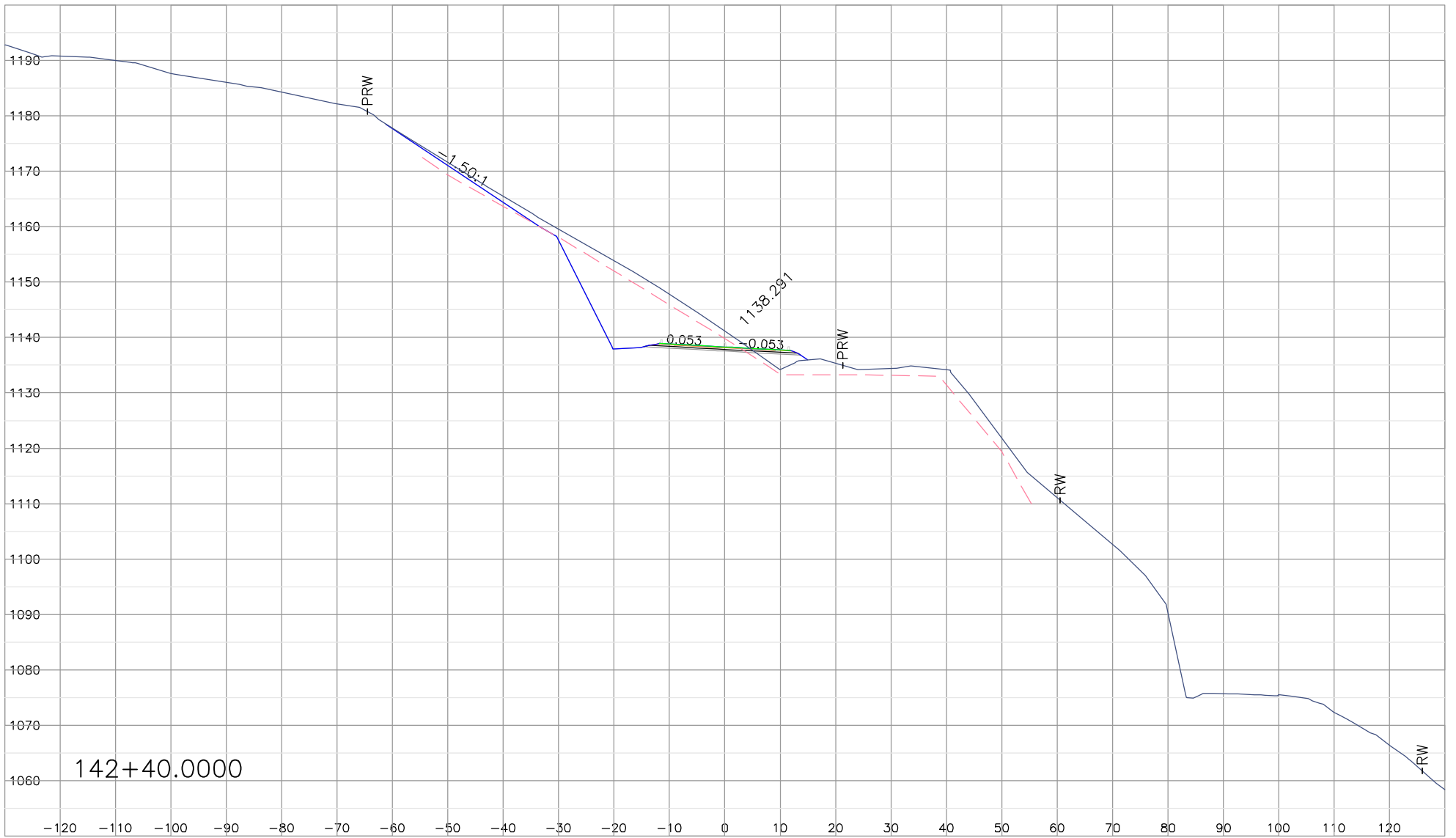


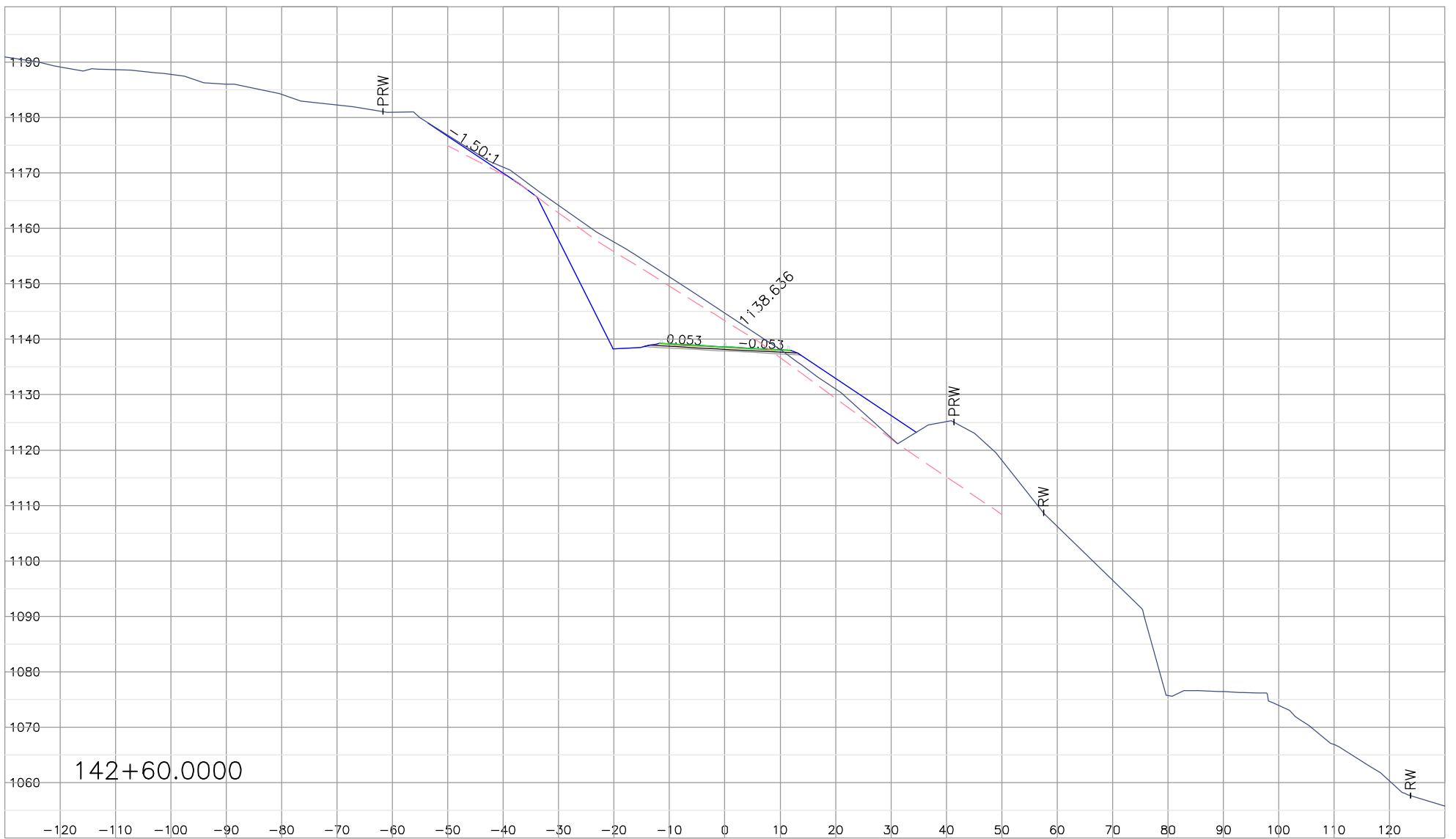
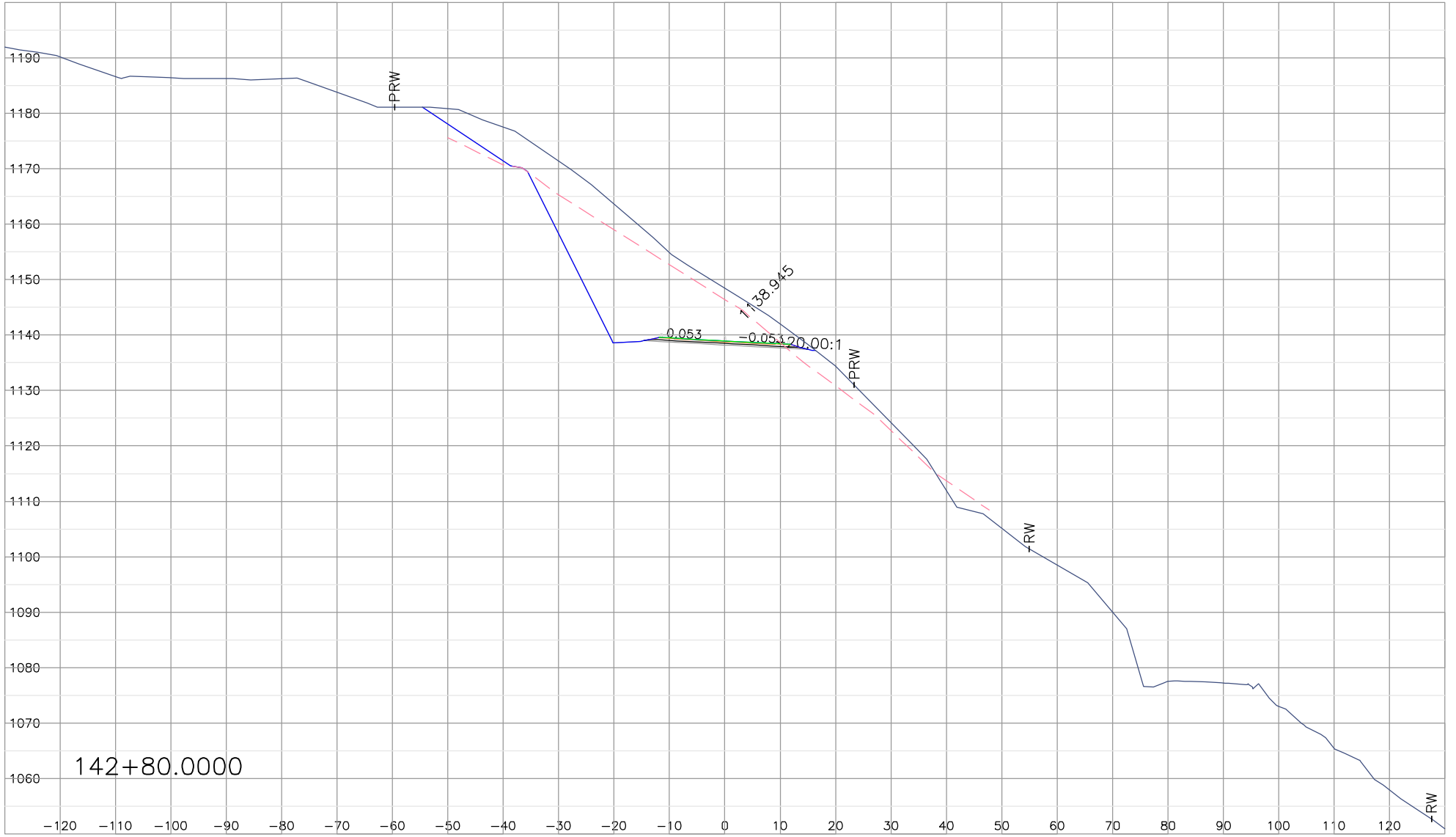




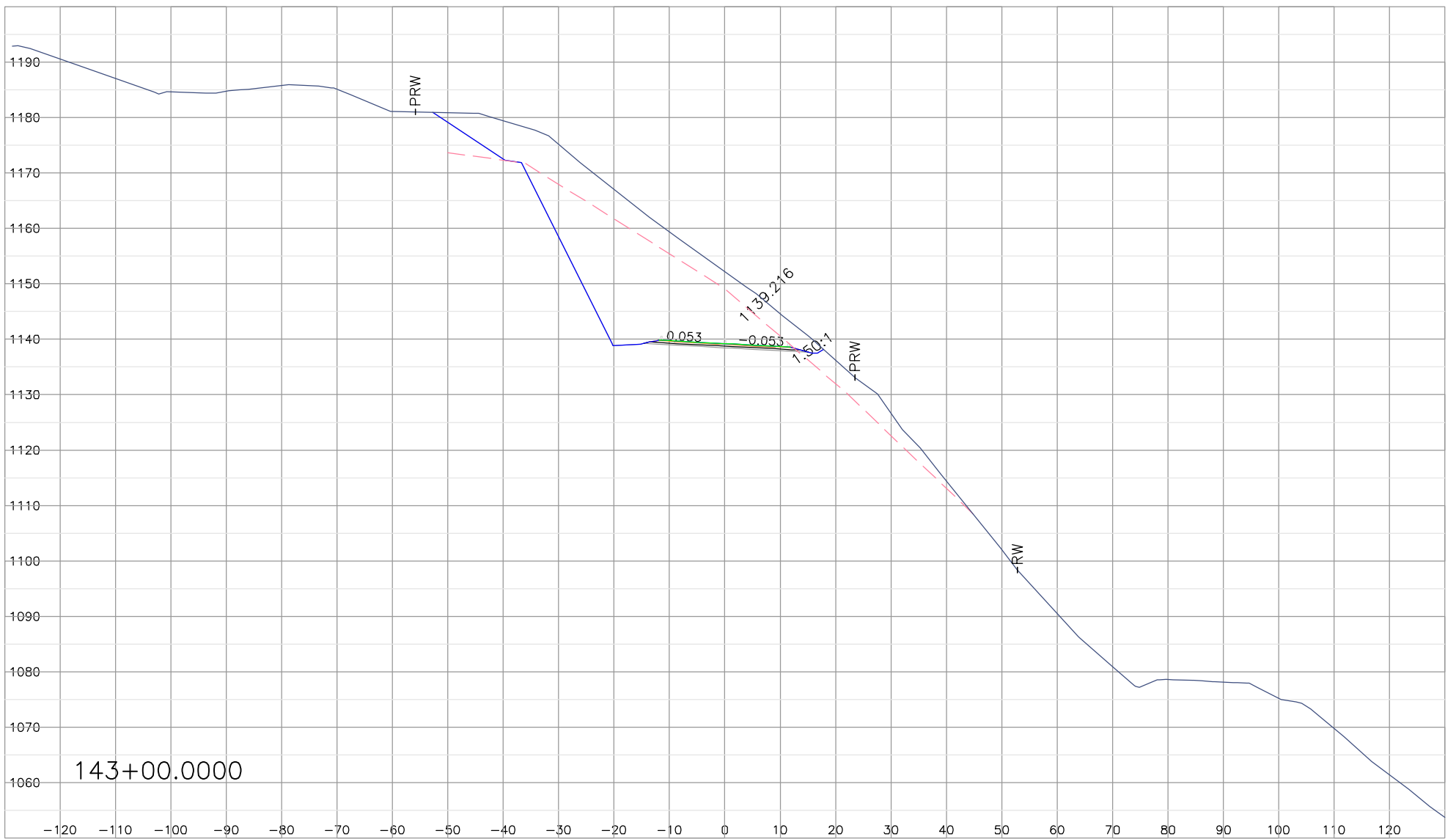
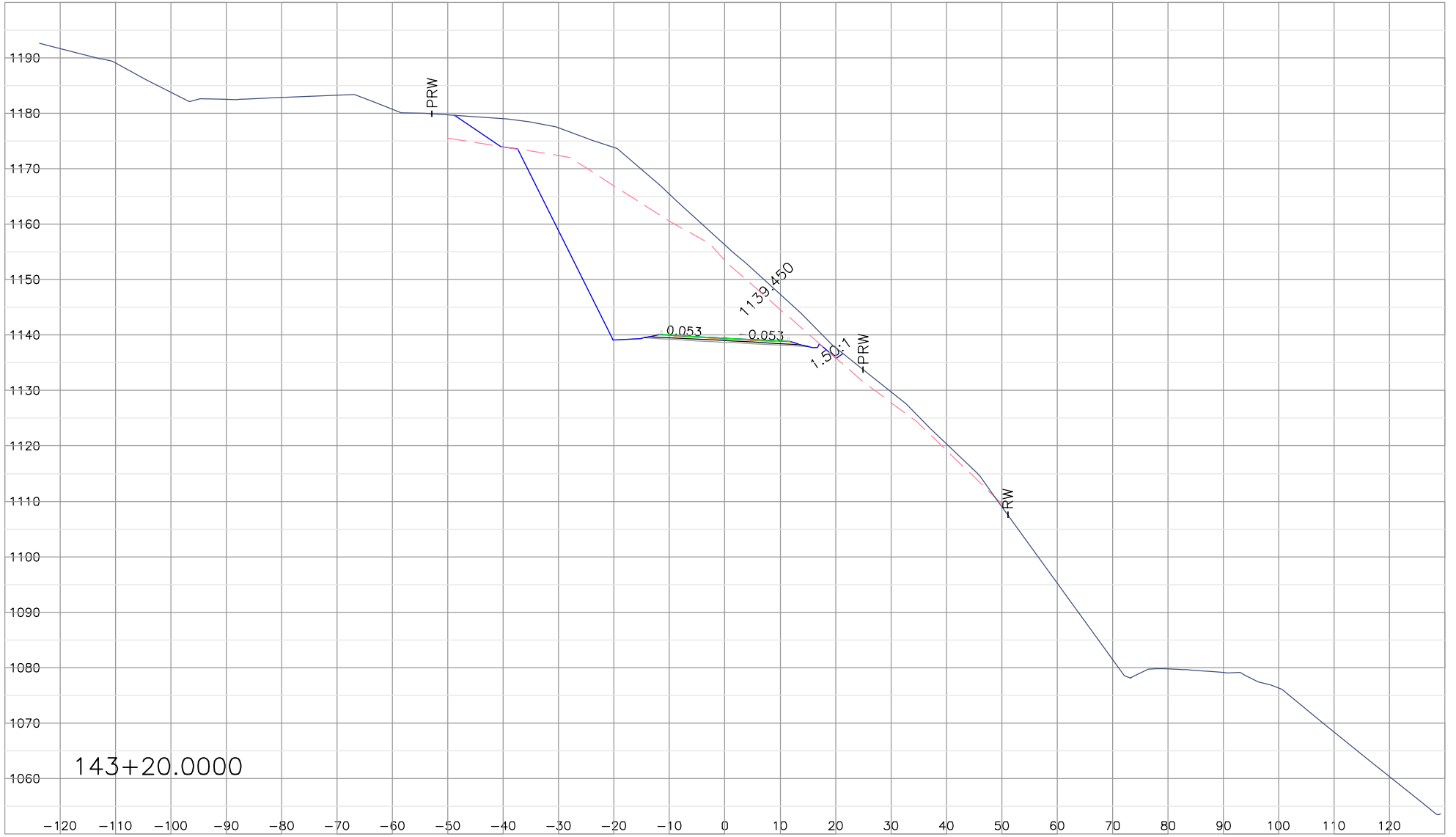


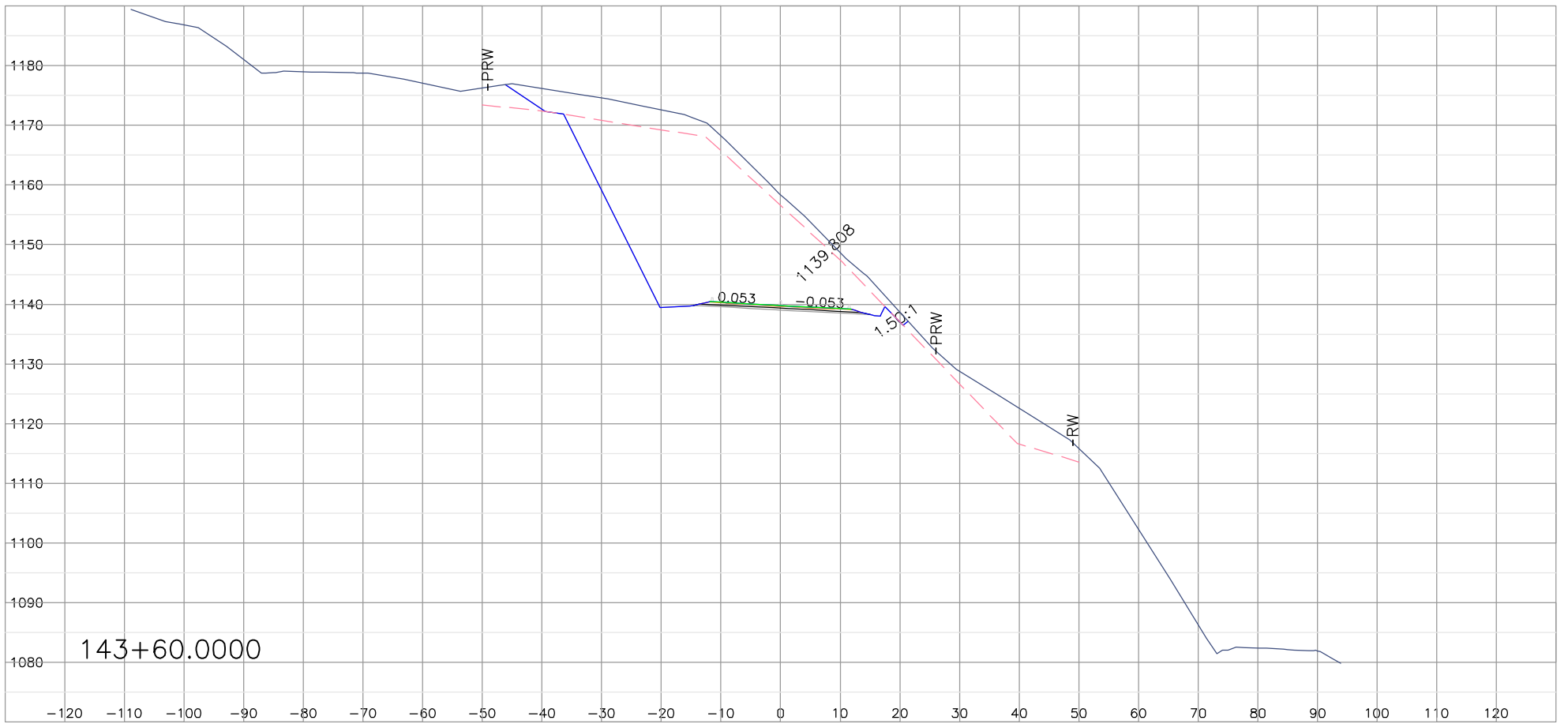
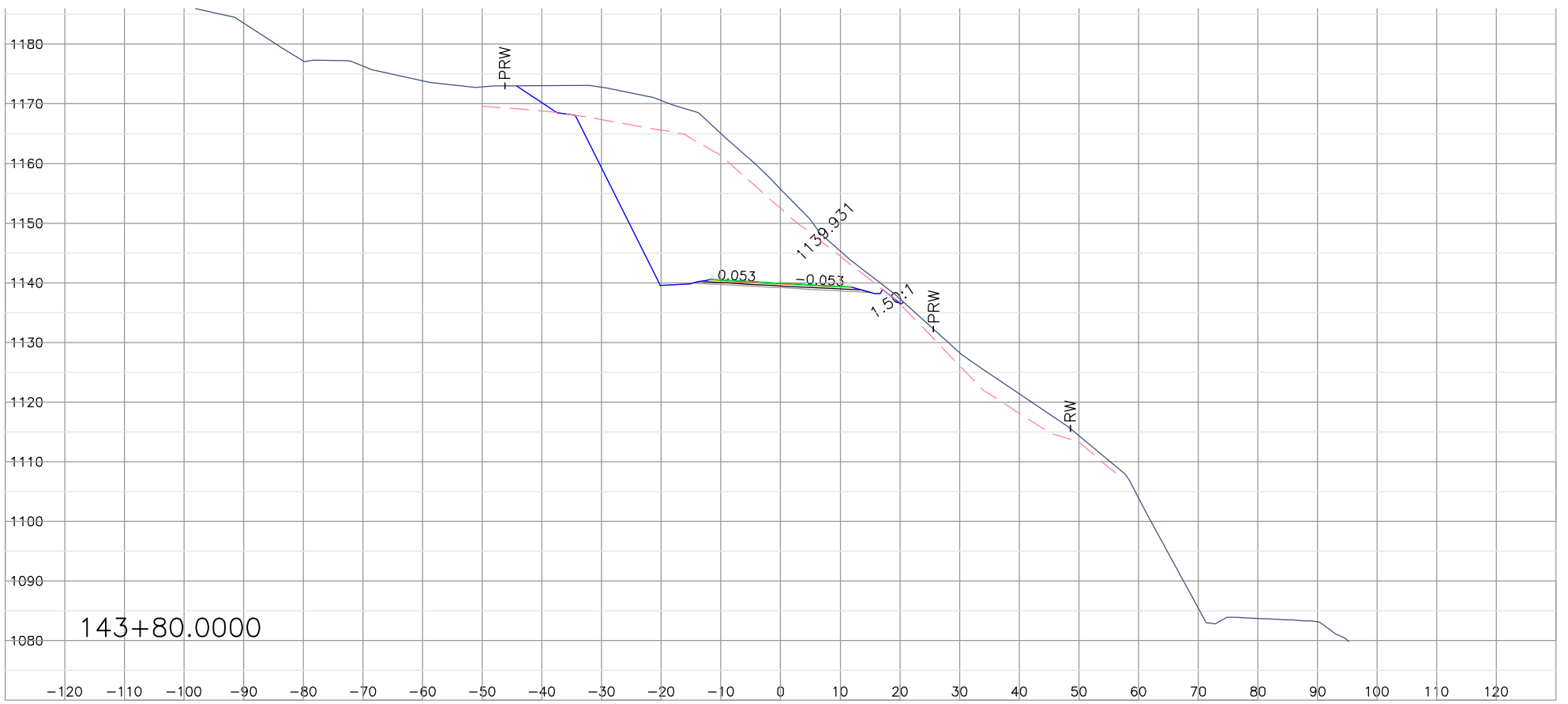


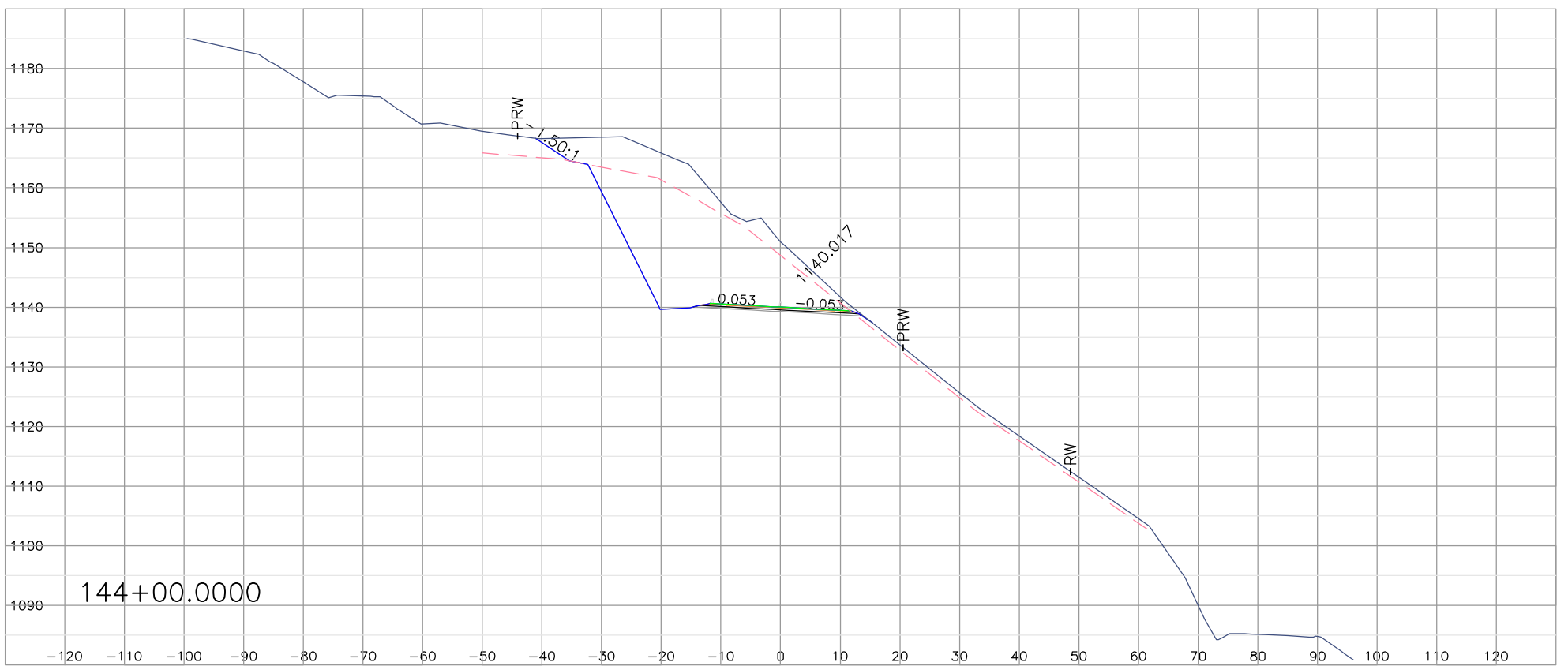
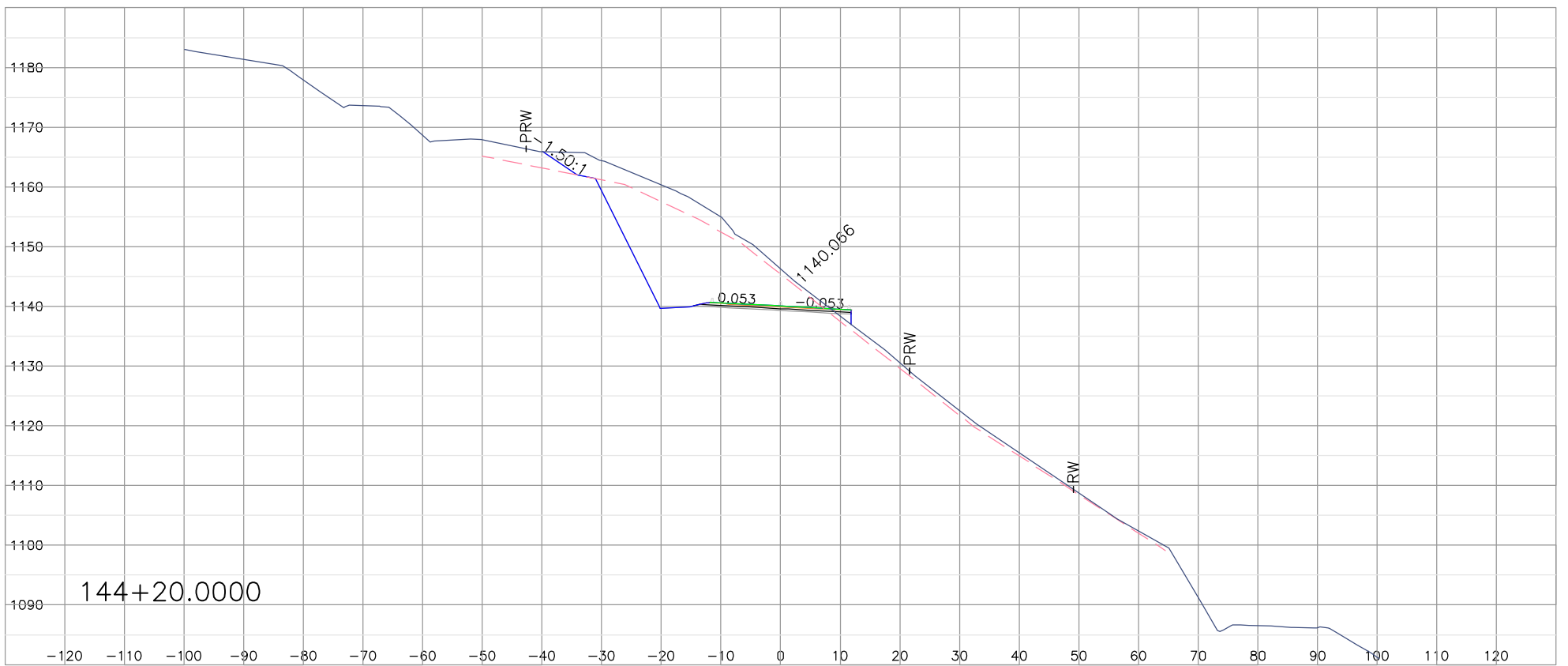
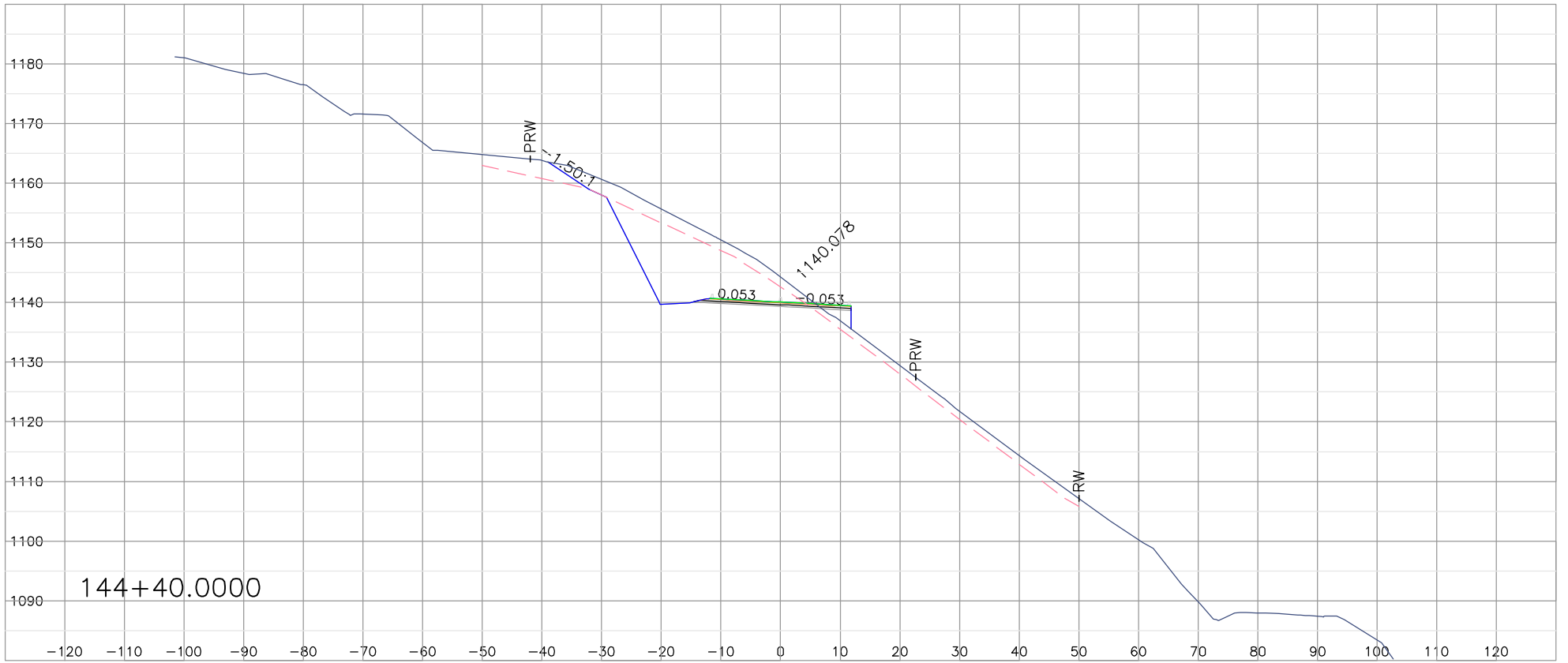


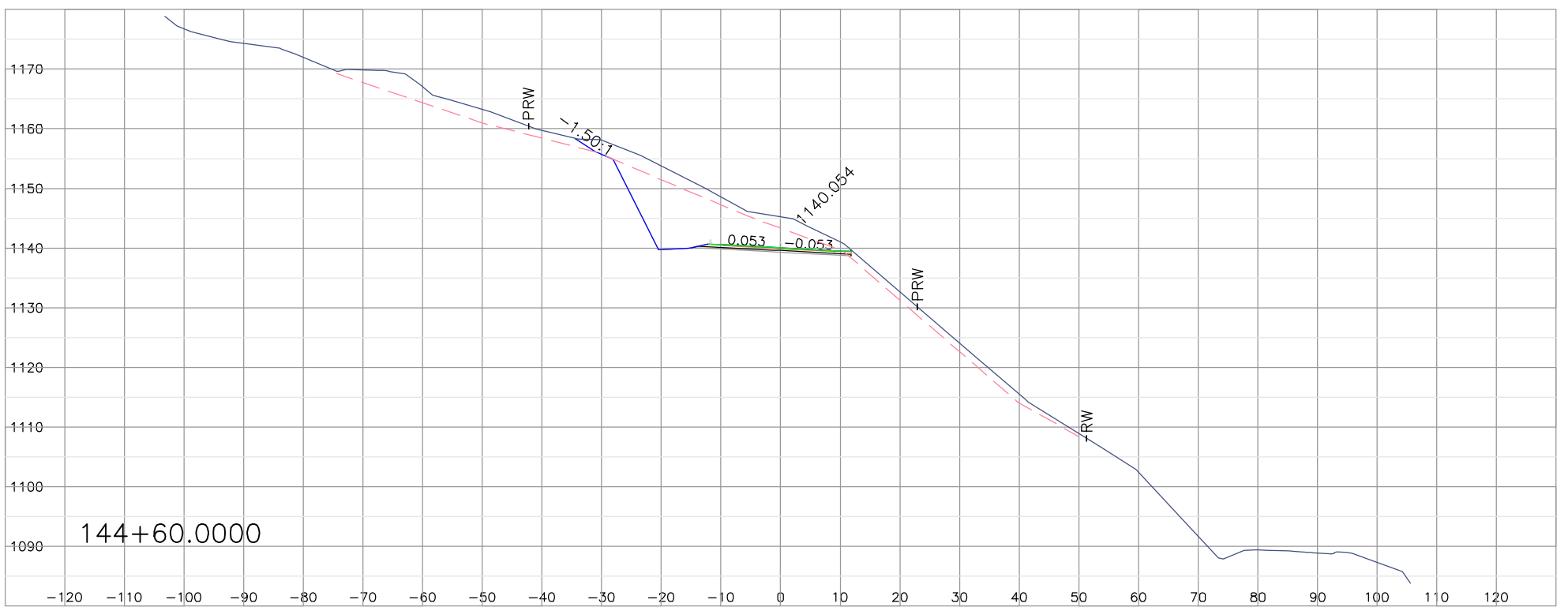
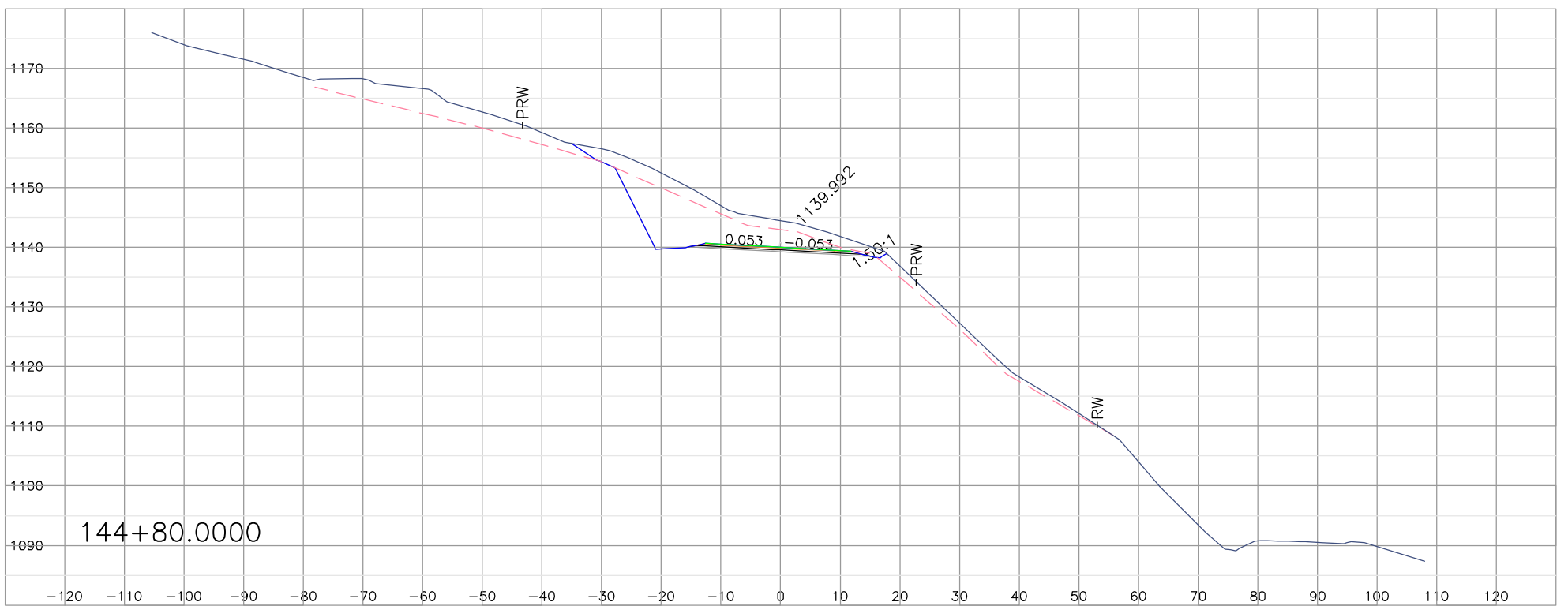
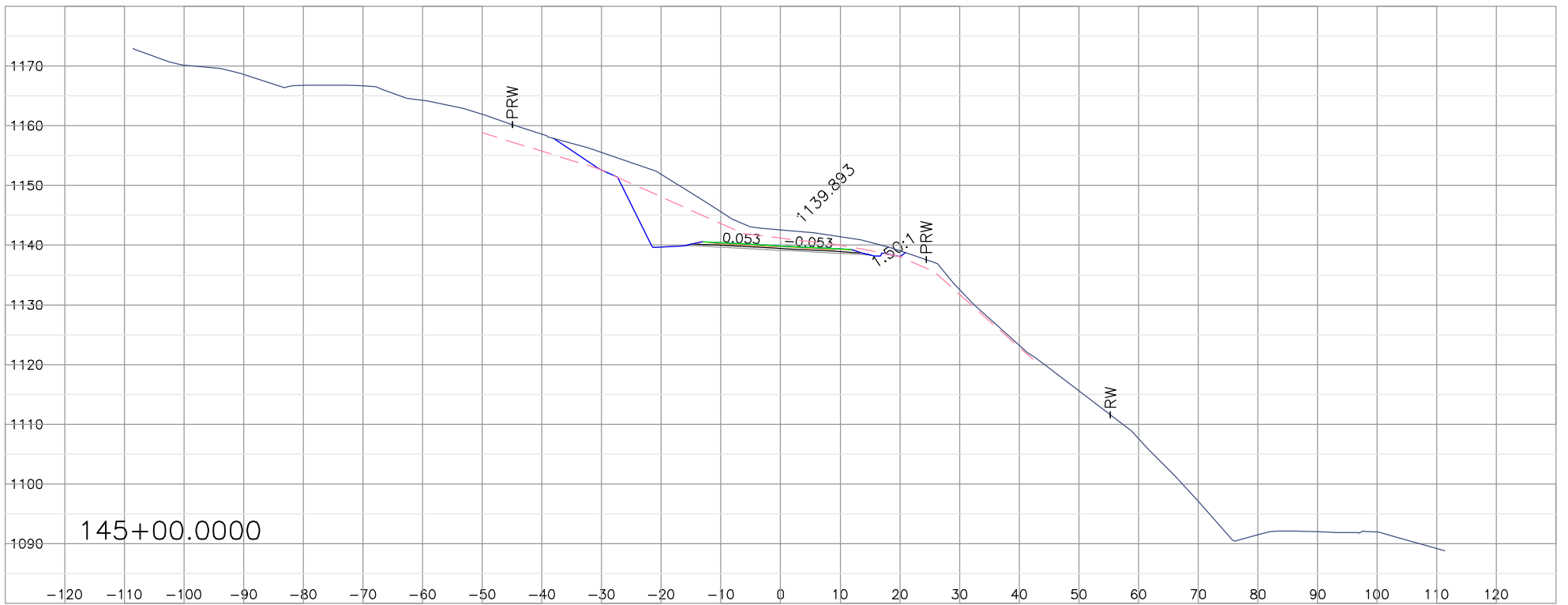
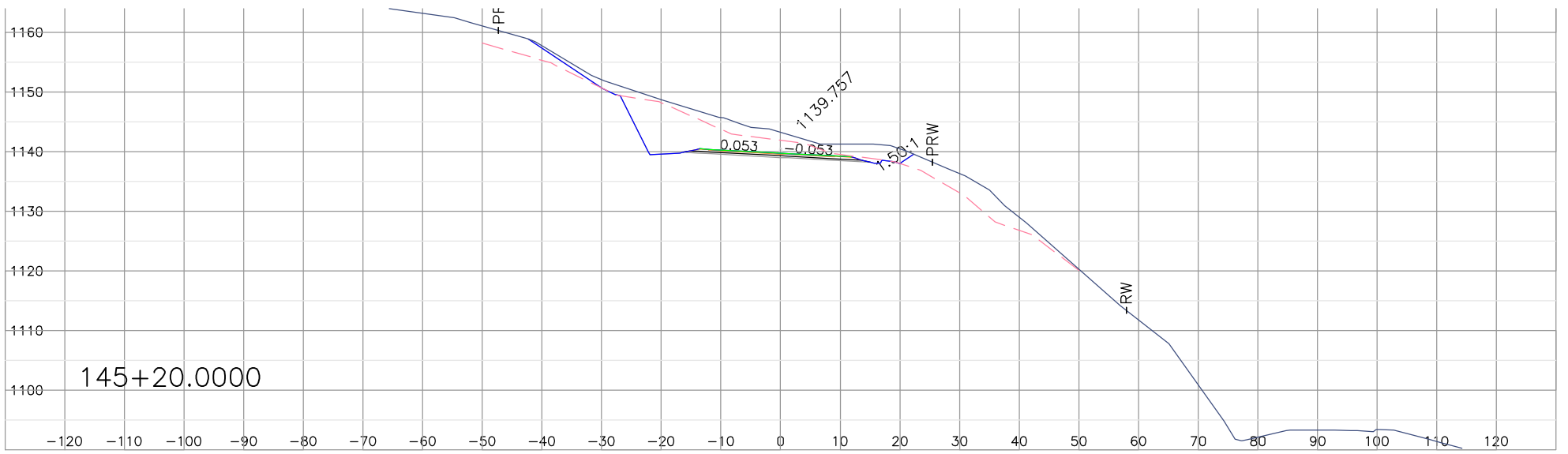


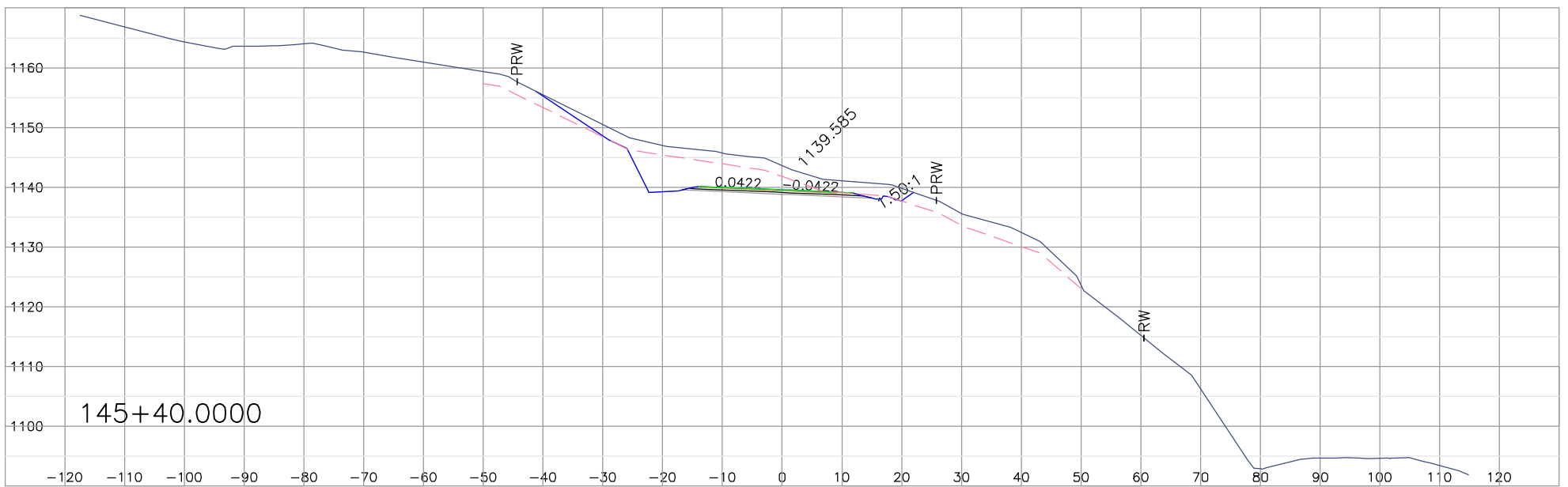
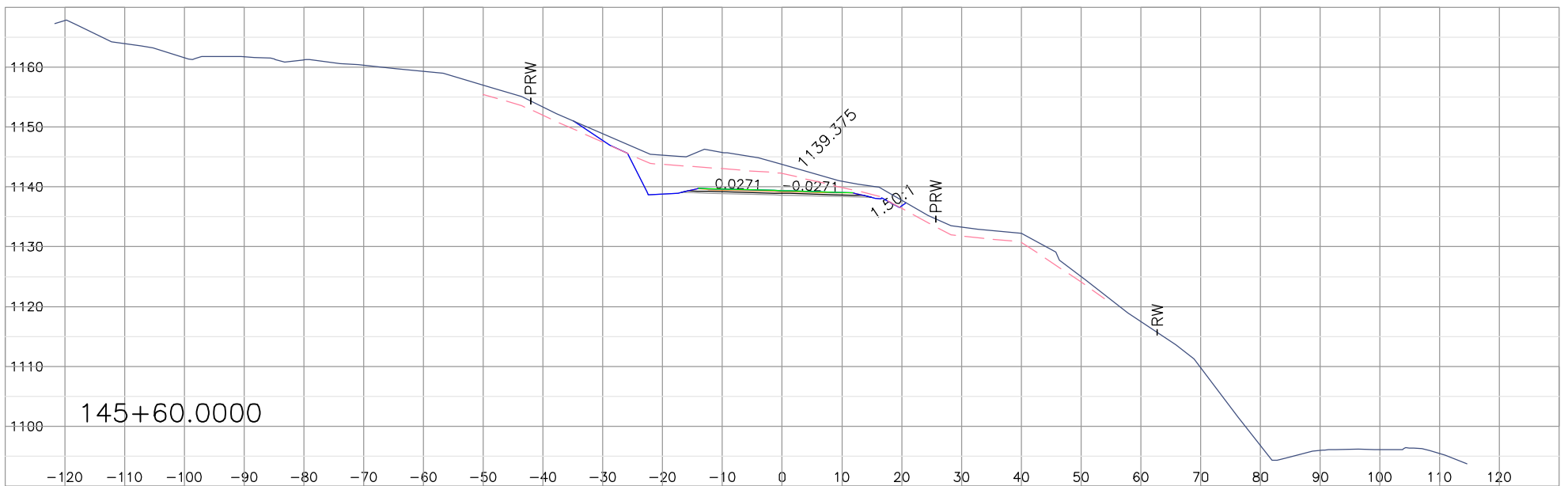
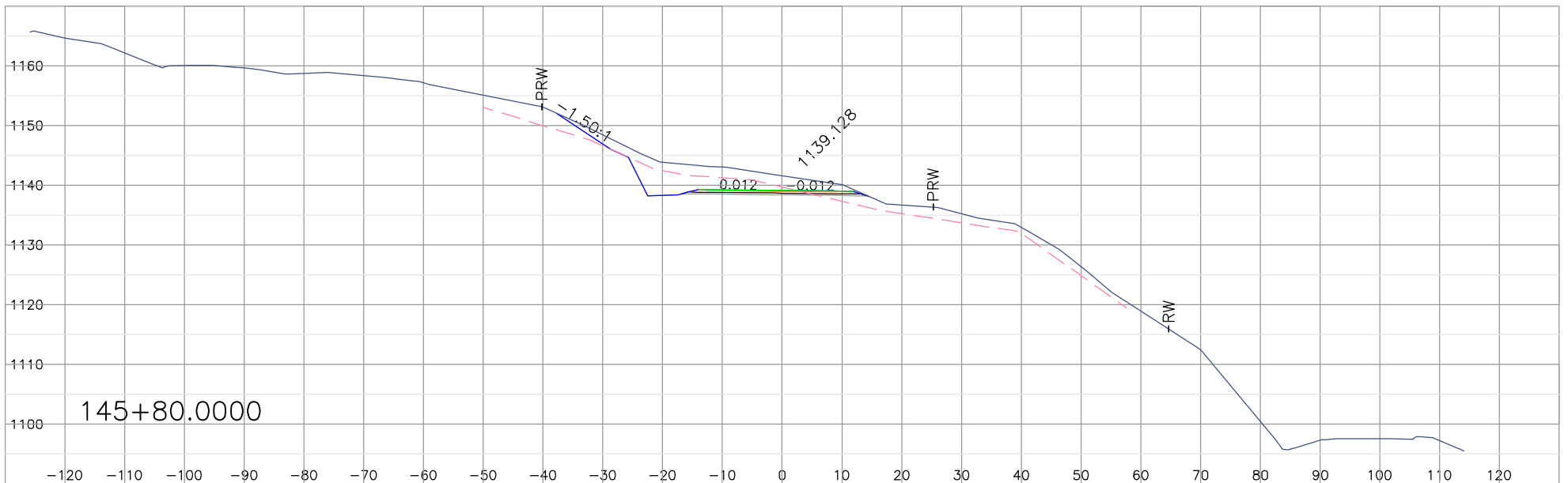
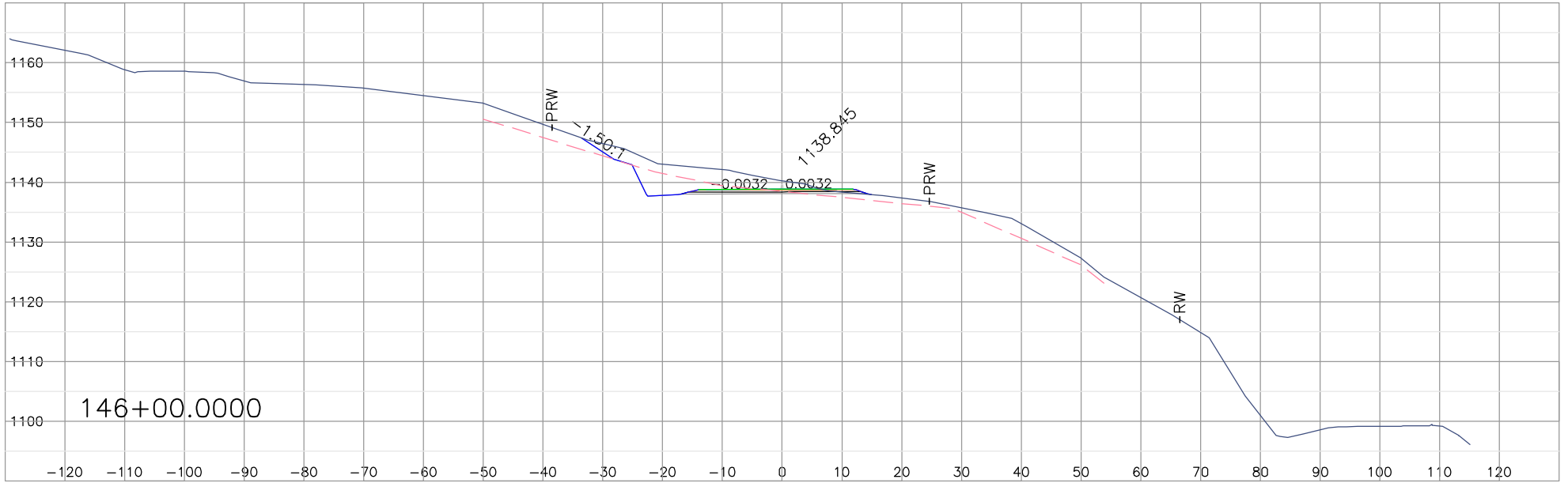


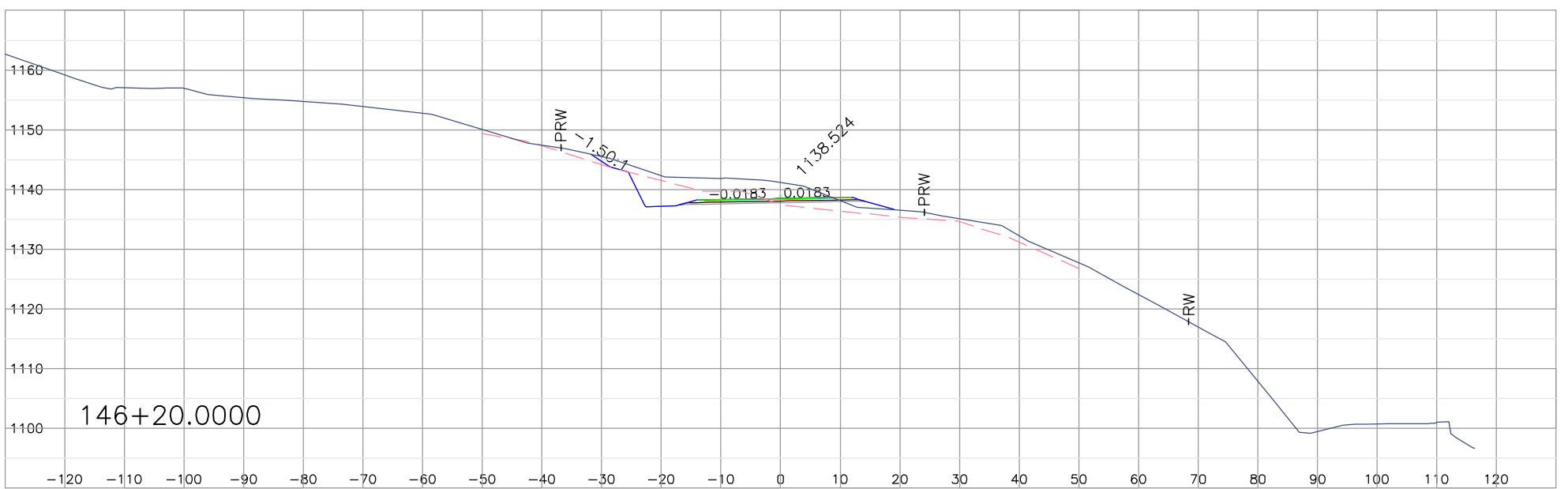
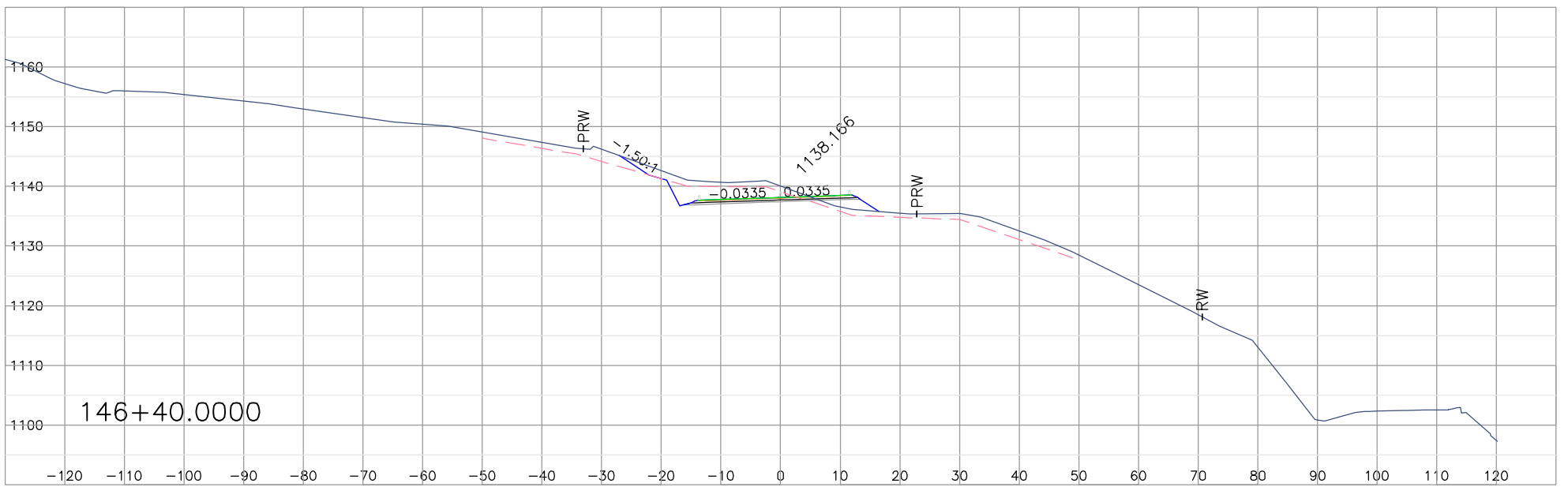
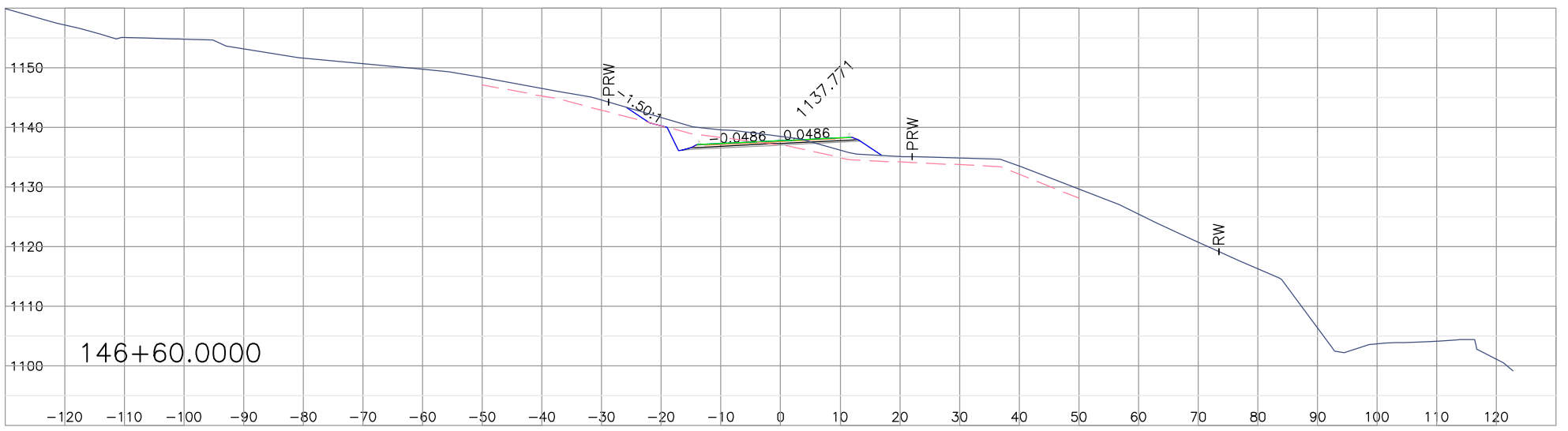
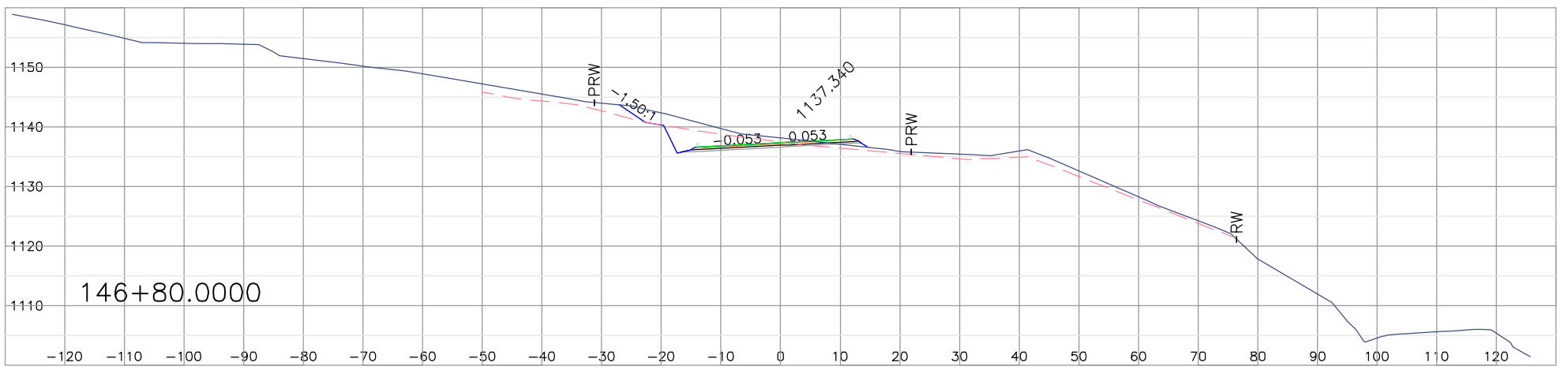
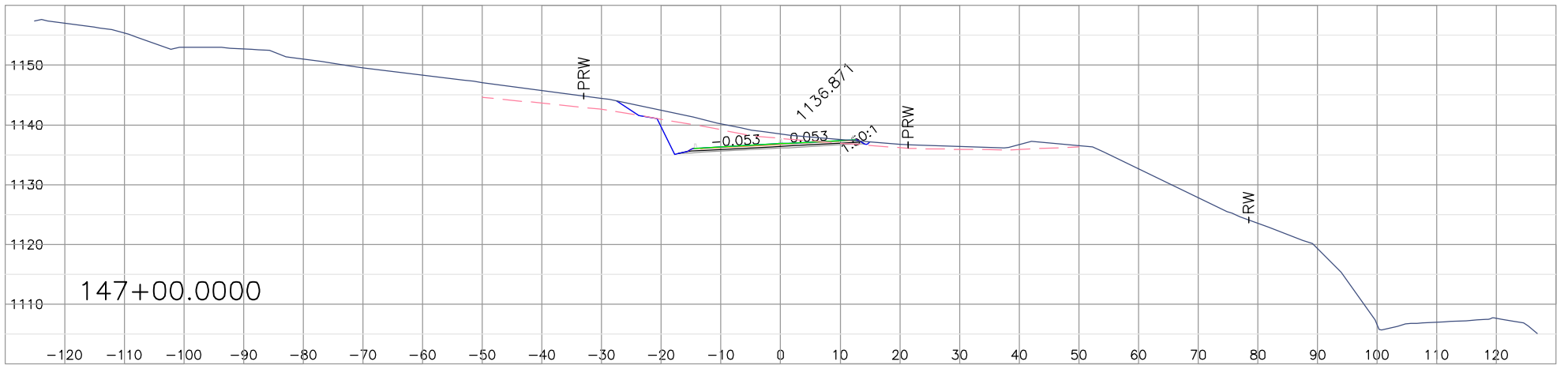


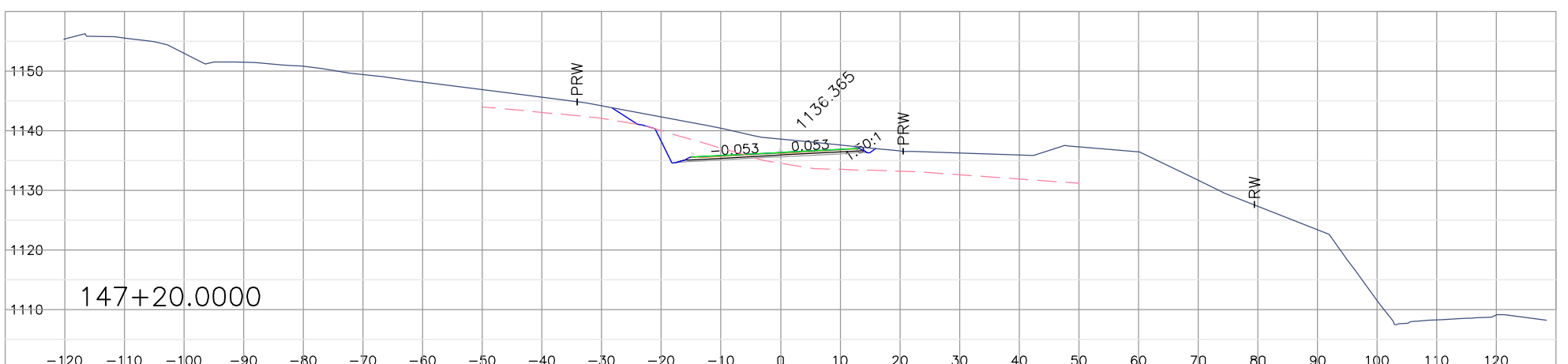
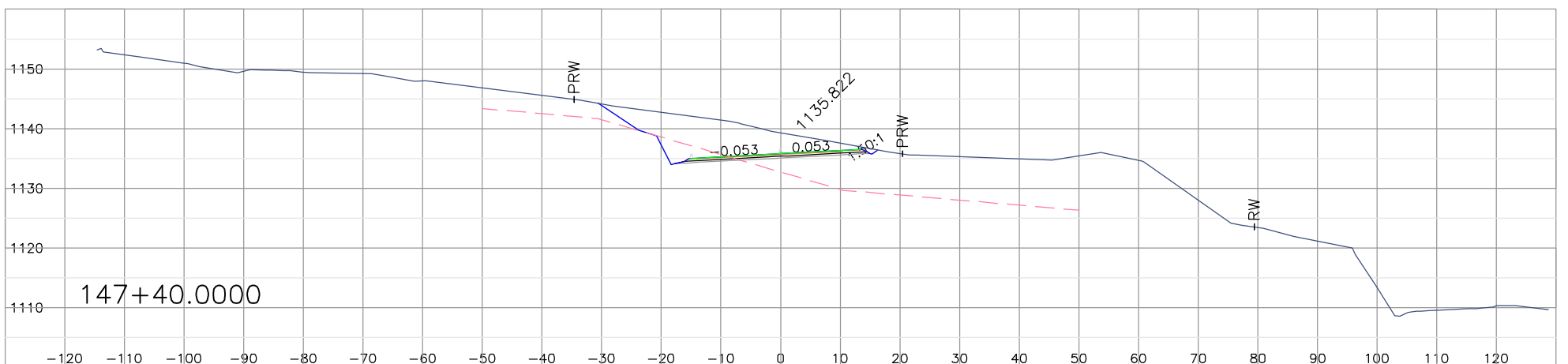
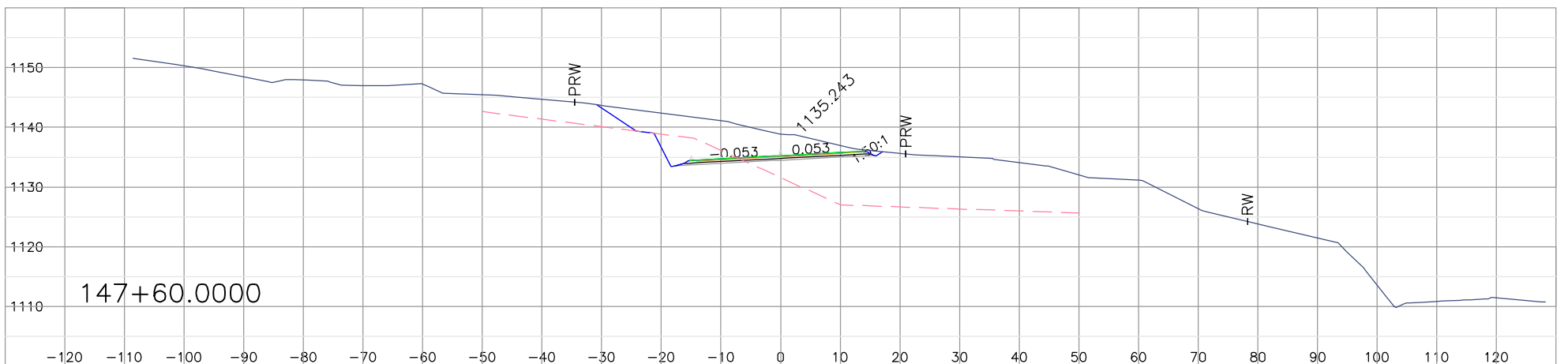
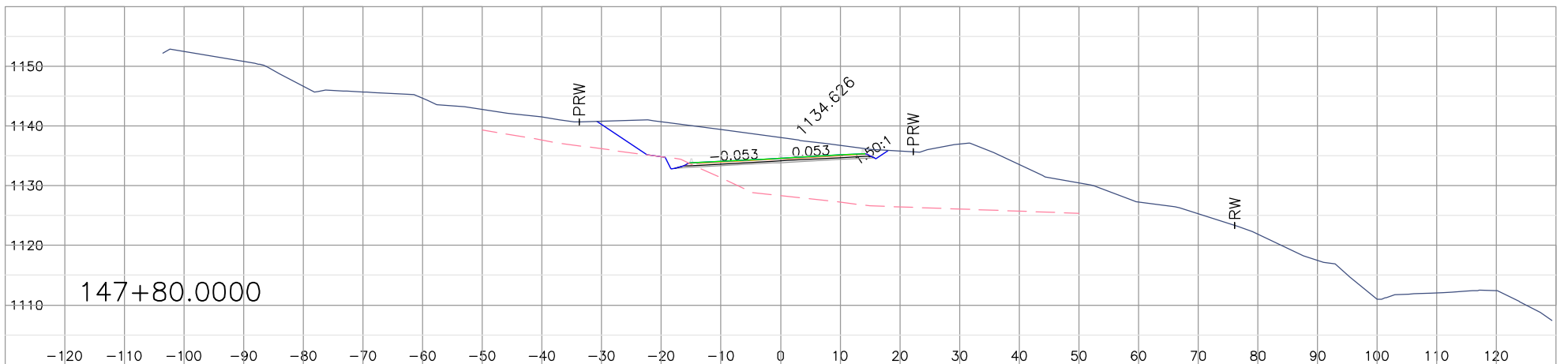
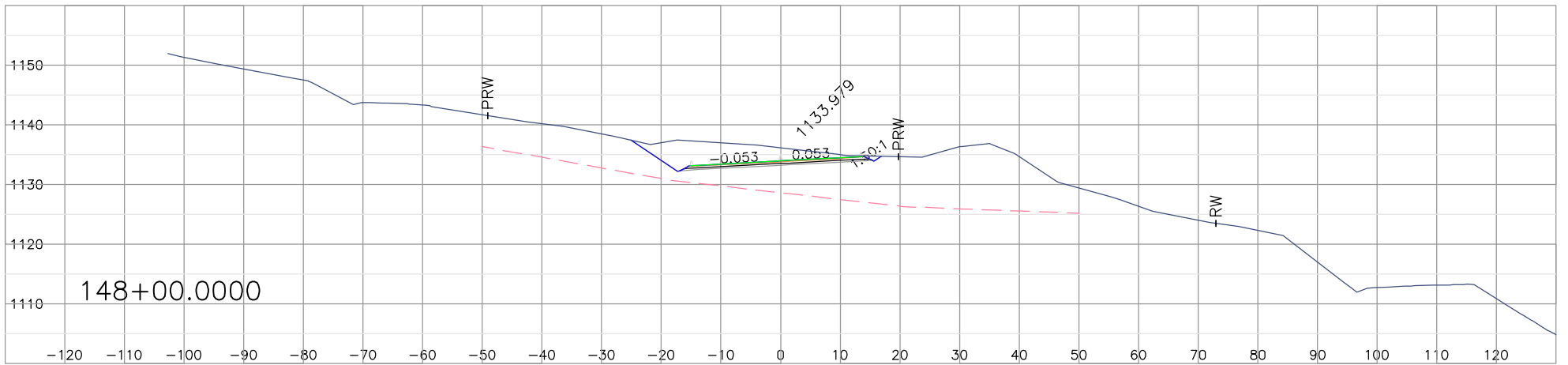
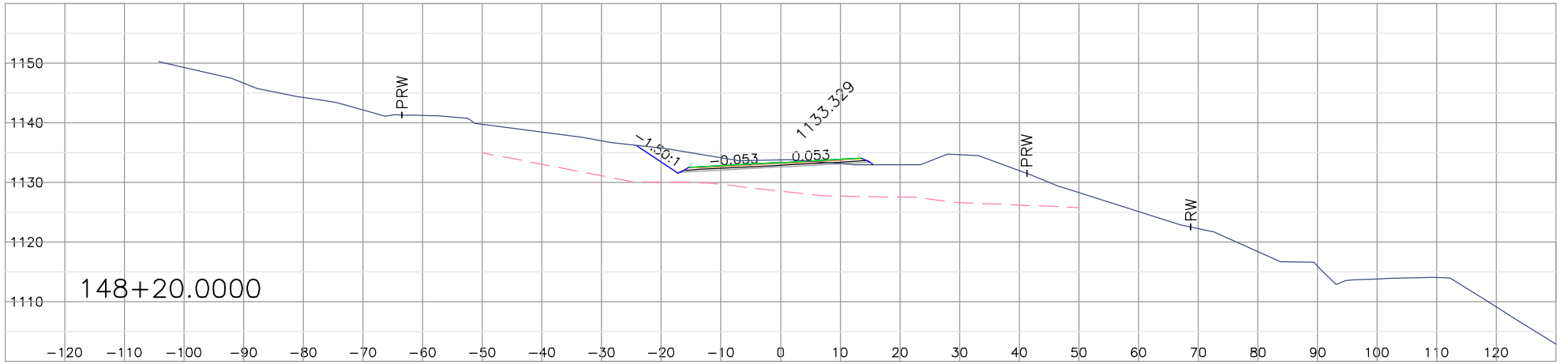


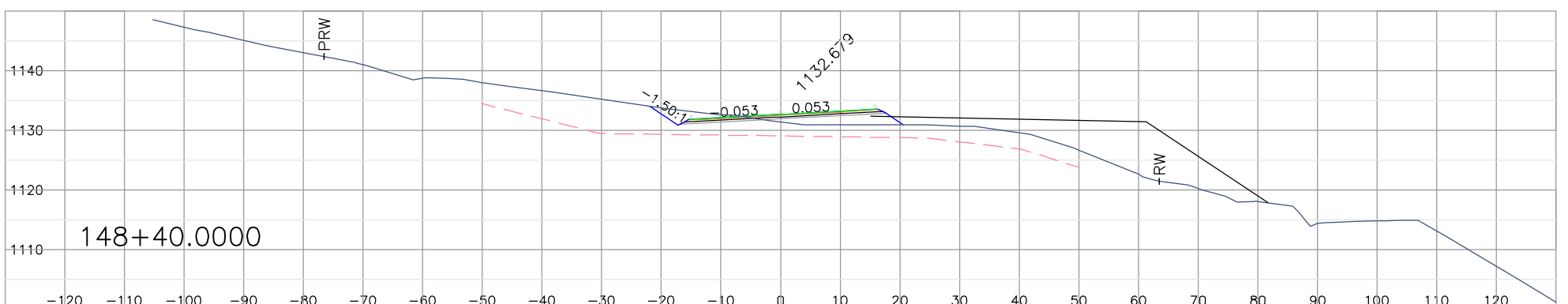
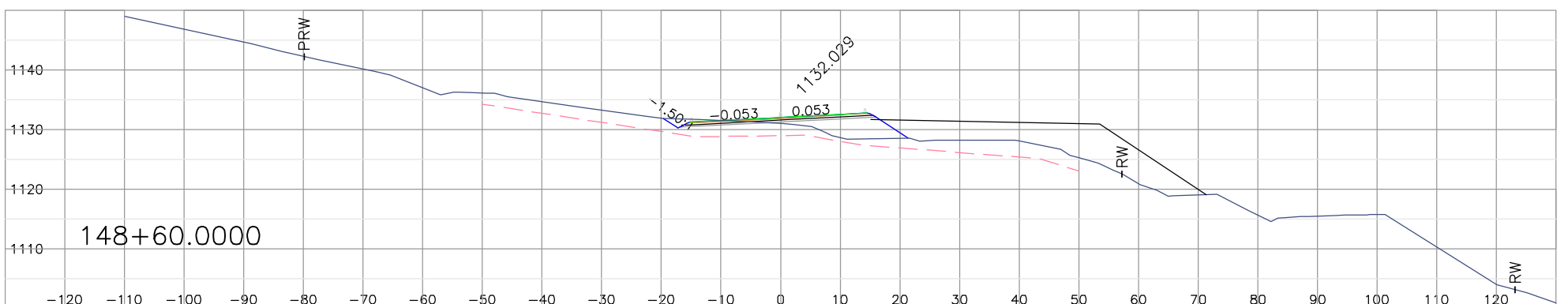
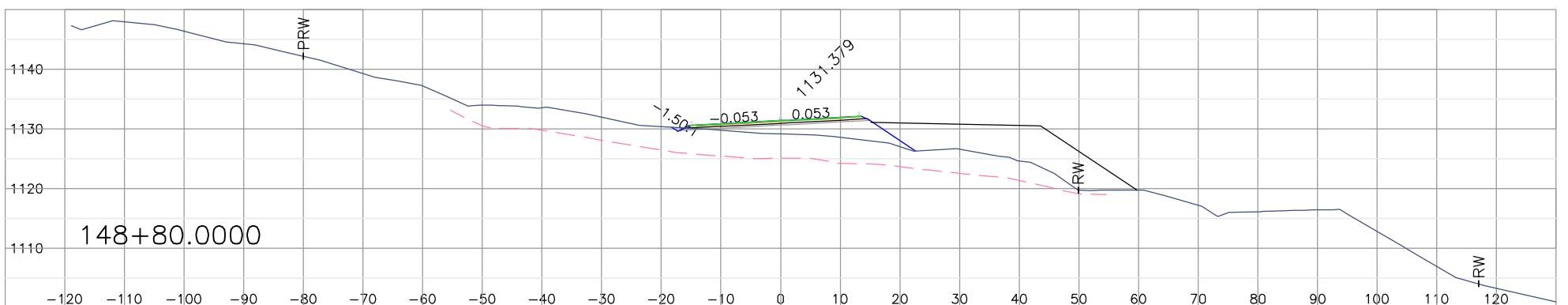
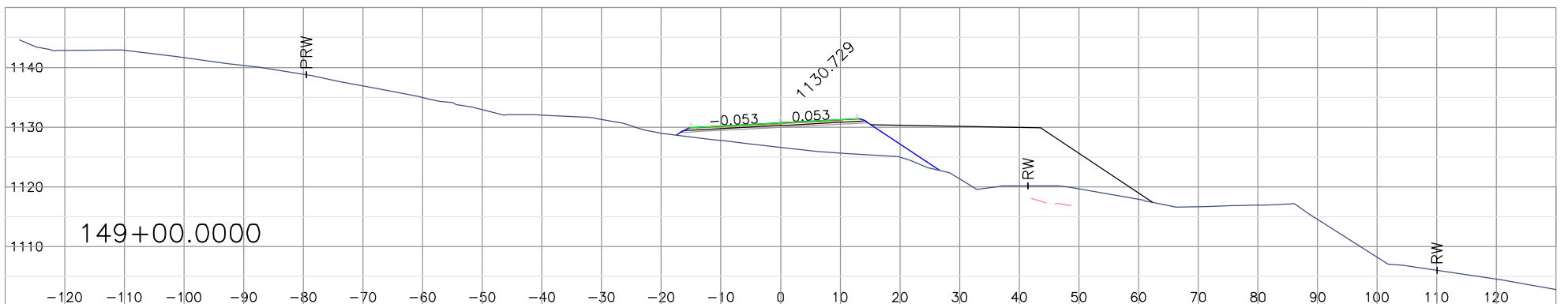
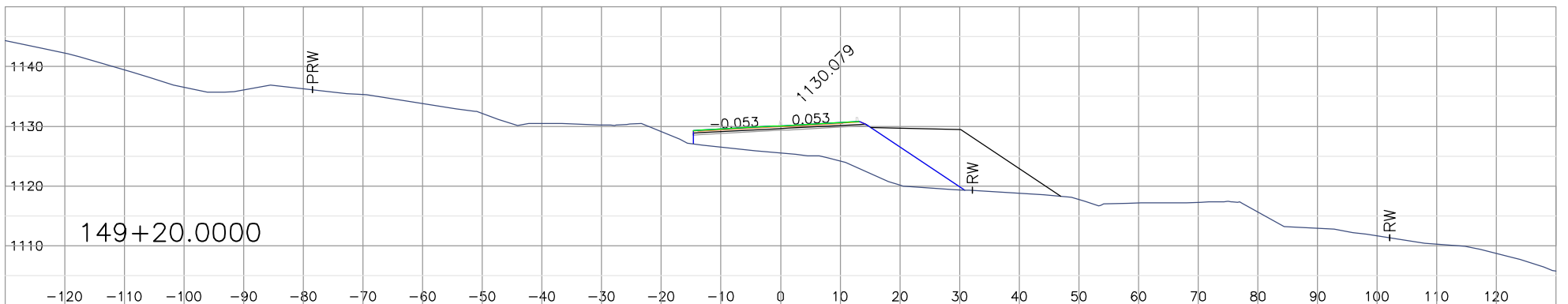
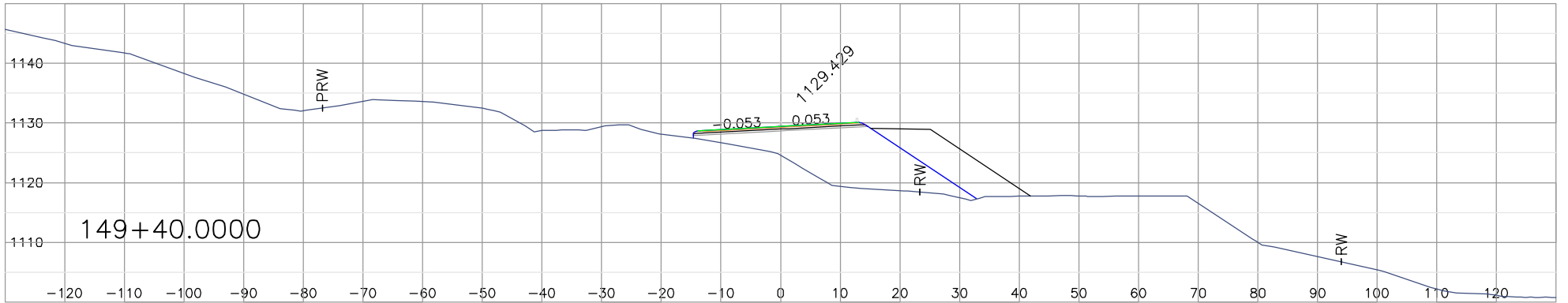
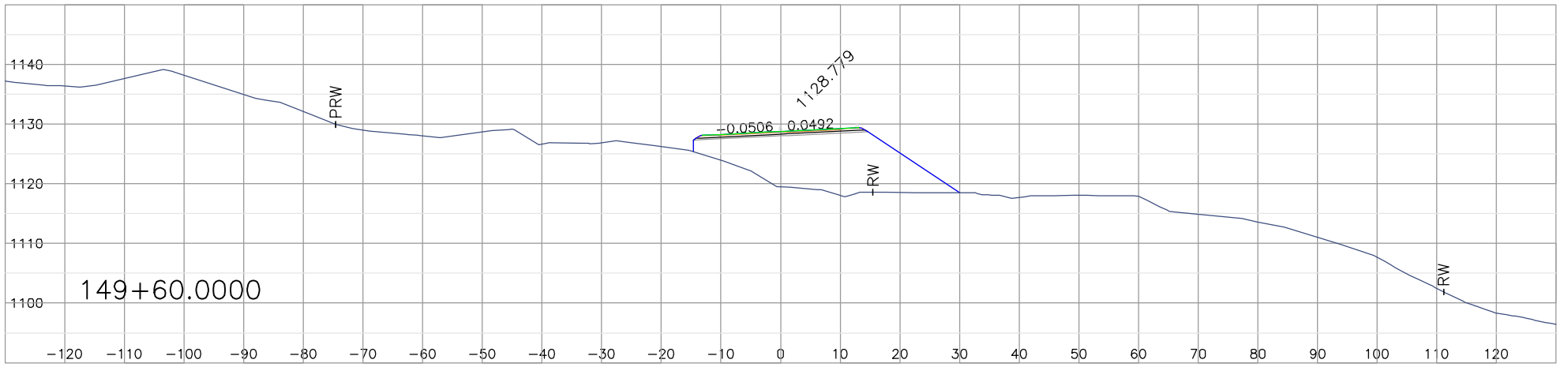








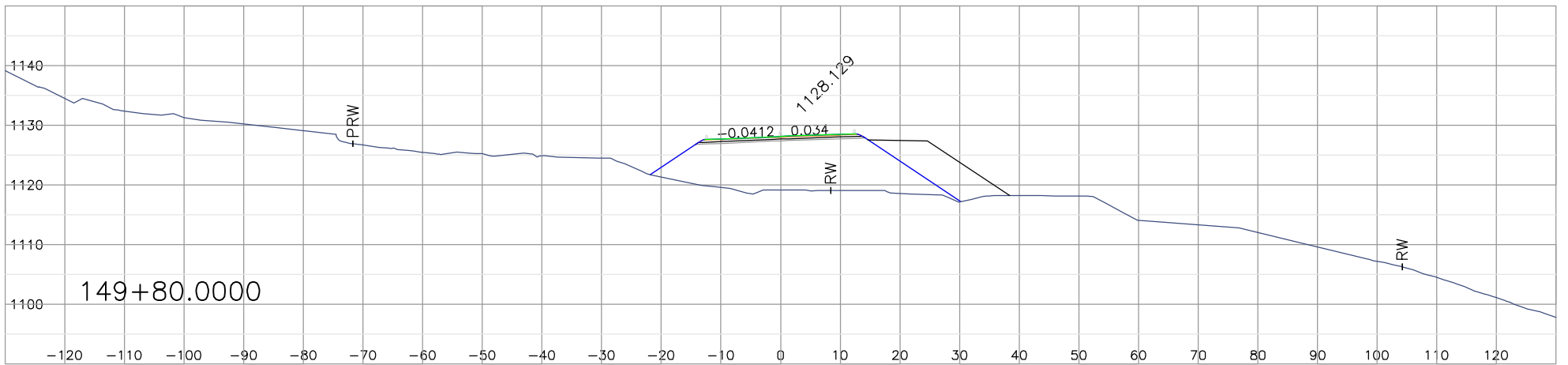
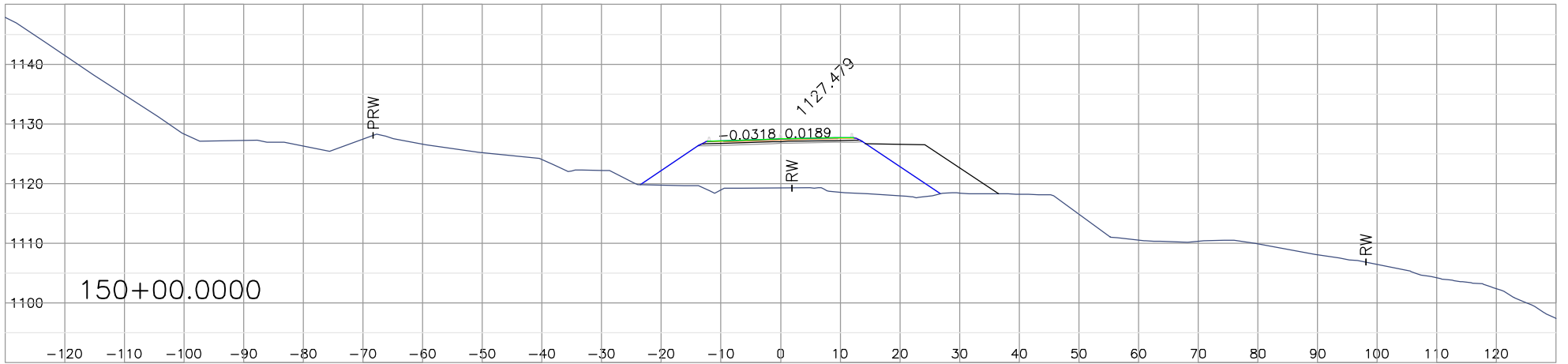
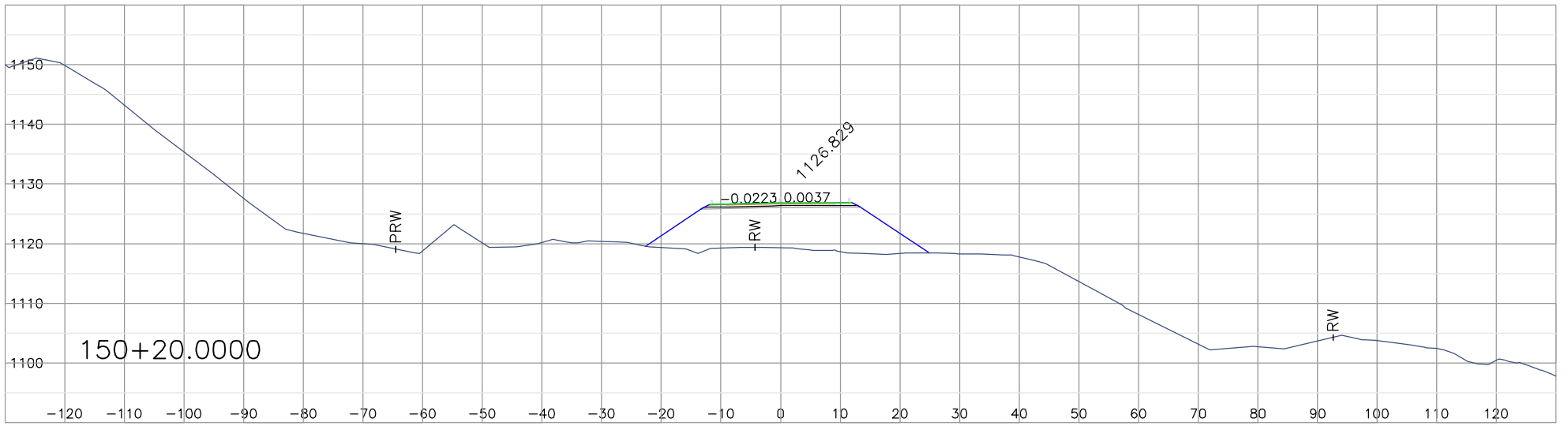
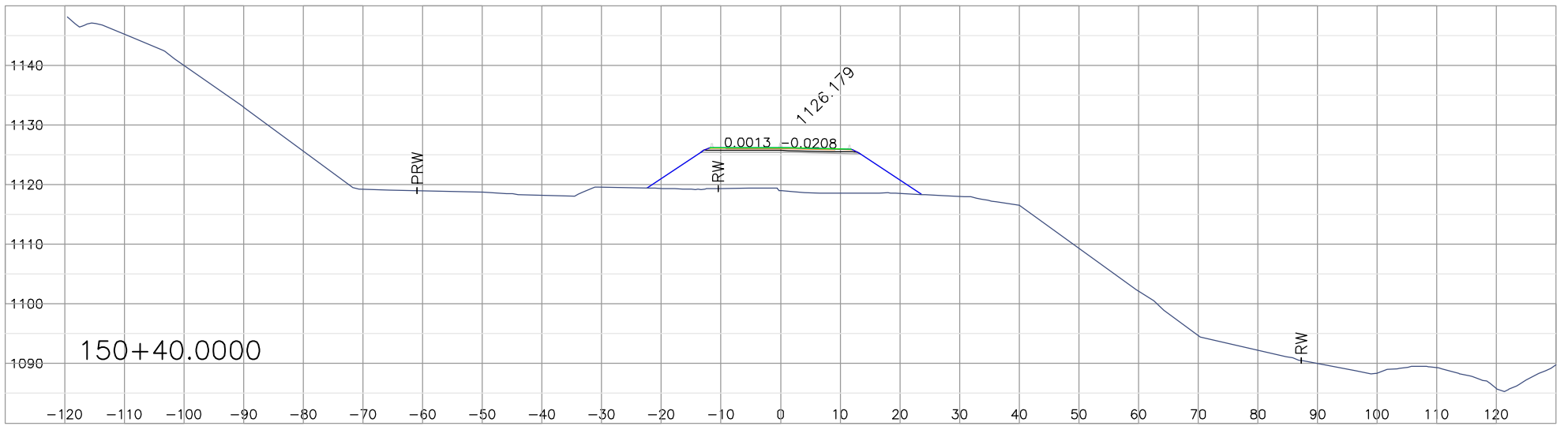
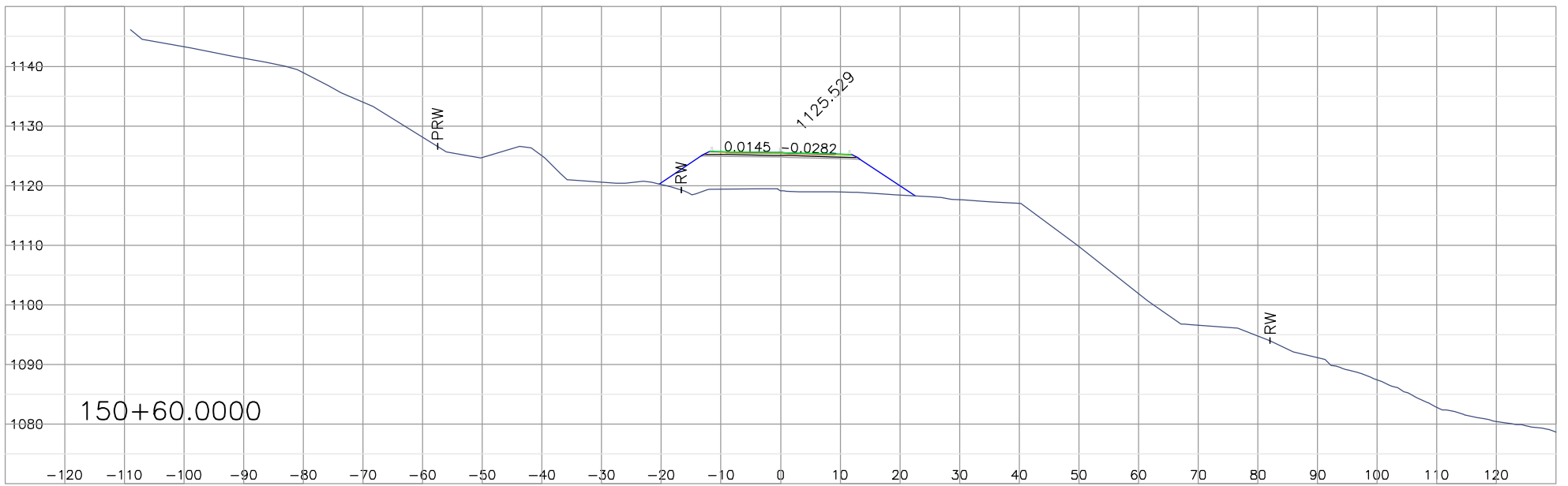


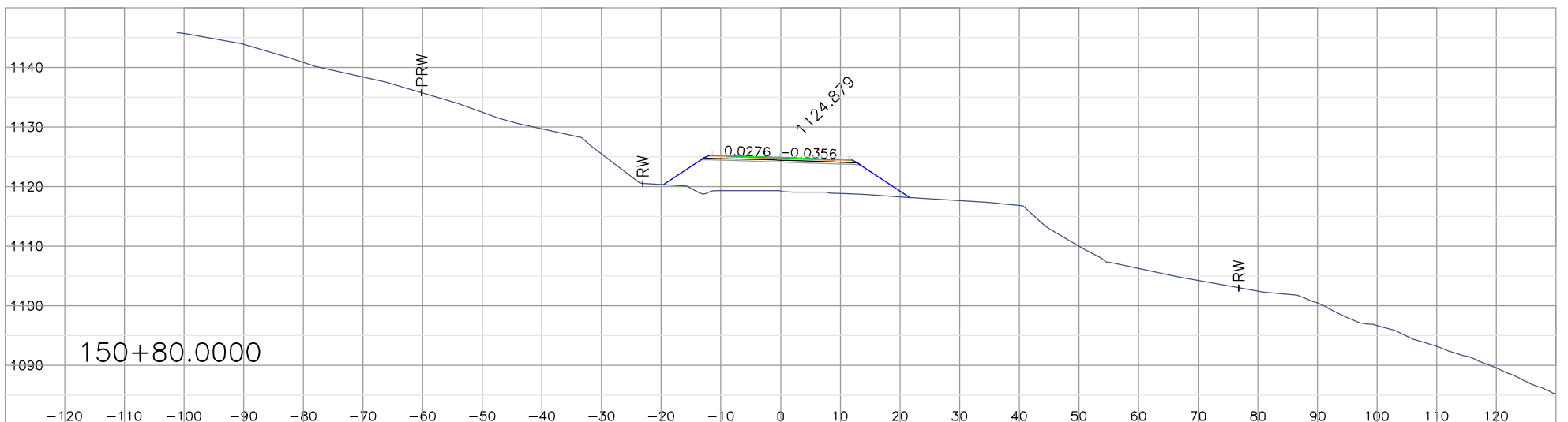
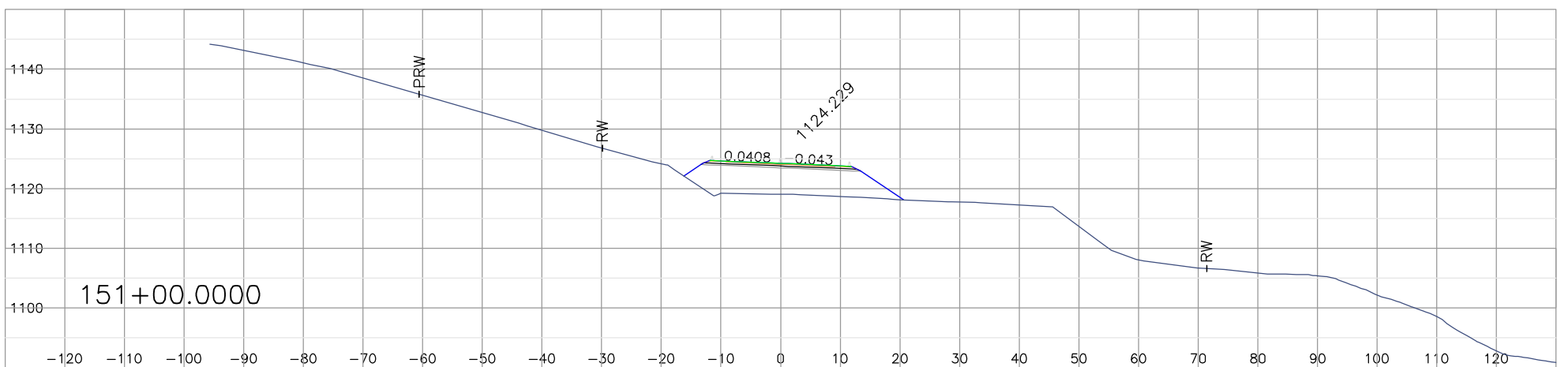
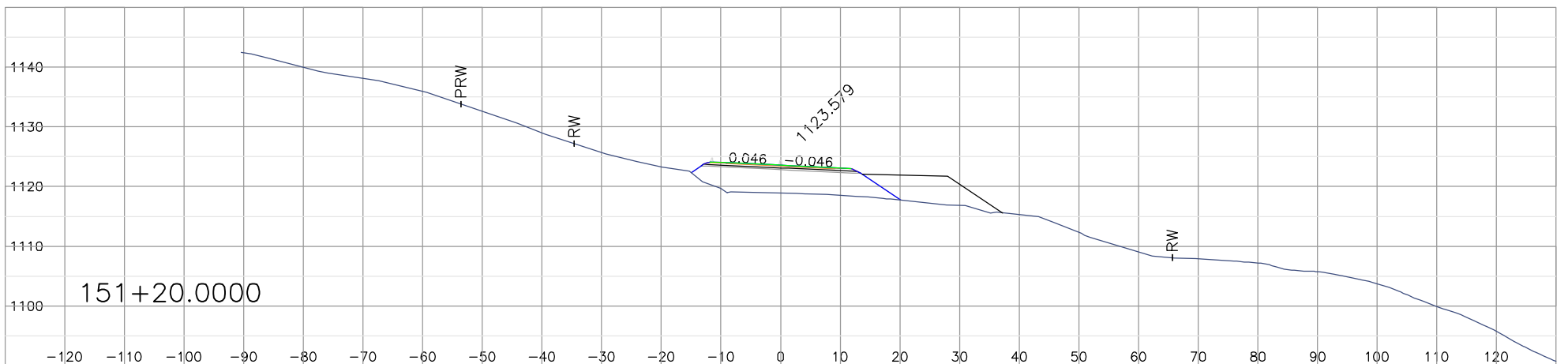
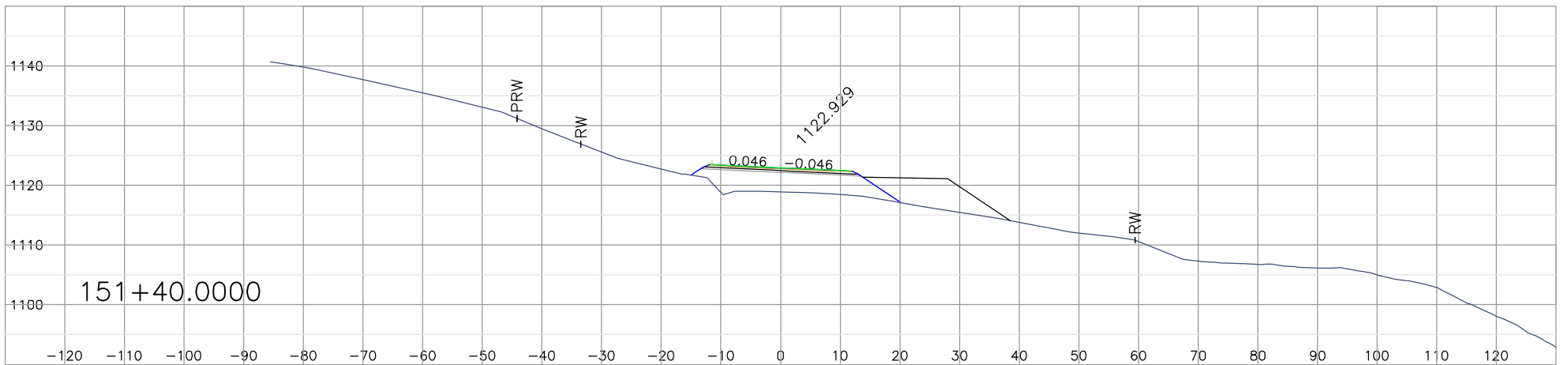
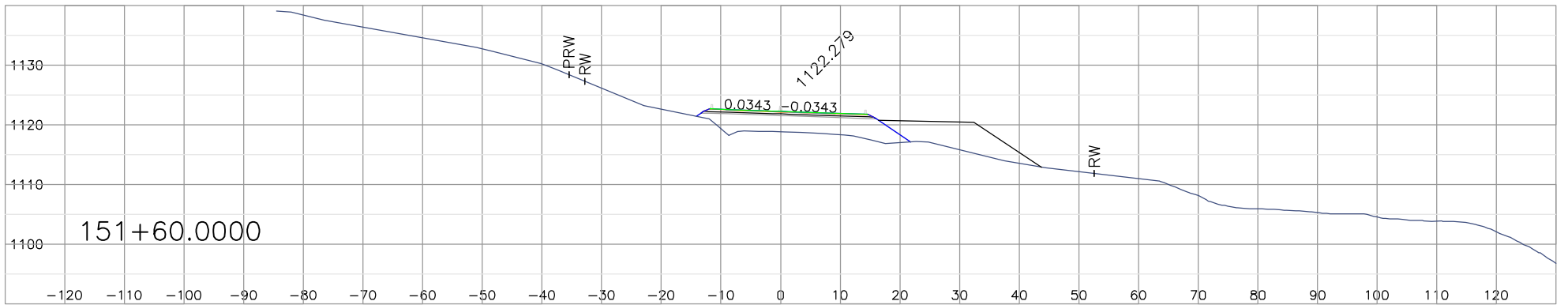
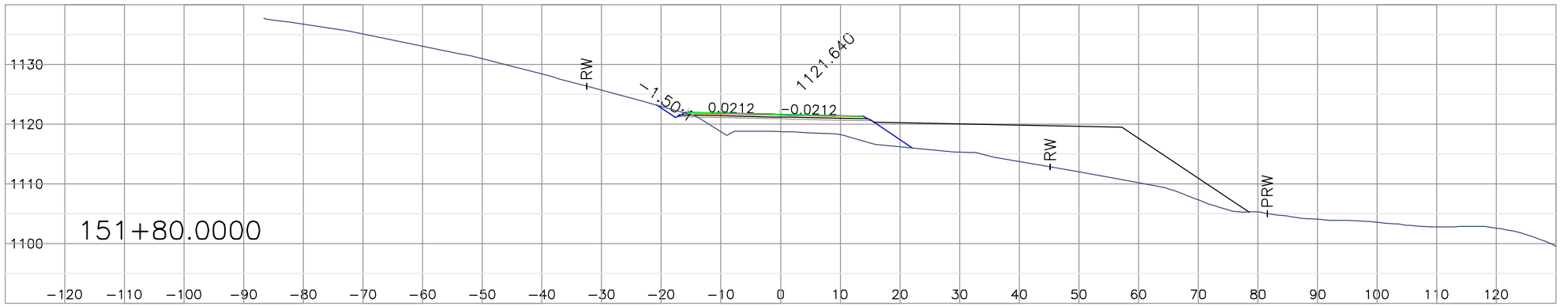


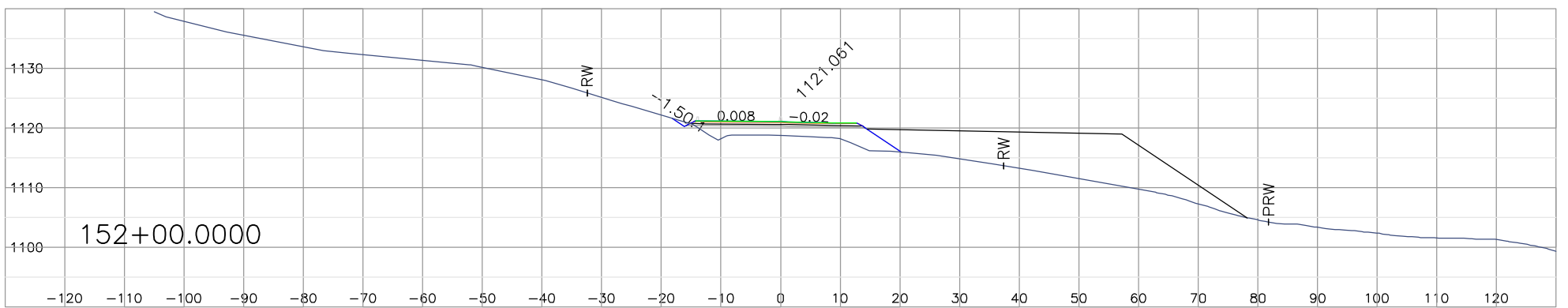
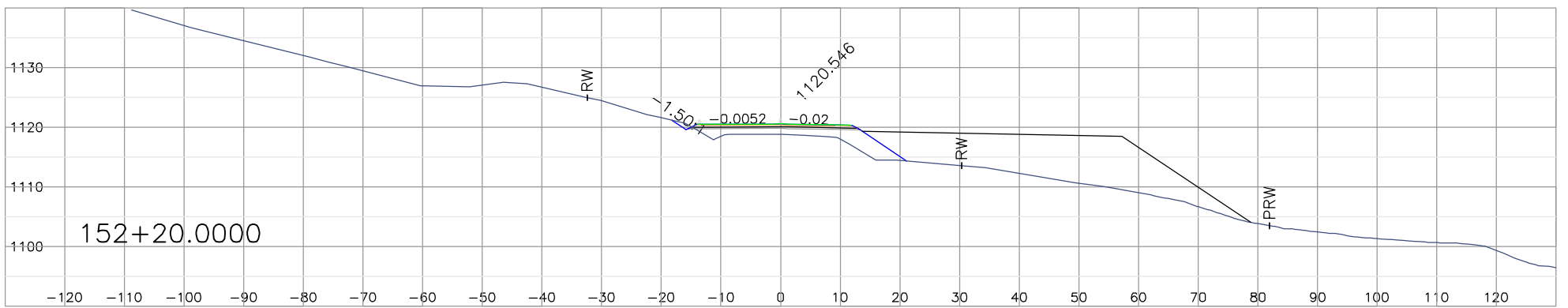
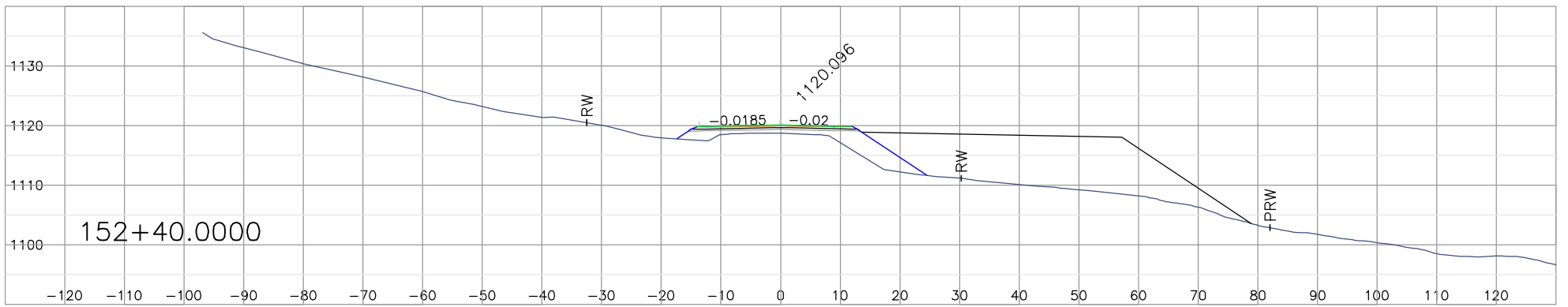
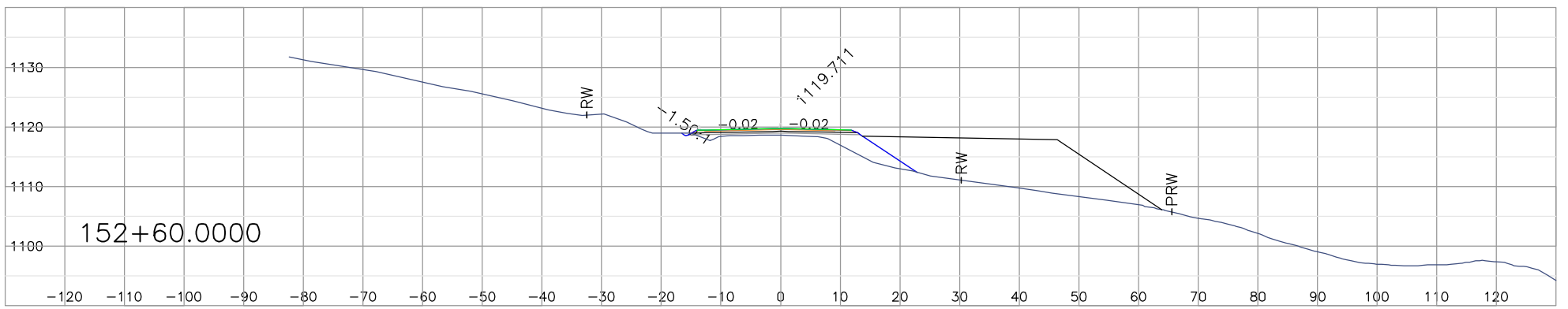
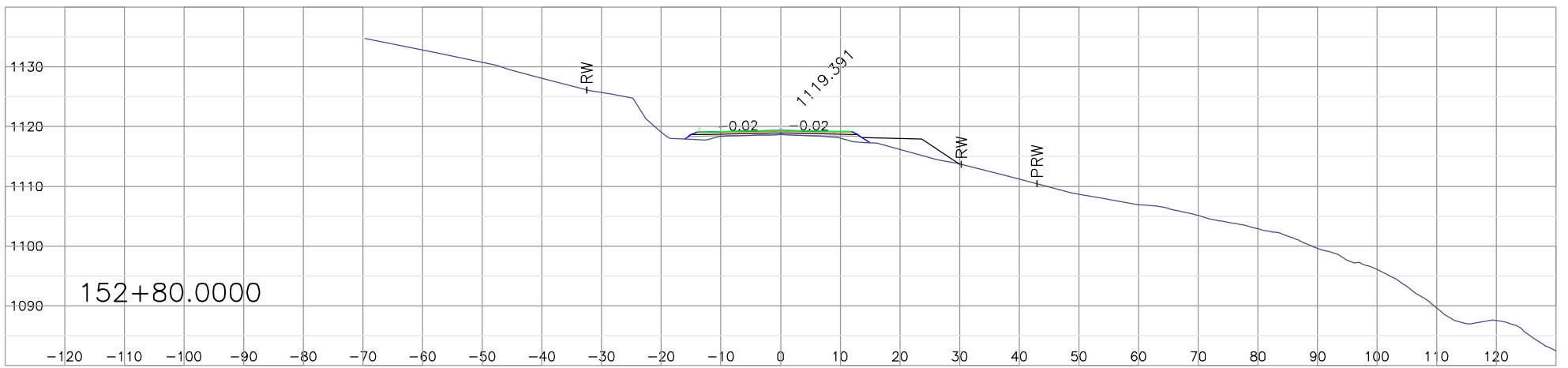
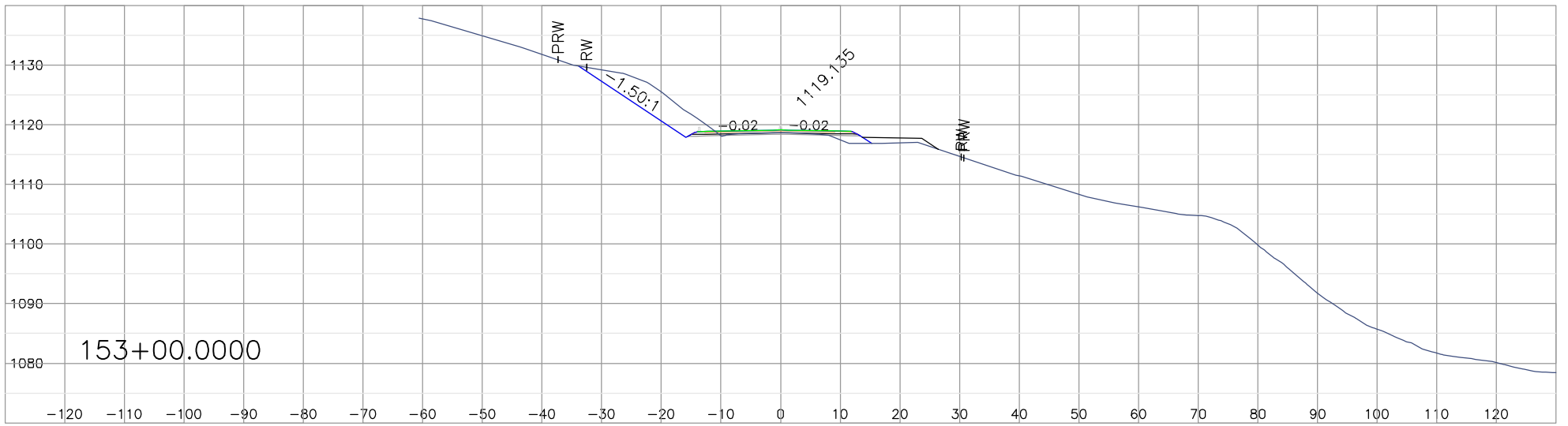
TPHG Proposed Alignment  
07-14-2005

CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2



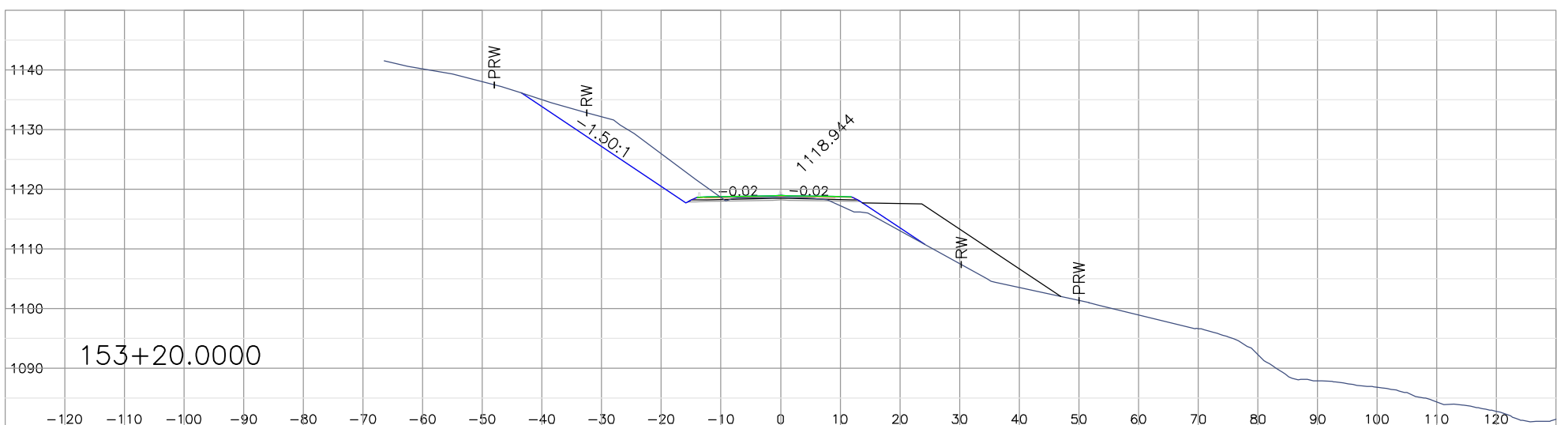
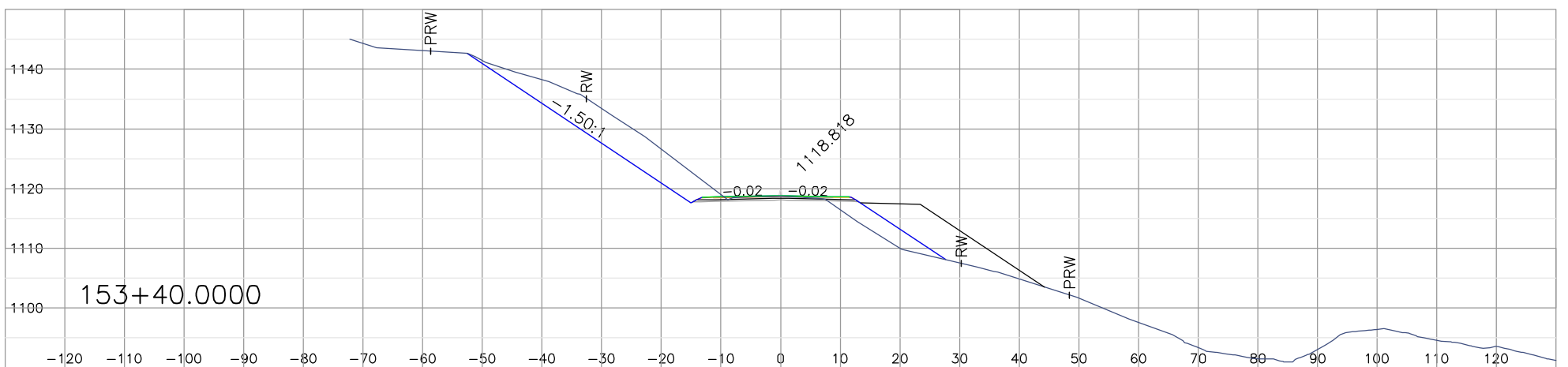
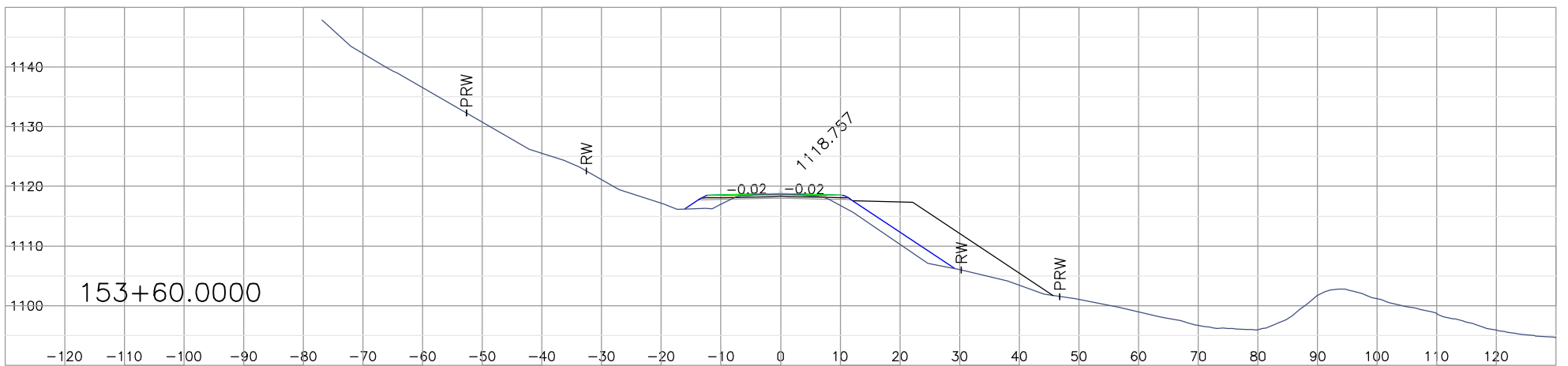
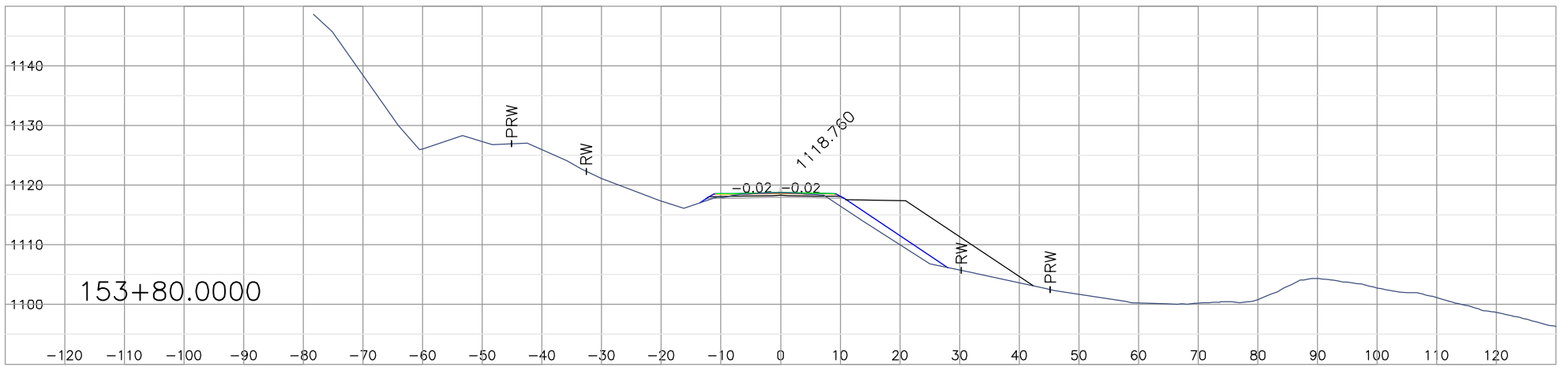
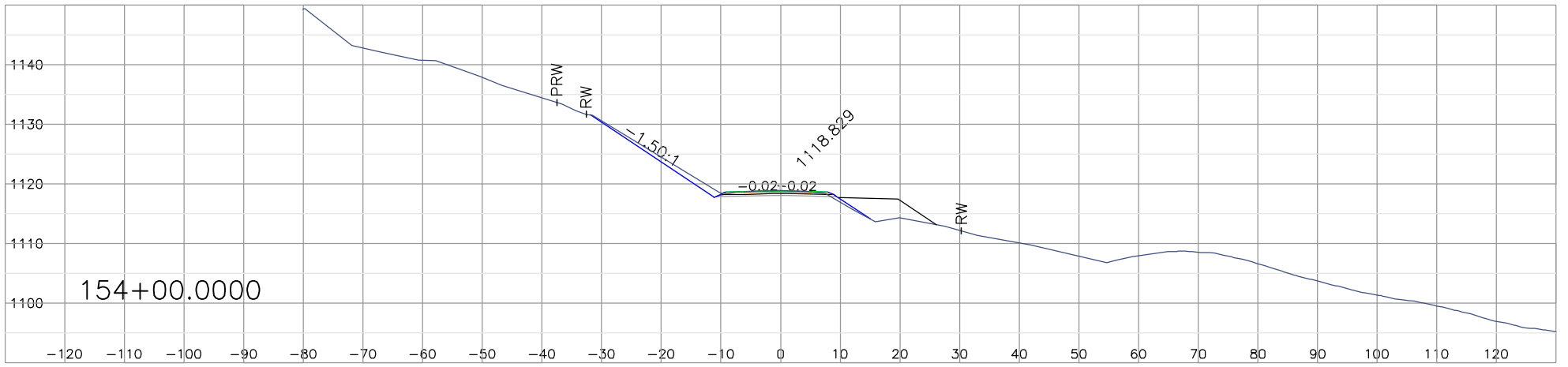
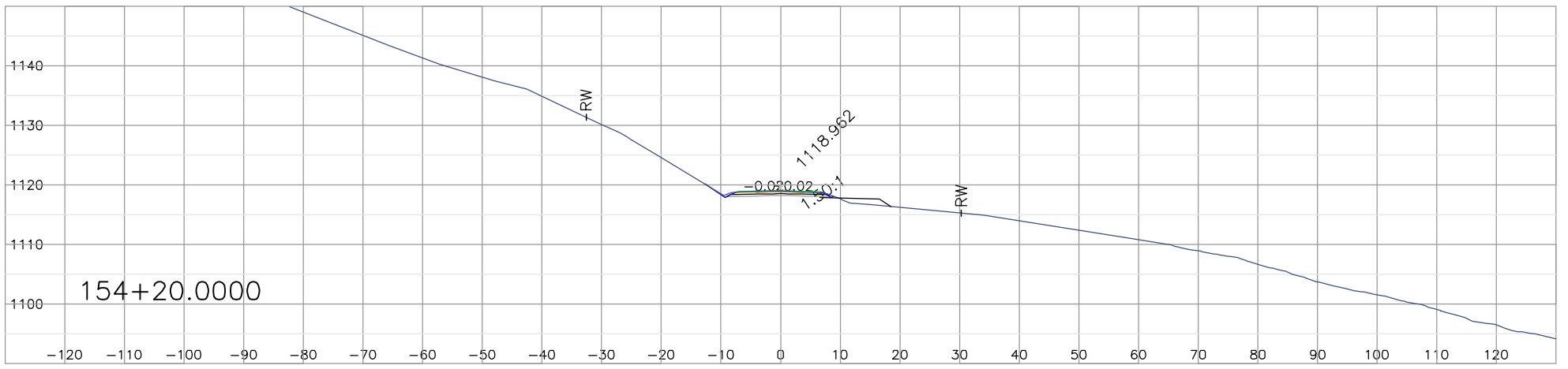


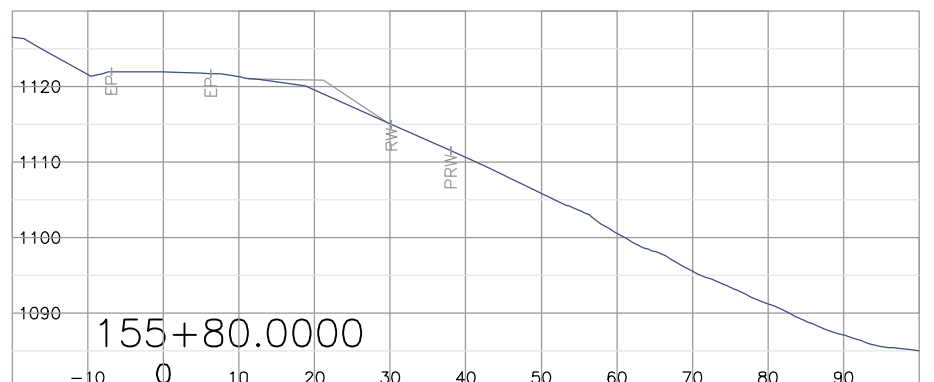
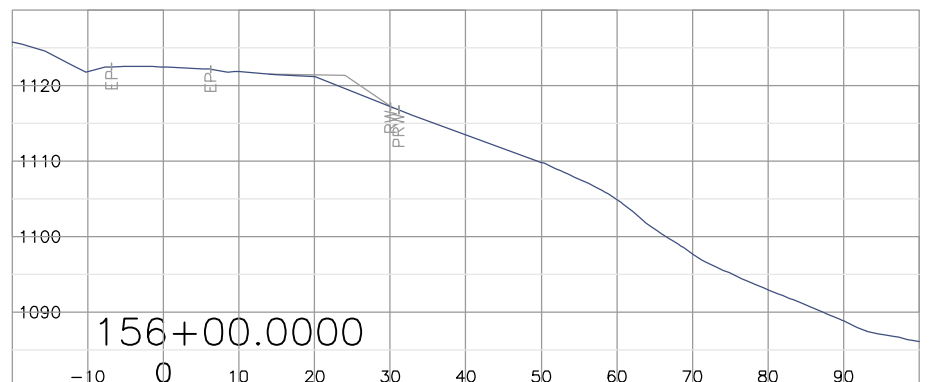
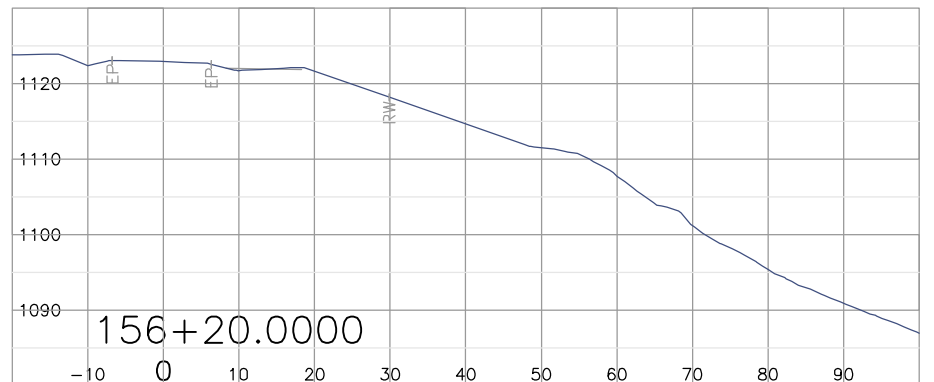
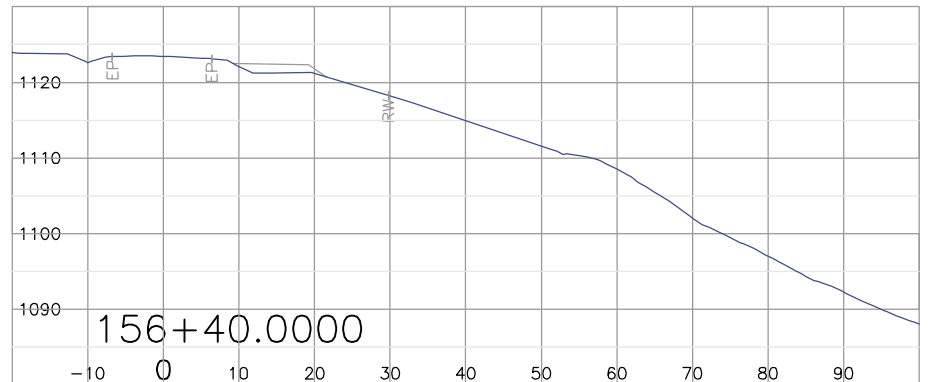
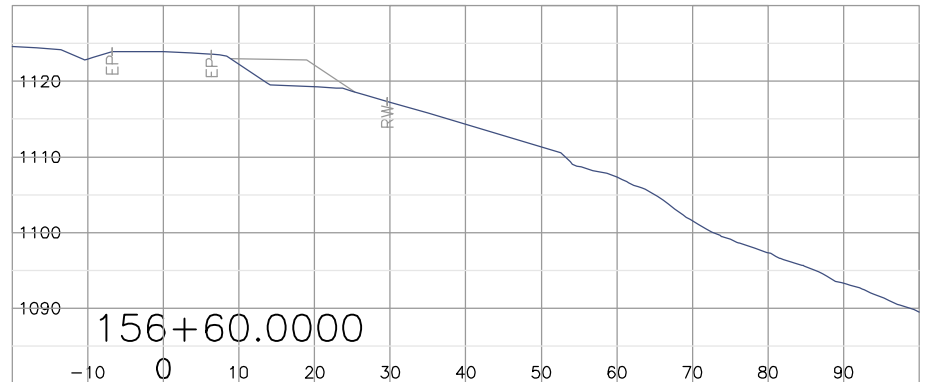
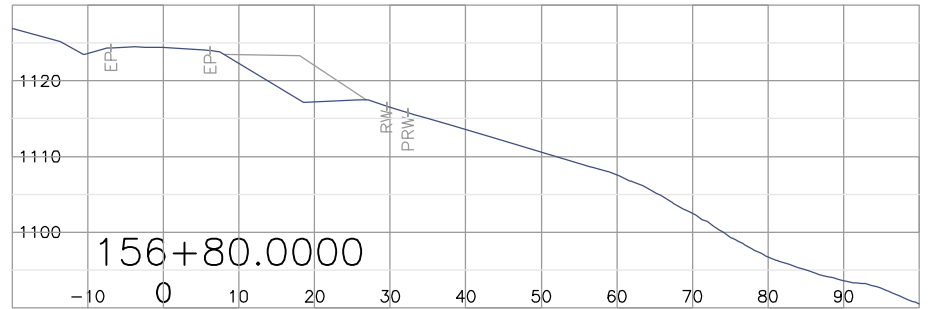
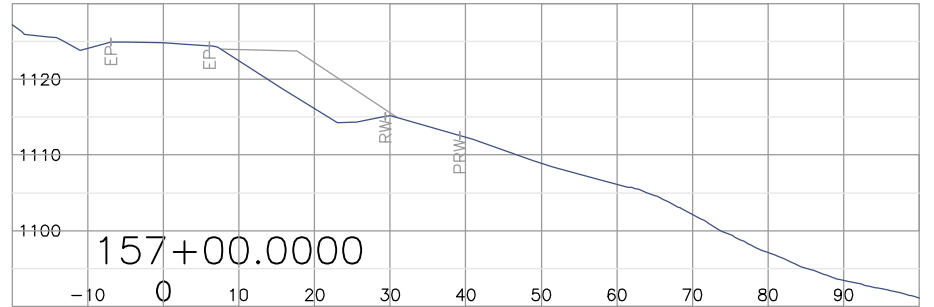
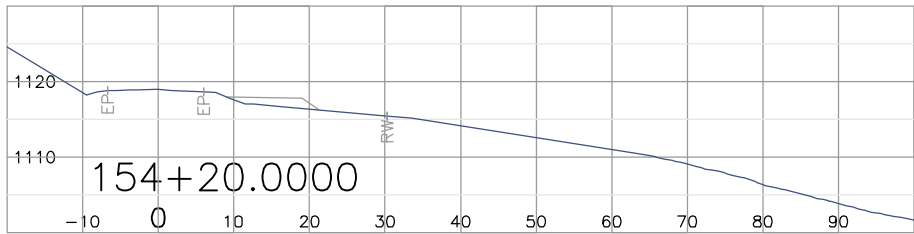
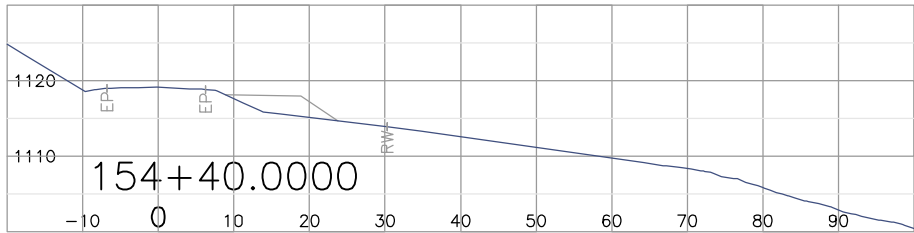
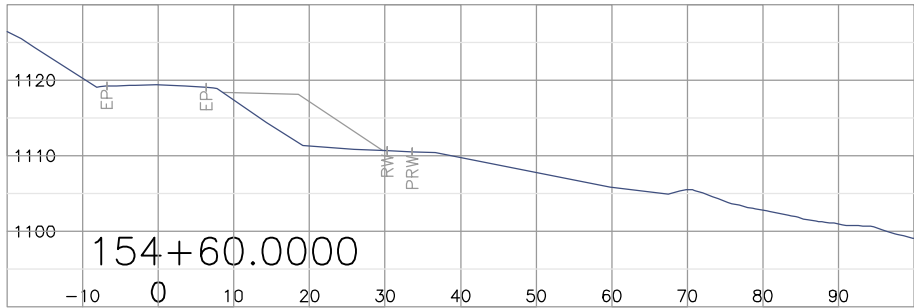
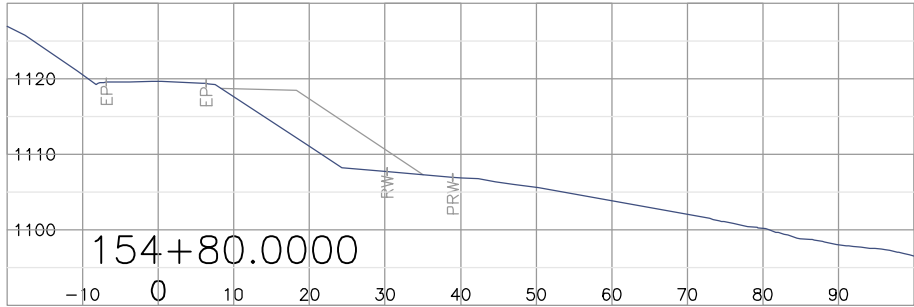
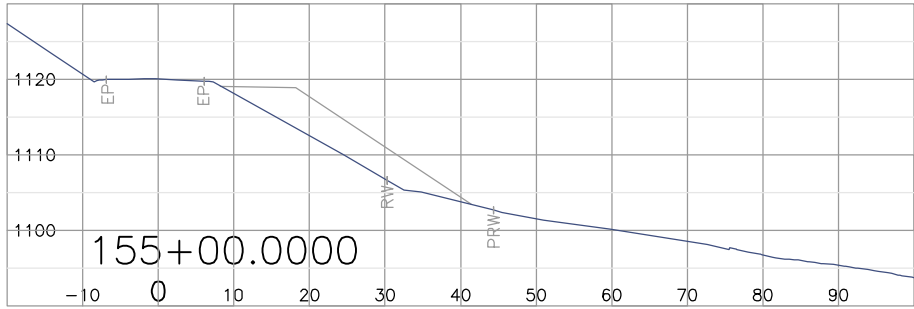
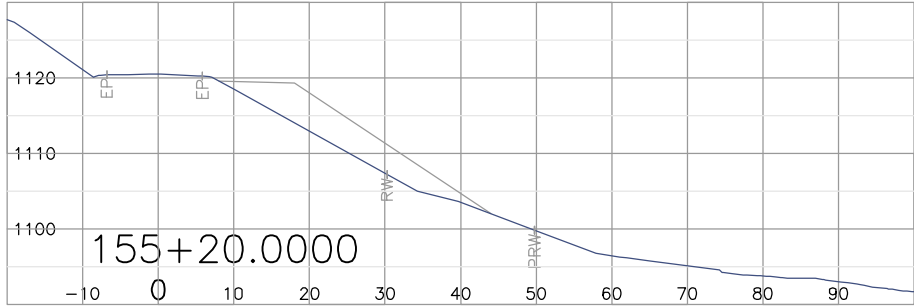
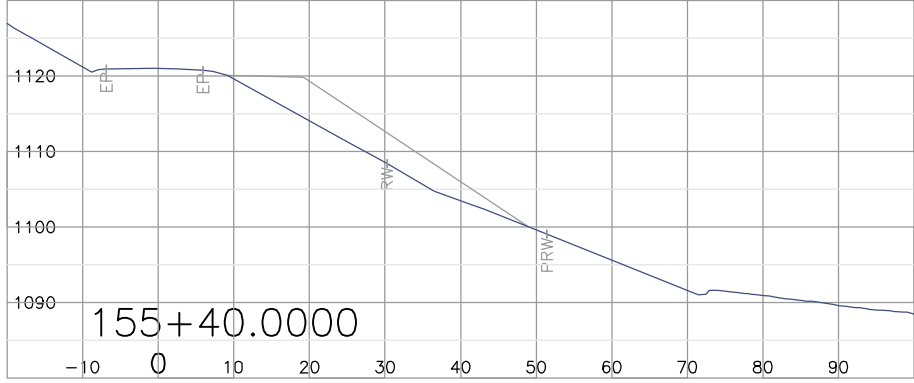
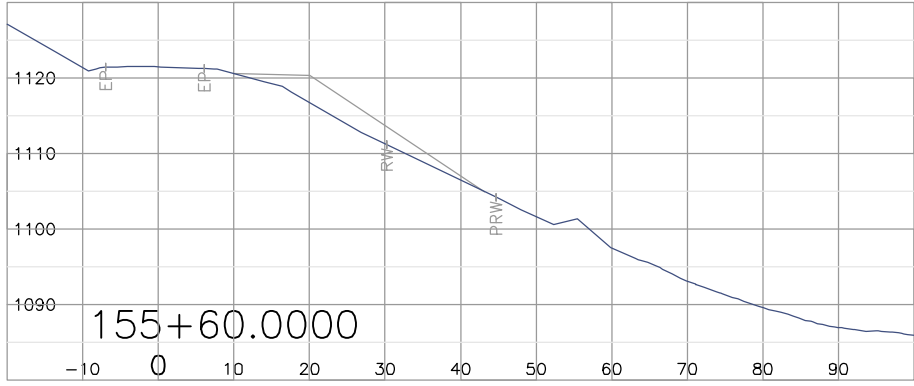




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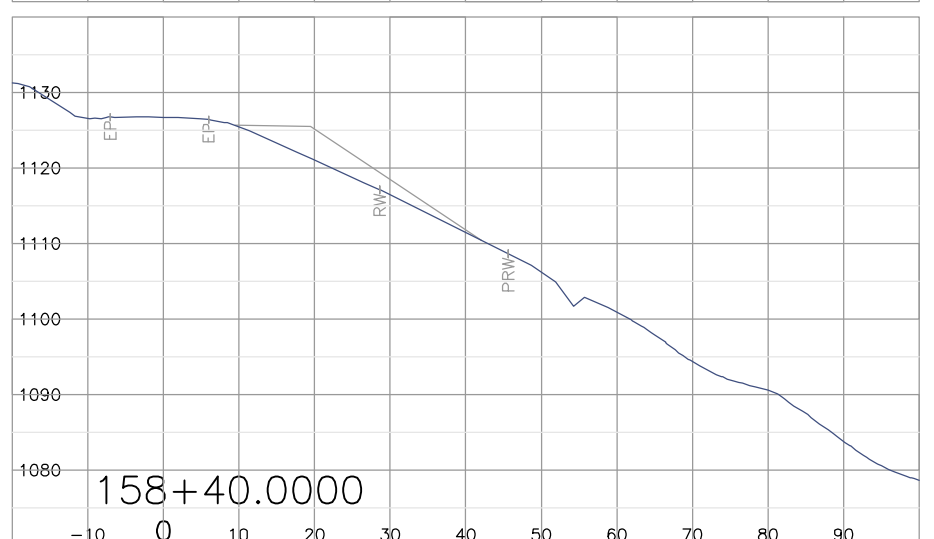
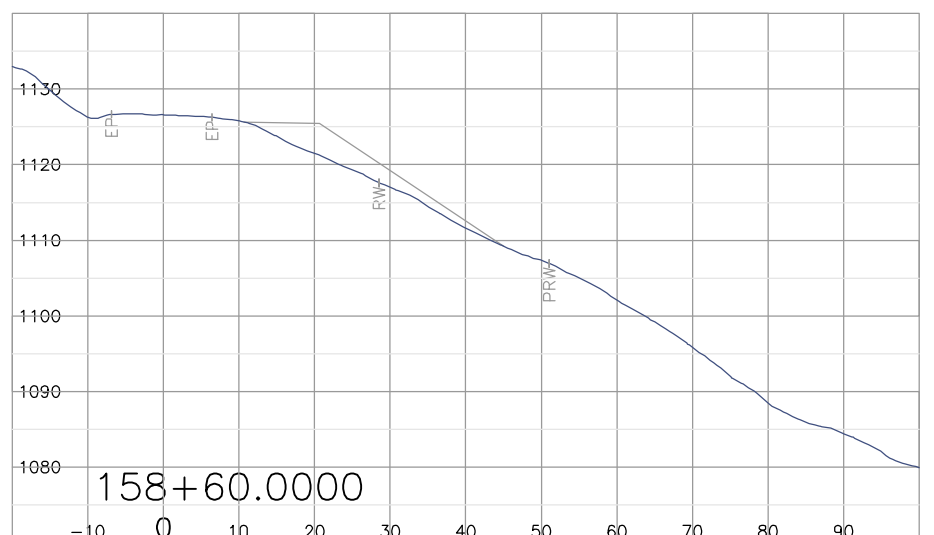
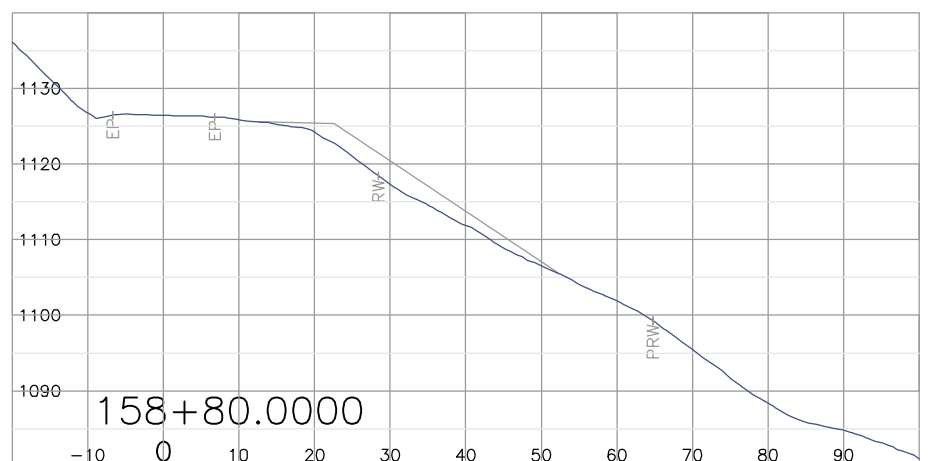
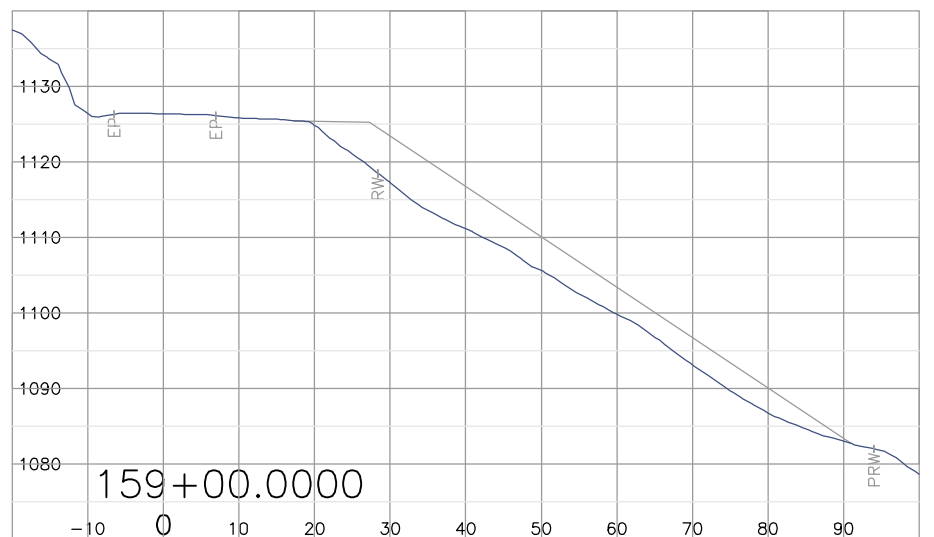
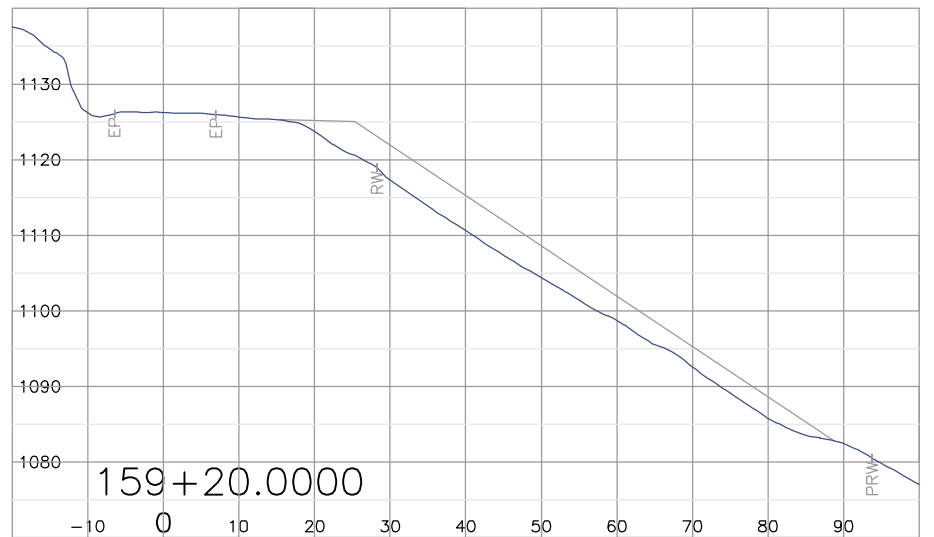
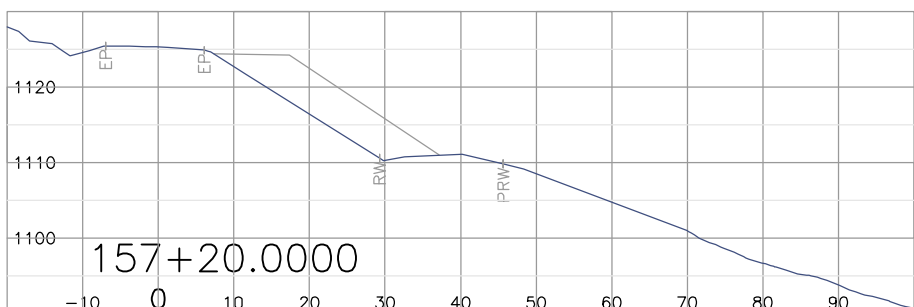
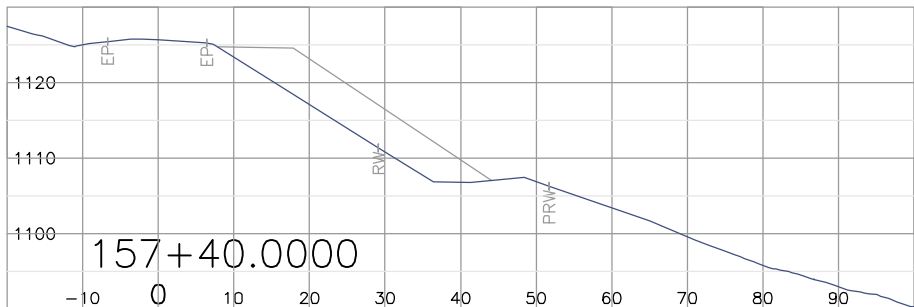
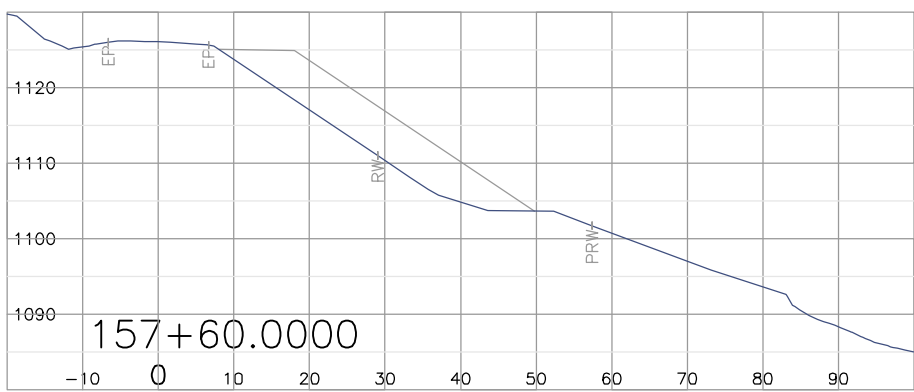
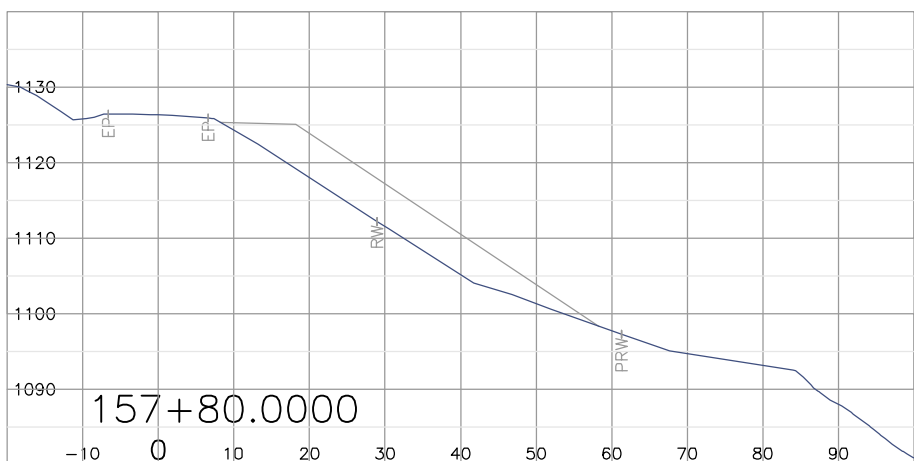
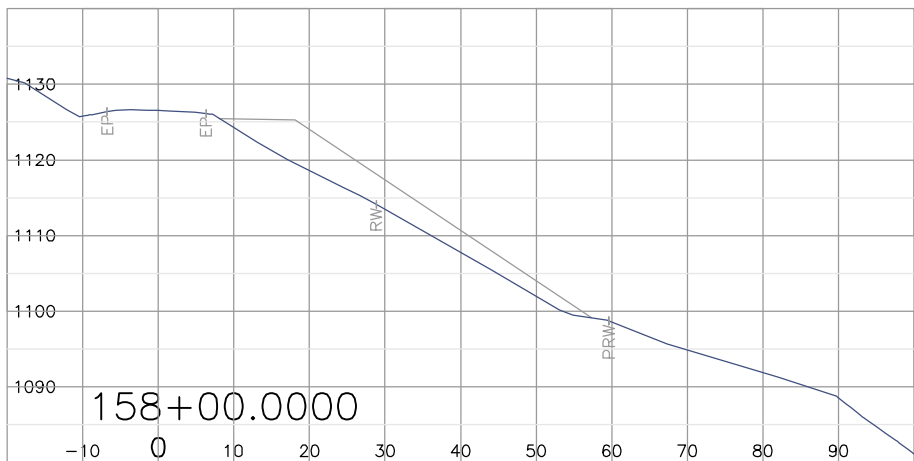
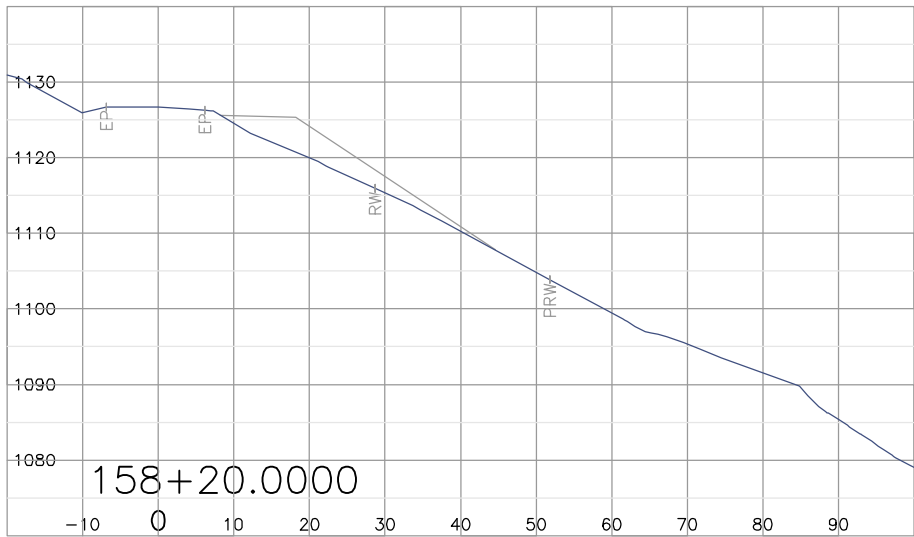
CAICE Project: PRKBRG  
Geometry Chain: L100D2  
Design Profile: L100DP2





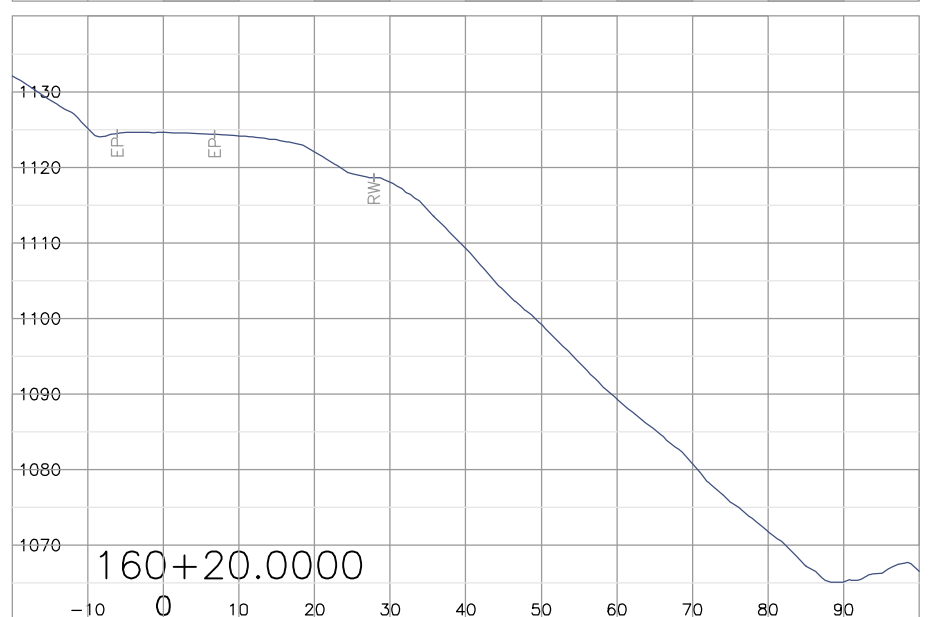
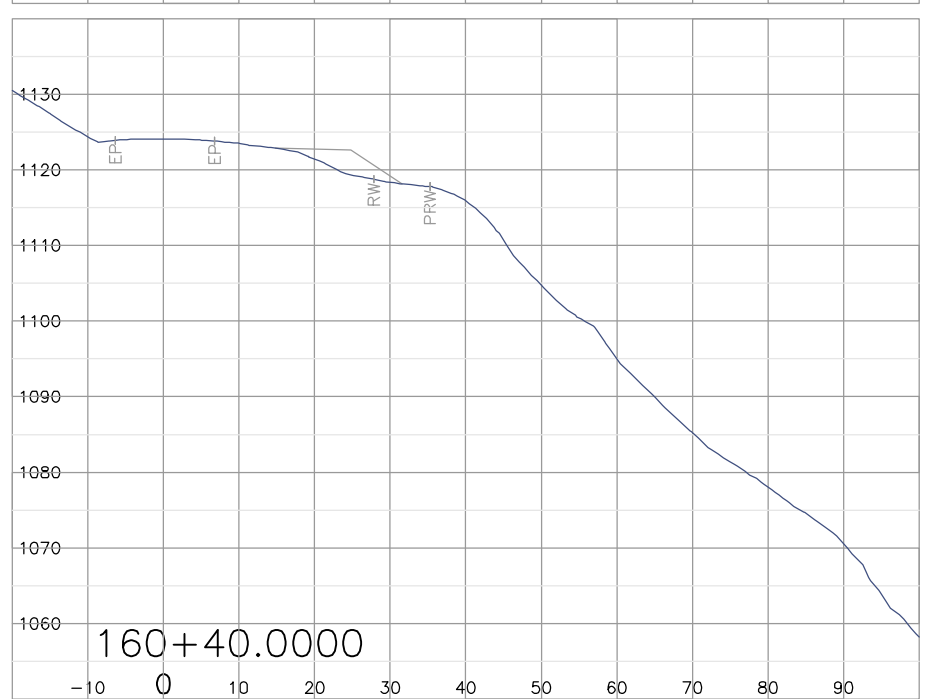
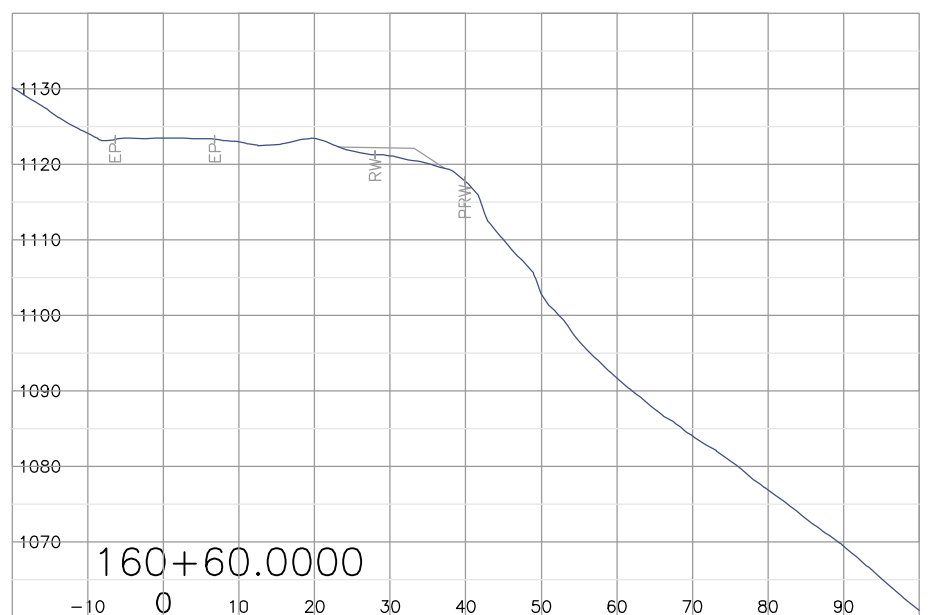
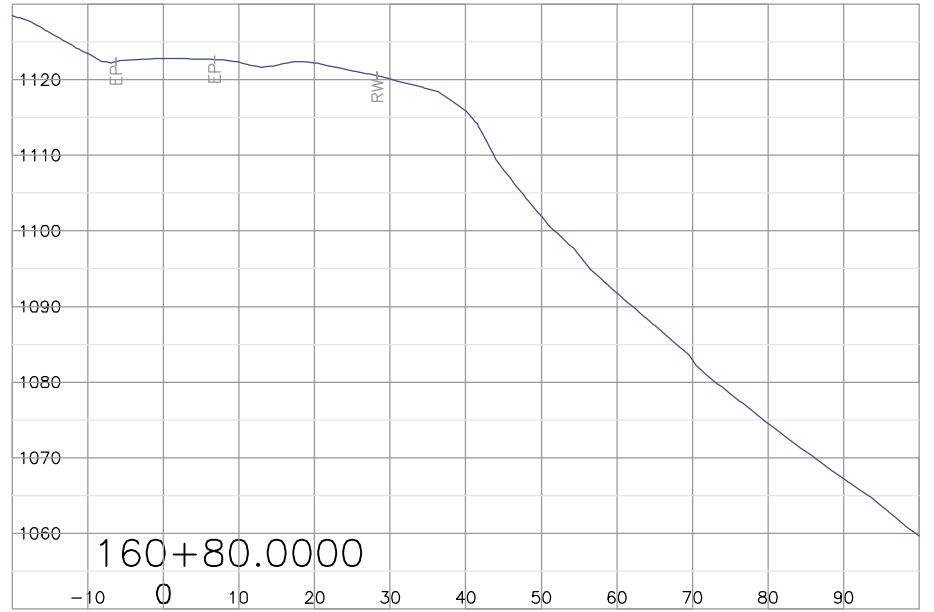
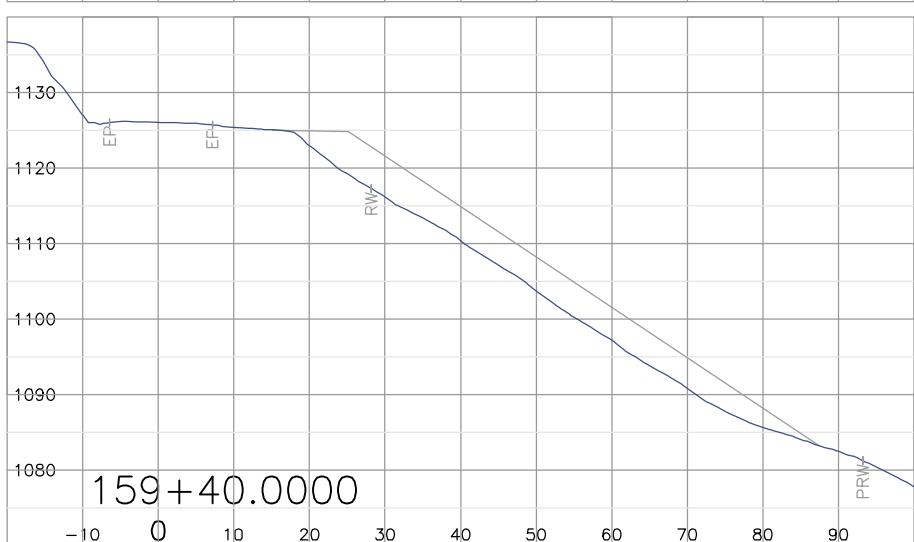
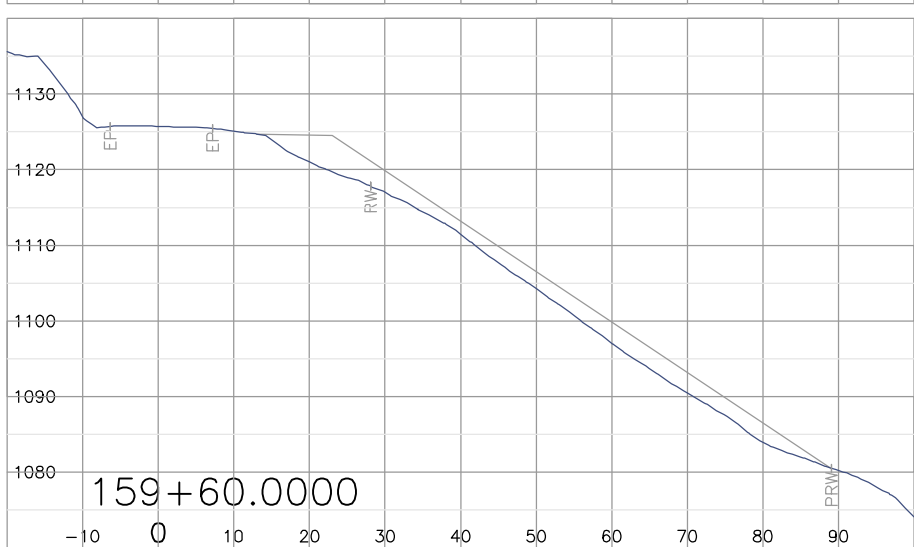
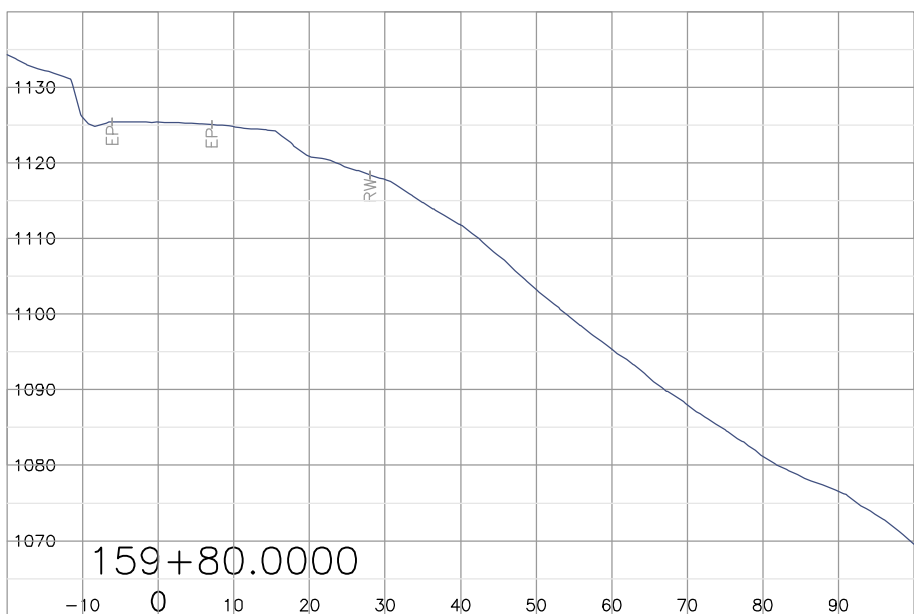
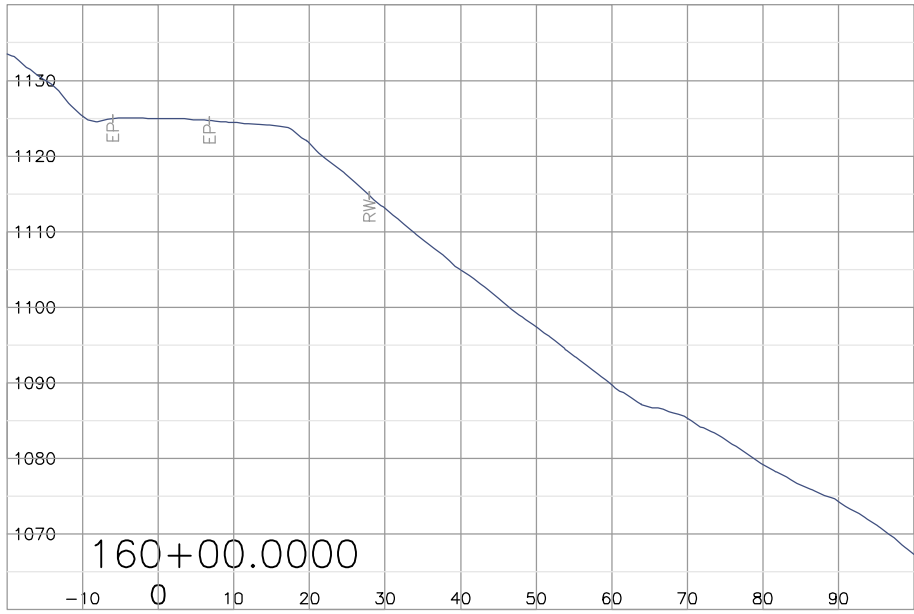
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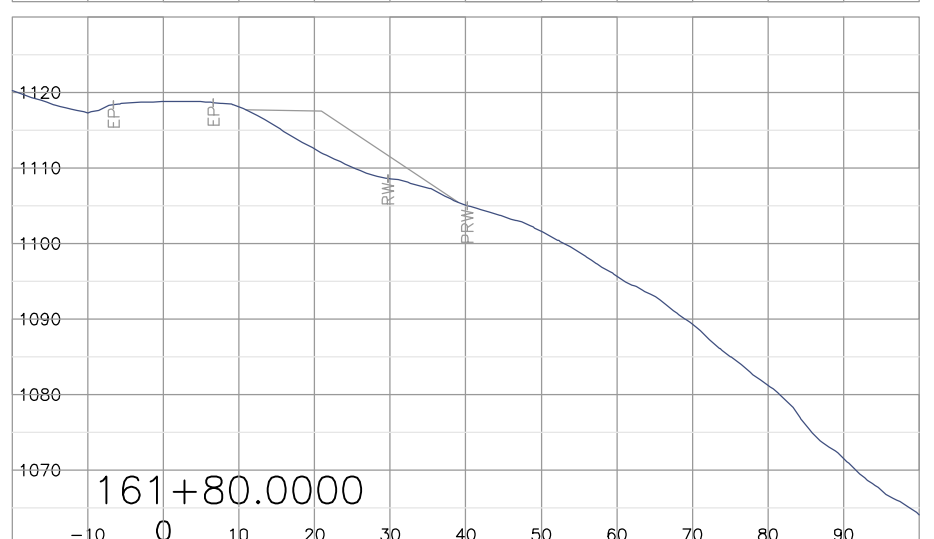
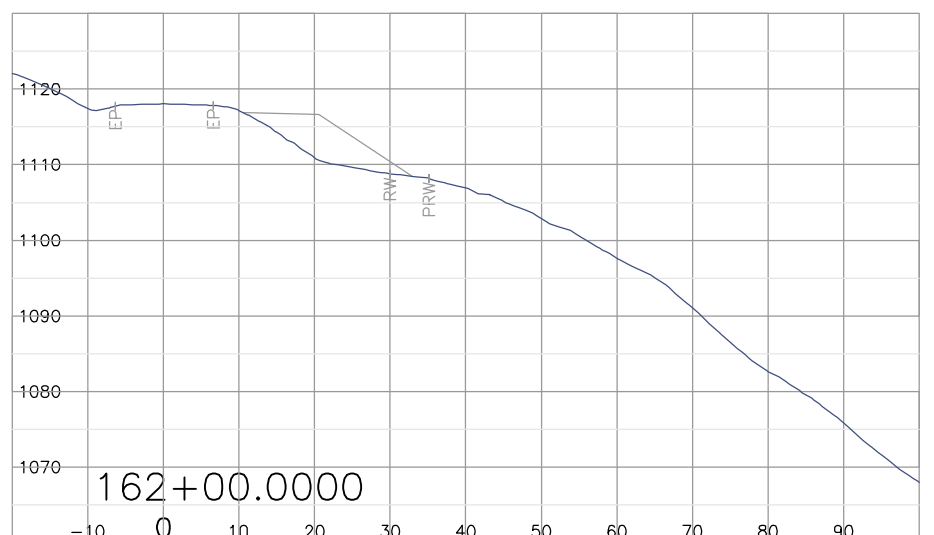
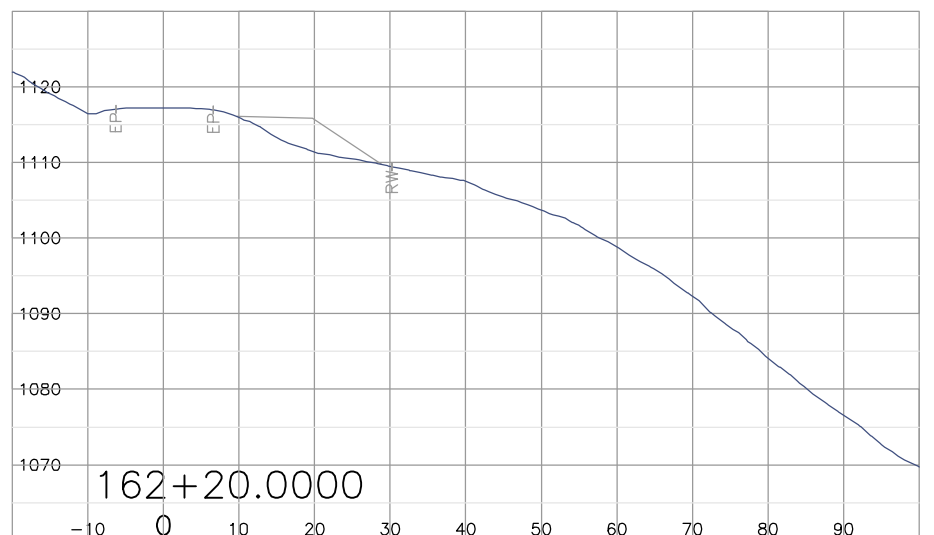
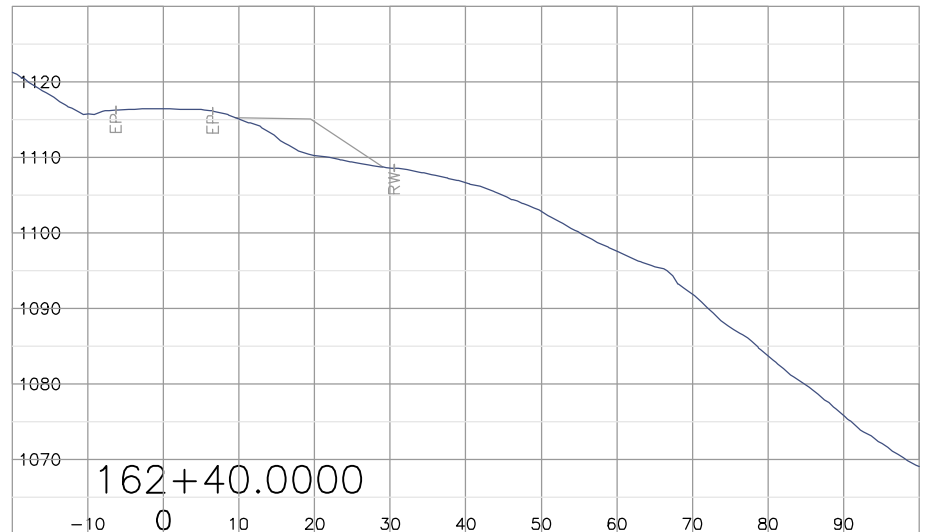
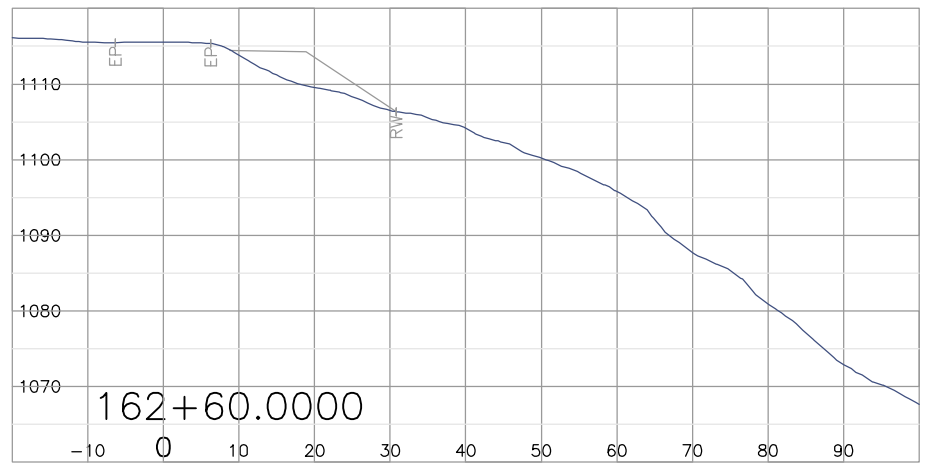
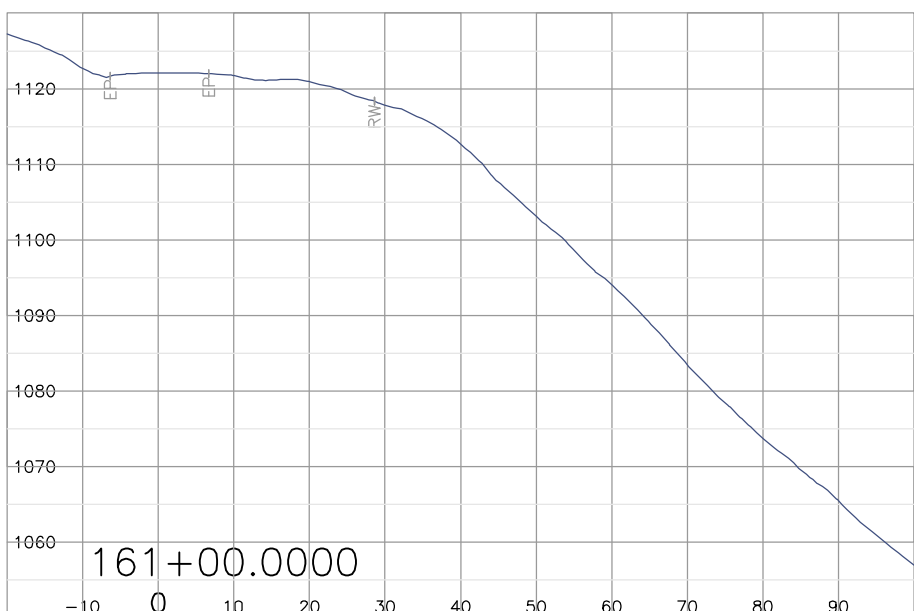
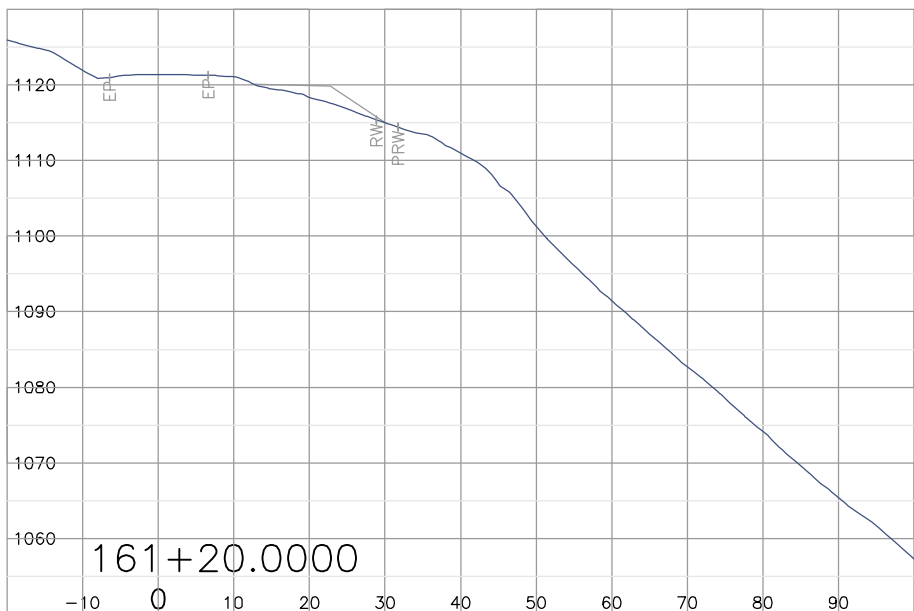
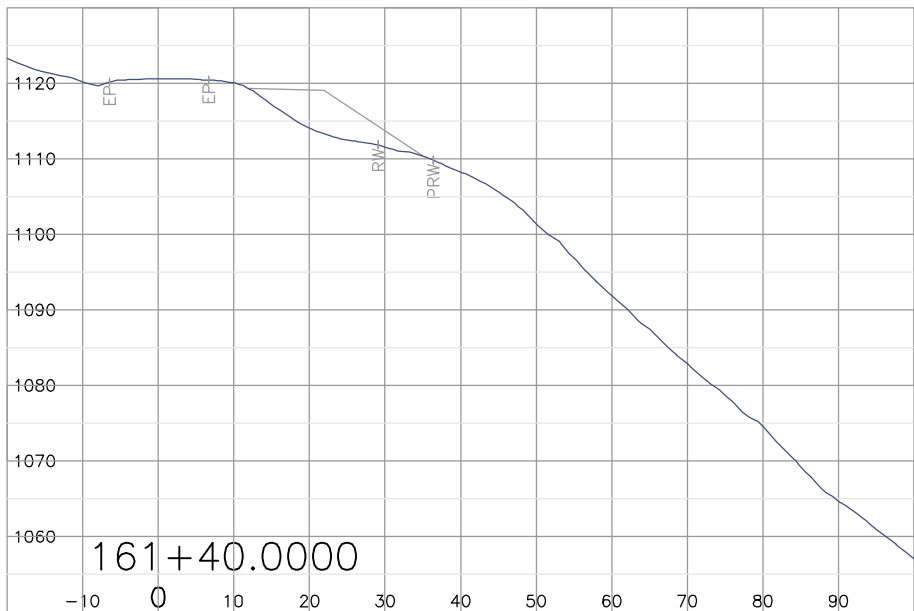
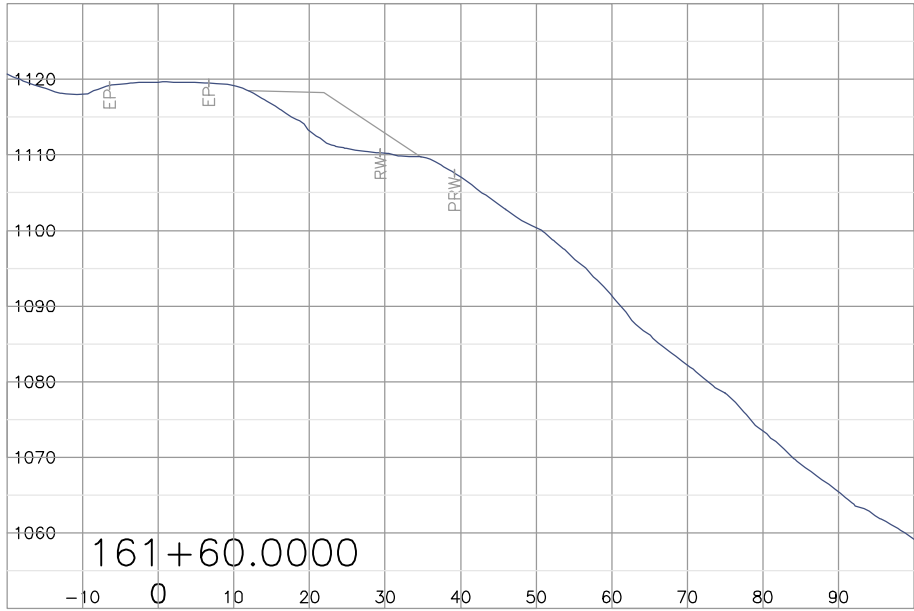
CAICE Project: PRKBRG  
Geometry Chain: TCH1  
Design Profile: TCHP1



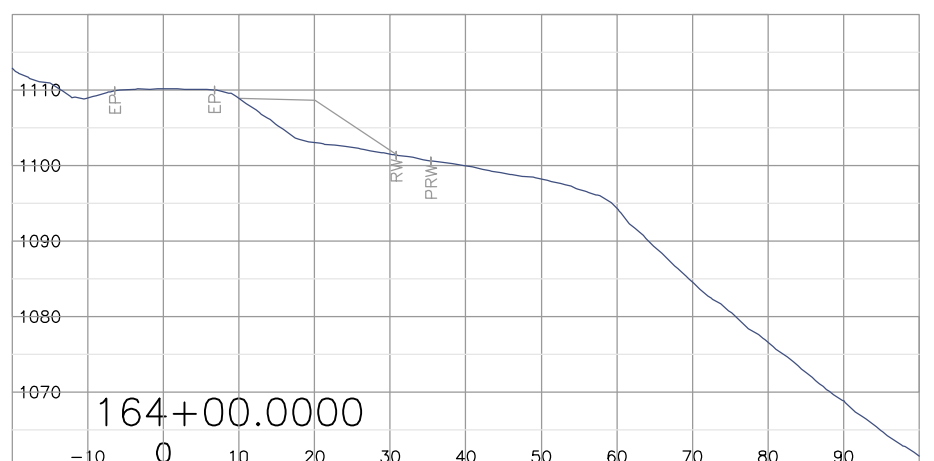
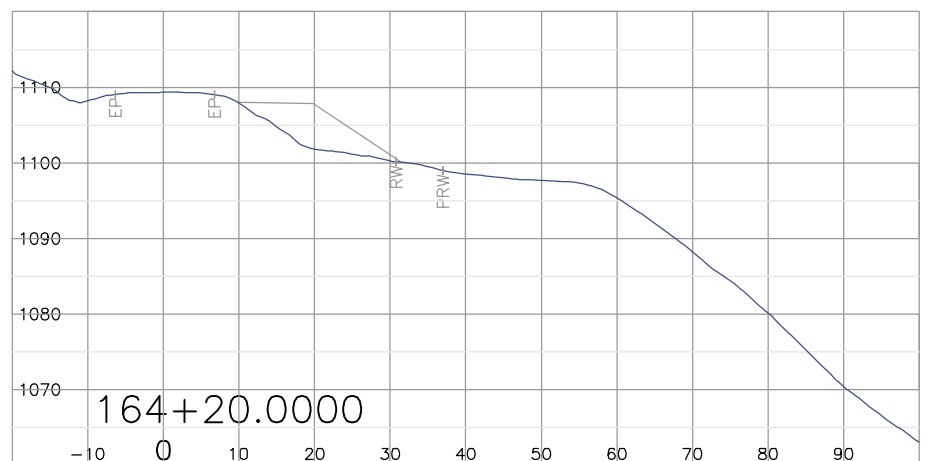
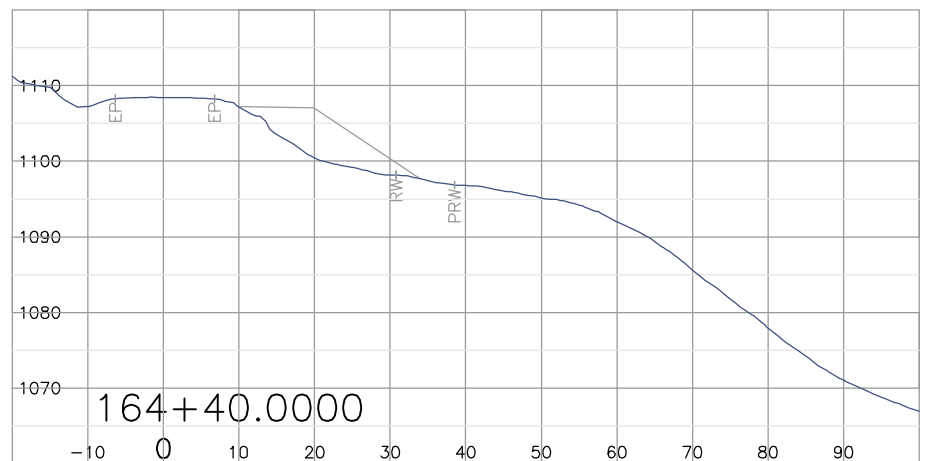
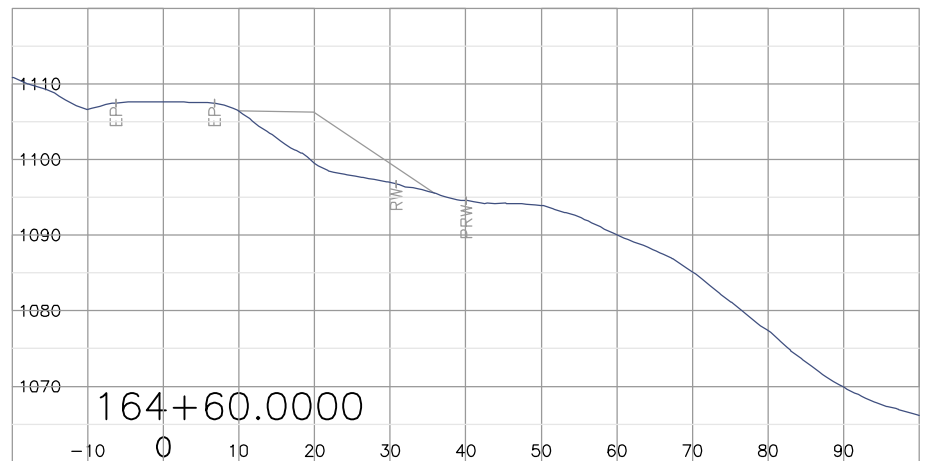
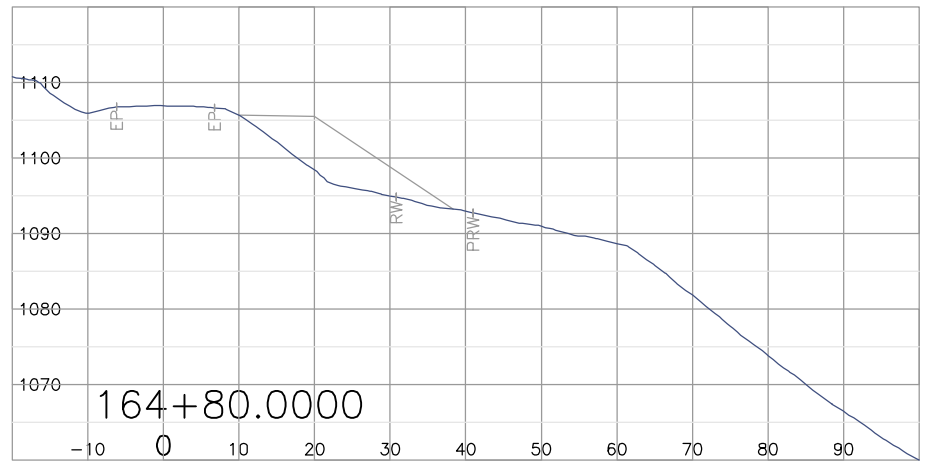
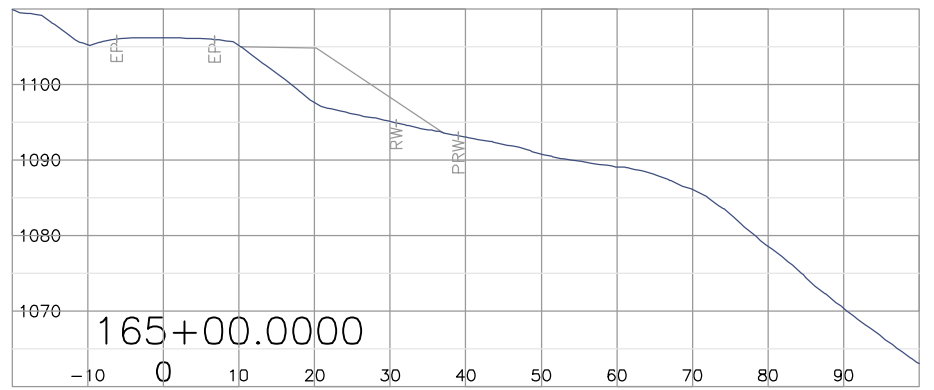
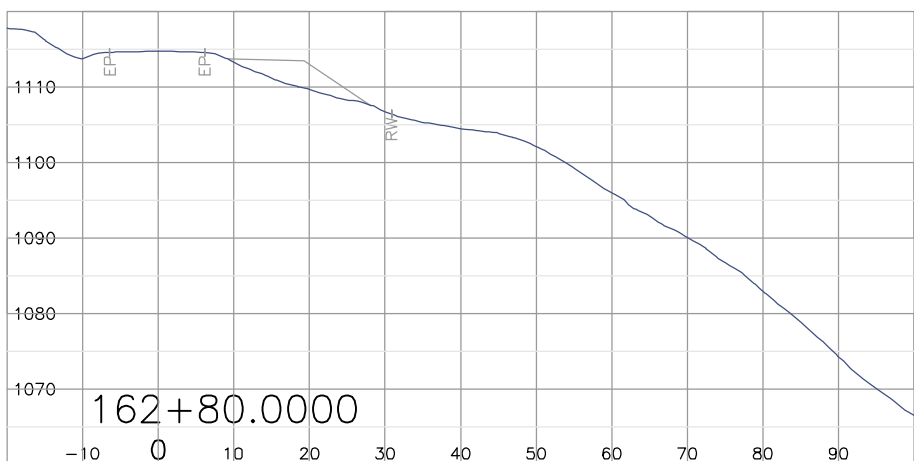
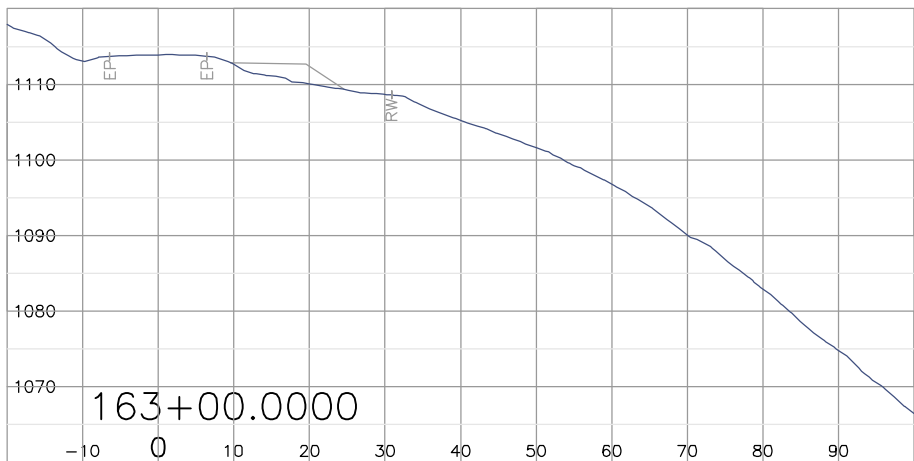
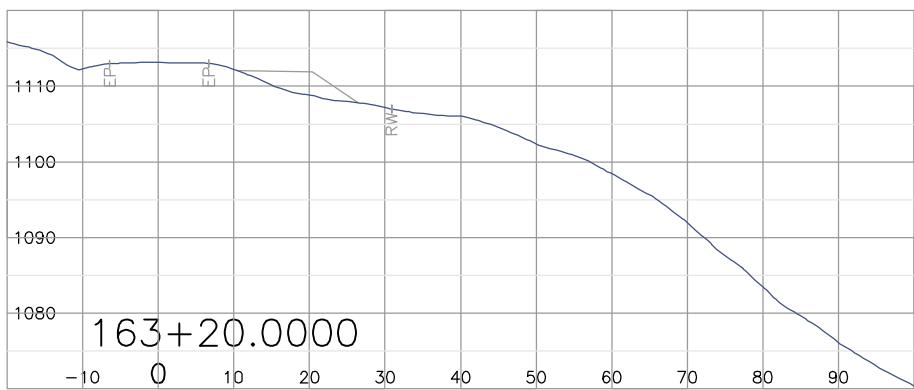
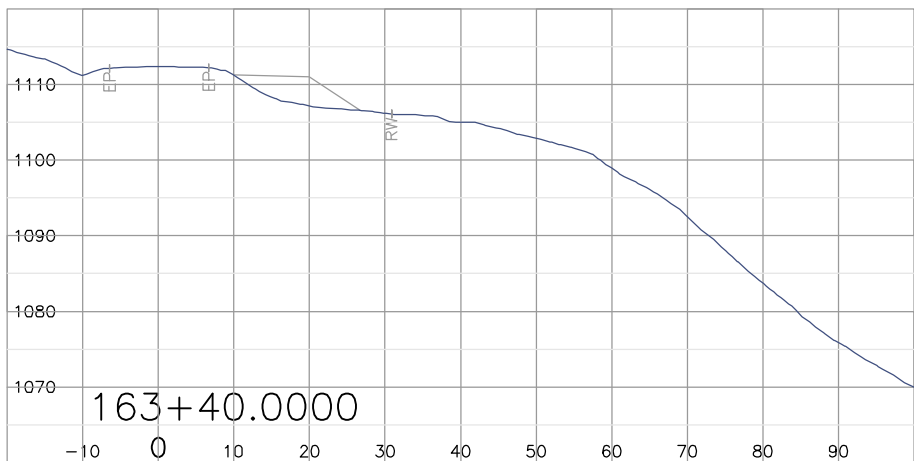
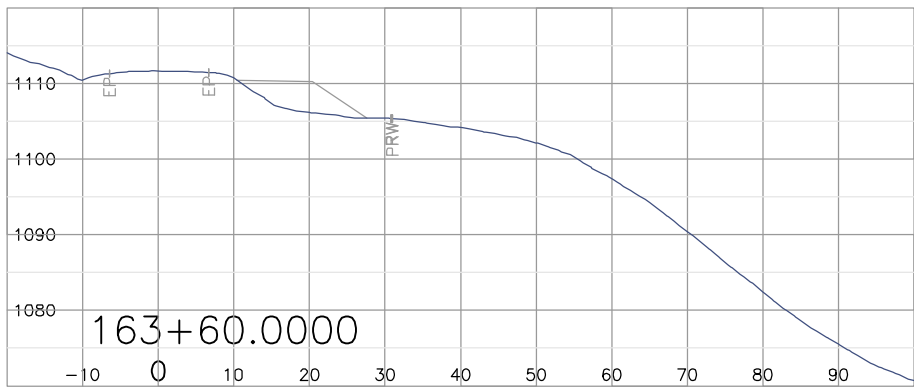
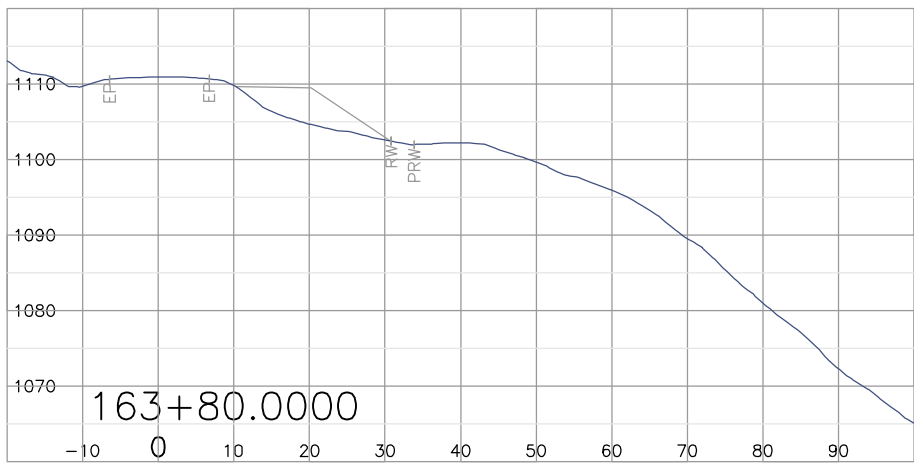
TPHG Proposed Alignment  
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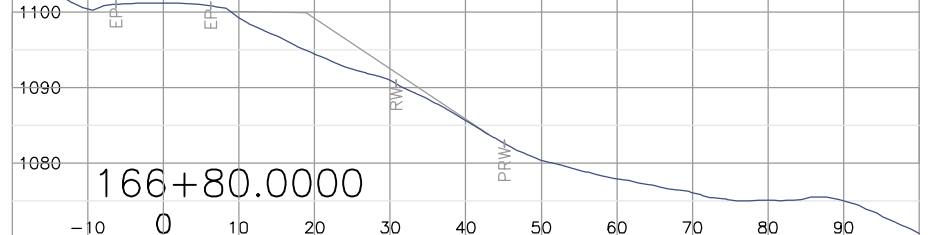
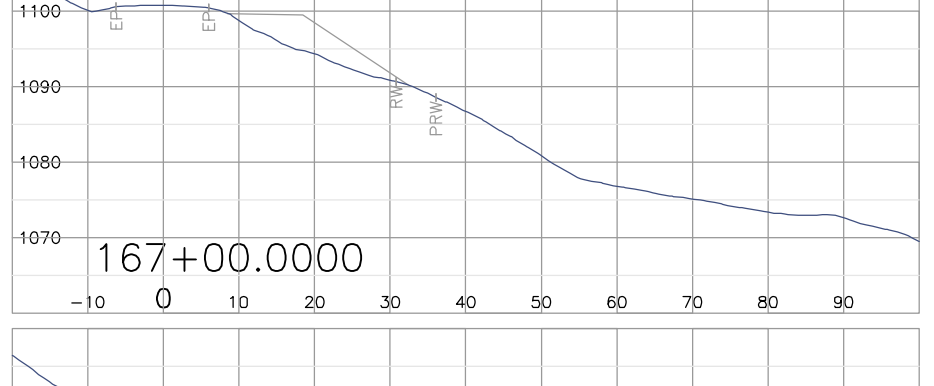
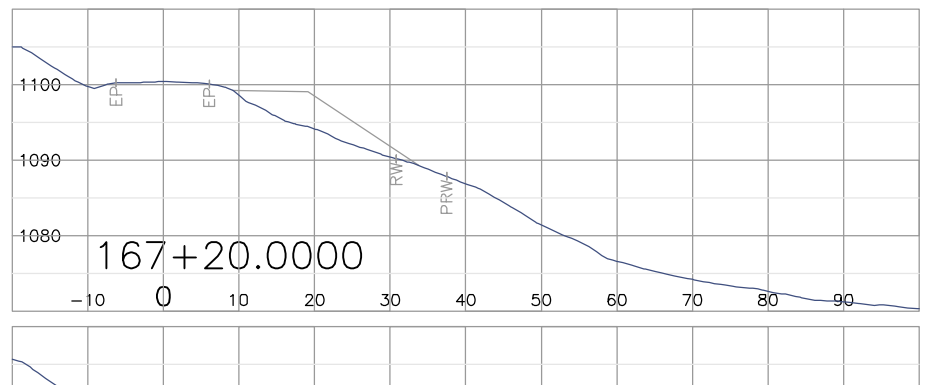
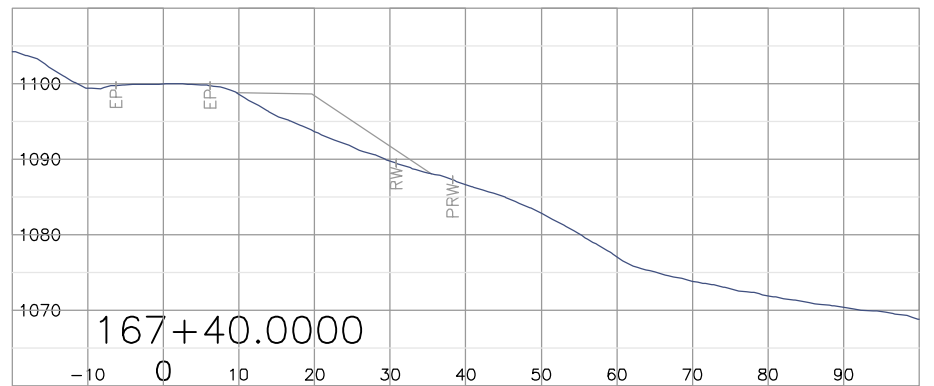
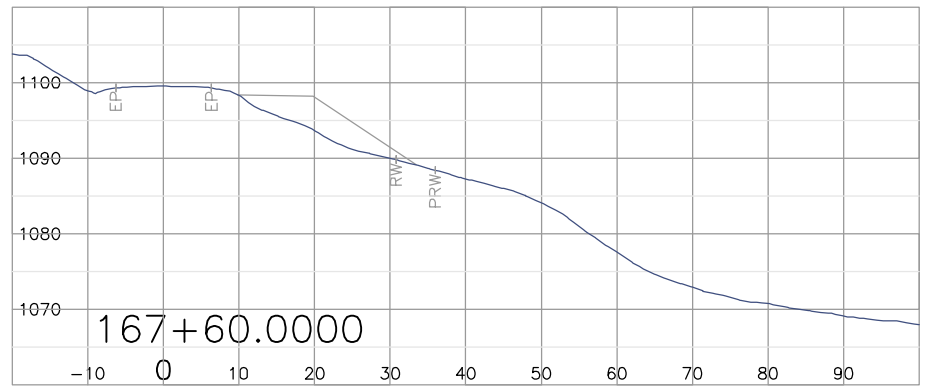
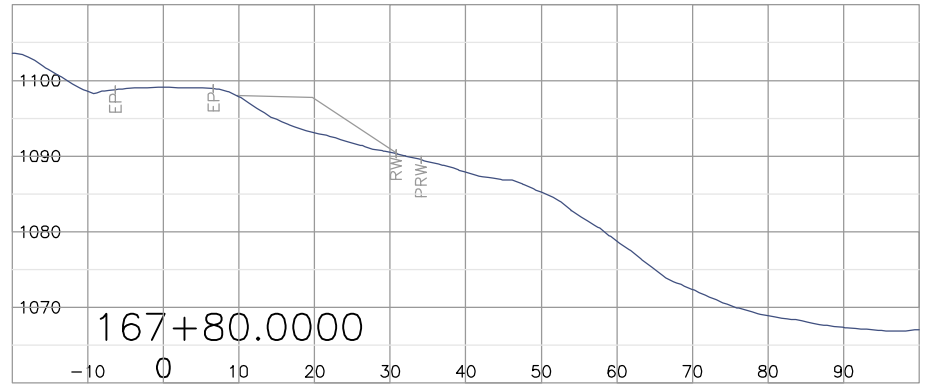
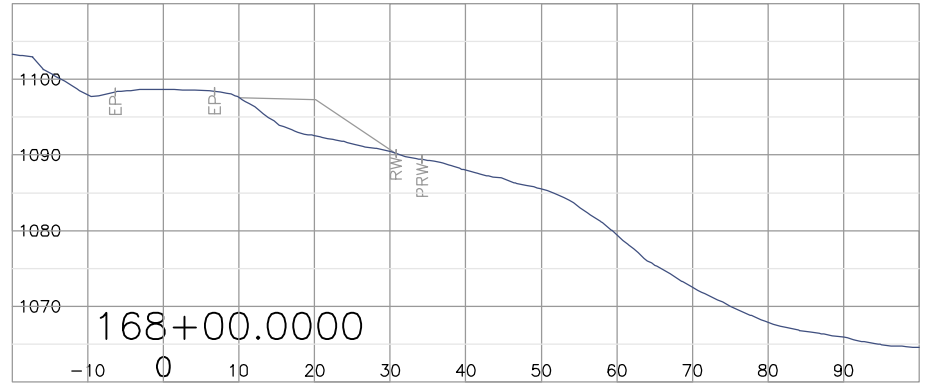
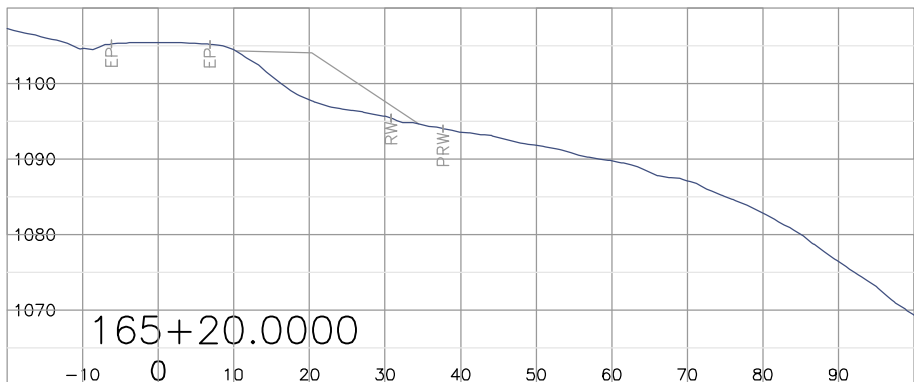
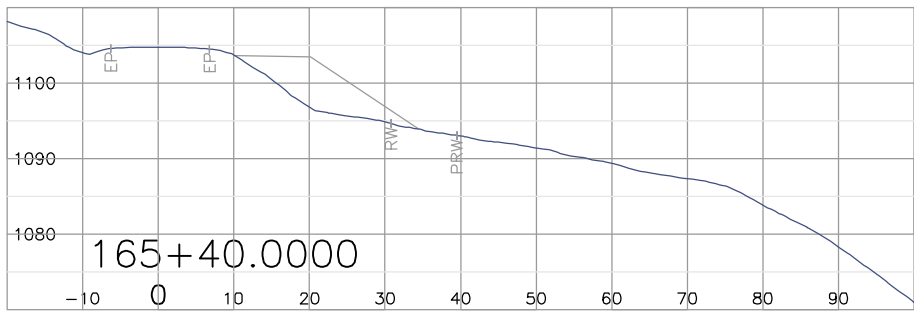
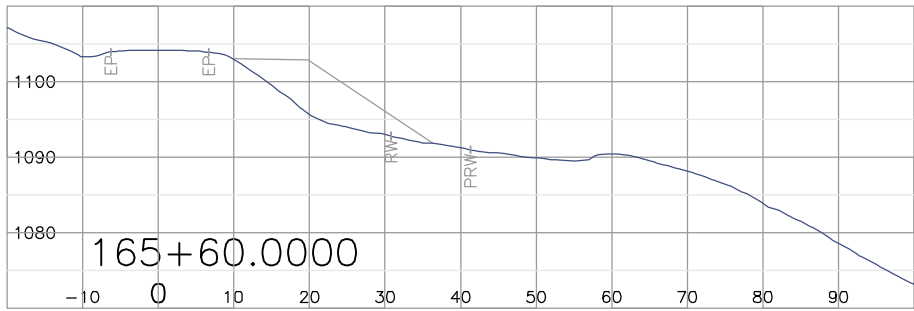
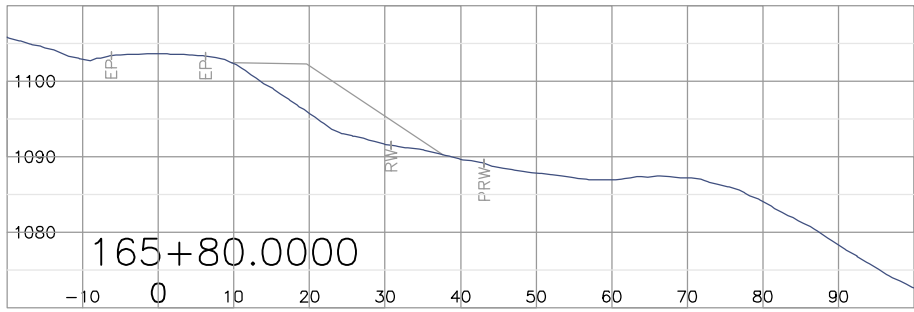
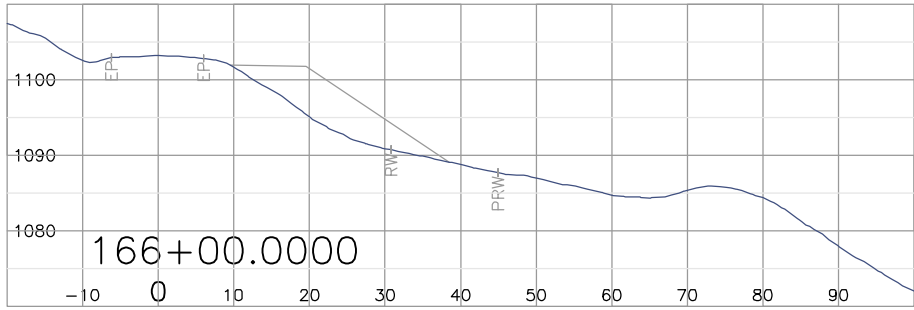
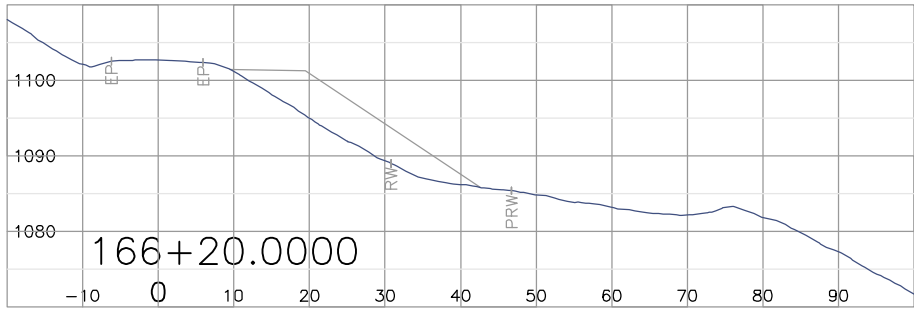
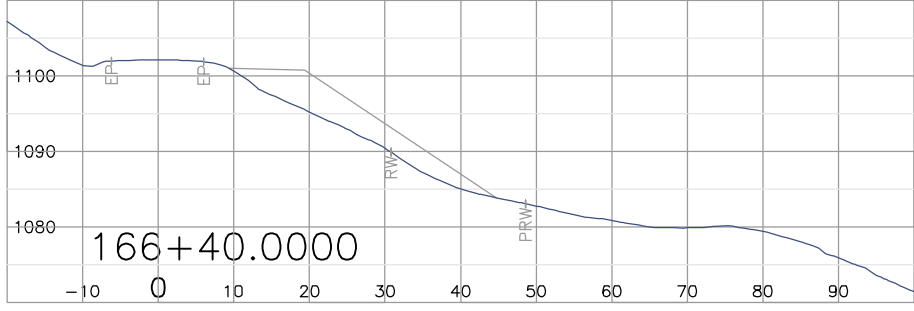
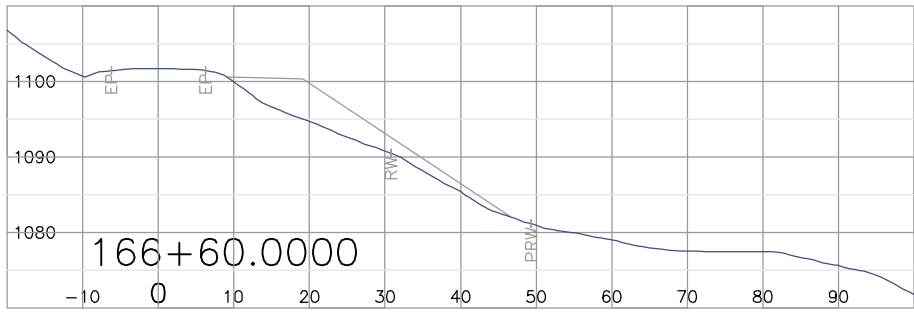
CAICE Project: PRKBRG  
Geometry Chain: TCH1  
Design Profile: TCHP1

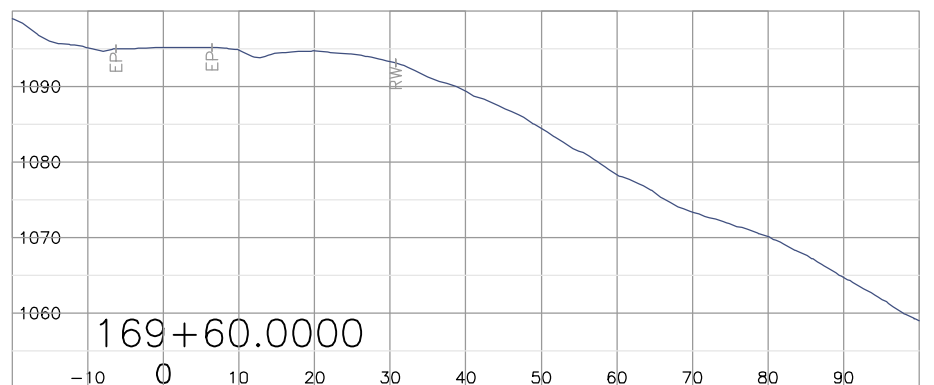
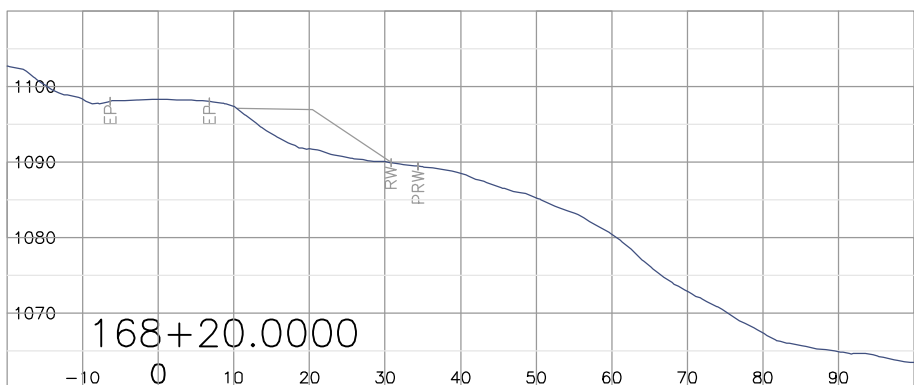
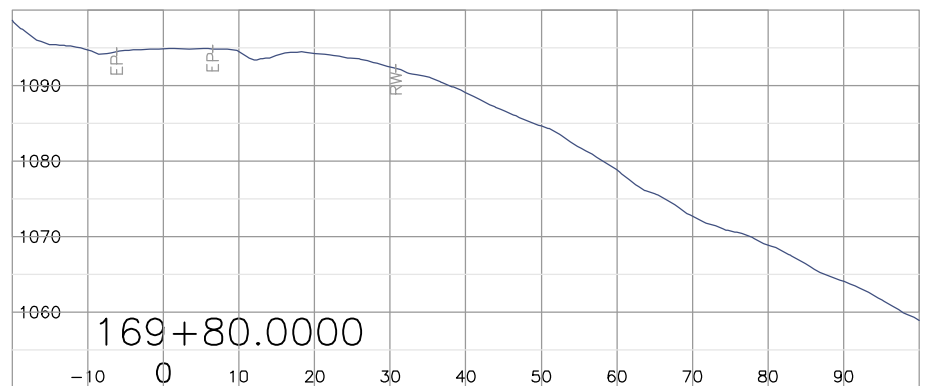
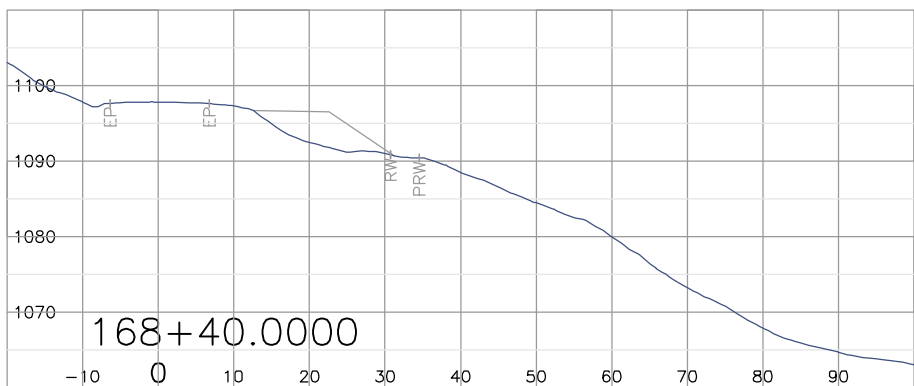
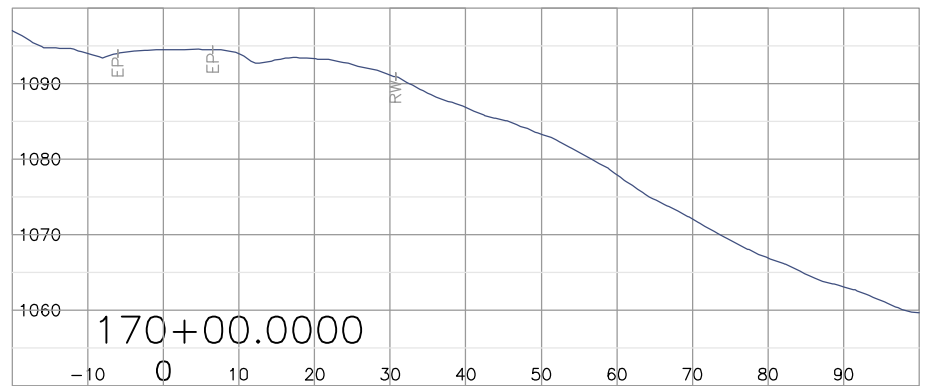
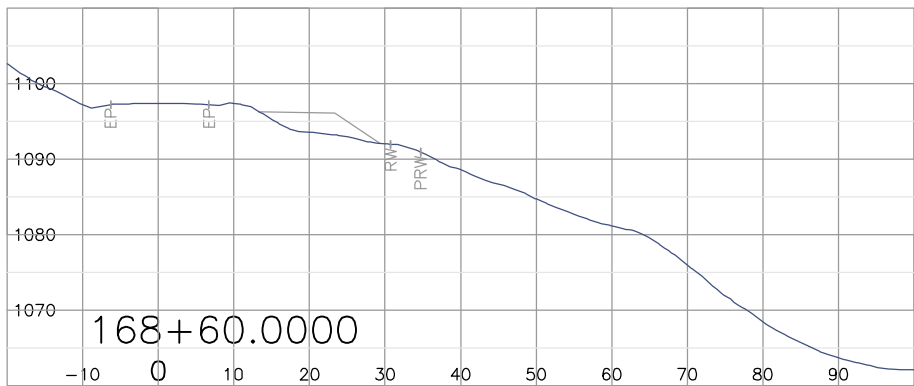
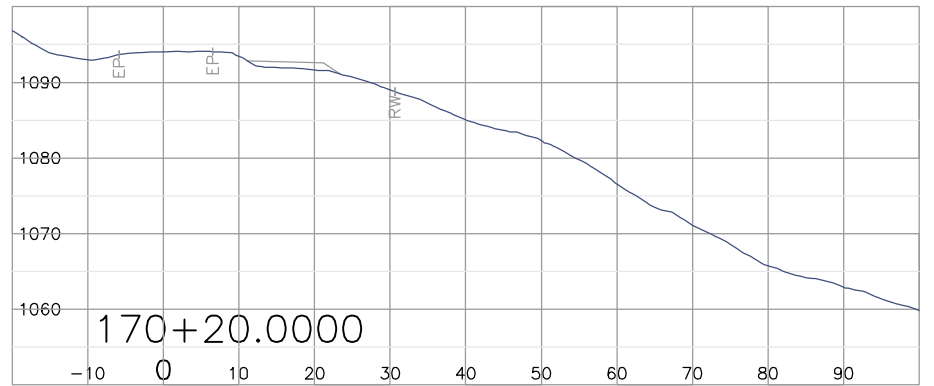
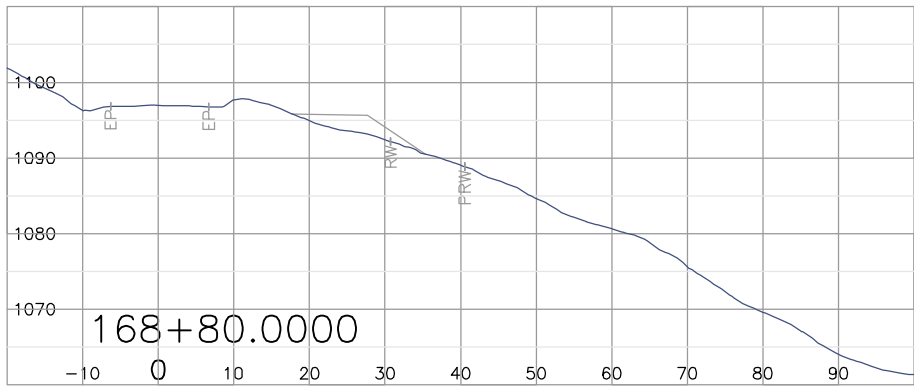
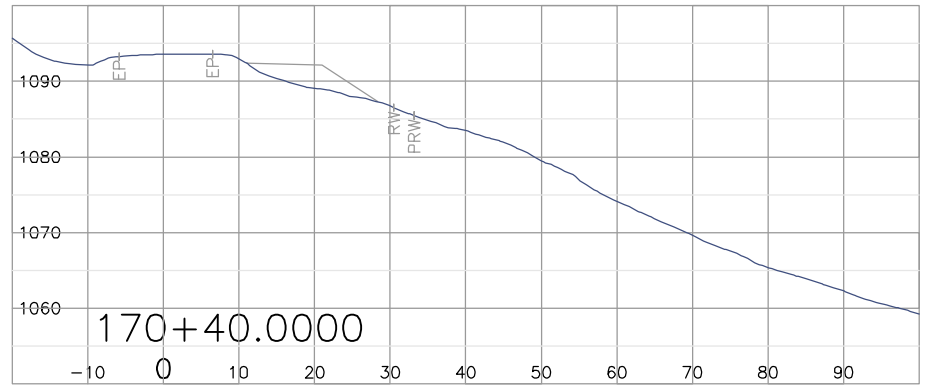
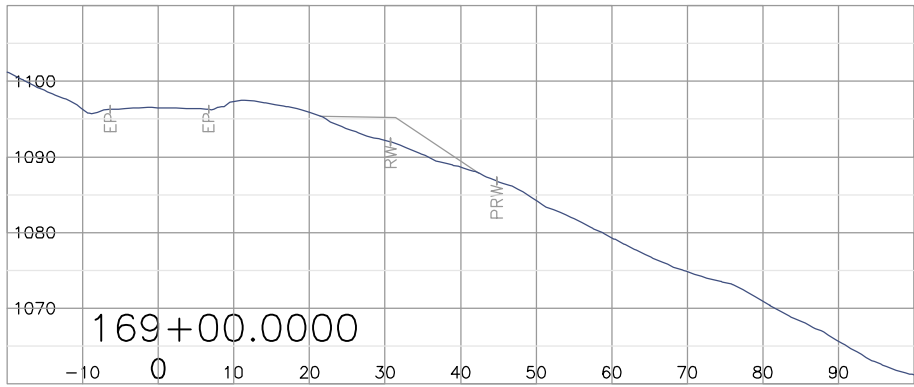
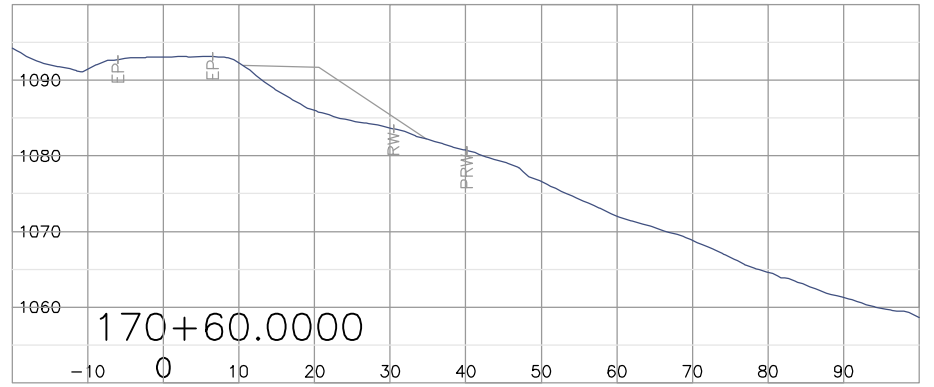
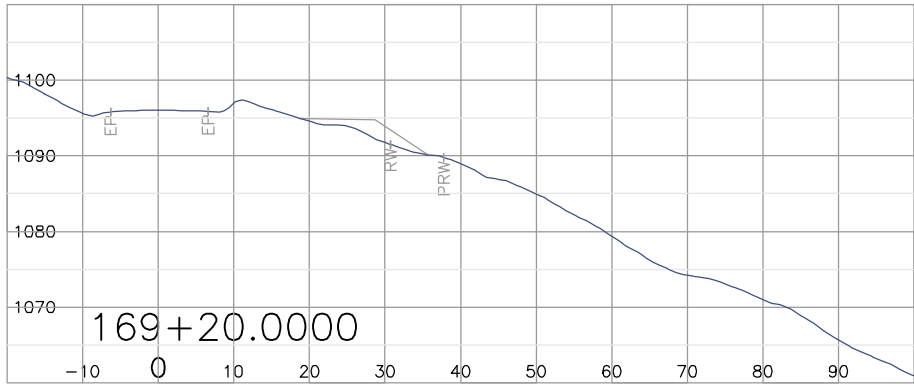
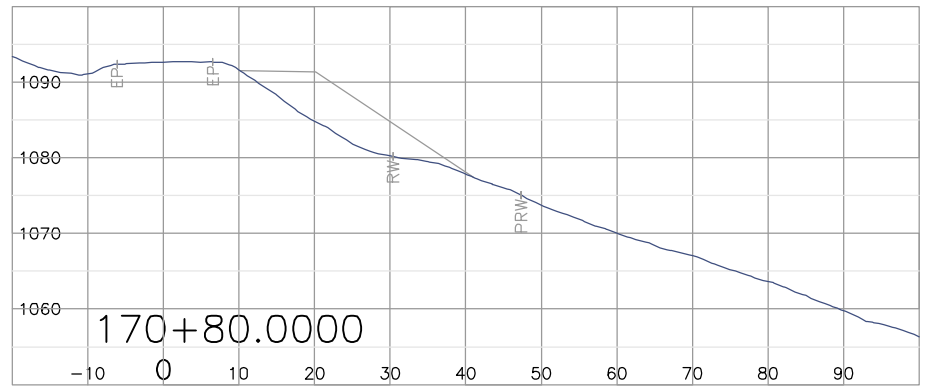
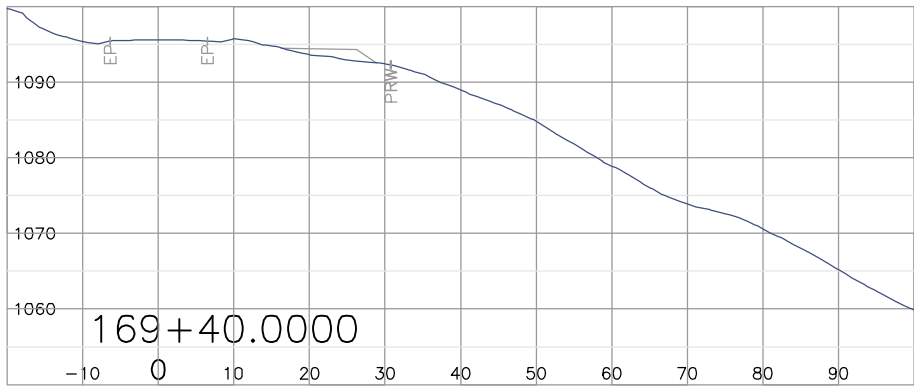






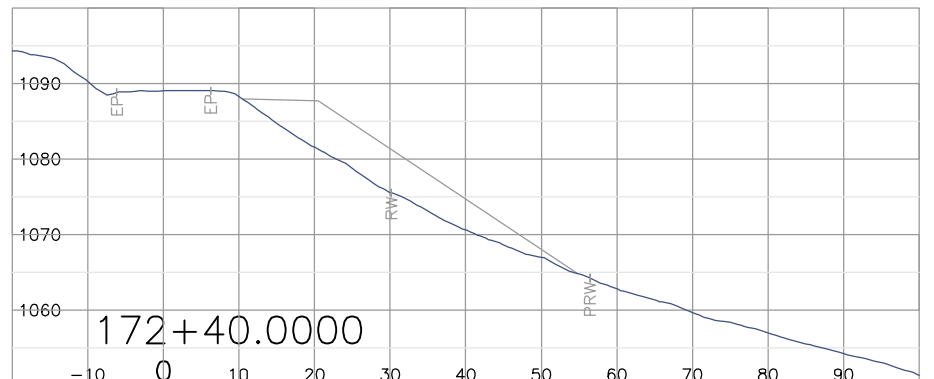
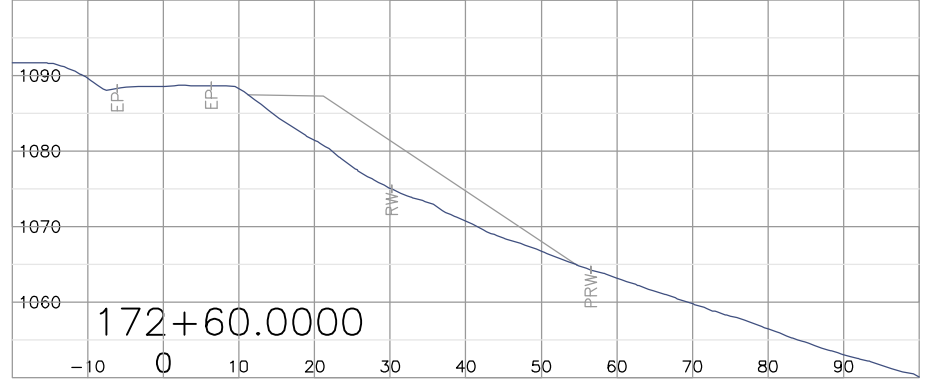
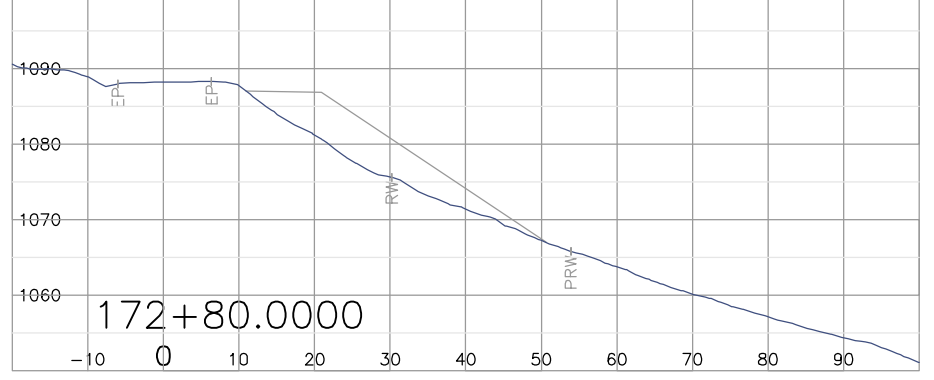
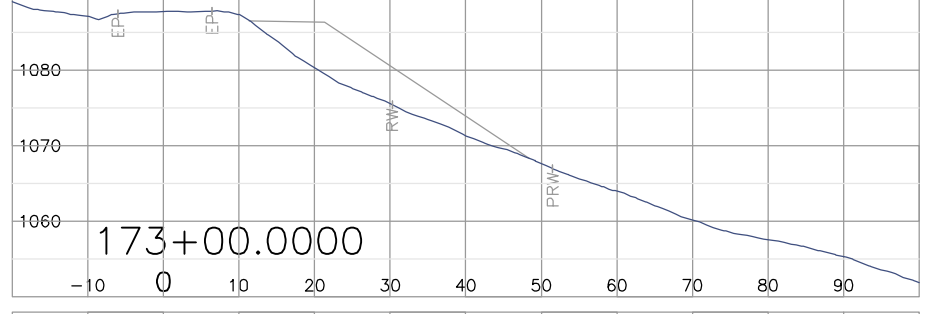
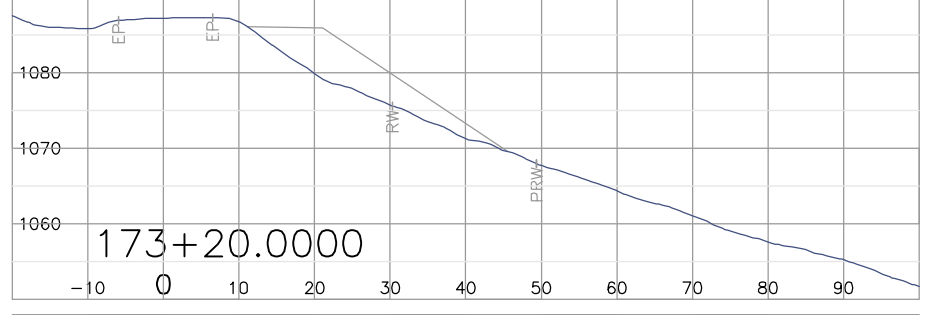
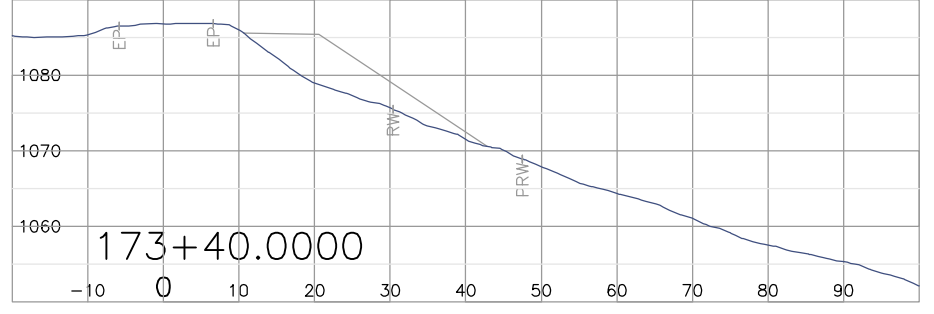
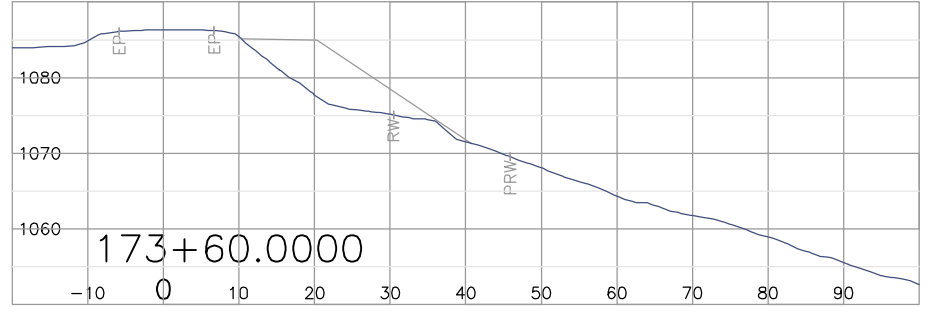
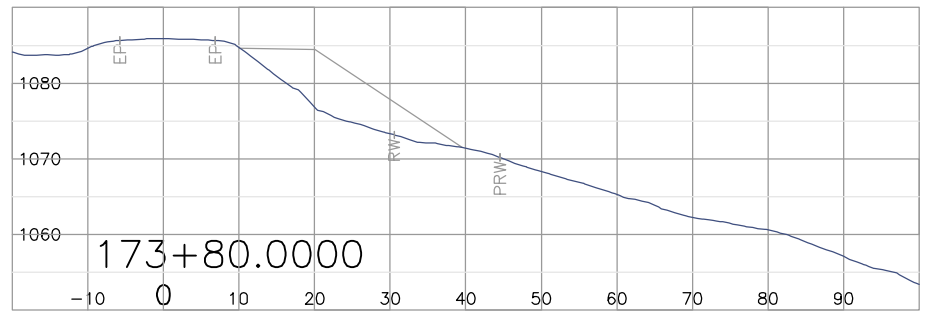
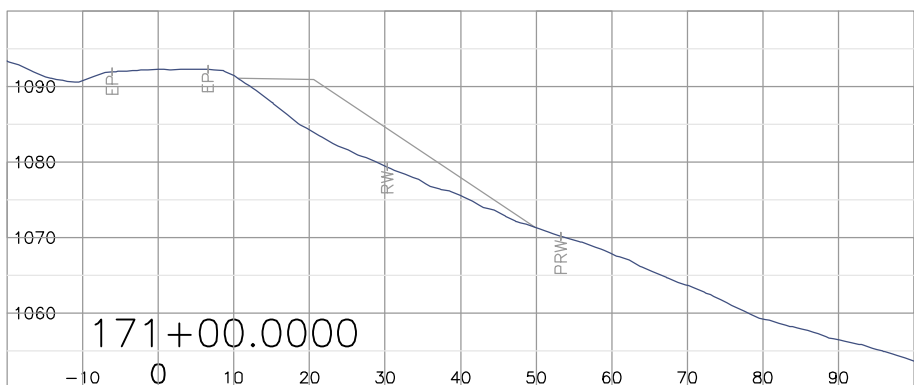
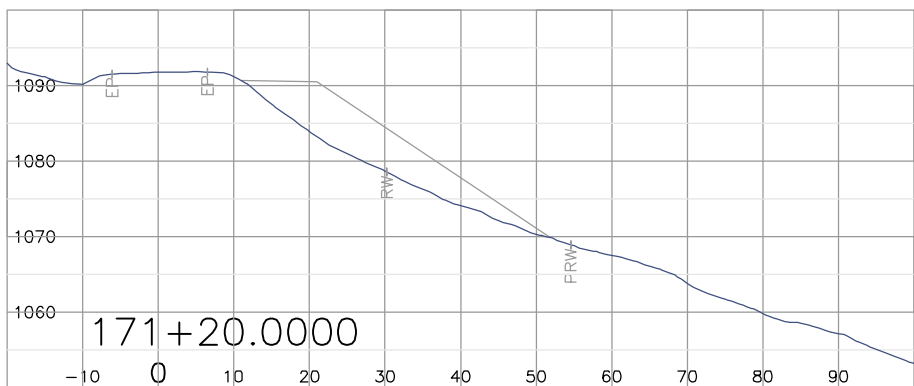
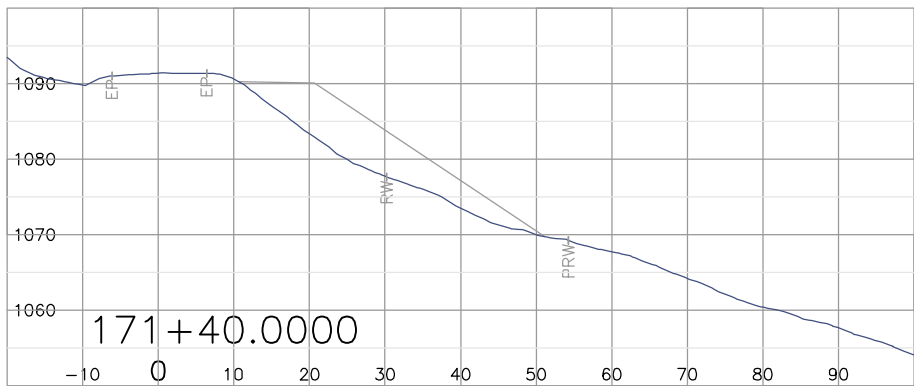
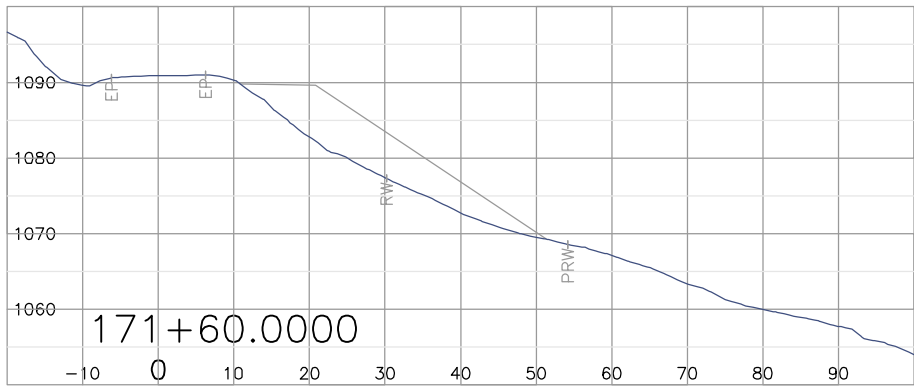
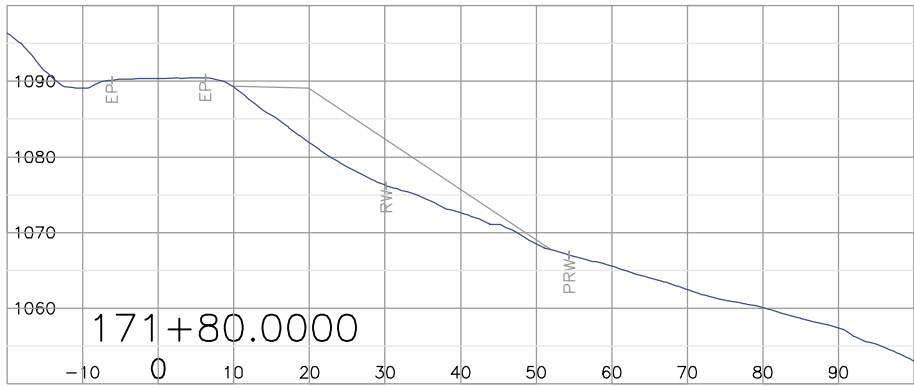
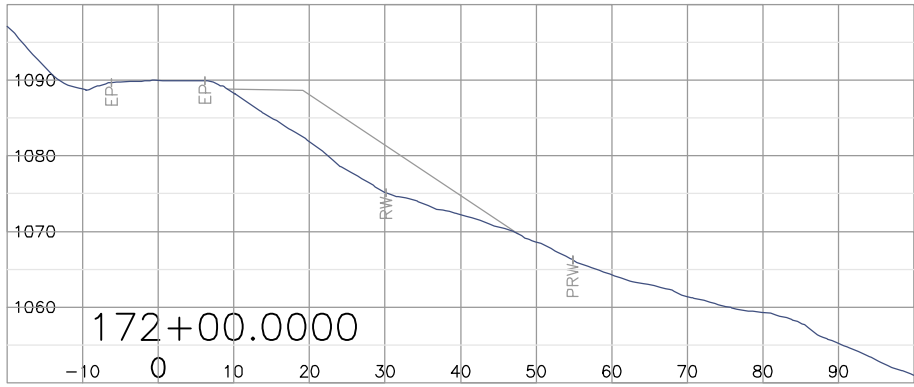
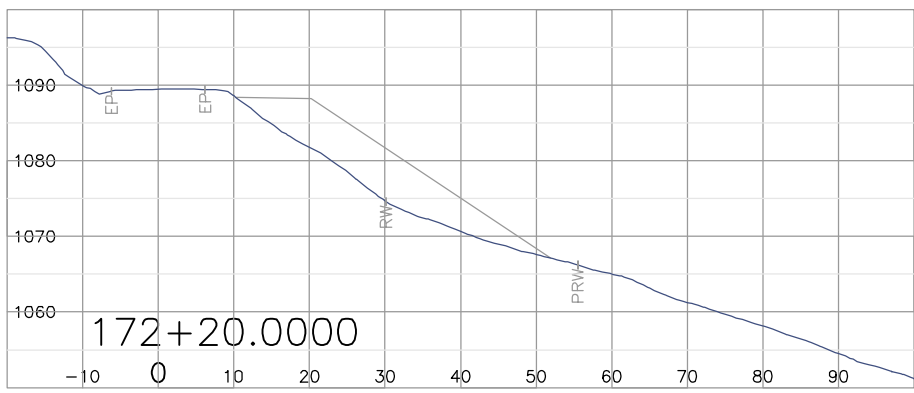


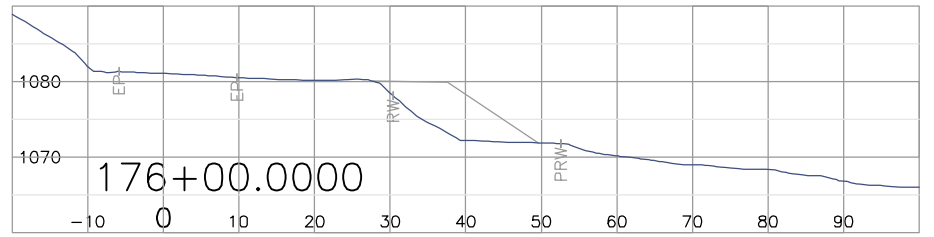
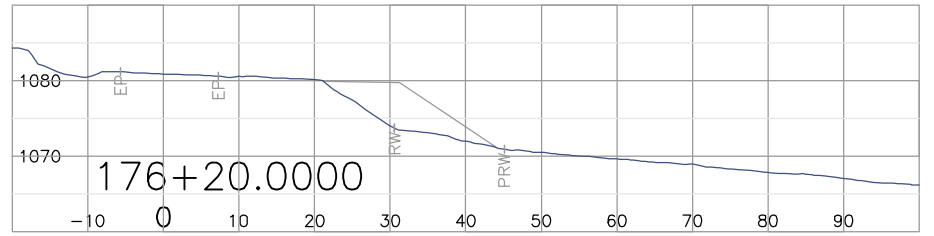
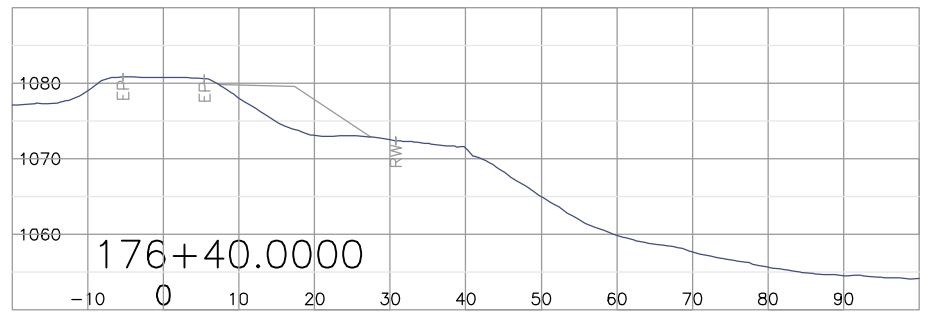
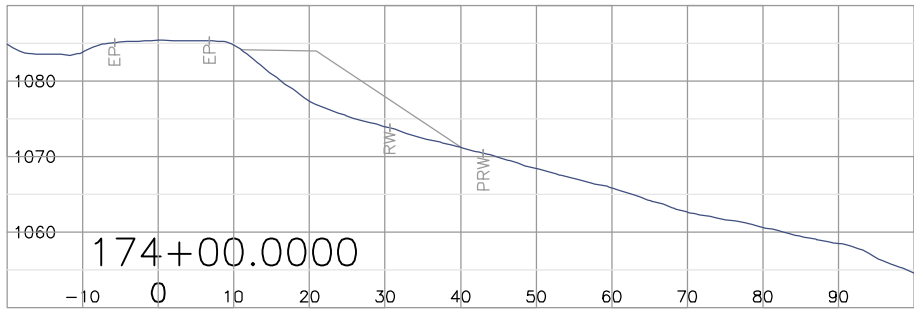
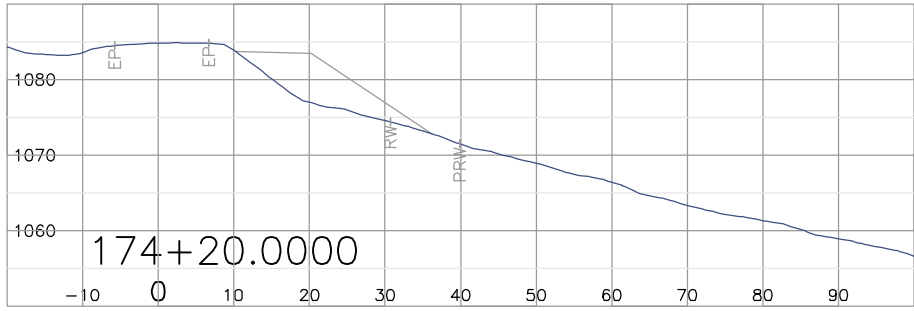
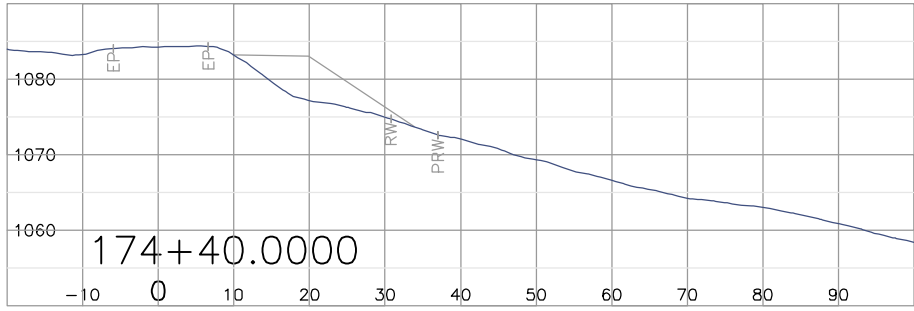
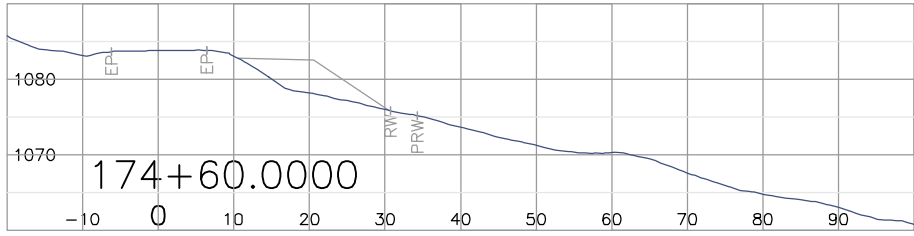
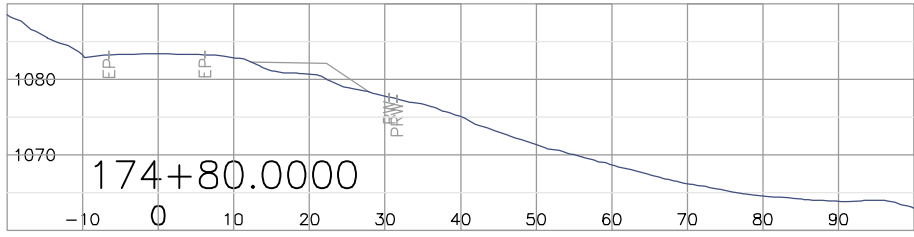
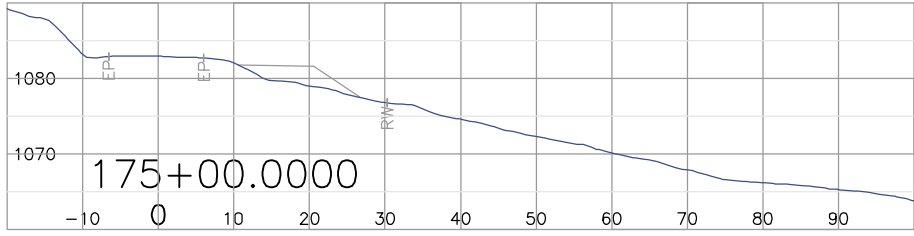
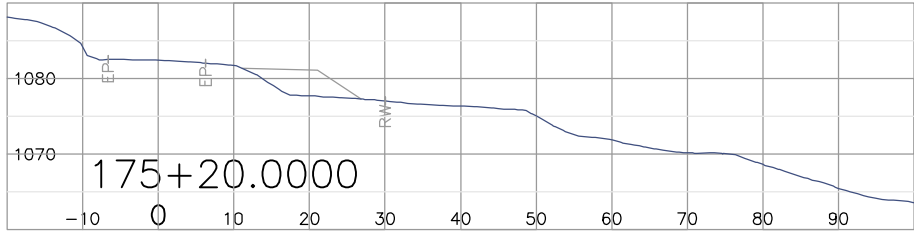
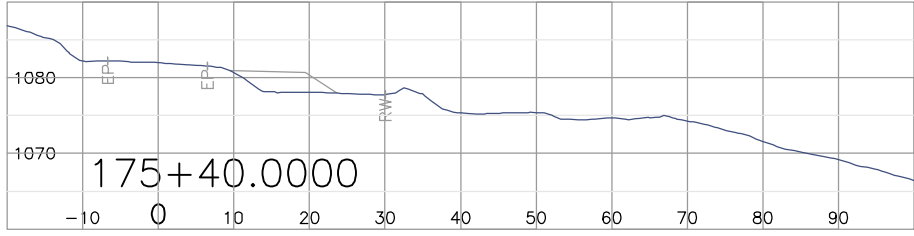
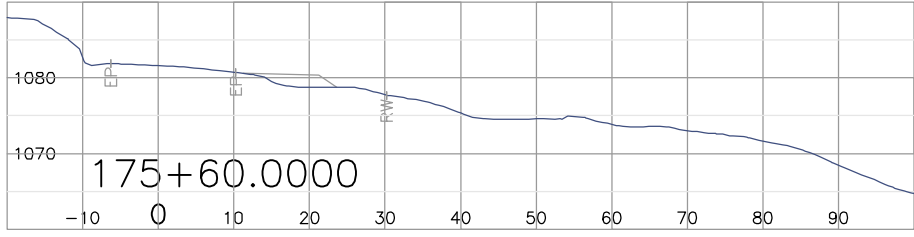
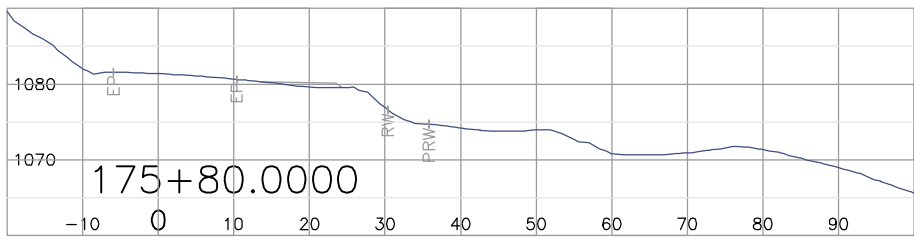




TPHG Proposed Alignment  
07-14-2005

CAICE Project: PRKBRG  
Geometry Chain: TCH1  
Design Profile: TCHP1





DRAWING No.

DESCRIPTION

COVER SHEET

R2-NNN-0000

DRAWING INDEX - TECHNICAL SUBMISSION

SCHEDULE

(REFERENCE SECTION 1.2 - SCHEDULING AND REPORTING)  
(REFERENCE SECTION 5.2 - ASSEST MANAGEMENT PLAN)

SHEET 1 TO 8

CONSTRUCTION SCHEDULE - GANT CHART

SHEET 1 TO 6

CONSTRUCTION SCHEDULE - LOGIC DIAGRAM (PROVIDED SEPARATELY FULL SIZE FOR READABILITY)

TABLE 5.2-1

MAINTENANCE AND REHABILITATION SCHEDULE FOR PAVEMENT

TABLE 5.2-2

MAINTENANCE AND REHABILITATION SCHEDULE FOR STRUCTURES

RAFTERS PULLOUT TO BRAKE CHECK - ROADS

(REFERENCE SECTION 3.1 - ROAD DESIGN REPORT & SECTION 3.7 DRAINAGE DESIGN REPORT)

R2-NNN-0001

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-0002

LEGEND

R2-NNN-0101 to 0122

PLAN SHEETS

R2-NNN-0201 to 0210

PROFILE SHEETS

R2-NNN-0301

TYPICAL SECTIONS

R2-NNN-0401 to 0416

GEOMETRICS AND LANING

R2-NNN-0501 to 0504

DRAINAGE AND AVALANCHE MAPS, NOTES AND DETAILS

RAFTERS PULLOUT TO BRAKE CHECK - CONSTRUCTION SEQUENCE AND STAGING

(REFERENCE SECTION 4.1 - CONSTRUCTION MANAGEMENT PLAN

SECTION 4.2 - CONSTRUCTION STAGING PLAN

SECTION 4.3 - TRAFFIC MANAGEMENT PLAN)

R2-NNN-2001

CONSTRUCTION SEQUENCE - RAFTERS PULLOUT

R2-NNN-2002

CONSTRUCTION SEQUENCE - BRAKE CHECK TO MOUNT HUNTER CREEK

R2-NNN-2003 to 2005

DETOURS AND STAGING - WEST CONFORM: STAGE 1

R2-NNN-2006 to 2008

DETOURS AND STAGING - WEST CONFORM: STAGE 2

R2-NNN-2009

DETOURS AND STAGING - WEST CONFORM: STAGE 3

R2-NNN-2010 to 2012

DETOURS AND STAGING - EAST CONFORM: STAGE 1

R2-NNN-2013

DETOURS AND STAGING - EAST CONFORM: STAGE 2

R2-NNN-2014 to 2015

CONSTRUCTION ACCESS DETAILS

RAFTERS PULLOUT TO BRAKE CHECK - GEOTECHNICAL

(REFERENCE SECTION 3.6 - GEOTECHNICAL DESIGN REPORT)

R2-NNN-5000

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-5001 to 5008

BORHOLE LOCATION PLAN SHEETS

R2-NNN-5009 to 5010

GEOTECHNICAL PROFILE

R2-NNN-5011 to 5018

TYPICAL CROSS SECTIONS

R2-NNN-5020

GEOTECHNICAL INFORMATION AND REFERENCES

DRAWING No.

DESCRIPTION

PARK BRIDGE - STRUCTURAL

(REFERENCE SECTION 3.2 - STRUCTURAL DESIGN REPORT)

R2-NNN-4000

COVER SHEET, KEY PLAN AND DRAWING INDEX

R2-NNN-4101 to 4103

GENERAL ARRANGEMENT

R2-NNN-4201 to 4206

CONSTRUCTION STAGING, ERECTION SEQUENCE

R2-NNN-4301

FOUNDATION PLAN

R2-NNN-4401 to 4402

ABUTMENT PLANS, ELEVATIONS AND SECTIONS

R2-NNN-4501 to 4510

PIER ELEVATIONS, SECTIONS, DETAILS, ALTERNATE FOOTING

R2-NNN-4601 to 4605

PLANS, PILE DETAILS CP RAIL IMPACT, AND PILE TABLE

R2-NNN-4701 to 4704

BRIDGE TYPICAL CROSS SECTION, PRECAST PANEL DECK FORM

R2-NNN-4800 to 4802

AND BRIDGE DETAILS

R2-NNN-4900 to 4904

MISCELLANEOUS  
RETAINING WALLS

RAFTERS PULLOUT TO BRAKE CHECK - AESTHETICS AND LANDSCAPING

(REFERENCE SECTION 3.9 - AESTHETICS AND LANDSCAPE DESIGN REPORT)

R2-NNN-9001

LANDSCAPE PLAN - RAFTERS PULLOUT AREA

R2-NNN-9002




RETAINING WALL AESTHETIC TREATMENT

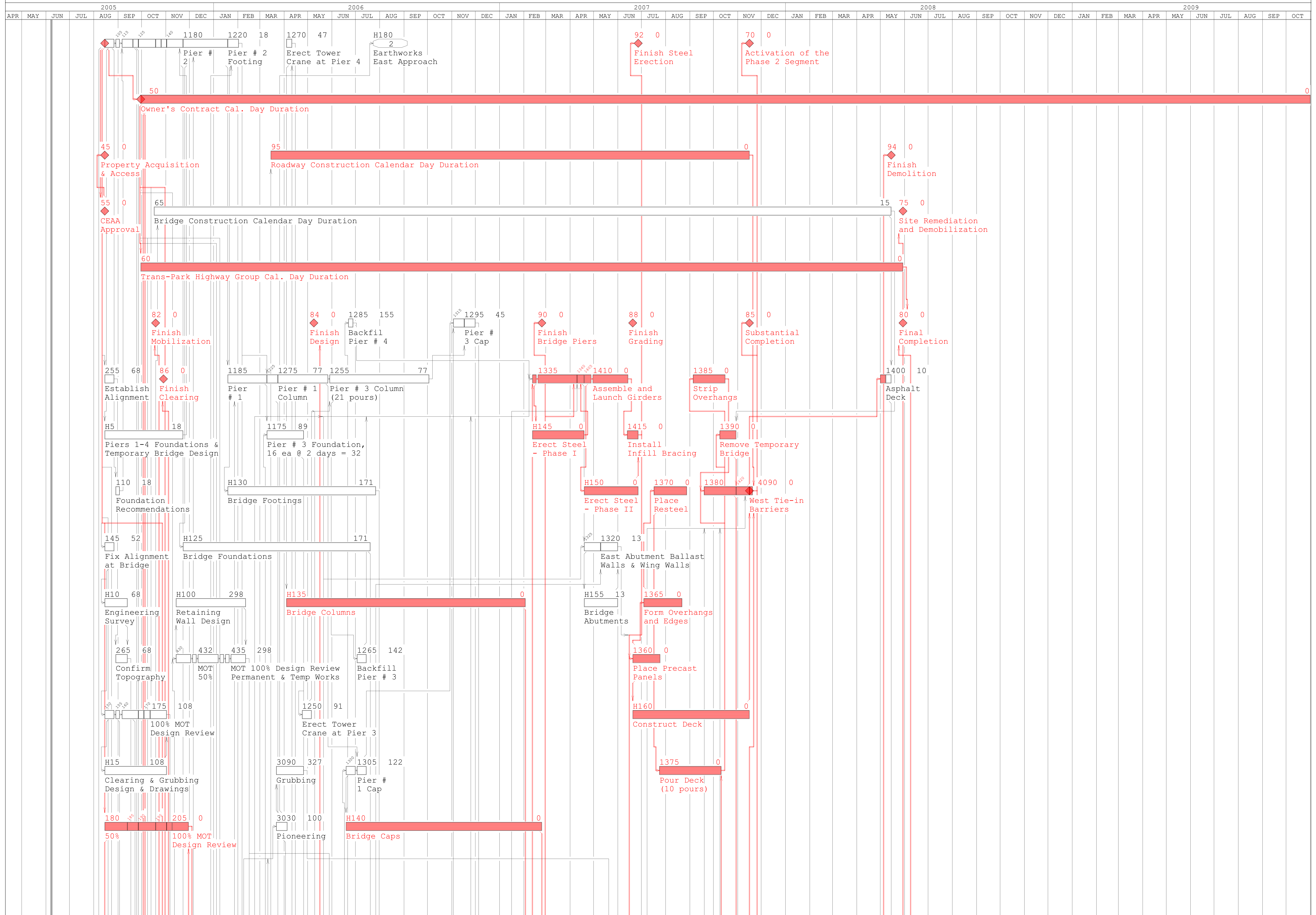
RAFTERS PULLOUT TO MOUNT HUNTER CREEK - DESIGN CROSS SECTIONS SHEETS

(REFERENCE SECTION 3.1 - ROAD DESIGN REPORT)

DESIGN CROSS SECTIONS

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SCALE DESIGNED _____ DATE _____ DRAWN _____ DATE _____ CHECKED _____ DATE _____ APPROVED _____ DATE _____		<b>DRAWING INDEX          TECHNICAL SUBMISSION</b>			
PROFESSIONAL SEAL	Rev Date Description Signature 0 7/14/05 ISSUED FOR PROPOSAL	SENIOR DESIGN ENGINEER _____ DATE _____			
	REVISIONS	FILE No. PROJECT No. REG. DRAWING No. 09901-7005 2 R2-NNN-0000 0			



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 Data Date 8JUN05  
 Project Start 11APR05  
 Project Finish 31OCT09

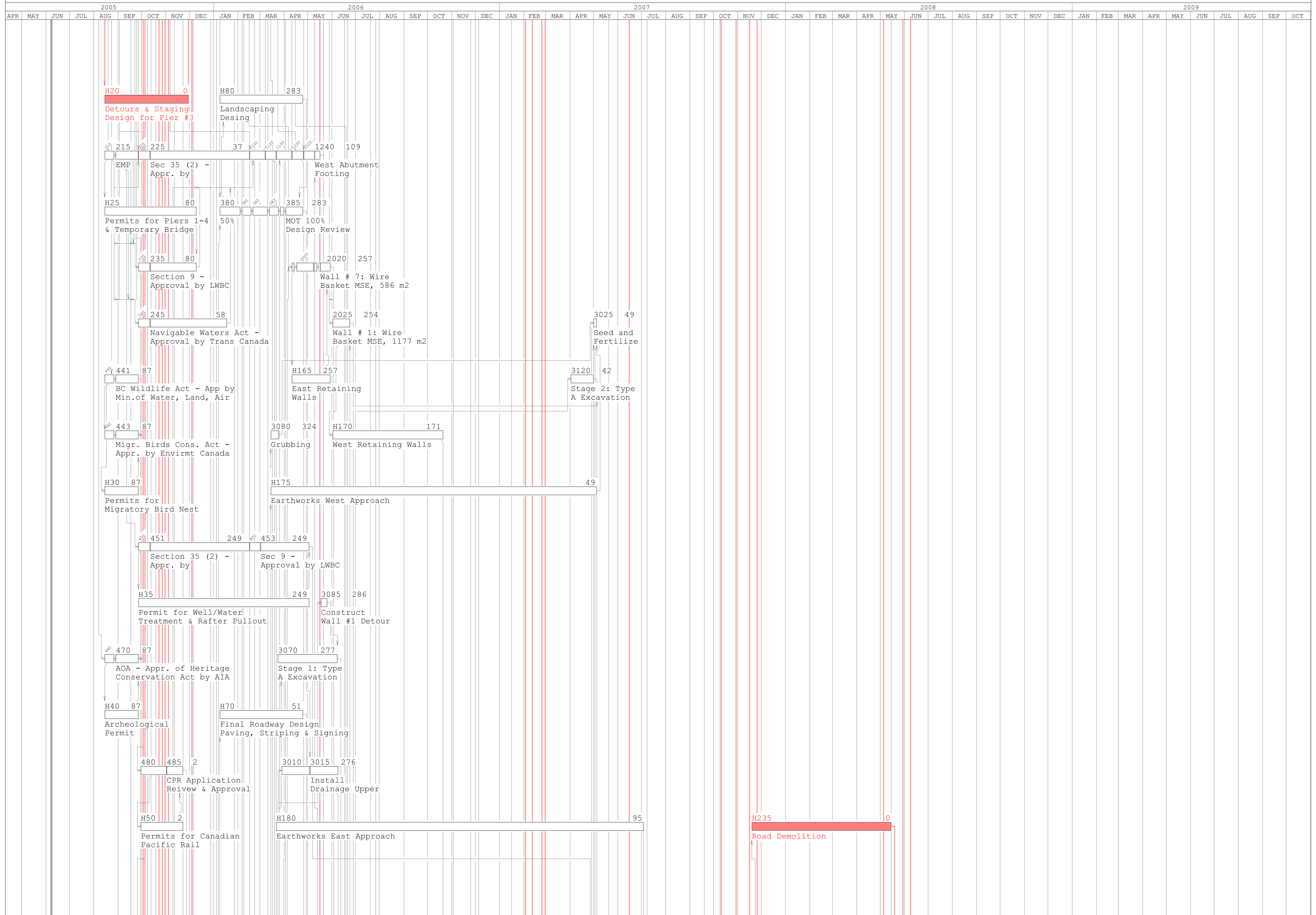
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 Critical Activity  
 Progress Bar  
 Milestone/Flag Activity  
 Connecting Activity on Sheet x

KHP1

Trans-Park Highway Group  
 Kicking Horse Canyon Project Phase 2  
 TL-12 Time Scaled Logic by Area/Type

Sheet 1 of 4

Date	Revision	Checked	Approved



Plot Date 8JUL05  
 Data Date 8JUN05  
 Project Start 11APR05  
 Project Finish 31OCT09

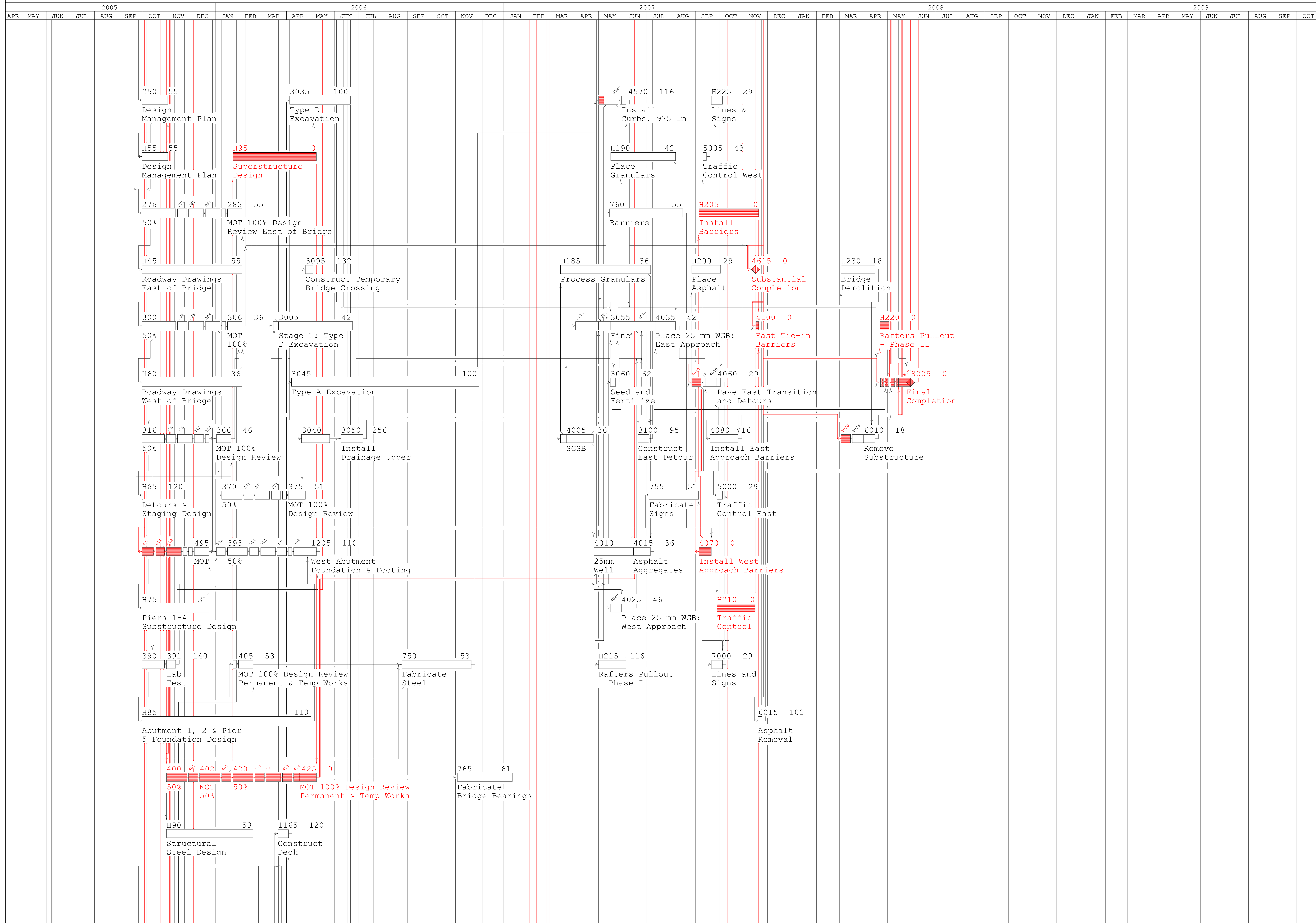
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KHP1

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 TL-12 Time Scaled Logic by Area/Type

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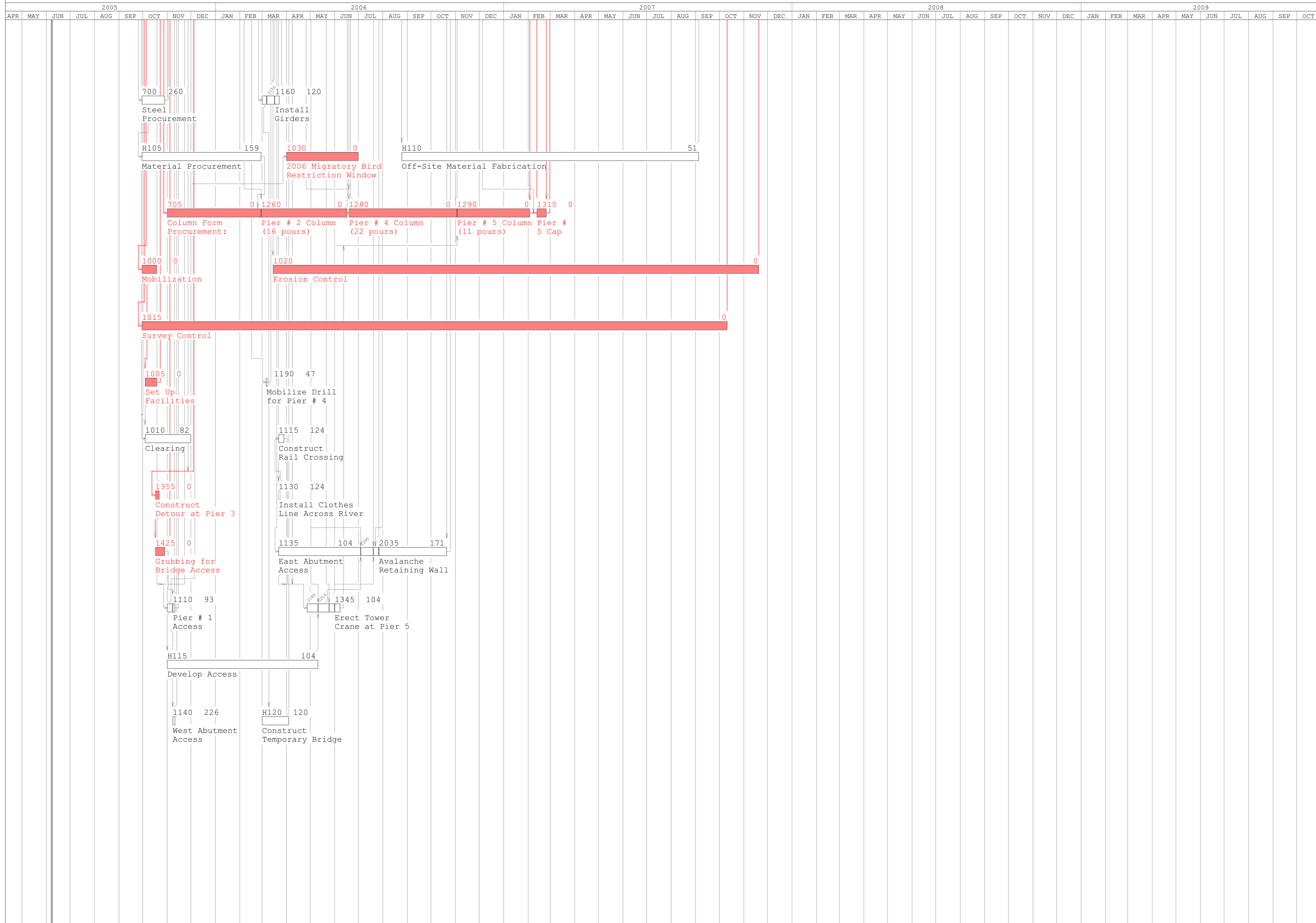
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KHP1

Trans-Park Highway Group  
 Kicking Horse Canyon Project Phase 2  
 TL-12 Time Scaled Logic by Area/Type

Sheet 3 of 4

Date	Revision	Checked	Approved



Plot Date 8JUL05  
 Data Date 8JUN05  
 Project Start 11APR05  
 Project Finish 31OCT09

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 Critical Activity  
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 Milestone/Flag Activity  
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KHP1

Trans-Park Highway Group  
 Kicking Horse Canyon Project Phase 2  
 TL-12 Time Scaled Logic by Area/Type

Sheet 4 of 4

Date	Revision	Checked	Approved