



**Parks Canada
Agency
Western and
Northern Region**

**L'Agence Parcs
Canada
Ouest et Nord
du Canada**

**HIGHWAY 19
FLOOD DAMAGE REINSTATEMENT
(KM 0-29.1)**

**RIDING MOUNTAIN NATIONAL PARK
MANITOBA**

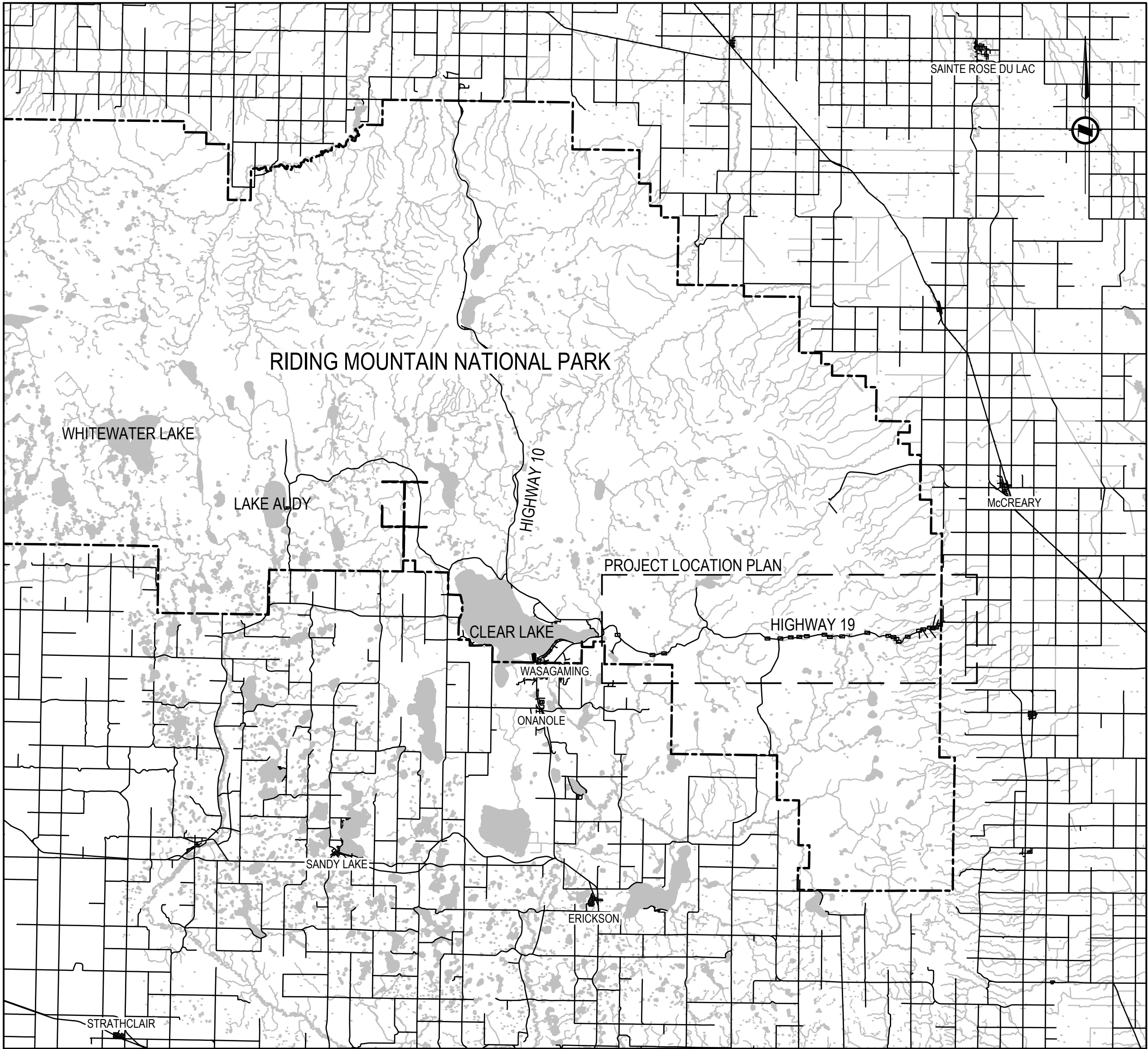


TETRA TECH

PROJECT NO. 1932-04

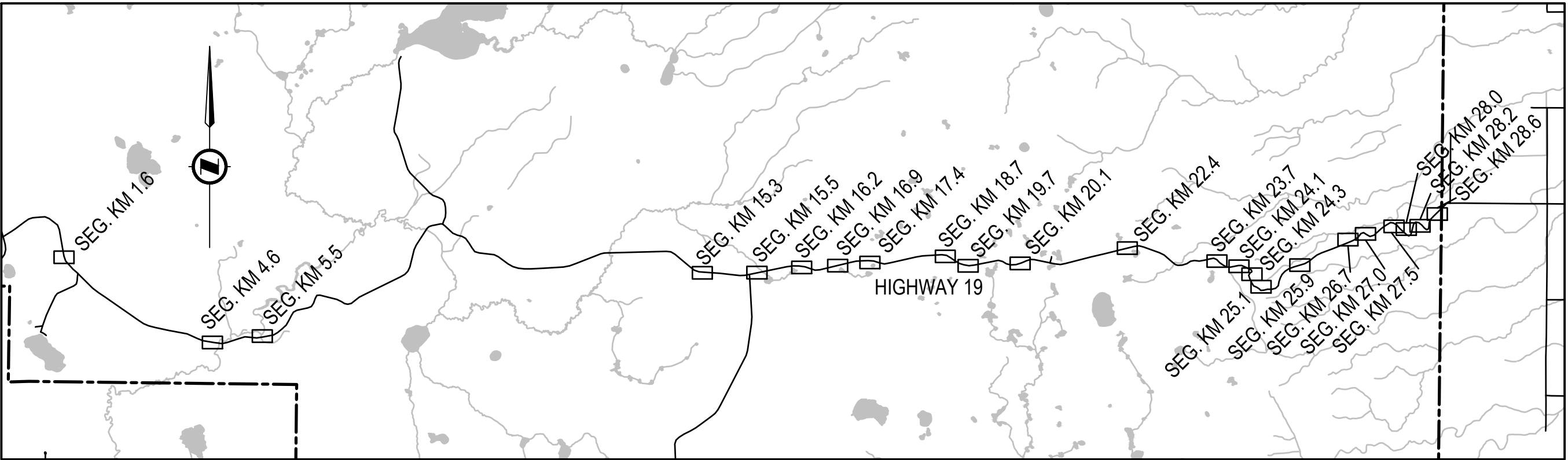
**ISSUED FOR TENDER
JULY 25, 2022**

Q:\Vancouver\Transportation\TRN_VHVV\Projects\TRN_VHVV03222 Hwy 19 Riding Mtn Realignment\Drawing\Production\100_Plan\Hwy 19 Flood Damage Reinstatement\000-C001 COVER PAGE.dwg [C001] July 25, 2022 - 2:36:06 pm (BY: DEEPIWELL, ANDREW)

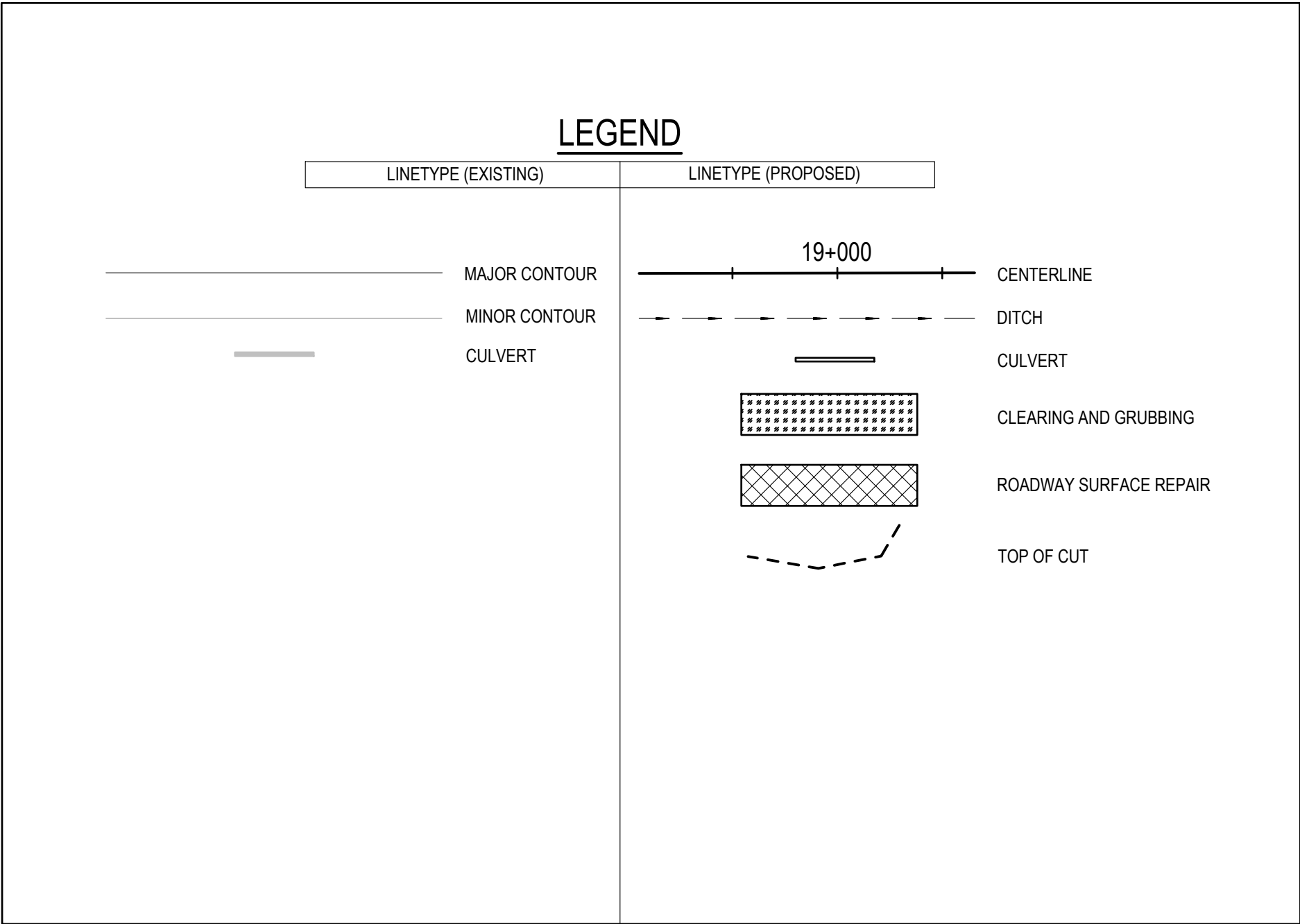


PROJECT KEY PLAN
SCALE: 1:250,000

DRAWING INDEX	
DRAWING	DESCRIPTION
C000	COVER PAGE
C001	PROJECT LOCATION PLAN, KEY PLAN, DRAWING INDEX & LEGEND
C101	PLAN / PROFILE 1+620 TO 1+670 & 4+600 TO 4+750
C102	PLAN / PROFILE 5+500 TO 5+540 & 15+320 TO 15+340
C103	PLAN / PROFILE 15+500 TO 15+570 & 16+150 TO 16+350
C104	PLAN / PROFILE 16+880 TO 16+920 & 17+430 TO 17+580
C105	PLAN / PROFILE 18+650 TO 18+800 & 19+700 TO 19+830
C106	PLAN / PROFILE 20+120 TO 20+160 & 21+920 TO 22+100
C107	PLAN / PROFILE 22+420 TO 22+480 & 23+650 TO 23+750
C108	PLAN / PROFILE 24+050 TO 24+300
C109	PLAN / PROFILE 24+300 TO 24+720
C110	PLAN / PROFILE 24+720 TO 25+050
C111	PLAN / PROFILE 25+050 TO 25+550
C112	PLAN / PROFILE 25+900 TO 26+600
C113	PLAN / PROFILE 26+700 TO 26+900 & 27+000 TO 27+050
C114	PLAN / PROFILE 24+480 TO 27+740
C115	PLAN / PROFILE 27+740 TO 28+000
C116	PLAN / PROFILE 28+020 TO 28+120 & 28+200 TO 28+350
C117	PLAN / PROFILE 28+600 TO 28+800
C201	TYPICAL SECTIONS
C202	TYPICAL CULVERT GRADING TIE-IN DETAILS
C301	TYPICAL CULVERT REMOVAL ENVIRONMENTAL CONSTRUCTION STAGING CONCEPT
C302	CHECK DAM & FISH STOP NET DETAILS
C303	BEAVER DECEIVER DETAIL



PROJECT LOCATION PLAN
SCALE 1:75,000



PROJECT CONTROL MONUMENTS

PT #	Easting	Northing	Elevation	Description
3100	5613742.234	445905.748	674.258	CP
2500	5613705.926	456898.029	696.541	CP
5000	5613496.965	448639.947	685.997	CKCP
2500	5613705.926	456898.029	696.541	CP
2200	5614399.722	443541.526	655.937	CP
3600	5613174.951	442152.520	653.834	CP
2100	5612450.270	440154.046	647.367	CP
2000	5613462.329	437334.115	662.968	CP
3200	5613722.832	450422.878	705.940	CP
3500	5613839.383	452213.263	720.980	CP

- GENERAL NOTES:
- DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
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0 2 500
Scale: 1: 75 000 (metres)

0	22/07/25	ISSUED FOR TENDER	RM SL
No.	Date/Date	Description/Description	Drawn by Dessiné par
Revison / Revision			Approved Approuvé

A C	A B C
A detail number numéro de détail	A B C
B source drawing no. de dessin no.	
C detail on drawing no. détail sur dessin no.	
Consultant's Name Nom de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur

	Parks Canada Agence	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

Project title/Titre du projet

HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT

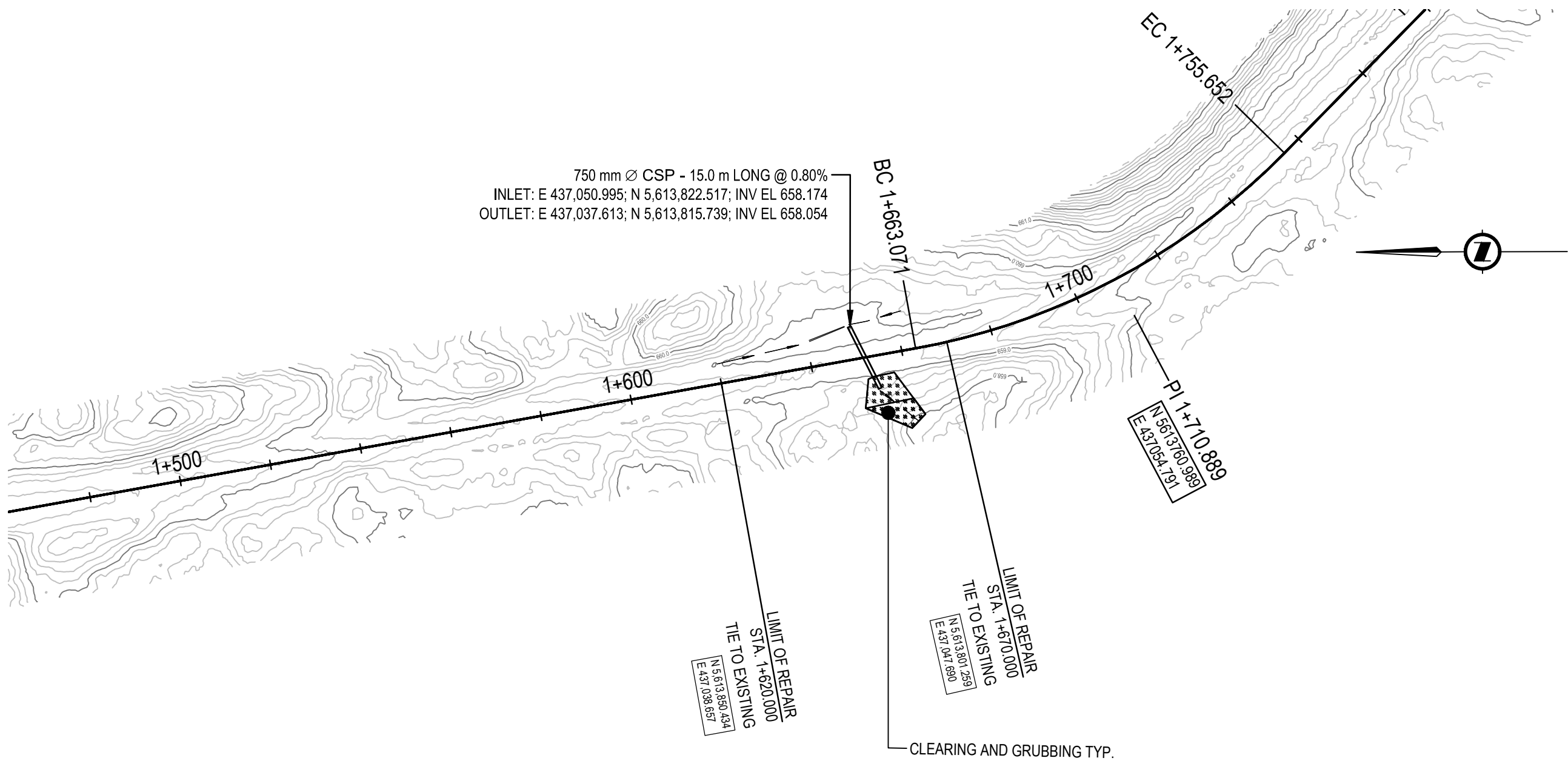
RIDING MTN. NAT. PARK

Drawing title/Titre du dessin

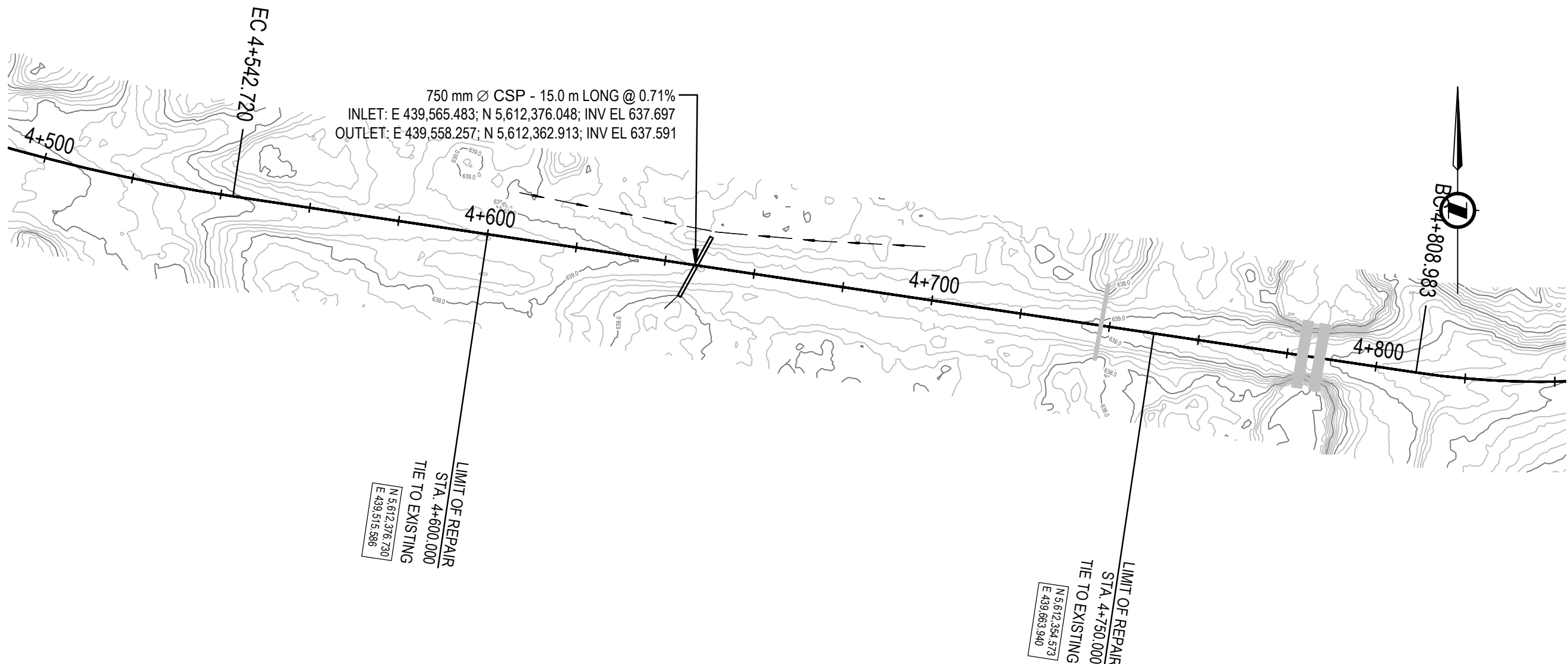
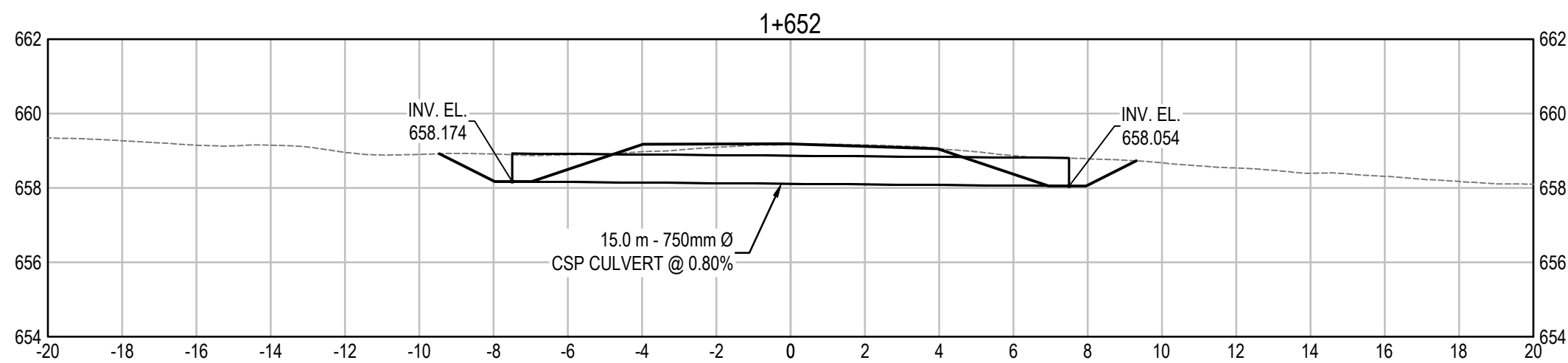
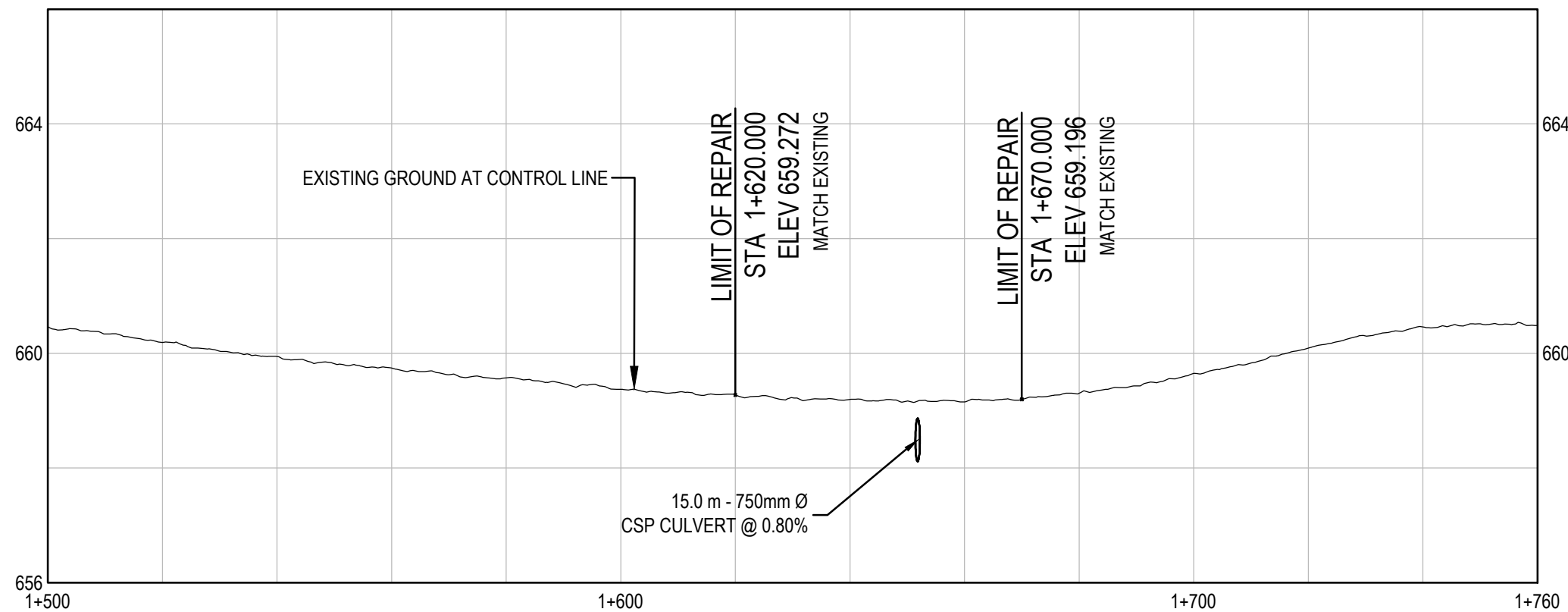
KEY PLAN, PROJECT
LOCATION, DRAWING
INDEX, CONTROL POINTS,
AND LEGEND

Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
—	RM	2022-06-24
Designed by/Conçue par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
PRSG Project Manager/Administrateur de Projets TPSC		
Project No./No. du projet	Asset No./No. du bien	Sheet No./ No. de la feuille
1932-04	—	C001
Drawing Reference No./No. de référence du dessin		
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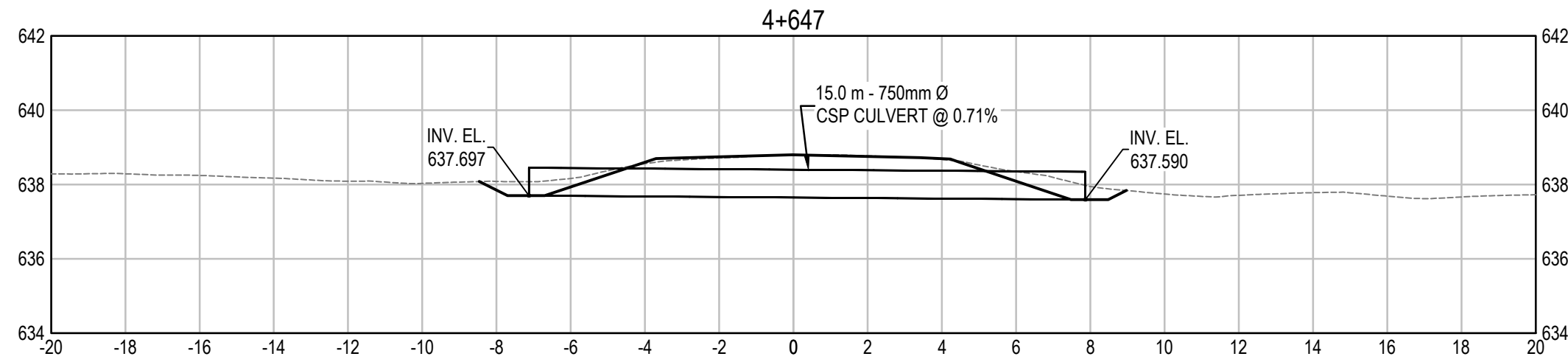
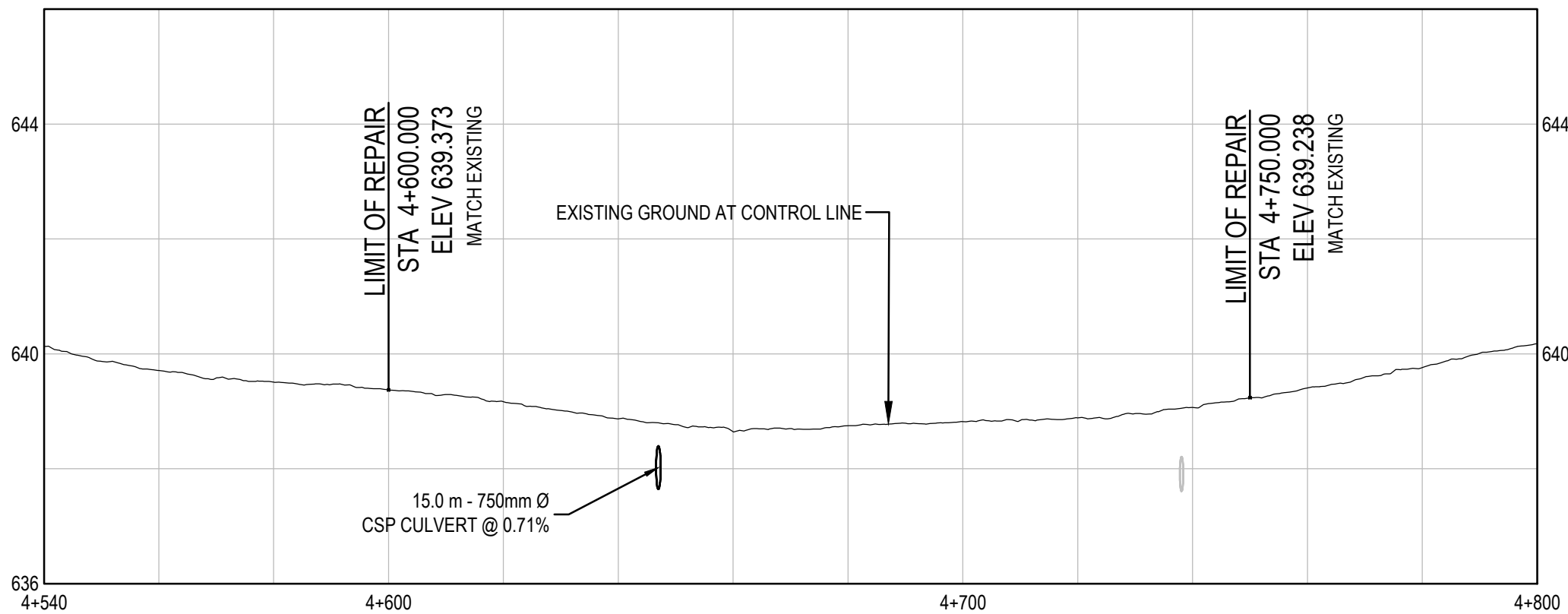
Q:\Vancouver\Transportation\TRN_VHVV\Projects\TRN_VHVV\03222 Hwy 19 Riding Mtn Realignment\Drawing\Production\100_Plan\Hwy 19 Flood Damage Reinstatement\C101 PLAN CULVERT REINSTATEMENT.dwg [C101] July 25, 2022 - 1:33:59 pm (BY DEERWELL, ANDREW)



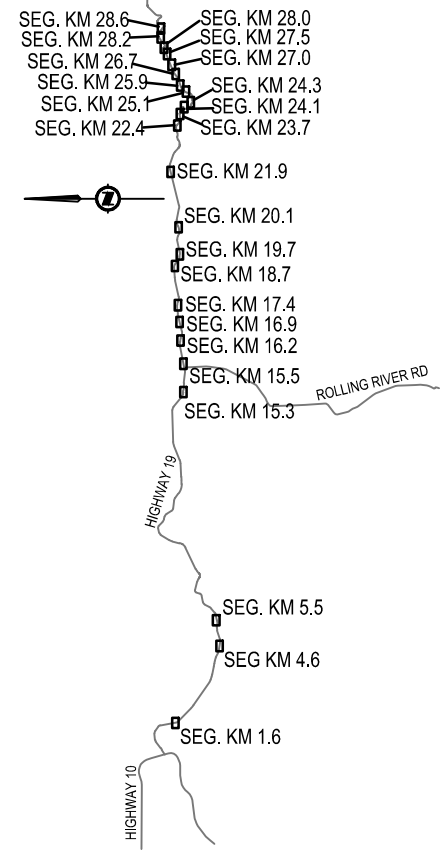
SEGMENT 1+620 TO 1+670



SEGMENT 4+600 TO 4+750



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PLAN: 0 10 50m
H 1:1000
PROFILE: 0 1 5m
V 1:100

SECTION: 0 1 5m
1:150

0	22/07/25	ISSUED FOR TENDER	RM	SL	
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé	

Revision / Revision	
A C	A B/C
Consultant's Name Nom de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur

	Parks Canada Agence	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

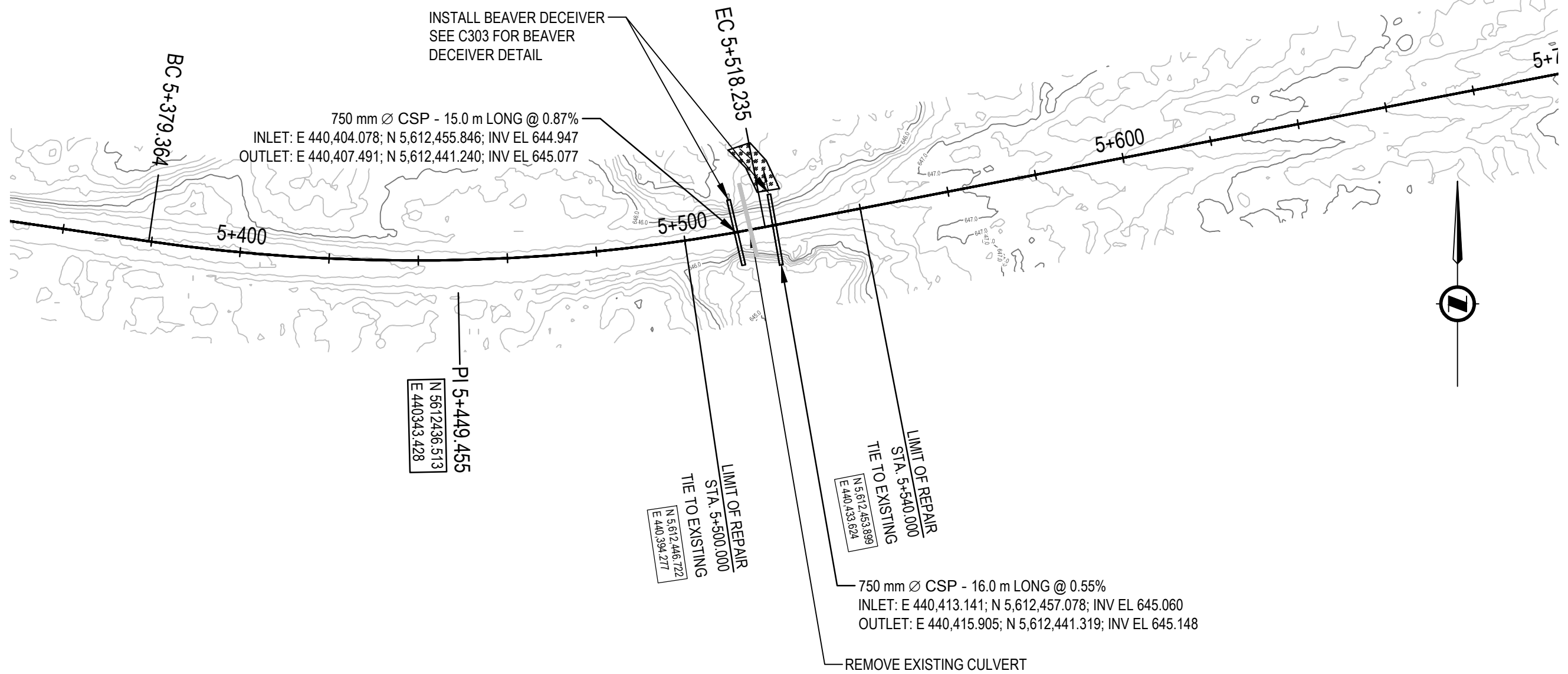
Project title/Titre du projet

HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

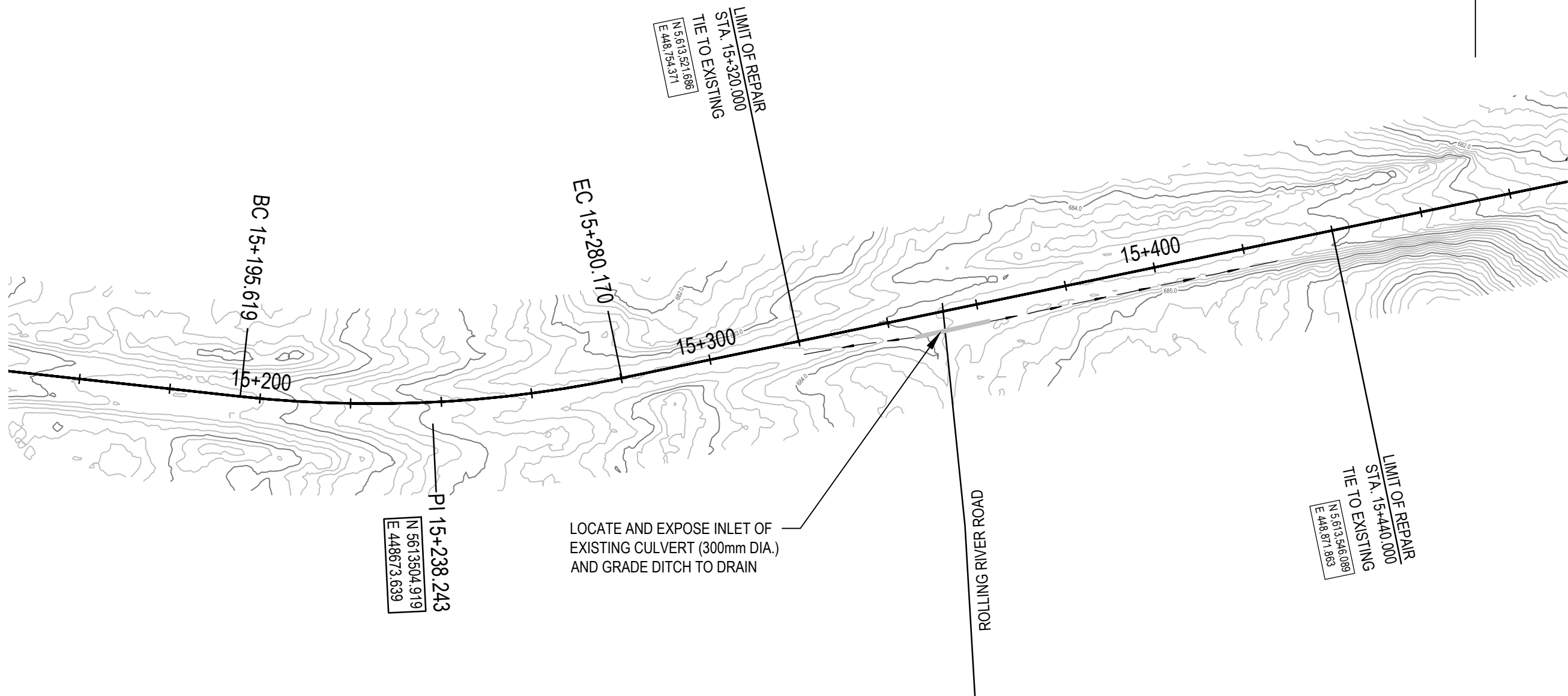
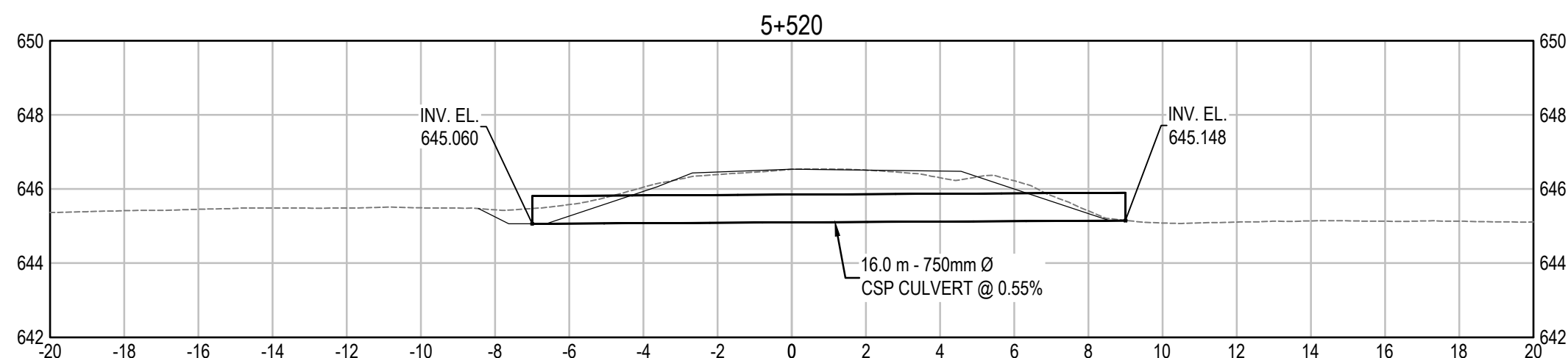
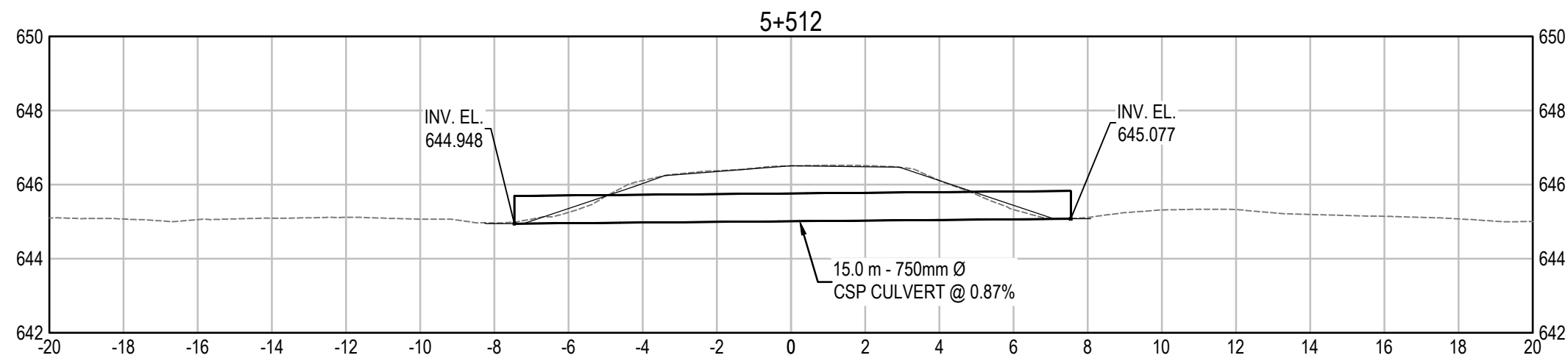
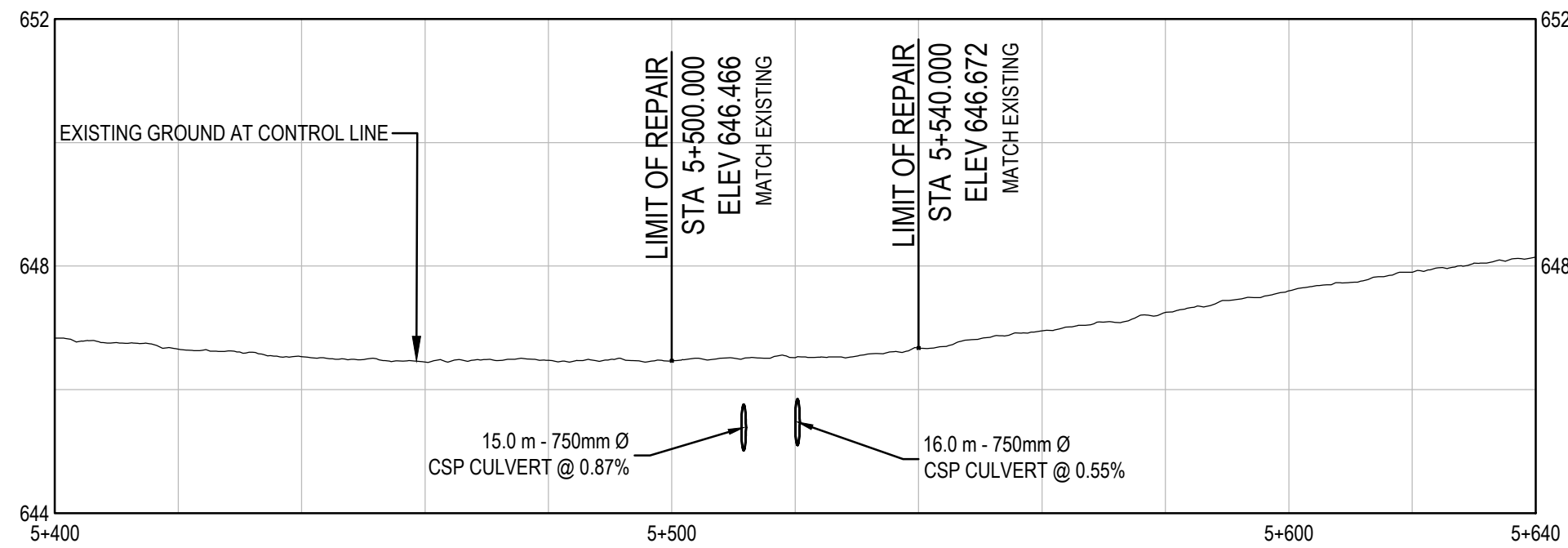
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PLAN/PROFILE
1+620 TO 1+670
4+600 TO 4+750

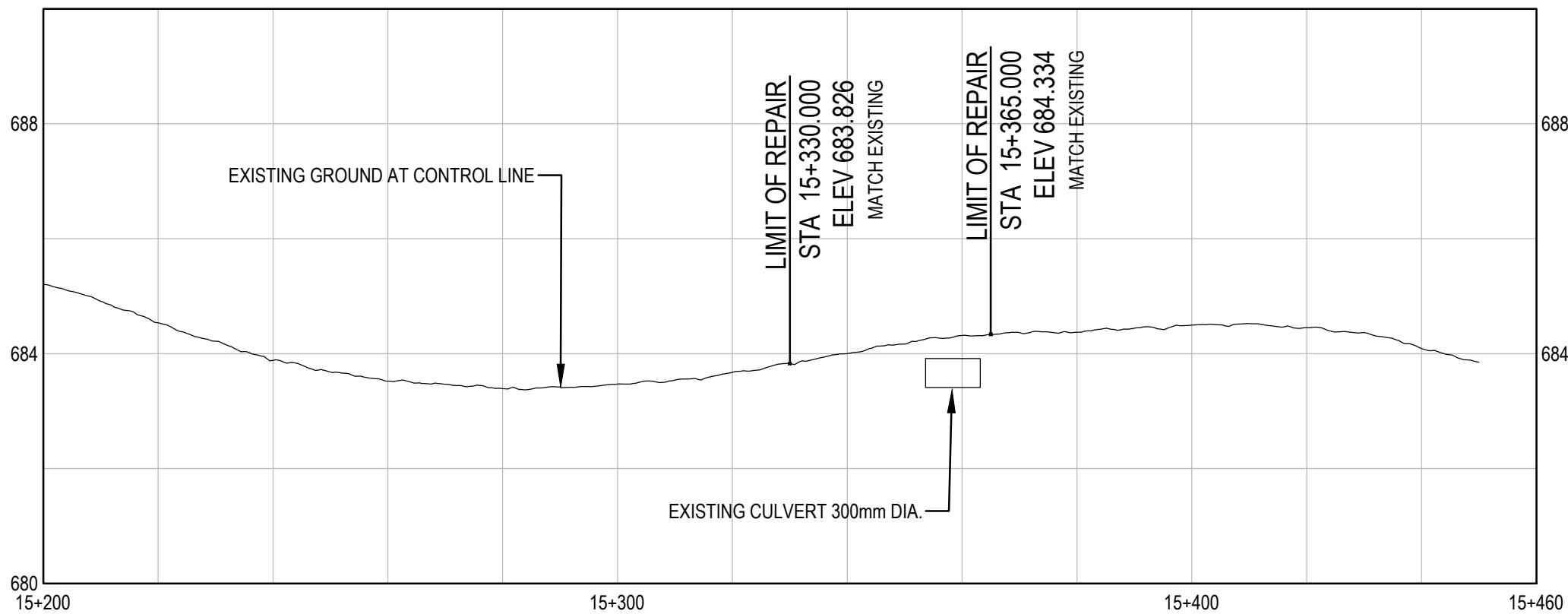
Surveyed by/Arpenté par —	Drawn by/Dessiné par RM	Date/Date 2022-06-24
Designed by/Concept par EY	Reviewed by/Revisé par SL	Scale/Echelle AS SHOWN
PCA Project Manager/Administrateur de Projets APC RYAN CALDER		
Client Acceptance/Acceptation du client Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		PRSG Project Manager/Administrateur de Projets PRSG
Project No./No. du projet 1932-04	Asset No./No. du bien —	Sheet No./ No. de la feuille C101
Drawing Reference No./No. de référence du dessin —		



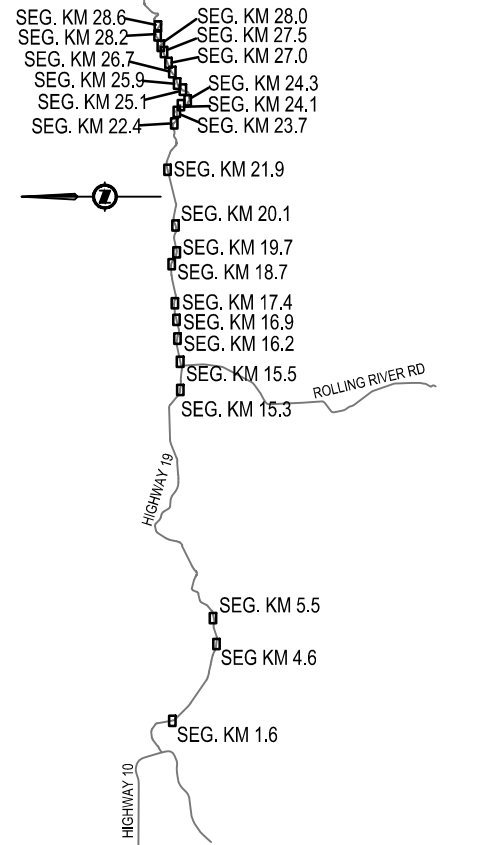
SEGMENT 5+500 TO 5+540



SEGMENT 15+320 TO 15+440



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PLAN: 0 10 50m
PROFILE: 0 1 5m

SECTION: 0 1 5m

0	22/07/25	ISSUED FOR TENDER		RM	SL
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé	

Revision / Revision	
A	numéro de détail
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C	détail on drawing no. détail sur dessin no.

Consultant's Name Nom de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur

Client/client	Parks Canada Agence	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

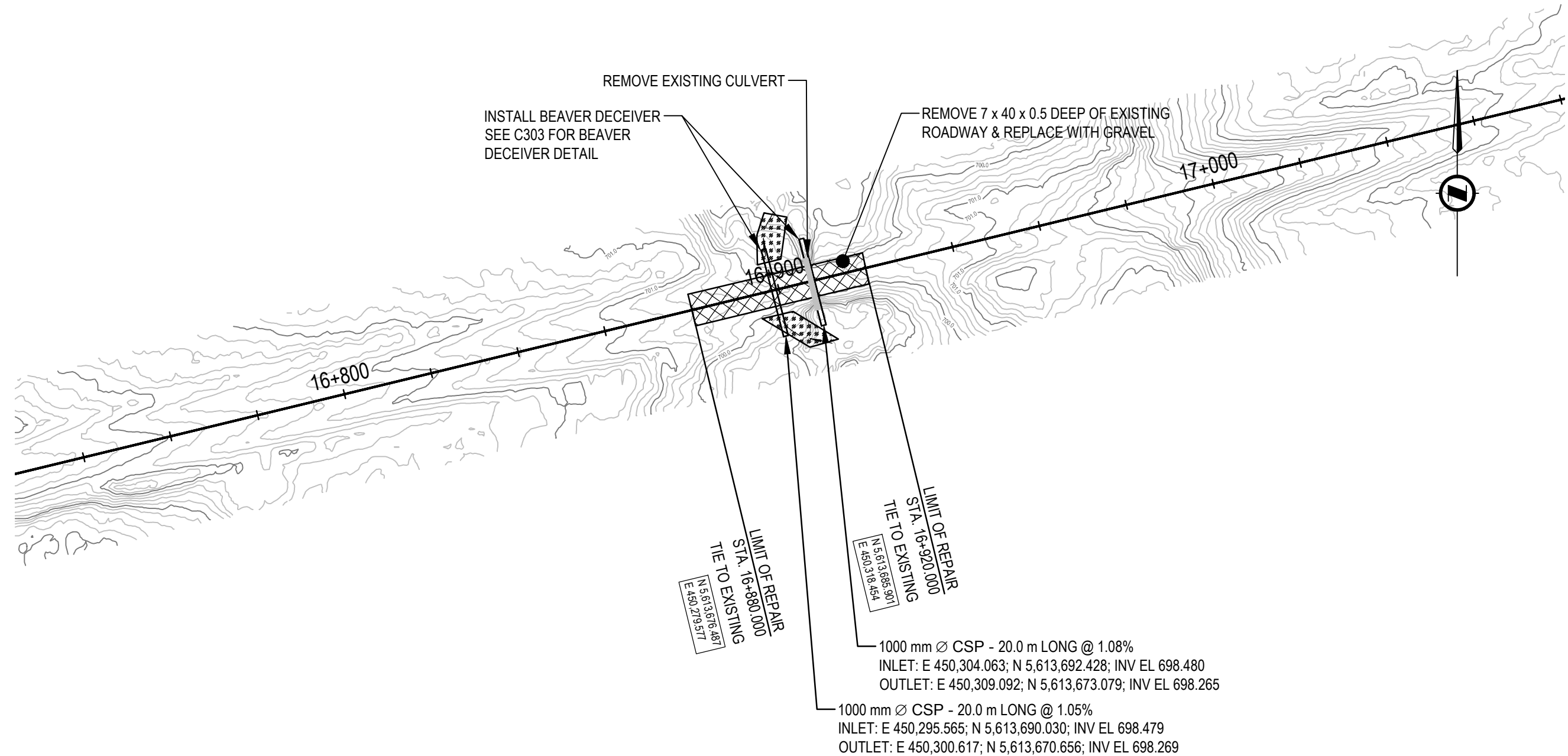
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HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

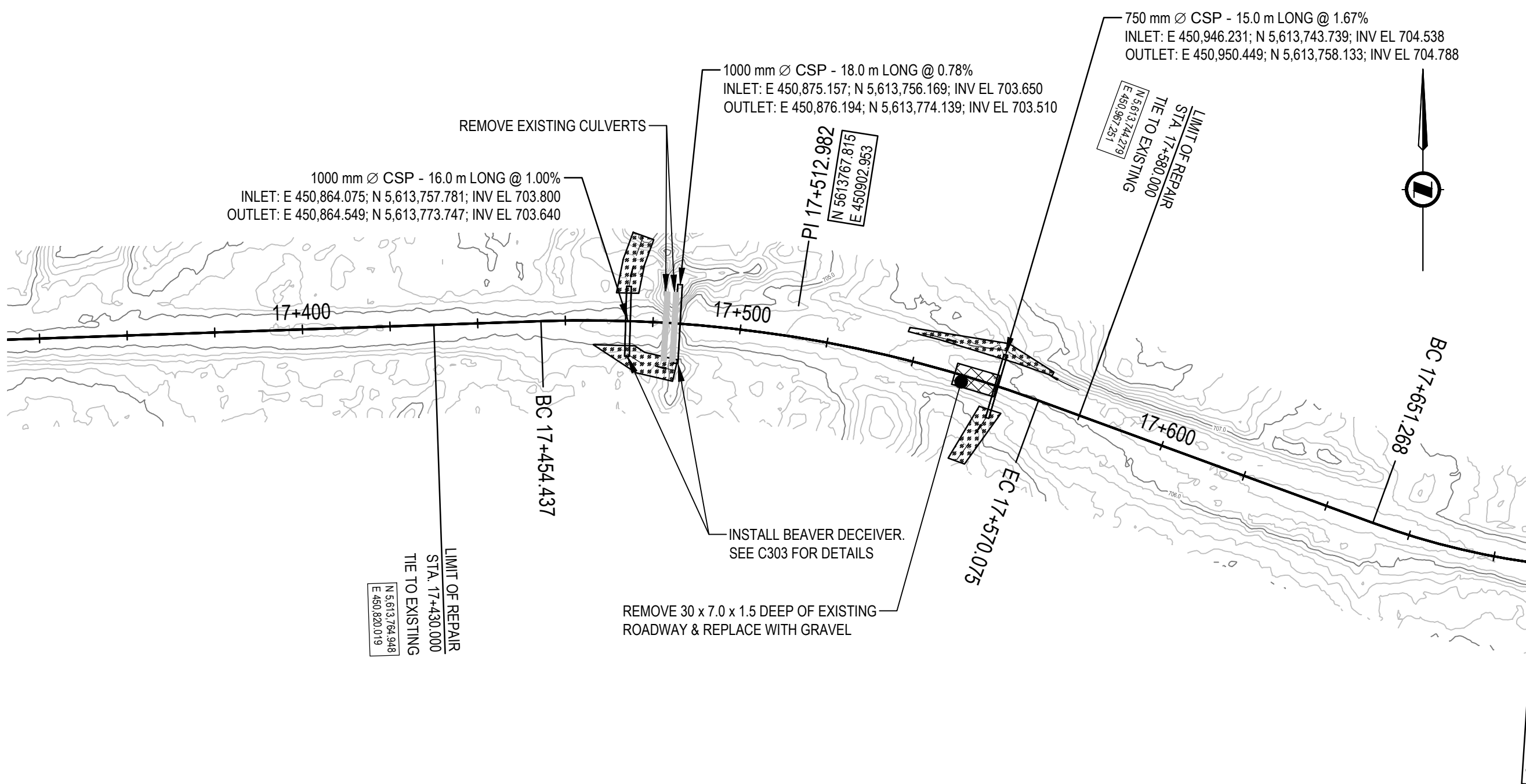
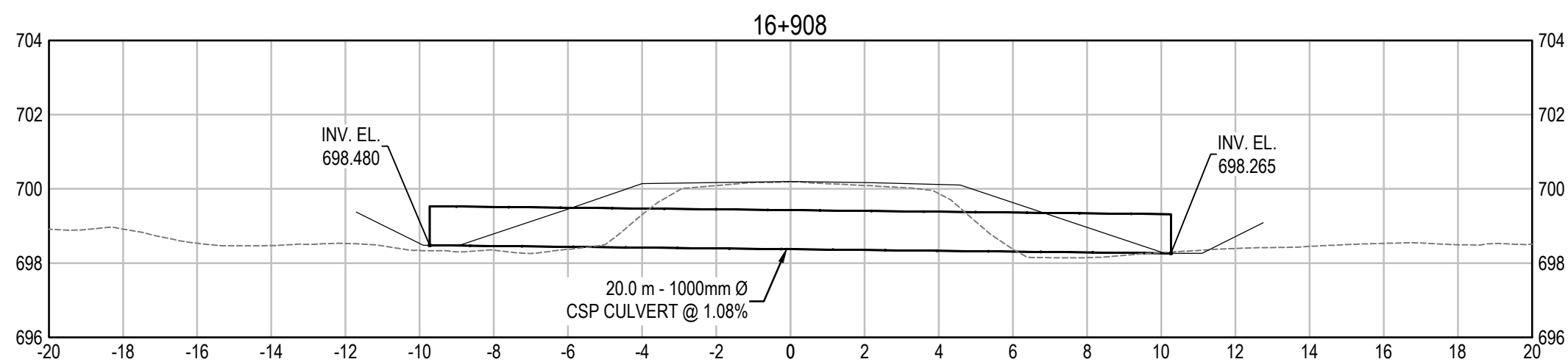
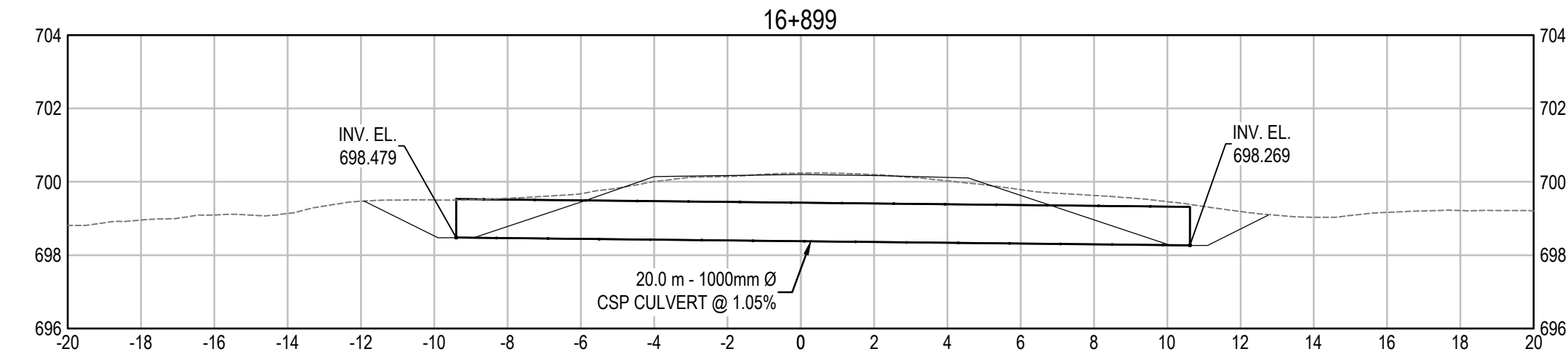
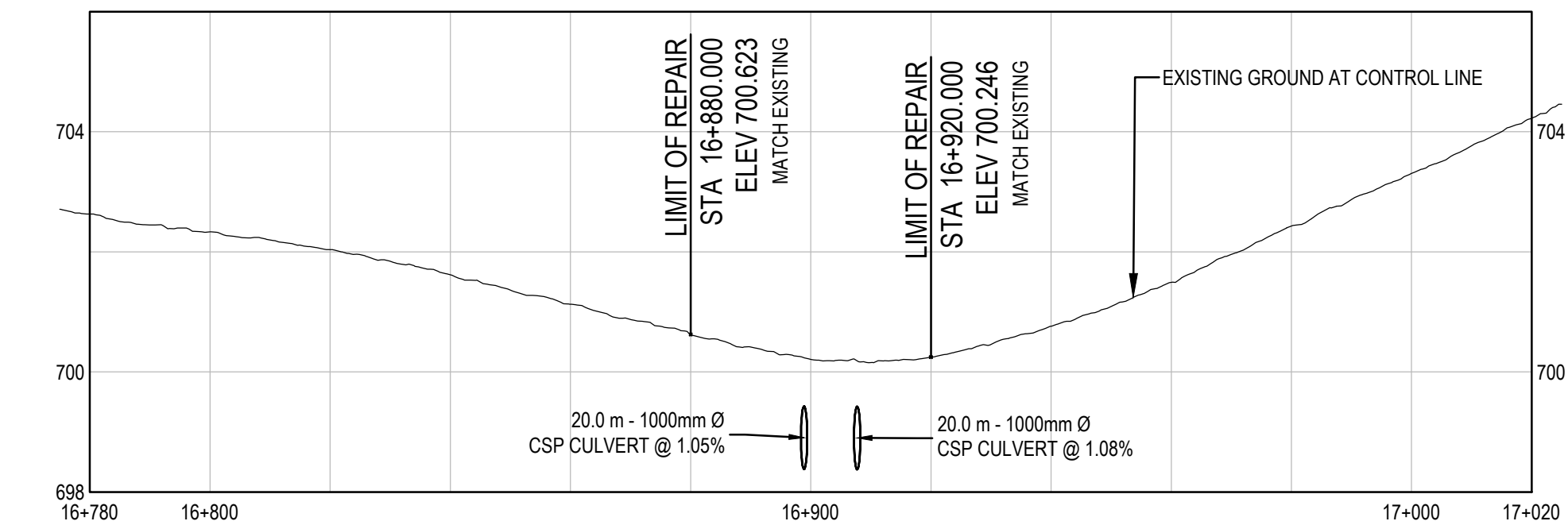
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PLAN/PROFILE
5+500 TO 5+540
15+320 TO 15+440

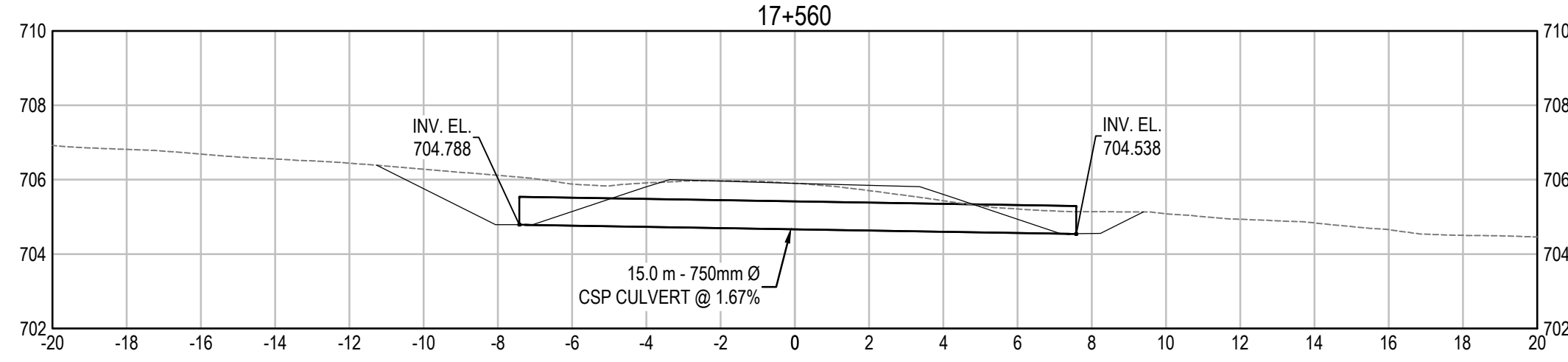
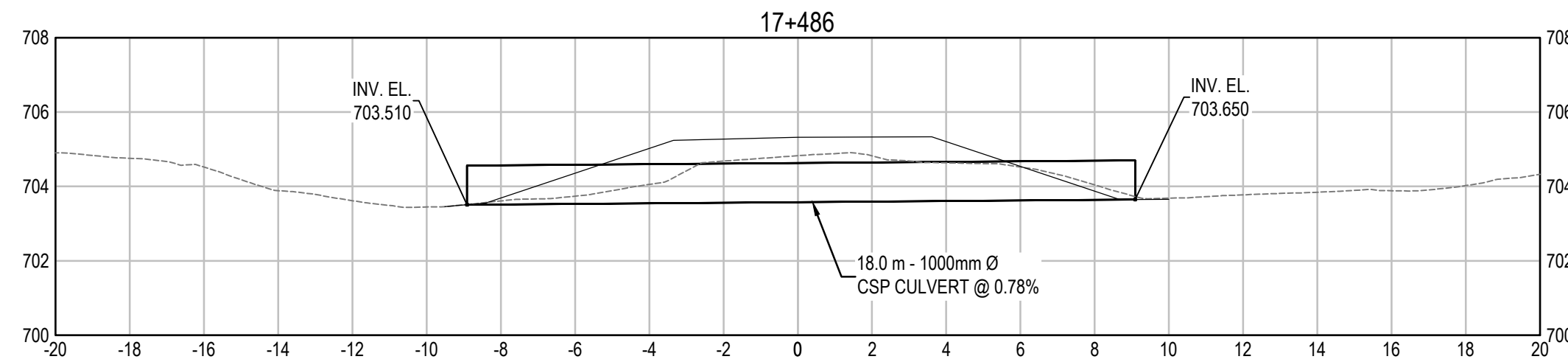
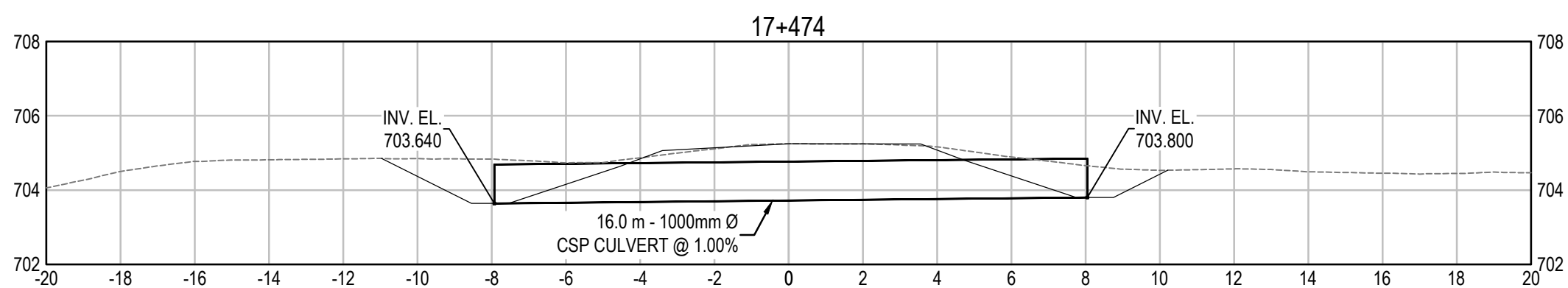
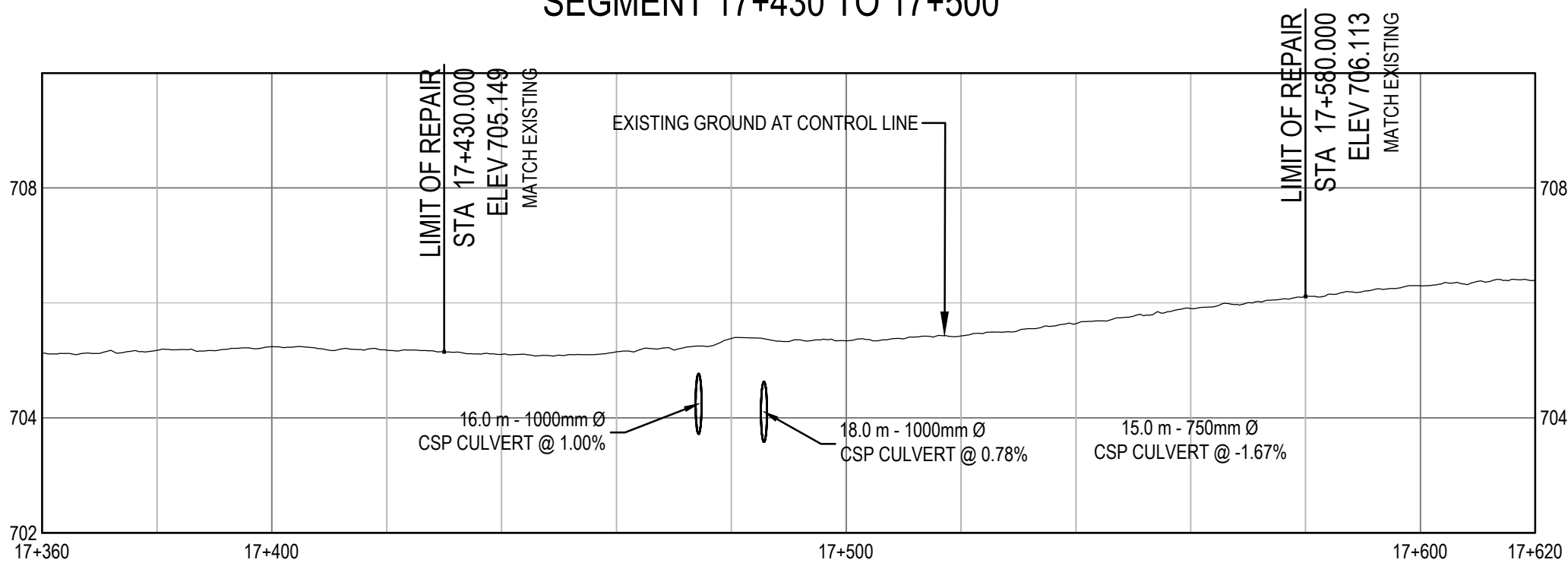
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—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRSG Project Manager/Administrateur de Projets PRSG		
Project No./No. du projet	Asset No./No. du bien	Sheet No./ No. de la feuille
1932-04	—	C102
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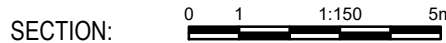
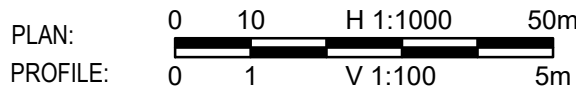
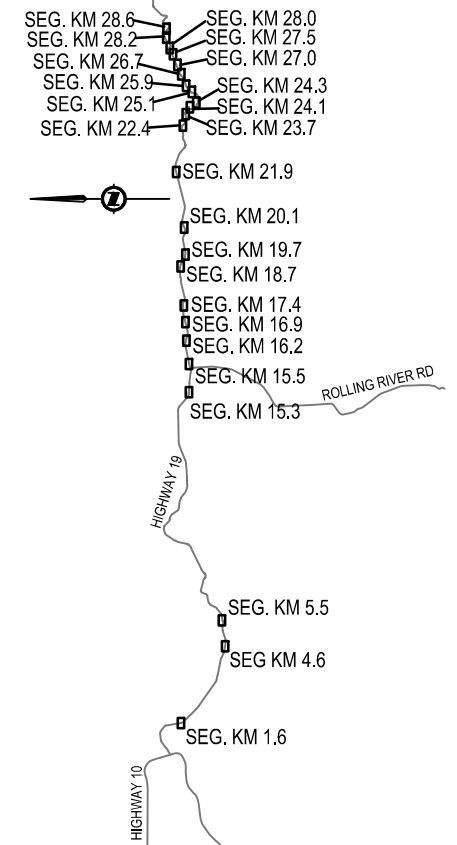
SEGMENT 16+880 TO 16+920



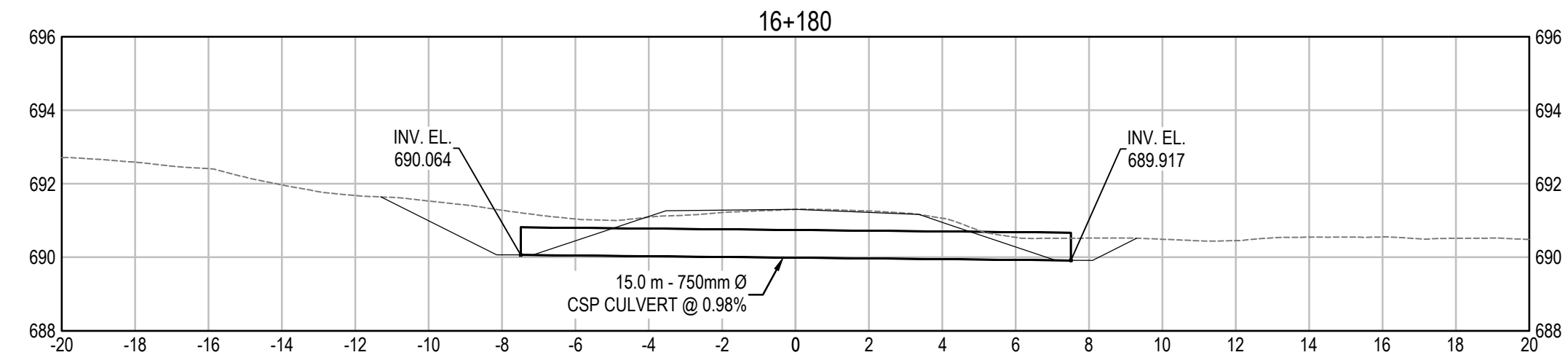
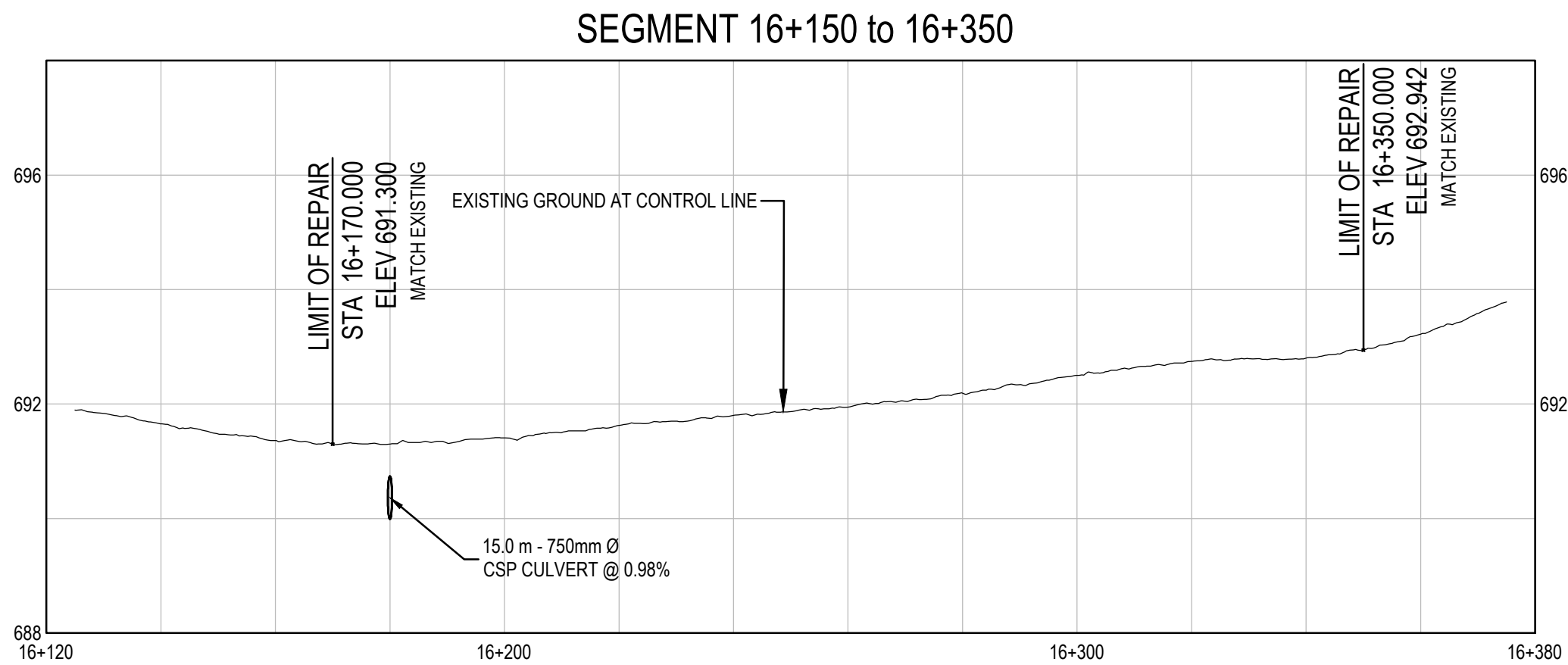
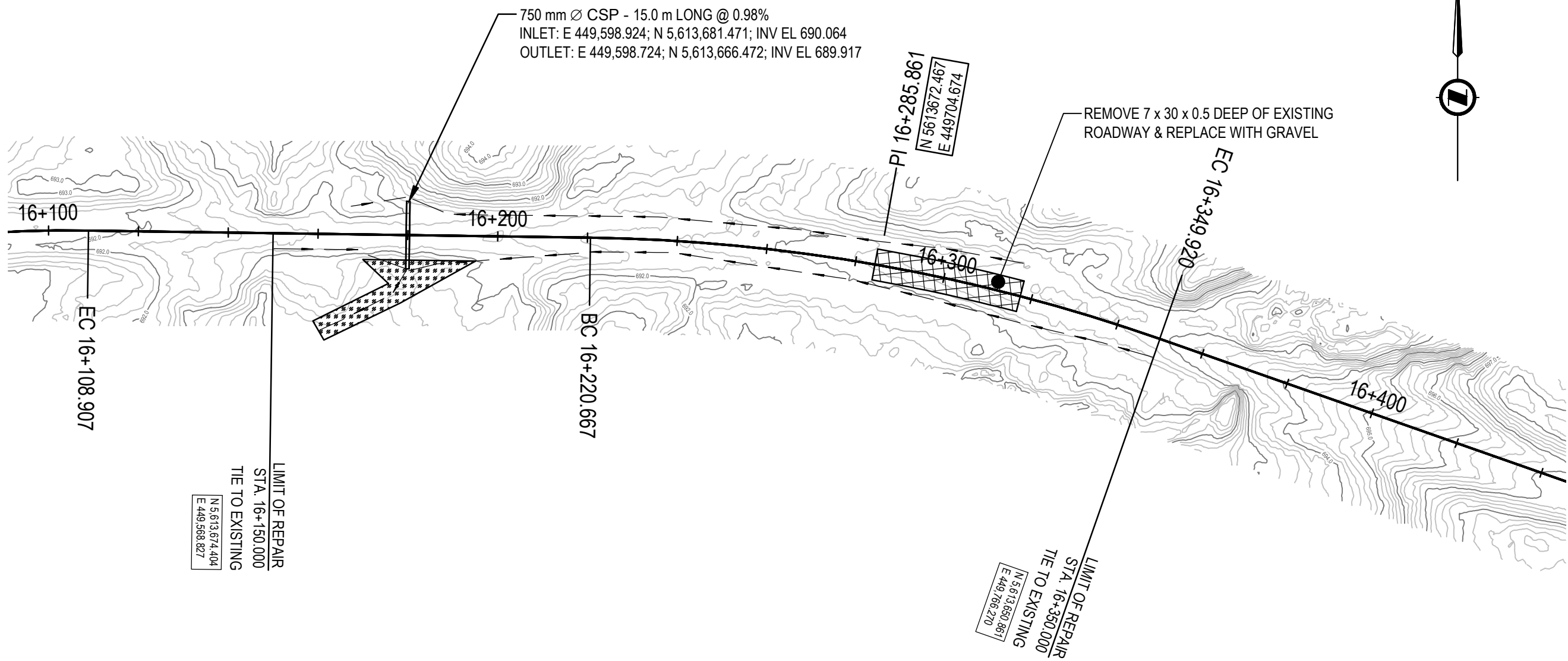
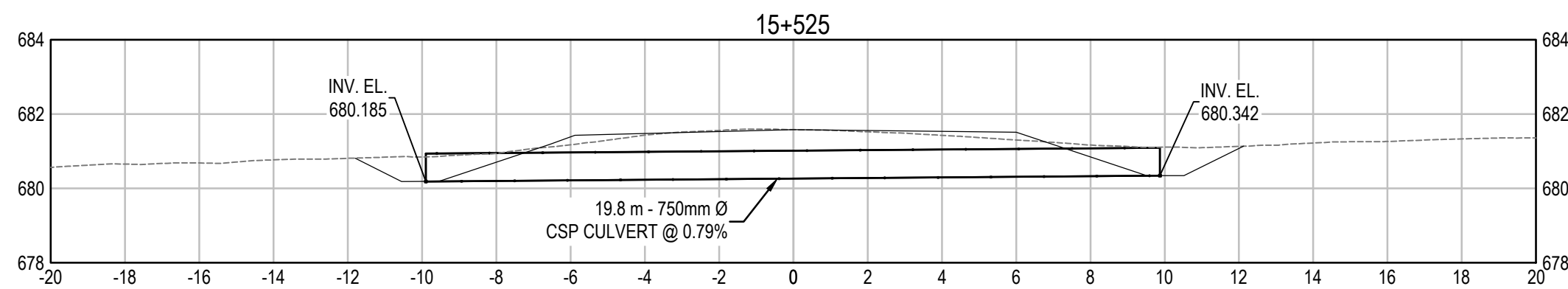
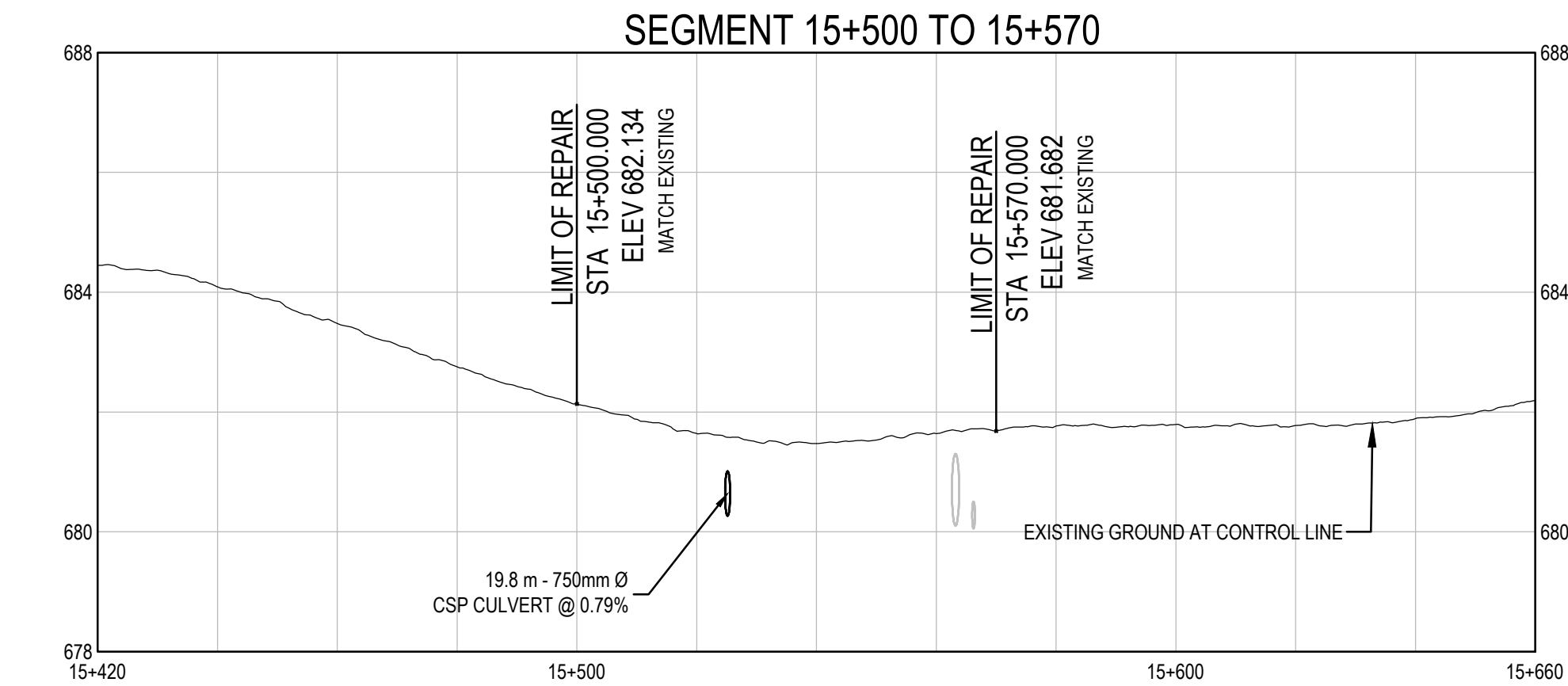
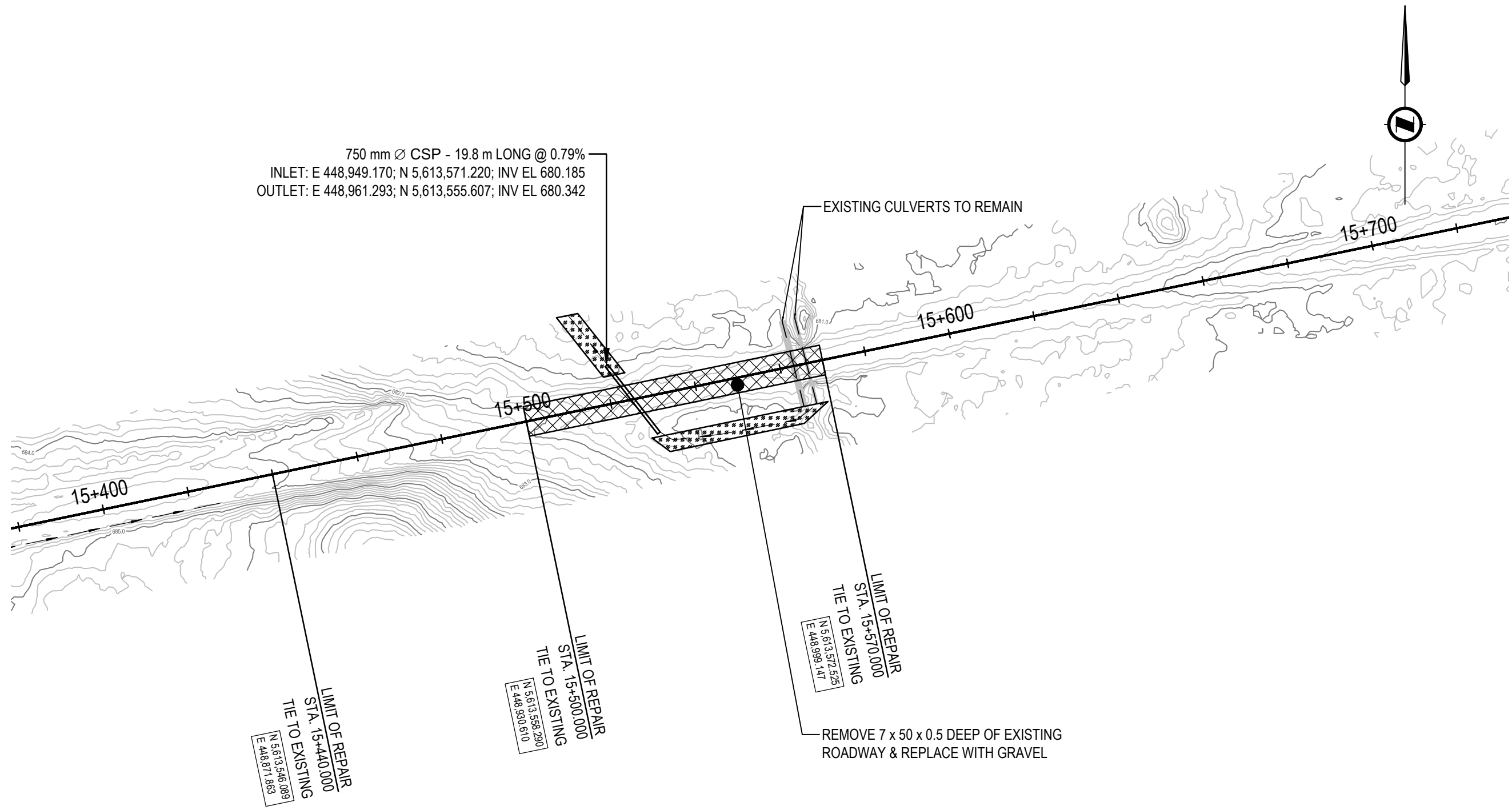
SEGMENT 17+430 TO 17+500



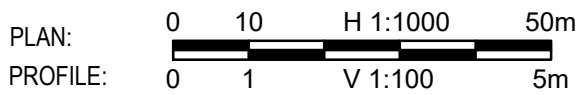
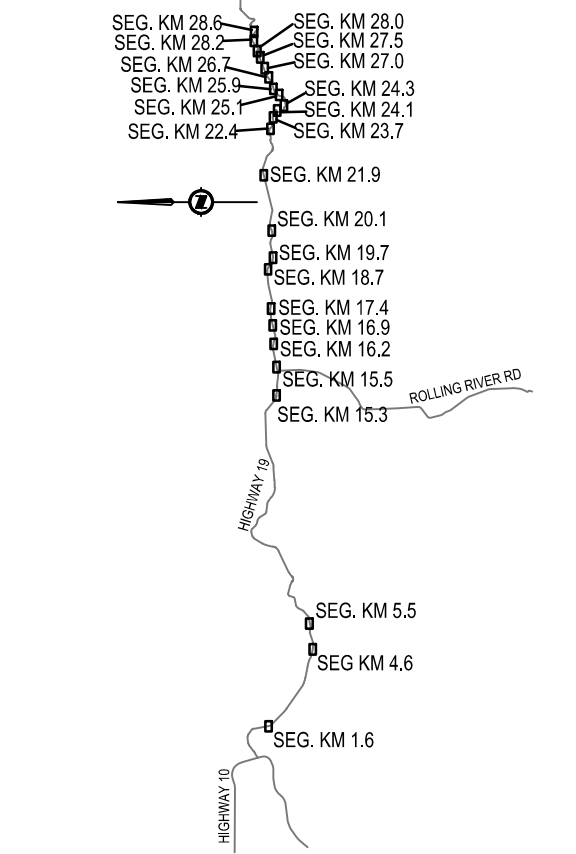
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No.	Date/Date		Description/Description			Drawn by Dessiné par		Approved Approuvé	
Revision / Révision									
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Consultant's Name Nom de l'expert-conseil						Eng. Stamp Sceau de l'ingénieur			
<div><div></div><div>TETRA TECH</div></div>									
Client/client		Parks Canada Agence				L'Agence Parcs Canada			
		Western and Northern Region				Ouest et Nord du Canada			
Project title/Titre du projet									
HIGHWAY 19 FLOOD DAMAGE REINSTATEMENT RIDING MTN. NAT. PARK									
Drawing title/Titre du dessin									
PLAN/PROFILE 16+880 TO 16+920 17+430 TO 17+580									
Surveyed by/Arpenté par			Drawn by/Dessiné par			Date/Date			
			RM			2022-06-24			
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RYAN CALDER									
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Project No./No. du projet			Asset No./No. du bien			Sheet No./ No. de la feuille			
1932-04			—			C104			
Drawing Reference No./No. de référence du dessin									
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Project title/Titre du projet

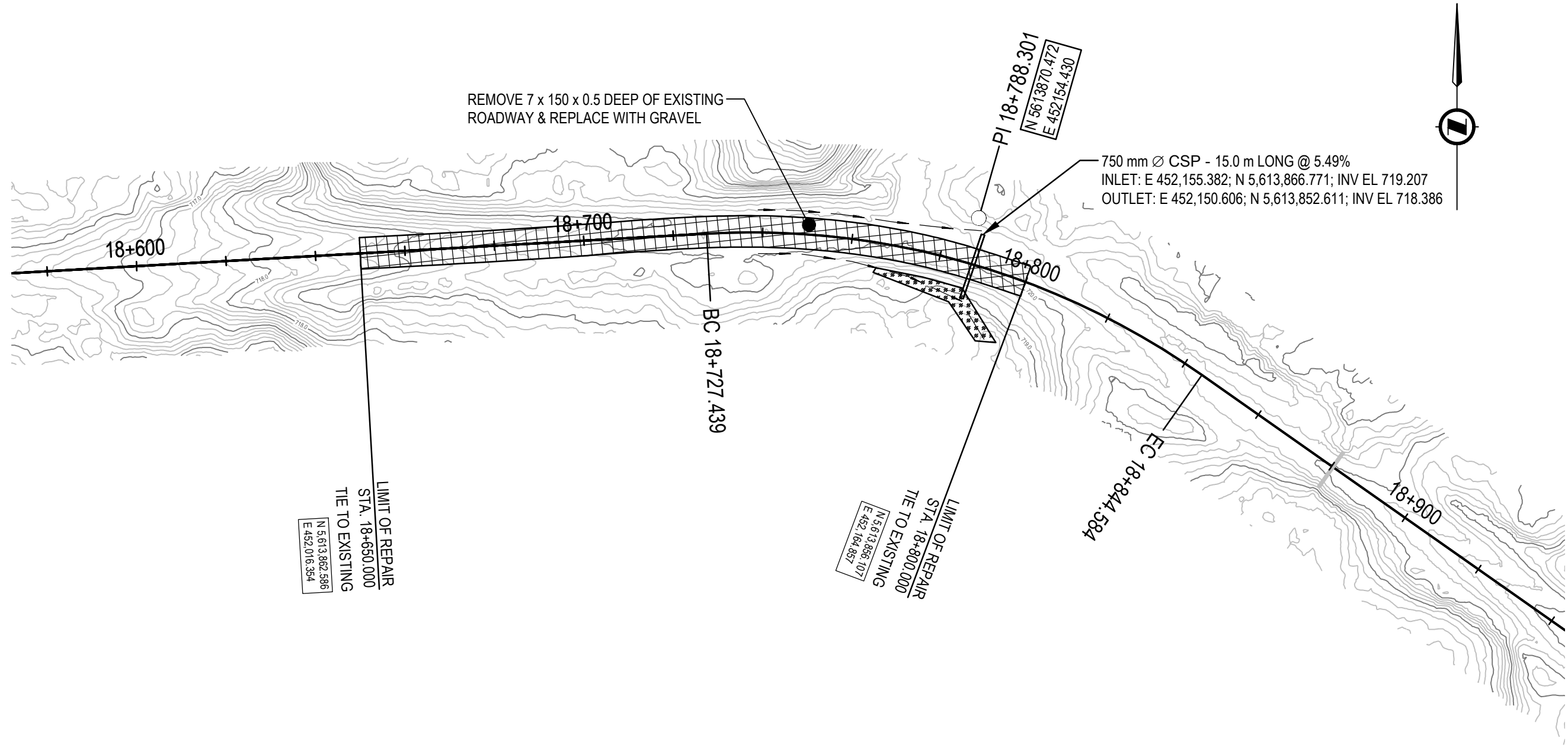
HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

Drawing title/Titre du dessin

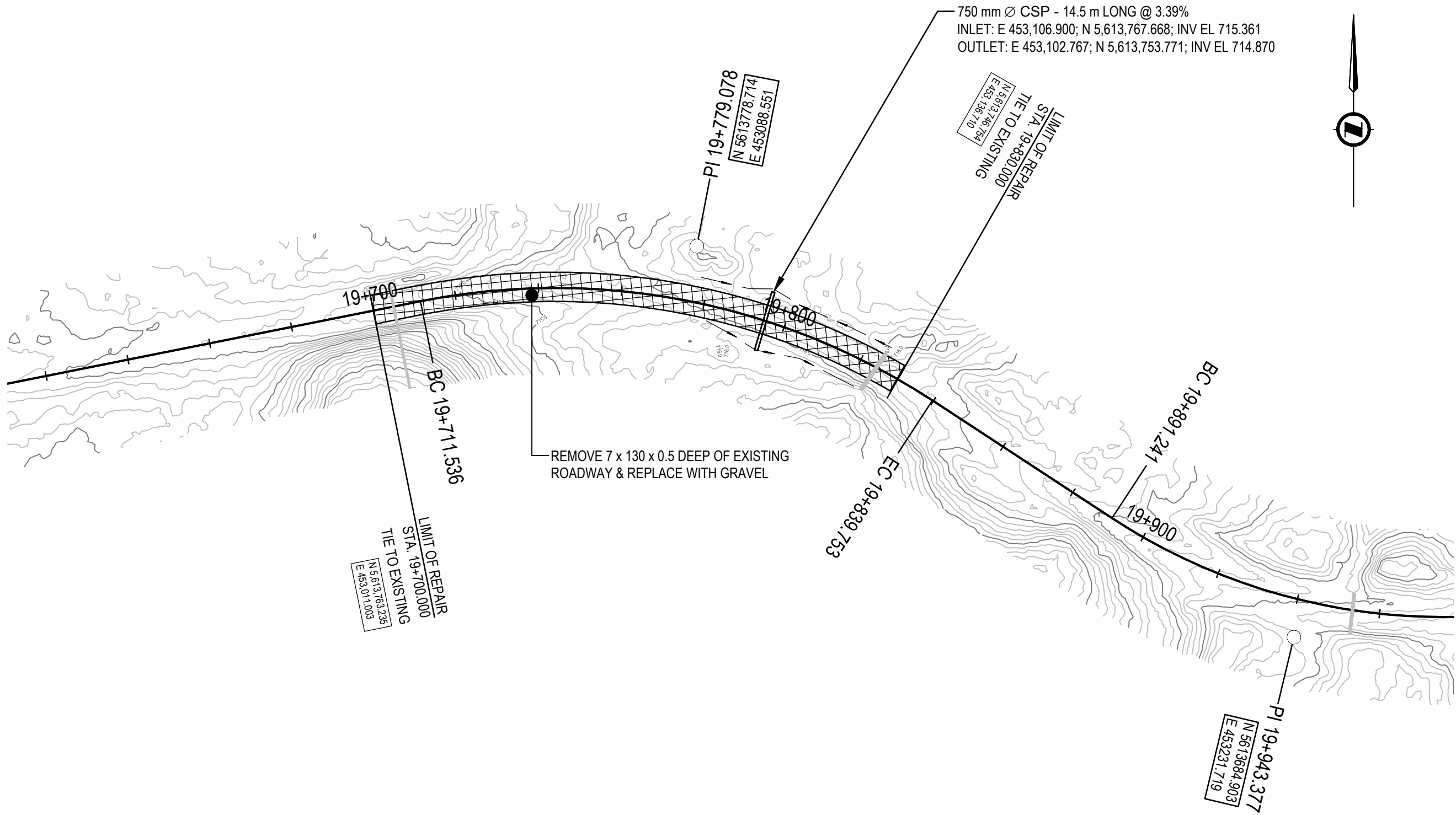
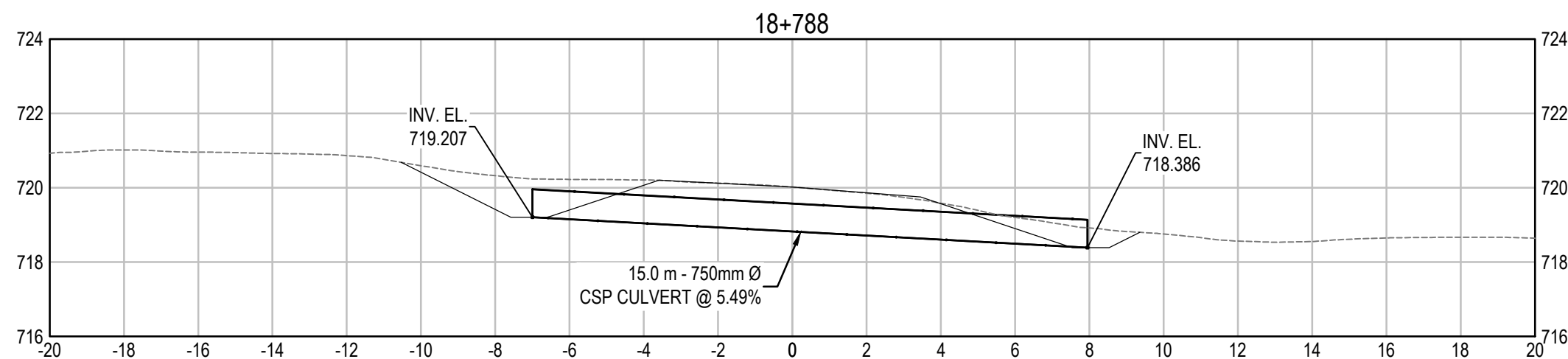
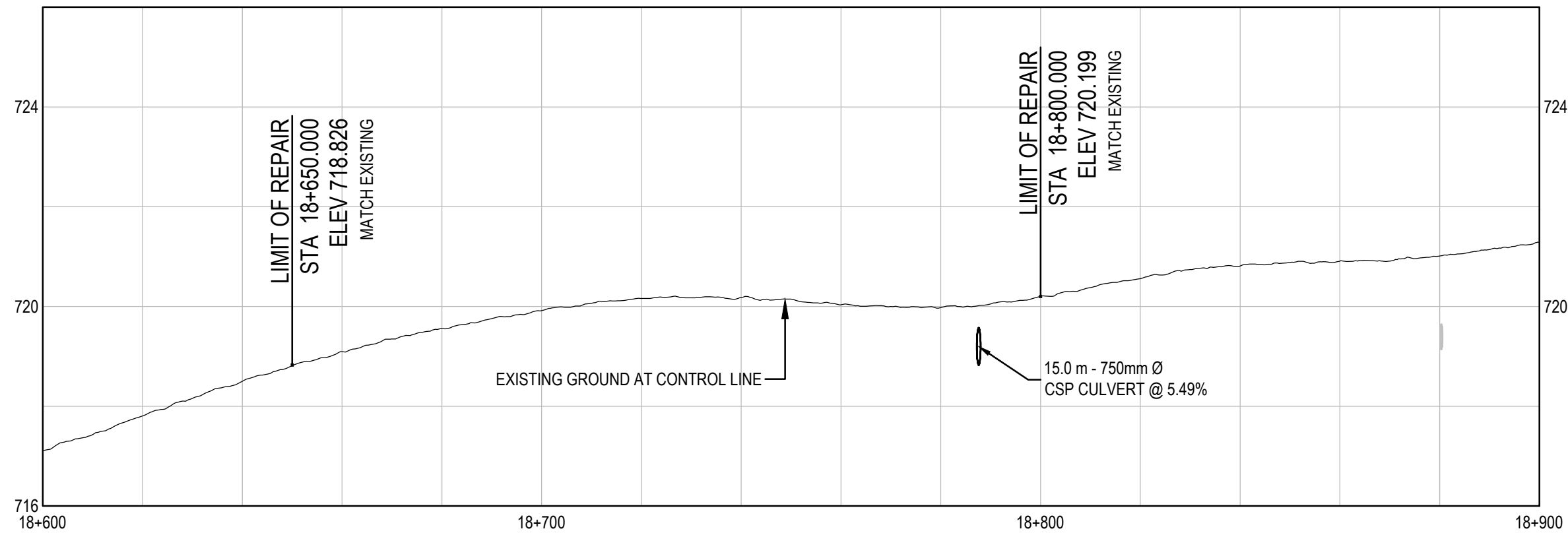
PLAN/PROFILE
15+500 TO 15+570
16+150 TO 16+350

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1932-04	—	C103
Drawing Reference No./No. de référence du dessin		—

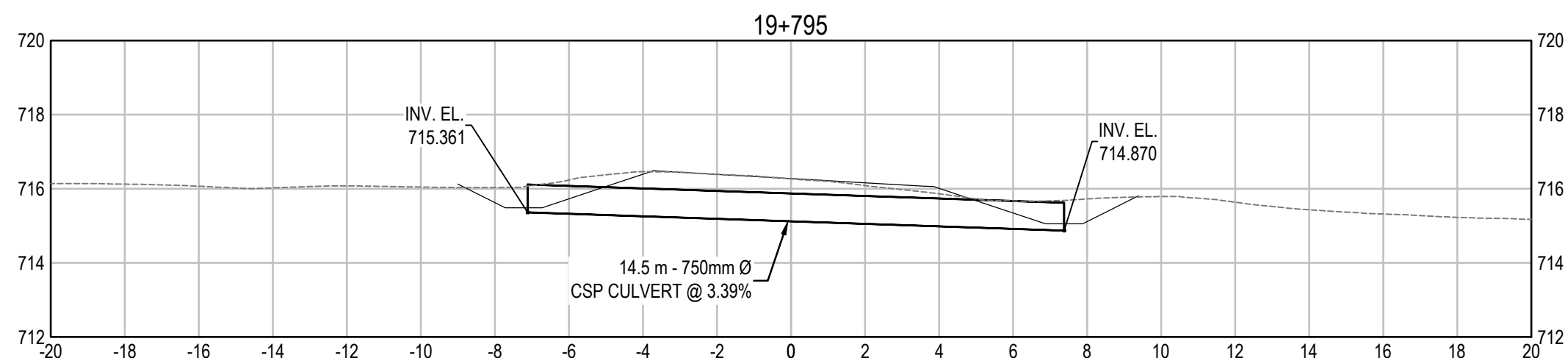
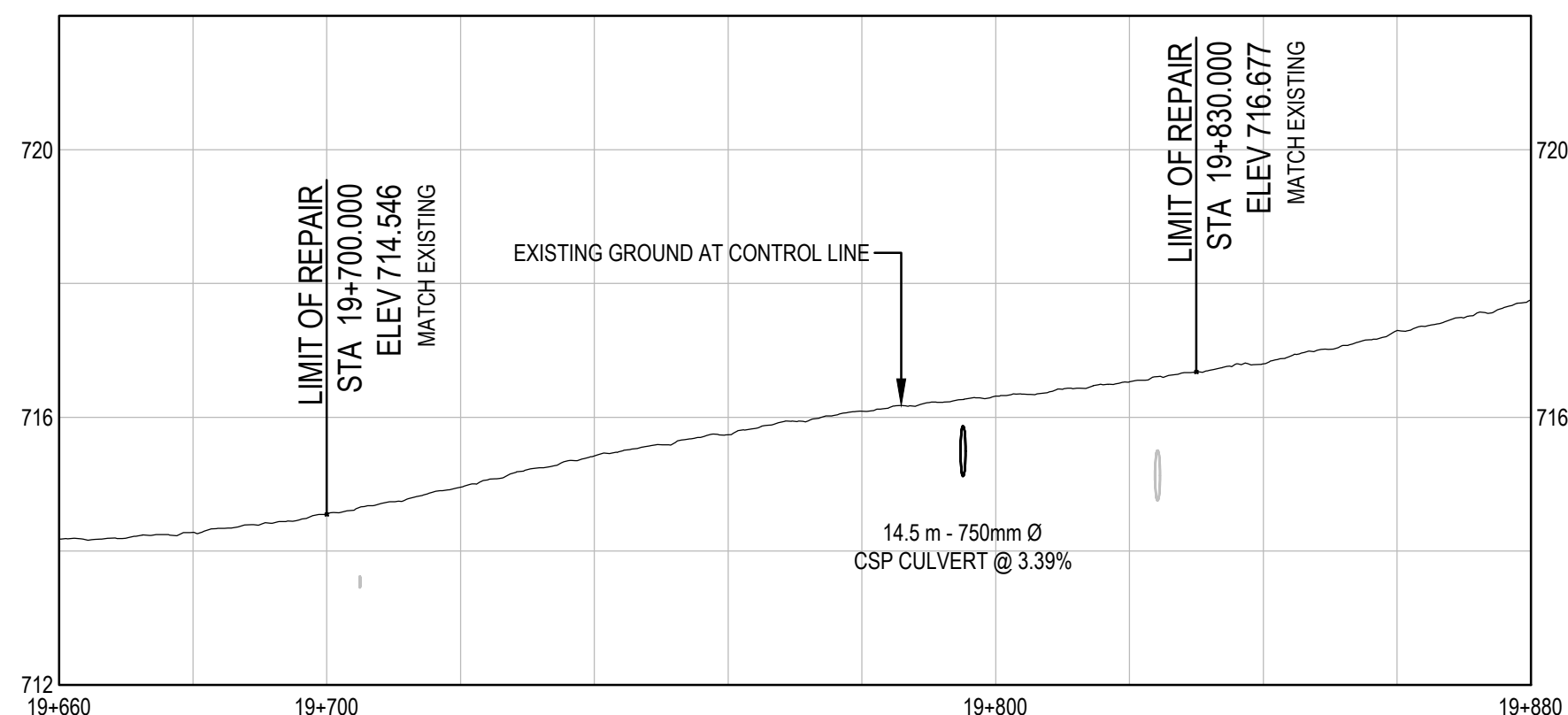
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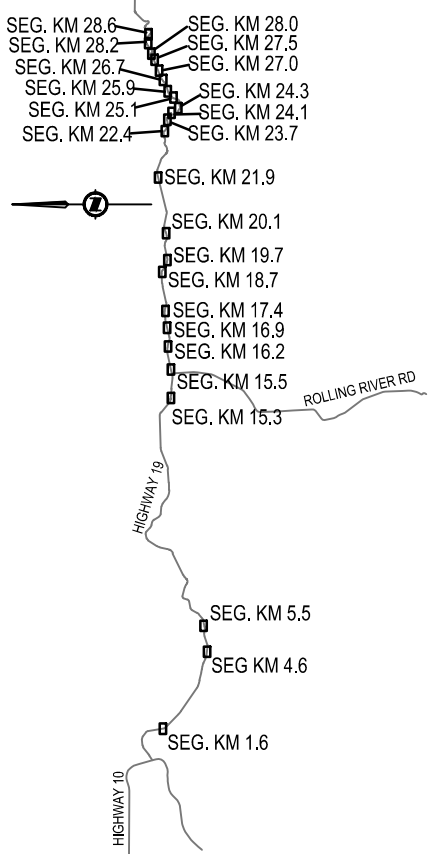
SEGMENT 18+650 TO 18+800



SEGMENT 19+700 TO 19+830



- GENERAL NOTES:
- DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
 - THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
 - THE EXISTING GROUND ELEVATIONS INCLUDING CONTOURS AND EXISTING GROUND AT CONTROL LINE SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY. THE EXISTING GROUND ELEVATIONS HAVE BEEN ALTERED DUE TO WASHOUT AND EROSION.
 - MINIMUM SLOPE FOR THE NEW DITCHES AND CULVERTS WILL BE 0.5%. FIELD FIT WILL BE REQUIRED FOR THE PROPOSED DITCHES AND CULVERTS. CONTRACTOR TO CONFIRM THE LAYOUT AND INVERTS WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO CONSTRUCTION.



PLAN: 0 10 H 1:1000 50m
PROFILE: 0 1 V 1:100 5m

SECTION: 0 1 1:150 5m

0	22/07/25	ISSUED FOR TENDER	RM	SL	
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé	

Revision / Revision	
A	detail number numéro de détail
B	source drawing no. de dessin no.
C	detail on drawing no. détail sur dessin no.
Consultant's Name Nom de l'expert-conseil	
TETRA TECH	
Eng. Stamp, Sceau de l'ingénieur	

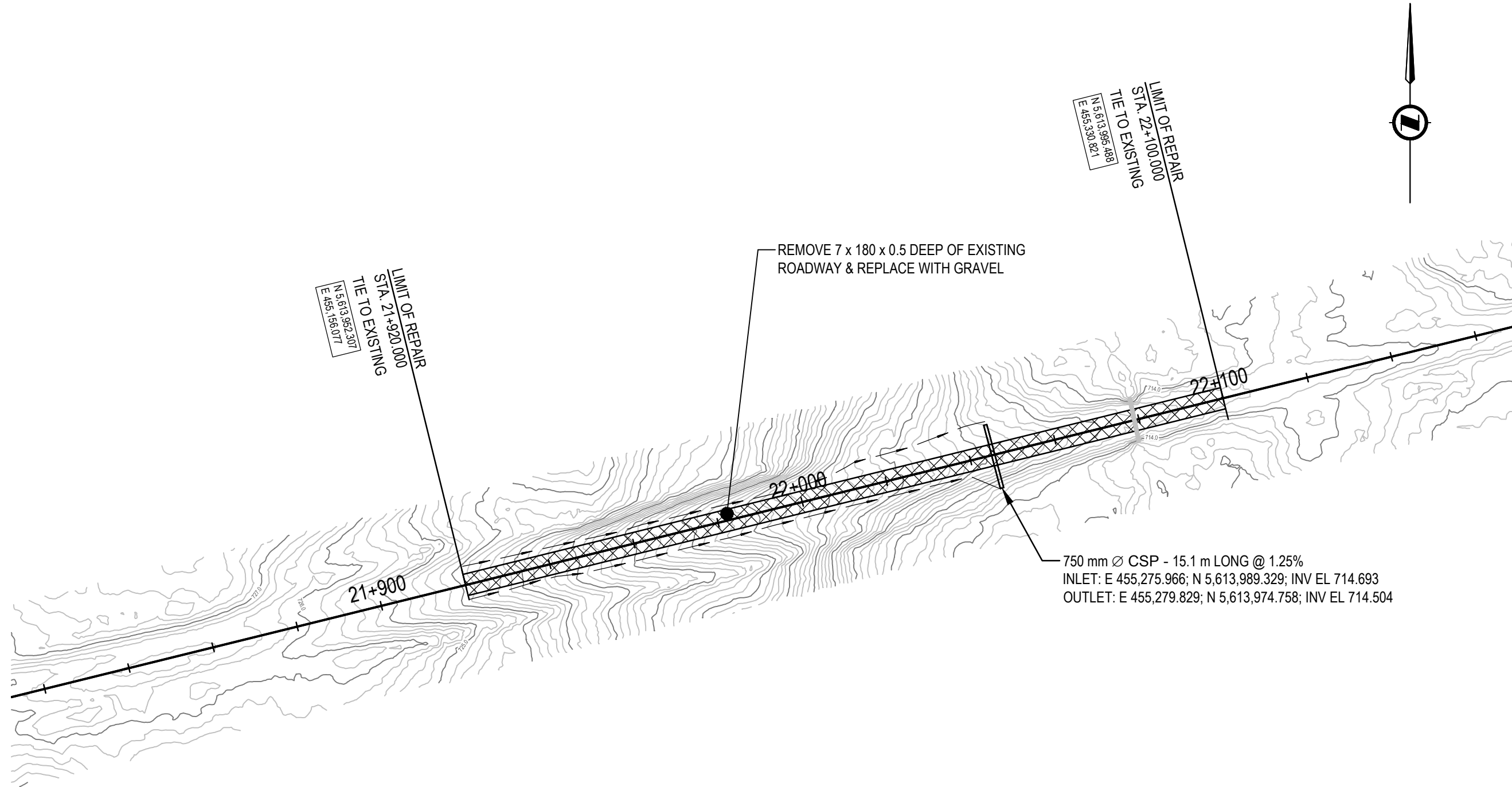
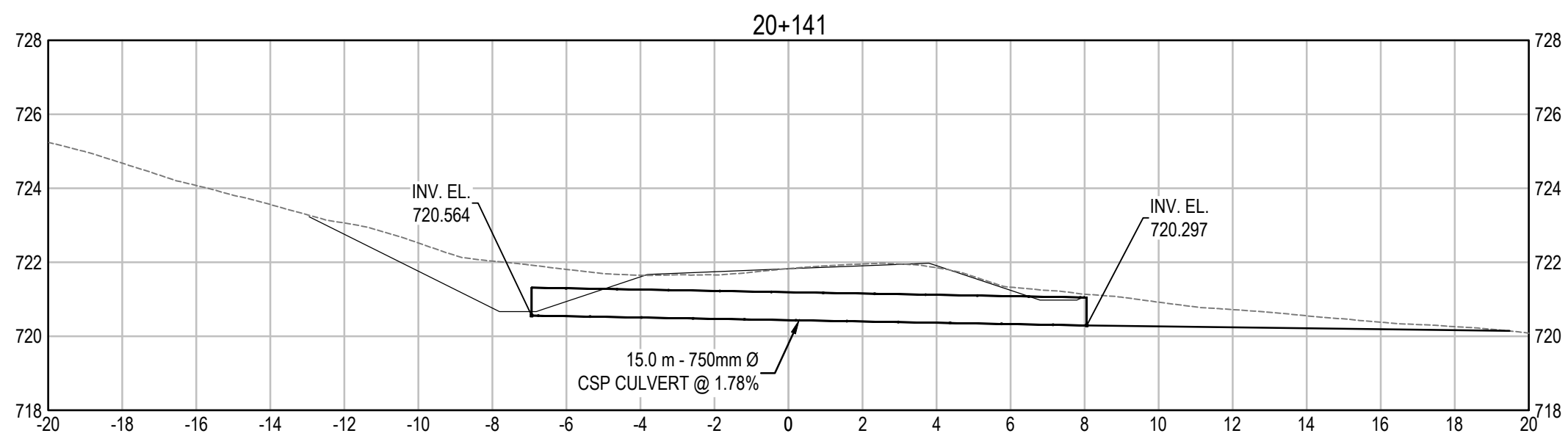
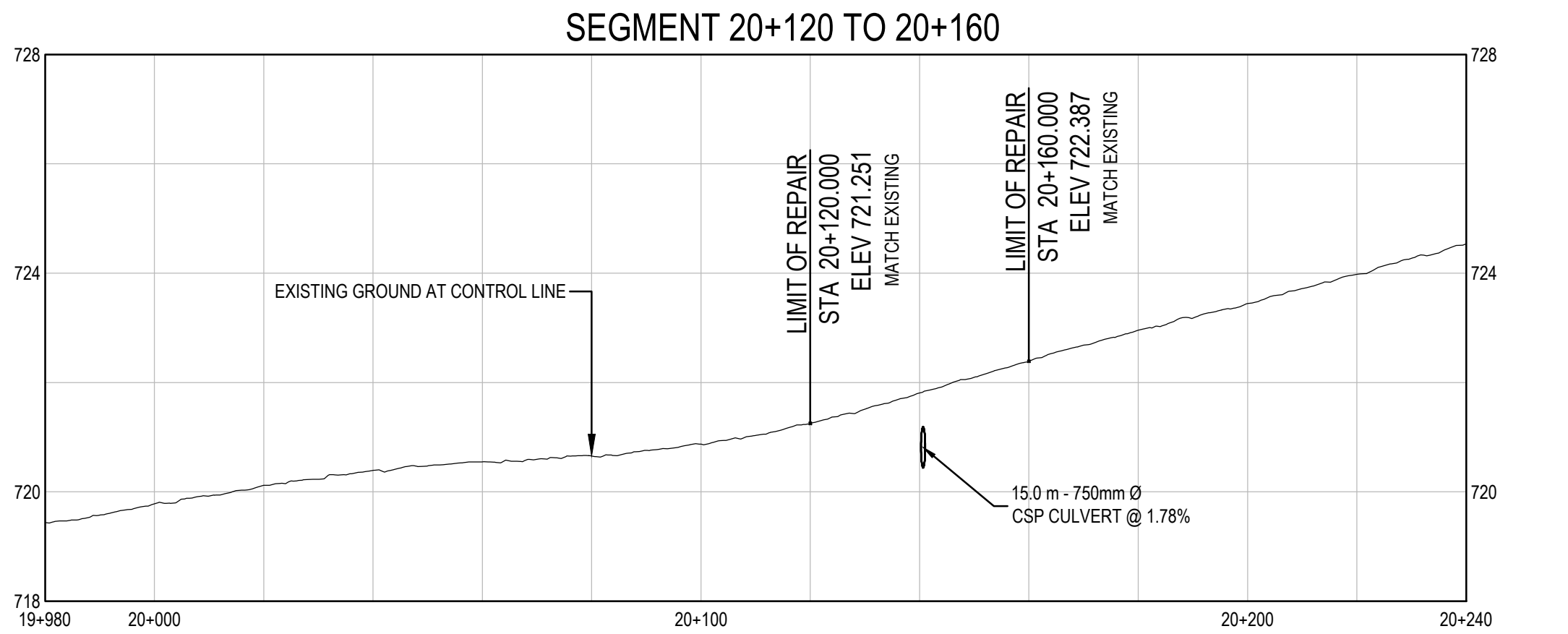
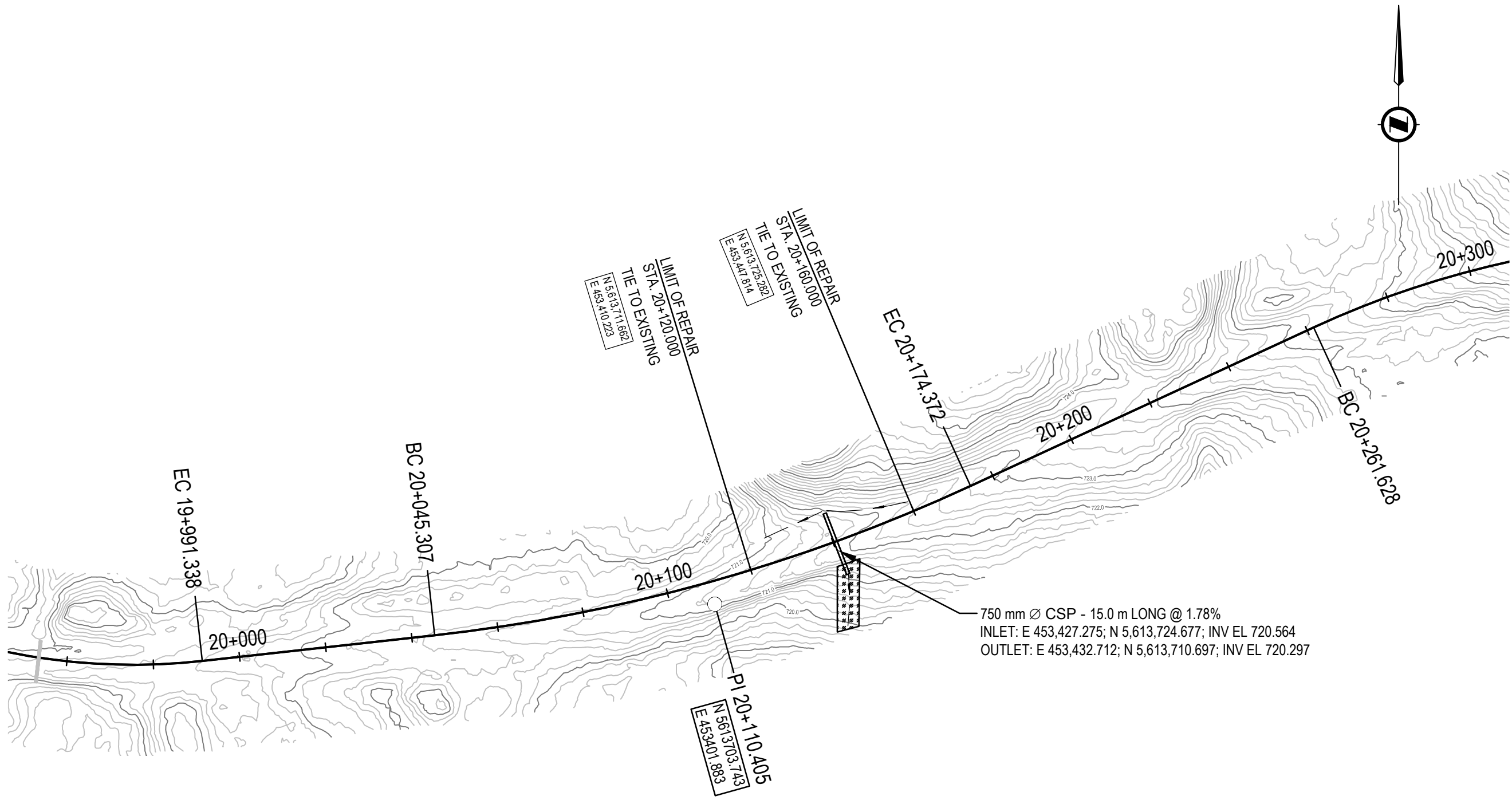
Client/client	
Parks Canada Agency L'Agence Parcs Canada	
Western and Northern Region Ouest et Nord du Canada	

Project title/Titre du projet
HIGHWAY 19 FLOOD DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

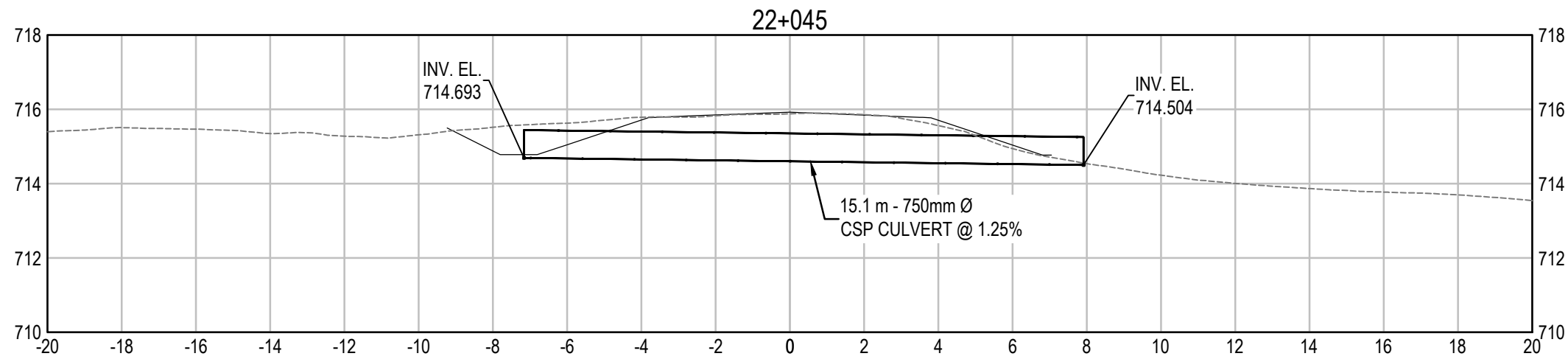
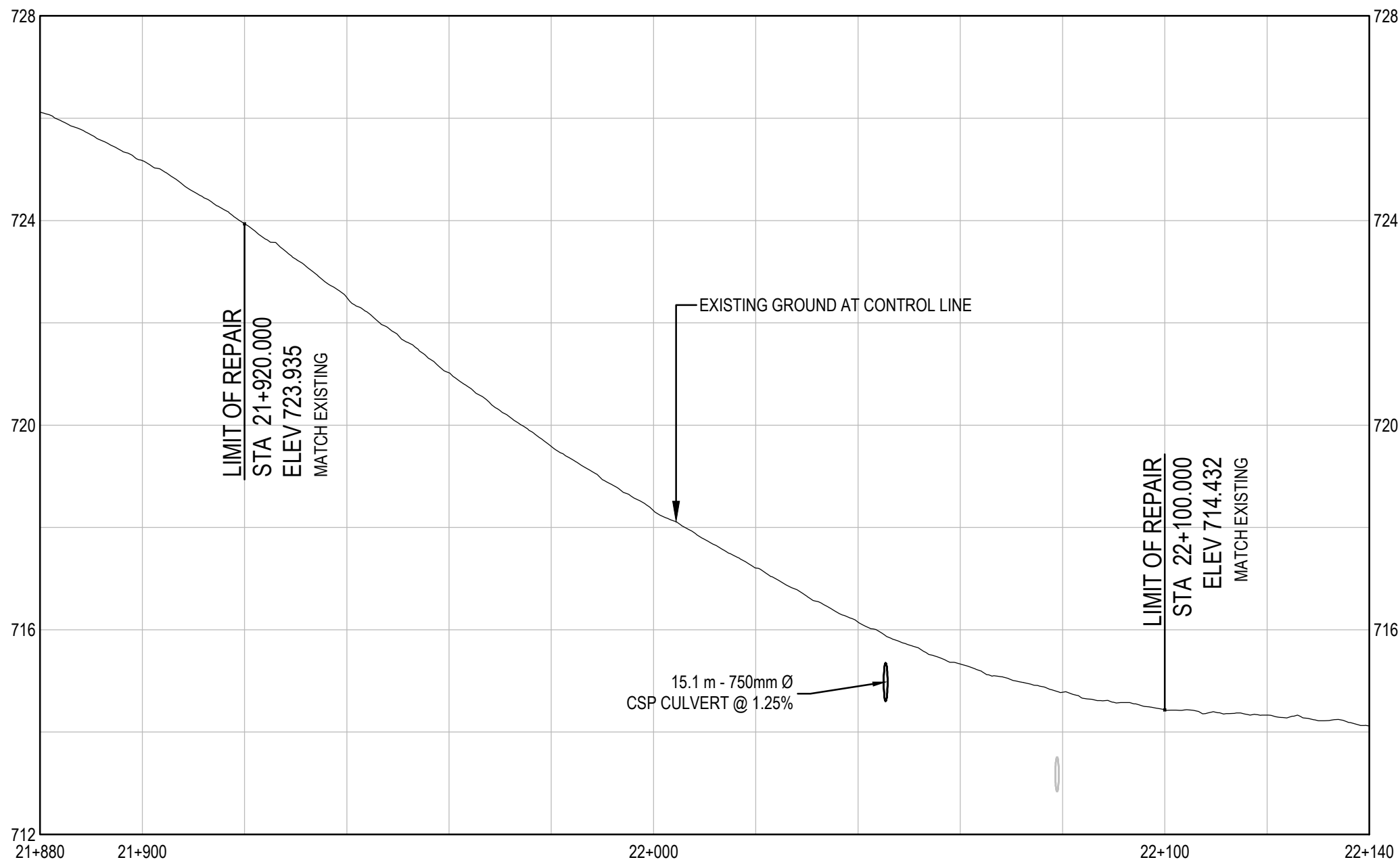
Drawing title/Titre du dessin
PLAN/PROFILE
18+650 TO 18+800
19+700 TO 19+830

Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRSG Project Manager/Administrateur de Projets PRSG		
Project No./No. du projet	Asset No./No. du bien	Sheet No./No. de la feuille
1932-04	—	C105
Drawing Reference No./No. de référence du dessin		—

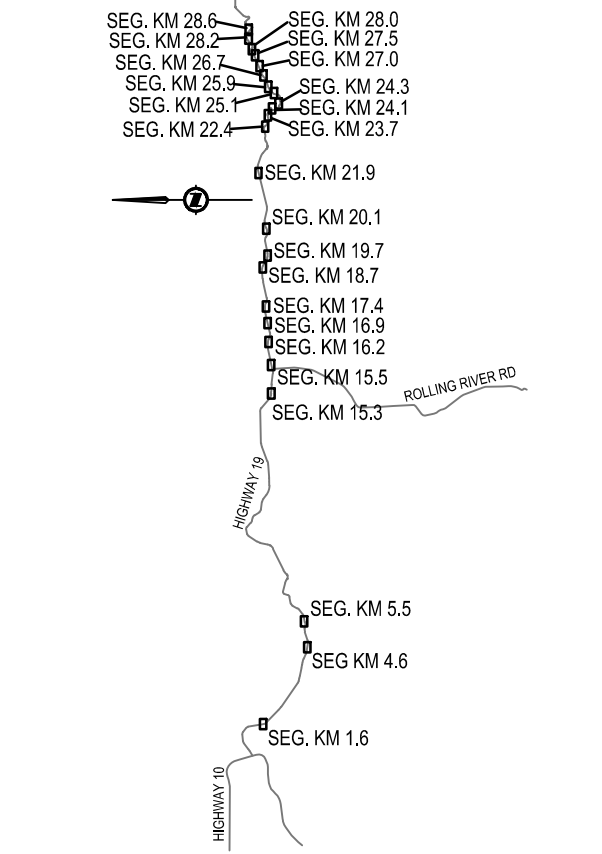
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SEGMENT 21+920 TO 22+100



- GENERAL NOTES:
1. DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
 2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
 3. THE EXISTING GROUND ELEVATIONS INCLUDING CONTOURS AND EXISTING GROUND AT CONTROL LINE SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY. THE EXISTING GROUND ELEVATIONS HAVE BEEN ALTERED DUE TO WASHOUT AND EROSION.
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PLAN: 0 10 H 1:1000 50m
PROFILE: 0 1 V 1:100 5m

SECTION: 0 1 1:150 5m

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No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé	

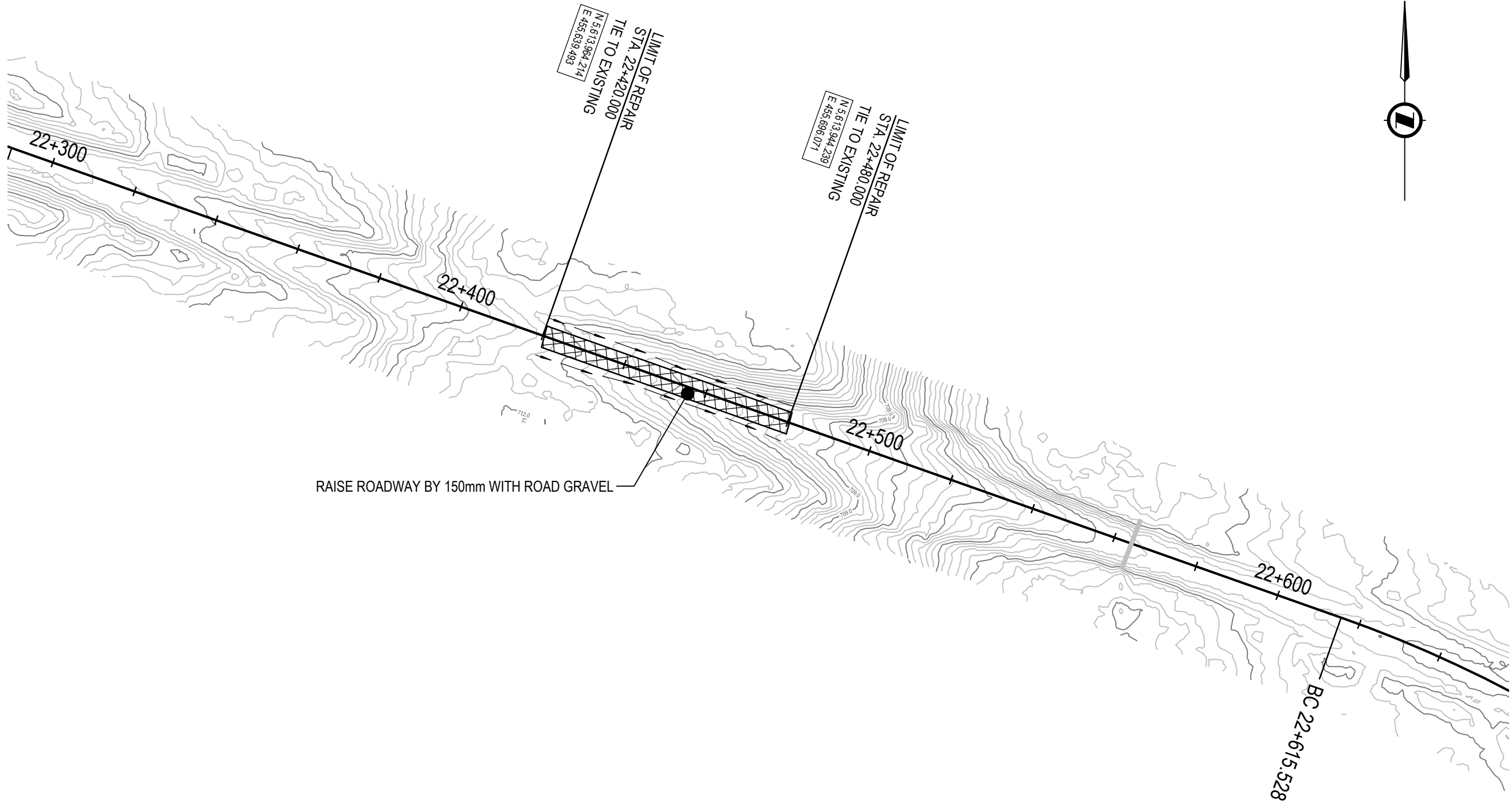
Revision / Revision	
A	C
B	C
C	C
Consultant's Name Nom de l'expert-conseil	
TETRA TECH	
Eng. Stamp Sceau de l'ingénieur	

Client/client	
Parks Canada Agency	
L'Agence Parcs Canada	
Western and Northern Region	
Ouest et Nord du Canada	

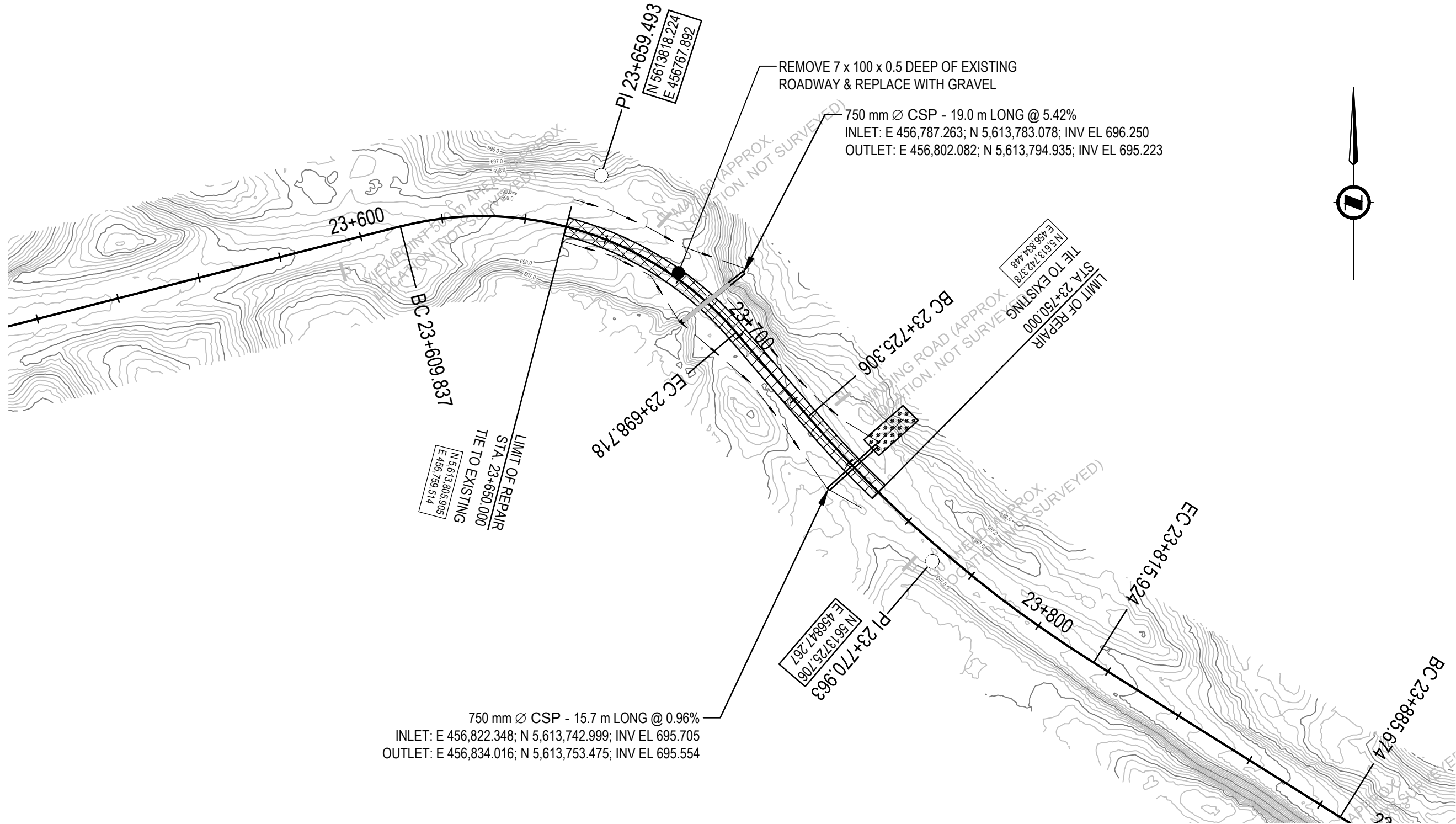
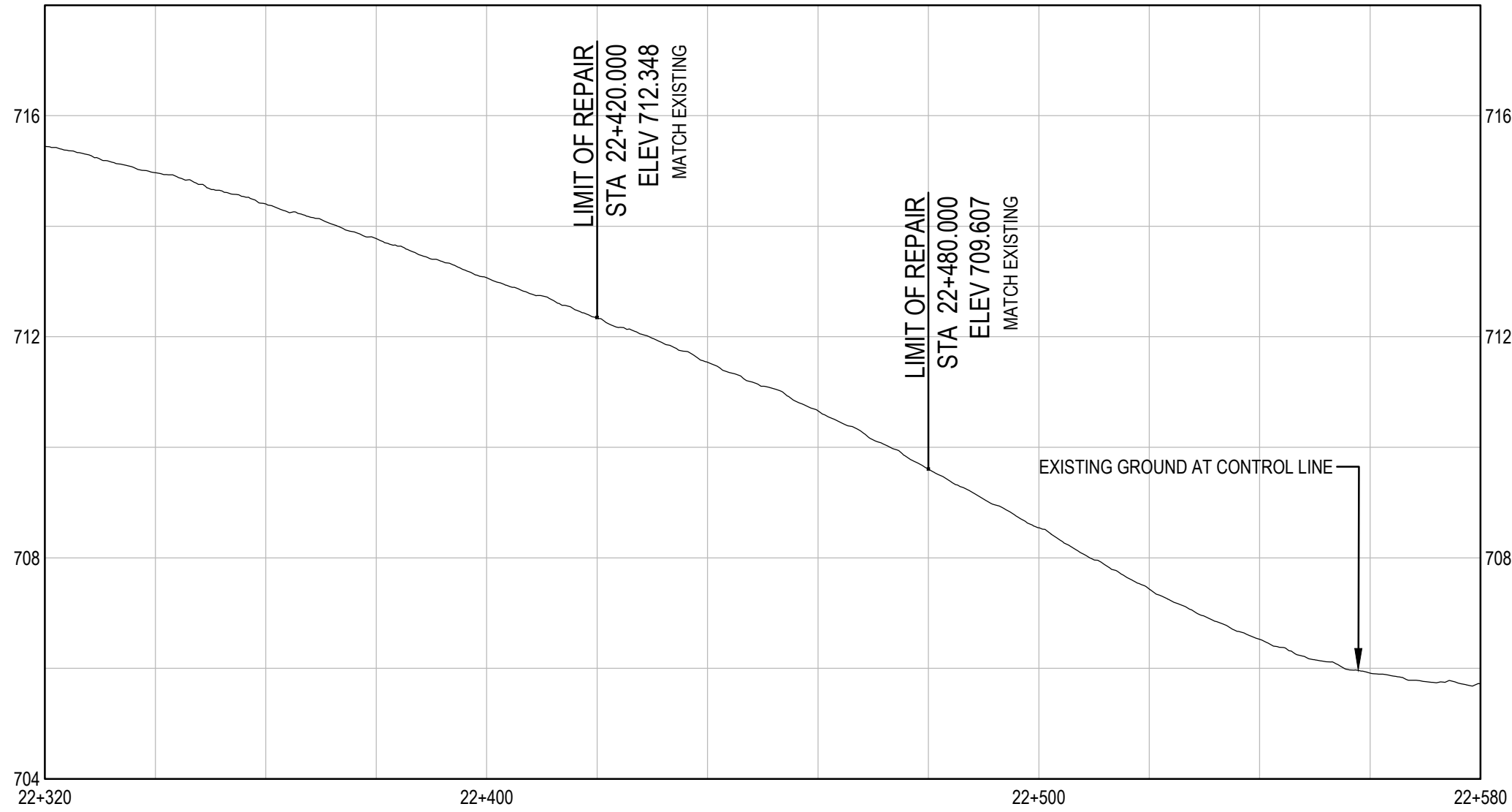
Project title/Titre du projet	
HIGHWAY 19 FLOOD DAMAGE REINSTATEMENT	
RIDING MTN. NAT. PARK	

Drawing title/Titre du dessin	
PLAN/PROFILE	
20+120 TO 20+160	
21+920 TO 22+100	

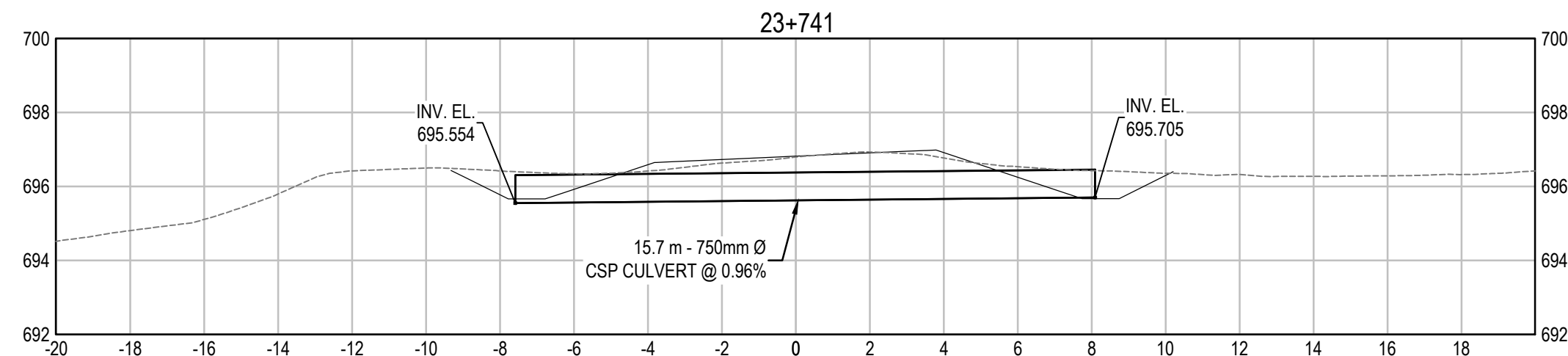
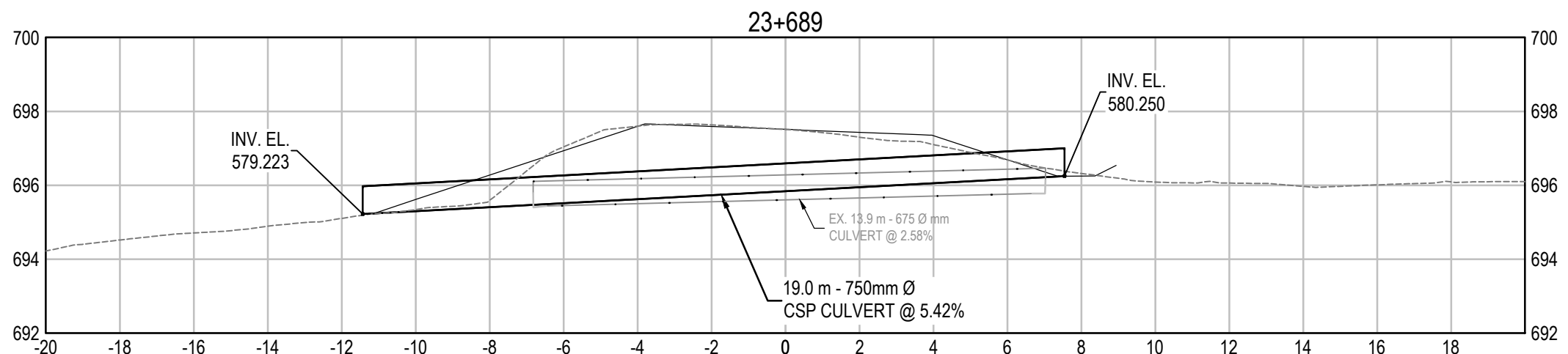
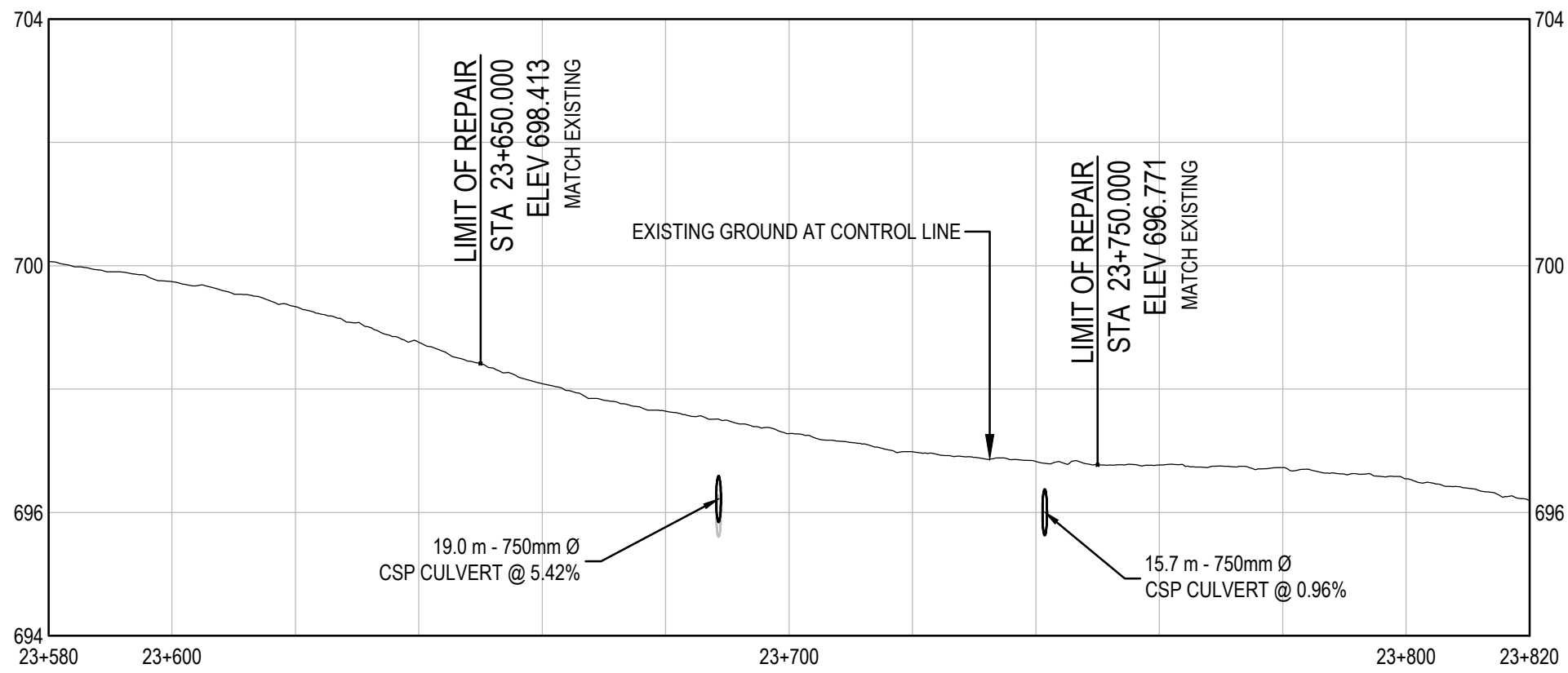
Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
—	RM	2022-06-24
Designed by/Conçut par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRSG Project Manager/Administrateur de Projets PRSG		
Project No./No. du projet	Asset No./No. du bien	Sheet No./No. de la feuille
1932-04	—	C106
Drawing Reference No./No. de référence du dessin		—



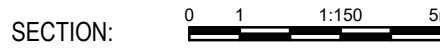
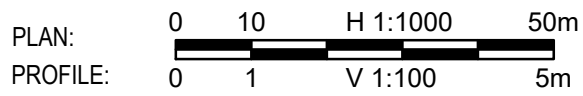
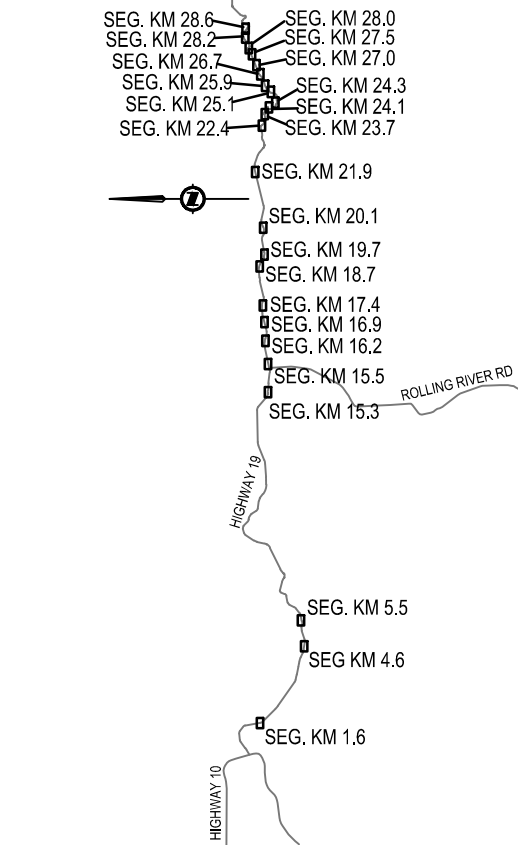
SEGMENT 22+420 TO 22+480



SEGMENT 23+650 TO 23+750



- GENERAL NOTES:
1. DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
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0	22/07/25	ISSUED FOR TENDER	RM	SL	
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé	

Revision / Revision	
A	détail number
B	source drawing no.
C	détail on drawing no.
Consultant's Name	
Nom de l'expert-conseil	
Eng. Stamp	
Sceau de l'ingénieur	

Client/client	Parks Canada Agency	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

Project title/Titre du projet

HIGHWAY 19 FLOOD DAMAGE REINSTATEMENT

RIDING MTN. NAT. PARK

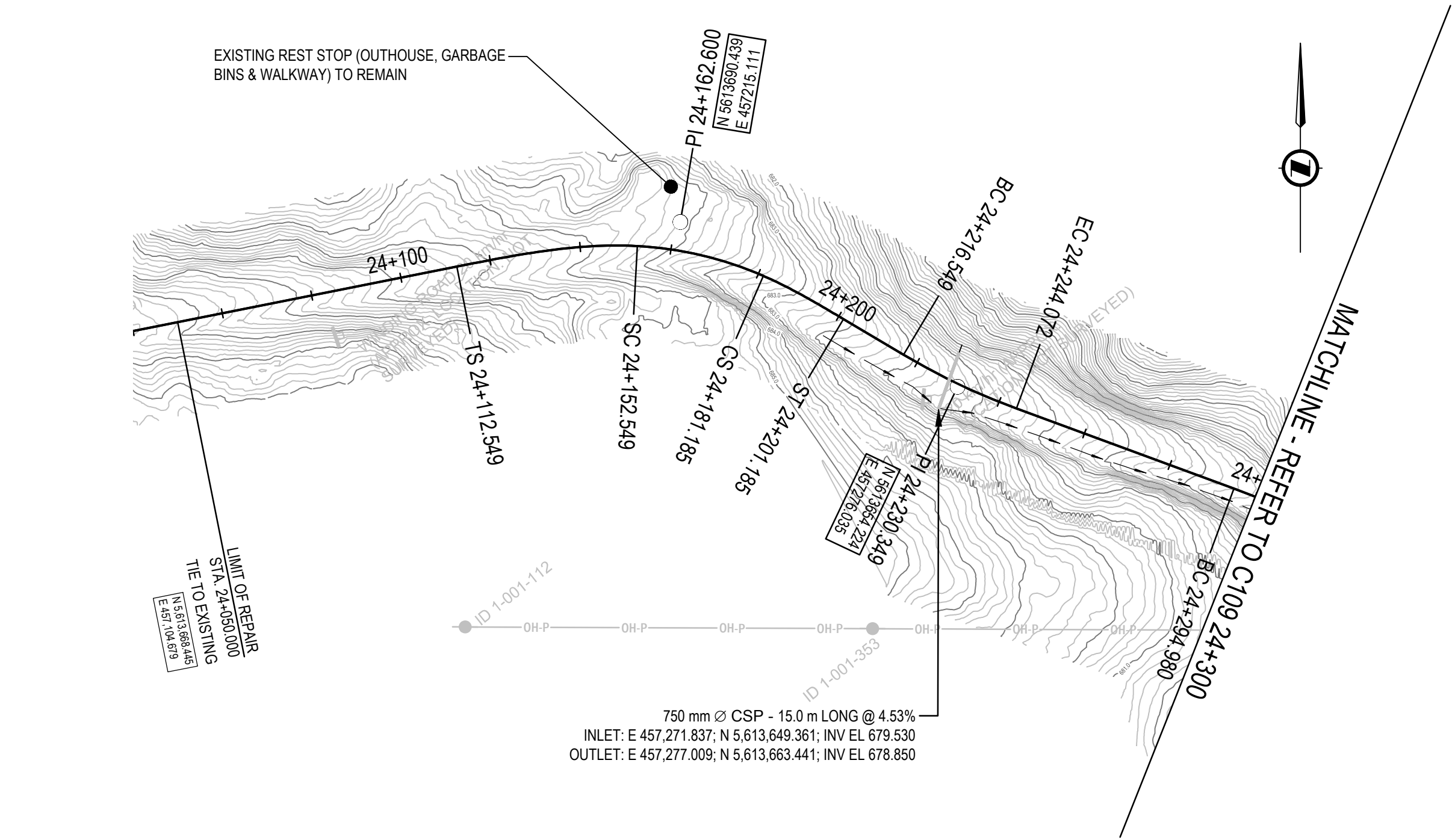
Drawing title/Titre du dessin

PLAN/PROFILE

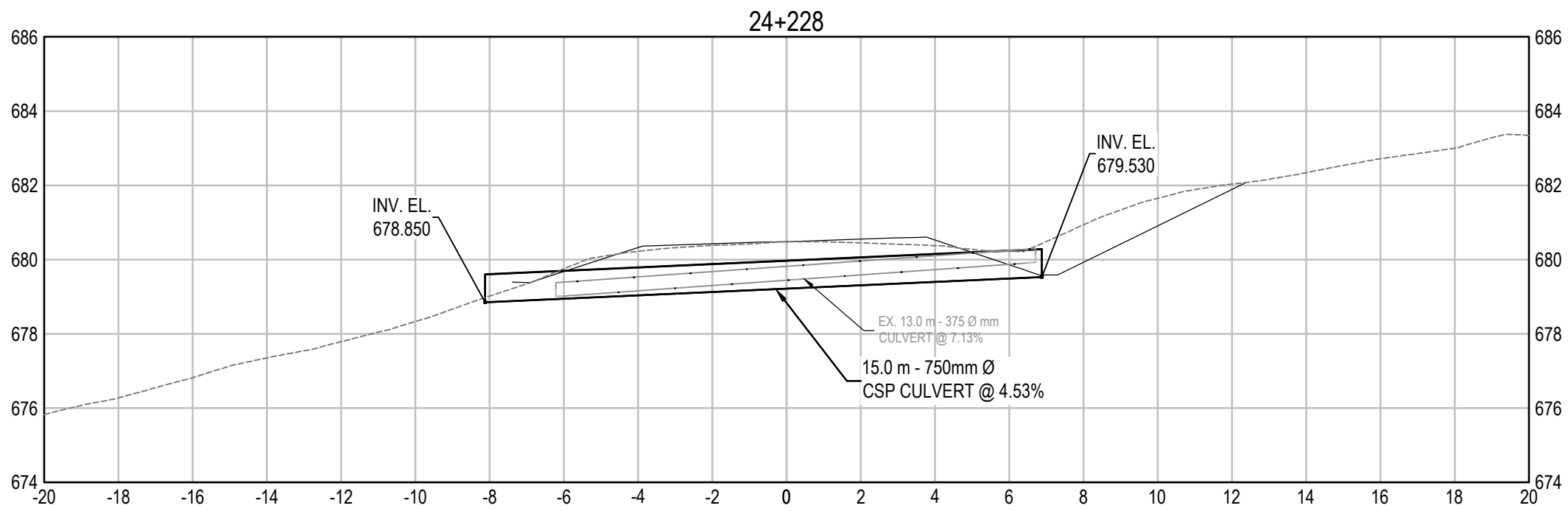
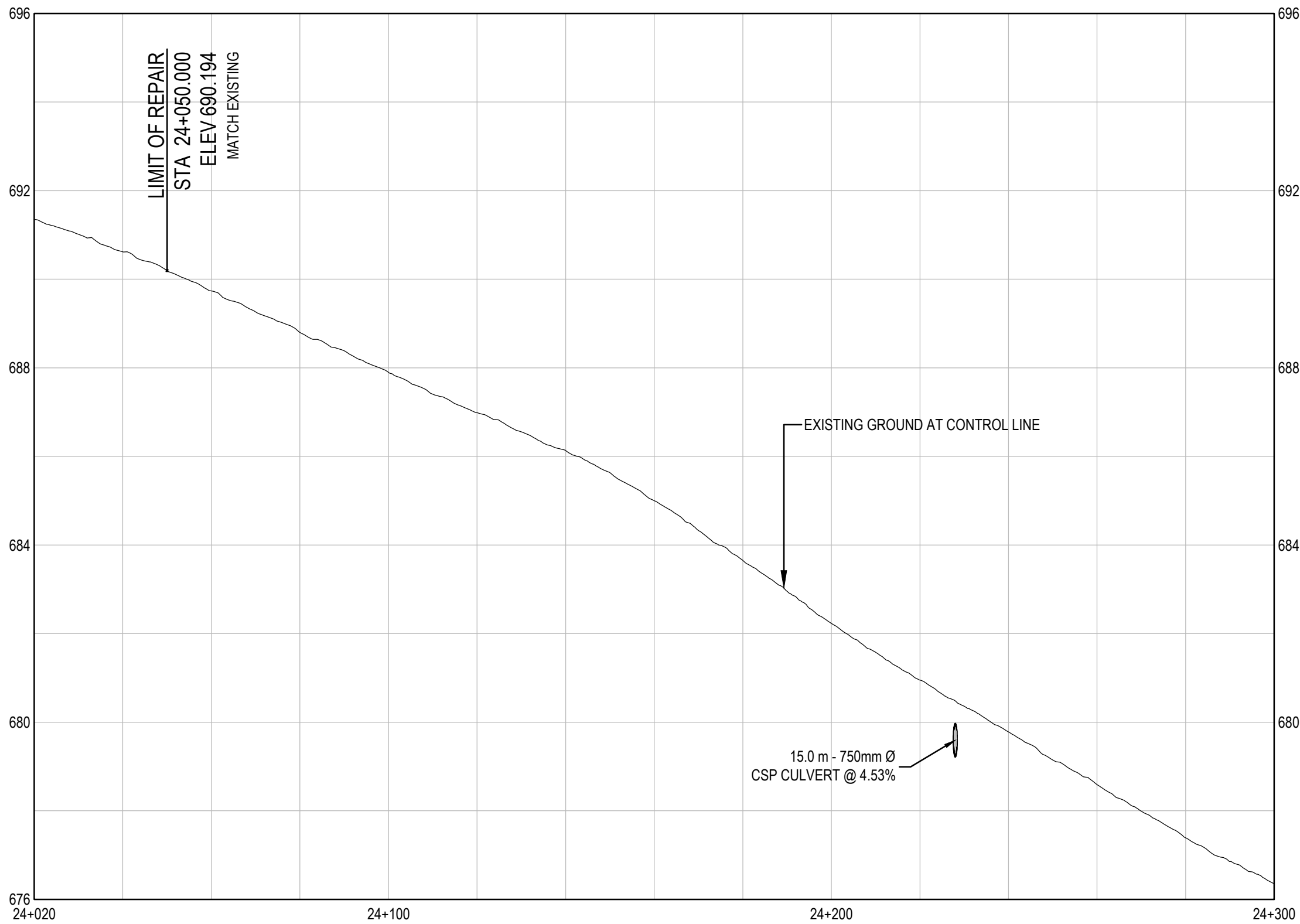
22+420 TO 22+480

23+650 TO 23+750

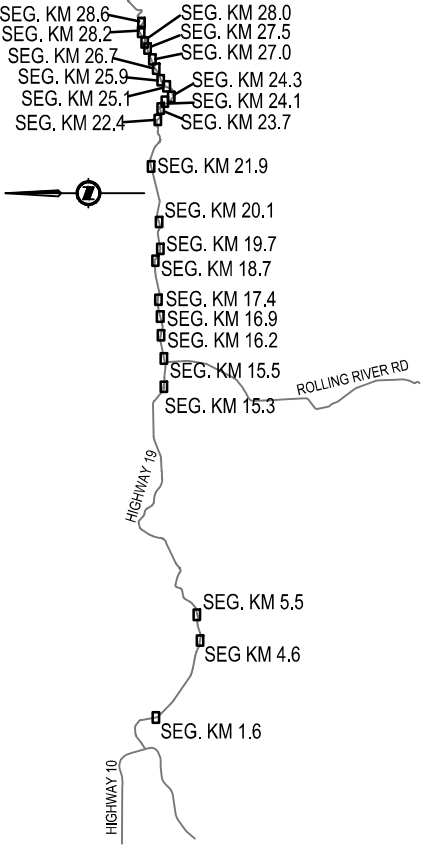
Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRSG Project Manager/Administrateur de Projets PRSG		
Project No./No. du projet	Asset No./No. du bien	Sheet No./No. de la feuille
1932-04	—	C107
Drawing Reference No./No. de référence du dessin		—



SEGMENT 24+050 TO 24+300



- GENERAL NOTES:
1. DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
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PLAN: 0 10 50m
PROFILE: 0 1 V 1:100 5m

SECTION: 0 1 1:150 5m

0	22/07/25	ISSUED FOR TENDER	RM	SL
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé

Revision / Revision	
A	détail number numéro de détail
B	source drawing no. de dessin no.
C	détail on drawing no. détail sur dessin no.
Consultant's Name Nom de l'expert-conseil	
Eng. Stamp Sceau de l'ingénieur	

Client/client	Parks Canada Agence	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

Project title/Titre du projet

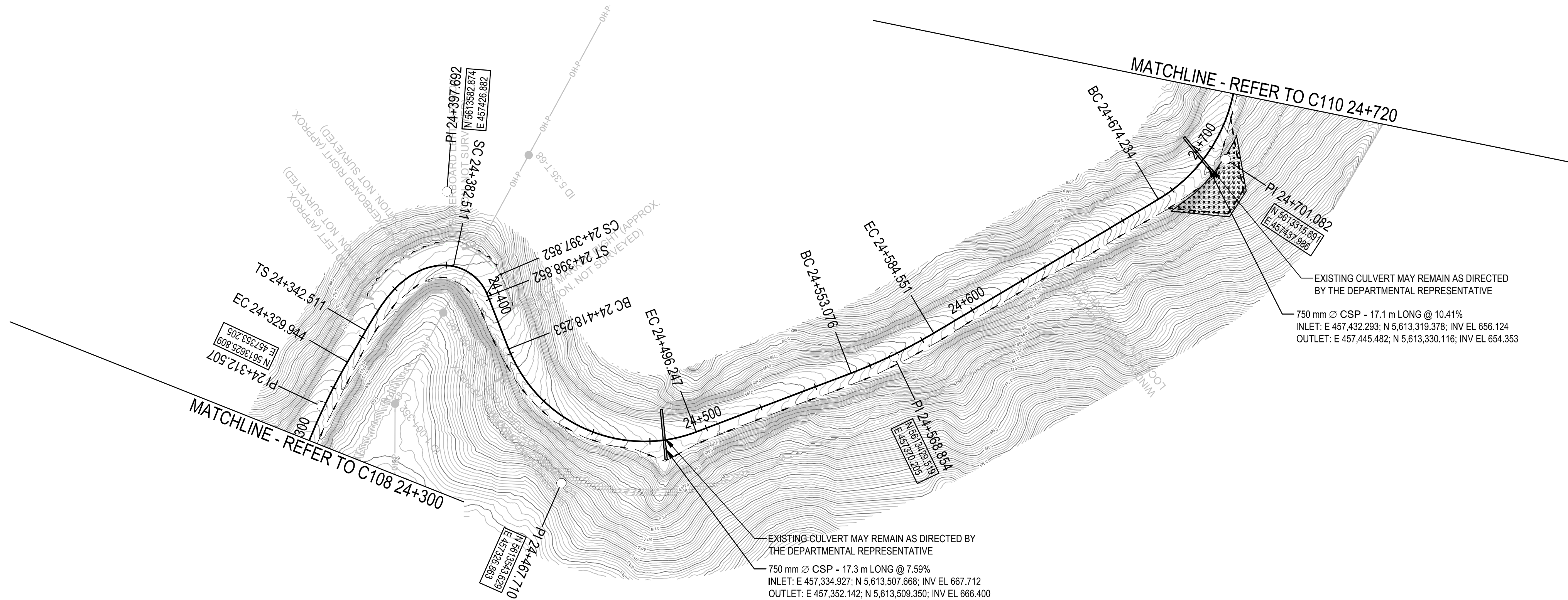
HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT

RIDING MTN. NAT. PARK

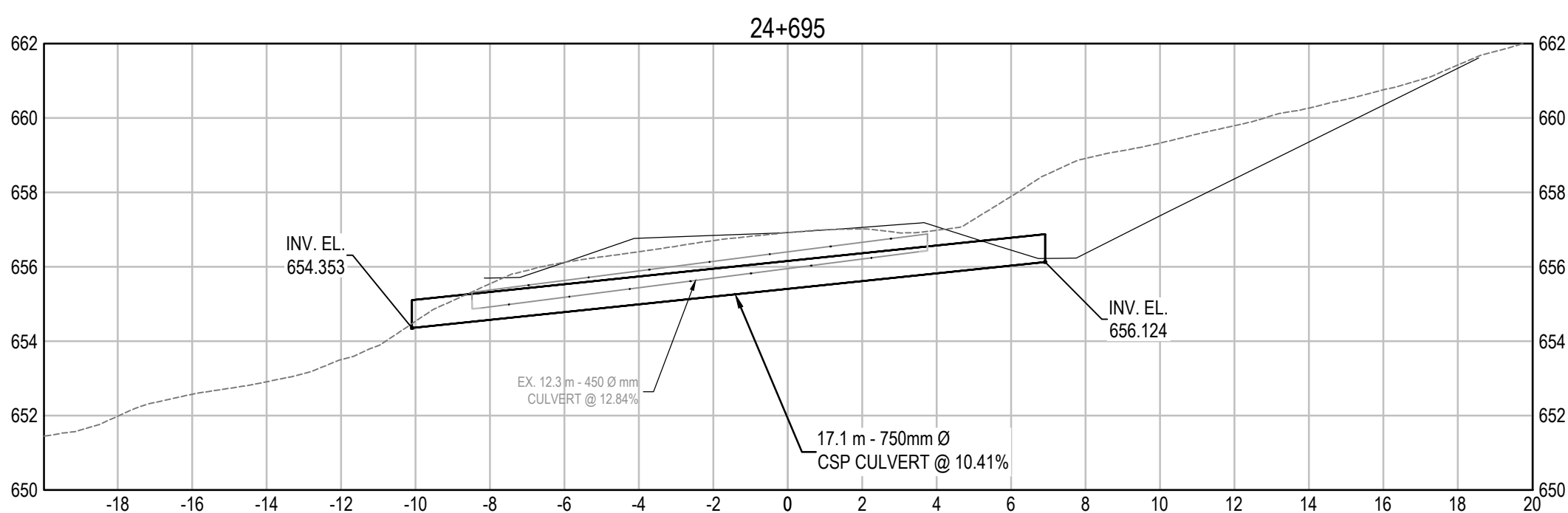
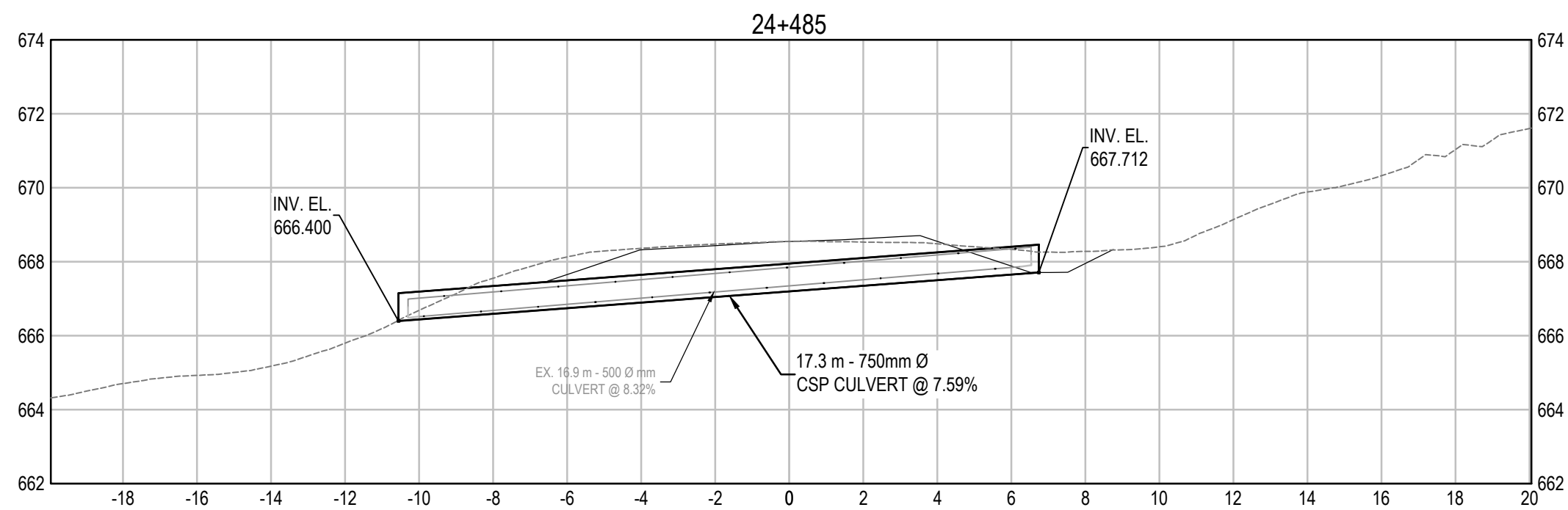
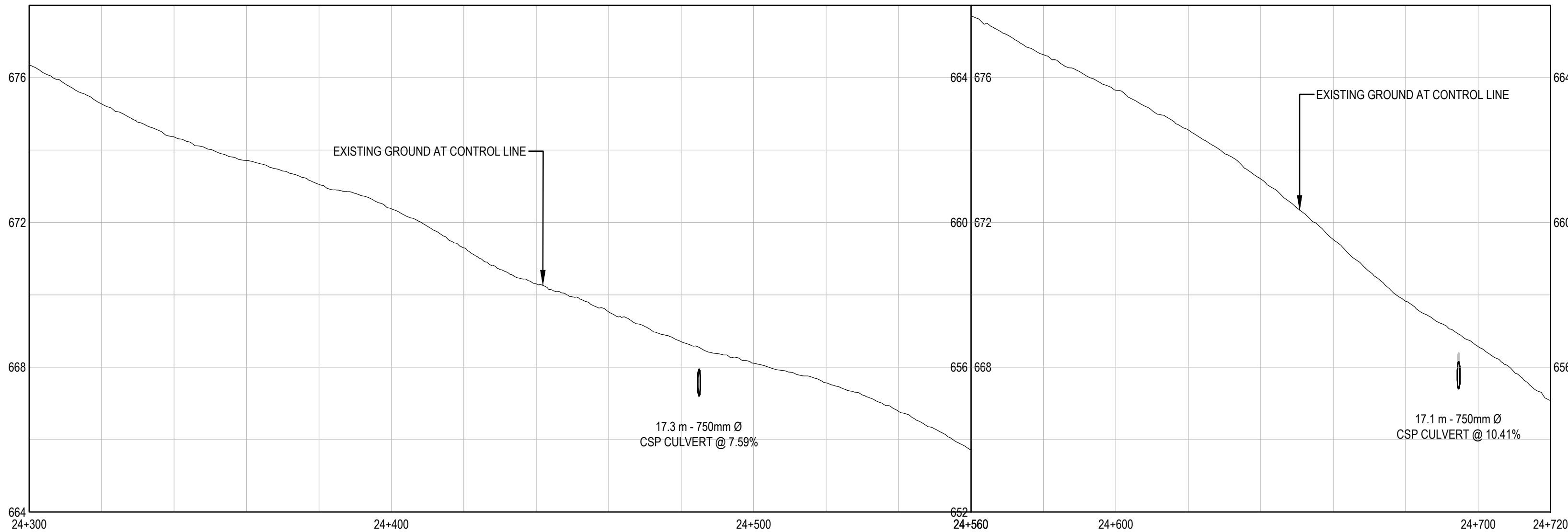
Drawing title/Titre du dessin

PLAN/PROFILE
24+050 TO 24+300

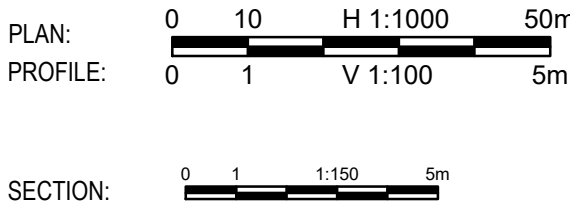
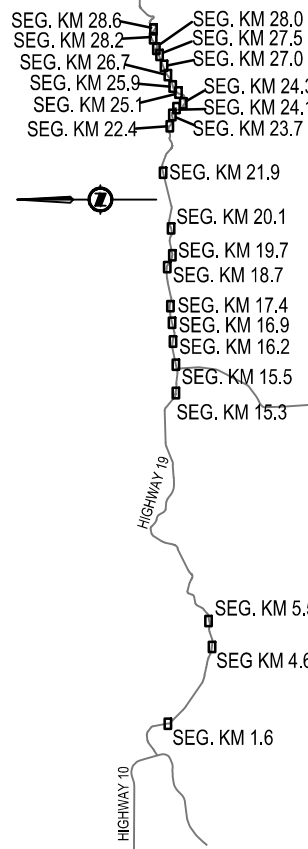
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—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRISC Project Manager/Administrateur de Projets TPSC		
Project No./No. du projet	Asset No./No. du bien	Sheet No./ No. de la feuille
1932-04	—	C108
Drawing Reference No./No. de référence du dessin		—



SEGMENT 24+300 TO 24+700



- GENERAL NOTES:
- DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
 - THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
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0	22/07/25	ISSUED FOR TENDER	RM	SL	
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé	

Revision / Révision	
A	détail number numéro de détail
B	source drawing no. de dessin no.
C	détail on drawing no. détail sur dessin no.

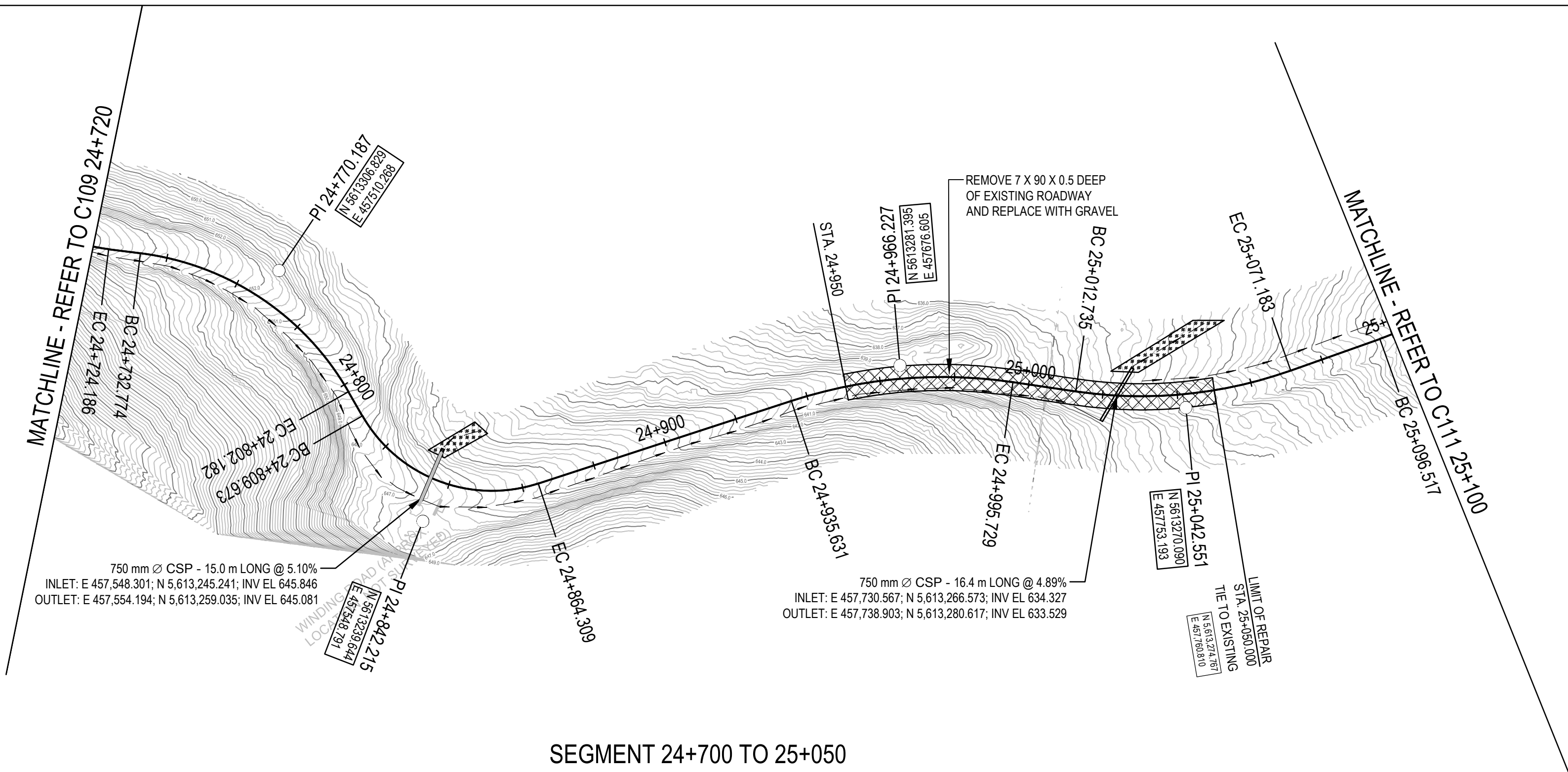
Consultant's Name Nom de l'expert-conseil	Eng. Stamp, Sceau de l'ingénieur

Client/client	Parks Canada Agency	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

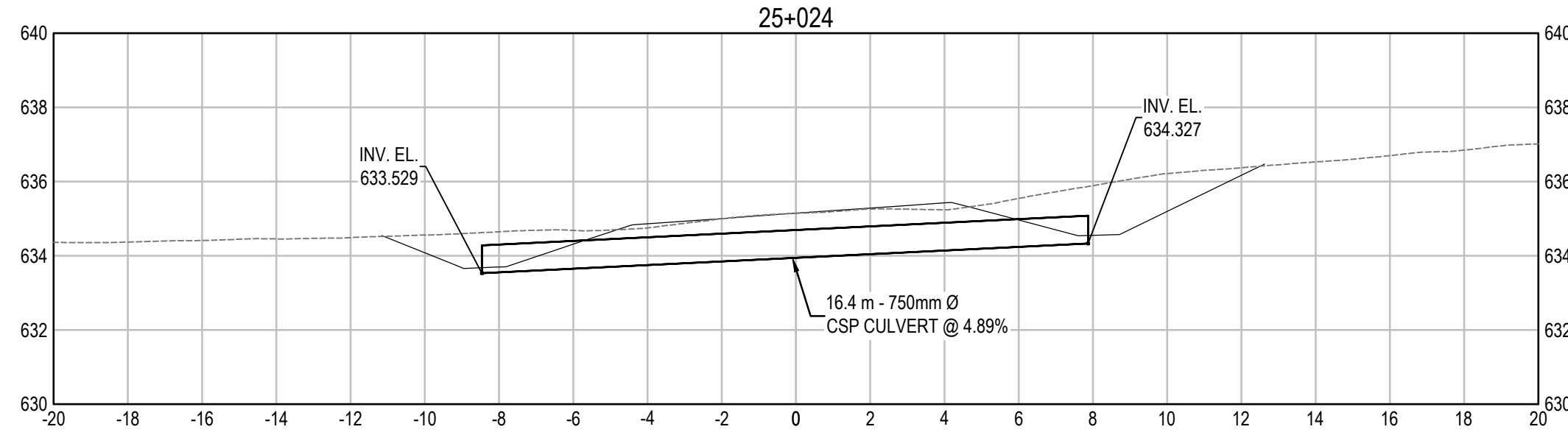
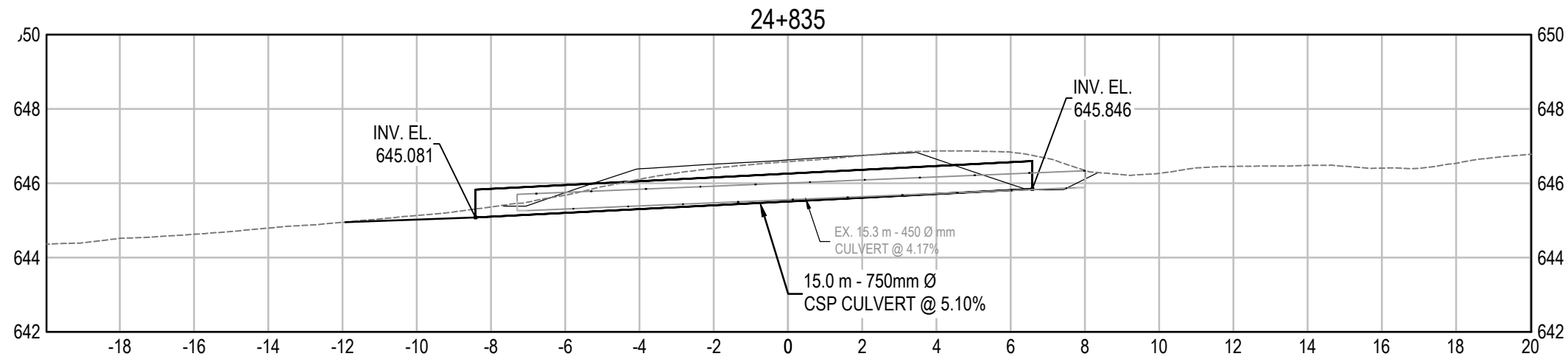
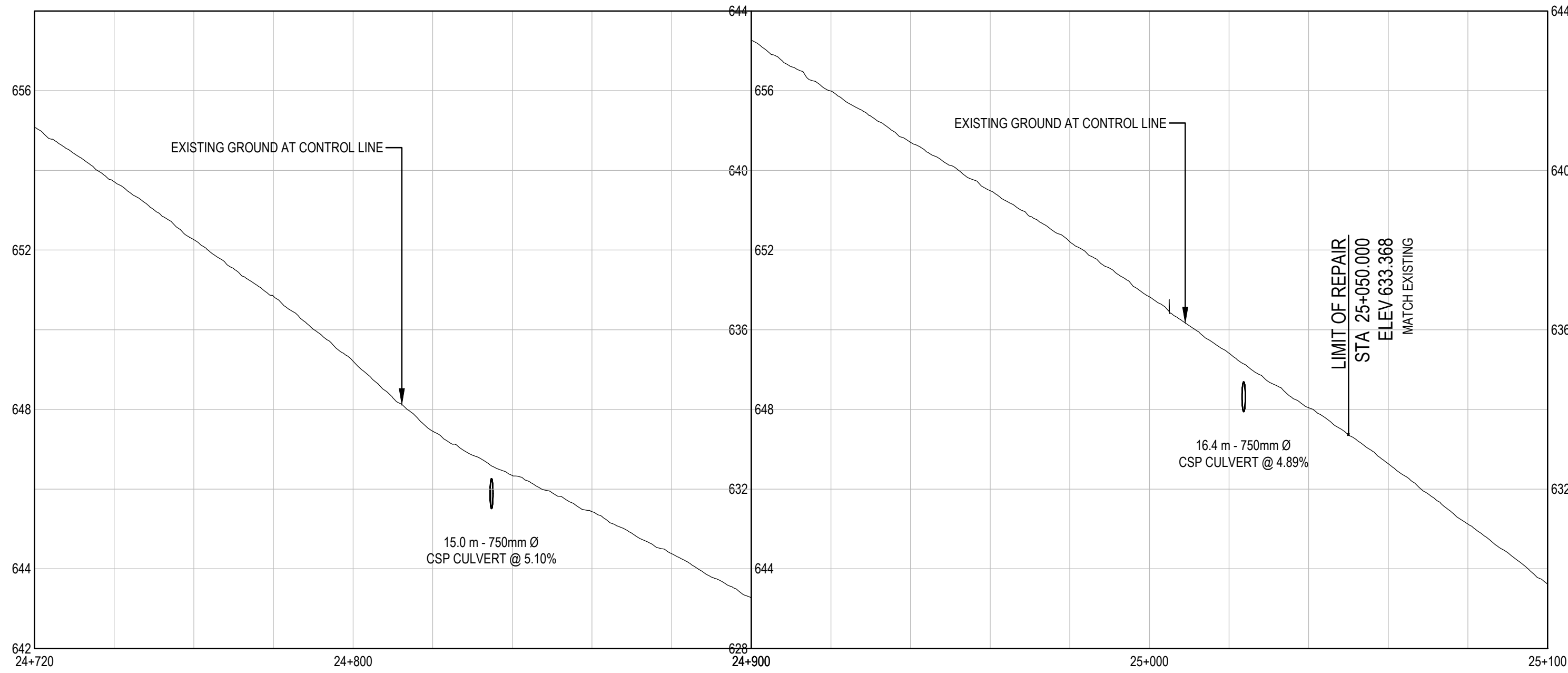
Project title/Titre du projet
HIGHWAY 19 FLOOD DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

Drawing title/Titre du dessin
PLAN/PROFILE
24+300 TO 24+720

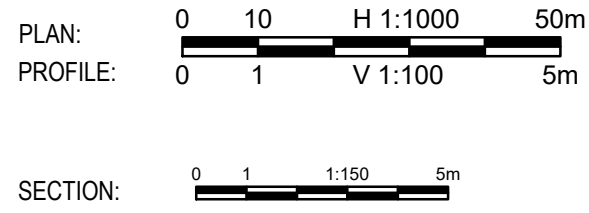
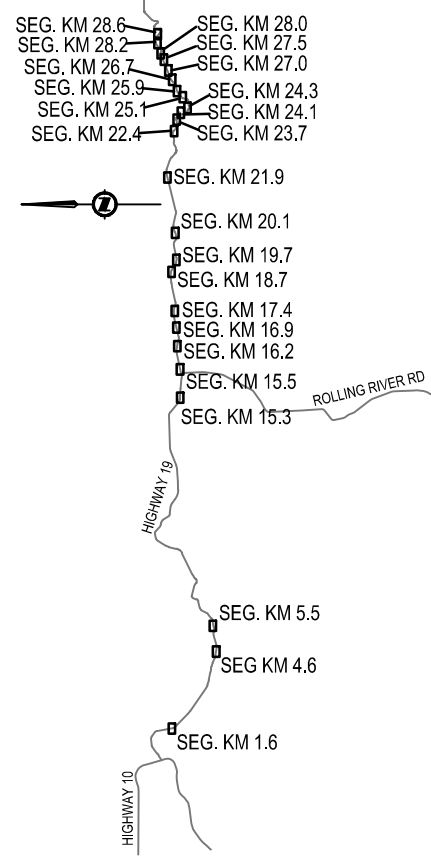
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—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PMSC Project Manager/Administrateur de Projets PMSC		
Project No./No. du projet	Asset No./No. du bien	Sheet No./No. de la feuille
1932-04	—	C109
Drawing Reference No./No. de référence du dessin		
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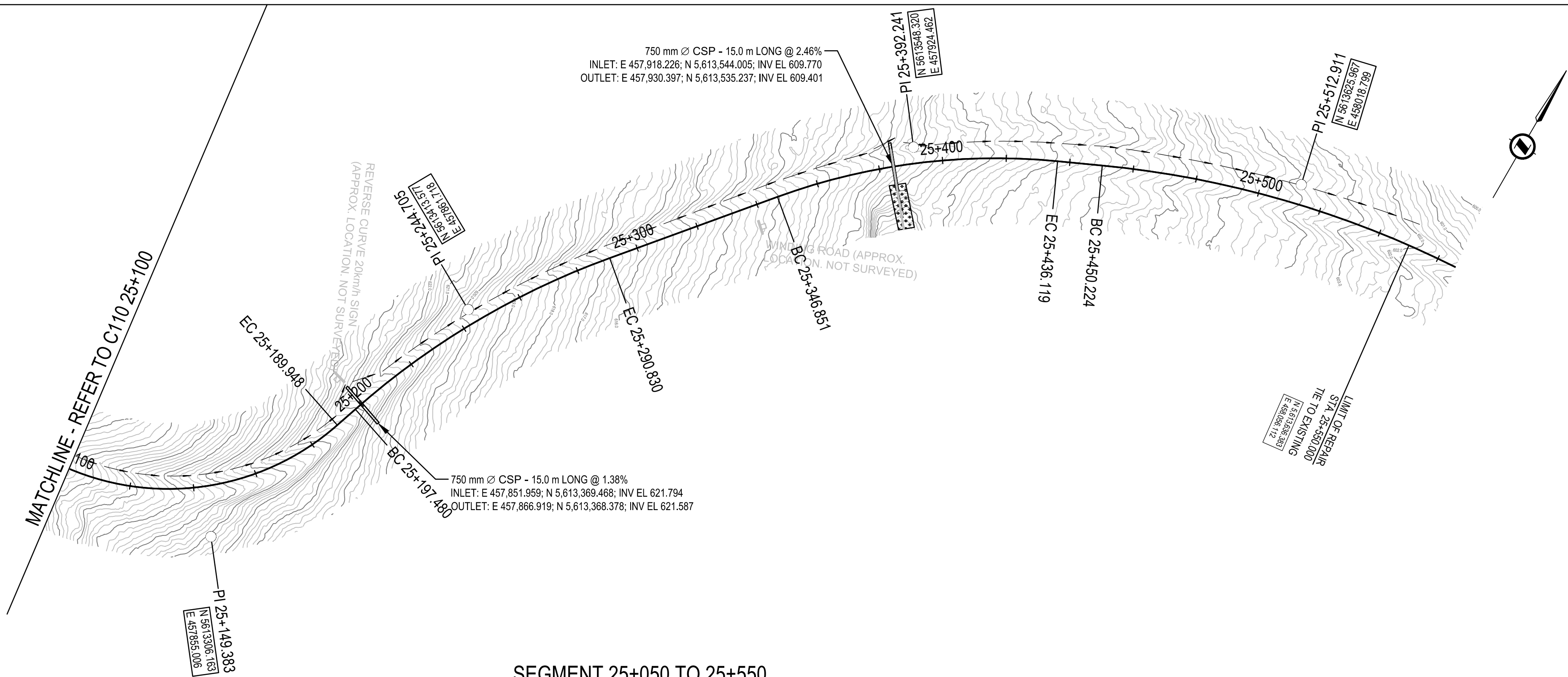
SEGMENT 24+700 TO 25+050



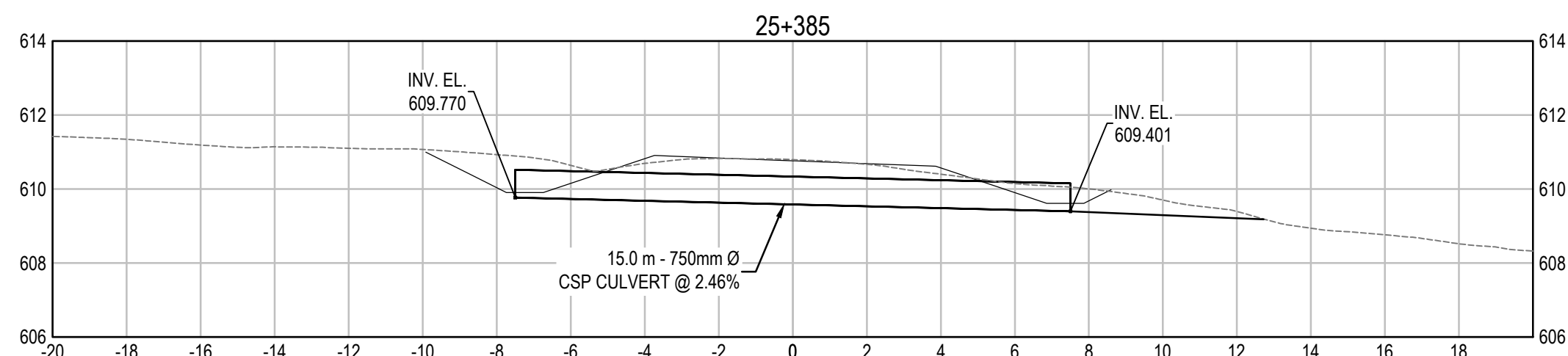
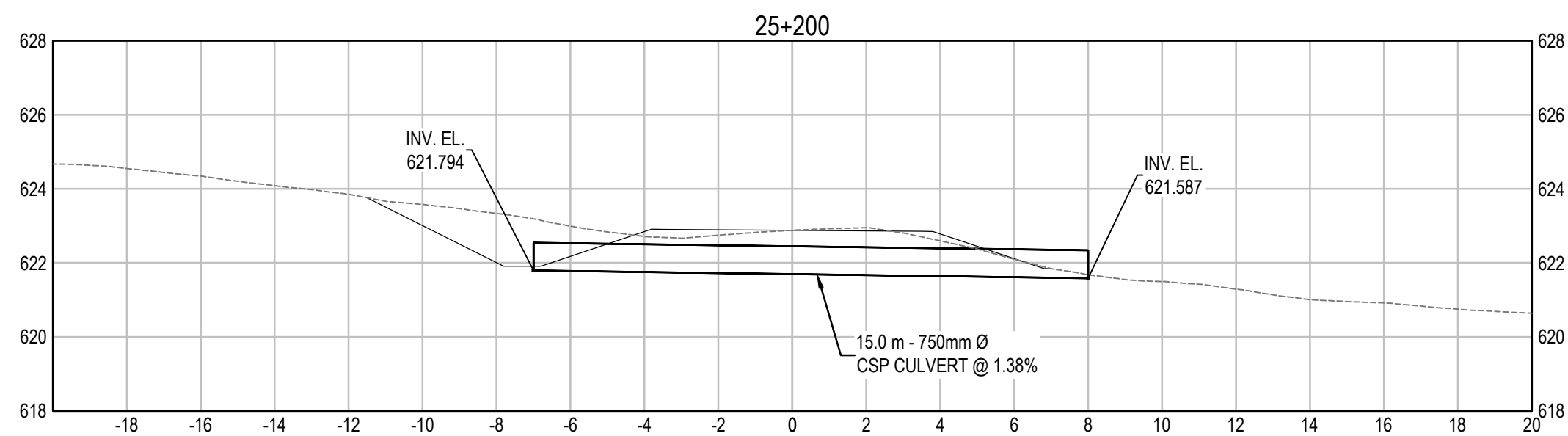
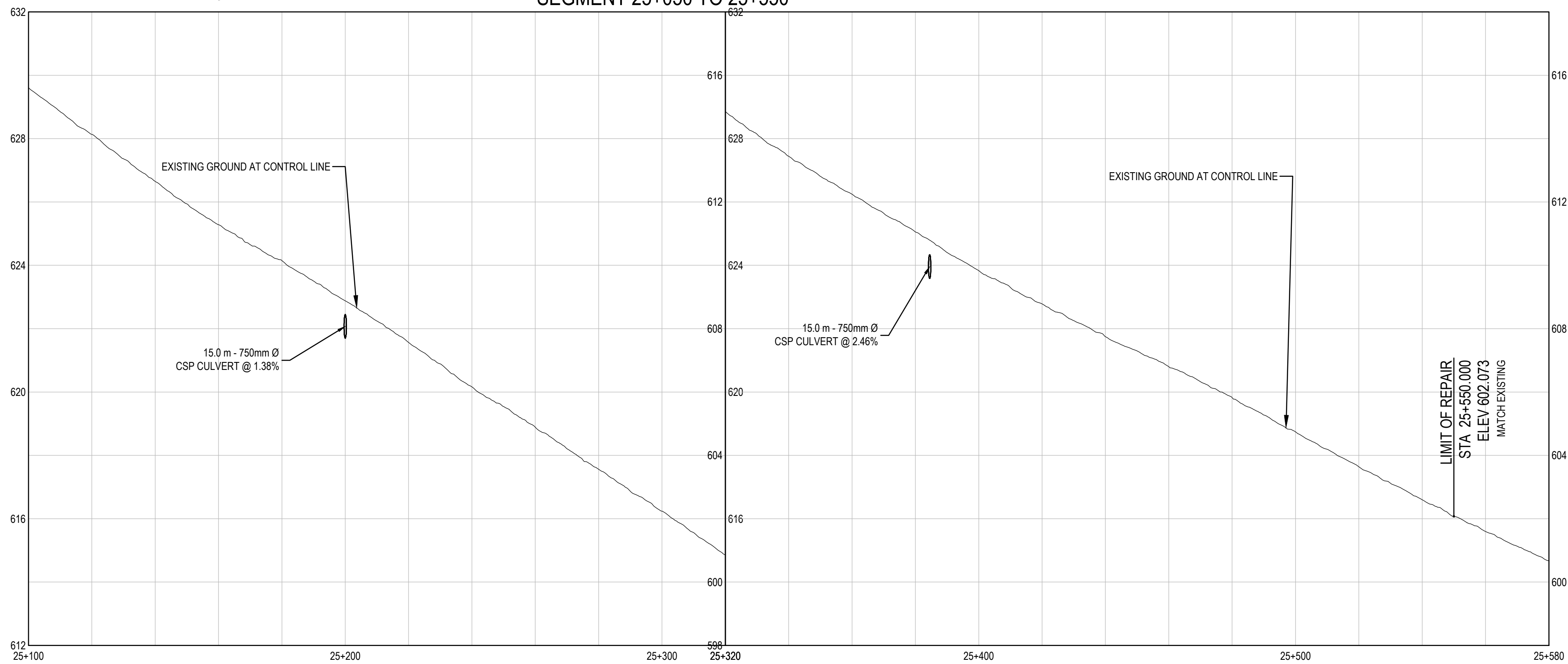
- GENERAL NOTES:
- DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
 - THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
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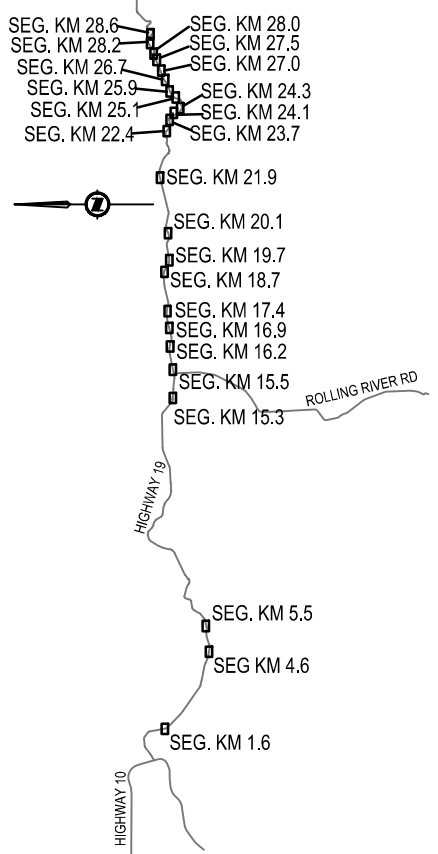
0	22/07/25	ISSUED FOR TENDER	RM	SL
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé
Revision / Revision				
A detail number numéro de détail B source drawing no. de dessin no. C detail on drawing no. détail sur dessin no.				
Consultant's Name Nom de l'expert-conseil			Eng. Stamp Sceau de l'ingénieur	
 TETRA TECH				
Client/client				
 Parks Canada Agence		L'Agence Parcs Canada		
Western and Northern Region		Ouest et Nord du Canada		
Project title/Titre du projet				
HIGHWAY 19 FLOOD DAMAGE REINSTATEMENT RIDING MTN. NAT. PARK				
Drawing title/Titre du dessin				
PLAN/PROFILE 24+720 TO 25+050				
Surveyed by/Arpenté par				
—		RM		Date/Date 2022-06-24
Designed by/Concept par				
EY		Reviewed by/Revisé par SL		Scale/Echelle AS SHOWN
PCA Project Manager/Administrateur de Projets APC RYAN CALDER				
Client Acceptance/Acceptation du client			Approved by/Approuvé par	
Park Responsible Officer/Agent Responsable			PRISC Project Manager/Administrateur de Projets PRISC	
Project No./No. du projet 1932-04		Asset No./No. du bien —		Sheet No./ No. de la feuille C110
Drawing Reference No./No. de référence du dessin —				



SEGMENT 25+050 TO 25+550



- GENERAL NOTES:
1. DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
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PLAN: 0 10 50m
PROFILE: 0 1 5m

SECTION: 0 1 5m

0	22/07/25	ISSUED FOR TENDER	RM SL
No.	Date/Date	Description/Description	Drawn by Dessiné par
			Approved Approuvé

Revision / Revision	
A	détail number numéro de détail
B	source drawing no. de dessin no.
C	détail on drawing no. détail sur dessin no.
Consultant's Name Nom de l'expert-conseil	
Eng. Stamp Sceau de l'ingénieur	

Client/client	Parks Canada Agence	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

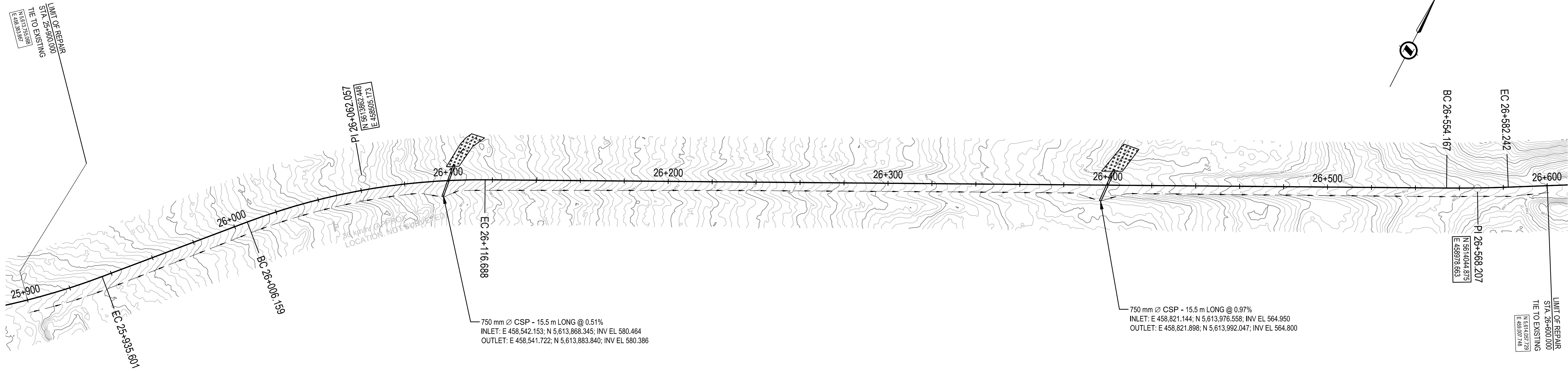
Project title/Titre du projet

HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

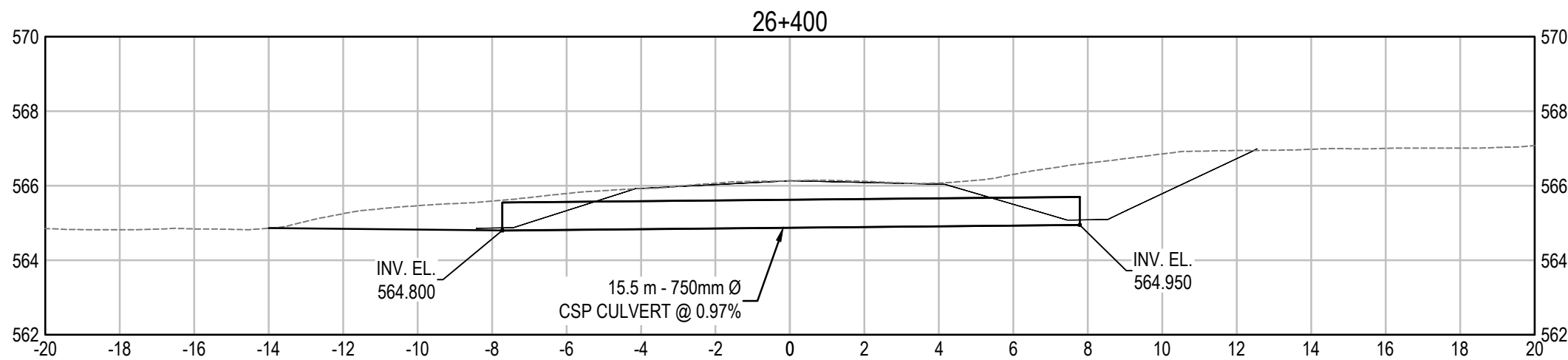
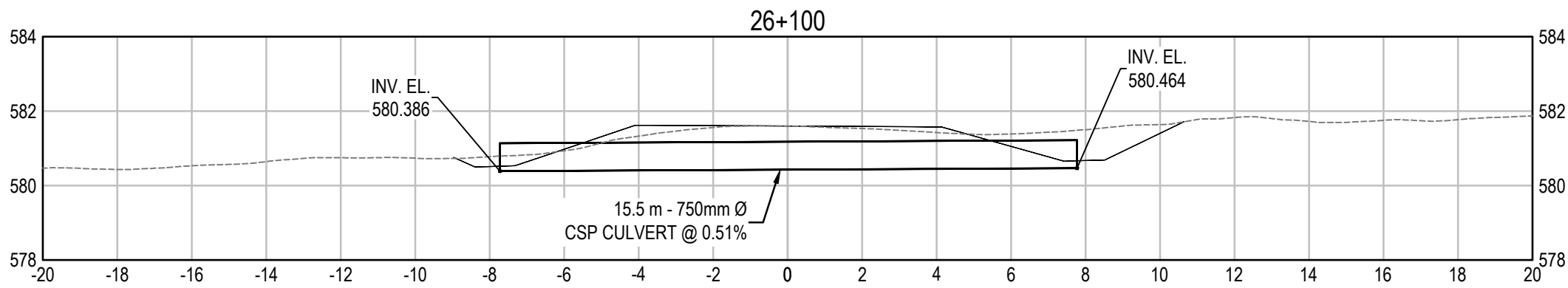
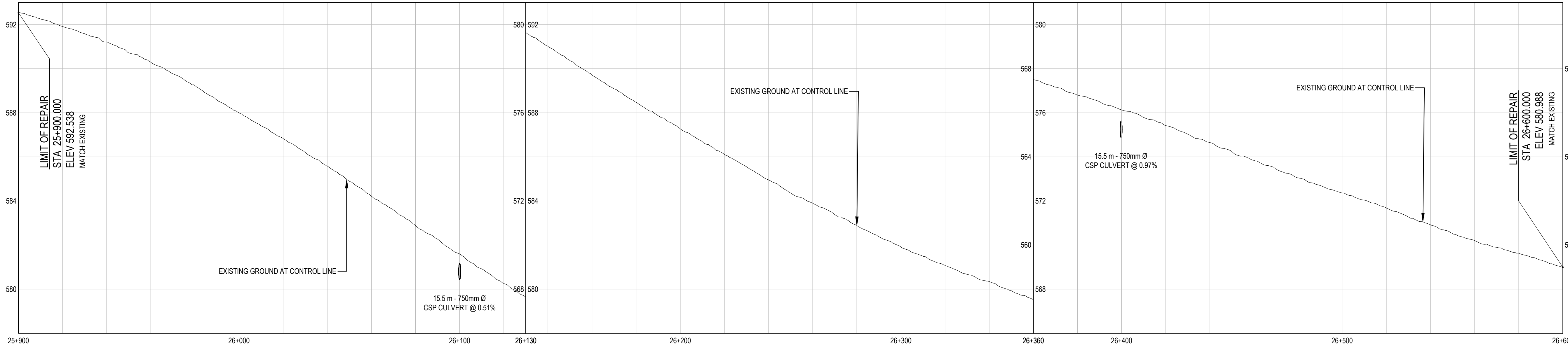
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PLAN/PROFILE
25+050 TO 25+550

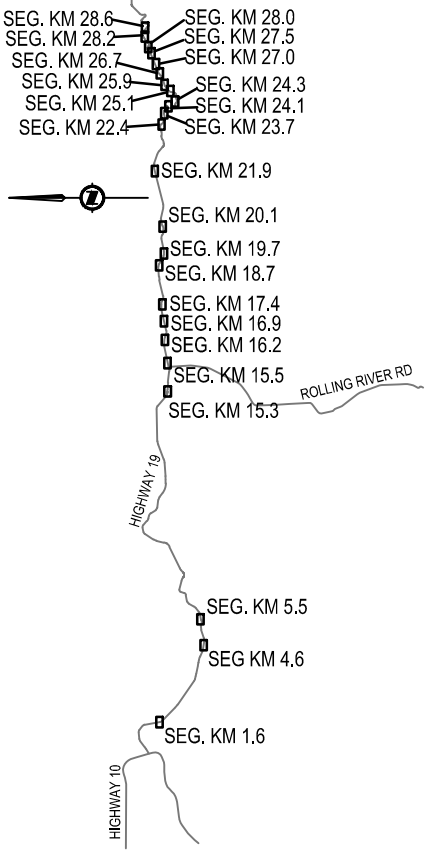
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—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRSG Project Manager/Administrateur de Projets PRSG		
Project No./No. du projet	Asset No./No. du bien	Sheet No./ No. de la feuille
1932-04	—	C111
Drawing Reference No./No. de référence du dessin		
—		



SEGMENT 25+900 TO 26+600



- GENERAL NOTES:
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 - MINIMUM SLOPE FOR THE NEW DITCHES AND CULVERTS WILL BE 0.5%. FIELD FIT WILL BE REQUIRED FOR THE PROPOSED DITCHES AND CULVERTS. CONTRACTOR TO CONFIRM THE LAYOUT AND INVERTS WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO CONSTRUCTION.



PLAN: 0 10 50m
PROFILE: 0 1 5m

SECTION: 0 1 1.50 5m

0	22/07/25	ISSUED FOR TENDER	RM	SL	
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé	

Revision / Révision	
A	detail number numéro de détail
B	source drawing no. de dessin no.
C	detail on drawing no. détail sur dessin no.
Consultant's Name Nom de l'expert-conseil	
Eng. Stamp Sceau de l'ingénieur	

Client/client	Parks Canada Agence	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

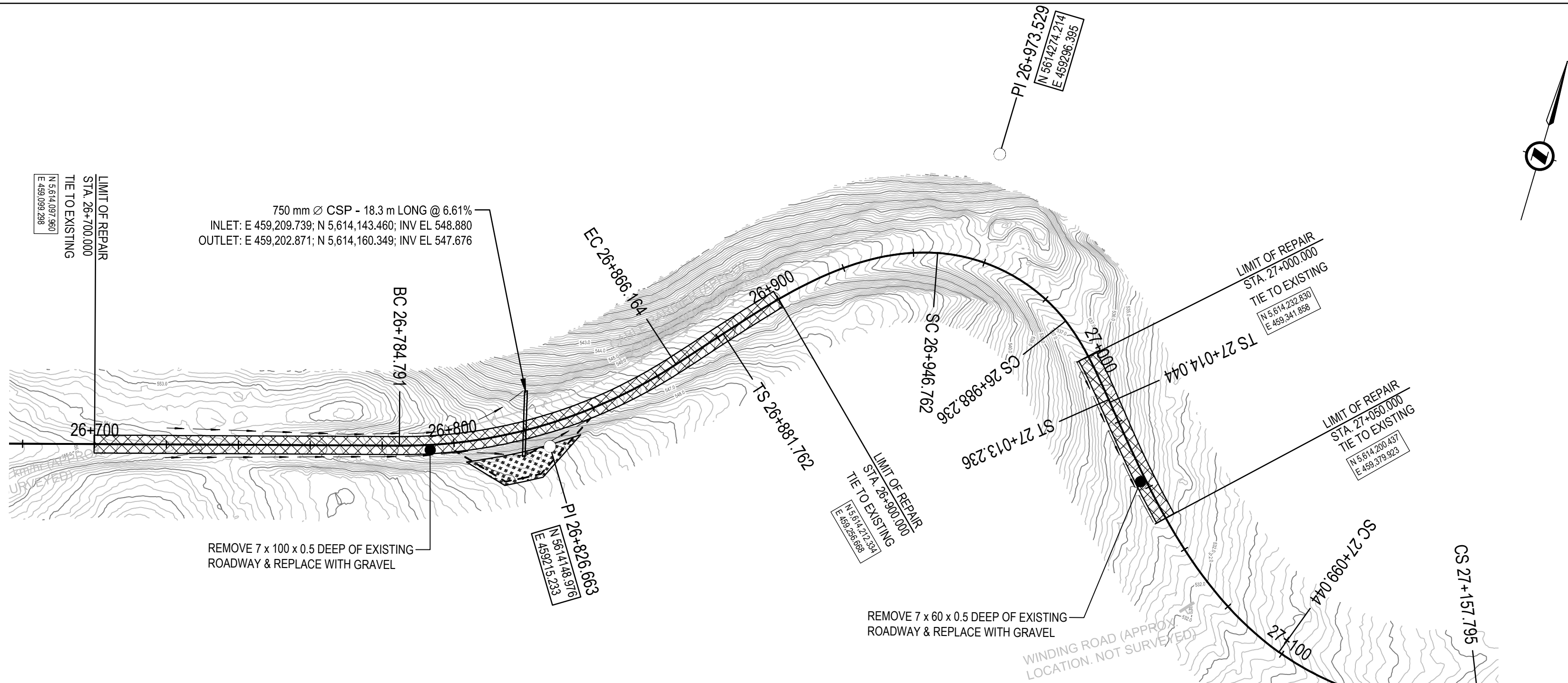
Project title/Titre du projet

HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

Drawing title/Titre du dessin

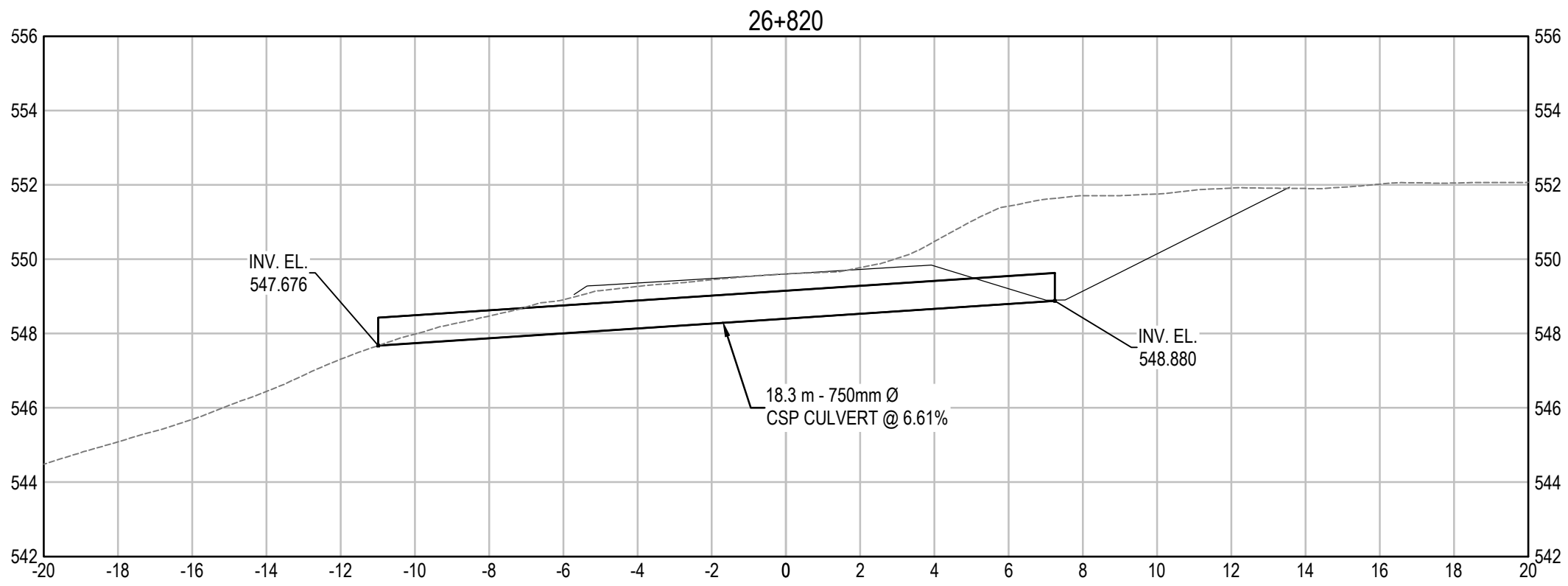
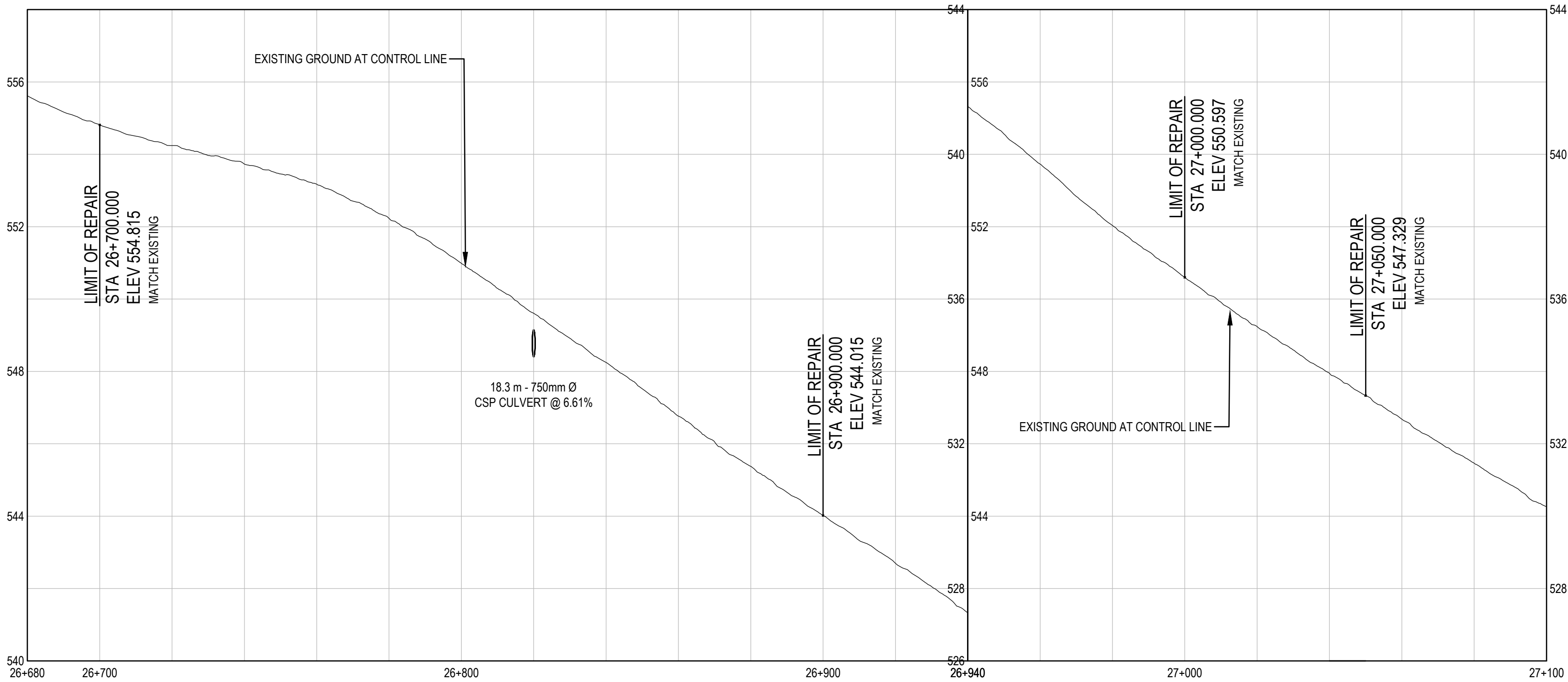
PLAN/PROFILE
25+900 TO 26+600

Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRSG Project Manager/Administrateur de Projets PRSG		
Project No./No. du projet	Asset No./No. du bien	Sheet No./ No. de la feuille
1932-04	—	C112
Drawing Reference No./No. de référence du dessin		—

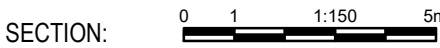
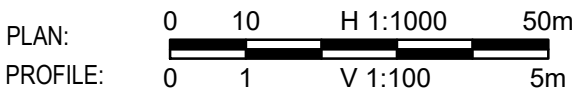
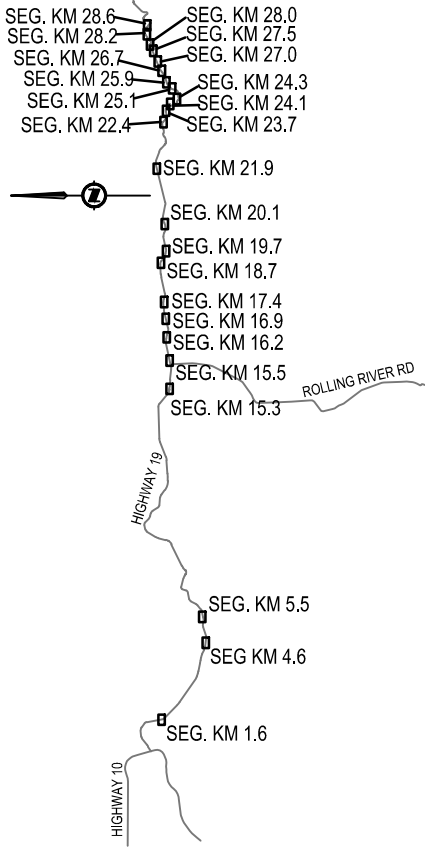


SEGMENT 26+700 TO 26+900

SEGMENT 27+000 TO 27+050



- GENERAL NOTES:
1. DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
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0	22/07/25	ISSUED FOR TENDER	RM SL
No.	Date/Date	Description/Description	Drawn by Dessiné par
			Approved Approuvé

Revision / Revision	
A	détail number numéro de détail
B	source drawing no. de dessin no.
C	détail on drawing no. détail sur dessin no.
Consultant's Name Nom de l'expert-conseil	
Eng. Stamp Sceau de l'ingénieur	

Client/Client	Parks Canada Agence	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

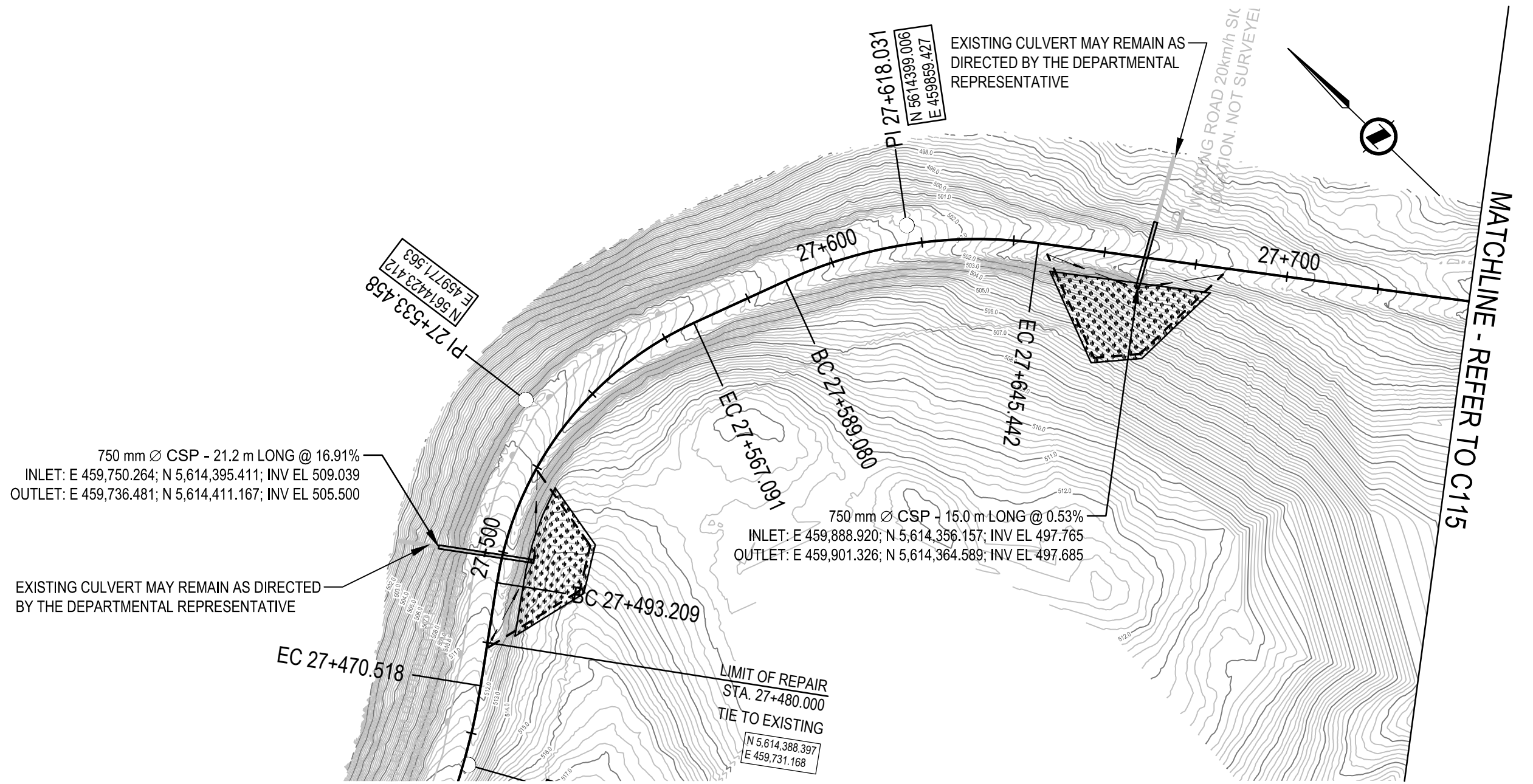
Project title/Titre du projet

HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

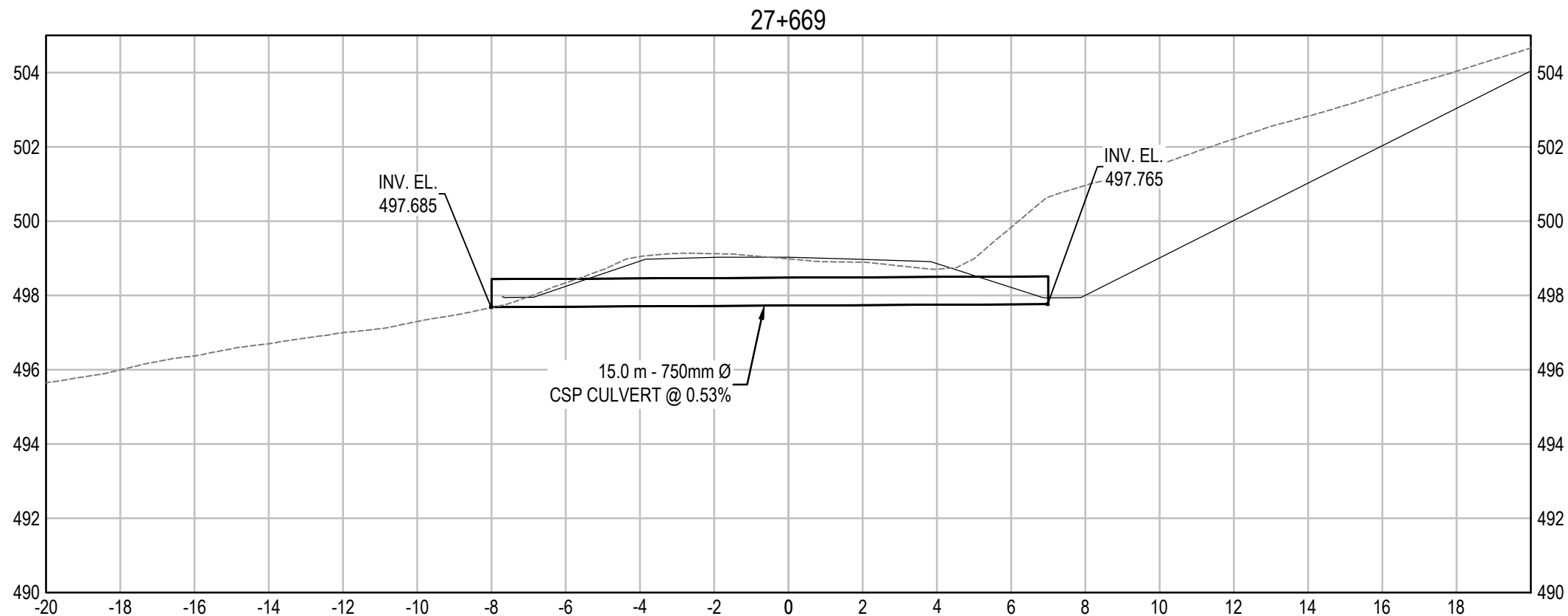
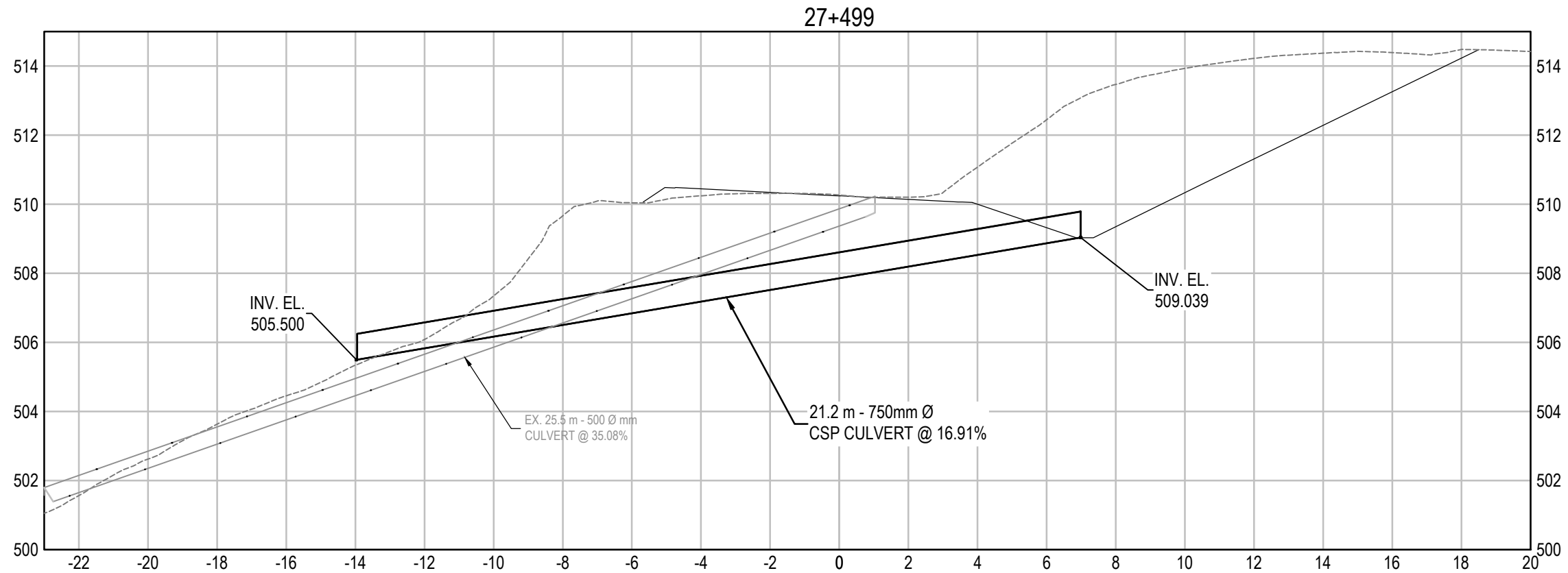
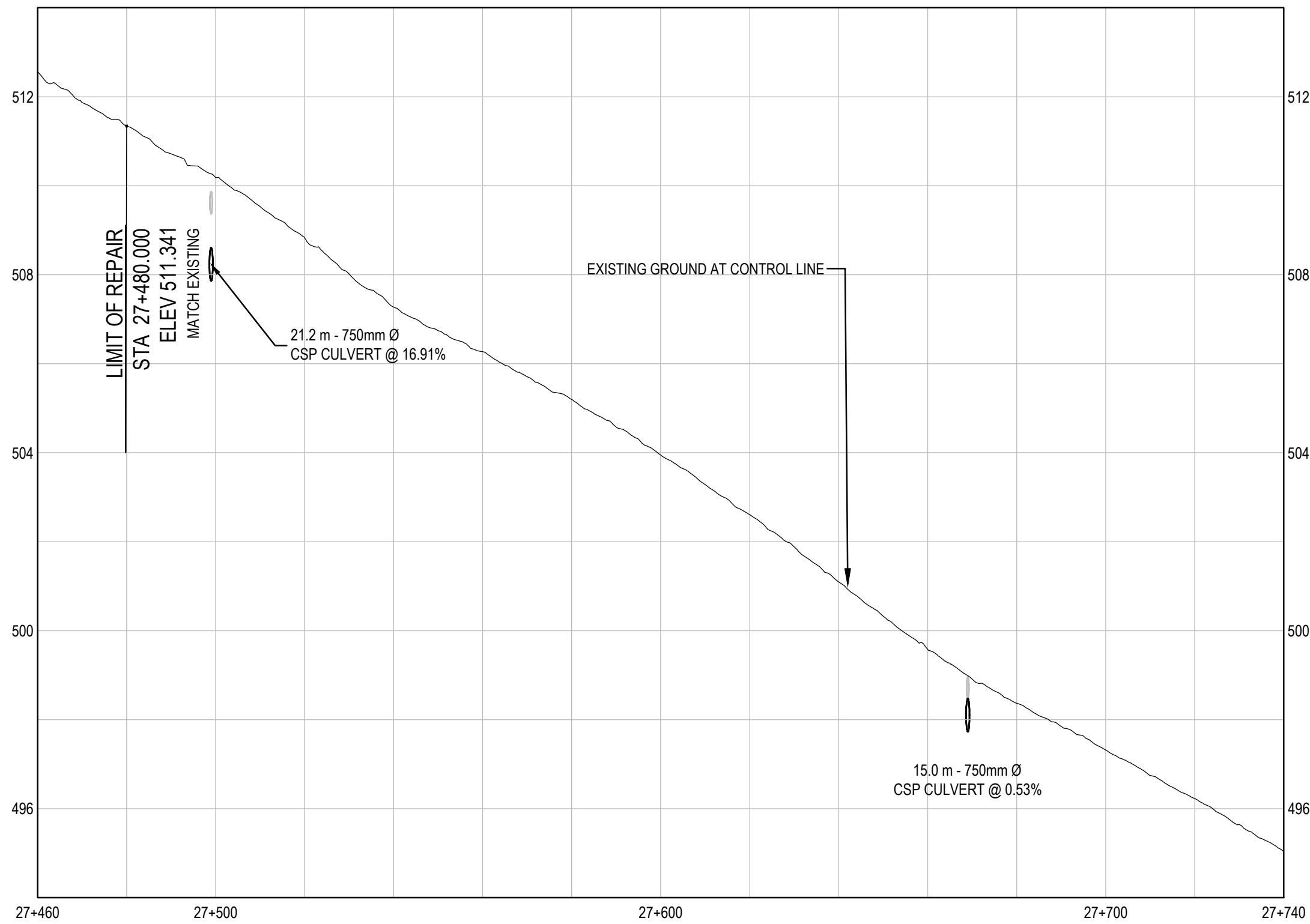
Drawing title/Titre du dessin

PLAN/PROFILE
26+700 TO 26+900
27+000 TO 27+050

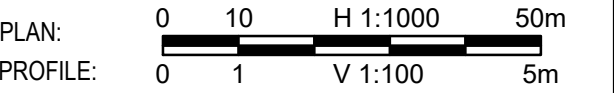
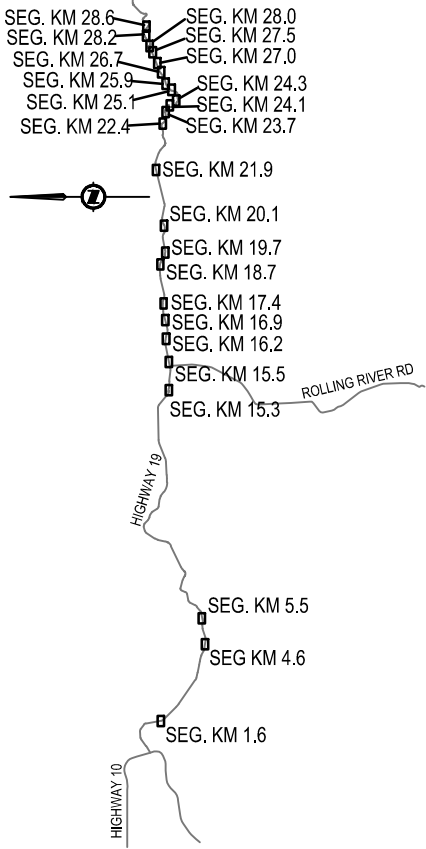
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—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRSG Project Manager/Administrateur de Projets PRSG		
Project No./No. du projet	Asset No./No. du bien	Sheet No./ No. de la feuille
1932-04	—	C113
Drawing Reference No./No. de référence du dessin		
—		



SEGMENT 27+480 TO 27+740



- GENERAL NOTES:
1. DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
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0	22/07/25	ISSUED FOR TENDER	RM	SL
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé

Revision / Revision

A detail number
numéro de détail
B source drawing no.
de dessin no.
C detail on drawing no.
détail sur dessin no.

Consultant's Name
Nom de l'expert-conseil

Eng. Stamp
Sceau de l'ingénieur

TETRA TECH

Client/client

Parks Canada
Agence

L'Agence Parcs
Canada

Western and
Northern Region

Ouest et Nord
du Canada

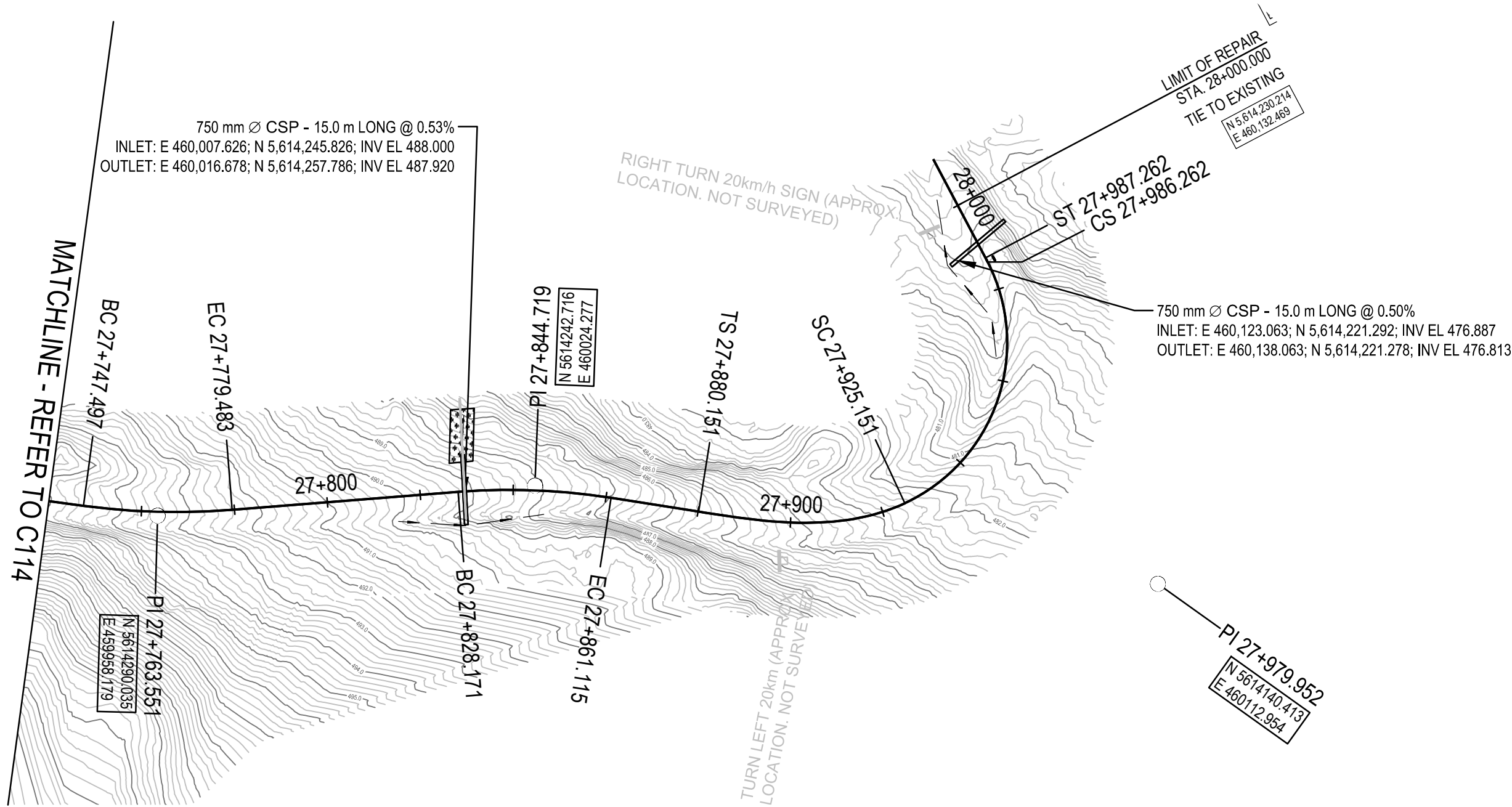
Project title/Titre du projet

**HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK**

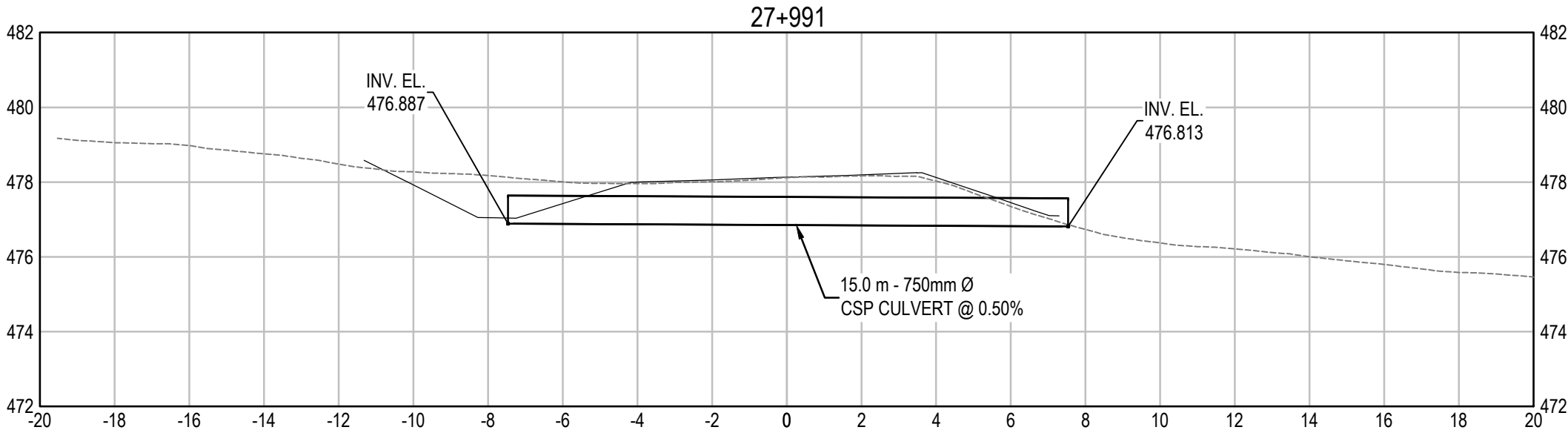
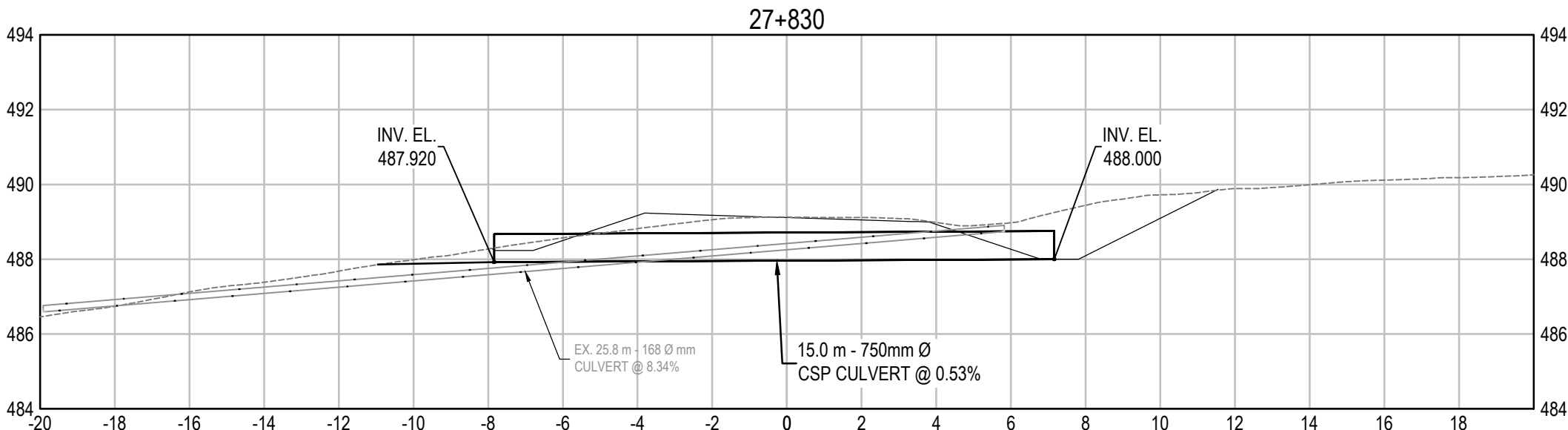
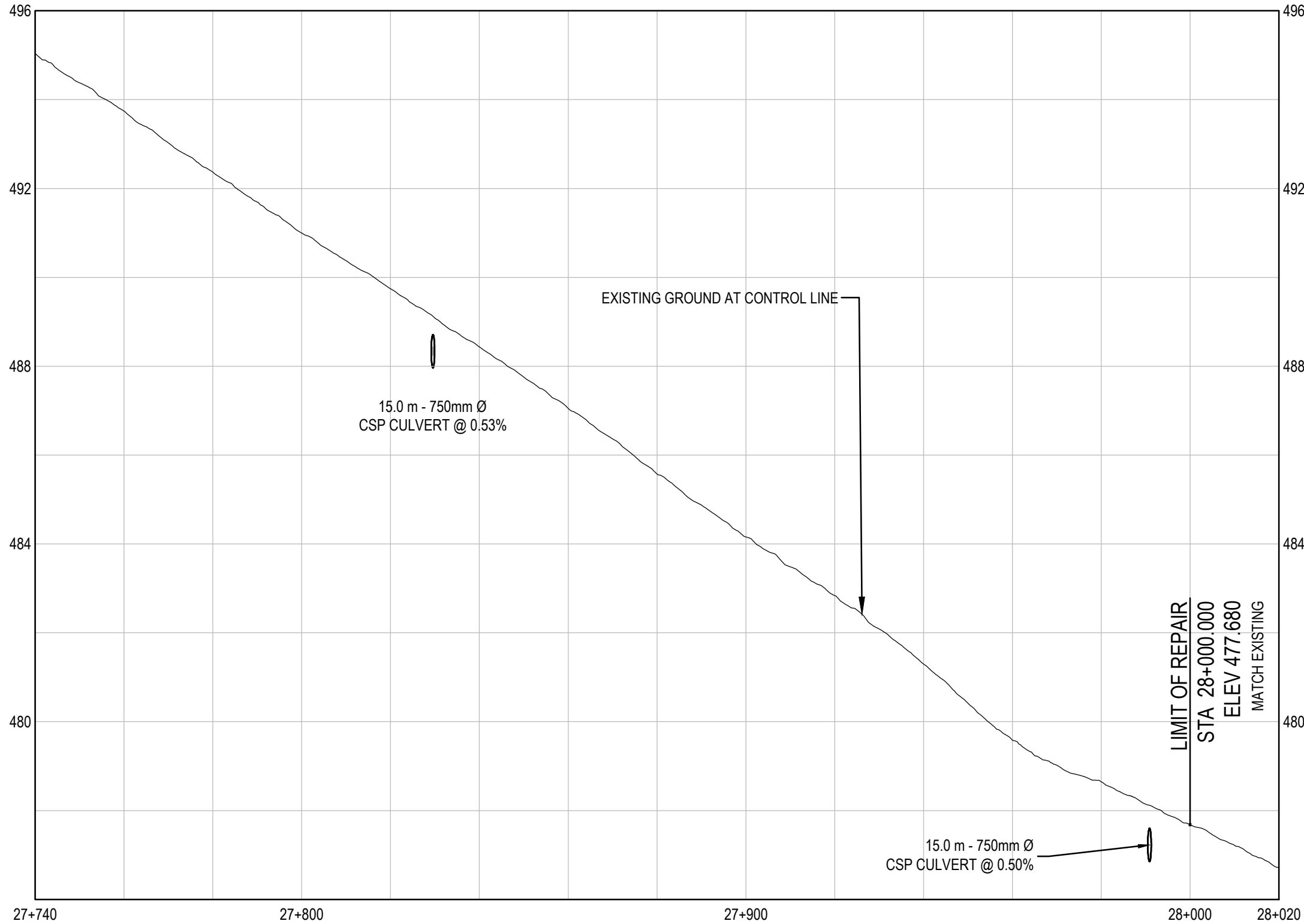
Drawing title/Titre du dessin

**PLAN/PROFILE
27+480 TO 27+740**

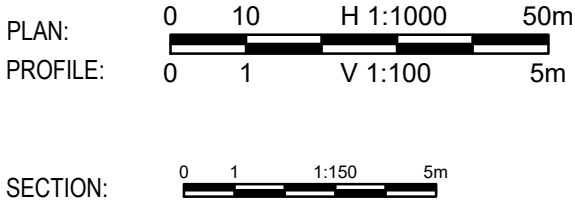
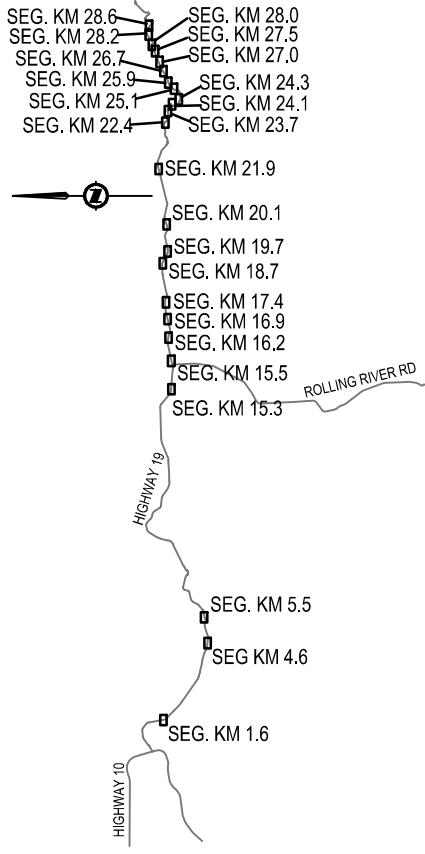
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Designed by/Concept par EY	Reviewed by/Revisé par SL	Scale/Echelle AS SHOWN
PCA Project Manager/Administrateur de Projets APC RYAN CALDER		
Client Acceptance/Acceptation du client Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRSG Project Manager/Administrateur de Projets PRSG		
Project No./No. du projet 1932-04	Asset No./No. du bien —	Sheet No./ No. de la feuille C114
Drawing Reference No./No. de référence du dessin —		





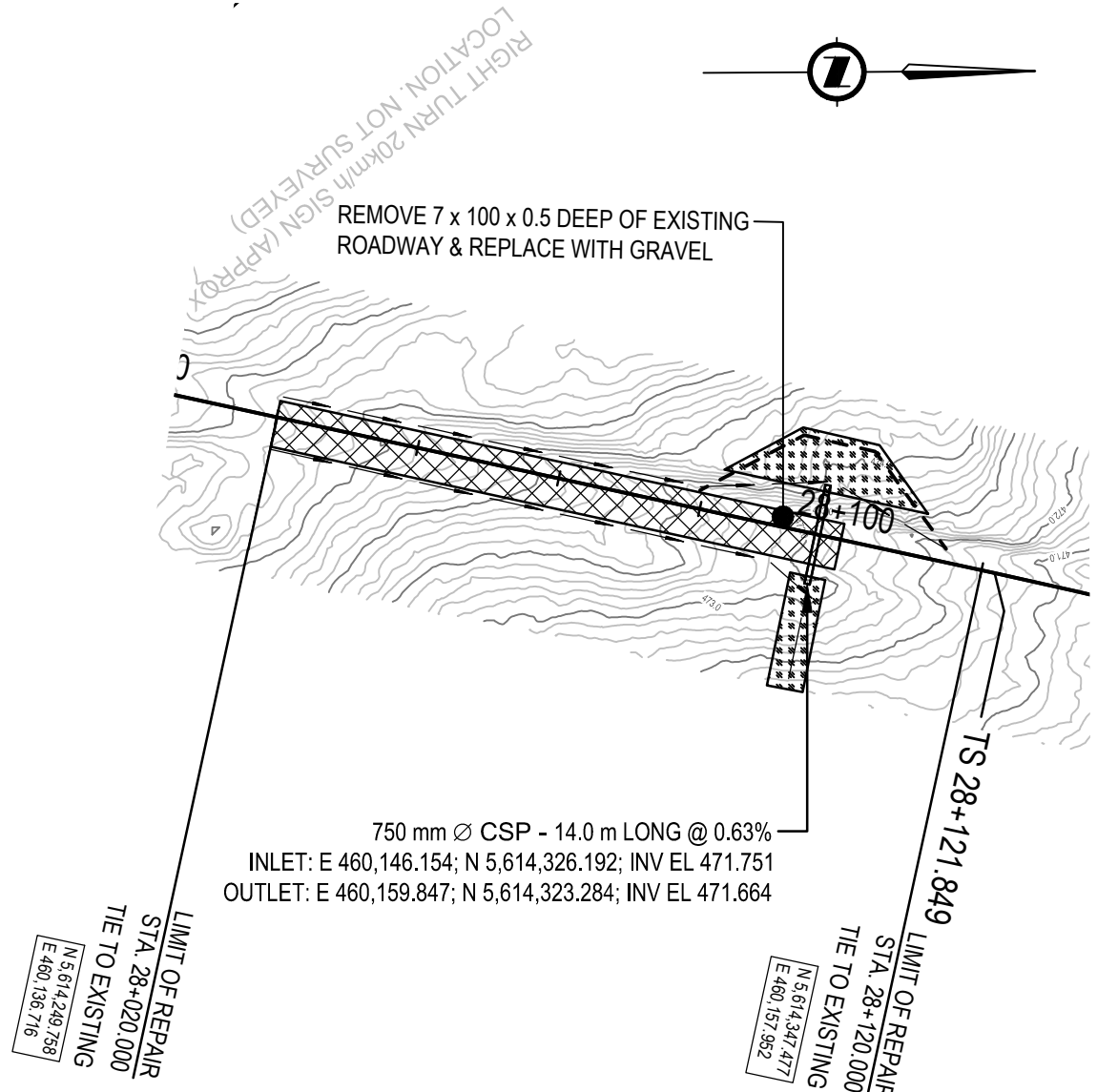
SEGMENT 27+740 TO 28+000



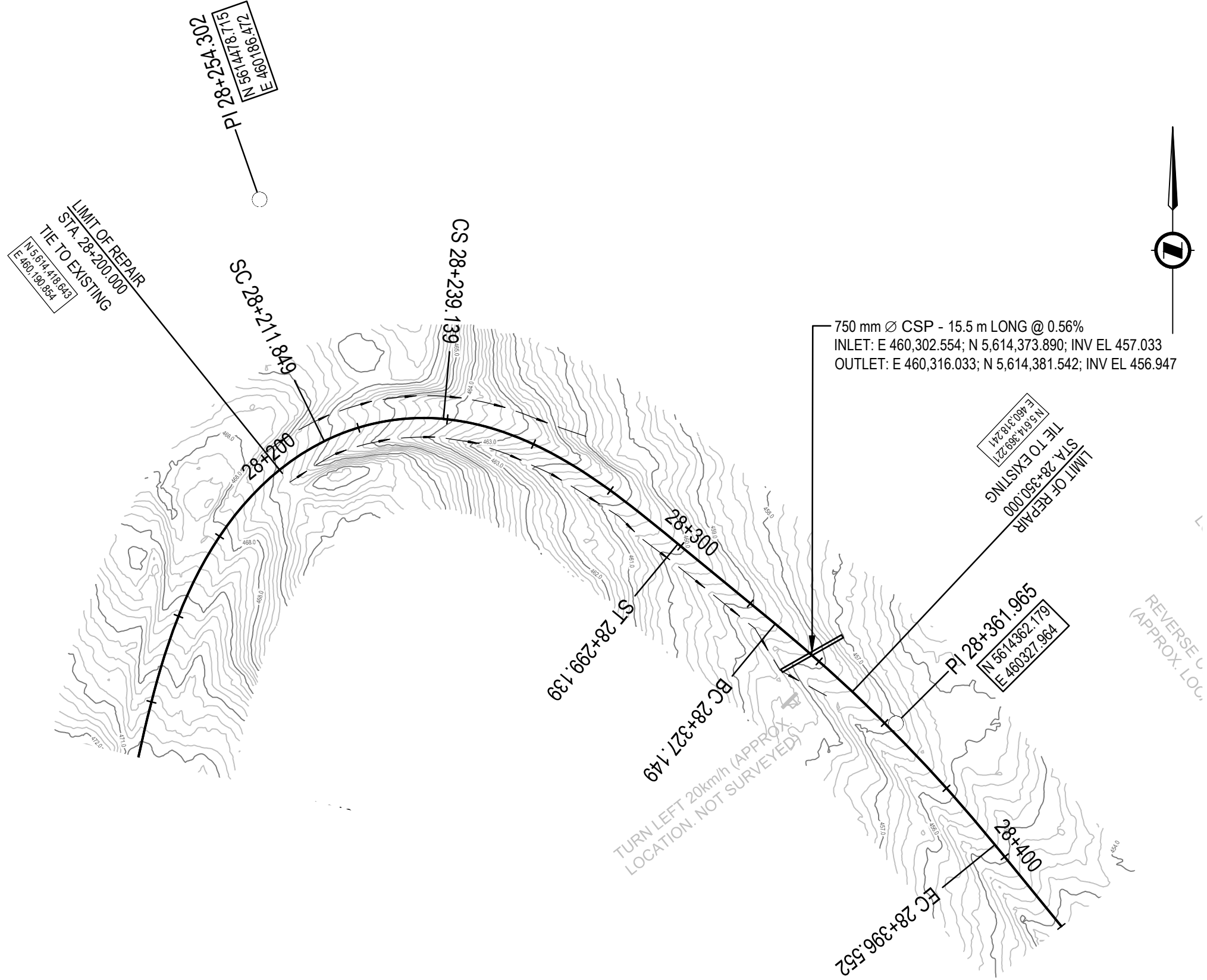
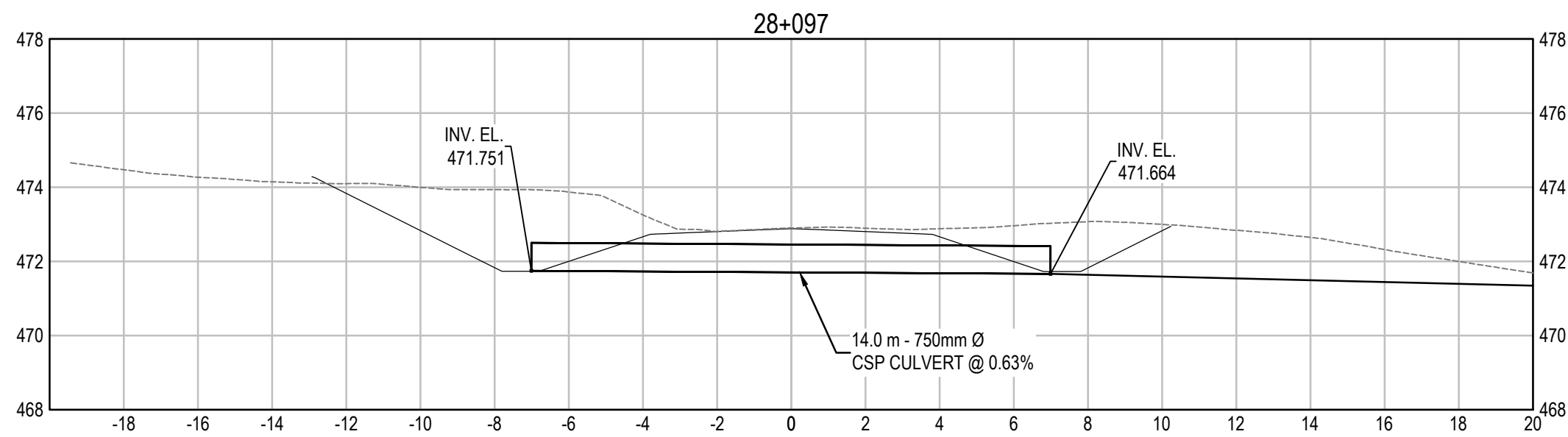
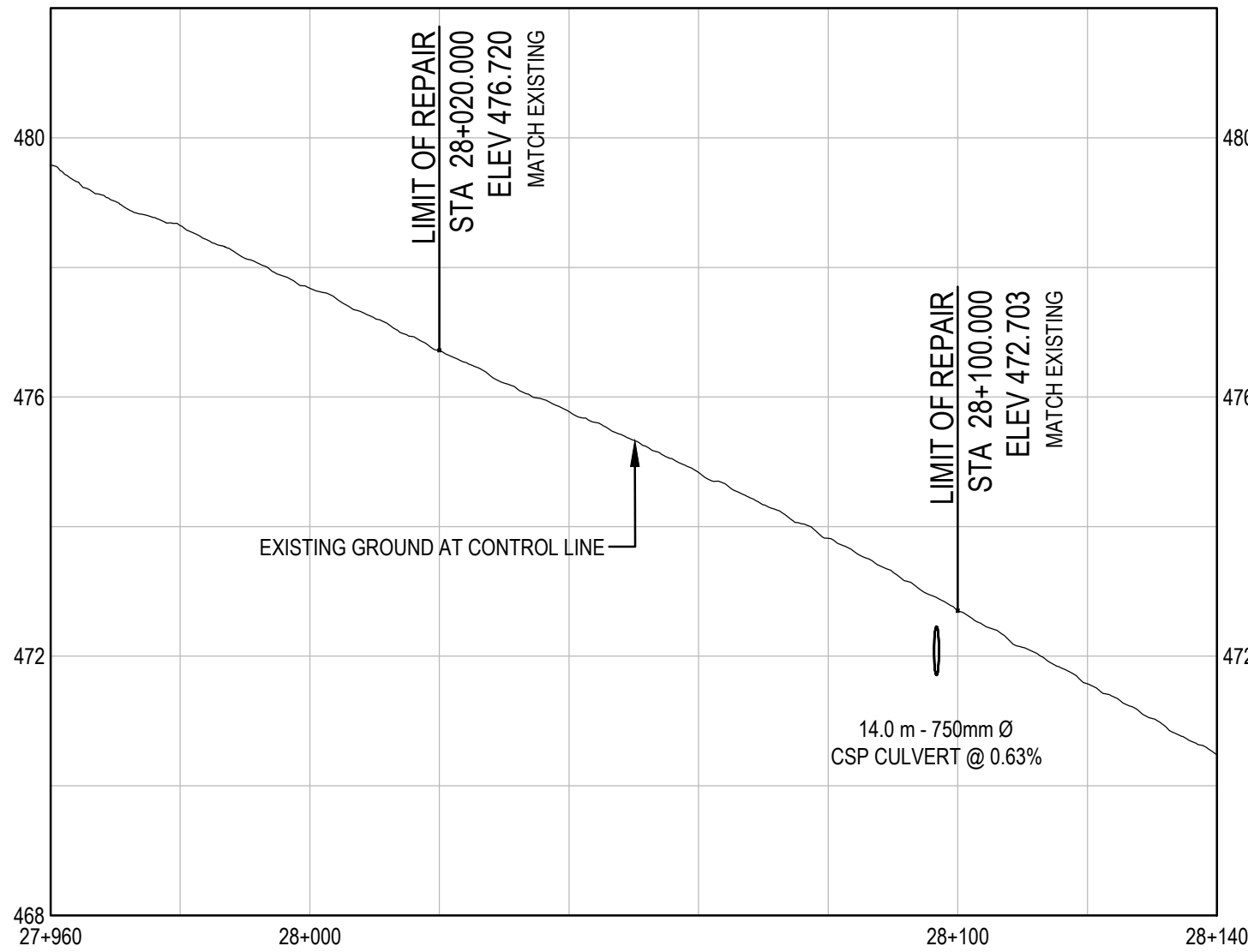
- GENERAL NOTES:
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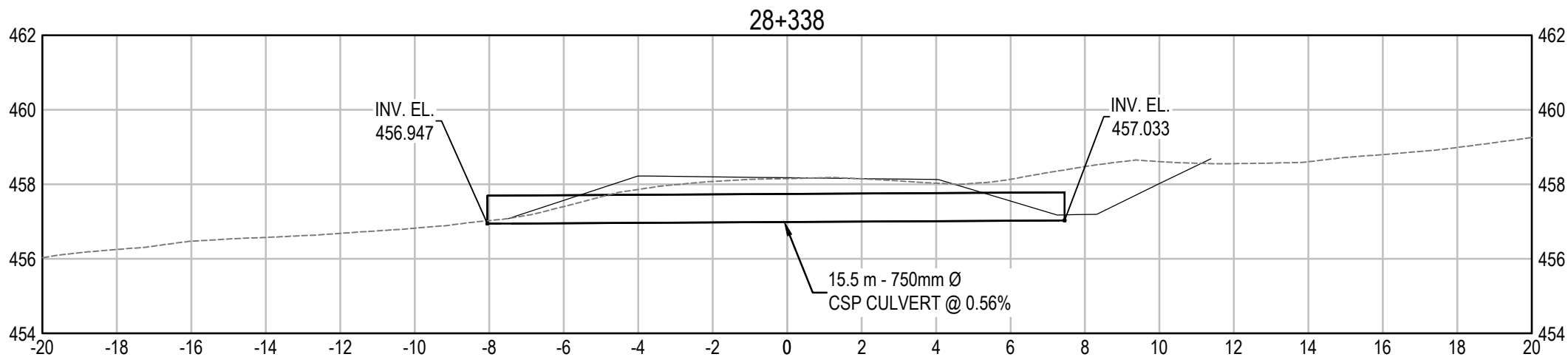
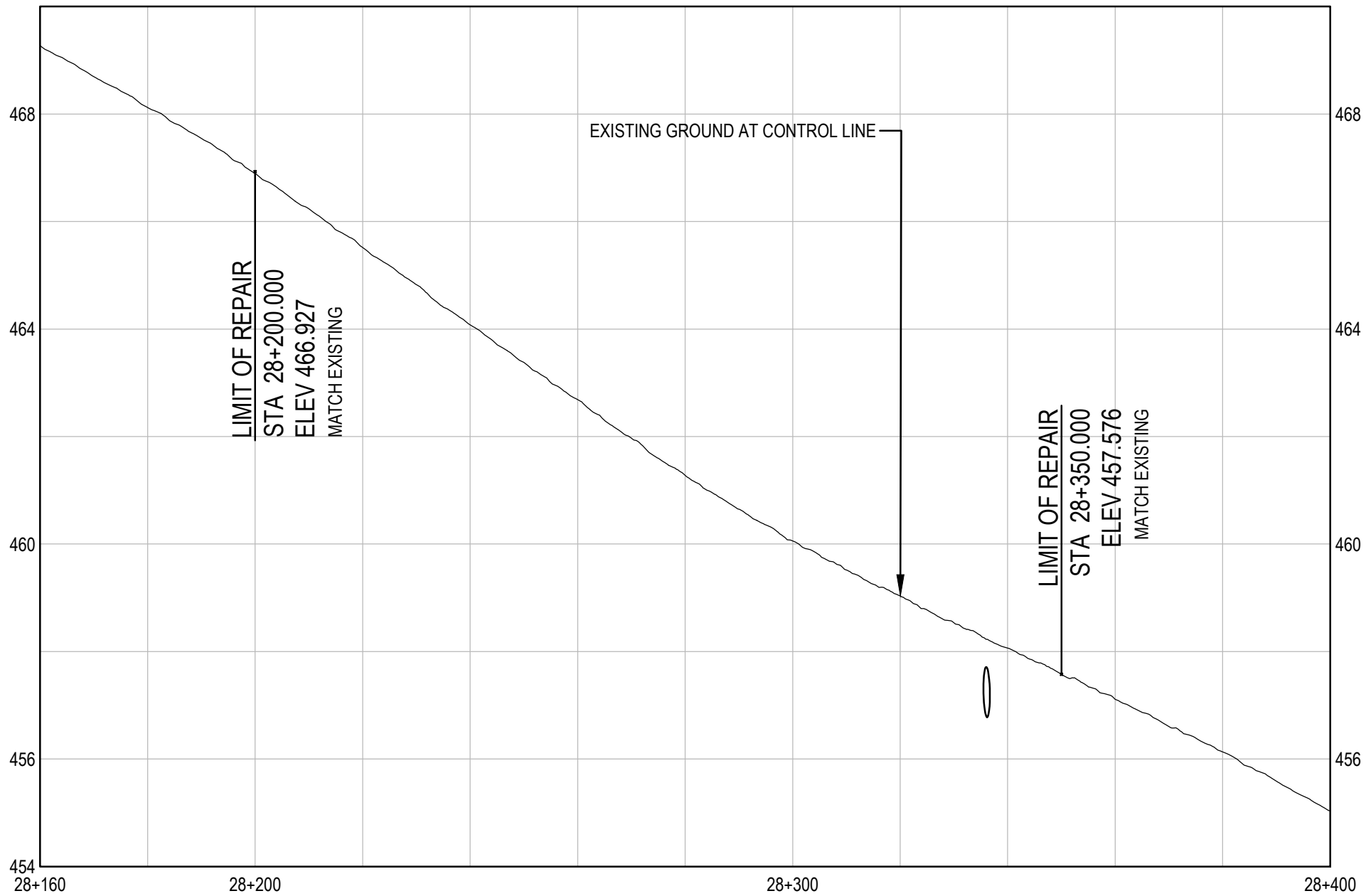
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No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé
Revision / Revision				
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Consultant's Name Nom de l'expert-conseil			Eng. Stamp Sceau de l'ingénieur	
<div><div></div><div>TETRA TECH</div></div>				
Client/client			L'Agence Parcs Canada	
<div><div></div><div>Parks Canada Agence</div></div>			Western and Northern Region	
			Ouest et Nord du Canada	
Project title/Titre du projet				
HIGHWAY 19 FLOOD DAMAGE REINSTATEMENT RIDING MTN. NAT. PARK				
Drawing title/Titre du dessin				
CULVERT PROFILES 27+740 TO 28+000				
Surveyed by/Arpenté par —		Drawn by/Dessiné par RM		Date/Date 2022-06-24
Designed by/Concept par EY		Reviewed by/Revisé par SL		Scale/Echelle AS SHOWN
PCA Project Manager/Administrateur de Projets APC				
RYAN CALDER				
Client Acceptance/Acceptation du client			Approved by/Approuvé par	
Park Responsible Officer/Agent Responsable			PRSG Project Manager/Administrateur de Projets PRSG	
Project No./No. du projet 1932-04		Asset No./No. du bien —		Sheet No./ No. de la feuille
Drawing Reference No./No. de référence du dessin —				C115



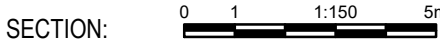
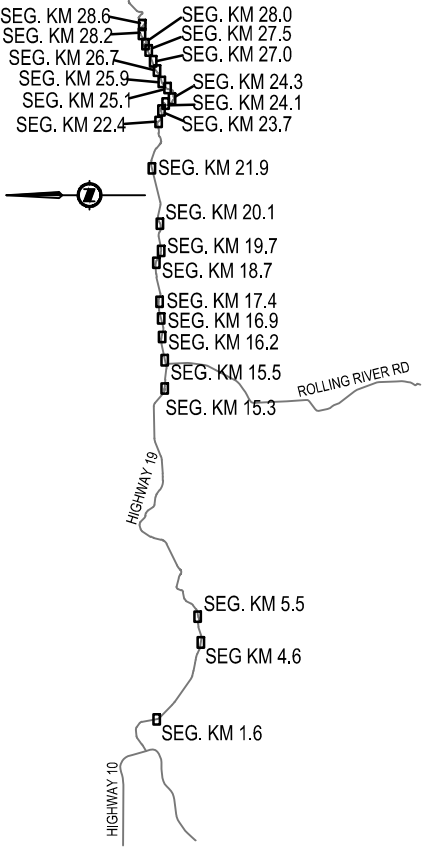
SEGMENT 28+020 TO 28+120



SEGMENT 28+200 TO 28+350



- GENERAL NOTES:
1. DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
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No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé	

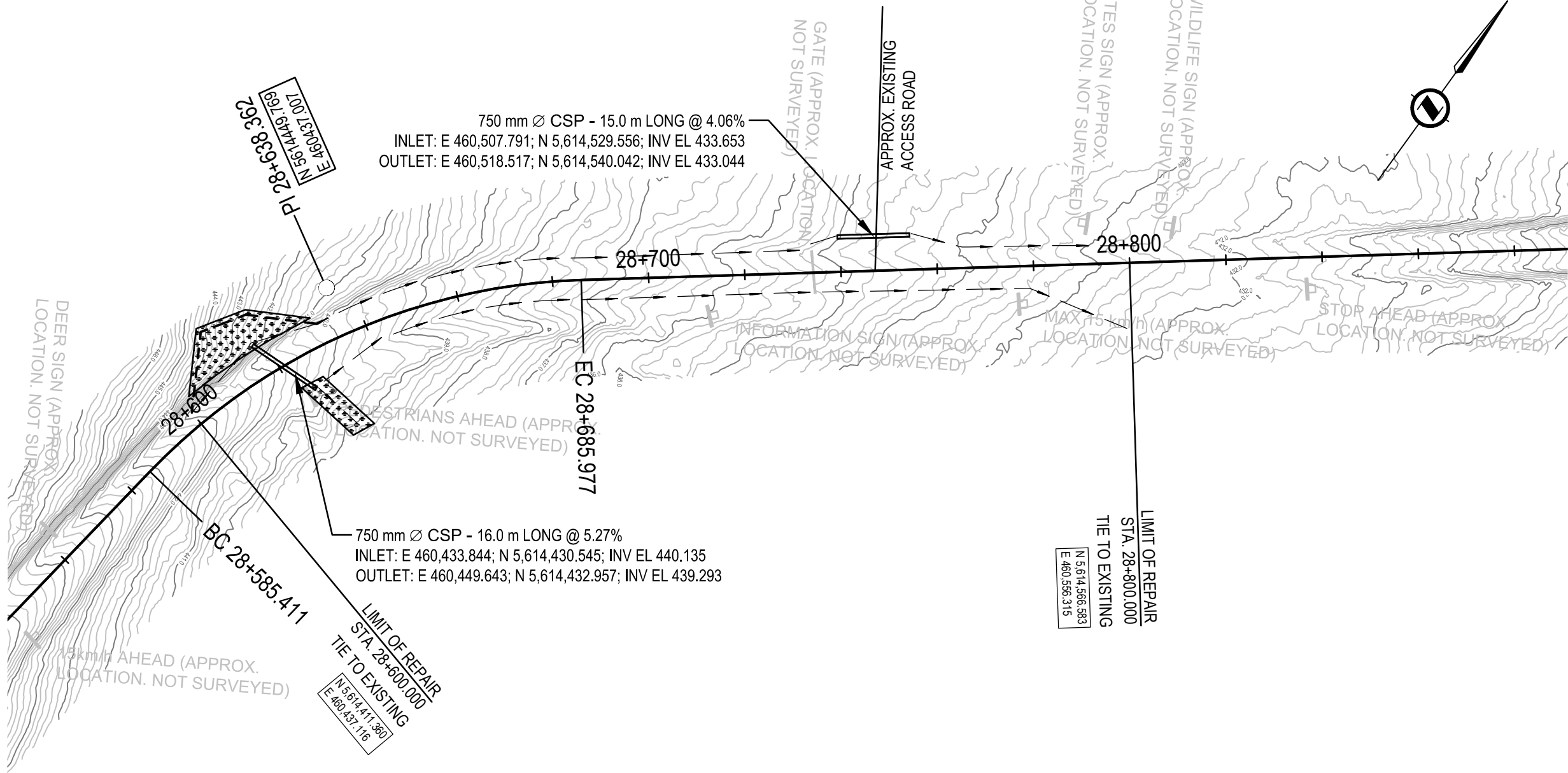
Revision / Révision	
A	detail number numéro de détail
B	source drawing no. de dessin no.
C	detail on drawing no. détail sur dessin no.
Consultant's Name Nom de l'expert-conseil	
TETRA TECH	
Eng. Stamp Sceau de l'ingénieur	

Client/Client	
Parks Canada Agency	
L'Agence Parcs Canada	
Western and Northern Region	
Ouest et Nord du Canada	

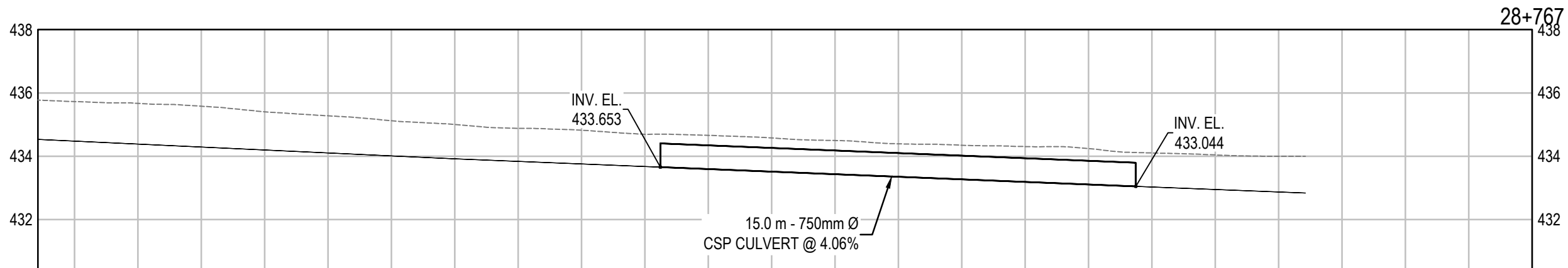
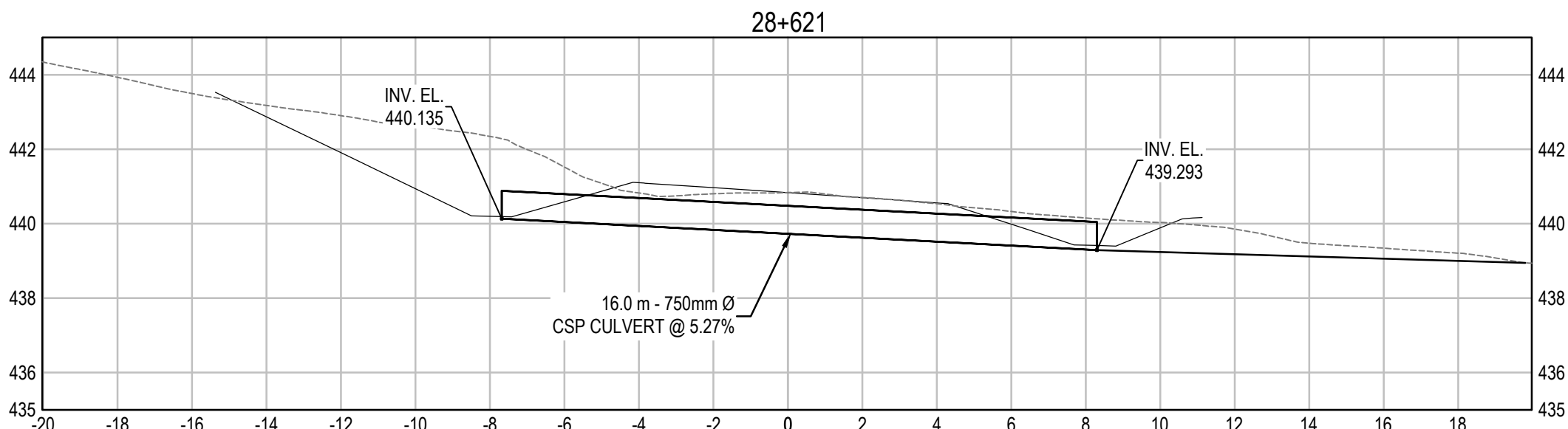
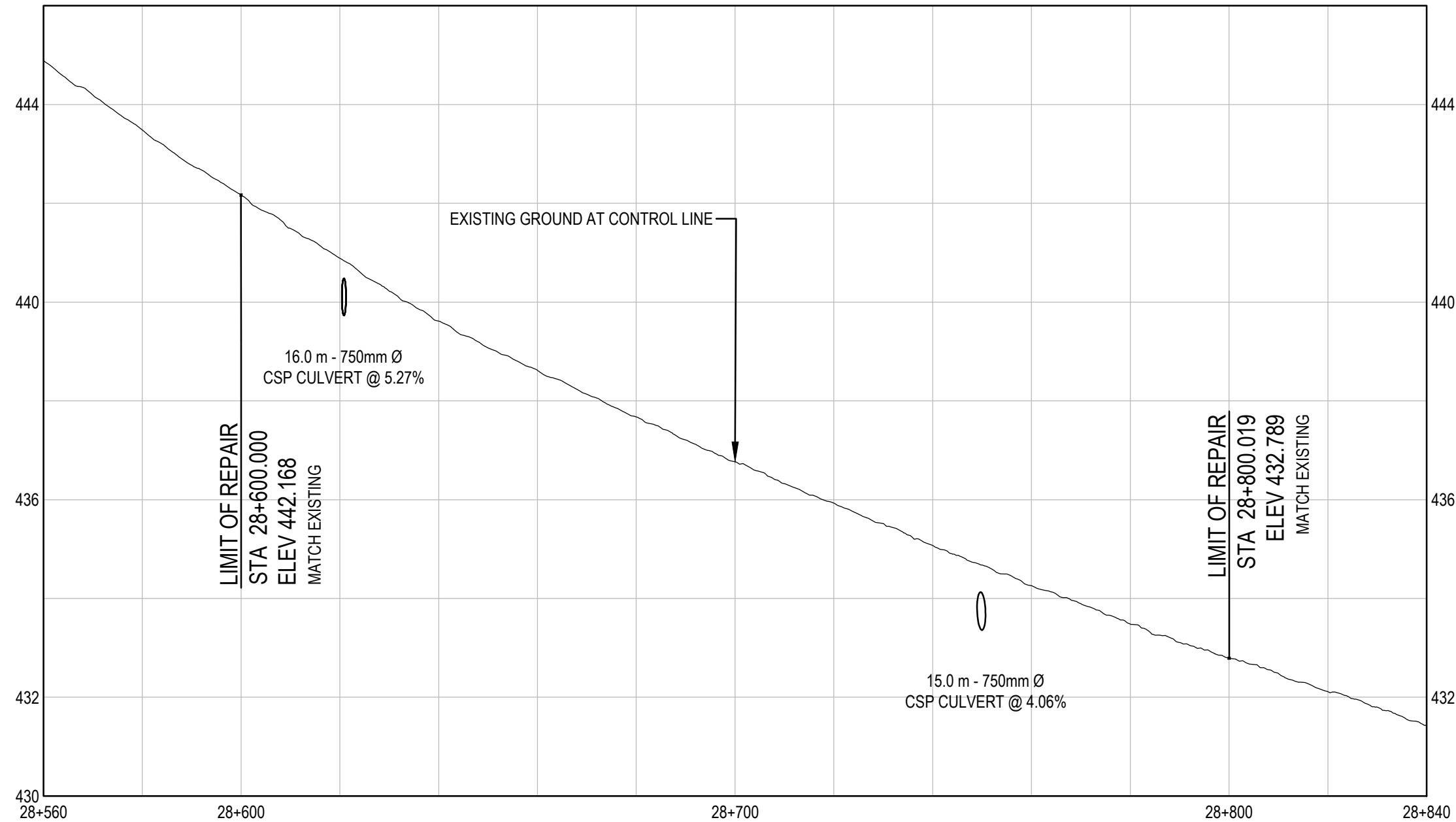
Project title/Titre du projet	
HIGHWAY 19 FLOOD DAMAGE REINSTATEMENT	
RIDING MTN. NAT. PARK	

Drawing title/Titre du dessin	
PLAN/PROFILE	
28+020 TO 28+120	
28+200 TO 28+350	

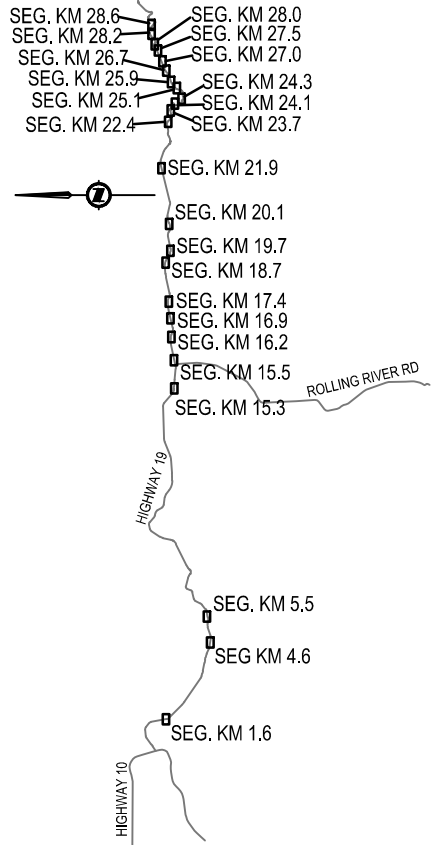
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—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PMSC Project Manager/Administrateur de Projets TPSC		
Project No./No. du projet	Asset No./No. du bien	Sheet No./No. de la feuille
1932-04	—	C116
Drawing Reference No./No. de référence du dessin		
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SEGMENT 28+600 TO 28+800



- GENERAL NOTES:
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PLAN: 0 10 50m
PROFILE: 0 1 5m

SECTION: 0 1 5m

0	22/07/25	ISSUED FOR TENDER	RM	SL
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé

Revision / Revision	
A detail number numéro de détail	A
B source drawing no. de dessin no.	B/C
C detail on drawing no. détail sur dessin no.	
Consultant's Name Nom de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur

	Parks Canada Agency	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

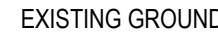
Project title/Titre du projet

HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

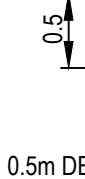
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PLAN/PROFILE
28+600 TO 28+800

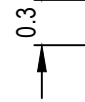
Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		
PRSG Project Manager/Administrateur de Projets PRSG		
Project No./No. du projet	Asset No./No. du bien	Sheet No./ No. de la feuille
1932-04	—	C117
Drawing Reference No./No. de référence du dessin		
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SCALE: 1:100



SCALE: 1:100



SCALE: 1:100

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Scale: 1: 100 (metres)

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Consultant's Name	Eng. Stamp
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Client/client	
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Project title/Titre du projet

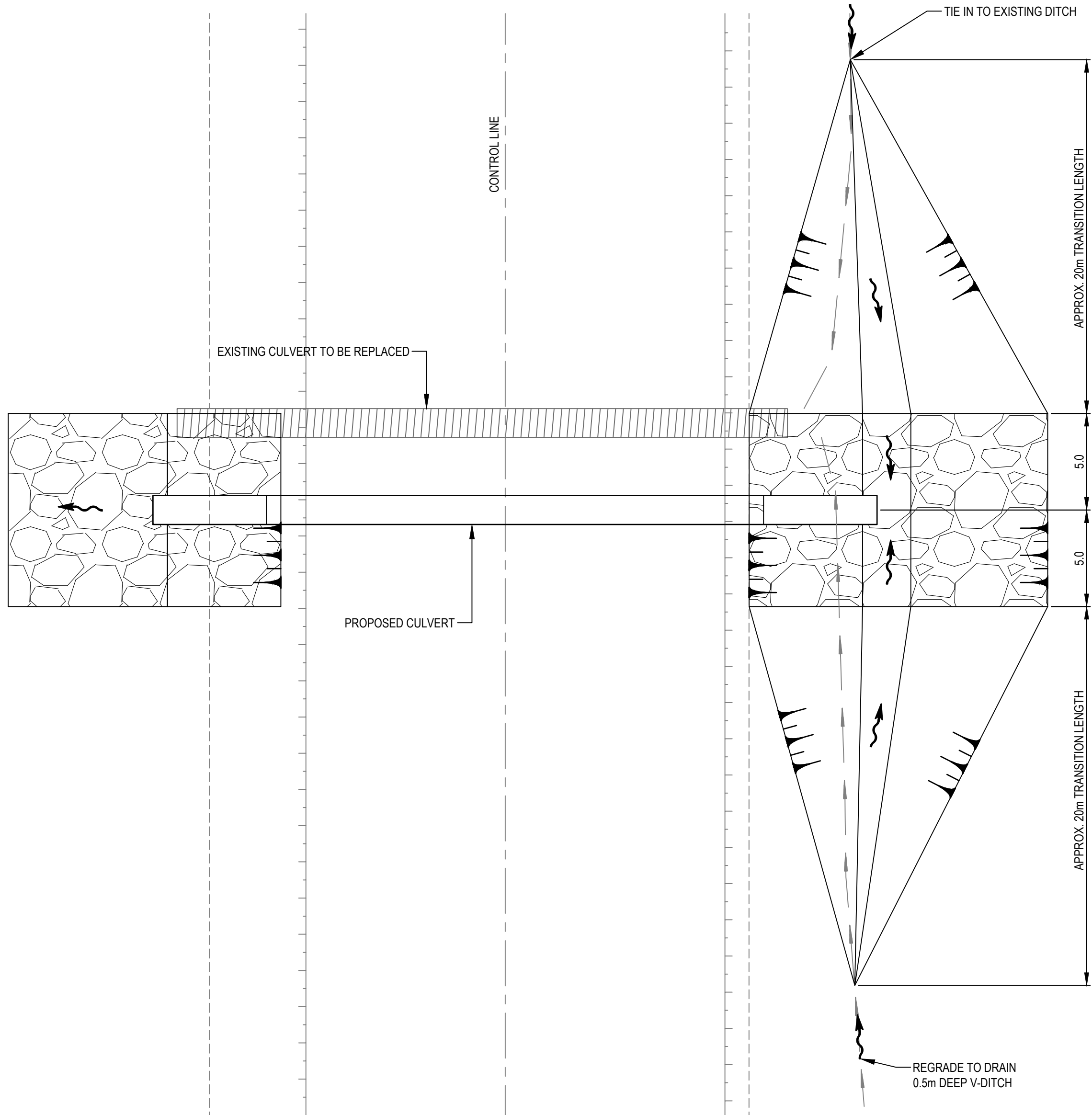
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PCA Project Manager/Administrateur de Projets APC
RYAN CALDER

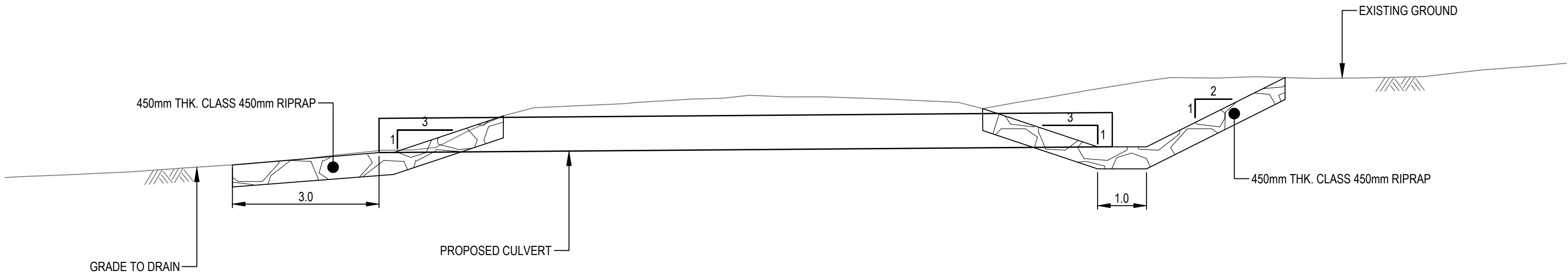
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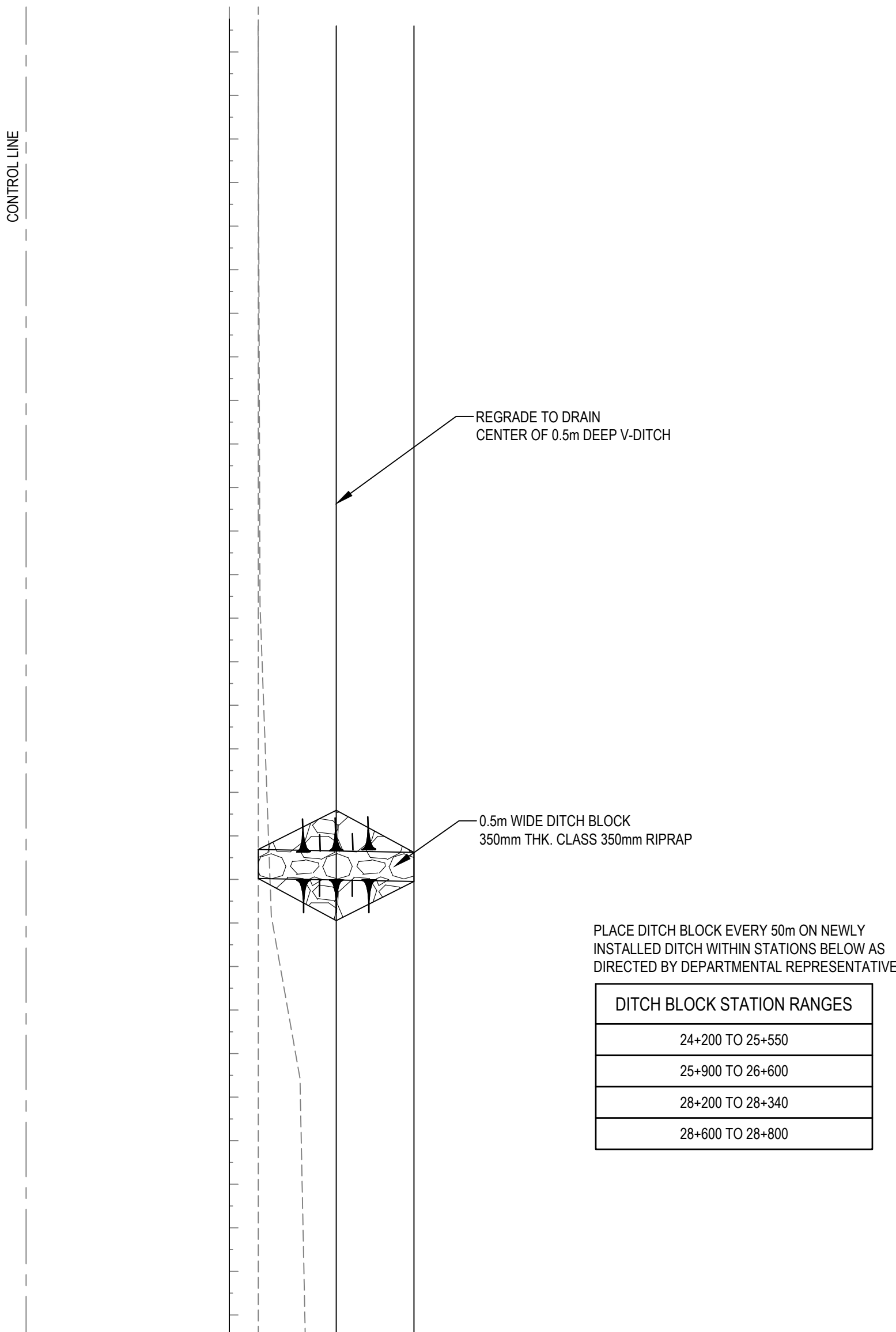
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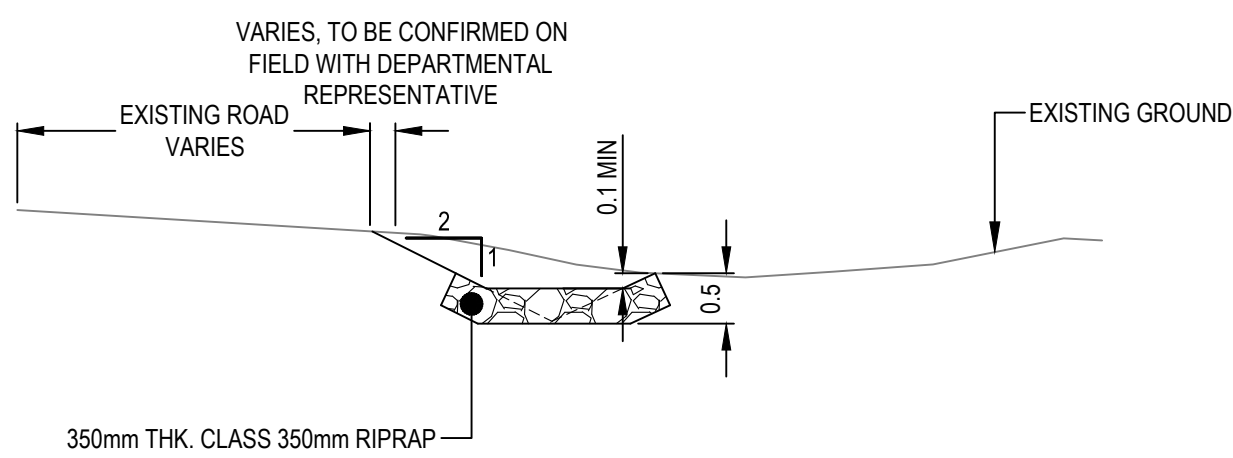
TYPICAL CULVERT GRADING
SCALE: 1:75



TYPICAL CULVERT GRADING - PROFILE
SCALE: 1:75

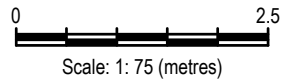


TYPICAL DITCH BLOCK
SCALE: 1:75




SECTION - DITCH BLOCK
SCALE: 1:75

- GENERAL NOTES:
- DIMENSIONS, COORDINATES, ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
 - THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
 - THE EXISTING GROUND ELEVATIONS INCLUDING CONTOURS AND EXISTING GROUND AT CONTROL LINE SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY. THE EXISTING GROUND ELEVATIONS HAVE BEEN ALTERED DUE TO WASHOUT AND EROSION.
 - MINIMUM SLOPE FOR THE NEW DITCHES AND CULVERTS WILL BE 0.5%. FIELD FIT WILL BE REQUIRED FOR THE PROPOSED DITCHES AND CULVERTS. CONTRACTOR TO CONFIRM THE LAYOUT AND INVERTS WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO CONSTRUCTION.



0	22/07/25	ISSUED FOR TENDER	RM	SL
No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved by Approuvé par

Revision / Revision				
A detail number numéro de détail		A		
B source drawing no. de dessin no.		B/C		
C detail on drawing no. détail sur dessin no.				
Consultant's Name Nom de l'expert-conseil			Eng. Stamp Sceau de l'ingénieur	

Client/client	
	Parks Canada Agence
	L'Agence Parcs Canada
	Western and Northern Region
	Ouest et Nord du Canada

Project title/Titre du projet

HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT

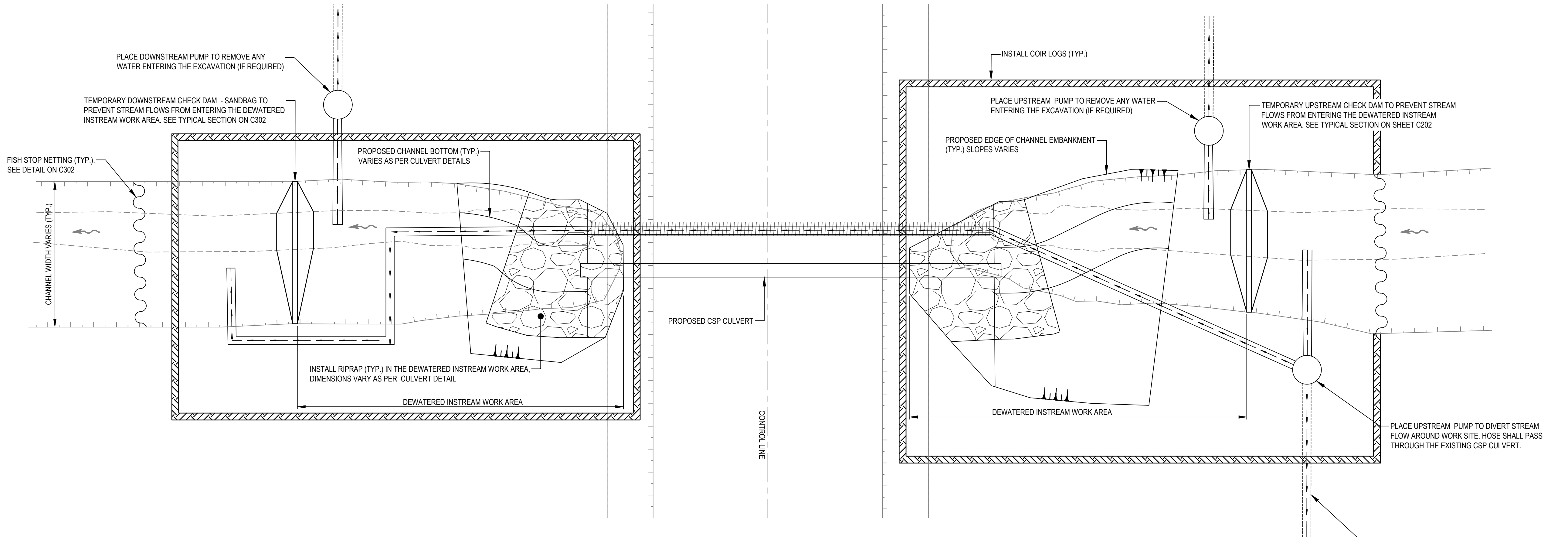
RIDING MTN. NAT. PARK

Drawing title/Titre du dessin

TYPICAL CULVERT
GRADING TIE-IN DETAILS

Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		
Approved by/Approuvé par		
PRISC Project Manager/Administrateur de Projets PRISC		
Project No./No. du projet	Asset No./No. du-bien	Sheet No./ No. de la feuille
1932-04	—	C202
Drawing Reference No./No. de référence du dessin		—

Q:\Vancouver\Transportation\TRN_VH\03222 Hwy 19 Riding Mtn Realignment\Drawing\Production\100_Plan\Hwy 19 Flood Damage Reinstatement\C301-C302 TYPICAL SECTIONS DETAILS.dwg (C301) July 25, 2022, 2:19:23 pm (BY: DEEPWELL, ANDREW)



TYPICAL STAGING FOR TEMPORARY STREAM DIVERSION FOR CULVERT REPLACEMENT
(TO BE IMPLEMENTED DURING CULVERT REPLACEMENT WHEN STREAM FLOWS ARE PRESENT OR EXPECTED DURING THE WORK)
SCALE: NTS


CONSTRUCTION SEQUENCING / STAGING


1. INSTALL COIR LOGS ALONG LIMITS OF EXCAVATION.
2. INSTALL FISH STOP NETTING.
3. PERFORM FISH CAPTURE WITHIN INSTREAM WORK ZONE (FISH NETTING TO FISH NETTING).
4. INSTALL DOWNSTREAM COIR LOGS.
5. INSTALL UPSTREAM PUMPS AND COMMENCE STREAM FLOW DIVERSION INTO PUMPS.
6. INSTALL UPSTREAM CHECK DAM.
7. INSTALL DOWNSTREAM CHECK DAM (IF NECESSARY).
8. INSTALL DOWNSTREAM PUMP (IF NECESSARY).
9. COMPLETE EXCAVATION, REMOVING EXISTING CULVERT AND CREATE STABLE STREAM BANK SLOPE.
10. INSTALL RIPRAP OR COCO FIBER GEOTEXTILE PER DESIGN REQUIREMENTS WITHIN INSTREAM WORK AREA.
11. REMOVE DOWNSTREAM CHECK DAM AND ANY ASSOCIATED MATERIAL.
12. REMOVE DOWNSTREAM PUMP AND ASSOCIATED MATERIAL.
13. REMOVE UPSTREAM CHECK DAM AND ANY ASSOCIATED MATERIAL AND COMMENCE STREAM FLOW THROUGH CHANNEL.
14. REMOVE UPSTREAM PUMP AND ASSOCIATE MATERIAL.
15. REMOVE DOWNSTREAM FISH STOP NETTING AND ASSOCIATED MATERIAL.
16. REMOVE UPSTREAM FISH STOP NETTING AND ASSOCIATED MATERIAL.

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0 5
Scale: 1:100 (metres)

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Revision / Revision	
A detail number numéro de détail	A
B source drawing no. de dessin no.	B
C detail on drawing no. détail sur dessin no.	C
Consultant's Name Nom de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
 TETRA TECH	

 Parks Canada Agence	L'Agence Parcs Canada
Western and Northern Region	Ouest et Nord du Canada

Project title/Titre du projet

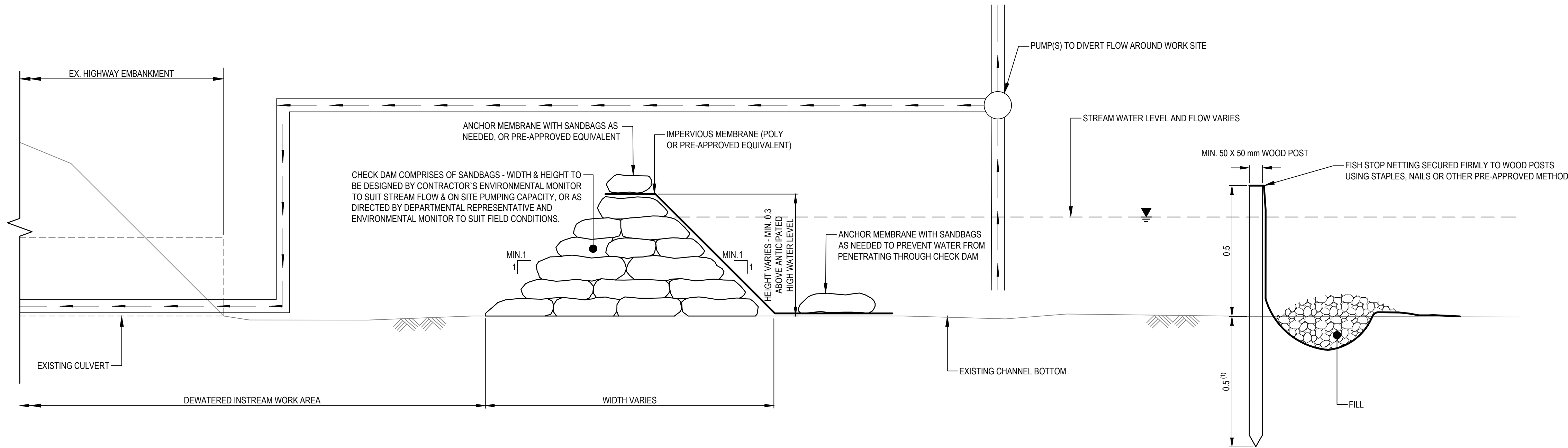
**HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK**

Drawing title/Titre du dessin

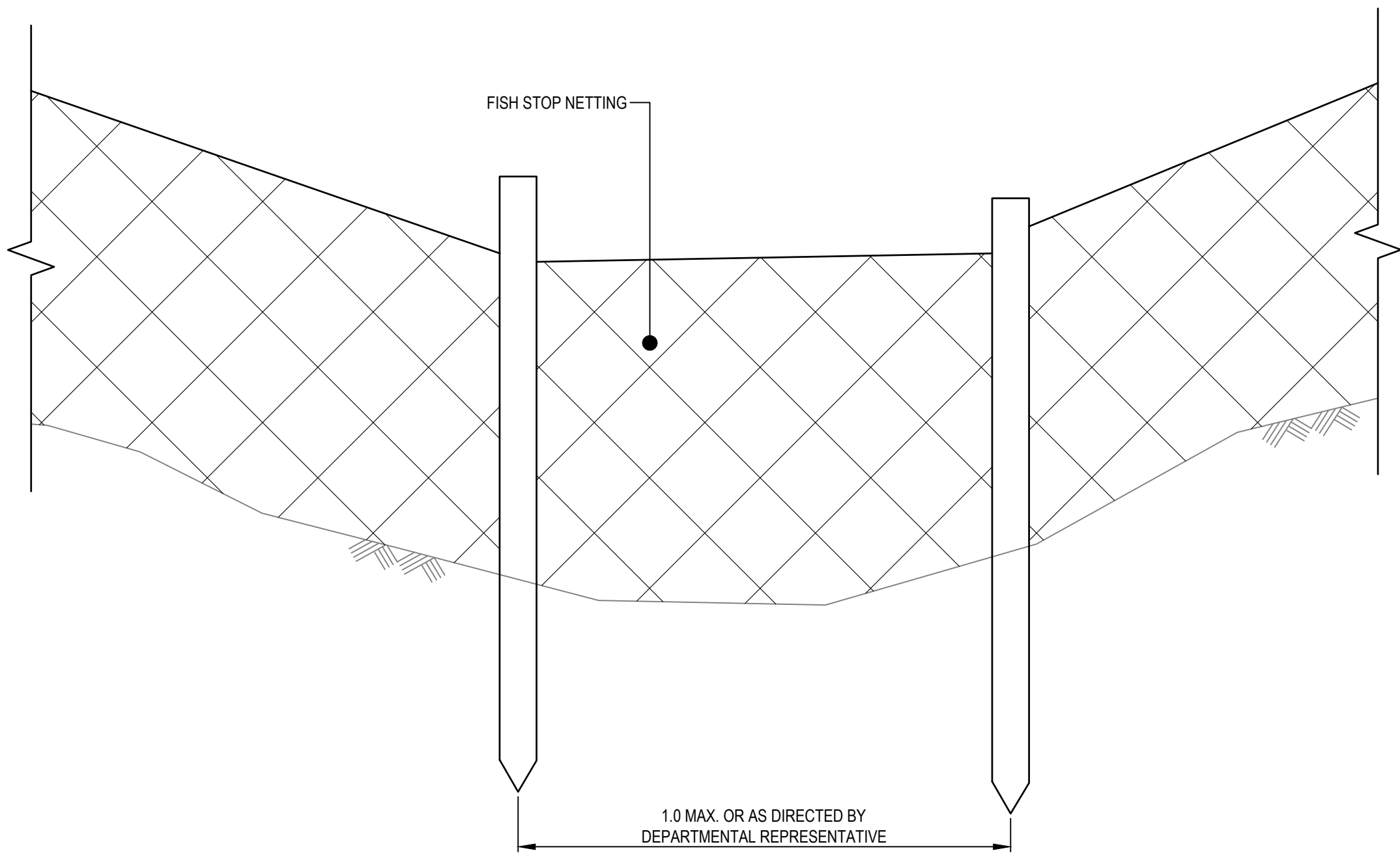
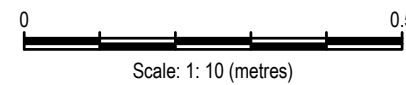
**TYPICAL CULVERT
REMOVAL ENVIRONMENTAL
CONSTRUCTION STAGING
CONCEPT**

Surveyed by/Arpenté par —	Drawn by/Dessiné par RM	Date/Date 2022-06-24
Designed by/Conçait par EY	Reviewed by/Revisé par SL	Scale/Echelle AS SHOWN
PCA Project Manager/Administrateur de Projets APC RYAN CALDER		
Client Acceptance/Acceptation du client Approved by/Approuvé par		
Park Responsible Officer/Agent Responsable		PRSG Project Manager/Administrateur de Projets PRSG
Project No./No. du projet 1932-04	Asset No./No. du-bien —	Sheet No./ No. de la feuille C301
Drawing Reference No./No. de référence du dessin —		

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TYPICAL SECTION OF TEMPORARY CHECK DAM USING SANDBAGS
(UPSTREAM CHECK DAM ARRANGEMENT SHOWN, MIRROR ARRANGEMENT FOR DOWNSTREAM CHECK DAM)
SCALE: NTS



TYPICAL SECTION FISH STOP NET INSTALLATION
SCALE: NTS

NOTES:

1. IF PRE-APPROVED BY THE DEPARTMENTAL REPRESENTATIVE AND THE CONTRACTOR'S ENVIRONMENTAL MONITOR, THE CONTRACTOR MAY UTILIZE EARTH FILL TO CONSTRUCT CHECK DAM. IF AN EARTH FILL CHECK DAM IS UTILIZED THE TURBIDITY LEVELS SHALL SATISFY ENVIRONMENTAL PROTECTION PLAN FOR TURBIDITY FOR THE DURATION OF EARTH BERM INSTALLATION AND THE EARTH MATERIAL USED AND COMPACTION REQUIREMENTS OF THE EARTH MATERIAL SHALL BE DESIGNED BY THE ENVIRONMENTAL MONITOR WITH ALL DETAILS INCLUDED IN THE SUBMITTED, REVIEWED AND ACCEPTED ENVIRONMENTAL PROTECTION PLAN.

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No.	Date/Date	Description/Description	Drawn by Dessiné par	Approved Approuvé
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Revision / Revision

A	detail number numéro de détail	A
B	source drawing no. de dessin no.	B/C
C	detail on drawing no. détail sur dessin no.	

Consultant's Name Nom de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
	

 Parks Canada Agence	L'Agence Parcs Canada
Western and Northern Region	Ouest et Nord du Canada

Project title/Titre du projet

HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT
RIDING MTN. NAT. PARK

Drawing title/Titre du dessin

CHECK DAM AND FISH
STOP NET DETAILS

Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
—	RM	2022-06-24
Designed by/Conçut par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN

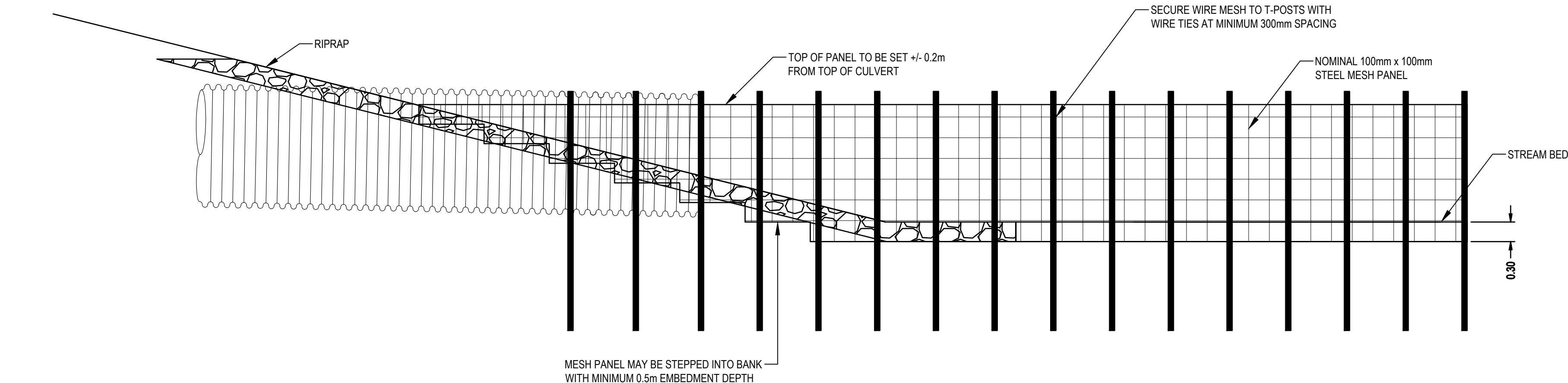
PCA Project Manager/Administrateur de Projets APC
RYAN CALDER

Client Acceptance/Acceptation du client Approved by/Approuvé par

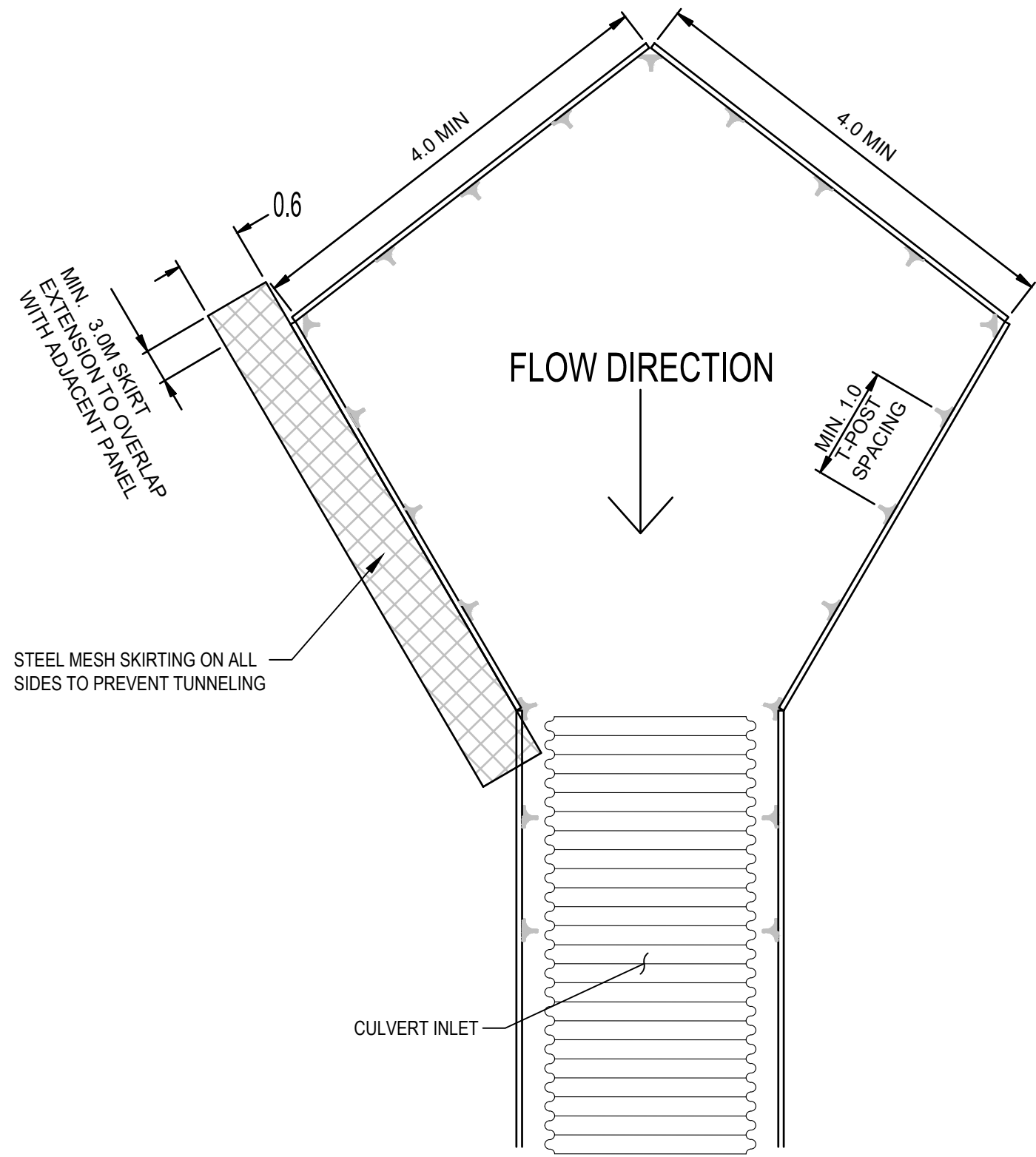
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1932-04	—	C302

Drawing Reference No./No. de référence du dessin

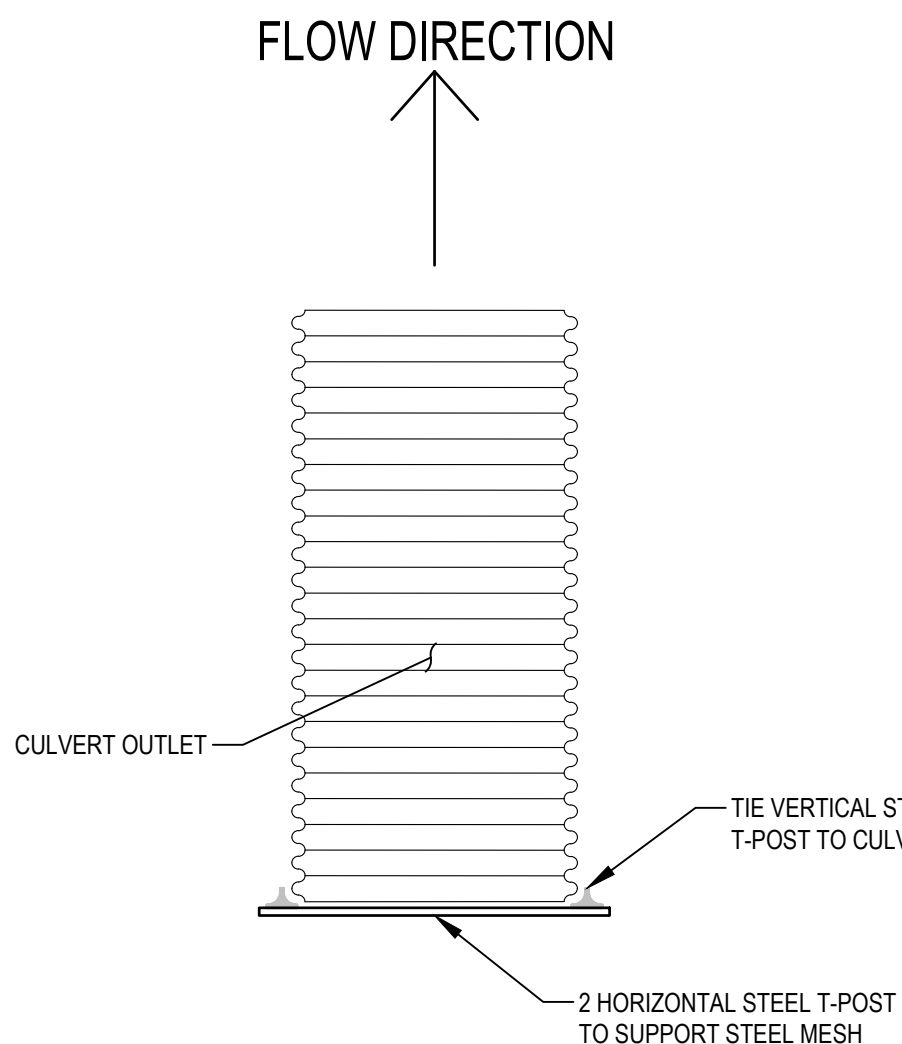
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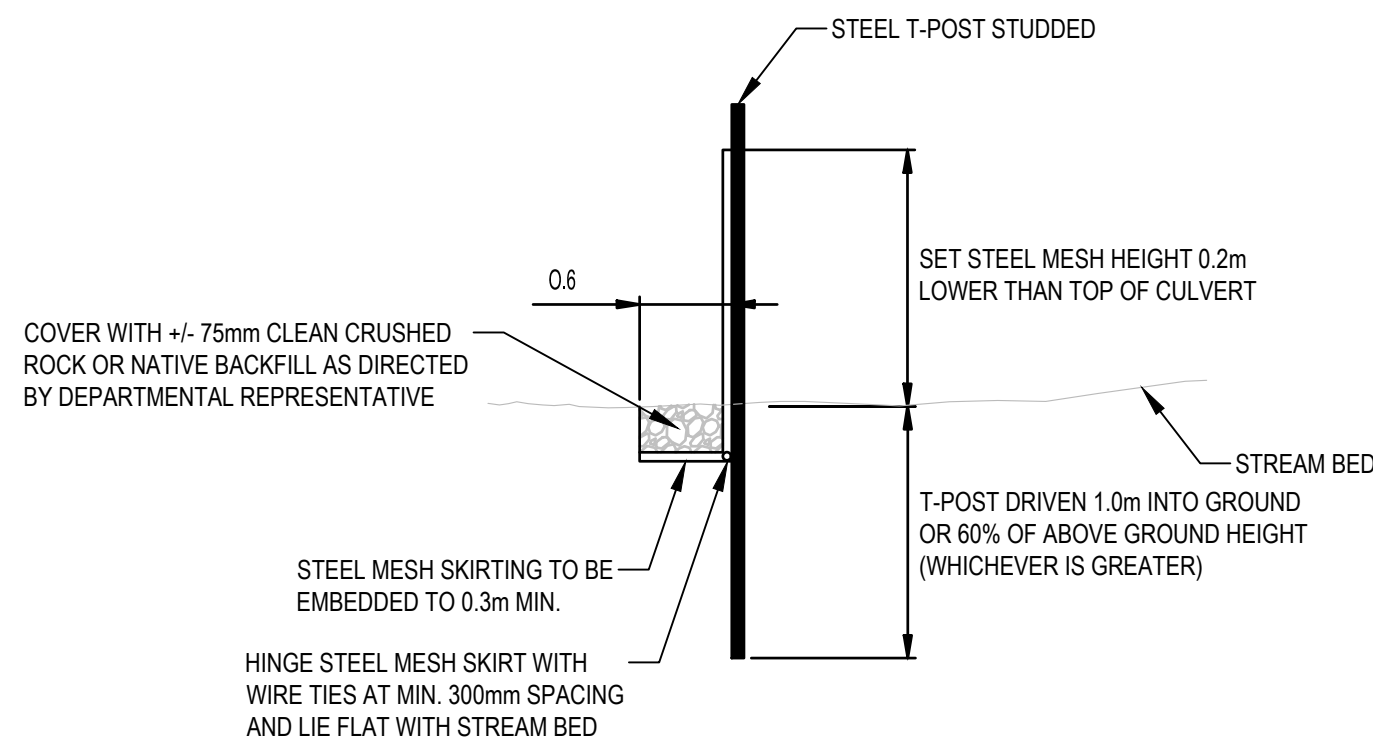
ELEVATION VIEW
SCALE NTS



PLAN VIEW INLET
SCALE NTS

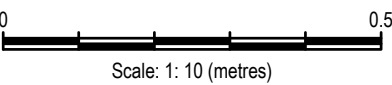


PLAN VIEW OUTLET
SCALE NTS



SECTION VIEW
SCALE NTS

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Eng. Stamp Sceau de l'ingénieur	

Client/client	Parks Canada Agence	L'Agence Parcs Canada
	Western and Northern Region	Ouest et Nord du Canada

Project title/Titre du projet

HIGHWAY 19 FLOOD
DAMAGE REINSTATEMENT

RIDING MTN. NAT. PARK

Drawing title/Titre du dessin

BEAVER DECEIVER DETAIL

Surveyed by/Arpenté par	Drawn by/Dessiné par	Date/Date
—	RM	2022-06-24
Designed by/Concept par	Reviewed by/Revisé par	Scale/Echelle
EY	SL	AS SHOWN
PCA Project Manager/Administrateur de Projets APC		
RYAN CALDER		
Client Acceptance/Acceptation du client		Approved by/Approuvé par
Park Responsible Officer/Agent Responsable		PRISC Project Manager/Administrateur de Projets TPSC
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1932-04	—	C303
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