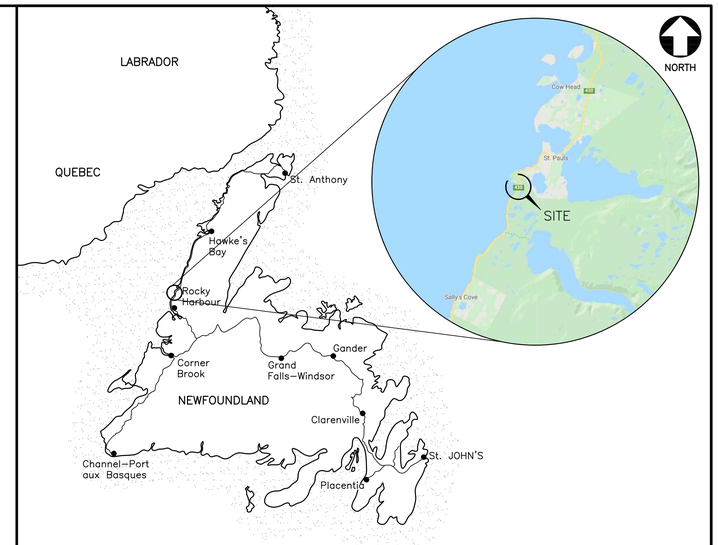
Parcs Canada

Parks Canada

WESTERN BROOK BRIDGE REPLACEMENT GROS MORNE NATIONAL PARK NEWFOUNDLAND AND LABRADOR



LOCATION PLAN

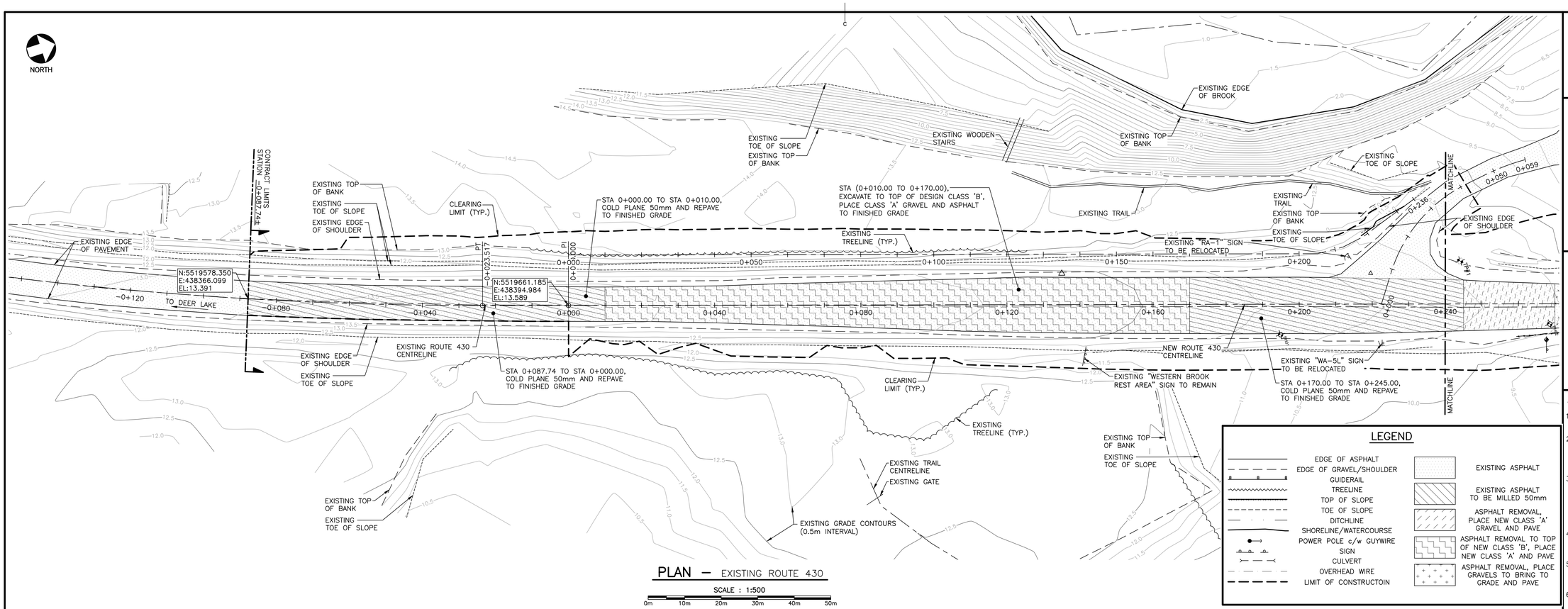
SCALE : N.T.S.

DRAWING LIST

PROJECT NO. 1268

HARBOURSIDE
Engineering Consultants

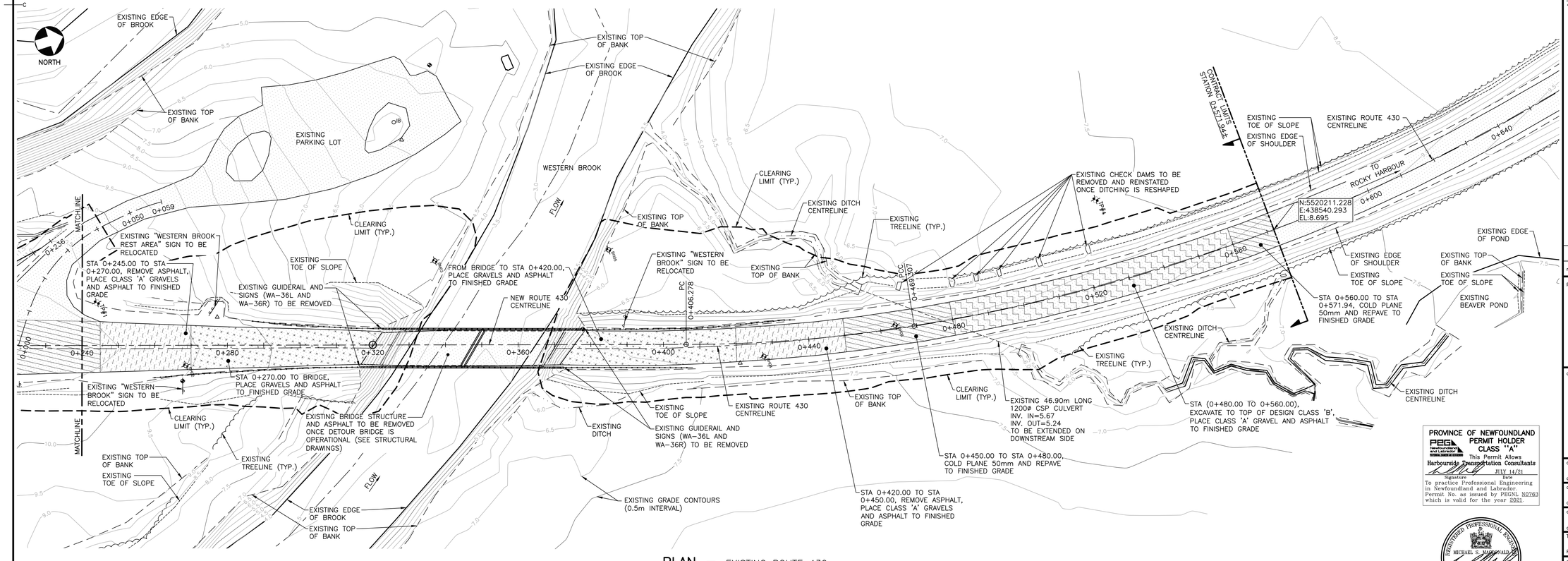
Canada



PLAN – EXISTING ROUTE 430

SCALE : 1:500

0m 10m 20m 30m 40m 50m



PLAN – EXISTING ROUTE 430

SCALE : 1:500

0m 10m 20m 30m 40m 50m

LEGEND

- EDGE OF ASPHALT
- EDGE OF GRAVEL/SHOULDER
- GUIDERAIL
- TREELINE
- TOP OF SLOPE
- TOE OF SLOPE
- DITCHLINE
- SHORELINE/WATERCOURSE
- POWER POLE c/w GUYWIRE
- SIGN
- CULVERT
- OVERHEAD WIRE
- LIMIT OF CONSTRUCTOIN
- EXISTING ASPHALT
- EXISTING ASPHALT TO BE MILLED 50mm
- ASPHALT REMOVAL, PLACE NEW CLASS 'A' GRAVEL AND PAVE
- ASPHALT REMOVAL TO TOP OF NEW CLASS 'B', PLACE NEW CLASS 'A' AND PAVE
- ASPHALT REMOVAL, PLACE GRAVELS TO BRING TO GRADE AND PAVE

GENERAL NOTES:

1. ALL ELEVATIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. SURVEY REFERENCED HORIZONTALLY TO UTM ZONE 21 NORTH NAD83 (CSRS) 2010.0 AND VERTICALLY TO CGVD28 (HTV2.0 GEOID MODEL).
3. CONTROL IS DERIVED FROM STATIC GNSS OBSERVATIONS ON A NAIL (POINT #1000) HAVING COORDINATES OF:
   N=5483441.253m
   E=442956.271m
   EL=20.152m
4. RAW GNSS DATA PROCESSED USING NATURAL RESOURCES CANADA PRECISE POINT POSITIONING SOFTWARE.
5. FIELD SURVEY WAS CARRIED OUT BETWEEN MARCH 6–9TH, 2018 AND JULY 25–28TH, 2018.
6. COORDINATES ARE GRID. APPLY COMBINED SCALE FACTOR OF 1.0003631 TO CALCULATE GROUND DISTANCES.
7. CONTOUR INTERVAL IS 0.5 METRE.

– HORIZONTAL ALIGNMENT CONTROL POINTS CONSIST OF:
  PT – POINT OF TAENGENCY
  PC – POINT OF CURVATURE
  PRC – POINT OF REVERSE CURVATURE
  PCC – POINT OF COMPOUND CURVATURE

– LINE DATA:
  AZ – AZIMUTH
  L – LENGTH

– CURVE DATA:
  D – DELTA
  L – LENGTH
  R – RADIUS

revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

EXISTING CONDITIONS AND REMOVALS PLAN (SHEET 1 OF 1)

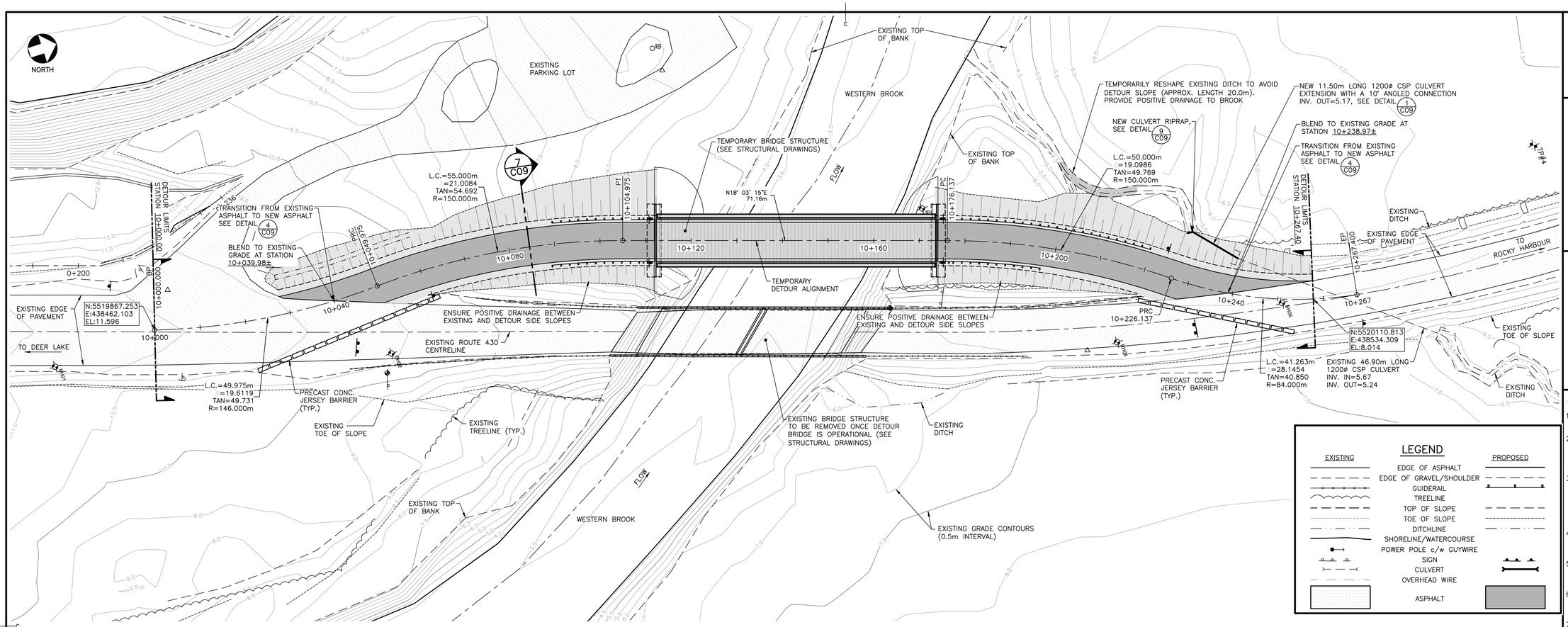
designed	MICHAEL MACDONALD	concu
date	MARCH 2019	
drawn	CORY BAKER	dessiné
date	MARCH 2019	
approved	MICHAEL MACDONALD	approuvé
date	MARCH 2019	
Tender		Soumission
PCA Project Manager		Administrateur de projets APC
project number	182009	no. du projet
drawing no.	C01	no. du dessin

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows
Harbourside Transportation Consultants
JULY 14/21
Signature Date
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGNL N0763
which is valid for the year 2021.

REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. MACDONALD
SIGNATURE
July 14/21
DATE
NEWFOUNDLAND & LABRADOR

PWGSC B1 (2004)

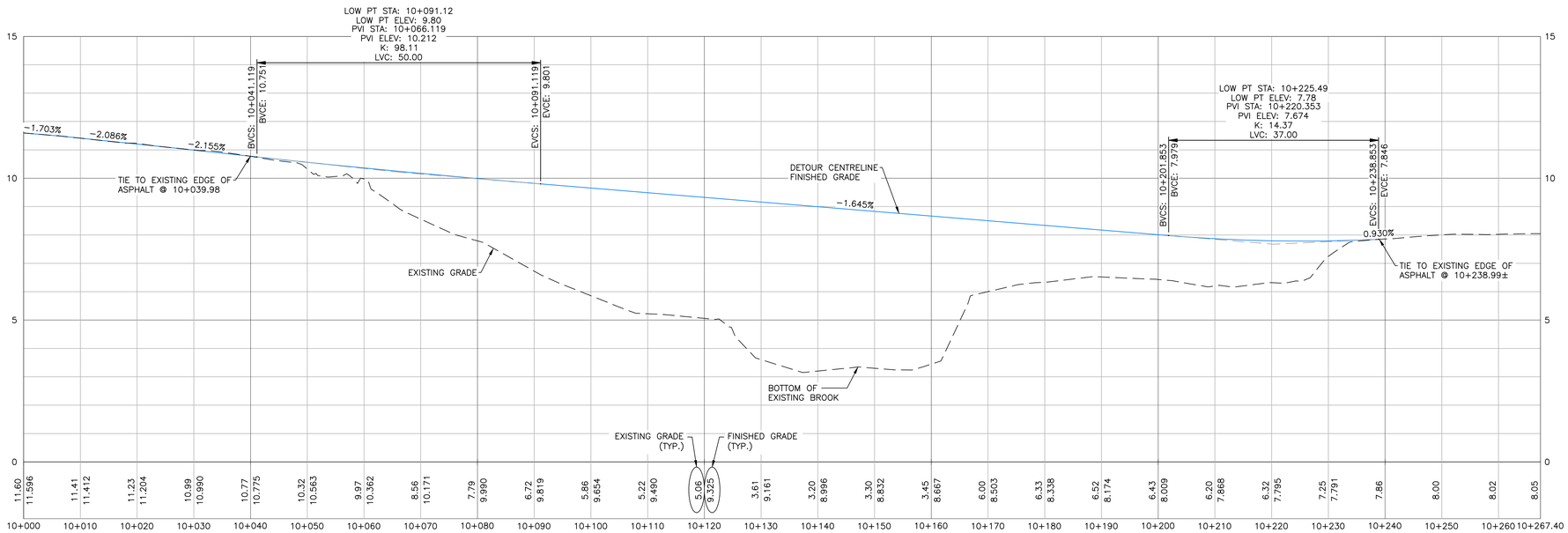
0 10 20mm 40 60 80 100 120 140 160 180 200mm



PLAN – PROPOSED DETOUR

SCALE : 1:400

0m 10m 20m 30m 40m 50m



PROFILE – TEMPORARY DETOUR (10+000.00 TO 10+267.40)

HORIZONTAL SCALE : 1:400

0m 10m 20m 30m 40m 50m

VERTICAL SCALE : 1:80

0mm 2mm 4mm 6mm 8mm 10mm

0 10 20mm 40 60 80 100 120 140 160 180 200mm

LEGEND

EXISTING		PROPOSED
	EDGE OF ASPHALT	
	EDGE OF GRAVEL/SHOULDER	
	GUIDERAIL	
	TREELINE	
	TOP OF SLOPE	
	TOE OF SLOPE	
	DITCHLINE	
	SHORELINE/WATERCOURSE	
	POWER POLE c/w GUYWIRE	
	SIGN	
	CULVERT	
	OVERHEAD WIRE	
	ASPHALT	

GENERAL NOTES:

1. ALL ELEVATIONS ARE IN METRES UNLESS OTHERWISE NOTED.
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– LINE DATA:
  AZ – AZIMUTH
  L – LENGTH

– CURVE DATA:
  D – DELTA
  L – LENGTH
  R – RADIUS

PROVINCE OF NEWFOUNDLAND PERMIT HOLDER CLASS "A"
This Permit Allows Harbourside Transportation Consultants
Signature Date JULY 14/21
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEGNL N0763 which is valid for the year 2021.

PROFESSIONAL ENGINEER MICHAEL S. MACDONALD SIGNATURE July 14/21 DATE NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

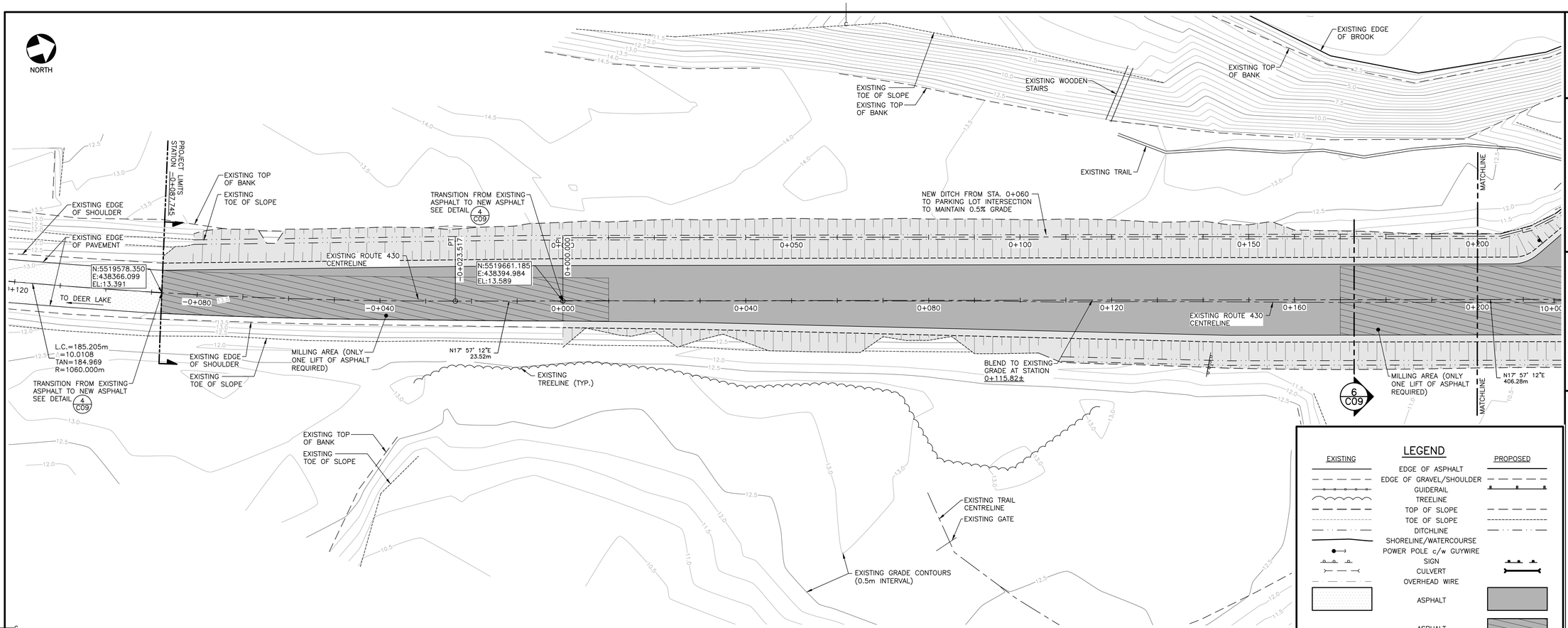
TEMPORARY DETOUR PLAN/PROFILE (SHEET 1 OF 1)

designed / conçu	MICHAEL MACDONALD	
date	MARCH 2019	
drawn / dessiné	CORY BAKER	
date	MARCH 2019	
approved / approuvé	MICHAEL MACDONALD	
date	MARCH 2019	
Tender / Soumission		
PCA Project Manager	Administrateur de projets APC	

project number / no. du projet: **182009**

drawing no. / no. du dessin: **C02**

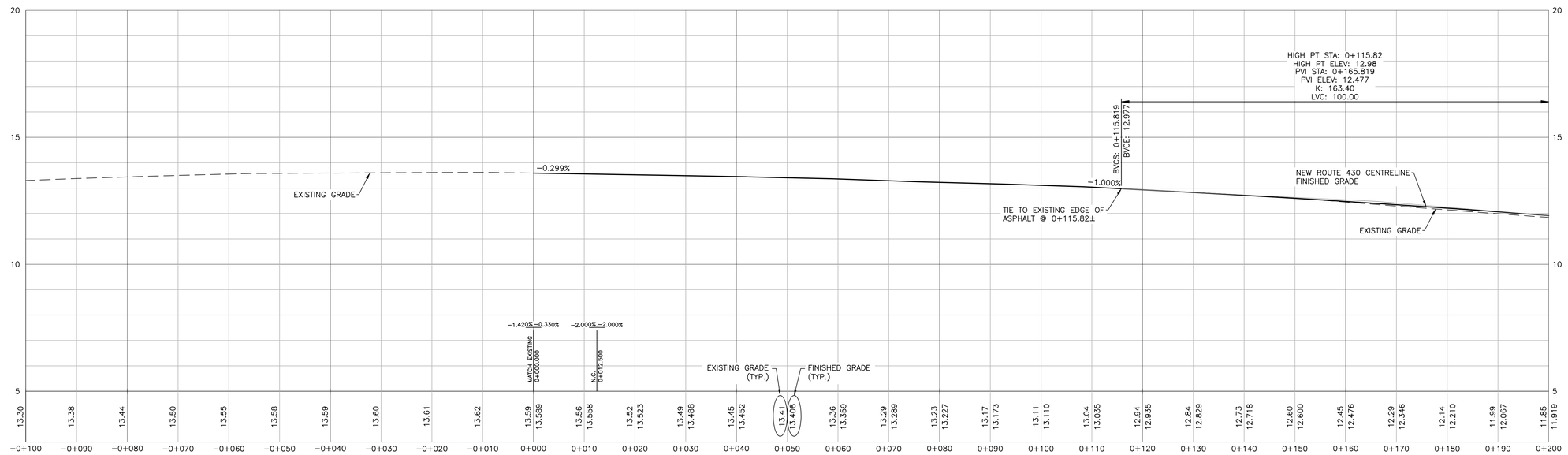
PWGSC B1 (2004)



PLAN – NEW ROUTE 430

SCALE : 1:400

0m 10m 20m 30m 40m 50m



PROFILE – NEW ROUTE 430 (−0+087.74 TO 0+200.00)

HORIZONTAL SCALE : 1:400

0m 10m 20m 30m 40m 50m

VERTICAL SCALE : 1:80

0mm 2mm 4mm 6mm 8mm 10mm

0 10 20mm 40 60 80 100 120 140 160 180 200mm

PWGSC B1 (2004)

LEGEND

EXISTING		PROPOSED
	EDGE OF ASPHALT	
	EDGE OF GRAVEL/SHOULDER	
	GUIDERAIL	
	TREELINE	
	TOP OF SLOPE	
	TOE OF SLOPE	
	DITCHLINE	
	SHORELINE/WATERCOURSE	
	POWER POLE c/w GUYWIRE	
	SIGN	
	CULVERT	
	OVERHEAD WIRE	
	ASPHALT	
	ASPHALT (ONE LIFT ONLY)	

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

HARBOURSIDE Transportation Consultants

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REGISTERED PROFESSIONAL ENGINEER MICHAEL S. MACDONALD SIGNATURE July 14/21 DATE NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

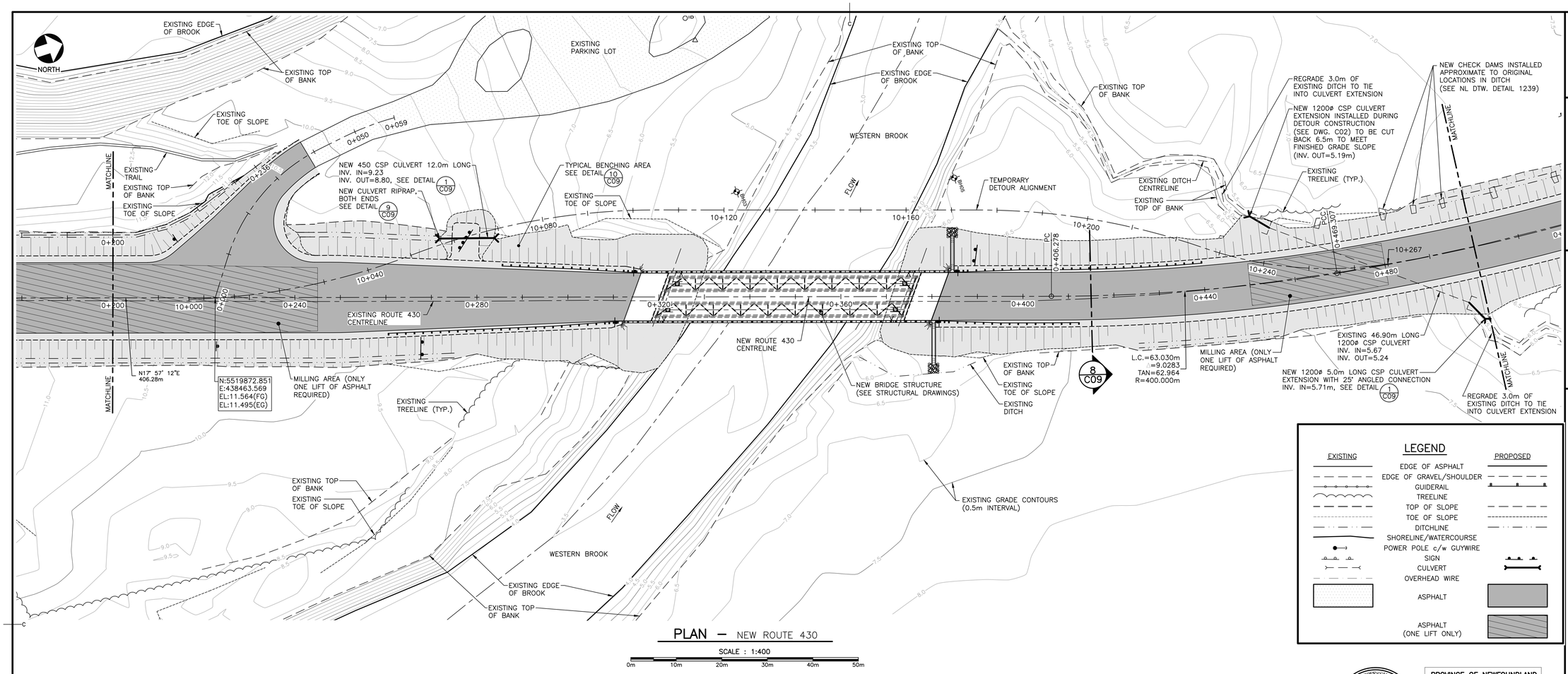
drawing / dessin

NEW CONDITIONS ROUTE 430 PLAN/PROFILE STA. −0+087.00 TO 0+200.00 (SHEET 1 OF 3)

designed	MICHAEL MACDONALD	conçu
date	MARCH 2019	
drown	CORY BAKER	dessiné
date	MARCH 2019	
approved	MICHAEL MACDONALD	approuvé
date	MARCH 2019	
Tender		Soumission
PCA Project Manager		Administrateur de projets APC

project number / no. du projet: 182009

drawing no. / no. du dessin: C03



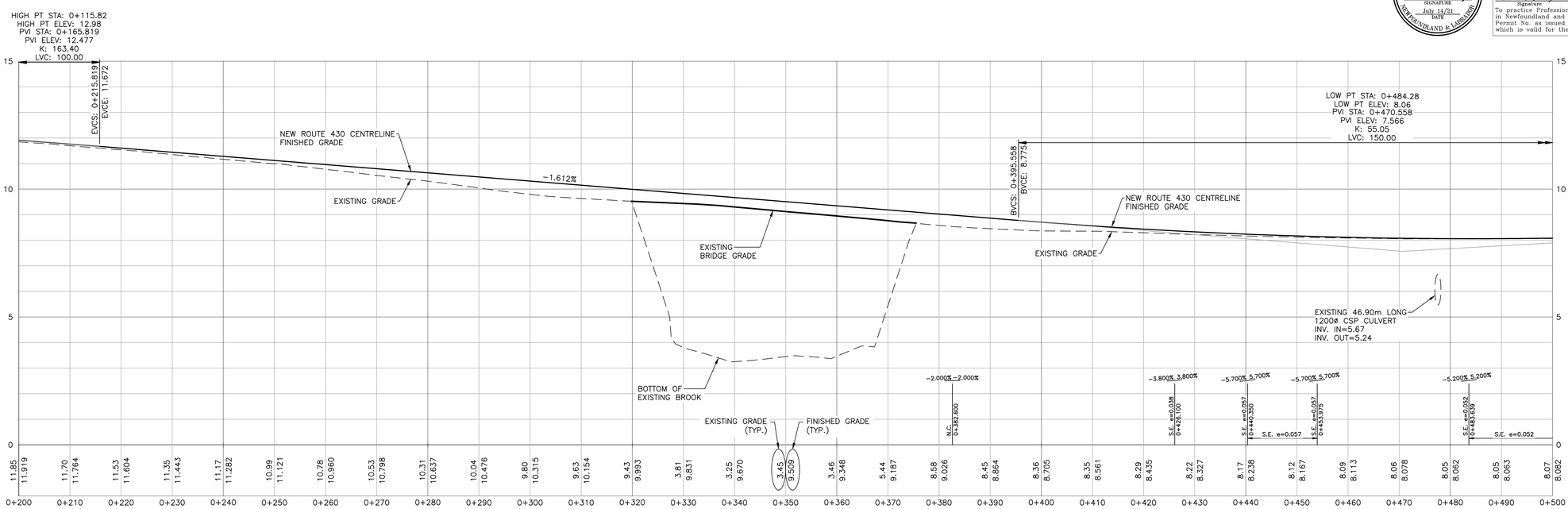
PLAN – NEW ROUTE 430

SCALE : 1:400

0m 10m 20m 30m 40m 50m

LEGEND

EXISTING		PROPOSED
	EDGE OF ASPHALT	
	EDGE OF GRAVEL/SHOULDER	
	GUIDERAIL	
	TREELINE	
	TOP OF SLOPE	
	TOE OF SLOPE	
	DITCHLINE	
	SHORELINE/WATERCOURSE	
	POWER POLE c/w GUYWIRE	
	SIGN	
	CULVERT	
	OVERHEAD WIRE	
	ASPHALT	
	ASPHALT (ONE LIFT ONLY)	



PROFILE – NEW ROUTE 430 (0+200.00 TO 0+500.00)

HORIZONTAL SCALE : 1:400

0m 10m 20m 30m 40m 50m

VERTICAL SCALE : 1:80

0mm 2mm 4mm 6mm 8mm 10mm

0 10 20mm 40 60 80 100 120 140 160 180 200mm

PWGSC B1 (2004)

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

HARBOURSIDE Transportation Consultants

GENERAL NOTES:

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  L – LENGTH

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  D – DELTA
  L – LENGTH
  R – RADIUS

REGISTERED PROFESSIONAL ENGINEER MICHAEL D. MACDONALD NEWFOUNDLAND & LABRADOR
SIGNATURE
July 14/21
DATE

PROVINCE OF NEWFOUNDLAND PERMIT HOLDER CLASS "A"
PEGNL Newfoundland and Labrador
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Harbourside Transportation Consultants
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revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

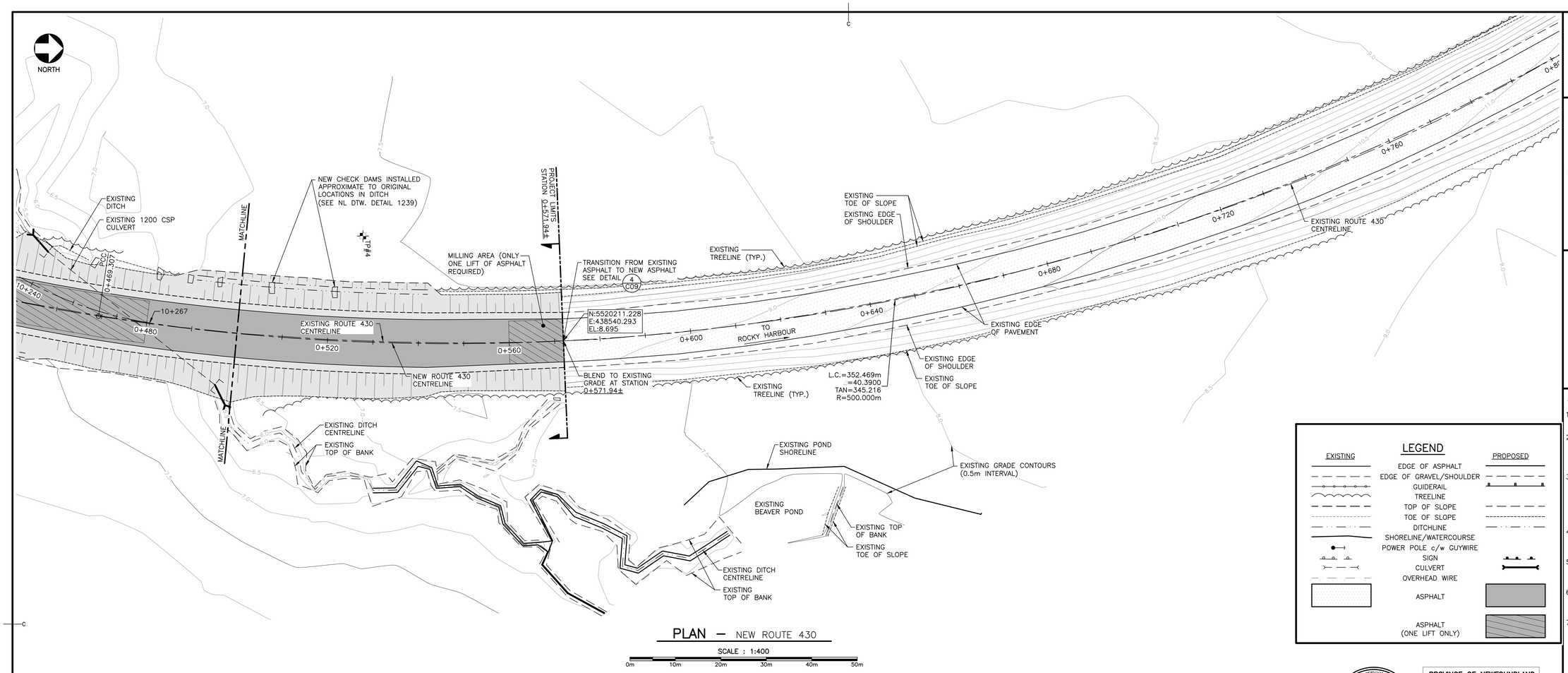
drawing / dessin

NEW CONDITIONS ROUTE 430 PLAN/PROFILE STA. 0+200.00 TO 0+500.00 (SHEET 2 OF 3)

designed	MICHAEL MACDONALD	conçu
date	MARCH 2019	
drawn	CORY BAKER	dessiné
date	MARCH 2019	
approved	MICHAEL MACDONALD	approuvé
date	MARCH 2019	
Tender		Soumission
PCA Project Manager		Administrateur de projets APC

project number / no. du projet: 182009

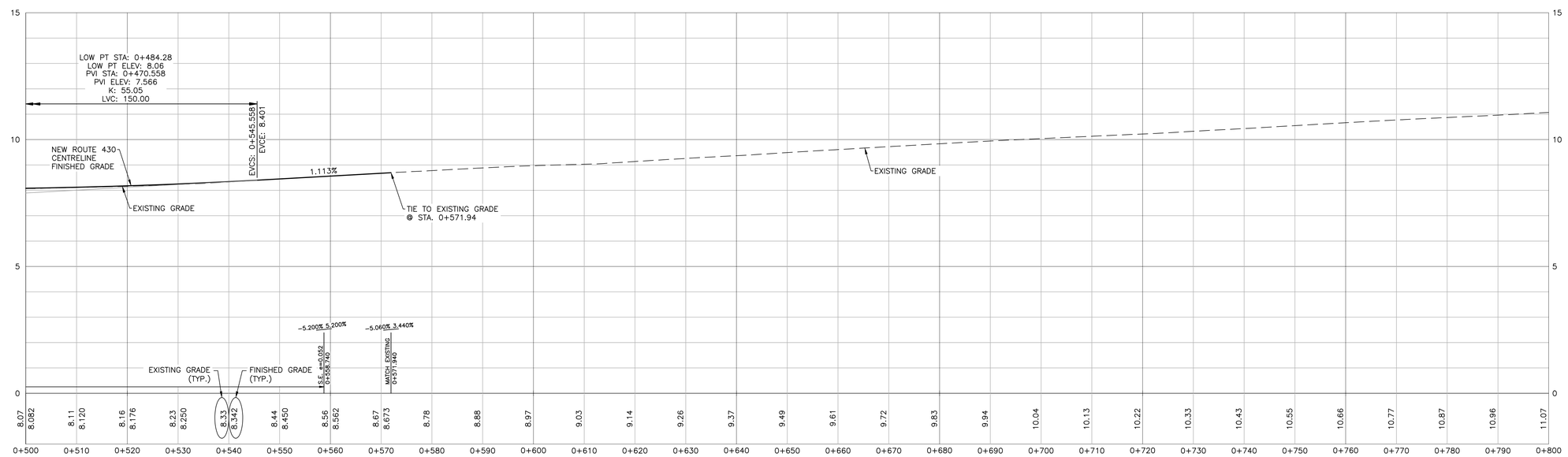
drawing no. / no. du dessin: C04



PLAN – NEW ROUTE 430

SCALE : 1:400

0m 10m 20m 30m 40m 50m



PROFILE – NEW ROUTE 430 (0+500.00 TO 0+571.94)

HORIZONTAL SCALE : 1:400

0m 10m 20m 30m 40m 50m

VERTICAL SCALE : 1:80

0mm 2mm 4mm 6mm 8mm 10mm

0 10 20mm 40 60 80 100 120 140 160 180 200mm

LEGEND

EXISTING		PROPOSED
	EDGE OF ASPHALT	
	EDGE OF GRAVEL/SHOULDER	
	GUIDERAIL	
	TREELINE	
	TOP OF SLOPE	
	TOE OF SLOPE	
	DITCHLINE	
	SHORELINE/WATERCOURSE	
	POWER POLE c/w GUYWIRE	
	SIGN	
	CULVERT	
	OVERHEAD WIRE	
	ASPHALT	
	ASPHALT (ONE LIFT ONLY)	

REGISTERED PROFESSIONAL ENGINEER MICHAEL D. MACDONALD SIGNATURE July 14/21 DATE NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
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revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

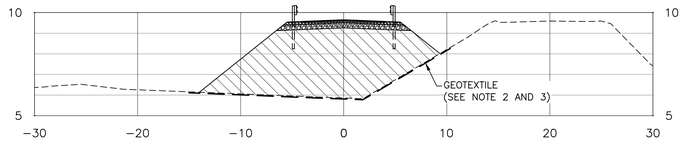
NEW CONDITIONS ROUTE 430 PLAN/PROFILE STA. 0+500.00 TO 0+571.94 (SHEET 3 OF 3)

designed	MICHAEL MACDONALD	conçu
date	MARCH 2019	
drawn	CORY BAKER	dessiné
date	MARCH 2019	
approved	MICHAEL MACDONALD	approuvé
date	MARCH 2019	
Tender		Soumission
PCA Project Manager		Administrateur de projets APC

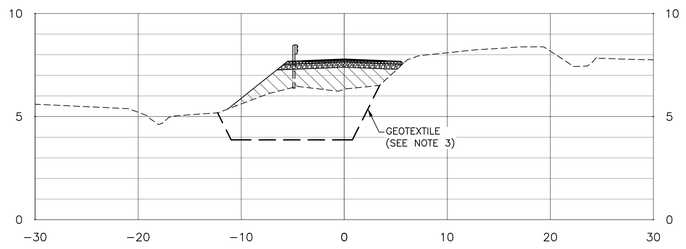
project number / no. du projet: **182009**

drawing no. / no. du dessin: **C05**

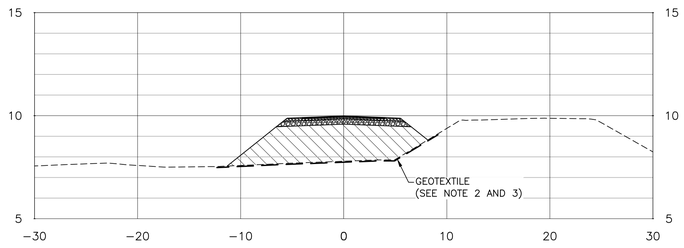
XS 10+100.00



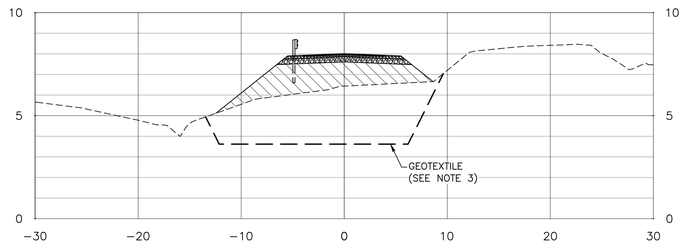
XS 10+220.00



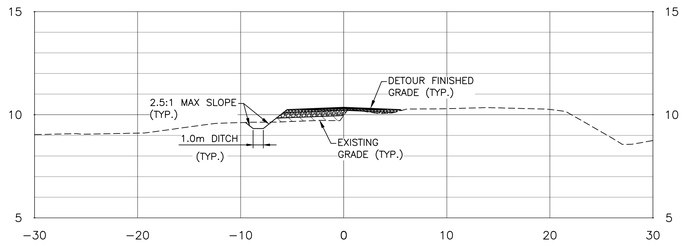
XS 10+080.00



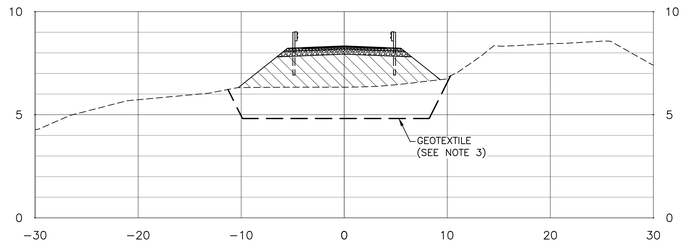
XS 10+200.00



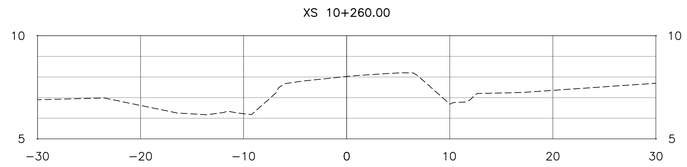
XS 10+060.00



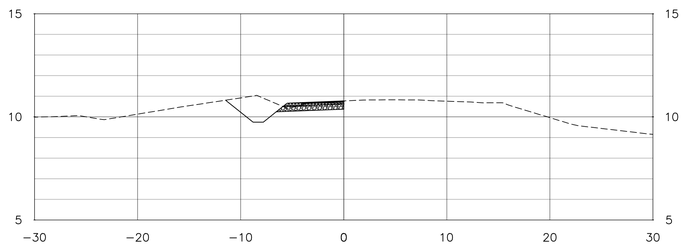
XS 10+180.00



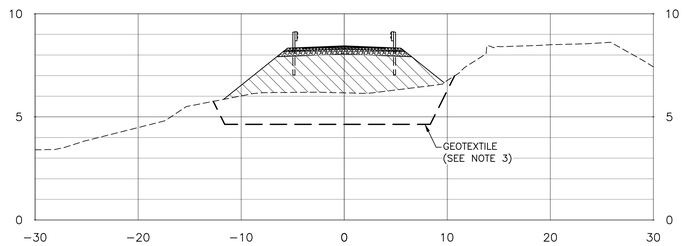
XS 10+260.00



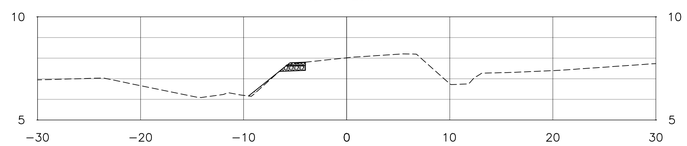
XS 10+040.00



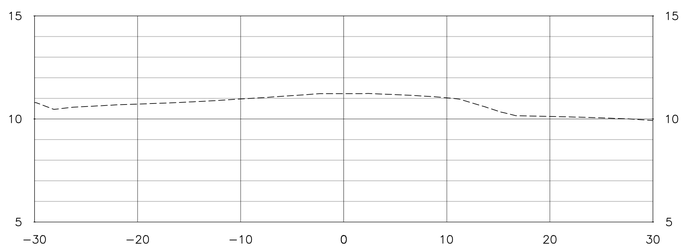
XS 10+173.48



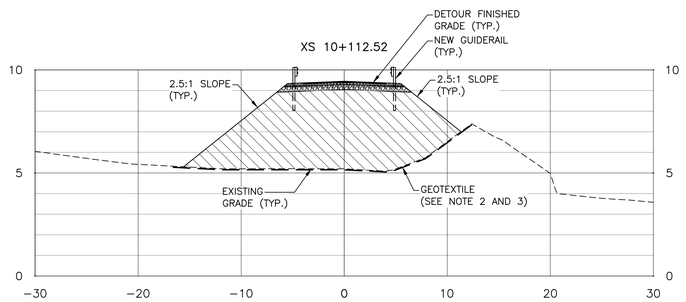
XS 10+257.81



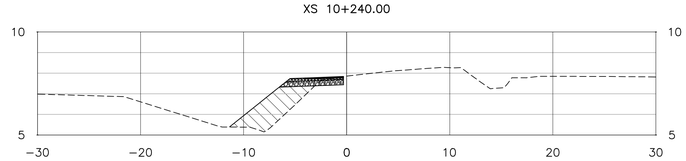
XS 10+020.00



XS 10+112.52



XS 10+240.00



SECTIONS

HORIZONTAL SCALE: 1:250

VERTICAL SCALE : 1:125

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

HARBOURSIDE Transportation Consultants

GENERAL NOTES:

1. FOR GENERAL NOTES SEE DRAWING C1.
2. SOUTH DETOUR APPROACH TO BE GRUBBED WHERE HEIGHT OF FILL IS LESS THAN 1.5m.
3. SOFT OR LOOSE MATERIAL TO BE EXCAVATED, GEOTEXTILE PLACED AND ROCK FILL.

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows
Harbourside Transportation Consultants
Signature — JULY 14/21 Date
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGNL N0763
which is valid for the year 2021.

REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. MACDONALD
SIGNATURE
July 14/21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

DETOUR SECTIONS (10+020.00 TO 10+260.00) (SHEET 1 OF 1)

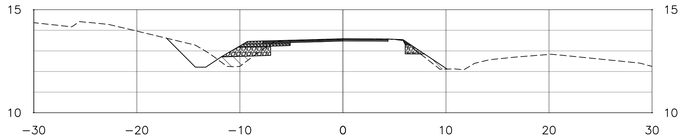
designed / conçu	MICHAEL MACDONALD	
date	MARCH 2019	
drawn / dessiné	CORY BAKER	
date	MARCH 2019	
approved / approuvé	MICHAEL MACDONALD	
date	MARCH 2019	
Tender		Soumission
PCA Project Manager		Administrateur de projets APC

project number / no. du projet: 182009

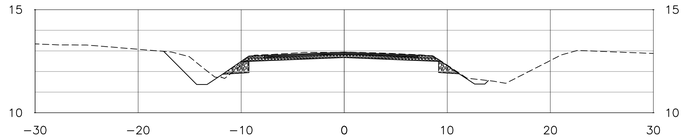
drawing no. / no. du dessin: C06

PWGSC B1 (2004)

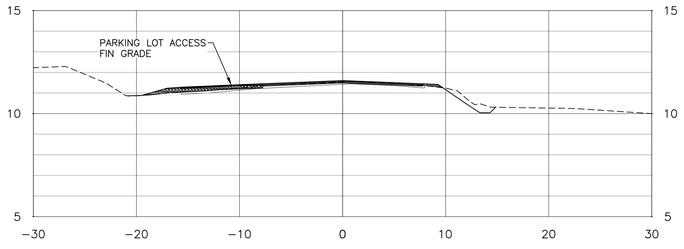
XS 0+000.00



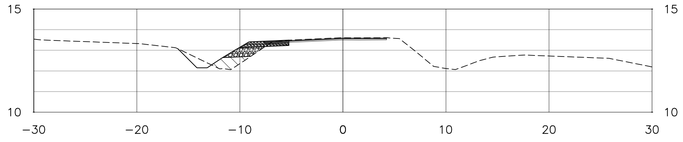
XS 0+120.00



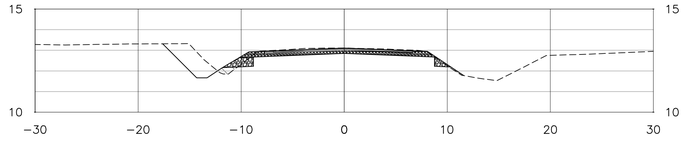
XS 0+220.00



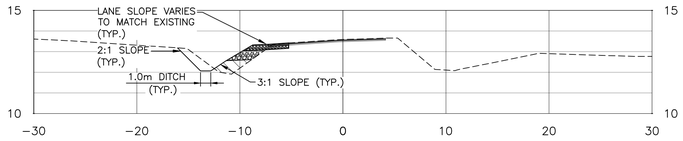
XS −0+020.00



XS 0+100.00



XS −0+040.00



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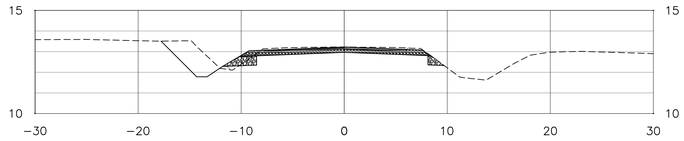
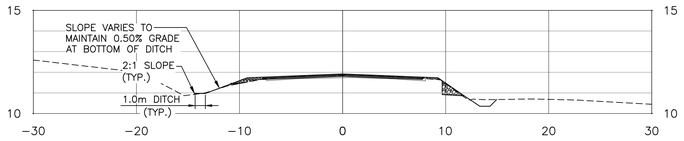
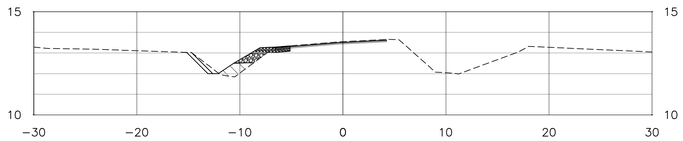


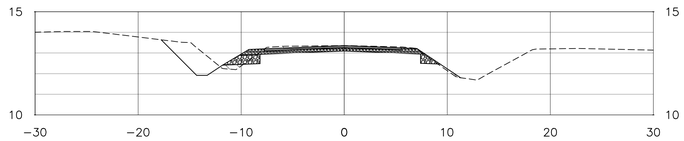
XS 0+200.00



XS −0+060.00



XS 0+060.00



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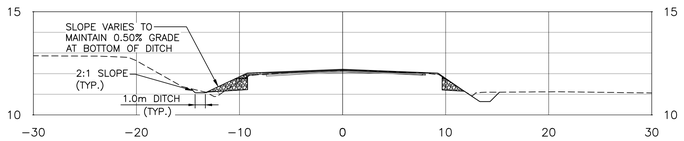
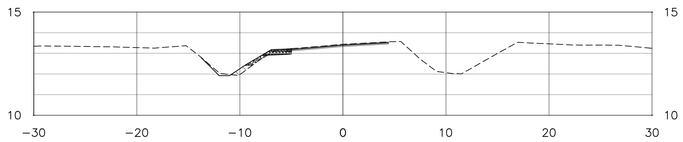
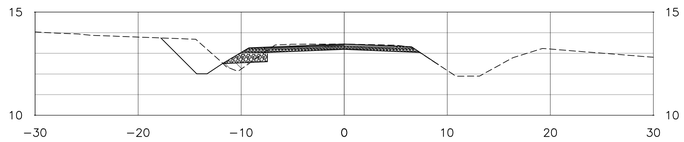


XS −0+080.00



XS 0+040.00



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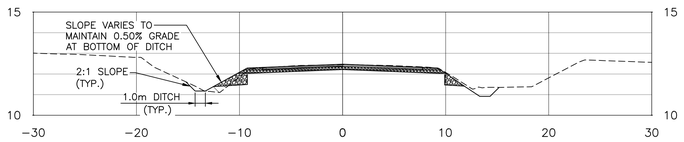
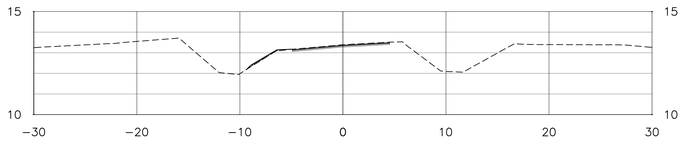


XS −0+087.84



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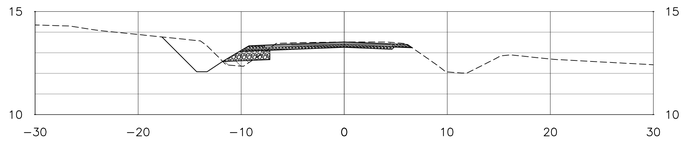
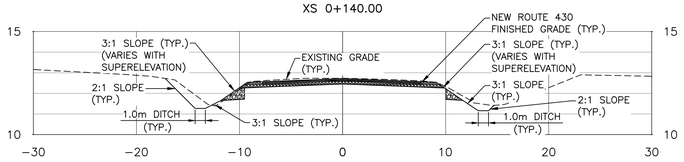


XS 0+140.00



SECTIONS

HORIZONTAL SCALE: 1:250

0m 5m 10m 15m 20m 25m

VERTICAL SCALE : 1:125

0m 1 2 3 4 5 6 7 8 9 10m

C

0 10 20mm 40 60 80 100 120 140 160 180 200mm

PWGSC B1 (2004)

Parcs Canada Parks Canada

HARBOURSIDE
Engineering Consultants

HARBOURSIDE
Transportation Consultants

GENERAL NOTES:

1. FOR GENERAL NOTES SEE DRAWING C1.

PROVINCE OF NEWFOUNDLAND
PEGL Newfoundland and Labrador
PERMIT HOLDER
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This Permit Allows
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Signature
JULY 14/21
Date
To practice Professional Engineering in Newfoundland and Labrador.
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REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. MACDONALD
SIGNATURE
July 14/21
DATE
NEWFOUNDLAND & LABRADOR

0	ISSUED FOR TENDER	JULY 14 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

ROUTE 430 SECTIONS (−0+087.84 TO 0+220.00) (SHEET 1 OF 2)

designed	MICHAEL MACDONALD	concu
date	MARCH 2019	
drawn	CORY BAKER	dessiné
date	MARCH 2019	
approved	MICHAEL MACDONALD	approuvé
date	MARCH 2019	

Tender / Soumission

PCA Project Manager / Administrateur de projets APC

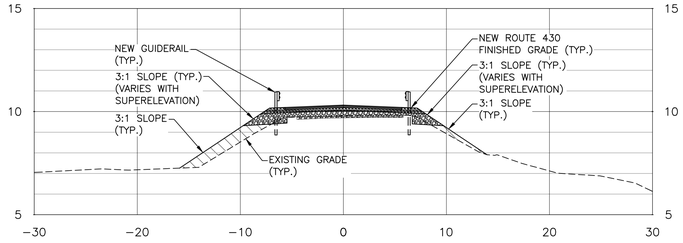
project number / no. du projet

182009

drawing no. / no. du dessin

C07

XS 0+300.00



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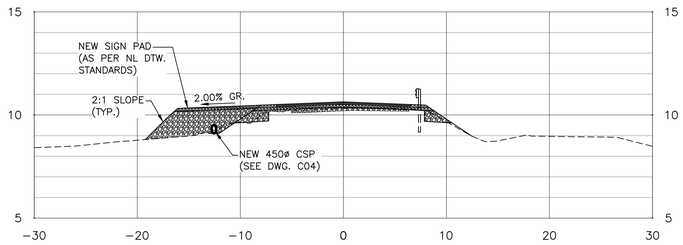

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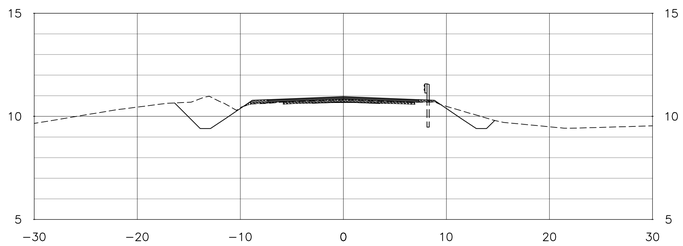

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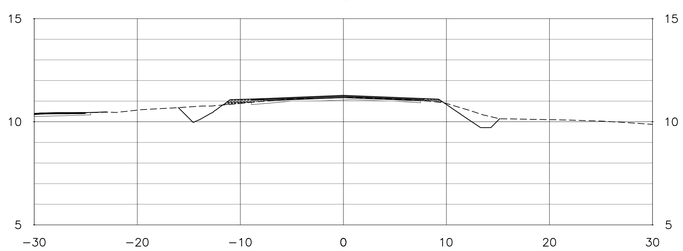

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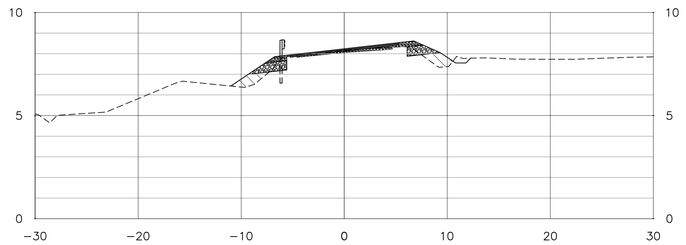

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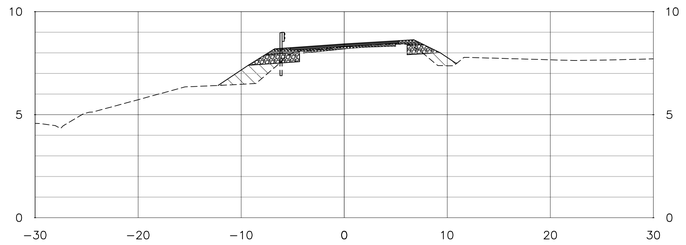
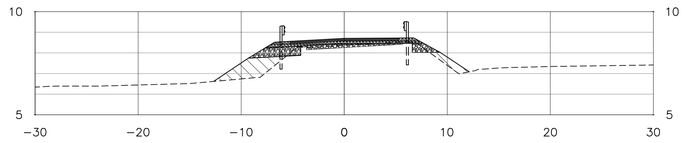


XS 0+400.00



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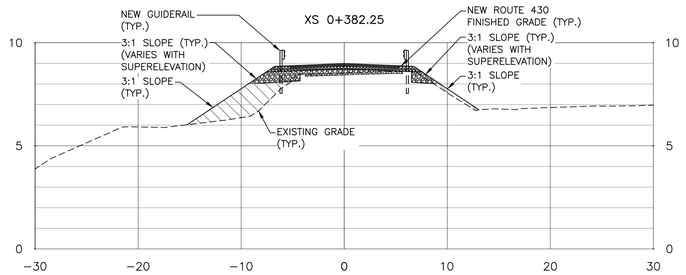

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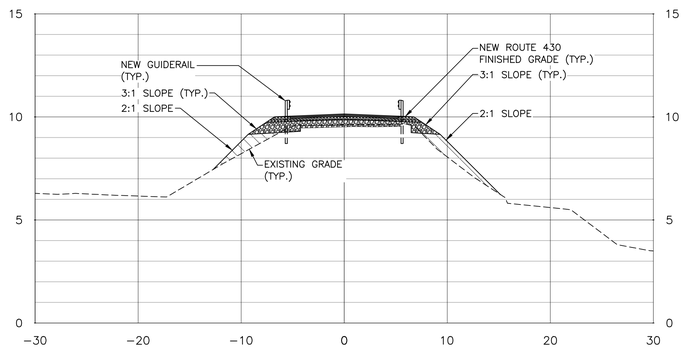
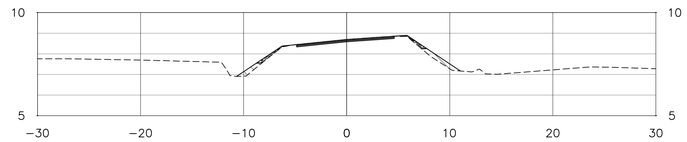


XS 0+571.94



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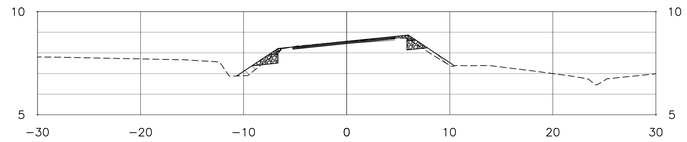

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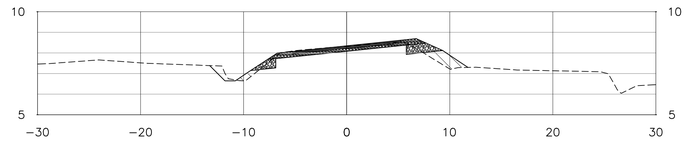

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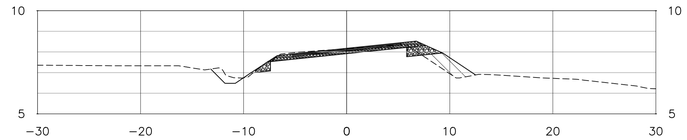
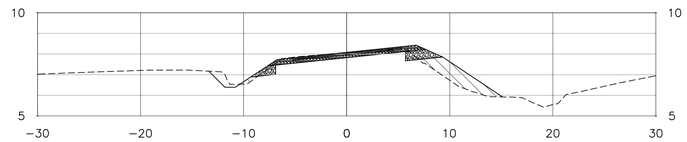
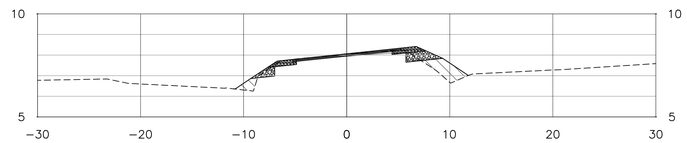


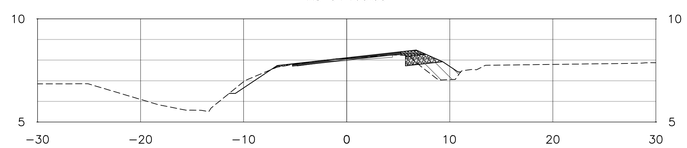
XS 0+500.00



XS 0+480.00



XS 0+460.00



SECTIONS

HORIZONTAL SCALE: 1:250

0m 5m 10m 15m 20m 25m

VERTICAL SCALE : 1:125

0m 1 2 3 4 5 6 7 8 9 10m

0 10 20mm 40 60 80 100 120 140 160 180 200mm

PWGSC B1 (2004)

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

HARBOURSIDE Transportation Consultants

GENERAL NOTES:

1. FOR GENERAL NOTES SEE DRAWING C1.

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MICHAEL S. MACDONALD
SIGNATURE
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DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

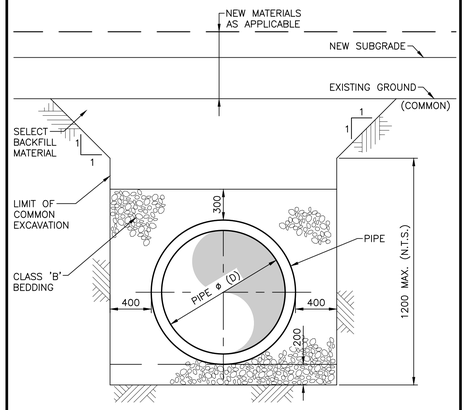
drawing / dessin

ROUTE 430 SECTIONS (0+240.00 TO 0+571.94) (SHEET 2 OF 2)

designed	MICHAEL MACDONALD	conçu
date	MARCH 2019	
drawn	CORY BAKER	dessiné
date	MARCH 2019	
approved	MICHAEL MACDONALD	approuvé
date	MARCH 2019	
Tender		Soumission
PCA Project Manager		Administrateur de projets APC

project number / no. du projet: 182009

drawing no. / no. du dessin: C08



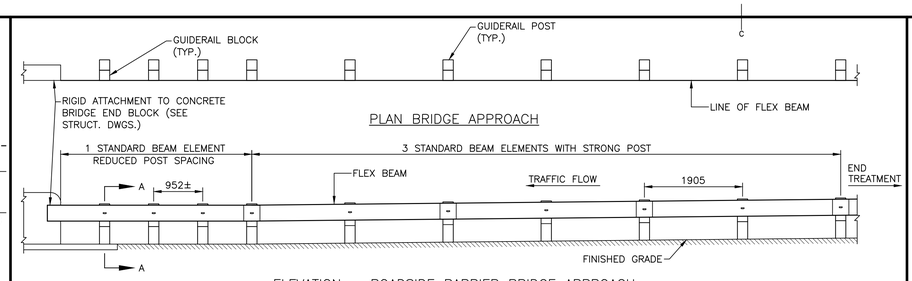
NOTES:

1. THE CROSS SECTION REPRESENTS MAXIMUM PAY LIMITS FOR EXCAVATION.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

TYPICAL DETAIL – EXCAVATION LIMITS FOR CULVERTS 1 C02

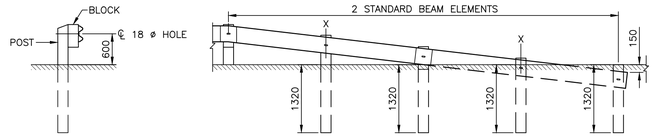
SCALE: 1:25

0mm 500mm 1000mm 1500mm 2000mm 2500mm



NOTES:

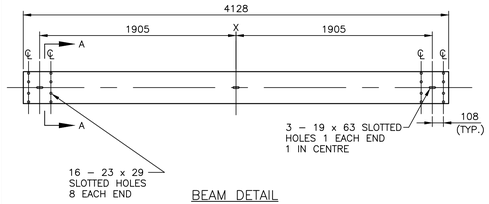
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. STRONG POSTS TO BE USED FOR BRIDGE APPROACH ONLY, UNLESS STATED OTHERWISE.
3. POSTS ADDED AT LOCATION 'X' FOR BRIDGE APPROACH BURIED END

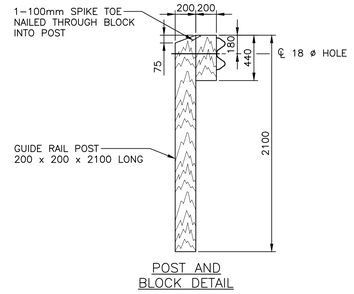


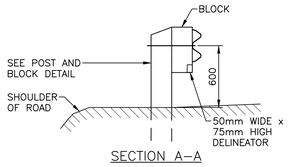
DETAIL – ROADSIDE BARRIER 2 C10

SCALE: 1:50

0m 1m 2m 3m 4m 5m







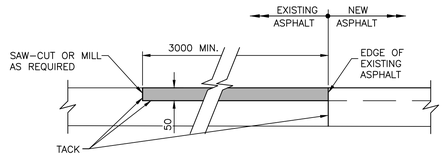
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. DELINEATORS TO BE PLACED ON BOTTOM CORNER OF BLOCK. YELLOW WILL BE VISIBLE FROM OPPOSING DIRECTION, WHITE VISIBLE IN DIRECTION OF TRAVEL.

DETAIL – GUIDERAIL AND POST DETAILS 3 C10

SCALE: 1:25

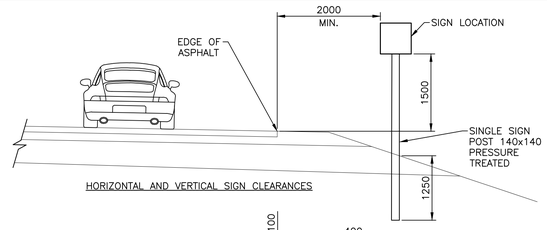
0mm 500mm 1000mm 1500mm 2000mm 2500mm

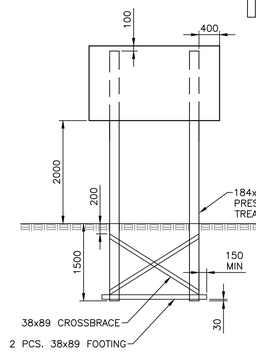


TYPICAL DETAIL – ASPHALT TRANSITION 4 C02–C03–C04–C05

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm





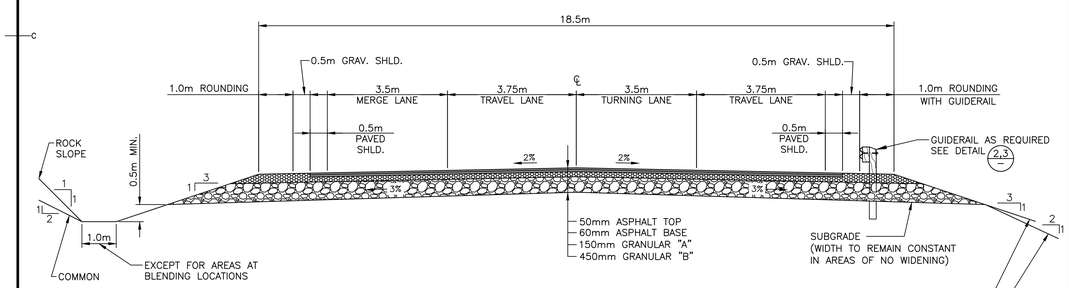
NOTES:

1. FOR SIGN BOARD, TOP OF SIGN MUST BE 100mm ABOVE TOP OF POST.
2. GALVANIZED LAG BOLTS AND WASHERS TO BE USED FOR CROSSBRACING AND FOOTING CONNECTIONS.
3. SIGNBOARD TO BE ATTACHED TO POSTS WITH STAINLESS STEEL BRACKET AND THREADED ROD.
4. ALL LUMBER MUST BE PRESSURE TREATED

DETAIL – SIGNAGE 5 C11

SCALE: 1:50

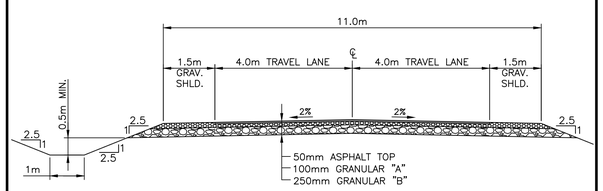
0m 1m 2m 3m 4m 5m



DETAIL – ROUTE 430 CROSS SECTION 6 C03

SCALE : 1:75

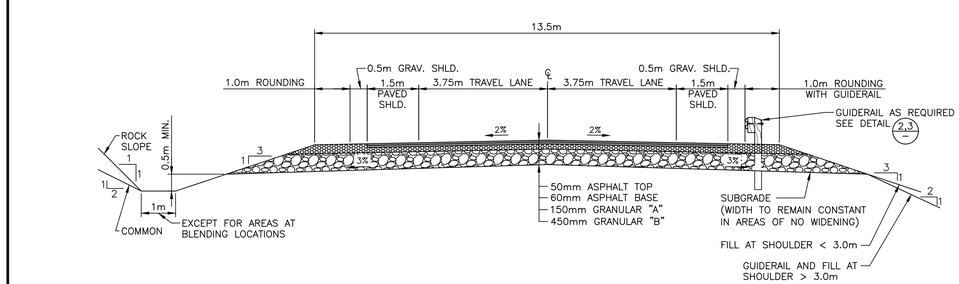
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



TYPICAL DETAIL – DETOUR ROAD CROSS SECTION 7 C02

SCALE : 1:75

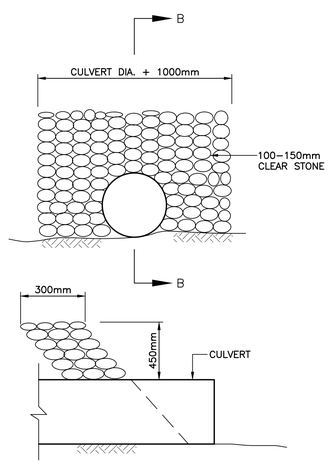
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



TYPICAL DETAIL – ROUTE 430 CROSS SECTION 8 C04

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

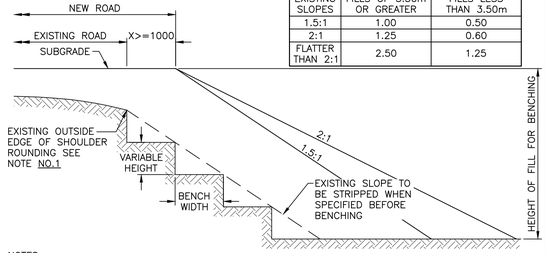


TYPICAL DETAIL – CULVERT RIP–RAP 9 C02–C03–C04

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

BENCHING WIDTH TABLE		
EXISTING SLOPES	FILLS OF 3.50m OR GREATER	FILLS LESS THAN 3.50m
1.5:1	1.00	0.50
2:1	1.25	0.60
FLATTER THAN 2:1	2.50	1.25



NOTES:

1. WHEN THE SUBGRADE IS BELOW THE EXISTING OUTSIDE EDGE OF SHOULDER ROUNDING, BENCHING SHALL BE CARRIED OUT BELOW THE POINT WHERE THE SUBGRADE INTERSECTS THE EXISTING SLOPE.
2. THIS STANDARD APPLIES TO WIDENING OF FILLS WHERE THE DISTANCE "X" IS 1.0m OR MORE AT NEW TOP OF SUBGRADE LEVEL.
3. BENCHING IS NOT REQUIRED ON EXISTING SLOPES FLATTER THAN 3:1 OR WHERE SPECIFIED.
4. BENCHES ARE TO BE EXCAVATED ONE LEVEL AT A TIME AND THE COMPACTED FILL BROUGHT UP BEFORE THE NEXT BENCHING LEVEL IS EXCAVATED.
5. ALL DIMENSIONS ARE IN MILLIMETRES OR METRES UNLESS OTHERWISE SHOWN.

DETAIL – BENCHING OF EARTH SLOPES (FILL SITUATION) 10 C03–C04

SCALE : 1:40

0mm 1000mm 2000mm 3000mm 4000mm 5000mm

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

HARBOURSIDE Transportation Consultants

GENERAL NOTES:

1. FOR GENERAL NOTES SEE DRAWING C1.

PROVINCE OF NEWFOUNDLAND PERMIT HOLDER CLASS "A"
PEGL Professional Engineers and Geoscientists Newfoundland and Labrador
This Permit Allows Harbourside Transportation Consultants
JULY 14/21
Signature Date
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEGNL N0763 which is valid for the year 2021.

REGISTERED PROFESSIONAL ENGINEER MICHAEL S. MACDONALD NEWFOUNDLAND & LABRADOR SIGNATURE July 14/21 DATE

revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project: WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

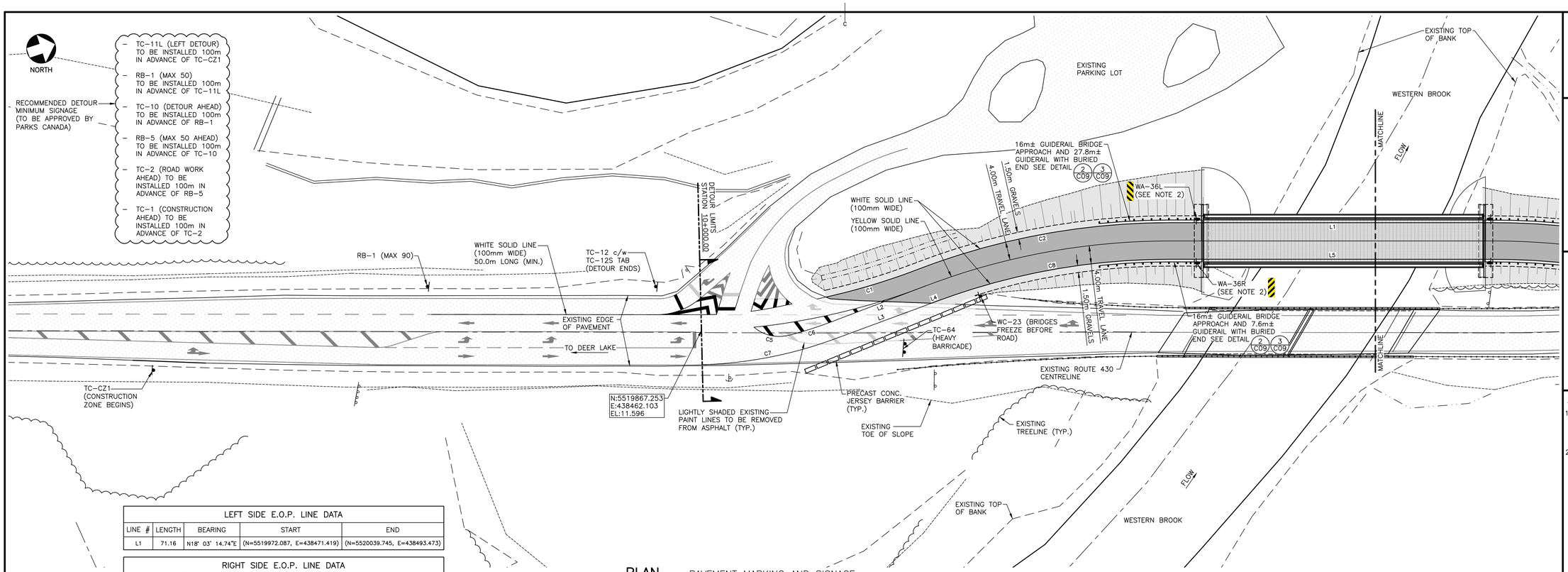
drawing: MISCELLANEOUS SECTIONS AND DETAILS

designed	MICHAEL MACDONALD
date	MARCH 2019
drawn	CORY BAKER
date	MARCH 2019
approved	MICHAEL MACDONALD
date	MARCH 2019
Tender	Soumission
PCA Project Manager	Administrateur de projets APC

project number: 182009

drawing no.: C09

PWGSC B1 (2004)



PLAN – PAVEMENT MARKING AND SIGNAGE

SCALE : 1:400

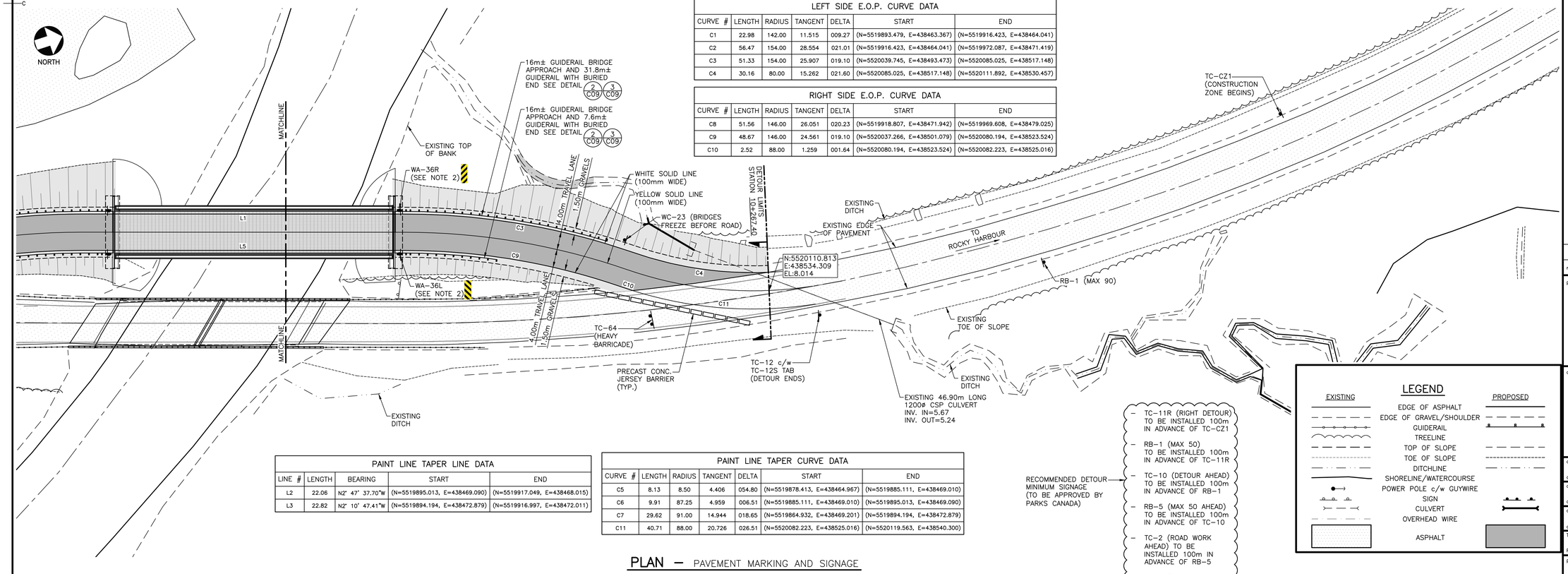
0m 10m 20m 30m 40m 50m

LEFT SIDE E.O.P. LINE DATA				
LINE #	LENGTH	BEARING	START	END
L1	71.16	N18° 03' 14.74"E	(N=5519972.087, E=438471.419)	(N=5520039.745, E=438493.473)

RIGHT SIDE E.O.P. LINE DATA				
LINE #	LENGTH	BEARING	START	END
L4	1.81	N2° 10' 47.41"W	(N=5519916.997, E=438472.011)	(N=5519918.807, E=438471.942)
L5	71.16	N18° 03' 14.74"E	(N=5519969.608, E=438479.025)	(N=5520037.266, E=438501.079)

LEFT SIDE E.O.P. CURVE DATA						
CURVE #	LENGTH	RADIUS	TANGENT	DELTA	START	END
C1	22.98	142.00	11.515	009.27	(N=5519893.479, E=438463.367)	(N=5519916.423, E=438464.041)
C2	56.47	154.00	28.554	021.01	(N=5519916.423, E=438464.041)	(N=5519972.087, E=438471.419)
C3	51.33	154.00	25.907	019.10	(N=5520039.745, E=438493.473)	(N=5520085.025, E=438517.148)
C4	30.16	80.00	15.262	021.60	(N=5520085.025, E=438517.148)	(N=5520111.892, E=438530.457)

RIGHT SIDE E.O.P. CURVE DATA						
CURVE #	LENGTH	RADIUS	TANGENT	DELTA	START	END
C8	51.56	146.00	26.051	020.23	(N=5519918.807, E=438471.942)	(N=5519969.608, E=438479.025)
C9	48.67	146.00	24.561	019.10	(N=5520037.266, E=438501.079)	(N=5520080.194, E=438523.524)
C10	2.52	88.00	1.259	001.64	(N=5520080.194, E=438523.524)	(N=5520082.223, E=438525.016)



PAINT LINE TAPER LINE DATA				
LINE #	LENGTH	BEARING	START	END
L2	22.06	N2° 47' 37.70"W	(N=5519895.013, E=438469.090)	(N=5519917.049, E=438468.015)
L3	22.82	N2° 10' 47.41"W	(N=5519894.194, E=438472.879)	(N=5519916.997, E=438472.011)

PAINT LINE TAPER CURVE DATA						
CURVE #	LENGTH	RADIUS	TANGENT	DELTA	START	END
C5	8.13	8.50	4.406	054.80	(N=5519878.413, E=438464.967)	(N=5519885.111, E=438469.010)
C6	9.91	87.25	4.959	006.51	(N=5519885.111, E=438469.010)	(N=5519895.013, E=438469.090)
C7	29.62	91.00	14.944	018.65	(N=5519864.932, E=438469.201)	(N=5519894.194, E=438472.879)
C11	40.71	88.00	20.726	026.51	(N=5520082.223, E=438525.016)	(N=5520119.563, E=438540.300)

PLAN – PAVEMENT MARKING AND SIGNAGE

SCALE : 1:400

0m 10m 20m 30m 40m 50m

RECOMMENDED DETOUR MINIMUM SIGNAGE (TO BE APPROVED BY PARKS CANADA)

– TC–11R (RIGHT DETOUR) TO BE INSTALLED 100m IN ADVANCE OF TC–CZ1
– RB–1 (MAX 50) TO BE INSTALLED 100m IN ADVANCE OF TC–11R
– TC–10 (DETOUR AHEAD) TO BE INSTALLED 100m IN ADVANCE OF RB–1
– RB–5 (MAX 50 AHEAD) TO BE INSTALLED 100m IN ADVANCE OF TC–10
– TC–2 (ROAD WORK AHEAD) TO BE INSTALLED 100m IN ADVANCE OF RB–5
– TC–1 (CONSTRUCTION AHEAD) TO BE INSTALLED 100m IN ADVANCE OF TC–2

LEGEND

EXISTING		PROPOSED
	EDGE OF ASPHALT	
	EDGE OF GRAVEL/SHOULDER	
	GUIDERAIL	
	TREELINE	
	TOP OF SLOPE	
	TOE OF SLOPE	
	DITCHLINE	
	SHORELINE/WATERCOURSE	
	POWER POLE c/w GUYWIRE	
	SIGN	
	CULVERT	
	OVERHEAD WIRE	
	ASPHALT	

0 10 20mm 40 60 80 100 120 140 160 180 200mm

PWGSC B1 (2004)

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

HARBOURSIDE Transportation Consultants

GENERAL NOTES:

1. CONTRACTOR MUST PREPARE TRAFFIC CONTROL PLANS. PARKS CANADA APPROVAL OF THESE PLANS IS REQUIRED BEFORE WORK CAN PROCEED.
2. NEW SIGNS (WA–36L AND WA–36R) FASTENED TO NEAREST APPROACH GUIDERAIL POST USING 150mm X 150mm POST.

PROVINCE OF NEWFOUNDLAND PERMIT HOLDER CLASS "A"
This Permit Allows
Harbourside Transportation Consultants
Signature JULY 14/21 Date
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGNL N0763 which is valid for the year 2021.

REGISTERED PROFESSIONAL ENGINEER MICHAEL S. MACDONALD NEWFOUNDLAND & LABRADOR
SIGNATURE July 14/21 DATE

revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

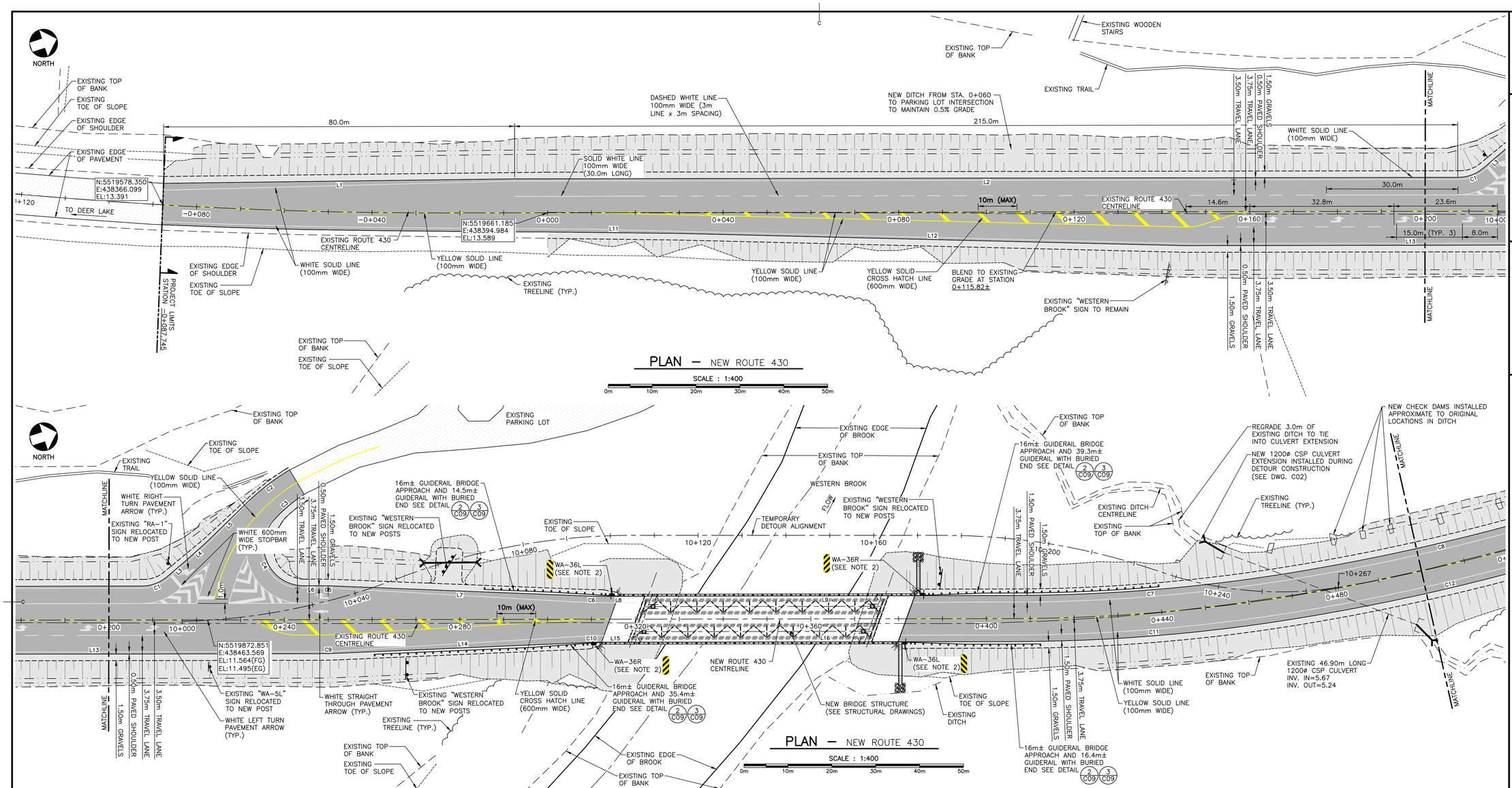
drawing / dessin

PAVEMENT MARKING AND SIGNAGE PLAN (TEMPORARY DETOUR)

designed MICHAEL MACDONALD / conçu
date MARCH 2019
drawn CORY BAKER / dessiné
date MARCH 2019
approved MICHAEL MACDONALD / approuvé
date MARCH 2019
Tender / Soumission
PCA Project Manager / Administrateur de projets APC

project number / no. du projet: 182009

drawing no. / no. du dessin: C10



PLAN — NEW ROUTE 430

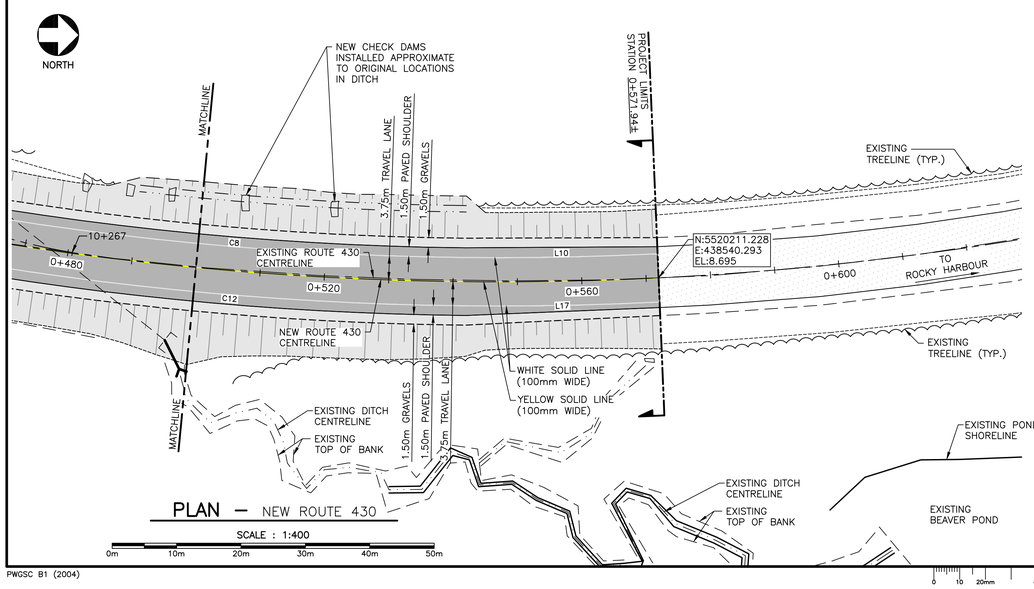
SCALE : 1:400

0m 10m 20m 30m 40m 50m

PLAN — NEW ROUTE 430

SCALE : 1:400

0m 10m 20m 30m 40m 50m



PLAN — NEW ROUTE 430

SCALE : 1:400

0m 10m 20m 30m 40m 50m

LEFT SIDE E.O.P. LINE DATA

LINE #	LENGTH	BEARING	START	END
L1	80.01	N17° 18' 34.51"E	(N=5519580.057, E=438361.495)	(N=5519656.439, E=438385.300)
L2	215.18	N17° 57' 12.45"E	(N=5519656.439, E=438385.300)	(N=5519861.140, E=438451.627)
L3	5.90	N22° 37' 09.97"W	(N=5519867.030, E=438451.387)	(N=5519872.472, E=438449.120)
L4	6.10	N23° 36' 44.19"W	(N=5519872.472, E=438449.120)	(N=5519878.061, E=438446.677)
L5	12.92	N26° 13' 47.62"W	(N=5519878.061, E=438446.677)	(N=5519889.651, E=438440.966)
L6	3.52	N17° 57' 12.45"E	(N=5519896.063, E=438462.943)	(N=5519899.410, E=438464.027)
L7	55.94	N20° 20' 21.85"E	(N=5519903.363, E=438465.400)	(N=5519955.818, E=438484.845)
L8	8.15	N17° 56' 35.71"E	(N=5519959.709, E=438486.195)	(N=5519967.465, E=438488.707)
L9	86.02	N17° 57' 12.45"E	(N=5519967.465, E=438488.707)	(N=5520049.298, E=438515.223)
L10	29.70	N0° 21' 15.11"W	(N=5520181.294, E=438535.628)	(N=5520210.988, E=438535.444)

RIGHT SIDE E.O.P. LINE DATA

LINE #	LENGTH	BEARING	START	END
L11	30.00	N18° 42' 11.67"E	(N=5519659.836, E=438399.147)	(N=5519688.255, E=438408.767)
L12	115.48	N19° 25' 59.14"E	(N=5519688.255, E=438408.767)	(N=5519797.159, E=438447.189)
L13	102.46	N17° 57' 12.45"E	(N=5519797.159, E=438447.189)	(N=5519894.626, E=438478.771)
L14	57.30	N15° 34' 00.97"E	(N=5519898.673, E=438479.990)	(N=5519953.870, E=438495.367)
L15	9.63	N17° 57' 12.45"E	(N=5519955.066, E=438495.727)	(N=5519964.229, E=438498.696)
L16	86.02	N17° 57' 12.45"E	(N=5519964.229, E=438498.696)	(N=5520046.062, E=438525.211)
L17	30.30	N2° 19' 59.74"W	(N=5520181.183, E=438546.127)	(N=5520211.456, E=438544.893)

LEFT SIDE E.O.P. CURVE DATA

CURVE #	LENGTH	RADIUS	TANGENT	DELTA	START	STATION	END	STATION
C1	6.02	8.50	3.142	040.57	(N=5519861.140, E=438451.627)	0+295.18	(N=5519867.030, E=438451.387)	0+301.20
C2	12.31	52.82	6.185	013.36	(N=5519889.651, E=438440.966)	0+326.12	(N=5519901.228, E=438436.855)	0+338.43
C3	9.72	34.50	4.894	016.15	(N=5519902.668, E=438443.193)	−0+000.00	(N=5519893.741, E=438446.964)	0+009.72
C4	20.04	9.00	18.272	127.55	(N=5519893.741, E=438446.964)	0+009.72	(N=5519896.063, E=438462.943)	0+029.76
C5	4.19	100.50	2.093	002.39	(N=5519899.410, E=438464.027)	0+033.28	(N=5519903.363, E=438465.400)	0+037.46
C6	4.12	98.50	2.060	002.40	(N=5519955.818, E=438484.845)	0+093.40	(N=5519959.709, E=438486.195)	0+097.52
C7	62.20	394.75	31.166	009.03	(N=5520049.298, E=438515.223)	0+191.70	(N=5520109.735, E=438529.664)	0+253.90
C8	71.87	494.75	35.998	008.32	(N=5520109.735, E=438529.664)	0+253.90	(N=5520181.294, E=438535.628)	0+325.77

RIGHT SIDE E.O.P. CURVE DATA

CURVE #	LENGTH	RADIUS	TANGENT	DELTA	START	STATION	END	STATION
C9	4.23	101.50	2.114	002.39	(N=5519894.626, E=438478.771)	0+247.94	(N=5519898.673, E=438479.990)	0+252.17
C10	1.25	30.00	0.625	002.39	(N=5519953.870, E=438495.367)	0+309.47	(N=5519955.066, E=438495.727)	0+310.72
C11	63.86	405.25	31.995	009.03	(N=5520046.062, E=438525.211)	0+406.37	(N=5520108.106, E=438540.037)	0+470.23
C12	73.40	505.25	36.762	008.32	(N=5520108.106, E=438540.037)	0+470.23	(N=5520181.183, E=438546.127)	0+543.62

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows
Harbourside Transportation Consultants
JULY 14/21
Signature Date
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEGNL NO763 which is valid for the year 2021.

REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. MACDONALD
SIGNATURE
July 14/21
DATE
NEWFOUNDLAND & LABRADOR

LEGEND

EXISTING		PROPOSED
	EDGE OF ASPHALT	
	EDGE OF GRAVEL/SHOULDER	
	GUIDERAIL	
	TREELINE	
	TOP OF SLOPE	
	TOE OF SLOPE	
	DITCHLINE	
	SHORELINE/WATERCOURSE	
	POWER POLE c/w GUYWIRE	
	SIGN	
	CULVERT	
	OVERHEAD WIRE	
	ASPHALT	

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

HARBOURSIDE Transportation Consultants

GENERAL NOTES:

1. ALL ELEVATIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. SURVEY REFERENCED HORIZONTALLY TO UTM ZONE 21 NORTH NAD83 (CSRS) 2010.0 AND VERTICALLY TO CGVD28 (HTV2.0 GEOID MODEL).
3. CONTROL IS DERIVED FROM STATIC GNSS OBSERVATIONS ON A NAIL (POINT #1000) HAVING COORDINATES OF:
   N=5483441.253m
   E=442956.271m
   EL=20.152m
4. RAW GNSS DATA PROCESSED USING NATURAL RESOURCES CANADA PRECISE POINT POSITIONING SOFTWARE.
5. FIELD SURVEY WAS CARRIED OUT BETWEEN MARCH 6-9TH, 2018 AND JULY 25-28TH, 2018.
6. COORDINATES ARE GRID. APPLY COMBINED SCALE FACTOR OF 1.0003631 TO CALCULATE GROUND DISTANCES.
7. CONTOUR INTERVAL IS 0.5 METRE.

– HORIZONTAL ALIGNMENT CONTROL POINTS CONSIST OF:
  PT – POINT OF TAENGENCY
  PC – POINT OF CURVATURE
  PRC – POINT OF REVERSE CURVATURE
  PCC – POINT OF COMPOUND CURVATURE

– LINE DATA:
  AZ – AZIMUTH
  L – LENGTH

– CURVE DATA:
  D – DELTA
  L – LENGTH
  R – RADIUS

revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

PAVEMENT MARKING AND SIGNAGE PLAN (ROUTE 430)

designed MICHAEL MACDONALD
date MARCH 2019
drawn CORY BAKER
date MARCH 2019
approved MICHAEL MACDONALD
date MARCH 2019
Tender / Soumission
PCA Project Manager / Administrateur de projets APC
project number / no. du projet: 182009
drawing no. / no. du dessin: C11

PWGSC B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

NORTH

SOUTH WEST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
1	5519582.540	438354.871
2	5519587.528	438352.130
3	5519596.011	438353.920
4	5519610.480	438358.865
5	5519619.876	438361.775
6	5519629.310	438364.551
7	5519638.616	438367.689
8	5519648.018	438370.738
9	5519657.683	438373.350
10	5519667.364	438375.836

SOUTH WEST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
11	5519686.589	438381.464
12	5519705.591	438387.511
13	5519724.666	438393.718
14	5519743.693	438399.881
15	5519762.671	438406.194
16	5519781.590	438412.690
17	5519800.602	438418.898
18	5519815.187	438423.669
19	5519819.070	438426.787
20	5519837.879	438433.621

SOUTH WEST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
21	5519856.812	438440.075
22	5519867.618	438441.865
23	5519878.331	438438.546
24	5519886.403	438437.090
25	5519895.869	438433.959
26	5519903.314	438432.620
27	5519906.704	438447.049
28	5519896.757	438451.290
29	5519905.989	438453.783
30	5519915.366	438454.015

SOUTH WEST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
31	5519935.834	438455.728
32	5519956.873	438455.684
33	5519967.778	438456.917
34	5519977.004	438458.437
35	5519996.311	438463.736
36	5520002.216	438470.105
37	5520000.603	438476.850

EXISTING EDGE OF BROOK
EXISTING TOP OF BANK
EXISTING WOODEN STAIRS
EXISTING TRAIL
EXISTING TOE OF SLOPE
EXISTING TOP OF BANK
EXISTING TOE OF SLOPE
EXISTING EDGE OF SHOULDER
MATCHLINE
0+050
0+059
0+236
CONTRACT LIMITS STATION 0+527.744±
EXISTING TOP OF BANK
EXISTING TOE OF SLOPE
EXISTING EDGE OF PAVEMENT
CLEARING LIMIT (3m OFFSET FROM CONSTRUCTION LIMIT)
EXISTING TREELINE (TYP.)
EXISTING TRAIL
N:5519578.350
E:438366.099
EL:13.391
TO DEER LAKE
0+120
0+080
0+040
0+000
0+023.517 PT
0+000
0+050
0+100
0+150
0+200
N:5519661.185
E:438394.984
EL:13.589
EXISTING EDGE OF SHOULDER
EXISTING TOE OF SLOPE
EXISTING ROUTE 430 CENTRELINE
NEW ROUTE 430 CENTRELINE
0+040
0+080
0+120
0+160
0+200
0+240
0+000
CLEARING LIMIT (3m OFFSET FROM CONSTRUCTION LIMIT)
EXISTING TREELINE (TYP.)
EXISTING TOP OF BANK
EXISTING TOE OF SLOPE
EXISTING TRAIL CENTRELINE
EXISTING GATE
EXISTING GRADE CONTOURS (0.5m INTERVAL)

SOUTH EAST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
38	5519656.860	438408.333
39	5519663.887	438405.490
40	5519677.039	438410.938
41	5519680.340	438415.347
42	5519691.102	438415.645
43	5519695.437	438419.043
44	5519699.160	438421.940
45	5519713.811	438427.069
46	5519719.459	438428.980

SOUTH EAST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
47	5519725.033	438427.319
48	5519733.674	438430.803
49	5519741.327	438436.358
50	5519751.815	438439.698
51	5519770.094	438447.925
52	5519788.988	438454.743
53	5519807.860	438461.383
54	5519826.876	438467.579
55	5519845.984	438473.492

SOUTH EAST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
56	5519865.039	438479.566
57	5519883.959	438486.061
58	5519903.127	438491.788
59	5519922.515	438496.835
60	5519940.864	438505.090
61	5519946.430	438504.645
62	5519950.930	438508.913
63	5519959.838	438511.414
64	5519968.157	438506.773

PLAN – CLEARING LIMITS

SCALE : 1:500

0m 10m 20m 30m 40m 50m

LEGEND

- EDGE OF ASPHALT
- EDGE OF GRAVEL/SHOULDER
- GUIDERAIL
- TREELINE
- TOP OF SLOPE
- TOE OF SLOPE
- DITCHLINE
- SHORELINE/WATERCOURSE
- POWER POLE c/w GUYWIRE
- SIGN
- CULVERT
- OVERHEAD WIRE
- CLEARING LIMIT
- EXISTING ASPHALT
- EARTHWORKS
- BH01 BOREHOLE
- BENCHMARK
- TP#1 TESTPIT

GENERAL NOTES:

1. ALL ELEVATIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. SURVEY REFERENCED HORIZONTALLY TO UTM ZONE 21 NORTH NAD83 (CSRS) 2010.0 AND VERTICALLY TO CGVD28 (HTV2.0 GEOID MODEL).
3. CONTROL IS DERIVED FROM STATIC GNSS OBSERVATIONS ON A NAIL (POINT #1000) HAVING COORDINATES OF:
   N=5483441.253m
   E=442956.271m
   EL=20.152m
4. RAW GNSS DATA PROCESSED USING NATURAL RESOURCES CANADA PRECISE POINT POSITIONING SOFTWARE.
5. FIELD SURVEY WAS CARRIED OUT BETWEEN MARCH 6–9TH, 2018 AND JULY 25–28TH, 2018.
6. COORDINATES ARE GRID. APPLY COMBINED SCALE FACTOR OF 1.0003631 TO CALCULATE GROUND DISTANCES.
7. CONTOUR INTERVAL IS 0.5 METRE.
   - HORIZONTAL ALIGNMENT CONTROL POINTS CONSIST OF:
     PT – POINT OF TAENGENCY
     PC – POINT OF CURVATURE
     PRC – POINT OF REVERSE CURVATURE
     PCC – POINT OF COMPOUND CURVATURE
   - LINE DATA:
     AZ – AZIMUTH
     L – LENGTH
   - CURVE DATA:
     D – DELTA
     L – LENGTH
     R – RADIUS

NORTH WEST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
65	5520034.710	438482.279
66	5520036.951	438480.551
67	5520051.460	438488.185
68	5520060.821	438492.417
69	5520069.643	438493.374
70	5520077.554	438496.465

NORTH WEST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
71	5520085.871	438504.750
72	5520102.833	438516.230
73	5520121.373	438522.544
74	5520130.639	438521.641
75	5520140.874	438522.376
76	5520160.192	438523.990

NORTH WEST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
77	5520179.527	438524.564
78	5520182.510	438524.593
79	5520185.462	438527.153
80	5520198.947	438527.063
81	5520210.551	438526.621

EXISTING EDGE OF BROOK
EXISTING TOP OF BANK
EXISTING PARKING LOT
EXISTING TOP OF BANK
EXISTING EDGE OF BROOK
CLEARING LIMIT (3m OFFSET FROM CONSTRUCTION LIMIT)
EXISTING DITCH CENTRELINE
EXISTING TREELINE (TYP.)
MATCHLINE
0+050
0+059
0+236
EXISTING TOE OF SLOPE
WESTERN BROOK
FLOW
EXISTING TOP OF BANK
NEW ROUTE 430 CENTRELINE
PC 0+406.278
PCC 0+469.307
0+000
0+240
0+280
0+320
0+360
0+400
0+440
0+480
0+520
0+560
EXISTING TOE OF SLOPE
EXISTING ROUTE 430 CENTRELINE
EXISTING TOP OF BANK
CLEARING LIMIT (3m OFFSET FROM CONSTRUCTION LIMIT)
EXISTING DITCH
CLEARING LIMIT (3m OFFSET FROM CONSTRUCTION LIMIT)
EXISTING TREELINE (TYP.)
EXISTING TOP OF BANK
EXISTING TOE OF SLOPE
EXISTING EDGE OF BROOK
EXISTING TOP OF BANK
FLOW
EXISTING GRADE CONTOURS (0.5m INTERVAL)
CONTRACT LIMITS STATION 0+527.194±
EXISTING TOE OF SLOPE
EXISTING EDGE OF SHOULDER
EXISTING ROUTE 430 CENTRELINE
TO ROCKY HARBOUR
0+600
0+640
N:5520211.228
E:438540.293
EL:8.695
EXISTING EDGE OF SHOULDER
EXISTING TOE OF SLOPE
EXISTING EDGE OF POND
EXISTING TOP OF BANK
EXISTING TOE OF SLOPE
EXISTING BEAVER POND
EXISTING TREELINE (TYP.)
EXISTING DITCH CENTRELINE
EXISTING DITCH CENTRELINE

NORTH EAST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
82	5520006.528	438514.731
83	5520008.372	438522.186
84	5520017.680	438527.554
85	5520019.763	438528.408
86	5520037.015	438532.765
87	5520056.943	438537.699

NORTH EAST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
88	5520060.161	438540.053
89	5520076.627	438544.105
90	5520092.299	438547.359
91	5520097.226	438547.211
92	5520117.414	438551.048
93	5520137.653	438556.798

NORTH EAST APPROACH CLEARING LIMITS		
PNT No.	NORTHING	EASTING
94	5520143.588	438555.537
95	5520158.469	438555.649
96	5520179.086	438555.629
97	5520184.820	438554.490
98	5520199.642	438554.209
99	5520211.816	438554.314

PLAN – CLEARING LIMITS

SCALE : 1:500

0m 10m 20m 30m 40m 50m

PROVINCE OF NEWFOUNDLAND PERMIT HOLDER CLASS "A"
PEGNL Newfoundland and Labrador Engineers
This Permit Allows
Harbourside Transportation Consultants
JULY 14/21
Signature Date
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEGNL NO763 which is valid for the year 2021.

REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. MACDONALD
SIGNATURE
July 14/21
DATE
NEWFOUNDLAND & LABRADOR

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

HARBOURSIDE Transportation Consultants

revisions		date
0	ISSUED FOR TENDER	JULY 14 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

PROPOSED CLEARING PLAN

designed	MICHAEL MACDONALD	concu
date	MARCH 2019	
drawn	CORY BAKER	dessiné
date	MARCH 2019	
approved	MICHAEL MACDONALD	approuvé
date	MARCH 2019	
Tender		Soumission
PCA Project Manager		Administrateur de projets APC

project number / no. du projet: 182009

drawing no. / no. du dessin: C12

PWGSC B1 (2004)

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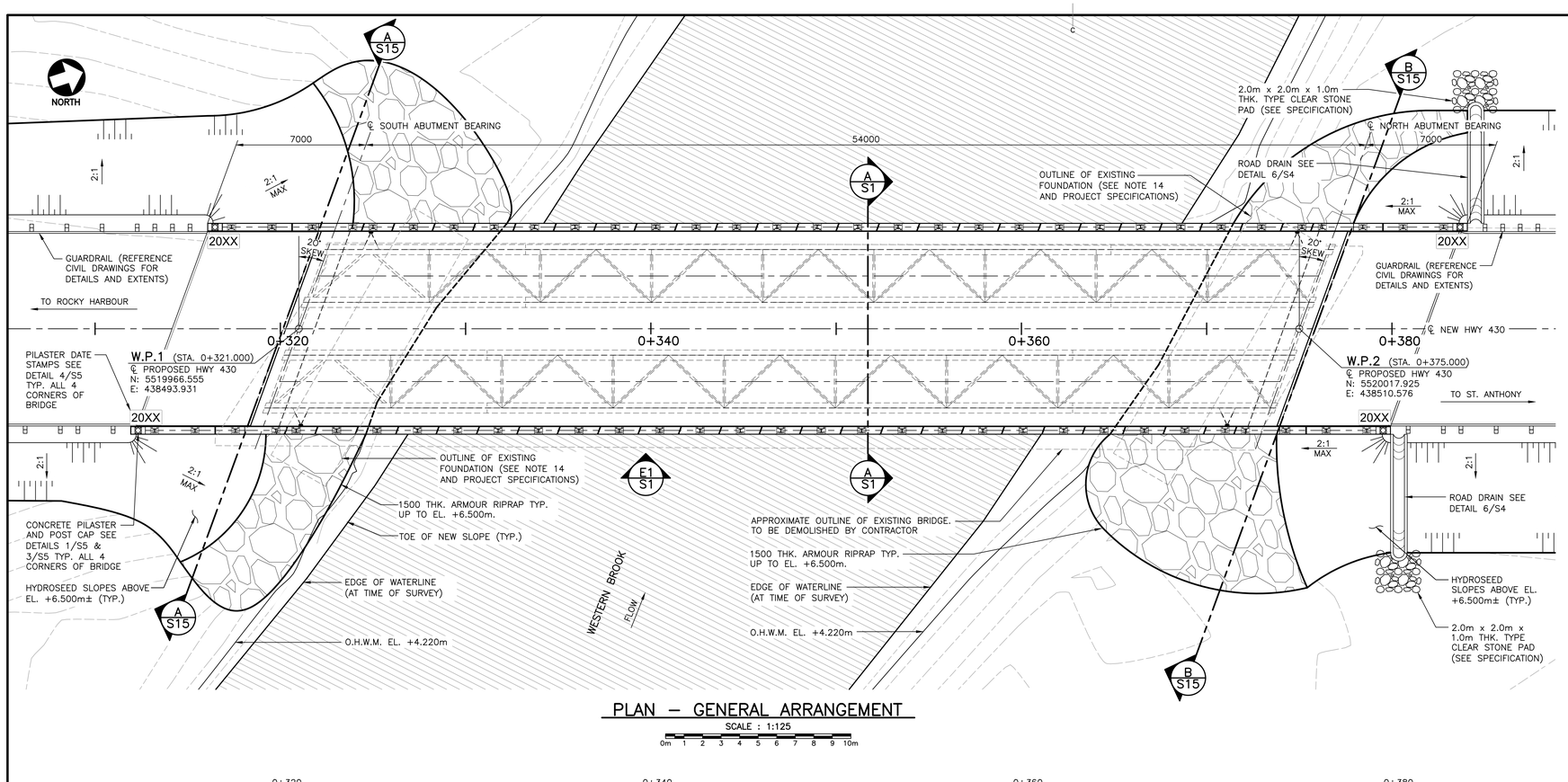

PLAN – GENERAL ARRANGEMENT

SCALE : 1:125

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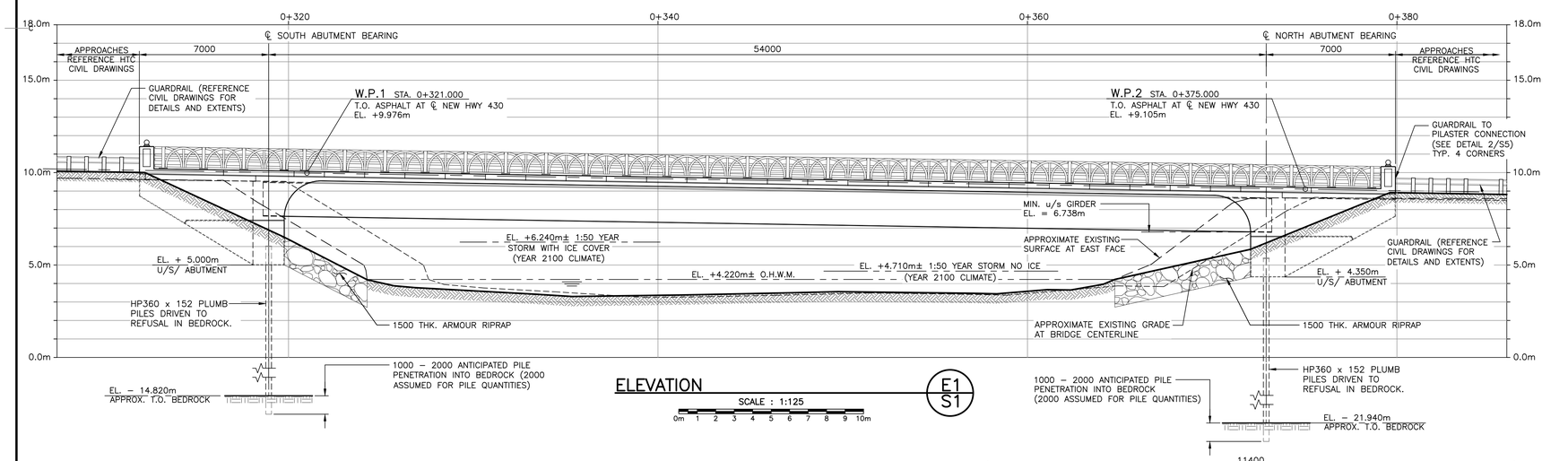
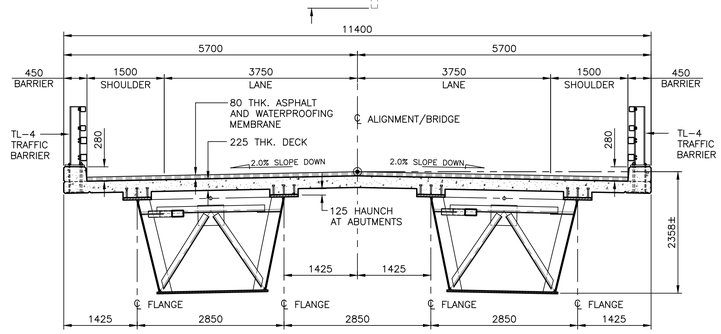


ELEVATION

SCALE : 1:125

0m 1 2 3 4 5 6 7 8 9 10m

E1 S1



TYPICAL SECTION

SCALE: 1:50

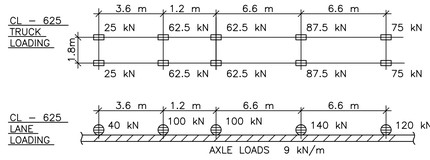
0m 1m 2m 3m 4m 5m

A S1

GENERAL NOTES:

1. GENERAL REQUIREMENTS GOVERNING DESIGN, MATERIALS, AND CONSTRUCTION ARE AS FOLLOWS:

   A) LOADING AND GENERAL DESIGN TO CAN/CSA – S6 – 19, WITH LATEST REVISIONS, LIVE LOAD CL–625.



   B) CONCRETE MATERIALS AND METHODS OF CONSTRUCTION TO CAN/CSA–A23.1 AND METHODS OF TEST FOR CONCRETE TO CAN/CSA–A23.2.

   C) REFERENCE DRAWING S2 FOR C.I.P. CONCRETE AND REINFORCING NOTES.

   D) REFERENCE DRAWING S2 FOR PRECAST CONCRETE NOTES.

   E) REFERENCE DRAWING S2 FOR PILE NOTES.

   F) REFERENCE DRAWING S6 FOR STRUCTURAL STEEL NOTES.

   G) REFERENCE DRAWING S14 FOR MISCELLANEOUS METALS NOTES.

2. ALL DIMENSIONS SHOWN IN MILLIMETRES (mm) ALL ELEVATIONS IN METERS (m).

3. ALL STANDARDS AND SPECIFICATION NOTES TO REFLECT THE "LATEST EDITION" AT TIME OF TENDER.

4. FOUNDATION DESIGN BASED ON INFORMATION PROVIDED IN HARBOURSIDE GEOTECHNICAL ENGINEER REPORT No.193132 R1, DATED MAR. 23, 2020.

5. ALIGNMENT INFORMATION AS PER HARBOURSIDE TRANSPORTATION CONSULTANTS CIVIL DRAWINGS. SURVEY INFORMATION PROVIDED BY DESIGN POINT ENGINEERING AND SURVEYING. SURVEY REFERENCED HORIZONTALLY TO UTM ZONE 21 NORTH NAD83 (CSRS) AND VERTICALLY TO CGVD28. (SEE SPECIFICATIONS) CONTROL IS DERIVED FROM STATIC GN55 OBSERVATIONS ON AN IRON BAR (POINT 1000) HAVING COORDINATES OF:

   N = 5519990.091m
   E = 4384437.178m
   EL = 6.331m

6. ANY DISCREPANCIES BETWEEN DRAWINGS AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.

7. CONSTRUCTION SHALL BE CARRIED OUT AS PER CAN/CSA–S6–19.

8. BRIDGE CLASSIFIED AS AN "EMERGENCY–ROUTE BRIDGE" FOR THE PURPOSE OF SEISMIC ANALYSIS AS PER CAN/CSA–S6–19.

9. BRIDGE BARRIERS AND ANCHORAGES CONFORM TO TL–4 CRASH TEST REQUIREMENTS AS PER CAN/CSA–S6–19.

10. BRIDGE QUANTITIES IN SPECIFICATIONS ARE BASED ON THE FOLLOWING EXTENTS:

    LONGITUDINALLY : MEASURED FROM END OF WINGWALL TO END OF WINGWALL

    TRANSVERSELY : MEASURED FROM TOE OF FINISHED SIDE SLOPE TO TOE OF FINISHED SIDE SLOPE

11. CONTRACTOR TO PROVIDE EROSION AND SEDIMENTATION CONTROL PLAN TO THE DEPARTMENT REPRESENTATIVE AT THE START OF THE PROJECT FOR ALL PHASES OF WORK AND MAINTAIN CONTROLS THROUGHOUT CONSTRUCTION.

12. EACH PHASE OF WORK TO BE INSPECTED AND APPROVED BY DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING TO NEXT PHASE OF WORK.

13. WATER ELEVATIONS INDICATED BASED ON DESIGN POINT FINAL HYDROLOGY REPORT No. 18–103 DATED APRIL 15, 2020.

14. DEMOLITION OF EXISTING BRIDGE TO BE UNDERTAKEN AFTER TRAFFIC IS DIVERTED TO THE DETOUR STRUCTURE AND WRITTEN APPROVAL TO PROCEED IS PROVIDED BY DEPARTMENTAL REPRESENTATIVE. CONTRACTOR IS RESPONSIBLE FOR BRIDGE DEMOLITION DESIGN (REFER TO PROJECT SPECIFICATIONS FOR REQUIREMENTS). ALL EXISTING FOUNDATIONS TO BE REMOVED TO A MINIMUM 1000mm BELOW FINISHED GRADE. CONTRACTOR TO COORDINATE AND OBTAIN APPROVAL OF DEMOLITION PLAN FROM DEPARTMENTAL REPRESENTATIVE AND DFO PRIOR TO INITIATING DEMOLITION ACTIVITIES.

15. SEE DRAWING DS1 FOR TEMPORARY DETOUR BRIDGE FOUNDATIONS.

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL PERMIT HOLDER
This Permit Allows
HARBOURSIDE ENGINEERING CONSULTANTS
To practice Provisional Engineering in Newfoundland and Labrador
Permit No. as issued by PEGNL 324
which is valid for the year 2021

MEGAN LEIGH PROFESSIONAL ENGINEER
PEGNL
ROBBIE FRASER
SIGNATURE
July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

GENERAL ARRANGEMENT

designed	WADE POTTIE	conçu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC

project number / no. du projet: **1268**

drawing no. / no. du dessin: **S1**

PWGSC B1 (2004)

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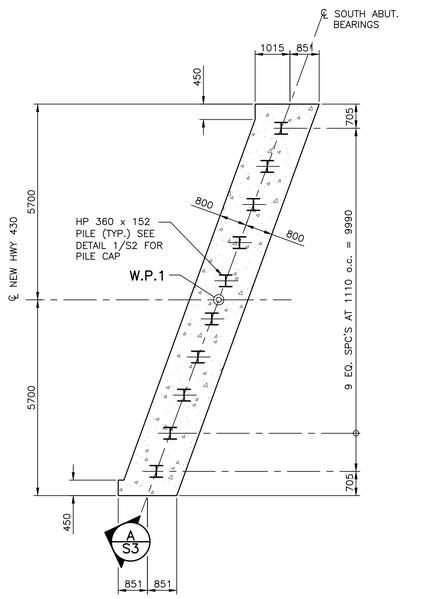
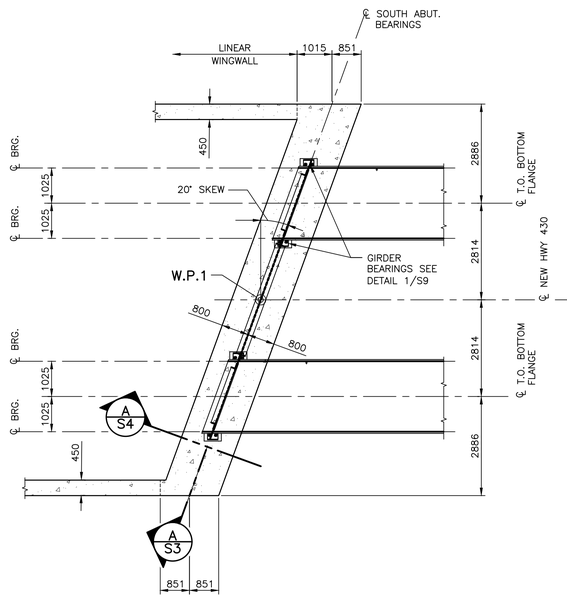
E-DRM/GDD-E:



SOUTH ABUTMENT – PILE LAYOUT PLAN

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



SOUTH ABUTMENT – BEAM SEAT PLAN

SCALE : 1:75

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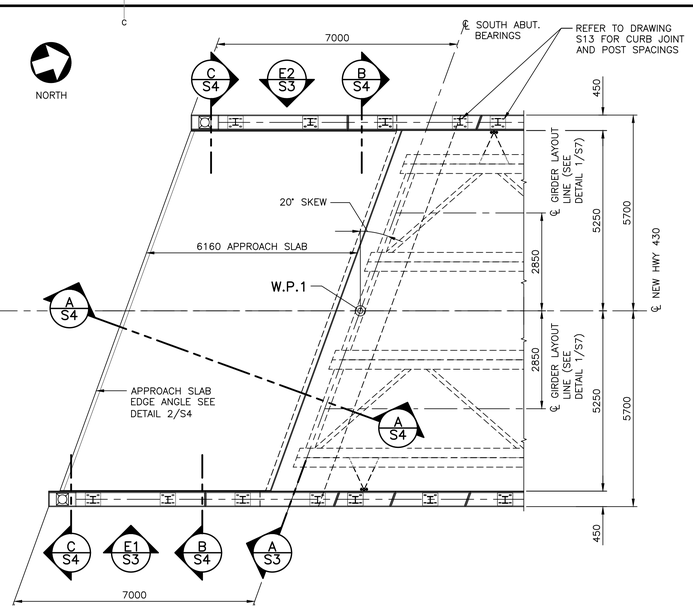
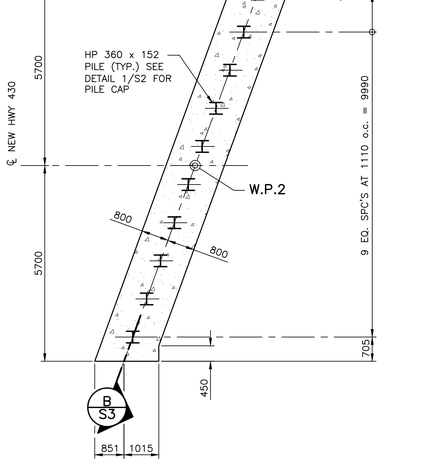


SOUTH ABUTMENT – TOP PLAN

SCALE : 1:75

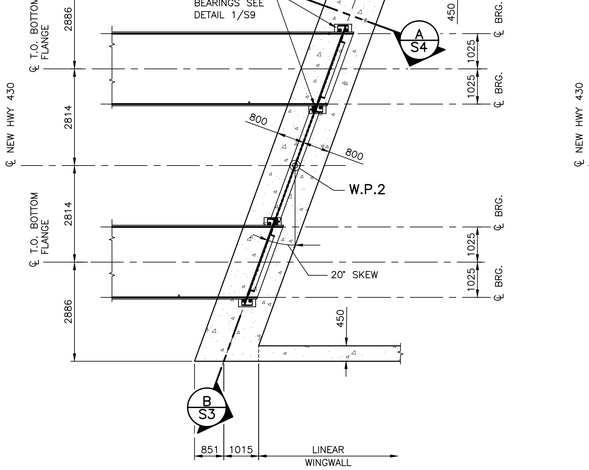
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



NORTH ABUTMENT – PILE LAYOUT PLAN

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



NORTH ABUTMENT – BEAM SEAT PLAN

SCALE : 1:75

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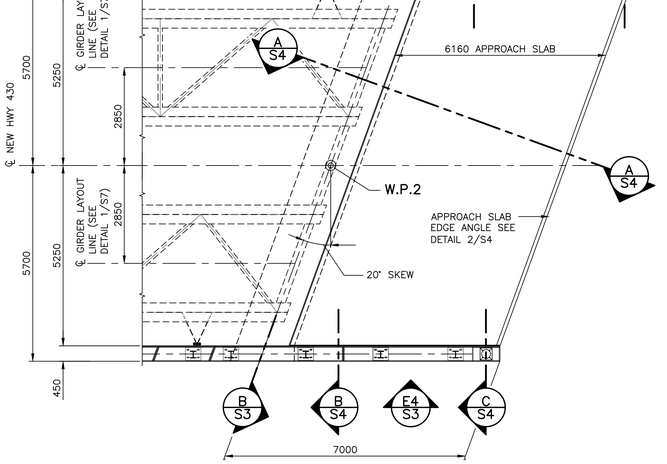

NORTH ABUTMENT – TOP PLAN

SCALE : 1:75

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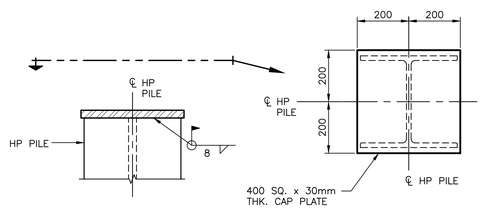


DETAIL – PILE CAP

1 / S2

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

C.I.P. CONCRETE NOTES

1. ALL EXPOSED CORNERS OF CONCRETE TO HAVE 25mm CHAMFERS.
2. LOCATION OF CONSTRUCTION JOINTS AND SEQUENCE OF CONCRETE PLACEMENT TO BE APPROVED BY THE DEPARTMENTAL REPRESENTATIVE.
3. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:
   - A) ABUTMENTS, WINGWALLS, APPROACH SLABS, CONCRETE DECK AND CURBS 45 MPa WITH 20mm MAX. AGGREGATE SIZE AND 6% ± 1% AIR ENTRAINMENT (AIR VOID SPACING REQUIREMENTS AS PER PROJECT SPECIFICATIONS), MAX. WATER–CEMENT RATIO 0.35
   - B) BEARING PLINTHS 35 MPa WITH 20mm MAX. AGGREGATE SIZE AND 6% ± 1% AIR ENTRAINMENT (AIR VOID SPACING REQUIREMENTS AS PER PROJECT SPECIFICATIONS), MAX. WATER–CEMENT RATIO 0.35.
4. CONCRETE COVER TO REINFORCING STEEL AS NOTED ON DRAWINGS.
5. REINFORCING STEEL TO BE GRADE 400W DEFORMED BARS AS PER PROJECT SPECIFICATIONS WITH YIELD STRENGTH OF 400 MPa (WELDABLE). ALL REINFORCING TO BE GALVANIZED IN ACCORDANCE WITH PROJECT SPECIFICATIONS. BEND DIAMETERS PRIOR TO GALVANIZING AS PER PROJECT SPECIFICATIONS, FIELD BENDING OF GALVANIZED BARS IS NOT PERMITTED.
6. ALL REINFORCEMENT TO BE INSPECTED BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO CLOSING FORMWORK OR PLACING CONCRETE.
7. COMPACTING IMMEDIATELY ADJACENT TO BACK WALL SHALL BE ACCOMPLISHED WITH LIGHT COMPACTING EQUIPMENT. MODERATE COMPACTING WITH A TRENCH ROLLER IN 300mm LIFTS ELSEWHERE (ALL COMPACTION SHALL BE TO 100% STD. PROCTOR MAXIMUM DRY DENSITY). BACKFILLING SHALL NOT BE UNDERTAKEN UNTIL GIRDERS ARE ERECTED AND SLAB AND ABUTMENT CAPS ARE COMPLETED ($f'c \geq 35$ MPa) AND SHALL BE ACCOMPLISHED IN EQUAL/BALANCED LIFTS BEHIND EACH ABUTMENT. WHEEL LOADS SHALL BE KEPT 5.0m MINIMUM CLEAR OF ABUTMENTS UNTIL CONCRETE REACHES DESIGN STRENGTH AND BACKFILLING IS COMPLETED BEHIND BOTH ABUTMENTS. SURCHARGING FROM CONSTRUCTION EQUIPMENT TO BE AVOIDED UNLESS OTHERWISE APPROVED BY DEPARTMENTAL REPRESENTATIVE IN WRITING.
8. FOR BENT REINFORCING BAR TYPES REFER TO R.S.I.C. REINFORCING MANUAL OF STANDARD PRACTICE TYPICAL BAR BENDS EXCEPT BAR BEND DIAMETERS AS PER PROJECT SPECIFICATIONS (U.N.O.).
9. EACH PHASE OF WORK TO BE INSPECTED BY THE DEPARTMENT REPRESENTATIVE PRIOR TO PROCEEDING TO THE NEXT PHASE OF WORK.
10. BACKFILL IMMEDIATELY BEHIND ABUTMENTS TO BE "FILL AGAINST STRUCTURE" MATERIAL AS PER PROJECT SPECIFICATIONS. LIMITS AS INDICATED ON DRAWING S15.

PRECAST CONCRETE NOTES

1. ALL EXPOSED CORNERS OF CONCRETE TO HAVE 25mm CHAMFERS.
2. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:
   - A) ROAD DRAINS: 35MPa, NON–REINFORCED, 6% ± 1% AIR ENTRAINMENT, AS PER PROJECT SPECIFICATIONS.

PILE NOTES

1. PILE MATERIAL
   - A) STEEL H–PILES IN ABUTMENT, HP360 x 152, Fy = 350 MPa (MIN.)
   - B) ALL PILE SPLICES, IF REQUIRED AND AT THE APPROVAL OF THE DEPARTMENTAL REPRESENTATIVE, SHALL BE FULL STRENGTH WELDED CONNECTIONS (LIMIT 1 SPLICE PER PILE)
   - C) CAP PLATE, Fy = 350 MPa MINIMUM
   - D) WELDING MATERIAL TO CSA G40.1 – LATEST EDITION
   - E) WELDING TO BE IN ACCORDANCE TO CSA W59 – LATEST EDITION
2. PILE INSTALLATION CRITERIA AS PER HGC REPORT No. 193132 R1 DATED MAR. 23, 2020.
3. SEE PROJECT SPECIFICATION FOR PILE SET CRITERIA.
4. ALL PILES SHALL BE DRIVEN WITH A PROTECTIVE H–PILE DRIVING SHOE. ALL POINTS SHALL MATCH PILE SIZE AND SHALL BE WELDED TO PILE TIPS AS PER MANUFACTURER'S RECOMMENDATIONS. PILE TIP DETAILS SHALL BE FORWARDED TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW AND ACCEPTANCE PRIOR TO DRIVING.
5. FULL TIME INSPECTION SHALL BE UNDERTAKEN DURING PILE DRIVING AND COMPLETE DRIVING RECORDS SHALL BE KEPT BY CONTRACTOR.
6. PILE CAPACITIES OF AT LEAST TWO PILES PER ABUTMENT SHALL BE CONFIRMED BY PDA TESTING WITH ADDITIONAL PDA TESTING TO BE COMPLETED AT THE DISCRETION OF THE DEPARTMENTAL REPRESENTATIVE.
7. DESIGN PILE CAPACITY AT ULS:
   - HP360 x 152 PILES ---------- 1360 kN (COMPRESSION)
8. MINIMUM RATED HAMMER ENERGY OF 450 J/cm² OF STEEL CROSS SECTION–SECTIONAL AREA SHALL BE USED. A PILE DRIVING HAMMER CAPABLE OF DELIVERING VARIABLE AMOUNTS OF ENERGY SHALL BE USED ON THIS PROJECT.
9. PRACTICAL REFUSAL TAKEN AS PILE PENETRATION OF LESS THAN 25mm FOR 15 BLOWS AT THE RATED ENERGY FOR 4 CONSECUTIVE 25mm INCREMENTS.
10. RE–STRIKING OF 2 PILES PER ABUTMENT SHALL BE UNDERTAKEN NO SOONER THAN 24 HOURS AFTER ACHIEVING THE REFUSAL CRITERIA AND SUFFICIENTLY DRIVEN TO RE–ESTABLISH THE REFUSAL CRITERIA AS PER GEOTECHNICAL ENGINEER RECOMMENDATIONS (REFERENCE HARBOURSIDE GEOTECHNICAL CONSULTANTS PROJECT GEOTECHNICAL REPORT).

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGL PERMIT HOLDER
This Permit Allows
HARBOURSIDE ENGINEERING CONSULTANTS
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGL 324
which is valid for the year 2021.

PROFESSIONAL ENGINEERS AND GEOSCIENTISTS NEWFOUNDLAND & LABRADOR
ROBBIE FRASER
July 19 '21
SIGNATURE

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

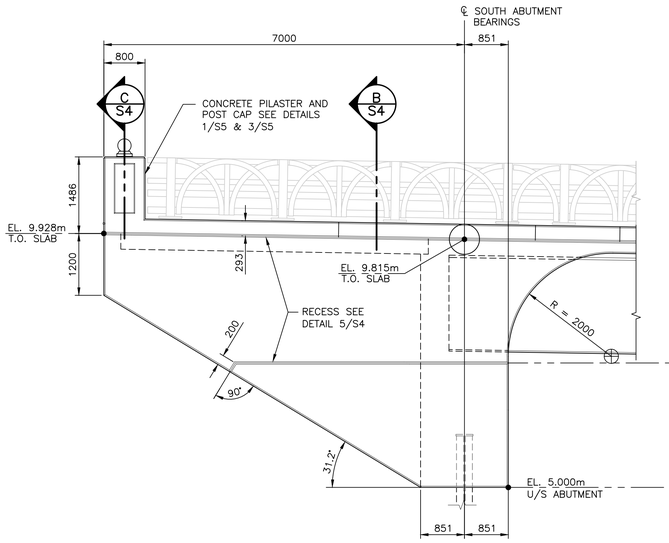
ABUTMENT PLANS

designed	WADE POTTIE	conçu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.		no. du dessin

S2

PWGSC B1 (2004)

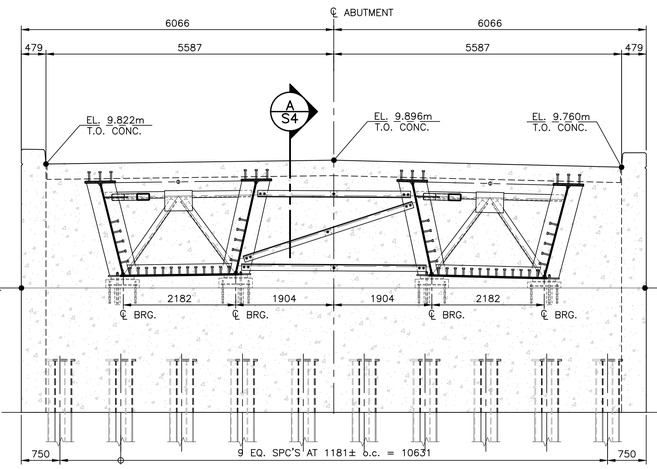
E-DRM/GDD-E:



ELEVATION – SOUTH EAST WINGWALL E1 S2

SCALE : 1:50

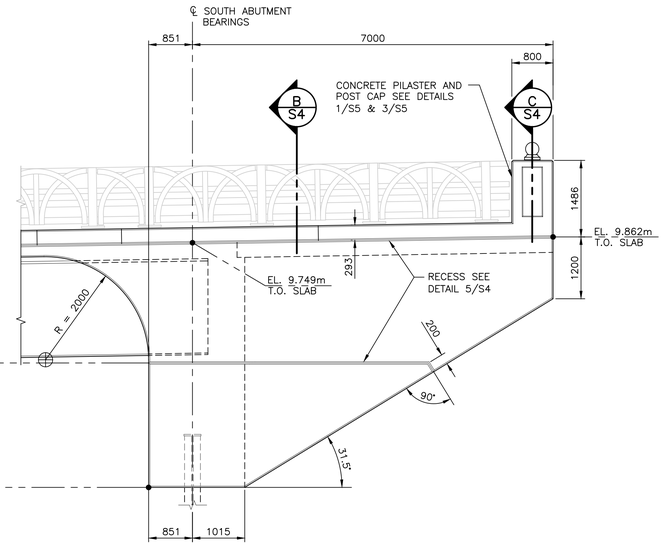
0m 1m 2m 3m 4m 5m



SECTION – SOUTH ABUTMENT A S2

SCALE : 1:50

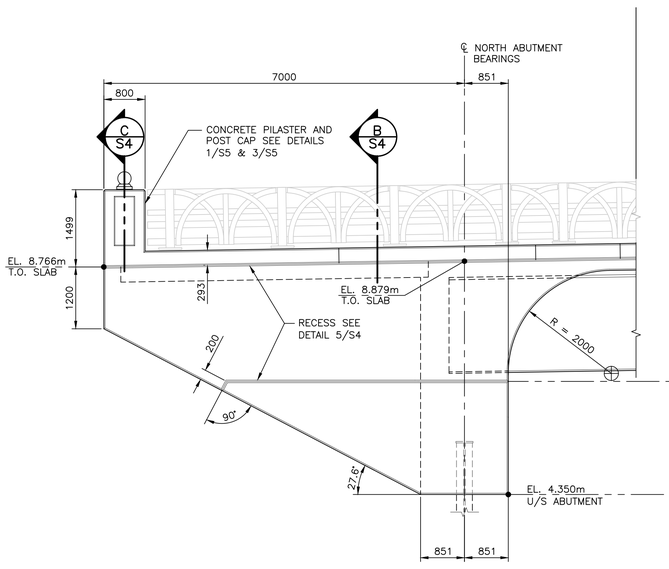
0m 1m 2m 3m 4m 5m



ELEVATION – SOUTH WEST WINGWALL E2 S2

SCALE : 1:50

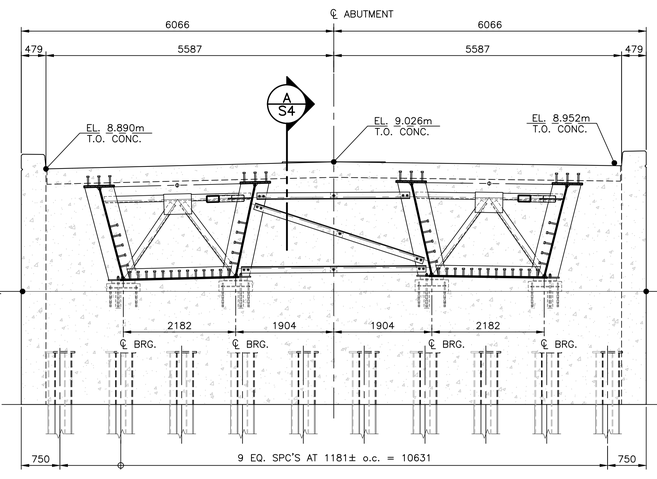
0m 1m 2m 3m 4m 5m



ELEVATION – NORTH WEST WINGWALL E3 S2

SCALE : 1:50

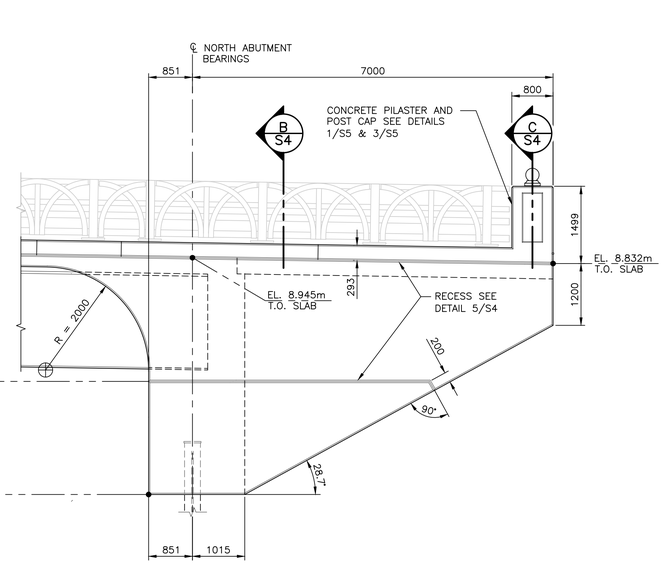
0m 1m 2m 3m 4m 5m



SECTION – NORTH ABUTMENT B S2

SCALE : 1:50

0m 1m 2m 3m 4m 5m



ELEVATION – NORTH EAST WINGWALL E4 S2

SCALE : 1:50

0m 1m 2m 3m 4m 5m

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ROBBIE FRASER
SIGNATURE
July 19 '21
DATE

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

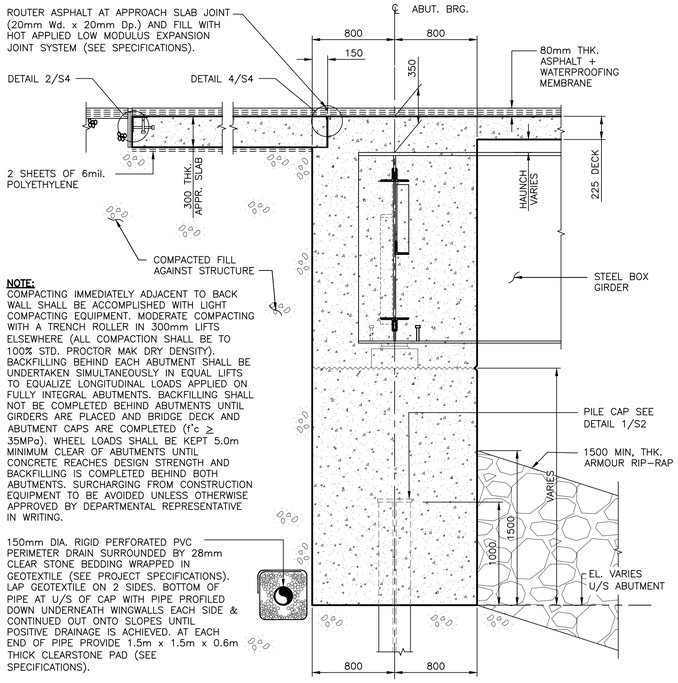
ABUTMENT SECTIONS AND WINGWALL ELEVATIONS

designed	WADE POTTIE	conçu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.		no. du dessin

S3

PWGSC B1 (2004)

E-DRM/GDD-E:

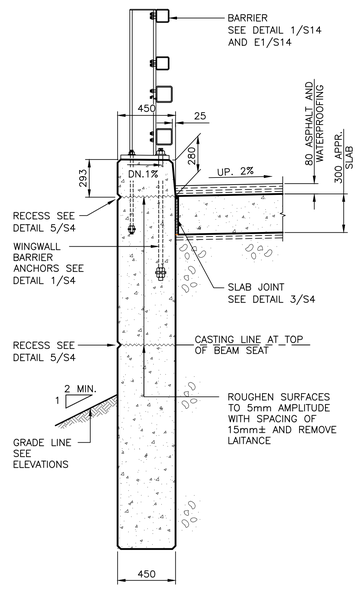


NOTE:
COMPACTING IMMEDIATELY ADJACENT TO BACK WALL SHALL BE ACCOMPLISHED WITH LIGHT COMPACTING EQUIPMENT. MODERATE COMPACTING WITH A TRENCH ROLLER IN 300mm LIFTS ELSEWHERE (ALL COMPACTION SHALL BE TO 100% STD. PROCTOR MAK DRY DENSITY). BACKFILLING BEHIND EACH ABUTMENT SHALL BE UNDERTAKEN SIMULTANEOUSLY IN EQUAL LIFTS TO EQUALIZE LONGITUDINAL LOADS APPLIED ON FULLY INTEGRAL ABUTMENTS. BACKFILLING SHALL NOT BE COMPLETED BEHIND ABUTMENTS UNTIL GIRDERS ARE PLACED AND BRIDGE DECK AND ABUTMENT CAPS ARE COMPLETED (f'c ≥ 35MPa). WHEEL LOADS SHALL BE KEPT 5.0m MINIMUM CLEAR OF ABUTMENTS UNTIL CONCRETE REACHES DESIGN STRENGTH AND BACKFILLING IS COMPLETED BEHIND BOTH ABUTMENTS. SURCHARGING FROM CONSTRUCTION EQUIPMENT TO BE AVOIDED UNLESS OTHERWISE APPROVED BY DEPARTMENTAL REPRESENTATIVE IN WRITING.

SECTION – TYPICAL ABUTMENT — A / S2

SCALE : 1:25

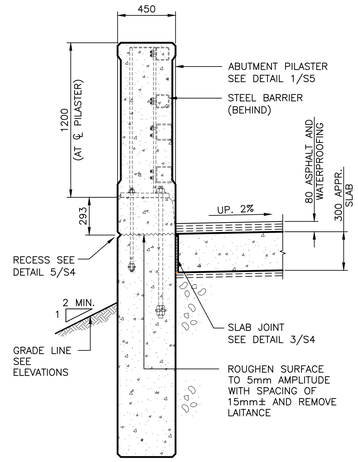
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION — B / S2

SCALE : 1:20

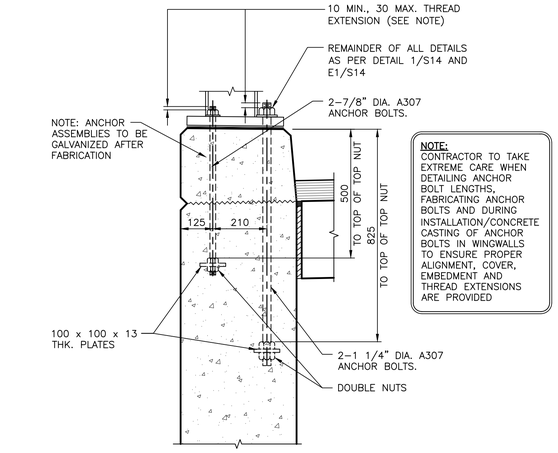
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION — C / S2

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

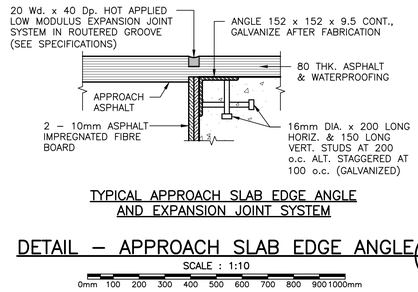


NOTE:
CONTRACTOR TO TAKE EXTREME CARE WHEN DETAILING ANCHOR BOLT LENGTHS, FABRICATING ANCHOR BOLTS AND DURING INSTALLATION/CONCRETE CASTING OF ANCHOR BOLTS IN WINGWALLS TO ENSURE PROPER ALIGNMENT, COVER, EMBEDMENT AND THREAD EXTENSIONS ARE PROVIDED

DETAIL – WINGWALL BARRIER POST ANCHORS — 1 / S4

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

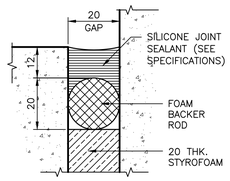


TYPICAL APPROACH SLAB EDGE ANGLE AND EXPANSION JOINT SYSTEM

DETAIL – APPROACH SLAB EDGE ANGLE — 2 / S2

SCALE : 1:10

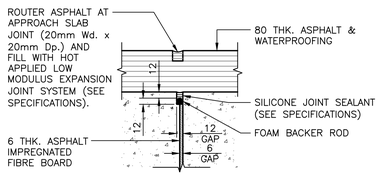
0mm 100 200 300 400 500 600 700 800 900 1000mm



DETAIL – APPR. SLAB TO WINGWALL JOINT — 3 / S4

SCALE : 1:1

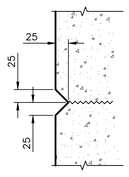
0mm 10 20 30 40 50 60 70 80 90 100mm



DETAIL – APPR. SLAB TO DECK JOINT — 4 / S4

SCALE: 1:5

0mm 100mm 200mm 300mm 400mm 500mm



DETAIL – RECESS — 5 / S3

SCALE: 1:5

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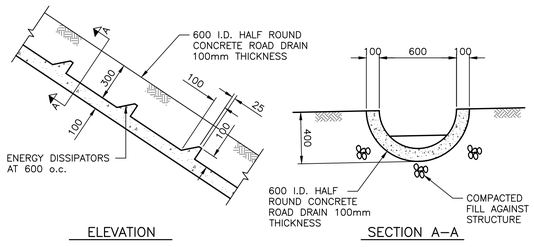

DETAIL – CAST-IN-PLACE ROAD DRAIN — 6 / S1

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

0 10 20mm 40 60 80 100 120 140 160 180 200mm

PWGSC B1 (2004)

E-DRM/GDD-E:

Parcs Canada Parks Canada

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MAJOR GERARD PROFESSIONAL ENGINEER
PEGL
ROBBIE FRASER
SIGNATURE
July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

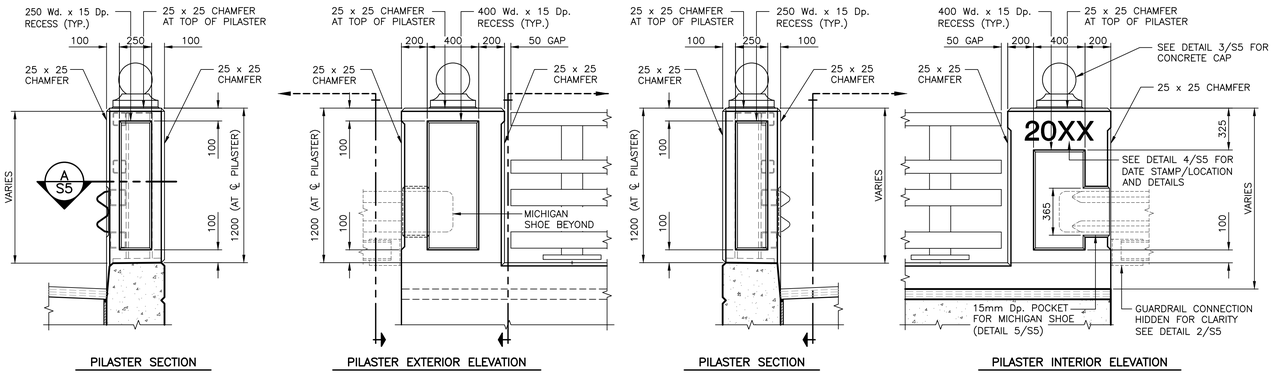
drawing / dessin

ABUTMENT SECTIONS AND DETAILS

designed	WADE POTTIE	conçu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet

drawing no. / no. du dessin

S4



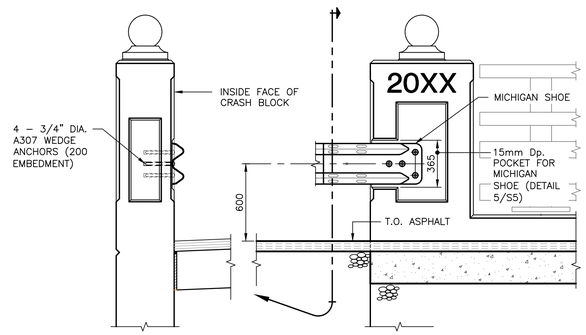
PILASTER SECTION | PILASTER EXTERIOR ELEVATION | PILASTER SECTION | PILASTER INTERIOR ELEVATION

DETAIL – TYPICAL PILASTER (1/S1)

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

NOTE:
1. ALL PILASTERS TO BE VERTICAL (PLUMB) IN BOTH DIRECTIONS.
2. RECESS SECTION SIMILAR AS PER SECTION A/S5.



DETAIL – TYPICAL GUARDRAIL CONNECTION (2/S1)

SCALE : 1:20

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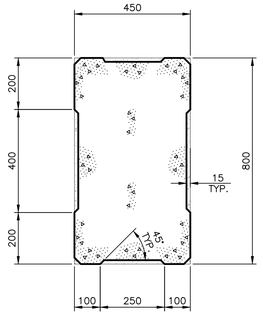

SECTION – TYPICAL PILASTER PLAN (A/S5)

SCALE : 1:10

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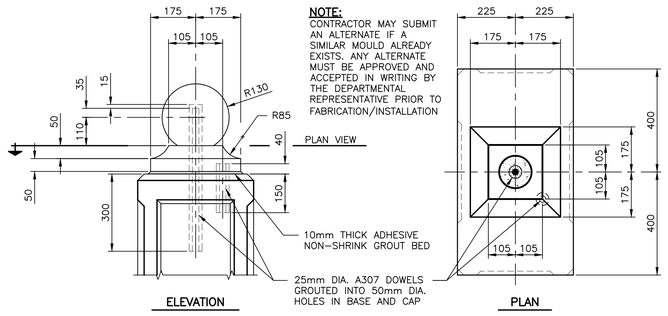


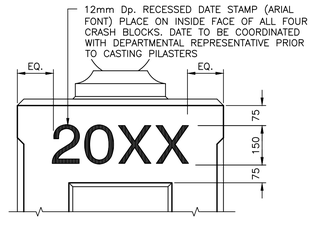
NOTE:
CONTRACTOR MAY SUBMIT AN ALTERNATE IF A SIMILAR MOULD ALREADY EXISTS. ANY ALTERNATE MUST BE APPROVED AND ACCEPTED IN WRITING BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO FABRICATION/INSTALLATION

ELEVATION | PLAN

DETAIL – TYPICAL CONCRETE POST CAP (3/S1)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

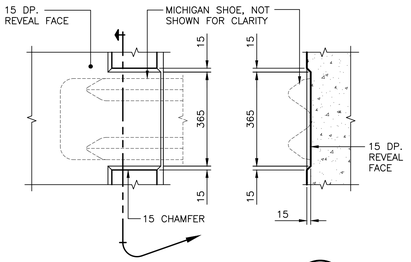


DATE STAMP

DETAIL – TYPICAL PILASTER REVEAL (4/S1)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



DETAIL – MICHIGAN SHOE POCKET (5/S5)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

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PEGL Engineers and Geoscientists
PERMIT HOLDER
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ROBBIE FRASER
SIGNATURE
July 19 '21
DATE
MEMBER OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet
WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

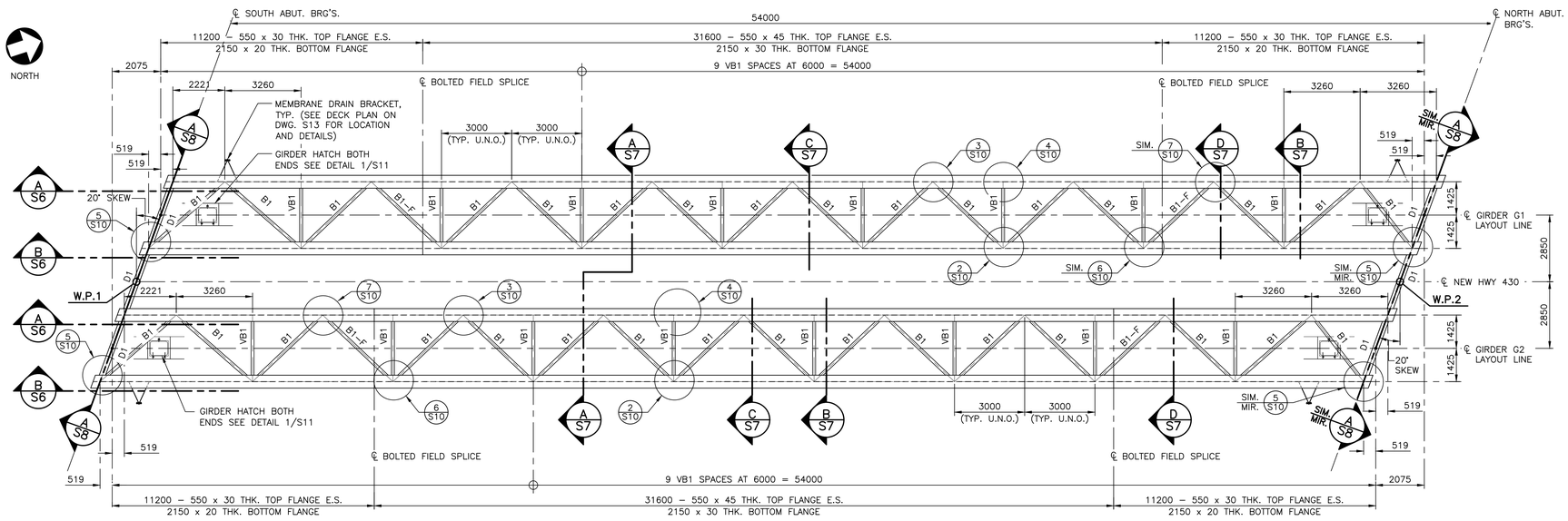
drawing / dessin
ABUTMENT PILASTER DETAILS

designed / conçu: WADE POTTIE — date: JANUARY, 2020
drawn / dessiné: WAYNE MORROW — date: JANUARY, 2020
approved / approuvé: ROBBIE FRASER — date:
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet

drawing no. / no. du dessin: S5

PWGSC B1 (2004)

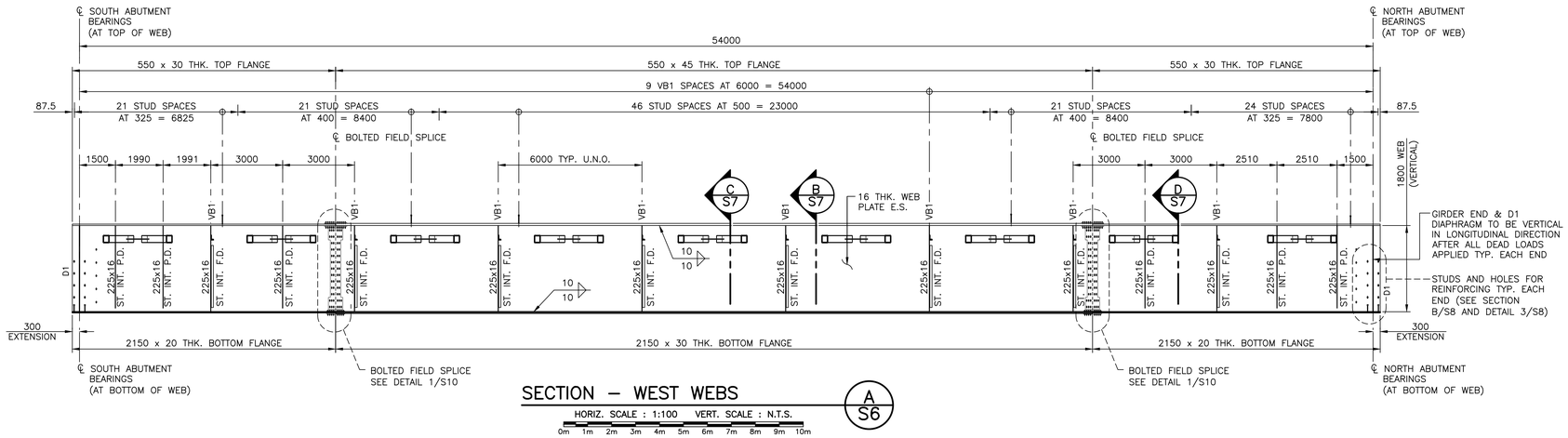
E-DRM/GDD-E:



GIRDER LAYOUT PLAN

SCALE : 1:100

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

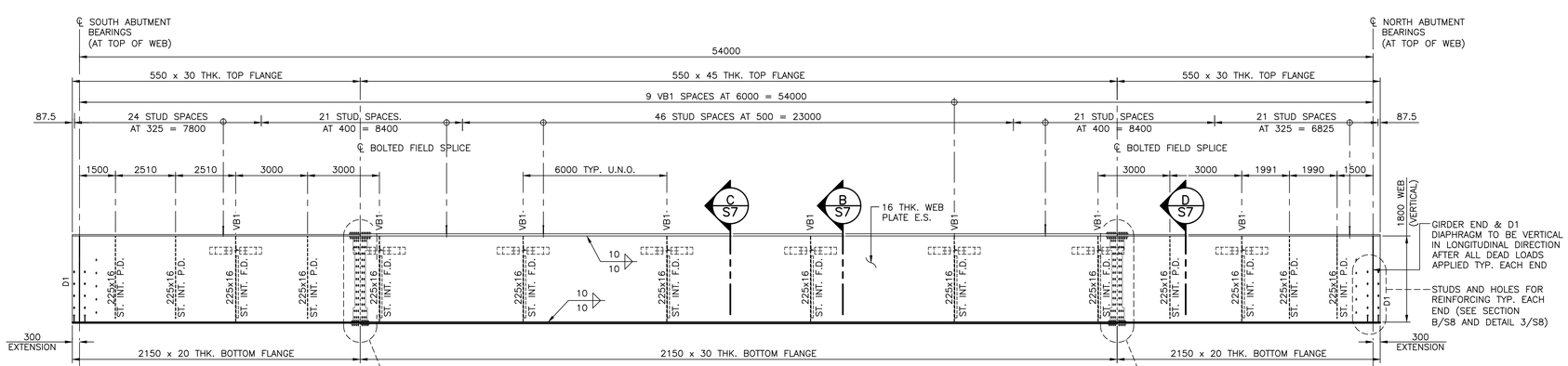


SECTION – WEST WEBS

A S6

HORIZ. SCALE : 1:100 VERT. SCALE : N.T.S.

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



SECTION – EAST WEBS

B S6

HORIZ. SCALE : 1:100 VERT. SCALE : N.T.S.

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING C.S.A. STANDARDS AND A.S.T.M. STANDARDS:
   - A) BOX GIRDERS: WEBS, FLANGE PLATES, STIFFENERS, SPLICE PLATES, GUSSET PLATES TO G40.21M – 350WT CAT 2.
   - B) ROLLED SECTIONS, INCLUDING, ANGLES, WIDE FLANGE BARRIER POSTS, AND MISC. PLATES TO G40.21M – 350W OR EQUIVALENT.
   - C) HSS RAILS & BRACES: ASTM A500 GRADE C.
   - D) HIGH STRENGTH BOLTS ASTM F3125 GRADE A325 TYPE 1, THREADS TO BE EXCLUDED FROM ALL SHEAR PLANES (U.N.O.). ALL BOLT HOLES TO BE DRILLED.
   - E) BEARING PLATE THREADED ANCHOR RODS ASTM A615 (75 ksi).
2. ALL WELDING SHALL BE IN ACCORDANCE WITH C.S.A. STANDARD W59, LATEST EDITION.
3. SHEAR STUD CONNECTORS AND THE QUALIFICATIONS OF THE SHEAR CONNECTION BASE SHALL COMPLY WITH CSA W59, ANNEX H, AND MEET THE REQUIREMENTS OF ASTM A108 GRADES G10100 TO G10200. ONLY TYPE B STUDS ARE ACCEPTABLE. STUD WELDS SHALL BE FULL STRENGTH WELDS.
4. FABRICATE, DELIVER TO SITE AND ERECT STEELWORK IN ACCORDANCE WITH CAN/CSA–S6–19.
5. COAT ALL STEEL IN ACCORDANCE WITH PROJECT SPECIFICATIONS. PRIMER COAT ONLY ON ALL INSIDE SURFACES OF BOX. NO PAINT ON TOP SURFACES OF TOP FLANGES EXCEPT AS SHOWN IN DETAIL 7/S7. DRILLED HOLES IN GIRDER WEBS AND BOTTOM FLANGE PLATES FOR INTEGRAL ABUTMENT REINFORCING SHALL BE FULLY COATED TO ENSURE ISOLATION BETWEEN GIRDER AND GALVANIZED ABUTMENT REINFORCING STEEL TO AVOID POTENTIAL OF GALVANIC REACTION. BOX GIRDER DRAIN HOLES AND MEMBRANE DRAIN DOWNSPOUTS SHALL ALSO BE FULLY COATED. CONFIRM TOP COAT COLOR WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO FABRICATION.
6. GRIND ALL BEARING STIFFENERS AT ABUTMENTS TO BEAR AT BOTTOM, THEN WELD.
7. ALL FAYING SURFACES AT BOLTED CONNECTIONS SHALL BE CLASS B, OR BETTER. ALL BOLTS BROUGHT TO SLIP CRITICAL CONDITION BY TURN OF NUT METHOD.
8. CONTRACTOR RESPONSIBLE FOR LIFTING & STABILITY OF GIRDERS DURING ALL PHASES OF CONSTRUCTION.
9. D1 DIAPHRAGMS TO BE VERTICAL IN THE LONGITUDINAL DIRECTION AFTER ALL DEAD LOAD DEFLECTIONS OCCUR. ALL OTHER STIFFENERS (INCLUDING VB1 LOCATIONS) TO BE PERPENDICULAR TO FLANGES.
10. STUD HEIGHTS VARY ALONG SPAN AND ARE DEPENDENT ON AS–BUILT GIRDER ELEVATIONS AND CAMBERS. THEORETICAL STUD HEIGHTS CAN BE DETERMINED USING DETAIL 5/S7 (MAX. AND MIN. PROJECTION INTO DECK), ALONG WITH THEORETICAL HAUNCH DEPTHS ALONG SPAN. THEORETICAL HAUNCH DEPTHS CAN BE DETERMINED AT EACH SCREED STATION USING FINAL GIRDER ELEVATIONS AT EACH ABUTMENT, THE THEORETICAL CAMBER PROFILE, THE SELF WEIGHT AND TOTAL DEAD LOAD GIRDER DEFLECTIONS AND THE TOP OF DECK FINAL ELEVATIONS INDICATED ON S13. HAUNCH THICKNESS NEAR ABUTMENTS MAY EXCEED READILY AVAILABLE STUD LENGTHS. IT IS PERMISSIBLE TO USE 2 SHEAR CONNECTORS (WELDED ABOVE ONE ANOTHER) TO OBTAIN ADEQUATE STUD LENGTHS. AS–BUILT STUD HEIGHTS ARE BASED ON AS–BUILT CAMBERS, AND BEARING ELEVATIONS, AND THEREFORE THE REQUIRED STUD HEIGHTS REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.
11. BOTTOM BEARING POINT OF SLAB OVERHANG BRACKET SHALL BE ORIENTATED NO HIGHER THAN 25mm ABOVE EXTERIOR GIRDER BOTTOM FLANGE/WEB INTERFACE DURING DECK CASTING. CONTRACTOR SHALL ENSURE STABILITY OF GIRDERS DURING ALL PHASES OF CONSTRUCTION.
12. BOX GIRDERS ARE FRACTURE CRITICAL MEMBERS AS PER SECTION 12 OF CSA W59–13 AND SECTION 10 OF CSA S6–19. SPECIFICALLY, THE BOTTOM FLANGE AND THE LOWER 1500mm PORTION OF GIRDER WEB ALONG THE ENTIRE SPAN, ALONG WITH THE BOTTOM FLANGE AND WEB SPLICE PLATES, SHALL ALL BE CONSIDERED FRACTURE CRITICAL COMPONENTS OF THE STRUCTURE.
13. ABUTMENT D1 BRACING BETWEEN BOXES TO BE MATCH DRILLED WITH BOXES IN SELF WEIGHT ONLY CONDITION.
14. IT IS ACCEPTABLE TO REMOVE ONE OR BOTH BOLTED FIELD SPLICES IN FAVOR OF APPROVED WELDED SHOP SPLICES. IT IS NOT ACCEPTABLE TO CHANGE THE LOCATIONS OF THE BOLTED FIELD SPLICES. REFER TO DETAIL 6/S7 FOR ACCEPTABLE WELDED SHOP SPLICES.

LEGEND:

D1	---	TYPICAL ABUTMENT DIAPHRAGM SECTION A/S8
VB1	---	TYPICAL INTERIOR DIAPHRAGM SECTION B/S7
B1	---	HSS 127 x 127 x 8.0 BRACING
B1–F	---	HSS 127 X 127 x 8.0 BRACING c/w BOLTED FIELD CONNECTIONS EACH END
ST. INT. F.D.	---	STIFFENER INTERIOR FULL DEPTH. SEE DETAILS 2/S7 AND 3/S7
ST. INT. P.D.	---	STIFFENER INTERIOR PARTIAL DEPTH. SEE DETAILS 2/S7 AND 4/S7

Parcs Canada Parks Canada

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PROFESSIONAL ENGINEER
ROBBIE FRASER
SIGNATURE July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

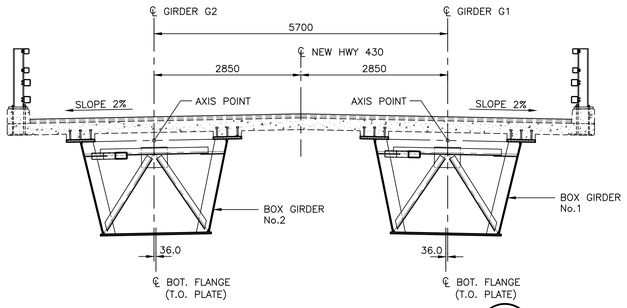
BOX GIRDER LAYOUT PLAN AND SECTIONS

designed	WADE POTTIE	conçu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.		no. du dessin

S6

PWGSC B1 (2004)

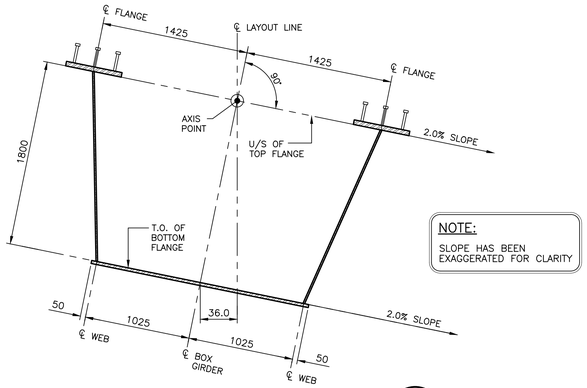
E–DRM/GDD–E:



GENERAL SECTION — A / S6

SCALE : 1:50

0m 1m 2m 3m 4m 5m



BOX GIRDER DIMENSION CRITERIA — 1 / S2

SCALE : 1:25

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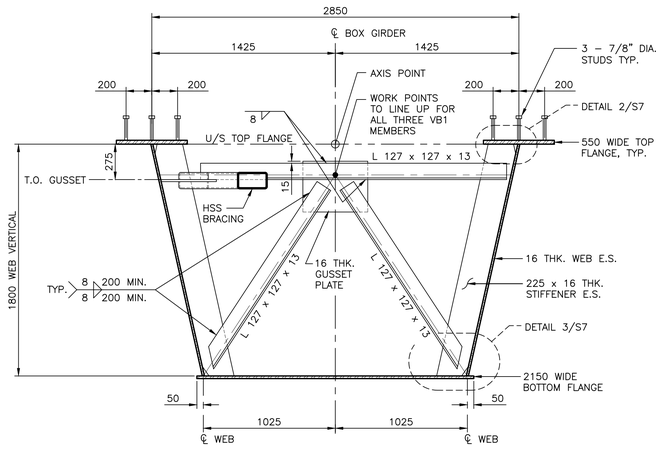
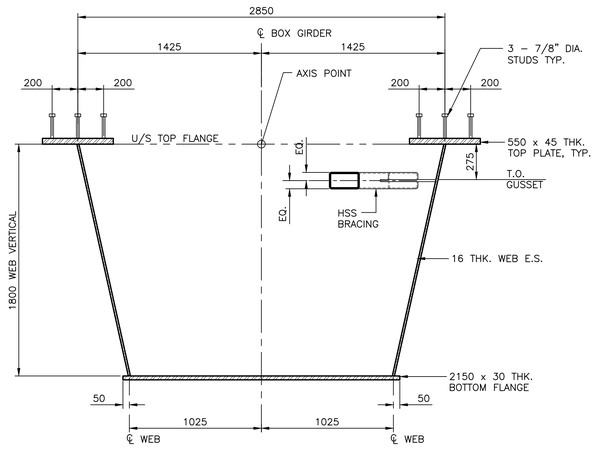


GIRDER SECTION – TYPICAL VB1 INTERIOR DIAPHRAGM — B / S6

SCALE : 1:20

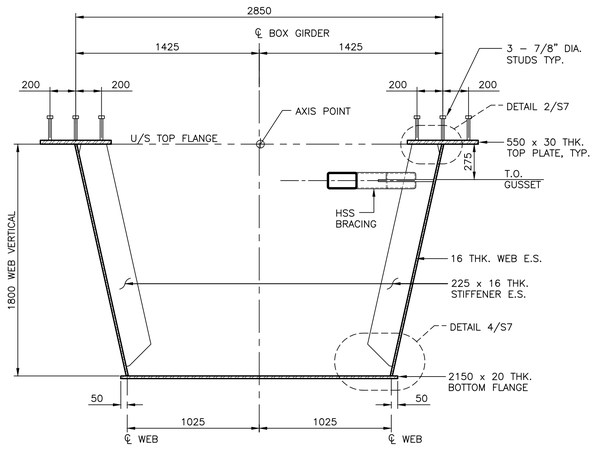
0mm 500mm 1000mm 1500mm 2000mm 2500mm



GIRDER SECTION 2 — C / S6

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm



GIRDER SECTION 1 — D / S6

SCALE : 1:20

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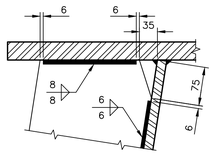

DETAIL — 2 / S7

SCALE : 1:5

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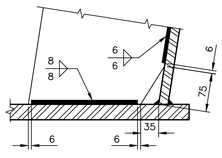
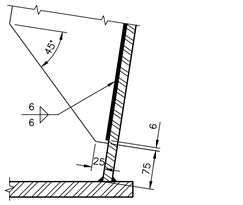


DETAIL — 3 / S7

SCALE : 1:5

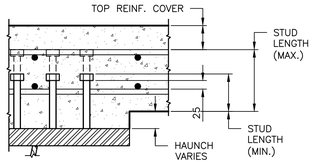
0mm 100mm 200mm 300mm 400mm 500mm



DETAIL — 4 / S7

SCALE : 1:5

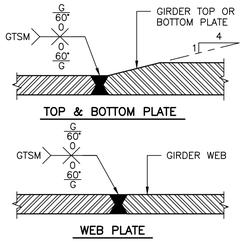
0mm 100mm 200mm 300mm 400mm 500mm



NOTE:
CONTRACTOR RESPONSIBLE FOR ACTUAL STUD LENGTHS BASED ON AS–BUILT CAMBERS AND AS–BUILT BEARING ELEVATIONS.

DETAIL – TYPICAL STUD LENGTHS — 5 / S6

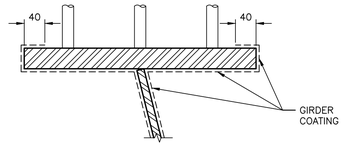
SCALE : N.T.S.



DETAIL – OPTIONAL SHOP SPLICE — 6 / S6

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



DETAIL – TOP FLANGE COATING — 7 / S6

SCALE : 1:5

0mm 100mm 200mm 300mm 400mm 500mm

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HARBOURSIDE Engineering Consultants

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGL PERMIT HOLDER
This Permit Allows HARBOURSIDE ENGINEERING CONSULTANTS
To practice Provisional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGL 324
which is valid for the year 2021.

PROFESSIONAL ENGINEER — PEGL — ROBBIE FRASER — SIGNATURE July 19 '21 DATE — NEWFOUNDLAND & LABRADOR

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

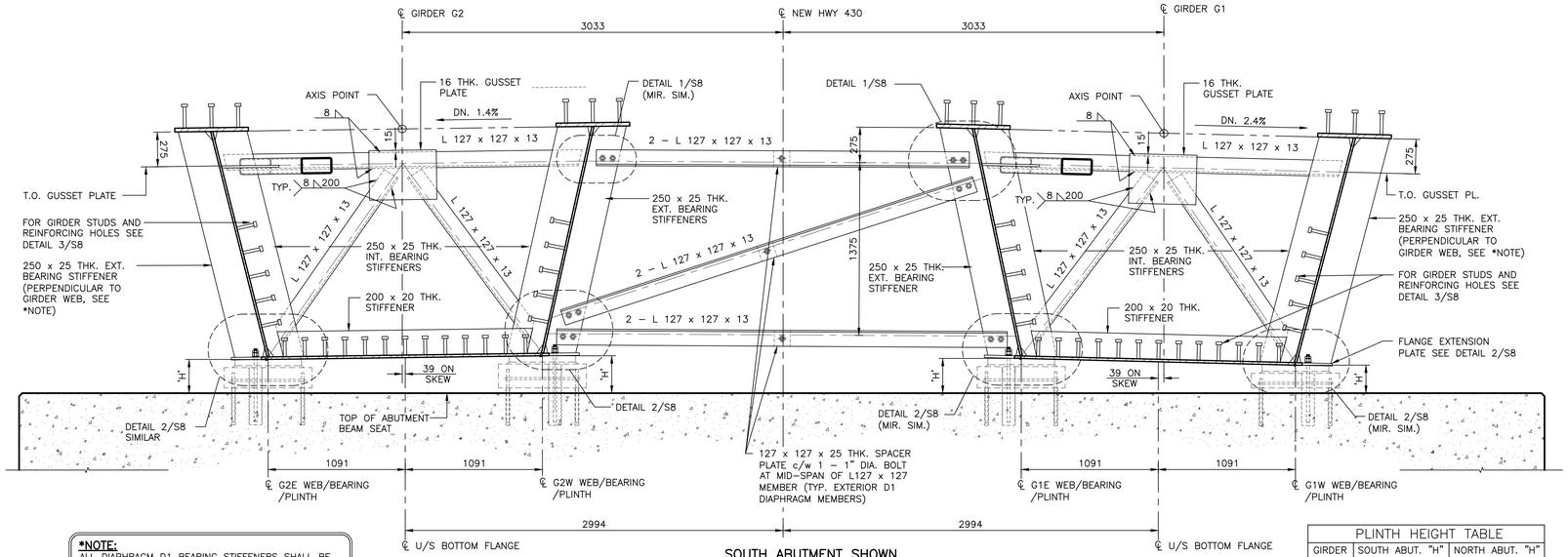
BOX GIRDER SECTIONS AND DETAILS

designed	WADE POTTIE (conçu)
date	JANUARY, 2020
drawn	WAYNE MORROW (dessiné)
date	JANUARY, 2020
approved	ROBBIE FRASER (approuvé)
date	
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
drawing no.	no. du dessin

S7

PWGSC B1 (2004)

E–DRM/GDD–E:



SOUTH ABUTMENT SHOWN
(NORTH ABUTMENT SIMILAR MIRRORED)

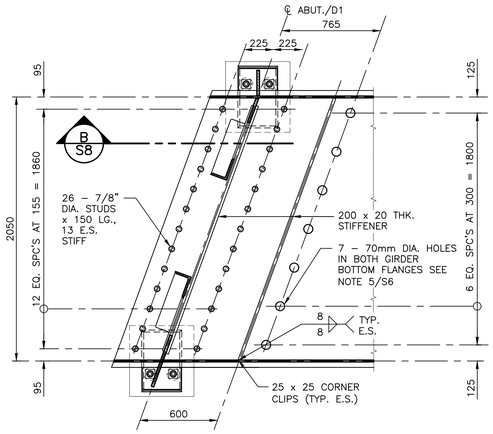
SECTION – DIAPHRAGM D1 — A S6

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

***NOTE:**
ALL DIAPHRAGM D1 BEARING STIFFENERS SHALL BE ORIENTATED PARALLEL TO BEARING CENTERLINE/ DIAPHRAGM D1, EXCEPT FOR EXTERIOR BEARING STIFFENERS OF EXTERIOR WEBS (ie EXT. BRG. STIFFENERS ON G1W AND G2E WEBS), WHICH SHALL BE PERPENDICULAR TO WEB.

PLINTH HEIGHT TABLE		
GIRDER	SOUTH ABUT. "H"	NORTH ABUT. "H"
G1W	181mm	180mm
G1E	233mm	234mm
G2W	255mm	255mm
G2E	225mm	227mm



PLAN – GIRDER BOTTOM FLANGE (G1 SHOWN AT SOUTH ABUT.)

DETAIL – REINFORCING HOLES / STUDS — 3 S6

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

ELEVATION – WEB PLATE

SECTION – REINFORCING HOLES / STUDS — B S6

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

PLAN SECTION

DETAIL — 1 S8

SCALE : 1:5

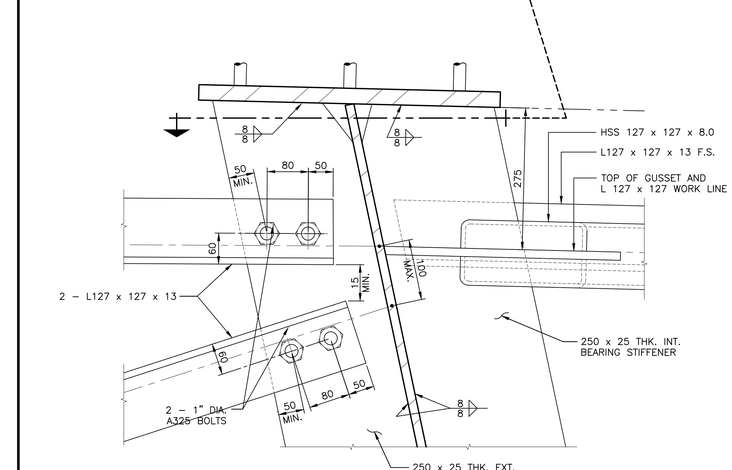
0mm 100mm 200mm 300mm 400mm 500mm

PLAN SECTION

DETAIL — 2 S8

SCALE : 1:5

0mm 100mm 200mm 300mm 400mm 500mm

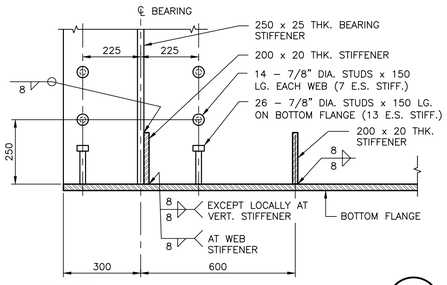


DETAIL — 1 S8

SCALE : 1:5

0mm 100mm 200mm 300mm 400mm 500mm

PRELIMINARY
Not For Construction



DETAIL — 4 S8

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet
WESTERN BROOK BRIDGE REPLACEMENT

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drawing / dessin
DIAPHRAGM D1 SECTIONS AND DETAILS

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date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.		no. du dessin

S8

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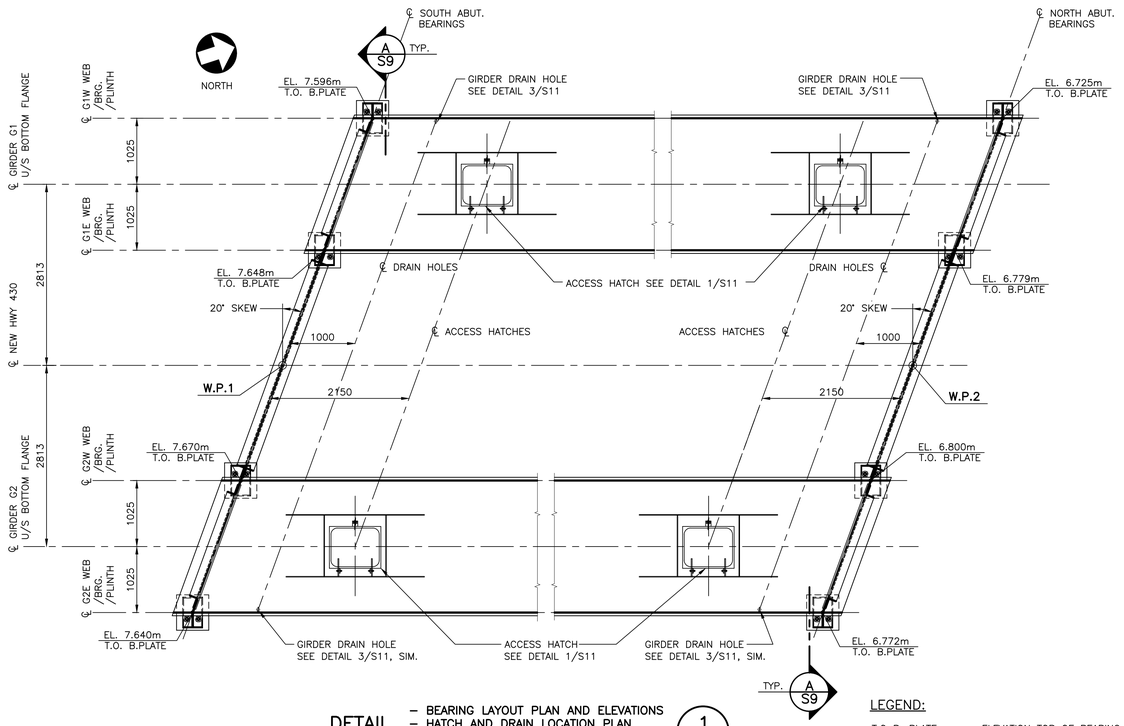


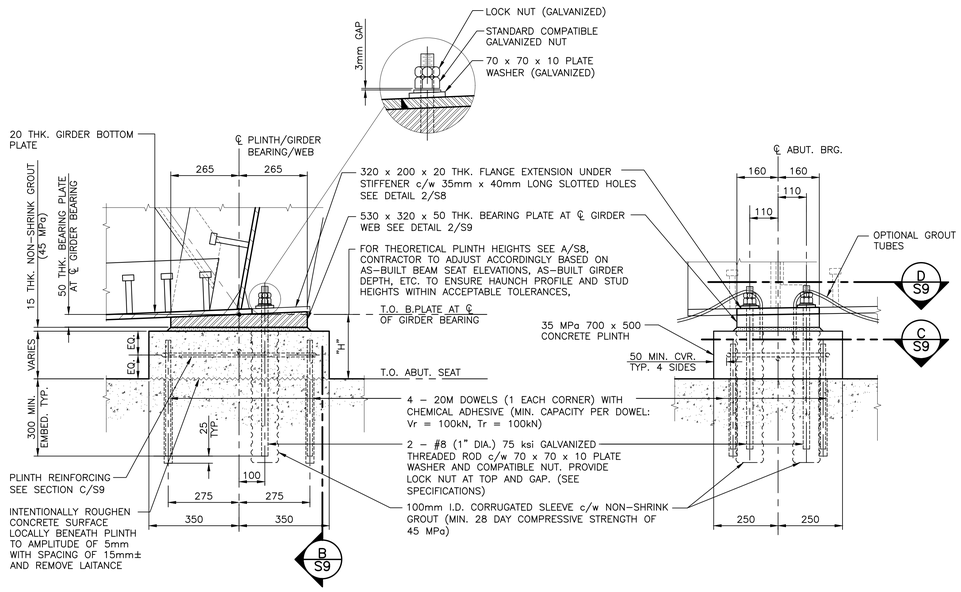
DETAIL – BEARING LAYOUT PLAN AND ELEVATIONS
– HATCH AND DRAIN LOCATION PLAN (1 / S2)

SCALE: 1:40

0mm 1mm 2mm 3mm 4mm 5mm

LEGEND:

T.O B. PLATE --- ELEVATION TOP OF BEARING PLATE AT CENTERLINE PLATE



SECTION – GIRDER BEARING (A / S9)

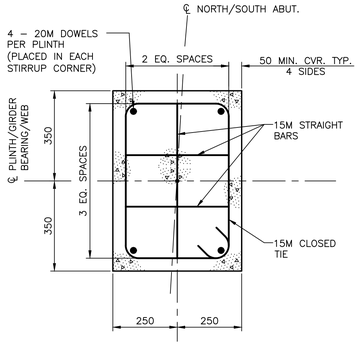
SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

SECTION – GIRDER BEARING (B / S9)

SCALE : 1:10

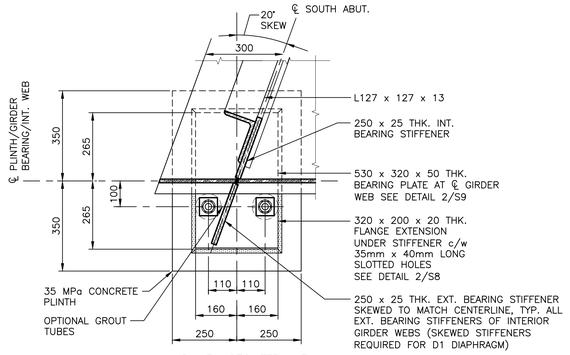
0mm 100 200 300 400 500 600 700 800 900 1000mm



SECTION – TYPICAL PLINTH REINFORCING (C / S9)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

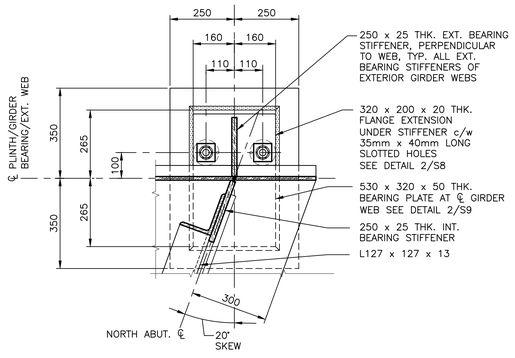


PLINTH GEOMETRY AT INTERIOR WEBS (G1E AND G2W)

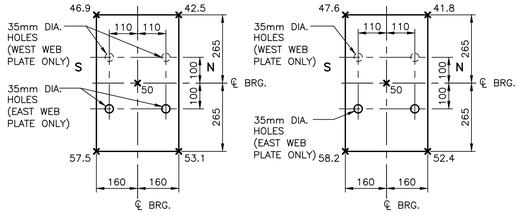
SECTION – GIRDER BEARING PLANS (D / S9)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



PLINTH GEOMETRY AT EXTERIOR WEBS (G1W AND G2E)



BEARING NOTES:

1. CORRUGATED SLEEVES PROVIDE A FIT-UP TOLERANCE OF ±35mm BETWEEN THE BOX GIRDER BOTTOM FLANGE AND THE ANCHOR BOLTS.
2. CAREFUL COORDINATION IS REQUIRED BETWEEN GENERAL CONTRACTOR AND STEEL FABRICATOR TO ENSURE CORRECT FIT-UP OF AS-BUILT BOX GIRDER WITH AS-BUILT ABUTMENT GEOMETRY (IN ELEVATION AND PLAN).
3. ALL STEEL IN BEARING ASSEMBLES SHALL BE HOT DIPPED GALVANIZED (I.E. THREADED RODS, DOWELS, ALL NUTS AND WASHER PLATES).

GIRDER INSTALLATION PROCEDURE:

1. CORRUGATED STEEL SLEEVE TO BE CUT OFF AT TOP OF CONCRETE PLINTH (PROVIDED FOR ANCHOR INSTALLATION TOLERANCE).
2. BEARING PLATE TO BE SHIMMED AND HELD IN PLACE UNTIL GROUTING IS COMPLETE.
3. DROP THREADED BARS INTO CORRUGATED STEEL SLEEVE THEN INSTALL GIRDER OVER PROTRUDING THREADED BARS. PLACE GIRDER IN PROPER/FINAL POSITION.
4. FILL SLEEVES WITH GROUT TO TOP OF BEARING PLATE ENSURING THAT ALL VOLUME BETWEEN BEARING PLATE AND CONCRETE PLINTH IS FILLED WITH GROUT. IMMEDIATELY FOLLOW BY INSTALLING PLATE WASHERS AND TWO TOP NUTS. THREAD FIRST NUT UNTIL NUT IS 3mm CLEAR/ABOVE PLATE WASHER SITTING ON GIRDER BOTTOM PLATE THEN TIGHTEN SECOND LOCK NUT TO BOTTOM NUT TO MAINTAIN 3mm CLEARANCE.

NOTE:
BEARING PLATE, INCLUDING BOLT HOLES SHALL BE COATED TO ENSURE GALVANIC ISOLATION BETWEEN ANCHOR BOLTS AND PLATE.

DETAIL – BEARING PLATE (2 / S9)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

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PROFESSIONAL ENGINEER
PEGNL
ROBBIE FRASER
SIGNATURE July 19 '21
DATE
REGISTERED PROFESSIONAL ENGINEER NEWFOUNDLAND & LABRADOR

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

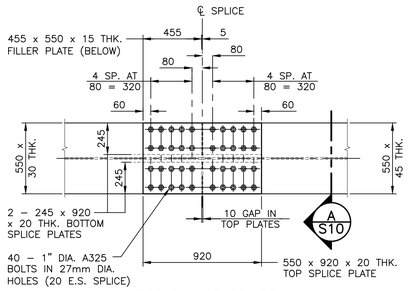
drawing / dessin

BEARING AND PLINTH DETAILS

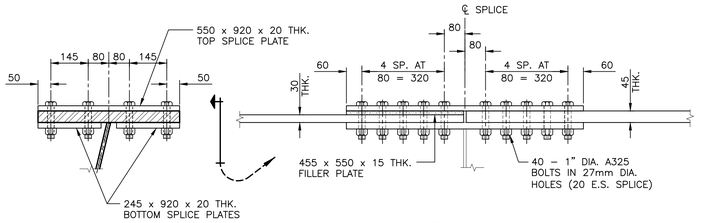
designed	WADE POTTIE	concu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.	S9	no. du dessin

PWGSC B1 (2004)

E-DRM/GDD-E:



TOP FLANGE SPLICE

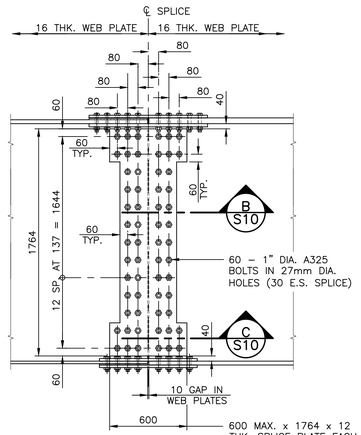


SECTION – TOP FLANGE — A S10

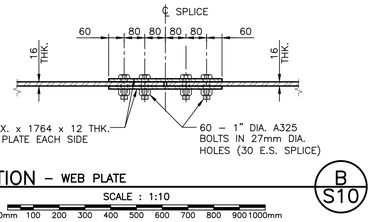
SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

NOTE:
TOP FLANGE STUDS INTERSECTED BY TOP FLANGE SPLICE PLATES TO BE REPLACED WITH AN EQUIVALENT NUMBER OF STUDS WELDED DIRECTLY TO TOP OF SPLICE PLATE. (STUD HEIGHTS ON SPLICE PLATES TO BE DETERMINED BY FABRICATOR BASED ON AS BUILT CAMBERS)



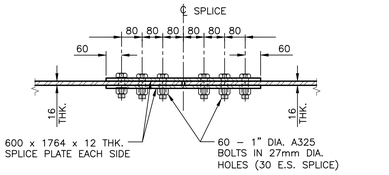
WEB SPLICE



SECTION – WEB PLATE — B S10

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

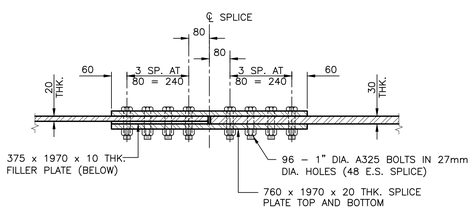


SECTION – WEB PLATE — C S10

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

BOTTOM FLANGE SPLICE



SECTION – BOTTOM FLANGE — D S10

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

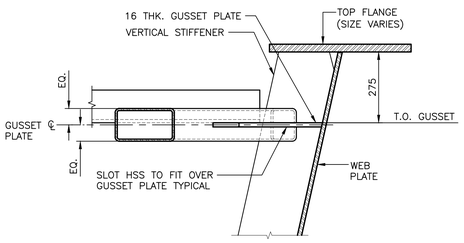
FIELD SPLICE INSTALLATION NOTES:

1. ALL BOLTS BROUGHT TO SLIP CRITICAL CONDITION BY TURN–OF–NUT METHOD.
2. THREADS EXCLUDED FROM ALL SHEAR PLANES
3. ALL FAYING SURFACES TO BE CLASS B SLIP SURFACE OR BETTER.
4. ALL BOLT HOLES TO BE DRILLED RATHER THAN PUNCHED.
5. ALL BOLTS SHALL BE ASTM F3125 GRADE A325 TYPE 1.
6. SPLICES DESIGNED FOR IN–SERVICE CONDITION ONLY CONTRACTOR MUST VERIFY CAPACITY OF ALL FIELD SPLICES DURING GIRDER ERECTION, DECK CASTING AND OTHER STAGES OF CONSTRUCTION.
7. TOP FLANGE STUDS INTERSECTED BY TOP FLANGE SPLICE PLATES TO BE REPLACED WITH AN EQUIVALENT NUMBER OF STUDS WELDED DIRECTLY TO TOP OF SPLICE PLATE.

GIRDER FIELD SPLICE — 1 S6

SCALE : 1:20

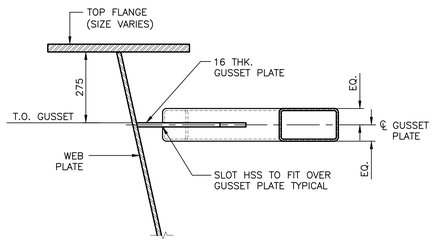
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION — E S10

SCALE : 1:10

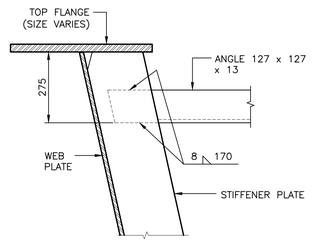
0mm 100 200 300 400 500 600 700 800 900 1000mm



SECTION — F S10

SCALE : 1:10

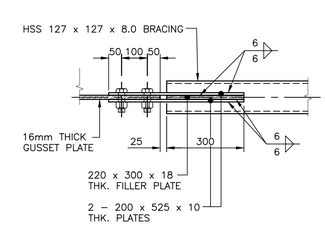
0mm 100 200 300 400 500 600 700 800 900 1000mm



SECTION — G S10

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



SECTION — H S10

SCALE : 1:10

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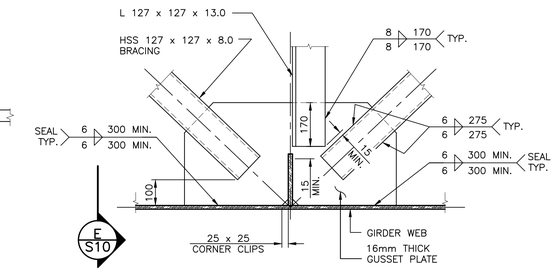

DETAIL – GUSSET PLATE — 2 S6

SCALE : 1:10

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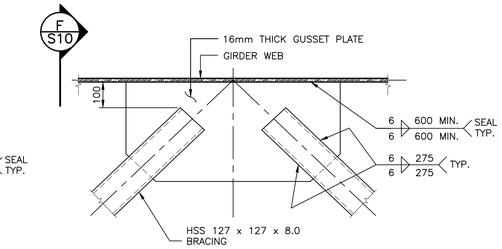
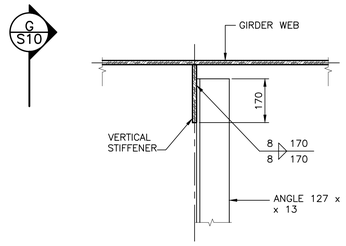


DETAIL – GUSSET PLATE — 3 S6

SCALE : 1:10

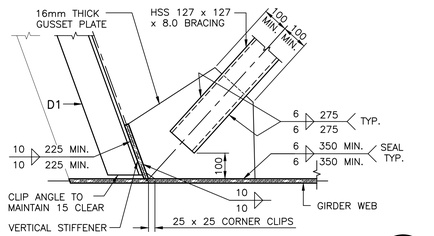
0mm 100 200 300 400 500 600 700 800 900 1000mm



DETAIL – ANGLE CONNECTION — 4 S6

SCALE : 1:10

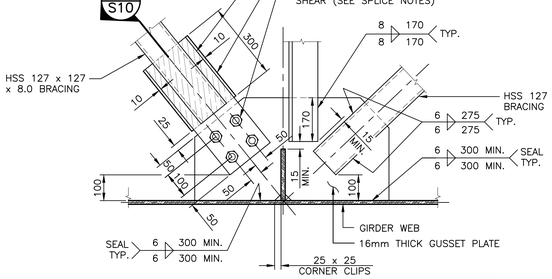
0mm 100 200 300 400 500 600 700 800 900 1000mm



DETAIL – GUSSET PLATE — 5 S6

SCALE : 1:10

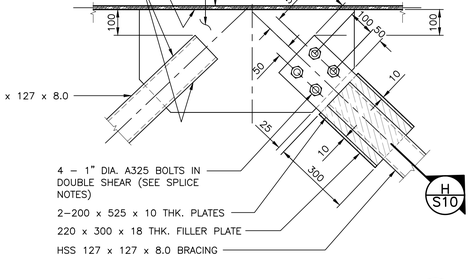
0mm 100 200 300 400 500 600 700 800 900 1000mm



DETAIL – B1 FIELD CONNECTION — 6 S6

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



DETAIL – B1 FIELD CONNECTION — 7 S6

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

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PROFESSIONAL ENGINEER
ROBBIE FRASER
SIGNATURE July 19 '21
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project / projet

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BOLTED SPLICE AND PLAN BRACING DETAILS

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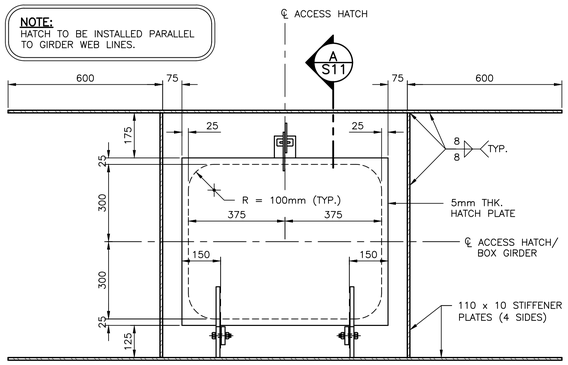
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.	S10	no. du dessin

PWGSC B1 (2004)

E-DRM/GDD-E:

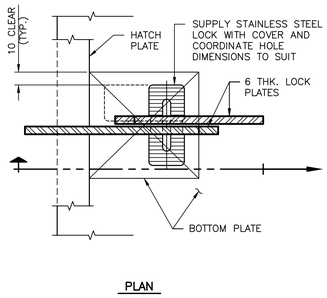


DETAIL – ACCESS HATCH PLAN

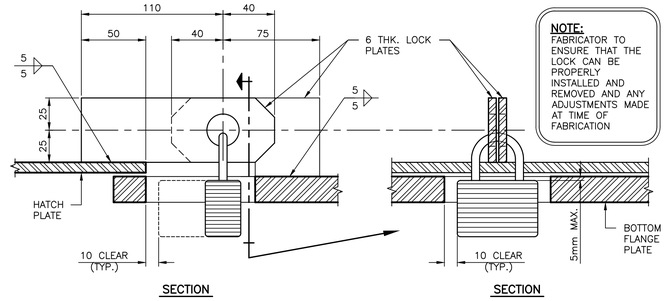
1 / S6

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



PLAN



SECTION

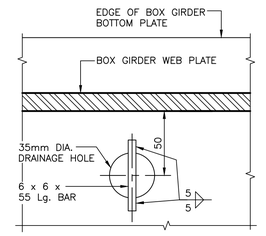
SECTION

DETAIL – ACCESS HATCH LOCK

2 / S11

SCALE : 1:2

0mm 50mm 100mm 150mm 200mm 250mm

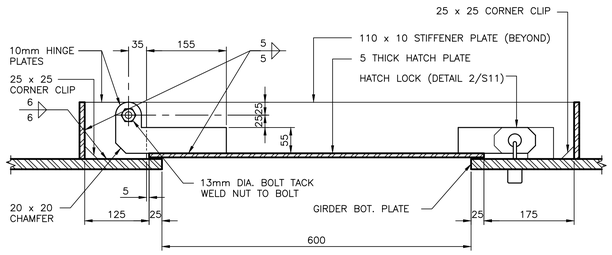


DETAIL – GIRDER DRAINAGE HOLE

3 / S9

SCALE : 1:2

0mm 50mm 100mm 150mm 200mm 250mm



SECTION

A / S11

SCALE : 1:5

0mm 100mm 200mm 300mm 400mm 500mm

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Permit No. as issued by PEGNL 324
which is valid for the year 2021.

PROFESSIONAL ENGINEER
PEGL
ROBBIE FRASER
Robbie Fraser
SIGNATURE
July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

GIRDER MISCELLANEOUS DETAILS

designed / conçu WADE POTTIE
date JANUARY, 2020

drawn / dessiné WAYNE MORROW
date JANUARY, 2020

approved / approuvé ROBBIE FRASER
date

Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC

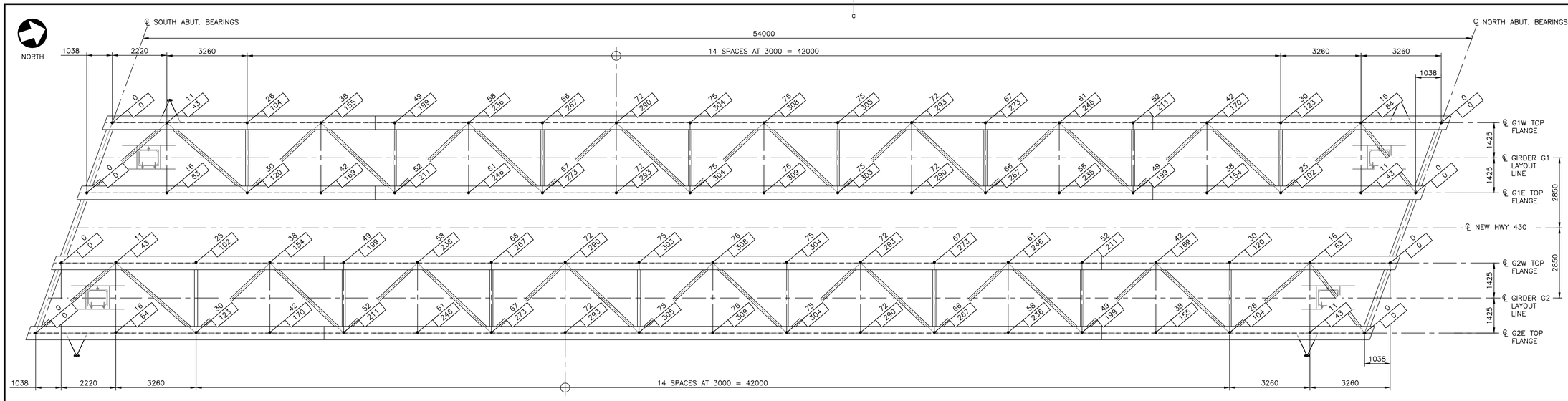
project number / no. du projet

drawing no. / no. du dessin

S11

PWGSC B1 (2004)

E-DRM/GDD-E:



DEAD LOAD DEFLECTION DIAGRAM

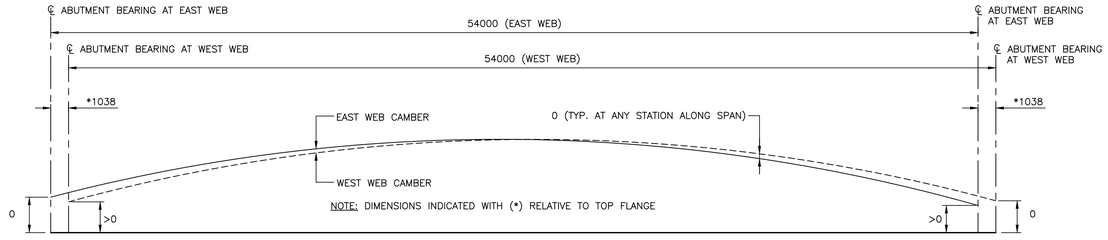
SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

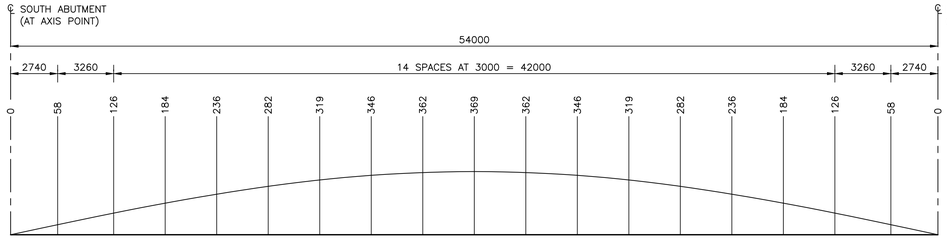
SELF WEIGHT AND TOTAL DEAD LOAD DEFLECTIONS ARE GIVEN ALONG WEB LINE (TOP OF WEB) WITH POSITION ALONG SPAN AS INDICATED ON PLAN. RELATIVE TO CENTERLINE OF INDIVIDUAL WEB.

XX — APPROXIMATE BARE STEEL DEFLECTION (mm)

XX — APPROXIMATE TOTAL DEAD LOAD DEFLECTION (mm)



WEB CUT COMPARISON DIAGRAM



BOX GIRDER WEB CUTS (TYPICAL GIRDER G1 AND G2)

NOTE: WEB CUT DIAGRAMS ARE RELATIVE TO CENTERLINE BOX WITH WEBS CAMBERED BY SAME AMOUNT AT EACH LOCATION (STATION) ALONG SPAN TO ENSURE FIT-UP OF BOTTOM PLATE TO U/S WEBS (REFER TO WEB CUT COMPARISON DIAGRAM).

CAMBER/WEB CUT DIAGRAMS

HORIZ SCALE : 1:150 VERTICAL SCALE : N.T.S.

0m 5m 10m 15m

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PEGL Engineers and Land Surveyors
ROBBIE FRASER
SIGNATURE
July 19 '21
DATE
REGISTERED PROFESSIONAL ENGINEER

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

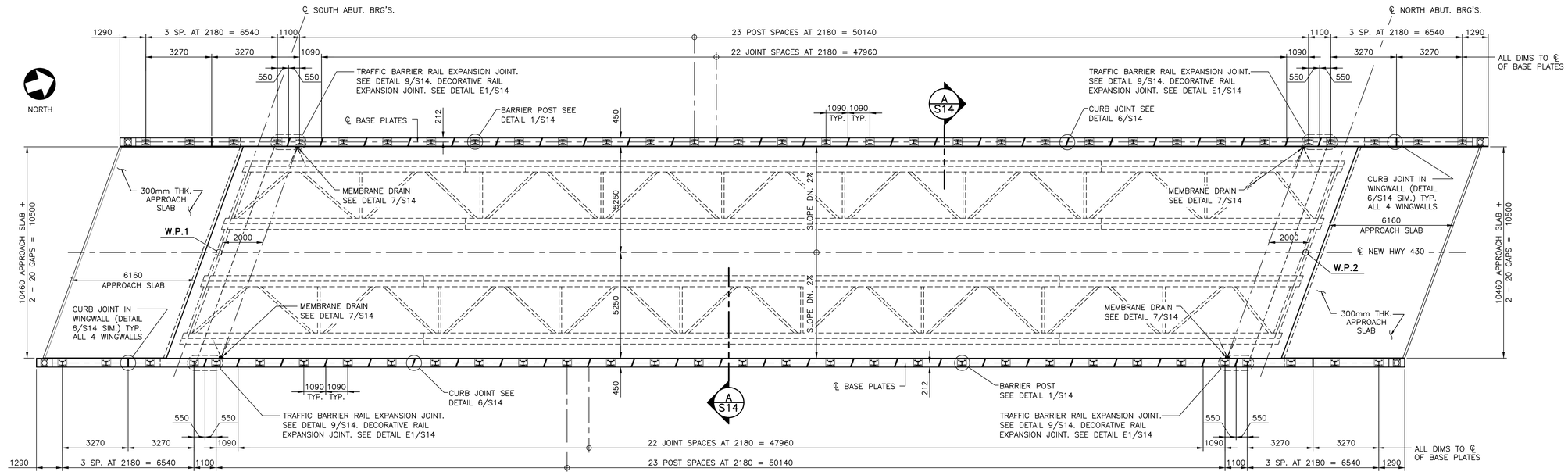
drawing / dessin

GIRDER CAMBER/ WEB CUT DIAGRAMS

designed	WADE POTTIE	conçu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.	S12	no. du dessin

PWGSC B1 (2004)

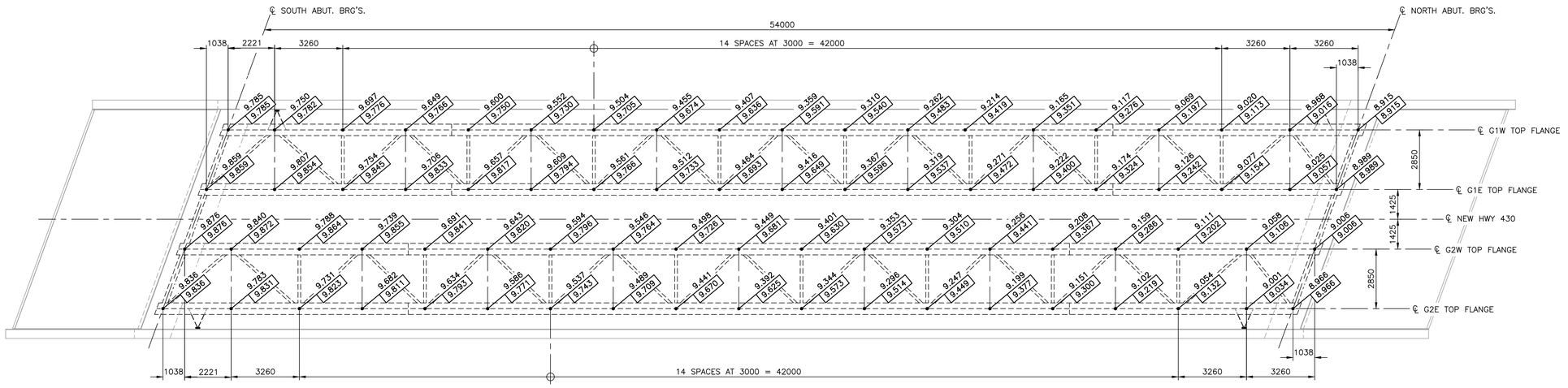
E-DRM/GDD-E:



DECK PLAN

SCALE : 1:100

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

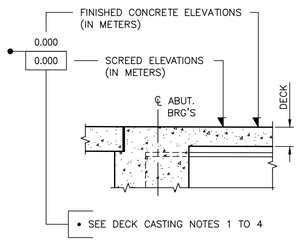


SCREED ELEVATION PLAN

SCALE : 1:100

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

DECK ELEVATION LEGEND:

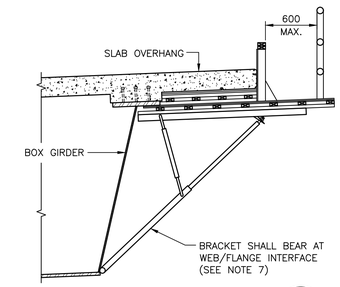


DECK CONCRETE CASTING NOTES:

1. SCREED ELEVATIONS ARE BASED ON THE DECK PROFILE ELEVATIONS PRIOR TO PLACING CONCRETE DECK, CURBS, BARRIERS, HAUNCHES AND ASPHALT SURFACE.
2. IT IS ASSUMED THAT THE ENTIRE DECK IS CAST MONOLITHICALLY. IF DECK IS POURED IN SEGMENTS, THE GIVEN SCREED ELEVATIONS ARE NOT VALID AND THE CONTRACTOR MUST REVISE THE SCREED ELEVATIONS ACCORDINGLY.
3. IT IS ALSO ASSUMED THAT ENTIRE DECK IS CAST AND REACHES 35 MPa PRIOR TO CASTING CURBS, INSTALLING BARRIERS AND WATERPROOFING AND PAVING DECK.
4. CASTING SEQUENCE DURING MONOLITHIC DECK CASTING OPERATION: PLACE CONCRETE IN ALL AREAS OF DECK PRIOR TO CASTING INTEGRAL ABUTMENTS. TO ACHIEVE THIS, LEAVE 3m OF DECK AT EACH END OF BRIDGE/ADJACENT TO ABUTMENTS UNTIL CONCRETE IS PLACED IN REMAINDER OF DECK.
5. DECK SHALL NOT BE CAST SHOULD WINDS EXCEEDING 100 km/h (3 SEC. GUST) BE FORECAST OR ANTICIPATED DURING DECK CASTING OPERATIONS OR WITHIN 24 HOURS OF COMPLETION OF DECK CASTING.

OVERHANG NOTES:

1. ALL DECK FORMWORK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEWFOUNDLAND AND LABRADOR.
2. THE OVERHANG BRACKETS SHALL BE ORIENTED AS INDICATED UNLESS AN ALTERNATE DETAIL IS ACCEPTED IN WRITING BY THE DEPARTMENTAL REPRESENTATIVE.
3. OVERHANG BRACKET SPACING SHALL BE LESS THAN OR EQUAL TO 1200mm o.c.
4. MAXIMUM UNFACTORED SCREED LOAD PER SIDE OF BRIDGE ASSUMED TO BE 32.7kN.
5. DECK CASTING SHALL PROGRESS IN A BALANCED FASHION BY ESSENTIALLY BALANCING THE WET CONCRETE WEIGHT ON EACH SIDE OF THE GIRDERS. TO ACCOMPLISH THIS, CASTING SHALL PROGRESS ACROSS THE FULL WIDTH OF THE BRIDGE DECK WITH CASTING ADVANCING A MAXIMUM OF 3.0m± ON ONE SIDE OF A GIRDER VERSUS THE OTHER SIDE OF THE SAME GIRDER. THIS BALANCED PROCEDURE IS ESSENTIAL TO PREVENT EXCESSIVE UNBALANCED LOADS/TORSIONS IN GIRDERS.
6. CONTRACTOR TO ENSURE GIRDER STABILITY DURING ALL PHASES OF CONSTRUCTION.
7. AS INDICATED IN DETAIL 1/S13 THE BOTTOM BEARING POINT OF THE SLAB OVERHANG BRACKET SHALL BE ORIENTATED NO HIGHER THAN 25mm ABOVE THE EXTERIOR GIRDER BOTTOM FLANGE/WEB INTERFACE DURING DECK CASTING.



DETAIL – TYPICAL OVERHANG SUPPORT

SCALE : N.T.S.

1 / S13

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REGISTERED PROFESSIONAL ENGINEER
PEGNL Professional Engineers and Geoscientists Newfoundland and Labrador
ROBBIE FRASER
Robbie Fraser
SIGNATURE
July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet
WESTERN BROOK BRIDGE REPLACEMENT

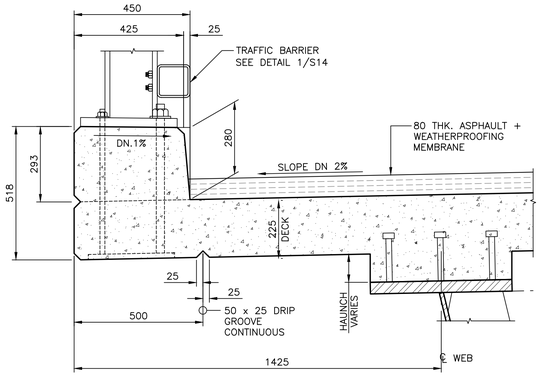
GROS MORNE NATIONAL PARK

drawing / dessin
DECK PLAN AND SCREED ELEVATIONS

designed	WADE POTTIE	conçu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.	S13	no. du dessin

PWGSC B1 (2004)

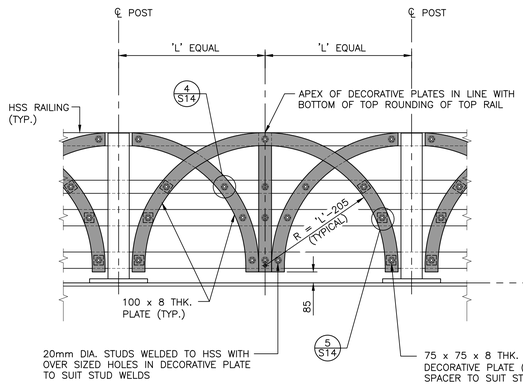
E-DRM/GDD-E:



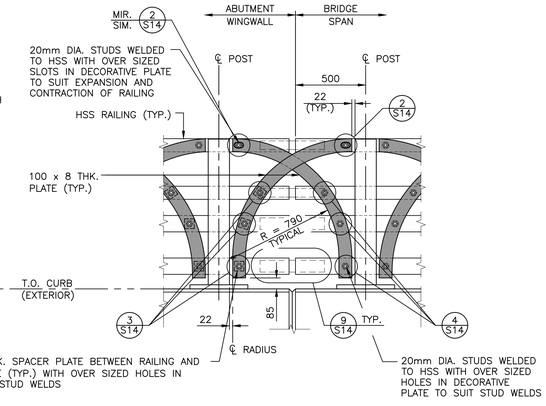
SECTION – TYPICAL CURB (A / S13)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



TYPICAL BARRIER DECORATIVE RAILING



DECORATIVE RAILING AT BARRIER EXPANSION JOINTS

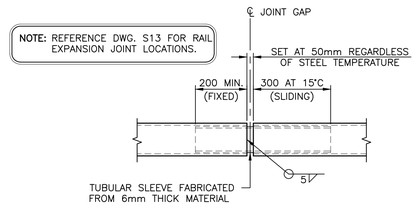
ELEVATION – BARRIER DECORATIVE RAILINGS (E1 / S4)

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

MISCELLANEOUS METALS:

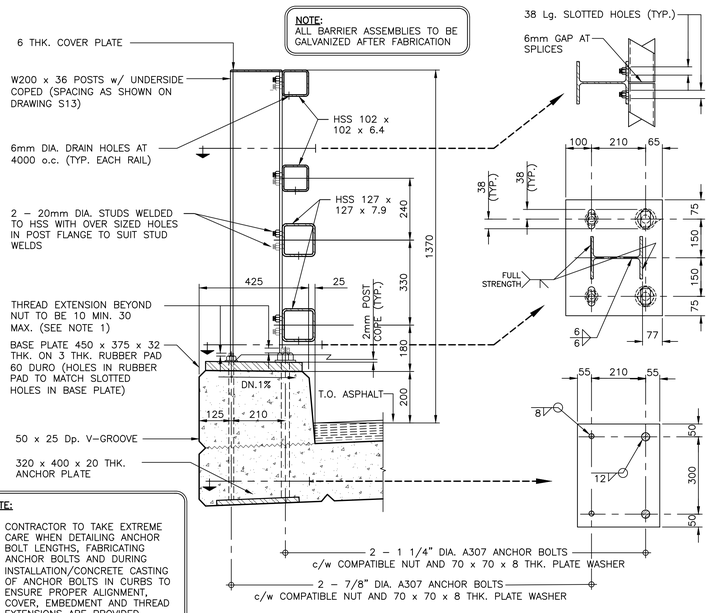
1. MISC. PLATE AND ANGLES TO CAN/CSA G40.21–350W.
2. DRAIN PIPE TO ASTM A53 OR APPROVED ALTERNATE.
3. ALL WELDING SHALL BE IN ACCORDANCE WITH CSA STANDARD W59 (LATEST EDITION WITH REVISIONS).
4. COAT STEEL AS NOTED AND AS PER DETAILS AND PROJECT SPECIFICATIONS.



DETAIL – TYPICAL RAIL EXPANSION JOINT (9 / S14)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm



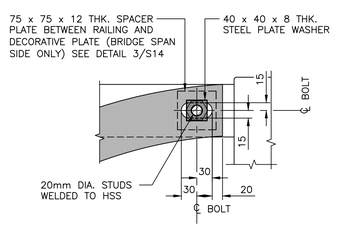
NOTE:

1. CONTRACTOR TO TAKE EXTREME CARE WHEN DETAILING ANCHOR BOLT LENGTHS, FABRICATING ANCHOR BOLTS AND DURING INSTALLATION/CONCRETE CASTING OF ANCHOR BOLTS IN CURBS TO ENSURE PROPER ALIGNMENT, COVER, EMBEDMENT AND THREAD EXTENSIONS ARE PROVIDED.
2. BARRIER POSTS TO BE PLUMB IN TRANSVERSE BRIDGE DIRECTION, PARALLEL TO DECK/CURB IN LONGITUDINAL DIRECTION.

DETAIL – TYPICAL TRAFFIC BARRIER (1 / S13)

SCALE : 1:10

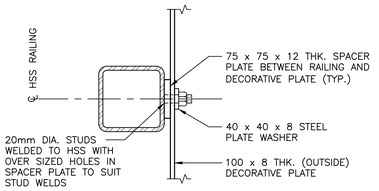
0mm 100 200 300 400 500 600 700 800 900 1000mm



DETAIL – DECORATIVE RAILING EXPANSION CONNECTION (2 / S14)

SCALE : 1:5

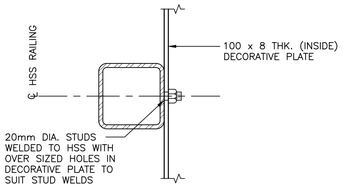
0mm 100mm 200mm 300mm 400mm 500mm



DETAIL – OUTSIDE PLATE CONNECTION AT EXPANSION JOINT (3 / S14)

SCALE : 1:5

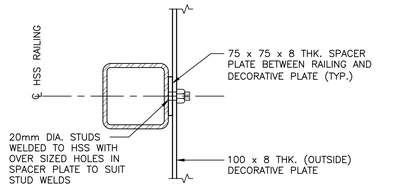
0mm 100mm 200mm 300mm 400mm 500mm



DETAIL – FLUSH PLATE CONNECTION (4 / S14)

SCALE : 1:5

0mm 100mm 200mm 300mm 400mm 500mm

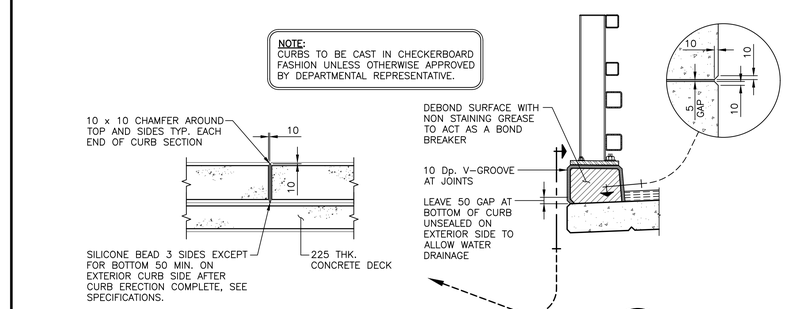


DETAIL – OUTSIDE PLATE CONNECTION (5 / S14)

SCALE : 1:5

0mm 100mm 200mm 300mm 400mm 500mm

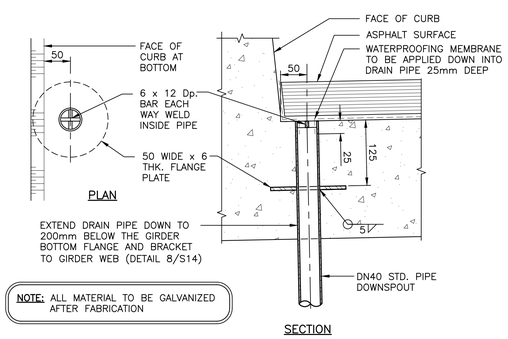
NOTE:
IN LIEU OF CUTTING AND OVERLAPPING SEPARATE DECORATIVE RAILING PLATES, IT IS ALSO ACCEPTABLE TO CUT DECORATIVE PLATES OUT OF A SINGLE PIECE OF PLATE PROVIDED THE COST OF ADDITIONAL MATERIAL IS BORNE BY THE CONTRACTOR. THIS ALTERNATE DETAIL IS ACCEPTABLE AT EACH TYPICAL RAILING BAY (ELEVATION E1/S14), BUT DOES NOT APPLY TO RAIL EXPANSION JOINT LOCATIONS (REFER TO E1/S14).



DETAIL – TYPICAL CURB CONTROL JOINT (6 / S13)

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm



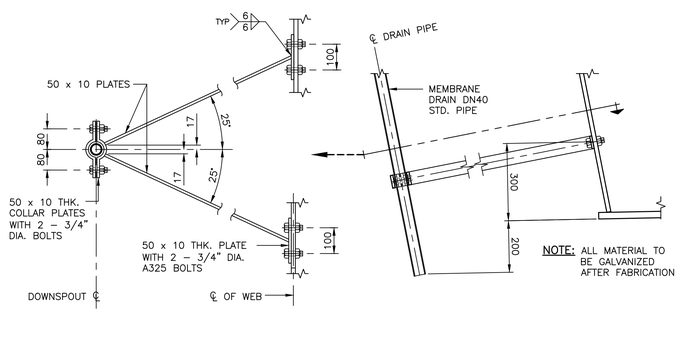
NOTE: ALL MATERIAL TO BE GALVANIZED AFTER FABRICATION

SECTION

DETAIL – MEMBRANE DRAIN (7 / S13)

SCALE : 1:5

0mm 100mm 200mm 300mm 400mm 500mm



DETAIL – MEMBRANE DRAIN TO GIRDER CONNECTION (8 / S14)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

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ROBBIE FRASER
SIGNATURE July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

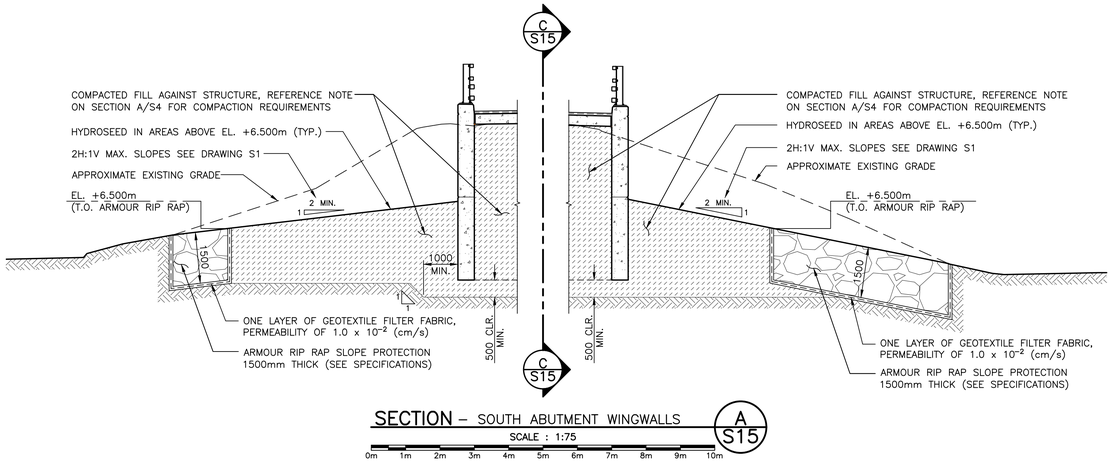
DECK, CURB AND RAILING SECTIONS AND DETAILS

designed	WADE POTTIE	concu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.		no. du dessin

S14

PWGSC B1 (2004)

E–DRM/GDD–E:



SECTION – SOUTH ABUTMENT WINGWALLS (A S15)

SCALE : 1:75

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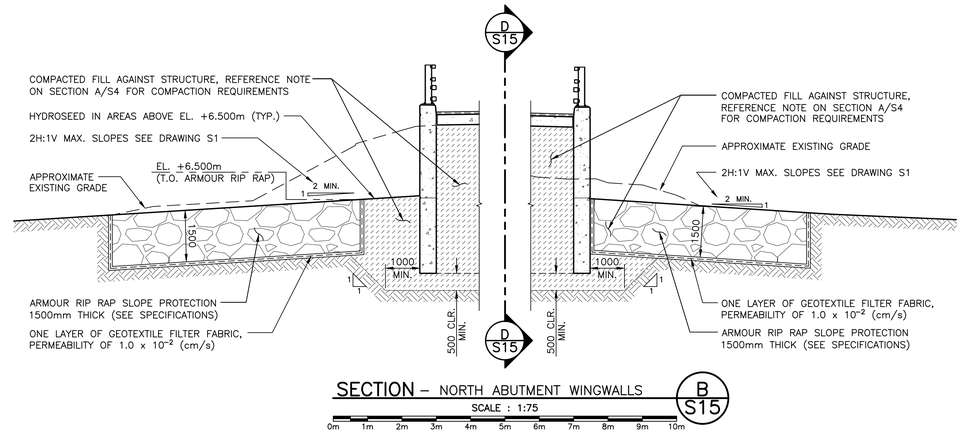

SECTION – NORTH ABUTMENT WINGWALLS (B S15)

SCALE : 1:75

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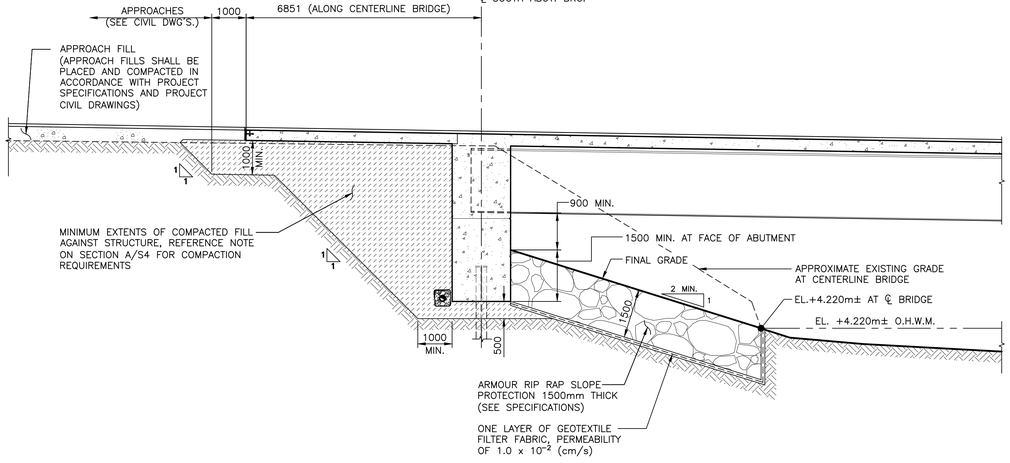

SECTION – FILL AGAINST STRUCTURE/ RIP RAP DIAGRAMS (C S15)

SCALE : 1:75

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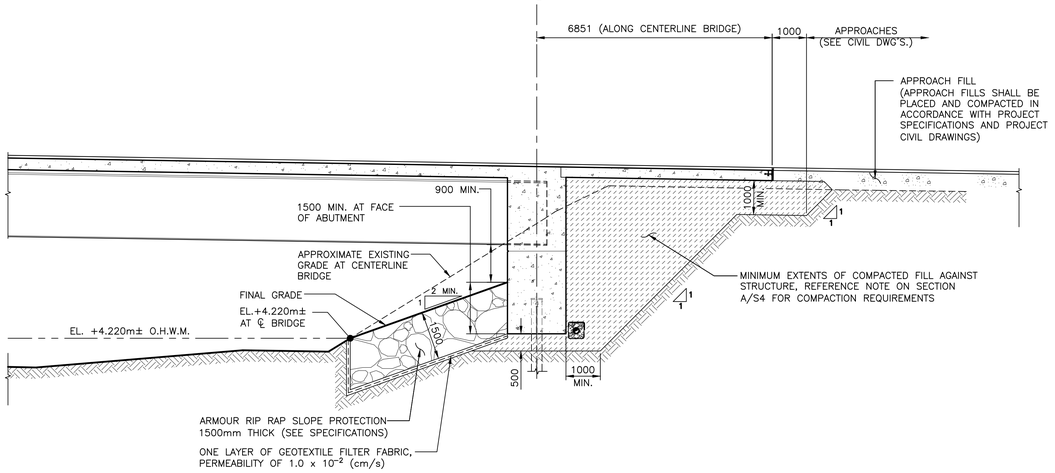

SECTION – FILL AGAINST STRUCTURE/ RIP RAP DIAGRAMS (D S15)

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

DETAIL – FILL AGAINST STRUCTURE/ RIP RAP DIAGRAMS (1 S1)

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

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PROFESSIONAL ENGINEER
ROBBIE FRASER
Robbie Fraser
SIGNATURE
July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

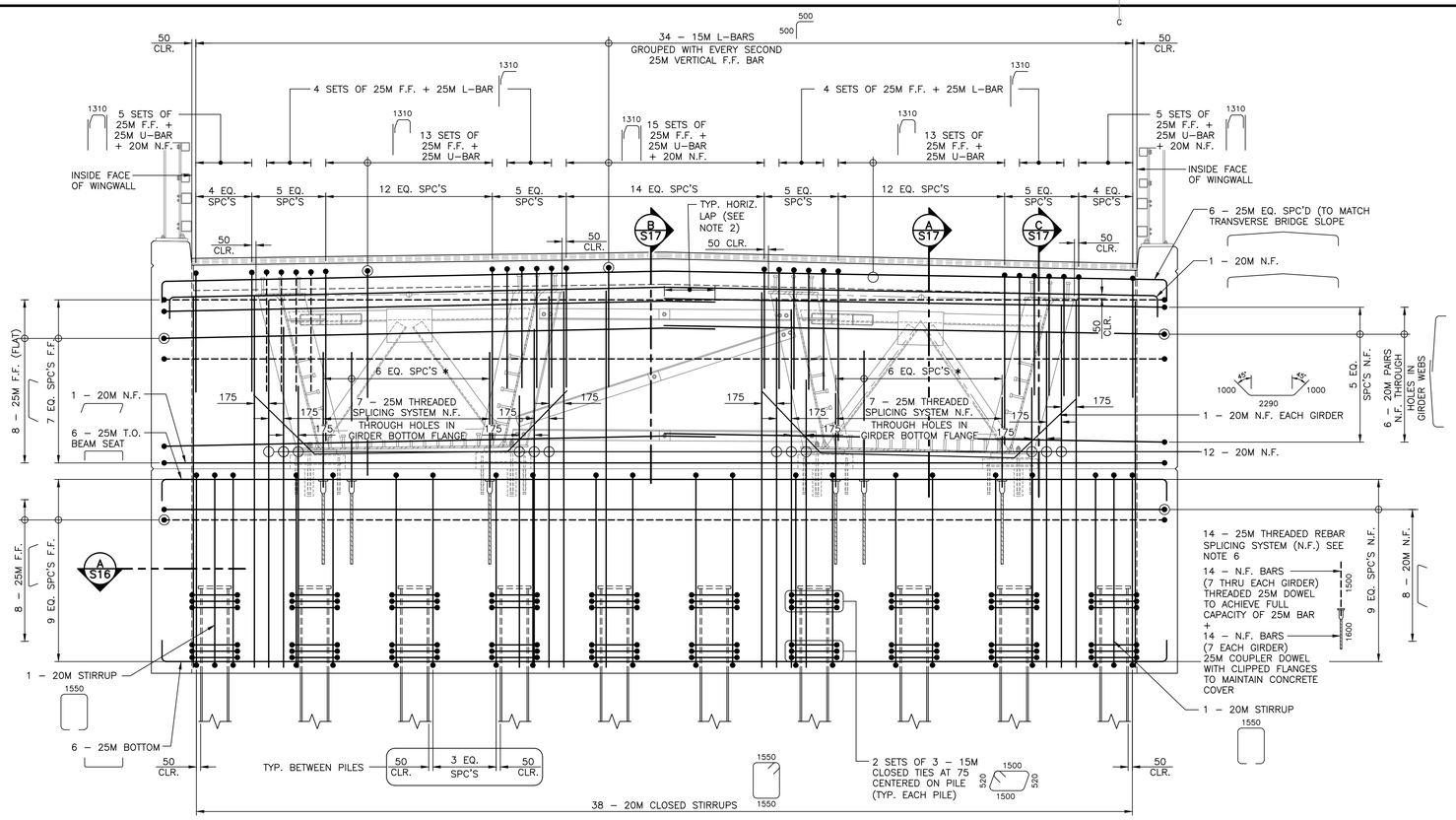
GROS MORNE NATIONAL PARK

drawing / dessin

BRIDGE EXCAVATION AND FILL QUANTITIES

designed / conçu	WADE POTTIE
date	JANUARY, 2020
drawn / dessiné	WAYNE MORROW
date	JANUARY, 2020
approved / approuvé	ROBBIE FRASER
date	
Tender / Soumission	
PWGSC Project Manager / Administrateur de projets TPSGC	
project number / no. du projet	
drawing no. / no. du dessin	S15

E-DRM/GDD-E:

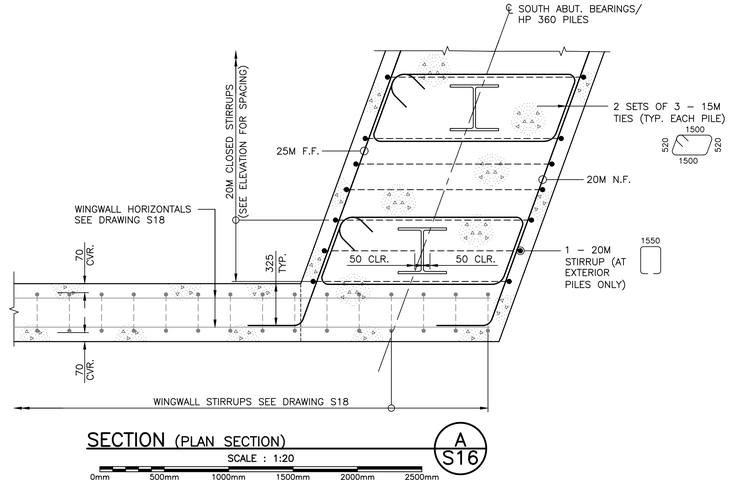


SOUTH ABUTMENT REINFORCING ELEVATION (NORTH ABUTMENT REINFORCING OPPOSITE HAND – SIMILAR)

SCALE : 1:30

0mm 500mm 1000mm 1500mm 2000mm 2500mm 3000mm

***NOTE:**
COORDINATE WITH GIRDER FABRICATOR TO ENSURE BAR COUPLERS CAST INTO BEAM SEAT ARE IN LINE WITH HOLES IN GIRDER BOTTOM FLANGES (LONGITUDINALLY AND TRANSVERSELY)



SECTION (PLAN SECTION) A S16

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

NOTES:

1. ALL HORIZONTAL BARS TO HAVE STANDARD HOOKS AT END IN EACH WINGWALL. TURN ALL HOOKED HORIZONTAL BARS INTO WINGWALLS IN SUCH A MANNER AS TO MAINTAIN ALL COVERS AND AVOID CLASH WITH WINGWALL REINFORCING. REFERENCE PROJECT SPECIFICATIONS FOR REQUIRED BAR HOOK BEND DIAMETERS.
2. MINIMUM HORIZONTAL BAR LAPS: (U.N.O.)
   - 15M BARS – 600mm
   - 20M BARS – 800mm
   - 25M BARS – 1200mm
3. MINIMUM VERTICAL BAR LAPS: (U.N.O.)
   - 15M BARS – 600mm
   - 20M BARS – 600mm
   - 25M BARS – 900mm
4. VERTICAL BAR LAPS TO BE DETAILED TO INCLUDE ADDITIONAL 100mm OF LAP OVER THAT INDICATED IN NOTE 3 TO ACCOUNT FOR POTENTIAL ADJUSTMENTS/ALTERATIONS IN DECK DUE TO AS–BUILT CONDITIONS (e.g. 20M VERTICAL BARS SHALL BE DETAILED FOR 700mm LAP RATHER THAN 600mm).
5. ALL HORIZONTAL BARS TO EXTEND 325mm PAST I.F. OF WINGWALL.
6. BAR COUPLERS TO ACHIEVE FULL CAPACITY OF INDICATED BAR.
7. ALL REINFORCING TO BE GALVANIZED AFTER FABRICATION. CARE SHALL BE TAKEN WHEN HANDLING GALVANIZED BARS NOT TO DAMAGE COATINGS.
8. A CLEAR SPACING OF 30mm MINIMUM SHALL BE PROVIDED BETWEEN ALL GALVANIZED AND BLACK STEEL COMPONENTS, OTHERWISE THE GALVANIZED BAR SHALL BE WRAPPED IN DENSO TAPE LOCALLY AT CONTACT POINT TO AVOID CONTACT BETWEEN DISSIMILAR METALS.

REINFORCING LEGEND:

N.F.	NEAR FACE	B.L.L.	BOTTOM LOWER LAYER
F.F.	FAR FACE	W.A.	WEST ABUTMENT
N.F.F.	NEAR FAR FACE	E.A.	EAST ABUTMENT
F.F.F.	FAR FAR FACE	N.E.	NORTH EAST WINGWALL
E.F.	EACH FACE	N.W.	NORTH WEST WINGWALL
E.W.	EACH WAY	S.E.	SOUTH EAST WINGWALL
I.F.	INSIDE FACE	S.W.	SOUTH WEST WINGWALL
O.F.	OUTSIDE FACE	N.C.	NORTH CURB
I.C.	IN CENTER	S.C.	SOUTH CURB
T.U.L.	TOP UPPER LAYER	CVR.	COVER
T.L.L.	TOP LOWER LAYER	CLR.	CLEAR
B.U.L.	BOTTOM UPPER LAYER		

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This Permit Allows HARBOURSIDE ENGINEERING CONSULTANTS
To practice Provisional Engineering in Newfoundland and Labrador
Permit No. as issued by PEGL 324
which is valid for the year 2021

ROBBIE FRASER
SIGNATURE
July 19 '21
DATE

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

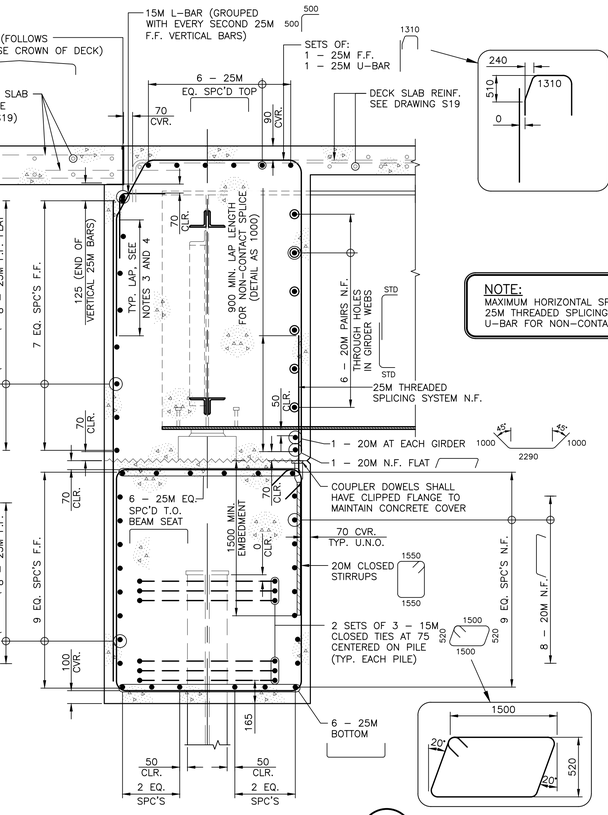
ABUTMENT REINFORCING ELEVATION AND SECTIONS

designed	WADE POTTIE (conçu)
date	JANUARY, 2020
drawn	WAYNE MORROW (dessiné)
date	JANUARY, 2020
approved	ROBBIE FRASER (approuvé)
date	
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
drawing no.	no. du dessin

S16

PWGSC B1 (2004)

E-DRM/GDD-E:

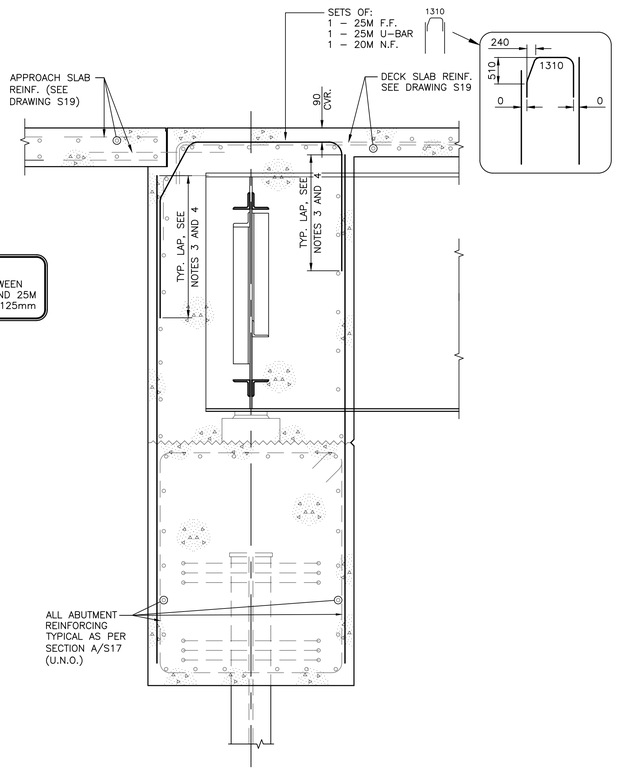


SECTION (GIRDER INTERIOR) A S16

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

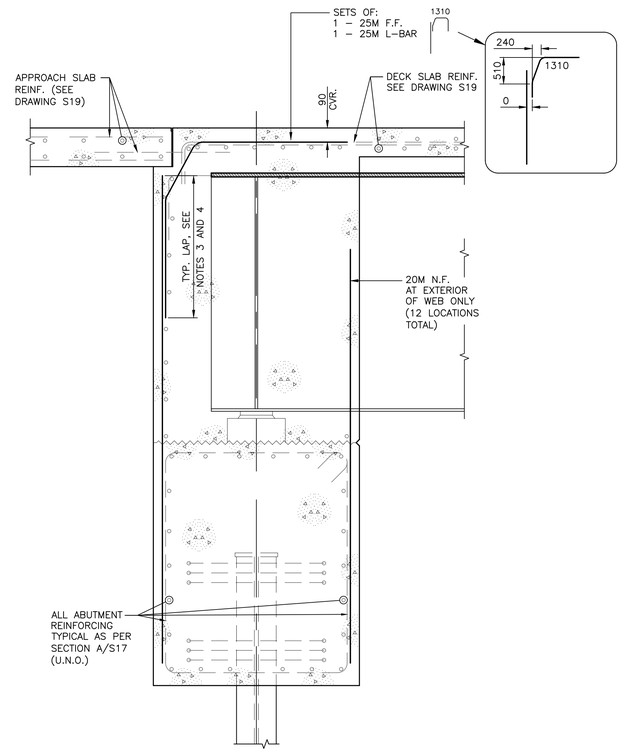
NOTE:
MAXIMUM HORIZONTAL SPACING BETWEEN 25M THREADED SPLICING SYSTEM AND 25M U–BAR FOR NON–CONTACT LAP IS 125mm.



SECTION (BETWEEN AND OUTBOARD OF GIRDERS) B S16

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION (AT TOP FLANGES) C S16

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

NOTES:

1. ALL HORIZONTAL BARS TO HAVE STANDARD HOOKS AT END IN EACH WINGWALL. TURN ALL HOOKED HORIZONTAL BARS INTO WINGWALLS IN SUCH A MANNER AS TO MAINTAIN ALL COVERS AND AVOID CLASH WITH WINGWALL REINFORCING. REFERENCE PROJECT SPECIFICATIONS FOR REQUIRED BAR HOOK BEND DIAMETERS.
2. MINIMUM HORIZONTAL BAR LAPS: (U.N.O.)
   - 15M BARS – 600mm
   - 20M BARS – 800mm
   - 25M BARS – 1200mm
3. MINIMUM VERTICAL BAR LAPS: (U.N.O.)
   - 15M BARS – 600mm
   - 20M BARS – 600mm
   - 25M BARS – 900mm
4. VERTICAL BAR LAPS TO BE DETAILED TO INCLUDE ADDITIONAL 100mm OF LAP OVER THAT INDICATED IN NOTE 3 TO ACCOUNT FOR POTENTIAL ADJUSTMENTS/ALTERATIONS IN DECK DUE TO AS–BUILT CONDITIONS (e.g. 20M VERTICAL BARS SHALL BE DETAILED FOR 700mm LAP RATHER THAN 600mm).
5. ALL HORIZONTAL BARS TO EXTEND 325mm PAST I.F. OF WINGWALL.
6. BAR COUPLERS TO ACHIEVE FULL CAPACITY OF INDICATED BAR.
7. ALL REINFORCING TO BE GALVANIZED AFTER FABRICATION. CARE SHALL BE TAKEN WHEN HANDLING GALVANIZED BARS NOT TO DAMAGE COATINGS.
8. A CLEAR SPACING OF 30mm MINIMUM SHALL BE PROVIDED BETWEEN ALL GALVANIZED AND BLACK STEEL COMPONENTS, OTHERWISE THE GALVANIZED BAR SHALL BE WRAPPED IN DENSO TAPE LOCALLY AT CONTACT POINT TO AVOID CONTACT BETWEEN DISSIMILAR METALS.

REINFORCING LEGEND:

N.F.	NEAR FACE	B.L.L.	BOTTOM LOWER LAYER
F.F.	FAR FACE	W.A.	WEST ABUTMENT
N.F.F.	NEAR FAR FACE	E.A.	EAST ABUTMENT
F.F.F.	FAR FAR FACE	N.E.	NORTH EAST WINGWALL
E.F.	EACH FACE	N.W.	NORTH WEST WINGWALL
E.W.	EACH WAY	S.E.	SOUTH EAST WINGWALL
I.F.	INSIDE FACE	S.W.	SOUTH WEST WINGWALL
O.F.	OUTSIDE FACE	N.C.	NORTH CURB
I.C.	IN CENTER	S.C.	SOUTH CURB
T.U.L.	TOP UPPER LAYER	CVR.	COVER
T.L.L.	TOP LOWER LAYER	CLR.	CLEAR
B.U.L.	BOTTOM UPPER LAYER		

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Permit No. as issued by PEGNL 324
which is valid for the year 2021.

REGISTERED PROFESSIONAL ENGINEER
PEGL
ROBBIE FRASER
SIGNATURE
July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

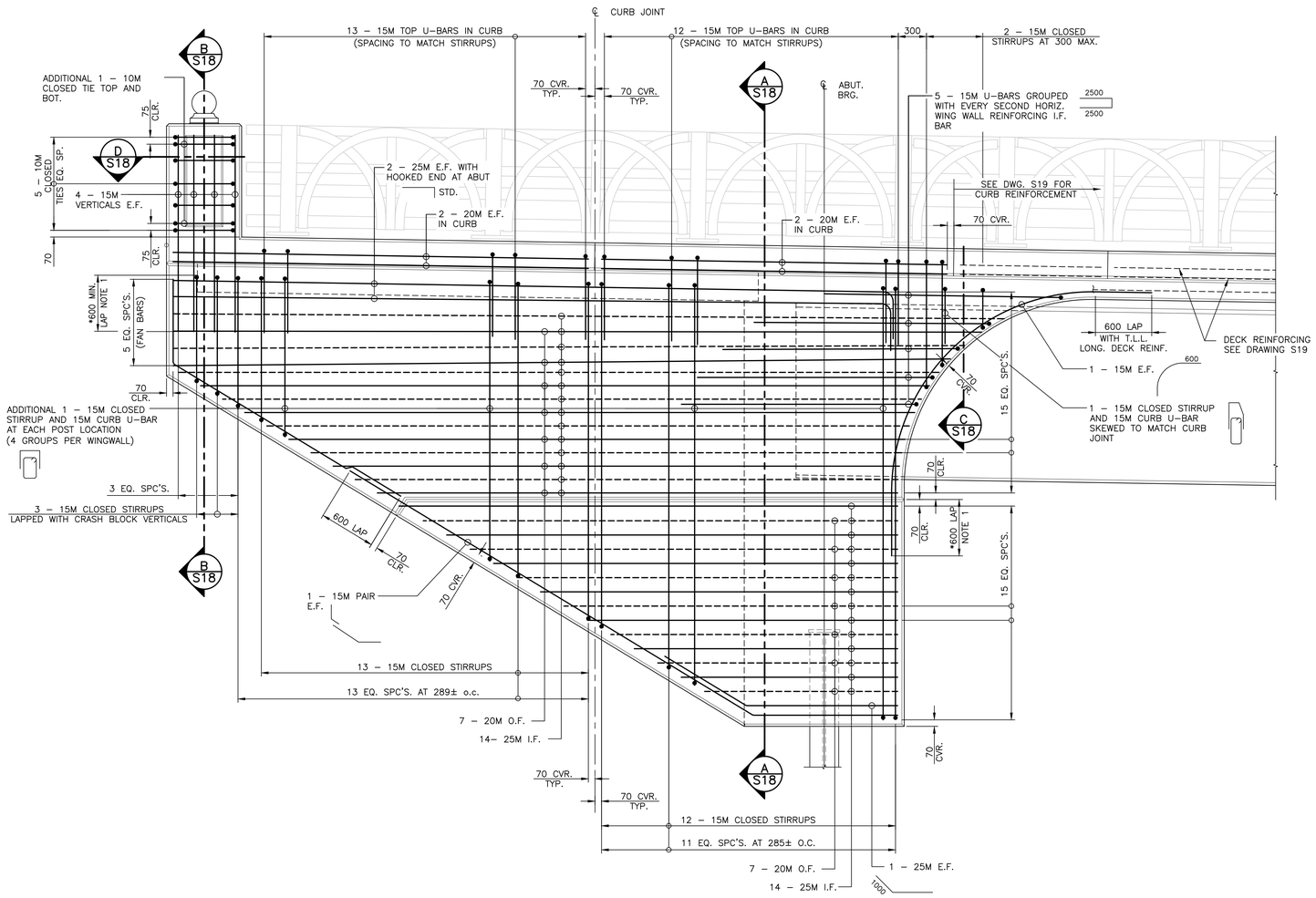
ABUTMENT REINFORCING SECTIONS

designed WADE POTTIE — concu
date JANUARY, 2020
drawn WAYNE MORROW — dessine
date JANUARY, 2020
approved ROBBIE FRASER — approuve
date
Tender — Soumission
PWGSC Project Manager — Administrateur de projets TPSGC
project number — no. du projet
drawing no. — no. du dessin

S17

PWGSC B1 (2004)

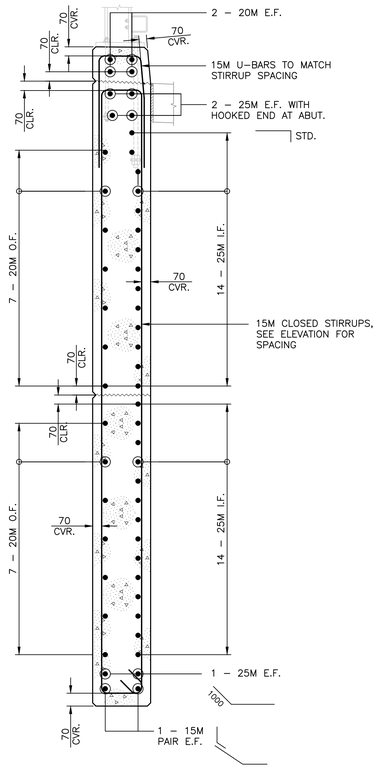
E–DRM/GDD–E:



TYPICAL WINGWALL ELEVATION – SOUTHEAST SHOWN (OTHERS SIMILAR)

SCALE : 1:25

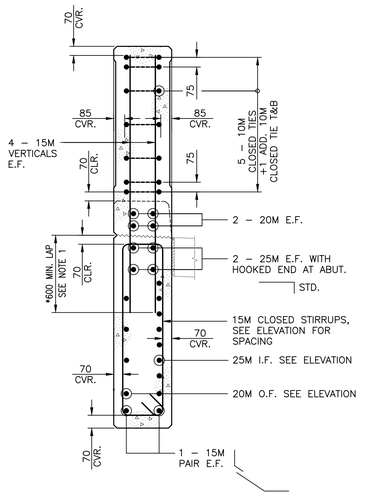
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION (TYPICAL WINGWALL AND BARRIER) A S18

SCALE : 1:20

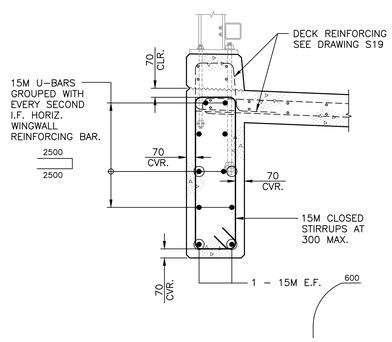
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION B S18

SCALE : 1:20

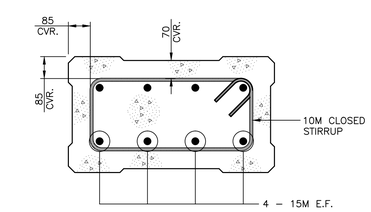
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION C S18

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION D S18

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

NOTES:

1. VERTICAL BAR LAPS TO BE DETAILED TO INCLUDE ADDITIONAL 100mm OF LAP OVER THE GREATER OF THAT INDICATED IN NOTE 3/S18 OR NOTED ON DRAWING TO ACCOUNT FOR POTENTIAL ADJUSTMENTS/ALTERATIONS IN DECK DUE TO AS–BUILT CONDITIONS (e.g. 15M VERTICAL BARS SHALL BE DETAILED FOR 700mm LAP RATHER THAN 600mm).
2. IT IS ACCEPTABLE TO SUBSTITUTE 15M CLOSED STIRRUPS WITH 2 – LAPPED U–BARS PROVIDED LAPS ARE DETAILED AND CONSTRUCTED AS INDICATED IN NOTE 1.
3. REFER TO NOTE 2, DRAWING S16 FOR HORIZONTAL AND VERTICAL BAR LAPS (UNO).
4. ALL REINFORCING TO BE GALVANIZED AFTER FABRICATION. CARE SHALL BE TAKEN WHEN HANDLING GALVANIZED BARS TO AVOID DAMAGE TO THE COATINGS.

REINFORCING LEGEND:

N.F.	NEAR FACE	B.L.L.	BOTTOM LOWER LAYER
F.F.	FAR FACE	W.A.	WEST ABUTMENT
N.F.F.	NEAR FAR FACE	E.A.	EAST ABUTMENT
F.F.F.	FAR FAR FACE	N.E.	NORTH EAST WINGWALL
E.F.	EACH FACE	N.W.	NORTH WEST WINGWALL
E.W.	EACH WAY	S.E.	SOUTH EAST WINGWALL
I.F.	INSIDE FACE	S.W.	SOUTH WEST WINGWALL
O.F.	OUTSIDE FACE	N.C.	NORTH CURB
I.C.	IN CENTER	S.C.	SOUTH CURB
T.U.L.	TOP UPPER LAYER	CVR.	COVER
T.L.L.	TOP LOWER LAYER	CLR.	CLEAR
B.U.L.	BOTTOM UPPER LAYER		

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MAGNA CARTA PROFESSIONAL ENGINEER
PEGL
ROBBIE FRASER
SIGNATURE July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

ABUTMENT WINGWALL REINFORCING

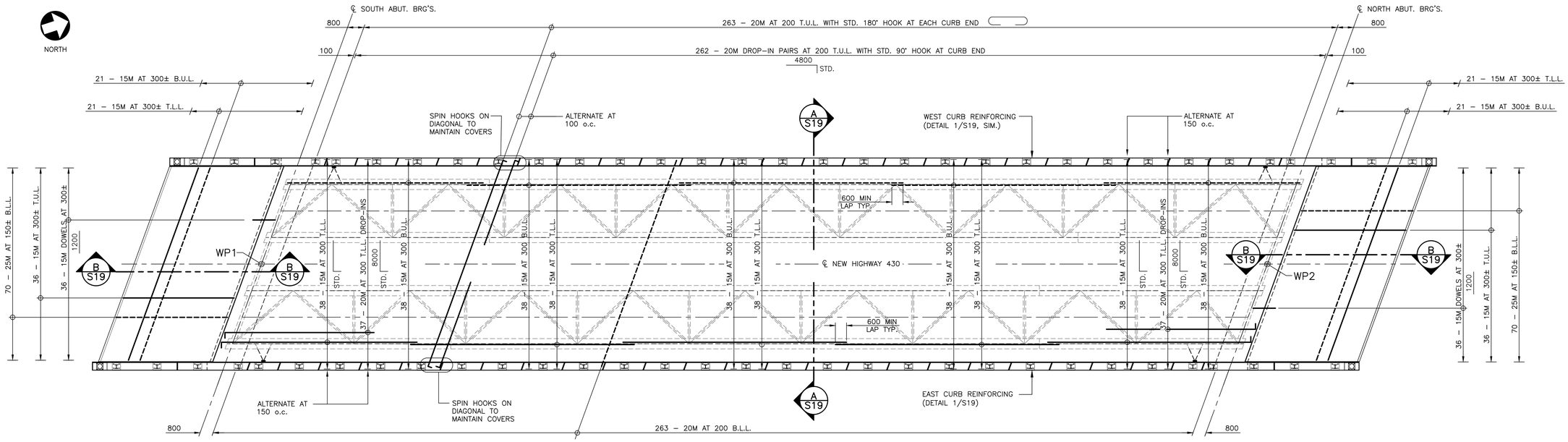
designed	WADE POTTIE	conçu
date	JANUARY, 2020	
drawn	WAYNE MORROW	dessiné
date	JANUARY, 2020	
approved	ROBBIE FRASER	approuvé
date		
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet

drawing no. / no. du dessin

S18

PWGSC B1 (2004)

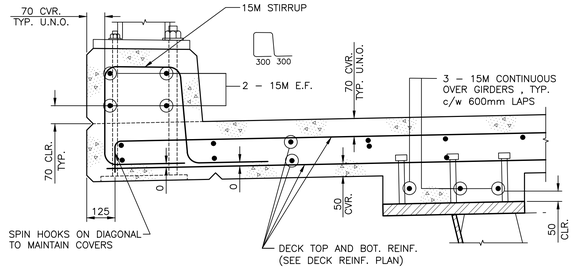
E–DRM/GDD–E:



BRIDGE DECK/ APPROACH SLAB REINFORCING PLAN

SCALE : 1:100

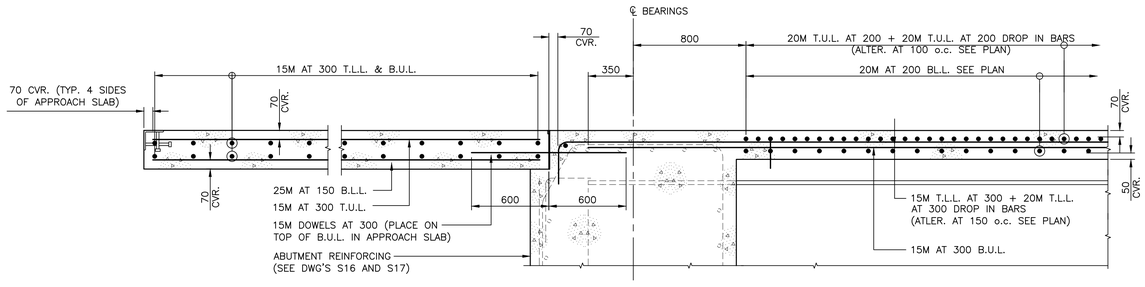
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



SECTION – OVERHANG REINFORCING (A S19)

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

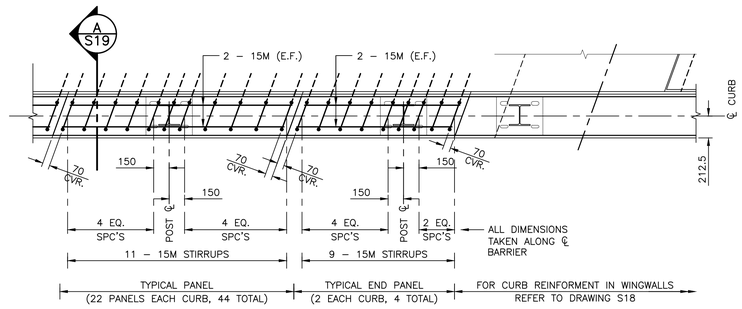


SECTION (B S19)

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

NOTE: A CLEAR SPACING OF 30mm MIN. SHALL BE PROVIDED BETWEEN ALL GALVANIZED AND BLACK STEEL COMPONENTS, OTHERWISE THE GALVANIZED BAR SHALL BE WRAPPED IN DENSO TAPE LOCALLY AT CONTACT POINT TO AVOID CONTACT BETWEEN DISSIMILAR METALS.



DETAIL – CURB REINFORCING (1 S19)

SCALE: 1:25

0mm 500mm 1000mm 1500mm 2000mm 2500mm

NOTES:

1. REFER TO DRAWING S15 FOR REINFORCING NOTES.
2. T.U.L. DECK BARS MAY BE SUBSTITUTED FOR BAR PAIRS TP SIMPLIFY INSTALLATION, PROVIDED MINIMUM LAPS ON DWG. S15 ARE PROVIDED.

REINFORCING LEGEND:

N.F.	NEAR FACE	B.L.L.	BOTTOM LOWER LAYER
F.F.	FAR FACE	W.A.	WEST ABUTMENT
N.F.F.	NEAR FAR FACE	E.A.	EAST ABUTMENT
F.F.F.	FAR FAR FACE	N.E.	NORTH EAST WINGWALL
E.F.	EACH FACE	N.W.	NORTH WEST WINGWALL
E.W.	EACH WAY	S.E.	SOUTH EAST WINGWALL
I.F.	INSIDE FACE	S.W.	SOUTH WEST WINGWALL
O.F.	OUTSIDE FACE	N.C.	NORTH CURB
I.C.	IN CENTER	S.C.	SOUTH CURB
T.U.L.	TOP UPPER LAYER	CVR.	COVER
T.L.L.	TOP LOWER LAYER	CLR.	CLEAR
B.U.L.	BOTTOM UPPER LAYER		

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PROFESSIONAL ENGINEER
ROBBIE FRASER
SIGNATURE July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

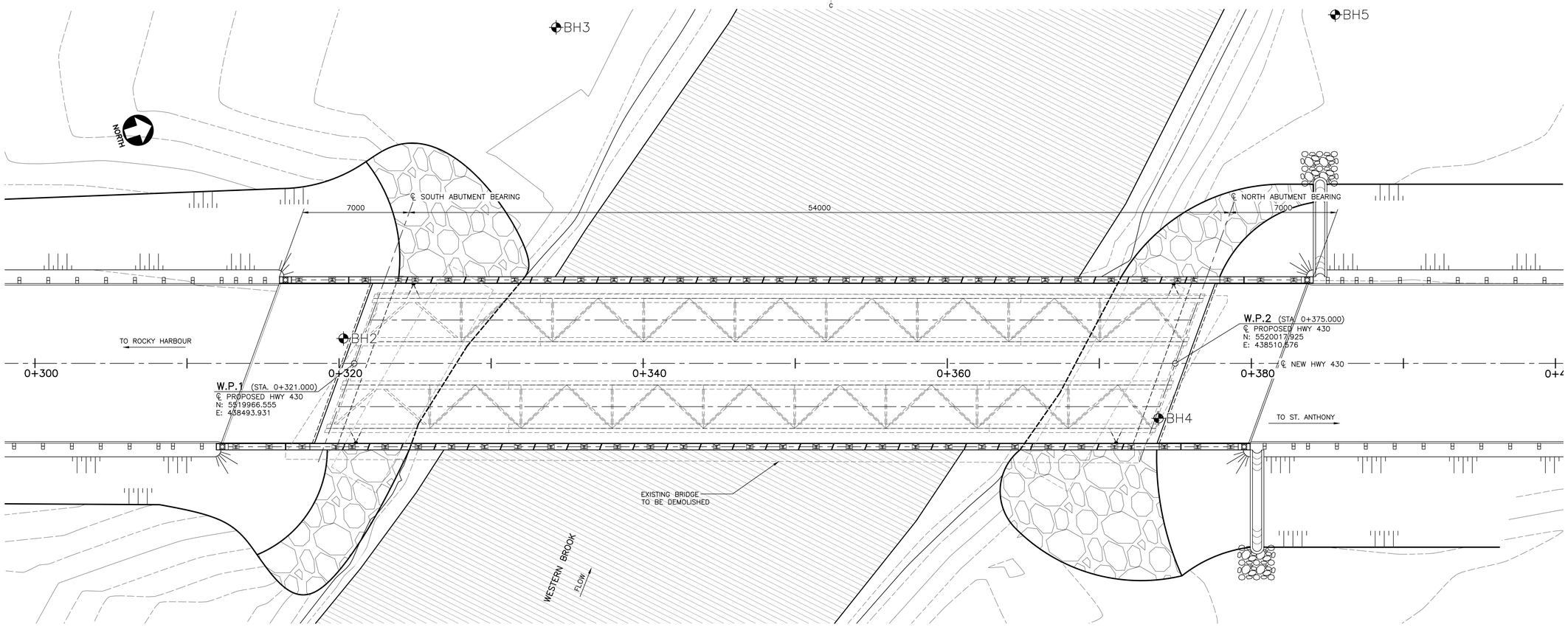
DECK/APPROACH SLAB REINFORCING

designed WADE POTTIE — concu
date JANUARY, 2020
drawn WAYNE MORROW — dessiné
date JANUARY, 2020
approved ROBBIE FRASER — approuvé
date
Tender — Soumission
PWGSC Project Manager — Administrateur de projets TPSGC
project number — no. du projet
drawing no. — no. du dessin

S19

PWGSC B1 (2004)

E-DRM/GDD-E:



BRIDGE PLAN

SCALE : 1:125

0m 1 2 3 4 5 6 7 8 9 10m

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD — BH02

N: 5519966 E: 438492

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-11 — WATER LEVEL 2019-12-15 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) / REC. ROCK (%)	BLOWS / 150 mm (N VALUE) / ROD %	OTHER TESTS
	9.56								
0	9.40	ASPHALT							
		FILL: grey silty sand with gravel			SS	1	275	24-31-32-45 (63)	S
1	8.75	FILL: brown gravel with silt and sand			SS	2	325	61-22-18-17 (35)	
					SS	3	275	11-12-12-17 (24)	S
2					SS	4	250	13-11-19-21 (30)	
3									
	5.90	Compact dark brown silty SAND with gravel to SAND with silt and gravel			SS	5	200	12-23-18-39 (41)	
4					SS	6	175	13-12-11-11 (22)	S
	4.84	Soft to stiff brown SILT with sand			SS	7	100	5-7-7-4 (11)	
5					SS	8	25	2-2-1-2 (3)	
6	3.46	Soft to firm grey sandy lean CLAY to sandy CLAY with gravel			ST	9	375	PUSH	
					SS	10	600	2-2-4-3 (6)	S
7					ST	11	575	PUSH	
8	1.51	Stiff to very stiff grey clayey SAND with gravel - with occasional cobbles			SS	12	0	5-6-7-9 (13)	
9					SS	13	0	3-5-7-8 (12)	
					SS	14	175	8-8-8-12 (16)	
10					SS	15	175	15-10-13-10 (23)	
11					SS	16	225	10-13-16-17 (29)	

UNDRAINED SHEAR STRENGTH - kPa (20 40 60 80; w_P w w_L)
WATER CONTENT & ATTERBERG LIMITS
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m

0 10 20 30 40 50 60 70 80

Miniature Vane ☐ Torvane
Penetrometer ◇ UU Triaxial
Field Vane △ Unconfined Compression

HARBOURSIDE GEOTECHNICAL CONSULTANTS BOREHOLE RECORD 20-1.GPJ

(Continued Next Page)

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD — BH02

N: 5519966 E: 438492

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-11 — WATER LEVEL 2019-12-15 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) / REC. ROCK (%)	BLOWS / 150 mm (N VALUE) / ROD %	OTHER TESTS
13		Stiff to very stiff grey clayey SAND with gravel *(continued)* - with occasional cobbles *(continued)*			SS	17	175	15-22-13-12 (25)	
					SS	18	500	13-13-16-14 (29)	
14					SS	19	0	6-9-15-13 (24)	
					SS	20	500	14-8-12-14 (20)	S
15					SS	21	0	9-8-9-12 (17)	
16					SS	22	475	8-7-8-11 (15)	
					SS	23	300	6-4-6-7 (10)	
17									
18	-8.05	Firm to stiff grey sandy lean CLAY to clayey SAND			SS	24	200	6-7-7-28 (14)	
19									
					SS	25	175	5-4-5-8 (9)	
20									
21					SS	26	100	5-6-7-7 (13)	
22									
					SS	27	175	8-3-2-5 (5)	
23	-14.27								

UNDRAINED SHEAR STRENGTH - kPa (20 40 60 80; w_P w w_L)
WATER CONTENT & ATTERBERG LIMITS
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m

0 10 20 30 40 50 60 70 80

Miniature Vane ☐ Torvane
Penetrometer ◇ UU Triaxial
Field Vane △ Unconfined Compression

HARBOURSIDE GEOTECHNICAL CONSULTANTS BOREHOLE RECORD 20-1.GPJ

(Continued Next Page)

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD — BH02

N: 5519966 E: 438492

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-11 — WATER LEVEL 2019-12-15 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) / REC. ROCK (%)	BLOWS / 150 mm (N VALUE) / ROD %	OTHER TESTS
	-14.62	Very dense grey silty SAND with gravel *(continued)* - 350 mm boulder at 24.1 m below surface			SS	28	175	24-32-50 / 50 mm	S
25		Very poor to excellent quality grey LIMESTONE - slightly weathered to fresh			HQ	29	81%	22%	
					HQ	30	100%	100%	Q_u
26					HQ	31	100%	90%	
27	-17.49	End of borehole - standpipe installed							
28									
29									
30									
31									
32									
33									
34									
35									

UNDRAINED SHEAR STRENGTH - kPa (20 40 60 80; w_P w w_L)
WATER CONTENT & ATTERBERG LIMITS
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m

0 10 20 30 40 50 60 70 80

Miniature Vane ☐ Torvane
Penetrometer ◇ UU Triaxial
Field Vane △ Unconfined Compression

HARBOURSIDE GEOTECHNICAL CONSULTANTS BOREHOLE RECORD 20-1.GPJ

Parcs Canada / Parks Canada

HARBOURSIDE Engineering Consultants

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGL PERMIT HOLDER
This Permit Allows HARBOURSIDE ENGINEERING CONSULTANTS
To practice Provisional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGL 324
which is valid for the year 2021.

PROFESSIONAL ENGINEER — PEGL — ROBBIE FRASER — Robbie Fraser — July 19 '21 — NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project: WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing: BOREHOLE LOGS SHEET 1 of 3

designed WADE POTTIE — date JANUARY, 2020
drawn WAYNE MORROW — date JANUARY, 2020
approved ROBBIE FRASER — date

Tender — Soumission
PWGSC Project Manager — Administrateur de projets TPSGC
project number — no. du projet

drawing no. S20 — no. du dessin

PWGSC B1 (2004)

E-DRM/GDD-E:

PAGE 1 OF 3

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD

BH03

N: 5519986 E: 438477

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-17 TO 2019-12-18 — WATER LEVEL 2019-12-18 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS
	5.06	ROOTMAT/TOPSOIL							
0	4.55	Compact brown SAND with silt and gravel			SS	1	100	1-0-5-7 (5)	
					SS	2	100	2-8-13-11 (21)	S
1	3.54	Very soft to firm grey lean CLAY with sand to clayey SAND with gravel							
					ST	3	350	PUSH	
2					SS	4	250	0-0-2-2 (2)	
					ST	5	0	PUSH	
3					SS	6	125	5-6-7-8 (13)	S
4					SS	7	0	3-3-5-9 (8)	
					SS	8	250	4-7-7-8 (14)	S
5									
					SS	9	100	3-3-4-5 (7)	
6					SS	10	300	4-4-5-6 (9)	
	-2.74	Firm to stiff grey lean CLAY							
7					ST	11	600	PUSH	C
					SS	12	600	3-3-5-6 (8)	S
8					ST	13	600	PUSH	C
					SS	14	0	5-4-5-5 (9)	
9									
					SS	15	450	3-6-5-7 (11)	
10		- with trace gravel below 10.5 m depth			SS	16	600	4-6-7-7 (13)	

UNDRAINED SHEAR STRENGTH - kPa: 20 40 60 80
WATER CONTENT & ATTERBERG LIMITS: w_P w w_L
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m
OTHER TESTS: 0 10 20 30 40 50 60 70 80

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

(Continued Next Page)

HARBOURSIDE GEOTECHNICAL CONSULTANTS BOREHOLE RECORD 20-1-30

PAGE 2 OF 3

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD

BH03

N: 5519986 E: 438477

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-17 TO 2019-12-18 — WATER LEVEL 2019-12-18 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS
		Firm to stiff grey lean CLAY *(continued)*			SS	17	50	5-1-0-5 (1)	
	-7.39	Stiff grey clayey SAND with gravel			SS	18	250	9-8-8-9 (16)	S
13									
					SS	19	200	8-7-9-9 (16)	
14	-9.39	Firm to stiff grey sandy lean CLAY to clayey SAND - with occasional cobbles			SS	20	600	5-7-8-8 (15)	
15									
					SS	21	300	5-9-7-8 (15)	S
16									
					SS	22	0	5-6-9-10 (15)	
17					SS	23	375	6-6-7-8 (13)	
					SS	24	0	5-4-4-6 (8)	
18					SS	25	425	4-5-6-6 (11)	
19					SS	26	100	5-4-7-7 (11)	
20					SS	27	600	7-7-7-8 (14)	
21									
					SS	28	600	4-5-6-7 (11)	
22									
23									

UNDRAINED SHEAR STRENGTH - kPa: 20 40 60 80
WATER CONTENT & ATTERBERG LIMITS: w_P w w_L
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m
OTHER TESTS: 0 10 20 30 40 50 60 70 80

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

(Continued Next Page)

HARBOURSIDE GEOTECHNICAL CONSULTANTS BOREHOLE RECORD 20-1-30

PAGE 3 OF 3

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD

BH03

N: 5519986 E: 438477

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-17 TO 2019-12-18 — WATER LEVEL 2019-12-18 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS
25	-18.22	Firm grey sandy lean CLAY			SS	29	600	3-2-3-4 (5)	
	-20.85	Good quality grey LIMESTONE - slightly weathered to fresh			SS	30	25	50 / 150 mm	
26					HQ	31	100%	83%	Q_u
27									
28					HQ	32	100%	90%	
	-23.72	End of borehole - standpipe installed							
29									
30									
31									
32									
33									
34									
35									

UNDRAINED SHEAR STRENGTH - kPa: 20 40 60 80
WATER CONTENT & ATTERBERG LIMITS: w_P w w_L
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m
OTHER TESTS: 0 10 20 30 40 50 60 70 80

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

HARBOURSIDE GEOTECHNICAL CONSULTANTS BOREHOLE RECORD 20-1-30

PAGE 1 OF 3

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD

BH04

N: 5520016 E: 438514

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-12 TO 2019-12-13 — WATER LEVEL 2019-12-15 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS
	8.69	ASPHALT							
0	8.54	FILL: grey to brown silty sand with gravel			SS	1	175	43-58-62	
					SS	2	350	14-13-16-12 (28)	S
1					SS	3	50	16-14-14-16 (28)	
					SS	4	450	13-10-9-7 (16)	
2									
					SS	5	125	4-4-5-7 (9)	
3	4.93	Loose to compact brownish-grey silty SAND with gravel to SAND with silt and gravel			SS	6	25	4-2-2-5 (4)	
4					SS	7	0	12-10-8-9 (17)	
					SS	8	125	8-6-5-5 (10)	
5									
	2.54	Stiff to firm grey lean CLAY with sand			SS	9	75	4-4-6-6 (10)	
6					SS	10	450	5-5-6-8 (11)	S
	1.15								
		Stiff to very stiff grey sandy lean CLAY to clayey SAND with gravel			ST	11	500	PUSH	S, C
7					SS	12	375	13-7-8-11 (15)	S
8					SS	13	0	8-11-14-16 (25)	
					SS	14	225	10-13-14-17 (27)	
9									
					SS	15	100	11-12-15-16 (27)	
10									
11									

UNDRAINED SHEAR STRENGTH - kPa: 20 40 60 80
WATER CONTENT & ATTERBERG LIMITS: w_P w w_L
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m
OTHER TESTS: 0 10 20 30 40 50 60 70 80

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

(Continued Next Page)

HARBOURSIDE GEOTECHNICAL CONSULTANTS BOREHOLE RECORD 20-1-30

PAGE 2 OF 3

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD

BH04

N: 5520016 E: 438514

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-12 TO 2019-12-13 — WATER LEVEL 2019-12-15 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS
		Stiff to very stiff grey sandy lean CLAY to clayey SAND with gravel *(continued)*			SS	16	250	7-5-9-8 (14)	
13									
					SS	17	125	19-12-10-10 (20)	
14									
					SS	18	550	4-5-7-8 (12)	
15									
					SS	19	450	9-7-8-10 (15)	
16									
	-9.46	- 330 mm boulder at 17.83 m below surface							
17		Firm to stiff grey lean CLAY with sand to sandy lean CLAY - with trace gravel			SS	20	0	4-10-8-9 (17)	
18					SS	21	0	3-4-6-8 (10)	
					SS	22	575	5-5-7-7 (12)	S
19									
					SS	23	200	4-3-3-3 (6)	
20									
21					SS	24	150	4-4-5-5 (9)	
22									
23									

UNDRAINED SHEAR STRENGTH - kPa: 20 40 60 80
WATER CONTENT & ATTERBERG LIMITS: w_P w w_L
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m
OTHER TESTS: 0 10 20 30 40 50 60 70 80

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

(Continued Next Page)

HARBOURSIDE GEOTECHNICAL CONSULTANTS BOREHOLE RECORD 20-1-30

PAGE 3 OF 3

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD

BH04

N: 5520016 E: 438514

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-12 TO 2019-12-13 — WATER LEVEL 2019-12-15 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS
		Firm to stiff grey lean CLAY with sand to sandy lean CLAY - with trace gravel *(continued)*			SS	25	100	7-8-9-20 (17)	
25									
					SS	26	600	5-4-5-4 (9)	
26									
					SS	27	600	2-3-3-5 (6)	
27									
					SS	28	600	4-4-4-12 (8)	S
28									
	-21.94				ST	29	275	PUSH	
29		Fair to good quality grey LIMESTONE - slightly weathered to fresh			HQ	30	92%	62%	Q_u
30					HQ	31	100%	75%	
	-24.43	End of borehole - standpipe installed							
31									
32									
33									
34									
35									

UNDRAINED SHEAR STRENGTH - kPa: 20 40 60 80
WATER CONTENT & ATTERBERG LIMITS: w_P w w_L
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m
OTHER TESTS: 0 10 20 30 40 50 60 70 80

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

HARBOURSIDE GEOTECHNICAL CONSULTANTS BOREHOLE RECORD 20-1-30

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGL Engineers and Geoscientists Act
PERMIT HOLDER
This Permit Allows
HARBOURSIDE ENGINEERING CONSULTANTS
To practice Professional Engineering in Newfoundland and Labrador
Permit No. as issued by PEGL 324
which is valid for the year 2021

MAGNETIZED PROFESSIONAL ENGINEER
PEGL Engineers and Geoscientists Act
ROBBIE FRASER
SIGNATURE
July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet
WESTERN BROOK BRIDGE REPLACEMENT
GROS MORNE NATIONAL PARK

drawing / dessin
BOREHOLE LOGS SHEET 2 of 3

designed WADE POTTIE — concu
date JANUARY, 2020
drawn WAYNE MORROW — dessine
date JANUARY, 2020
approved ROBBIE FRASER — approuve
date
Tender — Soumission
PWGSC Project Manager — Administrateur de projets TPSGC
project number — no. du projet
drawing no. — no. du dessin
S21

PWGSC B1 (2004)

E-DRM/GDD-E:

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD

BH05

N: 5520035 E: 438492

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-14 TO 2019-12-15 — WATER LEVEL 2019-12-18 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS	UNDRAINED SHEAR STRENGTH - kPa (20 40 60 80); WATER CONTENT & ATTERBERG LIMITS; DYNAMIC PENETRATION TEST, BLOWS/0.3m; STANDARD PENETRATION TEST, BLOWS/0.3m (0 10 20 30 40 50 60 70 80)
	6.28	ROOTMAT/TOPSOIL								
	5.98	Very soft brownish-grey sandy SILT - with occasional clay seams			SS	1	400	1-2-2-2 (4)		
1					SS	2	300	1-1-1-1 (2)	S	
	4.76									
		Loose brown silty SAND with gravel to SAND with silt and gravel			SS	3	50	1-4-4-4 (8)		
2					SS	4	200	3-5-7-8 (12)	S	
3	2.83									
		Soft to firm grey lean CLAY with sand			SS	5	50	10-2-2-3 (4)		
4					SS	6	250	1-2-1-3 (3)		
5					ST	7	0	PUSH		
	0.74				SS	8	575	7-4-5-8 (9)		
6		Stiff to very stiff grey sandy lean CLAY to clayey SAND with gravel								
7					SS	9	200	14-17-11-11 (22)		
8		- 350mm boulder at 8.1 m depth			SS	10	25	6-8-50 / 25 mm		
9										
10					SS	11	250	19-16-14-14 (28)		
11										
					SS	12	125	4-7-9-11 (16)		

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

(Continued Next Page)

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD

BH05

N: 5520035 E: 438492

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-14 TO 2019-12-15 — WATER LEVEL 2019-12-18 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS	UNDRAINED SHEAR STRENGTH - kPa (20 40 60 80); WATER CONTENT & ATTERBERG LIMITS; DYNAMIC PENETRATION TEST, BLOWS/0.3m; STANDARD PENETRATION TEST, BLOWS/0.3m (0 10 20 30 40 50 60 70 80)
		Stiff to very stiff grey sandy lean CLAY to clayey SAND with gravel *(continued)*			SS	13	450	13-8-8-10 (16)	S	
13										
14					SS	14	0	5-6-7-7 (13)		
15	-9.01									
		Very soft to firm grey sandy lean CLAY - with trace gravel			SS	15	600	1-1-2-3 (3)	S	
16										
17										
18					ST	16	50	PUSH		
19					SS	17	0	6-8-5-6 (11)		
					SS	18	250	8-4-5-7 (9)		
20					ST	19	0	PUSH		
21					SS	20	600	6-4-5-11 (9)	S	
					ST	21	500	PUSH		
22										
23					ST	22	0	PUSH		
					SS	23	250	4-6-6-7 (12)		

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

(Continued Next Page)

HARBOURSIDE Geotechnical Consultants

BOREHOLE RECORD

BH05

N: 5520035 E: 438492

CLIENT PARKS CANADA AGENCY — PROJECT No. 193132
LOCATION WESTERN BROOK BRIDGE, ROUTE 430, GROS MORNE NATIONAL PARK, NL — DATUM CGVD28
DATES: BORING 2019-12-14 TO 2019-12-15 — WATER LEVEL 2019-12-18 — BH SIZE HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm) REC. ROCK (%)	BLOWS / 150 mm (N VALUE) RQD %	OTHER TESTS	UNDRAINED SHEAR STRENGTH - kPa (20 40 60 80); WATER CONTENT & ATTERBERG LIMITS; DYNAMIC PENETRATION TEST, BLOWS/0.3m; STANDARD PENETRATION TEST, BLOWS/0.3m (0 10 20 30 40 50 60 70 80)
		Very soft to firm grey sandy lean CLAY - with trace gravel *(continued)*			ST	24	600	PUSH	C	
25										
					SS	25	450	3-3-4-7 (7)		
26	-20.01									
	-20.85	Very good quality grey LIMESTONE - slightly weathered to fresh			HQ	26	100%	94%		
27		Very poor quality dark grey LIMESTONE - slightly weathered to fresh								
28					HQ	27	100%	23%	Q_u	
29	-23.18									
		End of borehole			HQ	28	100%	15%		
30		- standpipe installed								
31										
32										
33										
34										
35										

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL Association of Professional Engineers and Geoscientists
PERMIT HOLDER
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Permit No. as issued by PEG 324
which is valid for the year 2021

MEMBER OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS NEWFOUNDLAND & LABRADOR
ROBBIE FRASER
Robbie Fraser
SIGNATURE
July 19 '21
DATE

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

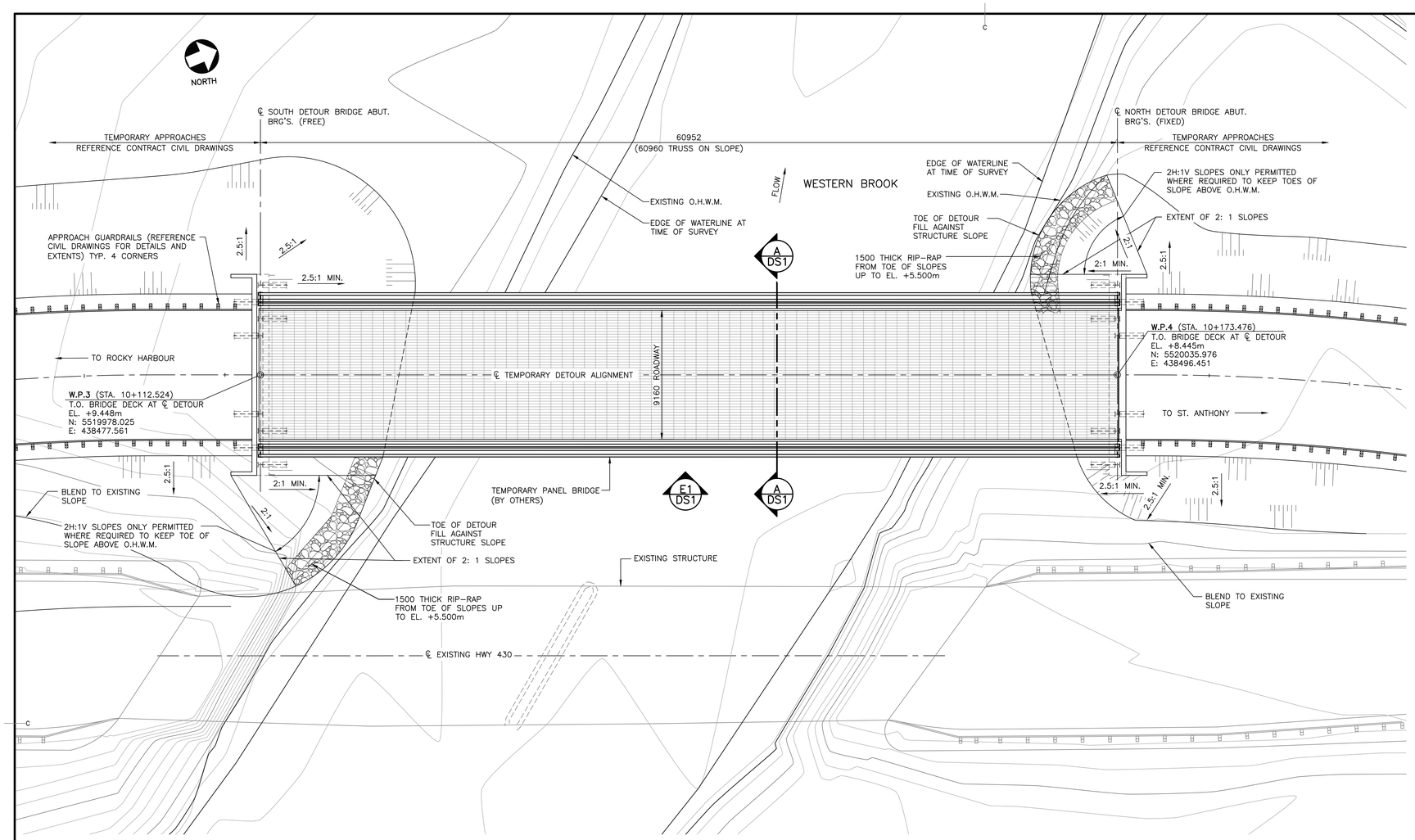
BOREHOLE LOGS SHEET 3 of 3

designed WADE POTTIE — conçu
date JANUARY, 2020
drawn WAYNE MORROW — dessiné
date JANUARY, 2020
approved ROBBIE FRASER — approuvé
date
Tender — Soumission
PWGSC Project Manager — Administrateur de projets TPSGC
project number — no. du projet
drawing no. — no. du dessin

S22

PWGSC B1 (2004)

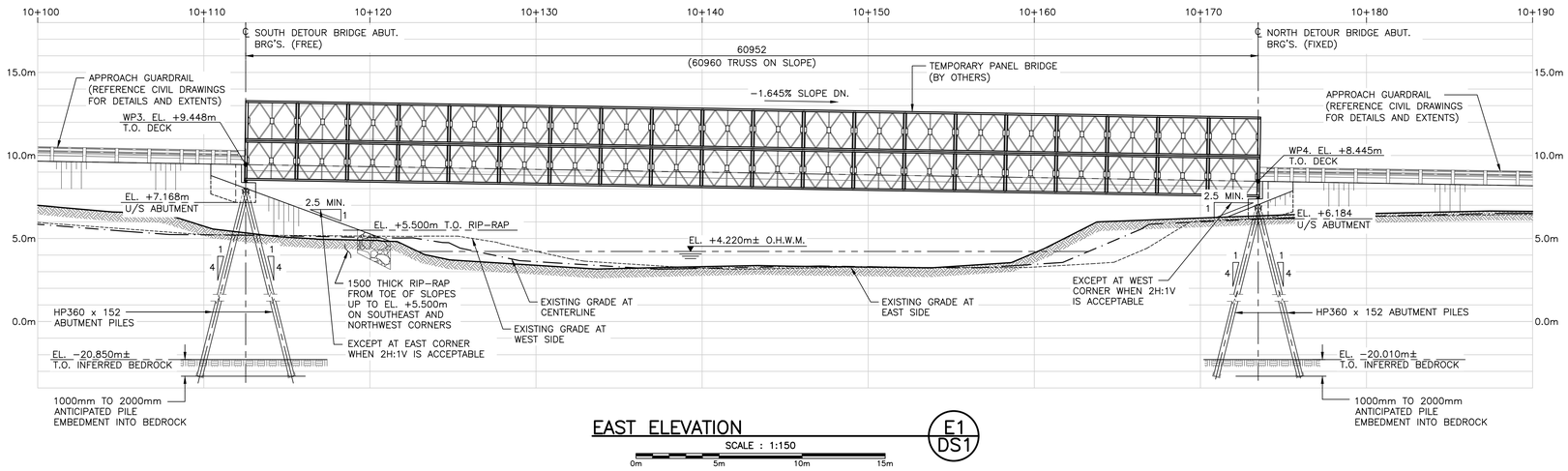
E-DRM/GDD-E:



BRIDGE PLAN

SCALE : 1:150

0m 5m 10m 15m

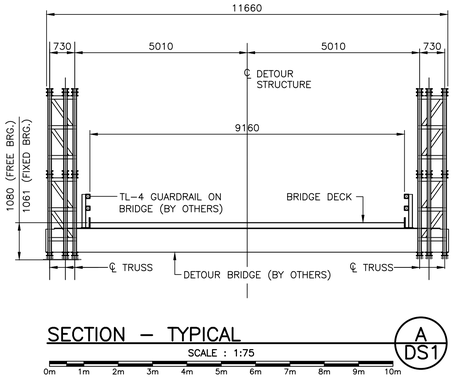


EAST ELEVATION

E1 DS1

SCALE : 1:150

0m 5m 10m 15m



SECTION – TYPICAL

A DS1

SCALE : 1:75

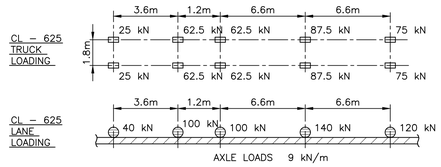
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

NOTES:

1. DETOUR STRUCTURE TO BE SUPPLIED BY PARKS CANADA FOR 2 LANE TRAFFIC WITH A LENGTH OF 60.960m, ASSEMBLY DRAWINGS ARE TO BE PROVIDED BY CONTRACTOR TO PARKS CANADA FOR 60.960m PANEL BRIDGE. CONTRACTOR TO FOLLOW ALL REQUIREMENTS OF SPECIFICATIONS FOR HANDLING, ASSEMBLY, DISASSEMBLY, FINAL INSPECTION OF ALL COMPONENTS AND FINAL STORAGE AT THE COMPLETION OF WESTERN BROOK BRIDGE.
2. PANEL BRIDGE, INCLUDING ALL COMPONENTS, SHALL REMAIN THE PROPERTY OF PARKS CANADA AFTER CONSTRUCTION. CONTRACTOR RESPONSIBLE TO RETURN ALL COMPONENTS IN GOOD WORKING ORDER TO PARKS CANADA COMPOUND IN ROCKY HARBOUR AT END OF CONSTRUCTION (SEE SPECIFICATIONS).
3. PANEL BRIDGE NORTH AND SOUTH ABUTMENT TO BE FOUNDED ON PILES DRIVEN TO REFUSAL IN BEDROCK.
4. ALIGNMENT INFORMATION AS PER HARBOURSIDE TRANSPORTATION CONSULTANTS CIVIL DRAWINGS. SURVEY INFORMATION PROVIDED BY DESIGN POINT ENGINEERING AND SURVEYING. SURVEY REFERENCED HORIZONTALLY TO UTM ZONE 21 NORTH NAD83 (CSRS) AND VERTICALLY TO CGVD28. (SEE SPECIFICATIONS) CONTROL IS DERIVED FROM STATIC GNSS OBSERVATIONS ON AN IRON BAR (POINT 1000) HAVING COORDINATES OF:

   N = 5519990.091M
   E = 438437.178M
   EL= 6.331M

5. BRIDGE GEOMETRY AND BEARING REACTIONS USED FOR ABUTMENT DESIGN BASED ON ALGONQUIN BRIDGE DRAWINGS DATED JULY 12, 2017 AND SK200 DATED 2020 APRIL 3 ANY DISCREPANCIES BETWEEN DRAWINGS AND AS-BUILT GEOMETRY SHALL BE REPORTED TO THE ENGINEER. CONTRACTOR TO CONFIRM GEOMETRY PRIOR TO CONSTRUCTION.
6. DESIGN LIVE LOADING: CL-625



7. ALL DIMENSIONS SHOWN IN MILLIMETERS (mm) AND ELEVATIONS IN METERS (m).
8. ENVIRONMENTAL MITIGATION MEASURES TO MEET REQUIREMENTS OF DEPARTMENTAL REPRESENTATIVE AND DFO, BY CONTRACTOR.
9. SURVEY AND LAYOUT RESPONSIBILITY OF CONTRACTOR.
10. CONSTRUCTION SHALL BE CARRIED OUT PER CAN/CSA-S6-19 WITH LATEST REVISIONS.
11. DESIGN OF BRIDGE SUPERSTRUCTURE, BEARING ASSEMBLIES AND EXPANSION/DECK JOINTS IS THE RESPONSIBILITY OF OTHERS.
12. UNFACTORED BEARING REACTIONS PER CORNER:

    DEAD LOAD = 570 kN

    LIVE LOAD = 731 kN

    BRAKING LOAD (NORTH ABUTMENT) = 118kN

13. FOUNDATION DESIGN BASED ON INFORMATION PROVIDED IN HARBOURSIDE GEOTECHNICAL REPORT 193132R1 DATED MARCH 23, 2020.
14. REFER TO DRAWING DS2 FOR PILE NOTES AND C.I.P. CONCRETE NOTES.
15. ALL ROOTMAT, TOPSOIL, AND DELETERIOUS MATERIALS (e.g. SOFT LOOSE SOILS, OR SOILS CONTAINING A SIGNIFICANT PROPORTION OF ORGANIC MATERIAL) SHOULD BE REMOVED FROM BELOW THE FOOTPRINT OF THE PILE CAP, STRUCTURAL FILLS, AND APPROACH FILLS TO EXPOSE THE IN-SITU SAND AND GRAVEL FILL OR NATIVE SAND, SILT AND GRAVEL. AFTER REMOVAL OF THE REQUIRED MATERIALS, THE EXPOSED SOIL SURFACE SHOULD BE RE-GRADED, COMPACTED, AND TESTED (PROOF ROLLED) WITH LOADED TANDEM TRUCK OR LARGE VIBRATORY ROLLER UNDER THE SUPERVISION OF QUALIFIED GEOTECHNICAL PERSONNEL PRIOR TO FILL PLACEMENT. ANY SOFT AREAS OR YIELDING MATERIAL WITH DEFLECTIONS GREATER THAN 20mm WITHIN THE SUBGRADE SHOULD BE REMOVED AND REPLACED WITH APPROVED FILL.
16. ALL SLOPES SHALL BE 2.5H:1V MAXIMUM EXCEPT AT SOUTHEAST AND NORTHWEST CORNERS WHERE SLOPE MAY BE STEEPENED TO 2.0H:1V MAXIMUM ONLY AS REQUIRED TO KEEP TOES OF SLOPES ABOVE THE O.H.W.M..
17. ANY DISCREPANCIES BETWEEN FIELD CONDITION AND THE DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO PROCEEDING WITH CONSTRUCTION.
18. THE CONTRACTOR SHALL COORDINATE JACKING OF THE DETOUR STRUCTURE WITH THE DETOUR STRUCTURE SUPPLIER AND PROVIDE JACKING SUPPORT POINTS AS REQUIRED.

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This Permit Allows
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Permit No. as issued by PEGNL 324
which is valid for the year 2022

REGISTERED PROFESSIONAL ENGINEER
PEGNL
ROBBIE FRASER
July 19 '21
SIGNATURE DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

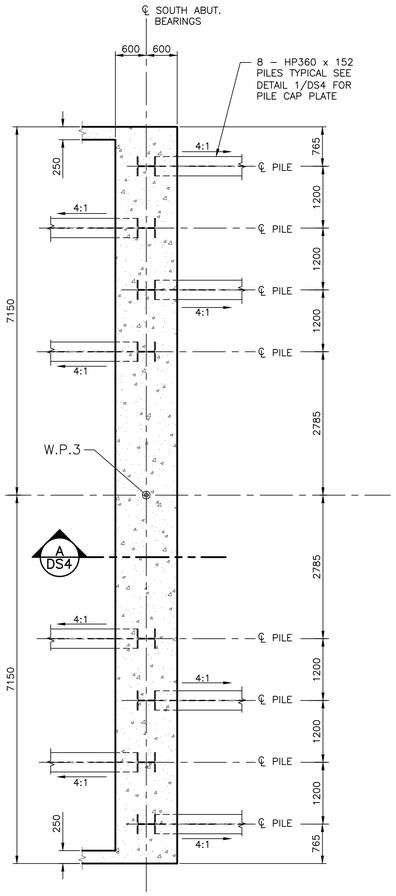
drawing / dessin

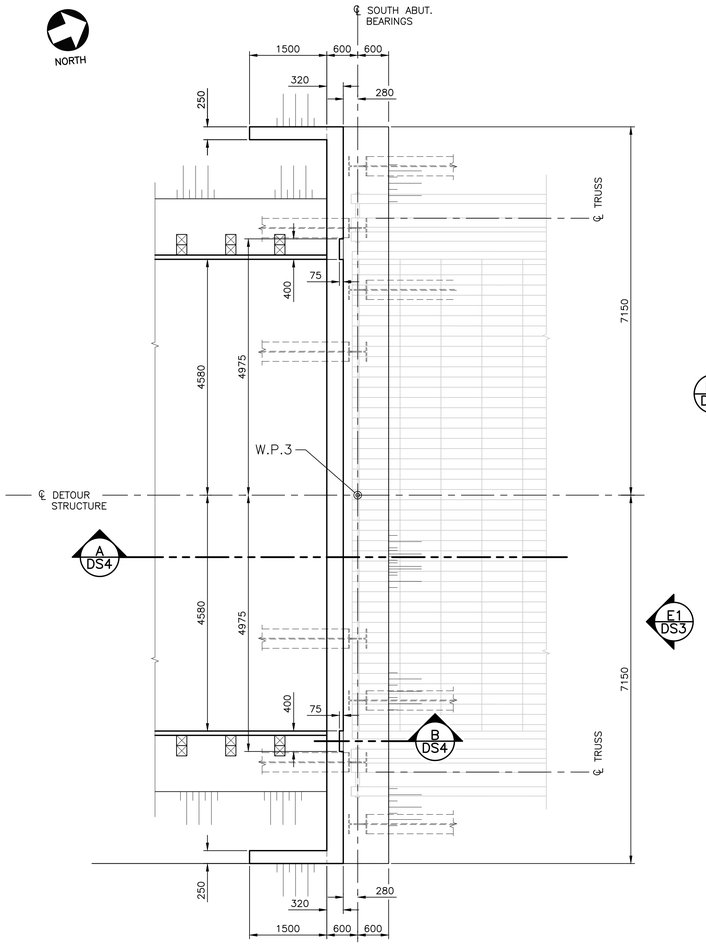
GENERAL ARRANGEMENT DETOUR STRUCTURE

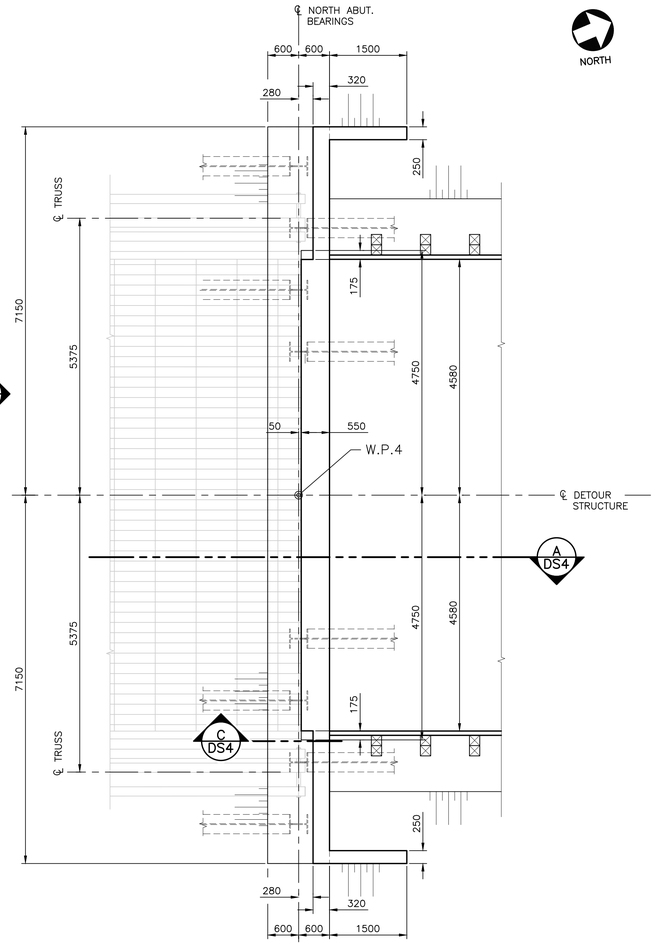
designed / conçu	THOMAS McNUTT	
date	APRIL 2020	
drawn / dessiné	WAYNE MORROW	
date	APRIL 2020	
approved / approuvé	ROBBIE FRASER	
date	APRIL 2020	
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number / no. du projet		
	– –	
drawing no. / no. du dessin		
	DS1	

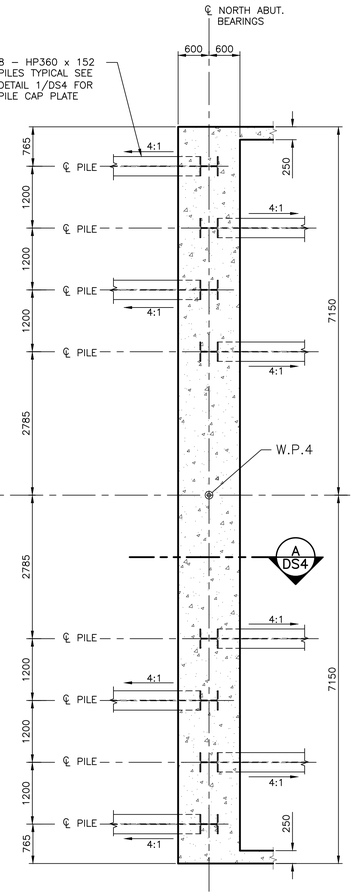
PWGSC B1 (2004)

E-DRM/GDD-E:









SOUTH ABUTMENT PILE PLAN

SCALE : 1:50

0m 1m 2m 3m 4m 5m

SOUTH ABUTMENT TOP PLAN

SCALE : 1:50

0m 1m 2m 3m 4m 5m

NORTH ABUTMENT TOP PLAN

SCALE : 1:50

0m 1m 2m 3m 4m 5m

NORTH ABUTMENT PILE PLAN

SCALE : 1:50

0m 1m 2m 3m 4m 5m

PILE NOTES:

1. PILE MATERIAL
   - A) STEEL H–PILES (HP360 x 152), Fy = 350 MPa (MIN.) TO CSA G40.20/G40.21 (350W)
   - B) ALL PILE SPLICES SHALL BE FULL STRENGTH WELDED CONNECTIONS (LIMIT 1 SPLICE PER PILE)
   - C) CAP PLATE, Fy = 350 MPa MINIMUM (SEE DETAIL 1/DS4) TO CSA G40.20/G40.21 (350W)
   - D) WELDING MATERIAL TO CSA G40.1 – LATEST EDITION
   - E) WELDING TO BE IN ACCORDANCE TO CSA W59 – LATEST EDITION
2. PILE SET CRITERIA AS PER HARBOURSIDE GEOTECHINCAL CONSULTANTS REPORT No.193132R1 DATED MARCH 23, 2020
   - A) RATED HAMMER ENERGY TO BE A MINIMUM OF 450 J/cm² OF STEEL CROSS–SECTIONAL AREA .
   - B) REFUSAL TAKEN AS PILE PENETRATION OF LESS THAN 25mm FOR 15 BLOWS FOR FOUR CONSECUTIVE SETS. ALL PILES SHALL BE DRIVEN TO REFUSAL IN BEDROCK, DRILLING OR VIBRATION METHODS ARE NOT TO BE USED FOR PILE INSTALLATION.
   - C) ALL PILES SHALL BE DRIVEN WITH A PROTECTIVE H–PILE DRIVING SHOE. ALL POINTS SHALL MATCH PILE SIZE AND SHALL BE WELDED TO PILE TIP AS PER MANUFACTURERS RECOMMENDATIONS. PILE TIP DETAILS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO DRIVING PILES.
   - D) THE REQUIRED FACTORED PILE COMPRESSION LOAD OF 1360 kN SHALL BE CONFIRMED BY PDA TESTING ON AT LEAST ONE REPRESENTATIVE PILE. REFERENCE PROJECT GEOTECHNICAL REPORT FOR PDA TESTING REQUIREMENTS. MAXIMUM PILE TENSION IS 300 kN AT ULS.
   - E) FULL TIME INSPECTION SHALL BE UNDERTAKEN DURING PILE DRIVING AND COMPLETE DRIVING RECORDS SHALL BE KEPT.
   - F) DYNAMIC MONITORING SHALL BE PERFORMED ON A MINIMUM OF TWO (2) PILES AT THE END OF INITIAL DRIVE AND AT THE BEGINNING OF RESTRIKE AT EACH ABUTMENT.
   - G) A MINIMUM OF TWO (2) PILES AT EACH ABUTMENT SHALL BE RE–TAPPED A MINIMUM OF 24 HOURS AFTER INITIAL DRIVING REFUSAL. IF RELAXATION OCCURS, ALL PILES SHALL BE RE–DRIVEN TO REFUSAL CRITERIA AND THE CYCLE REPEATED UNTIL THE REFUSAL CRITERIA IS MAINTAINED DURING SUBSEQUENT RE–TAPS.

C.I.P. CONCRETE NOTES:

1. ALL EXPOSED CORNERS OF CONCRETE TO HAVE 25mm CHAMFERS.
2. LOCATION OF CONSTRUCTION JOINTS AND SEQUENCE OF CONCRETE PLACEMENT TO BE APPROVED BY HEC.
3. CAST–IN–PLACE CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:
   - ABUTMENTS AND PILECAPS 35 MPa WITH 20mm MAX. AGGREGATE SIZE AND 6% ± 1% AIR ENTRAINMENT (AIR VOIDS SPACING REQUIREMENTS AS PER DIV. 5, SECTION 18 OF DEPARTMENTS STD. SPEC'S), MAX. WATER–CEMENT RATIO 0.35.
4. CONCRETE COVER TO REINFORCING STEEL AS NOTED ON DRAWINGS.
5. CONCRETE METHODS AS PER CONTRACT SPECIFICATIONS, AND METHODS FOR TEST OF CONCRETE TO CAN/CSA–A23.2.
6. REINFORCING STEEL TO BE GRADE 400W DEFORMED BARS TO PROJECT SPECIFICATION WITH YIELD STRENGTH OF 400 MPa (WELDABLE).
7. ALL REINFORCEMENT TO BE INSPECTED BY THE ENGINEER PRIOR TO CLOSING, FORMWORK OR PLACING CONCRETE.
8. COMPACTING IMMEDIATELY ADJACENT TO BACK WALL SHALL BE ACCOMPLISHED WITH LIGHT COMPACTING EQUIPMENT. MODERATE COMPACTING WITH A TRENCH ROLLER IN 200MM LIFTS ELSEWHERE (ALL COMPACTION SHALL BE TO 100% STD. PROCTOR DENSITY). WHEEL LOADS/CRANE TRACKS SHALL BE KEPT 5.0M CLEAR OF ABUTMENT BACKWALLS DURING ERECTION OF SUPERSTRUCTURE AND ALL PHASES OF CONSTRUCTION.
9. EACH PHASE OF WORK TO BE INSPECTED BY THE ENGINEER PRIOR TO PROCEEDING TO THE NEXT PHASE OF WORK.
10. BACKFILL IMMEDIATELY BEHIND ABUTMENTS AND AROUND PIER PILE CAPS TO BE "FILL AGAINST STRUCTURE" MATERIAL AS PER PROJECT SPECIFICATIONS.
11. LOCATION OF ANCHOR BOLTS FOR TEMPORARY BRIDGE BEARINGS SHALL BE VERIFIED WITH THE TEMPORARY BRIDGE MANUFACTURER.
12. BENT REINFORCING BAR TYPES REFER TO R.S.I.C. REINFORCING STEEL MANUAL OF STANDARD PRACTICE. TYPICAL BAR BENDS EXCEPT BAR BEND DIAMETERS AS PER PROJECT SPECIFICATION (U.N.O.).
13. MISCELLANEOUS STEEL TO CAN/CSA–G40.21–350W.
14. WELDING TO CAN/CSA–W59 (LATEST EDITION).

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PROFESSIONAL ENGINEERS AND GEOSCIENTISTS NEWFOUNDLAND & LABRADOR
ROBBIE FRASER
Robbie Fraser
SIGNATURE
July 19 '21
DATE

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet
WESTERN BROOK BRIDGE REPLACEMENT
GROS MORNE NATIONAL PARK

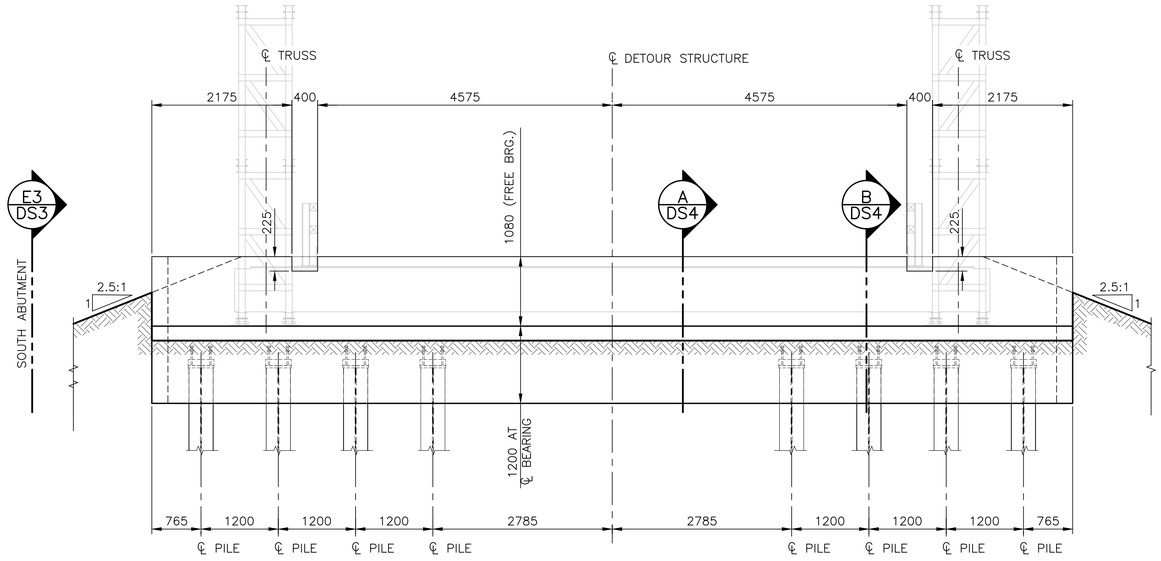
drawing / dessin
ABUTMENT PLANS AND ELEVATION DETOUR STRUCTURE

designed	THOMAS McNUTT	conçu
date	APRIL 2020	
drawn	WAYNE MORROW	dessiné
date	APRIL 2020	
approved	ROBBIE FRASER	approuvé
date	APRIL 2020	
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	– –	
drawing no.		no. du dessin
	DS2	

PWGSC B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

E–DRM/GDD–E:



SOUTH ABUTMENT ELEVATION — E1 DS2

SCALE : 1:50

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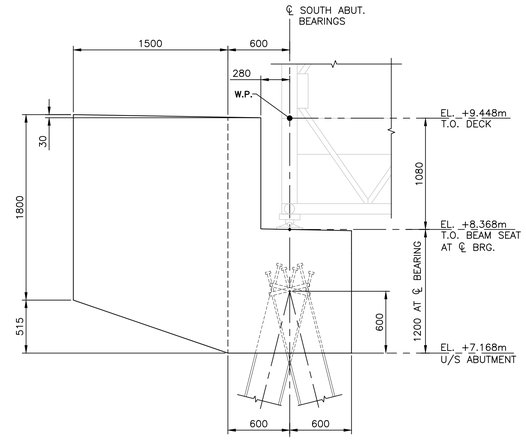

SOUTH ABUTMENT WINGWALL — E3 DS2

SCALE : 1:25

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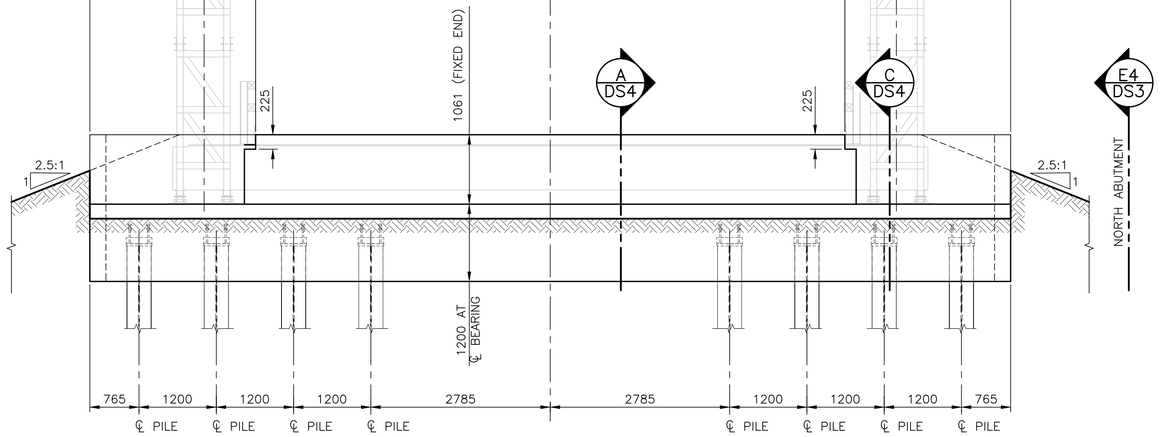

NORTH ABUTMENT ELEVATION — E2 DS2

SCALE : 1:50

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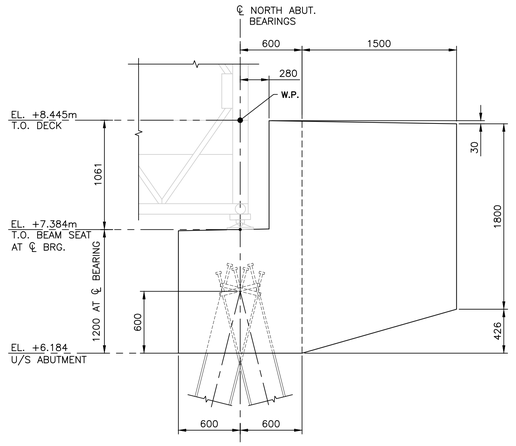

NORTH ABUTMENT WINGWALL — E4 DS2

SCALE : 1:25

0mm 500mm 1000mm 1500mm 2000mm 2500mm

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MEMBER OF THE PROFESSIONAL ENGINEERS AND GEOSCIENTISTS NEWFOUNDLAND & LABRADOR
PEGL
ROBBIE FRASER
Robbie Fraser
SIGNATURE
July 19 '21
DATE

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

ABUTMENT SECTIONS AND DETAILS DETOUR STRUCTURE

designed	THOMAS McNUTT	conçu
date	APRIL 2020	
drawn	WAYNE MORROW	dessiné
date	APRIL 2020	
approved	ROBBIE FRASER	approuvé
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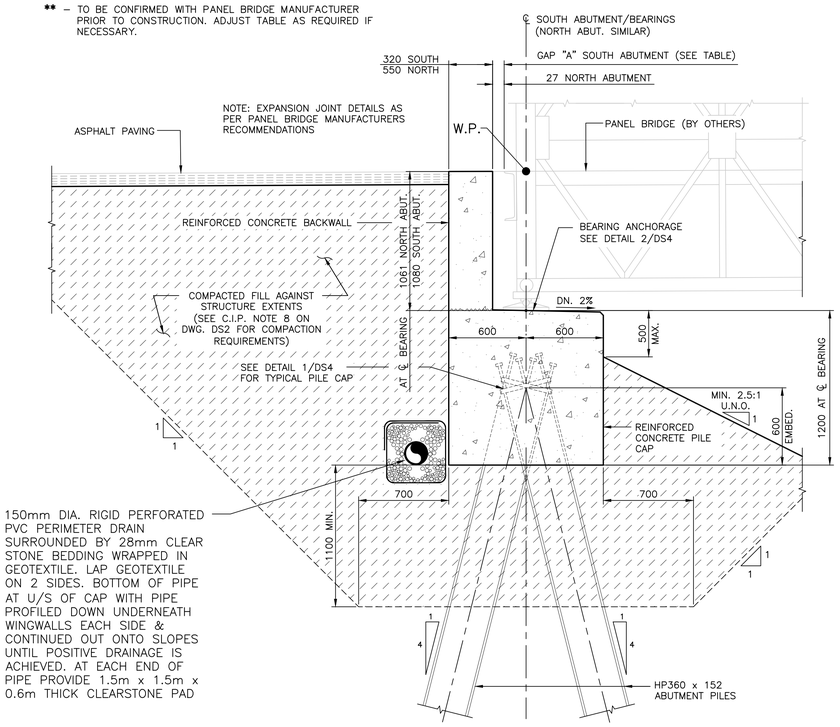
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	— —	
drawing no.		no. du dessin
	DS3	

PWGSC B1 (2004)

E-DRM/GDD-E:

SOUTH EXPANSION JOINT GAP "A" TABLE (mm)											
GAP	TEMPERATURE (C°)										
	−43	−30	−20	−5	+5	+10	+15	+20	+30	+40	+49
"A"	91	82	75	64	56	52	49	45	38	31	24.1

** – TO BE CONFIRMED WITH PANEL BRIDGE MANUFACTURER PRIOR TO CONSTRUCTION. ADJUST TABLE AS REQUIRED IF NECESSARY.



SECTION A DS2

SCALE : 1:20

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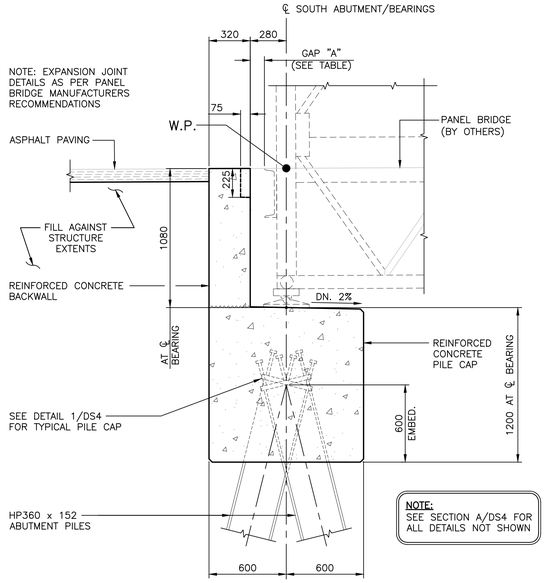

SOUTH ABUTMENT SECTION B DS2

SCALE : 1:20

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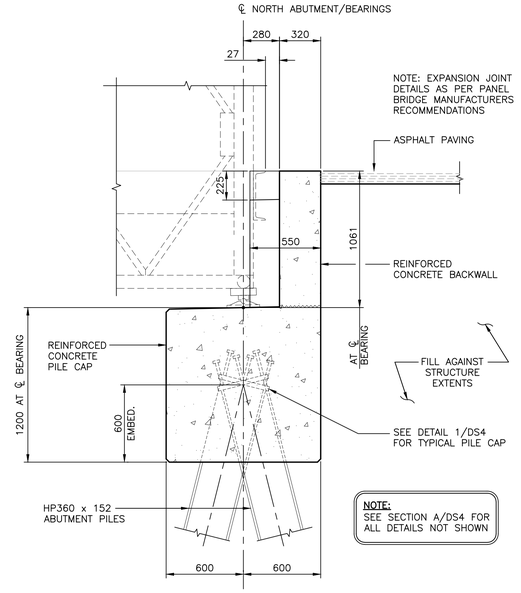

NORTH ABUTMENT SECTION C DS2

SCALE : 1:20

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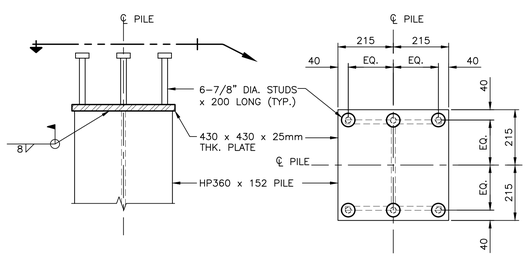

DETAIL – TYPICAL PILE CAP PLATE 1 DS2

SCALE : 1:10

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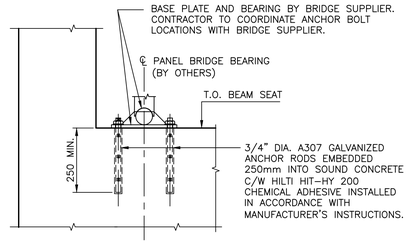

DETAIL – TYPICAL BEARING ANCHORAGE 2 DS3

SCALE : 1:10

0mm 100 200 300 400 500 600 700 800 900 1000mm

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project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

ABUTMENT SECTIONS AND DETAILS DETOUR STRUCTURE

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date	APRIL 2020	
drawn	WAYNE MORROW	dessiné
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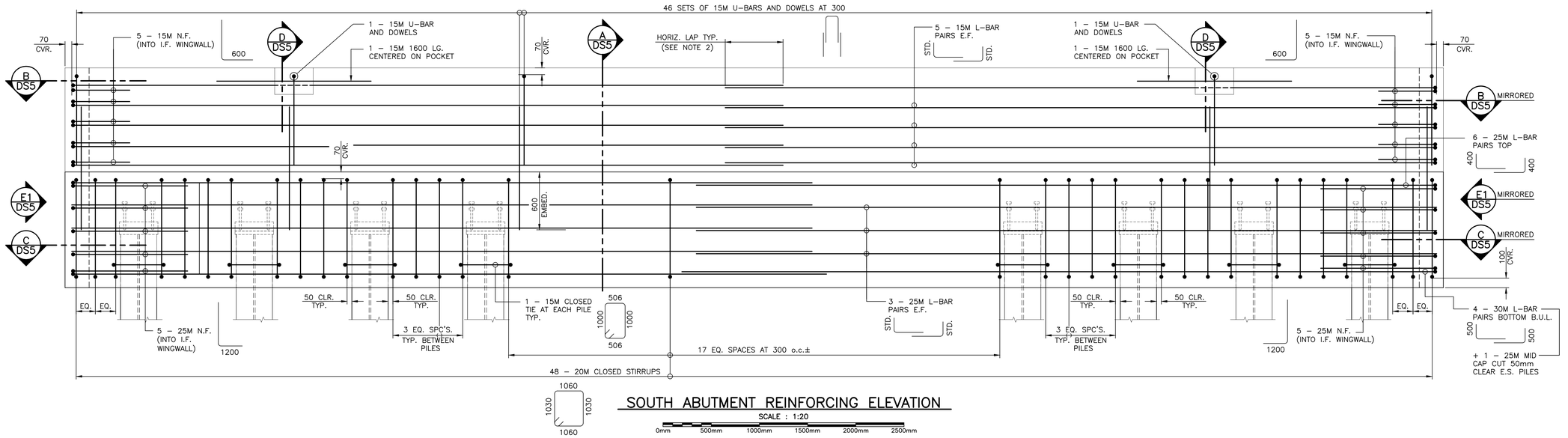
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	— —	
drawing no.		no. du dessin
	DS4	

PWGSC B1 (2004)

E-DRM/GDD-E:



SOUTH ABUTMENT REINFORCING ELEVATION

SCALE : 1:20

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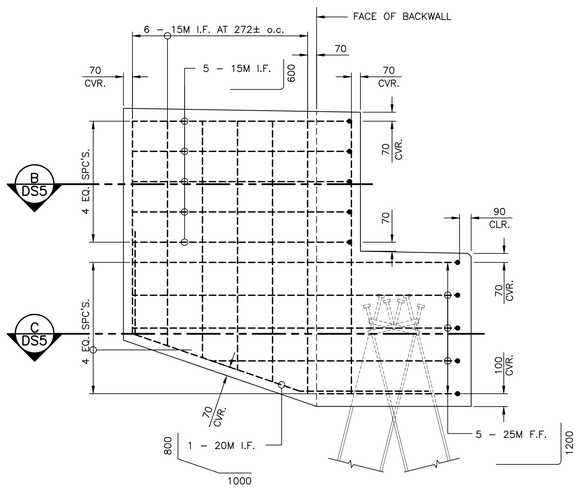

TYPICAL WINGWALL ELEVATION E1 DS5

SCALE : 1:20

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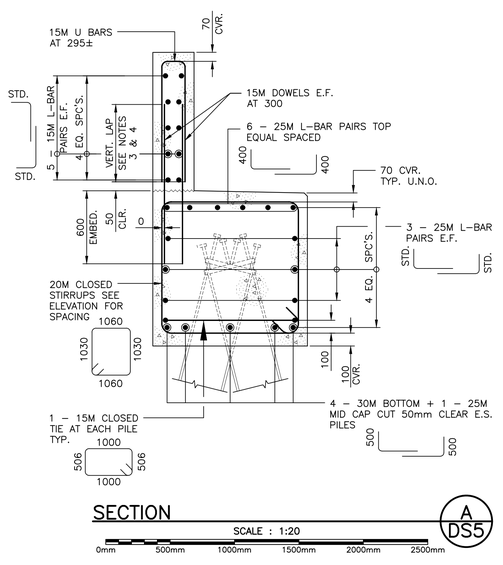

SECTION A DS5

SCALE : 1:20

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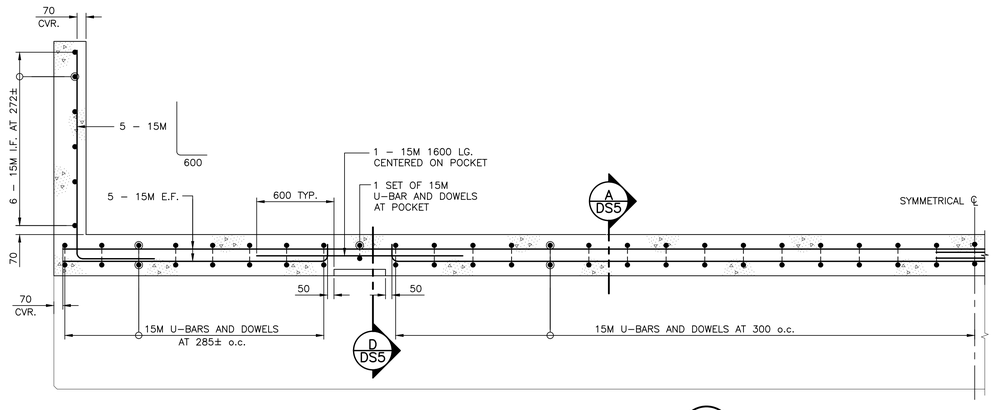

SECTION B DS5

SCALE : 1:20

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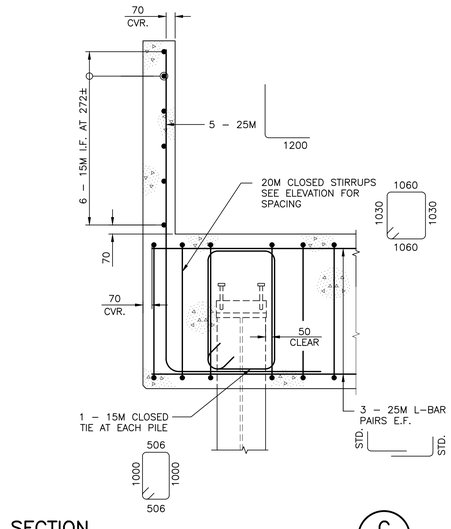

SECTION C DS5

SCALE : 1:20

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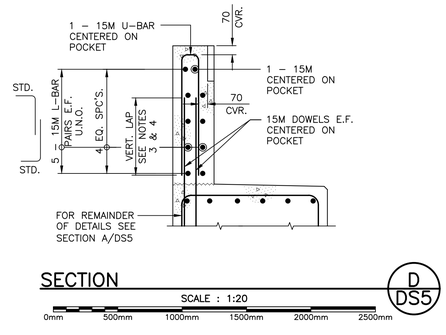


SECTION D DS5

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

NOTES:

1. ALL HORIZONTAL BARS TO HAVE STANDARD HOOKS AT END IN EACH WINGWALL. TURN ALL HOOKED HORIZONTAL BARS INTO WINGWALLS IN SUCH A MANNER AS TO MAINTAIN ALL COVERS AND AVOID CLASH WITH WINGWALL REINFORCING. REFERENCE PROJECT SPECIFICATIONS FOR REQUIRED BAR HOOK BEND DIAMETERS.
2. MINIMUM HORIZONTAL BAR LAPS: (U.N.O.)
   - 15M BARS – 600mm
   - 20M BARS – 800mm
   - 25M BARS – 1200mm
   - 30M BARS – 1500mm
3. MINIMUM VERTICAL BAR LAPS: (U.N.O.)
   - 15M BARS – 600mm
   - 20M BARS – 600mm
   - 25M BARS – 900mm
4. VERTICAL BAR LAPS TO BE DETAILED TO INCLUDE ADDITIONAL 100mm OF LAP OVER THAT INDICATED IN NOTE 3 TO ACCOUNT FOR POTENTIAL ADJUSTMENTS/ALTERATIONS IN DECK DUE TO AS–BUILT CONDITIONS (e.g. 15M VERTICAL BARS SHALL BE DETAILED FOR 700mm LAP RATHER THAN 600mm).

REINFORCING LEGEND:

N.F.	NEAR FACE
F.F.	FAR FACE
N.F.F.	NEAR FAR FACE
F.F.F.	FAR FAR FACE
E.F.	EACH FACE
E.W.	EACH WAY
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
I.C.	IN CENTER
T.U.L.	TOP UPPER LAYER
T.L.L.	TOP LOWER LAYER
B.U.L.	BOTTOM UPPER LAYER
B.L.L.	BOTTOM LOWER LAYER

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGL PERMIT HOLDER
This Permit Allows HARBOURSIDE ENGINEERING CONSULTANTS
To practice Provisional Engineering in Newfoundland and Labrador
Permit No. as issued by PEG 324
which is valid for the year 2021

MEMBER OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS NEWFOUNDLAND & LABRADOR
PEGL
ROBBIE FRASER
Robbie Fraser
SIGNATURE
July 19 '21
DATE

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

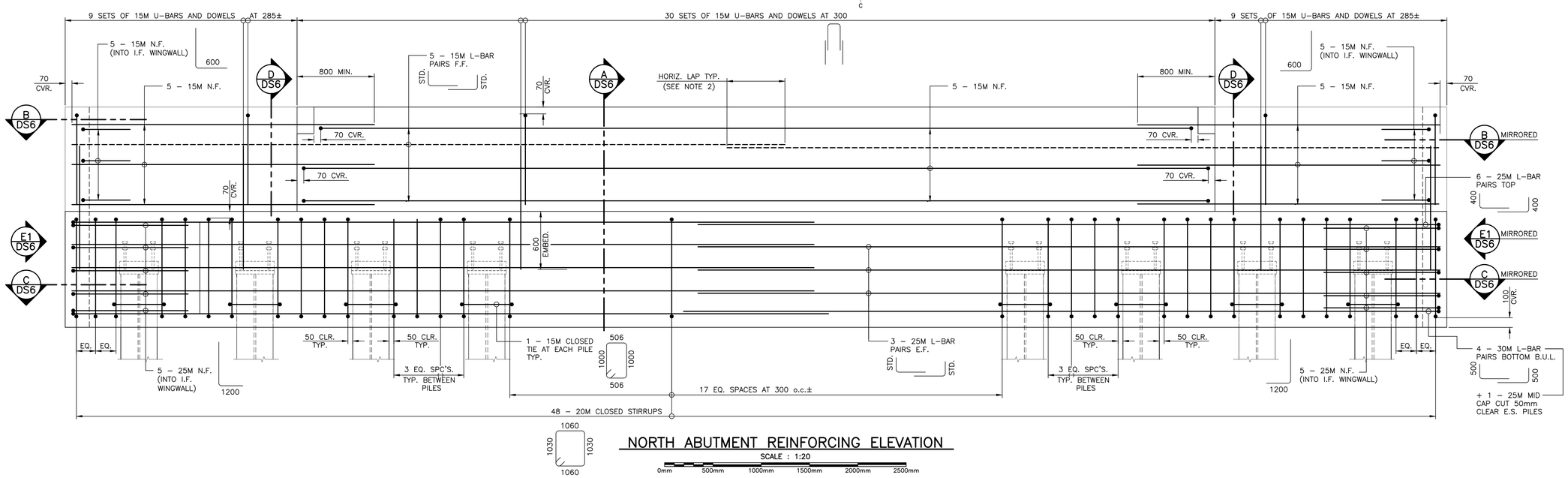
SOUTH ABUTMENT REINFORCING DETOUR STRUCTURE

designed	THOMAS McNUTT	conçu
date	APRIL 2020	
drawn	WAYNE MORROW	dessiné
date	APRIL 2020	
approved	ROBBIE FRASER	approuvé
date	APRIL 2020	
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	– –	
drawing no.		no. du dessin
	DS5	

PWGSC B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

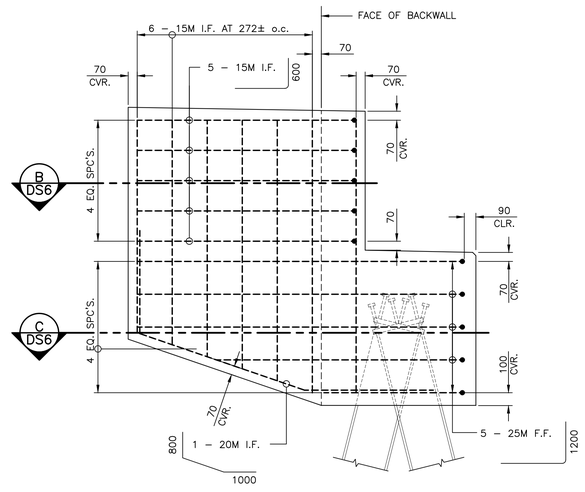
E–DRM/GDD–E:



NORTH ABUTMENT REINFORCING ELEVATION

SCALE : 1:20

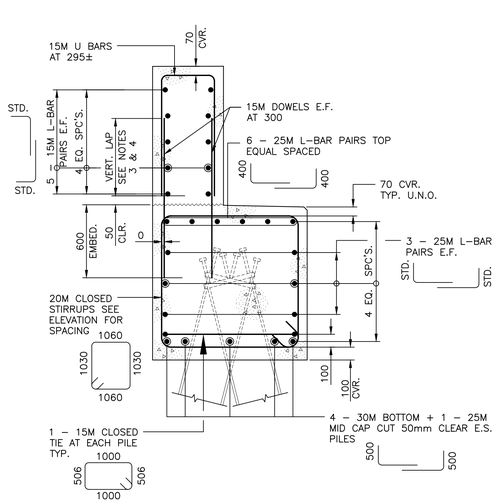
0mm 500mm 1000mm 1500mm 2000mm 2500mm



TYPICAL WINGWALL ELEVATION E1 DS6

SCALE : 1:20

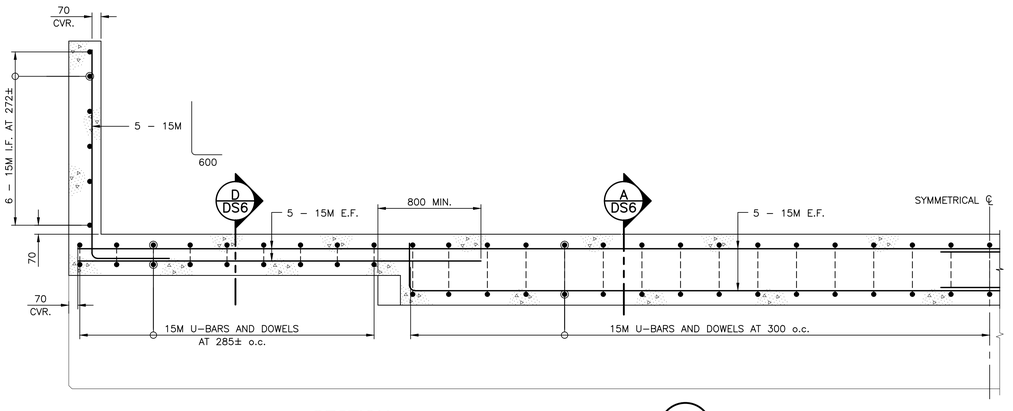
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION A DS6

SCALE : 1:20

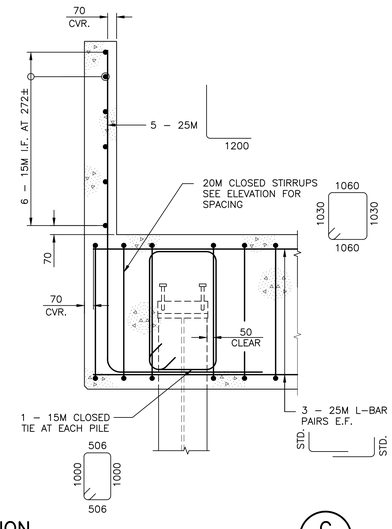
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION B DS6

SCALE : 1:20

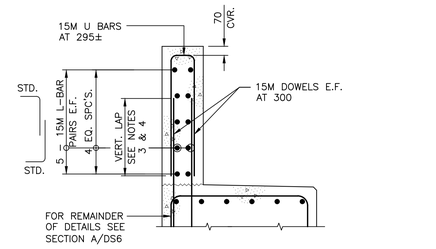
0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION C DS6

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm



SECTION D DS6

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

NOTES:

1. ALL HORIZONTAL BARS TO HAVE STANDARD HOOKS AT END IN EACH WINGWALL, TURN ALL HOOKED HORIZONTAL BARS INTO WINGWALLS IN SUCH A MANNER AS TO MAINTAIN ALL COVERS AND AVOID CLASH WITH WINGWALL REINFORCING. REFERENCE PROJECT SPECIFICATIONS FOR REQUIRED BAR HOOK BEND DIAMETERS.
2. MINIMUM HORIZONTAL BAR LAPS: (U.N.O.)
   - 15M BARS – 600mm
   - 20M BARS – 800mm
   - 25M BARS – 1200mm
   - 30M BARS – 1500mm
3. MINIMUM VERTICAL BAR LAPS: (U.N.O.)
   - 15M BARS – 600mm
   - 20M BARS – 600mm
   - 25M BARS – 900mm
4. VERTICAL BAR LAPS TO BE DETAILED TO INCLUDE ADDITIONAL 100mm OF LAP OVER THAT INDICATED IN NOTE 3 TO ACCOUNT FOR POTENTIAL ADJUSTMENTS/ALTERATIONS IN DECK DUE TO AS–BUILT CONDITIONS (e.g. 15M VERTICAL BARS SHALL BE DETAILED FOR 700mm LAP RATHER THAN 600mm).

REINFORCING LEGEND:

N.F.	NEAR FACE
F.F.	FAR FACE
N.F.F.	NEAR FAR FACE
F.F.F.	FAR FAR FACE
E.F.	EACH FACE
E.W.	EACH WAY
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
I.C.	IN CENTER
T.U.L.	TOP UPPER LAYER
T.L.L.	TOP LOWER LAYER
B.U.L.	BOTTOM UPPER LAYER
B.L.L.	BOTTOM LOWER LAYER

Parcs Canada Parks Canada

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PEGL Engineering and Land Surveying
ROBBIE FRASER
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NEWFOUNDLAND & LABRADOR

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

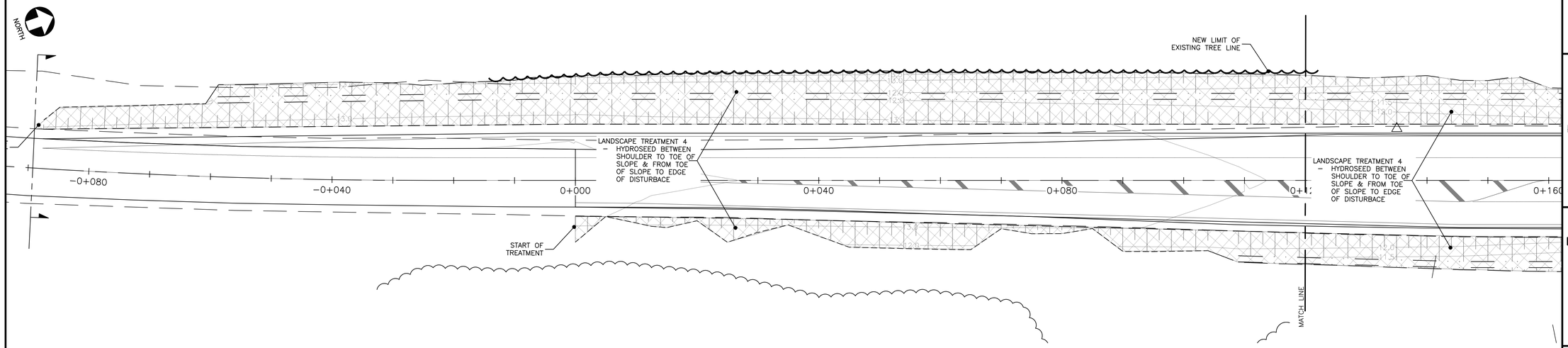
NORTH ABUTMENT REINFORCING DETOUR STRUCTURE

designed	THOMAS McNUTT	conçu
date	APRIL 2020	
drawn	WAYNE MORROW	dessiné
date	APRIL 2020	
approved	ROBBIE FRASER	approuvé
date	APRIL 2020	
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	– –	
drawing no.		no. du dessin
	DS6	

PWGSC B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

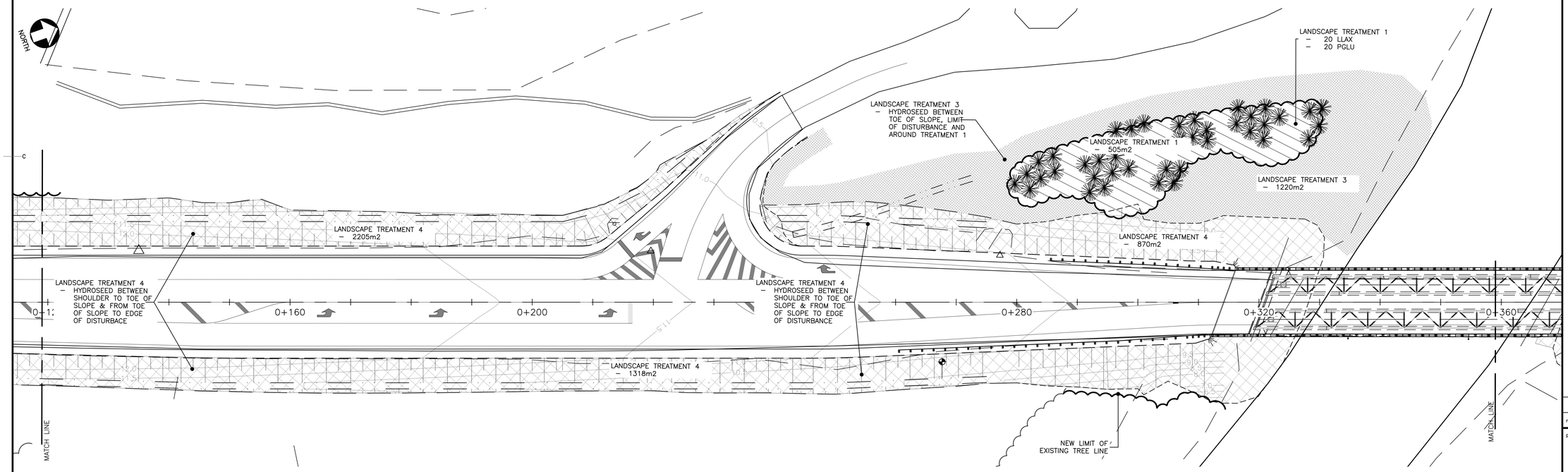
E–DRM/GDD–E:



PLAN – PROPOSED NEW ROUTE (–0+080 TO 0+120)

SCALE : 1:300

0m 5m 10m 15m 20m 25m 30m



PLAN – PROPOSED NEW ROUTE (0+120 TO 0+360)

SCALE : 1:300

0m 5m 10m 15m 20m 25m 30m

LANDSCAPE TREATMENT 1 – REINSTATED TREE PLANTING
PLACE MINIMUM OF 750MM THICK OF ORGANIC MATERIAL.
PLANT TREES IN PLANTING HOLES WITH NEW PLANTING SOIL.
PLANT TREES RANDOMLY FOLLOWING ROUGH SPACING INDICATED IN TABLE.
HYDROSEED EXPOSED SURFACE.

LANDSCAPE TREATMENT 2 – REINSTATED TREE PLANTING
PLACE MINIMUM OF 450MM THICK OF ORGANIC MATERIAL.
PLANT TREES IN PLANTING HOLES WITH NEW PLANTING SOIL.
PLANT TREES RANDOMLY & GROUPINGS OF 3–8 TREES.
HYDROSEED EXPOSED SURFACE.

LANDSCAPE TREATMENT 3 – HYDROSEEDING & TOPSOIL
PLACE MINIMUM OF 150MM THICK OF ORGANIC MATERIAL.
HYDROSEED EXPOSED SURFACE.

LANDSCAPE TREATMENT 4 – HYDROSEEDING ONLY
HYDROSEED EXPOSED SURFACE.

LEGEND

EXISTING		PROPOSED
	EDGE OF ASPHALT	
	EDGE OF GRAVEL/SHOULDER	
	GUIDERAIL	
	TREELINE	
	SHRUB/GRASS LINE	
	LANDSCAPE TREATMENT 1	
	LANDSCAPE TREATMENT 2	
	LANDSCAPE TREATMENT 3	
	LANDSCAPE TREATMENT 4	
	DITCHLINE	
	SHORELINE/WATERCOURSE	
	POWER POLE c/w GUYWIRE	
	SIGN	
	CULVERT	
	OVERHEAD WIRE	

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

Vollick McKee Petersmann & ASSOCIATES LIMITED
LANDSCAPE ARCHITECTURE
SITE PLANNING PROJECT MANAGEMENT
3008 Oxford Street
Suite 203
Halifax, Nova Scotia
Canada B3L 2W5
Tel: 902 422 6514
Fax: 902 425 0402
info@vollickmckee.com
www.vollickmckee.com

Association des architectes-paysagistes des provinces atlantiques
Atlantic provinces association of landscape architects
James McKee
21-JUL 19
JAMES W. D. MCKEE

revisions		date
1	ISSUED FOR TENDER	19 JUL 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

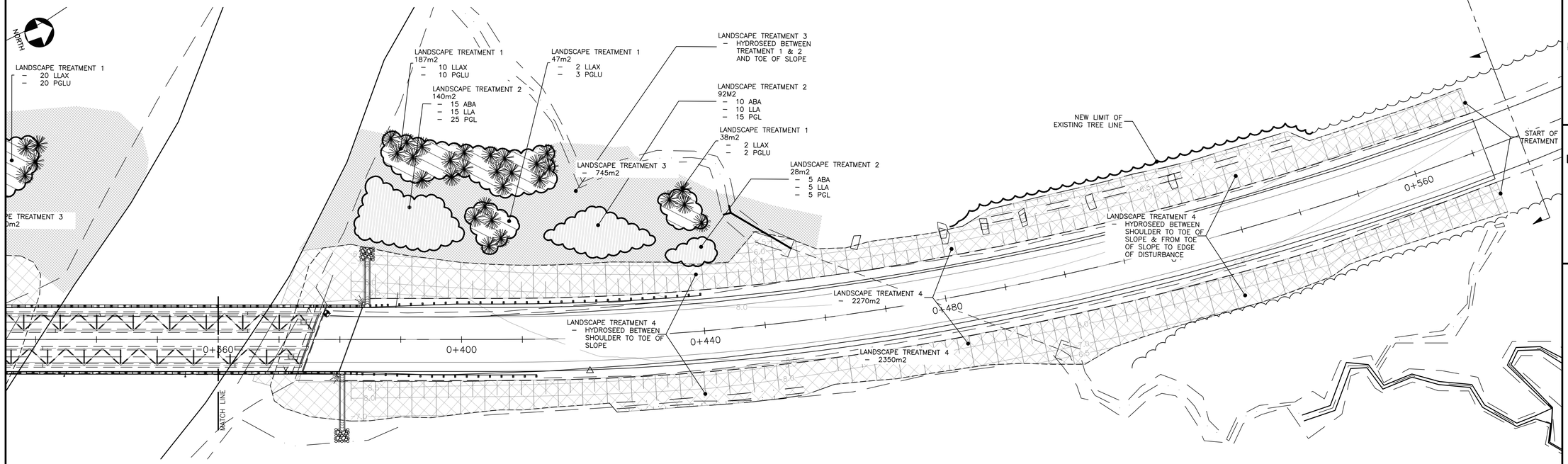
LANDSCAPE FINISH TREATMENT PLAN

designed / conçu	JAMES MCKEE
date	JULY 2021
drawn / dessiné	MELISSA BARKER/JAMES MCKEE
date	JULY 2021
approved / approuvé	JAMES MCKEE
date	JULY 2021
Tender / Soumission	
PWGSC Project Manager / Administrateur de projets TPSGC	
project number / no. du projet	182009
drawing no. / no. du dessin	L01

PWGSC B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

E-DRM/GDD-E:



PLAN – PROPOSED NEW ROUTE (0+360 TO 0+560)

SCALE: 1:500

0m 10m 20m 30m 40m 50m

FULL PLANTING SCHEDULE								
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COND.	SPACING	STAKING	REMARKS
ABA	30	Abies balsamae	Balsam Fir	80cm	CG#3	1000 o.c.	–	Spaced randomly
LLA	30	Larix laricina	Tamarack	100cm	CG#3	1000 o.c.	–	Spaced randomly
LLAX	34	Larix laricina	Tamarack	200cm	W.B.	3000 o.c.	GUYED	
PGL	45	Picea glauca	White Spruce	80cm	CG#3	1000 o.c.	–	Spaced randomly
PGLU	35	Picea glauca	White Spruce	150cm	W.B.	3000 o.c.	GUYED	

NOTE: SUBSTITUTIONS TO PLANTS AS SPECIFIED ABOVE ARE NOT ACCEPTABLE UNLESS WRITTEN PERMISSION HAS BEEN OBTAINED FOR SPECIES / VARIETY, SIZE, QUANTITY &/OR CONDITION FROM DEPARTMENTAL REPRESENTATIVE

LANDSCAPE TREATMENT 1 – REINSTATED TREE PLANTING
PLACE MINIMUM OF 750MM THICK OF ORGANIC MATERIAL.
PLANT TREES IN PLANTING HOLES WITH NEW PLANTING SOIL.
PLANT TREES RANDOMLY FOLLOWING ROUGH SPACING INDICATED IN TABLE.
HYDROSEED EXPOSED SURFACE.

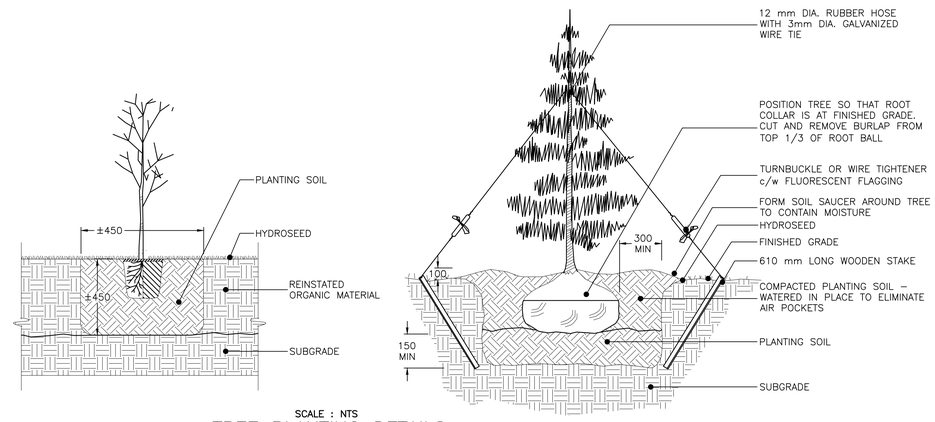
LANDSCAPE TREATMENT 2 – REINSTATED TREE PLANTING
PLACE MINIMUM OF 450MM THICK OF ORGANIC MATERIAL.
PLANT TREES IN PLANTING HOLES WITH NEW PLANTING SOIL.
PLANT TREES RANDOMLY & GROUPINGS OF 3–8 TREES.
HYDROSEED EXPOSED SURFACE.

LANDSCAPE TREATMENT 3 – HYDROSEEDING & TOPSOIL
PLACE MINIMUM OF 150MM THICK OF ORGANIC MATERIAL.
HYDROSEED EXPOSED SURFACE.

LANDSCAPE TREATMENT 4 – HYDROSEEDING ONLY
HYDROSEED EXPOSED SURFACE.

LEGEND

EXISTING		PROPOSED
	EDGE OF ASPHALT	
	EDGE OF GRAVEL/SHOULDER	
	GUIDERAIL	
	TREELINE	
	SHRUB/GRASS LINE	
	LANDSCAPE TREATMENT 1	
	LANDSCAPE TREATMENT 2	
	LANDSCAPE TREATMENT 3	
	LANDSCAPE TREATMENT 4	
	DITCHLINE	
	SHORELINE/WATERCOURSE	
	POWER POLE c/w GUYWIRE	
	SIGN	
	CULVERT	
	OVERHEAD WIRE	



SCALE : NTS

TREE PLANTING DETAILS

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

Vollick McKee Petersmann & ASSOCIATES LIMITED
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SITE PLANNING PROJECT MANAGEMENT
3008 Oxford Street
Suite 203
Halifax, Nova Scotia
Canada B3L 2W5
Tel: 902 422 6514
Fax: 902 425 0402
info@vollickmckee.com
www.vollickmckee.com

Association des architectes-paysagistes des Provinces de l'Atlantique
James Mckee
21-JUL 19
JAMES W. D. MCKEE

revisions		date
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project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

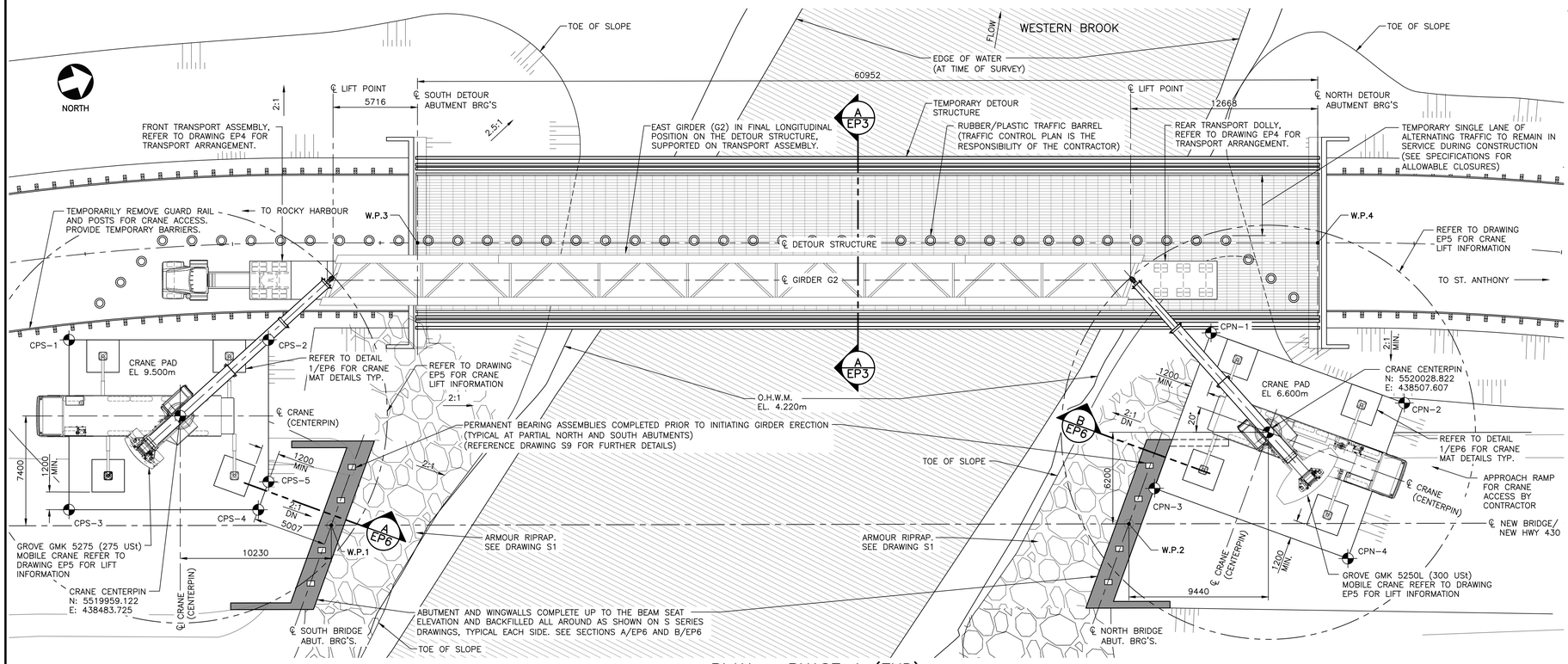
LANDSCAPE FINISH TREATMENT PLAN

designed	JAMES MCKEE	conçu
date	JULY 2021	
drawn	MELISSA BARKER/JAMES MCKEE	dessiné
date	JULY 2021	
approved	JAMES MCKEE	approuvé
date	JULY 2021	
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	182009	
drawing no.		no. du dessin
	L02	

PWGSC B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

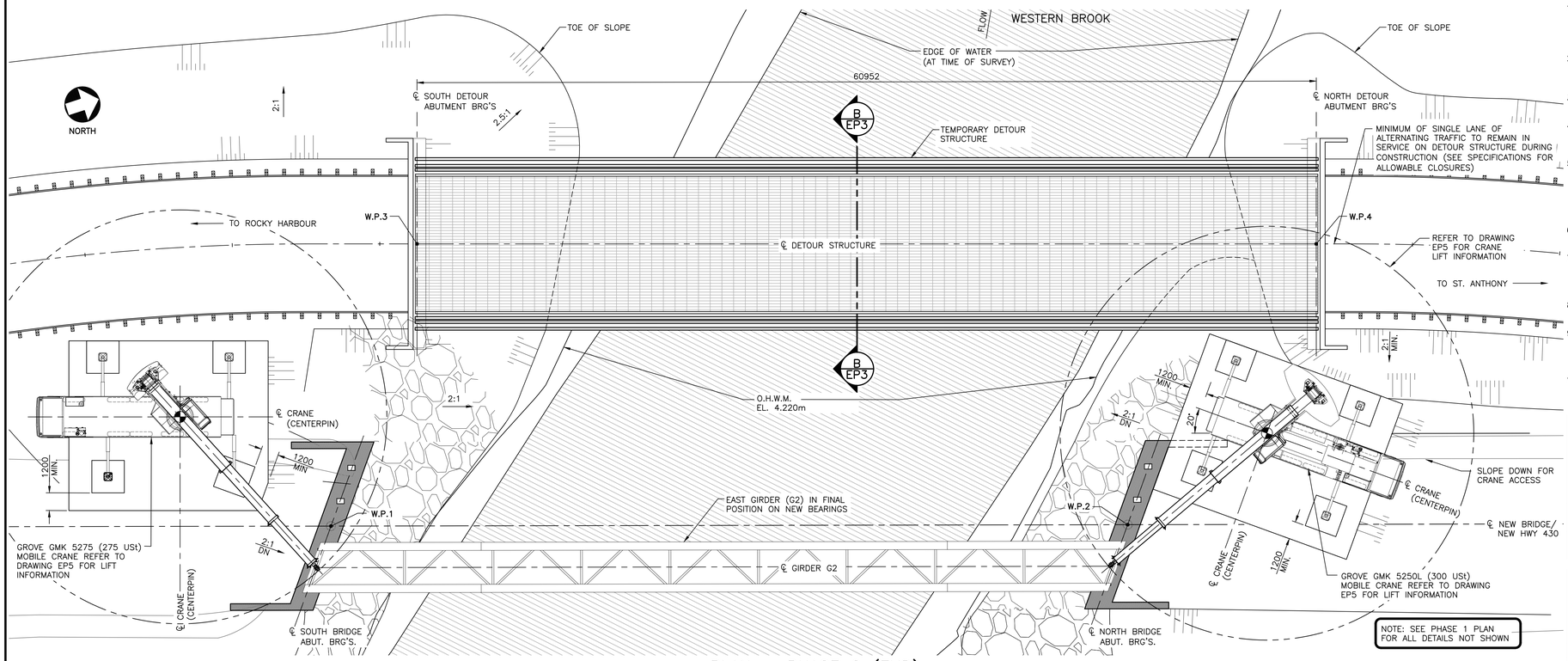
E-DRM/GDD-E:



PLAN – PHASE 1 (END)

SCALE : 1:150

0m 5m 10m 15m



PLAN – PHASE 2 (END)

SCALE : 1:150

0m 5m 10m 15m

0 10 20mm 40 60 80 100 120 140 160 180 200mm

NOTES:

1. REFER TO DRAWING EP3 FOR GENERAL NOTES.

PHASE 1 PROCEDURE:

1. INSTALL NEW BRIDGE ABUTMENTS, BACKFILLING AND FINAL SLOPE TREATMENTS COMPLETED UP TO THE BEAM SEAT ELEVATIONS, COMPLETE CRANE PADS IN ACCORDANCE WITH CRANE PAD REQUIREMENTS.
2. MOBILIZE GROVE GMK 5250L (300USt) MOBILE CRANE ON THE NORTH CRANE PAD AND THE GROVE GMK 5275 (275USt) MOBILE CRANE ON THE SOUTH CRANE PAD. POSITION AS INDICATED ON THE DRAWINGS. ALL CRANE OUTRIGGERS SHALL BE FULLY EXTENDED AND SUPPORTED ON CRANE MATS AS DETAILED ON DRAWING EP6. TRAFFIC CONTROL MEASURES FOR THE MOBILIZATION AND INSTALLATION OF BOTH CRANE PADS AND THE CRANES ARE THE RESPONSIBILITY OF THE CONTRACTOR. REFERENCE NOTES ON EP4/EP5 AND PROJECT SPECIFICATIONS FOR CRANE/MATERIAL ERECTION PHASING SUBSTITUTION.
3. ASSEMBLE FULL LENGTH OF EAST GIRDER (G2) AND POSITION ON THE TRANSPORTER ASSEMBLY (TRUCK, JEEP AND REAR SUPPORT DOLLY) IN ACCORDANCE WITH DRAWING EP4. GIRDER ASSEMBLY IN LAY DOWN AREA IS THE RESPONSIBILITY OF THE CONTRACTOR. GIRDER SHALL BE FULLY ASSEMBLED BEFORE MOVING ONTO DETOUR STRUCTURE.
4. WITH TRAFFIC CONTROL MEASURES IN PLACE (BY CONTRACTOR), TEMPORARILY CLOSE THE EXISTING LANES TO TRAFFIC FROM THE OFF-SITE GIRDER ASSEMBLY YARD TO THE FAR SIDE OF THE TEMPORARY DETOUR STRUCTURE. TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR (SEE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES).
5. WITH BOTH LANES CLOSED TO TRAFFIC AS INDICATED IN NOTE 4, TRANSPORT FULLY ASSEMBLED EAST GIRDER (G2) ACROSS THE TEMPORARY DETOUR STRUCTURE INTO ITS FINAL LONGITUDINAL POSITION AS INDICATED. ENSURE PROPER TRANSVERSE GIRDER ALIGNMENT (EAST–WEST) ON THE TEMPORARY DETOUR STRUCTURE AS INDICATED ON SECTION A/EP3. TRANSPORT SPEED ACROSS THE TEMPORARY DETOUR STRUCTURE SHALL NOT EXCEED 5 km/hr. DRAWINGS SHOW TRANSPORTER FACING SOUTH, TRANSPORTER MAY ALTERNATIVELY FACE NORTH DEPENDING ON CONTRACTOR'S LAY DOWN LOCATION AND PROCEDURES.
6. RE–CONFIGURE TRAFFIC CONTROL MEASURES LOCALLY AT THE TEMPORARY DETOUR STRUCTURE TO ESTABLISH A SINGLE LANE OF ALTERNATING TRAFFIC INDICATED ON SECTION A/EP3 (THIS INCLUDES INSTALLATION OF TEMPORARY TRAFFIC DRUMS AS REQUIRED). TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. WITH GIRDER IN A STATIC CONDITION IN ITS FINAL LONGITUDINAL AND TRANSVERSE POSITIONS ON THE TEMPORARY DETOUR STRUCTURE AND TRAFFIC CONTROL MEASURES IN PLACE, A SINGLE LANE OF TRAFFIC MAY BE RE–OPENED ACROSS THE EXISTING STRUCTURE AS INDICATED ON SECTION A/EP3. MAXIMUM ALLOWABLE TIME TO COMPLETE STEPS 4–7 SHALL BE AS PER THE PROJECT SPECIFICATIONS.
8. CONNECT CRANES TO GIRDER AT LOCATIONS INDICATED ON DRAWING EP5.
9. END OF PHASE 1.

PHASE 2 PROCEDURE:

1. WITH CONNECTIONS COMPLETED BETWEEN THE GIRDER AND THE NORTH/SOUTH CRANES, SIMULTANEOUSLY ENGAGE CRANES AND REMOVE SLACK FROM RIGGING (STRAIN COMPATIBLE CONDITION).
2. FULLY CLOSE THE TEMPORARY DETOUR STRUCTURE TO TRAFFIC (SEE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES).
3. DISCONNECT GIRDER FROM THE TRANSPORTER ASSEMBLY AT THE JEEP AND DOLLY SUPPORTS.
4. SIMULTANEOUSLY RAISE BOTH ENDS OF THE GIRDER AND TRANSFER LOAD FROM THE TRANSPORTER ASSEMBLY TO THE CRANES.
5. IN A SLOW AND CONTROLLED MANNER, PLACE THE EAST GIRDER (G2) INTO FINAL POSITION ON THE COMPLETED EAST GIRDER BEARINGS ON THE NEW BRIDGE ABUTMENTS AS INDICATED. CRANE OPERATORS SHALL ENSURE THE CRANE LINES ARE PLUMB AND MAXIMUM LIFT RADII ARE NOT EXCEEDED AT ANY TIME DURING THE LIFT.
6. RE–OPEN SINGLE LANE OF ALTERNATING TRAFFIC ON THE TEMPORARY DETOUR STRUCTURE.
7. SIMULTANEOUSLY TRANSFER THE GIRDER LOAD FROM THE MOBILE CRANES TO THE NORTH AND SOUTH ABUTMENT BEARING ASSEMBLIES. DISCONNECT THE GIRDER FROM THE CRANES.
8. REMOVE TRANSPORTER ASSEMBLY FROM THE TEMPORARY DETOUR STRUCTURE.
9. REMOVE TRAFFIC CONTROL MEASURES FROM THE EXISTING BRIDGE STRUCTURE AND RE–OPEN TO TWO LANES OF TRAFFIC IN NORTHBOUND AND SOUTHBOUND LANES ACROSS THE EXISTING BRIDGE.
10. END OF PHASE 2.

SOUTH CRANE PAD COORDINATES

LOCATION	NORTHING (m)	EASTING (m)
CPS–1	5519953.556	438476.493
CPS–2	5519966.396	438480.679
CPS–3	5519949.991	438487.427
CPS–4	5519962.179	438491.400
CPS–5	5519963.419	438489.810

NORTH CRANE PAD COORDINATES

LOCATION	NORTHING (m)	EASTING (m)
CPN–1	5520027.217	438500.004
CPN–2	5520038.190	438508.579
CPN–3	5520020.320	438508.828
CPN–4	5520031.293	438517.404

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revisions		date
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WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

GIRDER ERECTION

PHASE 1 AND PHASE 2

designed	THOMAS McNUTT	concu
date	JANUARY 2021	
drawn	MIKE HARDY	dessiné
date	JANUARY 2021	
approved	ROBBIE FRASER	approuvé
date	JANUARY 2021	
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
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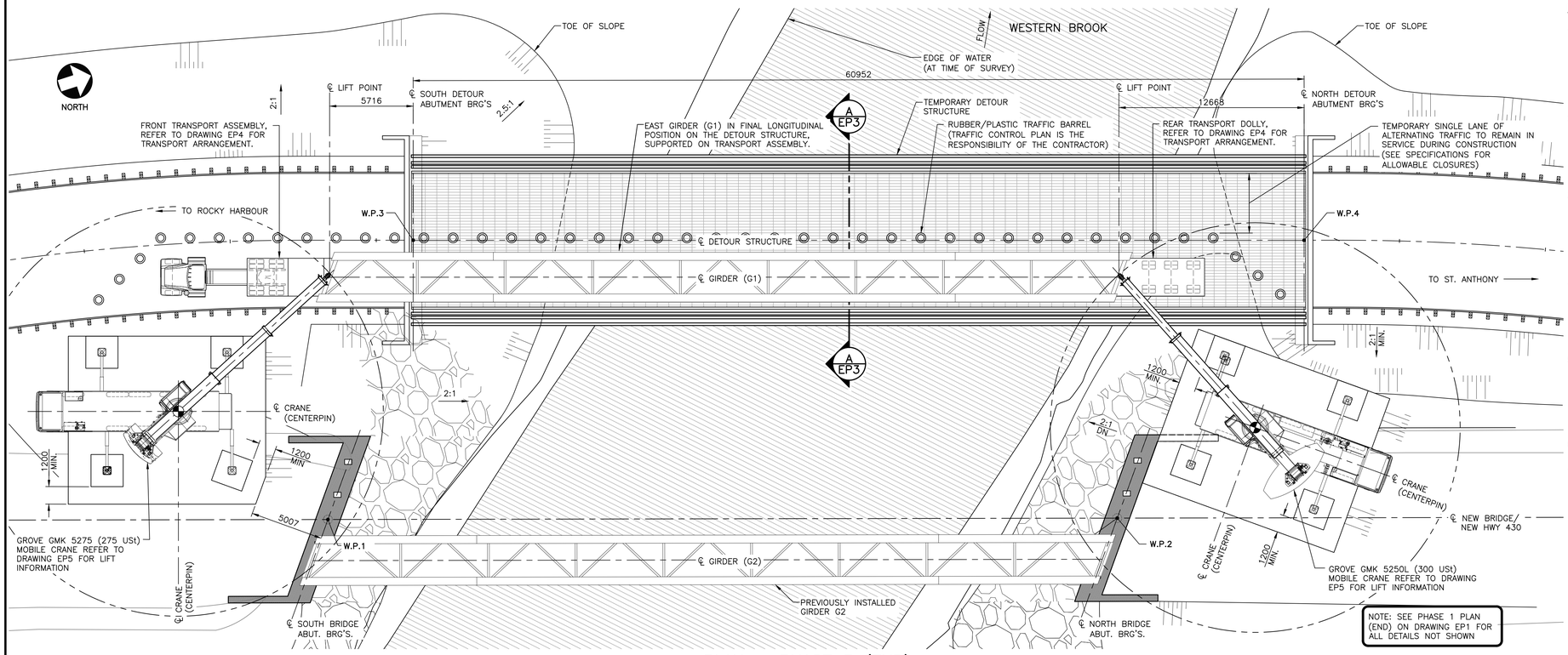
drawing no.		no. du dessin
	EP1	

PWGSC B1 (2004)

E-DRM/GDD-E:



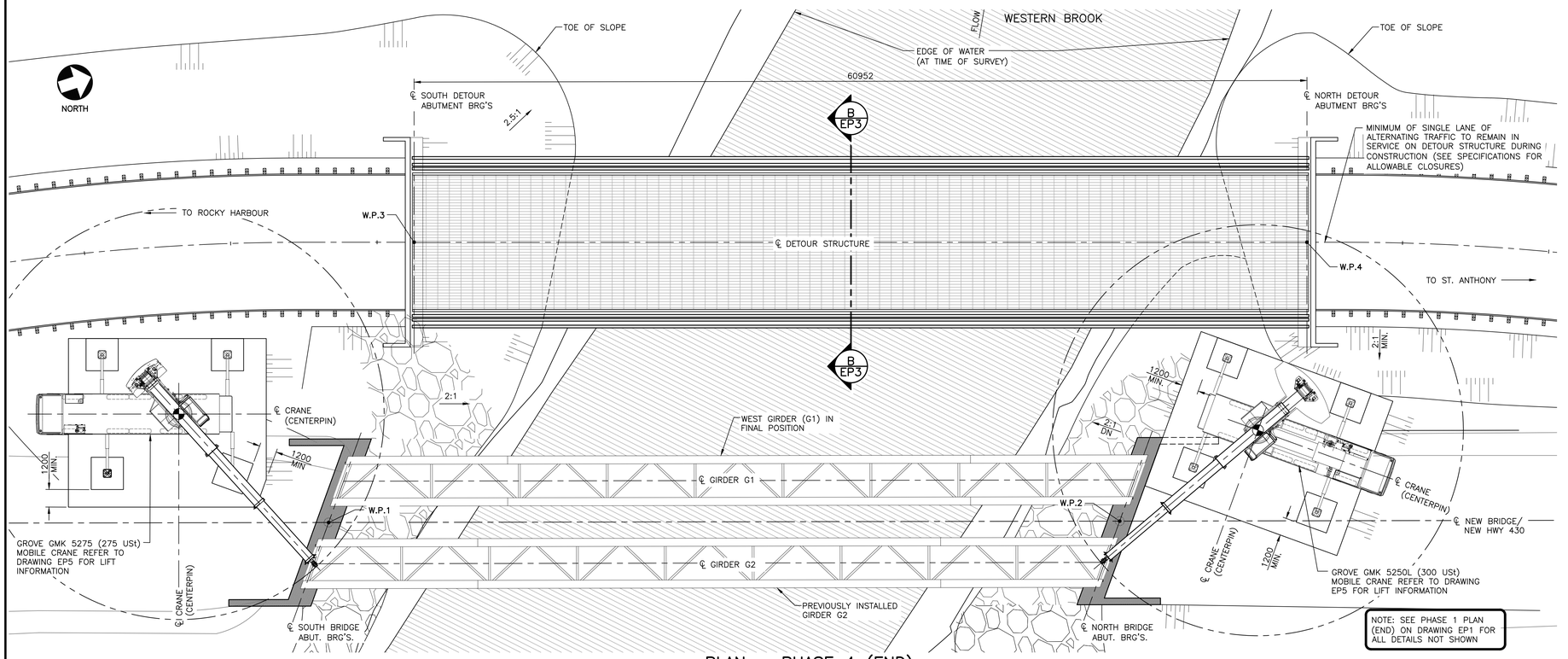
PLAN – PHASE 3 (END)

SCALE : 1:150

0m 5m 10m 15m

PHASE 3 PROCEDURE:

1. ASSEMBLE FULL LENGTH OF WEST GIRDER (G1) AND POSITION ON THE TRANSPORTER ASSEMBLY (TRUCK, JEEP AND REAR SUPPORT DOLLY) IN ACCORDANCE WITH DRAWING EP4. GIRDER ASSEMBLY TO BE COMPLETED IN THE OFF–SITE LAY DOWN AREA. GIRDER ASSEMBLY IN LAY DOWN AREA IS THE RESPONSIBILITY OF THE CONTRACTOR. GIRDER SHALL BE FULLY ASSEMBLED BEFORE MOVING ONTO TEMPORARY DETOUR STRUCTURE.
2. WITH TRAFFIC CONTROL MEASURES IN PLACE (BY CONTRACTOR), TEMPORARILY CLOSE THE EXISTING LANES TO TRAFFIC FROM OFF–SITE GIRDER ASSEMBLY YARD TO THE FAR SIDE OF THE TEMPORARY DETOUR STRUCTURE. TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR (SEE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES).
3. WITH BOTH LANES CLOSED TO TRAFFIC AS INDICATED IN NOTE 2, TRANSPORT FULLY ASSEMBLED WEST GIRDER (G1) ACROSS THE TEMPORARY DETOUR STRUCTURE INTO ITS FINAL LONGITUDINAL POSITION AS INDICATED. ENSURE PROPER TRANSVERSE GIRDER ALIGNMENT (EAST–WEST) ON THE EXISTING BRIDGE STRUCTURE AS INDICATED ON SECTION A/EP3. TRANSPORT SPEED ACROSS THE EXISTING BRIDGE STRUCTURE SHALL NOT EXCEED 5 km/hr.
4. RE–CONFIGURE TRAFFIC CONTROL MEASURES LOCALLY AT THE TEMPORARY DETOUR STRUCTURE TO ESTABLISH A SINGLE ALTERNATING TRAFFIC LANE AS INDICATED ON SECTION A/EP3 (THIS INCLUDES INSTALLATION OF TEMPORARY TRAFFIC DRUMS AS REQUIRED). TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. WITH GIRDER IN A STATIC CONDITION IN ITS FINAL LONGITUDINAL AND TRANSVERSE POSITIONS ON THE TEMPORARY DETOUR STRUCTURE AND TRAFFIC CONTROL MEASURES IN PLACE, A SINGLE LANE OF TRAFFIC MAY BE RE–OPENED ACROSS THE TEMPORARY DETOUR STRUCTURE AS INDICATED ON SECTION A/EP3. MAXIMUM ALLOWABLE TIME TO COMPLETE STEPS 2–5 SHALL BE AS PER THE PROJECT SPECIFICATIONS.
6. CONNECT CRANES TO GIRDER AT LOCATIONS INDICATED ON DRAWING EP5.
7. END OF PHASE 3.



PLAN – PHASE 4 (END)

SCALE : 1:150

0m 5m 10m 15m

PHASE 4 PROCEDURE:

1. WITH CONNECTIONS COMPLETED BETWEEN THE GIRDER AND THE NORTH/SOUTH CRANES, SIMULTANEOUSLY ENGAGE CRANES AND REMOVE SLACK FROM RIGGING (STRAIN COMPATIBLE CONDITION).
2. FULLY CLOSE THE TEMPORARY DETOUR STRUCTURE TO TRAFFIC (SEE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES).
3. DISCONNECT GIRDER FROM THE TRANSPORTER ASSEMBLY AT THE JEEP AND DOLLY SUPPORTS.
4. SIMULTANEOUSLY RAISE BOTH ENDS OF THE GIRDER AND TRANSFER LOAD FROM THE TRANSPORTER ASSEMBLY TO THE CRANES.
5. IN A SLOW AND CONTROLLED MANNER, PLACE THE WEST GIRDER (G2) INTO FINAL POSITION ON THE COMPLETED WEST GIRDER BEARINGS ON THE NEW BRIDGE ABUTMENTS AS INDICATED. CRANE OPERATORS SHALL ENSURE THE CRANE LINES ARE PLUMB AND MAXIMUM LIFT RADII ARE NOT EXCEEDED AT ANY TIME DURING THE LIFT.
6. RE–OPEN SINGLE LANE OF ALTERNATING TRAFFIC ON THE TEMPORARY DETOUR STRUCTURE.
7. SIMULTANEOUSLY TRANSFER THE GIRDER LOAD FROM THE MOBILE CRANES TO THE NORTH AND SOUTH ABUTMENT BEARING ASSEMBLIES. DISCONNECT THE GIRDER FROM THE CRANES.
8. REMOVE TRANSPORTER ASSEMBLY FROM THE TEMPORARY DETOUR STRUCTURE.
9. REMOVE TRAFFIC CONTROL MEASURES FROM THE TEMPORARY DETOUR STRUCTURE AND RE–OPEN TO TWO LANES OF TRAFFIC IN NORTHBOUND AND SOUTHBOUND LANES ACROSS THE EXISTING BRIDGE AS INDICATED ON SECTION B/EP3.
10. DEMOBILIZE 275 USt AND 300 USt MOBLIE CRANES.
11. END OF PHASE 4 / GIRDER ERECTION PHASING.

Parcs Canada Parks Canada

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PEGL PERMIT HOLDER
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REGISTERED PROFESSIONAL ENGINEER
PEGL
ROBBIE FRASER
SIGNATURE July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

0	ISSUED FOR TENDER	JULY 19 2021
revisions		date

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

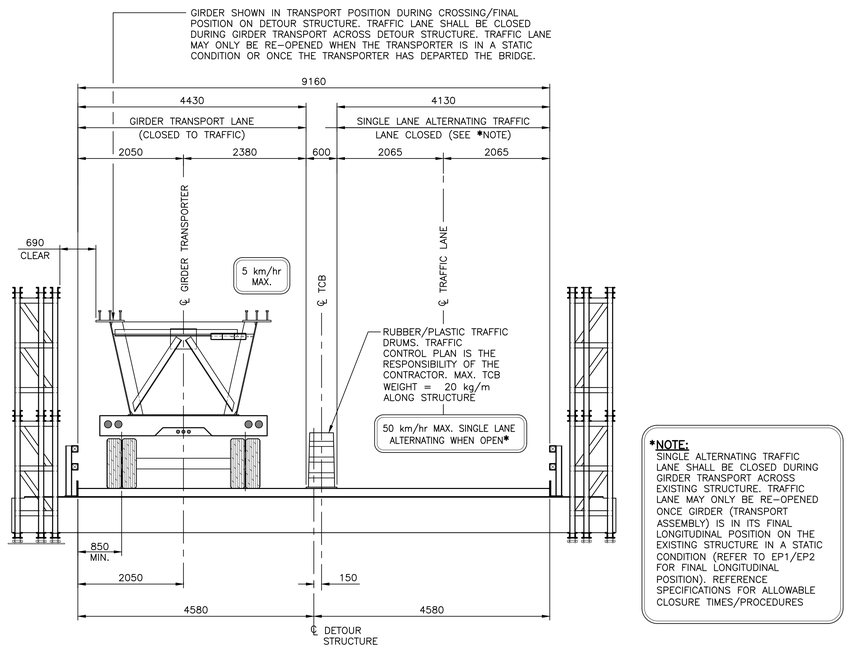
GIRDER ERECTION

PHASE 3 AND PHASE 4

designed	THOMAS McNUTT	concu
date	JANUARY 2021	
drawn	MIKE HARDY	dessiné
date	JANUARY 2021	
approved	ROBBIE FRASER	approuvé
date	JANUARY 2021	
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	— —	
drawing no.		no. du dessin
	EP2	

PWGSC B1 (2004)

E-DRM/GDD-E:

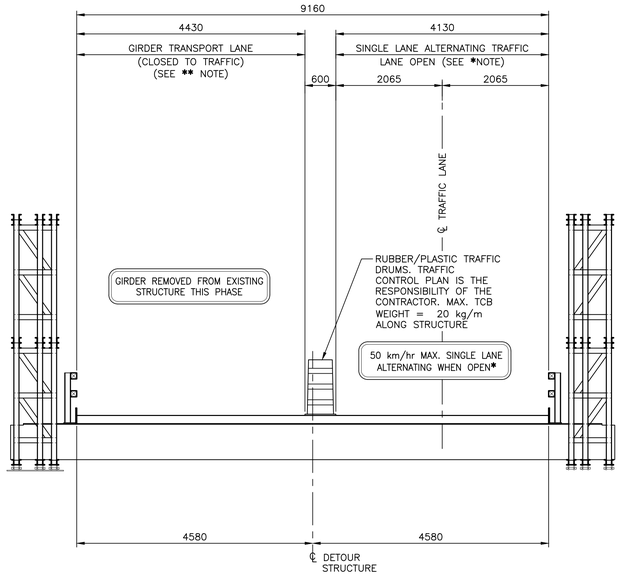


***NOTE:**
SINGLE ALTERNATING TRAFFIC LANE SHALL BE CLOSED DURING GIRDER TRANSPORT ACROSS EXISTING STRUCTURE. TRAFFIC LANE MAY ONLY BE RE-OPENED ONCE GIRDER (TRANSPORT ASSEMBLY) IS IN ITS FINAL LONGITUDINAL POSITION ON THE EXISTING STRUCTURE IN A STATIC CONDITION (REFER TO EP1/EP2 FOR FINAL LONGITUDINAL POSITION). REFERENCE SPECIFICATIONS FOR ALLOWABLE CLOSURE TIMES/PROCEDURES

SECTION PHASE 1 AND PHASE 3 — A EP1

SCALE : 1:50

0m 1m 2m 3m 4m 5m



****NOTE:**
BRIDGE SHALL BE CLOSED TO TRAFFIC DURING THE CRANE LIFT. ONCE GIRDER IS PLACED ON FINAL ABUTMENT BEARINGS, THE SINGLE LANE OF ALTERNATING TRAFFIC MAY BE RE-OPENED. REMOVE TRAFFIC CONTROL DRUMS AND OPEN SECOND LANE ONCE TRANSPORTER HAS DEPARTED BRIDGE.

SECTION PHASE 2 AND PHASE 4 — B EP1

SCALE : 1:50

0m 1m 2m 3m 4m 5m

GIRDER ERECTION GENERAL NOTES:

1. DESIGN, FABRICATION AND CONSTRUCTION AS PER THE REQUIREMENTS OF CAN/CSA S6-19.
2. DIMENSIONS IN mm UNLESS NOTED OTHERWISE. ELEVATIONS IN METERS (m).
3. THE GIRDER ERECTION DESIGN (INCLUDING THE CRANE LIFTS) IS BASED ON A MAXIMUM GUSTING WIND SPEED OF 30 km/hr. CONTRACTOR SHALL MONITOR WEATHER FORECAST AND NOT PROCEED WITH GIRDER ERECTION WHEN WIND GUSTS ARE FORECAST TO EXCEED 30 km/hr (FOR ANY INTERVAL EXCEEDING 3 SECONDS). IF WIND CONDITIONS CHANGE DURING ERECTION AND APPROACH OR EXCEED THE 30 km/hr THRESHOLD, GIRDER SHALL BE REMOVED FROM THE DETOUR BRIDGE STRUCTURE BY MEANS OF THE TRANSPORTER ASSEMBLY OR BE PLACED ON THE FINAL ABUTMENT BEARINGS AT THE NORTH AND SOUTH ABUTMENTS OF THE NEW STRUCTURE (RELEASED FROM THE CRANES).
4. CARE SHALL BE TAKEN DURING ERECTION TO MINIMIZE IMPACT (DYNAMIC) EFFECTS.
5. PERMANENT BEARING INSTALLATION PROCEDURE IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. STABILITY OF THE CRANES DURING ERECTION IS THE RESPONSIBILITY OF THE CONTRACTOR. RIGGING AND CONNECTIONS TO THE GIRDER ARE THE RESPONSIBILITY OF THE CONTRACTOR. REFER TO DRAWING EP5 FOR THE GIRDER LIFT LOCATIONS AND CRANE LIFT INFORMATION. REFER TO EP DRAWINGS FOR CRANE PLACEMENT AND CRANE MAT / OUTRIGGER BEARING PAD REQUIREMENTS.
7. SECONDARY CRANE REQUIREMENTS TO FACILITATE INSTALLATION OF MISCELLANEOUS ITEMS NOT COVERED SPECIFICALLY IN THE ERECTION PHASING DRAWINGS, INCLUDING THE GIRDER ASSEMBLY, ARE THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE NEW ABUTMENTS HAVE NOT BEEN REVIEWED FOR SURCHARGE EFFECTS FROM LARGE MACHINERY OR SECONDARY CRANES / BOOM TRUCKS BEYOND WHAT IS INDICATED WITHIN THE GIRDER ERECTION PACKAGE (I.E. THE 220t AND 250t MOBILE CRANES WITH THEIR RESPECTIVE POSITIONING AS INDICATED). ENSURE ALL LARGE MACHINERY OR SECONDARY CRANES / BOOM TRUCKS ARE KEPT OUT OF THE INFLUENCE ZONE OF THE ABUTMENT AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE DEPARTMENTAL REPRESENTATIVE.
9. STABILITY OF THE GIRDER SEGMENTS DURING TRANSPORT IS THE RESPONSIBILITY OF THE CONTRACTOR. REFER TO DRAWING EP4 FOR ASSUMED GIRDER TRANSPORT ARRANGEMENT AND RESULTING AXLE LOADS. CONTRACTOR TO SUBMIT ACTUAL TRANSPORTER DETAILS TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH GIRDER ERECTION (REFER TO PROJECT SPECIFICATIONS FOR SUBMITTAL SCHEDULE).
10. TRAFFIC CONTROL PLAN IS THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE DETOUR BRIDGE STRUCTURE HAS BEEN REVIEWED BY HEC AND THE BRIDGE SUPPLIER TO RESIST AND TRANSFER LOADS RESULTING FROM THE GIRDER ERECTION SEQUENCE AS DETAILED IN THE EP SERIES DRAWINGS. ANY CHANGES TO THE PROPOSED CRANE / GIRDER TRANSPORTER CONFIGURATIONS SHALL REQUIRE REVIEW AND APPROVAL BY THE DEPARTMENTAL REPRESENTATIVE. REFER TO PROJECT SPECIFICATIONS FOR MORE INFORMATION.
12. TRANSPORT SPEED OF THE FULLY ASSEMBLED GIRDER ACROSS THE TEMPORARY DETOUR STRUCTURE SHALL NOT EXCEED 5 km/hr.
13. A DEPARTMENTAL REPRESENTATIVE SHALL COMPLETE A SITE VISIT TO VERIFY THE CRANE PADS AND CRANE SET-UPS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CONTRACT DRAWINGS PRIOR TO INITIATING GIRDER ERECTION PHASING.
14. A DEPARTMENTAL REPRESENTATIVE SHALL BE PRESENT ON SITE DURING PHASE 1/EP1 AND PHASE 3/EP2 TO CONFIRM THE POSITIONING OF THE GIRDER TRANSPORT ACROSS THE TEMPORARY DETOUR.
15. DO NOT SCALE FROM DRAWINGS.
16. REFER TO S SERIES DRAWINGS FOR NEW BRIDGE STRUCTURE.
17. REFER TO DS SERIES DRAWINGS FOR DETOUR STRUCTURE.
18. THE TEMPORARY DETOUR STRUCTURE SHALL BE FULLY CLOSED TO TRAFFIC WHILE LIFTING GIRDERS OFF THE GIRDER TRANSPORTER. REFER TO DRAWINGS EP1 AND EP2 FOR DETAILS.

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REGISTERED PROFESSIONAL ENGINEER
PEGNL
ROBBIE FRASER
SIGNATURE
July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet

WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin

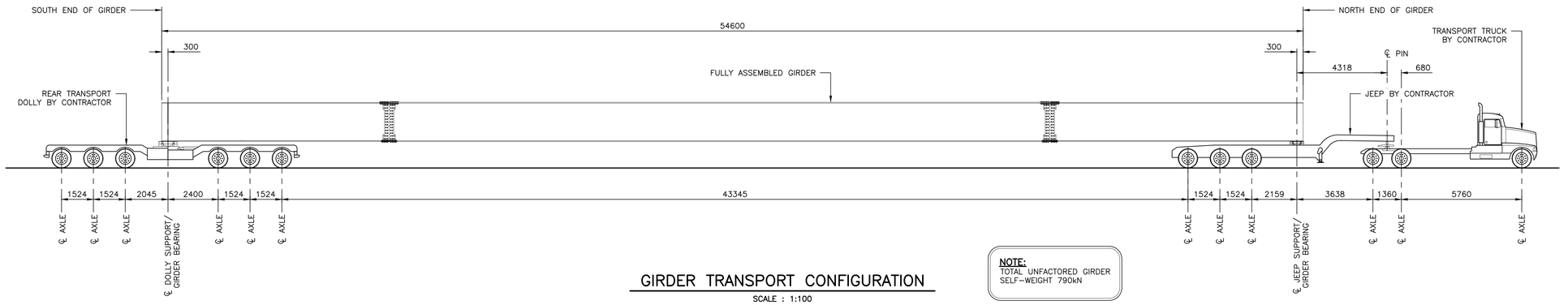
GIRDER ERECTION

DETOUR STRUCTURE SECTIONS AND GENERAL NOTES

designed	THOMAS McNUTT	conçu
date	JANUARY 2021	
drawn	MIKE HARDY	dessiné
date	JANUARY 2021	
approved	ROBBIE FRASER	approuvé
date	JANUARY 2021	
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
	— —	
drawing no.		no. du dessin
	EP3	

PWGSC B1 (2004)

E-DRM/GDD-E:



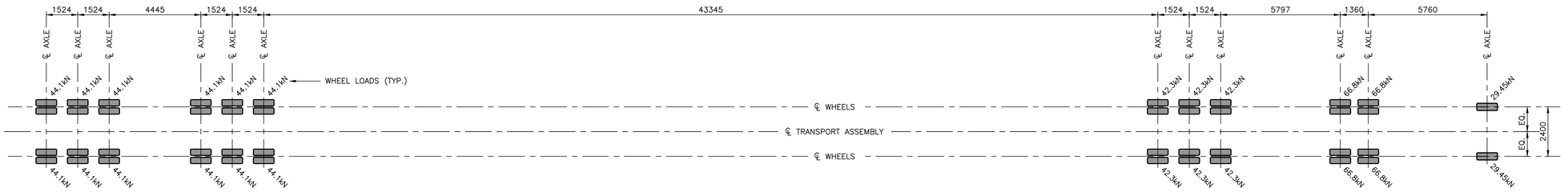
GIRDER TRANSPORT CONFIGURATION

SCALE : 1:100

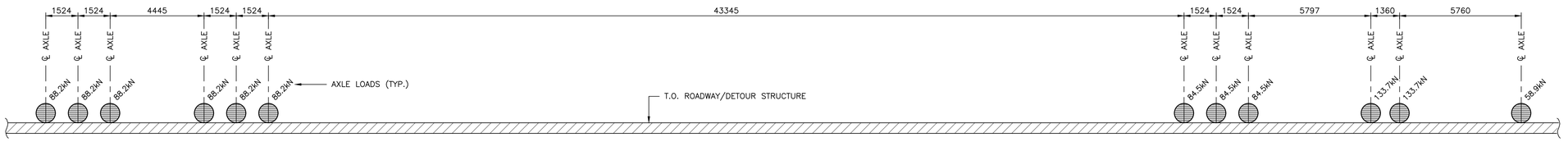
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

NOTE:
TOTAL UNFACTORED GIRDER SELF-WEIGHT 790kN

DESIGN GIRDER TRANSPORTER LOADING PLAN



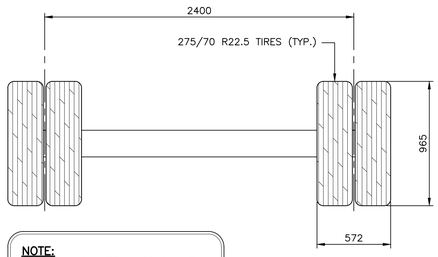
DESIGN GIRDER TRANSPORTER LOADING ELEVATION



GIRDER TRANSPORT AXLE LOADS

SCALE : 1:100

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m



NOTE:
ONLY SINGLE WHEEL ASSEMBLY AT LEADING AXLE OF TRANSPORT TRUCK.

AXLE/TIRE DIMENSIONS (TYP.)

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

ASSUMED WEIGHT (ALL LOADS UNFACTORED)	
TOTAL GIRDER SELF-WEIGHT	790 kN
TRANSPORT TRUCK	118 kN
JEEP	67 kN
REAR TRANSPORT DOLLY	134 kN
TOTAL	1109 kN

NOTES:

1. REFER TO DRAWING EP3 FOR GIRDER ERECTION GENERAL NOTES.
2. GIRDER TRANSPORT AXLE LOADS INCLUDE THE GIRDER SELF-WEIGHT AND THE SELF-WEIGHT OF THE DOLLY / JEEP / TRUCK CONFIGURED AS SHOWN ON THE DRAWINGS. THE CONTRACTOR MAY OPT FOR AN ALTERNATE TRANSPORTER CONFIGURATION, HOWEVER, THE LOAD CONFIGURATION SHALL NOT INDUCE LOAD EFFECTS (BOTH LOCALLY AND GLOBALLY) ON THE EXISTING STRUCTURE THAT ARE MORE SEVERE THAN THOSE INDUCED BY THE LOAD CONFIGURATION ILLUSTRATED ON THE DRAWINGS. REFER TO PROJECT SPECIFICATIONS FOR TRANSPORTER ALTERNATE SUBMITTAL REQUIREMENTS.
3. THE CONTRACTOR SHALL SUBMIT THE FOLLOWING INFORMATION RELATING TO THE TRANSPORTER TO THE DEPARTMENTAL REPRESENTATIVE FOR APPROVAL:
   a. THE AXLE SPACING OF THE DOLLY, JEEP, AND TRUCK AND GEOMETRY OF THE GIRDER SUPPORT LOCATIONS ON THE TRANSPORTER.
   b. THE ACTUAL SELF WEIGHT AXLE LOADS FOR THE DOLLY, JEEP, AND TRUCK. THE SELF WEIGHT AXLE LOADS SHALL BE DETERMINED BY A WEIGH SCALE.
   c. THEORETICAL AXLE LOADS WITH THE GIRDER LOADED ON THE TRANSPORTER.
4. THE DEPARTMENTAL REPRESENTATIVE SHALL INSPECT THE PLACEMENT OF THE GIRDER ON THE TRANSPORTER FOR CONFORMANCE WITH THE CONTRACT DRAWINGS.
5. THE STABILITY OF THE FULLY ASSEMBLED GIRDER TRANSPORT IS THE RESPONSIBILITY OF THE CONTRACTOR.

Parcs Canada Parks Canada

HARBOURSIDE Engineering Consultants

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL Certificate of Authorization PERMIT HOLDER
This Permit Allows HARBOURSIDE ENGINEERING CONSULTANTS
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEGNL is valid for the year 2021.

REGISTERED PROFESSIONAL ENGINEER PEGNL Certificate of Registration
ROBBIE FRASER
Robbie Fraser
SIGNATURE
July 19 '21
DATE
NEWFOUNDLAND & LABRADOR

revisions		date
0	ISSUED FOR TENDER	JULY 19 2021

project / projet
WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin
GIRDER ERECTION

GIRDER TRANSPORT AXLE LOADS AND CONFIGURATION

designed	THOMAS McNUTT / concu
date	JANUARY 2021
drawn	MIKE HARDY / dessiné
date	JANUARY 2021
approved	ROBBIE FRASER / approuvé
date	JANUARY 2021
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
	— —
drawing no.	no. du dessin
	EP4

E-DRM/GDD-E:

GIRDER LIFT CONNECTION LAYOUT

SCALE : 1:75

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

GROVE GMK–5250L 300 USt MOBILE CRANE

OUTRIGGERS FULLY EXTENDED, FULL COUNTERWEIGHT	176,300 lbs
MAXIMUM RADIUS	46' (14021mm)
MAXIMUM LIFT	94,210 lbs (420 kN) TOTAL WHICH INCLUDES 5,640 lbs (25.1 kN) ALLOWANCE FOR HOOK BLOCK AND RIGGING
BOOM LENGTH	77.4' (23591mm)
BOOM CONFIGURATION	56–53–0–0–0–0
CRANE CHART CAPACITY	106,000 lbs (473 kN) WITH 30 KM/HR WINDS
% UTILIZATION	88% OF CRANE CHART VALUES WITH 30 KM/HR WINDS
MAX. OUTRIGGER LOAD	212,200 lbs (946 kN)

GROVE GMK–5275 275 USt MOBILE CRANE

OUTRIGGERS FULLY EXTENDED, FULL COUNTERWEIGHT	169,700 lbs
MAXIMUM RADIUS	46' (14021mm)
MAXIMUM LIFT	94,210 lbs (420 kN) TOTAL WHICH INCLUDES 5,640 Lbs (25.1 kN) ALLOWANCE FOR HOOK BLOCK AND RIGGING
BOOM LENGTH	104.2' (31760mm)
BOOM CONFIGURATION	50–50–50–50–0–0
CRANE CHART CAPACITY	103,800 lbs (463 kN) WITH 30 KM/HR WINDS
% UTILIZATION	91% OF CRANE CHART VALUES WITH 30 KM/HR WINDS
MAX. OUTRIGGER LOAD	190,847 lbs (851 kN)

NOTE: REFER TO ERECTION PHASES 1 THRU 4 ON DRAWINGS EP1 TO EP2 FOR APPLICABLE CRANE LIFT INFORMATION LISTED ABOVE.

ERECTION PHASING CRANE LIFT INFORMATION

NOTES:

1. REFER TO DRAWING EP3 FOR GENERAL GIRDER ERECTION NOTES.
2. RIGGING AND GIRDER CONNECTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING ALL STRENGTH AND STABILITY CHECKS OF THE GIRDER AS A RESULT OF THE ANTICIPATED LOADING AND CONNECTION DETAILS, AND ALL GEOMETRIC CHECKS TO ENSURE NON CONFLICTS WITH INTERNAL GIRDER STIFFENING OR BRACING.
3. CRANE OPERATOR IS RESPONSIBLE FOR CONFIRMING THE CRANE CAPACITIES PRIOR TO ERECTION BASED ON THE LIFT LOADS AND RADII IDENTIFIED ON DRAWING EP5.
4. CRANE OPERATOR SHALL ENSURE CRANE CAPACITIES ARE NOT EXCEEDED AT ANY TIME DURING GIRDER ERECTION.
5. CRANE OPERATOR SHALL ENSURE MAXIMUM OUTRIGGER LOADS ARE NOT EXCEEDED AT ANY POINT DURING THE GIRDER ERECTION.
6. ALTERNATE CRANE SIZE PROPOSALS SHALL BE SUBMITTED TO THE DEPARTMENTAL REPRESENTATIVE FOR APPROVAL PRIOR TO GIRDER ERECTION. REFER TO PROJECT SPECIFICATIONS FOR PROPOSED ALTERNATES AND SCHEDULE FOR SUBMITTALS. THIS SUBMITTAL SHALL PROVE STABILITY OF SLOPES, AVOIDANCE OF SURCHARGING OF ABUTMENTS AND WINGWALLS, CRANE CAPACITY REQUIREMENTS AND CONFIRMATION THAT ALTERNATE CRANES SATISFY ALL SITE GEOMETRIC CONSTRAINTS.

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revisions		date

project / projet
WESTERN BROOK BRIDGE REPLACEMENT

GROS MORNE NATIONAL PARK

drawing / dessin
GIRDER ERECTION

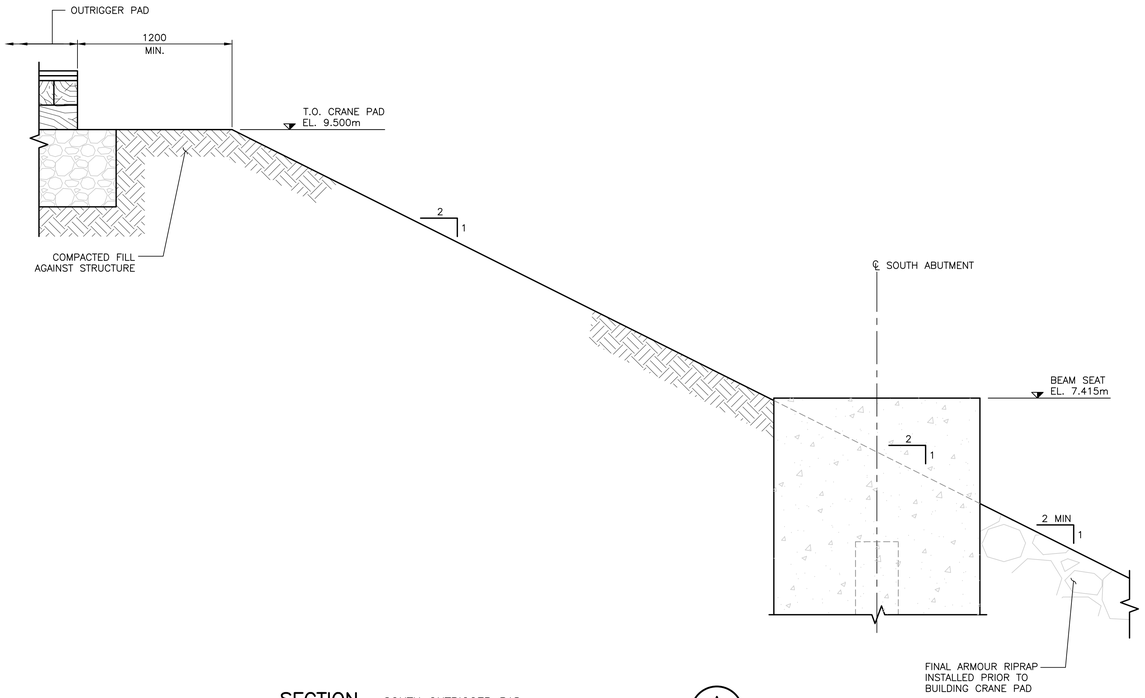
GIRDER LIFT CONNECTION LOCATIONS AND CRANE LIFT INFORMATION

designed / conçu	THOMAS McNUTT
date	JANUARY 2021
drawn / dessiné	MIKE HARDY
date	JANUARY 2021
approved / approuvé	ROBBIE FRASER
date	JANUARY 2021
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number / no. du projet	— —
drawing no. / no. du dessin	EP5

PWGSC B1 (2004)

0 10 20mm 40 60 80 100 120 140 160 180 200mm

E-DRM/GDD-E:



SECTION – SOUTH OUTRIGGER PAD (A / EP1)

SCALE : 1:20

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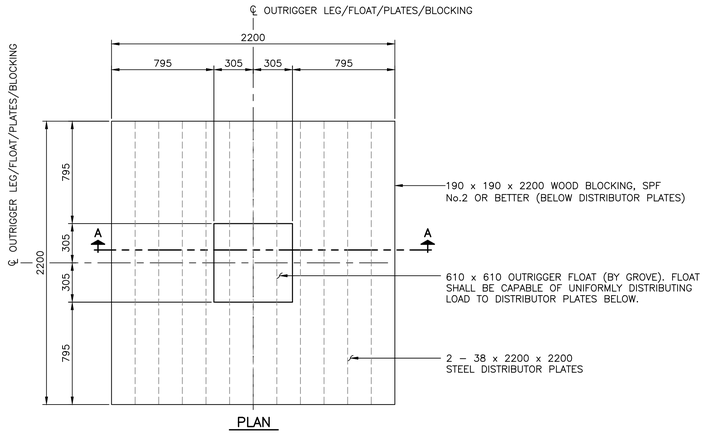
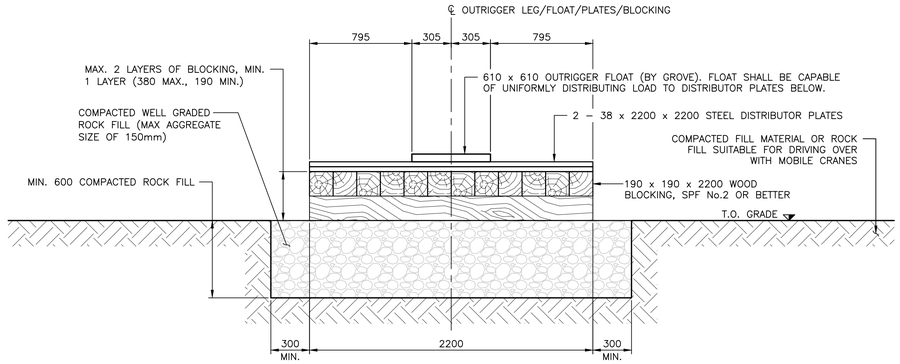


PLAN



SECTION 'A–A'

DETAIL – MOBILE CRANE OUTRIGGER PADS/BLOCKING (1 / EP1)

SCALE : 1:20

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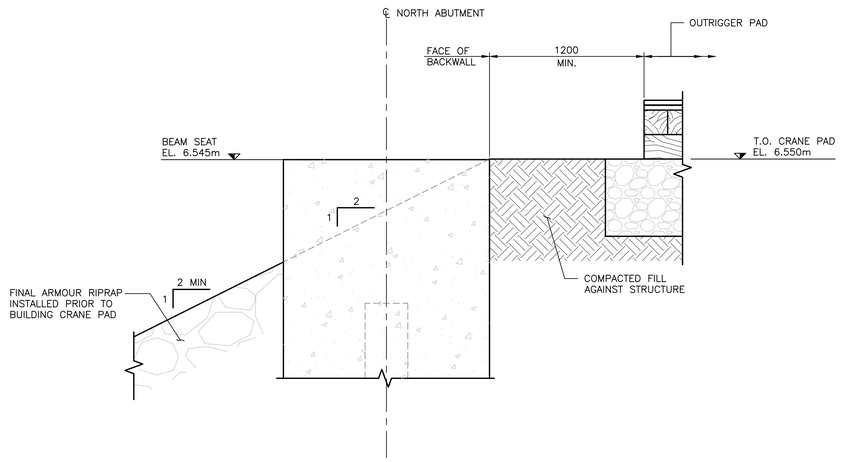

SECTION – NORTH OUTRIGGER PAD (B / EP1)

SCALE : 1:20

0mm 500mm 1000mm 1500mm 2000mm 2500mm

CRANE MAT NOTES:

1. REFER TO DRAWING EP3 FOR GENERAL NOTES.
2. STABLE SLOPES, OUTRIGGER PADS, GRANULAR MATERIAL THICKNESS REQUIREMENTS, GRANULAR MATERIAL SELECTION AND COMPACTION REQUIREMENTS HAVE BEEN DEVELOPED BASED ON THE MAXIMUM ANTICIPATED OUTRIGGER LOADS RESULTING FROM THE GIRDER LIFTS AS INDICATED ON DRAWING EP5.
3. THE GEOTECHNICAL REQUIREMENTS IDENTIFIED WITHIN THE EP SERIES DRAWINGS ARE AS SPECIFIED BY HARBOURSIDE GEOTECHNICAL CONSULTANTS IN THE LETTER DATED APRIL 15, 2021.
4. CRANE SUPPLIER IS RESPONSIBLE FOR ENSURING THE MAXIMUM OUTRIGGER LOADS SPECIFIED ON DRAWINGS EP5 ARE NOT EXCEEDED DURING CONSTRUCTION.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF THE 610X610 OUTRIGGER "FLOATS" AS INDICATED FOR THE MOBILE CRANES. THE CONTRACTOR SHALL ENSURE THE "FLOATS" HAVE BEEN DESIGNED TO RESIST AND TRANSFER OUTRIGGER LOADS TO THE BEARING PLATE BELOW.
6. 38 mm THICK STEEL BEARING PLATES TO BE GRADE 300W OR BETTER.
7. TIMBER MATS TO BE SPF GRADE No. 2 OR BETTER.
8. ALTERNATE CRANE MAT PROPOSALS BY CONTRACTOR SHALL BE SUBMITTED TO ENGINEER FOR WRITTEN APPROVAL A MINIMUM OF 7 DAYS PRIOR TO GIRDER ERECTION.
9. EDGE OF OUTRIGGER MAT SHALL BE NO CLOSER THAN 1200mm FROM NEAREST TOP OF SLOPE, TYP. ALL CRANE MATS.

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project / projet
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GROS MORNE NATIONAL PARK

drawing / dessin
GIRDER ERECTION

CRANE MATS

designed	THOMAS McNUTT (conçu)
date	JANUARY 2021
drawn	MIKE HARDY (dessiné)
date	JANUARY 2021
approved	ROBBIE FRASER (approuvé)
date	JANUARY 2021
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
	— —
drawing no.	no. du dessin
	EP6

PWGSC B1 (2004)

E-DRM/GDD-E: