

12/31/2022

22-494

MD

CONTROL IN FERRYLAND, NL

83G3404 HAS BEEN DESTROYED

SETUP #1 $\Rightarrow$ 83G3403CHK $\Rightarrow$ HZ = 0.01m V = -0.01m Pt. 2000CHK @ 023428 $\Rightarrow$ POINT 2001

HZ = 0.033m V = -0.036m

CHK @ 019046 $\Rightarrow$ POINT 2002

HZ = 0.050m V = -0.029m

CHK @ 83G3405 $\Rightarrow$ POINT 2003

HZ = 0.118m V = 0.026m

CHK @ 019047 $\Rightarrow$ POINT 2004

HZ = 0.238m V = 0.08m

RECHK @ 023428 $\Rightarrow$ POINT 2005

HZ = 0.052m V = 0.067m

SETUP #2 $\Rightarrow$ 01947CHK $\Rightarrow$ HZ = 0.006m V = 0.008m Pt. 2010CHK @ 01946 $\Rightarrow$ Pt. 2011 HZ = 0.18m V = -0.079mCHK @ 01941 $\Rightarrow$ Pt. 2012 HZ = 0.317m V = 0.056mCHK @ 83G3405 $\Rightarrow$ Pt. 2013 HZ = 0.34m V = -0.14m

12/4/2022

22-494

MD

CONTROL IN BEIGUS, NL

SETUP @ 81G2253 Pt. 3000

 $HZ = 0.005m$ $V = 0.000m$ CHK @ 81G2255 Pt. 3001 $HZ = 0.000m$ $V = -0.026m$ CHK @ 81G2256 Pt. 3002 $HZ = 0.011m$ $V = 0.026m$ CHK @ 81G2257 Pt. 3003 $HZ = 0.003m$ $V = 0.009m$

81G2244 = DESTROYED

CHK @ 81G2248 Pt. 3004 $HZ = 0.008m$ $V = -0.017m$ CHK @ 81G2254 Pt. 3005 $HZ = 0.017m$ $V = -0.016m$ CHK @ 81G2259 Pt. 3006 $HZ = 0.023m$ $V = 0.015m$ RECHK @ 81G2253 Pt. 3007 $\Rightarrow HZ = 0.02m$ $V = 0.005m$

LEVEL



Station: 85 G5511 Date: DECEMBER 2ND 2022
 Latitude: N 53 24 45.408 m Longitude: E 28 03 66.473 m
 Elevation: 39.661 m Coord System: MTM ZLN 625 1980
 GPS System: LEICA GS-16 Receiver No.: _____
 Antenna Type: _____ Antenna No.: _____
 Rx File No.: _____

Project File: 22-494NF DEC 2
 Client: _____
 Party Chief: _____

Comments/Notes:

SETUP AT 85G5511 USED
TO CHECK 85G5510,
85G5509 AND 85G5512

MONUMENT

Type: BRASS PLUG
 Condition: GOOD
 Above/Below: + _____ cm - _____ cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
 Range Pole ☐

3.35 ft 3.35 ft

	Start Session	End Session
Constant:	0.360 m	0.360 m
Tape:	1.020 m	1.020 m
Total:	1.380 m	1.380 m

Measurement Type

M.R.P. ☐
 Offset ☒
 Slope ☐

MISSION TYPE

	Cutoff Angle	Data Rate
Static ☒ Kinematic ☐ RTK ☐		1 Sec

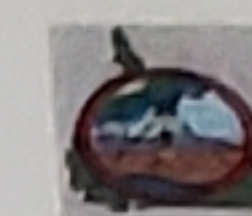
Local Time UTC Offset

Start:	2:54 pm	
Stop:	5:35 pm	

Checked by: _____

Date: _____

Manager: _____



Station: 8SG5509
Latitude: 5312822.607m
Elevation: 27.383m
GPS System: TOPCON HYPER V
Antenna Type: _____
Rx File No.: _____

Date: DECEMBER 2ND 2022
Longitude: 280274.539m
Coord System: MTM ZONE 1N GCS 1980
Receiver No.: SN: 1122-12176
Antenna No.: _____

Project File: 22-494NF DEC 2
Client: _____
Party Chief: _____

MONUMENT

Type: BRASS PLUG
Condition: GOOD
Above/Below: + _____ cm - _____ cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
Range Pole ☐

Constant: _____

Tape: _____

Total: _____

	5.35 ft	5.35 ft
Start Session		
End Session		
	1.632 m	1.631 m
	1.632 m	1.631 m

Measurement Type

M.R.P. ☐
Offset ☐
Slope ☒

MISSION TYPE

Cutoff Angle	Data Rate
Static ☒ Kinematic _____ RTK _____	1 Sec

Local Time UTC Offset

Start: <u>3:17pm</u>	
Stop: <u>5:47pm</u>	

Project File: 22-494NF DEC 2 Party Chief: _____
Client: _____

Comments/Notes: 8565511
SETUP AT 8565512 USED
TO CHECK 8565509 WITH
LEICA GS-16/18 BEFORE
SETTING UP TOPCON.
RESIDUALS:
ΔN: 5 mm
ΔE: -16 mm
ΔH: -21 mm

Checked by: _____

Date: _____

Manager: _____



Station: 85 G5510 Date: December 2nd 2022
 Latitude: N 5313015.790m Longitude: E 279724.540m
 Elevation: 33.530m Coord System: NAD 83
 GPS System: Topcon HiPer V Receiver No.: 1122-12165
 Antenna Type: _____ Antenna No.: _____
 Rx File No.: _____

Project File: 22-494NF DEC 2
 Client: _____
 Party Chief: _____

MONUMENT

Type: BRASS PLUG
 Condition: GOOD
 Above/Below: + _____ cm - _____ cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
 Range Pole ☐

	4.76ft	4.77ft
Constant:	☒	
Tape:	1.451m	1.454m
Total:	1.451m	1.454m

Measurement Type

M.R.P. ☐
 Offset ☐
 Slope ☒

MISSION TYPE

Static	Kinematic	RTK	Cutoff Angle	Data Rate
☒	☐	☐		1 sec

	Local Time	UTC Offset
Start:	3:06pm	
Stop:	5:42pm	

Comments/Notes:

SETUP AT 85 G5511 USED
 TO CHECK 85 G5510 WITH
 ZEISS GS-16/18 BEFORE
 SETTING UP TOPCON GEAR.
 RESIDUALS:
 ΔN: -1 mm
 ΔE: -14 mm
 ΔH: -17 mm

Checked by: _____

Date: _____

Manager: _____

Project File: 22-494NF 02 Party Chief: _____

Client: _____



Station: 944601 Date: DECEMBER 2ND 2022
Latitude: 53 19 69 S. 668 m Longitude: W 2 85 386.209 m
Elevation: 5.042 m Coord System: MTM 21 GRS 1980
GPS System: LEICA GS-16 Receiver No.: _____
Antenna Type: _____ Antenna No.: _____
Rx File No.: _____

Project File: 22-494NF DEC 2
Client: _____
Party Chief: _____

MONUMENT

Type: BRASS PLUG (CHS)
Condition: GOOD
Above/Below: + _____ cm - _____ cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
Range Pole ☐

	Start Session	End Session
Constant:	<u>0.360 m</u>	<u>0.360 m</u>
Tape:	<u>1.122 m</u>	<u>1.123 m</u>
Total:	<u>1.482 m</u>	<u>1.483 m</u>

2.368 ft

Measurement Type

M.R.P. ☐
Offset ☒
Slope ☐

MISSION TYPE

	Cutoff Angle	Data Rate
Static ☒ Kinematic ☐ RTK ☐		<u>1 SEC</u>

Local Time UTC Offset
Start: 10:20 am _____
Stop: 1:52 pm _____

Project File: 22-494NF DEC 2 Party Chief: _____
Client: _____

Comments/Notes:

SETUP AT 944601 USED TO
CHECK 8565506 AND 8565505
AND 8565504

Checked by: _____

Date: _____

Manager: _____



Station: 8565506 Date: DECEMBER 2ND 2022 Project File: 22-494NF DEC 2
 Latitude: N 5318766.092m Longitude: E 285607.143m Client: _____
 Elevation: 34.750m Coord System: NTM 71N DRS 1980 Party Chief: _____
 GPS System: TOPCON HYPER V Receiver No.: ~~SN: 1122-12176~~ (HUS)
 Antenna Type: _____ Antenna No.: _____
 Rx File No.: _____

SN: 1122-12176

MONUMENT

Type: BRASS PLUG
 Condition: GOOD
 Above/Below: + cm - cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
 Range Pole ☐

Constant:

Tape:

Total:

Start Session	End Session
<u>✓</u>	<u>✓</u>
<u>1.094m</u>	<u>1.094m</u>
<u>1.094m</u>	<u>1.094m</u>

3.59 ft

Measurement Type

M.R.P. ☐
 Offset ☐
 Slope ☒

MISSION TYPE

MISSION TYPE	Cutoff Angle	Data Rate
Static ☒ Kinematic ☐ RTK ☐		<u>1 SEC</u>

Local Time UTC Offset

Start: <u>11:32 AM</u>	
Stop: <u>1:16 PM</u>	

2:16 PM

Project File: 22-494NF DEC 2 Party Chief: _____
 Client: _____

Comments/Notes:

SETUP AT 944601 USED
TO CHECK 8565506
WITH LEICA GS18 AND GS16.
RESIDUALS FROM 1ST CHECK
ΔN: 13 mm
ΔE: -12 mm
ΔH: -3 mm

Checked by: _____

Date: _____

Manager: _____



Station: 8SG5505 Date: DECEMBER 2ND 2022
 Latitude: NORTH: 5319781.481m Longitude: EAST: 284968.707m
 Elevation: 37.739m Coord System: HTM 21N GRS 1980
 GPS System: TOPCON HYPER V Receiver No.: 1122-12165 (1105)
 Antenna Type: _____ Antenna No.: _____
 Rx File No.: _____

Project File: 22-494NF DEC 2
 Client: _____
 Party Chief: _____

MONUMENT

Type: BRASS PLUG
 Condition: GOOD
 Above/Below: + _____ cm - _____ cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
 Range Pole ☐

	Start Session	End Session
Constant:	<u>—</u>	
Tape:	<u>1.587m</u>	<u>1.587m</u>
Total:	<u>1.587m</u>	<u>1.587m</u>

5.21 ft

Measurement Type

M.R.P. ☐
 Offset ☐
 Slope ☒

MISSION TYPE

Static	Kinematic	RTK	Cutoff Angle	Data Rate
☒	☐	☐		<u>1 SEC</u>

Local Time UTC Offset

Start:	<u>10:59 AM</u>	
Stop:	<u>2:04 PM</u>	

Project File: 22-494NF DEC 2 Party Chief: _____
 Client: _____

Comments/Notes:

SETUP AT 944601 USED
TO CHECK 8SG5505 BEFORE
GPS WAS SETUP OVER IT WITH
LEICA GS-18 AND GS-16
RESIDUALS FROM FIRST CHECK:
AN: 0 mm
DE: -7 mm
ΔH: 8 mm

Checked by: _____

Date: _____

Manager: _____



Station: BSG5538
Latitude: N 5292443.573m
Elevation: 6.967m
GPS System: LEICA GS-16
Antenna Type: _____
Rx File No.: _____

Date: DECEMBER 4TH 2022
Longitude: E 270083.890
Coord System: MTM 21N NAD83 CUSA
Receiver No.: SN: 3712571
Antenna No.: _____

Project File: 22-494NF DEC 4
Client: _____
Party Chief: _____

Comments/Notes:

MONUMENT

Type: BRASS PLUG
Condition: GOOD
Above/Below: + _____ cm - _____ cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
Range Pole ☐

Constant:

4.45ft
Tape:
Total:

Start Session	End Session
0.360m	0.360m
1.355m	1.355m
1.715m	1.715m

4.45ft

Measurement Type

M.R.P. ☐
Offset ☒
Slope ☐

MISSION TYPE

Static	Kinematic	RTK	Cutoff Angle	Data Rate
☒	☐	☐		1 SEC

Local Time UTC Offset

Start: 7:51am
Stop: 2:50pm

Project File: 22-494NF DEC 4 Party Chief: _____
Client: _____

Checked by: _____

Date: _____

Manager: _____



Station: 85G5534 Date: Dec. 4/2022
 Latitude: N 5293638.760m Longitude: E 269963.725m
 Elevation: 8.465m Coord System: WGS 84
 GPS System: Topcon Receiver No.: 12182
 Antenna Type: _____ Antenna No.: _____
 Rx File No.: _____

Project File: 22-494
 Client: _____
 Party Chief: _____

Comments/Notes:

MONUMENT

Type: Brass Plug
 Condition: Good

Above/Below: + _____ cm - _____ cm

ANTENNA HEIGHT

Setup Type

Tripod ☒

Range Pole ☐

Constant:

Tape:

Total:

Start Session	End Session
<u>1.510m</u>	<u>1.510m</u>
<u>4.95ft</u>	<u>4.95ft</u>
<u>1.510m</u>	<u>1.510m</u>

Measurement Type

M.R.P. ☐

Offset ☐

Slope ☐

MISSION TYPE

Cutoff Angle

Data Rate

Static ☒ Kinematic ☐ RTK ☐

1.562

Local Time UTC Offset

Start: 8:34 AM

Stop: 11:50 AM

Checked by: _____

Date: _____

Manager: _____

Project File: 22-494NF DEC 4 Party Chief: _____

Client: _____



Station: 85G5542 Date: Dec. 4/2022
Latitude: N 5291250.924m Longitude: 268536.174m
Elevation: 13.404m Coord System: MTM 22N 2012
GPS System: Topcon HYPER V Receiver No.: 12176
Antenna Type: _____ Antenna No.: _____
Rx File No.: _____

MONUMENT

Type: Brass Plug
Condition: Good
Above/Below: + _____ cm - _____ cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
Range Pole ☐

	Start Session	End Session
Constant:	<u>1.511m</u>	<u>1.511m</u>
Tape:	<u>4.96ft</u>	<u>4.96ft</u>
Total:	<u>1.511m</u>	<u>1.511m</u>

Measurement Type

M.R.P. ☐
Offset ☐
Slope ☐

MISSION TYPE

Cutoff Angle Data Rate

Static ☒ Kinematic ☐ RTK ☐ 1 SEC

Local Time UTC Offset

Start: 9:23AM
Stop: 11:59AM

Project File: 22-494NF DEC 4
Client: _____
Party Chief: _____

Comments/Notes:

Checked by: _____

Date: _____

Manager: _____

Project File: 22-494NF DEC 4 Party Chief: _____
Client: _____



Station: 8565505 Date: DECEMBER 5TH 2022
Latitude: N 5319781.481m Longitude: 284968.707m
Elevation: 37.739m Coord System: MTM 21N
GPS System: TOPCON HYPER V Receiver No.: 1122-12163
Antenna Type: 37.739m Antenna No.:
Rx File No.:

Project File:

Client:

Party Chief:

Comments/Notes:

MONUMENT

Type: BRASS PLUG
Condition: GOOD
Above/Below: + cm - cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
Range Pole ☐

Constant:

Tape:

Total:

5.43ft 5.43ft	
Start Session	End Session
<u></u>	<u></u>
1.651m	1.655m
1.651m	1.655m

Measurement Type

M.R.P. ☐
Offset ☐
Slope ☒

MISSION TYPE

Static	Kinematic	RTK	Cutoff Angle	Data Rate
☒	☐	☐	<u></u>	<u>152C</u>

Local Time UTC Offset

Start:	<u>4:20pm</u>	<u></u>
Stop:	<u>6:54pm</u>	<u></u>

Checked by:

Date:

Manager:

Project File: 22-494NF DEC 5 Party Chief:
Client:



Station: 630350
Latitude: N 5319387.351 m
Elevation: 31.022 m
GPS System: TOPCON HYPER V
Antenna Type:
Rx File No.:
Date: DECEMBER 5TH 2022
Longitude: E 285124.993 m
Coord System: NTM 71N
Receiver No.: 1122-12176
Antenna No.:

MONUMENT

Type: BRASS PLUG
Condition: GOOD
Above/Below: + cm - cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
Range Pole ☐

Constant:

Tape:

Total:

5.22 ft 5.22 ft	
Start Session	End Session
<u>✓</u>	<u>✓</u>
1.594 m	1.594 m

Measurement Type

M.R.P. ☐
Offset ☐
Slope ☒

MISSION TYPE

Cutoff Angle

Data Rate

Static ☒ Kinematic ☐ RTK ☐
1.52 C

Local Time UTC Offset

Start: 4:44 pm
Stop: 7:05 am



Project File: 22-494NF DEC 5
Client:
Party Chief:

Comments/Notes:

CONTROL PT CHECKED
WITH GS16/GS-18
AND CHECKED GOOD
PT. 5001 IN JOB
22-494NF DEC 5 HH

Checked by:

Date:

Manager:

Project File: 22-494NF DEC 5 Party Chief:
Client:



Station: 944601 Date: DECEMBER 5TH 2022
Latitude: N 5319695.668m Longitude: E 285386.209m
Elevation: 5.042m Coord System: NTM 21N
GPS System: LEICA GS-16 Receiver No.: 3712571
Antenna Type: _____ Antenna No.: _____
Rx File No.: _____

Project File: _____

Client: _____

Party Chief: _____

22-494NF

DEC 5

MONUMENT

Type: BRASS PLUG
Condition: GOOD
Above/Below: + _____ cm - _____ cm

ANTENNA HEIGHT

Setup Type

Tripod ☒
Range Pole ☐

Constant:

Tape:

Total:

Start Session	End Session
<u>0.360m</u>	<u>0.360m</u>
<u>1.265m</u>	<u>1.268m</u>
<u>1.625m</u>	<u>1.628m</u>

Measurement Type

M.R.P. ☐
Offset ☒
Slope ☐

MISSION TYPE

Cutoff Angle

Data Rate

Static ☒ Kinematic _____ RTK _____

1 SEC

Local Time UTC Offset

Start: 4:07pm
Stop: 7:18pm

Project File: 22-494NF DEC 5 Party Chief: _____
Client: _____

Checked by: _____

Date: _____

Manager: _____

Comments/Notes:

Icon	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Std Dev Hz (m)	Std Dev u (m)
⚠	85G5509	5312822.607	280274.539	26.944		0.000	0.002
⚠	85G5510	5313015.790	279724.540	33.094		0.000	0.002
⚠	85G5511	5312445.408	280366.473	39.187		0.000	0.000

Icon	Point Name	Antenna Type	Antenna Height (m)	Ant Height Method	Start Time	Stop Time	Receiver	Duration	Interval (msec)	NEpoch
	85G5510	HiPer V	1.451	Slant	2022-12-02 3:05:56 PM	2022-12-02 5:43:17 PM	Q1ZX4PY766Q	02:37:21	1000	9441
	85G5509	HiPer V	1.632	Slant	2022-12-02 3:16:48 PM	2022-12-02 5:52:00 PM	Q0E1HRRYAKY	02:35:12	1000	9312
	85G5511	LEIGS1...	1.380	Vertical	2022-12-02 2:54:23 PM	2022-12-02 5:35:34 PM	3712571	02:41:11	1000	9671

Icon	Point From	Point To	Horizontal Precision (m)	Vertical Precision (m)	dN (m)	dE (m)	dHt (m)	Azimuth	Distance (m)	Adjustment Status
	85G5509	85G5510	0.001	0.001	193.190	-549.999	6.122	289°06'37.5201"	583.037	Adjusted
	85G5510	85G5511	0.001	0.001	-570.385	641.929	6.128	131°22'23.5991"	858.835	Adjusted
	85G5509	85G5511	0.001	0.001	-377.197	91.931	12.250	166°03'33.1441"	388.465	Adjusted

85G5510

85G5510

85G5509

85G5509

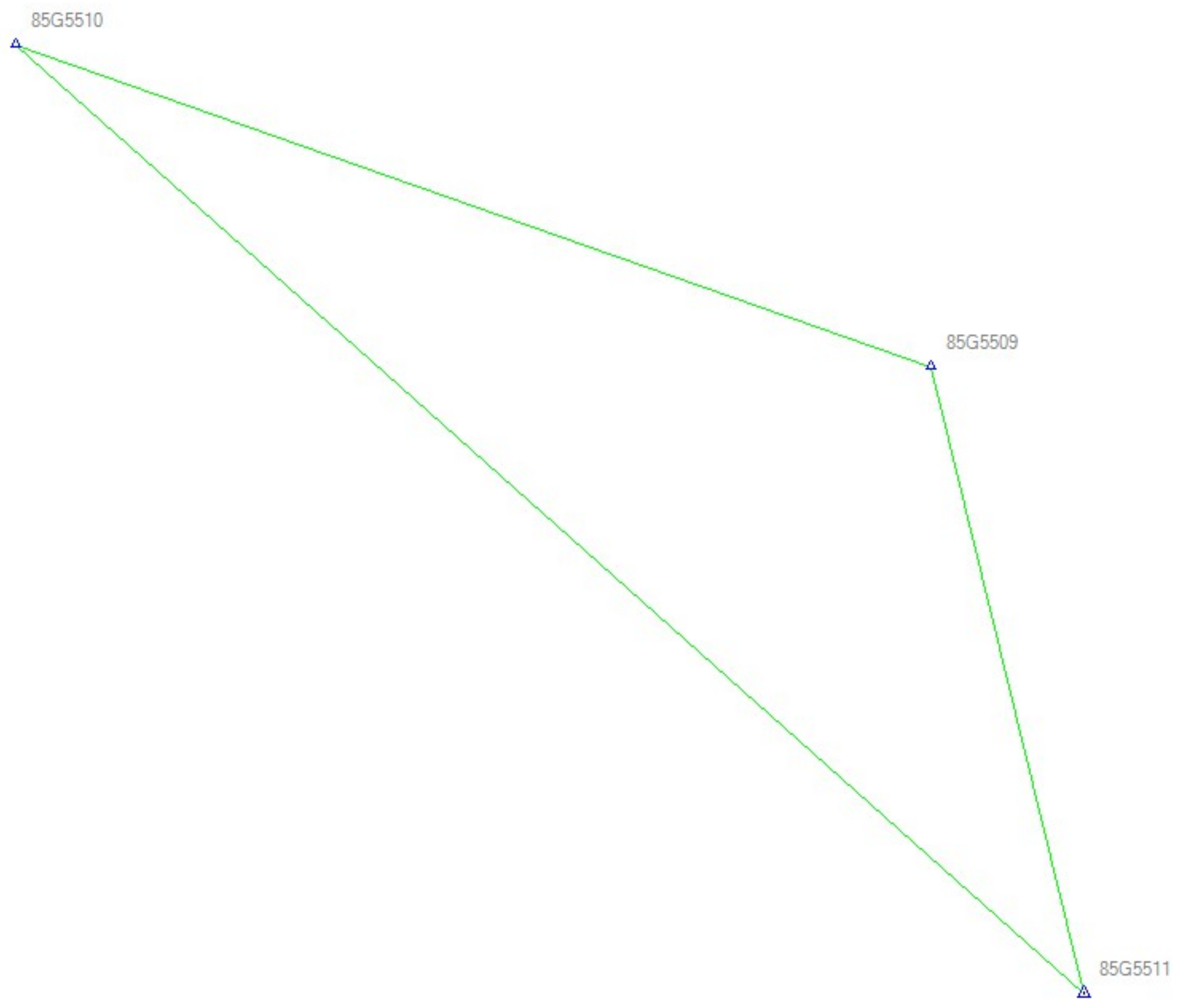
85G5511

85G5511

Northing,
Meters

- Points**
- RTK Base
 - RTK Static (Topo) _A
 - RTK Kinematic (Aut
 - GPS PP Static
 - GPS Non-processed
 - GPS PP Stop
 - GPS Non-processed
 - GPS PP Kinematic

5312900
5312800
5312700
5312600
5312500
5312400



Easting, Meters

			
Project Summary			
Project name: DECEMBER 4			
Surveyor:			
Comment:			
Linear unit: Meters			
Projection: Newfoundland-MTM Zone 1			
Geoid: CGG2013an83			
Adjustment			
Control Tie Analysis: success			
Adjustment type: Plane + Height, Constraint			
Confidence level: 95 %			
Number of adjusted points: 3			
Number of plane control points: 3			
Number of used GPS vectors: 3			
Number of rejected GPS vectors by plane: 2			
A posteriori plane or 3D UWE: 6.219712 , Bounds: (0.1590597 , 1.920937)			
Number of height control points: 1			
A posteriori height UWE: 0.8254618 , Bounds: (3.130495E-02 , 2.240536)			
Control Points			
Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)
85G5534	5293638.76	269963.725	8.026
85G5538	5292443.573	270083.89	6.551
85G5542	5291250.924	268536.174	13.071
Adjusted Points			
Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)
85G5534	5293638.76	269963.725	8.026
85G5542	5291250.924	268536.174	13.071

Used GPS Observations							
Name	dN (m)	dE (m)	dHt (m)	Horz RMS	Vert RMS		
85G5534-85G5538	-1195.195	120.173	-1.466	0.001	0.002		
85G5534-85G5542	-2387.816	-1427.533	4.994	0.001	0.002		
85G5538-85G5542	-1192.621	-1547.705	6.456	0.002	0.003		
GPS Loop Closure							
Loop	dHz (m)	dU (m)	Horz Tolerance (m)	Vert Tolerance (m)	dHz (ppm)	dU (ppm)	Length (m)
85G5534-85G5542(2022-12-04 9:23:33 AM)	0.0013	0.0043	0.0597	0.0897	0.22	0.72	5937.6751
85G5534-85G5538(2022-12-04 8:34:16 AM)							
85G5538-85G5542(2022-12-04 9:23:33 AM)							

Icon	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Std Dev Hz (m)	Std Dev u (m)	Combined Grid to Ground Scale Factor	Geoid Separation (m)
	85G5534	5293638.760	269963.725	8.026		0.000	0.002	1.000087862487	9.576
	85G5542	5291250.924	268536.174	13.071		0.000	0.003	1.000087399140	9.524
	85G5538	5292443.573	270083.890	6.551		0.000	0.000	1.000087735200	9.586

Icon	Point Name	Antenna Type	Antenna Height (m)	A..	Start Time	Stop Time	Receiver	Duration	Interval (msec)	NEpoch
	85G5534	HiPer V	1.510	Slant	2022-12-04 8:34:16 AM	2022-12-04 11:49:52 AM	Q001V3C69ZC	03:15:36	1000	11736
	85G5542	HiPer V	1.511	Slant	2022-12-04 9:23:33 AM	2022-12-04 11:59:29 AM	Q0E1HRRYAKY	02:35:56	1000	9356
	85G5538	LEIGS1...	1.715	Vertical	2022-12-04 7:51:49 AM	2022-12-04 2:50:51 PM	3712571	06:59:02	1000	25142

Icon	Point From	Point To	Horizontal Precision (m)	Vertical Precision (m)	dN (m)	dE (m)	dHt (m)	Azimuth	Distance (m)	Adjustment Status
	85G5534	85G5542	0.001	0.002	-2387.816	-1427.533	4.994	210°31'45.3752"	2782.255	AutoRejected
	85G5534	85G5538	0.001	0.002	-1195.195	120.173	-1.466	173°54'53.6138"	1201.327	Adjusted
	85G5538	85G5542	0.002	0.003	-1192.621	-1547.705	6.456	232°02'27.0651"	1954.094	AutoRejected

North
Northing,
Meters

Points

- RTK Base
- RTK Static (Topo) _A
- RTK Kinematic (Aut
- GPS PP Static
- GPS Non-processed
- GPS PP Stop
- GPS Non-processed
- GPS PP Kinematic

Bing

6069500

6069000

6068500

6068000

6067500

6067000



-5957500

-5957000

-5956500

-5956000

-5955500

-5955000

-5954500

-5954000

-5953500

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-5952000

-5951500

-5951000

-5950500

-5950000

-5949500

-5949000

-5948500

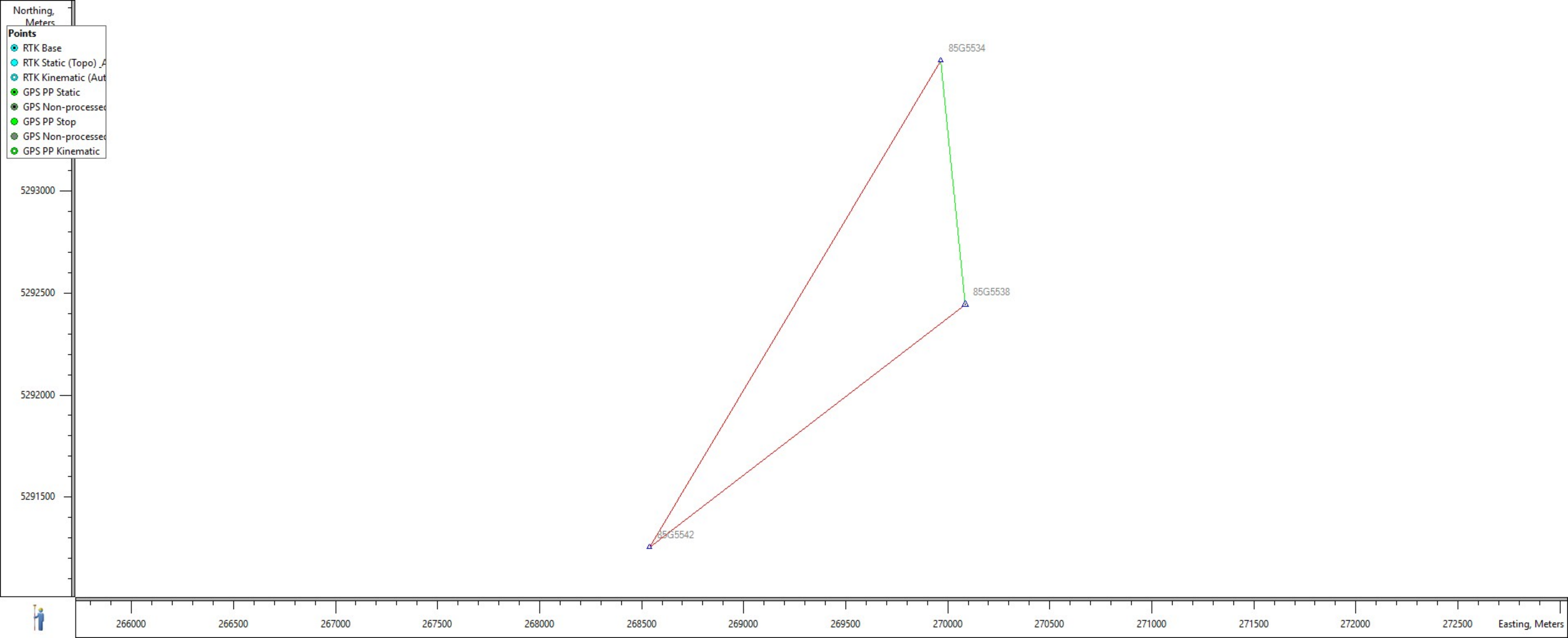
-5948000

-5947500

-5947000

-5946500

Easting, Meters



			
Project Summary			
Project name: DECEMBER 4			
Surveyor:			
Comment:			
Linear unit: Meters			
Projection: Newfoundland-MTM Zone 1			
Geoid: CGG2013an83			
Adjustment			
Control Tie Analysis: success			
Adjustment type: Plane + Height, Constraint			
Confidence level: 95 %			
Number of adjusted points: 3			
Number of plane control points: 3			
Number of used GPS vectors: 3			
Number of rejected GPS vectors by plane: 2			
A posteriori plane or 3D UWE: 6.219712 , Bounds: (0.1590597 , 1.920937)			
Number of height control points: 1			
A posteriori height UWE: 0.8254618 , Bounds: (3.130495E-02 , 2.240536)			
Control Points			
Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)
85G5534	5293638.76	269963.725	8.026
85G5538	5292443.573	270083.89	6.551
85G5542	5291250.924	268536.174	13.071
Adjusted Points			
Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)
85G5534	5293638.76	269963.725	8.026
85G5542	5291250.924	268536.174	13.071

Used GPS Observations							
Name	dN (m)	dE (m)	dHt (m)	Horz RMS	Vert RMS		
85G5534-85G5538	-1195.195	120.173	-1.466	0.001	0.002		
85G5534-85G5542	-2387.816	-1427.533	4.994	0.001	0.002		
85G5538-85G5542	-1192.621	-1547.705	6.456	0.002	0.003		
GPS Loop Closure							
Loop	dHz (m)	dU (m)	Horz Tolerance (m)	Vert Tolerance (m)	dHz (ppm)	dU (ppm)	Length (m)
85G5534-85G5542(2022-12-04 9:23:33 AM)	0.0013	0.0043	0.0597	0.0897	0.22	0.72	5937.6751
85G5534-85G5538(2022-12-04 8:34:16 AM)							
85G5538-85G5542(2022-12-04 9:23:33 AM)							

Icon	Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	Code	Std Dev Hz (m)	Std Dev u (m)	Combined Grid to Ground Scale Factor	Geoid Separation (m)
	85G5505	5319781.481	284968.707	37.526		0.000	0.001	1.000102648826	10.065
	630350	5319387.357	285124.993	30.857		0.000	0.001	1.000101679307	10.075
	944601	5319695.668	285386.209	4.816		0.000	0.000	1.000097718272	10.083

Icon	Point Name	Antenna Type	Antenna Height (m)	A..	Start Time	Stop Time	Receiver	Duration	Interval (msec)	NEpoch
	85G5505	HiPer V	1.653	Slant	2022-12-05 4:21:06 PM	2022-12-05 6:54:55 PM	Q1ZX4PY766Q	02:33:49	1000	9229
	630350	HiPer V	1.594	Slant	2022-12-05 4:44:32 PM	2022-12-05 7:05:39 PM	Q0E1HRRYAKY	02:21:07	1000	8467
	944601	LEIGS1...	1.627	Vertical	2022-12-05 4:11:17 PM	2022-12-05 7:18:22 PM	3712571	03:07:05	1000	11225

I...	Point From	Point To	Horizontal ...	Vertical Pr...	dN (m)	dE (m)	dHt (m)	Azimuth	Distance (m)	Adjustment Status
	85G5505	630350	0.001	0.001	-394.120	156.269	-6.658	158°10'22.2953"	424.065	Adjusted
	85G5505	944601	0.001	0.001	-85.808	417.474	-32.693	101°24'58.2857"	427.509	AutoRejected
	630350	944601	0.001	0.001	308.312	261.205	-26.031	40°04'34.0712"	404.967	Adjusted

North
Meters

- Points
- RTK Base
 - RTK Static (Topo) _A
 - RTK Kinematic (Aut
 - GPS PP Static
 - GPS Non-processed
 - GPS PP Stop
 - GPS Non-processed
 - GPS PP Kinematic

5319700
5319650
5319600
5319550
5319500
5319450
5319400



85G5505



944601



830350



284600 284650 284700 284750 284800 284850 284900 284950 285000 285050 285100 285150 285200 285250 285300 285350 285400 285450 285500 285550 285600 285650 285700 Easting, Meters

Northing,
Meters

Points

- RTK Base
- RTK Static (Topo) _A
- RTK Kinematic (Aut
- GPS PP Static
- GPS Non-processed
- GPS PP Stop
- GPS Non-processed
- GPS PP Kinematic

Bing

6109500

6109400

6109300

6109200

6109100

6109000



-5930000

-5929900

-5929800

-5929700

-5929600

-5929500

-5929400

-5929300

-5929200

-5929100

-5929000

-5928900

-5928800

-5928700

-5928600

-5928500

Easting, Meters





Project Summary				
Project name: DECEMBER 5 HANTS HARBOUR				
Surveyor:				
Comment:				
Linear unit: Meters				
Projection: Newfoundland-MTM Zone 1				
Geoid: CGG2013an83				
Adjustment				
Control Tie Analysis: success				
Adjustment type: Plane + Height, Constraint				
Confidence level: 95 %				
Number of adjusted points: 3				
Number of plane control points: 3				
Number of used GPS vectors: 3				
Number of rejected GPS vectors by plane: 1				
A posteriori plane or 3D UWE: 9.849472 , Bounds: (0.3478505 , 1.668832)				
Number of height control points: 1				
A posteriori height UWE: 1.501013 , Bounds: (3.130495E-02 , 2.240536)				
Control Points				
Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	
85G5505	5319781.481	284968.707	37.526	
630350	5319387.357	285124.993	30.857	
944601	5319695.668	285386.209	4.816	
Adjusted Points				
Name	Grid Northing (m)	Grid Easting (m)	Elevation (m)	
85G5505	5319781.481	284968.707	37.526	
630350	5319387.357	285124.993	30.857	

Used GPS Observations				
Name	dN (m)	dE (m)	dHt (m)	Horz RMS
85G5505-630350	-394.12	156.269	-6.658	0.001
85G5505-944601	-85.808	417.474	-32.693	0.001
630350-944601	308.312	261.205	-26.031	0.001
GPS Loop Closure				
Loop	dHz (m)	dU (m)	Horz Tolerance (m)	Vert Tolerance (m)
85G5505-630350(2022-12-05 4:44:32 PM)	0.0007	0.0043	0.0363	0.0663
85G5505-944601(2022-12-05 4:21:06 PM)				
630350-944601(2022-12-05 4:44:32 PM)				

Used GPS Observations							
Name	dN (m)	dE (m)	dHt (m)	Horz RMS	Vert RMS		
85G5505-630350	-394.12	156.269	-6.658	0.001	0.001		
85G5505-944601	-85.808	417.474	-32.693	0.001	0.001		
630350-944601	308.312	261.205	-26.031	0.001	0.001		
GPS Loop Closure							
Loop	dHz (m)	dU (m)	Horz Tolerance (m)	Vert Tolerance (m)	dHz (ppm)	dU (ppm)	Length (m)
85G5505-630350(2022-12-05 4:44:32 PM)	0.0007	0.0043	0.0363	0.0663	0.52	3.46	1256.5403
85G5505-944601(2022-12-05 4:21:06 PM)							
630350-944601(2022-12-05 4:44:32 PM)							

Crossing Data Sheet – BR_AB_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Apses Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,936.29 Easting: 289,302.39

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.00 H: 0.70	35.6	0.93	-0.25	1.36



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_AB_C02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Apses Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,933.89 Easting: 289,267.80

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.90 H: 0.90	6.1	3.27	3.21	4.39



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_AB_C03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Apses Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,943.87 Easting: 289,258.96

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.90 H: 0.90	16.1	3.48	3.54	4.63



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_AB_B04

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Other

Watercourse: Apses Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,985.29 Easting: 289,257.09

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
			4.49



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_AB_C05

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Apses Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,001.63 Easting: 289,233.45

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.70 H: 1.15	6.1	5.91	5.94	7.17



Photo 1: Upstream End of Structure

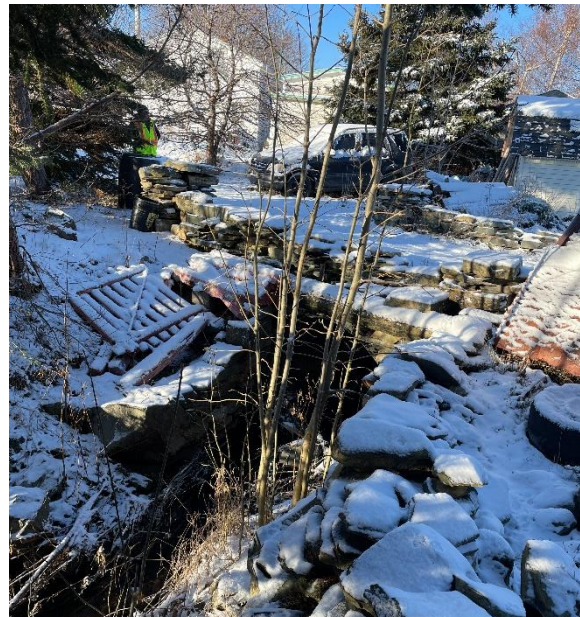


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

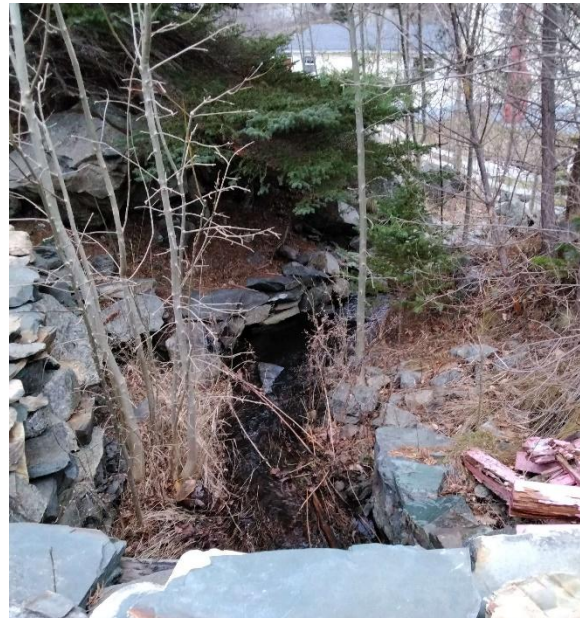


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_AB_C06

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Apses Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,008.35 Easting: 289,085.49

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.90 H: 0.90	86.5		5.82	9.24
2	W: 0.70 H: 0.70		8.51		



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_B01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,546.09 Easting: 289,192.33

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	10.15	1	1.86



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_B02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,302.82 Easting: 289,076.29

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	4.44	1	1.02



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_B03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,269.24 Easting: 288,980.75

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	5.20	1	1.18



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_C04

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,194.15 Easting: 288,858.82

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.80 H: 1.40	11.9	1.65	1.53	3.28



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_B05

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,189.34 Easting: 288,836.73

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	4.46	1	3.63



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_B06

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Pedestrian Bridge

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,010.57 Easting: 288,618.25

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	4.25	1	8.99



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

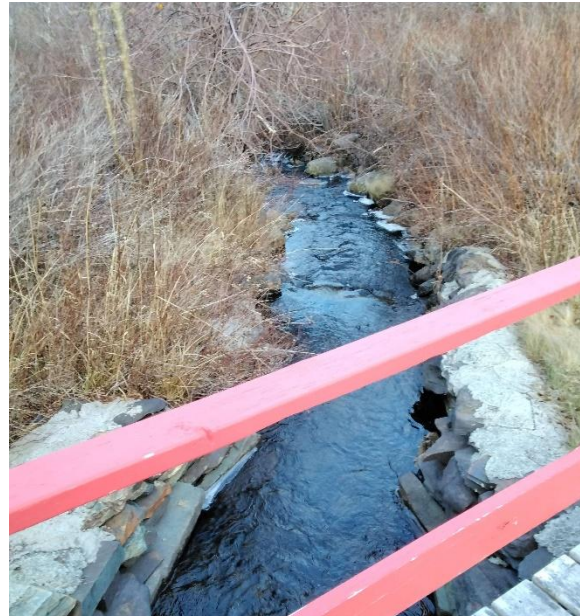


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_C07

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,849.95 Easting: 288,423.19

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.30 H: 1.30	24.2	19.88	19.04	24.51



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_C08

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,704.07 Easting: 288,277.00

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.90 H: 1.30	6.1	30.72	30.74	32.10



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_B09

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,680.56 Easting: 288,209.24

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	2.10	1	34.50



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

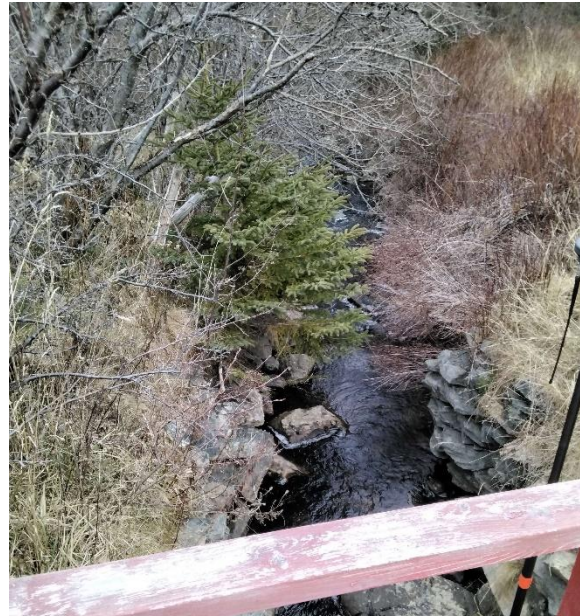


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_C10

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,032.81 Easting: 287,758.91

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.00 H: 0.80	12.0	50.71	50.24	51.65



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_BNB_C11

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Brigus North Brook

Structure Coordinates: MTM Zone 1 Northing: 5,264,816.94 Easting: 287,694.96

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.40 H: 0.40	5.8	55.61	55.44	56.35



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

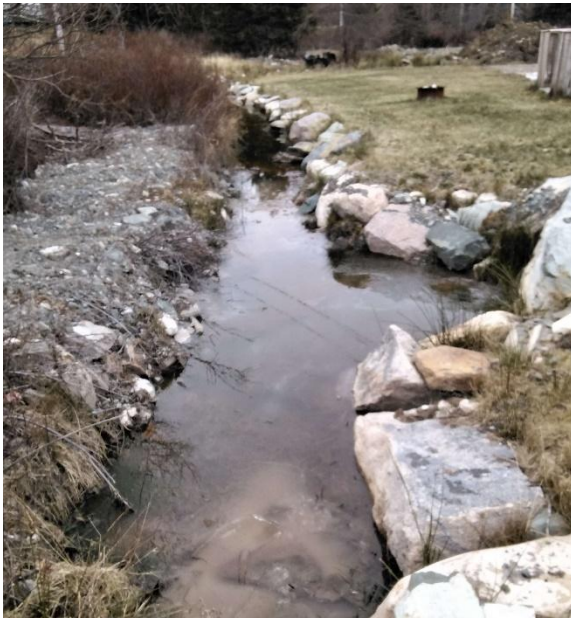


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_B01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,383.88 Easting: 289,052.60

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	5.25	1	1.09



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_B02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,335.25 Easting: 288,941.56

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	6.20	1	1.80



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_C03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,329.23 Easting: 288,890.74

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 2.33 H: 2.33	12.4	0.03	-0.44	2.29



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_C04

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,319.37 Easting: 288,860.38

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 4.30 H: 1.40	7.2	1.71	1.68	3.10



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

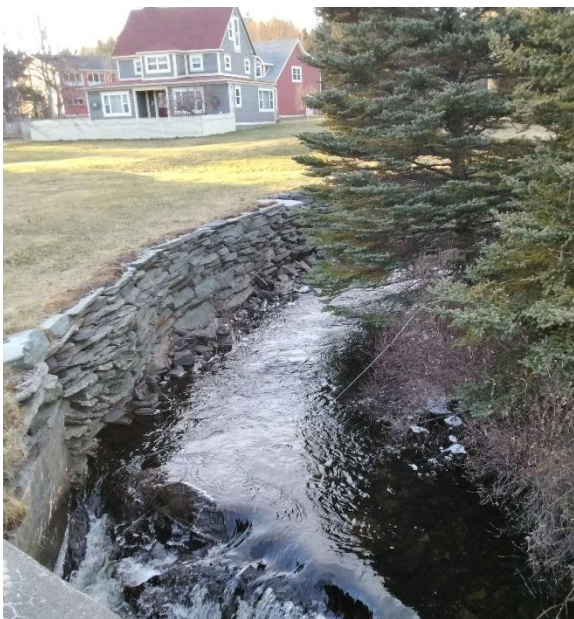


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_B05

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,266,043.28 Easting: 287,988.69

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	5.34	1	14.60



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

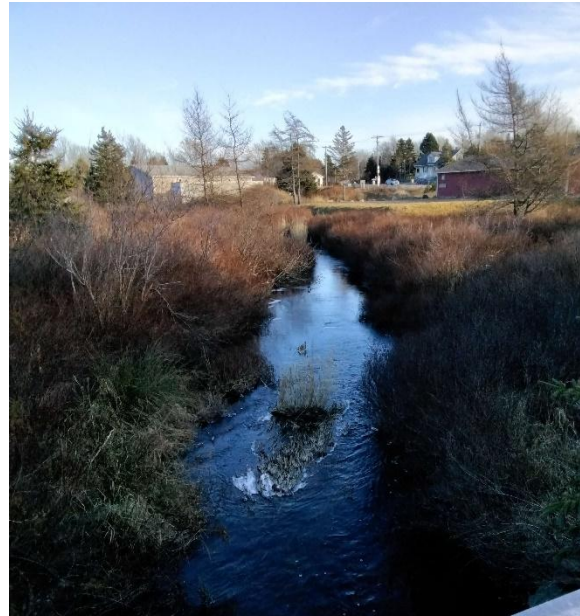


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_B06

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,926.57 Easting: 287,761.31

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	3.26	1	16.57



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_B07

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,919.10 Easting: 287,631.03

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	3.73	1	17.84



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

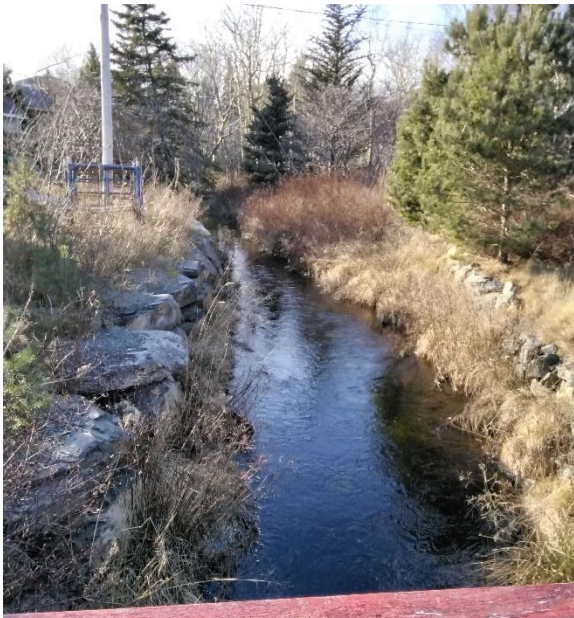


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_B08

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,911.46 Easting: 287,533.82

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	8.60	1	19.83



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure



Photo 5: Upstream End of Structure 2

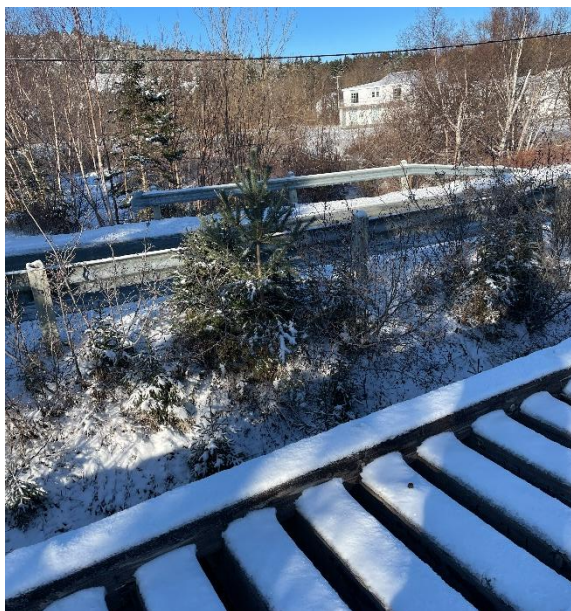


Photo 6: Looking Upstream from Structure 2

Crossing Data Sheet – BR_LB_C09

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,917.72 Easting: 287,523.82

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 2.10 H: 1.40	14.0	16.77	16.75	19.29
2	W: 2.10 H: 1.40	14.0	16.92	16.69	19.29
3	W: 1.20 H: 1.20	14.0	17.04	17.02	19.29

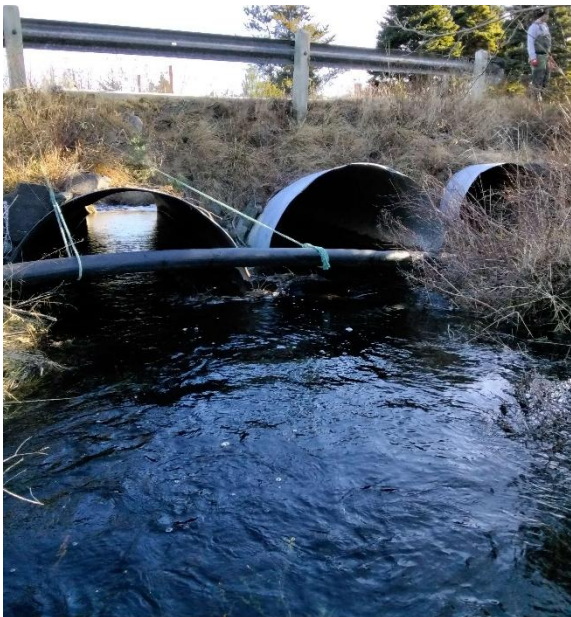


Photo 1: Upstream End of Structure

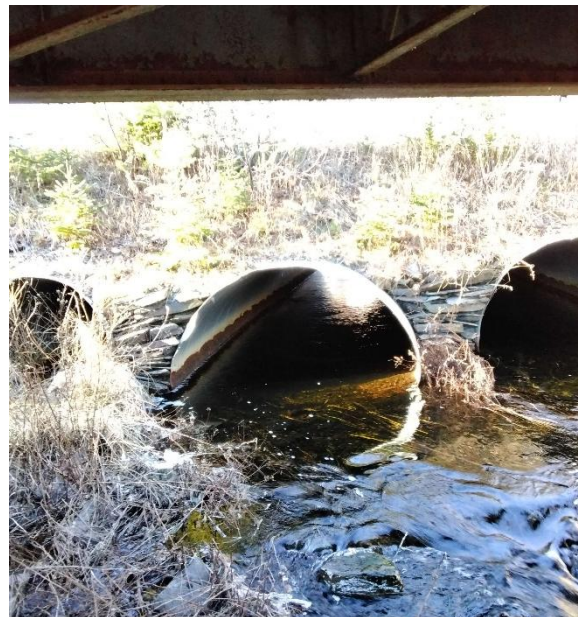


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_B10

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,904.88 Easting: 287,455.09

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	4.31	1	18.66

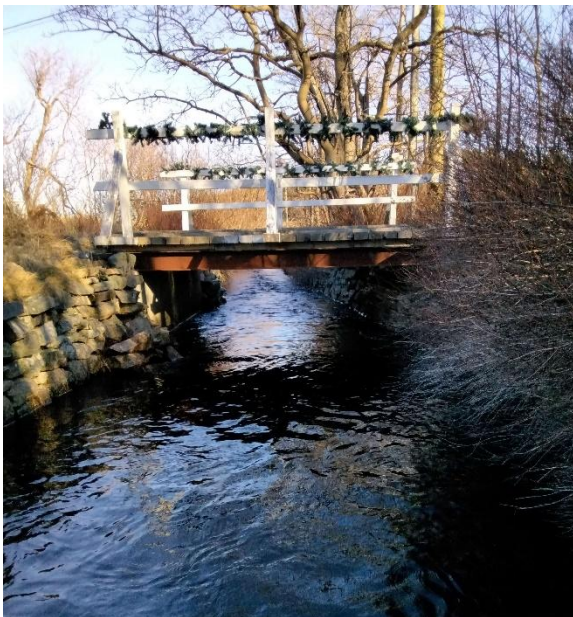


Photo 1: Upstream End of Structure

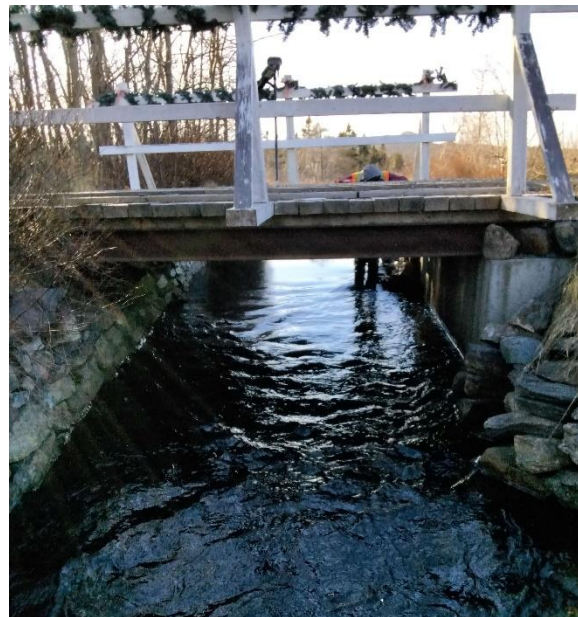


Photo 2: Downstream End of Structure

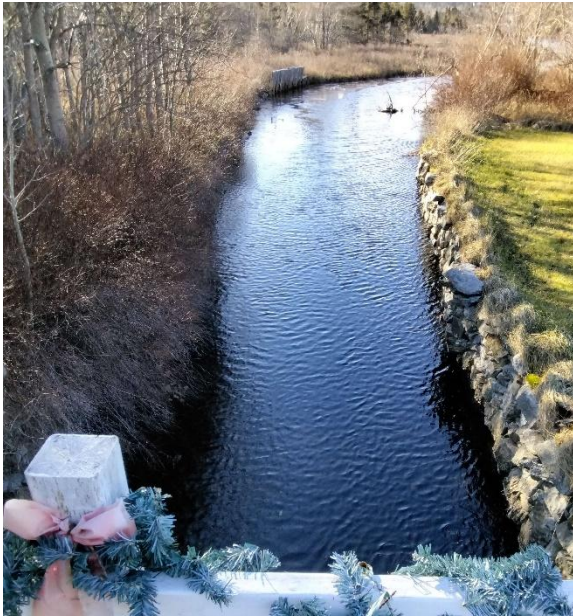


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_C11

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,594.78 Easting: 287,095.34

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 2.10 H: 2.10	16.5	17.14	17.17	19.70
2	W: 2.10 H: 2.10	16.4	17.01	16.72	19.70



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_B12

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,265,136.45 Easting: 286,868.43

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	4.50	1	26.76



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

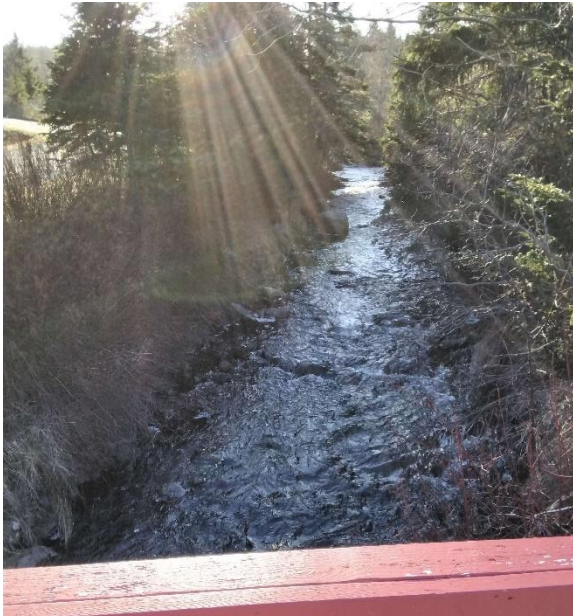


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_C13

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,264,982.87 Easting: 286,824.48

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.60 H: 1.60	14.1	29.35	28.81	31.41
2	W: 1.50 H: 1.50	14.1	29.31	29.13	31.41
3	W: 1.00 H: 1.00	14.4	29.76	29.64	31.41



Photo 1: Upstream End of Structure

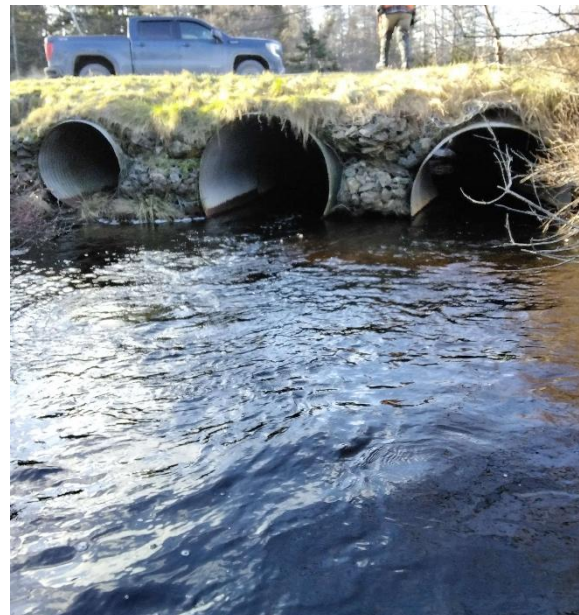


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LB_B14

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Lambes Brook

Structure Coordinates: MTM Zone 1 Northing: 5,264,544.62 Easting: 286,545.79

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	3.17	1	37.49



Photo 1: Upstream End of Structure

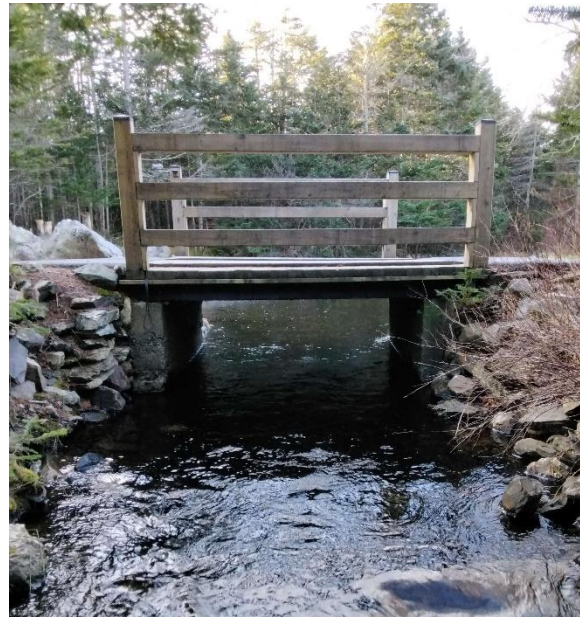


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

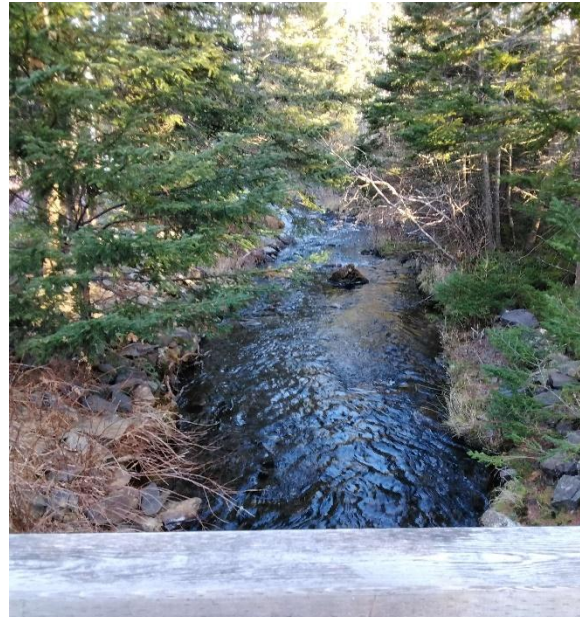


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LC1_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Brigus Local Creek 1

Structure Coordinates: MTM Zone 1 Northing: 5,265,822.50 Easting: 289,295.91

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.40 H: 1.00	14.0	0.05	-0.11	1.43



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

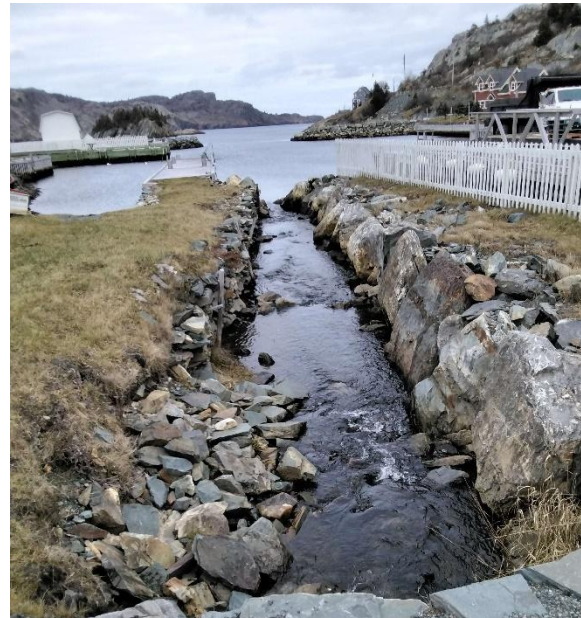


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LC1_C02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Brigus Local Creek 1

Structure Coordinates: MTM Zone 1 Northing: 5,265,569.02 Easting: 289,128.55

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.80 H: 0.80	6.1	15.20	14.82	16.10
2	W: 0.65 H: 0.65	6.0	15.41	14.87	16.10



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

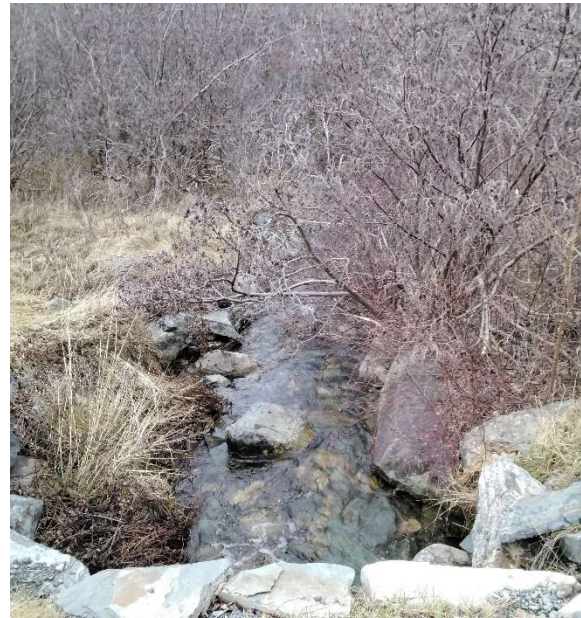


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LC2_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Brigus Local Creek 2

Structure Coordinates: MTM Zone 1 Northing: 5,266,129.13 Easting: 289,842.32

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.44 H: 1.44			5.05	7.06



Photo 1: Upstream End of Structure

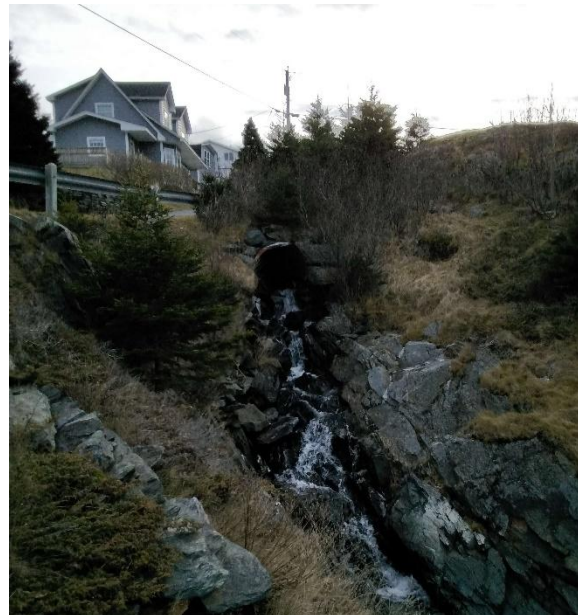


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LC2_B02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Brigus Local Creek 2

Structure Coordinates: MTM Zone 1 Northing: 5,266,093.49 Easting: 289,817.82

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	3.40	1	12.70



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

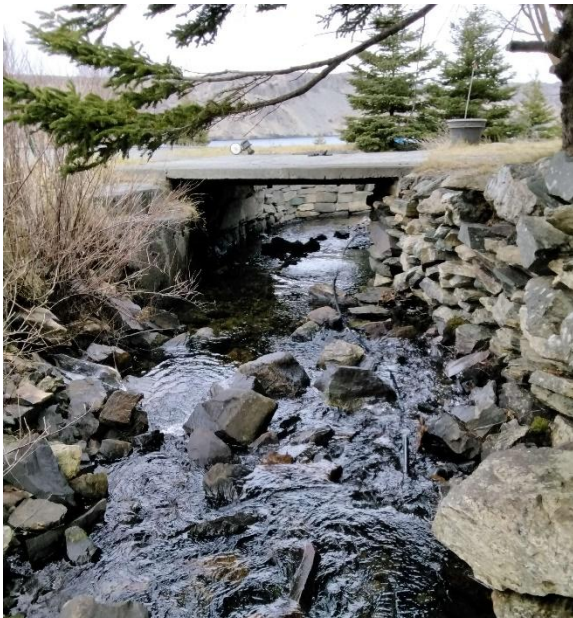


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LC2_B03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Other

Watercourse: Brigus Local Creek 2

Structure Coordinates: MTM Zone 1 Northing: 5,266,019.89 Easting: 289,810.72

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
			16.91



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – BR_LC3_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Brigus Local Creek 3

Structure Coordinates: MTM Zone 1 Northing: 5,266,161.09 Easting: 290,164.95

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.90 H: 0.90	6.0	0.12	0.05	1.23



Photo 1: Upstream End of Structure

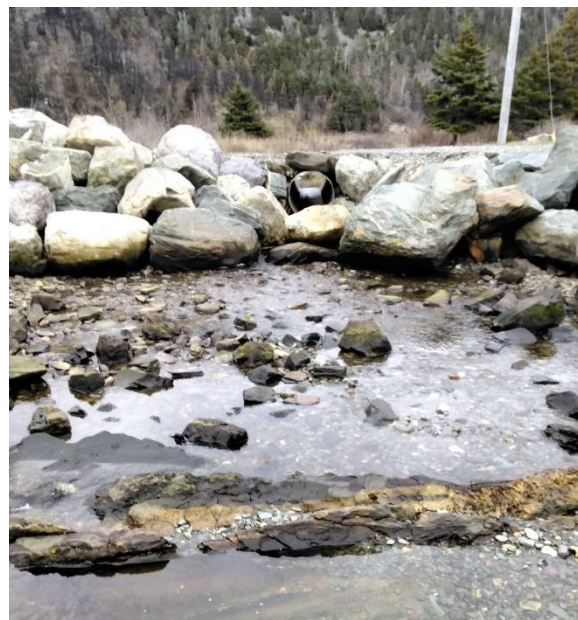


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – FL_QR_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Quarry River

Structure Coordinates: MTM Zone 1 Northing: 5,208,694.17 Easting: 312,979.04

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 3.40 H: 1.50	9.1	0.14	0.03	3.07



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

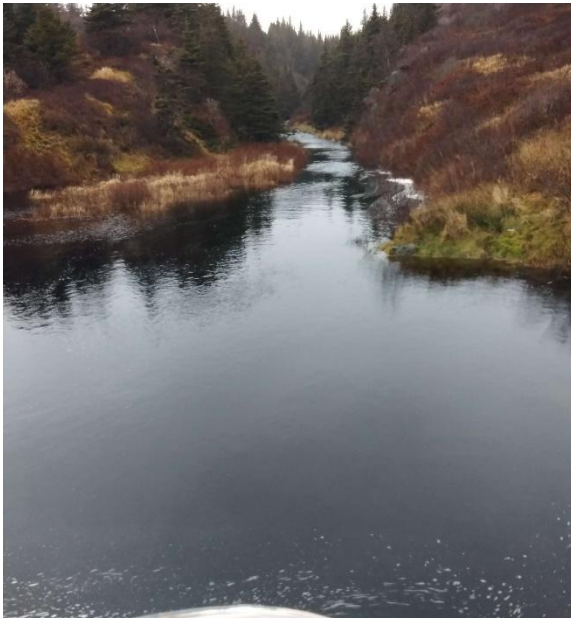


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – FL_QR_B02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular_Bridge

Watercourse: Quarry River

Structure Coordinates: MTM Zone 1 Northing: 5,209,032.23 Easting: 312,603.35

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	11.50	1	30.44



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – FL_QR_B03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Quarry River

Structure Coordinates: MTM Zone 1 Northing: 5,209,071.91 Easting: 312,487.62

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	8.85	1	30.37



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – FL_QR_B04

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Other

Watercourse: Quarry River

Structure Coordinates: MTM Zone 1 Northing: 5,209,158.29 Easting: 312,060.03

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	6.22	1	35.67



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – FL_QR_B05

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Quarry River

Structure Coordinates: MTM Zone 1 Northing: 5,210,252.86 Easting: 311,064.89

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	8.92	1	76.12



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

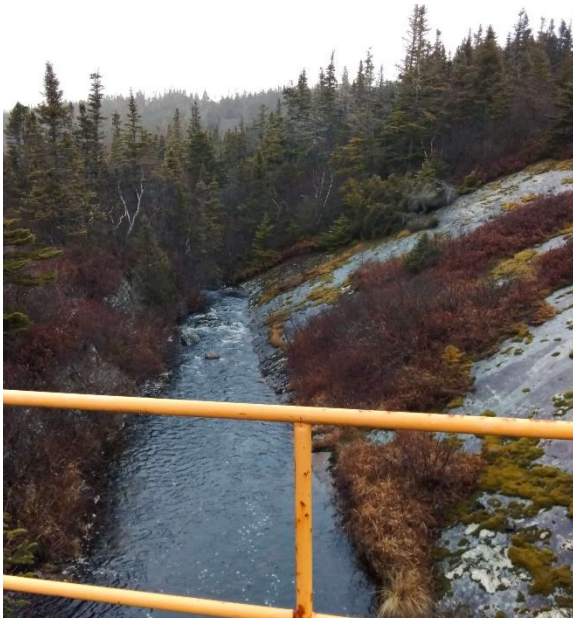


Photo 3: Looking Upstream from Structure

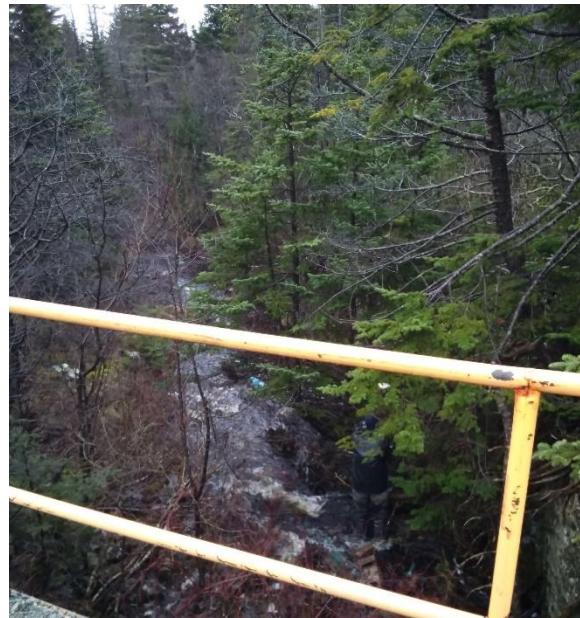


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – FL_FWR_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Freshwater River

Structure Coordinates: MTM Zone 1 Northing: 5,210,814.67 Easting: 313,495.41

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.40 H: 1.37	7.4	5.60	5.25	5.52



Photo 1: Upstream End of Structure

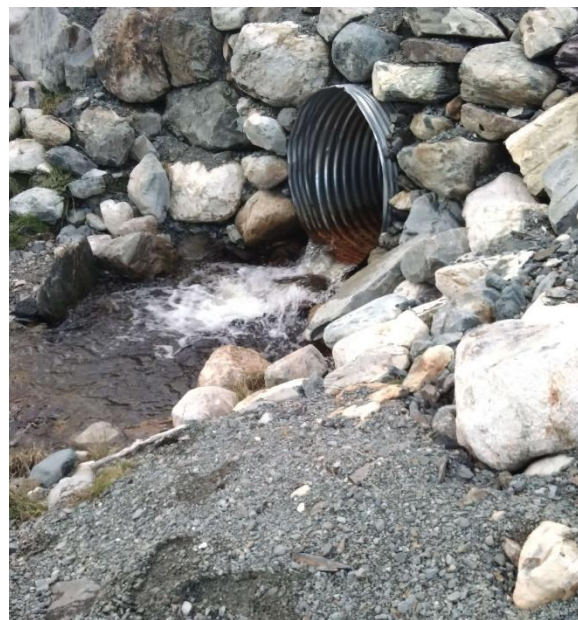


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – FL_FWR_C02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Freshwater River

Structure Coordinates: MTM Zone 1 Northing: 5,210,832.19 Easting: 313,414.52

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.20 H: 1.20	27.6	11.08	9.72	13.11
2	W: 2.00 H: 2.00	27.1	11.45	10.10	13.11



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

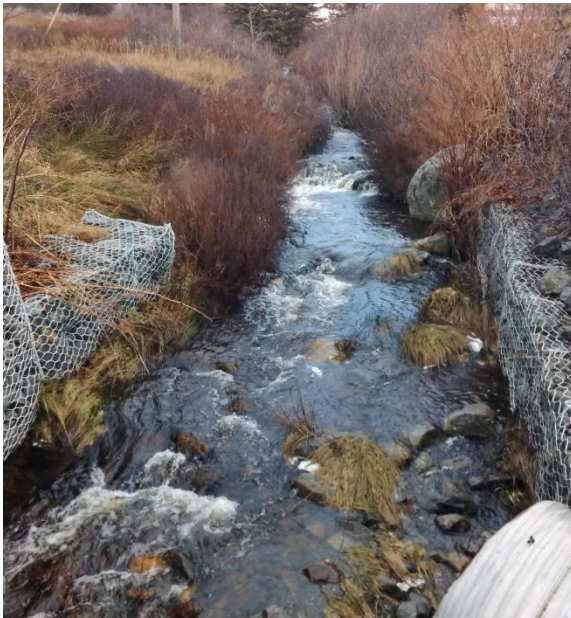


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – FL_FWR_C03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Freshwater River

Structure Coordinates: MTM Zone 1 Northing: 5,210,778.18 Easting: 313,048.08

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.10 H: 1.10	6.1	32.15	32.08	33.81



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC1_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Heart's Delight Local Creek 1

Structure Coordinates: MTM Zone 1 Northing: 5,290,822.34 Easting: 268,284.36

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 3.63 H: 2.60	19.2		1.58	5.25
2	W: 3.33 H: 2.35	19.2		2.17	5.25



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

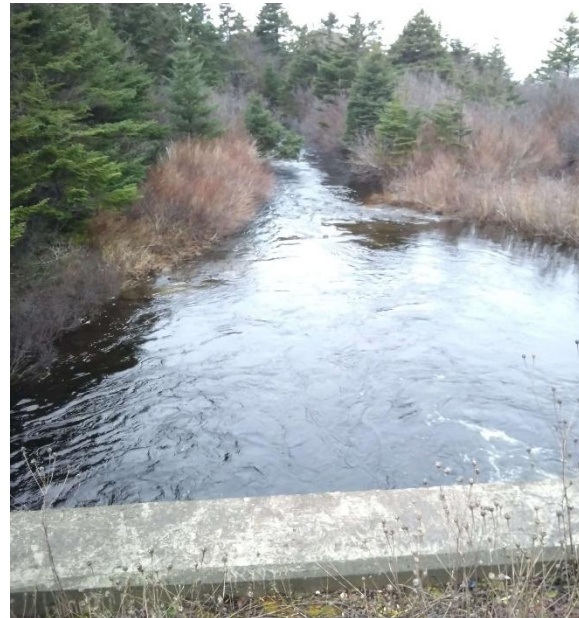


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC1_B02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Heart's Delight Local Creek 1

Structure Coordinates: MTM Zone 1 Northing: 5,290,797.85 Easting: 268,309.34

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	6.60	1	4.68



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC1_B03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Pedestrian Bridge

Watercourse: Heart's Delight Local Creek 1

Structure Coordinates: MTM Zone 1 Northing: 5,290,541.27 Easting: 268,582.04

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	5.07	1	6.26



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC2_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Heart's Delight Local Creek 2

Structure Coordinates: MTM Zone 1 Northing: 5,292,538.35 Easting: 269,747.79

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.65 H: 1.65	8.2	-0.36	-0.32	1.81
2	W: 1.65 H: 1.65	8.0	-0.49	-0.34	1.81



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC2_B02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Heart's Delight Local Creek 2

Structure Coordinates: MTM Zone 1 Northing: 5,292,372.83 Easting: 269,861.97

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	6.97	1	2.30



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC2_C03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Heart's Delight Local Creek 2

Structure Coordinates: MTM Zone 1 Northing: 5,292,214.07 Easting: 269,885.25

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.75 H: 0.75	12.3	1.54	1.55	1.68
2	W: 0.75 H: 0.75	12.3	1.42	1.48	1.68
3	W: 0.75 H: 0.75	12.2	1.50	1.52	1.68



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC3_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Heart's Delight Local Creek 3

Structure Coordinates: MTM Zone 1 Northing: 5,293,495.37 Easting: 269,952.14

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.80 H: 1.80	12.2	1.46	1.36	3.01
2	W: 1.19 H: 1.19	12.0	1.45	1.41	3.01



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC3_C02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Heart's Delight Local Creek 3

Structure Coordinates: MTM Zone 1 Northing: 5,293,524.48 Easting: 269,982.79

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.80 H: 1.80	18.1	2.16	1.74	4.59



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC3_C03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Heart's Delight Local Creek 3

Structure Coordinates: MTM Zone 1 Northing: 5,293,584.56 Easting: 270,040.27

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.30 H: 1.30	7.4	4.83	4.55	6.24



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_LC4_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Heart's Delight Local Creek 4

Structure Coordinates: MTM Zone 1 Northing: 5,294,498.81 Easting: 269,815.00

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.80 H: 1.05	15.2	11.72	11.75	13.51



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HD_HDB_B01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Heart's Delight Brook

Structure Coordinates: MTM Zone 1 Northing: 5,292,491.32 Easting: 270,121.50

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	14.90	1	2.74



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

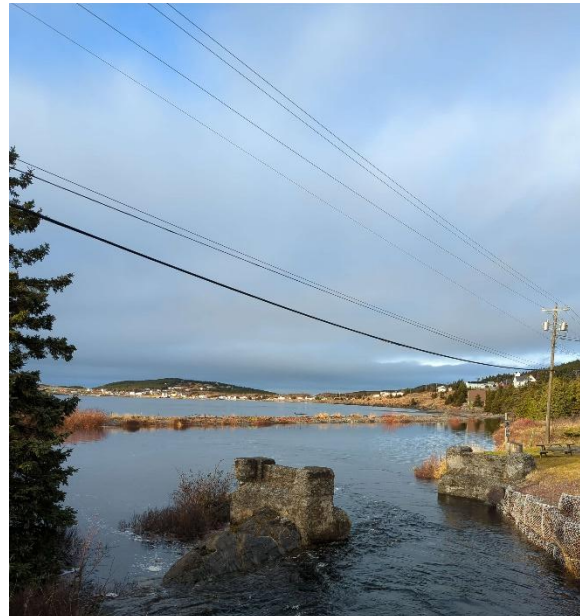


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_HWB_B01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Halfway Brook

Structure Coordinates: MTM Zone 1 Northing: 5,319,747.91 Easting: 284,612.88

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	4.30	1	3.38



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_HWB_C02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Halfway Brook

Structure Coordinates: MTM Zone 1 Northing: 5,316,158.96 Easting: 282,258.55

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 2.40 H: 2.40	21.0	39.32	38.11	42.50
2	W: 1.85 H: 1.85	21.10	39.37	38.78	42.50
3	W: 1.10 H: 1.30	18.2	40.22	39.68	42.50

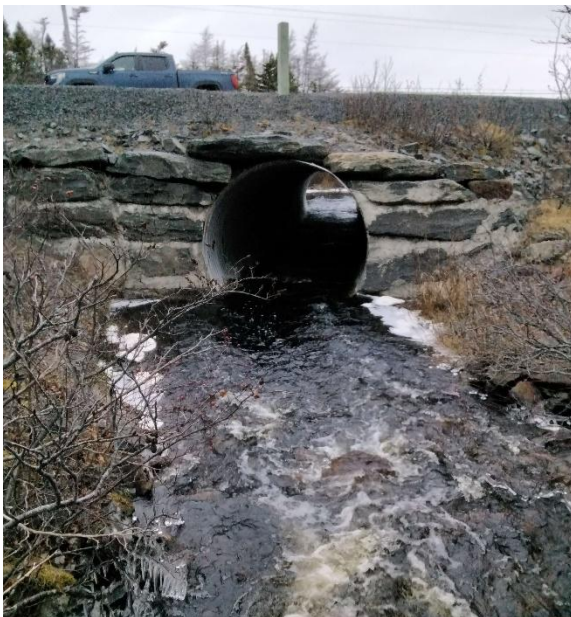


Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure



Photo 5: Culvert 3



Photo 6: Side profile of Upstream End of Structure

Crossing Data Sheet – HH_HWB_LC_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Halfway Brook Local Creek

Structure Coordinates: MTM Zone 1 Northing: 5,315,598.32 Easting: 281,541.03

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.60 H: 0.60	17.7	40.32	40.13	43.12
2	W: 0.60 H: 0.60	17.6	40.39	40.09	43.12



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_LC1_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Hant's Harbor Local Creek 1

Structure Coordinates: MTM Zone 1 Northing: 5,320,067.44 Easting: 286,754.87

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.80 H: 0.80	16.0	48.81	48.41	50.05



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_LC3_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Hant's Harbor Local Creek 3

Structure Coordinates: MTM Zone 1 Northing: 5,320,067.44 Easting: 286,754.87

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.80 H: 0.80	16.0	48.81	48.41	50.05



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_SHB_B01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Short's Brook

Structure Coordinates: MTM Zone 1 Northing: 5,319,526.14 Easting: 285,454.59

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	10.80	1	2.26



Photo 1: Upstream End of Structure

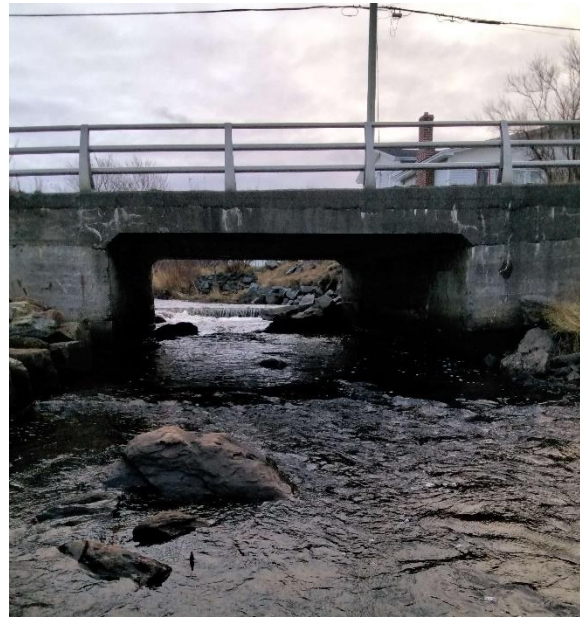


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

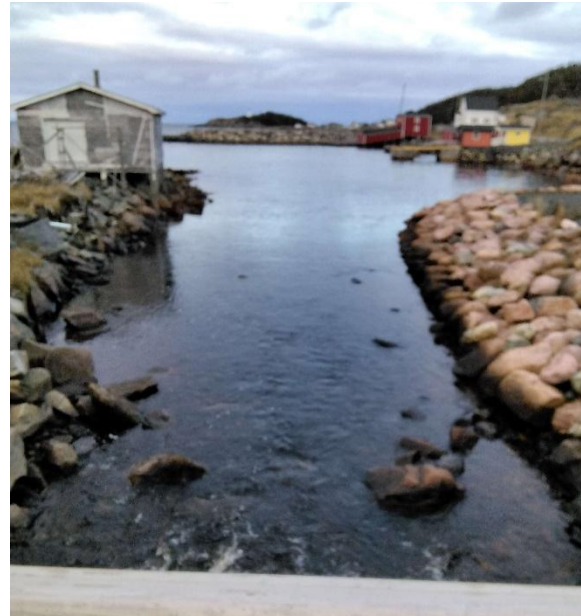


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_SHB_C02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Short's Brook

Structure Coordinates: MTM Zone 1 Northing: 5,319,408.44 Easting: 285,400.99

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.80 H: 1.80	6.0	2.05	3.72	3.98
2	W: 1.80 H: 1.80	5.9	2.06	1.90	3.98



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

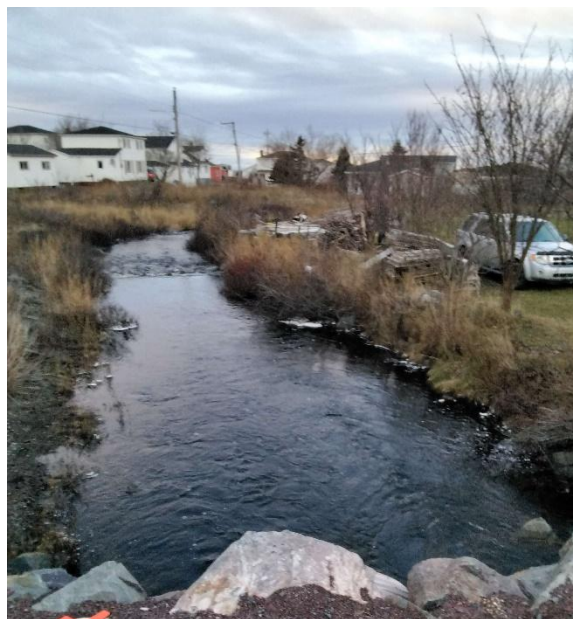


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_SHB_C03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Short's Brook

Structure Coordinates: MTM Zone 1 Northing: 5,319,065.13 Easting: 285,308.07

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.40 H: 1.40	8.9	4.95	4.98	6.61



Photo 1: Upstream End of Structure

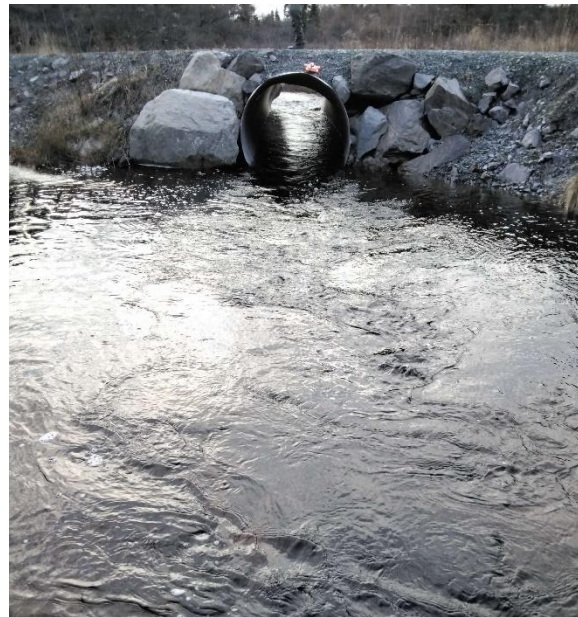


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

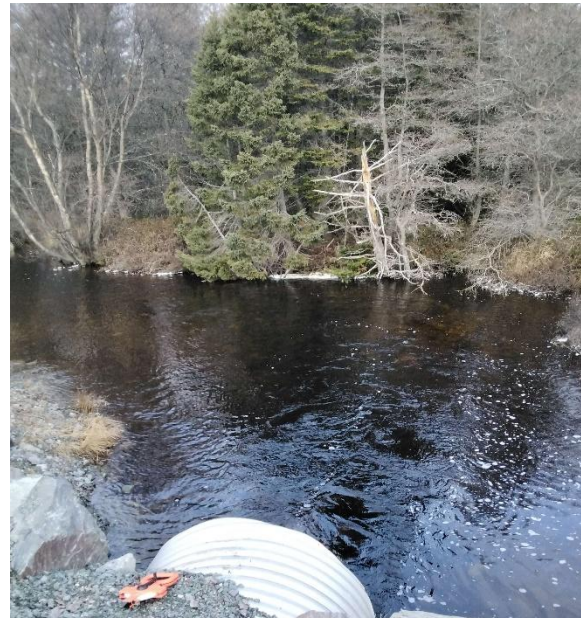


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_SHB_C04

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Short's Brook

Structure Coordinates: MTM Zone 1 Northing: 5,318,772.43 Easting: 285,316.46

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 3.50 H: 1.36	14.4	14.21	14.06	16.13



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

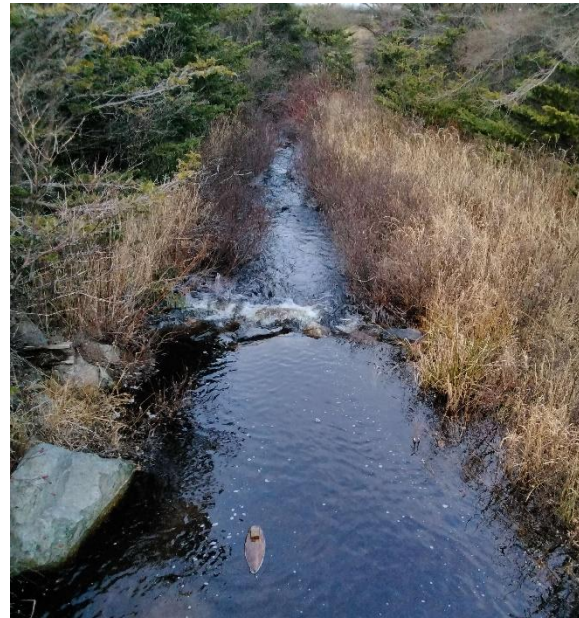


Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_SHB_C05

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Short's Brook

Structure Coordinates: MTM Zone 1 Northing: 5,318,285.12 Easting: 285,350.99

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.20 H: 1.20	6.0	29.20	29.06	30.42



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – HH_SWB_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Southwest Brook

Structure Coordinates: MTM Zone 1 Northing: 5,318,483.46 Easting: 284,537.44

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 2.00 H: 2.00	15.9	22.38	22.24	25.39



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_B01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Western Pond Brook

Structure Coordinates: MTM Zone 1 Northing: 5,312,868.73 Easting: 280,097.58

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	4.31	1	2.28



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_B02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Western Pond Brook

Structure Coordinates: MTM Zone 1 Northing: 5,312,801.49 Easting: 280,155.57

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	14.70	1	7.75



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_B03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Western Pond Brook

Structure Coordinates: MTM Zone 1 Northing: 5,312,706.22 Easting: 280,219.80

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	6.00	1	14.10



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_B04

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Western Pond Brook

Structure Coordinates: MTM Zone 1 Northing: 5,312,532.95 Easting: 280,496.23

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Concrete	7.03	1	20.38



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_C05

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Western Pond Brook

Structure Coordinates: MTM Zone 1 Northing: 5,312,777.16 Easting: 281,076.27

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 1.20 H: 1.20	6.1	39.46	39.37	41.14
2	W: 1.20 H: 1.20	5.8	39.27	39.24	41.14



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_B06

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular_Bridge

Watercourse: Western Pond Brook

Structure Coordinates: MTM Zone 1 Northing: 5,313,227.23 Easting: 281,682.99

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	6.83	1	68.50



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

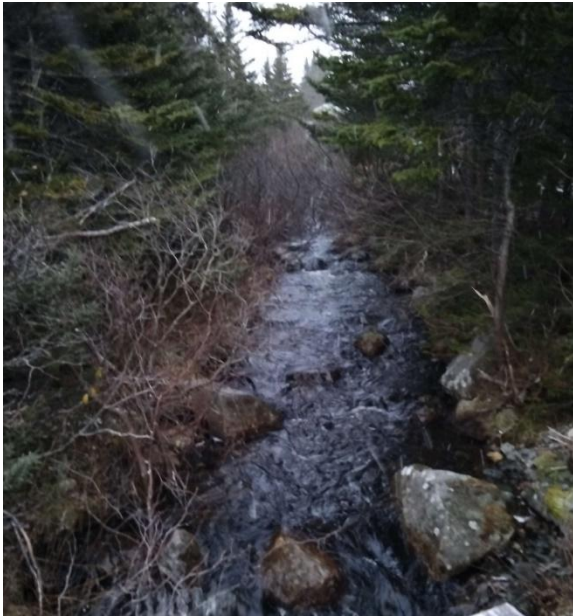


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_LC_C01

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Western Pond Brook Local Creek

Structure Coordinates: MTM Zone 1 Northing: 5,311,918.10 Easting: 280,884.21

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: 0.60 H: 0.60	5.9	52.33	25.25	53.17



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_LC_B02

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Vehicular Bridge

Watercourse: Western Pond Brook Local Creek

Structure Coordinates: MTM Zone 1 Northing: 5,311,907.85 Easting: 280,909.65

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	2.23	1	54.47



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_LC_C03

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Culvert

Watercourse: Western Pond Brook Local Creek

Structure Coordinates: MTM Zone 1 Northing: 5,311,648.99 Easting: 280,774.33

Culvert No.	Dimensions (m)	Culvert Length (m)	U/S Invert	D/S Invert	Top of Road
1	W: H:	11.9			64.85



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_LC_B04

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Pedestrian Bridge

Watercourse: Western Pond Brook Local Creek

Structure Coordinates: MTM Zone 1 Northing: 5,311,560.73 Easting: 280,719.88

Bridge Type	Total Span Length (m)	Number of Spans	Top of Road
Wood	4.88	1	68.02



Photo 1: Upstream End of Structure



Photo 2: Downstream End of Structure

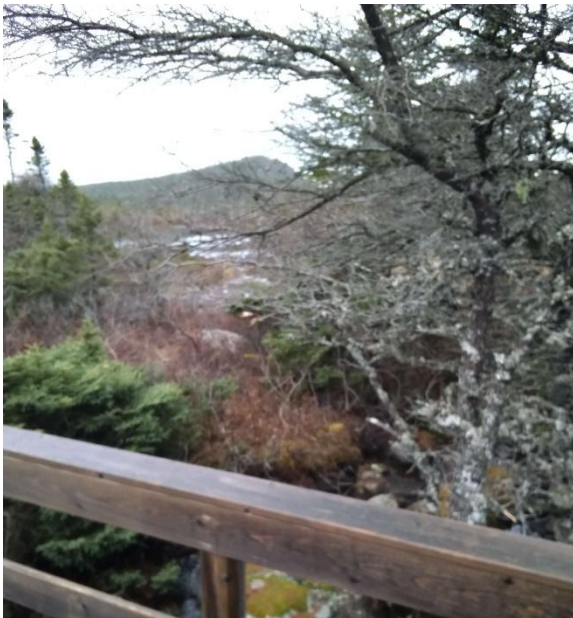


Photo 3: Looking Upstream from Structure



Photo 4: Looking Downstream from Structure

Crossing Data Sheet – WI_WPB_S07

Project: Climate Change Flood Hazard Mapping Study for Ferryland, Brigus, Heart's Delight, Winterton and Hant's Harbour

Structure Type: Other

Watercourse: Western Pond Brook

Structure Coordinates: MTM Zone 1 Northing: 5,313,252.31 Easting: 281,734.77

Bridge Type	Span Width	Number of Spans	Top of Road



Photo 1: Upstream End of Structure

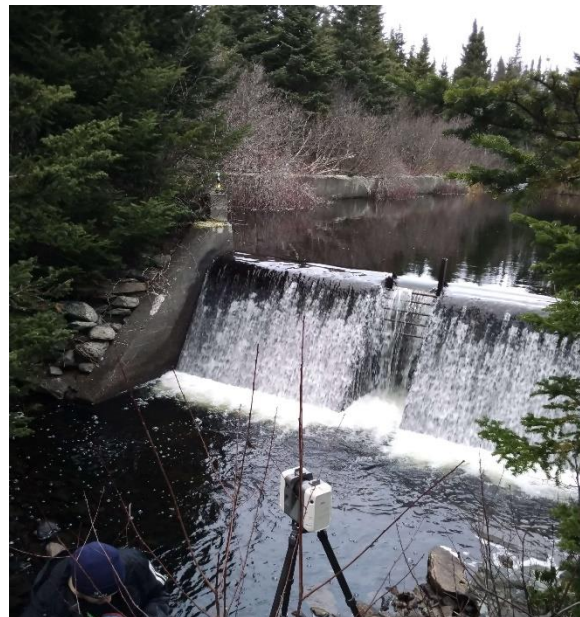


Photo 2: Downstream End of Structure



Photo 3: Looking Upstream from Structure

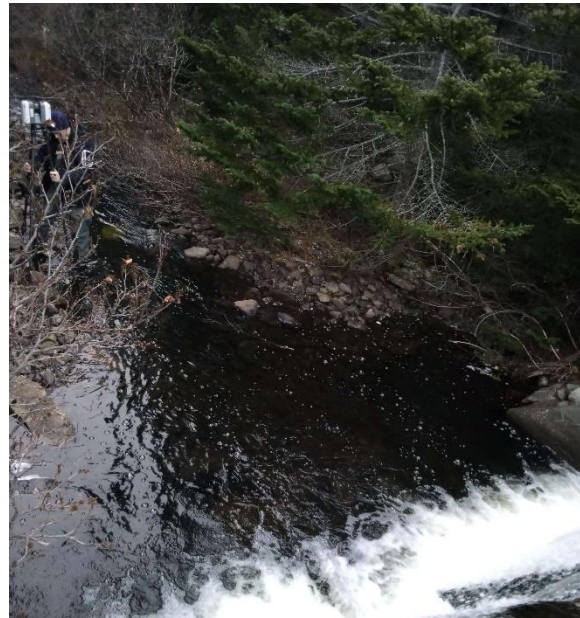


Photo 4: Looking Downstream from Structure