LIST OF DRAWINGS

DRAWING No. TITLE

COVER SHEET

C01 . . . . . EXISTING CONDITIONS AND REMOVALS PLAN
C02 . . . . . ROUNDABOUT DESIGN LAYOUT PLAN
C03 . . . . . ROUNDABOUT CROWN PLAN AND PROFILE
C04 . . . . . PORTUGAL COVE ROAD ROUNDABOUT LEGS (EAST AND WEST)
C05 . . . . . AIRPORT HEIGHTS DRIVE AND MAJOR'S PATH ROUNDABOUT LEGS
C06 . . . . . SHARED-USE PATHWAY PLAN AND PROFILE
C07 . . . . . GRADING PLAN
C08 . . . . . SIGNAGE AND PAVEMENT MARKING PLAN
C09 . . . . . SERVICING PLAN
C10 . . . . . SECTIONS (1 OF 2)
C11 . . . . . SECTIONS (2 OF 2)
C12 . . . . . DETAILS
E01 . . . . . LIGHTING DESIGN AND DETAILS
L01 . . . . . ROUNDABOUT DESIGN LANDSCAPING PLAN

CULVERT REPLACEMENT

S1 . . . . . EXISTING CONDITIONS AND REMOVALS
S2 . . . . . NEW CONDITIONS
S3 . . . . . NEW BOX CULVERT LAYOUT
S4 . . . . . BOX CULVERT UNIT 1 GEOMETRY AND REINFORCING
S5 . . . . . BOX CULVERT UNIT 2 GEOMETRY AND REINFORCING
S6 . . . . . TYPICAL BOX CULVERT DETAILS AND NOTES
S7 . . . . . RECON BLOCK RETAINING WALL ELEVATIONS
S8 . . . . . RECON BLOCK RETAINING WALL SECTION, DETAILS AND NOTES
S9 . . . . . CONSTRUCTION PHASING (SHEET 1)
S10 . . . . . CONSTRUCTION PHASING (SHEET 2)

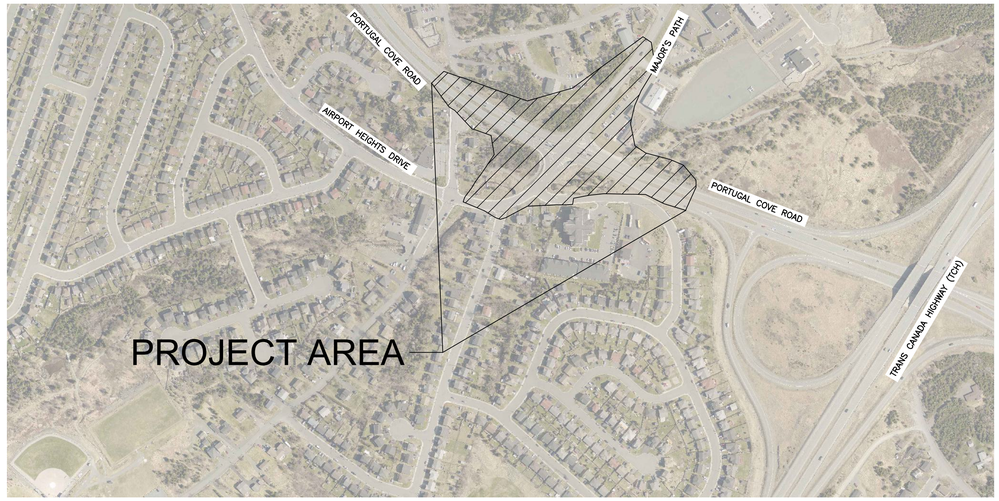
ISSUED FOR CONSTRUCTION

PROJECT NO. : 232088

CITY OF ST. JOHN'S
ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

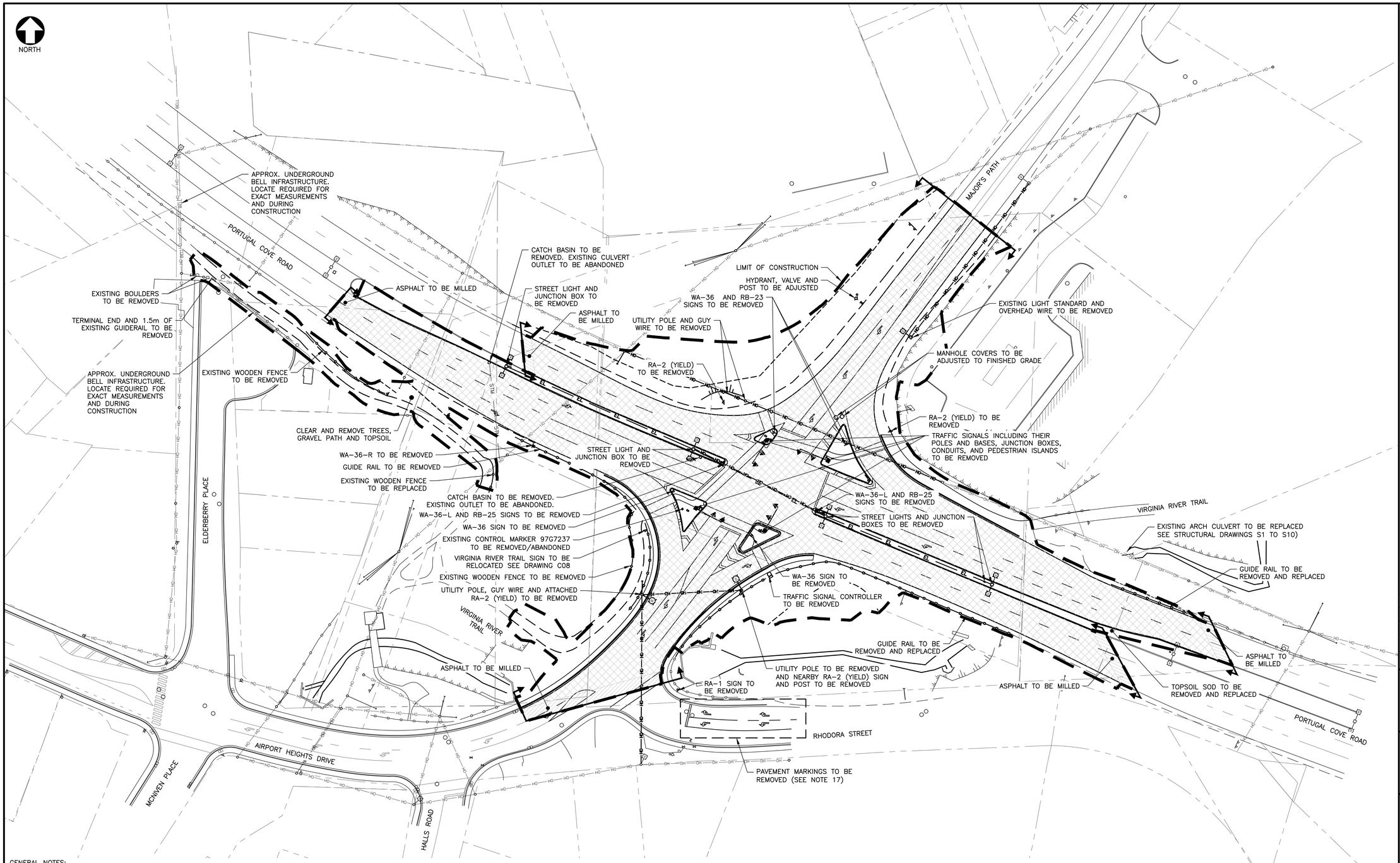
PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT

KEY MAP



HARBOURSIDE
Transportation Consultants

ST. JOHN'S



GENERAL NOTES:

1. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF ST. JOHN'S SPECIFICATION BOOK.
2. ALL UNITS ARE METRIC UNLESS NOTED OTHERWISE. HORIZONTAL MEASUREMENTS REFERENCED TO NAD 83 DATUM. ELEVATIONS BASED ON VERTICAL DATUM CGVD2013.
3. TOPOGRAPHIC SURVEY DONE BY JONATHAN E. WILLIAMS, NEWFOUNDLAND LAND SURVEYOR ON DECEMBER 21, 2023.
4. PROPERTY BOUNDARIES PROVIDED BY THE CITY OF ST. JOHN'S AND ARE APPROXIMATE ONLY.
5. REMOVAL OF TOPSIDES PORTION OF TRAFFIC CONTROL POLE, SIGNALS, DEVICES & ELECTRICAL WIRING WILL BE UNDERTAKEN BY CITY OF ST. JOHN'S. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC POLE BASES, CONDUIT, LOOPS REMOVALS. CONTRACTOR SHALL COORDINATE WITH CITY ON ALL ASPECTS OF TRAFFIC SIGNALS REMOVALS.
6. COORDINATE DECOMMISSIONING OF EXISTING TRAFFIC SIGNAL INFRASTRUCTURE WITH CITY OF ST. JOHN'S. "CITY" TO REMOVE EXISTING POLES, SIGNAL HEADS, CONTROLLERS, ETC. CONTRACTOR TO REMOVE AND LEGALLY DISPOSE OF EXISTING POLE BASES, UNDERGROUND CONDUIT, JUNCTION BOXES, CONTROLLER BASE, AND INDUCTIVE LOOPS.
7. WORK OF REMOVAL/RELOCATION AND SUPPLY/INSTALLATION OF NEW UTILITY POLES & STREET LIGHTS SHALL BE CONDUCTED "BY OTHER'S". CONTRACTOR SHALL SUPPLY/INSTALL UNDERGROUND CONDUIT/DUCT BANKS AS OUTLINED, AND SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES AS IT APPLIES TO REMOVAL/RELOCATION AND SUPPLY/INSTALLATION OF UTILITY POLES & STREET LIGHTS "BY OTHERS".
8. WORK OF TOPSIDES PORTION OF NEW STREET LIGHTS AND POLES, ELECTRICAL WIRING, ELECTRICAL CABINET, ELECTRICAL SERVICE WILL BE UNDERTAKEN BY CITY OF ST. JOHN'S. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NEW UNDERGROUND PORTION OF TRAFFIC POLE BASES AND CONDUIT. CONTRACTOR SHALL COORDINATE WITH CITY ON ALL ASPECTS OF NEW STREET LIGHTING INSTALLED.
9. SELECT SIGNS ARE TO BE RE-USED IN NEW DESIGN. REFER TO DRAWING C08 SIGNAGE PLAN FOR SIGN SCHEDULE.
10. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM WORK AND TO COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS.
11. PROVIDE SEDIMENT CONTROL MEASURES AS RECOMMENDED BY SECTION 10 OF THE ST. JOHN'S DEVELOPMENT DESIGN MANUAL.
12. UTILITY INFORMATION IS APPROXIMATE ONLY. EXACT LOCATION AND ELEVATIONS TO BE DETERMINED IN FIELD BY THE CONTRACTOR. THE CONTRACTOR IS ADVISED THAT THERE IS A CRITICAL WATERMAIN CROSSING THIS INTERSECTION.
13. THE CONTRACTOR SHALL CHECK AND VERIFY ALL PROPOSED DIMENSIONS BEFORE PROCEEDING WITH CONSTRUCTION. ANY ADJUSTMENTS WILL BE MADE BY THE ENGINEER AS NECESSARY.
14. CONTRACTOR TO COORDINATE UTILITY POLE RELOCATION WITH NEWFOUNDLAND POWER.
15. AT COMPLETION OF WORK, REINSTATE ALL DISTURBED SURFACES TO THE SATISFACTION OF THE ENGINEER.
16. CONTRACTOR SHALL COORDINATE WITH THE CITY OF ST. JOHN'S AND NEWFOUNDLAND POWER THROUGHOUT CONSTRUCTION. TRAFFIC CONTROL PLANS MUST BE APPROVED BY CITY OF ST. JOHN'S.
17. BLACKING OUT OF EXISTING PAVEMENT MARKINGS IS NOT PERMITTED. THE CONTRACTOR SHALL MECHANICALLY REMOVE EXISTING PAVEMENT MARKINGS TO THE SATISFACTION OF THE PROJECT MANAGER OR DESIGNATE VIA SAND BLASTING, HIGH PRESSURE WATER WASHING, SHALLOW DEPTH GRINDING, OR OTHER MECHANICAL MEANS. THE MECHANICAL REMOVAL METHOD MUST BE APPROVED BY THE CITY.

LEGEND

EXISTING

- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- OVERHEAD WIRE

REMOVALS / RELOCATIONS

- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- TRAFFIC SIGNALS
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- OVERHEAD WIRE
- ASPHALT
- MILLING
- ROAD CONSTRUCTION LIMIT
- CONSTRUCTION LIMIT

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

Title: EXISTING CONDITIONS AND REMOVALS PLAN

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows
Harbourside Transportation Consultants
Signature — Date: February 25/26
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGNL N0763
which is valid for the year 2026.

REGISTERED PROFESSIONAL ENGINEER — MICHAEL S. MACDONALD — SIGNATURE — February 25/26 DATE — NEWFOUNDLAND & LABRADOR

Scale	1:500
Date	JUNE 14, 2024
Drawn	S.L.A.
Designed	S.L.A.
Checked	M.M.
Approved	M.M.
Contract No.	232088
Drawing No.	C01

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\SUBMISSION\IFC-FEB-25-2026\C01 - EX CONDITIONS.DWG, February 24, 2026, 2:58 PM

NORTH

NOTES:

1. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF ST. JOHN'S SPECIFICATION BOOK.
2. ALL UNITS ARE METRIC UNLESS NOTED OTHERWISE.

CONNECT TO EXISTING TRAIL
PORTUGAL COVE ROAD
NEW BOLLARDS SEE DETAIL 3/C12
MATCH EXISTING ASPHALT SEE DETAIL 7/C12
CONNECT TO EXISTING SIDEWALK ON ELDERBERRY PLACE
SPLITTER ISLAND TOPSOIL AND SOD INFILL
3.0m ASPHALT SHARED-USE PATH
APROX. 52.0m± OF NEW TIMBER FENCING TO BE INSTALLED. SEE DETAIL 4/C12
PAVE FIRST 5m OF TRAIL FOR GRAVE CONTROL
GRAVEL TIE-IN TO EXISTING TRAIL
LIMIT OF 3.0m SHARED-USE PATH
1.8m CONCRETE SIDEWALK AS PER STANDARD DRAWING 10-330-03
SPLITTER ISLAND RED CONCRETE INFILL
DETECTABLE WARNING PLATES (TYP.) AS PER STANDARD DRAWING 10-330-16
APPROX. 167.0m± OF NEW TIMBER FENCING TO BE INSTALLED. SEE DETAIL 4/C12
PAVE FIRST 5m OF TRAIL FOR GRADE CONTROL
VIRGINIA RIVER TRAIL
GRAVEL TIE-IN TO EXISTING TRAIL
ISLAND END TREATMENT AS PER STANDARD DRAWING 10-330-23
MATCH EXISTING SIDEWALK AND CURB GUTTER
MATCH EXISTING ASPHALT SEE DETAIL 7/C12
MCNIVEN PLACE
AIRPORT HEIGHTS DRIVE
HALLS ROAD
ELDERBERRY PLACE
MATCH EXISTING ASPHALT SEE DETAIL 7/C12
CURB AND GUTTER TAPER AT ENDS OF CURB (TYP.) SEE DETAIL 6/C12
TOPSOIL AND SOD (TYP.)
ADJUST EXISTING HYDRANT AND VALVES TO FINISHED GROUND
3.0m ASPHALT SHARED-USE PATH
ISLAND END TREATMENT AS PER STANDARD DRAWING 10-330-23
SPLITTER ISLAND RED CONCRETE INFILL
MAJOR'S PATH
MATCH EXISTING ASPHALT SEE DETAIL 7/C12
MATCH ASPHALT, SHARED-USE PATHWAY, SIDEWALK, AND BOULEVARDS. POINT OF COORDINATION: N: 5273741.012 E: 324499.834 (SEE DRAWING C05)
1.8m CONCRETE SIDEWALK AS PER STANDARD DRAWING 10-330-03
NEW LIGHT POST AND OVERHEAD LINE
2H:1V SLOPE TO BACK OF EXISTING PARKING LOT CURB AND BE HYDROSEEDED (TYP.)
ACCESSIBLE CURB RAMP (TYP.) SEE DETAIL 5/C12
LIMIT OF 3.0m SHARED-USE PATH
LANDSCAPED EYE OF ROUNDABOUT REFER TO LANDSCAPING ON DRAWING L01
2.0m RED CONCRETE APRON SEE SECTION A/C10
3.0m ASPHALT SHARED-USE PATH. SEE SECTION A/C10
CONNECT TO EXISTING TRAIL
VIRGINIA RIVER TRAIL
FOR CULVERT REPLACEMENT SEE DRAWINGS S1 TO S10
SPLITTER ISLAND TOPSOIL AND SOD INFILL
APPROX. 54.5m± OF NEW GUIDE RAIL TO BE INSTALLED AS PER STANDARD DRAWING 10-602-01 OF THE CITY OF ST. JOHN'S SPECIFICATIONS BOOK.
1.8m CONCRETE SIDEWALK AS PER STANDARD DRAWING 10-330-03
2H:1V SLOPE TO BE HYDROSEEDED (TYP.)
MATCH TO EXISTING SIDEWALK AND CURB AND GUTTER
MATCH EXISTING CURB GUTTER
MATCH EXISTING ASPHALT SEE DETAIL 7/C12
PORTUGAL COVE ROAD
APPROX. 137.0m± OF NEW GUIDE RAIL TO BE INSTALLED AS PER STANDARD DRAWING 10-602-01 OF THE CITY OF ST. JOHN'S SPECIFICATIONS BOOK.
RHODORA STREET
DEPRESSED RED CONCRETE ISLAND END FOR TRUCK ACCESS
MATCH EXISTING ASPHALT SEE DETAIL 7/C12

LEGEND

EXISTING
- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- OVERHEAD WIRE

PROPOSED
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SHARED PATH SIDEWALK
- DETECTABLE WARNING PLATE
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- ASPHALT
- TOPSOIL AND SOD
- RED CONCRETE

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

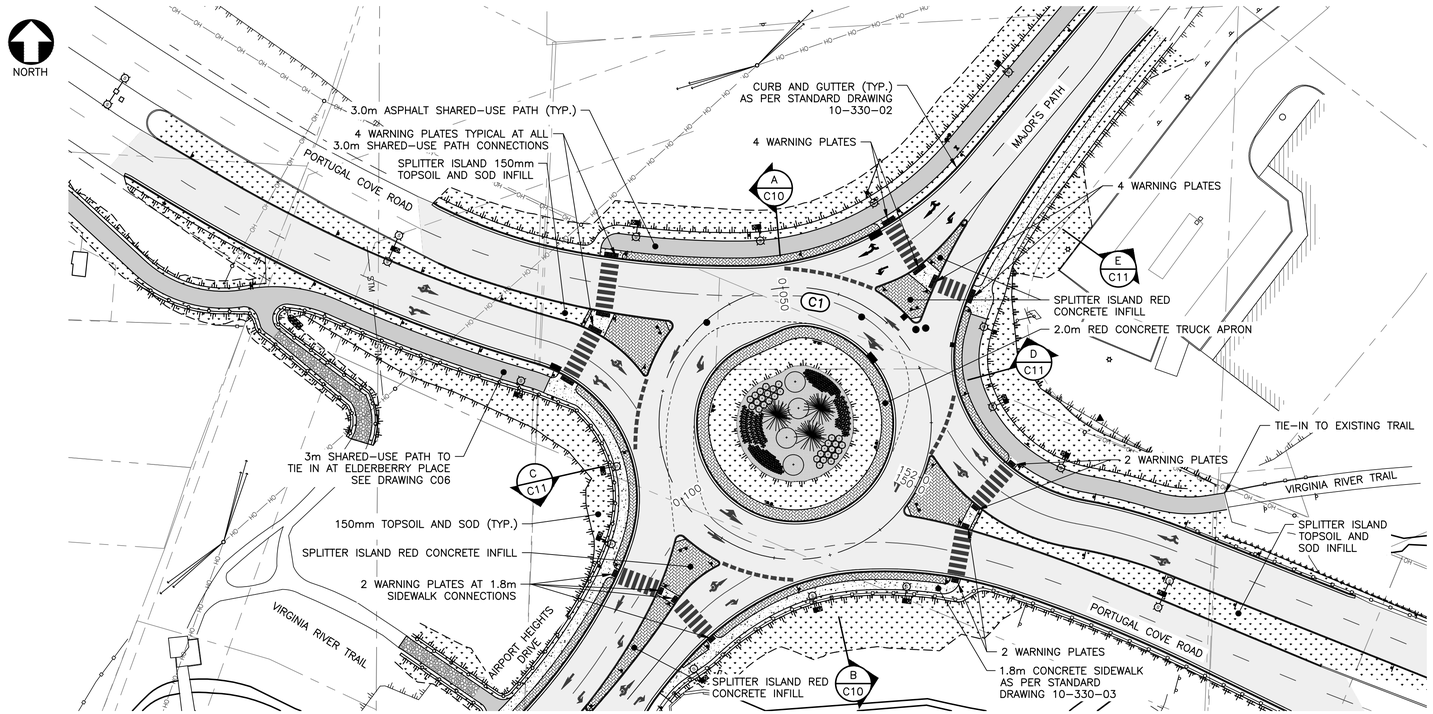
Title: ROUNDABOUT DESIGN LAYOUT PLAN

PROVINCE OF NEWFOUNDLAND PERMIT HOLDER CLASS "A"
This Permit Allows
Harbourside Transportation Consultants
February 25/26
Date
Signature
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEGNL N0763 which is valid for the year 2026.

REGISTERED PROFESSIONAL ENGINEER MICHAEL S. MACDONALD NEWFOUNDLAND & LABRADOR
SIGNATURE
February 25/26
DATE

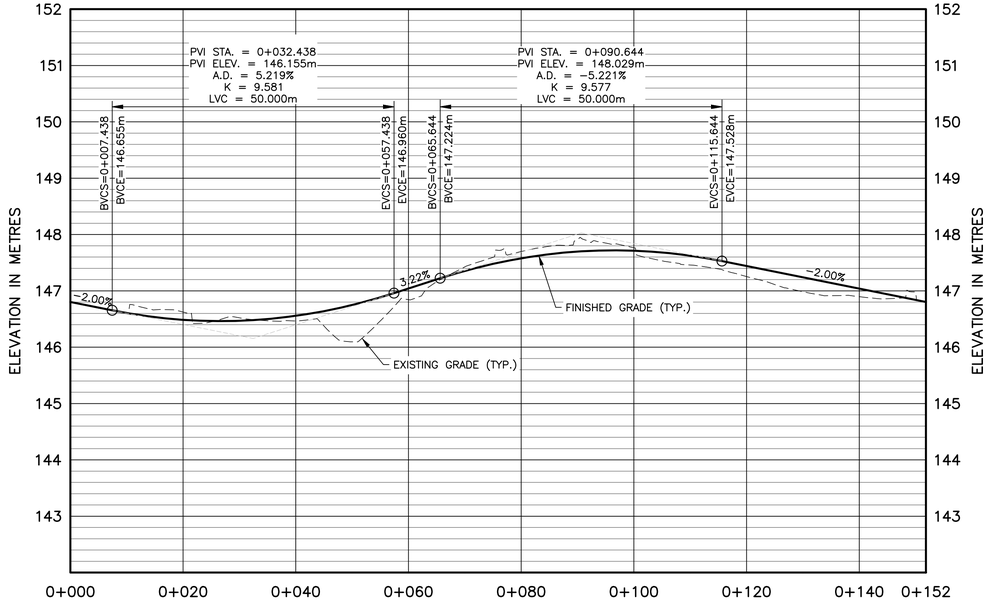
Scale	1:500
Date	JUNE 14, 2024
Drawn	S.L.A.
Designed	S.L.A.
Checked	M.M.
Approved	M.M.
Contract No.	232088
Drawing No.	C02

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PLAN—ROUNDABOUT CROWN

SCALE 1:500



PROFILE—ROUNDABOUT CROWN

SCALE 1:500; 1:50

ALIGNMENT CURVE DATA

Curve #	Bearing	Radius	Tangent	Length	Start Point	End Point
C1	S23° 23' 51.55"W	24.166m	0.001m	151.838m	N=5273657.901 E=324462.559	N=5273657.898 E=324462.559

NOTES:

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PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows:
Harbourside Transportation Consultants
February 25/26
Signature Date
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Permit No. as issued by PEGNL N0763
which is valid for the year 2026.

LEGEND

EXISTING
- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- OVERHEAD WIRE

PROPOSED
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SHARED PATH SIDEWALK
- DETECTABLE WARNING PLATE
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- ASPHALT
- TOPSOIL AND SOD
- RED CONCRETE

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

Title: ROUNDABOUT CROWN PLAN AND PROFILE

Scale	Date
AS NOTED	JUNE 14, 2024

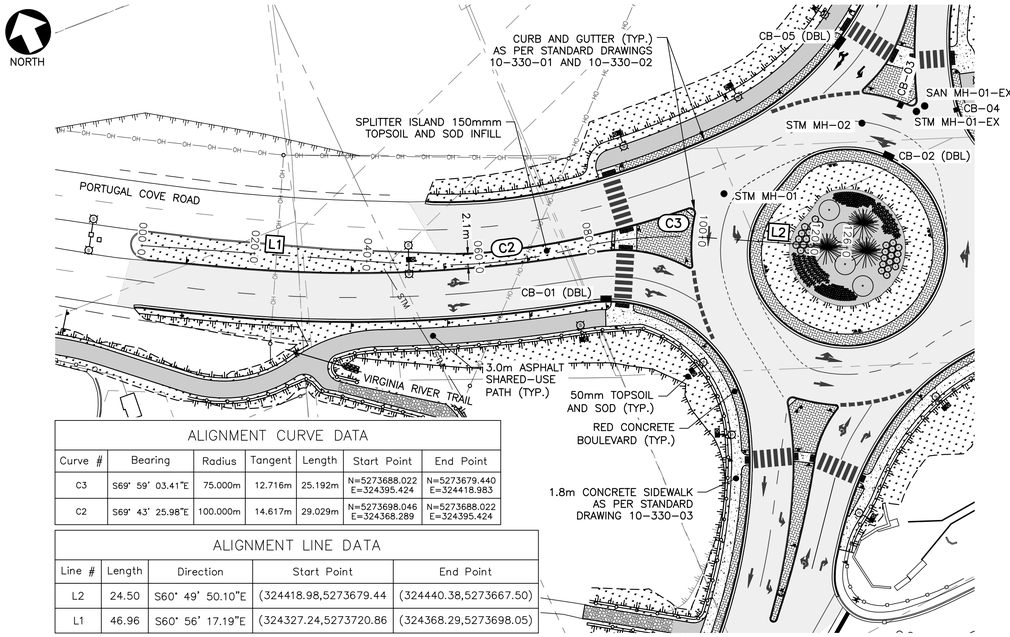
Drawn	Designed
S.L.A.	S.L.A.
Checked	Approved
M.M.	M.M.

Contract No. 232088

Drawing No. C03

REGISTERED PROFESSIONAL ENGINEER — MICHAEL S. MACDONALD — SIGNATURE — February 25/26 DATE — NEWFOUNDLAND & LABRADOR

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\SUBMISSION\IFC -FEB-25-2026\C03 - ROUNDABOUT CROWN.DWG, February 24, 2026, 4:03 PM

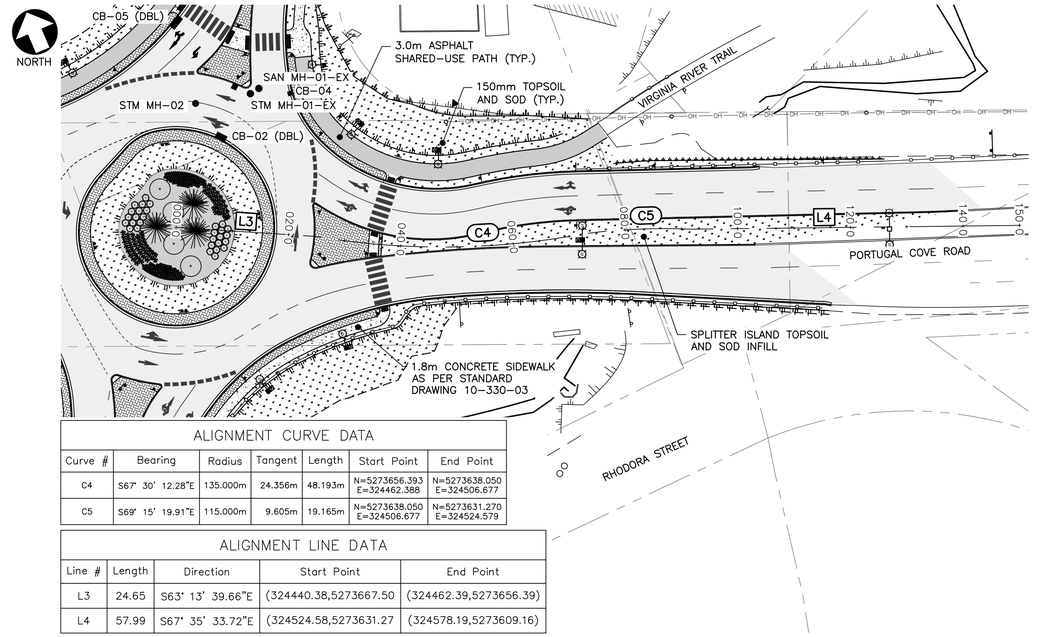


ALIGNMENT CURVE DATA						
Curve #	Bearing	Radius	Tangent	Length	Start Point	End Point
C3	S69° 59' 03.41"E	75.000m	12.716m	25.192m	N=5273688.022 E=324395.424	N=5273679.440 E=324418.983
C2	S69° 43' 25.98"E	100.000m	14.617m	29.029m	N=5273698.046 E=324368.289	N=5273688.022 E=324395.424

ALIGNMENT LINE DATA				
Line #	Length	Direction	Start Point	End Point
L2	24.50	S60° 49' 50.10"E	(324418.98,5273679.44	(324440.38,5273667.50)
L1	46.96	S60° 56' 17.19"E	(324327.24,5273720.86	(324368.29,5273698.05)

PLAN—PORTUGAL COVE ROAD WEST

SCALE 1:500



ALIGNMENT CURVE DATA						
Curve #	Bearing	Radius	Tangent	Length	Start Point	End Point
C4	S67° 30' 12.28"E	135.000m	24.356m	48.193m	N=5273656.393 E=324462.388	N=5273638.050 E=324506.677
C5	S69° 15' 19.91"E	115.000m	9.605m	19.165m	N=5273638.050 E=324506.677	N=5273631.270 E=324524.579

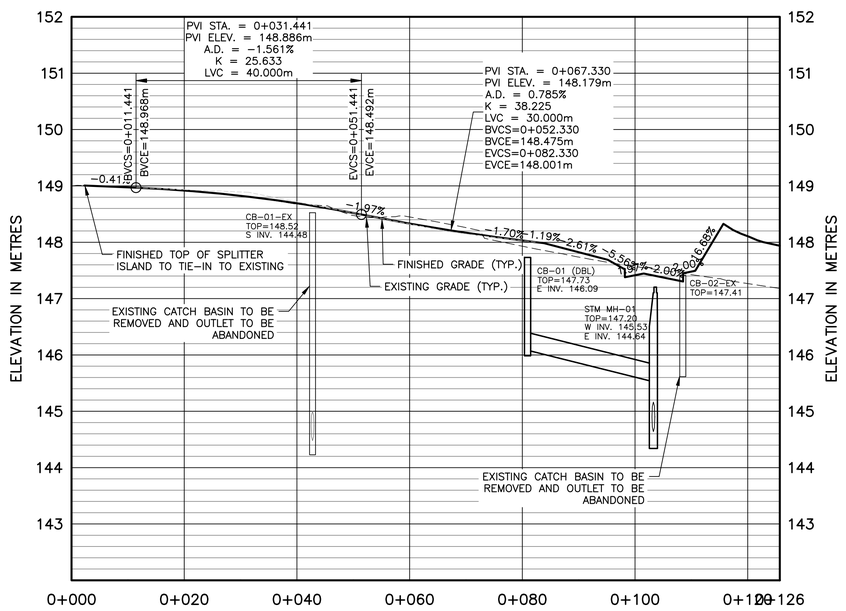
ALIGNMENT LINE DATA				
Line #	Length	Direction	Start Point	End Point
L3	24.65	S63° 13' 39.66"E	(324440.38,5273667.50	(324462.39,5273656.39)
L4	57.99	S67° 35' 33.72"E	(324524.58,5273631.27	(324578.19,5273609.16)

PLAN—PORTUGAL COVE ROAD EAST

SCALE 1:500

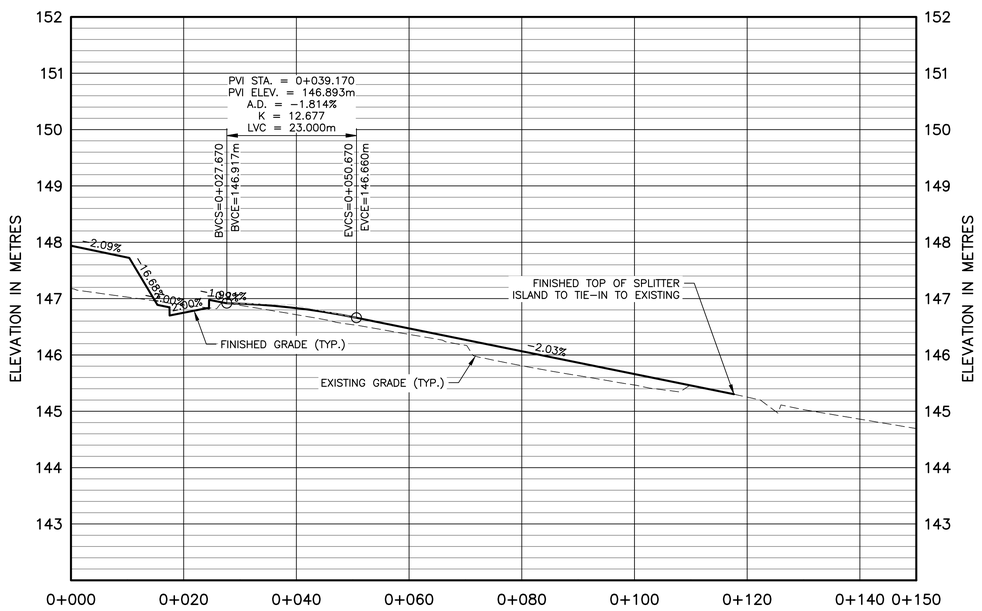
NOTES:

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2. ALL UNITS ARE METRIC UNLESS NOTED OTHERWISE.



PROFILE—WEST LEG – PORTUGAL COVE ROAD

SCALE 1:500; 1:50



PROFILE—EAST LEG – PORTUGAL COVE ROAD

SCALE 1:500; 1:50

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows
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February 25/26
Signature Date
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Permit No. as issued by PEGNL N0763
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LEGEND

EXISTING

- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- OVERHEAD WIRE

PROPOSED

- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SHARED PATH SIDEWALK
- DETECTABLE WARNING PLATE
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- ASPHALT
- TOPSOIL AND SOD
- RED CONCRETE

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project:

PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

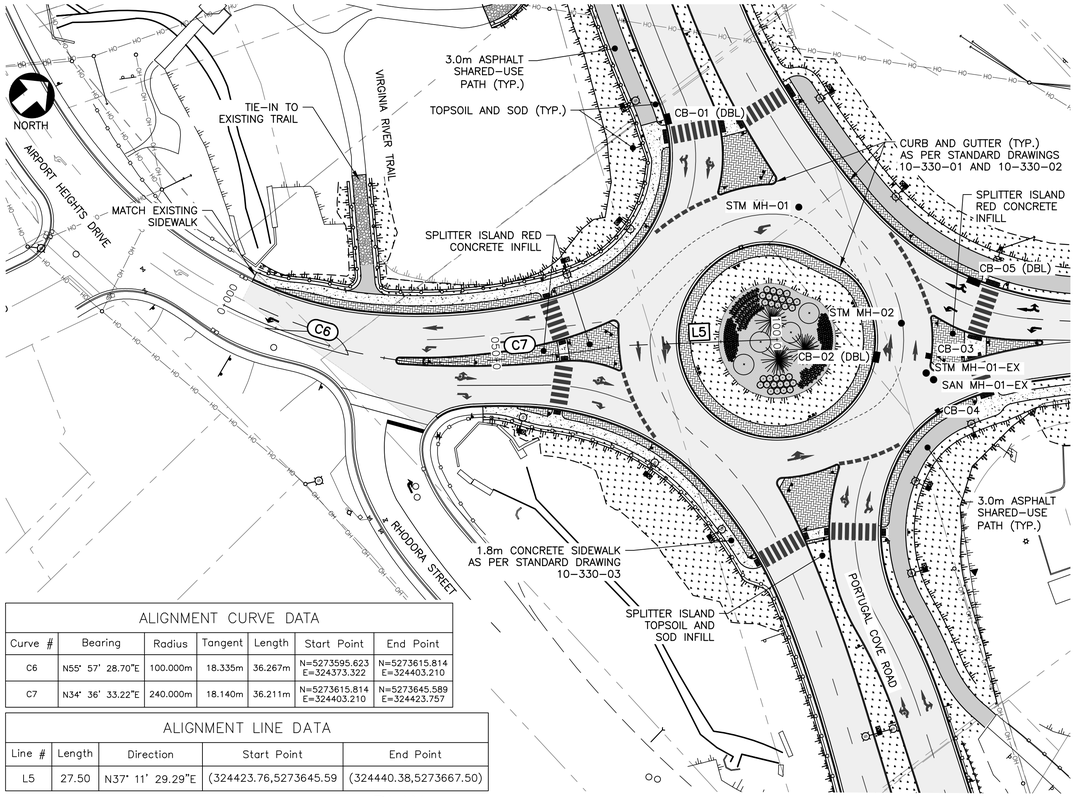
Title:

PORTUGAL COVE ROAD ROUNDABOUT LEGS (EAST AND WEST)

Scale	Date
AS NOTED	JUNE 14, 2024
Drawn: S.L.A.	Designed: S.L.A.
Checked: M.M.	Approved: M.M.
Contract No.	232088
Drawing No.	C04

REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. MACDONALD
SIGNATURE
February 25/26
DATE
NEWFOUNDLAND & LABRADOR

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\SUBMISSION\FC-FEB-25-2026\C04 - EAST-WEST-PLAN-PROFILE.DWG, February 24, 2026, 4:16 PM

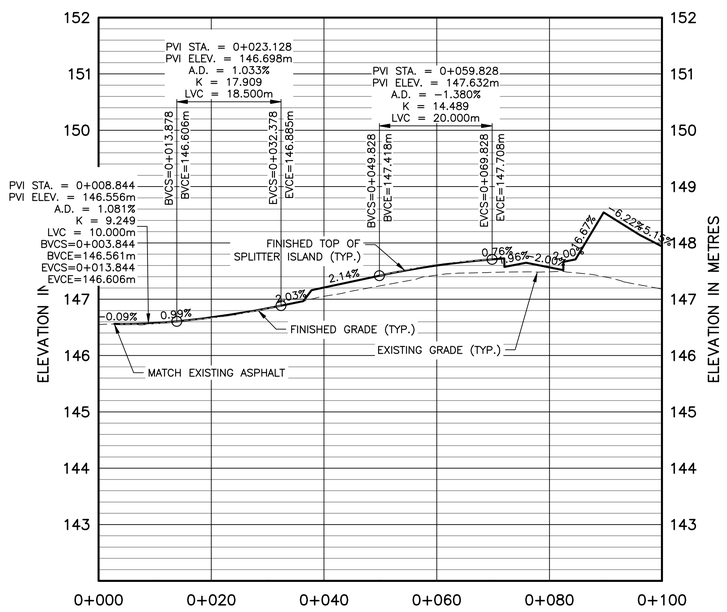


ALIGNMENT CURVE DATA						
Curve #	Bearing	Radius	Tangent	Length	Start Point	End Point
C6	N55° 57' 28.70"E	100.000m	18.335m	36.267m	N=5273595.623 E=324373.322	N=5273615.814 E=324403.210
C7	N34° 36' 33.22"E	240.000m	18.140m	36.211m	N=5273615.814 E=324403.210	N=5273645.589 E=324423.757

ALIGNMENT LINE DATA				
Line #	Length	Direction	Start Point	End Point
L5	27.50	N37° 11' 29.29"E	(324423.76,5273645.59	(324440.38,5273667.50)

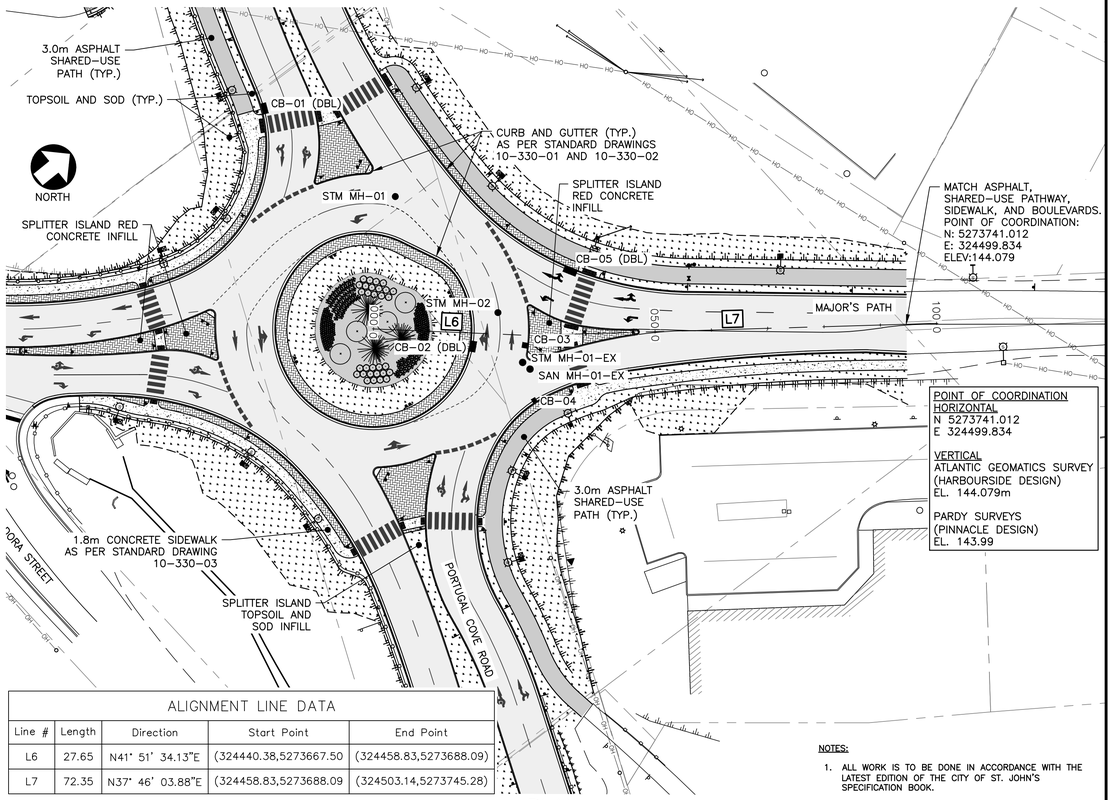
PLAN—AIRPORT HEIGHTS DRIVE

SCALE 1:500



PROFILE—AIRPORT HEIGHTS DRIVE

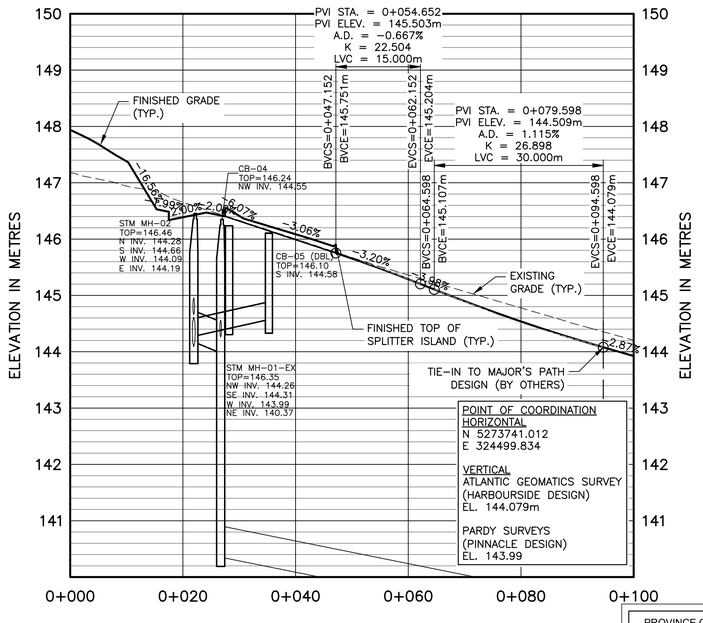
SCALE 1:500; 1:50



ALIGNMENT LINE DATA				
Line #	Length	Direction	Start Point	End Point
L6	27.65	N41° 51' 34.13"E	(324440.38,5273667.50	(324458.83,5273688.09)
L7	72.35	N37° 46' 03.88"E	(324458.83,5273688.09	(324503.14,5273745.28)

PLAN—MAJOR'S PATH

SCALE 1:500



PROFILE—MAJOR'S PATH

SCALE 1:500; 1:50

NOTES:

1. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF ST. JOHN'S SPECIFICATION BOOK.
2. ALL UNITS ARE METRIC UNLESS NOTED OTHERWISE.

LEGEND

EXISTING
- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- OVERHEAD WIRE

PROPOSED
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SHARED PATH SIDEWALK
- DETECTABLE WARNING PLATE
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- ASPHALT
- TOPSOIL AND SOD
- RED CONCRETE

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

Title: AIRPORT HEIGHTS DRIVE AND MAJOR'S PATH ROUNDABOUT LEGS

Scale: AS NOTED

Date: JUNE 14, 2024

Drawn: S.L.A. | Designed: S.L.A.

Checked: M.M. | Approved: M.M.

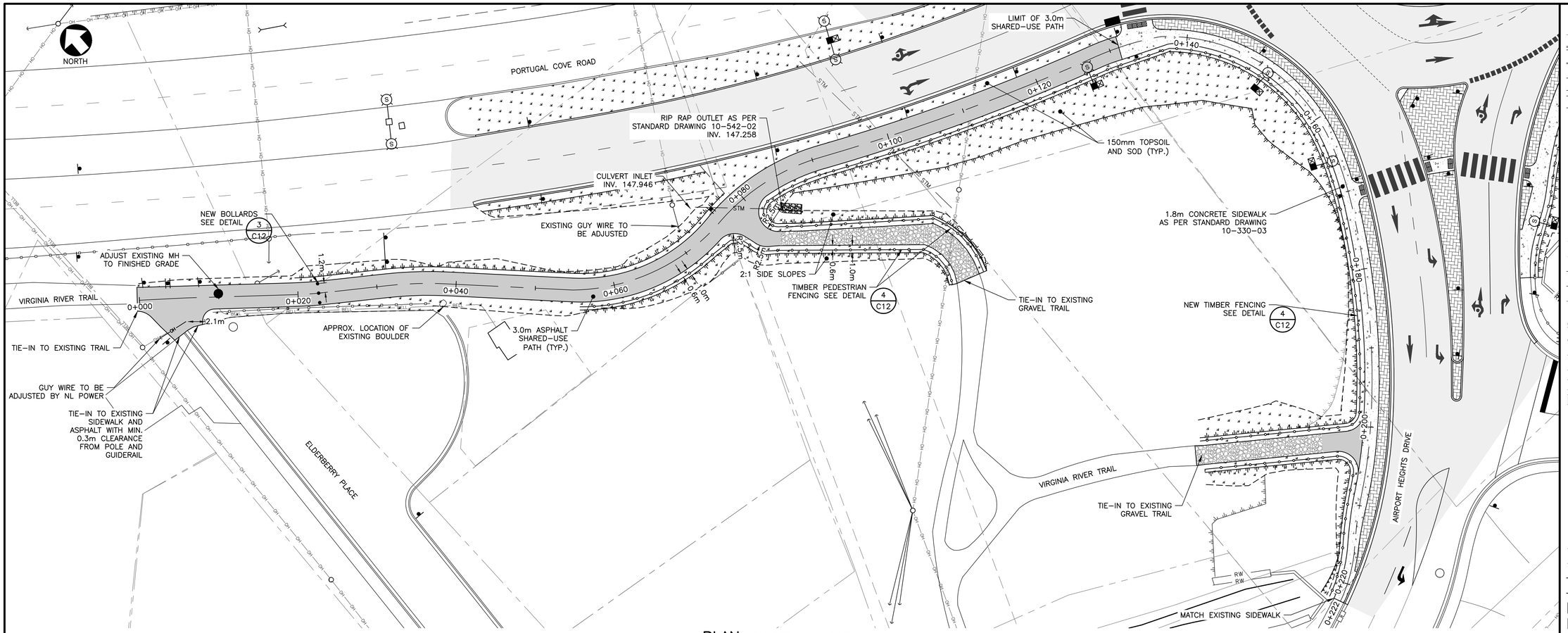
Contract No. 232088

Drawing No. C05

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows
Harbourside Transportation Consultants
Signature | February 25/26 Date
To practice Professional Engineering in Newfoundland and Labrador. Permit No. as issued by PEGNL N0763 which is valid for the year 2026.

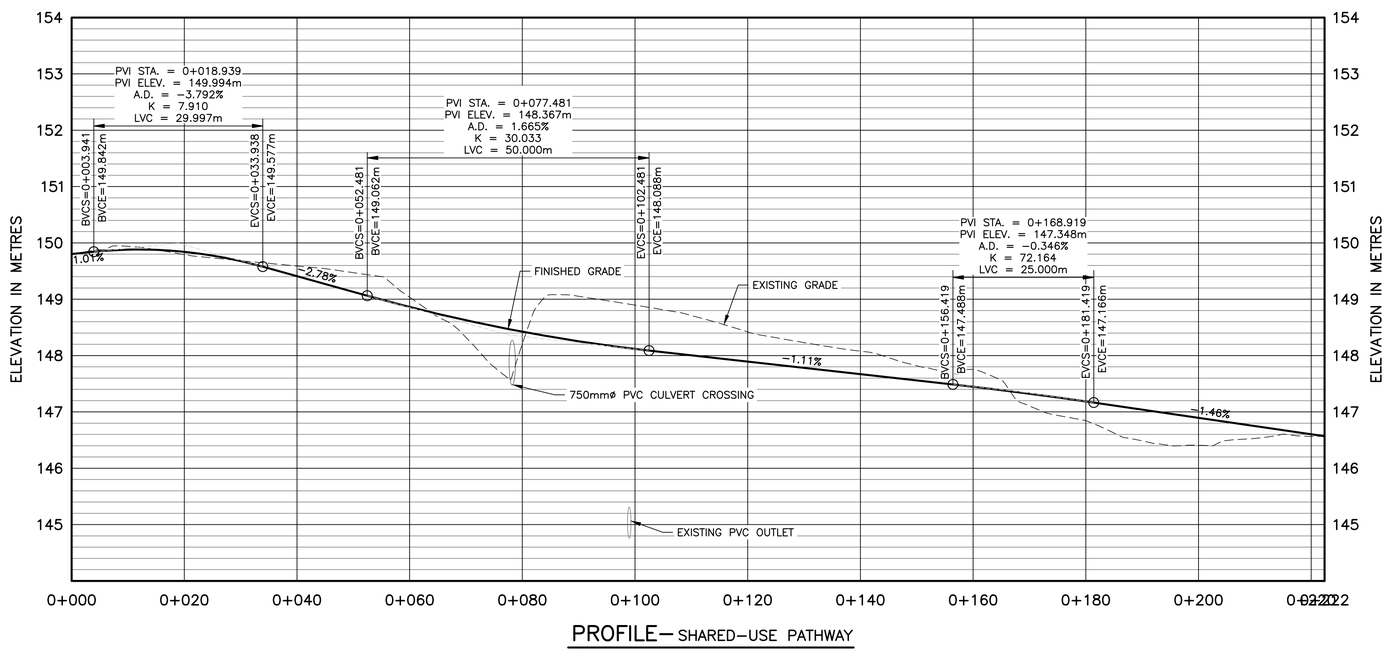
REGISTERED PROFESSIONAL ENGINEER — MICHAEL S. MACDONALD — SIGNATURE — February 25/26 DATE — NEWFOUNDLAND & LABRADOR

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\SUBMISSION\IFC-FEB-25-2026\C05 - NORTH-SOUTH-PLAN-PROFILE.DWG, February 24, 2026, 4:24 PM



PLAN—SHARED-USE PATHWAY

SCALE 1:250



PROFILE—SHARED-USE PATHWAY

SCALE 1:500; 1:50

NOTES:

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LEGEND

EXISTING
- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
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- FENCE
- GUIDE RAIL
- OVERHEAD WIRE

PROPOSED
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SHARED PATH SIDEWALK
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- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- ASPHALT
- TOPSOIL AND SOD
- RED CONCRETE

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

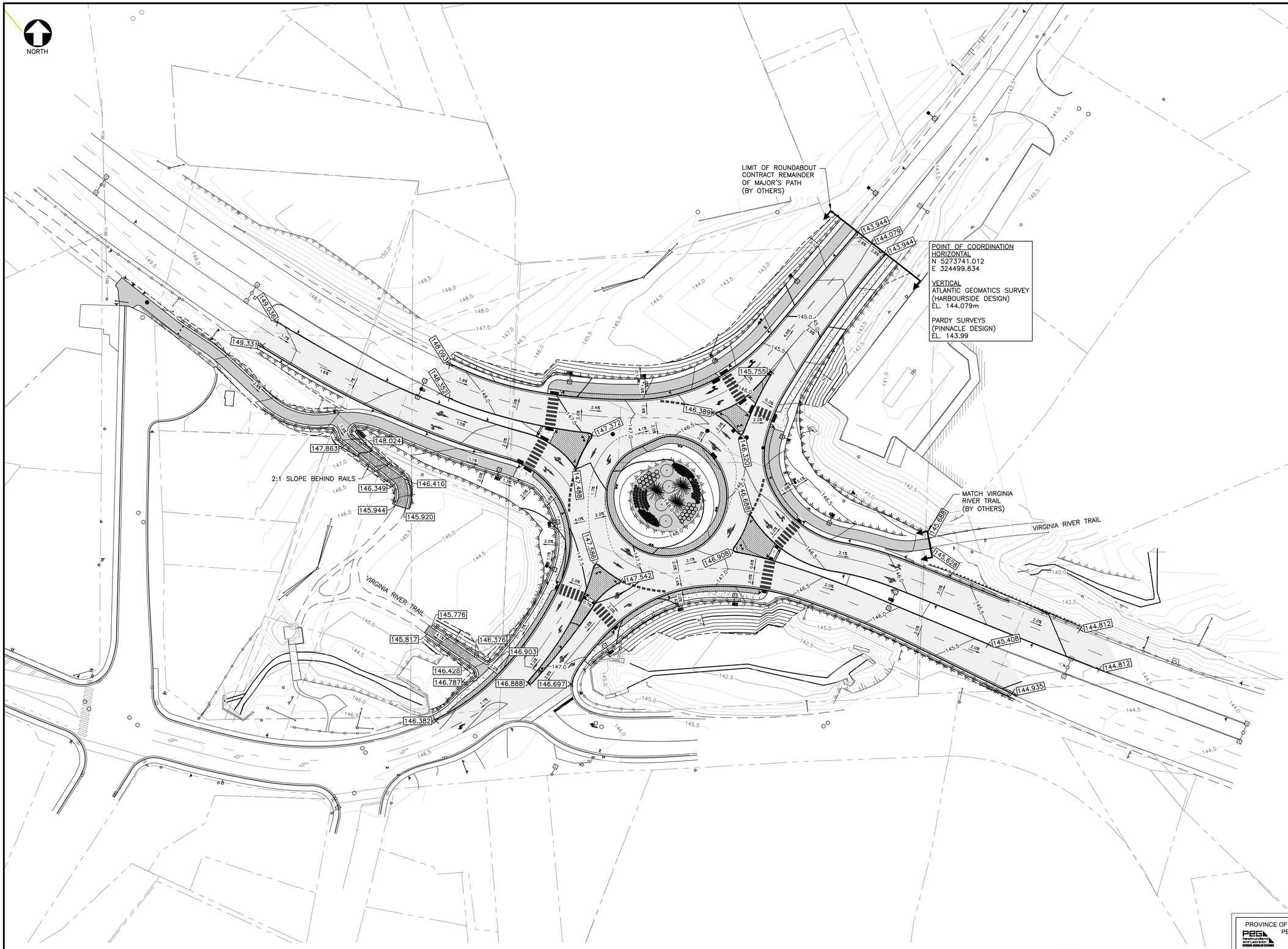
Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

Title: SHARED-USE PATHWAY PLAN AND PROFILE

Scale: AS NOTED	Date: JUNE 14, 2024
Drawn: S.L.A.	Designed: S.L.A.
Checked: M.M.	Approved: M.M.
Contract No.	232088
Drawing No.	C06

REGISTERED PROFESSIONAL ENGINEER — MICHAEL S. MACDONALD — SIGNATURE — February 25/26 DATE — NEWFOUNDLAND & LABRADOR

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\SUBMISSION\IFC-FEB-25-2026\C06 - SUP-PLAN-PROFILE.DWG, February 24, 2026, 4:33 PM



NOTES:

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PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
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Permit No. as issued by PEGNL N0763
which is valid for the year 2026.

LEGEND

EXISTING
- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- 143.0 CONTOUR

PROPOSED
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SHARED PATH SIDEWALK
- DETECTABLE WARNING PLATE
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- ASPHALT
- RED CONCRETE
- 143.0 CONTOUR
- ×146.320 SPOT ELEVATION

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

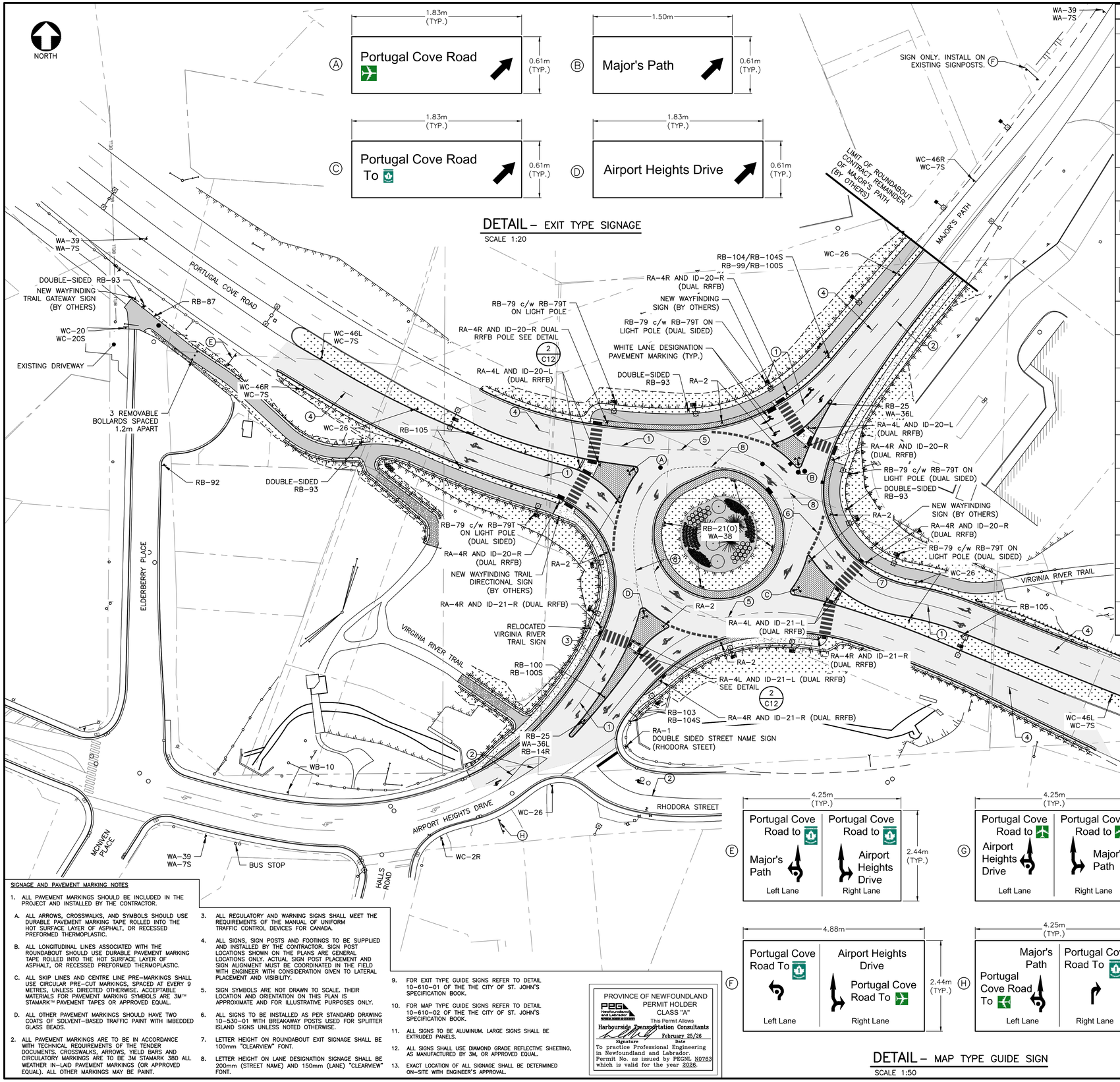
Project:
PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

Title: GRADING PLAN

Scale: 1:500	Date: JUNE 14, 2024
	Drawn: S.L.A. / Designed: S.L.A.
	Checked: M.M. / Approved: M.M.
	Contract No.: 232088
	Drawing No.: C07

REGISTERED PROFESSIONAL ENGINEER — MICHAEL S. MACDONALD — SIGNATURE — February 25/26 DATE — NEWFOUNDLAND & LABRADOR

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\SUBMISSION\IFC-FEB-25-2026\C07 - GRADING PLAN.DWG, February 25, 2026, 9:14 AM



TRAFFIC SIGN SCHEDULE

SIGN		NAME	SIGN		NAME
STOP	RA-1 (60x60cm)	STOP		WC-26 (75x75cm)	TRUCK ENCROACHMENT
	RA-2 (75cm)	YIELD	DO NOT PASS	WC-26S (60x30cm)	DO NOT PASS TAB
	WC-2R (60x60cm)	PEDESTRIAN CROSSING AHEAD		RB-14R (60x60cm)	TURN RIGHT
	RA-4L (60x75cm)	PEDESTRIAN CROSSWALK		RB-100 (60x75cm)	LANE DESIGNATION (STRAIGHT THRU AND LEFT TURN)
	RA-4R (60x75cm)	PEDESTRIAN CROSSWALK		RB-99 (60x75cm)	LANE DESIGNATION (LEFT TURN)
	RB-21 (O) OVERSIZE (166x60cm)	ONE-WAY		RB-104 (60x75cm)	LANE DESIGNATION (STRAIGHT THRU AND RIGHT TURN)
	RB-25 (60x75cm)	KEEP RIGHT		RB-103 (60x75cm)	LANE DESIGNATION (RIGHT TURN)
	WA-38 (166x60cm)	ROUNDABOUT DIRECTIONAL	LEFT LANE	RB-100S (60x30cm)	LEFT LANE TAB
	WA-39 (75x75cm)	ROUNDABOUT AHEAD	RIGHT LANE	RB-104S (60x30cm)	RIGHT LANE TAB
	WA-36L (30x90cm)	OBJECT MARKER		ID-21-L AND ID-21-R (13x20cm)	(LEFT AND RIGHT) PEDESTRIAN SIGNAL PUSH BUTTON
	RB-105 (90x90cm)	ROUNDABOUT LANE DESIGNATION		RB-87 (60x60cm)	ALL-TERRAIN VEHICLES PROHIBITED
SHARED PATHWAY	RB-93 (30x45cm)	SHARED PATHWAY		ID-20-R AND ID-20-L (60x75cm)	(LEFT AND RIGHT) PEDESTRIAN AND BICYCLE CROSSWALK
	RB-91 (60x75cm)	BICYCLE LANE (BEGINS)	ROUTE	IB-23 (45x45cm)	BICYCLE ROUTE MARKER
ENDS	RB-92 (60x75cm)	BICYCLE LANE (ENDS)		IS-8L AND IS-8R (45x30cm)	DIRECTIONAL ARROW TAB
	WC-20 (60x60cm)	SHARED USE LANE SINGLE FILE SIGN	SINGLE FILE	WC-20S (60x30cm)	SINGLE FILE SUPPLEMENTARY TAB SIGN
	RB-79 (60x60cm)	DISMOUNT AND WALK		WB-10 (75x75cm)	RESERVED BIKE LANE AHEAD
DISMOUNT AND WALK	RB-79T (60x30cm)	DISMOUNT AND WALK TAB		WC-46L (75x75cm)	PEDESTRIAN AND BICYCLE CROSSING AHEAD
30 km/h	WA-7S (45x45cm)	ADVISORY SPEED TAB		WC-46R (75x75cm)	PEDESTRIAN AND BICYCLE CROSSING AHEAD
			CROSSING	WC-7S (60x30cm)	CROSSING TAB

LEGEND

EXISTING
- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- OVERHEAD WIRE

PROPOSED
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SHARED PATH SIDEWALK
- DETECTABLE WARNING PLATE
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- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- ASPHALT
- TOPSOIL AND SOD
- RED CONCRETE

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project:
PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

Title:
SIGNAGE AND PAVEMENT MARKING PLAN

Scale: 1:500

Date: JUNE 14, 2024

Drawn	Designed
S.L.A.	S.L.A.
Checked	Approved
M.M.	M.M.

Contract No. 232088

Drawing No. C08

PROFESSIONAL ENGINEERS — MICHAEL S. MACDONALD — SIGNATURE — DATE February 25/26 — NEWFOUNDLAND & LABRADOR

PAVEMENT MARKING SCHEDULE

1. SOLID LINE (WHITE) 0.1m WIDE
2. SOLID LINE (YELLOW) 0.1m WIDE
3. BROKEN LANE LINE (WHITE) 3m LONG; 3m SPACING
4. BROKEN LANE LINE (WHITE) 3m LONG; 6m SPACING
5. DASHED ROUNDABOUT LANE LINE (WHITE) 1.8m LONG; 1.8m SPACING
6. ROUNDABOUT YIELD BAR FOR MULTI-LANE ENTRY (WHITE), 0.6m WIDE, 1m LONG; 0.6m SPACING
7. ZEBRA CROSSWALK (WHITE) 3.0m WIDE, 0.6m LONG; 0.6m SPACING
8. GUIDE LINES (WHITE) 0.5m LONG; 0.5m SPACING; 0.1m WIDE
9. GUIDE LINES (WHITE) 1.0m LONG; 1.0m SPACING; 0.1m WIDE
10. CONFLICT MARKINGS (WHITE) 0.5m LONG; 1.5m SPACING; 0.1m WIDE

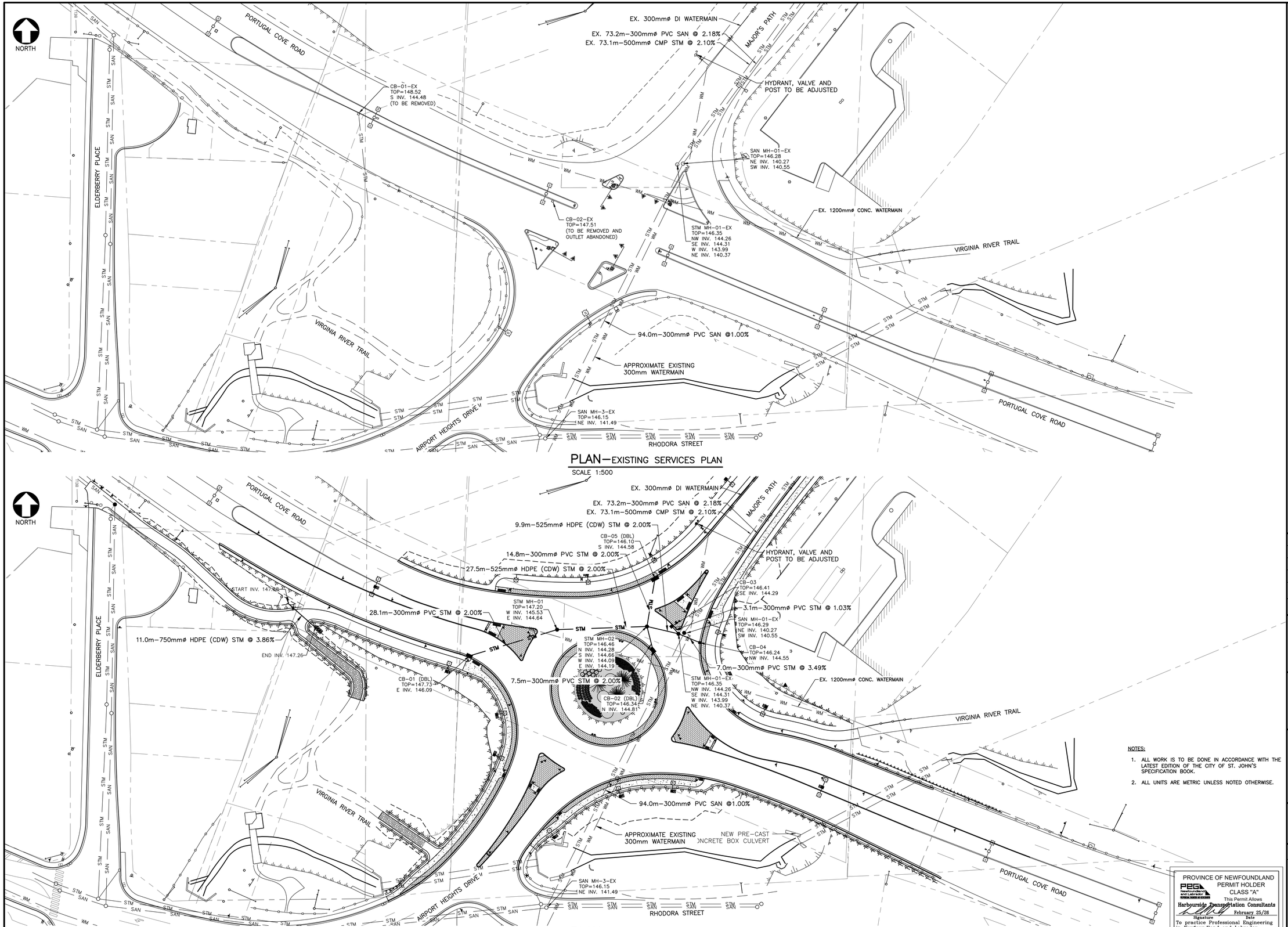
SIGNAGE AND PAVEMENT MARKING NOTES

1. ALL PAVEMENT MARKINGS SHOULD BE INCLUDED IN THE PROJECT AND INSTALLED BY THE CONTRACTOR.
   - A. ALL ARROWS, CROSSWALKS, AND SYMBOLS SHOULD USE DURABLE PAVEMENT MARKING TAPE ROLLED INTO THE HOT SURFACE LAYER OF ASPHALT, OR RECESSED PREFORMED THERMOPLASTIC.
   - B. ALL LONGITUDINAL LINES ASSOCIATED WITH THE ROUNDABOUT SHOULD USE DURABLE PAVEMENT MARKING TAPE ROLLED INTO THE HOT SURFACE LAYER OF ASPHALT, OR RECESSED PREFORMED THERMOPLASTIC.
   - C. ALL SKIP LINES AND CENTRE LINE PRE-MARKINGS SHALL USE CIRCULAR PRE-CUT MARKINGS, SPACED AT EVERY 9 METRES, UNLESS DIRECTED OTHERWISE. ACCEPTABLE MATERIALS FOR PAVEMENT MARKING SYMBOLS ARE 3M™ STAMARK™ PAVEMENT TAPES OR APPROVED EQUAL.
   - D. ALL OTHER PAVEMENT MARKINGS SHOULD HAVE TWO COATS OF SOLVENT-BASED TRAFFIC PAINT WITH IMBEDDED GLASS BEADS.
2. ALL PAVEMENT MARKINGS ARE TO BE IN ACCORDANCE WITH TECHNICAL REQUIREMENTS OF THE TENDER DOCUMENTS. CROSSWALKS, ARROWS, YIELD BARS AND CIRCULATORY MARKINGS ARE TO BE 3M STAMARK 380 ALL WEATHER IN-LAID PAVEMENT MARKINGS (OR APPROVED EQUAL). ALL OTHER MARKINGS MAY BE PAINT.
3. ALL REGULATORY AND WARNING SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA.
4. ALL SIGNS, SIGN POSTS AND FOOTINGS TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. SIGN POST LOCATIONS SHOWN ON THE PLANS ARE GENERAL LOCATIONS ONLY. ACTUAL SIGN POST PLACEMENT AND SIGN ALIGNMENT MUST BE COORDINATED IN THE FIELD WITH ENGINEER WITH CONSIDERATION GIVEN TO LATERAL PLACEMENT AND VISIBILITY.
5. SIGN SYMBOLS ARE NOT DRAWN TO SCALE. THEIR LOCATION AND ORIENTATION ON THIS PLAN IS APPROXIMATE AND FOR ILLUSTRATIVE PURPOSES ONLY.
6. ALL SIGNS TO BE INSTALLED AS PER STANDARD DRAWING 10-530-01 WITH BREAKAWAY POSTS USED FOR SPLITTER ISLAND SIGNS UNLESS NOTED OTHERWISE.
7. LETTER HEIGHT ON ROUNDABOUT EXIT SIGNAGE SHALL BE 100mm "CLEARVIEW" FONT.
8. LETTER HEIGHT ON LANE DESIGNATION SIGNAGE SHALL BE 200mm (STREET NAME) AND 150mm (LANE) "CLEARVIEW" FONT.
9. FOR EXIT TYPE GUIDE SIGNS REFER TO DETAIL 10-610-01 OF THE THE CITY OF ST. JOHN'S SPECIFICATION BOOK.
10. FOR MAP TYPE GUIDE SIGNS REFER TO DETAIL 10-610-02 OF THE THE CITY OF ST. JOHN'S SPECIFICATION BOOK.
11. ALL SIGNS TO BE ALUMINUM. LARGE SIGNS SHALL BE EXTRUDED PANELS.
12. ALL SIGNS SHALL USE DIAMOND GRADE REFLECTIVE SHEETING, AS MANUFACTURED BY 3M, OR APPROVED EQUAL.
13. EXACT LOCATION OF ALL SIGNAGE SHALL BE DETERMINED ON-SITE WITH ENGINEER'S APPROVAL.

PROVINCE OF NEWFOUNDLAND
PEGL Newfoundland and Labrador
PERMIT HOLDER
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DETAIL – MAP TYPE GUIDE SIGN
SCALE 1:50

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\SUBMISSION\IFC -FEB-25-2026\C08 - SIGNAGE AND PAVEMENT MARKING PLAN.DWG, February 25, 2026, 9:22 AM



LEGEND

EXISTING

- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- STM — STORM SEWER
- SAN — SANITATY SEWER
- WM — WATERMAIN

PROPOSED

- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SHARED PATH SIDEWALK
- DETECTABLE WARNING PLATE
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- GUIDE RAIL
- STM — STORM SEWER

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project

PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

Title

SERVICING PLAN

NOTES:

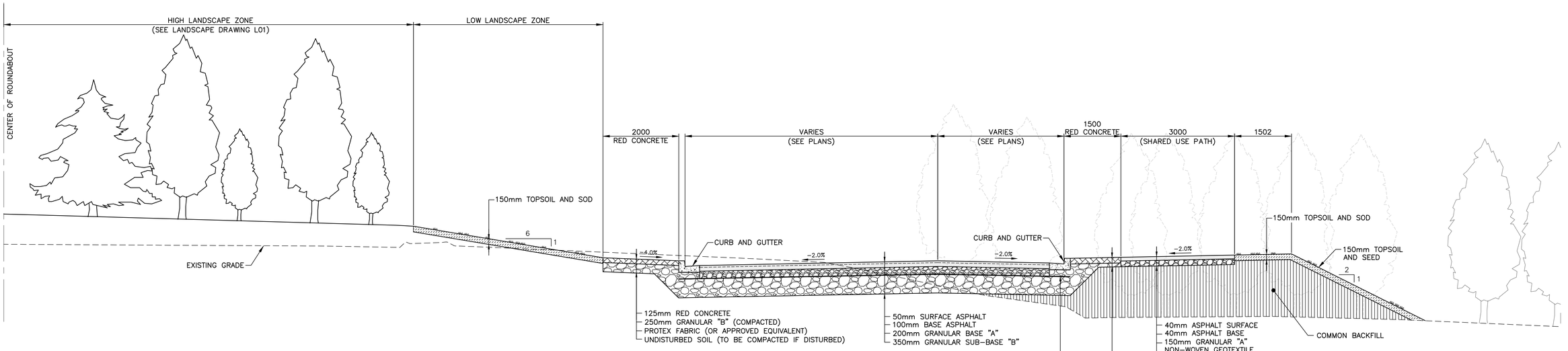
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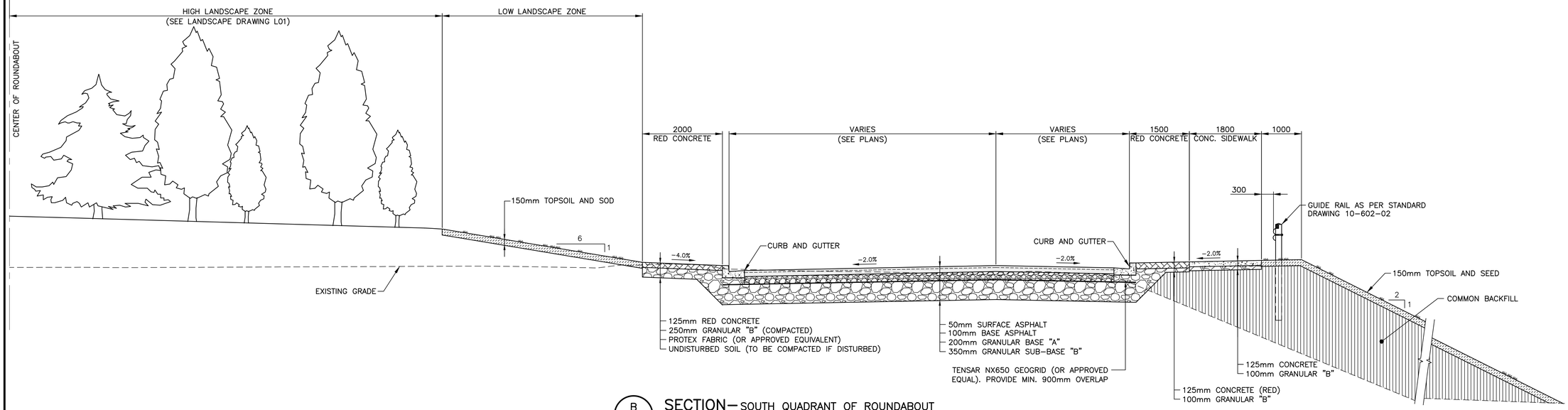
Scale	Date
1:500	JUNE 14, 2024

REGISTERED PROFESSIONAL ENGINEER — MICHAEL S. MACDONALD — SIGNATURE — February 25/26 DATE — NEWFOUNDLAND & LABRADOR

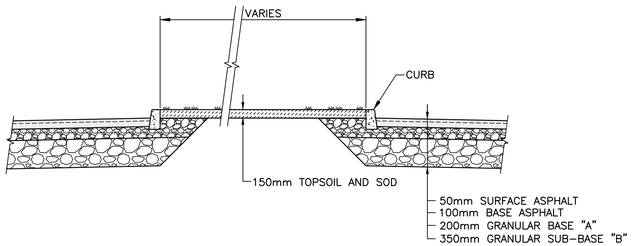
Drawn	Designed
S.L.A.	S.L.A.
Checked	Approved
M.M.	M.M.
Contract No.	232088
Drawing No.	C09



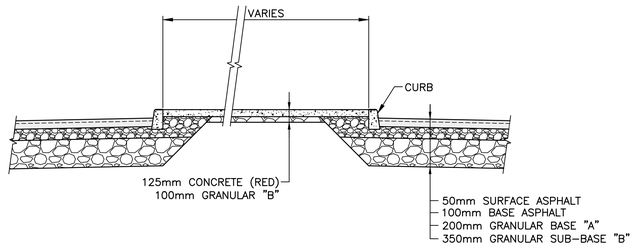
A/3 **SECTION– NORTH QUADRANT OF ROUNDABOUT**
SCALE 1:50 FROM MAJOR'S PATH TO PORTUGAL COVE ROAD



B/3 **SECTION– SOUTH QUADRANT OF ROUNDABOUT**
SCALE 1:50 FROM AIRPORT HEIGHTS DRIVE TO PORTUGAL COVE ROAD



E/– **SECTION– TYPICAL SPLITTER ISLAND (GRASS INFILL)**
SCALE 1:50



F/– **SECTION– TYPICAL SPLITTER ISLAND (CONCRETE INFILL)**
SCALE 1:50

NOTES:

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HARBOURSIDE Transportation Consultants

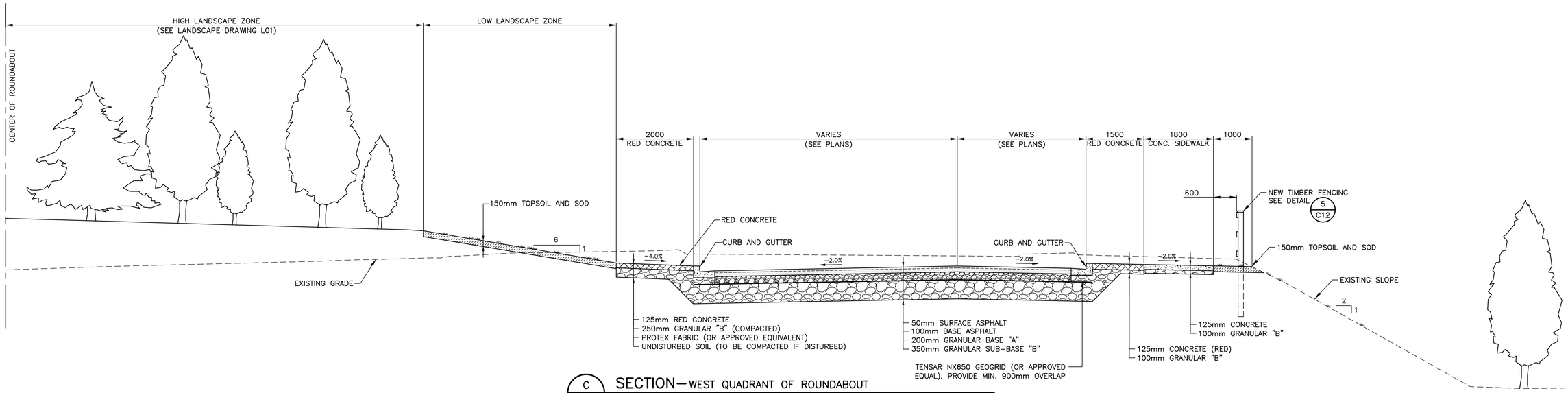
Project: **PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR**
ROUNDABOUT DESIGN

Title: SECTIONS (1 OF 2)

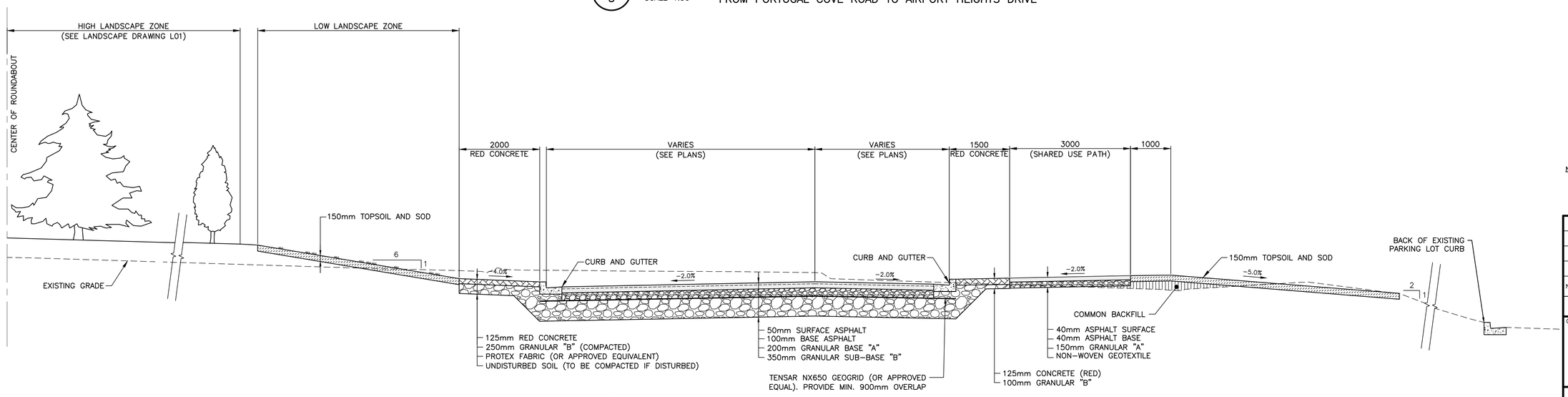
Scale: AS NOTED
Date: JUNE 14, 2024
Drawn: S.L.A. | Designed: S.L.A.
Checked: M.M. | Approved: M.M.
Contract No.: 232088
Drawing No.: C10

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
CLASS "A"
This Permit Allows
Harbourside Transportation Consultants
Signature | February 25/26 Date
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEGNL N0763
which is valid for the year 2026.

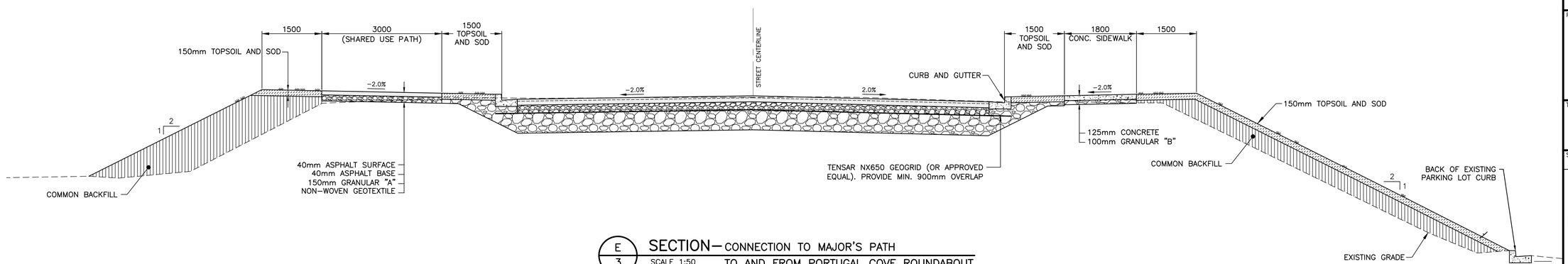
REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. MACDONALD
NEWFOUNDLAND & LABRADOR
SIGNATURE
February 25/26
DATE



C/3 **SECTION – WEST QUADRANT OF ROUNDABOUT**
SCALE 1:50 FROM PORTUGAL COVE ROAD TO AIRPORT HEIGHTS DRIVE



D/3 **SECTION – EAST QUADRANT OF ROUNDABOUT**
SCALE 1:50 FROM PORTUGAL COVE ROAD TO MAJOR'S PATH



E/3 **SECTION – CONNECTION TO MAJOR'S PATH**
SCALE 1:50 TO AND FROM PORTUGAL COVE ROUNDABOUT

PROVINCE OF NEWFOUNDLAND
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NOTES:

1. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF ST. JOHN'S SPECIFICATION BOOK.
2. ALL UNITS ARE METRIC UNLESS NOTED OTHERWISE.

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project
PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

Title
SECTIONS (2 OF 2)

Scale	Date
AS NOTED	JUNE 14, 2024
Drawn: S.L.A.	Designed: S.L.A.
Checked: M.M.	Approved: M.M.
Contract No.	232088
Drawing No.	C11

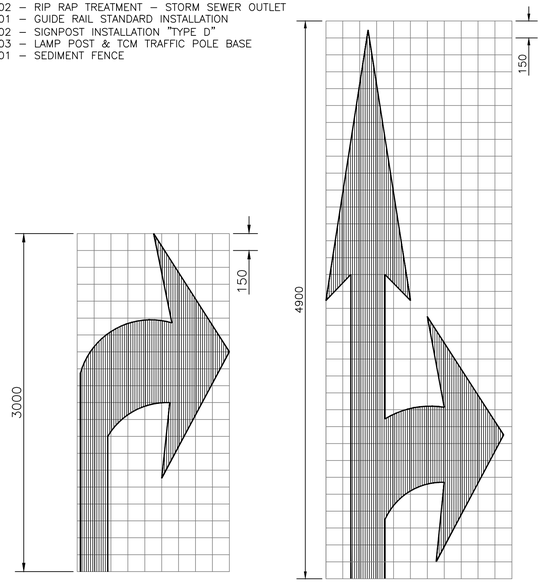
REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. MACDONALD
SIGNATURE
February 25/26
DATE
NEWFOUNDLAND & LABRADOR

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\SUBMISSION\IFC-FEB-25-2026\C10-C11 - SECTIONS.DWG, February 25, 2026, 9:35 AM

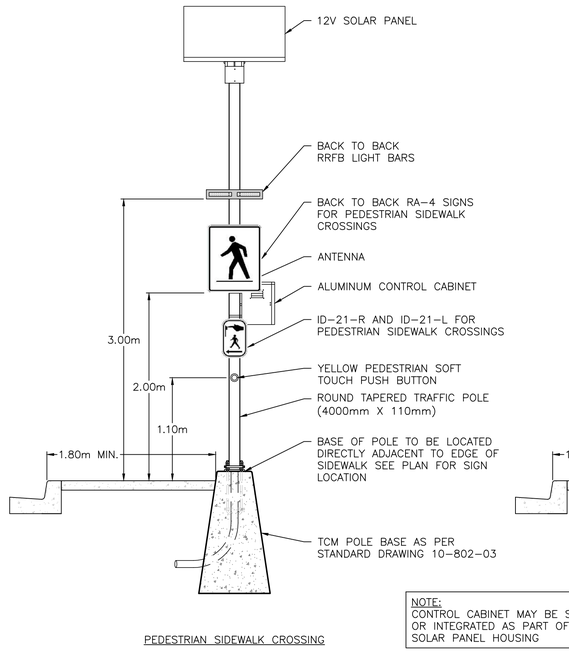
DETAILS

ST. JOHN'S CONSTRUCTION SPECIFICATION BOOK

10-223-05 – PRE-CAST MANHOLE (TYPE 1200)
10-223-08 – SELF-LEVELING FRAME & COVER BEDDING DETAIL
10-223-16 – PRE-CAST SINGLE CATCH BASIN
10-223-17 – PRE-CAST DOUBLE CATCH BASIN
10-330-01 – CURB
10-330-02 – CURB & GUTTER
10-330-03 – CURB, GUTTER & SIDEWALK
10-330-16 – STANDARD MID-BLOCK CURB RAMP
10-330-19 – DETECTABLE WARNING SURFACE PLACEMENT
10-330-20 – TRUNCATED DOME DETECTABLE WARNING SURFACE PLATE
10-330-23 – MEDIAN END TREATMENT
10-530-01 – PARKING METER POST & SIGN POST DETAIL
10-542-02 – RIP RAP TREATMENT – STORM SEWER OUTLET
10-602-01 – GUIDE RAIL STANDARD INSTALLATION
10-610-02 – SIGNPOST INSTALLATION "TYPE D"
10-802-03 – LAMP POST & TCM TRAFFIC POLE BASE
10-945-01 – SEDIMENT FENCE

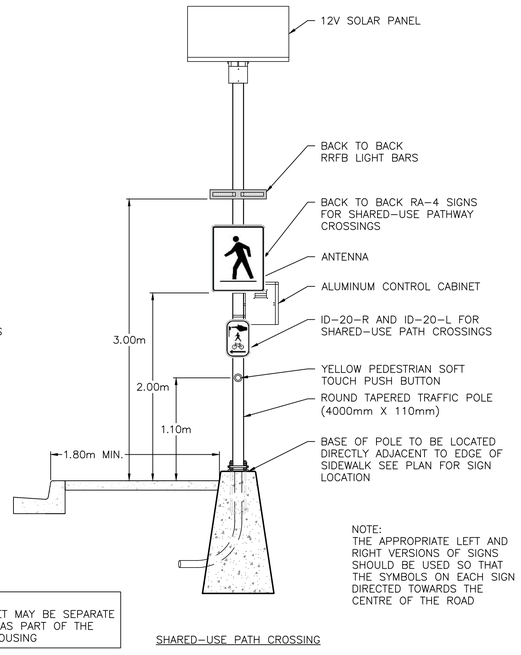


1 — DETAIL— DIRECTIONAL TRAFFIC ARROW
1:25



PEDESTRIAN SIDEWALK CROSSING

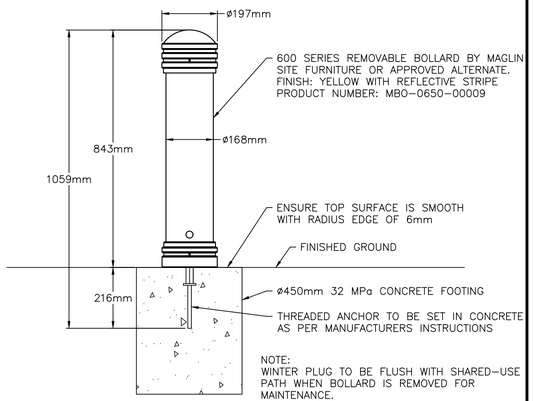
NOTE:
CONTROL CABINET MAY BE SEPARATE OR INTEGRATED AS PART OF THE SOLAR PANEL HOUSING



SHARED-USE PATH CROSSING

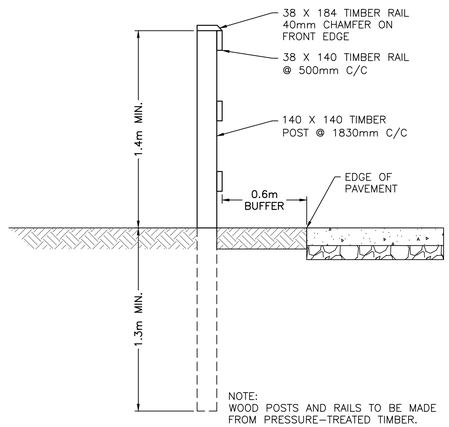
NOTE:
THE APPROPRIATE LEFT AND RIGHT VERSIONS OF SIGNS SHOULD BE USED SO THAT THE SYMBOLS ON EACH SIGN DIRECTED TOWARDS THE CENTRE OF THE ROAD

2 — DETAIL— DUAL RRFB SOLAR POLE ARRANGEMENT
1:30



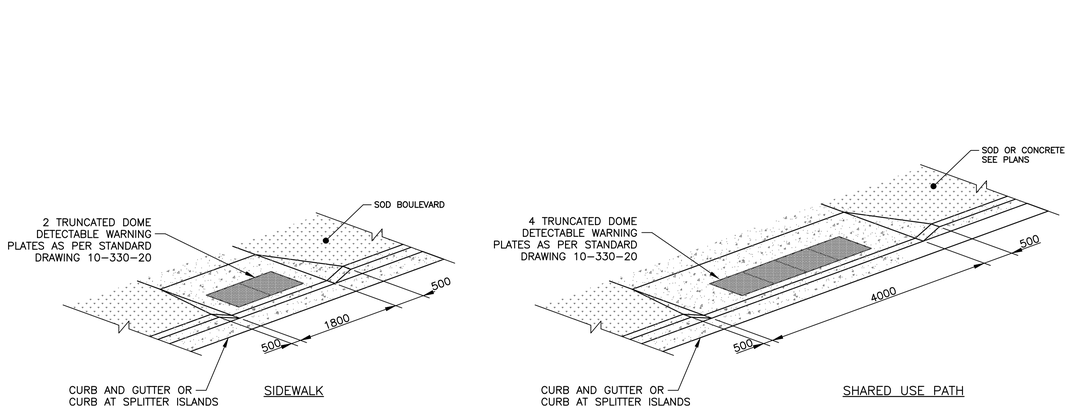
NOTE:
WINTER PLUG TO BE FLUSH WITH SHARED-USE PATH WHEN BOLLARD IS REMOVED FOR MAINTENANCE.

3 — DETAIL— REMOVABLE BOLLARD
1:10

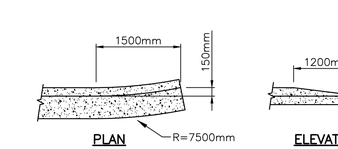


NOTE:
WOOD POSTS AND RAILS TO BE MADE FROM PRESSURE-TREATED TIMBER.

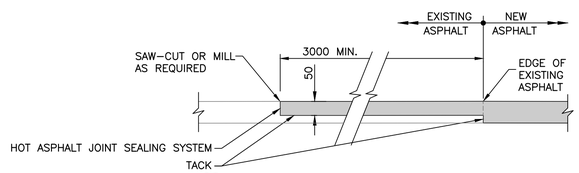
4 — DETAIL— TIMBER PEDESTRIAN RAIL
1:20



5 — DETAIL— ACCESSIBLE CURB RAMP
1:50



6 — DETAIL— CURB AND GUTTER TAPER
1:50



7 — DETAIL— ASPHALT TRANSITION TIE-IN
1:10

NOTES:

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No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project:
PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

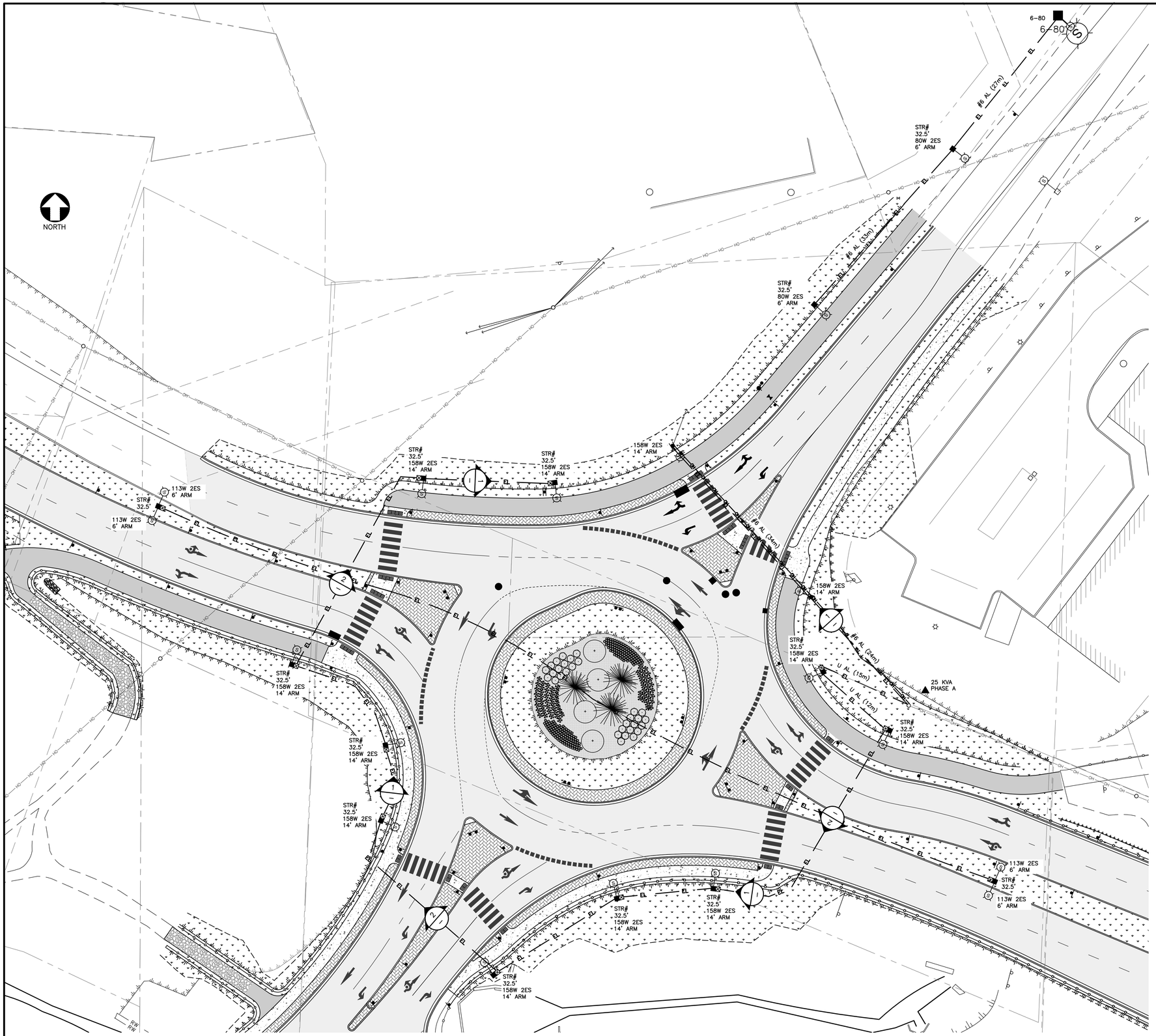
Title: DETAILS

Scale: AS NOTED
Date: JUNE 14, 2024
Drawn: S.L.A.
Designed: S.L.A.
Checked: M.M.
Approved: M.M.
Contract No.: 232088
Drawing No.: C12

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
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Harbourside Transportation Consultants
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February 25/26
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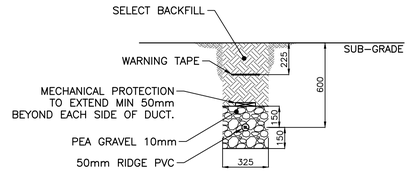
REGISTERED PROFESSIONAL ENGINEER
MICHAEL S. MACDONALD
SIGNATURE
February 25/26
DATE
NEWFOUNDLAND & LABRADOR

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\SUBMISSION\IFC-FEB-25-2026\C12 – DETAILS-1.DWG, February 25, 2026, 9:39 AM



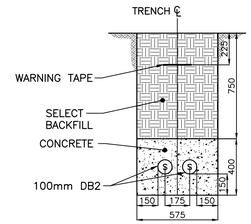
PLAN— LIGHTING

SCALE 1:300



1 — DETAIL— STREETLIGHT TRENCH

1:20



2 — DETAIL— ROAD CROSSING (DOT)

1:20

NOTES:

1. NL POWER TO SUPPLY CONDUITS, PULL ROPES, WARNING TAPE, MECHANICAL PROTECTION BOARDS AND CONCRETE ENCASEMENT SPACERS. CIVIL CONTRACTOR TO INSTALL. CIVIL CONTRACTOR TO COORDINATE WITH NL POWER FOR SCHEDULING AND DELIVERY OF MATERIALS TO SITE.
2. CIVIL CONTRACTOR TO CAP ENDS OF CONDUITS AND PLACE VERTICAL STAKE PROTRUDING ABOVE GROUND FOR EASE OF LOCATING FOR NL POWER CONTRACTOR.
3. CIVIL CONTRACTOR TO COORDINATE WITH NL POWER CONTRACTOR. COST INCIDENTAL TO CONTRACT.
4. ALL UNDERGROUND DUCTS (INCLUDING BENDS, FITTINGS, ETC.) TO BE RIGID PVC, UNLESS OTHERWISE NOTED.
5. CONCRETE FOR CONCRETE ENCASEMENT TO HAVE A 28 DAY SPECIFIED STRENGTH OF 20 MPa WITH MAXIMUM AGGREGATE SIZE OF 20mm AND MAXIMUM SLUMP OF 75mm.
6. INSTALL MINIMUM OF 1/2" PULL ROPE IN EACH DUCT MUST BE LABELED IDENTICALLY AT BOTH ENDS IN TRENCHES WITH MULTIPLE DUCTS. SECURELY CAP AT BOTH ENDS WHERE APPLICABLE.
7. ALL FITTINGS, COUPLINGS, ETC. ARE TO BE SOLVENT WELD.
8. NL POWER TO INSPECT ALL UNDERGROUND ELECTRICAL WORK PRIOR TO BACKFILLING. CIVIL CONTRACTOR TO CONTACT MR. ANDREW WHITE (709-737-2802) OF NL POWER AND PROVIDE MIN. 24 HRS. NOTICE PRIOR TO INSPECTION.

LIGHTING DESIGN DONE BY NL POWER

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PERMIT HOLDER
CLASS "A"
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Harbourside Transportation Consultants
Signature — February 25/26 — Date
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which is valid for the year 2026.

LEGEND

EXISTING

- PROPERTY LINE
- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- CONCRETE SIDEWALK
- EDGE OF GRAVEL
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- OVERHEAD WIRE

PROPOSED

- CURB AND GUTTER
- CURB
- EDGE OF ASPHALT
- EDGE OF GRAVEL
- CONCRETE SIDEWALK
- SHARED PATH SIDEWALK
- DETECTABLE WARNING PLATE
- SIGN
- UTILITY POLE
- LIGHT STANDARD
- JUNCTION BOX
- MANHOLE
- HYDRANT
- VALVE
- CATCH BASIN
- ELECTRICAL CONDUIT
- OVERHEAD WIRE
- TOP OF SLOPE
- BOTTOM OF SLOPE
- FENCE
- GUIDE RAIL
- ASPHALT
- TOPSOIL AND SOD
- RED CONCRETE

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR CONSTRUCTION	02/25/26	M.M.

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Transportation Consultants

Project:

PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR
ROUNDABOUT DESIGN

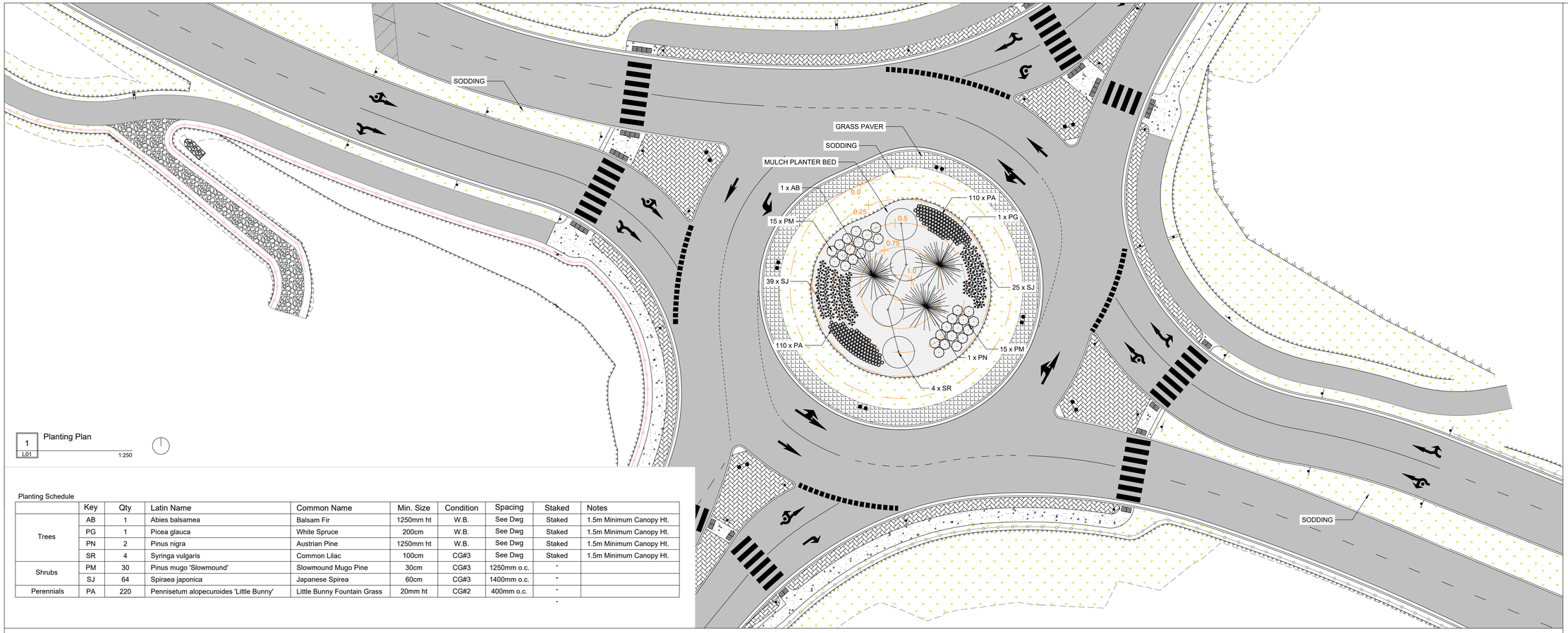
Title:

LIGHTING DESIGN AND DETAILS

Scale: AS NOTED	Date: JUNE 14, 2024
Drawn: S.L.A.	Designed: S.L.A.
Checked: M.M.	Approved: M.M.
Contract No.: 232088	
Drawing No.: E01	

REGISTERED PROFESSIONAL ENGINEER — MICHAEL S. MACDONALD — SIGNATURE — February 25/26 DATE — NEWFOUNDLAND & LABRADOR

X:\02 HTC\PROJECTS\232088 PORTUGAL COVE ROAD ROUNDABOUT\04 CAD\E01 — LIGHTING.DWG, January 14, 2026, 11:09 AM

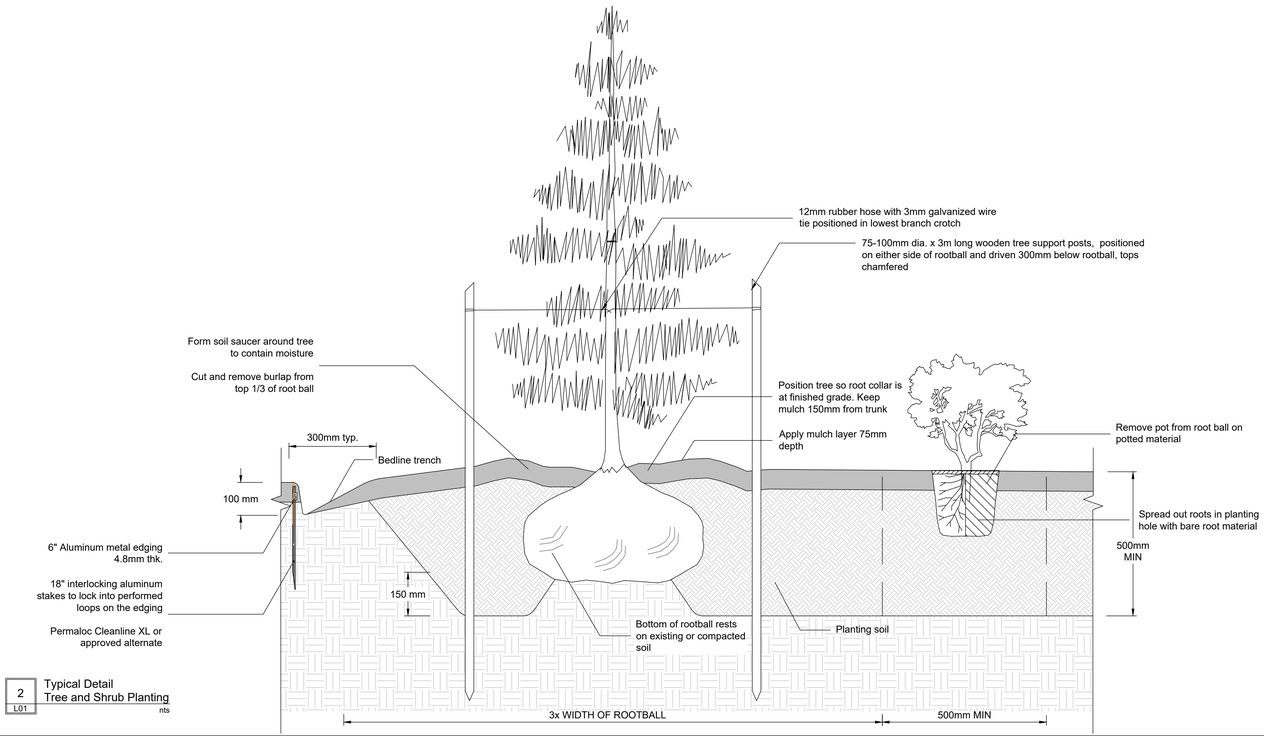


1 L01 Planting Plan

1:250

Planting Schedule

	Key	Qty	Latin Name	Common Name	Min. Size	Condition	Spacing	Staked	Notes
Trees	AB	1	Abies balsamea	Balsam Fir	1250mm ht	W.B.	See Dwg	Staked	1.5m Minimum Canopy Ht.
	PG	1	Picea glauca	White Spruce	200cm	W.B.	See Dwg	Staked	1.5m Minimum Canopy Ht.
	PN	2	Pinus nigra	Austrian Pine	1250mm ht	W.B.	See Dwg	Staked	1.5m Minimum Canopy Ht.
	SR	4	Syringa vulgaris	Common Lilac	100cm	CG#3	See Dwg	Staked	1.5m Minimum Canopy Ht.
Shrubs	PM	30	Pinus mugo 'Slowmound'	Slowmound Mugo Pine	30cm	CG#3	1250mm o.c.	-	
	SJ	64	Spiraea japonica	Japanese Spirea	60cm	CG#3	1400mm o.c.	-	
Perennials	PA	220	Pennisetum alopecuroides 'Little Bunny'	Little Bunny Fountain Grass	20mm ht	CG#2	400mm o.c.	-	
								-	



2 L01 Typical Detail Tree and Shrub Planting

nts

Issued For CONSTRUCTION

No.	DESCRIPTION	Date (mm/dd/yy)	By
1	ISSUED FOR TENDER	06/23/25	NM
0	ISSUED FOR TENDER	05/31/24	NM

ISSUE or REVISION

Client

ST. JOHN'S

UPLAND

Project

PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

ROUNDABOUT DESIGN

Title

ROUNDABOUT DESIGN LANDSCAPING PLAN

Scale: AS NOTED

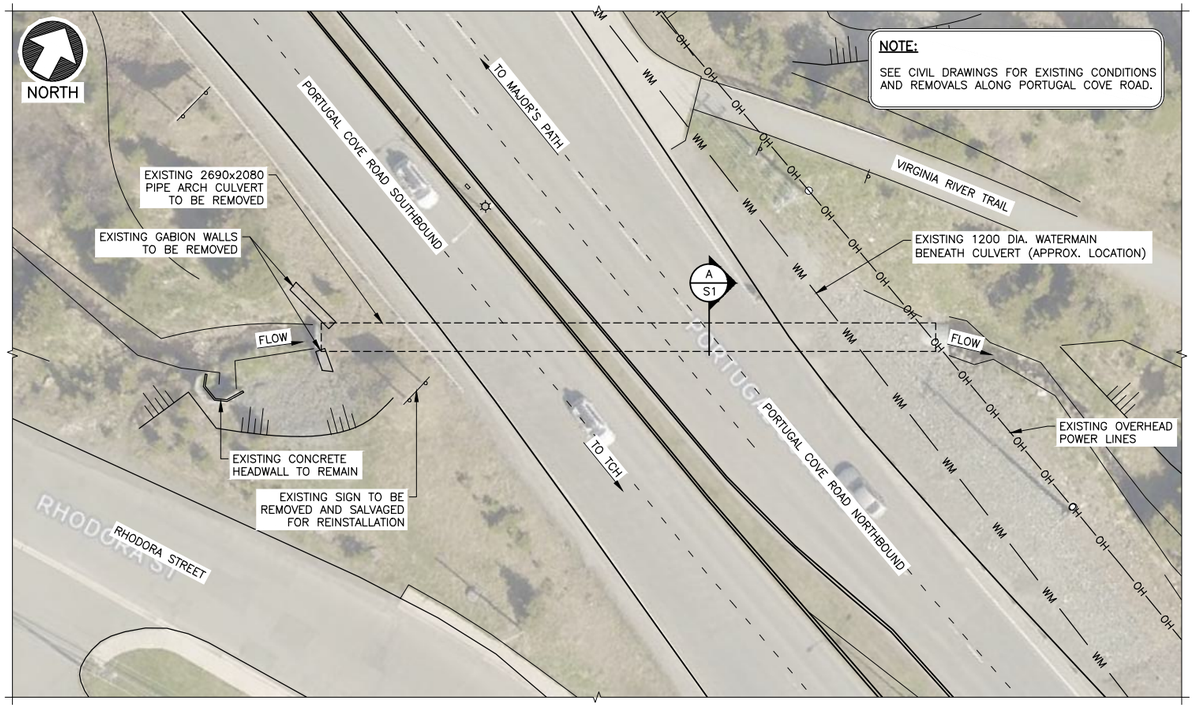
Date: JUNE 23 2025

Drawn: JY | Designed: JY

Checked: NM | Approved: NM

Contract No. 232088

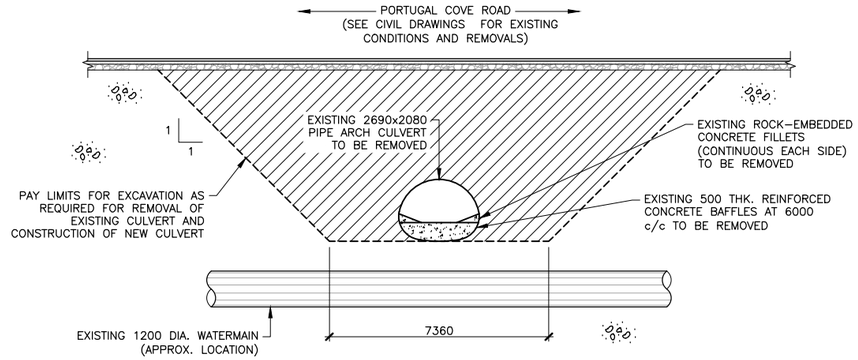
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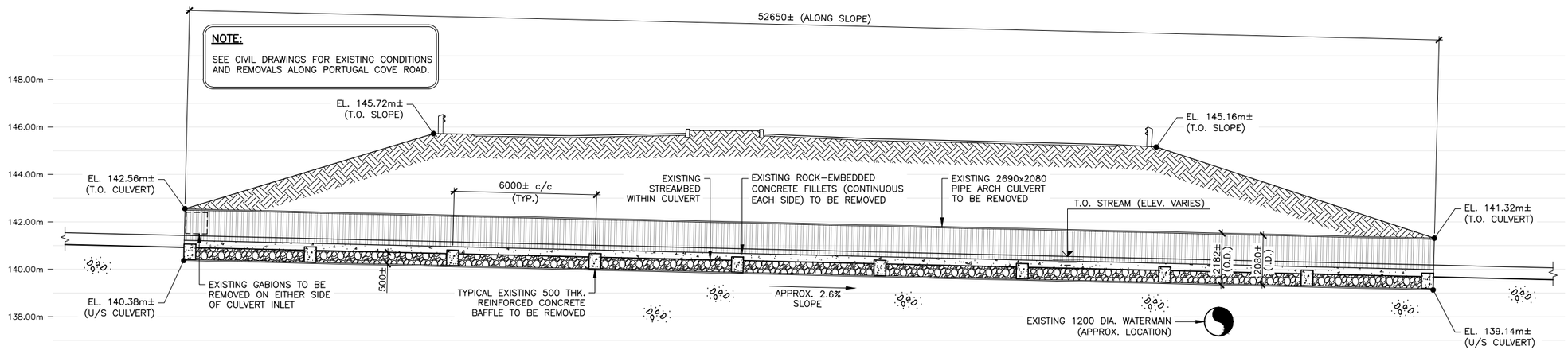
PLAN VIEW
1:250

GENERAL NOTES:

1. ALL REFERENCES TO STANDARDS TO REFLECT LATEST REVISIONS.
2. ALL WORK TO BE COMPLETED IN ACCORDANCE WITH THE CITY OF ST. JOHN'S SPECIFICATIONS BOOK AND NEWFOUNDLAND AND LABRADOR OCCUPATIONAL HEALTH AND SAFETY REGULATIONS.
3. ALL CONCRETE MATERIALS AND METHODS OF CONSTRUCTION SHALL MEET CSA A23.1 AND A23.4. METHODS AND TESTING FOR CONCRETE TO CSA A23.2.
4. CONCRETE FOR NEW PRECAST CONCRETE BOX CULVERT AND CAST-IN-PLACE BAFFLES TO BE 45MPa SUPERSTRUCTURE CONCRETE MEETING ALL REQUIREMENTS FOR 45MPa SUPERSTRUCTURE CONCRETE OUTLINED IN ITEM 404.04 OF THE CITY OF ST. JOHN'S SPECIFICATIONS BOOK.
5. ALL REINFORCING STEEL TO BE AS PER ITEM 405 OF THE CITY OF ST. JOHN'S SPECIFICATIONS BOOK WITH A MINIMUM YIELD STRENGTH OF 400MPa.
6. ALL REINFORCING TO BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH RISC. FOR BENT REINFORCING BAR TYPES, REFER TO RSIC REINFORCING STEEL MANUAL OF STANDARD PRACTICE.
7. ALL DIMENSIONS SHOWN IN MILLIMETRES (mm) AND ALL ELEVATIONS SHOWN IN METRES (m) UNLESS NOTED OTHERWISE.
8. CONTRACTOR TO SUPPLY AND INSTALL TEMPORARY SIGNAGE AND BARRIERS AS REQUIRED TO INFORM PEDESTRIAN AND VEHICULAR TRAFFIC OF CONSTRUCTION AND DIRECT PEDESTRIAN AND VEHICULAR TRAFFIC AWAY FROM CONSTRUCTION. AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION (MINIMUM LANE WIDTH OF 3.0m) SHALL BE MAINTAINED AT ALL TIMES IN THE AREA OF CULVERT REPLACEMENT. CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC CONTROL PLAN (TCP) TO THE CITY AND NO WORK IS TO BEGIN UNTIL THE PLAN IS REVIEWED AND APPROVED BY THE CITY AND ALL REQUIRED SIGNAGE AND BARRIERS ARE IN PLACE.
9. CONTRACTOR MUST FOLLOW ALL ENVIRONMENTAL REQUIREMENTS OF THE PROVINCIAL DEPARTMENT OF ENVIRONMENT AND CLIMATE CHANGE – WATER RESOURCES MANAGEMENT DIVISION AND FISHERIES AND OCEANS CANADA AS OUTLINED IN THE TECHNICAL REQUIREMENTS. THIS WILL INCLUDE THE IMPLEMENTATION AND MAINTENANCE OF A SUITABLE DEWATERING / WATER DIVERSION SYSTEM SUCH THAT ALL INSTREAM WORK IS UNDERTAKEN IN THE DRY AND SILTED WATER IS PREVENTED FROM ENTERING DOWNSTREAM REACHES. CONTRACTOR SHALL SUBMIT A DETAILED DEWATERING / WATER DIVERSION PLAN TO THE CITY AND NO INSTREAM WORK IS TO BEGIN UNTIL PLAN HAS BEEN REVIEWED AND APPROVED BY THE CITY.
10. CONTRACTOR IS ADVISED THAT THERE ARE ACTIVE UTILITY LINES IN THE VICINITY OF THE DOWNSTREAM END OF THE CULVERT TO BE REPLACED. CONTRACTOR RESPONSIBLE FOR COORDINATING WITH THE UTILITY COMPANY AS REQUIRED TO COMPLETE THE WORK.
11. SEE SHEET S6 FOR BOX CULVERT NOTES.



A/S1 SECTION
1:100



PROFILE ALONG EXISTING PIPE ARCH CULVERT

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL PERMIT HOLDER
This Permit Allows
HARBOURSIDE ENGINEERING CONSULTANTS
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEG 324
which is valid for the year 2026

No.	DESCRIPTION	Date (mm/dd/yy)	By
0	ISSUED FOR CONSTRUCTION	02/25/26	SRW

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Engineering Consultants

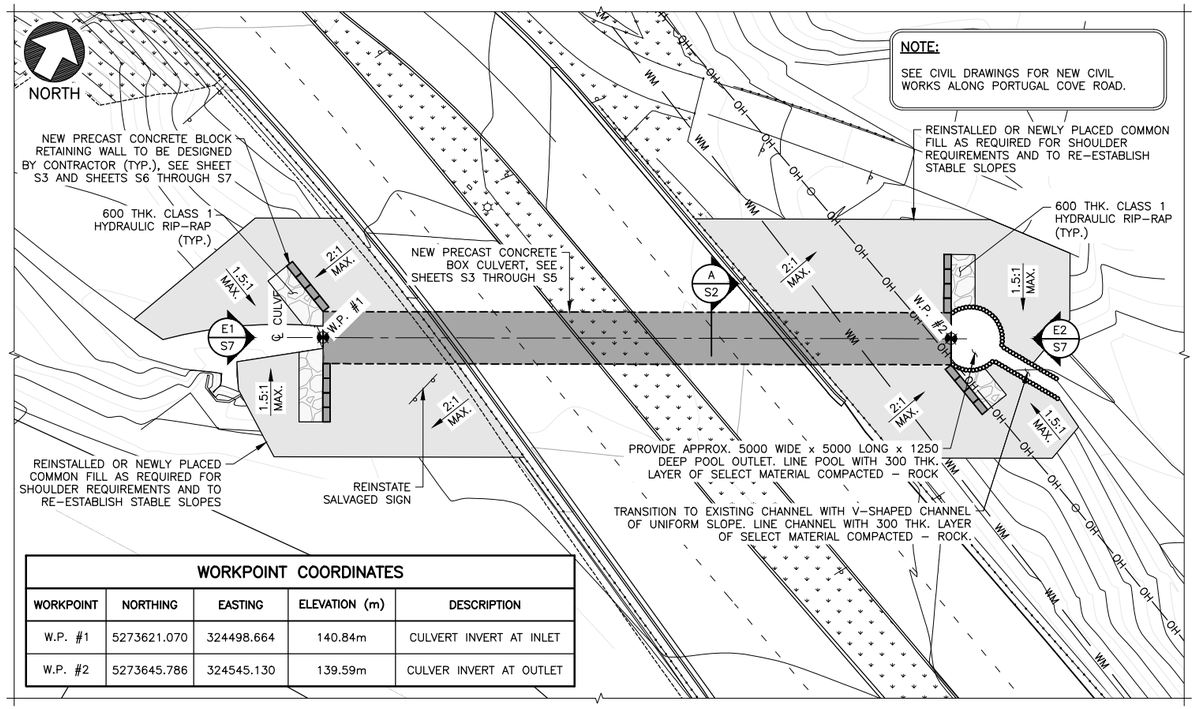
Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

CULVERT REPLACEMENT

Title: EXISTING CONDITIONS AND REMOVALS

Scale	Date
AS NOTED	NOVEMBER, 2024
Drawn: MQR	Designed: SRW
Checked: DAP	Approved: JH
Contract No.: 241267	
Drawing No.: S1	

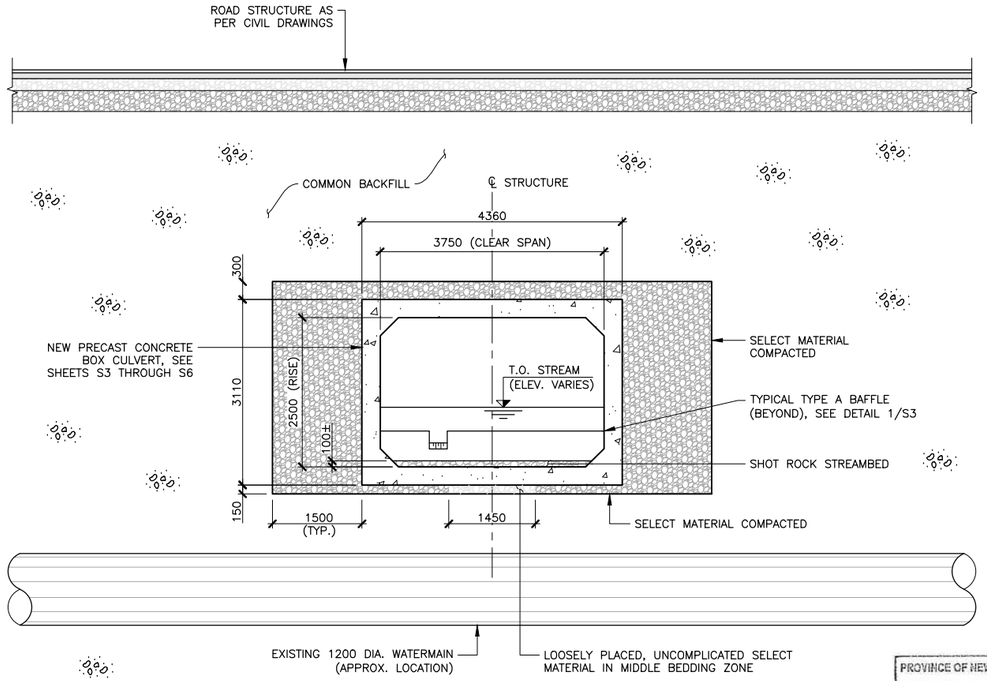
LICENSED PROFESSIONAL ENGINEER 10635 STEPHEN R. WARFORD SIGNATURE 25-Feb-26 DATE NEWFOUNDLAND & LABRADOR



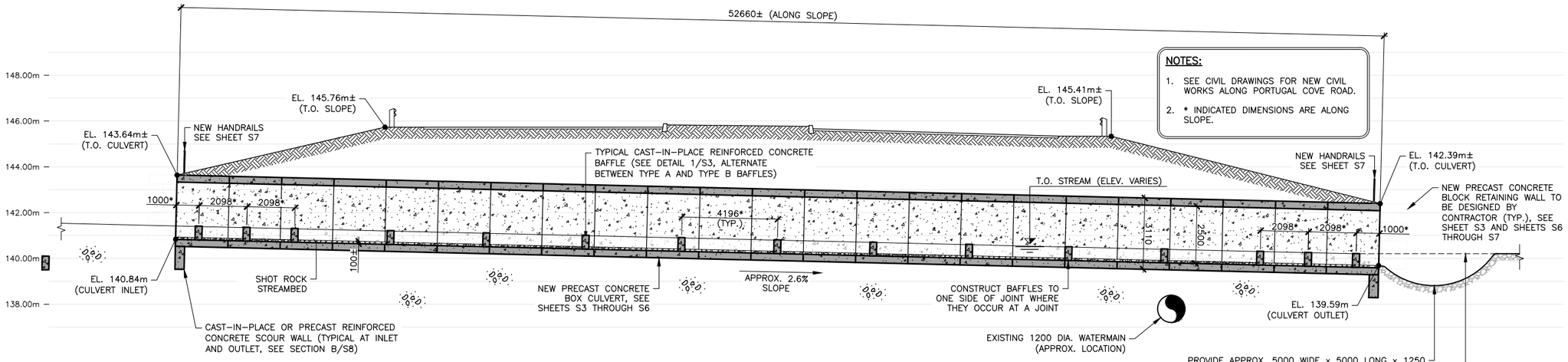
WORKPOINT COORDINATES

WORKPOINT	NORTHING	EASTING	ELEVATION (m)	DESCRIPTION
W.P. #1	5273621.070	324498.664	140.84m	CULVERT INVERT AT INLET
W.P. #2	5273645.786	324545.130	139.59m	CULVER INVERT AT OUTLET

PLAN VIEW
1:250



A S2 SECTION
1:50



PROFILE ALONG NEW PRECAST CONCRETE BOX CULVERT

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGNL PERMIT HOLDER
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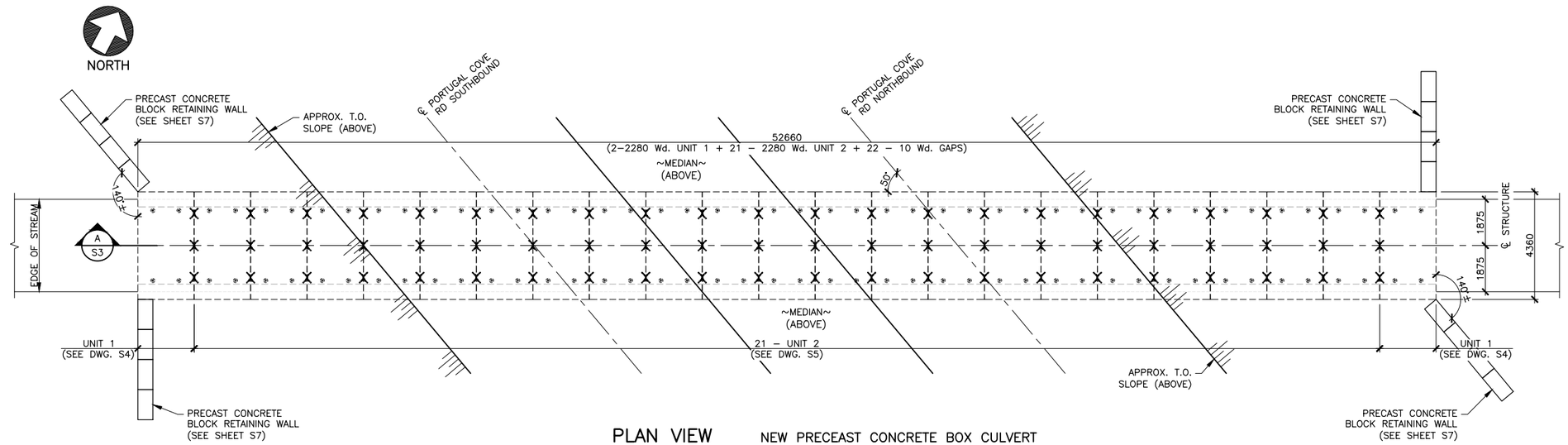
Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

CULVERT REPLACEMENT

Title: NEW CONDITIONS

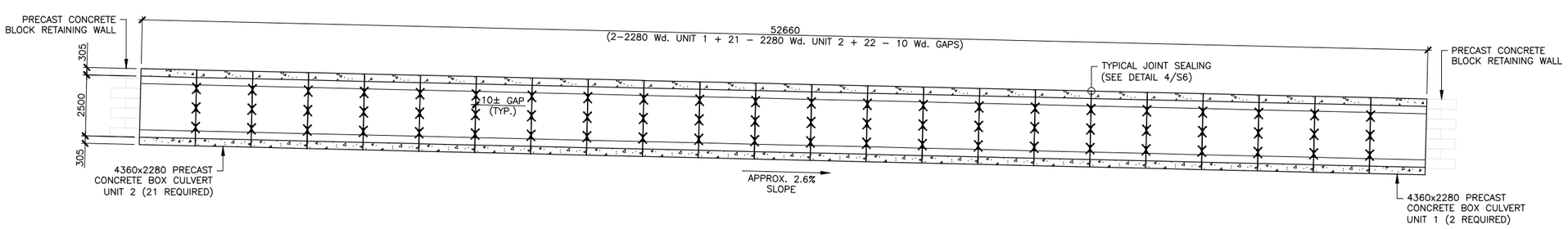
Scale: AS NOTED
Date: NOVEMBER, 2024
Drawn: MQR
Designed: SRW
Checked: DAP
Approved: JH
Contract No.: 241267
Drawing No.: S2

LICENSED PROFESSIONAL ENGINEER 10635 STEPHEN R. WANFORD SIGNATURE 25-Feb-2026 DATE NEWFOUNDLAND & LABRADOR



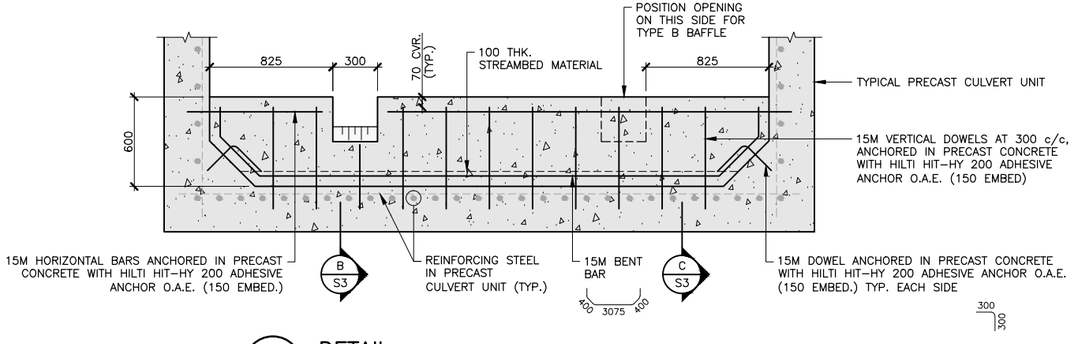
PLAN VIEW — NEW PRECEAST CONCRETE BOX CULVERT

1:100



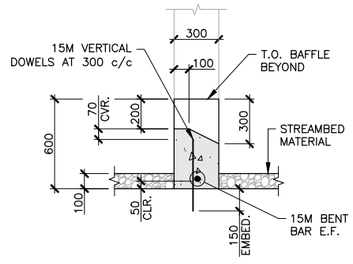
A/S3 SECTION — NEW PRECAST CONCRETE BOX CULVERT

1:100



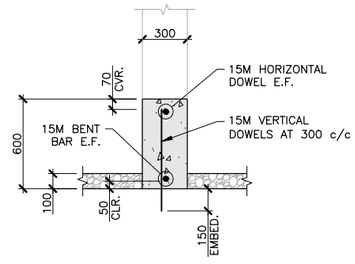
1/S2 DETAIL — TYPICAL CAST–IN–PLACE BAFFLE (TYPE A SHOWN, TYPE B SIMILAR)

1:20



B/S3 SECTION

1:20



C/S3 SECTION

1:20

PROVINCE OF NEWFOUNDLAND AND LABRADOR

PEGNL PERMIT HOLDER
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No.	DESCRIPTION	Date (mm/dd/yy)	By
0	ISSUED FOR CONSTRUCTION	02/25/26	SRW

ISSUE or REVISION

Client: ST. JOHN'S

HARBOURSIDE Engineering Consultants

Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

CULVERT REPLACEMENT

Title: NEW BOX CULVERT LAYOUT

Scale: AS NOTED

Date: NOVEMBER, 2024

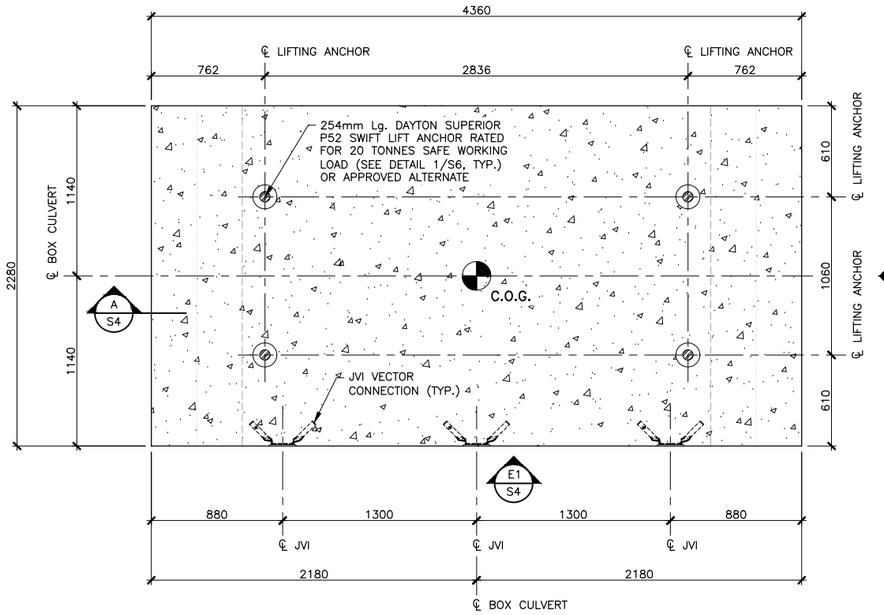
Drawn: MQR | Designed: SRW

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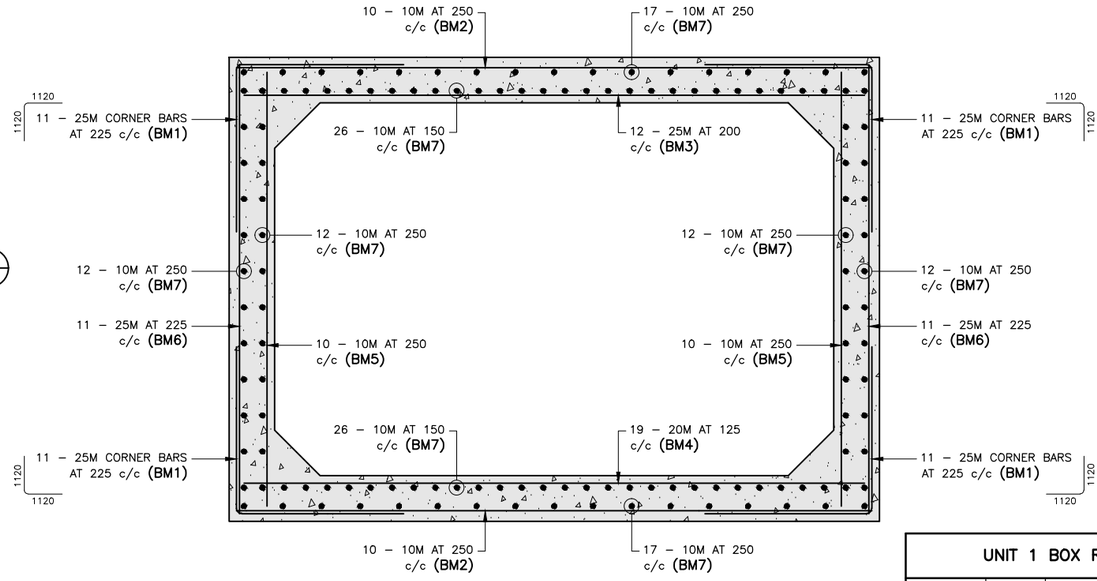
Contract No. 241267

Drawing No. S3

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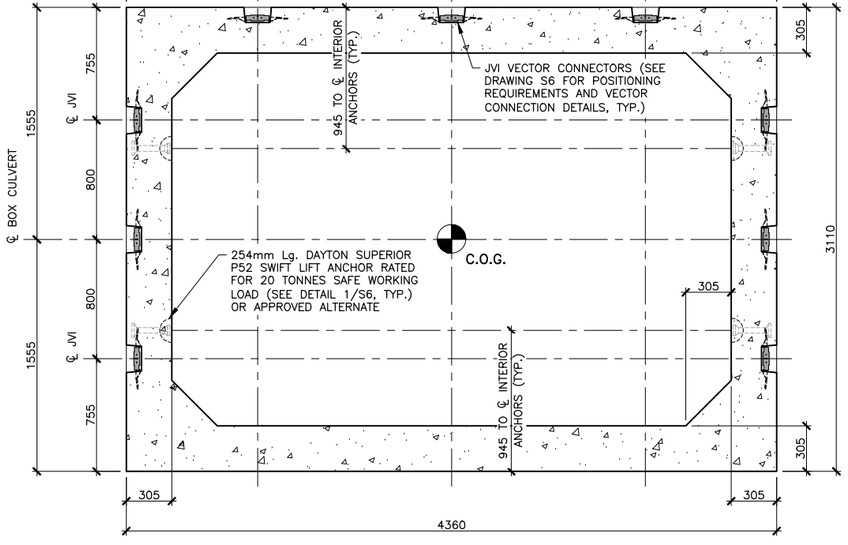
PLAN VIEW UNIT 1
1:20



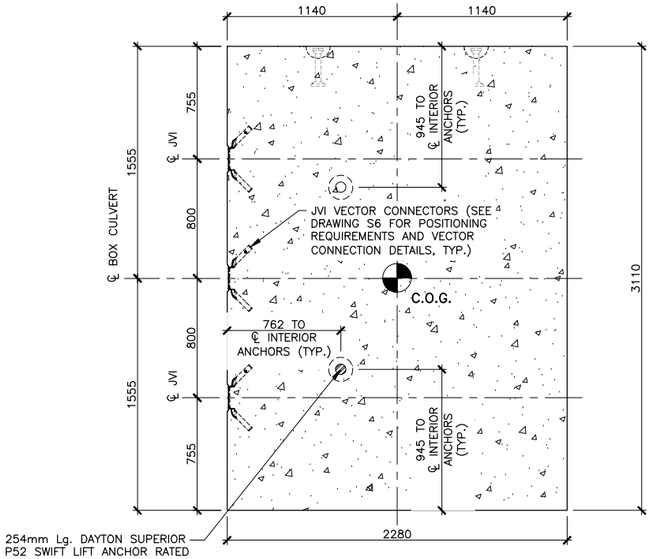
A S4 SECTION
1:20

UNIT 1 BOX REINFORCING TABLE (PER UNIT)					
BAR MARK	SHAPE	QUANTITY PER UNIT	TYPE	B DIM. (mm)	C DIM. (mm)
BM1	17	44	25M	1220	1220
BM2	0	20	10M	4258	
BM3	0	12	25M	4168	
BM4	0	19	20M	4168	
BM5	0	20	10M	2918	
BM6	0	22	25M	3008	
BM7	0	134	10M	2178	

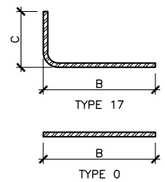
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E1 S4 ELEVATION
1:20



E2 S4 ELEVATION
1:20



NOTE:
UNIT 1 TYPES REQUIRED = 2

No.	DESCRIPTION	Date (mm/dd/yy)	By
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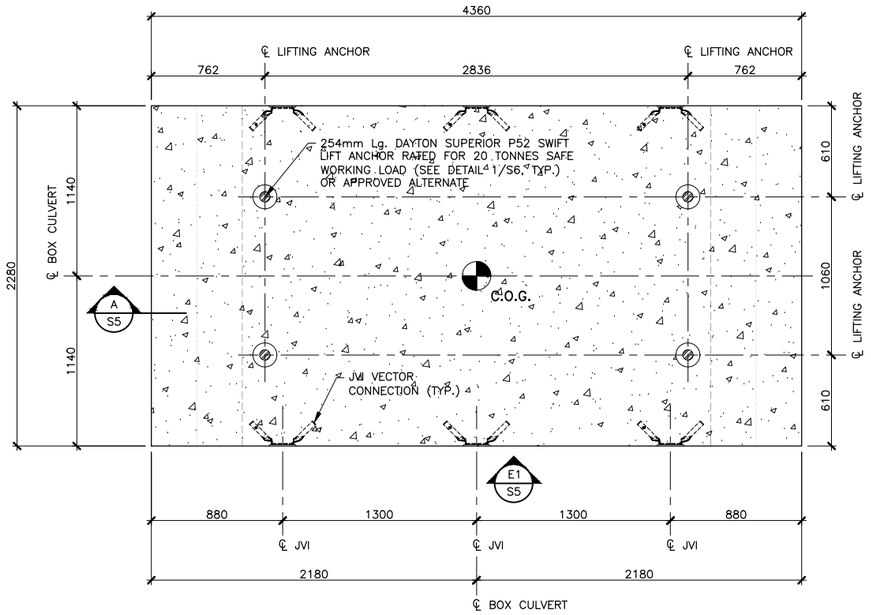
Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

CULVERT REPLACEMENT

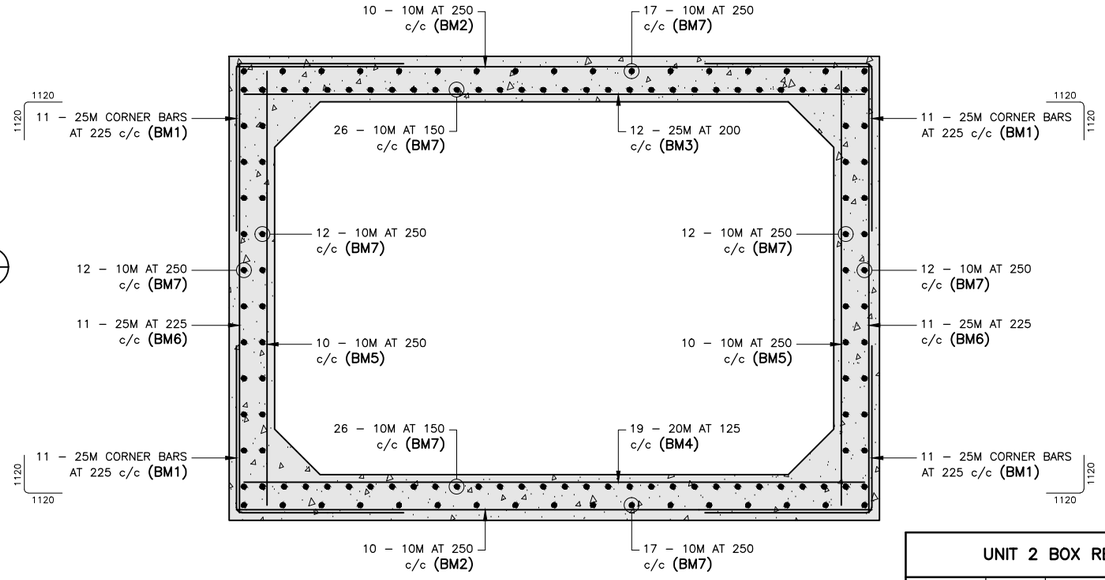
Title: BOX CULVERT UNIT 1 GEOMETRY AND REINFORCING

Scale	Date
AS NOTED	NOVEMBER, 2024
Drawn: MQR	Designed: SRW
Checked: DAP	Approved: JH
Contract No.	241267
Drawing No.	S4

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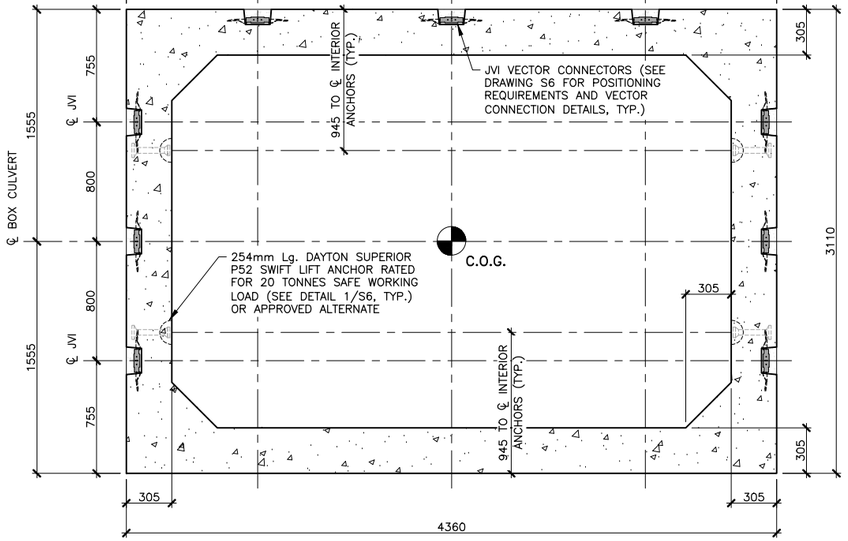
PLAN VIEW UNIT 2
1:20



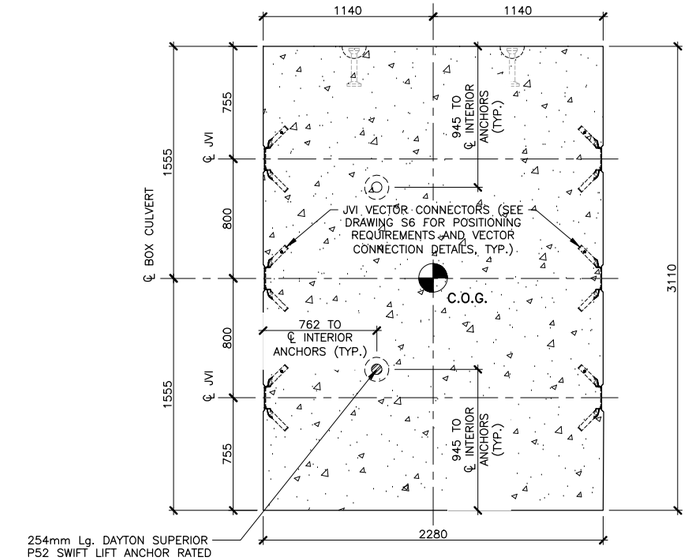
A
S5
SECTION
1:20

UNIT 2 BOX REINFORCING TABLE (PER UNIT)					
BAR MARK	SHAPE	QUANTITY PER UNIT	TYPE	B DIM. (mm)	C DIM. (mm)
BM1	17	44	25M	1220	1220
BM2	0	20	10M	4258	
BM3	0	12	25M	4168	
BM4	0	19	20M	4168	
BM5	0	20	10M	2918	
BM6	0	22	25M	3008	
BM7	0	134	10M	2178	

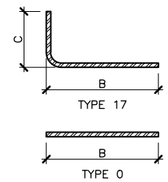
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E1
S5
ELEVATION
1:20



E2
S5
ELEVATION
1:20



NOTE:
UNIT 2 TYPES REQUIRED = 21

No.	DESCRIPTION	Date (mm/dd/yy)	By
0	ISSUED FOR CONSTRUCTION	02/25/26	SRW

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Client: ST. JOHN'S

HARBOURSIDE Engineering Consultants

Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

CULVERT REPLACEMENT

Title: BOX CULVERT UNIT 2 GEOMETRY AND REINFORCING

Scale: AS NOTED	Date: NOVEMBER, 2024
	Drawn: MQR / Designed: SRW
	Checked: DAP / Approved: JH
	Contract No.: 241267
	Drawing No.: S5

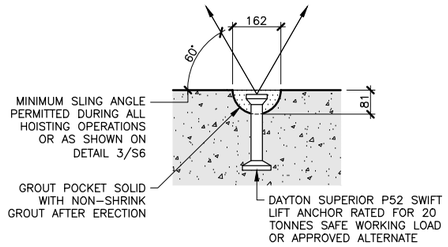
LICENSED PROFESSIONAL ENGINEER 10635 STEPHEN R. WARFORD SIGNATURE 25-Feb-26 DATE NEWFOUNDLAND & LABRADOR

BOX CULVERT NOTES:

1. PRECAST ELEMENT(S) APPROXIMATE WEIGHTS:

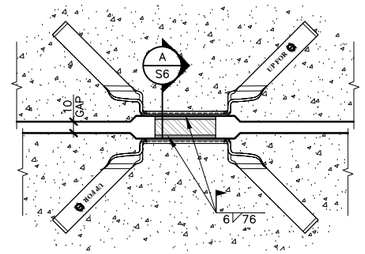
QUANTITY	ITEM	WEIGHT (kg)
2	UNIT 1	24600
21	UNIT 2	24600

2. MINIMUM CONCRETE STRENGTH TO BE 25 MPa AT TIME OF STRIPPING/LIFTING.
3. MINIMUM SLING ANGLE TO BE 60 DEGREES UNLESS NOTED OTHERWISE.
4. FOR HANDLING, STORAGE, TRANSPORTATION AND ERECTION PROCEDURES, PLEASE REFER TO A.L. PATTERSON "PRECAST ACCESSORIES CATALOGUE."
5. CONTRACTOR AND/OR OWNER TO HANDLE PRECAST UNITS ENSURING EQUAL LOAD DISTRIBUTION TO EACH LIFT PIN. LIFT, TRANSPORT AND PLACE IN A SLOW CONTROLLED MANNER TO MINIMIZE DYNAMIC LOADS.
6. CONTRACTOR RESPONSIBLE FOR ENSURING ALL LIFTING SLINGS, SPREADER BEAMS, SHACKLES, ROPE FITTINGS & MASTER LINKS MEET REQUIRED SAFE WORKING LOADS.
7. ALL WELDING SHALL BE IN ACCORDANCE WITH CSA W59 BY FABRICATOR FULLY APPROVED UNDER CSA W47.1. WELDING ELECTRODES TO CSA W48.1.
8. PRECAST BOX CULVERT LOADING AND GENERAL DESIGN TO CAN/CSA S6:19, WITH LATEST REVISIONS, LIVE LOAD CL-625.
9. COMPACTING IMMEDIATELY ADJACENT TO BOX CULVERT SHALL BE ACCOMPLISHED WITH LIGHT COMPACTING EQUIPMENT ONLY. MODERATE COMPACTING WITH A TRENCH ROLLER IN 300mm LIFTS ELSEWHERE (ALL COMPACTION SHALL BE TO 95% STANDARD PROCTOR DENSITY). BACKFILL OPERATIONS SHALL NOT BE UNDERTAKEN UNTIL ALL BOX CULVERT SECTIONS FOR CURRENT PHASE OF WORK (SEE SHEETS S9 AND S10) ARE ERECTED AND ALL VECTOR CONNECTORS ARE INSTALLED AND GROUTING COMPLETED. BACKFILLING SHALL BE COMPLETED IN EQUAL/BALANCED LIFTS BEHIND FRAME SEGMENTS. AT NO TIME SHALL THE DIFFERENTIAL IN BACKFILL ELEVATION AT EITHER SIDE OF STRUCTURE EXCEED 600mm. WHEEL LOADS SHALL BE KEPT 5.0m MINIMUM CLEAR OF BOX CULVERT UNTIL CONCRETE REACHES DESIGN STRENGTH AND BACKFILLING IS COMPLETED.
10. JVI VECTOR CONNECTORS ARE TO BE INSTALLED AS DETAILED AND IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
11. THE MAXIMUM ACCEPTABLE DIMENSIONAL TOLERANCE AT JOINTS BETWEEN PRECAST BOX CULVERT SECTIONS SHALL BE ± 5mm FOR BOTH THE 10 mm GAP AND THE OFFSET BETWEEN SECTIONS. IN CASES WHERE THESE TOLERANCES ARE NOT MET, REMEDIAL MEASURES APPROVED BY THE ENGINEER MUST BE COMPLETED AT THE CONTRACTOR'S EXPENSE.
12. APPROXIMATE MAXIMUM ULS BEARING PRESSURE = 200kPa. IF MATERIAL AT BEARING ELEVATION IS DEEMED UNSUITABLE TO SUPPORT LOADING, CONTRACTOR SHALL EXCAVATE UNSUITABLE MATERIALS AND REPLACE WITH SELECT MATERIAL COMPACTED – ROCK.



NOTE: REINFORCING NOT SHOWN FOR CLARITY

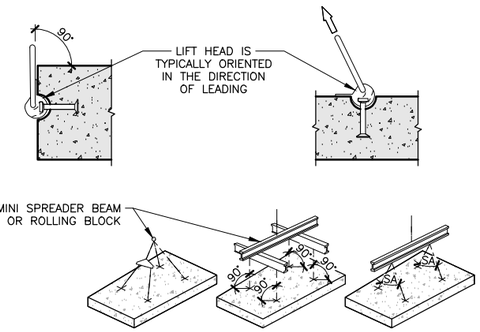
1/S4 DETAIL (LIFT ANCHOR PIN)
1:10



NOTES:

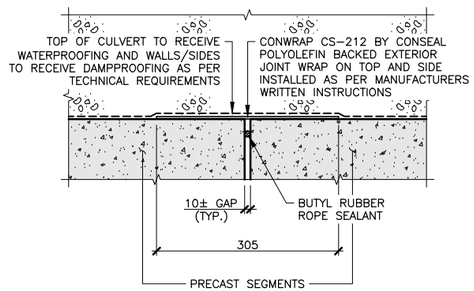
1. CENTER WELD AND ERECTION PLATE WITHIN FACEPLATE OF VECTOR CONNECTOR. DO NOT WELD AT CORNERS.
2. DO NOT OVER WELD. 76mm MAXIMUM WELD LENGTH.
3. THE NEGATIVE SYMBOL "–" SHOULD BE VISIBLE WHEN LOOKING DOWN ON VECTOR CONNECTOR LEG FOR PROPER PLACEMENT.

2/S4 DETAIL (TYPICAL VECTOR CONNECTOR POSITIONING)
1:5

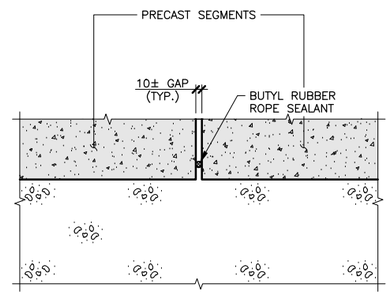


4 ANCHORS TAKE THE LOAD

3/S6 DETAIL (SUGGESTED HANDLING TECHIQUES)
N.T.S.

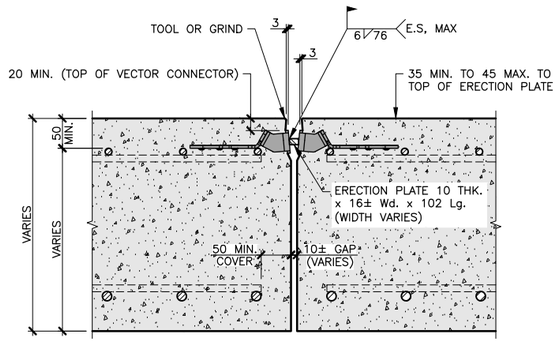


TOP & SIDE JOINT



BOTTOM JOINT

4/S3 DETAIL (TYPICAL JOINT SEALING)
1:5



NOTES:

1. ERECTION PLATE TO BE HORIZONTAL.
2. TOP EDGE OF VECTOR CONNECTOR MUST BE CLEAN.
3. LOCATE LONGITUDINAL AND TRANSVERSE REBAR AS NOT TO INTERFERE WITH VECTOR CONNECTOR LEG ENDS. DO NOT CUT REINFORCING.
4. USE A304 STAINLESS STEEL VECTOR CONNECTORS, USE A304 STAINLESS STEEL ERECTION PLATE AND USE WELDING ELECTRODE E308.

A/S6 SECTION – TYPICAL VECTOR CONNECTOR
1:5

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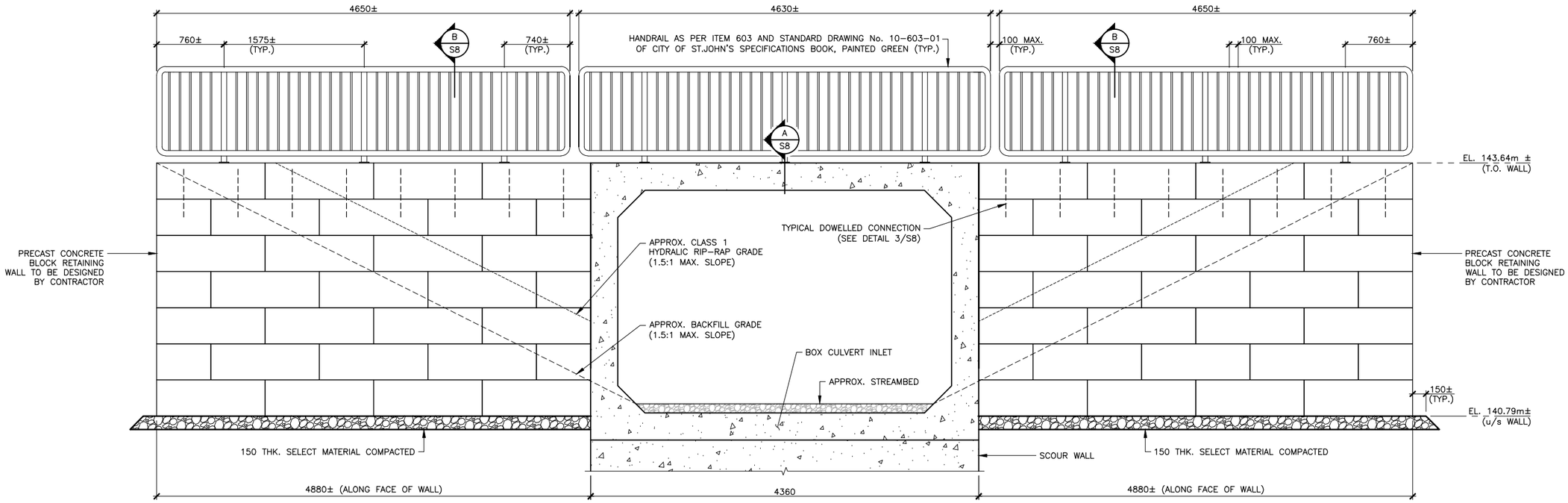
Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

CULVERT REPLACEMENT

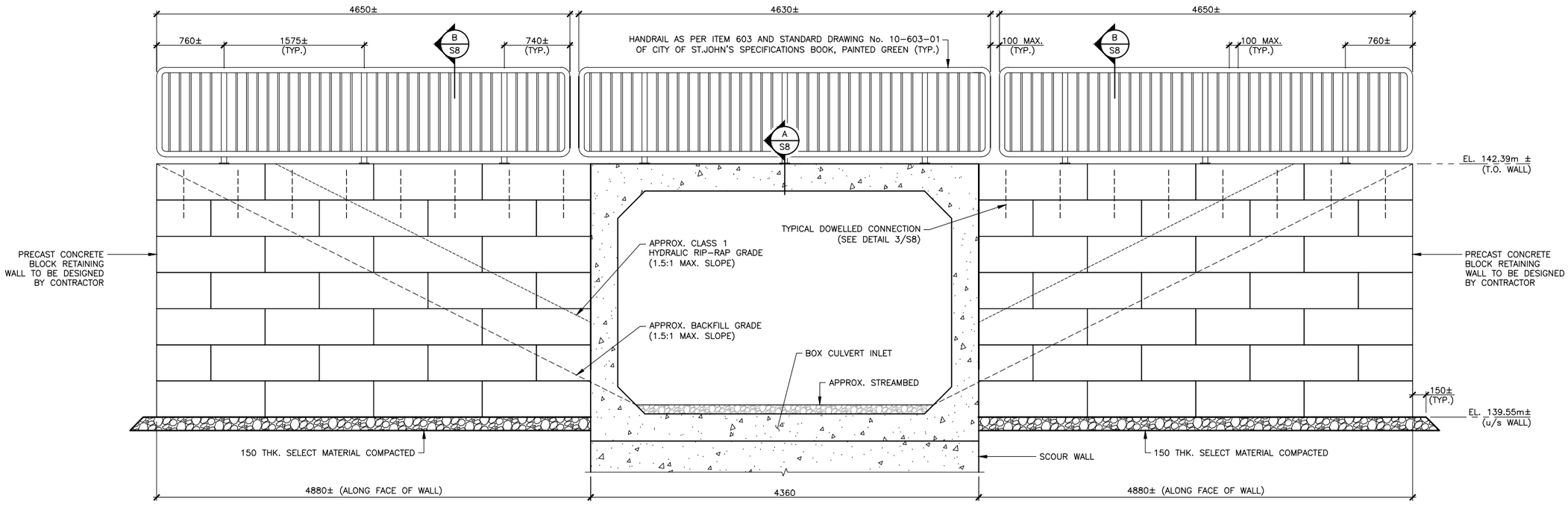
Title: TYPICAL BOX CULVERT DETAILS AND NOTES

Scale: AS NOTED	Date: NOVEMBER, 2024
	Drawn: MQR / Designed: SRW
	Checked: DAP / Approved: JH
	Contract No.: 241267
	Drawing No.: S6

LICENSED PROFESSIONAL ENGINEER 10635 STEPHEN R. WARFORD SIGNATURE 25-Feb-26 DATE NEWFOUNDLAND & LABRADOR



E1 / S2 **ELEVATION** INLET
1:25



E2 / S2 **ELEVATION** OUTLET
1:25

HANDRAIL NOTES:

1. ALL STEEL HANDRAILS TO BE CONSTRUCTED AS PER ITEM 603 AND STANDARD DRAWING No. 10-603-01 OF THE CITY OF ST. JOHN'S SPECIFICATIONS BOOK.
2. POSTS AND RAILINGS SHALL BE HOT DIP GALVANIZED TO ASTM A123 AFTER FABRICATION.
3. WELDING SHALL BE IN ACCORDANCE WITH CSA W59.
4. ALL JOINTS SHALL BE SHOP WELDED PRIOR TO BEING HOT DIP GALVANIZED.
5. ALL MISCELLANEOUS PLATES TO BE G40.21M-350W OR EQUIVALENT.
6. FABRICATOR FOR HANDRAIL TO BE CERTIFIED TO CSA W47.1 DIVISION 1 OR 2.
7. HANDRAIL ASSEMBLIES TO BE PAINTED GREEN PRIOR TO INSTALLATION.
8. POST SPACING / POSITIONING PROVIDED ON SHEET S7 IS APPROXIMATE ONLY AND SHALL BE CONFIRMED BY THE CONTRACTOR.
9. PRIOR TO FABRICATION, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING POST SPACING AND ARRANGEMENT AND ARRANGEMENT ALONG NEW PRECAST CONCRETE BLOCK WALLS AND CULVERT UNITS.

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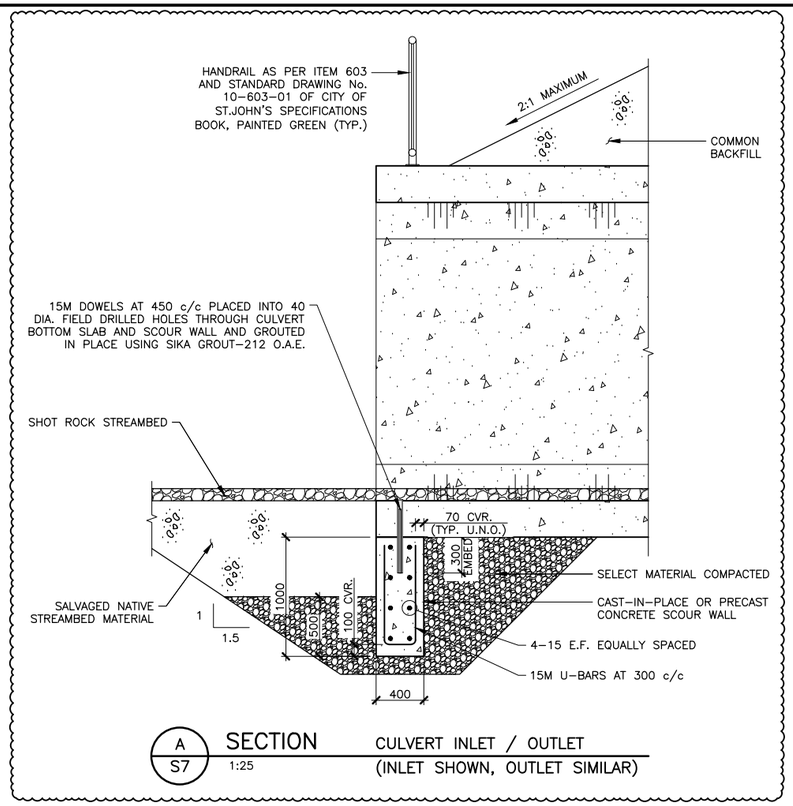
Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

CULVERT REPLACEMENT

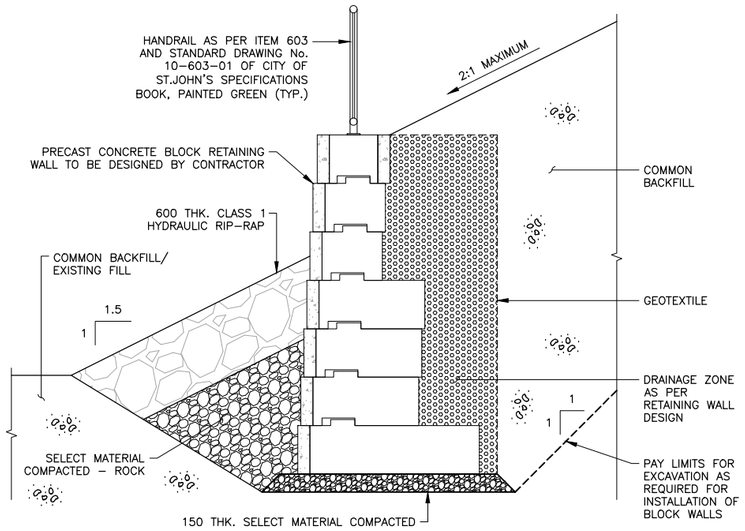
Title: INLET AND OUTLET ELEVATIONS

Scale: AS NOTED	Date: NOVEMBER, 2024
	Drawn: MQR / Designed: SRW
	Checked: DAP / Approved: JH
	Contract No.: 241267
	Drawing No.: S7

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10635
STEPHEN R. WARFORD
SIGNATURE
25-Feb-2026
DATE
NEWFOUNDLAND & LABRADOR



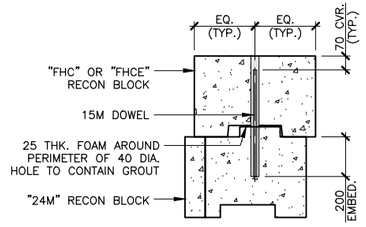
A S7 **SECTION** CULVERT INLET / OUTLET (INLET SHOWN, OUTLET SIMILAR)
1:25



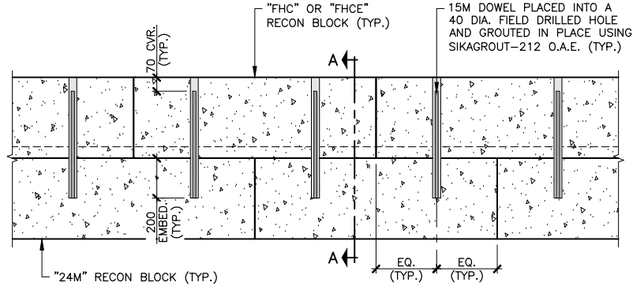
B S7 **SECTION** TYPICAL WALL CONSTRUCTION
1:25

PRECAST CONCRETE BLOCK RETAINING WALL NOTES:

1. CONTRACTOR TO DESIGN, SUPPLY, AND INSTALL PRECAST CONCRETE BLOCK RETAINING WALL SYSTEMS TO ELEVATIONS SHOWN. SHOP DRAWINGS AND DESIGN CALCULATIONS FOR RETAINING WALL SYSTEMS TO BE SUBMITTED FOR REVIEW AND APPROVAL, AND SHALL BE PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEWFOUNDLAND AND LABRADOR.
2. ALL PHASES OF CONSTRUCTION MUST BE CONSIDERED IN DESIGN OF WALLS, INCLUDING SUGGESTED CONSTRUCTION PHASING ILLUSTRATED ON SHEETS S9 AND S10 OR ANY ALTERNATIVE PHASING THAT MAY BE CONTEMPLATED, SURCHARGING OF WALLS AT ALL STAGES OF CONSTRUCTION AND IN THEIR FINAL CONDITION, AS WELL AS LOADING FROM HANDRAILS TO BE INSTALLED.
3. WALL DESIGNS TO INCLUDE BACKFILLING REQUIREMENTS AND SHALL INCORPORATE A DRAINAGE ZONE AND GEOTEXTILE AS REQUIRED TO RETAIN AND ENSURE DRAINAGE OF BACKFILL MATERIALS.
4. ULS BEARING PRESSURE OF WALLS SHALL NOT EXCEED 200kPa. IF MATERIAL AT BEARING ELEVATION IS DEEMED UNSUITABLE TO SUPPORT LOADING, CONTRACTOR SHALL EXCAVATE UNSUITABLE MATERIALS AND REPLACE WITH SELECT MATERIAL COMPACTED - ROCK.

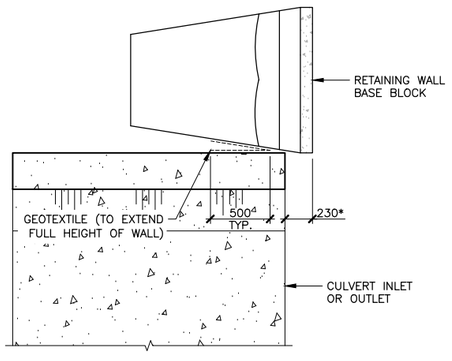


SECTION 'A-A'



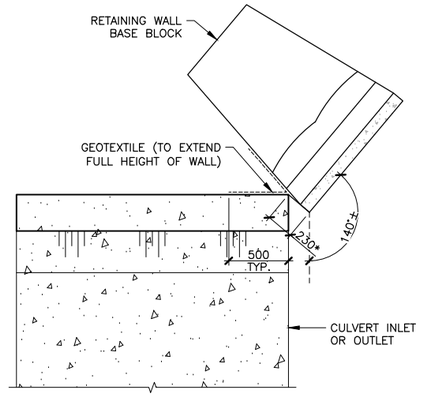
ELEVATION

3 S7 **DETAIL** BLOCK WALL DOWELED CONNECTIONS
1:15



1 S8 **DETAIL** TYPICAL BASE BLOCK TIE-IN AT CULVERT - SOUTHWEST AND NORTHEAST WALLS
1:25

*NOTE: DIMENSION IS BASED ON A 38mm SETBACK ON EACH BLOCK LAYER. ADJUST AS REQUIRED BASED ON ACTUAL SETBACK.



2 S8 **DETAIL** TYPICAL BASE BLOCK TIE-IN AT CULVERT - NORTHWEST AND SOUTHEAST WALLS
1:25

*NOTE: DIMENSION IS BASED ON A 38mm SETBACK ON EACH BLOCK LAYER. ADJUST AS REQUIRED BASED ON ACTUAL SETBACK.

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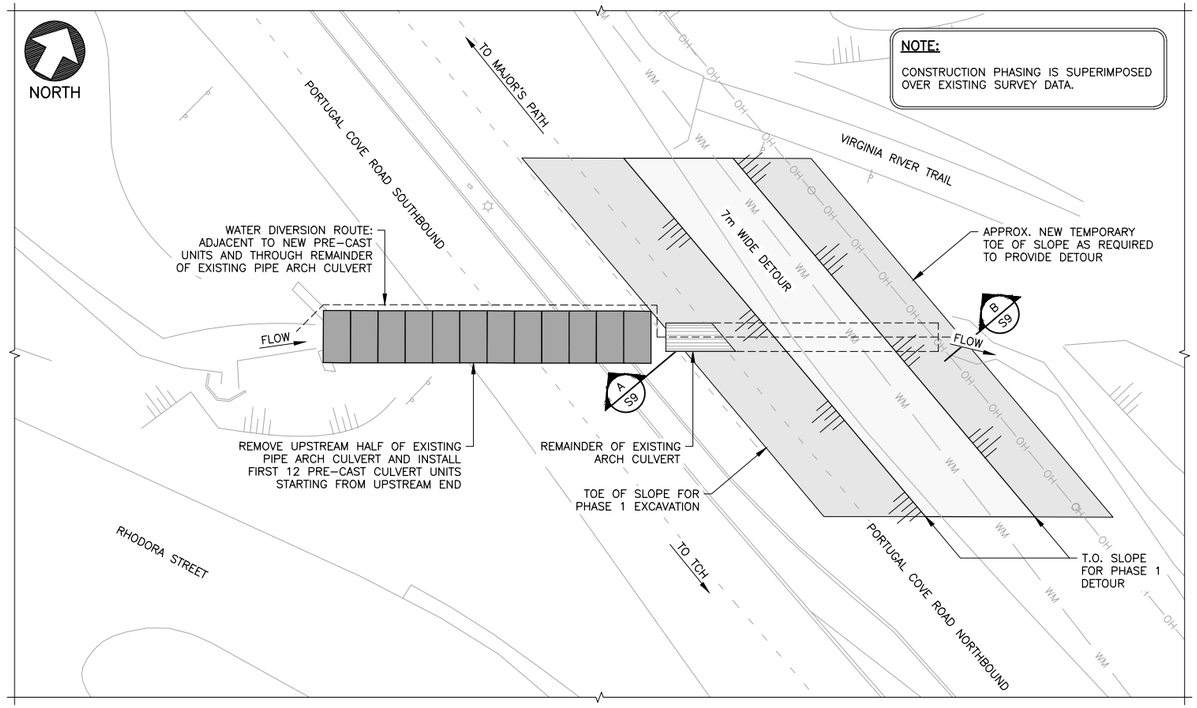
Project: PORTUGAL COVE ROAD AND MAJOR'S PATH ROUNDABOUT, ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

CULVERT REPLACEMENT

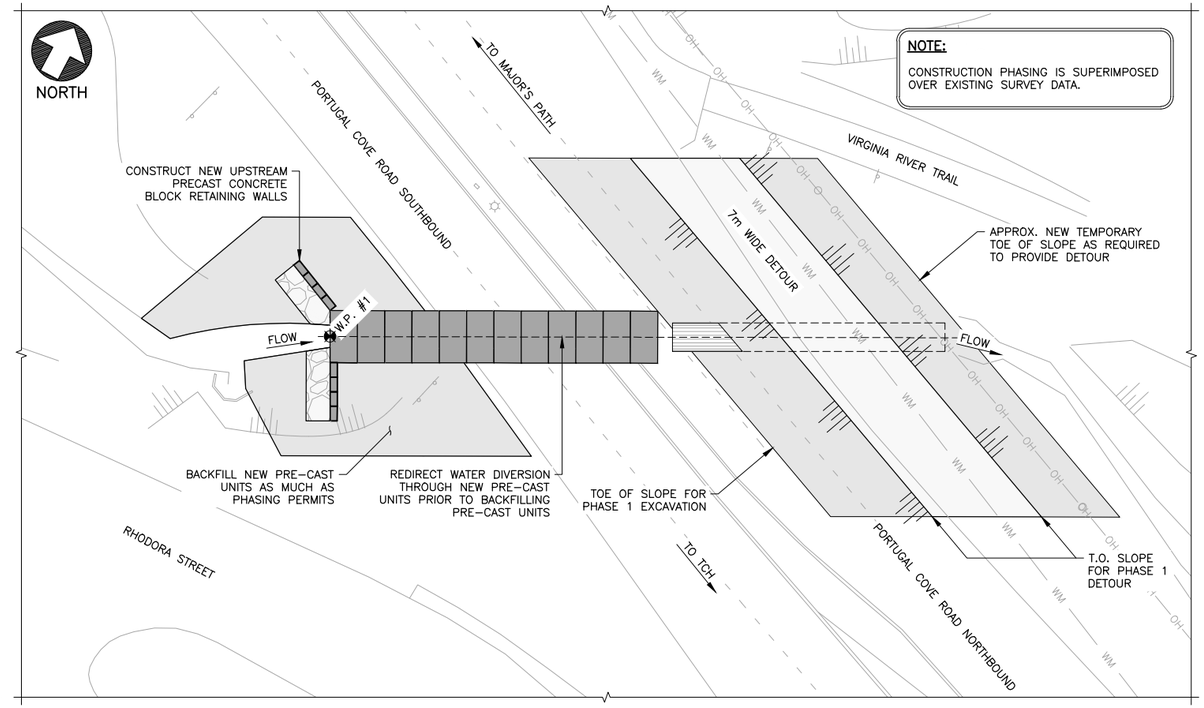
Title: RECON BLOCK RETAINING WALL SECTION, DETAILS AND NOTES

Scale	Date
AS NOTED	NOVEMBER, 2024
Drawn: MQR	Designed: SRW
Checked: DAP	Approved: JH
Contract No.: 241267	
Drawing No.: S8	

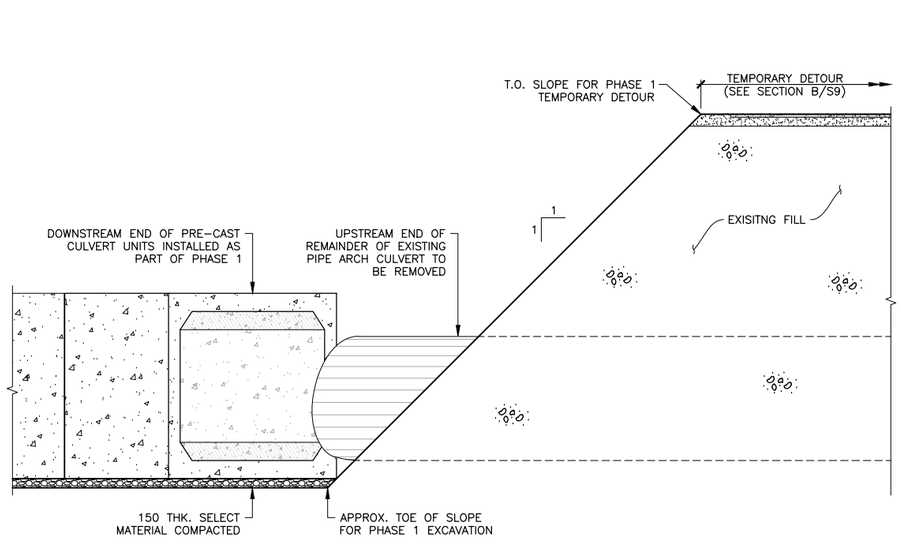
LICENSED PROFESSIONAL ENGINEER 10635 STEPHEN R. WARFORD SIGNATURE 25-Feb-26 DATE NEWFOUNDLAND & LABRADOR



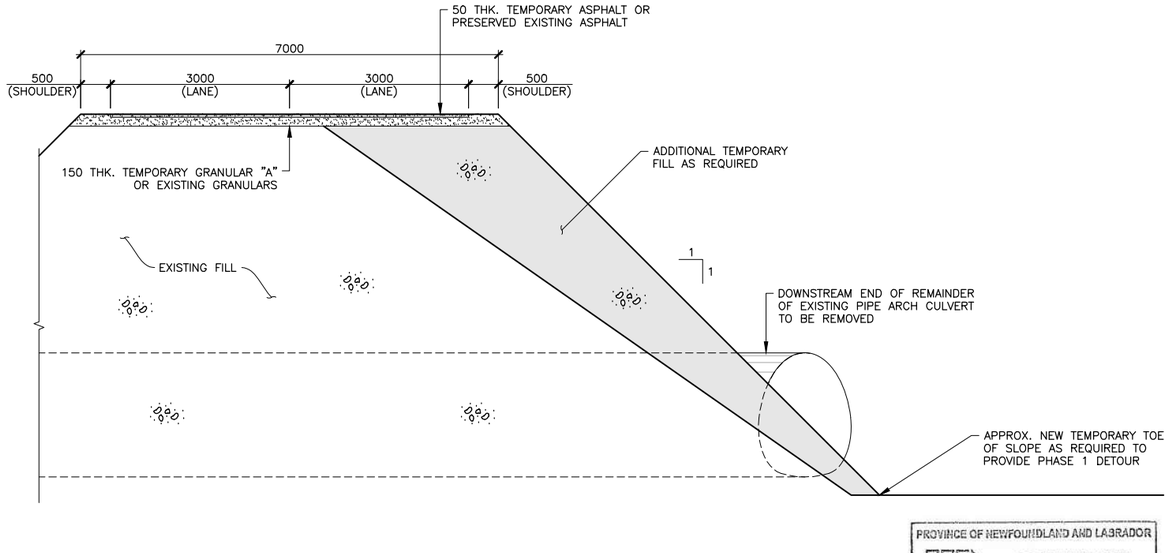
PHASE 1A
1:250



PHASE 1B
1:250



A
S9
SECTION
1:50



B
S9
SECTION
1:50

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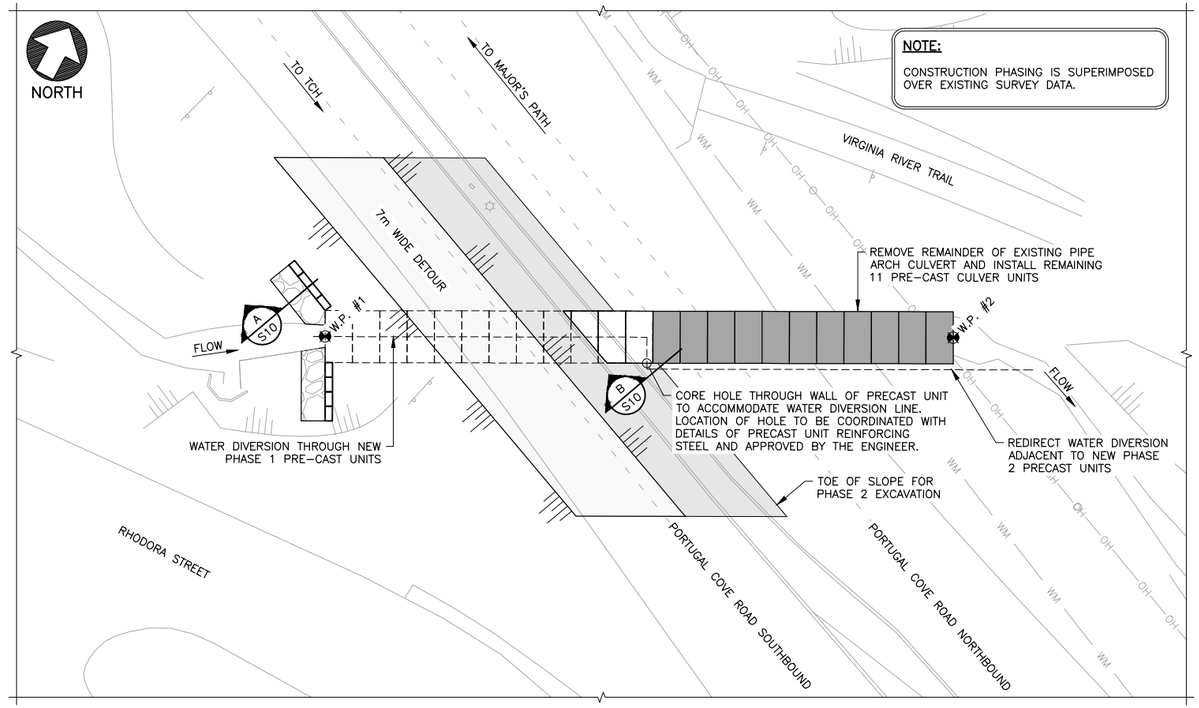
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CULVERT REPLACEMENT

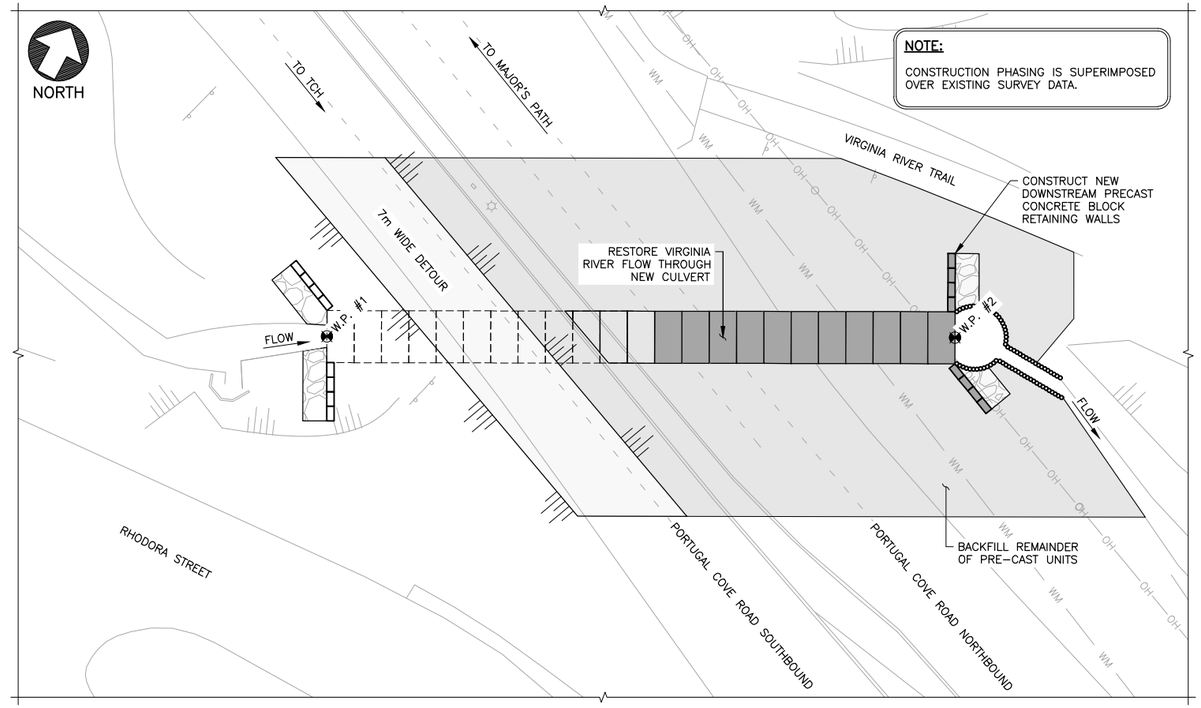
Title: CONSTRUCTION PHASING (SHEET 1)

Scale: AS NOTED
Date: NOVEMBER, 2024
Drawn: MQR
Designed: SRW
Checked: CCC
Approved: DDD
Contract No.: 241267
Drawing No.: S9

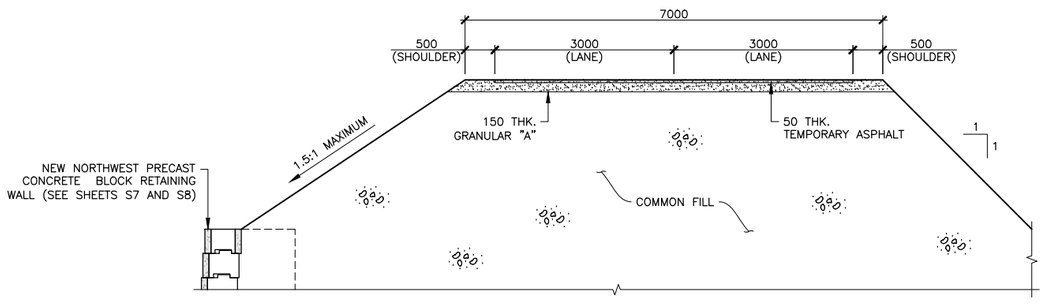
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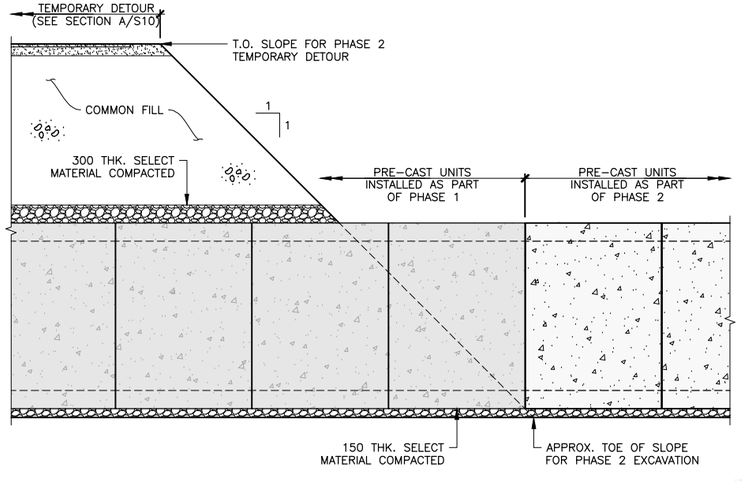
PHASE 2A
1:250



PHASE 2B
1:250



A S10 SECTION
1:50



B S10 SECTION
1:50

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CULVERT REPLACEMENT

Title: CONSTRUCTION PHASING (SHEET 2)

Scale: AS NOTED	Date: NOVEMBER, 2024
Drawn: MQR	Designed: SRW
Checked: CCC	Approved: DDD
Contract No.: 241267	
Drawing No.: S10	

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