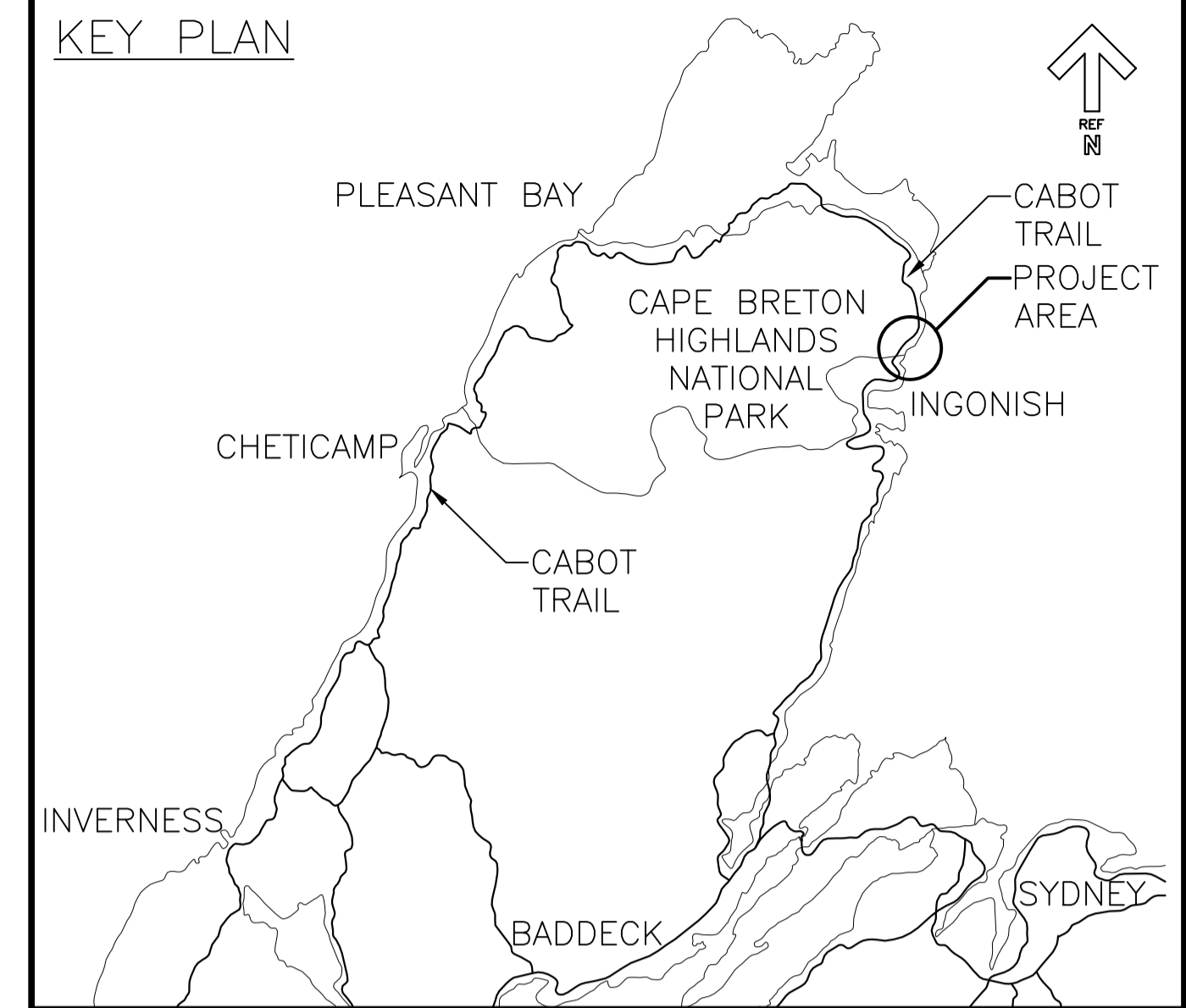


Parks
Canada

Parcs
Canada

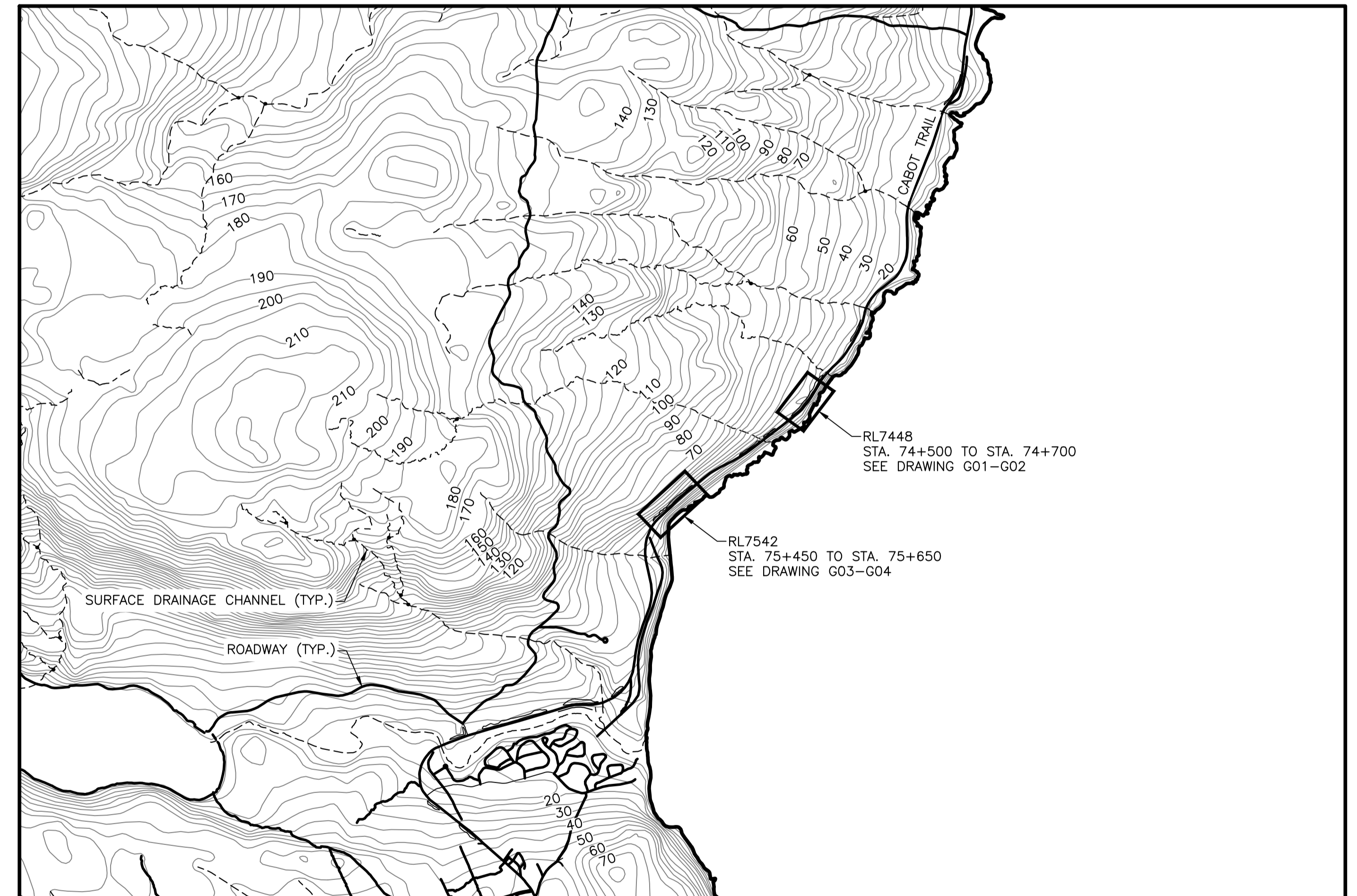


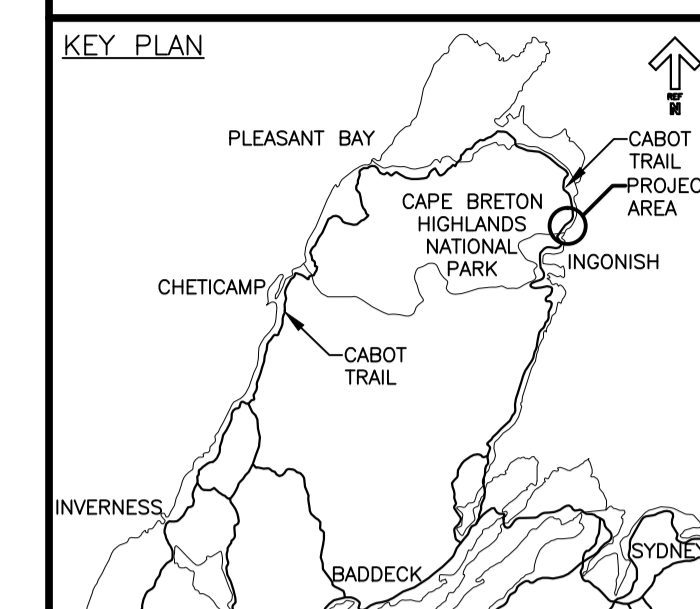
**PHASE 4 - LITTLE SMOKEY
SLOPE STABILIZATION
RR7448 / RR7542
CAPE BRETON HIGHLANDS NATIONAL PARK
INVERNESS COUNTY, NOVA SCOTIA**

PROJECT NO. 669

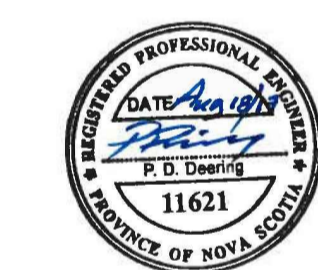
DRAWING LIST

DRAWING NO.	TITLE	DATE
G01	RR7448 SHEET 1 OF 2	AUG 2017
G02	RR7448 SHEET 2 OF 2	AUG 2017
G03	RR7542 SHEET 1 OF 2	AUG 2017
G04	RR7542 SHEET 2 OF 2	AUG 2017
G05	CONSTRUCTION NOTES AND DETAILS	AUG 2017





- NOTES:
1. ALL COORDINATES IN ACCORDANCE WITH NAD83 UTM ZONE 20.
 2. TOPOGRAPHIC DATA PROVIDED BY AIRBORNE LIDAR, LEADING EDGE GEOMATICS, 2015.
 3. SECTION PROVIDED FOR REFERENCE ONLY. THE SLOPE GEOMETRY VARIES ALONG THE LENGTH OF THE ROCK CUT. (SOURCE: COMBINATION OF AIRBORNE LIDAR DATA AND SHAPEMETRIX 3D MODEL OF ROCK SLOPE).
 4. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
 5. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT EACH SITE AND REPORT SIGNIFICANT DIFFERENCES, IF ANY, TO THE DEPARTMENTAL REPRESENTATIVE.



0	ISSUED FOR CONSTRUCTION	AUG 18 2017
revisions		date
project		projct

PHASE 4 – LITTLE SMOKEY SLOPE STABILIZATION

drawing design

RR7448 SHEET 1 OF 2

designed M. MATTHEW / P. DEERING conçu

date AUG. 18, 2017

drawn A. MCINTYRE dessiné

date AUG. 18, 2017

approved M. MATTHEW approuvé

date AUG. 18, 2017

Tender Soumission

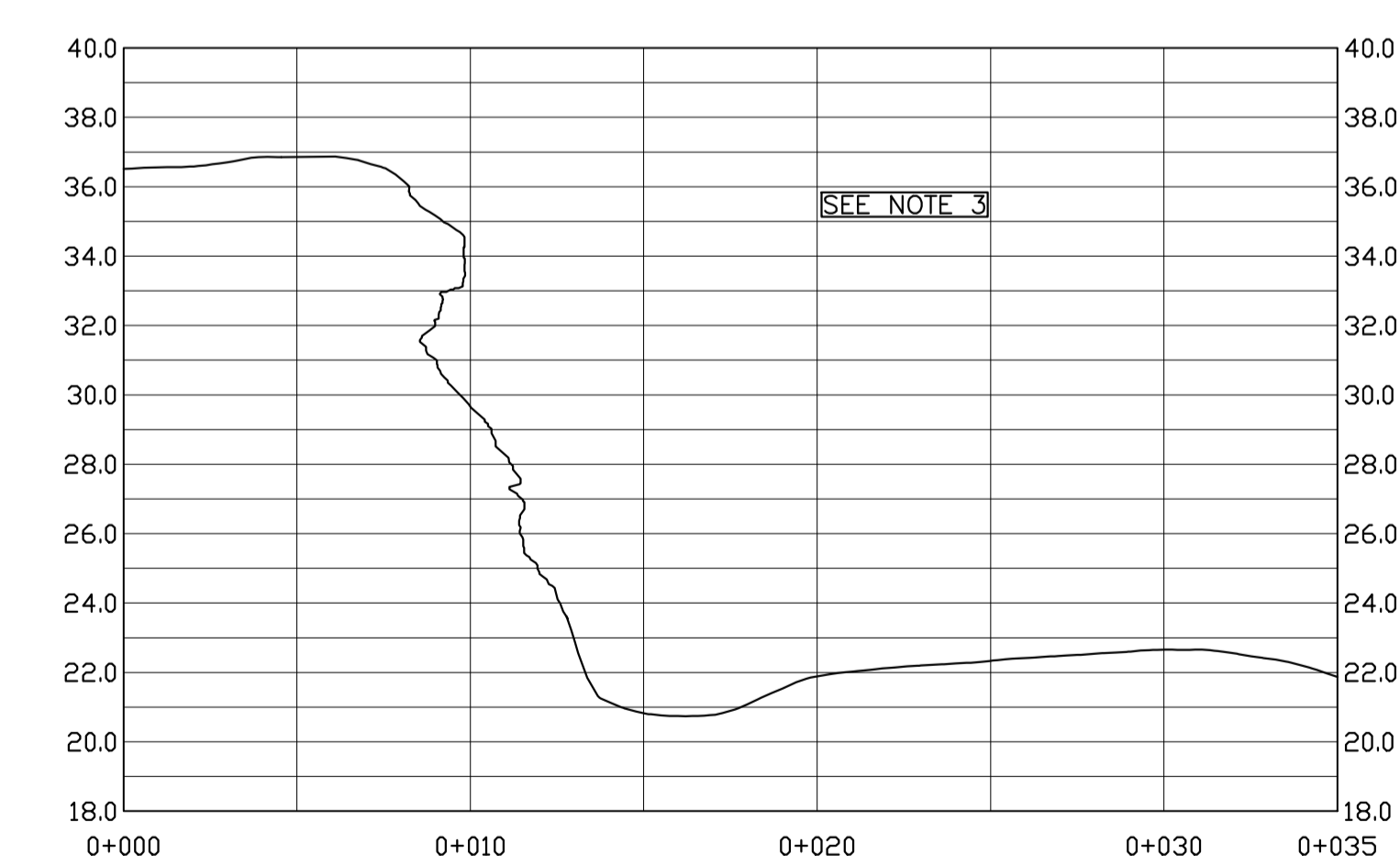
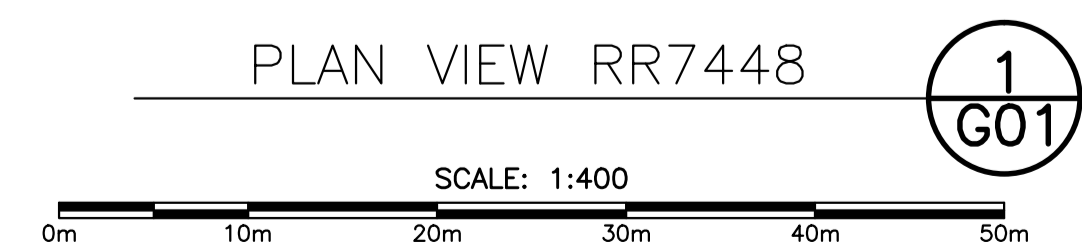
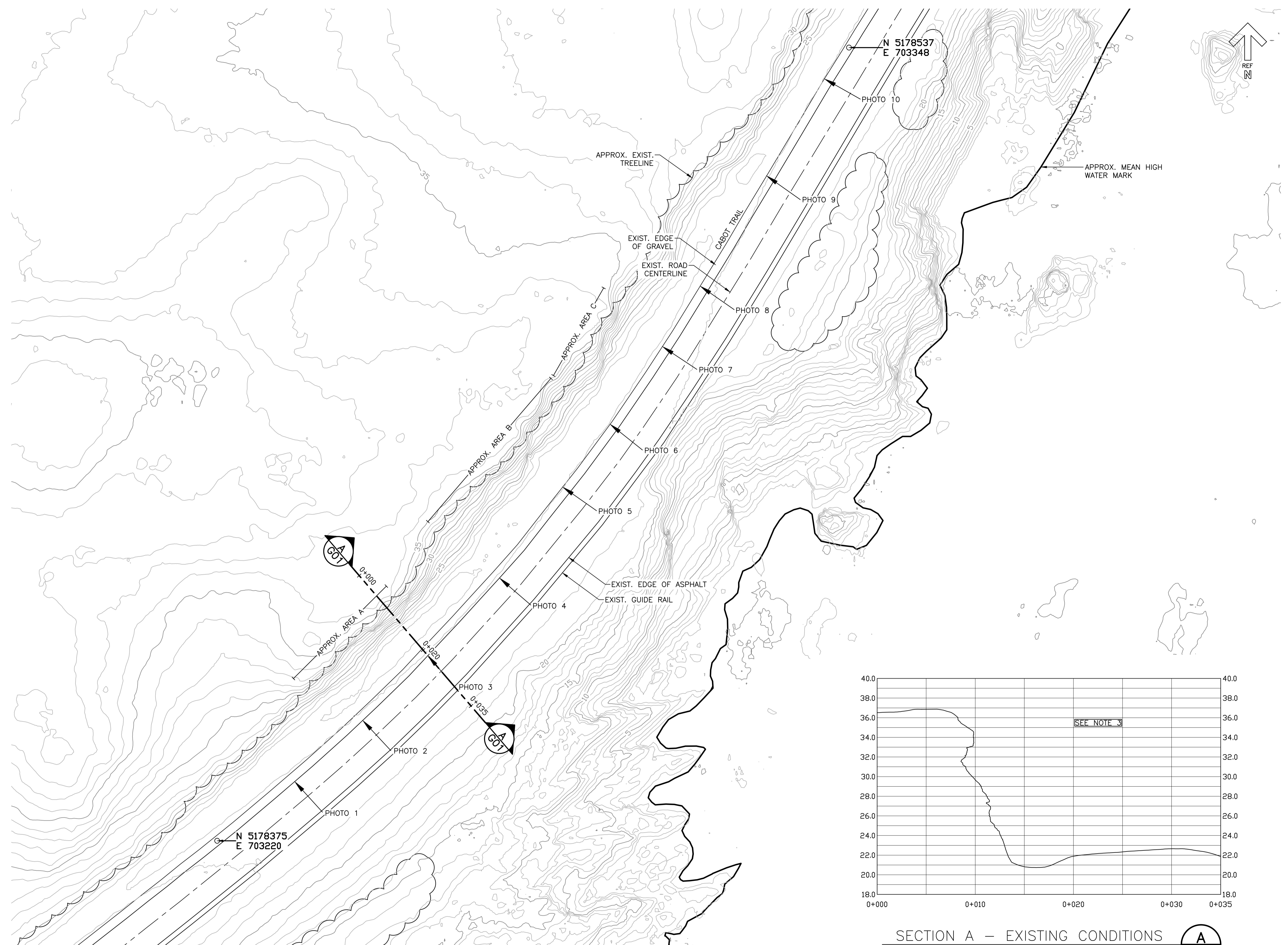
PCA Project Manager Administrateur de projets PCA

project number no. du projet

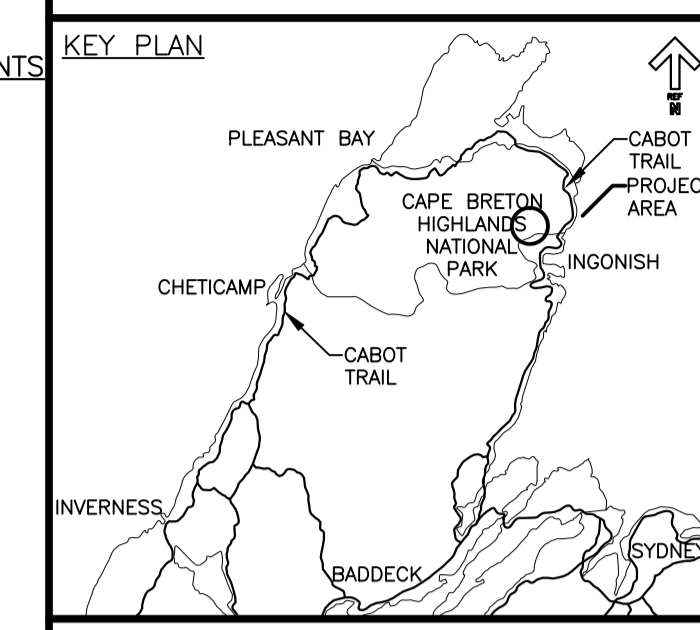
121618431

drawing no. no. du dessin

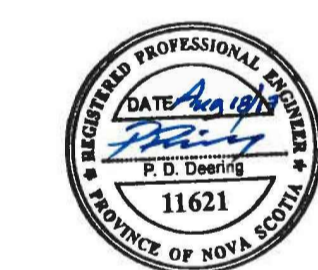
G01



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 PWGSC A1 (2004)



NOTES:
 1. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
 2. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT EACH SITE AND REPORT SIGNIFICANT DIFFERENCES, IF ANY, TO THE DEPARTMENTAL REPRESENTATIVE.



0	ISSUED FOR CONSTRUCTION	AUG 18 2017
revisions		date
project		project

PHASE 4 – LITTLE SMOKEY SLOPE STABILIZATION

drawing design

RR7448 SHEET 2 OF 2

designed	M. MATTHEW / P. DEERING	conçu
date	AUG. 18, 2017	
drawn	A. MCINTYRE	dessiné
date	AUG. 18, 2017	
approved	M. MATTHEW	approuvé
date	AUG. 18, 2017	
Tender		Soumission

PCA Project Manager / Administrateur de projets PCA

project number no. du projet

121618431

drawing no. no. du dessin

G02

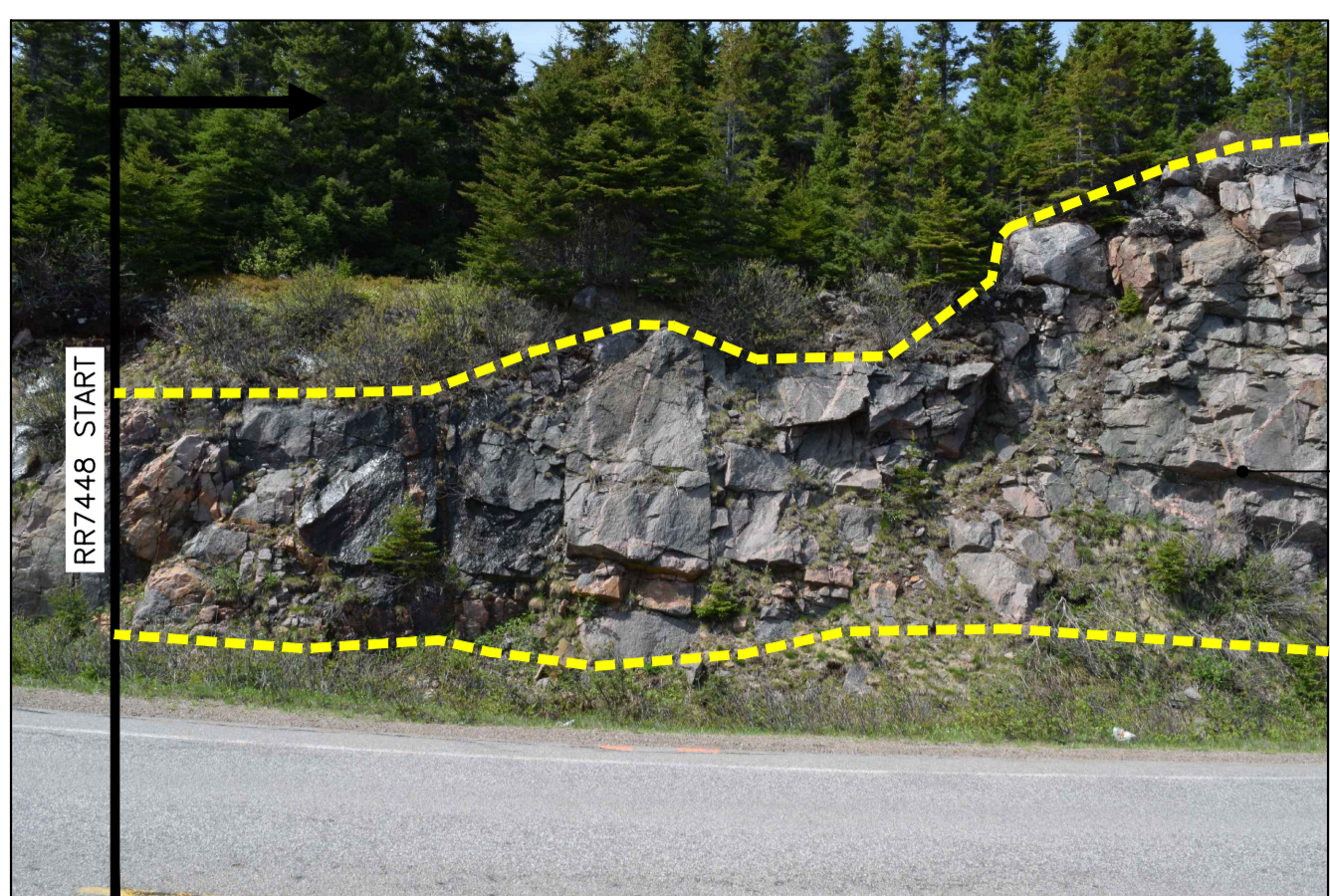


PHOTO 1

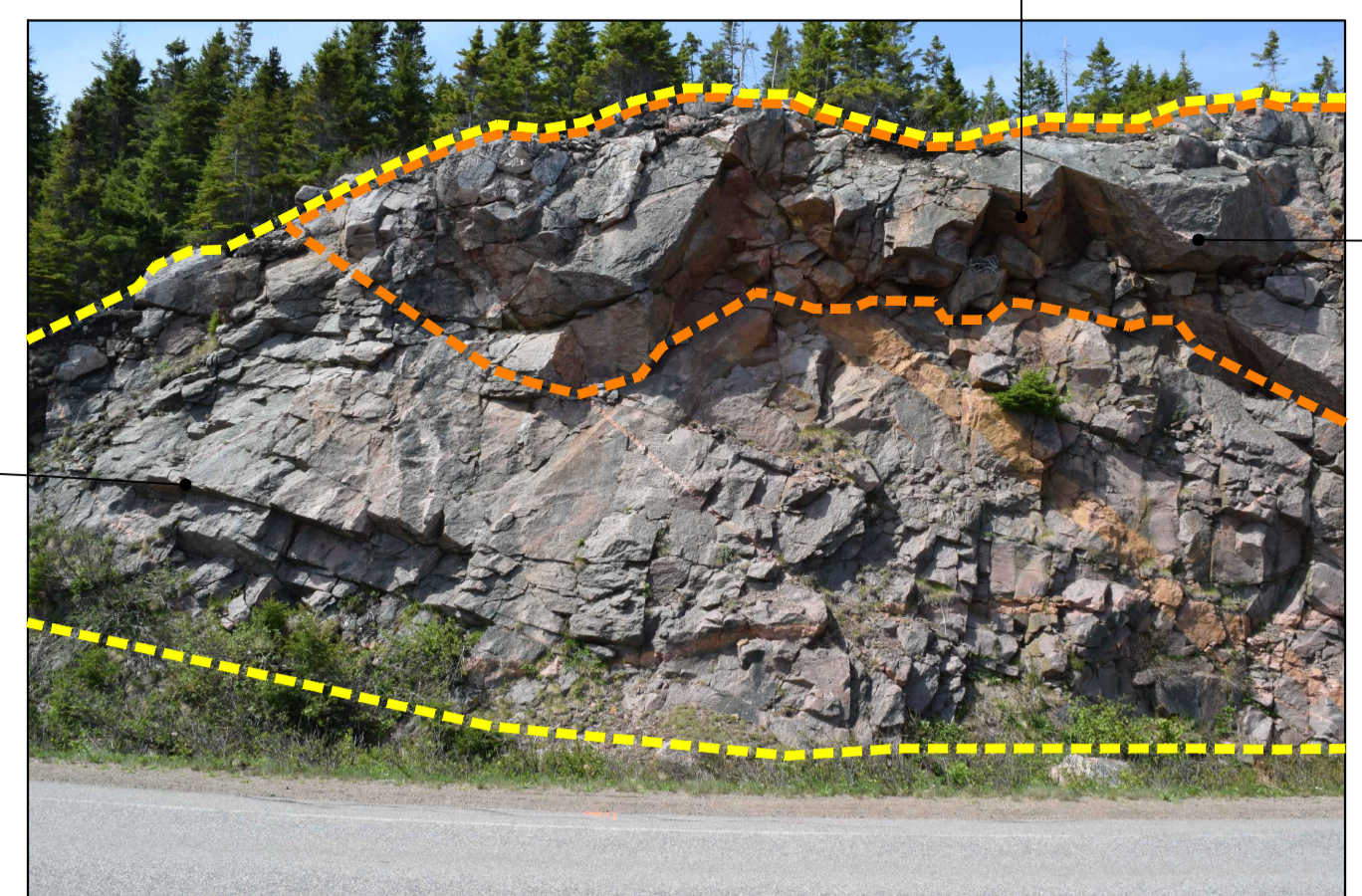


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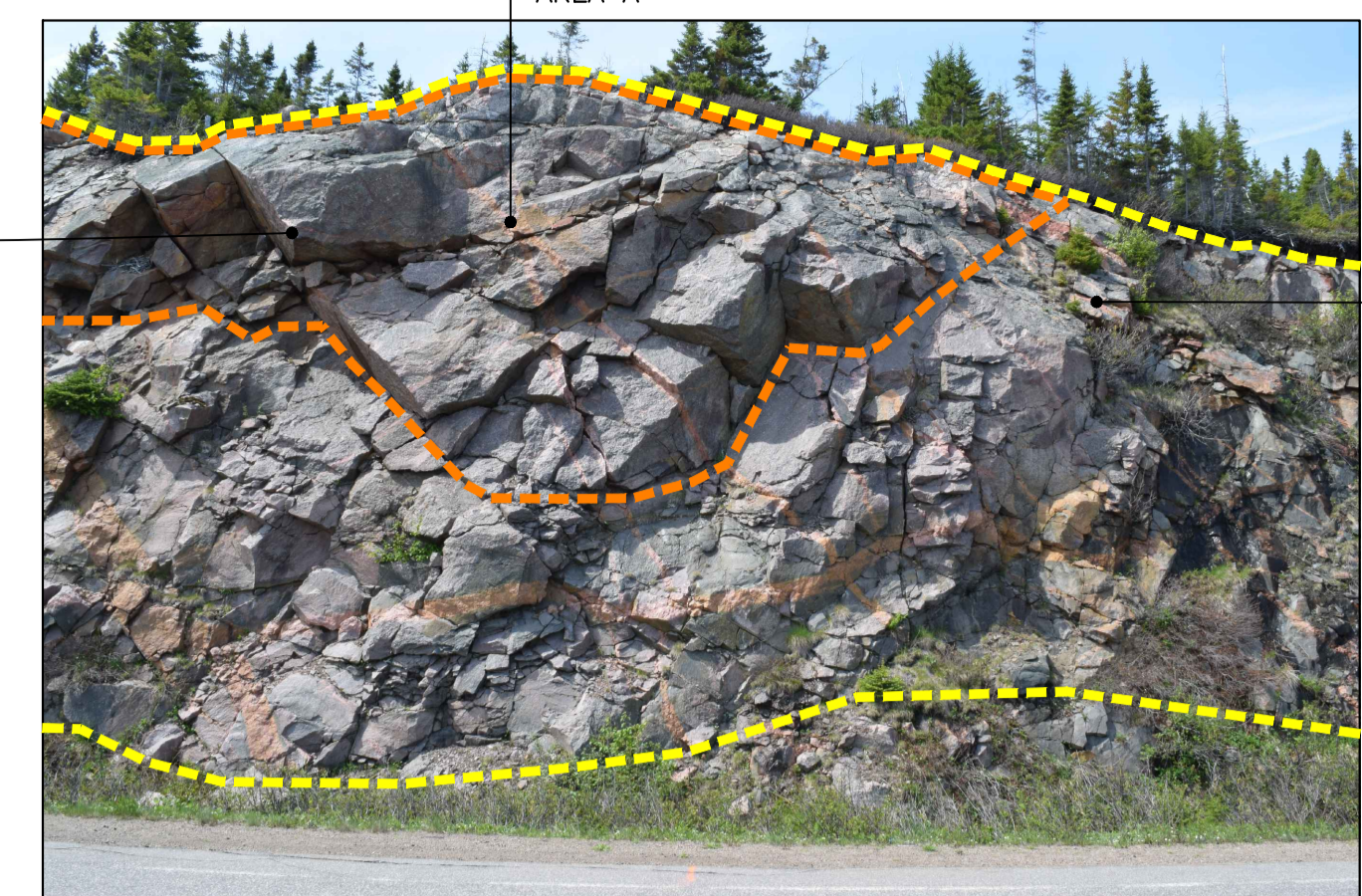


PHOTO 3



PHOTO 4

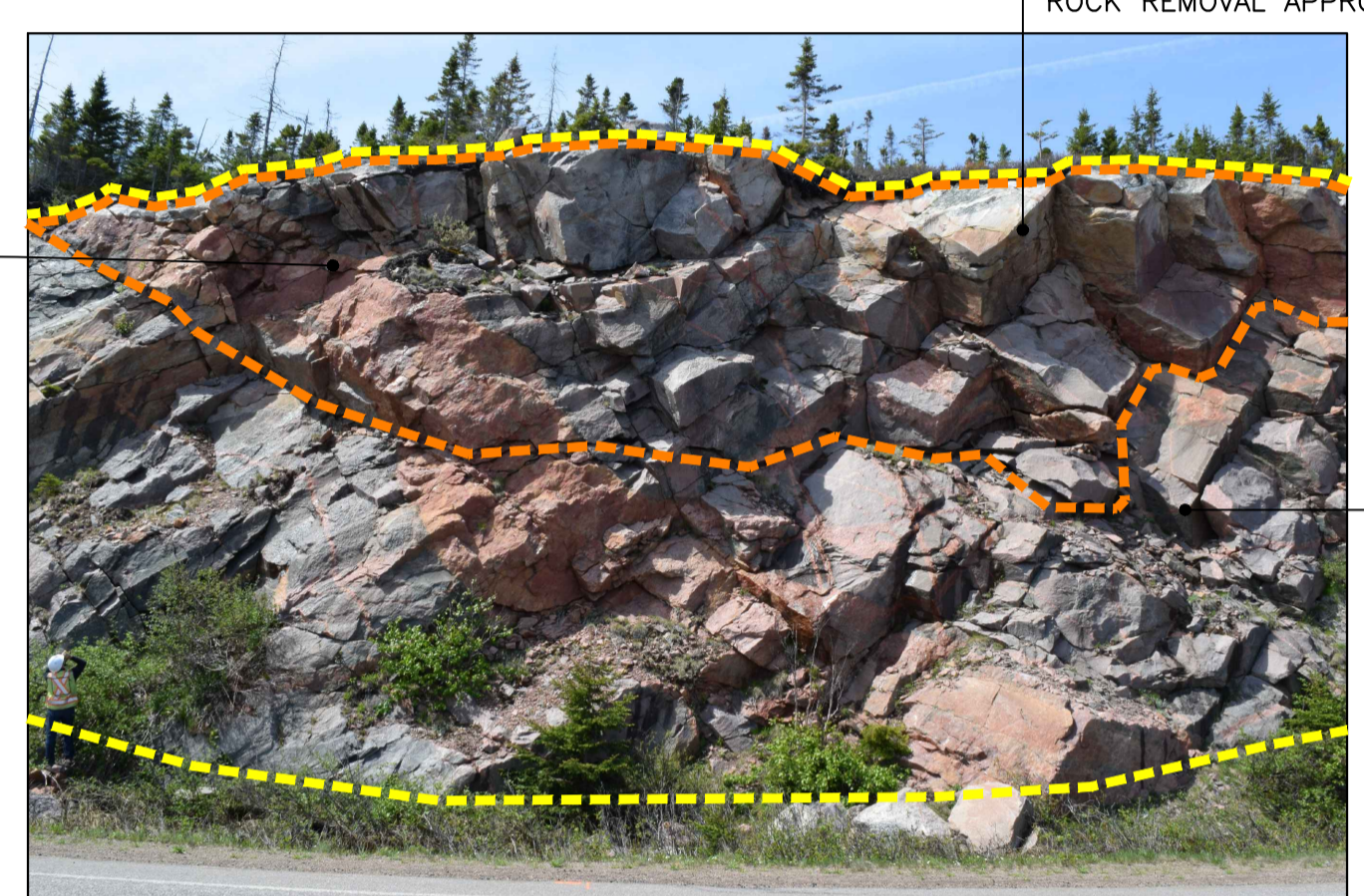


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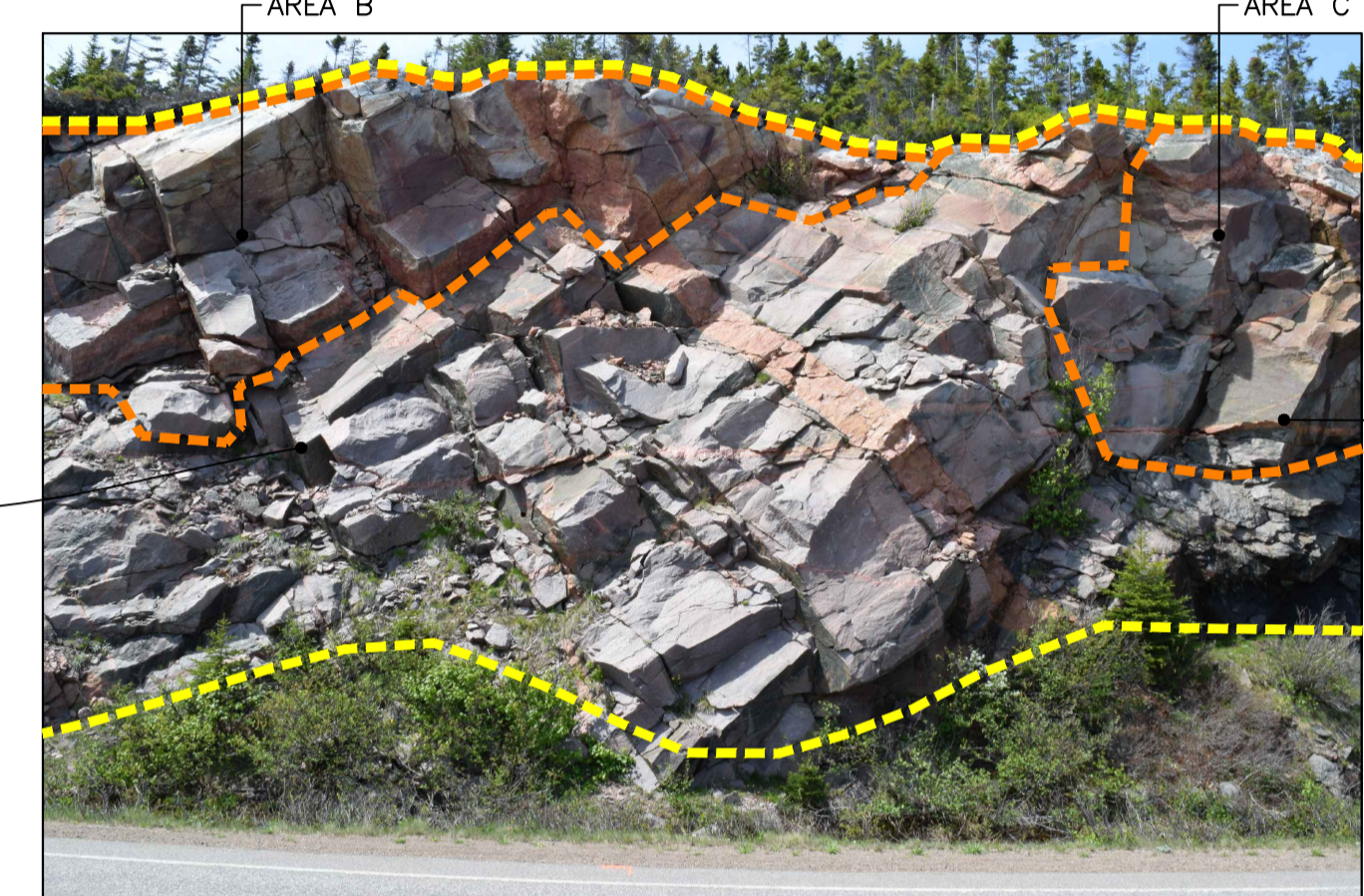


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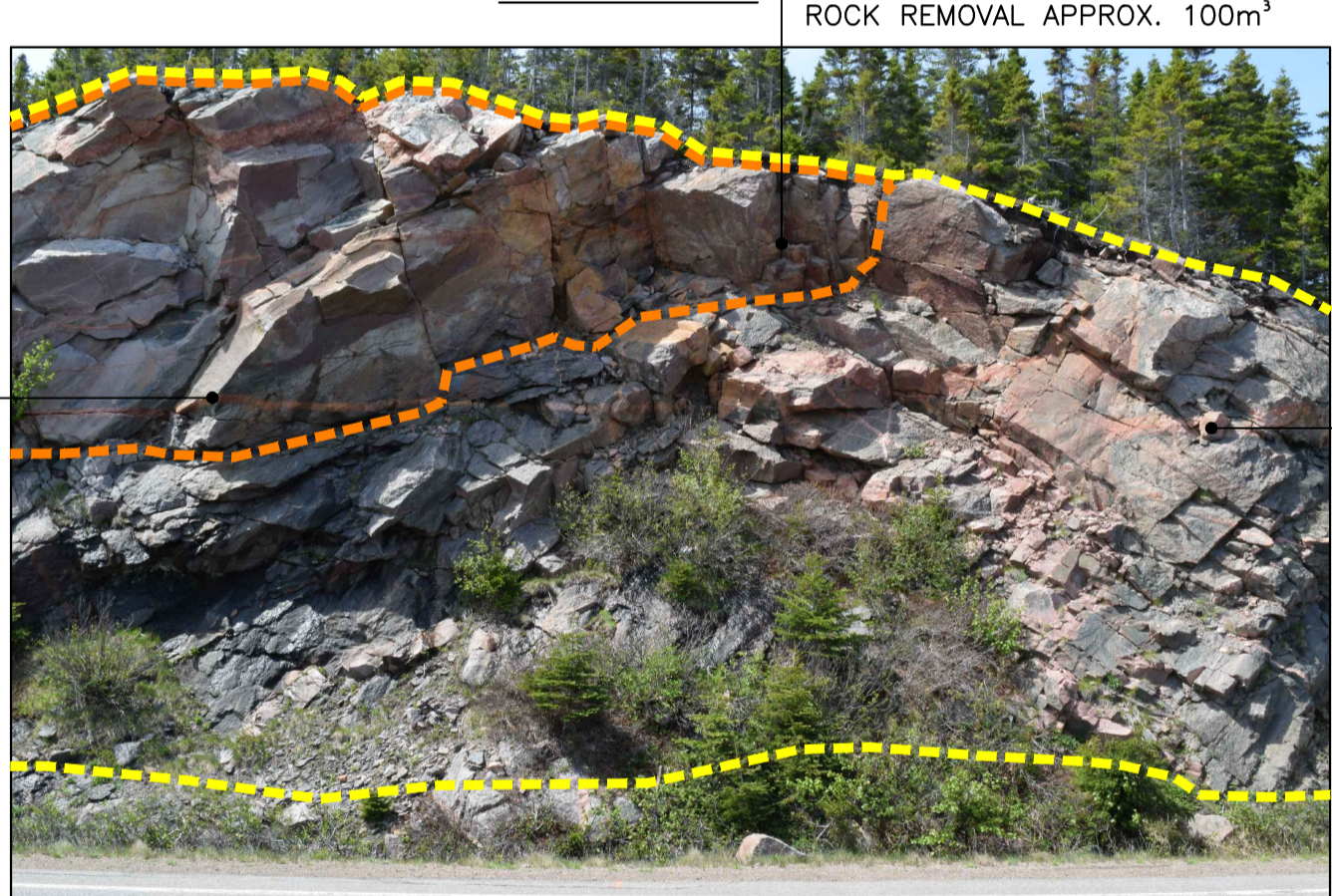


PHOTO 7



PHOTO 8

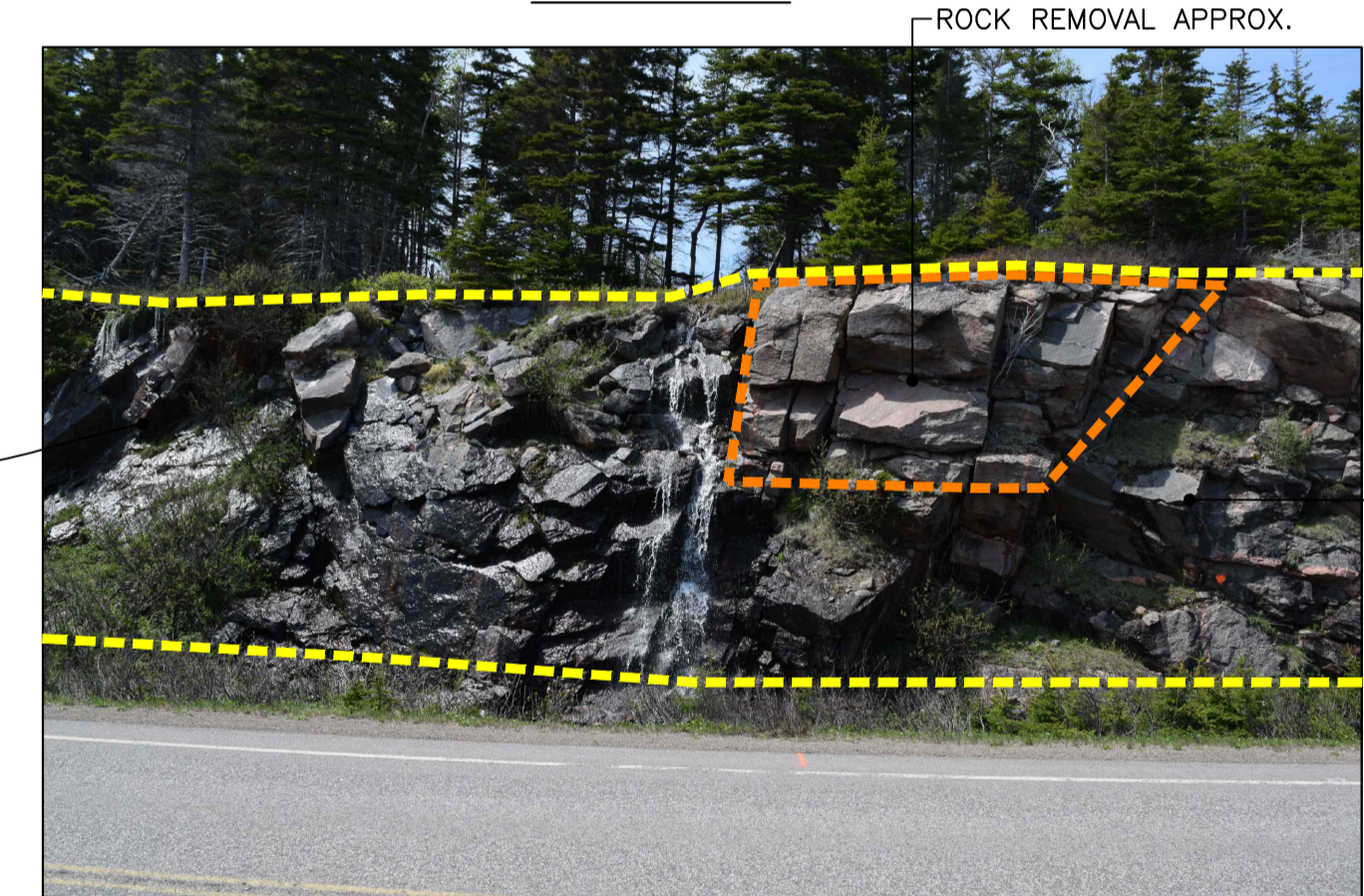


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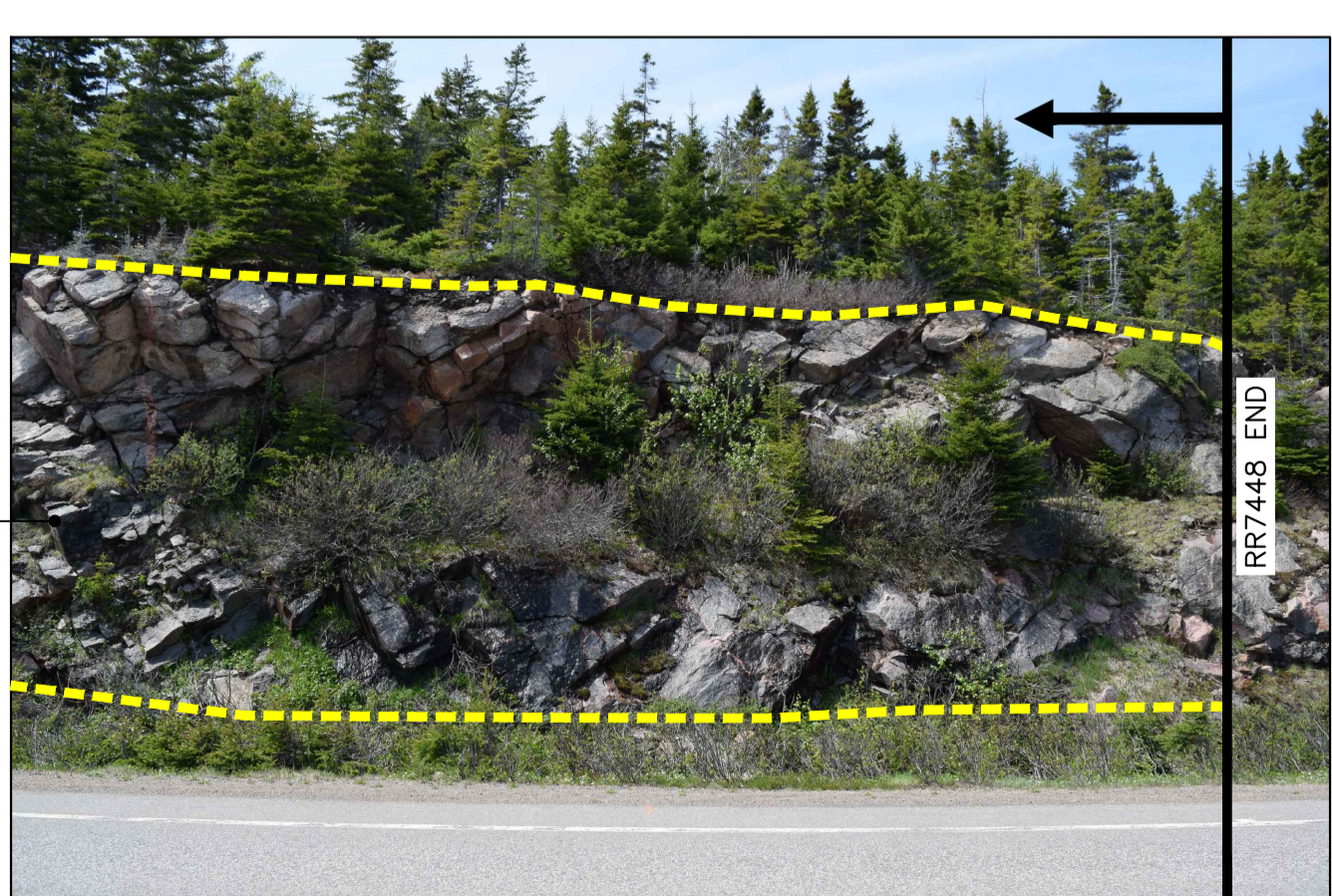


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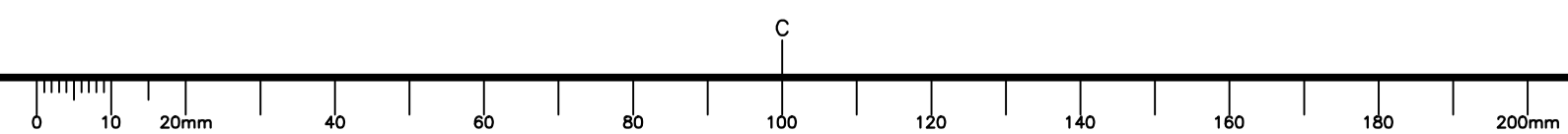
RR7448 – STABILITY ASSESSMENT

SLOPE GEOMETRY (APPROXIMATE)
 SLOPE LENGTH: 200 m
 SLOPE HEIGHT: UP TO 20 m
 SLOPE ANGLE: 70° (AVERAGE)

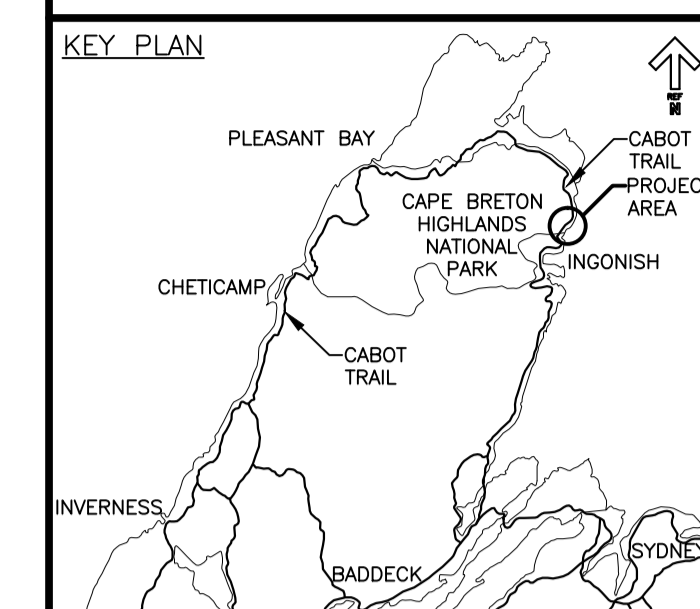
GEOHAZARD DESCRIPTION

- OVERHANGING BLOCKS AT CREST OF SLOPE
- POTENTIAL FAILURE MODE: PLANAR SLIDING, RAVELING, ROCKFALL

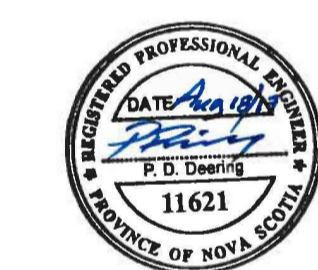
LEGEND		RR7448 – REMEDIAL DESIGN
KEY	STABILIZATION ITEM	EST. QUANTITY
---	APPROX. LIMITS OF ROCK REMOVAL (REFER TO DETAIL 4, DRAWINGS G05)	550m³
---	APPROX. LIMITS OF SCALING	2,200 m² (TOTAL PHOTOS 1–10) ASSUME 100 HOURS



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- NOTES:
1. ALL COORDINATES IN ACCORDANCE WITH NAD83 UTM ZONE 20.
 2. TOPOGRAPHIC DATA PROVIDED BY AIRBORNE LIDAR, LEADING EDGE GEOMATICS, 2015.
 3. SECTION PROVIDED FOR REFERENCE ONLY. THE SLOPE GEOMETRY VARIES ALONG THE LENGTH OF THE ROCK CUT. (SOURCE: COMBINATION OF AIRBORNE LIDAR DATA AND SHAPEMETRIX 3D MODEL OF ROCK SLOPE).
 4. UTILITY LINE LOCATED AT CREST OF SLOPE RR7542. CONTRACTOR TO VERIFY LOCATION AND CONSIDER PROXIMITY TO WORK AREA.
 5. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
 6. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT EACH SITE AND REPORT SIGNIFICANT DIFFERENCES, IF ANY, TO THE DEPARTMENTAL REPRESENTATIVE.



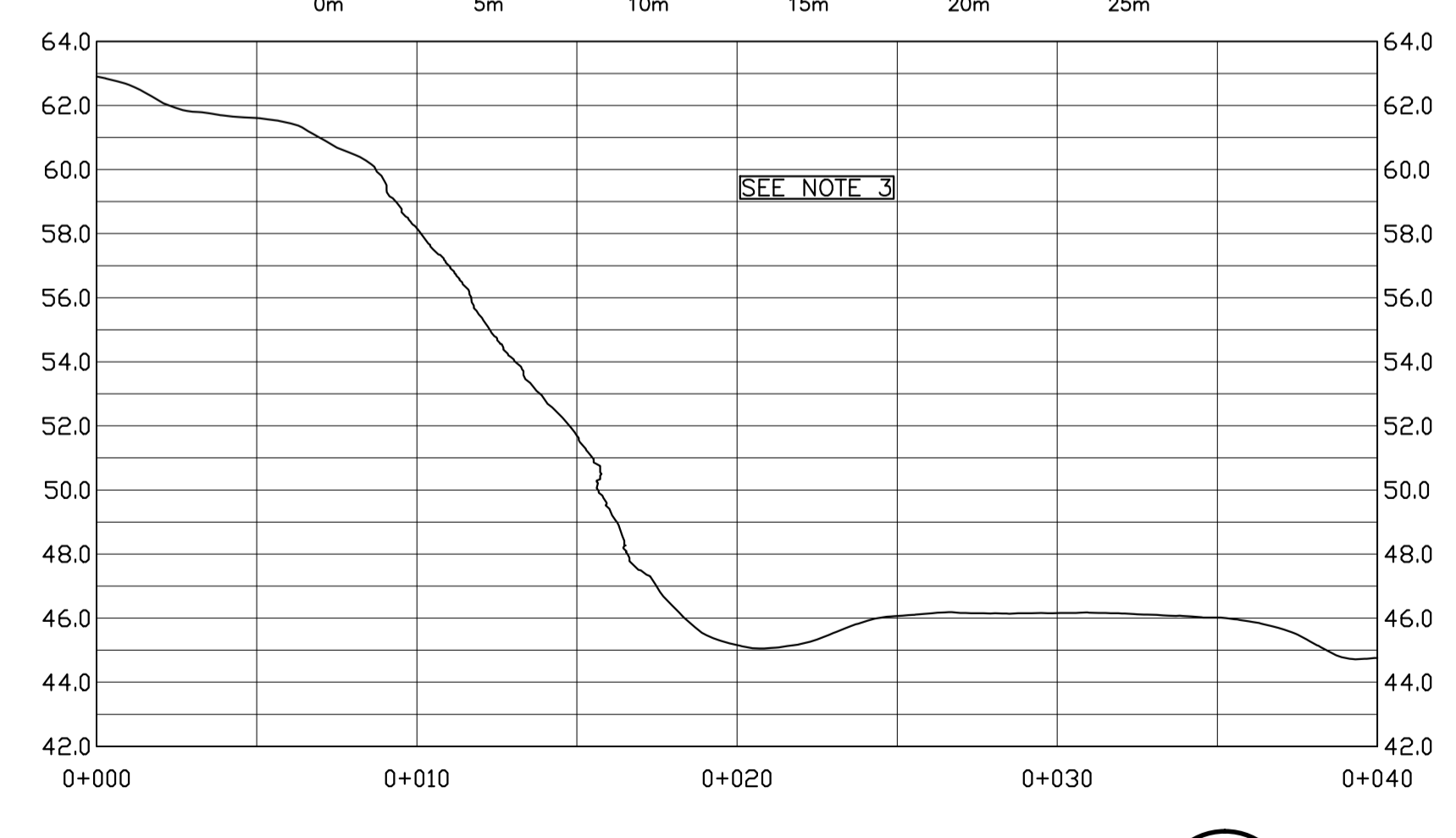
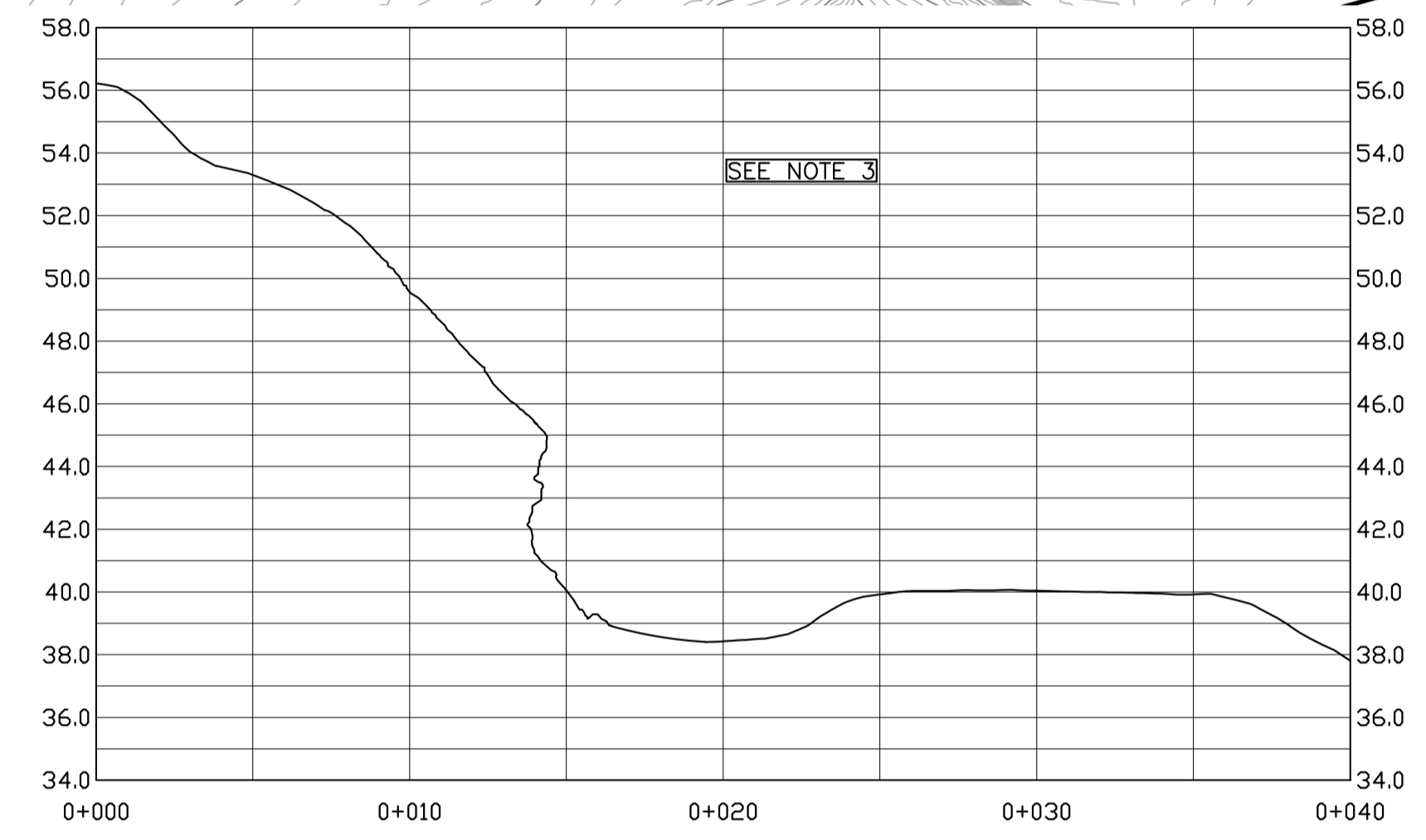
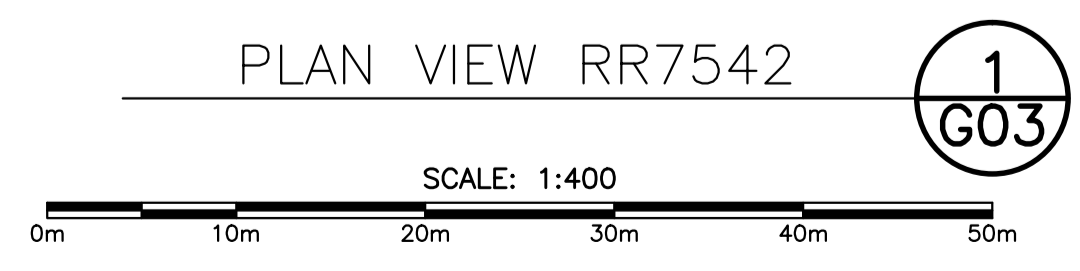
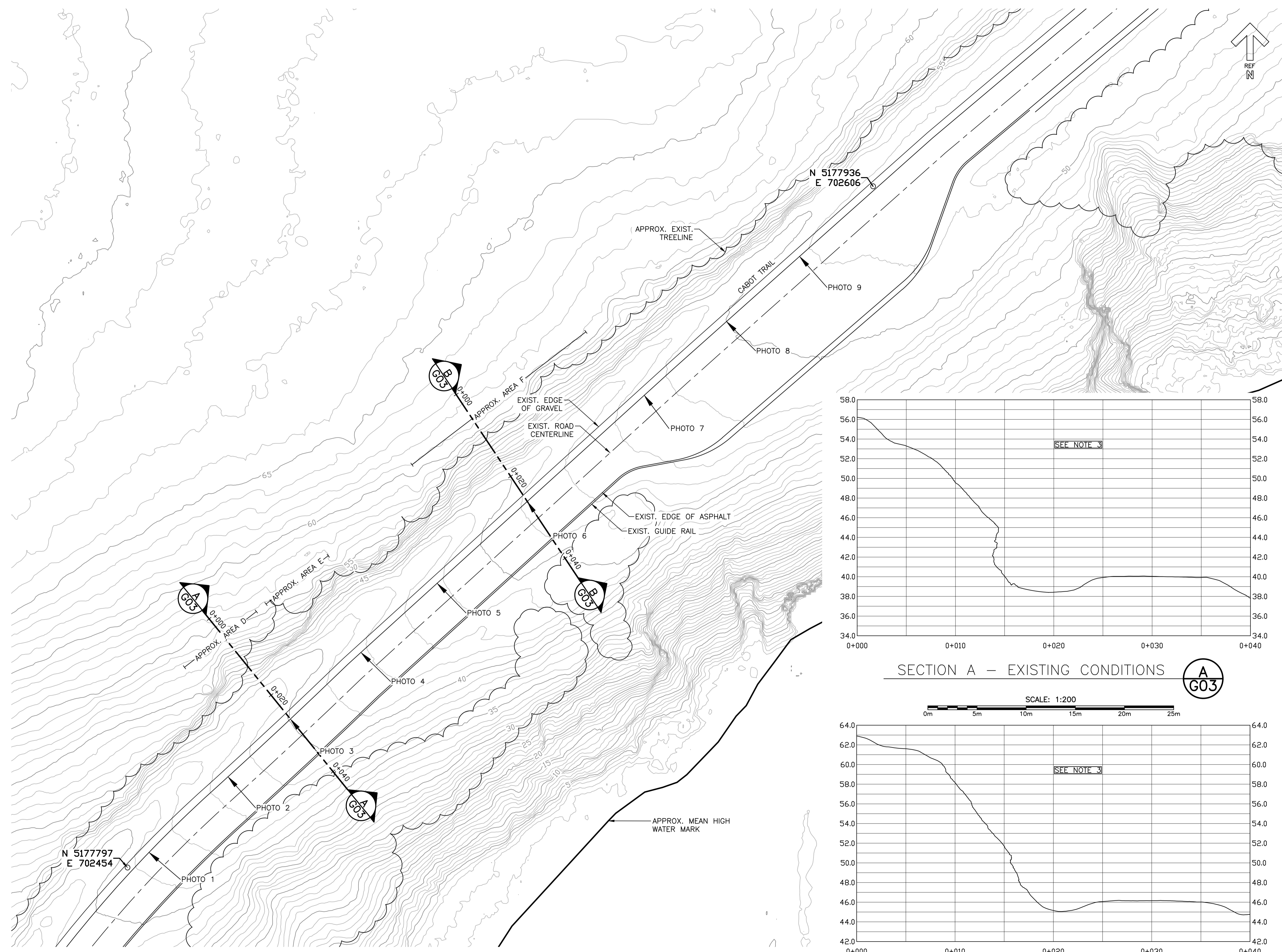
0	ISSUED FOR CONSTRUCTION	AUG 18 2017
revisions		date
project		projct

PHASE 4 – LITTLE SMOKEY SLOPE STABILIZATION

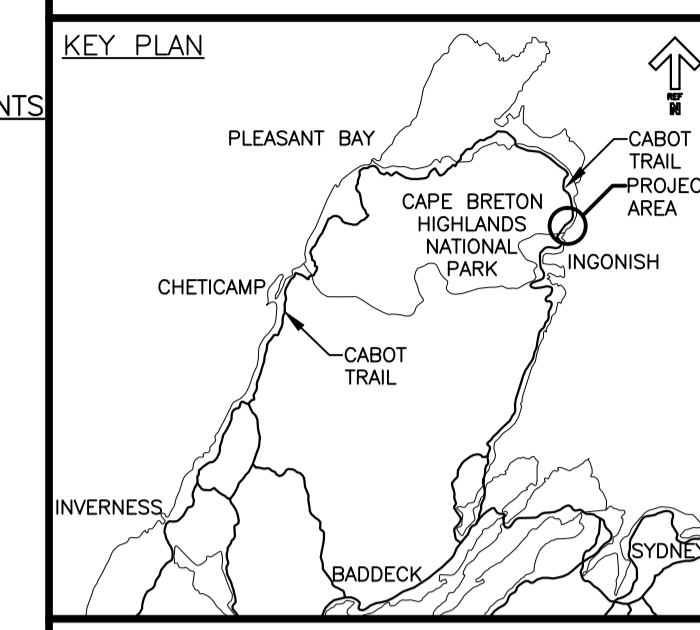
RR7542 SHEET 1 OF 2

designed	M. MATTHEW / P. DEERING	conçu
date	AUG. 18, 2017	
drawn	A. MCINTYRE	dessiné
date	AUG. 18, 2017	
approved	M. MATTHEW	approuvé
date	AUG. 18, 2017	
Tender		Soumission

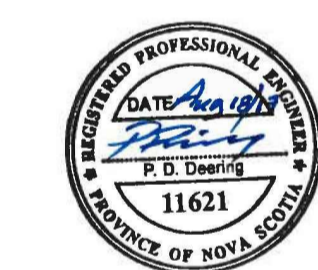
PCA Project Manager	Administrateur de projets PCA
project number	no. du projet
121618431	
drawing no.	no. du dessin
G03	



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 PWGSC A1 (2004)



NOTE:
 1. OVERHEAD POWER LINE LOCATED IN CLOSE PROXIMITY TO CREST OF SLOPE.
 2. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
 3. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT EACH SITE AND REPORT SIGNIFICANT DIFFERENCES, IF ANY, TO THE DEPARTMENTAL REPRESENTATIVE.



0	ISSUED FOR CONSTRUCTION	AUG 18 2017
revisions		date
project		projct

PHASE 4 – LITTLE SMOKEY SLOPE STABILIZATION

drawing design

RR7542 SHEET 2 OF 2

designed	M. MATTHEW / P. DEERING	conçu
date	AUG. 18, 2017	
drawn	A. MCINTYRE	dessiné
date	AUG. 18, 2017	
approved	M. MATTHEW	approuvé
date	AUG. 18, 2017	
Tender		Soumission

PCA Project Manager / Administrateur de projets PCA

project number / no. du projet

121618431

drawing no. / no. du dessin

G04

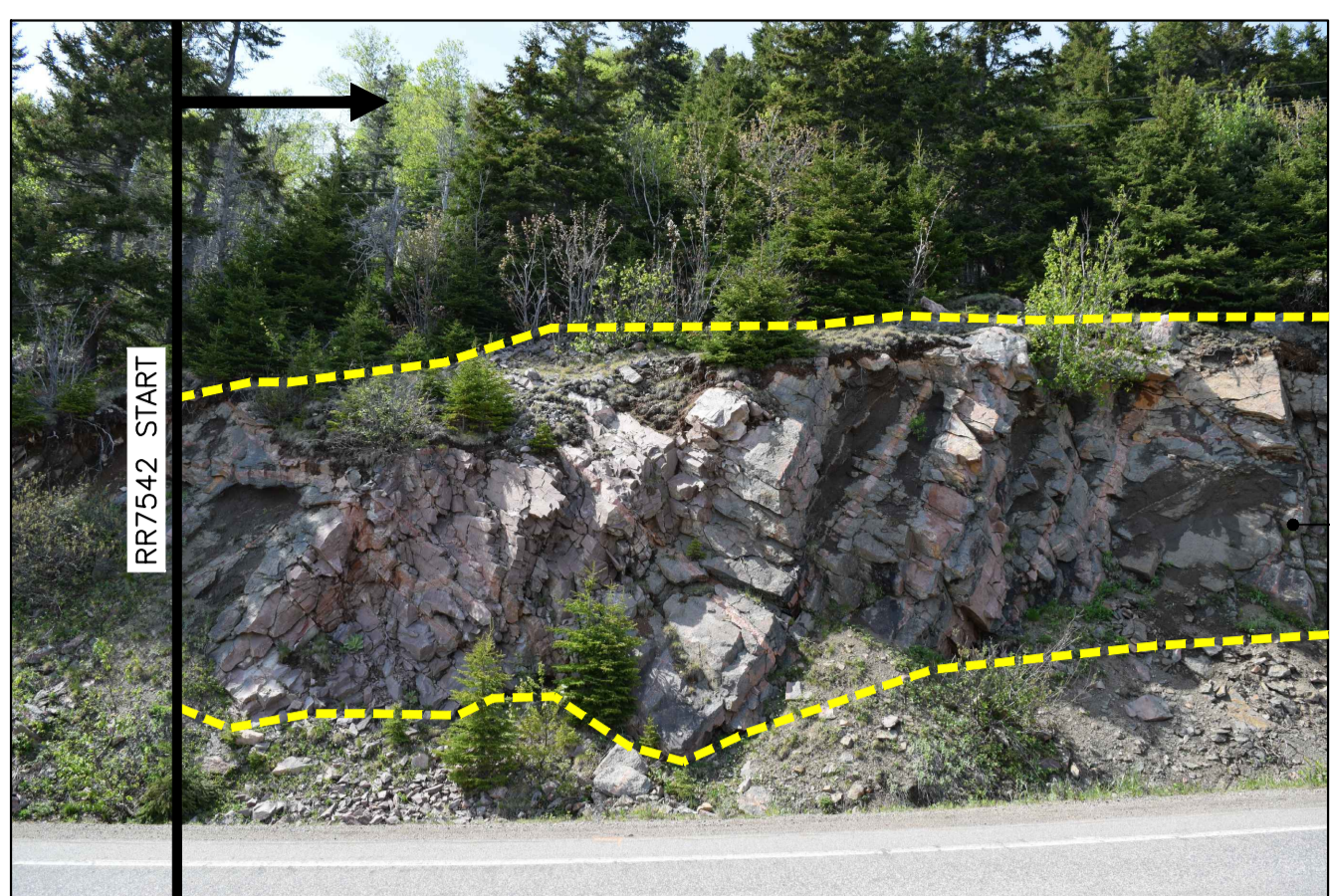


PHOTO 1

AREA E
 ESTIMATE 3 x 6m ROCK ANCHORS
 (Ø32mm) AFTER SCALING

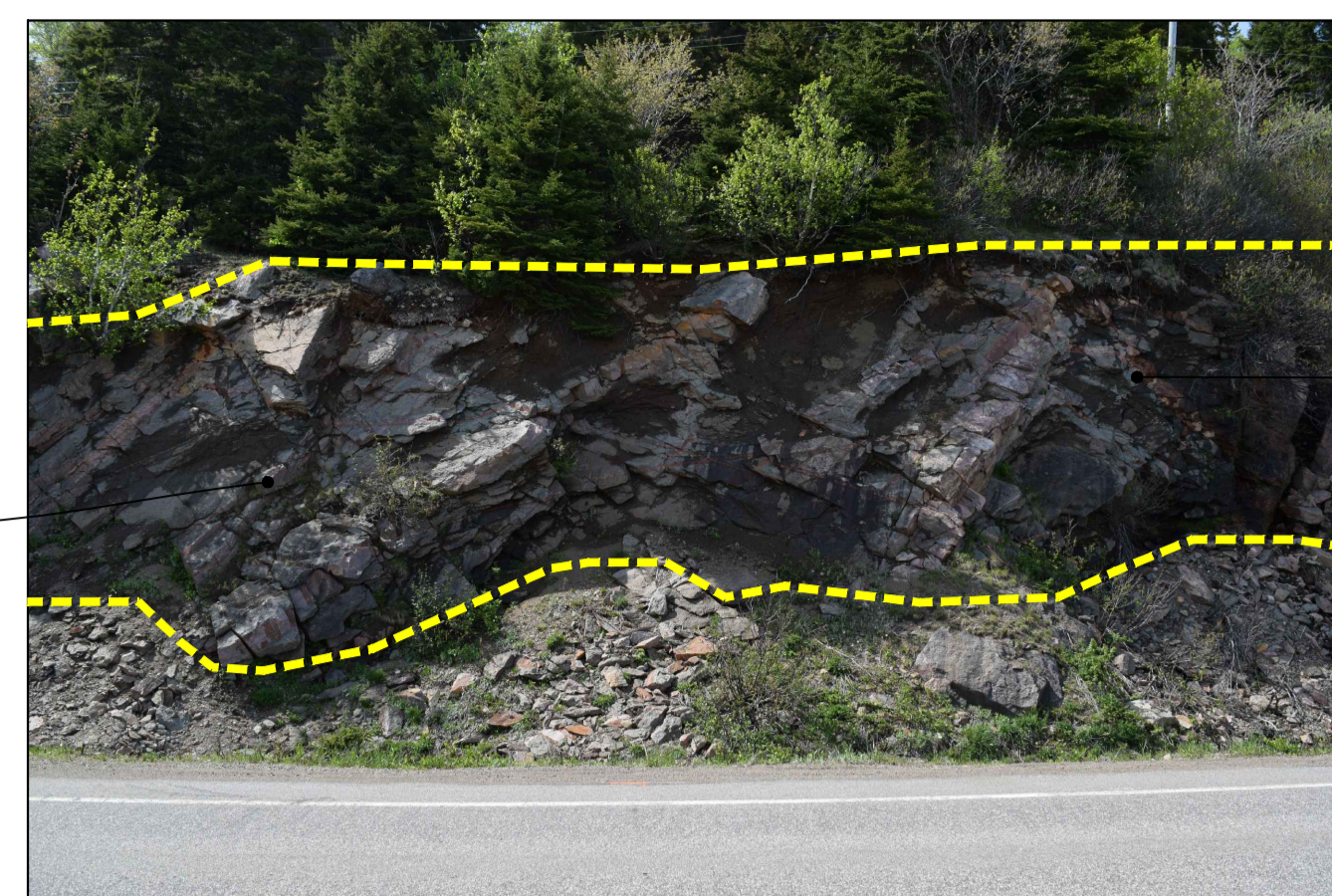


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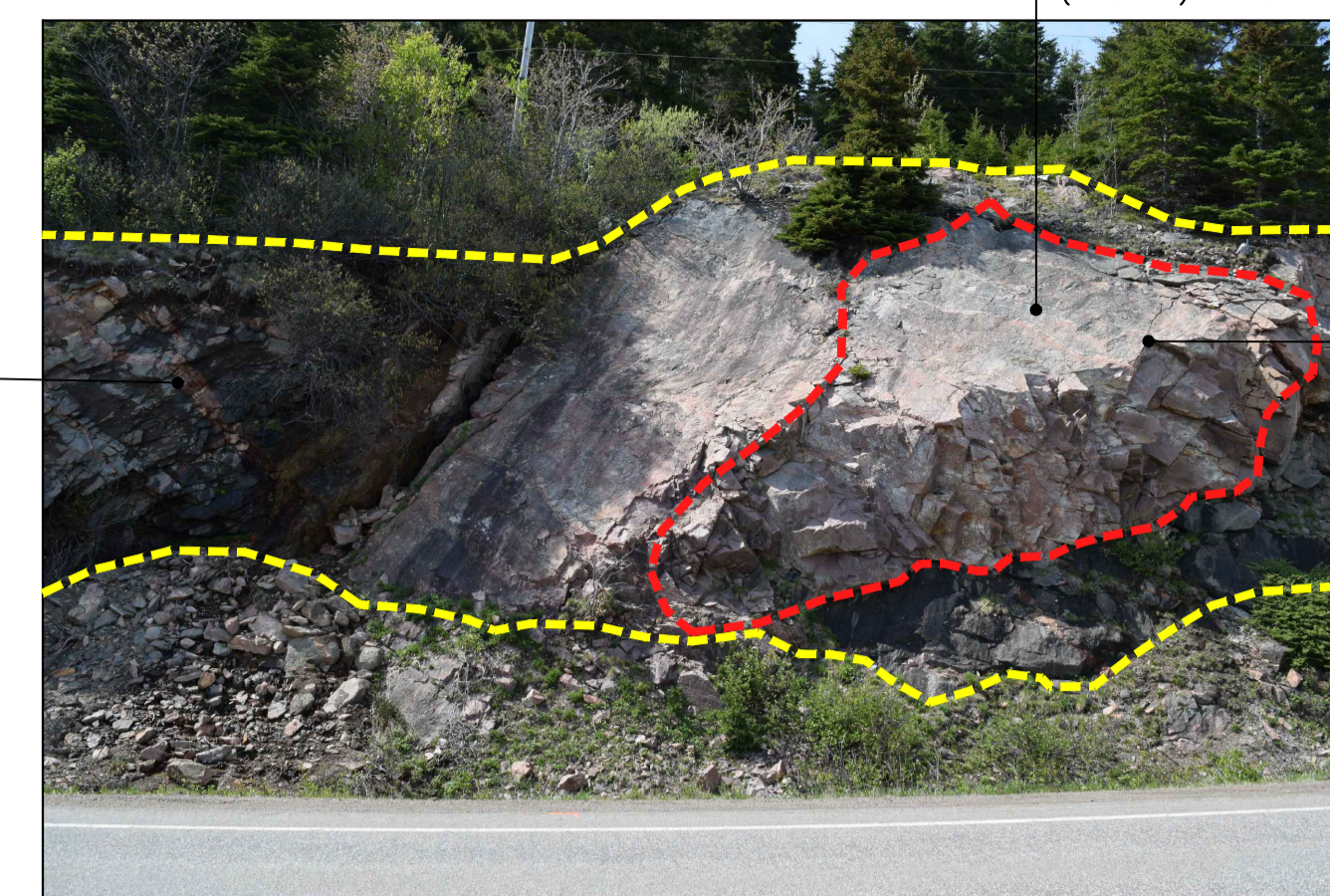


PHOTO 3

AREA F
 ESTIMATE 12 x 6m ROCK ANCHORS
 (Ø26mm) AFTER SCALING

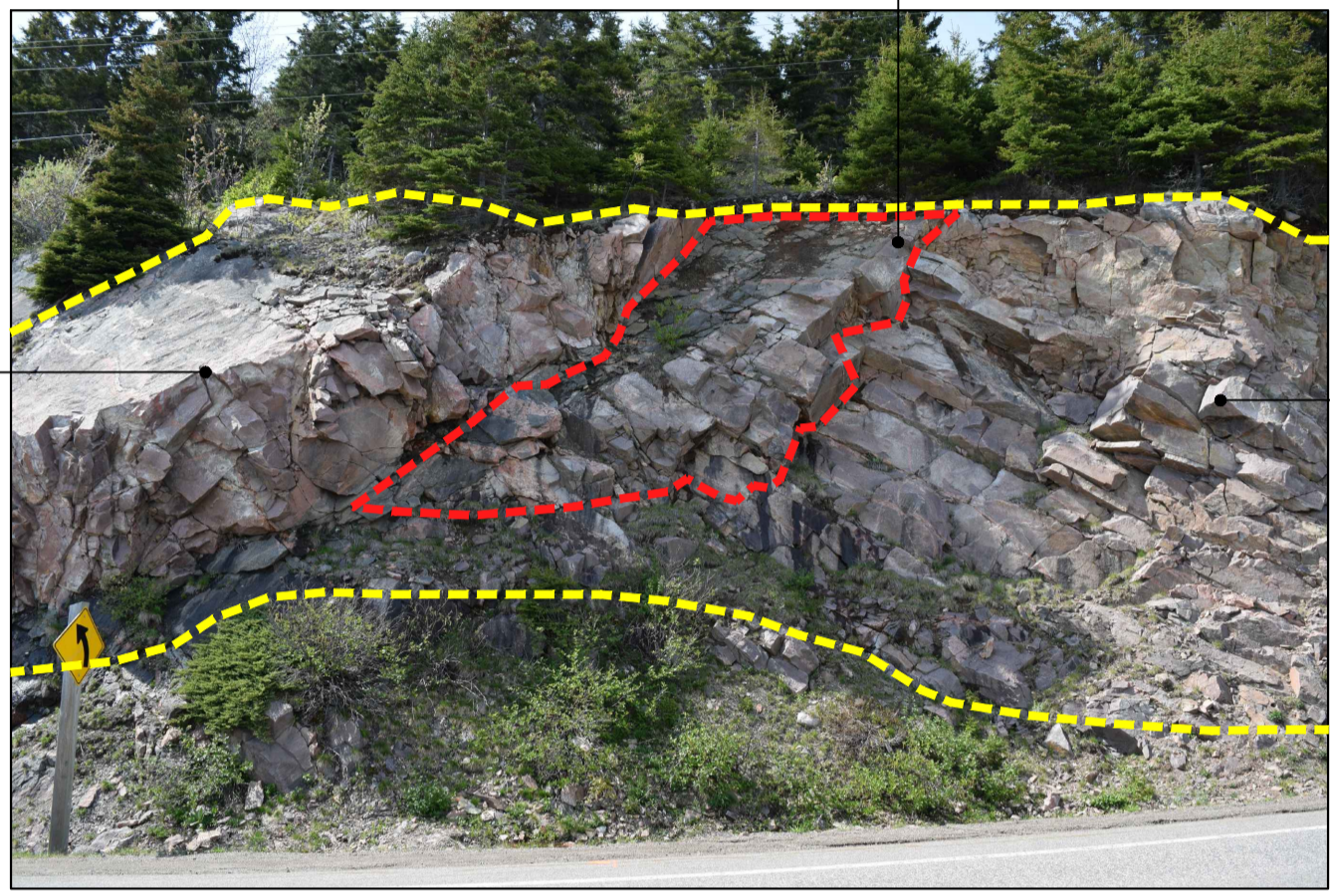


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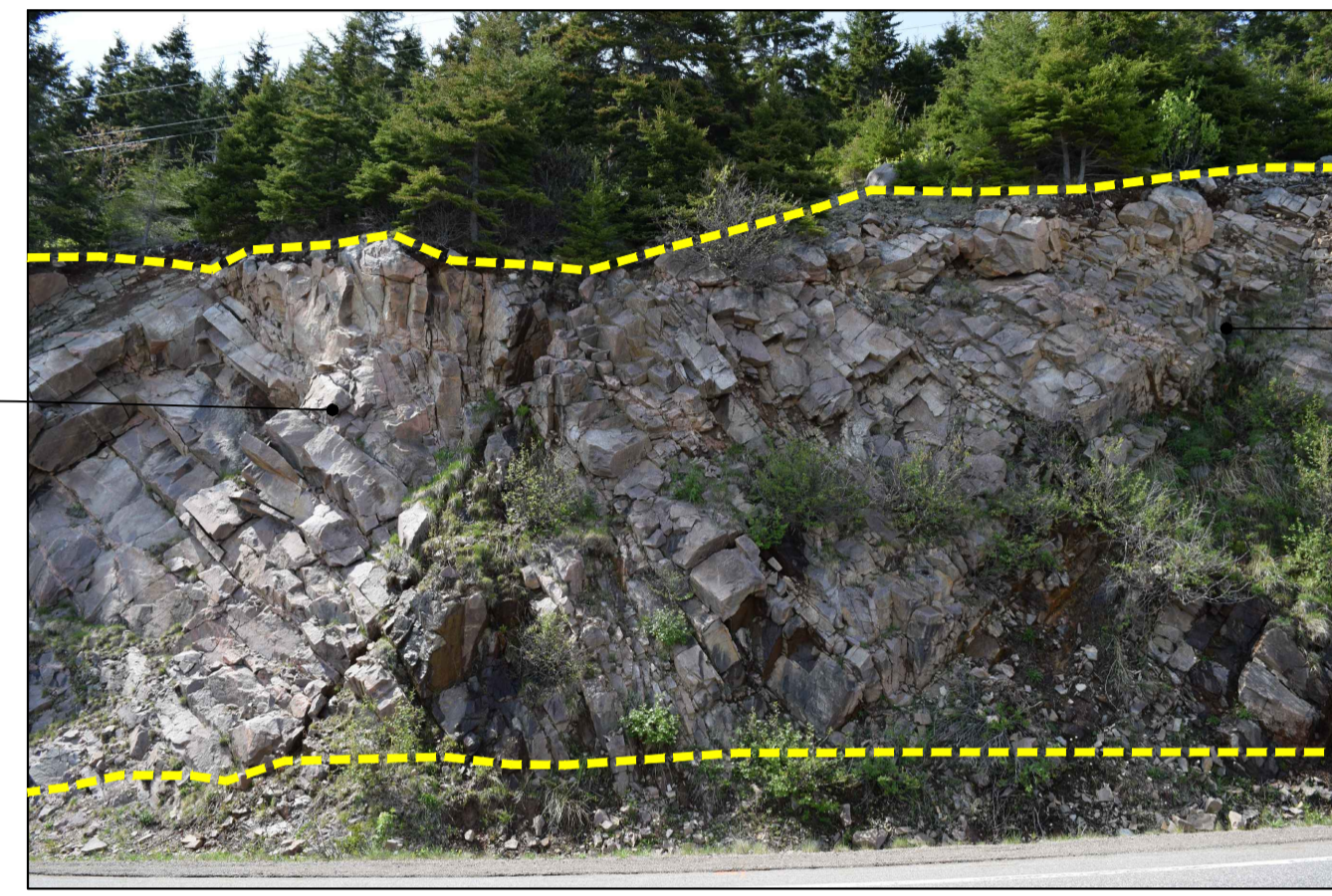


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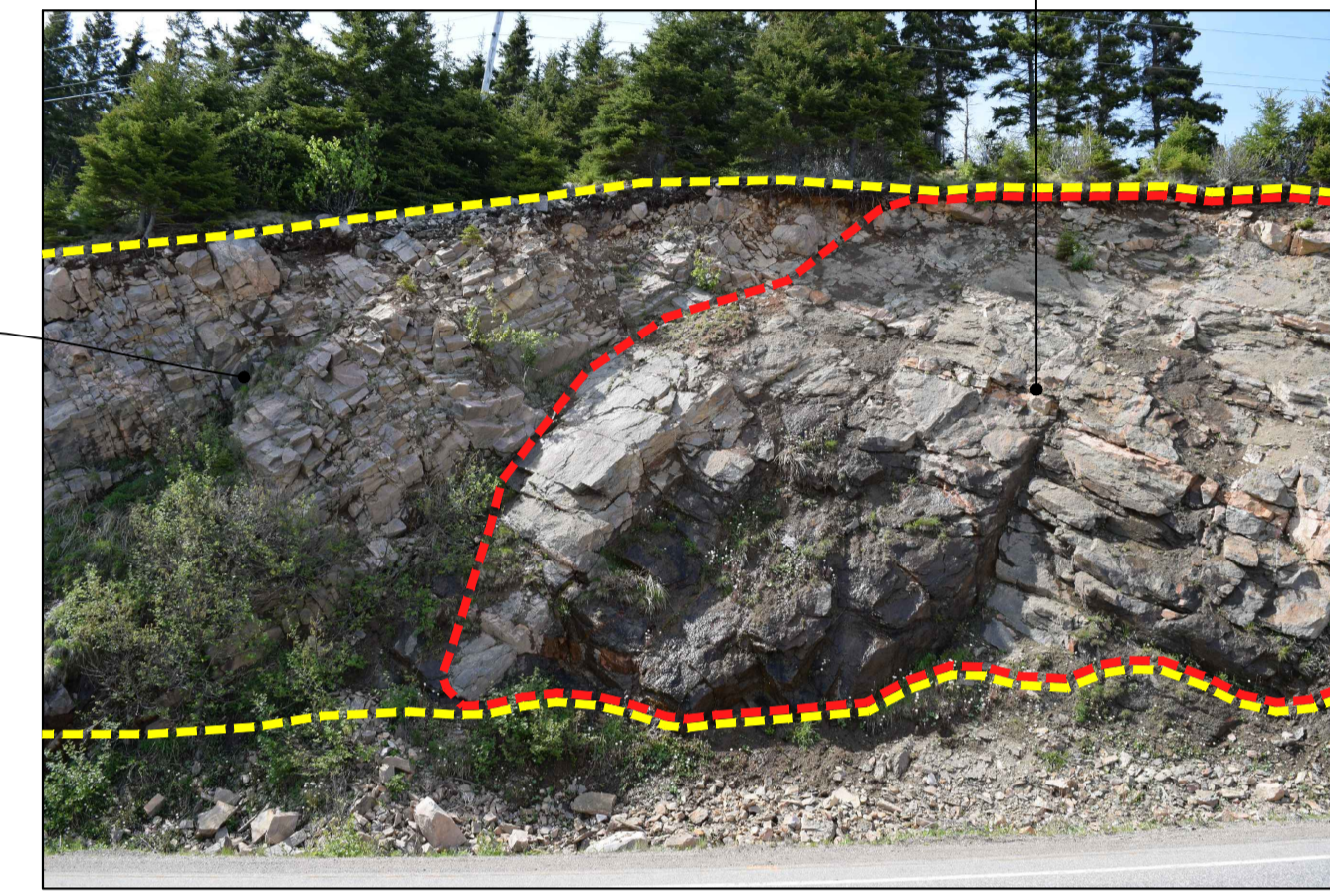


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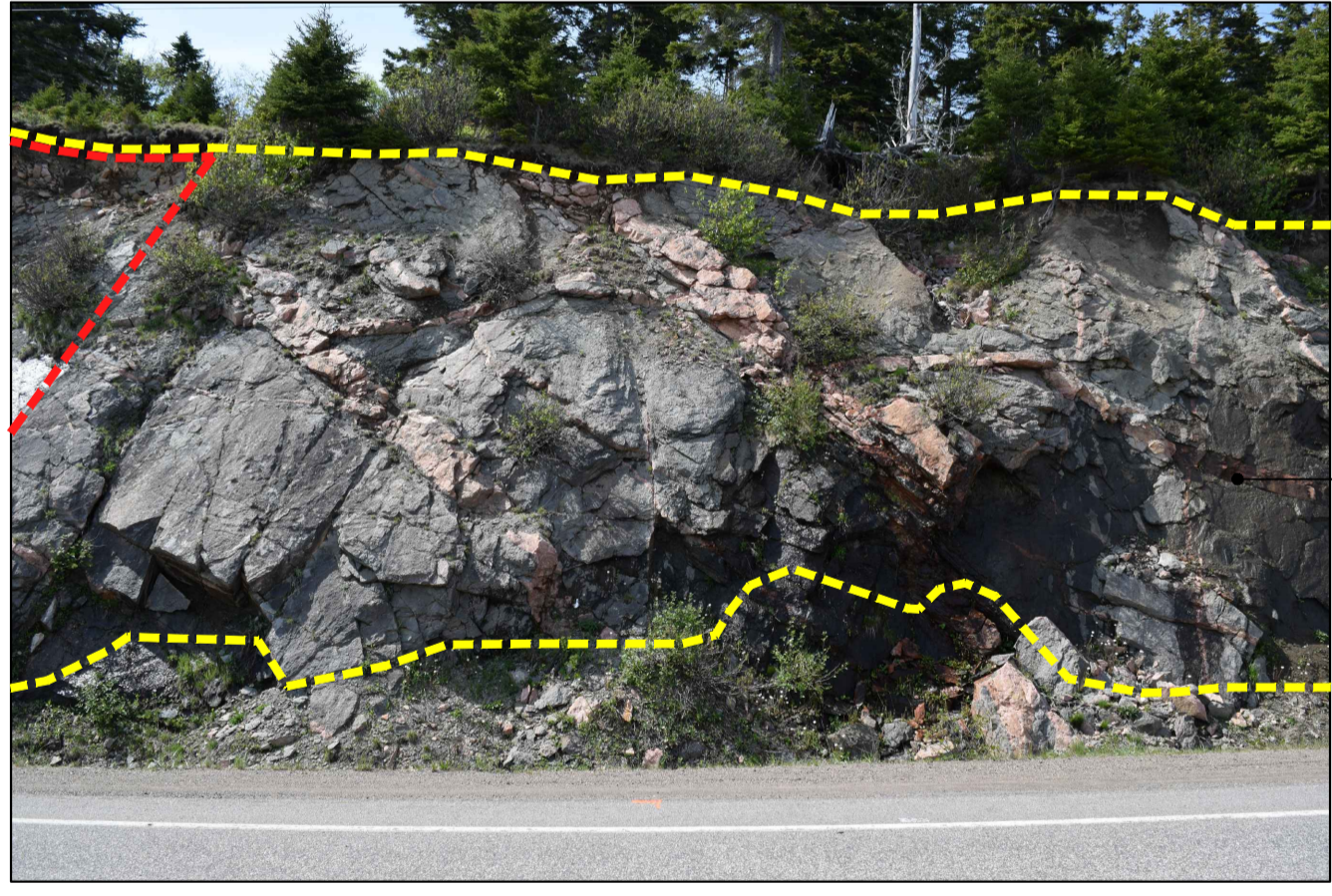


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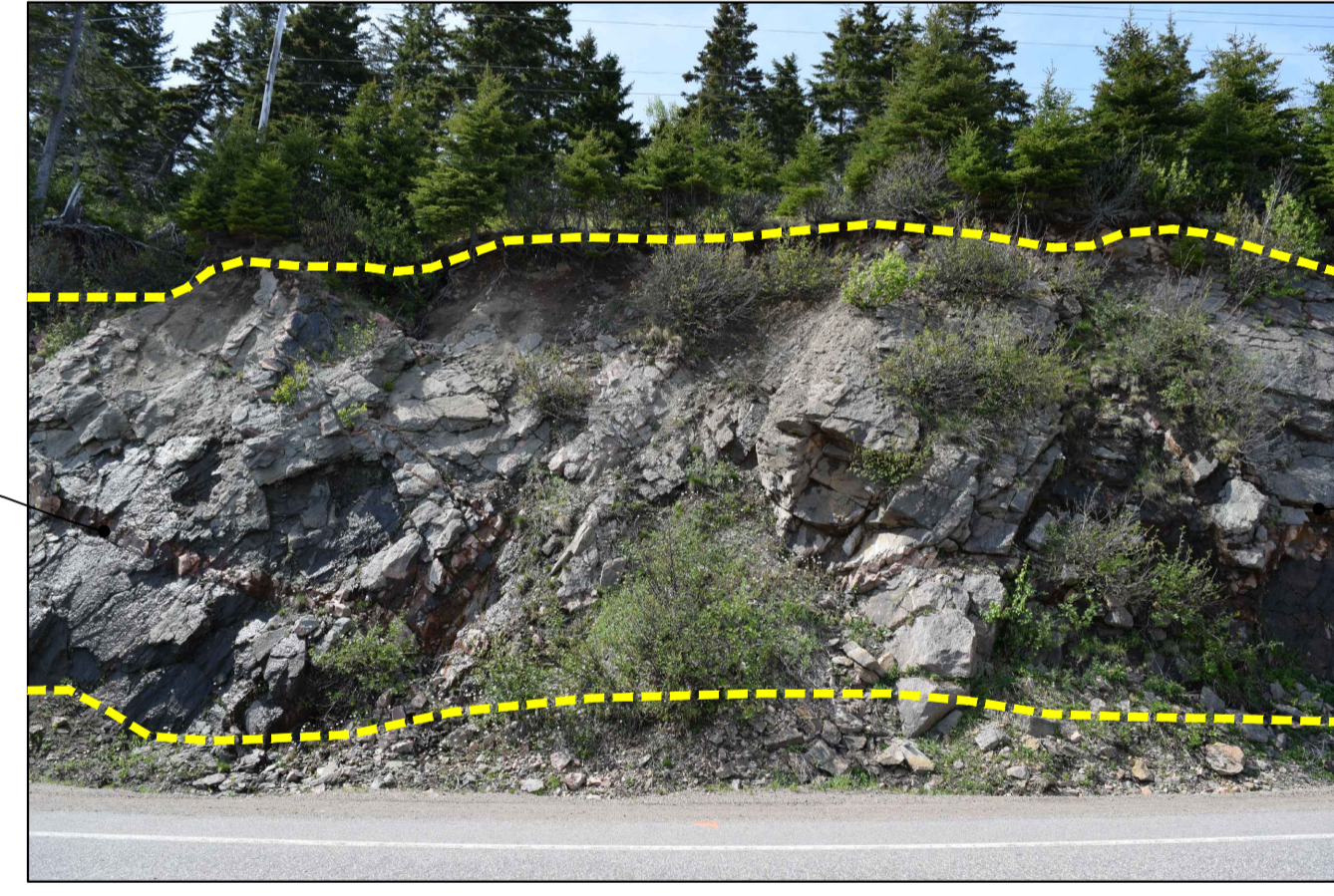


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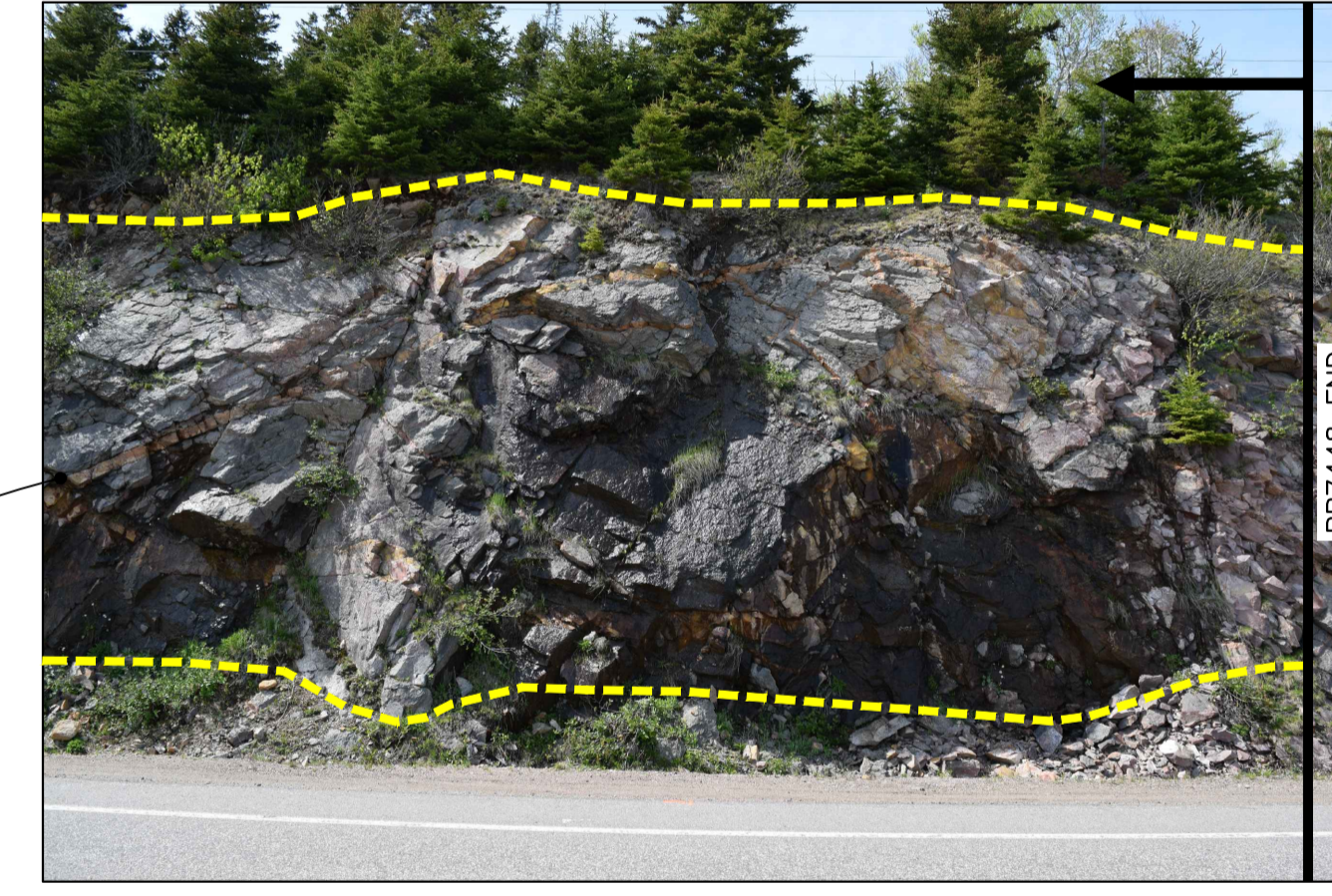
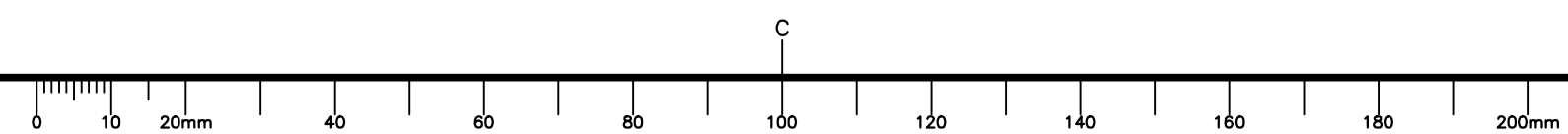


PHOTO 9

RR7542 – STABILITY ASSESSMENT	
SLOPE GEOMETRY (APPROXIMATE)	
SLOPE LENGTH: 210 m	
SLOPE HEIGHT: UP TO 12 m	
SLOPE ANGLE: 70° (AVERAGE)	
GEOHAZARD DESCRIPTION	
<ul style="list-style-type: none"> • JOINT SET DAYLIGHTING OUT OF ROCK CUT • LARGE PARTIALLY DETACHED BLOCK AT TOE OF ROCK CUT • POTENTIAL FAILURE MODE: PLANAR SLIDING, RAVELING, TOPPLING 	

LEGEND		RR7542 – REMEDIAL DESIGN
KEY	STABILIZATION ITEM	EST. QUANTITY
---	APPROX. AREA FOR OF ROCK ANCHORS	3 x 9m (Ø32mm) 15 x 6m (Ø26mm)
- - -	APPROX. LIMITS OF SCALING	2,000 m ² (TOTAL PHOTOS 1-9) ASSUME 70 HOURS



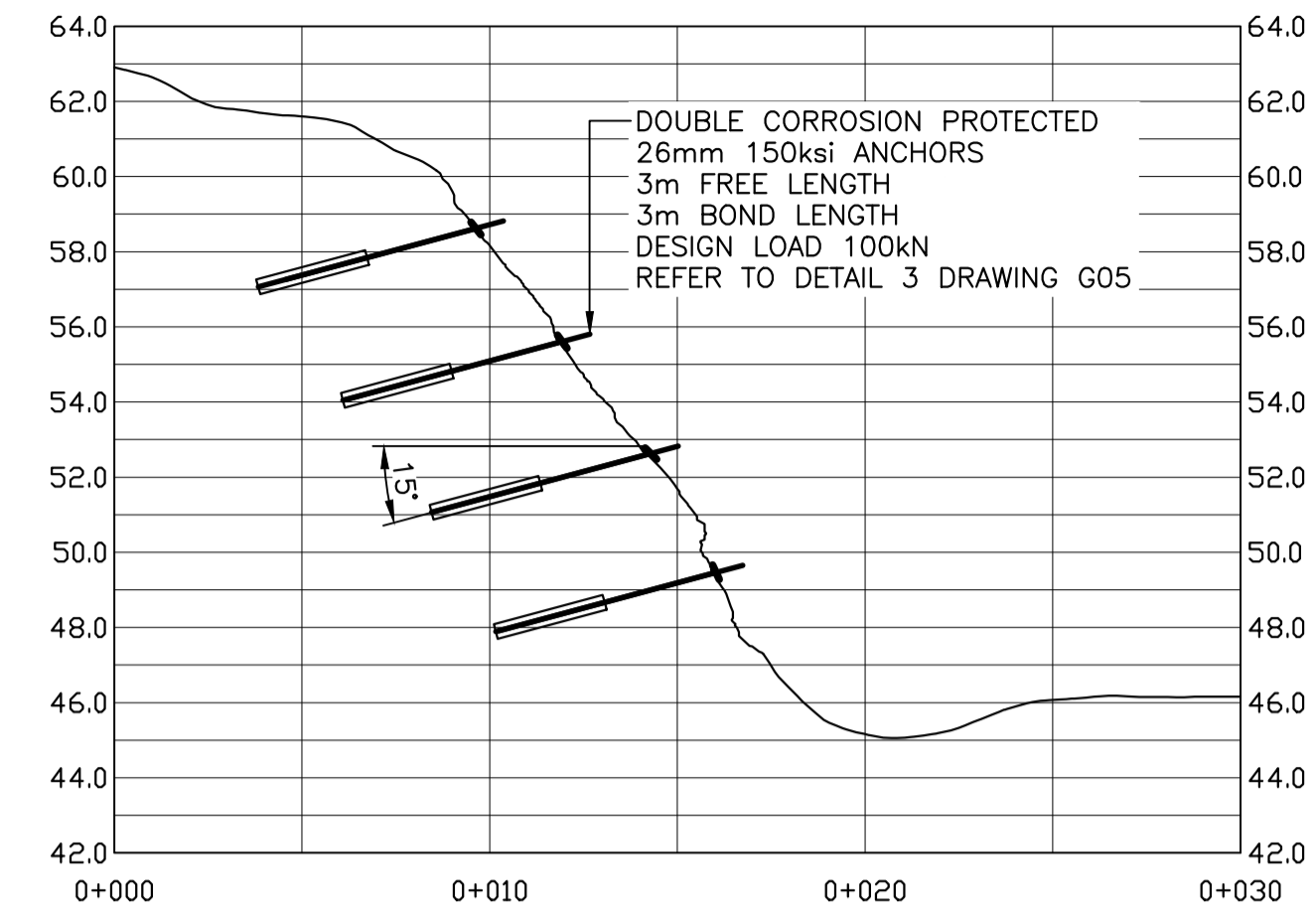
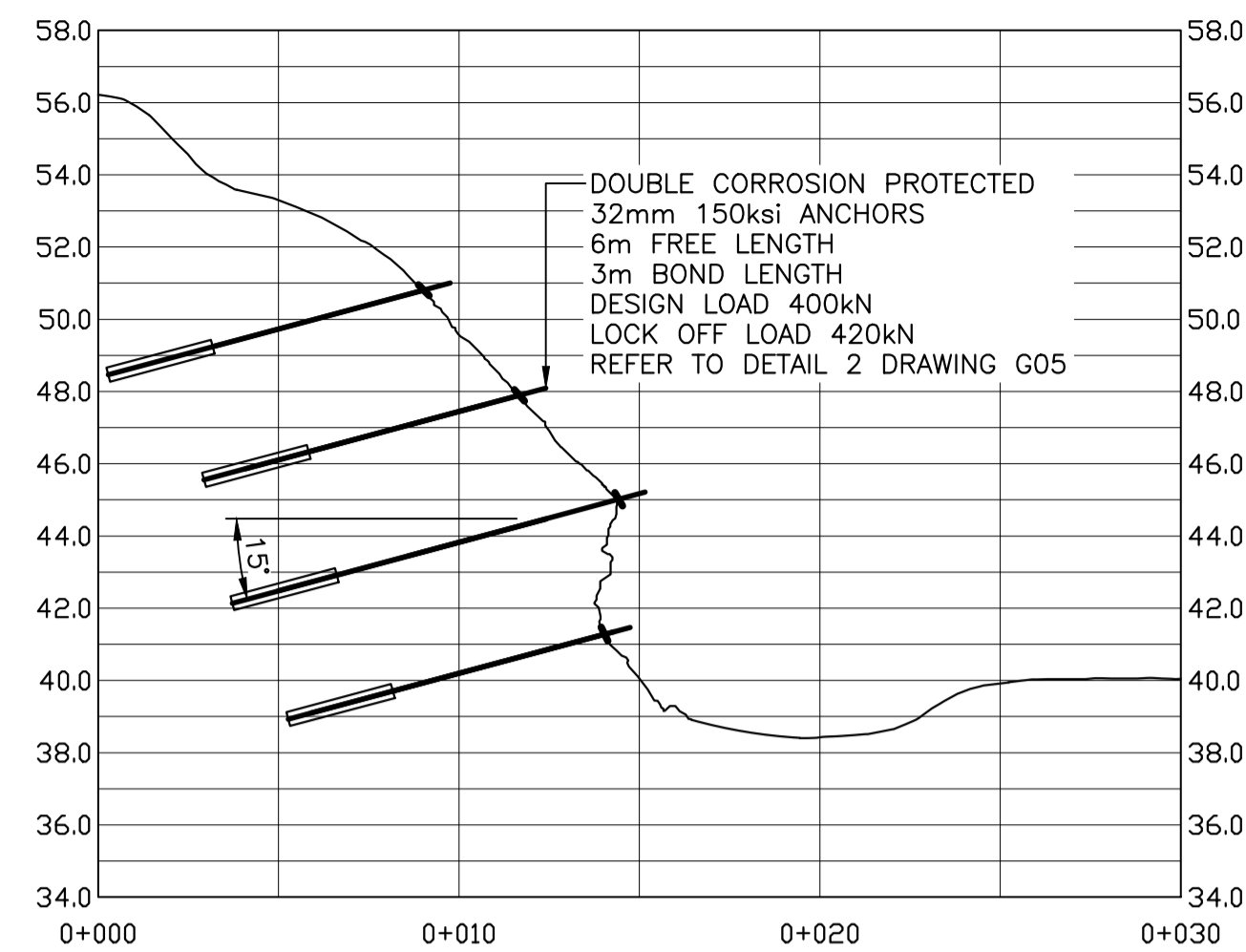
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GENERAL NOTES (TO BE READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS):

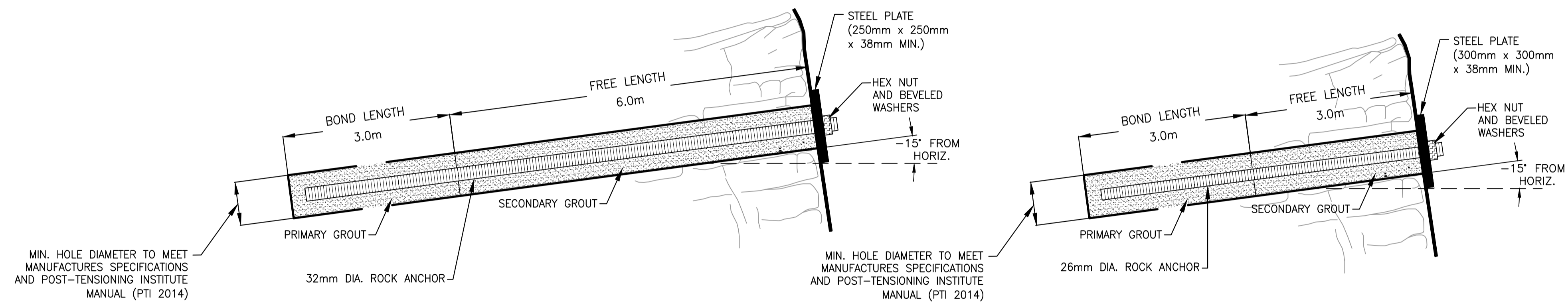
1. ALL COORDINATES REFER TO NAD83 (CSRS) UTM ZONE 20.
2. ALL DIMENSIONS AND COORDINATES ARE METRIC UNITS UNLESS OTHERWISE NOTED.
3. DITCH SHALL BE SURVEYED PRIOR TO CONSTRUCTION AND POST-CONSTRUCTION. ALL CULVERTS SHALL BE IDENTIFIED AND PROVIDED WITH ADEQUATE PROTECTION TO PREVENT DAMAGE DURING THE CONSTRUCTION PERIOD.

CONSTRUCTION NOTES:

1. SCALING
 - 1.1. ROCK SLOPE SCALING AND REMOVAL SHALL INCLUDE THE AREAS OF THE SITE IDENTIFIED ON THE PROJECT DRAWINGS OR ON SITE BY THE DEPARTMENTAL REPRESENTATIVE.
 - 1.2. SEE PROJECT SPECIFICATION SECTION 31 23 20.
 - 1.3. NOTIFY DEPARTMENTAL REPRESENTATIVE 48 HOURS PRIOR TO SCALING OPERATIONS FOR INSPECTION OF SCALED WORK SURFACE. DEPARTMENTAL REPRESENTATIVE MAY REQUEST THE CONTRACTOR TO DO FURTHER WORK WHICH THE DEPARTMENTAL REPRESENTATIVE DEEMS NECESSARY.
2. ROCK ANCHORS
 - 2.1. INSTALL ROCK ANCHORS FROM THE TOP DOWN AT LOCATIONS SPECIFIED IN THE FIELD BY THE DEPARTMENTAL REPRESENTATIVE.
 - 2.2. SEE PROJECT SPECIFICATION SECTION 31 33 13
 - 2.3. COMMON EXCAVATION
 - 3.1. EXISTING CATCHMENT DITCHES SHALL BE SURVEYED PRIOR TO SCALING OPERATIONS AND AFTER COMMON EXCAVATION PROCEDURES ARE COMPLETE. THE CATCHMENT DITCH SHALL BE REINSTATED TO THE ELEVATION OF THE EXISTING DITCH, POST SCALING OPERATIONS OR AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
 - 3.2. SEE PROJECT SPECIFICATION SECTION 31 23 16
4. ROCK REMOVAL
 - 4.1. ROCK REMOVAL SHALL BE CARRIED OUT IN THE AREAS IDENTIFIED ON THE PROJECT DRAWINGS OR ON-SITE AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
 - 4.2. SEE PROJECT SPECIFICATION SECTION 31 23 16.26 AND SECTION 31 23 21.

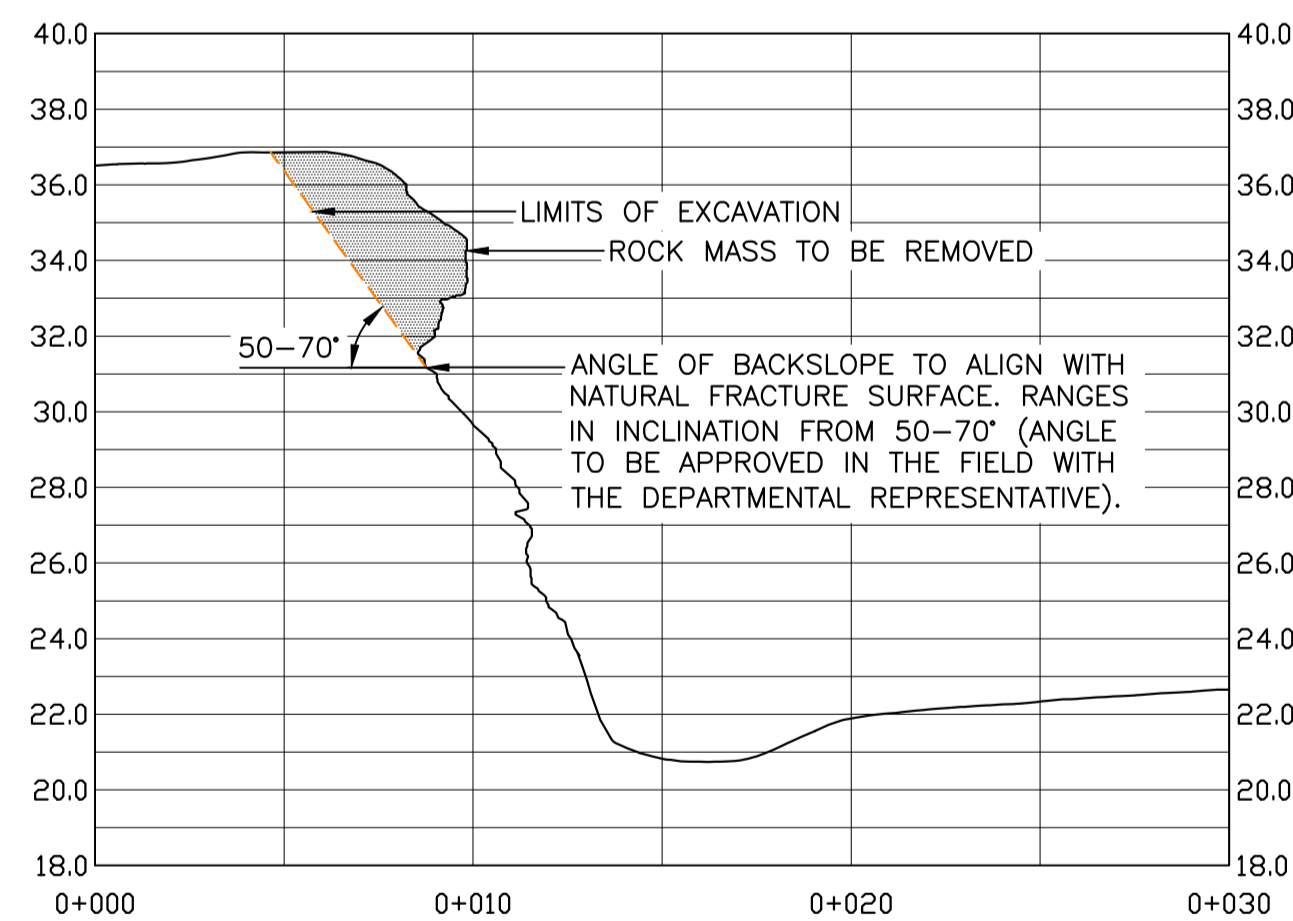


TYPICAL ROCK ANCHOR PROFILE 1 G05

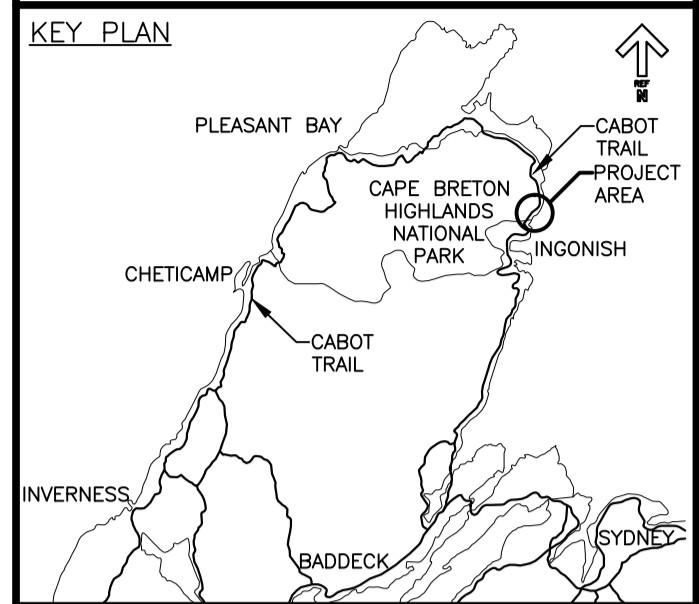


32mm DIA. ROCK ANCHOR DETAIL 2 G05

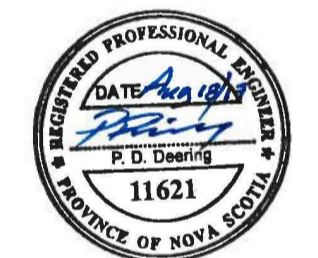
26mm DIA. ROCK ANCHOR DETAIL 3 G05



TYPICAL ROCK REMOVAL DETAIL 4 G02/G05



- NOTES:
1. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
 2. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AT EACH SITE AND REPORT SIGNIFICANT DIFFERENCES, IF ANY, TO THE DEPARTMENTAL REPRESENTATIVE.



0	ISSUED FOR CONSTRUCTION	AUG 18 2017
revisions		date
project		projct

PHASE 4 - LITTLE SMOKEY SLOPE STABILIZATION

CONSTRUCTION NOTES AND DETAILS

designed	M. MATTHEW / P. DEERING	conçu
date	AUG. 18, 2017	
drawn	A. MCINTYRE	dessiné
date	AUG. 18, 2017	
approved	M. MATTHEW	approuvé
date	AUG. 18, 2017	
Tender		Soumission

PCA Project Manager	Administrateur de projets PCA
project number	no. du projet
121618431	
drawing no.	no. du dessin
G05	

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 PWGSC A1 (2004)

