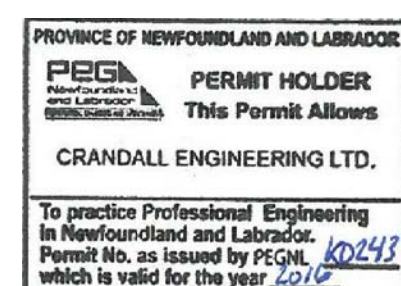




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Canada

Parks
Canada

HIGHWAY 430 SEGMENT "C" REHABILITATION GROS MORNE NATIONAL PARK ROCKY HARBOUR, NL



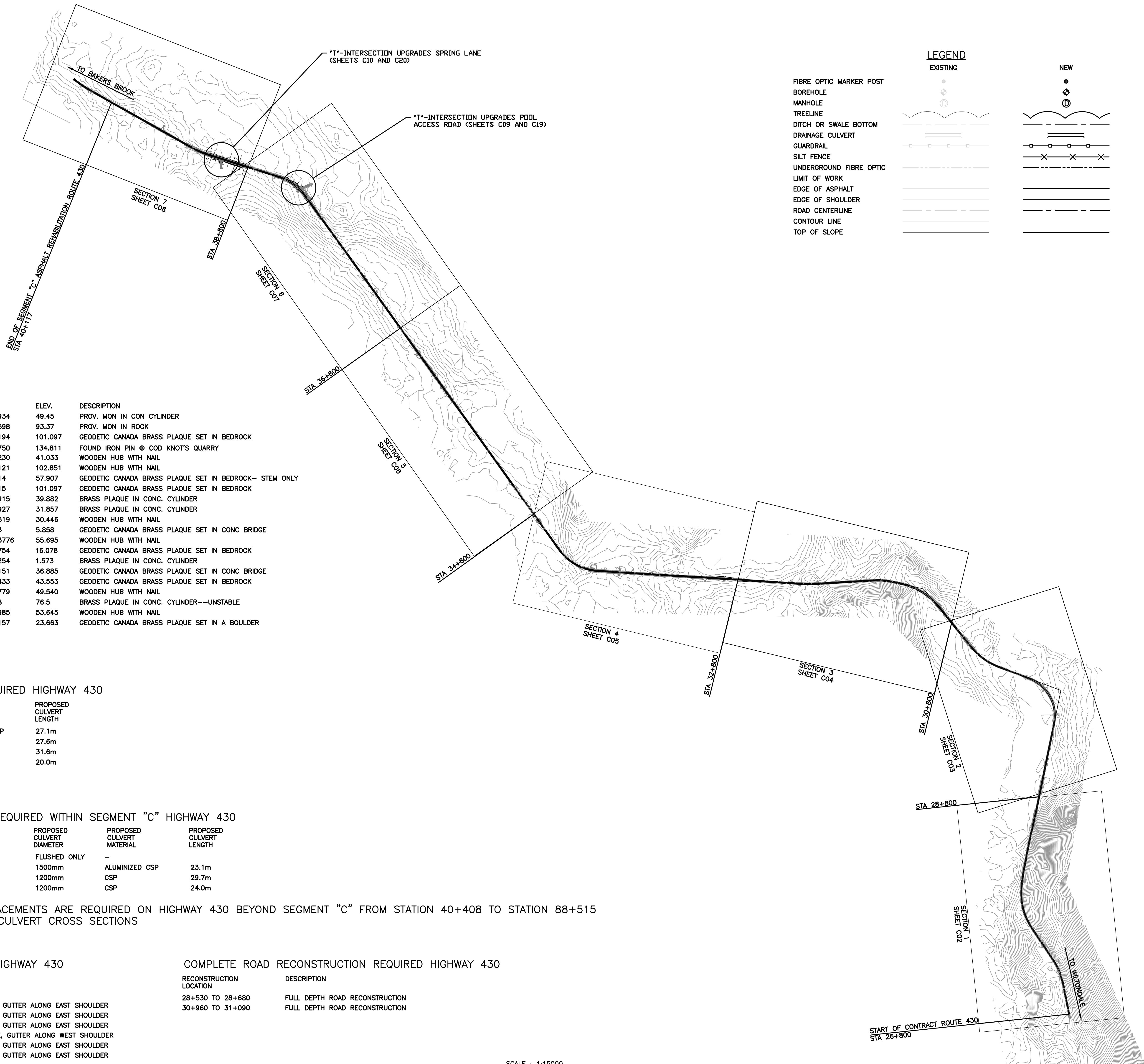
PCA PROJECT NO. 678

DRAWING LIST

CIVIL / SEGMENT "C" REHABILITATION

C01	OVERALL SITE PLAN
C02	HIGHWAY 430 PLAN AND PROFILE STA 26+800 TO STA 28+800
C03	HIGHWAY 430 PLAN AND PROFILE STA 28+800 TO STA 30+800
C04	HIGHWAY 430 PLAN AND PROFILE STA 30+800 TO STA 32+800
C05	HIGHWAY 430 PLAN AND PROFILE STA 32+800 TO STA 34+800
C06	HIGHWAY 430 PLAN AND PROFILE STA 34+800 TO STA 36+800
C07	HIGHWAY 430 PLAN AND PROFILE STA 36+800 TO STA 38+800
C08	HIGHWAY 430 PLAN AND PROFILE STA 38+800 TO STA 40+120
C09	HIGHWAY 430 INTERSECTION UPGRADE POOL ACCESS ROAD
C10	HIGHWAY 430 INTERSECTION UPGRADE SPRING LANE
C11	CULVERTS PLAN AND SECTION STA 28+859 AND STA 29+096
C12	CULVERTS PLAN AND SECTION STA 30+900 AND STA 30+990
C13	CULVERTS PLAN AND SECTION STA 32+790 AND STA 32+923
C14	CULVERTS PLAN AND SECTION STA 34+731
C15	MISCELLANEOUS DETAILS AND CROSS SECTIONS
C16	MISCELLANEOUS DETAILS AND CROSS SECTIONS
C17	TYPICAL ROAD CROSS SECTIONS
C18	TYPICAL INTERSECTION CROSS SECTIONS
C19	PROPOSED "T" - INTERSECTION UPGRADES POOL ACCESS ROAD
C20	PROPOSED "T" - INTERSECTION UPGRADES SPRING LANE

Canada



CONTROL POINTS

POINT NAME	EASTING	NORTHING	ELEV.	DESCRIPTION
37G3028	434354.804	5491426.934	49.45	PROV. MON IN CON CYLINDER
37G3027	435639.712	5490498.598	93.37	PROV. MON IN ROCK
76F766	438092.716	5491505.194	101.097	GEODETIC CANADA BRASS PLAQUE SET IN BEDROCK
F.I.P #2	437818.209	5491085.750	134.811	FOUND IRON PIN @ COD KNOT'S QUARRY
PWC 3-15	435618.021	5491677.230	41.033	WOODEN HUB WITH NAIL
PWC 4-15	437981.590	5491473.121	102.851	WOODEN HUB WITH NAIL
76F767	436465.57	5491556.14	57.907	GEODETIC CANADA BRASS PLAQUE SET IN BEDROCK- STEM ONLY
76F766	438092.66	5491505.15	101.097	GEODETIC CANADA BRASS PLAQUE SET IN BEDROCK
F-2 1972	438836.232	5491317.915	39.882	BRASS PLAQUE IN CONC. CYLINDER
C-1 1972	438989.814	5491080.927	31.857	BRASS PLAQUE IN CONC. CYLINDER
PWC 5-15	439006.400	5491073.519	30.446	WOODEN HUB WITH NAIL
HSF1-1972	439459.1	5490712.3	5.858	GEODETIC CANADA BRASS PLAQUE SET IN CONC BRIDGE
PWC 6-15	439610.439	5488542.3776	55.695	WOODEN HUB WITH NAIL
89F194	439665.050	5489252.754	16.078	GEODETIC CANADA BRASS PLAQUE SET IN BEDROCK
H-2 1972	439810.549	5489931.254	1.573	BRASS PLAQUE IN CONC. CYLINDER
89F196	436082.216	5491566.151	36.885	GEODETIC CANADA BRASS PLAQUE SET IN CONC BRIDGE
89F197	434981.074	5492603.433	43.553	GEODETIC CANADA BRASS PLAQUE SET IN BEDROCK
PWC 7-15	434797.034	5492793.779	49.540	WOODEN HUB WITH NAIL
B-2 1972	433430.8	5494671.8	76.5	BRASS PLAQUE IN CONC. CYLINDER--UNSTABLE
PWC 8-15	432487.941	5495218.985	53.645	WOODEN HUB WITH NAIL
76F927	431370.082	5495801.157	23.663	GEODETIC CANADA BRASS PLAQUE SET IN A BOULDER

NEW CULVERT CONSTRUCTION REQUIRED HIGHWAY 430

CULVERT LOCATION (STATION)	PROPOSED CULVERT DIAMETER	PROPOSED CULVERT MATERIAL	PROPOSED CULVERT LENGTH
28+861	1200mm x 2	ALUMINIZED CSP	27.1m
30+900	900mm	CSP	27.6m
30+990	900mm	CSP	31.6m
32+790	1200mm	CSP	20.0m

EXISTING CULVERT REPLACEMENT REQUIRED WITHIN SEGMENT "C" HIGHWAY 430

CULVERT LOCATION (STATION)	EXISTING CULVERT DIAMETER	EXISTING CULVERT MATERIAL	PROPOSED CULVERT DIAMETER	PROPOSED CULVERT MATERIAL	PROPOSED CULVERT LENGTH
28+065	1200mm	STEEL	FLUSHED ONLY	-	-
29+096	1500mm	STEEL	1500mm	ALUMINIZED CSP	23.1m
32+923	900mm	STEEL	1200mm	CSP	29.7m
34+731	900mm	STEEL	1200mm	CSP	24.0m

*AN ADDITIONAL 86 CULVERT REPLACEMENTS ARE REQUIRED ON HIGHWAY 430 BEYOND SEGMENT "C" FROM STATION 40+408 TO STATION 88+515
REFER TO DWG C25 TO C35 FOR CULVERT CROSS SECTIONS

NEW ASPHALT GUTTER REQUIRED HIGHWAY 430

ASPHALT GUTTER LOCATION(STATION)	DESCRIPTION OF GUTTER LOCATION
27+750 TO 28+000	HIGHWAY @ 7.6% GRADE, GUTTER ALONG EAST SHOULDER
28+350 TO 28+450	HIGHWAY @ 5.9% GRADE, GUTTER ALONG EAST SHOULDER
30+400 TO 30+600	HIGHWAY @ 6.0% GRADE, GUTTER ALONG EAST SHOULDER
31+300 TO 31+600	HIGHWAY @ 10.0% GRADE, GUTTER ALONG WEST SHOULDER
32+200 TO 32+500	HIGHWAY @ 7.0% GRADE, GUTTER ALONG EAST SHOULDER
37+550 TO 37+900	HIGHWAY @ 6.9% GRADE, GUTTER ALONG EAST SHOULDER

COMPLETE ROAD RECONSTRUCTION REQUIRED HIGHWAY 430

RECONSTRUCTION LOCATION	DESCRIPTION
28+530 TO 28+680	FULL DEPTH ROAD RECONSTRUCTION
30+960 TO 31+090	FULL DEPTH ROAD RECONSTRUCTION

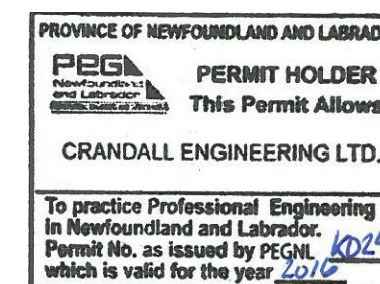
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Parcs Canada Parks Canada



MONCTON 1077 King St. George Blvd. 133 Prince William Street
Saint John, N.B. Canada Saint John, N.B. Canada
Tel: (506) 857-2277 Fax: (506) 857-2283
CRANDALLENGINEERING.CA



1	ISSUED FOR TENDER	29/01 2016
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revisions		date
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project		project
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HIGHWAY 430 SEGMENT "C" REHABILITATION

drawing		design
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OVERALL SITE PLAN

designed	G. FLANAGAN	conçu
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date	OCTOBER 23, 2015	
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drawn	A.CALDWELL	dessiné
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date	OCTOBER 23, 2015	
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approved	J.BABIN	approuvé
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date	OCTOBER 23, 2015	
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Tender		Soumission
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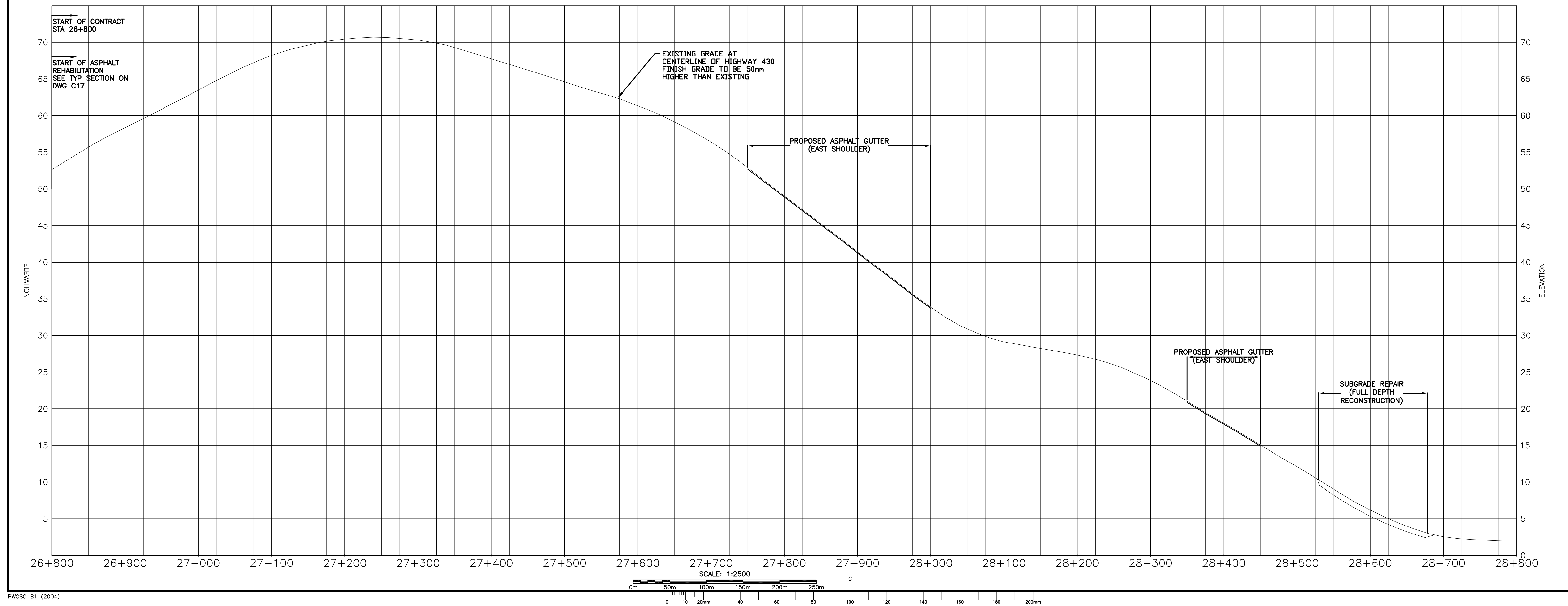
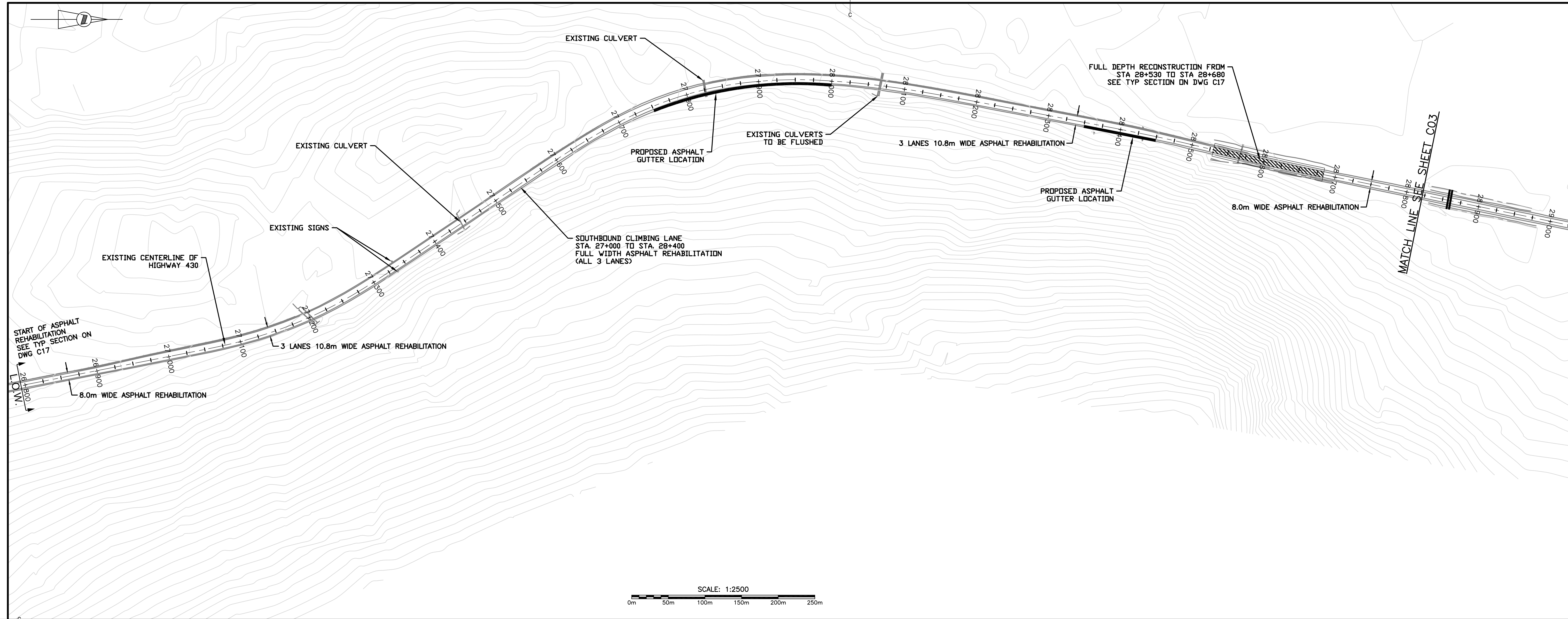
PCA Project Manager		Administrateur de projets APC
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project number		no. du projet
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PCA NO.: 678


drawing no.		no. du dessin
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C01






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MONCTON
1077 Route St. George Blvd.
St-John, N.B. Canada
E1E 4C3
Tel: (506) 852-2277
Fax: (506) 852-2283
CRANDALLENGINEERING.CA

SAINT JOHN
133 Prince William Street
St-John, N.B. Canada
E1A 1G2
Tel: (506) 853-2283
Fax: (506) 853-2280

FREDERICTON
841 Regent Street
Fredericton, N.B. Canada
E3A 1T7
Tel: (506) 461-4400
Fax: (506) 461-3250

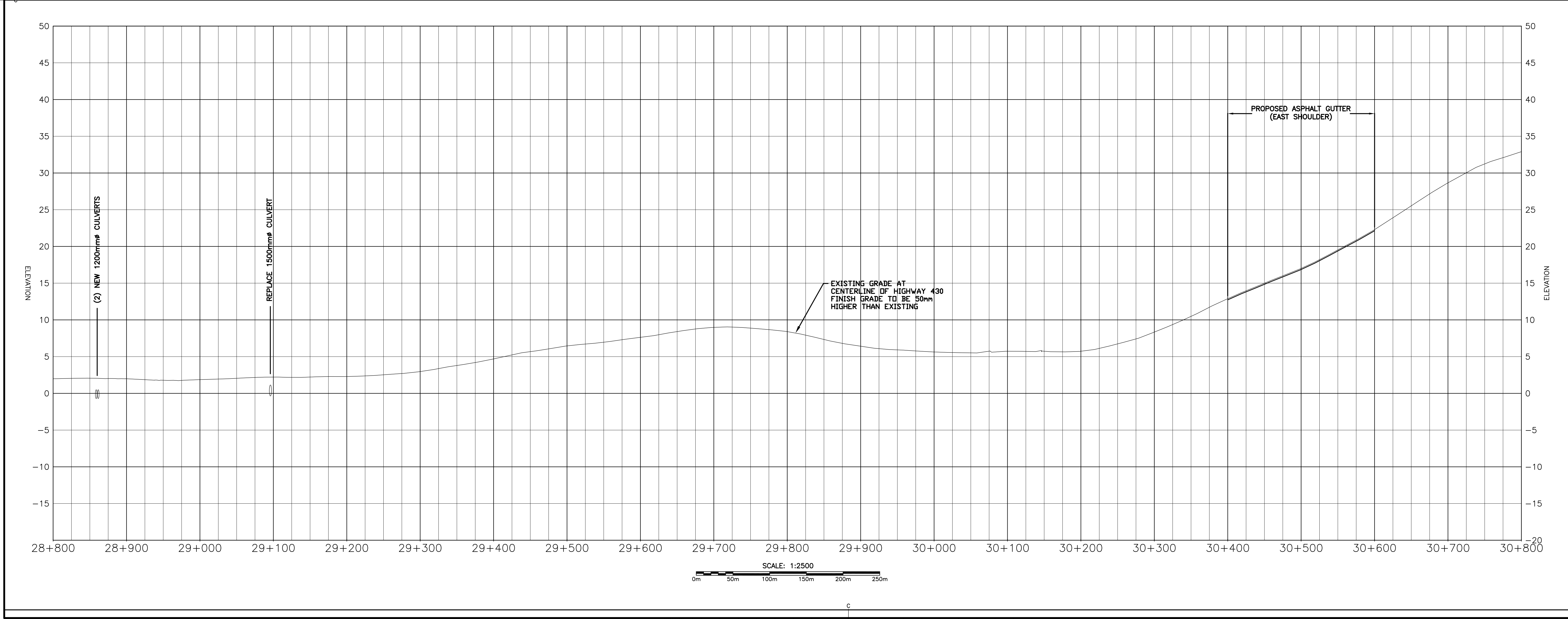
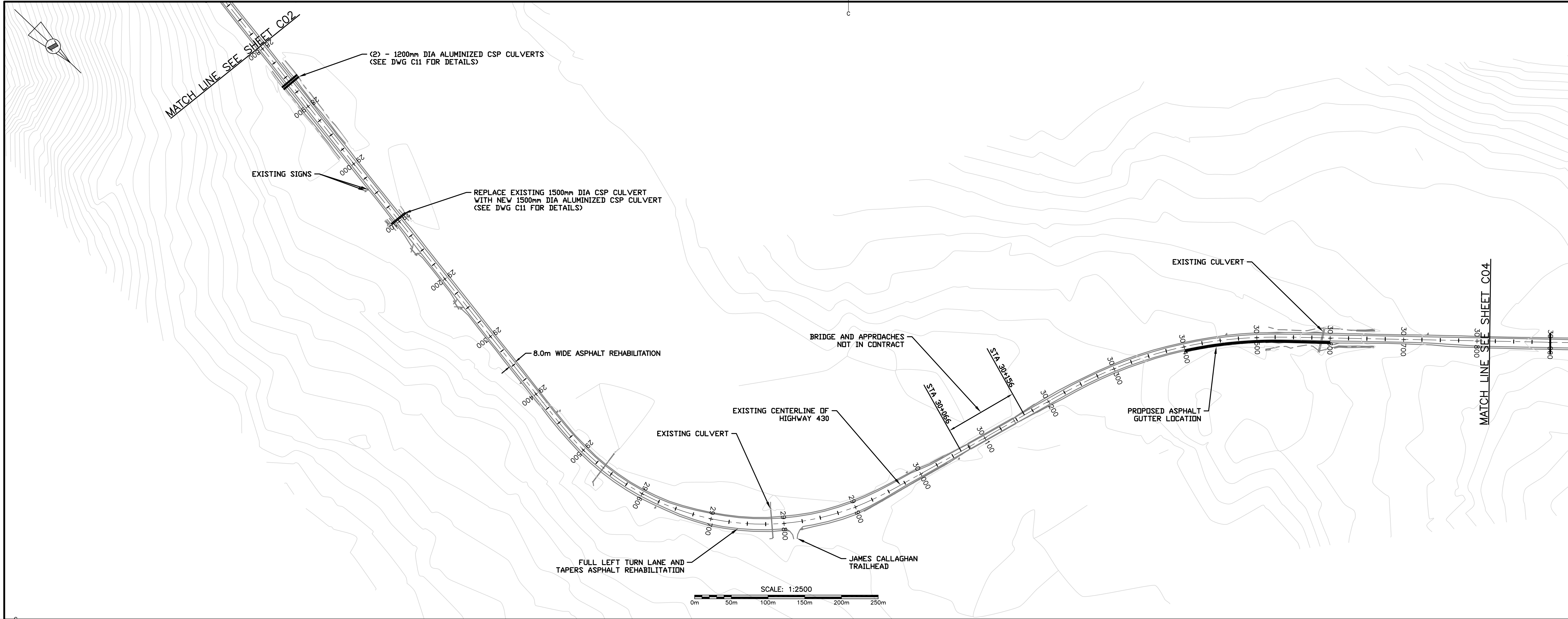
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1	ISSUED FOR TENDER	29/01 2016
revisions		date
project	project	
HIGHWAY 430 SEGMENT "C" REHABILITATION		
drawing	design	
HIGHWAY 430 PLAN AND PROFILE STA 26+800 TO STA 28+800		
designed	G. FLANAGAN	conçu
date	OCTOBER 23, 2015	
drawn	A.CALDWELL	dessiné
date	OCTOBER 23, 2015	
approved	J.BABIN	approuvé
date	OCTOBER 23, 2015	
Tender	Soumission	
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
PCA NO.: 678		
drawing no.	no. du dessin	
C02		


PWGSC B1 (2004)

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MONCTON
1077 King St. George Blvd.
St-John, N.B. Canada
Tel: (506) 857-2777
Fax: (506) 857-2545
CRANDALLENGINEERING.CA

SAINT JOHN
133 Prince William Street
St-John, N.B. Canada
Tel: (506) 853-2883
Fax: (506) 853-2880

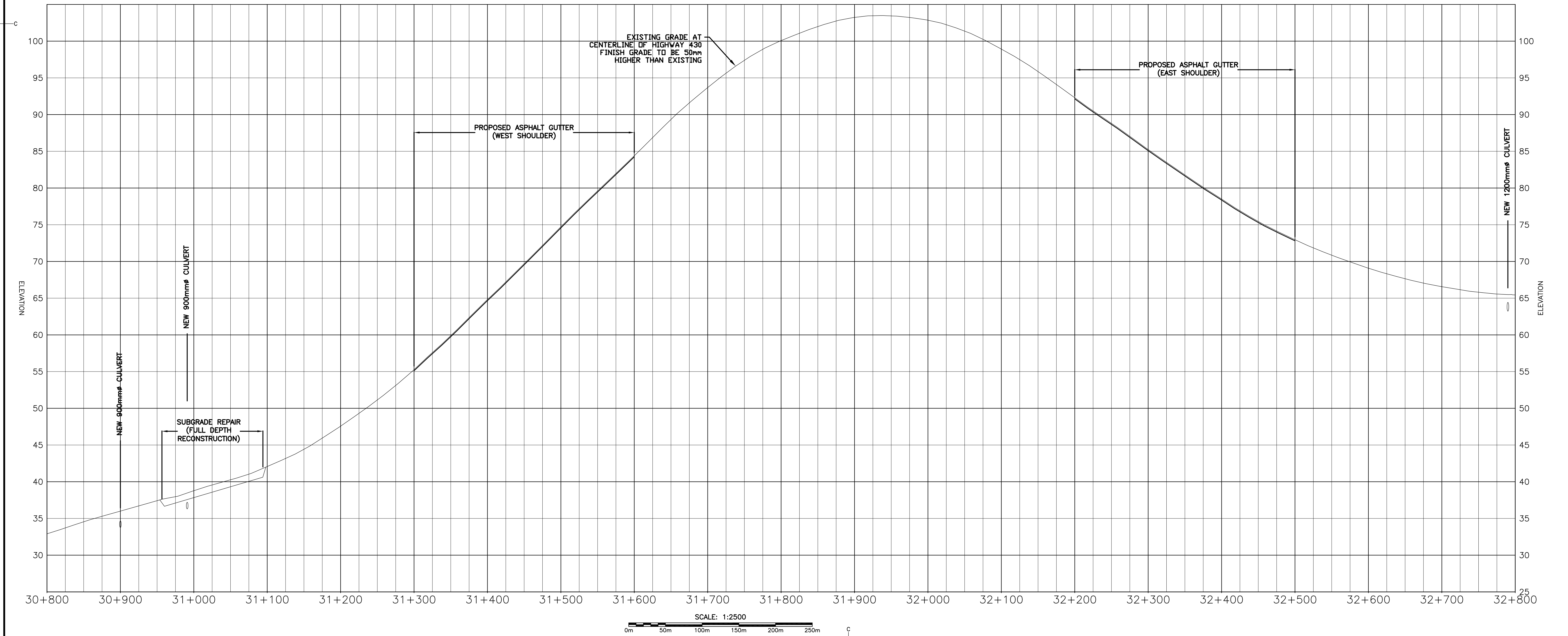
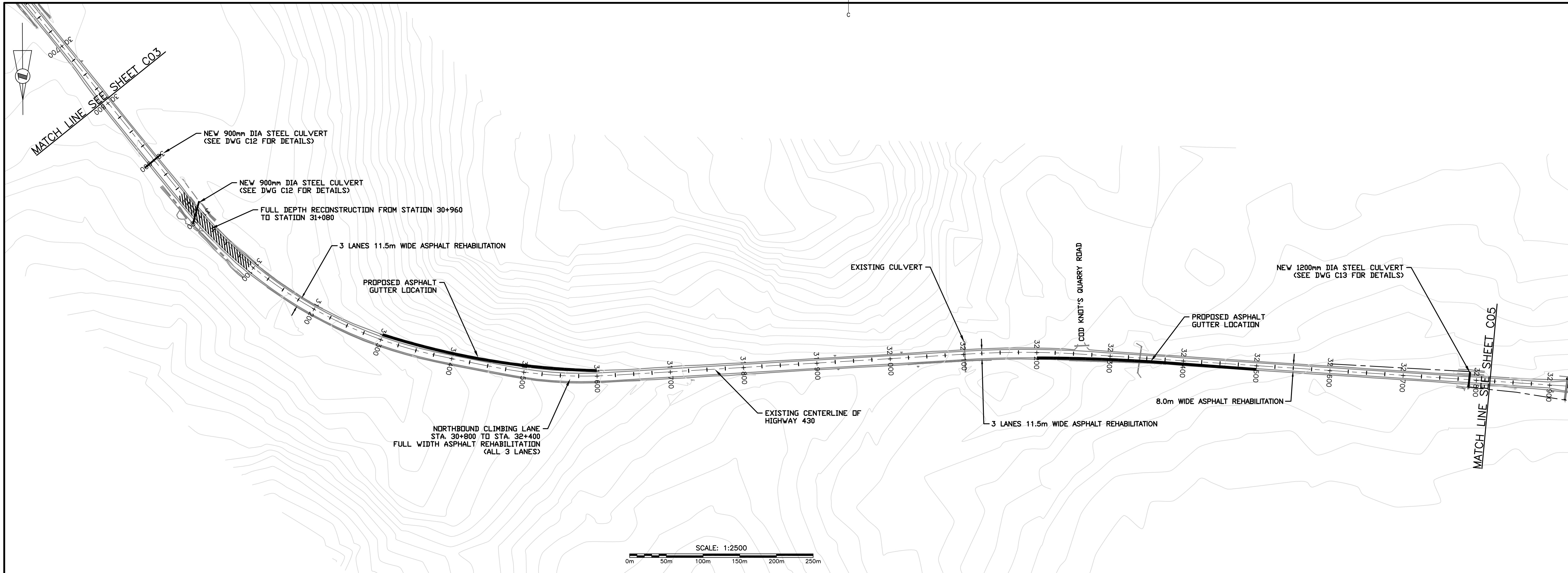
FREDERICTON
841 Regent Street
Fredericton, N.B. Canada
Tel: (506) 461-4400
Fax: (506) 461-3250


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1	ISSUED FOR TENDER	29/01 2016
revisions		date
project	project	
HIGHWAY 430 SEGMENT "C" REHABILITATION		
drawing	dessin	
HIGHWAY 430 PLAN AND PROFILE STA 28+800 TO STA 30+800		
designed G. FLANAGAN	conçu	
date OCTOBER 23, 2015		
drawn A.CALDWELL	dessiné	
date OCTOBER 23, 2015		
approved J.BABIN	approuvé	
date OCTOBER 23, 2015		
Tender	Soumission	
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
PCA NO.: 678		
drawing no.	no. du dessin	
C03		

E-DRM/GDD-E:






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MONCTON

1075 Route 101, St. George Blvd.
Moncton, N.B. Canada
Tel: (506) 857-2777
Fax: (506) 857-2785
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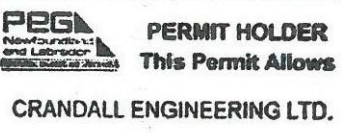
SANT JOHN

133 Prince William Street
Saint John, N.B. Canada
Tel: (506) 857-2777
Fax: (506) 857-2785
CRANDALLENGINEERING.CA

FREDERICTON

841 Regent Street
Fredericton, N.B. Canada
Tel: (506) 461-4400
Fax: (506) 461-4400
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08283
GEOFFREY FLANAGAN
REGISTERED
JAN 29 2016
PROVINCE OF NEWFOUNDLAND & LABRADOR

1	ISSUED FOR TENDER	29/01/2016
revisions		date
project		project

HIGHWAY 430
SEGMENT "C"
REHABILITATION

drawing

dessein

HIGHWAY 430
PLAN AND PROFILE
STA 30+800 TO
STA 32+800

designed G. FLANAGAN

conçu

date OCTOBER 23, 2015

drawn A.CALDWELL

dessiné

date OCTOBER 23, 2015

approved J.BABIN

approuvé

date OCTOBER 23, 2015

Tender

Soumission

PCA Project Manager

Administrateur de projets APC

project number

no. du projet

PCA NO.: 678

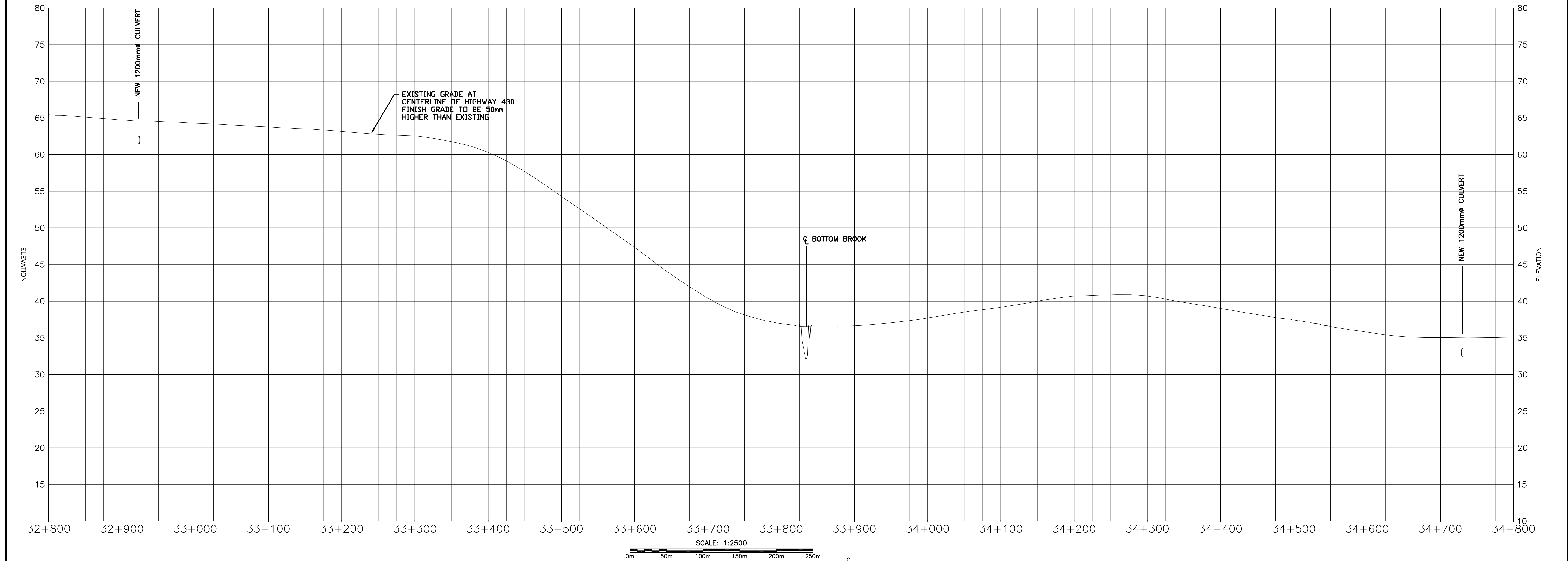
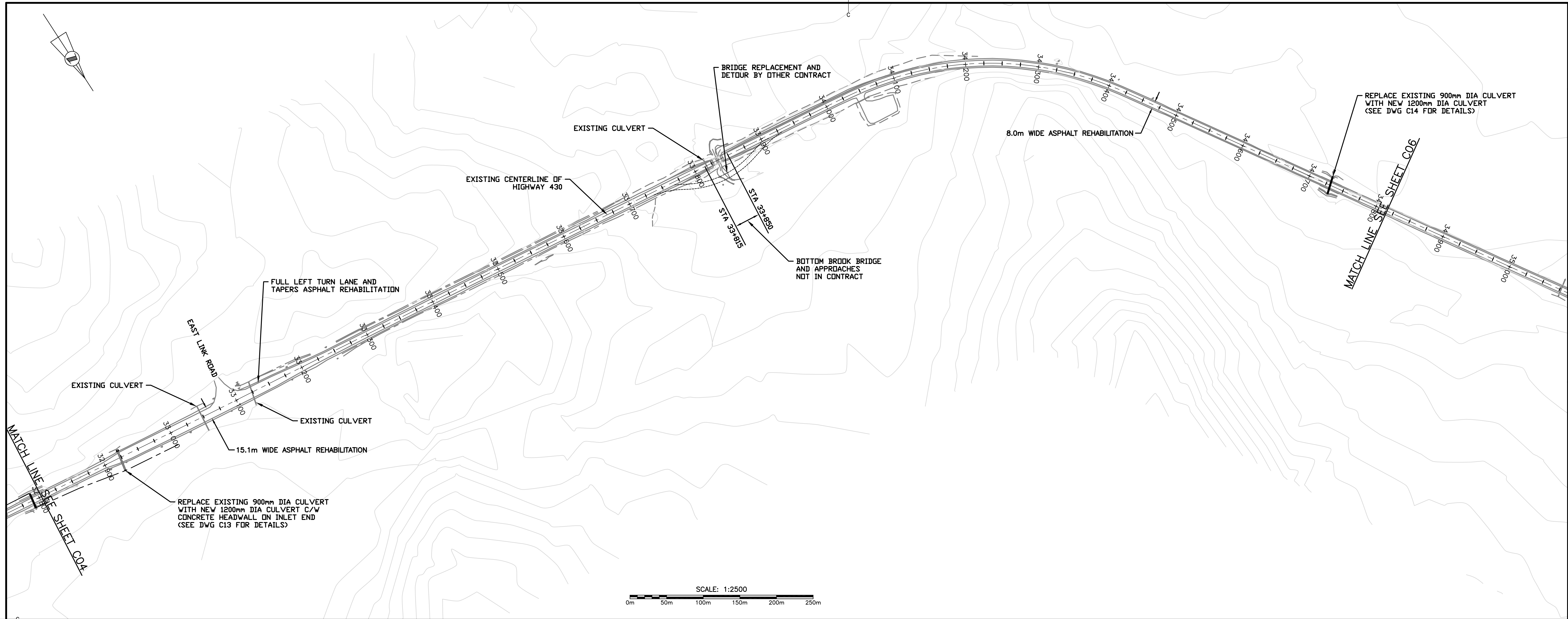
drawing no.


no. du dessin

C04

PWGSB B1 (2004)


E-DRM/GDD-E:





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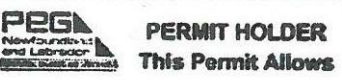



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MONCTON
1077 Rue St. George Blvd.
St-John, N.B. Canada
E1E 2C2
Tel: (506) 852-2277
Fax: (506) 852-2285
CRANDALLENGINEERING.CA

SAINT JOHN
133 Prince William Street
St-John, N.B. Canada
E1A 1Y1
Tel: (506) 852-2277
Fax: (506) 852-2285
Tel: (506) 852-2285

FREDERICTON
841 Rupert Street
Fredericton, N.B. Canada
E3A 1Y1
Tel: (506) 461-4400
Fax: (506) 461-4400
Tel: (506) 461-4400

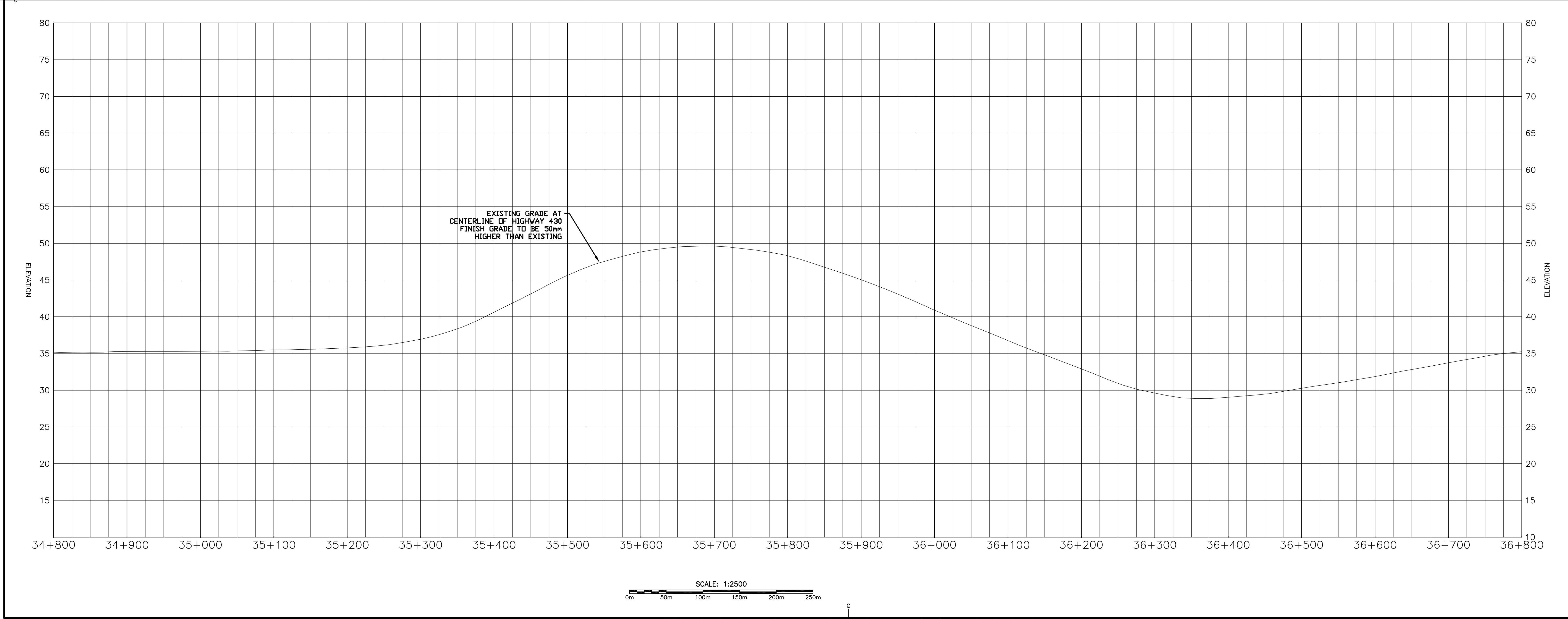
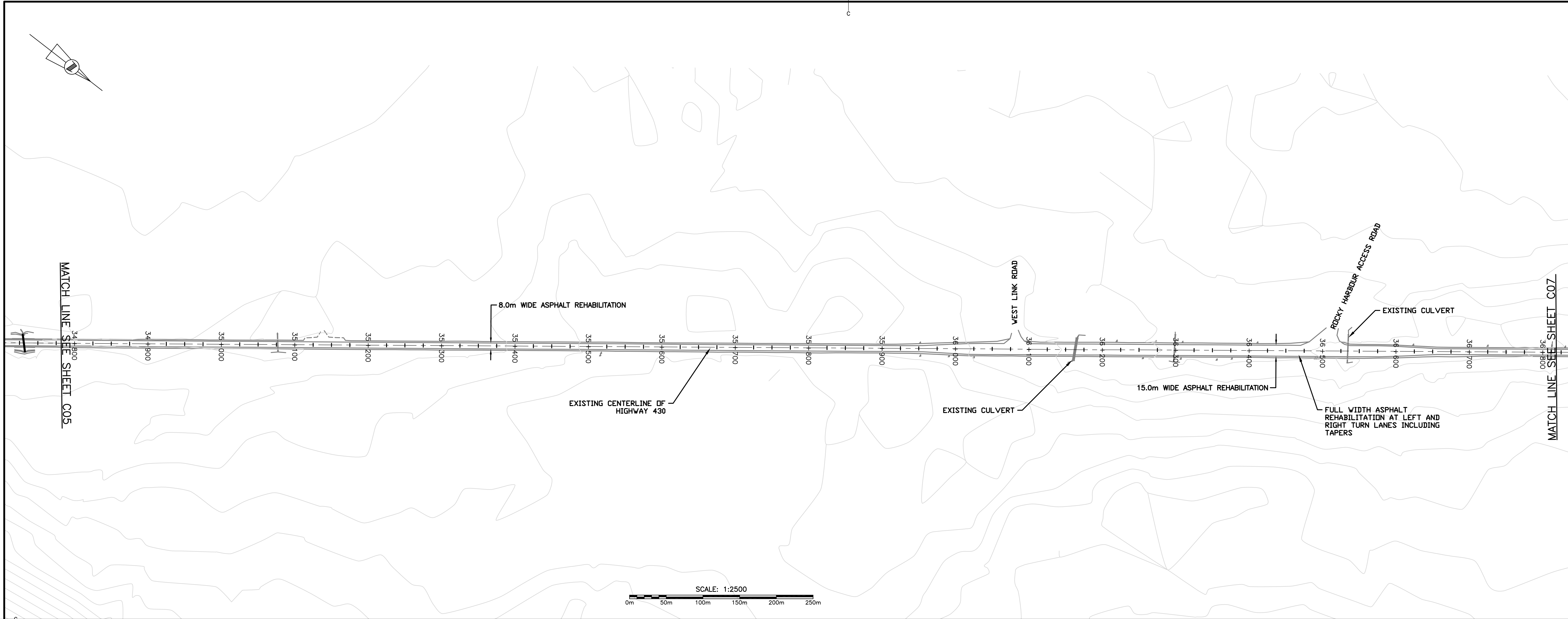
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1	ISSUED FOR TENDER	29/01 2016
revisions		date
project	project	
HIGHWAY 430 SEGMENT "C" REHABILITATION		
drawing	design	
HIGHWAY 430 PLAN AND PROFILE STA 32+800 TO STA 34+800		
designed	G. FLANAGAN	conçu
date	OCTOBER 23, 2015	
drawn	A.CALDWELL	dessiné
date	OCTOBER 23, 2015	
approved	J.BABIN	approuvé
date	OCTOBER 23, 2015	
Tender	Soumission	
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
PCA NO.: 678		
drawing no.	no. du dessin	
C05		


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MONCTON

1077 Ave. St. George Blvd.
Box 100
Moncton, N.B. Canada
E1B 4C4
Tel: (506) 853-2277
Fax: (506) 853-2285
CRANDALLENGINEERING.CA

SAINT JOHN

133 Prince William Street
Box 702
Saint John, N.B. Canada
E5B 1G2
Tel: (506) 853-2277
Fax: (506) 853-2285
CRANDALLENGINEERING.CA


FREDERICTON

841 Regent Street
Box 121
Fredericton, N.B. Canada
E3B 2G1
Tel: (506) 461-4400
Fax: (506) 461-4400
CRANDALLENGINEERING.CA

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DIVISION

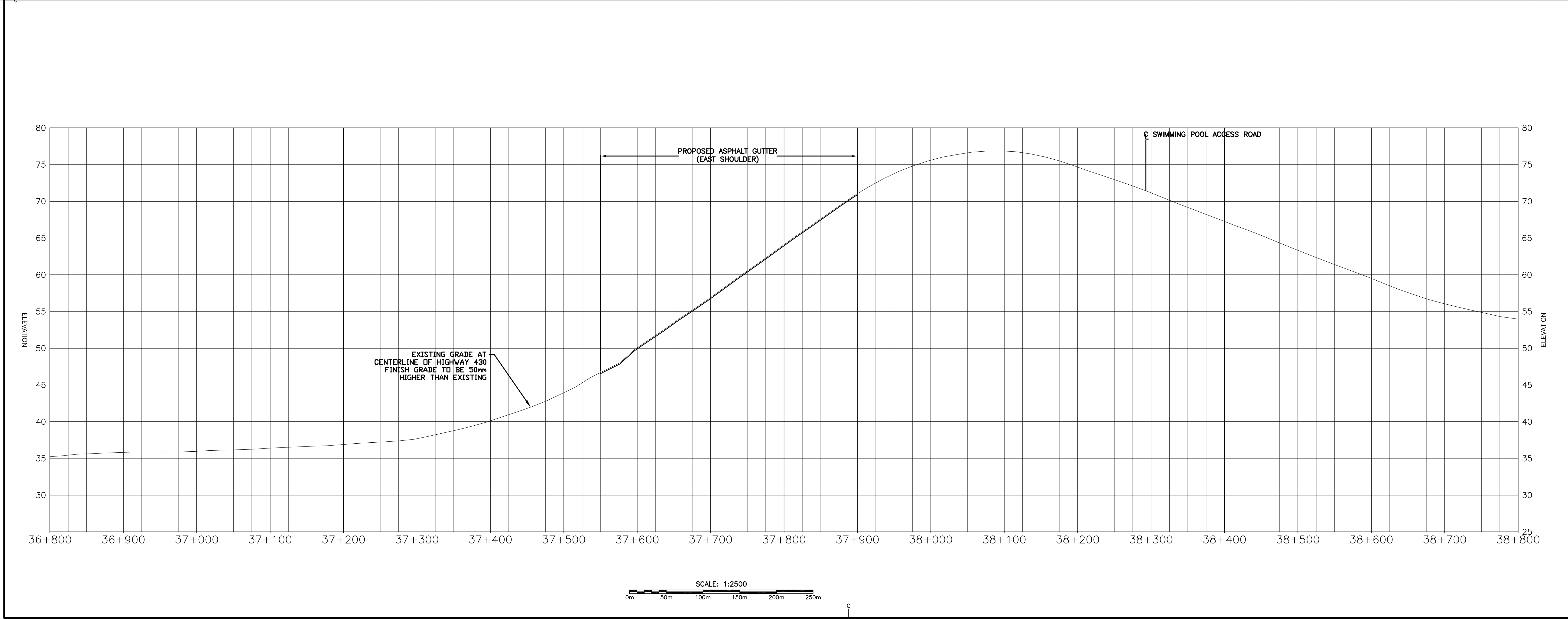
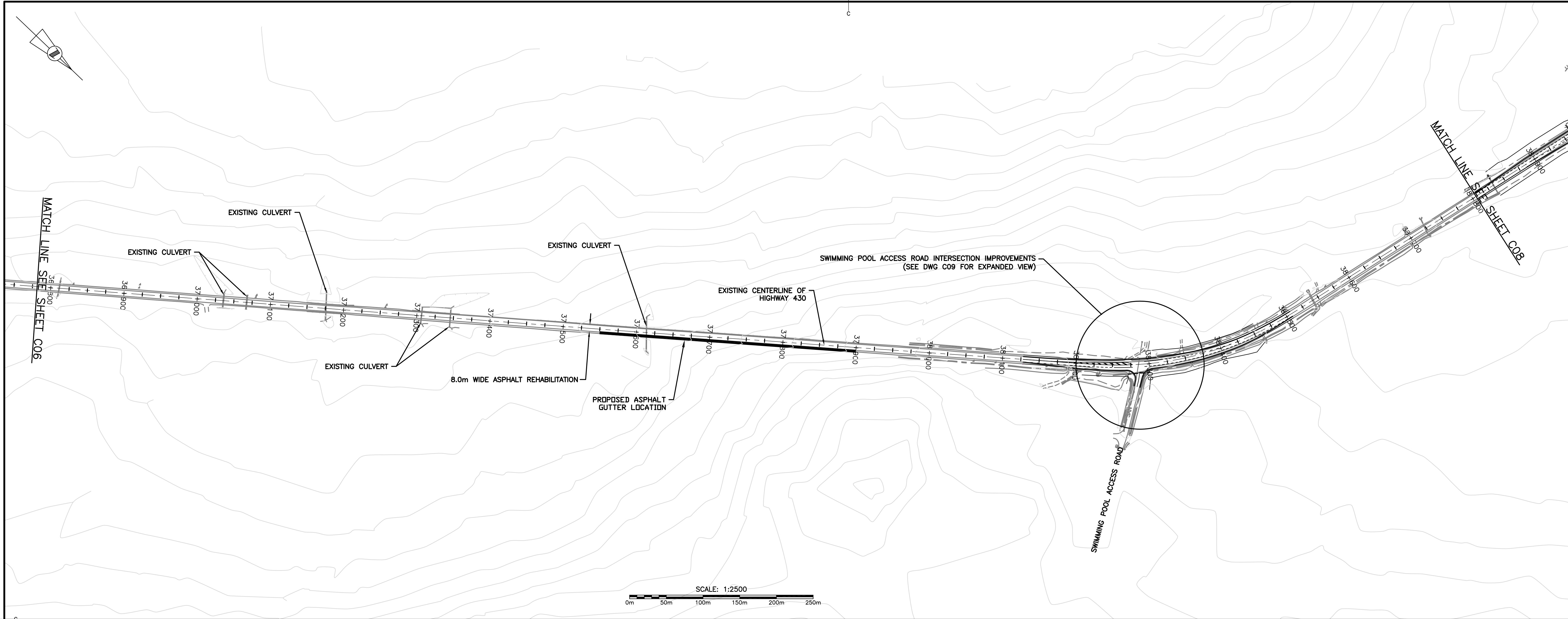
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revisions		date
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HIGHWAY 430 SEGMENT "C" REHABILITATION		
drawing	dessin	
HIGHWAY 430 PLAN AND PROFILE STA 34+800 TO STA 36+800		
designed	G. FLANAGAN	conçu
date	OCTOBER 23, 2015	
drawn	A.CALDWELL	dessiné
date	OCTOBER 23, 2015	
approved	J.BABIN	approuvé
date	OCTOBER 23, 2015	
Tender	Soumission	
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
PCA NO.: 678		
drawing no.	no. du dessin	
C06		


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St-John, N.B. Canada
E1C 2G2
Tel: (506) 852-2277
Fax: (506) 852-2283
CRANDALLENGINEERING.CA

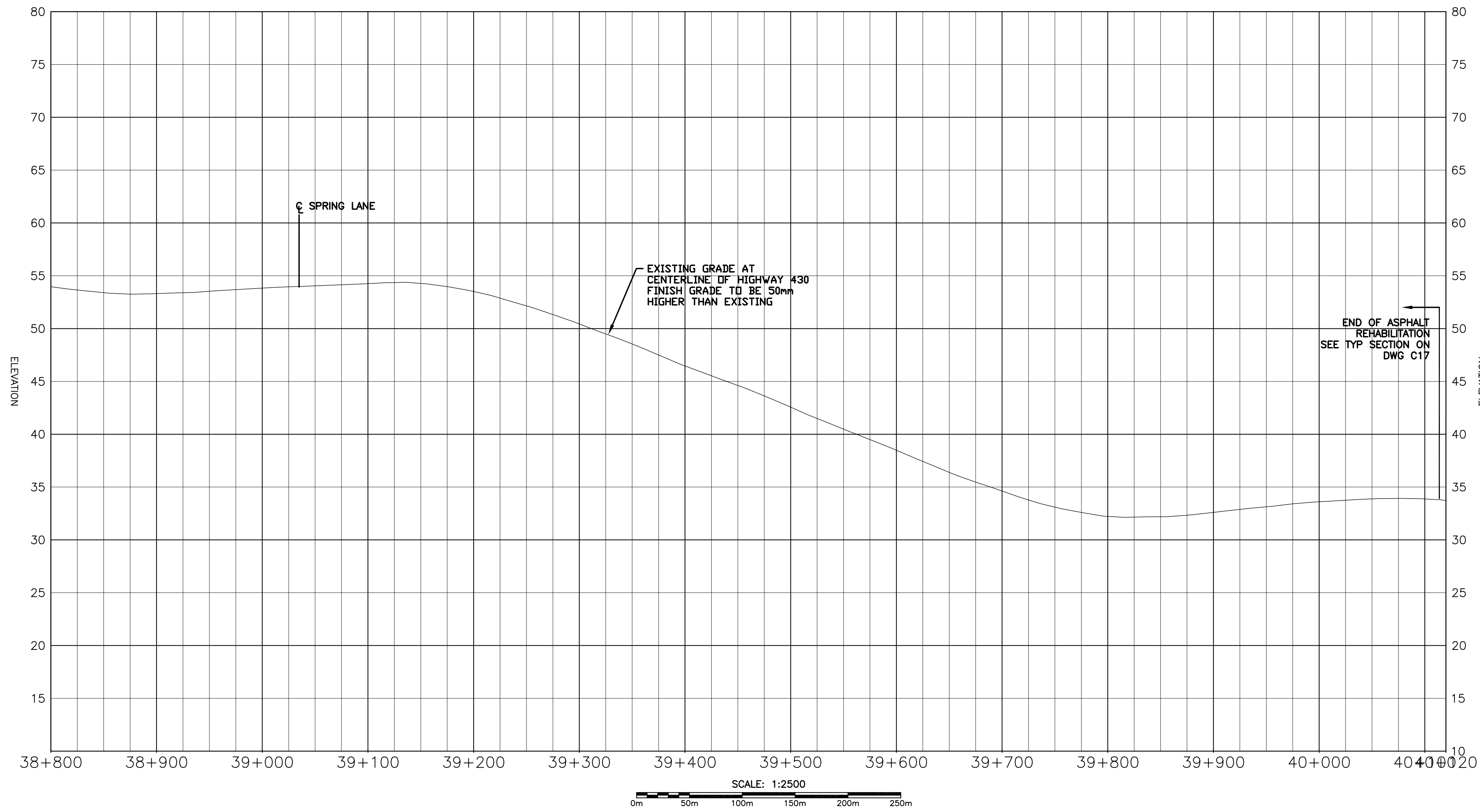
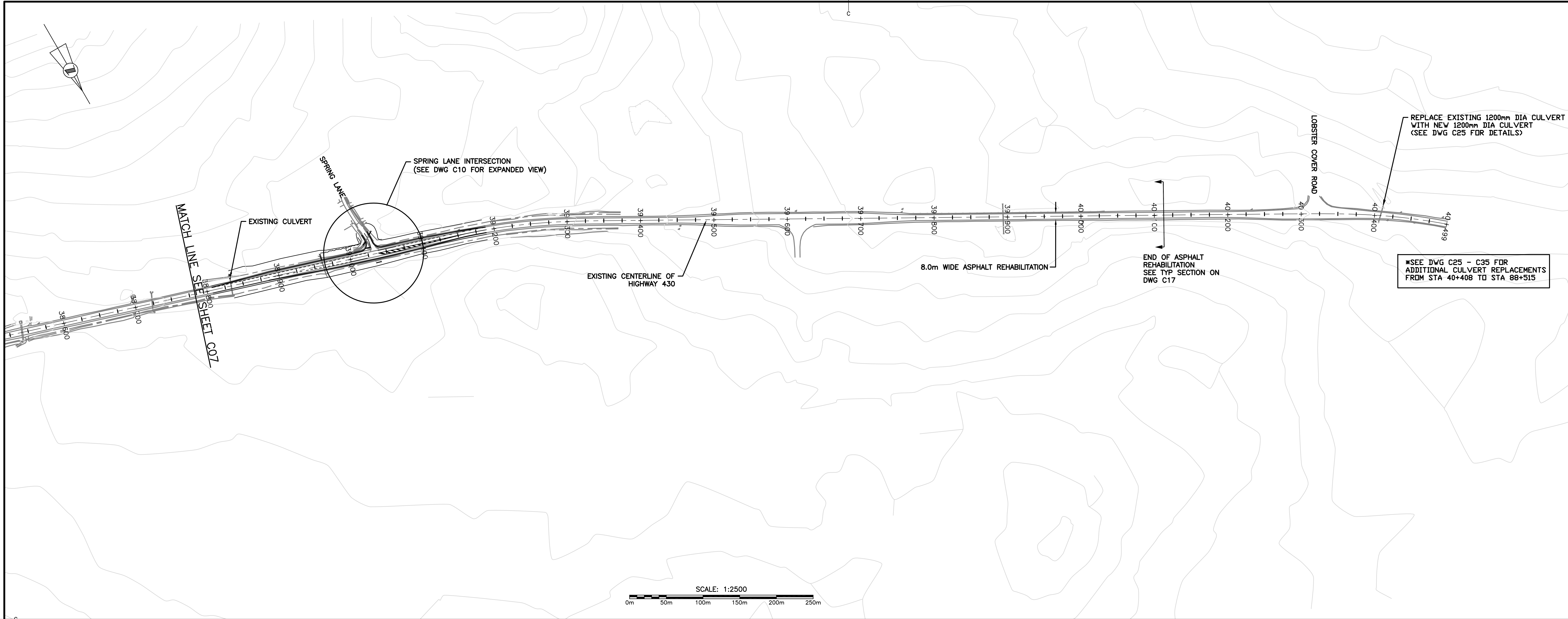
SAINT JOHN
133 Prince William Street
St-John, N.B. Canada
E1C 2G2
Tel: (506) 852-2277
Fax: (506) 852-2283
CRANDALLENGINEERING.CA


FREDERICTON
841 Progress Street
St-John, N.B. Canada
E1C 2G2
Tel: (506) 852-2277
Fax: (506) 852-2283
CRANDALLENGINEERING.CA

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1	ISSUED FOR TENDER	29/01 2016
revisions		date
project	project	
HIGHWAY 430 SEGMENT "C" REHABILITATION		
drawing	dessin	
HIGHWAY 430 PLAN AND PROFILE STA 36+800 TO STA 38+800		
designed G. FLANAGAN	conçu	
date OCTOBER 23, 2015		
drawn A.CALDWELL	dessiné	
date OCTOBER 23, 2015		
approved J.BABIN	approuvé	
date OCTOBER 23, 2015		
Tender	Soumission	
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
PCA NO.: 678		
drawing no.	no. du dessin	
C07		






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MONCTON
1077 Ave. St. George Blvd.
St-John, N.B. Canada
E1E 2G2
Tel: (506) 852-2277
Fax: (506) 852-2278
CRANDALLENGINEERING.CA

SAINT JOHN
133 Prince William Street
St-John, N.B. Canada
E1A 1G2
Tel: (506) 853-2277
Fax: (506) 853-2278
CRANDALLENGINEERING.CA

FREDERICTON
841 Rupert Street
Fredericton, N.B. Canada
E1B 1Y1
Tel: (506) 461-4400
Fax: (506) 461-4400
CRANDALLENGINEERING.CA

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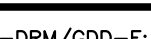


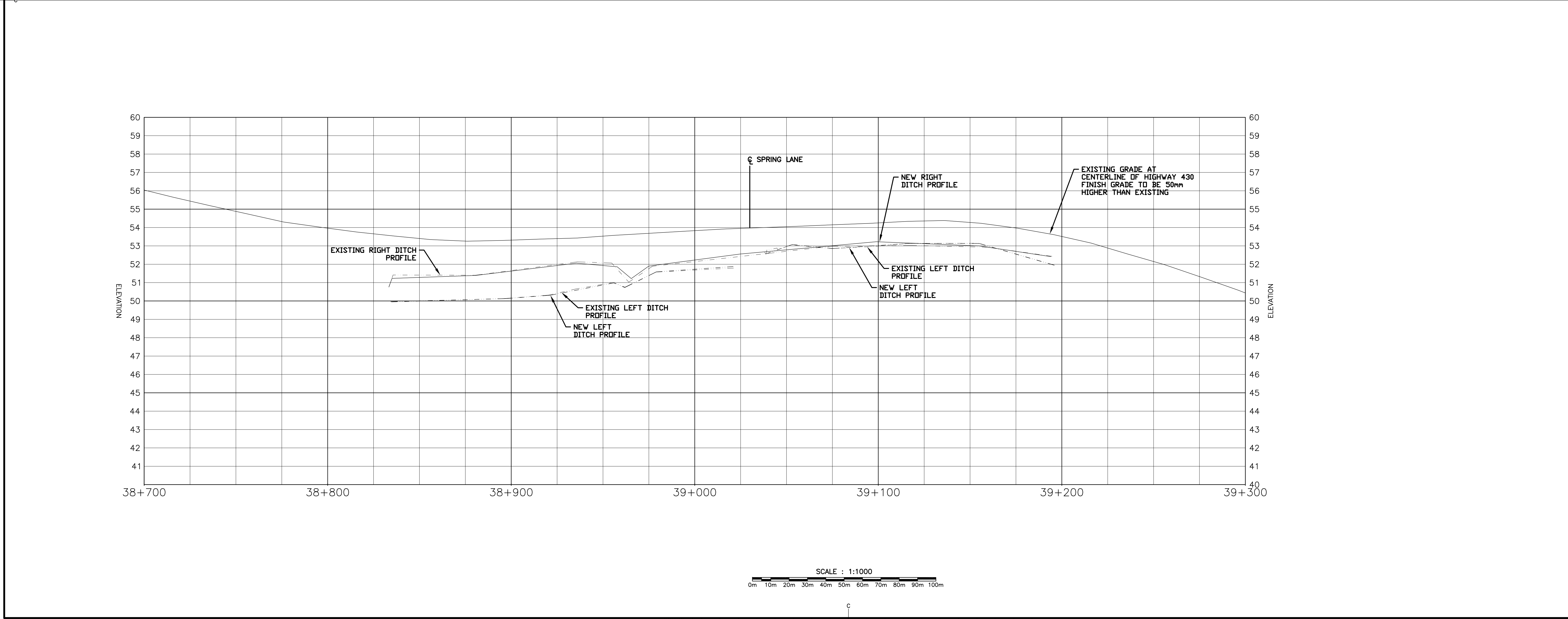
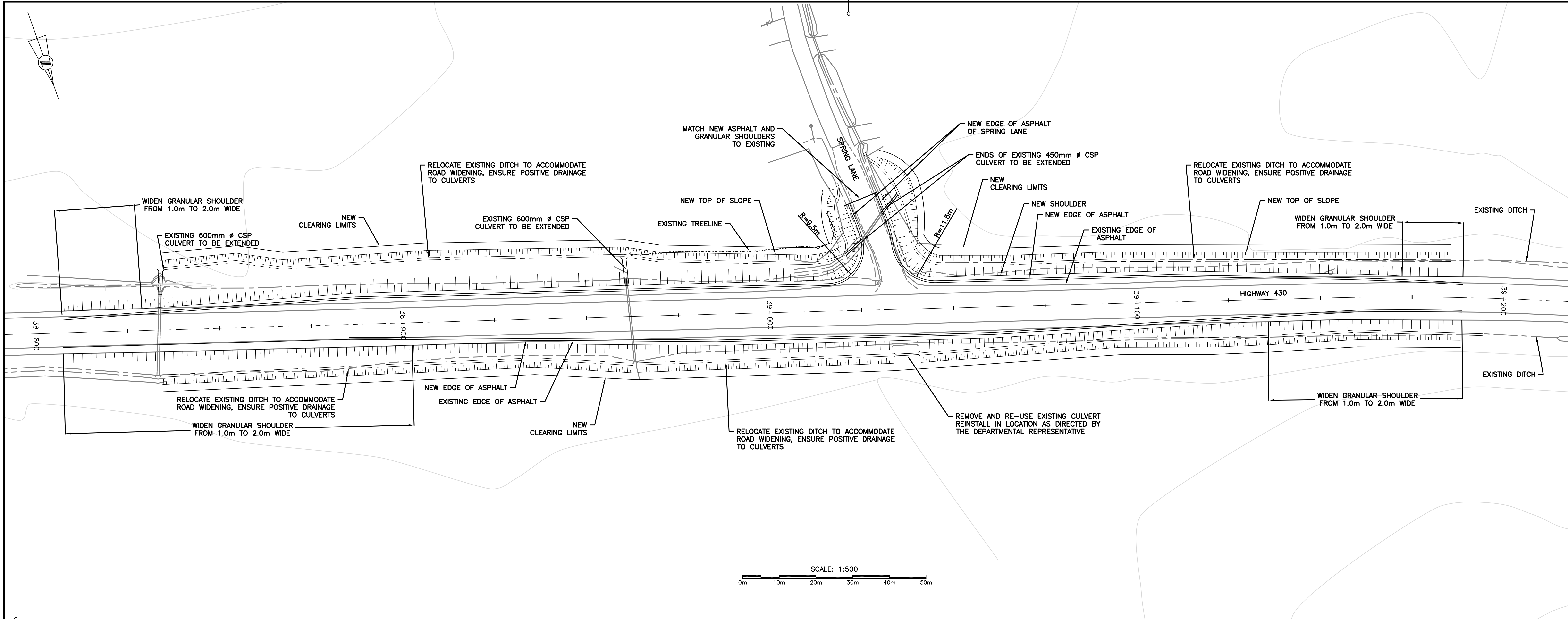
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HIGHWAY 430 SEGMENT "C" REHABILITATION		
drawing	dessin	
HIGHWAY 430 PLAN AND PROFILE STA 38+800 TO STA 40+120		
designed G. FLANAGAN	conçu	
date OCTOBER 23, 2015		
drawn A.CALDWELL	dessiné	
date OCTOBER 23, 2015		
approved J.BABIN	approuvé	
date OCTOBER 23, 2015		
Tender	Soumission	
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
PCA NO.: 678		
drawing no.	no. du dessin	
C08		

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PWGSC B1 (2004)





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MONCTON
1077 Road St. George Blvd.
St-John, N.B. Canada
Tel: (506) 857-2277
Fax: (506) 857-2254
CRANDALLENGINEERING.CA

SAINT JOHN
133 Prince William Street
St-John, N.B. Canada
Tel: (506) 853-2883
Fax: (506) 853-2850

FREDERICTON
844, Rupert Street
Fredericton, N.B. Canada
Tel: (506) 461-4400
Fax: (506) 461-3250

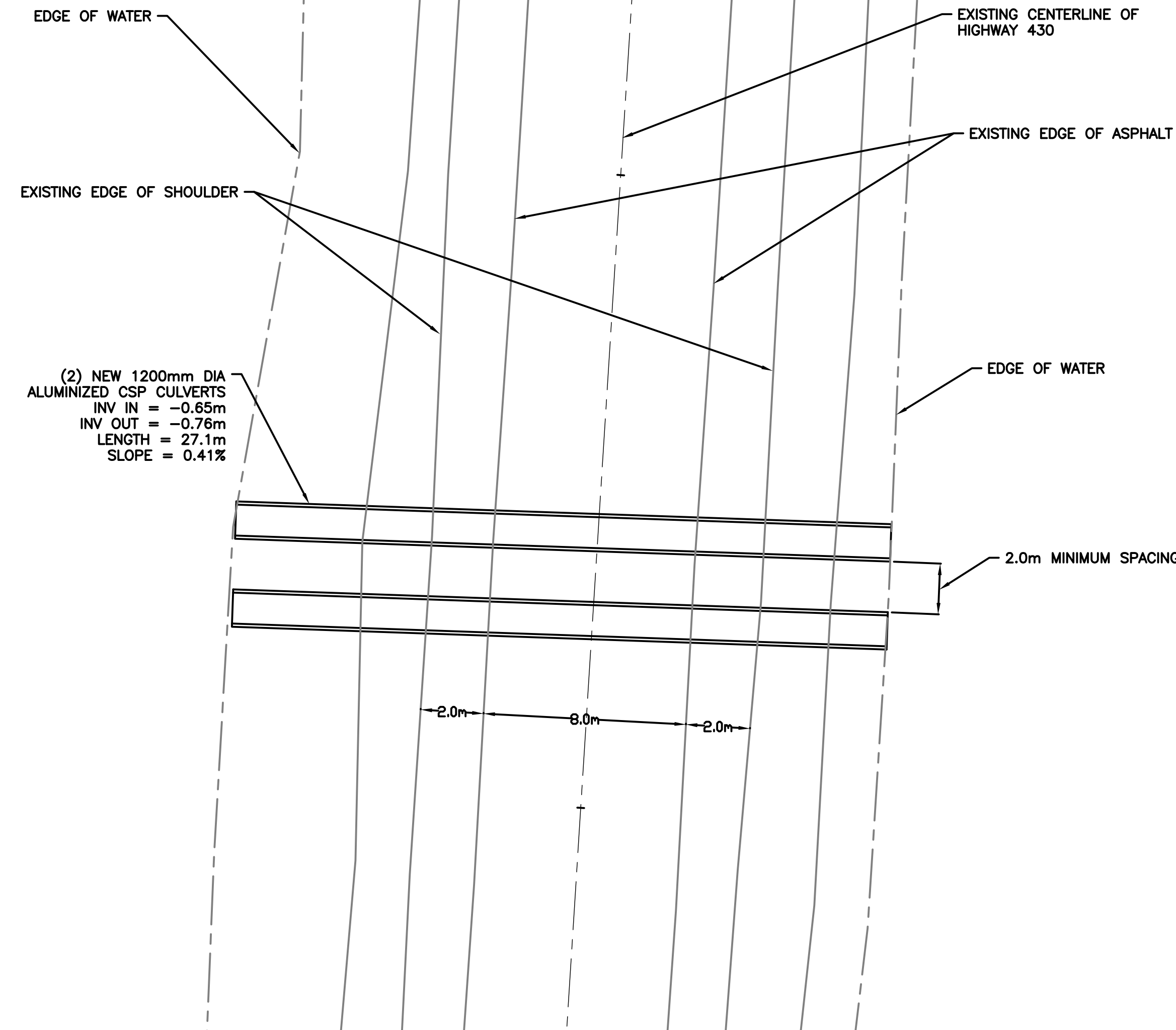
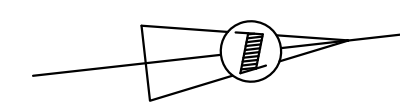
PROVINCE OF NEWFOUNDLAND AND LABRADOR
PERMIT HOLDER
This Permit Allows
GRANDALL ENGINEERING LTD.
To practice Professional Engineering
in Newfoundland and Labrador.
Permit No. as issued by PEGN, 08283
which is valid for the year 2016

1	ISSUED FOR TENDER	29/01/2016
revisions		date
project	project	
HIGHWAY 430 SEGMENT "C" REHABILITATION		
drawing	dessin	
HIGHWAY 430 INTERSECTION UPGRADE SPRING LANE		
designed G. FLANAGAN	conçu	
date OCTOBER 23, 2015		
drawn A.CALDWELL	dessiné	
date OCTOBER 23, 2015		
approved J.BABIN	approuvé	
date OCTOBER 23, 2015		
Tender	Soumission	
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
PCA NO.: 678		
drawing no.	no. du dessin	
C10		

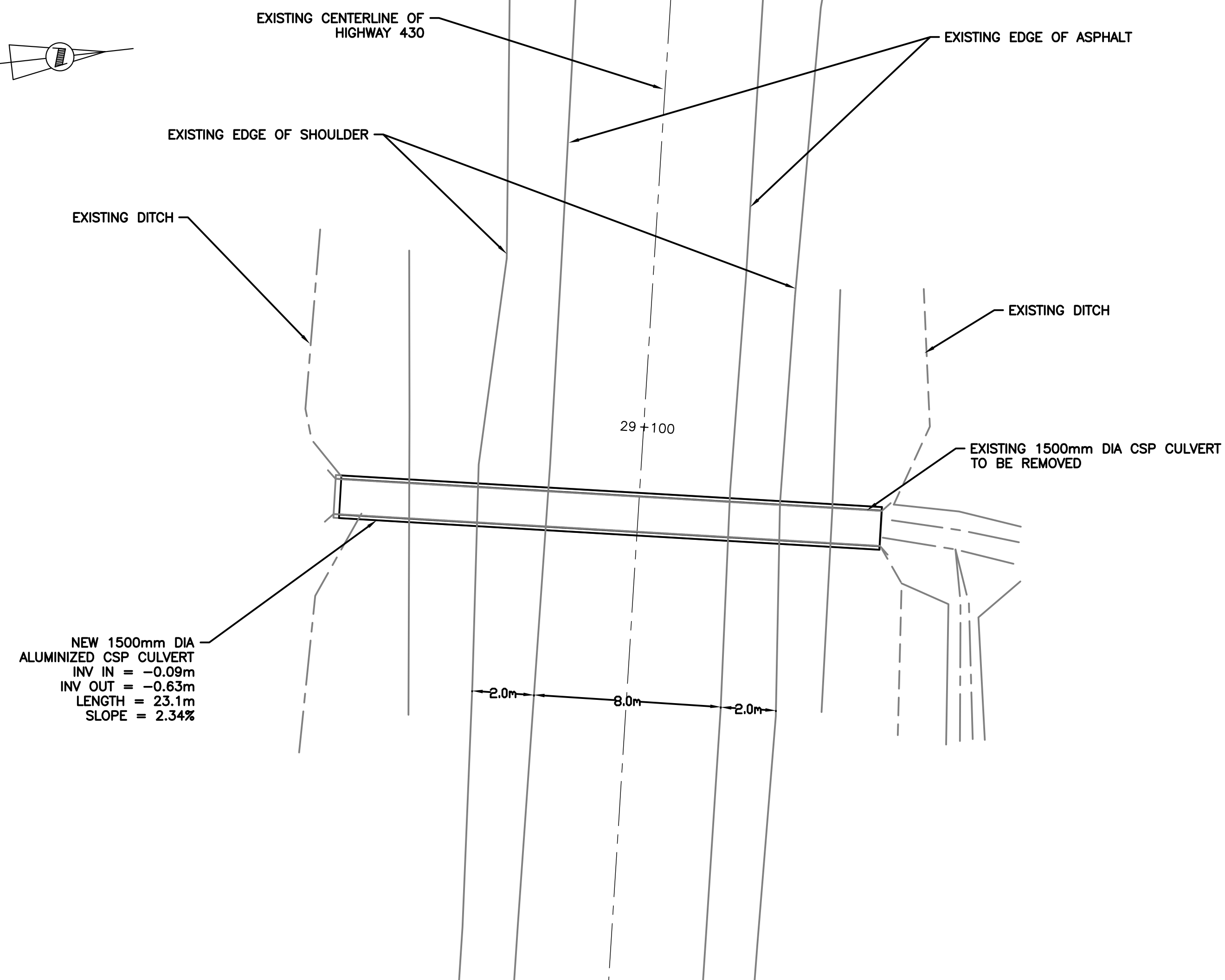
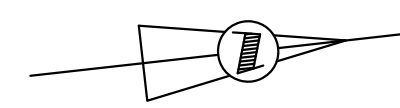
PWSC B1 (2004)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200mm

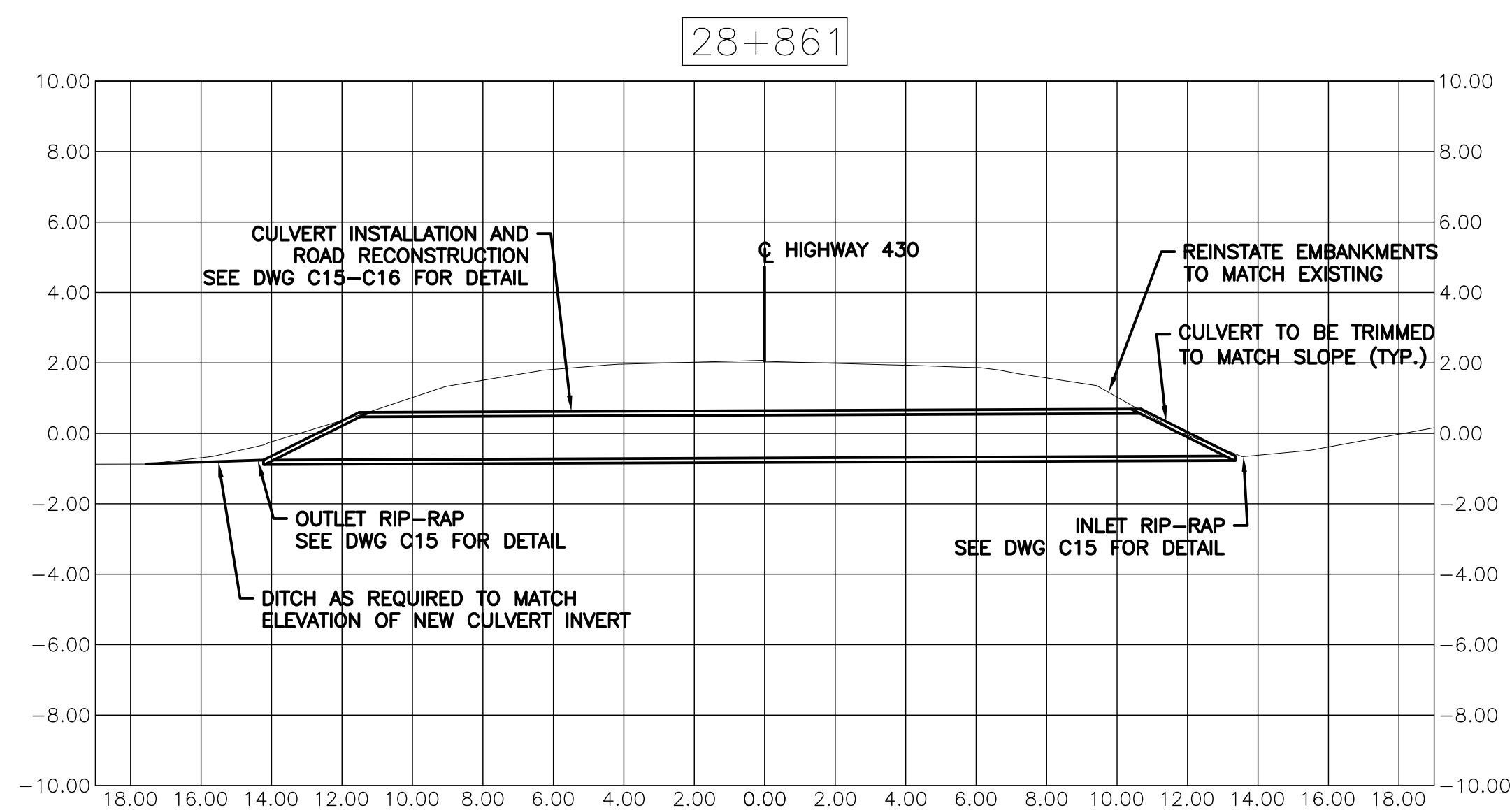
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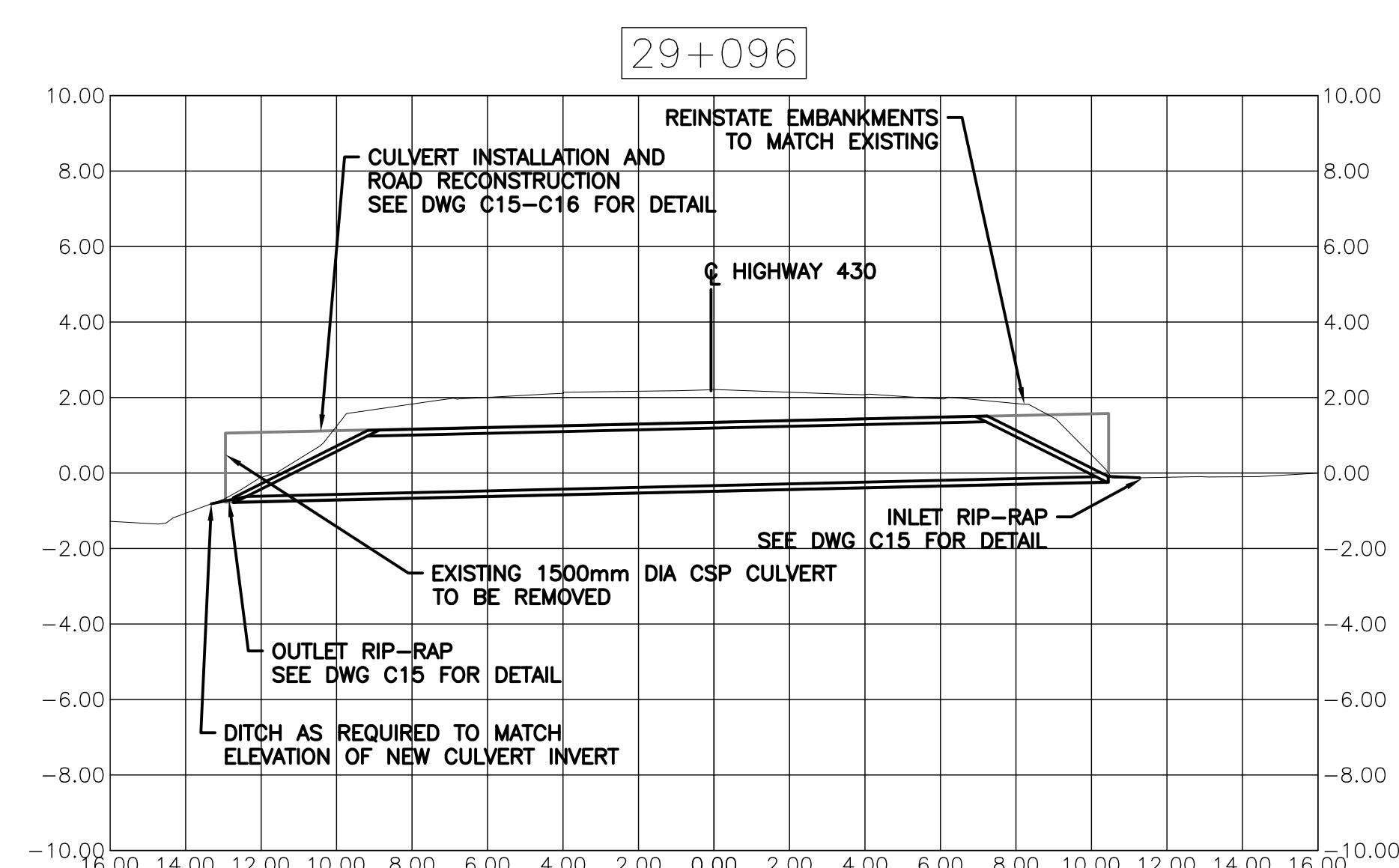
(2) NEW 1200mm DIA ALUMINIZED CSP CULVERTS STA 28+861



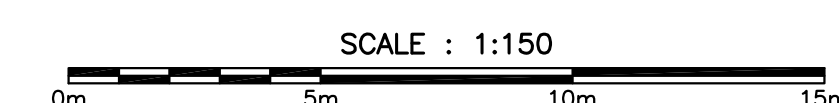
REPLACE EXISTING 1500mm DIA CSP CULVERT WITH
NEW 1500mm DIA ALUMINIZED CSP CULVERT STA 29+096



PROFILE VIEW OF 2 NEW 1200mm DIA ALUMINIZED CSP CULVERTS



PROFILE VIEW OF NEW 1500mm DIA ALUMINIZED CSP CULVERT



1	ISSUED FOR TENDER	29/01/2016
revisions		date

project

HIGHWAY 430
SEGMENT "C"
REHABILITATION

drawing

CULVERTS
PLAN AND SECTION
STA 28+859 AND
STA 29+096

designed G. FLANAGAN

date OCTOBER 23, 2015

drawn A.CALDWELL

date OCTOBER 23, 2015

approved J.BABIN

date OCTOBER 23, 2015

Tender

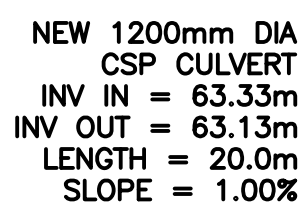
PCA Project Manager

project number

PCA NO.: 678

drawing no.

C11



SCALE : 1:150



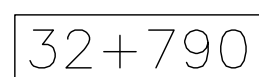
0m 5m 10m 15m




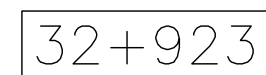
SCALE : 1:150



A horizontal scale bar with alternating black and white segments. It is marked with '0m' at the left end, '5m' at the first major tick, '10m' at the second major tick, and '15m' at the right end.



SCALE : 1:150

A horizontal scale bar with alternating black and white segments. It is marked with '0m' at the left end, '5m' at the first major tick, '10m' at the second major tick, and '15m' at the right end.

SCALE : 1:150



PROVINCE OF NEWFOUNDLAND AND LABRADOR

PEG
Newfoundland
and Labrador
Professional Engineering
Council of America

PERMIT HOLDER
This Permit Allows

CRANDALL ENGINEERING LTD.

To practice Professional Engineering
in Newfoundland and Labrador.

Permit No. as issued by PEGNL **K0243**
which is valid for the year **2016**

HIGHWAY 430
SEGMENT "C"
REHABILITATION

designed G. FLANAGAN conçu

date OCTOBER 23, 2015

drawn A.CALDWELL dessiné

date OCTOBER 23, 2015

approved J.BABIN
OCTOBER 23 2015

date OCTOBER 25, 2015
Sender [Signature] Soumission

PCA Project Manager Administrateur de projets APC

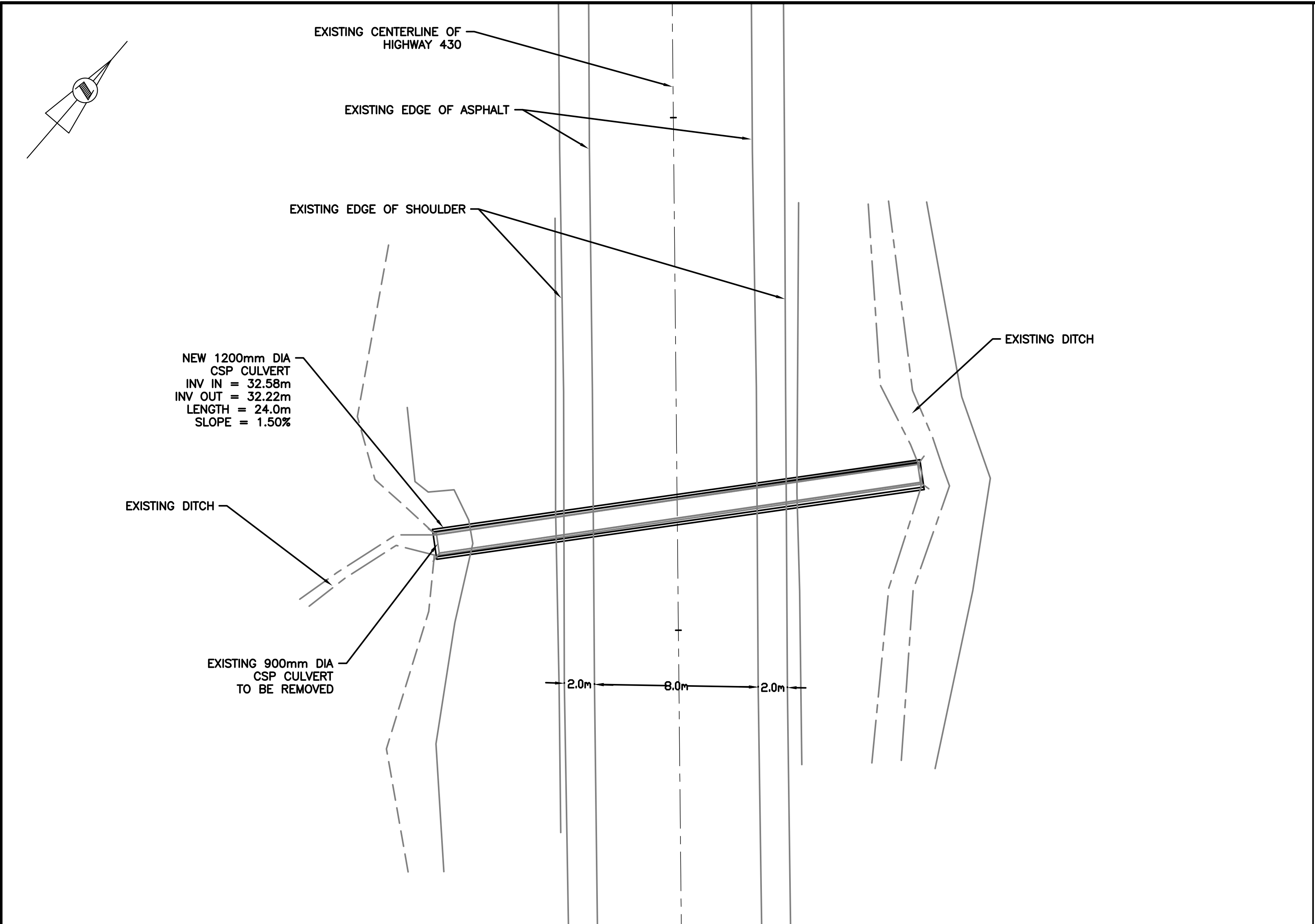
project number	no. du projet
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PCA NO.: 678

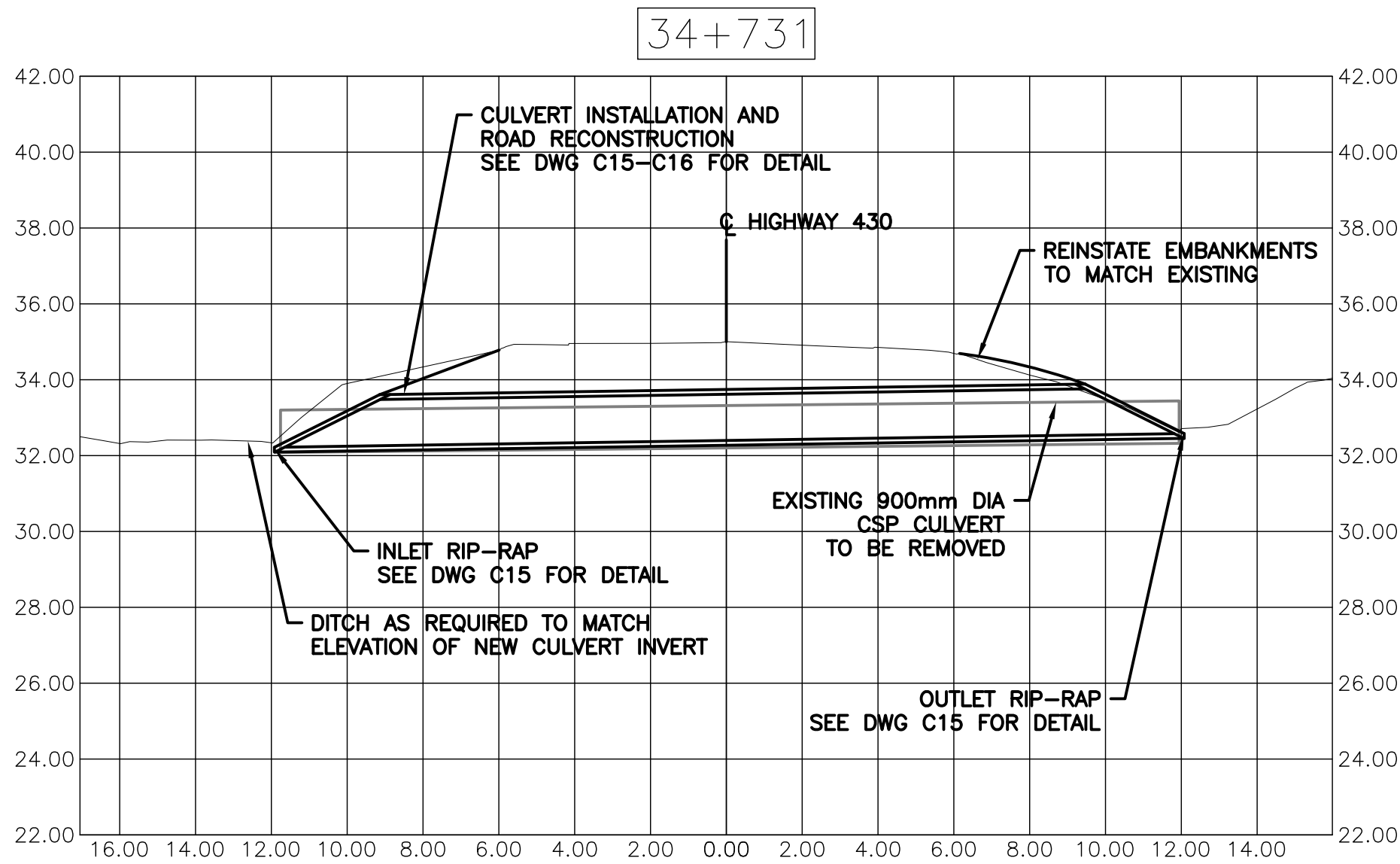
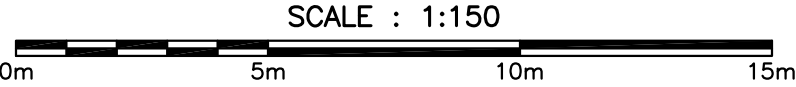
drawing no.	no. du dessin
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C13

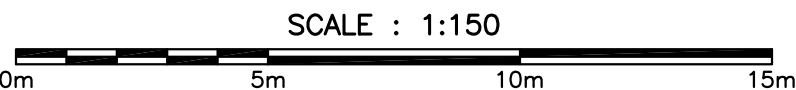
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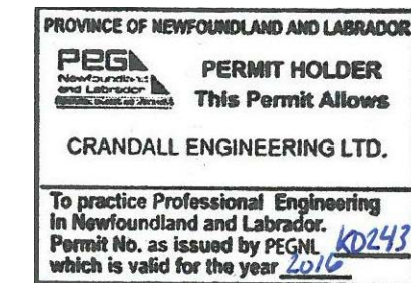
REPLACE EXISTING 900mm DIA CSP CULVERT WITH
NEW 1200mm DIA CSP CULVERT STA 34+731



PROFILE VIEW OF NEW 1200mm DIA CSP CULVERT



MONCTON 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd.
SAINT JOHN 133 Prince William Street 133 Prince William Street 133 Prince William Street
FREDERICTON 841 Papez Street 841 Papez Street 841 Papez Street
Tel: (506) 852-2277 Tel: (506) 852-2277 Tel: (506) 852-2277
CRANDALLENGINEERING.CA



1	ISSUED FOR TENDER	29/01/2016
revisions		date

project project

HIGHWAY 430
SEGMENT "C"
REHABILITATION

drawing dessin

CULVERTS
PLAN AND SECTION
STA 34+731

designed G. FLANAGAN conçu

date OCTOBER 23, 2015

drawn A.CALDWELL dessiné

date OCTOBER 23, 2015

approved J.BABIN approuvé

date OCTOBER 23, 2015

Tender Soumission

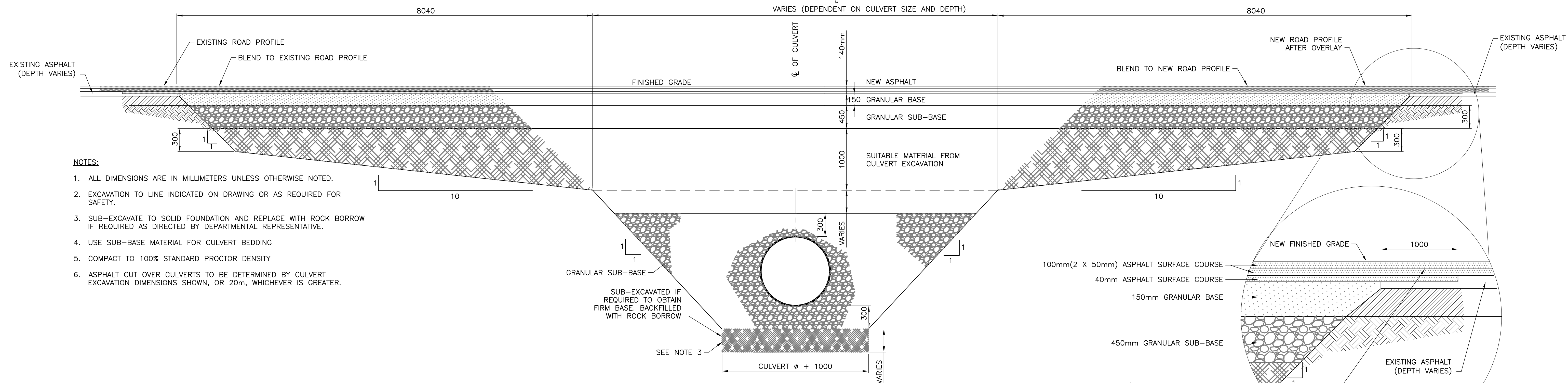
PCA Project Manager Administrateur de projets APC

project number no. du projet

PCA NO.: 678

drawing no. no. du dessin

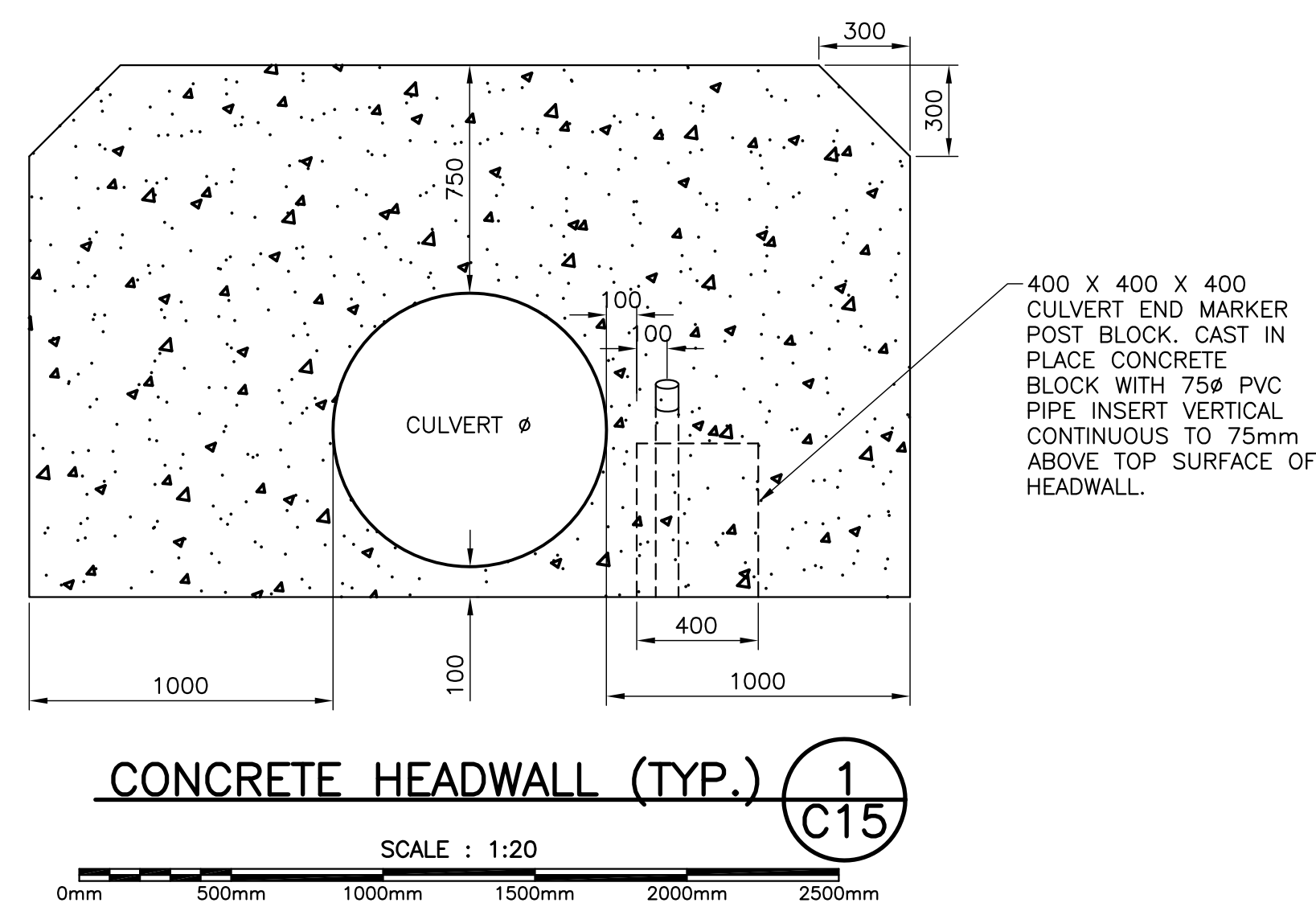
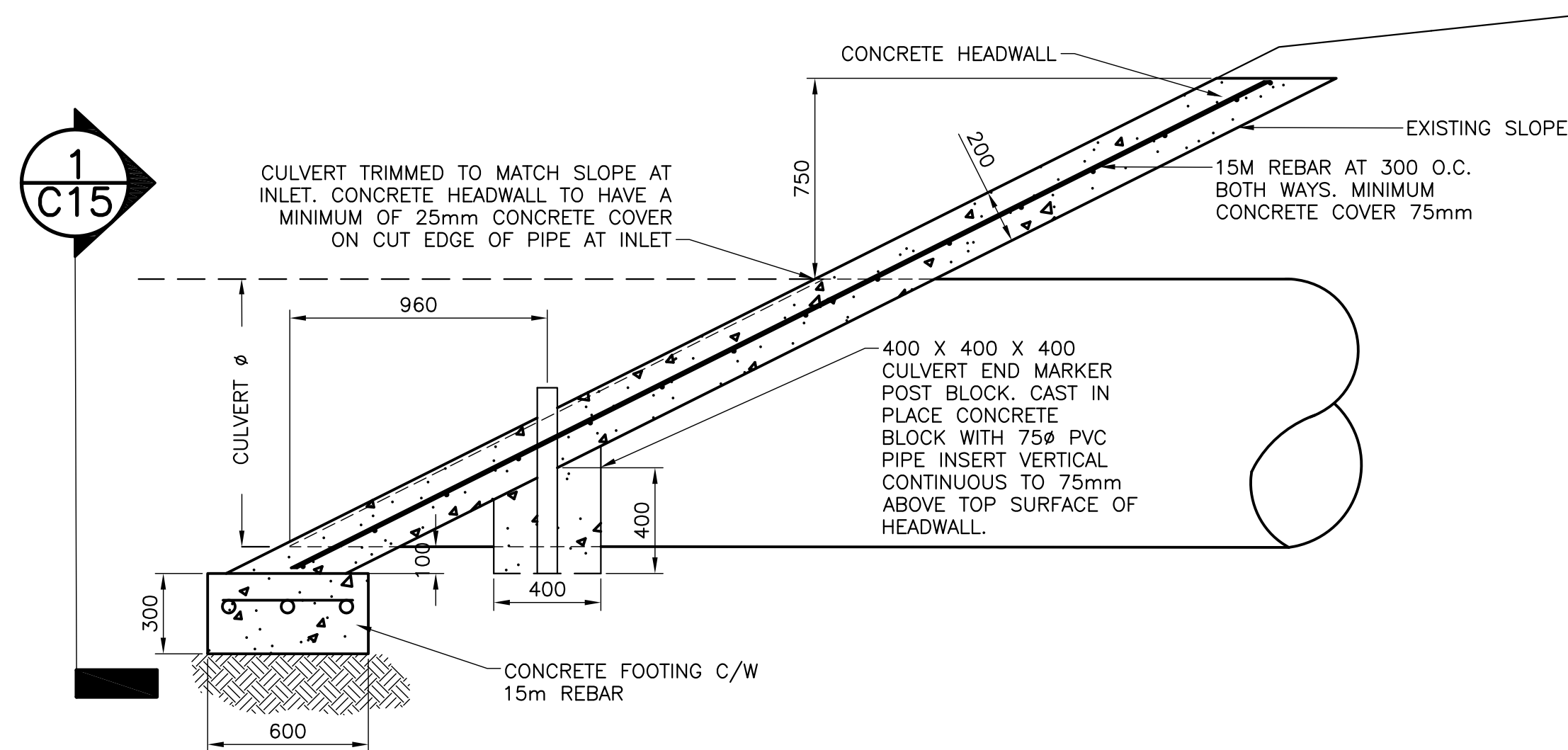
C14



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 2. EXCAVATION TO LINE INDICATED ON DRAWING OR AS REQUIRED FOR SAFETY.
 3. SUB-EXCAVATE TO SOLID FOUNDATION AND REPLACE WITH ROCK BORROW IF REQUIRED AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE.
 4. USE SUB-BASE MATERIAL FOR CULVERT BEDDING
 5. COMPACT TO 100% STANDARD PROCTOR DENSITY
 6. ASPHALT CUT OVER CULVERTS TO BE DETERMINED BY CULVERT EXCAVATION DIMENSIONS SHOWN, OR 20m, WHICHEVER IS GREATER.

TYPICAL CULVERT INSTALLATION
SCALE: N.T.S.

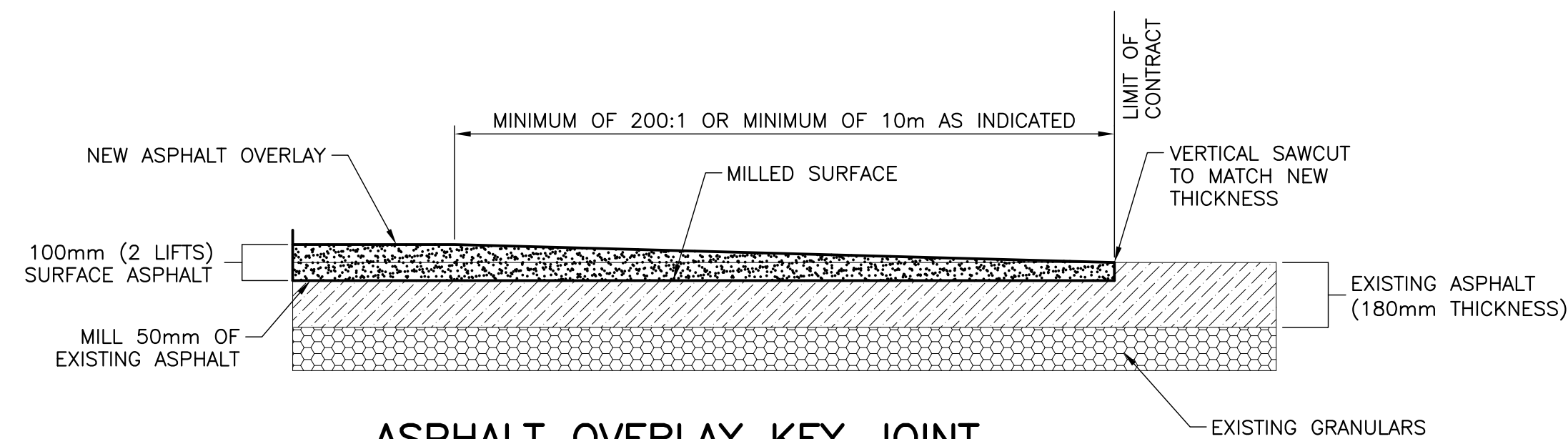
MILL 1000mm KEY WAY 50mm THICK IN AREAS OUTSIDE THE ASPHALT REHABILITATION. IN ASPHALT REHABILITATION AREA 40mm OF ASPHALT SURFACE COURSE TO THE SAME ELEVATION AS THE MILLED SURFACE OVERLAY 100mm OF ASPHALT SEAL COURSE WITH REHABILITATION OPERATIONS.



CONCRETE HEADWALL (TYP.)

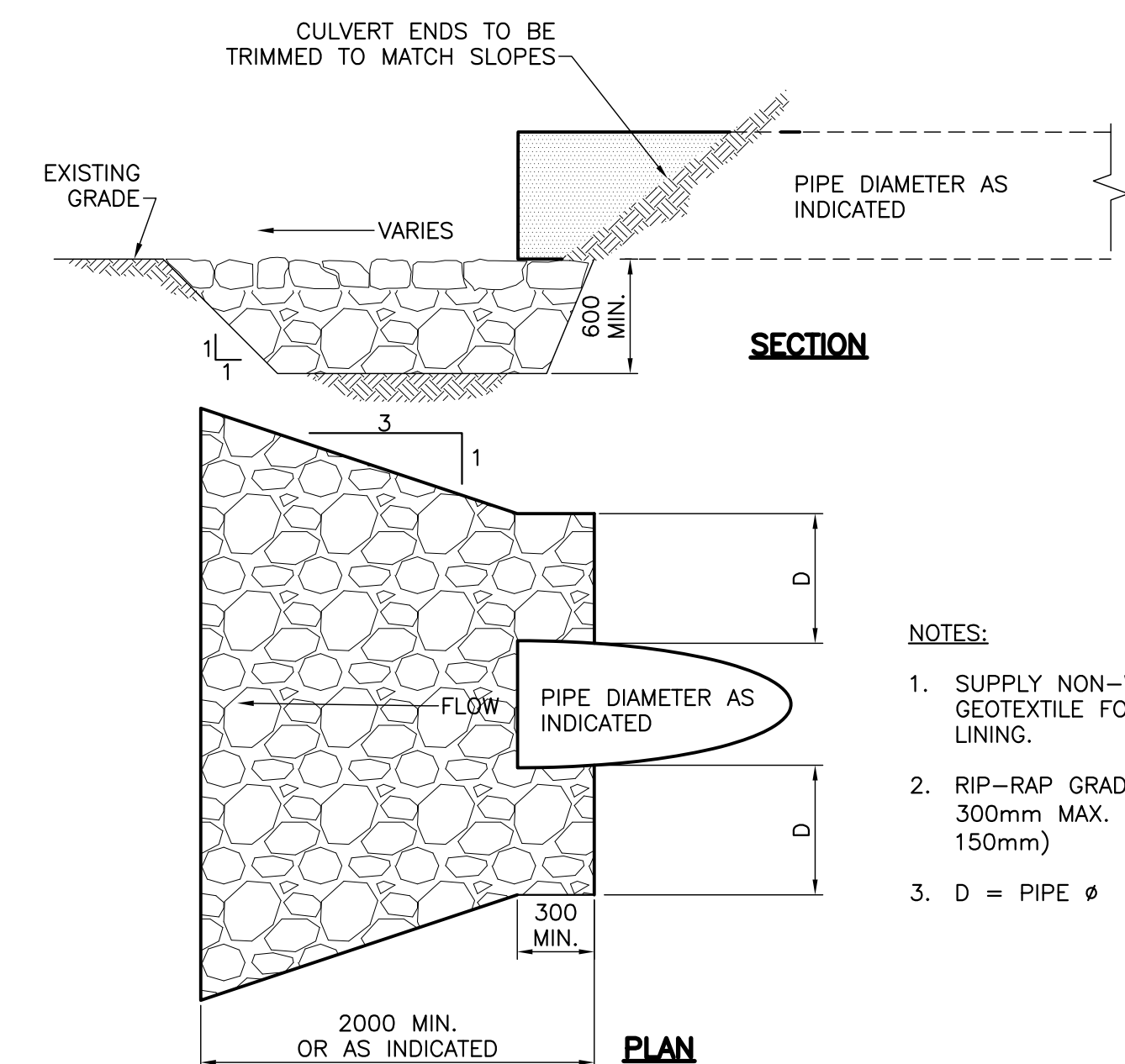
SCALE: 1:20

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



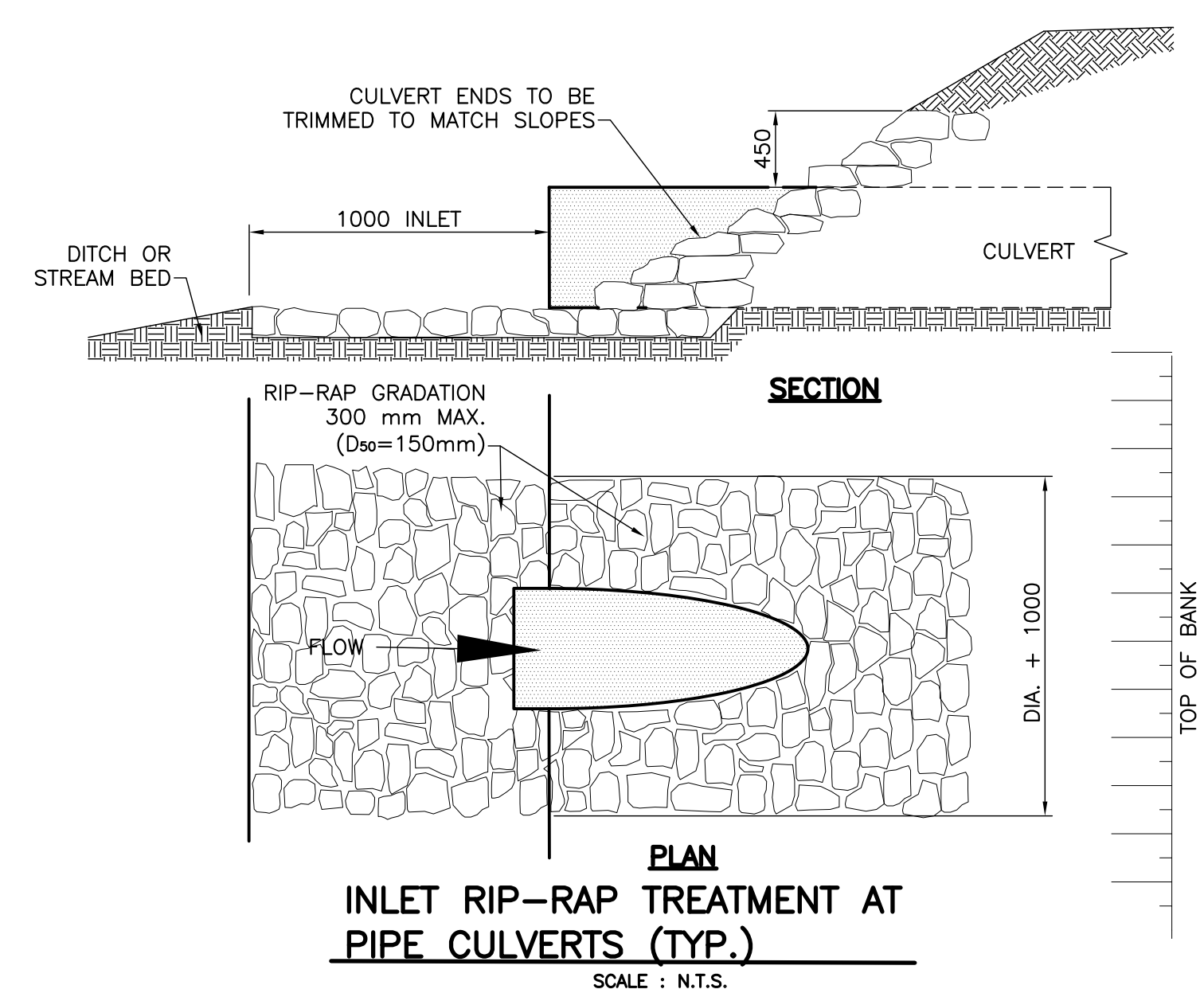
ASPHALT OVERLAY KEY JOINT

SCALE: N.T.S.



OUTLET RIP-RAP APRON AT NEW PIPE CULVERTS (TYP.)

SCALE: N.T.S.

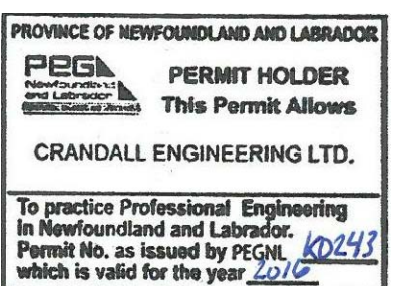


INLET RIP-RAP TREATMENT AT PIPE CULVERTS (TYP.)

SCALE: N.T.S.



MONCTON 1077 St. George Blvd. 133 Prince William Street 441-1211
 506-855-2277 506-855-2277 506-855-2277
 FREDERICTON 441-1211 441-1211 441-1211
 506-855-2277 506-855-2277 506-855-2277
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- NOTES:
1. SUPPLY NON-WOVEN GEOTEXTILE FOR APRON LINING.
 2. RIP-RAP GRADATION: 300mm MAX. (D₅₀ = 150mm)
 3. D = PIPE Ø

1	ISSUED FOR TENDER	29/01/2016
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revisions		date
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project		project
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**HIGHWAY 430
SEGMENT "C"
REHABILITATION**

drawing design

**MISCELLANEOUS DETAILS
AND CROSS SECTIONS**

designed G. FLANAGAN conçu

date OCTOBER 22, 2015

drawn A.CALDWELL dessiné

date OCTOBER 22, 2015

approved J.BABIN approuvé

date OCTOBER 22, 2015

Tender Soumission

PCA Project Manager Administrateur de projets APC

project number no. du projet

PCA NO.: 678

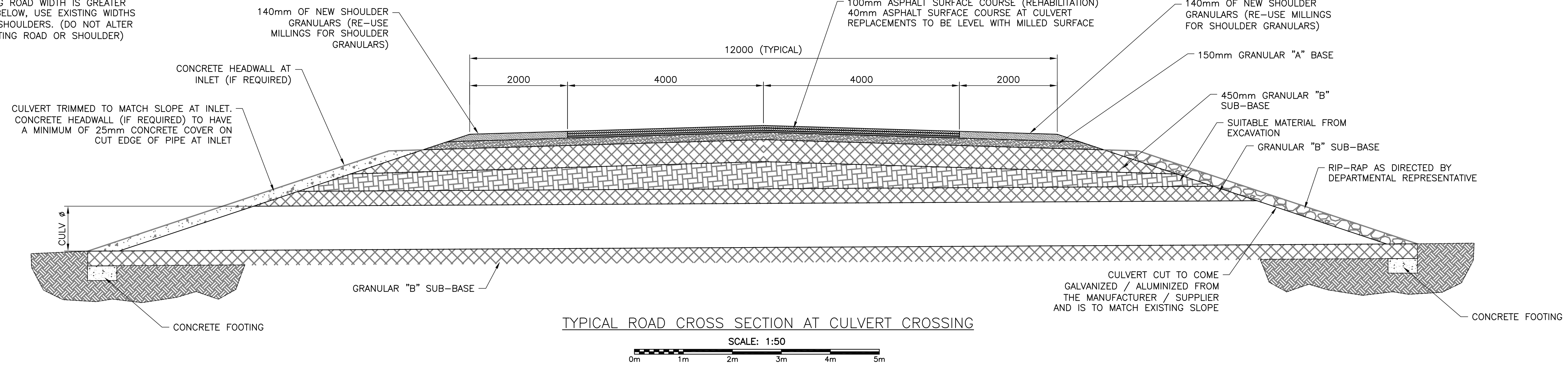
drawing no. no. du dessin

C15



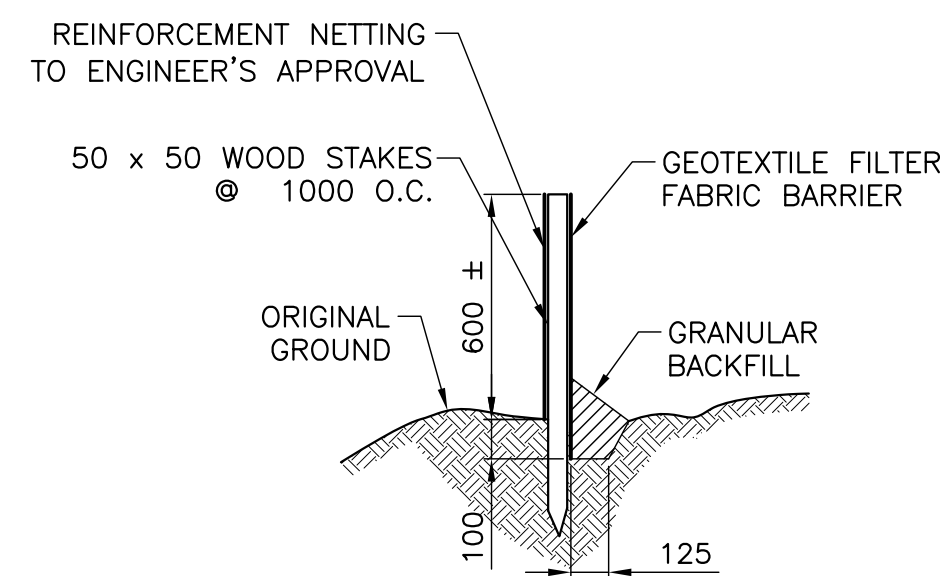
MONCTON 1077 St. George Blvd. SAINT JOHN 133 Prince William Street FREDERICTON 841 Progress Street
 2000 903-2277 2000 903-2277 2000 903-2277
 Fax: (506) 903-2277 Fax: (506) 903-2277 Fax: (506) 903-2277
 CRANDALLENGINEERING.CA

NOTE:
 WHERE EXISTING ROAD WIDTH IS GREATER
 THAN SHOWN BELOW, USE EXISTING WIDTHS
 FOR FINISHED SHOULDERS. (DO NOT ALTER
 WIDTH OF EXISTING ROAD OR SHOULDER)



TYPICAL ROAD CROSS SECTION AT CULVERT CROSSING

SCALE: 1:50
 0m 1m 2m 3m 4m 5m

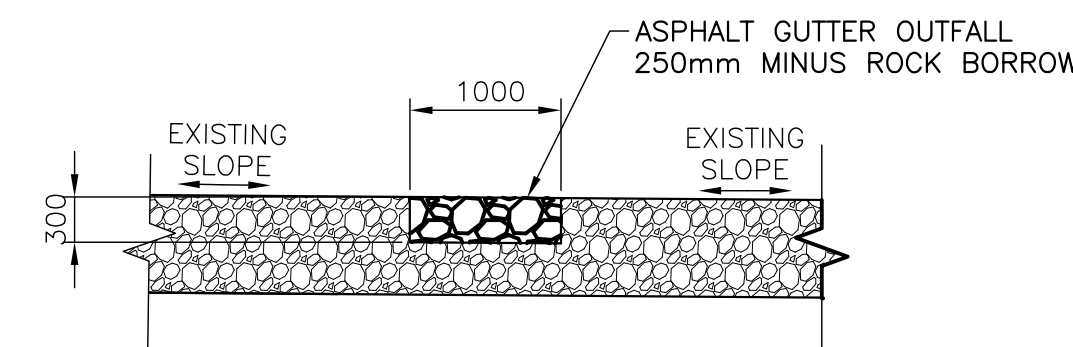
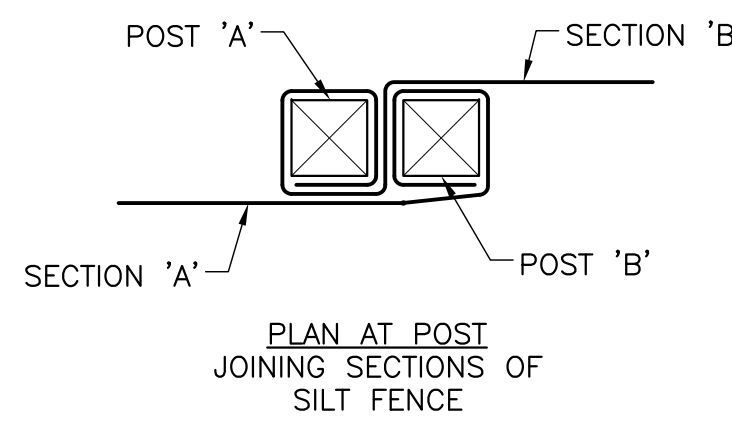
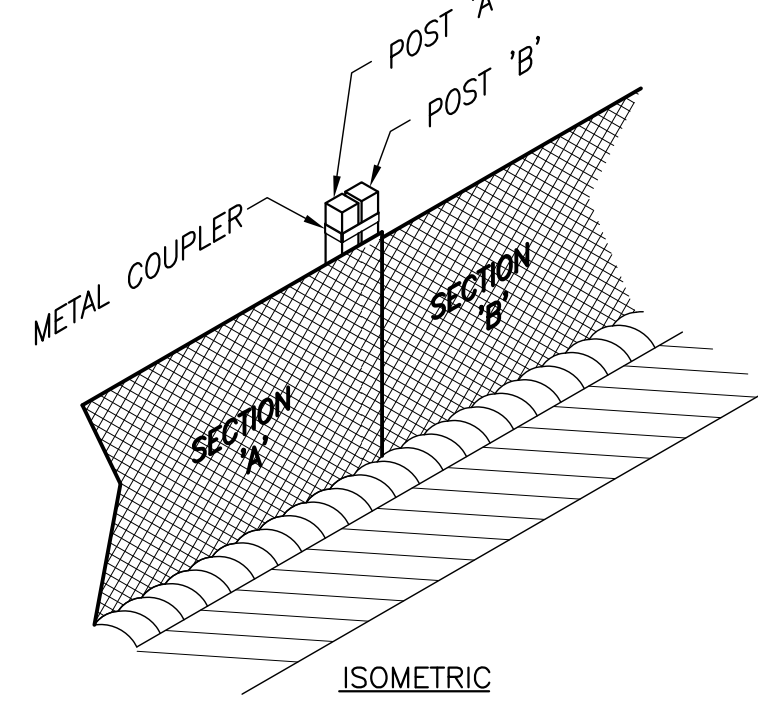


SILT FENCE INSTALLATION

- EXCAVATE 150 x 150 TRENCH WHERE INDICATED.
- UNROLL SILT FENCE ONE SECTION AT A TIME AND POSITION POSTS AGAINST THE DOWNSTREAM WALL OF THE TRENCH. REINFORCEMENT NETTING MUST BE ON THE DOWNSTREAM SIDE OF FLOW DIRECTION.
- DRIVE POST INTO THE GROUND UNTIL THE REINFORCEMENT NETTING IS APPROXIMATELY 50mm FROM THE TRENCH BOTTOM.
- LAY THE TOE-IN FLAP OF THER FABRIC IN THE BOTTOM OF THE TRENCH. BACKFILL THE TRENCH AND TAMP THE SOIL.
- JOIN SILT FENCE SECTIONS AS SHOWN ABOVE.

SILT FENCE INSTALLATION (TYP.)

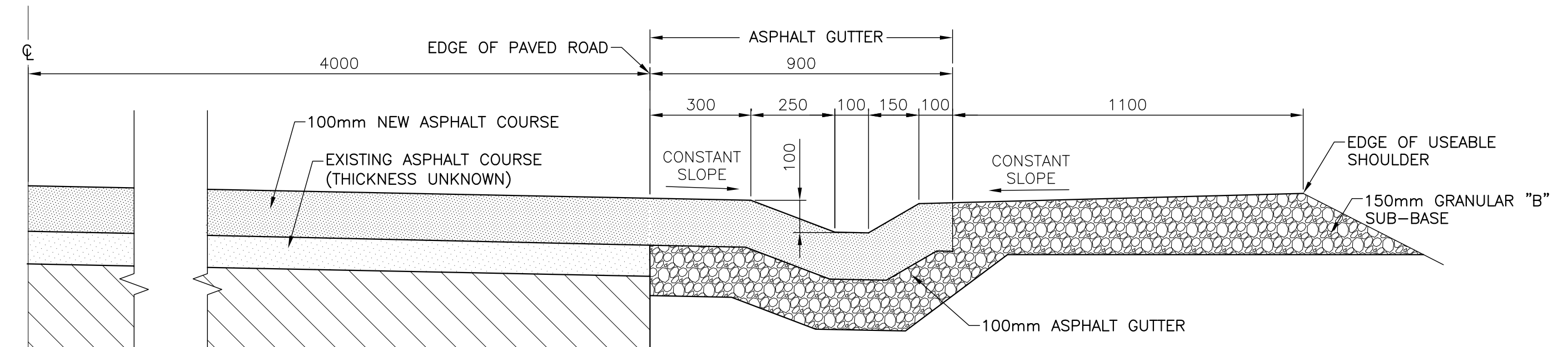
SCALE : N.T.S.



ASPHALT GUTTER OUTFALL

SCALE : N.T.S.

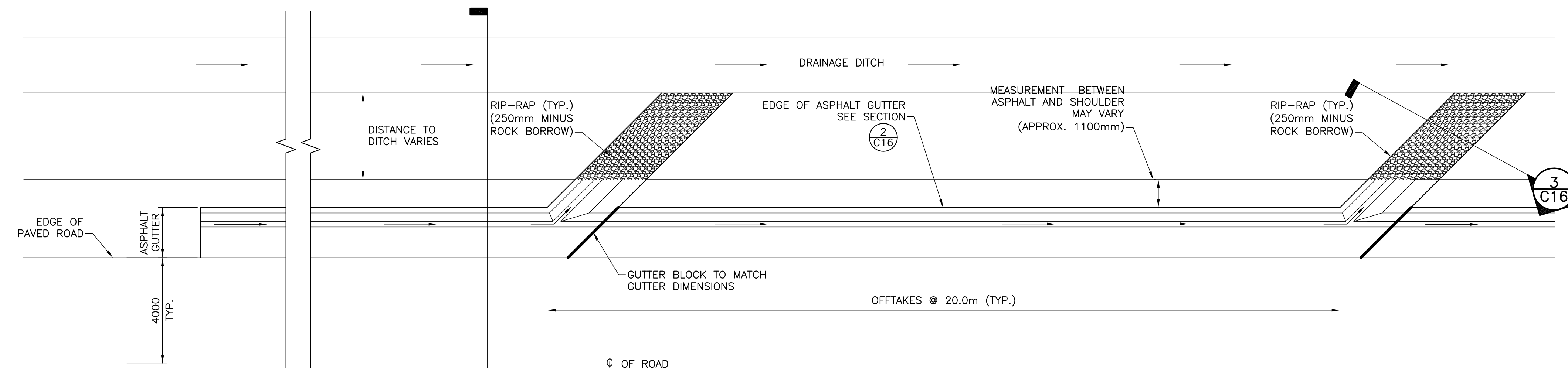
3
C16



NEW ASPHALT GUTTER SECTION

SCALE : N.T.S.

2
C16



TYPICAL ASPHALT GUTTER AND OUTFALL LAYOUT

SCALE : N.T.S.

2
C16



1	ISSUED FOR TENDER	29/01/2016
revisions		date

project

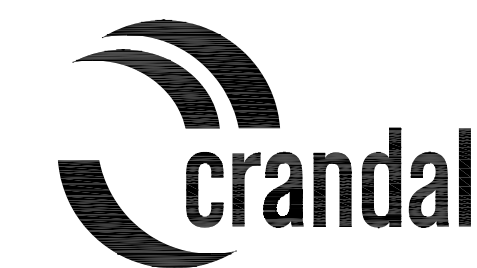
HIGHWAY 430
 SEGMENT "C"
 REHABILITATION

drawing

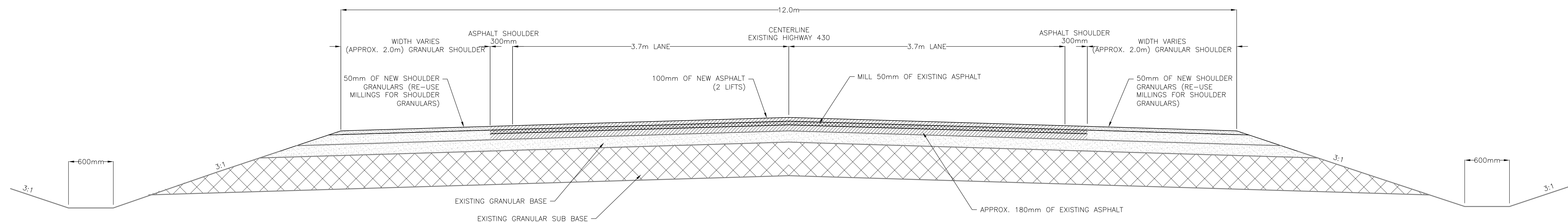
MISCELLANEOUS DETAILS
 AND CROSS SECTIONS

designed G. FLANAGAN	conçu
date OCTOBER 22, 2015	
drawn A.CALDWELL	dessiné
date OCTOBER 22, 2015	
approved J.BABIN	approuvé
date OCTOBER 22, 2015	
Tender	Soumission
PCA Project Manager	Administrateur de projets APC
project number	no. du projet
PCA NO.: 678	
drawing no.	no. du dessin

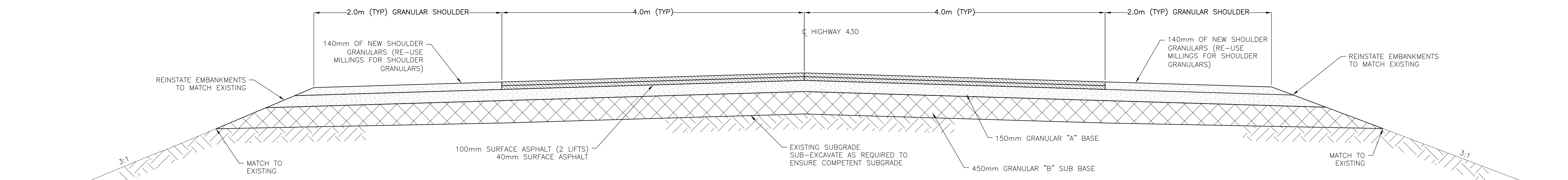
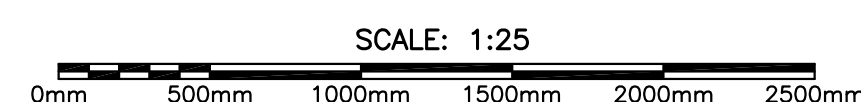
C16



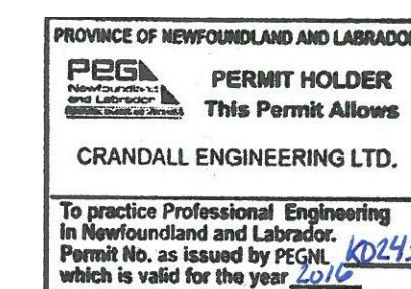
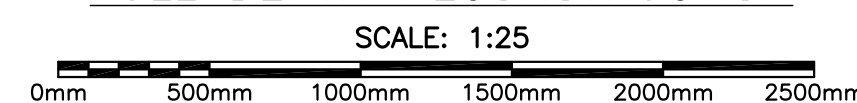
MONCTON 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd.
SAINT JOHN 133 Prince William Street 133 Prince William Street 133 Prince William Street
FREDERICTON 844 Rupert Street 844 Rupert Street 844 Rupert Street
Tel: (506) 853-2277 Tel: (506) 853-2277 Tel: (506) 853-2277
Fax: (506) 853-2283 Fax: (506) 853-2283 Fax: (506) 853-2283
CRANDALLEENGINEERING.CA



TYPICAL ROAD CROSS SECTION FOR
HIGHWAY 430 ASPHALT REHABILITATION



TYPICAL ROAD CROSS SECTION FOR AREAS DESIGNATED FOR
FULL DEPTH RECONSTRUCTION



1	ISSUED FOR TENDER	29/01/2016
revisions		date

project project

HIGHWAY 430 SEGMENT "C" REHABILITATION

drawing dessin

TYPICAL ROAD CROSS SECTIONS

designed G. FLANAGAN conçu

date OCTOBER 22, 2015

drawn A.CALDWELL dessiné

date OCTOBER 22, 2015

approved J.BABIN approuvé

date OCTOBER 22, 2015

Tender Soumission

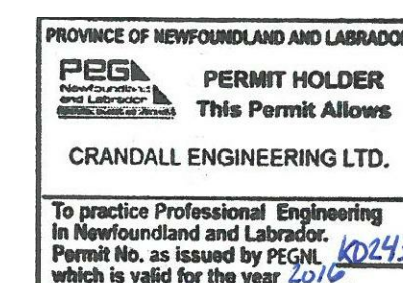
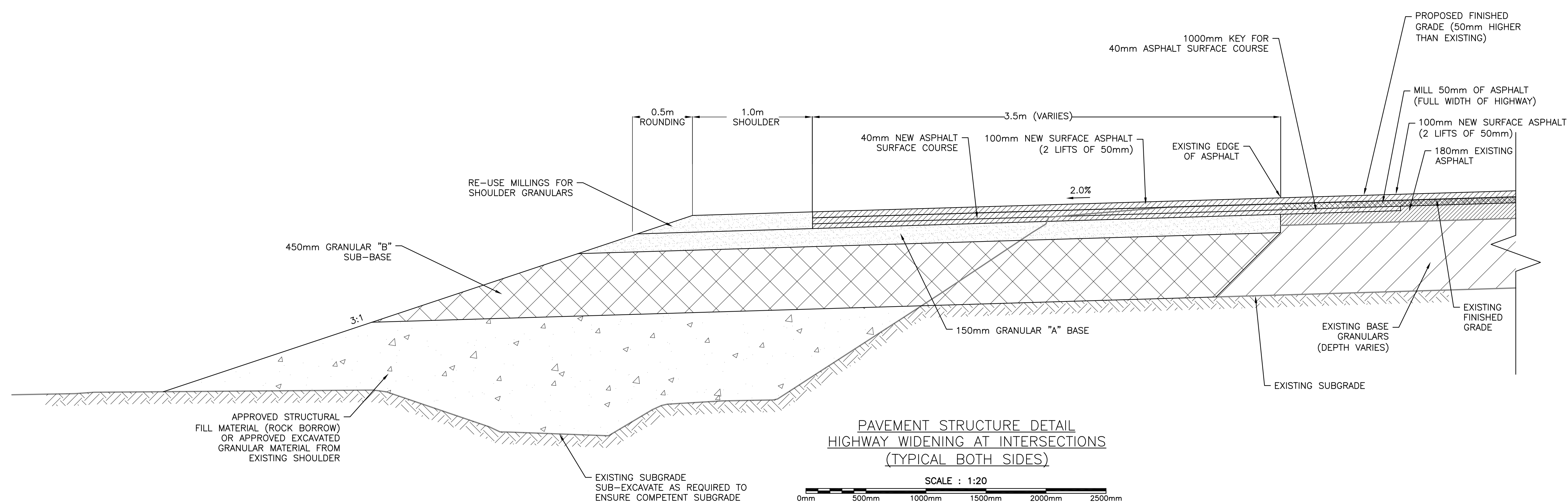
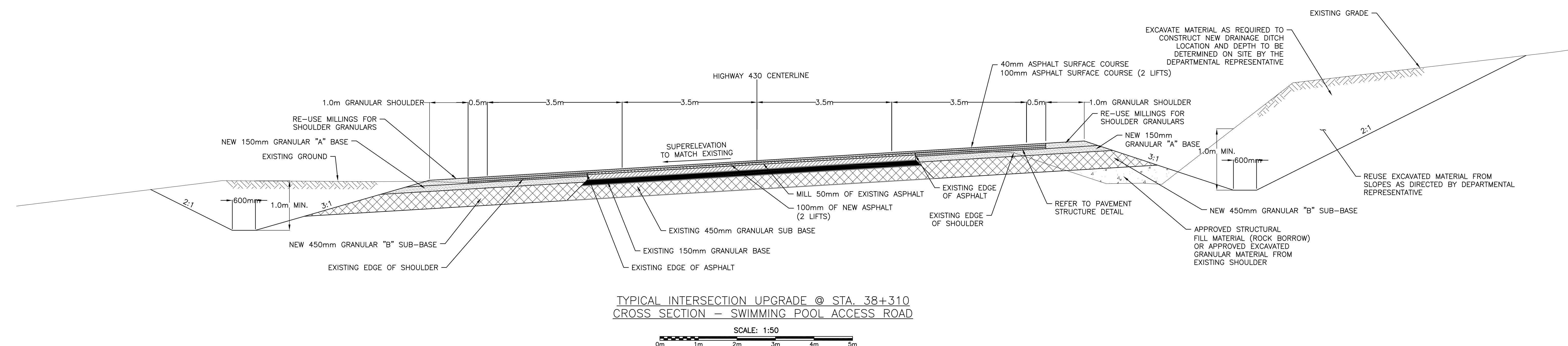
PCA Project Manager Administrateur de projets APC

project number no. du projet

PCA NO.: 678

drawing no. no. du dessin

C17

[illegible]

1	ISSUED FOR TENDER	29/01/2016
revisions		date

HIGHWAY 430
SEGMENT "C"
REHABILITATION

TYPICAL INTERSECTION CROSS SECTIONS

designed	G. FLANAGAN	cong
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date OCTOBER 22, 2015

drawn A.CALDWELL

date OCTOBER 22, 2015

approved J.BABIN

date OCTOBER 22, 2015

Tender  Soumission

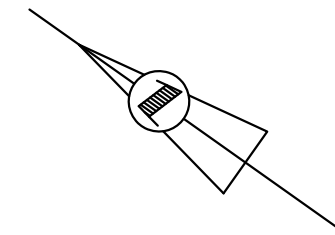
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BOA-110-0370	

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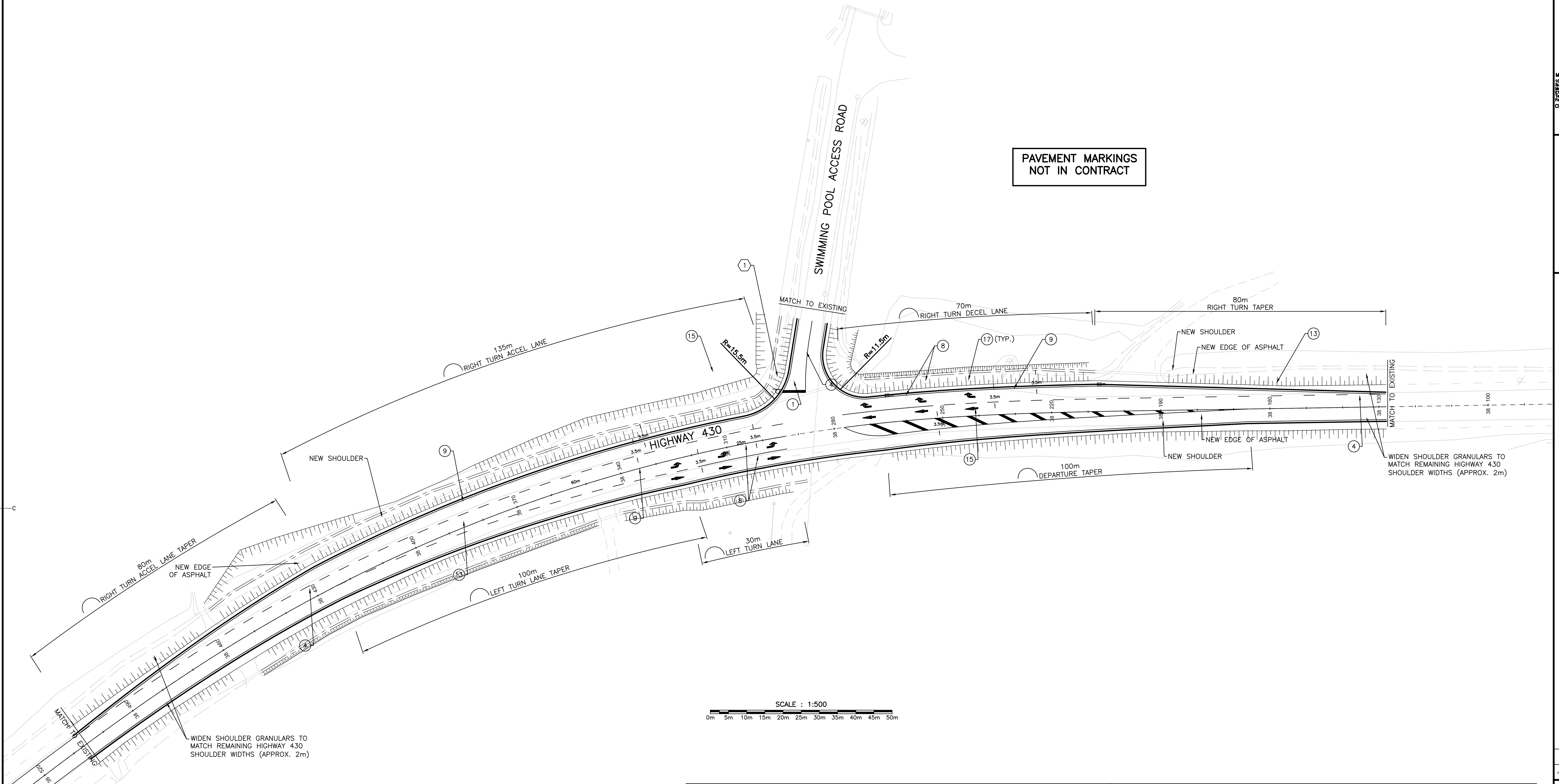
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C18

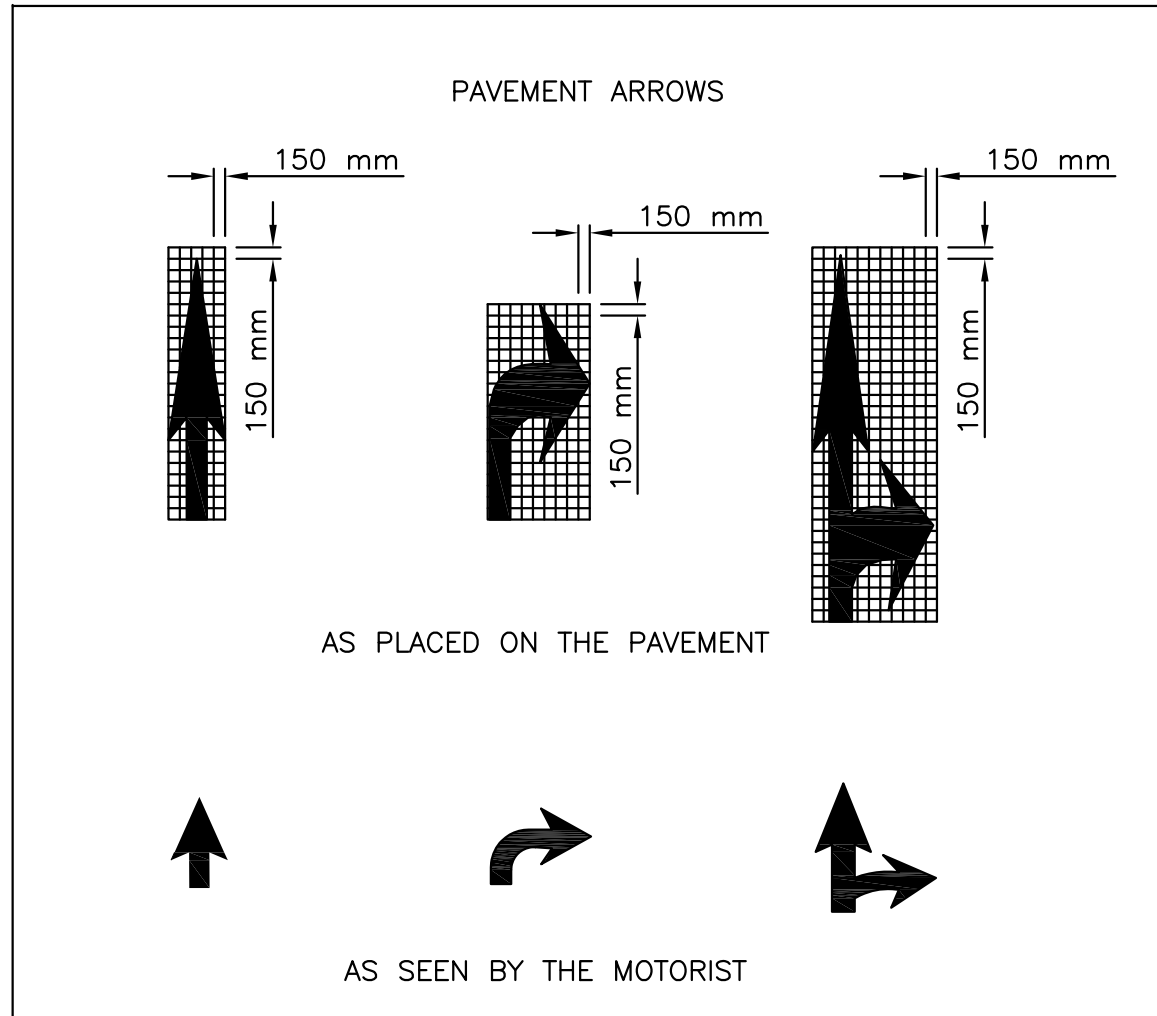


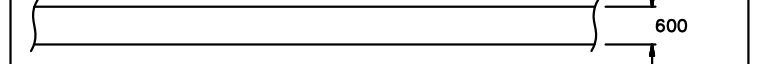

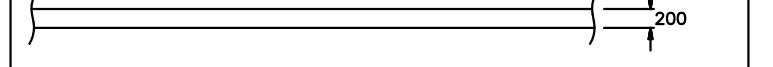
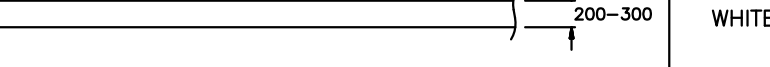
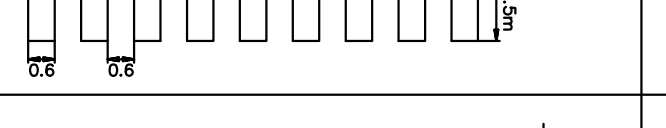
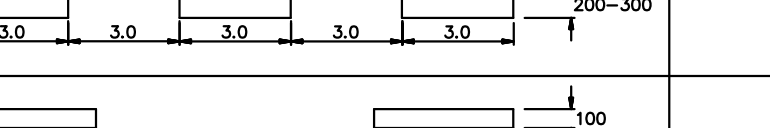
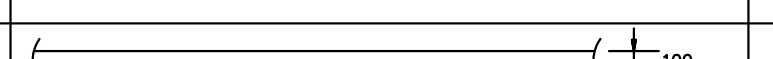
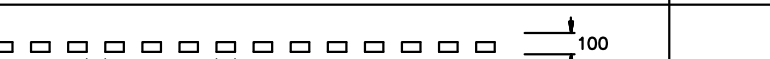
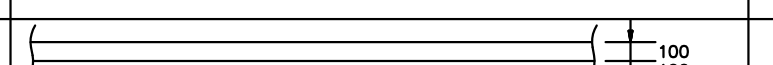
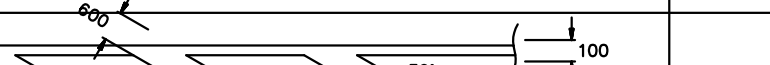
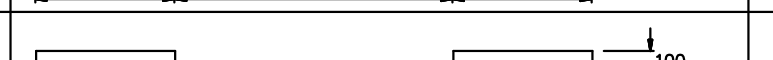
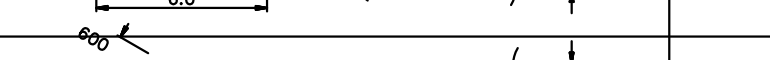
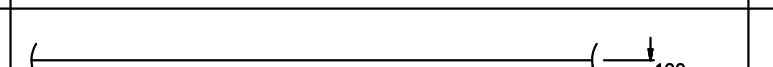
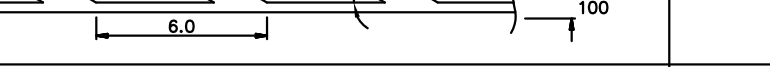

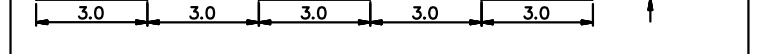
MONCTON 1077 Saint-Jacques Blvd. Saint-John 133 Prince William Street Fredericton 504 Prospect Street
New Brunswick, Canada A1B 4X2 New Brunswick, Canada A1B 4X2 New Brunswick, Canada A1B 4X2
Tel: (506) 857-4777 Tel: (506) 857-4777 Tel: (506) 857-4777
Fax: (506) 857-4777 Fax: (506) 857-4777 Fax: (506) 857-4777
CRANDALLENGINEERING.CA

PAVEMENT MARKINGS
NOT IN CONTRACT



SIGNAGE SCHEDULE				
	SIGN	NAME	MUTCD CODE	SIZE
①		STOP SIGN	RA-1	600mm x 600mm
②		YIELD SIGN	RA-2	750mm SIDES
③		DO NOT ENTER	RB-23	600mm x 600mm
④		MERGE	WA-35R	600mm x 600mm



LONGITUDINAL AND TRANSVERSE PAVEMENT MARKINGS					LONGITUDINAL AND TRANSVERSE PAVEMENT MARKINGS (CONT'D)						
	NAME	LENGTH DIMENSIONS (m)	WIDTH DIMENSIONS (mm)	COLOR	USE		NAME	LENGTH DIMENSIONS (m)	WIDTH DIMENSIONS (mm)	COLOR	USE
①	STOP BAR		600	WHITE	INTERSECTION STOP LINES	⑩	LANE EDGE AND BIKE LANE LINE, DASHED		100	WHITE	CONTINUITY LINES IN MERGING AND DIVERGING AREAS, BIKE LANE DISCONTINUATION
②	CROSSWALK LINE		200	WHITE	CROSSWALKS	⑪	LANE EDGE LINE, WIDE		200-300	WHITE / YELLOW	EDGE LINES IN CRITICAL AREAS, (WHITE ON THE RIGHT, YELLOW ON THE LEFT)
③	ZEBRA CROSSWALK LINE		150	WHITE	ZEBRA CROSSWALKS	⑫	LANE EDGE LINE WIDE, DASHED		200-300	WHITE	CONTINUITY LINES IN MERGING AND DIVERGING AREAS, SPECIAL FUNCTION LANE LINES
④	SINGLE CENTRELINE		100	YELLOW	DIRECTIONAL DIVIDING LINES	⑬	LANE EDGE LINE, BROKEN		100	WHITE	CONTINUITY LINES (THRU LANES)
⑤	DOUBLE CENTRELINE		100	YELLOW	DIRECTIONAL DIVIDING LINES	⑭	GUIDING LINE		100	WHITE / YELLOW	GUIDING LINES (YELLOW - EXTENSION OF DIRECTIONAL DIVIDING LINE) (WHITE - EXTENSION OF LANE LINE)
⑥	DOUBLE + BROKEN CENTRELINE		100	YELLOW	DIRECTIONAL DIVIDING LINES ALLOWING PASSING IN ONE DIRECTION	⑮	HATCH		100	YELLOW	AREAS BETWEEN DIRECTIONAL DIVIDING LINES
⑦	BROKEN CENTRELINE		100	YELLOW	DIRECTIONAL DIVIDING LINES ALLOWING PASSING IN BOTH DIRECTIONS	⑯	HATCH		100	WHITE	AREAS BETWEEN LANES OR OBSTRUCTIONS IN ONE DIRECTION OF TRAVEL
⑧	LANE EDGE AND BIKE LANE LINE		100	WHITE	LANE EDGE LINES, LINES PROHIBITING LANE CHANGES						
⑨	LANE EDGE LINE, DASHED		100	WHITE	CONTINUITY LINES IN MERGING AND DIVERGING AREAS, SPECIAL FUNCTION LANE LINES	⑰	ARROW	SEE ARROW DETAIL		WHITE	PERMITTED DIRECTION OF TRAVEL



1	ISSUED FOR TENDER	29/01/2016
revisions		date

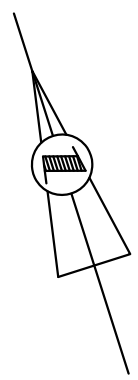
project project

HIGHWAY 430
SEGMENT "C"
REHABILITATION

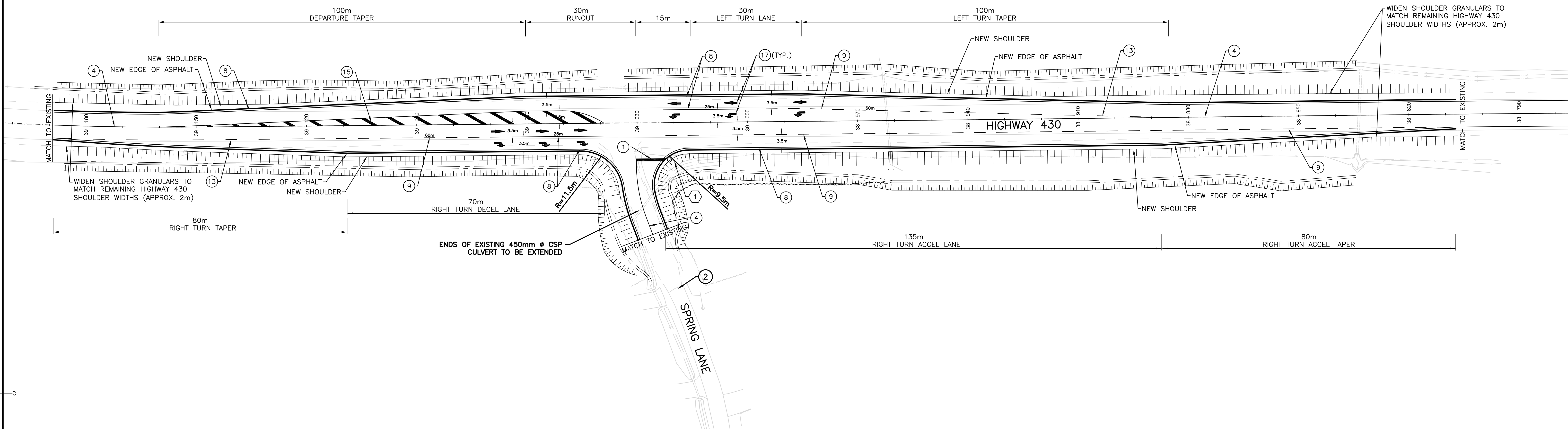
drawing dessin

PROPOSED
"T" - INTERSECTION
UPGRADES
POOL ACCESS ROAD

designed	P. ALLABY	conçu
date	OCTOBER 23, 2015	
drawn	G. BUOTE	dessiné
date	NOVEMBER 6, 2015	
approved	G. FLANAGAN	approuvé
date	NOVEMBER 6, 2015	
tender		Soumission
PCA Project Manager	Administrateur de projets APC	
project number	PCA NO.: 678	no. du projet
drawing no.	C19	no. du dessin

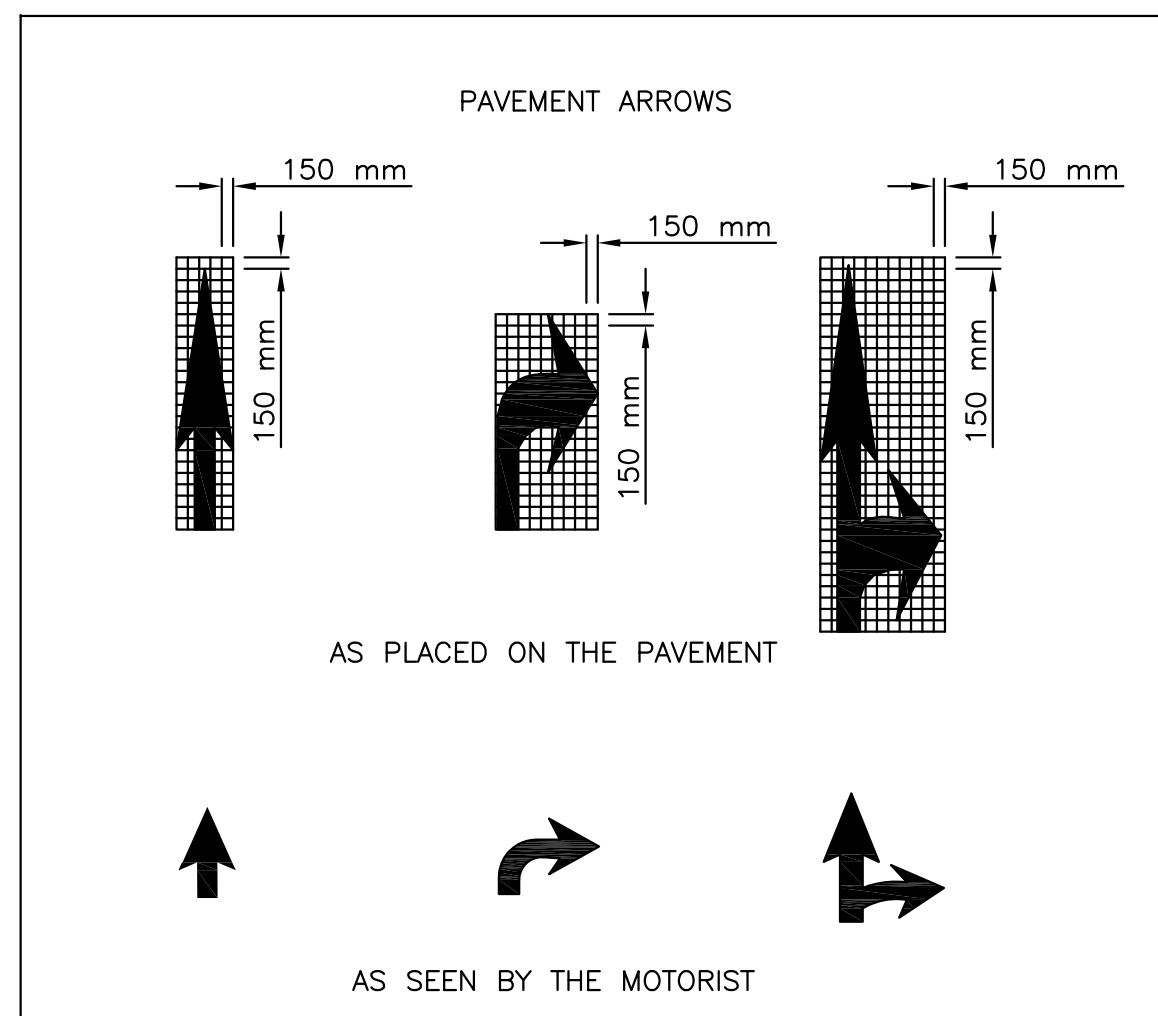


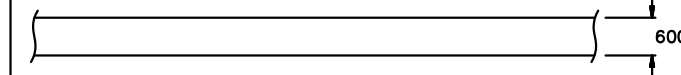
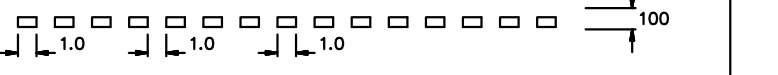
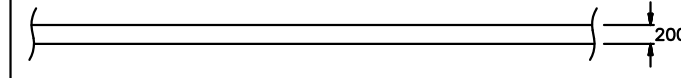
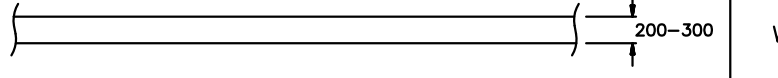

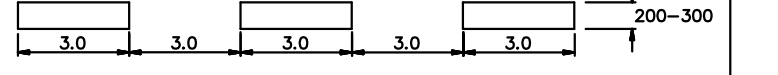
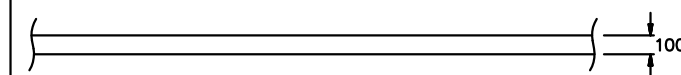
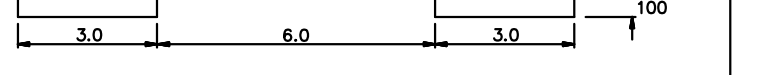
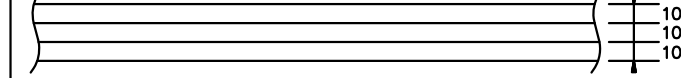

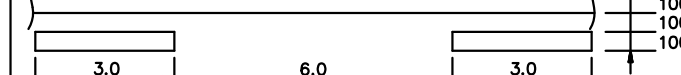
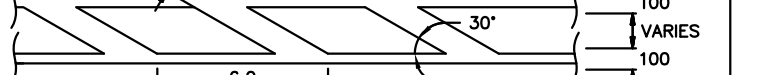
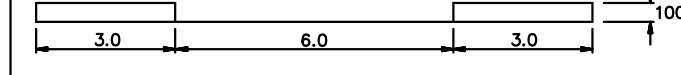

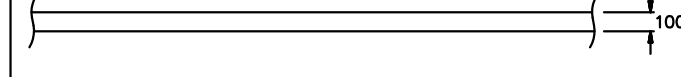
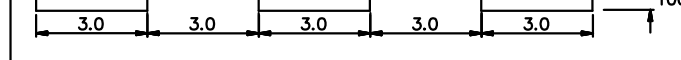
PAVEMENT MARKINGS
NOT IN CONTRACT



SCALE : 1:500
0m 5m 10m 15m 20m 25m 30m 35m 40m 45m 50m

SIGNAGE SCHEDULE				
	SIGN	NAME	MUTCD CODE	SIZE
①		STOP SIGN	RA-1	600mm x 600mm
②		YIELD SIGN	RA-2	750mm SIDES
③		DO NOT ENTER	RB-23	600mm x 600mm
④		MERGE	WA-35R	600mm x 600mm



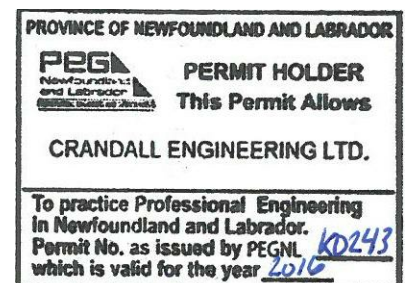
LONGITUDINAL AND TRANSVERSE PAVEMENT MARKINGS					LONGITUDINAL AND TRANSVERSE PAVEMENT MARKINGS (CONT'D)						
	NAME	LENGTH DIMENSIONS (m)	WIDTH DIMENSIONS (mm)	COLOUR	USE		NAME	LENGTH DIMENSIONS (m)	WIDTH DIMENSIONS (mm)	COLOUR	USE
①	STOP BAR		400	WHITE	INTERSECTION STOP LINES	⑩	LANE EDGE AND BIKE LANE LINE, DASHED		100	WHITE	CONTINUITY LINES IN MERGING AND DIVerging AREAS, BIKE LANE DISCONTINUITY
②	CROSSWALK LINE		200	WHITE	CROSSWALKS	⑪	LANE EDGE LINE, WIDE		200-300	WHITE / YELLOW	EDGE LINES IN CRITICAL AREAS, (WHITE ON THE RIGHT, YELLOW ON THE LEFT)
③	ZEBRA CROSSWALK LINE		150	WHITE	ZEBRA CROSSWALKS	⑫	LANE EDGE LINE WIDE, DASHED		200-300	WHITE	CONTINUITY LINES IN MERGING AND DIVerging AREAS, SPECIAL FUNCTION LANE LINES
④	SINGLE CENTRELINE		100	YELLOW	DIRECTIONAL DIVIDING LINES	⑬	LANE EDGE LINE, BROKEN		100	WHITE	CONTINUITY LINES (THRU LANES)
⑤	DOUBLE CENTRELINE		100	YELLOW	DIRECTIONAL DIVIDING LINES	⑭	GUIDING LINE		100	WHITE / YELLOW	GUIDING LINES (YELLOW - EXTENSION OF DIRECTIONAL DIVIDING LINE) (WHITE - EXTENSION OF LANE LINE)
⑥	DOUBLE + BROKEN CENTRELINE		100	YELLOW	DIRECTIONAL DIVIDING LINES ALLOWING PASSING IN ONE DIRECTION	⑮	HATCH		100	YELLOW	AREAS BETWEEN DIRECTIONAL DIVIDING LINES
⑦	BROKEN CENTRELINE		100	YELLOW	DIRECTIONAL DIVIDING LINES ALLOWING PASSING IN BOTH DIRECTIONS	⑯	HATCH		100	WHITE	AREAS BETWEEN LANES OR OBSTRUCTIONS IN ONE DIRECTION OF TRAVEL
⑧	LANE EDGE AND BIKE LANE LINE		100	WHITE	LANE EDGE LINES, LINES PROHIBITING LANE CHANGES	⑰	ARROW	SEE ARROW DETAIL		WHITE	PERMITTED DIRECTION OF TRAVEL
⑨	LANE EDGE LINE, DASHED		100	WHITE	CONTINUITY LINES IN MERGING AND DIVerging AREAS, SPECIAL FUNCTION LANE LINES						



MONCTON
1077 Saint-Jacques Blvd.
Moncton, N.B. Canada
E1A 4G5
Tel: (506) 857-4777
Fax: (506) 857-5765
CRANDALLENGINEERING.CA

SAINT JOHN
133 Prince William Street
Saint John, N.B. Canada
E1A 4G5
Tel: (506) 857-4777
Fax: (506) 857-5765

FREDERICTON
564 Prospect Street
Fredericton, N.B. Canada
E1A 4G5
Tel: (506) 857-4777
Fax: (506) 857-5765



1	ISSUED FOR TENDER	29/01/2016
revisions		date

project project

HIGHWAY 430
SEGMENT "C"
REHABILITATION

drawing dessin

PROPOSED
"T" - INTERSECTION
UPGRADES
SPRING LANE

designed	P. ALLABY	conçu
date	OCTOBER 23, 2015	
drawn	G. BUOTE	dessiné
date	NOVEMBER 6, 2015	
approved	G. FLANAGAN	approuvé
date	NOVEMBER 6, 2015	
Tender		Soumission
PCA Project Manager	Administrateur de projets APC	
project number	PCA NO.: 678	no. du projet
drawing no.	C20	no. du dessin