



Parcs  
Canada

Parks  
Canada

# HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION GROS MORNE NATIONAL PARK ROCKY HARBOUR, NL

## DRAWING LIST

### CIVIL / SEGMENT B AND D REHABILITATION

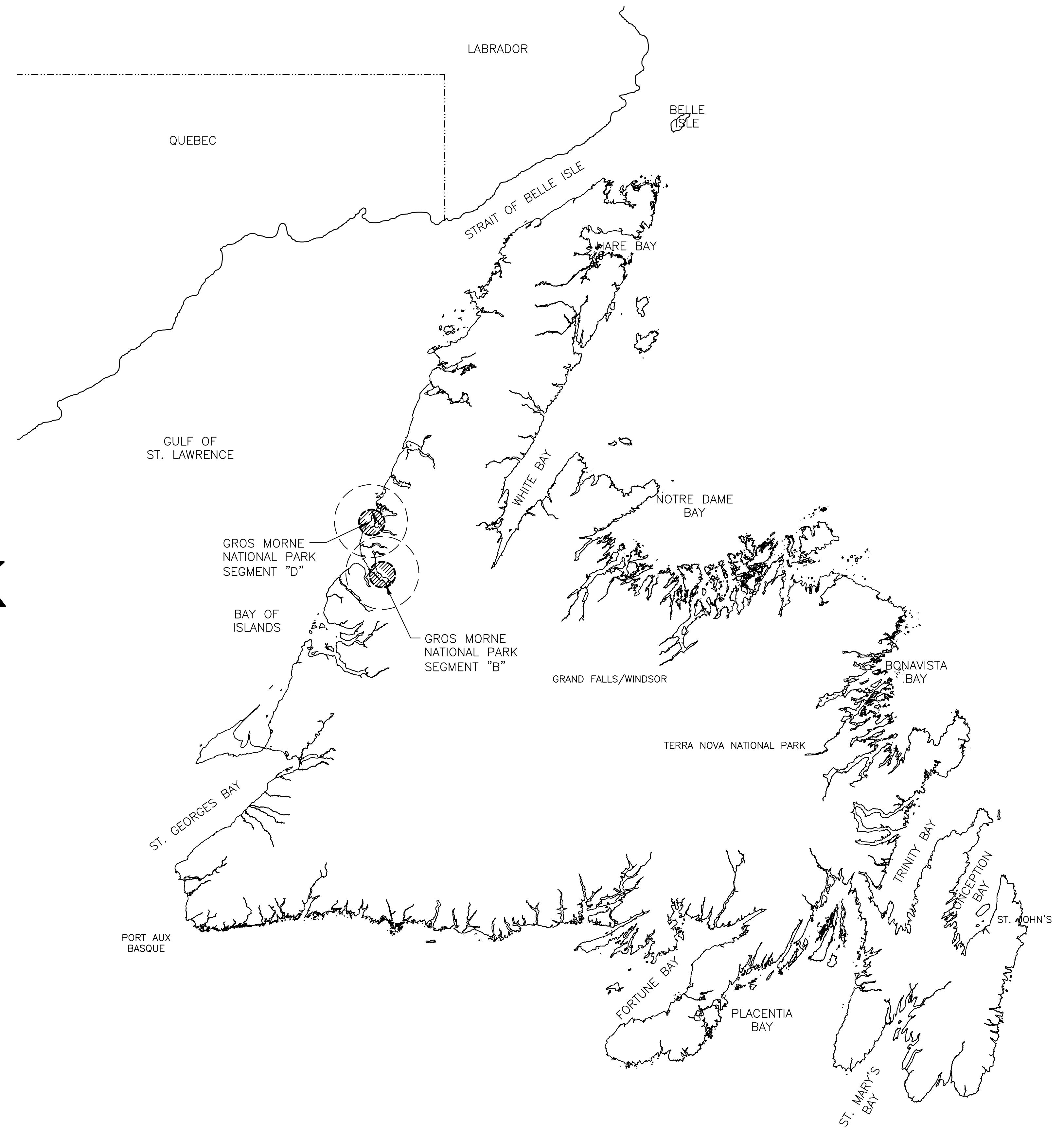
- C01 OVERALL SITE PLAN SEGMENT "B"
- C02 OVERALL SITE PLAN SEGMENT "D"

### SEGMENT B

- C03 HIGHWAY 430 NORTH PLAN AND PROFILE STA 13+900 TO STA 15+900
- C04 HIGHWAY 430 NORTH PLAN AND PROFILE STA 15+900 TO STA 17+900
- C05 HIGHWAY 430 NORTH PLAN AND PROFILE STA 17+900 TO STA 19+900
- C06 HIGHWAY 430 NORTH PLAN AND PROFILE STA 19+900 TO STA 21+900
- C07 HIGHWAY 430 NORTH PLAN AND PROFILE STA 21+900 TO STA 23+900
- C08 HIGHWAY 430 NORTH PLAN AND PROFILE STA 23+900 TO STA 25+900
- C09 HIGHWAY 430 NORTH PLAN AND PROFILE STA 25+900 TO STA 26+900
- C10 SEGMENT B TYPICAL ROAD CROSS SECTIONS AND DETAILS
- C11 NEW 1400mm DIA. CULVERT PLAN AND PROFILE VIEWS STA 16+090
- C12 NEW 900mm DIA. CULVERT PLAN AND PROFILE STA 17+098
- C13 NEW 1800mm DIA. CULVERT PLAN AND PROFILE STA 17+964
- C14 NEW 1400mm DIA. CULVERT PLAN AND PROFILE VIEWS STA 19+375
- C15 NEW 1500mm DIA. CULVERT PLAN AND PROFILE STA 23+808
- C16 NEW 1200mm DIA. PLAN AND PROFILE STA 24+917
- C17 NEW TWIN 900mm DIA. CULVERTS PLAN AND PROFILE STA 25+590 AND STA 25+597
- C18 NEW 900 DIA. CULVERTS PLAN AND PROFILE VIEW STA 25+761
- C19 NEW 1800mm DIA. CULVERT PLAN AND PROFILE VIEWS STA. 25+921
- C20 TYPICAL CULVERT INSTALLATION DETAILS

### SEGMENT D

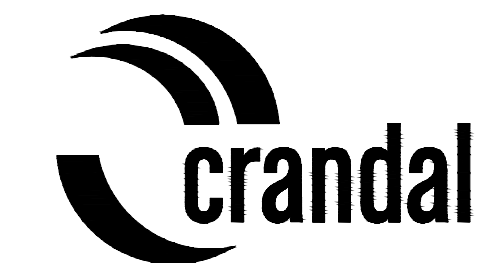
- C21 HIGHWAY 430 NORTH PLAN AND PROFILE STA 40+100 TO STA 42+100
- C22 HIGHWAY 430 NORTH PLAN AND PROFILE STA 42+100 TO STA 44+100
- C23 HIGHWAY 430 NORTH PLAN AND PROFILE STA 44+100 TO STA 46+100
- C24 HIGHWAY 430 NORTH PLAN AND PROFILE STA 46+100 TO STA 48+100
- C25 HIGHWAY 430 NORTH PLAN AND PROFILE STA 48+100 TO STA 50+100
- C26 HIGHWAY 430 NORTH PLAN AND PROFILE STA 50+100 TO STA 52+100
- C27 HIGHWAY 430 NORTH PLAN AND PROFILE STA 52+100 TO STA 52+700
- C28 GREEN POINT INTERSECTION UPGRADE STA 47+825 TO STA 48+200
- C29 GREEN POINT INTERSECTION UPGRADE STA 48+200 TO STA 48+600
- C30 GREEN POINT INTERSECTION UPGRADE SIGNAGE PLAN STA 47+950 TO STA 48+550
- C31 TYPICAL ROAD CROSS SECTIONS
- C32 SEGMENT "D" GREEN POINT INTERSECTION CROSS SECTIONS STA 48+000 TO STA 48+500



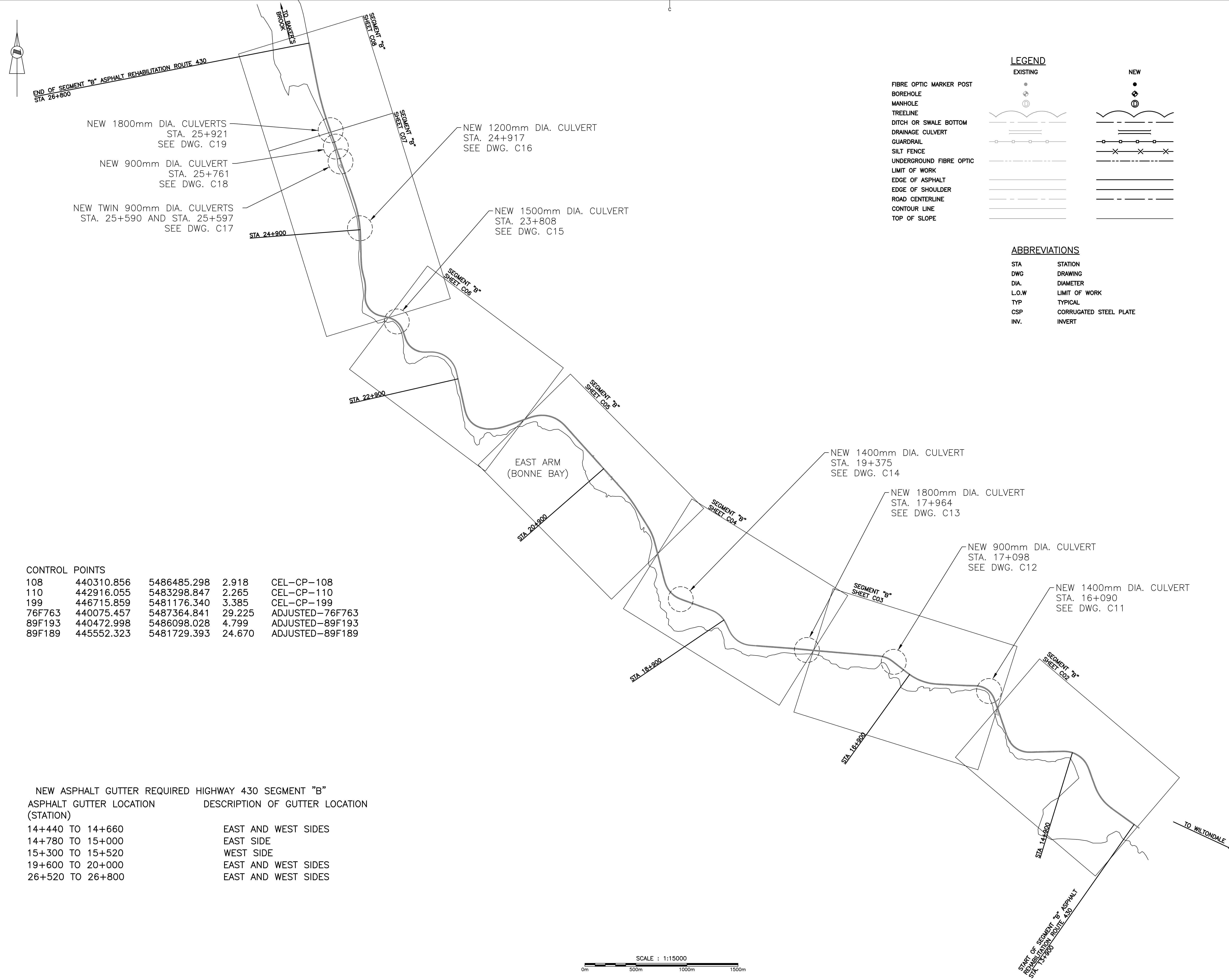
PCA PROJECT NO. 1350







MONCTON 1077 Ave. St. George Blvd. 200, Moncton, N.B. Canada  
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 FREDERICTON 544 Regent Street, Fredericton, N.B. Canada  
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**LEGEND**

EXISTING	NEW
FIBRE OPTIC MARKER POST	FIBRE OPTIC MARKER POST
BOREHOLE	BOREHOLE
MANHOLE	MANHOLE
TREELINE	TREELINE
DITCH OR SWALE BOTTOM	DITCH OR SWALE BOTTOM
DRAINAGE CULVERT	DRAINAGE CULVERT
GUARDRAIL	GUARDRAIL
SILT FENCE	SILT FENCE
UNDERGROUND FIBRE OPTIC	UNDERGROUND FIBRE OPTIC
LIMIT OF WORK	LIMIT OF WORK
EDGE OF ASPHALT	EDGE OF ASPHALT
EDGE OF SHOULDER	EDGE OF SHOULDER
ROAD CENTERLINE	ROAD CENTERLINE
CONTOUR LINE	CONTOUR LINE
TOP OF SLOPE	TOP OF SLOPE

**ABBREVIATIONS**

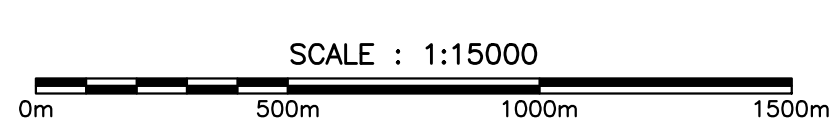
STA	STATION
DWG	DRAWING
DIA.	DIAMETER
L.O.W	LIMIT OF WORK
TYP	TYPICAL
CSP	CORRUGATED STEEL PLATE
INV.	INVERT

**CONTROL POINTS**

108	440310.856	5486485.298	2.918	CEL-CP-108
110	442916.055	5483298.847	2.265	CEL-CP-110
199	446715.859	5481176.340	3.385	CEL-CP-199
76F763	440075.457	5487364.841	29.225	ADJUSTED-76F763
89F193	440472.998	5486098.028	4.799	ADJUSTED-89F193
89F189	445552.323	5481729.393	24.670	ADJUSTED-89F189

**NEW ASPHALT GUTTER REQUIRED HIGHWAY 430 SEGMENT "B"**

ASPHALT GUTTER LOCATION (STATION)	DESCRIPTION OF GUTTER LOCATION
14+440 TO 14+660	EAST AND WEST SIDES
14+780 TO 15+000	EAST SIDE
15+300 TO 15+520	WEST SIDE
19+600 TO 20+000	EAST AND WEST SIDES
26+520 TO 26+800	EAST AND WEST SIDES



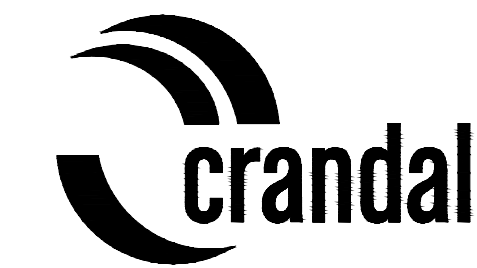
revisions	date	project
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

**OVERALL SITE PLAN SEGMENT "B"**

designed J.BURGESS	conçu
date JANUARY 31, 2017	
drawn A. CALDWELL	dessiné
date JANUARY 31, 2017	
approved J.BABIN	approuvé
date JANUARY 31, 2017	
Tender	Soumission
PCA Project Manager	Administrateur de projets APC
project number	no. du projet
<b>1350</b>	
drawing no.	no. du dessin
<b>C01</b>	





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**LEGEND**

<b>EXISTING</b>	<b>NEW</b>
FIBRE OPTIC MARKER POST	FIBRE OPTIC MARKER POST
BOREHOLE	BOREHOLE
MANHOLE	MANHOLE
TREELINE	TREELINE
DITCH OR SWALE BOTTOM	DITCH OR SWALE BOTTOM
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GUARDRAIL	GUARDRAIL
SILT FENCE	SILT FENCE
UNDERGROUND FIBRE OPTIC	UNDERGROUND FIBRE OPTIC
LIMIT OF WORK	LIMIT OF WORK
EDGE OF ASPHALT	EDGE OF ASPHALT
EDGE OF SHOULDER	EDGE OF SHOULDER
ROAD CENTERLINE	ROAD CENTERLINE
CONTOUR LINE	CONTOUR LINE
TOP OF SLOPE	TOP OF SLOPE

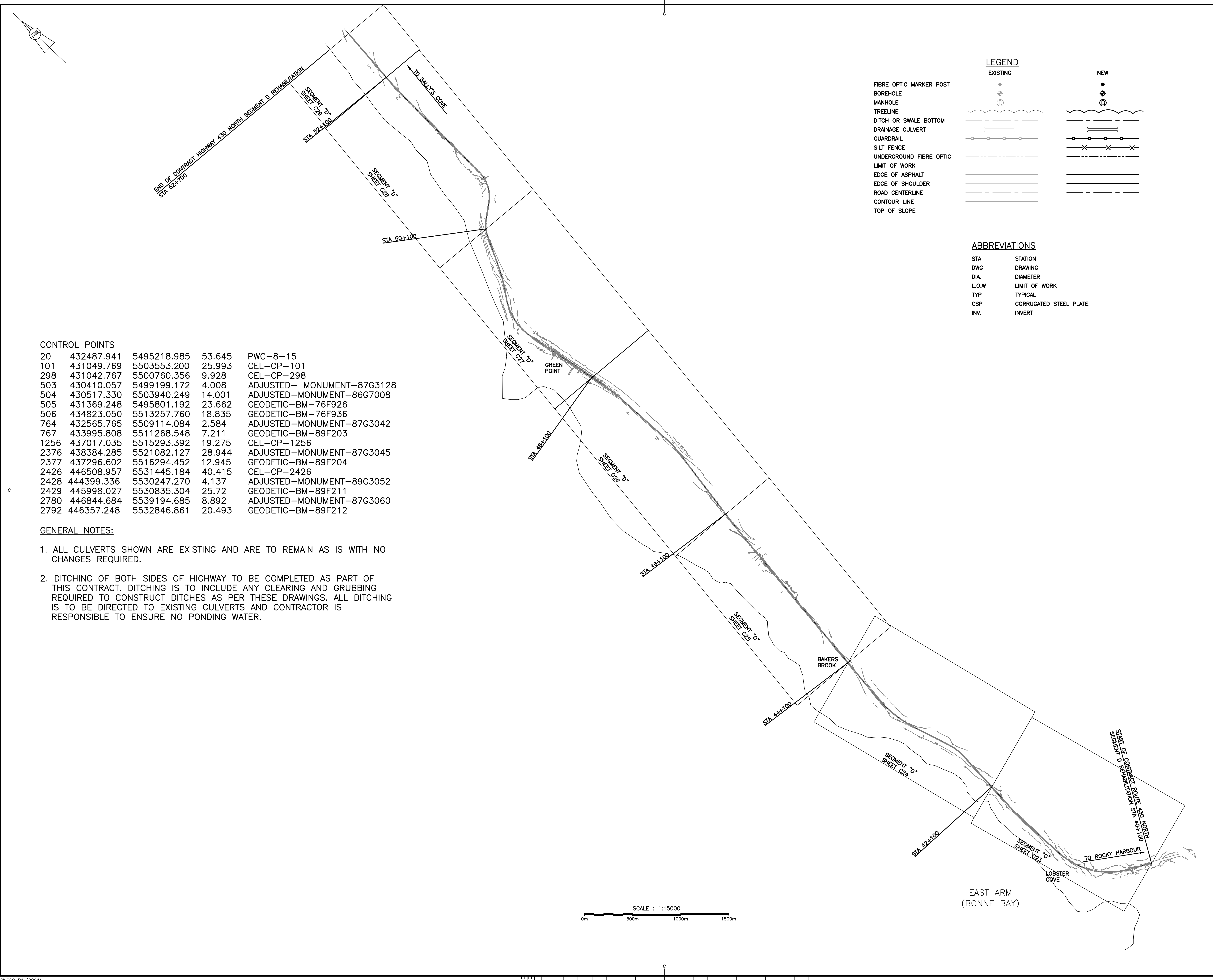
**ABBREVIATIONS**

STA	STATION
DWG	DRAWING
DIA.	DIAMETER
L.O.W	LIMIT OF WORK
TYP	TYPICAL
CSP	CORRUGATED STEEL PLATE
INV.	INVERT

**CONTROL POINTS**

20	432487.941	5495218.985	53.645	PWC-8-15
101	431049.769	5503553.200	25.993	CEL-CP-101
298	431042.767	5500760.356	9.928	CEL-CP-298
503	430410.057	5499199.172	4.008	ADJUSTED-MONUMENT-87G3128
504	430517.330	5503940.249	14.001	ADJUSTED-MONUMENT-86G7008
505	431369.248	5495801.192	23.662	GEODETIC-BM-76F926
506	434823.050	5513257.760	18.835	GEODETIC-BM-76F936
764	432565.765	5509114.084	2.584	ADJUSTED-MONUMENT-87G3042
767	433995.808	5511268.548	7.211	GEODETIC-BM-89F203
1256	437017.035	5515293.392	19.275	CEL-CP-1256
2376	438384.285	5521082.127	28.944	ADJUSTED-MONUMENT-87G3045
2377	437296.602	5516294.452	12.945	GEODETIC-BM-89F204
2426	446508.957	5531445.184	40.415	CEL-CP-2426
2428	444399.336	5530247.270	4.137	ADJUSTED-MONUMENT-89G3052
2429	445998.027	5530835.304	25.72	GEODETIC-BM-89F211
2780	446844.684	5539194.685	8.892	ADJUSTED-MONUMENT-87G3060
2792	446357.248	5532846.861	20.493	GEODETIC-BM-89F212

- GENERAL NOTES:**
- ALL CULVERTS SHOWN ARE EXISTING AND ARE TO REMAIN AS IS WITH NO CHANGES REQUIRED.
  - DITCHING OF BOTH SIDES OF HIGHWAY TO BE COMPLETED AS PART OF THIS CONTRACT. DITCHING IS TO INCLUDE ANY CLEARING AND GRUBBING REQUIRED TO CONSTRUCT DITCHES AS PER THESE DRAWINGS. ALL DITCHING IS TO BE DIRECTED TO EXISTING CULVERTS AND CONTRACTOR IS RESPONSIBLE TO ENSURE NO PONDING WATER.



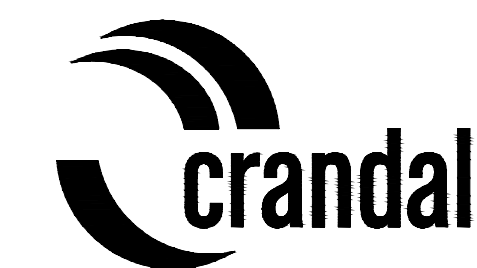
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	RS1 - RS2 SUBMISSION	AUG. 30 2016

**HIGHWAY 430 NORTH  
SEGMENT "B" AND "D"  
REHABILITATION**

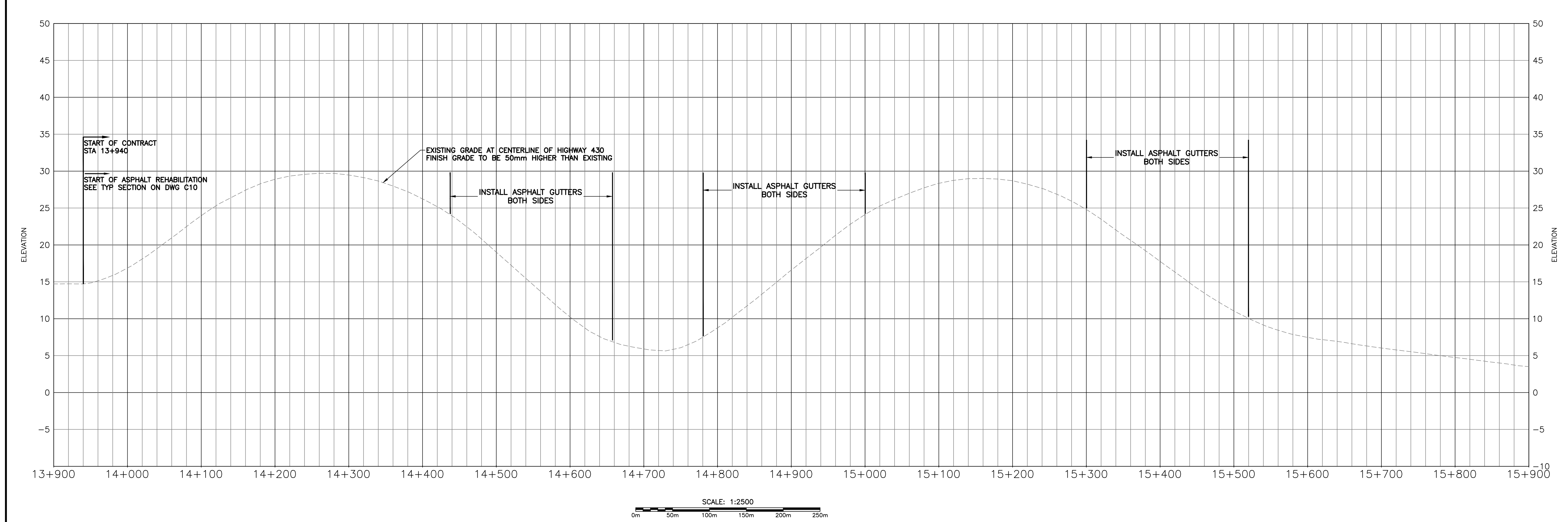
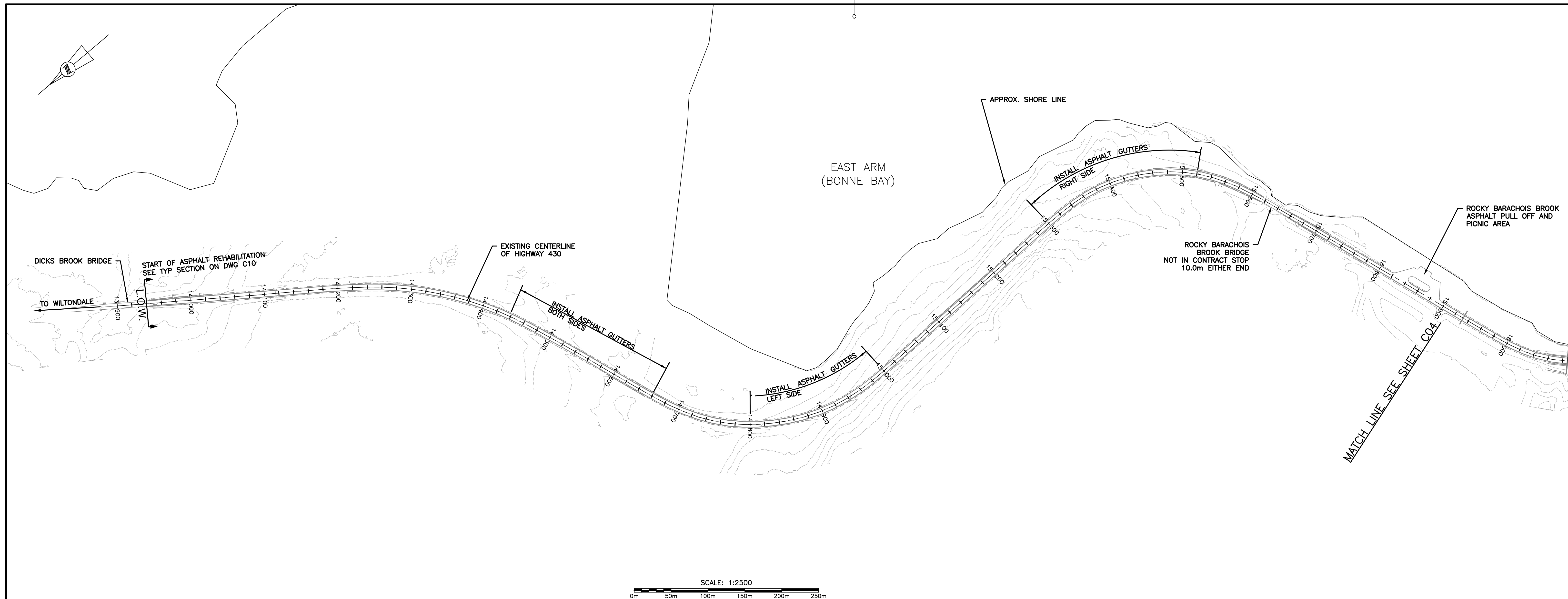
**OVERALL SITE PLAN  
SEGMENT "D"**

designed	G. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABINE	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C02	no. du dessin





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 Tel: (506) 853-2777 Fax: (506) 853-2883 Tel: (506) 461-4400  
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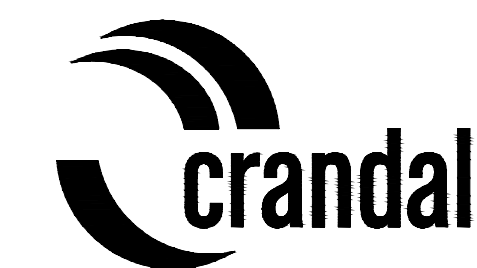
revisions	date
C	ISSUED FOR TENDER FEB. 10 2017
B	RS4 90% SUBMISSION DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT SEP. 16 2016

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

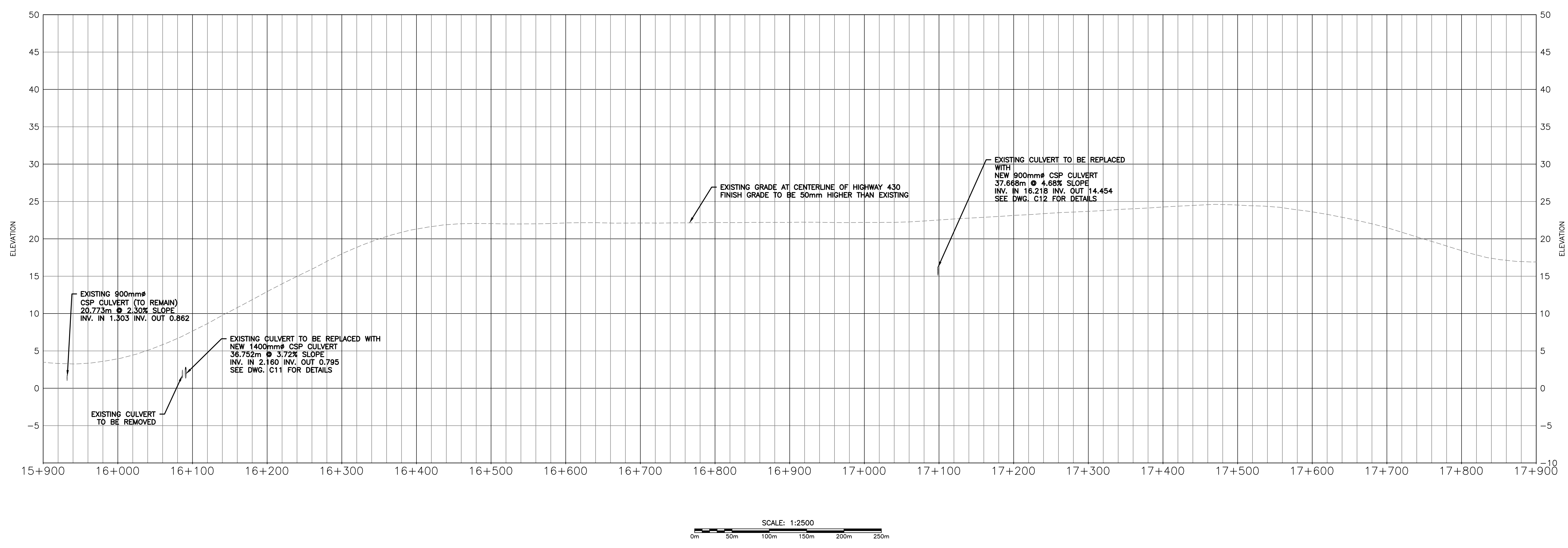
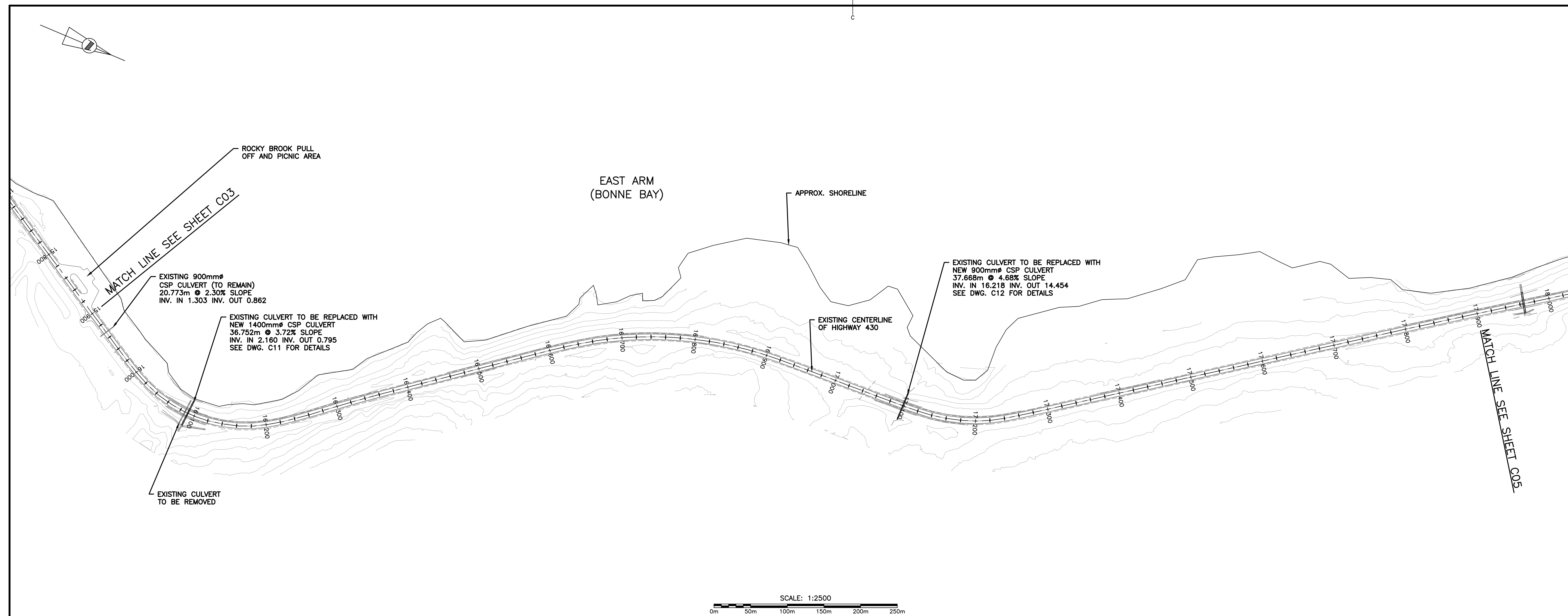
**HIGHWAY 430 NORTH PLAN AND PROFILE STA 13+900 TO STA 15+900**

designed J. BURGESS	conçu
date JANUARY 31, 2017	
drawn A. CALDWELL	dessiné
date JANUARY 31, 2017	
approved J. BABIN	approuvé
date JANUARY 31, 2017	
Tender	Soumission
PCA Project Manager	Administrateur de projets APC
project number	no. du projet
	<b>1350</b>
drawing no.	no. du dessin
	<b>C03</b>





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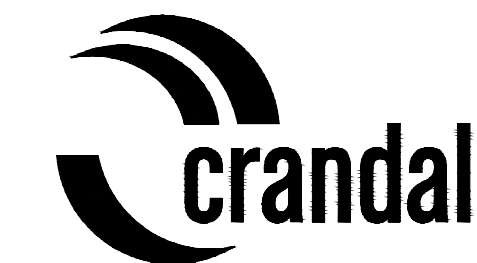
revisions	date	project
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

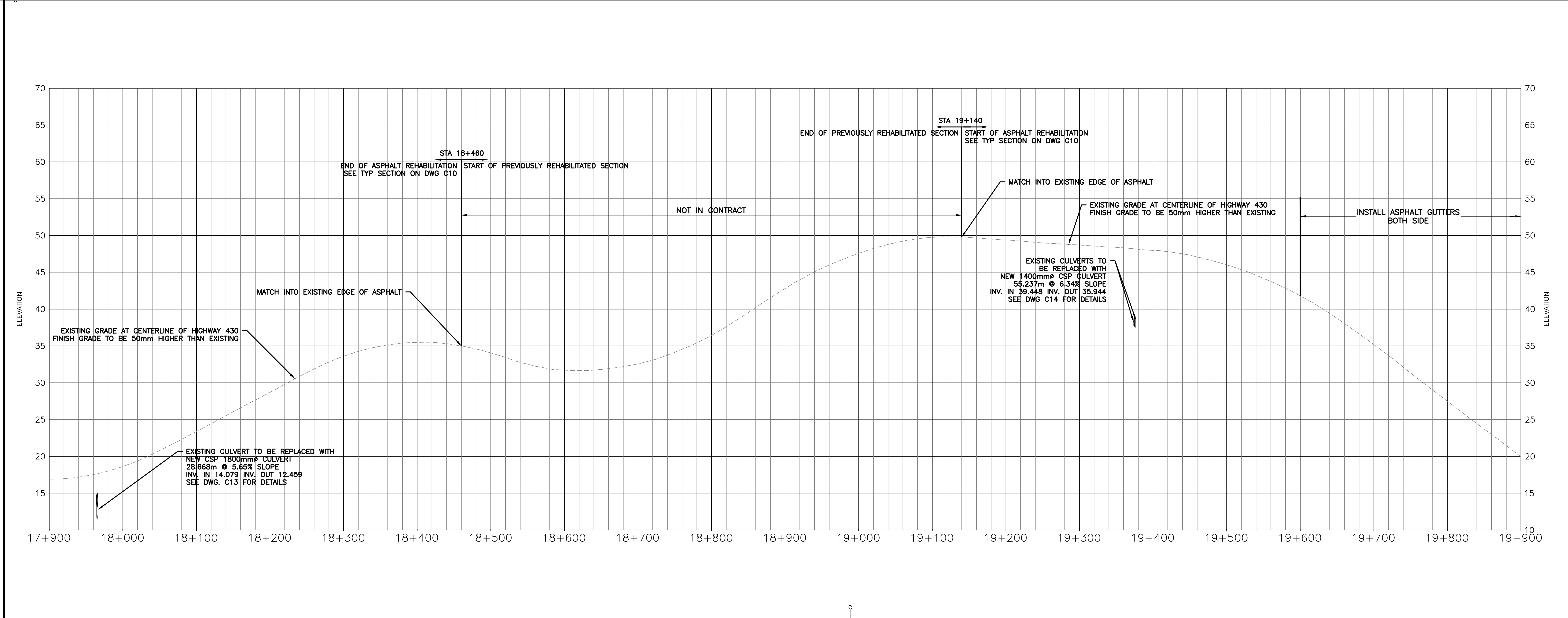
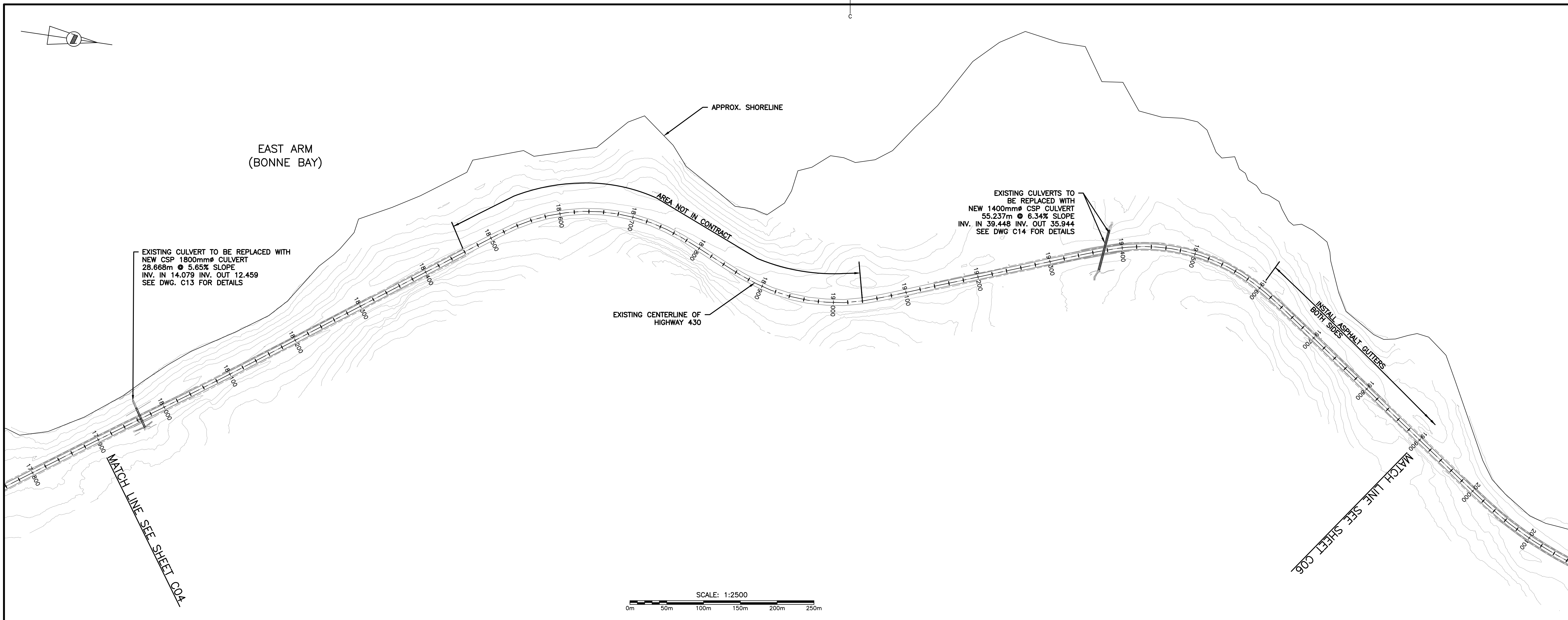
**HIGHWAY 430 NORTH PLAN AND PROFILE STA 15+900 TO STA 17+900**

designed J.BURGESS	conçu
date JANUARY 31, 2017	
drawn A.CALDWELL	dessiné
date JANUARY 31, 2017	
approved J.BABIN	approuvé
date JANUARY 31, 2017	
Tender	Submission
PCA Project Manager	Administrateur de projets APC
project number	no. du projet
<b>1350</b>	
drawing no.	no. du dessin
<b>C04</b>	





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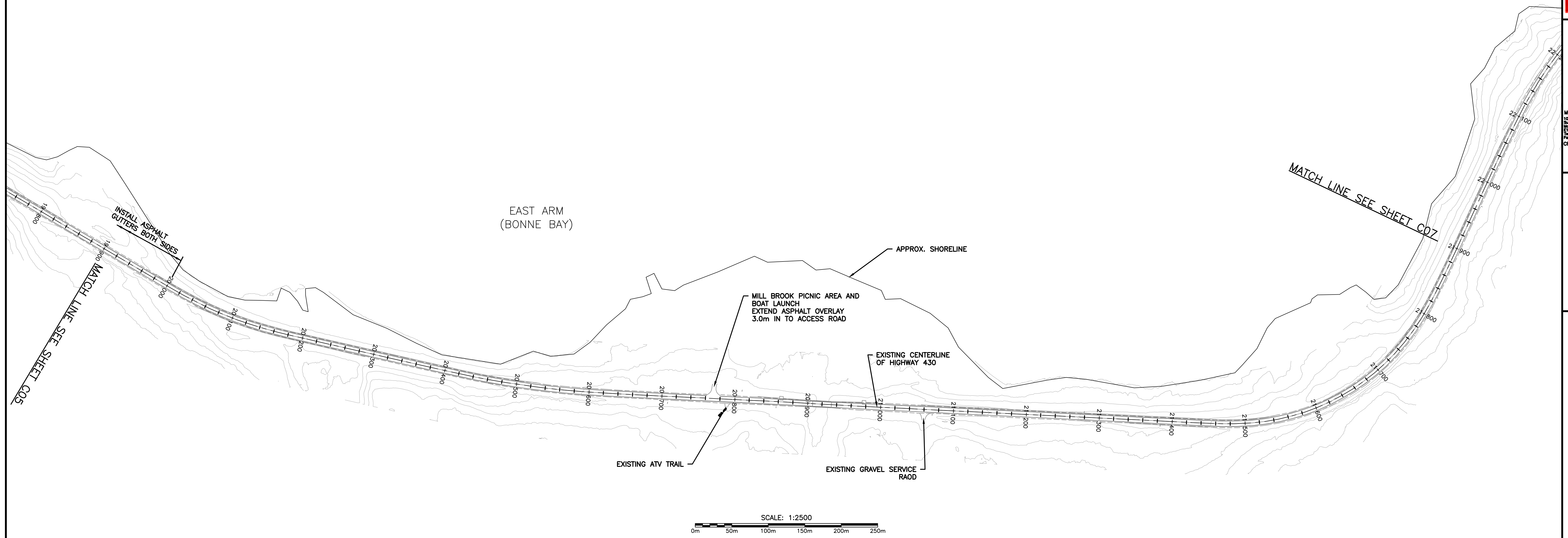
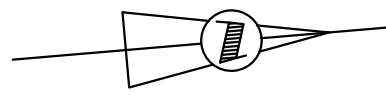
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016
revisions		date

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

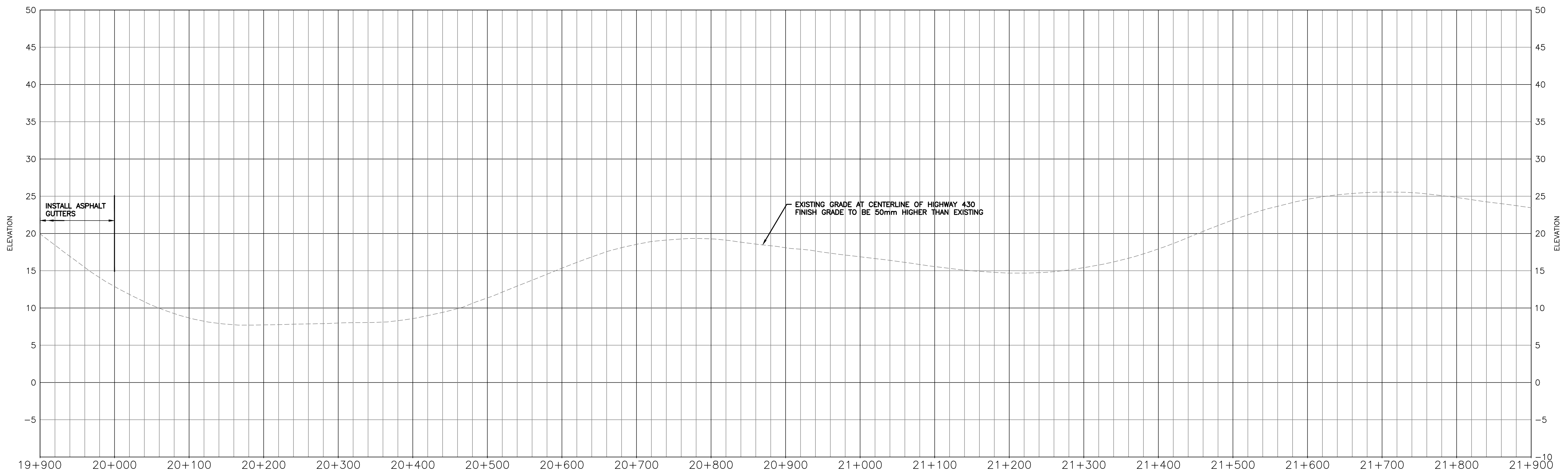
**HIGHWAY 430 NORTH PLAN AND PROFILE STA 17+900 TO STA 19+900**

designed	J. BURGESS	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Soumission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C05	no. du dessin





SCALE: 1:2500  
0m 50m 100m 150m 200m 250m



SCALE: 1:2500  
0m 50m 100m 150m 200m 250m



C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016
revisions		date

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

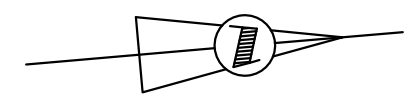
**HIGHWAY 430 NORTH PLAN AND PROFILE STA 19+900 TO STA 21+900**

designed J.BURGESS	conçu
date JANUARY 31, 2017	
drawn A.CALDWELL	dessiné
date JANUARY 31, 2017	
approved J.BABIN	approuvé
date JANUARY 31, 2017	
Tender	Soumission
PCA Project Manager	Administrateur de projets APC
project number	no. du projet

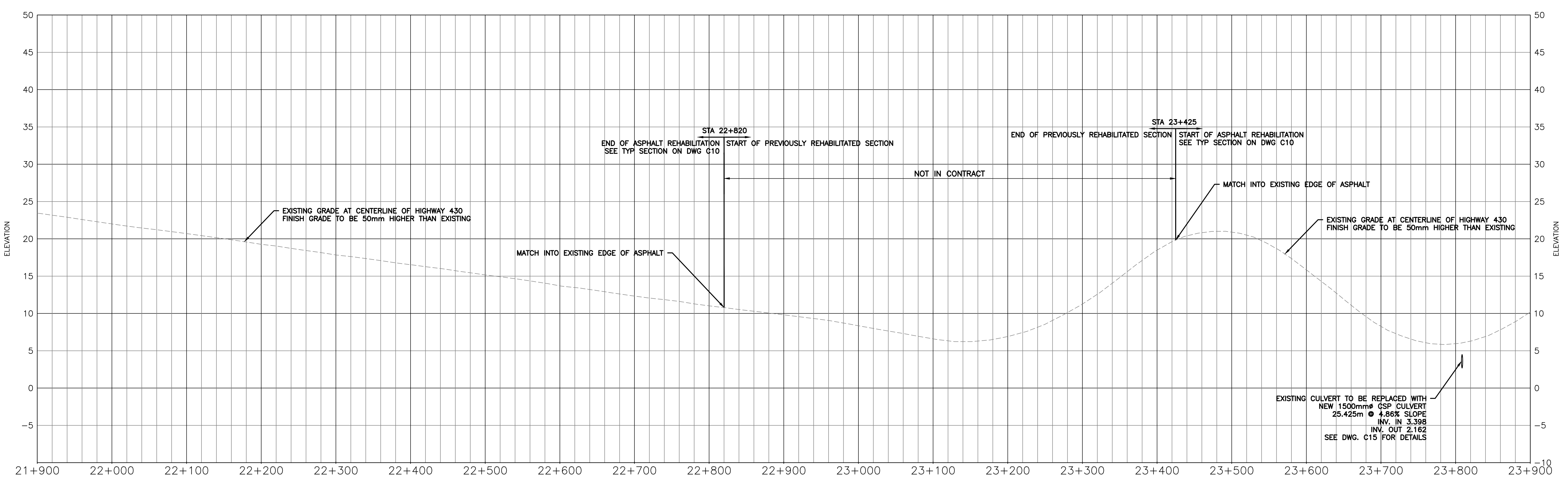
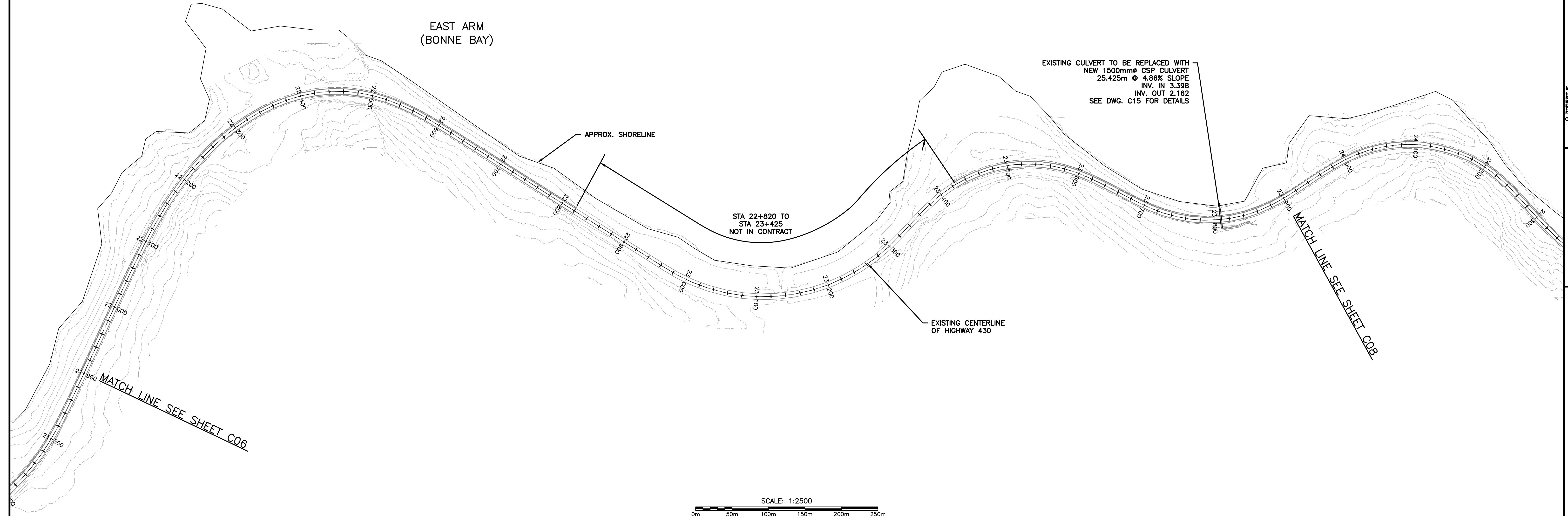
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drawing no. C06 no. du dessin





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C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016
revisions		date

### HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

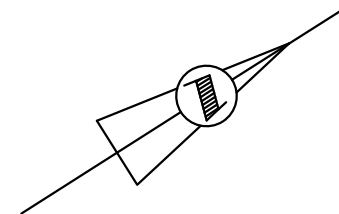
### HIGHWAY 430 NORTH PLAN AND PROFILE STA 21+900 TO STA 23+900

designed	J. BURGESS	conçu
date	JANUARY 31, 2017	
drawn	A. CALDEWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Soumission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet

1350

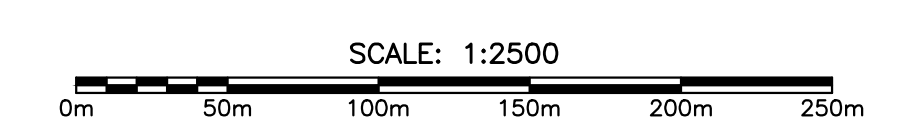
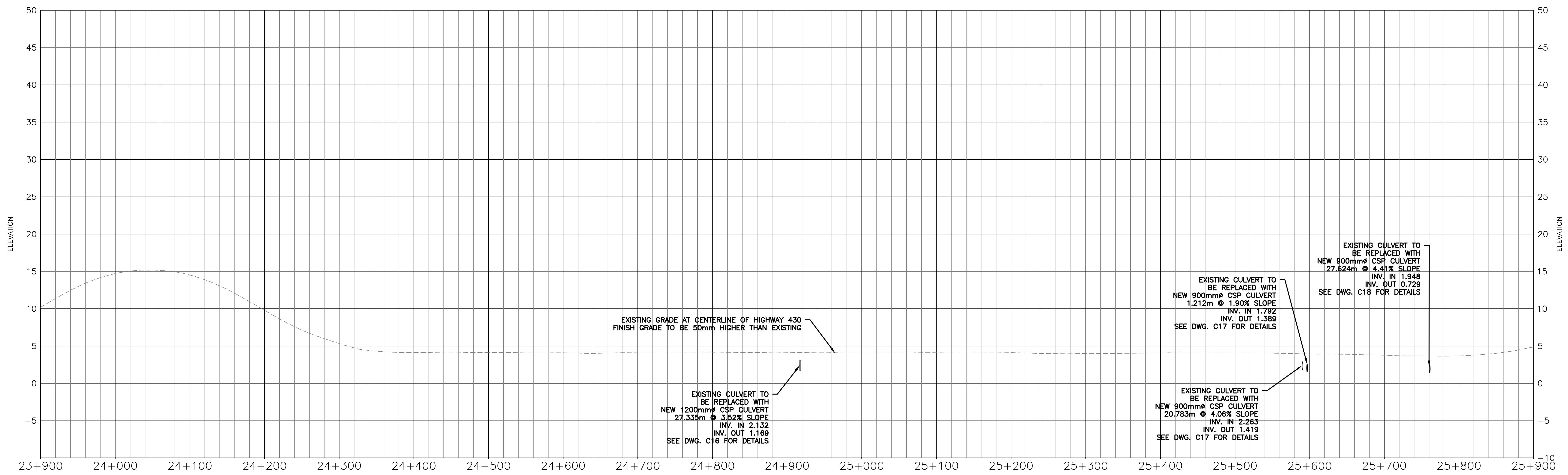
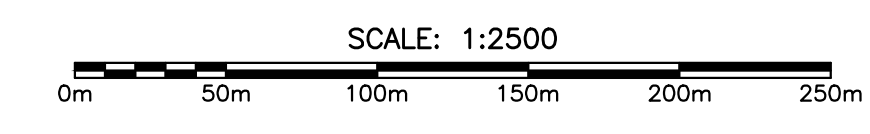
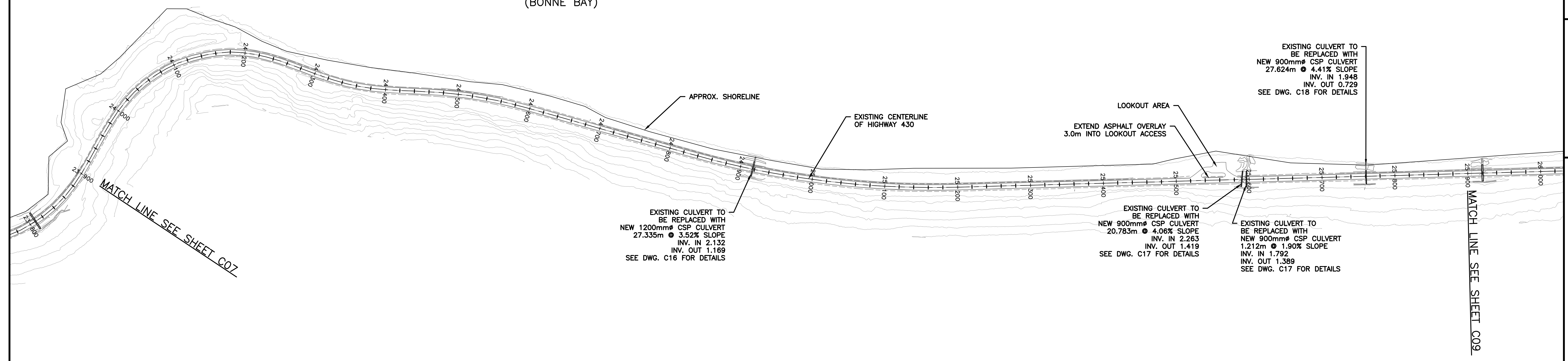
drawing no. C07 no. du dessin





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EAST ARM (BONNE BAY)



C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016
revisions		date

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

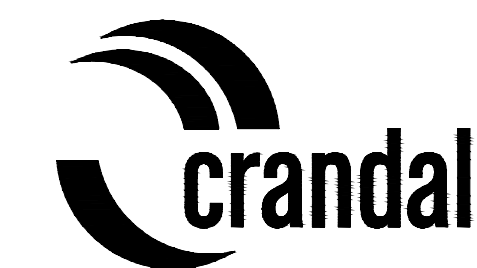
HIGHWAY 430 NORTH PLAN AND PROFILE STA 23+900 TO STA 25+900

designed	J. BURGESS	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number		no. du projet

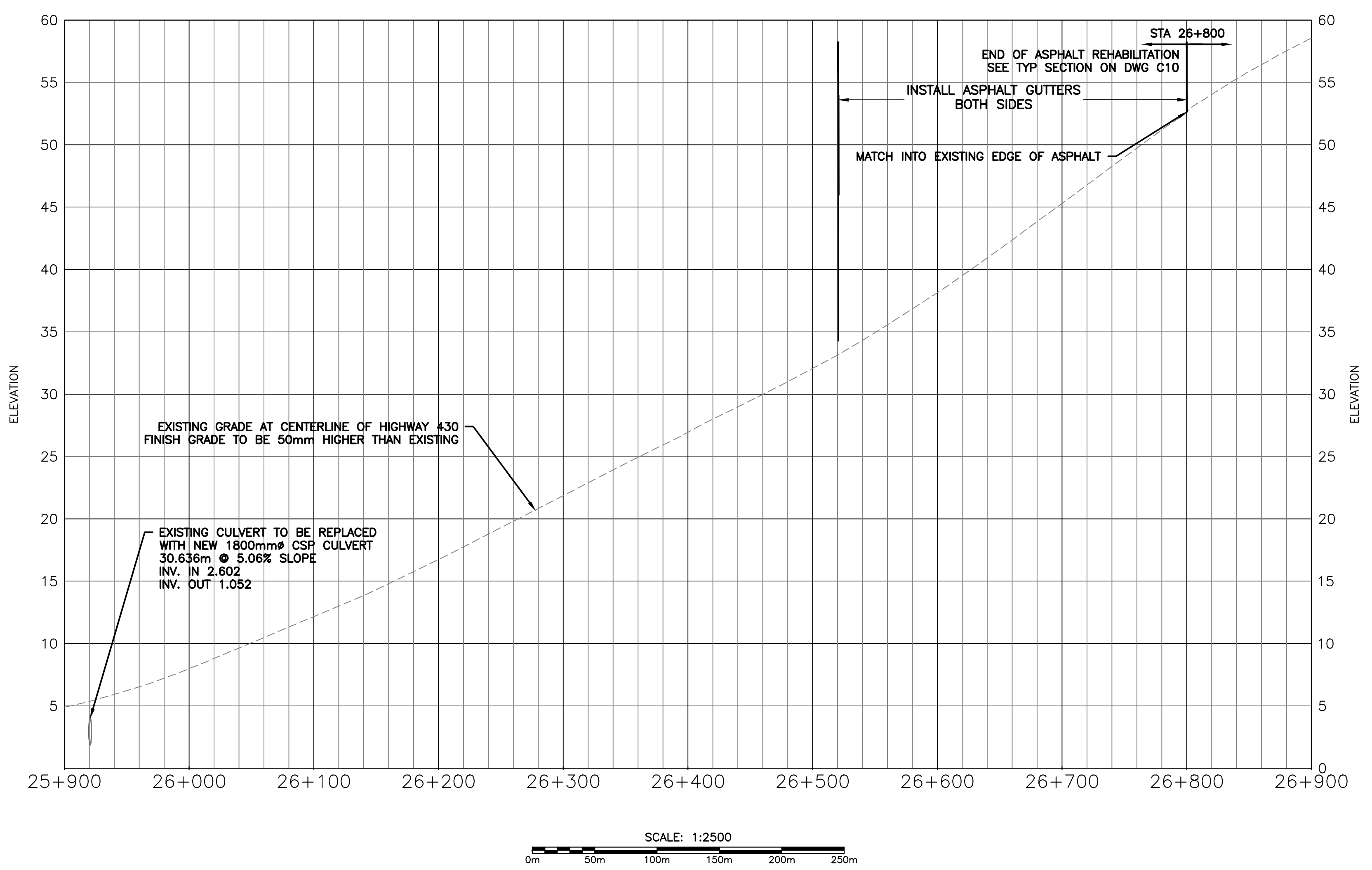
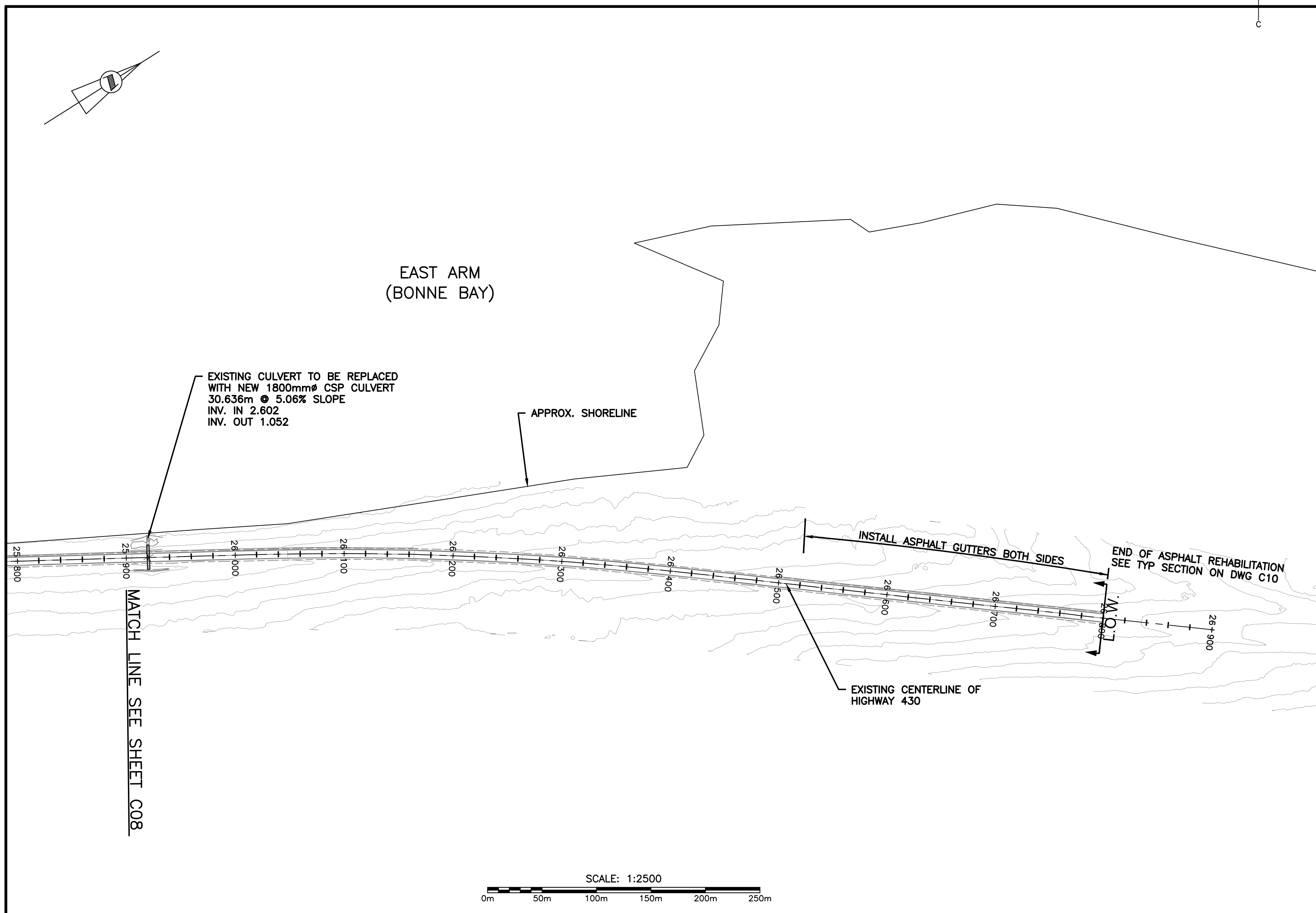
1350

drawing no. C08 no. du dessin





**MONCTON** 127 Prince St. St. George Bldg. 127 Prince St. St. George Bldg.  
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**SANT JOHN** 123 Prince William Street 123 Prince William Street  
 123 Prince William Street 123 Prince William Street  
 Tel: (506) 853-2777 Fax: (506) 853-2777  
**FREDERICTON** 504 Regent Street 504 Regent Street  
 504 Regent Street 504 Regent Street  
 Tel: (506) 461-4400 Fax: (506) 461-4400  
 CRANDALLENGINEERING.CA



revisions	date	description
C	FEB. 10 2017	ISSUED FOR TENDER
B	DEC. 16 2016	RS4 90% SUBMISSION
A	SEP. 16 2016	ISSUED FOR RS1/RS2 REPORT

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

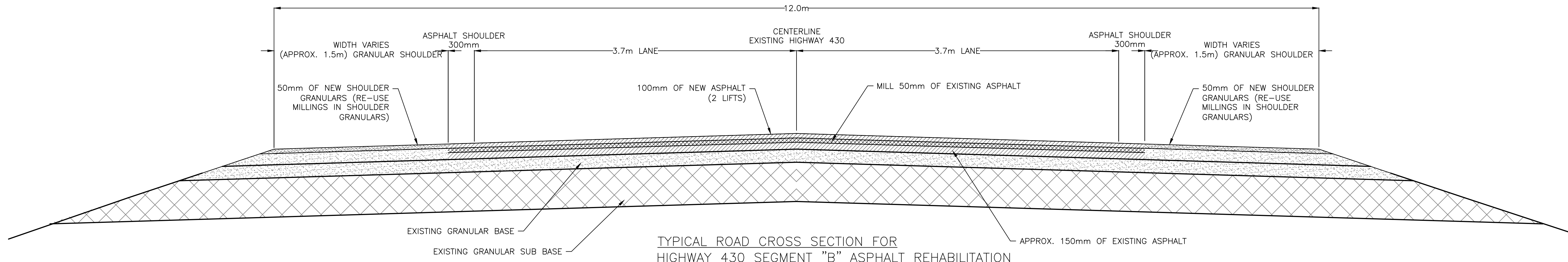
**HIGHWAY 430 NORTH PLAN AND PROFILE STA 25+900 TO STA 26+900**

designed	J.BURGESS	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C09	no. du dessin

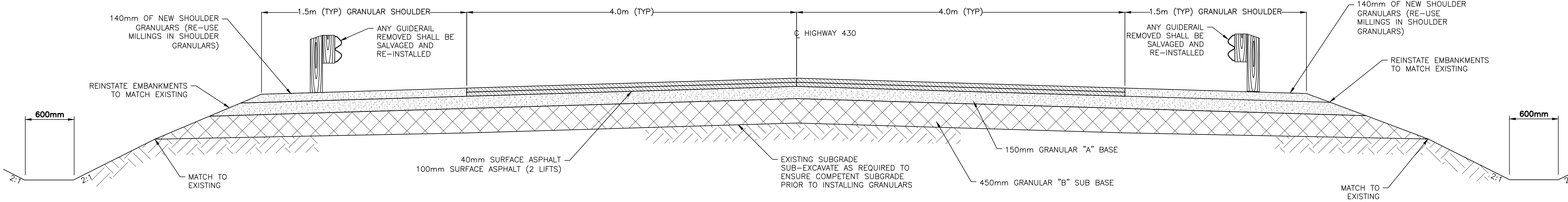




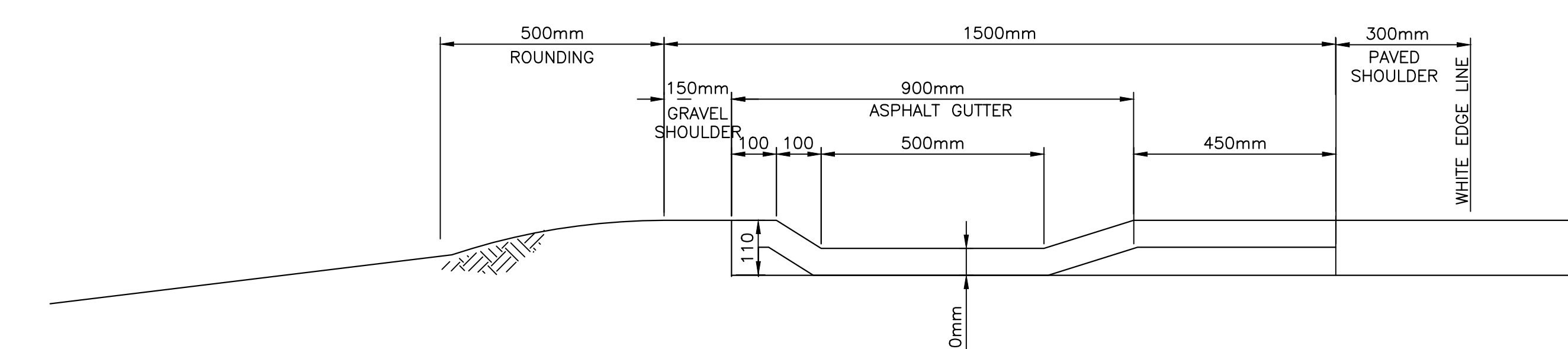
MONCTON 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd.  
 SHERBROOKE 123 Prince William Street 123 Prince William Street 123 Prince William Street  
 TEL: (506) 857-2777 TEL: (506) 857-2777 TEL: (506) 857-2777  
 FAX: (506) 857-2788 FAX: (506) 857-2788 FAX: (506) 857-2788  
 CRANDALLENGINEERING.CA



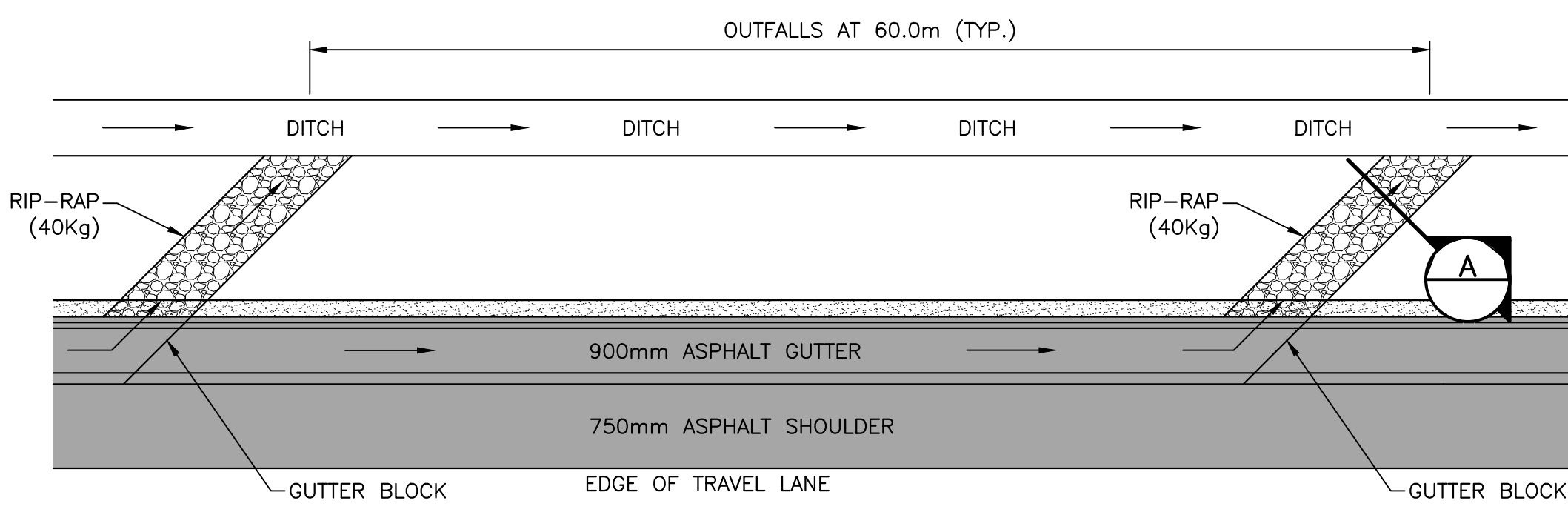
TYPICAL ROAD CROSS SECTION FOR HIGHWAY 430 SEGMENT "B" ASPHALT REHABILITATION  
 SCALE: 1:25  
 0mm 500mm 1000mm 1500mm 2000mm 2500mm



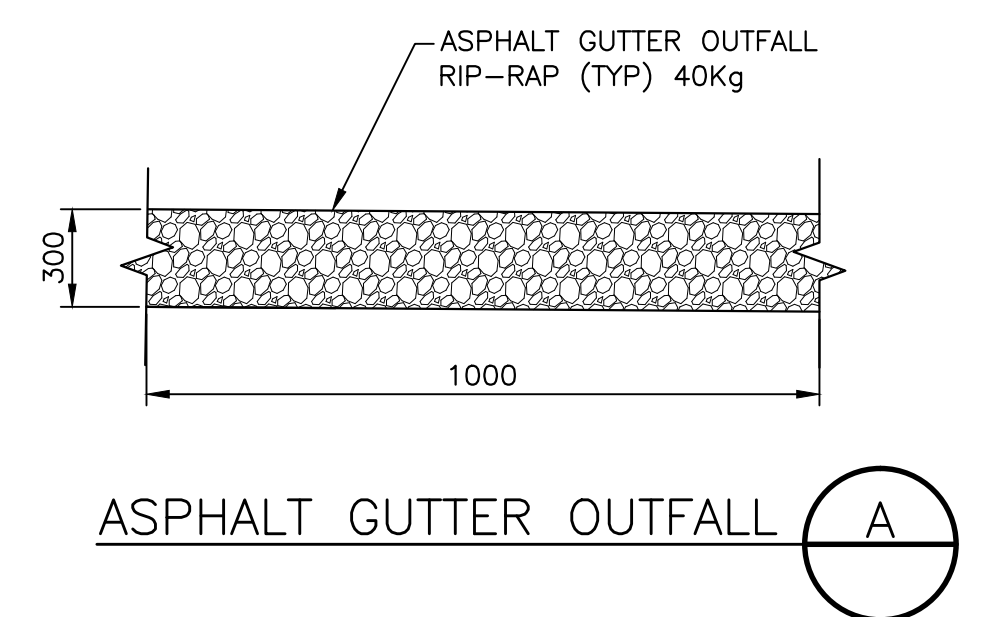
TYPICAL ROAD CROSS SECTION FOR AREAS DESIGNATED FOR FULL DEPTH RECONSTRUCTION  
 SCALE: 1:25  
 0mm 500mm 1000mm 1500mm 2000mm 2500mm



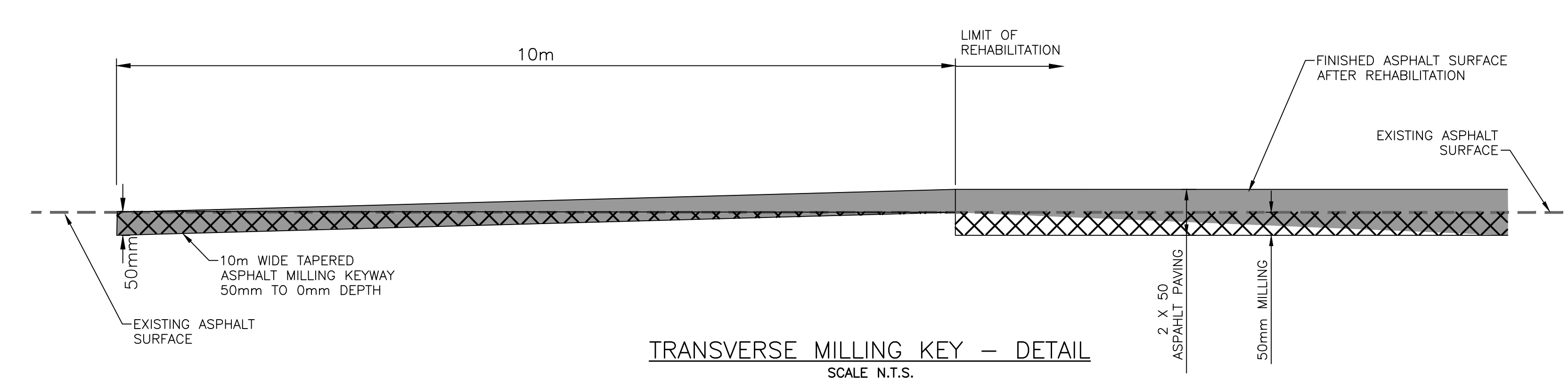
ASPHALT GUTTER SECTION  
 SCALE 1:10



TYPICAL ASPHALT GUTTER AND OUTFALL LAYOUT  
 SCALE N.T.S.



ASPHALT GUTTER OUTFALL A



TRANSVERSE MILLING KEY - DETAIL  
 SCALE N.T.S.



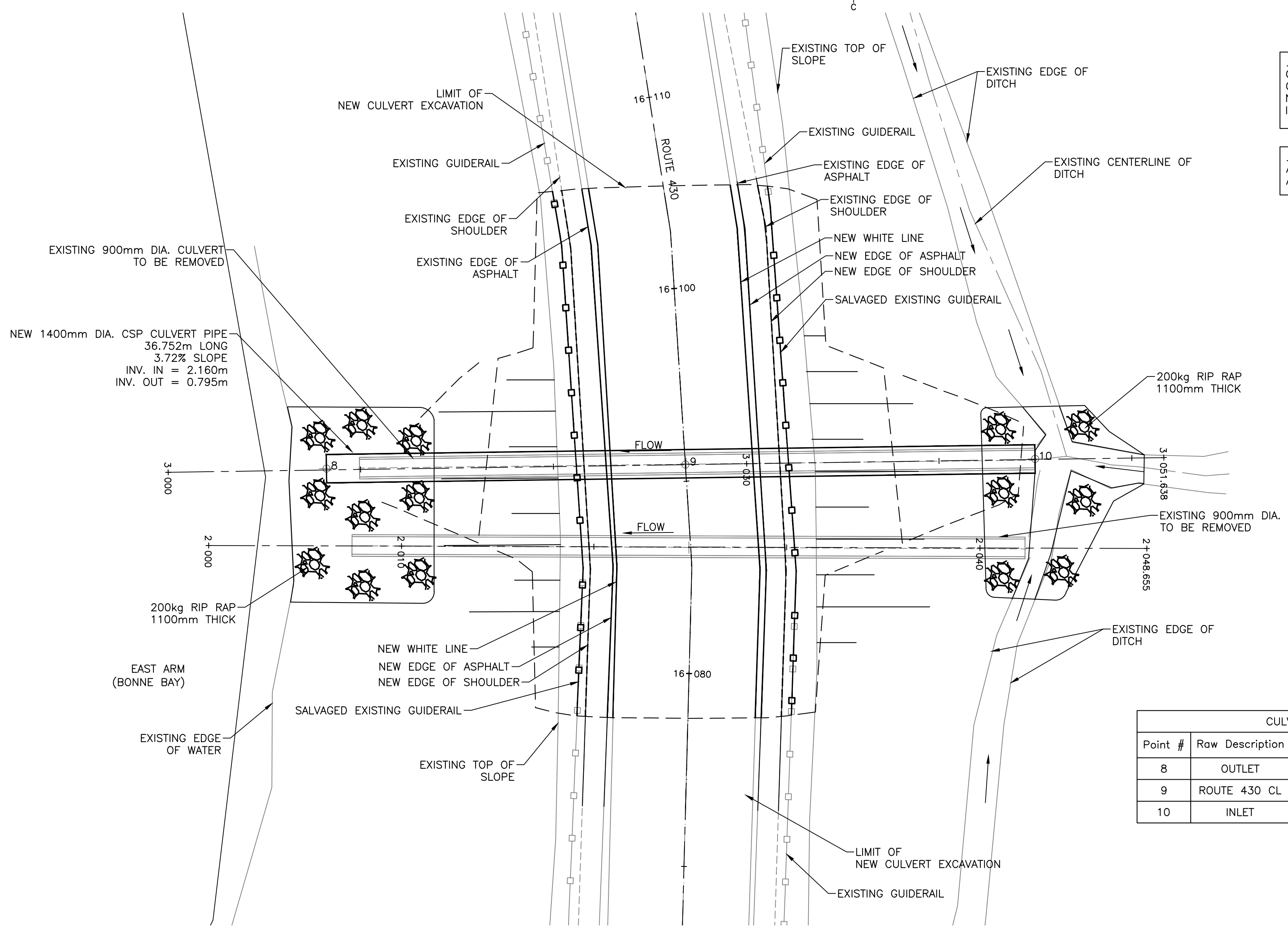
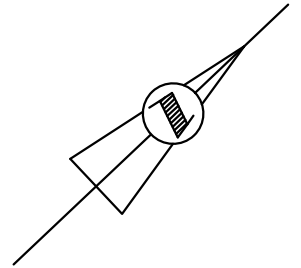
C	ISSUED FOR TENDER	FEB. 2017
B	RS4 90% SUBMISSION	DEC. 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 2016

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

SEGMENT "B" TYPICAL ROAD CROSS SECTIONS AND DETAILS

designed	J.BURGESS	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C10	no. du dessin



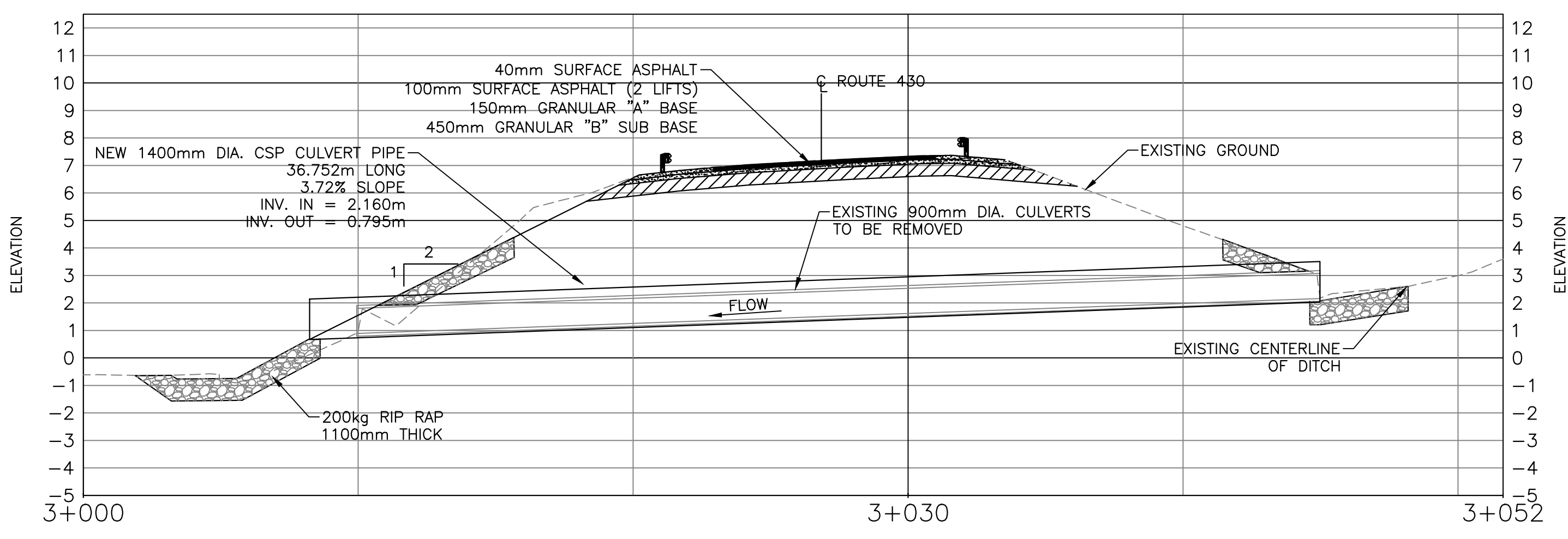
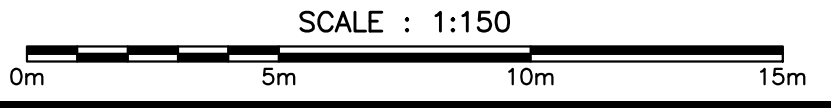


NOTE:  
CONTRACTOR IS RESPONSIBLE TO SUPPLY AND CONSTRUCT ALL MATERIALS AND EQUIPMENT NECESSARY TO PROVIDE DETOURS AROUND CULVERT INSTALLATION ZONES.

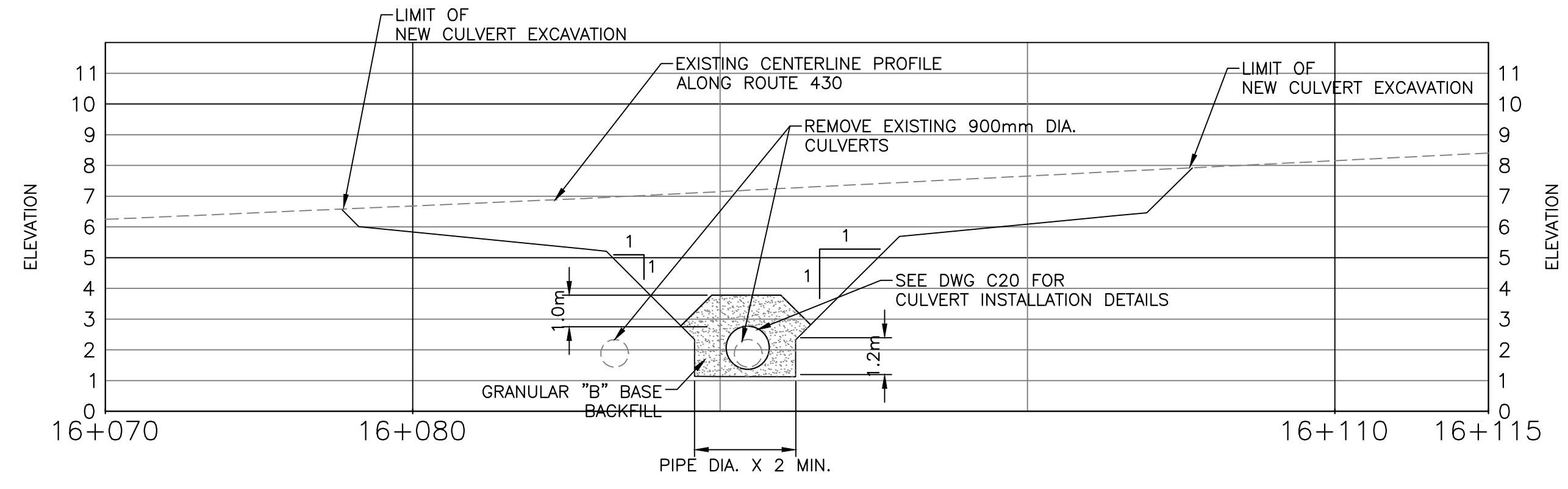
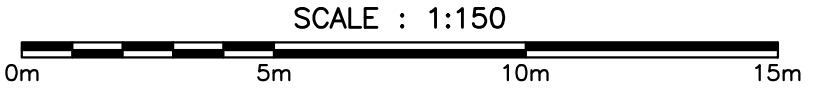
NOTE:  
ANY GUIDERAIL REMOVED SHALL BE SALVAGED AND RE-INSTALLED.

CULVERT LAYOUT TABLE				
Point #	Raw Description	Easting	Northing	Elevation
8	OUTLET	446638.7678	5481359.7489	0.795
9	ROUTE 430 CL	446651.7855	5481373.0584	1.487
10	INLET	446664.3990	5481386.0880	2.160

NEW 1400mm DIA. CULVERT - PLAN VIEW



NEW 1400mm DIA. CULVERT STA 16+090 - PROFILE VIEW



NEW 1400mm DIA. CULVERT EXCAVATION LIMITS - PROFILE VIEW



MONCTON 1077 Ave. St. George Blvd. 202 858-2383  
 SAINT JOHN 123 Prince William Street 506 752-4300  
 FREDERICTON 504 Regent Street 506 752-4300  
 REGINA 225 10th St. S. 403 763-2286  
 CALGARY 1400 17th Ave. S.E. 403 263-2200  
 VANCOUVER 4611 46th St. 604 681-4400  
 CRANDALLENGINEERING.CA



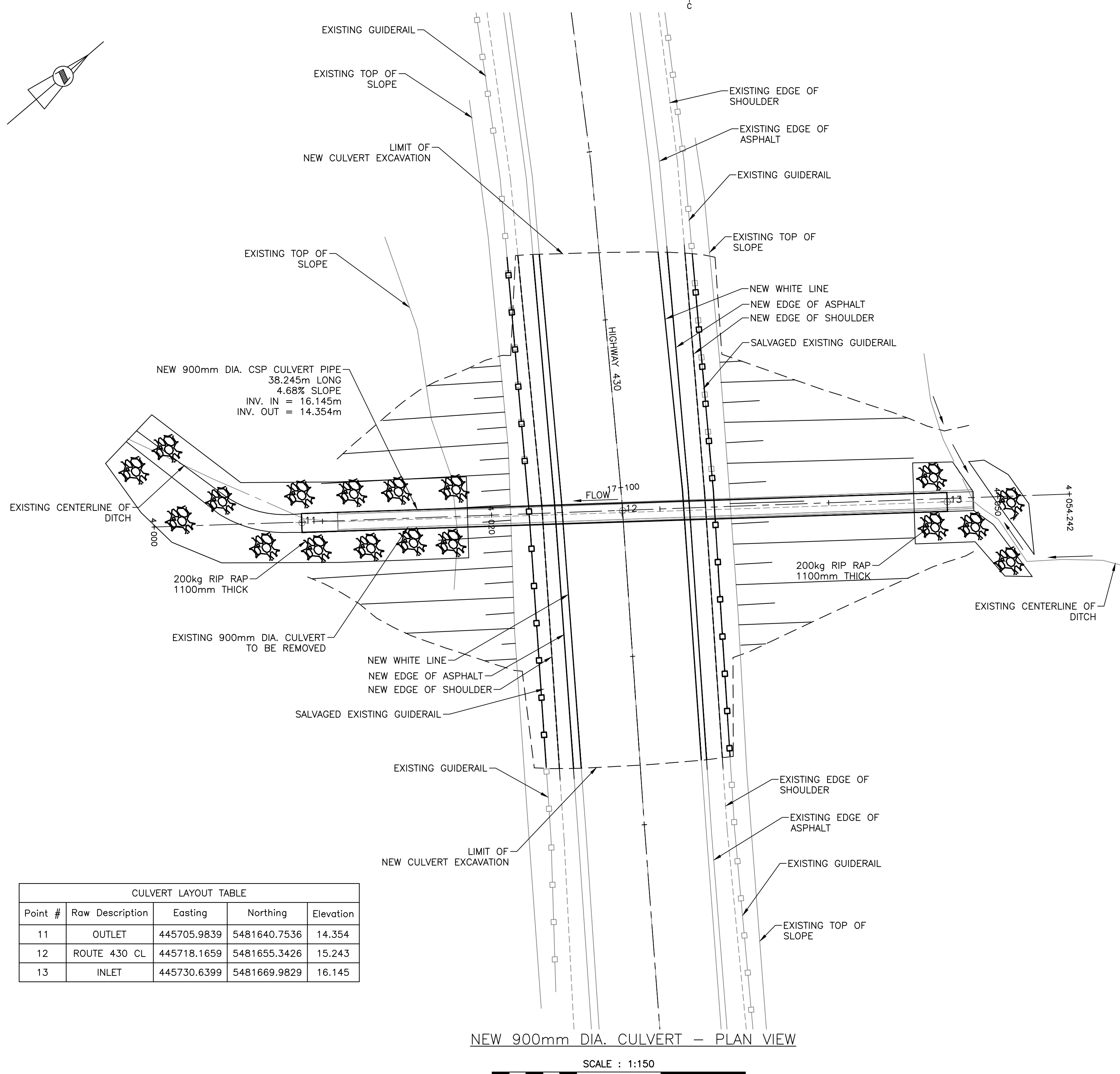
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016
revisions		date
project		project

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

NEW 1400mm DIA. CULVERT PLAN AND PROFILE VIEWS STA 16+090

designed	A.CALDWELL	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Soumission
PCA Project Manager		Administrateur de projets APC
project number	1350	no. du projet
drawing no.	C11	no. du dessin



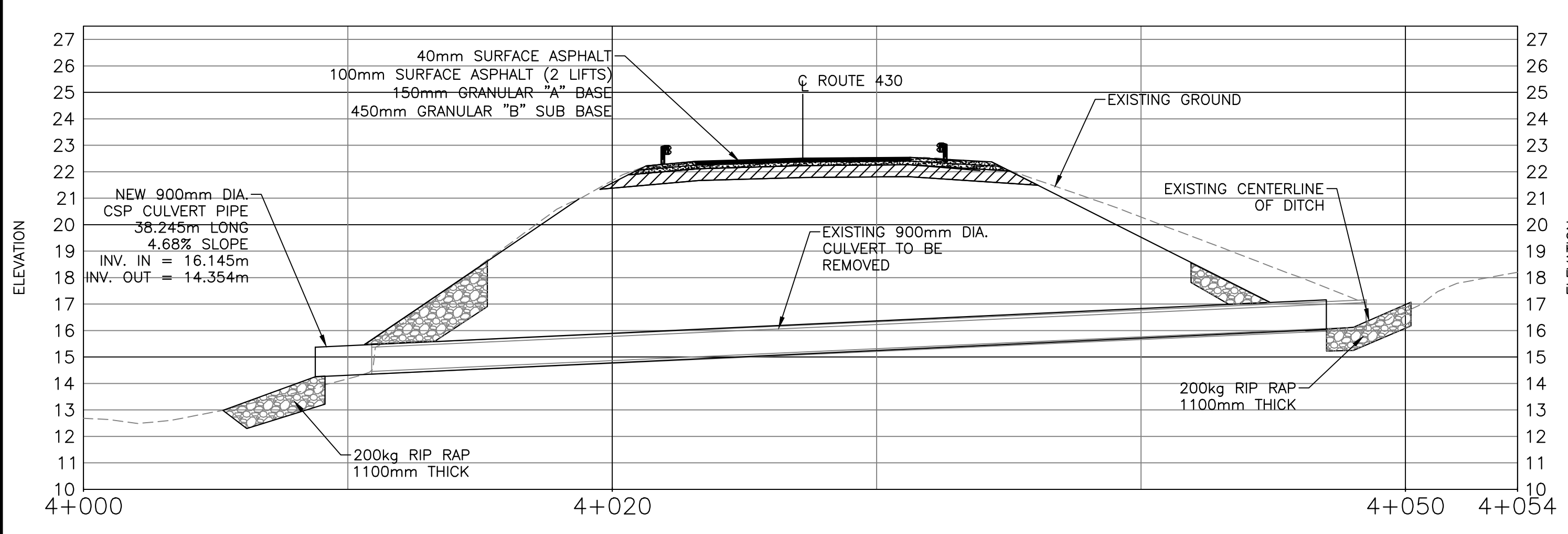


NOTE:  
CONTRACTOR IS RESPONSIBLE TO SUPPLY AND CONSTRUCT ALL MATERIALS AND EQUIPMENT NECESSARY TO PROVIDE DETOURS AROUND CULVERT INSTALLATION ZONES.

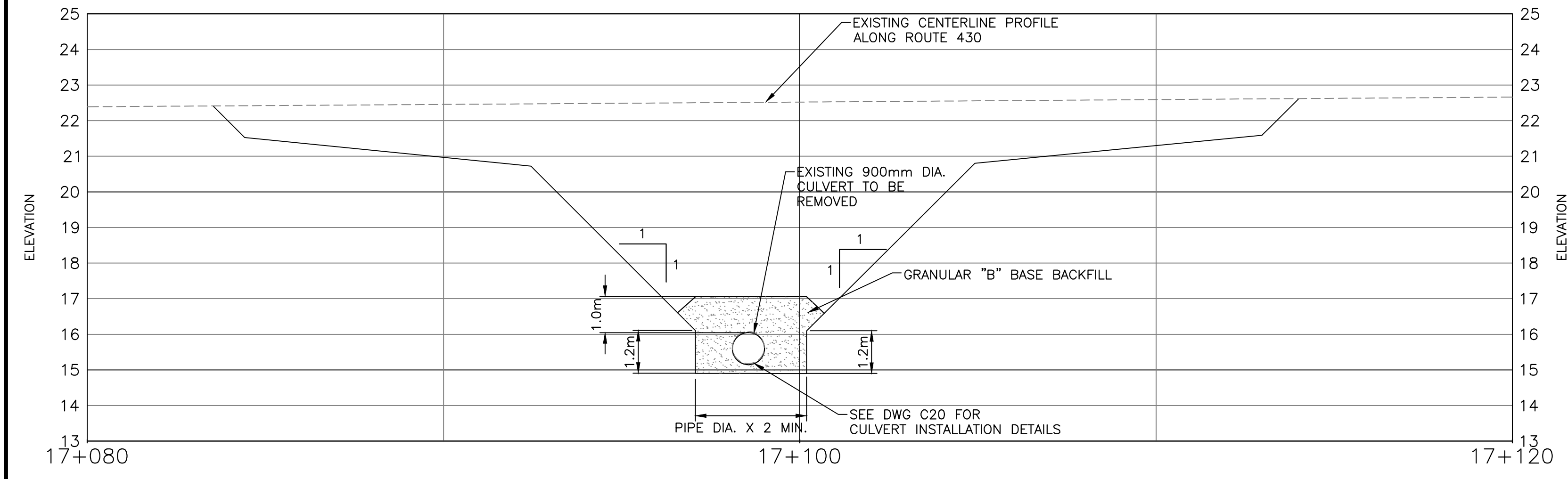
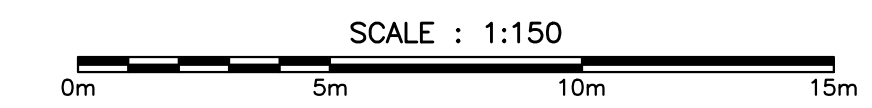
NOTE:  
ANY GUIDERAIL REMOVED SHALL BE SALVAGED AND RE-INSTALLED.

Point #	Raw Description	Easting	Northing	Elevation
11	OUTLET	445705.9839	5481640.7536	14.354
12	ROUTE 430 CL	445718.1659	5481655.3426	15.243
13	INLET	445730.6399	5481669.9829	16.145

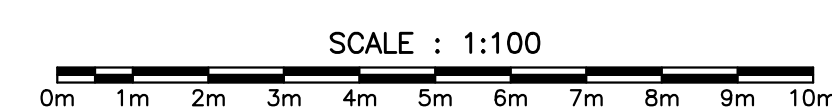
NEW 900mm DIA. CULVERT - PLAN VIEW



NEW 900mm DIA CULVERT STA 17+098 - PROFILE VIEW



NEW 900mm DIA CULVERT EXCAVATION LIMITS - PROFILE VIEW



MONCTON 1077 2nd St. George Blvd. 127 2nd St. George Blvd. 127 2nd St. George Blvd.  
 SHERBROOKE 1077 2nd St. George Blvd. 127 2nd St. George Blvd. 127 2nd St. George Blvd.  
 TEL: (506) 852-2777 TEL: (506) 852-2777 TEL: (506) 852-2777  
 FAX: (506) 852-2777 FAX: (506) 852-2777 FAX: (506) 852-2777  
 CRANDALLENGINEERING.CA



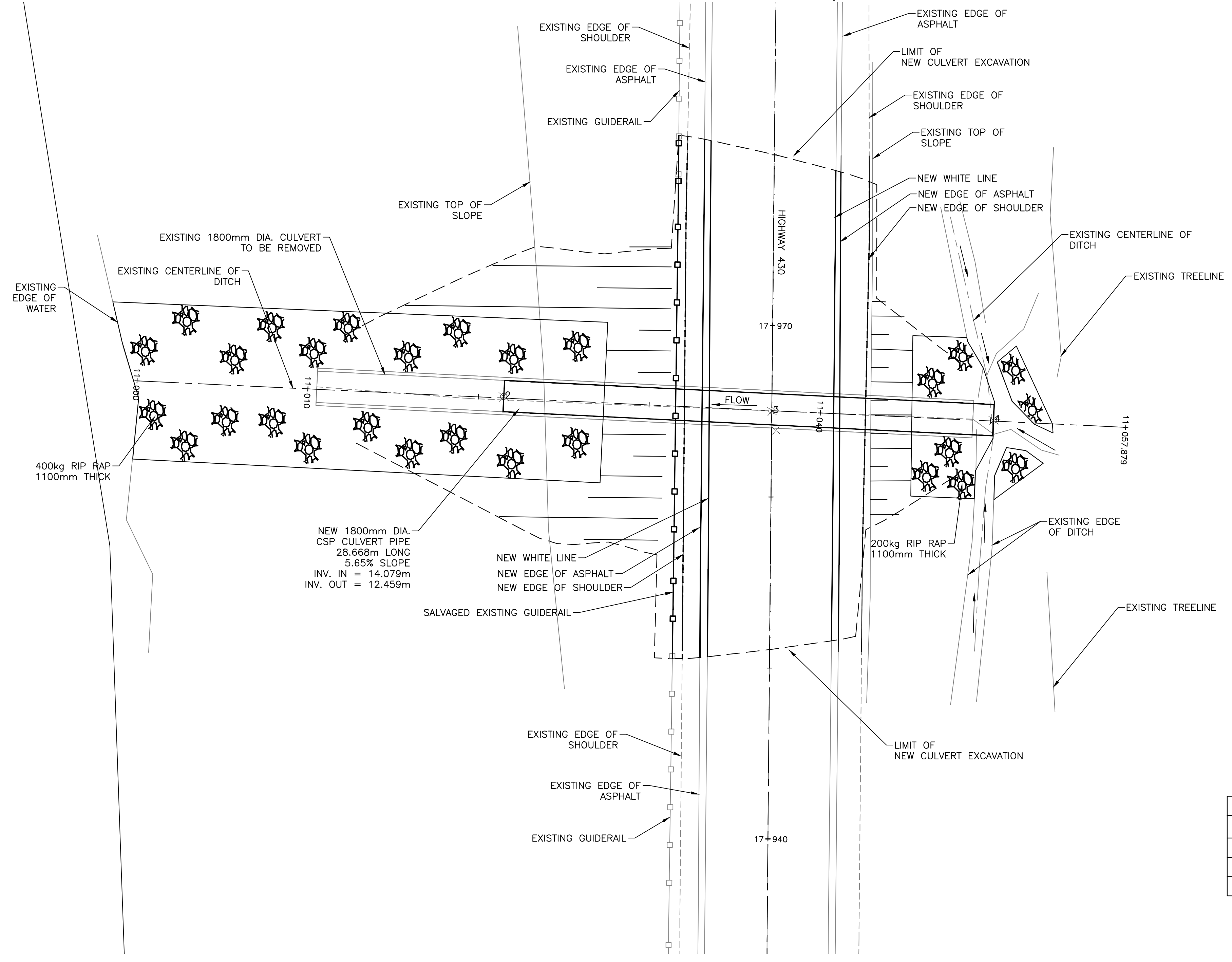
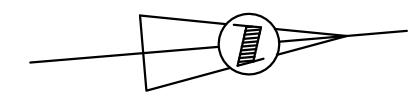
revisions	date	
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

NEW 900mm DIA. CULVERT PLAN AND PROFILE VIEWS STA 17+098

designed	A.CALDWELL	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C12	no. du dessin



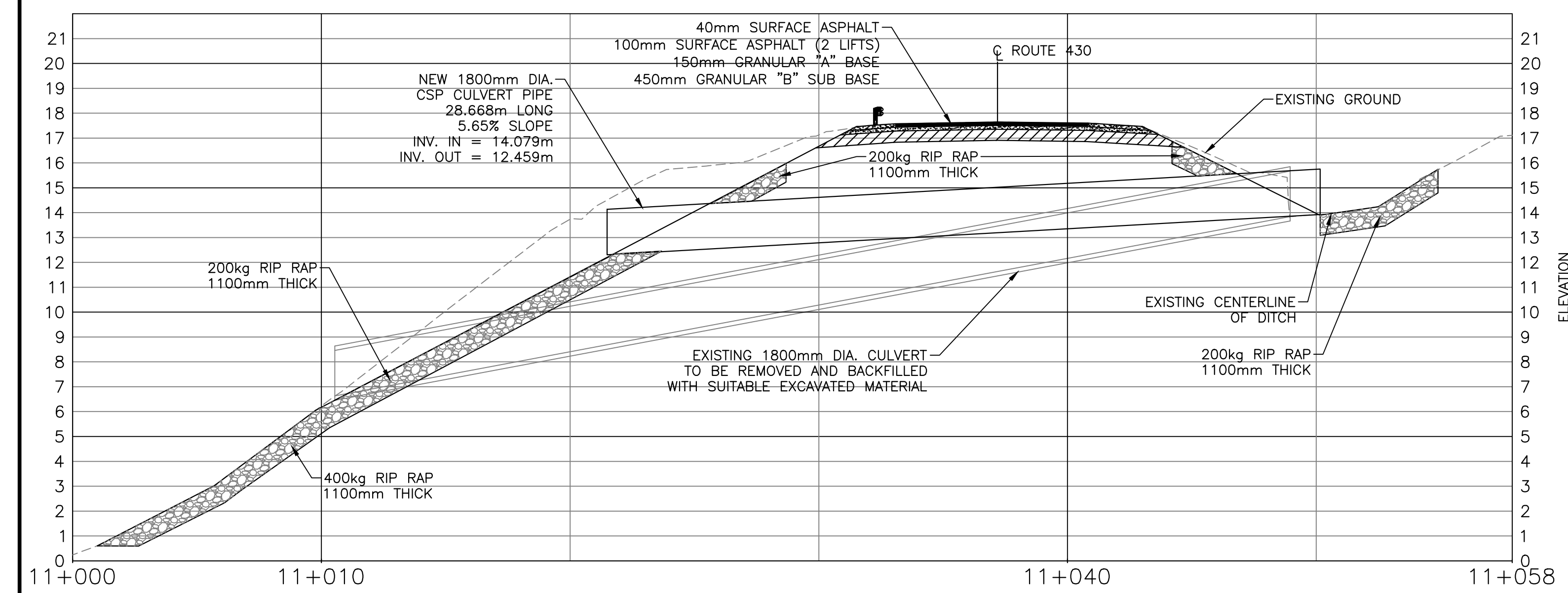
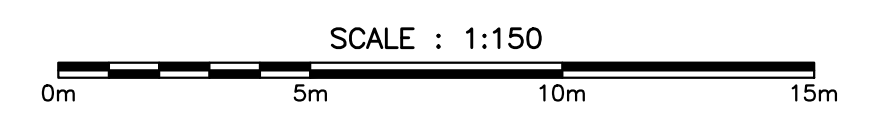


**NOTE:**  
CONTRACTOR IS RESPONSIBLE TO SUPPLY AND CONSTRUCT ALL MATERIALS AND EQUIPMENT NECESSARY TO PROVIDE DETOURS AROUND CULVERT INSTALLATION ZONES.

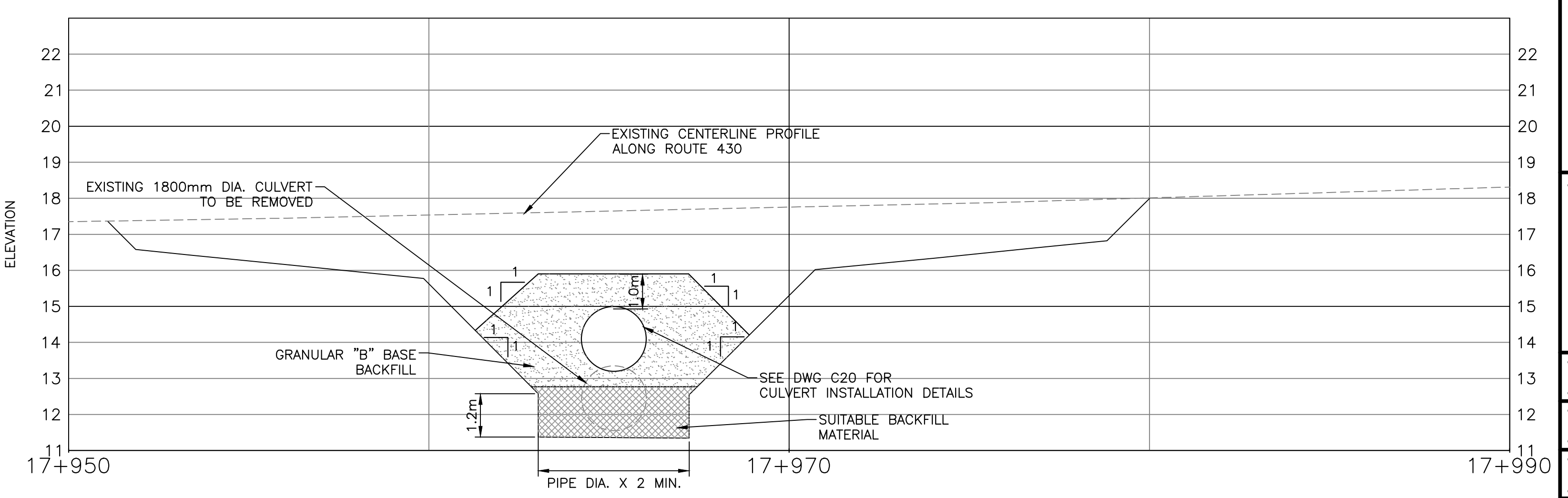
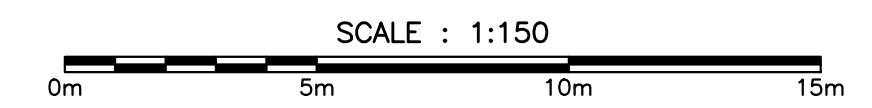
**NOTE:**  
ANY GUIDERAIL REMOVED SHALL BE SALVAGED AND RE-INSTALLED.

CULVERT LAYOUT TABLE				
Point #	Raw Description	Easting	Northing	Elevation
2	OUTLET	444866.6828	5481760.2958	12.459
3	ROUTE 430 CL	444868.8919	5481775.8481	13.346
4	INLET	444870.5595	5481788.7113	14.079

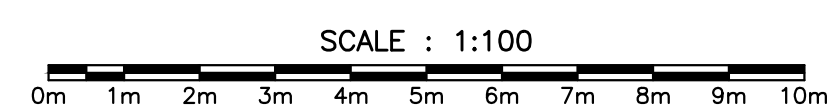
NEW 1800mm DIA. CULVERT - PLAN VIEW



NEW 1800mm DIA CULVERT STA 17+964 - PROFILE VIEW



NEW 1800mm DIA CULVERT EXCAVATION LIMITS - PROFILE VIEW



**MONCTON** 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd.  
**SANT JOHN** 123 Prince William Street 123 Prince William Street 123 Prince William Street  
**FREDERICTON** 544 Regent Street 544 Regent Street 544 Regent Street  
 Phone: (506) 853-2266 Fax: (506) 853-2266 Phone: (506) 853-2266 Fax: (506) 853-2266  
 Phone: (506) 853-2266 Fax: (506) 853-2266 Phone: (506) 853-2266 Fax: (506) 853-2266  
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revisions	description	date
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016

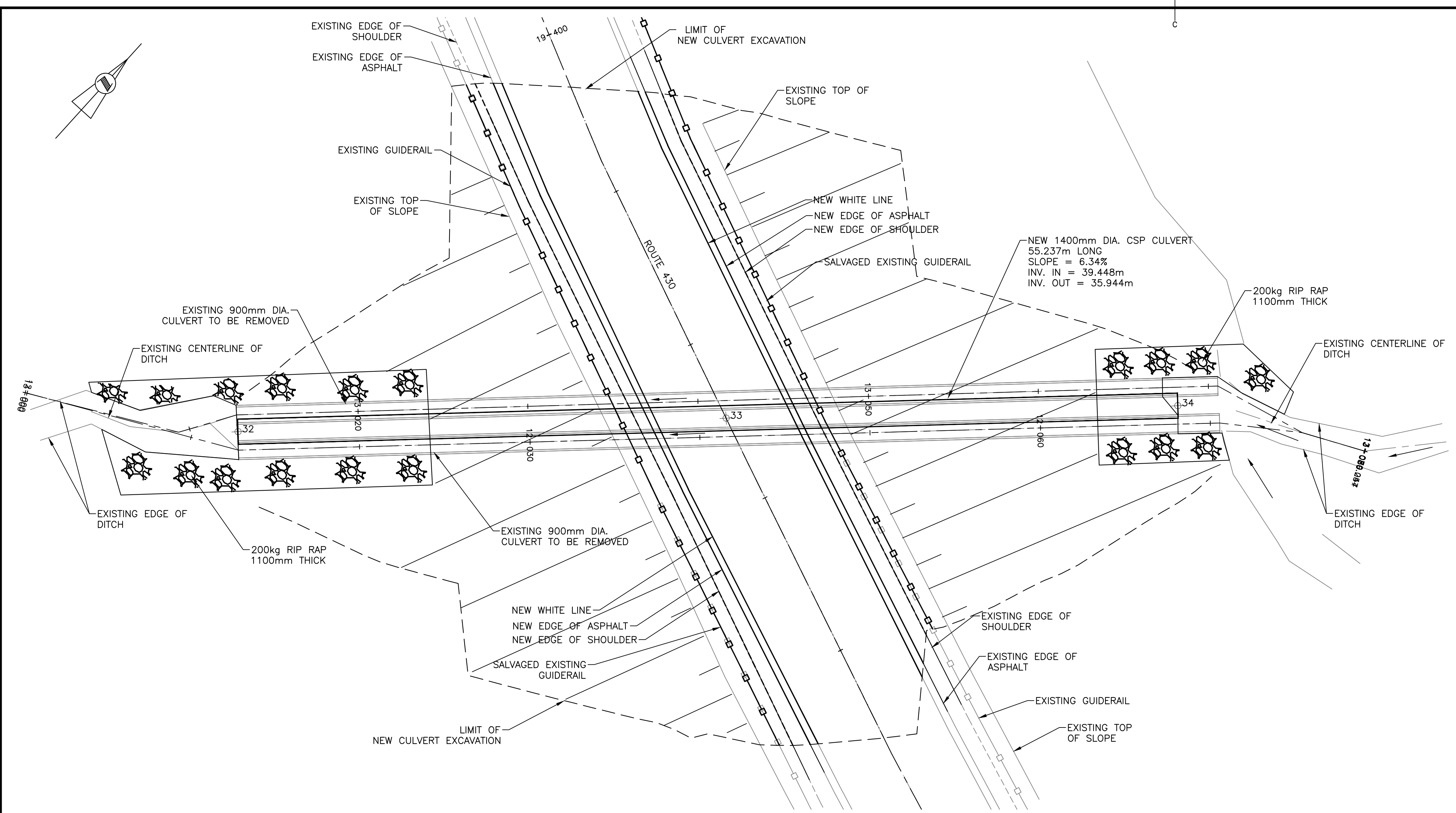
**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

**NEW 1800mm DIA. CULVERT PLAN AND PROFILE VIEWS STA 17+964**

designed: A.CALDWELL  
 date: JANUARY 31, 2017  
 drawn: A.CALDWELL  
 date: JANUARY 31, 2017  
 approved: J.BABIN  
 date: JANUARY 31, 2017

project number: 1350  
 drawing no.: C13

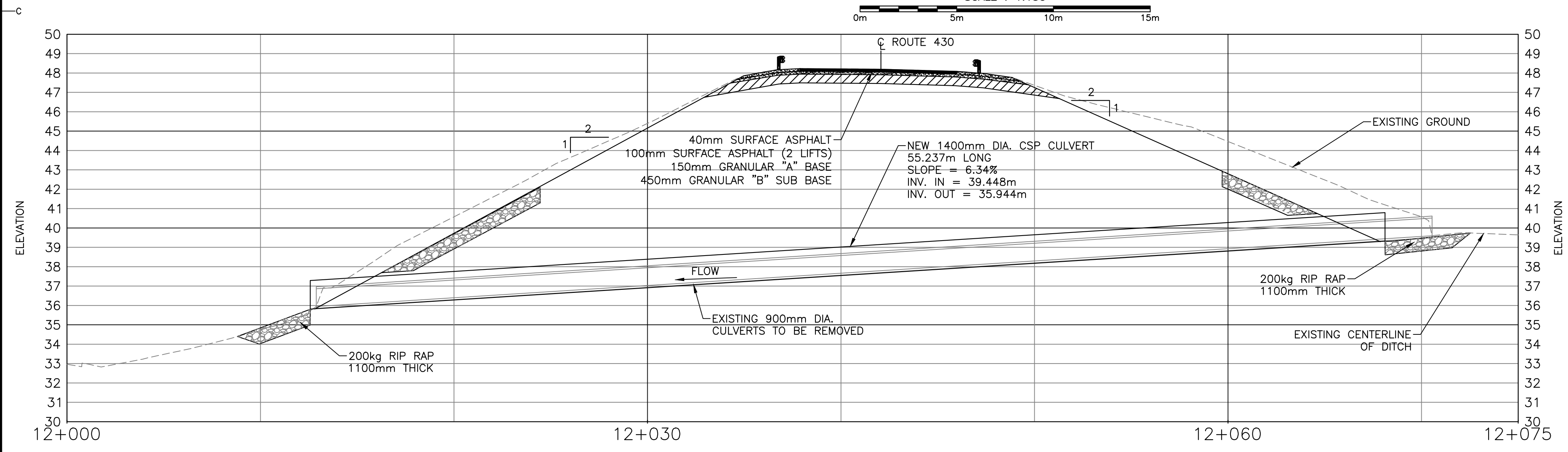




NOTE:  
CONTRACTOR IS RESPONSIBLE TO SUPPLY AND CONSTRUCT ALL MATERIALS AND EQUIPMENT NECESSARY TO PROVIDE DETOURS AROUND CULVERT INSTALLATION ZONES.

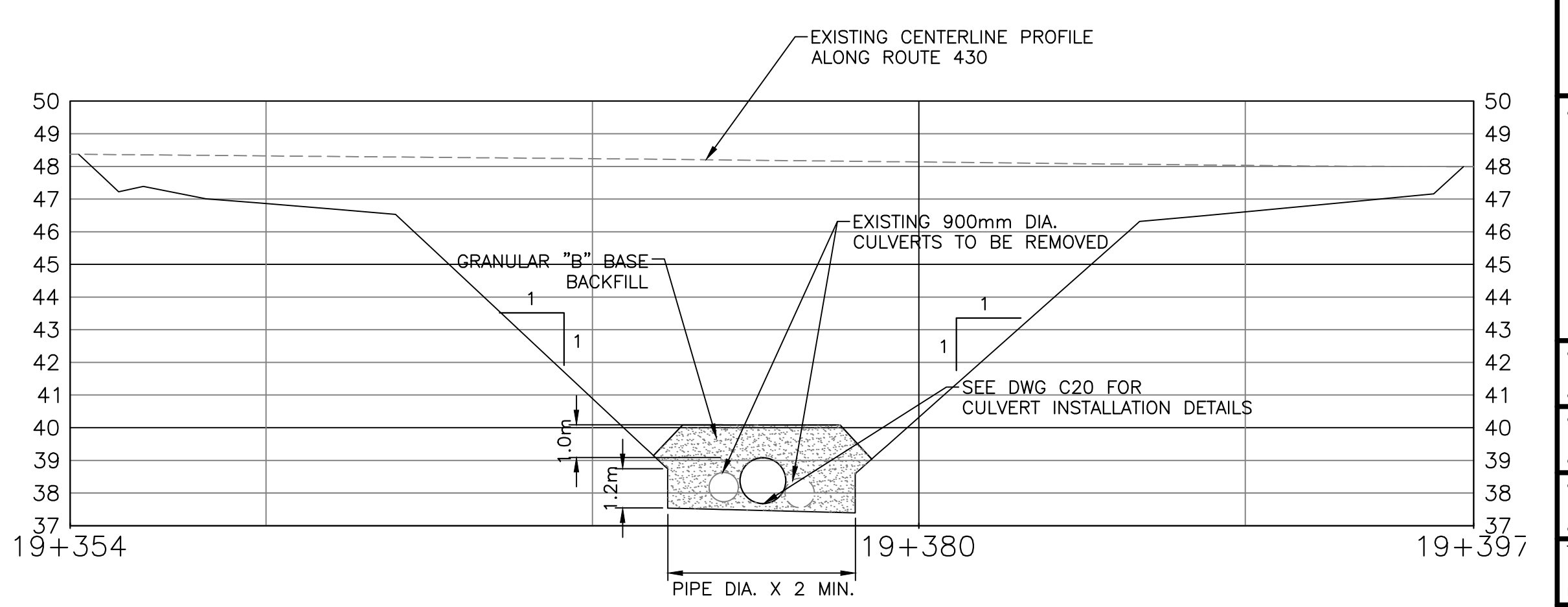
NOTE:  
ANY GUIDERAIL REMOVED SHALL BE SALVAGED AND RE-INSTALLED.

NEW 1400mm DIA. CULVERT — PLAN VIEW  
SCALE : 1:150



NEW 1400mm DIA. CULVERT STA 19+375 — PROFILE VIEW  
SCALE : 1:150

CULVERT LAYOUT TABLE				
Point #	Raw Description	Easting	Northing	Elevation
32	OUTLET	443615.5150	5482251.6469	35.944
33	ROUTE 430 CL	443656.2961	5482271.4265	37.765
34	INLET	443655.5256	5482289.7293	39.448



NEW 1400mm DIA. CULVERT EXCAVATION LIMITS — PROFILE VIEW  
SCALE : 1:100



MONCTON 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd. 1077 Ave. St. George Blvd.  
 SHERBROOKE 252 2nd St. 252 2nd St. 252 2nd St.  
 FREDERICTON 544 1st St. 544 1st St. 544 1st St.  
 TEL: (506) 857-2777 TEL: (506) 857-2777 TEL: (506) 857-2777  
 FAX: (506) 857-2778 FAX: (506) 857-2778 FAX: (506) 857-2778  
 WWW: CRANDALLENGINEERING.CA WWW: CRANDALLENGINEERING.CA WWW: CRANDALLENGINEERING.CA



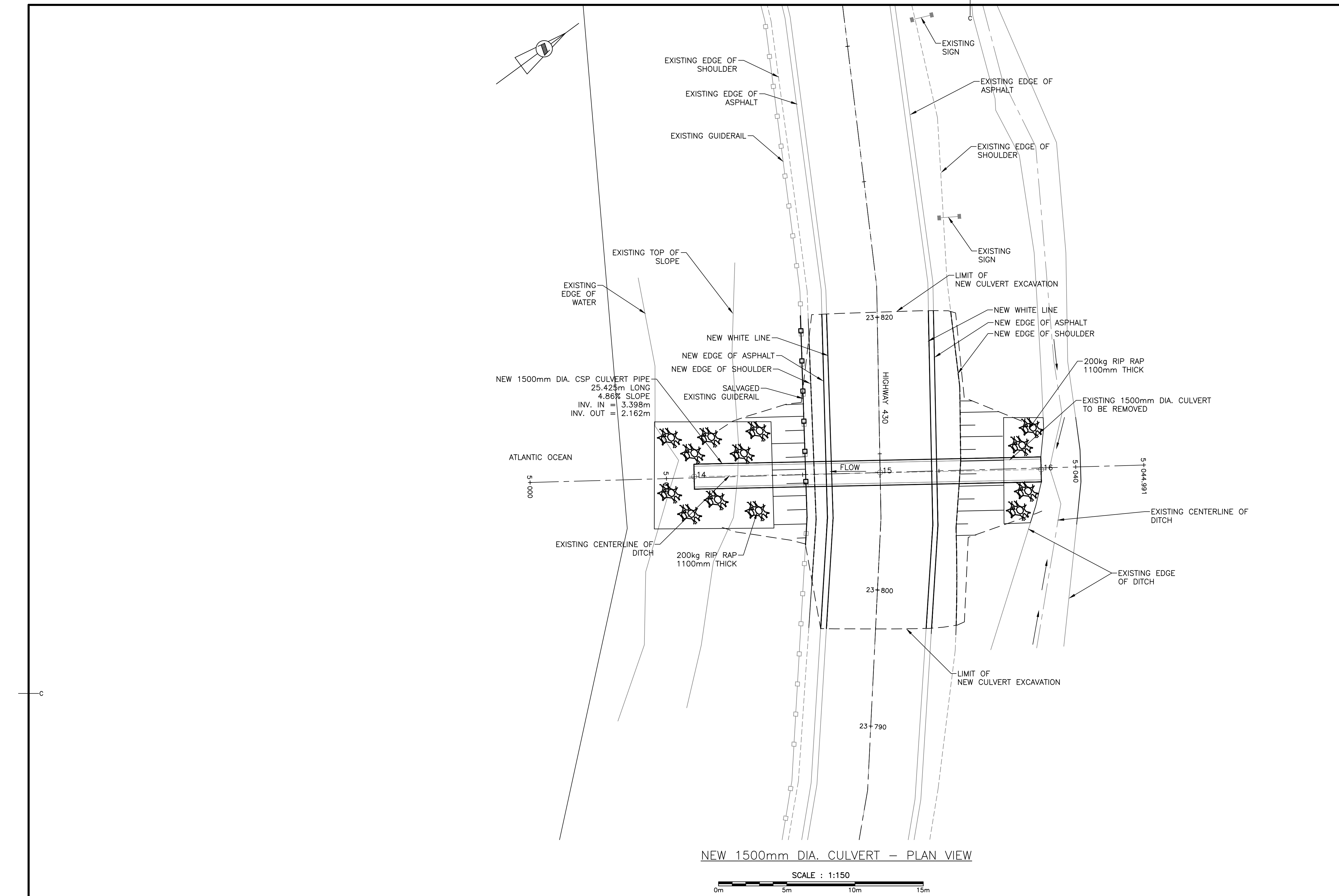
revisions	date
C	ISSUED FOR TENDER FEB. 10 2017
B	RS4 90% SUBMISSION DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT SEP. 16 2016

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

NEW 1400mm DIA. CULVERT PLAN AND PROFILE VIEWS STA 19+375

designed	A.CALDWELL	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
	1350	
drawing no.	no. du dessin	
	C14	



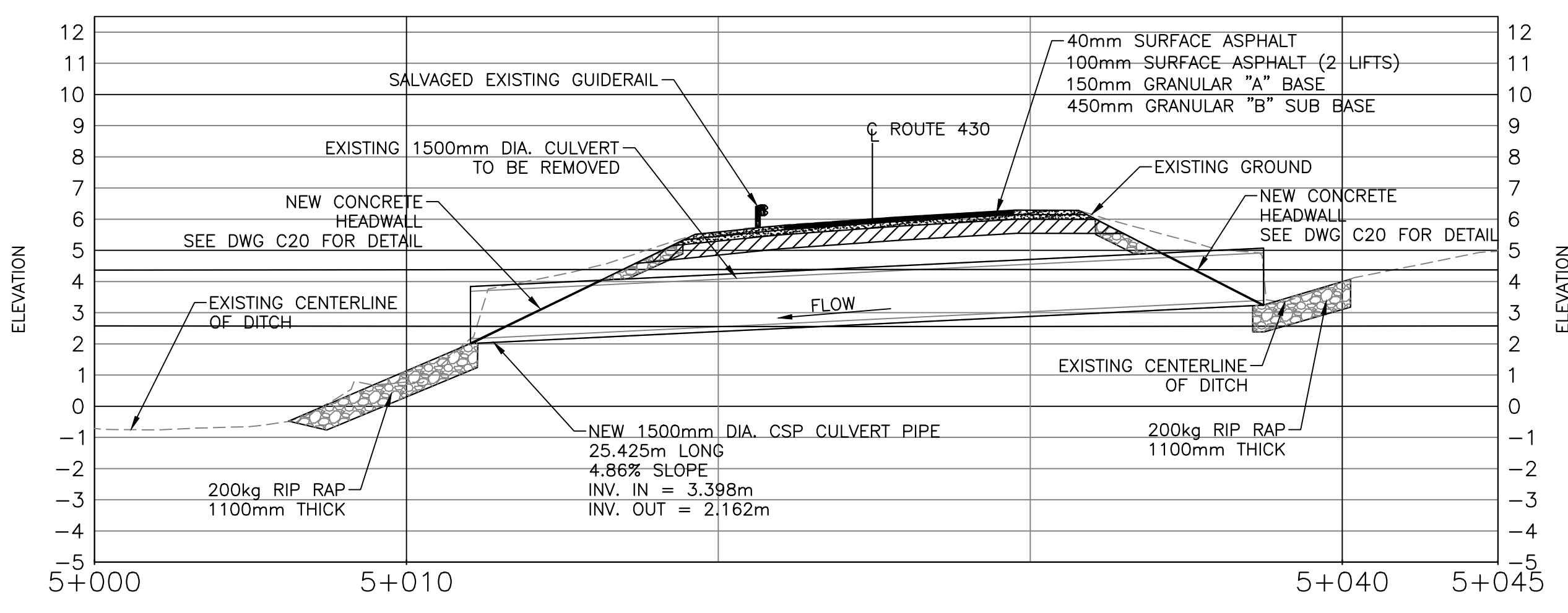


NOTE:  
CONTRACTOR IS RESPONSIBLE TO SUPPLY AND CONSTRUCT ALL MATERIALS AND EQUIPMENT NECESSARY TO PROVIDE DETOURS AROUND CULVERT INSTALLATION ZONES.

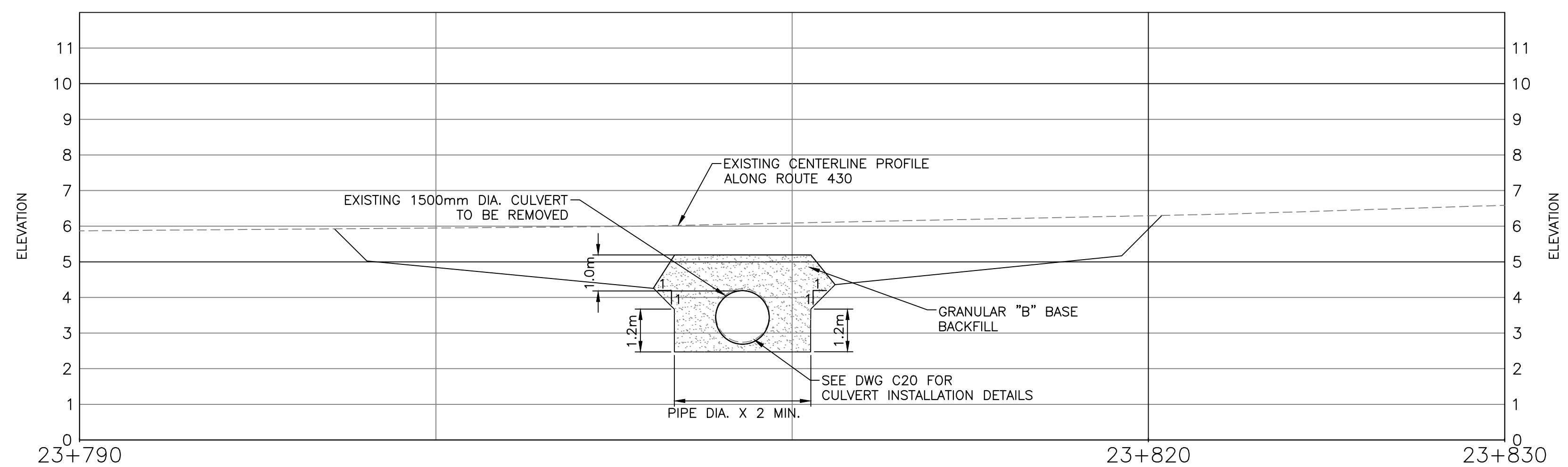
NOTE:  
ANY GUIDERAIL REMOVED SHALL BE SALVAGED AND RE-INSTALLED.

Point #	Raw Description	Easting	Northing	Elevation
14	OUTLET	440843.9720	5484978.8720	2.162
15	ROUTE 430 CL	440852.4929	5484989.5044	2.824
16	INLET	440859.9100	5484998.6820	3.398

NEW 1500mm DIA. CULVERT - PLAN VIEW  
SCALE : 1:150



NEW 1500mm DIA CULVERT STA 23+808 - PROFILE VIEW  
SCALE : 1:150



NEW 1500mm DIA CULVERT EXCAVATION LIMITS - PROFILE VIEW  
SCALE : 1:100



MONCTON 1077 2nd St. George Blvd. 123 Prince William Street  
 FREDERICTON 544 1st Street  
 TEL (506) 852-2266 TEL (506) 852-2277 TEL (506) 852-2285  
 FAX (506) 852-2266 FAX (506) 852-2285 FAX (506) 852-2285  
 CRANDALLENGINEERING.CA



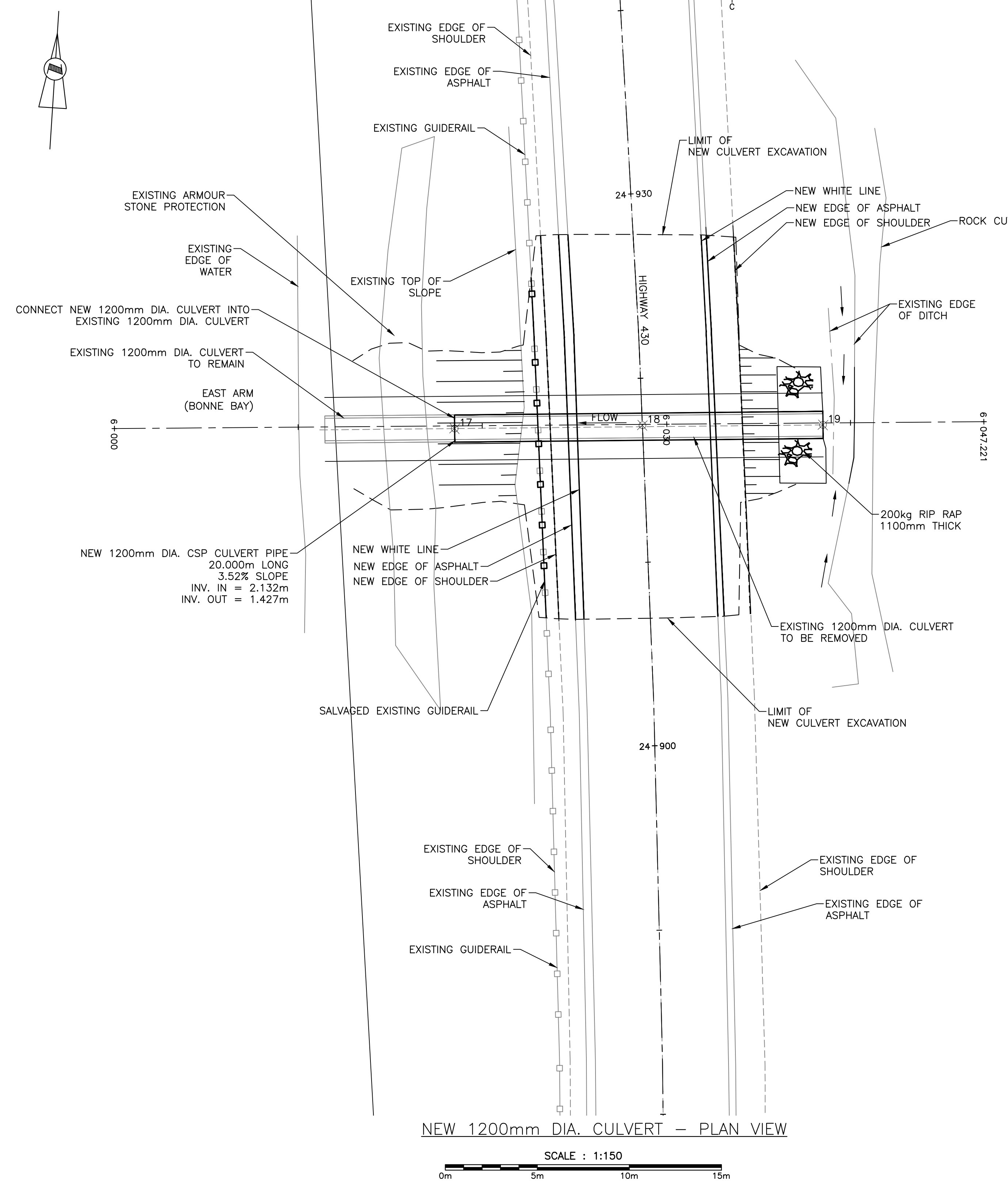
revisions	date
C	ISSUED FOR TENDER FEB. 10 2017
B	RS4 90% SUBMISSION DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT SEP. 16 2016

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

NEW 1500mm DIA. CULVERT PLAN AND PROFILE VIEWS STA. 23+808

designed	A.CALDWELL	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C15	no. du dessin



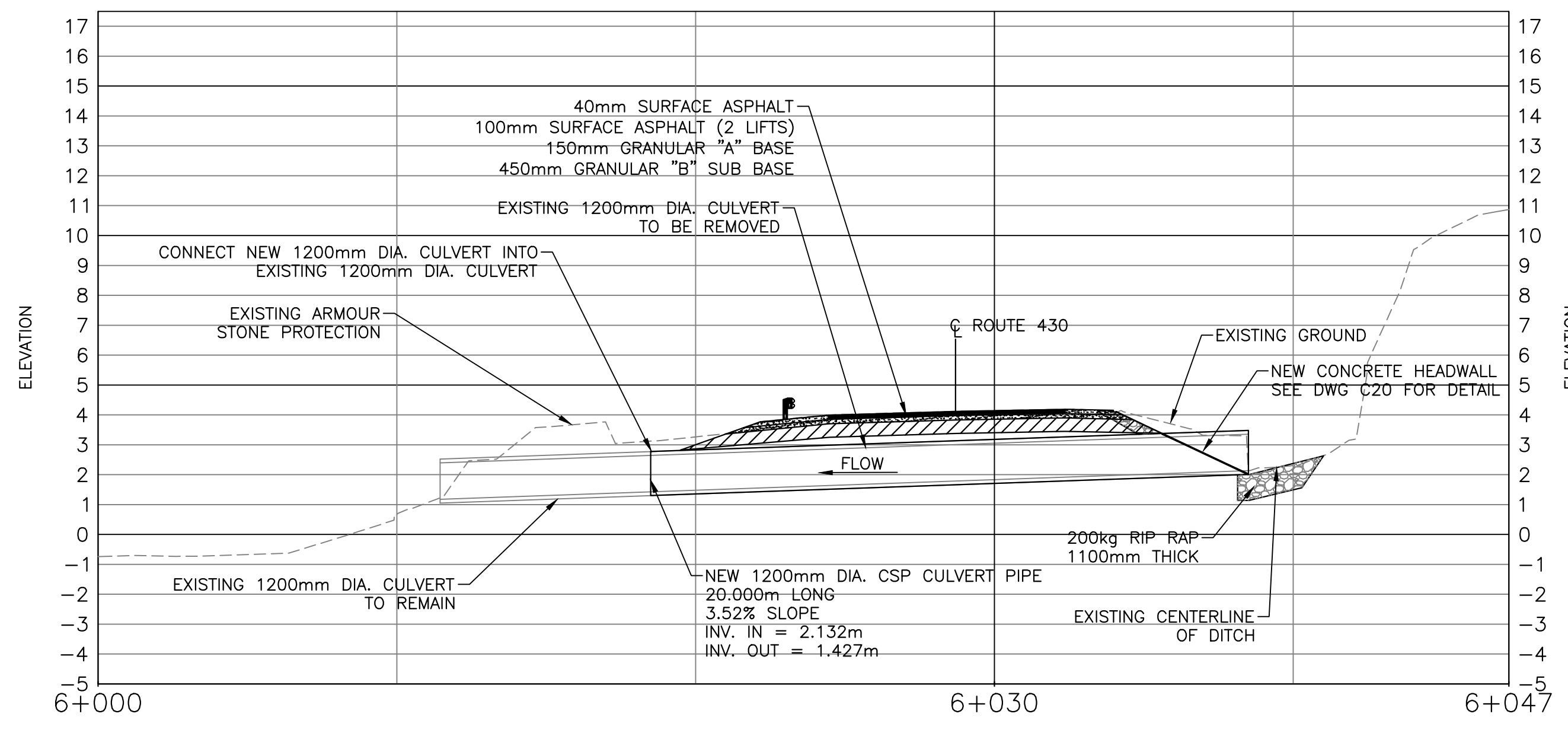


NOTE:  
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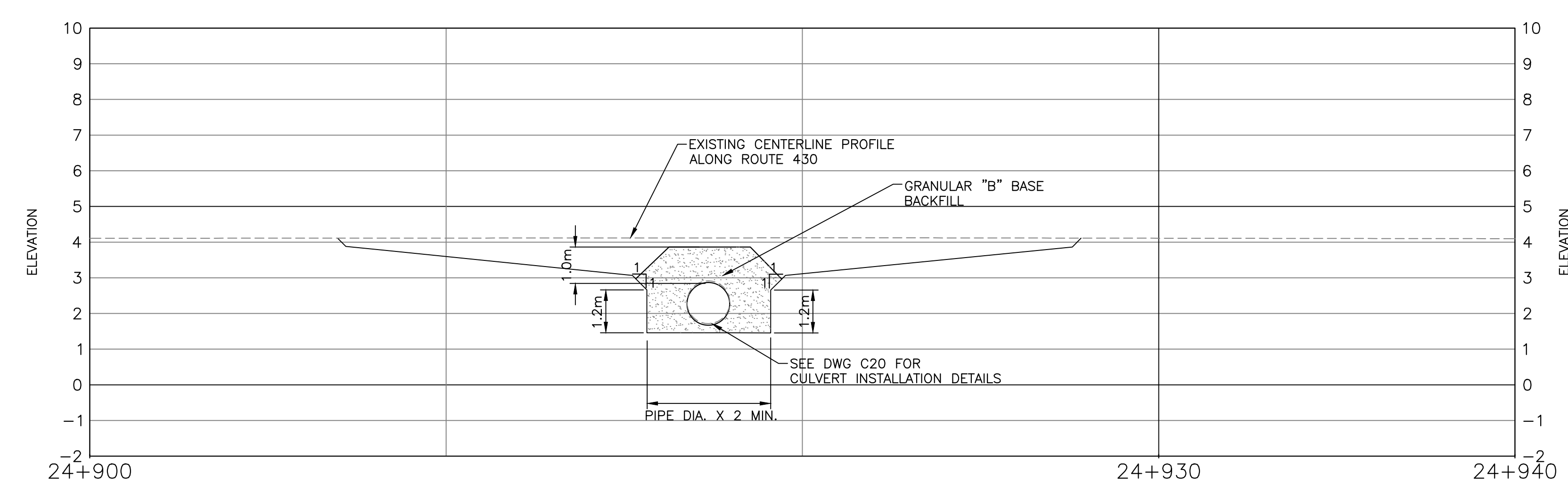
NOTE:  
ANY GUIDERAIL REMOVED SHALL BE SALVAGED AND RE-INSTALLED.

Point #	Row Description	Easting	Northing	Elevation
17	OUTLET	440481.9963	5485907.1250	1.427
18	ROUTE 430 CL	440492.1688	5485907.8364	1.786
19	INLET	440501.9640	5485908.3700	2.132

NEW 1200mm DIA. CULVERT - PLAN VIEW  
SCALE : 1:150



NEW 1200mm DIA CULVERT STA 24+917 - PROFILE VIEW  
SCALE : 1:150



NEW 1200mm DIA CULVERT EXCAVATION LIMITS - PROFILE VIEW  
SCALE : 1:100



MONCTON 1077 202, St. George Blvd. 506 852-2777  
 SAINT JOHN 123 Prince William Street 506 852-2777  
 FREDERICTON 504 Regent Street 506 641-4400  
 CRANDALLENGINEERING.CA



revisions	description	date
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

NEW 1200mm DIA. CULVERT PLAN AND PROFILE VIEWS STA. 24+917

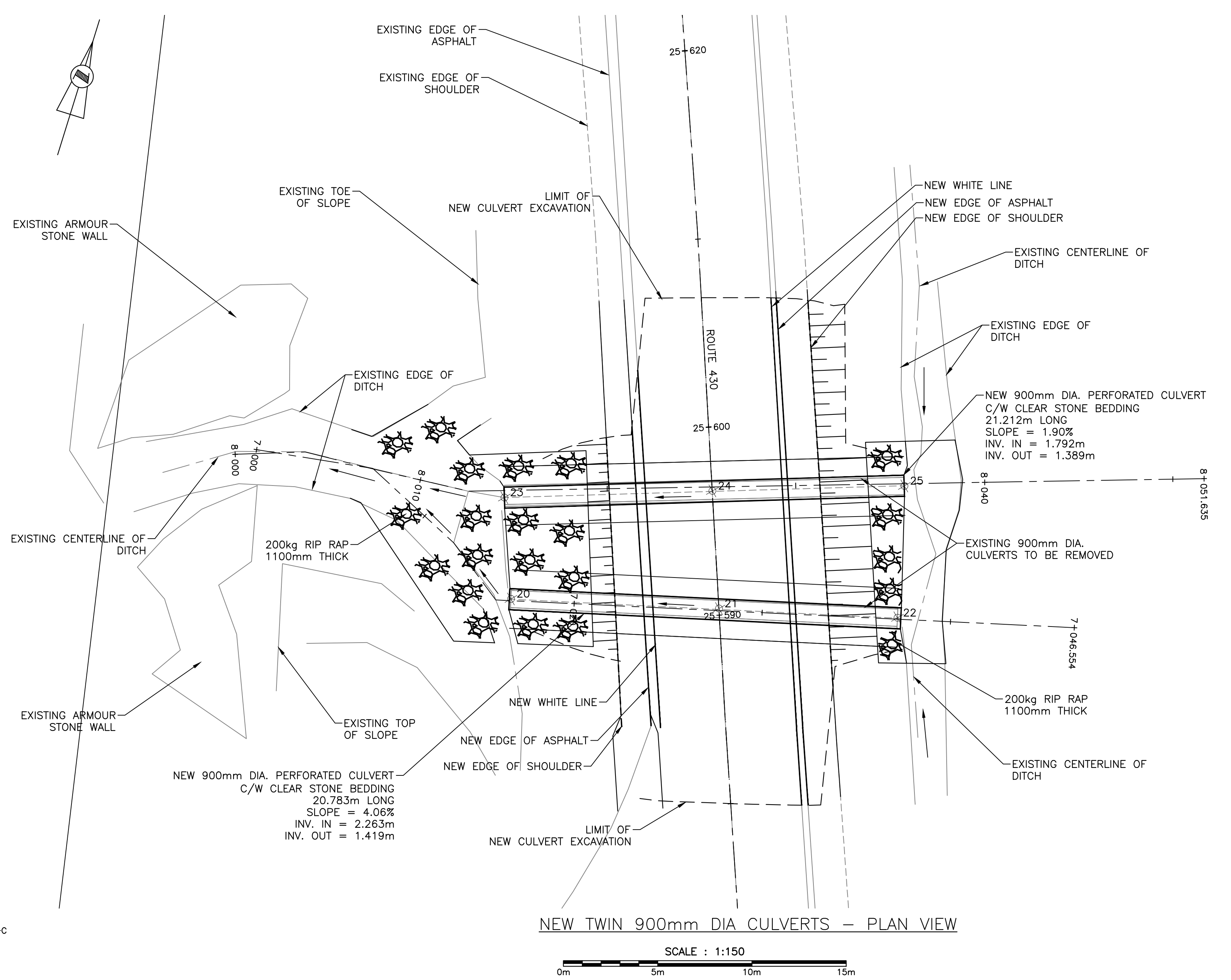
designed	A.CALDWELL	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number		no. du projet
	1350	
drawing no.		no. du dessin
	C16	



NOTE:  
CONTRACTOR IS RESPONSIBLE TO SUPPLY AND  
CONSTRUCT ALL MATERIALS AND EQUIPMENT  
NECESSARY TO PROVIDE DETOURS AROUND CULVERT  
INSTALLATION ZONES.



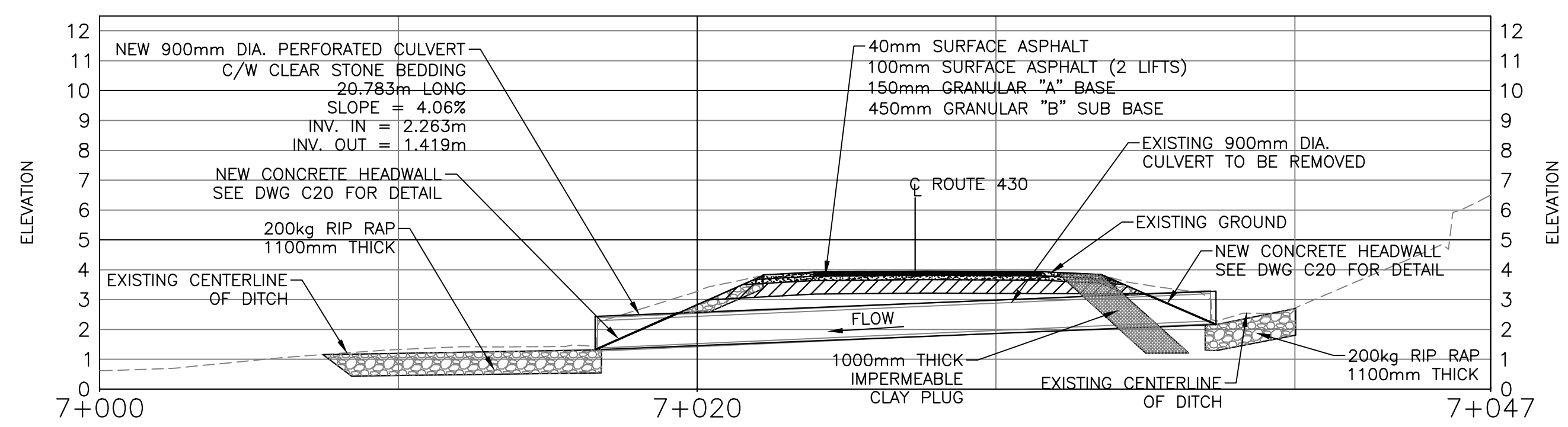
MONCTON 1275 St. George Blvd. 1275 St. George Blvd. 1275 St. George Blvd.  
SARV JOHN 123 Prince William Street 123 Prince William Street 123 Prince William Street  
FREDERICTON 544 Tupper Street 544 Tupper Street 544 Tupper Street  
TEL (506) 853-2777 TEL (506) 853-2777 TEL (506) 853-2777  
FAX (506) 853-2777 FAX (506) 853-2777 FAX (506) 853-2777  
CRANDALLENGINEERING.CA



Point #	Raw Description	Easting	Northing	Elevation
20	OUTLET	440295.8560	5486550.5400	1.419
21	ROUTE 430 CL	440306.6444	5486552.9025	1.867
22	INLET	440315.9130	5486554.8790	2.263
23	OUTLET	440294.1270	5486555.6450	1.389
24	ROUTE 430 CL	440304.6932	5486558.8407	1.599
25	INLET	440314.4590	5486561.7310	1.792

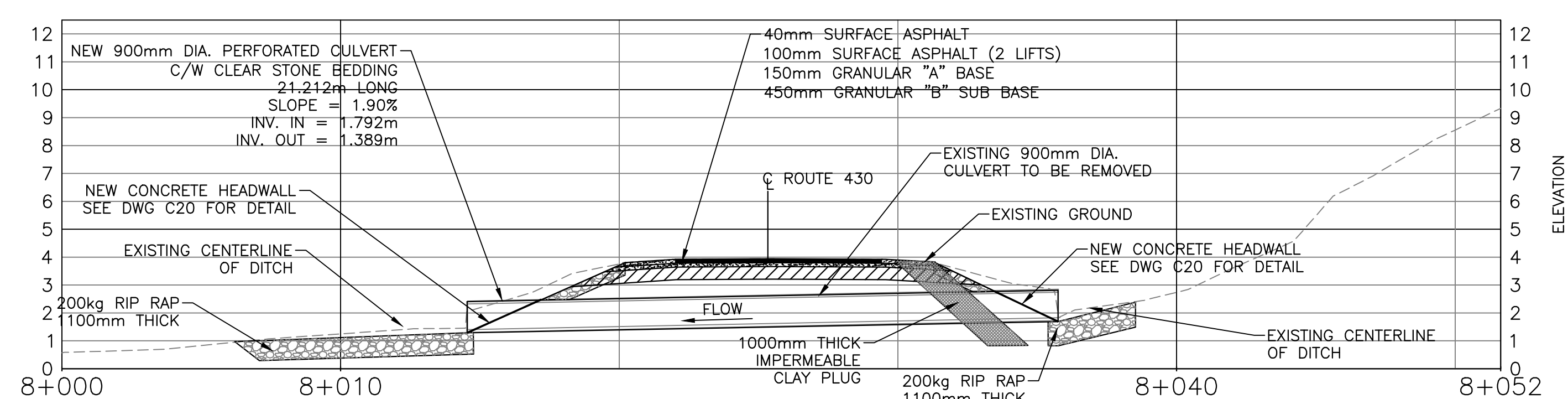
NEW TWIN 900mm DIA CULVERTS - PLAN VIEW

SCALE : 1:150



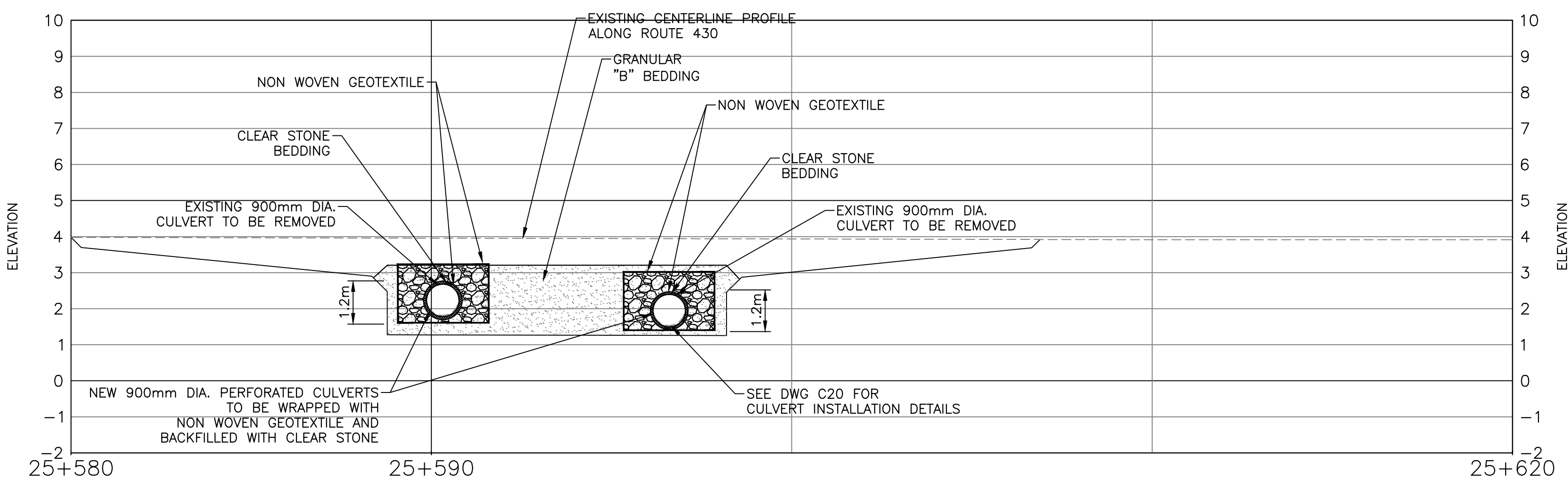
NEW 900mm DIA CULVERT STA 25+590 - PROFILE VIEW

SCALE : 1:150



NEW 900mm DIA CULVERT STA 25+597 - PROFILE VIEW

SCALE : 1:150



TWIN 900mm DIA CULVERTS EXCAVATION LIMITS - PROFILE VIEW

SCALE : 1:100

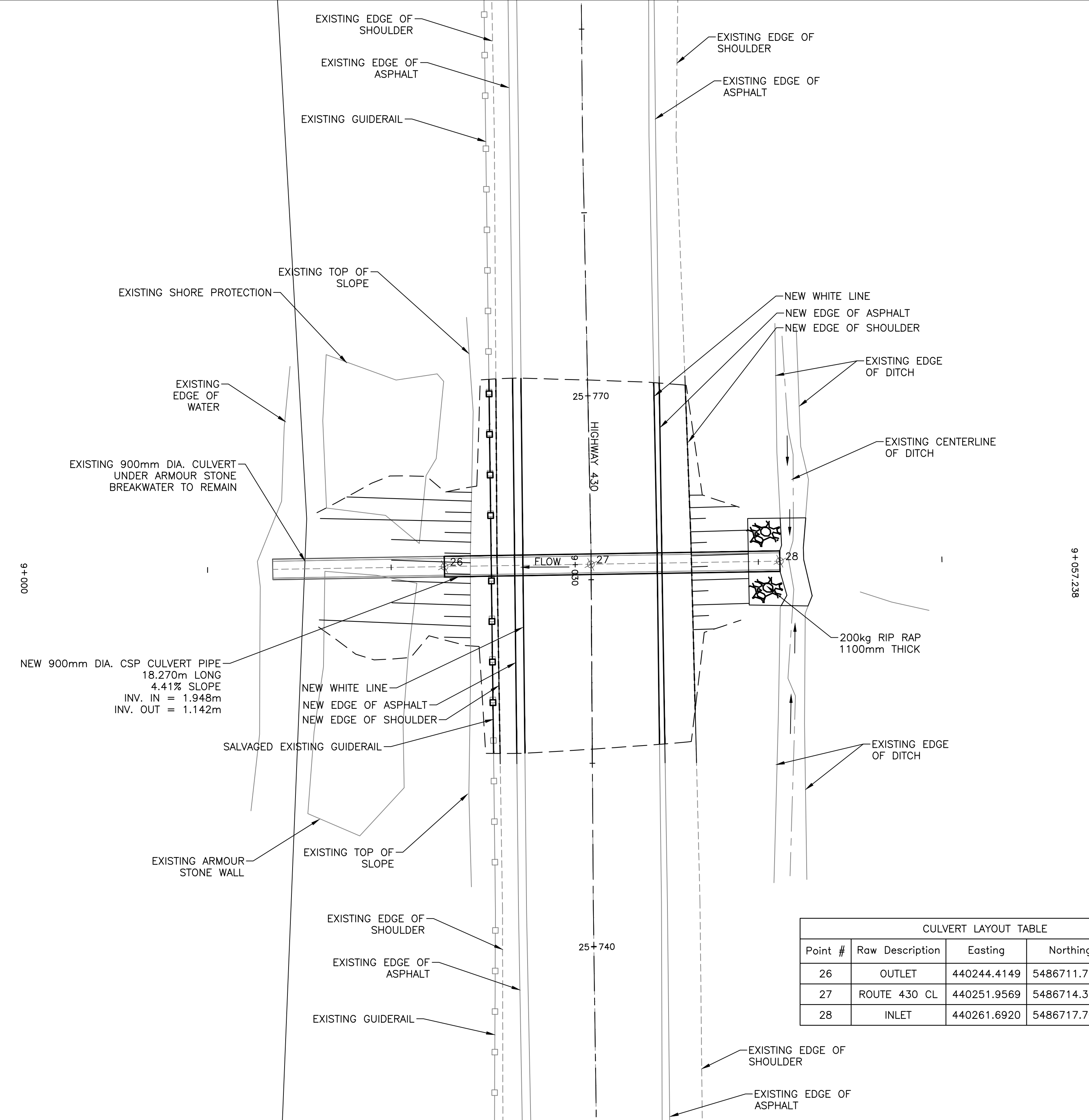
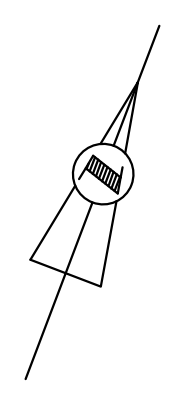
revisions	description	date
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

NEW TWIN 900mm DIA. CULVERTS PLAN AND PROFILE VIEWS STA. 25+590 AND STA. 25+597

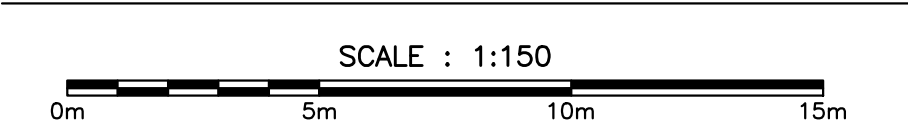
designed	A.CALDWELL	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Soumission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C17	no. du dessin





Point #	Raw Description	Easting	Northing	Elevation
26	OUTLET	440244.4149	5486711.7740	1.150
27	ROUTE 430 CL	440251.9569	5486714.3552	1.493
28	INLET	440261.6920	5486717.7050	1.948

NEW 900mm DIA. CULVERT - PLAN VIEW

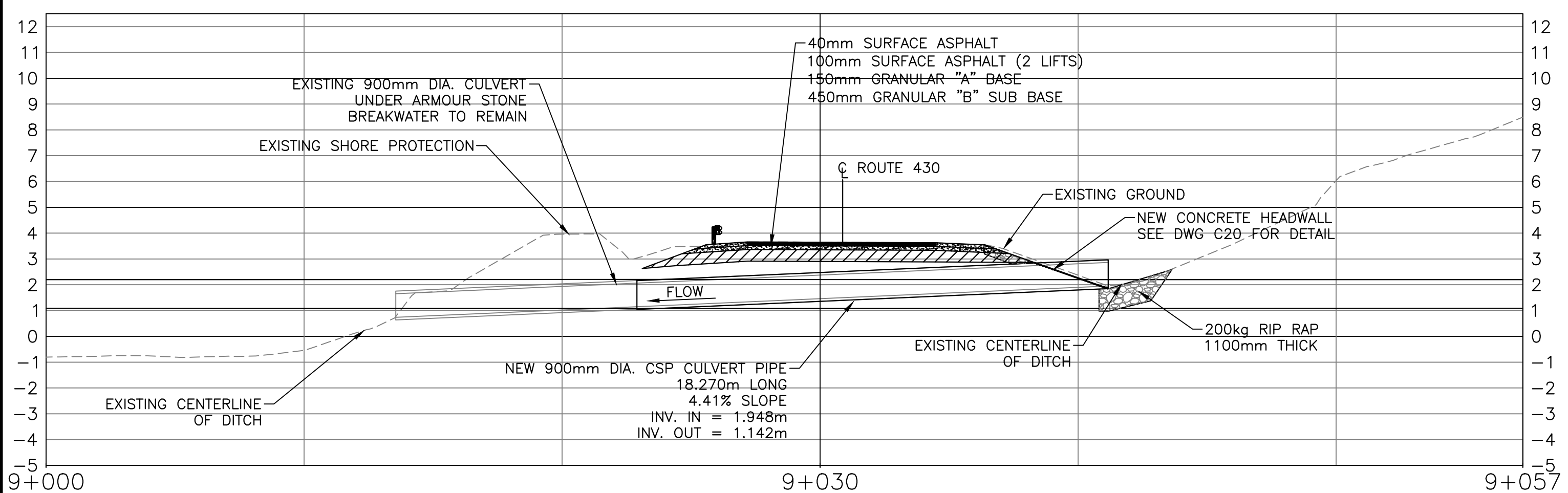


NOTE:  
CONTRACTOR IS RESPONSIBLE TO SUPPLY AND CONSTRUCT ALL MATERIALS AND EQUIPMENT NECESSARY TO PROVIDE DETOURS AROUND CULVERT INSTALLATION ZONES.

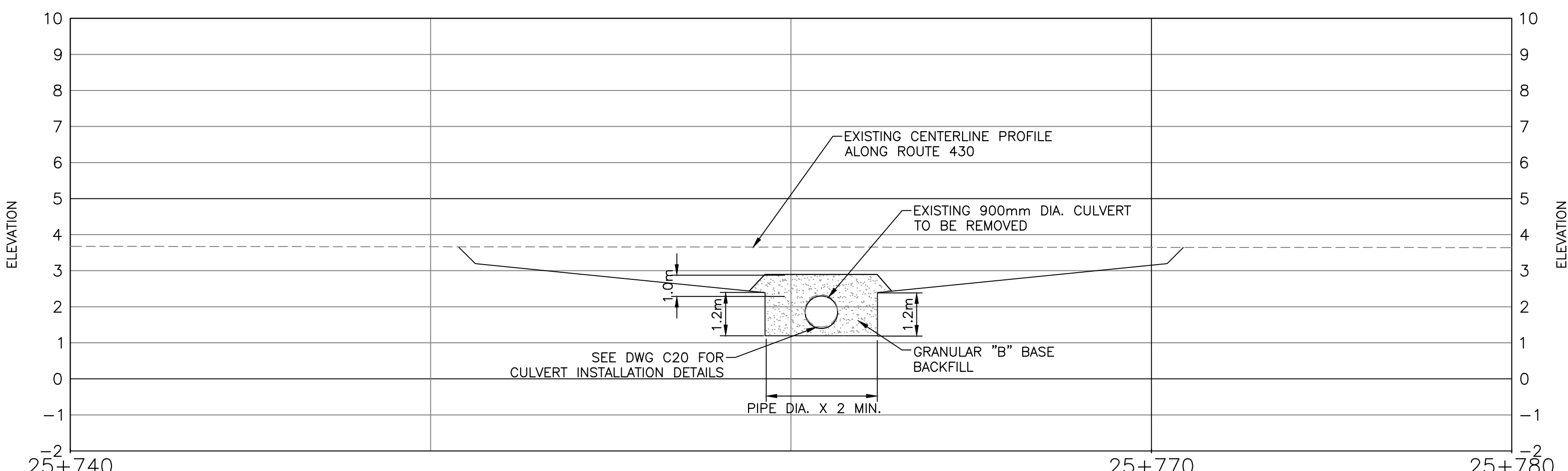
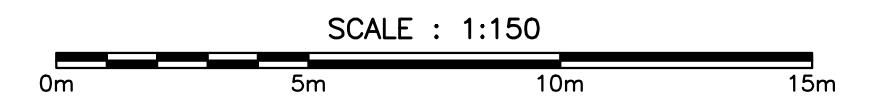
NOTE:  
ANY GUIDERAIL REMOVED SHALL BE SALVAGED AND RE-INSTALLED.



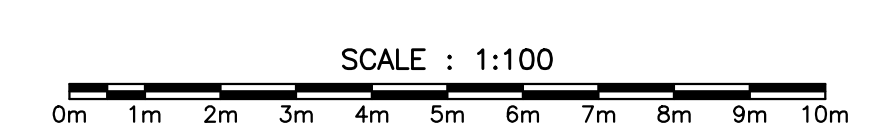
MONCTON 1077 202, St. George Blvd. 506-739-1111  
 SAINT JOHN 123 Prince William Street 506-739-1111  
 FREDERICTON 504 Margaret Street 506-739-1111  
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NEW 900mm DIA CULVERT STA 25+761 - PROFILE VIEW



NEW 900mm DIA CULVERT EXCAVATION LIMITS - PROFILE VIEW



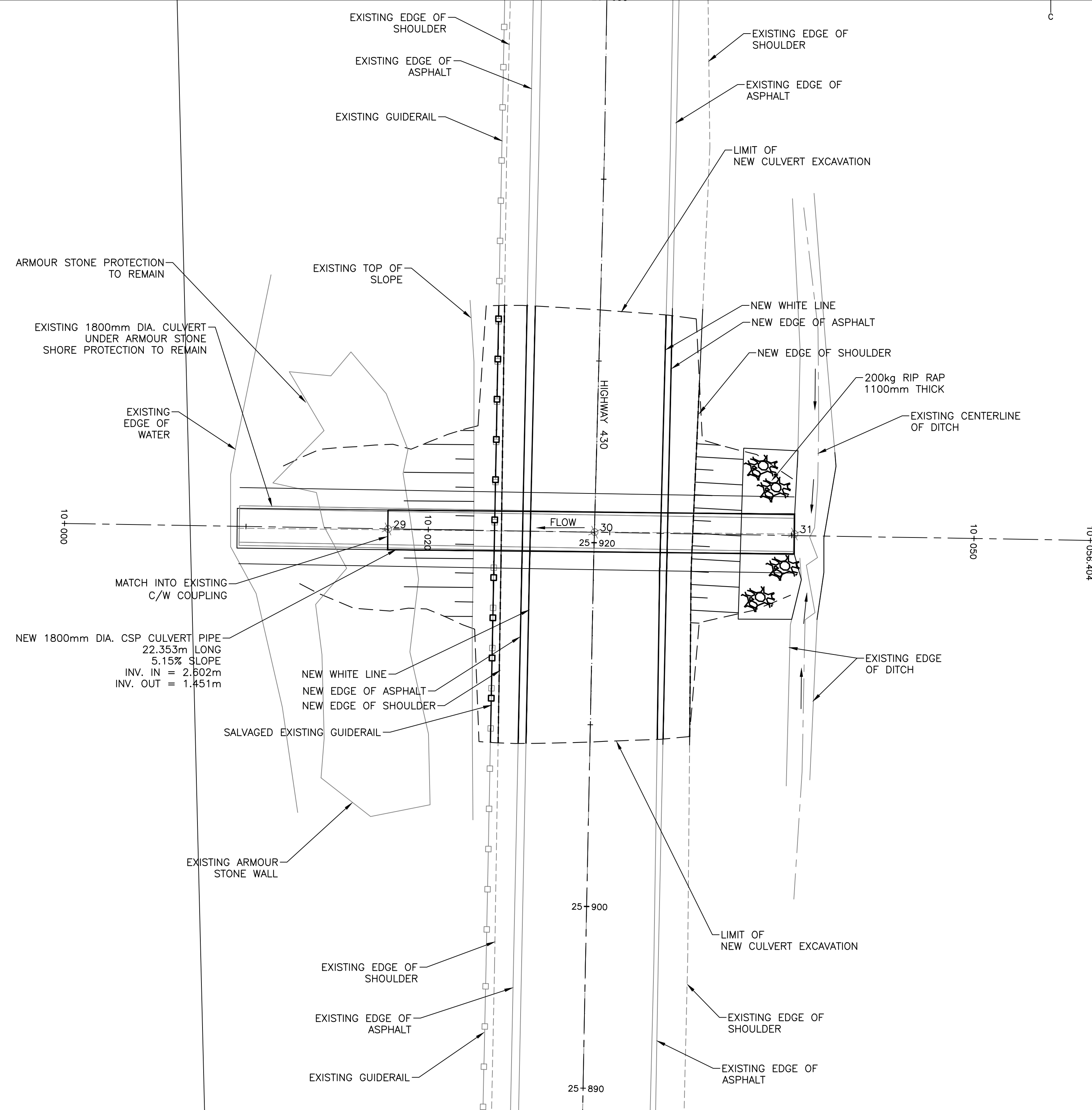
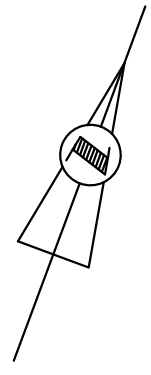
revisions	description	date
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

NEW 900mm DIA. CULVERT PLAN AND PROFILE VIEWS STA. 25+761

designed	A.CALDWELL	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Soumission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C18	no. du dessin





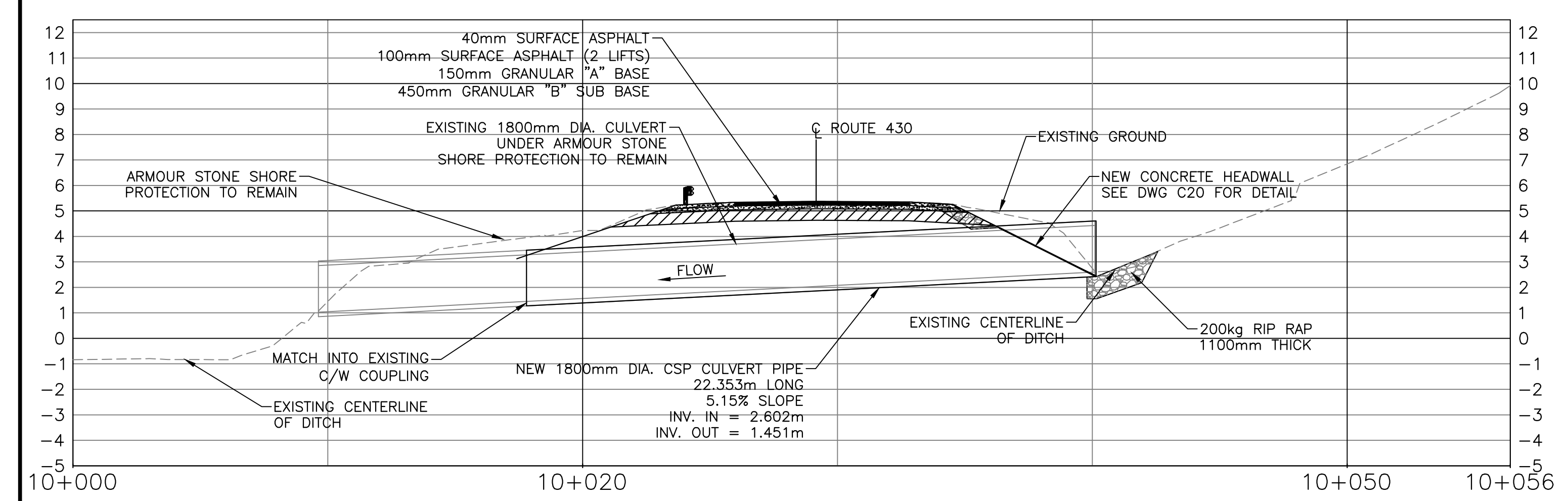
NOTE:  
CONTRACTOR IS RESPONSIBLE TO SUPPLY AND CONSTRUCT ALL MATERIALS AND EQUIPMENT NECESSARY TO PROVIDE DETOURS AROUND CULVERT INSTALLATION ZONES.

NOTE:  
ANY GUIDERAIL REMOVED SHALL BE SALVAGED AND RE-INSTALLED.

Point #	Row Description	Easting	Northing	Elevation
17	OUTLET	440481.9963	5485907.1250	1.427
18	ROUTE 430 CL	440492.1688	5485907.8364	1.786
19	INLET	440501.9640	5485908.3700	2.132

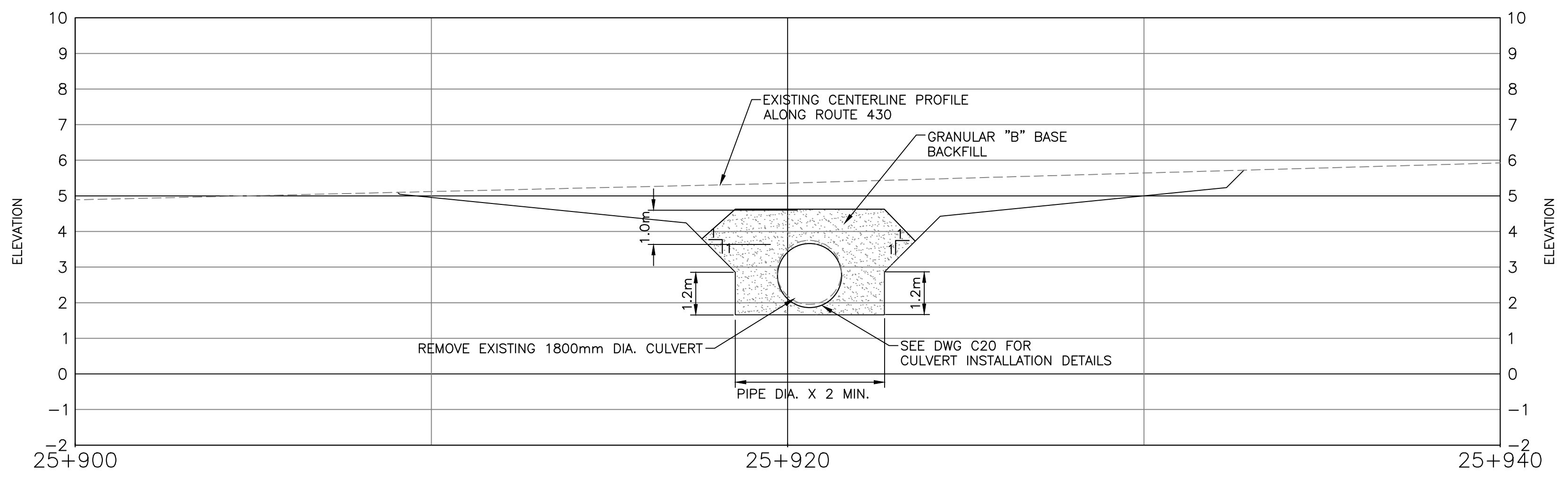
NEW 1800mm DIA. CULVERT - PLAN VIEW

SCALE : 1:150



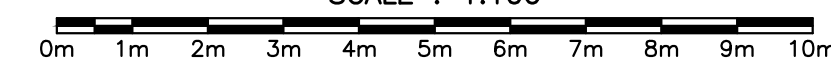
NEW 1800mm DIA CULVERT STA 25+921 - PROFILE VIEW

SCALE : 1:150



NEW 1800mm DIA CULVERT EXCAVATION LIMITS - PROFILE VIEW

SCALE : 1:100



MONCTON 1077 2nd St. George Blvd. 123 Prince William Street  
 Saint John 1234 5th St. 567 8th St.  
 Fredericton 901 1st St. 234 2nd St.  
 TEL: (506) 853-2777 FAX: (506) 853-2883 TEL: (506) 461-4400  
 TEL: (506) 853-2777 FAX: (506) 853-2883 TEL: (506) 461-4400  
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revisions	description	date
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	ISSUED FOR RS1/RS2 REPORT	SEP. 16 2016

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

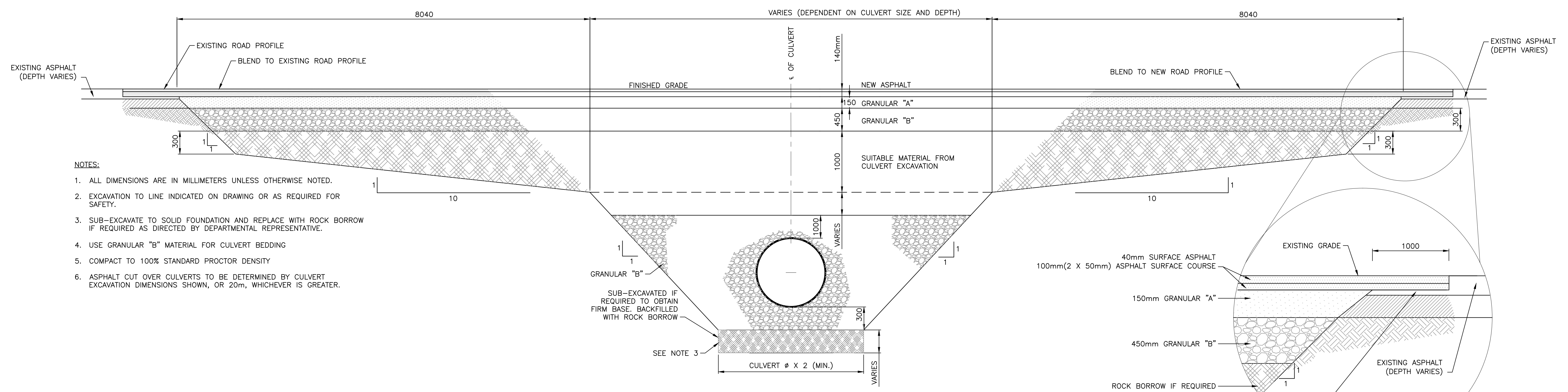
**NEW 1800mm DIA. CULVERT PLAN AND PROFILE VIEWS STA. 25+921**

designed	A.CALDWELL	congr
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number		no. du projet
	<b>1350</b>	
drawing no.		no. du dessin
	<b>C19</b>	





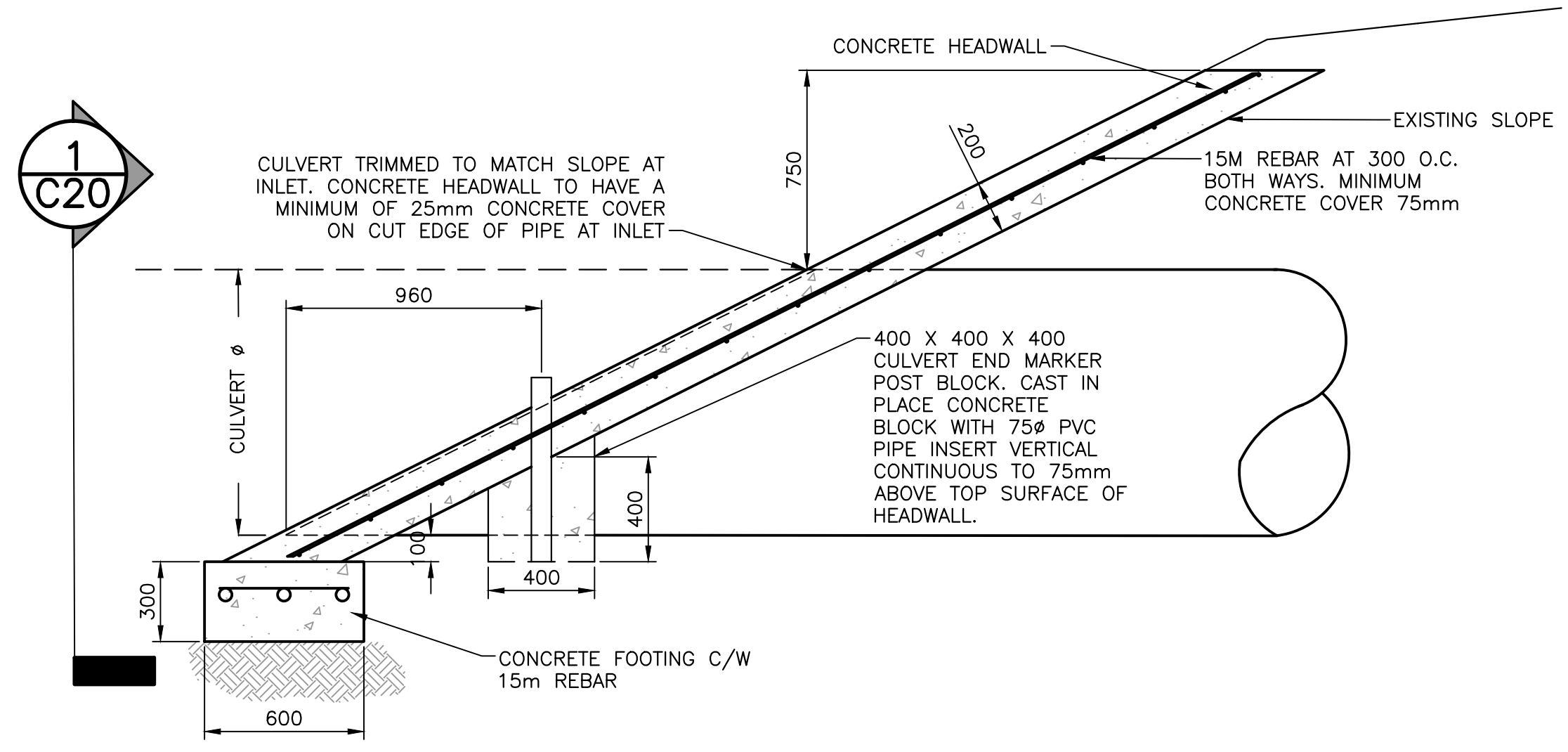
MONCTON 1275 St. George Blvd. 524 720, N.B. Canada Tel: (506) 853-2777 Fax: (506) 853-2754  
 SAINT JOHN 123 Prince William Street 524 720, N.B. Canada Tel: (506) 853-2777 Fax: (506) 853-2754  
 FREDERICTON 504 Regent Street 524 720, N.B. Canada Tel: (506) 461-4400 Fax: (506) 461-3550  
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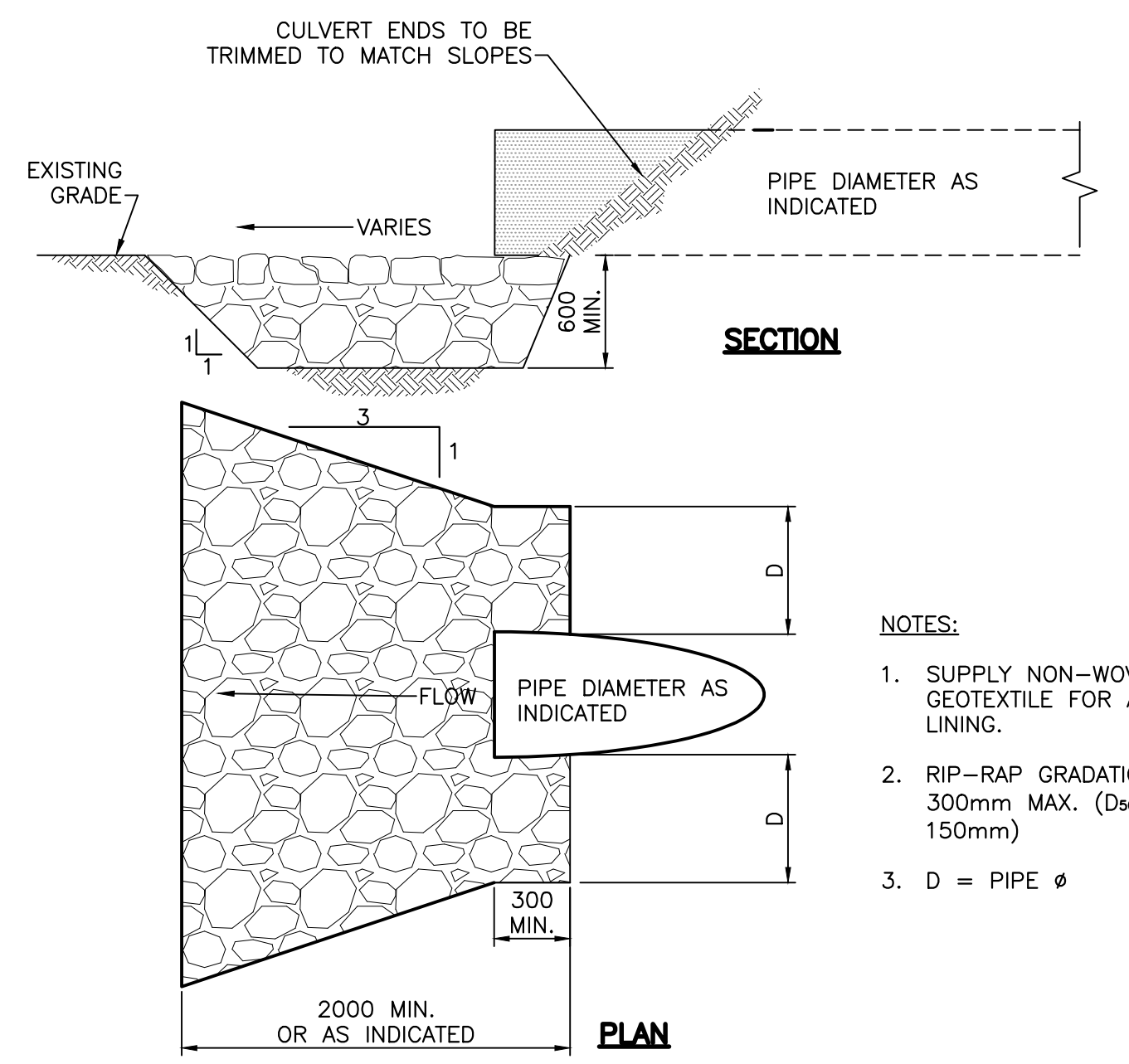
- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
  2. EXCAVATION TO LINE INDICATED ON DRAWING OR AS REQUIRED FOR SAFETY.
  3. SUB-EXCAVATE TO SOLID FOUNDATION AND REPLACE WITH ROCK BORROW IF REQUIRED AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE.
  4. USE GRANULAR "B" MATERIAL FOR CULVERT 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.

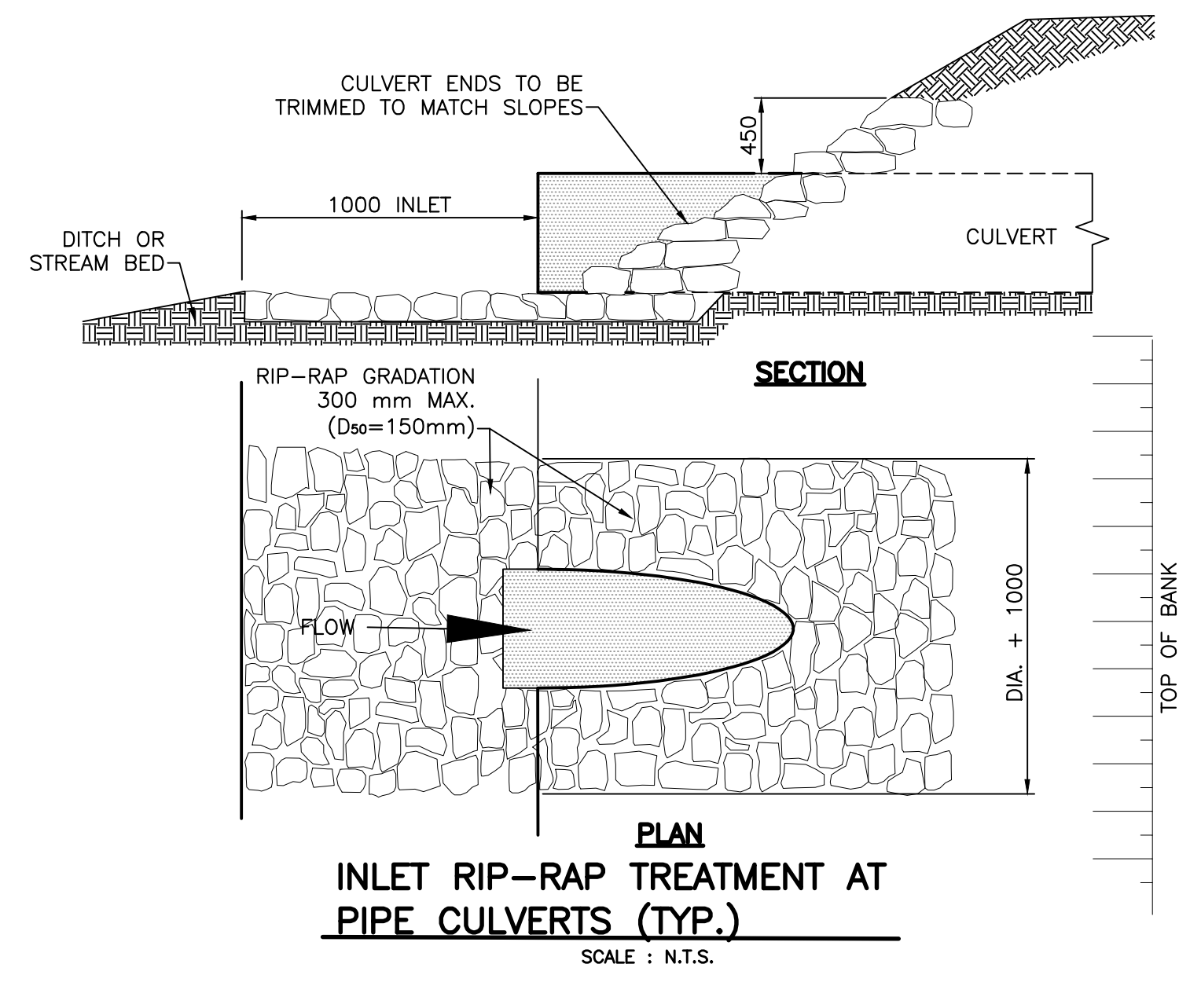
MILL 1000mm KEY WAY 50mm THICK IN AREAS OUTSIDE THE ASPHALT REHABILITATION. IN ASPHALT REHABILITATION AREA 40mm OF ASPHALT SURFACE COURSE TO THE SAME ELEVATION AS THE MILLED SURFACE OVERLAY 100mm OF ASPHALT SEAL COURSE WITH REHABILITATION OPERATIONS.



CONCRETE HEADWALL (TYP.)  
SCALE: 1:20



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.



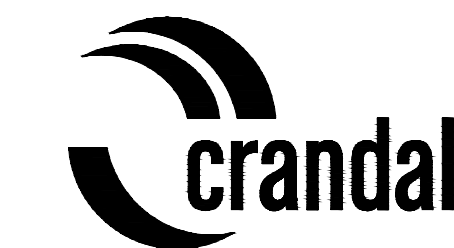
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
revisions		date

HIGHWAY 430 NORTH SEGEMENT "B" AND "D" RECAPITALIZATION

TYPICAL CULVERT INSTALLATION DETAILS

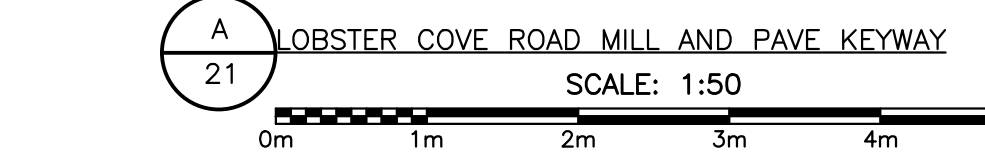
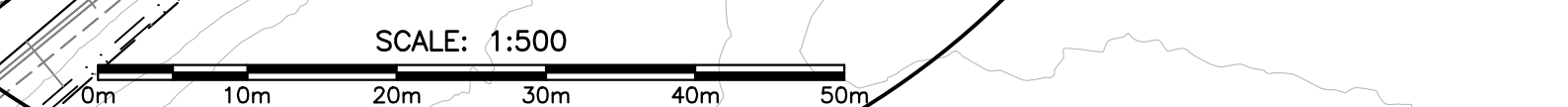
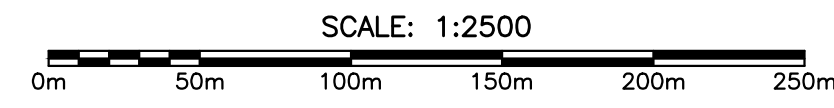
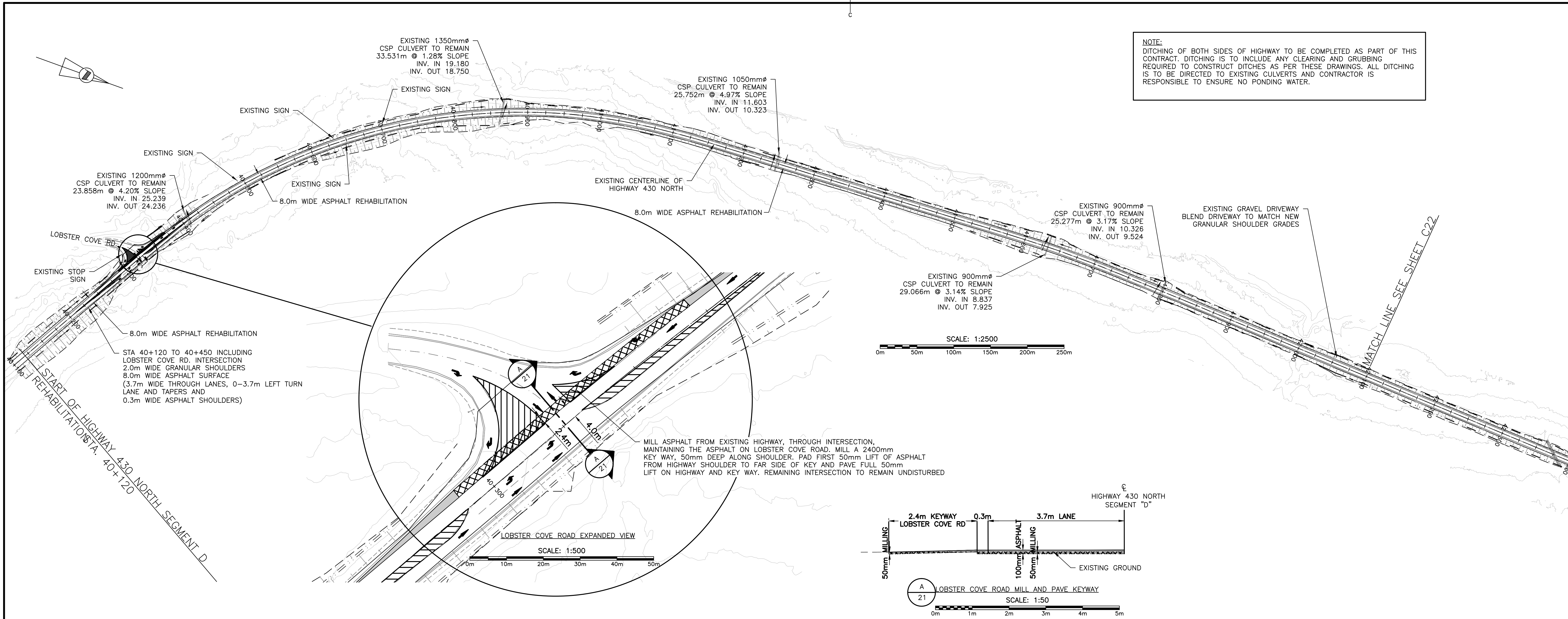
designed J.BABIN	conçu
date JANUARY 31, 2017	
drawn A.CALDWELL	dessiné
date JANUARY 31, 2017	
approved J.BABIN	approuvé
date JANUARY 31, 2017	
Tender	Soumission
PCA Project Manager	Administrateur de projets APC
project number 1350	no. du projet
drawing no. C20	no. du dessin



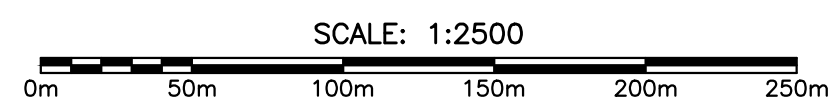
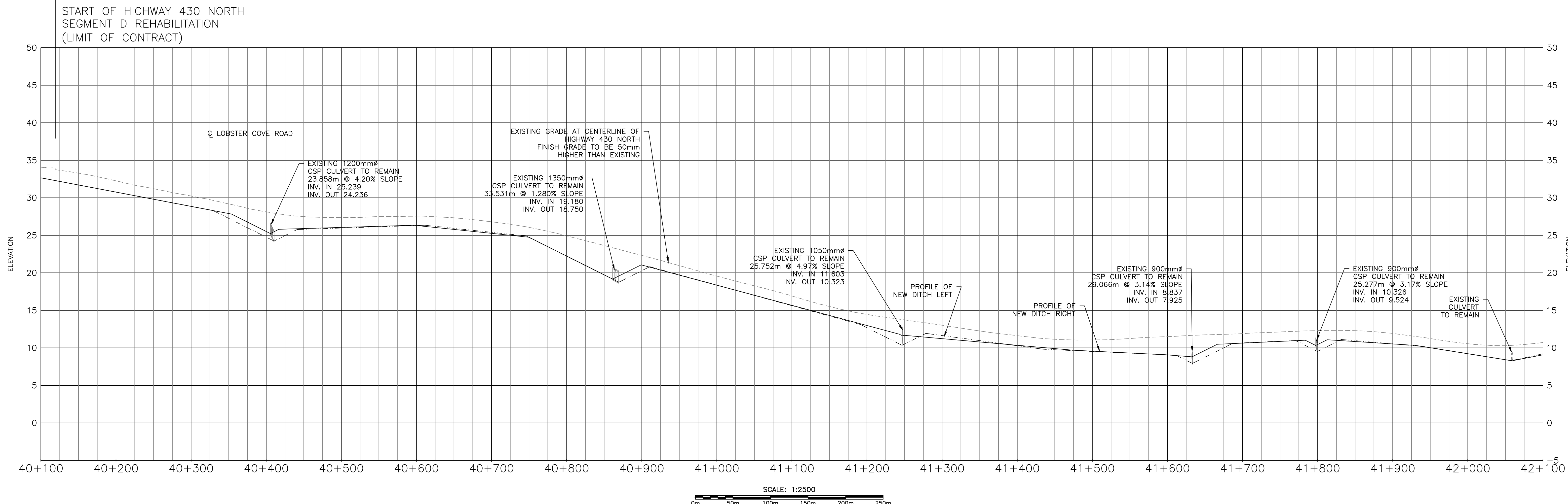


MONCTON 1077 Blvd. St. George Blvd. Suite 402 Moncton, N.B. Canada E1C 2G5 Tel: (506) 851-2255 Fax: (506) 851-2753  
 SAINT JOHN 133 Prince William Street Suite 203 Saint John, N.B. Canada A1B 2X6 Tel: (506) 941-4444 Fax: (506) 941-2550  
 FREDERICTON 564 Prospect Street Suite 101 Fredericton, N.B. Canada E3B 2K6 Tel: (506) 453-3350 Fax: (506) 453-3350  
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NOTE:  
 DITCHING OF BOTH SIDES OF HIGHWAY TO BE COMPLETED AS PART OF THIS CONTRACT. DITCHING IS TO INCLUDE ANY CLEARING AND GRUBBING REQUIRED TO CONSTRUCT DITCHES AS PER THESE DRAWINGS. ALL DITCHING IS TO BE DIRECTED TO EXISTING CULVERTS AND CONTRACTOR IS RESPONSIBLE TO ENSURE NO PONDING WATER.



— NEW BOTTOM OF DITCH PROFILE (RIGHT SIDE)  
 - - - NEW BOTTOM OF DITCH PROFILE (LEFT SIDE)



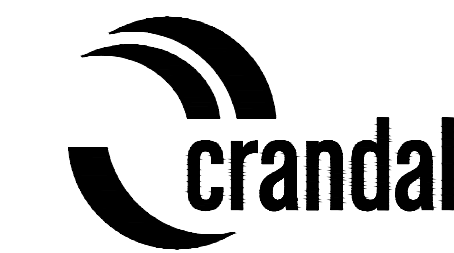
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	RS1 - RS2 SUBMISSION	AUG. 30 2016

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

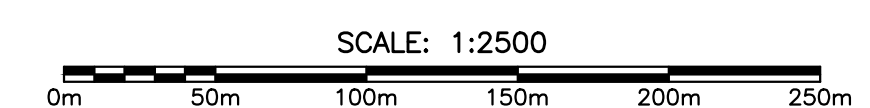
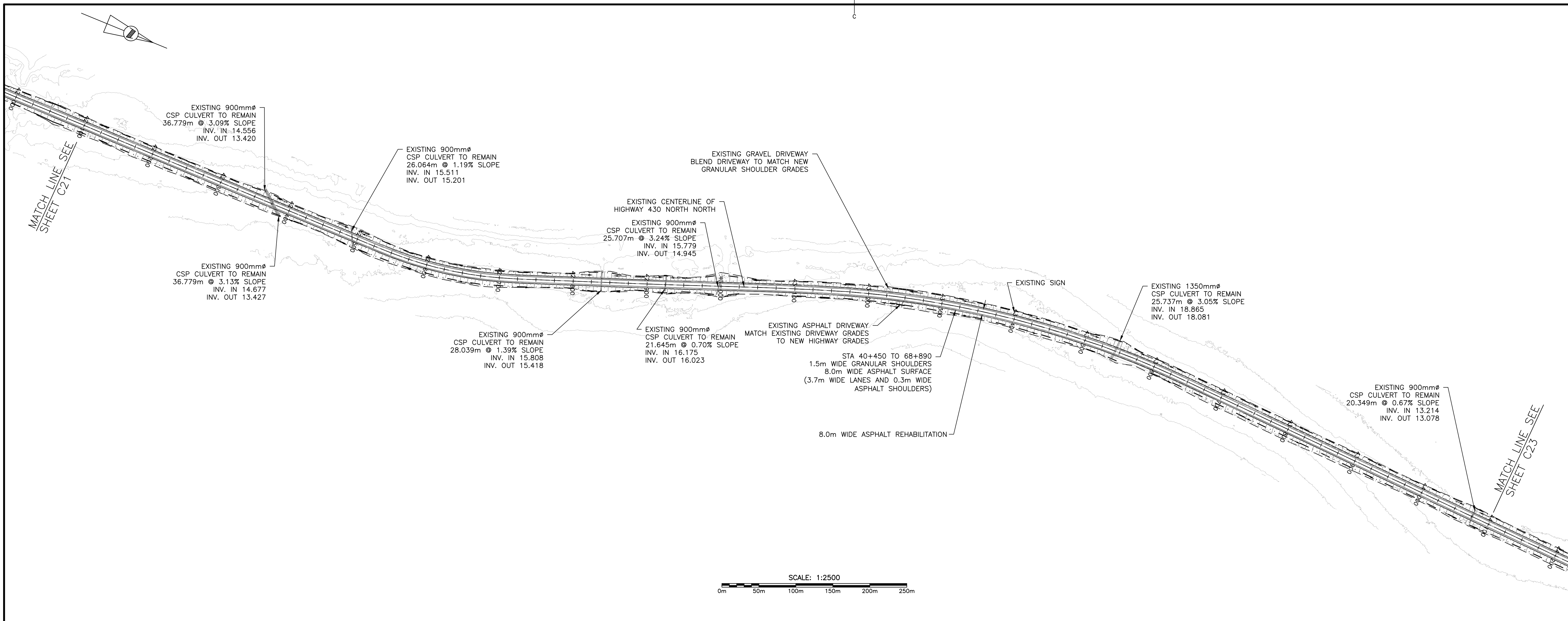
**HIGHWAY 430 NORTH PLAN AND PROFILE STA. 40+100 STA. 42+100**

designed	G. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C21	no. du dessin

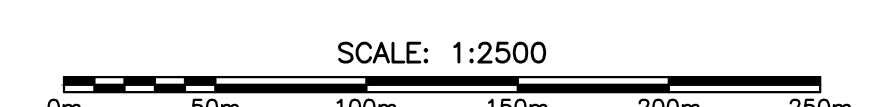
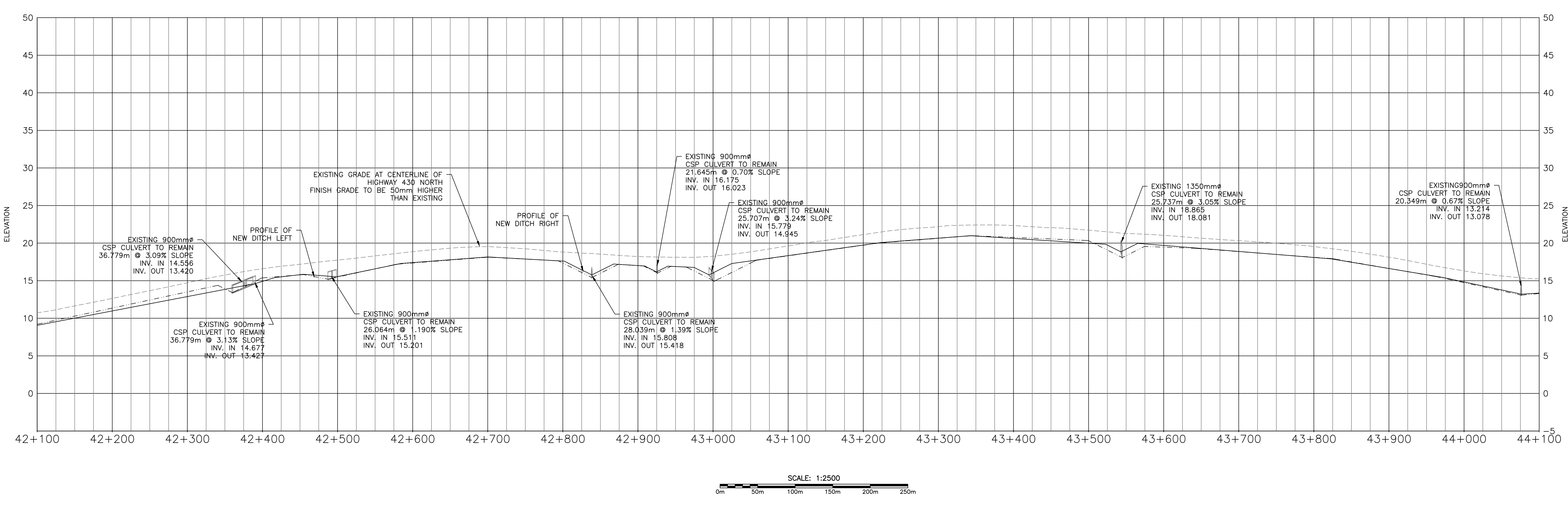




MONCTON 1077 Blvd. St. George Blvd. 133 Pictou Wilton Street  
 1000 1000 1000  
 SAINT JOHN 133 Pictou Wilton Street  
 1000 1000 1000  
 FREDERICTON 544 Prospect Street  
 1000 1000 1000  
 CRANDALLENGINEERING.CA



— NEW BOTTOM OF DITCH PROFILE (RIGHT SIDE)  
 - - - - - NEW BOTTOM OF DITCH PROFILE (LEFT SIDE)



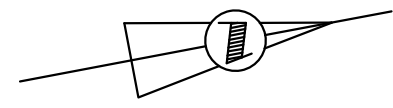
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	RS1 - RS2 SUBMISSION	AUG. 30 2016

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

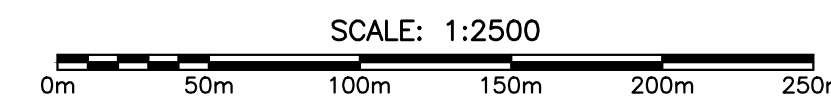
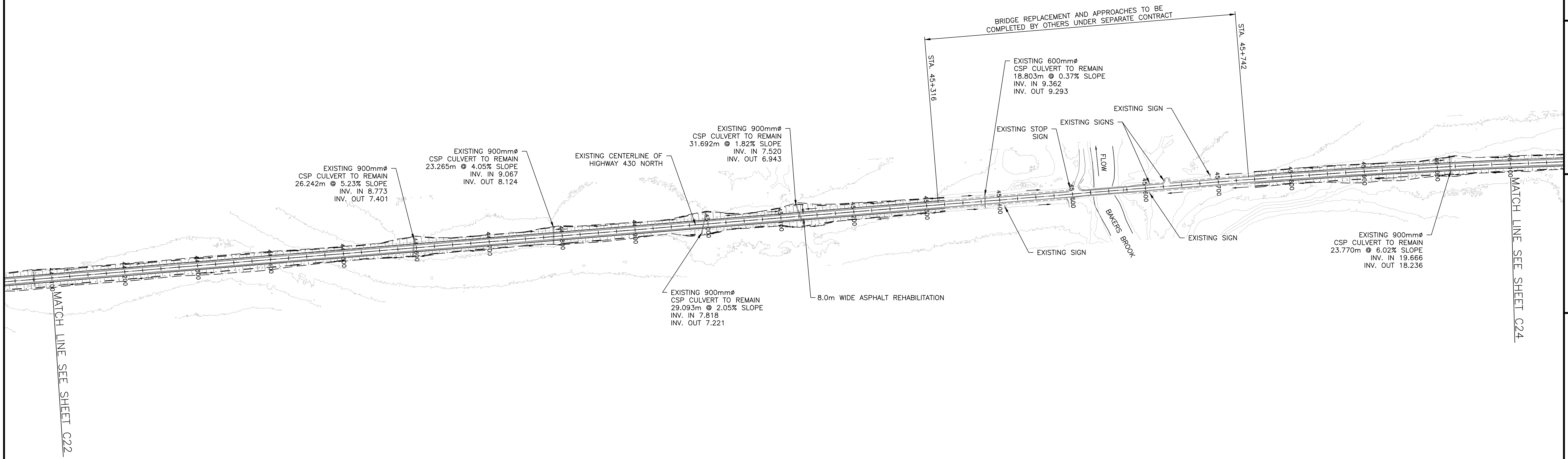
**HIGHWAY 430 NORTH PLAN AND PROFILE STA 42+100 TO STA 44+100**

designed	G. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C22	no. du dessin

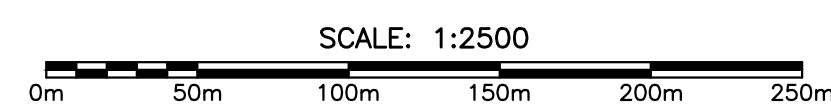
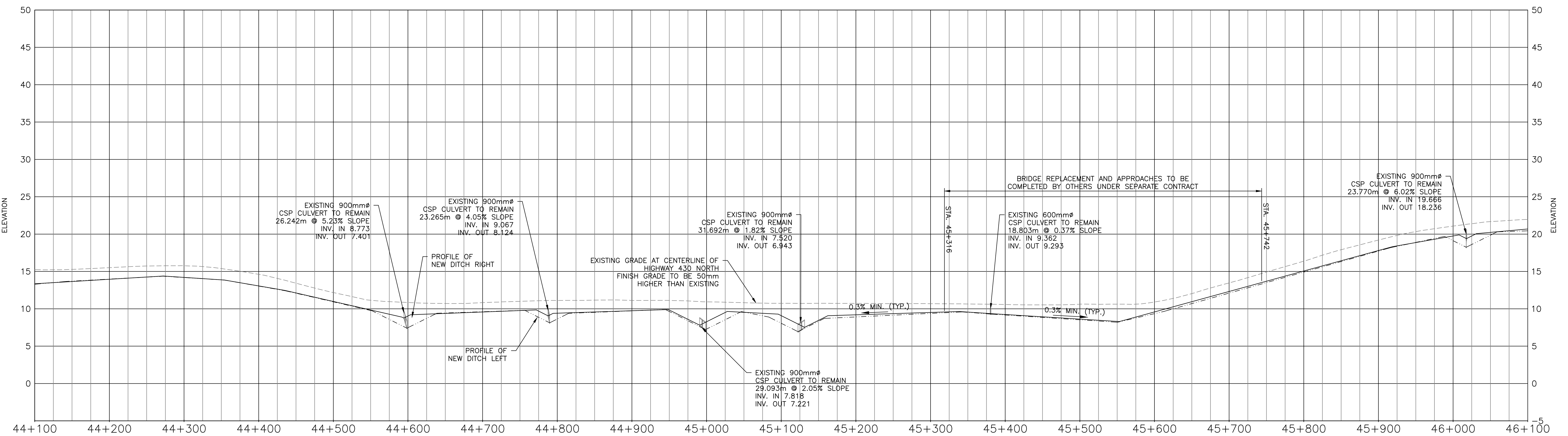




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 SAINT JOHN 133 Prince William Street Suite 207 Saint John, N.B. Canada E7C 1P1 Tel: (506) 461-4440 Fax: (506) 461-2500  
 FREDERICTON 544 Prospect Street Suite 101 Fredericton, N.B. Canada E3B 1Y1 Tel: (506) 853-2500 Fax: (506) 853-2500  
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— NEW BOTTOM OF DITCH PROFILE (RIGHT SIDE)  
 - - - NEW BOTTOM OF DITCH PROFILE (LEFT SIDE)



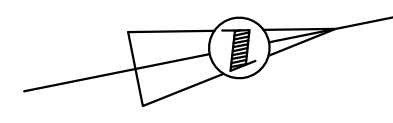
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	RS1 - RS2 SUBMISSION	AUG. 30 2016

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

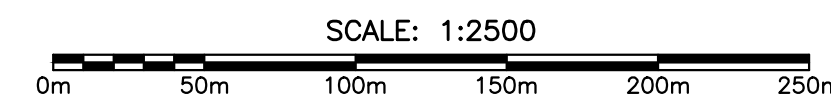
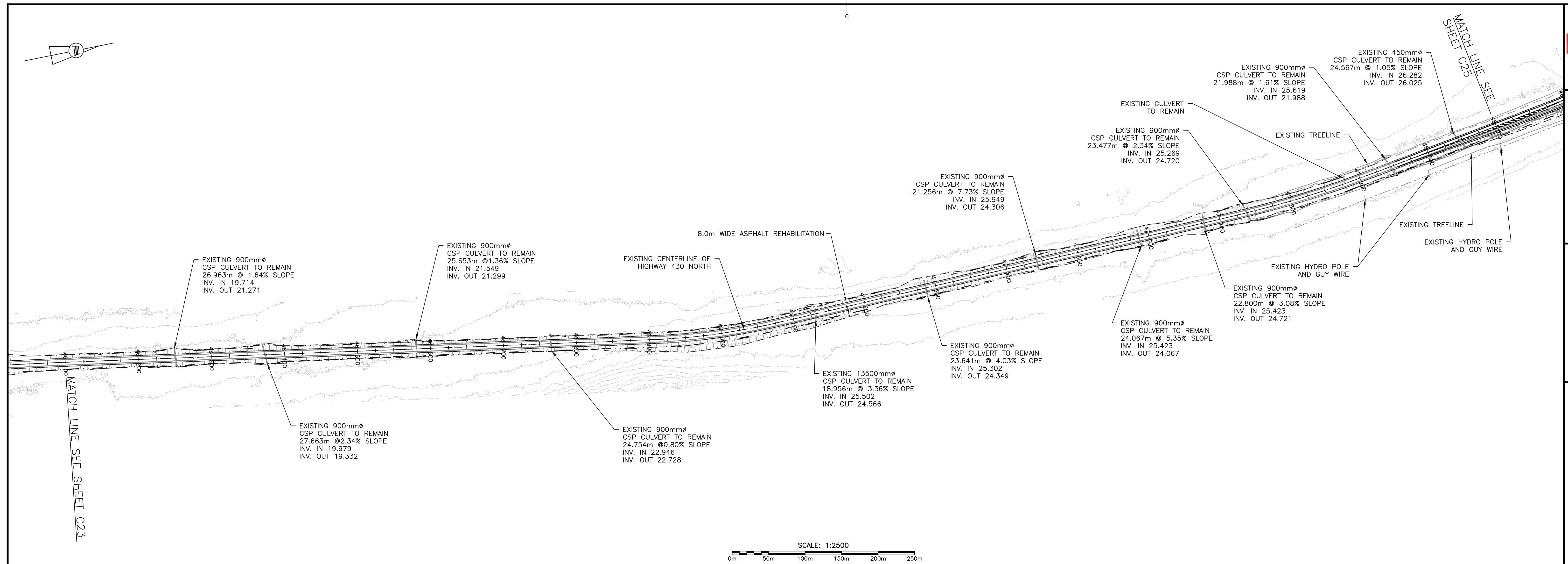
**HIGHWAY 430 NORTH PLAN AND PROFILE STA 44+100 TO STA 46+100**

designed	G. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C23	no. du dessin

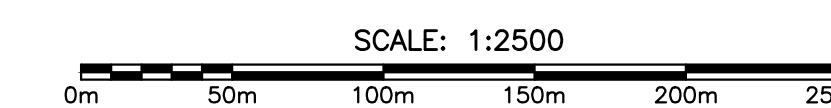
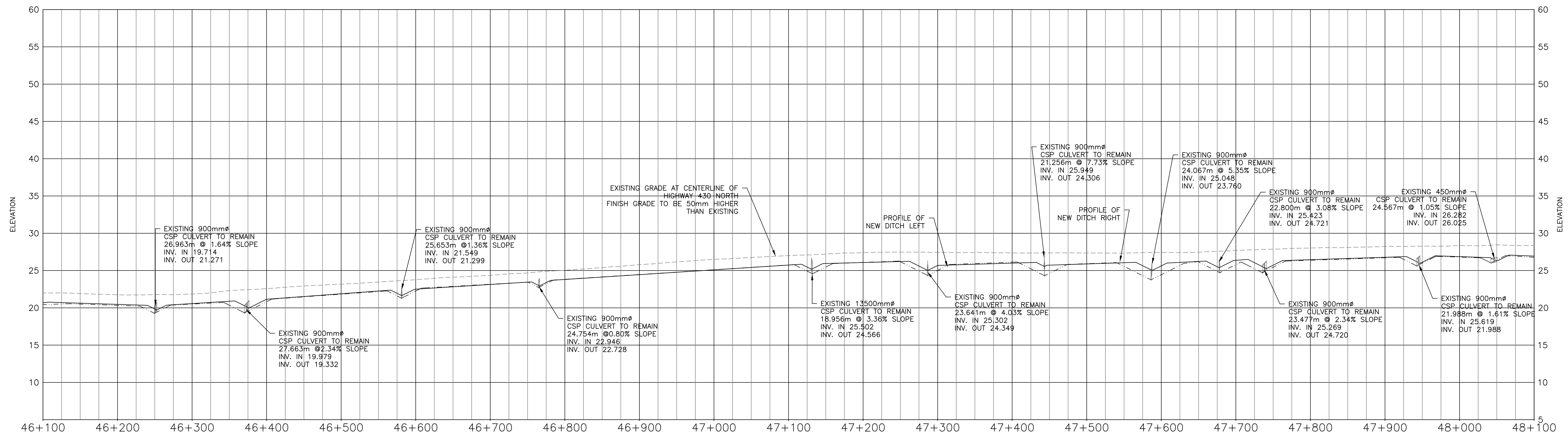




MONCTON 1077 Blvd. St. George Blvd. Suite 402 Moncton, N.B. Canada E1C 2G6 Tel: (506) 857-2777 Fax: (506) 857-2753  
SANT JOHN 133 Pique William Street Suite 203 Saint John, N.B. Canada A1B 2E5 Tel: (506) 653-2555 Fax: (506) 653-2555  
FREDERICTON 564 Prospect Street Suite 101 Fredericton, N.B. Canada E3B 9C5 Tel: (506) 461-4443 Fax: (506) 463-2550  
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— NEW BOTTOM OF DITCH PROFILE (RIGHT SIDE)  
- - - NEW BOTTOM OF DITCH PROFILE (LEFT SIDE)



C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC. 16 2016
A	RS1 - RS2 SUBMISSION	AUG. 30 2016
revisions		date

### ROUTE 430 NORTH SEGMENT "B" AND "D" REHABILITATION

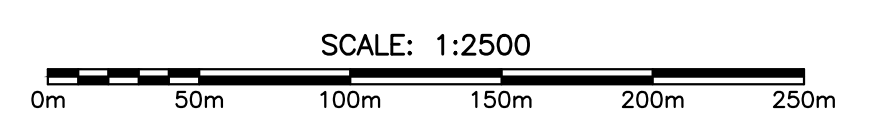
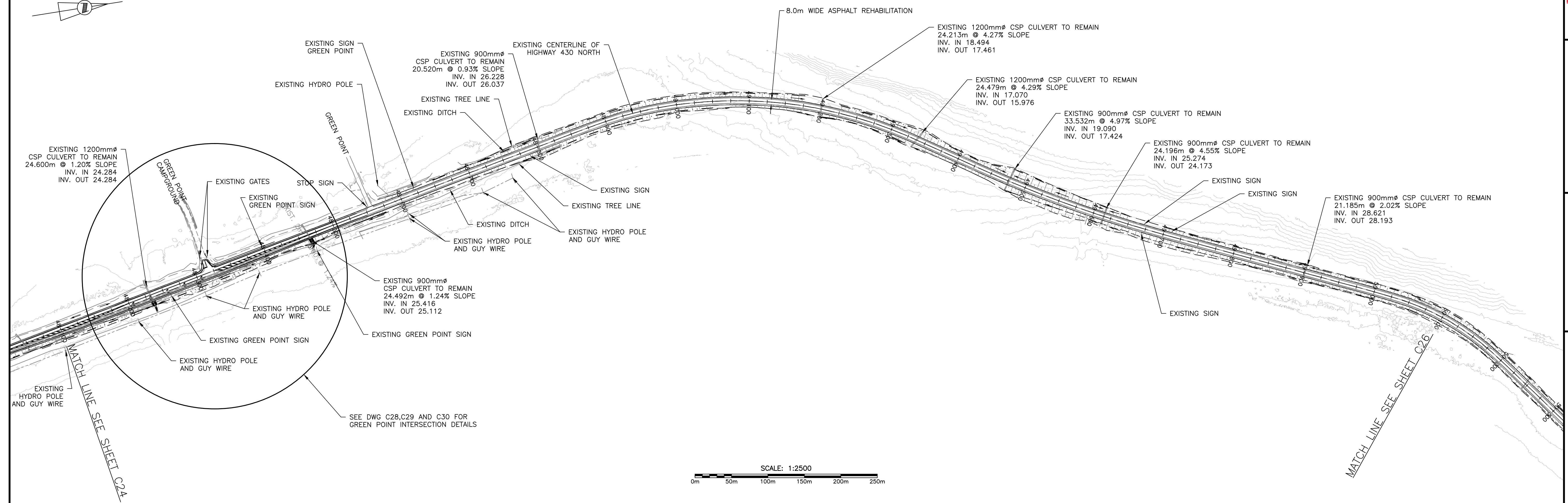
### HIGHWAY 430 NORTH PLAN AND PROFILE STA 46+100 TO STA 48+100

designed	G. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
	1350	
drawing no.	no. du dessin	
	C24	

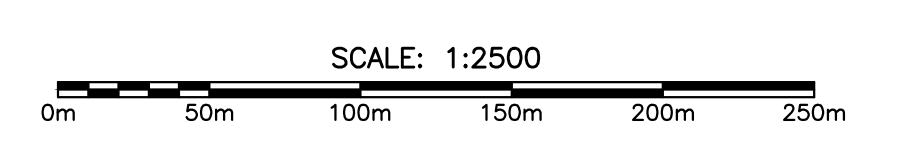
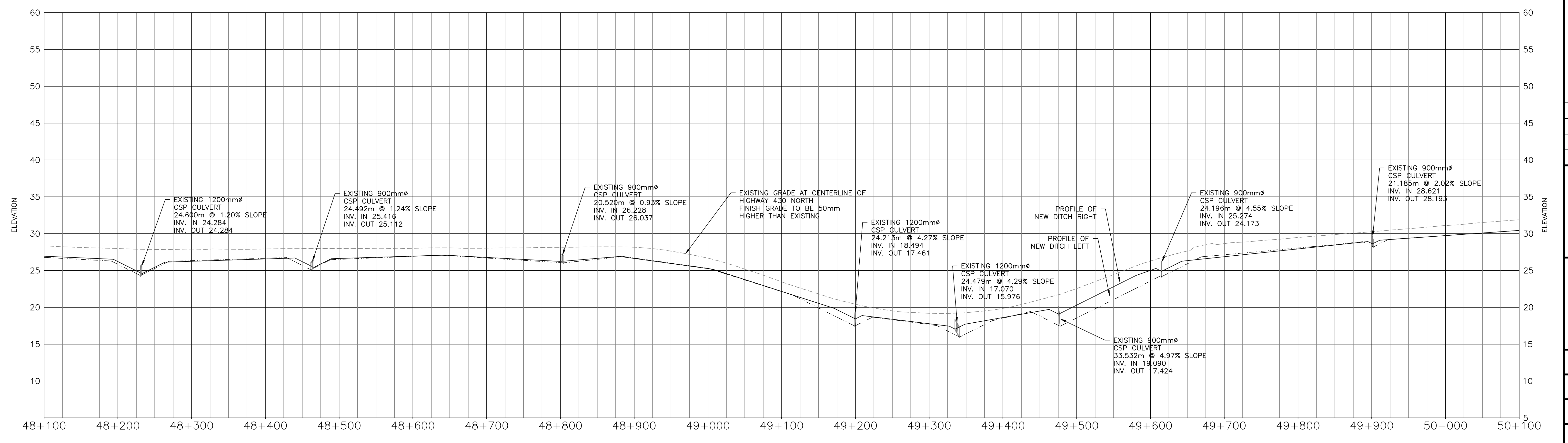




MONCTON 1077 Blvd. St. George Blvd. Suite 402 Moncton, N.B. Canada E1C 2G5 Tel: (506) 851-2777 Fax: (506) 851-2753  
 SAINT JOHN 133 Prowse Wilson Street Suite 202 Saint John, N.B. Canada E7C 2G5 Tel: (506) 851-2885 Fax: (506) 851-2850  
 FREDERICTON 544 Prospect Street Suite 101 Fredericton, N.B. Canada E3B 2E1 Tel: (506) 451-4444 Fax: (506) 451-2550  
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— NEW BOTTOM OF DITCH PROFILE (RIGHT SIDE)  
 - - - - - NEW BOTTOM OF DITCH PROFILE (LEFT SIDE)



C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC.16 2016
A	RS1 - RS2 SUBMISSION	AUG.30 2016

**ROUTE 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

**HIGHWAY 430 NORTH PLAN AND PROFILE STA. 48+100 TO STA. 50+100**

designed G. FLANAGAN	conçu
date JANUARY 31, 2017	
drown A. CALDWELL	dessiné
date JANUARY 31, 2017	
approved J. BABIN	approuvé
date JANUARY 31, 2017	
Tender	Soumission
PCA Project Manager	Administrateur de projets APC
project number	no. du projet
<b>1350</b>	
drawing no.	no. du dessin
<b>C25</b>	



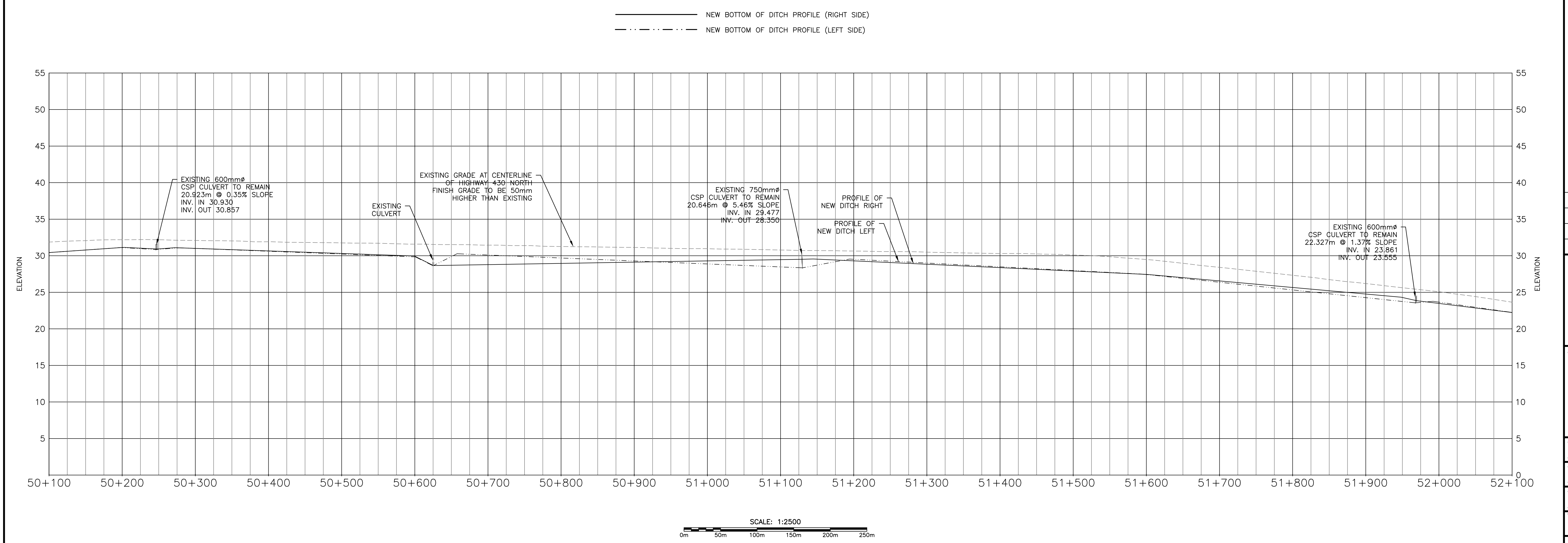
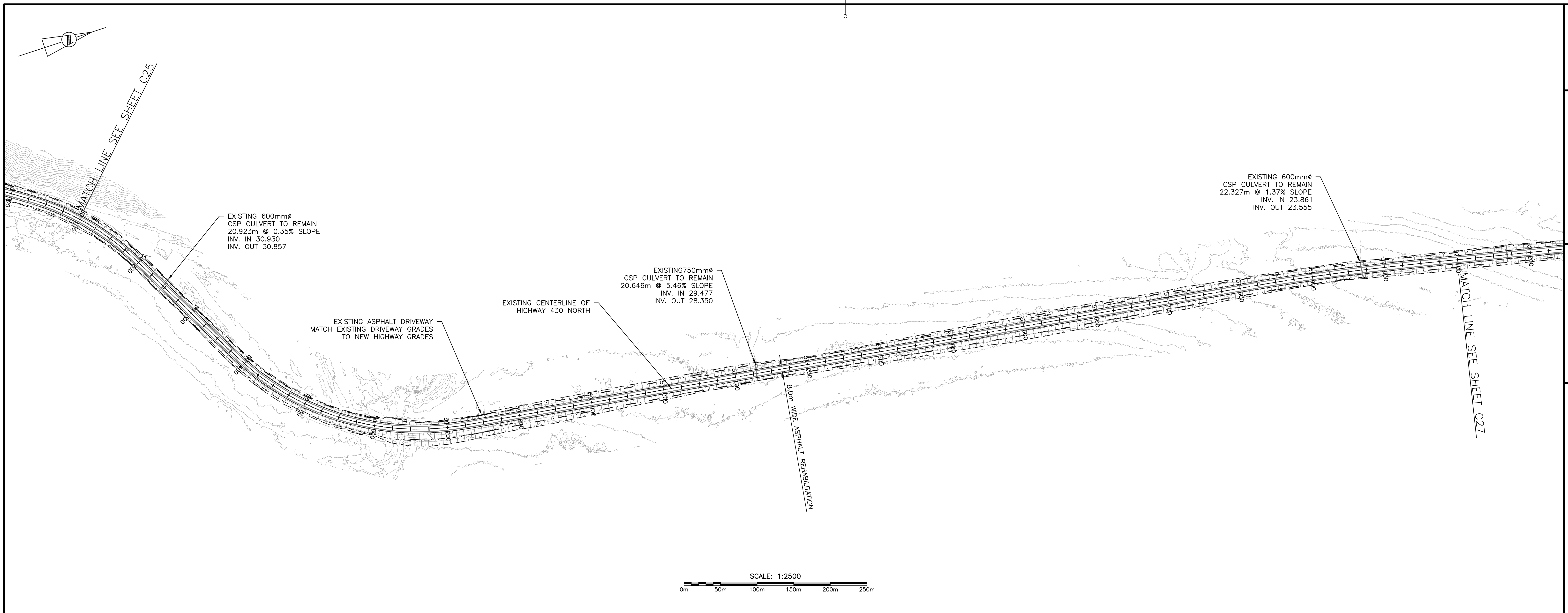


MONCTON 1077 Blvd. St. George Blvd. Suite 402 Moncton, N.B. Canada E1C 2G6 Tel: (506) 857-2777 Fax: (506) 857-2753

SANT JOHN 133 Pique William Street Suite 202 St. John's, N.B. Canada A1B 2X6 Tel: (506) 961-0885 Fax: (506) 961-2850

FREDERICTON 564 Prospect Street Suite 101 Fredericton, N.B. Canada E3B 2L1 Tel: (506) 461-4443 Fax: (506) 461-2550

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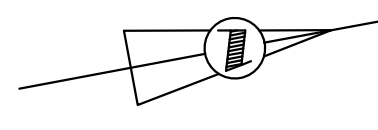
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC.16 2016
A	RS1 - RS2 SUBMISSION	AUG.30 2016
revisions		date

**HIGHWAY 430 NORTH  
SEGMENT "B" AND "D"  
REHABILITATION**

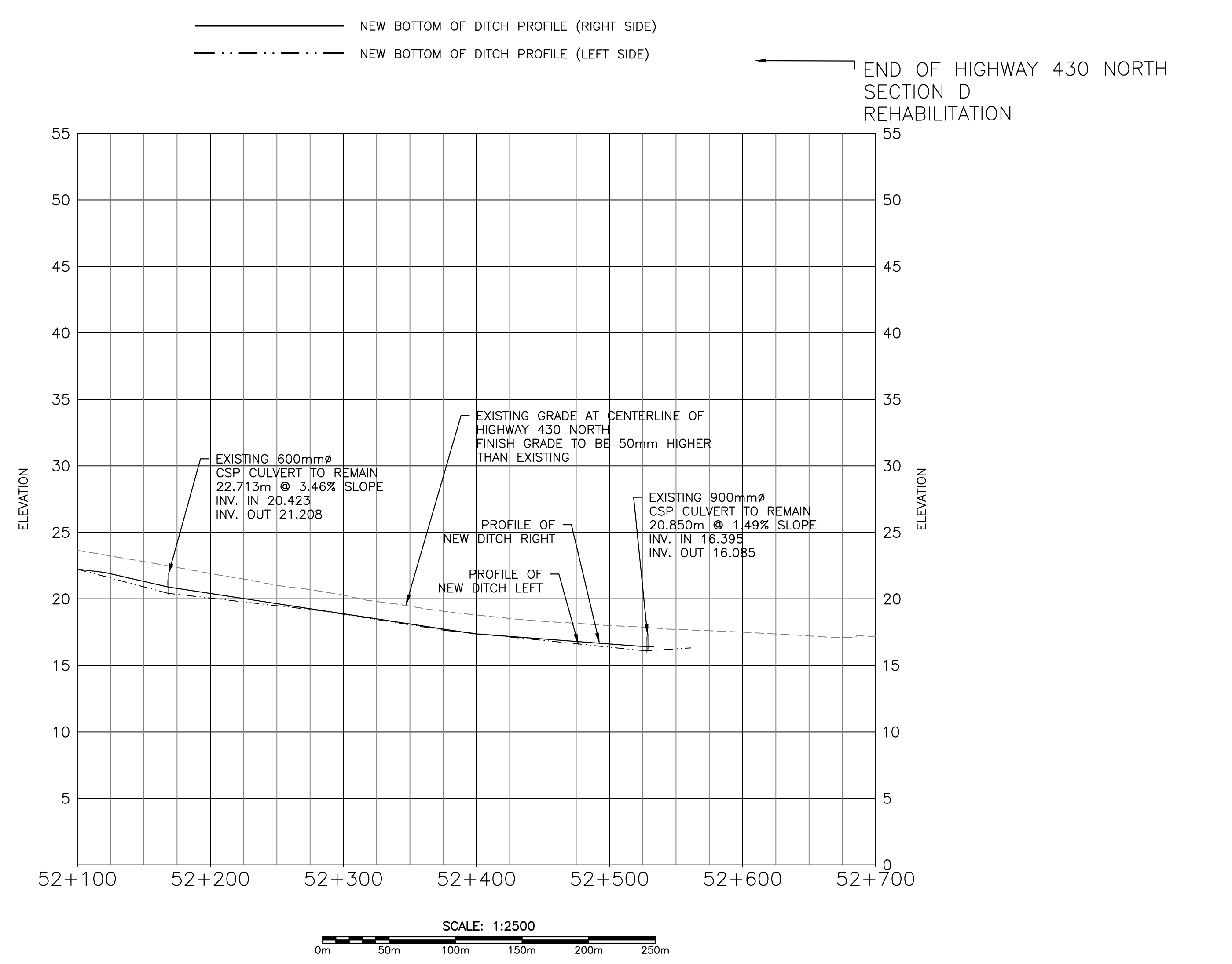
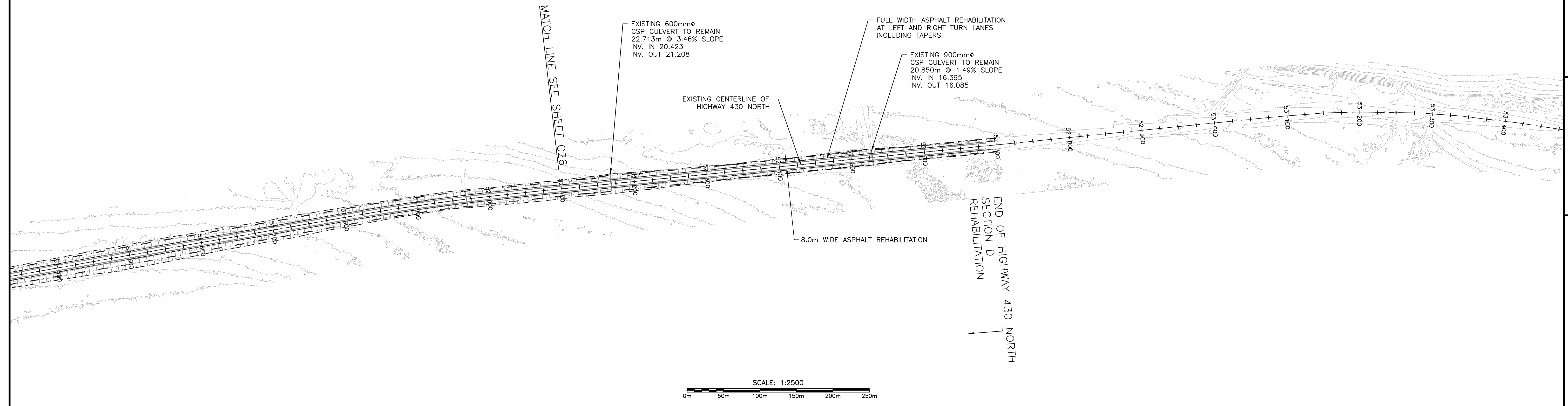
**HIGHWAY 430 NORTH  
PLAN AND PROFILE  
STA. 50+100 TO  
STA 52+100**

designed G. FLANAGAN	conçu
date JANUARY 31, 2017	
drawn A. CALDWELL	dessiné
date JANUARY 31, 2017	
approved J. BABIN	approuvé
date JANUARY 31, 2017	
Tender	Submission
PCA Project Manager	Administrateur de projets APC
project number	no. du projet
<b>1350</b>	
drawing no.	no. du dessin
<b>C26</b>	





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SAINT JOHN 133 Pique William Street Suite 707 Saint John, N.B. Canada E7B 1Y1 Tel: (506) 651-0900 Fax: (506) 651-2500  
FREDERICTON 564 Prospect Street Suite 101 Fredericton, N.B. Canada E3B 4K6 Tel: (506) 461-4400 Fax: (506) 461-2500  
CRANDALLENGINEERING.CA



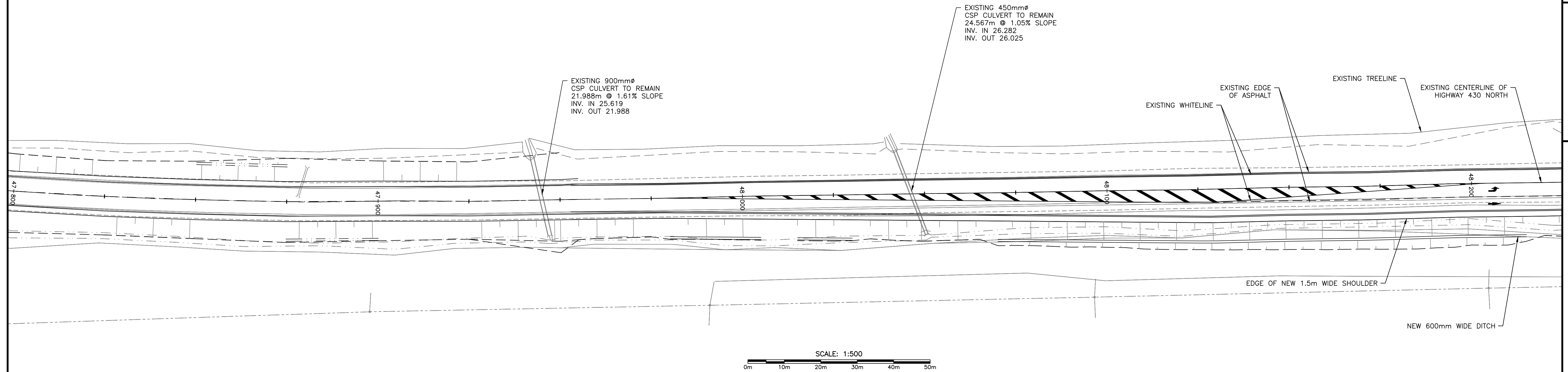
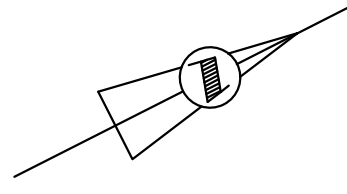
revisions	date	project
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC.16 2016
A	RS1 - RS2 SUBMISSION	AUG.30 2016

### HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

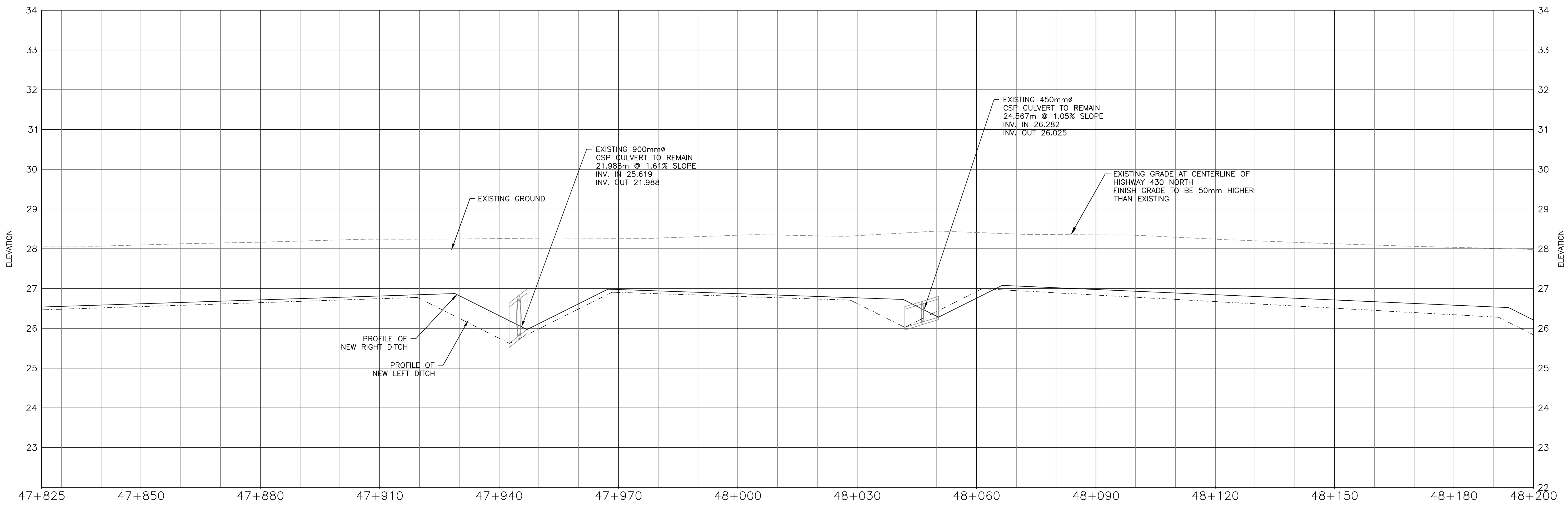
### HIGHWAY 430 NORTH PLAN AND PROFILE STA 52+100 TO STA 52+700

designed	J. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
	1350	
drawing no.	no. du dessin	
	C27	





— NEW BOTTOM OF DITCH PROFILE (RIGHT SIDE)  
- - - NEW BOTTOM OF DITCH PROFILE (LEFT SIDE)



C	ISSUED FOR TENDER	FEB 10 2017
B	RS4 90% SUBMISSION	DEC 16 2016
A	RS1-RS2 SUBMISSION	AUG 30 2016
revisions		date

project project  
**HIGHWAY 430 NORTH  
SEGMENT "B" AND "D"  
REHABILITATION**

drawing design  
**GREEN POINT  
INTERSECTION  
UPGRADE  
STA 47+825 TO  
STA 48+200**

designed G. FLANAGAN	conçu
date JANUARY 31, 2017	
drawn A. CALDWELL	dessiné
date JANUARY 31, 2017	
approved J. BABIN	approuvé
date JANUARY 31, 2017	
Tender	Submission
PCA Project Manager	Administrateur de projets APC
project number	no. du projet
<b>1350</b>	
drawing no.	no. du dessin
<b>C28</b>	



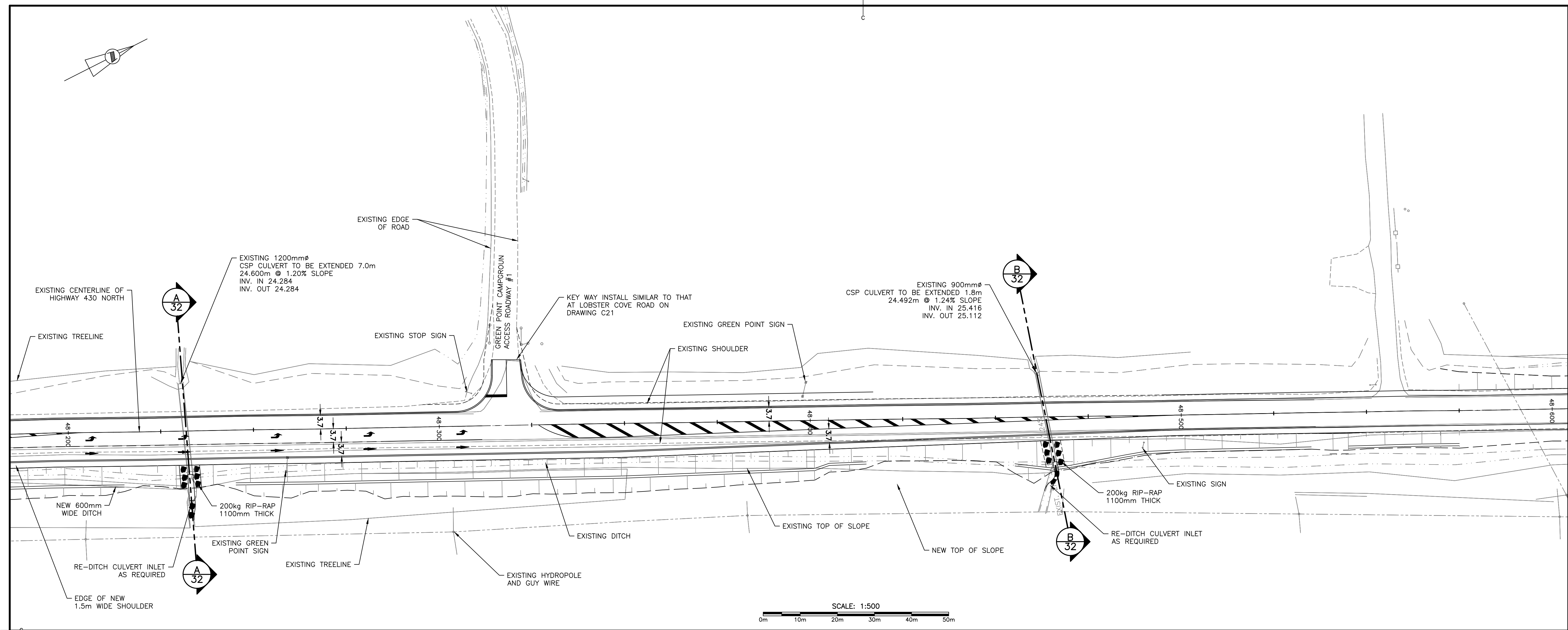


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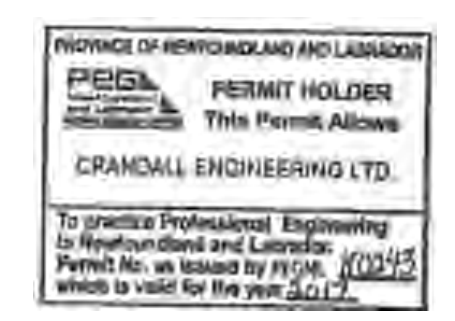
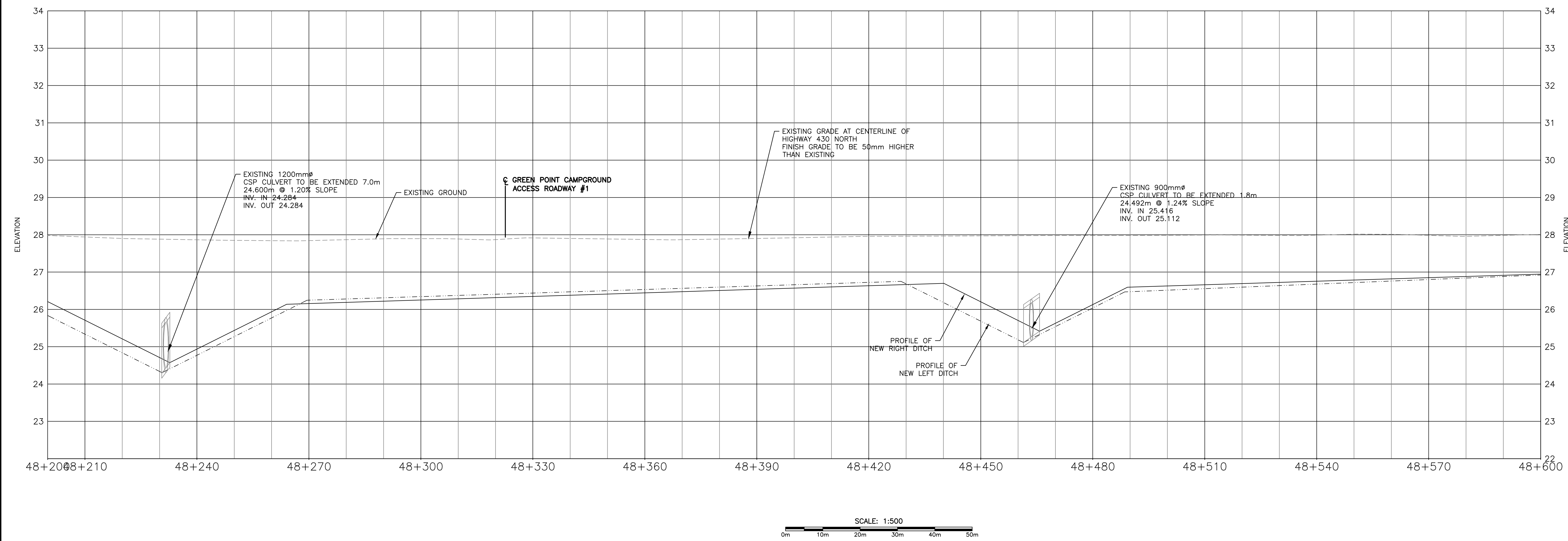
SANT JOHN 133 Prince William Street Suite 702 Saint John, N.B. Canada A1B 2X6 Tel: (506) 653-0885 Fax: (506) 653-2550

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— NEW BOTTOM OF DITCH PROFILE (RIGHT SIDE)  
- - - NEW BOTTOM OF DITCH PROFILE (LEFT SIDE)



C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC 16 2016
A	RS1-RS2 SUBMISSION	AUG 30 2016
revisions		date

**HIGHWAY 430 NORTH  
SEGMENT "B" AND "D"  
REHABILITATION**

**GREEN POINT  
INTERSECTION  
UPGRADE  
STA 48+200 TO  
STA 48+600**

designed	G. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C29	no. du dessin

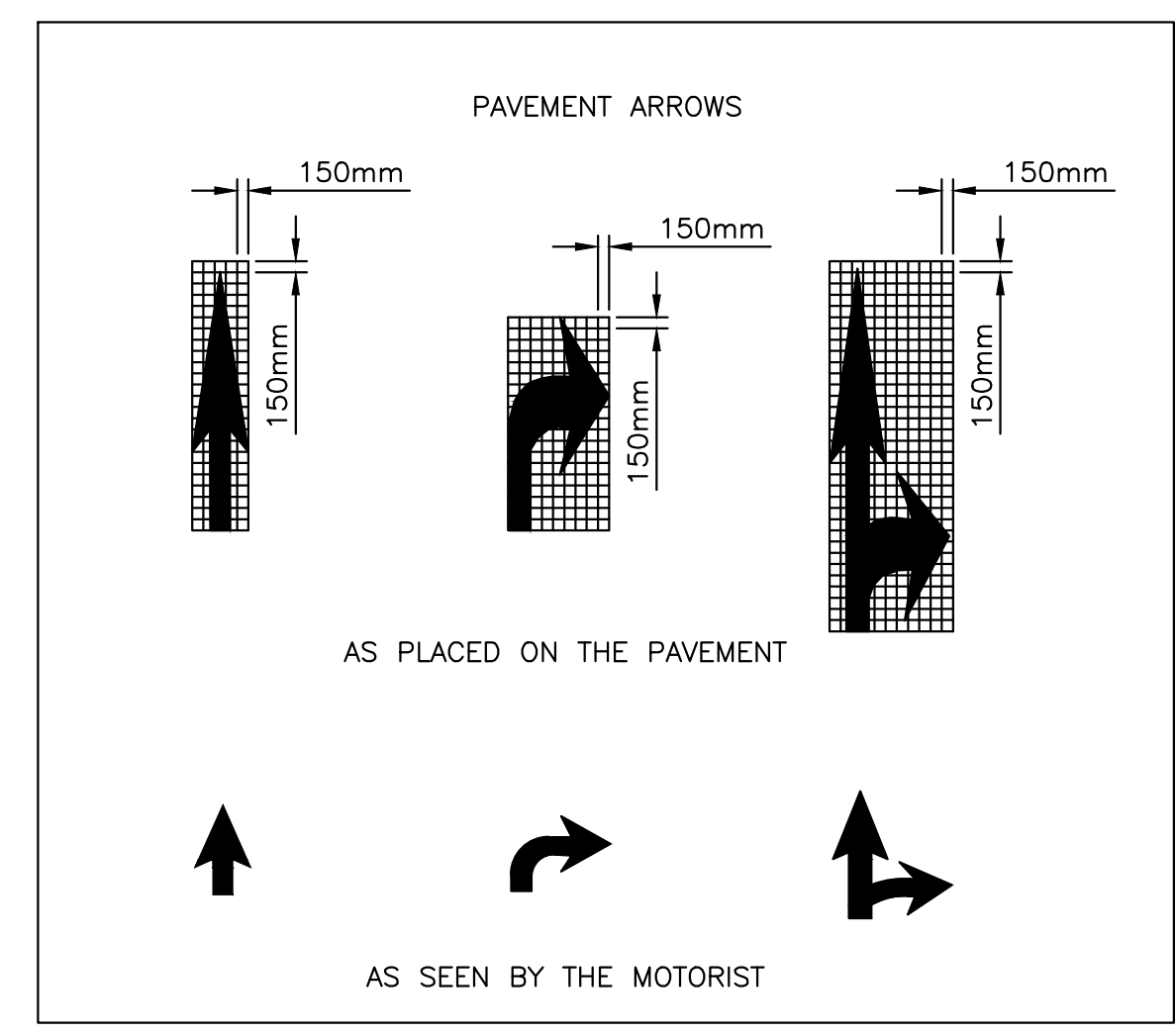




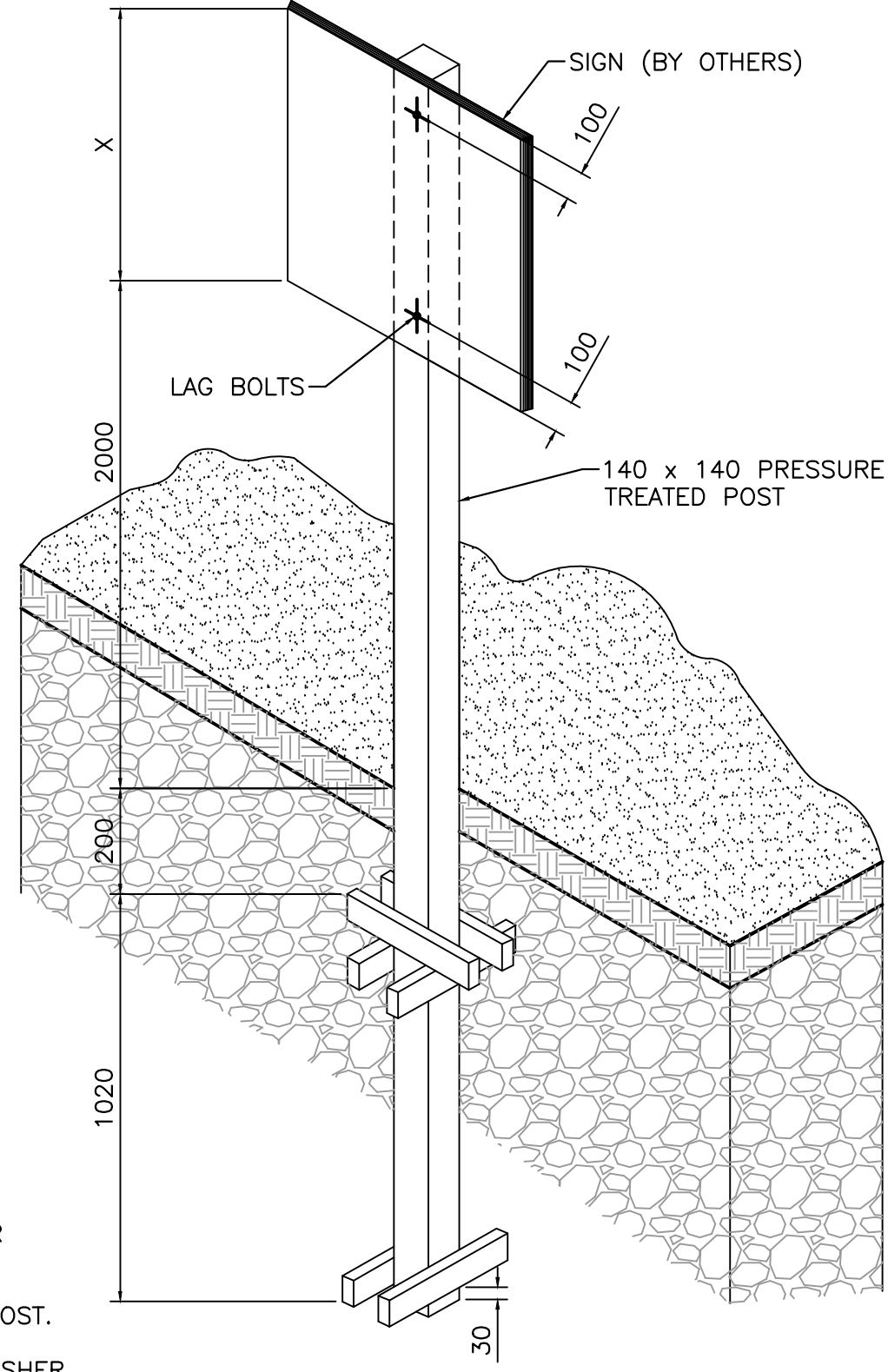
MONCTON 1277 St. George Blvd. Suite 400 Moncton, N.B. Canada E1A 1G6 Tel: (506) 851-2775 Fax: (506) 851-2755  
 SAINT JOHN 133 Prince William Street Suite 207 Saint John, N.B. Canada E7B 2G5 Tel: (506) 641-4400 Fax: (506) 641-3250  
 FREDERICTON 564 Prospect Street Suite 121 Fredericton, N.B. Canada E3B 2G2 Tel: (506) 641-4400 Fax: (506) 641-3250  
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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		WHITE	INTERSECTION STOP LINES	⑩ LANE EDGE AND BIKE LANE LINE, DASHED		WHITE	CONTINUITY LINES IN MERGING AND DIVERGING AREAS, BIKE LANE DISCONTINUATION
② CROSSWALK LINE		WHITE	CROSSWALKS	⑪ LANE EDGE LINE, WIDE		WHITE / YELLOW	EDGE LINES IN CRITICAL AREAS, (WHITE ON THE RIGHT, YELLOW ON THE LEFT)
③ ZEBRA CROSSWALK LINE		WHITE	ZEBRA CROSSWALKS	⑫ LANE EDGE LINE WIDE, DASHED		WHITE	CONTINUITY LINES IN MERGING AND DIVERGING AREAS, SPECIAL FUNCTION LANE LINES
④ SINGLE CENTRELINE		YELLOW	DIRECTIONAL DIVIDING LINES	⑬ LANE EDGE LINE, BROKEN		WHITE	CONTINUITY LINES (THRU LANES)
⑤ DOUBLE CENTRELINE		YELLOW	DIRECTIONAL DIVIDING LINES	⑭ GUIDING LINE		WHITE / YELLOW	GUIDING LINES (YELLOW - EXTENSION OF DIRECTIONAL DIVIDING LINE) (WHITE - EXTENSION OF LANE LINE)
⑥ DOUBLE + BROKEN CENTRELINE		YELLOW	DIRECTIONAL DIVIDING LINES ALLOWING PASSING IN ONE DIRECTION	⑮ HATCH		YELLOW	AREAS BETWEEN DIRECTIONAL DIVIDING LINES
⑦ BROKEN CENTRELINE		YELLOW	DIRECTIONAL DIVIDING LINES ALLOWING PASSING IN BOTH DIRECTIONS	⑯ HATCH		WHITE	AREAS BETWEEN LANES OR OBSTRUCTIONS IN ONE DIRECTION OF TRAVEL
⑧ LANE EDGE AND BIKE LANE LINE		WHITE	LANE EDGE LINES, LINES PROHIBITING LANE CHANGES	⑰ ARROW	SEE ARROW DETAIL	WHITE	PERMITTED DIRECTION OF TRAVEL
⑨ LANE EDGE LINE, DASHED		WHITE	CONTINUITY LINES IN MERGING AND DIVERGING AREAS, SPECIAL FUNCTION LANE LINES	⑱ DOUBLE LANE EDGE LINE		WHITE	EDGE OF PAINTED ISLANDS

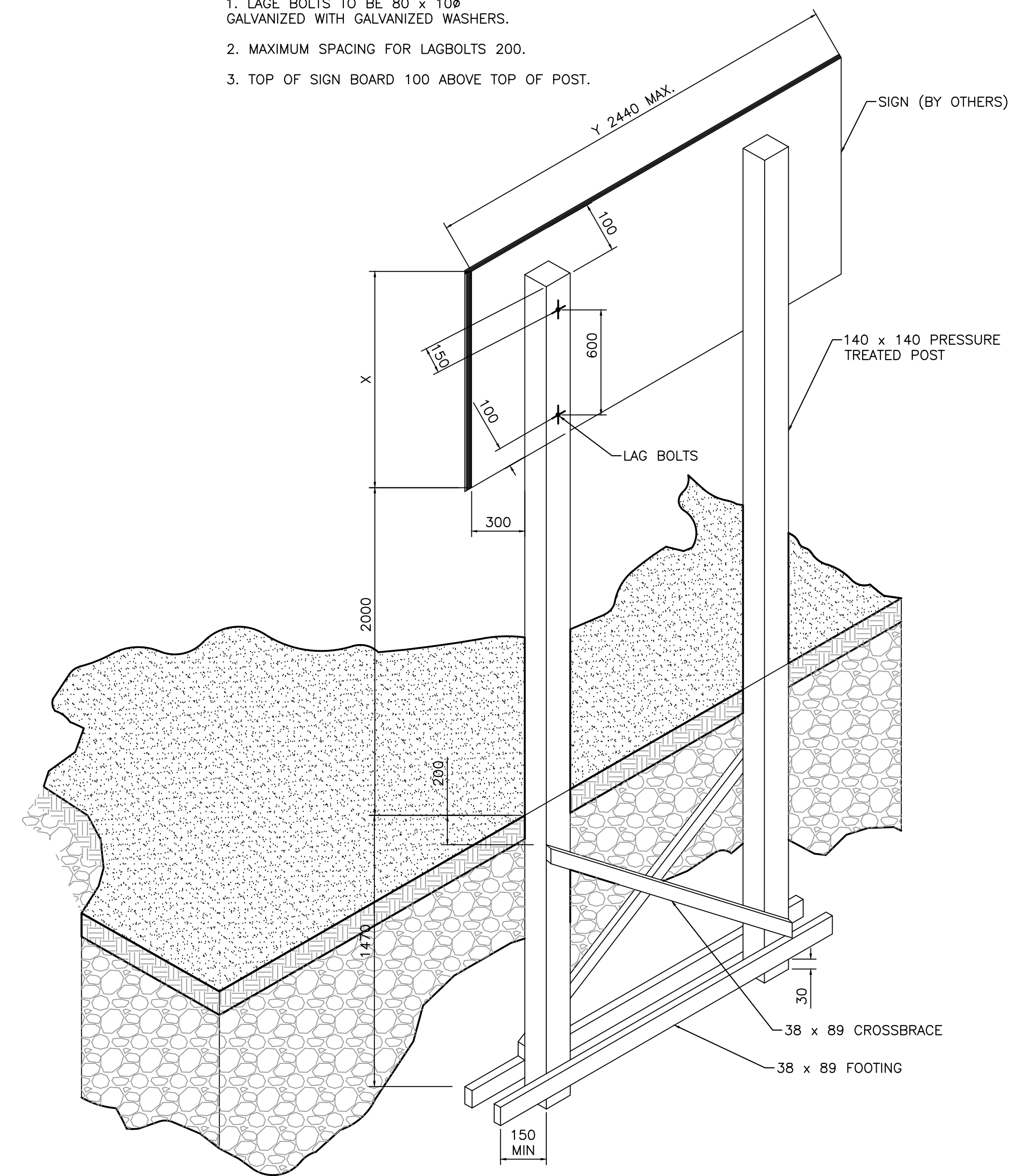
NOTES:  
 1. LAGE BOLTS TO BE 80 x 10Ø GALVANIZED WITH GALVANIZED WASHERS.  
 2. MAXIMUM SPACING FOR LAGBOLTS 200.  
 3. TOP OF SIGN BOARD 100 ABOVE TOP OF POST.



TYPE "B" SIGNPOST INSTALLATIONS ARE DESIGNATED IN THE FORM: - TYPE B-X WHERE X IS THE HEIGHT IN MILLIMETERS, OF THE SIGN BOARD TO BE PLACED ON THE POST. FOR EXAMPLE, TYPE "B1" INSTALLATION IN WHICH THE SIGN TO BE INSTALLED ON THE POST IS 1200 IN HEIGHT, THE MINIMUM POST LENGTH REQUIRED FOR THIS SIGN WOULD THEN BE 1200 + 1250 OR 4450.

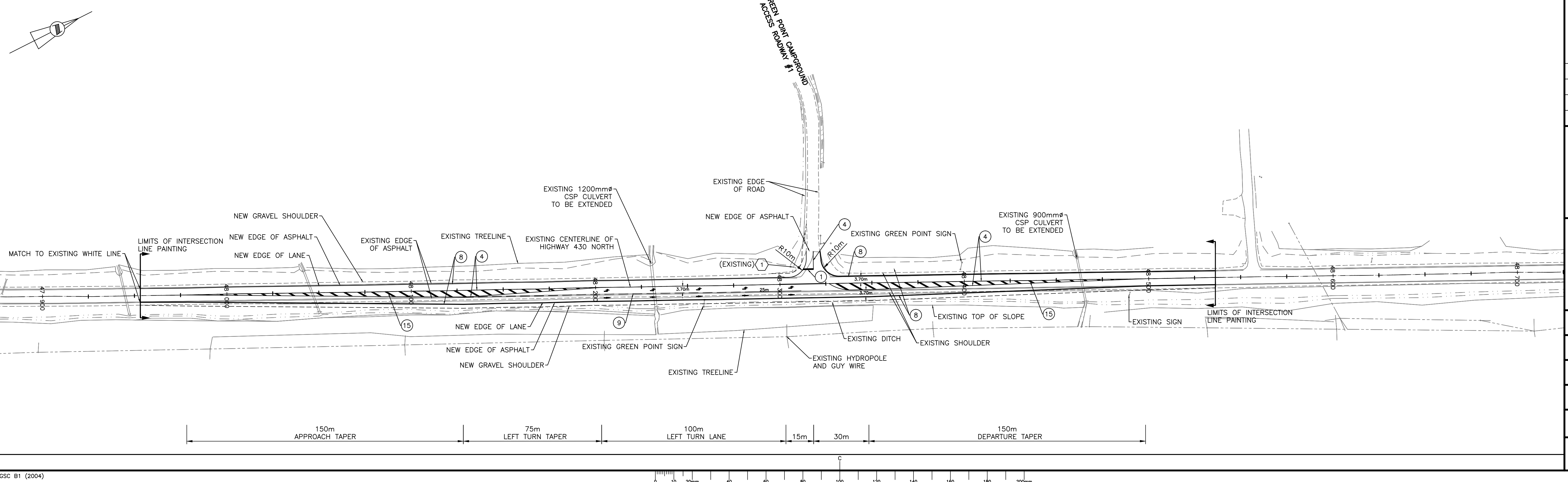


NOTES:  
 1. MAXIMUM SIGN AREA > 1.1m<sup>2</sup>.  
 2. CUSTOM SIGNS TO HAVE A MINIMUM OF TWO LAG BOLTS.  
 3. STANDARD SIGNS WILL BE PRE-DRILLED FOR LAG BOLTS.  
 4. TOP OF SIGN TO BE FLUSH WITH TOP OF POST.  
 5. LAGE BOLTS 80 x 10Ø WITH GALVANIZED WASHER.



SIGNAGE SCHEDULE			
SIGN	NAME	MUTCD CODE	SIZE
①	STOP SIGN	RA-1	600mm x 600mm

PROVINCE OF NEWBRUNSWICK AND LABOURER  
 PEGG PERMIT HOLDER  
 This Permit Allows:  
 CRANDALL ENGINEERING LTD.  
 To practice Professional Engineering in Mechanical and Labourer  
 Permit No. as Issued by P.E.O.C. (N.B.) which is valid for the year 2017.



revision	description	date
C	ISSUED FOR TENDER	FEB. 10 2017
B	RS4 90% SUBMISSION	DEC 16 2016
A	RS1-RS2 SUBMISSION	AUG 30 2016

HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION

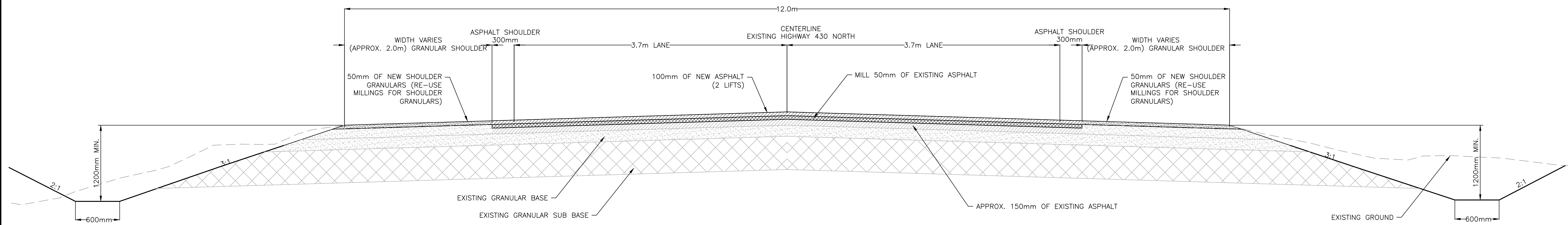
GREEN POINT INTERSECTION UPGRADE SIGNAGE PLAN STA 47+950 TO STA 48+550

designed	G. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	1350	no. du projet
drawing no.	C30	no. du dessin

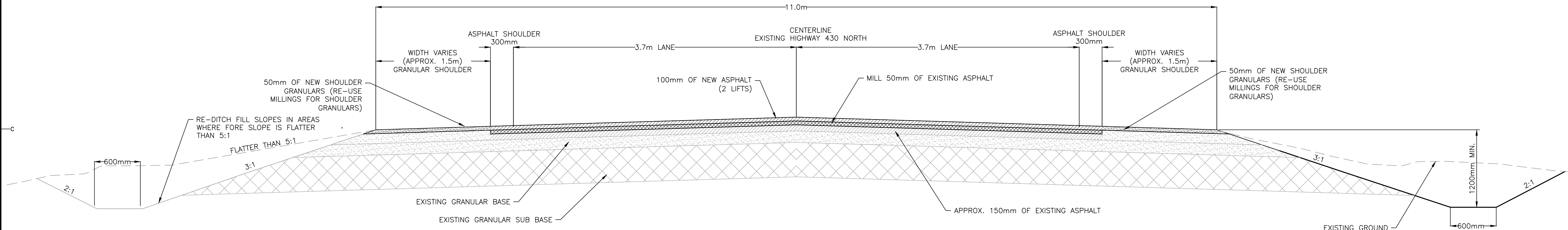




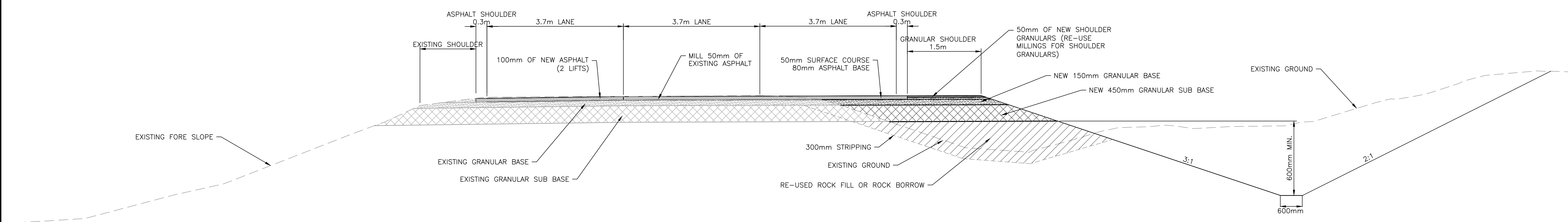
SANT JOHN  
 1077 Av. St. George Blvd. 123 Prince William Street  
 Fredericton, N.B. Canada S4B 1Y9  
 Tel: (506) 852-2777 Fax: (506) 852-2777  
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SEGMENT "D"  
 TYPICAL ROAD CROSS SECTION FOR  
 HIGHWAY 430 ASPHALT REHABILITATION  
 STA. 40+120 TO STA. 40+450  
 SCALE: 1:25



SEGMENT "D"  
 TYPICAL ROAD CROSS SECTION FOR  
 HIGHWAY 430 ASPHALT REHABILITATION  
 STA. 40+450 TO STA. 52+700 AND  
 SCALE: 1:25



SEGMENT "D"  
 TYPICAL ROAD CROSS SECTION FOR  
 HIGHWAY 430 GREEN POINT INTERSECTION  
 SCALE: 1:50



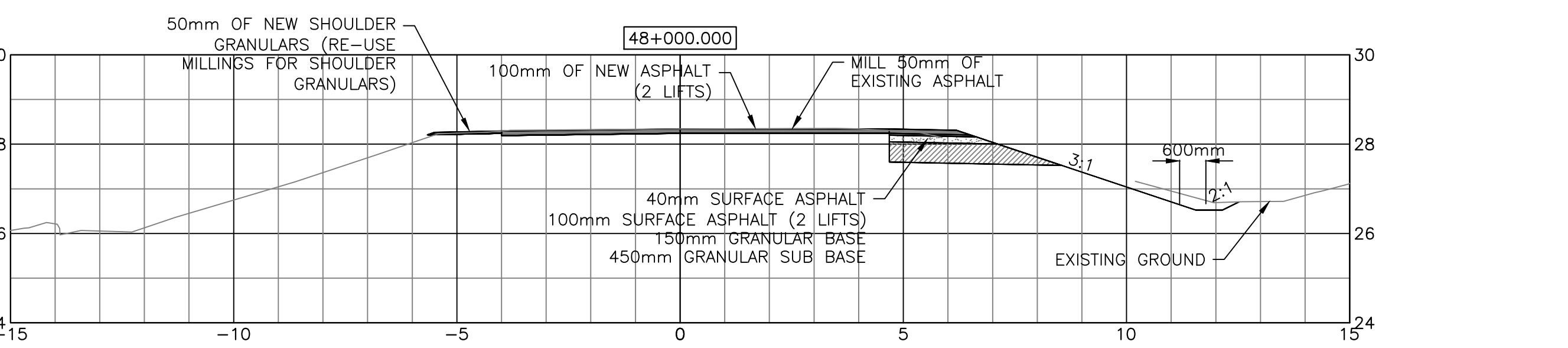
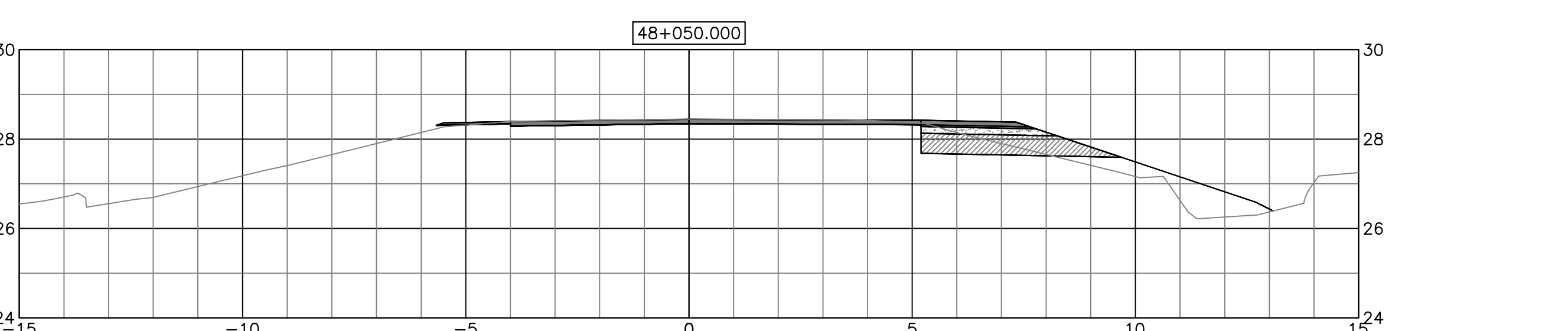
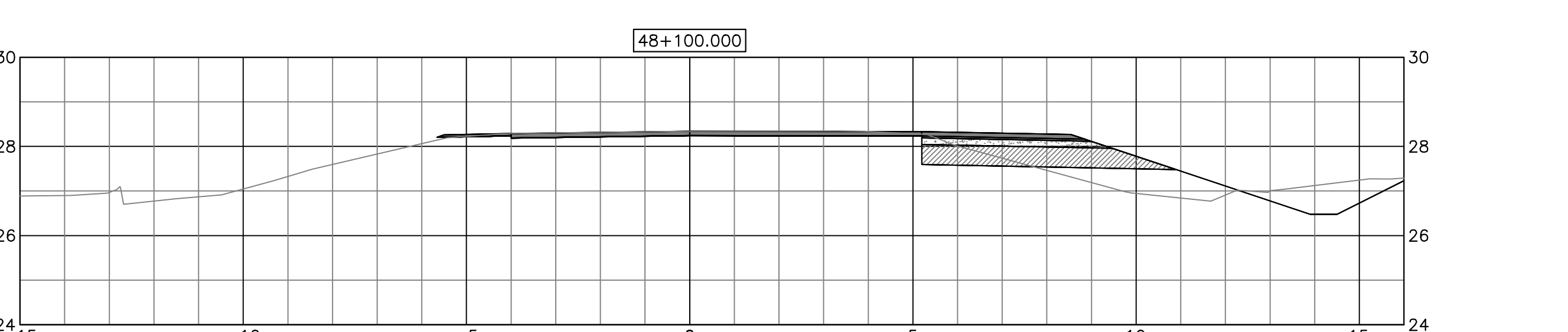
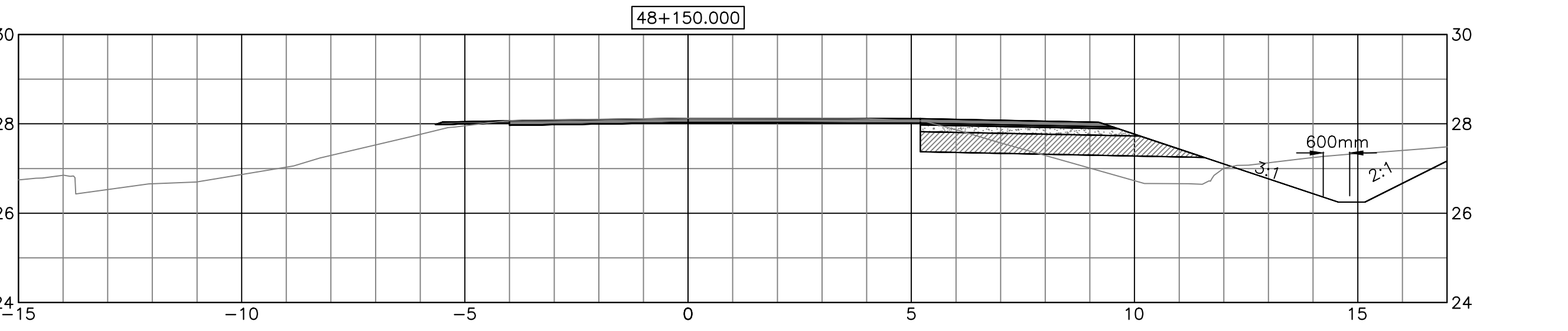
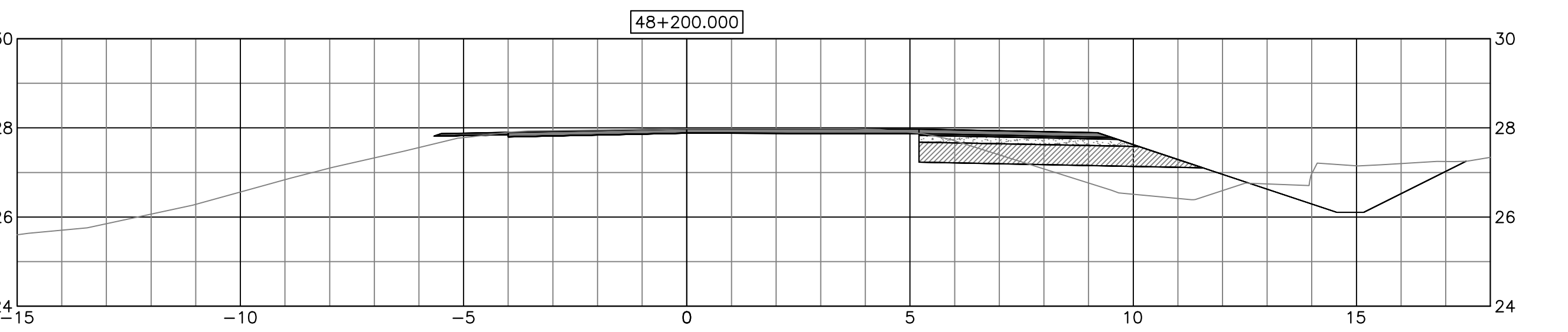
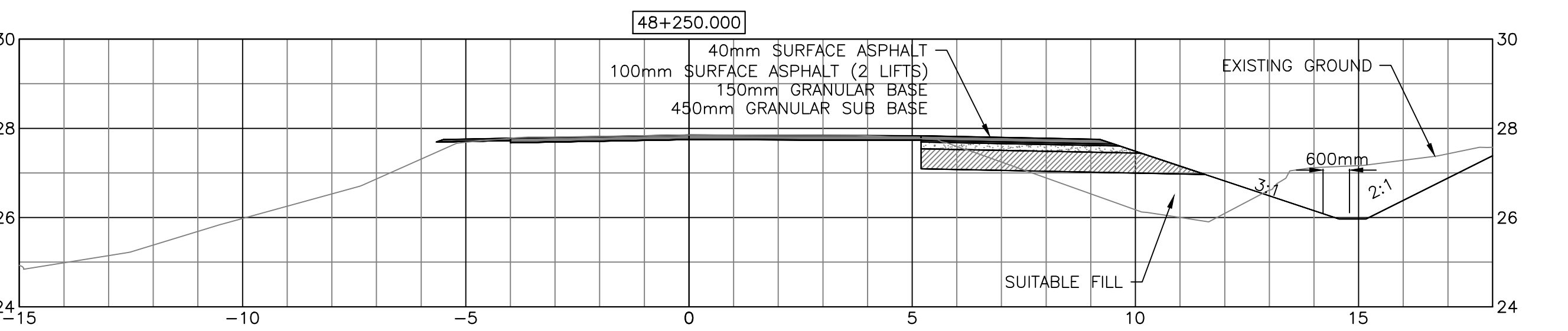
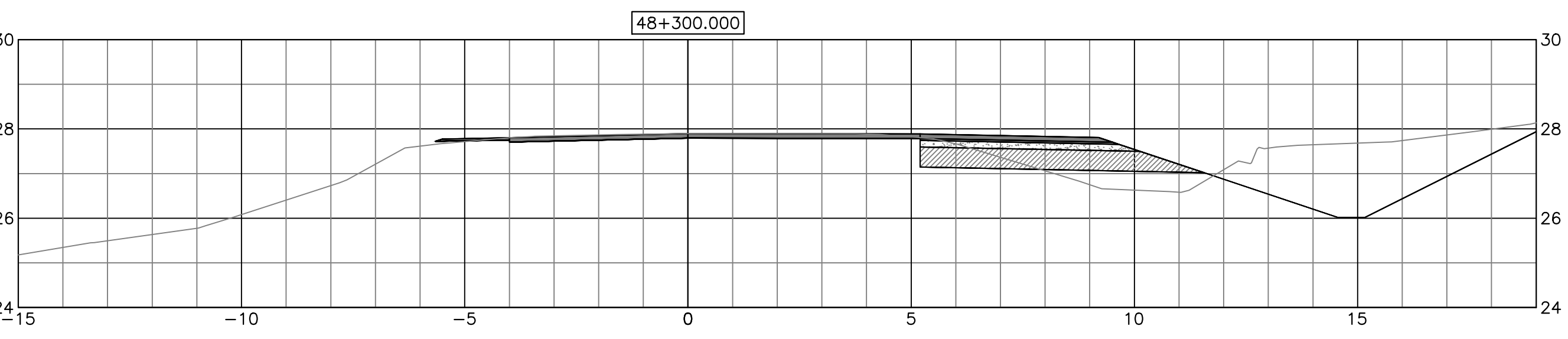
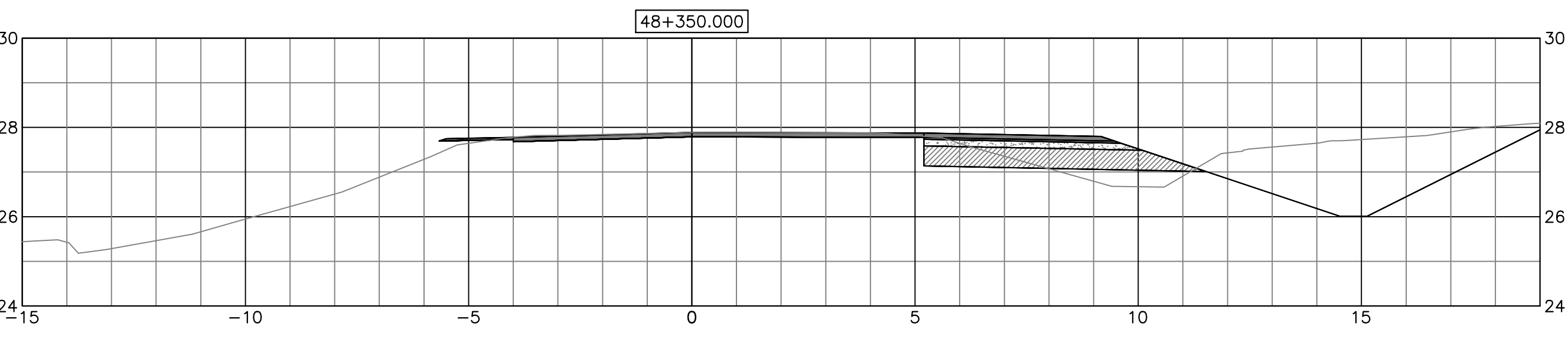
C	ISSUED FOR TENDER	FEB.10 2017
B	RS4 90% SUBMISSION	DEC.16 2016
A	RS1 - RS2 SUBMISSION	30/08 2016

project project  
**HIGHWAY 430 NORTH  
 SEGMENT "B" AND "D"  
 REHABILITATION**

drawing design  
**TYPICAL ROAD  
 CROSS SECTIONS**

designed	G. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A.CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J.BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Submission
PCA Project Manager	Administrateur de projets APC	
project number	no. du projet	
	<b>1350</b>	
drawing no.	no. du dessin	
	<b>C31</b>	





**NOTE:**  
EXACT DITCH LOCATION AND ELEVATION TO BE DETERMINED IN THE FIELD. SLIGHT MODIFICATIONS TO DEPTH, WIDTH AND SLOPES TO BE APPROVED BY DEPARTMENTAL REPRESENTATIVE

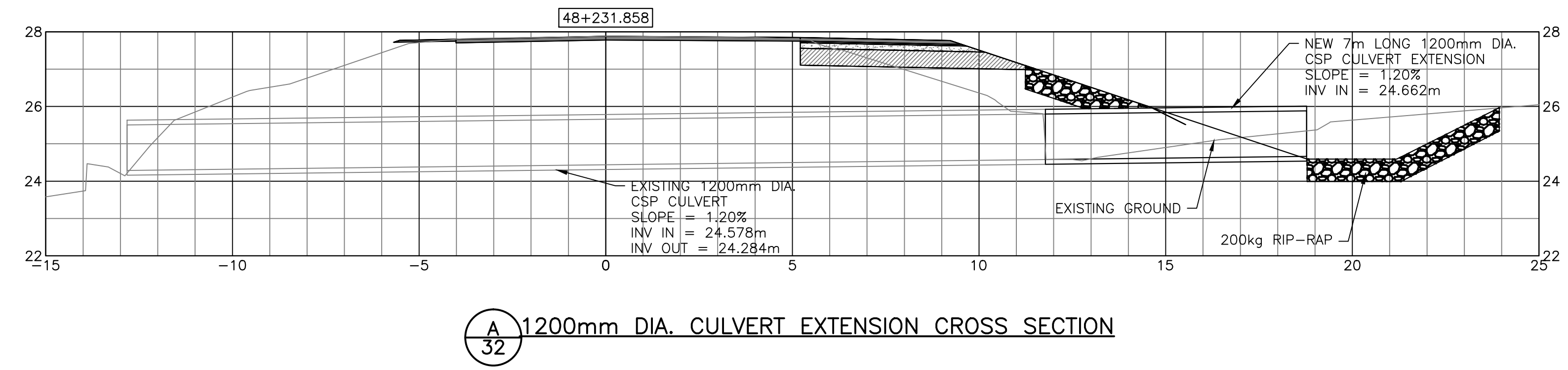
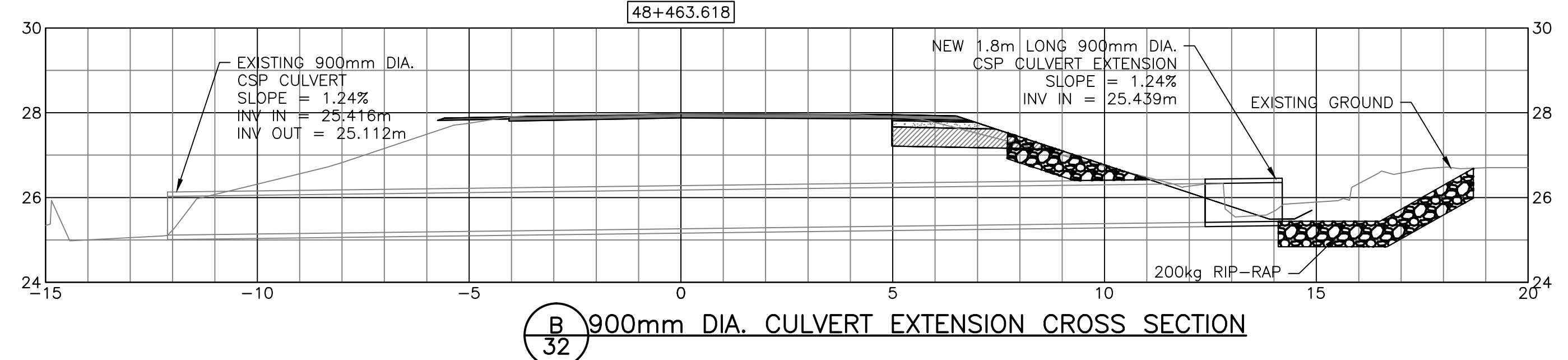


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SANT JOHN 133 Pique William Street Suite 707 Saint John, N.B. Canada E7B 1Y1 Tel: (506) 653-0883 Fax: (506) 653-2550

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C	ISSUED FOR TENDER	FEB 10 2017
B	RS4 90% SUBMISSION	DEC 16 2016
A	RS1-RS2 SUBMISSION	AUG 30 2016
revisions		date
project		project

**HIGHWAY 430 NORTH SEGMENT "B" AND "D" REHABILITATION**

**SEGMENT "D" GREEN POINT INTERSECTION CROSS SECTIONS STA 48+000 TO STA 48+500**

designed	G. FLANAGAN	conçu
date	JANUARY 31, 2017	
drawn	A. CALDWELL	dessiné
date	JANUARY 31, 2017	
approved	J. BABIN	approuvé
date	JANUARY 31, 2017	
Tender		Soumission
PCA Project Manager	Administrateur de projets APC	
project number		no. du projet
	<b>1350</b>	
drawing no.		no. du dessin
	<b>C32</b>	