

# Valley Corridor Restoration

Presented at  
Canadian Land Reclamation  
Association

October 20<sup>th</sup> – 22<sup>nd</sup>, 2015

Fredericton, New Brunswick

Ron Jenkins, AScT, EP  
Regional Manager, Atlantic Canada



A Division of Matrix Solutions Inc.



# Overview

Issues  
Design  
Construction  
Results



## NEW BRUNSWICK



































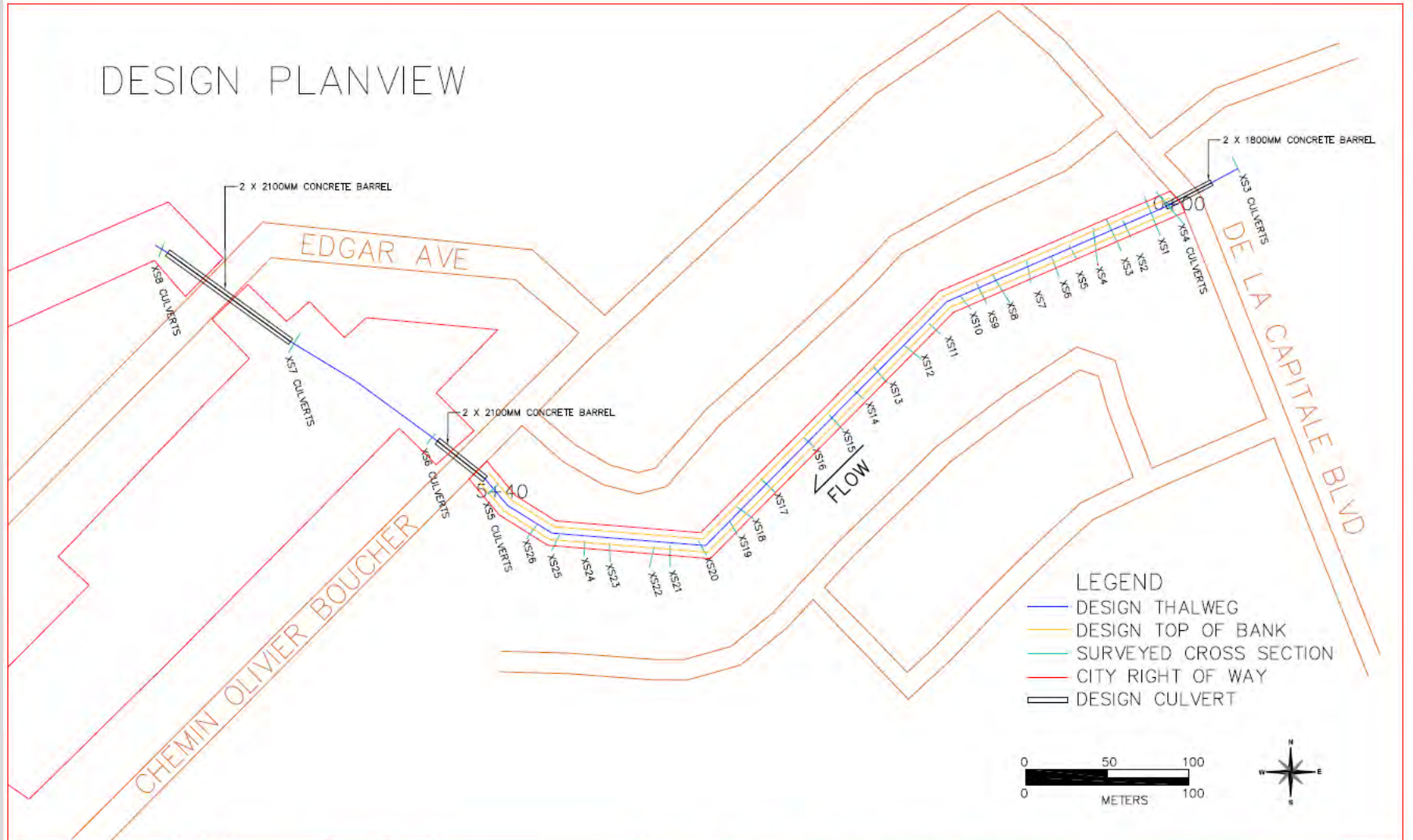








# DESIGN PLANVIEW



NO.	REVISIONS	INITIAL	DATE
1	DESIGNER'S		
2	CHECKED BY		
3	APPROVED BY		
4	CHECKED BY		
5	DATE		13-04-2015

SCALE  
REFER TO DRAWING



RESTORATION OF UNNAMED STREAM  
IN BOUCHER, NEW BRUNSWICK

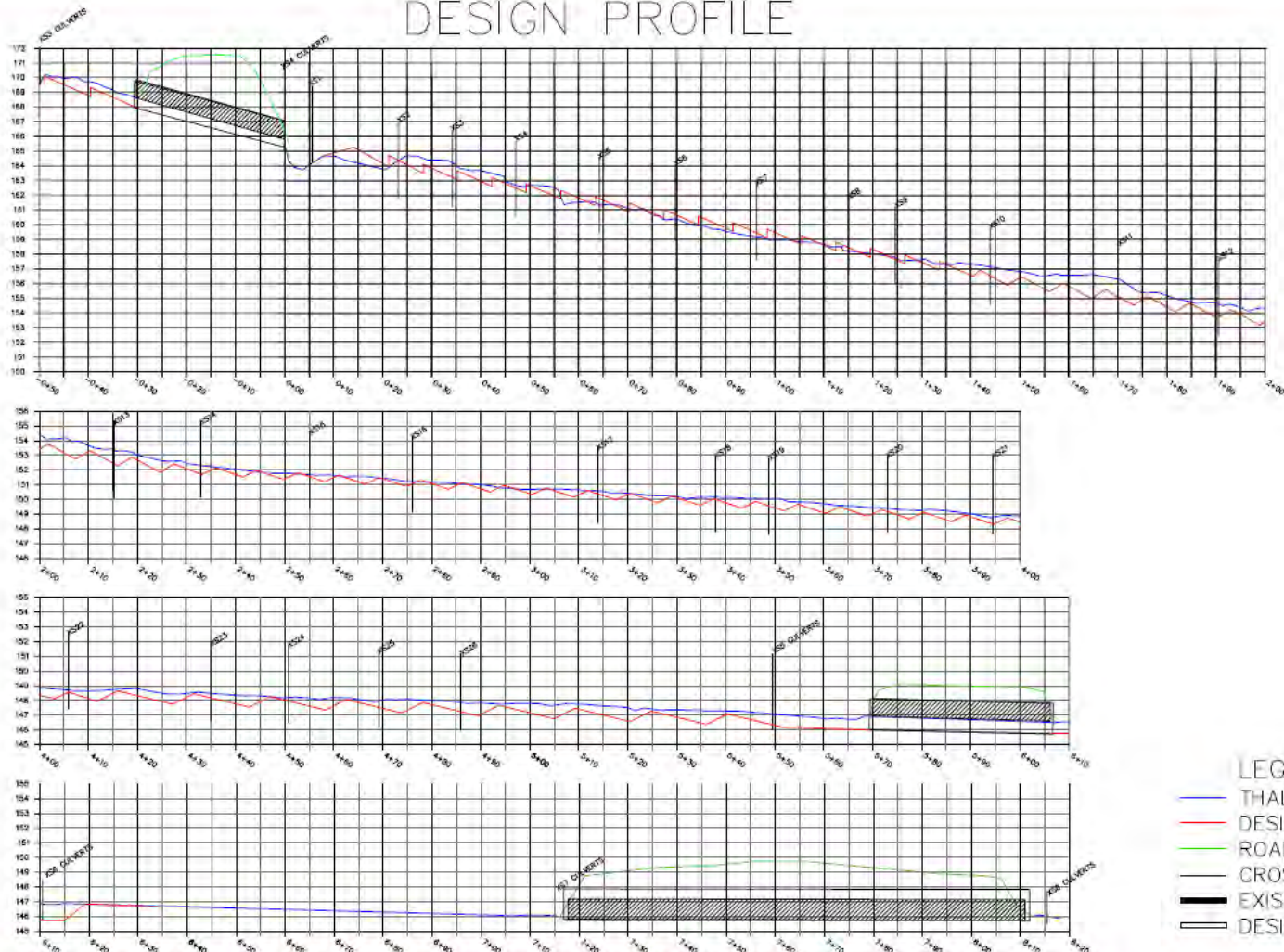
DESIGN PLANVIEW

PROJECT NO.  
02-13-08

SHEET NO.  
6



# DESIGN PROFILE



- LEGEND**
- THALWEG
  - DESIGN THALWEG
  - ROAD BERM
  - CROSS SECTION
  - EXISTING CULVERT
  - DESIGN CULVERT

REV	REVISION	DATE
1	DESIGN	01/01/2011
2	CONSTRUCTION	01/01/2011
3	AS-BUILT	01/01/2011
4	FINAL	01/01/2011

DESIGN PROFILE

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 Providence, RI 02903  
 Tel: 401-455-6666  
 Fax: 401-455-6667  
 www.parishgeomorphic.com

**RESTORATION OF UNNAMED STREAM  
 IN BOUCHER, NEW BRUNSWICK**

**DESIGN PROFILE**

PROJECT NO. 100-0000  
 SHEET NO. 7



# RIFFLE TYPICALS & MATERIAL QUANTITIES

## TYPICAL RIFFLE PROFILES

N.T.S.

-0+49 to -0+30

0+08 to 0+28.3

0+28.3 to 1+33.5

1+33.5 to 1+47.5

1+47.5 to 2+24.5

2+24.5 to 2+41.4

2+41.4 to 2+74.9

2+74.9 to 4+11.7

4+11.7 to 5+51.7

6+15 to 6+34

TYPICAL RIFFLE PLANFORM VIEW

N.T.S.

RIFFLE CROSS SECTION A-A

N.T.S.

POOL CROSS SECTION B-B

N.T.S.

STATION	ELEVATION (m)		QUANTITY (m³)	SAVED/REMOVED (m³)
	Start	End		
A	-0+49	-0+30	260.5 190.1 66.7	22.8
8	-0+30.5	-0+30	168.7 163.5 67.9	22.8
9	-0+30	-0+21.4	164.7 163.5 67.9	48.4
10	-0+21.4	-0+20.3	168.9 163.7 68.5	31.2
3	-0+20.3	-0+05.3	165.5 164.1 63.1	18.8
4	-0+05.3	-0+02.9	162.1 161.6 62.5	16.9
5	-0+02.9	-0+01.5	162.9 162.2 62.8	16.8
6	-0+01.5	-0+00.3	162.2 162.6 63.7	16.8
7	-0+00.3	-0+00.3	161.7 162.3 63.8	16.8
8	-0+00.3	-0+00.3	161.9 161.9 64.0	16.8
9	-0+00.3	-0+00.3	161.9 161.9 64.0	16.8
10	-0+00.3	-0+00.3	161.4 161.8 64.0	16.8
11	-0+00.3	-0+00.3	161.0 161.0 63.8	16.8
12	-0+00.3	-0+00.3	159.1 159.7 63.0	16.8
13	-0+00.3	-0+00.3	158.6 159.1 63.2	16.8
14	-0+00.3	-0+00.3	158.1 158.6 63.4	16.8
15	-0+00.3	-0+00.3	157.6 158.1 63.6	16.8
16	-0+00.3	-0+00.3	157.1 157.6 63.8	16.8
17	-0+00.3	-0+00.3	156.6 157.1 64.0	16.8
18	-0+00.3	-0+00.3	156.1 156.6 64.2	16.8
19	-0+00.3	-0+00.3	155.6 156.1 64.4	16.8
20	-0+00.3	-0+00.3	155.1 155.6 64.6	16.8
21	-0+00.3	-0+00.3	154.6 155.1 64.8	16.8
22	-0+00.3	-0+00.3	154.1 154.6 65.0	16.8
23	-0+00.3	-0+00.3	153.6 154.1 65.2	16.8
24	-0+00.3	-0+00.3	153.1 153.6 65.4	16.8
25	-0+00.3	-0+00.3	152.6 153.1 65.6	16.8
26	-0+00.3	-0+00.3	152.1 152.6 65.8	16.8
27	-0+00.3	-0+00.3	151.6 152.1 66.0	16.8
28	-0+00.3	-0+00.3	151.1 151.6 66.2	16.8
29	-0+00.3	-0+00.3	150.6 151.1 66.4	16.8
30	-0+00.3	-0+00.3	150.1 150.6 66.6	16.8
31	-0+00.3	-0+00.3	149.6 150.1 66.8	16.8
32	-0+00.3	-0+00.3	149.1 149.6 67.0	16.8
33	-0+00.3	-0+00.3	148.6 149.1 67.2	16.8
34	-0+00.3	-0+00.3	148.1 148.6 67.4	16.8
35	-0+00.3	-0+00.3	147.6 148.1 67.6	16.8
36	-0+00.3	-0+00.3	147.1 147.6 67.8	16.8
37	-0+00.3	-0+00.3	146.6 147.1 68.0	16.8
38	-0+00.3	-0+00.3	146.1 146.6 68.2	16.8
39	-0+00.3	-0+00.3	145.6 146.1 68.4	16.8
40	-0+00.3	-0+00.3	145.1 145.6 68.6	16.8
41	-0+00.3	-0+00.3	144.6 145.1 68.8	16.8
42	-0+00.3	-0+00.3	144.1 144.6 69.0	16.8
43	-0+00.3	-0+00.3	143.6 144.1 69.2	16.8
44	-0+00.3	-0+00.3	143.1 143.6 69.4	16.8
45	-0+00.3	-0+00.3	142.6 143.1 69.6	16.8
46	-0+00.3	-0+00.3	142.1 142.6 69.8	16.8
47	-0+00.3	-0+00.3	141.6 142.1 70.0	16.8
48	-0+00.3	-0+00.3	141.1 141.6 70.2	16.8
49	-0+00.3	-0+00.3	140.6 141.1 70.4	16.8
50	-0+00.3	-0+00.3	140.1 140.6 70.6	16.8
51	-0+00.3	-0+00.3	139.6 140.1 70.8	16.8
52	-0+00.3	-0+00.3	139.1 139.6 71.0	16.8
53	-0+00.3	-0+00.3	138.6 139.1 71.2	16.8
54	-0+00.3	-0+00.3	138.1 138.6 71.4	16.8
55	-0+00.3	-0+00.3	137.6 138.1 71.6	16.8
56	-0+00.3	-0+00.3	137.1 137.6 71.8	16.8
57	-0+00.3	-0+00.3	136.6 137.1 72.0	16.8
58	-0+00.3	-0+00.3	136.1 136.6 72.2	16.8
59	-0+00.3	-0+00.3	135.6 136.1 72.4	16.8
60	-0+00.3	-0+00.3	135.1 135.6 72.6	16.8
61	-0+00.3	-0+00.3	134.6 135.1 72.8	16.8
62	-0+00.3	-0+00.3	134.1 134.6 73.0	16.8
63	-0+00.3	-0+00.3	133.6 134.1 73.2	16.8
64	-0+00.3	-0+00.3	133.1 133.6 73.4	16.8
65	-0+00.3	-0+00.3	132.6 133.1 73.6	16.8
66	-0+00.3	-0+00.3	132.1 132.6 73.8	16.8
67	-0+00.3	-0+00.3	131.6 132.1 74.0	16.8
68	-0+00.3	-0+00.3	131.1 131.6 74.2	16.8
69	-0+00.3	-0+00.3	130.6 131.1 74.4	16.8
70	-0+00.3	-0+00.3	130.1 130.6 74.6	16.8
71	-0+00.3	-0+00.3	129.6 130.1 74.8	16.8
72	-0+00.3	-0+00.3	129.1 129.6 75.0	16.8
73	-0+00.3	-0+00.3	128.6 129.1 75.2	16.8
74	-0+00.3	-0+00.3	128.1 128.6 75.4	16.8
75	-0+00.3	-0+00.3	127.6 128.1 75.6	16.8
76	-0+00.3	-0+00.3	127.1 127.6 75.8	16.8
77	-0+00.3	-0+00.3	126.6 127.1 76.0	16.8
78	-0+00.3	-0+00.3	126.1 126.6 76.2	16.8
79	-0+00.3	-0+00.3	125.6 126.1 76.4	16.8
80	-0+00.3	-0+00.3	125.1 125.6 76.6	16.8
81	-0+00.3	-0+00.3	124.6 125.1 76.8	16.8
82	-0+00.3	-0+00.3	124.1 124.6 77.0	16.8
83	-0+00.3	-0+00.3	123.6 124.1 77.2	16.8
84	-0+00.3	-0+00.3	123.1 123.6 77.4	16.8
85	-0+00.3	-0+00.3	122.6 123.1 77.6	16.8
86	-0+00.3	-0+00.3	122.1 122.6 77.8	16.8
87	-0+00.3	-0+00.3	121.6 122.1 78.0	16.8
88	-0+00.3	-0+00.3	121.1 121.6 78.2	16.8
89	-0+00.3	-0+00.3	120.6 121.1 78.4	16.8
90	-0+00.3	-0+00.3	120.1 120.6 78.6	16.8
91	-0+00.3	-0+00.3	119.6 120.1 78.8	16.8
92	-0+00.3	-0+00.3	119.1 119.6 79.0	16.8
93	-0+00.3	-0+00.3	118.6 119.1 79.2	16.8
94	-0+00.3	-0+00.3	118.1 118.6 79.4	16.8
95	-0+00.3	-0+00.3	117.6 118.1 79.6	16.8
96	-0+00.3	-0+00.3	117.1 117.6 79.8	16.8
97	-0+00.3	-0+00.3	116.6 117.1 80.0	16.8
98	-0+00.3	-0+00.3	116.1 116.6 80.2	16.8
99	-0+00.3	-0+00.3	115.6 116.1 80.4	16.8
100	-0+00.3	-0+00.3	115.1 115.6 80.6	16.8
Total			1315.7	1736

\*TRANSITION RIFFLE

\*\*Final Backflooding Riffle Structure. Blends into existing elevation at downstream end

Quantities do not include extra 4 m on either side into bank for crest and extra 2 m on either side for pool. Also does not include "dig down" amount (~1 m) at end for pool or amounts set into bank above channel bed ending underneath fabric wraps.

Base off of fifty-six 1 m x 1 m x .5 m rocks, two layers 16 m across (8 m channel and 4 m at each end keyed into valley wall) = 32 for crest and two layers 12 m across (8 m channel and 2 m at each end keyed into valley wall) = 24 for pool/end

REV	REVISIONS	DATE	BY	CHKD	APP'D
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# **PARISH Aquatic Services**

## **A Division of Matrix Solutions**

**Dedicated to providing viable solutions and reliable insight to fluvial processes and watercourse concerns with the aim of promoting long-term stability and protection of the environment.**

**Multi-disciplinary expertise;**

- Professional geoscientists,**
- Ecologists and biologists,**
- Drafting and GIS technicians,**
- Registered engineers.**



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