



## **Appendix K**

### **Conceptual Design of Mitigation Measures at Cardston**

**Conceptual Cost Estimate  
Cardston Flood Defence**

Item No.	Item Description	Unit	Quantity	Unit Price	Extension
	<b>ALLOWANCES</b>				
1	Bigger Size Riprap	Allow.	Allowance		\$50,000
	<b>TEMPORARY FACILITIES</b>				
2	Mobilization and Demobilization	L.S.	1	Lump Sum	\$25,000
	<b>SITE PREPARATION</b>				
3	Care of Water	L.S.	1	Lump Sum	\$15,000
	<b>GRANULAR AND RIPRAP MATERIALS</b>				
4	Riprap Zone 6C	tonnes	2672.00	\$150.00	\$400,800
5	Gravel Armour Zone 5C	tonnes	746.00	\$40.00	\$29,840
6	Non-Woven Geotextile	m <sup>2</sup>	1863.00	\$3.00	\$5,589
	<b>SUBTOTAL</b>				<b>\$526,229</b>
	<b>CONTINGENCIES @ 25%</b>				<b>\$131,557</b>
	<b>ENGINEERING @ 12%</b>				<b>\$63,147</b>
	<b>ESTIMATED TOTAL COST</b>				<b>\$721,000</b>

1670 m3  
373 m3





- LEGEND:**
- WATER BODY
  - FLOW DIRECTION
  - RIPRAP PROTECTION

Scale:  
1:1000

0 12.5 25  
Meters

THIS DRAWING MAY HAVE BEEN REDUCED. ALL SCALE NOTATIONS INDICATED (i.e 1:1000 etc.) ARE BASED ON 22" X 34" FORMAT DRAWINGS

NOT FOR CONSTRUCTION

△						
△						
△						
△	29	05	2014	ISSUED FOR FINAL REPORT	H.M.	G.G.
△	17	03	2014	ISSUED FOR CLIENT REVIEW	H.M.	G.G.
REV	D	M	Y	ISSUE/REVISION DESCRIPTION	ENG.	APPR.

**amec**

Client: SOUTHERN ALBERTA FLOOD RECOVERY TASK FORCE

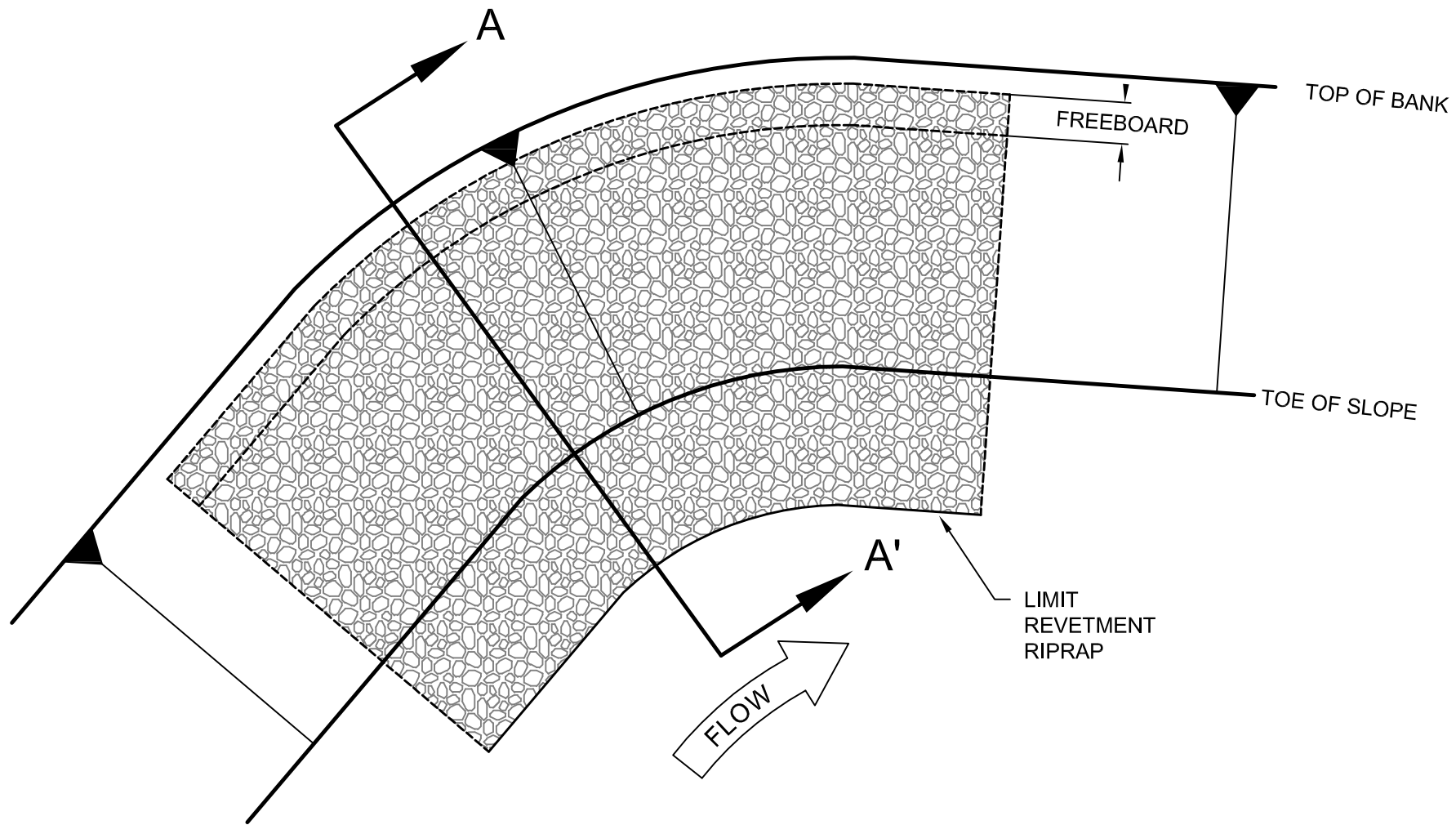
Designed By:	MG
Drawn By:	BJ
Checked By:	GB
Approved By:	GG
Scale:	AS SHOWN

PROJECT:	FLOOD MITIGATION FEASIBILITY STUDY FOR BOW, ELBOW AND OLDMAN RIVER BASINS
TITLE:	CARDSTON FLOOD DEFENCES CONCEPTUAL PLAN

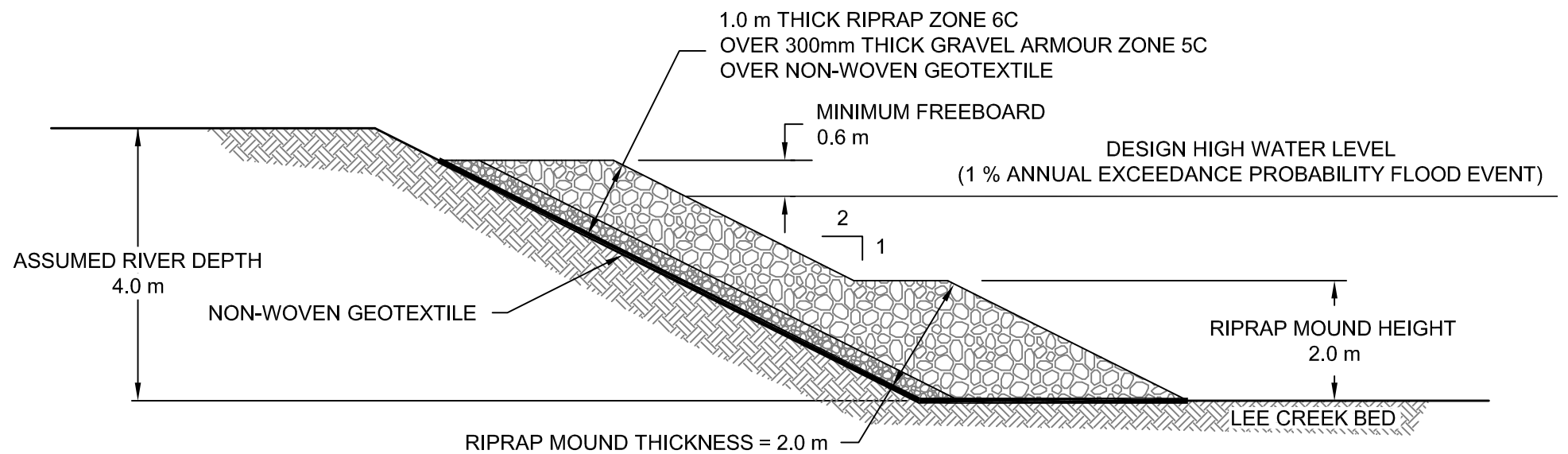
Project No.:	CW2174
CADD File:	CW2174-CA01.dwg
Date:	MAY 2014
Drawing No.:	FIGURE K1
Sheet No.:	1 of 2

T:\Working\amw\CW2174 - Flood Mitigation Study\Final Report\CW2174 - CAD\Map - Conceptual01 - May 29, 2014 10:15am - final.dwg





**PLAN VIEW**  
N.T.S.



**SECTION A-A' - REVETMENT RIPRAP**  
N.T.S.

THIS DRAWING MAY HAVE BEEN REDUCED. ALL SCALE NOTATIONS INDICATED (i.e. 1:1000 etc.) ARE BASED ON 22" X 34" FORMAT DRAWINGS

NOT FOR CONSTRUCTION

REV	D	M	Y	ISSUE/REVISION DESCRIPTION	ENG.	APPR.
29	05	2014		ISSUED FOR FINAL REPORT	H.M.	G.G.
17	03	2014		ISSUED FOR CLIENT REVIEW	H.M.	G.G.

Client:

SOUTHERN ALBERTA FLOOD RECOVERY TASK FORCE



Designed By:	MG
Drawn By:	BJ
Checked By:	GB
Approved By:	GG
Scale:	NTS

PROJECT:	FLOOD MITIGATION FEASIBILITY STUDY FOR BOW, ELBOW AND OLDMAN RIVER BASINS	Project No.:	CW2174
TITLE:	CARDSTON FLOOD DEFENCES RIPRAP PROTECTION TYPICALS	CADD File:	CW2174-CA01.dwg
		Date:	MAY 2014
		Drawing No.:	FIGURE K2
		Sheet No.:	2 of 2