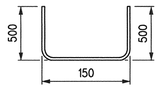
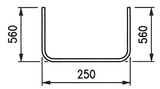
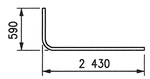
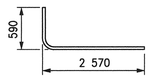
BILL OF REINFORCING STEEL
FOR ABUTMENT MODIFICATION - STAGE 1

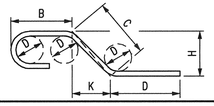
SITE No. 2924-00

MARK	TYPE	PIN DIAMETER	LENGTH	No.	MASS	BENDING DIAGRAM
1556-6	STR		1 640	2	5.15	
1556-7	STR		1 490	2	4.68	
1556-8	STR		1 340	2	4.21	
1556-9	STR		1 190	2	3.74	
1557	STR		2 970	6	27.98	
1558	STR		1 050	15	24.73	
1559	STR		3 930	5	30.85	
1560-1	STR		2 500	1	3.92	
1560-2	STR		1 890	1	2.97	
1561-1	STR		2 040	1	3.20	
1561-2	STR		1 440	1	2.26	
1562	STR		1 320	2	4.14	
1563	BENT	90	1 150	28	50.55	
1579	BENT	90	1 370	12	25.81	
2001-1	STR		2 310	1	5.44	
2001-2	STR		2 450	1	5.77	
2001-3	STR		2 580	1	6.08	
2002	STR		4 110	9	87.11	
2003	STR		3 610	3	25.50	
2004	STR		12 090	7	199.30	
2006	STR		12 640	7	208.37	
2007-1	STR		2 380	1	5.60	
2007-2	STR		2 250	1	5.30	
2007-3	STR		2 120	1	4.99	
2009	STR		12 940	7	213.32	
2010	STR		12 400	7	204.41	
3501	BENT	250	3 020	10	237.07	
3502	BENT	250	3 160	10	248.06	

Total mass of reinforcing steel	4824.14 kg
Total volume of structural concrete	54.02 m³

NOTES:

1. All dimensions given in bending diagram are out to out, except radii and extensions on 90°, 135° & 180° hooks. Extensions on 90°, 135° & 180° hooks are the "A" or "C" dimensions for the standard 90°, 135° & 180° hooks referenced from the RSIC "Manual of Standard Practice". Radii are inside dimensions. All reinforcing steel bends and hooks shall conform to Clause 6.6.2 of C.S.A. A23.1-04, unless noted otherwise in the BILL OF REINFORCING STEEL.
2. All reinforcing steel shall be deformed steel, unless noted otherwise in the BILL OF REINFORCING STEEL.
3. All reinforcing steel shall conform to CSA G30.18-M92 "Billet Steel Bars for Concrete Reinforcement" Grade 400W, unless noted otherwise in the BILL OF REINFORCING STEEL.
4. Like bars shall be bundled, securely tied and identified as to Mark and Site No. by appropriate means. All other items to be identified in a similar fashion.
5. Bars marked with the suffix "P" shall be plain undeformed bars in accordance with CAN/CSA G40.21-M92 Grade 300W.
6. All bars shall be bent in accordance with the following detail;



REVISIONS

DATE	BY	DESCRIPTION

PROVINCE OF MANITOBA
Mar. 15/10
S.S
RIHAL
REGISTERED PROFESSIONAL ENGINEER

ABUTMENT MODIFICATIONS
STAGE 1 - BILL OF REINFORCING

RECONSTRUCTION AND STRENGTHENING OF EXISTING BRIDGE
OVER ASSINIBOINE RIVER - CONTRACT THREE
ON P.T.H. No. 100 IN R.L.'S 72, 73 & 94
PARISH OF ST. CHARLES

CITY OF WINNIPEG

Manitoba
Infrastructure and Transportation
Water Control & Structures

RELEASED FOR CONSTRUCTION
BY:
DIRECTOR — DATE: March 15/10
STRUCTURES DESIGN AND CONSTRUCTION BRANCH

DESIGN	BY: M.B.C.	
	CHECKED: S.S.R.	
DETAILS	BY: M.S.	
	CHECKED: S.S.R./J.J.	

SCALE:

SHEET No. 31

SITE No. 2924-00