MARK	QTY.	DESCRIPTION	SIZE	MASS (kg) PER UNIT	MASS (kg)
G1	1	THROUGH PLATE GIRDER (FCM)			
		- TOP PLATE	50x550x15800 LG. AS DETAILED		
		- WEB PLATE	16x1500x15800 LG. AS DETAILED		
		- BOTTOM PLATE	50x550x15800 LG. AS DETAILED		
					9243.2
G2	1	THROUGH PLATE GIRDER (FCM)			
		- TOP PLATE	50x550x15800 LG. AS DETAILED		
		- WEB PLATE	16x1500x15800 LG. AS DETAILED		
		- BOTTOM PLATE	50x550x15800 LG. AS DETAILED		
					9243.2

BILL OF STRUCTURAL STEEL FOR STEEL FLOOR BEAMS (PM) & STRINGERS (PM) MARK QTY. DESCRIPTION SIZE MASS (Ng) TOTAL MASS (Ng) TOTAL MASS (Ng) MASS								
MARK	QTY.	DESCRIPTION	SIZE					
FB1	2	FLOOR BEAM (PM)	W460x177, 5084 LG. AS DETAILED	849.0	1698.0			
FB2	4	FLOOR BEAM (PM)	W460x177, 5580 LG. AS DETAILED	901.5	3606.0			
FB3	3	FLOOR BEAM (PM)	W460x177, 5580 LG. AS DETAILED	906.1	2718.3			
FB4	1	FLOOR BEAM (PM)	W460x177, 5580 LG. AS DETAILED	906.1	906.1			
ST1	8	STRINGER (PM)	W250x49, 1483 LG. AS DETAILED	64.9	519.2			
ST2	32	STRINGER (PM)	W250x49, 1483 LG. AS DETAILED	65.1	1822.8			
ST3	8	STRINGER BEAM END (PM)	W200x100, 395 LG. AS DETAILED	14.7	117.6			
TOTAL MASS (kg) = 11388								

		RUCTURAL STEEL COTION & CROSS-BRACING ANGLES			
MARK	QTY.	DESCRIPTION	MASS (kg) PER UNIT	TOTAL MASS (kg)	
BA1	3	CROSS-BRACE ANGLE	L89x89x9.5, 5625 LG. AS DETAILED	37.9	113.7
BA2	2	CROSS-BRACE ANGLE	L89x89x9.5, 5454 LG. AS DETAILED	37.2	74.4
BA3	2	CROSS-BRACE ANGLE	L89x89x9.5, 2529 LG. AS DETAILED	28.2	56.4
BA4	8	CROSS-BRACE ANGLE	L89x89x9.5, 2700 LG. AS DETAILED	30.1	150.5
CA1	4	CONNECTION ANGLE	L203x203x19, 1500 LG. AS DETAILED	58.0	232.0
CA2	4	CONNECTION ANGLE	L203x203x19, 1500 LG. AS DETAILED	58.0	232.0
CA3	5	CONNECTION ANGLE	L203x203x19, 1500 LG. AS DETAILED	59.4	237.6
CA4	5	CONNECTION ANGLE	L203x203x19, 1500 LG. AS DETAILED	59.4	237.6
CA5	9	CONNECTION ANGLE	L203x203x19, 483 LG. AS DETAILED	20.1	180.9
CA6	9	CONNECTION ANGLE	L203x203x19, 483 LG. AS DETAILED	20.1	180.9
CA7	18	CONNECTION ANGLE	L152x152x19, 380 LG. AS DETAILED	15.9	286.2
CA8	16	CONNECTION ANGLE	L127x127x9.5, 202 LG. AS DETAILED	3.5	63.0
CA9	16	CONNECTION ANGLE	L127x127x9.5, 147 LG. AS DETAILED	2.5	40.0
CA10	16	CONNECTION ANGLE	L127x127x9.5, 147 LG. AS DETAILED	2.5	40.0
CA11	144	CONNECTION ANGLE	L127x127x9.5, 147 LG. AS DETAILED	3.3	475.2
CA12	5	CONNECTION ANGLE	L89x89x9.5, 147 LG. AS DETAILED	3.6	18.0
			TOTAL M	IASS (kg)	= 2618.4

B1 B2 B3 B4	28 292 168	25øx65 LG. BOLT 25øx70 LG. BOLT 25øx75 LG. BOLT	0.5 0.5	14. 146.
В3	168			146
		25øx75 LG. BOLT		
B4			0.5	84
	166	25øx80 LG. BOLT	0.5	83
B5	540	25øx85 LG. BOLT	0.5	270
В6	76	25øx90 LG. BOLT	0.6	38
B7	265	25øx100 LG. BOLT	0.6	132
B8	84	25øx110 LG. BOLT	0.6	42
B9	17	36øx615 LG. ANCHOR BOLT	8.1	137
				İ

NOTE:
BOLT QUANITIES INCLUDE 5% OVERAGE FOR DROPPAGE / LOSS OF BOLTS DURING ERECTION.

		RUCTURAL STEEL & MISCELLANOUS STRUCTURAL STEEL				
MARK	QTY.	DESCRIPTION	SIZE	MASS (kg) PER UNIT	TOTAL MASS (kg)	
KB1	4	KNEE BRACE - TO BE FABRICATED FROM:				
		- PLATE MK. P1	12x785x935 PLATE, AS DETAILED	44.3		
		- PLATE MK. P2	15x200x310 PLATE, AS DETAILED	6.8		
		- PLATE MK. P3	15x200x1085 PLATE, AS DETAILED	25.6		
				76.7	306.8	
KB2	8	KNEE BRACE - TO BE FABRICATED FROM:				
		- PLATE MK. P2	15x200x310 PLATE, AS DETAILED	6.8		
		- PLATE MK. P4	15x200x1057 PLATE, AS DETAILED	25.6		
		- PLATE MK. P5	12x695x935 PLATE, AS DETAILED	36.9		
				69.3	554.4	
P6	4	GUSSET PLATE	15x586x264 PLATE, AS DETAILED	15.9	31.8	
P7	8	GUSSET PLATE	15x540x435 PLATE, AS DETAILED	15.9	31.8	
P8	5	GUSSET PLATE	15x473x290 PLATE, AS DETAILED	31.9	31.9	
P9	8	CONNECTION PLATE	15x380x485 PLATE, AS DETAILED	19.0	152.0	
P10	8	SHIM PLATE	4x380x230 PLATE, AS DETAILED	2.6	20.8	
P11	2	BEARING GIRDER PLATE	30x430x800 PLATE, AS DETAILED	79.0	158.0	
P12	4	STIFFENER PLATE	25x250x1500 PLATE, AS DETAILED	69.8	279.2	
P13	4	STIFFENER PLATE	25x250x1500 PLATE, AS DETAILED	73.5	294.0	
P14	8	JACKING PLATE	20x121x428 PLATE, AS DETAILED	8.1	64.8	
P15	16	BEARING KEEPER PLATE	12x215x300 PLATE, AS DETAILED	4.4	70.4	
P16	2	BEARING GIRDER PLATE	30x430x800 PLATE, AS DETAILED	79.0	158.0	
			TOTAL M	ASS (kg)	= 2479.3	

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES
UNLESS INDICATED OTHERWISE

Stantec Consulting Ltd. No. 1301

LOCATION APPROVED UNDERGROUND STRUCTURES	B.M ELE					Sta	ntec	1	ENGINEER'S SEAL
N/A SUPV. U/G STRUCTURES DATE COMMITTEE					5		or Avenue, Winnipeg		
NOTE:					DESIGNED BY	S.S.Y.	CHECKED BY	M.J.B.	
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR					DRAWN BY	J.A.S.	APPROVED BY	M.J.B.	
THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE					HOR. SCALE:	AS NOTED	RELEASED FOR CONSTRUCTION:		
OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.	0	ISSUED FOR TENDER	15.04.24	J.M.B.	VERTICAL:		CONSTRUCTION.		CONSULTANT DRAWING NO.
BEFORE PROCEEDING WITH CONSTRUCTION.	NO.	REVISIONS	DATE	BY	DATE 2014.0	3.24	DATE		SIII

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT ENGINEERING DIVISION GREATER WINNIPEG WATER DISTRICT RAILWAY BRIDGE REPLACEMENT AT MILE 22.15 STEEL BILL OF MATERIALS

CAD FILE DRAWING NUMBER 32050-s-III-800.dwg D-13434