

BILL OF STRUCTURAL STEEL FOR STEEL THROUGH PLATE GIRDERS (FCM)					
MARK	QTY.	DESCRIPTION	SIZE	MASS (kg) PER UNIT	TOTAL MASS (kg)
G1	1	THROUGH PLATE GIRDER (FCM)			
		- TOP PLATE	50x600x30000 LG. AS DETAILED	7065	
		- WEB PLATE	18x2200x30000 LG. AS DETAILED	9282.7	
		- BOTTOM PLATE	50x600x30000 LG. AS DETAILED	7053.4	
					23401.1
G2	1	THROUGH PLATE GIRDER (FCM)			
		- TOP PLATE	50x600x30000 LG. AS DETAILED	7065	
		- WEB PLATE	18x2200x30000 LG. AS DETAILED	9282.7	
		- BOTTOM PLATE	50x600x30000 LG. AS DETAILED	7053.4	
					23401.1
TOTAL MASS (kg) = 46802.2					

BILL OF STRUCTURAL STEEL FOR STEEL FLOOR BEAMS (PM) & STRINGERS (PM)					
MARK	QTY.	DESCRIPTION	SIZE	MASS (kg) PER UNIT	TOTAL MASS (kg)
FB1	4	FLOOR BEAM (PM)	W610x241, 6032 LG. AS DETAILED	1443.7	5774.8
FB2	5	FLOOR BEAM (PM)	W610x241, 6032 LG. AS DETAILED	1443.5	7217.5
FB3	2	FLOOR BEAM (PM)	W610x241, 5522 LG. AS DETAILED	1328.6	2657.2
ST1	32	STRINGER (PM)	W360x45, 2830 LG. AS DETAILED	127.1	4067.2
ST2	8	STRINGER (PM)	W360x45, 2830 LG. AS DETAILED	127.1	1016.8
ST3	8	STRINGER BEAM END (PM)	W360x45, 460 LG. AS DETAILED	17.5	140.0
TOTAL MASS (kg) = 20873.5					

BILL OF STRUCTURAL STEEL FOR STEEL CONNECTION, STIFFENER & CROSS-BRACING ANGLES					
MARK	QTY.	DESCRIPTION	SIZE	MASS (kg) PER UNIT	TOTAL MASS (kg)
SA1	20	STIFFENER ANGLE	L203x152x19, 2200 LG. AS DETAILED	108.8	2176.0
BA1	5	CROSS-BRACE ANGLE	L89x89x9.5, 7459 LG. AS DETAILED	93.3	466.5
BA2	5	CROSS-BRACE ANGLE	L89x89x9.5, 3660 LG. AS DETAILED	45.6	228.0
BA3	5	CROSS-BRACE ANGLE	L89x89x9.5, 3649 LG. AS DETAILED	45.7	228.5
CA1	9	CONNECTION ANGLE	L203x203x19, 2200 LG. AS DETAILED	123.0	1107.0
CA2	9	CONNECTION ANGLE	L203x203x19, 2200 LG. AS DETAILED	123.0	1107.0
CA3	18	CONNECTION ANGLE	L203x203x19, 520 LG. AS DETAILED	28.5	513.0
CA4	176	CONNECTION ANGLE	L127x127x13, 290 LG. AS DETAILED	6.7	1179.2
CA5	16	CONNECTION ANGLE	L127x127x13, 160 LG. AS DETAILED	3.6	57.6
CA6	9	CONNECTION ANGLE	L203x203x19, 695 LG. AS DETAILED	39.5	355.5
CA7	9	CONNECTION ANGLE	L203x203x19, 695 LG. AS DETAILED	39.5	355.5
CA8	5	CONNECTION ANGLE	L102x89x9.5, 374 LG. AS DETAILED	4.9	24.5
TOTAL MASS (kg) = 7798.3					

BILL OF STRUCTURAL STEEL FOR BOLTS				
MARK	QTY.*	DESCRIPTION	MASS (kg) PER UNIT	TOTAL MASS (kg)
B1	11	22x65 LG. BOLT	0.5	5.5
B2	118	22x70 LG. BOLT	0.5	59.0
B3	712	22x80 LG. BOLT	0.5	356.0
B4	1250	22x85 LG. BOLT	0.5	625.0
B5	294	22x90 LG. BOLT	0.6	176.4
B6	435	22x100 LG. BOLT	0.6	261.0
B7	462	22x110 LG. BOLT	0.6	277.2
B8	17	36x615 LG. ANCHOR BOLT	8.1	137.7
TOTAL MASS (kg) = 1897.8				

*NOTE:
QUANTITIES INCLUDE 5% OVERAGE FOR
DROPPAGE/LOSS DURING ERECTION.


BILL OF STRUCTURAL STEEL FOR STEEL PLATES & MISCELLANEOUS STRUCTURAL STEEL					
MARK	QTY.	DESCRIPTION	SIZE	MASS (kg) PER UNIT	TOTAL MASS (kg)
KB1	9	KNEE BRACE - TO BE FABRICATED FROM:			
		- PLATE MK. P1	15x1465x975 PLATE, AS DETAILED	98.8	
		- PLATE MK. P2	30x695x250 PLATE, AS DETAILED	40.0	
		- PLATE MK. P3	15x150x200 PLATE, AS DETAILED	3.5	
		- PLATE MK. P4	15x1489x200 PLATE, AS DETAILED	35.1	
					177.4
KB2	9	KNEE BRACE - TO BE FABRICATED FROM:			
		- PLATE MK. P1	15x1465x975 PLATE, AS DETAILED	98.8	
		- PLATE MK. P2	30x695x250 PLATE, AS DETAILED	40.0	
		- PLATE MK. P3	15x150x200 PLATE, AS DETAILED	3.5	
		- PLATE MK. P4	15x1489x200 PLATE, AS DETAILED	35.1	
					177.4
KB3	2	KNEE BRACE - TO BE FABRICATED FROM:			
		- PLATE MK. P1	15x1465x975 PLATE, AS DETAILED	98.2	
		- PLATE MK. P2	30x695x250 PLATE, AS DETAILED	40.0	
		- PLATE MK. P3	15x150x200 PLATE, AS DETAILED	3.5	
		- PLATE MK. P4	15x1489x200 PLATE, AS DETAILED	35.1	
					176.8
KB4	2	KNEE BRACE - TO BE FABRICATED FROM:			
		- PLATE MK. P1	15x1465x975 PLATE, AS DETAILED	98.2	
		- PLATE MK. P2	30x695x250 PLATE, AS DETAILED	40.0	
		- PLATE MK. P3	15x150x200 PLATE, AS DETAILED	3.5	
		- PLATE MK. P4	15x1489x200 PLATE, AS DETAILED	35.1	
					176.8
P5	8	CONNECTION PLATE	20x520x505 PLATE, AS DETAILED	41.2	329.6
P6	4	GUSSET PLATE	15x480x300 PLATE, AS DETAILED	16.5	66.0
P7	8	GUSSET PLATE	15x910x475 PLATE, AS DETAILED	50.0	400.0
P8	5	GUSSET PLATE	15x365x360 PLATE, AS DETAILED	15.0	75.0
P11	4	STIFFENER PLATE	25x2200x255 PLATE, AS DETAILED	105.0	420.0
P12	4	STIFFENER PLATE	25x2200x255 PLATE, AS DETAILED	110.0	440.0
P13	4	BEARING GIRDER PLATE	30x500x900 PLATE, AS DETAILED	103.3	413.2
P14	8	JACKING PLATE	20x150x573 PLATE, AS DETAILED	13.5	108.0
P15	16	BEARING KEEPER PLATE	12x350x250 PLATE, AS DETAILED	5.4	86.4
P16	8	SHIM PLATE	3x250x505 PLATE, AS DETAILED	2.1	16.8
TOTAL MASS (kg) = 6255.4					

LOCATION APPROVED
UNDERGROUND STRUCTURES


SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:
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 THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M. ELEV.	NO.	ISSUED FOR TENDER	DATE	BY
	0	ISSUED FOR TENDER	14.04.22	J.M.B.
		REVISIONS		

 100 - 1355 Taylor Avenue, Winnipeg MB Canada www.stantec.com		ENGINEER'S SEAL	
		DESIGNED BY: S.Y.S.	CHECKED BY: M.J.B.
DRAWN BY: R.A.R./J.M.B.		APPROVED BY: M.J.B.	
HOR. SCALE: AS NOTED		RELEASED FOR CONSTRUCTION:	
VERTICAL:		DATE: 2014.03.24	

CONSULTANT DRAWING NO. S212

 THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT ENGINEERING DIVISION	SHEET 14 OF 15
	CAD FILE DRAWING NUMBER 32050-s-212-800.dwg
GREATER WINNIPEG WATER DISTRICT RAILWAY BRIDGE REPLACEMENT AT MILE 77.6 STEEL BILL OF MATERIALS	
CITY DRAWING NUMBER D-13450	



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