BILL OF REINFORCING STEEL (BLACK STEEL, GALVANIZED STEEL & STAINLESS STEEL)

FOR ABUTMENTS (A), DECK SLAB (D), PIER SHAFT (P), JUMP SLABS (S)

MARK	TYPE	PIN DIAMETER	LENGTH (mm)	NO. BARS	MASS
A1501SS	BENT	-	3014	0	0.00
A1502SS	BENT	-	1760	30	82.90
A1503SS	BENT	-	3274	8	41.12
A1504SS	BENT	-	1042	12	19.63
A2001SS	BENT	-	3380	44	350.24
A2002SS	STR	-	2800	8	52.75
A2003SS	BENT	-	2200	30	155.43
A2004SS	BENT	-	3350	30	236.68
A2005SS	BENT	-	780	16	29.39
D1001G	BENT	-	1175	1725	1591.10
D1501G	BENT	-	12000	40	753.60
D1502G	BENT	-	15000	16	376.80
D1503G	BENT	-	2000	4	12.56
D1504G	BENT	-	1870	2	5.87
D1505G	BENT	-	1165	18	32.92
D1506G	BENT	-	550	30	25.91
D2001G	BENT	-	7000	20	329.70
D2002G	BENT	-	7000	20	329.70
D2003G	BENT	-	7000	40	659.40
D2004G	BENT	-	7000	20	329.70
D2005G	BENT	-	7000	20	329.70
D2006G	BENT	-	3900	375	3444.19
D2007G	BENT	-	4050	160	1526.04
D2008G	BENT	-	2300	34	184.16
D2009G	STR	-	10000	8	188.40
D2010G	STR	-	11000	32	828.96
D2011G	STR	-	13500	20	635.85
D2012G	STR	-	12000	8	226.08
P1501	BENT	-	3014	585	2768.21
P2001SS	BENT	-	1760	20	82.90
P3001-2	STR	-	15300	10	600.53
P3001-3	STR	-	15600	10	612.30
P3001-4	STR	-	13700	10	537.73
P3001-5	STR	-	13900	10	545.58
P3001-6	STR	-	13700	10	537.73
P3001-7W	STR	-	13600	10	533.80
P3001-7E	STR	-	13600	10	533.80
P3001-8W	STR	-	13500	10	529.88
P3001-8E	STR	-	13500	10	529.88
P3001-9	STR	-	14600	10	573.05
P3002-2	STR	-	1900	10	74.58
P3002-3	STR	-	2900	10	113.83
P3002-4	STR	-	4900	10	192.33
P3002-5	STR	-	4900	10	192.33
P3002-6	STR	-	4900	10	192.33
P3002-7W	STR	-	4900	10	192.33
P3002-7E	STR	-	4900	10	192.33
P3002-8W	STR	-	4900	10	192.33
P3002-8E	STR	-	4900	10	192.33
P3002-9	STR	-	2900	10	113.83
S1001G	BENT	-	758	79	47.01
S1002G	BENT	-	646	91	46.15
S1501G	STR	-	2800	1	4.40
	STR	-	2800	1	4.40
	STR	-	2804	1	4.40
	STR	-	2822	1	4.43
	STR	-	2860	1	4.49
	STR	-	2917	1	4.58
	STR	-	2996	1	4.70
	STR	-	3099	1	4.87
	STR	-	3228	1	5.07
	STR	-	3391	1	5.32
	STR	-	3597	1	5.65
	STR	-	3866	1	6.07
	STR	-	4205	1	6.60
	STR	-	4284	1	6.73

MARK	TYPE	PIN DIAMETER	LENGTH (mm)	NO. BARS	MASS
	STR	-	4300	1	6.75
	STR	-	3737	1	5.87
	STR	-	3175	1	4.98
	STR	-	2613	1	4.10
	STR	-	2052	1	3.22
	STR	-	1491	1	2.34
	STR	-	931	1	1.46
S1502G	STR	-	2800	1	4.40
	STR	-	2800	1	4.40
	STR	-	2800	1	4.40
	STR	-	2822	1	4.43
	STR	-	2886	1	4.53
	STR	-	2996	1	4.70
	STR	-	3160	1	4.96
	STR	-	3390	1	5.32
	STR	-	3721	1	5.84
	STR	-	4205	1	6.60
	STR	-	4324	1	6.79
	STR	-	3737	1	5.87
	STR	-	2894	1	4.54
	STR	-	2052	1	3.22
	STR	-	1211	1	1.90
S1503G	STR	-	4723	3	22.25
S1504G	STR	-	4338	2	13.62
	STR	-	4321	3	20.35
S1505G	STR	-	4305	1	6.76
	STR	-	4200	1	6.59
	STR	-	4092	1	6.42
	STR	-	3986	1	6.26
	STR	-	3880	1	6.09
	STR	-	3773	1	5.92
	STR	-	3667	1	5.76
	STR	-	3560	1	5.59
	STR	-	3454	1	5.42
	STR	-	3775	1	5.93
	STR	-	1898	1	2.98
	STR	-	1366	1	2.14
	STR	-	974	2	3.06
	STR	-	663	2	2.08
S1506G	BENT	-	3900	12	73.48
S1507G	BENT	-	3135	5	24.61
S1508G	BENT	-	1200	79	148.84
S1509G	BENT	-	2800	1	4.40
	BENT	-	2803	1	4.40
	BENT	-	2880	1	4.52
	BENT	-	3083	1	4.84
	BENT	-	3554	1	5.58
	BENT	-	4598	1	7.22
	BENT	-	4134	1	6.49
	BENT	-	3688	1	5.79
	BENT	-	3258	1	5.12
	BENT	-	2848	1	4.47
	BENT	-	2456	1	3.86
	BENT	-	2086	1	3.28
	BENT	-	1739	1	2.73
	BENT	-	1418	1	2.23
	BENT	-	1127	1	1.77
	BENT	-	870	1	1.37
S1510G	BENT	-	2353	2	7.39
S1511G	BENT	-	2460	3	11.59
S1512G	BENT	-	3310	10	51.97
S1513G	BENT	-	5420	8	68.08
S1514G	BENT	-	5130	5	40.27
S1515G	STR	-	439	1	0.69
	STR	-	517	1	0.81
	STR	-	686	1	1.08

MARK	TYPE	PIN DIAMETER	LENGTH (mm)	NO. BARS	MASS
	STR	-	945	1	1.48
	STR	-	1327	1	2.08
	STR	-	2221	1	3.49
	STR	-	2615	1	4.11
	STR	-	2784	1	4.37
	STR	-	2953	1	4.64
	STR	-	3123	1	4.90
	STR	-	3292	1	5.17
	STR	-	3461	1	5.43
	STR	-	3630	1	5.70
	STR	-	3799	1	5.96
	STR	-	3968	1	6.23
	STR	-	2291	1	3.60
	BENT	-	1601	1	2.51
	BENT	-	1177	1	1.85
	BENT	-	878	1	1.38
	BENT	-	659	1	1.03
S1516G	BENT	-	7025	3	33.09
S1517G	BENT	-	2800	1	4.40
	BENT	-	2800	1	4.40
	BENT	-	2815	1	4.42
	BENT	-	2879	1	4.52
	BENT	-	2997	1	4.71
	BENT	-	3191	1	5.01
	BENT	-	3554	1	5.58
	STR	-	4559	1	7.16
	STR	-	4441	1	6.97
	STR	-	4134	1	6.49
	STR	-	3835	1	6.02
	STR	-	3543	1	5.56
	STR	-	3258	1	5.12
	STR	-	2982	1	4.68
	STR	-	2715	1	4.26
	STR	-	2456	1	3.86
	STR	-	2207	1	3.46
	BENT	-	1968	1	3.09
	BENT	-	1739	1	2.73
	BENT	-	1522	1	2.39
	BENT	-	1318	1	2.07
	BENT	-	1127	1	1.77
	BENT	-	952	1	1.49
	BENT	-	788	1	1.24
S1518G	STR	-	2254	1	3.54
S2001G	BENT	-	4705	1	11.08
	BENT	-	4634	1	10.91
	BENT	-	4563	1	10.75
	BENT	-	4492	1	10.58
	BENT	-	4421	1	10.41
	BENT	-	4350	1	10.24
	BENT	-	4279	1	10.08
	BENT	-	4208	1	9.91
	BENT	-	4138	1	9.74
	BENT	-	4067	1	9.58
	BENT	-	3996	1	9.41
	STR	-	3925	1	9.24
	BENT	-	3854	1	9.08
	BENT	-	3783	1	8.91
	BENT	-	2847	1	6.70
	BENT		2298	1	5.41
	BENT	-	1923	1	4.53
	STR	-	1624	1	3.82
	STR	-	1374	1	3.24
	STR	-	1159	1	2.73
	BENT	-	973	1	2.29
S2002G	BENT	-	854	1	2.01
	BENT	-	917	1	2.16

MARK	TYPE	PIN DIAMETER	LENGTH (mm)	NO. BARS	MASS
	BENT	-	1020	1	2.40
	BENT	-	1161	1	2.73
	BENT	-	1345	1	3.17
	BENT	-	1581	1	3.72
S2002G	BENT	-	1902	1	4.48
	BENT	-	2847	1	6.70
	BENT	-	2959	1	6.97
	BENT	-	3072	1	7.23
	BENT	-	3184	1	7.50
	BENT	-	3297	1	7.76
	BENT	-	3410	1	8.03
	BENT	-	3523	1	8.30
	BENT	-	3635	1	8.56
	BENT	-	3748	1	8.83
	BENT	-	3861	1	9.09
	STR	-	3973	1	6.59
	STR	-	4086	1	6.63
	STR	-	4199	1	6.78
	STR	-	4312	1	7.06
	STR	-	4424	1	7.51
	STR	-	2691	1	8.37
	STR	-	2188	1	10.74
	STR	-	1841	1	10.46
	STR	-	1577	1	9.74
	STR	-	1367	1	9.03
	STR	-	1198	1	8.34
	STR	-	1059	1	7.67
	STR	-	945	1	7.02
S1501SS	BENT	-	1042	12	19.63

TOTAL REINFORCING STEEL MASS - GALVANIZED STEEL (KG):	13276.39
TOTAL REINFORCING STEEL MASS - STAINLESS STEEL (KG):	1070.66
TOTAL REINFORCING STEEL MASS - BLACK STEEL (KG):	9950.96

BID OPPORTUNITY No. 754-2017

ISO A1 - 594mm x 841mm

Plotted: 10/13/2017 8:01 PM by Alex Heppner

Last Saved: 10/13/2017 12:38 PM by AHeppner

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ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
MORRISON HERSHFIELD
No. 1736

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATION APPROVED
UNDERGROUND STRUCTURES

SUPR. 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.

BM
ELEV

No.	REVISIONS	YY/MM/DD	BY
0	ISSUED FOR TENDER	17/10/13	DAN

MORRISON HERSHFIELD

DESIGNED BY	TN	CHECKED BY	DAN
DRAWN BY	AH	APPROVED BY	BE
HOR SCALE	AS SHOWN	RELEASED FOR CONSTRUCTION	
VERT SCALE	AS SHOWN		
DATE	17/10/13	DATE	

PROFESSIONAL'S SEAL
PROVINCE OF MANITOBA
D.A. NEILSON
Member
37248
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT FILE NAME
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Winnipeg

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

TACHE PROMENADE TREETOP LOOKOUT

BILL OF STEEL REINFORCING 1

CITY DRAWING NUMBER: B250-17-57

SHEET 57 OF 70

DRAWING No. 31 REV 0