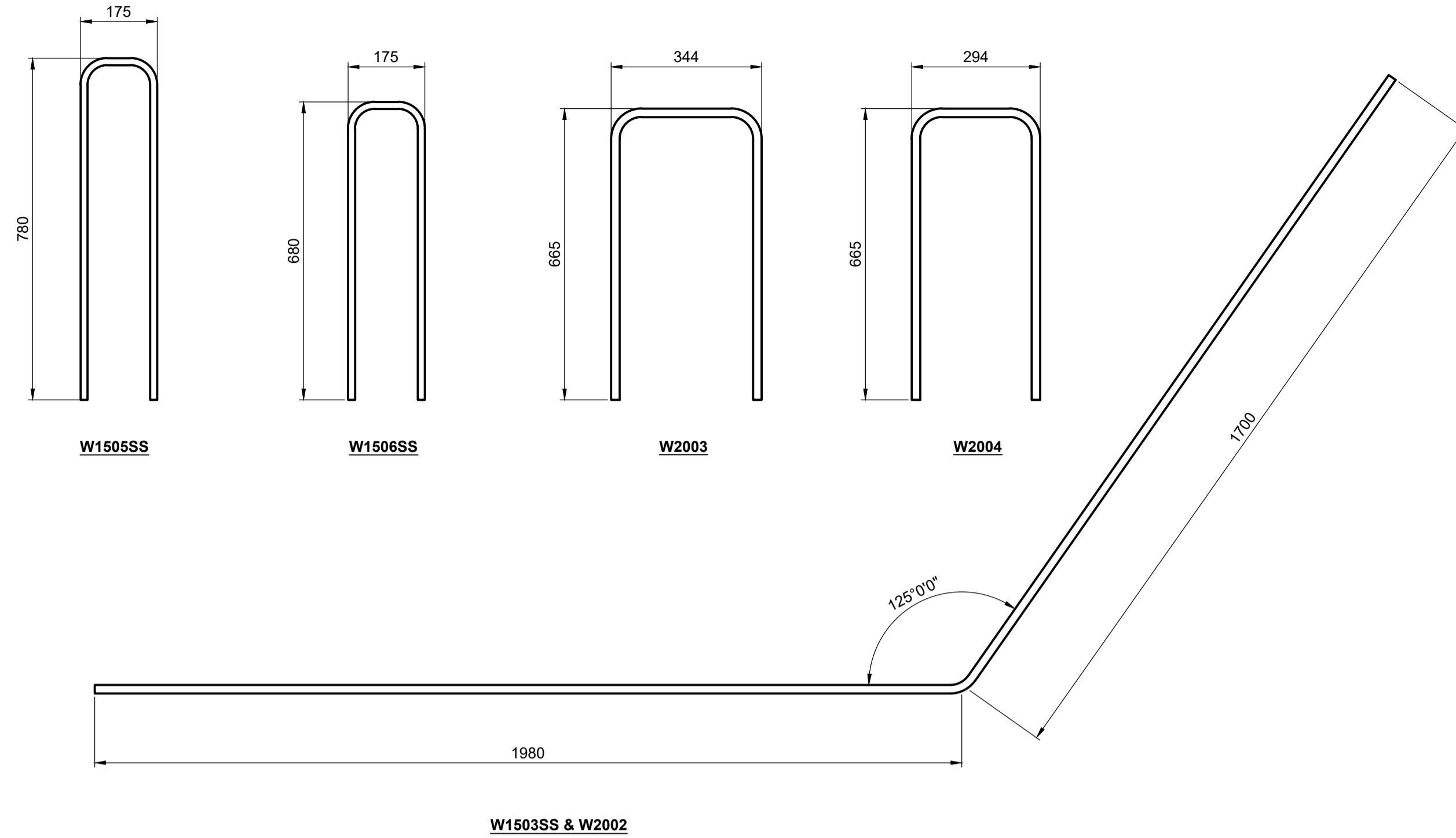


BILL OF REINFORCING STEEL (BLACK STEEL & STAINLESS STEEL)

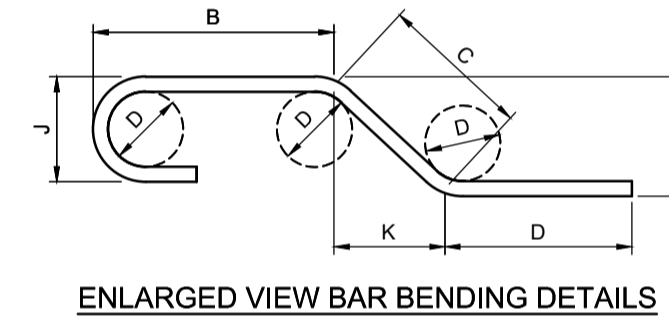
CORBEL BEAM (W)

MARK	TYPE	PIN DIAMETER	LENGTH (mm)	NO. BARS	MASS
W1501SS	STR	-	4800	144	1085.18
W1502SS	STR	-	7665	4	48.14
W1503SS	BENT	-	3680	4	23.11
W1504SS	STR	-	5600	4	35.17
W1505SS	BENT	-	1735	1400	3813.53
W1506SS	BENT	-	1535	111	267.50
W1507SS	STR	-	700	12	13.19
W2001	STR	-	12000	76	2147.76
W2002	BENT	-	3680	5	43.33
W2003	BENT	-	1674	1320	5203.80
W2004	BENT	-	1624	105	401.57
W2005	STR	-	6150	5	72.42
TOTAL REINFORCING STEEL MASS - STAINLESS STEEL (kg):					5285.82
TOTAL REINFORCING STEEL MASS - BLACK STEEL (kg):					7868.88

BENDING DIAGRAM (NTS)



- NOTES:**
- 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 "G" DIMENSIONS FOR THE STANDARD 90°, 135° & 180° HOOKS REFERENCED FROM THE RSIC "MANUAL OF STANDARD PRACTICE". RADII ARE INSIDE DIMENSIONS. ALL REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA-S6 CLAUSE 8.14 "DETAILS OF REINFORCEMENT AND SPECIAL DETAILING PROVISIONS", UNLESS NOTED OTHERWISE IN THE BILL OF REINFORCING STEEL.
 - ALL REINFORCING STEEL SHALL BE DEFORMED STEEL, UNLESS NOTED OTHERWISE IN THE BILL OF REINFORCING STEEL.
 - ALL REINFORCING WITH SUFFIX "SS" SHALL BE STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A955M, 300 SERIES, MINIMUM GRADE 420, OF ONE OF THE FOLLOWING UNS DESIGNATIONS: S31653, S31803, OR S32304.
 - ALL REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA G30.18 "CARBON STEEL BARS FOR CONCRETE REINFORCEMENT" GRADE 400W, UNLESS NOTED OTHERWISE.
 - 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.
 - UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME ALL HOOKS AND BENDS ON A BAR. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.



METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATION APPROVED
UNDERGROUND STRUCTURES

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.

No.	REVISIONS	DATE	BY
0	ISSUED FOR TENDER	17/10/13	DAN

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		

PROFESSIONAL'S SEAL

PROVINCE OF MANITOBA

D.A. NEILSON
Member
37248

REGISTERED PROFESSIONAL ENGINEER

CONSULTANT FILE NAME
5170563 - SP07 - Bills.dwg

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

TACHE PROMENADE

CITY DRAWING NUMBER
B250-17-26

SHEET 26 OF 70

DRAWING No. REV

BILL OF STEEL REINFORCING AND MATERIAL

10 0