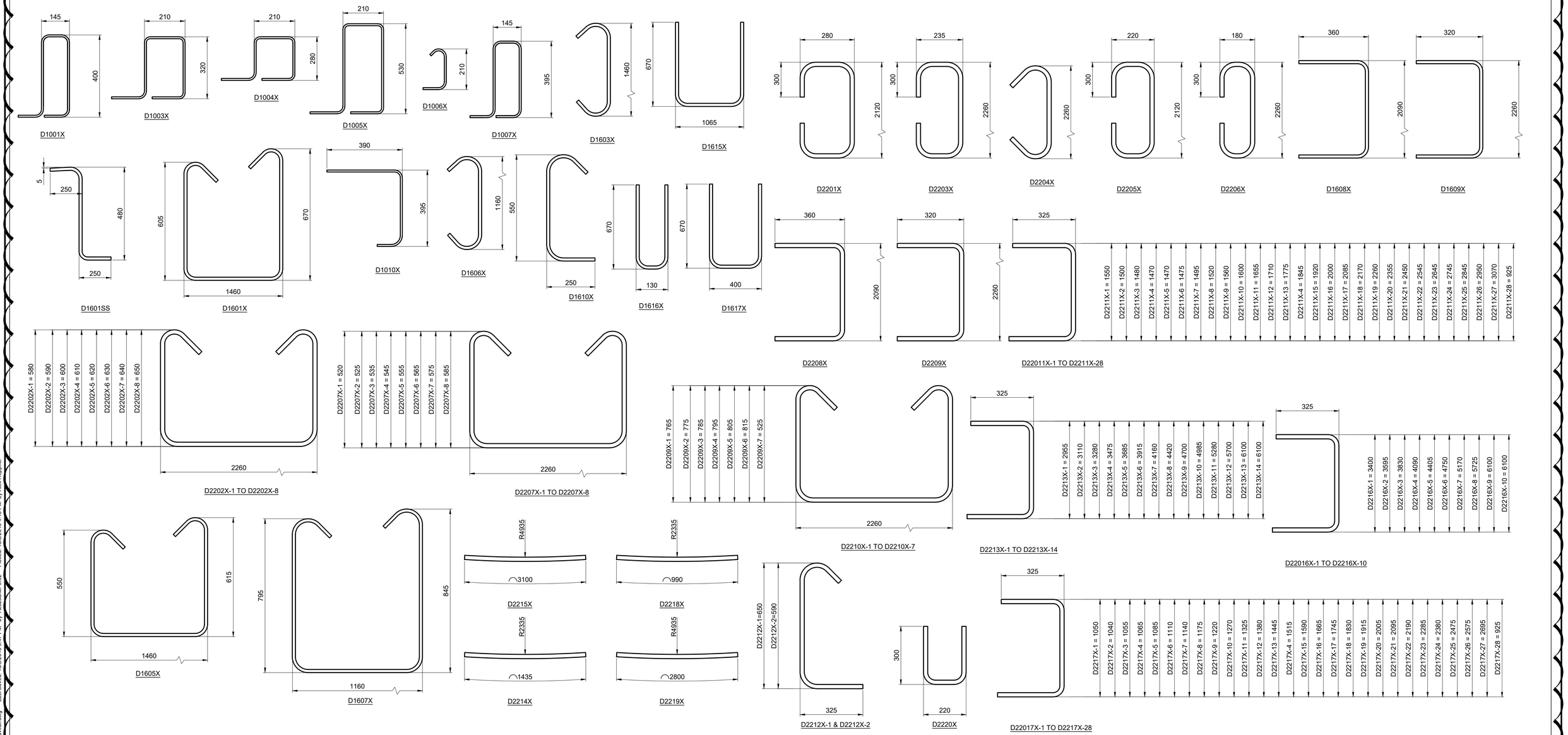
BILL OF REINFORCING STEEL (BLACK STEEL & CHROMX)

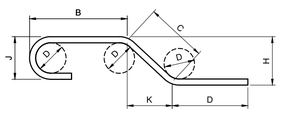
DRAINAGE CHANNEL (C), NORTH RAMP DIAPHRAGMS (D), NORTH RAMP SLAB (N), PIER/PILE CAP (P), PRECAST SLABS (PS), ST. MATTHEW'S WALL (R), SOUTH RAMP SLAB (S), SLOPE PAVING (SP)

BENDING DIAGRAM (NTS)



NOTES:

1. REINFORCING MARKED WITH AN ASTERISK (*) ARE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS AND ARE NOT INCLUDED IN THE MASS-BASED QUANTITIES FOR THE REINFORCEMENT BAR PAY ITEMS, REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. 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.
3. ALL REINFORCING STEEL SHALL BE DEFORMED STEEL, UNLESS NOTED OTHERWISE IN THE BILL OF REINFORCING STEEL.
4. 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.
5. 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.
6. 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.



ENLARGED VIEW BAR BENDING DETAILS

BID OPPORTUNITY No. 802-2018

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
A	ISSUED FOR ADDENDUM 1	18/10/05	BAP

MORRISON HERSHFIELD

DESIGNED BY	AF	CHECKED BY	BAP
DRAWN BY	AH	APPROVED BY	BE
HOR SCALE	AS SHOWN	RELEASED FOR CONSTRUCTION	N/A
VERT SCALE	AS SHOWN	DATE	
DATE			

PROFESSIONAL'S SEAL
PROVINCE OF MANITOBA
A. FATHI
Member
41159
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT FILE NAME
W160034-DD EMPRESS - REINF - RAMPS&WALL.DWG

Winnipeg

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

EMPRESS STREET PROJECT
SOUTH RAMP, DRAINAGE CHANNEL, NORTH RAMP AND EMPRESS STREET RETAINING WALL
BILL OF REINFORCING 3

CITY DRAWING NUMBER: P-3494-168
SHEET 168 OF 169
DRAWING No. 168
REV A

ISO A1 - 594mm x 841mm
Plotted: 10/5/2018 4:15 PM by Alex Heppner
Last Saved: 10/5/2018 3:47 PM by ALazcanoPerez
O:\Winnipeg\Proj\W160034 Design\1 Drawings\06 Sheets\Detailed Design\Structural\W160034-DD Empress - Reinf - Ramps&Wall.dwg