

GENERAL NOTES:

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (INCLUDING LATEST AMENDMENTS) AND OTHER LOCAL AUTHORITIES HAVING JURISDICTION.
- WHERE DOCUMENTS AND STANDARDS ARE REFERENCED IN THE NOTES, THEY SHALL BE THE LATEST EDITIONS, UNLESS OTHERWISE NOTED OR SHOWN.
- ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED ON THE JOB BY THE CONTRACTOR. CONTRACTOR IS TO REPORT DISCREPANCIES TO THE CONTRACT ADMINISTRATOR PROMPTLY AND BEFORE CONSTRUCTION.
- READ DRAWINGS IN CONJUNCTION WITH SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS, WHERE APPLICABLE.
- BEFORE PROCEEDING WITH WORK, CHECK ALL THE DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS AGAINST THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS (WHERE APPLICABLE) AND REPORT DISCREPANCIES TO THE CONTRACT ADMINISTRATOR.
- ANY HORIZONTAL AND VERTICAL DESIGN LOADINGS NOTED SHALL NOT BE EXCEEDED DURING CONSTRUCTION.
- DRAWINGS ARE NOT TO BE SCALED.
- CONTRACTOR TO CARRY CASH ALLOWANCE TO COVER PERMITTING COSTS.

DEMOLITION NOTES:

- DO DEMOLITION WORK IN ACCORDANCE WITH CSA STANDARD S350 CODE PRACTICE FOR SAFETY IN DEMOLITION OF STRUCTURES.
- ALL SCAFFOLDING TO MEET THE REQUIREMENTS OF CSA 2797-09 CODE OF PRACTICE FOR ACCESS SCAFFOLD.
- SALVAGE AND PROTECT ALL ITEMS NOTED ON DRAWINGS.
- DISCONNECT AND RE-ROUTE ELECTRICAL LINES AFFECTED BY THE DEMOLITION. POST WARNING SIGNS ON ELECTRICAL LINES AND EQUIPMENT THAT MUST REMAIN ENERGIZED TO SERVE OTHER PROPERTIES DURING PERIOD OF DEMOLITION. DO NOT DISRUPT ACTIVE OR ENERGIZED UTILITIES TRAVERSING PREMISES THAT AREA DESIGNATED TO REMAIN UNDISTURBED.
- CONTRACTOR TO TAKE NECESSARY MEASURES TO ENSURE EXISTING TRAFFIC TOPPING IN GARAGE IS PROTECTED AND FREE FROM DAMAGE.

MATERIALS AND EXECUTION:

FORMWORK

- MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF CSA A23.1, EXCEPT AS AMENDED OR EXTENDED HEREIN.
- FORMWORK LUMBER: PLYWOOD AND WOOD FORMWORK MATERIALS TO CSA 0121, CSA 086.1.
- FALSEWORK MATERIALS: TO CSA S269.1.

CONCRETE

- CONCRETE MATERIALS, PROCEDURES, TOLERANCES AND WORKMANSHIP SHALL CONFORM TO THE LATEST ISSUE OF CSA A23.1 AND A23.2. A COPY OF THIS STANDARD SHALL BE AVAILABLE ON SITE.
- UNLESS MODIFIED HEREIN, CONCRETE TO BE CAN3-A23.1, EXPOSURE CLASS: C-1. USE TYPE 10 CEMENT TO GIVE MINIMUM COMPRESSIVE STRENGTH OF 35 MPa IN 28 DAYS WITH 10MM NOMINAL AGGREGATE SIZE, 7.5%+1.5% ENTRAINED AIR. POLYPROPYLENE FIBER: 2.27 KGS/M OF MAC 100 PLUS MACRO SYNTHETIC FIBRE.
- CEMENT SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD A3000. ALL CONCRETE IN CONTACT WITH THE GROUND SHALL BE MANUFACTURED WITH TYPE HS CEMENT FOR SULPHATE RESISTANCE. ALL OTHER CONCRETE SHALL BE MANUFACTURED WITH TYPE GU CEMENT.
- CONCRETE ADMIXTURES SHALL CONFORM TO CSA STANDARD CAN3-A266.4. SHALL BE COMPATIBLE WITH EACH OTHER WHERE MORE THAN ONE IS USED, AND USED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- CORROSION INHIBITER SHALL BE CATEXOL 1000 CI AS MANUFACTURED BY AXIM (TALCEMENT) GROUP OR APPROVED EQUIVALENT. THE MINIMUM DOSAGE SHALL BE 15 L/M3 IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATION OF APPENDIX C CORROSION INHIBITORS-CAN/CSA 341.3.
- NO WATER IS TO BE ADDED TO THE CONCRETE ON THE SITE OR TO THE CONCRETE IN THE TRUCK UNDER ANY CIRCUMSTANCE.
- COLD WEATHER CONCRETING, WHERE APPLICABLE, SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 21 OF CSA A23.1 AND ACI STANDARD 308 ("RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING").
- FINISH EXPOSED PERIMETER EDGES/CORNERS WITH A STEEL EDGING TOOL OR CHAMFER 3/4".
- NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 35MPa AT 28 DAYS. USE SIKA 212 AS MANUFACTURED BY SIKA CANADA INC.
- NON-SHRINK GROUT BONDING AGENT SHALL BE SIKA TOP-ARMATEO 110 AS MANUFACTURED BY SIKA CANADA INC. OR APPROVED EQUIVALENT.
- CEMENT BONDING SLURRY BE MADE OF A 1:1 RATIO OF PORTLAND CEMENT TO FINE AGGREGATE BY WEIGHT WITH SUFFICIENT WATER TO FORM A CREAM LIKE CONSISTENCY.

REINFORCING:

- MINIMUM COVER TO REINFORCEMENT SHALL BE AS NOTED ON THE DRAWINGS.
- DO REINFORCING PLACEMENT AND FABRICATIONS IN ACCORDANCE WITH CSA-A23.1 AND WELDING OF REINFORCING WITH CSA W466-M1990 (R2002).
- REINFORCING STEEL SHALL BE NEW BILLET BARS CONFORMING TO CSA STANDARD G30.18, TYPE R, GRADE 400.
- REINFORCING STEEL SHALL BE FREE OF GREASE, OIL AND DIRT OR OTHER MATERIAL WHICH WILL REDUCE THE BOND WITH THE CONCRETE.
- REINFORCING STEEL SHALL BE HELD IN PLACE WITH ACCESSORIES OF SUFFICIENT QUANTITY AND SIZE TO ENSURE RESTRAINT UNTIL THE CONCRETE IS IN PLACE. CHAIRS, BOLSTERS, BAR SUPPORTS, AND SPACERS SHALL CONFORM TO CSA A23.1. CHAIRS SHALL BE NON-FERROUS METAL OR OTHER NON-STAINING MATERIAL. BAR SUPPORTS SHALL BE PLASTIC OR PLASTIC COATED.
- DO NOT ELIMINATE OR DISPLACE REINFORCEMENT TO ACCOMMODATE HARDWARE. IF INSERTS CANNOT BE LOCATED AS SPECIFIED, OBTAIN APPROVAL OF MODIFICATIONS FROM THE CONTRACT ADMINISTRATOR BEFORE PLACING CONCRETE.
- ENSURE REINFORCEMENT INSERTS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.
- INFORM CONTRACT ADMINISTRATOR MINIMUM 24 HOURS PRIOR TO EACH POUR, FOR THE REVIEW OF THE REINFORCING.
- WELDED WIRE FABRIC TO CSA G30.5. PROVIDE IN FLAT SHEETS ONLY.

MISCELLANEOUS METALS

- SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SECTION 01 33 00 SUBMITTAL PROCEDURES. SUBMIT SHOP DRAWING BEARING STAMP OF A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA.
- STRUCTURAL STEEL SHALL BE DESIGNED IN ACCORDANCE WITH CSA STANDARD S16-09.
- FABRICATION, CONSTRUCTION, ERECTION, TOLERANCES, WELDING, ETC SHALL CONFORM TO THE REQUIREMENTS OF CSA S16-09.
- ROLLED STEEL SHAPES SHALL BE NEW MATERIAL CONFORMING TO THE REQUIREMENTS OF CSA STANDARD G40.21, GRADE 350W OR ASTM STANDARD A572/A992, GRADE 50.
- HOLLOW STRUCTURAL SECTIONS SHALL BE NEW MATERIAL CONFORMING TO THE REQUIREMENTS OF CSA STANDARD G40.21, GRADE 350W, CLASS C.
- PLATES, CHANNELS, AND ANGLES SHALL BE NEW MATERIAL CONFORMING TO THE REQUIREMENTS OF CSA STANDARD G40.21, GRADE 300W.

GALVANIZING:

- (WHERE NOTED) STRUCTURAL STEEL TO BE HOT-DIP GALVANIZED AND FIELD TOUCHED UP WITH ZINC-RICH PAINT.
- NUT, BOLT, AND WASHER ASSEMBLIES TO MEET STATED REQUIREMENTS FOR STRENGTH AND HAVE A GALVANIZED FINISH.
- PROVIDE DRAIN/WEEP HOLES IN ALL CLOSED-SECTION MEMBERS.

GRATING:

- GRATING SHALL BE NEW TYPE 30x51 44X7.9 NON-SERRATED BAR GRATING BY FISHER & LUDLOW OR EQUIVALENT. SPAN BEARING BARS IN DIRECTION SHOWN.
- FASTEN BAR GRATING WITH FISHER & LUDLOW TYPE C CLIP @ 900mm O.C. OR WELD THE GRATING TO THE SUPPORT EVERY 900mm O.C. GRATING CLIPS TO HAVE CORROSION RESISTANT FINISH.

TRAFFIC TOPPING SYSTEM

- AUTO-GARD E-HEAVY DUTY SYSTEM AS MANUFACTURED BY NEOGARD
- MASTER SEAL 350 PARKING DEK SYSTEM AS MANUFACTURED BY BASF
- SIKALASTIC-220 FS AS MANUFACTURED BY SIKA CANADA
- APPROVED EQUIVALENT.

WATERPROOFING MEMBRANE

- HYDROTECH 6125 AS MANUFACTURED BY HYDROTECH MEMBRANE CORPORATION
- 790-11 AS MANUFACTURED BY BAKOR
- APPROVED EQUIVALENT.

SEALANT

- CAN/COSEB-19.24 MULTI-COMPONENT, CHEMICAL CURING SEALING COMPOUND.
- SEALANT SHALL BE DYMERIC 240 AS MANUFACTURED BY TREMCO, OR APPROVED EQUIVALENT.

ARCHITECTURAL COATING:

- MATERIAL THOROLASTIC AS MANUFACTURED BY BASF CHEMICAL COMPANY OR APPROVED EQUIVALENT.
- COLOUR BY THE CITY.
- REMOVE LOOSE PATCHES AND MAKE GOOD PRIOR TO INSTALLING COATING.

CRACK INJECTION:

- POLYCAST WTR OR POLYCAST STD: AS MANUFACTURED BY MME MULTURETHANE OR APPROVED EQUIVALENT.

TENSION EMBEDMENT AND SPLICE LENGTHS

CASE 1:

- NOTES:**
- TENSION EMBEDMENT AND SPLICE LENGTHS ARE TO BE AS PER THE FOLLOWING TABLE FOR MEMBERS CONTAINING MINIMUM TIES OR MINIMUM STIRRUPS. - SLABS, WALLS, SHELLS, OR FOLDED PLATES HAVING CLEAR SPACING OF NOT LESS THAN 2 BAR DIAMETERS BETWEEN BARS BEING DEVELOPED.
 - ALL LENGTHS ARE FOR F_y=400MPa REBAR.
 - ALL TENSION SPLICES ARE CLASS 'B'.

CASE 1 - TENSION EMBEDMENT AND SPLICE LENGTHS (ALL LENGTHS IN mm U.N.Q.)											
BAR DESIGNATION	FUNCTION	CONCRETE STRENGTH									
		20 MPa		25 MPa		30MPa		35MPa		40MPa	
10M	EMBEDMENT	330	13"	300	12"	300	12"	300	12"	300	12"
	(SPLICE)	(430)	(17")	(400)	(16")	(400)	(16")	(400)	(16")	(400)	(16")
15M	EMBEDMENT	490	19"	430	17"	400	16"	400	16"	350	14"
	(SPLICE)	(640)	(25")	(560)	(22")	(510)	(20")	(490)	(19")	(460)	(18")
20M	EMBEDMENT	640	25"	590	23"	530	21"	510	20"	460	18"
	(SPLICE)	(840)	(33")	(760)	(30")	(690)	(27")	(640)	(25")	(590)	(23")
25M	EMBEDMENT	1010	40"	910	36"	820	32"	760	30"	700	28"
	(SPLICE)	(1310)	(52")	(1170)	(46")	(1070)	(42")	(990)	(39")	(940)	(37")
30M	EMBEDMENT	1210	48"	1080	43"	990	39"	910	36"	860	34"
	(SPLICE)	(1570)	(62")	(1410)	(55")	(1290)	(51")	(1190)	(47")	(1120)	(44")
35M	EMBEDMENT	1430	56"	1270	50"	1170	46"	1070	42"	990	39"
	(SPLICE)	(1830)	(72")	(1650)	(65")	(1500)	(59")	(1410)	(55")	(1290)	(51")

NOTE: "TOP BAR" VALUES ARE 1.3 TIMES THE ABOVE LENGTHS.
"TOP BAR" APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300mm/12" OR MORE OF CONCRETE BELOW THE BAR.

NOTE: EPOXY COATED REINFORCEMENT.
INCREASE THESE TABLE LENGTHS BY 1.5 FOR EPOXY COATED REINFORCEMENT.
INCREASE THESE TABLE LENGTHS BY 1.7 FOR EPOXY COATED "TOP BAR" REINFORCEMENT.

CASE 2:

- NOTES:**
- TENSION EMBEDMENT AND SPLICE LENGTHS ARE TO BE AS PER THE FOLLOWING TABLE FOR MEMBERS NOT SATISFYING CASE 1 CONDITIONS AS SET OUT ABOVE.
FOR EXAMPLE: - BARS (EXCLUDING THE SPLICES) SPACED CLOSER TOGETHER THAN 2 BAR DIAMETERS.
 - ALL LENGTHS ARE FOR F_y=400MPa REBAR.
 - ALL TENSION SPLICES ARE CLASS 'B'.

CASE 2 - TENSION EMBEDMENT AND SPLICE LENGTHS (ALL LENGTHS IN mm U.N.Q.)											
BAR DESIGNATION	FUNCTION	CONCRETE STRENGTH									
		20 MPa		25 MPa		30MPa		35MPa		40MPa	
10M	EMBEDMENT	430	17"	380	15"	350	14"	330	13"	300	12"
	(SPLICE)	(560)	(22")	(510)	(20")	(460)	(18")	(430)	(17")	(400)	(16")
15M	EMBEDMENT	640	25"	590	23"	530	21"	490	19"	460	18"
	(SPLICE)	(840)	(33")	(760)	(30")	(690)	(27")	(640)	(25")	(610)	(24")
20M	EMBEDMENT	860	34"	760	30"	700	28"	660	26"	610	24"
	(SPLICE)	(1120)	(44")	(990)	(39")	(910)	(36")	(840)	(33")	(790)	(31")
25M	EMBEDMENT	1340	53"	1190	47"	1090	43"	1020	40"	940	37"
	(SPLICE)	(1750)	(69")	(1550)	(61")	(1430)	(56")	(1320)	(52")	(1240)	(49")
30M	EMBEDMENT	1620	64"	1450	57"	1320	52"	1220	48"	1140	45"
	(SPLICE)	(2110)	(83")	(1880)	(74")	(1710)	(67")	(1570)	(62")	(1480)	(58")
35M	EMBEDMENT	1880	74"	1680	66"	1550	61"	1430	56"	1340	53"
	(SPLICE)	(2440)	(96")	(2190)	(86")	(2010)	(79")	(1860)	(73")	(1730)	(68")

NOTE: "TOP BAR" VALUES ARE 1.3 TIMES THE ABOVE LENGTHS.
"TOP BAR" APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300mm/12" OR MORE OF CONCRETE BELOW THE BAR.

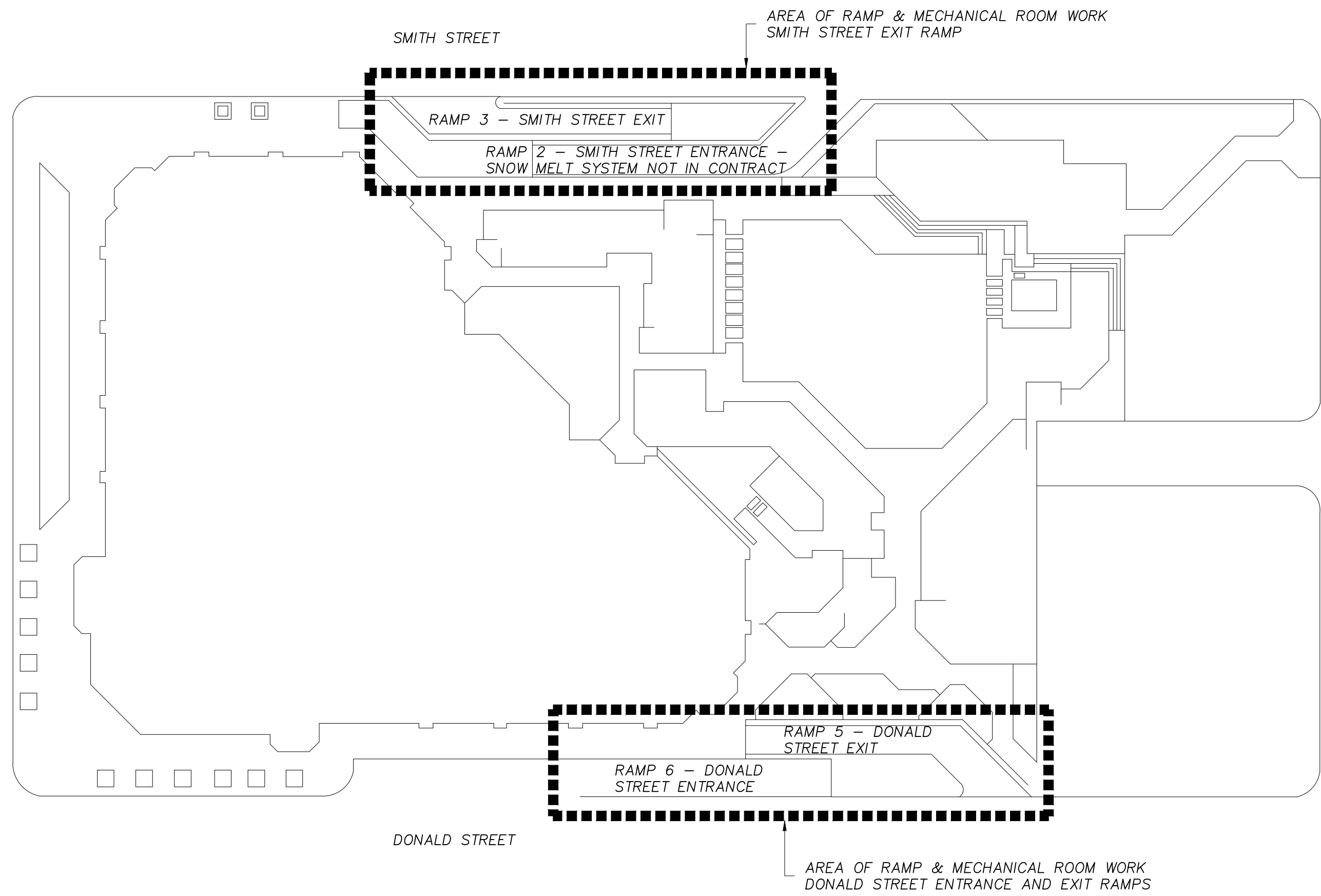
NOTE: EPOXY COATED REINFORCEMENT.
INCREASE THESE TABLE LENGTHS BY 1.5 FOR EPOXY COATED REINFORCEMENT.
INCREASE THESE TABLE LENGTHS BY 1.7 FOR EPOXY COATED "TOP BAR" REINFORCEMENT.

COMPRESSION EMBEDMENT AND SPLICE LENGTHS

NOTES:

- COMPRESSION EMBEDMENT AND SPLICE LENGTHS ARE TO BE AS PER THE FOLLOWING TABLE
- ALL LENGTHS ARE FOR F_y=400MPa REBAR.

COMPRESSION EMBEDMENT AND SPLICE LENGTHS (ALL LENGTHS IN mm U.N.Q.)							
BAR DESIGNATION	FUNCTION	CONCRETE STRENGTH					
		20 MPa		25 MPa		30MPa & GREATER	
10M	EMBEDMENT	230	9"	200	8"	180	7"
	(SPLICE)	(280)	(11")	(250)	(10")	(230)	(9")
15M	EMBEDMENT	330	13"	280	11"	280	11"
	(SPLICE)	(430)	(17")	(380)	(15")	(350)	(14")
20M	EMBEDMENT	430	17"	380	15"	350	14"
	(SPLICE)	(560)	(22")	(510)	(20")	(460)	(18")
25M	EMBEDMENT	560	22"	490	19"	430	17"
	(SPLICE)	(700)	(28")	(640)	(25")	(590)	(23")
30M	EMBEDMENT	660	26"	590	23"	530	21"
	(SPLICE)	(840)	(33")	(760)	(30")	(690)	(27")
35M	EMBEDMENT	760	30"	690	27"	660	26"
	(SPLICE)	(990)	(39")	(880)	(35")	(820)	(32")



STREET LEVEL KEY PLAN

SCALE: NOT TO SCALE

NO.	REVISION	DATE
1	ISSUED FOR CLIENT REVIEW	OCT. 27, 2017
2	ISSUED FOR TENDER	APR. 6, 2018
3		
4		
5		
6		
7		

NOTES:

CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR REPORTING ALL DISCREPANCIES TO THE CITY AND/OR CONTRACT ADMINISTRATOR PRIOR TO BID CLOSING.

LATEST APPROVED DRAWINGS ONLY TO BE USED FOR CONSTRUCTION.

PRINTS ARE NOT TO BE SCALED.

ALL DIMENSIONS INDICATED ARE IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED.



04/06/2018 E.G. Br



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TORONTO Tel. 1-647-351-0095
COQUITLAM Toll Free 1-866-919-4531

CLIENT NAME:

CITY OF WINNIPEG

PROJECT ADDRESS:

251 DONALD STREET WINNIPEG, MB

PROJECT NAME:

GARAGE ENTRANCE AND EXIT RAMP REHABILITATION

DRAWING TITLE:

GENERAL NOTES AND KEY PLAN

DESIGN: EGB SCALE: AS SHOWN
 DRAWN: AJG/JAVA DATE: AUG/2017
 APPVD: PSM FILE No: 17-7259

SHEET No.

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