0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200

## MASONRY NOTES

.1 CONCRETE BLOCK MASONRY SHALL BE IN ACCORDANCE WITH CSA-S304.1-04(R2010) AND CAN/CSA-A165 SERIES-04(R2009).

.2 MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CSA-S304.1-04(R2010) AND CAN/CSA-A371-04(R2009).

.3 CONCRETE BLOCK SHALL CONFORM TO CSA A165-04 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 15 MPa [2143 psi] (CLASSIFICATION H/15/D/M).

.4 FILL CELLS CONTAINING VERTICAL REINFORCING AND ANCHORS WITH CONCRETE DESIGNATED 'MASONRY CORE FILLS.' PUDDLE OR VIBRATE TO FILL CORES COMPLETELY. SITE MIXING OF CONCRETE IS NOT PERMITTED FOR EXTERIOR AND LOAD-BEARING MASONRY WALLS.

.5 USE ONLY TYPE 'S' MORTAR CONFORMING TO CSA-A179-04(R2009).

.6 MASONRY WIRE REINFORCING SHALL CONFORM TO ASTM A951/A951M-11. PROVIDE CONTINUOUS JOINT REINFORCEMENT EVERY SECOND COURSE AND ELSEWHERE AS INDICATED IN SPECIFICATIONS.

.7 REINFORCE INTERIOR MASONRY PARTITION AND LOAD-BEARING WALLS WITH VERTICAL REINFORCING AS FOLLOWS UNO:
- 1-15M AT 1200 C/C [4'-0"] MAX.
- 1-15M AT CORNERS, ENDS & WALL INTERSECTIONS.
- 1-15M EACH SIDE OF CONTROL JOINTS.
- 2-15M AT WALL OPENINGS.

.8 REINFORCE EXTERIOR MASONRY WALLS WITH VERTICAL REINFORCING AS FOLLOWS UNO:
- 1-20M AT 1000 C/C [3'-3"] MAX.
- 1-20M AT CORNERS, ENDS & WALL INTERSECTIONS.
- 1-20M EACH SIDE OF CONTROL JOINTS.
- 2-20M AT WALL OPENINGS.

.9 MASONRY WALLS TO BE RUNNING BOND UNLESS NOTED OTHERWISE WITH FULL MORTAR BEDS.

.10 VERTICAL REINFORCEMENT SHALL BE CONTINUOUS TO WITHIN 50mm [2"] OF TOP OF WALL.

.11 PROVIDE DOWELS INTO SUPPORTING CONCRETE AT VERTICAL REINFORCING LOCATIONS AT SAME SIZE AND SPACING AS VERTICAL REINFORCEMENT.

.12 PROVIDE 400mm [1'-4"] DEEP BOND BEAMS AT THE TOPS OF ALL WALLS, AND THE BOTTOM OF INTERIOR PARTITION WALLS. USE SPECIAL 'BOND BEAM UNITS' TO PROVIDE CONTINUITY OF VERTICAL REINFORCING BARS. PROVIDE 2-15M CONTINUOUS TOP AND BOTTOM UNO LAP SPLICE 800mm [2'-8"] MIN.

.13 LAP SPLICE MASONRY WALL REINFORCING AS FOLLOWS:

| BAR SIZE | REQUIRED LAP |
|---|---|
| 10M | 300mm [1'-0"] |
| 15M | 650mm [2'-2"] |
| 20M | 1100mm [3'-7"] |

.14 BY INSTALL VERTICAL CONTROL JOINTS IN WALLS AT 9000 C/C [29'-6"] MAX. LOCATE JOINTS AT LATERAL SUPPORTS PROVIDED COLUMNS, PILASTERS, CORNERS AND INTERSECTING WALLS. COORDINATE LOCATIONS WITH ARCHITECTURAL DRAWINGS.

SLAB, BEAM, AND WALL HORIZONTAL EMBEDMENT AND LAP SPLICE LENGTHS

| BAR SIZE | TENSION EMBEDMENT | | | | TENSION LAP SPLICE | | | | COMPRESSION EMBEDMENT | | | | COMPRESSION LAP SPLICE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25 MPa | 30 MPa | 35 MPa | 40 MPa | 25 MPa | 30 MPa | 35 MPa | 40 MPa | 25 MPa | 30 MPa | 35 MPa | 40 MPa | 25 MPa | 30 MPa | 35 MPa | 40 MPa |
| 10M | 400 | 350 | 350 | 300 | 500 | 450 | 450 | 400 | 200 | 200 | 200 | 200 | 300 | 300 | 300 | 300 |
| 15M | 600 | 550 | 500 | 450 | 750 | 700 | 650 | 600 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 |
| 20M | 750 | 700 | 650 | 600 | 1000 | 900 | 850 | 800 | 400 | 400 | 400 | 400 | 600 | 600 | 600 | 600 |
| 25M | 1200 | 1100 | 1000 | 950 | 1550 | 1400 | 1300 | 1250 | 500 | 450 | 450 | 450 | 750 | 750 | 750 | 750 |
| 30M | 1450 | 1300 | 1200 | 1150 | 1850 | 1700 | 1550 | 1450 | 600 | 550 | 550 | 550 | 900 | 900 | 900 | 900 |
| 35M | 1650 | 1500 | 1400 | 1300 | 2150 | 1950 | 1800 | 1700 | 700 | 650 | 650 | 650 | 1050 | 1050 | 1050 | 1050 |

COLUMN, ZONE, AND WALL VERTICAL EMBEDMENT AND LAP SPLICE LENGTHS

| BAR SIZE | TENSION EMBEDMENT | | | | TENSION LAP SPLICE | | | | COMPRESSION EMBEDMENT | | | | COMPRESSION LAP SPLICE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25 MPa | 30 MPa | 35 MPa | 40 MPa | 25 MPa | 30 MPa | 35 MPa | 40 MPa | 25 MPa | 30 MPa | 35 MPa | 40 MPa | 25 MPa | 30 MPa | 35 MPa | 40 MPa |
| 10M | 300 | 300 | 250 | 250 | 400 | 350 | 350 | 300 | 200 | 200 | 200 | 200 | 300 | 300 | 300 | 300 |
| 15M | 450 | 400 | 400 | 350 | 600 | 550 | 500 | 450 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 |
| 20M | 600 | 550 | 500 | 500 | 750 | 700 | 650 | 600 | 400 | 400 | 400 | 400 | 600 | 600 | 600 | 600 |
| 25M | 900 | 850 | 800 | 750 | 1200 | 1100 | 1000 | 950 | 500 | 450 | 450 | 450 | 750 | 750 | 750 | 750 |
| 30M | 1100 | 1000 | 950 | 900 | 1450 | 1300 | 1200 | 1150 | 600 | 550 | 550 | 550 | 900 | 900 | 900 | 900 |
| 35M | 1300 | 1200 | 1100 | 1000 | 1650 | 1500 | 1400 | 1300 | 700 | 650 | 650 | 650 | 1050 | 1050 | 1050 | 1050 |

TABLE NOTES:

.1 BASED ON CSA A23.3-04.
.2 ENCLOSED BY MINIMUM STIRRUPS OR TIES WHERE APPLICABLE.
.3 CLEAR COVER AT LEAST 1.0 x BAR DIAMETER.
.4 CLEAR SPACING AT LEAST 1.4 x BAR DIAMETER.
.5 INCREASE LENGTHS TO 1.31 x LISTED LENGTH FOR EPOXY COATED REINFORCING.

## ABBREVIATIONS

| | |
|---|---|
| ALT | ALTERNATING |
| AFF | ABOVE FINISHED FLOOR |
| A.BOLT | ANCHOR BOLT |
| ARCH | ARCHITECTURAL |
| ASL | ACCUMULATED SNOW LOAD |
| BCE | BOTTOM CHORD EXTENSION |
| BEW | BOTTOM EACH WAY |
| BOT | BOTTOM |
| BTW | BETWEEN |
| BLL | BOTTOM LOWER LAYER |
| BUL | BOTTOM UPPER LAYER |
| B. PL | BASE PLATE |
| CA | COLUMN ABOVE |
| CB | COLUMN BELOW |
| CANT | CANTILEVER |
| C/C | CENTRE TO CENTRE |
| Cf | FACTORED COMPRESSION FORCE |
| CJ | CONTROL JOINT |
| CJP | COMPLETE JOINT PENETRATION |
| CO | CLEAN OUT |
| COL. | COLUMN |
| CONC | CONCRETE |
| CONN | CONNECTION |
| CONST | CONSTRUCTION |
| CONT | CONTINUOUS |
| C/W | COMPLETE WITH |
| DET | DETAIL |
| DIA | DIAMETER |
| DL | DEAD LOAD |
| DO | DITTO |
| DN | DOWN |
| DP | DEEP |
| DWG | DRAWINGS |
| DWL | DOWELS |
| EE | EACH END |
| ELECT | ELECTRICAL |
| ELEV | ELEVATION |
| EF | EACH FACE |
| EL | ELEVATION |
| EW | EACH WAY |
| EQ | EQUAL |
| ES | EACH SIDE |
| EX | EXISTING |
| EXP | EXPANSION |
| EXT | EXTERIOR |
| FDN | FOUNDATION |
| FIN | FINISHED |
| FL | FLOOR |
| FTG | FOOTING |
| GRND | GROUND |
| HCJ | HORIZONTAL CONSTRUCTION JOINT |
| HDG | HOT DIPPED GALVANIZED |
| HEE | HOOK EACH END |
| HEF | HORIZONTAL EACH FACE |
| HIF | HORIZONTAL INSIDE FACE |
| HP | HIGH POINT |
| HOR | HORIZONTAL |
| I.D. | INSIDE DIAMETER |
| I.F. | INSIDE FACE |
| INT | INTERIOR |
| INV | INVERT |
| JT | JOINT |
| LHE | LEFT HAND END |
| LL | LIVE LOAD |
| LG | LONG |
| LLBB | LONG LEG BACK TO BACK |
| LLH | LONG LEG HORIZONTAL |
| LLV | LONG LEG VERTICAL |
| LP | LOW POINT |
| LSH | LONG SIDE HORIZONTAL |
| LSV | LONG SIDE VERTICAL |
| MAX | MAXIMUM |
| MECH | MECHANICAL |
| MC | MOMENT CONNECTION |
| Mf | FACTORED MOMENT |
| MID | MID DEPTH |
| MIN | MINIMUM |
| MRF | MOMENT RESISTING FRAME |
| NTS | NOT TO SCALE |
| O/C | ON CENTER |
| O.D. | OUTSIDE DIAMETER |
| O.F. | OUTSIDE FACE |
| O/O | OUT TO OUT |
| OPP | OPPOSITE |
| OWSJ | OPEN WEB STEEL JOIST |
| PA | POST ABOVE |
| PERP | PERPENDICULAR |
| PJP | PARTIAL JOINT PENETRATION |
| PL | PLATE |
| PROJ | PROJECTION |
| PT | POINT |
| PTFE | POLYTETRAFLUOROETHYLENE |
| R/W | REINFORCED WITH |
| REINF | REINFORCING |
| REM | REMAINDER |
| REV | REVERSE |
| RHE | RIGHT HAND END |
| SCHED | SCHEDULE |
| SDF | STEP DOWN FOOTING |
| SDL | SUPERIMPOSED DEAD LOAD |
| SECT | SECTION |
| SIM | SIMILAR |
| SOG | SLAB ON GRADE |
| STGD | STAGGERED |
| STRUCT | STRUCTURAL |
| SW | SHEAR WALL |
| T&B | TOP AND BOTTOM |
| T/O | TOP OF |
| TEMP | TEMPERATURE |
| TEW | TOP EACH WAY |
| Tf | FACTORED TENSION FORCE |
| TJ | TIE JOIST |
| TLL | TOP LOWER LAYER |
| TUL | TOP UPPER LAYER |
| TYP | TYPICAL |
| UNO | UNLESS NOTED OTHERWISE |
| U/S | UNDERSIDE |
| VBF | VERTICAL BRACE FRAME |
| VEF | VERTICAL EACH FACE |
| VERT | VERTICAL |
| Vhf | FACTORED HORIZONTAL SHEAR FORCE (IN PLANE W/ FLOOR) |
| Vf | FACTORED SHEAR FORCE |
| VIF | VERTICAL INSIDE FACE |
| VOF | VERTICAL OUTSIDE FACE |
| VSC | VERTICALLY SLOTTED CONNECTION |
| W/ | WITH |
| WP | WORK POINT |
| WWF | WELDED WIRE FABRIC |

## LEGENDS AND SYMBOLS

- ∅ DIAMETER
- SQUARE
- @ AT
- STEEL ANGLE
- SLAB SPAN DIRECTION (0NE WAY)
- SLAB SPAN DIRECTION (2 WAY)
- BOTTOM REINFORCING BAR
- TOP REINFORCING BAR
- 15MC DENOTES 15M EPOXY COATED BAR
- 15MG DENOTES 15M GALVANIZED BAR
- C10M1000 DENOTES 10M BARS OF LENGTH 1000mm PLUS THE STANDARD HOOK FOR A 10M BAR
- MOMENT CONNECTION
- ELEVATION OF U/S STEEL DECK WITH RESPECT TO SPECIFIED ELEVATION ON PLAN
- OR
- ELEVATION OF T.O. CONCRETE WITH RESPECT TO SPECIFIC ELEVATION ON PLAN
- SLAB DEPRESSION FOR FLOOR DRAIN
- 25 MIDSPAN BEAM CAMBER (SEE TYP. DETAILS)
- 250 STRUCTURAL SLAB THICKNESS

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D.J. KHACHI
04 OCT. 2013
PROVINCE OF ONTARIO

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