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

GENERAL:

1. READ THESE DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE DEPARTMENT REPRESENTATIVE PRIOR TO COMMENCING WITH THE AFFECTED WORK. COORDINATE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR THE SIZES AND LOCATIONS OF ALL OPENINGS.

2. DESIGN AND CONSTRUCTION OF THIS PROJECT SHALL COMPLY WITH THE ONTARIO BUILDING CODE 2012, AND NATIONAL BUILDING CODE 2010, MOST STRINGENT APPLY.

3. CONSTRUCTION METHODS, EQUIPMENT AND ALL OPERATIONS SHALL CONFORM WITH ALL APPLICABLE REGULATION, ACTS AND BY-LAWS IN FORCE TO ENSURE THE SAFETY OF THE WORK AND CONTRACTOR'S PERSONAL AND OTHERS AT ALL TIMES.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT, ELEVATIONS, AND ALIGNMENT OF THE WORK AND SHALL VERIFY ALL DIMENSIONS AND DETAILS OF ANY EXISTING STRUCTURES NECESSARY FOR THE PROPER FITTING AND CONNECTING OF THE NEW WORK TO IT. REPORT TO DEPARTMENTAL REPRESENTATIVE ANY DISCREPANCIES AND ALL DOUBTFUL CONDITIONS BEFORE PROCEEDING WITH THE WORK.

5. DESIGN LIVE LOADS SHALL NOT BE EXCEEDED DURING CONSTRUCTION. REFER TO NOTES ON DRAWING S-02

6. EXISTING CONDITIONS HAVE BEEN ASSUMED AND/OR OBTAINED FROM AS-BUILT DRAWINGS AND MAY OR MAY NOT REPRESENT THE ACTUAL SITE CONDITIONS. SITE VERIFY ALL CRITICAL SHOP DRAWINGS DIMENSIONS PRIOR TO FABRICATING STEEL. REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.

7. CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH THE FULL SCOPE OF WORK PRIOR TO SUBMITTING BID. VISIT THE SITE AND THOROUGHLY FAMILIARIZE YOURSELF WITH THE EXISTING CONDITIONS BEFORE STARTING THE WORK.

8. PROVIDE ADEQUATE TEMPORARY SHORING AS NECESSARY FOR THE SAFE INSTALLATION OF THE STRUCTURAL SUPPORTS INDICATED.

9. CONTRACTOR TO CONTACT THE DEPARTMENT REPRESENTATIVE OF RECORD FOR SITE REVIEW(S) AT LEAST 48 HOURS PRIOR TO COVERING UP THE STRUCTURAL WORK.

EXISTING STRUCTURE NOTES:

1. THE STRUCTURAL DESIGN IS BASED UPON INFORMATION SHOWN ON THE DRAWINGS, S1 THROUGH S7 FOR THE EXISTING BUILDING PREPARED BY RICHARD DRAY ENGINEERING INC., DATED AUGUST, 1994 AND MAY OR MAY NOT REPRESENT THE AS-BUILT CONDITIONS.

2. REPORT TO THE DEPARTMENT REPRESENTATIVE DISCREPANCIES THAT HAVE THE POTENTIAL TO AFFECT THE WORK AND OBTAIN INSTRUCTIONS PRIOR TO PROCEEDING.

DESIGN LOADS:

1. ROOF DESIGN DEAD AND LIVE LOADS AS PER THE ROOF FRAMING PLAN. REFER TO NOTES ON DRAWING S-02.

STRUCTURAL STEEL: (REFER TO SPECIFICATIONS)

1. STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH CSA S16-14 AND THE CISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL.

2. MATERIAL REQUIREMENTS

-W SHAPES:	CAN/CSA G40.20-13/G40.21-13 GRADE 350W
-OTHER STRUCTURAL SHAPES AND PLATES:	CAN/CSA G40.20-13/G40.21-13 GRADE 300W
-BOLTS ASSEMBLY:	REFER TO NOTE 3
-SHOP PRIMER AND FIELD TOUCHUP PRIMER:	REFER TO NOTE 5

3. BOLTS, NUTS, AND WASHERS: AS FOLLOWS:

BOLTS:	ASTM A325-10E1
NUTS:	ASTM A563-07a(2014)
WASHERS:	ASTM F436M-11.
FINISH:	GALVANIZED.

4. ALL STEEL SHALL BE HOT DIP GALVANIZED.

5. CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR'S ENGINEER FOR THE LOADS INDICATED ON THE DRAWING. DESIGN CONNECTIONS IN ACCORDANCE WITH CAN/CSA S16-14. UNLESS NOTED OTHERWISE, SELECT FRAMED BEAM SHEAR CONNECTIONS FROM THE CISC HANDBOOK OF STEEL CONSTRUCTION FOR NON-COMPOSITE BEAMS. IF SHEAR VALUES ARE NOT INDICATED, SELECT OR DESIGN CONNECTIONS TO SUPPORT REACTION FROM 67% OF MAXIMUM UNIFORMLY DISTRIBUTED LOAD THAT CAN BE SAFELY SUPPORTED BY BEAM IN BENDING, PROVIDED NO POINT LOADS ACT ON BEAM. DESIGN BRACE CONNECTIONS, SO DESIGNATED, FOR THE LOADS SHOWN ON THE DRAWINGS. USE A MINIMUM OF 2 BOLTS IN EACH BOLTED CONNECTION.

6. WELDING SHALL CONFORM TO CURRENT CSA W59-13. WELD SIZES INDICATED ON DRAWINGS AND BASED ON E49XX ELECTRODES. FABRICATOR MUST BE CERTIFIED TO CSA W47.1-09, DIVISION 1 OR 2.1.

7. MAKE ADEQUATE PROVISION FOR ERECTION LOADS AND PROVIDE SUFFICIENT TEMPORARY BRACING.

8. FABRICATE AND ASSEMBLE STRUCTURAL STEEL IN SHOP TO GREATEST EXTENT POSSIBLE. FABRICATE BEAMS, COLUMNS AND OTHER MEMBERS OF CONTINUOUS SECTIONS IN ACCORDANCE WITH CAN/CSA S16-14; DO NOT SPLICE PIECES UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR WITH AUTHORIZATION OF DEPARTMENTAL REPRESENTATIVE.

9. NO SPLICING WILL BE PERMITTED UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS.

10. ALL BEAMS SHALL BE WELDED TO BEARING PLATES OR SUPPORTING MEMBERS, UNLESS NOTED OTHERWISE.

11. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BEFORE PROCEEDING WITH FABRICATION. SHOP DRAWINGS SHOWING CONNECTIONS DETAILS DESIGNED BE THE FABRICATOR ARE TO BE STAMPED BY A PROFESSIONAL ENGINEER.

12. SITE TOUCH-UP AND REPAIR SHOP PRIMER AND GALVANIZED FINISHES AT BOLTS, WELDS AND BURNED OR SCRATCHED SURFACES USING SAME PRIMER AS APPLIED IN SHOP AND ZINC PAINT IN ACCORDANCE WITH ASTM A780/A780M-09.

13. AN INDEPENDENT TESTING COMPANY IS TO INSPECT ALL FIELD WELDING, CONNECTIONS, BOLT TORQUES AND PLUMBNESS OF COLUMNS. QUALITY ASSURANCE TESTING SHALL BE PERFORMED BY A CSA CERTIFIED TECHNICIAN. GENERAL CONTRACTOR TO SCHEDULE INSPECTION PRIOR TO COVERING ANY WORK. INSPECTION TO BE COORDINATED BY GENERAL CONTRACTOR AND PAID BY CLIENT.

EPOXY ADHESIVE ANCHOR MINIMUM REQUIREMENTS

1. ALL ANCHORS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS. ALL HOLES SHALL BE PROPERLY DRILLED AND CLEANED PRIOR TO INSTALLATION OF THE EPOXY ANCHORS. PROVIDE ADEQUATE CURING TIME (SEE MANUFACTURER'S RECOMMENDATIONS) PRIOR TO LOADING THE ANCHORS.

2. INFLUENCE FACTORS FOR SPACING AND/OR EDGE DISTANCES SHALL BE CONSIDERED IN SELECTING ANCHORS AND ANY REDUCTION IN STRENGTH TO BE CONSIDERED IN THE ANCHOR SELECTION.

3. THE ALLOWABLE 25 MPa CONCRETE/BOND CAPACITIES USING EPOXY ADHESIVE SHALL MEET THE FOLLOWING MINIMUM VALUES USING THREAD BARS OR RE-BARS:

4. 10mm DIAMETER ANCHOR X 90mm EMBEDMENT TO HAVE 10KN TENSION AND 5 KN SHEAR CAPACITIES.

5. 12mm DIAMETER ANCHOR X 120mm EMBEDMENT TO HAVE 20KN TENSION AND 10 KN SHEAR CAPACITIES.

6. 16mm DIAMETER ANCHOR X 150mm EMBEDMENT TO HAVE 30KN TENSION AND 15 KN SHEAR CAPACITIES.

7. 19mm DIAMETER ANCHOR X 175mm EMBEDMENT TO HAVE 40KN TENSION AND 20 KN SHEAR CAPACITIES.

8. 22mm DIAMETER ANCHOR X 200mm EMBEDMENT TO HAVE 60KN TENSION AND 30 KN SHEAR CAPACITIES.

9. 25mm DIAMETER ANCHOR X 230mm EMBEDMENT TO HAVE 70KN TENSION AND 40 KN SHEAR CAPACITIES.

CONCRETE WEDGE ANCHOR MINIMUM REQUIREMENTS

1. USE CARBON STEEL ANCHORS WITH ZINC ELECTROPLATED COATING TO A MINIMUM THICKNESS OF 5um. ALL ANCHORS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS. ALL HOLES SHALL BE PROPERLY DRILLED AND CLEANED PRIOR TO INSTALLATION OF THE ANCHORS.

2. INFLUENCE FACTORS FOR SPACING AND/OR EDGE DISTANCES SHALL BE CONSIDERED IN SELECTING ANCHORS AND ANY REDUCTION IN STRENGTH TO BE CONSIDERED IN THE ANCHOR SELECTION.

3. 10mm DIAMETER ANCHOR X 70mm EMBEDMENT TO HAVE 8KN TENSION AND 5 KN SHEAR CAPACITIES.

4. 12mm DIAMETER ANCHOR X 90mm EMBEDMENT TO HAVE 10KN TENSION AND 10 KN SHEAR CAPACITIES.

5. 16mm DIAMETER ANCHOR X 110mm EMBEDMENT TO HAVE 15KN TENSION AND 20 KN SHEAR CAPACITIES.

6. 19mm DIAMETER ANCHOR X 125mm EMBEDMENT TO HAVE 20KN TENSION AND 30 KN SHEAR CAPACITIES.

7. 25mm DIAMETER ANCHOR X 150mm EMBEDMENT TO HAVE 30KN TENSION AND 40 KN SHEAR CAPACITIES.

SHORING NOTES:

1. EXISTING CONDITIONS ARE ASSUMED. SITE VERIFY ALL ASSUMED EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.

2. VISIT THE SITE AND THOROUGHLY FAMILIARIZE YOURSELF WITH THE EXISTING CONDITIONS BEFORE PROCEEDING WITH THE WORK. TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING STRUCTURE FROM DAMAGE DURING CONSTRUCTION.

3. THE SHORING CONTRACTOR SHALL DESIGN, PROVIDE, ERECT, MAINTAIN, REMOVE AND ASSUME FULL AND SOLE RESPONSIBILITY FOR ALL TEMPORARY WORKS INCLUDING SHORING REQUIRED FOR THE SAFE AND COMPLETE EXECUTION OF THE WORKS.

4. SHORING CONTRACTOR MUST PROVIDE SHOP DRAWINGS STAMPED BY A P. ENG. WHICH WILL INCLUDE LAYOUT, ELEVATIONS, SCHEDULES AND DETAILS AS REQUIRED FOR CONSTRUCTION.

5. FOR THE ENTIRE DURATION OF THE CONTRACT, MAKE ADEQUATE PROVISION FOR ALL LIKELY CONSTRUCTION LOADING AND PROVIDE SUFFICIENT BRACING AND PROPS TO KEEP THE WORKS IN PLUMB AND ALIGNMENT.

6. ACCESS OF HEAVY CONSTRUCTION EQUIPMENT AND ACCUMULATION OF CONSTRUCTION MATERIALS WITHIN THE WORK AREA ARE NOT PERMITTED, UNLESS SUCH HAVE BEEN CATERED FOR IN THE CONTRACTOR'S SHORING DESIGN.

7. ANY CONSTRUCTION SEQUENCE SHOWN OR IMPLIED ON THESE DRAWINGS SHALL BE PART OF THE TEMPORARY SHORING DESIGN AND ARE FOR THE CONTRACTOR'S CONSIDERATION ONLY.

8. SHORING CONTRACTOR TO BE RESPONSIBLE FOR CO-ORDINATION WITH MECHANICAL, ARCHITECTURAL AND STRUCTURAL DRAWINGS AS TO DIMENSIONS AND ELEVATIONS, AND TO ENSURE NO INTERFERENCE WITH THE EXISTING PERMANENT AND PROPOSED CONSTRUCTION.

9. SHORING CONTRACTOR TO BE RESPONSIBLE FOR SCOPE OF WORK AS DEFINED IN THE TENDER DOCUMENTS, BUT NOT LIMITED IN SCOPE TO THE FOLLOWING:
   a) CHECK ALL DIMENSIONS PRIOR TO INSTALLATION OF SHORING SYSTEM.
   b) CO-ORDINATE SHORING DRAWINGS WITH ARCHITECTURAL, STRUCTURAL, MECH AND ELECTRICAL DRAWINGS TO ENSURE NO INTERFERENCE WITH THE PERMANENT AND PROPOSED CONSTRUCTION.

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LICENSED PROFESSIONAL ENGINEER
D.J. KHACHI
05 AUG. 2015
PROVINCE OF ONTARIO

revision	issue	date
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Do not scale drawings.
Verify all dimensions and conditions on site and immediately notify the Departmental Representative of all discrepancies.

A B C
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B drawing no. - where detail required / dessin no. - où détail exigé
C drawing no. - where detailed / dessin no. - où détaillé

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