GENERAL

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, LATEST EDITION AND THE OCCUPATIONAL HEALTH AND SAFETY ACT/REGULATIONS FOR CONSTRUCTION PROJECTS.
2. CONFORM TO OWNER'S GENERAL SPECIFICATIONS INCLUDING ALL SAFETY REQUIREMENTS.
3. SITE VERIFY ALL DIMENSIONS AND LEVELS.
4. KEEP THE SITE THROUGHOUT THE WORK AREA IN A CLEAN AND ORDERLY CONDITION AT ALL TIMES TO THE SATISFACTION OF THE OWNER.
5. THE LATEST EDITION OF ALL CODES AND STANDARDS SHALL BE USED.
6. ALL STRUCTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH OTHER CONSULTANTS DRAWINGS.
7. ALL LOADS INDICATED ON THE DRAWINGS ARE UNFACTORED UNLESS NOTED OTHERWISE.
8. LATERAL LOADS (UNFACTORED)

SEISMIC			WIND
Sa (0.2)	=	0.19	q(1/50) = 0.48 kPa
Sa (0.5)	=	0.12	
Sa (1.0)	=	0.072	
Sa (2.0)	=	0.023	
PGA	=	0.074	

FOUNDATIONS

1. FOUNDATION DESIGN BASED ON BEARING CAPACITY OF 200 kPa (SLS) SOIL OF ON NATIVE MATERIAL. THE BEARING CAPACITY INFORMATION WAS OBTAINED FROM V.A. WOODS ASSOCIATES LTD. REF NO. 3890-ACE-18-3 DATED MAY 2018
2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED NATIVE SOIL OR ENGINEERED FILL AS APPROVED BY THE GEOTECHNICAL CONSULTANT. REPORT ANY DOUBTFUL BEARING CONDITIONS TO THE STRUCTURAL ENGINEER BEFORE PLACING FOOTING.
3. MATERIALS FOR BACKFILL SHALL BE GRANULAR 'A' AND GRANULAR 'B' CONFORMING TO OPSS STANDARDS COMPACTED TO 98% STANDARD PROCTOR MAX. DRY DENSITY.
4. ALL EXTERIOR FOOTINGS SHALL BE MINIMUM 1200mm BELOW FINISHED GRADE, AS SHOWN ON DRAWINGS.
5. ALL PIERS AND FOOTINGS UNDER COLUMNS TO BE CENTRED UNDER THE COLUMNS UNLESS NOTED OTHERWISE ON THE PLAN.
6. SEE SOIL REPORT PREPARED BY: V.A. WOOD ASSO. LTD. REF# 3890-ACE-18-3 DATED MAY 2018 FOR DESIGN BEARING CAPACITY
7. LATERAL LOADS (UNFACTORED)

SOIL WEIGHT = 19 kN/m3
SOIL PRESSURE COEFFICIENT = 0.35

CONCRETE

1. CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA-A23.1 AND CAN/CSA-A23.3 WITH THE FOLLOWING PROVISION:

LOCATION	DESIGN STRENGTH (28 DAYS)	SLUMP	EXPOSURE CLASS
EXTERIOR FOOTINGS/ FOUNDATION WALLS AND PIERS	25 MPa	80± 30	F-2
INTERIOR FOOTINGS/FOUNDATION WALLS AND PIERS	25 MPa	80± 30	N
SLAB ON GRADE	25 MPa	80± 30	N*
ALL OTHER INTERIOR CONCRETE	25 MPa	80± 30	N
ALL EXTERIOR REINFORCED CONCRETE (STAIRS & RETAINING WALLS)	35 MPa U.N.O.	80± 30	C-1

2. NO ADDITIONAL WATER SHALL BE ADDED AT THE JOB SITE. CONCRETE WHICH HAS BEEN WATERED OR DOES NOT MEET SPECIFICATIONS SHALL BE REJECTED.
3. DURING WINTER WEATHER BELOW 5 °C PROVIDE TEMPORARY HEATING OF CONCRETE IN ACCORDANCE WITH THE REQUIREMENTS OF CSA A23.1, LATEST EDITION.
4. WHEN PIPES, CONDUITS, OR SLEEVES ARE REQUIRED TO PENETRATE CONCRETE ASSEMBLIES, THE FOLLOWING SHALL BE OBSERVED:
   - SPACING OF SUCH ITEMS SHALL BE 3x DIAMETER C/C.
   - CONCRETE SHALL NOT BE PENETRATED WITHIN 600mm (24") OF CONCENTRATED LOADS.
   - ANY PENETRATIONS SHALL BE A MINIMUM OF 600mm (24") FROM ALL EDGES, SUCH AS ENDS AND TOPS OF WALLS.
   - FOR ANY PENETRATIONS GREATER THAN 300mm (12"), CONSULT THE ENGINEER FOR REVIEW AND DETERMINATION OF EXTRA REINFORCEMENT REQUIREMENTS.

SLAB ON GRADE

1. CAST SLAB ON GRADE ON 150mm GRANULAR 'A' ON COMPACTED SUB-GRADE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT UNLESS NOTED OTHERWISE.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS OF COMPOSITION OF MATERIALS BELOW GRADE (INSULATION AND VAPOUR BARRIER).
3. SAWCUT WITHIN 6 TO 18 HOURS. REFER TO THE DRAWINGS FOR SAWCUT REQUIREMENTS.
4. DO NOT CAST SLAB MORE THAN 30 METERS IN LENGTH IN EITHER DIRECTION. PLACE SLAB IN STRIP PATTERN. KEY CONSTRUCTION JOINTS AS DETAILED.
5. MAINTAIN MINIMUM SPECIFIED THICKNESS AT ALL DEPRESSIONS AND CHANGES IN ELEVATIONS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT AND LOCATION OF ALL FINISHES, DEPRESSIONS AND SLOPES.
7. WELDED WIRE MESH REINFORCING IN SLABS ON GRADE MUST BE PROPERLY CHAIRED. LIFTING OF THE WIRE MESH DURING POURS WILL NOT BE ACCEPTED.

CONCRETE REINFORCEMENT

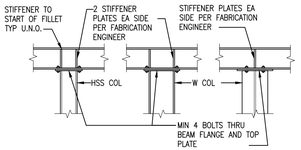
1. THE CLEAR DISTANCE BETWEEN REINFORCING STEEL AND SURFACE OF CONCRETE SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.

LOCATION	CLEAR COVER
FOOTINGS	75mm(3") UNDERSIDE 50mm(2") TOP AND ENDS
WALLS	50mm(2") AGAINST EARTH (20M BAR OR GREATER) 40mm(1½") AGAINST EARTH (15M BAR) 40mm (1½") AGAINST FORM (20M BAR OR GREATER) 25mm (1") AGAINST FORM (15M BAR)
SLABS	25mm(1") TOP BARS 25mm(1") BOTTOM BARS
COLUMNS/PIERS	40mm(1½") TO TIES
SURFACE IN CONTACT WITH GROUND	75mm(3")

2. STRUCTURAL GROUT SHALL BE NON-SHRINK, NON METALLIC M-BED STANDARD PREMIX BY SIKA OR APPROVED EQUAL.
3. DETAIL REINFORCING STEEL IN ACCORDANCE WITH "REINFORCING STEEL MANUAL OF STANDARD PRACTICE" LATEST EDITION.
4. REINFORCING BAR SPLICES FOR DEFORMED BARS:
   COLUMNS - COMPRESSION LAP UNLESS NOTED
   WALLS - CLASS 'B' TENSION SPLICE UNLESS NOTED
   ALL OTHERS - CLASS 'B' TENSION LAP UNLESS NOTED
5. ALL REINFORCING STEEL SHALL BE DEFORMED HARD GRADE BILLET STEEL CONFORMING TO CSA G30.18 GRADE 400.
6. WELDED STEEL WIRE FABRIC, PLAIN TYPE CONFORMING TO ASTM A1064/A1064M-17 IN FLAT SHEETS NOT ROLLED.
7. ALL CONCRETE REINFORCEMENT MUST BE PROPERLY CHAIRED WITH APPROVED BAR SUPPORTS.
8. PROVIDE CHAIRS, SPACER BARS, SUPPORT BARS AND OTHER ACCESSORIES TO SUPPORT REINFORCING IN ACCORDANCE WITH THE LATEST EDITIONS OF CSA23.1 AND CSA23.3 CHAIRS TO BE PLASTIC, PLASTIC TIPPED OR CONCRETE. ALL TIE WIRE, CHAIRS AND BAR SUPPORTS USED FOR COATED REINFORCING SHALL BE NON-METALLIC OR PROTECTED WITH ACCEPTABLE COATING.
9. CHAIRS SHALL BE SPACED AT 1200mm(4'-0")O.C. MAXIMUM.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL HSS AND W SECTIONS TO BE G40.21M-350W CLASS C. ALL OTHERS TO BE G40.21M-300W.
2. DESIGN FORCES INDICATED ON DRAWINGS FOR STRUCTURAL STEEL WORK ARE UN-FACTORED FORCES UNLESS NOTED OTHERWISE.
3. ALL CONNECTIONS TO BE DESIGNED BY FABRICATOR UNLESS NOTED OTHERWISE. ALL BEAM CONNECTIONS TO BE STANDARD SHEAR CONNECTIONS IN COMPLIANCE WITH CISC, UNLESS NOTED OTHERWISE.
4. PROVIDE SHOP DRAWINGS OF COMPONENTS AND CONNECTIONS DESIGNED BY THE FABRICATOR'S ENGINEER. DRAWINGS SHALL BE SIGNED AND SEALED BY THAT ENGINEER.
5. FABRICATOR'S ENGINEER MUST BE LICENSED IN THE PROVINCE OF ONTARIO.
6. ALL ERECTION BOLTS SHALL BE ASTM GRADE A325 MINIMUM, AND SHALL BE DESIGNED BY STEEL FABRICATOR'S ENGINEER FOR TRANSFER OF ALL LOADS.
7. BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS IN EACH CONNECTION PIECE AND DESIGNED AS BEARING CONNECTIONS U.N.O.
8. UNLESS NOTED OTHERWISE, WHERE BEAMS FRAME OVER COLUMNS, PROVIDE FULL HEIGHT, FULL WIDTH STIFFENER PLATES ON EACH SIDE OVER COLUMN AS SHOWN BELOW:



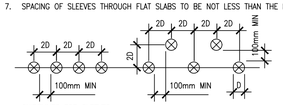
9. FABRICATOR'S ENGINEER SHALL DESIGN TOP PLATES AND THEIR CONNECTIONS TO FULLY TRANSFER VERTICAL AND HORIZONTAL LOADS AS WELL AS MOMENTS WHEN REQUIRED PER CISC STANDARDS.
10. FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO CSA S16.1.
11. ALL WELDING SHALL CONFORM TO CSA W59 AND SHALL BE PERFORMED BY A WELDER QUALIFIED UNDER CSA W47.
12. ALL STRUCTURAL STEEL SHALL BE PAINTED WITH ONE SHOP APPLIED COAT OF PRIMER. SPOT PRIME ALL WELDED AREAS.
13. REMOVE PAINT FILM FROM ALL STEEL SURFACES TO BE WELDED. SPOT PRIME AS REQUIRED.
14. ALL WELDED CONNECTIONS SHALL BE WITH E49XX ELECTRODES.
15. PROVIDE DRAINAGE HOLES TO ARCHITECT'S APPROVAL IN ALL EXPOSED EXTERIOR HSS FRAMING.
16. DO NOT CUT OR CORE ANY OPENINGS IN ANY STRUCTURAL STEEL MEMBERS WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.
17. WHERE A STRUCTURAL STEEL SHAPE SHOWN ON THE DRAWINGS IS UNAVAILABLE, A SHAPE OF EQUAL OR GREATER SECTION PROPERTIES AND STRUCTURAL CAPACITY SHALL BE SUBSTITUTED, UPON APPROVAL BY OWNER AND CONSULTANT AT NO EXTRA COST.
18. ALL EXPOSED STEEL SHALL BE HOT DIP GALVANIZED.

CONDUITS, PIPES AND SLEEVES EMBEDDED IN CONCRETE

SEE ALSO CSA-A23.1 - CLAUSE 13.5

EXCEPT WHEN APPROVED BY THE STRUCTURAL ENGINEER, PIPES, CONDUITS, AND SLEEVES EMBEDDED IN CONCRETE SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING GUIDELINES:

1. GENERAL
   A. NOT WITHSTANDING THE SATISFYING OF THESE GUIDELINES, THE CONDUIT, SLEEVES, PIPES, ETC. SHALL NOT IMPAIR THE STRUCTURAL STRENGTH AND SHALL BE MOVED IF SO DIRECTED BY THE STRUCTURAL ENGINEER.
   B. CENTRELINE SPACING TO BE NOT LESS THAN 3 DIAMETERS - UNLESS NOTED OTHERWISE.
   C. CENTRELINE SPACING BETWEEN PARALLEL CONDUIT AND REINFORCING BARS TO BE 3 DIAMETERS - UNLESS NOTED OTHERWISE.
   D. ADD REINFORCING AT POINTS OF CONGESTION AS DIRECTED BY STRUCTURAL ENGINEER.
2. FOR SLABS - CONDUITS IN THE PLANE OF THE SLAB.
   A. LOCATE BETWEEN TOP AND BOTTOM REINFORCING.
   B. MAXIMUM SIZE IN ONE LAYER TO BE NOT MORE THAN 1/4 CONCRETE THICKNESS.
   C. THREE LAYERS OR MORE CROSSING WILL NOT BE PERMITTED.
3. FOR COLUMNS - ELECTRICAL BOXES, CONDUIT, SLEEVES OR EMBEDDED PIPES ARE NOT ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
4. FOR BEAMS - THE TOTAL MAXIMUM SIZE OF HORIZONTAL CONDUIT PARALLEL TO THE BEAM NOT TO EXCEED 4% OF THE AREA. NO SLEEVES THRU ANY BEAMS OR SLAB BANDS UNLESS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
5. FOR SHEAR WALLS - ELECTRICAL BOXES, CONDUIT, SLEEVES OR EMBEDDED PIPES ARE NOT ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
6. FOR NON-SHEAR WALLS - CONDUIT, SLEEVES OR EMBEDDED PIPES:
   - MAX. DIAMETER = 1/4 WALL THICKNESS.
   - NO HORIZONTAL RUNS PERMITTED.
   - VERTICAL RUNS TO HAVE MINIMUM 50mm CONCRETE COVER AND SHALL HAVE A MINIMUM CLEAR SPACING OF 4 DIAMETERS.
7. SPACING OF SLEEVES THROUGH FLAT SLABS TO BE NOT LESS THAN THE FOLLOWING:



GUIDELINES FOR SLEEVES
- SLEEVES IN FLAT SLABS NOT TO BE LOCATED NEXT TO COLUMNS UNLESS APPROVED BY ENGINEER IN WRITING.
- CLEAR DIMENSION FOR SLEEVES TO COLUMNS TO BE 1200mm MIN. UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS.

PRECAST/ PRESTRESSED HOLLOW-CORE SLAB

1. DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO THE ONTARIO BUILDING CODE AND CSA STANDARD A23.4 M/B.
2. PRE STRESSED HOLLOW-CORE SLAB SHALL BE DESIGNED BY MANUFACTURER TO CARRY THE SUPERIMPOSED LOADS INDICATED ON THE DRAWING.
3. PROVIDE 90mmx3mm (MIN) MASONITE BEARING PADS ON MASONRY AND 75mmx3mm (MIN) MASONITE BEARING PADS ON STRUCTURAL STEEL.
4. PROVIDE REINFORCEMENT FOR ANCHORAGE TO ALL BEAMS AND WALLS.
5. TOP SURFACE OF ADJACENT PANELS TO BE FLUSH PRIOR TO GROUTING JOINTS.
6. ALL CEILING LONGITUDINAL JOINTS TO BE CAULKED.
7. UNDERSIDE OF SLAB SURFACE SHALL HAVE A "STANDARD FINISH" IN ACCORDANCE WITH CSA A23.4-M78.
8. SLAB SHALL HAVE A FIRE RATING AS SHOWN ON ARCHITECTURAL DRAWINGS.
9. SUBMIT SHOP DRAWING TO THE CONSULTANT FOR REVIEW INDICATING CONCRETE DIMENSIONS, DESIGN LOADS, SLAB REINFORCEMENT, ANCHORAGE CONNECTIONS, ESTIMATED CHAMBER AND DEAD WEIGHT.
10. ALL SHOP DRAWINGS MUST BE STAMPED BY A PROFESSIONAL ENGINEER FROM THE PROVINCE OF ONTARIO.
11. CONFORM TO THE DIMENSION AND GEOMETRY INDICATED ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
12. REVIEW ALL ARCHITECTURAL, STRUCTURE, MECHANICAL AND ELECTRICAL DRAWING AND SATISFY THEMSELVES OF THE ADEQUACY OF ALL SUPPORTING STRUCTURAL DETAILS. NOTIFY THE CONSULTANT OF ANY AREA OF CONCERN PRIOR TO PROCEEDING WITH FABRICATION.
13. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ALL OPENINGS IN SLAB. DRILL ALL OPENING UP TO 150mm IN DIAMETER INDICATE ALL OPENINGS GREATER THEN 150mm ON THE SHOP DRAWING.

INSPECTIONS AND TESTING

1. THE FOLLOWING ITEMS SHALL BE INSPECTED OR TESTED BY INDEPENDENT INSPECTION/ TESTING AGENCIES DESIGNATED BY THE CLIENT. MATERIALS AND WORKMANSHIP NOT CONFORMING TO THE SPECIFICATIONS SHALL BE REJECTED BY THE CONTRACTOR. REPORTS AND TEST RESULTS SHALL BE PROMPTLY SUBMITTED TO THE ENGINEER FOR REVIEW. TESTING SHALL INCLUDE BUT NOT BE LIMITED TO:

CONCRETE

1. CONCRETE AND GROUT TESTING IN ACCORDANCE WITH CSA A23.2 LATEST EDITION AND THE SPECIFICATIONS, INCLUDING THE REQUIREMENTS OF SLUMP, AIR AND AGE PRIOR TO BEING USED. CONTRACTOR TO KEEP RECORDS OF POUR DATES, TESTING PERFORMED, CLASS OF CONCRETE USED AND TEST RESULTS FOR ALL ITEMS POURED.
2. TESTING TO DETERMINE THE IN-SITU STRENGTH OF CONCRETE FOR EARLY FORM REMOVAL PURPOSES WITH THE TYPE OF TEST BEING DETERMINED ON THE ADVICE OF THE TESTING AGENCY. REPAIRS NECESSARY TO THE STRUCTURE AS A RESULT OF THESE TESTS SHALL BE MADE BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
3. APPROVAL OF CONCRETE AND MORTAR MIX DESIGNS.
4. TESTING AS REQUIRED AND SPECIFIED BY THE ENGINEER TO DETERMINE THE IN-SITU STRENGTH OF CONCRETE WHICH FAILS TO MEET THE SPECIFIED REQUIREMENTS OR WHICH, DUE TO APPEARANCE, DAMAGE OR DEFECTS MAY BE DEEMED REJECTABLE. CORES SHALL BE ACQUIRED AND TESTED BY THE DESIGNATED TESTING AGENCY BUT ANY REPAIRS NECESSARY TO THE STRUCTURE AS A RESULT OF THESE TESTS SHALL BE PERFORMED AT NO COST TO THE OWNER.

ENGINEERED MASONRY TEST

1. TESTS TO VERIFY STRENGTH OF GROUT AND MORTAR.

STRUCTURAL STEEL

1. VISUAL INSPECTION OF ALL WELDS, TORQUE TESTING OF BOLTED CONNECTIONS AND CHECK ON BEARING, PLUMBNESS AND ALIGNMENT OF STEEL STRUCTURES.
2. NON-DESTRUCTIVE TESTING TO VERIFY THE QUALITY OF WELDING, WHERE DEEMED QUESTIONABLE BY VISIBLE DEFECTS OR WHERE REQUIRED BY THE ENGINEER.

REINFORCING STEEL

1. CONTRACTOR SHALL ADVISE BARRY BRYAN ASSOCIATES (1991)LTD. OF REQUIRED REINFORCING STEEL INSPECTIONS AT LEAST 24 HOURS PRIOR TO CLOSING OF COLUMN OR WALL FORMS AND 24 HOURS PRIOR TO PLACING OF CONCRETE IN SLABS, FOOTINGS, ETC.

STRUCTURAL PRECAST CONCRETE

1. SUBMIT FOR REVIEW 2 COPIES AND 1 SEPIA OF DESIGN CALCULATIONS AND SHOP DRAWINGS FOR ALL MEMBERS.
2. SHOP DRAWINGS AND CALCULATIONS, WHERE REQUIRED, SHALL BEAR THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER.

TEMPORARY WORKS

1. THE CONTRACTOR SHALL DESIGN, PROVIDE, ERECT, MAINTAIN REMOVE AND ASSUME FULL AND SOLE RESPONSIBILITY FOR ALL TEMPORARY WORKS REQUIRED FOR THE SAFE AND COMPLETE EXECUTION OF THE WORKS.
2. IN THE EXECUTION OF THE TEMPORARY WORKS AND FOR THE DURATION OF THE CONTRACT, THE CONTRACTOR SHALL MAKE ADEQUATE PROVISION FOR ALL LIKELY CONSTRUCTION LOADING AND PROVIDE SUFFICIENT BRACING AND PROPS TO KEEP THE WORKS IN PLUMB AND ALIGNMENT AND FREE FROM EXCESSIVE DEFLECTION.
3. ACCESS OF HEAVY CONSTRUCTION EQUIPMENT AND ACCUMULATION OF CONSTRUCTION MATERIALS ON THE FLOORS ARE NOT PERMITTED, UNLESS SUCH HAVE BEEN CATERED FOR IN THE CONTRACTOR'S TEMPORARY WORK DESIGN TO THE SATISFACTION OF THE ARCHITECT.
4. SUBMIT SHOP DRAWINGS FOR ALL TEMPORARY WORKS FOR REVIEW BEFORE FABRICATION COMMENCES. SHOP DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO.

ASPHALT PAVING

PROTECTION

1. PROTECT WORK OF ALL TRADES AND ADJACENT PROPERTIES FROM DAMAGE FROM THE WORK OF THIS SECTION. BARRICADE PAVED AREAS TO PREVENT VEHICLE TRAFFIC FOR AT LEAST 24 HOURS AFTER COMPLETION.

QUALITY ASSURANCE

1. ALL WORK OF THIS SECTION SHALL BE COMPLETED BY A BONAFIDE ROAD BUILDING CONTRACTOR ENGAGED IN PAVING WORK FOR A MINIMUM OF 5 YEARS AND HAVING ALL EQUIPMENT NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

INSPECTION AND TESTING

1. THE OWNER SHALL APPOINT AN INDEPENDENT INSPECTION AND TESTING COMPANY.
2. THE INSPECTION AND TESTING COMPANY SHALL PERFORM THE FOLLOWING SERVICES:
   A. SAMPLE PROPOSED SOURCES OF FILL MATERIALS AND ADVISE AS TO ACCEPTABILITY, MAXIMUM DENSITIES OBTAINABLE AND COMPACTION PROCEDURES.
   B. CARRY OUT DENSITY TESTS TO ENSURE THAT THE REQUIRED DENSITY ACHIEVED, AND REPORT THE RESULTS OF SUCH TESTS IN WRITING.
3. THE COST OF EMPLOYING THE INSPECTION AND TESTING COMPANY SHALL BE PAID FOR BY THE OWNER.

PART 2: PRODUCTS

ENGINEERED FILL

1. COMPACTED GRANULAR 'B' BACKFILL OR OTHER SUITABLE FILL AS APPROVED BY THE CONSULTANT TO THICKNESS REQUIRED TO BRING SUBGRADE TO LEVEL OF UNDERSIDE OF GRANULAR 'B' BASE COURSE.

ASPHALT MATERIALS

1. ASPHALT CEMENT: ASPHALT CEMENT SHALL BE PERFORMANCE GRADED ASPHALT CEMENT ACCORDING TO OPSS 1101.

CONCRETE FOUNDATION WALL SCHEDULE

MARK	THICKNESS	VERT. REINF.	HORIZ. REINF.	REMARKS
W1	350	25M @ 300 C/C I.F. 20M @ 300 C/C O.F.	10M @ 300 C/C O.F. 15M @ 300 C/C I.F.	(2)-25M TOP & BOT OF WALL
W2	200	15M @ 300 E.F.	10M @ 350 E.F.	(2)-20M TOP & BOT OF WALL

NOTES: WALL TYPE SHALL BE W1 UNLESS NOTED OTHERWISE

WALL FOOTING SCHEDULE

MARK	WIDTH	DEPTH	REINF.
WF1	1200	350	(3)-20M CONT. BOT
WF2	500	250	3 - 10M CONT. BOT.
WF3	SEE SECTION	SEE SECTION	SEE SECTION

NOTES: SEE SECTIONS FOR HOOKED DOWELS

COLUMN SCHEDULE

MARK / DATA	C1	C2	C3	C4		
U/S OF BEAM						
GROUND FLOOR	200 W250x73	200 W250x39	200 W250x49			
T.O. BASEMENT FLOOR						
BASE PLATE SIZE	350x350x19	350x350x19	350x350x19			
ANCHOR BOLTS	4-22ø A307 BOLTS 760 LG + 50 HOOK	4-22ø A307 BOLTS 760 LG + 50 HOOK	4-22ø A307 BOLTS 760 LG + 50 HOOK			
REINFORCEMENTS						

FOOTING SCHEDULE

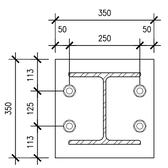
MARK	SIZE	DEPTH	REINFORCING	REMARKS
F1	1400x1400	350	5-20M T&B E.W.	
F2	1800x1800	400	7-20M T&B E.W.	
F3	SEE SECTION	SEE SECTION	SEE SECTION	

PIER SCHEDULE

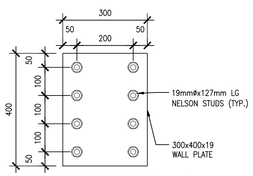
MARK	SIZE	VERTICAL REINFORCING	TIES	REMARKS
P1	400x400	8 - 15M	10M @ 300	DETAIL 1

NOTE: ALL PIERS TO BE CENTERED ON COLUMNS UNLESS NOTED OTHERWISE.
ALL PIERS AND CONCRETE COLUMNS TO HAVE CONCRETE COVER OF 40mm.

	DETAIL 1		



BASE PLATE (BP1)

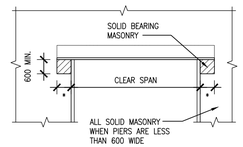


WALL PLATE (WP1)

STEEL LINTELS FOR NON-LOAD BEARING MASONRY WALLS

WALL THICKNESS	CLEAR SPAN		DETAIL
	UP TO 1200	1200 TO 1800	
190	2-L89x76x6.4 LLV	2-L89x89x6.4	89 LEGS HORIZ.

NOTES:
1. CONNECT ANGLES AT 600 c/c BY WELDING OR BOLTING FOR ANGLES WITH A TOTAL LENGTH OF 1800 OR MORE, USE 16ø BOLTS OR 6x50 LONG WELDS.
2. USE SCHEDULES ABOVE FOR LINTELS OVER MECHANICAL OPENINGS IN MASONRY WALLS, U.N.O. ON PLAN. REFER TO MECHANICAL DWGS FOR LOCATIONS.
3. MECHANICAL OPENINGS TO BE LOCATED MIN. 3 COURSES BELOW UNDERSIDE OF SLAB UNLESS APPROVED BY STRUCTURAL ENGINEER.



* BEARING LENGTH
150 (6") MINIMUM EACH END (STEEL ANGLE LINTELL
200 (8") MINIMUM EACH END (BLOCK LINTELS)

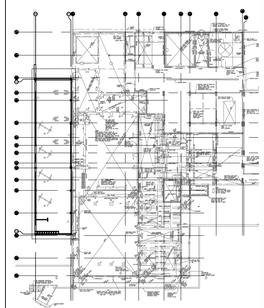
DO NOT SCALE THE DRAWINGS
CHECK AND VERIFY ALL DIMENSIONS AT THE SITE.

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DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED AND SEALED BY THE CONSULTANT.

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

NO.	ISSUES	DATE	BY
1	BUDGET ESTIMATE	JUNE 15, 2018	BBA
2	ISSUED FOR PERMIT AND TENDER	AUG. 30, 2018	BBA



KEYPLAN

NO.	REVISIONS	DATE	BY

PROJECT:

UOIT A.C.E. BUILDING EQUIPMENT BAY EXPANSION

UOIT OSHAWA CAMPUS
60 FOUNDERS DRIVE
OSHAWA ON. L1H 7L7

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

DRAWING:

GENERAL NOTES AND SCHEDULES

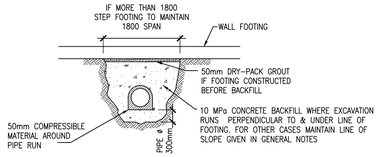
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LICENSED PROFESSIONAL ENGINEER
D. J. BOVILL
100166472
PROVINCE OF ONTARIO
2018

DESIGN BY: MM	DOC CONTROL DATE:
DRAWN BY: CM	% COMPLETE:
CHECKED BY: DB	INITIAL:
DATE: MARCH 2018	
SCALE: 1:150	
FILE:	

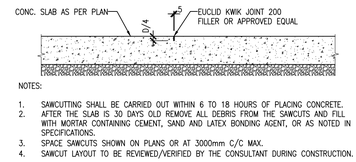
PROJECT NO: **18033**

DRAWING NO: **S101**



15 S102 BACKFILLING UNDER CONT. WALL FOOTING

N.T.S.

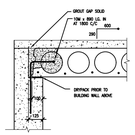


NOTES:

1. SAWCUTTING SHALL BE CARRIED OUT WITHIN 6 TO 18 HOURS OF PLACING CONCRETE.
2. AFTER THE SLAB IS 30 DAYS OLD REMOVE ALL DEBRIS FROM THE SAWCUTS AND FILL WITH MORTAR CONTAINING CEMENT, SAND AND LATEX BONDING AGENT, OR AS NOTED IN SPECIFICATIONS.
3. SPACE SAWCUTS SHOWN ON PLANS OR AT 3000mm C/C MAX.
4. SAWCUT LAYOUT TO BE REVIEWED/VERIFIED BY THE CONSULTANT DURING CONSTRUCTION.

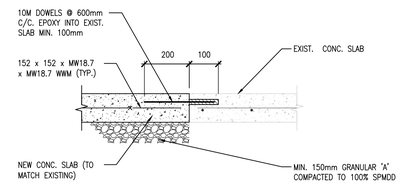
11 S102 TYPICAL SLAB SAWCUT

1:20



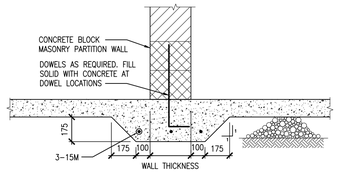
15 S102 CORESLAB ON CONC. WALL DETAIL

N.T.S.



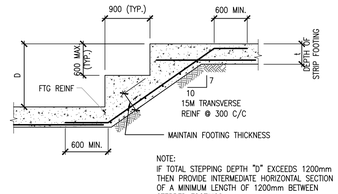
8 S102 TYP. EX. SLAB INFILL DETAIL

N.T.S.



18 S102 FOUNDATION AT NON-BEARING WALLS DETAIL

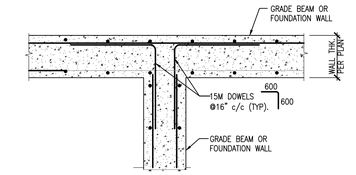
N.T.S.



NOTE:
IF TOTAL STEPPING DEPTH "D" EXCEEDS 1200mm
THEN PROVIDE INTERMEDIATE HORIZONTAL SECTION
OF A MINIMUM LENGTH OF 1200mm BETWEEN
STEPPED FOOTINGS.

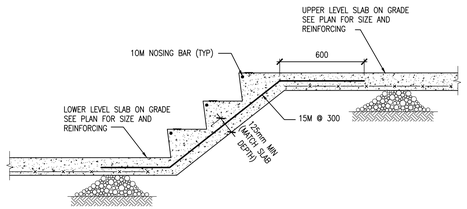
14 S102 STEP DOWN FOOTING DETAIL

N.T.S.



5 S102 TYPICAL WALL REINF AT WALL TEE

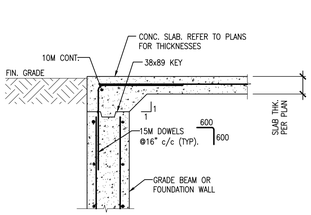
N.T.S.



STAIR ON GRADE REINFORCING

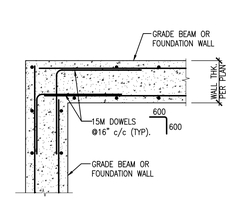
17 S102 CONCRETE STAIR DETAIL

N.T.S.



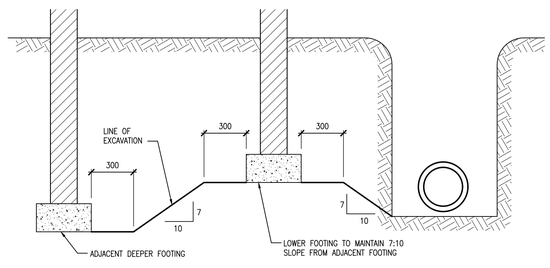
13 S102 FOUNDATION AT EXTERIOR DOORS

1:20



4 S102 TYPICAL WALL REINF AT CORNER

N.T.S.

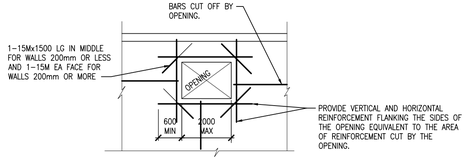


16 S102 SLOPE REQUIREMENTS OF ADJACENT FOOTING

N.T.S.

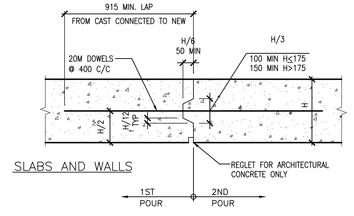
NOTES:

1. UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, REINFORCE AROUND OPENING IN WALL AS PER DETAILS BELOW.
2. DO NOT MAKE OPENINGS LARGER THAN THE MAXIMUM DIMENSIONS NOTED BELOW WITHOUT PRIOR APPROVAL FROM THE ENGINEER OR UNLESS NOTED ON STRUCTURAL DRAWINGS.



12 S102 REINFORCING FOR OPENINGS IN CONCRETE WALLS

N.T.S.



3 S102 STANDARD KEYS AT CONST. JOINTS

N.T.S.

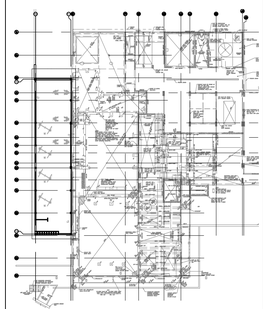
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UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

NO.	ISSUES	DATE	BY
1	ISSUED FOR PERMIT AND TENDER	AUG. 30, 2018	BBA



KEYPLAN

NO.	REVISIONS	DATE	BY

PROJECT:

UOIT A.C.E. BUILDING EQUIPMENT BAY EXPANSION

UOIT OSHAWA CAMPUS
60 FOUNDERS DRIVE
OSHAWA ON. L1H 7L7

UNIVERSITY OF ONTARIO
INSTITUTE OF TECHNOLOGY

DRAWING:

TYPICAL DETAILS

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LICENSED PROFESSIONAL ENGINEER
D. J. BOVILL
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PROVINCE OF ONTARIO
2018

DESIGN BY: MM	DOC. CONTROL DATE:
DRAWN BY: JJ	% COMPLETE:
CHECKED BY: DB	INITIAL:
DATE: JULY 2018	
SCALE: AS NOTED	
FILE:	

PROJECT NO: **18033**

DRAWING NO: **S102**

FOUNDATION PLAN NOTES

1. FINISHED BASEMENT FLOOR IS AT ELEVATION −6100 (GEODETIC DATEM 146.85m) EXCEPT AS CROSSED AND NOTED. ELEVATIONS FOR AREAS CROSSED AND NOTED ARE TO BE READ FROM FINISHED FLOOR ELEVATION −6100 UNLESS OTHERWISE NOTED.
2. UNDERSIDE OF ALL EXTERIOR FOOTINGS FOR HEATED STRUCTURES SHALL BE FOUNDED AT ELEVATION −6700 (146.25M GEODETIC) FROM FINISHED GRADE. TYPICAL ALL FOOTINGS UNLESS NOTED OTHERWISE.
3. ALL FOOTINGS TO BE CENTERED UNDER PIERS, WALLS AND/OR COLUMNS EXCEPT AS NOTED ON PLAN.
4. SEE ARCHITECTURAL DRAWINGS FOR SLOPES AND DRAINS. MAINTAIN SLAB THICKNESS SHOWN.
5. ALL LOADS INDICATED ON THE DRAWINGS ARE UNFACTORED UNLESS NOTED OTHERWISE.
6. ALL FOOTINGS SHALL EXTEND TO OR BELOW THE STIFF NATIVE CLAYEY SILT TILL LAYER WHICH IS CAPABLE OF BEARING CAPACITY OF 200kPa (SLS)/300kPa (ULS). GEOTECHNICAL ENGINEER SHALL APPROVE BEARING CONDITIONS ON SITE AND CONTRACTOR MUST REPORT ANY DOUBTFUL BEARING CONDITIONS.
7. VERIFY EXISTING FOOTING ELEVATIONS AND SITE SERVICES PRIOR TO PROCEEDING WITH WORK. NOTIFY CONSULTANTS OF ANY DISCREPANCIES. REFER TO MECHANICAL AND ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. WHERE DEEP EXCAVATION IS REQUIRED TO ACCOMMODATE SITE SERVICES, BUILD SITE UP WITH ENGINEERED FILL, MIN. BEARING CAPACITY 200 kPa (SLS).
8. LOWER FOOTINGS TO ACCOMMODATE NEW AND/OR EXISTING FOOTINGS, MECHANICAL, ELECTRICAL OR CIVIL SERVICES, SEE MECHANICAL ELECTRICAL AND CIVIL DRAWINGS FOR ELEVATIONS OF SAME. FOOTINGS ARE NOT TO BE UNDERMINED BY EXCAVATION FOR SERVICES, PITS, ETC.
9. PROTECT ALL EXISTING SUB GRADE SERVICES DURING INSTALLATION OF FOUNDATIONS.
10. REFER TO GENERAL NOTES AND TYPICAL DETAILS ON DRAWINGS FOR ADDITIONAL INFORMATION.
11. ALL FOOTINGS NEARBY EXISTING SHALL BE FOUNDED AT THE SAME U/S ELEVATION OF EXISTING FOOTINGS AND NOT TO UNDERMINE U.N.O. AND UNDERPINNED.
12. PROVIDE DOWELS IN THE FOOTING TO MATCH ALL VERTICAL WALL REINFORCEMENT.
13. SDF DENOTES STEP DOWN FOOTING.
14. PLACE ALL CONCRETE SLAB ON GRADE ON 6" COMPACTED GRANULAR "A" SUB-BASE.
15. REMOVE ALL TOPSOIL, LOOSE AND WET SOILS AND ORGANICS TO SUITABLE NATIVE SUBGRADE MATERIAL AS APPROVED BY THE GEOTECHNICAL ENGINEER. THE EXISTING SUB-GRADE MUST BE PROOF-ROLLED AND COMPACTED PRIOR TO BACKFILLING. REFER TO CUT AND FILL DRAWING FOR ADDITIONAL INFORMATION.

HELICAL PILES

1. PREPARE AND SUBMIT TO THE CONSULTANT FOR REVIEW HELICAL PILE SHOP DRAWINGS INCLUDING HELICAL PIER DESIGN SELECTION, CONSTRUCTION DETAILS, AND INSTALLATION PROCEDURES.
2. HELICAL PILES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS, PROCEDURES AND DESIGN REQUIREMENTS.
3. ALL HELICAL PILE INSTALLATION SHALL BE COMPLETED UNDER THE SUPERVISION OF THE AUTHORIZED HELICAL PIER SUPPLIER.
4. SUBMIT INSTALLATION REPORTS, FINAL INSTALLED PILE CAPACITY, VERIFICATION AND CONFORMATION OF DESIGN AND INSTALLATION SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN ONTARIO.
5. HELICAL PILE DESIGNS ARE BASED ON AB CHANCE HELICAL PILE HELICES. MINIMUM PILE DESIGN LOADS ARE OUTLINED IN THE TABLE BELOW.
6. TOPS OF HELICAL PILES WITH A TOP PLATE DESIGNED FOR THE REQUIRED LOAD TRANSFER SHALL BE EMBEDDED IN THE BASE OF THE GRADE BEAMS. REFER TO SECTIONS AND DETAILS FOR ADDITIONAL INFORMATION.

HELICAL PILE MINIMUM DESIGN LOADS

MARK	COMPRESSION LOAD (kN)	TENSION LOAD	NOTES
HP1	Ps=166 Pt=251	–	TOP PLATE, LAP AND HELICAL PILE BY SUPPLIER AND SPECIALTY ENGINEER
HP2	Ps=150 Pt=251	–	TOP PLATE, LAP AND HELICAL PILE BY SUPPLIER AND SPECIALTY ENGINEER

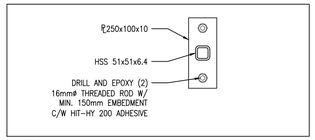
RETAINING WALL DESIGN LOADS

RO1 DESIGN LOADS:

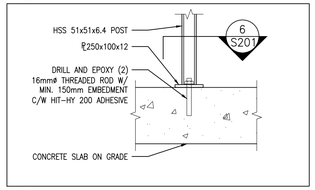
SURCHARGE = 4.80 kPa
Ka = 0.36
s = 21kN/M³
ANGLE FRICTION = 28°

RO2 DESIGN LOADS:

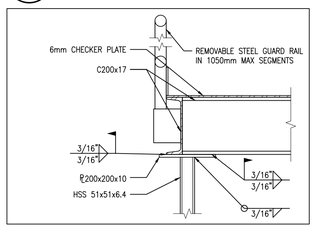
SURCHARGE = 4.80 kPa
Ka = 0.36
s = 21kN/M³
ANGLE FRICTION = 28°



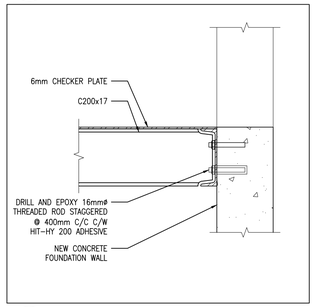
6 S201 PLATFORM DETAIL 1:20



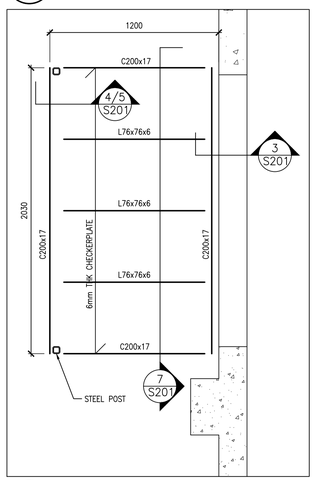
5 S201 PLATFORM DETAIL 1:10

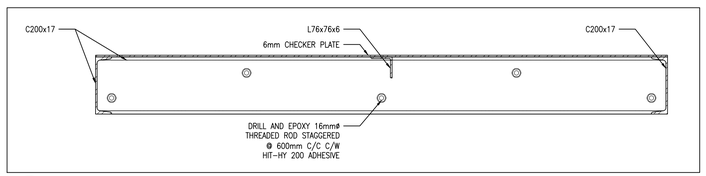


4 S201 PLATFORM DETAIL 1:10



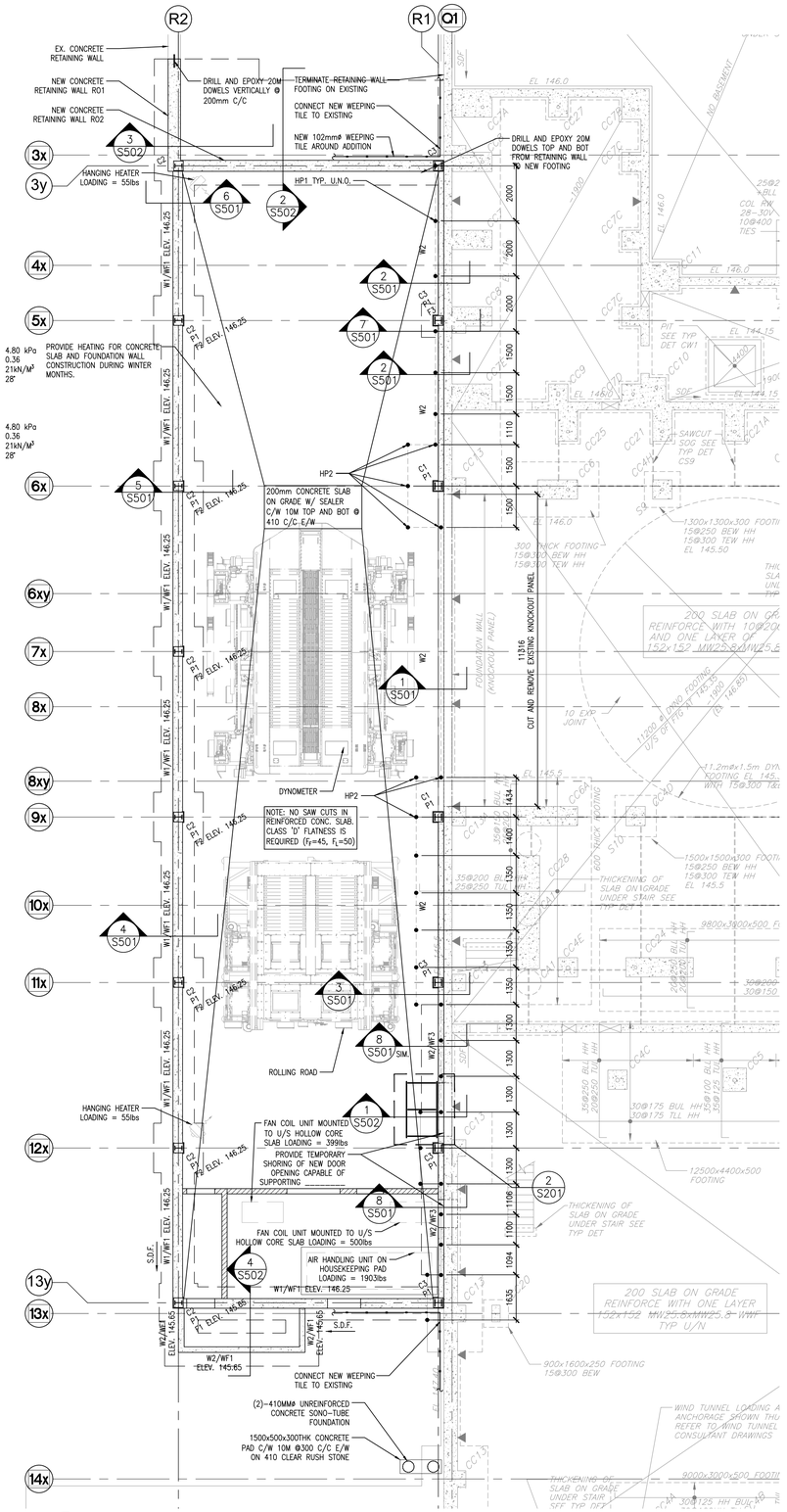
3 S201 PLATFORM DETAIL 1:10





7 S201 PLATFORM LEDGER DETAIL 1:10

2 S201 ENLARGED PLATFORM FRAMING PLAN 1:20



1 S201 PART FOUNDATION PLAN 1:100

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NO.	ISSUES	DATE	BY
1	BUDGET ESTIMATE	JUNE 15, 2018	BBA
2	ISSUED FOR PERMIT AND TENDER	AUG. 30, 2018	BBA

NO.	REVISIONS	DATE	BY

PROJECT:

UOIT A.C.E. BUILDING EQUIPMENT BAY EXPANSION

UOIT OSHAWA CAMPUS
60 FOUNDERS DRIVE
OSHAWA ON. L1H 7L7

UNIVERSITY OF ONTARIO
INSTITUTE OF TECHNOLOGY

DRAWING:

PART FOUNDATION PLAN
ENLARGED PLATFORM
PLANS AND DETAILS

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LICENSED PROFESSIONAL ENGINEER D. J. BOVILL 100186472 PROVINCE OF ONTARIO

DESIGN BY: MM	DOC CONTROL DATE:
DRAWN BY: JJ	% COMPLETE:
CHECKED BY: DB	INITIAL:
DATE: APRIL 2018	
SCALE: 1:100	
FILE: 18033 S201.DWG	

PROJECT NO: **18033**

DRAWING NO: **S201**

ROOF FRAMING NOTES

1. UNDERSIDE OF ROOF DECK IS AT ELEVATION 6824 (L.P.) (GEODETIC DATEM 159.17m) AND 7015 (H.P.) (GEODETIC DATEM 159.37m) EXCEPT AS CROSSED & NOTED.

2. UNDERSIDE OF DECK ELEVATIONS NOTED ON PLANS AS ±XXX ARE TO BE READ FROM ELEVATION 7015 (GEODETIC DATEM 159.37m)

3. ROOF DESIGN LOADS:

SUPERIMPOSED DEAD LOADS ARE:	
ROOFING	0.25 kPa
STEEL DECK	0.15 kPa
PHOTO VOLTAIC ALLOWANCE	0.30 kPa
FRAMING ALLOWANCE	0.40 kPa
M/E	0.45 kPa
TOTAL DEAD LOAD	1.25 kPa
ROOF LIVE LOAD:	1.00 kPa
SNOW LOAD:	1.76 kPa
NET UPLIFT:	0.36 kPa

4. OPENINGS IN STEEL DECK TO BE FRAMED IN ACCORDANCE WITH TYPICAL DETAILS U.N.O.

5. REFER TO GENERAL NOTES AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION.

6. REFER TO ELEVATIONS ON DRAWING S301 FOR STRUCTURAL STEEL BRACING AND GIRTS.

7. ALL OPENINGS IN STEEL DECK 150mm TO 450mm SHALL BE REINFORCED BY STEEL DECK CONTRACTOR. LARGER OPENINGS TO BE TRIMMED IN ACCORDANCE WITH TYPICAL DETAILS. SHOULD FRAMING NOT ALIGN WITH OWSJ PANEL POINT, OWSJ SHALL BE REINFORCED BY OWSJ SUPPLIER.

8. COORDINATE WITH WALL SYSTEM SUPPLIER FOR LOCATION OF CLOSURE ANGLES FOR CONNECTION REQUIREMENTS.

9. COORDINATE LOCATION OF ROOF DRAINS (RD) WITH MECHANICAL.

10. PROVIDE L76x76x6.4 DECK CLOSURE ANGLE AROUND ROOF EDGES AND PENETRATIONS U.N.O. ON PLAN.

GROUND FLOOR FRAMING NOTES

1. TOP OF PRECAST STRUCTURAL SLAB IS -50mm BELOW FINISHED FLOOR ELEVATION -600mm (GEODETIC DATEM 152.35m) EXCEPT AS CROSSED AND NOTED. ELEVATIONS FOR AREAS CROSSED AND NOTED ARE TO BE READ FROM FINISHED FLOOR ELEVATION.

2. STRUCTURAL SLAB IS 300 HOLLOW CORE SECTIONS EXCEPT AS NOTED ON PLAN.

3. ELEVATIONS TO TOP OF STRUCTURAL STEEL SHALL BE -350mm FROM FINISHED FLOOR ELEVATION -600mm ARE BASED ON AN ASSUMED HOLLOW CORE SLAB THICKNESS OF 300mm ON 50mm TOPPING.

4. DESIGN DEAD LOADS:

300mm HOLLOW CORE SLAB	=	4.12 kPa
50mm CONCRETE TOPPING	=	1.04 kPa
MECH./ ELECT.	=	0.56 kPa
TOTAL DEAD LOAD	=	5.72 kPa
LIVE LOAD:	=	12.0 kPa

5. SEE ARCHITECTURAL DRAWINGS FOR SLOPES. MAINTAIN STRUCTURAL THICKNESSES SHOWN ON DRAWING.

6. PROVIDE 50mm MIN. CONCRETE TOPPING ON HOLLOW CORE SLABS TYP U.N.O.

7. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS IN FLOOR SLAB. NOT INDICATED ON STRUCTURAL DRAWINGS.

8. ALL OPENINGS IN STEEL DECK 150 TO 450 SHALL BE REINFORCED BY STEEL DECK CONTRACTOR. LARGER OPENINGS TO BE TRIMMED WITH C100X8 BY STRUCTURAL STEEL CONTRACTOR

9. STEEL DECK CONTRACTOR TO PROVIDE HEADERS AT ALL OPENINGS IN FLOOR UP TO 300

10. ALL STRUCTURAL STEEL TO BE G40.21 GRADE 350W EXCEPT FOR STEEL PLATES, CHANNELS AND ANGLES TO BE GRADE 300W. USE CLASS C SECTION FOR ALL HSS.

11. ALL STEEL ELEMENTS EXPOSED TO WEATHER TO BE H.D. GALVANIZED

12. ALL BEAM BEARING PLATES ARE BP1 U.N.O. PROVIDE 2-10MM BEARING STIFFENERS PLATES FOR ALL BEAMS BEARING ON BLOCK WALLS AND GREATER THAN 350MM IN DEPTH.

13. CAMBER HOLLOW CORE SLAB FOR DEAD LOADS

14. LIMIT HOLLOW CORE SLAB DEFLECTION TO SPAN/360 UNDER LIVE LOADS. PROVIDE REINFORCING BAR DOWELS GROUTED INTO CORES AND MASONRY VOIDS AS INDICATED IN TYPICAL DETAILS AND SECTIONS.

15. HOLLOW CORE SLAB TO BE DESIGNED FOR MASONRY BLOCK PARTITION WALL LOAD. WALKING TRACK AND STAIR LOAD. SEE ARCH DWGS FOR LOCATIONS. LIVE LOAD WF= 10 KN/M (TYP)

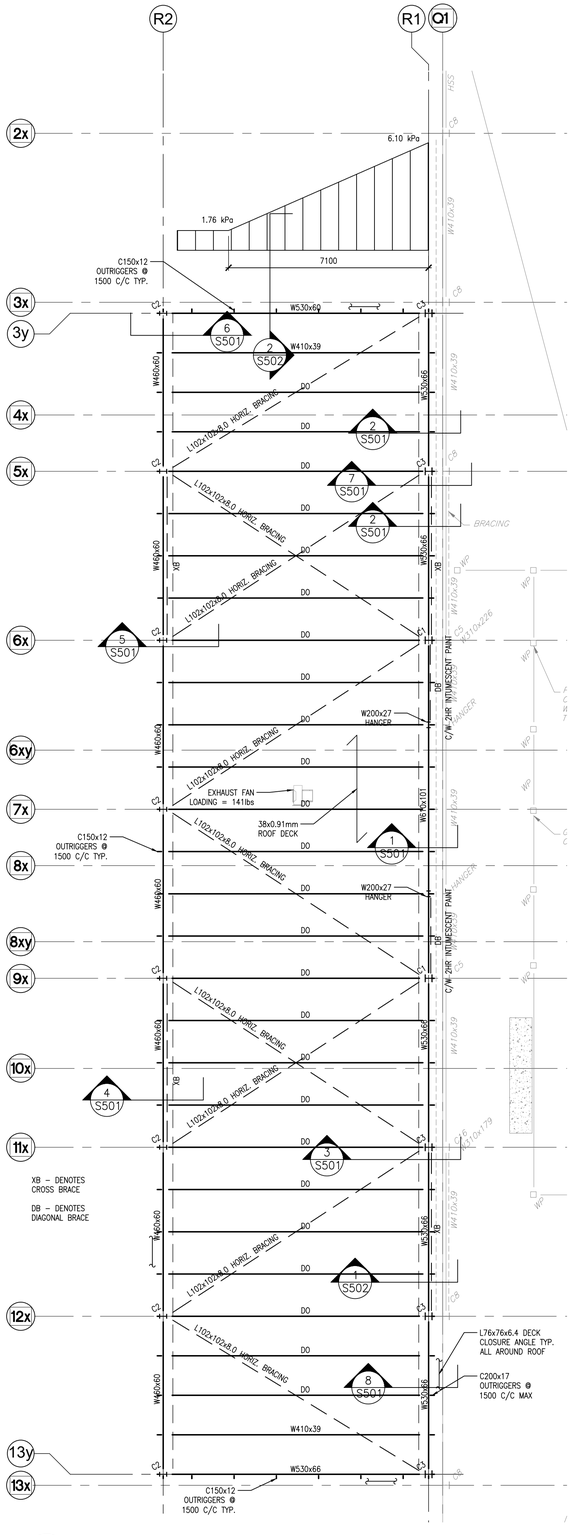
16. PROVIDE HOLLOWCORE SLAB FINISHES AS PER ARCHITECT'S REQUIREMENTS.

17. HOLLOW CORE SLAB CONTRACTOR TO PROVIDE ALL HANGERS TO SUPPORT CUT SLAB TO ADJOINING SLAB.

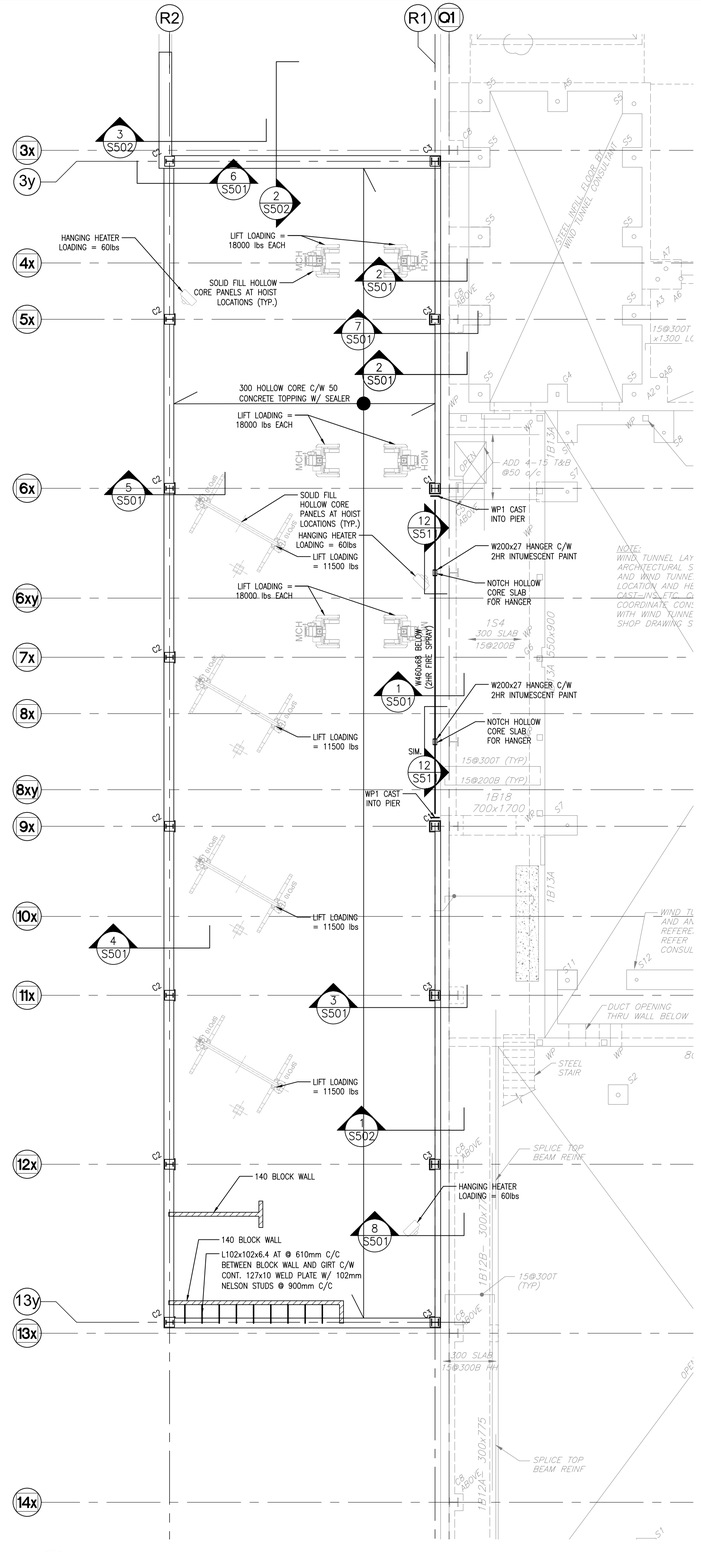
18. PROVIDE FRAMING FOR LATERAL SUPPORT OF NON-LOAD BEARING BLOCK PARTITIONS AS PER TYPICAL DETAIL.

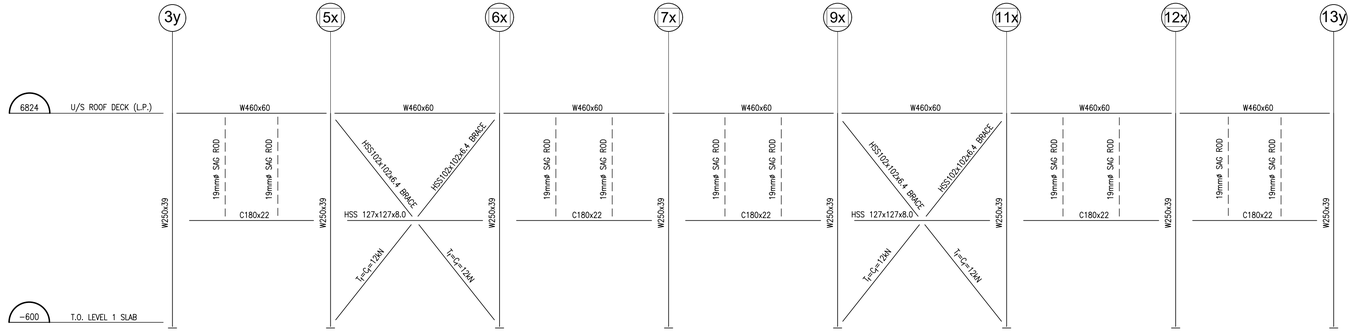
19. SEE DRAWING S101 SCHEDULES.

20. REFER TO DRAWING S100 SERIES FOR GENERAL NOTES AND TYPICAL DETAILS

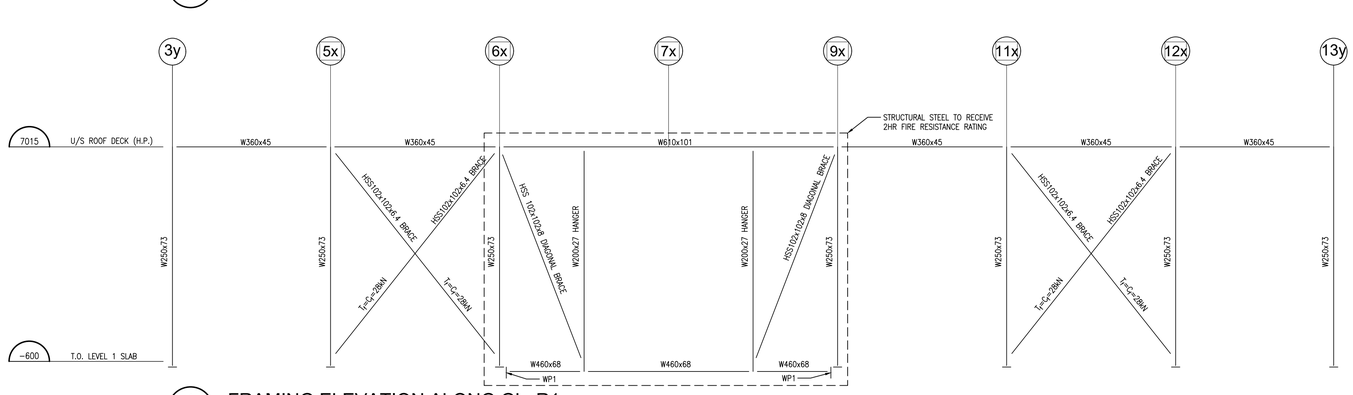


2 S202 PART ROOF FRAMING PLAN
1:100

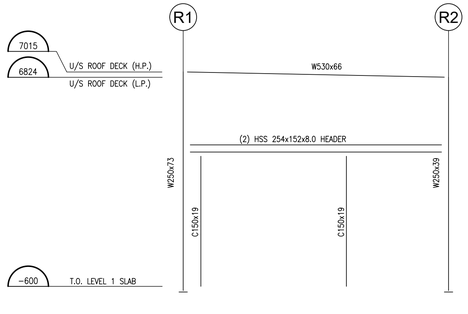

R2
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3x
3y
4x
5x
6x
6xy
7x
8x
8xy
9x
10x
11x
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13y
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3 S502
6 S501
2 S502
2 S501
7 S501
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12 S51
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3 S501
1 S502
8 S501
HANGING HEATER LOADING = 60lbs
LIFT LOADING = 18000 lbs EACH
SOLID FILL HOLLOW CORE PANELS AT HOIST LOCATIONS (TYP.)
300 HOLLOW CORE C/W 50 CONCRETE TOPPING W/ SEALER
SOLID FILL HOLLOW CORE PANELS AT HOIST LOCATIONS (TYP.)
HANGING HEATER LOADING = 60lbs
LIFT LOADING = 11500 lbs
LIFT LOADING = 18000 lbs EACH
W200x27 HANGER C/W 2HR INTUMESCENT PAINT
NOTCH HOLLOW CORE SLAB FOR HANGER
W460x68 BELOW (2HR FIRE SPRAY)
W200x27 HANGER C/W 2HR INTUMESCENT PAINT
NOTCH HOLLOW CORE SLAB FOR HANGER
LIFT LOADING = 11500 lbs
SIM.
15@300T (TYP.)
15@200B (TYP.)
WP1 CAST INTO PIER
LIFT LOADING = 11500 lbs
LIFT LOADING = 11500 lbs
LIFT LOADING = 11500 lbs
140 BLOCK WALL
140 BLOCK WALL
L102x102x6.4 AT @ 610mm C/C BETWEEN BLOCK WALL AND GIRT C/W CONT. 127x10 WELD PLATE W/ 102mm NELSON STUDS @ 900mm C/C
HANGING HEATER LOADING = 60lbs
SPLICE TOP BEAM REINF
DUCT OPENING THRU WALL BELOW
STEEL STAIR
15@300T (TYP.)
SPLICE TOP BEAM REINF
NOTE: WIND TUNNEL LAY ARCHITECTURAL S AND WIND TUNNE LOCATION AND HE COORDINATE CONI WITH WIND TUNNE SHOP DRAWING S
STEEL INFILL FLOOR BELOW WIND TUNNEL CONSULTANT
ADD 4-15 T&B @50 o/c
1S4 300 SLAB 15@200B
1B18 700x1700
1B13A
1B13B
1B12B
1B12C
1B18
300 SLAB 15@300B PF
W530x66
W460x60
W410x39
W360x33
W360x39
W360x45
W360x179
W310x39
W310x33
W310x21
W250x67
W250x58
W250x49
W250x45
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W250x28
W200x71
W200x59
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W200x19
W150x37
W150x30
W150x24
W150x22
W150x18
W150x13
W130x28
W100x19
C/W 2HR INTUMESCENT PAINT
C310x426
C250x300
C250x229
C250x207
C250x179
C250x153
C250x137
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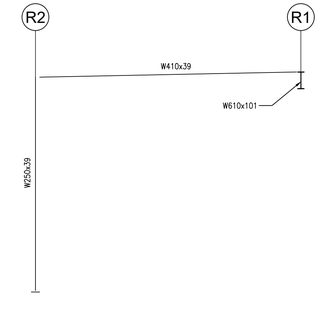
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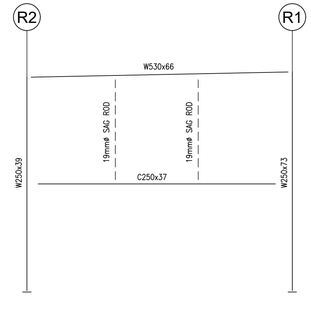
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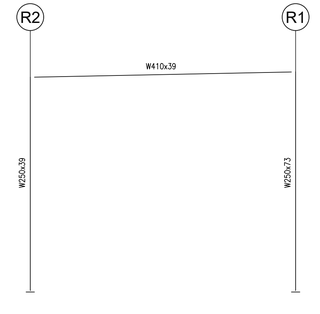
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3 / S301 FRAMING ELEVATION ALONG GL. 7x
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2 / S301 FRAMING ELEVATION ALONG GL. 13y
1:100



1 / S301 FRAMING ELEVATION ALONG GL. 5x, 6x, 9x, 11x, 12x
1:100

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NO.	REVISIONS	DATE	BY

PROJECT:

UOIT A.C.E. BUILDING EQUIPMENT BAY EXPANSION

UOIT OSHAWA CAMPUS
60 FOUNDERS DRIVE
OSHAWA ON. L1H 7L7

UNIVERSITY OF ONTARIO
INSTITUTE OF TECHNOLOGY

DRAWING:

FRAMING ELEVATIONS

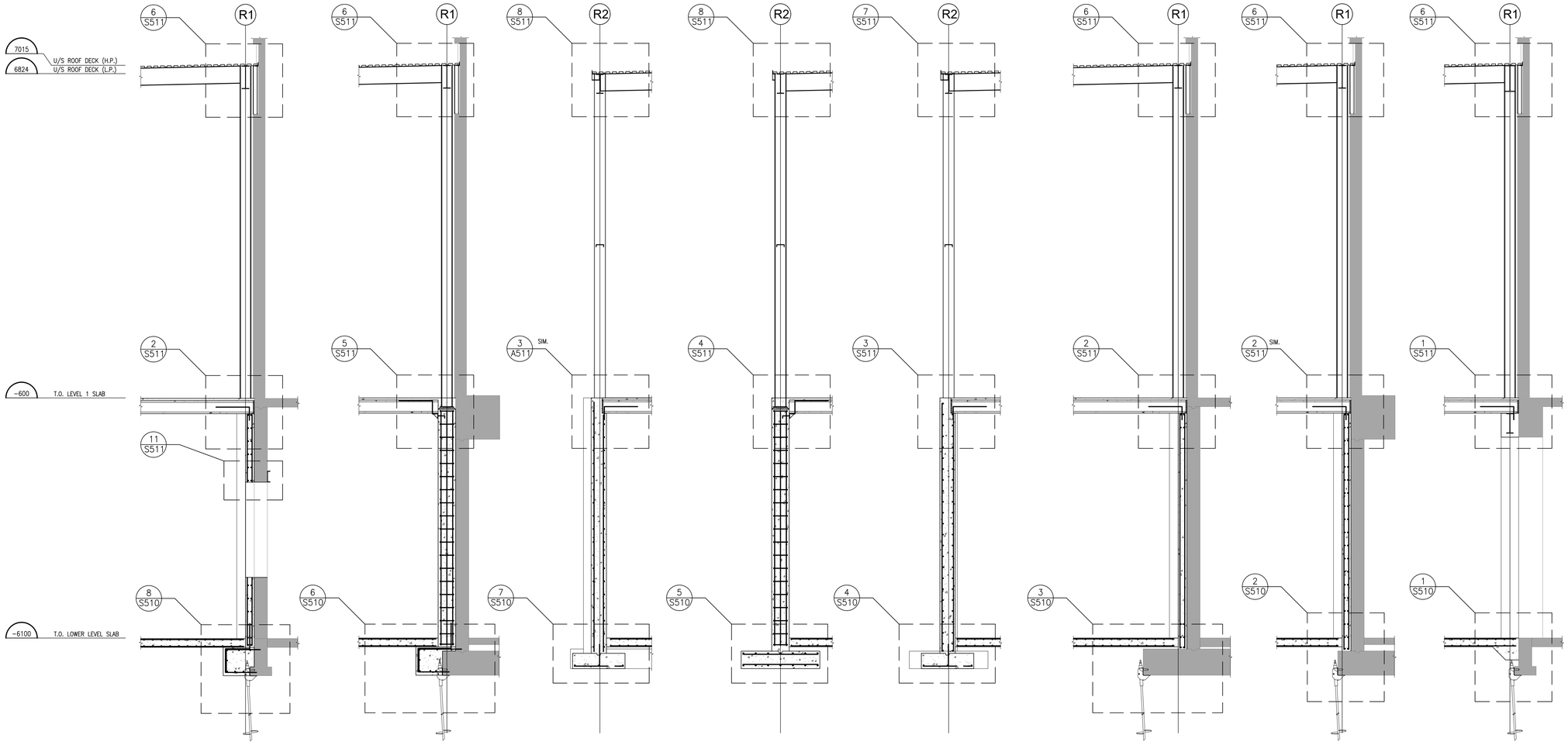
BARRY BRYAN ASSOCIATES
Architects
Engineers
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250 Water Street
Suite 201
Whitby, Ontario
L1N 0G5
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e-mail: bba@bba-archeng.com

LICENSED PROFESSIONAL ENGINEER
D. J. BOVILL
100166472
PROVINCE OF ONTARIO
2018

DESIGN BY: MM	DOC. CONTROL DATE:
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NO.	REVISIONS	DATE	BY

PROJECT:

UOIT A.C.E. BUILDING EQUIPMENT BAY EXPANSION

UOIT OSHAWA CAMPUS
60 FOUNDERS DRIVE
OSHAWA ON. L1H 7L7

UNIVERSITY OF ONTARIO
INSTITUTE OF TECHNOLOGY

DRAWING:

WALL SECTIONS

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Suite 201
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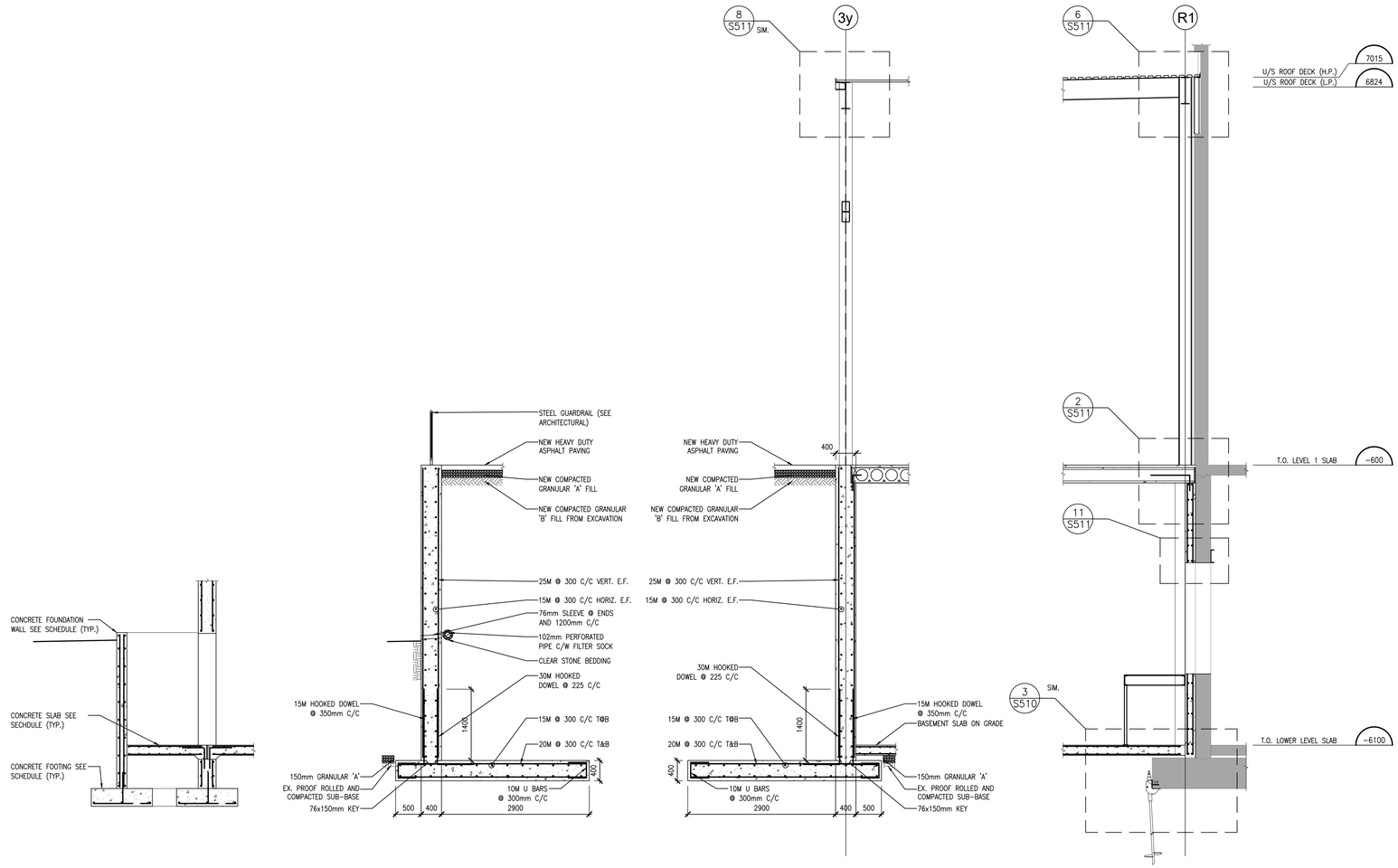
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LICENSED PROFESSIONAL ENGINEER
D. J. BOVILL
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PROVINCE OF ONTARIO
Aug 30 2018

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4 S502 WALL SECTION 1:50

3 S502 RO1 SECTION 1:50

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1 S502 WALL SECTION 1:50

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UOIT A.C.E. BUILDING EQUIPMENT BAY EXPANSION

UOIT OSHAWA CAMPUS
60 FOUNDERS DRIVE
OSHAWA ON. L1H 7L7

UNIVERSITY OF ONTARIO
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WALL SECTIONS

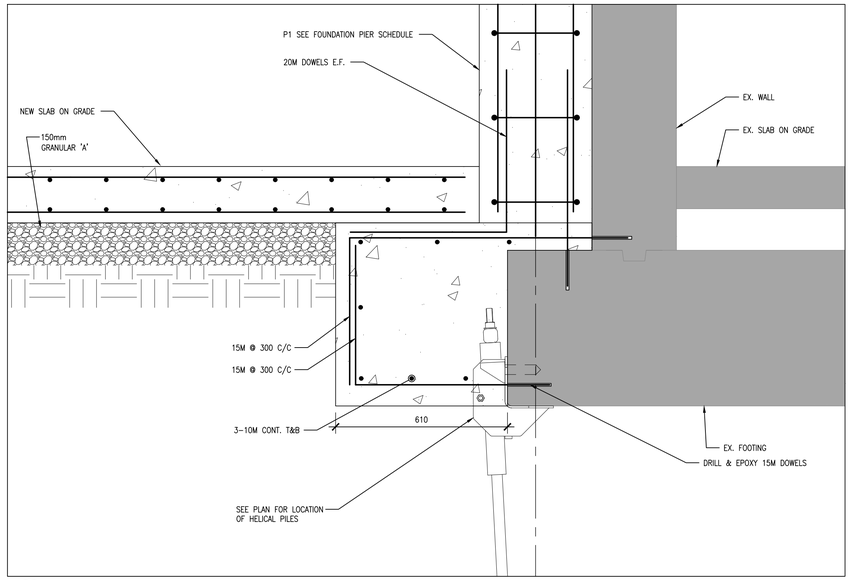
BARRY BRYAN ASSOCIATES
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LICENSED PROFESSIONAL ENGINEER
AUG 30 2018
D. J. BOVILL
100166472
PROVINCE OF ONTARIO

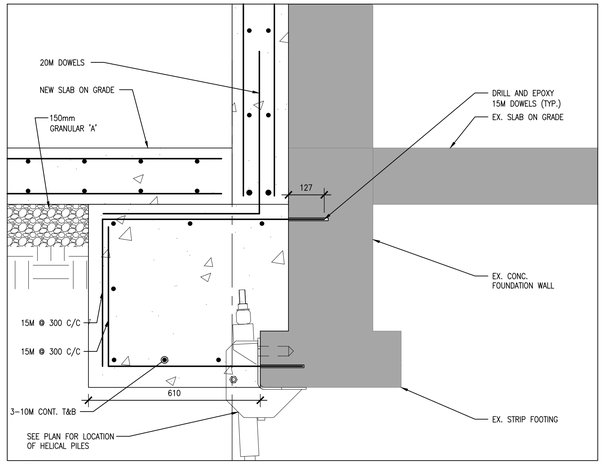
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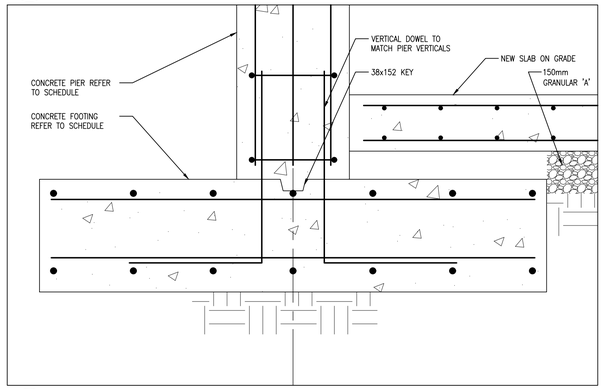
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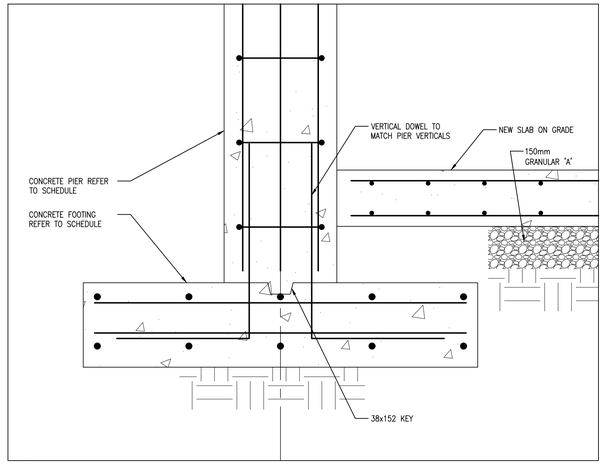
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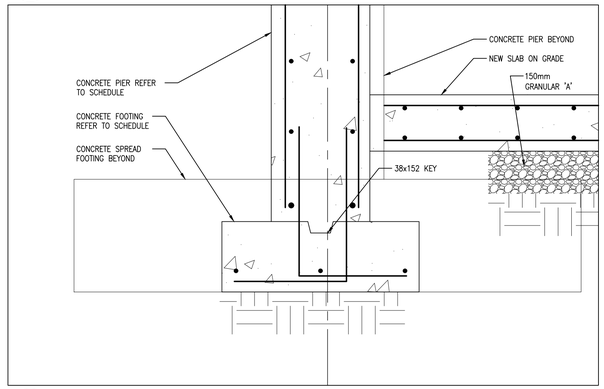
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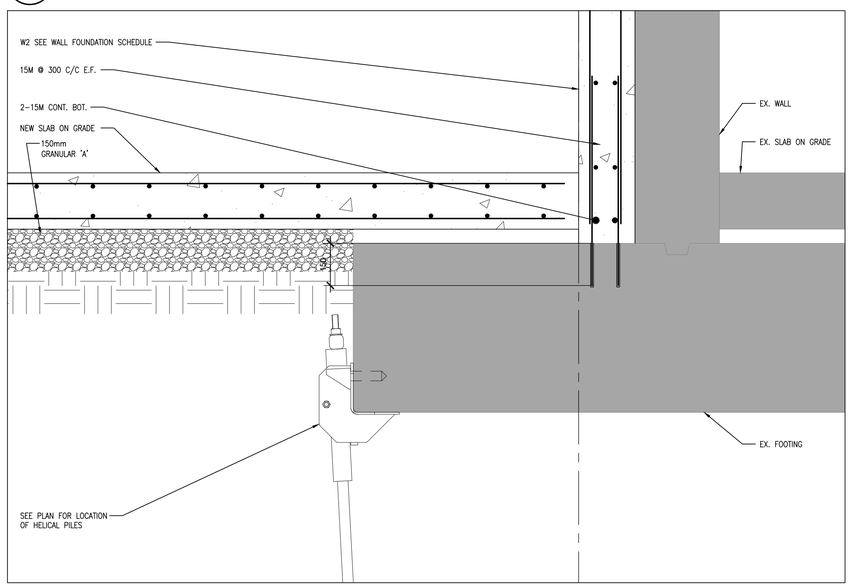
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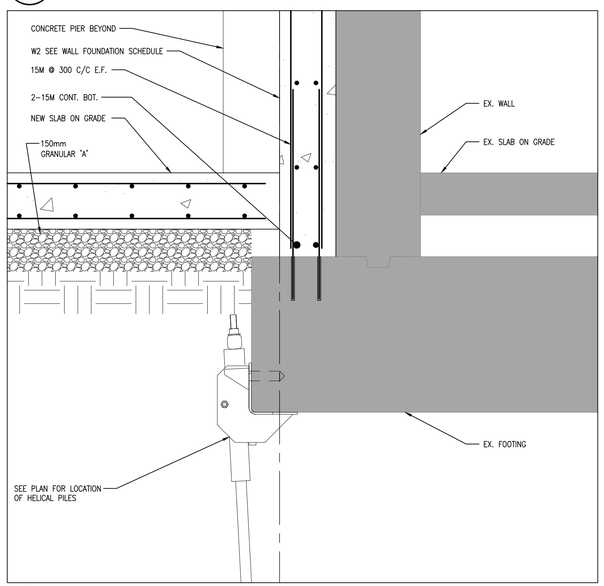
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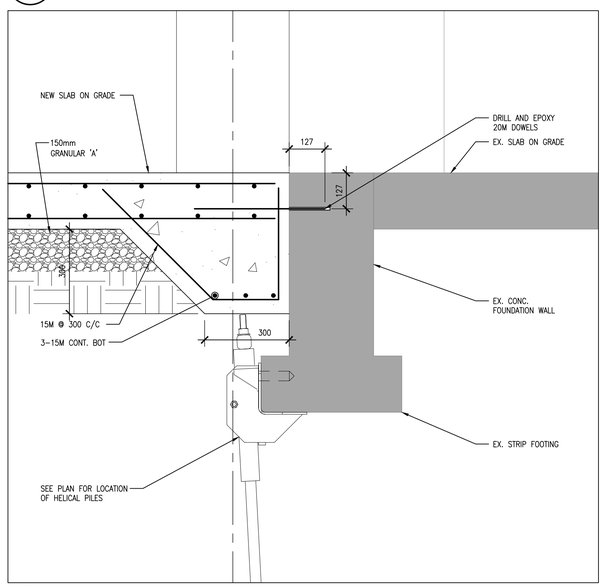
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NO.	ISSUES	DATE	BY
1	ISSUED FOR PERMIT AND TENDER	AUG. 30, 2018	BBA

NO.	REVISIONS	DATE	BY

PROJECT:

UOIT A.C.E. BUILDING EQUIPMENT BAY EXPANSION

UOIT OSHAWA CAMPUS
60 FOUNDERS DRIVE
OSHAWA ON. L1H 7L7

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INSTITUTE OF TECHNOLOGY

DRAWING:

STRUCTURAL DETAILS

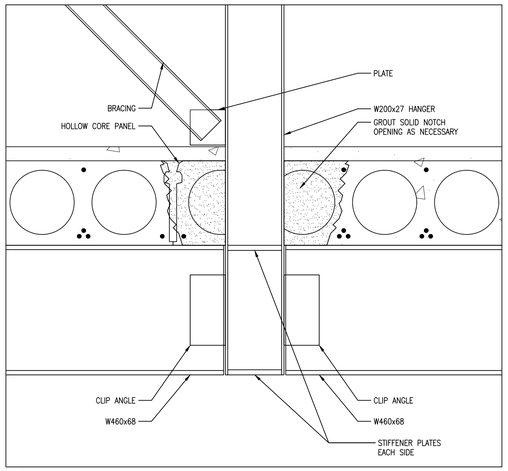
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LICENSED PROFESSIONAL ENGINEER
AUG 30 2018
D. J. BOVILL
100166472
PROVINCE OF ONTARIO

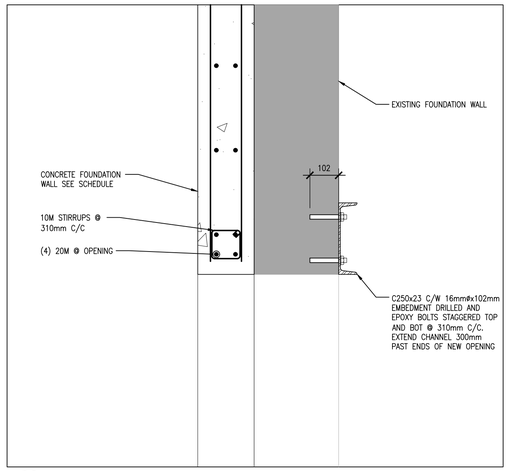
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DATE: JUNE 2018	
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FILE: 18033 S510.DWG	

PROJECT NO: **18033**

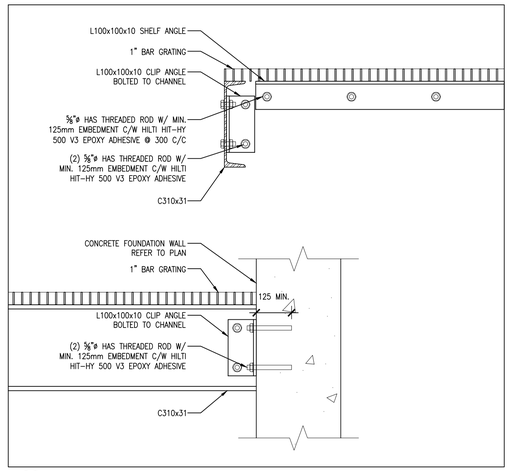
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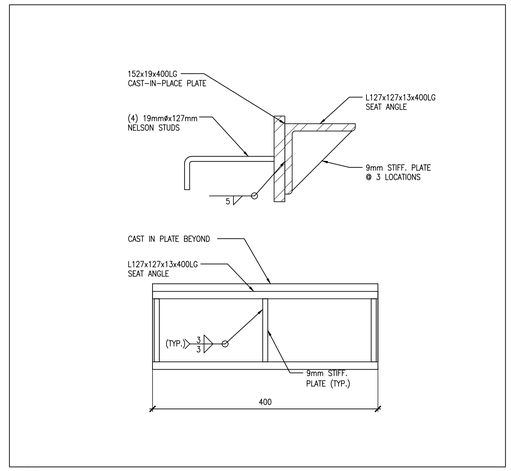
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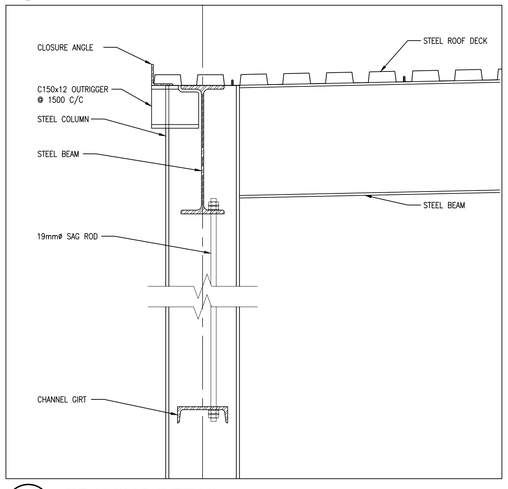
11 S511 SECTION AT BASEMENT OPENING THROUGH EXISTING
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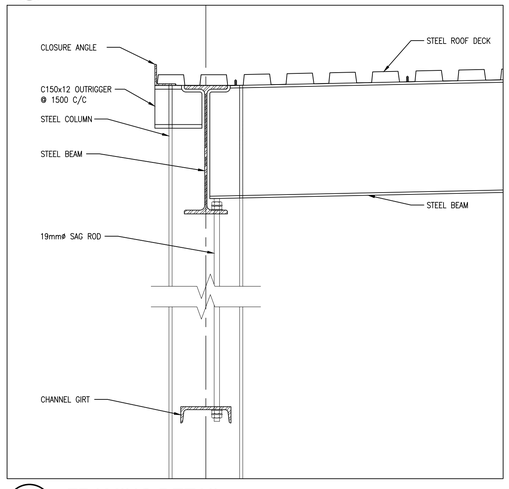
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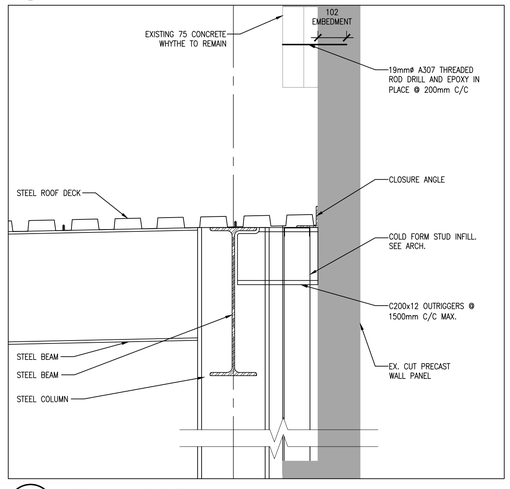
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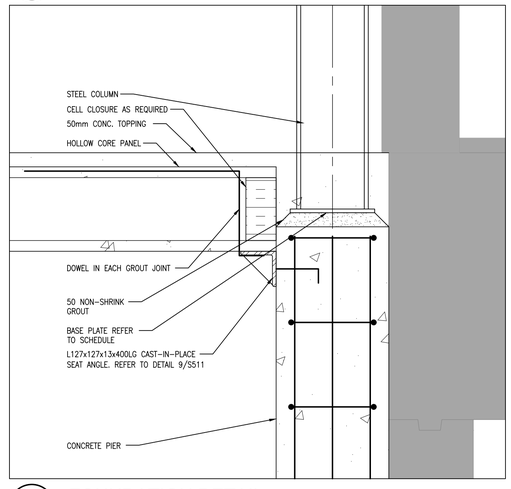
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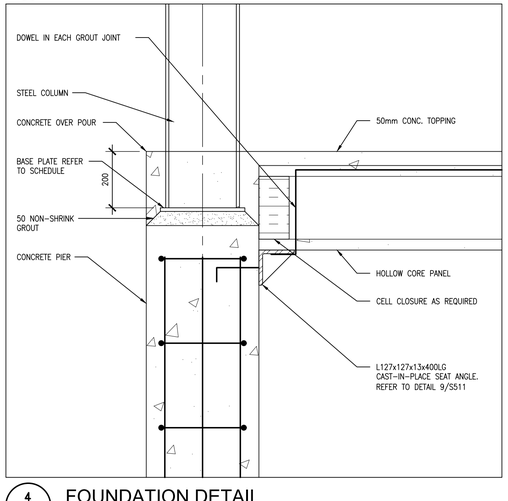
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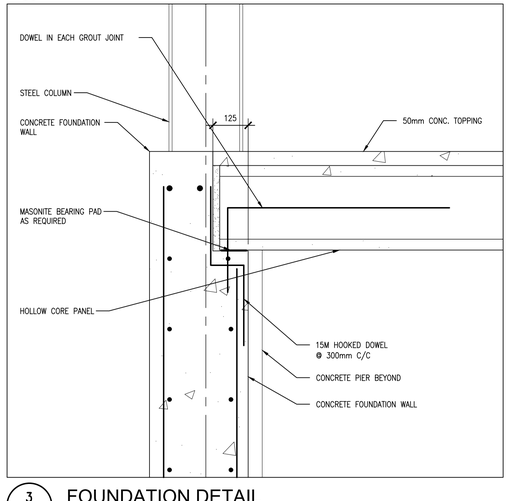
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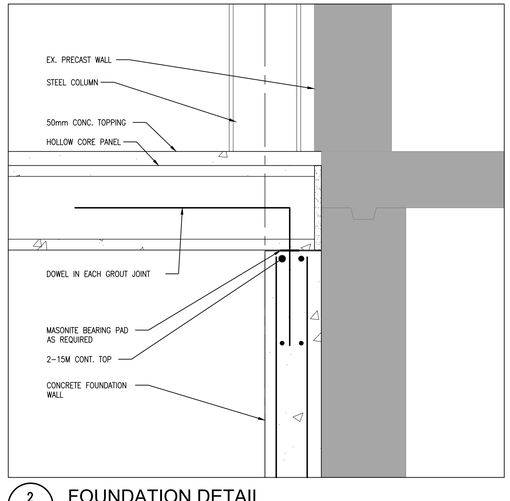
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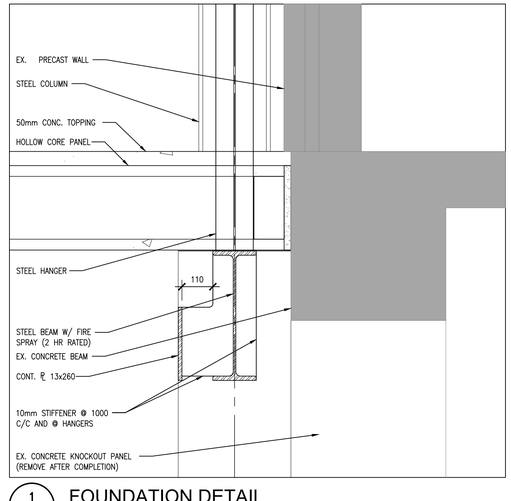
4 S511 FOUNDATION DETAIL
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3 S511 FOUNDATION DETAIL
1:10



2 S511 FOUNDATION DETAIL
1:10



1 S511 FOUNDATION DETAIL
1:10

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INSTITUTE OF TECHNOLOGY

DRAWING:

STRUCTURAL DETAILS

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