

	THIS IS AN IMPERIAL PROJECT. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET AND INCHES. ALL FORCES ARE IN KIPS. UNLESS OTHERWISE NOTED.						
2.	"WSP-S" REFERS TO WSP CANADIAN STRUCTURAL CONSULTANT.						
3.	PRIOR TO CONSTRUCTION, REVIEW STRUCTURAL DRAWINGS IN CONJUNCTION WITH DRAWINGS PROVIDED BY ALL OTHER CONSULTANTS. CONFIRM ALL DIMENSIONS, ELEVATIONS AND HEADROOM CLEARANCES, AND COORDINATE ALL OPENINGS, SLEEVES AND EMBEDDED ITEMS.						
4.	REPORT ANY DISCREPANCIES OR CONFLICTS BEFORE PROCEEDING WITH THE WORK.						
5.	DO NOT CUT OR DRILL ANY OPENINGS IN STRUCTURAL MEMBERS WITHOUT WRITTEN PERMISSION FROM WSP-S.						
6.	VERIFY EXISTING DIMENSIONS AND CONDITIONS ON SITE PRIOR TO CONSTRUCTION.						
7.	USE THESE DRAWINGS ONLY FOR THE PURPOSE IDENTIFIED IN THE REVISIONS COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR CONSTRUCTION".						
8.	DO NOT USE INFORMATION ON THESE DRAWINGS FOR ANY OTHER PROJECT OR WORKS.						
9.	DO NOT SCALE THESE DRAWINGS.						
10.	UNLESS OTHERWISE NOTED ON DRAWINGS, FOLLOW TYPICAL DETAILS SHOWN ON DRAWINGS. TYPICAL DETAILS SHOW STRUCTURAL INTENT RATHER THAN ACTUAL CONDITIONS FOR THIS PROJECT. IF A TYPICAL DETAIL INCLUDES A CROSS REFERENCE TO ANOTHER TYPICAL DETAIL WHICH IS NOT INCLUDED IN THE DRAWING SET, THE CROSS REFERENCED DETAIL IS NOT APPLICABLE ON THIS PROJECTS.						
11.	ALL SECTIONS, DETAILS AND STATEMENTS NOTED AS "TYPICAL" APPLY TO LIKE / SIMILAR CONDITIONS IN THE STRUCTURE.						
12.	REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR REQUIRED FIRE RATING, SPRAYED FIREPROOFING, INTUMESCENT PAINTING AND ALL OTHER MEASURES REQUIRED TO ACHIEVE IT.						
13.	REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR WATERPROOFING, SEALERS, ETC.						
14.	REFER TO GEOTECHNICAL REPORT AND ARCHITECTURAL / CIVIL DRAWINGS AND SPECIFICATIONS FOR ALL SOIL CONDITIONS.						
15.	DRAWINGS SHOW COMPLETED STRUCTURE ONLY. THEY DO NOT SHOW TEMPORARY WORKS FOR WHICH THE CONTRACTOR IS RESPONSIBLE AND WHICH MAY BE REQUIRED FOR EXECUTION OF THE PROJECT, INCLUDING TEMPORARY SHORING, BRACING, GUYS AND TIE DOWNS. THE CONTRACTOR TO ESTABLISH CONSTRUCTION PROCEDURE AND SEQUENCE TO ENSURE SAFETY OF THE WHOLE STRUCTURE AND ALL ITS COMPONENTS DURING ERECTION.						
16.	EXTENT OF ALL TEMPORARY SHORING FOR EXCAVATION WHICH MAY BE REQUIRED IS NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS. CONTRACTOR TO DETERMINE. REFER TO SPECIFICATIONS FOR TEMPORARY SHORING REQUIREMENTS.						
17.	DESIGN OF ALL TEMPORARY WORKS TO BE CARRIED OUT BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR, LICENSED IN THE PLACE WHERE THE PROJECT IS LOCATED.						
18.	ANCHOR BOLTS AND OTHER EMBEDDED ITEMS ARE DESIGNED FOR LOADS ACTING ON THE COMPLETED STRUCTURE ONLY AND ARE NOT TO BE USED OR RELIED UPON FOR TEMPORARY SHORING OR BRACING DURING ERECTION UNLESS REVIEWED AND APPROVED BY THE CONTRACTOR'S ENGINEER RESPONSIBLE FOR THE ERECTION PROCEDURES.						
19.	CONSTRUCTION LOADS ON COMPLETED STRUCTURE NOT TO EXCEED DESIGN LOADS INDICATED ON DRAWINGS. FULL DESIGN LOADS MAY ONLY BE APPLIED AFTER THE CONCRETE REACHES ITS DESIGN STRENGTH.						
20.	UNLESS SHOWN ON STRUCTURAL DRAWINGS, DESIGN OF NON STRUCTURAL AND SECONDARY STRUCTURAL ELEMENTS AND THEIR CONNECTIONS TO THE PRIMARY BUILDING STRUCTURE ARE NOT WITHIN THE SCOPE OF SERVICES PROVIDED BY WSP-S. SUCH ELEMENTS INCLUDE (BUT ARE NOT LIMITED TO) THE FOLLOWING:						
	1.	MISCELLANEOUS STEEL ELEMENTS: STAIRS, RAILINGS, GUARDRAILS.					
	2.	PARTITIONS: MASONRY, GLASS, WOOD AND STEEL STUDS, PREFABRICATED PANELS					
	3.	BULKHEADS, SUSPENDED CEILINGS, INTERIOR AND EXTERIOR SIGNAGE.					
	4.	ARCHITECTURAL PRECAST, PRECAST STAIRS.					
	5.	EXTERIOR CLADDING: PRECAST PANELS, METAL WALL SYSTEMS, CURTAIN WALLS AND WINDOWS.					
	6.	MASONRY, STONE OR PRECAST VENEER CONNECTIONS TO BACKUP STRUCTURE.					
	7.	MODULAR ASSEMBLIES FOR THERMALLY BRACED BALCONIES.					
	8.	SKYLIGHTS, SNOW FENCES, GUTTERS, ROOF ANCHORS, WINDOW WASHING SYSTEMS, CHIMNEYS AND STACKS.					
	9.	SUPPORTS FOR MECHANICAL AND ELECTRICAL EQUIPMENT: HANGERS, BRACES, POSTS, RACKS, SLEEPERS, SEISMIC RESTRAINTS, SUPPORT PLATFORMS AND PADS, SERVICE PLATFORMS.					
	10.	SUPPORTS AND SEISMIC RESTRAINTS FOR OTHER EQUIPMENT, SUCH AS MEDICAL AND SPORTS EQUIPMENT.					
	11.	STORAGE RACKS.					
	12.	LANDSCAPING ELEMENTS: WALLS, CURBS, BENCHES, PLANTERS, WATER FEATURES.					
	13.	LIGHT POLES, FLAG POLES, SIGNS AND THEIR FOUNDATIONS.					
	WSP-S WILL NOT REVIEW DESIGN, DETAILING AND INSTALLATION OF THESE ELEMENTS, FOR WHICH SPECIALIST AND/OR SPECIALTY PROFESSIONAL ENGINEERS ARE RESPONSIBLE. THE ONLY REVIEW PROVIDED (WHERE APPLICABLE) WILL BE FOR IMPACT ON THE BASE BUILDING STRUCTURE.						
21.	MAINTAIN A QUALITY CONTROL PLAN FOR STRUCTURAL WORK, AND MAKE IT AVAILABLE TO THE CONSULTANT UPON REQUEST. AT A MINIMUM, THE PLAN TO INCLUDE:						
	1.	NAMES OF PERSONNEL RESPONSIBLE FOR EXECUTION OF THE PLAN.					
	2.	MEANS AND METHODS FOR CONFIRMING MATERIAL COMPLIANCE WITH SPECIFICATIONS AND ASSOCIATED DOCUMENTATION PROCEDURES.					
	3.	PROGRAM FOR CONFIRMING AND DOCUMENTING COMPLIANCE WITH REQUIRED SUB-TRADE QUALIFICATIONS AND QUALIFICATIONS OF THEIR INDIVIDUAL EMPLOYEES AND SUB-CONTRACTORS.					
	4.	PROCEDURES FOR REVIEWING FIELD COMPLIANCE WITH CONSTRUCTION DOCUMENTS, INCLUDING DOCUMENTATION OF LOCATIONS REVIEWED, PHOTOGRAPHS TAKEN AND TIMING OF REVIEW. THE CONTRACTOR'S REVIEW TO BE COMPLETED PRIOR TO REVIEW BY THE CONSULTANT.					
	5.	PROCEDURES FOR RECTIFYING DEFICIENCIES NOTED BY THE CONTRACTOR, SUB-CONTRACTORS CONSULTANTS AND INDEPENDENT INSPECTION AGENCIES.					
22.	FOR INSPECTION AND TESTING REQUIREMENTS, REFER TO SPECIFICATIONS.						
23.	IN CASE OF DISCREPANCY BETWEEN GENERAL NOTES, DRAWINGS AND SPECIFICATIONS, COMPLY WITH THE MOST STRINGENT REQUIREMENTS.						
DESIGN DATA							
1.	STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE 2012 ONTARIO BUILDING CODE COMPENDIUM, NBC 2015 STRUCTURAL COMMENTARIES.						
2.	CONCRETE ELEMENTS ARE DESIGNED PER CSA A23.3-14: DESIGN OF CONCRETE STRUCTURES.						
3.	STEEL ELEMENTS ARE DESIGNED PER CSA S16-14 - LIMIT STATE DESIGN OF STEEL STRUCTURES.						
4.	COLD FORMED STEEL, STRUCTURAL ELEMENTS ARE DESIGNED PER CSA S136-12: NORTH AMERICAN SPECIFICATION FOR DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.						
5.	MASONRY STRUCTURAL ELEMENTS ARE DESIGNED PER CSA S304-14 - DESIGN OF MASONRY STRUCTURES.						
6.	THE VALUES FOR CLIMATIC DATA USED IN THE DETERMINATION OF DESIGN LOADS HAVE BEEN OBTAINED FROM THE 2012 CBC FOR THE SPECIFIC LOCATION OF OTTAWA, ON.						
7.	BASED ON THE USE AND OCCUPANCY, THE BUILDING IS DESIGNED						

- | | | | | |
|------------------------|---|---|----------------|--|
| | PRIOR TO COMMENCING EXCAVATION, LOCATE AND IDENTIFY ALL EXISTING UNDERGROUND STRUCTURES AND SERVICES. | | | |
| 4. | MAINTAIN STRUCTURES AND SERVICES WHICH ARE TO REMAIN OPERATIONAL, OR WHICH WILL BE RE-USED DESIGN AND PROVIDE PROTECTION AND SUPPORT, WHERE REQUIRED, OBTAIN APPROVAL FROM THE AUTHORITIES HAVING JURISDICTION AND DIVERT OR RELOCATE EXISTING SERVICES. REMOVE ALL OTHER STRUCTURES AND SERVICES. | | | |
| 5. | ESTABLISH LINES OF EXCAVATION AS REQUIRED NOT TO EXCEED MAXIMUM SLOPE OF EXCAVATION GIVEN IN THE GEOTECHNICAL REPORT, REFER TO TYPICAL DETAIL TCFD-41. ANY DEVIATIONS FROM THIS DETAIL TO BE APPROVED BY THE GEOTECHNICAL CONSULTANT AND WSP-S. | | | |
| 6. | DESIGN AND PROVIDE SHORING AND BRACING FOR EXCAVATION WHERE NECESSARY. | | | |
| 7. | EXCAVATE TO EXPOSE NATIVE UNDISTURBED SOIL, AND TO ALLOW FOR MINIMUM COMPACTED BACKFILL AND CONSTRUCTION CLEARANCES AS REQUIRED. REMOVE ALL TOPSOIL, LOOSE FILL, DEBRIS, SOFT SPOTS AND ORGANIC MATERIALS. | | | |
| 8. | DIG TRENCHES FOR MECHANICAL AND ELECTRICAL SERVICES TO PROVIDE UNIFORM CONTINUOUS BEARING AND SUPPORT BEDDING MATERIAL ON UNDISTURBED SOIL. REFER TO MECHANICAL, ELECTRICAL AND CIVIL DRAWINGS FOR TRENCH CONSTRUCTION DETAILS. AT A MINIMUM, FILL TRENCHES WITH SAND TO 300 (12") ABOVE PIPES OR CONDUITS. | | | |
| 9. | LEGALLY DISPOSED OF ALL EXCAVATED MATERIALS, OR STORE ON SITE FOR BACKFILLING OPERATIONS IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS AND PROJECT SPECIFICATIONS. | | | |
| 10. | PROTECT BOTTOM OF EXCAVATION FROM EXCESSIVE MOISTURE. USE GRANULAR FILL OR LEAN CONCRETE (MUD SLAB) AS RECOMMENDED IN THE GEOTECHNICAL REPORT. SLOPE FOR DRAINAGE. PROVIDE DRAINAGE TRENCHES AND PITS AND PUMP OUT WATER AS REQUIRED. | | | |
| 11. | GEOTECHNICAL ENGINEER TO REVIEW AND APPROVE ALL EXCAVATIONS BEFORE BACKFILLING OR PLACING CONCRETE. | | | |
| 12. | UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT, BACKFILLING MATERIALS TO BE AS FOLLOWS: | | | |
| | - TYPE 1 (CLASS A) BACKFILLS: CRUSHED STONE WITH PARTICLE SIZE RANGING FROM 0 TO 20 (0" TO 3/4"). | | | |
| | - TYPE 2 (CLASS B) BACKFILLS: CRUSHED STONE OR NATURAL SANDS WITH PARTICLE SIZE RANGING FROM 0 TO 5 (0" TO 3/16"). | | | |
| | - TYPE 3 BACKFILLS: MATERIALS CHOSEN FROM RECYCLED EXCAVATED MATERIALS OR IMPORTED SOILS APPROVED BY THE GEOTECHNICAL CONSULTANT WITH NO PARTICLES LARGER THAN 75 (3"). | | | |
| 13. | ALL BACKFILLING MATERIALS TO BE SOUND AND CLEAN, FREE FROM DEBRIS, ORGANIC AND FROZEN MATTER, WITH NO REACTIVE MINERALS NOR FRABLE MATERIALS WITH SWELLING POTENTIAL. | | | |
| 14. | UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT, PLACE BACKFILLING MATERIALS AS FOLLOWS: | | | |
| | - INFRASTRUCTURE (GRANULAR BASE): TYPE 1 (CLASS A) BACKFILL: MINIMUM THICKNESS UNDER INTERIOR SLAB ON GRADE - 200 (8"), UNDER EXTERIOR SLAB ON GRADE - 300 (12"). | | | |
| | - INTERIOR SLAB ON GRADE - TYPE 2 (CLASS B) BACKFILL TO US OF INFRASTRUCTURE (GRANULAR BASE). | | | |
| | - SIDEWALKS, NON FROST SUSCEPTIBLE TYPE 1 (CLASS A) OR TYPE 2 (CLASS B) BACKFILL TO US OF INFRASTRUCTURE (GRANULAR BASE); SEE ALSO CIVIL AND LANDSCAPING DRAWINGS. | | | |
| | - EXTERIOR LANDSCAPED AREAS: TYPE 3 BACKFILL TO US OF TOPSOIL; SEE ALSO ARCHITECTURAL AND LANDSCAPING DRAWINGS. | | | |
| 15. | GEOTECHNICAL ENGINEER TO REVIEW AND APPROVE ALL BACKFILLING MATERIALS. | | | |
| 16. | UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT, BACKFILL TO GRADES INDICATED IN LIFTS TO THE CONTRACTOR AND THE CONCRETE SUPPLIER TO MEET ALL CERTIFICATION, DOCUMENTATION, AND QUALITY CONTROL REQUIREMENTS. | | | |
| | NOT EXCEED 1500(6") UNLESS MECHANICAL COMPACTION EQUIPMENT. DO NOT PLACE BACKFILL OVER FROZEN SOIL. | | | |
| 17. | USE ONLY LIGHT, HAND-OPERATED EQUIPMENT FOR COMPACTION ADJACENT TO BASEMENT WALLS AND RETAINING WALLS. DO NOT BACKFILL UNTIL ELEMENTS PROVIDING LATERAL SUPPORT, INCLUDING SLABS ON GRADE AND ALL SUSPENDED LEVELS, ARE COMPLETED AND CONCRETE HAS REACHED 15% OF ITS DESIGN STRENGTH. FOR ELEMENTS THAT ARE TO BE BACKFILLED ON BOTH SIDES, PLACE BACKFILL SIMULTANEOUSLY ON BOTH SIDES SUCH THAT HEIGHTS DO NOT VARY BY MORE THAN 500 (1'-8") FROM ONE SIDE TO THE OTHER. | | | |
| 18. | MAINTAIN MOISTURE CONTENT IN BACKFILLING MATERIAL AS REQUIRED TO ACHIEVE THE SPECIFIED COMPACTION. PROTECT FROM EXCESSIVE MOISTURE DURING AND AFTER THE BACKFILLING OPERATION. | | | |
| 19. | UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT, COMPACT BACKFILL TO ACHIEVE THE FOLLOWING STANDARD PROCTOR MAXIMUM DRY DENSITIES: | | | |
| | - BELOW SLAB ON GRADE: 98%. | | | |
| | - BELOW PAVEMENT AND SIDEWALKS: 95%. | | | |
| | - BELOW LANDSCAPED AREAS: 90%. | | | |
| 20. | AN INDEPENDENT INSPECTION AND TESTING AGENCY TO MONITOR COMPACTION AND CONDUCT DENSITY TESTING DURING INSTALLATION OF ALL GRANULAR MATERIALS. | | | |
| CAST-IN-PLACE CONCRETE | | | | |
| 1. | CONCRETE IS SPECIFIED PER ALTERNATIVE 1 - PERFORMANCE SPECIFICATION, AS OUTLINED IN CSA A23.1. THE CONTRACTOR AND THE CONCRETE SUPPLIER TO MEET ALL CERTIFICATION, DOCUMENTATION, AND QUALITY CONTROL REQUIREMENTS. | | | |
| 2. | CONTRACTOR AND CONCRETE SUPPLIER TO ENSURE THAT PLASTIC AND HARDENED MIX PROPERTIES MEET SITE REQUIREMENTS FOR PLACING, FINISHING AND THE SPECIFIED PERFORMANCE REQUIREMENTS. | | | |
| 3. | CONCRETE SUPPLIER TO BE CERTIFIED BY THE READY MIXED CONCRETE ASSOCIATION OF ONTARIO. | | | |
| 4. | CEMENT TO BE PORTLAND CEMENT TYPE GU UNLESS NOTED OTHERWISE OR REQUIRED BY EXPOSURE CLASS. | | | |
| 5. | CONCRETE TO BE NORMAL DENSITY (MIN. 2300 kg/m ³) UNLESS NOTED OTHERWISE. | | | |
| 6. | NOMINAL MAXIMUM SIZE OF COARSE AGGREGATE TO BE 20 (3/4") UNLESS NOTED OTHERWISE. | | | |
| 7. | UNLESS NOTED OTHERWISE, CONCRETE TO BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: | | | |
| | ELEMENT | COMPRESSIVE STRENGTH (MPa) AT 28 DAYS (SEE NOTE #3 BELOW) | EXPOSURE CLASS | SPECIAL REQUIREMENTS & REMARKS |
| | CAISSON | 25 | N | |
| | PIERS & PILASTERS | 25 | F2 | |
| | EXTERIOR GRADE BEAMS | 25 | F2 | |
| | INTERIOR GRADE BEAMS | 25 | N | |
| | SLAB-ON-GRADE, TRENCHES (INTERIOR) | 25 | N | FOR SLABS 125 (5") AND THICKER, NOMINAL MAXIMUM SIZE OF COARSE AGGREGATE 40 (1-1/2"). CONCRETE COVER NOT TO BE LESS THAN 40 (1-1/2") AT RESILIENT FINISHES, USE WCM -0.45. |
| | SLAB-ON-GRADE, TRENCHES (UNGRADED VEHICLE ACCESSIBLE AREAS), SIDEWALKS, TROTTOR SLABS | 32 | C2 | FOR SLABS 125 (5") AND THICKER, NOMINAL MAXIMUM SIZE OF COARSE AGGREGATE 40 (1-1/2"). CONCRETE COVER NOT TO BE LESS THAN 40 (1-1/2"). |
| | LEAN CONCRETE, MUOSLABS | 10 | N | CONCRETE COVER NOT TO BE LESS THAN 60 (2-3/8") |
| NOTES: | | | | |
| 1. | WHERE EXPOSURE CLASS IS NOTED "N" F2": USE "F-2" EXPOSURE CLASS FOR PERIMETER AND EXTERIOR NON-INSULATED ELEMENTS ABOVE THE FROST LINE, AND FOR ELEMENTS IN INTERIOR UNHEATED SPACES, WHICH ARE SUSCEPTIBLE TO FREEZING. USE "N" EXPOSURE CLASS FOR ELEMENTS PROTECTED FROM FREEZING. | | | |
| 2. | LIMIT NOMINAL MAXIMUM AGGREGATE SIZE TO 10 (3/8") FOR COLUMNS WITH SMALLEST DIMENSION LESS THAN 300 (12") AND FOR WALLS LESS THAN 200 (8") THICK. | | | |
| 3. | WHERE HYVON (AS DEFINED IN CSA A23.1) OR ANY CLASS "S" EXPOSURE CONCRETE IS USED, SPECIFIED CONCRETE STRENGTH TO BE ATTAINED AT 56, RATHER THAN AT 28 DAY. | | | |
| 4. | MINIMUM DOSAGE OF CORROSION INHIBITOR IS 10mg of 30% SOLUTION OF CALCIUM NITRATE, AS PER CSA-5413. | | | |

2. DO NOT USE STEEL TROWEL TO FINISH AIR-ENTRAINED CONCRETE.
3. PROVIDE MINIMUM 150 (6") BEARING ON MASONRY WALLS.
4. FOR SLABS-ON-GRADE OR UNBONDED CONCRETE TOPPINGS, LOCATE ALL CONDUITS, PIPES, OR HEATING CABLES EMBEDDED IN CONCRETE CLEAR OF THE TOP ONE THIRD OF THE SLAB THICKNESS TO AVOID DAMAGE DURING SAWCUTTING.
16. CONSTRUCTION & CONTROL JOINTS
 1. PROVIDE JOINTS WHERE SPECIFIED OR SHOWN ON DRAWINGS. LOCATE SO AS NOT TO IMPAIR THE REQUIRED STRENGTH OF THE STRUCTURE. SUBMIT JOINT LAYOUT FOR WSP-S REVIEW AND APPROVAL. A MINIMUM OF 2 WEEKS PRIOR TO POURING CONCRETE. REFER TO TYPICAL DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 2. UNLESS OTHERWISE NOTED, PROVIDE STANDARD CONTINUOUS 36 x 80 (2x4) FORMED KEYS AT ALL CONSTRUCTION JOINTS. OTHER THAN 180° SEGMENT CREATED BY CONSTRUCTION AND CONTROL JOINTS. IF A SPECIFIC CONSTRUCTION JOINT DETAIL IS SHOWN ON DRAWINGS, IT CAN NOT BE SUBSTITUTED BY ANY OTHER ALTERNATIVE CONSTRUCTION JOINT DETAIL.
 3. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE WALLS (OTHER THAN AT UNDERSIDE OF SLABS) ARE NOT PERMITTED, EXCEPT WHERE SHOWN ON THESE DRAWINGS.
 5. NON-STRUCTURAL SLABS ON GRADE AND UNBONDED TOPPINGS: UNLESS NOTED OTHERWISE, PROVIDE CONSTRUCTION JOINTS AT 30m (100ft) MAXIMUM IN BOTH DIRECTIONS, WITH CONTROL JOINTS (SAWCUT JOINTS) BETWEEN AT 25 TIMES THE SLAB THICKNESS, BUT NOT MORE THAN 3m (10ft). LONGER DIMENSION OF ANY 90° SEGMENT CREATED BY CONSTRUCTION AND CONTROL JOINTS NOT TO EXCEED 1.25 TIMES THE SHORTER DIMENSION OF THE SEGMENT. CONSIDER SLA DEPRESSIONS AND PITS WHEN PROPOSING LAYOUTS, AND SHOW ON LAYOUT DRAWINGS. COMPLETE SAWCUTTING WITHIN 6 TO 18 HOURS OF PLACING CONCRETE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 6. DO NOT SAW CUT STRUCTURAL SLAB ON GRADE; PROVIDE CONSTRUCTION JOINTS AS DESCRIBED FOR FORMED SLABS.
 7. BONDED TOPPING: JOINTS TO MATCH LOCATIONS OF THOSE IN BASE SLAB.
 8. EXTERIOR RETAINING WALLS: PROVIDE VERTICAL CONTROL JOINTS AT 5m (16ft) MAXIMUM, WITH KEYED EXPANSION JOINTS AT 15m (50ft) MAXIMUM.
 9. OTHER WALLS IN UNHEATED AREAS: PROVIDE VERTICAL CONSTRUCTION JOINTS AT 30m (100ft) MAXIMUM, AND CONTROL JOINTS AT 15m (50ft) MAXIMUM. LOCATE CONTROL JOINTS NOT MORE THAN 2.5m (8ft) FROM EACH SIDE OF CONSTRUCTION JOINTS AND ANY WALL CORNER.

1. REINFORCEMENT TO CONFORM TO THE FOLLOWING STANDARDS:
DEFORMED BARS - CSA G30.18, GRADE 400R OR 400W
2. WELDED WIRE FABRIC - ASTM A1064/A1064M, YIELD STRENGTH 450 MPA, SUPPLIED IN FLAT SHEETS ONLY
3. ALL REINFORCING BAR SIZES ARE METRIC. "IT IS NOT NECESSARILY MARKED AFTER A BAR SIZE. FOR
EXAMPLE, 10-15# NOTED ON PLAN INDICATES 10 BARS OF 15M DIAMETER, PLACED AT BOTTOM.
4. ALL REBAR HOOKS TO BE STANDARD LENGTH 90° OR 180° HOOKS. REBAR LENGTHS LISTED ON DRAWING DO
NOT INCLUDE THE HOOK LENGTH.
5. UNLESS A SPECIFIC STIRRUP SIZE IS INDICATED ON PLANS OR SCHEDULES, ALL STIRRUPS TO BE
CLOSED HOOPS.
6. WHERE TWO BARS OF DIFFERENT SIZE ARE LAPPED IN TENSION, SPLICE LENGTH TO BE EQUAL TO THE
SMALLER BARS' TENSION LAP SPLICE, OR TO THE LARGER BARS TENSION DEVELOPMENT LENGTH,
WHICHEVER IS LONGER.
7. WHERE TWO BARS OF DIFFERENT SIZE ARE LAPPED IN COMPRESSION, SPLICE LENGTH TO BE EQUAL TO
THE SMALLER BARS' COMPRESSION LAP SPLICE, OR TO THE LARGER BARS' COMPRESSION DEVELOPMENT
LENGTH, WHICHEVER IS LONGER.
8. FOR BUNDLED BARS, FULLY STAGGER SPLICES OF EACH INDIVIDUAL BAR IN THE BUNDLE.
9. LAP WELDED WIRE FABRIC SHEETS BY ONE SPACING OF CROSS WIRES + 50 (2"). MEASURED BETWEEN THE
OUTERMOST CROSS WIRES OF EACH SHEET.
10. PROVIDE ADDITIONAL SUPPORT BARS AS REQUIRED TO ADEQUATELY SUPPORT AND SECURE ALL
REINFORCEMENT AND PREVENT MOVEMENT WHEN PLACING CONCRETE.
11. PROVIDE SUFFICIENT CHAIRS TO REINFORCING TO MAINTAIN SPECIFIED CONCRETE COVER.
12. PLACE WELDED WIRE FABRIC IN SLABS ON GRADE AT 157.5 SLAB THICKNESS BELOW TOP OF SLAB. PROVIDE
ADEQUATE CHAIRS TO KEEP IN SPECIFIED POSITION. LIFTING WWF AFTER CONCRETE IS POURED TO BRING
IT IN POSITION IS NOT ACCEPTABLE.
13. ALL REINFORCING TO BE CLEAN, FREE OF LOOSE SCALE, OIL, DIRT, RUST, AND ANY OTHER FOREIGN
COATING THAT AFFECT BONDING CAPACITY.
14. MINIMUM CLEAR SPACING BETWEEN ADJACENT BARS TO BE AT LEAST 1.4 TIMES THE BAR DIAMETER OR
TIMES THE NOMINAL MAXIMUM SIZE OF THE COARSE AGGREGATE, WHICHEVER IS MORE.

14. WHERE PARALLEL REINFORCEMENT IS PLACED IN TWO OR MORE LAYERS, POSITION BARS IN UPPER LAYER DIRECTLY ABOVE THE BARS IN LOWER LAYER, MAINTAINING THE MINIMUM CLEAR SPACING BETWEEN LAYERS AS SPECIFIED ABOVE.

15. UNLESS NOTED OTHERWISE ON DRAWINGS MINIMUM CONCRETE COVER TO PRINCIPAL REINFORCEMENT TO BE AS FOLLOWS (ALSO REFER TO TYPICAL DETAIL TC-REIN-21):

	NOT EXPOSED TO VEHICLE TRAFFIC		EXPOSED TO VEHICLE TRAFFIC
ELEMENT	PROTECTED	EXPOSED	
FOOTINGS, RAFT FOUNDATIONS, PILES, PILE CAPS REINFORCED AS FOOTINGS	..	TOP BARS: ≤ 25M: 40 (1-5/8") 30M: 45 (1-3/4") 35M: 55 (2-1/8") BARS AT SURFACES CAST AGAINST FORM/WORK/MUD SLAB: SAME AS TOP BARS BARS AT SURFACES CAST AGAINST EARTH: 75 (3")	TOP BARS: 60 (2-3/8") BARS AT SURFACES CAST AGAINST FORM/WORK/MUD SLAB: SAME AS TOP BARS BARS AT SURFACES CAST AGAINST EARTH: 75 (3")
PIERS, PILE CAPS REINFORCED AS COLUMNS	..	≤ 25M: 55 (2-1/8") 30M: 60 (2-3/8") 35M: 70 (2-3/4") IF EXPOSED TO CHLORIDES: ≤ 35M: 75 (3") BARS AT SURFACES CAST AGAINST EARTH: NOT LESS THAN 90 (3-1/2")	≤ 25M: 55 (2-1/8") 30M: 60 (2-3/8") 35M: 70 (2-3/4") BARS AT SURFACES CAST AGAINST EARTH: NOT LESS THAN 90 (3-1/2")
GRADE BEAMS	-	≤ 25M: 55 (2-1/8") 30M: 60 (2-3/8") 35M: 70 (2-3/4") IF EXPOSED TO CHLORIDES: ≤ 35M: 75 (3") BARS AT SURFACES CAST AGAINST EARTH: NOT LESS THAN 90 (3-1/2")	75 (3") BARS AT SURFACES CAST AGAINST EARTH: NOT LESS THAN 90 (3-1/2")
REBAR REINFORCED NON STRUCTURAL SLABS ON GRADE CAST OVER VAPOUR BARRIER OR RIGID INSULATION	TOP BARS: ≤ 25M: 25 (1") BOT BARS: ≤ 35M: 40 (1-5/8")	TOP & BOT BARS: ≤ 25M: 40 (1-5/8")	TOP & BOT BARS: ≤ 25M: 40 (1-5/8")
REBAR REINFORCED NON STRUCTURAL SLABS ON GRADE WITHOUT VAPOUR BARRIER OR RIGID INSULATION	TOP BARS: ≤ 25M: 25 (1") BOT BARS: 75 (3")	TOP BARS: ≤ 25M: 40 (1-5/8") BOT BARS: 75 (3")	TOP BARS: ≤ 25M: 40 (1-5/8") BOT BARS: 75 (3")
BASEMENT WALL AND RETAINING WALLS	BARS AT VISIBLE FACE: ≤ 25M: 25 (1") 30M: 30 (1-1/4") 35M: 35 (1-3/8") BARS AT FACE AGAINST EARTH: ≤ 25M: 40 (1-5/8") 30M: 45 (1-3/4") 35M: 55 (2-1/8")	ALL BARS ≤ 25M: 40 (1-5/8") 30M: 45 (1-3/4") 35M: 55 (2-1/8")	BARS AT VISIBLE FACE OF BASEMENT WALLS AND INTERIOR RETAINING WALLS: 40 (1-5/8") FOR PROTECTION SEE NOTE B BELOW BARS AT VISIBLE FACE OF EXTERIOR RETAINING WALLS: ≤ 30M: 30 (2-3/8") 35M: 70 (2-3/4") BARS AT FACE AGAINST EARTH: ≤ 25M: 40 (1-5/8") 30M: 45 (1-3/4") 35M: 55 (2-1/8")

1. "PROTECTED" MEANS IN INTERIOR, CONDITIONED SPACE.
2. "EXPOSED" MEANS IN UNHEATED SPACE AND/OR EXPOSED TO WATER, WEATHER OR SULPHATES (BUT NOT VEHICLE TRAFFIC).
3. COVERS SHOWN ABOVE ASSUME 20 (3/4") MAXIMUM NOMINAL SIZE OF CONCRETE AGGREGATE. REFER TO CONCRETE MIX DESIGN TABLE IN CAST-IN-PLACE CONCRETE NOTES FOR CONCRETE WITH LARGER AGGREGATE SIZE, AND INCREASE COVER TO REINFORCING CLOSEST TO THE SURFACE AS INDICATED.
4. UNLESS OTHERWISE NOTED, FOR BARS WITH 90° HOOKS, PROVIDE 90 (2") COVER ON THE BAR EXTENSION BEYOND THE HOOK (FROM THE HOOKED PORTION TO FACE OF CONCRETE).

16. WALLS

1. UNLESS OTHERWISE NOTED ON DRAWINGS, SCHEDULES OR NOTES, MINIMUM REINFORCEMENT FOR CONCRETE WALLS TO BE AS FOLLOWS:
150 (6") MAXIMUM WALL: 10 @ 330 (13") H + 10 @ 450 (18") V IN CENTRE
200 (8") MAXIMUM WALL: 10 @ 250 (10") H + 10 @ 330 (13") V IN CENTRE
250 (10") MAXIMUM WALL: 10 @ 400 (16") HEF + 10 @ 300 (20") VEF
300 (12") MAXIMUM WALL: 10 @ 330 (13") HEF + 10 @ 440 (17") VEF
- VERTICAL REINFORCING TO BE OUTSIDE LABEL. ALL SPLICES TO BE CLASS "B".
2. REFER TO TYPICAL DETAIL TC-WALL-01 FOR REINFORCING REQUIRED AT WALL CORNERS AND INTERSECTIONS.
3. REFER TO TYPICAL DETAIL TC-WALL-11 FOR MINIMUM DOWELING REQUIREMENTS BETWEEN WALLS AND SLABS.
4. FOR OPENINGS LARGER THAN 400 x 400 (16"x16"), PROVIDE ADDITIONAL REINFORCING AS SHOWN ON TYPICAL DETAIL TC-WALL-32.
5. FOR MASONRY WALL REINFORCEMENT REFER TO MASONRY NOTES.

17. SLABS

1. UNLESS OTHERWISE SPECIFIED ON PLANS, PROVIDE BOTTOM TEMPERATURE REINFORCEMENT IN BOTH DIRECTIONS FOR FRAMED SLABS IN ACCORDANCE WITH TYPICAL DETAIL TC-SL-02.
2. UNLESS NOTED OTHERWISE, DO NOT ELIMINATE OR CUT REINFORCEMENT TO ACCOMMODATE MECHANICAL AND ELECTRICAL SLEEVES, OPENINGS OR HARDWARE. SPREAD REINFORCING AROUND SLEEVES.
3. FOR OPENINGS LARGER THAN 400 x 400 (16"x16"), PROVIDE ADDITIONAL REINFORCING AS SHOWN ON TYPICAL DETAIL TC-SL-62.
4. WHERE IN FLOOR HEATING IS CAST INTO SLABS, PROVIDE ADDITIONAL LAYER OF WWF 102 x 102 x 18W18.7 X MW18.7 WHERE REQUIRED FOR IN FLOOR HEATING SECUREMENT.

MASONRY

1. CONFORM TO CSA A371 AND CSA S304.1.
2. NON LOAD-BEARING MASONRY WALLS ARE NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS, SEE ARCHITECTURAL DRAWINGS.
3. PROVIDE LATERAL SUPPORT AT TOPS OF ALL WALLS, REFER TO TYPICAL DETAILS TM-LATS-12 AND ARCHITECTURAL SPECIFICATIONS. LOCATE MAX 300 (12") FROM WALL ENDS AND MOVEMENT JOINTS.
4. UNLESS OTHERWISE NOTED, PROVIDE MINIMUM 25 (1") DEFLECTION GAP AT TOP OF ALL NON LOAD BEARING MASONRY WALLS.
5. MOVEMENT JOINTS
 1. PROVIDE VERTICAL MOVEMENT JOINTS (MJ) IN NON LOAD BEARING MASONRY WALLS AS FOLLOWS:
 - WHERE INDICATED ON ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
 - BETWEEN MASONRY WALLS AND ABUTTING COLUMNS OR CONCRETE WALLS.
 - AT MAX. 6000 (20') O/C
 2. UNLESS OTHERWISE NOTED ON PLANS, MOVEMENT JOINTS TO BE 12mm WIDE.
 3. FILL ALL MOVEMENT JOINTS WITH COMPRESSIBLE MATERIAL- SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE STOPPING REQUIREMENTS.
6. PROVIDE STANDARD LINTELS OVER ALL OPENINGS IN NON-LOAD BEARING MASONRY WALLS. REFER TO ARCHITECTURAL DRAWINGS AND TYPICAL DETAILS TM-WALL-11. THE OPENINGS ARE NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.

	CONFORM TO CSA S16.	
2.	MATERIALS: TO CSA G40.21 UNLESS OTHERWISE NOTED, WITH THE FOLLOWING GRADES:	
	W, WWF, AND S SECTIONS, CHANNELS AND ANGLES	350W, OR ASTM A992, GRADE 50 (345MPa). USE ONLY ASTM A992 WHERE SPECIFICALLY INDICATED ON DRAWINGS.
	PLATES, BARS:	300W
	WIDE FLANGE SECTIONS, PLATES (WHERE SPECIFICALLY INDICATED ON DRAWINGS):	350 WT
	HOLLOW STRUCTURAL SECTIONS:	350W (CLASS "C"), ASTM A1085 GRADE 50 (345 MPa) OR ASTM A500 (GRADE "C") USE ONLY ASTM A1085 WHERE SPECIFICALLY INDICATED ON DRAWINGS.
	PIPE:	ASTM A53, 240W
	BOLTS:	ASTM F3125 GRADE A325M, UNLESS NOTED (MINIMUM 2 BOLTS CONNECTION)
	HEADED STUDS:	CSA W59, TYPE B, min. Fy= 350 MPa
	ANCHOR RODS:	300W, A307
3.	DETAILS ON STRUCTURAL DRAWINGS SHOW DESIGN INTENT. REFER TO SPECIFICATIONS FOR CONNECTION DESIGN, DETAILING, FABRICATION, AND ERECTION REQUIREMENTS.	
4.	CONNECT BEAMS FOR THE FORCES SHOWN; IF NO FORCE IS INDICATED, CONNECT NON COMPOSITE BEAMS FOR THE REACTION DUE TO MAXIMUM UNIFORMLY DISTRIBUTED LOAD CAPACITY OF THE BEAM IN BENDING, AND CONNECT COMPOSITE BEAMS FOR ONE AND A HALF TIMES THE REACTION DUE TO MAXIMUM UNIFORMLY DISTRIBUTED LOAD CAPACITY OF THE NON COMPOSITE SECTION IN BENDING.	
5.	WELDING TO CONFORM TO CSA W59 AND PERFORMED BY A FABRICATOR APPROVED BY CSA W47.1.	
6.	DO NOT CUT HOLES OR OTHERWISE MODIFY STRUCTURAL MEMBERS ON SITE.	
7.	CLEAN SURFACES DOWN TO BARE METAL AND APPLY TWO COATS OF ZINC-RICH TOUCH-UP PAINT TO ANY GALVANIZED SURFACE THAT HAS BEEN DAMAGED OR FIELD WELDED.	
8.	PROVIDE ALL ERECTION BRACING REQUIRED TO KEEP THE STRUCTURE STABLE AND IN ALIGNMENT DURING CONSTRUCTION.	
9.	PROVIDE 40 MPa NON SHRINK GROUT UNDER BASE PLATES. DO NOT APPLY ANY LOADS TO THE STEELWORK BEFORE GROUT ACHIEVES SUFFICIENT STRENGTH.	
10.	DISTRIBUTE HANGER LOADS FROM MECHANICAL AND HEAVY ELECTRICAL SERVICES SUSPENDED FROM STEELWORK UNIFORMLY ALONG MEMBERS. ALTERNATE HANGER POSITION ON EITHER SIDE OF MEMBERS	
11.	CONNECT HANGERS FOR MECHANICAL AND ELECTRICAL SERVICES AND OTHER NON STRUCTURAL ELEMENTS NOT TO CAUSE TWISTING OF STEEL MEMBERS OR EXCESSIVE BENDING OF MEMBER FLANGES.	
12.	DO NOT APPLY LATERAL LOADS TO MEMBERS UNLESS APPROVED BY THE CONSULTANT.	
13.	ASS MEMBERS: ERECT USING SOFTENED SLINGS OR OTHER METHODS SUCH THAT THEY ARE NOT DAMAGED. PROVIDE PADGING AS REQUIRED TO PROTECT WHILE RIGGING AND ALIGNING. WELD TABS FOR TEMPORARY BRACINGS AND SAFETY CABLEING ONLY AT POINTS CONCEALED FROM VIEW IN THE COMPLETE STRUCTURE OR WHERE APPROVED BY WSP.S.	
14.	ALL STRUCTURAL STEEL EXPOSED TO THE ELEMENTS SHALL BE HOT DIPPED GALVANIZED.	

1. CONFORM TO CSA S136 FOR STEEL DECKING, AND TO CAST IN PLACE CONCRETE AND CONCRETE REINFORCEMENT NOTES.
2. STEEL DECK MATERIAL: TO ASTM A653/653M OR ASTM A792/792M, GRADE 230.
3. MINIMUM REQUIRED DECK DEPTH AND CORE THICKNESS ARE SHOWN ON DRAWINGS; DESIGN DECK FOR LOADS, GIVEN AND SNOW PILING WHERE APPLICABLE. PROVIDE DECK PROFILE TO MEET THE LOADING AND PERFORMANCE REQUIREMENTS OUTLINED IN THE SPECIFICATIONS.
4. USE ONLY MECHANICAL ROOF DECK FASTENERS; DO NOT USE WELDING OR CLINCHING, EXCEPT IN PROTECTED ZONES WHERE ONLY 1/8" (3/4") PUDDLE WELDS CAN BE USED.
5. IF DIAPHRAGM SHEAR AND / OR DECK FASTENERS ARE NOT NOTED ON PLAN, MINIMUM DECK FASTENING REQUIREMENTS ARE AS FOLLOWS:
TRANSVERSE (F) FRAME FASTENERS
19 (3/4") DIAMETER ARC SPOT WELDS, OR HLTI DIRECT FASTENERS PLACED IN EVERY SECOND FLUTE (FOR DECKS WITH FLUTE SPACING OF 20" (8") OR LESS) OR IN EVERY FLUTE (FOR DECKS WITH FLUTE SPACING OF OVER 20" (8")). IN ADDITION, PLACE TWO FASTENERS IN FLUTES WHERE SIDE LAPS ARE MADE, AT INTERLOCKING JOINTS, LOCATE ONE FASTENER AT EACH SIDE OF LAP.
LONGITUDINAL (PERIMETER) FASTENERS

TYPE TO MATCH TRANSVERSE FASTENERS, SPACED AT 450 (18") ON CENTRE

SIDEPLATES

MECHANICALLY CLINCHED (BUTTON PUNCHED), WELDED OR FASTENED WITH #10 SCREWS, SPACED AT 600 (24") ON CENTRE.

6. STEEL ROOF DECK IS DESIGNED TO SUPPORT UNIFORMLY DISTRIBUTED LOADS INDICATED ON DRAWINGS AND MAY NOT BE ABLE TO RESIST CONCENTRATED LOADS IF CEILING IS PROPOSED TO BE HUNG DIRECTLY FROM STEEL ROOF DECK. HANGER LAYOUT, LAYOUTS AND PROPOSED FASTENERS TO BE REVIEWED AND APPROVED BY A PROFESSIONAL ENGINEER RELIANT BY THE CONTRACTOR PRIOR TO INSTALLATION. DO NOT HANG ANY OTHER CONCENTRATED LOADS FROM STEEL ROOF DECK. ATTACH TO STRUCTURAL STEEL FRAMING INSTALLED.

7. DECK SUPPLIER TO DESIGN AND PROVIDE REINFORCING FOR ALL ROOF DECK OPENINGS BETWEEN 150 AND 450 WIDE. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS. CLEAR SPACING BETWEEN ADJACENT OPENINGS TO BE MIN. 3 TIMES THE WIDTH OF THE LARGER OPENING.

POST-INSTALLED ANCHORS AND DOWELS

1. UNLESS OTHERWISE NOTED, ANCHORAGE TO CONCRETE TO BE:

- 1. WHERE DRILLED CONCRETE ANCHORS (DCA) ARE NOTED ON DRAWINGS, PROVIDE HILTI KWIK BOL-T, T2 EX-PANDED ANCHORS.
- 2. WHERE ADHESIVE CONCRETE ANCHORS (ACA) ARE NOTED ON DRAWINGS, PROVIDE HILTI HIT-HY 200 ADHESIVE ANCHORING SYSTEM WITH HILTI HIT-Z ANCHOR ROD.
- 3. WHERE REBAR DOWELS ARE NOTED ON DRAWINGS, PROVIDE HILTI HIT-RE 500 V ADHESIVE ANCHORING SYSTEM INSTALLED USING HILTI SAFESET HOLLOW DRILL BIT TECHNOLOGY.

2. UNLESS OTHERWISE NOTED ON DRAWINGS, ANCHORAGE TO SOLID OR GROUTED MASSIVE TO BE:
 1. WHERE DRILLED MASONRY ANCHORS (DMA) ARE NOTED ON DRAWINGS, PROVIDE HILT-KB-3 EXPANSION ANCHORS (LOCATE MIN 35 (1-3/8") FROM ANY VERTICAL, MORTAR JOINT.
 2. WHERE ADHESIVE MASONRY (AMA) ANCHORS ARE NOTED ON DRAWINGS, PROVIDE HILT-HIT-HY TO ADHESIVE ANCHORING SYSTEM WITH HAS-8 THREADED RODS.
3. UNLESS OTHERWISE NOTED ON DRAWINGS, ANCHORAGE TO HOLLOW MASONRY TO BE HILT-HIT-HY TO ADHESIVE ANCHORING SYSTEM WITH HLT-S MESH SLEEVE AND HAS-8 THREADED RODS.
4. ANCHORS LOCATED OUTSIDE THE BUILDING-SEVER'S VAPOUR BARRIER TO BE HOT DIP GALVANIZED OR STAINLESS STEEL.
5. CONCRETE TO BE MINIMUM 28 DAYS OLD AT THE TIME OF ANCHOR INSTALLATION.
6. USE DRILLING AND INSTALLATION TOOLS AND PROCEDURES PER MANUFACTURER'S RECOMMENDATIONS. DO NOT CORE DRILL UNLESS SPECIFICALLY NOTED ON DRAWINGS. HOLE DIAMETERS NOT TO EXCEED THOSE REQUIRED BY MANUFACTURER.
7. WHERE CORE DRILLING IS SPECIFIED, CLEAN AND ROUGHEN HOLES PER MANUFACTURER'S RECOMMENDATION.
8. ARRANGE FOR THE ANCHOR MANUFACTURER TO CONDUCT ON SITE TRAINING FOR INSTALLATION OF ALL THE PRODUCTS SPECIFIED AND FOR ALL CONDITIONS ENCOUNTERED (E.G. HORIZONTAL, INCLINED, OVERHEAD). ALL INSTALLERS MUST COMPLETE THE HILT-I CERTIFIED INSTALLER TRAINING PROGRAM. SUBMIT COPIES OF COMPLETION CERTIFICATES FOR REVIEW BY DESIGN.
9. ANCHOR MANUFACTURER'S TECHNICAL REPRESENTATIVE TO BE PRESENT DURING INSTALLATION OF FIRST FIVE ANCHORS OF EACH SIZE AND TYPE. SUBMIT SITE REPORTS INDICATING ANCHOR TYPES AND SIZES INSTALLED, LOCATIONS AND INSTALLERS' NAMES.
10. ANCHOR AND DOWEL CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND THEIR PROXIMITY TO CONCRETE AND MASONRY EDGES. THEREFORE, ALL ANCHORS MUST BE INSTALLED WITH CLEARANCES AND EDGE DISTANCES INDICATED ON DRAWINGS.
11. UNLESS CORE DRILLING IS SPECIFIED ON DRAWINGS, DO NOT CUT REINFORCEMENT TO ACCOMMODATE DRILLED ANCHORS AND DOWELS. SCAN THE STRUCTURE TO LOCATE REINFORCEMENT PRIOR TO FABRICATING STRUCTURAL STEEL, FASTENED BY DRILLING ANCHORS.
12. WHEN OBSTRUCTIONS PREVENT DRILLING HOLES IN SPECIFIED LOCATIONS TO THE REQUIRED DEPTH, RELOCATE AT NO EXTRA COST TO THE CONTRACT. OBTAIN SVP'S APPROVAL OF NEW LOCATIONS BEFORE DRILLING; MODIFICATIONS TO CONNECTED MEMBERS AND ADDITIONAL ANCHORS / DOWELS MAY BE REQUIRED. FILL ABANDONED HOLES WHICH ARE CLOSER THAN 3 TIMES THE HOLE DIAMETER FROM THE RELOCATED ANCHORS WITH HILT-HY-200 ADHESIVE, DO NOT TIGHTEN ANCHORS UNTIL THE ADHESIVE HAS FULLY CURED.
13. UNLESS OTHERWISE NOTED ON DRAWINGS, EMBEDMENT LENGTHS FOR POST-INSTALLED ANCHORS TO BE:

ANCHOR SIZE	EXPANSION ANCHORS (HLTI KB-Z AND KB-3)	ADHESIVE ANCHORS INTO CONCRETE AND SOLID OR GROUTED CONCRETE (HLTI HIT HY-200 AND HIT HY-70)	ADHESIVE ANCHORS INTO HOLLOW CONCRETE MASONRY (HLTI HIT HY-70)	ADHESIVE ANCHORS INTO HOLLOW BRICK MASONRY (HLTI HIT HY-70)
12 (1/2")	83 (3-1/4")	114 (4-1/2")	50 (2")	80 (3-1/8")
16 (5/8")	102 (4")	143 (5-5/8")	-	-
19 (3/4")	121 (4-3/4")	171 (6-3/4")	-	-

- NOTES:
1. ALL EMBEDMENT LENGTHS SHOWN ARE EFFECTIVE EMBEDMENT LENGTHS; FOR REQUIRED HOLE DEPTHS FOLLOW HILTI RECOMMENDATIONS.
 2. SEE DRAWINGS FOR EMBEDMENT LENGTHS OF REBAR DOWELS.
14. DO NOT BEND POST INSTALLED DOWELS AND RODS AFTER INSTALLATION.
15. DO NOT WELD TO PLATES FASTENED WITH ADHESIVE ANCHORS AFTER THE ADHESIVE IS PLACED.

CLIENT:	
 19601 North 27th Avenue Phoenix, Arizona 85027 - (623) 580-6100	
CLIENT REF #:	1234
PROJECT:	
14K 2025 CANADIAN INSTRUCTION SET	
FEBRUARY 12, 2025	

CONSULTANT

ARCHITECT:

SEAL:

CITY SEAL:

DISCLAIMER: COPYRIGHTED
THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED,
REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY PETSMAST. THE CONTRACTOR
SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS
AND OMISSIONS PRIOR TO COMMENCING WORK.
THIS DRAWING IS NOT TO BE SCALED.

ISSUED FOR

[illegible]

PROJECT N°

CA0045686.014

DRAWN BY:

Table 1

CHECKED BY _____

DISCIPLINE:

TITLE:

GENERAL NOTES

SHEET NUM

S1.0