

CONCRETE COVER

- UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, PROVIDE 2 HOUR FIRE RATING FOR ALL REINFORCED CONCRETE.
- UNLESS OTHERWISE NOTED CONCRETE COVER TO REINFORCEMENT SHALL BE THE LARGEST OF A THROUGH H:
A. FOR FIRE RATINGS:
 - FORCASTED AIR TEMPERATURE AT OR BELOW 5°C
 - CONCRETE SHALL NOT BE PLACED ON OR AGAINST ANY SURFACE WHICH IS AT A TEMPERATURE LESS THAN 5°C
 - CONTRACTOR SHALL BE PREPARED TO COVER SLABS AND SHOTCRETE WITH 12.5% UNPROPORTIONED DROP-IN AIR TEMPERATURE SHOULD OCCUR.
 - CONCRETE EXPOSURE CLASSES REQUIRING CURING TYPE 1 (BASIC) IN ACCORDANCE WITH CSA A23.1 SHALL HAVE THE CURING TYPE TEMPERATURE MAINTAINED ABOVE 10°C FOR AT LEAST 7 DAYS OR UNTIL THE CONCRETE REACHES 70% OF SPECIFIED STRENGTH.
 - CONCRETE EXPOSURE CLASSES REQUIRING CURING TYPE 2 (ADDITIONAL CURING) OR CURING TYPE 3 (EXTENDED WET CURING) IN ACCORDANCE WITH CSA A23.1 SHALL HAVE THE CURING TEMPERATURE MAINTAINED ABOVE 10°C FOR AT LEAST THE DURATION INDICATED IN THE STANDARD.
- FORCASTED AIR TEMPERATURE BELOW 2°C BUT NOT BELOW -4°C (NOTE - FOR THESE CONDITIONS STRUCTURAL CONCRETE TOPPINGS ON METAL DECK SHALL SATISFY THE REQUIREMENTS OF NOTE 3).
- FOLLOW REQUIREMENTS OF NOTES 1A, 1B, 1D, 1E, AND 2.

ELEMENT	FIRE RATINGS		
	0-2 HOURS	3 HOURS	4 HOURS
RETAINING FOUNDATION WALLS (1/2 EXPOSURE)	GREATER OF 40mm AND 1.5b	N/A	N/A
INSIDE FACE OF GROUND OR EARTH SIDE	GREATER OF 40mm AND 1.5b	N/A	N/A
B. UNLESS NOTED OTHERWISE IN NOTES C THROUGH H MINIMUM CONCRETE COVER	1.0a		
C. CONCRETE CAST AGAINST EARTH OR GROUND	75 mm		
D. CONCRETE WITH NO MEMBRANE (NON-PARKING) - 40 mm OR 2.0a, AND EXPOSED TO CHLORIDES - EXPOSURE CLASS C1, C1 AND C2	40 mm OR 2.0a, (WHICHEVER IS GREATER)		
E. EXPANDED FINISHED CONCRETE EXPOSED TO WEATHER - EXPOSURE CLASS F1, F2, S1, S2, OR EARTH	40 mm OR 1.5a, (WHICHEVER IS GREATER)		
F. CONCRETE IN PARKING AREAS WITH MEMBRANE, TOP AND VERTICAL SLABS	40 mm OR 1.5a, (WHICHEVER IS GREATER)		
G. CONCRETE IN PARKING AREAS WITH MEMBRANE AND SEVERE EXPOSURE TO CHEMICALS, TRUCKS, ACCESS, ETC. AS NOTED ON PLAN, TOP BARS	45 mm OR 1.5a, (WHICHEVER IS GREATER)		
H. CONCRETE IN PARKING AREAS, BOTTOM BARS	30 mm OR 1.5a, (WHICHEVER IS GREATER)		

NOTES:
SEE ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS FOR AREAS WHICH MAY REQUIRE 3 OR 4 HOUR RATINGS.
SEE STRUCTURAL DRAWINGS FOR AREAS CLASSIFIED AS (D) OR (E) ABOVE FOR WEATHER EXPOSURE.

DESIGNATION OF REINFORCING BARS

- REINFORCING BARS SHOWN THIS SIDE OF WALL IN BOTTOM OF BEAMS OR SLABS OR IN FAR FACE OF WALL
- REINFORCING BARS SHOWN THIS SIDE OF WALL IN NEAR FACE OF WALL
- STRAIGHT BARS:
 - 6-10M4200 MEANS 6-10M BARS 4200 mm LONG
 - 15M3600 + 15M3200 ALT. @ 200 MEANS 1-15M 3600 mm LONG BAR THEN 1-15M 3200 mm LONG BAR SPACED 200 mm O.C. ALTERNATE
 - 20M4000 @ 300 STAG. 600 MEANS 600 mm OFFSET FOR EACH 20M4000 BAR SPACED AT 300 mm O.C. IF STAGGER NOT SPECIFIED SEE GENERAL NOTES AND TYPICAL DETAILS FOR DIMENSION.
 - TYPICAL SLAB REINFORCING LAYOUT NOTE FOR DIMENSION.
- REINFORCING BAR HARDWARE:
 - REINFORCING BAR TERMINATOR (WITH 5 x Ab GROSS HEAD) OR HEADED BAR (WITH 10 x Ab GROSS HEAD) PROVIDE BAR TERMINATOR U OR O
 - REINFORCING BAR MECHANICAL SPLICE (TYPE 2 U.N.O.)
 - REINFORCING BAR MECHANICAL SPLICE AT CONNECTION JOINT OR FOR FUTURE EXTENSION (TYPE 2 U.N.O.)
 - REBAR BAR COUPLED WELDED TO STRUCTURAL STEEL (SECTION OR EMBED PLATE TYPE 2 U.N.O.)
- EPOXY COATED STRAIGHT AND HOOKED BARS:
 - E15M @ 400 B.E.W. MEANS 15M BARS EPOXY COATED SPACED AT 400 mm O.C. AT BOTTOM OF SLAB IN BOTH DIRECTIONS.
 - E7C15M4000 @ 250 MEANS 7-15M BARS EPOXY COATED 4000 mm LONG (LENGTH INCLUDES HOOK LENGTH) HOOKED ONE END WITH 90° STANDARD HOOK AND SPACED AT 250 mm O.C.

CONCRETE COLD WEATHER REQUIREMENTS (CAST-IN-PLACE)

- (SEE ALSO CSA A23.1, EXCEPT THE FOLLOWING MINIMUM REQUIREMENTS MUST ALSO BE MET)
- FORCASTED AIR TEMPERATURE AT OR BELOW 5°C
 - CONCRETE SHALL NOT BE PLACED ON OR AGAINST ANY SURFACE WHICH IS AT A TEMPERATURE LESS THAN 5°C
 - CONTRACTOR SHALL BE PREPARED TO COVER SLABS AND SHOTCRETE WITH 12.5% UNPROPORTIONED DROP-IN AIR TEMPERATURE SHOULD OCCUR.
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ELEMENT	FIRE RATINGS		
	0-2 HOURS	3 HOURS	4 HOURS
RETAINING FOUNDATION WALLS (1/2 EXPOSURE)	GREATER OF 40mm AND 1.5b	N/A	N/A
INSIDE FACE OF GROUND OR EARTH SIDE	GREATER OF 40mm AND 1.5b	N/A	N/A
B. UNLESS NOTED OTHERWISE IN NOTES C THROUGH H MINIMUM CONCRETE COVER	1.0a		
C. CONCRETE CAST AGAINST EARTH OR GROUND	75 mm		
D. CONCRETE WITH NO MEMBRANE (NON-PARKING) - 40 mm OR 2.0a, AND EXPOSED TO CHLORIDES - EXPOSURE CLASS C1, C1 AND C2	40 mm OR 2.0a, (WHICHEVER IS GREATER)		
E. EXPANDED FINISHED CONCRETE EXPOSED TO WEATHER - EXPOSURE CLASS F1, F2, S1, S2, OR EARTH	40 mm OR 1.5a, (WHICHEVER IS GREATER)		
F. CONCRETE IN PARKING AREAS WITH MEMBRANE, TOP AND VERTICAL SLABS	40 mm OR 1.5a, (WHICHEVER IS GREATER)		
G. CONCRETE IN PARKING AREAS WITH MEMBRANE AND SEVERE EXPOSURE TO CHEMICALS, TRUCKS, ACCESS, ETC. AS NOTED ON PLAN, TOP BARS	45 mm OR 1.5a, (WHICHEVER IS GREATER)		
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 - TYPICAL SLAB REINFORCING LAYOUT NOTE FOR DIMENSION.
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CONCRETE - GENERAL

- UNLESS NOTED OTHERWISE, ALL CONCRETE IS TO BE CAST-IN-PLACE.
- PORTLAND CEMENT SHALL BE TYPE GU OR QUI UNLESS NOTED OTHERWISE. ALL CONCRETE MIX SUBMITTALS MUST CLEARLY INDICATE THE SPECIFIC CEMENT TYPE TO BE UTILIZED, OR THE PROPORTIONS WHEN MULTIPLE CEMENT TYPES ARE UTILIZED IN THE SAME MIX.
- CEMENT TYPE AND SUPPLEMENTARY CEMENTING MATERIALS FOR EXPOSURE CLASSES S-1, S-2, AND S-3 SHALL BE AS OUTLINED IN CSA A23.1.
- CONCRETE SHALL HAVE A UNIT WEIGHT OF 23k1 kN/m³ (145ps PCF) UNLESS NOTED OTHERWISE.
- THE CONCRETE PROPERTIES USED IN DESIGN ARE BASED ON A NOMINAL COARSE AGGREGATE SIZE OF 20 mm (3/4") ACCORDING TO TABLE 11 OF CSA A23.1. UNLESS NOTED OTHERWISE, ALL LOCATIONS PROPOSED BY THE CONTRACTOR FOR USE OF CONCRETE MIX DESIGNS WITH A NOMINAL COARSE AGGREGATE SIZE DIFFERENT THAN 20 mm (3/4") SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. ANY INCREASE IN REQUIRED CONCRETE STRENGTH OR INCREASE IN QUANTITY OF REINFORCEMENT DUE TO PROPOSED USE OF CONCRETE MIX WITH DIFFERENT NOMINAL COARSE AGGREGATE SIZE TO BE PAID FOR BY THE CONTRACTOR.
- RECYCLED AGGREGATE IS NOT TO BE USED WITHOUT WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER.
- SUMP AND AGGREGATE SIZE TO BE DETERMINED BY THE GENERAL CONTRACTOR AND SUPPLIER TO MEET PLACEMENT AND FINISHING REQUIREMENTS WITHOUT SEGREGATION WHILE MEETING ALL OWNER COMPONENTS INCLUDING MECHANICAL AND ELECTRICAL EQUIPMENT.
- MAXIMUM WATER/CEMENT RATIO AND AIR CONTENT TO MEET THE REQUIREMENTS FOR THE EXPOSURE CLASS AS OUTLINED IN CSA A23.1. REQUIRED AIR CONTENT FOR EXPOSURE CLASSES F-1, F-2, C-1, C-2, AND C-3 SHALL BE BASED ON CONCRETE EXPOSED TO FREEZE-THAW CYCLES UNLESS NOTED OTHERWISE.
- CHLORIDE ION PENETRATION FOR EXPOSURE CLASS C-1 AND C-XL SHALL MEET THE REQUIREMENTS OF CSA A23.1.

ELEMENT	COMPRESSIVE STRENGTH (MPa) 28 DAY U.N.O.	EXPOSURE CLASS	COMMENTS
FOOTINGS	30 MPa (56 DAY)	F-1	
RETAINING WALLS / FOUNDATION WALLS	30 MPa	F-1	
LEAN MIX CONCRETE	MIN 5 MPa (REFER TO GEOTECH)		

NOTES:
1. WHERE EXPOSURE CLASS LISTED AS NF-1F-2:

- USE F-1 EXPOSURE FOR INTERIOR CONCRETE LOCATED WITHIN AN INSULATED BUILDING ENVELOPE (E.G. DRY AND NOT SUBJECTED TO FREEZING AND THAWING).
- USE F-2 EXPOSURE FOR HORIZONTAL AND SLOPED CONCRETE MEMBERS EXTERIOR TO THE BUILDING INSULATION AND NOT PROTECTED BY A MEMBRANE AND DRIP EDGE (E.G. DRY AND SUBJECT TO FREEZING AND THAWING).
- USE F-2 EXPOSURE FOR HORIZONTAL AND SLOPED CONCRETE MEMBERS EXTERIOR TO THE BUILDING INSULATION AND PROTECTED BY A MEMBRANE AND DRIP EDGE (E.G. DRY AND SUBJECT TO FREEZING AND THAWING).
- USE F-2 FOR THE BUILDING CONCRETE MEMBERS EXTERIOR TO THE BUILDING INSULATION.

- CONCRETE STRENGTH AND EXPOSURE CLASS OF STAIRS AND BARS SHALL MEET THE MOST STRINGENT OF THE ADJOINING SLABS AND BEAMS UNLESS NOTED OTHERWISE.

CONCRETE - STRENGTH AND EXPOSURE

GENERAL (AREAS NOT INCLUDING PARKING)

ELEMENT	COMPRESSIVE STRENGTH (MPa) 28 DAY U.N.O.	EXPOSURE CLASS	COMMENTS
FOOTINGS	30 MPa (56 DAY)	F-1	
RETAINING WALLS / FOUNDATION WALLS	30 MPa	F-1	
LEAN MIX CONCRETE	MIN 5 MPa (REFER TO GEOTECH)		

NOTES:
1. WHERE EXPOSURE CLASS LISTED AS NF-1F-2:

- USE F-1 EXPOSURE FOR INTERIOR CONCRETE LOCATED WITHIN AN INSULATED BUILDING ENVELOPE (E.G. DRY AND NOT SUBJECTED TO FREEZING AND THAWING).
- USE F-2 EXPOSURE FOR HORIZONTAL AND SLOPED CONCRETE MEMBERS EXTERIOR TO THE BUILDING INSULATION AND NOT PROTECTED BY A MEMBRANE AND DRIP EDGE (E.G. DRY AND SUBJECT TO FREEZING AND THAWING).
- USE F-2 EXPOSURE FOR HORIZONTAL AND SLOPED CONCRETE MEMBERS EXTERIOR TO THE BUILDING INSULATION AND PROTECTED BY A MEMBRANE AND DRIP EDGE (E.G. DRY AND SUBJECT TO FREEZING AND THAWING).
- USE F-2 FOR THE BUILDING CONCRETE MEMBERS EXTERIOR TO THE BUILDING INSULATION.

- CONCRETE STRENGTH AND EXPOSURE CLASS OF STAIRS AND BARS SHALL MEET THE MOST STRINGENT OF THE ADJOINING SLABS AND BEAMS UNLESS NOTED OTHERWISE.

CONCRETE CONSTRUCTION TOLERANCES

- (TOLERANCES AS PER CSA A23.1, EXCEPT AS NOTED BELOW)
- VARIATION FROM THE PLUMB:
 - IN THE LINES AND SURFACES OF COLUMNS, PIERS, WALLS AND IN ARCHES: 0.25% HEIGHT (1 IN 400), MAXIMUM 40 mm OVER THE ENTIRE HEIGHT OF THE STRUCTURE.
ONLY ONE CURVATURE ALLOWED PER 3000 mm.
 - THE TOLERANCE GIVEN IS THE MAXIMUM VARIATION FROM A PLUMB LINE.
ALL MEASUREMENTS SHALL BE TO THE SAME SIDE OF THE PLUMB LINE.
 - UNLESS SPECIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS - THE TOLERANCES FOR EXPOSED CORNER COLUMNS, CONTROL JOINT GROOVES, AND OTHER CONSPICUOUS LINES SHALL BE AS ALSO SET FORTH IN THE STANDARD.
 - 0.125% OF HEIGHT (1 IN 800), MAXIMUM 20 mm.
ONLY ONE CURVATURE ALLOWED PER 6000 mm.
 - MAXIMUM VARIATION IN WINDOW BAYS 0.2% OF OPENING.
 - UNLESS SPECIFIED ELSEWHERE, FLOOR FINISHES SHALL BE CLASS A CONVENTIONAL SLAB ON GRADE AND ELEVATED FLOORING WITH AN OVERALL FINISH TOLERANCE OF 1/8" (3 mm).
CLOSER TOLERANCES MAY BE REQUIRED TO GIVE THE QUALITY OF FINISH FLOOR SURFACES CALLED FOR ELSEWHERE IN THE CONTRACT DOCUMENTS.
 - VARIATIONS OF STRUCTURAL CONCRETE ELEMENTS RELATED TO EACH OTHER AND RELATIVE TO THE UNFINISHED GROUND SYSTEM FOR DIMENSIONS TO MEET CSA A23.1.
 - VARIATION IN CROSS-SECTIONAL DIMENSIONS OF COLUMNS AND BEAMS AND IN THE THICKNESS OF SLABS AND WALLS: AS IN CSA A23.1.
ONLY ONE CURVATURE ALLOWED PER 3000 mm.
 - FOOTINGS:
 - VARIATION IN DIMENSIONS IN PLAN:
MINUS 10 mm
PLUS 50 mm
 - MISPLACEMENT OR ECCENTRICITY:
TWO (2) PERCENT OF THE FOOTING WIDTH IN THE DIRECTION OF MISPLACEMENT BUT NOT MORE THAN 50 mm
 - REDUCTION IN THICKNESS:
MINUS 5% OF SPECIFIED THICKNESS
 - THE ABOVE REQUIREMENTS DO NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO MAINTAIN THE REQUIRED STRENGTH, DURABILITY, AND PERFORMANCE REQUIREMENTS INDICATED UNDER SUPPLIER RESPONSIBILITY - ITEM (g) OF TABLE 5 (ALTERNATIVE 1) OF CSA A23.1.

CONCRETE FORMWORK STRIPPING AND SHORING

- THE DESIGN AND FIELD REVIEW OF FORMWORK, SHORING AND RESHORING IS THE RESPONSIBILITY OF THE CONTRACTOR. RESHORING DRAWINGS SHALL BE SUBMITTED TO RJC FOR THE EFFECT ON THE BASE BUILDING STRUCTURE ONLY.
- NO COLUMN OR WALL FORMS SHALL BE REMOVED BEFORE CONCRETE HAS REACHED 10 MPa FOR ARCHITECTURAL CONCRETE OR 5 MPa FOR OTHER COLUMNS OR WALLS.
- STRENGTH OF CONCRETE FOR STRIPPING TO BE DETERMINED USING CYLINDERS STORED ON SITE IN A PROTECTED ENCLOSURE THAT MAINTAINS A SIMILAR TEMPERATURE AND HUMIDITY AS THE STRUCTURAL ELEMENTS REPRESENTED. ALTERNATE METHODS, IF ACCEPTABLE TO RJC, MAY BE USED.
- NO CONCRETE MAY BE REMOVED WITH PERCUSSIVE METHODS SUCH AS CHIPPING OR JACK-HAMMERING WITHOUT PRIOR APPROVAL BY RJC.

CONCRETE REINFORCEMENT

- REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS:
 - 10M AND LARGER (U.N.O.) - CSA G30 18 GRADE 40R
 - WELDED WIRE REINFORCEMENT - ASTM A106M
 - ALL REINFORCING THAT WILL BE WELDED - CSA G30 18 GRADE 400M
 - EPOXY REINFORCING - ASTM A775M AND ASTM D3956M
 - GALVANIZED REBAR - ASTM A757M(NOTE: CSA G30 18 IN GRADES MAY BE SUBSTITUTED FOR CSA G30 18 IN GRADES)
- REINFORCING BARS WITH 5 x Ab MECHANICAL ANCHOR HEADS TO HAVE CLEAR SPACING BETWEEN PARALLEL BARS OF NOT LESS THAN 4x, WITHIN THE SAME LAYER AND BETWEEN LAYERS.
- DO NOT SUBSTITUTE DEFORMED WIRE FOR REINFORCING BARS WITHOUT PRIOR APPROVAL OF THE RJC.
- SUPPORT REINFORCING WITH CHAIRS, ACCESSORIES, OR REINFORCING BARS AS REQUIRED. BARS USED AS SUPPORT BARS SHALL BE CONSIDERED AS ACCESSORIES.
- PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN CONCRETE COVER AS SPECIFIED. ALL SUPPORTS AND BARS MUST BE TIED TOGETHER TO MAINTAIN REINFORCING STEEL SECURELY IN PLACE DURING CONCRETE PLACEMENT.
- SEE STRUCTURAL DRAWINGS FOR EXTENT OF EPOXY COATED REBAR.
- TESTING OF REINFORCING STEEL SHALL CONFORM TO THE SPECIFICATIONS.

NON-STRUCTURAL ELEMENTS

- "NON-STRUCTURAL" OR "SECONDARY STRUCTURAL" ELEMENTS ARE NOT PART OF THE STRUCTURAL DESIGN SHOWN ON THESE DRAWINGS. SUCH ELEMENTS ARE DESIGNED, DETAILED AND REVIEWED IN THE FIELD BY OTHERS. THEY SHOULD APPEAR ON DRAWINGS OTHER THAN THESE DRAWINGS OF READ JONES CHRISTOFFERSEN LTD. WHERE STRUCTURAL ENGINEERING RESPONSIBILITY IS REQUIRED. THESE ELEMENTS, THIS SHALL BE PROVIDED BY SPECIALTY STRUCTURAL ENGINEERS, WHO SHALL PREPARE ALL SUBMITTALS UNDER THEIR SEAL AND SIGNATURE AND ALSO PROVIDE ANY LETTERS REQUIRED BY BUILDING PERMIT AUTHORITIES.
- EXAMPLES OF NON-STRUCTURAL ELEMENTS INCLUDE, BUT ARE NOT LIMITED TO:
 - ARCHITECTURAL COMPONENTS SUCH AS GUARDRAILS, HANDRAILS, FLAG POSTS, CANOPIES, GELINAS, MILLWORK, ETC.
 - LANDSCAPE ELEMENTS SUCH AS BENCHES, LIGHT POSTS, PLANTERS, ETC.
 - CLADDING, GLAZING, WINDOW WALLS, INTERIOR STUD WALLS AND EXTERIOR STUD WALLS.
 - ARCHITECTURAL PRECAST, PRECAST CLADDING.
 - SIGNLIGHTS.
 - MECHANICAL AND ELECTRICAL EQUIPMENT, COMPONENTS, AND FALL PROTECTION AND FALL ARREST SYSTEMS AND THEIR ATTACHMENTS.
 - ESCALATORS, ELEVATORS, AND CONVEYING SYSTEMS.
 - GLASS BLOCK AND ITS ATTACHMENTS.
 - BRICK OR BLOCK VENEERS AND THEIR ATTACHMENTS.
 - DESIGN AND FIELD REVIEW OF SEISMIC RESTRAINT FOR SECONDARY STRUCTURAL ELEMENTS AND OPERATIONAL AND FUNCTIONAL COMPONENTS INCLUDING MECHANICAL AND ELECTRICAL EQUIPMENT.
 - NON-STRUCTURAL CONCRETE TOPPING.
 - DESIGN AND FIELD REVIEW OF NON-LOAD BEARING MASONRY.
- DESIGNS PRODUCED BY THE SPECIALTY ENGINEER SHALL CONSIDER STRENGTH, STABILITY, SERVICEABILITY AND INTEGRITY REQUIREMENTS OF THE STRUCTURE AND THE DESIGNER'S DESIGN SHALL BE SUBJECT TO THE CURRENT EDITION OF APPLICABLE DESIGN CODES AND ALL OTHER DESIGN REQUIREMENTS INDICATED IN THE DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE THE DESIGN OF ALL NON-STRUCTURAL ELEMENTS DESIGNED BY ONE OR MORE SPECIALTY ENGINEERS AND CONNECTING TO ELEMENTS DESIGNED BY OTHER SPECIALTY ENGINEERS TO ENSURE THE STRENGTH, STABILITY, SERVICEABILITY AND INTEGRITY OF THE FINAL CONSTRUCTION.
- SHOP DRAWINGS FOR NON-STRUCTURAL ELEMENTS WHICH MAY AFFECT THE PRIMARY STRUCTURAL SYSTEM SHALL BE SUBMITTED TO READ JONES CHRISTOFFERSEN LTD. TO INDICATE CLEARLY THE METHOD OF ATTACHMENT AND MAGNITUDE OF ALL FORCES (SPECIFIED AND FACTORED) THAT THE STRUCTURE MUST WITHSTAND. THESE DRAWINGS WILL BE REVIEWED ONLY FOR THE EFFECT OF THE ELEMENT ON THE PRIMARY STRUCTURAL SYSTEM.

FREESTANDING RETAINING WALL NOTES AND DETAILS

- RETAINING WALLS ARE DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT NOTED UNDER FOUNDATION GENERAL NOTES PLUS A 4# PLUMB LATERAL LOAD ALLOWANCE FOR A VERTICAL SURCHARGE OF 12 psf. SEE ALSO DESIGN LOADS IN GENERAL NOTES.
- RETAINING WALLS ARE DESIGNED FOR A FINE DRAINING AND WELL DRAINED BACKFILL. SEE ARCHITECTURAL AND PLUMBING SPECIFICATIONS AND DRAWINGS FOR DRAINAGE REQUIREMENTS.
- SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR DAMPROOFING OR WATERPROOFING REQUIREMENTS.
- SEE ALSO ARCHITECTURAL AND CIVIL/LANDSCAPING DWGS FOR EXTENT OF FILL RETAINING STRUCTURES.
- BACKFILL MATERIALS AND METHODS TO BE REVIEWED BY SOILS CONSULTANT TO BE ENSURE COMPLIANCE TO THE RECOMMENDATIONS AS NOTED IN THE GEOTECHNICAL REPORT.
- DESIGN AND FIELD REVIEW OF BACKFILL IS BY SOILS CONSULTANT AND NOT BY READ JONES CHRISTOFFERSEN LTD.
- UNLESS NOTED OTHERWISE, ALL RETAINING WALLS BELOW GRADE AND ALL EXTERIOR WALLS EXPOSED TO THE WEATHER ABOVE GRADE SHALL HAVE CONTROL JOINTS. SEE CONTROL JOINT DETAIL. CONSTRUCTION JOINT MAY REPLACE CONTROL JOINT WHERE REQUIRED. THE LOCATION OF CONTROL JOINTS IN EXPOSED CONCRETE WALLS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.
- VERTICAL CONTROL JOINTS AND CONSTRUCTION JOINTS PER WALL TYPICAL DETAILS.

EXCAVATIONS & SHORING

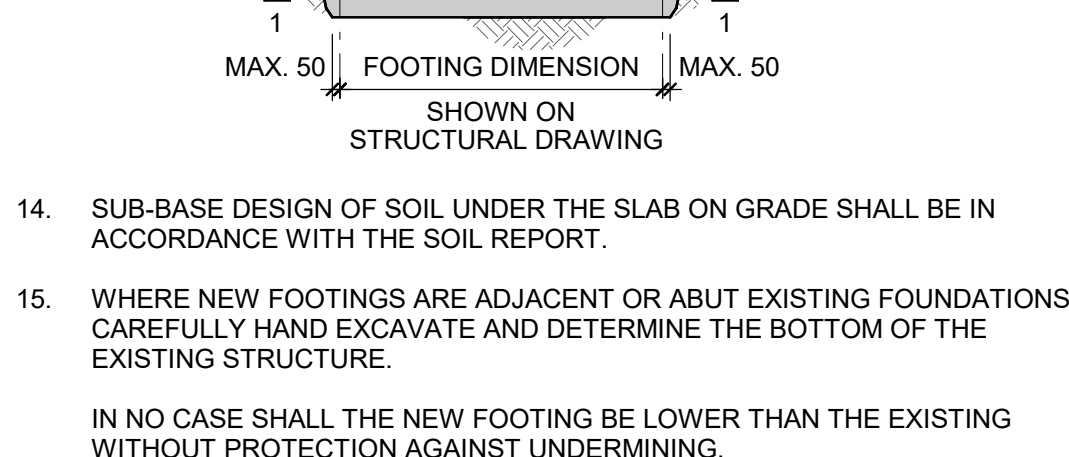
- DESIGN AND FIELD REVIEW OF EXCAVATION, SHORING, AND BACKFILL IS NOT WITHIN THE SCOPE OF READ JONES CHRISTOFFERSEN LTD.

FOUNDATIONS

- FOOTINGS HAVE BEEN DESIGNED FOR THE FOLLOWING BEARING RESISTANCE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
REPORT NO: 02101769.000 GEO BLD ADDITION UXBIDGE HOSPITAL PHASE 1.
DATE: FEBRUARY 20, 2024.
A. STRIP FOOTINGS: ULS: 300 kPa SLS: 200 kPa
A MODULUS OF SUBGRADE REACTION OF 80,000 kPa/m³ HAS BEEN ASSUMED IN THE DESIGN OF THE SLAB ON GRADE.
3. SPECIALTY ENGINEERS ENGAGED BY THE CONTRACTOR SHALL BE REGISTERED AS PROFESSIONAL ENGINEERS IN THE PROVINCE OF ONTARIO AND ALL SUBMITTALS OR SHOP DRAWINGS PREPARED BY OR UNDER THE SUPERVISION OF THIS ENGINEER SHALL BE SIGNED AND SEALED BY THE REGISTERED PROFESSIONAL ENGINEER.
4. BEARING SURFACES MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER IMMEDIATELY BEFORE FOOTING OR SLAB ON GRADE CONCRETE IS PLACED. RJC IS NOT RESPONSIBLE FOR CONFIRMING BEARING CAPACITIES OF SOILS.
5. BEARING SURFACES MUST BE PROTECTED FROM FREEZING BEFORE AND AFTER CONCRETE IS PLACED.
6. PROVIDE 50 mm GROUND SEAL/SHIM COAT OR MID SLAB UNDER FOOTINGS AS REQUIRED BY SOIL CONDITIONS UNLESS NOTED OTHERWISE PER GEOTECHNICAL REPORT.
7. FOOTING ELEVATIONS, IF SHOWN, ARE FOR BIDDING PURPOSES ONLY AND NOT FINAL, AND MAY VARY ACCORDING TO SITE CONDITIONS OR AS REQUIRED BY SERVICES. ALL FOOTINGS MUST BE TAKEN TO A BEARING LAYER APPROVED BY THE GEOTECHNICAL ENGINEER.
8. FOOTINGS MAY HAVE TO BE LOWERED TO ACCOMMODATE MECHANICAL OR ELECTRICAL SERVICES. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ELEVATIONS OF SAME. FOOTINGS ARE NOT TO BE UNDERMINED BY EXCAVATIONS FOR SERVICES, PITS, ETC.
9. VARY FOOTING ELEVATIONS WHERE REQUIRED IN ACCORDANCE WITH STEPPED FOOTING DETAIL C/F010/ C/F011.
10. UNLESS OTHERWISE SHOWN, CENTER FOOTINGS UNDER COLUMNS AND WALLS.
11. DOWELS SHALL BE PLACED BEFORE CONCRETE IS PLACED. TEMPLATES SHALL BE USED TO ENSURE CORRECT PLACEMENT OF DOWELS.
12. CONCRETE PLACED UNDER WATER SHALL CONFORM TO CSA A23.1.
13. FOOTINGS CAST DIRECTLY INTO EXCAVATIONS (WITHOUT SIDE FORMS) SHALL NOT BE LARGER THAN SHOWN BELOW.

CONCRETE - FINISHING AND ADMIXTURES

- CURING OF CONCRETE TO MEET THE REQUIREMENTS FOR THE EXPOSURE CLASS AS OUTLINED IN CSA A23.1. CURING COMPOUNDS ARE NOT PERMITTED FOR SUSPENDED PARKING SLABS OR EXPOSURE CLASS C-XL CONCRETE. PARKING SLABS AND REINFORCED SLAB ON GRADES IN PARKING AREAS ARE TO BE CURED FOR MINIMUM 7 DAYS.
CORROSION INHIBITORS ARE TO BE USED IN CONCRETE IN AREAS NOTED ON THE STRUCTURAL DRAWINGS. SEE GENERAL NOTES AND STAIR LANDINGS WITH PARAPETALS. USE 10 Litre of "DCI 5" BY GRACE CONSTRUCTION CHEMICALS. ALTERNATIVELY, USE C-XL CONCRETE WITH CURING TYPE 3 (EXTENDED) PER CSA A23.1.
- ALL BOTTOM EDGES OF EXPOSED SLABS AND BEAMS, AS WELL AS EDGES OF WALLS AND COLUMNS, TO BE CHAMFERED 20 mm x 20 mm. ALL TOP EDGES OF EXPOSED SLABS, BEAMS, UPSTANDS AND STAIRS TO BE TOOLED UNLESS NOTED OTHERWISE. SEE ALSO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR OTHER FINISH REQUIREMENTS.
- NO CALCIUM CHLORIDE IS PERMITTED, IN ANY FORM, IN ANY CONCRETE MIX WITHOUT THE EXPRESS WRITTEN CONSENT OF READ JONES CHRISTOFFERSEN LTD.
- CURING AND PROTECTION OF CONCRETE FOR HOT, COLD OR DRY WEATHER IS TO BE AS PER CSA A23.1 AS A MINIMUM. SEE ALSO "CONCRETE COLD WEATHER REQUIREMENTS" IN THE STRUCTURAL DRAWINGS.
- WHERE NEW FOOTINGS ARE ADJACENT OR ABUT EXISTING FOUNDATIONS, CAREFULLY HAND EXCAVATE AND DETERMINE THE BOTTOM OF THE EXISTING STRUCTURE.



SUB-GRADE NOTES

- REFER TO GEOTECHNICAL REPORT FOR OTHER SPECIFIC DESIGN REQUIREMENTS FOR FOUNDATIONS, SOIL SLOPES, FROST PROTECTION, MINIMUM COVER, ETC.
FOR GROUND ELEVATIONS AND DRAINAGE SLOPES, SEE ARCHITECTURAL & CIVIL DRAWINGS.
REMOVE ALL ORGANIC MATERIAL FROM THE BUILDING AREA AS OUTLINED IN THE GEOTECHNICAL REPORT.
REMOVE ALL LOOSE OR SATURATED MATERIAL AND GROUNDWATER FROM THE BASE OF FOOTING EXCAVATION BY APPROVED METHODS PRIOR TO PLACING FOUNDATIONS.
BEARING SURFACES MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER IMMEDIATELY BEFORE CASTING OF CONCRETE FOR FOUNDATIONS OR SLAB ON GRADE. RJC IS NOT RESPONSIBLE FOR CONFIRMING BEARING CAPACITIES OF SOILS.
PROTECT EXCAVATIONS FOR FOOTINGS FROM RAIN, SNOW, FREEZING TEMPERATURES, STANDING WATER, LOSS OF MOISTURE AND DEGRADATION BY APPROVED METHODS.
SHOULD WATER OR FROST, ENTER A FOOTING EXCAVATION AFTER SUB-GRADE APPROVAL, THE SUB-GRADE SHALL BE RE-INSPECTED BY THE GEOTECHNICAL ENGINEER AFTER REMOVAL OF THE WATER OR FROST.

DESIGN LOADS

- THE COMPLETED BASE BUILDING STRUCTURE SHOWN ON THE STRUCTURAL DRAWINGS HAS BEEN DESIGNED IN SUBSTANTIAL ACCORDANCE WITH THE ONTARIO BUILDING CODE 2012 OREG B010 AND SUBSEQUENT REVISIONS WHICH IS BASED ON THE NATIONAL BUILDING CODE OF CANADA 2015.

DESIGN LOADS

- LATERAL LOADS ON FOUNDATION WALLS:
 - FOUNDATION WALLS RETAINING EARTH ARE DESIGNED TO RESIST A HORIZONTAL PRESSURE AT AN EARTH DEPTH PER THE GEOTECHNICAL REPORT BASED ON FOLLOWING:

EARTHQUAKE SOIL PRESSURE:	PE = N/A
SOIL PRESSURE ON EXPOSED FACE:	PH = 0.5
DEPTH BELOW GROUND WATER LEVEL:	HW = 0 (Free draining)
DRIY UNIT WEIGHT OF SOIL:	γ = 21.0 kN/m³
SURFACE COEFFICIENT:	K = 12 kPa
 - THE SUBSTRUCTURE HAS BEEN DESIGNED TO RESIST UNBALANCED SOIL PRESSURE ACTING ON FOUNDATION WALLS AND RESISTED BY THE SHEAR WALLS AND FOUNDATION WALLS. THE UNBALANCED SOIL PRESSURE HAS BEEN CALCULATED BASED ON THE SOILS REPORT, AND IT IS A CONSEQUENCE OF:

FINISHED GRADE ELEVATION	SLUING GRADE	EXPANSION JOINTS	EXISTING BASEMENTS ON SURROUNDING PROPERTIES.
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 - DO NOT BACKFILL WALLS UNTIL LATERALLY SUPPORTED BY COMPLETED FLOOR AND OR EXTERIOR STRUCTURE.
- WATER TABLE. THIS BUILDING IS NOT DESIGNED AS A TANKED STRUCTURE.

TEMPORARY WORKS

- 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.
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.
ACCESS OF HEAVY CONSTRUCTION EQUIPMENT AND ACCUMULATION OF CONSTRUCTION MATERIALS ON THE FLOOR ARE NOT PERMITTED UNLESS SUCH HAVE BEEN CATERED FOR IN THE CONTRACTORS TEMPORARY WORK DESIGN TO THE SATISFACTION OF THE ARCHITECT & ENGINEER.
COSTS OF ALL TEMPORARY WORKS ARE DEEMED TO HAVE BEEN INCLUDED IN THE CONTRACT PRICE.
SUBMIT SHOP DRAWINGS FOR ALL TEMPORARY WORKS FOR REVIEW BEFORE FABRICATION COMMENCES. SHOP DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED AND LICENSED TO PRACTICE BY THE PROFESSIONAL ENGINEERING ASSOCIATION HAVING JURISDICTION IN THE AREA WHERE THE STRUCTURE IS TO BE BUILT.
ANY CONSTRUCTION SEQUENCES SHOWN ON THE DRAWINGS SHALL BE PART OF TEMPORARY WORKS AND ARE NOT PERMITTED UNLESS THE CONTRACTOR'S OWN SELECTION OF METHOD, AND THE CONTRACTOR SHALL ASSUME FULL AND SOLE RESPONSIBILITY FOR IT, AS STATED IN (1) ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE STRUCTURE WISHES TO DEVIATE FROM ANY SUGGESTED SEQUENCE.
SEE ALSO CONCRETE FORMWORK STRIPPING AND SHORING NOTES.

DELEGATED DESIGN OF PRIMARY STRUCTURE COMPONENTS

- THE CONTRACTOR SHALL ENGAGE A SPECIALTY ENGINEER FOR THE DESIGN OF REQUIRED STRUCTURAL ELEMENTS AND REQUIRED STRUCTURAL CONNECTIONS NOT INDICATED IN THE DRAWINGS.
- STRUCTURAL COMPONENTS REQUIRING DESIGN COMPLETED BY THE CONTRACTORS SPECIALTY ENGINEER INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - MISCELLANEOUS STEEL
 - MORTAR, GROUT AND CONCRETE MIX DESIGNS
- DESIGNS PRODUCED BY THE SPECIALTY ENGINEER SHALL CONSIDER STRENGTH, STABILITY, SERVICEABILITY AND INTEGRITY REQUIREMENTS UNDER GRAVITY AND SEISMIC LOADINGS AND THE DURABILITY FOR EXPOSED TO ENVIRONMENTAL AND EXPOSURE CONDITIONS. ALL DESIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF APPLICABLE DESIGN CODES AND ALL OTHER DESIGN REQUIREMENTS INDICATED IN THE DRAWINGS AND SPECIFICATIONS. DESIGNS SHALL INCLUDE DETAILED LETTERS OF ASSURANCE.
DESIGN OF COMPONENTS AND CONNECTIONS THAT RELY ON SUPPORT BY THE PRIMARY STRUCTURE DESIGNED BY RJC OR COMPONENTS DESIGNED BY OTHER REGISTERED PROFESSIONAL ENGINEERS MUST INDICATE THE MEANS AND METHOD OF ATTACHMENT AND THE MAGNITUDE OF ALL FORCES (SPECIFIED AND FACTORED) THAT THE PRIMARY STRUCTURE MUST WITHSTAND. REVIEW BY THE STRUCTURAL ENGINEER OF RECORD MAY REQUIRE REVISIONS TO THE DESIGN AND CONNECTION WITH REDESIGN BY THE SPECIALTY ENGINEER.
- SPECIALTY ENGINEERS ENGAGED BY THE CONTRACTOR SHALL BE REGISTERED AS PROFESSIONAL ENGINEERS IN THE PROVINCE OF ONTARIO AND ALL SUBMITTALS OR SHOP DRAWINGS PREPARED BY OR UNDER THE SUPERVISION OF THIS ENGINEER SHALL BE SIGNED AND SEALED BY THE REGISTERED PROFESSIONAL ENGINEER.
WHERE STRUCTURAL COMPONENTS OR CONNECTIONS DESIGNED BY THE SPECIALTY ENGINEER ARE TO BE FABRICATED IN A DIFFERENT JURISDICTION, THE SPECIALTY ENGINEER SHALL SUBMIT A SEALED LETTER CONFIRMING PROOF OF PROFESSIONAL REGISTRATION IN THE JURISDICTION OF FABRICATION.
- THE SPECIALTY ENGINEER RESPONSIBLE FOR THE DESIGN IS ALSO RESPONSIBLE FOR REVIEW OF FABRICATION, INSTALLATION AND ALL APPLICABLE TESTING REPORTS. UPON COMPLETION OF THE WORK, THE LETTER OF GENERAL CONFORMITY AND FIELD REVIEW TO THE ENGINEER OF RECORD.
- REFER TO THE DRAWINGS AND SPECIFICATIONS FOR OTHER REQUIREMENTS.

FIELD REVIEW BY READ JONES CHRISTOFFERSEN (RJC)

- READ JONES CHRISTOFFERSEN PROVIDES FIELD REVIEW ONLY FOR THE WORK SHOWN ON THESE STRUCTURAL DRAWINGS. THIS REVIEW IS NOT A "FULL TIME" REVIEW BUT IS CONDUCTED WITH SUCH FREQUENCY AS RJC DEEMS APPROPRIATE TO OBSERVE VARIOUS STAGES OF THE WORK AND TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS PREPARED BY READ JONES CHRISTOFFERSEN. FIELD REVIEW BY READ JONES CHRISTOFFERSEN IS NOT CARRIED OUT FOR THE CONTRACTORS RESPONSIBILITY FOR BUILDING CONFORMANCE WITH THE CONTRACT DOCUMENTS. RJC SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- PROVIDE 24 HOURS ADVANCE NOTICE OF EACH REQUIRED FIELD REVIEW. FIELD REVIEWS SHALL BE SCHEDULED TO BE CARRIED OUT DURING NORMAL BUSINESS HOURS UNLESS SPECIAL ARRANGEMENTS ARE MADE WITH THE CONTRACT DOCUMENTS.
- THE WORK TO BE REVIEWED SHALL BE GENERALLY COMPLETE.

SHOP DRAWINGS

- AS PART OF OUR CONSTRUCTION PHASE SERVICES, RJC WILL REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON RJC'S DRAWINGS BY MEANS OF APPROPRIATE RATIONAL SAMPLING PROCEDURES AND COMMENT ON THE ACCURACY WITH WHICH THE CONTRACTOR PREPARED THE DRAWINGS.
REVIEW OF SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT AND IS NOT AN APPROVAL OF THE DETAILED DESIGN INHERENT IN THE SHOP DRAWINGS. RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS AND FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INFORMATION PERTAINING TO THE FABRICATION PROCESS, TECHNIQUES FOR CONSTRUCTION AND INSTALLATION, AND FOR CO-ORDINATION OF THE WORK OF ALL SUB-TENDERS.
- FOR SPECIFIC SHOP DRAWING SUBMITTAL REQUIREMENTS, SEE APPROPRIATE MATERIAL SECTIONS AND THE SPECIFICATIONS.
SHOP DRAWINGS SHALL BE COMPLETE AND INCLUDE ANY REQUIRED SEALS FROM A PROFESSIONAL ENGINEER REGISTERED IN THE JURISDICTION WHERE THE PROJECT IS LOCATED PRIOR TO SUBMISSION.
ALL SHOP DRAWINGS COMPRISING A REVISED SUBMISSION SHALL INDICATE THE REVISED CONTENT BY MEANS OF CLOUDING OR OTHER SUITABLE MARKINGS.

LIST OF STRUCTURAL DRAWINGS

DEVELOPMENT OF STANDARD HOOKS IN TENSION

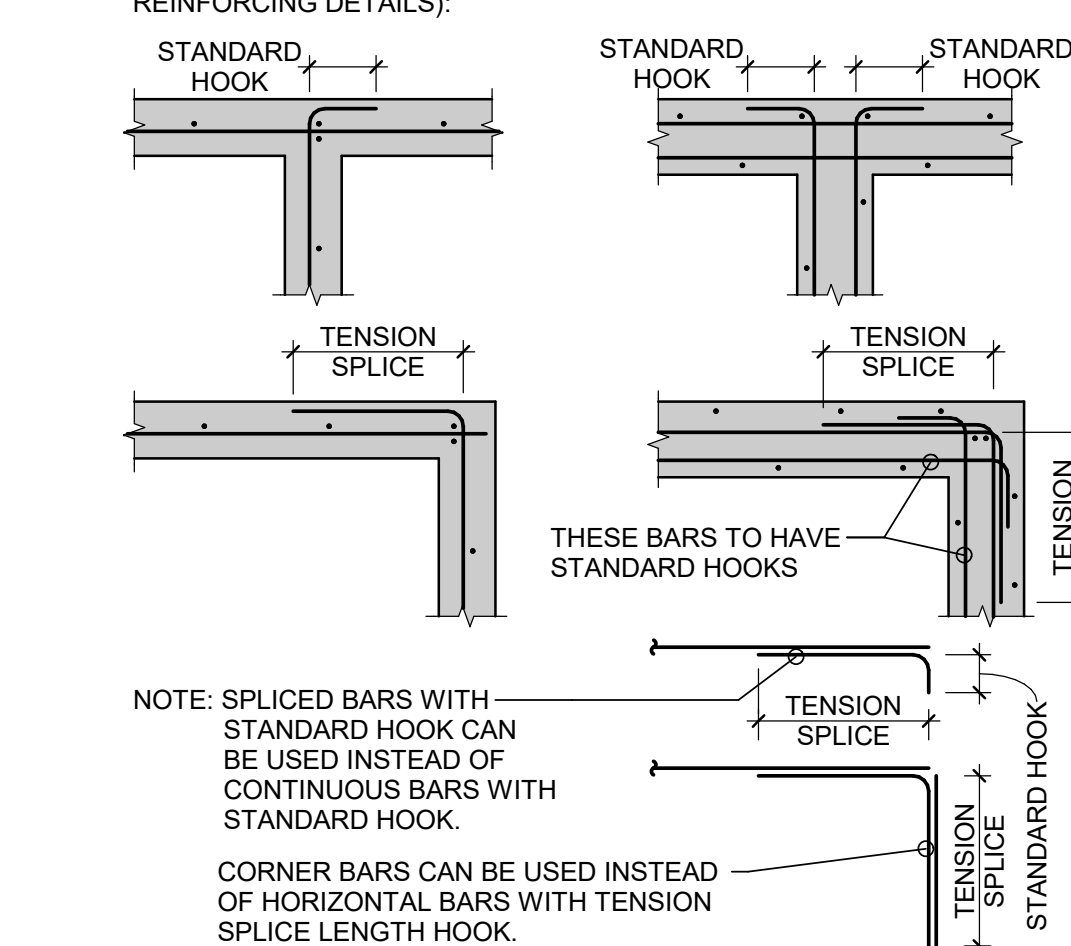
BASED ON CSA A23.3

Table with columns: CONCRETE STRENGTH, REBAR DESIGNATION (GRADE 400 LENGTHS), and values for 10M, 15M, 20M, 25M, 30M, 35M.

- NOTES: 1. TABLE SHOWS DEVELOPMENT LENGTHS FOR GRADE 400 REINFORCEMENT. INCREASE TABLE LENGTHS BY 1.25 FOR GRADE 500 REINFORCEMENT. 2. INCREASE TABLE LENGTHS BY 1.2 FOR EPOXY COATED REINFORCEMENT.

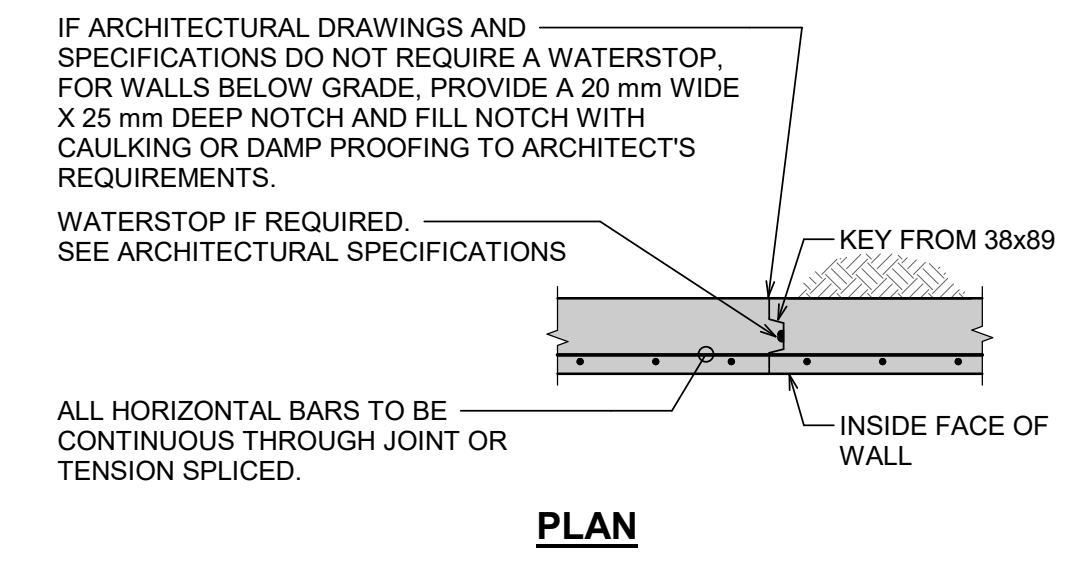
WALLS - CORNER DETAILS

1. DETAILS OF HORIZONTAL REINFORCEMENT AT CORNERS (SEE ALSO ZONE REINFORCING DETAILS)



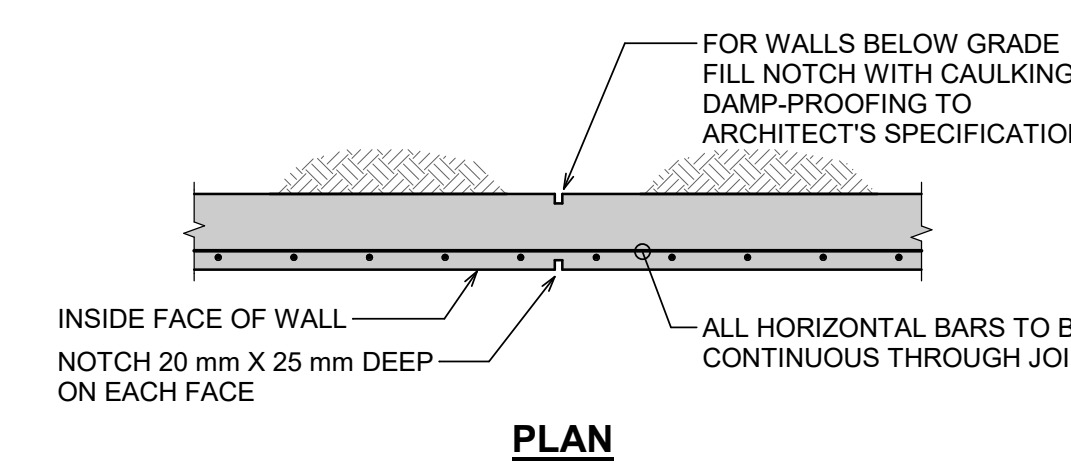
WALL CONSTRUCTION JOINT

(CONSTRUCTION JOINT CAN REPLACE CONTROL JOINT)

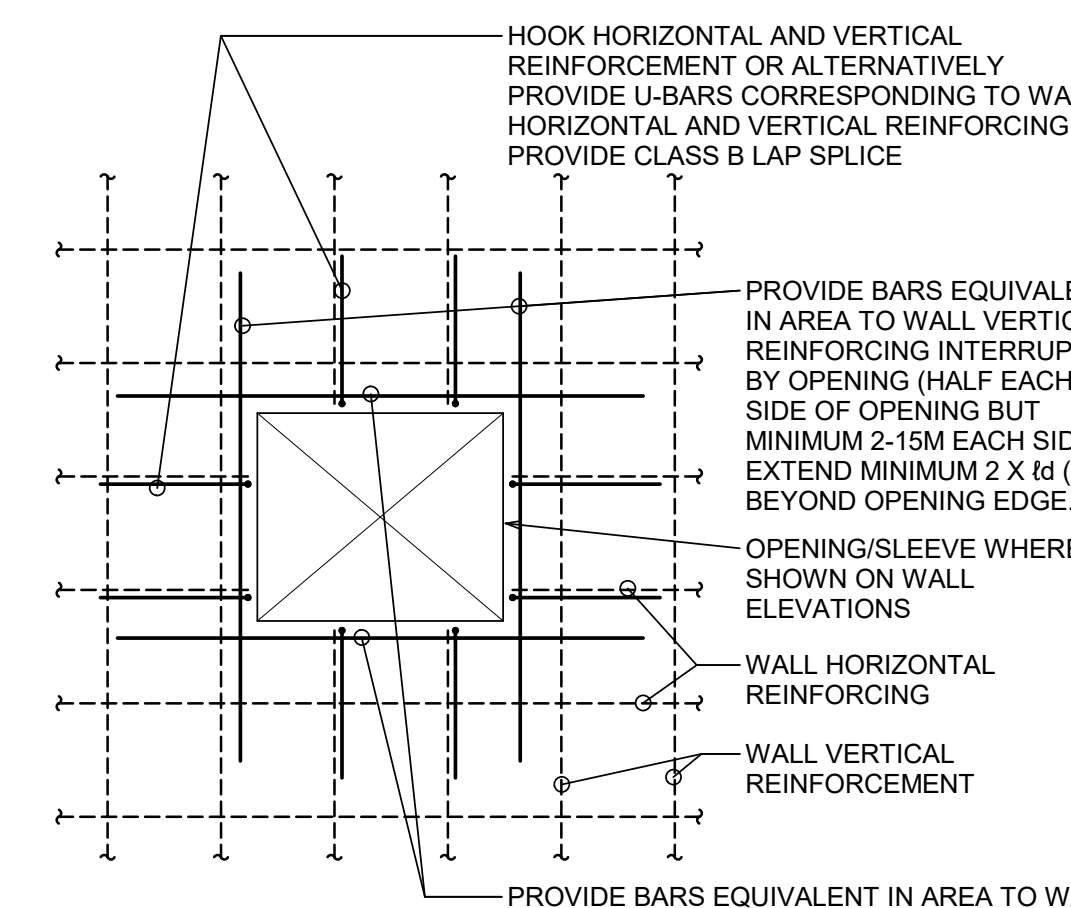


WALL CONTROL JOINT

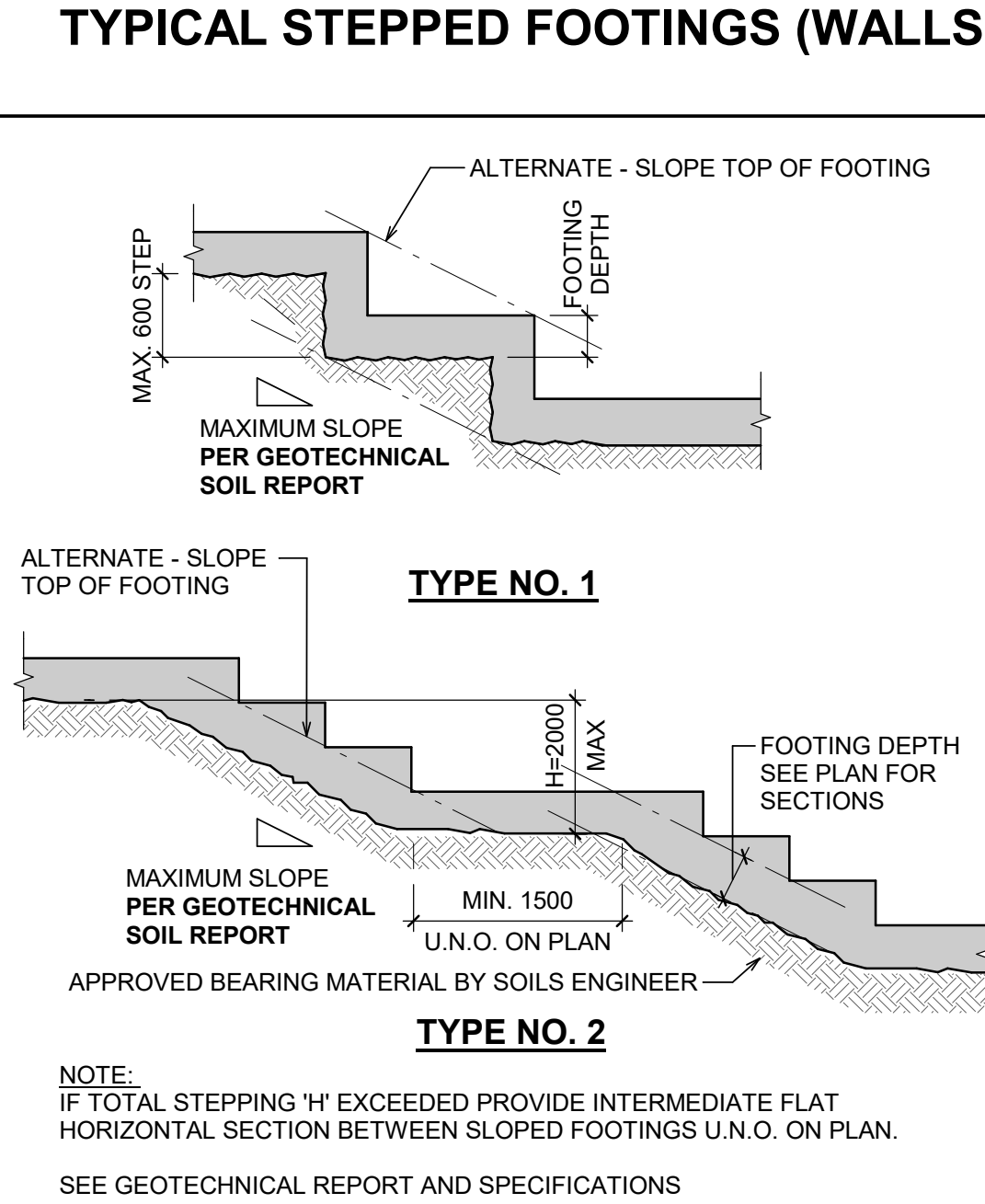
UNLESS NOTED OTHERWISE FOR EXTERIOR WALLS BELOW GRADE AND EXTERIOR WALLS EXPOSED TO WEATHER ABOVE GRADE.



TYPICAL ADDITIONAL REINFORCEMENT FOR WALL OPENINGS UP TO 750 mm X 750 mm MAXIMUM SIZE



TYPICAL STEPPED FOOTINGS (WALLS)



EMBEDMENT / DEVELOPMENT LENGTHS AND SPLICE LENGTHS

BASED ON CSA A23.3

- 1. WHERE EMBEDMENT OR SPLICES ARE DIMENSIONED ON THE DRAWINGS, SUCH DIMENSION SHALL APPLY. 2. WHERE THE DRAWINGS INDICATE A COMPRESSION EMBEDMENT, IT IS A COMPRESSION EMBEDMENT LENGTH AND IT SHALL BE AS NOTED BELOW. 3. WHERE THE DRAWINGS INDICATE A TENSION EMBEDMENT, IT IS A TENSION EMBEDMENT LENGTH AND SHALL BE AS NOTED BELOW. 4. WHERE NO EMBEDMENT OR EMBEDMENT TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION EMBEDMENT, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION EMBEDMENT. 5. WHERE NO SPLICE OR SPLICE TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION SPLICE, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION SPLICE. 6. IN TABLES BELOW, EMBEDMENT LENGTHS ARE SHOWN WITHOUT BRACKETS, AND SPLICE LENGTHS ARE SHOWN IN BRACKETS. 7. ALL TENSION SPLICE LENGTHS ARE CLASS "B" (1.3 k). 8. WHERE MORE THAN ONE FACTOR APPLIES FOR INCREASING THE LENGTHS IN THESE TABLES, MULTIPLY ALL FACTORS TOGETHER. 9. COMPRESSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE THE "COMPRESSION DEVELOPMENT LENGTH" AS DEFINED IN CSA A23.3 CLAUSE 12.3.2. 10. SPLICE LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A COMPRESSION SPLICE AS DEFINED IN CSA A23.3 CLAUSE 12.16.1.

COMPRESSION EMBEDMENT AND SPLICE LENGTHS

Table with columns: CONCRETE STRENGTH, FUNCTION, REBAR DESIGNATION (GRADE 400 LENGTHS), and values for 10M, 15M, 20M, 25M, 30M, 35M.

- NOTES: 1. TABLE SHOWS LENGTHS FOR GRADE 400 REINFORCEMENT. MULTIPLY VALUES BY 1.40 FOR GRADE 500 REINFORCEMENT. 2. WHERE A COMPRESSION SPLICE IS SPECIFIED BETWEEN TWO BARS OF DIFFERENT DIAMETERS, THE MINIMUM SPLICE LENGTH SHALL BE THE GREATER OF THE SPLICE LENGTH FOR THE SMALLER DIAMETER BAR AND THE EMBEDMENT LENGTH OF THE LARGER DIAMETER BAR.

TENSION EMBEDMENT AND SPLICE LENGTHS

- 1. TENSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE A "TENSION DEVELOPMENT LENGTH" AS DEFINED IN CSA A23.3 CLAUSE 12.2. 2. SPLICE LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A CLASS "B" TENSION SPLICE (1.300) AS PER CSA A23.3 CLAUSE 12.15.

CASE 1 TENSION EMBEDMENT AND SPLICE CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS CONFORMING TO CSA A23.3 TABLE 12.1 (0.6 k $k_1 k_2 k_3 k_4 k_5 k_6 k_7 k_8 k_9 k_{10}$ / F_c) ARE TO BE AS PER THE FOLLOWING TABLE FOR:

Table with columns: CONCRETE STRENGTH, FUNCTION, REBAR DESIGNATION (GRADE 400 LENGTHS), and values for 10M, 15M, 20M, 25M, 30M, 35M.

- NOTES: 1. *TOP BAR* VALUES ARE 1.3 TIMES THE ABOVE LENGTHS. *TOP BAR* APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300 mm OR MORE OF CONCRETE BELOW THE BAR. 2. *TOP BAR* FACTOR DOES NOT APPLY TO HORIZONTAL WALL REINFORCEMENT IN WALLS THAT ARE NOT VIBRATED. 3. INCREASE THESE TABLE LENGTHS BY 1.5 TIMES FOR EPOXY COATED REINFORCEMENT. INCREASE THESE TABLE LENGTHS BY 1.7 TIMES FOR EPOXY COATED TOP REINFORCEMENT. 4. TABLE SHOWS LENGTHS FOR GRADE 400 REINFORCEMENT. MULTIPLY VALUES BY 1.25 FOR GRADE 500 REINFORCEMENT. 5. WHERE A TENSION SPLICE IS SPECIFIED BETWEEN TWO BARS OF DIFFERENT DIAMETERS, THE MINIMUM SPLICE LENGTH SHALL BE THE GREATER OF THE SPLICE LENGTH FOR THE SMALLER DIAMETER BAR AND THE EMBEDMENT LENGTH OF THE LARGER DIAMETER BAR.

CASE 2 TENSION EMBEDMENT AND SPLICE CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS CONFORMING TO CSA A23.3 TABLE 12.1 (0.6 k $k_1 k_2 k_3 k_4 k_5 k_6 k_7 k_8 k_9 k_{10}$ / F_c) ARE TO BE AS PER THE FOLLOWING TABLE FOR MEMBERS NOT SATISFYING CASE 1 CONDITIONS AS SET OUT ABOVE, FOR EXAMPLE:

Table with columns: CONCRETE STRENGTH, FUNCTION, REBAR DESIGNATION (GRADE 400 LENGTHS), and values for 10M, 15M, 20M, 25M, 30M, 35M.

- NOTES: 1. *TOP BAR* VALUES ARE 1.3 TIMES THE ABOVE LENGTHS. *TOP BAR* APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300 mm OR MORE OF CONCRETE BELOW THE BAR. 2. INCREASE THESE TABLE LENGTHS BY 1.5 TIMES FOR EPOXY COATED REINFORCEMENT. INCREASE THESE TABLE LENGTHS BY 1.7 TIMES FOR EPOXY COATED TOP REINFORCEMENT. 3. TABLE SHOWS LENGTHS FOR GRADE 400 REINFORCEMENT. MULTIPLY VALUES BY 1.25 FOR GRADE 500 REINFORCEMENT. 4. INCREASE THESE TABLE LENGTHS BY 1.15 TIMES WHEN SPACING BETWEEN LAYERS OF REBAR IS 1.0x. 5. WHERE A TENSION SPLICE IS SPECIFIED BETWEEN TWO BARS OF DIFFERENT DIAMETERS, THE MINIMUM SPLICE LENGTH SHALL BE THE GREATER OF THE SPLICE LENGTH FOR THE SMALLER DIAMETER BAR AND THE EMBEDMENT LENGTH OF THE LARGER DIAMETER BAR.

Table with columns: Issue No., Date, Description.

Table with columns: CONCRETE STRENGTH, FUNCTION, REBAR DESIGNATION (GRADE 400 LENGTHS), and values for 10M, 15M, 20M, 25M, 30M, 35M.

- NOTES: 1. TENSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE A "TENSION DEVELOPMENT LENGTH" AS DEFINED IN CSA A23.3 CLAUSE 12.2. 2. SPLICE LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A CLASS "B" TENSION SPLICE (1.300) AS PER CSA A23.3 CLAUSE 12.15.

CASE 1 TENSION EMBEDMENT AND SPLICE CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS CONFORMING TO CSA A23.3 TABLE 12.1 (0.6 k $k_1 k_2 k_3 k_4 k_5 k_6 k_7 k_8 k_9 k_{10}$ / F_c) ARE TO BE AS PER THE FOLLOWING TABLE FOR:

Table with columns: CONCRETE STRENGTH, FUNCTION, REBAR DESIGNATION (GRADE 400 LENGTHS), and values for 10M, 15M, 20M, 25M, 30M, 35M.

- NOTES: 1. *TOP BAR* VALUES ARE 1.3 TIMES THE ABOVE LENGTHS. *TOP BAR* APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300 mm OR MORE OF CONCRETE BELOW THE BAR. 2. *TOP BAR* FACTOR DOES NOT APPLY TO HORIZONTAL WALL REINFORCEMENT IN WALLS THAT ARE NOT VIBRATED. 3. INCREASE THESE TABLE LENGTHS BY 1.5 TIMES FOR EPOXY COATED REINFORCEMENT. INCREASE THESE TABLE LENGTHS BY 1.7 TIMES FOR EPOXY COATED TOP REINFORCEMENT. 4. TABLE SHOWS LENGTHS FOR GRADE 400 REINFORCEMENT. MULTIPLY VALUES BY 1.25 FOR GRADE 500 REINFORCEMENT. 5. WHERE A TENSION SPLICE IS SPECIFIED BETWEEN TWO BARS OF DIFFERENT DIAMETERS, THE MINIMUM SPLICE LENGTH SHALL BE THE GREATER OF THE SPLICE LENGTH FOR THE SMALLER DIAMETER BAR AND THE EMBEDMENT LENGTH OF THE LARGER DIAMETER BAR.

CASE 2 TENSION EMBEDMENT AND SPLICE CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS CONFORMING TO CSA A23.3 TABLE 12.1 (0.6 k $k_1 k_2 k_3 k_4 k_5 k_6 k_7 k_8 k_9 k_{10}$ / F_c) ARE TO BE AS PER THE FOLLOWING TABLE FOR MEMBERS NOT SATISFYING CASE 1 CONDITIONS AS SET OUT ABOVE, FOR EXAMPLE:

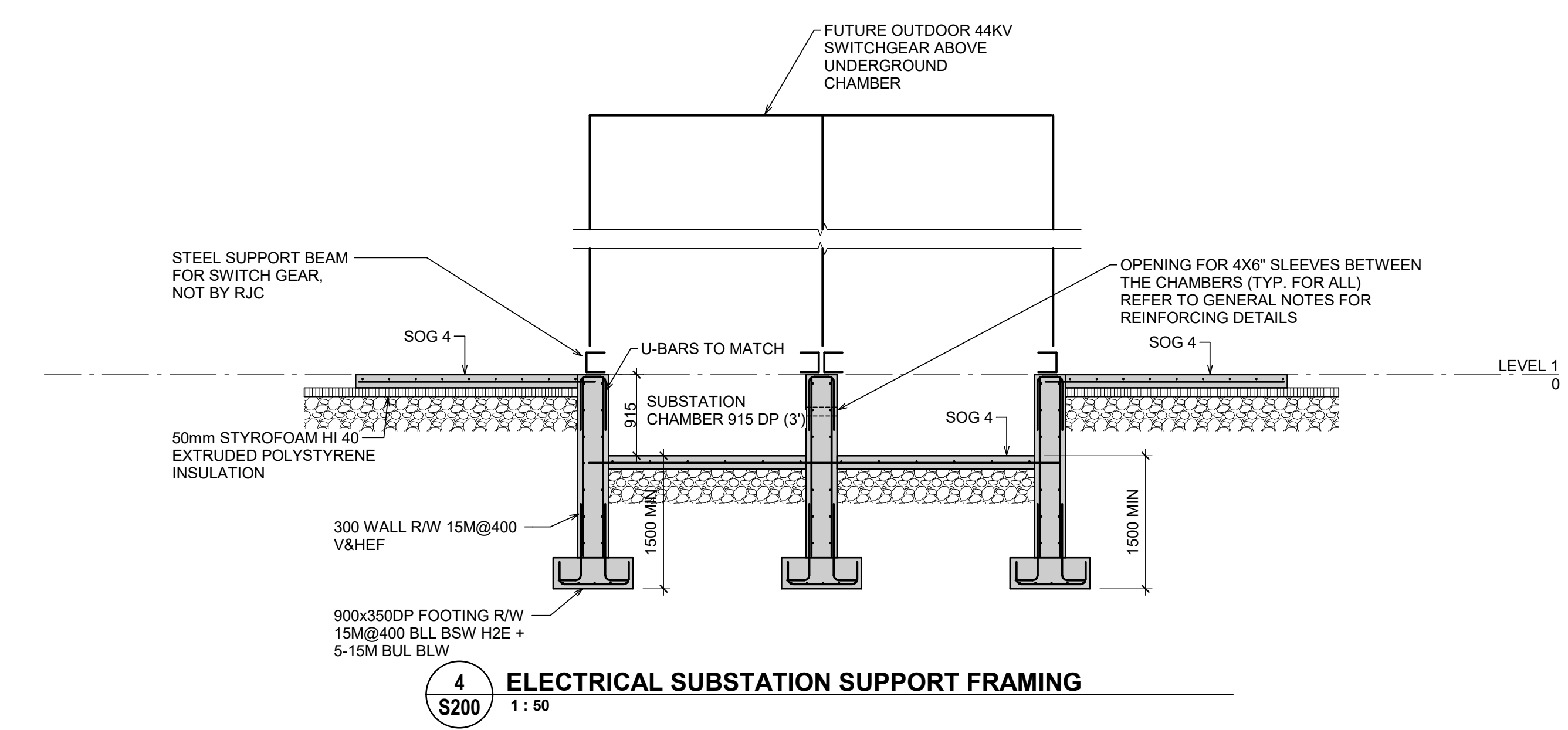
Table with columns: CONCRETE STRENGTH, FUNCTION, REBAR DESIGNATION (GRADE 400 LENGTHS), and values for 10M, 15M, 20M, 25M, 30M, 35M.

- NOTES: 1. *TOP BAR* VALUES ARE 1.3 TIMES THE ABOVE LENGTHS. *TOP BAR* APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300 mm OR MORE OF CONCRETE BELOW THE BAR. 2. INCREASE THESE TABLE LENGTHS BY 1.5 TIMES FOR EPOXY COATED REINFORCEMENT. INCREASE THESE TABLE LENGTHS BY 1.7 TIMES FOR EPOXY COATED TOP REINFORCEMENT. 3. TABLE SHOWS LENGTHS FOR GRADE 400 REINFORCEMENT. MULTIPLY VALUES BY 1.25 FOR GRADE 500 REINFORCEMENT. 4. INCREASE THESE TABLE LENGTHS BY 1.15 TIMES WHEN SPACING BETWEEN LAYERS OF REBAR IS 1.0x. 5. WHERE A TENSION SPLICE IS SPECIFIED BETWEEN TWO BARS OF DIFFERENT DIAMETERS, THE MINIMUM SPLICE LENGTH SHALL BE THE GREATER OF THE SPLICE LENGTH FOR THE SMALLER DIAMETER BAR AND THE EMBEDMENT LENGTH OF THE LARGER DIAMETER BAR.

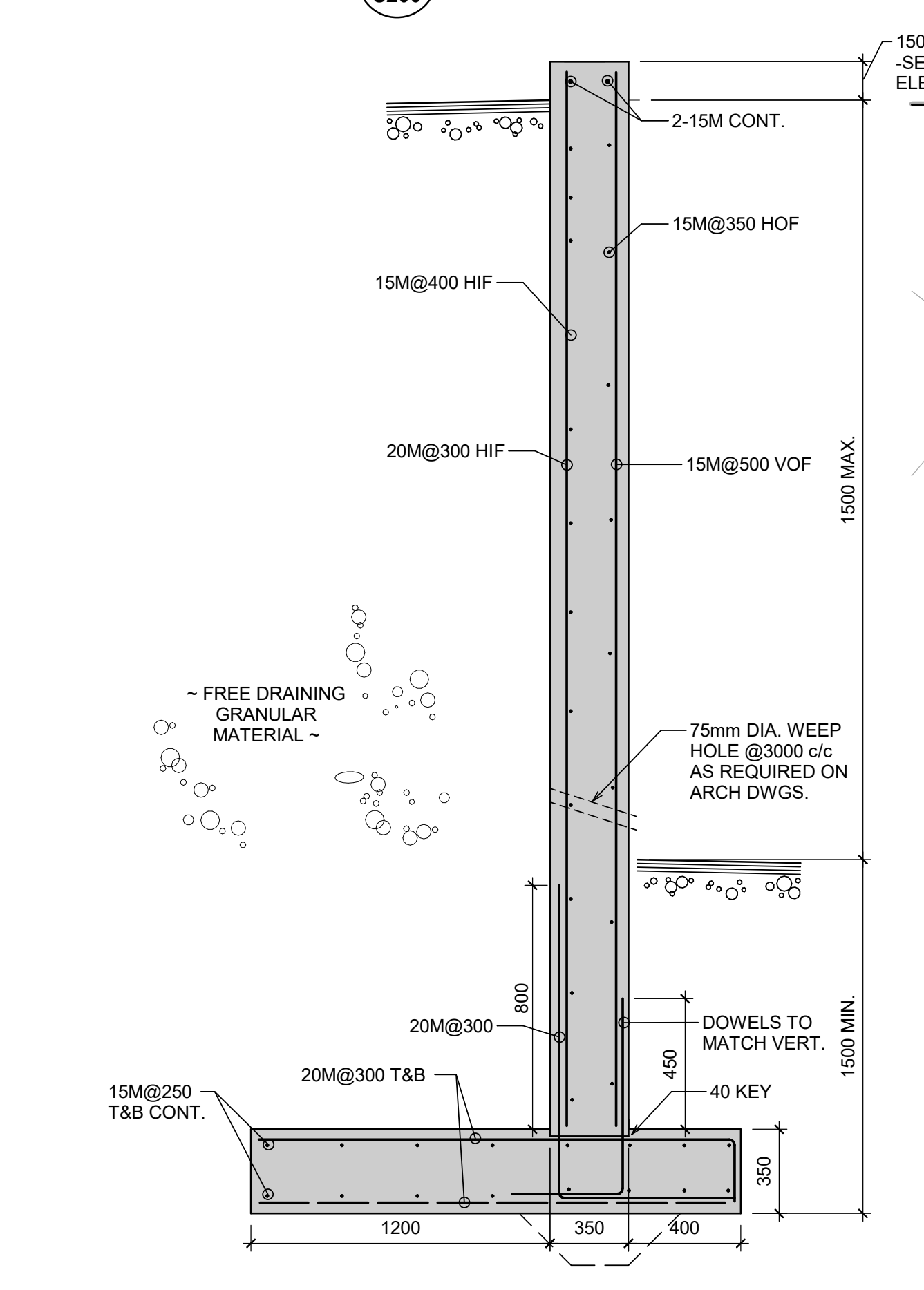
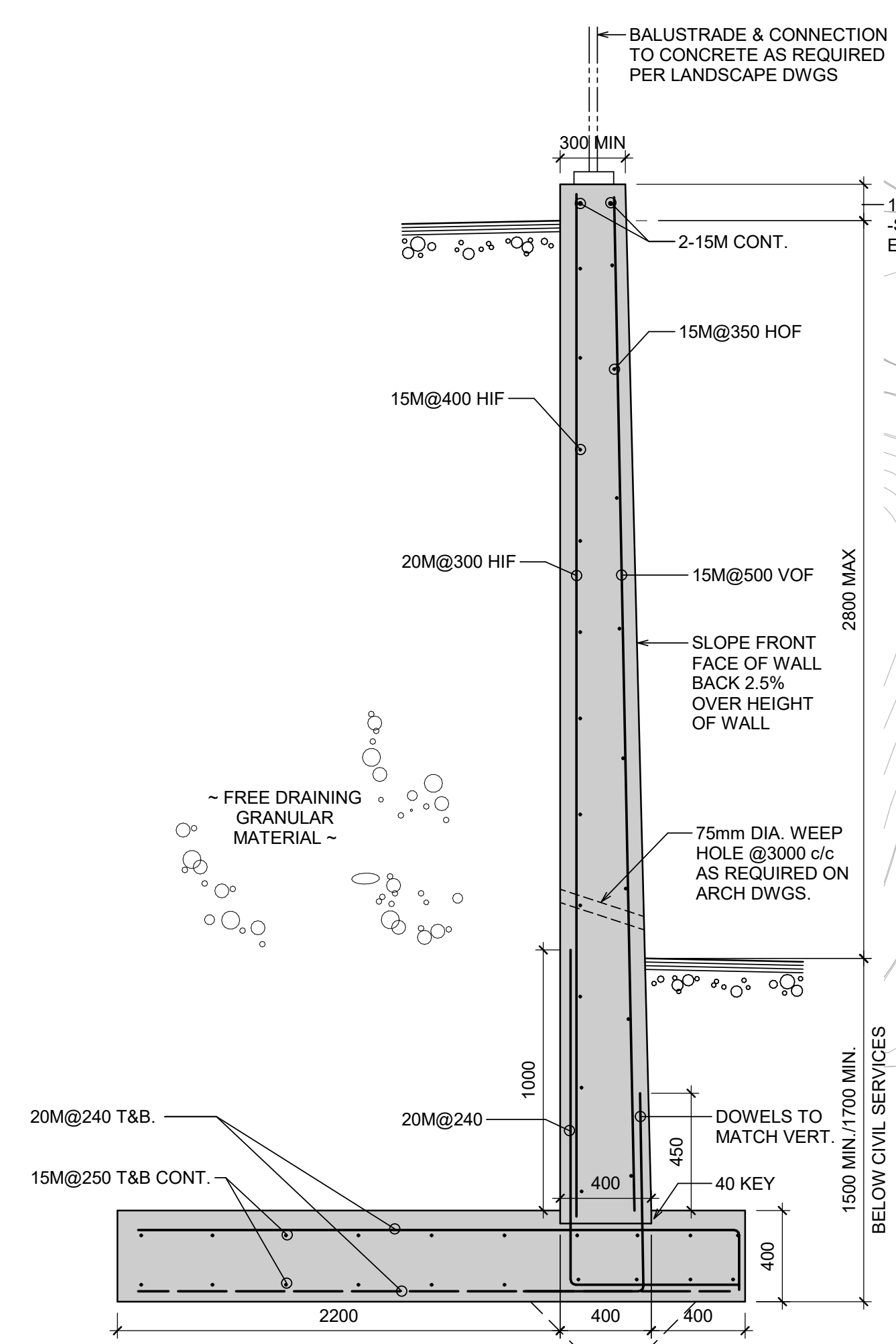
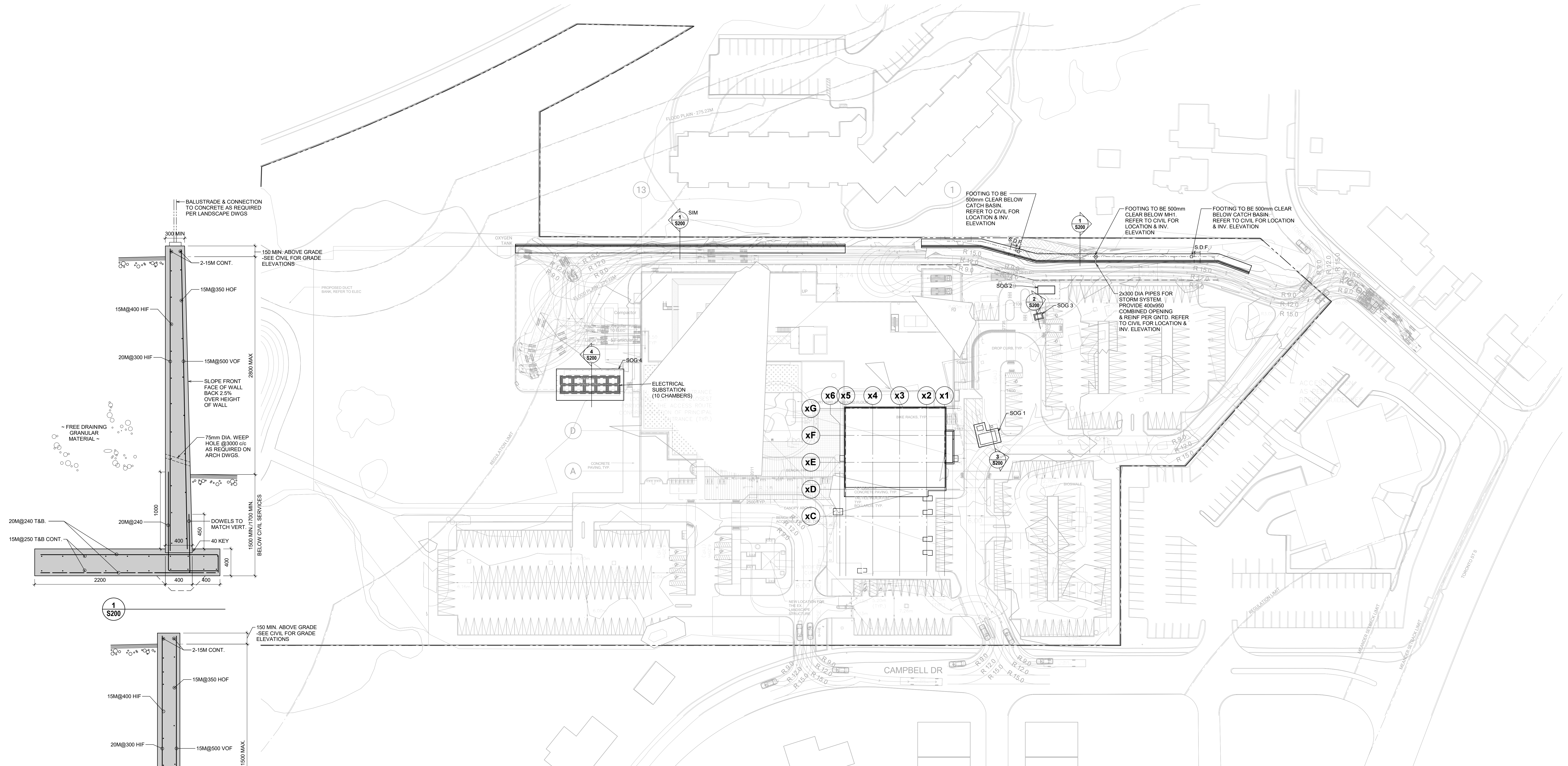
rjc Creative Thinking Practical Results. Read Jones Christoffersen Ltd. Engineers rj.ca

Uxbridge Hospital Oak Valley Health. OAK VALLEY HEALTH - UXBRIDGE HOSPITAL. 4 CAMPBELL DRIVE, UXBRIDGE, ON L9R 4W1

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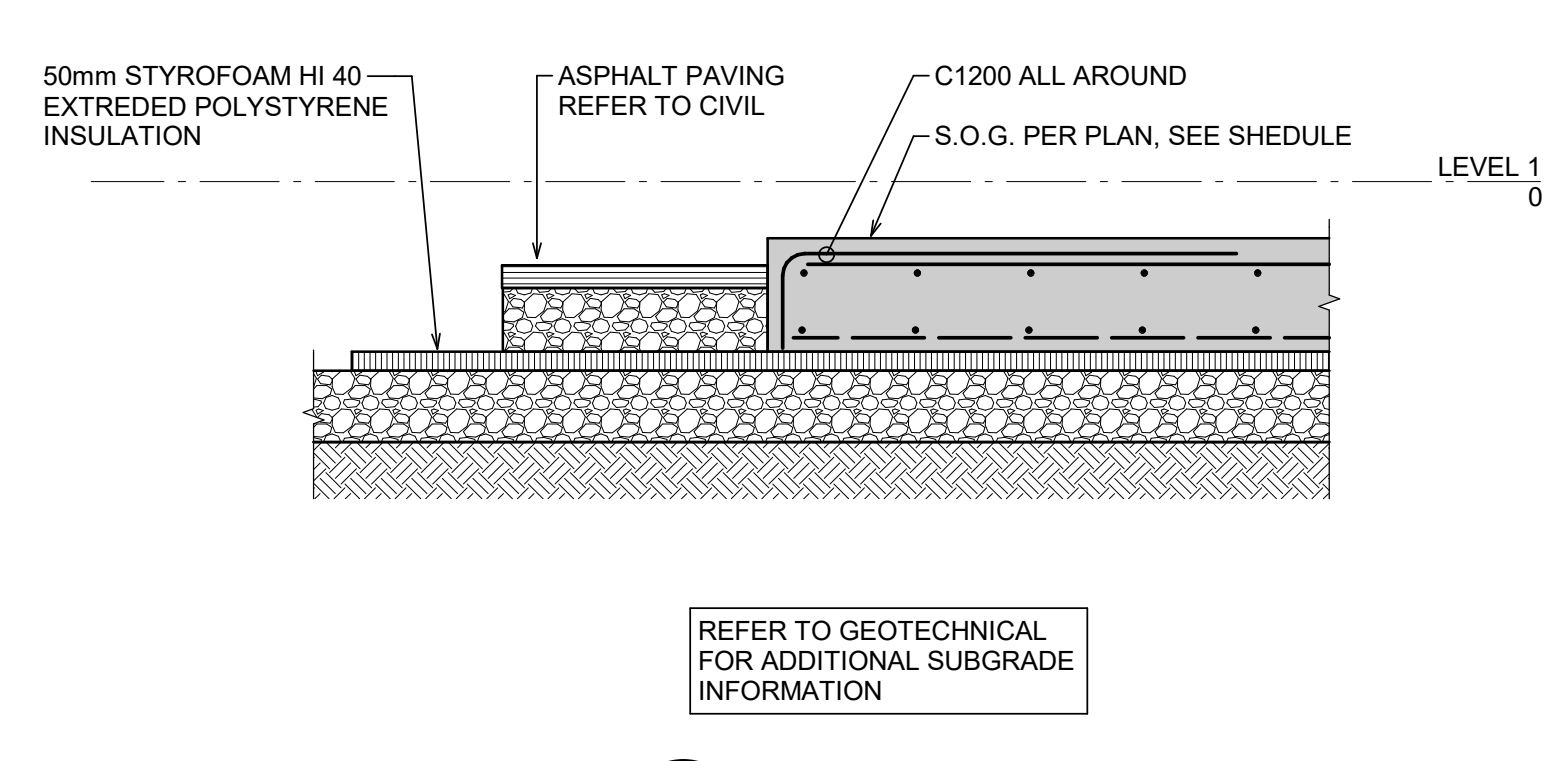


No.	Date	Description
1	2024-07-11	OWNER REVIEW
2	2024-07-31	ISSUED FOR SPA 5D
3	2024-09-19	ISSUED FOR SITE PLAN APPROVAL
4	2024-11-28	ISSUED FOR SITE PLAN APPROVAL



- SLAB ON-GRADE NOTES (ALL AREAS):**
- SOIL CAPACITY BASED ON GEOTECHNICAL REPORT RECOMMENDATIONS AND TO BEAR ON MIN 200 kPa SLS AND MIN 300 kPa ULS. BACKFILL TO COMPLY WITH GEOTECHNICAL REPORT.
 - CONCRETE MIX FOR SLABS ON GRADE FOUNDATION:
 - CONCRETE STRENGTH 35 MPa
 - EXPOSURE CLASS C-1
 - SLAB TO CONTAIN 10 Litres/m³ C.I. 5' CORROSION INHIBITOR BY GRACE CONSTRUCTION PRODUCTS.
 - ALL DIMENSIONS TO BE CONFIRMED BY MECH. ELEC AND ARCH. SEE ARCH FOR T.O.S. ELEV.
 - SAW CUT SLAB-ON-GRADE. MAX SAW CUT SPACING 3000 mm. O.C. SAW CUT JOINTS 4 mm WIDE AND 38 mm DEEP AS SOON AS PRACTICAL BUT NO LATER THAN 12 HOURS AFTER PLACEMENT OF SLAB.
 - 500 MIN EDGE DISTANCE TO EDGE OF SLAB TO PENETRATIONS. TYP. NO PENETRATIONS IN WIDE EDGE THICKENING.
 - VERTICAL PENETRATIONS ONLY. NO CONDUIT HORIZONTALLY WITHIN SLAB.
 - CONCRETE CAST AGAINST EARTH OR GROUND TO HAVE CONCRETE COVER TO REINFORCEMENT OF 75 mm. ALL OTHER COVER FOR C-1 EXPOSURE CLASS TO HAVE 60 mm OR 2d COVER (WHICHEVER IS GREATER).
 - STEEL REINFORCEMENT TO BE CSA G30.18 GRADE 400R.

MARK	AREA	THICKNESS	REINFORCEMENT
SOG 1	GENERAL & ATS	300mm	15M @300 T&BEW
SOG 2	FUEL OIL TANK	300mm	15M @300 T&BEW
SOG 3	EX. AHU	300mm	15M @300 T&BEW
SOG 4	ELECTRICAL SUBSTATION	150mm	15M @400 MEW



SITE PLAN - EARLY WORKS
1:500

- RETAINING WALL NOTES:**
- SEE ARCH FOR T.O.S. ELEVATION
 - SOIL CAPACITY FOR FOOTINGS BASED ON GEOTECHNICAL REPORT RECOMMENDATIONS AND TO BEAR ON MIN 200 kPa SLS AND MIN 300 kPa ULS. BACKFILL TO COMPLY WITH GEOTECHNICAL REPORT.
 - REFER TO GEOTECHNICAL REPORT PREPARED BY ENGBLOE DATED FEBRUARY 20, 2024.
 - CONCRETE MIX FOR SLAB ON GRADE FOUNDATION:
 - CONCRETE STRENGTH 35 MPa
 - EXPOSURE CLASS C-1
 - SLAB TO CONTAIN 10 Litres/m³ C.I. 5' CORROSION INHIBITOR BY GRACE CONSTRUCTION PRODUCTS.
 - CONCRETE CAST AGAINST EARTH OR GROUND TO HAVE CONCRETE COVER TO REINFORCEMENT OF 75 mm. ALL OTHER FOR C-1 EXPOSURE CLASS TO HAVE 60 mm OR 2d COVER (WHICHEVER IS GREATER)
 - SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR DAMPROOFING OR WATERPROOFING REQUIREMENTS
 - SEE ALSO ARCHITECTURAL AND CIVIL/LANDSCAPING DWGS FOR EXTENT OF RETAINING STRUCTURES
 - ALLOW FOR 200 mm DIA. SLEEVE FOR EXISTING AND NEW UTILITIES TO PASS THROUGH STEEL REINFORCEMENT CAGE. DISPLACE STEEL REINFORCEMENT AROUND 200 mm DIA. SLEEVE. LOCATION AND QUANTITY OF 200 mm DIA. SLEEVE REQUIRE APPROVAL FROM RJC. LOCATIONS ON PLAN ARE FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR REQUIRED TO PROVIDE TEMPORARY SHORING TO SUPPORT EXISTING UTILITIES.
 - DESIGN AND FIELD REVIEW OF BACKFILL IS BY SOILS CONSULTANT AND NOT BY READ JONES CHRISTOFFERSEN.
 - UNLESS NOTED OTHERWISE, ALL RETAINING WALLS BELOW GRADE AND ALL EXTERIOR WALLS EXPOSED TO THE WEATHER ABOVE GRADE SHALL HAVE CONTROL JOINTS. SEE CONTROL JOINT DETAIL. CONSTRUCTION JOINT MAY REPLACE CONTROL JOINT WHERE REQUIRED. THE LOCATION OF CONTROL JOINTS IN EXPOSED CONCRETE WALLS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.
 - VERTICAL CONTROL JOINTS AND CONSTRUCTION JOINTS PER WALL TYPICAL DETAILS.
 - STEEL REINFORCEMENT TO BE CSA G30.18 GRADE 400R