

# GENERAL REQUIREMENTS AND DESIGN LOADS

- GENERAL**
- STRUCTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS - INCLUDING ARCHITECTURAL, MECHANICAL, ELECTRICAL AND CIVIL DRAWINGS, THE GEOTECHNICAL REPORTS AND THE SPECIFICATIONS.
  - DO NOT SCALE THESE DRAWINGS.
  - ALL WORK MUST COMPLY WITH THE PROVISIONS OF THE CURRENT ONTARIO BUILDING CODE (OBC), THE OCCUPATIONAL HEALTH & SAFETY ACT, THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND ALL RELEVANT CODES AND STANDARDS.
  - DETAILS OF EXISTING CONDITIONS AND CONSTRUCTION ARE SHOWN BASED ON INFORMATION AVAILABLE AT THE TIME OF PREPARING DESIGN DRAWINGS. IF, PRIOR TO OR DURING CONSTRUCTION, CONDITIONS ARE REVEALED THAT DIFFER FROM CONDITIONS SHOWN, ADVISE THE STRUCTURAL ENGINEER BEFORE PROCEEDING.
  - THESE DRAWINGS SHOW THE COMPLETED STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY ON THE JOB SITE AND THE DESIGN, INSTALLATION AND SUPERVISION OF ALL TEMPORARY WORKS REQUIRED TO SAFELY COMPLETE THE PROJECT.
  - DO NOT IMPOSE CONSTRUCTION LOADS ON THE STRUCTURE IN EXCESS OF THE DESIGN LOADS.
  - DO NOT CUT OR MAKE ADDITIONAL HOLES OR OPENINGS IN STRUCTURAL ELEMENTS WITHOUT APPROVAL OF STRUCTURAL ENGINEER.
  - SPECIFIC NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
  - FEATURES OF CONSTRUCTION NOT FULLY SHOWN SHALL BE AS INDICATED FOR SIMILAR CONDITIONS.
  - MODEL MAY NOT BE USED FOR MATERIAL TAKE-OFF PURPOSES.

- DESIGN NOTES**
- THE STRUCTURE INDICATED ON THESE DRAWINGS HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT ONTARIO BUILDING CODE (OBC), AND THE FOLLOWING CANADIAN DESIGN STANDARDS:
    - CONCRETE STRUCTURE: CSA A23.3-19 (DESIGN OF CONCRETE STRUCTURES)
    - STEEL STRUCTURE: CSA S16-19 (DESIGN OF STEEL STRUCTURES)
    - MASONRY STRUCTURE: CSA S304-14 (DESIGN OF MASONRY STRUCTURES)
    - WOOD STRUCTURE: CSA O86-19 (ENGINEERING DESIGN IN WOOD)
  - IMPORTANCE CATEGORY FOR STRUCTURAL DESIGN: NORMAL
  - REFER TO SECTIONS RELATING TO SPECIALTY STRUCTURAL ELEMENTS OR TEMPORARY WORK BELOW FOR REQUIREMENTS FOR STRUCTURAL DESIGN BY OTHERS.

# FOUNDATIONS

- GENERAL**
- DESIGN BEARING CAPACITY FOR FOOTINGS: 200 kPa (SLS) / 300 kPa (ULS) - TO BE CONFIRMED ON SITE DURING CONSTRUCTION
  - PLACE LEAN CONCRETE MUDSLAB OVER CLAY AFTER APPROVAL OF BEARING SURFACES BY GEOTECHNICAL ENGINEER IF FOOTINGS ARE NOT TO BE CAST WITHIN SIX HOURS, OR DURING INCLEMENT WEATHER.

- EXCAVATION**
- PROTECT SUBGRADE FROM FREEZING AND FROST ACTION AT ALL TIMES DURING CONSTRUCTION. DO NOT POUR CONCRETE ON FROZEN GROUND OR GROUND THAT HAS FROZEN.
  - PRIOR TO ANY EXCAVATION OR PILING OPERATION, VERIFY LOCATION OF EXISTING SERVICES AND TAKE ALL NECESSARY MEASURES TO PROTECT AND MAINTAIN SERVICES. NOTIFY OWNER AND ENGINEER IF ANY SERVICES NOT SHOWN ON CIVIL PLANS OR OTHERWISE EXPECTED ARE ENCOUNTERED. DO NOT PROCEED FURTHER UNTIL DIRECTED.
  - CARE MUST BE TAKEN TO AVOID UNDERMINING EXISTING BUILDING FOUNDATIONS OR UNDERGROUND SERVICES.
  - IF EXISTING BUILDING FOUNDATIONS OR UNDERGROUND SERVICES ARE PRESENT WITHIN OR ADJACENT TO THE WORK AREA, CONFIRM LOCATION AND DEPTH BEFORE PROCEEDING WITH EXCAVATION.
  - UNLESS OTHERWISE OUTLINED IN GEOTECHNICAL REPORT, DO NOT EXCAVATE BELOW A LINE EXTENDING DOWNWARD FROM EXISTING FOUNDATIONS AT A SLOPE OF 1 VERTICAL TO 2 HORIZONTAL.
  - SIDES AND BASE OF EXCAVATION MUST BE FREE OF WATER AND LOOSE OR REMOLDED MATERIAL BEFORE PLACING CONCRETE.
  - IF DEWATERING OPERATIONS ARE REQUIRED, DESIGN AND COORDINATE DEWATERING OPERATIONS TO PREVENT DAMAGE AND/OR SETTLEMENT OF ADJACENT FOUNDATIONS.

- BACKFILLING**
- RE-USE OF EXISTING MATERIAL IS SUBJECT TO REVIEW AND ACCEPTANCE BY THE PROJECT GEOTECHNICAL ENGINEER.
  - ENSURE 75% OF CONCRETE DESIGN STRENGTH HAS BEEN ATTAINED PRIOR TO BACKFILLING AGAINST STRUCTURES.
  - ENSURE ADEQUATE LATERAL SUPPORT IS PROVIDED TO FOUNDATION WALL PRIOR TO BACKFILLING.
  - BACKFILL TO FOUNDATION WALLS AND WITHIN BUILDING FOOTPRINT AS RECOMMENDED IN GEOTECHNICAL REPORT. IF NOT NOTED, BACKFILL WITH OPSS GRANULAR B TYPE 2 MATERIAL IN LIFTS NOT EXCEEDING 300mm, COMPACTED TO MINIMUM 95% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). FINAL LIFT BELOW SLAB-ON-GRADE TO BE 200mm OF OPSS GRANULAR A, COMPACTED TO MINIMUM 98% SPMDD.

SITE PLAN  
1/8" = 1'-0"

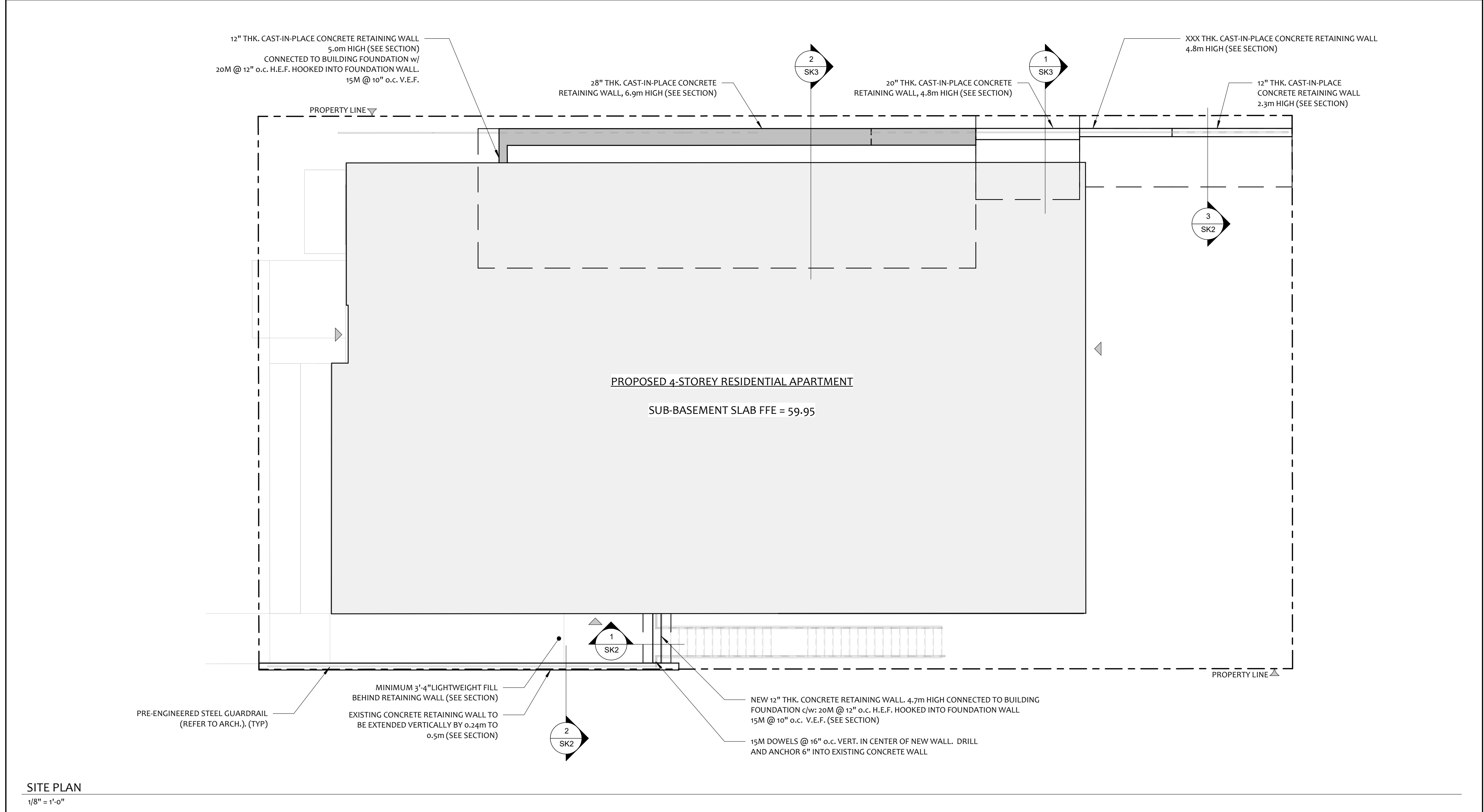
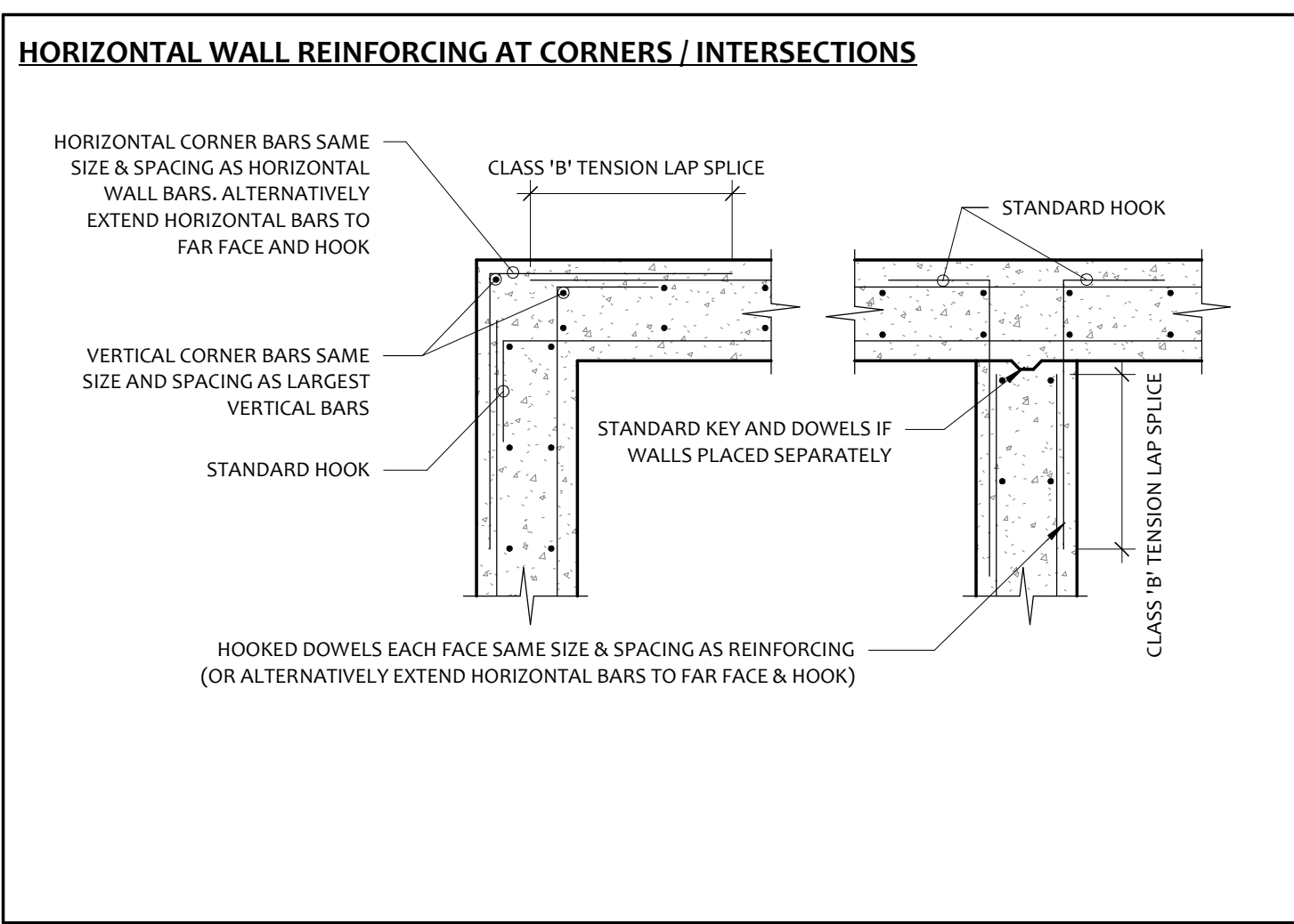
# CONCRETE

- GENERAL**
- ALL CONCRETE WORK, INCLUDING MATERIALS, MIXING, PLACING, CURING AND FORMWORK SHALL BE IN ACCORDANCE WITH CSA A23.1.
  - TESTING OF CONCRETE AND CONCRETE MATERIALS SHALL BE IN ACCORDANCE WITH CSA A23.2.
  - FALSEWORK AND FORMWORK SHALL BE IN ACCORDANCE WITH CSA S269.1-16 (R2021).
  - UNLESS NOTED OTHERWISE, ALL EXPOSED CORNERS SHALL BE FINISHED WITH 20mm CHAMFER.

- REINFORCING STEEL**
- REINFORCING STEEL SHALL BE DEFORMED STEEL BARS IN ACCORDANCE WITH CSA G30.18, GRADE 400R.
  - ALL REINFORCING STEEL SHALL BE DETAILED, FABRICATED, PLACED AND SUPPORTED IN ACCORDANCE WITH THE REINFORCING STEEL INSTITUTE OF CANADA MANUAL OF STANDARD PRACTICE AND CSA A23.3, UNLESS NOTED OTHERWISE.
  - DO NOT ELIMINATE OR DISPLACE REINFORCING TO ACCOMMODATE HARDWARE. IF INSERTS CANNOT BE LOCATED AS SPECIFIED, OBTAIN APPROVAL OF ALL MODIFICATIONS FROM STRUCTURAL ENGINEER BEFORE PLACING CONCRETE.
  - UNLESS INDICATED OTHERWISE, REINFORCING TO BE EXTENDED INTO ADJACENT CONCRETE ELEMENTS AND DEVELOPED WITH A STANDARD HOOK OR LAP SPLICE.
  - PROVIDE DOWELS TO MATCH REINFORCING IN ALL PIERS, COLUMNS, WALLS AND CURBS. PROVIDE CLASS 'B' TENSION LAP SPLICE UNLESS NOTED OTHERWISE AND FULLY EMBED. DEVELOP REINFORCING.
  - REINFORCING SHALL BE EFFECTIVELY CONTINUOUS AT ALL CORNERS AND INTERSECTIONS. HOOK AND SPLICE AS REQUIRED.
  - STANDARD HOOKS SHALL BE USED UNLESS NOTED OTHERWISE.
  - SPLICE REINFORCING AS INDICATED ON STRUCTURAL DRAWINGS OR OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.
  - BARS MARKED AS CONTINUOUS SHALL BE DEVELOPED BY CLASS 'B' TENSION LAP SPLICE IN ACCORDANCE WITH CSA A23.3.

- CONCRETE COVER**
- CONCRETE COVER TO REINFORCING BARS SHALL BE AS FOLLOWS OR AS NOTED ON THE DRAWINGS (WHICHEVER IS GREATER):
    - FOUNDATIONS - CAST AGAINST SOIL: 75 mm
    - FOUNDATIONS - NOT CAST AGAINST SOIL: 50 mm
    - WALLS: 40 mm
  - MAINTAIN SPECIFIED CONCRETE COVER AT ALL SLOPES, DEPRESSIONS, CORNERS AND CHANGES IN ELEVATION / THICKNESS.

- CONCRETE MIXES**
- UNLESS NOTED OTHERWISE, PROPORTION NORMAL DENSITY CONCRETE IN ACCORDANCE WITH CSA A23.1 TO ACHIEVE THE FOLLOWING PERFORMANCE CHARACTERISTICS:
- | LOCATION                         | 28-DAY STRENGTH | EXPOSURE CLASS | ENTRAINED AIR CONTENT |
|----------------------------------|-----------------|----------------|-----------------------|
| WALLS, STAIRS, AND SLAB ON GRADE | 35 MPa          | C-1            | 5 - 8%                |
| FOOTINGS                         | 25 MPa          | F-2            | 4 - 7%                |
- CONCRETE STRENGTHS NOTED ON SPECIFIC PLANS OR SCHEDULES TAKE PRECEDENCE OVER ABOVE VALUES.
  - CONCRETE SHALL BE TYPE GU OR GUB PORTLAND CEMENT UNLESS SPECIFIED OTHERWISE.
  - IF BLENDED PORTLAND CEMENT / SLAG IS USED, SLAG CONTENT SHALL NOT BE MORE THAN 25% OF TOTAL MASS OF CEMENT.
  - USE OF CALCIUM CHLORIDE IS NOT PERMITTED.
  - NON-SHRINK CEMENTITIOUS GROUT SHALL BE AN APPROVED PRE-MIXED PROPRIETARY PRODUCT. COMPRESSIVE STRENGTH AT 28-DAYS = 50 MPa.
  - SUBMIT CONCRETE MIX DESIGNS FOR REVIEW.



**D+M STRUCTURAL ENGINEERING**

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THIS DRAWING IS PROVIDED BY AND IS THE PROPERTY OF D+M STRUCTURAL LTD. COPYRIGHT RESERVED. NOT TO BE USED FOR CONSTRUCTION UNLESS STAMPED AND SIGNED BY ENGINEER. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING. ALL WORK TO BE COMPLETED IN COMPLIANCE WITH APPLICABLE BUILDING CODES, REGULATIONS, AND BY LAWS. DO NOT SCALE DRAWINGS.

#	DATE	DESCRIPTION
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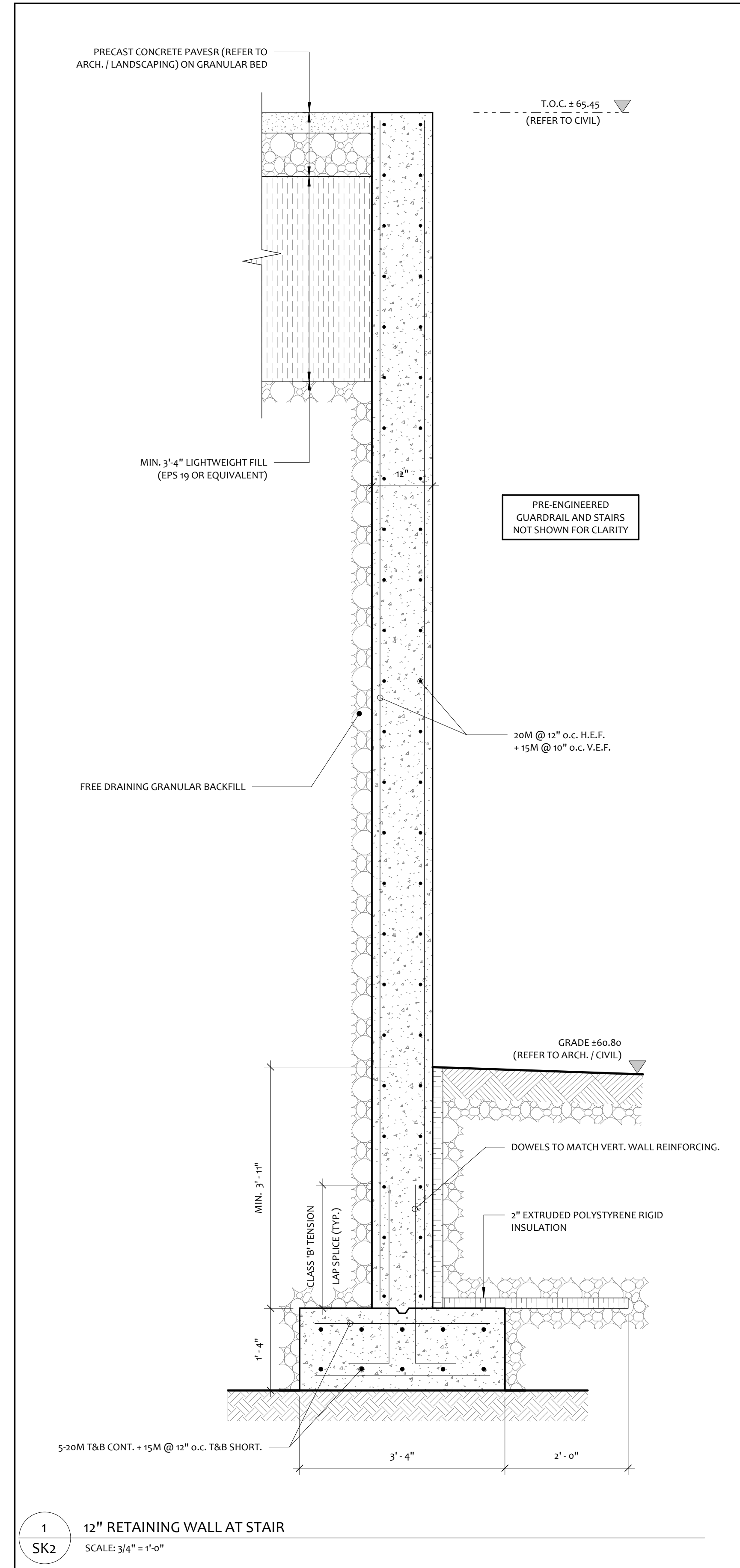
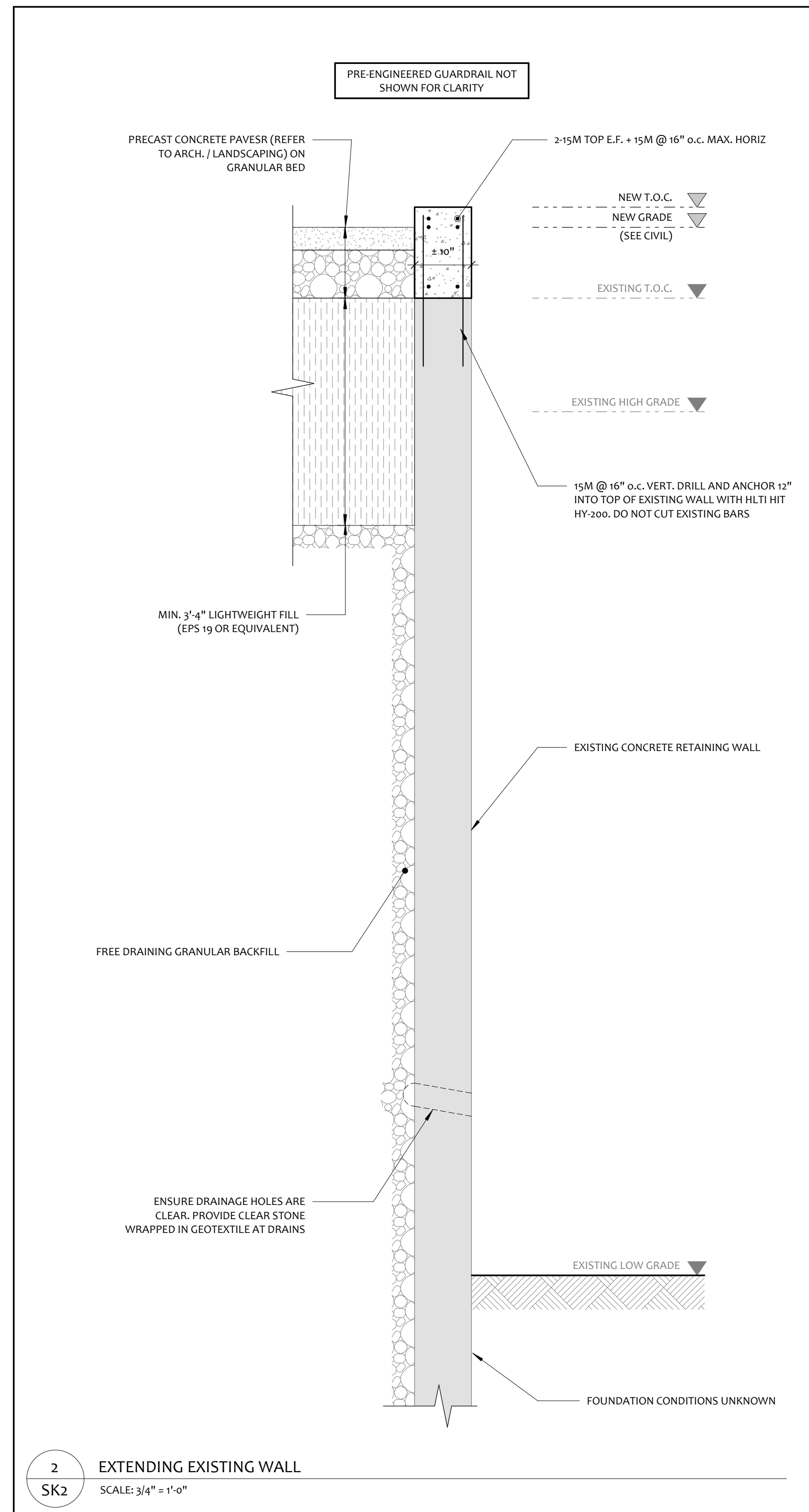
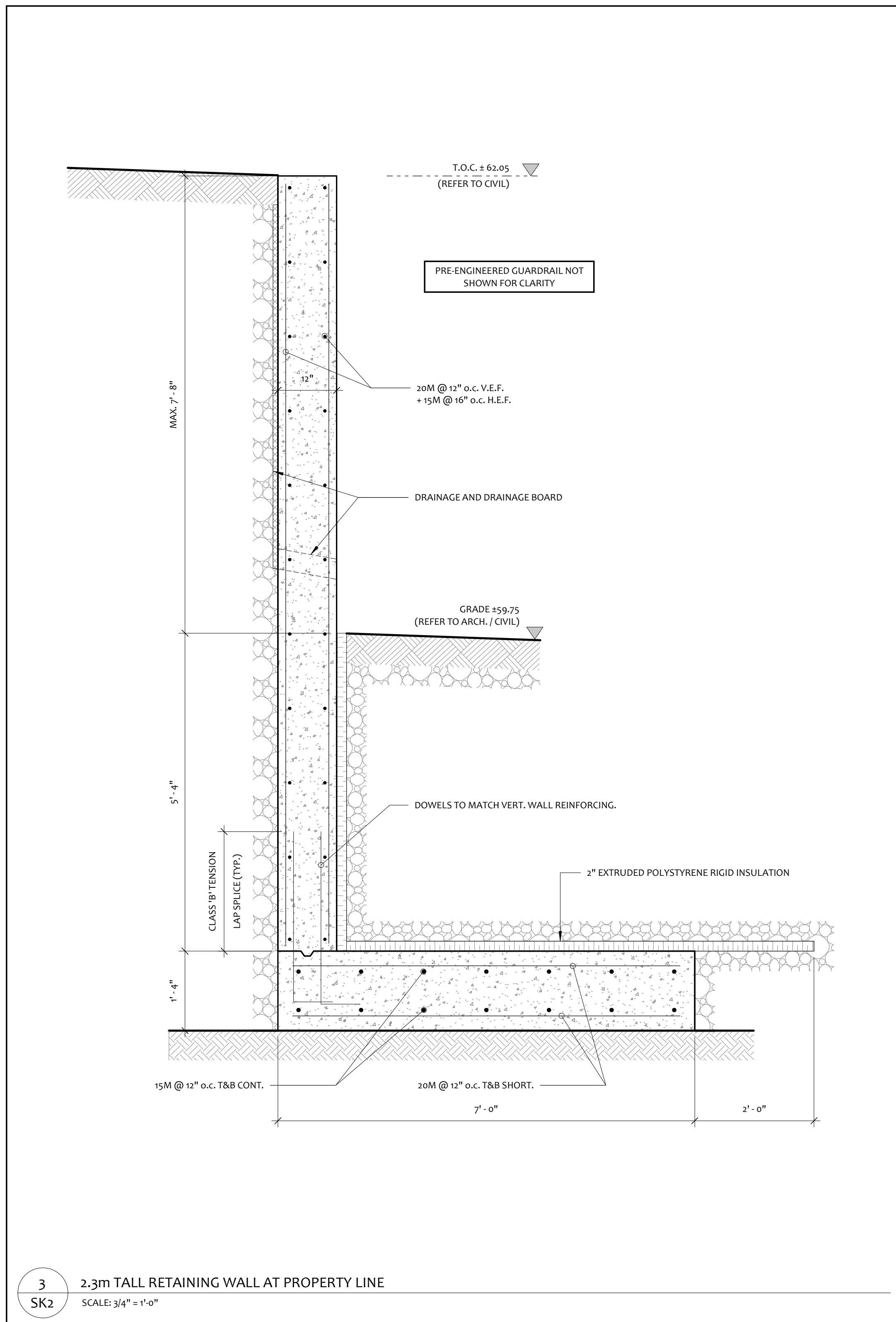
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PROJECT NAME AND ADDRESS:  
**RUSSELL DEVELOPMENT**  
71 RUSSELL AVE. OTTAWA, ON

DRAWING NAME:  
**RETAINING WALL PLANS AND GENERAL NOTES**

DESIGNED BY: C. DAVIES  
DRAWN BY: A. WITICH  
START DATE: 2026 04 09  
D+M PROJECT #: 25-236

**SK1**



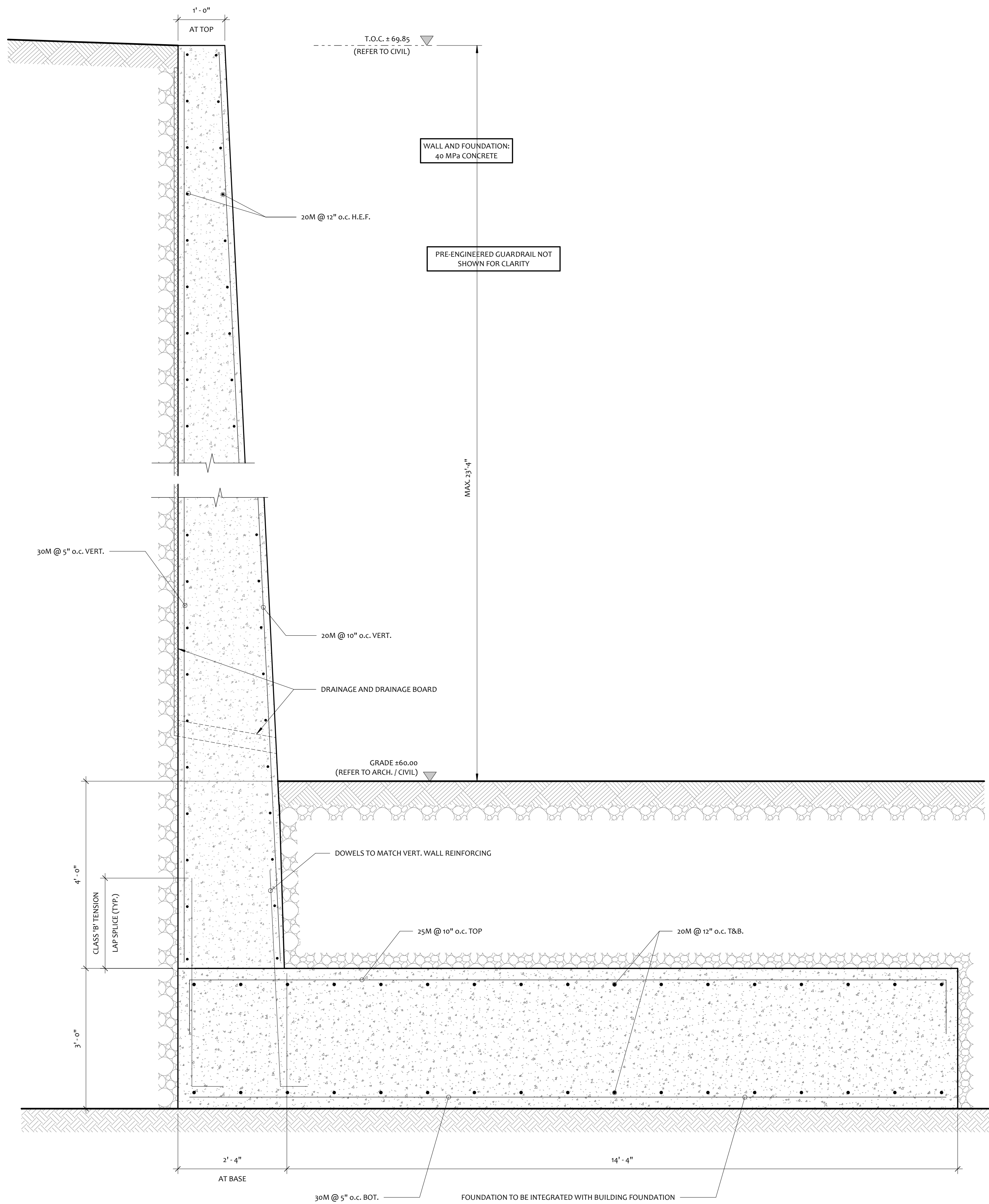
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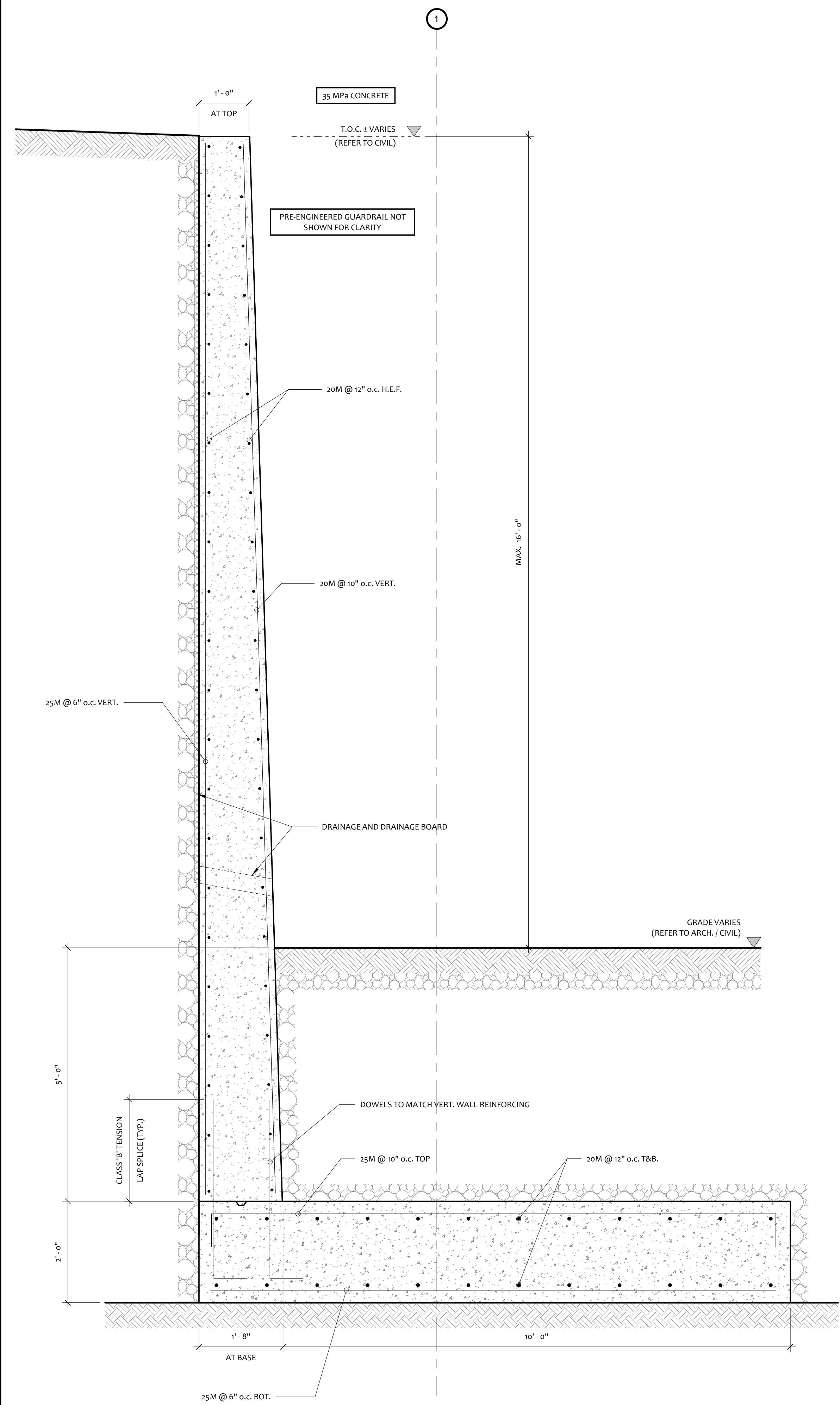
PROJECT NAME AND ADDRESS:  
**RUSSELL DEVELOPMENT**  
71 RUSSELL AVE. OTTAWA, ON

DRAWING NAME:  
**RETAINING WALL SECTIONS**

DESIGNED BY: C. DAVIES  
DRAWN BY: A. WITICH  
START DATE: 2026 04 09  
D+M PROJECT #: 25-236



2 6.9m TALL RETAINING WALL AT PROPERTY LINE2  
SCALE: 3/4" = 1'-0"



1 4.8m TALL RETAINING WALL AT PROPERTY LINE1  
SCALE: 3/4" = 1'-0"

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