

D01) GENERAL

D01-1 GENERAL INFORMATION

- 1. THE INFORMATION PRESENTED ON THESE DRAWINGS HAS BEEN DESIGNED AND ANALYZED IN ACCORDANCE WITH THE 2015 NATIONAL BUILDING CODE OF CANADA... 1.1 CONCRETE STRUCTURE DESIGNED IN ACCORDANCE WITH CSA A23.3:19... 1.2 STEEL STRUCTURE DESIGNED IN ACCORDANCE WITH CSA-S16:19... 1.3 WOOD STRUCTURE DESIGNED IN ACCORDANCE WITH CSA-086:19... 1.4 MASONRY STRUCTURE DESIGNED IN ACCORDANCE WITH CSA S304.1(R2019)...

D01-2 GRAVITY LOADS:

Table with columns for SNOW LOADS (PART 4), SNOW LOADS (PART 9), DESIGN LOADS, GARAGE ROOF DEAD LOADS, SNOW, GARAGE MEZZANINE DEAD LOADS, LIVE LOAD, HOUSE/LINE ROOF DEAD LOADS, SNOW, HOUSE 2ND FLOOR DEAD LOADS, LIVE LOAD.

D01-3 LATERAL LOADING DATA (GARAGE)

D01.3.1 SEISMIC

SEISMIC FORCE RESISTING SYSTEM (SFRS) SFRS: SYSTEM & CONNECTIONS: (2015 NBC CLAUSE 4.1.8.9(4), 4.1.8.10) LATERAL LOAD RESISTING SYSTEM: CONVENTIONAL CONSTRUCTION (STEEL BRACED FRAME)...

DESIGN SPECTRAL RESPONSE ACCELERATION VALUES (DSRAV) (2015 NBC CLAUSE 4.1.8.4)

Table with columns CLASS D', Sa(0), Sa(0.2), Sa(0.5), Sa(1.0), Sa(2.0), Sa(5.0), Sa(10.0) and values.

SYSTEM RESTRICTION VALUE: $\frac{I_p S_a(0.2)}{R_d} \geq 0.35$

PERIOD DATA: T_{EMPRICAL} = 0.22 sec, T_{EMPRICAL} = 0.22 sec

EMPIRICAL PERIOD: (2015 NBC CLAUSE 4.1.8.11(3)(a), (b) or (c))

MODAL PERIOD: (2015 NBC CLAUSE 4.1.8.11(3)(d) AND 4.1.8.3(8))

DESIGN PERIODS/MODE & MOMENT FACTORS: (2012 OBC CLAUSE 4.1.8.11(5))

Table with columns T_{EMPRICAL}, T_{EMPRICAL}, T_{EMPRICAL} and values.

DESIGN PERIODS/MODE & MOMENT FACTORS: (2012 OBC CLAUSE 4.1.8.11(5))

Table with columns Sa(0.2), Sa(0.5), T_{DESIGN}, T_{DESIGN}, T_{DESIGN} and values.

TORSIONAL ECCENTRICITY:

- ± 0.10 D_{nx} (4.1.8.11(10a)), B < 1.7 E_{QV} (STATIC FORCE PROCEDURE) ± 0.10 D_{nx} (4.1.8.12(4a)), B ≥ 1.7 ± 0.05 D_{nx} (4.1.8.12(4b)), B ≥ 1.7, 3-D DYNAMIC ANALYSIS

STRUCTURAL SEPARATION:

- THE ADJACENT STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2015 NBC

D01.3.1 MAIN BUILDING SEISMIC (CONT.)

BUILDING WEIGHT FOR SEISMIC DESIGN: W=515 kN

STATIC VALUES: NORTH-SOUTH (↑) (EAST-WEST SIMILAR)

V = $\frac{S_d I_p M E W}{R_d R_o}$ V_{NS} = W * 0.12 = 61.8 kN

STATIC MAXIMUM/MINIMUM VALUES: NORTH-SOUTH (↑) (EAST-WEST SIMILAR)

V_{MIN} = W * 0.024 = 12.36 kN, V_{MAX} = W * 0.80 = 411.6 kN

Table with columns EQUIVALENT STATIC (ES) FORCE PROCEDURE, DYNAMIC ANALYSIS (DY) PROCEDURE, DESIGN (D) LOADS (2), NORTH-SOUTH (↑), EAST-WEST (←→)

NOTES: (1) INITIAL DYNAMIC LOAD SCALING FACTOR S.F. = g * $\frac{I_p}{R_d R_o}$ = g * 0.513... (2) DESIGN LOAD SHEAR VALUES ARE BASED ON THE EVALUATION OF V_{NS} AND V_{EW} IN ACCORDANCE WITH 4.1.8.12(5), (6) AND (7) OF THE 2015 NBC... (3) N/A = NOT USED IN THE DESIGN OF THE BUILDING.

D01.3.2 MAIN BUILDING: WIND

WIND: NORTH-SOUTH (↑) ↓ q = 0.49 kPa (1 IN 50 YEARS) I_w = 1.00 (ULS) I_w = 0.75 (SLS) C_f C_d = 0.95 (1.43 AT ENDS) V_{base} = 125 kN/m, M_{base} = 725 kN-m

D01-4 DEFINITIONS

Table with columns @ ARCH, B, B/L, BUL, cc, C, CONT, OW, EA, EE, EF, EL, ES, EW, FF, H, HD, MR, m, IF, LL, m

D01-5 SHOP DRAWINGS

- 1. SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL WORK AND ANY WORK AFFECTING THE STRUCTURE TO THE DEPARTMENTAL REPRESENTATIVE... 2. EACH OF THE FOLLOWING SHOP DRAWINGS MUST BEAR THE SIGNATURE AND STAMP OF A QUALIFIED PROFESSIONAL ENGINEER... 3. SHOP DRAWINGS MUST BE REVIEWED AND STAMPED REVIEWED BY THE CONTRACTOR BEFORE ISSUING TO THE DEPARTMENTAL REPRESENTATIVE... 4. SUBMIT STRUCTURAL STEEL, JOIST AND STEEL DECK SHOP DRAWINGS FOR STRUCTURAL ENGINEER'S REVIEW... 5. SHOP DRAWINGS ARE REVIEWED FOR CONFORMANCE WITH THE GENERAL DESIGN CONCEPT...

D01-6 TYPICAL DETAILS

1. TYPICAL DETAILS NOTED IN FOLLOWING SECTIONS TO BE USED WHERE SPECIFIC DETAILS HAVE NOT BEEN PROVIDED ON DRAWINGS/SECTIONS.

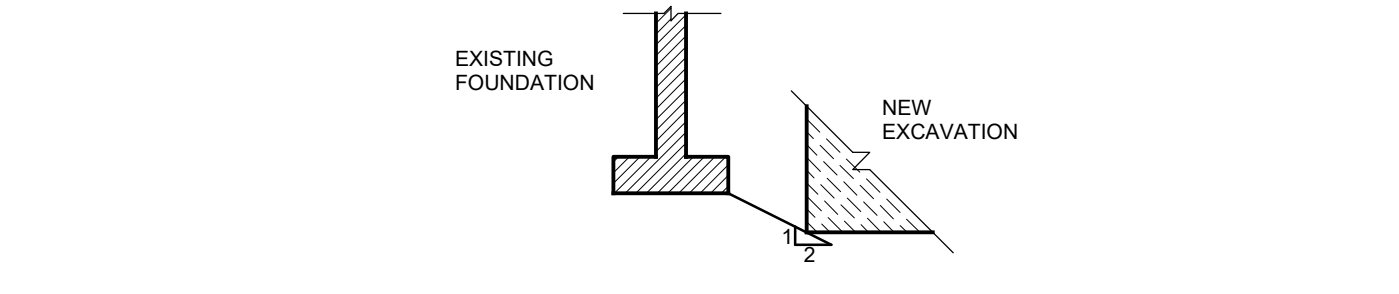
D31) FOUNDATIONS

D31-1 FOOTINGS

ALL FOOTINGS TO BEAR ON COMPACTED ENGINEERED FILL WITH MINIMUM ALLOWABLE BEARING STRENGTHS OF 250 kPa (ULS) AND 150 kPa (SLS) AND AS APPROVED BY GEOTECHNICAL ENGINEER ON SITE. REFERENCE GEOTECHNICAL REPORT: 171-07055-00

D31-2 PROTECT LATERAL STABILITY OF BEARING STRATA UNLESS NOTED

UNLESS OTHERWISE OUTLINED IN GEOTECHNICAL REPORT DO NOT EXCAVATE BELOW A LINE EXTENDING DOWNWARD FROM ANY BEARING STRATA AT A SLOPE OF MORE THAN 1 VERTICAL TO 2 HORIZONTAL. ADJUST FOOTING AND TRENCH ELEVATIONS TO MEET THIS REQUIREMENT (SEE DIAGRAM).

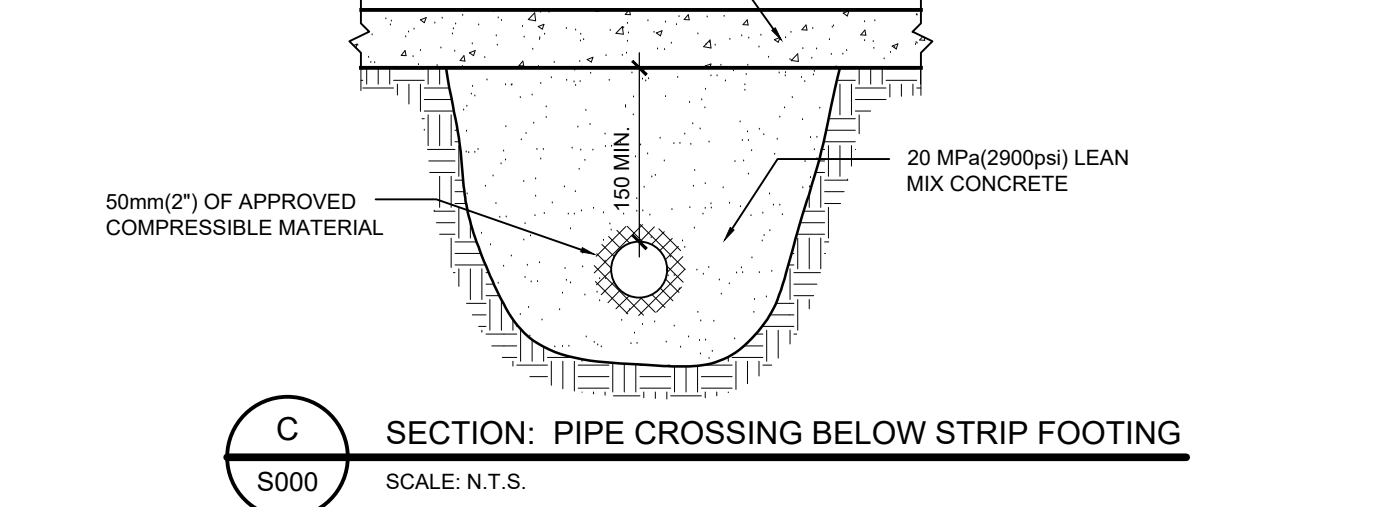


D31-4 MINIMUM FROST COVER REQUIREMENTS

- @ HEATED BUILDINGS: 1500mm (5'-0") @ HEATED BUILDING (SNOW CLEARED): 1800mm (6'-0") @ ISOLATED AREAS: 2100mm (7'-0")

D31-6 PIPE CROSSING BELOW STRIP FOOTING/SLAB

(NOTE: LOCATIONS WHERE PIPES CROSS BELOW FOOTINGS ARE TO BE APPROVED BY DEPARTMENTAL REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION. DEPARTMENTAL REPRESENTATIVE RESERVES THE RIGHT TO RELOCATE PIPES AS REQUIRED OR LOWER FOOTINGS TO SUIT.)



D03) CONCRETE

D03-1 CONCRETE COVER (CLEAR TO REINFORCING): (UNLESS NOTED)

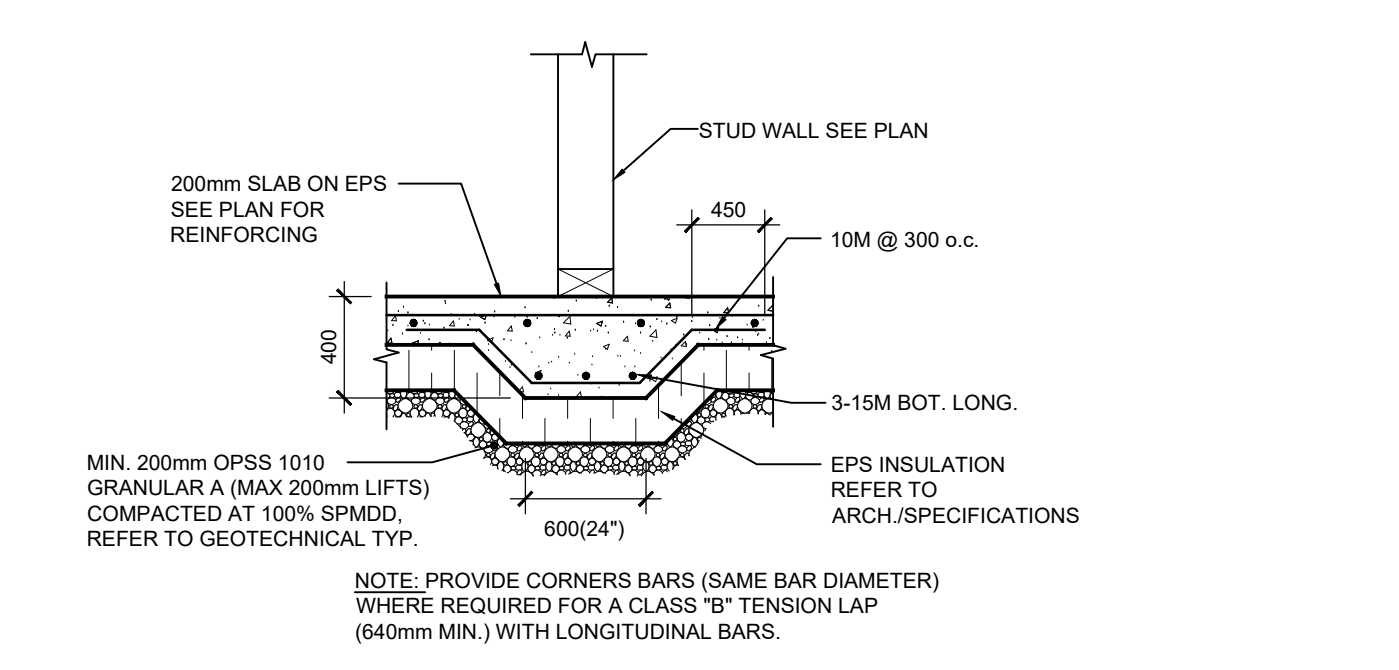
- US FOOTINGS, PILE CAPS, GRADE BEAMS (AGAINST SOIL): 75mm (3") FOOTINGS, PILE CAPS, GRADE BEAMS (SIDES & TOP): 50mm (2") WALLS: 40mm (1 1/2") SLABS: 25mm (1") UN BEAMS: 40mm (1 1/2") TO STIRRUPS) 40mm (1 1/2") TO TIES) UN PIERS: 40mm (1 1/2") TO TIES) UN

D03-2 REINFORCING STEEL

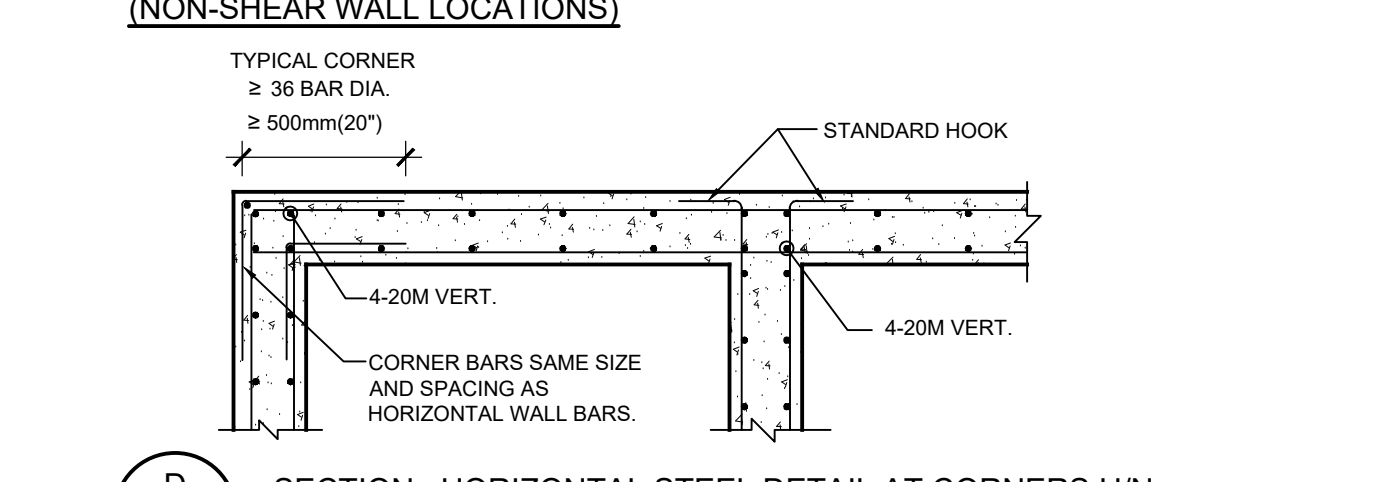
- 1. DO NOT ELIMINATE OR DISPLACE REINFORCEMENT TO ACCOMMODATE HARDWARE. IF INSERTS CANNOT BE LOCATED AS SPECIFIED, OBTAIN APPROVAL OF ALL MODIFICATIONS FROM DEPARTMENTAL REPRESENTATIVE BEFORE THE PLACING OF CONCRETE. 2. WHERE TENSION LAPS ARE SPECIFIED, LAP REINFORCING STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF CSA A23.3-19, LATEST EDITION. ALL OTHER LAPS AND EMBEDMENT OF DOWELS SHALL BE 24 BAR DIAMETERS, BUT NOT LESS THAN 300mm IF NOT SPECIFIED OTHERWISE. WIRE MESH LAPS SHALL BE 150mm MINIMUM.

TYPICAL REBAR REQUIREMENTS: LAPS: AS ON DRAWINGS ≥ 36 BAR DIA. ≥ 1.5 l_d ≥ 600mm (24")

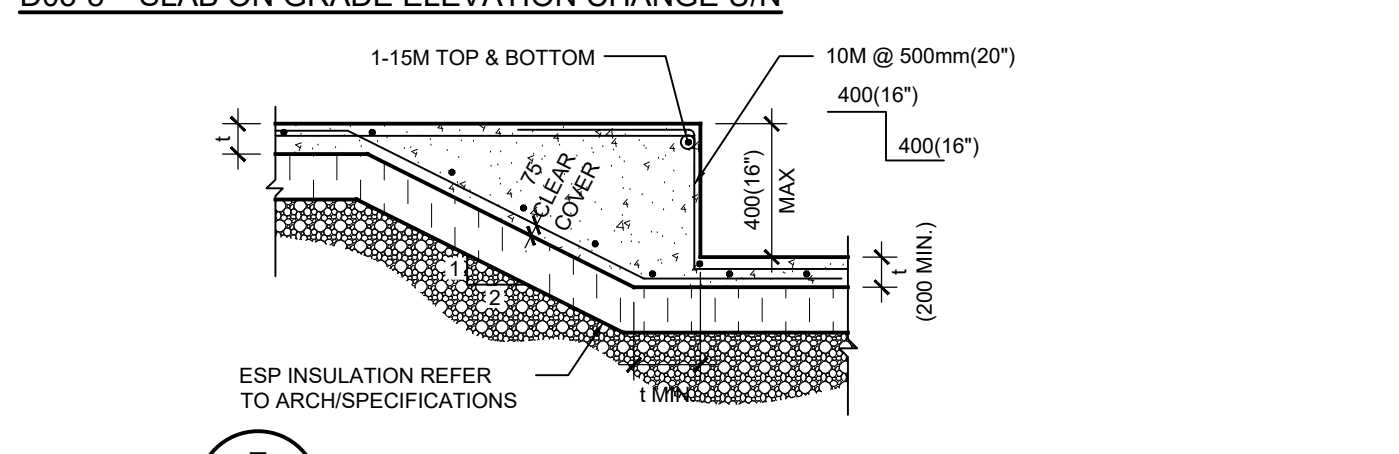
D03-3 LOADBEARING STUD WALL @ SLAB-ON-GRADE:



D03-7 HORIZONTAL STEEL DETAIL AT CORNERS U/N (NON-SHEAR WALL LOCATIONS)

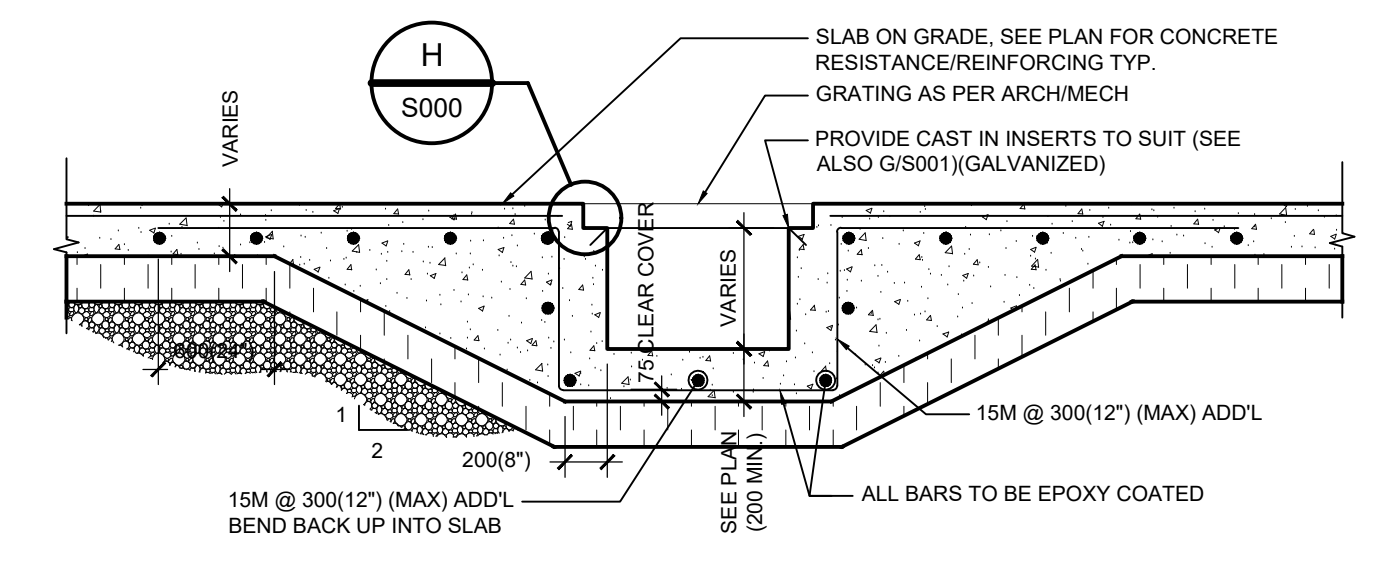


D03-8 SLAB ON GRADE ELEVATION CHANGE U/N

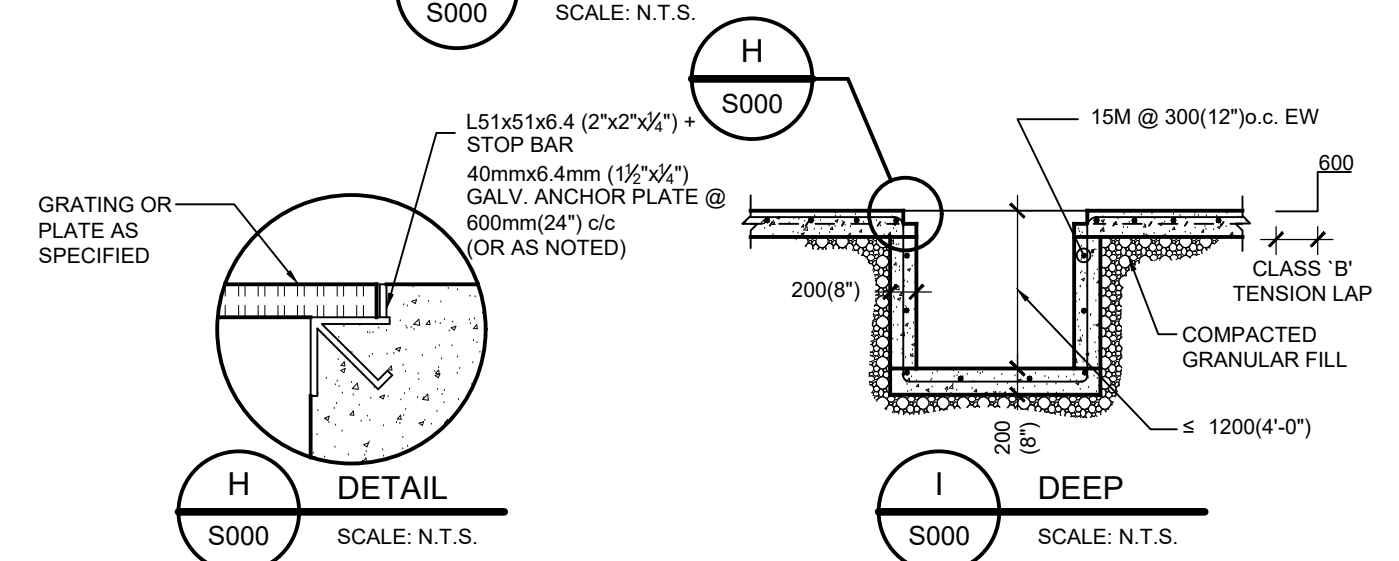


D03-10 PIT/TRENCHES, PADS AND CURBS U/N

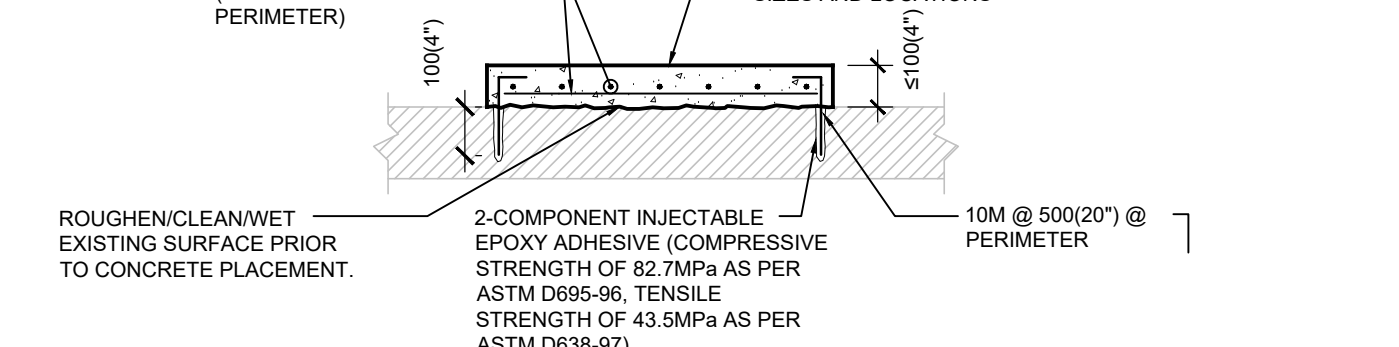
DETAILS NOTED ARE TO BE READ IN CONJUNCTION WITH PLANS/SPECIFICATIONS. DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN ON DRAWINGS.



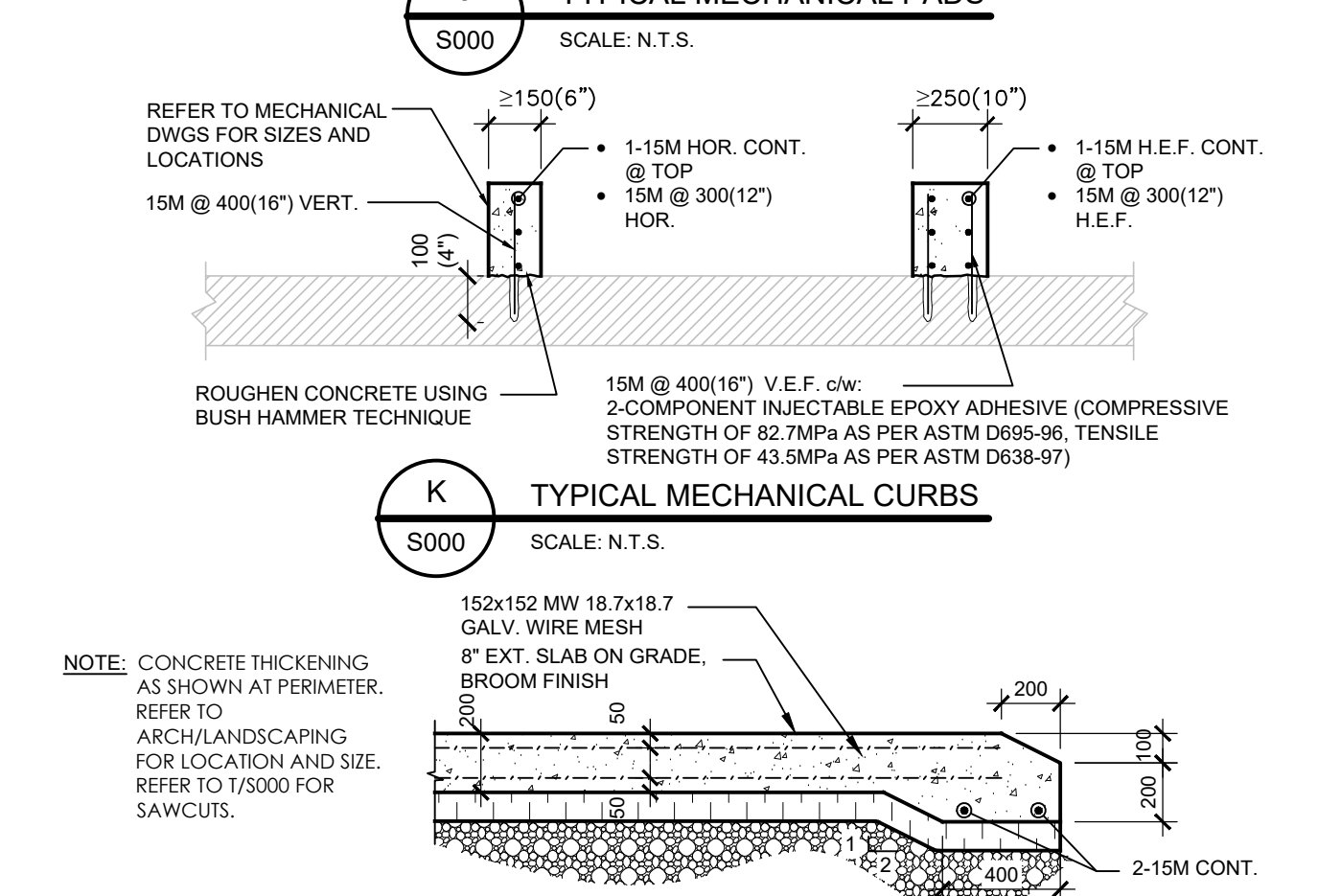
D03-11 TYPICAL MECHANICAL PADS



D03-12 TYPICAL MECHANICAL CURBS



D03-13 EXTERIOR CONCRETE SLAB



D03-12 GENERATOR PAD

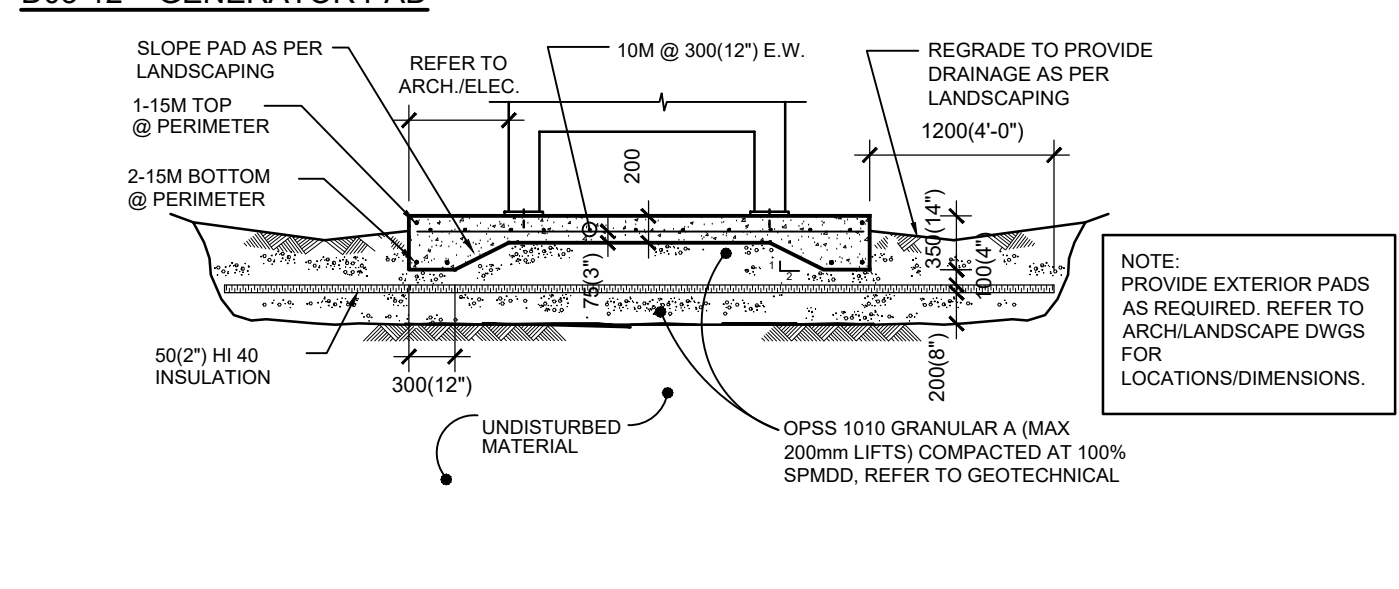


Table with columns for revision, date, and description.

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

Table with columns for detail, description, and date.

project title: COBourg COBourg CITY

project title: COBourg SEARCH AND RESCUE STATION

drawing title: GENERAL NOTES AND DETAILS

drawn by: WL, designed by: JV, approved by: JV

bid office: DFO PROJECT MANAGER, project manager: administrateur de projets

project date: 05-03-2019

project no.: R.084112.005

drawing no.: S000