

# GENERAL NOTES

## GENERAL

- ALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY.
- REINFORCING BARS SHALL BE SUPPLIED WITH ARCHITECTURAL DRAWINGS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY.
- REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATIONS OF DEVICES AND SHOW NOT SHOWN ON THE STRUCTURAL DRAWINGS. THE CONSULTANT'S APPROVAL BEFORE INSTALLING DEVICES AND OPENINGS DOES NOT CONSTITUTE AN ENDORSEMENT OF THE DEVICES OR OPENINGS.
- HOISTING AND BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL HOISTING AND BRACING SYSTEMS.
- ALL TRADES SHALL WORK IN CONFORMANCE WITH THE SAFETY REGULATIONS OF THE ONTARIO MINISTRY OF LABOUR.
- THE STRUCTURAL DESIGN LOADS SHOWN ON THE DRAWINGS SHALL NOT BE EXCEEDED DURING CONSTRUCTION.

## EXECUTION

- REINFORCING BARS SHALL BE SECURELY HELD IN PLACE DURING THE CASTING AND COMPACTING OF THE CONCRETE. SUPPORTS SHALL BE USED TO MAINTAIN THE POSITION OF THE BARS AND SHALL BE REMOVED IMMEDIATELY AFTER CASTING.
- CONCRETE BEARING BARS SHALL BE LAPPED AT SPACES AND COMPRES IN CONFORMANCE WITH CSA-A23.1:04 AND THE TYPICAL DETAILS, UNLESS OTHERWISE NOTED. LAP CONNECTIONS FOR BARS AT CENTER BETWEEN SUPPORTS SHALL BE MADE WITH STANDARD WORKS.
- PROVIDE DETAILS TO WALLS AND COLUMNS WHICH SHALL BE THE SAME IN NUMBER, SIZE AND SPACING AS THE VERTICAL REINFORCING BARS IN THE WALLS OR COLUMNS. UNLESS OTHERWISE NOTED.
- ALL DETAILS SHALL HAVE A MINIMUM EMBEDMENT LENGTH EQUAL TO THE STRAIGHT TENSION EMBEDMENT LENGTH FOR THE BARS AND SHALL BE PROVIDED IN ALL DETAILS UNLESS OTHERWISE NOTED.
- CONCRETE BEAMS AND SPANDRILS SHALL BE CAST MONOLITHICALLY WITH SLABS UNLESS OTHERWISE SPECIFIED. CONCRETE BEAMS SHALL NOT BE CAST IN SECTIONS UNLESS APPROVED BY THE CONSULTANT. THE LOCATION AND DETAILS OF CONSTRUCTION JOINTS REQUIRED, BUT NOT SHOWN, SHALL BE SUBMITTED TO THE CONSULTANT FOR APPROVAL.
- CONCRETE BEAMS SHALL BE CAST IN BEAMS OR TENSION COLUMNS WITHOUT THE CONSULTANT'S APPROVAL.
- NO SLICES SHALL BE PLACED IN BEAMS OR TENSION COLUMNS WITHOUT THE CONSULTANT'S APPROVAL.
- MINIMUM CONCRETE COVER TO REINFORCING BARS IN A NON-COMPRESSIVE SITUATION SHALL BE 25mm FOR CONCRETE CAST AGAINST AND EXPOSED TO SOIL.
- MINIMUM CONCRETE COVER TO REINFORCING BARS IN A NON-COMPRESSIVE SITUATION FOR CONCRETE CAST ON OR WITHIN FORMWORK SHALL BE AS FOLLOWS IN mm:
 

ELEMENT	REINFORCING BAR DIAMETER (mm)	NOT EXPOSED TO WEATHER (COVER mm)	EXPOSED TO WEATHER (COVER mm)
SLABS AND WALLS	25	25	30
	30	30	40
COLUMNS	35 AND SMALLER	40	45
	45	45	55
BEAMS, GIRDERS AND PILLS (PERIPHERAL)	35 AND SMALLER	50	55
	45	55	65
TENSION COLUMNS	35 AND SMALLER	50	55
	45	55	65
TENSION BEAMS	35 AND SMALLER	50	55
	45	55	65
TENSION SPINDRILS	35 AND SMALLER	50	55
	45	55	65

## EXECUTION CONTD.

- MINIMUM CONCRETE COVER TO REINFORCING BARS FOR A 3 HOURS FIRE RATING SHALL BE 50mm FOR BOTTOM BARS AND 40mm FOR ALL OTHER BARS. MINIMUM CONCRETE COVER TO REINFORCING BARS FOR CONCRETE EXPOSED TO DE-ICE CHEMICALS ON PARKING GARAGES SHALL BE 40mm FOR TOP AND BOTTOM BARS AND 50mm FOR OTHER BARS.
- CONCRETE BEAMS SHALL BE CAST MONOLITHICALLY WITH SLABS UNLESS OTHERWISE SPECIFIED. CONCRETE BEAMS SHALL NOT BE CAST IN SECTIONS UNLESS APPROVED BY THE CONSULTANT. THE LOCATION AND DETAILS OF CONSTRUCTION JOINTS REQUIRED, BUT NOT SHOWN, SHALL BE SUBMITTED TO THE CONSULTANT FOR APPROVAL.
- CONCRETE BEAMS SHALL BE CAST IN BEAMS OR TENSION COLUMNS WITHOUT THE CONSULTANT'S APPROVAL.
- NO SLICES SHALL BE PLACED IN BEAMS OR TENSION COLUMNS WITHOUT THE CONSULTANT'S APPROVAL.
- MINIMUM CONCRETE COVER TO REINFORCING BARS IN A NON-COMPRESSIVE SITUATION SHALL BE 25mm FOR CONCRETE CAST AGAINST AND EXPOSED TO SOIL.
- MINIMUM CONCRETE COVER TO REINFORCING BARS IN A NON-COMPRESSIVE SITUATION FOR CONCRETE CAST ON OR WITHIN FORMWORK SHALL BE AS FOLLOWS IN mm:
 

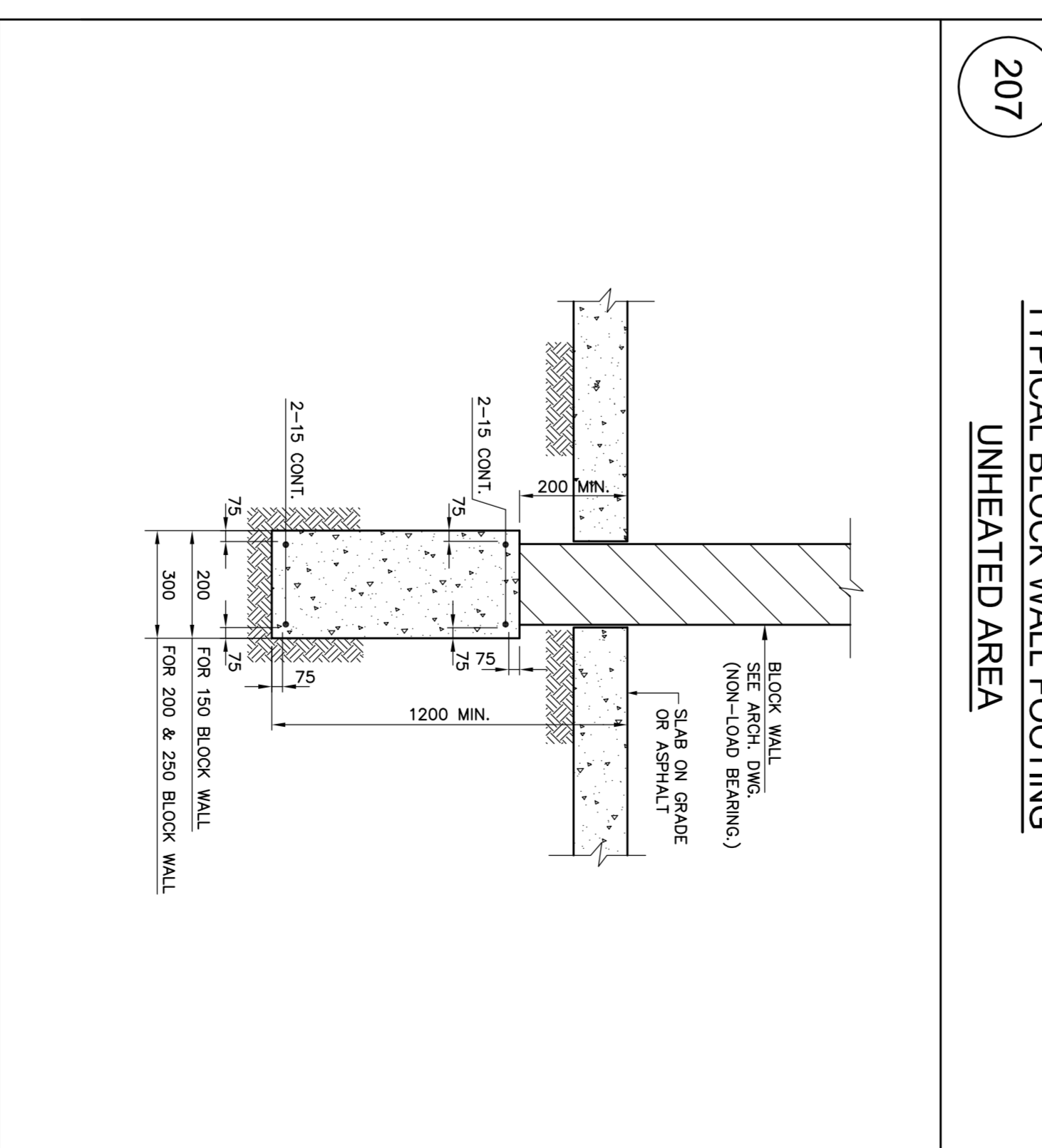
ELEMENT	REINFORCING BAR DIAMETER (mm)	NOT EXPOSED TO WEATHER (COVER mm)	EXPOSED TO WEATHER (COVER mm)
SLABS AND WALLS	25	25	30
	30	30	40
COLUMNS	35 AND SMALLER	40	45
	45	45	55
BEAMS, GIRDERS AND PILLS (PERIPHERAL)	35 AND SMALLER	50	55
	45	55	65
TENSION COLUMNS	35 AND SMALLER	50	55
	45	55	65
TENSION BEAMS	35 AND SMALLER	50	55
	45	55	65
TENSION SPINDRILS	35 AND SMALLER	50	55
	45	55	65

## TABLE 5

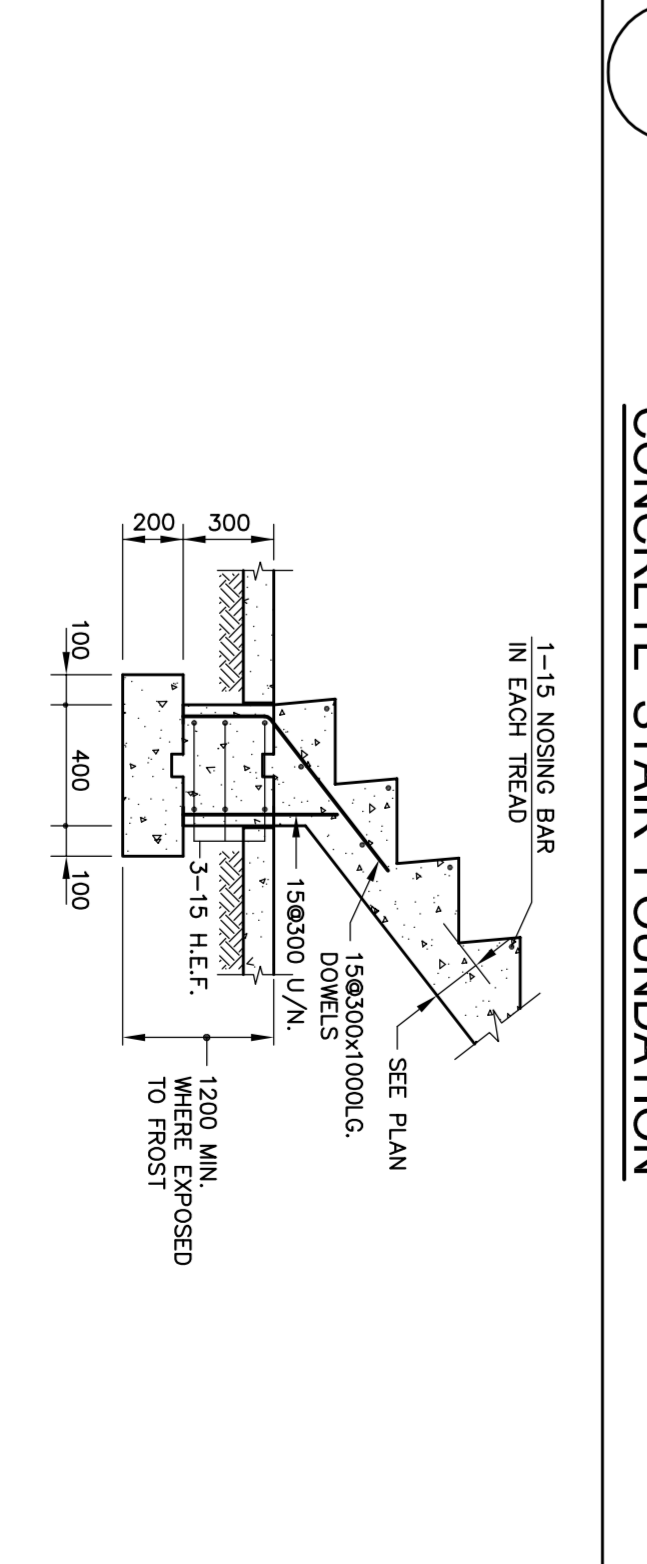
SLABS AND BEAMS OTHER THAN TOP BARS

DATA	BAR SIZE	10	15	20	25	30	35
1	COMPRESSION	200	200	200	200	200	200
2	TENSION	200	200	200	200	200	200
3	COMPRESSION	200	200	200	200	200	200
4	TENSION	200	200	200	200	200	200
5	COMPRESSION	200	200	200	200	200	200
6	TENSION	200	200	200	200	200	200
7	COMPRESSION	200	200	200	200	200	200
8	TENSION	200	200	200	200	200	200
9	COMPRESSION	200	200	200	200	200	200
10	TENSION	200	200	200	200	200	200
11	COMPRESSION	200	200	200	200	200	200
12	TENSION	200	200	200	200	200	200
13	COMPRESSION	200	200	200	200	200	200
14	TENSION	200	200	200	200	200	200
15	COMPRESSION	200	200	200	200	200	200
16	TENSION	200	200	200	200	200	200
17	COMPRESSION	200	200	200	200	200	200
18	TENSION	200	200	200	200	200	200
19	COMPRESSION	200	200	200	200	200	200
20	TENSION	200	200	200	200	200	200
21	COMPRESSION	200	200	200	200	200	200
22	TENSION	200	200	200	200	200	200
23	COMPRESSION	200	200	200	200	200	200
24	TENSION	200	200	200	200	200	200
25	COMPRESSION	200	200	200	200	200	200
26	TENSION	200	200	200	200	200	200
27	COMPRESSION	200	200	200	200	200	200
28	TENSION	200	200	200	200	200	200
29	COMPRESSION	200	200	200	200	200	200
30	TENSION	200	200	200	200	200	200
31	COMPRESSION	200	200	200	200	200	200
32	TENSION	200	200	200	200	200	200
33	COMPRESSION	200	200	200	200	200	200
34	TENSION	200	200	200	200	200	200
35	COMPRESSION	200	200	200	200	200	200
36	TENSION	200	200	200	200	200	200
37	COMPRESSION	200	200	200	200	200	200
38	TENSION	200	200	200	200	200	200
39	COMPRESSION	200	200	200	200	200	200
40	TENSION	200	200	200	200	200	200
41	COMPRESSION	200	200	200	200	200	200
42	TENSION	200	200	200	200	200	200
43	COMPRESSION	200	200	200	200	200	200
44	TENSION	200	200	200	200	200	200
45	COMPRESSION	200	200	200	200	200	200
46	TENSION	200	200	200	200	200	200
47	COMPRESSION	200	200	200	200	200	200
48	TENSION	200	200	200	200	200	200
49	COMPRESSION	200	200	200	200	200	200
50	TENSION	200	200	200	200	200	200
51	COMPRESSION	200	200	200	200	200	200
52	TENSION	200	200	200	200	200	200
53	COMPRESSION	200	200	200	200	200	200
54	TENSION	200	200	200	200	200	200
55	COMPRESSION	200	200	200	200	200	200
56	TENSION	200	200	200	200	200	200
57	COMPRESSION	200	200	200	200	200	200
58	TENSION	200	200	200	200	200	200
59	COMPRESSION	200	200	200	200	200	200
60	TENSION	200	200	200	200	200	200
61	COMPRESSION	200	200	200	200	200	200
62	TENSION	200	200	200	200	200	200
63	COMPRESSION	200	200	200	200	200	200
64	TENSION	200	200	200	200	200	200
65	COMPRESSION	200	200	200	200	200	200
66	TENSION	200	200	200	200	200	200
67	COMPRESSION	200	200	200	200	200	200
68	TENSION	200	200	200	200	200	200
69	COMPRESSION	200	200	200	200	200	200
70	TENSION	200	200	200	200	200	200
71	COMPRESSION	200	200	200	200	200	200
72	TENSION	200	200	200	200	200	200
73	COMPRESSION	200	200	200	200	200	200
74	TENSION	200	200	200	200	200	200
75	COMPRESSION	200	200	200	200	200	200
76	TENSION	200	200	200	200	200	200
77	COMPRESSION	200	200	200	200	200	200
78	TENSION	200	200	200	200	200	200
79	COMPRESSION	200	200	200	200	200	200
80	TENSION	200	200	200	200	200	200
81	COMPRESSION	200	200	200	200	200	200
82	TENSION	200	200	200	200	200	200
83	COMPRESSION	200	200	200	200	200	200
84	TENSION	200	200	200	200	200	200
85	COMPRESSION	200	200	200	200	200	200
86	TENSION	200	200	200	200	200	200
87	COMPRESSION	200	200	200	200	200	200
88	TENSION	200	200	200	200	200	200
89	COMPRESSION	200	200	200	200	200	200
90	TENSION	200	200	200	200	200	200
91	COMPRESSION	200	200	200	200	200	200
92	TENSION	200	200	200	200	200	200
93	COMPRESSION	200	200	200	200	200	200
94	TENSION	200	200	200	200	200	200
95	COMPRESSION	200	200	200	200	200	200
96	TENSION	200	200	200	200	200	200
97	COMPRESSION	200	200	200	200	200	200
98	TENSION	200	200	200	200	200	200
99	COMPRESSION	200	200	200	200	200	200
100	TENSION	200	200	200	200	200	200

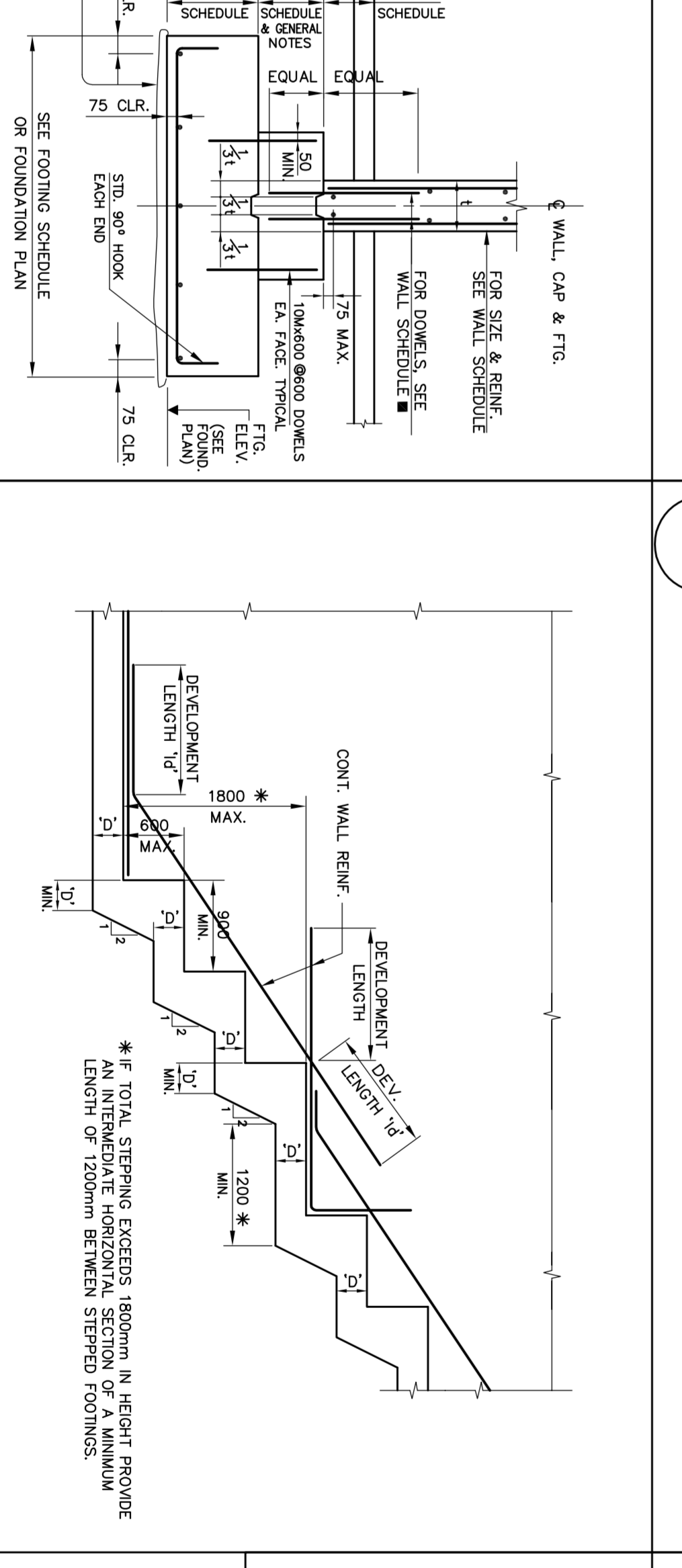
## TYPICAL SECTION AT UNHEATED AREA



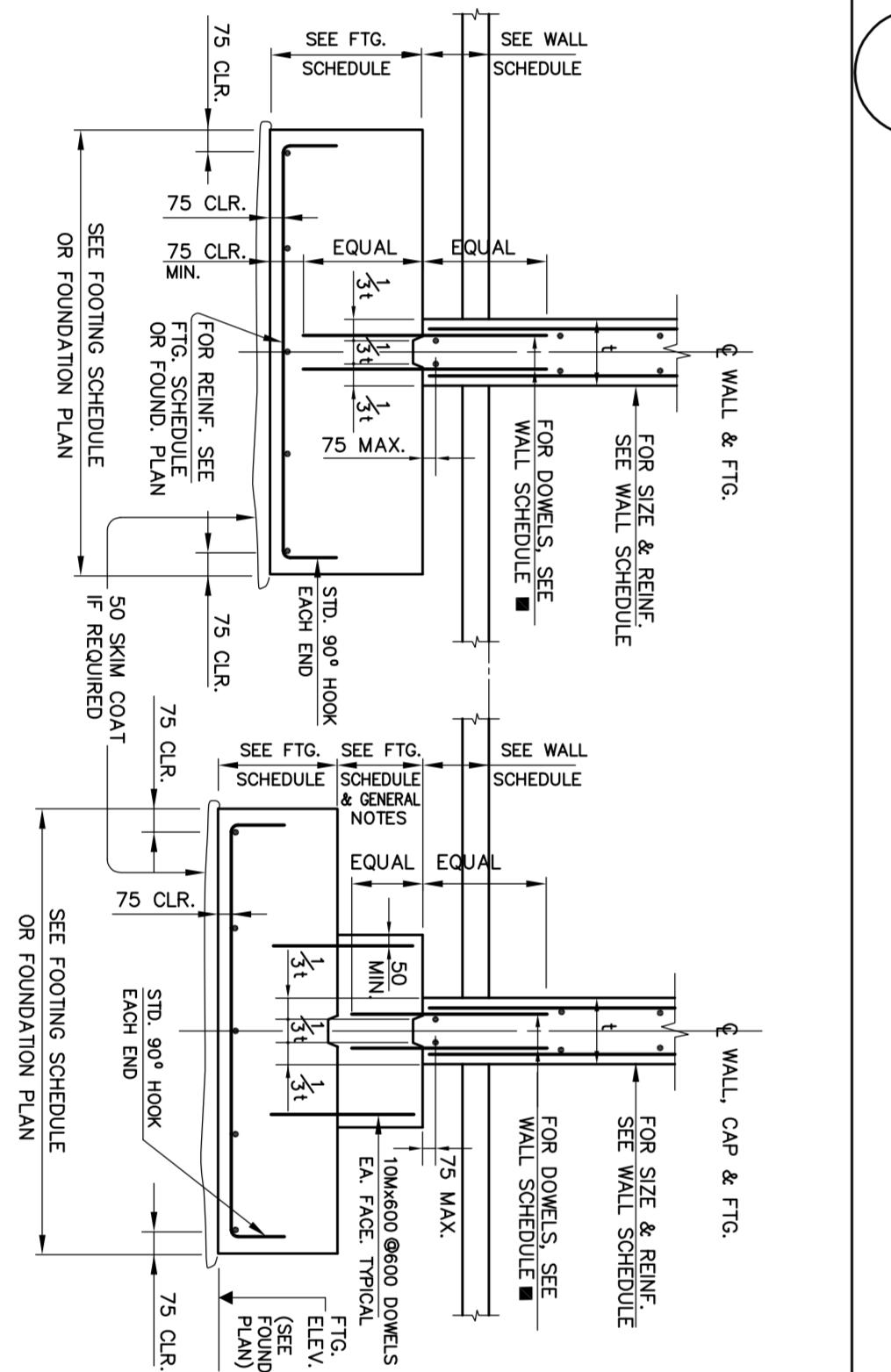
## TYPICAL SECTION AT CONCRETE STAIR FOUNDATION



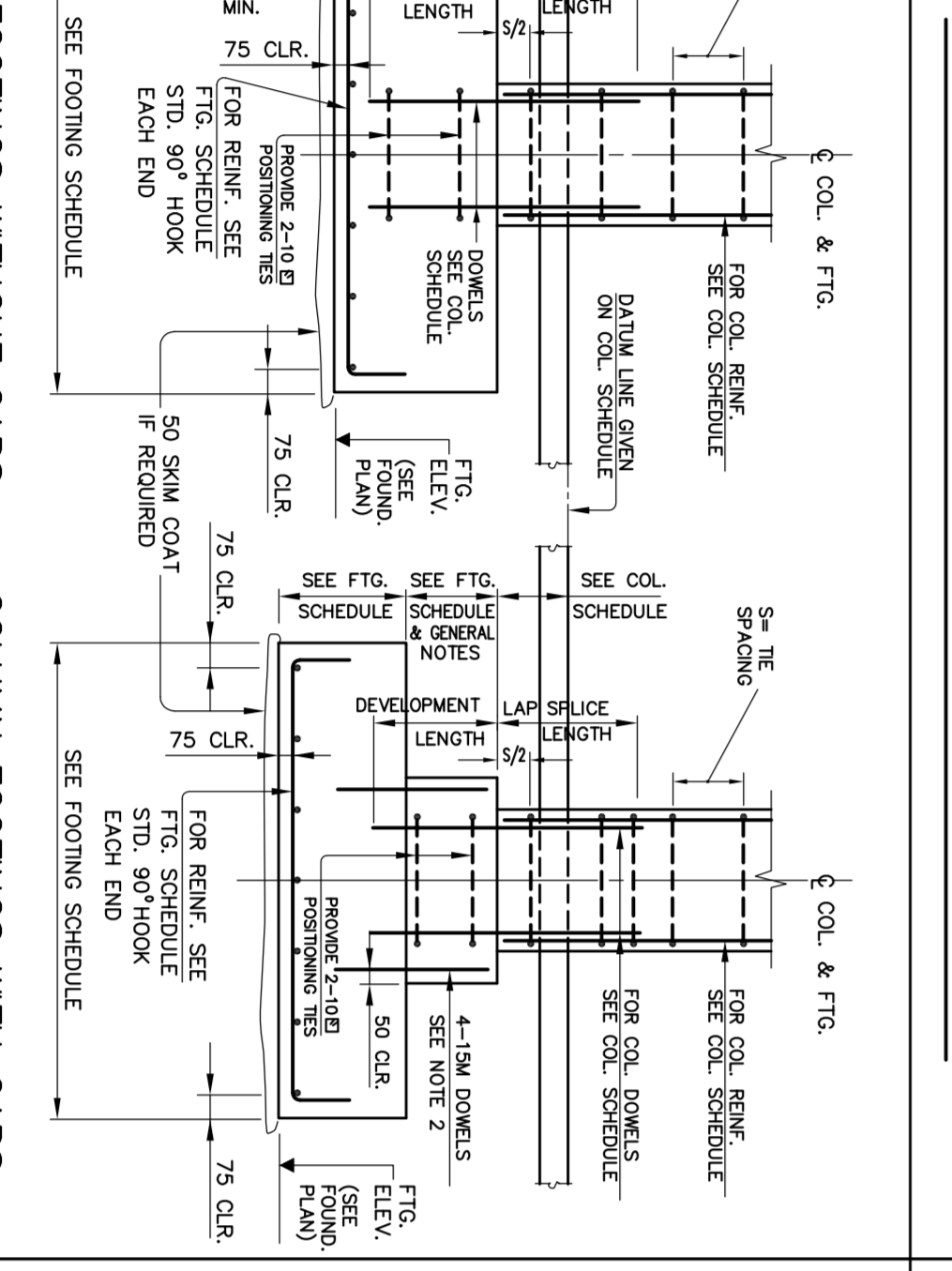
## TYPICAL DETAIL OF STEPPED FOOTINGS



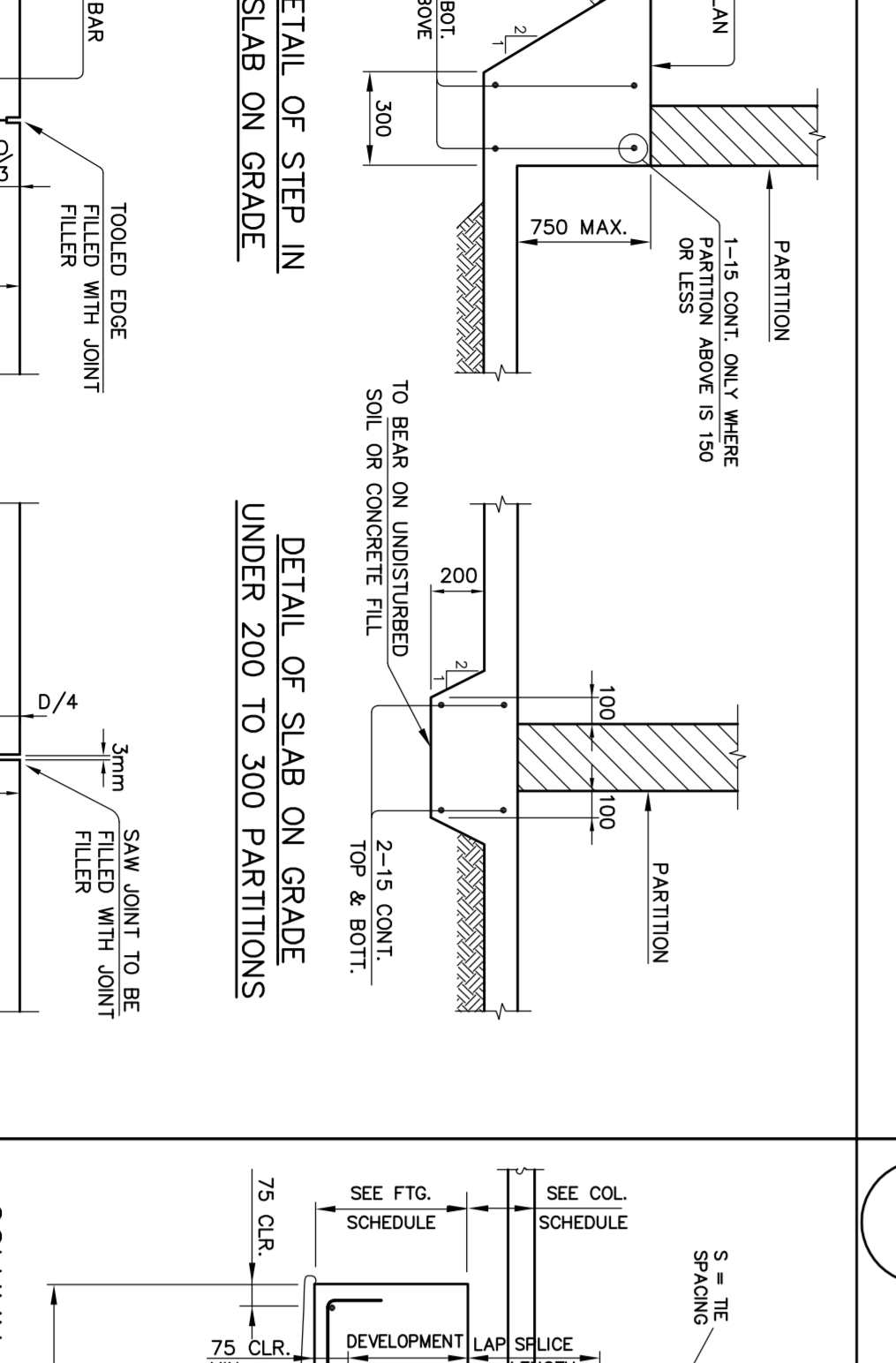
## TYPICAL SHEAR WALL FOOTINGS



## TYPICAL CONCRETE COLUMN FOOTINGS



## TYPICAL SLAB ON GRADE DETAILS



## CONCRETE

- ALL CONCRETE SHALL BE CAST IN ACCORDANCE WITH CSA-A23.1:04 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa.
- CONCRETE SHALL BE CAST IN ACCORDANCE WITH CSA-A23.1:04 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa.
- CONCRETE SHALL BE CAST IN ACCORDANCE WITH CSA-A23.1:04 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa.
- CONCRETE SHALL BE CAST IN ACCORDANCE WITH CSA-A23.1:04 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa.

- CONCRETE SHALL BE CAST IN ACCORDANCE WITH CSA-A23.1:04 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa.
- CONCRETE SHALL BE CAST IN ACCORDANCE WITH CSA-A23.1:04 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa.
- CONCRETE SHALL BE CAST IN ACCORDANCE WITH CSA-A23.1:04 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa.
- CONCRETE SHALL BE CAST IN ACCORDANCE WITH CSA-A23.1:04 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa.