stephenson ENGINEERING

STRUCTURAL ADDENDUM #1

Project Name: Hampton Manor (25 Baker Hill Boulevard) – Stouffville
Project Number: 20140490

Vince Staffieri
Royal Pine Homes
3550 Langstaff Road, Suite 200
Woodbridge, Ontario
L4L 9G3

June 15, 2017

via email: vince@royalpinehomes.com

Please find enclosed Structural Addendum #1 for the above referenced project.

If you have any questions regarding the above, please contact our office.

Yours very truly,
STEPHENSON ENGINEERING LIMITED

per _____

Mauricio Nieto, MASc., P.Eng.
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per _____

Saundra Cullen, P.Eng.
Principal
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1.0 REFERENCE STRUCTURAL DRAWINGS S0-02 AND S8-02

.1 Revise Design Criteria Notes, plan notes and typical details as indicated.

2.0 REFERENCE STRUCTURAL DRAWINGS S1-01, S2-01, S4-01 AND S6-01

.1 Revise footings, columns, foundation sections and stair sections as indicated.

3.0 REFERENCE STRUCTURAL DRAWINGS S1-02, S1-02A AND S5-01

.1 Revise reinforcement for slab at Ground floor as indicated on Drawing S1-02.
.2 Revise concrete strength for transfer slab as noted on Drawing S1-02 and add shear reinforcement as shown on Drawing S1-02A.
.3 Revise Ground Floor sections as indicated on drawing S5-01.

4.0 REFERENCE STRUCTURAL DRAWING S1-03

.1 Delete portion of second floor slab at entrance lobby, as noted on drawing S1-03.

5.0 REFERENCE STRUCTURAL DRAWINGS S2-02, S3-01, S3-02, S3-03 AND S3-04

.1 Revise thickness and reinforcement of columns and walls as noted.
.2 Revise shear wall openings as indicated.

END OF STRUCTURAL ADDENDUM # 1

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

1	MAR.18.2016	ISSUED FOR TENDER
2	DEC.28.2016	ISSUED FOR BUILDING PERMIT
3	MAY.09.2017	ISSUED FOR FOUNDATION PERMIT
4	JUN.15.2017	STRUCTURAL ADDENDUM#1

DESIGN CRITERIA NOTES — P-GN01

DESIGN CRITERIA NOTES

1. GENERAL

1.1. THE PROJECT HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2012 OBC (O. REG. 332/12 AS AMENDED) INCLUDING CLAUSES 4.1.6.1(1), 4.1.6.4(3), 4.1.7 AND 4.1.8.

1.2. THE PARKING GARAGE HAS BEEN DESIGNED IN ACCORDANCE TO THE STRUCTURAL REQUIREMENTS OF CSA-S413-07 PARKING STRUCTURES. SEE ARCHITECTURAL DRAWINGS FOR WATERPROOFING, SEALERS, ETC., DETAILED IN ACCORDANCE WITH CSA-S413-07. SEE ALSO MECHANICAL DRAWINGS FOR COMPLIANCE WITH THE MECHANICAL REQUIREMENTS OF CSA-S413-07.

1.3. THE AREAS OF THE STRUCTURE ACCESSIBLE TO VEHICULAR TRAFFIC HAVE BEEN DESIGNED FOR CLAUSES 4.1.5.5, 4.1.5.10, APPENDIX A OF THE OBC AND WHERE APPLICABLE GARAGE ROOF SLABS HAVE BEEN DESIGNED FOR THE REQUIREMENTS OF THE CITY OF TORONTO GUIDELINES FOR GARBAGE TRUCK AND FIRE TRUCK WHEEL LOADING.

1.4. ALL REINFORCED CONCRETE SLABS, BEAMS, COLUMNS, AND SHEAR WALLS HAVE BEEN DESIGNED TO ACHIEVE A MINIMUM 2 HOUR FIRE RESISTANCE RATING.

1.5. MISCELLANEOUS METAL, PRECAST AND STAIR FABRICATORS SHALL:
- 1.5.1. PROVIDE SHOP DRAWINGS TO THE ARCHITECT PRIOR TO FABRICATION, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER.
- 1.5.2. DESIGN ALL GUARDS TO MEET LATERAL LOADS DESCRIBED IN OBC 4.1.5.14.
- 1.5.3. DESIGN ALL HANDRAILS TO MEET LOADS DESCRIBED IN OBC 3.4.6.5(12).
- 1.5.4. DESIGN ALL STAIRS TO SUPPORT A MINIMUM LIVE LOAD OF 4.8kPa.

1.6. ARCHITECTURAL PRECAST FABRICATOR SHALL:
- 1.6.1. PROVIDE SHOP DRAWINGS TO THE ARCHITECT PRIOR TO FABRICATION, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER.
- 1.6.2. WHERE PRECAST IS USED AS A GUARD DESIGN THE PRECAST AND CONNECTIONS TO MEET LATERAL LOADS DESCRIBED IN OBC 4.1.5.14.

1.7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR WHO IS SUPPLYING AND INSTALLING EQUIPMENT, THAT ALL ELEMENTS OF STRUCTURES LISTED IN TABLE 4.1.8.18 OF THE OBC 2012 ARE DESIGNED IN ACCORDANCE WITH CLAUSE 4.1.8.18.

1.8. BUILDING IMPORTANCE CATEGORY (SNOW, WIND, AND EARTHQUAKE) IS NORMAL.

1.9. STIFF ELEMENTS NOT PART OF SFRS SHALL BE SEPARATED FROM THE STRUCTURE AS PER OBC CLAUSE 4.1.8.3 (6a). EXAMPLES INCLUDE, BUT NOT LIMITED TO MASONRY PARTITIONS, BRICK VENEER, PRECAST CLADDING ETC. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO PROVIDE SHOP DRAWINGS, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER DEMONSTRATING COMPLIANCE. PROVIDE MINIMUM 15mm SEPARATION UNLESS NOTED OTHERWISE.

2. LATERAL LOADS ON STRUCTURE

2.1. SNOW
Ss = 2.0kPa Sr = 0.4kPa

2.2. WIND
q(1/50) = 0.42kPa
Ce = (h/10)^1/5 NOT LESS THAN 0.9.
Cg = 2.0
Cp = AS PER FIGURE I-15 OF USER'S GUIDE - NBC 2010 STRUCTURAL COMMENTARIES (PART 4 OF DIVISION B).

2.3. EARTHQUAKE
Sa(0.2) = 0.20 PGA = 0.108 Fa = 1.3
Sa(0.5) = 0.105 SITE CLASS =D Fv = 1.4
Sa(1.0) = 0.055 Rd = 1.5 Ie = 1.0
Sa(2.0) = 0.016 Ro = 1.3
SFRS CONSISTS OF REINFORCED CONCRETE SHEAR WALLS.
STRUCTURAL IRREGULARITIES CONSIDERED IN THE DESIGN PER CLAUSE 4.1.8.6. CONSIST OF: TYPES 1, 2, 3, 4, 5
METHOD OF ANALYSIS :- DYNAMIC

3. FOUNDATION WALLS

3.1. WALLS RETAINING EARTH ARE DESIGNED TO SAFELY WITHSTAND HORIZONTAL EARTH PRESSURE (P=K (Wt.h=q)
K = 0.4
Wt = 21kN/m^3
q = 12kPa
h = DEPTH IN METRES

3.2. THE WALLS HAVE BEEN DESIGNED ASSUMING FREE DRAINING BACKFILL OR THE USE OF A DRAINAGE CORE TO PREVENT THE BUILD-UP OF HYDROSTATIC PRESSURE.

CONCRETE MIX SCHEDULE — P-GN02

	STRENGTH AT 28 DAYS (Mpa)	SLUMP AT DELIVERY (mm)	AIR ENTRAINMENT	MAXIMUM W/C RATIO	EXPOSURE CLASSIFICATION
GENERAL (NON-EXPOSED) CONCRETE INTERIOR SLABS, WALLS, COLUMNS, BEAMS	25 30 35 45 (4) (4)	80 ± 20	- - - -	TO SUIT	N
EXTERIOR (EXPOSED) CONCRETE WALLS AND OR COLUMNS, EXCEPT PARKING STRUCTURE	25 35	80 ± 20	4 - 7 %	0.55	F - 2
EXTERIOR SLABS-ON-GRADE, SIDEWALKS, CURBS AND GUTTERS	32	80 ± 20	5 - 8 %	0.45	C - 2
(2) PARKING STRUCTURE (COLUMNS, WALLS GRADE BEAMS/CAPS AND FOOTINGS)	35 45	80 ± 20	5 - 8 %	0.40	C - 1
(2) GARAGE ROOF (PROVIDE DCI AT A DOSAGE OF 10L/m³)	35 40	80 ± 20	5 - 8 %	0.40	C - 1
(1) (3) PARKING SLABS-ON-GRADE (4)	25	80 ± 20	4 - 7 %	0.55	C - 4
NON WATER PROOFED EXPOSED BALCONY SLAB	30	80 ± 20	5 - 8 %	0.50	F - 1
LEAN MIX CONCRETE	5	80 ± 20	- - - -	TO SUIT	N

1) REINFORCED WITH SYNTHETIC FIBRES ADDED AT BATCHING PLANT - SEE SPECIFICATION.

2) CHLORIDE ION PENETRABILITY REQUIREMENTS < 1500 COULOMBS WITHIN 56 DAYS.

3) FOR SLAB ON GRADE SUPPORTING MASONRY PARTITIONS, PROVIDE C-1 CONCRETE WITH CORROSION INHIBITOR.

FOUNDATION PLAN NOTES - RESIDENTIAL CONCRETE

1. TOP OF SLAB-ON-GRADE IS TO BE 0.0 ABOVE DATUM ELEVATION 254.00m WITHIN ELEVATOR CORE. TOP OF SLAB VARIES IN PARKING LEVEL AND IS TO BE SLOPED TO SUIT DRAINAGE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. (4)
2. SLAB-ON-GRADE TO BE 100 mm THICK WITH SAW CUTS @3000 O/C EACH WAY, LOCALLY THICKEN SLAB ON GRADE TO CREATE SLOPE AWAY FROM VERTICAL SURFACES PER TYPICAL DETAIL C0040/S8-02. SEE SPECIFICATIONS AND TYPICAL DETAILS.
3. PROVIDE SLAB DEPRESSIONS, OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS, AS REQUIRED BY ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS.
4. SLAB-ON-GRADE TO BE PLACED ON A 200 mm MINIMUM LAYER OF COMPACTED 19mm MAXIMUM SIZE CLEAR CRUSHED STONE.
5. FOOTINGS SHALL BE CARRIED DOWN TO NATURAL UNDISTURBED SOIL WITH A FACTORED GEOTECHNICAL RESISTANCE (ULS) OF 300kPa AND 200kPa (SLS).
6. SOIL OF THIS VALUE IS ASSUMED TO BE FOUND AT THE ELEVATIONS SHOWN, ANY VARIATIONS MUST BE REPORTED TO THE GEOTECHNICAL ENGINEER BEFORE PROCEEDING WITH THE WORK.
7. REFER TO SOIL REPORT BRSE 0029718-A DATED JANUARY 23, 2015 PREPARED BY EXP.
8. SOIL AT THE UNDERSIDE OF ALL FOOTINGS IS TO BE INSPECTED AND APPROVED BY A REPRESENTATIVE OF THE SOILS CONSULTANT BEFORE PLACING CONCRETE. A 50mm LEAN MIX CONCRETE SKIM SLAB IS TO BE PLACED ON SOIL IMMEDIATELY AFTER EXCAVATION AND INSPECTION IS COMPLETED.
9. UNDERSIDE OF FOOTINGS TO BE AT ELEVATIONS AS NOTED ON PLAN.
10. SDF = STEP DOWN FOOTING. STEPS IN ANY FOOTING SHALL BE 600mm MAX. AND 10 HORIZ. TO 1 VERT.
11. UNLESS OTHERWISE NOTED, ALL WALL FOOTINGS TO BE 300 mm DEEP WITH 150 mm PROJECTION EACH SIDE.
12. DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH UNTIL FLOORS AT TOP AND BOTTOM OF WALLS ARE PLACED AND HAVE ATTAINED SPECIFIED DESIGN STRENGTH UN.
13. FILL REQUIRED ON BOTH SIDES OF FOUNDATION WALLS SHALL BE PLACED AND COMPACTED SIMULTANEOUSLY ON BOTH SIDES TO EQUALIZE SOIL PRESSURE.
14. CO-ORDINATE ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH ANY WORK.
15. CENTRE LINES OF COLUMNS, WALLS, CAPS AND FOOTINGS ARE COINCIDENT UNLESS OTHERWISE SHOWN. (SEE ARCHITECTURAL)
16. CONCRETE FOR FOUNDATION WALLS AND ALL FOOTINGS SHALL BE CLASS C-1 WITH A MINIMUM CONCRETE STRENGTH AT 28 DAYS OF 35 MPa U/N.
17. ALL CONCRETE WALLS POURED MONOLITHICALLY WITH COLUMNS AND/OR SHEAR WALLS SHALL HAVE THE SAME CONCRETE STRENGTH AS INDICATED FOR THE COLUMNS AND/OR SHEAR WALLS.
18. THE FORMING CONTRACTOR IS TO SUBMIT FOR REVIEW PROPOSED SLAB-ON-GRADE SAWCUT LAYOUT SEE TYPICAL DETAILS.
19. THE PROJECT SUPERINTENDENT MUST CONTACT THIS OFFICE 24 HOURS PRIOR TO POURING STRUCTURAL CONCRETE.
20. SEE COLUMN SCHEDULES AND SHEAR WALL ELEVATIONS.
21. SEE ALSO GENERAL NOTES AND TYPICAL DETAILS.
22. SEE TYPICAL CONCRETE MIX CHART THIS DRAWING.
23. SEE MECHANICAL AND ARCHITECTURAL DRAWINGS FOR UNDER SLAB-ON-GRADE WEEPING TILE SYSTEM.
24. PROVIDE DCI AT A DOSAGE OF 10L/m³ CONCRETE IN THE FRAMED RAMP SLAB.

GARAGE ROOF PLAN NOTES

1. TOP OF GARAGE ROOF SLAB ELEVATION VARIES AND IS TO BE SLOPED TO SUIT DRAINAGE AND RAMPING AS SHOWN ON THE ARCHITECTURAL DRAWINGS. SEE ARCHITECTURAL DRAWINGS.
2. THE STRUCTURAL SLAB HAS BEEN DESIGNED FOR THE FOLLOWING LIVE LOADS (LL) AND SUPERIMPOSED DEAD LOADS (SDL) IN ADDITION TO THE SELF WEIGHT.

	LL	SDL
GARAGE ROOF	12 kPa	20 kPa

3. CONCRETE SHALL MEET THE REQUIREMENTS FOR CLASS C1 EXPOSURE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 35 MPa AT 28 DAYS. REFER ALSO TO COLUMN AND WALL SCHEDULES. SEE TYPICAL CONCRETE MIX SCHEDULE ON FOUNDATION PLAN.
4. CONCRETE COVER FOR TOP BARS IN SLABS TO BE 40 mm, CONCRETE COVER FOR BOTTOM BARS IN SLABS TO BE 30mm.
5. APPROVAL MUST BE OBTAINED FROM ENGINEER FOR ALL OPENINGS OTHER THAN THOSE SHOWN ON PLAN.
6. THE PROJECT SUPERINTENDENT MUST CONTACT THIS OFFICE 48 HOURS PRIOR TO PLACING STRUCTURAL CONCRETE FOR A REVIEW OF PREPARATIONS.
7. SEE TYPICAL DETAIL FOR UNTELS IN NON-LOAD BEARING MASONRY WALLS.
8. SEE ARCHITECTURAL DRAWINGS AND MECHANICAL DRAWINGS FOR CURBS, REINFORCE AS PER TYPICAL DETAILS.
9. SEE COLUMN AND WALL SCHEDULES.
10. SEE ALSO GENERAL NOTES AND TYPICAL DETAILS DRAWINGS.
11. REFER TO BEAM SCHEDULES.
12. AT SLEEVES THROUGH THE SLAB, HOOK BARS AT OPENING AND ADD BARS OF SAME SIZE ON EACH SIDE OF THE OPENING, EQUAL TO 1/2 THE NUMBER OF BARS HOOKED.
13. PROVIDE 25mm CHAMFER ON ALL EXPOSED EDGES OF COLUMNS, WALLS, BEAMS, AND DROPS.
14. AREAS NOTED THUS ON PLAN, ARE BUILT-UP CONCRETE. SEE TYPICAL DETAILS.
15. AREAS NOTED THUS ON PLAN, INDICATE THICKENED SLAB. SEE PLAN FOR THICKNESS.
16. PROVIDE DCI AT A DOSAGE OF 10L/m³ CONCRETE IN THE FOLLOWING PARKING GARAGE STRUCTURE: GARAGE ROOF SLABS, CAPITALS, DROP PANELS, BEAMS AND ALL FRAMED RAMP SLABS INCLUDING ADJACENT TURNING AREAS.
17. SEE LANDSCAPE DRAWINGS FOR PLANTER WALLS AND PILLARS. REINFORCE AS PER TYPICAL DETAILS.

GROUND FLOOR PLAN NOTES

1. TOP OF GROUND FLOOR STRUCTURAL SLAB TO BE 0.0 mm BELOW FINISHED GROUND FLOOR DATUM ELEVATION 258.50m. THE STRUCTURAL SLAB STEPS AT THE EDGE OF GROUND FLOOR. SEE PLAN AND DETAILS FOR ELEVATION CHANGES. SEE ALSO ARCHITECTURAL DRAWINGS AND LANDSCAPE DRAWINGS FOR GARAGE ROOF ELEVATIONS AND SLOPES TO DRAINS.
2. THE STRUCTURAL SLAB HAS BEEN DESIGNED FOR THE FOLLOWING LIVE LOADS (LL) AND SUPERIMPOSED DEAD LOADS (SDL) IN ADDITION TO SELF WEIGHT.

	LL	SDL
SUITES	1.9 kPa	1.0 kPa
STAIRS,LOCKERS AND STORAGE	4.8 kPa	0.5 kPa
AMENITY SPACES, LOBBY AND LOUNGE	4.8 kPa	1.5 kPa
GARBAGE AND MOVING ROOM	12.0 kPa	0.5 kPa

3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 35 MPa AT 28 DAYS. REFER ALSO TO COLUMN AND WALL SCHEDULES. SEE ALSO CONCRETE MIX SCHEDULE ON FOUNDATION PLAN.
4. CONCRETE COVER FOR TOP BARS IN SLABS TO BE 25 mm, CONCRETE COVER FOR BOTTOM BARS IN SLABS TO BE 30 mm.
5. APPROVAL MUST BE OBTAINED FROM ENGINEER FOR ALL OPENINGS OTHER THAN THOSE SHOWN ON PLAN.
6. THE PROJECT SUPERINTENDENT MUST CONTACT THIS OFFICE 48 HOURS PRIOR TO PLACING STRUCTURAL CONCRETE FOR A REVIEW OF PREPARATIONS.
7. SEE TYPICAL DETAIL FOR UNTELS IN NON-LOAD BEARING MASONRY WALLS.
8. SEE ARCHITECTURAL DRAWINGS AND MECHANICAL DRAWINGS FOR CURBS, REINFORCE AS PER TYPICAL DETAIL.
9. SEE COLUMN AND WALL SCHEDULES.
10. SEE ALSO GENERAL NOTES AND TYPICAL DETAIL DRAWINGS.
11. REFER TO BEAM SCHEDULES.
12. PROVIDE 25mm CHAMFER ON ALL EXPOSED EDGES OF COLUMNS, WALLS, BEAMS AND DROPS. (4)
13. REFER TO DRAWING S1-02A FOR SHEAR REINFORCEMENT AT TRANSFER SLAB.

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PROPOSED RESIDENTIAL DEVELOPMENT

25 BAKER HILL BLVD.

ROYAL PINES HOMES
STOUFFVILLE ONTARIO

Drawn By	RS
Checked By	NH/PZ/AS
Plot Date:	DECEMBER 2016
Job #	20140490

GENERAL AND PLAN NOTES

1 : 1

S0-02

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

1	MAR.18.2016	ISSUED FOR TENDER
2	DEC.28.2016	ISSUED FOR BUILDING PERMIT
4	JUN.15.2017	STRUCTURAL ADDENDUM#1

FOOTING SCHEDULE				
FOOTING NUMBER	FOOTING LENGTH	FOOTING WIDTH	FOOTING THICKNESS	FOOTING REINF. E.W.
F1	2400	2400	500	12-20BEW HEE
F2	3000	3000	600	11-25BEW HEE
F3	3200	3200	700	12-25BEW HEE
F4	3500	3500	700	15-25BEW HEE
F5	4000	4000	800	15-30BEW HEE
F6	4500	4500	1000	17-30BEW HEE
F7	5000	5000	1100	20-30BEW HEE
F8	5500	5000	1200	22-30BEW HEE

- INDICATES COLUMN NUMBER (REFER TO COLUMN SCHEDULE)
- INDICATES COLUMN ABOVE NUMBER (REFER TO COLUMN SCHEDULE)

FOUNDATION PLAN
1 : 100

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PROPOSED RESIDENTIAL DEVELOPMENT

25 BAKER HILL BLVD.

ROYAL PINES HOMES
STOUFFVILLE ONTARIO

Drawn By	RS
Checked By	NH/PZ/AS
Plot Date:	DECEMBER 2016
Job #	20140490

FOUNDATION PLAN

Scale: As indicated

S1-01

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

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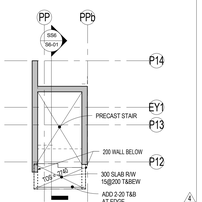
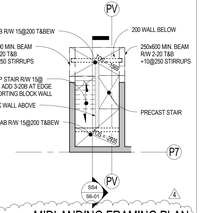
GROUND FLOOR FRAMING PLAN
1 : 100

3 S4-01 — 3 S4-01 — 4 S4-01 — 5 Sim — 6 S4-01 — 7 S4-01 — 8 S4-01 — 9 S4-01 — 10 S4-01 — 11 S4-01 — 12 S4-01 — 13 S4-01 — 14 S4-01 — 15 S4-01 — 16 S4-01 — 17 S4-01 — 18 S4-01 — 19 S4-01 — 20 S4-01 — 21 S4-01 — 22 S4-01 — 23 S4-01 — 24 S4-01 — 25 S4-01 — 26 S4-01 — 27 S4-01 — 28 S4-01 — 29 S4-01 — 30 S4-01 — 31 S4-01 — 32 S4-01 — 33 S4-01 — 34 S4-01 — 35 S4-01 — 36 S4-01 — 37 S4-01 — 38 S4-01 — 39 S4-01 — 40 S4-01 — 41 S4-01 — 42 S4-01 — 43 S4-01 — 44 S4-01 — 45 S4-01 — 46 S4-01 — 47 S4-01 — 48 S4-01 — 49 S4-01 — 50 S4-01 — 51 S4-01 — 52 S4-01 — 53 S4-01 — 54 S4-01 — 55 S4-01 — 56 S4-01 — 57 S4-01 — 58 S4-01 — 59 S4-01 — 60 S4-01 — 61 S4-01 — 62 S4-01 — 63 S4-01 — 64 S4-01 — 65 S4-01 — 66 S4-01 — 67 S4-01 — 68 S4-01 — 69 S4-01 — 70 S4-01 — 71 S4-01 — 72 S4-01 — 73 S4-01 — 74 S4-01 — 75 S4-01 — 76 S4-01 — 77 S4-01 — 78 S4-01 — 79 S4-01 — 80 S4-01 — 81 S4-01 — 82 S4-01 — 83 S4-01 — 84 S4-01 — 85 S4-01 — 86 S4-01 — 87 S4-01 — 88 S4-01 — 89 S4-01 — 90 S4-01 — 91 S4-01 — 92 S4-01 — 93 S4-01 — 94 S4-01 — 95 S4-01 — 96 S4-01 — 97 S4-01 — 98 S4-01 — 99 S4-01 — 100 S4-01 — 101 S4-01 — 102 S4-01 — 103 S4-01 — 104 S4-01 — 105 S4-01 — 106 S4-01 — 107 S4-01 — 108 S4-01 — 109 S4-01 — 110 S4-01 — 111 S4-01 — 112 S4-01 — 113 S4-01 — 114 S4-01 — 115 S4-01 — 116 S4-01 — 117 S4-01 — 118 S4-01 — 119 S4-01 — 120 S4-01 — 121 S4-01 — 122 S4-01 — 123 S4-01 — 124 S4-01 — 125 S4-01 — 126 S4-01 — 127 S4-01 — 128 S4-01 — 129 S4-01 — 130 S4-01 — 131 S4-01 — 132 S4-01 — 133 S4-01 — 134 S4-01 — 135 S4-01 — 136 S4-01 — 137 S4-01 — 138 S4-01 — 139 S4-01 — 140 S4-01 — 141 S4-01 — 142 S4-01 — 143 S4-01 — 144 S4-01 — 145 S4-01 — 146 S4-01 — 147 S4-01 — 148 S4-01 — 149 S4-01 — 150 S4-01 — 151 S4-01 — 152 S4-01 — 153 S4-01 — 154 S4-01 — 155 S4-01 — 156 S4-01 — 157 S4-01 — 158 S4-01 — 159 S4-01 — 160 S4-01 — 161 S4-01 — 162 S4-01 — 163 S4-01 — 164 S4-01 — 165 S4-01 — 166 S4-01 — 167 S4-01 — 168 S4-01 — 169 S4-01 — 170 S4-01 — 171 S4-01 — 172 S4-01 — 173 S4-01 — 174 S4-01 — 175 S4-01 — 176 S4-01 — 177 S4-01 — 178 S4-01 — 179 S4-01 — 180 S4-01

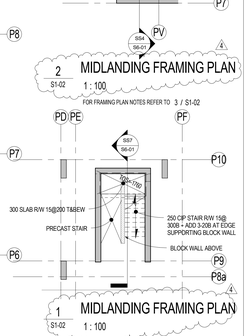


3 S1-01 — MIDLANDING FRAMING PLAN — 1 : 100

NOTE:
1. LANDING ELEVATION MEASURED FROM GROUND LEVEL ELEV 256.9)
2. REFER TO TYPICAL DETALS OF STAIR MIDLANDINGS FOR ADDITIONAL REINFORCEMENT, UNLESS NOTED.



2 S1-02 — MIDLANDING FRAMING PLAN — 1 : 100
FOR FRAMING PLAN NOTES REFER TO 3 / S1-02



1 S1-02 — MIDLANDING FRAMING PLAN — 1 : 100
FOR FRAMING PLAN NOTES REFER TO 3 / S1-02

TLL = TOP UPPER LAYER
TLL = TOP LOWER LAYER
BUL = BOTTOM UPPER LAYER
BLL = BOTTOM LOWER LAYER

REINFORCEMENT PLACEMENT DIAGRAM

SLAB:	300 MIN. U/N
DROP:	2100x2400x150 TYP. U/N
CAPITAL:	300 PROJ x 300 DP U/N
INTEGRITY BARS:	4-25BEW
CONCRETE STRENGTH:	30 MPa
TEMP. STEEL:	15@300
◆ - INDICATES CAPITAL	400 PROJ x 400 DP

SLAB:	650
CAPITAL:	300 PROJ x 300 DP
INTEGRITY BARS:	5-35 BEW
CONCRETE STRENGTH:	45 MPa
TEMP. STEEL:	25@300

NOTE:
1. LAP TOP BARS IN MIDDLE SPAN USING CLASS B TENSION LAP SPLICE
2. LAP BOT. BARS IN COLUMN STRIP USING CLASS A TENSION LAP SPLICE

- INDICATES COLUMN NUMBER (REFER TO COLUMN SCHEDULE)
- INDICATES COLUMN ABOVE NUMBER (REFER TO COLUMN SCHEDULE)

LICENCE PROFESSIONAL ENGINEER 17-06-15 S.L. CULLEN PROVINCE OF ONTARIO

LICENCE PROFESSIONAL ENGINEER 17-06-15 M.G.NIETO-EDWIND PROVINCE OF ONTARIO

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PROPOSED RESIDENTIAL DEVELOPMENT

25 BAKER HILL BLVD.

ROYAL PINES HOMES
STOUFFVILLE ONTARIO

Drawn By	RS
Checked By	NH/PZ/AS
Plot Date:	DECEMBER 2016
Job #	20140490

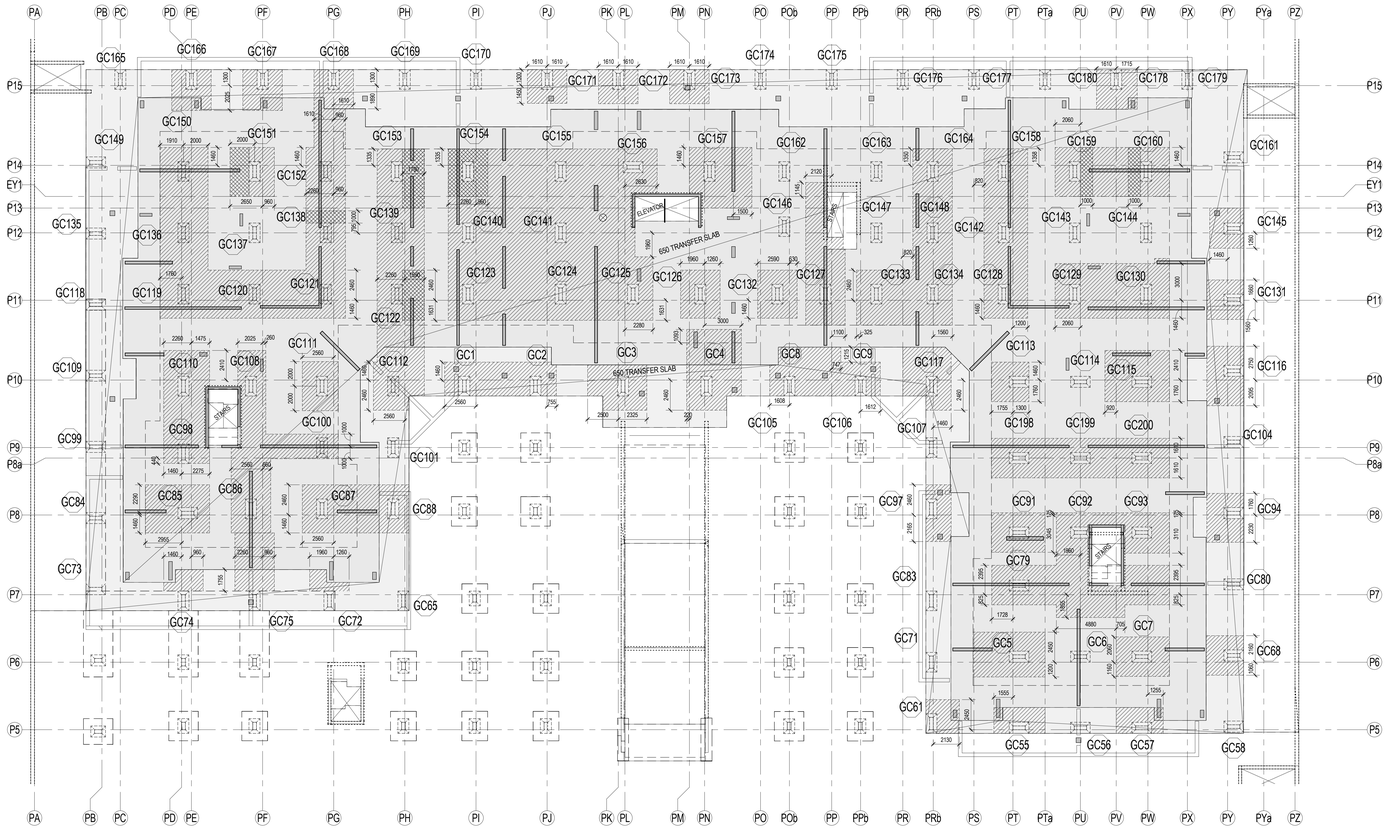
GROUND FLOOR FRAMING PLAN

As indicated

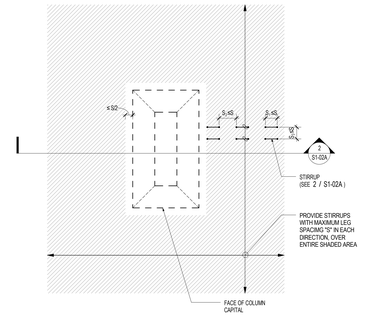
S1-02

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

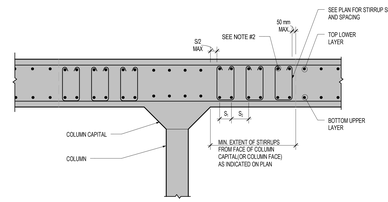
4	JUN.15.2017	STRUCTURAL ADDENDUM#1



PART. GROUND FLOOR PLAN
SHEAR REINFORCEMENT AT COLUMN KEY PLAN
1 : 150



1 S1-02A — TYP. SHEAR REINFORCEMENT PLAN DETAIL
1 : 25



2 S1-02A — TYP. CAPITAL REINFORCEMENT SECTION DETAIL
1 : 25

NOTES:
1. THE ORIENTATION OF STIRRUPS SHALL MATCH THE ORIENTATION OF THE OUTER LAYERS OF LONGITUDINAL REINFORCEMENT, SUCH THAT THE STIRRUP LEGS WRAP AROUND BARS IN TOP LOWER LAYER AND BOTTOM UPPER LAYER.
2. HOOK EACH END OF STIRRUP LEG AROUND A LONGITUDINAL BAR IN THE TOP LOWER LAYER OR BOTTOM UPPER LAYER. ADD 15M CONTINUOUS LONGITUDINAL BARS AS REQUIRED TO MEET THIS REQUIREMENT.
3. WIDTH OF STIRRUPS(S1) AND SPACING BETWEEN STIRRUPS IN BOTH DIRECTIONS (S AND S1) SHALL NOT EXCEED THE SPECIFIED MAXIMUM SPACING (S) OF STIRRUPS LEGS.

SHEAR REINFORCEMENT SCHEDULE

SHADING TYPE	STIRRUP SIZE	MAXIMUM SPACING OF STIRRUPS LEGS
	10M	250
	15M	200

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PROPOSED RESIDENTIAL DEVELOPMENT

25 BAKER HILL BLVD.

ROYAL PINES HOMES

STOUFFVILLE ONTARIO

Drawn By	Author
Checked By	Checker
Plot Date:	DECEMBER 2016
Job #	20140490

GARAGE ROOF SHEAR REINFORSEMENT PLAN

As indicated

S1-02A

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1	MAR.18.2016	ISSUED FOR TENDER
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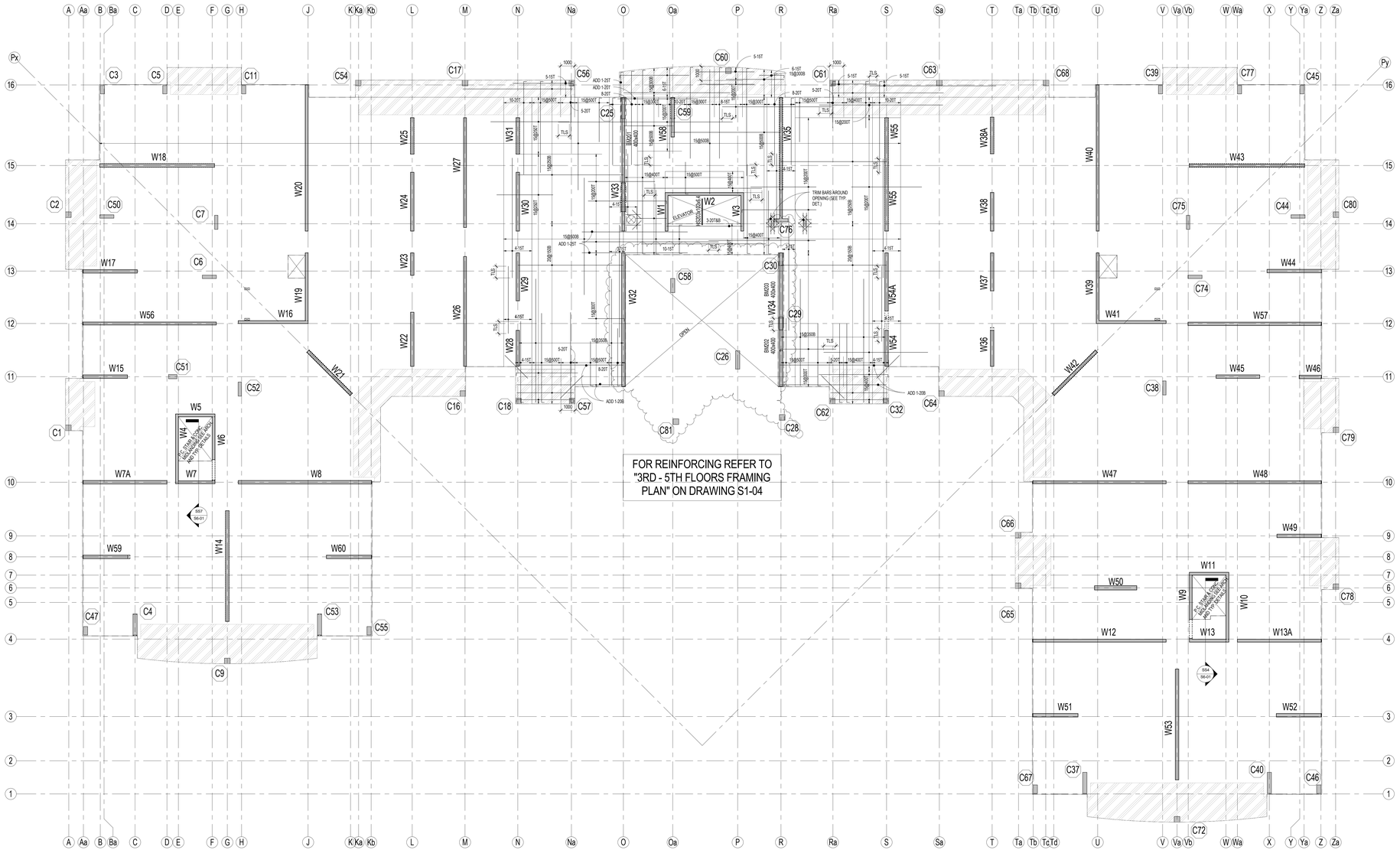
3	MAY.09.2017	ISSUED FOR FOUNDATION PERMIT
4	JUN.15.2017	STRUCTURAL ADDENDUM#1


FOR REINFORCING REFER TO "3RD - 5TH FLOORS FRAMING PLAN" ON DRAWING S1-04
ELEVATOR
TRIM BARS AROUND OPENING (SEE TYP. DET.)
OPEN
W1
W2
W3
W4
W5
W6
W7
W7A
W8
W9
W10
W11
W12
W13
W13A
W14
W15
W16
W17
W18
W19
W20
W21
W22
W23
W24
W25
W26
W27
W28
W29
W30
W31
W32
W33
W34
W35
W36
W37
W38
W38A
W39
W40
W41
W42
W43
W44
W45
W46
W47
W48
W49
W50
W51
W52
W53
W54
W54A
W55
W56
W57
W59
W60
C1
C2
C3
C4
C5
C6
C7
C9
C11
C16
C17
C18
C25
C26
C28
C29
C30
C32
C37
C38
C39
C40
C44
C45
C46
C47
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C59
C60
C61
C62
C63
C64
C65
C66
C67
C68
C72
C74
C75
C76
C77
C78
C79
C80
C81
BM001 400x400
BM002 400x400
BM003 400x400
ADD 1-20T
ADD 1-25T
ADD 1-30B
15@300B
15@300T
15@350B
15@350T
15@400T
15@500T
15@600B
15@600T
TLS
SEE STAIR DWG FOR ADDITIONAL REINF. AROUND OPENING
NOT TYP. OF ALL
SEE STAIR DWG FOR ADDITIONAL REINF. AROUND OPENING
SEE TYP. DET.
SEE TYP. DET.
SEE TYP. DET.

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

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CONCRETE COLUMN SCHEDULE

| Ground Floor | | |

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4	JUN.15.2017	STRUCTURAL ADDENDUM#1

CONCRETE COLUMN SCHEDULE

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	C31	C32	C33	C34	C35	C36	C37	C38	C39	C40	C41	C422	C43	C44	C45	C46	C47	C48	C49	C50	C51	C52	C53	C54	C55	C56	C57
Mechanical Roof																																																												
Roof	Size Vert. Reinf. Ties Conc. Strength (MPa)								4 300x600 6-20V 10@300 25MPa											300x600 6-20V 10@300 25MPa	300x600 8-20V 10@300 25MPa		300x600 6-20V 10@300 25MPa	300x600 8-20V 10@300 25MPa							300x600 6-20V 10@300 25MPa	300x600 6-20V 10@300 25MPa		4 300x600 8-20V 10@300 25MPa																																						Roof
7th Floor	Size Vert. Reinf. Ties Conc. Strength (MPa)	400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa	300x600 6-20V 10@300 25MPa		300x600 6-20V 10@300 25MPa	240x1000 10-20V 10@200 25MPa	240x1000 10-20V 10@200 25MPa				300x600 6-20V 10@300 25MPa		300x800 8-20V 10@300 25MPa	4 240x1000 10-20V 10@300 25MPa	300x1300 14-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa	300x1000 10-20V 10@300 25MPa			300x600 6-20V 10@300 25MPa			300x600 6-20V 10@300 25MPa	300x600 6-20V 10@300 25MPa			300x600 6-20V 10@300 25MPa	300x600 8-20V 10@300 25MPa		4 300x600 8-20V 10@300 25MPa																																						7th Floor
6th Floor	Size Vert. Reinf. Ties Conc. Strength (MPa)	400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa	300x600 6-20V 10@300 25MPa		300x600 6-20V 10@300 25MPa	240x1000 10-20V 10@200 25MPa	240x1000 10-20V 10@200 25MPa		4 240x1000 10-20V 10@300 25MPa		300x600 6-20V 10@300 25MPa		300x800 8-20V 10@300 25MPa	300x800 8-20V 10@300 25MPa			400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa				300x600 6-20V 10@300 25MPa							400x400 6-20V 10@300 25MPa																																								6th Floor
5th Floor	Size Vert. Reinf. Ties Conc. Strength (MPa)	400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa	300x600 6-20V 10@300 25MPa	300x1500 16-20V 10@300 25MPa	300x600 6-20V 10@300 25MPa	240x1000 10-20V 10@200 25MPa	240x1000 10-20V 10@200 25MPa		400x400 6-20V 10@300 25MPa		300x600 6-20V 10@300 25MPa					400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa	400x400 6-20V 10@300 25MPa				400x400 6-20V 10@300 25MPa							400x400 6-20V 10@300 25MPa				300x1500 16-20V 10@300 25MPa	240x1000 10-20V 10@200 25MPa	300x600 6-20V 10@300 25MPa	300x600 6-20V 10@300 25MPa																		

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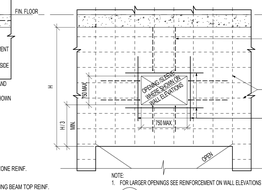
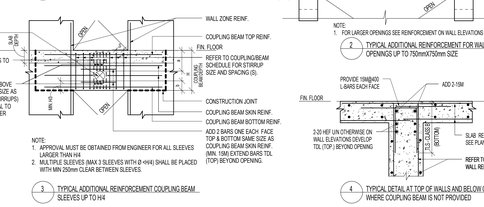
NOTE:
1. IF WALL t1 IS GREATER THAN SLAB t2, COUPLING BEAM t1 SHALL BE THE SAME AS THE WALL.
2. IF COUPLING BEAM t1<t 4t's OF SLAB, PUDDLE AS PER TYPICAL DETAIL T-C58

1 TYPICAL COUPLING BEAM REINFORCEMENT DETAIL



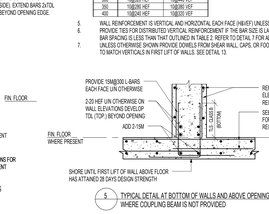
NOTE:
1. FOR LARGER OPENINGS SEE REINFORCEMENT ON WALL ELEVATIONS

2 TYPICAL ADDITIONAL REINFORCEMENT FOR WALL OPENINGS UP TO 750mmX750mm SIZE



NOTE:
1. APPROVAL MUST BE OBTAINED FROM ENGINEER FOR ALL SLEEVES LARGER THAN H/4
2. MULTIPLE SLEEVES (MAX 3 SLEEVES WITH Ø <H/4) SHALL BE PLACED WITH MIN 250mm CLEAR BETWEEN SLEEVES.

3 TYPICAL ADDITIONAL REINFORCEMENT COUPLING BEAM SLEEVES UP TO H/4



4 TYPICAL DETAIL AT TOP OF WALLS AND BELOW OPENINGS WHERE COUPLING BEAM IS NOT PROVIDED

5 TYPICAL DETAIL AT BOTTOM OF WALLS AND ABOVE OPENINGS WHERE COUPLING BEAM IS NOT PROVIDED

SHEAR WALL NOTES:

1. SHEAR WALL ELEVATIONS SERVE THE PURPOSE OF DEFINING THE ZONE, DISTRIBUTED AND COUPLING BEAM REINFORCEMENT, ALONG WITH THE SIZE OF THE SHEAR WALLS, COUPLING BEAMS AND CONCRETE STRENGTH. SHEAR WALL ELEVATIONS SHOULD BE READ IN CONJUNCTION WITH SCHEDULES AND TYPICAL SHEAR WALL DETAILS. THE GRAVITY ELEMENTS (COLUMNS, SLABS, BEAMS, FOUNDATION SYSTEM, ETC.) ARE SHOWN CONCEPTUALLY FOR CLARIFICATION ONLY. FOR SIZE, GEOMETRY, STEPS, ETC. OF THE GRAVITY ELEMENTS REFER TO THE APPROPRIATE PLANS, DETAILS AND SCHEDULES.
2. CONCRETE STRENGTHS TO BE AS NOTED IN WALLS ELEVATIONS.
3. FOR ALL GARAGE SLABS, WALLS, AND COLUMNS, CONCRETE SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA-S413 AND MEET THE REQUIREMENTS FOR EXPOSURE CLASSIFICATION C-1 AS DEFINED IN TABLE 1 OF CSA STANDARD CAN/CSA-A23.1 LATEST EDITION. REFER TO THE SPECIFICATIONS.
4. PROVIDE WALL REINFORCEMENT IN ACCORDANCE WITH THE VALUES INDICATED ON THE WALL ELEVATIONS OR PLANS. WHERE 'MIN' IS INDICATED PROVIDE THE NOMINAL WALL REINFORCEMENT, AS SHOWN IN TABLE 1.

TABLE 1: NOMINAL WALL REINFORCEMENT (NWR)

WALL THICKNESS	NOMINAL WALL REINFORCEMENT	
	HORIZONTAL	VERTICAL
(mm)		
150	10M@300 - CONTINUOUS	10M@450 - CONTINUOUS
200	10M@450 HEF	10M@450 VEF
240	10M@450 HEF	10M@450 VEF
250	10M@450 HEF	10M@450 VEF
300	10M@300 HEF	10M@450 VEF
350	10M@300 HEF	10M@450 VEF
400	10M@300 HEF	10M@300 VEF
450	10M@300 HEF	10M@300 VEF

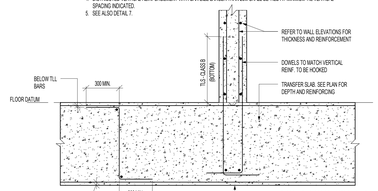
5. WALL REINFORCEMENT IS VERTICAL AND HORIZONTAL EACH FACE (H&VEF) UNLESS NOTED OTHERWISE.
6. PROVIDE TIES FOR DISTRIBUTED VERTICAL REINFORCEMENT IF THE BAR SIZE IS LARGER THAN 20M OR IF BAR SPACING IS LESS THAN THAT OUTLINED IN TABLE 2. REFER TO DETAIL 7 FOR ADDITIONAL INFORMATION.
7. UNLESS OTHERWISE SHOWN PROVIDE DOWELS FROM SHEAR WALL, CAPS, OR FOOTINGS INTO SHEAR WALLS TO MATCH VERTICALS IN FIRST LIFT OF WALLS. SEE DETAIL 13

8. UNLESS NOTED OTHERWISE AT TOPS OF ALL SHEAR WALLS PROVIDE 15 @ 400 DOWELS FROM WALL TO SLAB. WHERE WALL IS CONTINUOUS ABOVE SLAB SEE DETAIL 14.
9. PROVIDE TLS CLASS B (BOTTOM) FOR ALL VERTICAL BARS (REFER TO DETAIL T-C58) (ly = 400MIN) OR T-C57B (ly = 500MIN) FOR LENGTHS).
10. PROVIDE TLS CLASS B (TOP) FOR ALL HORIZONTAL BARS FOR CLAUSE A23.3-9.2.4 (REFER TO DETAIL T-C58B (ly = 400MIN) OR T-C57B (ly = 500MIN) FOR LENGTHS).
11. MINIMUM DOWEL LENGTH SHALL BE 2xTLS (BOTTOM).
12. PLACE HORIZONTAL REINFORCING ON OUTSIDE FACE OF WALL UNLESS NOTED OTHERWISE.
13. FOR WALLS THAT ARE UNBRACED FOR TWO STORIES OR MORE PROVIDE EITHER CONTINUOUS VERTICAL REINFORCEMENT FOR THE ENTIRE UNSUPPORTED HEIGHT OR USE MECHANICAL COUPLER AT THE LOCATION OF THE INTERMEDIATE SPLICE. PROVIDE TENSION LAP SPLICE (TOP) FOR ALL HORIZONTAL WALL REINFORCEMENT. IF BARS OF DIFFERENT DIAMETER ARE SPLICED, USE THE SPLICE LENGTH OF THE LARGER BAR.
14. UNLESS NOTED OTHERWISE, REFER TO THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR EXACT DIMENSIONS AND LOCATIONS OF WALL OPENINGS. THE CONTRACTOR SHALL PROVIDE, FOR THE ENGINEERS REVIEW, SLEEVING DRAWINGS SHOWING THE PROPOSED LOCATION AND INVERT DIMENSIONED FROM THE SLAB DATUMS AND GRIDS) FOR ALL SLEEVES 75mm DIAMETER AND LARGER. NO OPENINGS OTHER THAN THOSE WHICH ARE INDICATED ON PLAN OR ELEVATION SHALL BE MADE WITHOUT THE APPROVAL OF THE ENGINEER.
15. WHERE MASONRY VENEER FACES A WALL, PROVIDE STANDARD DOVETAIL ANCHOR SLOTS. REFER TO TYPICAL DETAILS.
16. CLEAR CONCRETE COVER SHALL BE 25mm FOR WALLS ABOVE GRADE AND 40mm FOR WALLS BELOW GRADE UNLESS NOTED OTHERWISE.
17. PROVIDE 40mm CLEAR CONCRETE COVER FOR ALL ABOVE GRADE WALLS WHICH ARE EXPOSED TO FIRE ON BOTH SIDES SIMULTANEOUSLY AS DEFINED BY NBCC APPENDIX D.

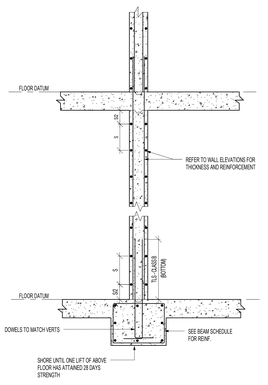
TABLE 2: TIES FOR DISTRIBUTED VERTICAL REINFORCEMENT

WALL THICKNESS (mm)	TIE SPACING FOR DISTRIBUTED VERTICAL REINFORCEMENT fy = 500MPa							
	10M		15M		20M		25M	30M	35M
	VERTICAL BAR SPACING (mm)	TIE VERTICAL SPACING (mm)	VERTICAL BAR SPACING (mm)	TIE VERTICAL SPACING (mm)	VERTICAL BAR SPACING (mm)	TIE VERTICAL SPACING (mm)	TIE VERTICAL SPACING (mm)	TIE VERTICAL SPACING (mm)	TIE VERTICAL SPACING (mm)
200	< 200	160	< 400	200	< 600	200	-	-	-
250	< 150	160	< 320	240	< 480	250	250	-	-
300	< 140	160	< 270	240	< 400	300	300	-	-
350	< 120	160	< 230	240	< 350	320	350	350	350
400	< 100	160	< 200	240	< 300	320	400	400	400
450	-	-	< 180	240	< 270	320	400	450	450
500	-	-	< 160	240	< 240	320	400	480	480
600	-	-	< 140	240	< 200	320	400	480	480

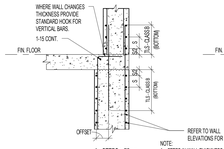
NOTES:
1. TIES FOR DISTRIBUTED VERTICAL REINFORCEMENT ARE 10M.
2. THIS TABLE IS BASED ON fy = 500MPa. FOR fy = 60MPa REDUCE THE VERTICAL SPACING IN TABLE BY MULTIPLYING BY 0.75.
3. DISTRIBUTED VERTICAL REINFORCEMENT WITH BAR SPACING LESS THAN THAT INDICATED FOR 10M, 15M AND 20M BARS SHALL BE TIED WITH MINIMUM TIE VERTICAL SPACING AS INDICATED.
4. DISTRIBUTED VERTICAL REINFORCEMENT WITH BAR SIZE LARGER THAN 20M SHALL BE TIED AT MINIMUM TIE VERTICAL SPACING INDICATED.
5. SEE ALSO DETAIL 7.



9 TYPICAL DETAIL OF SHEAR WALL SUPPORTED BY TRANSFER SLAB



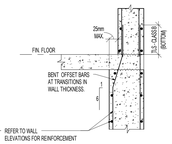
10 TYPICAL DETAIL OF SHEAR WALL SUPPORTED BY BEAM



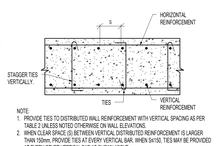
NOTE:
1. STEPS IN WALL THICKNESS AT ZONE REINFORCEMENT SHALL FOLLOW DETAIL A

A - STEPS > 75mm

6 TYPICAL DETAIL AT WALL THICKNESS TRANSITIONS

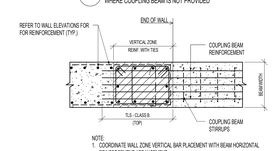


B - STEPS ≤ 75mm



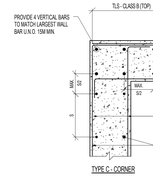
NOTE:
1. PROVIDE TIES TO DISTRIBUTED WALL REINFORCEMENT WITH VERTICAL SPACING AS PER TABLE 2 UNLESS NOTED OTHERWISE ON WALL ELEVATIONS.
2. WHEN CLEAR SPACE (S) BETWEEN VERTICAL DISTRIBUTED REINFORCEMENT IS LARGER THAN 150mm, PROVIDE TIES AT EVERY VERTICAL BAR. WHEN S≤150, TIES MAY BE PROVIDED AT EVERY OTHER VERTICAL BAR AS SHOWN ABOVE.
3. REFER TO ZONE REINFORCEMENT DETAILS FOR TIES IN THOSE AREAS.

7 TYPICAL TIE DETAIL FOR DISTRIBUTED VERTICAL WALL REINFORCEMENT

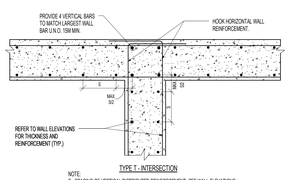


NOTE:
1. COORDINATE WALL ZONE VERTICAL BAR PLACEMENT WITH BEAM HORIZONTAL REINFORCEMENT ARRANGEMENT.

8 TYPICAL COUPLING BEAM DETAIL PLAN DETAIL



TYPE C - CORNER

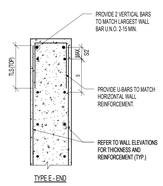


TYPE T - INTERSECTION

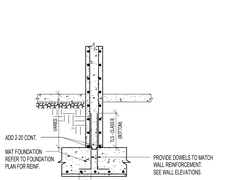
NOTE:
S - SPACING OF VERTICAL DISTRIBUTED REINFORCEMENT. SEE WALL ELEVATIONS.

1. REFER TO TABLE 2 TO DETERMINE IF TIES FOR DISTRIBUTED VERTICAL REINFORCEMENT ARE REQUIRED. SEE DETAIL 7 WHEN TIES ARE REQUIRED

11 TYPICAL WALL DETAILS WITHOUT ZONE REINFORCEMENT

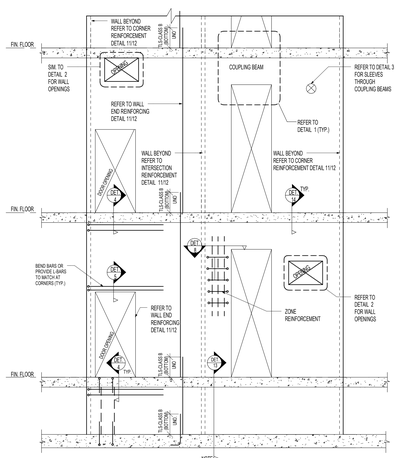


TYPE E - END



13 TYPICAL SHEAR WALL DOWELS AT FOUNDATION

14 TYPICAL SLAB TO SHEAR WALL CONNECTION WHERE SLAB IS BEARING ON ONE SIDE OF THE WALL ONLY


FIN. FLOOR
WALL BEYOND REFER TO CORNER REINFORCEMENT DETAIL 11/12
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COUPLING BEAM
REFER TO DETAIL 3 FOR SLEEVES THROUGH COUPLING BEAMS
DIM. TO DETAIL 2 FOR WALL OPENINGS
OPENING
REFER TO WALL END REINFORCING DETAIL 11/12
REFER TO DETAIL 1 (TYP.)
WALL BEYOND REFER TO INTERSECTION REINFORCEMENT DETAIL 11/12
WALL BEYOND REFER TO CORNER REINFORCEMENT DETAIL 11/12
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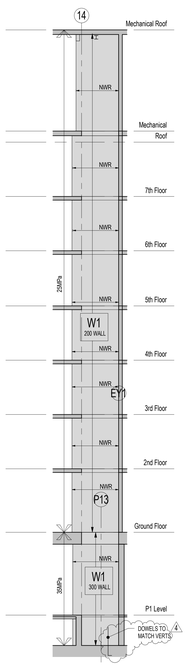
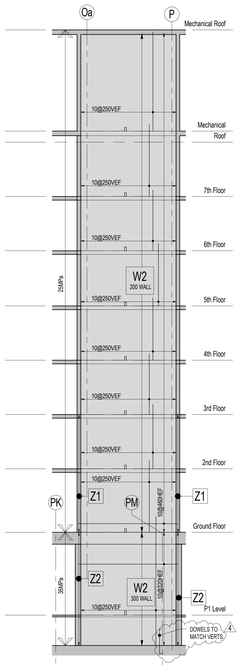


W1 WALL ELEVATION
S3-02 1 : 100



W2 WALL ELEVATION
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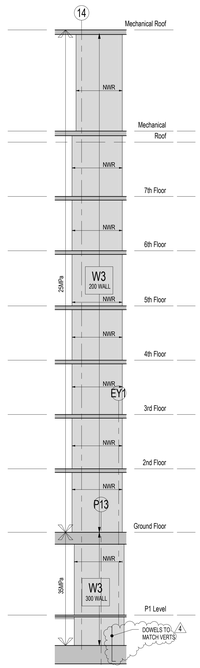
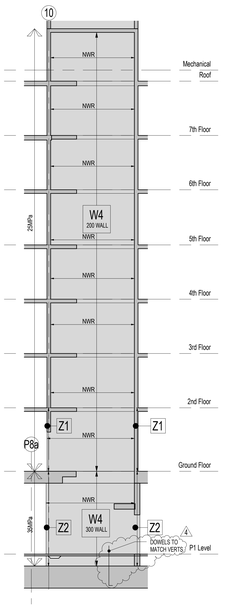
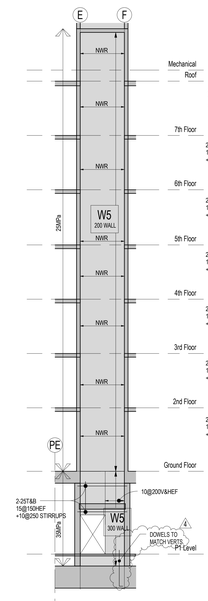


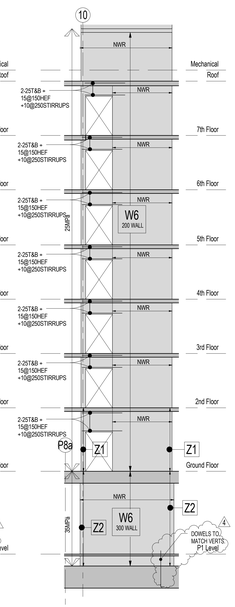
W3 WALL ELEVATION
S3-02 1 : 100



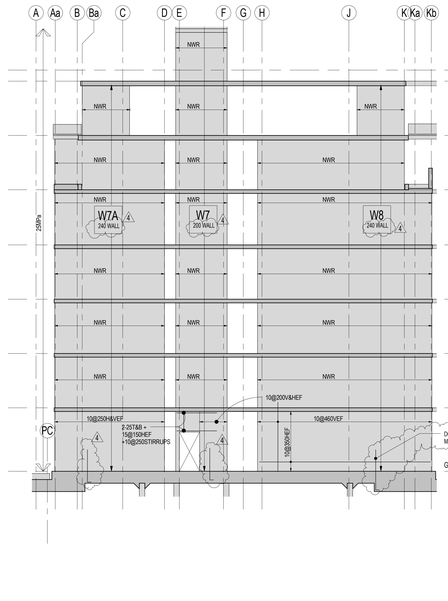
W4 WALL ELEVATION
S3-02 1 : 100



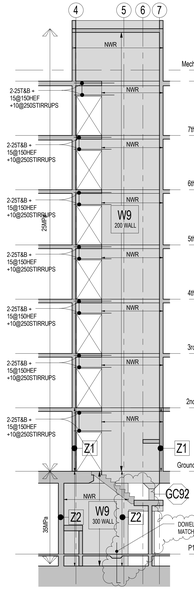
W5 WALL ELEVATION
S3-02 1 : 100



W6 WALL ELEVATION
S3-02 1 : 100

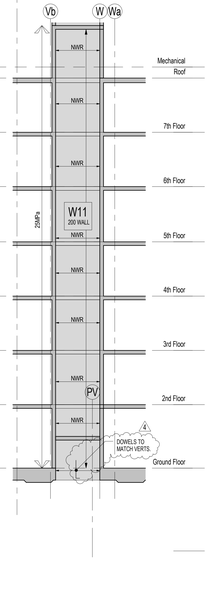


W7&W8 WALL ELEVATION
S3-02 1 : 100

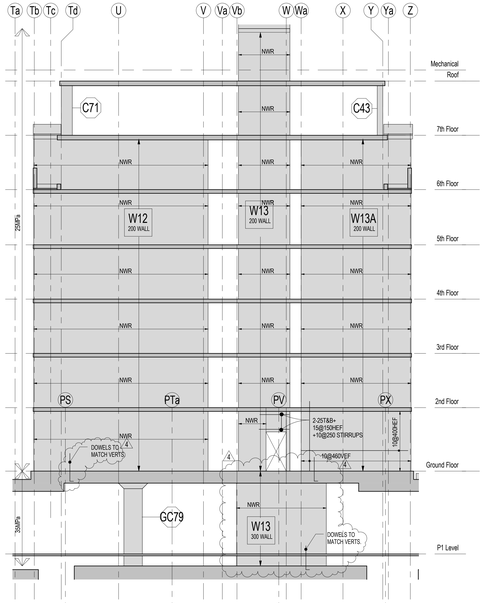


W9 WALL ELEVATION
S3-02 1 : 100

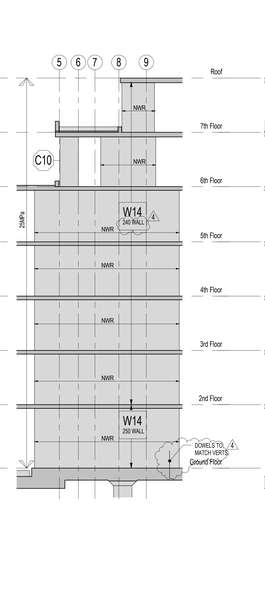
W10 WALL ELEVATION
S3-02 1 : 100



W11 WALL ELEVATION
S3-02 1 : 100

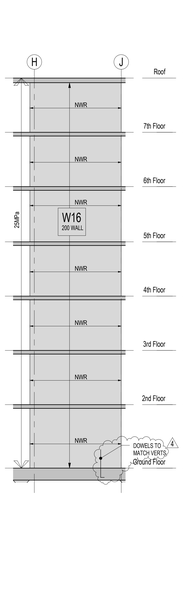


W12&W13 WALL ELEVATION
S3-02 1 : 100

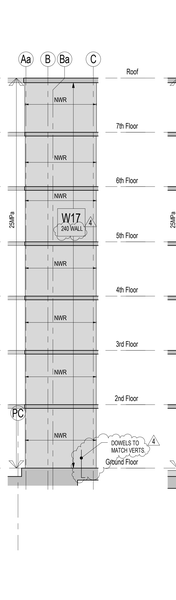


W14 WALL ELEVATION
S3-02 1 : 100

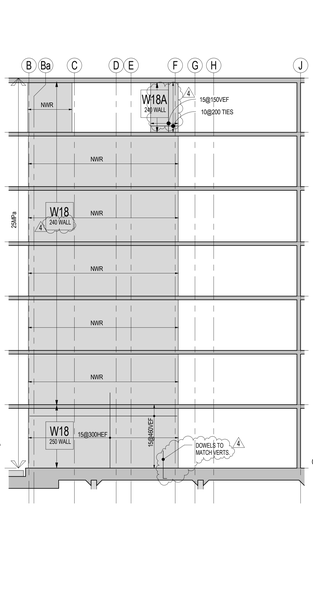
W15 WALL ELEVATION
S3-02 1 : 100



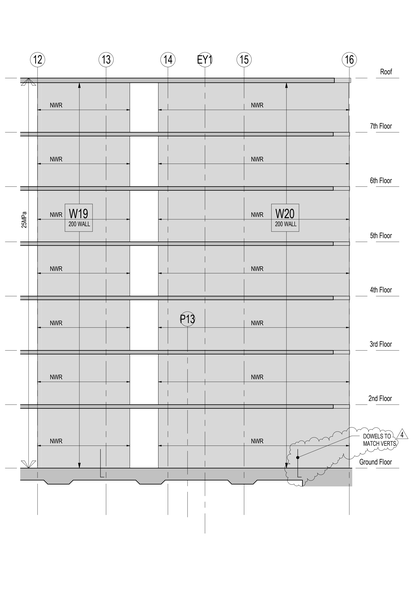
W16 WALL ELEVATION
S3-02 1 : 100



W17 WALL ELEVATION
S3-02 1 : 100



W18 WALL ELEVATION
S3-02 1 : 100



W19&W20 WALL ELEVATION
S3-02 1 : 100

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

1	MAR.18.2016	ISSUED FOR TENDER
2	DEC.28.2016	ISSUED FOR BUILDING PERMIT
4	JUN.15.2017	STRUCTURAL ADDENDUM#1

LICENSED PROFESSIONAL ENGINEER 17-06-15 S.L.CULLEN PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER 17-06-15 M.G.NIETO-EDWARDS PROVINCE OF ONTARIO

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2500 Victoria Park Ave, Suite 602
Toronto ON M2J 5A9 | Tel.:(416) 493 9970
www.stephenson-eng.com | info@stephenson-eng.com

PROPOSED RESIDENTIAL DEVELOPMENT

25 BAKER HILL BLVD.

ROYAL PINES HOMES
STOUFFVILLE ONTARIO

Drawn By	RS
Checked By	NH/PZ/AS
Plot Date:	DECEMBER 2016
Job #	20140490

WALL ELEVATIONS

1 : 100 S3-02

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

1	MAR.18.2016	ISSUED FOR TENDER
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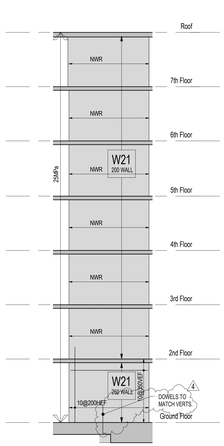
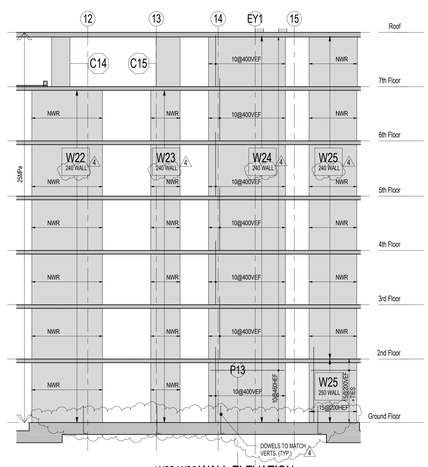
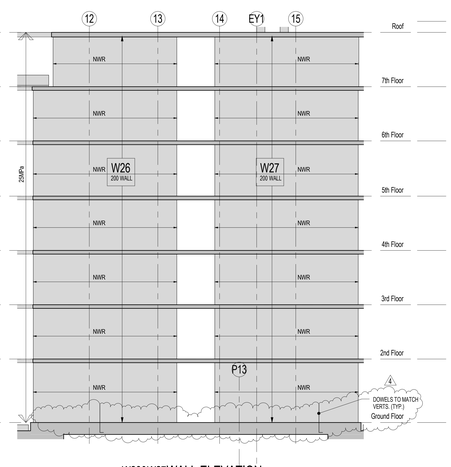
3	MAY.09.2017	ISSUED FOR FOUNDATION PERMIT
4	JUN.15.2017	STRUCTURAL ADDENDUM#1



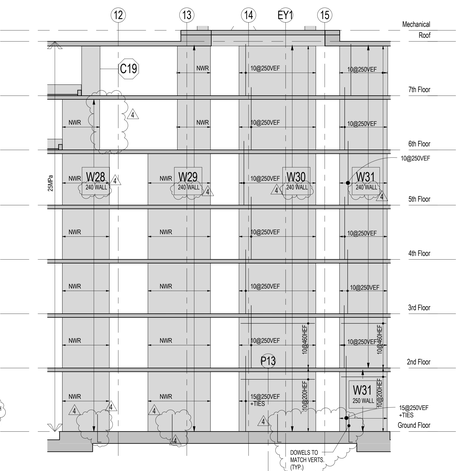
W21 WALL ELEVATION
S3-03 1 : 100



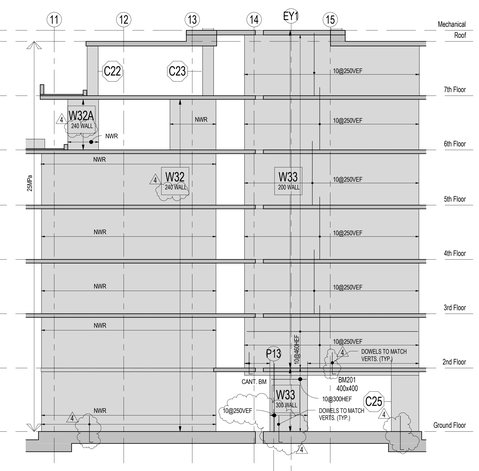
W22-W25 WALL ELEVATION
S3-03 1 : 100



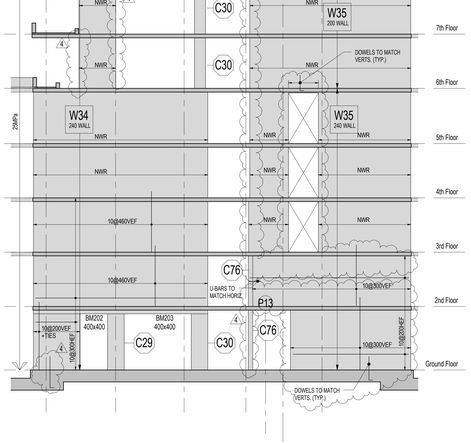
W26&W27 WALL ELEVATION
S3-03 1 : 100



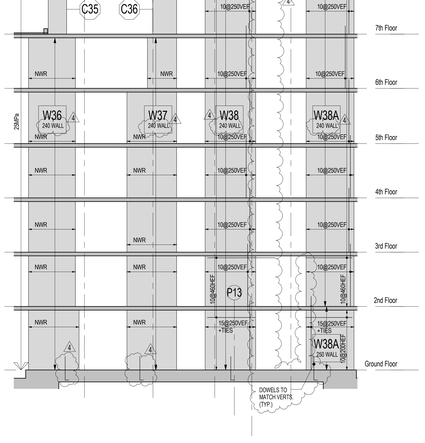
W28-W31 WALL ELEVATION
S3-03 1 : 100



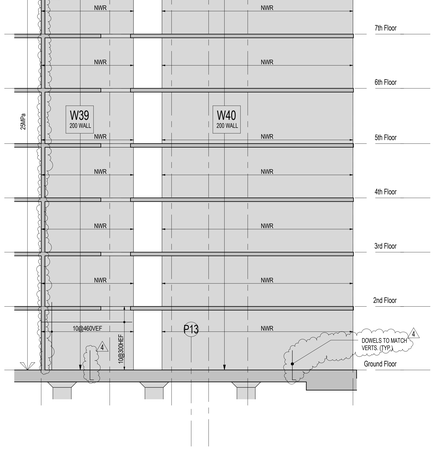
W32&W33 WALL ELEVATION
S3-03 1 : 100



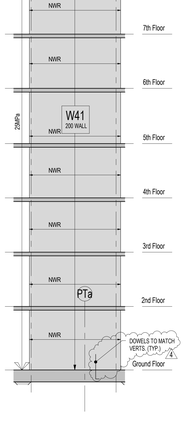
W34&W35 WALL ELEVATION
S3-03 1 : 100



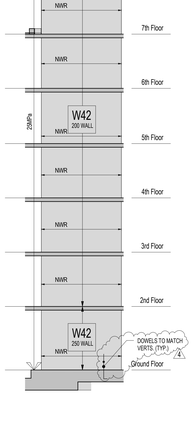
W36-W38 WALL ELEVATION
S3-03 1 : 100



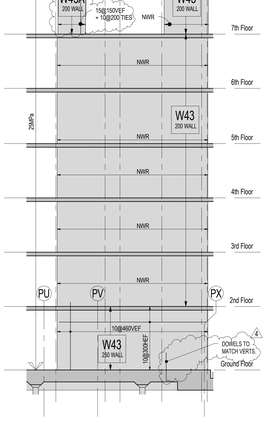
W39&W40 WALL ELEVATION
S3-03 1 : 100



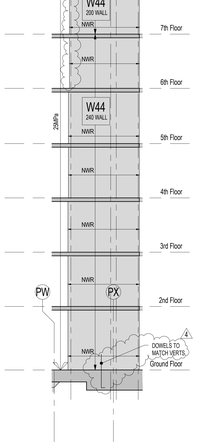
W41 WALL ELEVATION
S3-03 1 : 100



W42 WALL ELEVATION
S3-03 1 : 100



W43 WALL ELEVATION
S3-03 1 : 100



W44 WALL ELEVATION
S3-03 1 : 100

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STOUFFVILLE ONTARIO

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Plot Date:	DECEMBER 2016
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WALL ELEVATIONS

1 : 100 S3-03

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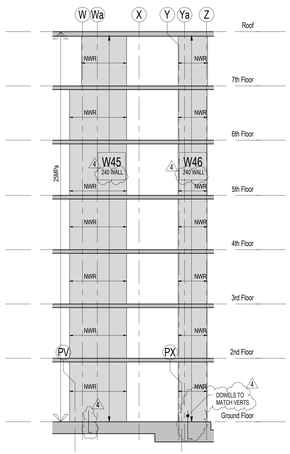
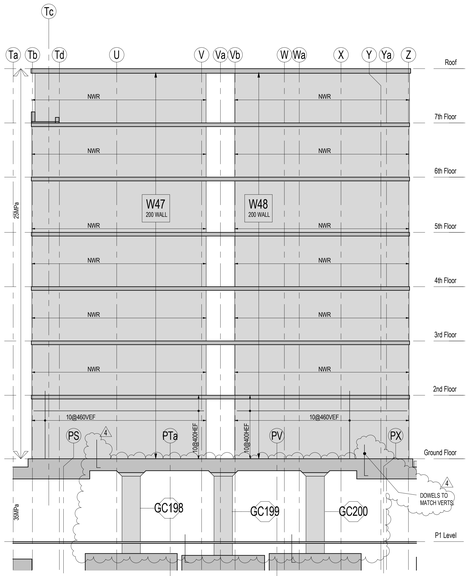
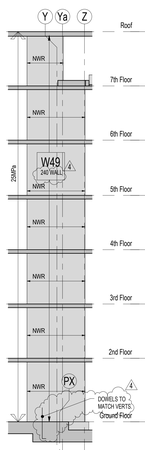


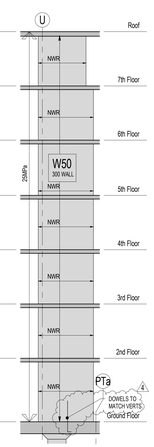
W45&W46 FRAMING ELEVATION
S3-04 1 : 100



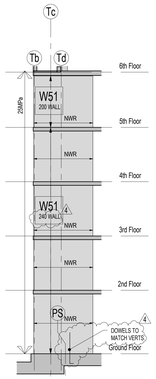
W47&W48 FRAMING ELEVATION
S3-04 1 : 100



W49 FRAMING ELEVATION
S3-04 1 : 100



W50 FRAMING ELEVATION
S3-04 1 : 100



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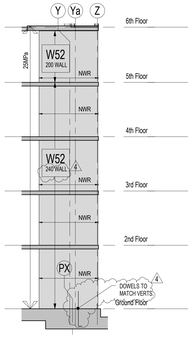
S3-04 1 : 100



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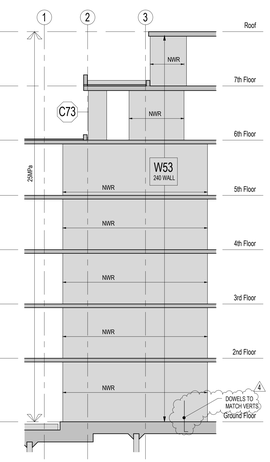
S3-04 1 : 100



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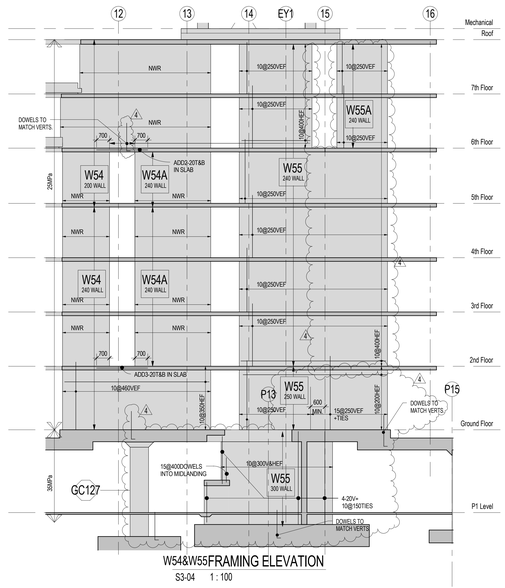
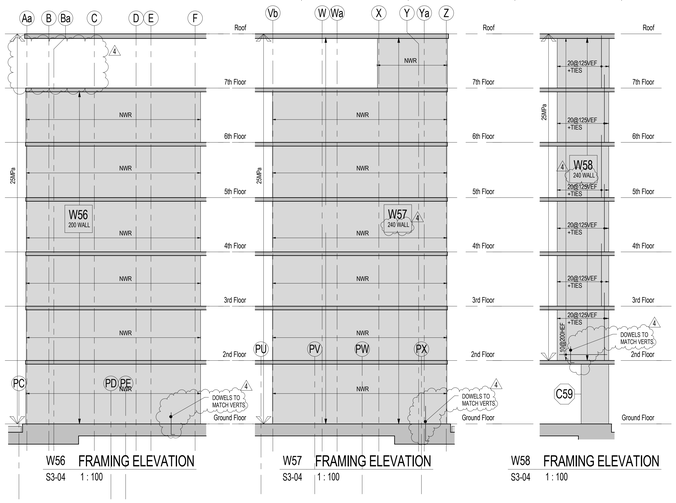
S3-04 1 : 100



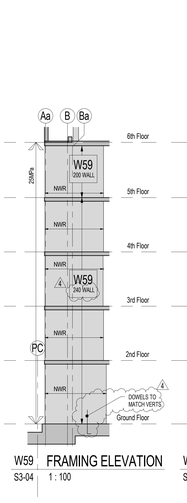
W54&W55 FRAMING ELEVATION
S3-04 1 : 100



W56 FRAMING ELEVATION
S3-04 1 : 100

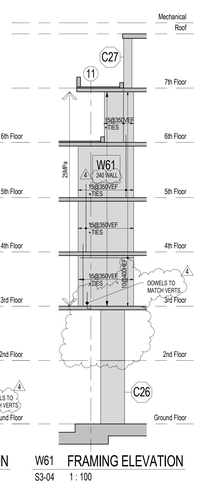
W57 FRAMING ELEVATION
S3-04 1 : 100

W58 FRAMING ELEVATION
S3-04 1 : 100



W59 FRAMING ELEVATION
S3-04 1 : 100

W60 FRAMING ELEVATION
S3-04 1 : 100



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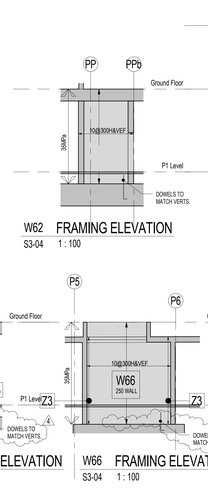
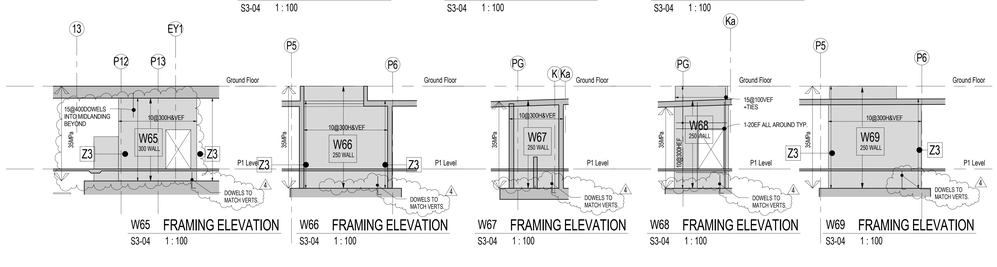
S3-04 1 : 100



W62 FRAMING ELEVATION
S3-04 1 : 100

W63 FRAMING ELEVATION
S3-04 1 : 100

W64 FRAMING ELEVATION
S3-04 1 : 100



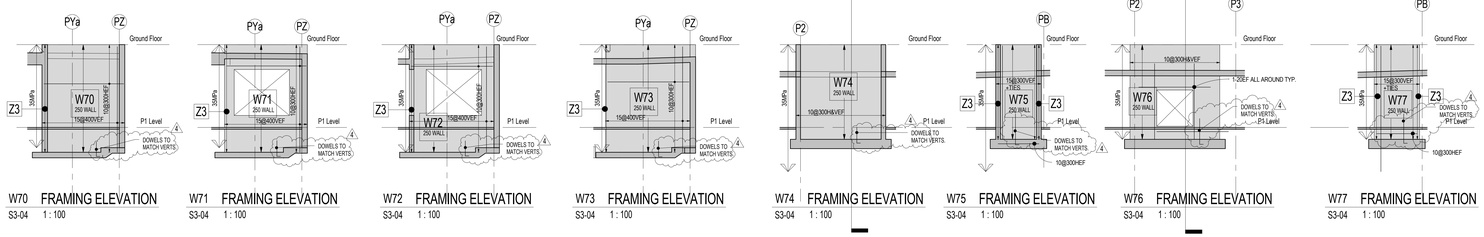
W65 FRAMING ELEVATION
S3-04 1 : 100

W66 FRAMING ELEVATION
S3-04 1 : 100

W67 FRAMING ELEVATION
S3-04 1 : 100

W68 FRAMING ELEVATION
S3-04 1 : 100

W69 FRAMING ELEVATION
S3-04 1 : 100



W70 FRAMING ELEVATION
S3-04 1 : 100

W71 FRAMING ELEVATION
S3-04 1 : 100

W72 FRAMING ELEVATION
S3-04 1 : 100

W73 FRAMING ELEVATION
S3-04 1 : 100

W74 FRAMING ELEVATION
S3-04 1 : 100

W75 FRAMING ELEVATION
S3-04 1 : 100

W76 FRAMING ELEVATION
S3-04 1 : 100

W77 FRAMING ELEVATION
S3-04 1 : 100

17-06-15
S.L.CULLEN
PROFESSIONAL ENGINEER PROVINCE OF ONTARIO

17-06-15
M.G.NIETO-ECHANDI
PROFESSIONAL ENGINEER PROVINCE OF ONTARIO

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25 BAKER HILL BLVD.

ROYAL PINES HOMES

STOUFFVILLE ONTARIO

Drawn By	RS
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Plot Date:	DECEMBER 2016
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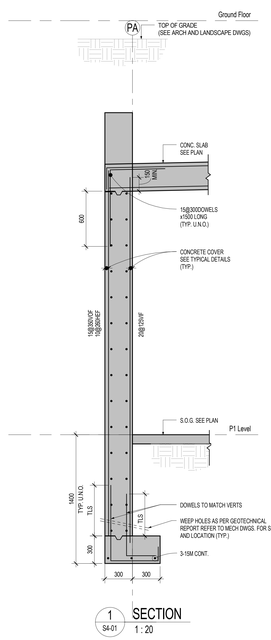
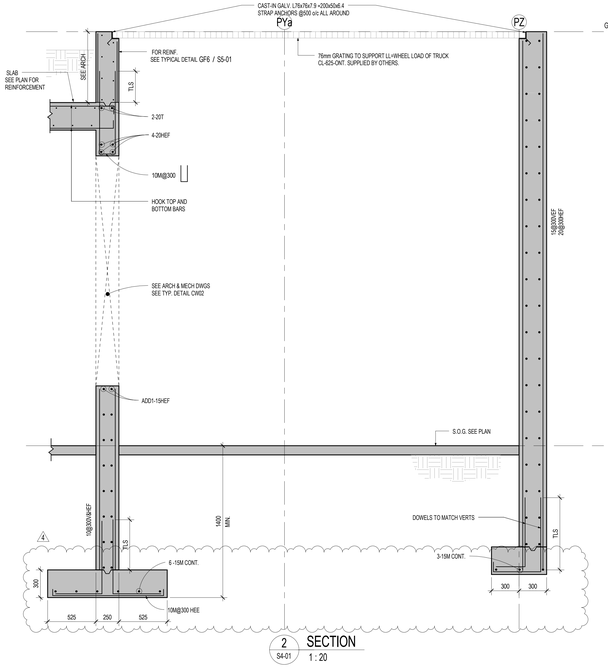
WALL ELEVATIONS

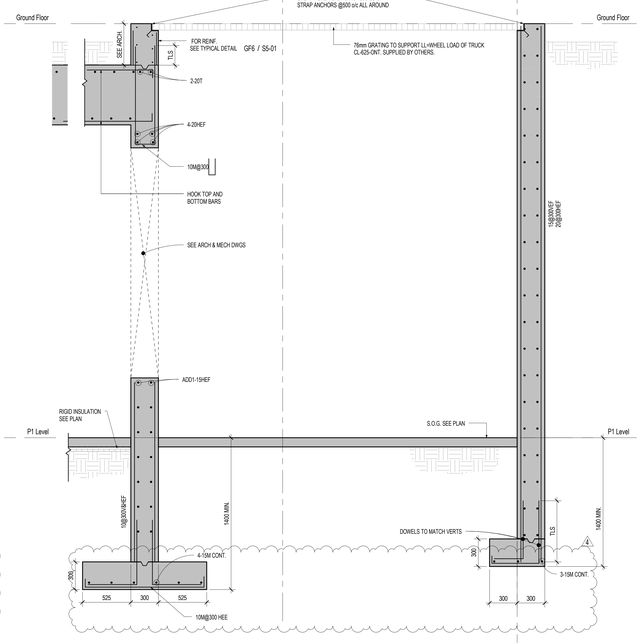
1 : 100 S3-04



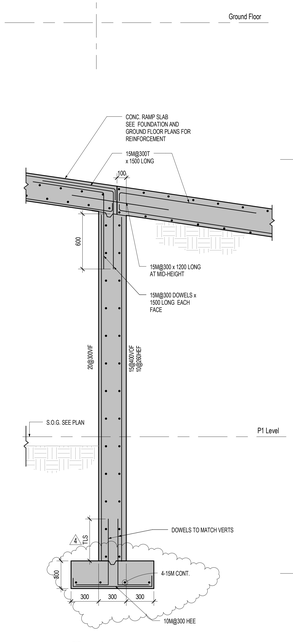
1 S4-01 SECTION 1 : 20



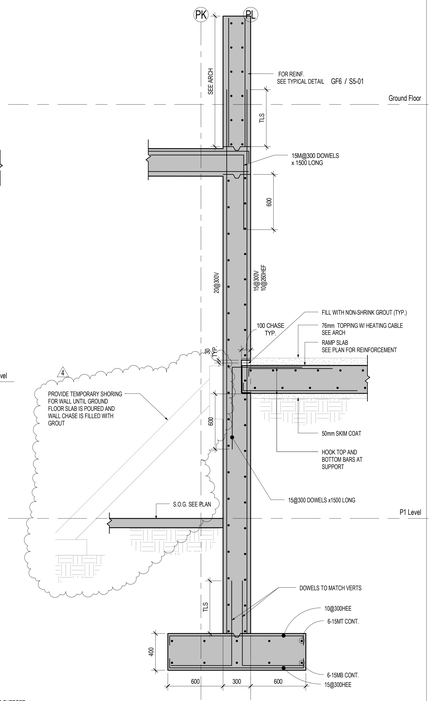
2 S4-01 SECTION 1 : 20



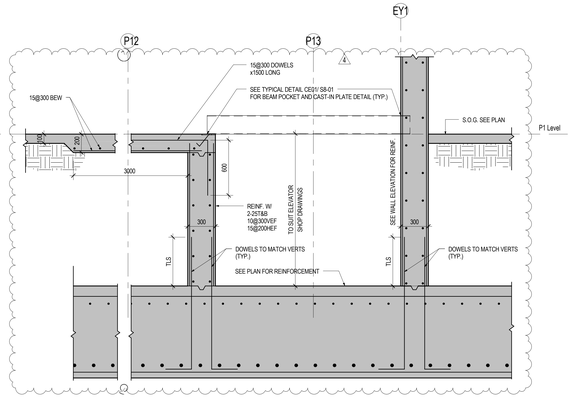
3 S4-01 SECTION 1 : 20



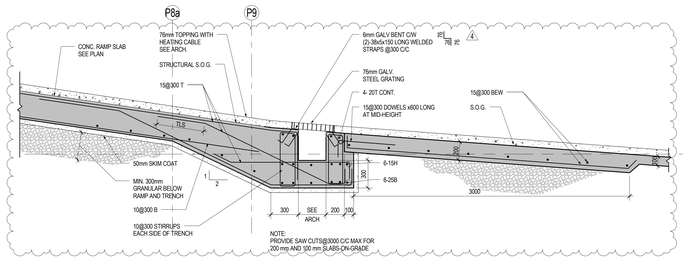
4 S4-01 SECTION 1 : 20



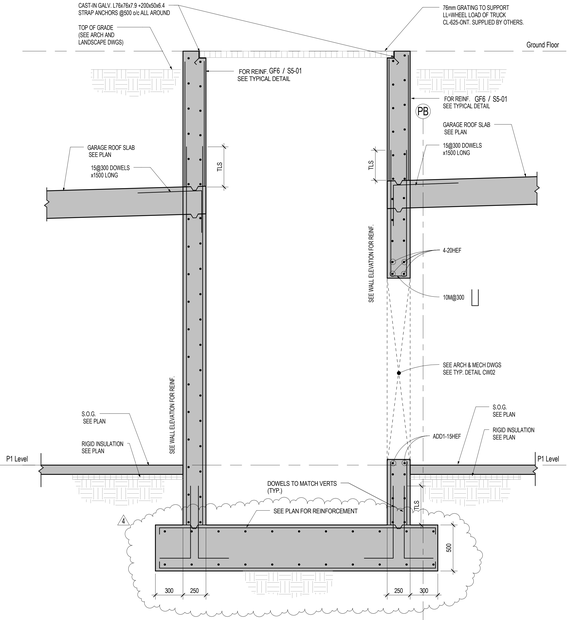
5 S4-01 SECTION 1 : 20



6 S4-01 SECTION 1 : 20



7 S4-01 SECTION 1 : 20



8 S4-01 SECTION 1 : 20

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LICENCE PROFESSIONAL ENGINEER 17-06-15 S.L. CULLEN PROVINCE OF ONTARIO

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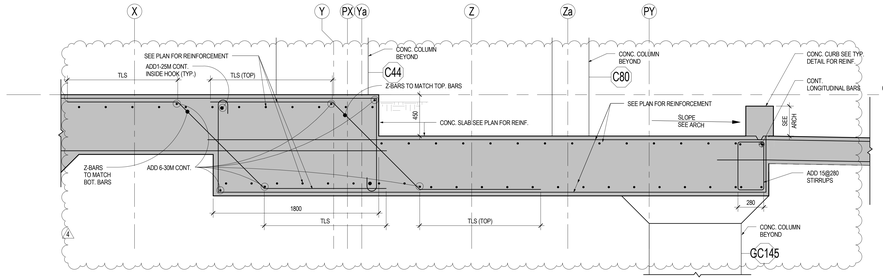
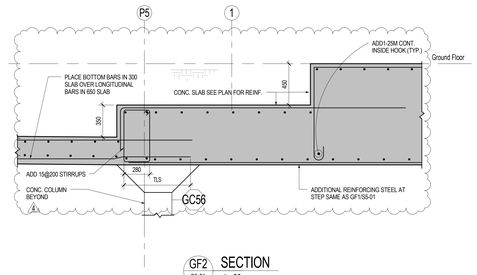
FOUNDATION SECTIONS

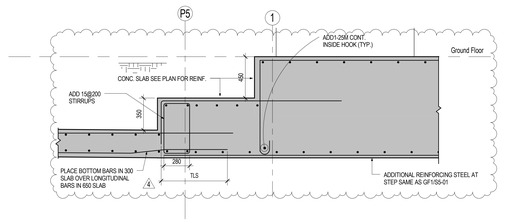
1 : 20 S4-01



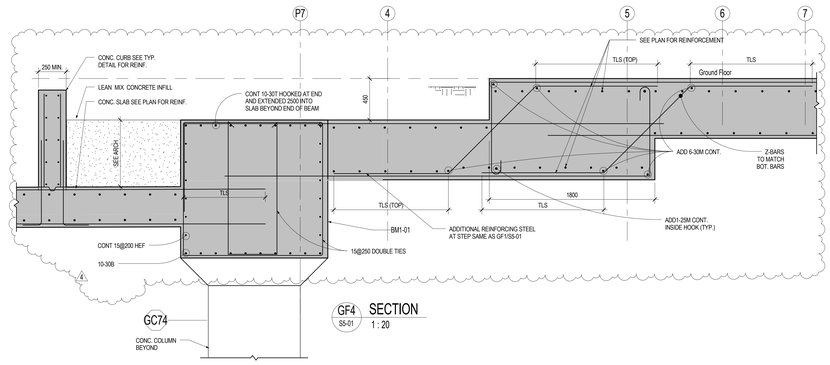
GF1 SECTION
SS-01 1 : 20



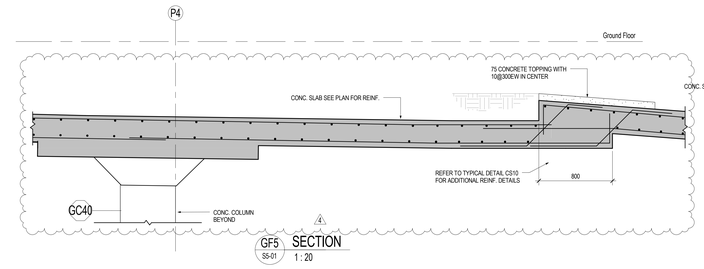
GF2 SECTION
SS-01 1 : 20



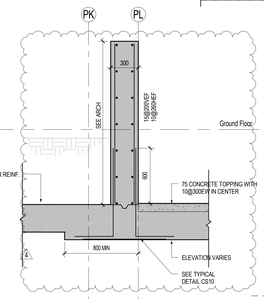
GF3 SECTION
SS-01 1 : 20



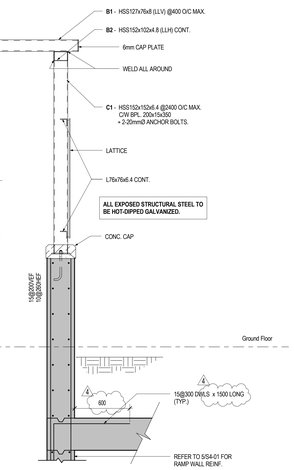
GF4 SECTION
SS-01 1 : 20

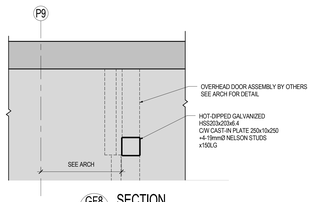


GF5 SECTION
SS-01 1 : 20

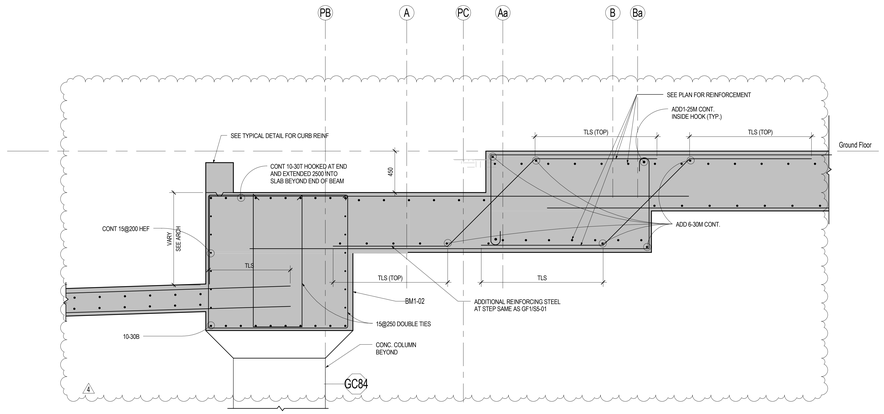


GF6 SECTION
SS-01 1 : 20

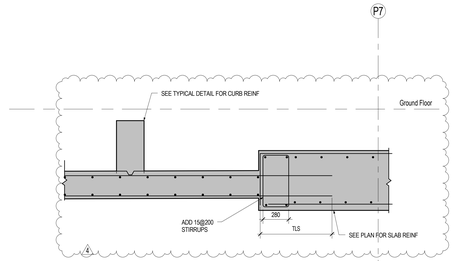




GF8 SECTION
SS-01 1 : 20



GF9 SECTION
SS-01 1 : 20



GF10 SECTION
SS-01 1 : 20

GF7 SECTION
SS-01 1 : 20

THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

1	MAR.18.2016	ISSUED FOR TENDER
2	DEC.28.2016	ISSUED FOR BUILDING PERMIT
3	MAY.09.2017	ISSUED FOR FOUNDATION PERMIT
4	JUN.15.2017	STRUCTURAL ADDENDUM#1

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PROPOSED RESIDENTIAL DEVELOPMENT

25 BAKER HILL BLVD.

ROYAL PINES HOMES

STOUFFVILLE ONTARIO

Drawn By	RS
Checked By	NH/PZ/AS
Plot Date:	DECEMBER 2016
Job #	20140490

GROUND FLOOR SECTIONS

1 : 20 S5-01

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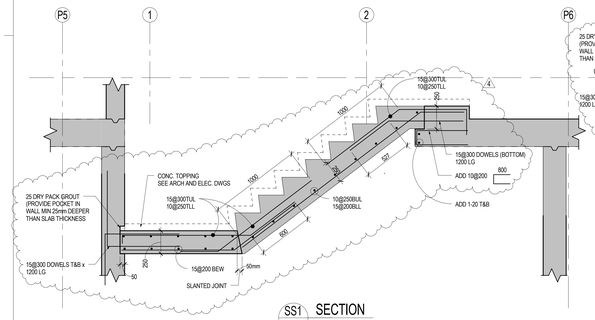
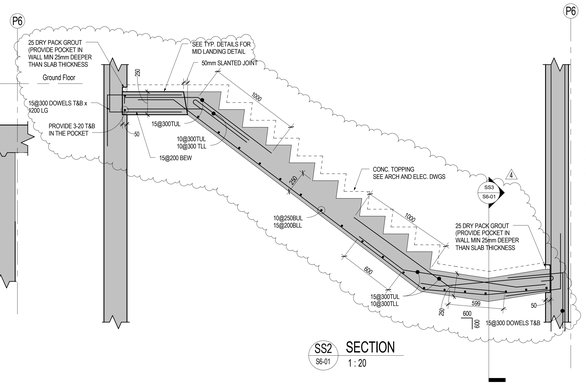
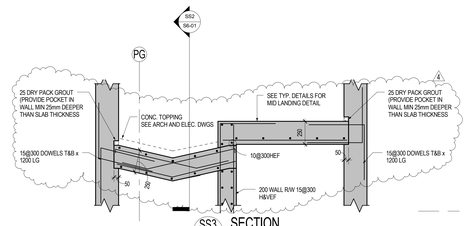


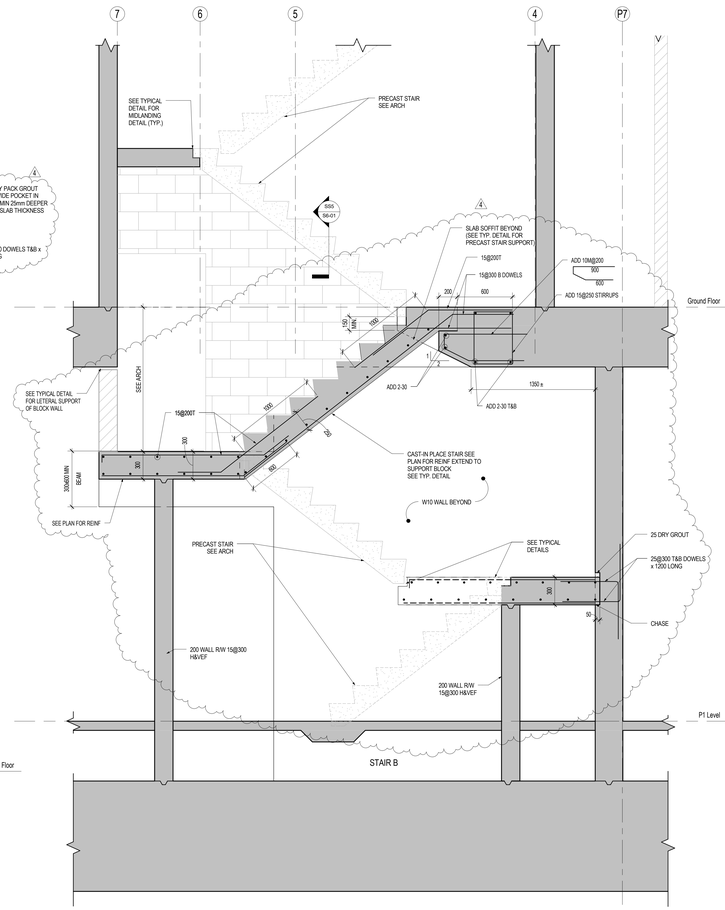
SS1 SECTION
S6-01 1 : 20



SS2 SECTION
S6-01 1 : 20



SS3 SECTION
S6-01 1 : 20



SS4 SECTION
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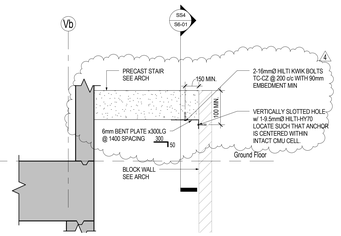

SS5 SECTION
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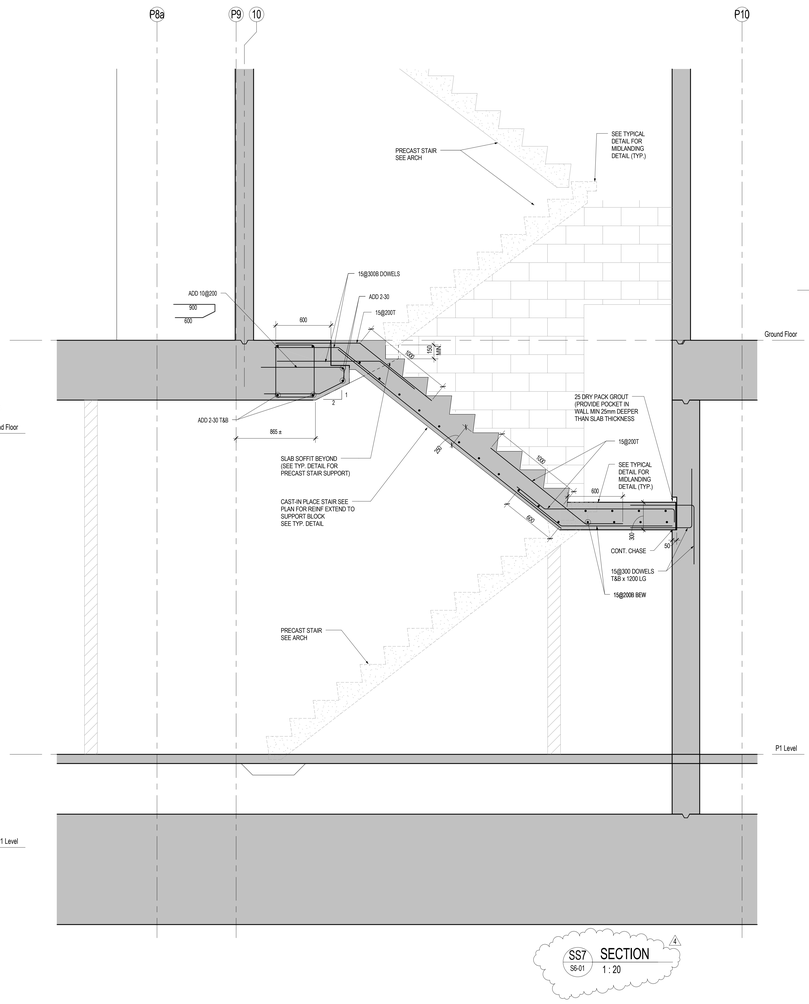

SS7 SECTION
S6-01 1 : 20

SS6 SECTION
S6-01 1 : 20

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25 BAKER HILL BLVD.

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Drawn By	RS
Checked By	NH/PZ/AS
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STAIR AND FLOOR SECTIONS

1 : 20 S6-01

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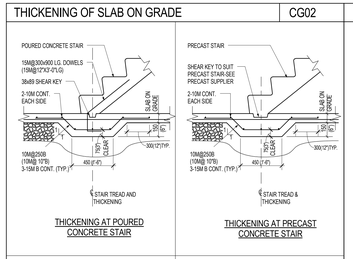
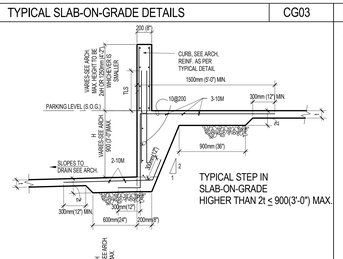
THICKENING OF SLAB ON GRADE — CG02

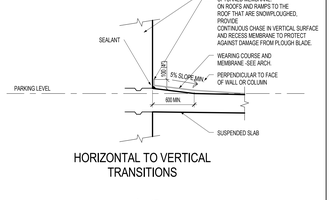


TYPICAL SLAB-ON-GRADE DETAILS — CG03

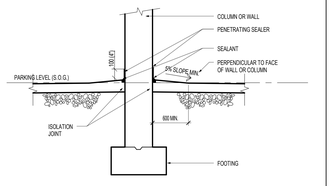


PARKING GARAGE SEALANT DETAILS — CG04

ALL SEALANT APPLICATIONS SHALL CONFORM TO CSA STANDARD S413-07

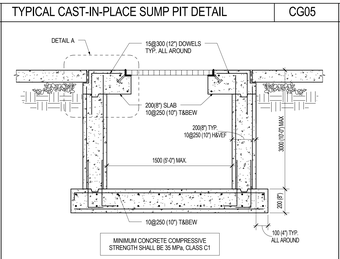


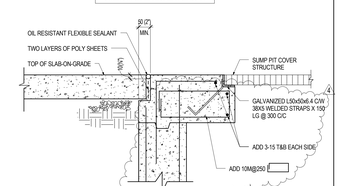
HORIZONTAL TO VERTICAL TRANSITIONS



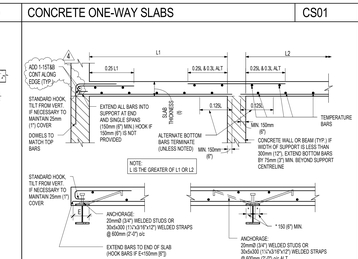
PROTECTION OF VERTICAL ELEMENTS AT JUNCTION WITH SLAB ON GRADE

TYPICAL CAST-IN-PLACE SUMP PIT DETAIL — CG05





CONCRETE ONE-WAY SLABS — CS01



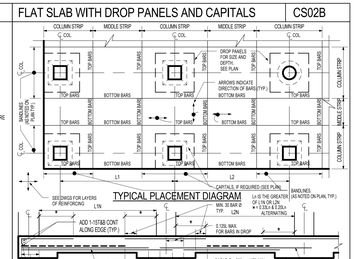
TYPICAL SECTIONS

1. USE DEFORMED BARS CONFORMING TO CSA G30.12-M GRADE 400
2. AT NON-CONTINUOUS ENDS, ALL TOP BARS SHALL TERMINATE WITH A 90° OR 180° HOOK. REFER TO ACI STANDARD 315 AND RSIC "MANUAL OF STANDARD PRACTICE" FOR STANDARD HOOKS
3. UNLESS OTHERWISE SHOWN, PROVIDE TEMPERATURE BARS, AS SHOWN BELOW. IN ALL SLABS. WHERE REQUIRED, LAPS ARE TO BE STAGGERED CLASS "A" TENSION LAP SPLICES, TDL (SEE C02 AND C03)
4. TOLERANCE FOR PLACING REINFORCEMENT SHALL CONFORM WITH CSA CAN3-A23.1-M4
5. DETAILS AS SHOWN SHALL BE USED FOR ALL "ONE-WAY SLABS" UNLESS OTHERWISE SHOWN ON STRUCTURAL DRAWINGS. NO DEVIATIONS PERMITTED WITHOUT WRITTEN AUTHORIZATION.
6. WHERE TOP AND BOTTOM BARS EXIST, ALTERNATE TEMPERATURE BARS ON TOP AND BOTTOM LAYERS. SEE BELOW

TEMPERATURE BARS METRIC (unless noted otherwise on structural drawings)								
d1 mm	125	150	175	200	225	250	275	300
TEMP. BARS	10M@400	10M@340	10M@295	10M@260	15M@405	15M@365	15M@330	15M@300

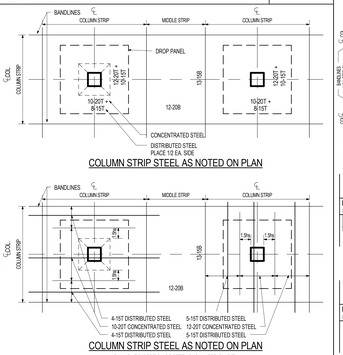
TEMPERATURE BARS IMPERIAL (unless noted otherwise on structural drawings)								
d1 inches	5"	6"	7"	8"	9"	10"	11"	12"
TEMP. BARS	10M@16"	10M@12"	10M@11"	10M@10"	15M@17"	15M@15"	15M@14"	15M@12"

FLAT SLAB WITH DROP PANELS AND CAPITALS — CS02B



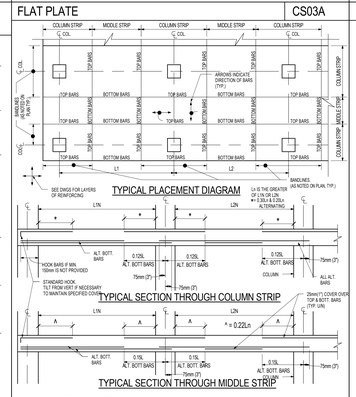
1. ALL REINFORCING "CUT-OFFS" SHALL CONFORM WITH CSA A23.3 UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
2. AT SLAB EDGES AND AT OPENINGS CARRY ALL TOP BARS TO SLAB EDGE (PROVIDE REQUIRED CLEAR COVER) AND PROVIDE STANDARD HOOKS.
3. UNLESS SHOWN ON STRUCTURAL DRAWINGS, THERE SHALL BE NO OPENINGS THROUGH THE SLAB WITHIN TWICE THE SLAB THICKNESS FROM THE FACE OF A COLUMN.
4. REFER TO TYPICAL DETAIL C012 FOR TRIMMING BARS AT OPENINGS THROUGH SLABS.
5. TOLERANCES FOR PLACING REINFORCEMENT SHALL CONFORM WITH CSA A23.3 (LATEST EDITION).
6. REFER TO TYPICAL DETAILS C004 AND C005 AND PLANS FOR ADDED INTEGRITY BARS.
7. REFER TO PLANS AND SPECS. FOR NOTES AND DETAILS FOR PARKING STRUCTURES.
8. REFER TO DETAIL C002C FOR PLACEMENT OF CONCENTRATED STEEL OVER COLUMNS.
9. STAGGERED BARS MAY BE USED INSTEAD OF ALTERNATE BARS IN ALL CASES.
10. EXTEND 100% OF ALTERNATE OR STAGGERED BARS AT END SUPPORTS TO SLAB EDGE.

PLACEMENT OF TOP STEEL OVER COLUMNS IN FLAT SLABS — CS02D



1. THE DIMENSION 1.5HS IS TO BE FROM THE FACE OF THE COLUMN OR EDGE OF THE CAPITAL WHEN PRESENT.
2. REFER TO TYPICAL DETAILS C002A AND C002B.

FLAT PLATE — CS03A



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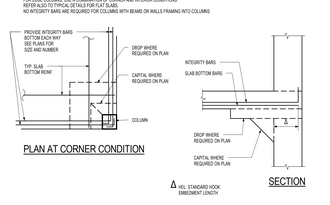
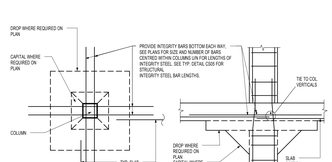
3. UNLESS SHOWN ON STRUCTURAL DRAWINGS, THERE SHALL BE NO OPENINGS THROUGH THE SLAB WITHIN TWICE THE SLAB THICKNESS FROM THE FACE OF A COLUMN.
4. REFER TO TYPICAL DETAIL C012 FOR TRIMMING BARS AT OPENINGS THROUGH SLABS.
5. TOLERANCES FOR PLACING REINFORCEMENT SHALL CONFORM WITH CSA A23.3 (LATEST EDITION).
6. REFER TO TYPICAL DETAILS C004 AND C005 AND PLANS FOR ADDED INTEGRITY BARS.
7. REFER TO PLANS AND SPECS. FOR NOTES AND DETAILS FOR PARKING STRUCTURES.
8. REFER TO DETAIL C002C FOR PLACEMENT OF CONCENTRATED STEEL OVER COLUMNS.
9. STAGGERED BARS MAY BE USED INSTEAD OF ALTERNATE BARS IN ALL CASES.
10. EXTEND 100% OF ALTERNATE OR STAGGERED BARS AT END SUPPORTS TO SLAB EDGE.

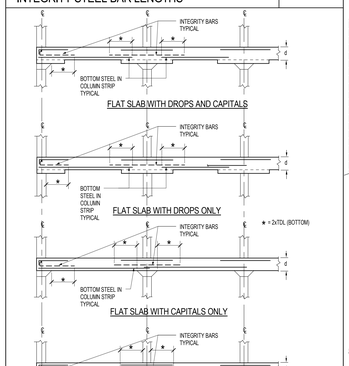
INTEGRITY BARS IN FLAT SLABS — CS04

FOR EDGE COLUMNS, USE A COMBINATION OF CORNER AND INTERIOR CONDITIONS.
REFER ALSO TO TYPICAL DETAILS FOR FLAT SLABS.
NO INTEGRITY BARS ARE REQUIRED FOR COLUMNS WITH BEAMS OR WALLS FRAMING INTO COLUMNS



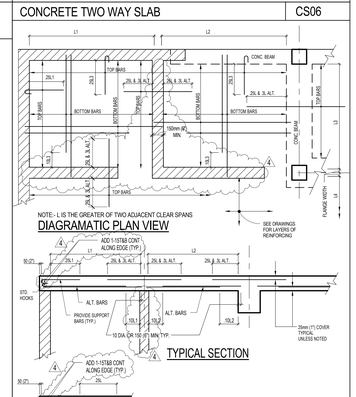


TYPICAL DETAIL FOR STRUCTURAL INTEGRITY STEEL BAR LENGTHS — CS05

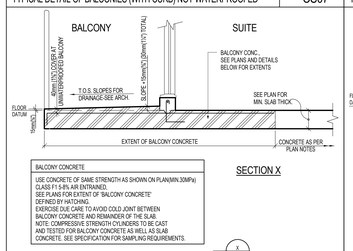


NOTES:
SEE PLANS FOR THE TYPE AND NUMBER OF BARS. SEE ALSO TYPICAL DETAIL CS04

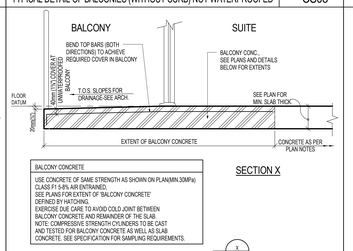
CONCRETE TWO WAY SLAB — CS06



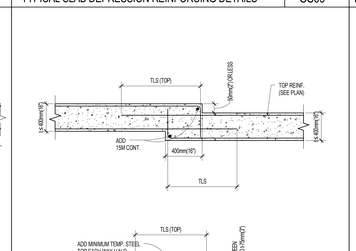
TYPICAL DETAIL OF BALCONIES (WITH CURB) NOT WATERPROOFED — CS07



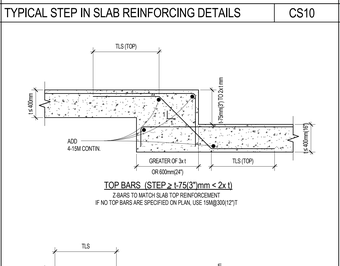
TYPICAL DETAIL OF BALCONIES (WITHOUT CURB) NOT WATERPROOFED — CS08



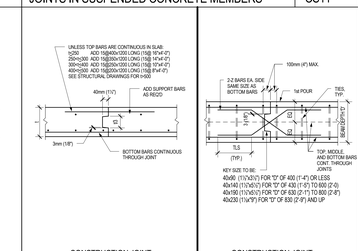
TYPICAL SLAB DEPRESSION REINFORCING DETAILS — CS09



TYPICAL STEP IN SLAB REINFORCING DETAILS — CS10

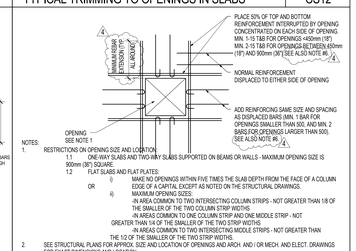


JOINTS IN SUSPENDED CONCRETE MEMBERS — CS11

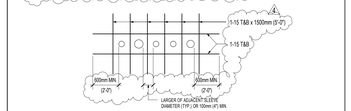


1. SUBMIT POUR BREAK LAYOUTS FOR STRUCTURAL ENGINEER'S REVIEW AND APPROVAL.
2. WHERE A CONSTRUCTION JOINT IS TO BE MADE, THE SURFACE OF THE SET CONCRETE IS TO BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER AND LAITANCE, SATURATED WITH WATER AND BE LEFT IN A DAMP CONDITION WITH NO FREE WATER ON THE SURFACE IMMEDIATELY BEFORE PLACING ADJACENT CONCRETE.
3. REINFORCING PROJECTING THROUGH A JOINT SHALL BE THOROUGHLY CLEANED OF LOOSE FLAKY RUST, MUD, OIL, DIRED CONCRETE OR OTHER COATINGS WHICH WOULD DESTROY OR REDUCE BOND.
4. FOR FRAMED SLABS AND BEAMS, FORMS AND SHORES TO REMAIN IN PLACE ON BOTH SIDES OF JOINT UNTIL CONCRETE IN LAST POUR HAS ACHIEVED ITS SPECIFIED DESIGN STRENGTH.

TYPICAL TRIMMING TO OPENINGS IN SLABS — CS12



NOTES:
1. RESTRICTIONS ON OPENING SIZE AND LOCATION
   1.1 ONE-WAY SLABS AND TWO-WAY SLABS SUPPORTED ON BEAMS OR WALLS - MAXIMUM OPENING SIZE IS 900mm (36") SQUARE.
   1.2 FLAT SLABS AND FLAT PLATES:
   i) WHERE NO OPENINGS WITHIN FIVE TIMES THE SLAB DEPTH FROM THE FACE OF A COLUMN EDGE OF A CAPITAL EXCEPT AS NOTED ON THE STRUCTURAL DRAWINGS.
   OR
   ii) MAXIMUM OPENING SIZES:
   IN AREA COMMON TO TWO INTERSECTING COLUMN STRIPS - NOT GREATER THAN 1/8 OF THE SMALLER OF THE TWO COLUMN STRIP WIDTHS
   IN AREAS COMMON TO ONE COLUMN STRIP AND THE MIDDLE STRIP - NOT GREATER THAN 1/4 OF THE SMALLER OF THE TWO STRIP WIDTHS
   IN AREAS COMMON TO TWO INTERSECTING MIDDLE STRIPS - NOT GREATER THAN 1/2 OF THE SMALLER OF THE TWO STRIP WIDTHS
2. SEE STRUCTURAL PLANS FOR APPROX. SIZE AND LOCATION OF OPENINGS AND ARCH. AND / OR MECH. AND ELECT. DRAWINGS FOR EXACT DIMENSIONS AND LOCATION.
3. IF OPENINGS LARGER THAN 300 (1'-0") WIDE ARE REQUIRED AND ARE NOT SPECIFICALLY NOTED ON THE DRAWINGS THE ENGINEER MUST BE INFORMED SO PROPER DETAILS CAN BE SUPPLIED.
4. UNLESS OTHERWISE NOTED, OPENINGS SMALLER THAN 300x300 (12"x12") DO NOT REQUIRE TRIMMER BARS.
5. CONSULT STRUCTURAL ENGINEER FOR OPENINGS AND SLEEVES NOT COVERED BY THIS TYPICAL DETAIL FOR SPECIFIED ON STRUCTURAL DRAWINGS.
6. WHERE NECESSARY, PROVIDE LONGER CONCENTRATED EDGE BARS OR OR LONGER HOOKED REINFORCEMENT TERMINATING AT OPENING, TO MEET THE INDICATED MINIMUM REBAR EXTENSION BEYOND EDGE OF OPENING



NO OPENING TO BE WITHIN FIVE TIMES THE SLAB THICKNESS FROM A COLUMN WITHOUT PRIOR ENGINEER CONSENT.

17-06-15 S.L. CULLEN — POWER OF ATTORNEY

17-06-15 M.G. NIETO ECHANIZ — POWER OF ATTORNEY

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Drawn By	RS
Checked By	NH/PZ/AS
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TYPICAL DETAILS

1 : 1

S8-02