CONCRETE CONSTRUCTION TOLERANCES

(TOLERANCES AS PER CAN/CSA-A23.1 CLAUSE 10, EXCEPT AS NOTED BELOW.)

CLOSER TOLERANCES SHALL BE MAINTAINED WHERE ARCHITECTURAL DETAILS OR OTHERS REQUIRE.

WHERE ANY DEVIATION OCCURS, AND IT IS ACCEPTABLE TO THE ENGINEER AND ARCHITECT, THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENT OF OTHER BUILDING ELEMENTS TO ACCOMMODATE SUCH DEVIATION. COSTS FOR REMEDIAL WORK FOR DEVIATIONS NOT ACCEPTED SHALL BE BOURNE BY THE CONTRACTOR.

1. VARIATION FROM THE PLUMB.

A. IN THE LINES AND SURFACES OF COLUMNS, PIERS, WALLS AND IN ARRISES: 0.25% OF HEIGHT (1 IN 400), MAXIMUM 40 mm OVER THE ENTIRE HEIGHT OF THE STRUCTURE.

ONLY ONE CURVATURE ALLOWED PER 3000 mm.

THE TOLERANCE GIVEN IS THE MAXIMUM VARIATION FROM A PLUMB LINE.

ALL MEASUREMENTS SHALL BE TO THE SAME SIDE OF THE PLUMB LINE.

B. UNLESS SPECIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS – THE TOLERANCES FOR EXPOSED CORNER COLUMNS, CONTROL-JOINTS GROOVES, AND OTHER CONSPICUOUS LINES SHALL BE: (SEE ALSO ELEVATOR SHOP DRAWINGS ETC.)

0.125% OF HEIGHT (1 IN 800), MAXIMUM 20 mm.

ONLY ONE CURVATURE ALLOWED PER 6000 mm.

MAXIMUM VARIATION IN WINDOW BAYS 0.2% OF OPENING.

2. VARIATION FROM THE LEVEL OR FROM THE GRADES OR CAMBERS INDICATED ON THE DRAWINGS:

A. UNLESS SPECIFIED ELSEWHERE, FLOOR FINISHES SHALL BE CLASS A "INSTITUTIONAL AND COMMERCIAL FLOOR" ± 8 mm PER 3000 mm.

ONLY ONE CURVATURE ALLOWED IN 3000 mm.

TOLERANCES GIVEN ARE MAXIMUM DISTANCE FROM SPECIFIED LEVELS.

CLOSER TOLERANCES MAY BE REQUIRED TO GIVE THE QUALITY OF FINISH FLOOR SURFACES CALLED FOR ELSEWHERE IN THE CONTRACT DOCUMENTS.

3. LOCATION OF COLUMNS AND WALLS: AS FOR COLUMNS IN CAN/CSA-A23.1.

4. VARIATION IN CROSS-SECTIONAL DIMENSIONS OF COLUMNS AND BEAMS AND IN THE THICKNESS OF SLABS AND WALLS: AS IN CAN/CSA-A23.1.

ONLY ONE CURVATURE ALLOWED PER 3000 mm.

5. FOOTINGS:

A. VARIATION IN DIMENSIONS IN PLAN:

MINUS ---------- 10 mm

PLUS ---------- 50 mm

B. MISPLACEMENT OR ECCENTRICITY:

TWO (2) PERCENT OF THE FOOTING WIDTH IN THE DIRECTION OF MISPLACEMENT BUT NOT MORE THAN ---------- 50 mm

C. REDUCTION IN THICKNESS:

MINUS ---------- 5% OF SPECIFIED THICKNESS

6. THE ABOVE REQUIREMENTS DO NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY OF MEETING MORE RIGID REQUIREMENTS SPECIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS OR AS REQUIRED BY EQUIPMENT SHOP DRAWINGS OR SPECIFICATIONS SUCH AS THOSE FOR ELEVATORS ETC.

CONCRETE REINFORCING

1. REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS:

A. CAN/CSA-G30.18R – GRADE 400 MPa – 10M AND LARGER (U.N.O.)
B. CSA STANDARD G30.5 – GRADE 400 MPa – WELDED WIRE MESH
C. CAN/CSA-G30.18W – GRADE 400 MPa – ALL REINFORCING THAT WILL BE WELDED OR IS PART OF THE SEISMIC RESISTING ELEMENTS: REINFORCING FOR SHEAR WALLS, HEADERS AND ZONES (INCLUDING ZONE TIES AND HEADER TIES/STIRRUPS) AND MOMENT FRAME COLUMNS AND BEAMS (INCLUDING COLUMN TIES AND BEAM STIRRUPS).
D. CSA STANDARD G279 – PRESTRESSING STRANDS
E. EPOXY REINFORCING – ASTM A775M AND ASTM D3963

(NOTE: G30.18W MAY BE SUBSTITUTED FOR G30.18R)

2. UNLESS OTHERWISE NOTED CONCRETE COVER TO REINFORCEMENT SHALL BE:

A. FOR FIRE RATINGS

	FIRE RATINGS	
	0–2 HRS	3 HRS
i) BEAMS, GIRDERS, COLUMNS, (TO TIES OR STIRRUPS)	40	40
ii) SLABS AND SLAB BANDS (NON-PARKING), ZONE TIES, NON RETAINING WALLS.	25 (30M=30)	35
iii) SLABS AND SLAB BANDS: TOP BARS (PARKING WITH MEMBRANE) BOT. BARS	40 30	40 35
iv) RETAINING WALLS: INSIDE FACE GROUND OR EARTH SIDE	25 40	35 40

B. CONCRETE CAST AGAINST EARTH OR GROUND ------- 75

NOTES:

LARGEST COVER REQUIRED GOVERNS.

SEE ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS FOR AREAS WHICH MAY REQUIRE 3 HOUR RATINGS.

SEE STRUCTURAL DRAWINGS FOR AREAS CLASSIFIED AS (C) or (D) ABOVE FOR WEATHER EXPOSURE.

3. DESIGNATION OF REINFORCING BARS:

A. BARS SHOWN THUS ——— ——— IN BOTTOM OF BEAMS AND SLABS OR IN FAR FACE OF WALL.

BARS SHOWN THUS ——— ——— IN TOP OF BEAMS AND SLABS OR IN NEAR FACE OF WALL.

B. STRAIGHT BARS: E.G. 6–10M4200 MEANS 6–10M BARS 4200 LONG.
E.G. 15M3800 + 15M3200 ALT. @ 300 MEANS 1–15M3800 BAR THEN 1–15M3200 BAR SPACED 300 AWAY

BENT BARS: E.G. 13–420M4000 MEANS 13–20M BARS 4000 H.I.E. 180°.
E.G. 3–C25M3000 MEANS 3–25M BARS 3000 LONG H.I.E. 90°.

4. DO NOT SUBSTITUTE DEFORMED WIRE FOR REINFORCING BARS WITHOUT PRIOR APPROVAL OF THE R.J.C.

5. SUPPORT REINFORCING WITH CHAIRS, ACCESSORIES, OR REINFORCING BARS AS REQUIRED. BARS USED AS SUPPORT BARS SHALL BE CONSIDERED AS ACCESSORIES.

6. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN CONCRETE PROTECTION AS SPECIFIED. ALL SUPPORTS AND BARS MUST BE TIED TOGETHER TO MAINTAIN REINFORCING STEEL SECURELY IN PLACE DURING CONCRETE PLACEMENT.

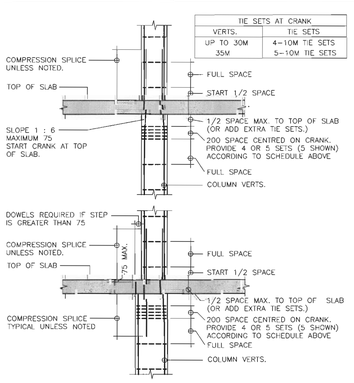
TEMPERATURE BARS MAY BE DROPPED AND USED TO SUPPORT THE MAIN REBAR ON ONE WAY SLABS. FOR TWO WAY SLABS, DROPPED BARS USED TO SUPPORT THE MAIN TWO WAY REINFORCING STEEL SHALL BE IN ADDITION TO THE REINFORCING SHOWN ON PLAN.

7. IN SUSPENDED PARKING SLABS:

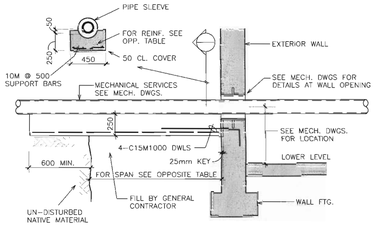
A. BAR SUPPORT CHAIRS SHALL BE PLASTIC, PLASTIC COATED, OR PRECAST CONCRETE BLOCKS EQUAL IN QUALITY TO THE CONCRETE SPECIFIED FOR THE STRUCTURE.

8. TESTING OF REINFORCING STEEL SHALL CONFORM TO THE SPECIFICATIONS.

COLUMN SPLICE DETAILS – U.N.O.



EXTERIOR PIPE SUPPORT DETAIL



NOTES

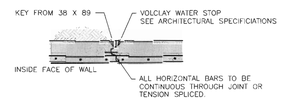
1. MECHANICAL CONTRACTOR SHALL SET PIPE SLEEVES WHERE REQ'D & SHALL CO–OPERATE WITH GENERAL CONTRACTOR TO LOCATE, CHECK IN FOUNDATION WALL TO SUIT PIPE BRIDGE SUPPORT AS DETAILED.

2. THIS DETAIL APPLIES TO ALL SERVICE PIPING PASSING THROUGH FOUNDATION WALLS BELOW GRADE, INCLUDING SEWER LINES, WATER MAINS, GAS LINES ETC.

SPANS	
UP TO 2400	4–15M
2425 TO 2850	4–20M
2875 TO 3150	4–25M

WALL CONSTRUCTION JOINT

(CONSTRUCTION JOINT CAN REPLACE CONTROL JOINT)

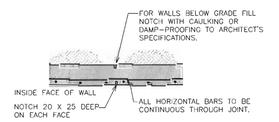


PLAN

WALL CONTROL JOINT

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

SPACE AT 6000 CENTERS MAXIMUM UNLESS OTHERWISE NOTED ON PLAN.



PLAN

CONCRETE COLD WEATHER REQUIREMENTS

(SEE ALSO CAN/CSA–A23.1, CLAUSE 21, EXCEPT THE FOLLOWING MINIMUM REQUIREMENTS MUST ALSO BE MET)

1. FORECASTED AIR TEMPERATURE NOT BELOW 2°C

A. IF CONCRETE TEMPERATURE DROPS BELOW 5°C AT POINT OF POURING, THE MIXING WATER SHALL BE HEATED TO MAINTAIN A MINIMUM CONCRETE TEMPERATURE OF 10°C.

B. CONCRETE SHALL NOT BE PLACED ON OR AGAINST ANY SURFACE WHICH IS AT A TEMPERATURE LESS THAN 5°C.

C. CONTRACTOR SHALL BE PREPARED TO COVER SLAB IF UNEXPECTED DROP IN AIR TEMPERATURE SHOULD OCCUR.

D. CONCRETE TEMPERATURE SHALL BE MAINTAINED ABOVE 10°C FOR AT LEAST 7 DAYS OR UNTIL THE CONCRETE REACHES 70% OF SPECIFIED STRENGTH.

2. FORECASTED AIR TEMPERATURE BELOW 2°C BUT NOT BELOW –4°C

(NOTE – FOR THESE CONDITIONS STRUCTURAL CONCRETE TOPPINGS ON METAL DECK SHALL SATISFY THE REQUIREMENTS OF 3).

A. FORMS AND STEEL SHALL BE FREE FROM ICE AND SNOW.

B. MIXING WATER SHALL BE HEATED TO GIVE A MINIMUM CONCRETE TEMPERATURE OF 10°C AT POINT OF POUR.

C. CONCRETE SHALL NOT BE PLACED ON OR AGAINST ANY SURFACE WHICH IS AT A TEMPERATURE OF LESS THAN 5°C.

D. SLABS SHALL BE COVERED WITH CANVAS OR SIMILAR, KEPT A FEW INCHES CLEAR OF SURFACE.

E. IN WINDY WEATHER, STOREY BELOW SLAB SHALL BE ENCLOSED.

F. PROTECTION SHALL BE MAINTAINED FOR AT LEAST 3 DAYS.

G. CONCRETE TEMPERATURE SHALL BE MAINTAINED ABOVE 10°C FOR AT LEAST 3 DAYS OR UNTIL THE CONCRETE REACHES 7 MPa.

3. FORECASTED AIR TEMPERATURE BELOW –4°C

A, B, C, D, AS UNDER POINT 2.

E. STOREY BELOW SHALL BE ENCLOSED AND ARTIFICIAL HEAT PROVIDED. HEATING TO BE STARTED AT LEAST ONE HOUR AHEAD OF POURING AND MAINTAINED FOR A MINIMUM OF 3 DAYS AFTER.

F. TEMPERATURE OF THE CONCRETE AT ALL SURFACES SHALL BE KEPT AT A MINIMUM OF 20°C FOR 3 DAYS, OR 10°C FOR 7 DAYS. CONCRETE SHALL BE KEPT ABOVE FREEZING TEMPERATURES UNTIL IT REACHES 7 MPa STRENGTH.

G. ENCLOSURE MUST BE CONSTRUCTED SO THAT AIR CAN CIRCULATE OUTSIDE THE OUTER EDGES AND MEMBERS.

STRIPPING NOTES

1. THE DESIGN AND FIELD REVIEW OF FORMWORK, SHORING AND RESHORING IS THE RESPONSIBILITY OF THE CONTRACTOR. RESHORING DRAWINGS SHALL BE SUBMITTED TO RJC FOR THE EFFECT ON THE BASE BUILDING STRUCTURE ONLY.

2. NO COLUMN OR WALL FORMS SHALL BE REMOVED BEFORE CONCRETE HAS REACHED 10 MPa FOR ARCHITECTURAL CONCRETE OR 8 MPa FOR OTHER COLUMNS OR WALLS.

3. NO SLABFORMS OR BEAMFORMS SHALL BE REMOVED BEFORE CONCRETE HAS REACHED 17 MPa. FOR PARKING SLABS THE CONCRETE SHALL REACH 75% OF THE 28 DAY STRENGTH BEFORE STRIPPING.

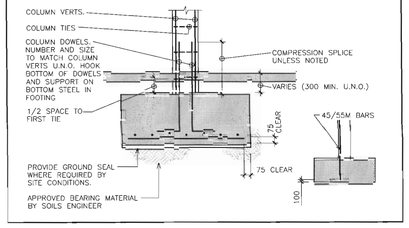
4. STRENGTH OF CONCRETE FOR STRIPPING TO BE DETERMINED BY FIELD–CURED CYLINDERS. ALTERNATE METHODS, IF ACCEPTABLE TO RJC, MAY BE USED.

5. ALL SLABS, BEAMS, GIRDERS ETC. TO BE SHORED UNTIL CONCRETE REACHES DESIGN STRENGTH.

6. SOME MULTI LEVEL OR HANGER ASSEMBLIES REQUIRE FULL SHORING FOR A NUMBER OF LEVELS. SEE STRUCTURAL DRAWINGS FOR SPECIAL SHORING REQUIREMENTS.

TYPICAL COLUMN FOOTING

EXCEPT AS NOTED:
– FOR SPLICE LENGTHS, SEE TABLES ON STRUCTURAL DRAWINGS.
– FOOTING SHALL BE CENTRED UNDER COLUMN U.N.O.



CONCRETE NOTES

1. CEMENT SHALL BE PORTLAND CEMENT TYPE 10 (U.N.O.) CONCRETE SHALL BE STONE CONCRETE WITH A UNIT WEIGHT OF 23.6 kN/m³ (150 PCF).

2. CONCRETE PROPERTIES

ELEMENT	MIN. 28 DAY STRENGTH (MPa)	SLUMP (mm)	MAX. AGG. (mm)	EXPOSURE CLASS_
PARKING SLABS	35 MPa	70	20	C–1
SLAB ON GRADE (INTERIOR PARKING)	25 MPa	70	20	C–4
SLAB ON GRADE (INTERIOR NO PARKING)	20 MPa	70	20	NO REQUIREMENT
SLAB ON GRADE (EXTERIOR)	32 MPa	70	20	C–2
SLAB and BEAMS	30, 35 MPa SEE PLANS	70	20	NO REQUIREMENT
CORE FOOTING	30 MPa (56 DAY STRENGTH)	80	40	NO REQUIREMENT
OTHER FOOTINGS	30 MPa 40 MPa WHERE INDICATED	80	40	NO REQUIREMENT
CORE/SHEAR WALLS	30, 40, 50 MPa SEE SCHEDULE	80	20	NO REQUIREMENT
PERIMETER FOUNDATION WALLS	25 MPa	80	20	NO REQUIREMENT
OTHER WALLS	25 MPa	80	20	NO REQUIREMENT
COLUMNS	30, 40, 50, 60, 70 MPa SEE SCHEDULE	80	20	NO REQUIREMENT

* CORROSION INHIBITOR "DAREX" BY GRACE OR APPROVED EQUAL. 10L/m³ MIN. AS PER MANUFACTURER'S SPECIFICATIONS IN SHADED AREAS.

NOTES: – PUMP MIX SLUMPS ALSO AS ABOVE.

– WATER CEMENT RATIOS AND AIR CONTENTS FOR EXPOSURE CLASSES AND AGGREGATE SIZES AS TABLES 10, 11, 12, AND 14 CAN/CSA–A23.1.

– SLUMP TOLERANCES: 20 mm FOR SLUMPS LESS THAN 80 mm, OTHERWISE 30 mm.

– AGGREGATE SIZES SHOWN ARE MAXIMUMS. SMALLER SIZES MAY BE USED (UNLESS NOTED OTHERWISE).

– LOWER SLUMPS MAY BE USED SUBJECT TO APPROVAL BY R.J.C.

– MIX DESIGNS SHALL STATE THE ELEMENT FOR WHICH THEY ARE INTENDED.

3. SUSPENDED PARKING SLABS REQUIRE 3 DAYS OF WET CURING AS PER CAN/CSA–S413. CURING COMPOUNDS SHALL NOT BE USED ON SUSPENDED PARKING SLABS.

4. ALL BOTTOM EDGES OF EXPOSED SLABS AND BEAMS, AND EXPOSED COLUMN AND WALL EDGES TO BE BEVELLED 20 mm X 20 mm. ALL TOP EDGES OF EXPOSED SLABS, BEAMS, UPSTANDS AND STAIRS TO BE TOOLED UNLESS NOTED OTHERWISE. SEE ALSO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

5. NO CALCIUM CHLORIDE, IN ANY FORM, IS PERMITTED IN ANY CONCRETE MIX, WITHOUT THE WRITTEN PERMISSION OF READ JONES CHRISTOFFERSEN.

6. CURING AND PROTECTION OF CONCRETE FOR HOT, COLD OR DRY WEATHER AS PER CAN/CSA–A23.1 – CHAPTER 21, EXCEPT FOR COLD WEATHER, SEE ALSO "COLD WEATHER REQUIREMENTS" ON STRUCTURAL DRAWINGS.

CONDUITS, PIPES AND SLEEVES EMBEDDED IN CONCRETE

EXCEPT WHEN APPROVED BY RJC, PIPES, CONDUITS, AND SLEEVES EMBEDDED IN CONCRETE SHALL BE INSTALLED IN ACCORDANCE WITH CAN/CSA–A23.1 – CLAUSE 13.5 AND THE FOLLOWING GUIDELINES:

1. GENERAL

A. NOT WITHSTANDING THE SATISFYING OF THESE GUIDELINES, THE CONDUIT, SLEEVES, PIPES, ETC. SHALL NOT IMPAIR THE STRUCTURAL STRENGTH AND SHALL BE MOVED IF SO DIRECTED BY RJC.

B. CENTRELINE SPACING TO BE NOT LESS THAN 3 DIAMETERS, UNLESS NOTED OTHERWISE

C. CENTRELINE SPACING BETWEEN PARALLEL CONDUIT AND REINFORCING BARS TO BE 3 DIAMETERS–UNLESS NOTED OTHERWISE

D. ADD REINFORCING AT POINTS OF CONGESTION AS DIRECTED BY THE STRUCTURAL ENGINEER.

E. NO CONDUITS, IN–SLAB DUCTS, SLEEVES, ETC., SHALL BE PLACED NEAR POST–TENSIONING ANCHORAGES

F. METAL CONDUIT, PIPES, ETC., SHALL NOT BE PLACED IN PARKING SLABS. NO CONDUIT, PIPES, ETC. SHALL BE PLACED IN PARKING TOPPING.

G. FOR TOPPINGS ON STEEL DECK, THE CONCRETE THICKNESS IS MEASURED FROM THE TOP OF THE DECK FLUTE.

2. FOR SLABS – CONDUITS IN THE PLANE OF THE SLAB:

A. LOCATE BETWEEN TOP AND BOTTOM REINFORCING.

B. MAXIMUM SIZE IN ONE LAYER TO BE NOT MORE THAN 1/4 CONCRETE THICKNESS.

C. THREE LAYERS OR MORE CROSSING WILL NOT BE PERMITTED.

3. FOR COLUMNS – ELECTRICAL BOXES, CONDUIT, SLEEVES OR EMBEDDED PIPES ARE NOT ALLOWED WITHOUT THE WRITTEN APPROVAL OF RJC.

4. FOR BEAMS – THE TOTAL MAXIMUM SIZE OF HORIZONTAL CONDUIT PARALLEL TO THE BEAM NOT TO EXCEED 4% OF THE AREA. NO SLEEVES THROUGH ANY BEAMS OR SLABBANDS UNLESS APPROVED IN WRITING BY RJC.

5. FOR SHEAR WALLS – ELECTRICAL BOXES, CONDUIT, SLEEVES OR EMBEDDED PIPES ARE NOT ALLOWED WITHOUT THE WRITTEN APPROVAL OF RJC.

6. FOR NON–SHEAR WALLS – CONDUIT, SLEEVES OR EMBEDDED PIPES:

– MAXIMUM DIAMETER = 1/4 WALL THICKNESS
– NO HORIZONTAL RUNS PERMITTED.
– VERTICAL RUNS TO HAVE MINIMUM 50 mm CONCRETE COVER AND SHALL HAVE A MINIMUM CLEAR SPACING OF 4 DIAMETERS.

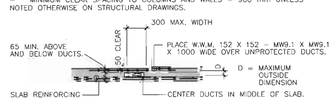
7. SPACING OF SLEEVES THROUGH SLABS TO BE NOT LESS THAN THE FOLLOWING:

GUIDELINES FOR SLEEVES

– SLEEVES IN FLAT SLABS AND FLAT PLATES NOT TO BE LOCATED NEXT TO COLUMNS UNLESS APPROVED BY RJC IN WRITING.
– CLEAR DIMENSION FOR SLEEVES TO COLUMNS TO BE 1200 MINIMUM UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS.

GUIDELINES FOR INSLAB DUCTS

– MAXIMUM SIZE IN 165 SLAB = 38 mm OUTSIDE DIMENSION
– MAXIMUM SIZE IN 180 SLAB = 50 mm OUTSIDE DIMENSION
– MINIMUM CLEAR SPACING = 600 BETWEEN DUCTS.
– MINIMUM CLEAR SPACING TO COLUMNS AND WALLS = 900 mm UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS.



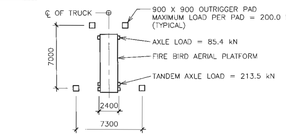
TYPICAL DETAIL AT IN–SLAB DUCTS
(NON–POST–TENSIONED SLABS)

DESIGN LOADS

1. SPECIFIED UNIFORM LOADS kN/m²

		LIVE LOAD	SUPERIMPOSED DEAD LOAD (S.D.L.)
A.	ROOF – BASED ON A GROUND SNOW LOAD OF – PLUS A RAIN LOAD OF	1.0 0.1	1.0
B.	ROOF TERRACES	2.0	2.2
C.	MECHANICAL ROOM	4.8	0.3
D.	RESIDENTIAL FLOORS	1.9	0.7
E.	OFFICE FLOORS	2.4	1.0
F.	LANDSCAPED 3rd. LEVEL	4.8	14.6
G.	COMMERCIAL 2nd. LEVEL	4.8	0.3
H.	MAIN FLOOR – INTERIOR	4.8	1.3
J.	MAIN FLOOR – EXTERIOR	12.0	6.3
K.	MAIN FLOOR – RETAIL	4.8	1.3
L.	PARKING LEVELS	2.4	0.3

NOTE: AREAS ACCESSIBLE TO FIRE TRUCKS ARE INDICATED ON THE PLANS. THESE AREAS HAVE BEEN DESIGNED FOR THE LOADING SHOWN BELOW:



OUTRIGGER PAD LAYOUT

CONTRACTORS CONSTRUCTION LOADS MUST NOT EXCEED THE ABOVE DESIGN LOADS. DESIGN LOADS MAY ONLY BE APPLIED AFTER CONCRETE REACHES ITS DESIGN STRENGTH.

SUPERIMPOSED DEAD LOADS (S.D.L.) ARE NON–STRUCTURE DEAD LOADS DUE TO ARCHITECTURAL TOPPINGS, FINISHES, PARTITIONS, ROOFING MATERIALS, PAVERS, SOIL, ETC.

STRUCTURAL DEAD LOADS (D.L.) ARE DUE TO THE WEIGHT OF THE STRUCTURE ITSELF. THEY VARY WITH THE STRUCTURAL SYSTEM AND INCLUDE CONCRETE TOPPINGS ON STEEL DECK.

2. UNLESS NOTED OTHERWISE, SPECIFIED CONCENTRATED LOADS ARE:

A. ROOFS ---------- 1.3 kN
B. TYPICAL FLOORS ---------- 9.0 kN
C. FLOORS – PARKING ---------- 11.0 kN
D. LOADING DOCKS AND SUSPENDED ROADWAYS WITH TRUCK ACCESS (TANDEM AXLE LOADS) ---------- 250 kN

3. WIND UPLIFT LOADS ON STEEL OR WOOD ROOFS SHALL BE 1 kN/m² NET FACTORED UNLESS NOTED OTHERWISE.

4. SEISMIC AND WIND DESIGN:

THE LATERAL SYSTEM FOR THIS PROJECT CONSISTS OF SHEAR WALLS AND IS DESIGNED FOR:
Za = 0, Zv = 1
v = 0.05
I = 1.0
F = 1.0
R = 2.0

AND THE FOLLOWING WIND LOADS: q30 = 0.46 kN/m², q10 = 0.40 kN/m²

STRUCTURAL MOVEMENTS/TOLERANCES

THIS STRUCTURE WILL UNDERGO NORMAL TYPES OF MOVEMENT AND DEFLECTION, AND THE FOLLOWING ARE ESTIMATES FOR THIS STRUCTURE. NON–STRUCTURAL COMPONENTS MUST BE DETAILED TO ACCOMMODATE THIS. DESIGN, DETAILING, AND FIELD REVIEW OF THESE NON–STRUCTURAL ELEMENTS IS BY OTHERS, AND NOT READ JONES CHRISTOFFERSEN LTD.

1. DIFFERENTIAL VERTICAL MOVEMENTS BETWEEN ADJACENT COLUMNS AND BETWEEN ADJACENT COLUMNS AND WALLS = APPROXIMATELY 20 mm.

2. VERTICAL DEFLECTION OF COLUMNS AND WALLS DUE TO SHRINKAGE AND CREEP = APPROXIMATELY 3.5 mm PER 3600 mm OF HEIGHT.

3. VERTICAL DEFLECTIONS OF EDGE BEAMS AND EDGES OF SLABS = APPROXIMATELY 25 mm.
DIFFERENTIAL DEFLECTIONS OF EDGE BEAMS AND EDGES OF SLABS = ± 16 mm.

4. VERTICAL DEFLECTIONS AT INTERIOR OF FLOORS = APPROXIMATELY 25 mm.
DIFFERENTIAL DEFLECTIONS AT INTERIOR OF FLOORS = ± 16 mm.

5. HORIZONTAL DRIFT DURING WIND AND EARTHQUAKE BETWEEN FLOORS:

A. ± 13 mm DRIFT WITHOUT DAMAGE TO NON–STRUCTURAL COMPONENTS.
B. ± 50 mm DRIFT WITHOUT COLLAPSE OF NON–STRUCTURAL COMPONENTS. .

6. MOVEMENT AT EXPANSION JOINTS:

A. ± 50 mm PERPENDICULAR
B. ± 50 mm PARALLEL
C. ± 25 mm VERTICAL

7. HORIZONTAL SHRINKAGE MOVEMENTS OF POST–TENSIONED SLABS = APPROXIMATELY 10 mm PER 30000 mm OF LENGTH.

ALL STRUCTURES ARE ALSO SUBJECT TO CONSTRUCTION TOLERANCES. THIS SHOULD BE ALLOWED FOR IN DETAILING NON–STRUCTURAL COMPONENTS.

FOUNDATION NOTES

1. FOOTINGS HAVE BEEN DESIGNED FOR THE FOLLOWING ALLOWABLE (WORKING STRESS) BEARING PRESSURES IN ACCORDANCE WITH THE SOILS REPORT.

PREPARED BY: THURBER ENGINEERING LTD.
DATED: JUNE 14, 2004

A. STRIP FOOTINGS: 1000kPa
B. SPREAD FOOTINGS: 1000kPa

2. BEARING SURFACES MUST BE APPROVED BY THE SOILS ENGINEER IMMEDIATELY BEFORE FOOTING CONCRETE IS PLACED. RJC IS NOT RESPONSIBLE FOR CONFIRMING BEARING CAPACITIES OF SOILS.

3. REFER TO SOILS REPORT FOR OTHER SPECIFIC DESIGN REQUIREMENTS FOR FOOTINGS, SOIL SLOPES, FROST PROTECTION, MINIMUM COVER, ETC.

4. UNLESS OTHERWISE SHOWN, CENTER FOOTINGS UNDER COLUMNS AND WALLS.

5. DOWELS SHALL BE PLACED BEFORE CONCRETE IS PLACED. TEMPLATES SHALL BE USED TO ENSURE CORRECT PLACEMENT OF DOWELS.

6. PROVIDE 50 mm GROUND SEAL UNDER FOOTINGS AS REQUIRED BY SOIL CONDITIONS.

7. FOR GROUND ELEVATIONS AND DRAINAGE SLOPES, SEE ARCHITECT'S DRAWINGS.

8. VARY FOOTING ELEVATIONS WHERE REQUIRED IN ACCORDANCE WITH DETAIL FOR "TYPICAL STEPPED FOOTING", SHOWN ON STRUCTURAL DRAWINGS.

9. FOOTINGS MAY HAVE TO BE LOWERED TO ACCOMMODATE MECHANICAL OR ELECTRICAL SERVICES. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ELEVATIONS OF SAME. FOOTINGS ARE NOT TO BE UNDERMINED BY EXCAVATIONS FOR SERVICES, PITS, ETC.

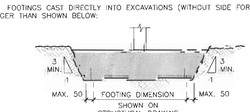
10. FOOTING ELEVATIONS, IF SHOWN, ARE FOR BIDDING PURPOSES ONLY, ARE NOT FINAL, AND MAY VARY ACCORDING TO SITE CONDITIONS OR AS REQUIRED BY SERVICES. ALL FOOTINGS MUST BE TAKEN TO A BEARING LAYER APPROVED BY THE SOILS ENGINEER.

11. BEARING SURFACES MUST BE PROTECTED FROM FREEZING BEFORE AND AFTER FOOTINGS ARE POURED.

12. SUB–BASE DESIGN OF SOIL UNDER THE SLAB ON GRADE SHALL BE IN ACCORDANCE WITH THE SOIL REPORT.

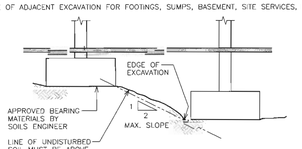
13. CONCRETE PLACED UNDER WATER SHALL CONFORM TO CAN/CSA–A23.1.

14. FOOTINGS CAST DIRECTLY INTO EXCAVATIONS (WITHOUT SIDE FORMS) SHALL NOT BE LARGER THAN SHOWN BELOW:



TYPICAL FOOTING ADJACENT TO EXCAVATION

EDGE OF ADJACENT EXCAVATION FOR FOOTINGS, SUMPS, BASEMENT, SITE SERVICES, ETC.



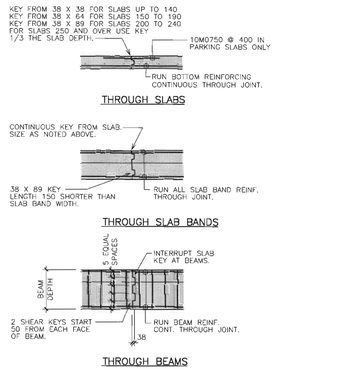
LIST OF STRUCTURAL DRAWINGS

S0.1 GENERAL NOTES & TYPICAL DETAILS
S0.2 GENERAL NOTES & TYPICAL DETAILS
S0.3 GENERAL NOTES & TYPICAL DETAILS

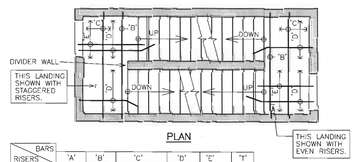
S1.1 PARKING LEVEL P4 / FOUNDATION PLAN
S1.2 PARKING LEVEL P3 PLAN
S1.3 PARKING LEVEL P2 PLAN
S1.4 PARKING LEVEL P1 PLAN
S1.5 MAIN FLOOR FRAMING PLAN
S1.6 SECOND FLOOR FRAMING PLAN
S1.7 THIRD FLOOR FRAMING PLAN
S1.8 4TH TO 29TH FLOOR FRAMING PLAN
S1.9 30TH FLOOR FRAMING PLAN
S1.10 31ST FLOOR FRAMING PLAN
S1.11 32ND FLOOR FRAMING PLAN
S1.12 33RD FLOOR FRAMING PLAN
S1.13 34TH FLOOR FRAMING PLAN
S1.14 MECHANICAL FLOOR FRAMING P

CONSTRUCTION JOINTS THROUGH SLABS, SLAB BANDS, AND BEAMS

LOCATIONS TO BE APPROVED BY RJC.



CAST INSITU SCISSOR STAIRS

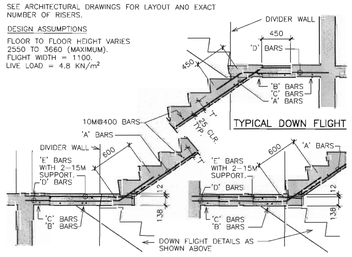


PLAN

BARS / RISERS	'A'	'B' 'E'	'C'	'D'	'F'	'F'	'G'
UP TO 14	7-15M	3-20M	10M @ 300	5-10M	6-15M	150	
15 TO 16	7-15M	3-20M	10M @ 300	5-10M	7-15M	175	
17 TO 19	6-20M	4-20M	10M @ 300	5-10M	8-15M	200	

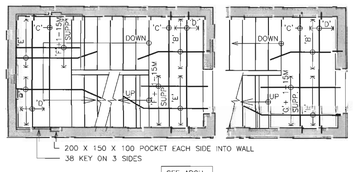
SEE ARCHITECTURAL DRAWINGS FOR LAYOUT AND EXACT NUMBER OF RISERS.

DESIGN ASSUMPTIONS
FLOOR TO FLOOR HEIGHT VARIES 2550 TO 3660 (MAXIMUM).
FLIGHT WIDTH = 1100.
LIVE LOAD = 4.8 KN/m²



UP FLIGHT STAGGERED RISERS UP FLIGHT EVEN RISERS

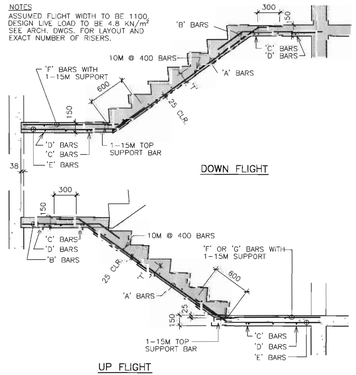
CAST INSITU STAIRS – HALF FLIGHT AND LANDING



TYPICAL PLAN (EVEN RISERS) SEE ARCH. DWGS. FOR STAIR DIMS. ETC. PART PLAN (STAGGERED RISERS)

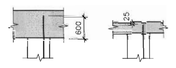
RISERS	'A'	'B' 'E'	'C'	'D'	'F'	'F'	'G'
7 TO 8	4-15M	5-10M	2-20M	10M @ 300	125	3-15M	4-15M
9 TO 11	5-15M	5-10M	3-20M	10M @ 300	150	4-15M	5-15M
12 TO 13	6-15M	5-10M	3-20M	10M @ 300	150	4-15M	6-15M

NOTES
ASSUMED FLIGHT WIDTH TO BE 1100.
DESIGN LIVE LOAD TO BE 4.8 KN/m².
SEE ARCH. DWGS. FOR LAYOUT AND EXACT NUMBER OF RISERS.



COLUMN NOTES – U.N.O.

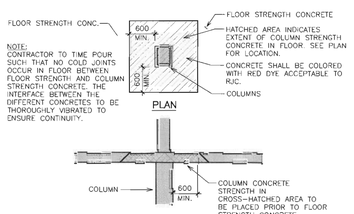
1. CONCRETE STRENGTH IN COLUMNS IS INDICATED IN COLUMN SCHEDULE.
2. TIE COLUMN CAGES TO FORMS AND SQUARE BEFORE PLACING CONCRETE.
3. CONDUITS, BOXES OR OTHER INSERTS MAY NOT BE PLACED IN COLUMNS UNLESS OTHERWISE APPROVED BY RJC.
4. UNLESS OTHERWISE NOTED ON COLUMN SCHEDULE, ALL COLUMN SPLICES SHALL BE AS STANDARD DETAILS SHOWN ON THE STRUCTURAL DRAWINGS.
5. HOOKS ON TIES SHALL BE BENT AT LEAST 135°. MULTIPLE TIES ARRANGED AS ON STANDARD DETAILS OR COLUMN SCHEDULE.
6. UNLESS OTHERWISE NOTED, PARKADE COLUMNS SHALL BE CHAMFERED (20 X 20).
7. UNLESS OTHERWISE NOTED, ALL COLUMN SPLICES SHALL BE COMPRESSION SPLICES.
8. WHERE COLUMNS DO NOT EXTEND OVER, EXTEND VERTICAL REINFORCING 600 INTO UNDERSIDE OF BEAMS OR TO WITHIN 25 mm OF TOP OF SLABS. DO NOT BEND U.N.O.



9. UNLESS NOTED OTHERWISE, COLUMNS SHOULD BE CENTRED ON COLUMNS BELOW.
10. UNLESS NOTED OTHERWISE, COLUMNS SHALL BE CENTRED ON GRID LINES.

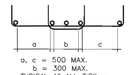
TRANSMISSION OF HIGH STRENGTH COLUMNS THROUGH FLOOR SYSTEMS

(USE WHEN COLUMN STRENGTHS DO NOT SATISFY CLAUSE 10.12.3 – NOTE: FOR CORNER COLUMNS, EFFECTIVE STRENGTH IS 1.0 x SLAB STRENGTH)



COLUMN TIE ARRANGEMENTS – U.N.O.

TYPE	4 BAR COL.	6 BAR COL.	8 BAR COL.	10 BAR COL.	12 BAR COL.
TYPE 1					
TYPE 2					
TYPE 3					
TYPE 4					



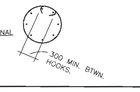
a, c = 500 MAX.
b = 300 MAX.
TYPICAL AT ALL TIES – ANY SIDE OF COLUMN.

NOTE:
MAXIMUM CLEAR DISTANCE BETWEEN VERTICAL BARS ENCLOSED BY THE CORNER OF A TIE, AND WITHOUT AN INTERMEDIATE BAR, IS 500.

MAXIMUM ONE BAR MAY BE PLACED BETWEEN TIED BARS MAXIMUM CLEAR DISTANCE BETWEEN TIED VERTICAL BARS FOR THIS CASE IS 300.

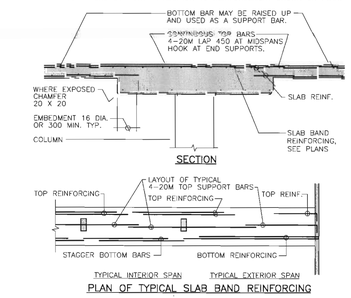
ALL TIES TO HAVE 135° HOOKS.

CLOSED TIES MAY ALWAYS BE SUBSTITUTED FOR CROSS-TIES.



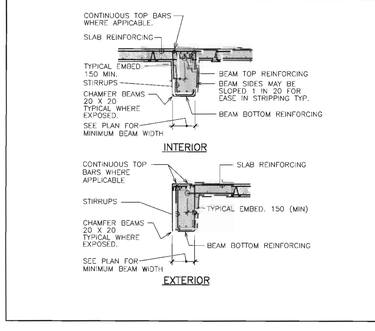
TYPICAL SLAB BAND – U.N.O.

NOTE: ALL SLAB BANDS TO HAVE 4-20M TOP CONT. LAP 450 AT MIDSPAN AND HOOK 90° AT FAR FACE OF END SUPPORT IN ADDITION TO REINFORCEMENT SHOWN ON PLAN.



PLAN OF TYPICAL SLAB BAND REINFORCING

TYPICAL BEAM – U.N.O.



SLAB TEMPERATURE REINFORCING

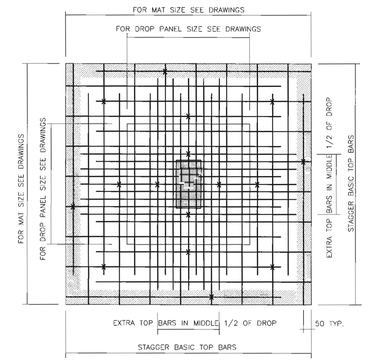
MINIMUM BOTTOM UNLESS NOTED OTHERWISE.

SLAB THICKNESS (mm)	TEMPERATURE REINFORCING
125	10M @ 400
140	10M @ 350
150	10M @ 325
165	10M @ 300
180	10M @ 275
190	15M @ 500
200	15M @ 475
215	15M @ 450
225	15M @ 425
250	15M @ 400
275	15M @ 350
300	15M @ 325

– FOR OTHER THICKNESSES REINFORCEMENT TO BE PROPORTIONAL TO ABOVE.
– BASED ON CAN/CSA-A23.3: 0.002 x AREA.
– 15M AT 500 MAY BE SUBSTITUTED FOR 10M @ 275

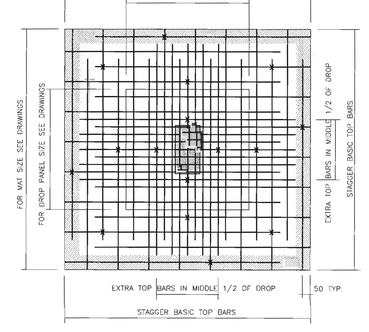
TYPICAL MAT LAYOUT WITH DROP PANELS

DO NOT STAGGER EXTRA TOP BARS, CENTER OVER COLUMNS.
'X' INDICATES POSITION AND MINIMUM NUMBER OF HIGH CHAIRS TO BE PLACED PER MAT.

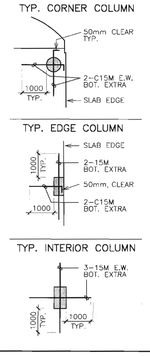


TYPICAL MAT LAYOUT WITH DROP PANELS

DO NOT STAGGER EXTRA TOP BARS, CENTER OVER COLUMNS.
'X' INDICATES POSITION AND MINIMUM NUMBER OF HIGH CHAIRS TO BE PLACED PER MAT.



TYPICAL INTEGRITY REINFORCING DETAILS



WALLS

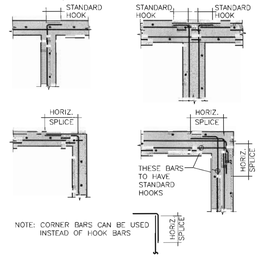
1. UNLESS OTHERWISE NOTED, WALLS SHALL BE REINFORCED AS FOLLOWS:

150 mm	10M@450 VERT.	10M@330 HORIZ.
200 mm	10M@330 VERT.	10M@250 HORIZ. OR 15M@500
250 mm	10M@250 VERT. OR 15M@500	10M@350 HORIZ. E.F. STAG.
300 mm	10M@450 VERT. E.F. STAG.	10M@330 HORIZ. E.F. STAG.
350 mm	10M@350 VERT. E.F. STAG.	10M@280 HORIZ. E.F. STAG.

FOR OTHER THICKNESSES, REINFORCEMENT TO BE PROPORTIONAL TO ABOVE.

15M @ 500 MAY BE SUBSTITUTED FOR 10M @ 330 ONLY WITH THE APPROVAL OF RJC. FOR WALLS WITH A SINGLE LAYER OF STEEL, THE WALL REINFORCING SHALL BE PLACED IN THE CENTRE OF THE WALL U.N.O.

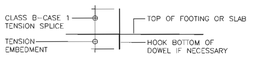
2. ALL WALL REINFORCING SHALL BE CONTINUOUS, WITH HOOKS OR CORNER BARS USED AT ALL WALL JUNCTIONS. EXTEND HOOKS TO FAR FACE OF WALL. CORNER BARS TO BE LOCATED ON OUTSIDE FACE OR CENTRE OF WALL.
3. HORIZONTAL AND VERTICAL SPLICES SHALL BE CLASS B-CASE 1 TENSION SPLICES. U.N.O. HORIZONTAL BARS NEED NOT BE CONSIDERED TOP BARS.



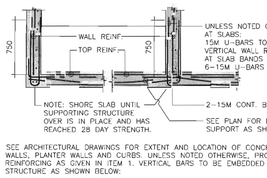
DETAILS OF HORIZONTAL REINFORCEMENT AT CORNERS

(SEE ALSO ZONE REINFORCING DETAILS)

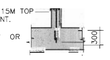
4. ENDS OF ALL WALLS SHALL HAVE 2-15M VERTICAL LAPPED 625 UNLESS OTHERWISE NOTED ON DRAWINGS.
5. ADD 2-15M PARALLEL TO ALL EDGES AND EXTENDING 625 BEYOND CORNERS AT OPENINGS IN WALLS.
6. UNLESS NOTED OTHERWISE, PROVIDE DOWELS AT BOTTOM OF WALLS (I.E. AT FOOTINGS OR WHEREVER WALL BEGINS) AS SHOWN BELOW. DOWELS TO MATCH VERTICAL STEEL.



7. UNLESS NOTED OTHERWISE, PROVIDE U-BARS AS SHOWN WHERE FLOORS ARE SUPPORTED FROM THE BOTTOM OF WALLS.



8. SEE ARCHITECTURAL DRAWINGS FOR EXTENT AND LOCATION OF CONCRETE UPSTAND WALLS, PLANTER WALLS AND CURBS. UNLESS NOTED OTHERWISE, PROVIDE REINFORCING AS GIVEN IN ITEM 1. VERTICAL BARS TO BE EMBEDDED IN MAIN STRUCTURE AS SHOWN BELOW:



9. UNLESS NOTED OTHERWISE, ALL RETAINING WALLS BELOW GRADE AND ALL EXTERIOR WALLS EXPOSED TO THE WEATHER ABOVE GRADE SHALL HAVE CONTROL JOINTS. SEE CONTROL JOINT DETAIL. CONSTRUCTION JOINT MAY REPLACE CONTROL JOINT WHERE REQUIRED. THE LOCATION OF CONTROL JOINTS IN EXPOSED CONCRETE WALLS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.

SLAB NOTES

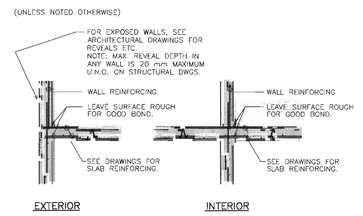
1. UNLESS OTHERWISE NOTED, THE MINIMUM BOTTOM REINFORCING IN BOTH DIRECTIONS IN SLABS SHALL BE AS SHOWN ON SLAB TEMPERATURE REINFORCING NOTES. THIS DOES NOT APPLY TO POST-TENSIONED SLABS IN THE DIRECTION OF POST-TENSIONING.
2. UNLESS OTHERWISE NOTED, EDGES OF ALL SLABS SHALL HAVE 2-15M BOTTOM CONTINUOUS LAPPED 625. AT RE-ENTRANT CORNER EXTEND 625 BEYOND THE CORNER.
3. ALL OPENINGS IN SLAB SHALL HAVE 2-15M BARS PARALLEL TO ALL EDGES EXTENDING 625 BEYOND CORNERS.
4. UNLESS OTHERWISE NOTED, SLAB REINFORCING SHALL NOT BE CUT AT PLUMBING OR OTHER OPENINGS. SPREAD REINFORCING AROUND OPENINGS.
5. SUPPORT SLAB BOTTOM REINFORCING ON SUFFICIENT SLAB BOLSTERS OR EQUIVALENT TO MAINTAIN CONCRETE PROTECTION AS SPECIFIED.
6. SUPPORT SLAB TOP REINFORCING ON HIGH CHAIRS AND/OR 15M SUPPORT BARS WHERE REQUIRED. ALL BARS AND CHAIRS MUST BE SECURELY TIED TOGETHER. 15M BARS USED AS SUPPORT BARS SHALL BE CONSIDERED AS ACCESSORIES.

   PROVIDE SUFFICIENT CHAIRS AND SUPPORT BARS TO MAINTAIN CONCRETE PROTECTION AS SPECIFIED, AND TO MAINTAIN REINFORCING STEEL SECURELY IN PLACE DURING CONCRETE PLACEMENT.

   TEMPERATURE BARS MAY BE DROPPED AND USED TO SUPPORT THE MAIN REBAR ON ONE WAY SLABS. FOR TWO WAY SLABS, DROPPED BARS USED TO SUPPORT THE MAIN TWO WAY REINFORCING STEEL SHALL BE IN ADDITION TO THE REINFORCING SHOWN ON PLAN.
7. CAMBERS: FOR SLABS, BEAMS, GIRDERS
   A. CIRCLED NUMBERS, E.G. (16) INDICATES POSITION AND MAGNITUDE OF POINTS WHERE SLABS SHALL BE CAMBERED.
   B. FOR SPANS OVER 4500 mm WHEN CAMBERS ARE NOT INDICATED ON DRAWINGS, SPANS SHALL BE CAMBERED 0.002 OF SPAN.
   C. U.N.O. – POST-TENSIONED SLABS AND BEAMS NEED NOT BE CAMBERED.
8. LOCATIONS AND DETAILS OF CONSTRUCTION JOINTS TO BE SUBMITTED TO RJC FOR REVIEW AND APPROVAL, PRIOR TO CONSTRUCTION.
9. UNLESS OTHERWISE NOTED, SLAB TEMPERATURE REINFORCING SHALL BE SPLICED USING A CLASS B TENSION SPLICE.

SLAB POUR JOINTS

(UNLESS NOTED OTHERWISE)



EMBEDMENT AND SPLICE LENGTHS

BASED ON CAN/CSA-A23.3-M94

WHERE EMBEDMENT OR SPLICES ARE DIMENSIONED ON THE DRAWINGS, SUCH DIMENSION SHALL APPLY.

WHERE THE DRAWINGS INDICATE COMPRESSION EMBEDMENT IT SHALL BE AS NOTED BELOW.

WHERE NO EMBEDMENT OR EMBEDMENT TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION EMBEDMENT, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION EMBEDMENT.

WHERE NO SPLICE OR SPLICE TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION SPLICE, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION SPLICE.

IN TABLES BELOW, EMBEDMENT LENGTHS ARE SHOWN WITHOUT BRACKETS, AND SPLICE LENGTHS ARE SHOWN IN BRACKETS.

ALL LENGTHS ARE FOR Fy = 400 MPa REBAR.

ALL TENSION SPLICE LENGTHS ARE CLASS "B".

COMPRESSION EMBEDMENT AND SPLICE LENGTHS

REBAR DESIGNATION	FUNCTION	CONCRETE STRENGTH 20MPa	25MPa	30MPa & GREATER
10M	EMBEDMENT	240	220	200
	(SPLICE)	(330)	(330)	(330)
15M	EMBEDMENT	340	310	280
	(SPLICE)	(470)	(470)	(470)
20M	EMBEDMENT	420	370	340
	(SPLICE)	(570)	(570)	(570)
25M	EMBEDMENT	540	480	440
	(SPLICE)	(740)	(740)	(740)
30M	EMBEDMENT	640	570	530
	(SPLICE)	(870)	(870)	(870)
35M	EMBEDMENT	770	690	630
	(SPLICE)	(1040)	(1040)	(1040)

TENSION EMBEDMENT AND SPLICE LENGTHS

CASE 1 CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS ARE TO BE AS PER THE FOLLOWING TABLE FOR:

– COLUMNS.
– BEAM AND GRIDER TOP AND BOTTOM BARS.
– SLAB BAND TOP BARS.
– TWO WAY SLAB TOP AND BOTTOM BARS.
– ONE WAY SLAB BOTTOM BARS.
– WALL HORIZONTAL AND VERTICAL DISTRIBUTED REINFORCING.
– SEE ALSO NOTES ON TOP BARS.
– MEMBERS WHICH DO NOT SATISFY THE ABOVE CONDITIONS SHALL HAVE TENSION EMBEDMENTS AND SPLICES AS PER CASE 2 TABLE BELOW.

REBAR DESIGNATION	FUNCTION	CONCRETE STRENGTH 20 MPa	25 MPa	30 MPa	35 MPa	40 MPa
10M	EMBEDMENT	320	300	300	300	300
	(SPLICE)	(420)	(390)	(390)	(390)	(390)
15M	EMBEDMENT	480	430	390	370	340
	(SPLICE)	(630)	(560)	(510)	(480)	(440)
20M	EMBEDMENT	640	580	530	490	460
	(SPLICE)	(840)	(750)	(680)	(630)	(590)
25M	EMBEDMENT	1010	900	820	760	710
	(SPLICE)	(1310)	(1170)	(1070)	(990)	(930)
30M	EMBEDMENT	1210	1080	990	910	850
	(SPLICE)	(1570)	(1400)	(1280)	(1190)	(1110)
35M	EMBEDMENT	1410	1200	1150	1070	1000
	(SPLICE)	(1830)	(1640)	(1500)	(1380)	(1300)

NOTE: "TOP BAR" VALUES ARE 1.3 TIMES THE ABOVE LENGTHS.
"TOP BAR" APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300 mm OR MORE OF CONCRETE BELOW THE BAR.

CASE 2 CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS ARE TO BE AS PER THE FOLLOWING TABLE FOR MEMBERS NOT SATISFYING CASE 1 CONDITIONS AS SET OUT ABOVE. FOR EXAMPLE:

– ONE WAY SLAB TOP BARS (SEE TOP BAR NOTE).
– SLAB BAND BOTTOM BARS.
– BARS (EXCLUDING THE SPLICE) SPACED CLOSER TOGETHER THAN 2 BAR DIAMETERS.
– STIRRUPS IN BEAMS AND GIRDERS.

REBAR DESIGNATION	FUNCTION	CONCRETE STRENGTH 20 MPa	25 MPa	30 MPa	35 MPa	40 MPa
10M	EMBEDMENT	430	380	350	330	300
	(SPLICE)	(560)	(500)	(460)	(420)	(400)
15M	EMBEDMENT	640	580	530	490	460
	(SPLICE)	(840)	(750)	(680)	(630)	(590)
20M	EMBEDMENT	860	770	700	650	610
	(SPLICE)	(1120)	(1000)	(910)	(840)	(790)
25M	EMBEDMENT	1340	1200	1100	1010	950
	(SPLICE)	(1740)	(1560)	(1420)	(1320)	(1230)
30M	EMBEDMENT	1610	1440	1320	1220	1140
	(SPLICE)	(2090)	(1870)	(1720)	(1580)	(1480)
35M	EMBEDMENT	1880	1680	1530	1420	1330
	(SPLICE)	(2440)	(2180)	(1990)	(1850)	(1730)

NOTE: "TOP BAR" VALUES ARE 1.3 TIMES THE ABOVE LENGTHS.
"TOP BAR" APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300 mm OR MORE OF CONCRETE BELOW THE BAR.

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1 / 2 1. Detail, Section or Elevation Number
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Revision No.	Date:	Description
1	SEP. 07/05	ISSUED FOR CONSTRUCTION INCLUDING – ADDENDUMS UPTO 09/07/05
2	MAY 19/05	ISSUED FOR PARKADE CONSTRUCTION
3	APR. 29/05	ISSUED FOR REVIEW
4	APR. 15/05	ISSUED FOR CONSTRUCTION – EXCAVATION & SHORING
5	APR. 6/05	ISSUED FOR REBAR TENDER
6	APR. 1/05	ISSUED FOR 50% SIGN-OFF/CONC. TENDER UPDATE
7	MAR. 29/05	ISSUED FOR PARTIAL PERMIT
8	FEB. 17/05	ISSUED FOR 50% REVIEW
9	DEC. 22/04	ISSUED FOR TENDER

client

project title
VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

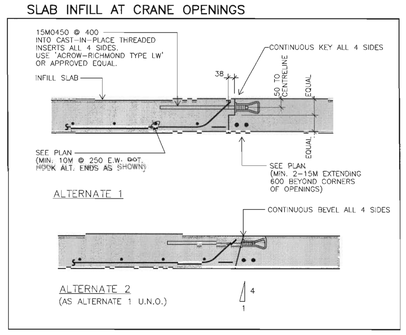
drawing title
GENERAL NOTES & TYPICAL DETAILS

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
date:	
activity date:	

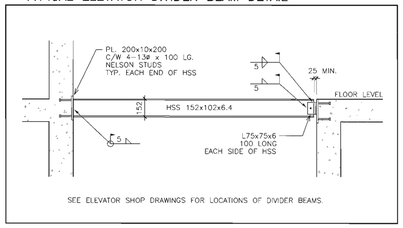
re-issue no: 4
sheet no: S0.2

SHEET SIZE: 30 x 42

SLAB INFILL AT CRANE OPENINGS

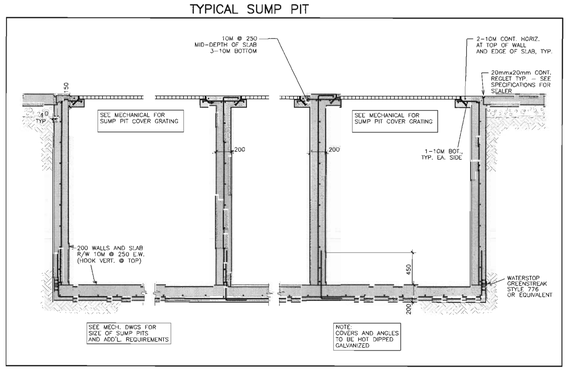


TYPICAL ELEVATOR DIVIDER BEAM DETAIL

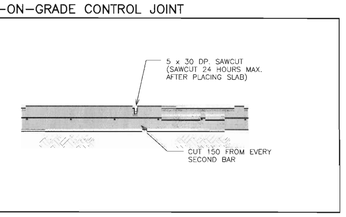


SEE ELEVATOR SHOP DRAWINGS FOR LOCATIONS OF DIVIDER BEAMS.

TYPICAL SUMP PIT



SLAB-ON-GRADE CONTROL JOINT



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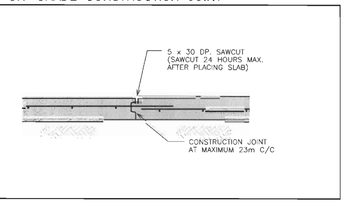
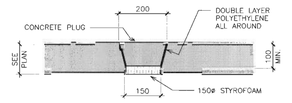
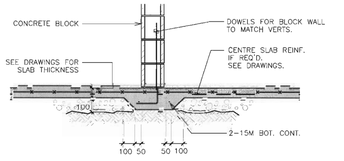


PRESSURE RELIEF PLUG DETAIL

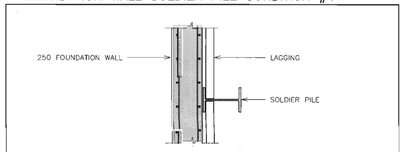


LOCATIONS OF PRESSURE RELIEF PLUGS SHOWN THUS ⊗ ON PLAN.

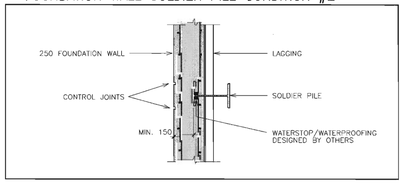


TYPICAL THICKENED SLAB UNDER BLOCK PARTITION WALLS U.N.O.

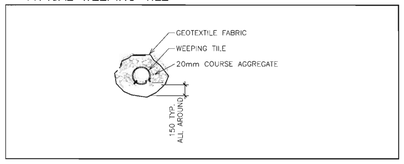
FOUNDATION WALL SOLDIER PILE CONDITION #1



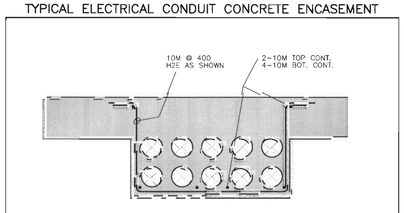
FOUNDATION WALL SOLDIER PILE CONDITION #2



TYPICAL WEEPING TILE



TYPICAL ELECTRICAL CONDUIT CONCRETE ENCASEMENT



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Revision No.	Date:	Description

2 SEP. 07/05 ISSUED FOR CONSTRUCTION INCLUDING – ADDENDUMS UPTO 09/07/05
1 MAY 19/05 ISSUED FOR PARKADE CONSTRUCTION

client

project title

VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

GENERAL NOTES & TYPICAL DETAILS

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
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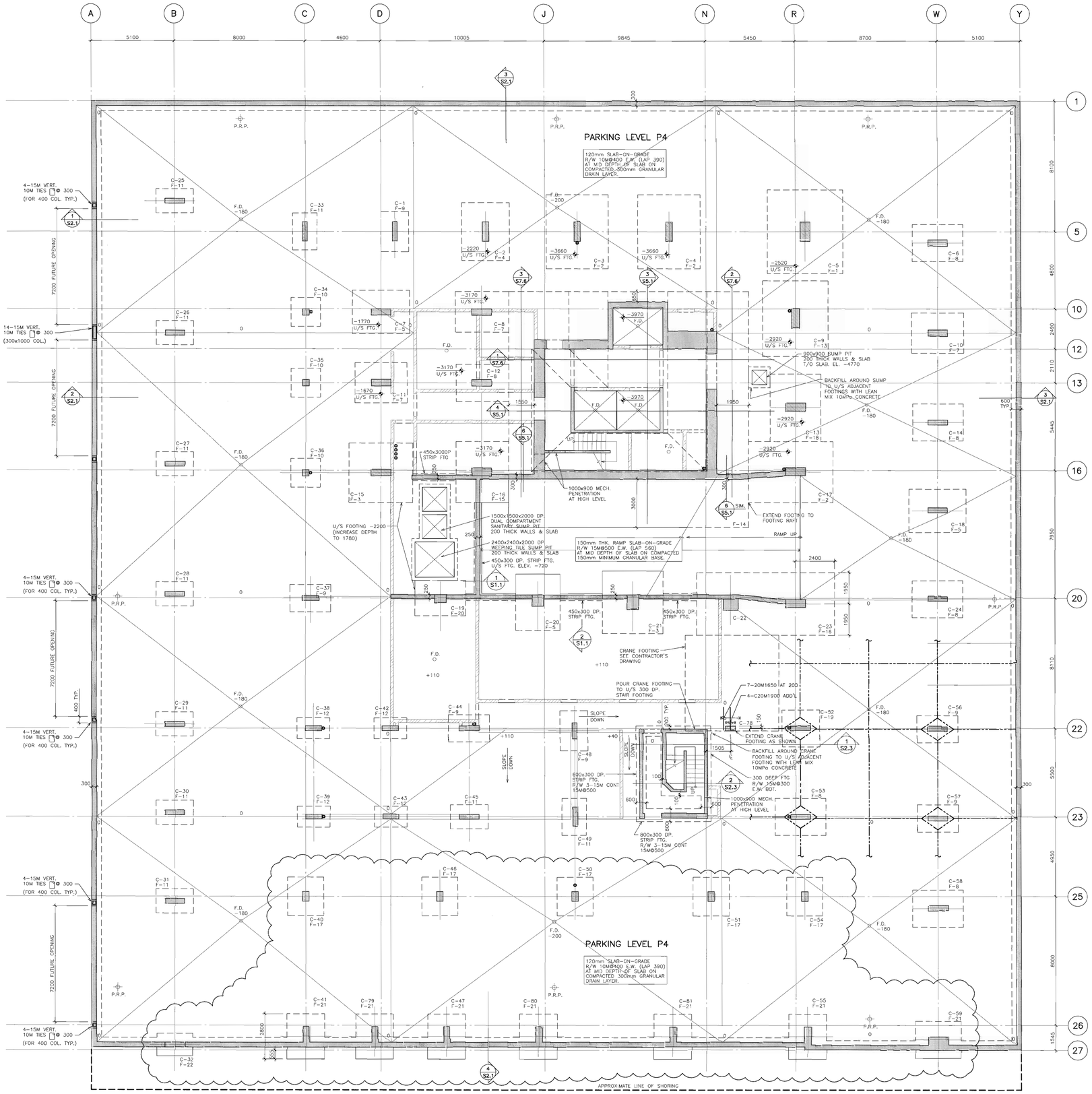
activity date:	

re-issue no: 2

sheet no: S0.3

SHEET SIZE: 30 x 42



PAD FOOTING SCHEDULE

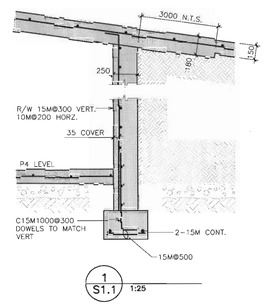
MARK	DIMENSIONS	REINFORCING
F-1	4600x5200x1800 DP.	21-35M 5050 B.L.L. 24-35M 4450 B.U.L.
F-2	3800x4600x1750 DP.	19-30M 4450 B.L.L. 24-30M 3650 B.U.L.
F-3	3700x3900x1780 DP.	17-30M 3750 B.L.L. 22-30M 3550 B.U.L.
F-4	2900x3600x1200 DP.	11-30M 3450 B.L.L. 15-30M 2750 B.U.L.
F-5	2700x3500x1200 DP.	14-30M 3350 B.L.L. 12-20M 2550 B.U.L.
F-6	2500x2700x1000 DP.	11-25M 2550 B.L.L. 12-25M 2350 B.U.L.
F-7	2500x3200x1100 DP.	11-25M 3050 B.L.L. 15-25M 2350 B.U.L.
F-8	2300x3100x1100 DP.	11-25M 2950 B.L.L. 14-25M 2150 B.U.L.
F-9	1700x2500x800 DP.	10-20M 2350 B.L.L. 14-20M 1550 B.U.L.
F-10	1800x1800x700 DP.	10-20M 1650 B.L.L. 10-20M 1650 B.U.L.
F-11	2300x1500x650 DP.	7-20M 2150 B.L.L. 10-20M 1350 B.U.L.
F-12	1300x2000x550 DP.	8-20M 1850 B.L.L. 8-20M 1150 B.U.L.
F-13	4000x4700x1700 DP.	22-30M 4550 B.L.L. 25-30M 3850 B.U.L.
F-14	14645x14125 x2750 MIN DP.	SEE DWG. S5.1 FOR REINFORCEMENT
F-15	3100x3800x1500 DP.	18-30M 2950 B.L.L. 18-30M 3650 B.U.L.
F-16	3900x8400x1750 DP.	24-30M 8250 B.L.L. 42-30M 3750 B.U.L. 10-30M 8250 T.U.L. 15M3750 @ 400 T.L.L.
F-17	2000x2200x1000 DP.	10-25M 2050 B.L.L. 10-25M 1850 B.U.L.
F-18	3100x4200x1700 DP.	21-30M 3050 B.L.L. 21-30M 2950 B.U.L.
F-19	2300x2300x1600 DP.	10-25M 2150 B.L.L. 10-25M 2150 B.U.L.
F-20	3100x2200x1780 DP.	14-25M 2950 B.L.L. 14-25M 2050 B.U.L.
F-21	2300x2800x1000 DP.	13-25M 2650 B.L.L. 13-25M 2150 B.U.L.
F-22	1400x2200x1000 DP.	7-20M 2050 B.L.L. 11-20M 1250 B.U.L.

NOTES

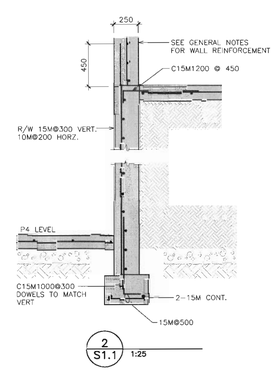
1. WATER PRESSURE RELIEF PLUGS SHOWN THUS – ⊕ P.R.P.
2. ALL TOP OF FTG. ELEVATIONS ARE LOCATED -420 FROM TOP OF P4 S.O.G. U.N.O. BY U/S OF FTG. ELEVATIONS.
3. U/S FTG. ELEVATIONS ARE REFERENCED FROM TOP OF P4 S.O.G. ALL U/S OF FTG. ELEVATIONS ARE APPROXIMATE AND MUST BE CONFIRMED AT TIME OF EXCAVATION BY THE CONTRACTOR BASED ON SOIL CONDITIONS.
4. SEE DRAWING S6.1 FOR COLUMN SCHEDULE
5. COLS. ARE TO BE 70MPa CONCRETE FOOTINGS UNDER THESE COLUMNS TO BE 40MPa

BAR PLACING ORDER

- T.U.L. (TOP UPPER LAYER)
- T.L.L. (TOP LOWER LAYER)
- B.U.L. (BOTTOM UPPER LAYER)
- B.L.L. (BOTTOM LOWER LAYER)



1 S1.1 1:25



2 S1.1 1:25

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1	APR. 15/05	ISSUED FOR CONSTRUCTION – EXCAVATION & SHORING
A	APR. 6/05	ISSUED FOR REBAR TENDER
A	APR. 1/05	ISSUED FOR 50% SIGN-OFF/CONC. TENDER UPDATE
A	MAR. 29/05	ISSUED FOR PARTIAL PERMIT
A	FEB. 17/05	ISSUED FOR 50% REVIEW
A	JAN. 18/05	ADDENDUM
A	DEC. 22/04	ISSUED FOR TENDER

client

project title

VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

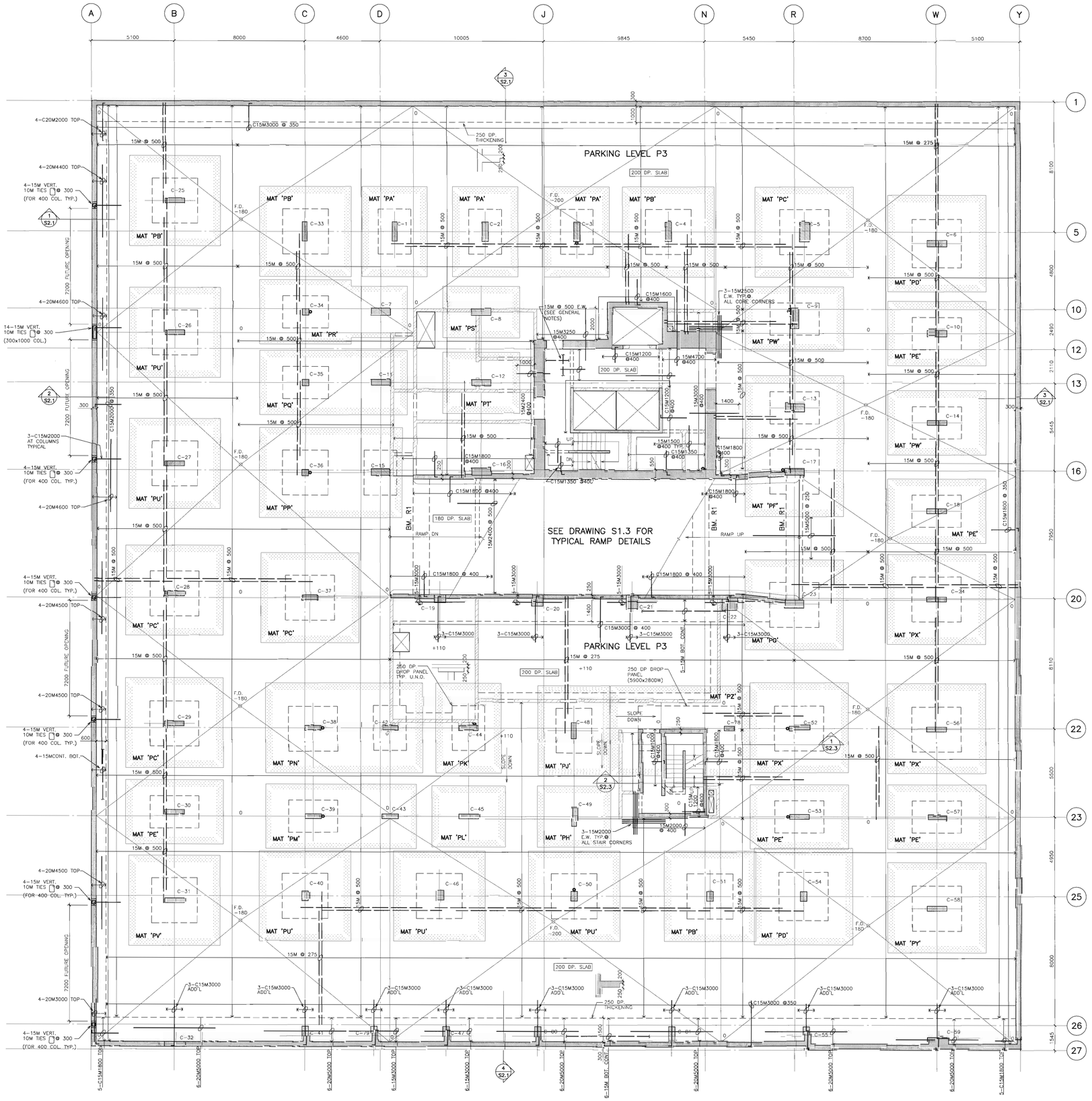
PARKING LEVEL P4/ FOUNDATION PLAN

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
date:	
activity date:	

re-issue no: 6

sheet no: S1.1

SHEET SIZE: 30 x 42



NOTES

1. SLAB SOFFIT TO MATCH SLOPE OF CONCRETE TOP SURFACE, TYP. (UNIFORM CONCRETE THICKNESS)
2. SEE DRAWING S4.1 FOR SLAB REINFORCING MAT DETAILS
3. SEE DRAWING S0.2 FOR TYPICAL "SLAB NOTES"
4. SEE S0.2 FOR INTEGRITY STEEL
5. MEMBRANE TO BE APPLIED TO SUSPENDED PARKING LEVELS.
6. SEE DRAWING S6.1 FOR COLUMN SCHEDULE
7. COLS. ARE TO BE 70MPa CONCRETE

BAR PLACING ORDER

- T.U.L. (TOP UPPER LAYER)
- T.L.L. (TOP LOWER LAYER)
- B.U.L. (BOTTOM UPPER LAYER)
- B.L.L. (BOTTOM LOWER LAYER)

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A	APR. 6/05	ISSUED FOR REBAR TENDER
A	APR. 1/05	ISSUED FOR SOIL SIGN-OFF/CONC. TENDER UPDATE
A	MAR. 29/05	ISSUED FOR PARTIAL PERMIT
A	FEB. 17/05	ISSUED FOR 50% REVIEW
A	DEC. 22/04	ISSUED FOR TENDER

client

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VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

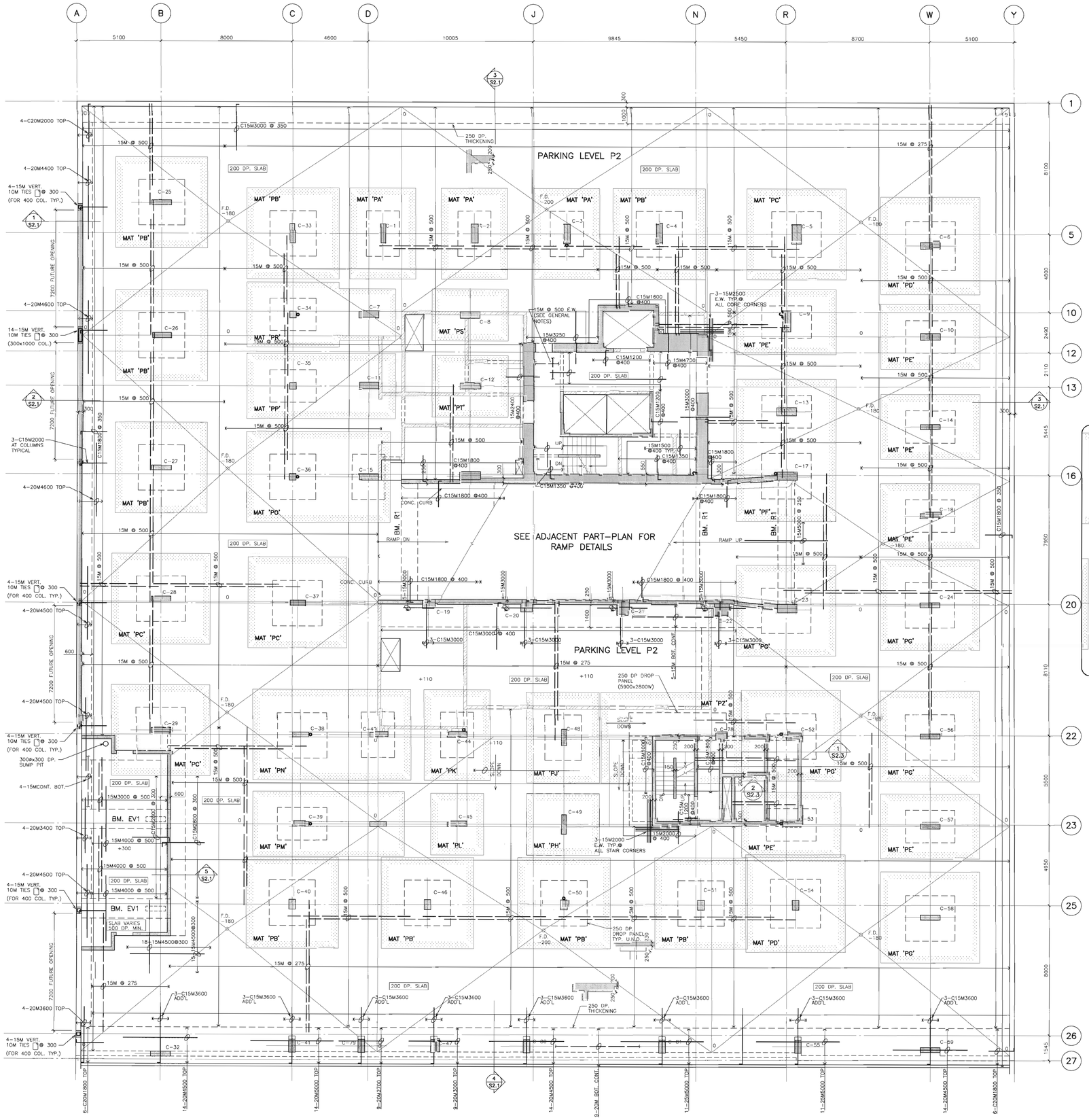
PARKING LEVEL P3 PLAN

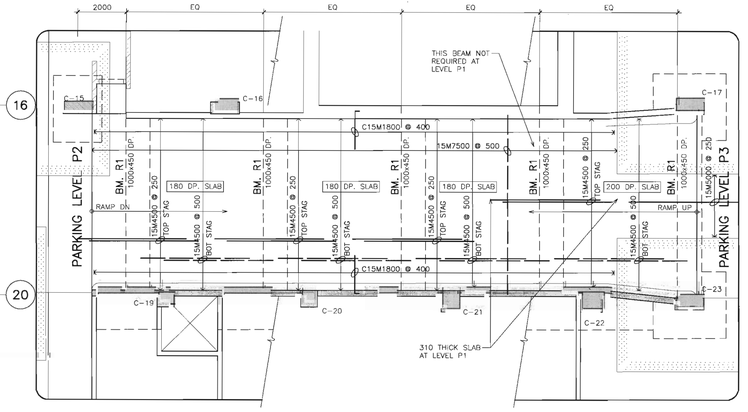
scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
date:	
activity date:	

re-issue no: 7

sheet no: S1.2

SHEET SIZE: 30 x 42





PART PLAN - VEHICLE RAMP (TYP.)

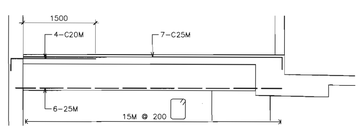
SCALE 1:100

NOTES

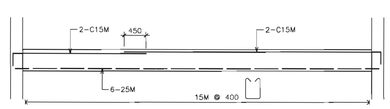
1. SLAB SOFFIT TO MATCH SLOPE OF CONCRETE TOP SURFACE, TYP. (UNIFORM CONCRETE THICKNESS)
2. SEE DRAWING S4.1 FOR SLAB REINFORCING MAT DETAILS
3. SEE DRAWING S0.2 FOR TYPICAL "SLAB NOTES"
4. SEE S0.2 FOR INTEGRITY STEEL
5. MEMBRANE TO BE APPLIED TO SUSPENDED PARKING LEVELS.
6. SEE DRAWING S6.1 FOR COLUMN SCHEDULE
7. COLS. ▨ ARE TO BE 70MPa CONCRETE
8. CORROSION INHIBITOR REQUIRED TO P1 TO P2 RAMP SEE DRAWING S1.4

BAR PLACING ORDER

- T.U.L. (TOP UPPER LAYER)
- T.L.L. (TOP LOWER LAYER)
- B.U.L. (BOTTOM UPPER LAYER)
- B.L.L. (BOTTOM LOWER LAYER)



BEAM BM. EV1
1200x750 DP.



BEAM BM. R1
1000x450 DP.

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A	FEB. 17/05	ISSUED FOR 50% REVIEW
A	DEC. 22/04	ISSUED FOR TENDER

client

project title

VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

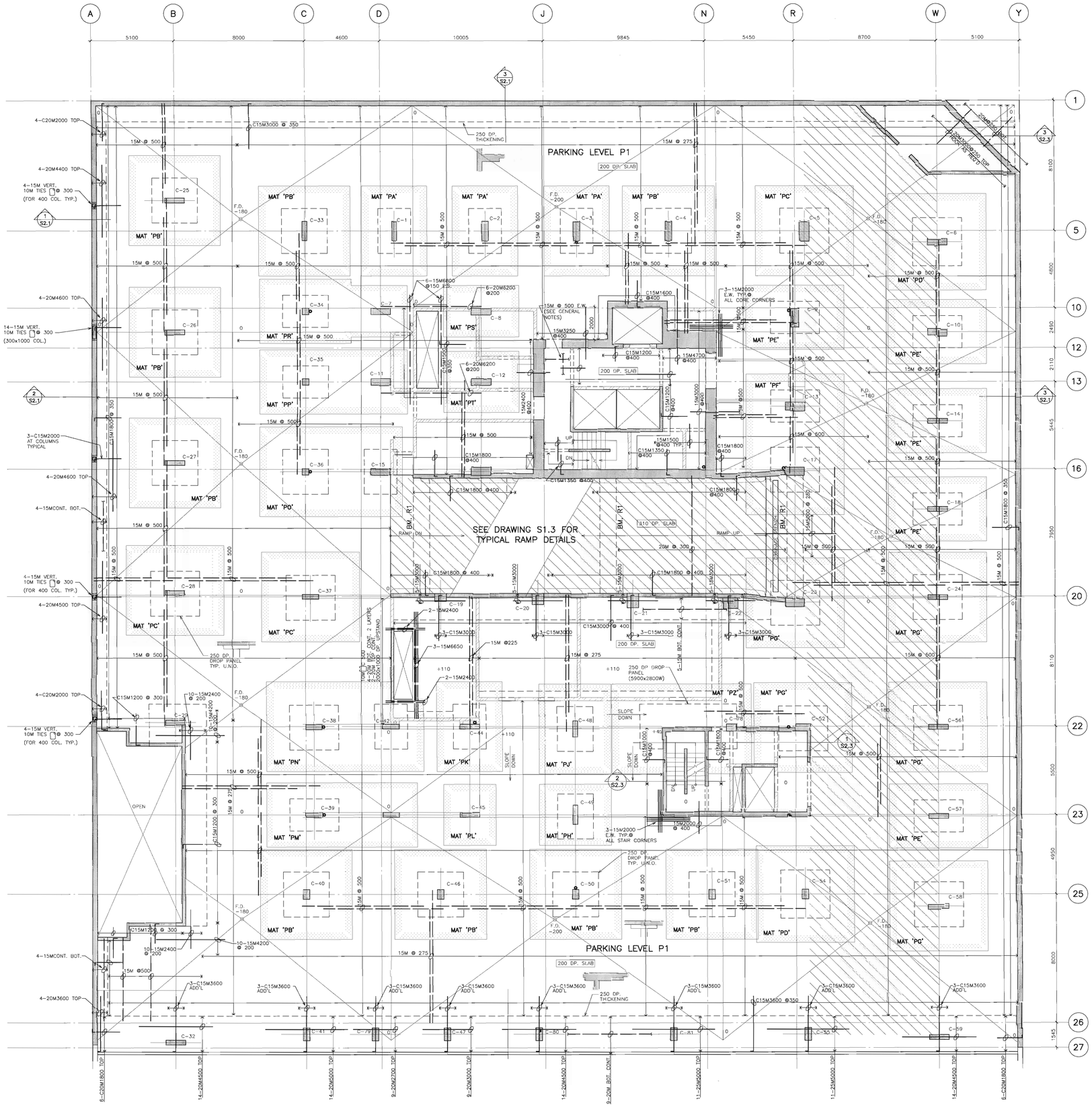
PARKING LEVEL P2 PLAN

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
date:	
activity date:	

re-issue no: 7

sheet no: S1.3

SHEET SIZE: 30 x 42



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2. SEE DRAWING S4.1 FOR SLAB REINFORCING MAT DETAILS
3. SEE DRAWING S0.2 FOR TYPICAL "SLAB NOTES"
4. SEE S0.2 FOR INTEGRITY STEEL
5. MEMBRANE TO BE APPLIED TO SUSPENDED PARKING LEVELS.
6. SEE DRAWING S6.1 FOR COLUMN SCHEDULE
7. SEE PLAN FOR EXTENT OF DAREX DCI CORROSION INHIBITOR TO P1 SLAB. ALSO PROVIDE INHIBITOR TO P1 TO P2 RAMP
8. COLS. ARE TO BE 70MPa CONCRETE

BAR PLACING ORDER

- T.U.L. (TOP UPPER LAYER)
- T.L.L. (TOP LOWER LAYER)
- B.U.L. (BOTTOM UPPER LAYER)
- B.L.L. (BOTTOM LOWER LAYER)

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2	DEC. 22/04	ISSUED FOR TENDER

client

project title

VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

PARKING LEVEL P1 PLAN

scale:	AS SHOWN
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re-issue no: 7

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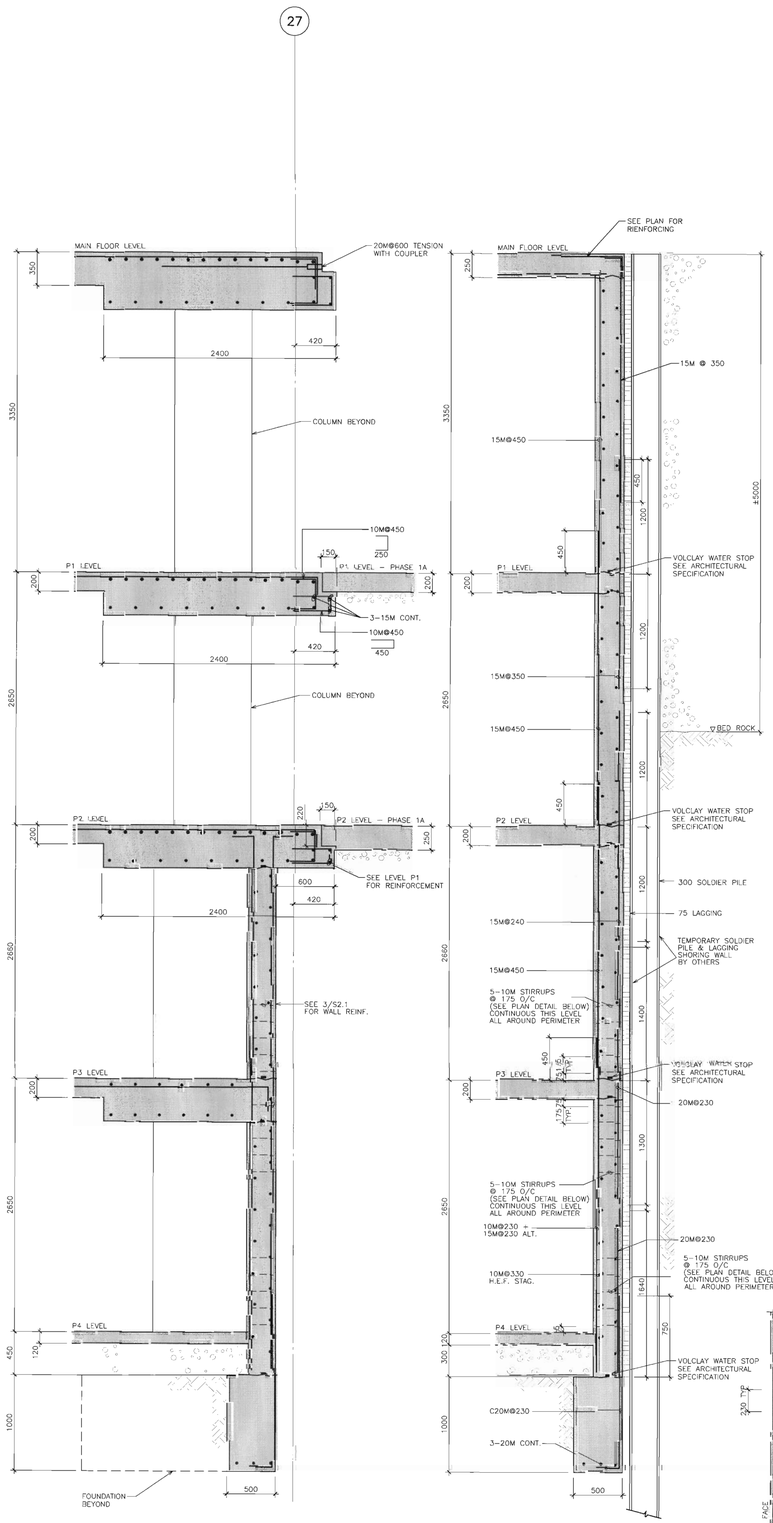
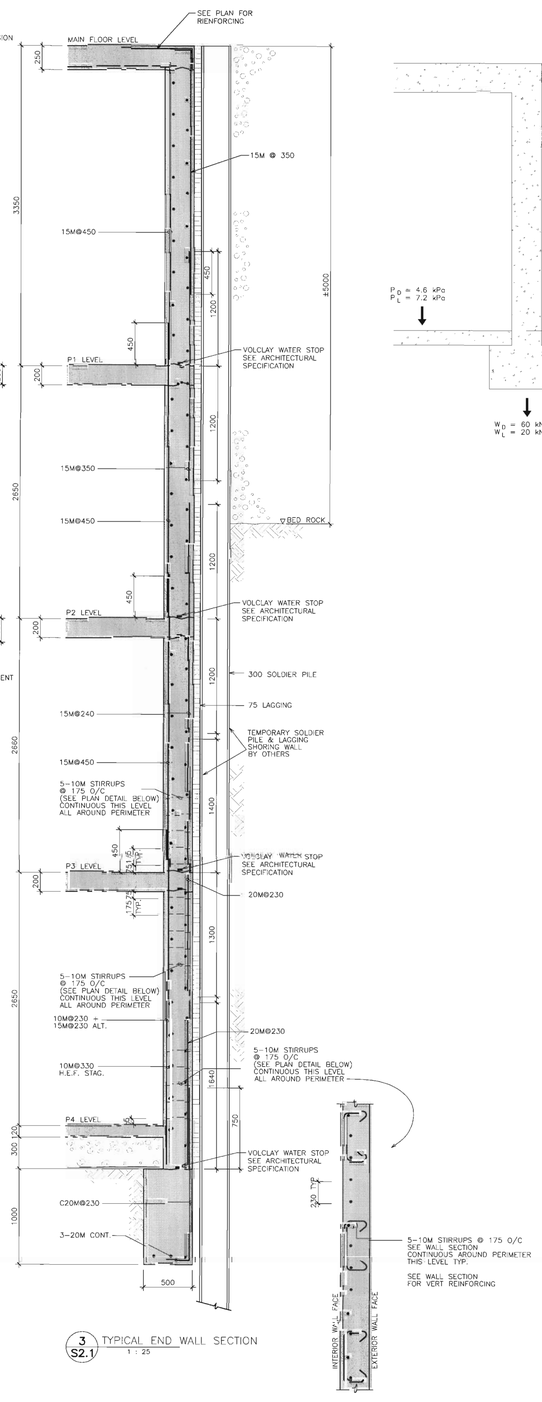
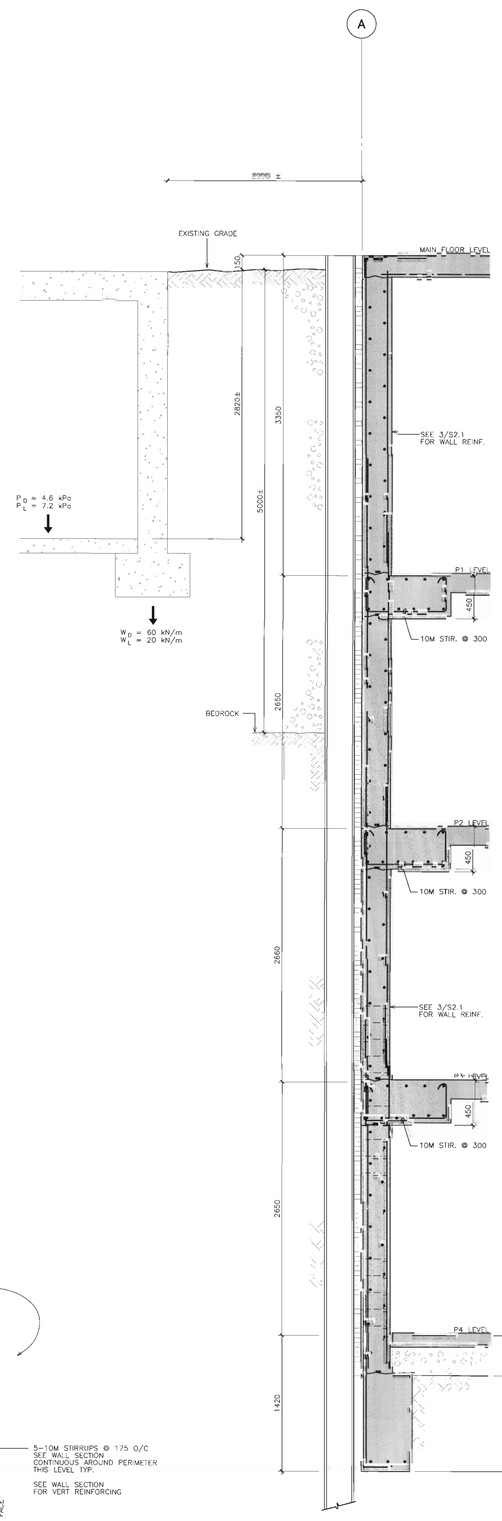
SHEET SIZE: 30 x 42



4 / S2.1 SEE SECTION 3 FOR REINFORCEMENT
1 : 25



3 / S2.1 TYPICAL END WALL SECTION
1 : 25



2 / S2.1 SEE SECTION 3 FOR REINFORCEMENT
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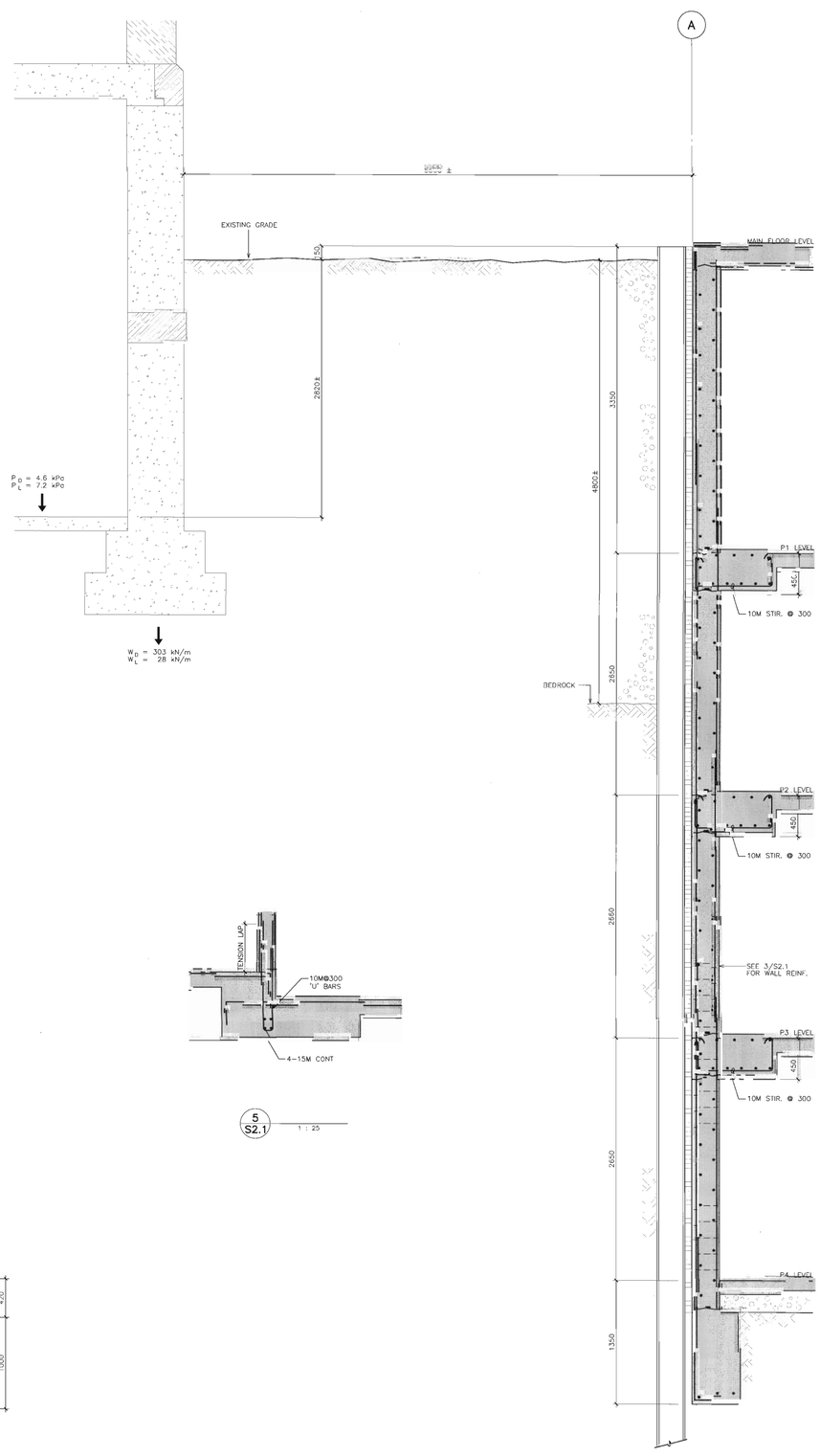
5 / S2.1
1 : 25



1 / S2.1
1 : 25

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1 / 2 — 1. Detail, Section or Elevation Number; 2. Sheet Number Where Detailed or Referenced

Revision No.	Date:	Description
7	SEP. 07/05	ISSUED FOR CONSTRUCTION INCLUDING – ADDENDUMS UPTO 06/07/05
6	JULY 25/05	ISSUED FOR TOWER CONSTRUCTION
5	JUNE 30/05	ISSUED FOR 100% REVIEW
4	JUNE 10/05	PROPOSED CHANGE NOTICE – PCN#001
3	MAY 19/05	ISSUED FOR PARKADE CONSTRUCTION
2	APR. 29/05	ISSUED FOR REVIEW
1	APR. 15/05	ISSUED FOR CONSTRUCTION – EXCAVATION & SHORING
6	APR. 6/05	ISSUED FOR REBAR TENDER
5	APR. 1/05	ISSUED FOR 50% SIGN-OFF/CONC. TENDER UPDATE
4	MAR. 29/05	ISSUED FOR PARTIAL PERMIT
3	FEB. 17/05	ISSUED FOR 50% REVIEW
2	DEC. 22/04	ISSUED FOR TENDER

client

project title

VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

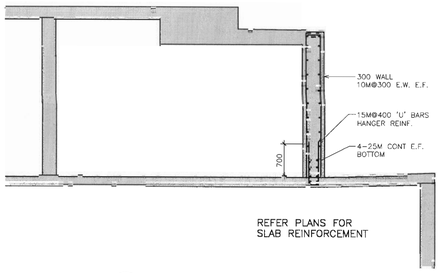
SECTIONS AND DETAILS

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
date:	
activity date:	

re-issue no: 7

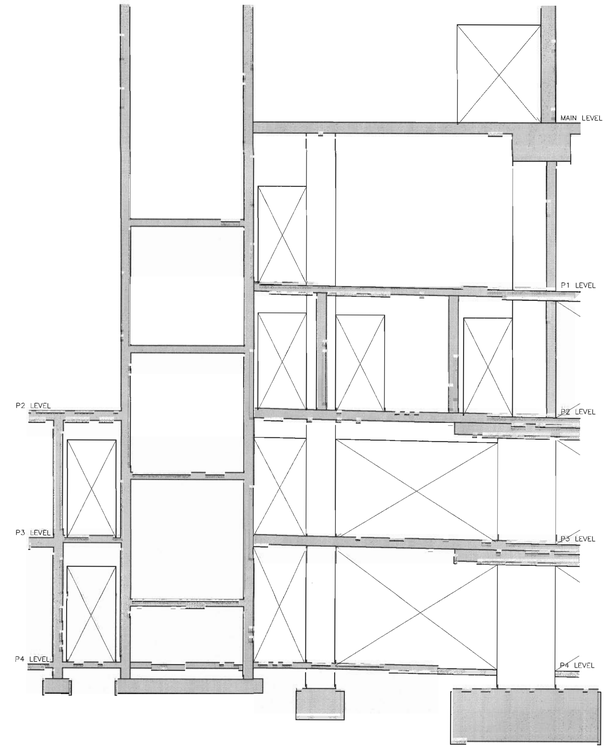
sheet no: S2.1

SHEET SIZE: 30 x 42



REFER PLANS FOR
SLAB REINFORCEMENT

3
S2.3 1:50



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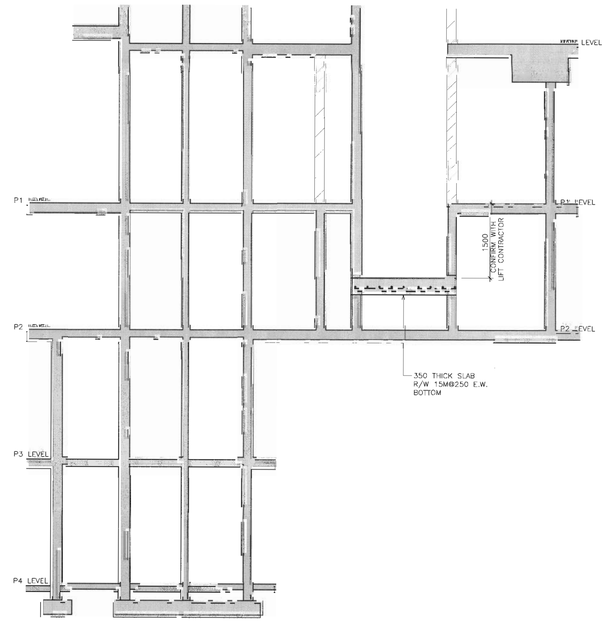

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S2.3 **SECTION AT STAIR 2/ELEVATOR 4**
1:50

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This drawing must not be scaled.
The contractor shall verify all levels, datums and dimensions prior to commencement of work. All errors and omissions must be reported to the Architects immediately.

1
2 1. Detail, Section or Elevation Number
2. Sheet Number Where Detailed or Referenced

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drawing title

SECTIONS AND DETAILS

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drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
date:	
activity date:	

re-issue no: 5

sheet no: S2.3

SHEET SIZE: 30 x 42

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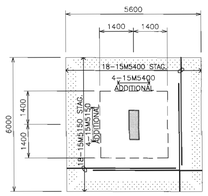

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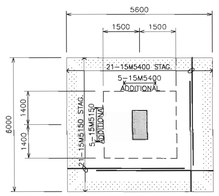

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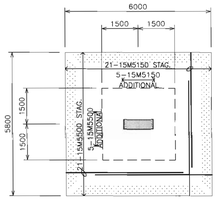

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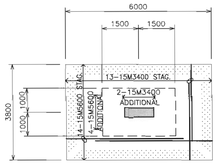

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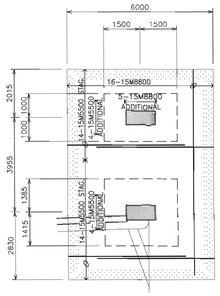

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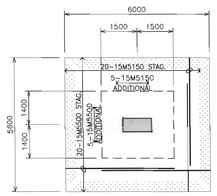

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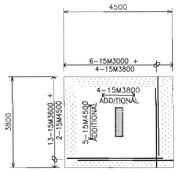

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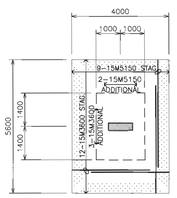

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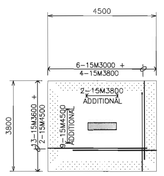

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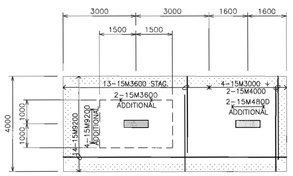

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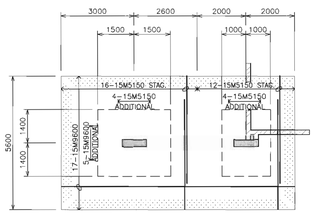

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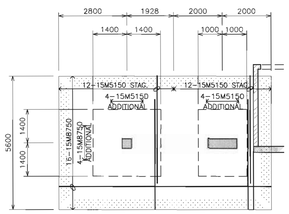

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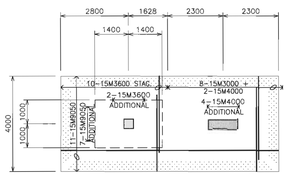

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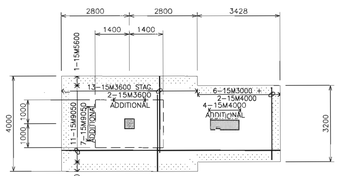

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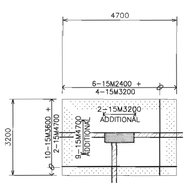

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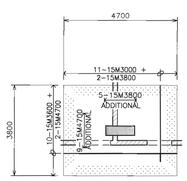

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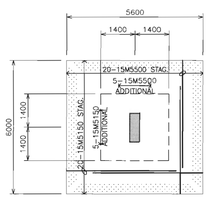

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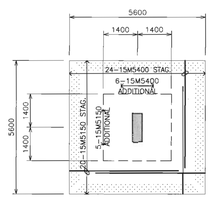

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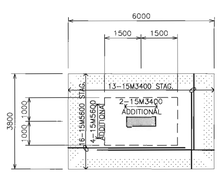

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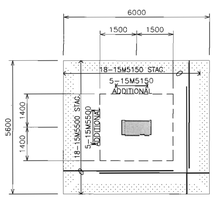

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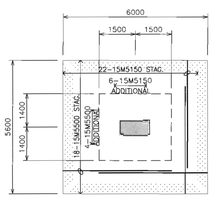

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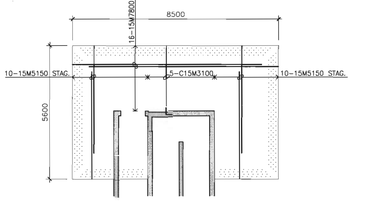

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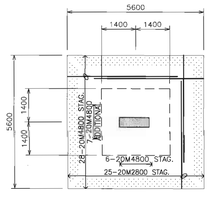

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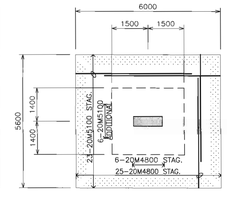

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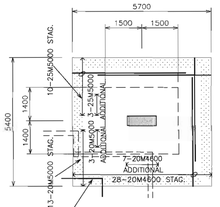

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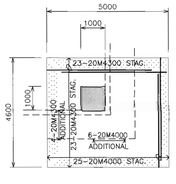

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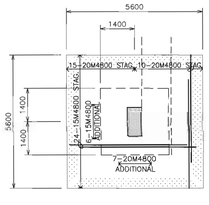

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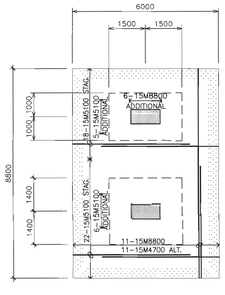

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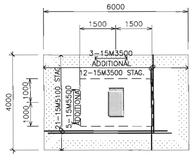

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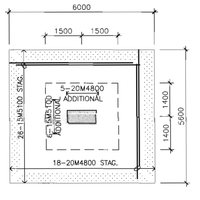

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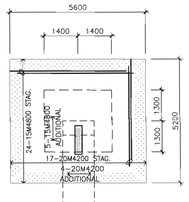

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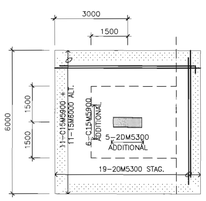

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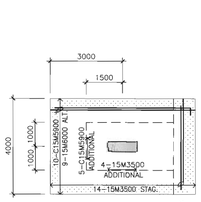

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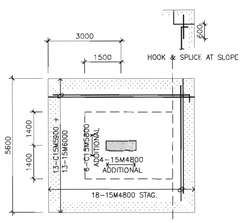

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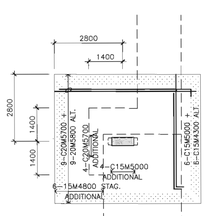

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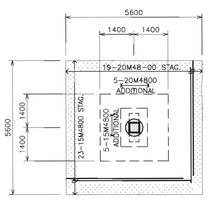

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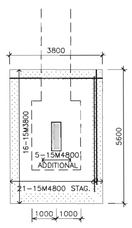

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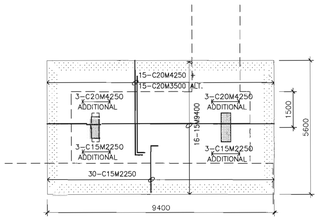

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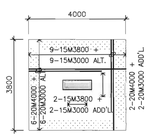

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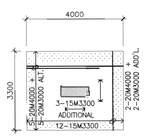

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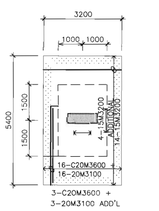

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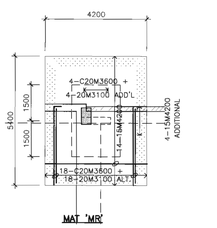

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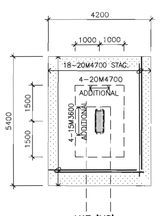

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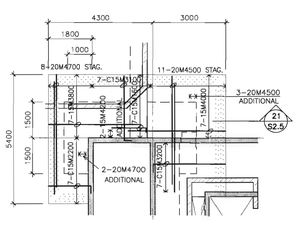

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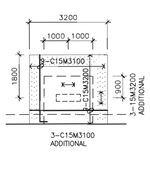

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NOTES

1. SEE PLANS FOR MAT LOCATIONS AT EACH LEVEL
2. SEE PLANS FOR BAR PLACING ORDER
3. SEE DRAWING S0.2 FOR TYPICAL "SLAB NOTES"

BKDI ARCHITECTS
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A	MAR. 29/05	ISSUED FOR PARTIAL PERMIT
A	FEB. 17/05	ISSUED FOR 50% REVIEW
A	DEC. 22/04	ISSUED FOR TENDER

client

project title

VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

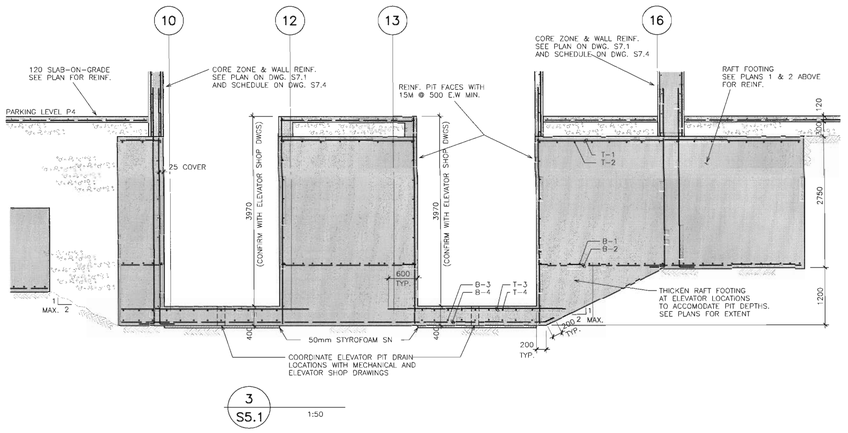
SLAB MAT DETAILS

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168–01
date:	
activity date:	

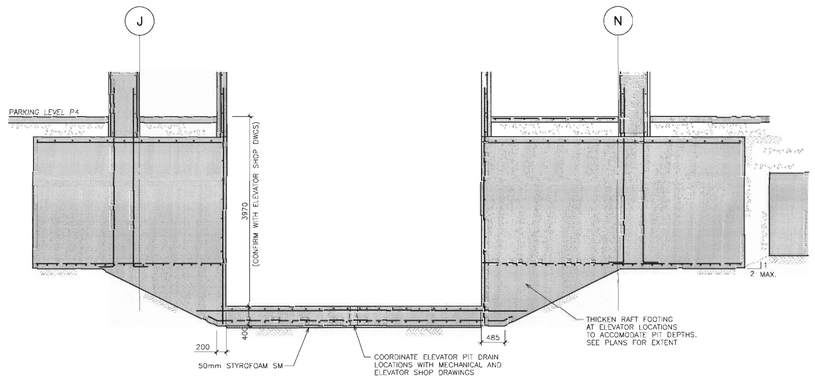
re–issue no: 5

sheet no: S4.1

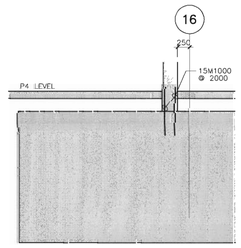
SHEET SIZE: 30 x 42



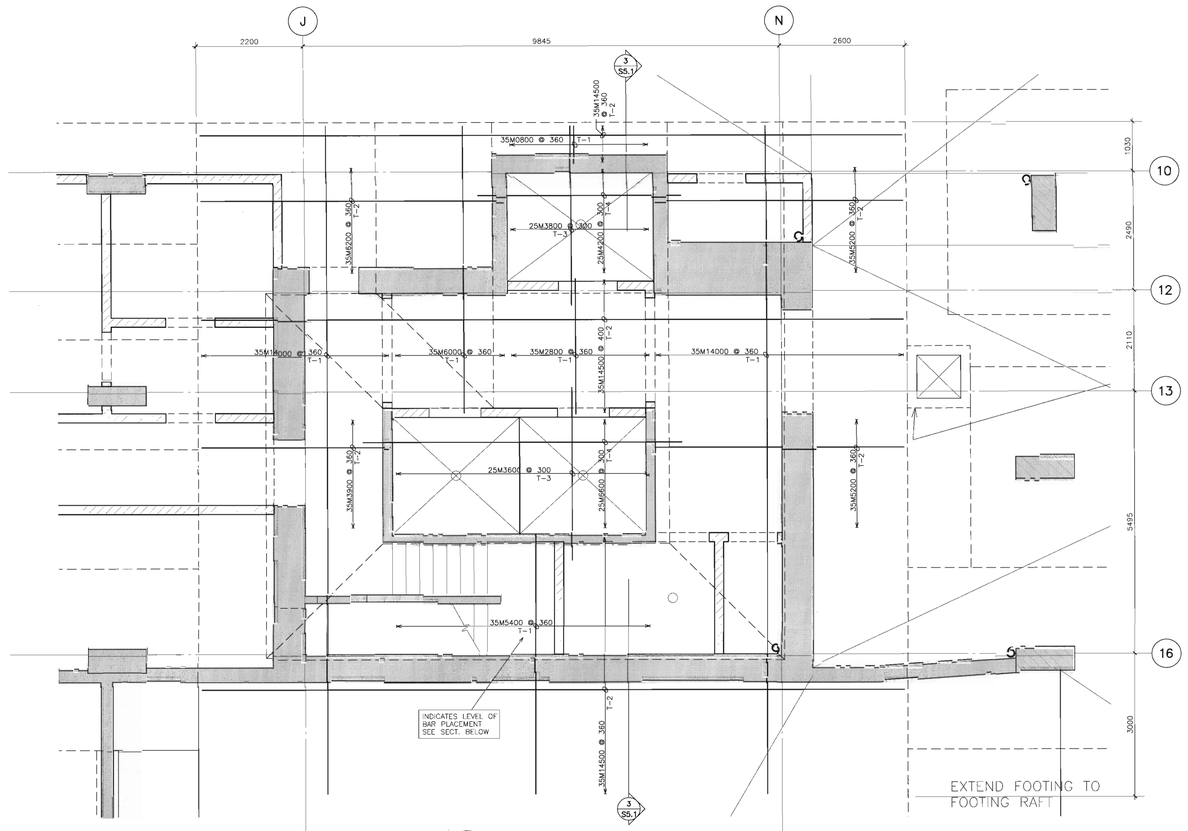
3 / S5.1 1:50



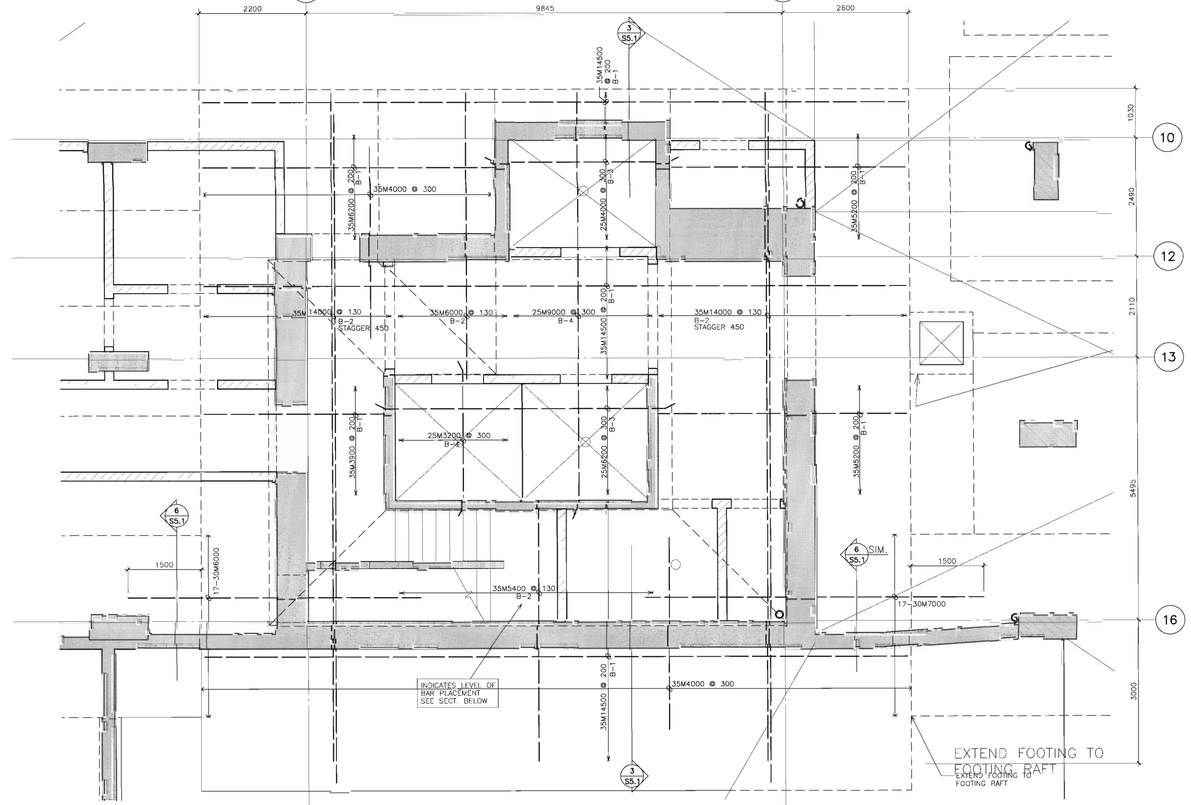
4 / S5.1 REINFORCE AS SECTION 3/S5.1 1:50



6 / S5.1 1:50



1 / S5.1 RAFT FOOTING – TOP REINFORCING 1:50



2 / S5.1 RAFT FOOTING – BOTTOM REINFORCING 1:50

BKDI ARCHITECTS
300 640-8th Ave. S.W.
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Tel: 403.233.2525
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1 / 2 1. Detail, Section or Elevation Number 2. Sheet Number Where Detailed or Referenced

Revision No.	Date:	Description
4	SEP. 07/05	ISSUED FOR CONSTRUCTION INCLUDING – ADDENDUMS UPTO 09/07/05
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3	FEB. 17/05	ISSUED FOR 50% REVIEW

client

project title

VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

RAFT FOOTING SECTIONS & DETAILS

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
date:	
activity date:	

re-issue no: 4

sheet no: S5.1

SHEET SIZE: 30 x 42

LOW RISE COLUMN SCHEDULE

	C-1	C-2	C-3	C-4	C-5	C-6	C-7	C-8	C-9	C-10	C-11	C-12	C-13	C-14	C-15	C-16	C-17	C-18	C-19	C-20	C-21	C-22	C-23	C-24	C-25	C-26	C-27
3rd. FLOOR																			700x900 8-35M VERT. 15M TIES @ 400 SEE DET. 7/S6.2								
2nd. FLOOR																											
MEZZ. LEVEL 1A																											
MAIN FLOOR	350x900 fc'= 50mPa 8-25M VERT. 10M TIES @ 300		450x1200 fc'= 70mPa 14-55M VERT. 15M TIES @ 300	720ø fc'= 70mPa 450x450x40 PLATE ASSEMBLY	600x1200 fc'= 70mPa 16-55M VERT. 15M TIES @ 400		400x1200 fc'= 50mPa 14-35M VERT. 10M TIES @ 400	400x1200 fc'= 50mPa 8-35M VERT. 10M TIES @ 400	500x1200 fc'= 70mPa 12-55M VERT. 15M TIES @ 350		500x1200 fc'= 50mPa 10-35M VERT. 10M TIES @ 400		500x1200 fc'= 70mPa 8-35M VERT. 10M TIES @ 350	350x1200 fc'= 70mPa 10-35M VERT. 10M TIES @ 300	400x1200 fc'= 70mPa 10-55M VERT. 15M TIES @ 300	500x1200 fc'= 50mPa 10-35M VERT. 10M TIES @ 400	500x1200 fc'= 70mPa 14-45M VERT. 15M TIES @ 350	350x1200 fc'= 50mPa 12-45M VERT. 15M TIES @ 300	500x700 fc'= 50mPa 12-45M VERT. 15M TIES @ 400	700x700 fc'= 50mPa 10-35M VERT. 10M TIES @ 400	700x900 fc'= 50mPa 8-35M VERT. 10M TIES @ 400	700x900 fc'= 50mPa 10-45M VERT. 15M TIES @ 400	700x900 fc'= 50mPa 22-35M VERT. 10M TIES @ 400	500x1200 fc'= 50mPa 16-55M VERT. 15M TIES @ 400	350x1200 fc'= 50mPa 12-30M VERT. 10M TIES @ 300			
PARKING LEVEL P1																											
PARKING LEVEL P2		400x1200 fc'= 50mPa 16-35M VERT. 10M TIES @ 400		400x1200 fc'= 70mPa 10-55M VERT. 15M TIES @ 300	600x1200 fc'= 70mPa 18-55M VERT. 15M TIES @ 400		400x1200 fc'= 50mPa 10-35M VERT. 10M TIES @ 400	400x1200 fc'= 50mPa 6-35M VERT. 10M TIES @ 400	500x1200 fc'= 70mPa 14-55M VERT. 15M TIES @ 350	400x1200 fc'= 50mPa 6-35M VERT. 10M TIES @ 400	400x1200 fc'= 50mPa 10M TIES @ 400		500x1200 fc'= 70mPa 14-35M VERT. 10M TIES @ 350	300x1200 fc'= 50mPa 6-35M VERT. 10M TIES @ 300	400x1200 fc'= 70mPa 12-45M VERT. 15M TIES @ 300	500x1200 fc'= 50mPa 10-45M VERT. 15M TIES @ 300	500x1200 fc'= 70mPa 16-45M VERT. 15M TIES @ 350	300x1200 fc'= 50mPa 10-45M VERT. 15M TIES @ 300	500x700 fc'= 50mPa 12-45M VERT. 15M TIES @ 400	700x700 fc'= 50mPa 10-35M VERT. 10M TIES @ 400	700x900 fc'= 50mPa 10-45M VERT. 15M TIES @ 400	700x900 fc'= 50mPa 20-35M VERT. 10M TIES @ 400	500x1200 fc'= 50mPa 18-55M VERT. 15M TIES @ 400	300x1200 fc'= 50mPa 8-25M VERT. 10M TIES @ 300			
PARKING LEVEL P3																											
PARKING LEVEL P4	300x1200 fc'= 50mPa 8-25M VERT. 10M TIES @ 300	400x1200 fc'= 50mPa 18-35M VERT. 10M TIES @ 400	400x1200 fc'= 70mPa 14-55M VERT. 15M TIES @ 300	400x1200 fc'= 70mPa 12-55M VERT. 15M TIES @ 300	600x1200 fc'= 70mPa 20-55M VERT. 15M TIES @ 400	400x1200 fc'= 50mPa 6-35M VERT. 10M TIES @ 400	400x1200 fc'= 50mPa 12-35M VERT. 10M TIES @ 400	400x1200 fc'= 50mPa 10-35M VERT. 10M TIES @ 400	500x1200 fc'= 70mPa 14-55M VERT. 15M TIES @ 350	400x1200 fc'= 50mPa 10-35M VERT. 10M TIES @ 400	400x1200 fc'= 50mPa 6-35M VERT. 10M TIES @ 400	400x1200 fc'= 50mPa 6-35M VERT. 10M TIES @ 400	500x1200 fc'= 70mPa 14-35M VERT. 10M TIES @ 350	300x1200 fc'= 50mPa 8-35M VERT. 10M TIES @ 300	400x1200 fc'= 70mPa 12-45M VERT. 15M TIES @ 300	500x1200 fc'= 50mPa 20-35M VERT. 10M TIES @ 400	500x1200 fc'= 70mPa 12-55M VERT. 15M TIES @ 350	300x1200 fc'= 50mPa 10-45M VERT. 15M TIES @ 300	500x700 fc'= 50mPa 12-45M VERT. 15M TIES @ 400	700x700 fc'= 50mPa 10-35M VERT. 10M TIES @ 400	700x900 fc'= 50mPa 12-45M VERT. 15M TIES @ 400	700x900 fc'= 50mPa 20-35M VERT. 10M TIES @ 400	500x1200 fc'= 50mPa 18-55M VERT. 15M TIES @ 400	300x1200 fc'= 50mPa 12-30M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300
FOOTING	Pf = 5 100 kN	Pf = 12 900 kN	Pf = 19 800 kN	Pf = 18 500 kN	Pf = 30 000 kN	Pf = 8 700 kN	Pf = 11 100 kN	Pf = 9 700 kN	Pf = 23 600 kN	Pf = 10 000 kN	Pf = 9 100 kN	Pf = 8 900 kN	Pf = 16 400 kN	Pf = 7 300 kN	Pf = 15 800 kN	Pf = 14 800 kN	Pf = 21 000 kN	Pf = 9 300 kN	Pf = 8 300 kN	Pf = 12 000 kN	Pf = 15 400 kN	Pf = 17 800 kN	Pf = 22 000 kN	Pf = 7 600 kN	Pf = 3 800 kN	Pf = 3 800 kN	Pf = 3 800 kN

CONCRETE STRENGTH f'c (MPa)

40 MPa UNLESS NOTED OTHERWISE

LOW RISE COLUMN SCHEDULE

	C-28	C-29	C-30	C-31	C-32	C-33	C-34	C-35	C-36	C-37	C-38	C-39	C-40	C-41	C-42	C-43	C-44	C-45	C-46	C-47	C-48	C-49	C-50	C-51	C-52	C-53	C-54
3rd. FLOOR																											
2nd. FLOOR						350x900 10-20M VERT. 10M TIES @ 300 SEE DET. 4/S6.2		400x400 6-20M VERT. 10M TIES @ 400 SEE DET. 5/S6.2	400x400 4-25M VERT. 10M TIES @ 400 SEE DET. 6/S6.2	350x800 10-20M VERT. 10M TIES @ 300 SEE DET. 8/S6.2								400x400 4-25M VERT. 10M TIES @ 300 SEE DET. 9/S6.2										
MEZZ. LEVEL 1A																											
MAIN FLOOR						350x900 10-20M VERT. 10M TIES @ 300			400x400 4-25M VERT. 10M TIES @ 400	350x1360 16-20M VERT. 10M TIES @ 300 SEE DET. 2/S6.2				400x800 10-30M VERT. 10M TIES @ 350				400x690 10-20M VERT. 10M TIES @ 300 SEE DET. 1/S6.2		400x800 10-30M VERT. 10M TIES @ 350	350x900 10-20M VERT. 10M TIES @ 300				300x1000 10-25M VERT. 10M TIES @ 300		
PARKING LEVEL P1							400x400 6-20M VERT. 10M TIES @ 400	400x400 6-20M VERT. 10M TIES @ 400	400x400 8-30M VERT. 10M TIES @ 400	300x1000 12-30M VERT. 10M TIES @ 300											300x1000 10-20M VERT. 10M TIES @ 300				450x900 10-25M VERT. 10M TIES @ 300	300x1200 10-25M VERT. 10M TIES @ 300	
PARKING LEVEL P2																											
PARKING LEVEL P3																											
PARKING LEVEL P4	300x1200 12-20M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300	300x1200 fc'= 50mPa 12-20M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300	400x400 12-20M VERT. 10M TIES @ 400	400x400 12-20M VERT. 10M TIES @ 400	400x400 8-30M VERT. 10M TIES @ 400	300x1000 12-30M VERT. 10M TIES @ 300	300x1000 10-20M VERT. 10M TIES @ 300	300x1000 10-20M VERT. 10M TIES @ 300	400x600 10-30M VERT. 10M TIES @ 350	400x1265 12-25M VERT. 10M TIES @ 350	300x1000 10-20M VERT. 10M TIES @ 300	300x1000 10-20M VERT. 10M TIES @ 300	300x1200 14-35M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300	400x600 10-30M VERT. 10M TIES @ 350	400x1265 12-25M VERT. 10M TIES @ 350	300x1000 8-25M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300	400x600 10-30M VERT. 10M TIES @ 350	400x600 10-30M VERT. 10M TIES @ 350	300x1200 14-30M VERT. 10M TIES @ 300	300x1200 12-30M VERT. 10M TIES @ 300	400x600 8-25M VERT. 10M TIES @ 350
FOOTING	Pf = 3 800 kN	Pf = 3 300 kN	Pf = 3 800 kN	Pf = 3 800 kN	Pf = 3 600 kN	Pf = 4 300 kN	Pf = 2 900 kN	Pf = 2 900 kN	Pf = 4 100 kN	Pf = 5 600 kN	Pf = 3 400 kN	Pf = 2 700 kN	Pf = 6 100 kN	Pf = 6 100 kN	Pf = 3 400 kN	Pf = 2 700 kN	Pf = 5 700 kN	Pf = 3 500 kN	Pf = 6 100 kN	Pf = 4 100 kN	Pf = 4 800 kN	Pf = 3 500 kN	Pf = 6 100 kN	Pf = 6 100 kN	Pf = 6 000 kN	Pf = 5 500 kN	Pf = 5 400 kN

CONCRETE STRENGTH f'c (MPa)

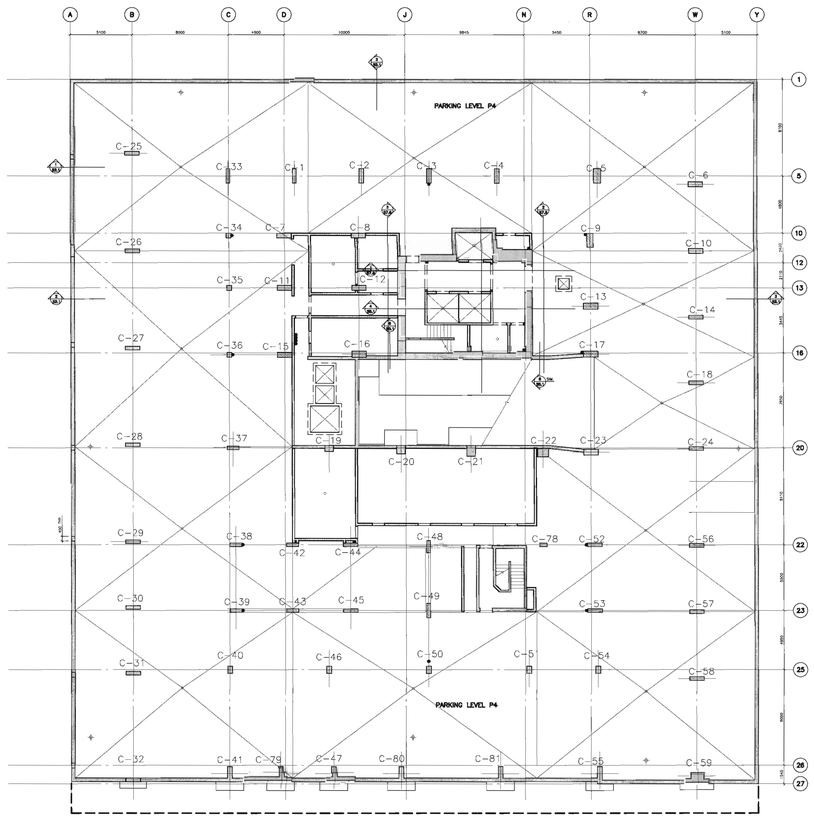
40 MPa UNLESS NOTED OTHERWISE

LOW RISE COLUMN SCHEDULE

	C-55	C-56	C-57	C-58	C-59	C-78	C-79	C-80	C-81
3rd. FLOOR									
2nd. FLOOR									
MEZZ. LEVEL 1A		350x900 10-20M VERT. 10M TIES @ 300	350x900 10-20M VERT. 10M TIES @ 300						
MAIN FLOOR	400x800 10-30M VERT. 10M TIES @ 350				300x1200 12-30M VERT. 10M TIES @ 300	450x600 8-25M VERT. 10M TIES @ 400	400x800 8-25M VERT. 10M TIES @ 350	400x800 10-30M VERT. 10M TIES @ 350	400x800 10-30M VERT. 10M TIES @ 350
PARKING LEVEL P1						450x600 8-25M VERT. 10M TIES @ 400			
PARKING LEVEL P2									
PARKING LEVEL P3									
PARKING LEVEL P4	400x1445 14-25M VERT. 10M TIES @ 350	300x1200 12-20M VERT. 10M TIES @ 300	300x1200 12-20M VERT. 10M TIES @ 300	300x1200 12-30M VERT. 10M TIES @ 300	800x1200 16-30M VERT. 10M TIES @ 400	300x600 8-25M VERT. 10M TIES @ 300	400x1265 12-25M VERT. 10M TIES @ 350	400x1265 12-25M VERT. 10M TIES @ 350	400x1265 12-25M VERT. 10M TIES @ 350
FOOTING	Pf = 6 100 kN	Pf = 5 200 kN	Pf = 5 200 kN	Pf = 6 700 kN	Pf = 6 800 kN	Pf = 2 700 kN	Pf = 4 100 kN	Pf = 6 100 kN	Pf = 6 100 kN

CONCRETE STRENGTH f'c (MPa)

40 MPa UNLESS NOTED OTHERWISE



KEY PLAN – PARKING LEVEL P4

N.T.S.

BKDI ARCHITECTS
300 640-8th Ave. S.W.
Calgary Alberta
Canada T2P 1G7
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1 / 2 — 1. Detail, Section or Elevation Number; 2. Sheet Number Where Detailed or Referenced

Revision No.	Date:	Description
8	SEP. 07/05	ISSUED FOR CONSTRUCTION INCLUDING – ADDENDUMS UPTO 09/07/05
7	JULY 25/05	ISSUED FOR TOWER CONSTRUCTION
6	JUNE 30/05	ISSUED FOR 100% REVIEW
5	JUNE 10/05	PROPOSED CHANGE NOTICE – PCNA001
4	JUNE 06/05	REVISED BUILDING PERMIT
3	MAY 19/05	ISSUED FOR PARKADE CONSTRUCTION
2	APR. 29/05	ISSUED FOR REVIEW
1	APR. 15/05	ISSUED FOR CONSTRUCTION – EXCAVATION & SHORING
6	APR. 6/05	ISSUED FOR REBAR TENDER
5	APR. 1/05	ISSUED FOR 50% SIGN-OFF/CONC. TENDER UPDATE
4	MAR. 29/05	ISSUED FOR PARTIAL PERMIT
3	FEB. 17/05	ISSUED FOR 50% REVIEW
2	JAN. 18/05	ADDENDUM

client

project title

VICTORIA SCHOOL CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

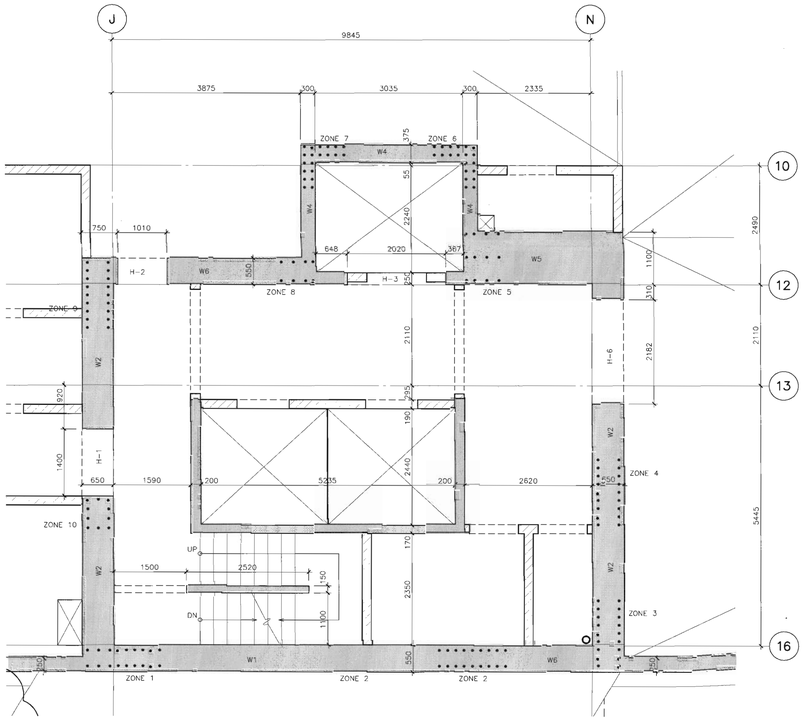
LOW RISE COLUMN SCHEDULE

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
date:	
activity date:	

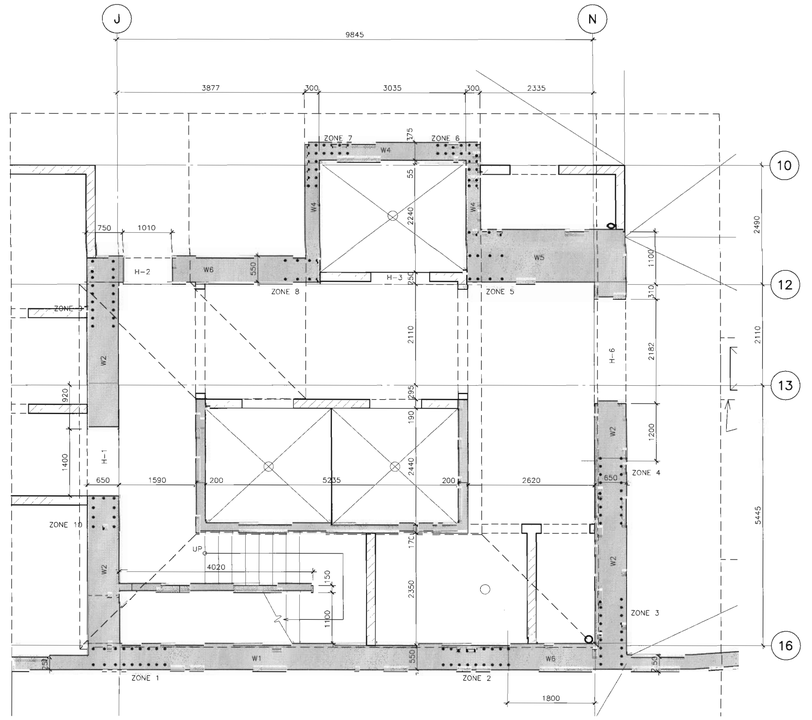
re-issue no: 8

sheet no: S6.1

SHEET SIZE: 30 x 42



2 S7.1 PARKING LEVEL P3
1:50
PARKING LEVEL P2 SIMILAR



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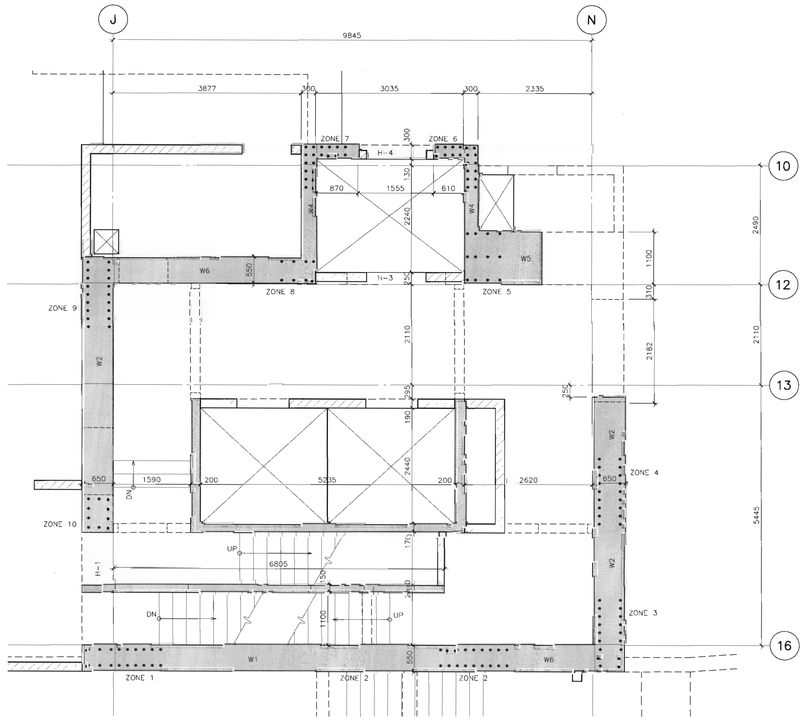

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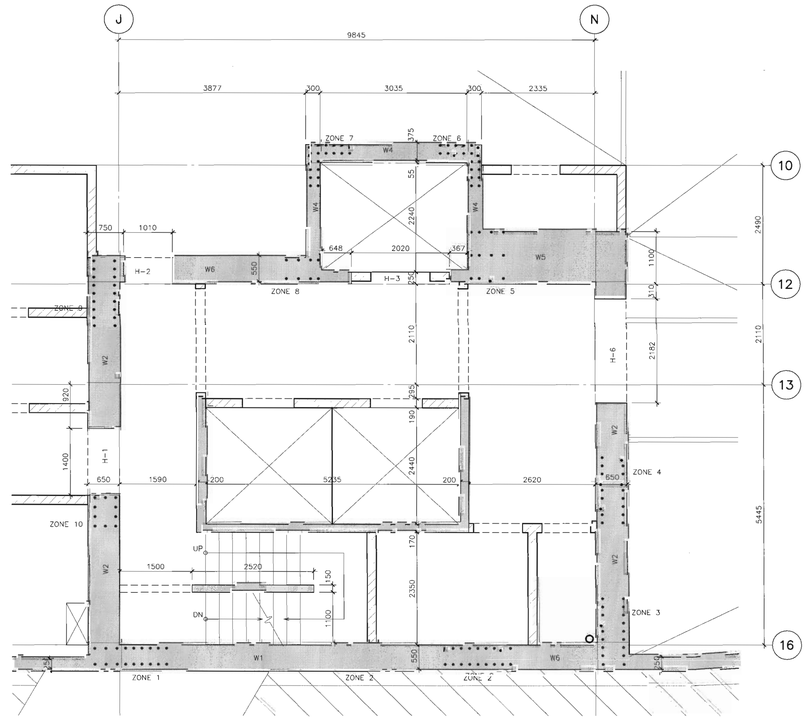

3 S7.1 PARKING LEVEL P1
1:50

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client

project title

VICTORIA SCHOOL
CONDOMINIUMS

411, 11 AVE. S.E.
CALGARY, ALBERTA

drawing title

CORE PLANS
AND DETAILS

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
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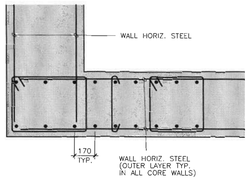
re-issue no: 3

sheet no: S7.1

SHEET SIZE: 30 x 42



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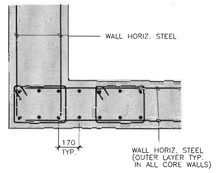

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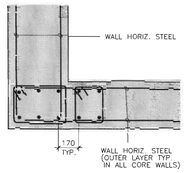
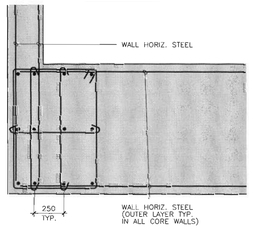


DETAIL Z-1b



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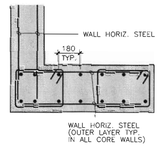

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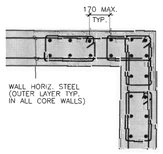

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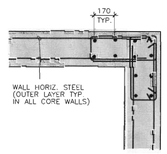
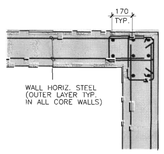
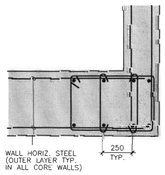


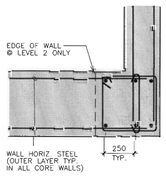
DETAIL Z-3a



DETAIL Z-3b



DETAIL Z-4



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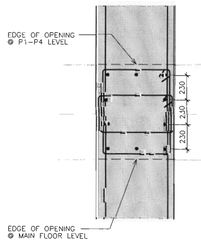

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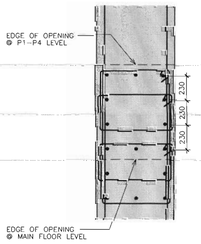
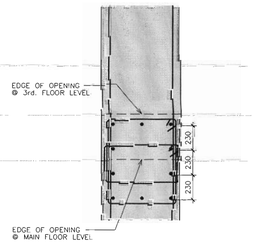


DETAIL Z-5a



DETAIL Z-5b

NOTES

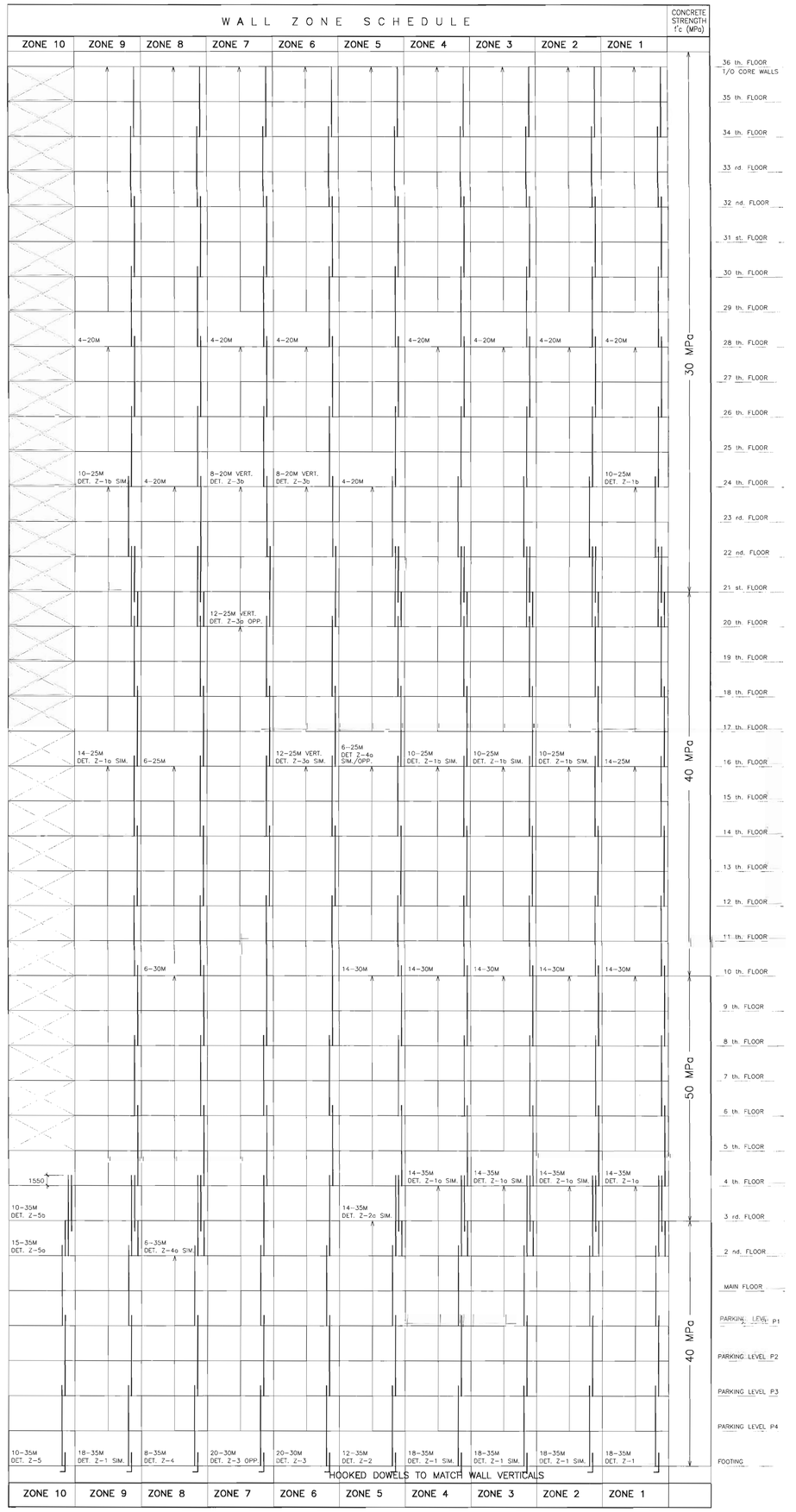
1. SEE DRAWING S7.1 FOR CORE PLANS AND ZONE REINFORCING LOCATIONS.

ZONE TIES	
WALL	TIES & SPACING
300	10M TIES @ 300
400	10M TIES @ 400
500	10M TIES @ 400
550 & UP	10M TIES @ 480

ZONE SPLICE TABLE				
VERTICAL BARS	LEVEL P4 – MAIN FLOOR	MAIN FLOOR – 10th. LEVEL	10th. LEVEL – 21st. LEVEL	21st. LEVEL – ROOF
25M	1100	1100	1230	1420
30M	1320	1320	1480	1710
35M	1550	1550	1730	1990

WALL SCHEDULE

MARK	DESCRIPTION	DETAILS
W1	550 WALL R/W 35M@335 V.E.F. 10M TIES @ 480 (SEE DETAIL 1) 15M @ 480 H.E.F. + 1 ADD'L H.E.F. EVERY 3RD BAR	DETAIL 1 — TIE EVERY BAR TYP.
W2	650 WALL R/W 35M@300 V.E.F. 10M TIES @ 480 (SEE DETAIL 1) 15M @480 H.E.F. + 1 ADD'L H.E.F. EVERY 2ND BAR	DETAIL 2 — TIE EVERY 2ND. BAR TYP.
W3	500 WALL R/W 30M@300 V.E.F. 10M TIES @ 400 (SEE DETAIL 1) 15M@400 H.E.F.	DETAIL 3 — CLOSED TIE AT END OF WALL
W4	300 WALL R/W 30M@180 V.E.F. 10M TIES @ 300 (SEE DETAIL 2) 10M @ 300 H.E.F. NOTE: PROVIDE SPLICE LENGTH AS PER ZONE SPLICE TABLE FOR WALL TYPE W4 TYP.	
W5	1100 WALL R/W 35M@250 VERT. 3 LAYERS 10M TIES @ 400 (SEE DETAIL 3) 15M @ 400 H.E.F.	
W6	550 WALL R/W 15M@450 V.E.F. STAG 15M @ 480 + 1 ADD'L H.E.F. EVERY 3RD BAR	
W7 & W7A	550 WALL R/W 15M@400 V.E.F. STAG W7: 15M @ 480 + 1 ADD'L H.E.F EVERY 2ND BAR W7A: 15M @ 300 H.E.F	
W8	400 WALL R/W 10M@330 V.E.F. STAG 15M @ 400 H.E.F.	
W9	500 WALL R/W 15M@500 V.E.F. 15M @ 400	
W10	300 WALL R/W 10M@450 V.E.F. STAG 10M @ 300 H.E.F.	



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	DEC. 22/04	ISSUED FOR TENDER

client

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CALGARY, ALBERTA

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ZONE REINFORCING SCHEDULE AND DETAILS

scale:	AS SHOWN
drawn by:	P.P.N.
checked by:	J.A.C.
project no:	28168-01
date:	
activity date:	

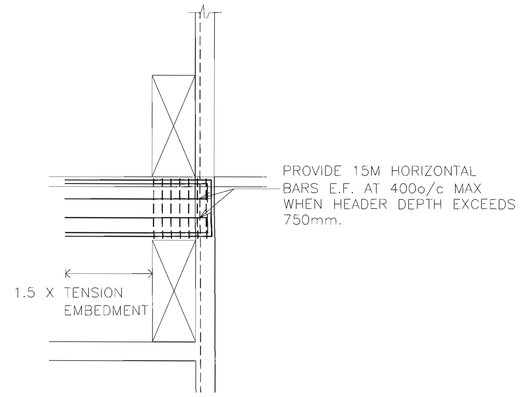
re-issue no: 3

sheet no: S7.4

SHEET SIZE: 30 x 42
PLOT SCALE: 1:1

HEADER REINFORCING DETAILS AND SCHEDULE

	H-7	H-6	H-5	H-4	H-3	H-2	H-1	CONCRETE STRENGTH f'c (MPa)
36 th. FLOOR T/O CORE WALLS								
35 th. FLOOR								
34 th. FLOOR								
33 rd. FLOOR								
32 nd. FLOOR	300 x 860 DP. 2-30M T&B 10M □ @400							
31 st. FLOOR	300 x 860 DP. 2-35M T&B 10M □ @400	300 x 860 DP. 2-25M T&B 10M □ @400		300 x 810 DP. 2-25M T&B 10M □ @400	250 x 810 DP. 2-20M T&B 10M □ @300		300 x 860 DP. 2-25M T&B 10M □ @400	
30 th. FLOOR	300 x 1300 DP. 2-30M T&B 10M □ @400	300 x 1300 DP. 2-25M T&B 10M □ @400	300 x 1300 DP. 2-25M T&B 10M □ @400	300 x 1250 DP. 2-25M T&B 10M □ @400	250 x 1250 DP. 2-20M T&B 10M □ @300	300 x 1300 DP. 2-25M T&B 10M □ @400	300 x 1300 DP. 2-25M T&B 10M □ @400	
29 th. FLOOR								
28 th. FLOOR								
27 th. FLOOR								
26 th. FLOOR								
25 th. FLOOR								
24 th. FLOOR								
23 rd. FLOOR								
22 nd. FLOOR	300 x 860 DP. 4-35M T&B 2 LAYERS 15M □ @400	300 x 860 DP. 4-25M T&B 2 LAYERS 15M □ @200	300 x 860 DP. 4-35M T&B 2 LAYERS 15M □ @400	300 x 810 DP. 2-25M T&B 10M □ @400		300 x 860 DP. 2-30M T&B 10M □ @320	300 x 860 DP. 4-30M T&B 2 LAYERS 15M □ @200	30 MPa
21 st. FLOOR								
20 th. FLOOR								
19 th. FLOOR								
18 th. FLOOR								
17 th. FLOOR		500 x 860 DP. 4-30M T&B 15M □ @140				400 x 860 DP. 5-30M T&B 2 LAYERS 15M □ @130	500 x 860 DP. 6-35M T&B 2 LAYERS 15M □ @120	
16 th. FLOOR								
15 th. FLOOR								
14 th. FLOOR								
13 th. FLOOR								
12 th. FLOOR								
11 th. FLOOR								
10 th. FLOOR								
9 th. FLOOR								
8 th. FLOOR	400 x 860 DP. 6-35M T&B 2 LAYERS 15M □ @270							
7 th. FLOOR								
6 th. FLOOR								
5 th. FLOOR								
4 th. FLOOR	400 x 860 DP. 6-30M T&B 2 LAYERS 15M □ @400	500 x 860 DP. 6-30M T&B 2 LAYERS 15M □ @100	400 x 860 DP. 8-35M T&B 2 LAYERS 15M □ @170		250 x 810 DP. 2-20M T&B 10M □ @400	400 x 860 DP. 6-30M T&B 2 LAYERS 15M □ @110	500 x 860 DP. 6-35M T&B 2 LAYERS 15M □ @100	
3 rd. FLOOR					250 x 2980 DP. 2-25M T&B 10M □ @400	550 x 3030 DP. 4-35M T&B 15M □ @400		
2 nd. FLOOR				300 x 2470 DP. 4-25M T&B 2 LAYERS 10M □ @300	250 x 2470 DP. 2-25M T&B 10M □ @400		650 x 2520 DP. 6-35M T&B 2 LAYERS 15M □ @400	50 MPa
MAIN FLOOR		650 x 1250 DP. 8-35M T&B 2 LAYERS 15M □ @160			250 x 1200 DP. 2-25M T&B 10M □ @400	550 x 1250 DP. 3-30M T&B 15M □ @400	650 x 1250 DP. 4-30M T&B 15M □ @400	
PARKING LEVEL P1								
PARKING LEVEL P2								
PARKING LEVEL P3		650 x 550 DP. 4-35M T&B 15M □ @200			2-20M T&B 10M □ @400	550 x 550 DP. 3-25M T&B 15M □ @400	650 x 550 DP. 4-25M T&B 15M □ @400	
PARKING LEVEL P4								
FOOTING								
	H-7	H-6	H-5	H-4	H-3	H-2	H-1	



DETAIL 1

HEADER NOTES: (ALSO REF. DETAIL 1.)

1. HEADERS TO EXTEND 1.5 TIMES A TENSION SPLICE PAST THE FACE OF THE OPENING, OR TO THE BACK OF AN END WALL. HOOK ALL HEADERS TOP AND BOTTOM BARS.
2. PROVIDE HORIZONTAL BEAM REINFORCING WHERE HEADER DEPTH EXCEEDS 750mm. REINFORCING TO BE 15M H.E.F. @ 400 o/c MAX.

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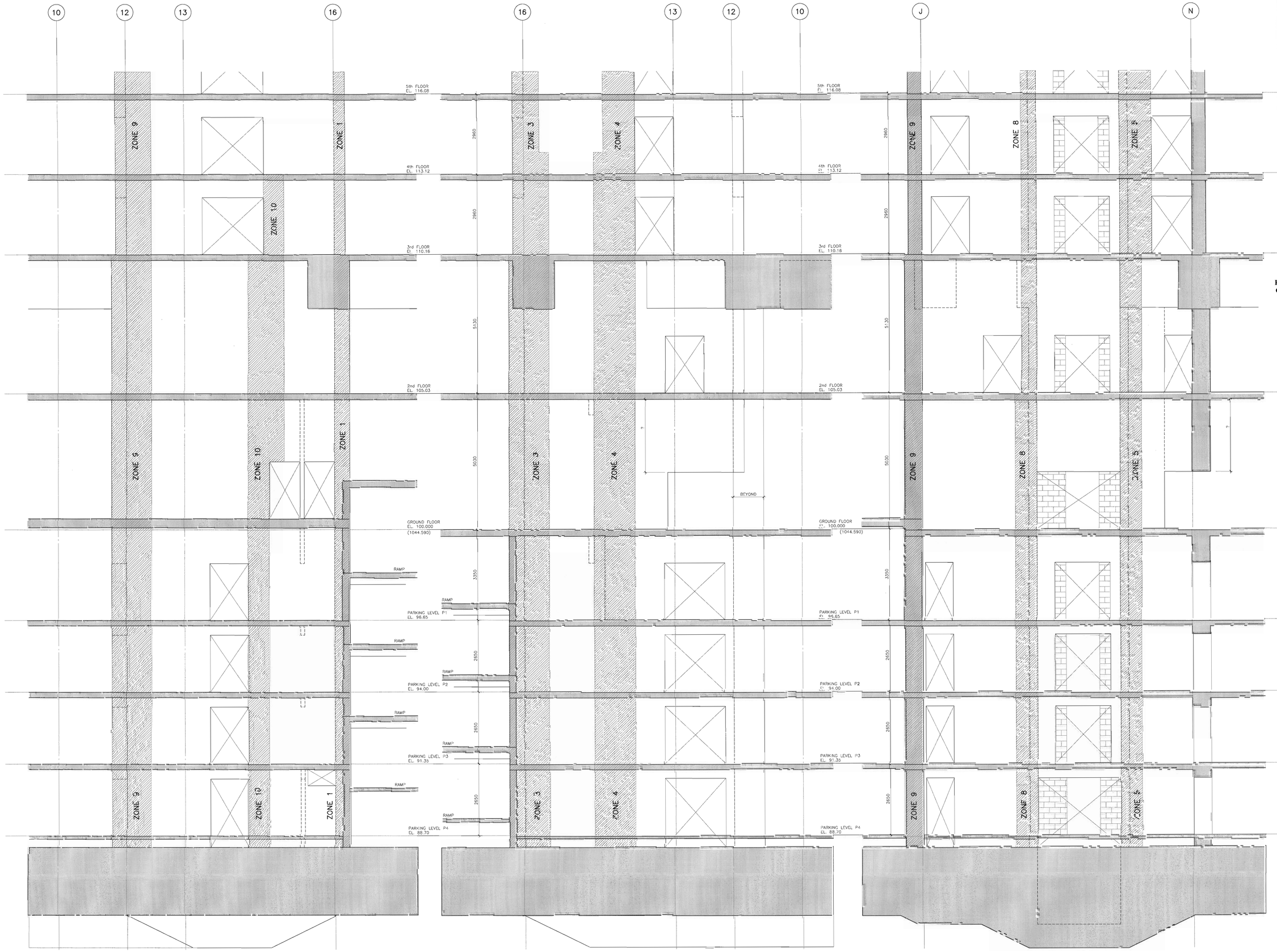

3 / S7.6 WALL ELEVATION – GRID 'J'
1:50

2 / S7.6 WALL ELEVATION – GRID 'N'
1:50

1 / S7.6 WALL ELEVATION – GRID '12'
1:50

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CORE WALL ELEVATIONS

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project no:	28168–01
date:	
activity date:	

re–issue no: 3

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