STRUCTURAL NOTES

GENERAL NOTES:

1. IN CASE OF DISCREPANCIES AMONG THE DRAWINGS, FIGURED DIMENSIONS SHALL GOVERN AND SCALED DIMENSIONS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES.
2. IN CASE OF DISCREPANCIES AS TO THE EXACT DIMENSIONS AND ELEVATIONS BETWEEN THE STRUCTURAL PLANS AND ARCHITECTURAL PLANS, THE CONTRACTOR SHALL VERIFY WITH THE STRUCTURAL ENGINEER AND THE ARCHITECT.
3. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (NSCP) AND ALL APPLICABLE CODES AND ALL STRUCTURAL STEEL WORK ACCORDING WITH AISC SPECIFICATIONS.
4. DO NOT SCALE DRAWINGS.
5. CONSTRUCTION JOINTS AND TYPICAL DETAILS APPLY IN ALL SIMILAR CONDITIONS UNLESS OTHERWISE SHOWN OR NOTED.
6. SHOP DRAWINGS FOR REINFORCING STEEL, ANCHOR BOLTS, MISCELLANEOUS METAL ITEMS SHALL BE SUBMITTED FOR APPROVAL BEFORE FABRICATION.
7. CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CONCRETE BLOCKS, DOWELS, DEPRESSIONS AND MECHANICAL ITEMS THAT ARE INDICATED BY THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
8. ALL RESULTS OF MATERIAL TESTING FOR CONCRETE, REINFORCING BARS, & STRUCTURAL STEEL SHALL BE SUBMITTED AND APPROVED BY THE STRUCTURAL ENGINEER.

FOUNDATION

1. FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 5 KN/m² (100psf). CONTRACTOR SHALL VERIFY TO THE ENGINEER / ENGINEER IN CHARGE , SITE ACTUAL SOIL CONDITIONS ENCOUNTERED AND CONFIRM ACTUAL BEARING CAPACITY OF SOIL BEFORE ENGINEERING CONCRETE.
2. FOOTING SHALL REST AT EVEN ELEVATION UNLESS NOTED OTHERWISE. STEP AND SLOPED FOOTINGS ARE DESIGNED AS SHOWN IN PLANS AND DETAILS. CONCRETE SHALL NOT BE PLACED ON FROZEN SOIL.
3. MINIMUM CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE 75mm CLEAR FOR CONCRETE DEPOSITED ON THE GROUND AND 50mm FOR CONCRETE DEPOSITED AGAINST FORMWORK.

CONCRETE

1. CONCRETE MINIMUM 28-DAYS CYLINDER COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE :

   f'c = 28.00 MPa (4000 psi) FOR FOOTING, PEDESTAL, GRADE BEAMS, POST AND BASE, FOOTING, RAMP, STAIRS, GRADE SLAB, ALL OTHER CONCRETE NOT SPECIFIED HEREUNDER
   f'c = 24.14 MPa (3500 psi) FOR SUSPENDED, MONOLITHIC SLABS
   f'c = 27.59 MPa (4000 psi) FOR GENERAL CEILING, BEAMS, GIRDERS, AND BEAMS, SLABS OR GRADE ROOF BEAMS & SLOPING ROOF BEAMS ; SUSPENDED SLAB (SELECTED FORMED) & GIRDER SPANS MORE THAN 6.00 m
   f'c = 34.47 MPa (5000 psi) FOR PRESTRESSED CONCRETE.
   f'c = 19.4 MPa (3000 psi) FOR ALL SLOW CONCRETE.

2. AGGREGATE SIZE SHALL BE THE FOLLOWING :

   20 MM - MIN. — REINFORCED SLABS, BEAMS, GIRDER, WALLS, AND COLUMNS
   25 MM - MAX. — FOOTING, THICKENED SLABS, AND SLABS ON FILL

3. MINIMUM CONCRETE COVER FOR REINFORCING & SPACING:

   20 MM — FORMED CONCRETE SURFACE EXPOSED OR EXPOSED IN WEATHER.
   40 MM — FOR BARS DIAMETER SMALL 16 MM OR SMALLER
   40 MM — WITH STIRRUPS NOT EXPOSED
   50 MM — FOR BARS OF 16 MM & LARGER AND BELOW BEAMS AND COLUMNS NOT EXPOSED OR TO BE EXPOSED OR TO BACKFILL
   SLABS AND TRUSS NOT EXPOSED TO GROUND OR WEATHER.
   75 MM — CONCRETE DEPOSITED ON GROUND AND PERMANENT CONCRETE DEPOSITED AGAINST EARTHS.

4. ALL REINFORCING STEEL, DOWELS , ANCHOR BOLTS AND OTHER INSERTS SHALL BE SECURED IN POSITION PRIOR TO POURING CONCRETE.
5. CONCRETE CYLINDERS SHALL BE TAKEN FOR EVERY CAST POUR AND EACH DAY CONCRETE WORK IS PERFORMED. ONE SPECIMEN TAKEN FOR EACH 50 CUBIC METERS OF CONCRETE IN ACCORDANCE WITH ASTM C31 AND TESTED IN ACCORDANCE WITH ASTM C39.
6. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT FINAL SEGREGATION, AS PRESCRIBED OR PLANNED. ALWAYS SHALL BE DONE, PROPERLY AND CAREFULLY, POCKETS OF HONEYCOMBING, OR CAVITIES SHALL BE ALLOWED EXCEPT TO ENGINEER CONCRETE FROM WHICH THE MATERIAL OR POCKETS, OR WHICH CASE, THE SHALL NOT EXCEED 1/4 ( ) INCHES IN AGGREGATE LENGTH.
7. NO DEPOSITING OF CONCRETE SHALL BE PLACED WITHIN THE USE OF VIBRATOR UNLESS AUTHORIZED IN WRITING BY THE ENGINEER. NO CONCRETE WHICH HAS BECOME TOO LEANED.
8. THE CONTRACTOR SHALL REMOVE AND REMOVE FORMS FOR REMOVAL FORMS, THE CONCRETE REMOVED HAVE ATTAINED THEIR SUFFICIENT STRENGTH FOR THE REMOVAL CONDITION AUTHORIZED.

   a.) THE REMOVAL OF FORMS :
   a.a BEAMS
   FOR SIDE FORMS — AFTER 24 HOURS
   FOR BOTTOM FORMS — AFTER 28 DAYS
   (OR AFTER TEST CYLINDER YIELD INSPECTION RESULT)
   FOR STORING — AFTER 7 DAYS
   a.b SUSPENDED SLAB
   FOR SIDE FORMS — AFTER 24 HOURS
   FOR BOTTOM FORMS — AFTER 7 DAYS
   (OR AFTER TEST CYLINDER YIELD INSPECTION RESULT)
   a.c WALLS, SILL — AFTER 72 HOURS
   a.d COLUMN
   SIDE AND FORMS — AFTER 72 HOURS ; WHEN CONSTRUCTION LIVE LOAD IS TO BE APPLIED
   — AFTER 28 HOURS ; WHEN FORMWORK IS FOR FORM RE-USE
   FOR STORING — AFTER 7 DAYS OR WHEN TEST CYLINDER YIELD INSPECTION RESULT

   WHEN A CONCRETE FLOOR IS TO BE POURED , AT LEAST FIVE (5) FLOORS SHALL BE SHORED TO SUPPORT THE LOAD.

9. RECOMMENDED SLUMP IN POURING :
   A. FOR SLAB — SUSPENDED ..... 10 CM.
   B. FOR SUPERSTRUCTURE ..... 10 CM
   C. FOR MISCELLANEOUS CONCRETE ..... 10 CM

   ADDITIONAL ADMIXTURE, SUCH AS WATER-REDUCING, RETARDING OR SUPERPLASTICIZER, CAN BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND SHALL BE APPROVED BY THE ENGINEER.

10. NOT MORE OF CONCRETE SHALL BE CONTINUOUS FOR A MINIMUM PERIOD OF (7) DAYS IMMEDIATELY AFTER POURING
11. THE CONTRACTOR SHALL SUBMIT THE SCHEDULE OF POURING AND LOCATIONS OF CONSTRUCTION JOINTS TO THE PROJECT INSPECTOR/STRUCTURAL ENGINEER ASSIGNED 3 DAYS PRIOR TO THE POURING FOR APPROVAL.

REINFORCING STEEL BARS

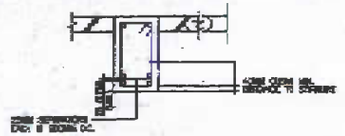
1. GRADE :
   REINFORCING STEEL BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM 615
   GRADE 40 (280) MPa (40,000 psi) — USED FOR STIRRUPS
   GRADE 60 (420) MPa (60,000 psi) — USED FOR MAIN BARS
2. MILL CERTIFICATE OF REINFORCEMENT SHALL BE SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER.
3. ALL BARS SHALL BE BENT COLD, UNLESS OTHERWISE PERMITTED BY THE STRUCTURAL ENGINEER.
4. ALL REINFORCING BARS SHALL BE CLEAN THOROUGHLY OF ALL LOOSE RUST, SOIL OR OTHER MATERIAL, IMMEDIATELY PRIOR TO PLACING OF CONCRETE.
5. A FULL WELDED SPLICE SHALL BE MADE BUTTED AND WELDED TO DEVELOP IN TENSION AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH fy OF THE BAR.
6. ALL WELDING OF REINFORCEMENT SHALL BE CONFORMED TO THE PROVISIONS OF THE STRUCTURAL WELDING CODE REINFORCING STEEL, AWS D 1.4.
7. ALL FULL MECHANICAL CONNECTION (REBAR SPLICER) SHALL BE DEVELOPED IN TENSION OR COMPRESSION , AS REQUIRED , AT LEAST 125 % OF THE SPECIFIED YIELD STRENGTH fy OF THE BAR, IF USED SLEEVE SHAPE FOR APPROVAL OF THE ENGINEER.
8. WHEN A REBAR STOPPED A CERTAIN JOINT BARS ON TOP OF UPPER BAR, REINFORCING BARS SHALL BE STRAIGHTENED, WHERE THE CENTER LINE OF BARS IS POSSIBLE AND UPPER LAYERS SHALL BE PLACED DIRECTLY ABOVE BARS IN THE BOTTOM LAYER .
9. GENERALLY NO SPLICES SHALL BE PERMITTED ON MEMBERS WHERE CHECKS BEYOND STRESSES OCCUR. LOCATION AND LENGTHS OF BAR SPLICES SHALL BE AS INDICATED IN THESE NOTES AND ON THE STRUCTURAL DRAWINGS.
10. ALL REINFORCED BARS SHALL PASS THE REQUIREMENT OF MINOR SECTION 5.5.1.2.3

COLUMNS

1. BEAM COLUMN JOINTS SHALL BE REINFORCED WITH STIRRUPSIDE REINFORCEMENT SPACED AT THREE TIES RECEIVED BY CODE & WHEN THERE ARE BEAMS FRAMED TWO SIDES OF LENGTH SAME HEIGHT THE COLUMN BEAM AND DEPTHS SAME LESS THAN THREE QUARTERS OF THE SHORTEST BEAM THAT FRAME FROM FOUR SIDES OF THE COLUMN. FOR ALL OTHER CONDITIONS FRAMING SAME SPACING AS REQUIRED IN ITEM 4.
2. LAP SPLICES, WHEN NECESSARY ARE PERMITTED ONLY WITHIN THE CENTER HALF OF THE COLUMN LENGTH AND SHALL BE PROPORTIONED AS TENSION SPLICES. IN NO CASE SHALL BE THE LAP SPLICE BE LOCATED CLOSER THAN 600 MM TO THE DISTANCE MEASURED IN PERPENDICULAR DIRECTION FROM THE FACE OF THE BEAM COLUMN FACE. PROVIDE EXTRA TRANSVERSE REINFORCEMENT OF THE SAME SIZE AND ARRANGEMENT PROVIDED IN THE COLUMN SCHEDULE SPACED AT NOT MORE THAN FOUR. THE MINIMUM COLUMN SECTION DIMENSION REQUIRED FOR THE LENGTH OF THE SPLICE.
3. WELDED SPLICES AND MECHANICAL CONNECTIONS MAY BE USED AT ANY SECTION PROVIDED THAT MORE THAN ALTERNATE BARS ARE SPLICED AT ANY SECTION AND DISTANCE BETWEEN SPLICED BARS BE 600MM OR MORE ALONG THE BAR OF THE COLUMN.
4. COLUMN TIE SPACING SHALL BE NOT GREATER THAN 1/4 OF THE COLUMN SECTION FOR 100 MM MIN. A DISTANCE OF MAXIMUM COLUMN SECTION BUT NOT LESS THAN 1/3 OF COLUMN SPACING MEASURE ON 450MM FROM EACH JOINT FACE.

BEAMS AND GIRDERS

1. UNLESS OTHERWISE NOTED IN PLANS OR SPECIFICATIONS, CHANGES ALL BEAMS AND GIRDERS AT LEAST 45MM FOR SMART ADDITION OF RAIN SHEET DIMENSIONS FOR WHICH THE CHANGES SHALL BE NOTED IN BEAM PLANS OR AS DIRECTED BY THE ENGINEERING NOT TO BE DONE LESS THAN 100MM FROM EACH SECTION OF BEAM SPAN.
2. IF STIRRUPS ARE TIED OR BOUND LARGER OF LONGITUDINAL REINFORCING BARS IN A BEAM OR GIRDER, BAR SEPARATORS OF A SIZE NOT MORE THAN 10MM BARS SPACED CLOSER THAN OR CENTERS, OR BY CODE SHALL BE USED AT LESS THAN TWO (2) EQUIDISTANT BETWEEN LAYERS OF BARS .
3. LONGITUDINAL REINFORCED BARS SHALL BE PLACED BY MECHANICAL MEANS THE VERTICAL CENTERS LINE OF THE BEAM OR GIRDER SHOWN WHERE POSSIBLE, TWO UPPER LAYER BARS PLACED DIRECTLY ABOVE THOSE IN THE BOTTOM LAYERS.
4. MINIMUM CONCRETE PROTECTION OF REINFORCING BARS OR STIRRUPS SHALL BE SHOWN BELOW.



REINFORCED CONCRETE

5. BEAM REINFORCING BARS WHERE TOP AND BOTTOM TERMINATING IN A WALL, SHALL BE EXTEND AT THE MOST NEAR FROM THE FAR FACE OF THE WALL AND SHALL BE TERMINATED IN A STANDARD 90 DEGREES HOOK .
6. LONGITUDINAL REINFORCEMENT OF GIRDERS, BARS TOP AND BOTTOM TERMINATED IN A COLUMN SHALL BE EXTENDED TO THE FAR FACE OF THE CONFINED CONCRETE CORE OF THE COLUMN AND TERMINATED BY A STANDARD 90 DEG. HOOK.
7. CONTINUOUS NO CUT SPACE SHALL BE REPAIRED OR BEAMS AND GIRDERS AT POINTS WHERE CRITICAL BENDING MOMENT OCCUR IN VERTICAL FOR GIRDERS NO LAP SPLICE SHALL BE LOCATED WITHIN THE JOINTS OR WITHIN A DISTANCE EQUAL TO THEREOF, BUT ADJACENT BEAMS FROM THE FACE OF THE JOINTS.
8. PROVIDE LAP SPLICES IN GIRDERS WITH ROOF REINFORCEMENT OVER THE LENGTH OF THE LAPPED BARS SPACED NO CLOSER THAN ONE-FOURTH THE NOMINAL DEPTH OR 100MM.
9. BOLTED SPLICES AND MECHANICAL CONNECTORS MADE USED FOR SPLICING BEAMS AND GIRDERS INCLUDED THAT ARE MORE THAN ALTERNATE BARS IN EACH LAYER OF LONGITUDINAL REINFORCEMENT. ARE SPLICES AT A SECTION AND THE CENTER TO CENTER DISTANCE BETWEEN SPLICES OF ADJACENT BARS BE AT LEAST 600MM MEASURED ALONG THE AXIS OF THE MEMBER.
10. AT LOCATIONS OF EXPANSION SLABS SECTION OF BEAMS AND GIRDERS SHALL BE REPRESENTED.

CONCRETE SLABS

1. ALL SLAB REINFORCEMENT HAVE A MINIMUM CLEAR DISTANCE OF 20MM FROM THE BOTTOM AND FROM THE TOP OF SLABS.
2. IF SLABS ARE REINFORCED BOTTOMSIDE BARS ALONG THE DISCRETE SPAN SHALL BE PLACED BELOW THOSE ALONG THE LONG SPAN AT THE CENTER AND OVER THE CORNER SPAN BARS FROM THE EDGEWISE, THE SPACING OF THE BARS IN THE COLUMN STRIPS SHALL BE APPROXIMATELY ONE AND ONE-HALF (1-1/2) TIMES IN MIDDLE STRIPS BUT IN NO CASE GREATER THAN TWO AND ONE- HALF (2-1/2) SLAB THICKNESS OR 450MM.
3. TEMPERATURE BARS FOR SLAB SHALL BE GENERALLY PLACED NEAR THE FACE IN TENSION.

REINFORCED CONCRETE WALLS

1. ALL WALLS SHALL BE REINFORCED ACCORDING TO THE FOLLOWING SCHEDULE OF WALL REINFORCEMENTS UNLESS OTHERWISE PROVIDED IN THE PLANS.

WALL THICKNESS (MM)	REINFORCEMENT		REMARKS
	HORIZONTAL	VERTICAL	
100	#10MM @ 200 MM	#10MM @ 200 MM	VERT. BARS @ CORNERS, EQUAL SPACED
125	#10MM @ 200 MM	#10MM @ 200 MM	
150	#10MM @ 200 MM	#10MM @ 200 MM	
175	#12MM @ 200 MM	#10MM @ 200 MM	HORIZ. BARS CURVED WITH FACE/MARG. BARS ENCLOSED INSIDE BOTH FACES
200	#12MM @ 200 MM	#10MM @ 200 MM	
225	#12MM @ 200 MM	#10MM @ 200 MM	
250	#12MM @ 200 MM	#10MM @ 200 MM	

2. REINFORCING BARS SHALL HAVE MINIMUM CLEAR CONCRETE COVER FROM FACE OF WALL EXCEPT FOR WALLS IN CONTACT WITH THE GROUND WHERE A MINIMUM OF 75MM SHALL BE PROVIDED. FOR WALL CAST AGAINST AND PERMANENTLY EXPOSED TO THE EARTH, THE MINIMUM COVER WAS 75MM EQUAL.
3. EARLY VERTICAL BARS AT LEAST 600MM ABOVE FLOOR LEVEL TO PROVIDE FOR SPLICED BARS NECESSARY. HORIZ. AND VERTICAL BARS SHALL BE SPLICED BY LAPPING 2 DISTANCE EQUAL TO 40DIA BAR DIAMETERS AND THESE RECEIVED WITH NO. 16 G.I. WIRE PROVIDED THAT SPACES IN THE ADJACENT BARS ARE STAGGERED AT LEAST 1 SPACE.
4. UNLESS OTHERWISE NOTED IN THE PLAN, ALL OPENINGS IN WALLS 600MM OR SMALLER SHALL BE REINFORCED ACCORD WITH 2-#12 BARS EACH FOR STOREY 100MM THICK WALLS. USE 2-#12 BARS EACH FOR 150MM AND 175MM WALLS. USE 2-#16 BARS EACH , ALL WALLS REINFORCED OTHERWISE SHALL HAVE VERTICAL REINFORCEMENT SET TO U-FORM LIKE STIRRUPS AND SPACED ACCORDING TO THE SCHEDULE UNLESS OTHERWISE NOTED.

MASONRY BLOCK WALLS

1. ALL MASONRY AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATION OF THE PHILIPPINE CONCRETE MASONRY ASSOCIATION AND UNIFORM BUILDING CODE.
2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C 90 GRADE N, NORMAL-WEIGHT BEARING BLOCKS HAVE AN AVERAGE MINIMUM COMPRESSIVE STRENGTH OF 5.6MPa(800PSI)
3. MORTAR AND GROUT FOR ALL REINFORCED MASONRY SHALL CONFORM TO ASTM C270-TYPE M AND HAVE A MINIMUM 28 – DAYS STANDARD CYLINDER COMPRESSIVE STRENGTH OF 17.24 MPa (2500 PSI).
4. ALL CONCRETE MASONRY BLOCKS MASONRY UNITS SHALL BE LAID IN RUNNING BOND (INTERLOCKING COURSE) WITH FULL MORTAR BEDDING. SHOULD BOND SHALL BE USED ONLY WHEN SPECIFIED.
5. ALL CORES SHALL BE SOLIDLY FILLED WITH CONCRETE-GROUT.
6. UNLESS OTHERWISE STATED ALL CONCRETE WALL SHALL BE 150MM & INTERIOR WALL 125MM
7. ALL MASONRY WALLS SHALL BE REINFORCED ACCORDING TO THE FOLLOWING SCHEDULE UNLESS OTHERWISE NOTED IN THE PLANS

WALL THICKNESS	SCHEDULE OF CMU REINFORCEMENT FOR NON-LOAD BEARING WALLS OR PARTITIONS		
	REINFORCEMENT		NOTES
	HORIZONTAL	VERTICAL	
75 MM	#5 MM DIA. BARS AT EVERY OTHER COURSE	#10MM @ MAXIMUM O.C.	a. PROVIDE TOP STRUCK & CORNER REINFORCEMENT OF #10MM DIA. BARS @ MAXIMUM 600 MM LONG @ CORNERS
100 MM		#10MM @ MAXIMUM O.C.	
125 MM	#12MM DIA. BARS AT EVERY OTHER COURSE	#12MM @ MAXIMUM O.C.	b. WHERE THE WALLS ABOVE OPENINGS ARE NOT CONTINUOUS, THE WALLS SHALL BE REINFORCED WITH #10MM DIA. BARS @ MAXIMUM 600 MM LONG @ CORNERS
200 MM		#12MM @ MAXIMUM O.C.	

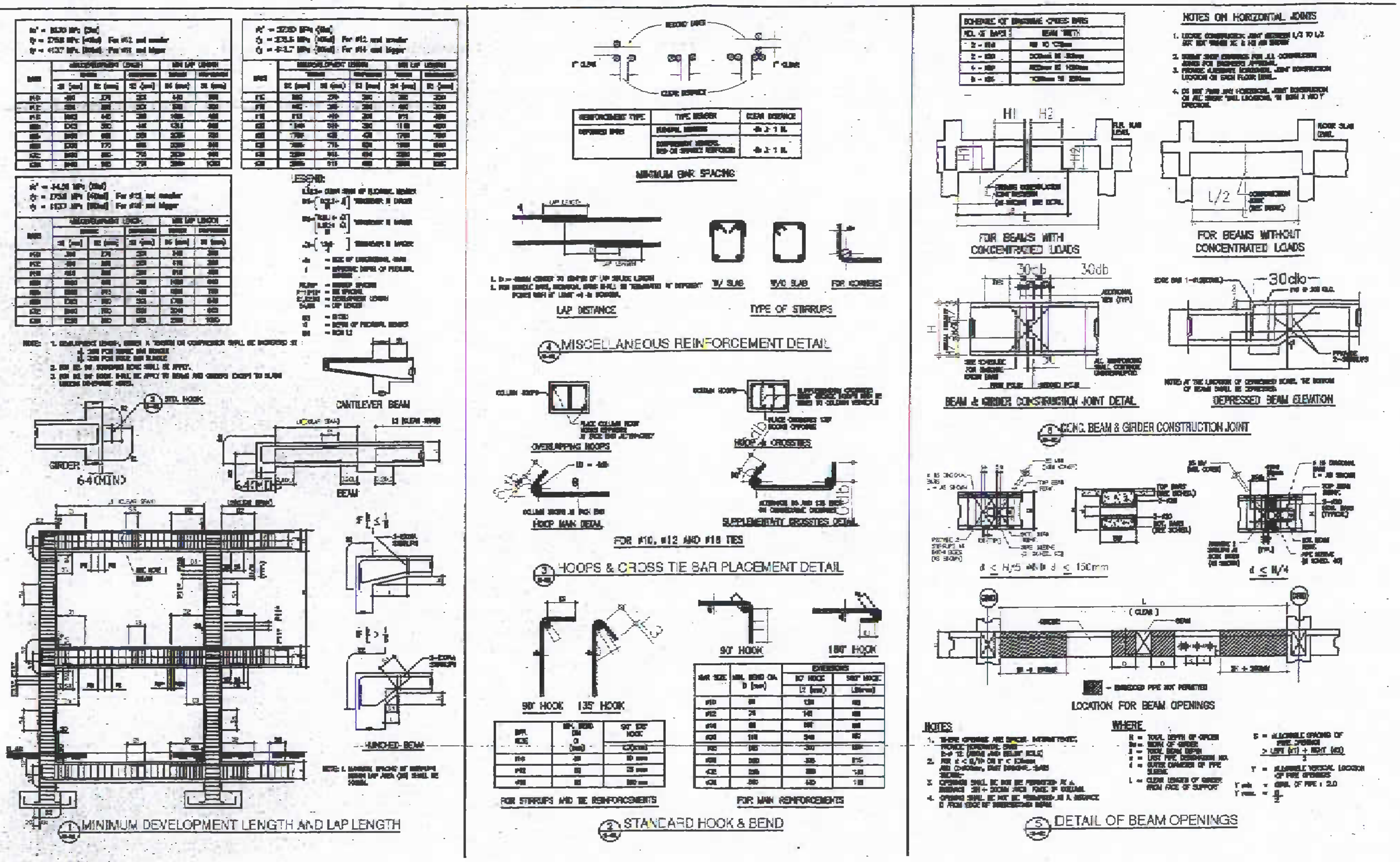
LINTEL BEAM & CMU WALL OPENING (100MM & 150MM THK)						
OPENING SPAN (MM)	TOTAL LOAD KN/M	MIN. fc' MPa	HEIGHT OF LINTEL (MM)	REINFORCEMENT		
				TOP BARS	BOT. BARS	TIES
1000	1000	13.8	300	1 - #12MM	1 - #12MM	#10 @ 200 O.C.
1500	1500	13.8	300	1 - #12MM	1 - #12MM	#10 @ 200 O.C.
1800	2300	13.8	300	1 - #12MM	1 - #12MM	#10 @ 200 O.C.
2000	2500	13.8	300	1 - #12MM	1 - #12MM	#10 @ 200 O.C.
2500	3000	13.8	300	1 - #12MM	2 - #12MM	#10 @ 200 O.C.
3000	3500	13.8	300	1 - #12MM	2 - #12MM	#10 @ 200 O.C.
3500	3500	13.8	300	1 - #12MM	3 - #12MM	#10 @ 200 O.C.
4000	3500	13.8	300	1 - #12MM	3 - #12MM	#10 @ 200 O.C.

SLAB-ON-GRADE

1. THE SOIL UNDERNEATH AND FILL LAYERS BELOW ALL SLABS ON GRADE, FRAME AND PIT SLABS SHALL BE MECHANICALLY COMPACTED IN LAYERS TO A MINIMUM OF 100% PERCENT OF THE MODIFIED PROCTOR DENSITY.
2. UNLESS OTHERWISE NOTED, ALL SLABS ON GRADE SHALL BE REINFORCED WITH #10mm BARS AT 250mm O.C., ENGINEER.
3. SLAB BEARING ON SOIL SHALL BE DESIGNED FOR A MINIMUM SOIL BEARING CAPACITY OF ALLOWANCE TO SUPPORT THE SLAB OR GRADE IS 12 TON/M². PLATE LOAD TEST SHALL BE CONDUCTED AT A RATE OF 1 POINT MINIMUM WHEN 250M² AREA.

PREPARED BY:	CIVIL ENGINEER:	CHECKED BY:	SHEET TITLE:	SHEET CONTENT:	PREPARED BY:	
RNV CONSTRUCTION AND SUPPLY	LENT ROSE T. ALUBOG PRC REG. No. : 0027312 Validity: JUNE 14, 2022 PTR No. 7254531 Date : JAN. 8, 2019 Place : Odiongan, Romblon TIN :	JASON F. RUFON APSPCS Director APPROVED BY: ABRAHAM P. DELUNA RSC Position	Construction of Student Dormitory for the College of Agriculture, Fishery & Forestry LOCATION : ROMBLON STATE UNIVERSITY - San Andres, Romblon	AS SHOWN	CAD OPERATOR: JOB NO. : DATE : DEC. 2018	S-1

STRUCTURAL NOTES



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RNV CONSTRUCTION AND SUPPLY	LENY RO... E. ALUBOG PRC REG. No. : 0127512 Validity: JUNE 14, 2022 PTR No. :7284531 Date: JAN. 8, 2108 Place: Odiongan, Romblon TIN:	... RUFON APPROVED BY: ... DE LUNA	Construction of Student Dormitory for the College of Agriculture, Fishery & Forestry LOCATION : ROMBLON STATE UNIVERSITY - San Andres, Romblon	AS SHOWN	CAD OPERATOR JOB NO. : DATE : DEC. 2018

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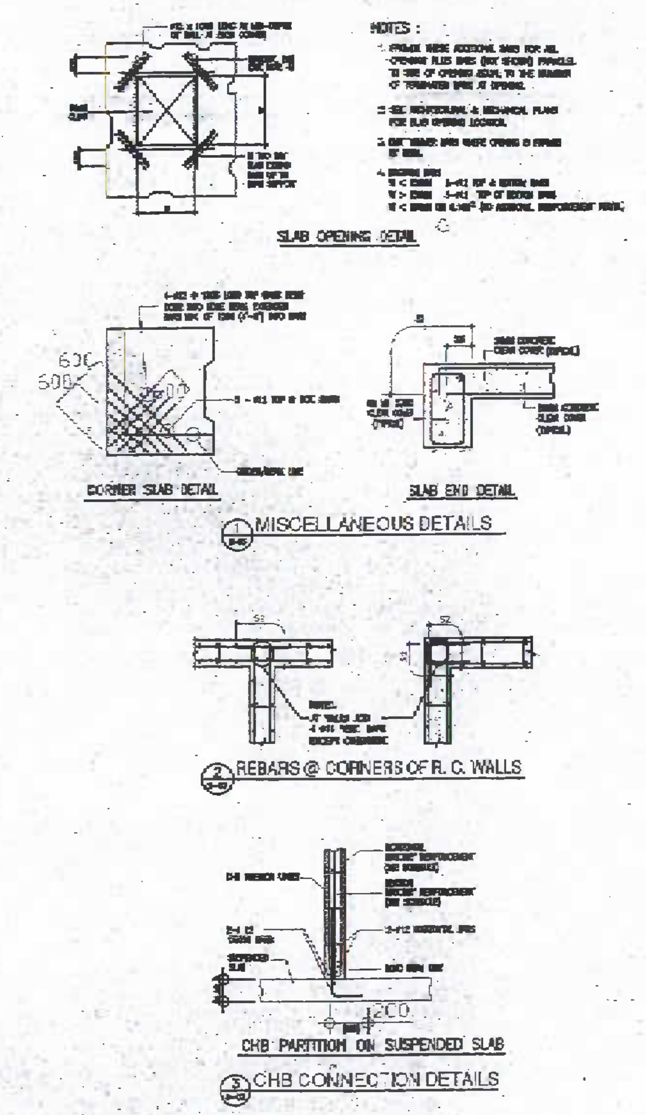
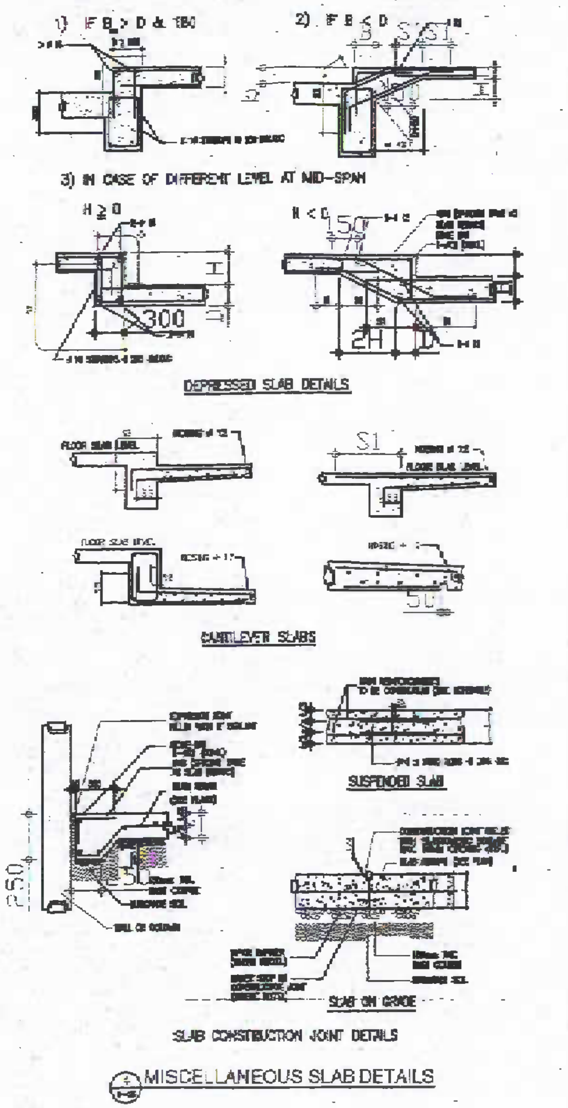
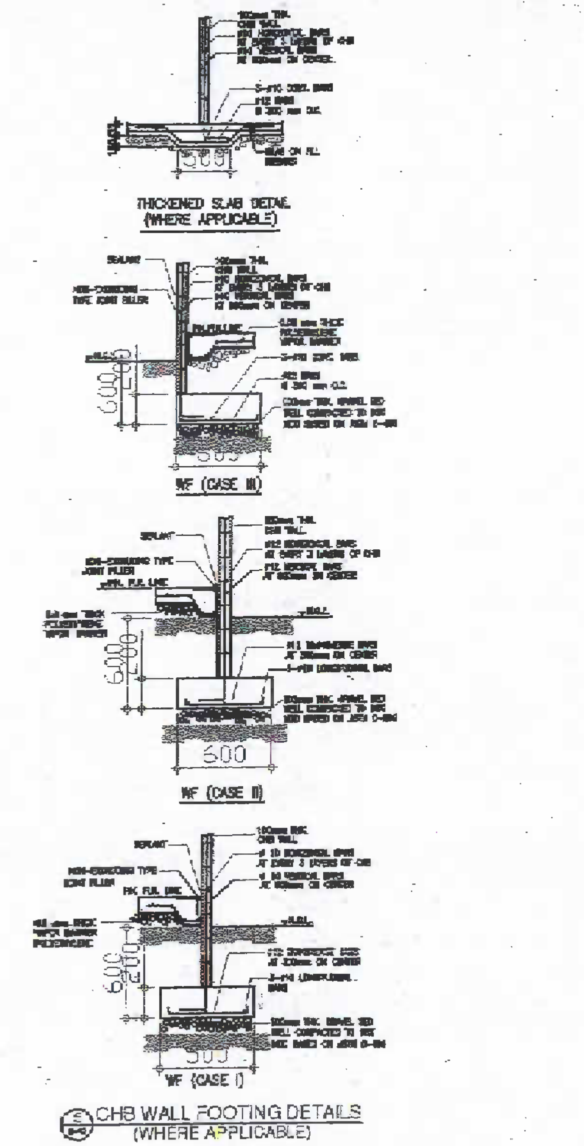
STRUCTURAL NOTES







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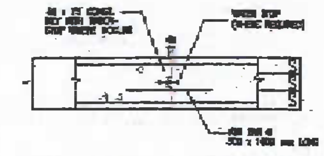
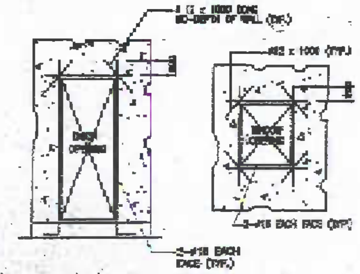
RNV CONSTRUCTION AND SUPPLY	RENT ROSEL J. ALUBOG PRC REG. No. : 0127312 Validity: JUNE 14, 2022 PTR No. 726450 Date: JAN. 8, 2109 Place: Odiongan, Romblon TIN:	JASON P. RUFON APPROVED BY: ARNULFO F. DE LUNA RSU President	Construction of Student Dormitory for the College of Agriculture, Fishery & Forestry LOCATION : ROMBLON STATE UNIVERSITY - San Andres, Romblon	AS SHOWN	CAD OPERATOR JOB NO. : DATE : DEC. 2018	S-3

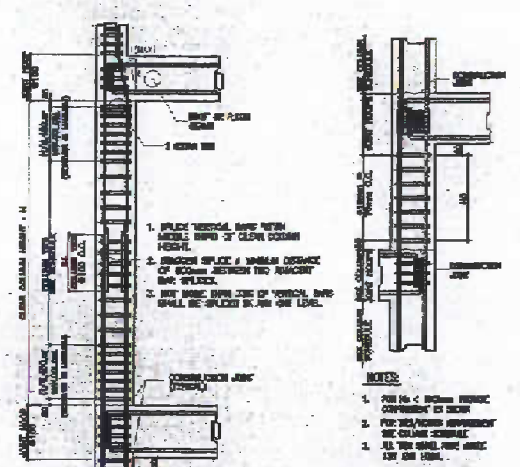
STRUCTURAL NOTES



R. C. WALL CONSTRUCTION JOINT



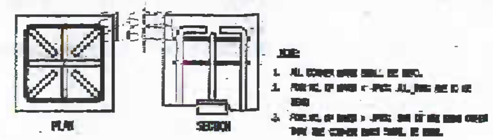
NON-BEARING WALL EXTERIOR WINDOW & DOOR OPENINGS



REINFORCED CONCRETE COLUMN DETAIL

COLUMN DETAILS DUE TO DIFFERENT ELEVATION

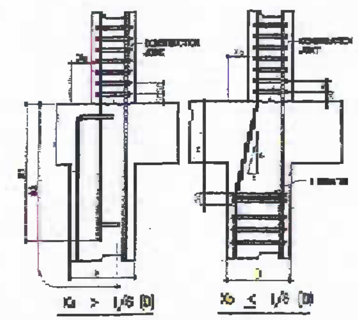
MISCELLANEOUS COLUMN DETAILS



NOTES ON LAP SPLICE:

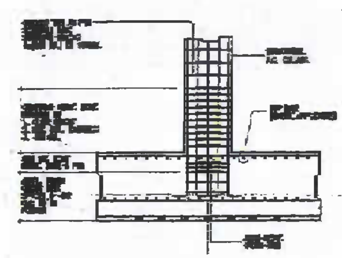
NOTES ON MECHANICAL AND WELDED SPLICE:

SEISMIC RESISTANT COLUMN SPLICING DETAIL



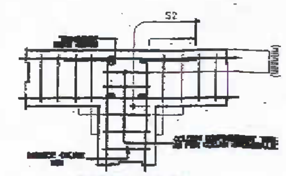
NOTES:

DETAILS DUE TO COLUMN OFFSETS



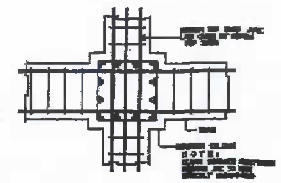
COLUMN VERTICAL BARS EMBEDMENT TO FOOTING DETAIL

BEAM REBAR TERMINATION BEND

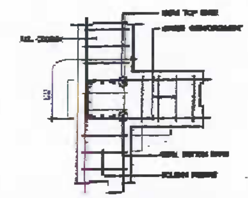


INTERIOR COLUMN TERMINATION BEND

A) AT GIRDER SPAN

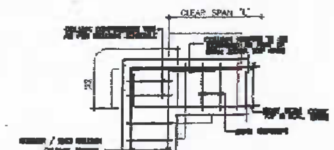


TYPICAL PLAN OF BEAM / GIRDER COLUMN JOINT



B) AT COLUMN INTERSECTION

TYP. BEAM AND GIRDER REBAR LAYOUT



CORNER / EXTERIOR COLUMN TERMINATION BEND

PREPARED BY:	CIVIL ENGINEER:	CHECKED BY:	PROJECT TITLE:	SHEET CONTENT:	PREPARED BY:
RNV CONSTRUCTION AND SUPPLY	LENY ROSE F. ALUBOG PRC REG. No. : 0127312 Validity : JUNE 14, 2022 PTR No. 7254531 Date : JAN. 8, 2108 Place : Odiongan, Romblon TIN :	JASON ... SUFON APPROVED BY: ARQUELITO ... DELUNA	Construction of Student Dormitory for the College of Agriculture, Fishery & Forestry LOCATION: LOCATION: ROMBLON STATE UNIVERSITY - San Andres, Romblon	AS SHOWN	CAD OPERATOR: JOB NO. : DATE :DEC. 2018

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