GENERAL CONSTRUCTION NOTES

GENERAL NOTES:

1. IN THE INTERPRETATION OF THE DRAWING, INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES AND SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
2. IN REFERENCE TO OTHER DRAWINGS, SEE ARCHITECTURAL DRAWINGS FOR DEPRESSIONS IN FLOOR SLABS, OPENINGS IN THE WALLS AND SLABS, INTERIOR PARTITIONS, LOCATION OF DRAINS ETC.
3. IN CASE OF DISCREPANCIES AS TO THE LAYOUT, DIMENSIONS AND ELEVATIONS BETWEEN THE STRUCTURAL PLANS, AND ARCHITECTURAL DRAWINGS, THE CONTRACTOR SHALL NOTIFY BOTH THE STRUCTURAL ENGINEER AND THE ARCHITECT.
4. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE ACI.318 95 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND ALL STRUCTURAL STEEL WORK ACCORDING WITH AISC SPECIFICATION (9TH EDITION) IN SO FAR AS THEY DO NOT CONFLICT WITH THE LOCAL BUILDING CODE REQUIREMENT.
5. ACI REFERS TO AMERICAN CONCRETE INSTITUTE, AISC TO AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND ASTM TO AMERICAN SOCIETY FOR TESTING MATERIALS.
6. CONSTRUCION NOTES AND TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. MODIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.
7. SHOP DRAWINGS WITH ERECTION AND PLACING DIAGRAMS OF ALL STRUCTURAL STEELS, MISCELLANEOUS IRON, PRE-CAST CONCRETE, ETC. SHALL BE SUBMITTED FOR ENGINEERS APPROVAL BEFORE FABRICATION.
8. CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS, SILLS, TOOLS, EQUIPMENTS AND MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS.
9. ALL RESULTS OF MATERIAL TESTING FOR CONCRETE, REINFORCING BARS & STRUCTURAL STEEL MUST BE NOTED & APPROVED BY THE STRUCTURAL DESIGNER.

NOTES ON CONCRETE MIXES & PLACING:

1. ALL CONCRETE SHALL DEVELOP A MIN. COMPRESSIVE STRENGTH AT THE END OF TWENTY EIGHT (28) DAYS W/ CORRESPONDING MAXIMUM SIZE AGGREGATE 7 SLUMPS AS FOLLOWS.

LOCATION	28 DAYS STRENGTH	MAX SIZE OF AGGREGATE	MAX. SLUMP
ALL OTHERS, INCLUDING SUSPENDED SLABS	4000 PSI (27.6 MPa)	20mm	100mm
COLUMNS	4000 PSI (27.6 MPa)	20mm	100mm
BEAMS, SLABS	4000 PSI (27.6 MPa)	20mm	100mm
SLAB ON FILL	4000 PSI (27.6 MPa)	20mm	100mm

2. MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS.
   - SUSPENDED SLABS---------- 20mm
   - SLAB ON GRADE---------- 40mm
   - WALLS ABOVE GRADE---------- 25mm
   - BEAM STIRRUPS AND COLUMN TIES---------- 40mm
   - WHERE CONCRETE IS EXPOSED TO EARTH BUT POURED AGAINST FOR FORMS---------- 50mm
   - WHERE CONCRETE IS EXPOSED TO EARTH BUT POURED AGAINST FOR FORMS---------- 75mm
3. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGRAGATION, RE-HANDLING OR PLACING SHALL BE DONE PREFERABLY WITH BUGGIES, BUCKET OR WHEELBARROWS, NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUGGIES, WHEELBARROWS OR BUCKETS IN WHICH CASE THEY SHALL NOT EXCEED SIX (6) METERS IN AGGREGATE LENGTH.
4. NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITING BY THE DESIGNERS AND ONLY FOR UNUSUAL CONDITIONS WHERE VIBRATIONS IS EXTREMELY DIFFICULT TO ACCOMPLISH.
5. ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS SHALL BE PROPERLY POSITIONED & SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
6. ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF SEVEN CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER APPROVED METHODS.
7. STRIPPING OF FORMS AND SHORES:
   - FOUNDATION---------- 24 HRS.
   - SUSPENDED SLAB EXCEPTWHEN ADDITIONAL LOADS ARE IMPOSED---------- 8 DAYS
   - WALLS---------- 21 DAYS.
   - BEAMS---------- 14 DAYS.
   - COLUMNS---------- 21 DAYS.
8. THE CONTRACTOR SHALL SUBMIT THE SCHEDULE OF POURING AND THE LOCATION OF THE CONSTRUCION JOINTS TO THE STRUCTURAL ENGINEER AT LEAST (4) DAYS PRIOR TO THE POURING FOR APPROVAL.
9. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE FORMS AND SHORING UNTIL THE CONCRETE MEMBERS HAVE ATTENDED THEIR WORKING CONDITION AND STRENGTH.

NOTES ON FOOTING:

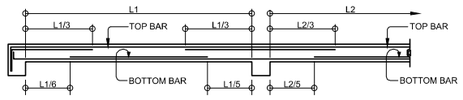
1. FOOTINGS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 203 KPa. CONTRACTOR SHALL REPORT TO THE ENGINEER, IN WRITING THE ACTUAL SOIL CONDITIONS UNCOVERED AND CONFIRM ACTUAL BEARING CAPACITY OF SOIL BEFORE DEPOSITING CONCRETE.
2. FOOTINGS SHALL REST AT LEAST 3000mm BELOW NATURAL GRADE LINE UNLESS OTHERWISE INDICATED IN PLANS. NO FOOTINGS SHALL REST ON FILL.
3. MINIMUM CONCRETE PROTECTION FOR REINFORCEMENTS SHALL BE 75mm CLEAR FOR CONCRETE AGAINST A FORMWORK.

NOTES ON REINFORCEMENT:

1. UNLESS OTHERWISE NOTED IN PLANS, THE YIELD STRENGTH OF REINFORCING BARS SHALL BE:
   - A. FOOTINGS, FOOTING BEAMS AND GIRDERS---------- fy = 413 MPa (60,000psi)
   - B. COLUMNS AND SHEAR WALLS---------- fy = 413 MPa (60,000psi)
   - C. BEAMS / GIRDERS / SUSPENDED SLABS---------- fy = 413 MPa (60,000psi)
   - D. NON - LOAD BEARING WALL PARTITIONS, SLAB ON FILL, PARAPETS, CATCH BASIN, SIDE WALK---------- fy = 413 MPa (60,000psi)
2. ALL REINFORCING BARS SIZE 10mm OR LARGER SHALL BE DEFORMED IN ACCORDANCE WITH ASTM A 706. BARS SMALLER THAN 10mm MAY BE PLAIN.
3. SPLICES SHALL BE SECURELY WIRED TOGETHER & SHALL LAP OR EXTEND IN ACCORDANCE W/ TABLE A & TABLE B (TABLE OF LAP SPLICE & AND ANCHORAGE LENGTH) UNLESS OTHERWISE SHOWN ON DRAWINGS, SPLICES SHALL BE STAGGERED WHENEVER POSSIBLE.

NOTES ON CONCRETE SLABS:

1. ALL SLAB REINFORCEMENTS SHALL BE 20mm CLEAR MINIMUN FROM BOTTOM AND FROM THE TOP OF SLAB.
2. UNLESS OTHERWISE SHOWN, REINFORCEMENT IN CONTINUOUS ELEVATED SLAB SHALL BE CUT AS FOLLOWS:

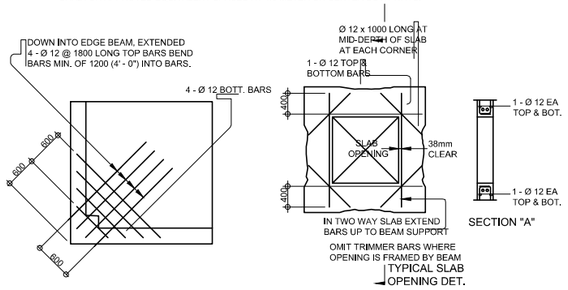


TYPICAL BAR BENDING AND CUTTING DETAILS FOR SLAB:

3. IF SLABS ARE REINFORCED BOTH WAYS BARS ALONG THE SHORTER SPAN SHALL BE PLACED BELOW THOSE ALONG THE LONG SPAN AT THE CENTER AND OVER THE LONGER SPAN FOR REINFORCING BARS NEAR THE SUPPORTS, THE SPACING OF THE BARS AT THE COLUMN STRIPS SHALL NOT BE MORE THAN ONE AND A HALF (1 1/2) SLAB THICKNESS.
4. TEMPERATURE BARS FOR SLAB SHALL BE GENERALLY PLACED NEAR THE FACE IN TENSION AND SHALL BE NOT LESS THAN 0,0025 X GROSS CROSS-SECTIONAL AREA (Ag) OF THE SLAB (SEE SCHEDULE BELOW)

SCHEDULE OF MINIMUM SLAB REINFORCEMENT	
THICKNESS	MINIMUM TEMPERATURE BARS
100 mm	10 mm Ø @ 250mm EACH WAY
125 mm	10 mm Ø @ 225mm EACH WAY
150 mm	10 mm Ø @ 185mm EACH WAY
175 mm	10 mm Ø @ 150mm EACH WAY
200 mm	CO

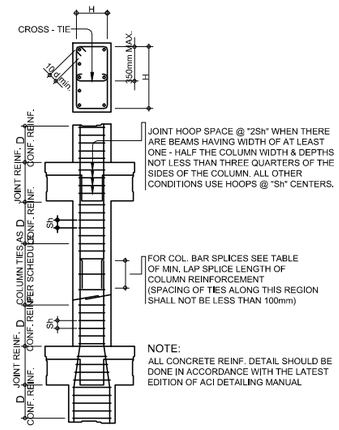
5. UNLESS OTHERWISE NOTED IN THE PLANS ALL BEDDED SLABS SHALL BE REINFORCED WITH 10 mm Ø 250mm O.C. EACH WAY TO CENTER OF SLAB AND CONSTRUCTION JOINTS FOR SAME SHALL NOT BE LESS THAN 3.65 METER APART.
6. PROVIDE EXTRA REINFORCEMENTS FOR CORNER SLAB (TWO ADJACENT DISCONTINUOUS EDGES) AS SHOWN BELOW.
7. CONCRETE SLAB REINFORCEMENTS SHALL BE PROPERLY SUPPORTED WITH 10mm Ø STEEL CHAIR OR APPROVED EQUIVALENT SPACED AT 1.0 METER ON CENTER BOTH WAYS.



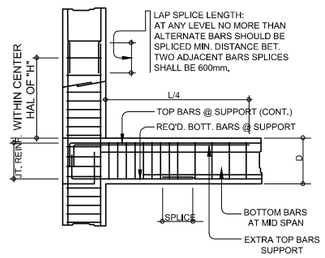
TYPICAL CORNER SLAB DETAIL

NOTES ON COLUMNS:

1. PROVIDE EXTRA SETS OF TIES AT 100mm O.C. FOR TIED COLUMN REINFORCEMENT ABOVE AND BELOW BEAM-COLUMN CONNECTIONS FOR A DISTANCE FROM FACE OF CONNECTION EQUAL TO THE GREATER OF THE OVERALL THICKNESS OF COLUMN, 1/6 THE CLEAR HEIGHT OF COLUMN OR 450mm.
2. COLUMN TIES SHALL BE PROTECTED EVERYWHERE BY A COVERING OF CONCRETE CAST MONOLITHICALLY WITH THE CORE WITH THE MINIMUM THICKNESS OF 40mm AND NOT LESS THAN 40 TIMES THE MAXIMUM SIZE COARSE AGGREGATE IN MILLIMETERS.
3. WHERE COLUMNS CHANGE IN SIZE, VERTICAL REINFORCEMENTS SHALL BE OFFSET AT A SLOPE OF NOT MORE THAN 1 IN 6 AND EXTRA 10mm TIES AT 100mm SHALL BE PROVIDED THRU OUT THE OFFSET REGION.
4. UNLESS OTHERWISE INDICATED IN THE PLANS, LAP SPLICES FOR VERTICAL COLUMN REINFORCEMENT SHALL BE MADE OF WITHIN THE CENTER HALF OF COLUMN HEIGHT, AND THE SPLICE LENGTH SHALL NOT BE LESS THAN 40 BAR DIAMETERS. WELDING OR APPROVED MECHANICAL DEVICES MAY BE USED PROVIDED THAT NOT MORE THAN ALTERNATE BARS ARE WELDED OR MECHANICALLY SPLICED AT ANY LEVEL AND THE VERTICAL DISTANCES BETWEEN THESE WELDS OR SPLICES OF ADJACENT BARS IS NOT LESS THAN 600mm.



TYPICAL COLUMN ELEV. SHOWING DOWELS AND TIES SPACING



TYP. DETAIL OF COL. LAP SPLICE & EXT.GIRDER TO COL. CONNECT

NOTES ON BEAMS & GIRDERS:

1. UNLESS OTHERWISE NOTED IN PLANS, CAMBER ALL BEAMS AND GIRDER AT LEAST 6mm Ø FOR EVERY 4.50m OF SPAN, EXCEPT CANTILEVERS FOR WHICH THE CAMBER SHALL BE AS NOTED IN PLANS OR AS ORDERED BY THE ENGINEER BUT IN NO CASE LESS THAN 20mm FOR EVERY 3.0m OF FREE SPAN.
2. TYPICAL BAR BENDING AND CUTTING DETAILS FOR BEAMS SHALL BE AS SHOWN IN FIG. B - 1.

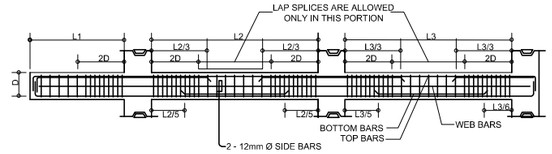


FIG. B - 1

TABLE 'A'
TENSION BARS
EMBEDMENT LENGTHS AND LAPPED SPLICED IN MILLIMETERS

BAR SIZE (DEFORMED)	fc' = 20.7 MPa (3000psi)		fc' = 27.6 MPa (4000psi)	
	EMBEDMENT	LAPPED	EMBEDMENT	LAPPED
10 mm Ø	300	300	300	300
12 mm Ø	300	300	300	300
16 mm Ø	300	400	300	400
20 mm Ø	400	550	350	500
25 mm Ø	600	800	550	750
28 mm Ø	750	1000	650	850
32 mm Ø	950	1300	850	1100

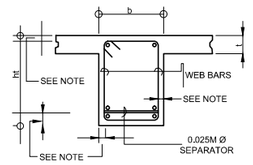
NOTE: TOP PLAIN BARS , MULTIPLY VALUE BY 2

TABLE 'B'
COMPRESSION BARS
EMBEDMENT LENGTHS AND LAPPED SPLICED IN MILLIMETERS

BAR SIZE (DEFORMED)	fc' = 20.7 MPa (3000psi)		fc' = 27.6 MPa (4000psi)	
	EMBEDMENT	LAPPED	EMBEDMENT	LAPPED
10 mm Ø	225	300	200	300
12 mm Ø	275	300	250	300
16 mm Ø	350	400	325	400
20 mm Ø	450	500	475	500
25 mm Ø	550	625	550	625
28 mm Ø	625	675	625	675
32 mm Ø	700	775	700	775

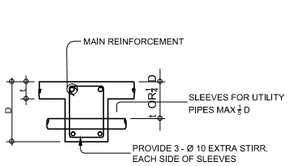
NOTE: TOP PLAIN BARS , MULTIPLY VALUE BY 2 VALUES GIVEN ABOVE CAN ALSO BE USED FOR COLUMNS.

3. IF THE BEAM REINFORCING BARS END IN A WALL THE CLEAR DISTANCE FROM THE BAR TO THE FARTHER FACE OF THE WALL NOT BE LESS THAN 25mm. EMBEDMENT LENGTH SHALL BE AS SHOWN IN A TABLE 'A' FOR TENSION BARS AND TABLE 'B' FOR COMPRESSION BARS UNLESS SPECIFIED IN PLAN. TOP BAR SHALL NOT BE SPLICED WITHIN THE COLUMN OR WITHIN A DISTANCE TWICE THE MEMBER DEPTH FROM THE FACE OF THE COLUMN. AT LEAST TWO STIRRUPS SHALL BE PROVIDED AT ALL SPLICES.
4. IF THERE ARE TWO OR MORE LAYERS OF REINFORCING BARS, USE 25mm Ø BAR SEPARATORS SPACED AT 1.0M ON CENTER. IN NO CASE SHALL THERE BE LESS THAN TWO (2) SEPARATORS BETWEEN TWO LAYERS OF BARS.
5. MINIMUM CONCRETE PROTECTION FOR REINFORCING BARS OR STEEL SHAPES SHALL BE AS SHOWN IN FIG. B-2 UNLESS SPECIFIED ELSEWHERE.



NOTE 1
20 mm CLEAR FOR JOIST
40 mm CLEAR FOR BEAMS AND GIRDERS

FIG. B - 2



TYP. DETAIL FOR SLEEVES THRU CONCRETE BEAM

FIG. B - 3

6. WHEN A BEAM CROSSES A GIRDER, REST BEAM ON TOP OF GIRDER BARS. BEAM REINFORCING BAR SHALL BE SYMMETRICAL ABOUT CENTER LINE WHENEVER POSSIBLE.
7. GENERALLY NO SPLICES SHALL BE PERMITTED AT POINTS WHERE CRITICAL BENDING STRESSES OCCUR, SPLICES WHERE SO PERMITTED SHALL BE INDICATED IN THE TABLE 'A' AND 'B' WELDED SPLICES SHALL DEVELOP IN TENSION AT LEAST 125 % OF THE SPECIFIED YIELD STRENGTH OF THE BAR, NOT MORE THAN 50% OF THE BARS AT ANY SECTION IS ALLOWED TO BE SPLICED THEREIN.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF SCIENCE AND TECHNOLOGY
PHILIPPINE SCIENCE HIGH SCHOOL
MIMAROPA REGION CAMPUS
BRGY. RIZAL, ODIONGAN, ROMBLON

SGOCERT Certificate No.SCP/0004332

PROJECT TITLE:	PREPARED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
CONSTRUCTION OF SPORTS FACILITIES MIMAROPA REGION CAMPUS, ODIONGAN, ROMBLON	KEN JAMES F. FADRIQUELA RESIDENT CIVIL ENGINEER	MERIAM F. FALLAR ADMINISTRATIVE OFFICER V	EDWARD C. ALBARACIN CAMPUS DIRECTOR III	AS SHOWN	

GENERAL CONSTRUCTION NOTES

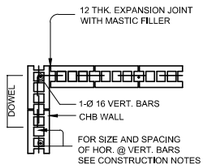
NOTES ON CONCRETE HOLLOW BLOCK WALLS:

1. UNLESS OTHERWISE SHOWN IN PLANS ALL CONCRETE HOLLOW BLOCK AND CERAMIC BLOCKS SHALL BE REINFORCED AS SHOWN IN THE SCHEDULE OF CONCRETE HOLLOW BLOCKS AND CERAMIC BLOCK REINFORCEMENT.
2. PROVIDE 150mm x 300mm STIFFENER COLUMN REINFORCED WITH 4 - 12mm WITH 6mmØ TIES AT 150mm ON CENTER WHERE CONCRETE HOLLOW BLOCK TERMINATES AND AT EVERY 3.0m LENGTH OF CONCRETE HOLLOW BLOCK WALLS UNLESS NOTED IN STRUCTURAL PLANS.

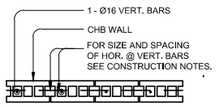
SCHEDULE OF CONCRETE HOLLOW BLOCK AND CERAMIC BLOCK REINFORCEMENT			
BLOCK THICKNESS	REINFORCEMENT		NOTES
	HORIZONTAL	VERTICAL	
75mm	10mmØ @ 600mm O.C.	10mmØ @ 600mm O.C.	A. MINIMUM LAPS AT SPLICE = 0.25m B. PROVIDE RIGHT AZOOM E NGLED REINFORCEMENT AT CORNERS 0,92m LONG C. WHERE CHB OR CER. BLK. WALL DOWELS JOIN COL. R.C. BEAMS AND WALL DOWELS WITH THE SAME SIZE AS VERT. OR HOR. REINFORCEMENT SHALL BE PROVIDED
125mm	10mmØ @ 600mm O.C.	10mmØ @ 600mm O.C.	
150mm	10mmØ @ 600mm O.C.	10mmØ @ 600mm O.C.	
200mm	12mmØ @ 600mm O.C.	12mmØ @ 600mm O.C.	

REINFORCING CONCRETE LINTEL BEAM IN CONCRETE BLOCKS WALLS

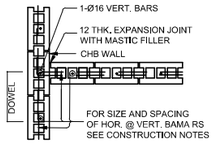
LINTELS IN BLOCK WALLS						
CLEAR SPAN ("L")	TOTAL LENGTH (L+ 0.40m)	MIN. fc' (MPa)	HEIGHT OF LINTEL (MM)	REINFORCEMENT		
				BOTTOM	TOP	STIRRUPS
1.20M	1.60M	14.0	200	1-Ø 10	1-Ø 10	Ø6mm @ 200mm
1.50M	1.90M		200	1-Ø 10	1-Ø 10	Ø6mm @ 200mm
1.80M	2.20M		200	1-Ø 12	1-Ø 10	Ø6mm @ 200mm
2.10M	2.50M	17.0	250	1-Ø 12	1-Ø 10	Ø6mm @ 200mm
2.40M	2.90M		250	1-Ø 12	1-Ø 10	Ø6mm @ 200mm
2.70M	3.10M		250	1-Ø 16	1-Ø 12	Ø10mm @ 200mm
3.00	3.40M	20.0	300	1-Ø 16	1-Ø 12	Ø10mm @ 200mm
3.30	3.70M		300	1-Ø 16	1-Ø 12	Ø10mm @ 200mm
3.60	4.00M		300	1-Ø 20	1-Ø 12	Ø10mm @ 200mm



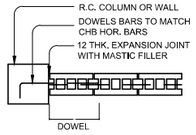
CORNER WALL



OPENING OR END WALL

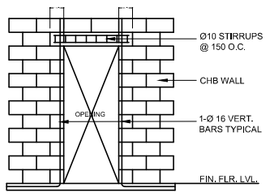


INTERSECTION WALL

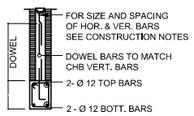


INTERSECTING R.C. COL. OR WALL

TYPICAL CONNECTION DETAIL OF MASONRY WALL

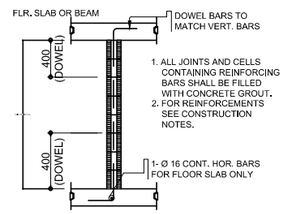


ELEVATION

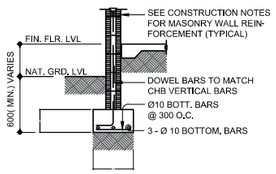


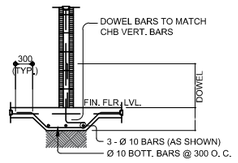
SECTION

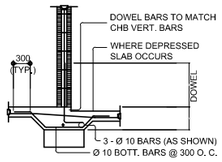
TYP. DET. OF LINTEL BEAM AT CHB WALL OPENING



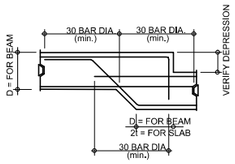
TYP. SECTION OF MASONRY PARTITION REINFORCEMENTS







TYPICAL CHB FOOTING DETAILS (WHERE APPLICABLE)



TYPICAL DETAIL FOR BEAM OR SLAB CHANGE SOFFIT

NOTE :

PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF RA. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE FACILITY/IES/STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

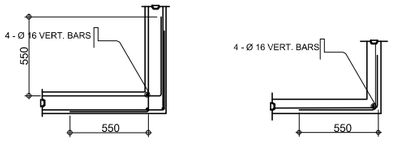
NOTES ON CONCRETE WALLS:

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

WALL THICKNESS	REINFORCEMENT			VERTICAL SECTION
	HORIZONTAL	VERTICAL	REMARKS	
100mm	10mmØ @ 250mm O.C.	10mmØ @ 300mm O.C.	HORIZONTAL BARS AT CENTERS VERTICAL BARS STAGGERED OUT	VERT. BARS HORIZ BARS
125mm	10mmØ @ 200mm O.C.	10mmØ @ 250mm O.C.		
150mm	12mmØ @ 250mm O.C.	12mmØ @ 300mm O.C.		

REINFORCING BARS SHALL HAVE 25mm CLEAR CONCRETE COVER FROM FACE OF WALL EXCEPT FOR WALLS IN CONTACT WITH THE GROUND WHERE A MINIMUM OF 60mm SHALL BE PROVIDED, AND FOR EXPOSED FACES OF FORMED WALLS WHERE THE MINIMUM SHALL BE 50mm CLEAR.

2. CARRY VERTICAL BARS AT LEAST 60mm ABOVE FLOOR LEVEL TO PROVIDE FOR SPLICES WHEN NECESSARY STOP AT 50mm BELOW TOP SLAB OR SOLID BAND WHERE THE WALL ENDS VERTICAL AND HORIZONTAL BARS SHALL BE SPLICED BY LAPPING A DISTANCE EQUAL TO 30 DIAMETERS AND WIRED SECURELY WITH 16 G.I. WIRE PROVIDED THAT SPLICES IN ADJACENT BARS ARE STAGGERED AT LEAST 1.50M O.C.
3. UNLESS OTHERWISE NOTED IN THE PLANS, ALL OPENINGS IN WALLS 250mm OR THICKER SHALL BE REINFORCED AROUND WITH 2-20mm Ø BARS FOR 225mm, 200mm, 175mm, 150mm, USE 2-16mm Ø 125mm AND 100mm WALLS, USE 2-12mm Ø BARS. ALL WALLS SPANNING SHALL HAVE VERTICAL REINFORCEMENT BENT TO A U-FORM LIKE STIRRUPS AND SPACED ACCORDING TO THE SCHEDULE UNLESS OTHERWISE NOTED. (SEE FIG. 1)



TYPICAL CONNECTION DETAIL OF R.C. WALL AT CORNERS

NOTES ON WELDS:

1. USE E70xx ELECTRODES FOR ALL MEMBERS WELDED.
2. WELDS SHALL DEVELOP THE FULL STRENGTH OF MEMBERS JOINED UNLESS OTHERWISE SHOWN OR DETAILED IN THE DRAWINGS.

NOTES ON STRUCTURAL STEEL:

1. STRUCTURAL STEEL TO BE USED FOR FABRICATION AND ERECTION OF THIS STRUCTURE SHALL COMPLY WITH ALL THE PERTINENT PROVISION OF AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING LATEST EDITION.
2. ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A36 STRUCTURAL STEEL UNLESS OTHERWISE INDICATED.
3. ALL WELDED CONNECTIONS SHALL DEVELOP THE FULL STRENGTH OF THE MEMBERS CONNECTED.
4. UNLESS OTHERWISE SPECIFIED ALL WELDING RODS SHALL CONFORM AWS R60 ELECTRODES.
5. ALL BOLTS USED UNLESS OTHERWISE SPECIFIED SHALL BE ASTM A 307 BOLTS.

NOTES ON EMBEDED PIPES:

A. ALL EMBEDED PIPES FOR UTILITIES, ETC. THAT PASS THRU BEAMS SHALL NOT EXCEED 100mm IN DIAMETER OR 1/4 BEAM DEPTH WHICHEVER IS LESS, UNLESS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
B. NO PIPES SHALL BE ALLOWED TO PASS THRU BEAMS VERTICALLY.
C. NO PIPES SHALL BE EMBEDED IN COLUMNS.

DESIGN CRITERIA:

1. LOADINGS
A. DEAD LOAD
CONCRETE -23.56kN/m³
STEEL -76,93kN/m³
150mm THK. CHB WALL -2.77 kPa
150mm THK. CHB WALL -2.11 kPa

B. LIVE LOAD
ROOF -1.00 kPa

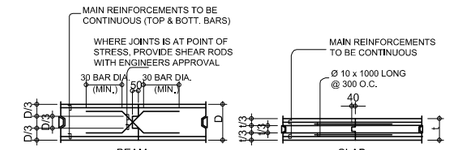
C. WIND LOAD (NSCP 2010)
BASIC WIND VELOCITY, V = 250 KPH
P = qh [(GCpf)-(GCpi)] (DESIGN WIND PRESSURE)
WHERE: qh = VELOCITY PRESSURE, kPa
GCpf = EXTERNAL PRESSURE COEFFICIENT
GCpi = INTERNAL PRESSURE COEFFICIENT

D. SEISMIC LOAD (NSCP 2010)
V = (2I/R) w (DESIGN BASE SHEAR)
Vmax = (2.5/R) Ca w Vmin = 0,11 Ca w
Vmin = (2.5/R) ZNw (ZONE 4)
WHERE: w = TOTAL DEAD LOAD
T = NATURAL PERIOD = Ct (ht)
WHERE: C = NUMERICAL COEFFICIENT
h = BUILDING HEIGHT
I = IMPORTANCE FACTOR = 1,50
R = NUMERICAL FACTOR = 8,50
SEISMIC COEFFICIENT Cv = 0,44Nv
Ca = 0,64N
NEAR SURFACE FACTOR (10km) Nv = 1.2
Na = 1,0
Z = SEISMIC ZONE = 0.40 (ZONE 4)
S = SOIL TYPE = D

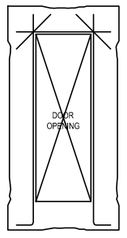
2. DESIGN STRESSES
A. CONCRETE
COMPRESSIVE STRENGTH @ 28 DAYS fc' = 20.7 MPa (3,000 psi)
B. REINFORCING BARS
a. FOR BARS 16mm Ø AND GREATER fc' = 275 MPa (40,000 psi)
b. FOR BARS LESS THAN 16mm Ø fc' = 230 MPa (33,000 psi)
C. STRUCTURAL STEEL, ASTM A-36
FOR TRUSSES, BRACINGS & STRUTS fc' = 248 MPa (36,000 psi)
D . PURLINS
COLD FORMED LIGHT GAGE SHAPES fc' = 248 MPa (36,000 psi)
E. MASONRY UNIT (CHB)
NON-LOAD BEARING CHB WALLS fm' = 3.45 MPa (500 psi)
G. STRUCTURAL BOLTS, ASTM - A307
a. Ft = 96.60 MPa (14,000 psi) b. Fv = 69 Mpa (10,000 psi)

NOTES ON CONSTRUCTION JOINTS IN CONCRETE:

1. WHERE A CONSTRUCTION JOINT IS TO BE MADE, THE SURFACE OF CONCRETE SHALL BE CLEANED AND ALL LAITANCE AND STANDING WATER REMOVED. SHEAR KEY SHALL BE PROVIDED AT THE JOINT.



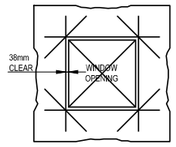
TYPICAL SLAB & BEAM CONSTRUCTION JOINT DET.



NOTE:

PROVIDE THESE ADDITIONAL BARS FOR ALL OPENINGS PLUS BARS (NOT SHOWN PARALLEL TO SIDE OF OPENING EQUAL TO THE NUMBER OF TERMINATED BARS AT OPENING

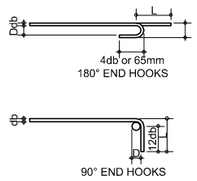
SEE ARCHITECTURAL & MECHANICAL PLANS FOR SLAB OPENING LOCATION.

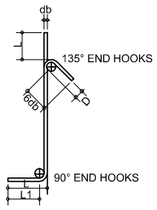


TYP. EXTERIOR WINDOW & DOOR OPEING

NOTES OF STIRRUPS:

1. ALL REINFORCEMENT SHALL BE BENT COULD UNLESS OTHERWISE PERMITTED BY THE STRUCTURAL ENGINEER.
2. REINFORCEMENT PARTIALLY EMBEDED IN CONCRETE SHALL NOT BE FILLED BENT, EXCEPT AS SHOWN IN THE DESIGN DRAWINGS OR PERMITTED BY THE STRUCTURAL ENGINEER.
3. TIES & CLOSE STIRRUPS MUST BE BENT AT 135°.





MAIN BAR END HOOKS (ALL GRADES)				
BAR SIZE (DEFORMED)	DIAMETER (mm)	180 ° HOOK		90° HOOK
		D + 2db	L	L
10 mm Ø	60	75	125	150
12 mm Ø	75	100	150	200
16 mm Ø	95	125	175	250
20 mm Ø	115	150	200	300
25 mm Ø	150	200	230	450
28 mm Ø	240	300	350	550
32 mm Ø	300	335	450	600

STIRRUP AND TIE HOOKS (ALL GRADES)				
BAR SIZE (DEFORMED)	DIAMETER (mm)	180 ° HOOK		90° HOOK
		D + 2db	L	L
10 mm Ø	40	125	85	100
12 mm Ø	50	165	115	115
16 mm Ø	65	200	140	150
20 mm Ø	115	250	265	300
25 mm Ø	150	365	230	405

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF SCIENCE AND TECHNOLOGY
PHILIPPINE SCIENCE HIGH SCHOOL
MIMAROPA REGION CAMPUS
BRGY. RIZAL, ODIONGAN, ROMBLON

SOCOTEC Certificate No.SC/0006332

PROJECT TITLE:	PREPARED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
CONSTRUCTION OF SPORTS FACILITIES MIMAROPA REGION CAMPUS, ODIONGAN, ROMBLON	KEN JAMES F. FADRIQUELA RESIDENT CIVIL ENGINEER	MERIAM F. FALLAR ADMINISTRATIVE OFFICER V	EDWARD C. ALBARACIN CAMPUS DIRECTOR III	AS SHOWN	

GENERAL CONSTRUCTION NOTES

STRUCTURAL SPECIFICATIONS

A.NOTES ON CONCRETE MIXES AND PLACING:

A.1 FOOTING ,COLUMNS, SLABS BEAMS, GIRDERS & STAIRS
f 'c=20.68 MPa (3,000psi) AT 28 DAYS

A.2 GROUND FLOOR SLAB ON FILL
f 'c =17.24 MPa (2,500 psi) AT 28 DAYS

A.3 OTHERS NOT SPECIFIED
f 'c =20.68 MPa (3,000 psi) AT 28 DAYS

A.4 CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, REHANDLING OR FLOWING. PLACING SHALL BE DONE PREFERABLY WITH BUGGIES, BUCKETS, OR WHEEL BARROWS, NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUGGIES, WHEEL BARROWS OR BUCKETS IN WHICH CASE THEY SHALL NOT EXCEED SIX THOUSAND (6000 mm) IN AGGREGATE LENGTH.

NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITING BY THE DESIGNERS AND ONLY FOR UNUSUAL CONDITIONS WHERE VIBRATORS IS EXTREMELY DIFFICULT TO ACCOMPLISH.

B.NOTES ON REINFORCEMENTS:

B.1 ALL MILD REINFORCING BARS SHALL BE ROUND " DEFORMED STRUCTURAL GRADE " CONFORMING TO ASTM A-615 fy = 275 MPa (40 ksi) (12mm Ø AND BELOW), fy = 415 MPa (60ksi) (16mm Ø AND ABOVE)

B.2 ALL REINFORCING BAR DIAMETER IN MILLIMETER INDICATED ON THE PLANS SHOULD BE STRICTLY FOLLOWED. ANY DEVIATION FROM THOSE SPECIFIED SHALL HAVE THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.

B.3 WHERE SPLICING IS REQUIRED; SLAB, BEAM AND GIRDER REINFORCING BARS SHALL BE SPLICED AT QUARTER POINTS AND A MINIMUM LENGTH OF 40 TIMES THE DIAMETER OF THE BAR.(SEE TYPICAL BEAM DETAIL)

B.4 COLUMN VERTICAL BARS SHALL BE SPLICED AT MIDDLE THIRD OF UNSUPPORTED LENGTH, AND A MINIMUM LENGTH OF 40D.

ALSO NOT MORE THAN 50% OF THE TOTAL NUMBER OF BARS SHALL BE SPLICED AT ANY GIVEN SECTION.

C.NOTES ON STRUCTURAL STEEL:

C.1 ALL STRUCTURAL STEEL, BOTH ANGLE AND STEEL PLATES SHALL CONFORM TO ASTM A-36 fy = 248.16 MPa (36,000 psi)

C.2 WELDING ELECTRODES SHALL BE E70 XX SERIES.

C.3 MACHINE BOLTS AND ANCHORE BOLTS SHALL CONFORM TO ASTM A-325.

D.NOTES ON FOUNDATION:

D.1 FOUNDATION IS DESIGNED FOR AN ALLOWABLE SOIL BEARING CAPACITY OF 120 kPa. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONDUCT SOIL BEARING TEST TO VERIFY THE ACTUAL SOIL BEARING CAPACITY AND REPORT IN WRITING TO THE DESIGNER THE ACTUAL SOIL CONDITION AS PER TEST RESULT.

D.2 NO FOOTING SHALL REST ON BACKFILLED MATERIALS.

D.3 MINIMUM CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE 75 mm. CLEAR FOR CONCRETE DEPOSITED AGAINST THE GROUND AND 50 mm. FOR CONCRETE DEPOSITED AGAINST FORMWORK.

D.4 IN CASES WHERE REQUIRED FOOTING LEVELS SHOW HONEYCOMBED STRUCTURE CONTAINING LOOSE MATERIALS, REMOVE LOOSE MATERIALS AND FILL ALL VOIDS WITH LEAN CONCRETE. USE. VIBRATOR TO ASSUME WELL COMPACTED CONCRETE IN ALL PARTITIONS.

E.NOTES ON COLUMN:

E.1 NO PIPES SHALL BE EMBEDDED INSIDE ANY COLUMN.

F.GENERAL NOTES:

F.1 STANDARD CONSTRUCTION PROCEDURES AS PER " NATIONAL BUILDING CODE " AND " NATIONAL STRUCTURAL CODE FOR BUILDINGS " SHOULD BE STRICTLY FOLLOWED IN THE EXECUTION OF THE PROJECT.

F.2 BARS OF REINFORCED CONCRETE EXPOSED TO THE WEATHER SHALL PREFERABLY BE PROTECTED WITH AT LEAST 38 mm. AND IN NO CASE LESS THAN 25 mm. CONCRETE. THIS PROVISION MAYBE WAIVED WHEN ADEQUATE WATER-PROOFING IS PROVIDED. (SEE TYPICAL BEAM DETAIL)

F.3 SLABS ON FILL MUST NOT BE PLACED UNLESS FILL HAS BEEN PROPERLY COMPACTED. ALL SLABS ON FILL SHALL BE PROVIDED WITH 100 mm. CLEAN COARSE SAND BED BACKFILLING OF ALL EXCAVATED AREAS AND PREPARATION OF SUB - BASE SHALL BE WELL COMPACTED TO AT LEAST 95% OF THE MODIFIED PROCTOR DENSITY BEFORE LAYING 100 mm. CLEAN COARSE SAND BED.

F.4 IT SHALL BE THE DUTY AND RESPONSIBILITY OF THE CONSTRUCTOR TO PROVIDE SHEET PILES, PRECAUTIONARY MEASURES TO ENSURE SAFETY OF ADJACENT PROPERTIES AND OCCUPANTS.

F.5 IN THE INTERPRETATION OF THIS DRAWINGS INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES OR SIZE SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF SCIENCE AND TECHNOLOGY PHILIPPINE SCIENCE HIGH SCHOOL MIMAROPA REGION CAMPUS BRGY. RIZAL, ODIONGAN, ROMBLON Certificate No.SC/P000332	PROJECT TITLE: CONSTRUCTION OF SPORTS FACILITIES MIMAROPA REGION CAMPUS, ODIONGAN, ROMBLON	PREPARED BY: KEN JAMES F. FADRIQUELA RESIDENT CIVIL ENGINEER	RECOMMENDING APPROVAL: MERIAM F. FALLAR ADMINISTRATIVE OFFICER V	APPROVED: EDWARD C. ALBARACIN CAMPUS DIRECTOR III	SHEET CONTENTS: AS SHOWN	SHEET NO.: