

GENERAL STRUCTURAL NOTES AND SPECIFICATIONS

(A) GENERAL REQUIREMENTS

- ALL STRUCTURAL MATERIALS AND WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (NSCP 2001).
- VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- NOTES AND DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THE GENERAL NOTES AND TYPICAL DETAILS IN CASE OF CONFLICT.
- WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE THE SAME AS FOR SIMILAR WORK SHOWN ON THE DRAWINGS.
- PIPES, DUCTS, SLEEVES, CHASES, ETC. SHALL NOT BE PLACED IN SLABS, BEAMS, OR WALLS UNLESS SPECIFICALLY SHOWN OR NOTED NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC. UNLESS SPECIFICALLY SHOWN. OBTAIN PRIOR WRITTEN APPROVAL FROM THE ENGINEER FOR INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, ETC. LOCATE AND PROTECT UNDERGROUND OR CONCEALED CONDUIT, PLUMBING OR OTHER UTILITIES WHERE NEW WORK IS BEING PERFORMED.
- LOCATE AND PROTECT UNDERGROUND OR CONCEALED CONDUIT, PLUMBING OR OTHER UTILITIES WHERE NEW WORK IS BEING PERFORMED.
- TAKE NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE DURING CONSTRUCTION. NEITHER THE OWNER NOR ARCHITECT/ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE ADEQUATE SHORING AND BRACING OF THE STRUCTURE FOR ALL THE LOADS THAT MAYBE IMPOSED DURING CONSTRUCTION. FURTHER, THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
- OBTAIN PRIOR WRITTEN APPROVAL FROM THE ENGINEER IN CASE OF CHANGES TO THE WORKING DRAWINGS.

(B) DESIGN CRITERIA

--- REFER TO STRUCTURAL COMPUTATIONS

(C) FOUNDATION

- FOOTINGS SHALL BEAR ON SOLID UNDISTURBED EARTH (CONTROLLED, COMPACTED STRUCTURAL FILL OR BOTH) AT LEAST 450MM BELOW LOWEST ADJACENT FINISHED GRADE.
- FOOTING IS DESIGNED FOR ASSUMED ALLOWABLE SOIL/FOUNDATION PRESSURE OF 100 kPa (2000 psf).
- SUB-GRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH THE RECOMMENDATIONS GIVEN IN THE SOILS REPORT OR AS DIRECTED BY THE SOILS ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER FOOTING EXCAVATION HAVE BEEN COMPLETED AND PRIOR TO CONCRETING TO CONFIRM THE DESIGN FOUNDATION CAPACITY.
- ROOF AND AREA DRAINAGE SHALL BE DIRECTED AWAY FROM THE FOUNDATIONS.
- EXCAVATIONS SHALL BE PROPERLY BACKFILLED. BACKFILL FOR WALLS SHALL BE PERVIOUS MATERIAL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER. DO NOT PLACE BACKFILL BEHIND WALLS BEFORE THEY HAVE ATTAINED THEIR DESIGN STRENGTH. SHORE AND PROTECT WALLS FROM LATERAL LOADS UNTIL THE SUPPORTING MEMBERS ARE IN PLACE AND HAVE DEVELOPED SPECIFIED STRENGTHS.

(D) REINFORCED CONCRETE

- CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH THE PROVISIONS SET BY THE NSCP 2001.

- ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS WITH CORRESPONDING MAXIMUM SLUMP AND MAXIMUM SIZE AGGREGATE AS FOLLOWS:

| TYPE OF CONSTRUCTION | 28 DAY STRENGTH | MAX. SLUMP | MAX. SIZE AGG. |
|---|----------------------|------------|----------------|
| A. SLAB ON GRADE STAIR LANDINGS AND TREADS | 20.7 MPa (3,000 PSI) | 125MM (5") | 25MM (1") |
| B. ALL OTHERS (SLABS, BEAMS, COLUMNS, ETC) | 20.7 MPa (3,000 PSI) | 100MM (4") | 19MM (3/4") |

- ALL REINFORCING STEEL BARS SHALL CONFORM TO ASTM A615 GRADE 33 FOR 12MM BARS WHILE BARS 16MM Ø AND ABOVE SHALL BE GRADE 60. GRADE 33 MAY BE USED FOR 10MM Ø BARS.
- ALL FABRICATION, DETAILING AND PLACING SHALL CONFORM TO THE PROVISIONS SET BY THE NSCP 2001 EDITION.
- MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:

| FOOTINGS (CAST AGAINST & EXPOSED TO EARTH) | 75MM (3") |
|--|---------------|
| COLUMN TIES OR SPIRALS AND BEAM STIRRUPS | 40MM (1 1/2") |
| SLABS AND WALLS (INTERIOR FACE) | 20MM (3/4") |
- CLEAR DISTANCE SPACING BETWEEN PARALLEL BARS IN A LAYER SHALL NOT BE LESS THAN 1.50 TIMES THE NOMINAL DIAMETER OF THE BAR, OR 1.33 TIMES MAXIMUM SIZE AGGREGATE, NOR LESS THAN 38MM (1 1/2").
- SPLICES SHALL BE SECURELY WIRED TOGETHER AND SHALL LAP AT LEAST 40 TIMES DIAMETER OR 600MM WHICHEVER IS GREATER. STAGGER BOTTOM AT LEAST 1.50M FROM SPLICES IN OTHER BOTTOM REINFORCEMENT. STAGGER SPLICES FOR TOP REINFORCEMENT SIMILARLY.
- ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS SHALL BE PROPERLY POSITION AND SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
- ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF 7 CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF CURING COMPOUNDS, OR OTHER APPROVED METHODS.

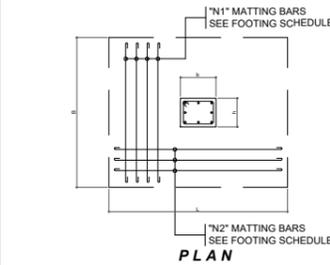
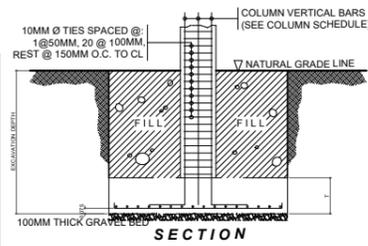
(D) MASONRY AND CONCRETE BLOCKS

- CONCRETE HOLLOW BLOCKS, UNLESS OTHERWISE SPECIFIED SHALL BE 150MM THICK. LOAD BEARING BLOCKS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 750 PSI (5.175 MPa) WHILE NON-LOAD BEARING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 400 PSI (2.76 MPa).
- PROVIDE 1-16MMØ VERTICAL BARS AT CORNERS, INTERSECTIONS, END OF WALLS, EACH SIDE OF OPENINGS.
- LINTEL BEAMS SHALL BEAR AT LEAST 200MM (8") ON EACH SIDE OF MASONRY WALL OPENING.
- WALL REINFORCEMENTS SHALL BE AS FOLLOWS:

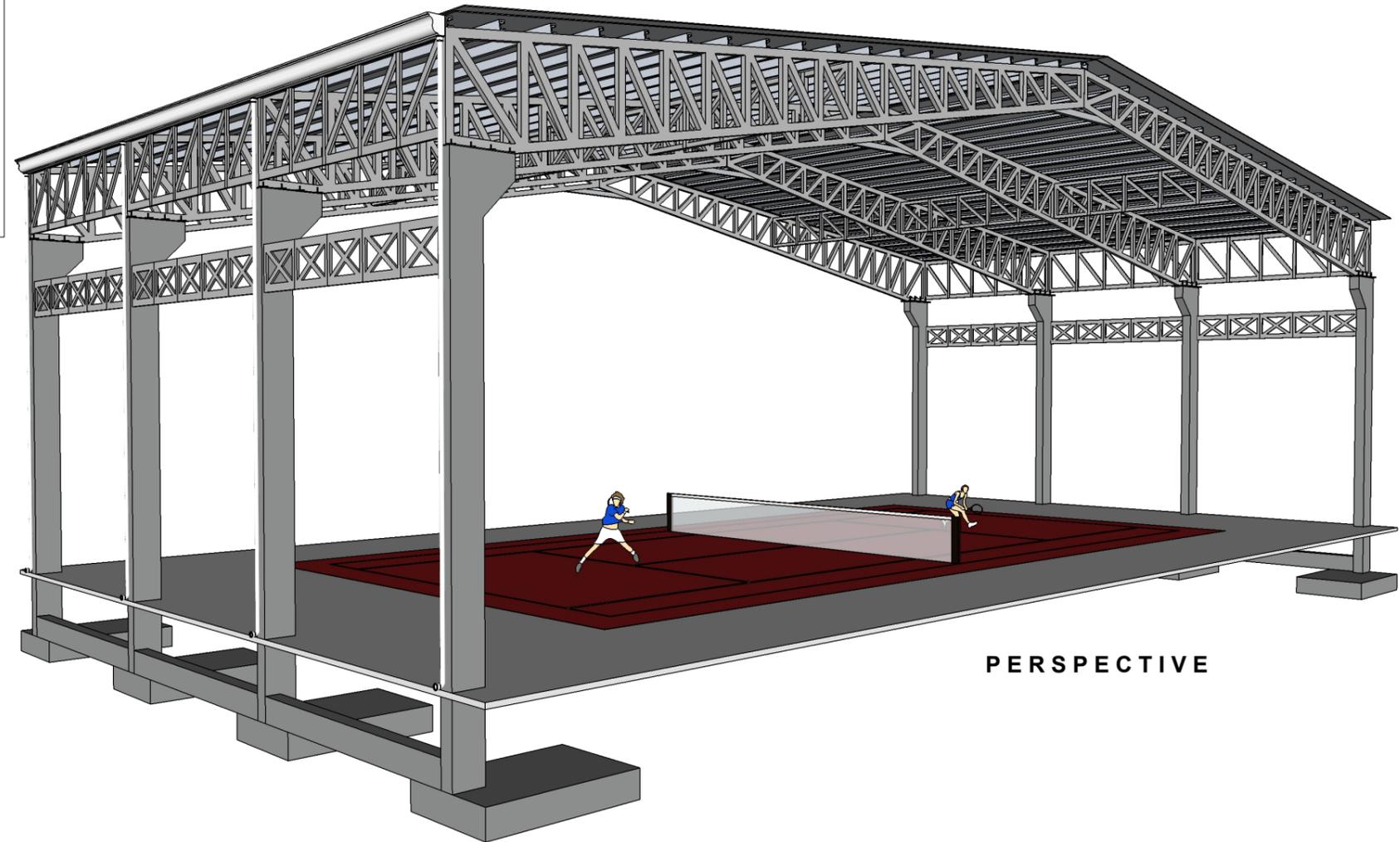
| WALL THICKNESS | VERTICAL BARS | HORIZONTAL BARS |
|----------------|----------------|-----------------|
| 8 IN. (200 mm) | 12MMØ @ 400 mm | 10MMØ @ 600 mm |
| 6 IN. (150 mm) | 10MMØ @ 400 mm | 10MMØ @ 600 mm |
| 4 IN. (100 mm) | 10MMØ @ 400 mm | 10MMØ @ 600 mm |

(E) STRUCTURAL STEEL

- ALL STRUCTURAL STEELS SUCH AS ANGLES, WIDE FLANGE SECTIONS, PIPES, STIFFENER PLATES, BASE PLATES, ETC. SHALL CONFORM TO ASTM A-36.
- ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED BASED ON THE SPECIFICATION FOR DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL GIVEN BY THE NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (NSCP).
- CONNECTION BOLTS (½ ROUND, UNLESS SHOWN OTHERWISE) SHALL CONFORM TO ASTM A-325. ANCHOR BOLTS (EMBEDDED IN MASONRY OR CONCRETE) SHALL CONFORM TO ASTM A307 UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- ALL WELDINGS SHALL BE IN CONFORMANCE WITH NSCP STANDARDS AND SHALL BE PERFORMED BY CERTIFIED WELDERS USING E70 XX ELECTRODES.



TYPICAL FOOTING DETAILS



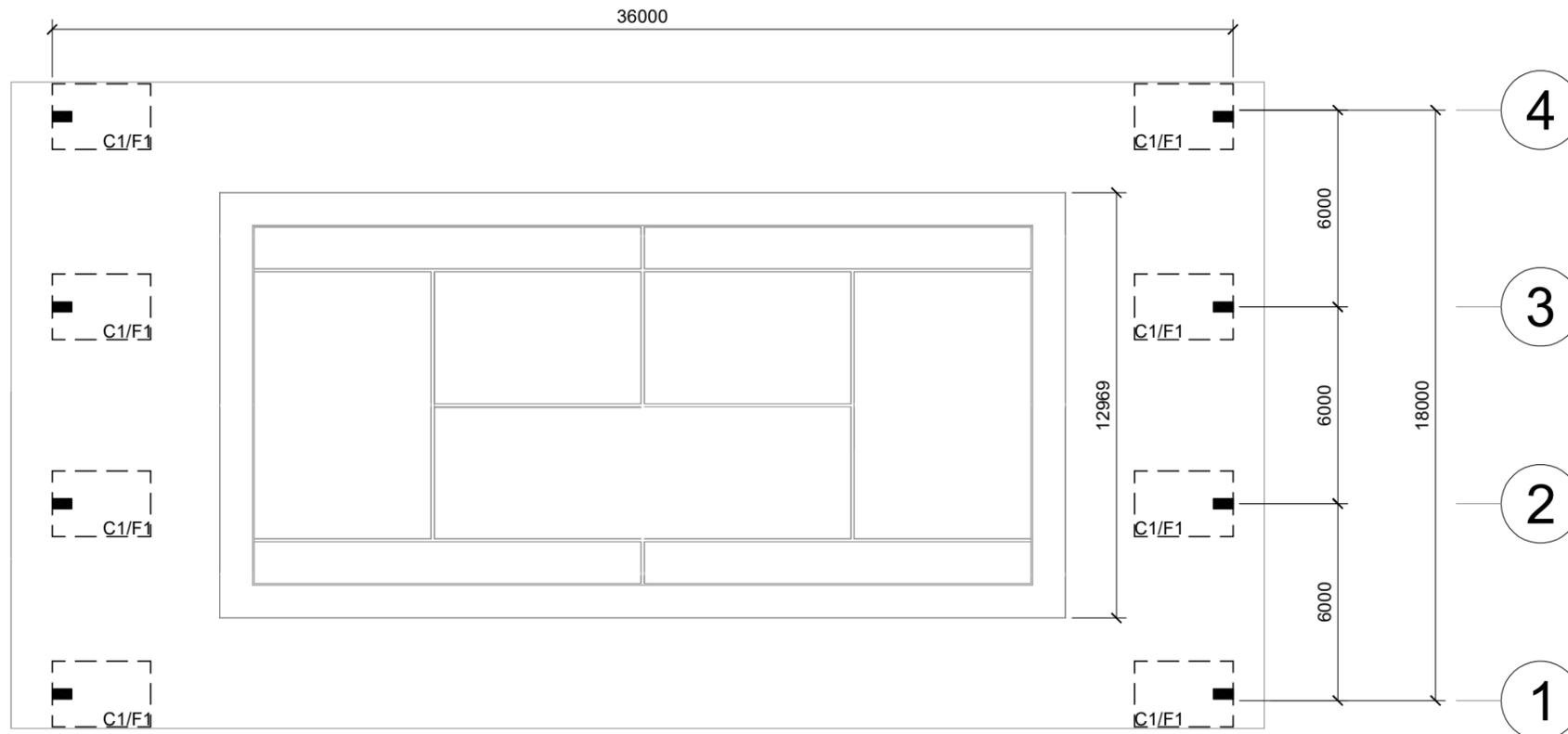
PERSPECTIVE

RECOMMENDING APPROVAL AS TO:
HEAD STRUCTURAL SECT.

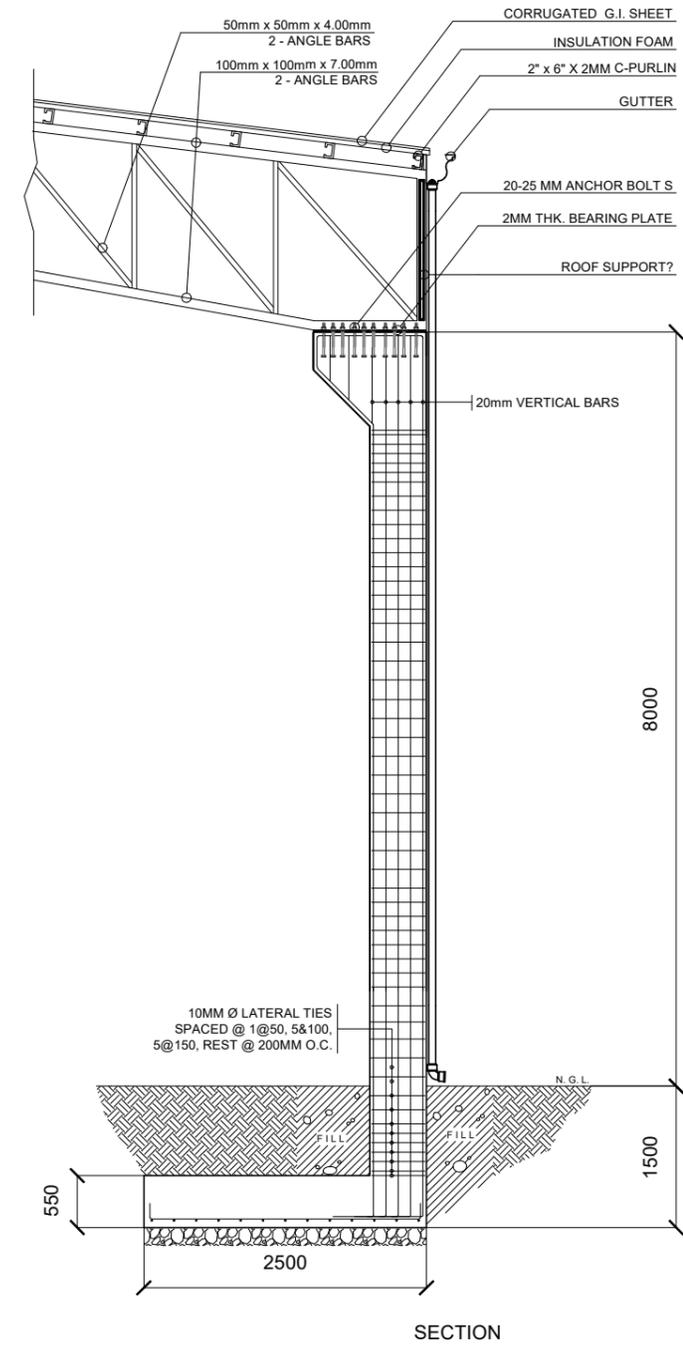
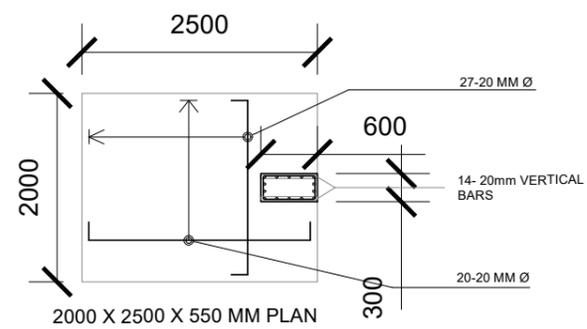
APPROVED:

BUILDING OFFICIAL

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| EMMANUEL JESUS R. AVILA CIVIL ENGINEER | | ej avila architecture + engineering | | PROJECT : PROPOSED TENNIS COURT | OWNER : CENTCOM | SHEET CONTENT GENERAL SPECIFICATIONS PERSPECTIVE | SHEET NO. S1 |
| REG.NO. : 112237 | PTR NO. : 400275 | NOTE: THIS DRAWING AS AN INSTRUMENT OF SERVICE IS A PROPERTY OF THE ARCHITECT. AS SUCH, IT MUST NOT BE REPRODUCED OR COPIED IN PART OR IN WHOLE WITHOUT PERMISSION. ALL DRAWINGS ARE TO BE RETURNED TO THE ARCHITECT WHEN NO LONGER IN USE. RA. 9206 | | LOCATION: CAMP LAPU-LAPU, CEBU CITY, CEBU | ADDRESS: CAMP LAPU-LAPU, CEBU CITY, CEBU | CHECKED : APPROVED : | SCALE 1: 100 M. (20x30) 1: 50 M. (20x30) 1: 200 M. (A3) 1: 100 M. (A3) |
| DATE : DEC. 12, 2008 | DATE : JAN. 15, 2014 | | | | | DRAWN : DATE : | |
| TIN NO. : 225-736-503 | AT : CEBU CITY | | | | | | |

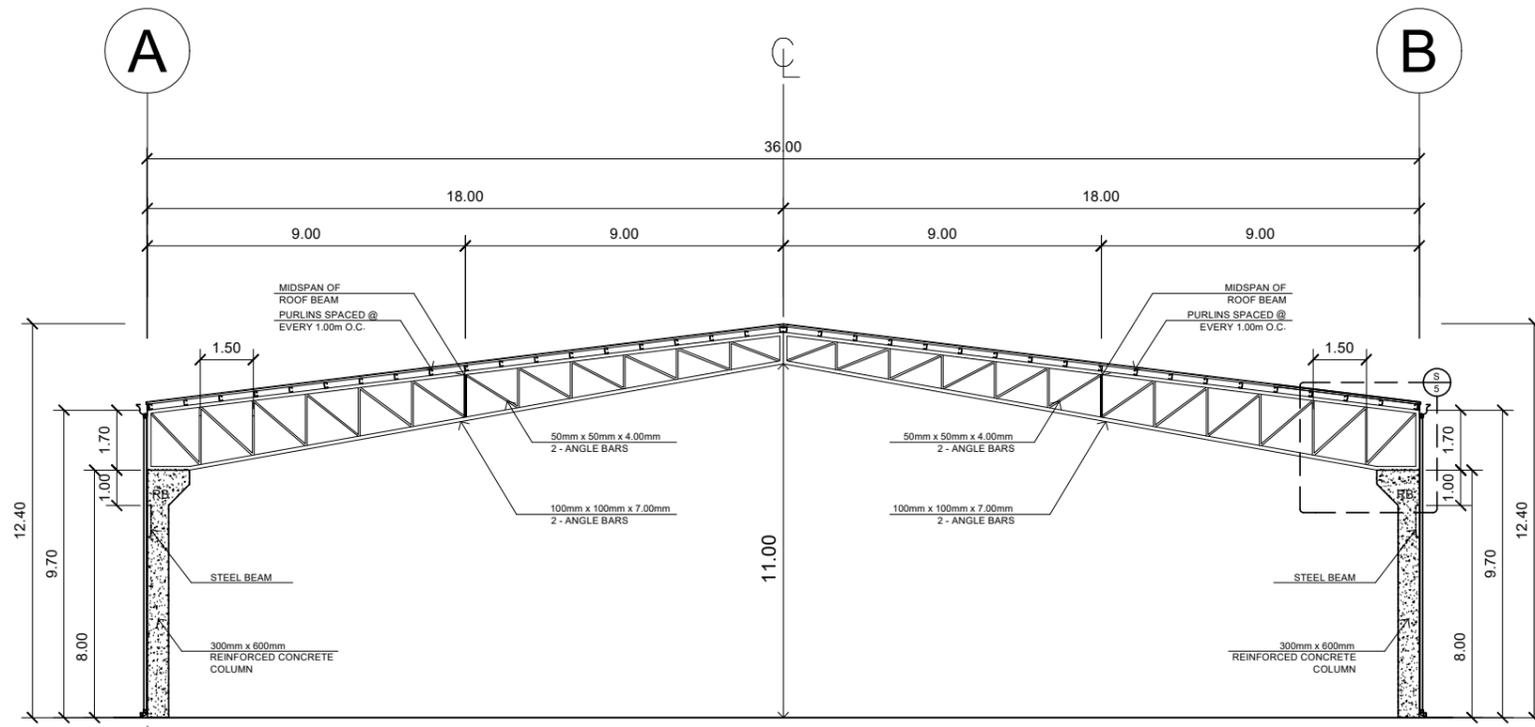


S
1 FOUNDATION PLAN
SCALE 1:200 M

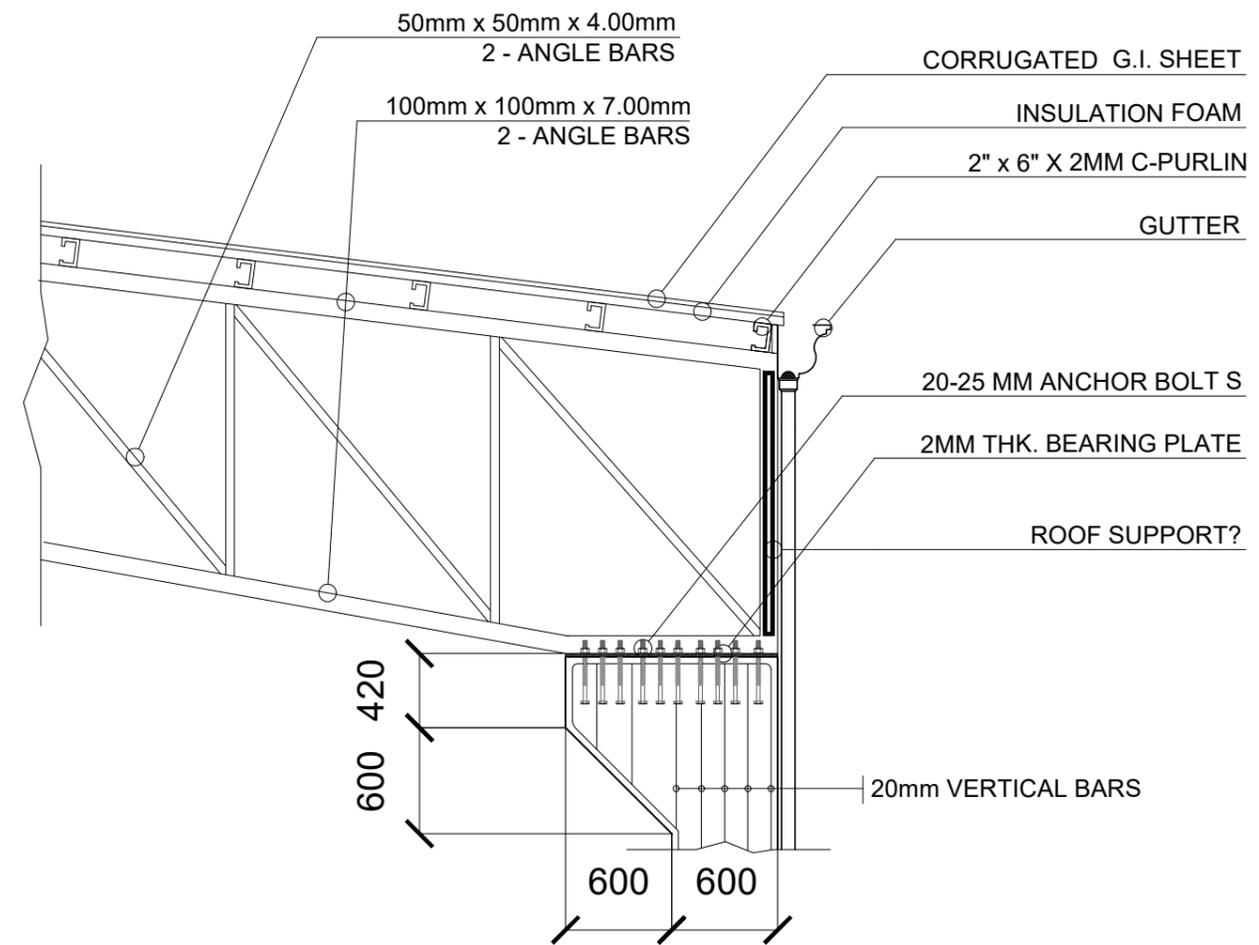


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4 COLUMN DETAIL
SCALE 1:75 M

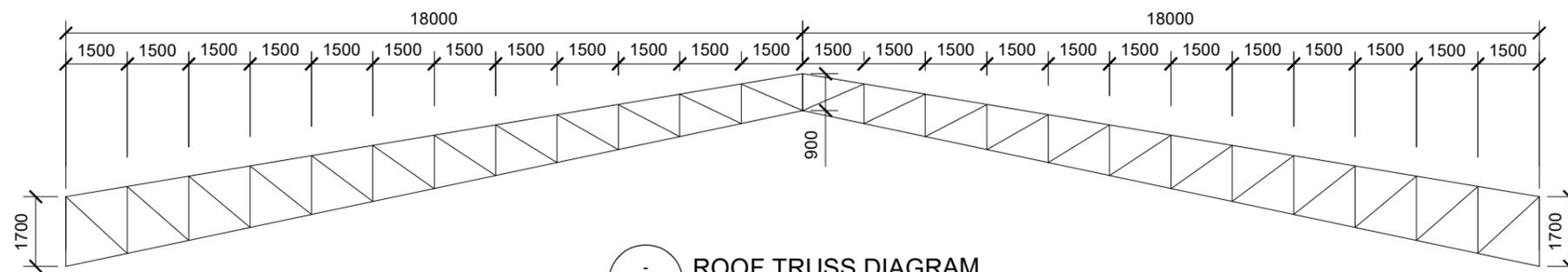
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| EMMANUEL JESUS R. AVILA CIVIL ENGINEER | | ej avila architecture + engineering | | PROJECT : | OWNER : | SHEET CONTENT | | SHEET NO. |
| REG.NO. : 112237 | | PTR NO. : 400275 | | PROPOSED TENNIS COURT | CENTCOM | FOUNDATION PLAN COLUMN DETAIL | | S2 |
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| | | RA. 9206 | | | | 1: 100 M. (20x30) | 1: 50 M. (20x30) | |
| | | | | | | APPROVED : | DATE : | 1: 200 M. (A3) |
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FRONT ELEVATION
SCALE 1:200 M

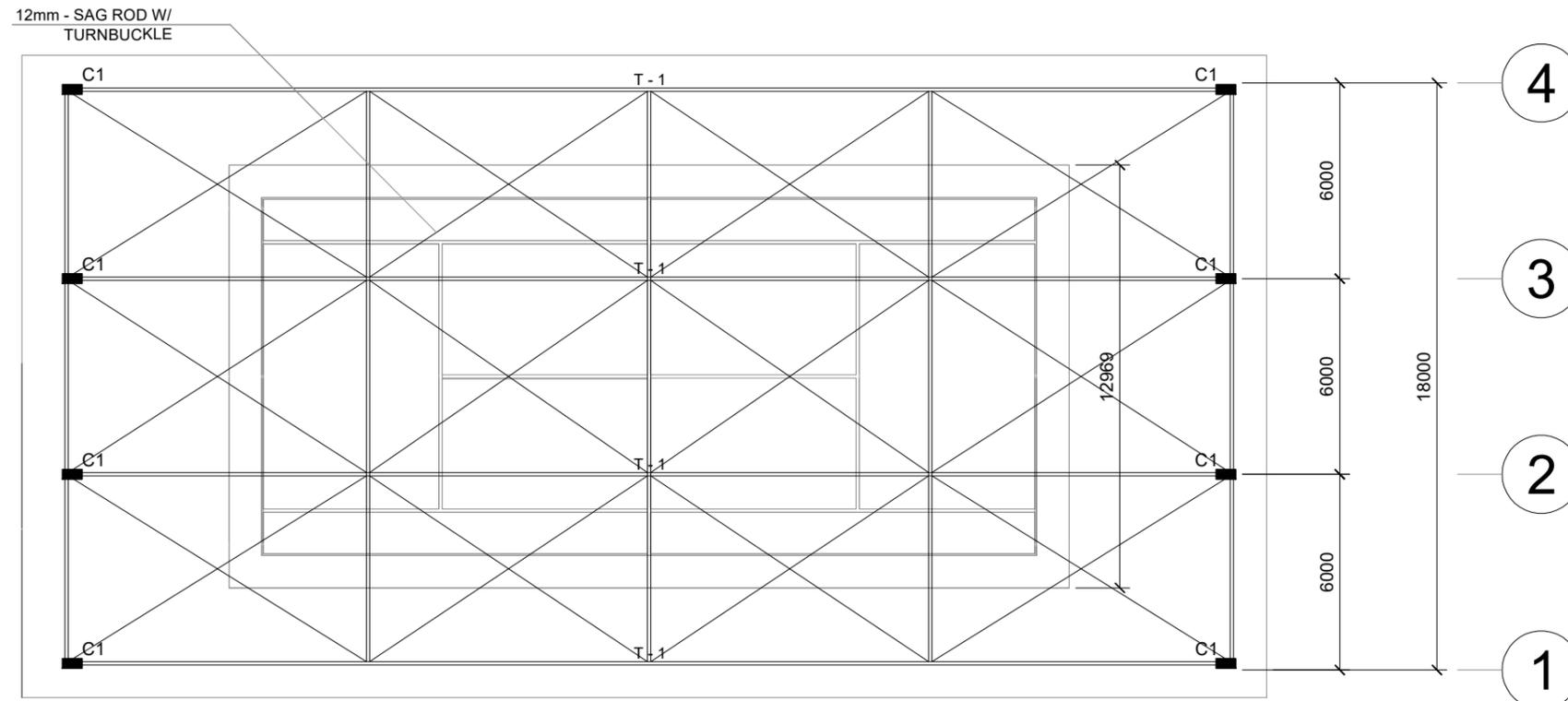


S
SPOT DETAIL
SCALE 1:40 M

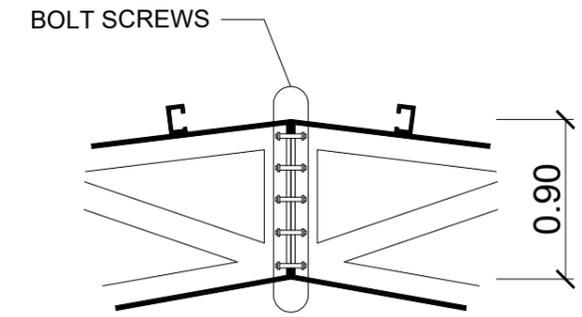


ROOF TRUSS DIAGRAM
SCALE 1:100 M

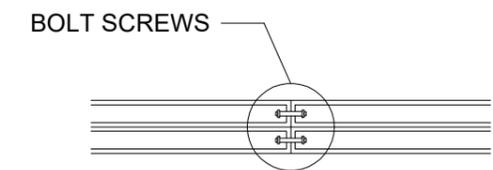
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| REG.NO. : 112237 | | PTR NO. : 400275 | | PROPOSED TENNIS COURT | CENTCOM | FRONT ELEVATION SPOT DETAIL ROOF TRUSS DIAGRAM | | S3 |
| DATE : DEC. 12, 2008 | | DATE : JAN. 15, 2014 | | | | | | |
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| | | | | | | APPROVED : | DATE : | 1: 100 M. (20x30) 1: 200 M. (A3) 1: 50 M. (20x30) 1: 100 M. (A3) |



ROOF FRAMING PLAN
SCALE 1:200 M



SECTION



PLAN

ROOF TRUSS RIDGE DETAIL
SCALE 1:40 M

| | | | | | | | | |
|---|----------------------|--|--|---|--|---|---------|--|
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| DATE : DEC. 12, 2008 | DATE : JAN. 15, 2014 | | | | | APPROVED : | DATE : | |
| TIN NO. : 225-736-503 | AT : CEBU CITY | | | | | | | |