



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



CONSTRUCTION OF SPORTS FACILITY

SCOPE OF WORKS:

- (a) Construction of Stage and Bleachers*
- (b) 200-meter Mini Oval Track*
- (c) Athletic Field*
- (d) Ground Preparation and Earthworks*

PREPARED BY:

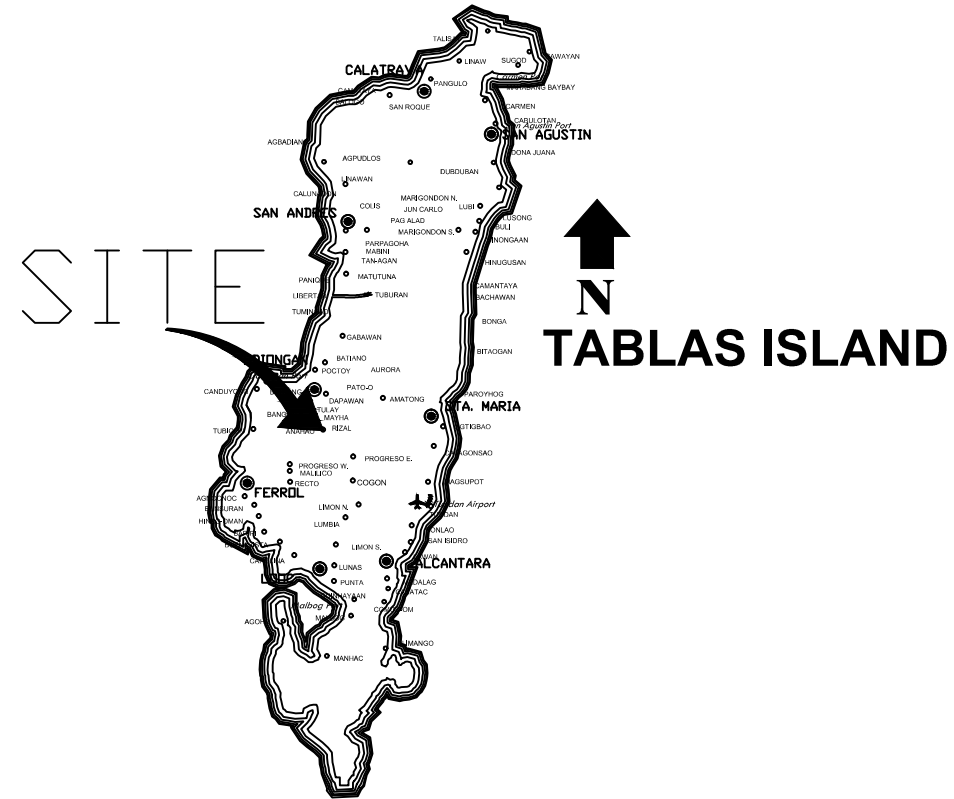
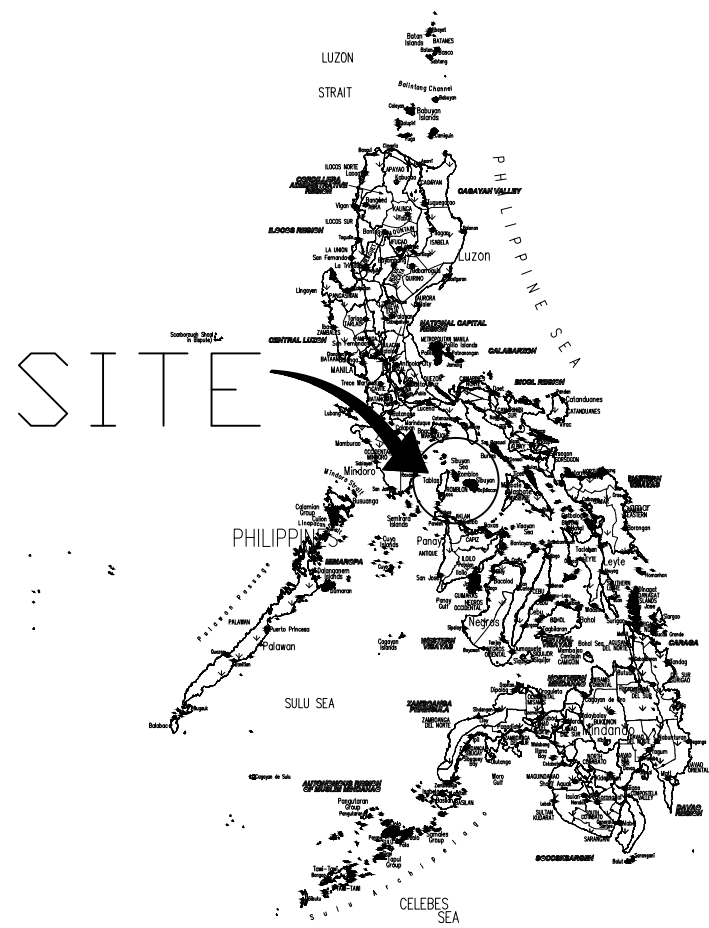
KEN JAMES F. FADRIQUELA
RESIDENT CIVIL ENGINEER

RECOMMENDING APPROVAL:

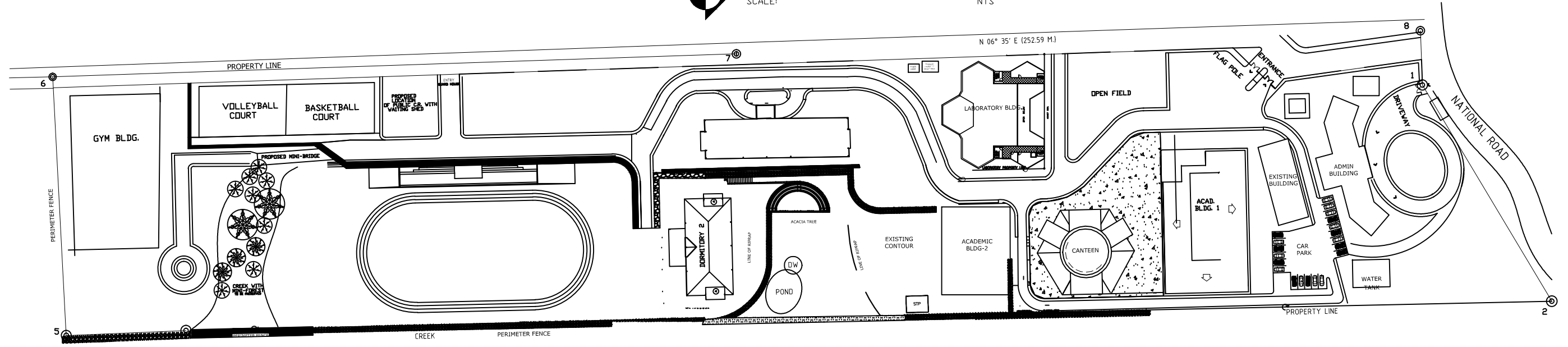
MERIAM F. FALLAR
ADMINISTRATIVE OFFICER V

APPROVED:

EDWARD C. ALBARACIN
CAMPUS DIRECTOR III

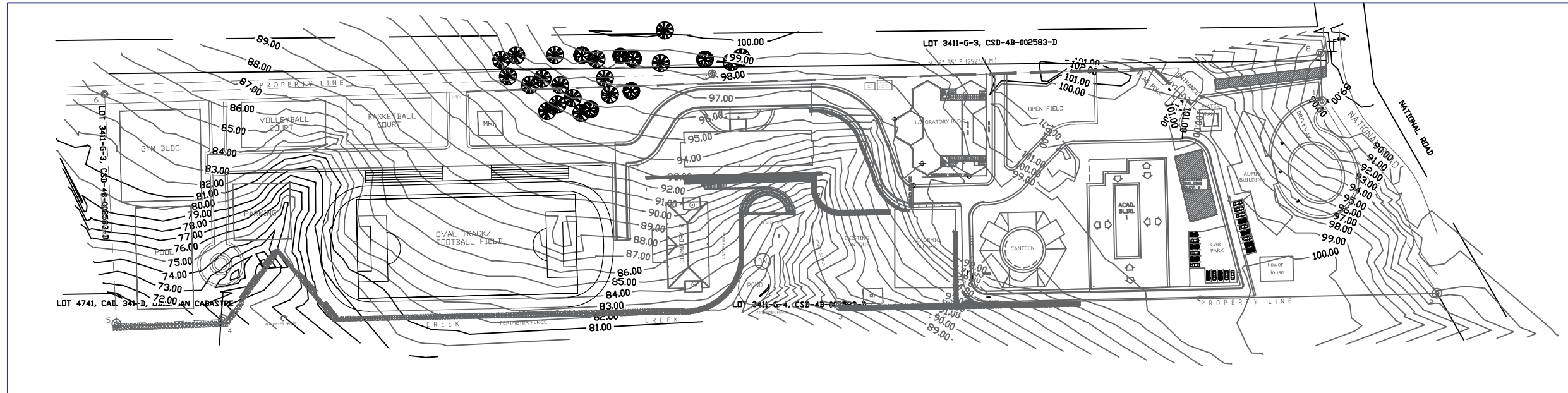


VICINITY MAP
SCALE: NTS





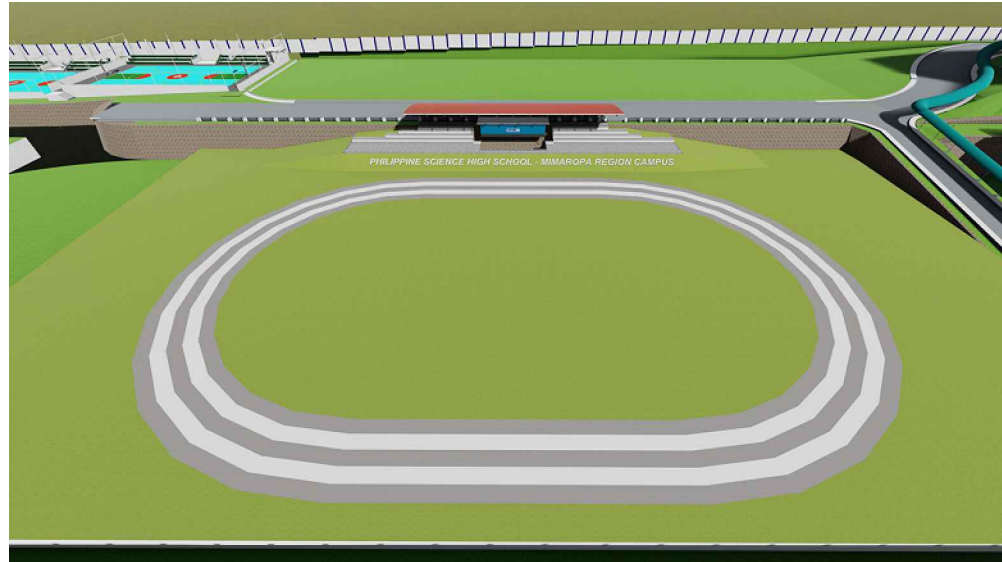
PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
SITE DEVELOPMENT PLAN
SCALE: NTS

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





PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
TOPOGRAPHY PLAN
 SCALE: _____ NTS

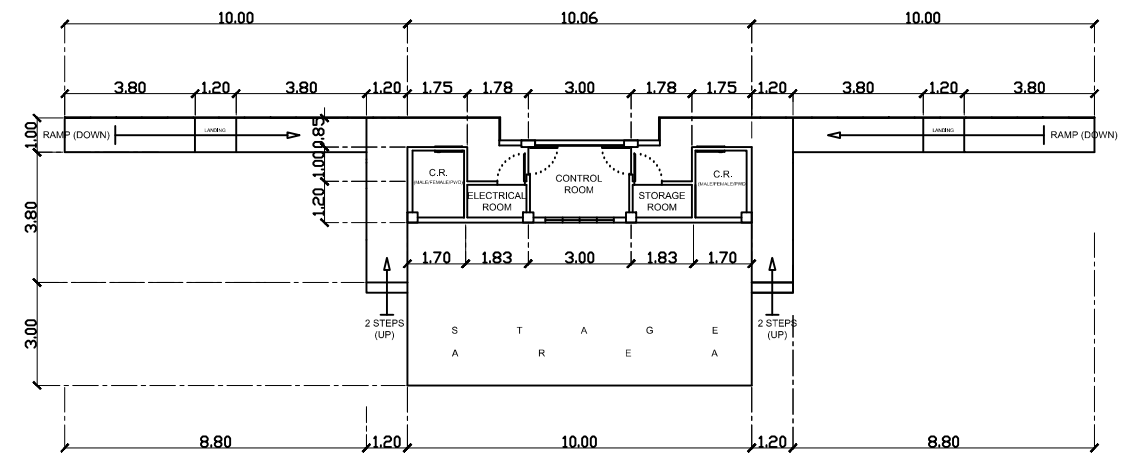
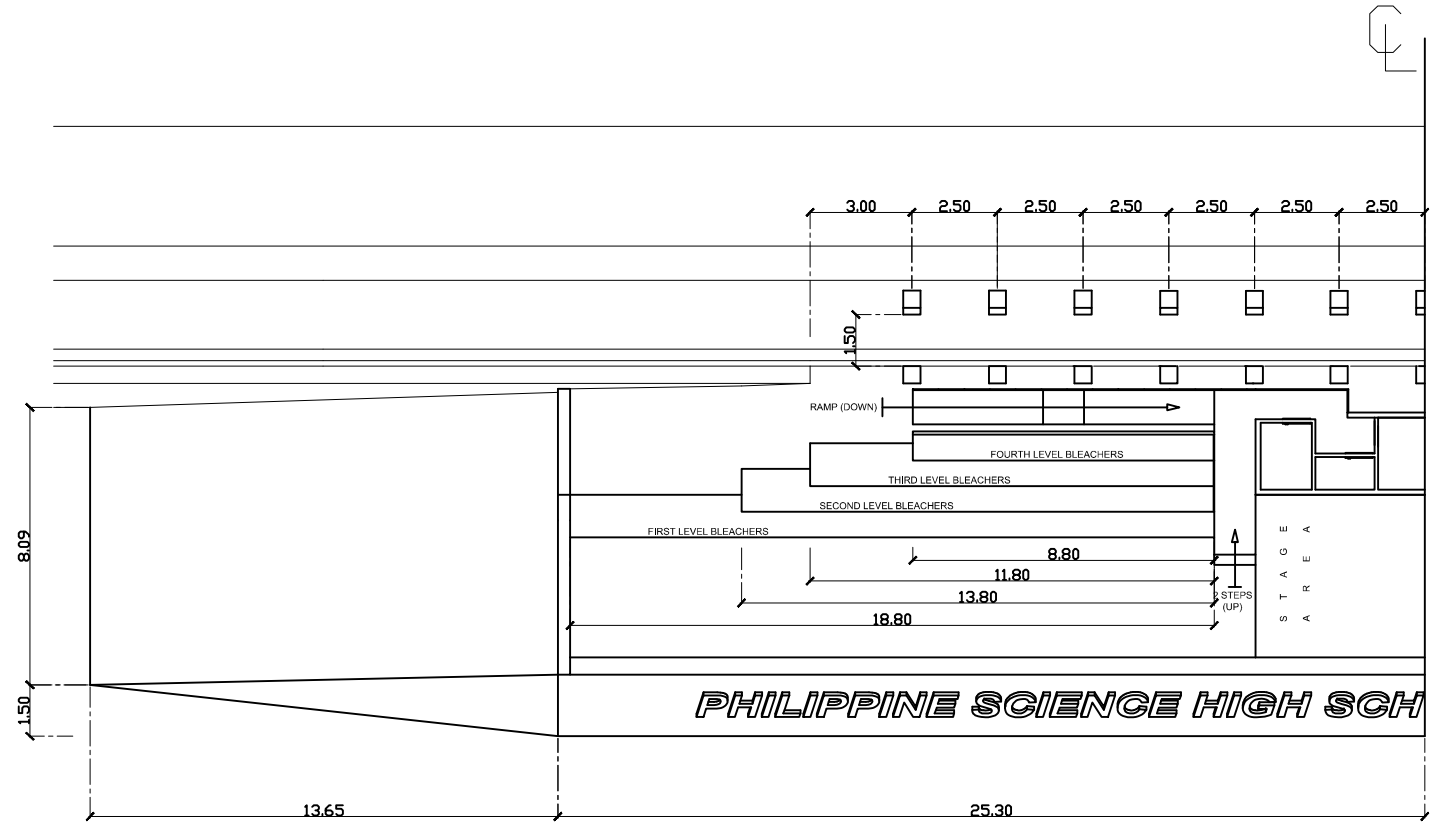
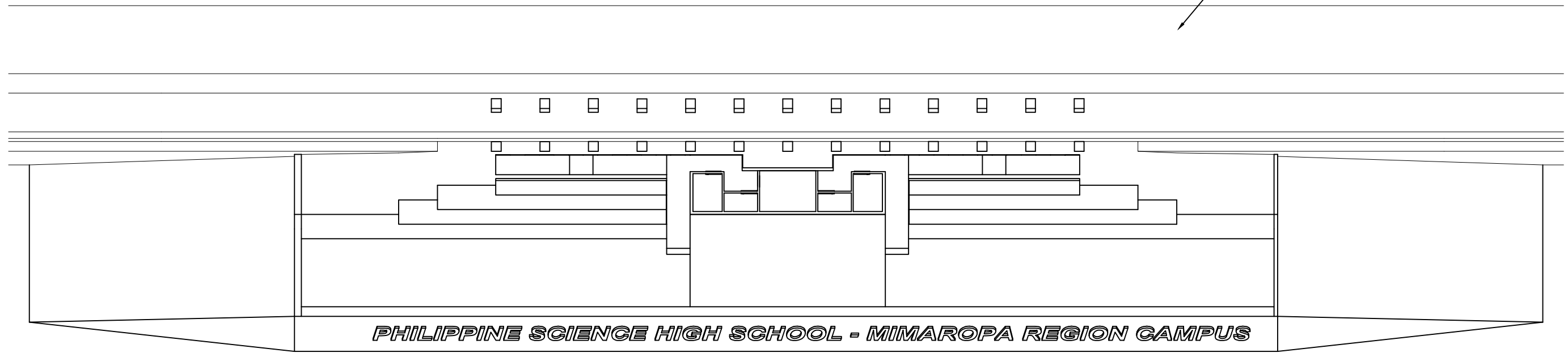
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|---|--|---|---|---|-----------------|------------|
|  <p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF SCIENCE AND TECHNOLOGY PHILIPPINE SCIENCE HIGH SCHOOL MIMAROPA REGION CAMPUS BRGY. RIZAL, ODIONGAN, ROMBLON</p>  <p>OSTED Certificate No. SCPO04392</p> | PROJECT TITLE: | PREPARED BY: | RECOMMENDING APPROVAL: | APPROVED: | SHEET CONTENTS: | SHEET NO.: |
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PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
PERSPECTIVE
 SCALE: _____ NTS

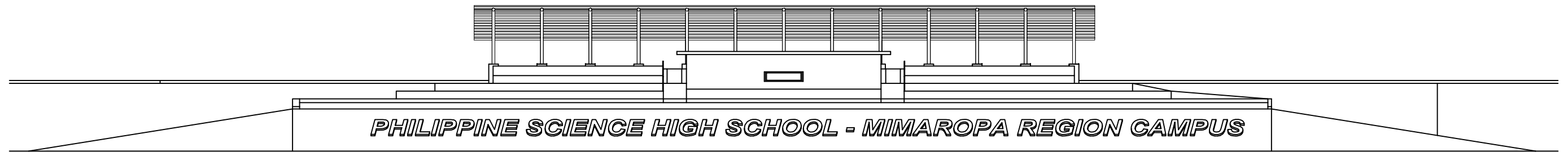
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ROAD NETWORK WITH CURB AND GUTTER
(BY OTHERS)

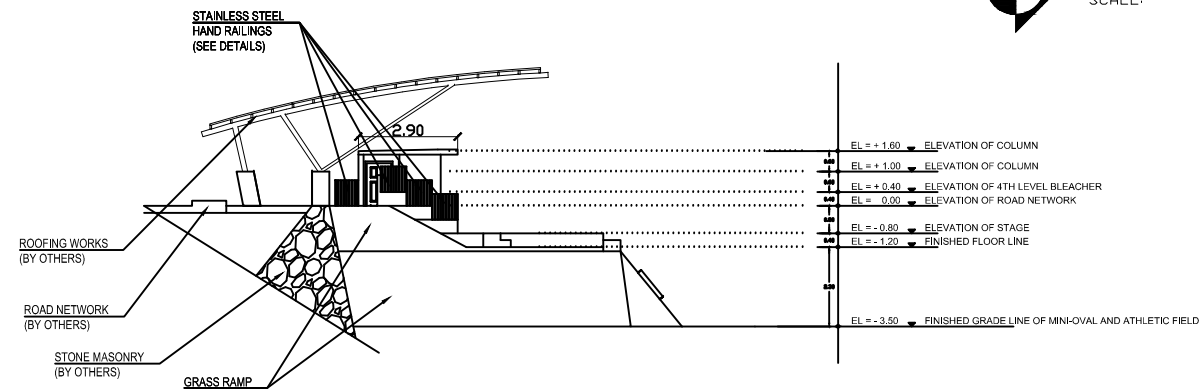


PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
FLOOR PLAN
SCALE: 1:100

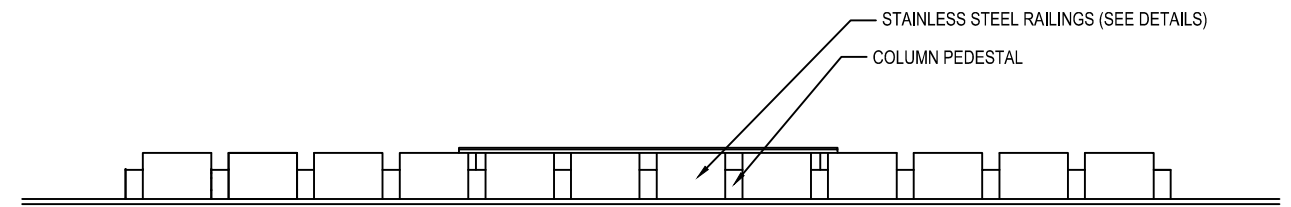
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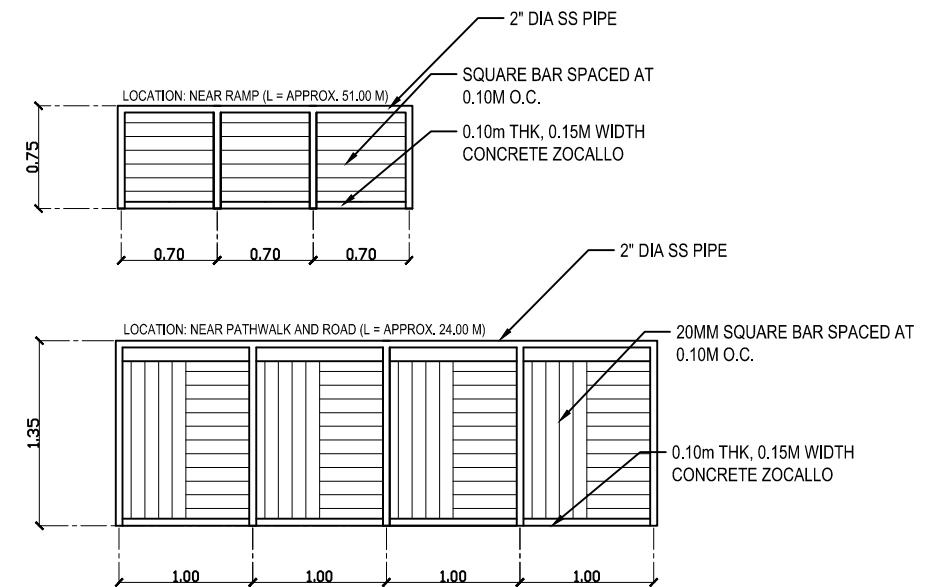
PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
FRONT ELEVATION
 SCALE: 1:1MTS



PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
LEFT/RIGHT SIDE ELEVATION
 SCALE: 1:1MTS

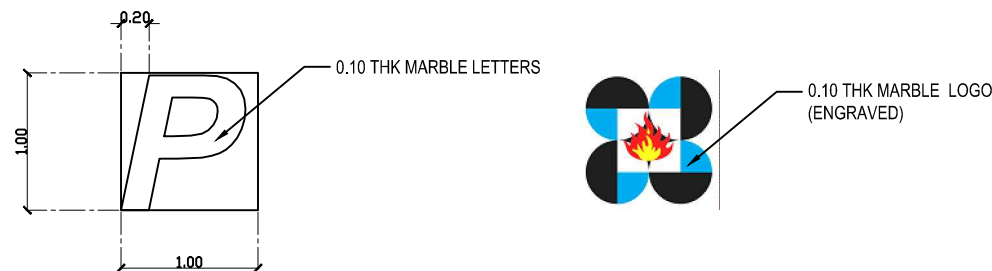


PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
REAR SIDE ELEVATION
 SCALE: 1:1MTS





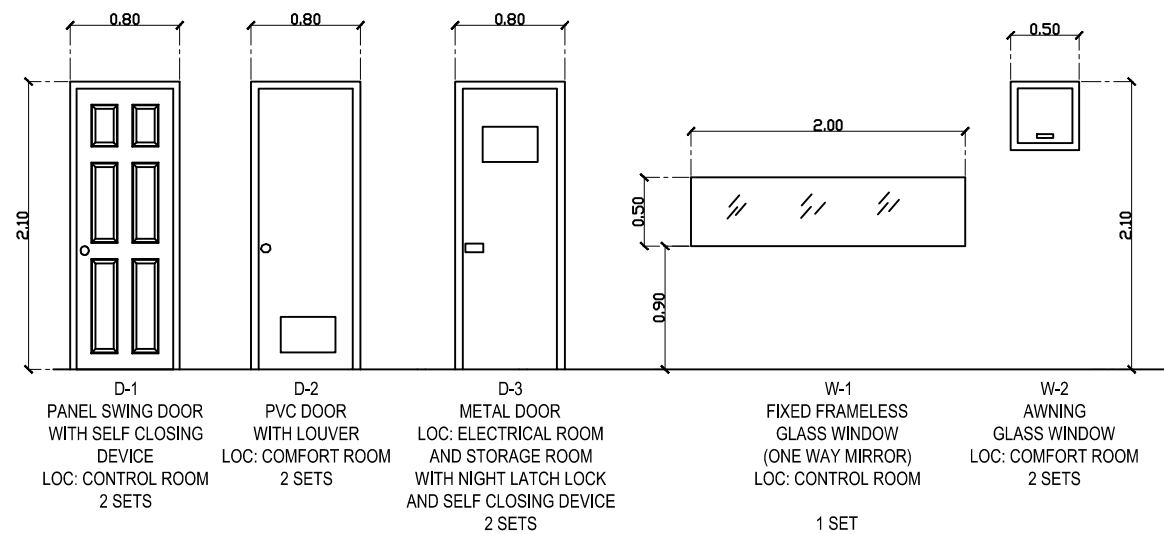
PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
RAILING DETAILS
 SCALE: 1:4

PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS



PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
MARBLE LOGO AND LETTERS
 SCALE: 1:4

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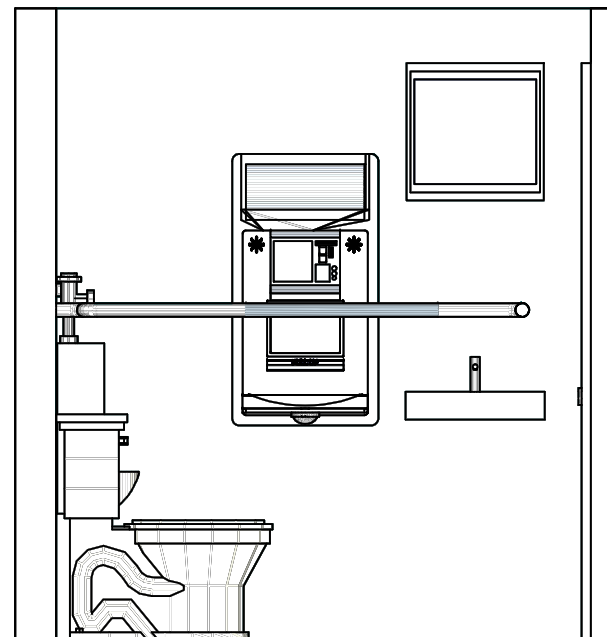


PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS

SCHD. OF DOORS AND WINDOWS

SCALE: 1/4

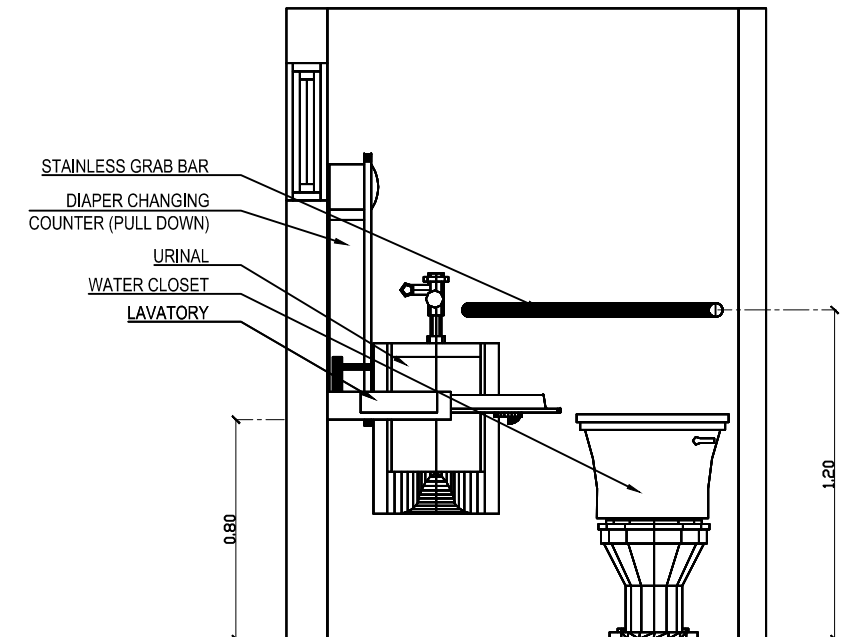
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SECTION A-A'

SCALE: NTS

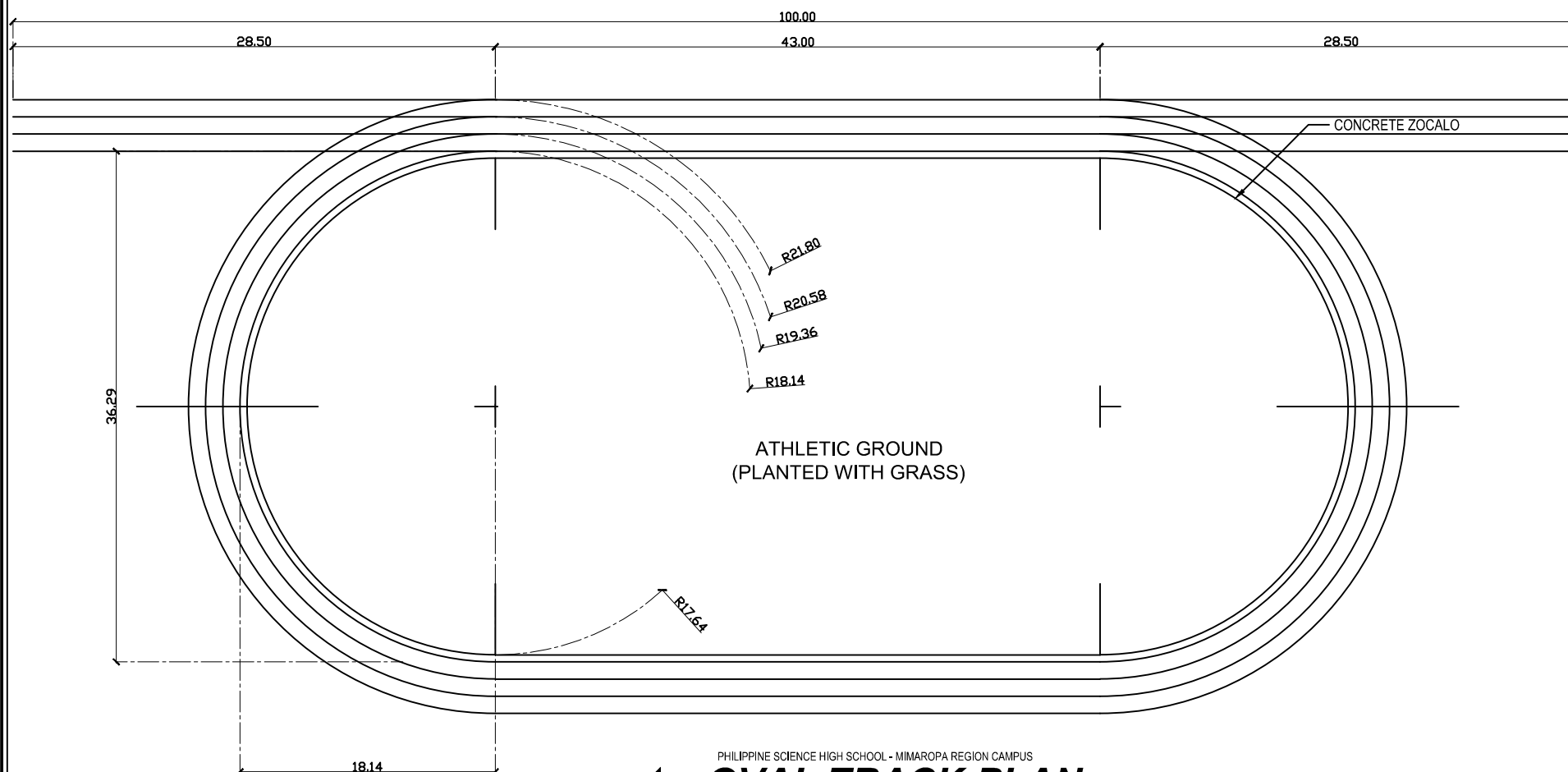
NTS



SECTION B-B'

SCALE: NTS

NTS



PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS

OVAL TRACK PLAN

SCALE: 1/5

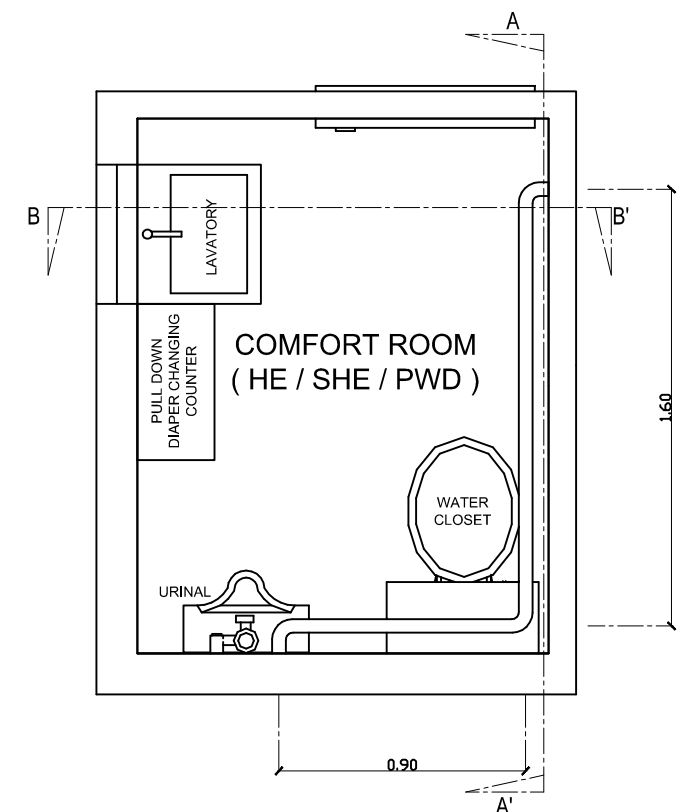
1/5

PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS

TYP. COMFORT ROOM DET.

SCALE: 1/8

1/8



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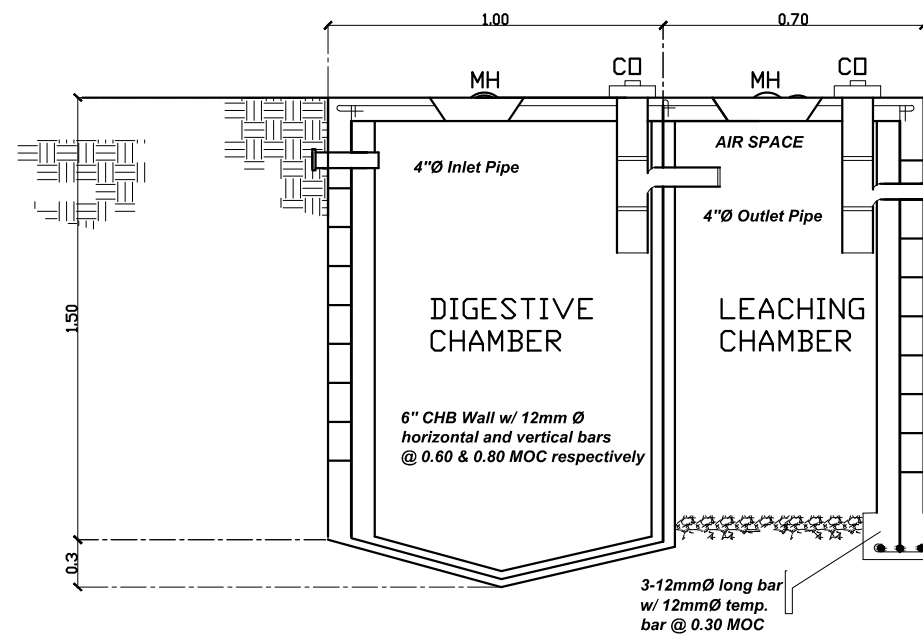
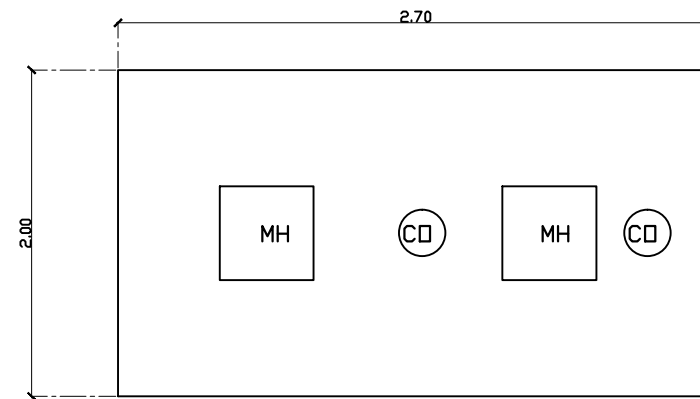
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| CONSTRUCTION OF SPORTS FACILITIES | KEN JAMES F. FADRIQUELA RESIDENT CIVIL ENGINEER | MERIAM F. FALLAR ADMINISTRATIVE OFFICER V | EDWARD C. ALBARACIN CAMPUS DIRECTOR III | AS SHOWN | |
| MIMAROPA REGION CAMPUS, ODIONGAN, ROMBLON | | | | | |

GENERAL NOTES (PLUMBING):

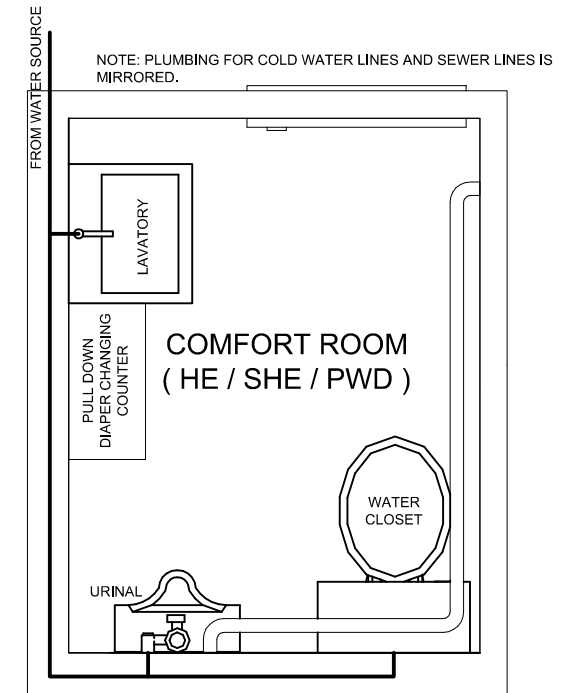
- IT IS NOT INTENDED THAT THE DRAWINGS SHALL SHOW EVERY PIPE FITTING, VALVE AND APPURTENANCE; ALL SUCH ITEMS WHETHER SPECIFICALLY MENTIONED OR NOT, OR INDICATED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED IF NECESSARY TO COMPLETE THE SYSTEM TO THE SATISFACTION OF THE OWNER.
- ALL PLUMBING WORKS SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISION OF THE NATIONAL PLUMBING CODE OF THE PHILIPPINES, THE REQUIREMENTS OF THE LOCAL PLUMBING INSPECTION OFFICE, PERTINENT PROVISIONS OF THE UNIFORM BUILDING CODE AND UNIFORM PLUMBING CODE.
- ALL PLUMBING INSTALLATIONS SHALL BE COORDINATED WITH OTHER TRADES. ANY REVISION IN THE PIPING LAYOUT REQUIRED FOR PROPER EXECUTION OF OTHER TRADES SHALL BE WITH PRIOR APPROVAL OF THE ENGINEER.
- HORIZONTAL SANITARY SEWER PIPING SHALL BE RUN IN PRACTICAL ALIGNMENT AT A MINIMUM SLOPE OF 1% FOR PIPES 100mmØ & LARGER & 2% FOR 75mmØ & SMALLER.
- ALL VENT PIPES SHALL BE FREE FROM DROPS OR SAGS AND SHALL BE SLOPED OR GRADED AS TO DRIP BACK BY GRAVITY TO THE DRAINAGE PIPE IT SERVES.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT SITE, THAT IS, THE ACTUAL PIPE SIZES, LOCATIONS, DEPTHS, TOP AND INVERT ELEVATIONS OF ALL EXISTING PIPES AND RELATED STRUCTURES. THE CONTRACTORS SHALL PROVIDE THE NECESSARY EXCAVATIONS, BACKFILLING AND SURFACE RESTORATION OF THE AFFECTED AREAS IN THE LAYING OF SEWER, STORM DRAINAGE AND WATER SUPPLY LINES.
- ALL DIMENSIONS AND PIPE SIZES ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

LEGEND:

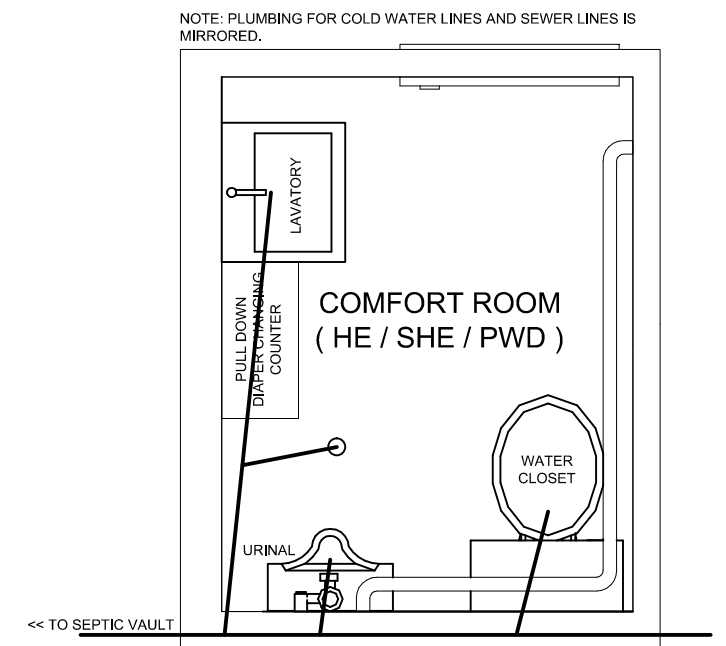
FAU - FAUCET
SHO - SHOWER
FD - FLOOR DRAIN
CO - CLEAN OUT
WC - WATER CLOSET
LAV - LAVATORY
MH - MANHOLE



PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
SEPTIC VAULT DETAILS
 SCALE: NTS

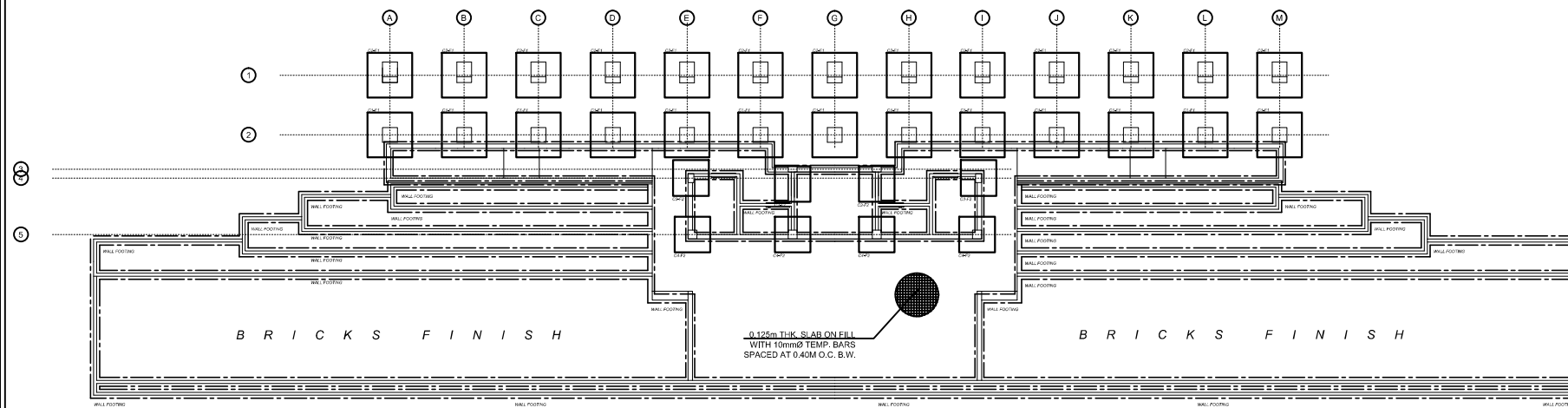


PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
WATER LINE LAY-OUT
 SCALE: NTS



PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
SEWER LINE LAY-OUT
 SCALE: NTS

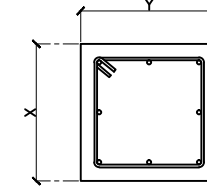
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PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
FOUNDATION PLAN
 SCALE: NTS

NOTE:
 NO STRUCTURAL CONCRETE SHALL BE LAID ON EARTH SOIL. A 0.10M THICK GRAVEL FILL SHALL BE SUPPLIED AND INSTALLED BEFORE POURING OF CONCRETE.

COLUMN AND COLUMN FOOTING DETAILS



| SLAB DETAILS | |
|--------------|--------------------------|
| TOP BARS: | 10mmØ RSB |
| AT SUPPORT: | SPACED @ 150mm O.C. B.W. |
| AT MIDSPAN: | SPACED @ 200mm O.C. B.W. |
| REMARKS: | TWO-WAY |

| TIE-BEAM & BEAM DETAILS | |
|-------------------------|--|
| DIMENSION: | 250mm x 350mm |
| MAIN BARS: | 6-16mmØ RSB |
| TIES: | 10mmØ SPACED AT 2@50mm, 4@100mm REST 200mm |

| COLUMN 1 (C1) | |
|---------------|--|
| DIMENSIONS: | X: 0.50 m Y: 0.50 m |
| MAIN BARS: | 8-16mmØ RSB |
| TIES: | 12mmØ SPACED AT 4 @ 0.05 m, 4 @ 0.10 m, REST @ 0.20m |

| COLUMN 3 (C3) | |
|---------------|--|
| DIMENSIONS: | X: 0.20 m Y: 0.30 m |
| MAIN BARS: | 8-16mmØ RSB |
| TIES: | 10mmØ SPACED AT 4 @ 0.05 m, 4 @ 0.10 m, REST @ 0.20m |

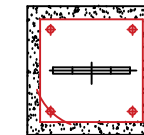
| COLUMN 2 (C2) | |
|---------------|--|
| DIMENSIONS: | X: 0.40 m Y: 0.40 m |
| MAIN BARS: | 8-16mmØ RSB |
| TIES: | 12mmØ SPACED AT 4 @ 0.05 m, 4 @ 0.10 m, REST @ 0.20m |

| COLUMN 4 (C4) | |
|---------------|--|
| DIMENSIONS: | X: 0.30 m Y: 0.30 m |
| MAIN BARS: | 8-16mmØ RSB |
| TIES: | 10mmØ SPACED AT 4 @ 0.05 m, 4 @ 0.10 m, REST @ 0.20m |

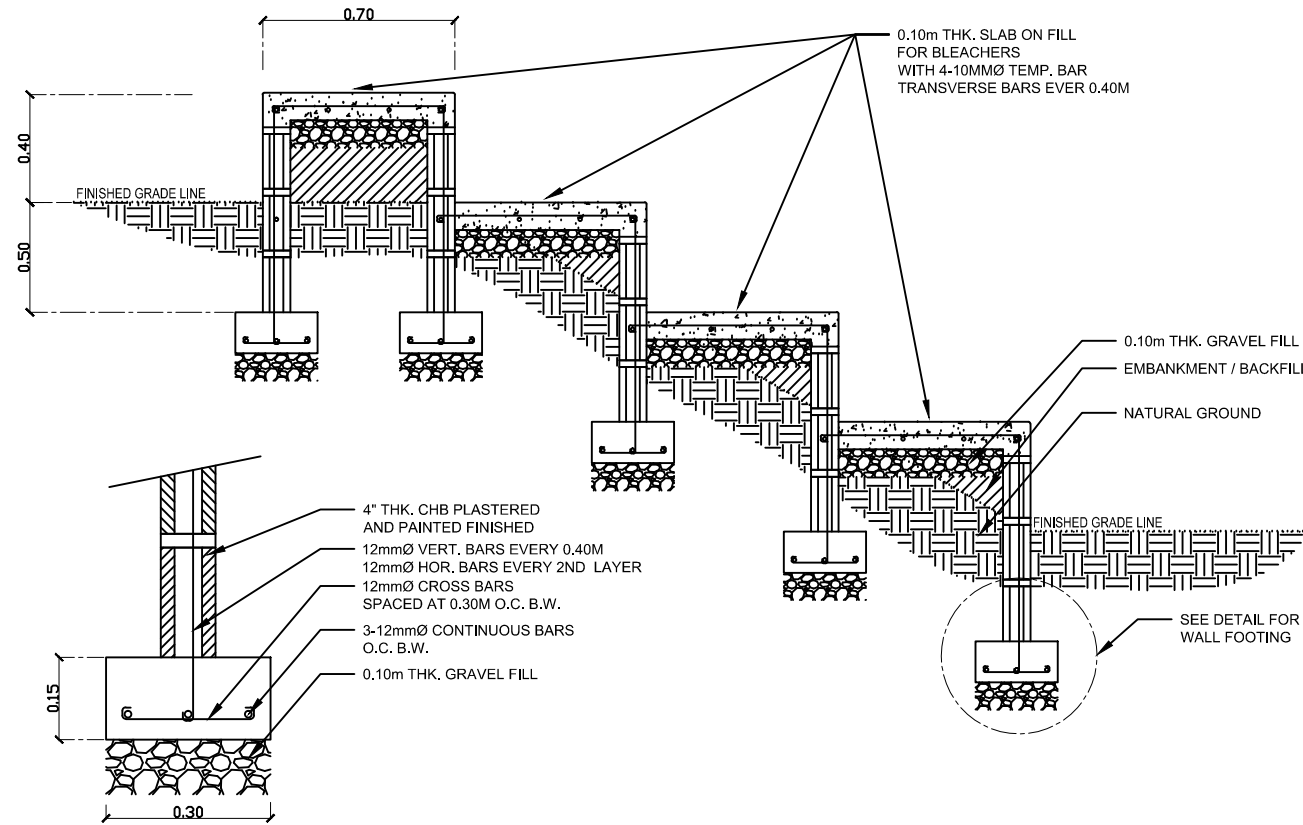
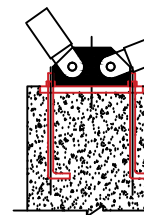
| COLUMN FOOTING 1 | |
|------------------|------------------------|
| DIMENSIONS: | X: 1.50 m Y: 1.50 m |
| MAIN BARS: | 10-16mmØ RSB |
| DEPTH (D): | 1.80 m |
| THICKNESS (T): | 0.30 m |

| COLUMN FOOTING 2 | |
|------------------|------------------------|
| DIMENSIONS: | X: 1.20 m Y: 1.20 m |
| MAIN BARS: | 8-16mmØ RSB |
| DEPTH (D): | 1.50 m |
| THICKNESS (T): | 0.25 m |

BASE PLATE AND ANCHOR BOLT DETAILS





| BASE PLATE | DIMENSIONS | Nos. and Size of Anchor bolts | Bolt Center Diameter (BCD) |
|------------|-------------------|-------------------------------|----------------------------|
| B1 | 400x400x25mm thk. | 4- Ø25 x 400mm L | Ø450mm |
| B2 | 300x300x25mm thk. | 4- Ø25 x 400mm L | Ø325mm |



PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
WALL FOOTING DETAILS
 SCALE: 1/2.5

PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
DETAIL OF BLEACHERS
 SCALE: nts

PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
STRUCTURAL DETAILS
 SCALE: NTS

| | | | | | | |
|---|---|--|--|---|-----------------------------|---------------------|
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| |  | | | | | |

GENERAL CONSTRUCTION NOTES

GENERAL NOTES:

- IN THE INTERPRETATION OF THE DRAWING, INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES AND SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
- 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.
- 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.
- 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.
- ACI REFERS TO AMERICAN CONCRETE INSTITUTE, AISC TO AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND ASTM TO AMERICAN SOCIETY FOR TESTING MATERIALS.
- CONSTRUCTION NOTES AND TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. MODIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.
- 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.
- CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS, SILLS, TOOLS, EQUIPMENTS AND MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS.
- ALL RESULTS OF MATERIAL TESTING FOR CONCRETE, REINFORCING BARS & STRUCTURAL STEEL MUST BE NOTED & APPROVED BY THE STRUCTURAL DESIGNER.

NOTES ON CONCRETE MIXES & PLACING:

- 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 |

- 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 FORMS | 50mm |
| WHERE CONCRETE IS EXPOSED TO EARTH BUT POURED AGAINST FORMS | 75mm |
- CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, RE-HANDLING OR PLACING SHALL BE DONE PREFERABLY WITH BUEGIES, SUCKET OR WHEELBARROWS. NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUEGIES, WHEELBARROWS OR BUCKETS IN WHICH CASE THEY SHALL NOT EXCEED SIX (6) METERS 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 VIBRATIONS IS EXTREMELY DIFFICULT TO ACCOMPLISH.
- ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS SHALL BE PROPERLY POSITIONED & SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
- 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.
- STRIPPING OF FORMS AND SHORES:

| | |
|---|---------|
| FOUNDATION | 24 HRS. |
| SUSPENDED SLAB EXCEPT WHEN ADDITIONAL LOADS ARE IMPOSED | 8 DAYS |
| WALLS | 21 DAYS |
| BEAMS | 14 DAYS |
| COLUMNS | 21 DAYS |
- THE CONTRACTOR SHALL SUBMIT THE SCHEDULE OF POURING AND THE LOCATION OF THE CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER AT LEAST (4) DAYS PRIOR TO THE POURING FOR APPROVAL.
- THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE FORMS AND SHORING UNTIL THE CONCRETE MEMBERS HAVE ATTENDED THEIR WORKING CONDITION AND STRENGTH.

NOTES ON FOOTING:

- 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.
- FOOTINGS SHALL REST AT LEAST 3000mm BELOW NATURAL GRADE LINE UNLESS OTHERWISE INDICATED IN PLANS. NO FOOTINGS SHALL REST ON FILL.
- MINIMUM CONCRETE PROTECTION FOR REINFORCEMENTS SHALL BE 75mm CLEAR FOR CONCRETE AGAINST A FORMWORK.

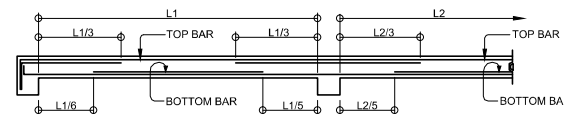
NOTES ON REINFORCEMENT:

- UNLESS OTHERWISE NOTED IN PLANS, THE YIELD STRENGTH OF REINFORCING BARS SHALL BE:

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

NOTES ON CONCRETE SLABS:

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

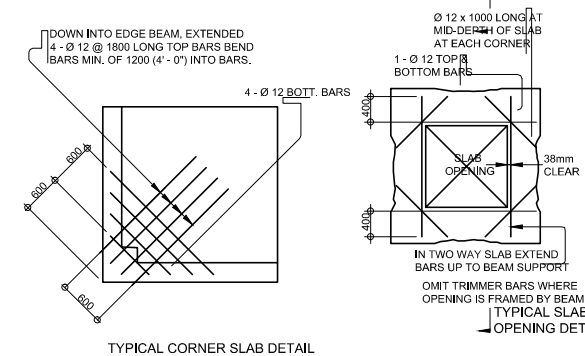


TYPICAL BAR BENDING AND CUTTING DETAILS FOR SLAB:

- 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.
- 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 (A_g) OF THE SLAB (SEE SCHEDULE BELOW)

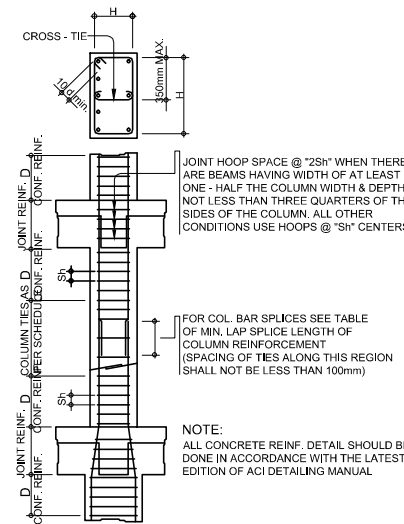
| THICKNESS | MINIMUM TEMPERATURE BARS |
|-----------|-------------------------------|
| 100 mm | 10 mm ϕ @ 250mm EACH WAY |
| 125 mm | 10 mm ϕ @ 225mm EACH WAY |
| 150 mm | 10 mm ϕ @ 185mm EACH WAY |
| 175 mm | 10 mm ϕ @ 150mm EACH WAY |
| 200 mm | CO |

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

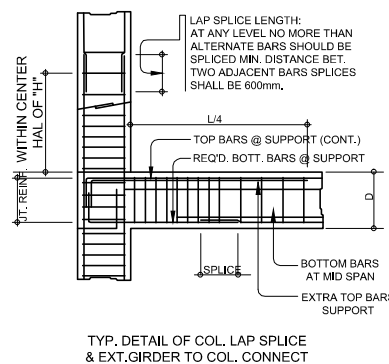


NOTES ON COLUMNS:

- 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, $\frac{1}{4}$ THE CLEAR HEIGHT OF COLUMN OR 450mm.
- 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.
- 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.
- 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



NOTES ON BEAMS & GIRDERS:

- UNLESS OTHERWISE NOTED IN PLANS, CAMBER ALL BEAMS AND GIRDER AT LEAST 6mm ϕ 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.
- TYPICAL BAR BENDING AND CUTTING DETAILS FOR BEAMS SHALL BE AS SHOWN IN FIG. B - 1.

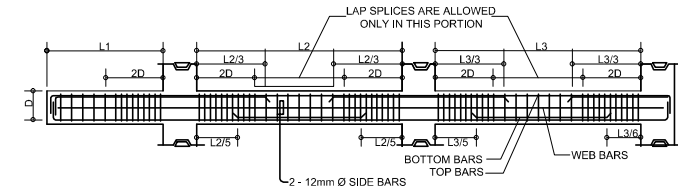


FIG. B - 1

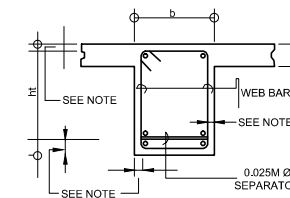
| BAR SIZE (DEFORMED) | TENSION BARS | | COMPRESSION BARS | |
|---------------------|--------------|--------|------------------|--------|
| | EMBEDMENT | LAPPED | EMBEDMENT | LAPPED |
| 10 mm ϕ | 300 | 300 | 300 | 300 |
| 12 mm ϕ | 300 | 300 | 300 | 300 |
| 16 mm ϕ | 300 | 400 | 300 | 400 |
| 20 mm ϕ | 400 | 550 | 350 | 500 |
| 25 mm ϕ | 600 | 800 | 550 | 750 |
| 28 mm ϕ | 750 | 1000 | 650 | 850 |
| 32 mm ϕ | 950 | 1300 | 850 | 1100 |

NOTE: TOP PLAIN BARS, MULTIPLY VALUE BY 2

| BAR SIZE (DEFORMED) | TENSION BARS | | COMPRESSION BARS | |
|---------------------|--------------|--------|------------------|--------|
| | EMBEDMENT | LAPPED | EMBEDMENT | LAPPED |
| 10 mm ϕ | 225 | 300 | 200 | 300 |
| 12 mm ϕ | 275 | 300 | 250 | 300 |
| 16 mm ϕ | 350 | 400 | 325 | 400 |
| 20 mm ϕ | 450 | 500 | 475 | 500 |
| 25 mm ϕ | 550 | 625 | 550 | 625 |
| 28 mm ϕ | 625 | 675 | 625 | 675 |
| 32 mm ϕ | 700 | 775 | 700 | 775 |

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

- 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.
- IF THERE ARE TWO OR MORE LAYERS OF REINFORCING BARS, USE 25mm ϕ BAR SEPARATORS SPACED AT 1.0M ON CENTER, IN NO CASE SHALL THERE BE LESS THAN TWO (2) SEPARATORS BETWEEN TWO LAYERS OF BARS.
- MINIMUM CONCRETE PROTECTION FOR REINFORCING BARS OR STEEL SHAPES SHALL BE AS SHOWN IN FIG. B-2 UNLESS SPECIFIED ELSEWHERE.



TYP. DETAIL FOR SLEEVES THRU CONCRETE BEAM

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

- WHEN A BEAM CROSSES A GIRDER, REST BEAM ON TOP OF GIRDER BARS. BEAM REINFORCING BAR SHALL BE SYMMETRICAL ABOUT CENTER LINE WHENEVER POSSIBLE.
- 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.

FIG. B - 2

FIG. B - 3

GENERAL CONSTRUCTION NOTES

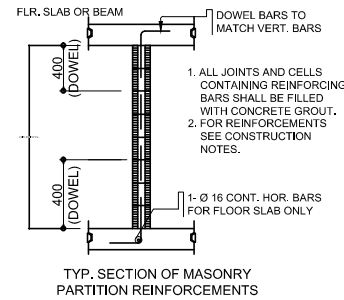
NOTES ON CONCRETE HOLLOW BLOCK WALLS:

- 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.
- PROVIDE 150mm x 300mm STIFFENER COLUMN REINFORCED WITH 4 - 12mm WITH 6mm @ 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.

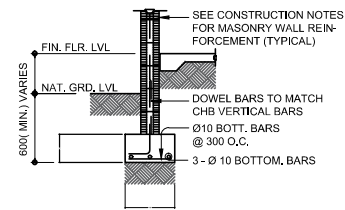
| BLOCK THICKNESS | REINFORCEMENT | | NOTES |
|-----------------|-------------------|-------------------|---|
| | HORIZONTAL | VERTICAL | |
| 75mm | 10mm @ 600mm O.C. | 10mm @ 600mm O.C. | A. MINIMUM LAPS AT SPLICE = 0.25m B. PROVIDE RIGHT ANGLE REINFORCEMENT AT CORNERS 0.92m LONG C. WHERE CHB OR CER. BLK. WALL DOWELS JOIN COL. R.C. BEAMS AND WALL DOWELS WITH THE SAME SIZE AS VERT. OR HOR. REINFORCEMENT SHALL BE PROVIDED |
| 125mm | 10mm @ 600mm O.C. | 10mm @ 600mm O.C. | |
| 150mm | 10mm @ 600mm O.C. | 10mm @ 600mm O.C. | |
| 200mm | 12mm @ 600mm O.C. | 12mm @ 600mm O.C. | |

REINFORCING CONCRETE LINTEL BEAM IN CONCRETE BLOCKS

| CLEAR SPAN ("L") | TOTAL LENGTH (L+ 0.40m) | MIN. f'c (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 | 17.0 | 250 | 1-Ø 12 | 1-Ø 10 | Ø6mm @ 200mm |
| 2.10M | 2.50M | | 250 | 1-Ø 12 | 1-Ø 10 | Ø6mm @ 200mm |
| 2.40M | 2.90M | 20.0 | 300 | 1-Ø 16 | 1-Ø 12 | Ø10mm @ 200mm |
| 2.70M | 3.10M | | 300 | 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 | |



TYP. SECTION OF MASONRY PARTITION REINFORCEMENTS



TYPICAL CONNECTION DETAIL OF R.C. WALL AT CORNERS

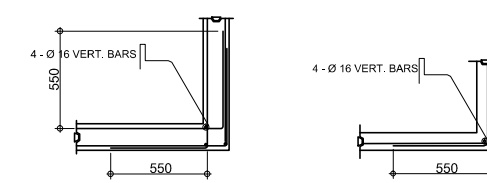
NOTES ON CONCRETE WALLS:

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

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

- 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.
- UNLESS OTHERWISE NOTED IN THE PLANS, ALL OPENINGS IN WALLS 250mm OR THICKER SHALL BE REINFORCED AROUND WITH 2-20mm Ø BARS FOR 25mm, 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)



NOTES ON WELDS:

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

NOTES ON STRUCTURAL STEEL:

- STRUCTURAL STEEL TO BE USED FOR FABRICATION AND ERECTION OF THIS STRUCTURE SHALL COMPLY WITH ALL THE PERTINENT PROVISIONS OF AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING LATEST EDITION.
- ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A36 STRUCTURAL STEEL UNLESS OTHERWISE INDICATED.
- ALL WELDED CONNECTIONS SHALL DEVELOP THE FULL STRENGTH OF THE MEMBERS CONNECTED.
- UNLESS OTHERWISE SPECIFIED ALL WELDING RODS SHALL CONFORM AWS R60 ELECTRODES.
- ALL BOLTS USED UNLESS OTHERWISE SPECIFIED SHALL BE ASTM A307 BOLTS.

NOTES ON EMBEDDED PIPES:

- ALL EMBEDDED 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.
- NO PIPES SHALL BE ALLOWED TO PASS THRU BEAMS VERTICALLY.
- NO PIPES SHALL BE EMBEDDED IN COLUMNS.

DESIGN CRITERIA:

- LOADINGS
 - A. DEAD LOAD
 - CONCRETE - 23.56kN/m³
 - STEEL - 78.93kN/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 = $\frac{Z}{R} W$ (DESIGN BASE SHEAR)
 - Vmax = $\frac{Z}{R} W$ Cal w
 - Vmin = $\frac{Z}{R} W$ (ZONE 4)
 - WHERE: W = TOTAL DEAD LOAD
 - T = NATURAL PERIOD = Ct (h)^{0.75}
 - 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
 - Z = SEISMIC ZONE = 0.40 (ZONE 4)
 - S = SOIL TYPE = D

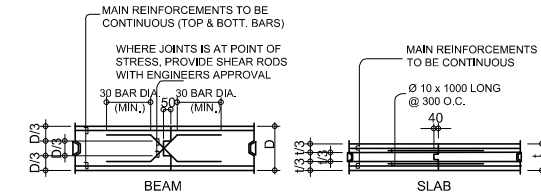
NOTE: PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF RA 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS 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/STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

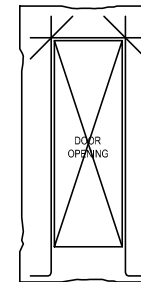
- DESIGN STRESSES
 - A. CONCRETE
 - COMPRESSIVE STRENGTH @ 28 DAYS f'c = 20.7 MPa (3,000 psi)
 - B. REINFORCING BARS
 - a. FOR BARS 16mm Ø AND GREATER f'c = 275 MPa (40,000 psi)
 - b. FOR BARS LESS THAN 16mm Ø f'c = 230 MPa (33,000 psi)
 - C. STRUCTURAL STEEL, ASTM A-36 FOR TRUSSES, BRACINGS & STRUTS f'c = 248 MPa (36,000 psi)
 - D. PURRLINS
 - COLD FORMED LIGHT GAGE SHAPES f'c = 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:

- 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.



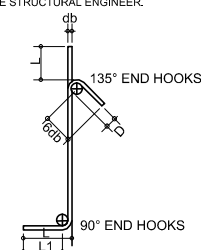
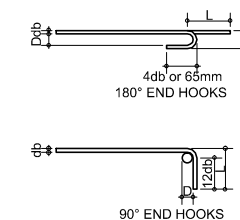
TYPICAL SLAB & BEAM CONSTRUCTION JOINT DET.



TYP. EXTERIOR WINDOW & DOOR OPEING

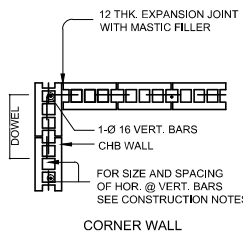
NOTES OF STIRRUPS:

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

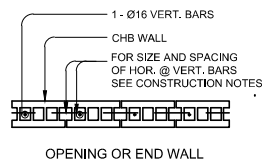


| MAIN BAR END HOOKS (ALL GRADES) | | | | |
|---------------------------------|---------------|-----------|----------|-----|
| BAR SIZE (DEFORMED) | DIAMETER (mm) | 180° HOOK | 90° HOOK | |
| | | D + 2db | L | L |
| 10 mm Ø | 60 | 75 | 125 | 150 |
| 12 mm Ø | 75 | 100 | 150 | 200 |
| 16 mm Ø | 95 | 125 | 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 |

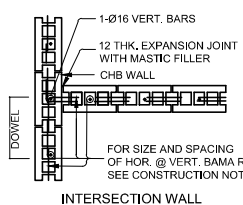
| STIRRUP AND TIE HOOKS (ALL GRADES) | | | | |
|------------------------------------|---------------|-----------|----------|-----|
| BAR SIZE (DEFORMED) | DIAMETER (mm) | 180° HOOK | 90° HOOK | |
| | | D + 2db | L | L |
| 10 mm Ø | 40 | 125 | 85 | 100 |
| 12 mm Ø | 50 | 165 | 115 | 115 |
| 16 mm Ø |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



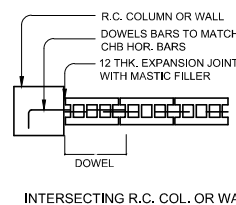
CORNER WALL



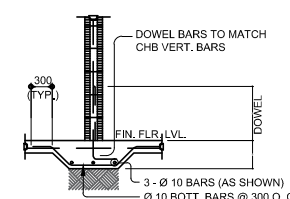
OPENING OR END WALL



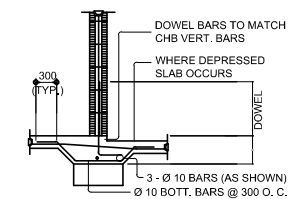
INTERSECTION WALL



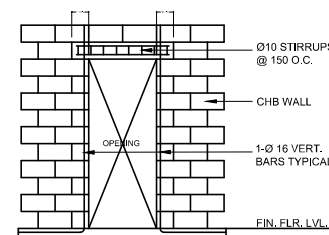
INTERSECTING R.C. COL. OR WALL



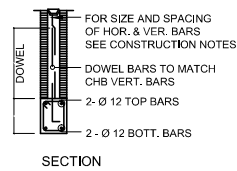
TYPICAL CHB FOOTING DETAILS (WHERE APPLICABLE)



TYPICAL DETAIL FOR BEAM OR SLAB CHANGE SOFFIT



ELEVATION



SECTION

TYP. DET. OF LINTEL BEAM AT CHB WALL OPENING

GENERAL CONSTRUCTION NOTES

STRUCTURAL SPECIFICATIONS

A. NOTES ON CONCRETE MIXES AND PLACING:

A.1 FOOTING, COLUMNS, SLABS BEAMS, GIRDERS & STAIRS

$f'c = 20.68 \text{ MPa (3,000 psi)}$ AT 28 DAYS

A.2 GROUND FLOOR SLAB ON FILL

$f'c = 17.24 \text{ MPa (2,500 psi)}$ AT 28 DAYS

A.3 OTHERS NOT SPECIFIED

$f'c = 20.68 \text{ MPa (3,000 psi)}$ 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
 $f_y = 275 \text{ MPa (40 ksi)}$ (12mm Ø AND BELOW), $f_y = 415 \text{ MPa (60ksi)}$ (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 $f_y = 248.16 \text{ MPa (36,000 psi)}$

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 ASSURE 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.

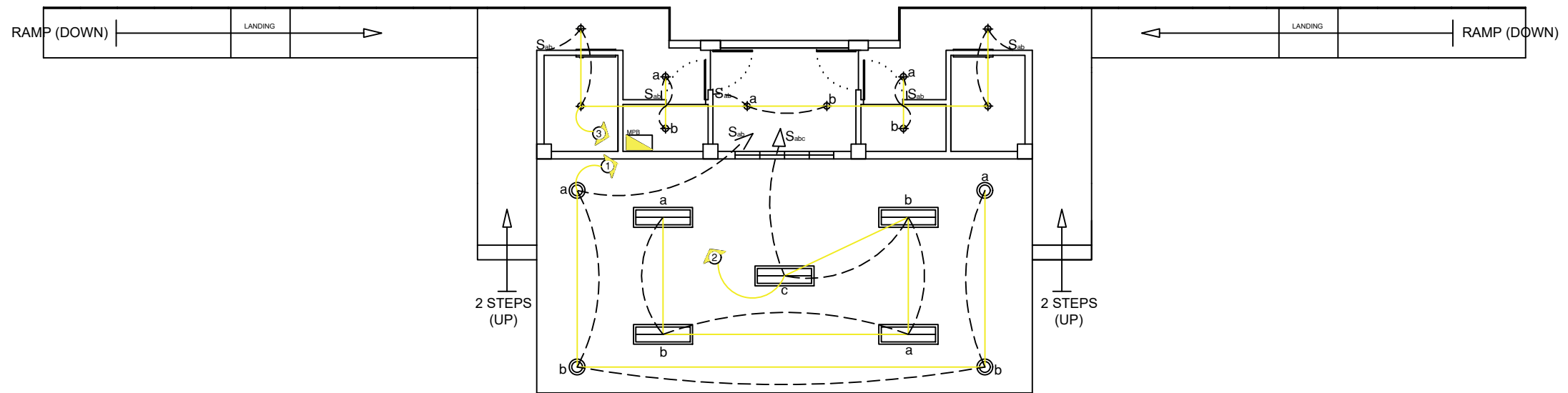


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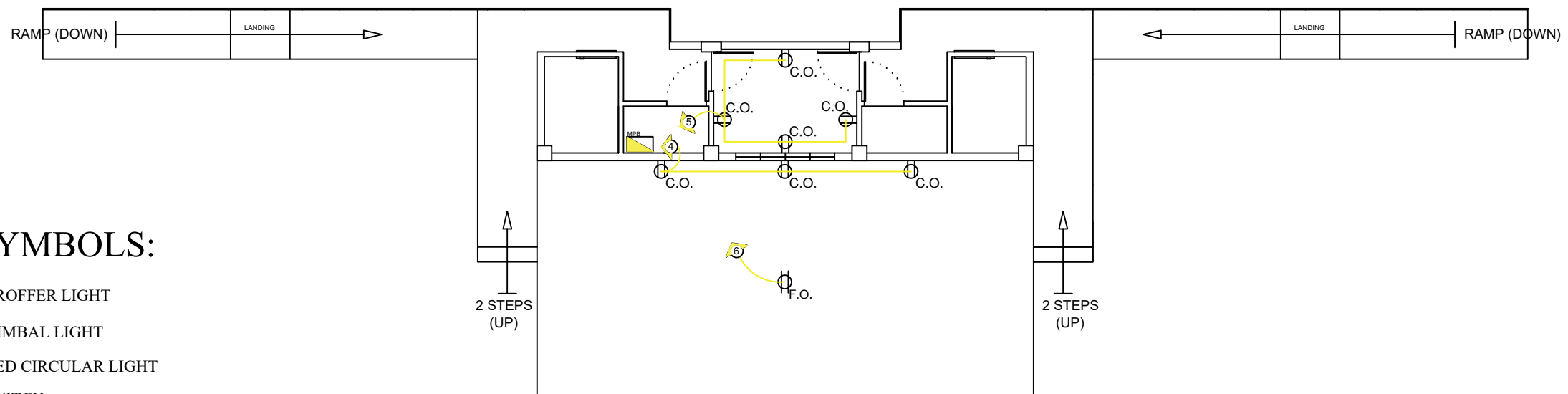


Certificate No. SC/000433Q

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|---|---|---|--|--|---|
| PROJECT TITLE: <div style="text-align: center; font-weight: bold; padding: 5px;"> CONSTRUCTION OF SPORTS FACILITIES </div> <p style="text-align: center; font-size: small;">MIMAROPA REGION CAMPUS, ODIONGAN, ROMBLON</p> | PREPARED BY: <div style="text-align: center; font-weight: bold; padding: 5px;"> KEN JAMES F. FADRIQUELA <small>RESIDENT CIVIL ENGINEER</small> </div> | RECOMMENDING APPROVAL: <div style="text-align: center; font-weight: bold; padding: 5px;"> MERIAM F. FALLAR <small>ADMINISTRATIVE OFFICER V</small> </div> | APPROVED: <div style="text-align: center; font-weight: bold; padding: 5px;"> EDWARD C. ALBARACIN <small>CAMPUS DIRECTOR III</small> </div> | SHEET CONTENTS: <div style="text-align: center; padding: 5px;"> AS SHOWN </div> | SHEET NO.: <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> |
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





PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
LIGHTING LAYOUT
 SCALE: _____ NTS



PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS
POWER LAYOUT
 SCALE: _____ NTS

LEGEND & SYMBOLS:

-  30WATTS TROFFER LIGHT
-  30WATTS GIMBAL LIGHT
-  30WATTS LED CIRCULAR LIGHT
-  2 - GANG SWITCH
-  3 - GANG SWITCH
-  4 - GANG FLOOR OUTLET
-  2 - GANG CONVENIENCE OUTLET
-  PANELBOARD



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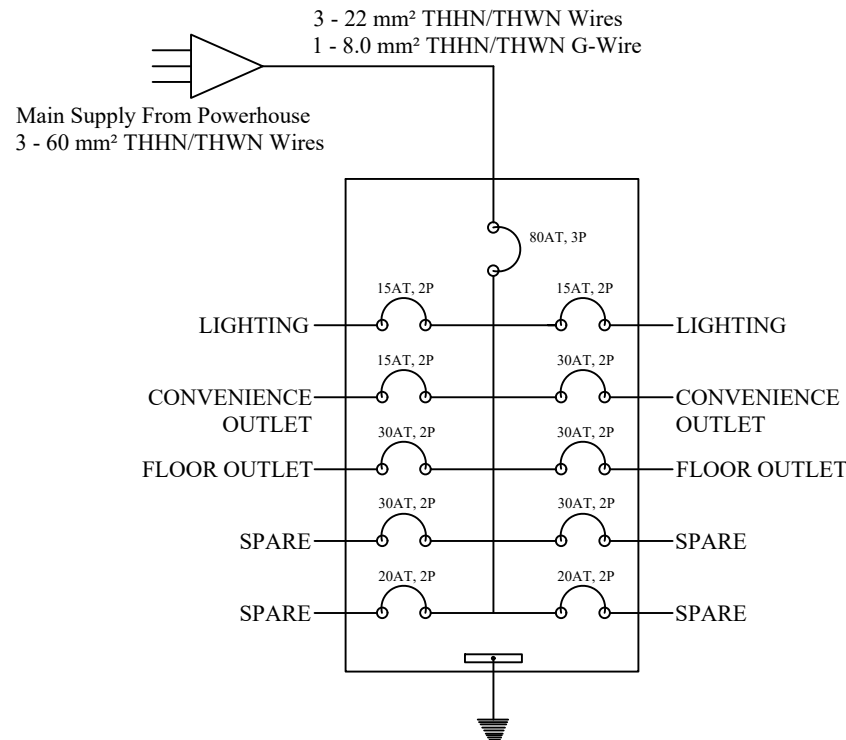
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| PROJECT TITLE: | PREPARED BY: | RECOMMENDING APPROVAL: | APPROVED BY: | SHEET CONTENTS: | SHEET NO.: |
| CONSTRUCTION OF SPORTS FACILITIES MIMAROPA REGION CAMPUS, ODIONGAN, ROMBLON | JOSEPH G. BANTANG RESIDENT ELECTRICAL ENGINEER | MERIAM F. FALLAR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

GENERAL NOTES

- All electrical works herein shall be in accordance with the provisions of the latest edition of Philippine Electrical Code (PEC) with the requirements of the local utility companies concerned and with the local enforcing authorities.
- All electrical works herein shall be executed by experience personnel under the direct supervision of a duly licensed professional Registered Electrical Engineer.
- The contractor shall verify and orient the actual location of service entrance for connection of power and communication supplies.
- The type of power for the branches to be supplied shall be 230V, 1-phase, 2 wires, 60 Hertz unless otherwise specified. The size of wire shall be 2.0 mm² THW/THHN for lighting system and 5.5 mm² for power system, conduit shall be 20mm PVC and 20mm PVC.
- The type of main power supply of the campus was 230V, 3 phase, 3 Wires, 60 Hertz. The size of wire on actual site was 3 - 60 mm² THHN/THWN wire.
- All materials to be used shall be new and approved type for the location and purpose unless otherwise indicated on the drawing, Polyvinyl Chloride (PVC) conduit shall be used for imbedded wiring and Rigid Steel Conduit for exposed wiring.
- All wired shall be copper and thermoplastic insulated type THHN/THWN unless otherwise indicated in the plans.
- All mounting heights are subject to architects approval prior to installation.

Mounting Heights:

- Wall Switch -----1.372 m (from center of device to finished floor line)
- Panel Board -----1.83 m (from top of panel to finished floor line)
- Convenience outlet-----.45m (from center of device to finished floor line)
- Convenience outlet @ Bathroom-----1.40 m (from top of device to finished floor line)



PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS

SINGLE LINE DIAGRAM

SCALE: _____ NTS

MAIN PANELBOARD

SURFACE MOUNTED

| CKT NO. | DESCRIPTION | NO. OF OUTLET | VA PER OUTLET | VOLTAGE | TOTAL LOAD (VA) | AMPERES (A) | | | | PROTECTION (AT) | POLE | WIRES | PIPES |
|---------|----------------------------|---------------|---------------|---------|-----------------|-------------|------|------|----|-----------------|------|---------------------------------|------------|
| | | | | | | AB | BC | CA | 3φ | | | | |
| 1 | LIGHTING OUTLET | 4 | 100 | 230 | 400 | | | 1.74 | | 15 | 2 | 2-2.0 mm ² THHN/THWN | PVC 20mm Ø |
| 2 | LIGHTING OUTLET | 5 | 100 | 230 | 500 | | 2.17 | | | 15 | 2 | 2-2.0 mm ² THHN/THWN | PVC 20mm Ø |
| 3 | LIGHTING OUTLET | 10 | 100 | 230 | 1000 | 4.35 | | | | 15 | 2 | 2-2.0 mm ² THHN/THWN | PVC 20mm Ø |
| 4 | CONVENIENCE OULET - 2 GANG | 4 | 180 | 230 | 1440 | | | 6.26 | | 30 | 2 | 2-5.5 mm ² THHN/THWN | PVC 20mm Ø |
| 5 | CONVENIENCE OULET - 2 GANG | 3 | 180 | 230 | 1080 | | 4.69 | | | 30 | 2 | 2-5.5 mm ² THHN/THWN | PVC 20mm Ø |
| 6 | FLOOR OUTLET - 4 GANG | 1 | 180 | 230 | 720 | 3.13 | | | | 30 | 2 | 2-5.5 mm ² THHN/THWN | PVC 20mm Ø |
| 7 | SPARE | | | 230 | | | | | | 30 | 2 | | |
| 8 | SPARE | | | 230 | | | | | | 30 | 2 | | |
| 9 | SPARE | | | 230 | | | | | | 20 | 2 | | |
| 10 | SPARE | | | 230 | | | | | | 20 | 2 | | |
| TOTAL | | | | | 5140 | 7.48 | 6.86 | 8.0 | | | | | |

$$I = P/V$$

$$\text{TOTAL CURRENT } (I_{\phi})$$

CURRENT @ AB

$$I_{\phi} = (I_{AB} + I_{BC} + I_{CA})$$

$$I_{AB} = (1000 + 720) / 230$$

$$I_{\phi} = 7.48A + 6.86A + 8.0A$$

$$I_{AB} = 7.48A$$

$$I_{\phi} = 22.34 A$$

CURRENT @ BC

$$I_L = (I_{\phi} / 1.732)$$

$$I_{BC} = (500 + 1080) / 230$$

$$I_L = 22.34A / 1.732$$

$$I_{BC} = 6.86A$$

$$I_L = 12.90A$$

USE:

Main Wires: 3 - 22 mm² THHN/THWN

Ground Wire: 1 - 8.0 mm² THHN/THWN

PIPES: PVC 50mm Ø

Main Circuit Breaker : 80AT, 3 Pole, 3φ, 60HZ, 230V

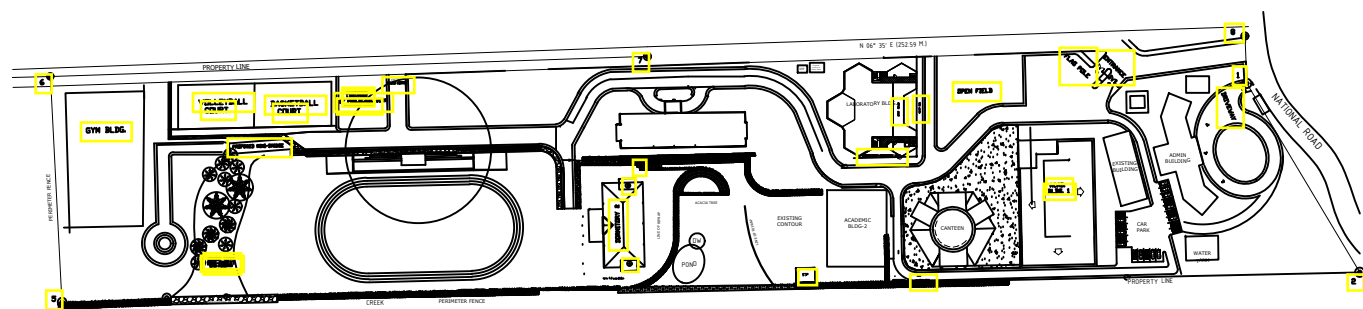
CURRENT @ CA

$$I_{CA} = (400 + 1440) / 230$$

$$I_{CA} = 8.0A$$

PHILIPPINE SCIENCE HIGH SCHOOL - MIMAROPA REGION CAMPUS SCHEDULE OF LOADS

SCALE: _____ NTS



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PROJECT TITLE:

CONSTRUCTION OF
SPORTS FACILITIES

MIMAROPA REGION CAMPUS, ODIONGAN, ROMBLON

PREPARED BY:

JOSEPH G. BANTANG
RESIDENT ELECTRICAL ENGINEER

RECOMMENDING APPROVAL:

MERIAM F. FALLAR
ADMINISTRATIVE OFFICER V

APPROVED BY:

EDWARD C. ALBARACIN
CAMPUS DIRECTOR III

SHEET CONTENTS:

AS SHOWN

SHEET NO.: