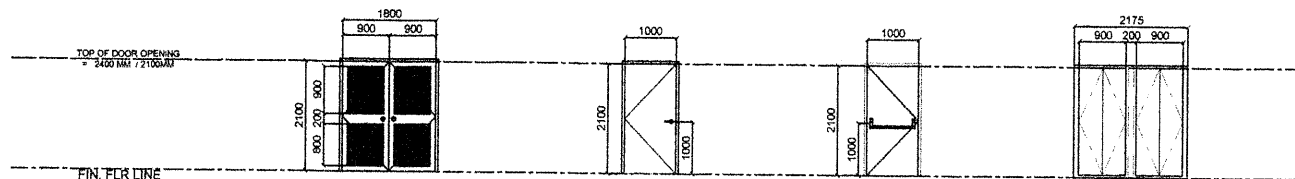


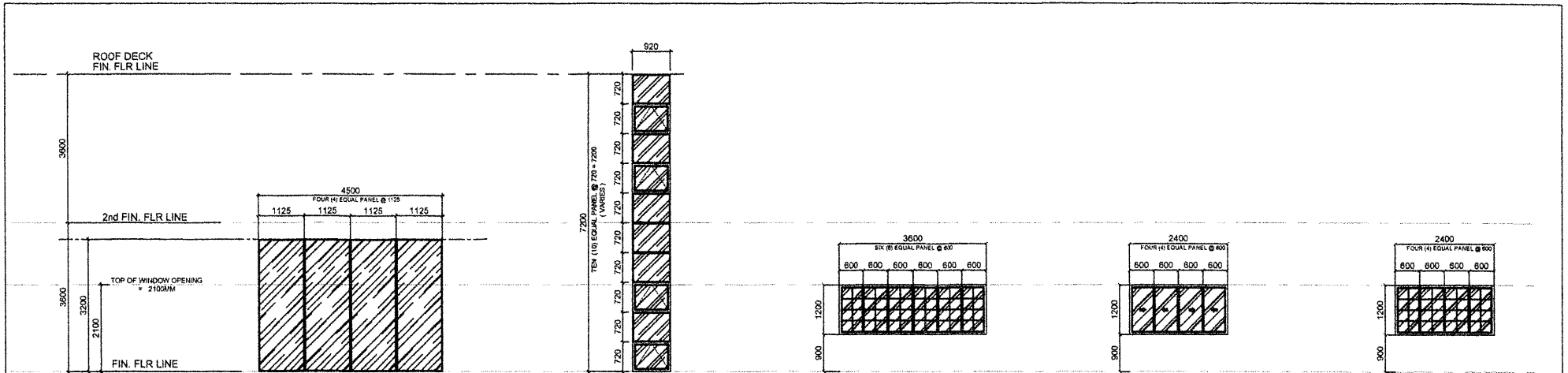
| SCHEDULE    | D-01                                                                                                     | SCHEDULE    | D-02                                                                                                                                | SCHEDULE    | D-03                                                                                                          | SCHEDULE    | D-04                                                                                                         | SCHEDULE    | D-05                                                                                                                     | SCHEDULE    | D-06                                                                                                          | SCHEDULE    | D-07                                                                                                          |
|-------------|----------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------|
| LOCATION    | MAIN ENTRY                                                                                               | LOCATION    | MAKERS SPACE, PHOTO TYPING, BUSINESS INCUBATION AREA, MULTI-PURPOSE HALL, RESEARCH, MEETING AREA, LEARNING ACTIVITY                 | LOCATION    | INFORMATION ROOM, SECURITY ROOM                                                                               | LOCATION    | OFF-MEETING ROOM (2), 27-OFFICE OFFICE (1)                                                                   | LOCATION    | OFF-EE ROOM (1), AUXILIARY ROOM (1), 28-EE ROOM (1), RD-EE ROOM (1)                                                      | LOCATION    | OFF & 2/F - PWD TOILET                                                                                        | LOCATION    | OFF (1) & 2/F (2), MALE AND FEMALE TOILET, STORAGE                                                            |
| DIMENSION   |                                                                                                          | DIMENSION   | 2000mm X 2100mm                                                                                                                     | DIMENSION   | 900mm X 2100mm                                                                                                | DIMENSION   | 900mm X 2100mm                                                                                               | DIMENSION   | 900mm X 2100mm                                                                                                           | DIMENSION   | 800mm X 2100mm                                                                                                | DIMENSION   | 900mm X 2100mm                                                                                                |
| DESCRIPTION | DOUBLE SWING GLASS DOOR FRAMED W/ METAL FITTINGS, TWO LEAF W/ R/W MORTISE LOCK SET AND GLASS DOOR HANDLE | DESCRIPTION | DOUBLE SWING DOOR, 12mm THK GLASS (COLOR: TEGRA BLUE), METAL FITTINGS FOR HINGES AND TYPIC HANDLE 800mm LENGTH AND MORTISE LOCK SET | DESCRIPTION | DOUBLE SWING LEAF PANEL DOOR, TYP. HINGED DOOR ON 80 X 150mm WOOD JAMB, FRAME W/ LEVER TYPE HANDLE & LOCK SET | DESCRIPTION | SINGLE SWING GLASS DOOR FRAMED W/ METAL FITTINGS, SINGLE LEAF, W/ R/W MORTISE LOCK SET AND GLASS DOOR HANDLE | DESCRIPTION | SINGLE SWING PANEL LOUVERED DOOR W/ TYP. HINGED DOOR ON 80 X 150mm METAL JAMB, FRAME W/ KEYED PRIVACY KNOB TYPE LOCK SET | DESCRIPTION | SINGLE SWING UPVC FLUSH DOOR TYP. HINGED DOOR ON 80 X 150mm PVC JAMB, FRAME WITH LEVER TYPE HANDLE & LOCK SET | DESCRIPTION | SINGLE SWING UPVC FLUSH DOOR TYP. HINGED DOOR ON 80 X 150mm PVC JAMB, FRAME WITH LEVER TYPE HANDLE & LOCK SET |
| NO OF SET   | 2 SETS                                                                                                   | NO OF SET   | 8 SETS                                                                                                                              | NO OF SET   | 2 SETS                                                                                                        | NO OF SET   | 4 SETS                                                                                                       | NO OF SET   | 4 SETS                                                                                                                   | NO OF SET   | 2 SETS                                                                                                        | NO OF SET   | 8 SETS                                                                                                        |



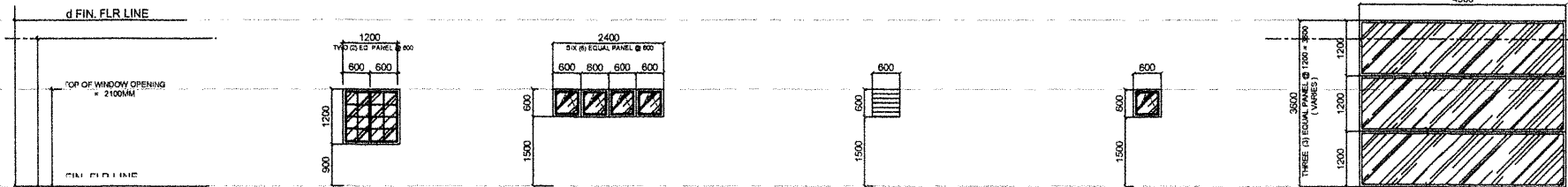
| SCHEDULE    | D-08                                                                                                                     | SCHEDULE    | D-09                                                                     | SCHEDULE    | D-10                                                                                                                                              | SCHEDULE    | D-11                                                                                                                                              | SCHEDULE    | D-12                         |
|-------------|--------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------|
| LOCATION    | OFF - ELECTRICAL ROOM (BACK DOOR)                                                                                        | LOCATION    | OFF - TELCOM, CCTV ROOM (BACK DOOR)                                      | LOCATION    | 2/F - FIRE EXIT (2), 2/F - FIRE EXIT (2)                                                                                                          | LOCATION    | 2/F - FIRE EXIT (2), 2/F - FIRE EXIT (2)                                                                                                          | LOCATION    | 2/F - STORAGE @ DISPLAY AREA |
| DIMENSION   | 900mm X 2100mm                                                                                                           | DIMENSION   | 1000mm X 2100mm                                                          | DIMENSION   | 1000mm X 2100mm                                                                                                                                   | DIMENSION   | 1000mm X 2100mm                                                                                                                                   | DIMENSION   | 1000mm X 2100mm              |
| DESCRIPTION | SINGLE SWING PANEL LOUVERED DOOR W/ TYP. HINGED DOOR ON 80 X 150mm METAL JAMB, FRAME W/ KEYED PRIVACY KNOB TYPE LOCK SET | DESCRIPTION | HOLLOW CORE METAL FLUSH TYPE SWINGING DOOR, PROVIDE W/ COMPLETE HARDWARE | DESCRIPTION | SINGLE SWING FIRE-FABRICATED STEEL DOOR TYP. HINGED DOOR ON 80 X 150mm METAL JAMB, FRAME W/ INTUMESCENT STRIP, COLD SMOKE SEAL, W/ PANIC DOOR BAR | DESCRIPTION | SINGLE SWING FIRE-FABRICATED STEEL DOOR TYP. HINGED DOOR ON 80 X 150mm METAL JAMB, FRAME W/ INTUMESCENT STRIP, COLD SMOKE SEAL, W/ PANIC DOOR BAR | DESCRIPTION |                              |
| NO OF SET   | 3 SETS                                                                                                                   | NO OF SET   | 1 SET                                                                    | NO OF SET   | 4 SETS                                                                                                                                            | NO OF SET   | 2 SETS                                                                                                                                            | NO OF SET   | 2 SETS                       |

**TESDA INNOVATION CENTER - MARIVELES**  
**SCHEDULE OF DOORS**  
 SCALE 1:100MTS

|                                                                                     |                                                               |                                                                                                                                                                 |                                                                                                                                                               |                                                                                                                                                                                                       |                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                            |                                                                                                                                      |                                                                                                                                        |               |                 |           |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------|-----------|
|  | TECHNICAL EDUCATION<br>AND<br>SKILLS DEVELOPMENT<br>AUTHORITY | CONCURRED BY:                                                                                                                                                   | RECOMMENDING APPROVAL:                                                                                                                                        | APPROVED BY:                                                                                                                                                                                          | PROJECT TITLE:                                                                                   | DESIGNED AND ENGINEERED AND<br>OTHER CONTRACT DOCUMENTS ARE<br>THE PROPERTY OF TESDA. NO PART<br>OF THIS DOCUMENT IS TO BE<br>REPRODUCED OR TRANSMITTED IN<br>ANY FORM OR BY ANY MEANS,<br>ELECTRONIC OR MECHANICAL,<br>INCLUDING PHOTOCOPYING,<br>RECORDING, OR BY ANY<br>INFORMATION STORAGE AND<br>RETRIEVAL SYSTEM, WITHOUT THE<br>WRITTEN CONSENT OF THE<br>TECHNICAL EDUCATION AND SKILLS<br>DEVELOPMENT AUTHORITY. | CADD BY:                                                                                                                                   | PREPARED BY:                                                                                                                         | REVIEWED BY:                                                                                                                           | SUBMITTED BY: | SHEET CONTENTS: | SHEET NO. |
|                                                                                     |                                                               | <br>DIR. DAVID B. BUNCIAL<br>CHIEF OF STAFF (DOO)<br>DIRECTOR-IN-CHARGE, BPU | <br>DIR. JUAN C. OROZCO<br>CHIEF OF STAFF (DOO)<br>DIRECTOR-IN-CHARGE, BPU | <br>SEC. ISIDRO A. LAPENA AND, CSEE<br>DIRECTOR GENERAL<br>TECHNICAL EDUCATION AND SKILLS<br>DEVELOPMENT AUTHORITY | PROPOSED TESDA<br>INNOVATION CENTER - MARIVELES<br><br>LOCATION: BRGY. CAMAYA, MARIVELES, BATMAN | <br>MARIA GUADALUPE DE RAMOS<br>CAP OPERATOR, SPJ-000                                                                                                                                                                                                                                                                                | <br>ARCH. CARLOS D. MANANQUIL<br>ARCHITECT CONSULTANT | <br>ARCH. RUMI E. MENDOZA<br>ARCHITECT, SPJ-000 | <br>ENGR. RON LOWE P. MINGARACAL<br>LEAD, SPJ-000 | AS SHOWN      | A-15            |           |

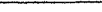
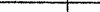
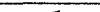
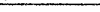


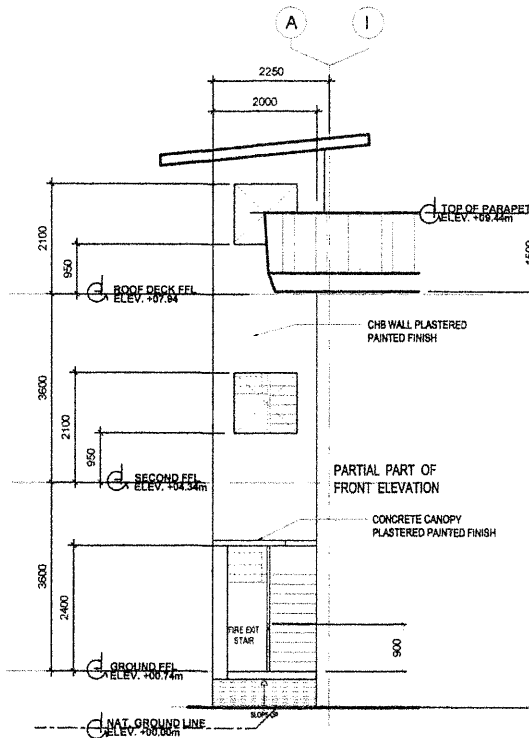
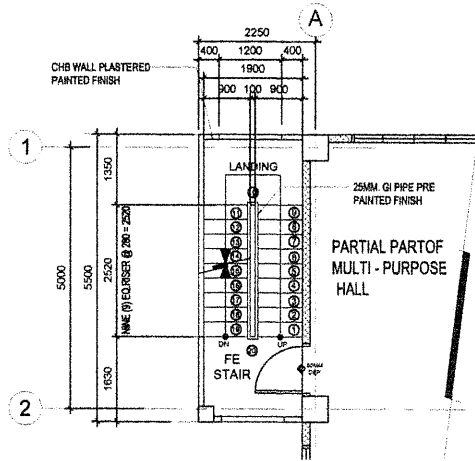
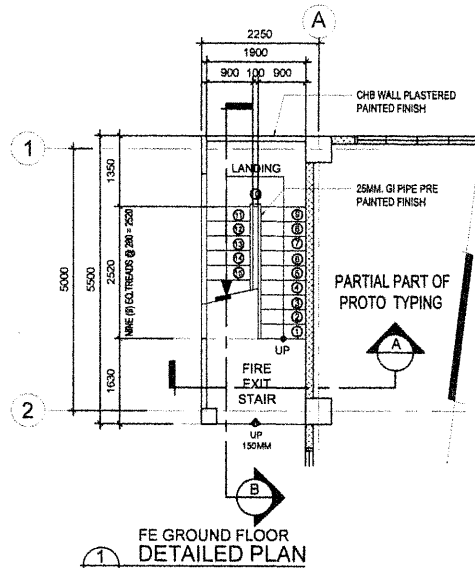
| SCHEDULE     | W 01                                                                                        | SCHEDULE     | W 02                                                                                                                                                                                            | SCHEDULE     | W 03                                                                                                                                                | SCHEDULE     | W 04                                                                                                      | SCHEDULE     | W 05                                                                                                       |
|--------------|---------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------|
| LOCATION:    | FACADE                                                                                      | LOCATION:    | FACADE                                                                                                                                                                                          | LOCATION:    | G.F. - PROTOTYPING, MAKERS SPACE, BUSINESS INCUBATION AREA<br>2/F. - MULTI-PURPOSE HALL, OFFICE, COMPUTER RESEARCH, MEETING AREA, LEARNING ACTIVITY | LOCATION:    | G.F. - INFORMATION ROOM<br>SECURITY ROOM                                                                  | LOCATION:    | MEETING ROOM                                                                                               |
| DIMENSION:   | 4000MM X 3000MM                                                                             | DIMENSION:   | 4000MM X 3200MM                                                                                                                                                                                 | DIMENSION:   | 2000MM X 1200MM                                                                                                                                     | DIMENSION:   | 2400MM X 1200MM                                                                                           | DIMENSION:   | 2400MM X 1200MM                                                                                            |
| DESCRIPTION: | FRAMELESS-FIXED TYPE WINDOW WITH 12mm THICK TOUGHENED OR TEMPERED GLASS (COLOR: TESDA BLUE) | DESCRIPTION: | FRAMELESS-FIXED TYPE WINDOW WITH 12mm THICK TOUGHENED OR TEMPERED GLASS (COLOR: TESDA BLUE) AND AWKING WINDOW TYPE W/ 1/4" THK GLASS ANALOG FRAME AND JAMB W/ COMPLETE FITTINGS AND ACCESSORIES | DESCRIPTION: | CASEMENT WINDOW W/ 2" THK GLASS ANALOG FRAME & JAMB (COLOR: TESDA BLUE, W/ COMPLETE FITTINGS & ACCESSORIES                                          | DESCRIPTION: | SLIDING WINDOW W/ 2" THK GLASS ANALOG FRAME & JAMB (COLOR: TESDA BLUE, W/ COMPLETE FITTINGS & ACCESSORIES | DESCRIPTION: | CASEMENT WINDOW W/ 2" THK GLASS ANALOG FRAME & JAMB (COLOR: TESDA BLUE, W/ COMPLETE FITTINGS & ACCESSORIES |
| NO OF SET    | 2 SETS                                                                                      | NO OF SET    | 4 SETS                                                                                                                                                                                          | NO OF SET    | 19 SETS                                                                                                                                             | NO OF SET    | 2 SETS                                                                                                    | NO OF SET    | 2 SETS                                                                                                     |



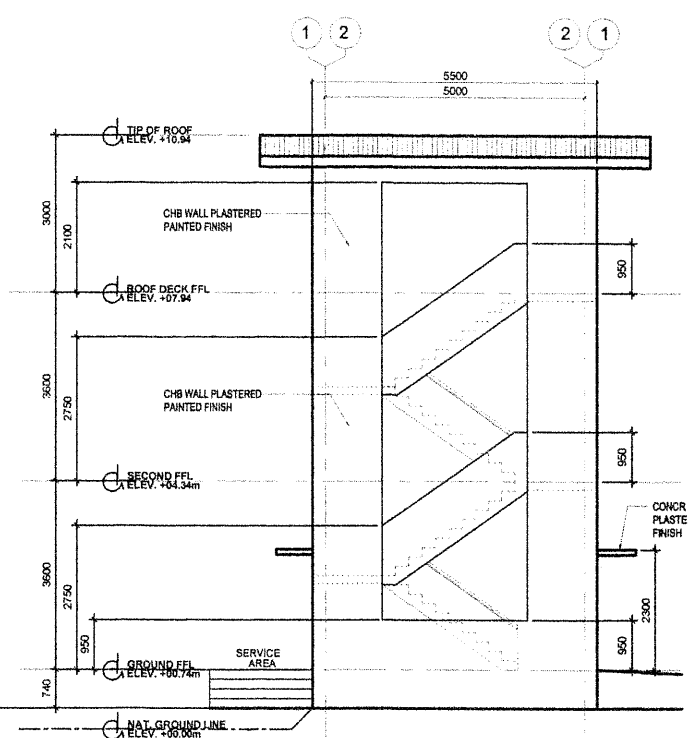
|  | <div>W<br/>06</div>                                                                                          | SCHEDULE    | <div>W<br/>07</div>                                                                                    | SCHEDULE    | <div>W<br/>08</div>                                       | SCHEDULE    | <div>W<br/>09</div>                                                                                    | SCHEDULE    | <div>W<br/>10</div>                                                                         |
|--|--------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------|
|  | MEETING ROOM (3)<br>MULTI-PURPOSE HALL                                                                       | LOCATION    | G.F. - MALE & FEMALE TOILET<br>2/F. - MALE & FEMALE TOILET                                             | LOCATION    | G.F. - AUX ROOM<br>2/F. - EE ROOM                         | LOCATION    | G.F. - STORAGE<br>2/F. - STORAGE                                                                       | LOCATION    | FACADE                                                                                      |
|  | 3000 x 1200MM                                                                                                | DIMENSION   | 2400MM x 800MM                                                                                         | DIMENSION   | 800mm x 800mm                                             | DIMENSION   | 800mm x 600mm                                                                                          | DIMENSION   | 4000mm x 3000mm                                                                             |
|  | 15MM TYPED WINDOW W/ 2" THK GLASS ANALOG FRAME & JAMB (COLOR: TESDA BLUE, W/ COMPLETE FITTINGS & ACCESSORIES | DESCRIPTION | AWKING TYPE W/ 2" THK GLASS ANALOG FRAME & JAMB (COLOR: TESDA BLUE) W/ COMPLETE FITTINGS & ACCESSORIES | DESCRIPTION | PVC LOUVER PANEL (COLOR: BLACK) W/ UPVC 50mm X 150mm JAMB | DESCRIPTION | AWKING TYPE W/ 2" THK GLASS ANALOG FRAME & JAMB (COLOR: TESDA BLUE) W/ COMPLETE FITTINGS & ACCESSORIES | DESCRIPTION | FRAMELESS-FIXED TYPE WINDOW WITH 12mm THICK TOUGHENED OR TEMPERED GLASS (COLOR: TESDA BLUE) |
|  | SETS                                                                                                         | NO OF SET   | 4 SETS                                                                                                 | NO OF SET   | 3 SETS                                                    | NO OF SET   | 2 SETS                                                                                                 | NO OF SET   | 4 SETS                                                                                      |

A
**TESDA INNOVATION CENTER - MARIVELES**  
**SCHEDULE OF WINDOWS**  
 SCALE 1:100MTS

|                                                                                     |                                                               |                                                                                                                                            |                                                                                                                                      |                                                                                                                                                                                                       |                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                           |                                                                                                                                         |                                                                                                                                         |               |                 |           |
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|  | TECHNICAL EDUCATION<br>AND<br>SKILLS DEVELOPMENT<br>AUTHORITY | CONCURRED BY:                                                                                                                              | RECOMMENDING APPROVAL:                                                                                                               | APPROVED BY:                                                                                                                                                                                          | PROJECT TITLE:                                                                                  | DESIGNED AND SPECIFICATIONS AND<br>CADD CONTRACT DOCUMENTS ARE THE<br>PROPERTY OF THE DESIGNER. ANY<br>DISSEMINATION OF TECHNICAL EDUCATION<br>AND SKILLS DEVELOPMENT AUTHORITY<br>MATERIALS OR INFORMATION TO ANY OTHER<br>PERSON WITHOUT THE WRITTEN<br>PERMISSION OF THE DESIGNER IS<br>PROHIBITED. IT IS THE RESPONSIBILITY<br>OF THE CLIENT TO OBTAIN THE<br>NECESSARY PERMISSIONS FROM THE<br>DESIGNER FOR ANY REPRODUCTION<br>OR DISTRIBUTION OF THE<br>DESIGNER'S MATERIALS OR<br>INFORMATION. | CADD BY:                                                                                                                                  | PREPARED BY:                                                                                                                            | REVIEWED BY:                                                                                                                            | SUBMITTED BY: | SHEET CONTENTS: | SHEET NO. |
|                                                                                     |                                                               | <br>DIR. DAVID B. BUNALLAN<br>EXECUTIVE DIRECTOR, NITSD | <br>DIR. ISIDRO LAPENA<br>DIRECTOR IN CHARGE, SPU | <br>SEC. ISIDRO LAPENA, PH.D., CSEE<br>DIRECTOR GENERAL<br>TECHNICAL EDUCATION AND SKILLS<br>DEVELOPMENT AUTHORITY | PROPOSED TESDA<br>INNOVATION CENTER - MARIVELES<br><br>LOCATION: 8907 CANAYAN-MARIVELES, BATANG | <br>MARIA LOURDES DE RAMOS<br>CAD OPERATOR, SPU-CDS                                                                                                                                                                                                                                                                                                                                                               | <br>ARCA CARLOS B. MANANQUIL<br>ARCHITECT CONSULTANT | <br>ARCA CARLOS B. MANANQUIL<br>ARCHITECT, SPU-CDS | <br>ENGR. ROY LOUIE P. MINGARACAL<br>HEAD, SPU-CDS | AS SHOWN      | A-16            |           |



FIRE EXIT STAIR - 3 / GRID A /  
DET. FRONT ELEVATION



FIRE EXIT STAIR - 3  
LEFT / RIGHT SIDE ELEVATION

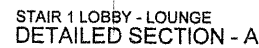
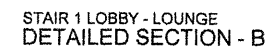
TESDA INNOVATION CENTER - MARIVELES  
A FIRE EXIT STAIR DETAILS  
SCALE 1:100MTS

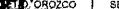
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|  <p>TECHNICAL EDUCATION<br/>AND<br/>SKILLS DEVELOPMENT<br/>AUTHORITY</p> | <p>CONCURRED BY:</p> <p><i>[Signature]</i><br/>DIR. DAVID B. BUNBAILON<br/>EXECUTIVE DIRECTOR, ITESD</p> | <p>RECOMMENDING APPROVAL:</p> <p><i>[Signature]</i><br/>DIR. JULIO TOROZCO<br/>DIRECTOR, AS<br/>CHIEF, MATH. CGO<br/>DIRECTOR, MATH. CGO</p> | <p>APPROVED BY:</p> <p><i>[Signature]</i><br/>SEC. ISIDORO LAPENA, PH.D. CSEE<br/>DIRECTOR GENERAL<br/>TECHNICAL EDUCATION AND SKILLS<br/>DEVELOPMENT AUTHORITY</p> | <p>PROJECT TITLE:</p> <p>PROPOSED TESDA<br/>INNOVATION CENTER - MARIVELES</p> <p>LOCATION: BAYO GAMAY MARIVELES, BATANGAS</p> | <p>DRAWING AND SPECIFICATIONS ARE<br/>THE PROPERTY OF TESDA. ANY<br/>REPRODUCTION OR DISTRIBUTION<br/>WITHOUT THE WRITTEN CONSENT OF<br/>TESDA IS PROHIBITED.</p> | <p>CADD BY:</p> <p><i>[Signature]</i><br/>MARIA LOURDES DE RAMOS<br/>CADD OPERATOR, SPU-ODG</p> | <p>PREPARED BY:</p> <p><i>[Signature]</i><br/>ARCH. CARLOS D. MANANQUI<br/>ARCHITECT CONSULTANT</p> | <p>REVIEWED BY:</p> <p><i>[Signature]</i><br/>ARCH. RUIEL MENDOZA<br/>ARCHITECT SPU-ODG</p> | <p>SUBMITTED BY:</p> <p><i>[Signature]</i><br/>ENGR. ROY LOUIE P. MINGARACAL<br/>REGISTERED ENGINEER</p> | <p>SHEET CONTENTS:</p> <p>AS SHOWN</p> | <p>SHEET NO.</p> <p>A-17</p> |
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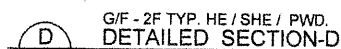
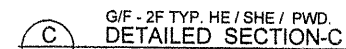
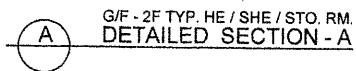


TESDA INNOVATION CENTER - MARIVELES  
**FIRE EXIT STAIR DETAILS**  
 SCALE 1:100MTS

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|                                                                                     |                                                               |                                                                                                                                                |                                                                                                                                                                                             |                                                                                                                                                                                                                 |                                                 |                                                                                                                                                                                                                                                                                               |                                                   |                                               |                                              |               |                 |           |
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|  | TECHNICAL EDUCATION<br>AND<br>SKILLS DEVELOPMENT<br>AUTHORITY | CONCURRED BY:                                                                                                                                  | RECOMMENDED AND APPROVED:                                                                                                                                                                   | APPROVED BY:                                                                                                                                                                                                    | PROJECT TITLE:                                  | DRAWING AND SPECIFICATION OF<br>POWER CABLES SUBMITTALS ARE THE<br>INTELLECTUAL PROPERTY AND<br>CONFIDENTIALITY OF TECHNICAL EDUCATION<br>AND SKILLS DEVELOPMENT AUTHORITY.<br>IT IS NOT TO BE DISCLOSED OR USED FOR<br>ANY PURPOSES WITHOUT THE WRITTEN<br>CONSENT OF THE SECRETARY GENERAL. | CADD BY:                                          | PREPARED BY:                                  | REVIEWED BY:                                 | SUBMITTED BY: | SHEET CONTENTS: | SHEET NO. |
|                                                                                     |                                                               | <br><u>DIR DAVIN BUNGALLON</u><br>EXECUTIVE DIRECTOR, HETED | <br><u>DIR JOVITO OROZCO</u><br>DIRECTOR IV AS<br>DEPUTY CHIEF OF STAFF - CDD<br>DIRECTOR-IN-CHARGE, SPU | <br><u>SEC. ISIDRO S. LAPERA, PH.D., CSEE</u><br>DIRECTOR GENERAL<br>TECHNICAL EDUCATION AND SKILLS<br>DEVELOPMENT AUTHORITY | PROPOSED TESDA<br>INNOVATION CENTER - MARIVELES | MARIA L. NAVES F. DE RAMOS<br>CAG OPERATOR, SPU-CDD                                                                                                                                                                                                                                           | ARCH. CARLOS D. MANANILAL<br>ARCHITECT CONSULTANT | ARCH. RONIEL ALVARADOZA<br>ARCHITECT, SPU-CDD | ENGR. ROY LOUIE P. MINGARAL<br>HEAD, SPU-CDD | AS SHOWN      | A-19            |           |



| TOILET LEGENDS: |                                                         |
|-----------------|---------------------------------------------------------|
| ①               | TANK TYPE WATER CLOSET                                  |
| ②               | URINAL                                                  |
| ③               | LAVATORY                                                |
| ④               | MIRROR                                                  |
| ⑤               | TISSUE HOLDER                                           |
| ⑥               | CONTINUOUS HEADER FRAME,<br>HPL PHENOLIC (COLOR: BROWN) |
| ⑦               | COUNTER TOP<br>SYNTHETIC GRANITE                        |
| ⑧               | SOAP HOLDER                                             |
| ⑨               | SHOWER HEAD                                             |
| ⑩               | SHOWER VALVE                                            |
| ⑪               | FAUCET                                                  |
| FF-3            | FLOOR TILE<br>300 X 300 NON SKID                        |
| WF-2            | PAINTED WALL FINISH                                     |
| WF-3            | WALL TILES (1.8 M HEIGHT,<br>300 X 600 GLAZED)          |

# STRUCTURAL DESIGN NOTES, STANDARD DRAWINGS & SPECIFICATIONS

## A. GENERAL NOTES:

1. THE STRUCTURAL DRAWING SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS WITH ALL OTHER DISCIPLINES AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, ANCHORS, HOLES AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORKS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTIONS AS TO PLAN AND PROGRAMS.
3. THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACINGS REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORKS AND CONNECTIONS HAVE BEEN COMPLETED. THE INVESTIGATION DESIGN, SAFETY, ADEQUACY AND INSPECTION OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES, AND SEQUENCES OF THE CONTRACTOR.
5. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO THE APPROVAL OF THE ENGINEER.
6. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH THE SUPPLIER'S INSTRUCTIONS AND REQUIREMENTS.
7. LOADING APPLIED TO THE STRUCTURE DURING THE PROCESS OF CONSTRUCTION SHALL NOT EXCEED THE SAFE LOAD-CARRYING CAPACITY OF THE STRUCTURAL MEMBERS. THE LIVE LOADINGS USED IN THE DESIGN OF THIS STRUCTURE ARE INDICATED IN THE "DESIGN CRITERIA NOTES". DO NOT APPLY ANY CONSTRUCTION LOADS UNTIL STRUCTURAL FRAMING IS PROPERLY CONNECTED TOGETHER AND UNTIL ALL TEMPORARY BRACINGS ARE IN PLACE.
8. SHOP DRAWINGS AND OTHER ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR BEFORE SUBMITTAL. THE ENGINEER'S REVIEW IS TO BE CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SHOP DRAWING PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THE SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSIONS, ETC..
9. SUBMIT SHOP DRAWINGS IN THE FORM OF TWO BLUELINE PRINTS. IN NO CASE SHALL REPRODUCTION OF THE CONTRACT DRAWINGS BE USED AS SHOP DRAWINGS. AS A MINIMUM, SUBMIT THE FOLLOWING ITEMS FOR REVIEW:  
A. REINFORCING STEEL SHOP DRAWINGS.  
B. STRUCTURAL STEEL SHOP DRAWINGS.  
OTHER SUBMITTALS MAY BE REQUIRED IN ACCORDANCE WITH THE "SCHEDULE OF SPECIAL INSPECTIONS" OR THE SEPARATE NOTES CONTAINED HEREIN.
10. IN THE INTERPRETATION OF THESE DRAWINGS, INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES OR SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
11. ALL REINFORCED CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE ACI-318-08 BUILDING CODE, AND ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS (LATEST EDITION) IN SO FAR AS THEY DO NOT CONFLICT WITH THE LOCAL BUILDING CODE REQUIREMENTS.
12. ALL SLABS, BEAMS, GIRDERS AND OTHER STRUCTURAL ELEMENTS WHICH ARE NOT INDICATED, DETAILED, DESIGNATED OR INADVERTENTLY OMITTED BUT ARE NECESSARY TO BE COORDINATED WITH ARCHITECTURAL AND OTHER ALLIED ENGINEERING PLANS AS WELL AS TO COMPLETE THE STRUCTURAL WORKS IN ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT UP DURING PRE-BID MEETINGS/NEGOTIATIONS. IT IS UNDERSTOOD THAT THE CONTRACTOR HAS PROVIDED AND INCLUDED ALL THESE ITEMS IN THEIR BID.

## B. NOTES ON CONCRETE MIXES AND PLACING

1. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, RE-HANDLING 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 (6000mm) IN AGGREGATE LENGTH.
2. NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITING BY THE STRUCTURAL ENGINEER AND ONLY FOR UNUSUAL CONDITIONS WHERE VIBRATION IS EXTREMELY DIFFICULT TO ACCOMPLISH.

## C. NOTES ON STRUCTURAL STEEL

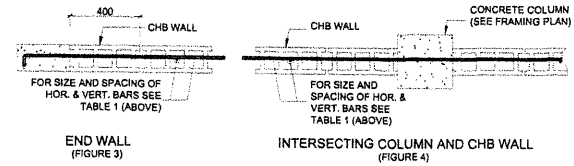
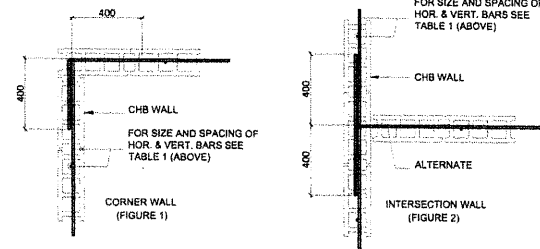
1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE 2005 13TH EDITION OF "MANUAL OF STEEL CONSTRUCTION" & "AISC 360-10 SPECIFICATION OF STRUCTURAL STEEL BUILDINGS" OF THE AISC.
2. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 USING E70XX ELECTRODES. UNLESS OTHERWISE NOTED, PROVIDE CONT. MIN. SIZED FILLET WELDS PER AISC REQUIREMENTS. ALL FILLER MATERIAL SHALL HAVE A MINIMUM YIELD STRENGTH OF 70 KSI.
3. UNLESS OTHERWISE NOTED, ALL STRUCTURAL STEEL PERMANENTLY EXPOSED TO VIEW SHALL BE SHOP PAINTED WITH TWO COAT OF RED OXIDE PAINT.
4. THE STRUCTURAL STEEL ERECTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING (SEE GENERAL STRUCTURAL NOTES).

## D. NOTES ON MASONRY WALLS

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS OF THE NATIONAL CONCRETE MASONRY ASSOCIATION AND UNIFORM BUILDING CODE.
2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 GRADE N.
3. MORTAR AND GROUT FOR ALL REINFORCED MASONRY SHALL CONFORM TO ASTM 270-TYPE M AND SHALL HAVE A MINIMUM 28-DAYS STANDARD CYLINDER COMPRESSIVE STRENGTH OF 21 MPa (3000 PSI).
4. ALL MASONRY WALLS SHALL BE REINFORCED ACCORDING TO THE FOLLOWING SCHEDULE OF CONCRETE HOLLOW BLOCK REINFORCEMENT UNLESS OTHERWISE INDICATED IN THE PLANS.
5. ALL CELLS CONTAINING REINFORCING BARS OR INSERTS SHALL BE SOLIDLY FILLED WITH CONCRETE GROUT.
6. FOR TYPICAL CONNECTION DETAILS ON MASONRY UNITS, REFER TABLE-1 & FIGURES 1, 2, 3 & 4.

TABLE - 1: SCHEDULE OF CONCRETE HOLLOW BLOCK REINFORCEMENT

| THICKNESS<br>mm | REINFORCEMENT         |                       | NOTES                                                                                                                                                                                                                                 |
|-----------------|-----------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | HORIZONTAL            | VERTICAL              |                                                                                                                                                                                                                                       |
| 100             | 10mmØ @<br>600mm O.C. | 10mmØ @<br>600mm O.C. | A. MINIMUM LAP SPICES = 40Ø<br>B. PROVIDE 1-12mmØ VERTICAL BAR @ CORNERS, INTERSECTIONS, END OF WALLS, AND EACH SIDE OF OPENING.                                                                                                      |
| 150             | 12mmØ @<br>600mm O.C. | 12mmØ @<br>600mm O.C. | C. WHERE CHB WALLS ADJOIN COLUMNS RC BEAMS & WALLS, DOWELS WITH THE SAME SIZE AS WALLS OR HORIZONTAL REINFORCEMENT SHALL BE PROVIDED.<br>D. LINTEL BEAMS SHALL BEAR AT LEAST 18 INCHES (400 mm) ON EACH SIDE OF MASONRY WALL OPENING. |



TYPICAL CONNECTION DETAILS OF CONCRETE MASONRY UNITS AT COLUMN AND/OR WALLS

## E. NOTES ON SLAB-ON-GRADE

1. THE SOIL SUBGRADE AND FILL LAYERS BELOW ALL SLAB ON GRADE, PAVING AND PIT SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE MIN. OF 95% OF THE MODIFIED UNIFORM BUILDING CODE.
2. ALL SLAB-ON-GRADE SHALL BE PROVIDED WITH A MIN. OF 75mm THK. GRAVEL BEDDING OR UNLESS NOTED.
3. UNLESS OTHERWISE NOTED, ALL BEDDED SLABS SHALL BE REINFORCED WITH 12mm BARS AT 300mm O.C. EACHWAY AT THE CENTER OF SLAB.
4. IN ORDER TO AVOID CONCRETE SHRINKAGE CRACKING, PLACE SLAB IN ALTERNATING LANE (OR CHECKBOARD) PATTERN. THE MAX. LENGTH OF SLAB CAST IN ANY ONE CONTINUOUS POUR IS RECOMMENDED TO BE LESS THAN 100 FEET. THE MAX. SPACING OF JOINTS SHALL BE 25' (7.6m).
5. SEE THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DEPRESSED SLAB AREAS AND DRAINS. SLOPE SLAB TO DRAINS WHERE SHOWN.

## F. NOTES ON FOUNDATIONS

1. ALL FOUNDATION CONCRETE SHALL OBTAIN A 28 DAYS COMPRESSIVE STRENGTH. ALL CONCRETE TO BE PERMANENTLY EXPOSED TO WEATHER SHALL BE AIR ENTRAINED TO 5% (+ 1%) WITH AN ADMIXTURE THAT CONFORMS TO ASTM C-260.
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60.
3. UNBALANCED BACKFILLING SHALL BE DONE AGAINST FOUNDATION WALLS ARE SECURELY BRACED AGAINST OVERTURNING, EITHER BY TEMPORARY BRACING OR BY PERMANENT CONSTRUCTION.
4. PRIOR TO COMMENCING ANY FOUNDATION WORK, COORDINATE WORK WITH ANY EXISTING UTILITIES. FOUNDATIONS SHALL BE LOWERED WHERE REQUIRED TO AVOID UTILITIES.
5. UNLESS OTHERWISE NOTED, THE CENTERLINES OF COLUMN FOUNDATIONS SHALL BE LOCATED ON COLUMN CENTERLINES.
6. ALL RETAINING WALLS SHALL HAVE AT LEAST 12" OF FREE-DRAINING GRANULAR BACKFILL, AT FULL HEIGHT OF WALL. PROVIDE CONTROL JOINTS IN RETAINING WALLS AT APPROXIMATELY EQUAL INTERVALS NOT TO EXCEED 28 FT. NOR 3 TIMES THE WALL HEIGHT. PROVIDE EXPANSION JOINTS AT EVERY FOURTH CONTROL JOINT, UNLESS OTHERWISE INDICATED.
7. ALLOWABLE SOIL BEARING CAPACITY AS PER BY DEVELOPER.

## G. CONCRETE PROTECTION COVER FOR REINFORCEMENT

CONCRETE COVER FOR REINFORCEMENT SHALL BE MEASURED FROM THE CONCRETE SURFACE TO THE OUTERMOST SURFACE OF THE STEEL SURFACE OF THE STEEL. IN TO THE OUTER EDGE OF STIRRUPS, TIES OR SPIRALS ENCLOSING MAIN BAR TO THE OUTERMOST LAYER OF BARS IF MORE THAN ONE LAYER IS USED WITHOUT STIRRUPS OR TIES. THE FF. MIN. CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT.

|                                                                                                            | MIN. COVER IN mm |                                  |
|------------------------------------------------------------------------------------------------------------|------------------|----------------------------------|
| a) PERMANENTLY EXPOSED TO EARTH:<br>CONCRETE IN CONTACT WITH EARTH INCLUDING PROTECTED WITH WATERPROOFING. | 75               | CLEAR COVER FOR R.C. WALLS       |
| b) MEMBRANE OR BITUMASTIC COATINGS:<br>16mmØ AND SMALLER<br>OTHER BARS                                     | 40               | CLEAR COVER FOR BEAMS OR COLUMNS |
| COLUMNS TIES<br>GRADE BEAMS<br>SLAB ON GRADE (FROM TOP SURFACE)                                            | 50               |                                  |
| c) CONCRETE NOT IN CONTACT WITH GROUND:<br>SLABS<br>SHEAR WALLS<br>BEAMS AND COLUMNS<br>OTHER BARS         | 20               |                                  |

TECHNICAL EDUCATION  
AND  
SKILLS DEVELOPMENT  
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PROJECT TITLE:

PROPOSED TESDA  
INNOVATION CENTER - MARIVELES

LOCATION: BARANGAY CANGAL, MARIVELES, BATANGAS

DRAWINGS AND SPECIFICATIONS AND PROTECTIVE MEASURES ARE THE PROPERTY OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF THE SAME.

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SHEET CONTENTS:

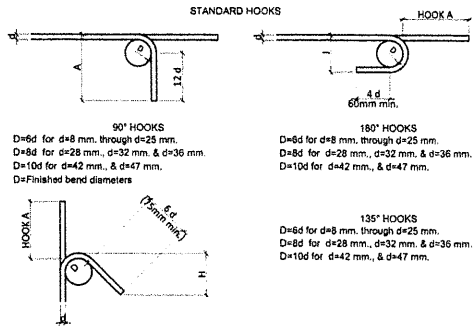
GENERAL NOTES

SHEET NO.

S-1

# STRUCTURAL DESIGN NOTES, STANDARD DRAWINGS & SPECIFICATIONS

## H. STANDARD REINFORCEMENT DETAILS



STANDARD END HOOK DIMENSIONS

| BAR SIZE<br>(mm) | D(mm.) | 180° HOOKS |         | 90° HOOKS |         | 135° HOOKS |  |
|------------------|--------|------------|---------|-----------|---------|------------|--|
|                  |        | A (mm.)    | J (mm.) | A (mm.)   | A (mm.) | H (mm.)    |  |
| 8                | 50     | 105        | 65      | 130       |         |            |  |
| 10               | 60     | 125        | 80      | 155       | 110     | 65         |  |
| 12               | 80     | 155        | 100     | 200       | 115     | 80         |  |
| 16               | 95     | 180        | 130     | 250       | 140     | 95         |  |
| 20               | 120    | 220        | 165     | 325       | 205     | 115        |  |
| 25               | 155    | 275        | 205     | 425       | 270     | 155        |  |
| 28               | 240    | 375        | 300     | 475       |         |            |  |
| 32               | 275    | 425        | 335     | 550       |         |            |  |

BASIC DEVELOPMENT LENGTH, L<sub>db</sub>

| BAR SIZE<br>(mm) | DEVT<br>LENGTH<br>L <sub>db</sub> | HOOK<br>DEVT<br>LENGTH<br>L <sub>db</sub> | TENSION          |                  |                                                |                  | COMPRESSION      |                      |
|------------------|-----------------------------------|-------------------------------------------|------------------|------------------|------------------------------------------------|------------------|------------------|----------------------|
|                  |                                   |                                           | CLASS A<br>SPICE | CLASS B<br>SPICE | TOP BAR (MIN. OF 300mm<br>CONCRETE CAST BELOW) | CLASS A<br>SPICE | CLASS B<br>SPICE | COMPRESSION<br>SPICE |
|                  |                                   |                                           | DEVT.<br>LENGTH  | DEVT.<br>LENGTH  | DEVT.<br>LENGTH                                | DEVT.<br>LENGTH  | DEVT.<br>LENGTH  | DEVT.<br>LENGTH      |
| Ø10              | 350                               | 200                                       | 300              | 375              | 500                                            | 375              | 500              | 200                  |
| Ø12              | 400                               | 225                                       | 350              | 450              | 575                                            | 450              | 575              | 250                  |
| Ø16              | 550                               | 300                                       | 475              | 600              | 775                                            | 600              | 775              | 300                  |
| Ø20              | 675                               | 375                                       | 675              | 900              | 1200                                           | 900              | 1200             | 400                  |
| Ø25              | 1170                              | 475                                       | 1170             | 1375             | 1775                                           | 1375             | 1775             | 500                  |
| Ø28              | 1360                              | 525                                       | 1360             | 1700             | 2225                                           | 1700             | 2225             | 550                  |
| Ø32              | 1750                              | 600                                       | 1750             | 1950             | 2600                                           | 1950             | 2600             | 625                  |
| Ø36              | 2150                              | 700                                       | 2150             | 2350             | 3000                                           | 2350             | 3000             | 750                  |

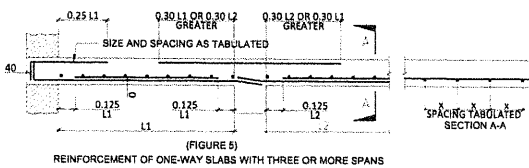
**SKETCH**

**REMARKS**

- TOP BAR IS DEFINED AS HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 300 mm FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
- FOR EPOXY-COATED BAR, THE TENSILE DEVELOPMENT LENGTH AND LAP SPICE LENGTH SHOWN IN THE TABLE SHALL BE INCREASED BY 20%.

## NOTES:

1. WELDED WIRE FABRIC MESH SHOULD BE LAPPED OVER ADJACENT SHEETS BY 300 MM.
2. BARS SHALL BE SPLICED ONLY WHERE INDICATED, EXCEPT THAT BARS INDICATED CONTINUOUS MAY BE SPLICED AT CONTRACTOR CONVENIENCE, WHERE SPLICING LOCATIONS FOR CONTINUOUS BARS, ARE NOTED, THOSE BARS SHALL BE TENSION SPLICED.

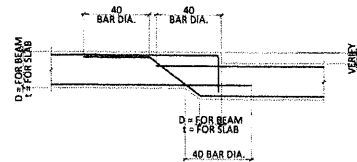


3. USE COMPRESS LAP SPICE FOR COLUMN TO ISOLATED FOOTING JUNCTION NOT CONNECTED WITH GRADE BEAMS FOR COLUMN TO ISOLATED FOOTING WALL FOOTINGS, SHEAR JUNCTION CONNECTED WITH GRADE BEAMS, COMBINED FOOTINGS, RETAINING WALL FOOTINGS AND MAT FOUNDATIONS, TENSION LAP SPICE SHALL BE USED.

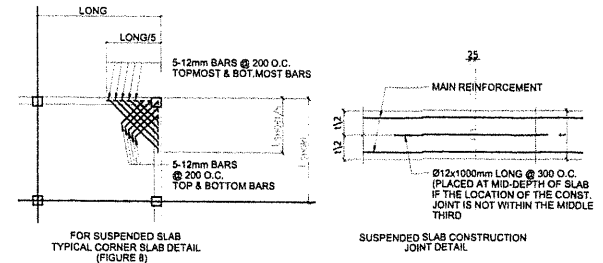
4. ALL REINFORCING STEEL SHALL BE SECURELY HELD IN PROPER POSITION WHILE POURING CONCRETE CHAIRS, TIES, SPACERS, ADDITIONAL BARS AND STRUTS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT FOR ALL REINFORCING STEEL.

## I. NOTES ON CONCRETE SLABS

1. ALL SLAB REINFORCEMENTS SHALL HAVE A MINIMUM CLEAR DISTANCE OF 20mm FROM THE BOTTOM AND FROM THE TOP OF SLABS.
2. UNLESS OTHERWISE DETAILED, FOR CONTINUOUS SLABS WITH THE MAIN REINFORCEMENT RUNNING IN ONE DIRECTION, REINFORCING BARS SHALL BE UP, EXTENDED OR CUT AS FOLLOWS:
3. IF SLABS ARE REINFORCED BOTHWAYS, BARS ALONG THE SHORTER SPAN SHALL BE PLACED BELOW THOSE ALONG THE LONG SPAN AT THE CENTER OF THE SLAB AND BE PLACED OVER THE LONGER SPAN BARS ON AREAS NEAR THE SUPPORTS. THE SPACING OF THE BARS AT THE COLUMN STRIPS SHALL BE APPROXIMATELY ONE AND ONE-HALF (1-1/2) TIMES THAT IN THE MIDDLE STRIPS BUT NO CASE GREATER THAN TWO AND ONE-HALF (2-1/2) TIMES THE SLAB THICKNESS OR 450mm.
4. TEMPERATURE BARS FOR SLABS SHALL BE GENERALLY PLACED NEAR THE FACE IN TENSION AND SHALL NOT BE LESS THAN .0025 B.T.
5. UNLESS OTHERWISE NOTED, DROP SLABS SHALL BE PROVIDED WITH ADDITIONAL REINFORCEMENT AT THE LOCATION OF DROP AS SHOWN IN FIGURE 7.

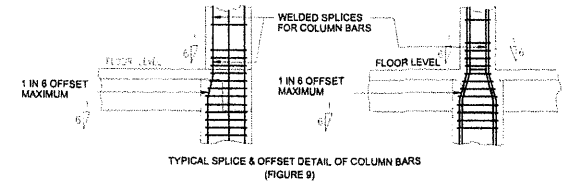


6. PROVIDE EXTRA REINFORCEMENT FOR CORNER SLAB (TWO ADJACENT DISCONTINUOUS EDGES) AS SHOWN BELOW AND AT ENDS AND CORNERS OF SHEAR WALL (SEE FIG. 8)
7. SEE MECHANICAL, PLUMBING, ELECTRICAL AND FIRE PROTECTION DRAWINGS FOR ALL SUSPENDED AND EMBEDDED PIPING, CONDUITS, DUCTWORKS, EQUIPMENT, ETC.
8. UNLESS OTHERWISE NOTED, EMBEDDED CONDUITS SHALL BE RUN GENERALLY AT MID-BAY AND PARALLEL CONDUITS SHALL BE AT THREE DIAMETERS ON CENTER. CONDUIT SIZE NOT EXCEED 1/4 OF THE SLAB THICKNESS AND SHALL BE LOCATED AT MID THICKNESS OF THE SLAB.



## J. NOTES ON COLUMNS

1. WHERE COLUMNS CHANGE IN SIZE, VERTICAL REINFORCEMENTS SHALL BE OFFSET AT A SLOPE NOT MORE THAN 1 IN 6, PROVIDE TRANSVERSE REINFORCEMENT AS PER ITEM E BELOW FOR JOINTS WITH BAR OFFSETS. (AS SHOWN FIGURE 9)



2. LAP SPLICES, WHEN REQUIRED, ARE PERMITTED ONLY WITHIN THE CENTER HALF OF THE COLUMN LENGTH AND SHALL BE PROPORTIONED AS TENSION SPLICES. IN NO CASE SHALL THE LAP SPICE BE LOCATED CLOSER THAN A DISTANCE EQUAL TO THE MAXIMUM COLUMN DIMENSION FROM THE FACE OF THE BEAM-COLUMN JOINT, PROVIDE EXTRA TRANSVERSE REINFORCEMENT OF THE SAME SIZE AND ARRANGEMENT INDICATED IN THE COLUMN SCHEDULE SPACED AT MOST ONE-FOURTH THE MIN. COLUMN SECTION DIMENSION THROUGHOUT THE LENGTH OF THE SPICE OR 100 mm.
3. FOR ALL TIED COLUMNS, PROVIDE TRANSVERSE REINFORCEMENT OF THE SAME SIZE AND ARRANGEMENT INDICATED IN THE COLUMN SECTION SCHEDULE AND SPACED NO GREATER THAN ONE-QUARTER THE MINIMUM COLUMN SECTION DIMENSION NOR 100mm, OVER A DISTANCE FROM EACH JOINT FACE OF NOT LESS THAN THE LARGER OF THE MAX. COLUMN SECTION DIMENSION, OR ONE-SIXTH OF THE CLEAR HEIGHT OF THE COLUMN OR 450mm.
4. BEAM-COLUMN JOINTS SHALL BE PROVIDED WITH TRANSVERSE REINFORCEMENT SPACED AT TWICE THAT REQUIRED BY ITEM 3 WHEN THERE ARE BEAMS HAVING WIDTHS AT LEAST ONE-HALF THE COLUMN WIDTH AND DEPTHS NOT LESS THAN THREE-QUARTERS OF THE DEEPEST BEAM THAT FRAME INTO FOUR SIDES OF THE COLUMN. FOR ALL OTHER CONDITIONS PROVIDE SAME AS REQUIRED IN ITEM 5.



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INNOVATION CENTER - MARIVELES

LOCATION: BALANAGUAY CANTON - MARIVELES BATTEN

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DEVELOPMENT AUTHORITY.

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SHEET CONTENTS:

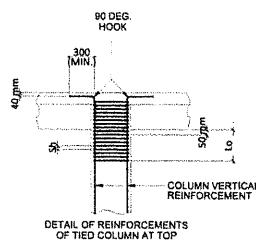
GENERAL NOTES

SHEET NO.

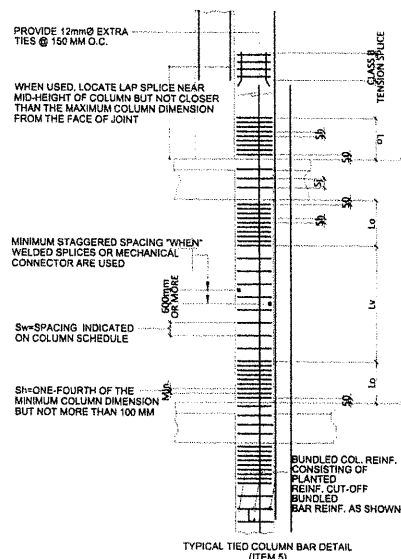
S-2

## STRUCTURAL DESIGN NOTES, STANDARD DRAWINGS & SPECIFICATIONS

LEGEND: (ITEM 3)  
 $S_j = 100$  MM O.C.  
 $S_h = 100$  mm O.C.  
 (SEE APPLICABLE ONLY FOR  $S_j$  AND  $S_h$ )  
 $S_v = 150$  mm O.C.  
 (USE  $\phi 12$ mm TIES)  
 $H =$  FLOOR TO FLOOR HEIGHT OF COLUMN  
 $L_v = H/2 =$  PART OF COLUMN BEYOND  
 CONFINEMENT REGION  
 $L_o = H/1 =$  CONFINEMENT REGION  
 $t =$  THICKNESS

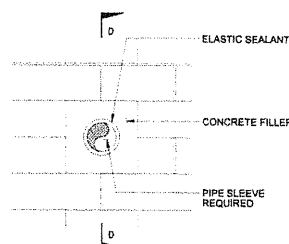


DETAIL OF REINFORCEMENTS  
OF TIED COLUMN AT TOP

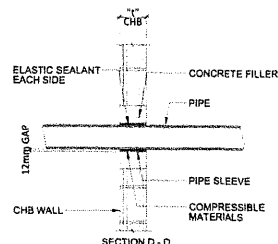


TYPICAL RECTANGULAR TIED COLUMN REINFORCEMENT DETAIL

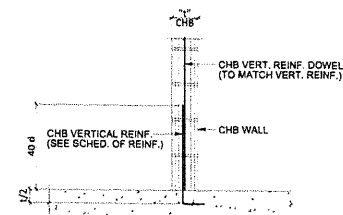
(FIGURE 10)



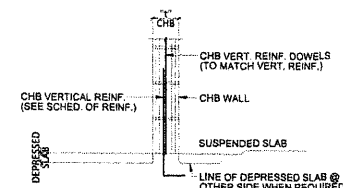
PIPE SLEEVE THRU WALL



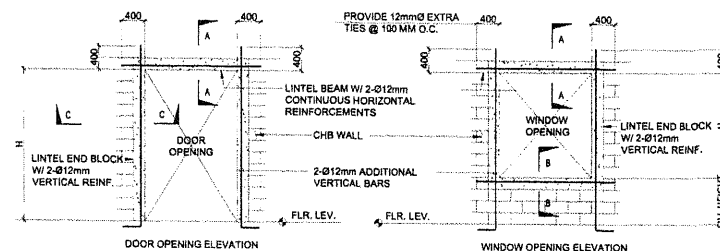
SECTION D-D



WALL BASE REINFORCING  
AT FLAT FLOOR



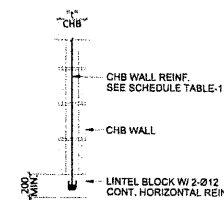
WALL BASE REINFORCING  
AT FLOOR W/ DEPRESSION



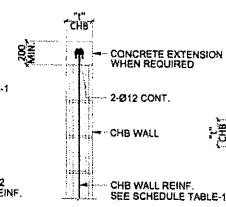
DOOR OPENING ELEVATION

WINDOW OPENING ELEVATION

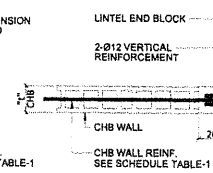
NOTE: OMIT EXTRA REINF. FOR OPENING LESS THAN 200MM VERT & 400MM HOR



SECTION A - A



SECTION 8 - 8



SECTION C. 5

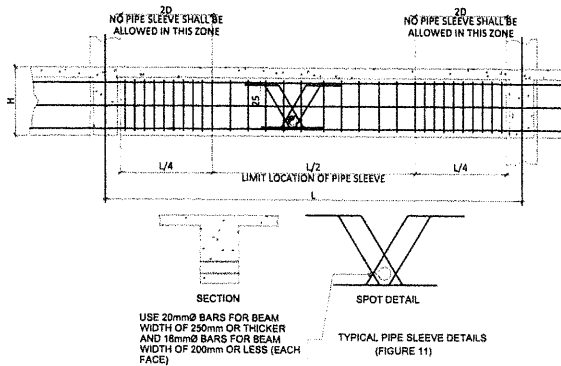
## OTHER MASONRY DETAILS

|                                                                                     |                                                               |                                                                                                                                                   |                                                                                                                                                    |                                                                                                                                                     |                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                         |                                                                                                                                                               |                                                                                                                                                           |                 |           |
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# STRUCTURAL DESIGN NOTES, STANDARD DRAWINGS & SPECIFICATIONS

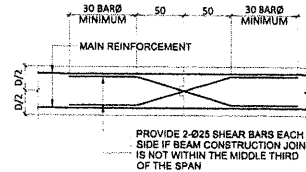
## K. NOTES ON BEAMS AND GIRDERS

- UNLESS OTHERWISE NOTED IN PLANS OR SPECIFICATIONS, CAMBER ALL BEAMS AT LEAST 6mm FOR EVERY 4500mm OF SPAN EXCEPT FOR CANTILEVERS FOR WHICH THE CAMBER SHALL BE AS NOTED IN THE PLANS OR AS ORDERED BY THE STRUCTURAL ENGINEERS BUT IN NO CASE LESS THAN 19mm FOR EVERY 3000mm OF FREE SPAN.
- IF THERE ARE TWO OR MORE LAYERS OF LONGITUDINAL REINFORCING BARS IN A BEAM OR GIRDER, USE SEPARATORS OF A SIZE NOT LESS THAN 25mm BARS SPACED ABOUT 900mm ON CENTER. IN NO CASE SHALL THERE BE LESS THAN TWO (2) SEPARATORS BETWEEN LAYERS OF BARS.
- LONGITUDINAL REINFORCING BARS SHALL BE PLACED SYMMETRICALLY ABOUT THE VERTICAL CENTER LINE OF THE BEAM OR GIRDER SECTION WHERE POSSIBLE WITH UPPER LAYER BARS PLACED DIRECTLY ABOVE THOSE IN THE BOTTOM LAYER.
- BEAM REINFORCING BARS BOTH TOP AND BOTTOM, TERMINATING IN A WALL, SHALL EXTEND AT THE MOST 50mm FROM THE FAR FACE OF THE WALL AND SHALL TERMINATE IN A STANDARD 90° HOOK.
- LONGITUDINAL REINFORCEMENT OF GIRDERS, BOTH 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° HOOK.
- GENERALLY, NO LAP SPICE SHALL BE PERMITTED ON BEAMS AND GIRDERS AT POINT WHERE CRITICAL BENDING STRESSES OCCUR. IN ADDITION, FOR GIRDERS, NO LAP SPICE SHALL BE LOCATED WITHIN THE JOINTS OR WITHIN A DISTANCE EQUAL TO TWICE THE MEMBER DEPTH FROM THE FACE OF THE JOINT.
- PROVIDE LAP SPICES IN GIRDERS WITH HOOP REINFORCEMENT OVER THE LENGTH OF THE LAPPED BARS SPACED NO FARTHER THAN ONE-FOURTH THE NOMINAL DEPTH, OR 100mm.
- SEE MECHANICAL, PLUMBING, ELECTRICAL AND FIRE PROTECTION DRAWINGS FOR ALL SUSPENDED AND EMBEDDED PIPING, CONDUITS, DUCTWORKS, EQUIPMENTS, ETC.
- PIPE AND DUCT SLEEVES SHALL BE LOCATED WITHIN THE REGION BOUNDED BY ONE-FOURTH OF CLEAR SPAN LENGTH FROM THE SUPPORTS. (SEE FIGURE 11)

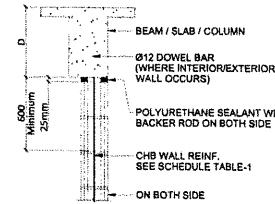


### NOTES:

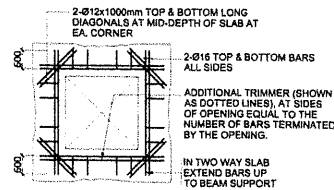
- SEEK STRUCT'L ENGINEER'S APPROVAL FOR PIPE SLEEVES W/ DIAMETERS BIGGER THAN THE MAXIMUM STIPULATED.
- PIPE SLEEVES SHALL BE LOCATED WITHIN TENSION ZONES OF BEAM.



BEAM CONSTRUCTION JOINT DETAIL



WALL SUPPORT AT BOTTOM OF BEAM/SLAB/COLUMN



SLAB OPENING DETAIL

### NOTE:

- PROVIDE THESE ADDITIONAL BARS FOR ALL OPENINGS PLUS BARS (SHOWN AS DOTTED LINES) PARALLEL TO SIDE OF OPENING EQUAL TO THE NUMBER OF INTERRUPTED BARS BY THE OPENING.
- SEE ARCHITECTURAL & MECHANICAL PLANS FOR SLAB OPENING LOCATION.
- OMIT TRIMMER BARS WHERE OPENING IS FRAMED

## L. DESIGN CRITERIA

### DESIGN LOADS

#### 1. DEAD LOADS

|                        |              |
|------------------------|--------------|
| a. CEILING             | 0.10 kPa     |
| b. CONCRETE            | 0.023 kPa/mm |
| c. FLOOR FINISH        | 1.53 kPa     |
| d. INTERIOR PARTITIONS | 1.0 kPa      |
| e. UTILITIES           | 0.25 kPa     |

#### 3. SEISMIC LOADS

SEISMIC PROBABILITY FOR ZONE IV  
V = ZIWR/T BASED ON 2015 NSCP

#### 4. DESIGN STRESSES

##### a. CONCRETE

1. UNLESS OTHERWISE INDICATED IN PLANS OR NOTED IN THE SPECIFICATIONS THE MINIMUM 28-DAYS CYLINDER COMPRESSIVE STRENGTH OF CONCRETE  $f_c$  SHALL BE AS FOLLOWS:

|                                                                                  |                       |
|----------------------------------------------------------------------------------|-----------------------|
| 1.1 FOR COLUMN/BEAMS                                                             | 27.60 Mpa (4,000 psi) |
| 1.2 FOR SUSPENDED SLAB                                                           | 27.60 Mpa (4,000 psi) |
| 1.3 FOR FOOTINGS                                                                 | 27.60 Mpa (4,000 psi) |
| 1.4 FOR WALL FOOTINGS                                                            | 20.70 Mpa (3,000 psi) |
| 1.5 FOR SLAB-ON-GRADE/FILL, PARAPET WALLS, GUTTERS AND OTHER STRUCTURAL ELEMENTS | 20.70 Mpa (3,000 psi) |
| 1.6 MASONRY                                                                      | 5.18 MPa ( 750 psi)   |

##### b. REINFORCING STEEL BARS

1. ALL REINFORCING STEEL BARS SHALL BE NEW BILLET, HOT ROLLED, WELDABLE, DEFORMED BARS CONFORMING TO THE SPECIFICATIONS OF PNS 49: 1986 (ASTM 615) WHOSE GRADE IS SHOWN ON TABLE 2.

TABLE-2: REINFORCING STEEL BARS

| GRADE                          | BAR DIAMETER                   |
|--------------------------------|--------------------------------|
| GRADE 413.82 ( $f_y = 60$ ksi) | 160 mm & above MAIN STR'L BARS |
| GRADE 275.88 ( $f_y = 40$ ksi) | 120 mm & below TIES & HOOPS    |

2. THE SUPPLEMENTARY REQUIREMENTS OF WELDABLE DEFORMED REINFORCING BARS SHALL BE AS FOLLOWS:

- THE MAXIMUM YIELD STRENGTH OF WELDABLE BARS = 540 MPa.
- THE TENSILE STRENGTH SHALL NOT BE LESS THAN 1.25 TIMES THE ACTUAL YIELD STRENGTH.

##### c. STRUCTURAL STEEL

1. UNLESS OTHERWISE NOTED, ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING ASTM SPECIFICATIONS.

| MEMBER                     | ASTM                 | MIN. STRENGTH |
|----------------------------|----------------------|---------------|
| STRUCTURAL TUBING          | A 500 ( GRADE B)     | 35 KSI        |
| STEEL PIPE                 | A 53 (TYPE E, GR. B) | 35 KSI        |
| OTHER ROLLED PLATES/SHAPES | A 36                 | 35 KSI        |
| CONNECTION BOLTS           | A 325                | 105 KSI       |
| ANCHOR BOLTS               | A 325                | 105 KSI       |
| THREADED RODS              | A 36                 | 35 KSI        |
| NONSHRINK GROUT            | C 1107               | 8000 PSI      |

### STRUCTURAL ELEMENT DESIGNATION

|        |                        |             |                      |
|--------|------------------------|-------------|----------------------|
| ALT.   | ALTERNATE              | CS          | COLUMN STRIP         |
| B.W.   | BOTH WAYS              | CU. M       | CUBIC METER          |
| 2B-1   | BEAM MARK              | $\phi_b$    | BAR DIAMETER         |
| BB/B   | BOTTOM BAR             | DIA. $\phi$ | DIAMETER             |
| BM     | BOTTOM MOST BAR        | E.F.        | EACH FACE            |
| C-1    | COLUMN MARK            | E.W.        | EACH WAY             |
| CB-1   | CANTILEVER BEAM/CORBEL | E.A         | EACH                 |
| CHB    | CONCRETE HOLLOW BLOCK  | EQ.         | EQUAL                |
| C.O.C. | CENTER ON CENTER       | ISO. JT.    | ISOLATION JOINT      |
| COL.   | COLUMN                 | kN          | KILONEWTON           |
| CONC.  | CONCRETE               | kPa         | KILOPASCAL           |
| CONT.  | CONTINUOUS             | Kal         | KIPS PER SQUARE INCH |



TECHNICAL EDUCATION  
AND  
SKILLS DEVELOPMENT  
AUTHORITY

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DIRECTOR GENERAL

PROJECT TITLE:

PROPOSED TESDA  
INNOVATION CENTER - MARIVELES

LOCATION: BANGALAG CABLE, MARIVELES, BATANGAS

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SUBMITTED BY:

ENGR. RICHARD M. MINGARACAL  
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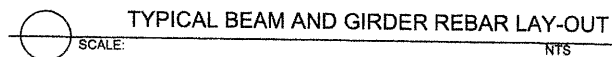
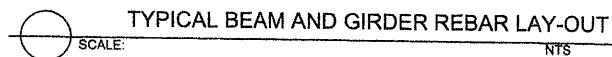
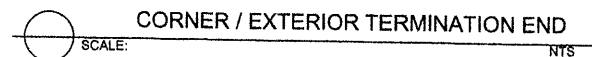
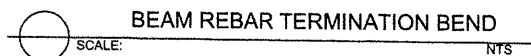
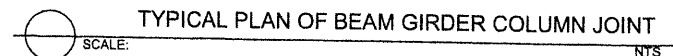
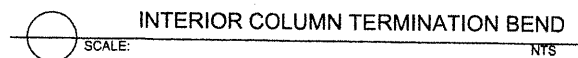
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GENERAL NOTES

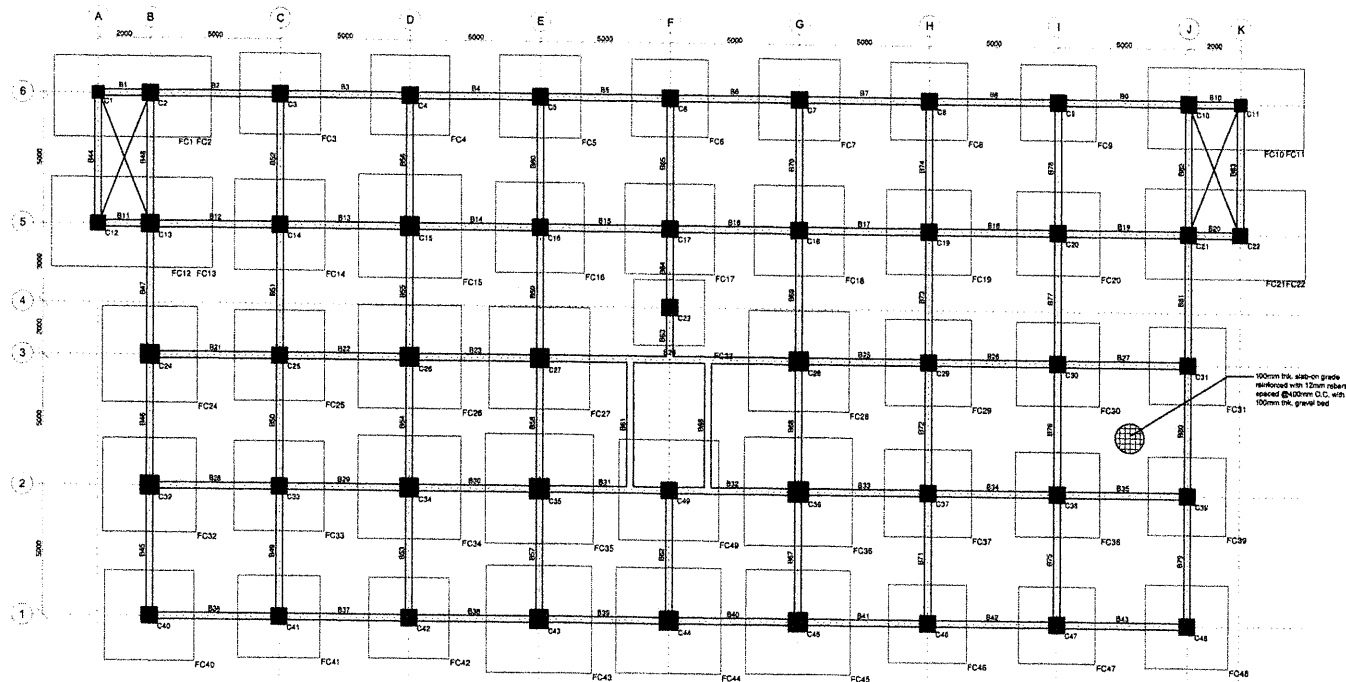
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S-4



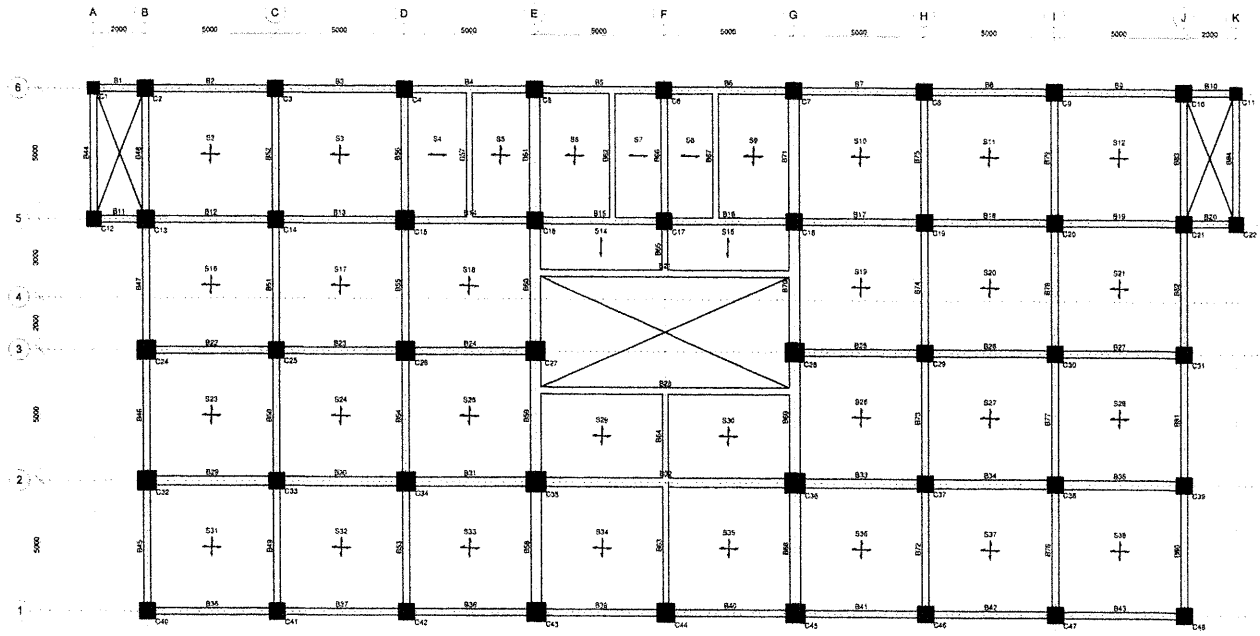


**S-6**



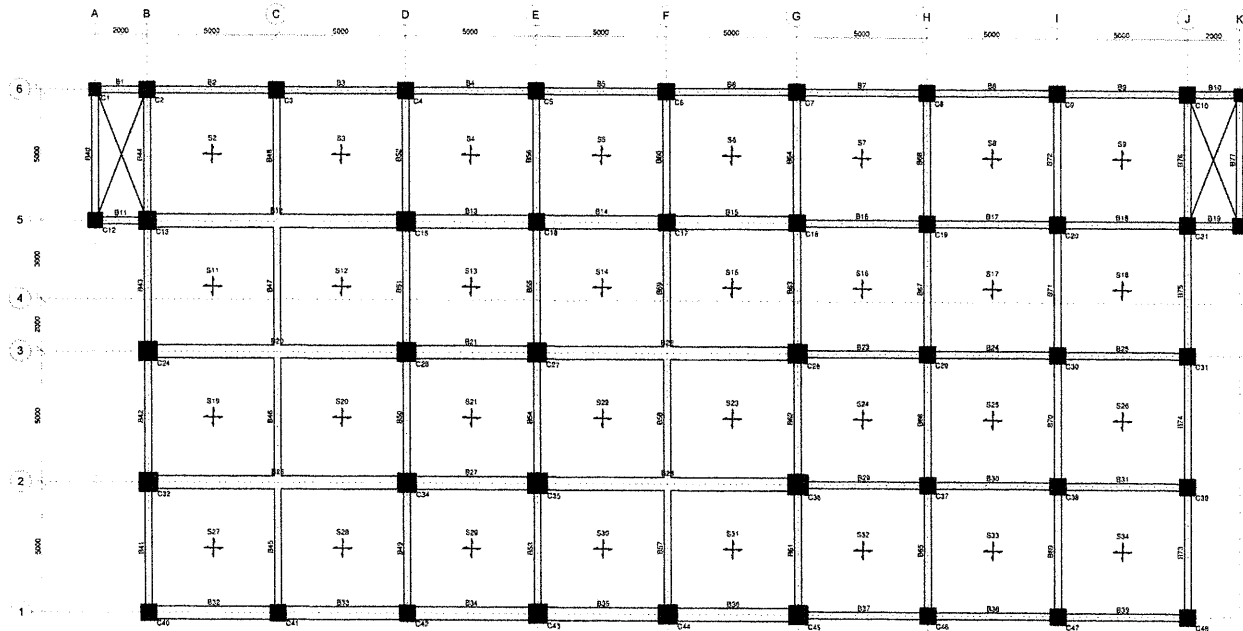
FOUNDATION PLAN  
SCALE: 1:200 MTS

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SECOND FLOOR FRAMING PLAN  
SCALE: 1:200 MTS

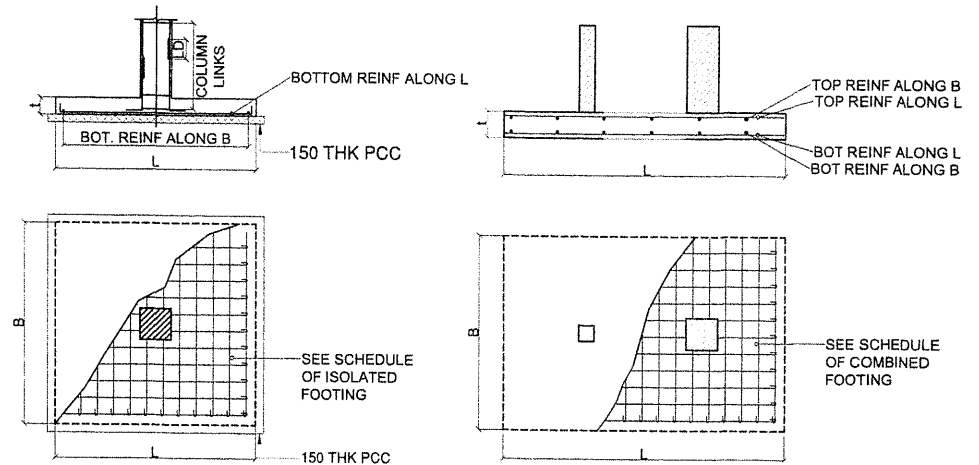
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ROOF DECK FLOOR FRAMING PLAN  
SCALE: 1:200 MTS

|                                                                                                                                                             |                                                                                                         |                                                                                                                     |                                                                                                          |                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                           |                                                                                                                          |                                                                                                    |                                                                |                             |
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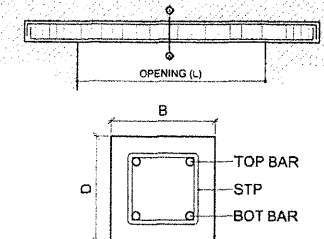
| FOOTING NUMBERS | COLUMN NUMBERS | FOOTING TYPE | FOOTING DIMENSION |      |     | FOOTING REINFORCEMENT |              |              |              |
|-----------------|----------------|--------------|-------------------|------|-----|-----------------------|--------------|--------------|--------------|
|                 |                |              | L                 | B    | D1  | BOTTOM                |              | TOP          |              |
|                 |                |              |                   |      |     | ALONG B               | ALONG L      | ALONG B      | ALONG L      |
| FC1 - FC2       | C1- C2         | Combined     | 5300              | 3800 | 350 | Ø16@240 O.C.          | Ø16@240 O.C. | Ø16@240 O.C. | Ø16@240 O.C. |
| FC3             | C3             | Pad          | 2800              | 2800 | 300 | Ø16@200 O.C.          | Ø16@275 O.C. | -            | -            |
| FC4             | C4             | Pad          | 2760              | 2750 | 300 | Ø16@225 O.C.          | Ø16@275 O.C. | -            | -            |
| FC5             | C5             | Pad          | 2850              | 2850 | 300 | Ø16@200 O.C.          | Ø16@275 O.C. | -            | -            |
| FC6             | C6             | Pad          | 2850              | 2850 | 300 | Ø16@250 O.C.          | Ø16@275 O.C. | -            | -            |
| FC7             | C7             | Pad          | 2800              | 2800 | 300 | Ø16@225 O.C.          | Ø16@300 O.C. | -            | -            |
| FC8             | C8             | Pad          | 2850              | 2850 | 300 | Ø16@275 O.C.          | Ø16@300 O.C. | -            | -            |
| FC9             | C9             | Pad          | 2600              | 2600 | 300 | Ø16@275 O.C.          | Ø16@300 O.C. | -            | -            |
| FC10- FC11      | C10 - C11      | Combined     | 5300              | 3800 | 350 | Ø16@240 O.C.          | Ø16@240 O.C. | Ø16@240 O.C. | Ø16@240 O.C. |
| FC12- FC13      | C12 - C13      | Combined     | 6650              | 5150 | 350 | Ø16@250 O.C.          | Ø16@150 O.C. | Ø16@200 O.C. | Ø16@200 O.C. |
| FC14            | C14            | Pad          | 3150              | 3150 | 300 | Ø16@250 O.C.          | Ø16@300 O.C. | -            | -            |
| FC15            | C15            | Pad          | 3650              | 3650 | 325 | Ø16@125 O.C.          | Ø16@150 O.C. | -            | -            |
| FC16            | C16            | Pad          | 3150              | 3150 | 300 | Ø16@150 O.C.          | Ø16@175 O.C. | -            | -            |
| FC17            | C17            | Pad          | 3150              | 3150 | 300 | Ø16@175 O.C.          | Ø16@175 O.C. | -            | -            |
| FC18            | C18            | Pad          | 3150              | 3150 | 300 | Ø16@150 O.C.          | Ø16@175 O.C. | -            | -            |
| FC19            | C19            | Pad          | 2950              | 2950 | 300 | Ø16@175 O.C.          | Ø16@200 O.C. | -            | -            |
| FC20            | C20            | Pad          | 2900              | 2900 | 300 | Ø16@200 O.C.          | Ø16@225 O.C. | -            | -            |
| FC21 - FC22     | C21 - C22      | Combined     | 6650              | 5150 | 350 | Ø16@250 O.C.          | Ø16@150 O.C. | Ø16@200 O.C. | Ø16@200 O.C. |
| FC23            | C23            | Pad          | 2400              | 2400 | 300 | Ø16@100 O.C.          | Ø16@100 O.C. | -            | -            |
| FC24            | C24            | Pad          | 3350              | 3350 | 300 | Ø16@125 O.C.          | Ø16@175 O.C. | -            | -            |
| FC25            | C25            | Pad          | 3150              | 3150 | 300 | Ø16@250 O.C.          | Ø16@300 O.C. | -            | -            |
| FC26            | C26            | Pad          | 3650              | 3650 | 325 | Ø16@125 O.C.          | Ø16@150 O.C. | -            | -            |
| FC27            | C27            | Pad          | 3600              | 3600 | 300 | Ø16@100 O.C.          | Ø16@125 O.C. | -            | -            |
| FC28            | C28            | Pad          | 3550              | 3550 | 300 | Ø16@125 O.C.          | Ø16@125 O.C. | -            | -            |
| FC29            | C29            | Pad          | 3000              | 3000 | 300 | Ø16@175 O.C.          | Ø16@200 O.C. | -            | -            |
| FC30            | C30            | Pad          | 2900              | 2900 | 300 | Ø16@200 O.C.          | Ø16@225 O.C. | -            | -            |
| FC31            | C31            | Pad          | 2850              | 2850 | 300 | Ø16@275 O.C.          | Ø16@275 O.C. | -            | -            |
| FC32            | C32            | Pad          | 3300              | 3300 | 300 | Ø16@125 O.C.          | Ø16@150 O.C. | -            | -            |
| FC33            | C33            | Pad          | 3150              | 3150 | 300 | Ø16@250 O.C.          | Ø16@300 O.C. | -            | -            |
| FC34            | C34            | Pad          | 3650              | 3650 | 325 | Ø16@125 O.C.          | Ø16@125 O.C. | -            | -            |
| FC35            | C35            | Pad          | 3900              | 3900 | 325 | Ø16@100 O.C.          | Ø16@125 O.C. | -            | -            |
| FC36            | C36            | Pad          | 3850              | 3850 | 325 | Ø16@100 O.C.          | Ø16@125 O.C. | -            | -            |
| FC37            | C37            | Pad          | 3050              | 3050 | 300 | Ø16@175 O.C.          | Ø16@200 O.C. | -            | -            |
| FC38            | C38            | Pad          | 2950              | 2950 | 300 | Ø16@200 O.C.          | Ø16@225 O.C. | -            | -            |
| FC39            | C39            | Pad          | 2700              | 2700 | 300 | Ø16@275 O.C.          | Ø16@250 O.C. | -            | -            |
| FC40            | C40            | Pad          | 3150              | 3150 | 300 | Ø16@275 O.C.          | Ø16@300 O.C. | -            | -            |
| FC41            | C41            | Pad          | 2850              | 2850 | 300 | Ø16@200 O.C.          | Ø16@250 O.C. | -            | -            |
| FC42            | C42            | Pad          | 2800              | 2800 | 300 | Ø16@225 O.C.          | Ø16@275 O.C. | -            | -            |
| FC43            | C43            | Pad          | 3800              | 3800 | 300 | Ø16@150 O.C.          | Ø16@200 O.C. | -            | -            |
| FC44            | C44            | Pad          | 3750              | 3750 | 300 | Ø16@175 O.C.          | Ø16@175 O.C. | -            | -            |
| FC45            | C45            | Pad          | 3700              | 3700 | 300 | Ø16@150 O.C.          | Ø16@200 O.C. | -            | -            |
| FC46            | C46            | Pad          | 2700              | 2700 | 300 | Ø16@250 O.C.          | Ø16@275 O.C. | -            | -            |
| FC47            |                |              |                   |      |     |                       |              |              |              |



SCALE: 1:100MTS

SCALE: 1:100MTS

| OPENING (L)                       | DIMENSION                                                                             | REINFORCEMENT |        |                 |
|-----------------------------------|---------------------------------------------------------------------------------------|---------------|--------|-----------------|
|                                   |                                                                                       | TOP           | BOTTOM | STIRRUPS        |
| UP TO 1200 mm                     |    | 2-10mm        | 2-10mm | 8mmØ @ 180mm O. |
| UP TO 1200 mm<br>(115mm THK WALL) |    | 2-10mm        | 2-10mm | 8mmØ @ 150mm O. |
| 1300 mm TO 1650mm                 |    | 2-10mm        | 3-10mm | 8mmØ @ 180mm O. |
| 1800 mm TO 2100mm                 |    | 2-10mm        | 3-12mm | 8mmØ @ 180mm O. |
| 2250 mm TO 2700mm                 |  | 2-10mm        | 2-16mm | 8mmØ @ 200mm O. |
| MAIN CANOPY LB-1                  | SEE LB-1 AT BEAM SCHEDULE (2F)                                                        |               |        |                 |



SCALE: 1:50MTS

SCALE: \_\_\_\_\_ NTS



TECHNICAL EDUCATION  
AND  
SKILLS DEVELOPMENT  
AUTHORITY

DIR. DAVID B. BUNGALLON  
EXECUTIVE DIRECTOR NITSO

DIR. JUAN C. OROZCO  
CHIEF OF STAFF  
OFFICE OF THE DIRECTOR GENERAL

SEC. ISIDRO S. LAPENA, PH.D., CSEE  
DIRECTOR GENERAL

PROPOSED TESDA  
INNOVATION CENTER - MARIVELES

LOCATION: BARANJAY CASERTE, MULTIPLE 3 BATTAL

ENGR. ENRIQUE S. DELA TORRE  
CIVIL ENGINEER, SP-1000

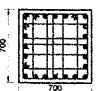
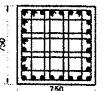
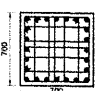
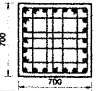
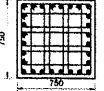
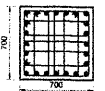
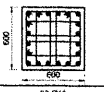
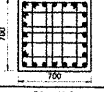
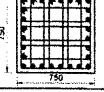
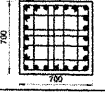
ENGR. FRANCISCO B. NARAG, JR.  
CIVIL ENGINEER TROCA - 1947

ENGR. ROY LOUIS P. MINGARACAL

FOOTING SCHEDULE  
ISOLATED FOOTING DETAIL  
COMBINED FOOTING DETAIL  
TYPICAL LINTEL BEAM DETAIL

S-10



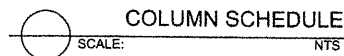
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|---------------|----|------------------------------------------------------------------------------------|-----------|-----------|------------------------------------------------------------------------------------|-----------|-----------|------------------------------------------------------------------------------------|---------------|-----------|------------------------------------------------------------------------------------|-----|
| 7.4 M         | TO | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 700 MM                               |           |           | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 750 MM                               |           |           | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 700 MM                               |               |           |                                                                                    |     |
|               |    | Z1 MAIN LINK                                                                       | Z1 OTHERS | Z2 LINKS  | Z1 MAIN LINK                                                                       | Z1 OTHERS | Z2 LINKS  | Z1 MAIN LINK                                                                       | Z1 OTHERS     | Z2 LINKS  |                                                                                    |     |
|               |    | Ø10 @ 125                                                                          | Ø10 @ 125 | Ø10 @ 250 | Ø10 @ 125                                                                          | Ø10 @ 125 | Ø10 @ 250 | Ø10 @ 125                                                                          | Ø10 @ 125     | Ø10 @ 250 |                                                                                    |     |
| 9.2 M         | TO |   |           |           |   |           |           |   |               |           |                                                                                    |     |
|               |    | ● Ø20<br>● Ø16                                                                     |           |           | ● Ø16                                                                              |           |           | ● Ø20<br>● Ø16                                                                     |               |           |                                                                                    |     |
|               |    | 12-Ø20 + 12-Ø16                                                                    |           |           | 28-Ø16                                                                             |           |           | 4-Ø20 + 20-Ø16                                                                     |               |           |                                                                                    |     |
| 3.8 M         | TO | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 700 MM                               |           |           | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 750 MM                               |           |           | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 700 MM                               |               |           |                                                                                    |     |
|               |    | Z1 MAIN LINK                                                                       | Z1 OTHERS | Z2 LINKS  | Z1 MAIN LINK                                                                       | Z1 OTHERS | Z2 LINKS  | Z1 MAIN LINK                                                                       | Z1 OTHERS     | Z2 LINKS  |                                                                                    |     |
|               |    | Ø10 @ 125                                                                          | Ø10 @ 125 | Ø10 @ 250 | Ø10 @ 125                                                                          | Ø10 @ 125 | Ø10 @ 250 | Ø10 @ 125                                                                          | Ø10 @ 125     | Ø10 @ 250 |                                                                                    |     |
| 5.6 M         | TO |   |           |           |   |           |           |   |               |           |                                                                                    |     |
|               |    | ● Ø20<br>● Ø16                                                                     |           |           | ● Ø16                                                                              |           |           | ● Ø20<br>● Ø16                                                                     |               |           |                                                                                    |     |
|               |    | 4-Ø20 + 20-Ø16                                                                     |           |           | 28-Ø16                                                                             |           |           | 4-Ø20 + 20-Ø16                                                                     |               |           |                                                                                    |     |
| 0 M           | TO | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 600 MM                               |           |           | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 700 MM                               |           |           | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 750 MM                               |               |           | C28 : Fy415, COVER = 40mm<br>CONFINING ZONE = 600 MM                               |     |
|               |    | Z1 MAIN LINK                                                                       | Z1 OTHERS | Z2 LINKS  | Z1 MAIN LINK                                                                       | Z1 OTHERS | Z2 LINKS  | Z1 MAIN LINK                                                                       | Z1 OTHERS     | Z2 LINKS  | Z1 MAIN LINK                                                                       |     |
|               |    | Ø10 @ 125                                                                          | Ø10 @ 125 | Ø10 @ 250 | Ø10 @ 125                                                                          | Ø10 @ 125 | Ø10 @ 175 | Ø10 @ 125                                                                          | Ø10 @ 125     | Ø10 @ 175 | Ø10 @ 125                                                                          |     |
| 2 M           | TO |  |           |           |  |           |           |  |               |           |  |     |
|               |    | ● Ø16                                                                              |           |           | ● Ø20<br>● Ø16                                                                     |           |           | ● Ø16                                                                              |               |           | ● Ø20<br>● Ø16                                                                     |     |
|               |    | 20-Ø16                                                                             |           |           | 4-Ø20 + 20-Ø16                                                                     |           |           | 20-Ø16                                                                             |               |           | 20-Ø16                                                                             |     |
| COLUMN MARKED |    | C23                                                                                | C24       |           |                                                                                    | C35, C38  |           |                                                                                    | C43, C44, C45 |           |                                                                                    | C49 |

#### COLUMN AND WALL SCHEDULE

(SCALE 1:25)

NOTES:

1. BE = BOUNDARY ELEMENT AS PER ACI 318M - 2011. PROVIDE CONFINING REINFORCEMENT ACROSS ENTIRE HEIGHT OF WALL IN THE BOUNDARY ELEMENT
2. Z1 = SPECIAL CONFINING ZONE AS PER ACI 318M - 2011, Z2 = REMAINING ZONES AS PER ACI 318M - 2011



COLUMN SCHEDULE

SCALE:

NTS

#### SECTION 1-1 (C1)



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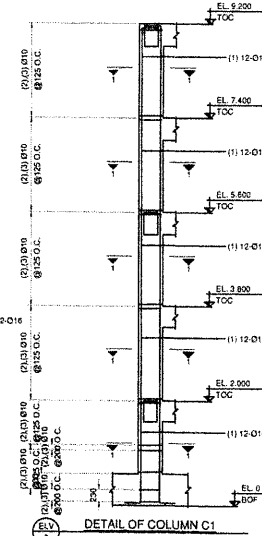
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#### DETAIL OF COLUMN C1

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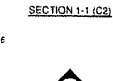
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#### SECTION 1-1 (C2)



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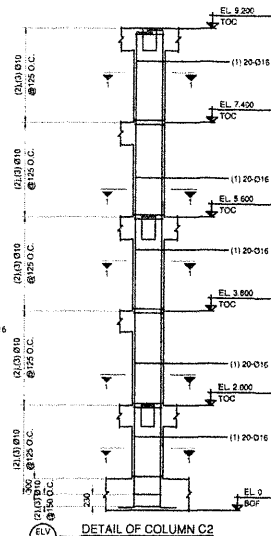
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#### DETAIL OF COLUMN C2

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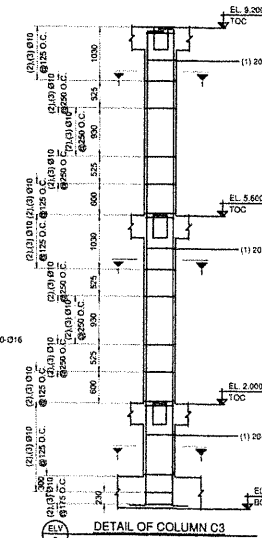
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#### DETAIL OF COLUMN C3

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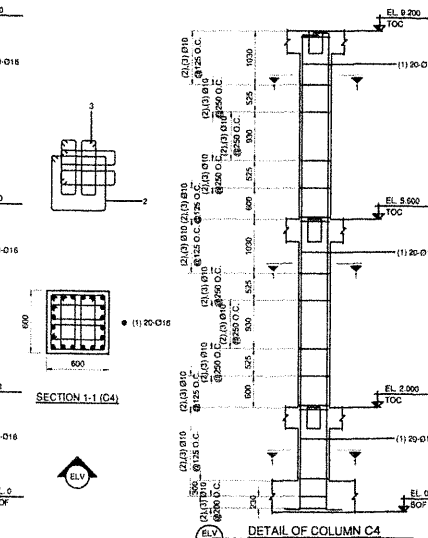
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#### DETAIL OF COLUMN C4

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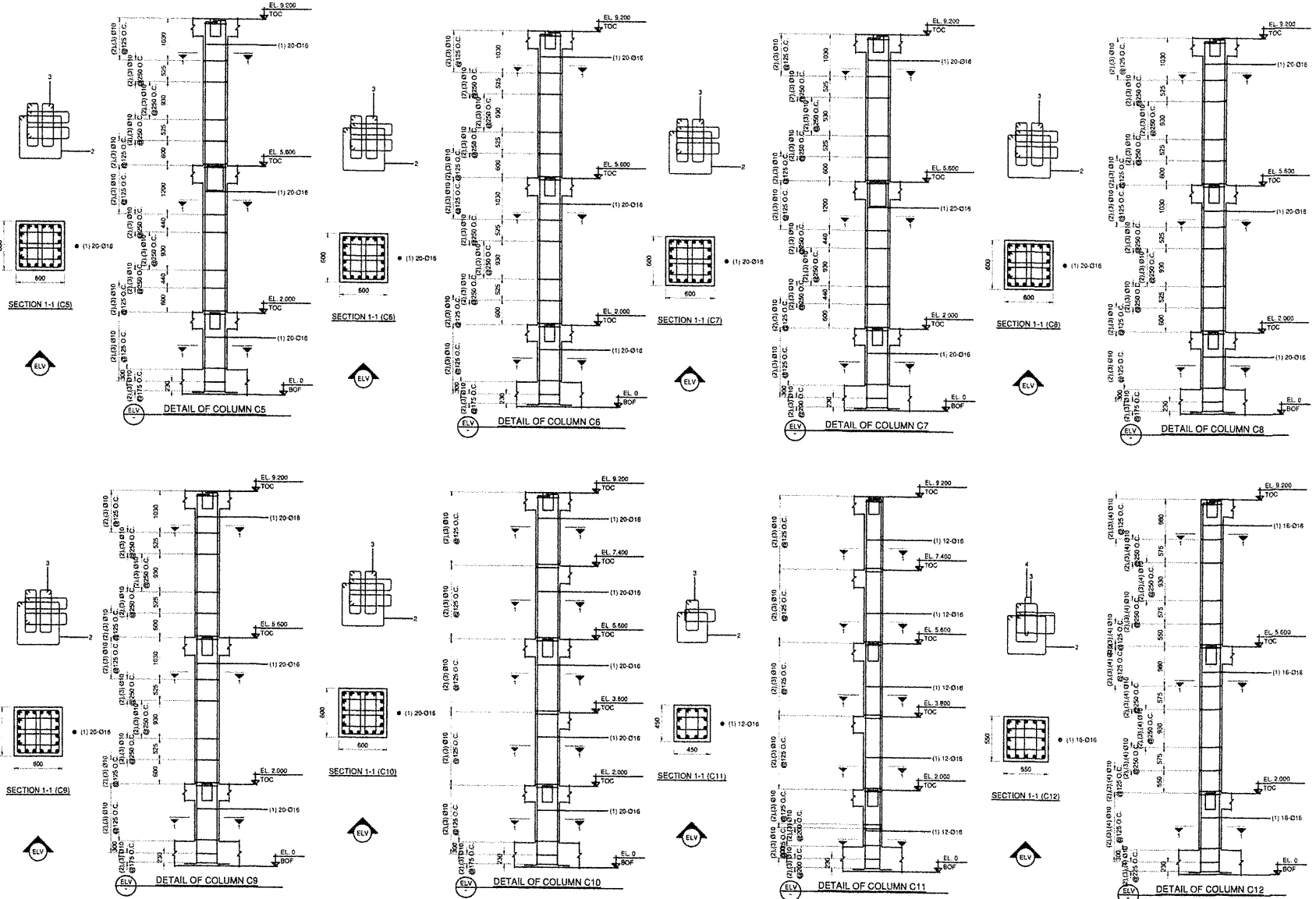
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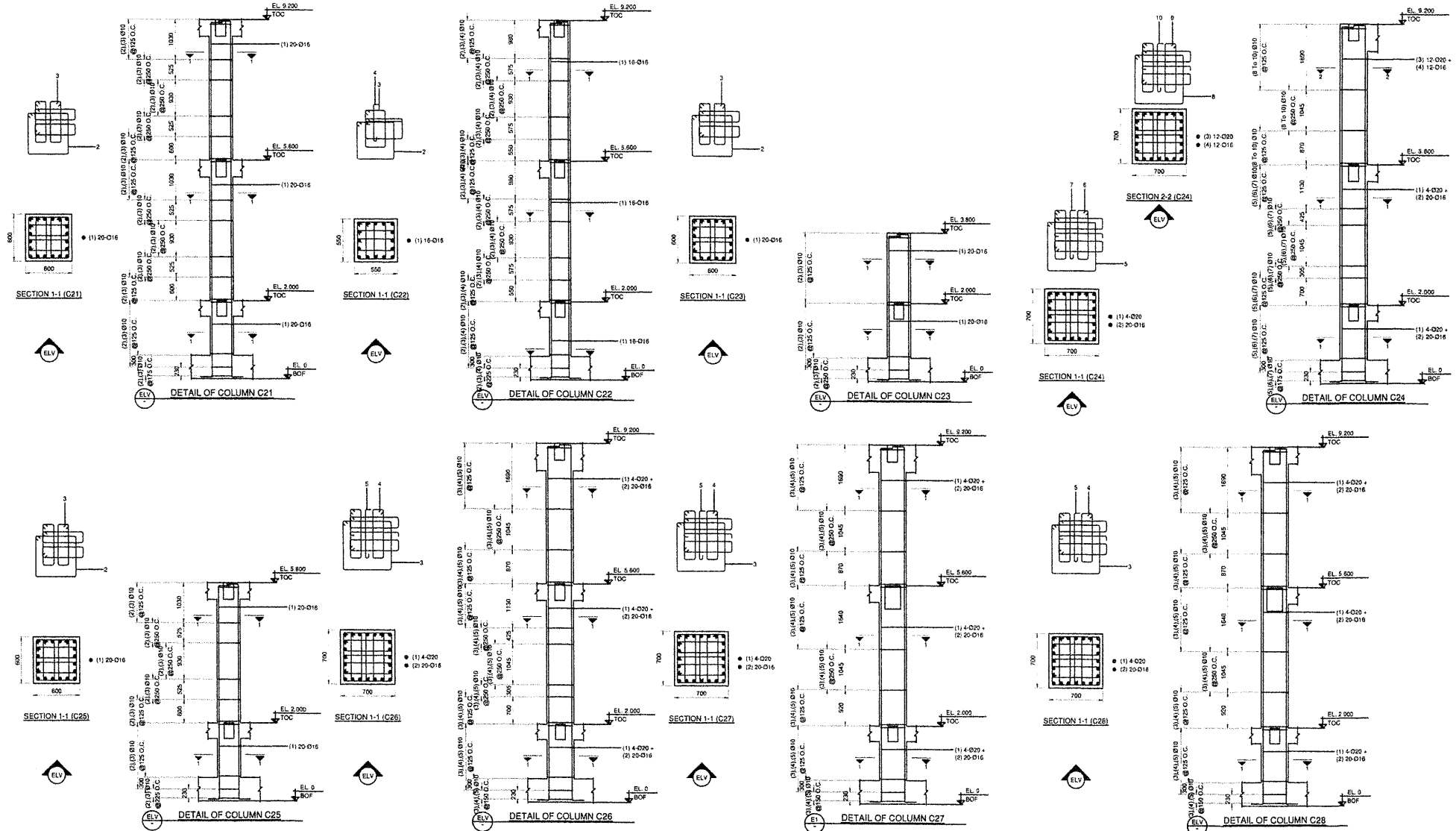


**COLUMN ELEVATION**  
SCALE: 1:200 MTS



|                                                                           |                                                                                                       |                                                                            |                                                                   |                                                                                    |                                                                            |                                                                                           |                                                                    |                                     |                          |
|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------|--------------------------|
| CONCURRED BY:<br><br>DIR. DAVID B. BUNGALLON<br>EXECUTIVE DIRECTOR, TESDA | RECOMMENDING APPROVAL:<br><br>DIR. JUANA S. ROZCO<br>CHIEF OF STAFF<br>OFFICE OF THE DIRECTOR GENERAL | APPROVED BY:<br><br>SEC. ISIDRO S. LAPENA, PH.D., CSEE<br>DIRECTOR GENERAL | PROJECT TITLE:<br>PROPOSED TESDA<br>INNOVATION CENTER - MARIVELES | DESIGNED AND DRAWN BY:<br>ENGR. FRANCISCO B. NARAG, JR.<br>CIVIL ENGINEER, RPU-009 | PREPARED BY:<br><br>ENGR. ENRIQUE G. DELA TORRE<br>CIVIL ENGINEER, RPU-009 | REVIEWED AS TO PLAN:<br><br>ENGR. FRANCISCO B. NARAG, JR.<br>CIVIL ENGINEER, TESDA - ISAT | SUBMITTED BY:<br><br>ENGR. ROLANDO P. MINGARACAL<br>HEAD, ISAT-003 | SHEET CONTENTS:<br>COLUMN ELEVATION | SHEET NO.<br><b>S-13</b> |
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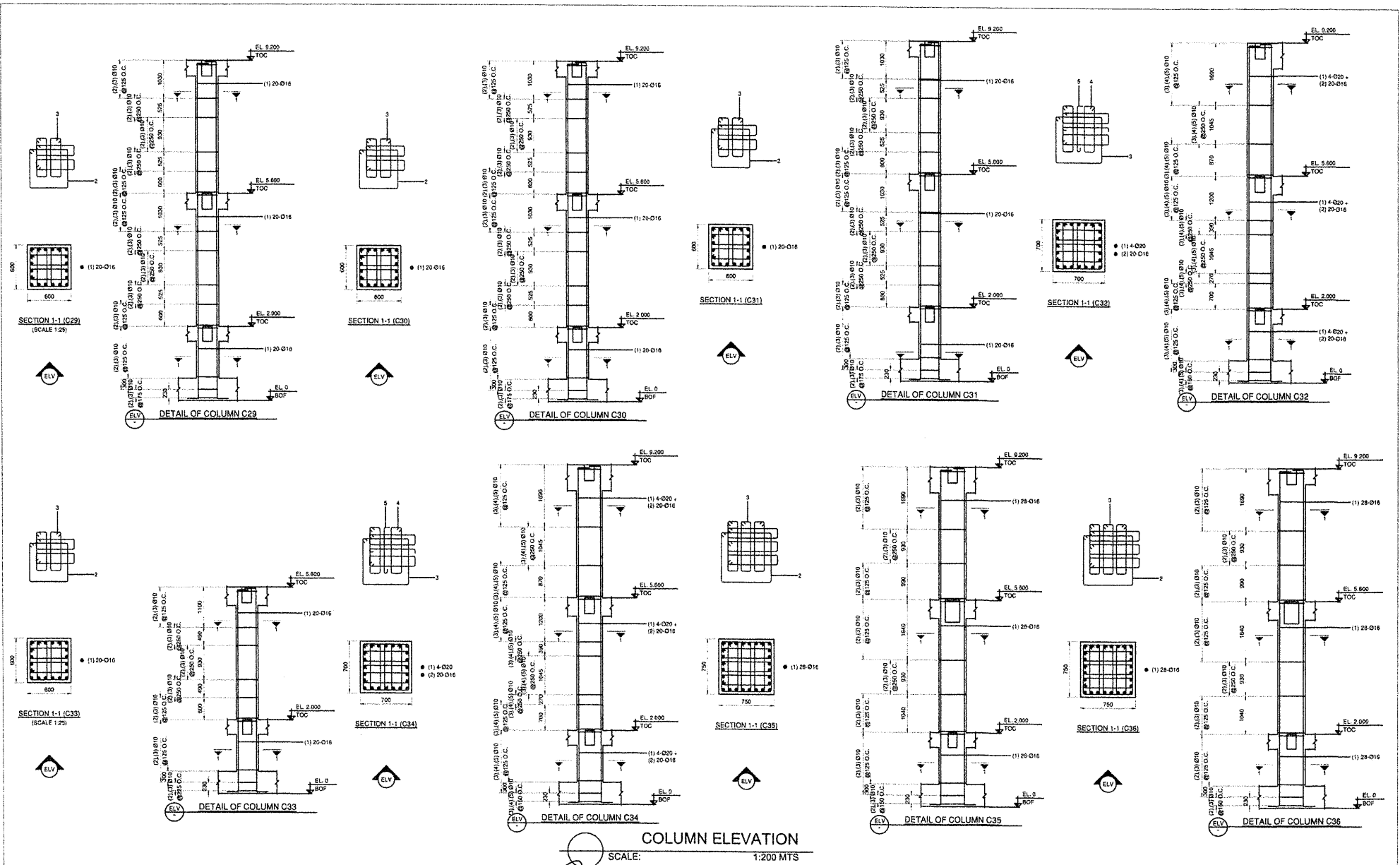




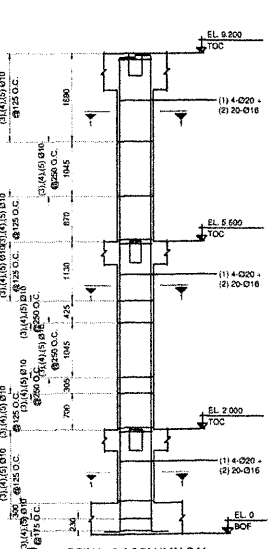
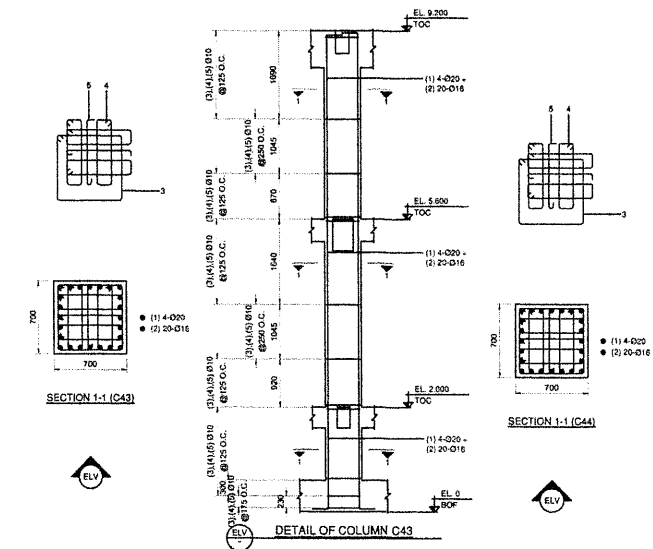
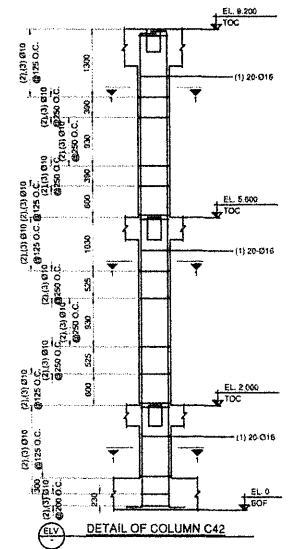
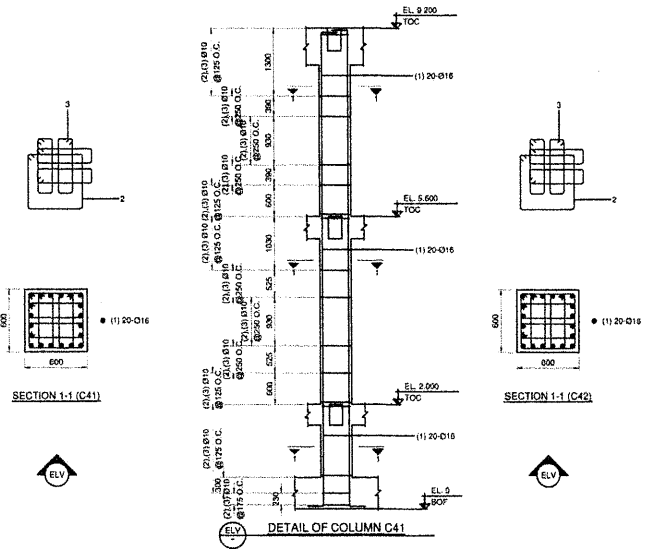
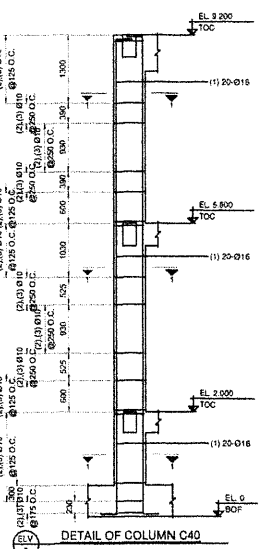
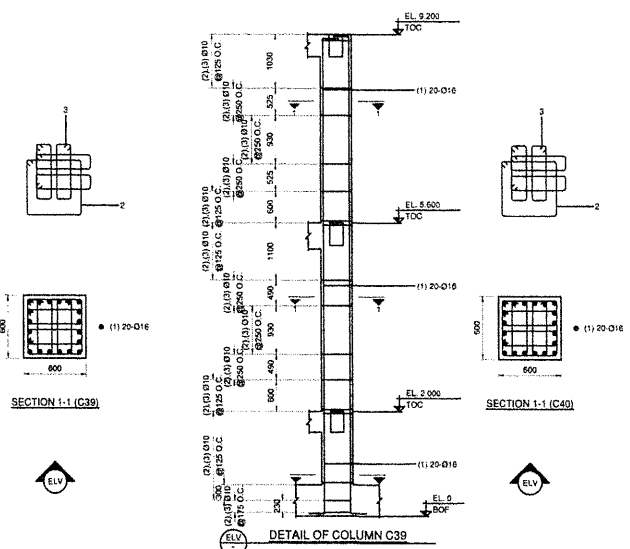
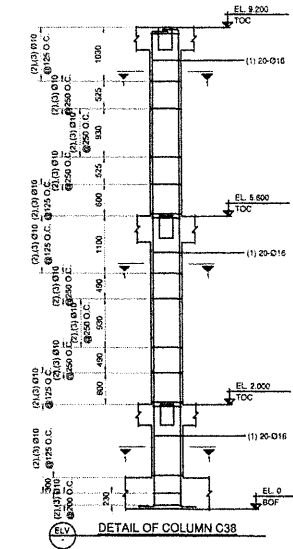
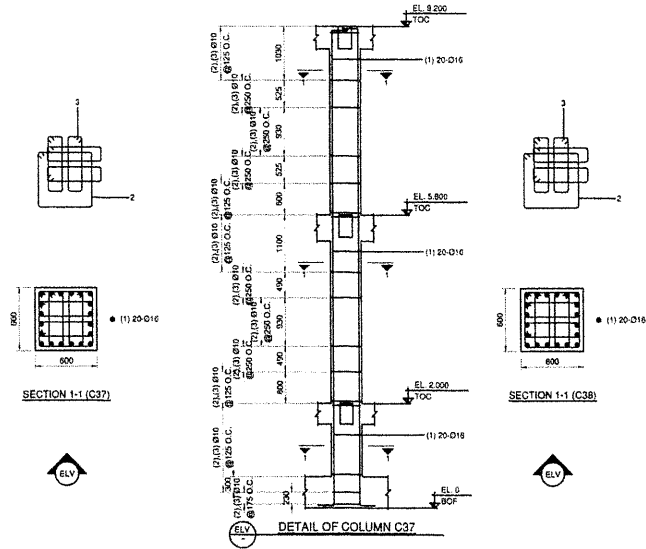
# COLUMN ELEVATION

SCALE: 1:200 MTS

|                                                                                                                                                             |                                                                                                          |                                                                                                                                       |                                                                                                           |                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                           |                                                                                                              |                                                |                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------|
|  <p>TECHNICAL EDUCATION<br/>AND<br/>SKILLS DEVELOPMENT<br/>AUTHORITY</p> | <p>CONCURRED BY:</p> <p><i>[Signature]</i><br/>DIR. DAVID B. BUNGALLON<br/>EXECUTIVE DIRECTOR, NTRSD</p> | <p>RECOMMENDING APPROVAL:</p> <p><i>[Signature]</i><br/>DIR. JUAN M. CROZCO<br/>CHIEF OF STAFF<br/>OFFICE OF THE DIRECTOR GENERAL</p> | <p>APPROVED BY:</p> <p><i>[Signature]</i><br/>SEC. USIDRO S. LAPENA, PH.D., CSEE<br/>DIRECTOR GENERAL</p> | <p>PROJECT TITLE:</p> <p>PROPOSED TESDA<br/>INNOVATION CENTER - MARIVELES</p> | <p>DESIGNED AND SPECIFICATIONS AND<br/>OTHER CONTRACT DOCUMENTS ARE THE<br/>PROPERTY OF THE TECHNICAL<br/>EDUCATION AND SKILLS DEVELOPMENT<br/>AUTHORITY. NO PART OF THIS<br/>DOCUMENT IS TO BE REPRODUCED OR<br/>TRANSMITTED IN ANY FORM OR BY<br/>ANY MEANS, ELECTRONIC OR<br/>MECHANICAL, INCLUDING PHOTOCOPYING,<br/>RECORDING, OR BY ANY INFORMATION<br/>SYSTEMS WITHOUT PERMISSION IN<br/>WRITING FROM THE TECHNICAL<br/>EDUCATION AND SKILLS<br/>DEVELOPMENT AUTHORITY.</p> <p>PREPARED BY:</p> <p><i>[Signature]</i><br/>ENGR. FRANCISCO G. DELA TORRE<br/>CIVIL ENGINEER, SPA-000</p> | <p>REVIEWED AS TO PLAN:</p> <p><i>[Signature]</i><br/>ENGR. FRANCISCO G. NAIRAG, JR.<br/>CIVIL ENGINEER, TESDA - IBAI</p> | <p>SUBMITTED BY:</p> <p><i>[Signature]</i><br/>ENGR. ROY LOUIS P. MINGARACAL<br/>CIVIL ENGINEER, SPA-000</p> | <p>SHEET CONTENTS:</p> <p>COLUMN ELEVATION</p> | <p>SHEET NO.</p> <p>S-15</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------|



|                                                                                                                                                             |                                                                                                           |                                                                                                                    |                                                                                                         |                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                           |                                                                                                                          |                                                                                                    |                                                |                                     |
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COLUMN ELEVATION  
SCALE: 1:200 MTS

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