Republic of the Philippines
Department of Education

JOINT MEMORANDUM

TO : **REGIONAL DIRECTORS**
ASSISTANT REGIONAL DIRECTORS
SCHOOLS DIVISION SUPERINTENDENTS

FROM : **ARIZ DELSON ACAY D. CAWILAN**
Director IV, Bureau of Learning Resources

ANNABELLE R. PANGAN
Engineer V
Chief, Education Facilities Division

SUBJECT : **INVENTORY OF THE LIBRARY HUB INFRASTRUCTURE STATUS**

DATE : **August 08, 2023**

In the National Expenditure Program for CY 2024, a new line item was approved under the Basic Education Facilities Fund (BEF) of the Department of Education (DepEd). This is the Library Hub Project which is part of the MATATAG Agenda of the Vice President and Secretary as mentioned in the Basic Education Report (BER). The program aims to construct new library hubs, repair, and rehabilitate existing ones.

In this connection, the Bureau of Learning Resources (BLR) and the Education Facilities Division (EFD) will facilitate the implementation of the project once approved in the General Appropriations Act (GAA) for CY 2024.

The Library Hub project is proposed to be constructed in the premises of the Schools Division Offices (SDOs) subject to the result of the validation of the Division Engineer and the Division Learning Resource (LR) Supervisors and through the recommendation of the Schools Division Superintendent (SDS).

In order for the BLR and EFD to determine the specific needs of each SDOs, an inventory of this type of facility is necessary. Thus, the Division Engineer and the LR Supervisors are instructed as follow:

a. For SDOs with existing Library Hubs, fill out the **Library Hub Inventory Google Form** as provided in this link *https://bit.ly/LHInventoryForm*

b. For SDOs without existing Library Hub, fill out the **Site Appraisal Google Form** thru this link *bit.ly/LHSiteAppraisalForm* indicating the necessary information and the feasibility if the proposed Library Hub

Building has available space for construction (See Annex A for the copy of the Approved Designs for the Library Hub)

c. For item b, in case there is no buildable space in the SDO, recommend nearest central school where the library hub can be constructed. The Division Engineer shall check against the Comprehensive School Facilities Development Plan if the future plans for the construction of school buildings in the selected school will not be compromised by the construction of the library hub given the available buildable space.

d. The Division Engineer shall finalize the Program of Works and Detailed Unit Price Analysis for the proposed Library hub Project based on the result of its assessment – whether construction, completion, repair or rehabilitation.

Scanned hard copies of the accomplished forms will be requested from your office. You may access the a and b form template through the link *bit.ly/LHInventoryFormTemplate.*

The SDOs shall complete the submission of items a and b on or before **August 15, 2023** while the deadline set for the submission of the Program of Works and Detailed Unit Price Analysis to the EFD shall be on or before **August 31, 2023**.

For any question and clarifications please contact Sir Marlon Ompoc, Librarian II, thru email address marlon.ompoc@deped.gov.ph copy furnished blr.od@deped.gov.ph and blr.lqad@deped.gov.ph or thru telephone number 8634-1054/ 8631-9294.

For your appropriate action and guidance.

REPUBLIC OF THE PHILIPPINES

DEPARTMENT OF EDUCATION

Education Facilities Division

DepEd Complex, Meralco Avenue, Pasig City

SITE APPRAISAL FORM

Division:

Region:

Address:

No. *Street* *Barangay* *City/Municipality* *Province*

I. SITE INFORMATION

Proposed site is within SDO compound ☐ Yes ☐ No

If No, Specify Name of School: _____

Address of School _____

Site Ownership:
☐ Titled under the name of
  ☐ *DepED* ☐ *Private/Others*
  ☐ *LGU*
☐ Contract of Usufruct
  ☐ *With conditions*
  ☐ *Perpetual Use*
☐ Deed of Donation
  ☐ *Absolute*
  ☐ *With Condition*
☐ Tax Declaration
  ☐ *DepED*
  ☐ *LGU*
☐ Deed of Sale
☐ Presidential Proclamation
☐ Others/ specify: _____

Location:
☐ Urban ☐ Low land ☐ Island ☐ Coastal ☐ Others/ specify:
☐ Rural ☐ High land/Up land w/ about _____km boat ride from the mainland

Distance to nearest public school: _____(m/km)
Name of nearest public school : _____

Distance to nearest private school: _____(m/km)
Name of nearest private school : _____

Topography:
☐ Level/ Flat ☐ Sloping ☐ Rolling ☐ Others/ specify: ☐ w/ cut & fill works (_____m)/ needs site improvement

Flood Level: _____(m)

Often utilized as Evacuation Center during Disaster/Emergencies ☐ Yes ☐ No

Soil Condition:
☐ Rocky ☐ Sandy ☐ Clayey ☐ Others/ specify: _____

Power Supply:
☐ NPC Line ☐ Cooperative ☐ Generator ☐ Others/ _____

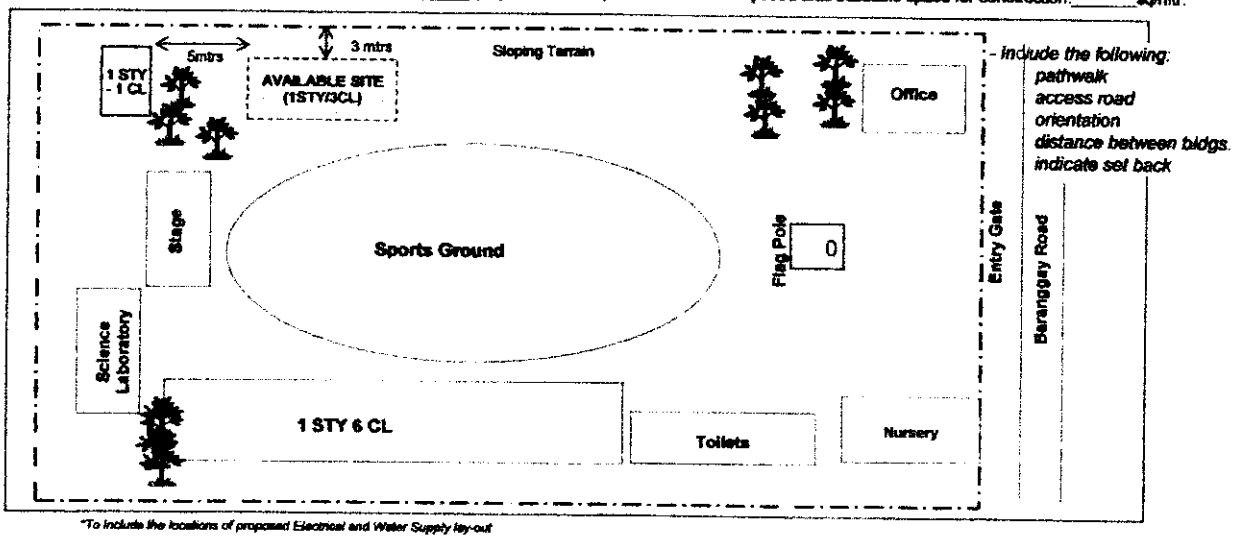
Water Supply:
☐ Potable (drinking) ☐ Local Water District ☐ Spring ☐ Others/ specify:
Distance from Tapping Point: _____(m)
☐ Not Potable ☐ Deepwell Depth: _____(m) ☐ Shallow well Depth: _____(m)

Access:
☐ Cemented _____km. ☐ Asphalt _____ km. ☐ Gravel bed _____ km. ☐ Rough _____ km
☐ Hiking_____km. ☐ Others/ specify: ☐ By boat _____ km.

Material Source: Distance from the school site: _____

II. SITE DEVELOPMENT PLAN

Total lot area: _____ **(sq mtr./hectare)** **Proposed total buildable space for construction:** _____sq/mtr.



**To include the locations of proposed Electrical and Water Supply lay-out*

B. AVAILABLE SPACE FOR CONSTRUCTION

(For this section, location/s of the available space for construction(if any)should be reflected in the Site Development Plan)

No. of Units (Building)	Type of Building	Building footprint can be accomodated in the available space?*				Remarks (Additional Site Information e.g. Embankment, Slope Protection, Hauling etc.)
		Yes	Yes, but with demolition	Yes, but with design modification	No	

** If the site will require demolition of an old or condemnable structure, specify in the remarks column the type and number of buildings and classrooms to be demolished. If the site will require some modifications in the design, specify in the remarks column the particular modifications to be made in the design of the building.*

Additional Remarks (if any):

Appraised by:

Noted:

DepEd Engineer

School Head/ Principal/Teacher-in-charge

Date of Inspection

LR Supervisor

Schools Division Superintendent

Department of Education
Library Hub Inventory Form
(as of August, 2023)

Region :	Division Address:	
Division :	Division Contact No.:	

Table 1. Summary of Existing Building/Structure

Building/ Structure Number	Fund Source/s	Number of Storeys	Year Constructed	Building/Structure Condition	Have undergone major repair for the last 5 years (Yes/No)	Operation Status/ Current Usage	Building/Structure Dimension (In Meters)[10]		Location if outside the SDO compound	Issues and Concerns
							Width	Length		

II. Photo Documention
Attach atleat 3 photos of the facility

Prepared by:

Division Property Custodian/Suppy Officer

Certified True and Correct

Division LR Supervisor

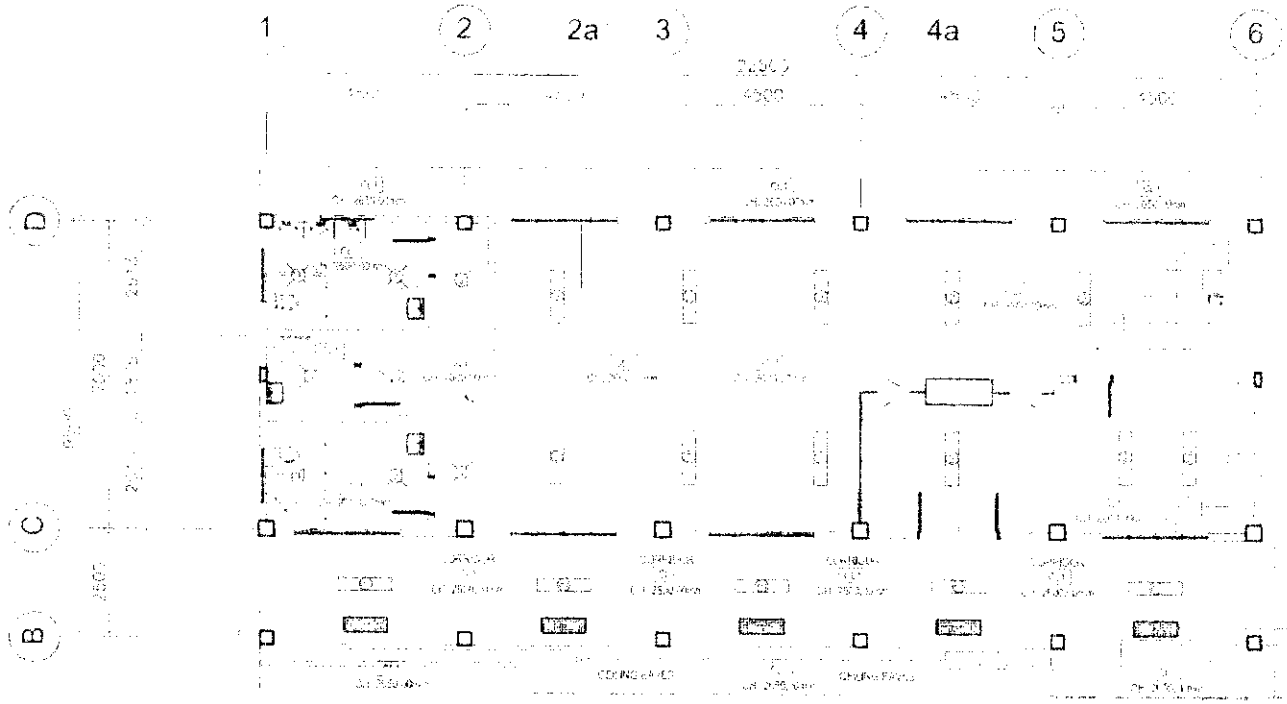
Validated by:

Division Engineer

Noted by:

Schools Division Superintendent

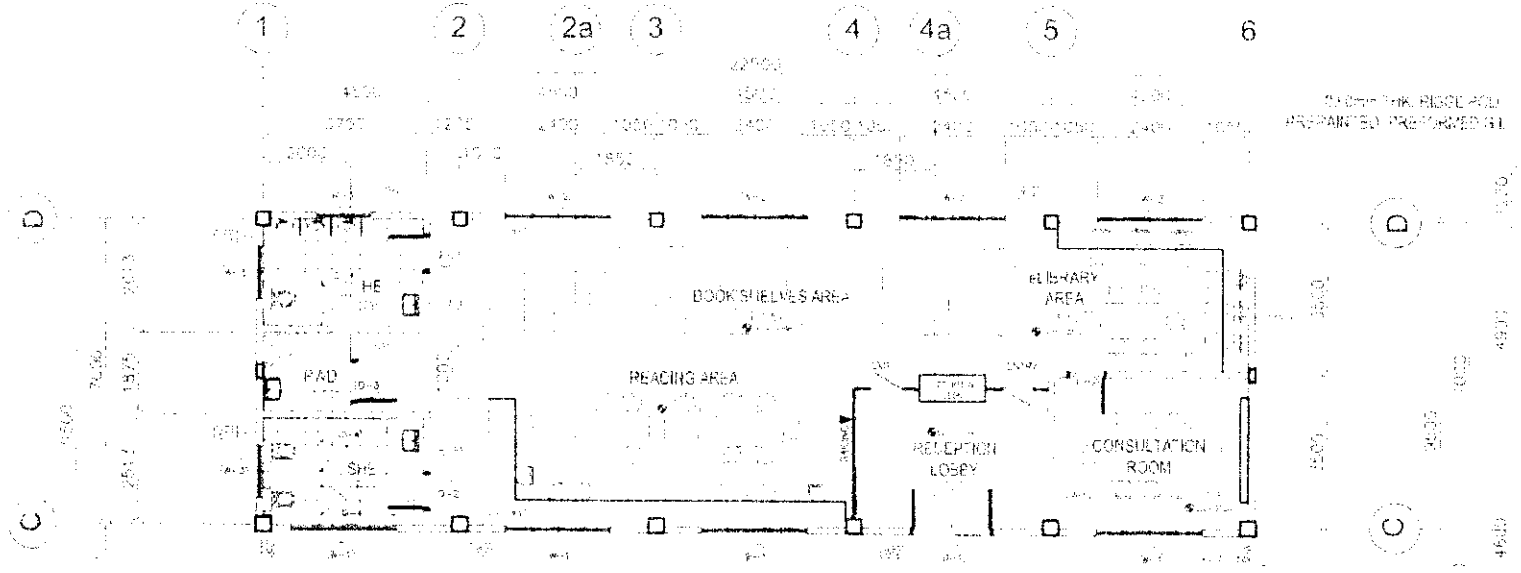
PERSPECTIVE

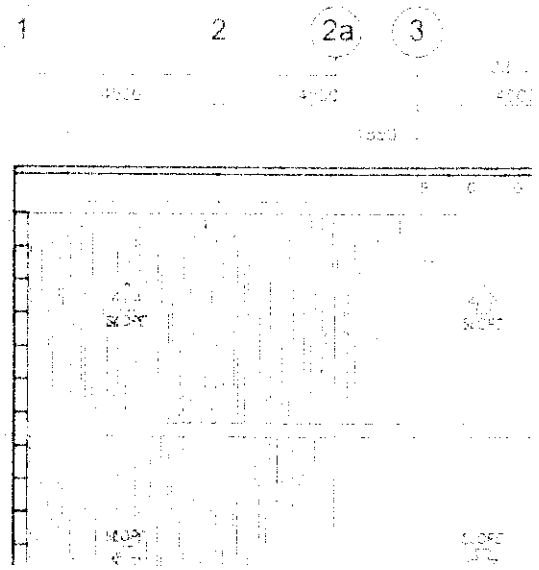


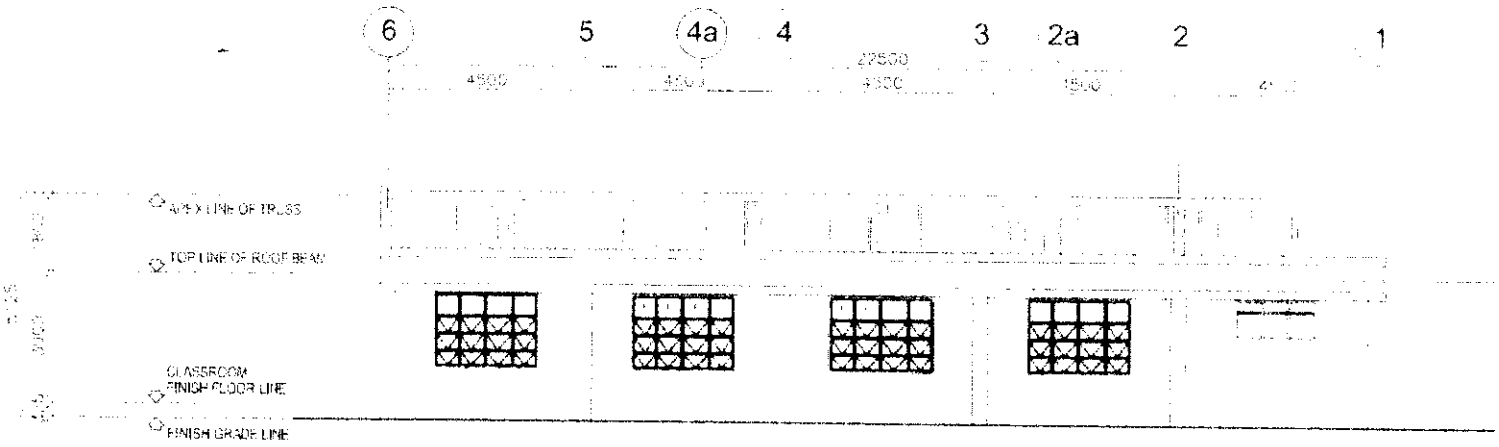
6mm THK. ORDI
ON 50 x 50mm C
BOTHWAYS (PA

25mm x 25mm x
AT 25c/c CLEAR
PROVIDE WIRE

3 REFLECTED CEILING PLAN
A-2

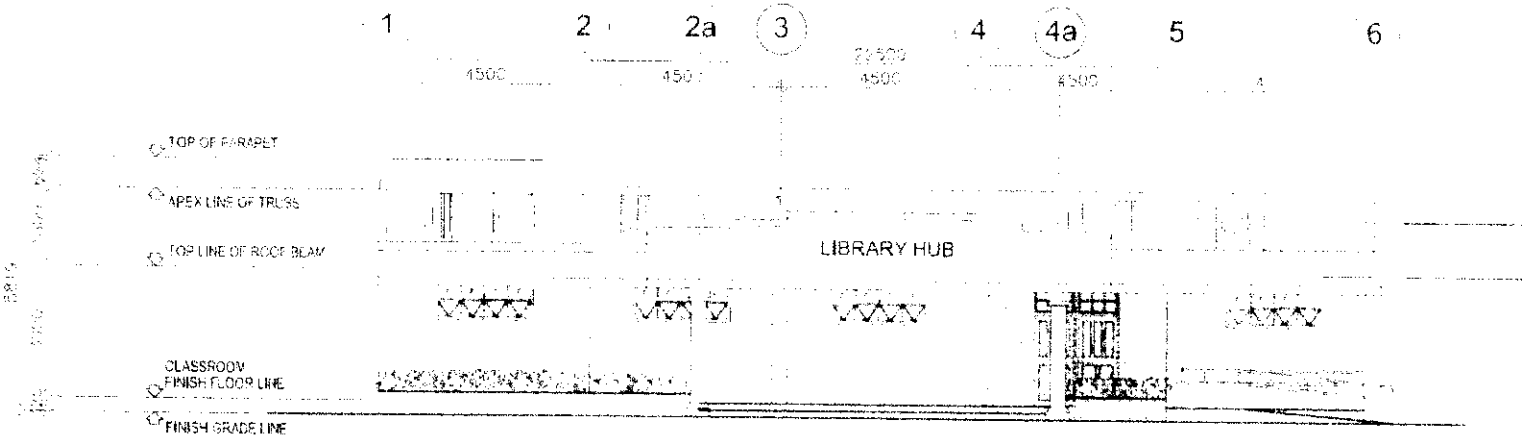




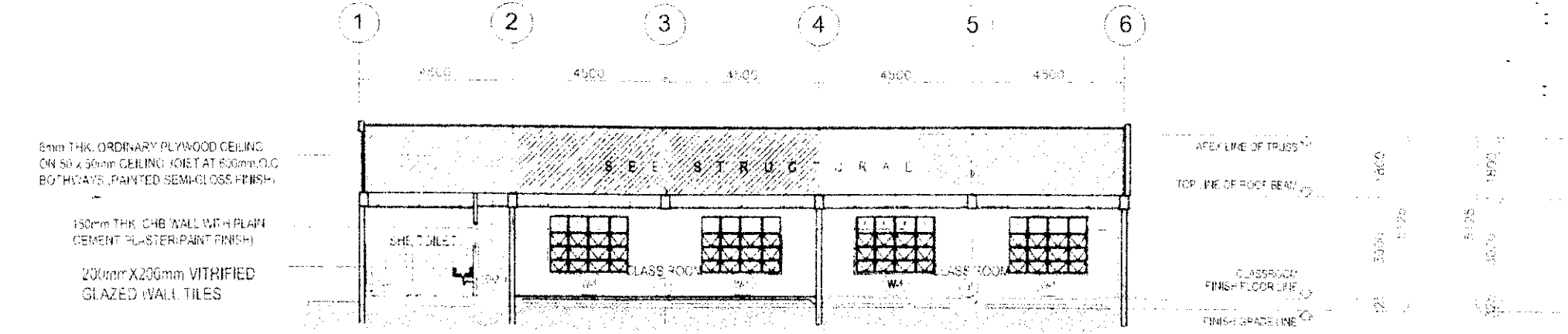


2 REAR ELEVATION

A-3 SCALE 1:100M

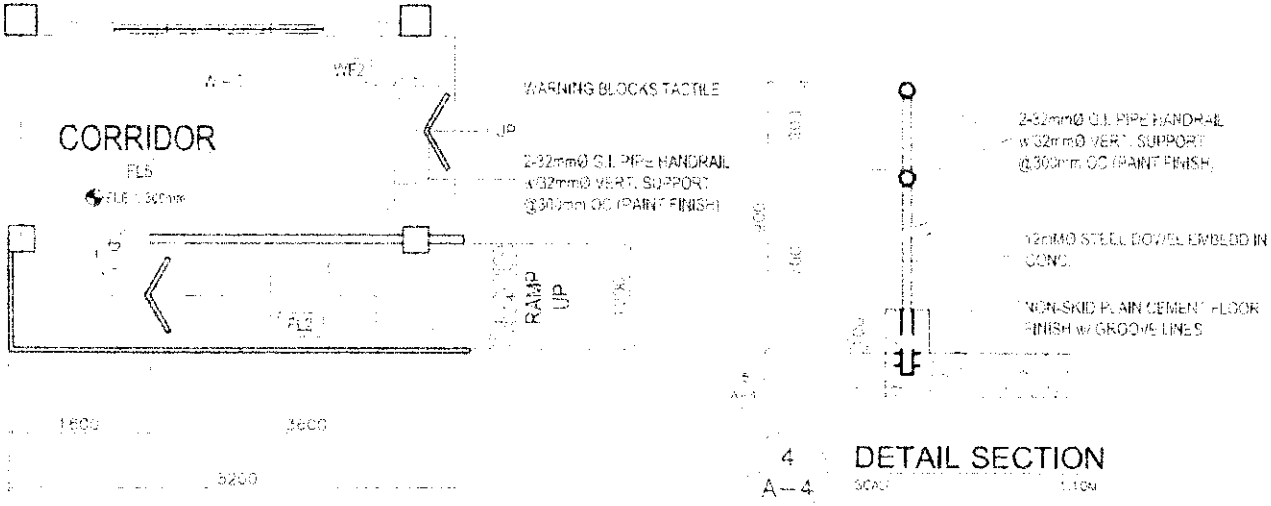


FRONT ELEVATION



2 A-4 LONGITUDINAL SECTION

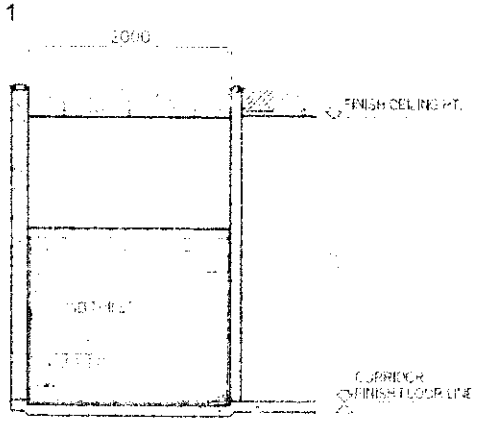
SCALE 1:100M



PLAN OF RAMP

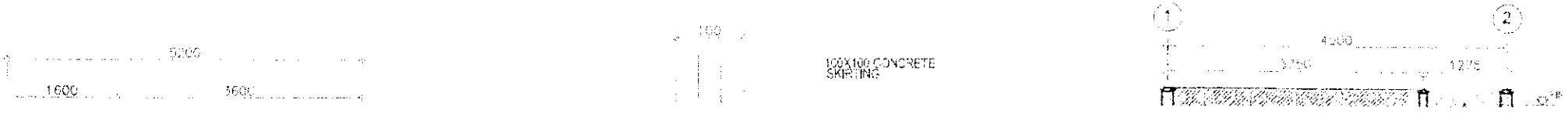
4 A-4 DETAIL SECTION

SCALE 1:10N



5 A-6 SECTION - 4/PWD TOILET, CORRIDOR

SCALE 1:50



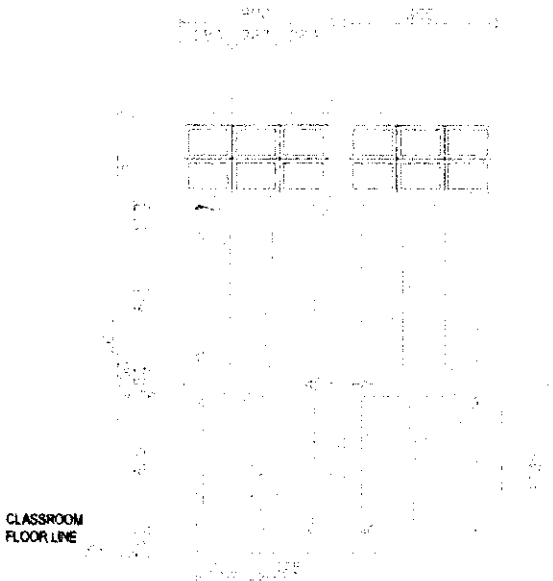
TAG NO. D-1

DESCRIPTION

KD & TERMITE TREATED PANEL DOOR (SWING TYPE) W/ FIXED GLASS TRANSOM ABOVE ON 50 x 150mm WOODEN/ STEEL JAMBS/ FRAMES w/ LEVER TYPE DOOR KNOB

LOCATION:

CLASSROOMS



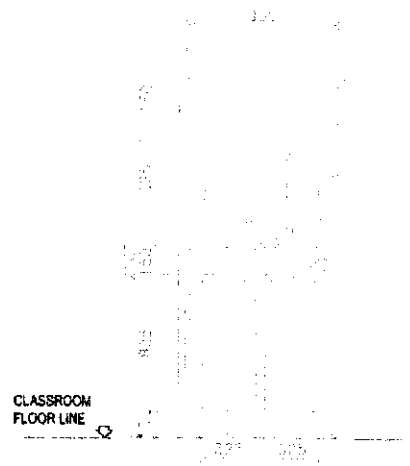
TAG NO. D-2

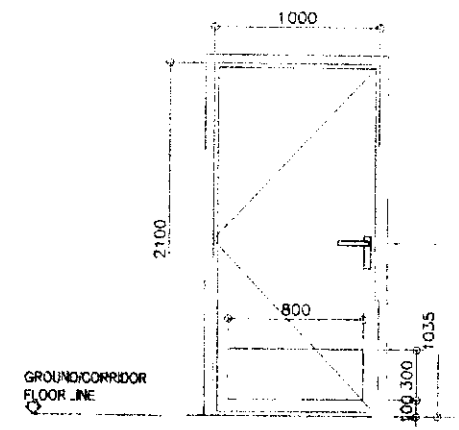
DESCRIPTION

KD & TERMITE TREATED PANEL DOOR (SWING TYPE) W/ FIXED GLASS TRANSOM ABOVE ON 50 x 150mm WOODEN/ STEEL JAMBS/ FRAMES w/ LEVER TYPE DOOR KNOB

LOCATION:

CONSULTANT ROOM





TAG N

DESC

HOLL
TYPE
50 x 1
STEE
PLYW
COMF
AND
PROV
LEVE

LOCA

PWI

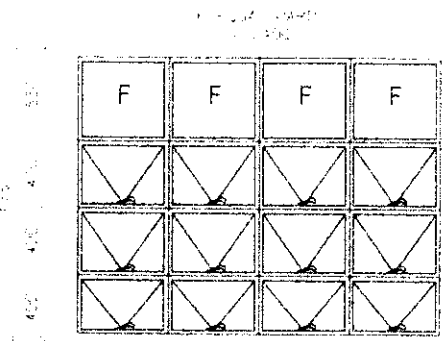
TAG NO. W-1

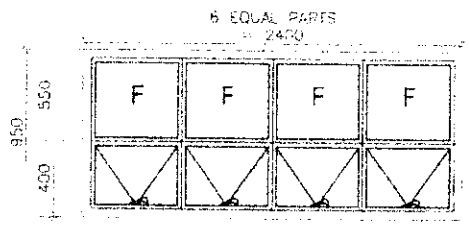
DESCRIPTION:

AWNING WINDOW W/ 6mm THK. CLEAR GLASS PANE ON .8mm ANALOK FRAME & w/ FIXED GLASS TRANSOM ABOVE

LOCATION:

CLASSROOMS





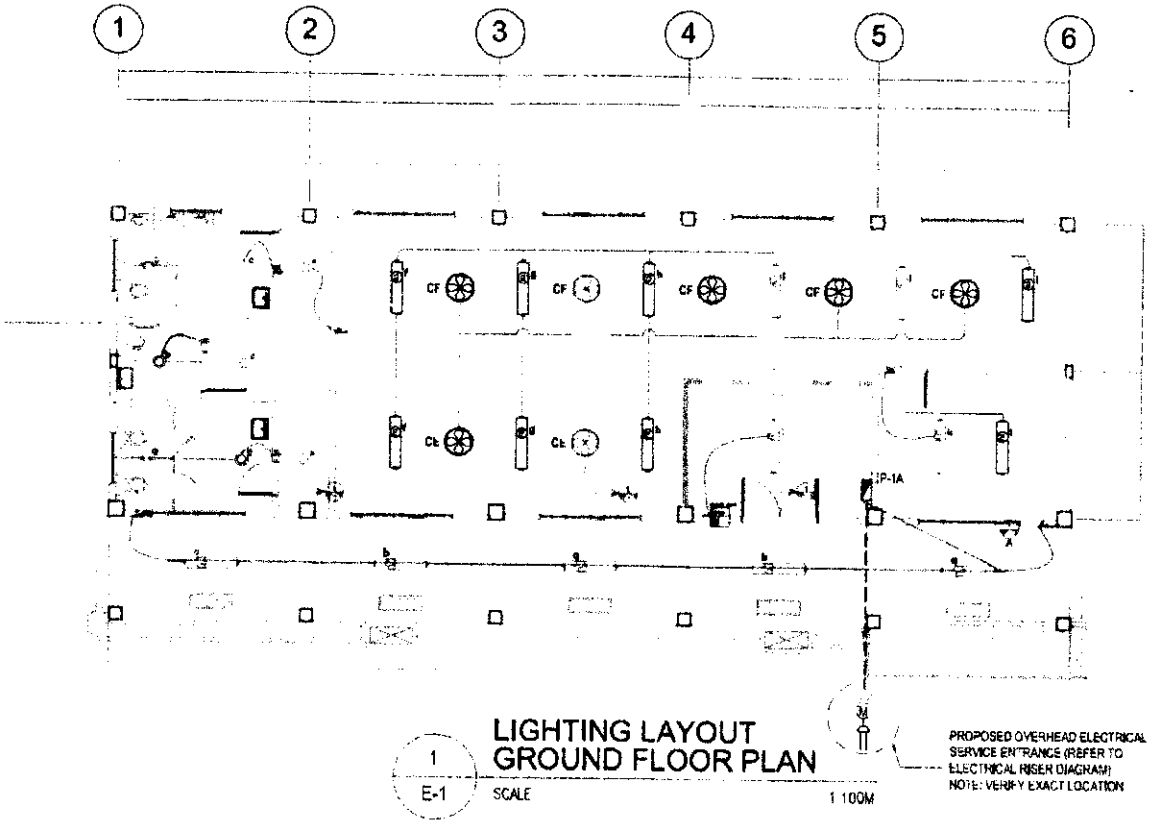
TAG NO. W-2

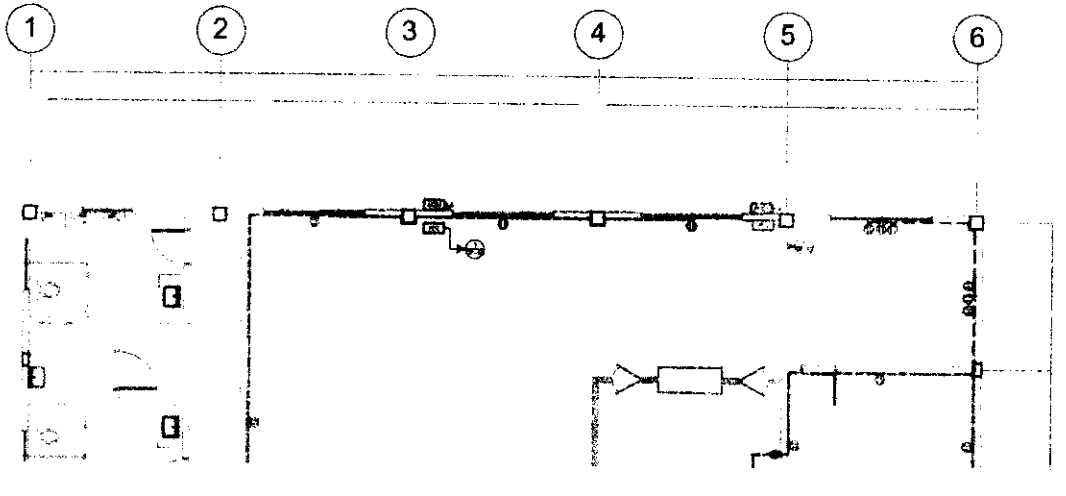
DESCRIPTION

AWNING WINDOW W/ 6mm THK. CLEAR GLASS PANE ON .8mm ANALOK FRAME & w/ FIXED GLASS TRANSOM ABOVE

LOCATION:

CLASSROOMS


1
2
3
4
5
6
C
B
A
CF
CL
P-1A
LIGHTING LAYOUT
GROUND FLOOR PLAN
1
E-1
SCALE
1:100M
PROPOSED OVERHEAD ELECTRICAL SERVICE ENTRANCE (REFER TO ELECTRICAL RISER DIAGRAM)
NOTE: VERIFY EXACT LOCATION


1
2
3
4
5
6
C

GENERAL NOTES

ALL ELECTRICAL WORKS HEREIN SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE (PEC), EXISTING LOCAL ORDINANCES, RULES AND REGULATIONS OF THE UTILITY COMPANY

ALL MATERIALS (EQUIPMENT AND DEVICES) TO BE INSTALLED BY THE CONTRACTOR SHALL BE NEW AND SHALL BEAR THE CERTIFICATION MARK (PHILIPPINE STANDARD QUALITY MARK OR IMPORT COMMODITY CLEARANCE) ISSUED BY THE DEPARTMENT OF TRADE AND INDUSTRY-BUREAU OF PRODUCT STANDARDS (DTI-BPS) FOR SPECIFIC PURPOSES

STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES TERMINATION AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATION SHALL BE USED

ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE EFFECTIVELY GROUNDED

ALL DIMENSIONS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED AS ACTUAL LOCATIONS, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.

PROVIDE PULLBOX AS NEEDED TO FACILITATE INSERTION AND WITHDRAWAL OF WIRES WITHOUT ABRASION, CONDUIT BENDS SHALL BE MADE IN SUCH A WAY THAT THE INTERNAL DIAMETER IS NOT REDUCED

WIRE SPLICES SHALL BE MECHANICALLY AND ELECTRICALLY SECURED. TAPS, JOINTS AND SPLICES LARGER THAN 5.5mm² SHALL BE MADE WITH THE USE OF SOLDER-LESS COPPER CONNECTION. THEY SHALL BE COVERED WITH ELECTRICAL TAPE EQUAL TO THE THICKNESS OF THE WIRE INSULATION.

CONDUIT ROUTING SHOWN SHOULD SUIT THE FIELD CONDITIONS AND THE COORDINATION REQUIREMENTS OF UTILITIES AND OTHER TRADES. ANY CHANGES MUST BE COORDINATED WITH THE ENGINEER/OWNER AND HIS/HER REPRESENTATIVE

ANY DISCREPANCY IN LOCATION AND RATING OF EQUIPMENT AND APARATUS SHALL BE VERIFIED WITH THE ENGINEER/OWNER OR ANY OF HIS REPRESENTATIVES AND CHANGES SHALL BE MADE ACCORDINGLY

ALL PANELS, BREAKERS AND SWITCHES MUST BE APPROPRIATELY TAGGED WITH FEEDERS/PANELS/BREAKERS SUPPLYING THEM.

ALL ELECTRICAL WORK SHALL BE DONE UNDER DIRECT SUPERVISION OF DULY LICENSED ELECTRICAL ENGINEER

MINIMUM WIRE SIZE SHALL BE 3.5mm² AND 8.0mm² FOR BRANCH CIRCUITS AND SERVICE FEEDERS RESPECTIVELY, MINIMUM CONDUIT SIZE SHALL BE 20mm DIAMETER.

GROUNDING CONNECTION SHOULD BE DONE BY EXOTHERMIC WELDING CONNECTION OR OTHER APPROVED SIMILAR PROCESS, MINIMUM GROUND RESISTANCE SHOULD BE 5 OHMS

THE JOB SHALL BE EXECUTED IN THE MOST THOROUGH, PROMPT AND WORKMANLIKE MANNER, EMPLOYING STANDARD TOOLS, EQUIPMENTS, AND GOOD ENGINEERING PRACTICES.

1 / E-2 SCHEDULE OF LOADS

SCHEDULE OF LOADS

DP-1A

PANEL BOARD TYPE	[illegible]
PANEL LOCATION	[illegible] FLOOR
ENCLOSURE TYPE	NEMA 1
VOLTAGE SYSTEM	230
PHASE SYSTEM	1PH, 60 HZ

CKT NO.	DESCRIPTION	VOLT-AMPERE	VOLTS	AMPERE	AMPERES				CIRCUIT BREAKER			WIRE SIZE (THHN)		CONDUIT SIZE (mm)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	SPARE	[illegible]	230	[illegible]					[illegible]	[illegible]	2			
	SPARE	[illegible]	230	[illegible]					[illegible]	[illegible]	2			
	TOTAL	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]							

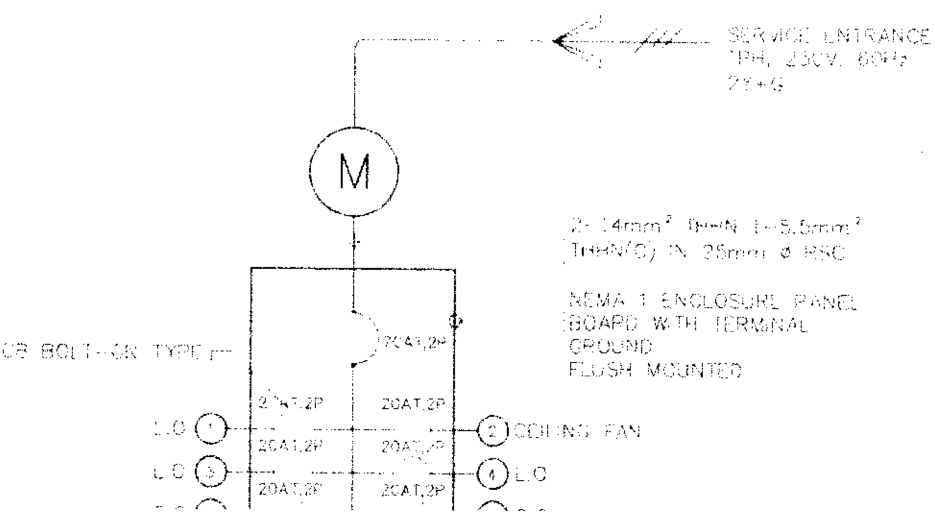
FOR FEEDER CURRENT

3PH + 1PH LOAD	[illegible] A
25% CONTINUOUS LOAD	[illegible] A
HIGHEST CURRENT MOTOR	[illegible]
DEMAND FACTOR	80%
TOTAL LOAD CURRENT	49.36 A

SIZE FOR MAIN FEEDER: 2 - 14mm² 1 - 5.5mm²; CONDUIT SIZE: 25 mmø

FOR MAIN BREAKER SIZE: 70 AT, 100 AF, 2 P, 10 KAIC; BRANCHES 10

3 / E-2 ELECTRICAL RISER DIAGRAM



2 / E-2 SINGL

REINFORCED CO
PEDESTAL

LEGE
SYM

GENERAL CONSTRUCTION NOTES

GENERAL NOTES

1.0 STANDARDS AND REFERENCES

THE FOLLOWING SHALL GOVERN THE DESIGN FABRICATION AND CONSTRUCTION OF THE PROJECT.

1.1 NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (N.S.C.P 2015) VOL. 1, SEVENTH EDITION.

2.0 DESIGN CRITERIA

2.1 LOADINGS

A. DEAD LOAD

CONCRETE	23.58 kN/m³
STEEL	76.93 kN/m³
150 mm THK. CHB WALL	2.73 kPa
100 mm THK. CHB WALL	2.11 kPa

B. LIVE LOAD

ROOF	1.00 kPa
CLASSROOMS	1.90 kPa
TOILETS	1.90 kPa
CORRIDORS ABOVE, STAIRS	3.80 kPa
CORRIDORS ON GROUND	4.80 kPa

C. WIND LOAD

BUILDING CATEGORY = I (ESSENTIAL FACILITIES)

	OPTION 1	OPTION 2
EXPOSURE CAT.	D (FLAT UNOBSTRUCTED COASTAL AREAS AND OPEN WATER)	B (URBAN OR SUBURBAN AREAS WITH NUMEROUS CLOSELY SPACED OBSTRUCTIONS)
WIND VELOCITY	V=340 KPH	V=270 KPH

$P = q_h [(GC_{pf}) - (GC_{pi})]$ (DESIGN WIND PRESSURE)

WHERE: q_h = VELOCITY PRESSURE (kPa)

GC_{pf} = EXTERNAL PRESSURE COEFFICIENT

GC_{pi} = INTERNAL PRESSURE COEFFICIENT

D. SEISMIC LOAD

$V = \frac{C_v I}{R T} W$ (DESIGN BASE SHEAR)

$V_{max} = \frac{2.5 C_a I}{RT} W$ $V_{min} = 0.11 C_a I W$

$V_{min} = \frac{0.80 Z N_v I}{R} W$ (ZONE 4)

WHERE: W = TOTAL DEAD LOAD

T = NATURAL PERIOD = $C_t (h_n)^{3/4}$

WHERE: C_t = NUMERICAL COEFFICIENT

h_n = BUILDING HEIGHT

I = IMPORTANCE FACTOR = 1.50

R = NUMERICAL FACTOR = 8.50

SEISMIC COEFFICIENT C_v = 0.44 N_v

C_a = 0.64 N_a

NEAR SOURCE FACTOR (5 km) N_v = 1.6

N_a = 1.2

Z = SEISMIC ZONE = 0.40 (ZONE 4)

S = SOIL TYPE = D

2.2 DESIGN STRESSES

A. CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS:

a. FOOTINGS, COLUMNS, BEAMS AND SLABS	f'_c = 27.6 MPa (4,000 psi)
b. SLAB ON FILL	f'_c = 17.5 MPa (2,500 psi)
c. SLAB	f'_c = 27.6 MPa (4,000 psi)

B. REINFORCING STEEL BARS

a. FOR BARS 16mm AND GREATER (INTERMEDIATE GRADE DEFORMED BAR)	f_y = 414 MPa (60,000 psi)
b. FOR BARS LESS THAN 16mm (STRUCTURAL GRADE DEFORMED BAR)	f_y = 275 MPa (40,000 psi)
C. STRUCTURAL STEEL ASTM-A36 FOR TRUSSES, BRACINGS, & STRUTS	f_y = 248 MPa (36,000 psi)
D. PURLINS COLD FORMED LIGHT	f_y = 248 MPa (36,000 psi)
E. MASONRY UNIT (CHB) NON - LOADING BEARING CHB WALLS	f'_m = 3.45 MPa (500 psi)
F. WELDS	E - 60XX ELECTRODE
G. STRUCTURAL BOLTS ASTM- A307	a. Ft = 96.50 mPa (14, 000 psi) b. Fv = 69.00 mPa (10, 000 psi)

3.0 IN THE INTERPRETATION OF THE DRAWING, INDICATED DIMENSIONS SHALL GOVERN. DISTANCES AND SIZES SHALL NOT BE SCALED FOR CONSTRUCTIONS PURPOSES

4.0 IN REFERENCES TO OTHER DRAWINGS, SEE ARCHITECTURAL DRAWINGS FOR DEPRESSIONS IN FLOOR SLABS, OPENINGS IN THE WALLS AND SLABS, INTERIOR PARTITIONS, LOCATIONS OF DRAINS ETC.

5.0 IN CASE OF DISCREPANCIES AS TO THE LAYOUT, DIMENSIONS AND ELEVATIONS BETWEEN THE

NOTES ON CONCRETE MIXES & PLACING

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

LOCATION	28 DAYS STRENGTH	MAX. SIZE OF AGGREGATE	MAX. SLUMP
ALL OTHERS, INCLUDING SUSPENDED SLABS	4000 PSI (27.6 MPa)	20 mm	100mm
COLUMNS	4000 PSI (27.6 MPa)	20 mm	150mm
BEAMS	4000 PSI (27.6 MPa)	20 mm	100mm
SLAB ON FILL	2500 PSI (17.5 MPa)	20 mm	100mm

2. MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:

SUSPENDED SLABS	20mm
SLAB ON GRADE	40mm
WALLS ABOVE THE GRADE	25mm
BEAM STIRRUPS AND COLUMN TIES WHERE CONCRETE IS EXPOSED TO EARTH BUT POURED AGAINST FORMS	40mm
WHERE CONCRETE IS DEPOSITED DIRECTLY AGAINST EARTH	50mm
	75mm

3. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, RE-HANDLING OR PLACING SHALL BE DONE PREFERABLY WITH BUGGIES, BUCKETS OR WHEELBARROWS NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUGGIES, WHEELBARROWS OR BUCKETS IN WHICH CASE THEY SHALL NOT EXCEED SIX (6) METERS IN AGGREGATE LENGTH.
4. NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITING DESIGNER AND ONLY FOR UNUSUAL CONDITIONS WHERE VIBRATIONS ARE EXTREMELY DIFFICULT TO ACCOMPLISH.
5. ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS SHALL BE PROPERLY POSITIONED & SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
6. ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF SEVEN CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE O WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER APPROVED METHODS.
7. STRIPPING OF FORMS AND SHORES:

FOUNDATION	24 HOURS
SUSPENDED SLAB, EXCEPT WHEN ADDITIONAL LOADS ARE IMPOSED	8 DAYS
WALLS	21 DAYS
BEAMS	14 DAYS
COLUMNS	21 DAYS

8. THE CONTRACTOR SHALL SUBMIT THE SCHEDULE OF POURING AND THE LOCATION OF THE CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER AT LEAST (4) DAYS PRIOR TO THE POURING FOR APPROVAL.
9. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE FORMS AND SHORINGS UNTIL THE CONCRETE MEMBERS HAVE ATTAINED THEIR WORKING CONDITION AND STRENGTH.

NOTES ON FOOTINGS

1. FOOTINGS ARE DESIGNED FOR AN ALLOWANCE SOIL BEARING PRESSURE OF 96 KPa (2000psf). CONTRACTOR SHALL REPORT TO THE ENGINEER, IN WRITING, THE ACTUAL SOIL CONDITIONS UNCOVERED AND CONFIRM ACTUAL BEARING CAPACITY OF SOIL BEFORE DEPOSITING CONCRETE.
2. FOOTING SHALL REST AT LEAST 1500mm BELOW NATURAL GRADE LINE UNLESS OTHERWISE INDICATED IN PLANS. NO FOOTING SHALL REST ON FILL.
3. MINIMUM CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE 75mm CLEAR FOR CONCRETE DEPOSITED THE GROUND AND 50mm FOR CONCRETE DEPOSITED AGAINST A FORMWORK.
4. IN CASES WHERE THE SOIL CONDITION IS SUCH THAT THE MINIMUM ALLOWABLE SOIL PRESSURE OF 96kPa (2000 psf) CAN NOT BE ATTAINED AT A PRACTICAL DEPTHS THE USE OF MICROPILES, BORED PILES, OR DRIVEN PILES MAY BE ADOPTED IN LIEU OF STANDARD ISOLATED FOOTINGS.

NOTES ON REINFORCEMENT

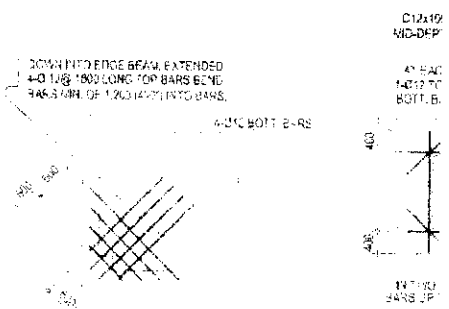
1. UNLESS OTHERWISE NOTED IN PLANS, THE YIELD STRENGTH OF REINFORCING BARS SHALL BE,
   A. FOOTINGS, FOOTING BEAMS AND GIRDERS — f_y = 414 MPa (60,000 psi)
   B. COLUMNS AND SHEAR WALLS — f_y = 414 MPa (60,000 psi)
   C. BEAMS AND GIRDER — f_y = 414 MPa (60,000 psi)
   D. NON-LOAD BEARING WALL PARTITIONS, BEDDED SLABS, FLOOR & ROOF SLABS, PARAPETS, CATCH BASIN SIDE WALK — f_y = 275 MPa (40,000 psi)
2. ALL REINFORCING BARS SIZE 10mm OR LARGER SHALL BE DEFORMED IN ACCORDANCE WITH THE ASTM A-706

3. IF SLABS ARE REINFORCED BOTHWAYS BARS ALONG THE SHOR BELOW THOSE ALONE THE LONG SPAN AT THE CENTER AND OV REINFORCING BARS NEAR THE SUPPORTS. THE SPACING OF TH SHALL NOT BE MORE THAN ONE AND A HALF (1 1/2) SLAB THICK
4. TEMPERATURE BARS FOR SLAB SHALL BE GENERALLY PLACED SHALL NOT BE LESS THAN 0.0025 X GROSS-SECTIONAL AREA (A (SEE SCHEDULE BELOW)

SCHEDULE OF MINIMUM SLAB REINFO

	MINIMUM TEMPERATURE
100 mm	10mm Ø @ 250mm EAC
125 mm	10mm Ø @ 250mm EACH
150 mm	10mm Ø @ 250mm EAC
175 mm	10mm Ø @ 250mm EAC
200 mm	10mm Ø @ 250mm EAC

5. UNLESS OTHERWISE NOTED IN THE PLANS ALL BEDDED SLABS S AT 250mm O.C. EACH WAY TO CENTER OF SLAB AND CONSTRUCT NOT BE LESS THAN 3.55 METER APART.
6. PROVIDE EXTRA REINFORCEMENTS FOR CORNER SLAB (TWO A AS SHOWN BELOW.
7. CONCRETE SLAB REINFORCEMENT BE PROPERLY SUPPORTED W OR APPROVED EQUIVALENT SPACED AT 1.0 METER ON CENTER E



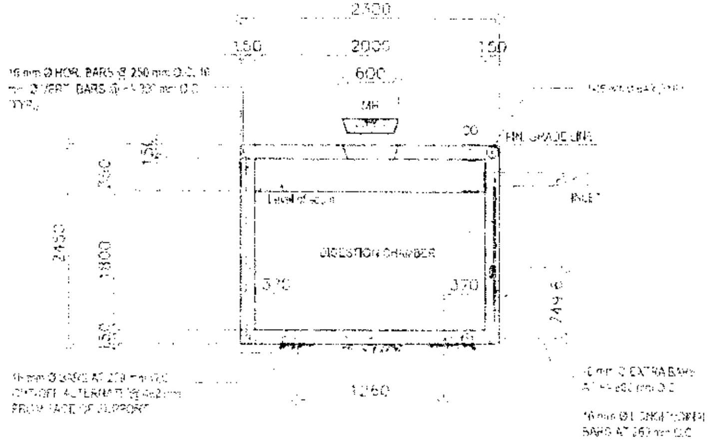
TYPICAL CORNER SLAB DETAIL

NOTES ON COLUMNS

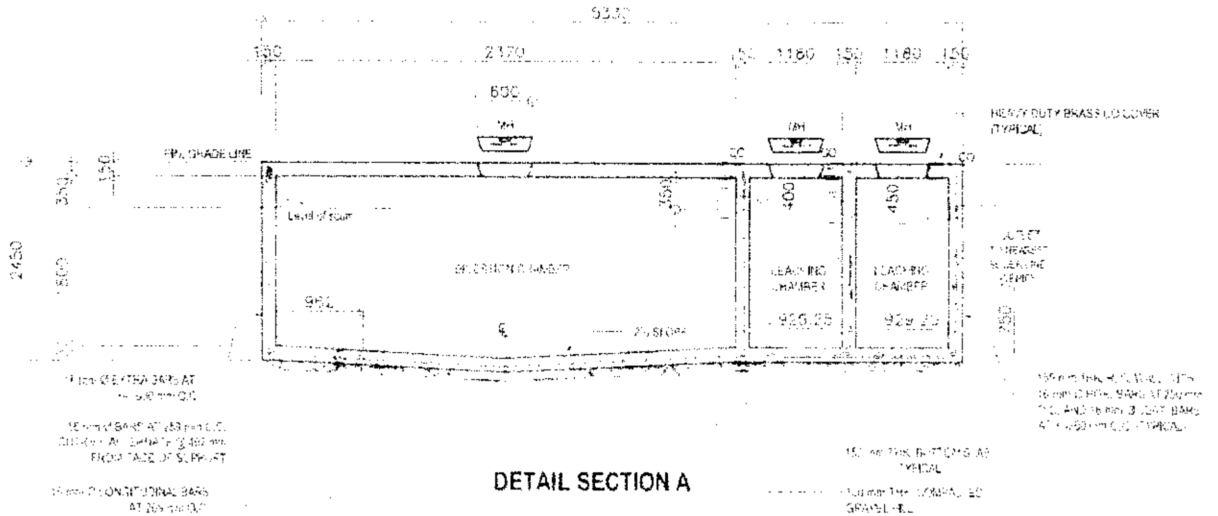
1. PROVIDE EXTRA SETS OF TIES AT 100 O.C. FOR TIED COLUMN AND BELOW BEAM-COLUMN CONNECTIONS FOR A DISTANCE E EQUAL TO GREATER OF THE OVERALL THICKNESS OF COLUMN COLUMN OR 450mm.
2. COLUMN TIES SHALL BE PROTECTED EVERYWHERE BY A COVE MONOLITHICALLY WITH THE CORE WITH A MINIMUM THICKNES THAN 40 TIMES THE MAXIMUM SIZE OF COARSE AGGREGATE P
3. WHERE COLUMNS CHANGE IN SIZE, VERTICAL REINFORCEMEN SLOPE MONOLITHICALLY WITH THE CORE WITH MINIMUM THIC NOT LESS THAN 40 TIMES THE MAXIMUM SIZE COARSE AGGRE
4. UNLESS OTHERWISE INDICATED IN THE PLANS, LAP SPLICES F REINFORCEMENT SHALL BE MADE WITHIN THE CENTER HALF T THE SPLICE LENGTH SHALL BE LESS THAN 40 BAR DIAMETERS MECHANICAL DEVICES MAY BE USED PROVIDED THAT NOT MO ARE WELDED OR MECHANICALLY SPLICED AT ANY LEVEL AND BETWEEN THESE WELDS OR SPLICES OF ADJACENT BARS IS N

SCHEDULE OF TOP SLAB REINFORCEMENT

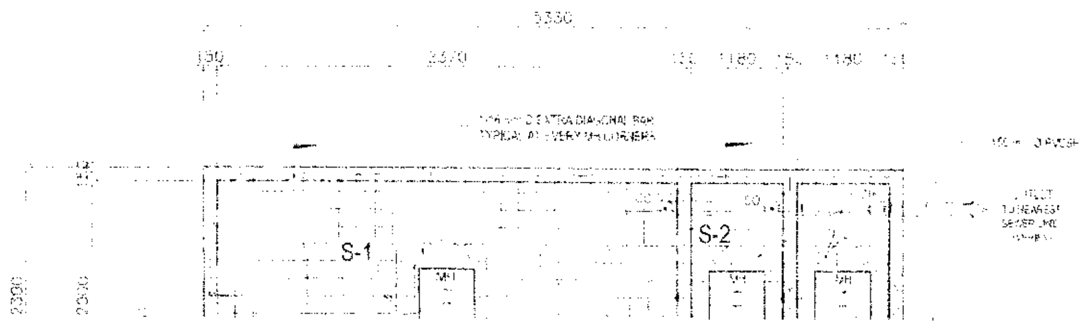
MARK	TOP SLAB	
	SHORT DIRECTION	LONG DIRECTION
S-1	[illegible] mm Ø BARS @ 165 mm O.C. BENT-UP 2 OUT OF 3 @ [illegible] FROM FACE OF SUPPORT	16 mm Ø BARS @ 190 mm O.C. TEMPERATURE BARS
S-2	12 mm Ø BARS @ 225 mm ON CENTER	16 mm Ø BARS @ 190 mm ON CENTER

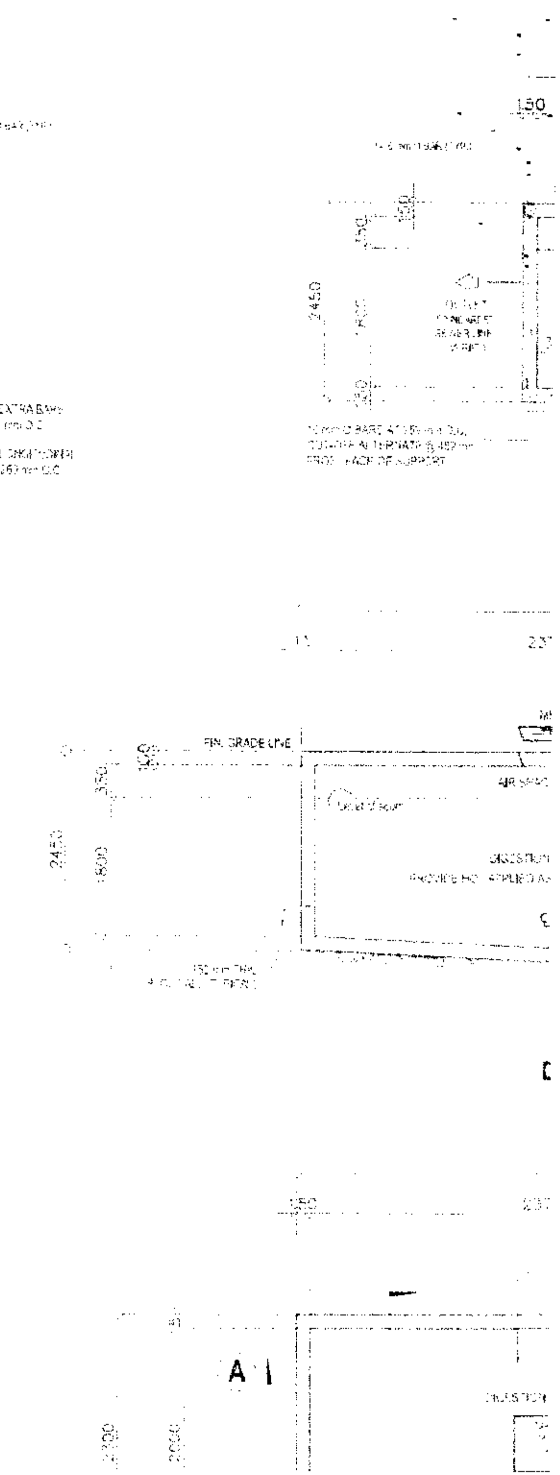


DETAIL SECTION B



DETAIL SECTION A





GENERAL CONSTRUCTION NOTES

TABLE 'A'
TENSION BARS
TABLE OF LAP SPLICE & ANCHORAGE LENGTH (mm)

BAR SIZES	f'c = 20.7MPa (3000psi) EMBEDMENT	LAPPED	f'c = 27.6 MPa (4000psi) EMBEDMENT	LAPPED
Ø10	[illegible]	[illegible]	[illegible]	[illegible]
Ø12	[illegible]	[illegible]	[illegible]	[illegible]
Ø16	[illegible]	400	[illegible]	[illegible]
Ø20	[illegible]	[illegible]	[illegible]	[illegible]
Ø25	[illegible]	[illegible]	[illegible]	[illegible]
Ø28	[illegible]	[illegible]	[illegible]	[illegible]
Ø32	[illegible]	[illegible]	[illegible]	[illegible]

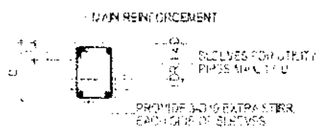
NOTES:
1. [illegible]
2. NOT MORE THAN [illegible] OF THE BARS SHALL BE SPLICED WITHIN THE REQUIRED LAP LENGTH

TABLE 'B'
COMPRESSION BARS
TABLE OF LAP SPLICE & ANCHORAGE LENGTH (mm)

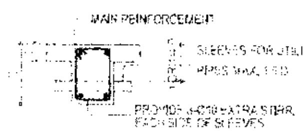
BAR SIZES	f'c = 20.7MPa (3000psi) EMBEDMENT	LAPPED	f'c = 27.6 MPa (4000psi) EMBEDMENT	LAPPED
Ø10	[illegible]	[illegible]	[illegible]	[illegible]
Ø12	[illegible]	[illegible]	[illegible]	[illegible]
Ø16	[illegible]	425	[illegible]	[illegible]
Ø20	[illegible]	[illegible]	475	[illegible]
Ø25	[illegible]	[illegible]	[illegible]	[illegible]
Ø28	[illegible]	[illegible]	[illegible]	[illegible]
Ø32	[illegible]	[illegible]	[illegible]	[illegible]

NOTES:
1. FOR PLAIN BARS MULTIPLY VALUE BY [illegible]
2. NOT MORE THAN [illegible] OF THE BARS SHALL BE SPLICED WITHIN THE REQUIRED LAP LENGTH
3. [illegible]

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



TYP. DET. FOR SLEEVES
THRU CONCRETE BEAM
FIG. B-2



TYP. DET. FOR SLEEVES
THRU CONCRETE BEAM
FIG. B-3

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

NOTES ON CONCRETE HOLLOW BLOCKS WALLS

1. UNLESS OTHERWISE SHOWN IN PLANS ALL CONCRETE HOLLOW BLOCKS AND CERAMIC BLOCKS SHALL BE REINFORCED AS SHOWN IN THE SCHEDULE OF CONCRETE HOLLOW BLOCKS AND CERAMIC BLOCK REINFORCEMENT.
2. PROVIDE 150mm x 300mm STIFFENER COLUMN REINFORCED WITH 4-12mm WITH 10mm Ø TIES AT 150mm ON CENTER WHERE CONCRETE HOLLOW BLOCK TERMINATES AND AT EVERY 3.0M LENGTH OF CONCRETE HOLLOW BLOCK WALLS UNLESS NOTED IN STRUCTURAL PLANS.

NOTES ON CONCRETE HOLLOW BLOCKS WALLS REINFORCEMENTS

BLOCK THICKNESS	REINFORCEMENT	NOTES

REINFORCING CONCRETE LINTEL BEAMS IN
CONCRETE BLOCK WALLS

LINTELS IN BLOCK WALLS

CLEAR SPAN (M)	TOTAL LENGTH (BLOCKS)	MIN. f'c (MPa)	HEIGHT OF LINTEL (mm)	REINFORCEMENT BOTTOM	TOP	STIRRUPS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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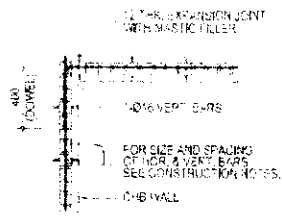
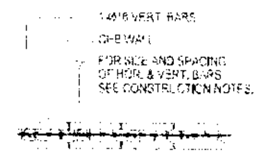
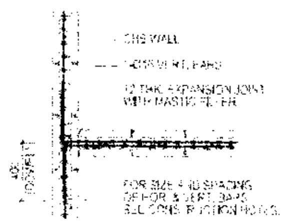


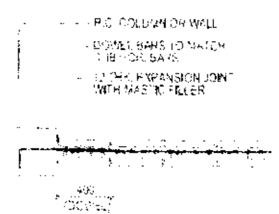
CORNER WALL



OPENING OR END WALL

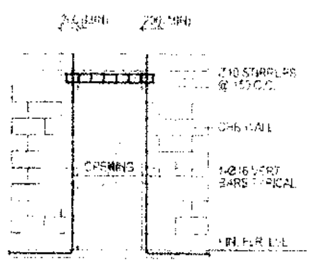


INTERSECTION WALL

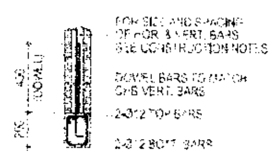


INTERSECTING R.C. COLUMN OR WALL

TYPICAL CONNECTION DETAIL OF MASONRY WALL

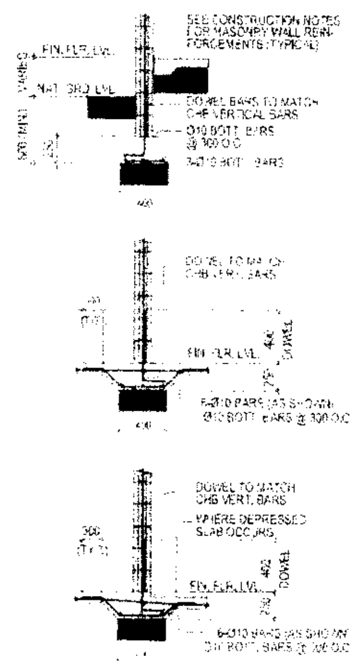


ELEVATION

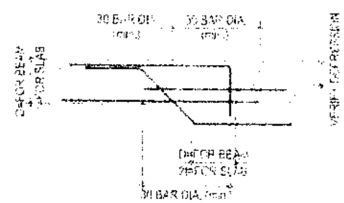


SECTION

TYP. DET. OF LINTEL BEAM AT CHB WALL OPENING



TYPICAL CHB FOOTING DETAILS
(WHERE APPLICABLE)



TYPICAL DETAIL FOR BEAM
OR SLAB CHANGE SOFFIT

NOTES ON CONCRETE WALLS

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

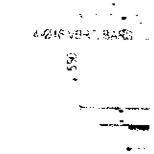
WALL THICKNESS	REINFORCEMENT

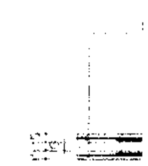
NOTES ON W...
1. USE E60xx E...
2. WELDS SHAL... OTHERWISE S...

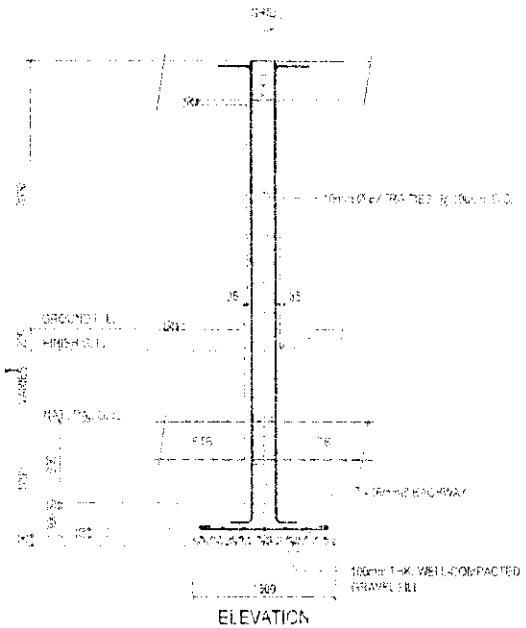
NOTES ON ST...
1. STRUCTURAL S... STRUCTURE SH... SPECIFICATION... STEEL FOR BU...
2. ALL STRUCTUR... STEEL UNLESS...
3. ALL WELDED C... MEMBERS CON...
4. UNLESS OTHER... E60 ELECTROD...
5. ALL BOLTS USE...

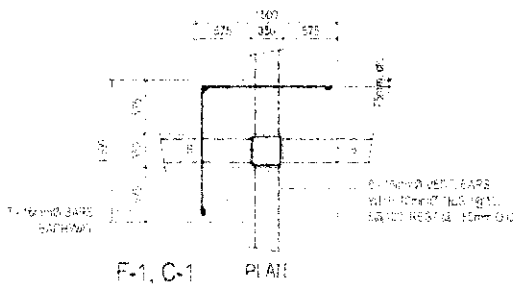
NOTES ON EM...
1. ALL EMBEDDED ... EXCEED 100mm ... OTHERWISE AP...
2. NO PIPES SHAL...
3. NO PIPES SHAL...

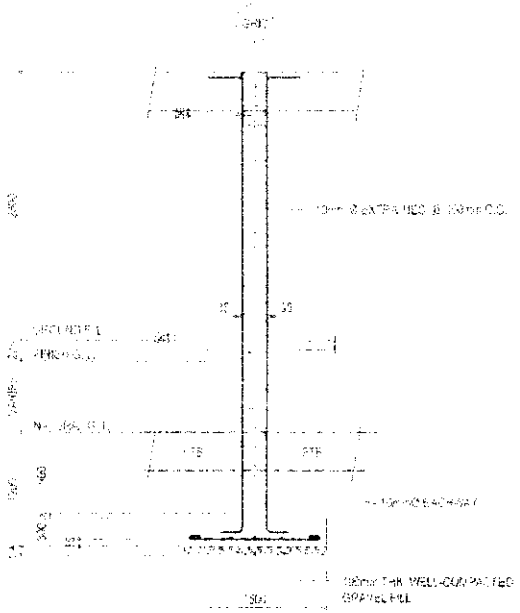
NOTES ON CO...
1. WHERE A CONS... SHALL BE CLEA... KEY SHALL BE ...

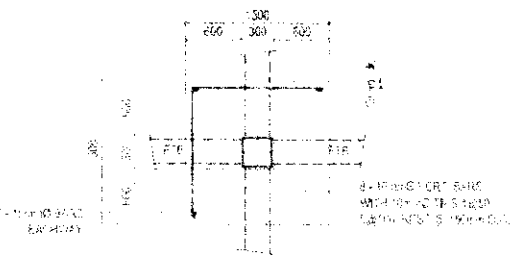


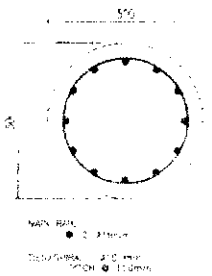




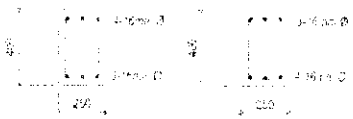






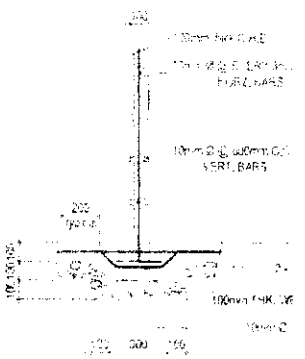


2 DETAIL OF COLUMNS AND FOOTINGS
S-3



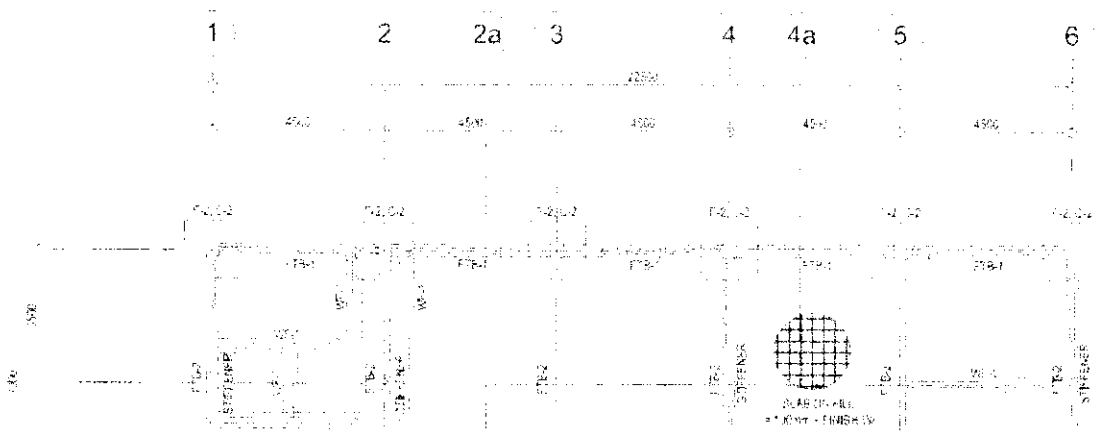
FTB-1

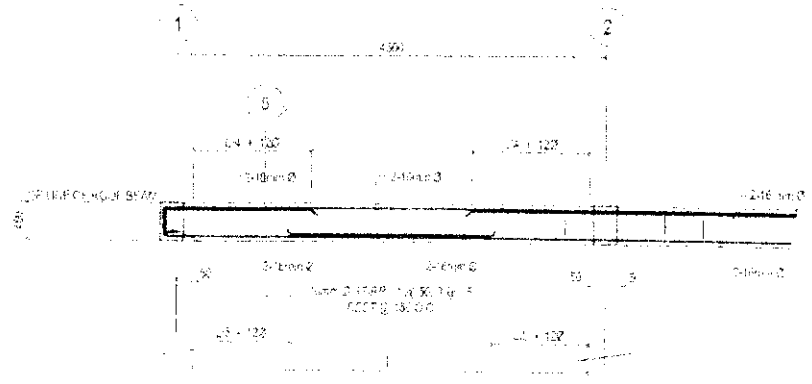
4 DET
S-3

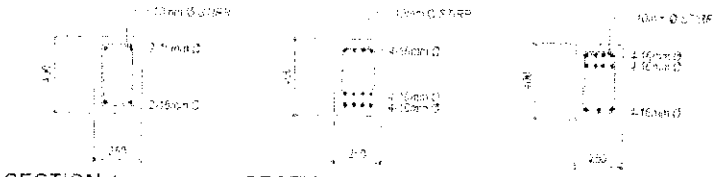


WF - 1

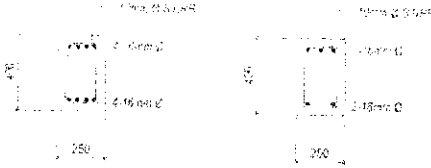
3
S-3





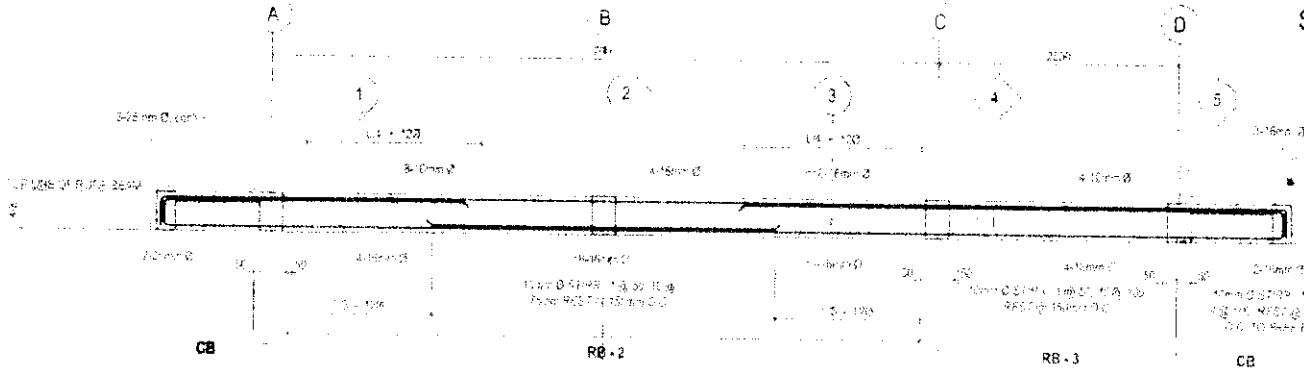


SECTION-1 SECTION-2 SECTION-3



SECTION-4 SCALE: 1:20 m SECTION-5 SCALE: 1:20 m

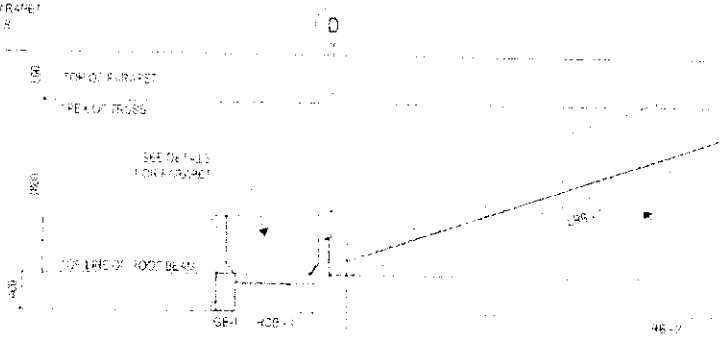
GB-



ELEVATION SCALE: 40

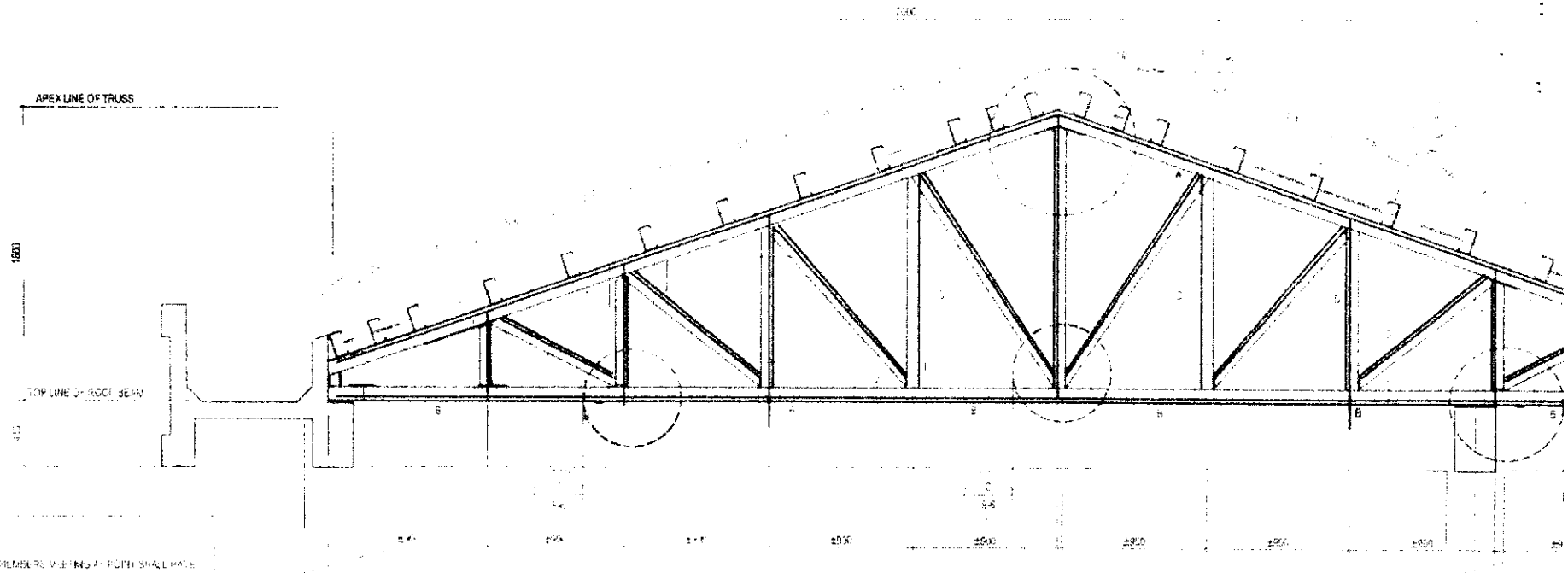
1 ROOF BEAM DETAILS

S-4



3

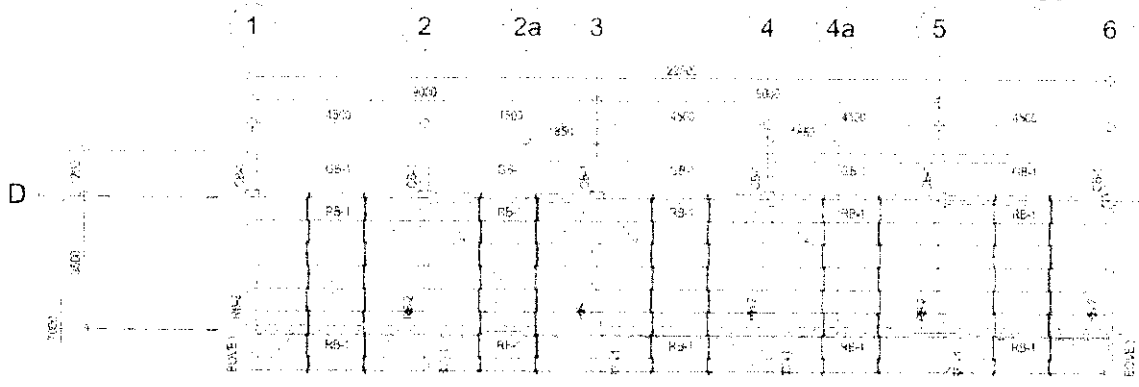
S-1

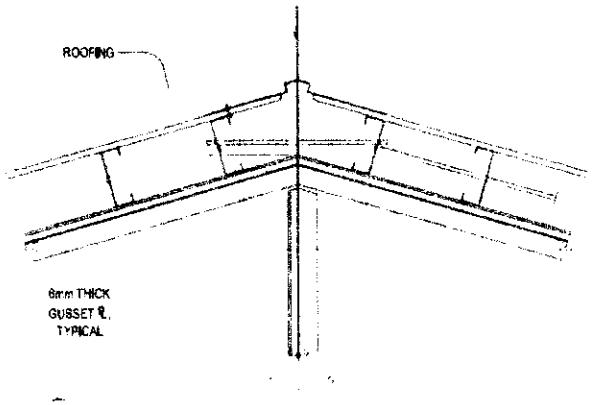


OTES ON ROOF CONSTRUCTION

1 DETAIL ELEVATION OF TRUSS
S-5 SCALE

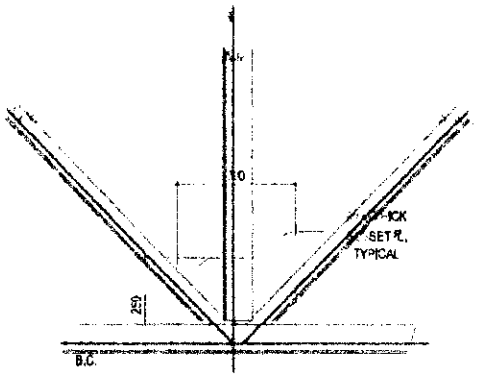
3 REFERENCE WELD DE
S-5 SCALE





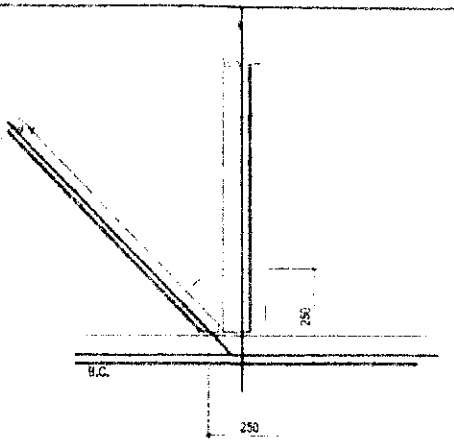
DETAIL 1

S-6 SCALE 1:10 m



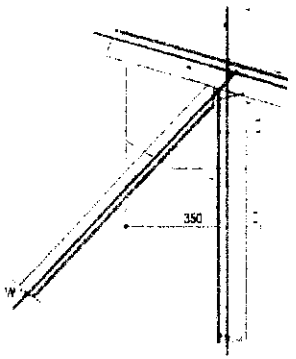
2 DETAIL 2

S-6 SCALE 1:10 m



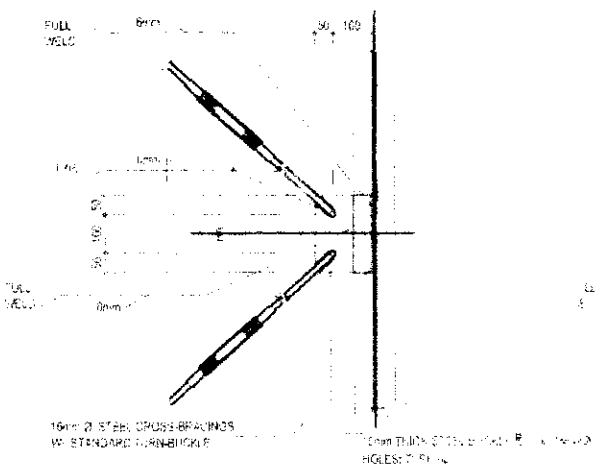
3 DETAIL 3

S-6 SCALE 1:10 m

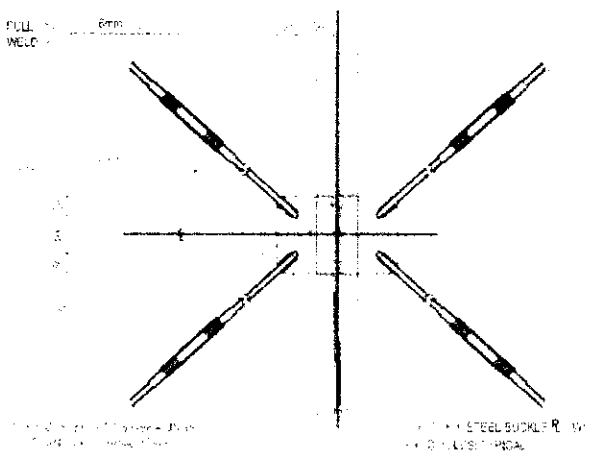


4 DI

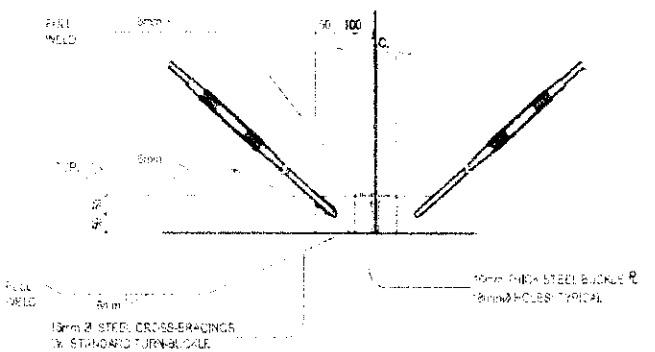
S-6 SCA



AT END WALL



AT APEX OF TRUSS

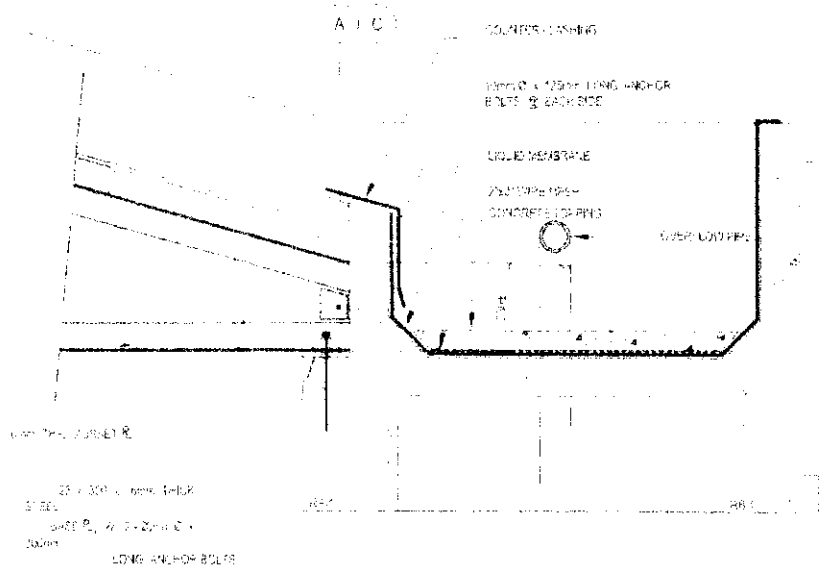


ALONG GRID LINE A & C

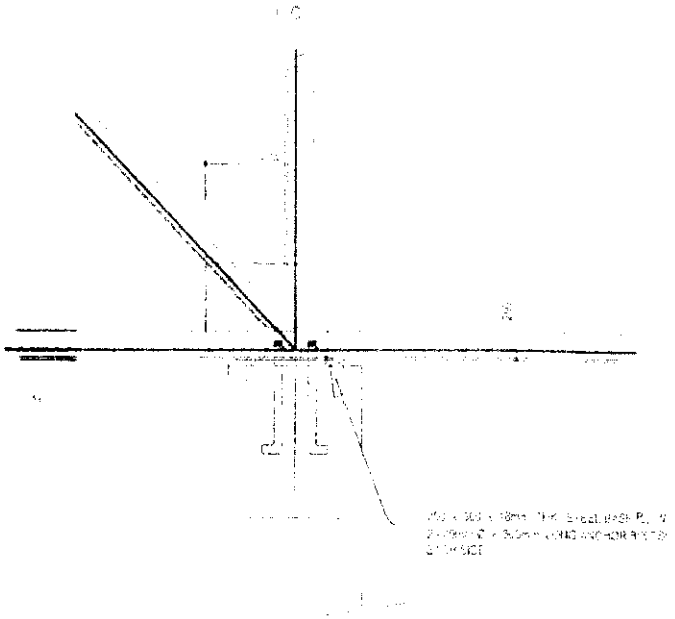
6 DETAIL CONN. OF CROSS-BRACING

S-6 SCALE 1:10 m

ROOFING



ELEVATION



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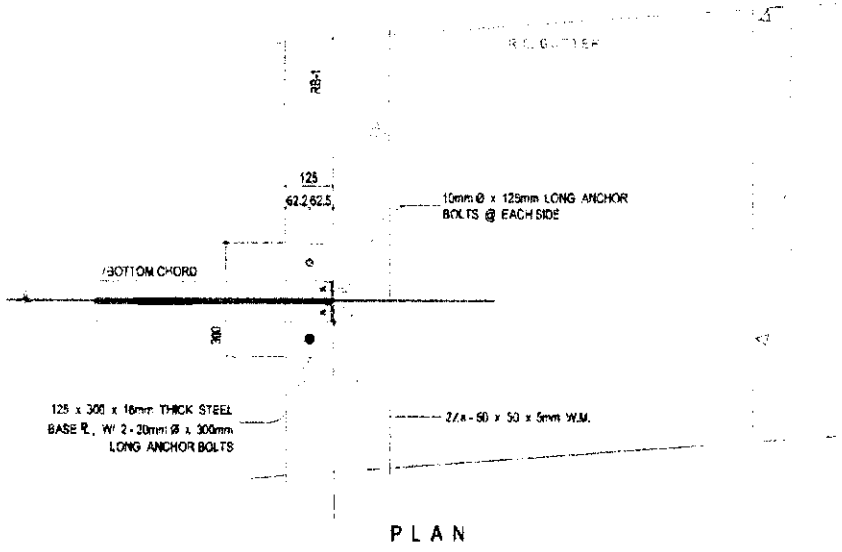
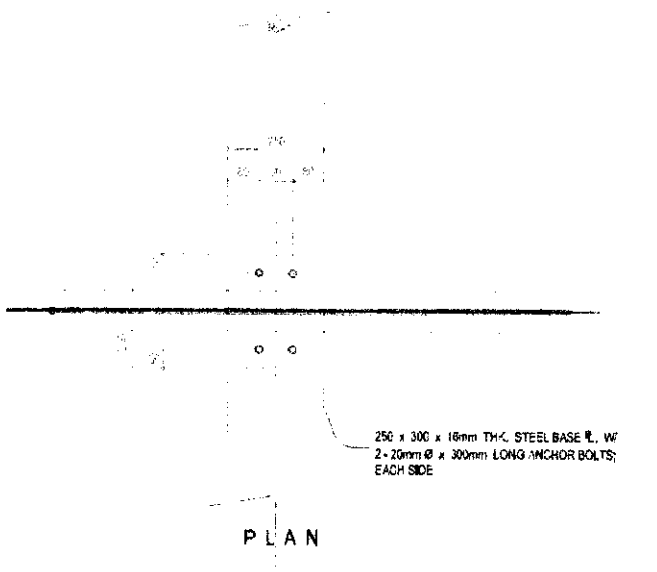


PLAN



PLAN

1 / S-7 DETAIL OF TRUSS ANCHORAGE @ GRID LN. A & D

SCALE 1:10 m

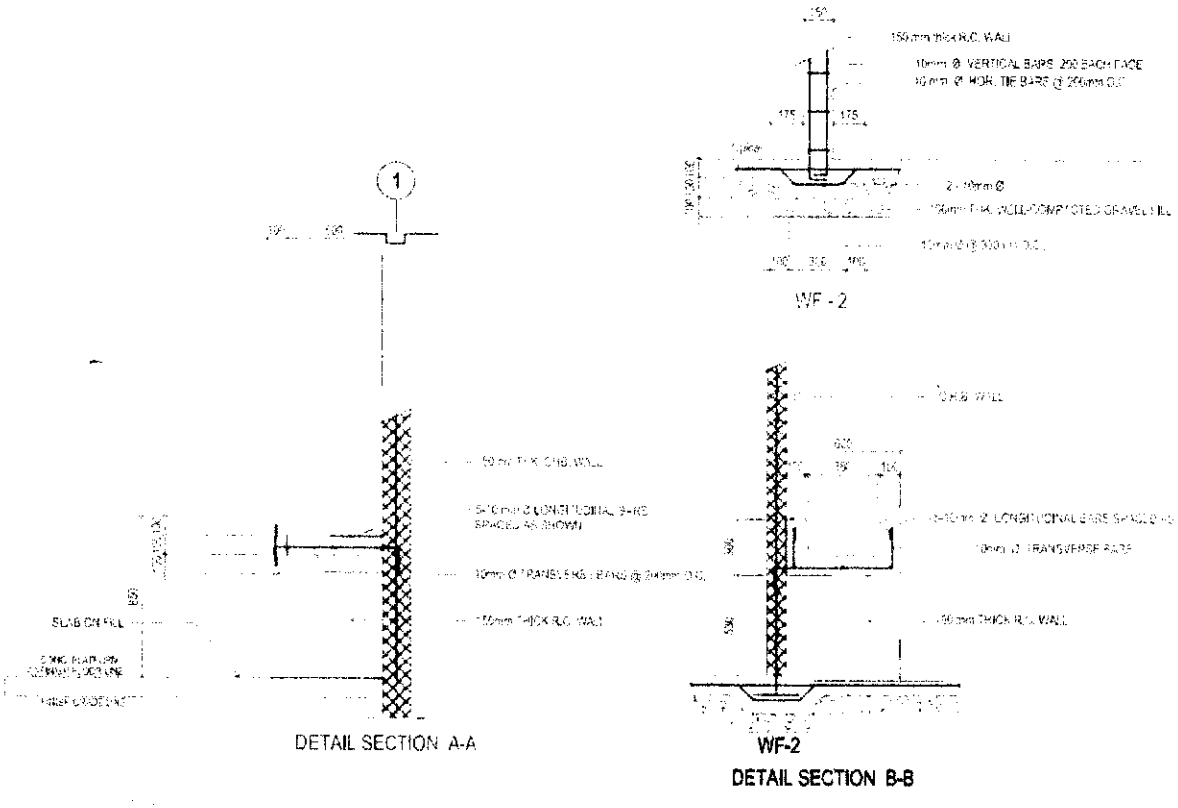
2 / S-7 DETAIL OF TRUSS ANCHORAGE @ GRID LN. C

SCALE 1:10m

3 / S-7 DETAIL

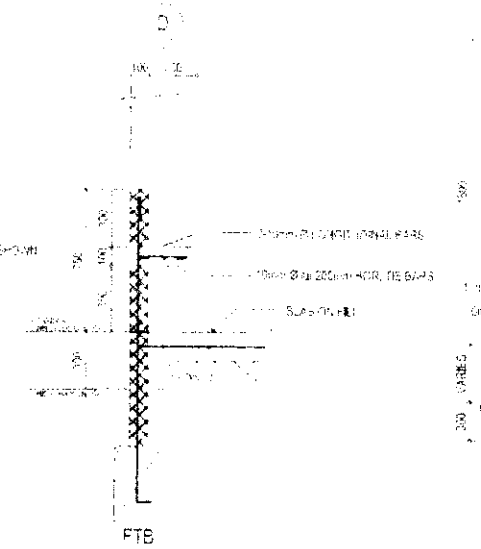
SCALE

125 x 50 x 4mm x 125 mm LONG CLIP ANGLE WELDED TO TOP CHORD AND BOLTED TO PURLIN



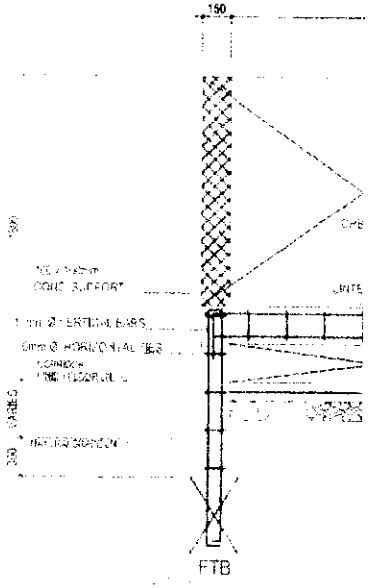
1 DETAILS OF LAVATORY (HANDWASH)

S-8 SCALE



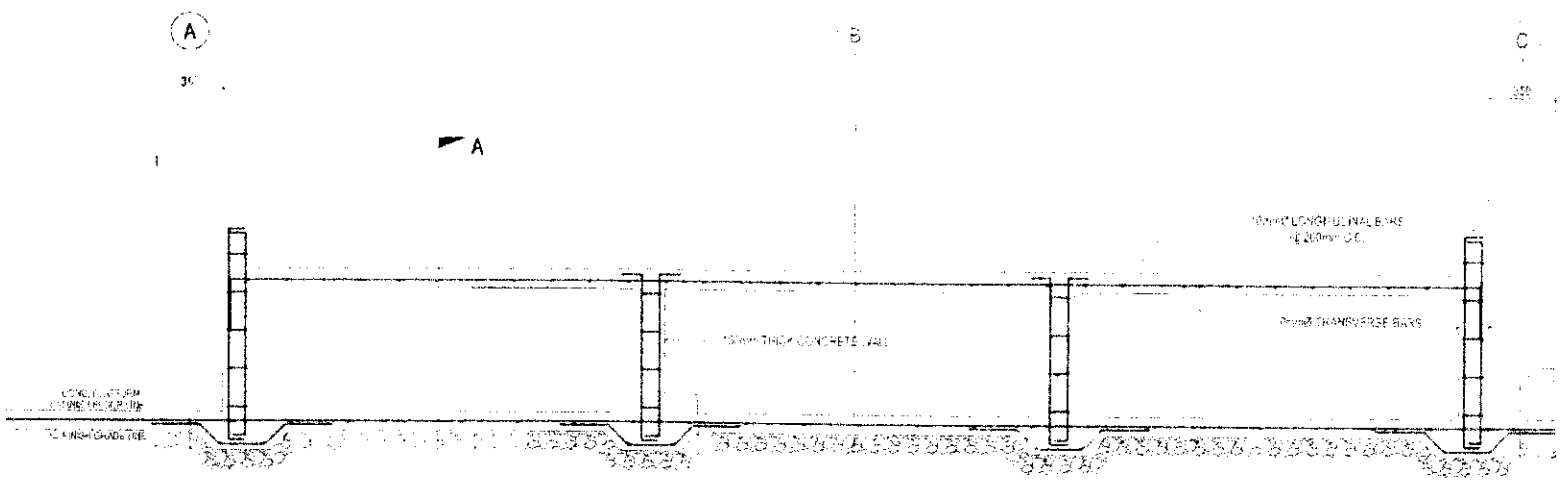
2 DETAIL - 4 (CONC. SEATING DETAIL)

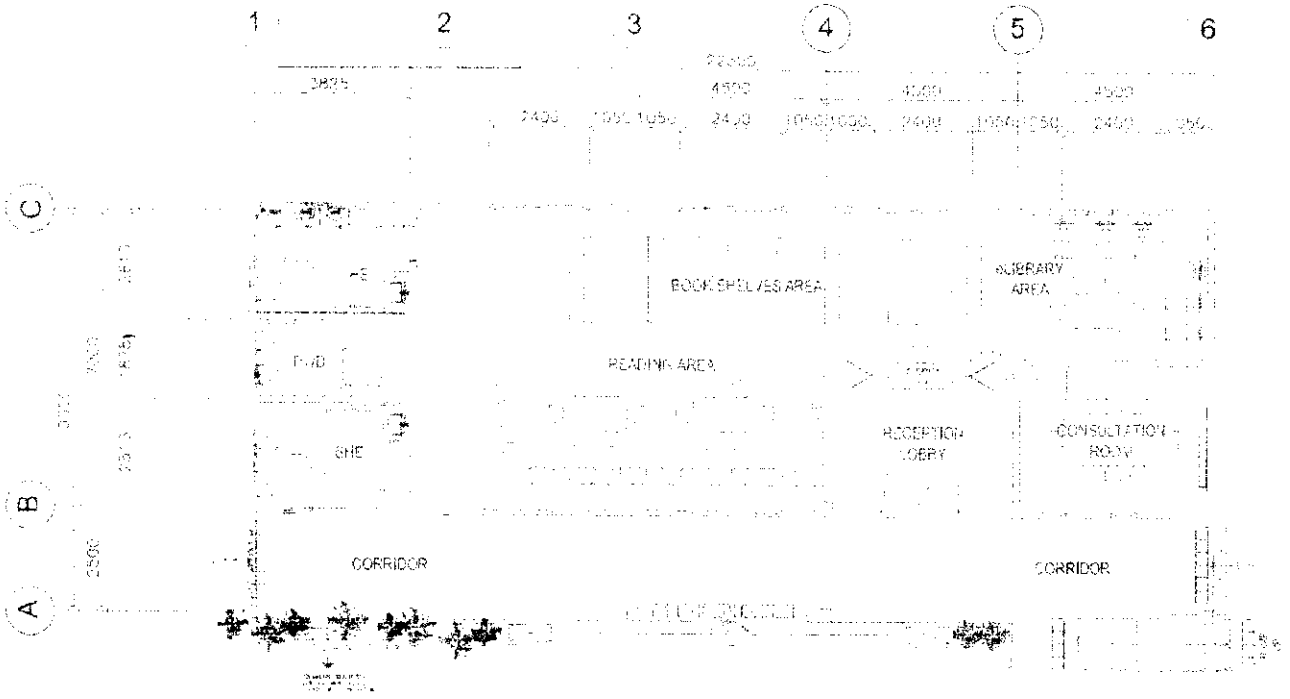
S-8 SCALE



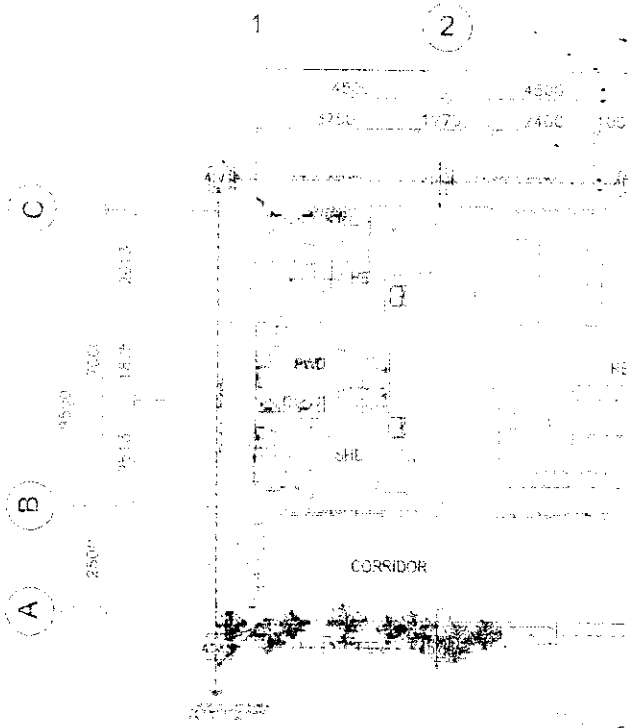
3 DETAIL OF

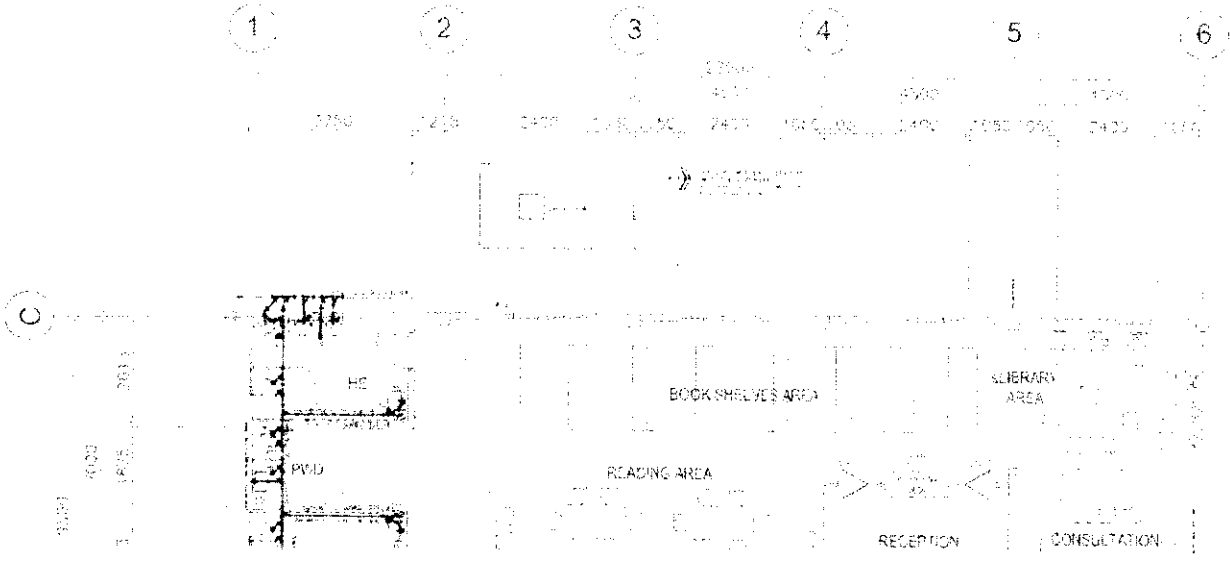
S-8 SCALE

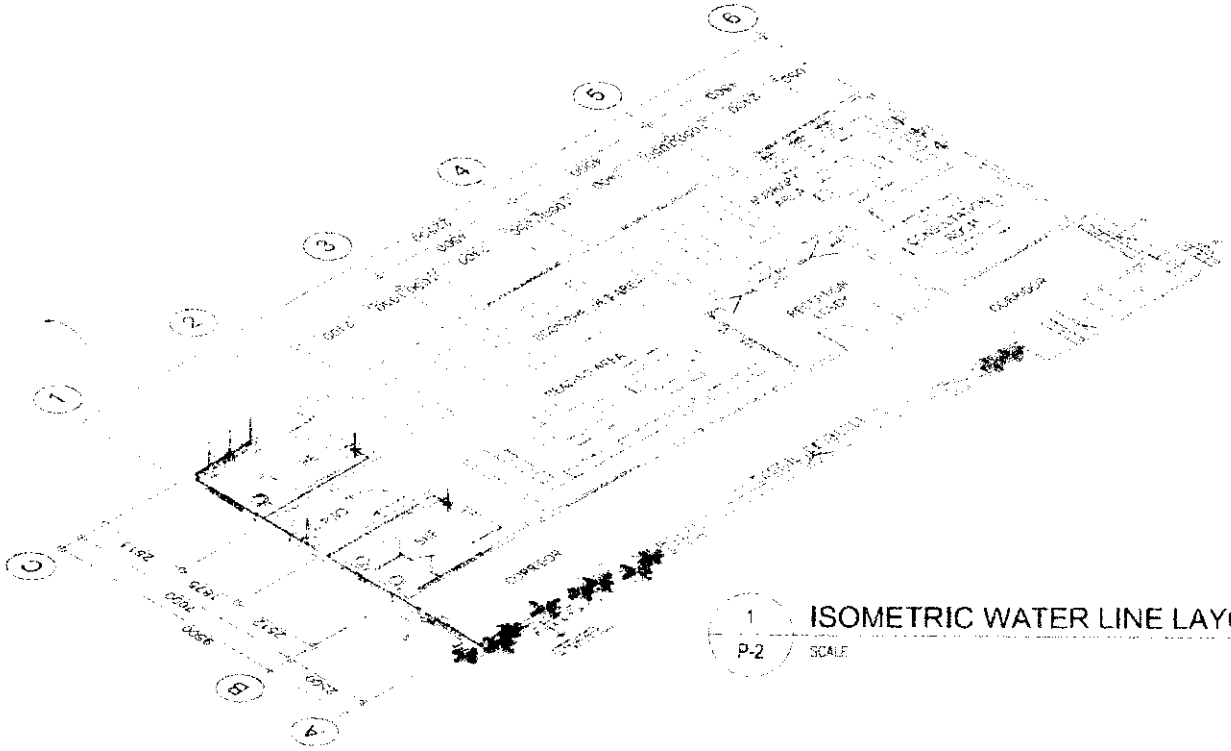




1 WATER LINE LAYOUT
P-1

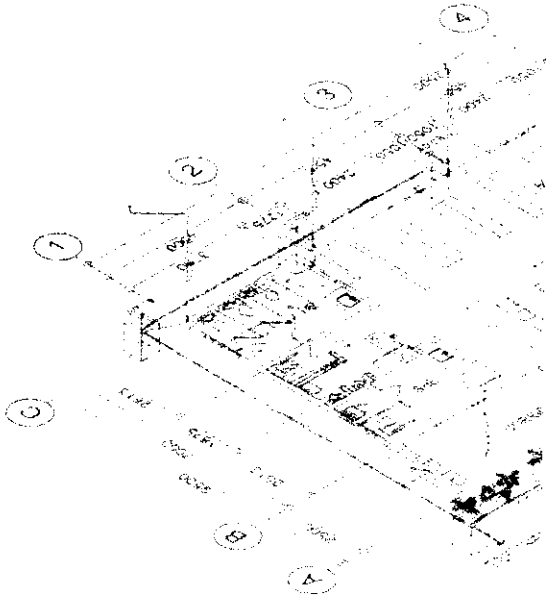


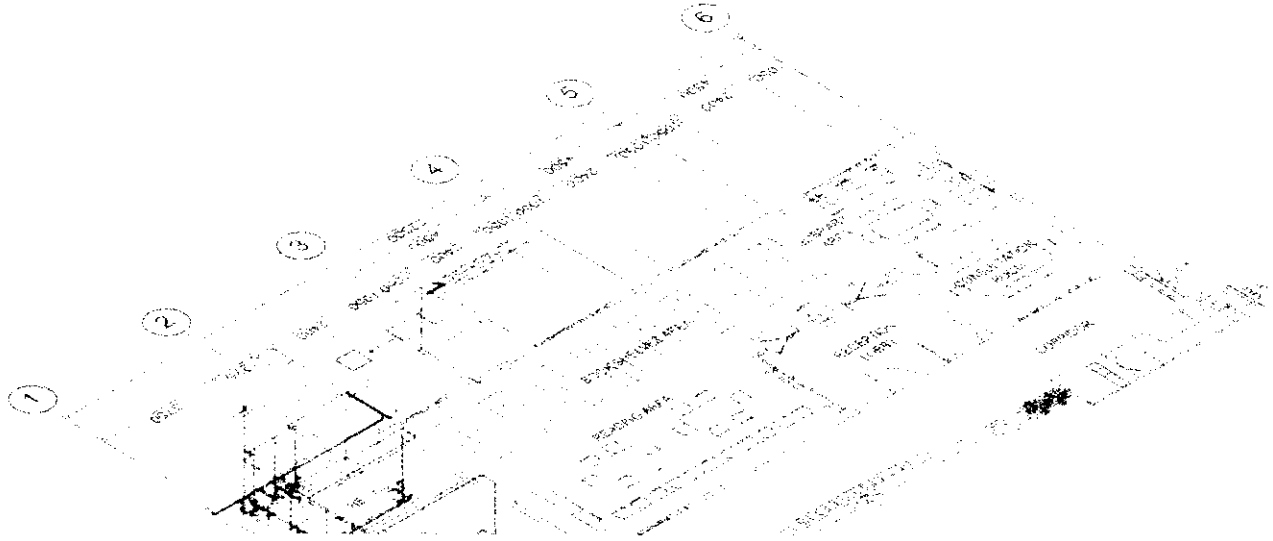




1 / P-2 ISOMETRIC WATER LINE LAYOUT

SCALE 1:100M





PLUMBING NOTES:

1. GRADES OF HORIZONTAL PIPING
   RUN ALL HORIZONTAL PIPINGS IN PERFECT ALIGNMENT AND AT A FORM GRADE OF NOT LESS THAN TWO PERCENT (2%).

2. CHANGE IN DIRECTION
   ALL CHANGE IN DIRECTION SHALL BE MADE BY APPROPRIATE USE OF FORTY FIVE DEGREES (45°) WYES, LONGSWEEP QUARTER BEND, SIX-EIGHT OR SIXTEENTH BENDS. WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL 4/8 BEND COMBINATION MAYBE USED ON VERTICAL STACKS AND SHORT QUARTER BENDS MAYBE USED ON WASTE LINE. TEE AND CROSSES MAYBE USED IN VENT PIPES.

3. PROHIBITED FITTINGS
   NO DOUBLE HUB OR TEE BRANCH SHALL BE USED ON HORIZONTAL WASTE LINES. THE DRILLINGS AND TAPPINGS OF HOUSE DRAIN, WASTE OR VENT PIPES AND USE OF SADDLE HUB AND BEND ARE PROHIBITED.

4. SLEEVES
   PROVIDE PIPE SLEEVES AT WALLS, COLUMNS OR SLABS ONE SIZE BIGGER THAN THE ACTUAL SIZE PASSING THROUGH THE WALLS, COLUMNS OR UNDER SLAB TO PROTECT PIPE FROM BREAKAGE.

5. PIPE CLEAN-OUTS
   PIPE CLEAN-OUTS ARE REQUIRED UNDER THE FOLLOWING CONDITIONS:
   a. EVERY CHANGE IN HORIZONTAL DIRECTIONS EXCEEDING TWENTY-TWO AND ONE-HALF DEGREES (22 1/2°).
   b. ONE AND ONE-HALF METERS (1.50 m) INSIDE THE PROPERTY LINE BEFORE THE HOUSE DRAINAGE CONNECTION.
   c. EVERY FIFTEEN METERS (15.00 m) IN HORIZONTAL RUN OF PIPES.
   d. AT THE END OF ANY HORIZONTAL PIPE LINES.

6. THE DIGESTION CHAMBER OF SEPTIC VAULT MUST BE WATERPROOFED.

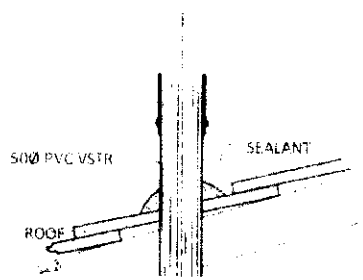
7. NOT LESS THAN 300 mm OF AIR SPACE MUST BE LEFT BETWEEN THE TOP OF THE SEWAGE AND THE UNDER PART OF THE VAULT ROOF SLAB.

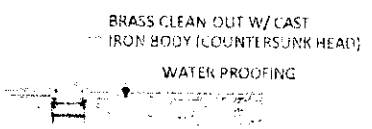
8. NO SEPTIC VAULT MUST BE CONSTRUCTED UNDER THE BUILDING.

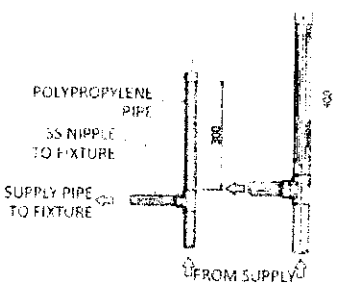
9. ALL PLUMBING WORKS SHALL BE DONE BY A LICENSED MASTER PLUMBER AND A LICENSED PLUMBING CONTRACTOR.

PLUMBING LEGEND:

CD	CORRIDOR DRAIN
CO	CLEAN OUT
CV	CHECK VALVE
FD	FLOOR DRAIN
HB	HOSE BIBB
GI	GALVANIZED IRON
GT	GREASE TRAP
GV	GATE VALVE
LAV	LAVATORY
KS	KITCHEN SINK
MH	MANHOLE
PPRC CWL	POLYPROPYLENE RANDOM COPOLYMER COLD WATER LINE, TYPE 3, PN 20 (ISO 15874 / JOINING BY SOCKET FUSION)
PPRC CWR	POLYPROPYLENE RANDOM COPOLYMER COLD WATER RISER, TYPE 3, PN 20 (ISO 15874 / JOINING BY SOCKET FUSION)
PVCDP	POLYVINYL CHLORIDE DRAIN PIPE (SERIES 1000) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCDS	POLYVINYL CHLORIDE DOWNSPOUT (SERIES 1000) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCSP	POLYVINYL CHLORIDE SOIL PIPE (SE (ASTM D2729 / ASTM D3311, ISO 4435
PVCSS	POLYVINYL CHLORIDE SOIL STACK ((ASTM D2729 / ASTM D3311, ISO 4435
PVCVP	POLYVINYL CHLORIDE VENT PIPE (SE (ASTM D2729 / ASTM D3311, ISO 4435
PVCVS	POLYVINYL CHLORIDE VENT STACK ((ASTM D2729 / ASTM D3311, ISO 4435
PVCVTR	POLYVINYL CHLORIDE VENT THROU (ASTM D2729 / ASTM D3311, ISO 4435
PVCWP	POLYVINYL CHLORIDE WASTE PIPE ((ASTM D2729 / ASTM D3311, ISO 4435
RD	ROOF DRAIN
SD	SINK DRAIN
UD	URINAL DRAIN
WC	WATER CLOSET
WM	WATER METER







AIR CHAMBER

STRAINER
WATER