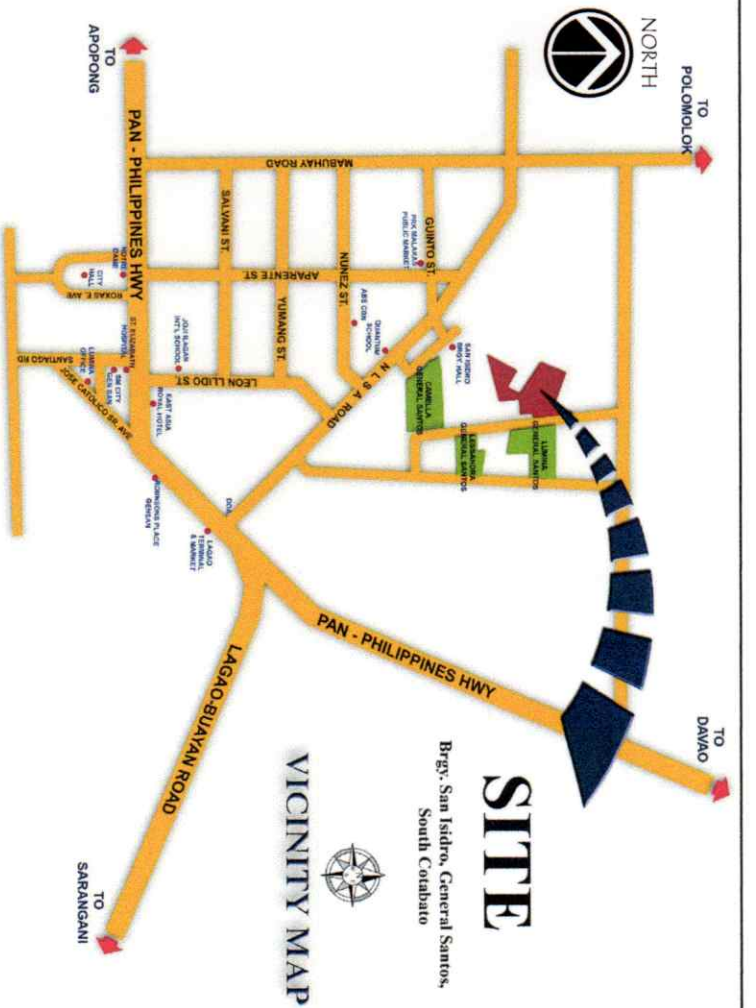
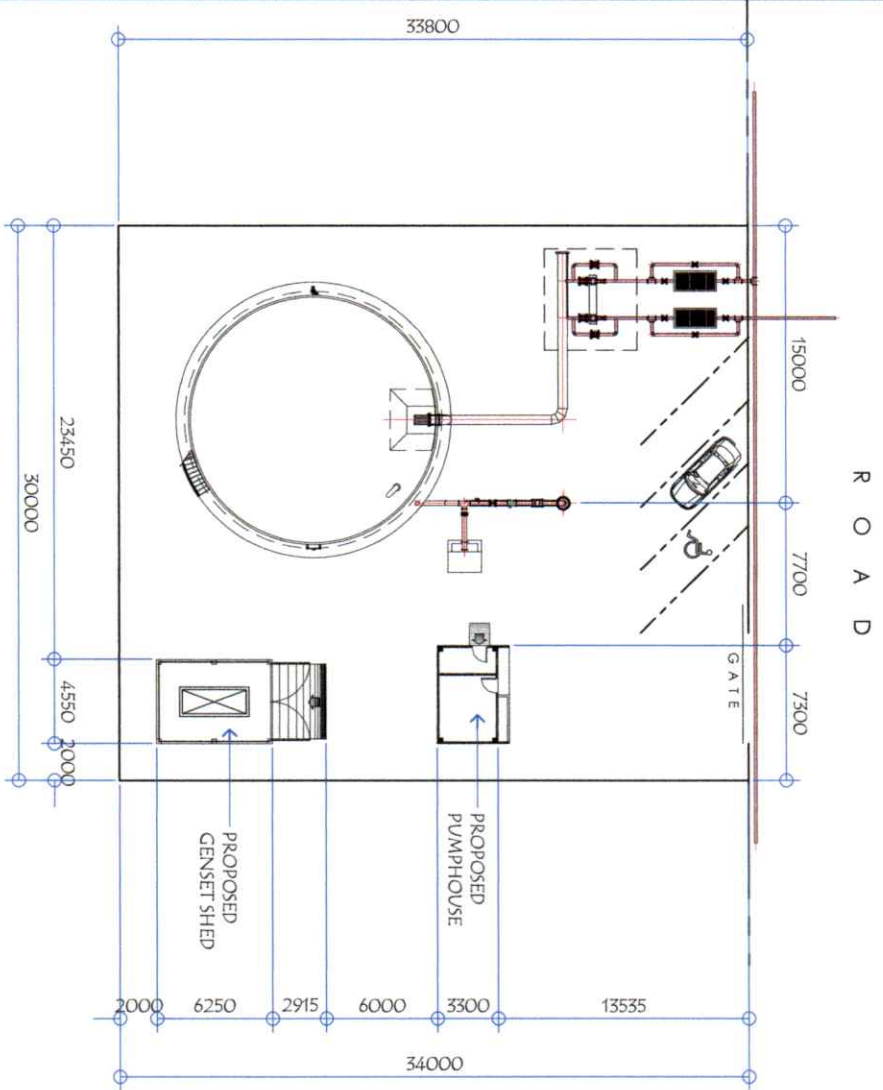




01 PERSPECTIVE
A-01 / NOT TO SCALE



02 VICINITY MAP
A-01 / NOT TO SCALE



03 SITE DEVELOPMENT PLAN
A-01 / SCALE: 1:500 M

REPUBLIC OF THE PHILIPPINES
CITY OF GENERAL SANTOS
OFFICE OF THE CITY ENGINEER

OFFICE OF THE BUILDING OFFICIAL

LAND USE & ZONING

LINE AND GRADE

ARCHITECTURAL

STRUCTURAL

SANITARY

ELECTRICAL

MECHANICAL

ELECTRONICS

AS SHOWN

CHECKED BY: ESA DATE: Oct. 2021

01 20

GENERAL SANTOS CITY WATER DISTRICT
E. FERNANDEZ STREET, BRGY. LAGAQUAYAN, GENERAL SANTOS CITY
ENGINEERING & CONSTRUCTION DEPARTMENT
PLANNING AND DESIGN DIVISION
TEL. NO.: (083) 552-3824

ROGELIO BESANA JR.
CIVIL ENGINEER
REG. NO. 72775
PTR. NO. 9492305
TIN. NO. 190-455-622
DATE: 01/11/2021

PROJECT AND LOCATION
PROPOSED CONSTRUCTION OF
PUMPHOUSE, GENSET SHED, &
PERIMETER FENCE
LOCATION: BRGA HOMES, NAPAL ROAD, BRGY. SAN ISIDRO, GSC

CHECKED:
ENGR. MARIA CELIA N. DANDAN
OIC - PDD

REVIEWED:
ENGR. ROGELIO A. BESANA, JR.
AGM, OPERATION & TECHNICAL SERVICES

APPROVED:
ENGR. ARN B. GELLANGARIN
GENERAL MANAGER A

SHEET CONTENTS
SHEET NO. A-01

SCHEDULE OF FINISH

FLOORS :

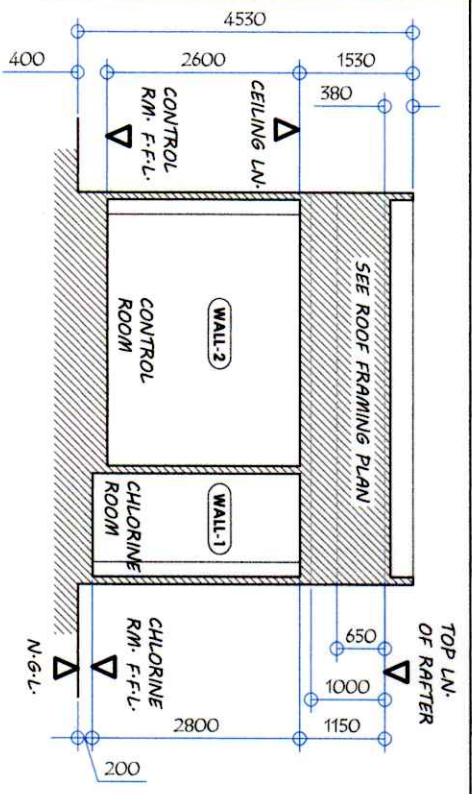
WALLS :

CEILING :

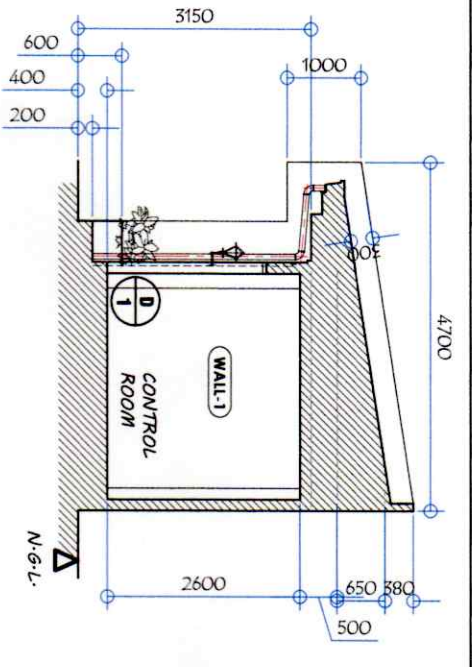
(F1) PLAIN CEMENT FLOOR FINISH

(W1-1) 100mm thk. MACHINE MADE CHB W/ PLAIN CEMENT PLASTER (ACRYLIC PAINT FINISH)
 (W1-2) 150mm thk. MACHINE MADE CHB W/ PLAIN CEMENT PLASTER (ACRYLIC PAINT FINISH)

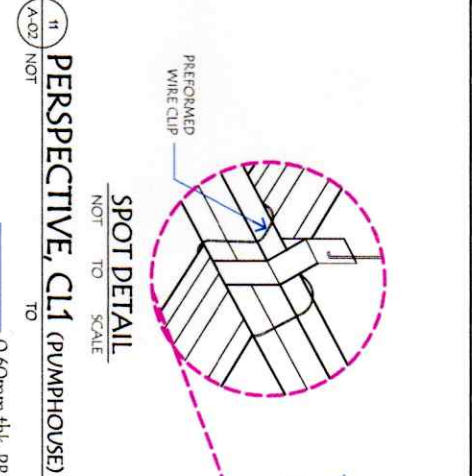
(C1) 4.5mm thk. FIBER CEMENT BOARD (PAINT FINISH) ON METAL FURRING CEILING FRAMES. USE 0.60mm thk. x 19mm x 50mm DOUBLE FURRING CHANNELS @ 0.40m ON CENTER W/ 0.60mm thk. x 38mm x 5000mm CARRYING CHANNELS @ 1.20m ON CENTERS & ROD JOINER (HANNERS/SUPPORTS) @ 1.20m O.C., SHORTER SPAN



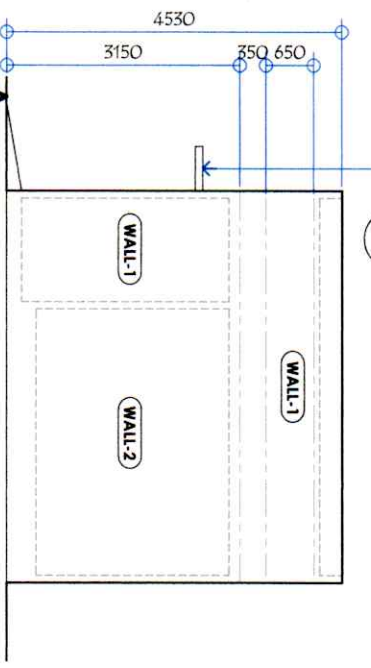
06 LONGITUDINAL SECTION (PUMPHOUSE)
 SCALE: 1:100 M



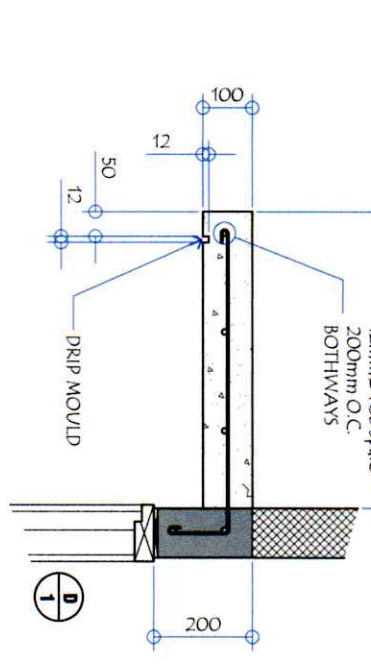
07 CROSS SECTION (PUMPHOUSE)
 SCALE: 1:100 M



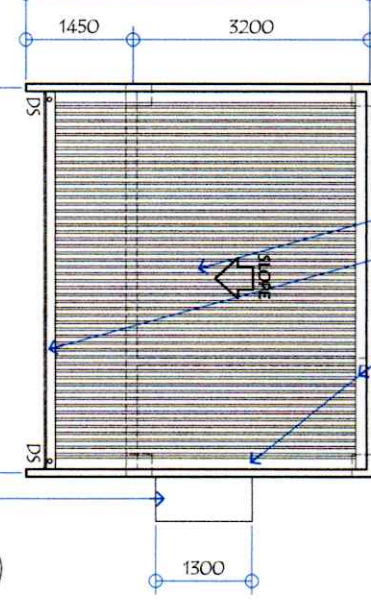
08 PERSPECTIVE, C1 (PUMPHOUSE)
 SCALE: NOT TO SCALE



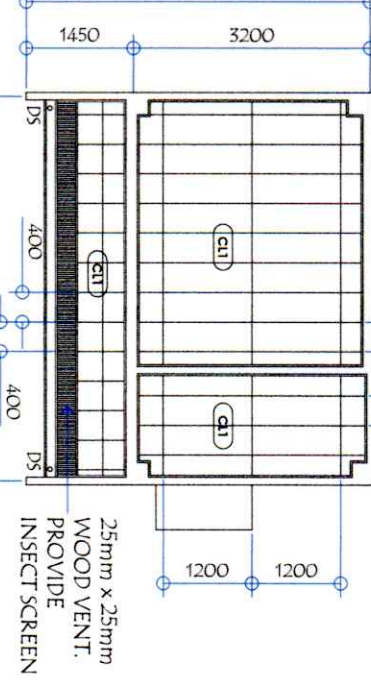
05 REAR ELEVATION (PUMPHOUSE)
 SCALE: 1:100 M



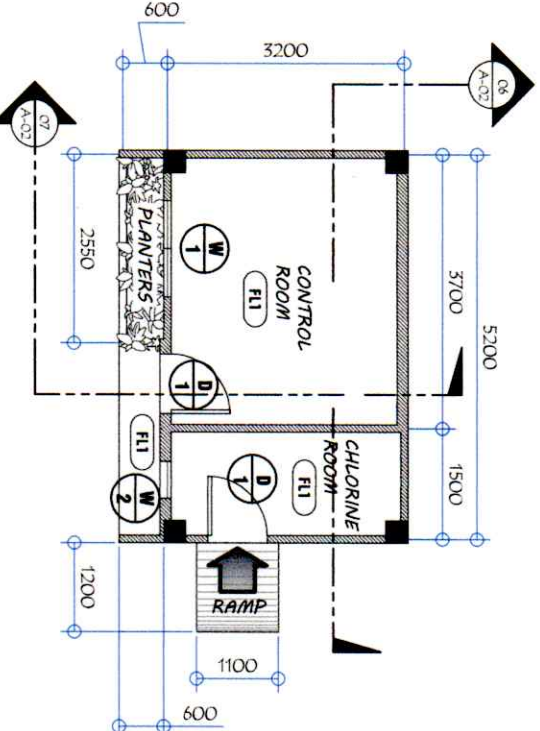
08 CONG. SUNBREAKER DETAIL (PUMPHOUSE)
 SCALE: 1:15 M



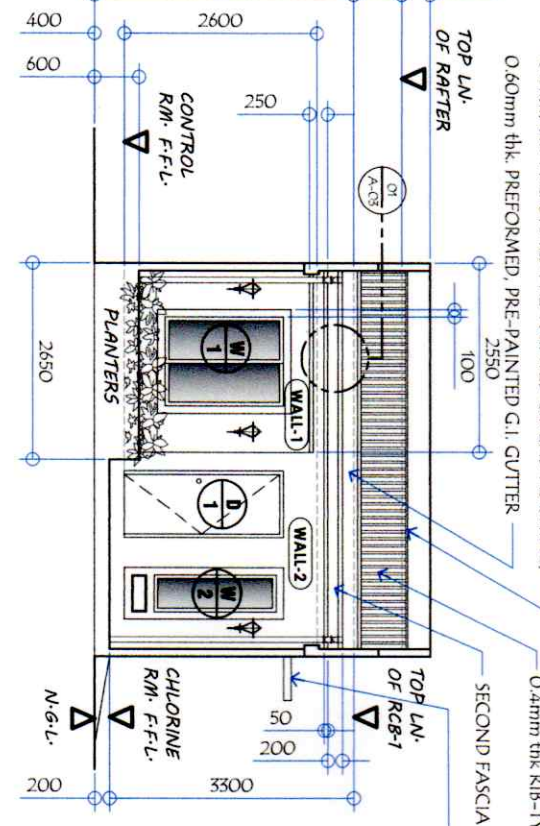
09 ROOF PLAN (PUMPHOUSE)
 SCALE: 1:100 M



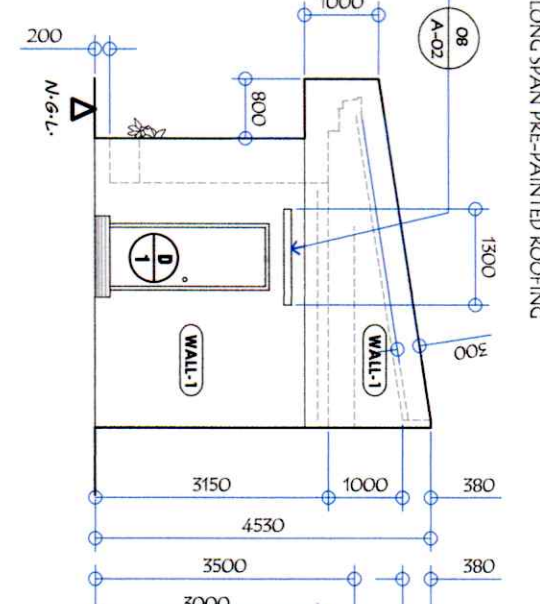
10 REFLECTED CEILING PLAN (PUMPHOUSE)
 SCALE: 1:100 M



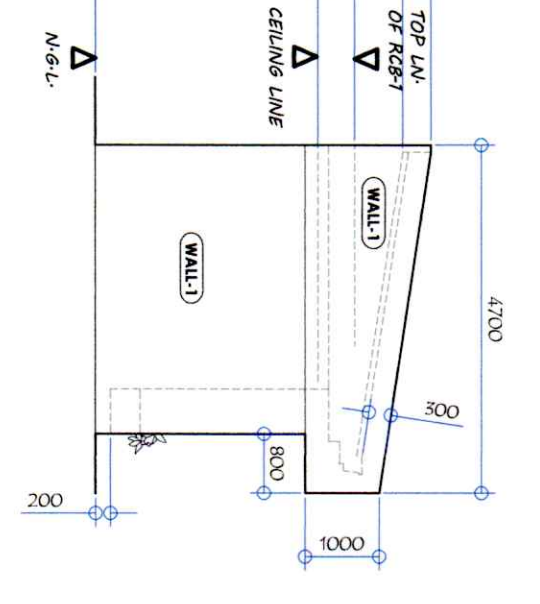
01 FLOOR PLAN (PUMPHOUSE)
 SCALE: 1:100 M



02 FRONT ELEVATION (PUMPHOUSE)
 SCALE: 1:100 M



03 RIGHT SIDE ELEVATION (PUMPHOUSE)
 SCALE: 1:100 M



04 LEFT SIDE ELEVATION (PUMPHOUSE)
 SCALE: 1:100 M

GENERAL SANTOS CITY WATER DISTRICT
 E. FERNANDEZ STREET, BRGY. LAGAO GEN. SANTOS CITY
 ENGINEERING & CONSTRUCTION DEPARTMENT
 PLANNING AND DESIGN DIVISION
 TEL. NO.: (083) 552-3824

REG. NO. 72175
 TIN. NO. 190-455-622
 DATE: 01/11/2021

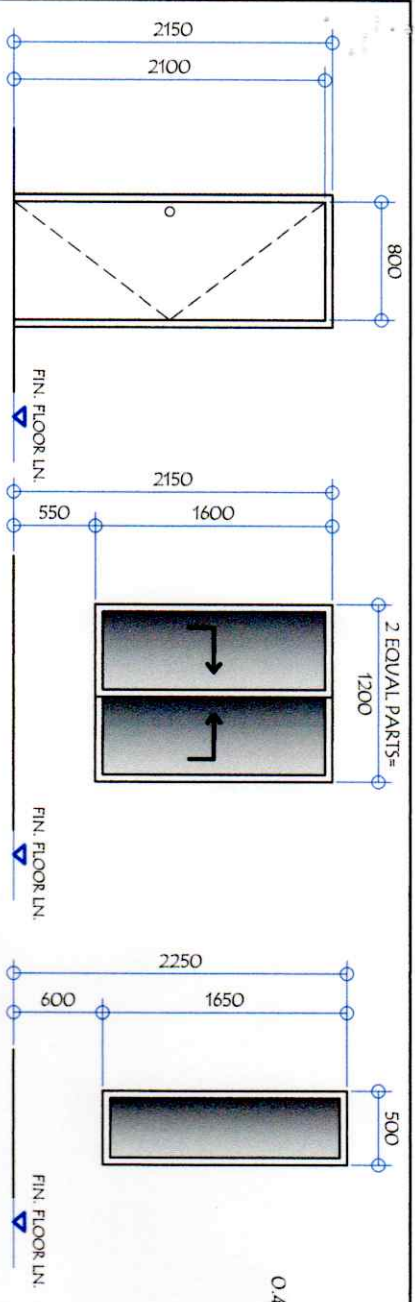
PROJECT AND LOCATION
 PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET SHED, & PERIMETER FENCE

CHECKED: ENGR. MARIA CELIA N. DANDAN
 O.C. - PDD

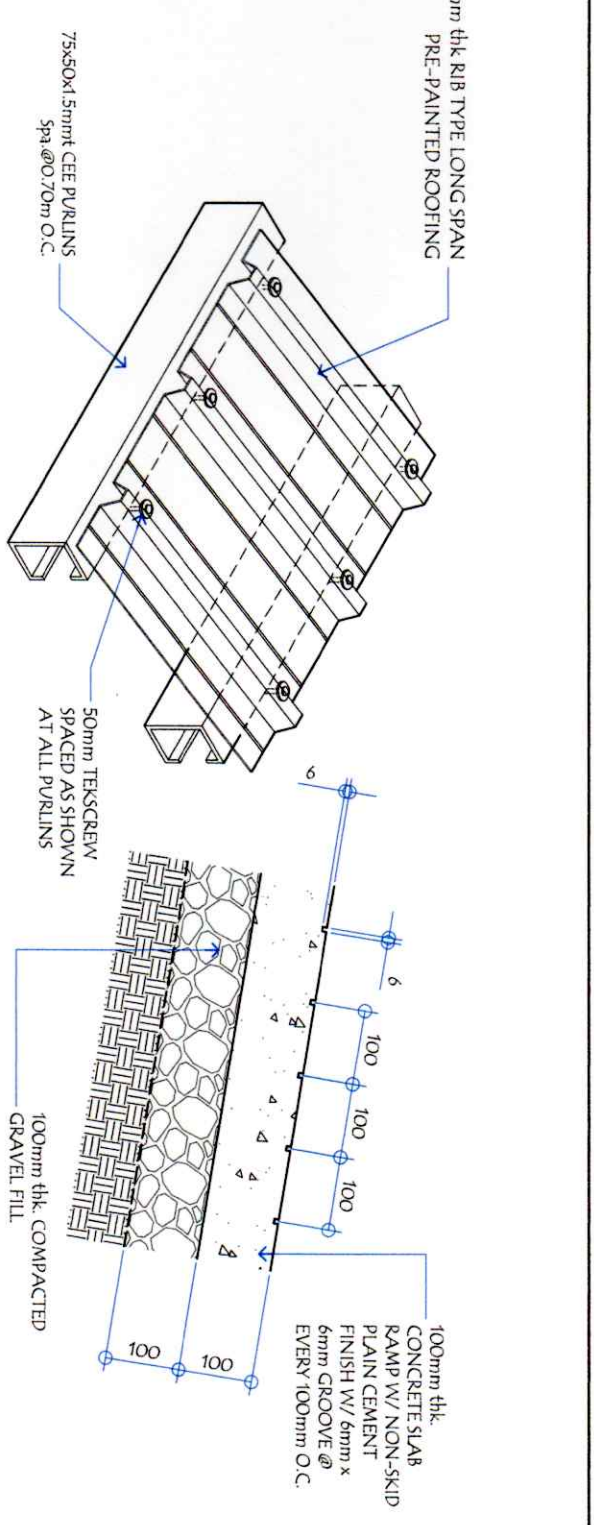
REVIEWED: ENGR. ROGELIO A. BESANA, JR.
 AGM. OPERATION & TECHNICAL SERVICES

APPROVED: ENGR. ARN B. GELANGARN
 GENERAL MANAGER A

SHEET CONTENTS: AS SHOWN
 SHEET NO. A-02
 02 20



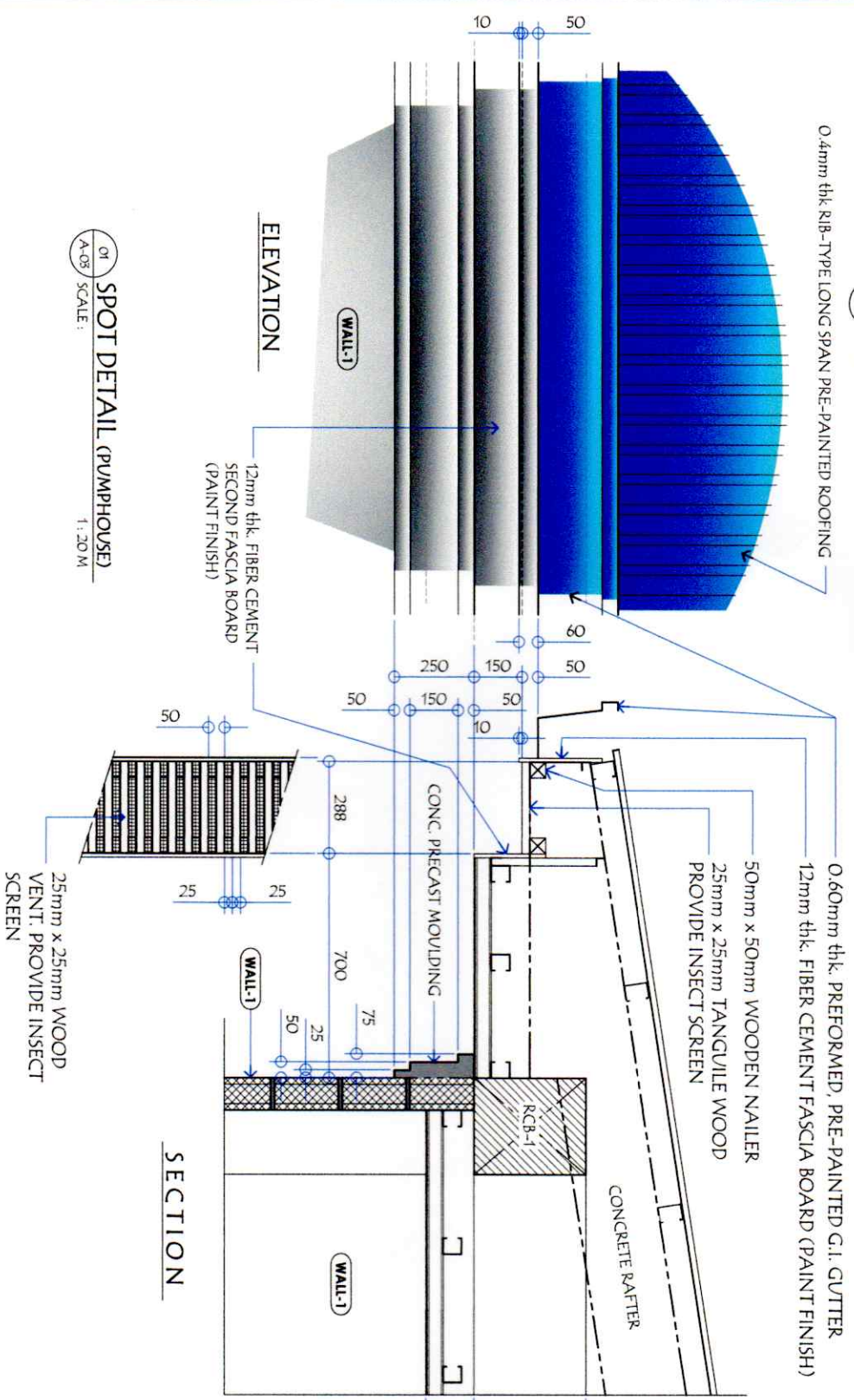
MARK	DESCRIPTION	LOCATION	QUANTITY
D 1	40mm thk HOLLOW CORE FLUSH DOOR TYPE IN 50 x 150 KD DOOR JAMB WITH 6mm thk MARINE PLYWOOD DOUBLE FACING PAINT FINISH WITH COMPLETE ACCESSORIES	CONTROL ROOM, CHLORINE ROOM	TWO (2) SETS
W 1	SLIDING WINDOW IN POWDER COATED FINISH ALUMINUM FRAME WITH 6mm thk TEMPERED TINTED GLASS PANEL WITH COMPLETE ACCESSORIES	CONTROL ROOM	ONE (1) SET
W 2	FIXED WINDOW IN POWDER COATED FINISH ALUMINUM FRAME WITH 6mm thk TEMPERED TINTED GLASS PANEL W/ COMPLETE ACCESSORIES	CHLORINE ROOM	ONE (1) SET



04 SCHEDULE OF DOORS & WINDOWS (PUMPHOUSE)
SCALE: 1:50 M

05 ISOMETRIC VIEW OF ROOFING TO PURLINS CONNECTION
SCALE TO SCALE

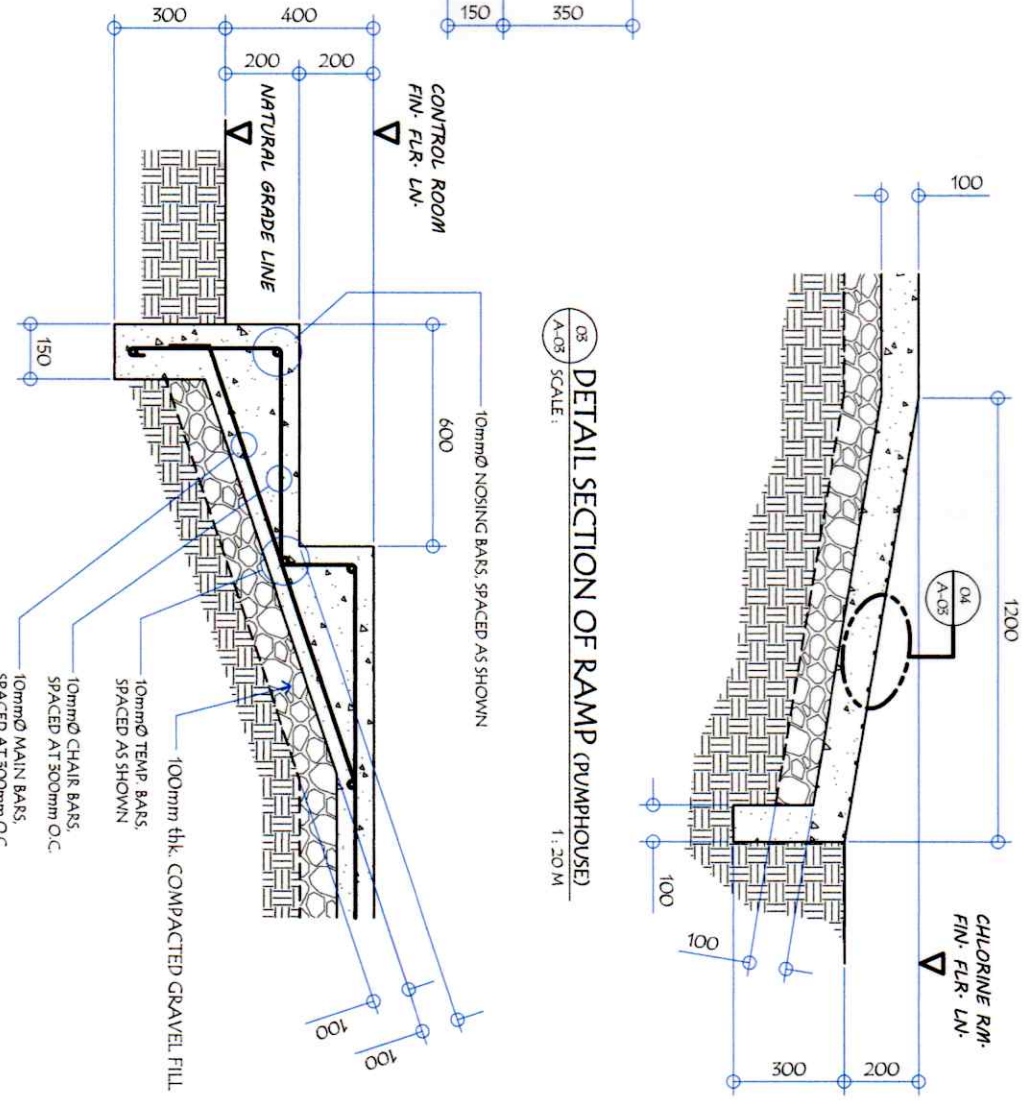
06 SPOT DETAIL
SCALE: 1:10 M

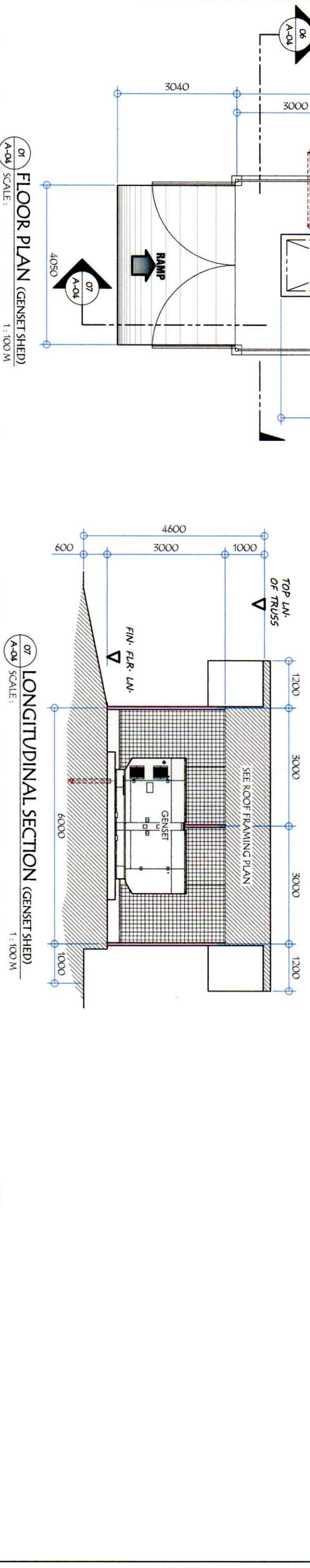
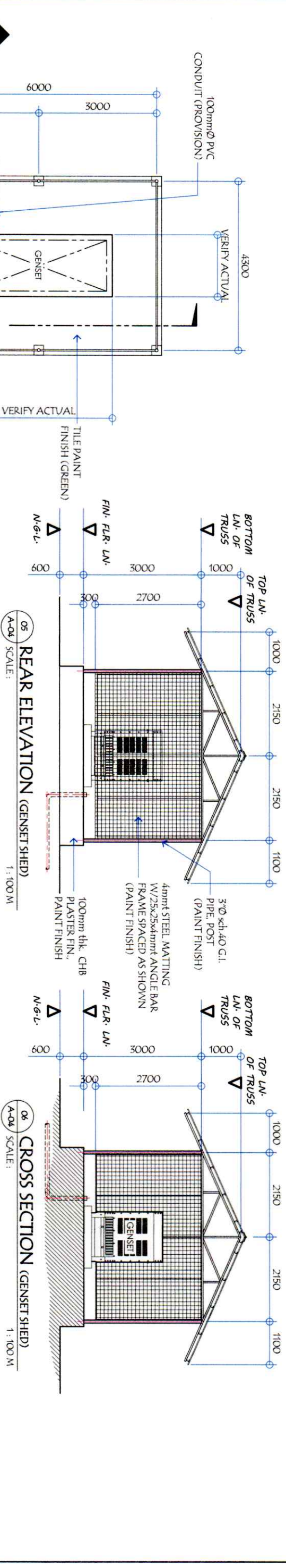
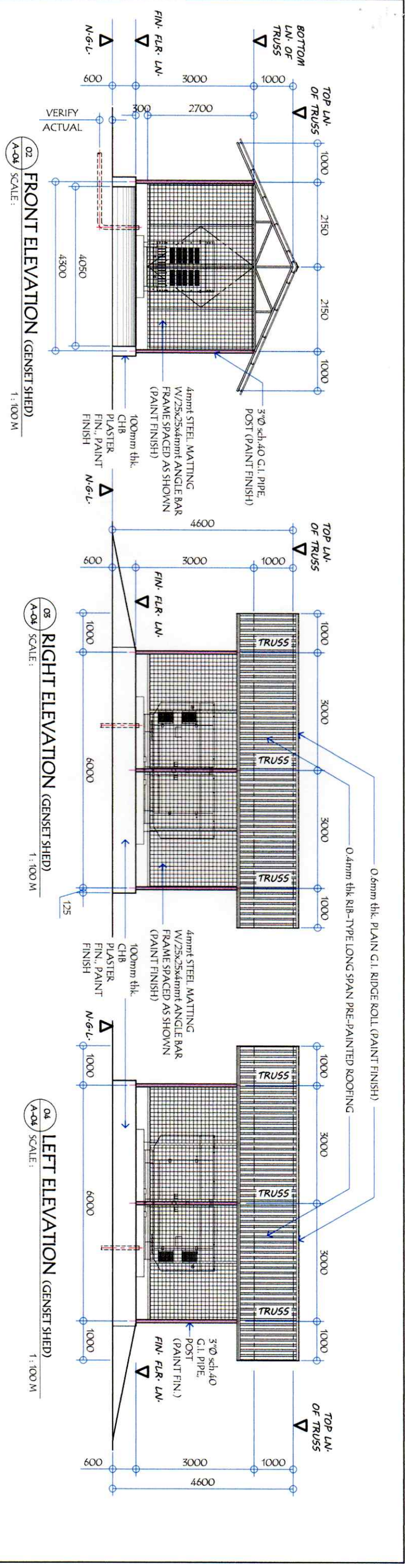


01 SPOT DETAIL (PUMPHOUSE)
SCALE: 1:20 M

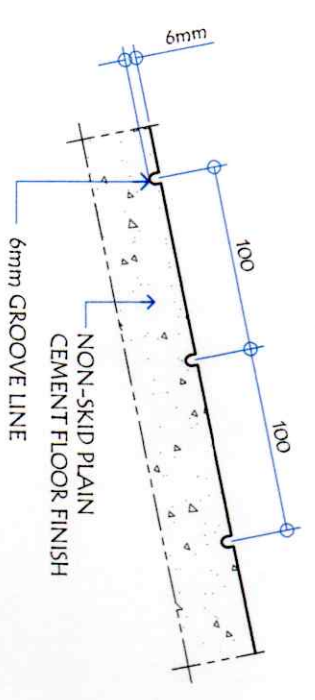
08 DETAIL SECTION OF RAMP (PUMPHOUSE)
SCALE: 1:20 M

02 DETAIL OF R.C. STAIR (PUMPHOUSE)
SCALE: 1:20 M

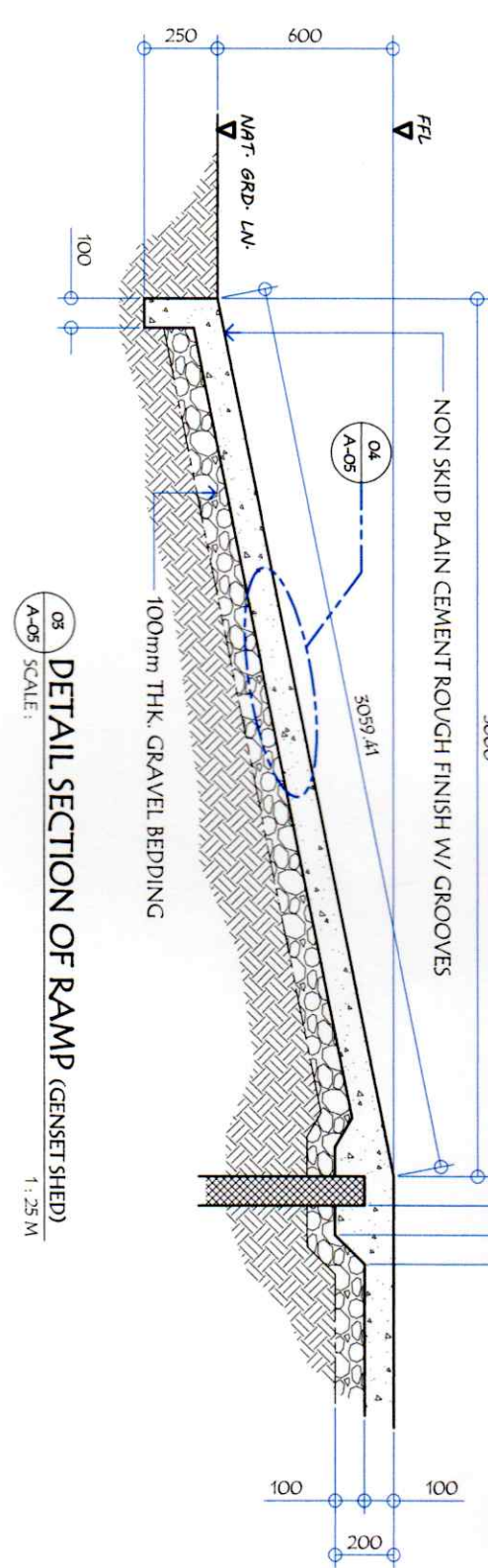




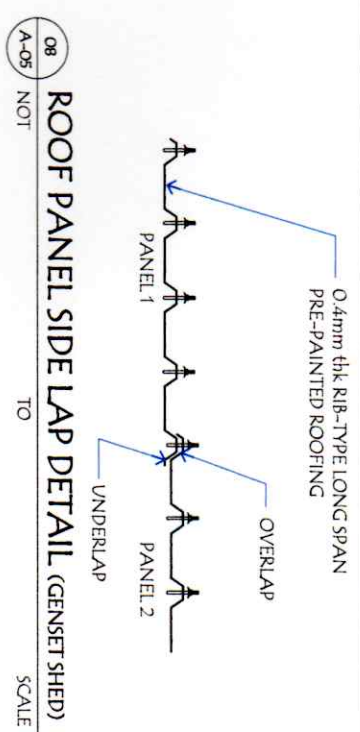
<p>GENERAL SANTOS CITY WATER DISTRICT E. FERNANDEZ STREET, BRGY. LAGAO, GEN. SANTOS CITY ENGINEERING & CONSTRUCTION DEPARTMENT PLANNING AND DESIGN DIVISION TEL. NO.: (083) 552-3824</p>		<p>ROGELIO BESANA JR. CIVIL ENGINEER REG. NO.: 72775 TEL. NO.: 190-455-622 PR. NO.: 9492305 DATE: 01/11/2021</p>		<p>PROJECT AND LOCATION PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET SHED, & PERIMETER FENCE LOCATION: BRBA HOMES, NAPAL ROAD, BRGY. SAN ISDRO, G.S.C.</p>		<p>CHECKED: ENGR. MARIA CELIA N. DANDAN OIC - PDD</p>		<p>REVIEWED: ENGR. ROGELIO A. BESANA, JR. AGM, OPERATION & TECHNICAL SERVICES</p>		<p>APPROVED: ENGR. ARN B. GELLANZARIN GENERAL MANAGER</p>		<p>SHEET CONTENTS AS SHOWN</p>		<p>SHEET NO. A-04</p>			
												<p>CHECKED BY: ESA DATE: Oct. 2021</p>		<p>04</p>		<p>20</p>	



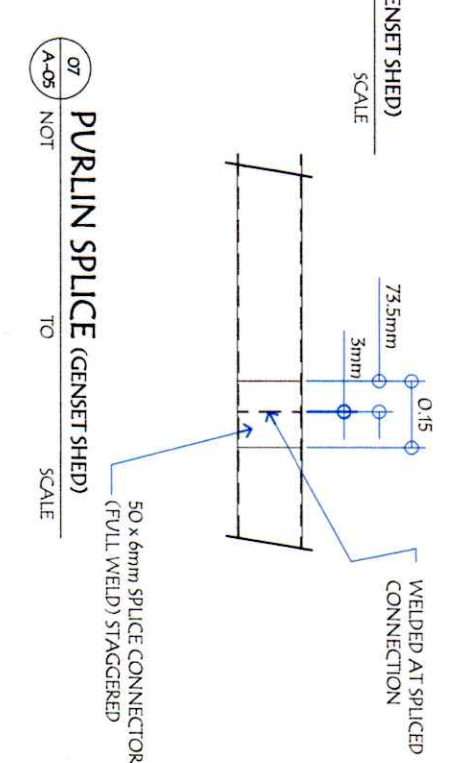
04
A-05
SCALE: 1:4 M



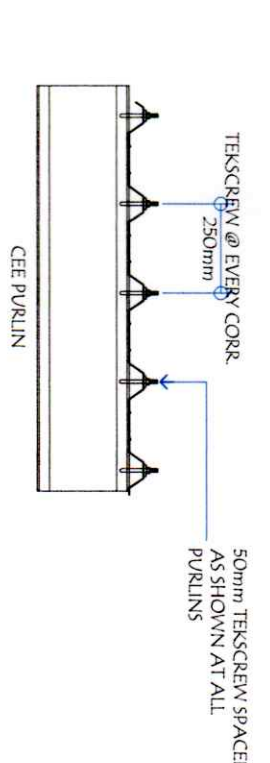
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A-05
SCALE: 1:25 M



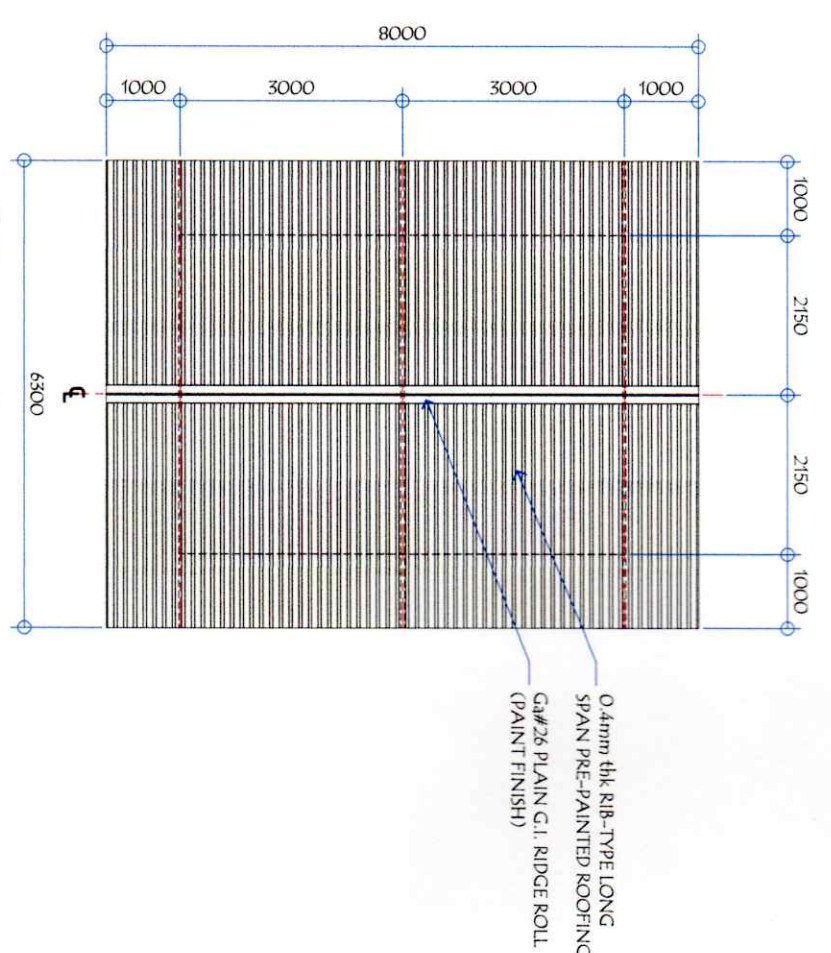
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A-05
SCALE: NOT TO SCALE



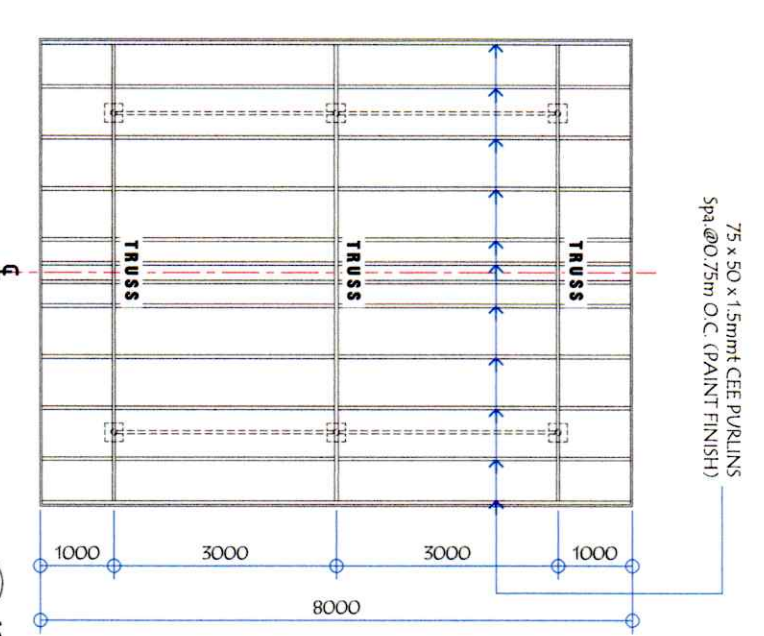
07
A-05
SCALE: NOT TO SCALE



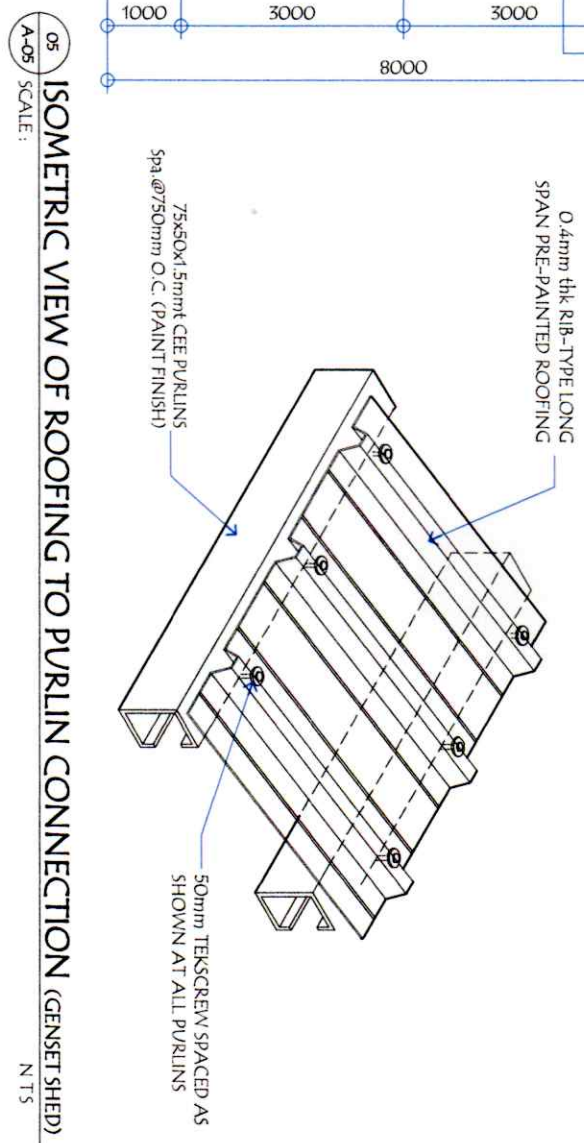
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A-05
SCALE: NOT TO SCALE



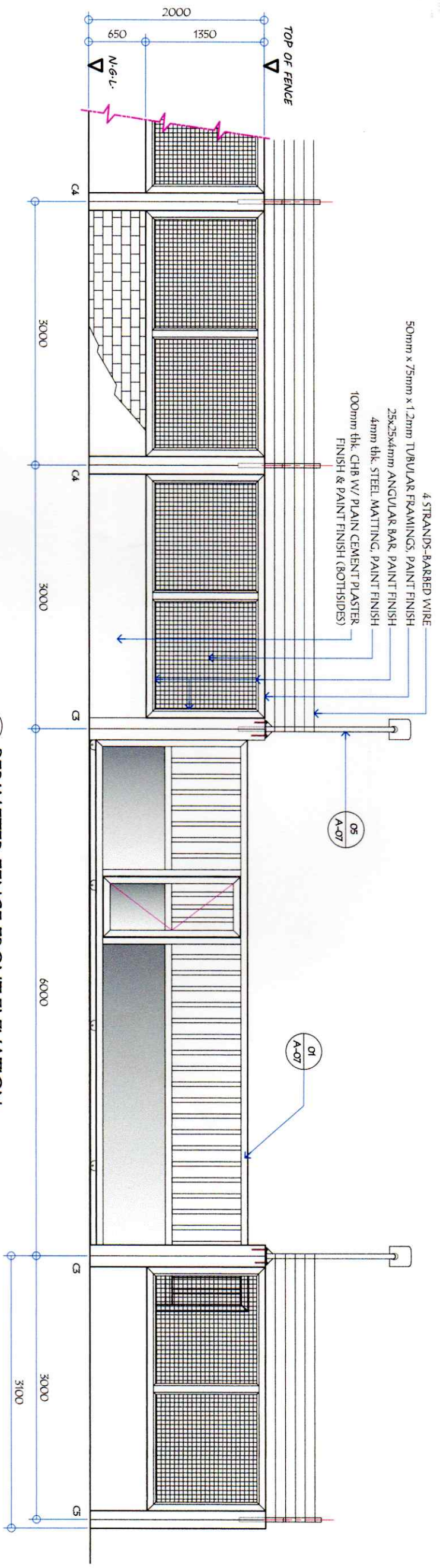
01
A-05
SCALE: 1:100 M



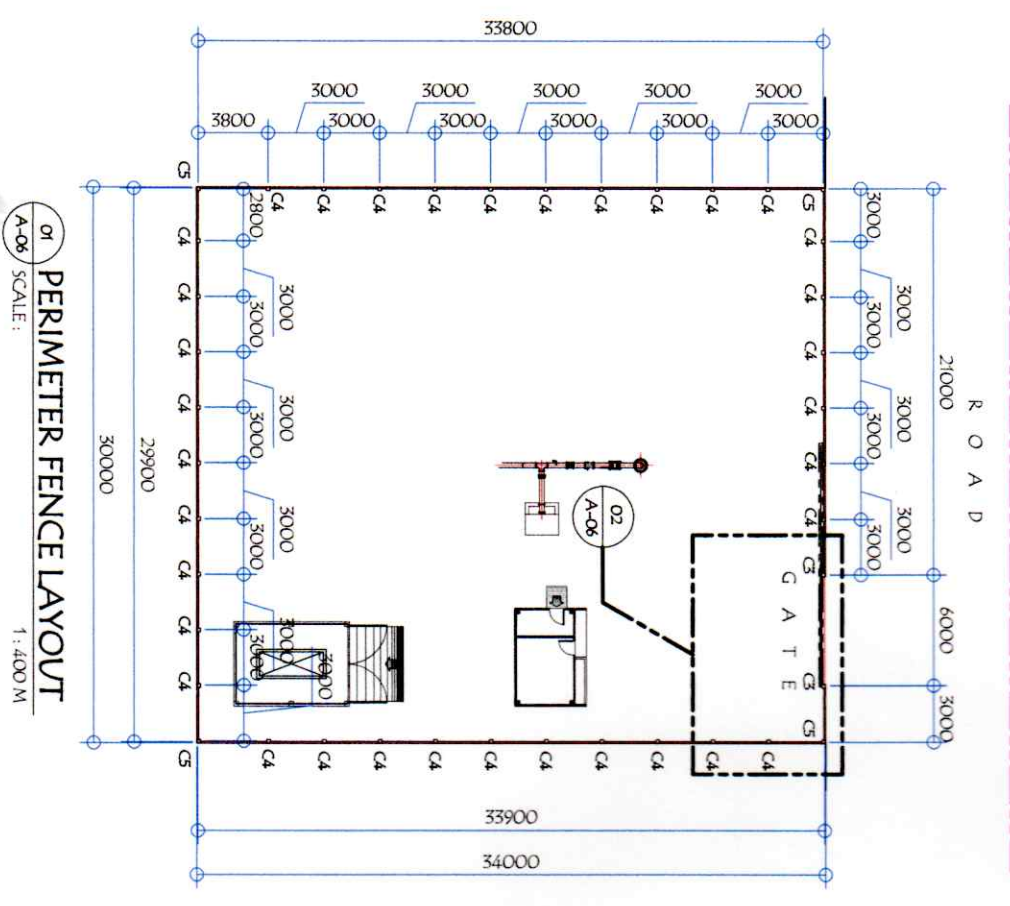
02
A-05
SCALE: 1:100 M



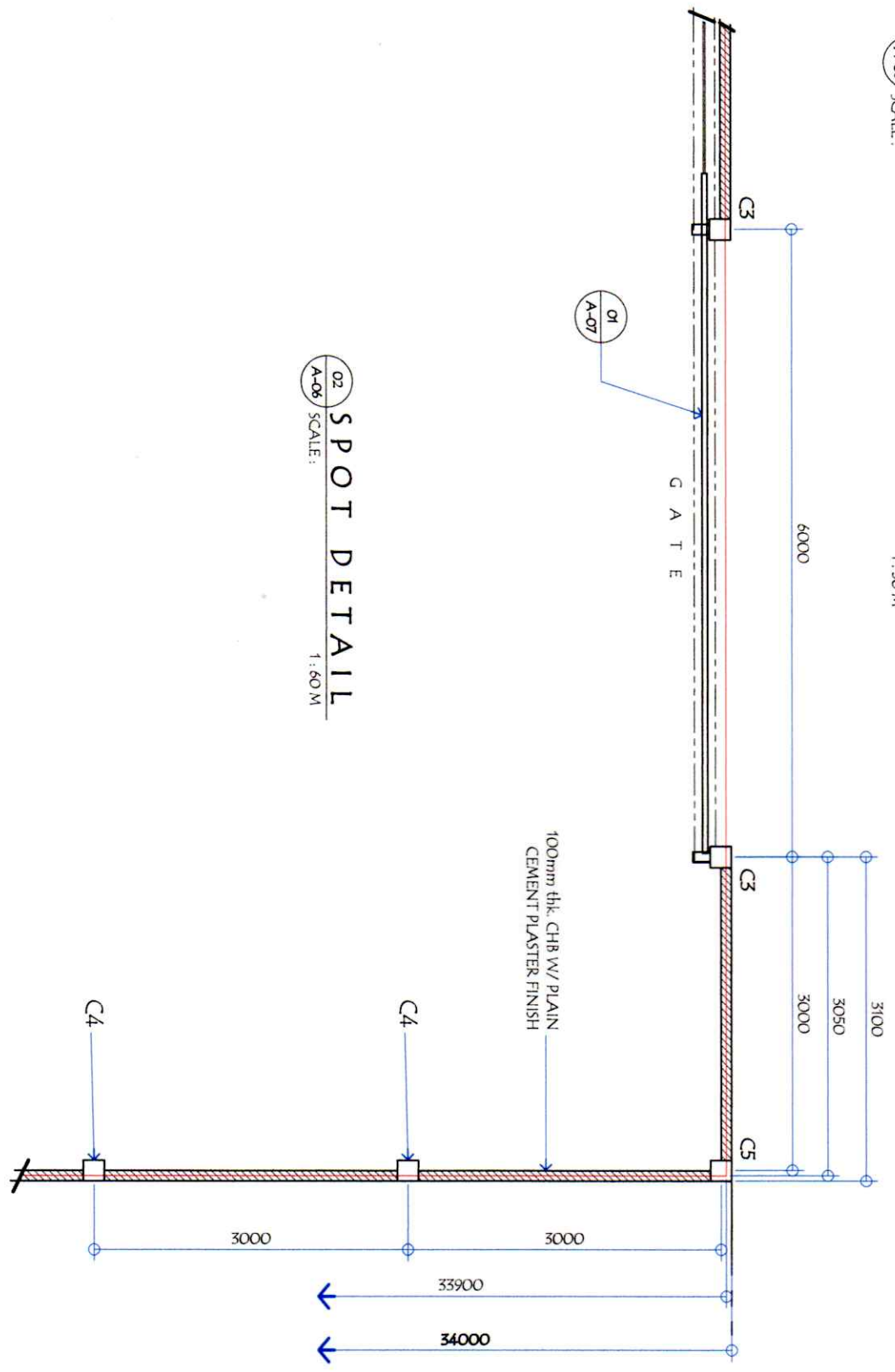
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A-05
SCALE: NOT TO SCALE



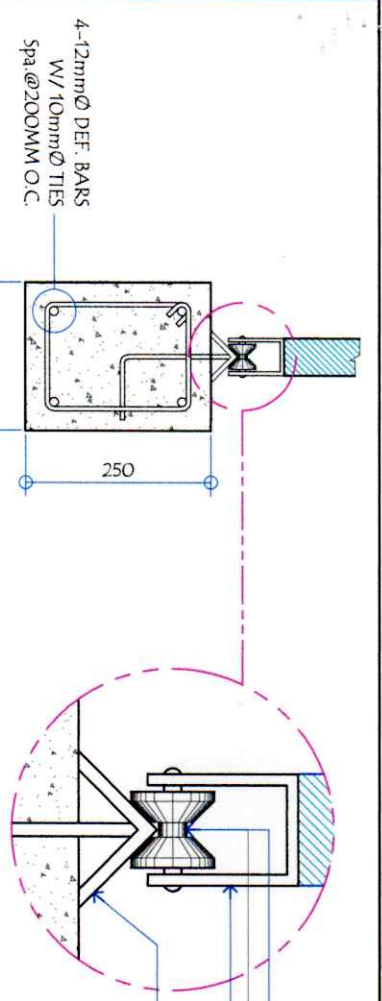
05 PERIMETER FENCE FRONT ELEVATION
A-06 SCALE: 1:50 M



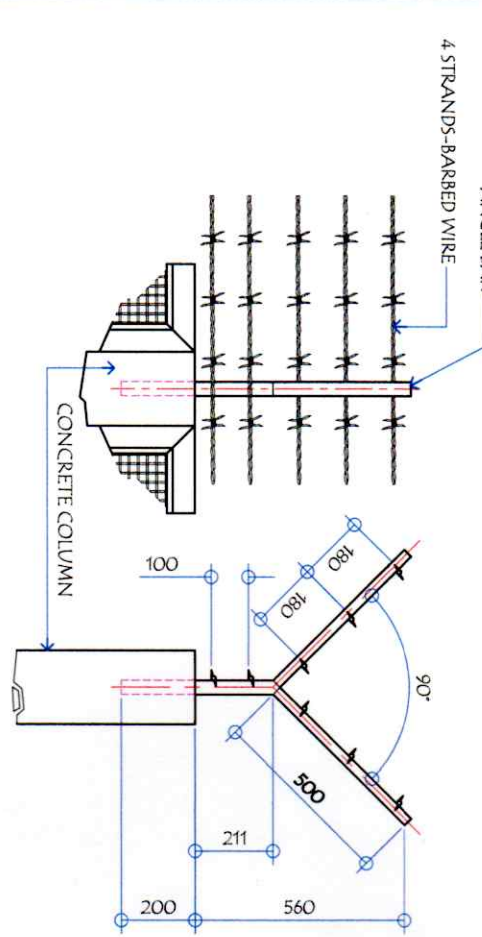
01 PERIMETER FENCE LAYOUT
A-06 SCALE: 1:400 M



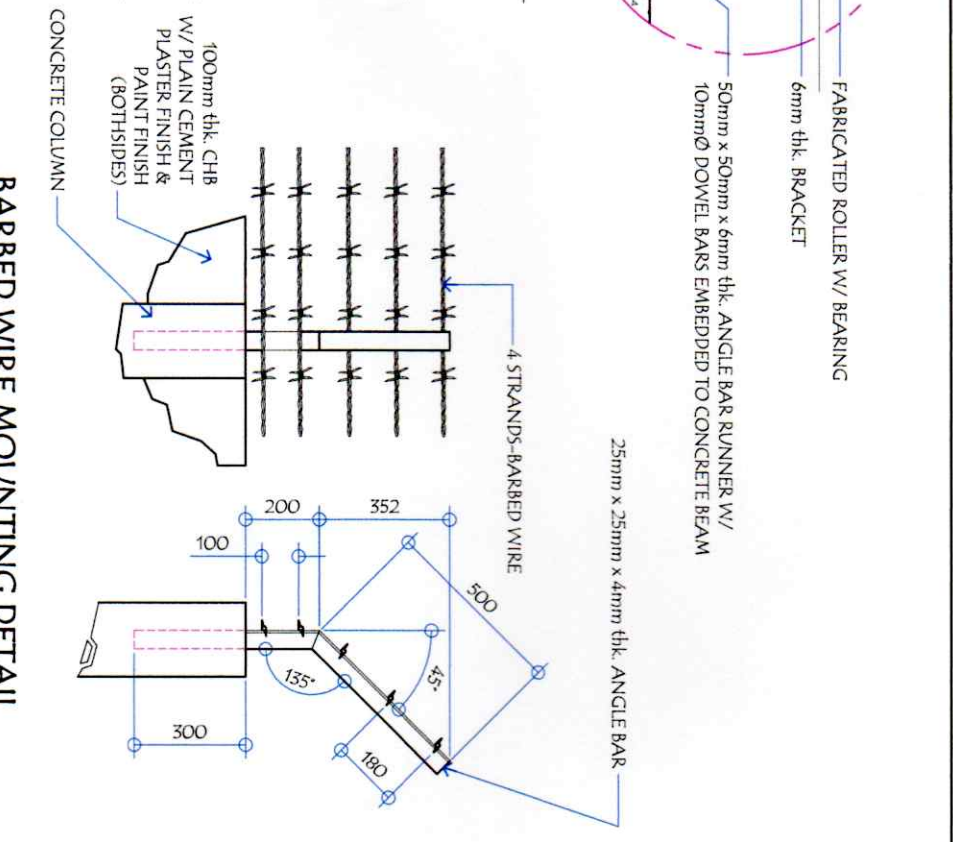
02 SPOT DETAIL
A-06 SCALE: 1:60 M



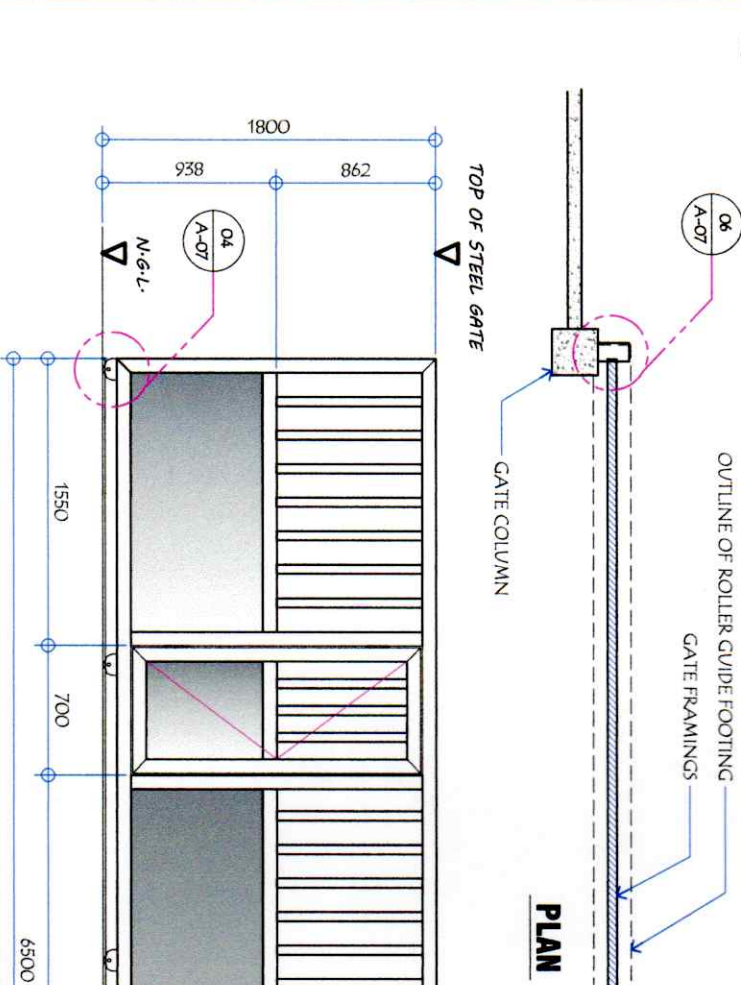
04 SPOT DETAIL (PERIMETER FENCE)
SCALE: 1:40 M



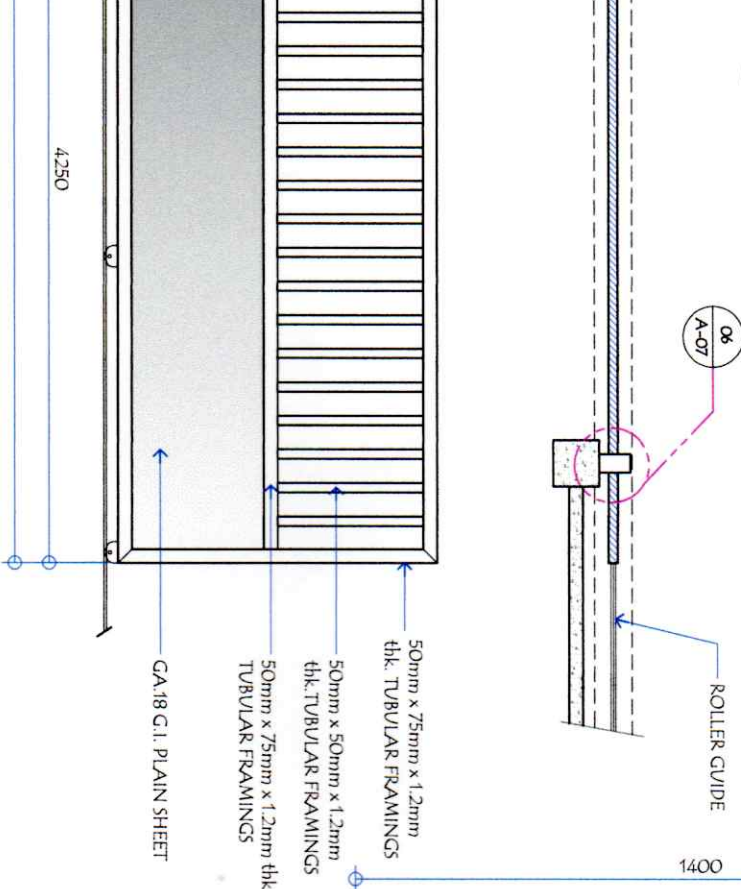
02 BARBED WIRE MOUNTING DETAIL @ FRONT ELEVATION
SCALE: 1:20 M



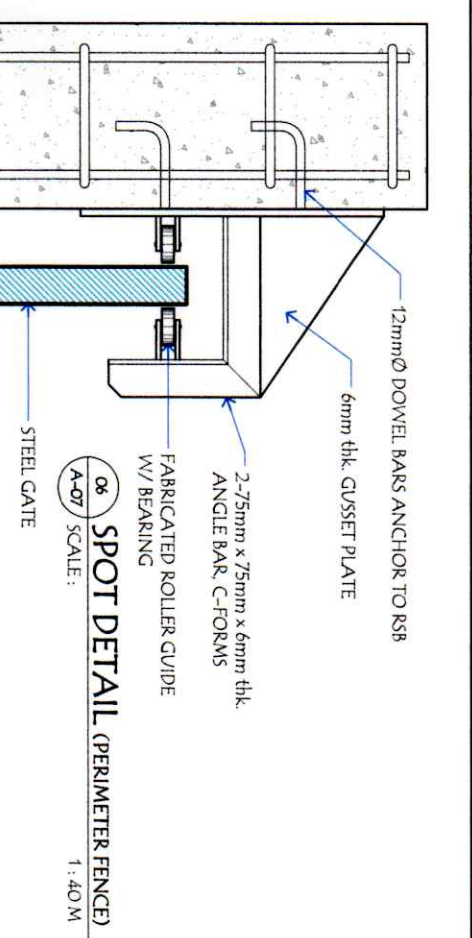
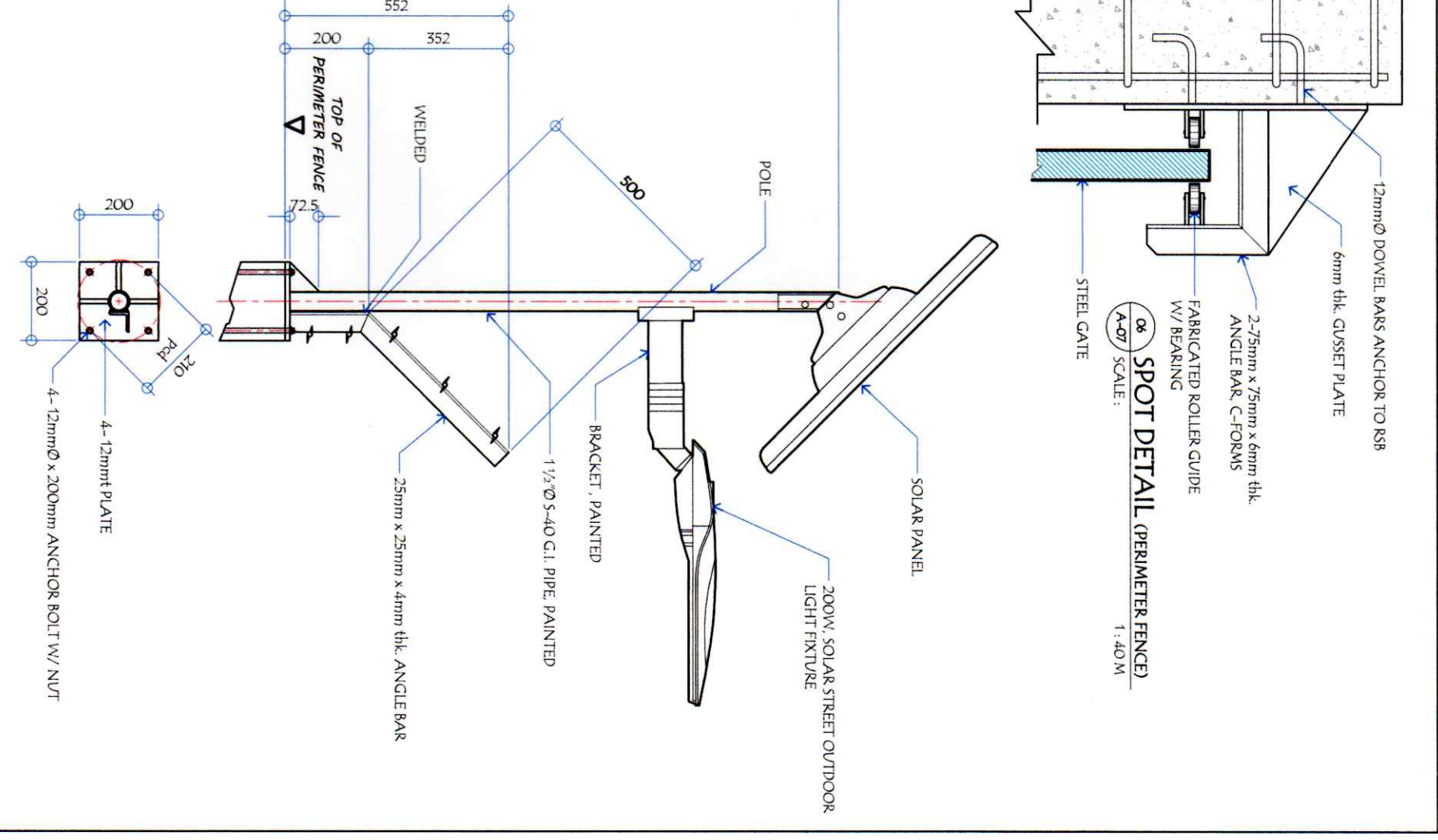
03 BARBED WIRE MOUNTING DETAIL @ LEFT, RIGHT, & REAR ELEV.
SCALE: 1:20 M



01 STEEL GATE DETAIL (PERIMETER FENCE)
SCALE: 1:40 M



05 SOLAR STREET LIGHT POLE DETAIL (PERIMETER FENCE)
SCALE: 1:40 M



06 SPOT DETAIL (PERIMETER FENCE)
SCALE: 1:40 M

GENERAL CONSTRUCTION NOTES

GENERAL NOTES

- IN THE INTERPRETATION OF THE DRAWING, INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES AND SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
- IN REFERENCE TO OTHER DRAWINGS, SEE ARCHITECTURAL DRAWINGS FOR DEPRESSIONS OF SPANS, ETC.
- IN CASE OF DISCREPANCIES AS TO THE LAYOUT, DIMENSIONS, AND ELEVATIONS BETWEEN THE STRUCTURAL PLANS, AND ARCHITECTURAL DRAWINGS, THE CONTRACTOR SHALL NOTIFY BOTH THE STRUCTURAL ENGINEER AND THE ARCHITECT.
- ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE ACI 318 - 95, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND ALL STRUCTURAL STEEL WORK ACCORDING WITH AISC SPECIFICATION (9th EDITION) IN SO FAR AS THEY DO NOT CONFLICT WITH THE LOCAL BUILDING CODE REQUIREMENTS.
- ACI REFERS TO AMERICAN CONCRETE INSTITUTE, AISC TO AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND ASTM TO AMERICAN SOCIETY FOR TESTING MATERIALS.
- CONSTRUCTION NOTES AND TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. MODIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.
- SHOP DRAWINGS WITH ERECTION AND PLACING DIAGRAMS OF ALL STRUCTURAL STEELS, MISCELLANEOUS CONCRETE, PRE-CAST CONCRETE, ETC. SHALL BE SUBMITTED FOR ENGINEER'S APPROVAL BEFORE FABRICATION.
- CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS, SILLS, STOOLS, EQUIPMENT'S AND MECHANICAL BRISSES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS.
- ALL RESULTS OF MATERIAL TESTING FOR CONCRETE, REINFORCING BARS, & STRUCTURAL STEEL MUST BE NOTED & APPROVED BY THE STRUCTURAL DESIGNER.

NOTES ON CONCRETE MIXES & PLACING

- ALL CONCRETE SHALL DEVELOP A MIN. COMPRESSIVE STRENGTH AT THE END OF TWENTY EIGHT (28) DAYS W/ CORRESPONDING MAXIMUM SIZE AGGREGATE & SLUMPS AS FOLLOWS:
- | LOCATION | 28 DAYS STRENGTH | MAX. SIZE OF AGGREGATE | MAX. SLUMP |
|----------------------------------------|---------------------|------------------------|------------|
| ALL OTHERS, INCLUDING SUSPENDED SLABS, | 4000 PSI (27.6 MPa) | 20mm | 100mm |
| COLUMNS | 4000 PSI (27.6 MPa) | 100mm | 100mm |
| BEAMS, SLABS | 4000 PSI (27.6 MPa) | 20mm | 100mm |
| SLAB ON FILL | 4000 PSI (27.6 MPa) | 20mm | 100mm |
- MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:
- | SLAB ON GRADE | WALLS ABOVE GRADE | BEAM STRINGS AND COLUMN TIES | WHERE CONCRETE IS EXPOSED TO WEATHER BUT CURVED AGAINST FORMS | WHERE CONCRETE IS EXPOSED TO WEATHER DIRECTLY AGAINST EARTH |
|---------------|-------------------|------------------------------|---------------------------------------------------------------|-------------------------------------------------------------|
| 20mm | 40mm | 25mm | 40mm | 50mm |
- CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION. RE-MAKING LINE OR JUNCTIONS SHALL BE DONE BY RETROFITTING WITH REINFORCED CONCRETE. ALL REINFORCING BARS SHALL BE PROTECTED FROM HOPPERS TO BUCKETS, WHEELBARROWS OR BUCKETS IN WHICH CASE THEY SHALL NOT EXCEED SIX (6) METERS IN AGGREGATE LENGTH.
 - NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITING BY THE DESIGNER AND ONLY FOR UNUSUAL CONDITIONS WHERE VIBRATIONS ARE EXTREMELY DIFFICULT TO ACCOMPLISH.
 - ALL ANCHOR BOLTS, PONES, AND OTHER INSERTS SHALL BE PROPERLY POSITIONED & SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
 - ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF SEVEN CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER APPROVED METHODS.
 - STRIPPING OF FORMS AND SHORES:

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

NOTES ON FOOTINGS

- FOOTINGS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 98 KPa (2,000 psf). CONTRACTOR SHALL REPORT TO THE ENGINEER, IN WRITING, THE ACTUAL SOIL CONDITIONS UNCOVERED AND CONFIRM ACTUAL BEARING CAPACITY OF SOIL BEFORE DESIGNING CONCRETE.
- FOOTING SHALL REST AT LEAST 150mm BELOW NATURAL GRADE LINE UNLESS OTHERWISE INDICATED IN PLANS. NO FOOTING SHALL REST ON FILL.
- MINIMUM CONCRETE PROTECTION FOR REINFORCING STEEL SHALL BE 75mm CLEAR FOR CONCRETE DEPOSITED ON THE GROUND AND 50mm FOR CONCRETE DEPOSITED AGAINST A FORMWORK.

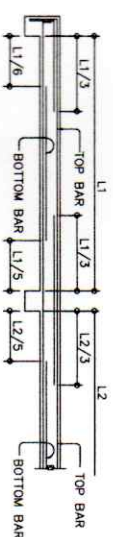
NOTES ON REINFORCEMENT

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

A. FOOTINGS, FOOTING BEAMS AND GIRDERS	$f_y = 275 \text{ MPa}$ (40,000 psi)
B. COLUMNS AND SHEAR WALLS	$f_y = 275 \text{ MPa}$ (40,000 psi)
C. BEAMS AND GIRDER	$f_y = 275 \text{ MPa}$ (40,000 psi)
D. NON-LOAD BEARING WALL PARTITIONS, BEDDED SLABS, FLOOR & ROOF SLABS, PARAPETS, CATCH BASIN, SIDE WALK, ETC.	$f_y = 275.5 \text{ MPa}$ (33,000 psi)
- ALL REINFORCING BARS SHALL BE DEFORMED IN ACCORDANCE WITH AISC TABLE A & TABLE B (TABLE OF LAP SPACES & ANCHORAGE LENGTH) UNLESS OTHERWISE SHOWN ON DRAWINGS. SPLICES SHALL BE STAGGERED WHENEVER POSSIBLE.

NOTES ON CONCRETE SLABS

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

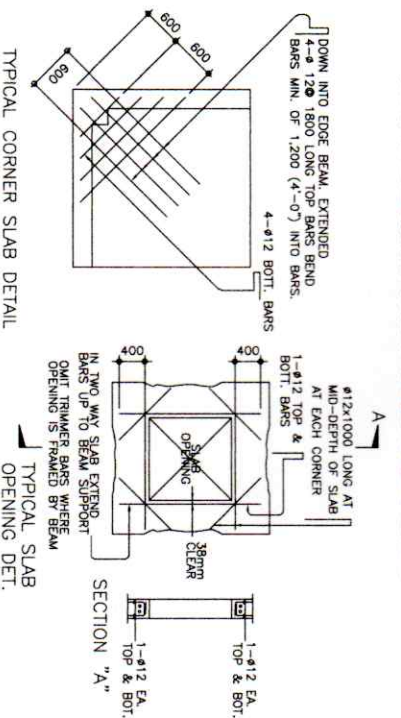


TYPICAL BAR BENDING AND CUTTING DETAILS FOR SLABS

- IF SLABS ARE REINFORCED BOTHWAYS, BARS ALONG THE SHORTER SPAN SHALL BE PLACED BELOW THOSE ALONG THE LONG SPAN AT THE CENTER AND OVER THE LONGER SPAN FOR REINFORCING BARS NEAR THE SUPPORTS. THE SPACING OF THE BARS AT THE COLUMN STRIPS SHALL NOT BE MORE THAN ONE AND A HALF (1 1/2) SLAB THICKNESS.
- TEMPERATURE BARS FOR SLAB SHALL BE GENERALLY PLACED NEAR THE FACE IN TENSION AND SHALL NOT BE LESS THAN 0.0025 % GROSS CROSS-SECTIONAL AREA (A_s) OF THE SLAB (SEE SCHEDULE BELOW).

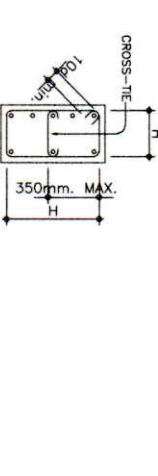
THICKNESS	MINIMUM TEMPERATURE BARS
100 mm	10 mm # 250mm EACH WAY
125 mm	10 mm # 225mm EACH WAY
150 mm	10 mm # 180mm EACH WAY
175 mm	10 mm # 150mm EACH WAY
200 mm	10 mm # 140mm EACH WAY

- UNLESS OTHERWISE NOTED IN THE PLANS ALL BEDDED SLABS SHALL BE REINFORCED WITH 10mm # 250mm O.C. EACH WAY TO CENTER OF SLAB AND CONSTRUCTION JOINTS FOR SAME SHALL NOT BE LESS THAN 3.05 METERS APART.
- PROVIDE EXTRA REINFORCEMENTS FOR CORNER SLAB (TWO ADJACENT DISCONTINUOUS EDGES) AS SHOWN BELOW.
- CONCRETE SLAB REINFORCEMENTS SHALL BE PROPERLY SUPPORTED WITH 10mm # 250mm CHAIR OR APPROVED EQUIVALENT SPACED AT 1.0 METER ON CENTER BOTHWAYS.

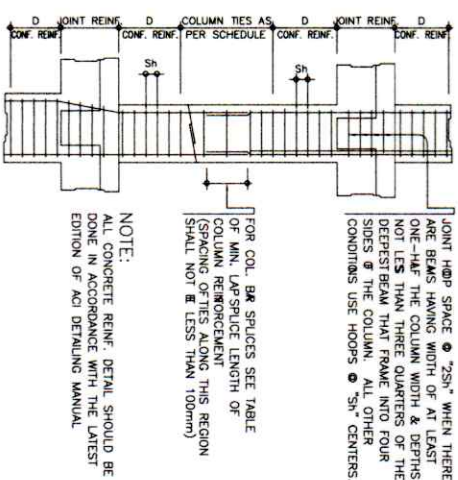


NOTES ON COLUMNS

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

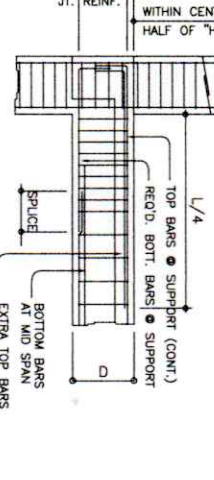


JOINT HARP SPACE "2S" WHEN THERE ARE BARS HAVING WIDTH OF AT LEAST ONE-TEN (1/10) THE DEEPEST BEAM THAT FRAME INTO FOUR SIDES OF THE COLUMN. ALL OTHERS CONDITIONS USE HOOPS @ "5s".



TYPICAL COLUMN ELEV. SHOWING JOINTS AND TIES SPACING

ALL CONCRETE REINFORCING DETAIL SHOULD BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF AIA DETAILING MANUAL.



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

NOTES ON BEAMS AND GIRDERS

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

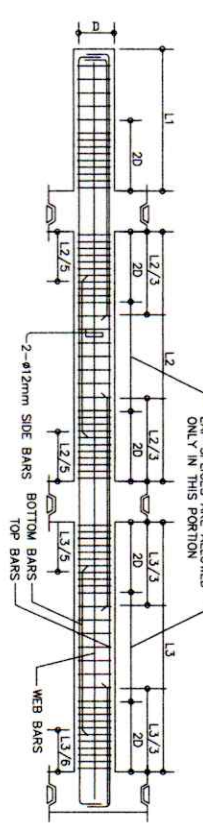


FIG. B-1

TABLE 'A' EMBEDMENT LENGTHS AND LAPPED SPLICES IN MILLIMETERS

BAR SIZE (DEFINITION)	EMBEDMENT LAPPED	EMBEDMENT LAPPED	EMBEDMENT LAPPED	EMBEDMENT LAPPED
10mm #	300	300	300	300
12mm #	300	300	300	300
16mm #	300	400	300	400
20mm #	400	500	300	500
25mm #	600	800	500	750
32mm #	900	1300	850	1100

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

BAR SIZE (DEFINITION)	EMBEDMENT LAPPED	EMBEDMENT LAPPED	EMBEDMENT LAPPED	EMBEDMENT LAPPED
10mm #	275	300	250	300
12mm #	275	300	250	300
16mm #	300	400	325	400
20mm #	400	500	350	500
25mm #	550	625	550	625
28mm #	700	1000	625	675
32mm #	900	1300	775	775

NOTE: TOP PLAN BARS, MULTIPLY VALUE BY 2 FOR COLUMNS.

- IF THE BEAM REINFORCING BARS END IN A WALL THE CLEAR DISTANCE FROM THE BAR TO BE SHOWN IN A TABLE 'A' FOR TENSION BARS AND TABLE 'B' FOR COMPRESSION BARS. THE CLEAR DISTANCE FROM THE FACE OF THE COLUMN AT LEAST TWO STRIBES SHALL BE PROVIDED AT ALL SPLICES.
- IF THERE ARE TWO OR MORE LAYERS OF REINFORCING BARS, USE 25mm BAR SEPARATORS SPACED AT 1.0M ON CENTER, IN NO CASE SHALL THERE BE LESS THAN TWO (2) SEPARATORS BETWEEN TWO LAYERS OF BARS.
- MINIMUM CONCRETE PROTECTION FOR REINFORCING BARS OR STEEL SHAPES SHALL BE AS SHOWN IN FIG. B-2 UNLESS SPECIFIED ELSEWHERE.

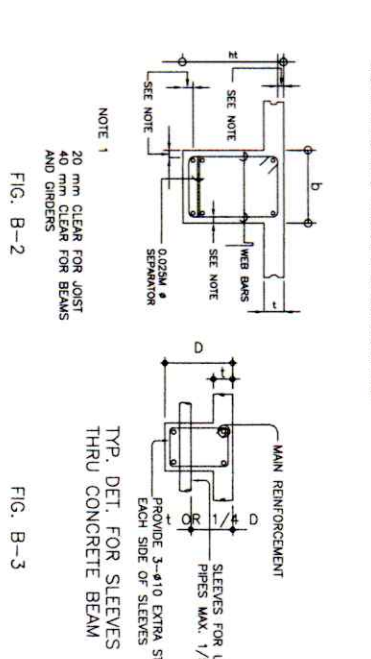


FIG. B-2

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

GENERAL CONSTRUCTION NOTES

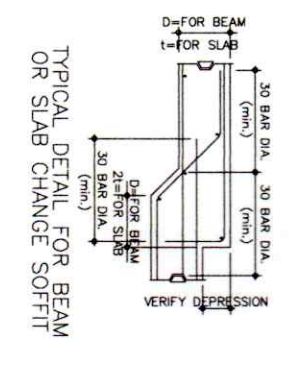
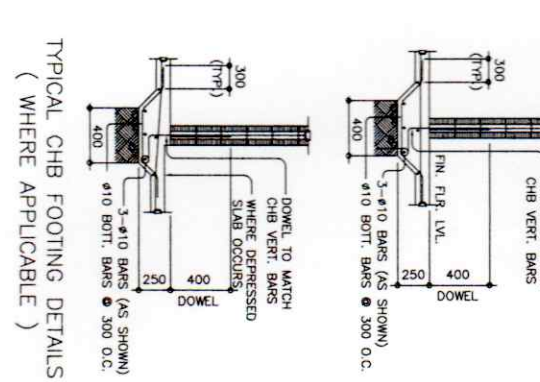
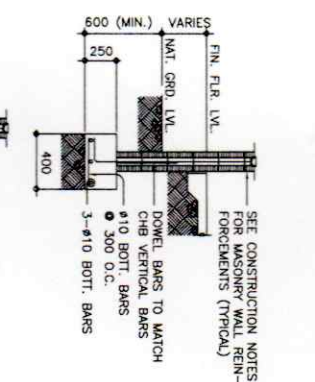
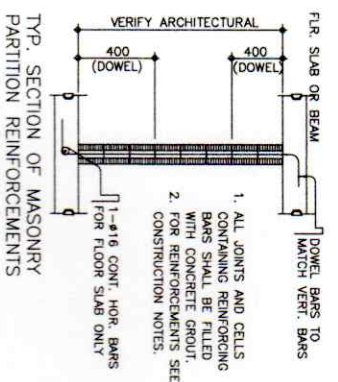
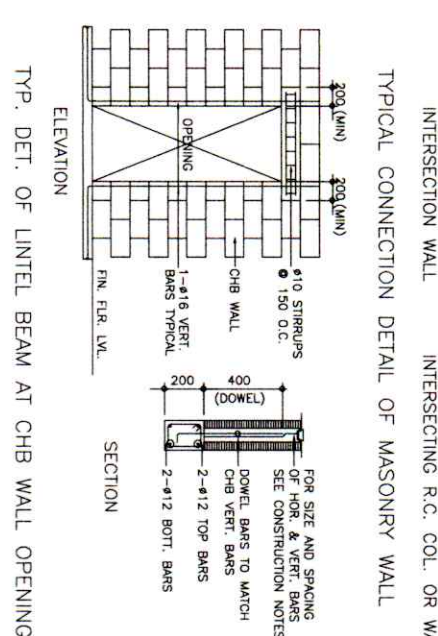
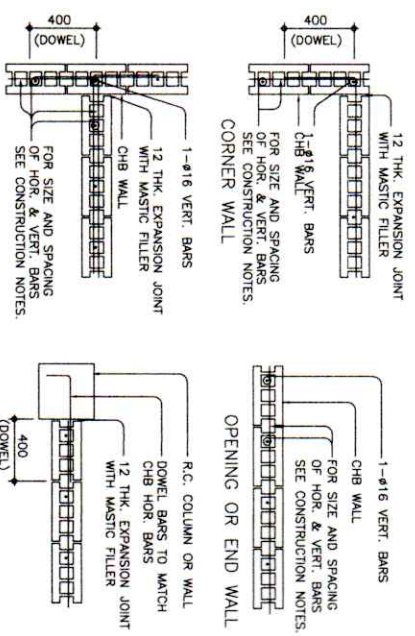
NOTES ON CONCRETE HOLLOW BLOCK WALLS

- 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.
- PROVIDE 150mm x 300mm STIFFENER COLUMN REINFORCED WITH 4-12mm WITH 60mm TIES AT 150mm ON CENTER WHERE CONCRETE HOLLOW BLOCK TERMINATES AND AT EVERY 3.0M LENGTH OF CONCRETE HOLLOW BLOCK WALLS UNLESS NOTED IN STRUCTURAL PLANS.

BLOCK THICKNESS	REINFORCEMENT		NOTES
	HORIZONTAL	VERTICAL	
75 mm	10mm ϕ 600mm O.C.	10mm ϕ 600mm O.C.	A. MINIMUM LAP AT SPICE = 0.25M B. PROVIDE RIGHT ANGLED REINFORCEMENT AT CORNERS OF EXTERIOR WALL PERFORMED WITH THE SAME SIZE AS VERT. OR HOR. REINFORCEMENTS SHALL BE PROVIDED
125 mm	10mm ϕ 600mm O.C.	10mm ϕ 600mm O.C.	
150 mm	10mm ϕ 600mm O.C.	10mm ϕ 600mm O.C.	
200 mm	12mm ϕ 600mm O.C.	12mm ϕ 600mm O.C.	

REINFORCING CONCRETE UNTEL BEAM IN CONCRETE BLOCK WALLS

CLEAR SPAN LENGTH (L)	MIN. REIN. (MPa)	MIN. HEIGHT OF UNTEL (MM)	REINFORCEMENT	
			BOTTOM	TOP
1.20M	1.60M	200	1-#10	1-#10
1.50M	1.90M	200	1-#10	1-#10
1.80M	2.20M	200	1-#12	1-#10
2.10M	2.50M	250	1-#12	1-#10
2.40M	2.80M	250	1-#12	1-#10
2.70M	3.10M	250	1-#12	1-#10
3.00	3.40M	300	1-#16	1-#12
3.30	3.70M	300	1-#16	1-#12
3.60	4.00	300	1-#20	1-#12

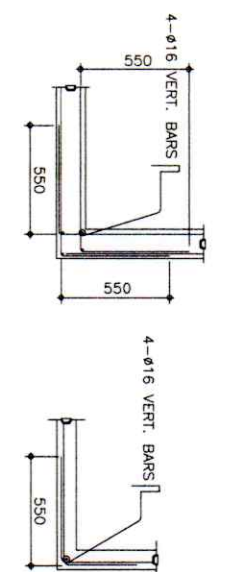


NOTES ON CONCRETE WALLS

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

WALL THICKNESS	REINFORCEMENT		REMARKS
	HORIZONTAL	VERTICAL	
100mm	#10mm ϕ 250mm O.C.	#10mm ϕ 300mm O.C.	HORIZONTAL BARS AT CORNERS OF EXTERIOR WALLS STINGERED OUT
125mm	#10mm ϕ 250mm O.C.	#10mm ϕ 300mm O.C.	
150mm	#12mm ϕ 250mm O.C.	#12mm ϕ 300mm O.C.	

- REINFORCING BARS SHALL HAVE 25mm CLEAR CONCRETE COVER FROM FACE OF WALL EXCEPT FOR WALLS IN CONTACT WITH THE GROUND WHERE A MINIMUM OF 60mm SHALL BE PROVIDED, AND FOR EXPOSED FACES OF FORMED WALLS WHERE THE MINIMUM SHALL BE 50mm CLEAR. CARRY VERTICAL BARS AT LEAST 60mm ABOVE FLOOR LEVEL TO PROVIDE FOR SPACES WHEN NECESSARY STOP AT 30mm BELOW TOP SLAB OR SOLID BAND WHERE THE WALL ENDS VERTICAL AND HORIZONTAL BARS SHALL BE SPICED BY LAPPING A DISTANCE EQUAL TO 30 DIAMETERS AND STINGERED AT LEAST 1.50M O.C. WHEN PROVIDED THAT SPICES IN ADVANCE BARS ARE
- UNLESS OTHERWISE NOTED IN THE PLANS ALL OPENINGS IN WALLS 250mm OR THICKER SHALL BE REINFORCED AROUND WITH 2-20mm BARS FOR 225mm, 200mm, 175mm, 150mm, 125mm, 100mm AND 75mm WALLS. USE 2-12mm BARS. ALL WALLS SPANNING SHALL HAVE VERTICAL REINFORCEMENT BENT TO A U-FORM LIKE STIRRUPS AND SPACED ACCORDING TO THE SCHEDULE UNLESS OTHERWISE NOTED (SEE FIG.1)



TYPICAL CONNECTION DETAIL OF R.C. WALL AT CORNERS

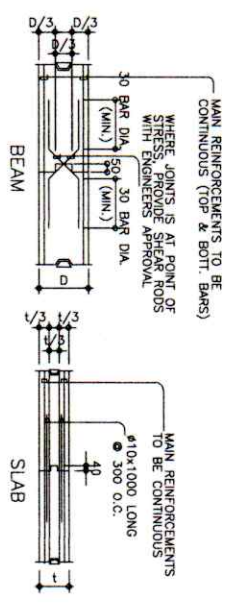
- ### NOTES ON WELDS
- USE E70XX ELECTRODES FOR ALL MEMBERS WELDED.
 - WELDS SHALL DEVELOP THE FULL STRENGTH OF MEMBERS JOINED UNLESS OTHERWISE SHOWN OR DETAILED IN THE DRAWINGS.

- ### NOTES ON STRUCTURAL STEEL
- STRUCTURAL STEEL TO BE USED FOR FABRICATION AND ERECTION OF THIS STRUCTURE SHALL COMPLY WITH ALL THE PERTINENT PROVISIONS OF AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING LATEST EDITION.
 - ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A36 STRUCTURAL STEEL UNLESS OTHERWISE INDICATED.
 - ALL WELDED CONNECTIONS SHALL DEVELOP THE FULL STRENGTH OF THE MEMBERS CONNECTED UNLESS OTHERWISE SPECIFIED ALL WELDING RODS SHALL CONFORM AWS E60 ELECTRODES.
 - ALL BOLTS USED UNLESS OTHERWISE SPECIFIED SHALL BE ASTM A 307 BOLTS.

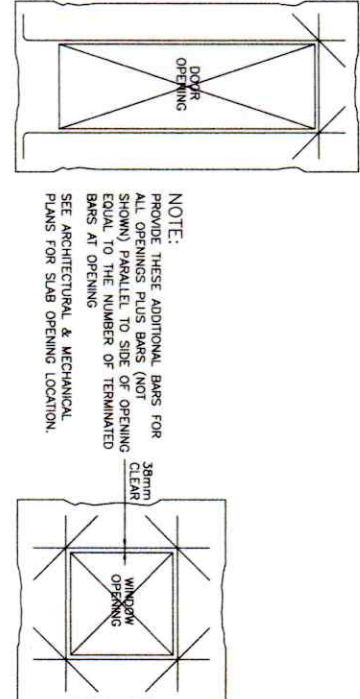
- ### NOTES ON EMBEDDED PIPES
- ALL EMBEDDED PIPES FOR UTILITIES, ETC. THAT PASS THRU BEAMS SHALL NOT EXCEED 100mm IN DIAMETER OR 1/3 BEAM DEPTH WHICHEVER IS LESS. UNLESS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
 - NO PIPES SHALL BE ALLOWED TO PASS THRU BEAMS VERTICALLY.
 - NO PIPES SHALL BE EMBEDDED IN COLUMNS.

NOTES ON CONSTRUCTION JOINTS IN CONCRETE

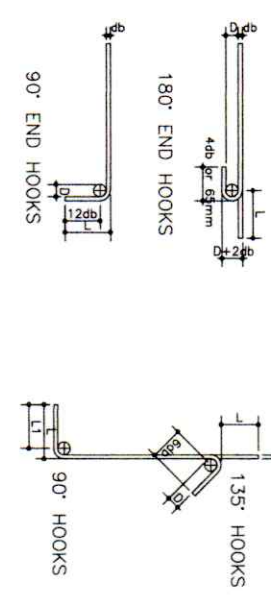
- WHERE A CONSTRUCTION JOINT IS TO BE MADE, THE SURFACE OF CONCRETE SHALL BE CLEANED AND ALL LINTAGE AND STANDING WATER REMOVED. SHEAR KEY SHALL BE PROVIDED AT THE JOINT.



TYPICAL SLAB & BEAM CONSTRUCTION JOINT DET.



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



MAIN BAR END HOOKS (ALL GRADES)			
BAR SIZE (DEFORMLD)	DIAMETER (mm)	180° HOOK	90° HOOK
10mm #	60	75	125
12mm #	75	100	150
15mm #	95	125	175
20mm #	115	150	200
25mm #	150	200	250
28mm #	240	300	350
32mm #	300	335	450

STIRRUP AND TIE HOOKS (ALL GRADES)			
BAR SIZE (DEFORMLD)	DIAMETER (mm)	180° HOOK	90° HOOK
10mm #	40	125	85
12mm #	50	165	115
15mm #	65	200	140
20mm #	115	250	165
25mm #	150	305	220

GENERAL SANTOS CITY WATER DISTRICT
E. FERNANDEZ STREET, BRGY. LAGAO, GEN. SANTOS CITY
ENGINEERING & CONSTRUCTION DEPARTMENT
PLANNING AND DESIGN DIVISION
TEL. NO.: (083) 592-3824

REG. NO. 72775
PR. NO. 9492305

ROGELIO BESANA JR.
CIVIL ENGINEER

DATE: 01/11/2021

PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET SHED, & PERIMETER FENCE

LOCATION: BRAHIMONES, NAPAL ROAD, BRGY. SAN ISDRO, GSC

CHECKED:

ENGR. MARIA CELIA N. DANDAN
O.C. - P.D.

REVIEWED:

ENGR. ROGELIO A. BESANA, JR.
A.C.M. OPERATION & TECHNICAL SERVICES

APPROVED:

ENGR. ANN B. GELLANGARIN
GENERAL MANAGER A

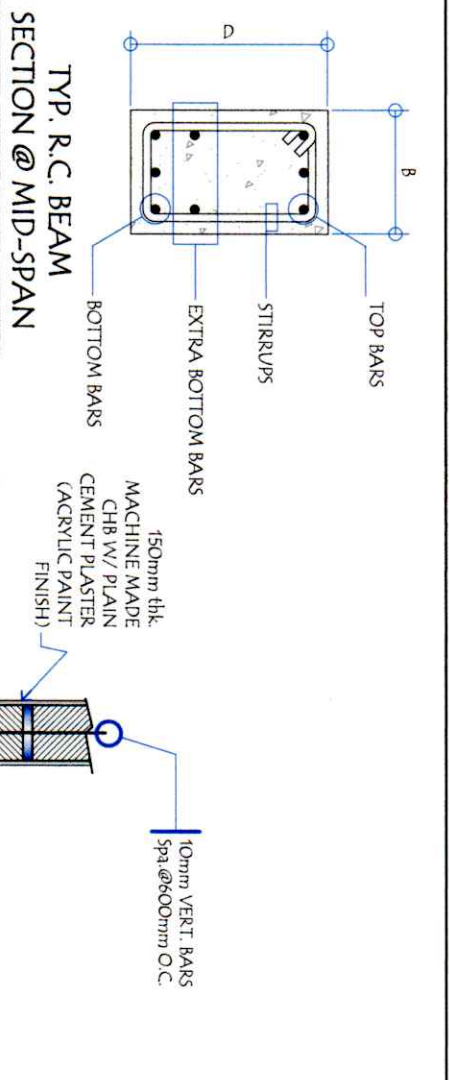
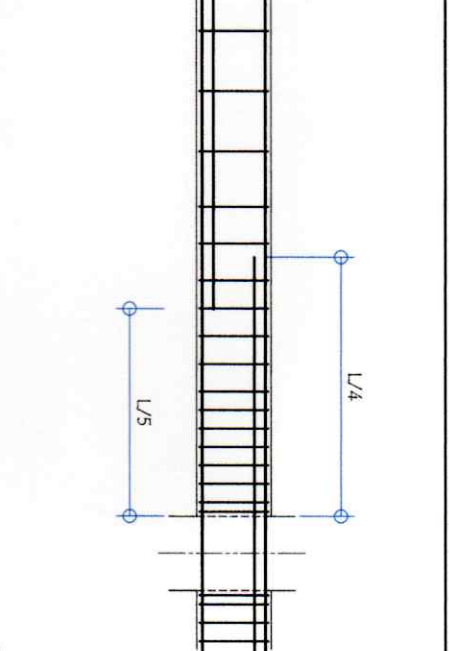
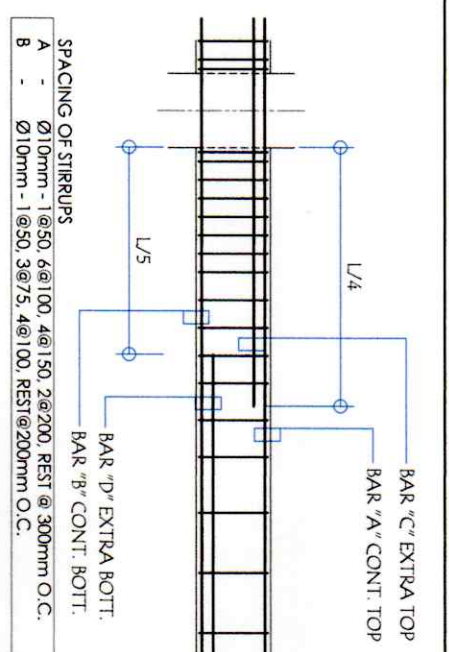
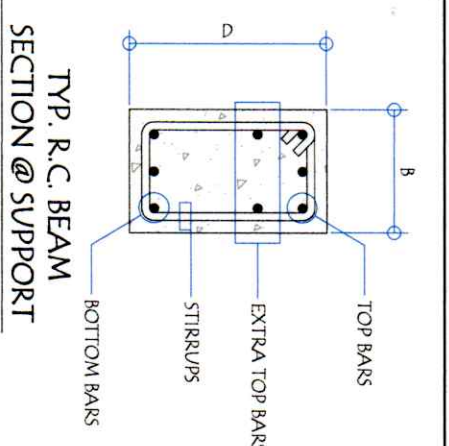
AS SHOWN

DRAWN BY: RBA
CHECKED BY: EEA

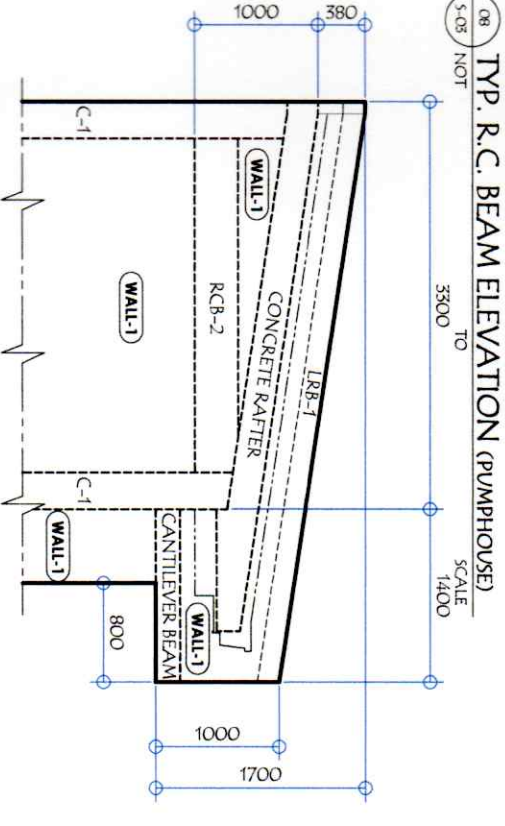
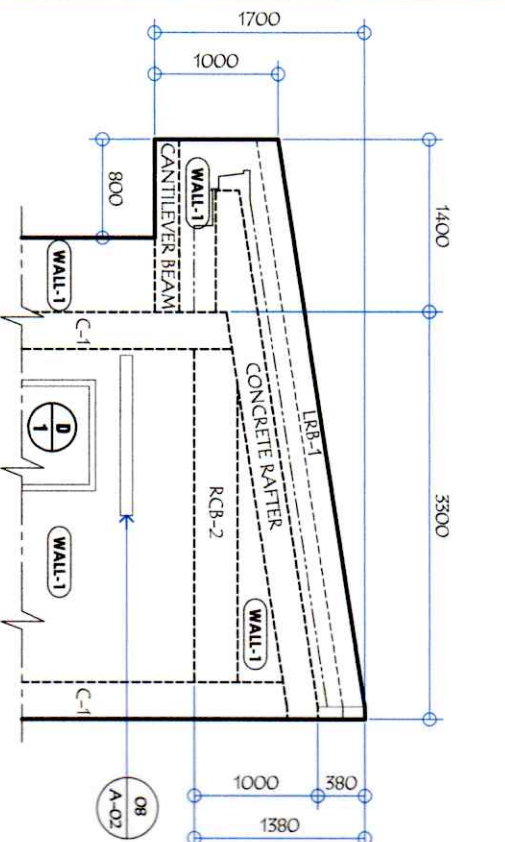
SHEET NO. S-02

REV. NO. 09

DATE: Oct. 2021

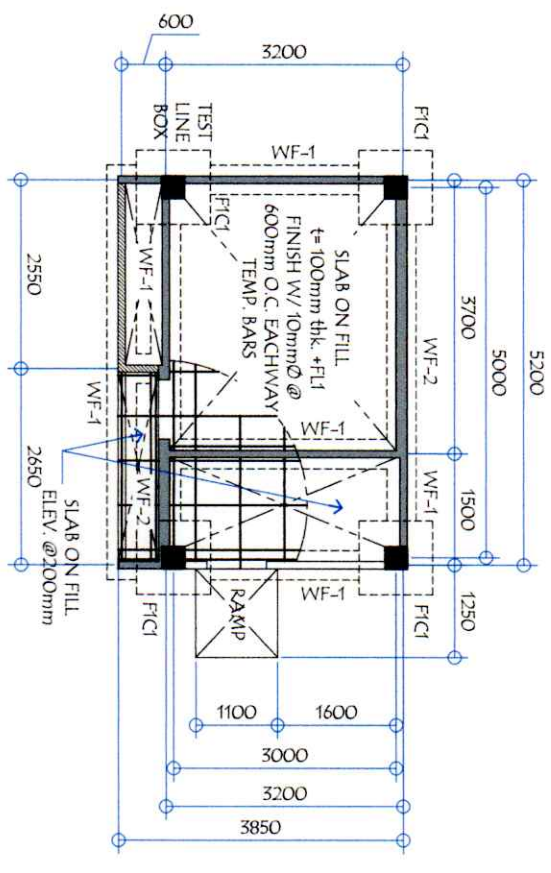


BEAM MARK	SIZES		REINFORCEMENT				SPACING OF STIRRUPS
	WIDTH	DEPTH	BAR 'A'	BAR 'B'	BAR 'C'	BAR 'D'	
RCB-1	250	350	3 - Ø16mm	3 - Ø16mm	2 - Ø16mm	2 - Ø16mm	A
RCB-2	250	350	3 - Ø16mm	3 - Ø16mm	2 - Ø16mm	2 - Ø16mm	B

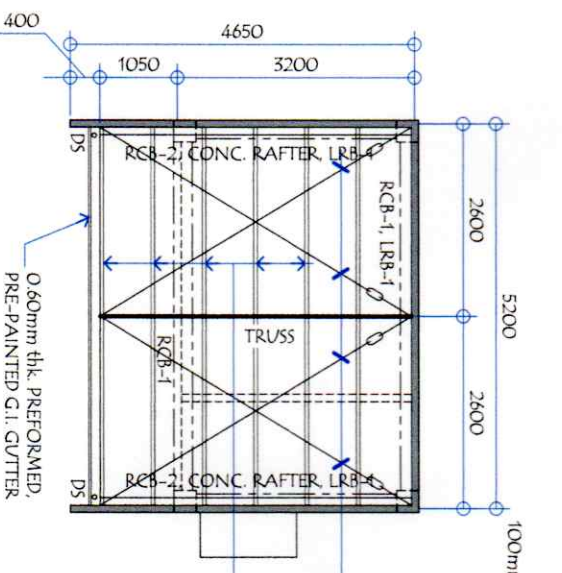


03 ELEV. OF RIGHT SIDE WALL FRAME (PUMPHOUSE)
SCALE: 1:60 M

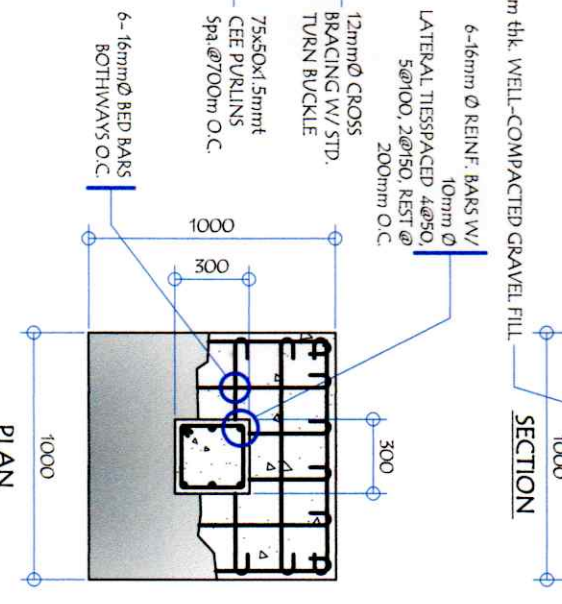
04 ELEV. OF LEFT SIDE WALL FRAME (PUMPHOUSE)
SCALE: 1:60 M



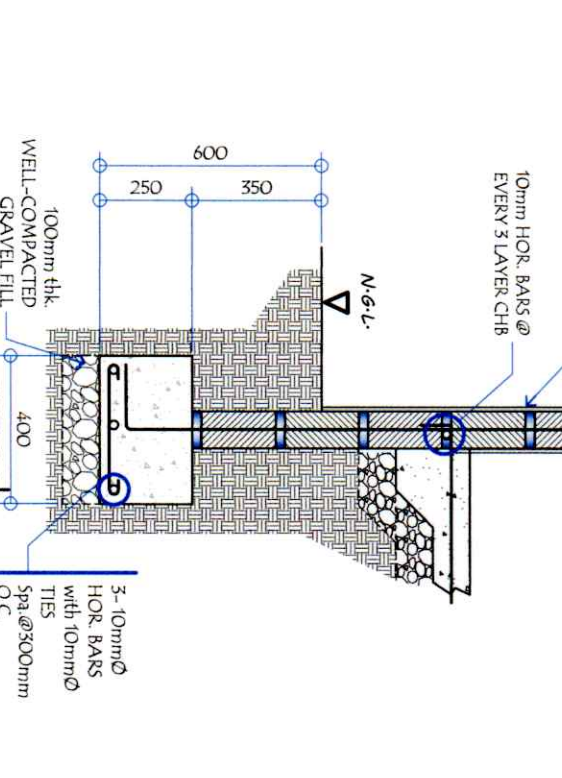
01 FOUNDATION PLAN (PUMPHOUSE)
SCALE: 1:100 M



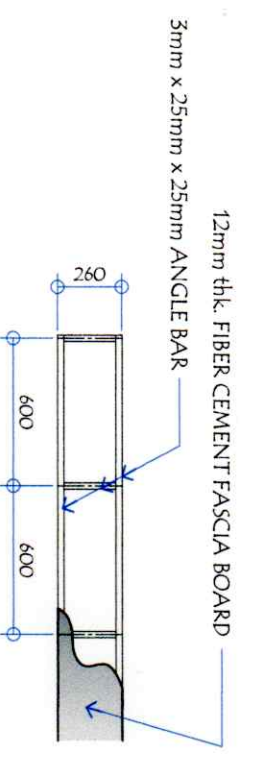
02 ROOF FRAMING PLAN (PUMPHOUSE)
SCALE: 1:100 M



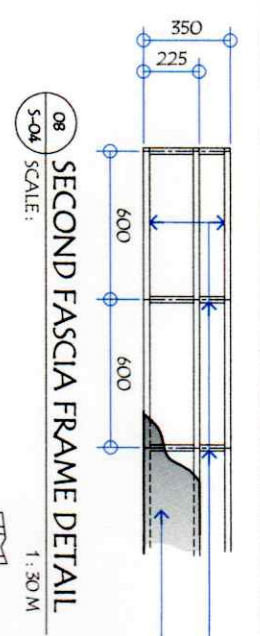
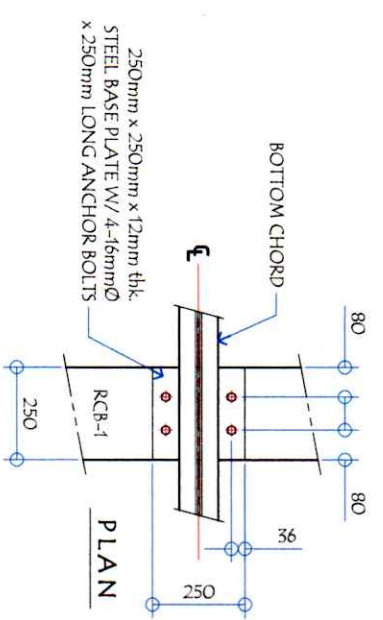
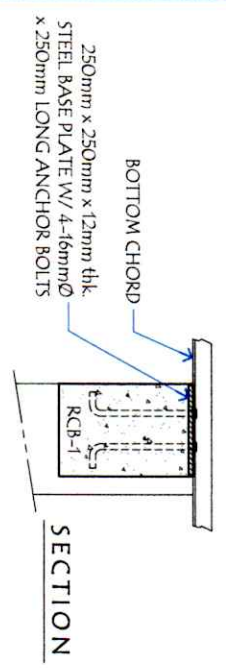
05 FICI DETAIL (PUMPHOUSE)
SCALE: 1:100 M



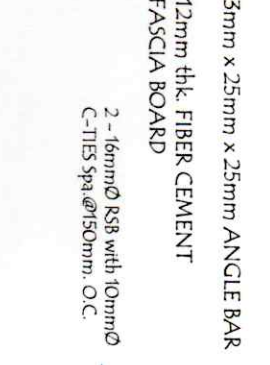
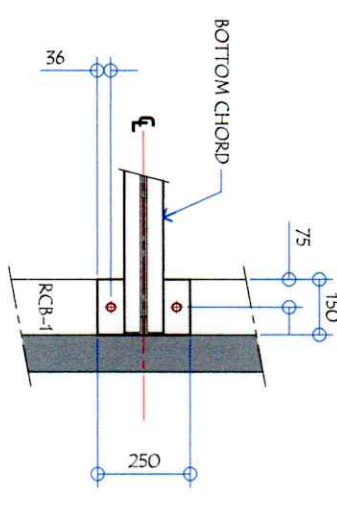
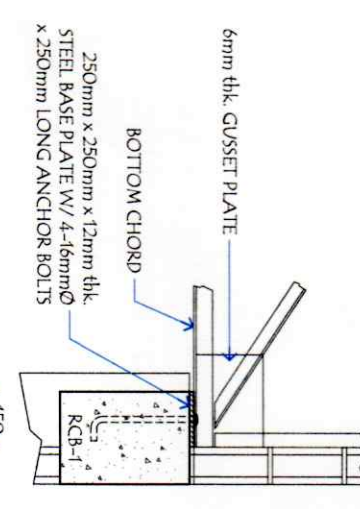
06 WF-1 DETAIL (PUMPHOUSE)
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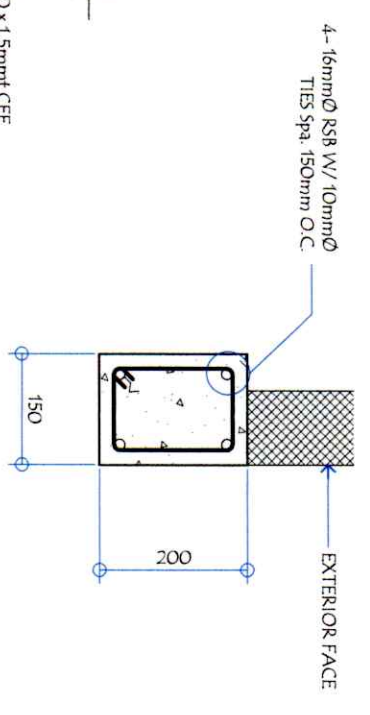
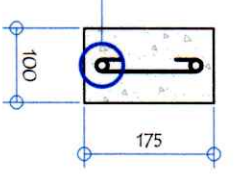
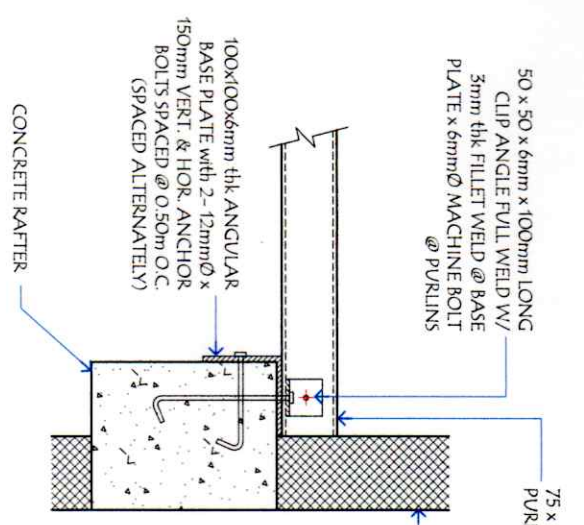
07 FASCIA FRAME DETAIL
SCALE: 1:30 M



08 SECOND FASCIA FRAME DETAIL
SCALE: 1:30 M

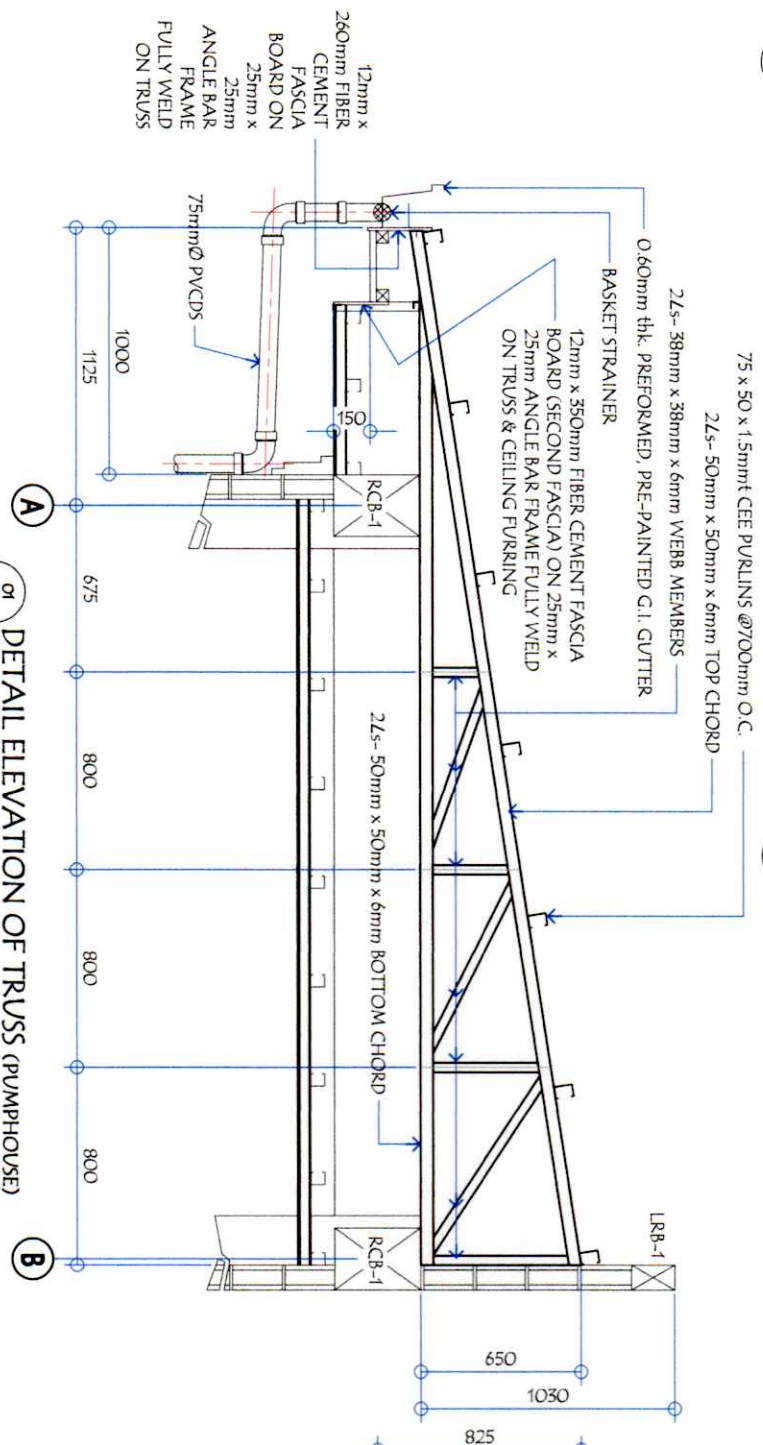


09 DETAIL SECTION OF LRB-1
SCALE: 1:10 M

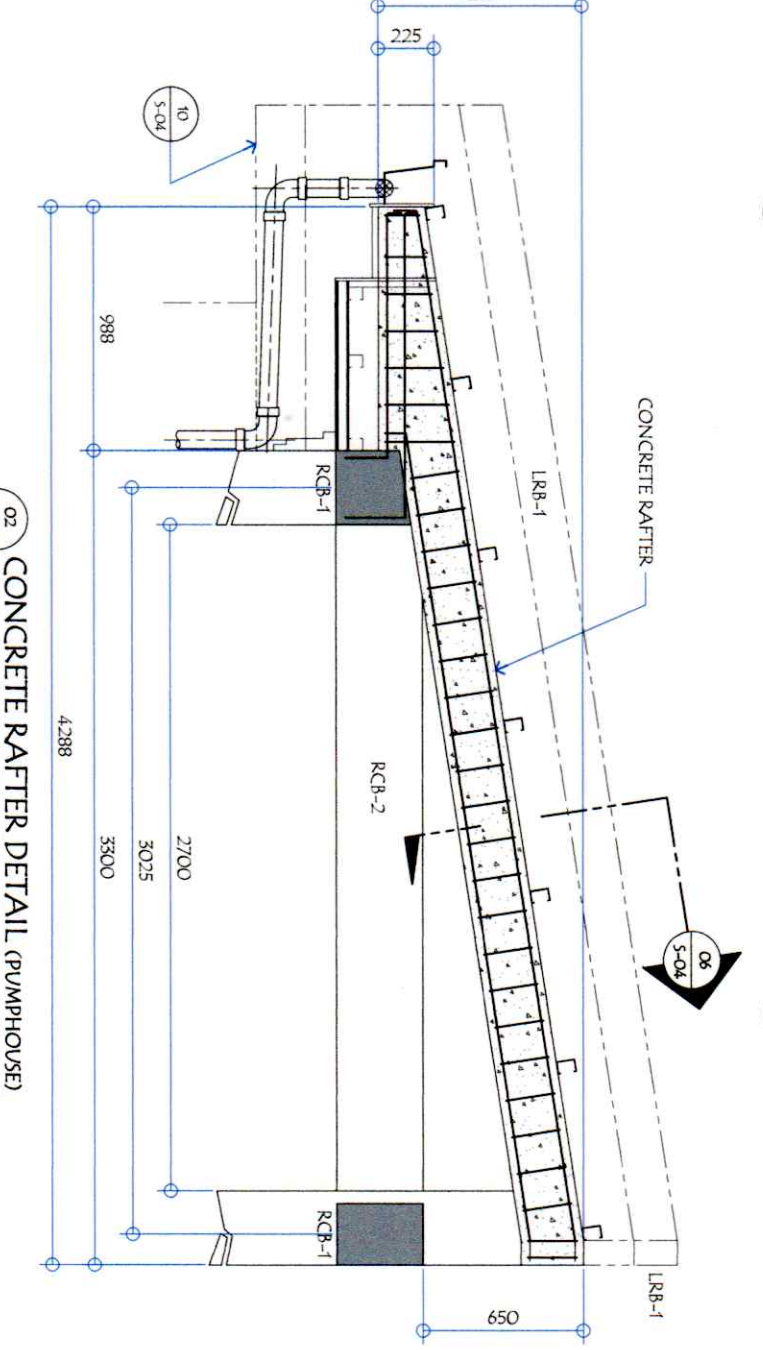


10 CANTILEVER BEAM DETAIL
SCALE: 1:10 M

03 DETAIL OF TRUSS ANCHORAGE @ GRID LN. A
SCALE: 1:20 M



04 DETAIL OF TRUSS ANCHORAGE @ GRID LN. B
SCALE: 1:20 M



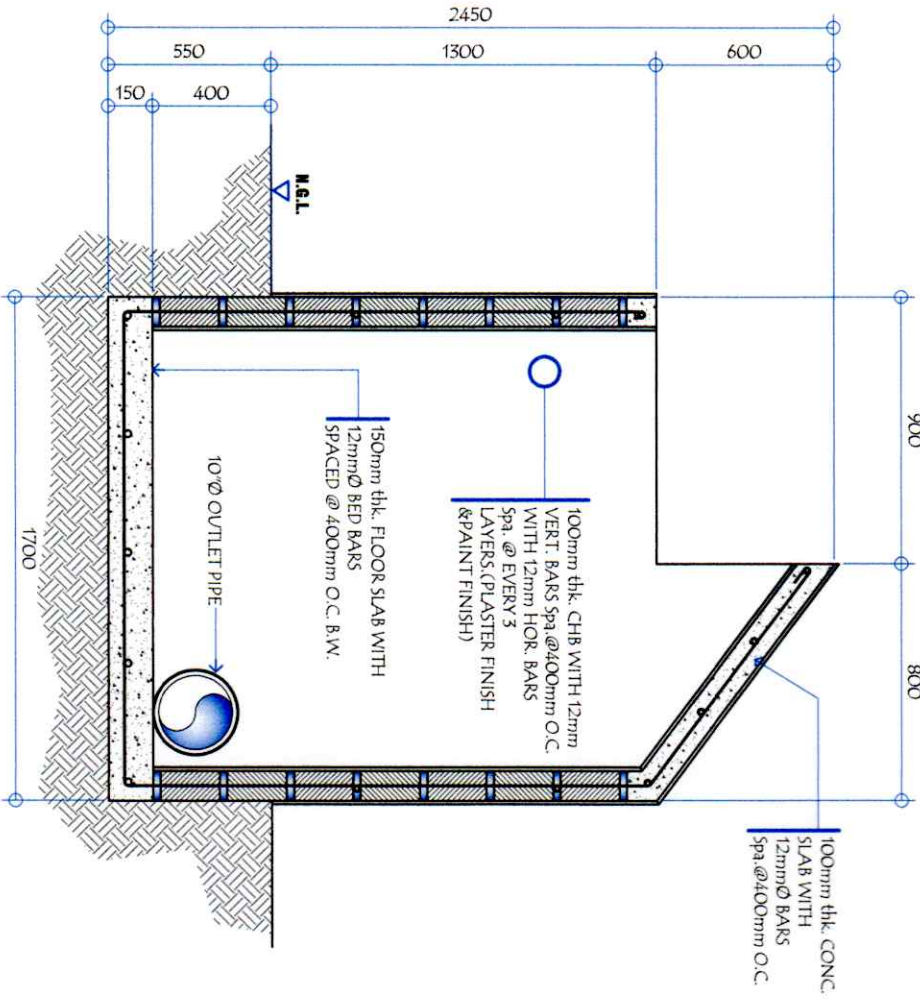
05 CONNECTION OF PURLINS TO CONC. RAFTER
SCALE: 1:10 M

06 SECTION
SCALE: 1:10 M

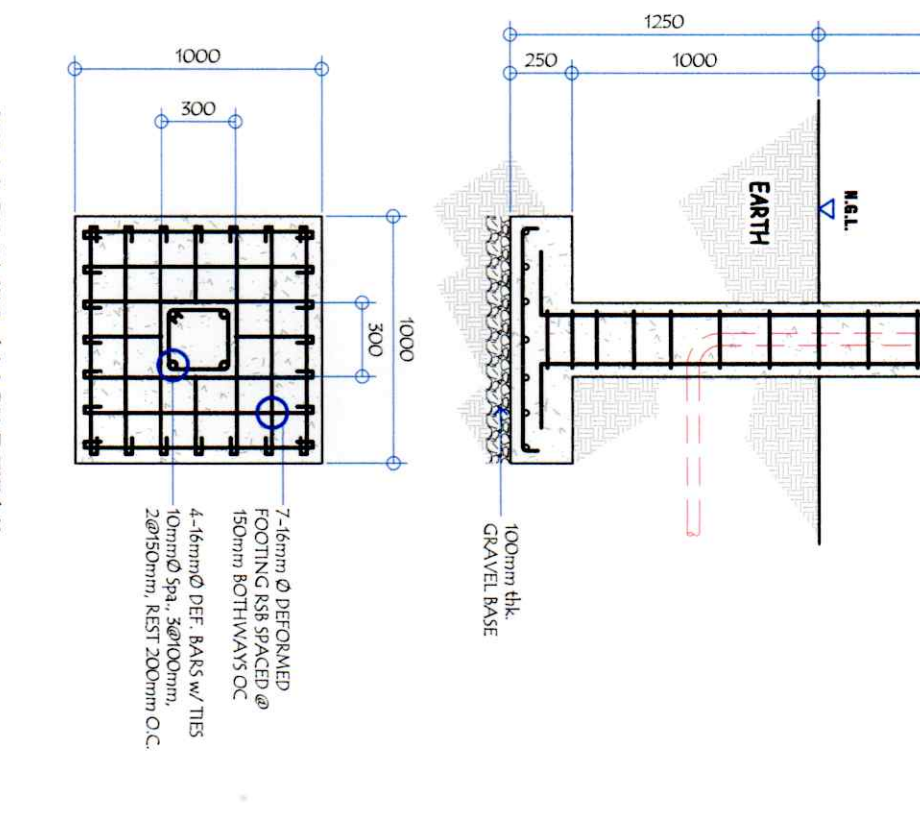
01 DETAIL ELEVATION OF TRUSS (PUMPHOUSE)
SCALE: 1:30 M

02 CONCRETE RAFTER DETAIL (PUMPHOUSE)
SCALE: 1:30 M

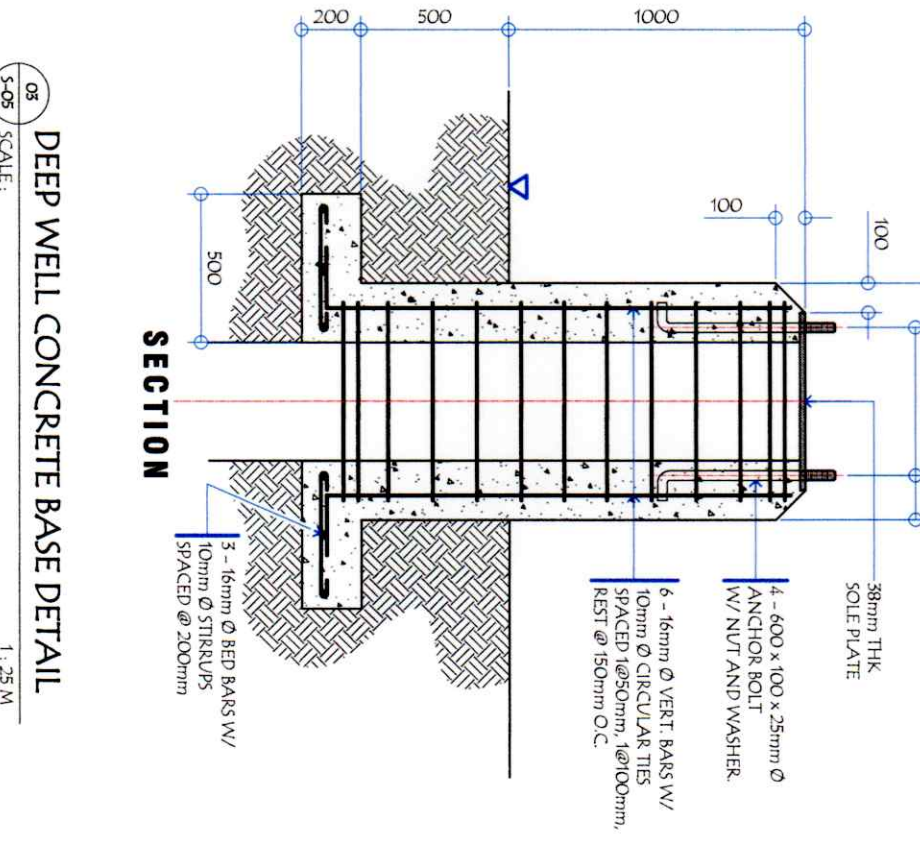
01 LONGITUDINAL SECTION OF TEST LINE BOX
 SCALE: 1:40 M



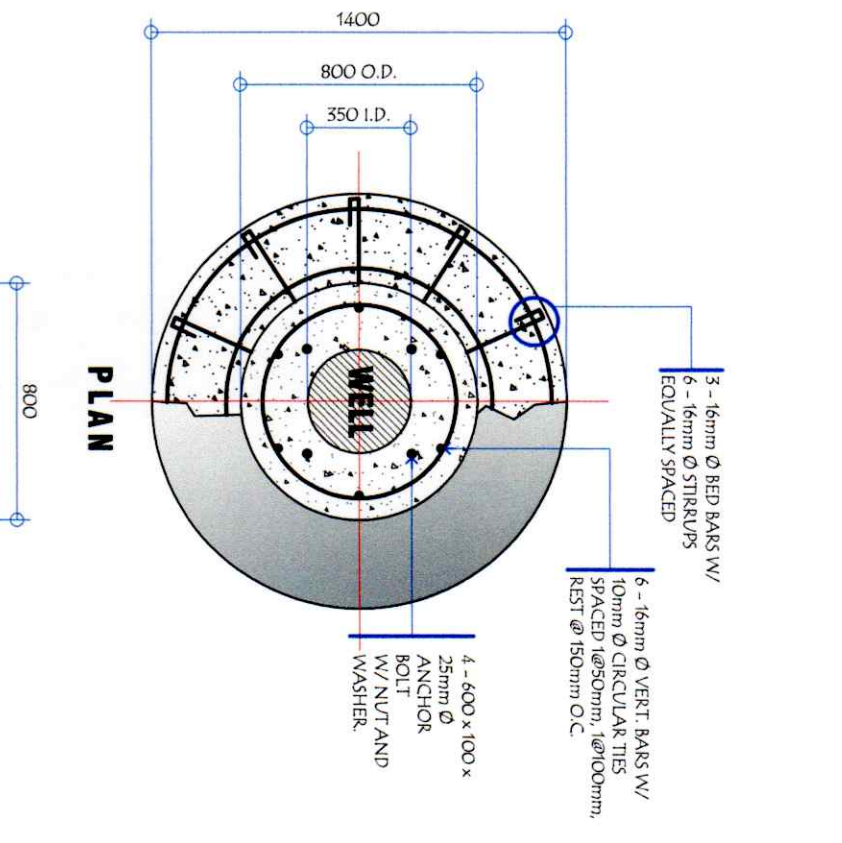
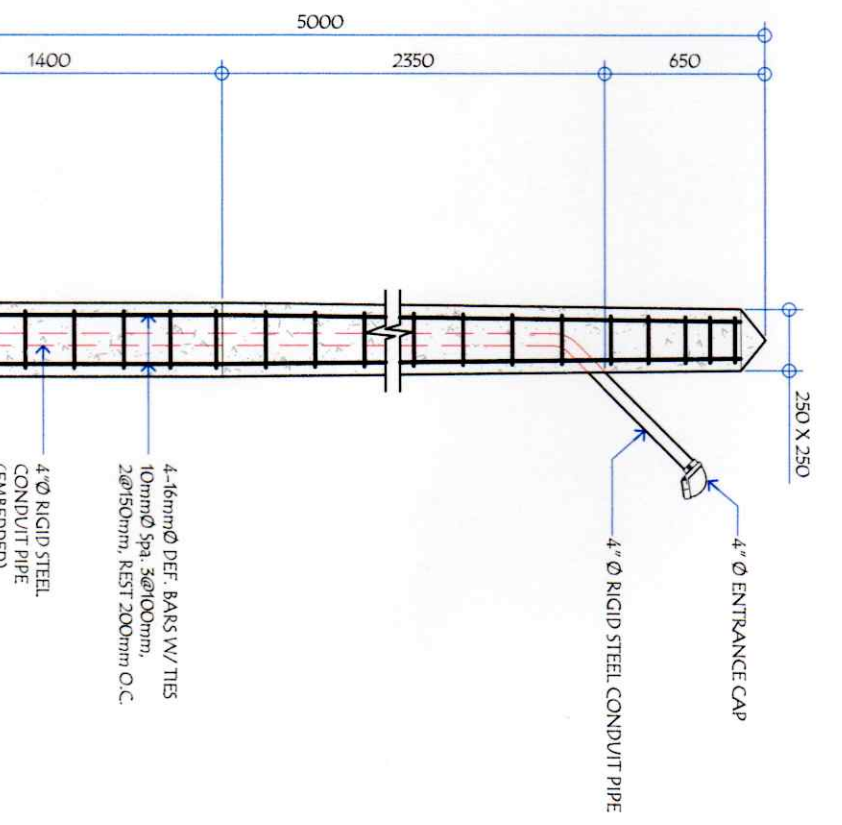
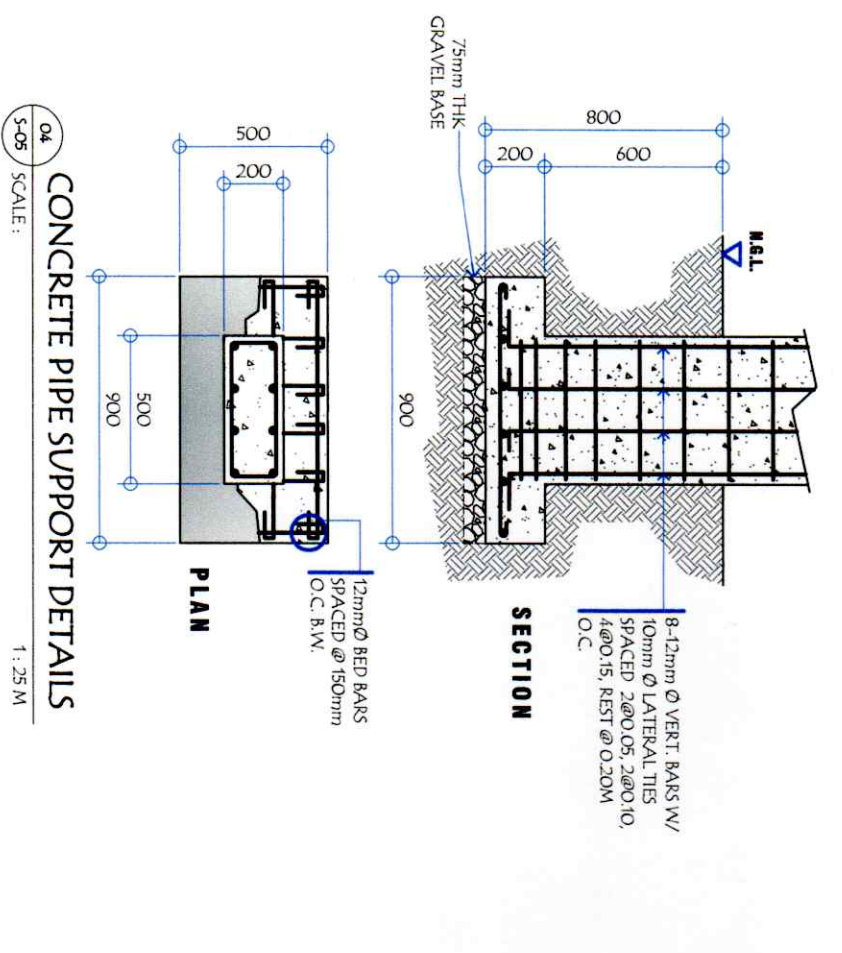
02 SERVICE ENTRANCE DETAIL
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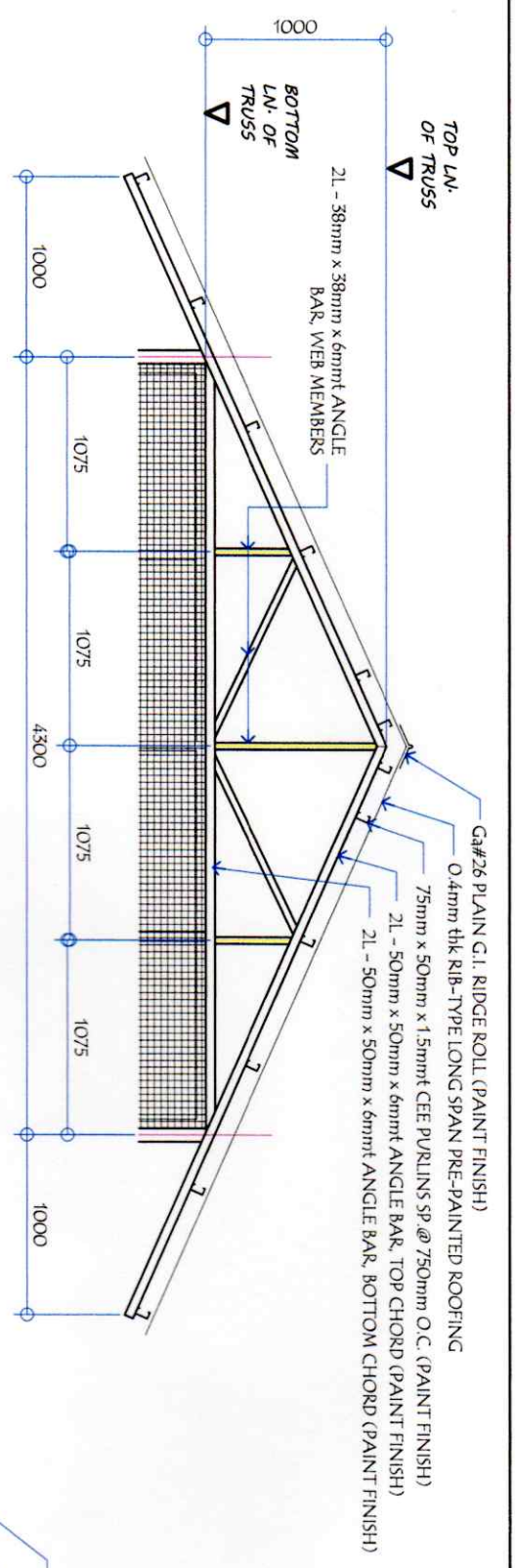


03 DEEP WELL CONCRETE BASE DETAIL
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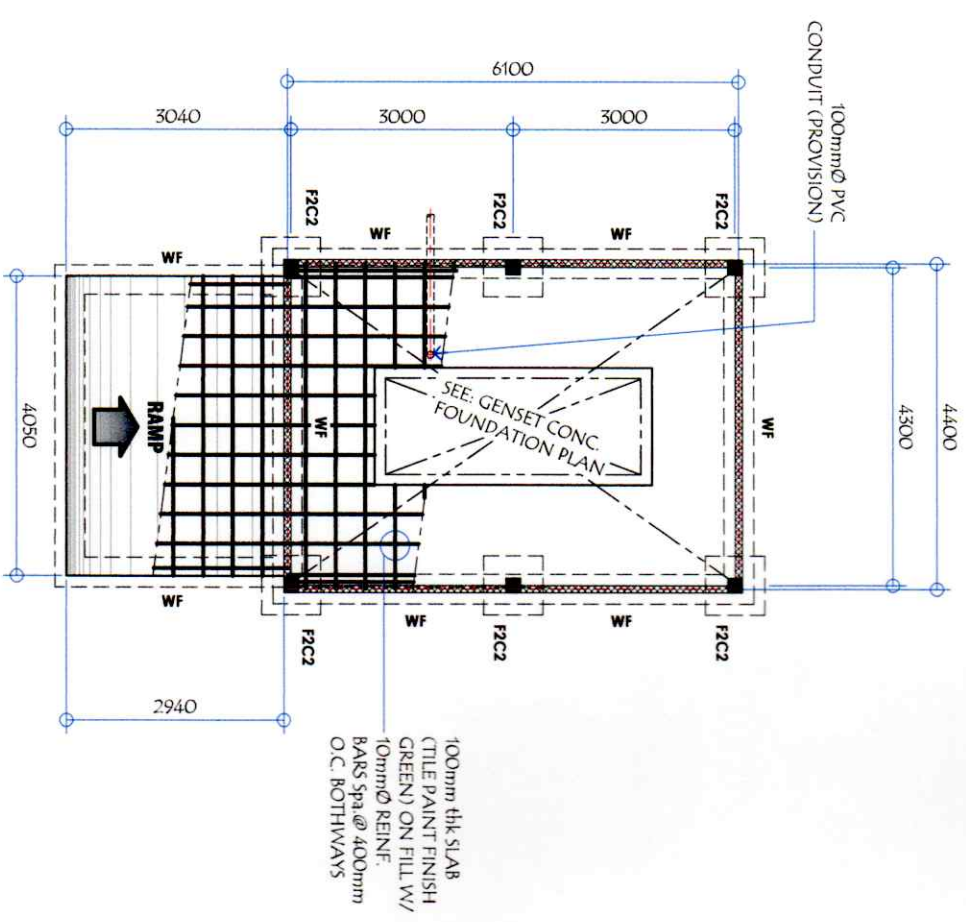


04 CONCRETE PIPE SUPPORT DETAILS
 SCALE: 1:25 M

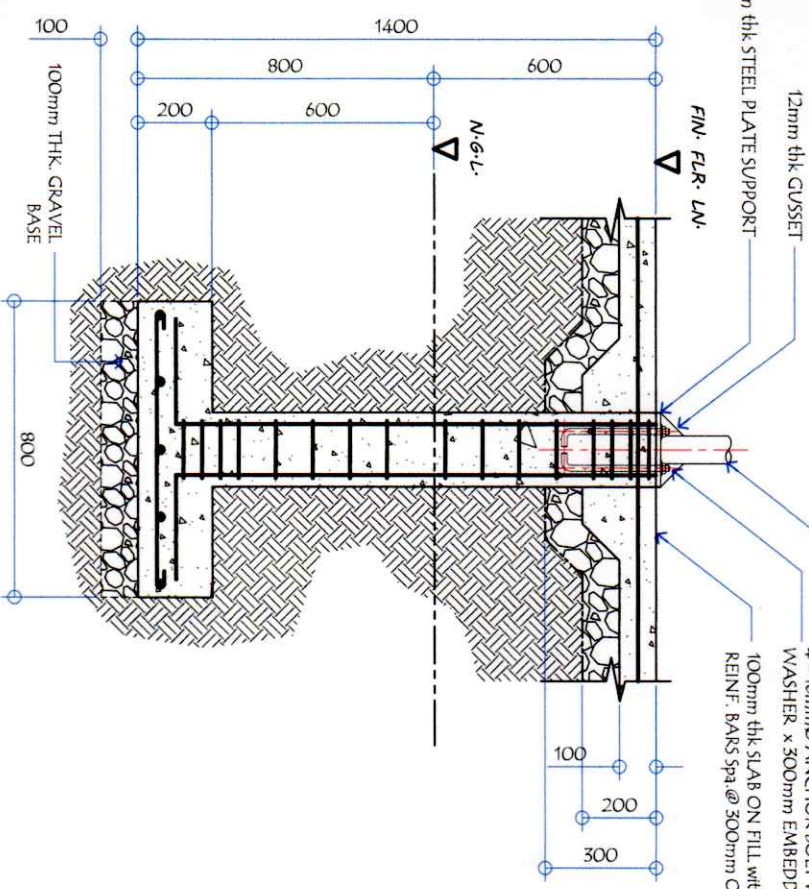




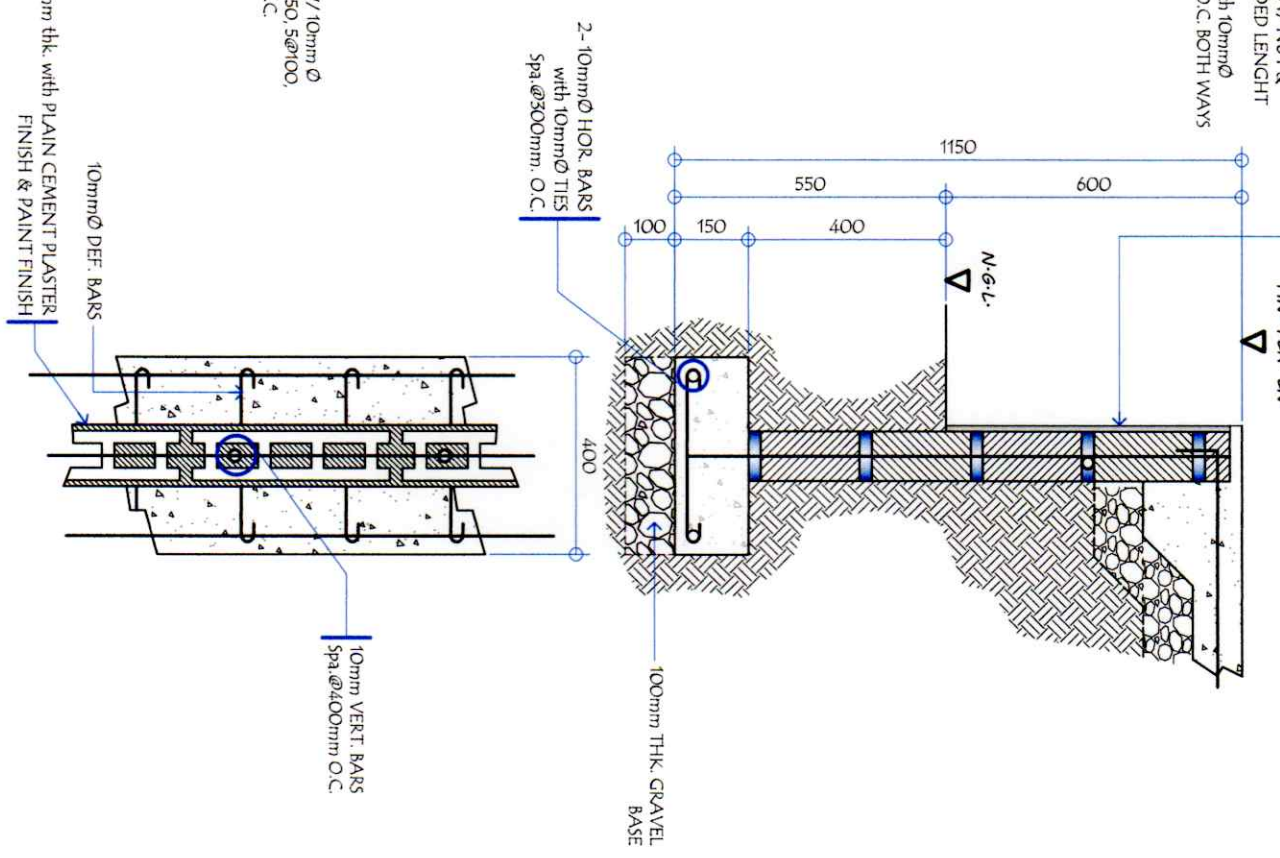
04 TRUSS DETAIL (GENSET SHED)
SCALE: 1:40 M



01 FOUNDATION PLAN (GENSET SHED)
SCALE: 1:100 M



02 F2C2 DETAIL (GENSET SHED)
SCALE: 1:20 M



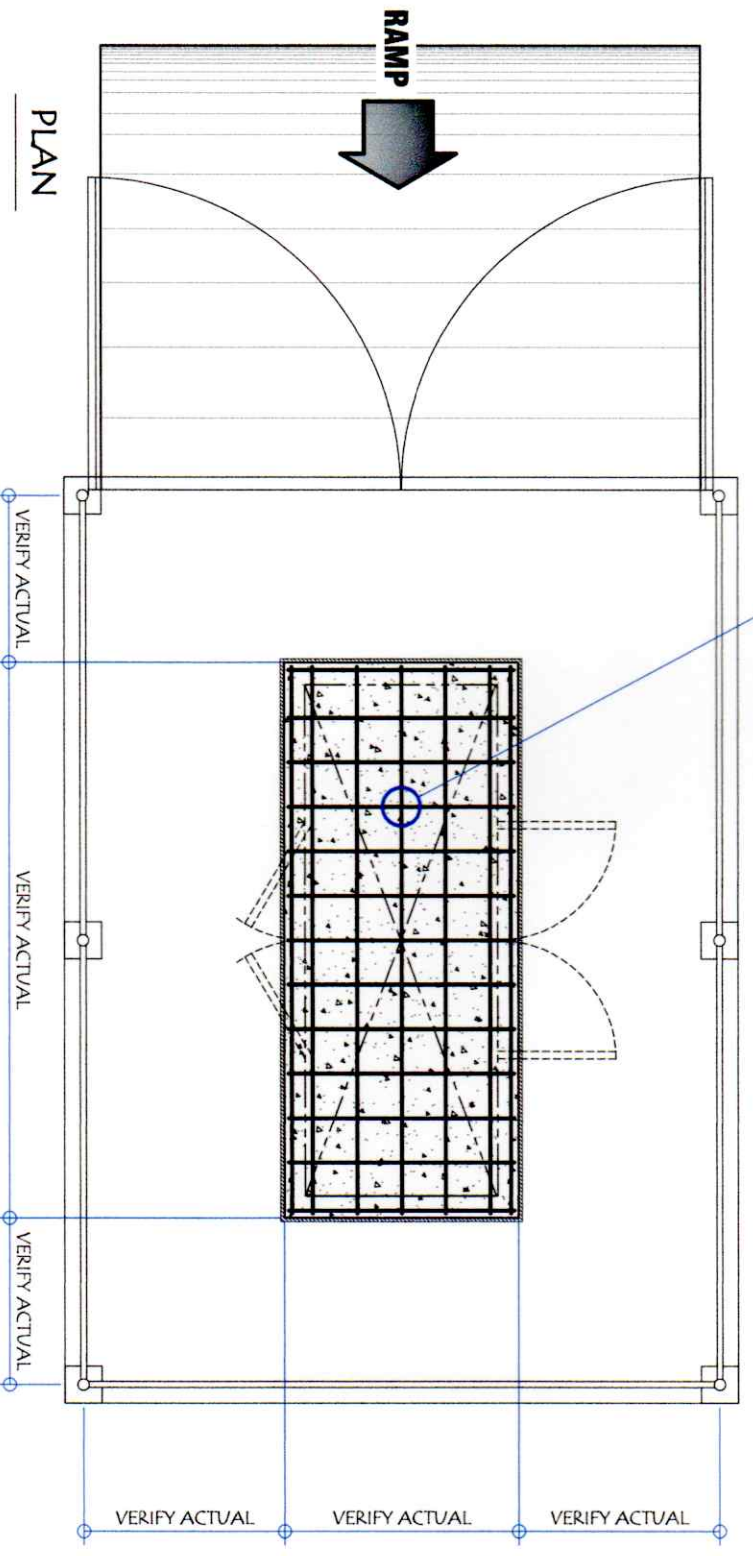
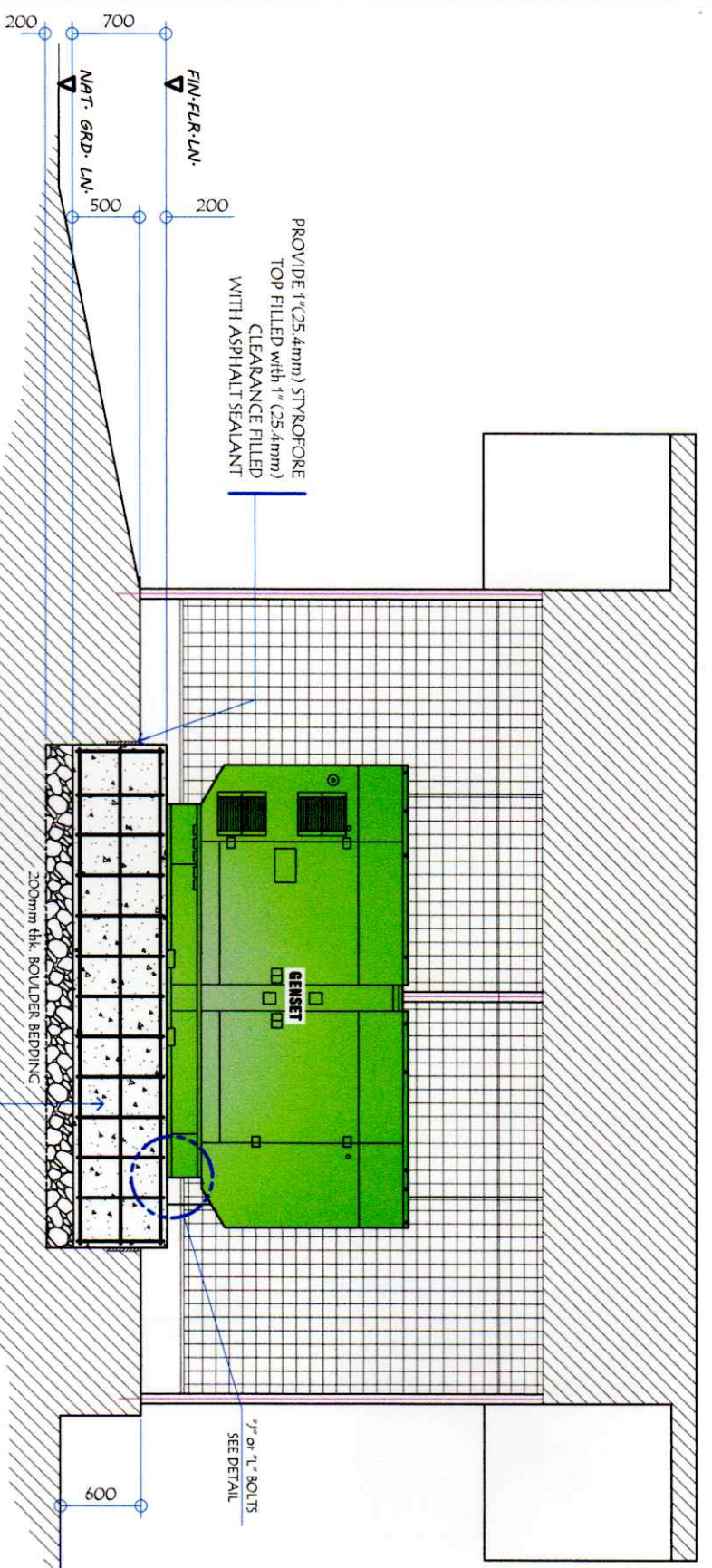
03 WF DETAIL (GENSET SHED)
SCALE: 1:15 M

<p>GENERAL SANTOS CITY WATER DISTRICT E. FERNADEZ STREET, BRGY. LAGAO, GEN. SANTOS CITY ENGINEERING & CONSTRUCTION DEPARTMENT PLANNING AND DESIGN DIVISION TEL. NO.: (083) 582-3824</p>		<p>ROGELIO BESANA JR. CIVIL ENGINEER</p>		<p>PROJECT AND LOCATION PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET SHED, & PERIMETER FENCE</p>		<p>CHECKED: ENGR. MARIA CELIA N. DANDAN O.C. - PDD</p>		<p>REVIEWED: ENGR. ROGELIO A. BESANA, JR. AGM. OPERATION & TECHNICAL SERVICES</p>		<p>APPROVED: ENGR. ARN B. GELLANGARIN GENERAL MANAGER A</p>		<p>SHEET CONTENTS AS SHOWN</p>		<p>SHEET NO. S-06</p>	
<p>REG. NO. 72775 PR. NO. 9492305</p>		<p>TIN. NO. 190-455-622 DATE: 01/11/2021</p>		<p>LOCATION: BRIA HOMES, NAPAL ROAD, BRGY. SAN ISDRO, GSC</p>		<p>ENGR. MARIA CELIA N. DANDAN O.C. - PDD</p>		<p>ENGR. ROGELIO A. BESANA, JR. AGM. OPERATION & TECHNICAL SERVICES</p>		<p>ENGR. ARN B. GELLANGARIN GENERAL MANAGER A</p>		<p>DATE: Oct. 2021</p>		<p>13</p>	

T E C H N I C A L S P E C I F I C A T I O N

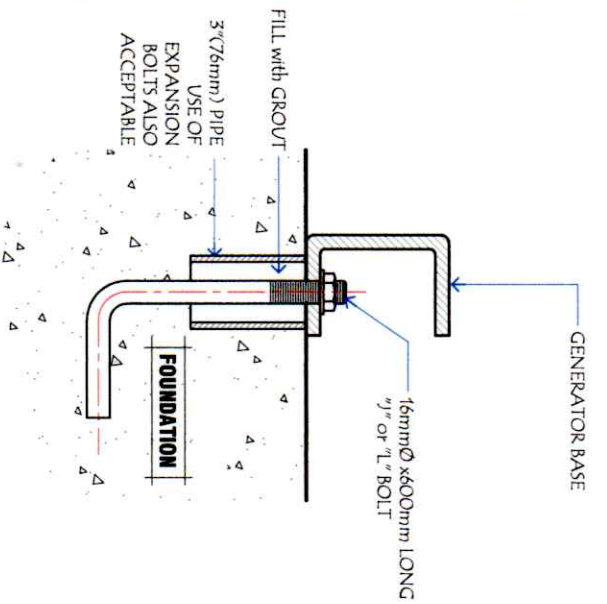
ONE(1) SET BRAND NEW SILENT TYPE 250KVA STANDBY POWERED GENERATING SET COMPLETE WITH ACCESSORIES

1. The foundation should extend at least 6 inches (150 mm) beyond the skid on all sides. This determines the length (L) and width (W) of the foundation.
2. The foundation should extend at least 6 inches (150 mm) above the floor to make service and maintenance of the generator set easier.
3. The foundation should be reinforced concrete with a 28-day compressive strength of at least 3000 psi (20.68 mPa).



TYPICAL VIBRATION ISOLATING FOUNDATION (GENSET SHED)

SCALE: 1:50 M



DETAIL OF "J" or "L" BOLT ANCHORING (GENSET SHED)

SCALE: 1:50 M

1. ENGINE	
Configuration	4 cycle in-line, 6 cylinder diesel
Aspiration	Turbo charged and after cooled
Rated Speed, rpm	1800
Speed droop	5%
Overspeed limit, rpm	2200±50

2. ALTERNATOR	
Frequency and Speed	60Hz/1800rpm
Insulation system	Class H/4 POLES
Rated Power Factor	0.8
Voltage Regulation	±5%
Full Load Current	3313 Amperes @460V
Excitation	SELF EXCITATION
Stator Winding	2/3
Exciter Voltage Regulator	Permanent Magnet Generator (PMG)

3. FUEL CONSUMPTION	
100% Load	50 1/hr
75% Load	38 1/hr
50% Load	26 1/hr
25% Load	15 1/hr

4. ELECTRICAL SYSTEM	
Voltage	460-480 V
Power Factor	0.8
Phase	3
Frequency	60Hz

5. SOUNDPROOF ENCLOSURE
It should be Factory Assembled Soundproof Enclosure with 90db.

6. GENERATING SET CONTROL MODULE FEATURES
Control system comprised of:

- Protection and control of a diesel engine.
- Three-phase AC voltage measuring system.
- Equipped with an LCD display presenting all values and alarms.
- Automatic engine start/stop.
- Engine protection.
- Breaker control.
- Generator protection.
- Digital governing and generator set protective functions.
- Single phase full wave SCR type regulator compatible with either shunt or PMG systems.

6.1 STANDARD FUNCTION

- Engine Control
- Generator Monitoring
- Generator Protection
- Engine Monitoring
- Clear Text Display


6.2 SHUTDOWN FUNCTION

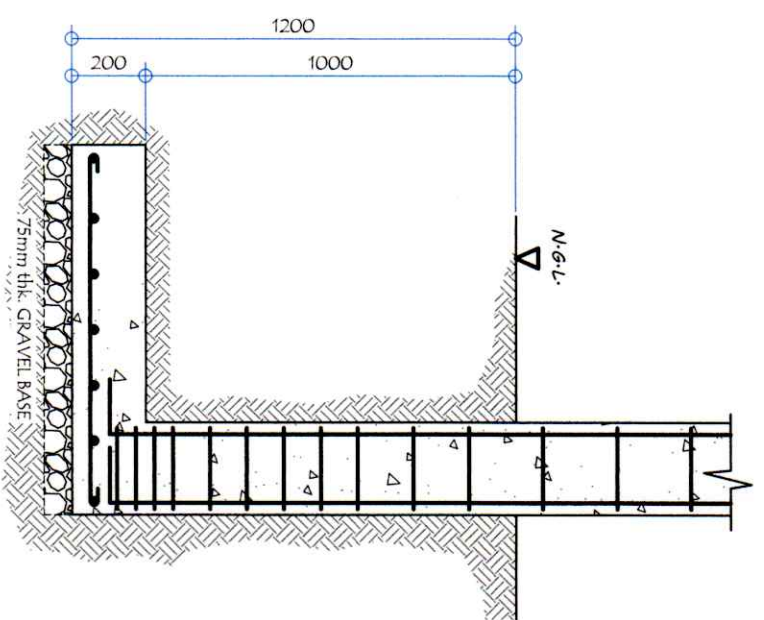
- Alternator Under/Over Voltage
- Alternator Under/Over Frequency
- Mains Under/Over Voltage
- Mains Under/Over Frequency
- Under/Over Speed
- Low Oil Pressure
- High Engine Temperature
- Phase Sequence Electrical (Option)
- Earth Fault (Option)

6.3 WARNING FUNCTION

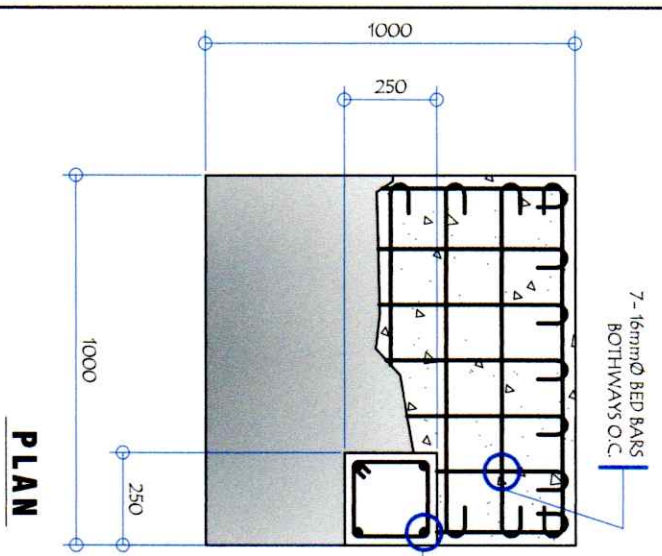
- Alternator Under/Over Voltage
- Alternator Under/Over Frequency
- Mains Under/Over Voltage
- Mains Under/Over Frequency
- Under/Over Speed
- Low Oil Pressure Pre-Alarm
- High Engine Temperature Pre-Alarm
- High/Low Battery Voltage
- Over-current
- Periodic Maintenance

7. GENERATING SET DIMENSION
L = 3.30M W = 1.07m H = 1.60m

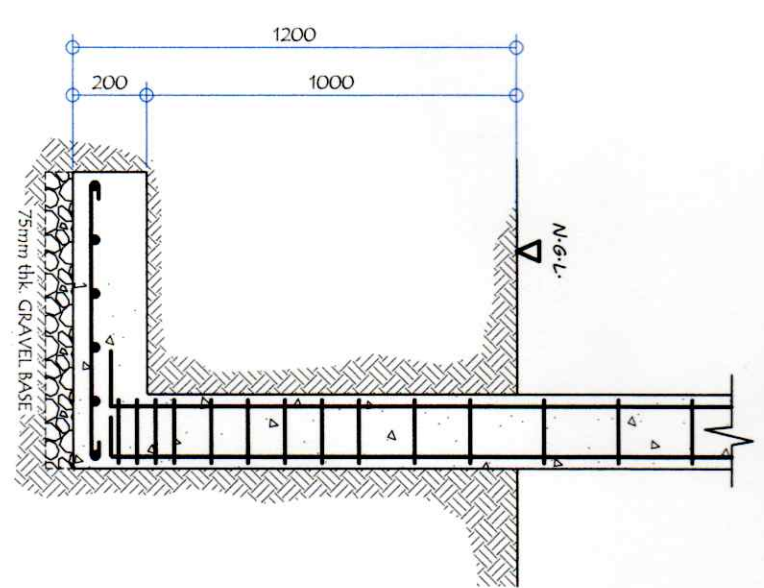
 <p>GENERAL SANTOS CITY WATER DISTRICT E. FERNANDEZ STREET, BRGY. LABAD, GEN. SANTOS CITY ENGINEERING & CONSTRUCTION DEPARTMENT PLANNING AND DESIGN DIVISION TEL. NO.: (083) 582-3824</p>	<p>ROGELIO BESANA JR CIVIL ENGINEER</p> <p>REG. NO. 72775 TIN. NO. 190-455-622 PRF. NO. 9492305 DATE: 01/11/2021</p>	<p>PROJECT AND LOCATION PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET, & PERIMETER FENCE</p> <p>CHECKED: ENGR. MARIA CELIA N. DANDAN O.C. - PDD</p>	<p>REVIEWED: ENGR. ROGELIO A. BESANA, JR. AGM, OPERATION & TECHNICAL SERVICES</p>	<p>APPROVED: ENGR. ARN B. GELLANGARIN GENERAL MANAGER A</p>	<p>SHEET CONTENTS AS SHOWN</p>	<p>SHEET NO. S-07</p>	
<p style="text-align: center;">DATE: OCT. 2021</p>						<p>14</p>	<p>20</p>



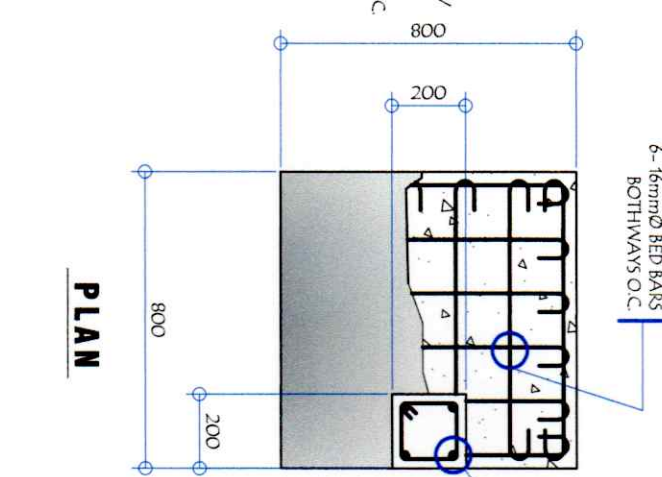
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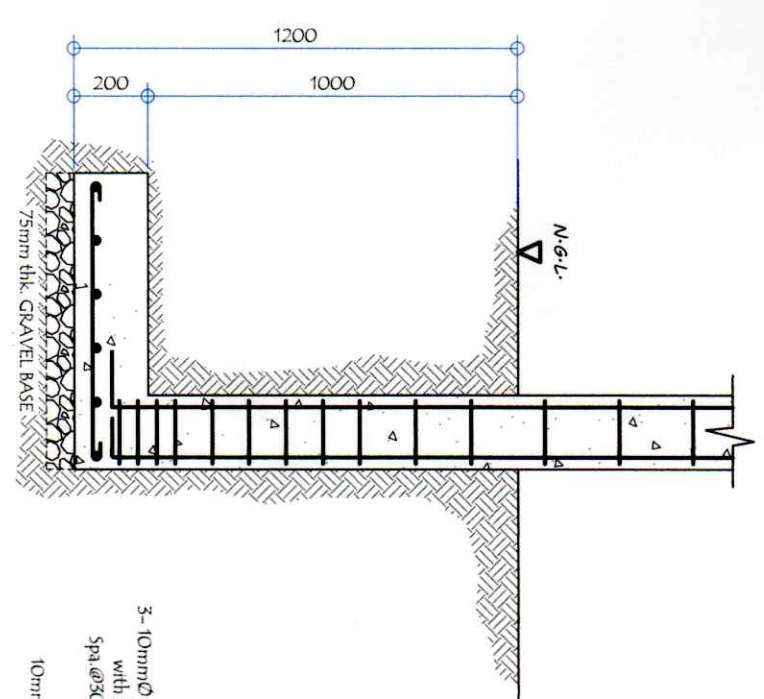
PLAN



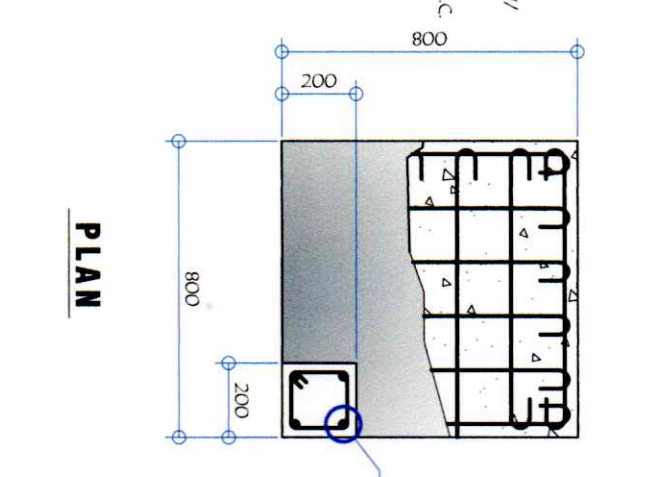
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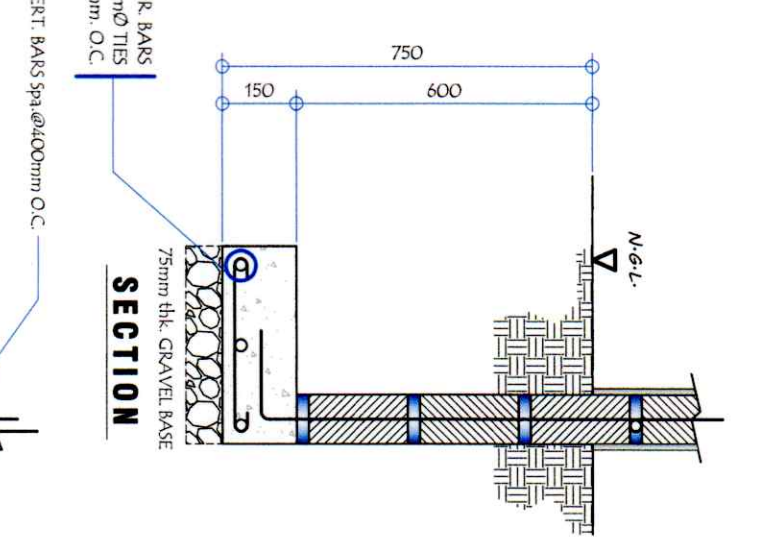
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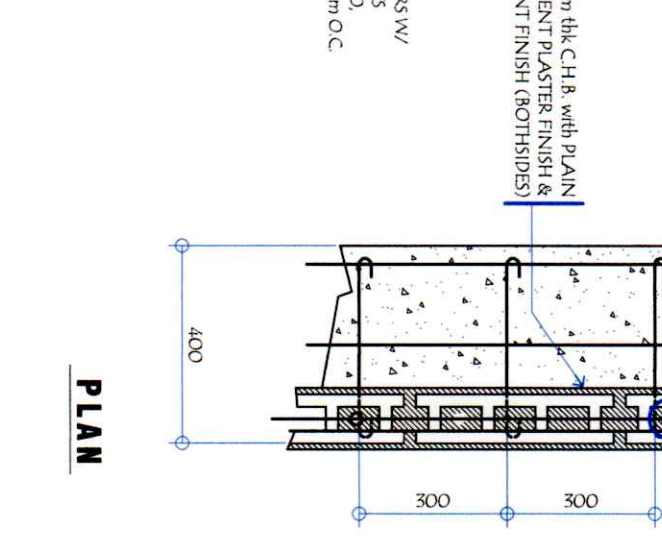
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PLAN



SECTION



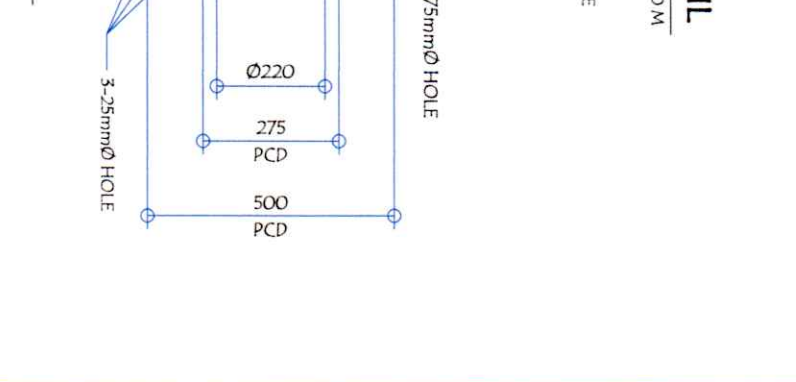
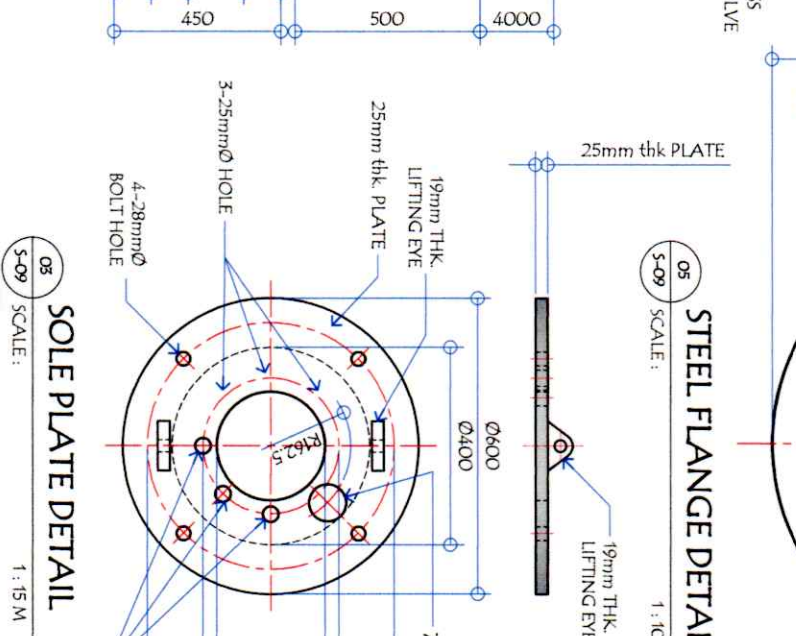
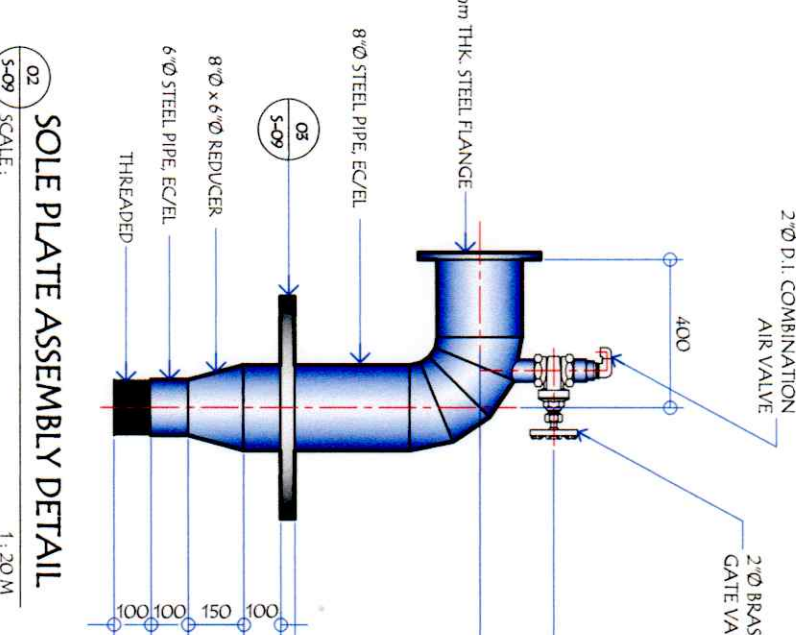
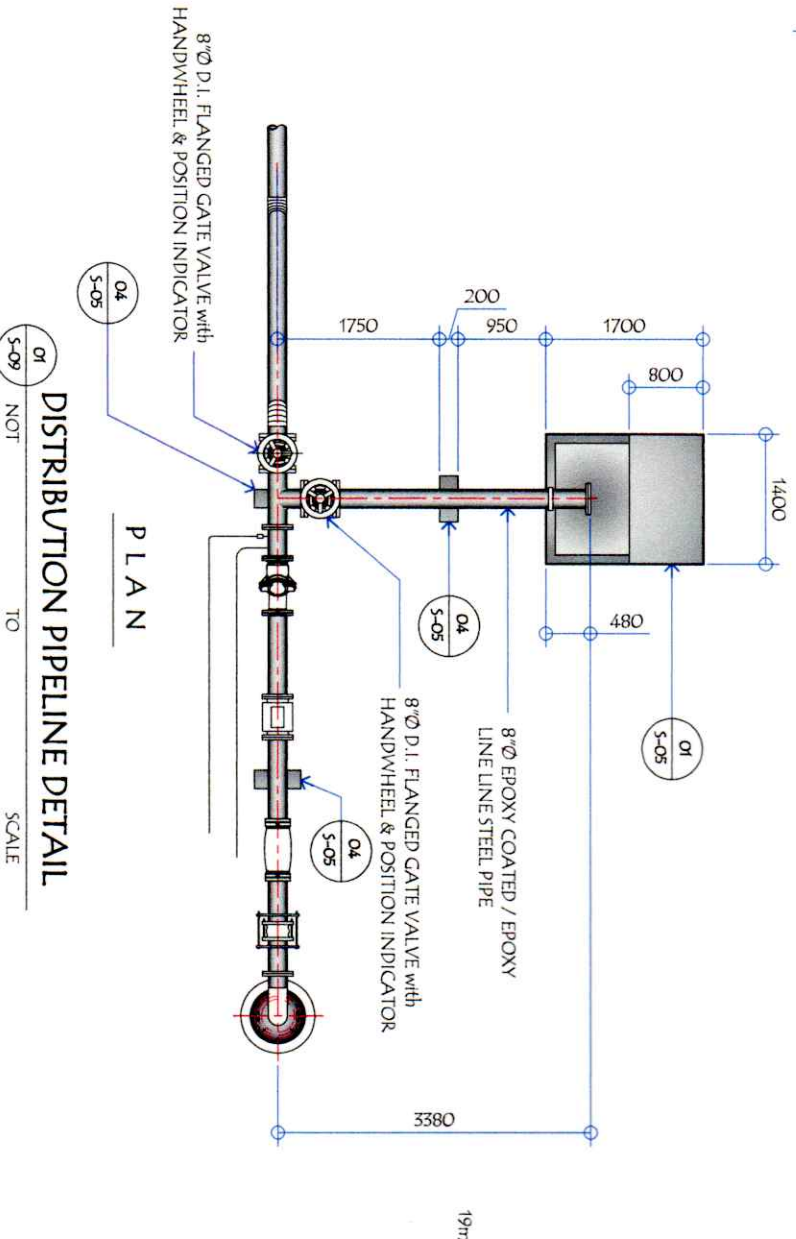
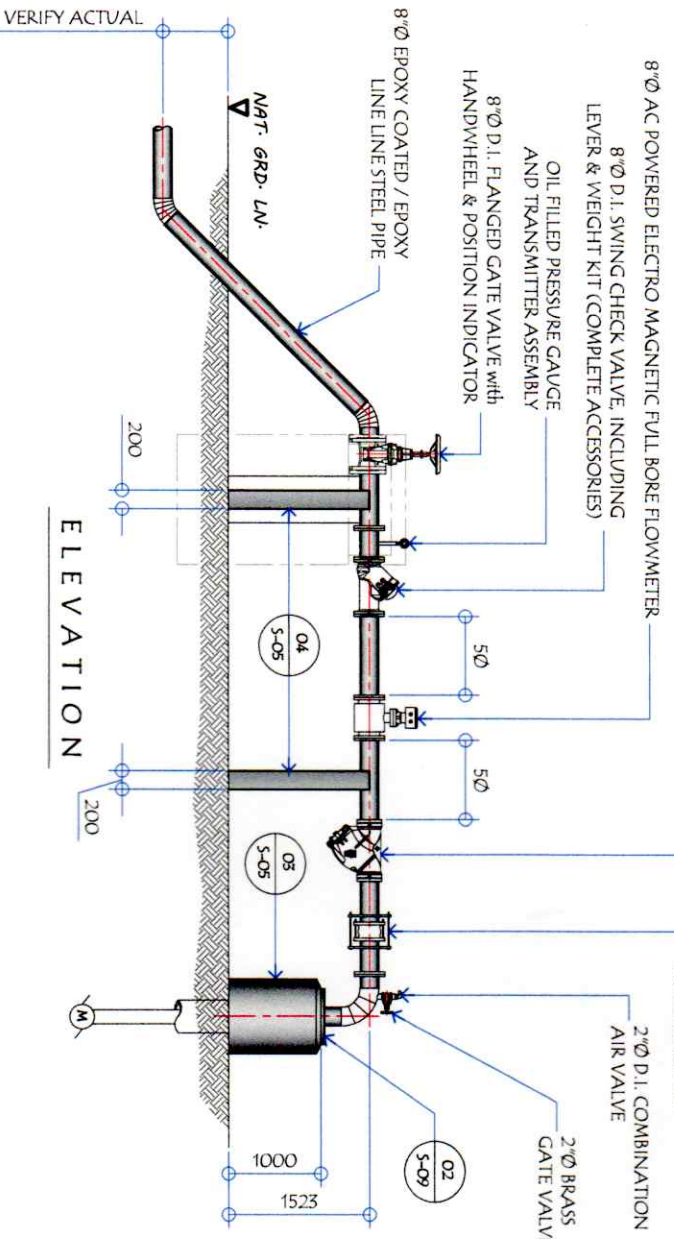
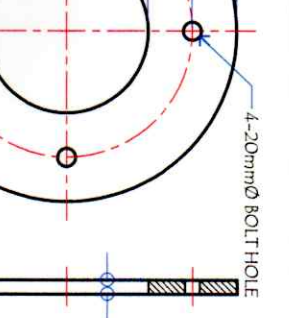
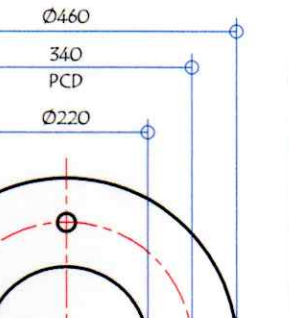
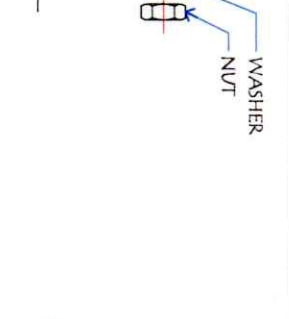
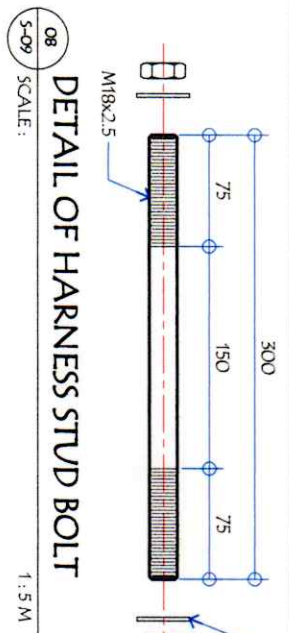
PLAN

01 F3C3 DETAIL (PERIMETER FENCE)
SCALE: 1:20 M

02 F4C4 DETAIL (PERIMETER FENCE)
SCALE: 1:20 M

03 F5C5 DETAIL (PERIMETER FENCE)
SCALE: 1:20 M

04 WF-2 DETAIL (PERIMETER FENCE)
SCALE: 1:20 M



PLUMBING NOTES:

- GRADES OF HORIZONTAL PIPING RUN ALL HORIZONTAL PIPING IN PERFECT ALIGNMENT AND AT A FORM GRADE OF NOT LESS THAN TWO PERCENT (2%)
- CHANGE IN DIRECTION
ALL CHANGE IN DIRECTION SHALL BE MADE BY APPROPRIATE USE OF FORTY FIVE DEGREES (45°) WYES, LONG SWEEP QUARTER BEND, SIX-EIGHT OR SIXTEENTH BENDS. WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL, 1/8 BEND COMBINATION MAYBE USED ON VERTICAL STACKS AND SHORT QUARTER BENDS MAYBE USED ON WASTE LINE. TEE AND CROSSES MAYBE USED IN VENT PIPES
- 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.
- 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 LEAKAGE.
- PIPE CLEAN-OUTS
PIPE CLEAN-OUTS ARE REQUIRED UNDER THE FOLLOWING CONDITIONS:
 - EVERY CHANGE IN HORIZONTAL DIRECTIONS EXCEEDING TWENTY-TWO AND ONE-HALF DEGREES (22 1/2°)
 - ONE AND ONE-HALF METERS (1.50 m) INSIDE THE PROPERTY LINE BEFORE THE HOUSE DRAINAGE CONNECTION.
 - EVERY FIFTEEN METERS (15.00 m) IN HORIZONTAL RUN OF PIPES
 - AT THE END OF ANY HORIZONTAL PIPE LINES.
- ALL PLUMBING WORKS SHALL BE DONE BY A LICENSED MASTER PLUMBER AND A LICENSED PLUMBING CONTRACTOR.

SPECIFICATIONS:

ALL PLUMBING WORKS AND INSTALLATION SHALL CONFORM WITH THE LATEST EDITION OF NATIONAL PLUMBING CODE RULES AND REGULATIONS OF THE ENFORCING AUTHORITY CONCERNED AND CITY

ALL HORIZONTAL PIPINGS SHALL RUN IN PRACTICAL ALIGNMENT AND SHALL BE PROVIDED WITH SLOPE OF NOT LESS THAN 1% SLOPE AND SUPPORTED OF ANCHORED EVERY 3.00m INTERVALS

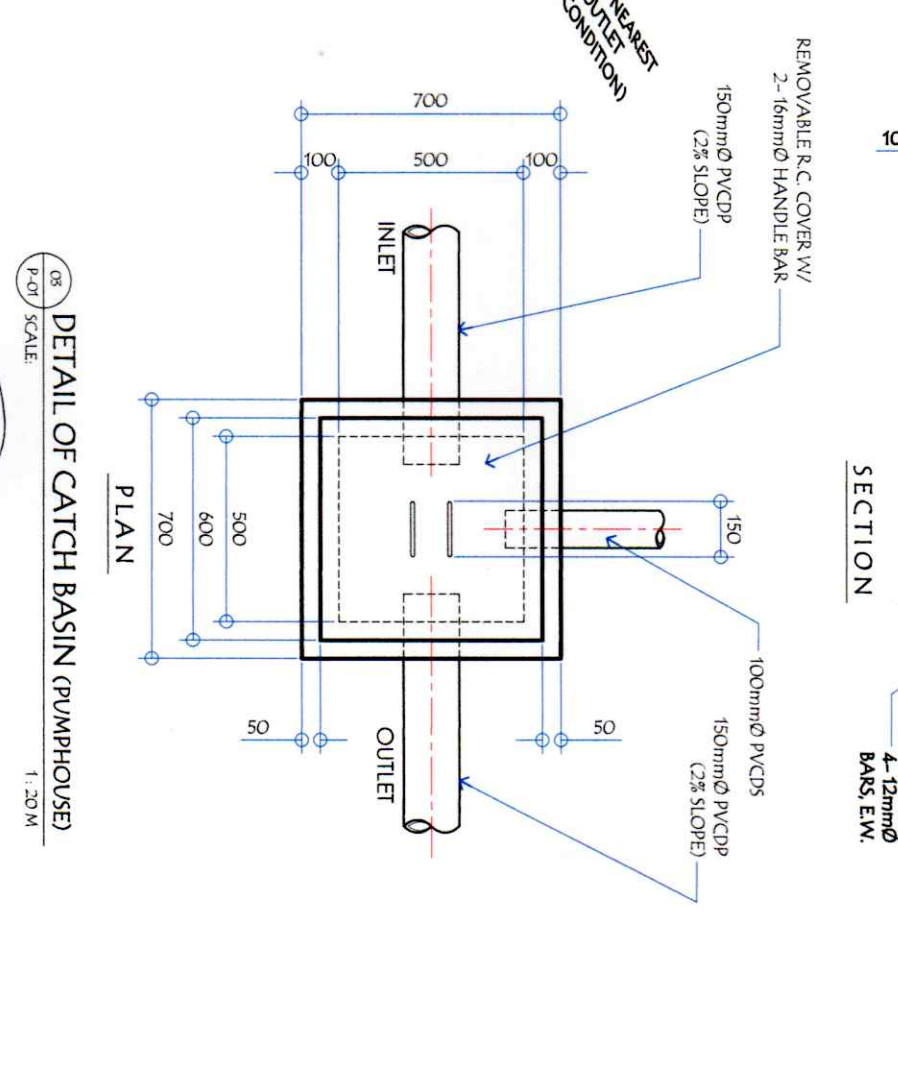
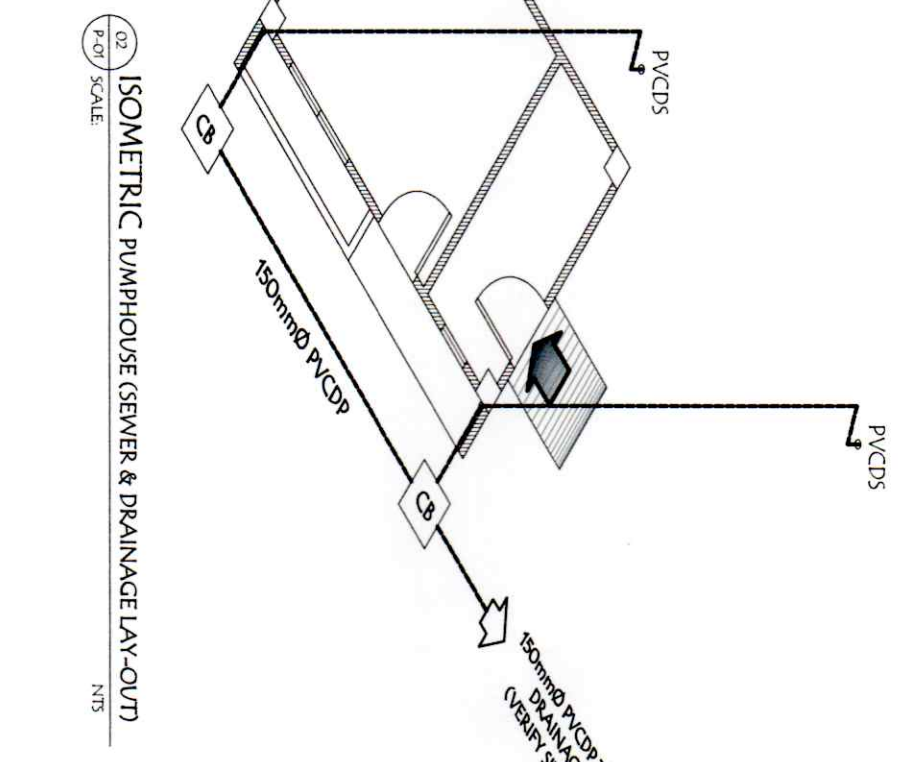
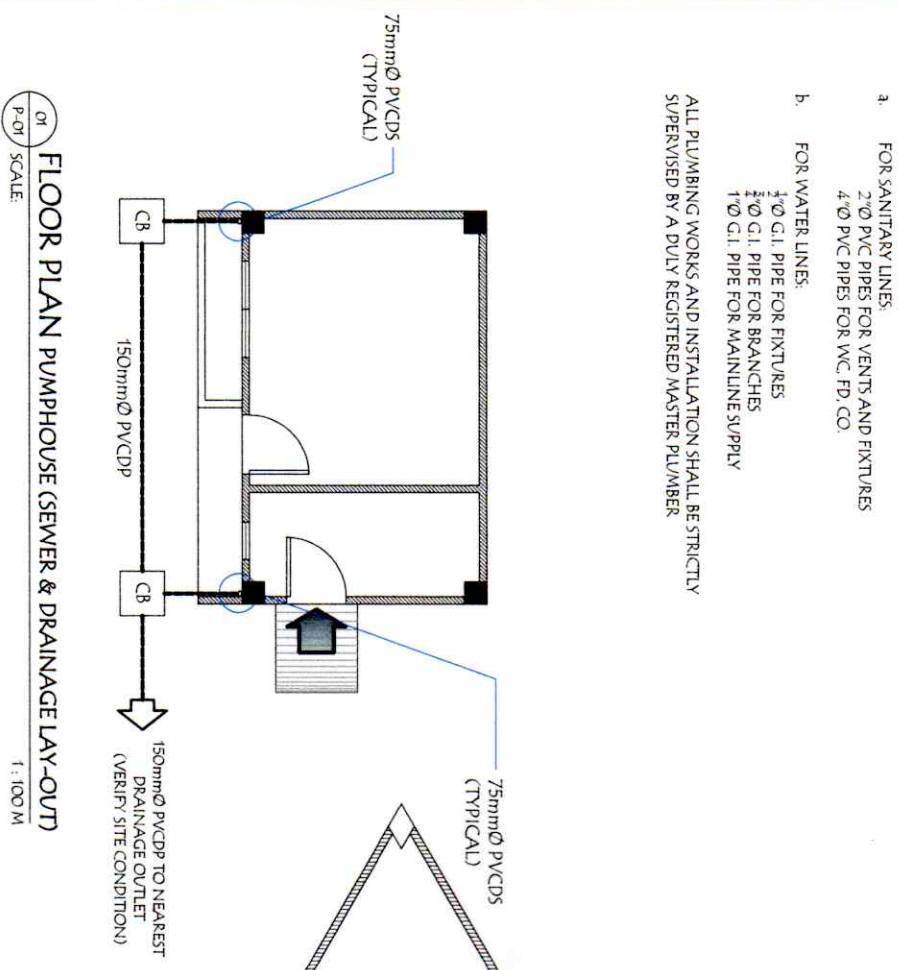
ALL MATERIALS SHALL BE NEW AND APPROVED TYPES:

- FOR SANITARY LINES:
 - 1" Ø G.I. PIPE FOR BRANCHES
 - 2" Ø PVC PIPES FOR VENTS AND FIXTURES
 - 4" Ø PVC PIPES FOR W.C. FD. CO
- FOR WATER LINES:
 - 1" Ø G.I. PIPE FOR FIXTURES
 - 1" Ø G.I. PIPE FOR BRANCHES
 - 1" Ø G.I. PIPE FOR MAINLINE SUPPLY

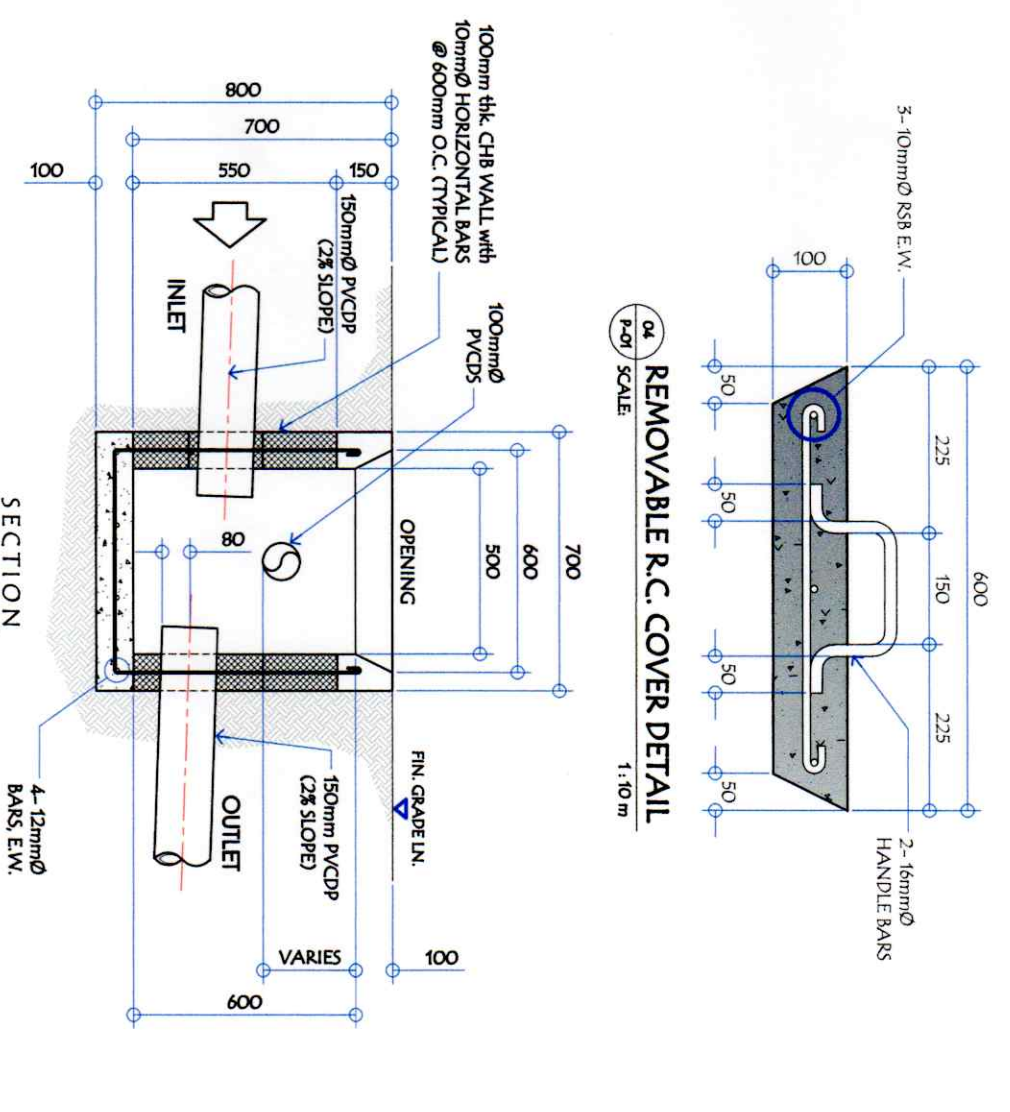
ALL PLUMBING WORKS AND INSTALLATION SHALL BE STRICTLY SUPERVISED BY A DUTY REGISTERED MASTER PLUMBER

PLUMBING LEGEND:

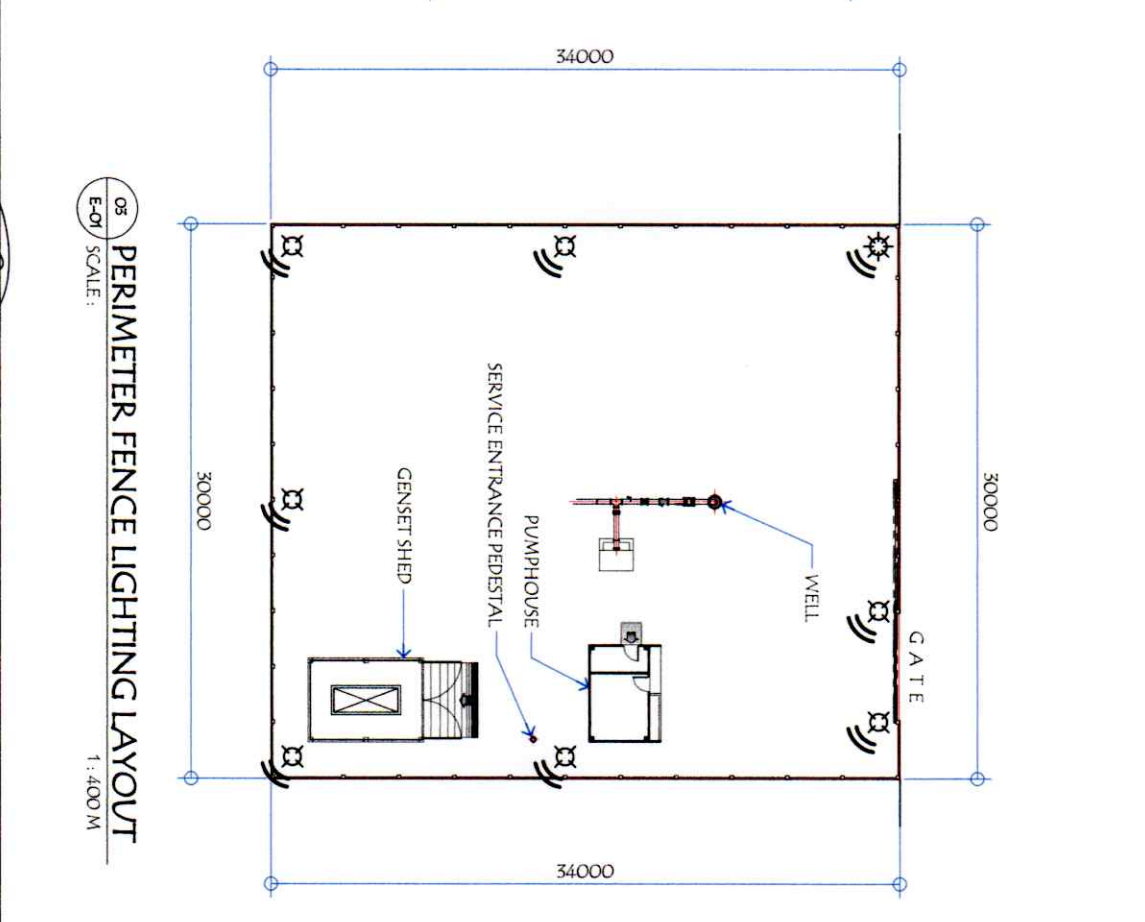
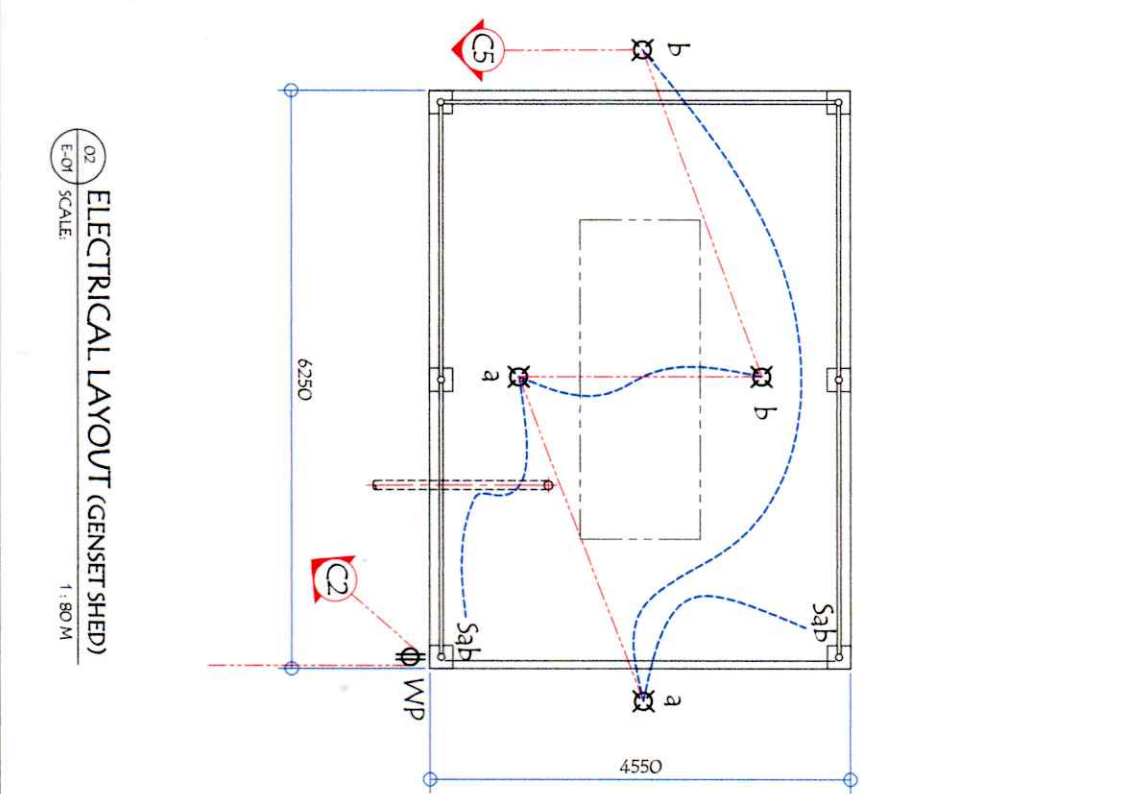
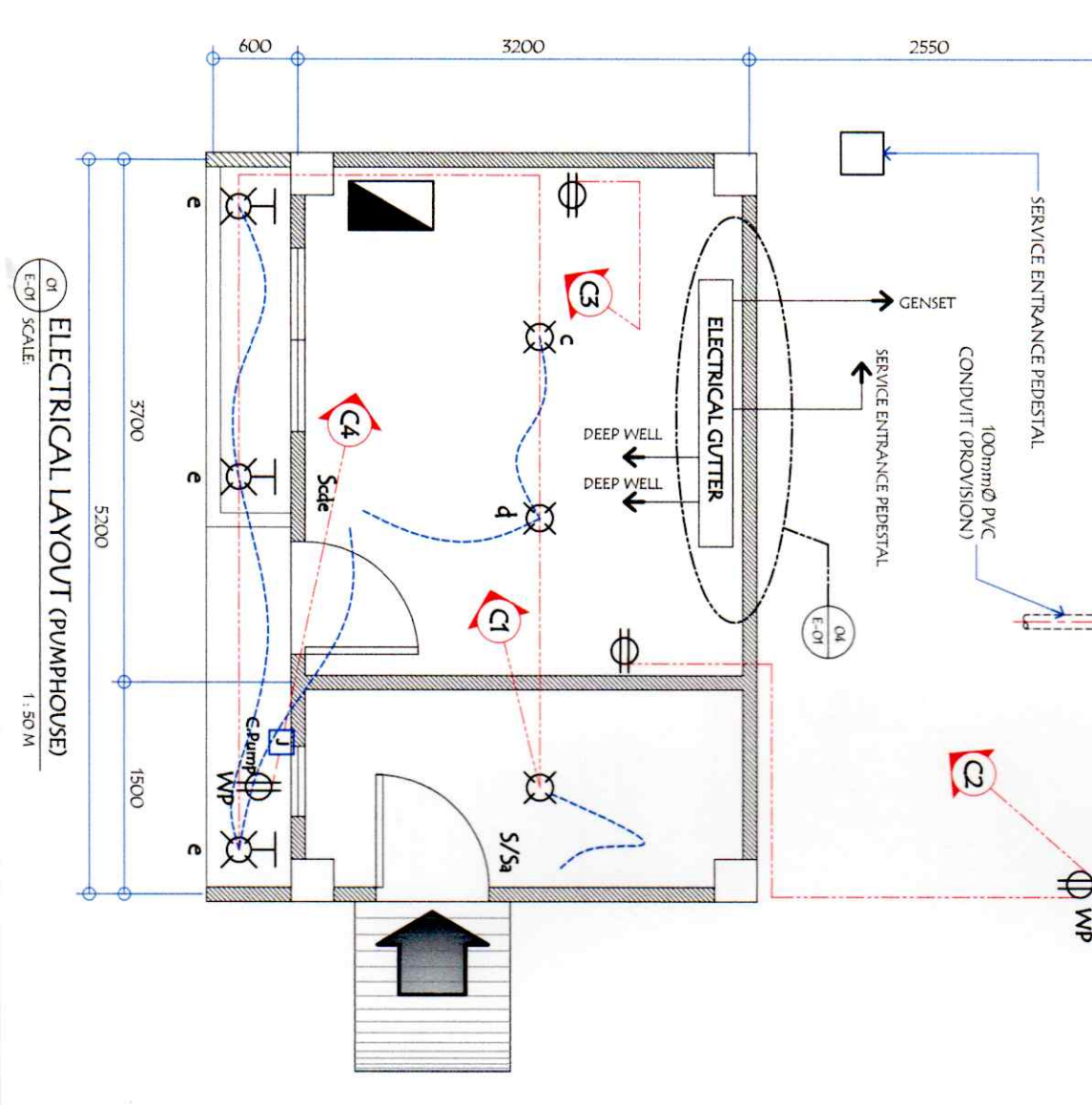
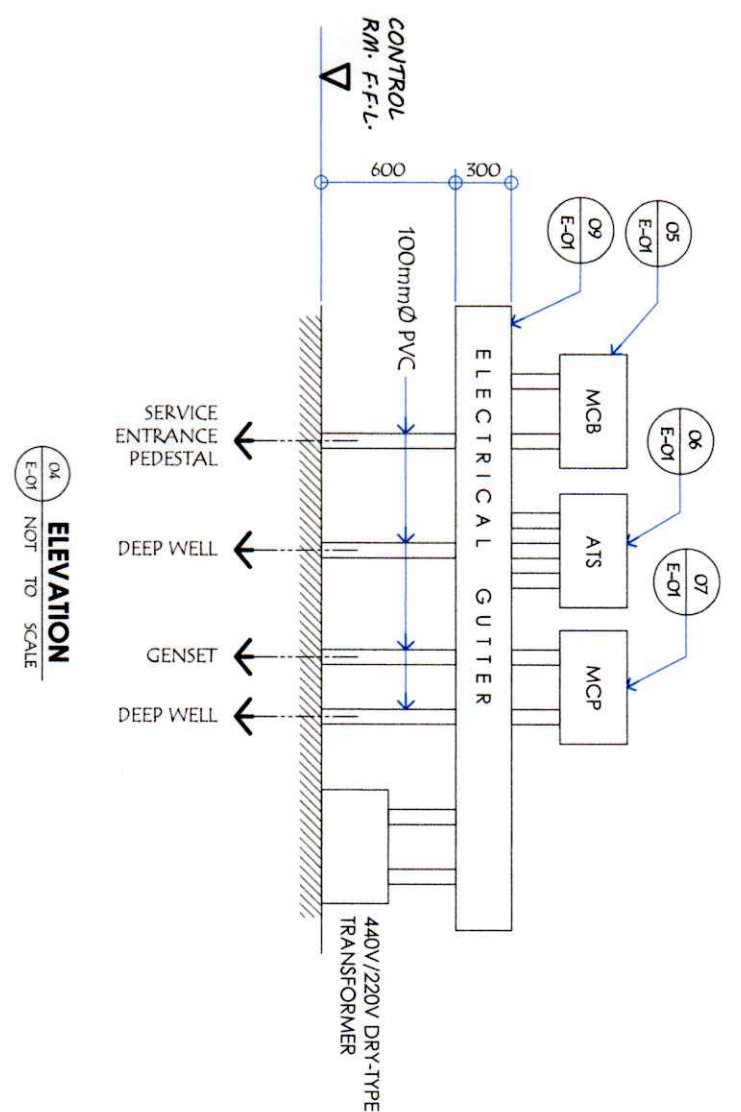
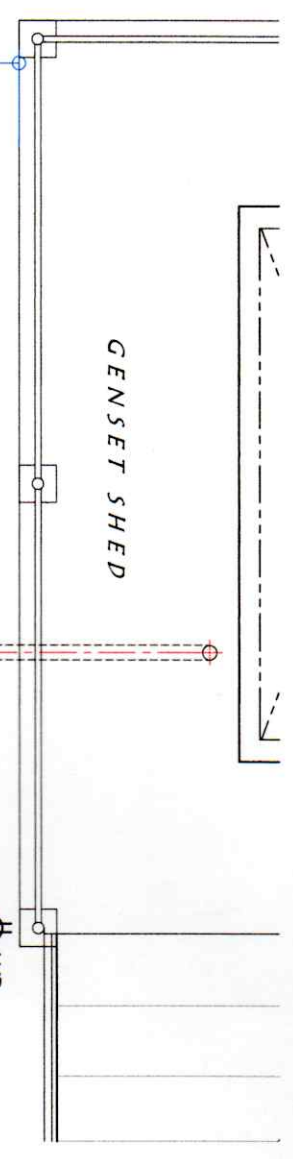
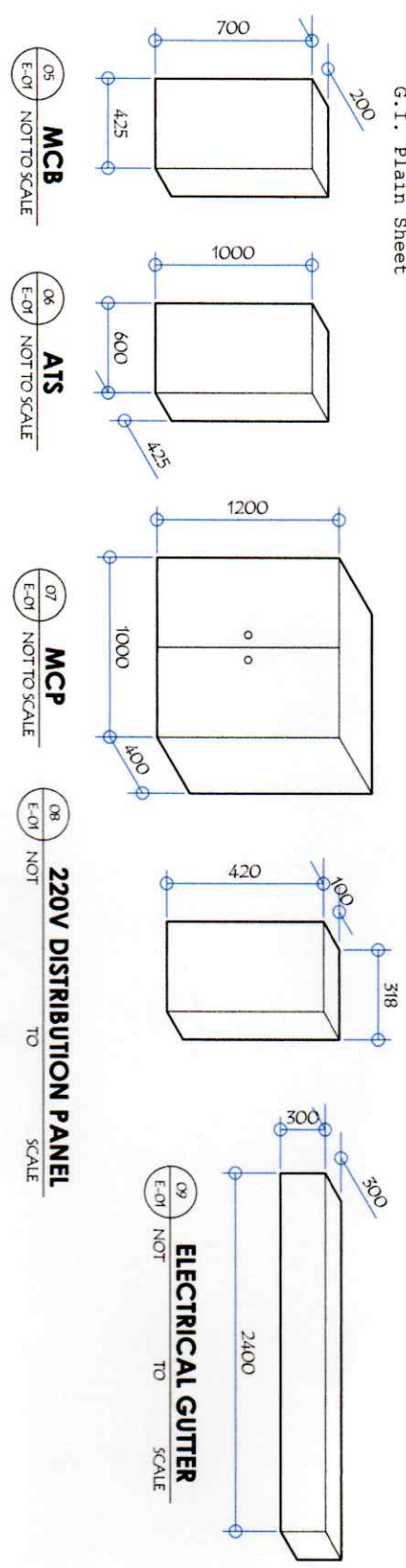
CB	CATCH BASIN
PVCDP	POLYVINYL CHLORIDE DRAINAGE PIPE
PVCDS	POLYVINYL CHLORIDE DOWNSPOUT



REMOVABLE R.C. COVER DETAIL



USE : 2mm Thick Pre-Painted
G.I. Plain Sheet



<p>GENERAL SANTOS CITY WATER DISTRICT E. FERNANDEZ STREET, BRGY. LAGA, GEN. SANTOS CITY ENGINEERING & CONSTRUCTION DEPARTMENT PLANNING AND DESIGN DIVISION TEL. NO. : (083) 552 - 3824</p>		<p>PROFESSIONAL ELECTRICAL ENGINEER</p> <p>REG. NO. _____ PR. NO. _____ TIN. NO. _____ DATE: _____</p>		<p>PROJECT AND LOCATION</p> <p>PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSSET SHED, & PERIMETER FENCE</p> <p>LOCATION : BRJA HOMES, NAPAL ROAD, BRGY. SAN ISDRO, GSC</p>		<p>CHECKED:</p> <p>ENGR. MARIA CELIA N. DANDAN O.C. - PDD</p>		<p>REVIEWED:</p> <p>ENGR. ROGELIO A. BESANA, JR. ACM, OPERATIONS & TECHNICAL SERVICES</p>		<p>APPROVED:</p> <p>ENGR. ARN B. GELLANGARIN GENERAL MANAGER A</p>		<p>SHEET CONTENTS</p> <p>AS SHOWN</p>		<p>SHEET NO.</p> <p>E-01</p>	
<p>DATE: _____</p> <p>CHECKED BY: ESA DATE: Oct. 2021</p>												<p>18</p>		<p>20</p>	

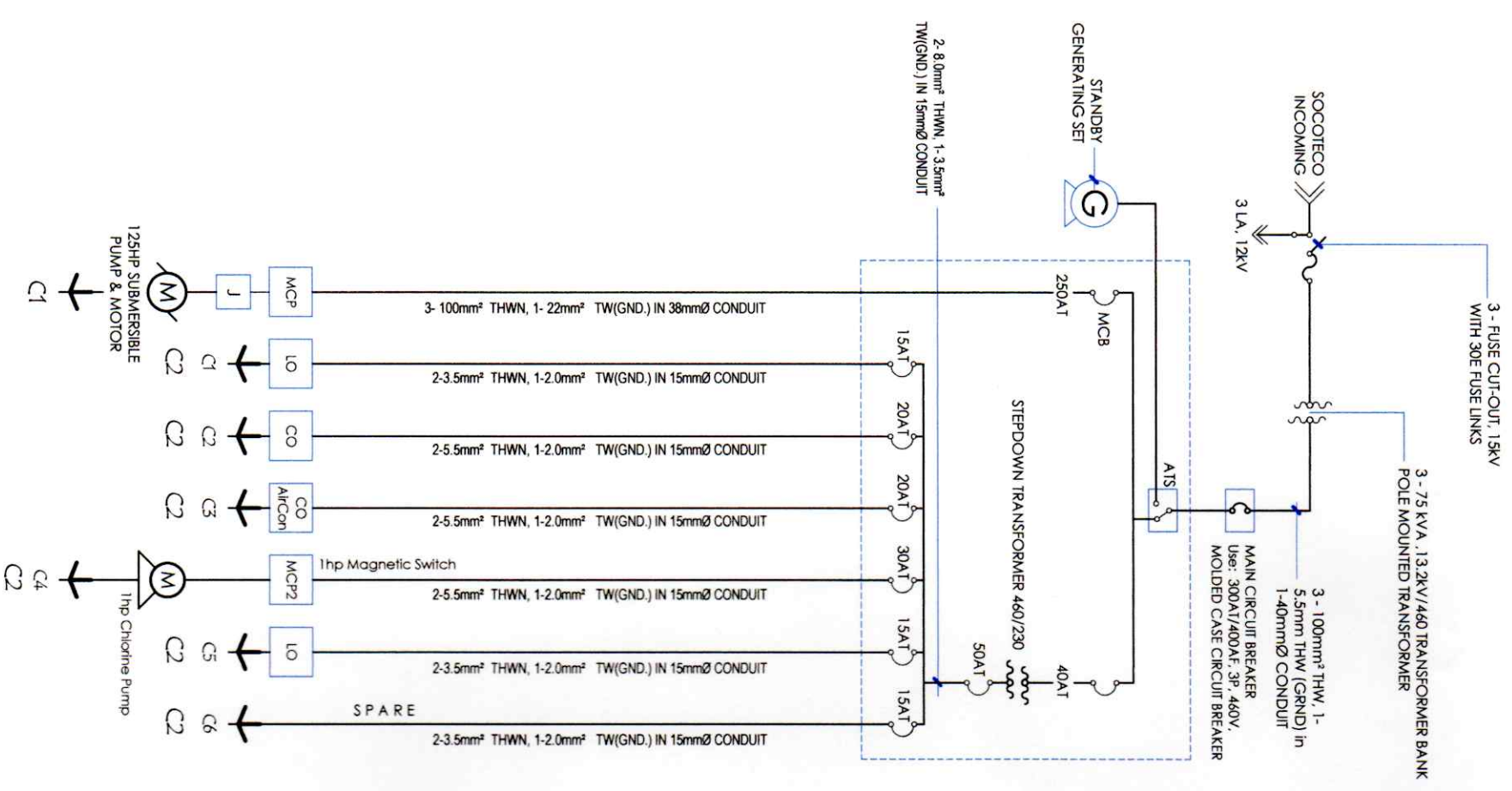
SCHEDULE OF LOADS:

CIRCUIT NO.	PARTICULARS	NO. OF OUTLET	WATTS	PHASE	VOLTS	AMPERE	CB RATING	WIRE SIZE AND CONDUIT	VOLTAGE:	
									220	2
1	Lighting Outlet, LED Lamp	6	600	1	230	2.61	15 AT	2-5.5mm ² THWN, 1-2.0mm ² TW(GND.) IN 15mm ^Ø CONDUIT	220	1
2	Convenience Outlet	3	1,500	1	230	13.04	20 AT	2-5.5mm ² THWN, 1-2.0mm ² TW(GND.) IN 15mm ^Ø CONDUIT	220	1
3	ACU, 1 Hp Split Type Magnetic Switch w/ Built-in 3-Prong Outlet	1	746	1	230	3.25	20 AT	2-5.5mm ² THWN, 1-2.0mm ² TW(GND.) IN 15mm ^Ø CONDUIT	220	1
4	1 Hp Chlorinator pump	1	1,865	1	230	8.11	30 AT	2-5.5mm ² THWN, 1-2.0mm ² TW(GND.) IN 15mm ^Ø CONDUIT	220	1
5	Lighting Outlet, LED Lamp	4	400	1	230	1.74	15 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND.) IN 15mm ^Ø CONDUIT	220	1
6	SPARE	1	2,000	1	230	8.70	15 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND.) IN 15mm ^Ø CONDUIT	220	1
TOTAL			7,111						7,111	

COMPUTATION: @ 80% Demand Factor
 Demand load = 7,111 / 230 x 0.8DF = 24,775 A
 COMPUTATION FOR MINIMUM STEP DOWN TRANSFORMER 460V/230V:
 = 24,775 x 1.25 = 30,97 AMP5
 KVA = 30.97 x 230 / 1000
 KVA = 7.11
 USED: 10 KVA, 460V PRL/230V SECONDARY DRY TYPE STEP DOWN TRANSFORMER
 FEEDER: 2 - 8mm² THWN wire, 1 - 3.5mm² TW (GND) IN 20mm^Ø CONDUIT
 MAIN: 50AT, 100AF, 2P, 230V

CIRCUIT NO.	PARTICULARS	NO. OF OUTLET	WATTS	PHASE	VOLTS	AMPERE			CB RATING	WIRE SIZE AND CONDUIT
						AB	BC	CA		
1	125 HP Submersible Motor	1	94,000	3	460				250 AT	3-100mm ² THWN, IN 1-2.2mm ² TW(GND.) IN 38mm ^Ø CONDUIT
2	LP 10 KVA Dry Type Xmer	1	8,811	1	460			19.15	40 AT	2-5.5mm ² THWN, IN 1-2.0mm ² TW(GND.) IN 15mm ^Ø CONDUIT
TOTAL			102,811					19.15		

COMPUTATION FOR TRANSFORMER REQUIREMENT:
 I = 1.25 x 102,811 / (1.73 x 460 x 0.80DF)
 I = 1.25 x 161.49
 I = 201.86 AMP5
 KVA = 102,811(1.25) / 0.80
 = 128,514 / 1000
 USE : 3 - 75 KVA, 13.2KV/460V TRANSFORMER BANK
 POLE MOUNTED TRANSFORMER



POWER SYSTEM SINGLE LINE DIAGRAM
 TO SCALE

GENERAL SANTOS CITY WATER DISTRICT
 E. FERNANDEZ STREET, BRGY. LAGAO, GEN. SANTOS CITY
 ENGINEERING & CONSTRUCTION DEPARTMENT
 PLANNING AND DESIGN DIVISION
 TEL. NO. : (083) 552-3824

PROFESSIONAL ELECTRICAL ENGINEER
 REG. NO. _____ TIN NO. _____
 PIR. NO. _____ DATE: _____

PROJECT AND LOCATION
 PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET SHED, & PERIMETER FENCE
 LOCATION : BRGA HOMES, NAPAL ROAD, BRGY. SAN ISIDRO, GSC

CHECKED: _____
REVIEWED: _____
APPROVED: _____

ENGR. MARIA CELIA N. DANDAN
 OIC - PDD

ENGR. ROGELIO A. BESANA, JR.
 AGM, OPERATIONS & TECHNICAL SERVICES





















ENGR. ARN B. GELLANGARIM
 GENERAL MANAGER A

AS SHOWN
 DRAWN BY: RRA REV. NO. _____
 CHECKED BY: ESA DATE: Oct. 2021

SHEET NO. **E-02**

SHEET NO. **19** TO **20**

LEGEND:

	—	CEILING LIGHT OUTLET
	—	200W SOLAR STREET LIGHT OUTDOOR LED LIGHT OUTLET
	—	WALL LAMP OUTLET
	—	DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE 10 AMP, 250 VOLT W/ MODERN PLATE COVER
	—	DUPLEX WEATHERPROOF CONVENIENCE OUTLET
	—	PANEL BOARD
	—	MOTOR CONTROL PANEL
	—	KILOWATT HOUR METER
	—	ONE GANG DEVICE SWITCH
	—	TWO GANG DEVICE SWITCH
	—	THREE GANG DEVICE SWITCH
	—	HOMERUN DIRECT TO PANEL BOARD
	—	RACEWAY CONDUIT CONCEALED IN CEILING
	—	CIRCUIT RUN
	—	SUBMERSIBLE PUMP MOTOR
	—	DOUBLE THROW
	—	JUNCTION
	—	GROUNDING SYSTEM
	—	ELECTRIC SERVICE ENTRANCE
	—	1hp CHLORINE BOOSTER PUMP

GENERAL NOTES:

1. ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, EXISTING APPLICABLE ORDINANCES, RULES AND REGULATIONS OF THE LOCAL GOVERNMENT AND WITH THE REQUIREMENTS OF THE LOCAL POWER COMPANY.
2. THE TYPE OF SERVICE POWER SUPPLY TO BE USED SHALL BE SINGLE-PHASE, 2-WIRE, 230V, 60 HERTZ, A.C
3. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF SERVICE ENTRANCE FOR CONNECTION TO THE POWER COMPANY SERVICE POINT.
4. UNLESS OTHERWISE SPECIFIED, THE MINIMUM SIZES OF WIRE AND GALVANIZED RIGID STEEL CONDUIT TO BE USED SHALL BE 3.5mm², 11mm AND 15mm NOMINAL DIAMETER, RESPECTIVELY. LIKEWISE ALL ELECTRICAL WIRES SHALL BE COLOR-CODED.
5. ALL LIGHTING CIRCUIT HOME RUNS AND CONVENIENCE OUTLETS SHALL BE WIRED WITH NOT LESS THAN 3.5 mm² IN SIZE.
6. WHEREVER REQUIRED AND NECESSARY, PULL OR JUNCTION BOXES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATION, ALTHOUGH SUCH BOXES ARE NOT SHOWN ON THE PLAN NOR MENTIONED IN THE SPECIFICATIONS.
7. ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE
8. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND OF THE APPROVED TYPE FOR LOCATION AND PURPOSE.
10. ALL WALL OUTLETS SHALL BE INSTALLED AT THE FOLLOWING HEIGHTS ABOVE THE FINISHED FLOOR LEVEL, UNLESS NOTED IN THE PLAN.
 - a) WALL SWITCHES @ 1300mm
 - b) WALL CONVENIENCE OUTLETS @ 300 mm
11. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT AND IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.

MOUNTING HEIGHTS:

CONVENIENCE OUTLETS	:	300mm FROM BOTTOM OF OUTLET TO FINISH FLOOR LEVEL.
WALL SWITCHES	:	1370mm FROM BOTTOM OF SWITCH TO FINISH FLOOR LEVEL.
PANEL BOARD	:	1380mm FROM TOP OF PANEL TO FINISH FLOOR LEVEL.
KILOWATT HOUR METER	:	1380mm FROM CENTER OF DEVICES TO FINISH GRADE LEVEL.

PROJECT AND LOCATION		PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET SHED, & PERIMETER FENCE		LOCATION: BRVA HOMES, NAPAL ROAD, BRGY. SAN ISDRO, GSC
REG. NO.	PROFESSIONAL ELECTRICAL ENGINEER	IN. NO.	CHECKED:	ENGR. MARIA CELIA N. DANDAN
PR. NO.	DATE:	DATE:	REVIEWED:	ENGR. ROGELIO A. BESANA, JR.
			APPROVED:	ENGR. ARN B. GELLANGARIN
			SHEET CONTENTS	AS SHOWN
			DRAWN BY: RRA	REV. NO.
			CHECKED BY: ESA	DATE: Oct. 2021
				SHEET NO.
				E-03
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