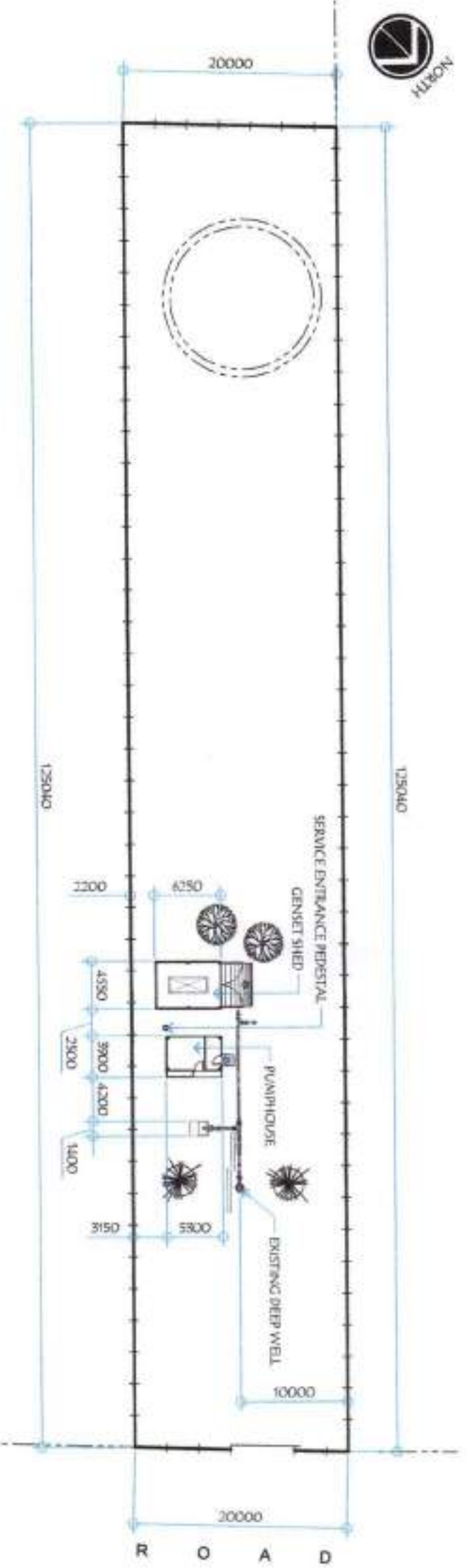




01 PERSPECTIVE
A-01 NOT TO SCALE



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

ARCHITECTURAL	
LINE AND GRADE	
LAND USE & ZONING	
STRUCTURAL	
SANITARY	
ELECTRICAL	
MECHANICAL	
ELECTRONICS	
SHEET CONTENTS	SHEET NO.
AS SHOWN	A-01
REVISIONS:	
NO. REV. NO. DATE	
01 20	

GENERAL SANTOS CITY WATER DISTRICT
E. FERREAZ STREET, 850Y LALAN, GEN. SANTOS CITY
ENGINEERING & CONSTRUCTION DEPARTMENT
PLANNING AND DESIGN DIVISION
TEL. NO.: (903) 502-3834

ENGR. BETTY A. GUNDAY
CIVIL ENGINEER

REG. NO. 79444
PR. NO. 94/858

TEL. NO. 909-459-6033
DATE: 02/22/2021

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

LOCATION: Park Colony, Brgy. Sarmat CVC

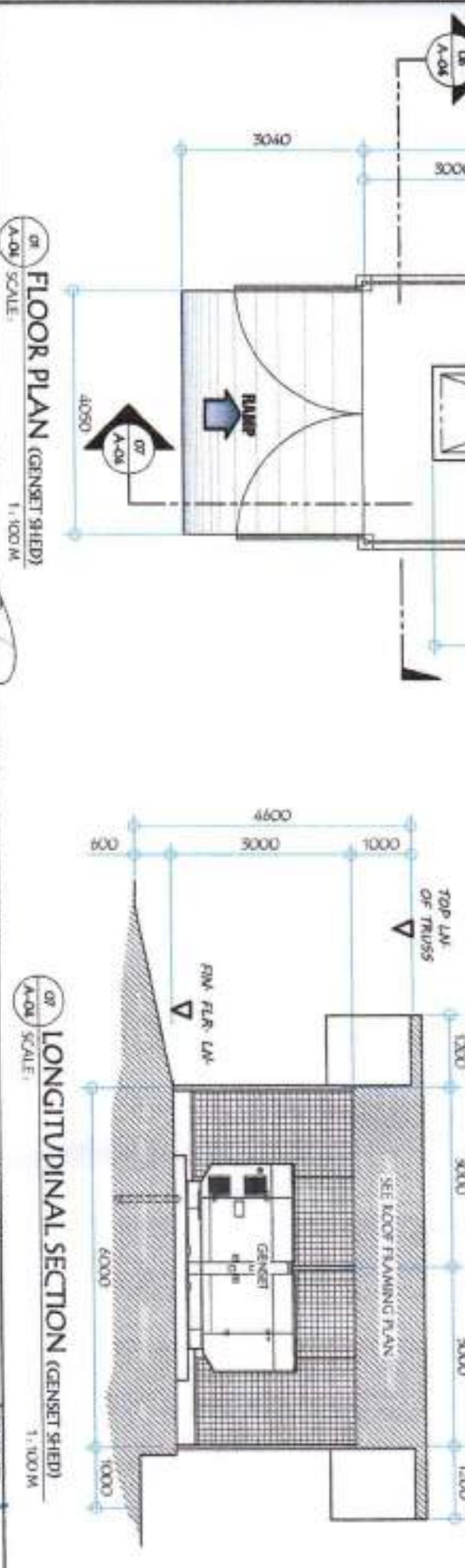
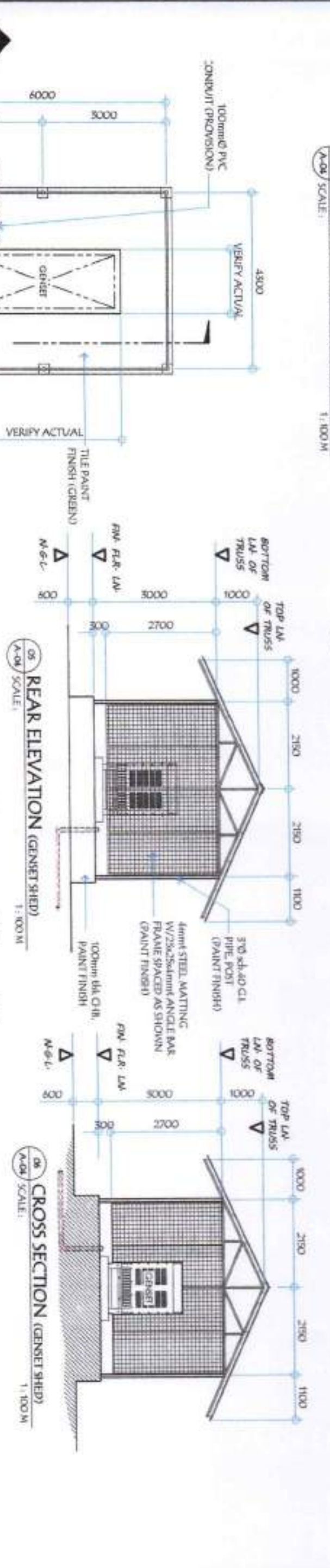
CHECKED: **ENGR. BETTY A. GUNDAY**
CIVIL ENGINEER

REVIEWED: **ENGR. ROGELIO A. RESANA, JR.**
ASST. DIVISION & TECHNICAL SERVICES

APPROVED: **ENGR. ARNOLD GELLANGARIN**
GENERAL MANAGER A

AS SHOWN

01 20



<p>GENERAL SANTOS CITY WATER DISTRICT ENGINEERING & CONSTRUCTION DEPARTMENT PLANNING AND DESIGN DIVISION TEL. NO. (083) 502-3834</p>		<p>ENGR. ROLAND G. GUNDAV CIVIL ENGINEER</p> <p>REG. NO. 78444 PR. NO. 9418684</p>		<p>PROJECT AND LOCATION</p> <p>PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET SHED, & PERIMETER FENCE</p> <p>LOCATION: Tula-Cabawan, Brgy. Simala, COC</p>		<p>CHECKED:</p> <p>ENGR. JOYCE A. GUNDAV</p> <p>CHECKER: ENGR. JOYCE A. GUNDAV</p>		<p>REVIEWED:</p> <p>ENGR. ROGELIO A. BESANA, JR.</p> <p>ADMINISTRATOR & TECHNICAL SERVICES</p>		<p>APPROVED:</p> <p>ENGR. ARNOLD B. GELLANGABIN</p> <p>GENERAL MANAGER</p>		<p>SHEET CONTENTS</p> <p>AS SHOWN</p>		<p>SHEET NO.</p> <p>A-04</p>	
												<p>04</p>		<p>20</p>	

ENGR. ROBERT A. GUNDAV
 CIVIL ENGINEER
 REG. NO. 78444
 DATE: 02/22/2021

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

CHECKED:
 ENGR. ROBERT A. GUNDAV
 CHECK NO. 4104022 / 200

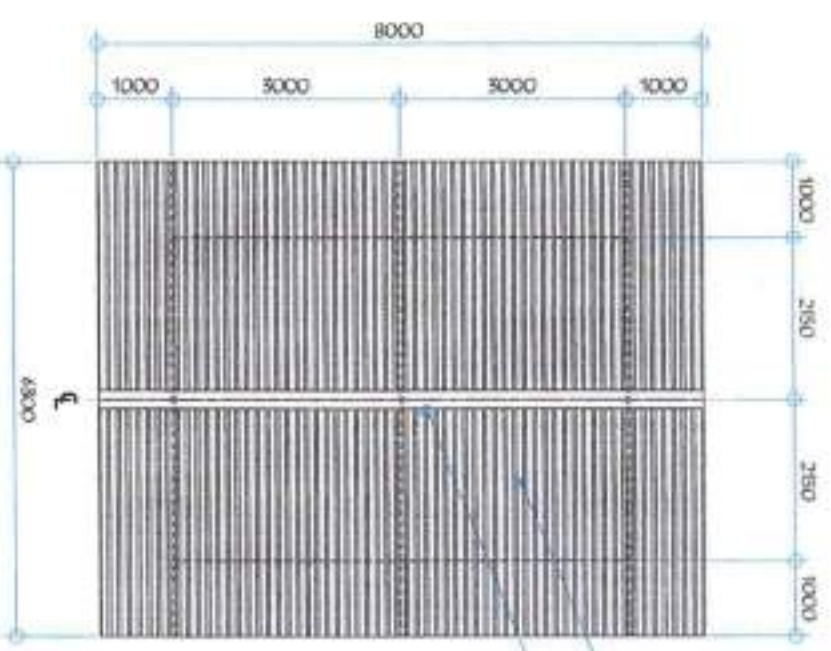
REVIEWED:
 ENGR. ROGELIO A. BESANA, JR.
 AGM OPERATIONS & TECHNICAL SERVICES

APPROVED:
 ENGR. ARN B. GELLANCA, BIN
 GENERAL MANAGER 4

SHEET CONTENTS
 AS SHOWN
 SHEET NO. 05

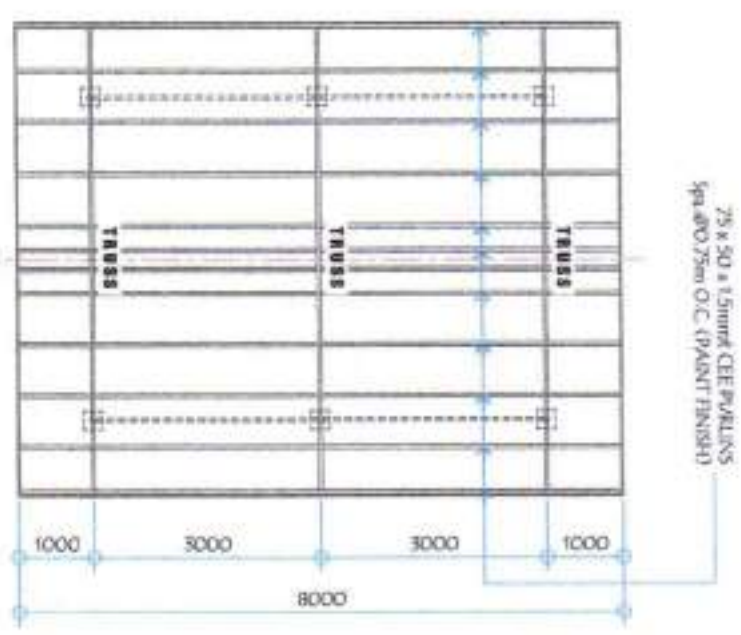
SHEET NO.
 A-05
 20

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

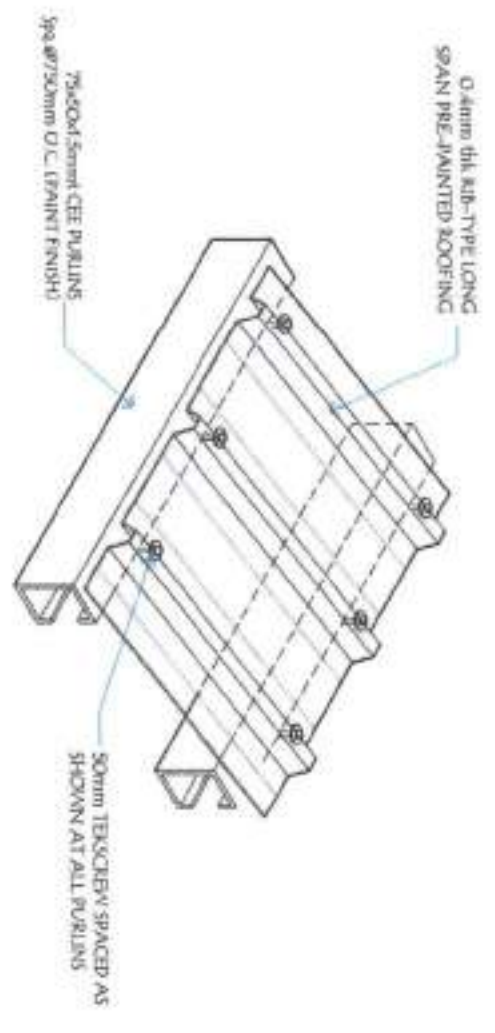


0.4mm thk rib-type long span pre-painted roofing
 G#26 PLAIN G.I. RIDGE ROLL
 DRAIN FINISH

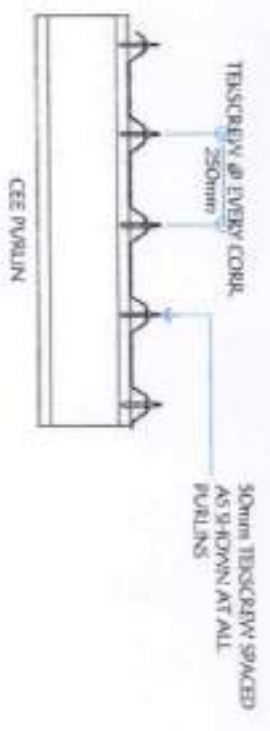
02 ROOF FRAMING PLAN (GENSET SHED)
 SCALE: 1:100 M



03 ISOMETRIC VIEW OF ROOFING TO PURLIN CONNECTION (GENSET SHED)
 N.T.S



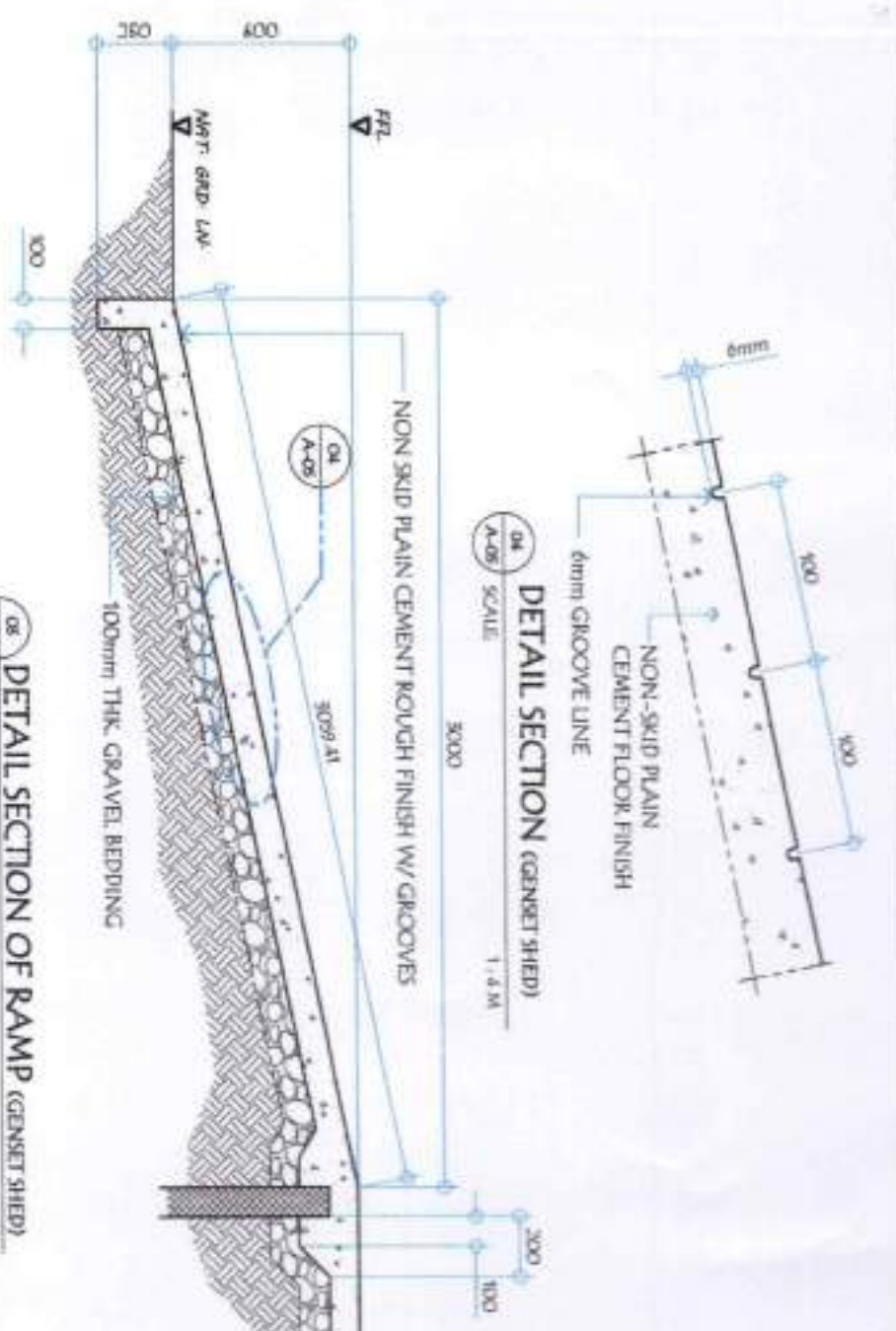
04 TEKSCREW SPACING (GENSET SHED)
 SCALE: NOT TO SCALE



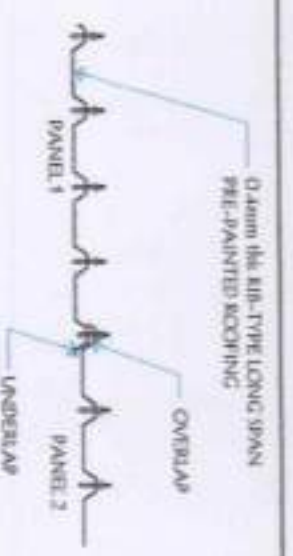
05 PURLIN SPlice (GENSET SHED)
 SCALE: NOT TO SCALE

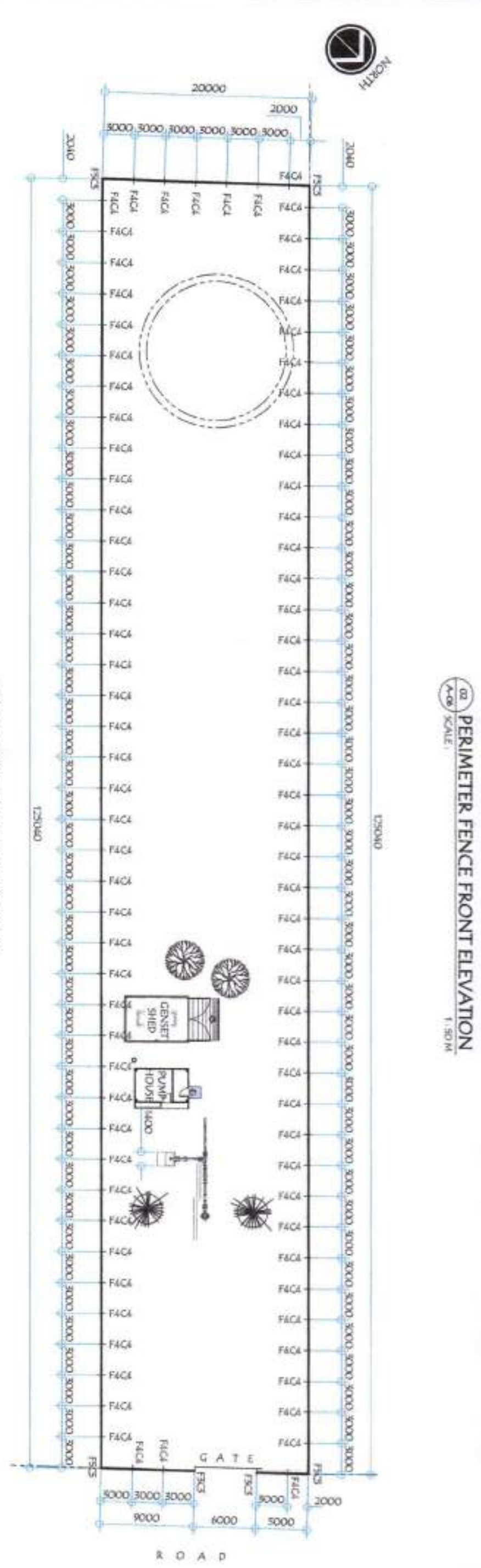
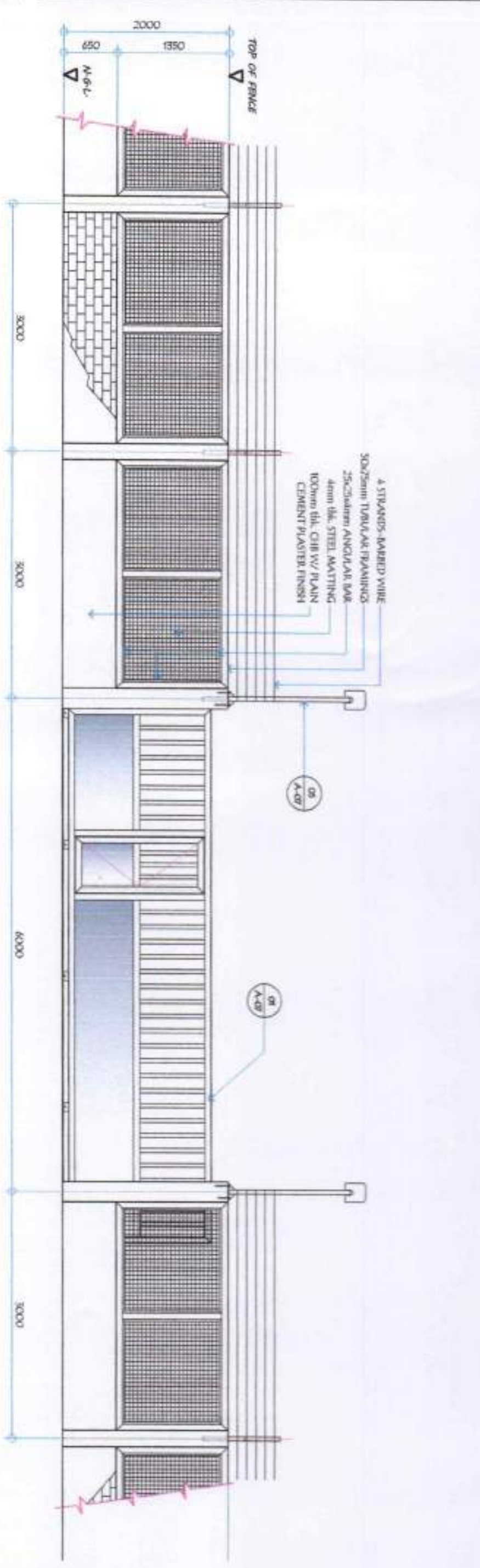


06 DETAIL SECTION OF RAMP (GENSET SHED)
 SCALE: 1:25 M



07 ROOF PANEL SIDE LAP DETAIL (GENSET SHED)
 SCALE: NOT TO SCALE





<p>GENERAL SANTOS CITY WATER DISTRICT E. ROMERO STREET, 3RD FLOR., GEN. SANTOS CITY ENGINEERING & CONSTRUCTION DEPARTMENT PLANNING AND DESIGN DIVISION TEL. NO. (083) 832-3834</p>		<p>PROJECT AND LOCATION</p> <p>PROPOSED CONSTRUCTION OF PUMPHOUSE, GENERATOR SHED, & PERIMETER FENCE</p> <p>LOCATION: Pura Cobay, 8th, Shamba, GSC</p>		<p>CHECKED:</p> <p>ENGR. ROLLY A. GUNDA OFFICIAL CHARGE, PDB</p>		<p>REVIEWED:</p> <p>ENGR. EDGELIO A. BESANA, JR. ADM. DIVISION & ELECTRICAL SERVICE</p>		<p>APPROVED:</p> <p>ENGR. ARN B. CILLANCAAN GENERAL MANAGER</p>		<p>SHEET CONTENTS</p> <p>AS SHOWN</p>		<p>SHEET NO.</p> <p>A-06</p>	
<p>ENGR. ROLLY A. GUNDA CIVIL ENGINEER</p> <p>REG. NO. 73446 P.R. NO. 99-409-003 DATE: 02/22/2021</p>		<p>PROJECT AND LOCATION</p> <p>PROPOSED CONSTRUCTION OF PUMPHOUSE, GENERATOR SHED, & PERIMETER FENCE</p>		<p>CHECKED:</p> <p>ENGR. ROLLY A. GUNDA OFFICIAL CHARGE, PDB</p>		<p>REVIEWED:</p> <p>ENGR. EDGELIO A. BESANA, JR. ADM. DIVISION & ELECTRICAL SERVICE</p>		<p>APPROVED:</p> <p>ENGR. ARN B. CILLANCAAN GENERAL MANAGER</p>		<p>SHEET CONTENTS</p> <p>AS SHOWN</p>		<p>SHEET NO.</p> <p>A-06</p>	
<p>THE NO. 914856</p>		<p>DATE: 02/22/2021</p>		<p>DATE: 02/22/2021</p>		<p>DATE: 02/22/2021</p>		<p>DATE: 02/22/2021</p>		<p>DATE: 02/22/2021</p>		<p>DATE: 02/22/2021</p>	
<p>06</p>		<p>20</p>		<p>06</p>		<p>20</p>		<p>06</p>		<p>20</p>		<p>06</p>	



GENERAL SANTOS CITY WATER DISTRICT
 E. REMARQUE STREET, BRGY. LAGAN, GEN. SANTOS CITY
 PLANNING AND DESIGN DIVISION
 TEL. NO. (083) 592-3084

ENGR. ROBERTA T. GUNDAV
 CIVIL ENGINEER
 REG. NO. 79446
 PIR. NO. 9416888

PROPOSED CONSTRUCTION OF
 PUMPHOUSE, GENERATOR, &
 PERIMETER FENCE
 PROJECT AND LOCATION
 LOCATION: PWD Compound, Brgy. Sinauan, GSC

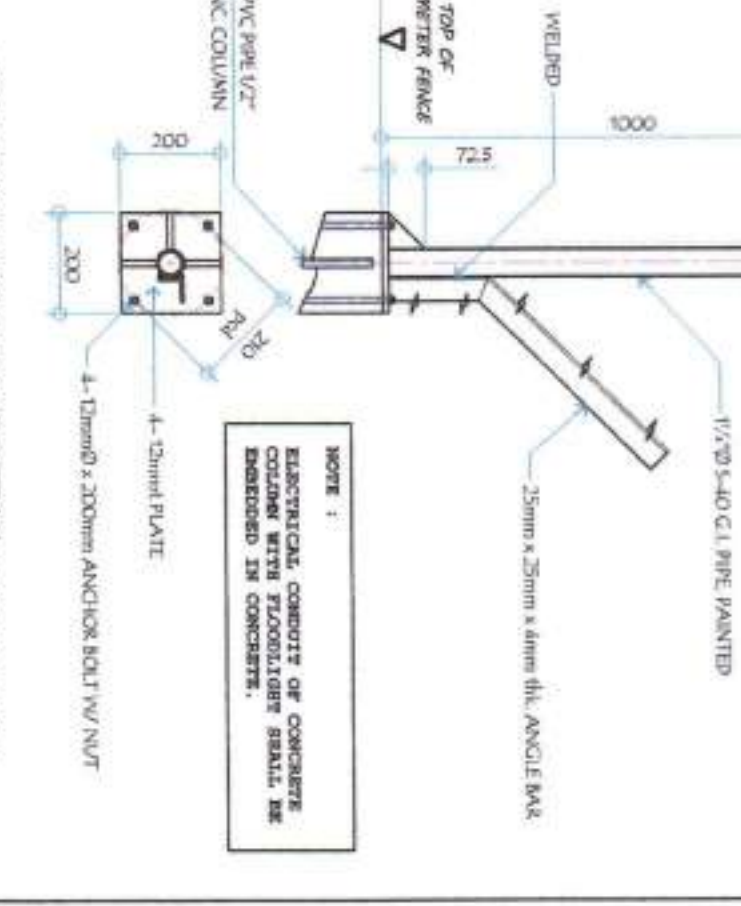
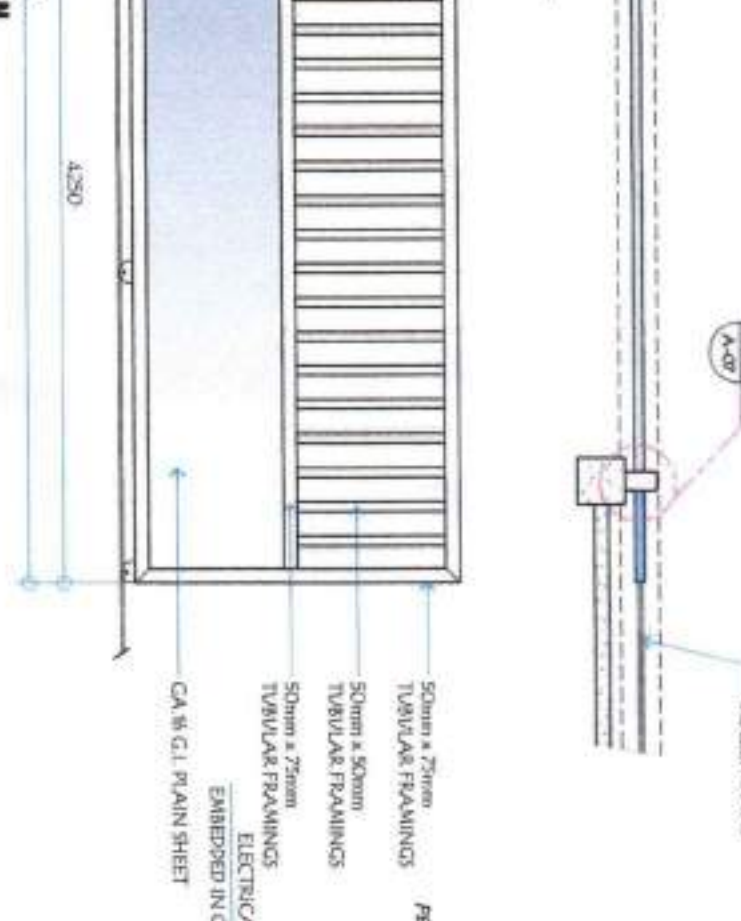
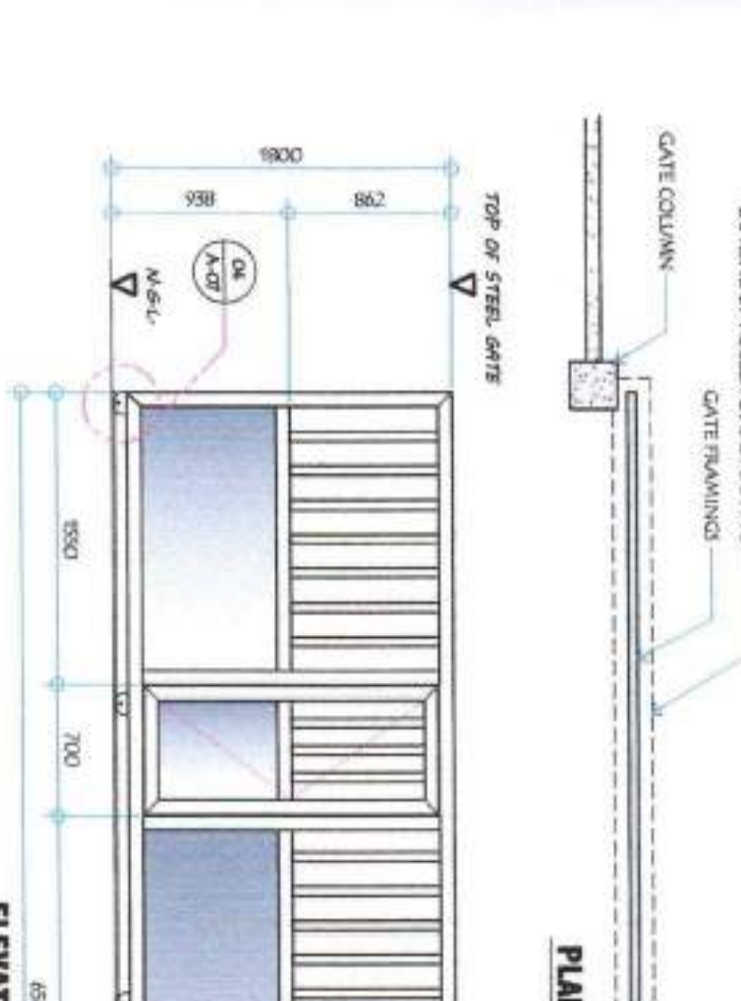
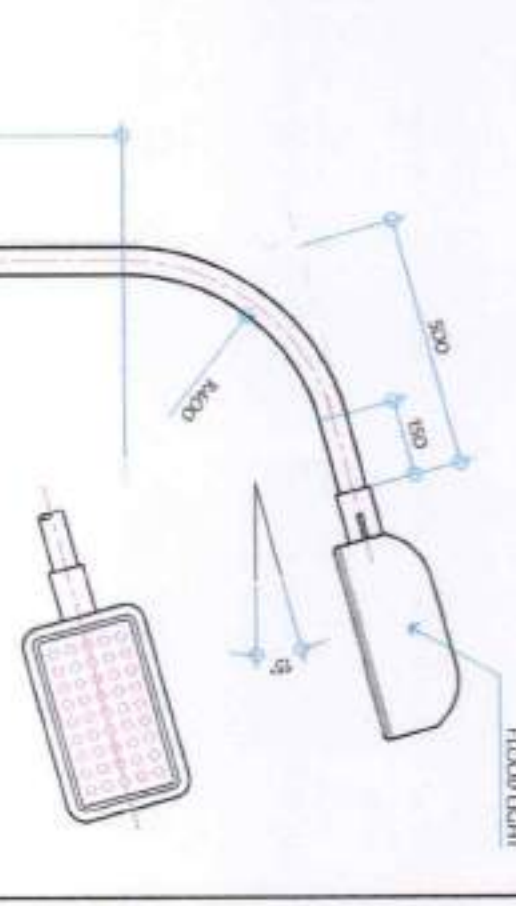
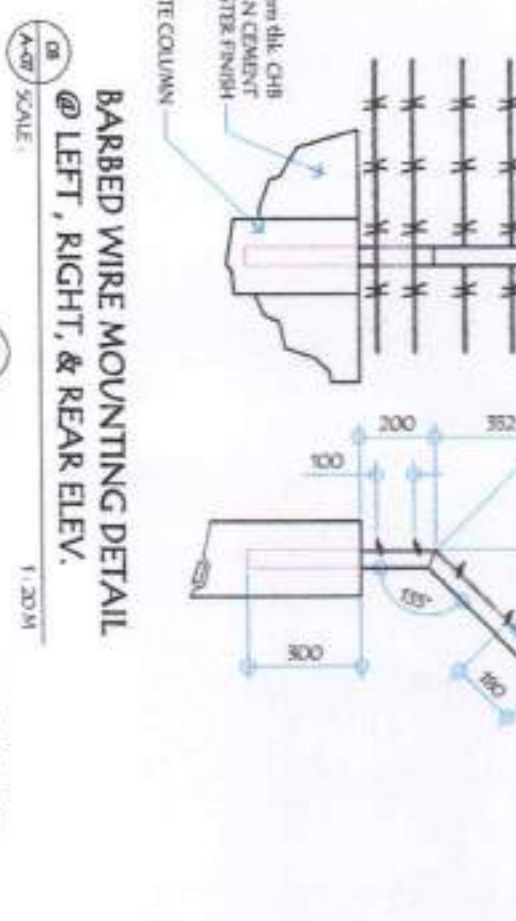
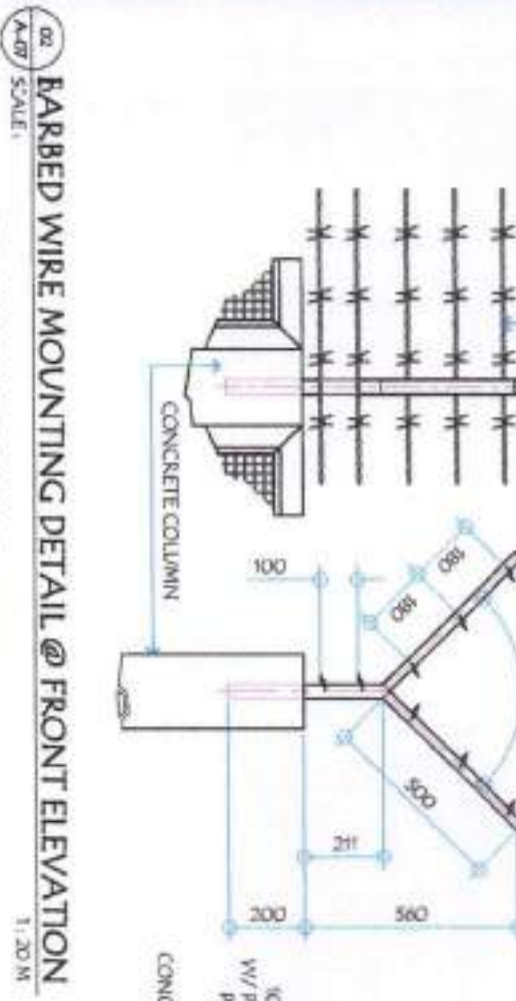
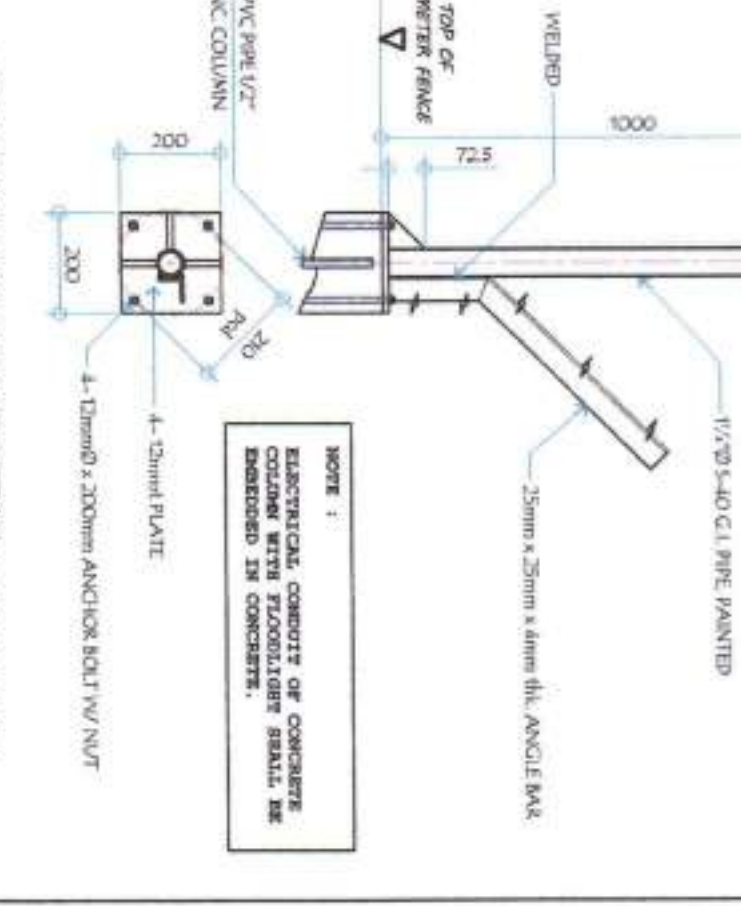
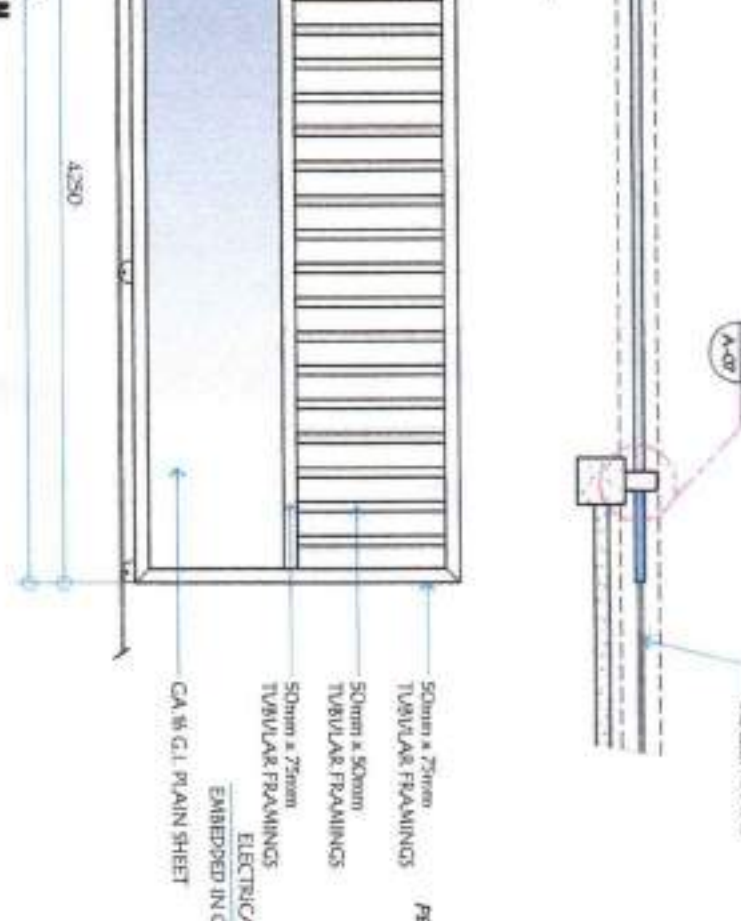
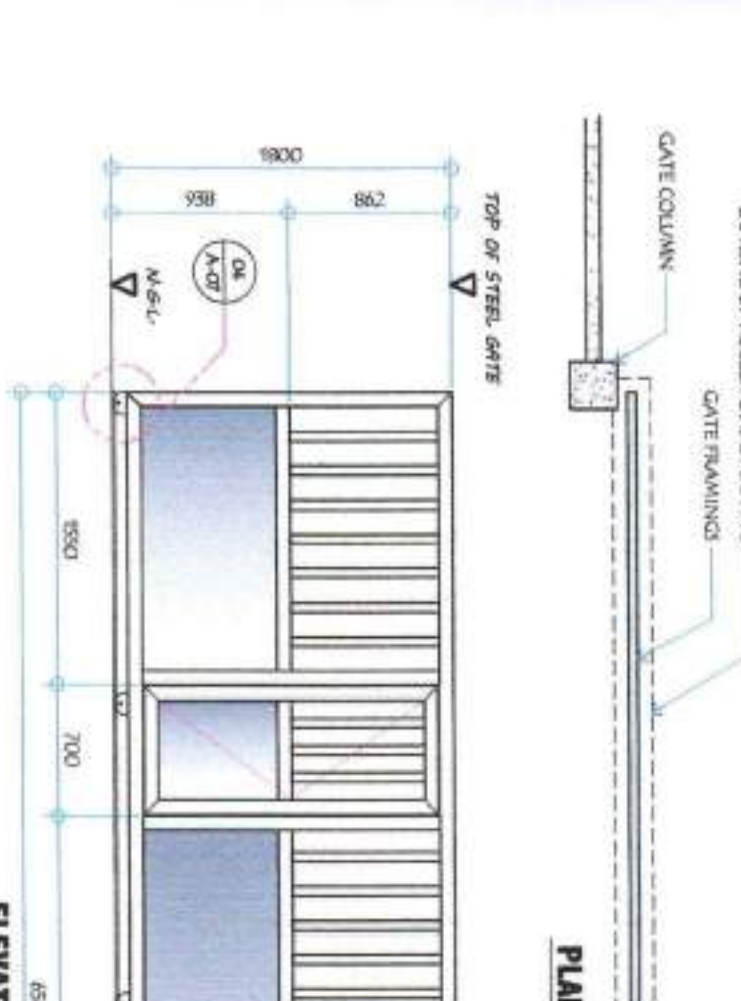
ENGR. ROBERTO A. BESANA, JR.
 ENGINEER-IN-CHARGE, REG.
 CHECKED:

ENGR. ROGELIO A. BESANA, JR.
 ADM. OFFICER/IN-CHARGE & TECHNICAL SERVICES
 REVIEWED:

ENGR. ARN B. GELLANGAAN
 GENERAL MANAGER
 APPROVED:

AS SHOWN
 SHEET COMMENTS
 DRAWN BY: BSA
 REV. NO.:
 DATE: MAR 2011

07 **20**
 SHEET NO.



NOTE:
 ELECTRICAL CONDUIT OR CONCRETE
 COULDER WITH FLOODLIGHT SHALL BE
 EMBEDDED IN CONCRETE.

GENERAL CONSTRUCTION NOTES

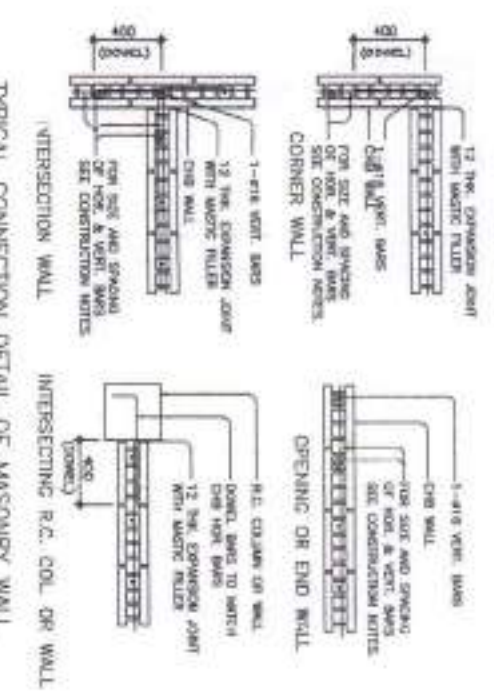
NOTES ON CONCRETE HOLLOW BLOCK WALLS

1. SUBJECT STRUCTURE SHOWN IS TYPE ALL CONCRETE HOLLOW BLOCKS AND GRAVIC BLOCKS SHALL BE REINFORCED AS SHOWN IN THE SCHEDULE OF CONCRETE HOLLOW BLOCKS AND GRAVIC BLOCKS REINFORCEMENT.
2. PROVIDE STIRRUP 4 TOP AND BOTTOM COLUMN REINFORCED WITH 4-#10s WITH SPACED TO AT 150mm ON CENTER WATER CONCRETE HOLLOW BLOCK STRENGTHS AND AT OVER 1.5M LENGTH OF HOLLOW HOLLOW BLOCK WALLS REINFORCE WITH STRUCTURAL PLANS.

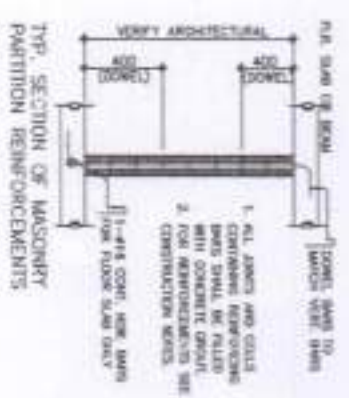
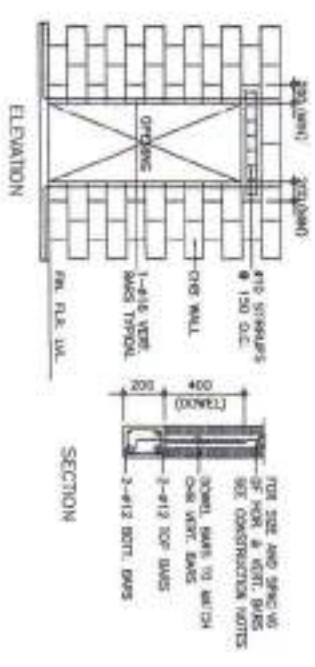
REINFORCEMENT	VERTICAL	NOTES
HORIZONTAL	1-#10 @ 150mm	A. MAXIMUM LAP AT SPICE = 300mm
	2-#10 @ 150mm	B. PROVIDE BAR WELD REINFORCEMENT AT CORNER AND END WALL
	3-#10 @ 150mm	C. WELD TO BE 300mm FOR ALL WALLS
	4-#10 @ 150mm	D. FOR REINFORCEMENT SEE CONSTRUCTION NOTES

REINFORCING CONCRETE LINTEL BEAM IN CONCRETE BLOCK WALLS

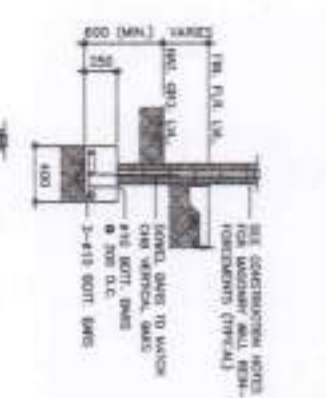
UNITES IN BLOCK WALLS	REINFORCEMENT
1.5M	1-#10 @ 150mm
2.0M	2-#10 @ 150mm
2.5M	3-#10 @ 150mm
3.0M	4-#10 @ 150mm
3.5M	5-#10 @ 150mm
4.0M	6-#10 @ 150mm
4.5M	7-#10 @ 150mm
5.0M	8-#10 @ 150mm



TYPICAL CONNECTION DETAIL OF MASONRY WALL



TYP. SECTION OF MASONRY PARTITION REINFORCEMENTS



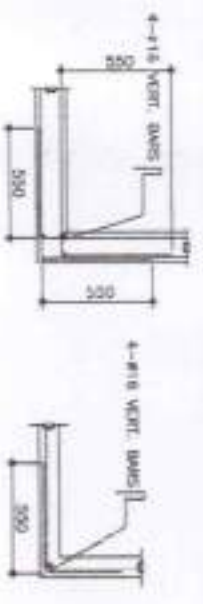
TYPICAL CONNECTION DETAIL OF R.C. WALL AT CORNERS

NOTES ON CONCRETE WALLS

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

WALL	REINFORCEMENT	THICKNESS	MIN. CONC. STRENGTH
1.5M	1-#10 @ 150mm	150mm	15 MPa
2.0M	2-#10 @ 150mm	200mm	20 MPa
2.5M	3-#10 @ 150mm	250mm	25 MPa
3.0M	4-#10 @ 150mm	300mm	30 MPa
3.5M	5-#10 @ 150mm	350mm	35 MPa
4.0M	6-#10 @ 150mm	400mm	40 MPa
4.5M	7-#10 @ 150mm	450mm	45 MPa
5.0M	8-#10 @ 150mm	500mm	50 MPa

2. REINFORCING BARS SHALL HAVE 20mm STANDARD CONCRETE COVER FROM FACE OF WALL EXCEPT FOR WALLS IN CONTACT WITH THE GROUND WHICH SHALL BE A MINIMUM OF 50mm FROM FACE OF WALL AND FOR EXTERIOR WALLS WHICH ARE IN CONTACT WITH THE GROUND SHALL BE 75mm FROM FACE OF WALL.
3. REINFORCING BARS SHALL HAVE 20mm STANDARD CONCRETE COVER FROM FACE OF WALL EXCEPT FOR WALLS IN CONTACT WITH THE GROUND WHICH SHALL BE A MINIMUM OF 50mm FROM FACE OF WALL AND FOR EXTERIOR WALLS WHICH ARE IN CONTACT WITH THE GROUND SHALL BE 75mm FROM FACE OF WALL.



NOTES ON WELDS

1. USE L_{dmin} DISTANCES FOR ALL REBAR WELDS.
2. WELD SPALLS EXCEPT THE FULL STRENGTH OF REBARIS JOINED WELDS EMPLOYEE SHOWN ON DETAILS IN THE DRAWINGS.

NOTES ON STRUCTURAL STEEL

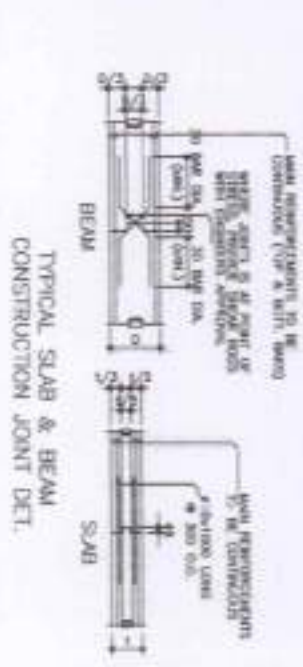
1. STRUCTURAL STEEL TO BE USED FOR FABRICATION AND ERECTION OF THE STRUCTURE SHALL COMPLY WITH ALL THE REQUIREMENTS OF AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING (LAST EDITION) OTHERWISE INDICATED.
2. ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO AISC STRUCTURAL STEEL SHAPES OTHERWISE INDICATED.
3. ALL WELDED CONNECTIONS SHALL DEVELOP THE FULL STRENGTH OF THE MEMBERS CONNECTED.
4. UNLESS OTHERWISE SPECIFIED ALL WELDED JOINTS SHALL CONFORM TO AISC WELDED JOINTS.
5. ALL BOLTS USED SHALL BE GRADE 50 UNLESS OTHERWISE INDICATED SHALL BE ASTM A 307 - BOLTS.

NOTES ON EMBEDDED PIPES

- A. ALL EMBEDDED PIPES FOR UTILITIES, ETC. THAT PASS THROUGH WALLS SHALL NOT EXCEED 100mm IN DIAMETER ON 1/2" BEAM SPACING UNLESS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
- B. NO PIPES SHALL BE ALLOWED TO PASS THROUGH VERTICALLY.
- C. NO PIPES SHALL BE EMBEDDED IN CEILING.

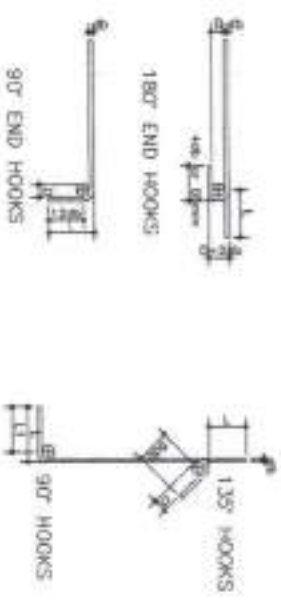
NOTES ON CONSTRUCTION JOINTS IN CONCRETE

1. WHERE A CONSTRUCTION JOINT IS TO BE MADE, THE SURFACE OF CONCRETE SHALL BE CLEANED AND ALL LAMINAE AND STIRRUPS WITH REMOVED. SHOWN NET SHALL BE INDICATED IN THE DRAW.



NOTES OF STIRRUPS

1. ALL REINFORCEMENT SHALL BE BAR COLD WELDS UNLESS OTHERWISE SPECIFIED BY THE STRUCTURAL ENGINEER.
2. REINFORCEMENT FINALLY EMBEDDED IN CONCRETE SHALL NOT BE FILLED BAY, EXCEPT AS SHOWN IN THE DESIGN DRAWING OR REFERRED BY THE STRUCTURAL ENGINEER.
3. THE # OF CLOSE STIRRUPS MUST BE IDENTIFIED BY THE DESIGNER.



BAR END END HOOKS (ALL SPACED)

BAR SIZE (DIAMETER)	QUANTITY	BAR HOOK	90° HOOK	180° HOOK	135° HOOK
10mm	8	75	120	150	150
12mm	8	90	135	165	165
14mm	8	105	150	180	180
16mm	8	120	165	195	195
18mm	8	135	180	210	210
20mm	8	150	195	225	225
22mm	8	165	210	240	240
24mm	8	180	225	255	255
26mm	8	195	240	270	270
28mm	8	210	255	285	285
30mm	8	225	270	300	300

STIRRUP AND TE HOOKS (ALL SPACED)

GENERAL SANTOS CITY WATER DISTRICT
6 TORONADO STREET, BEER, LAMSA, GEN SANTOS CITY
ENGINEERING & CONSTRUCTION DEPARTMENT
PLANNING AND DESIGN DIVISION
TEL. NO.: (083) 552-8034

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

CHECKED:
ENGR. ROBERT A. GUNDAY
CHIEF ENGINEER

REVIEWED:
ENGR. ROGELIO A. BESANZA, JR.
ADVA CONSULTING & TECHNICAL SERVICES

APPROVED:
ENGR. ARN B. GELLANCA, RIN
GENERAL MANAGER

REG. NO. 23448
TEL. NO. 999-429-433
DATE: 02/22/2021
LOCATION: Park Gateway, Brg. Simonsi, GSZC

REG. NO. 511035
DATE: 02/22/2021
LOCATION: Park Gateway, Brg. Simonsi, GSZC

CHIEF ENGINEER
CHIEF ARCHITECT
CHIEF ELECTRICAL

SHEET CONTENTS

AS SHOWN

SHEET NO.

S-02

REV. NO.

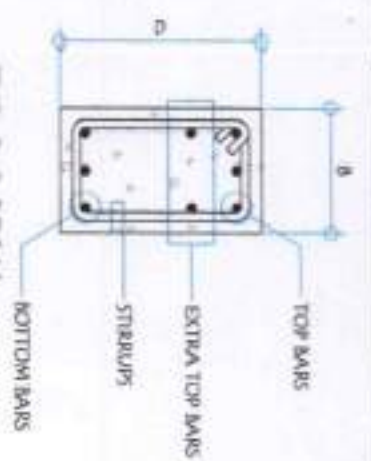
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REV. NO.

09

DATE: MAR. 2021

DATE: MAR. 2021

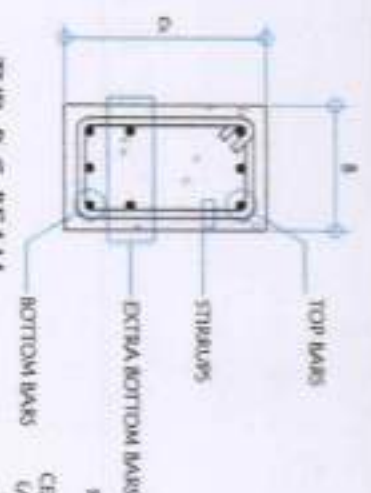


TYP. R.C. BEAM SECTION @ SUPPORT

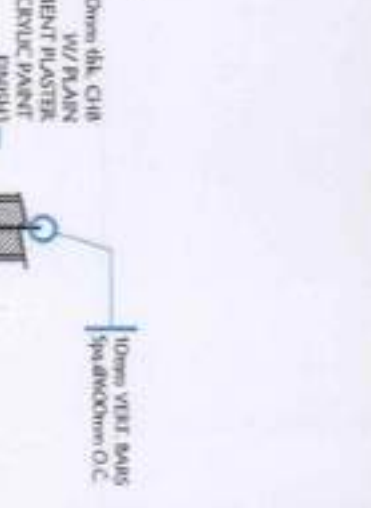


TYP. R.C. BEAM ELEVATION (PUMP HOUSE)

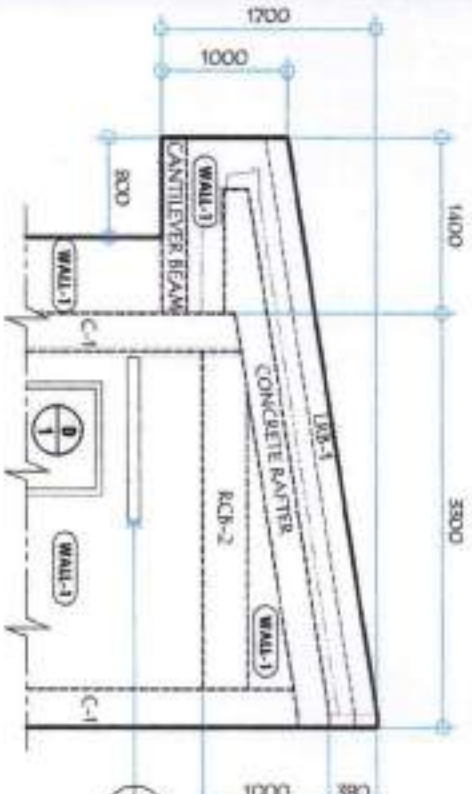
BEAM MARK	WIDTH	DEPTH	BAR 'A'	BAR 'B'	BAR 'C'	BAR 'D'	CONC. TOP	CONC. BOT.	EXTRA TOP	EXTRA BOT.	SPACING OF STIRRUPS
RCA-1	250	350	3 - Ø16mm	3 - Ø16mm	3 - Ø16mm	2 - Ø16mm	3 - Ø16mm	3 - Ø16mm	2 - Ø16mm	2 - Ø16mm	A
RCA-2	250	350	3 - Ø16mm	3 - Ø16mm	3 - Ø16mm	2 - Ø16mm	3 - Ø16mm	3 - Ø16mm	2 - Ø16mm	2 - Ø16mm	B



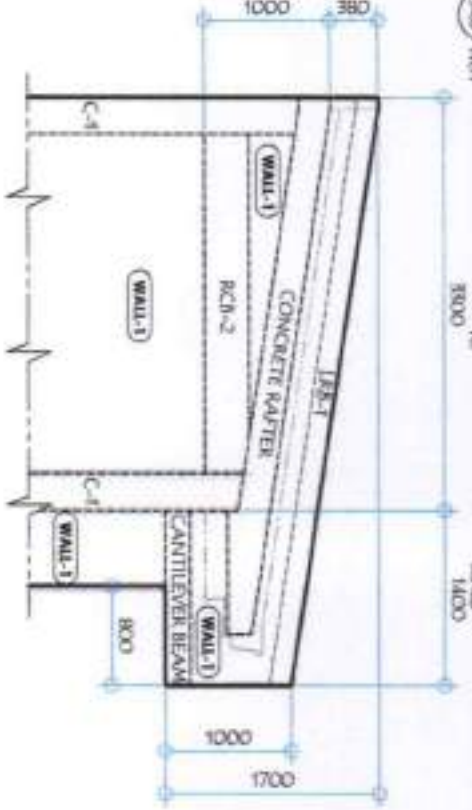
TYP. R.C. BEAM SECTION @ MID-SPAN



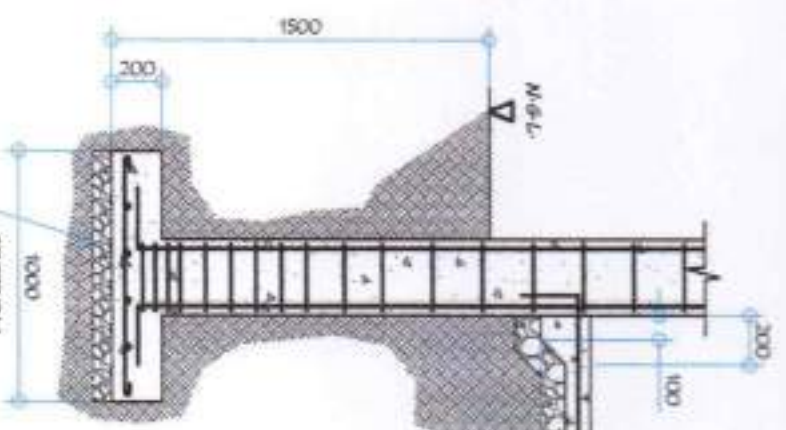
WF-1 DETAIL (PUMP HOUSE)



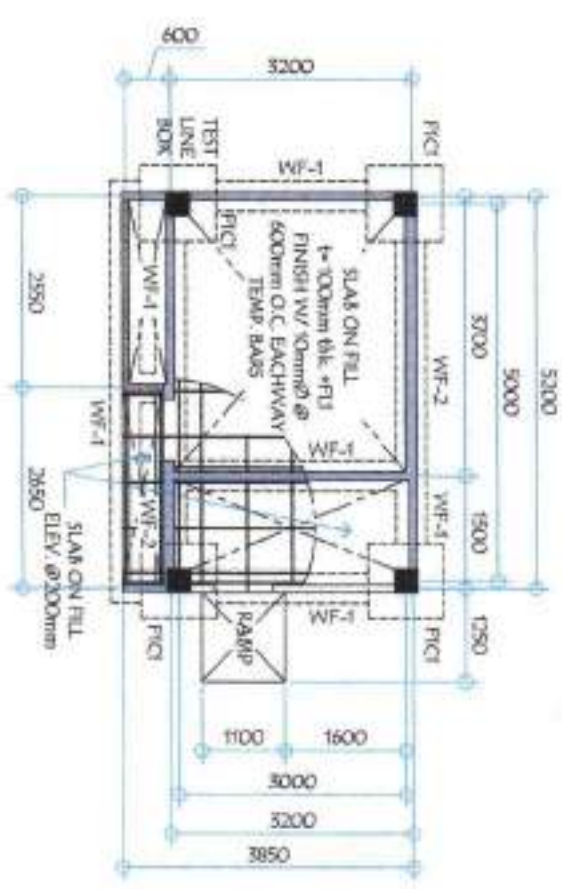
ELEV. OF RIGHT SIDE WALL FRAME (PUMP HOUSE)



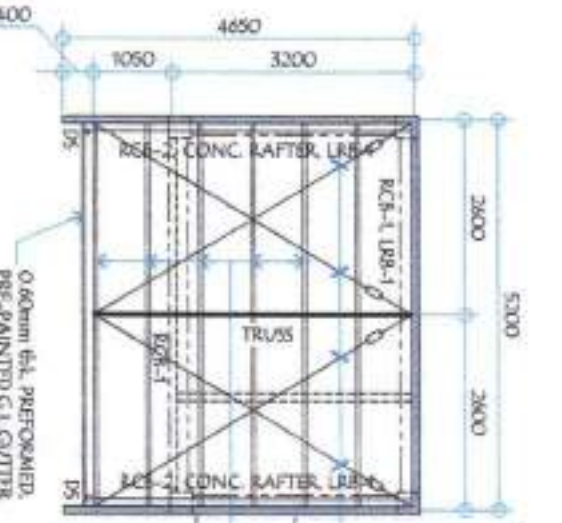
ELEV. OF LEFT SIDE WALL FRAME (PUMP HOUSE)



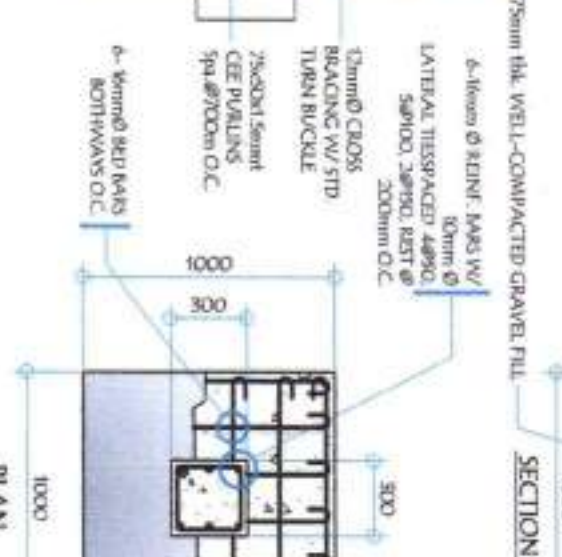
WF-2 DETAIL (PUMP HOUSE)



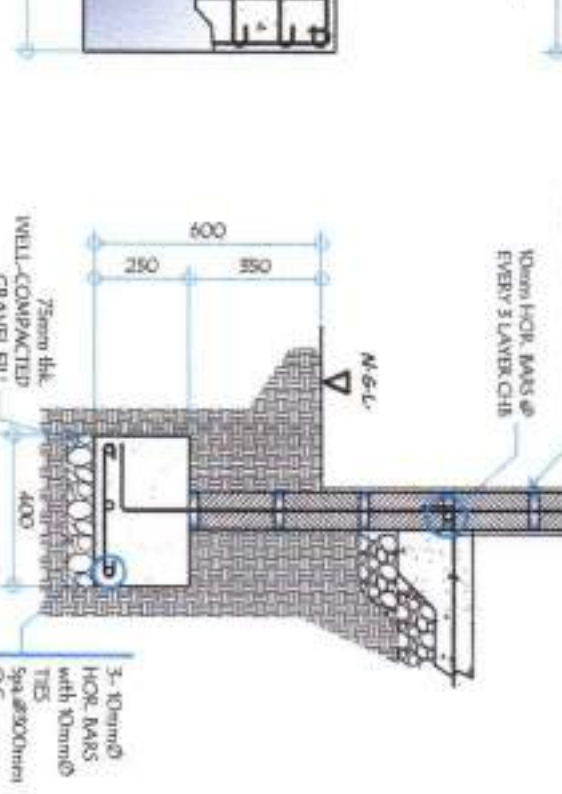
FOUNDATION PLAN (PUMP HOUSE)



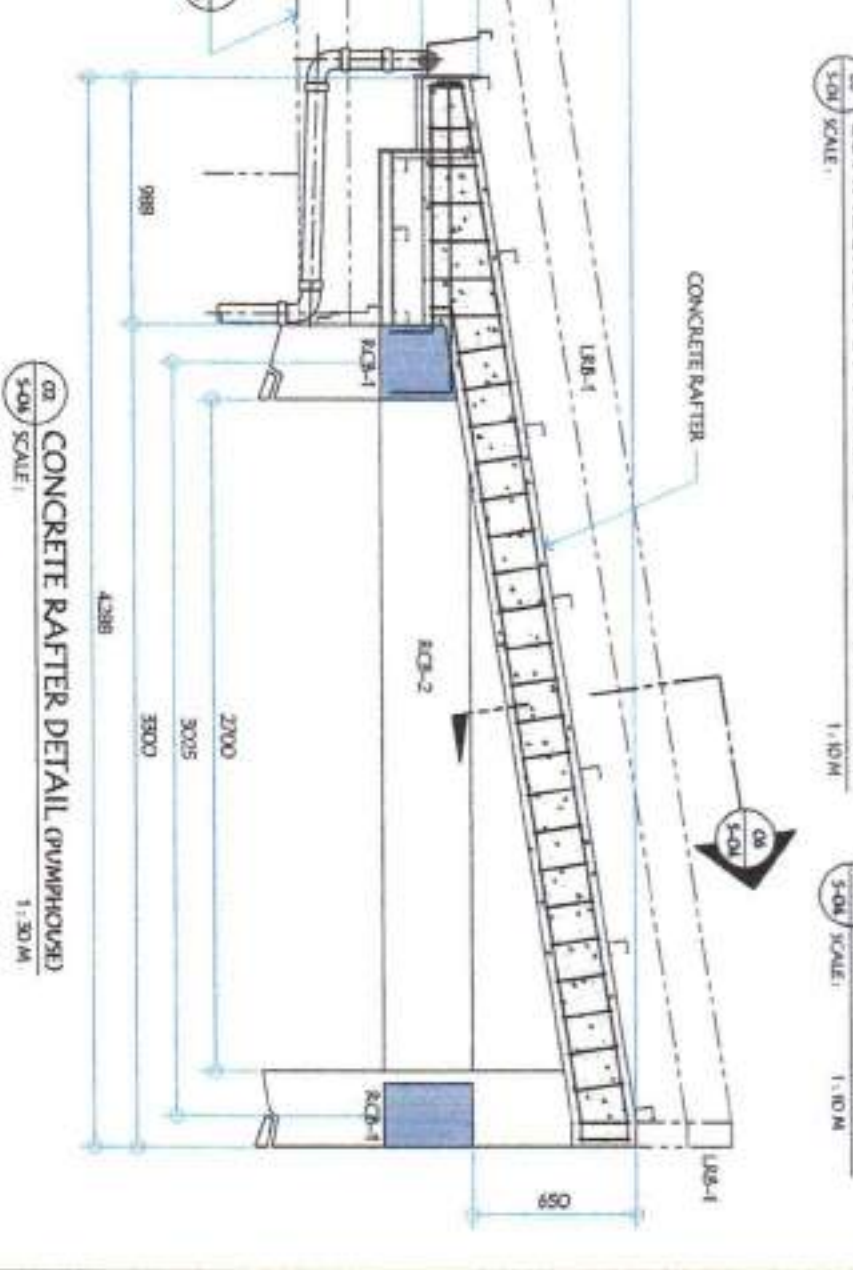
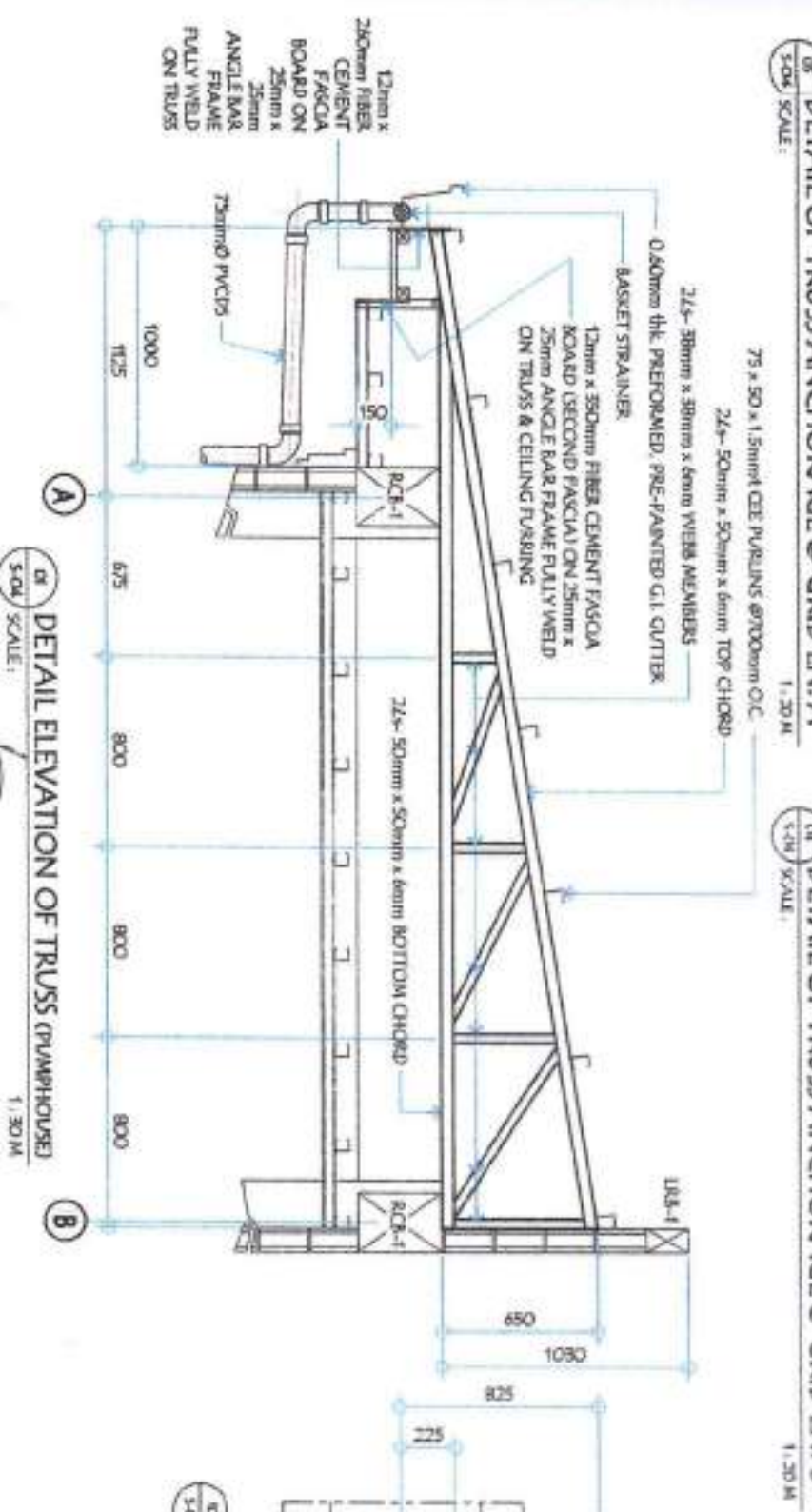
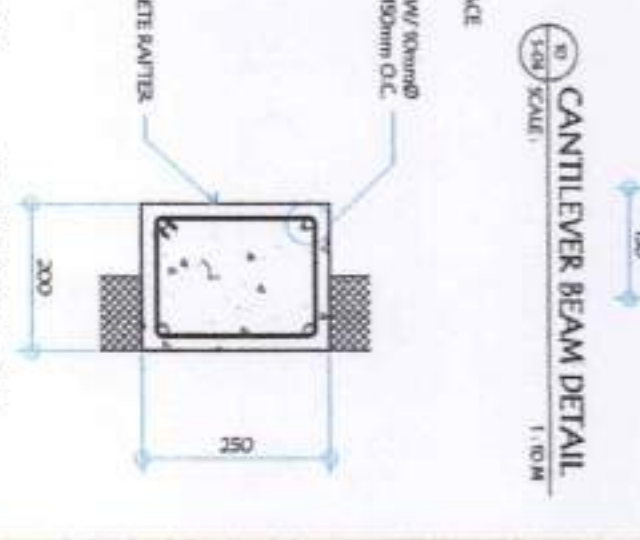
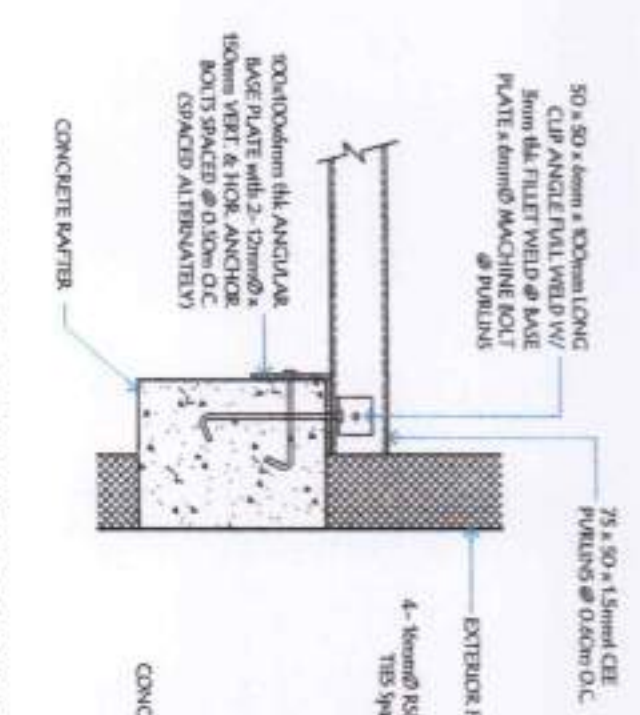
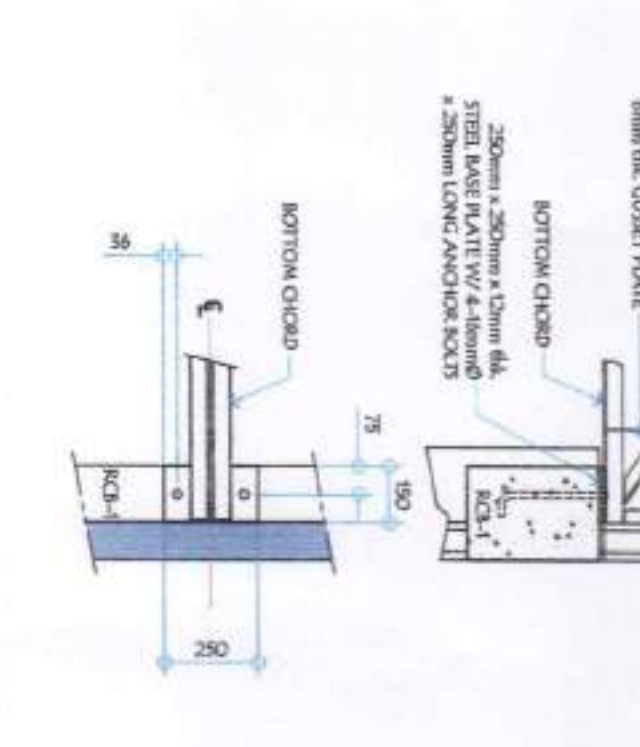
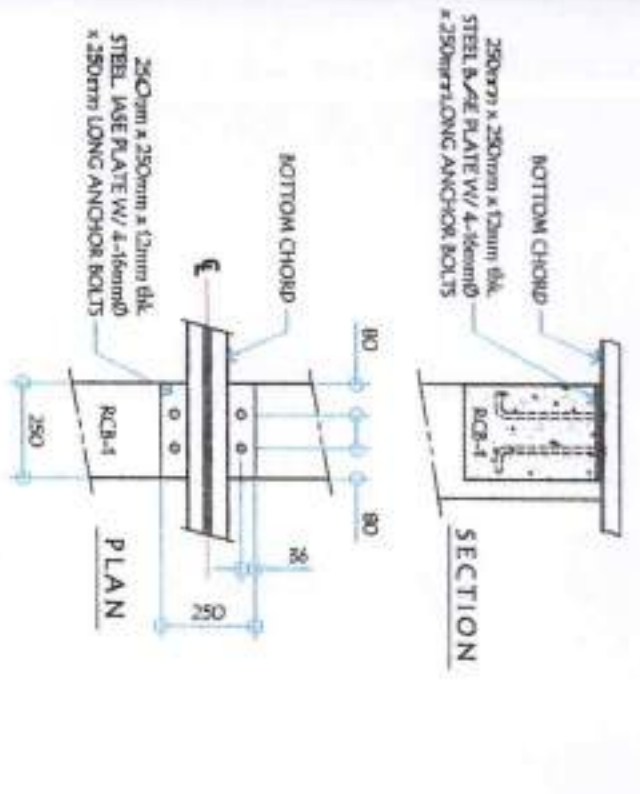
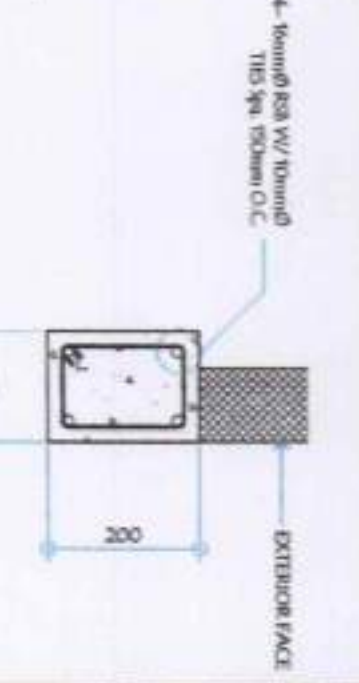
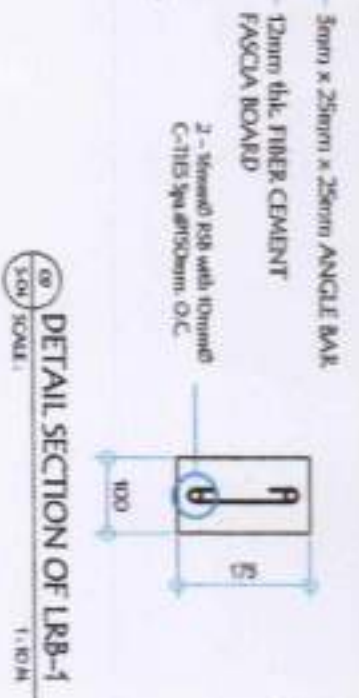
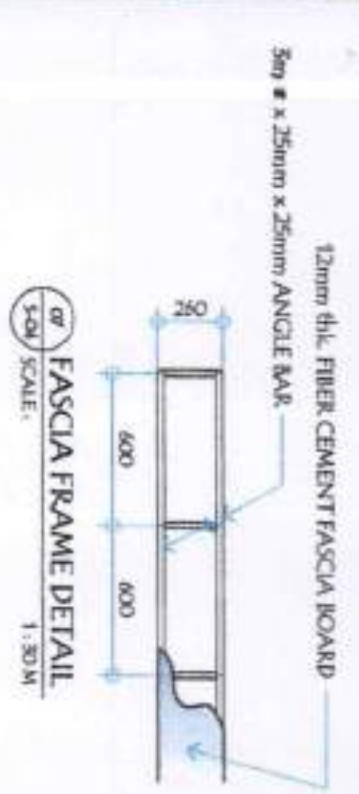
ROOF FRAMING PLAN (PUMP HOUSE)



FCI DETAIL (PUMP HOUSE)



WF-1 DETAIL (PUMP HOUSE)



		GENERAL SANTOS CITY WATER DISTRICT 8. FERREZ STREET, SAN. LARA, GEN. SANTOS CITY ENGINEERING & CONSTRUCTION DEPARTMENT PLANNING AND DESIGN DIVISION TEL. NO. (083) 882-3834	
ENGR. ROBERTA K. GUNDAY CIVIL ENGINEER		PROJECT AND LOCATION: PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET SHED, & PERIMETER FENCE	
REG. NO. 78446 TEL. NO. 909-828-000 DATE: 02/20/2021		CHECKED: ENGR. ROBERTA K. GUNDAY ARCHITECT/ENGINEER/TECHNICAL SERVICES	
REVISED: ENGR. ROGELIO A. BESANA, JR. AGM, OPERATION & TECHNICAL SERVICES		APPROVED: ENGR. ARN B. GEDLANGAR GENERAL MANAGER A.	
SHEET NO. S-04		SHEET NO. 11	
AS SHOWN		DATE: Mar. 2021	



GENERAL SANTOS CITY WATER DISTRICT
 E. FERNANDEZ STREET, 9501 LABAN, GEN. SANTOS CITY
 ENGINEERING & CONSTRUCTION DEPARTMENT
 PLANNING AND DESIGN DIVISION
 TEL. NO. (083) 522-3834

ENGR. ROLLY A. GUNDAAY
 CIVIL ENGINEER
 REG. NO. 78446
 DATE: 02/27/2021

PROJECT AND LOCATION
 PROPOSED CONSTRUCTION OF
 PUMPHOUSE, GENSET SHED, &
 PERIMETER FENCE
 LOCATION: Nasa Cabero, Brgy. Simala, GSC

CHECKED:
 ENGR. ROLLY A. GUNDAAY
 OFFICER-IN-CHARGE, PDD

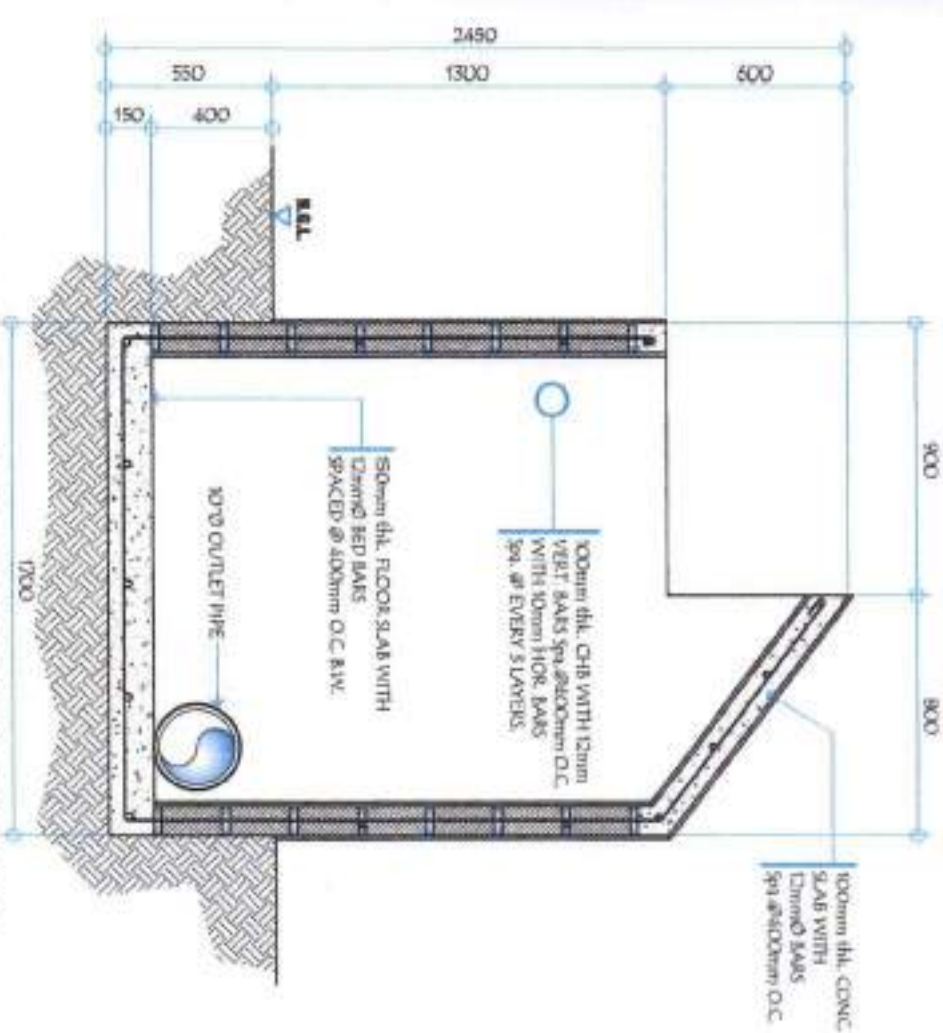
REVIEWED:
 ENGR. ROGELIO A. BESANA, JR.
 ALTA DESIGNER & TECHNICAL SERVICES

APPROVED:
 ENGR. ARN B. GELANCA
 GENERAL MANAGER

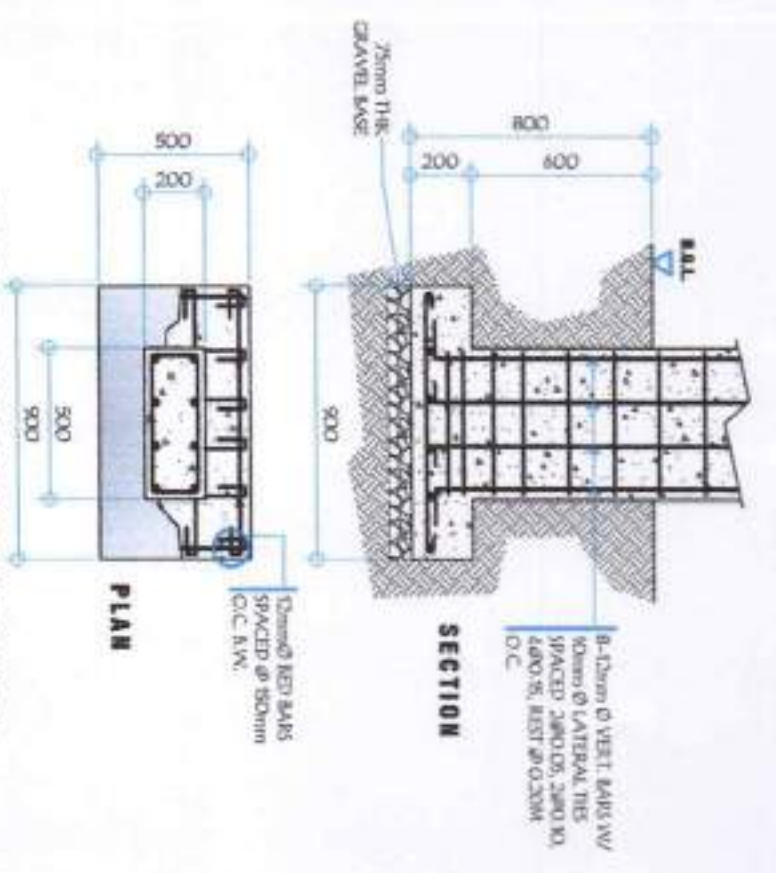
SHEET CONTENTS
 AS SHOWN
 DATE: Mar 2021

SHEET NO.
S-05
 12 20

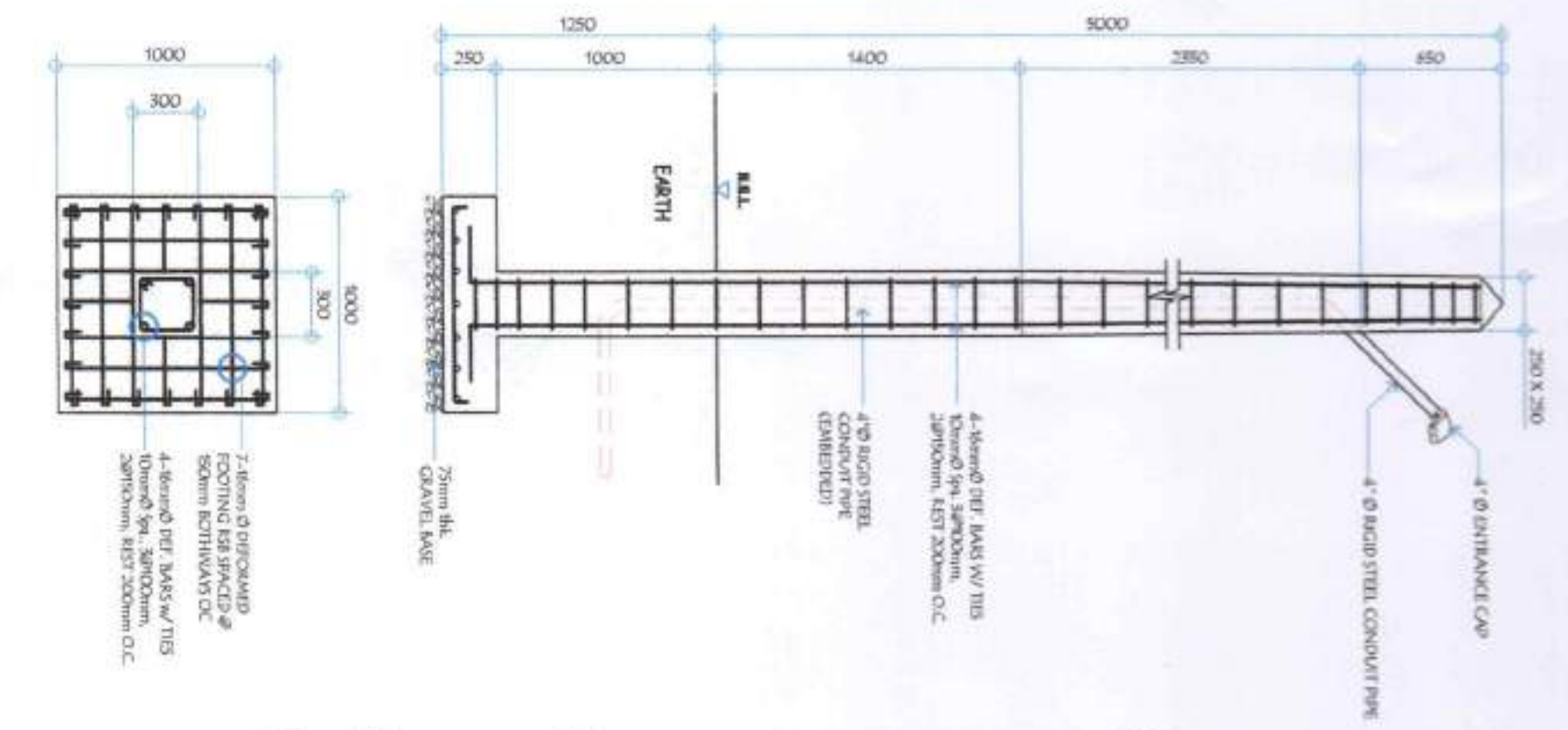
01 LONGITUDINAL SECTION OF TEST LINE BOX
 SCALE: 1:40 M



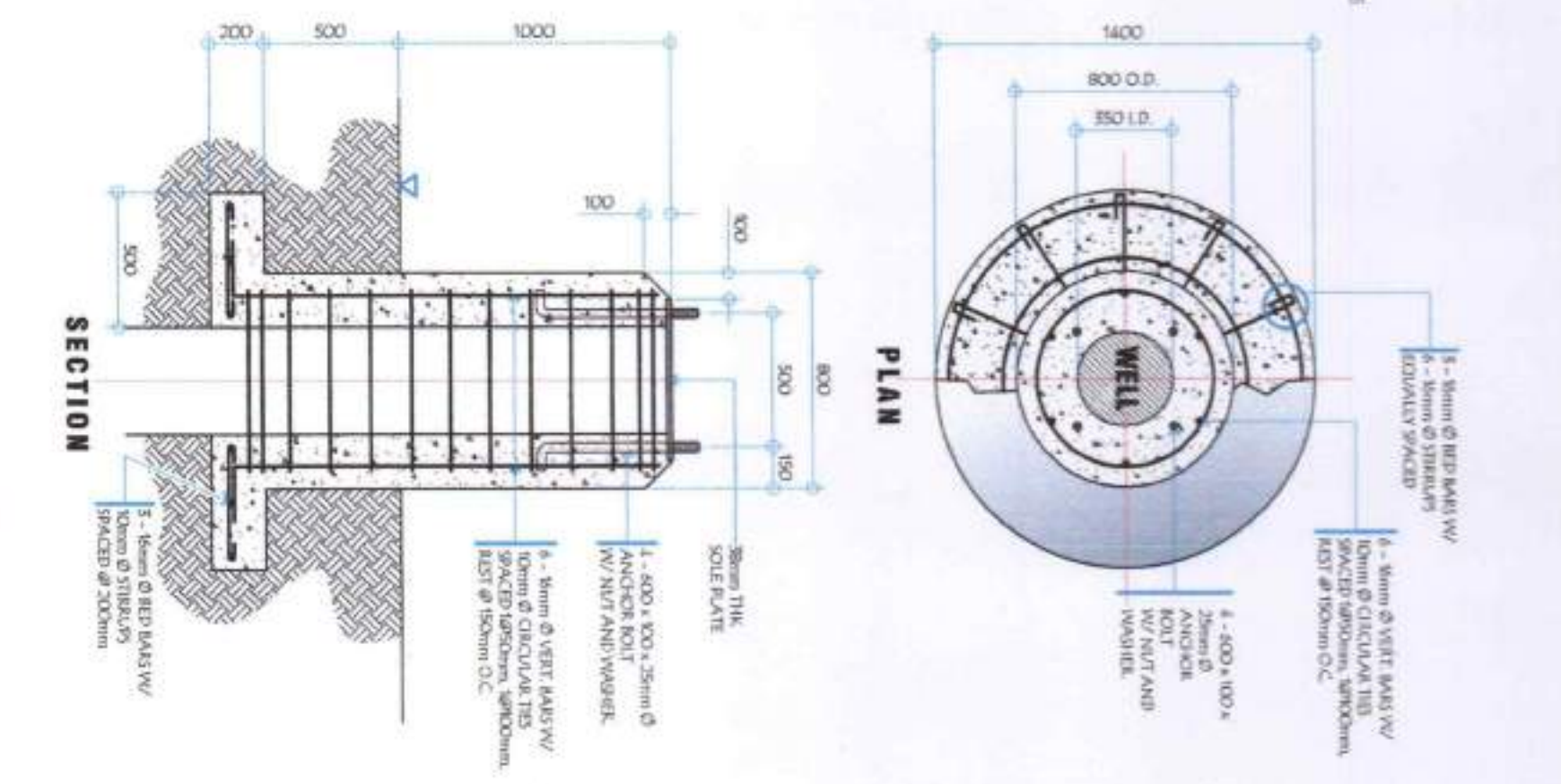
02 CONCRETE PIPE SUPPORT DETAILS
 SCALE: 1:25 M

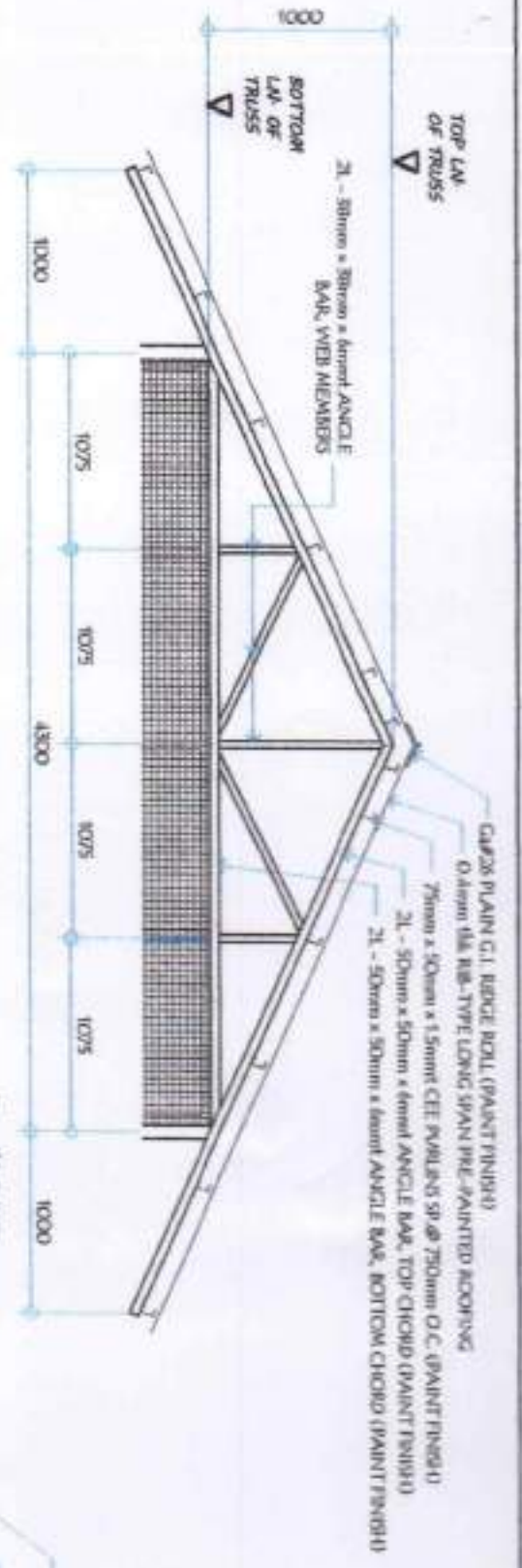


03 SERVICE ENTRANCE DETAIL
 SCALE: 1:30 M

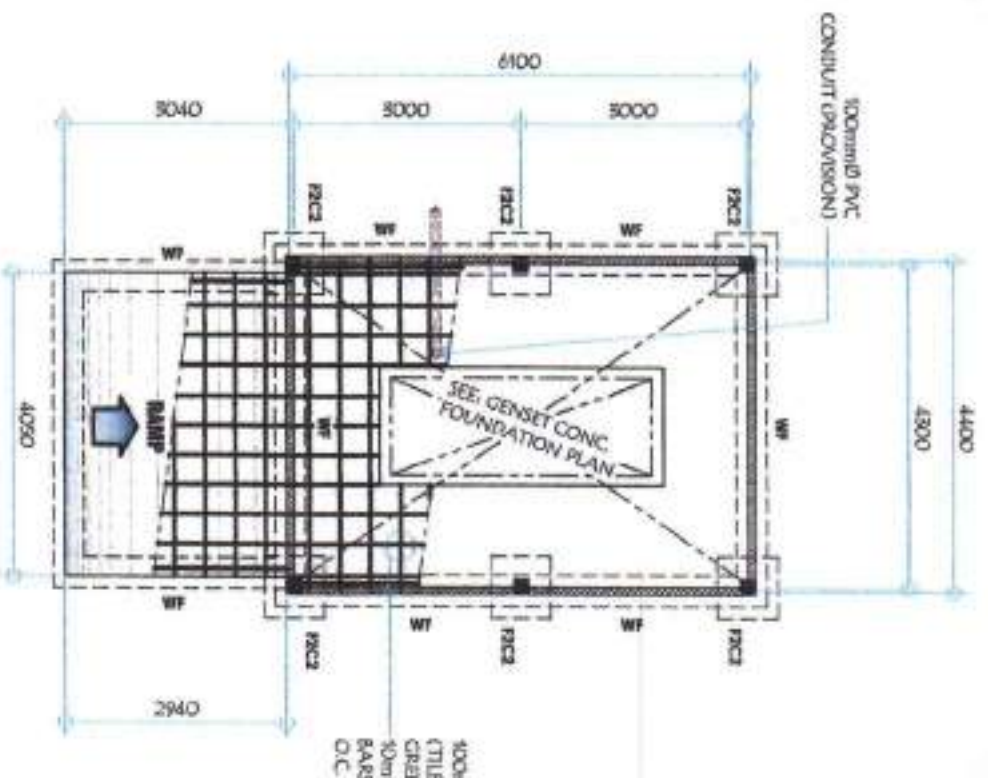


04 DEEP WELL CONCRETE BASE DETAIL
 SCALE: 1:25 M

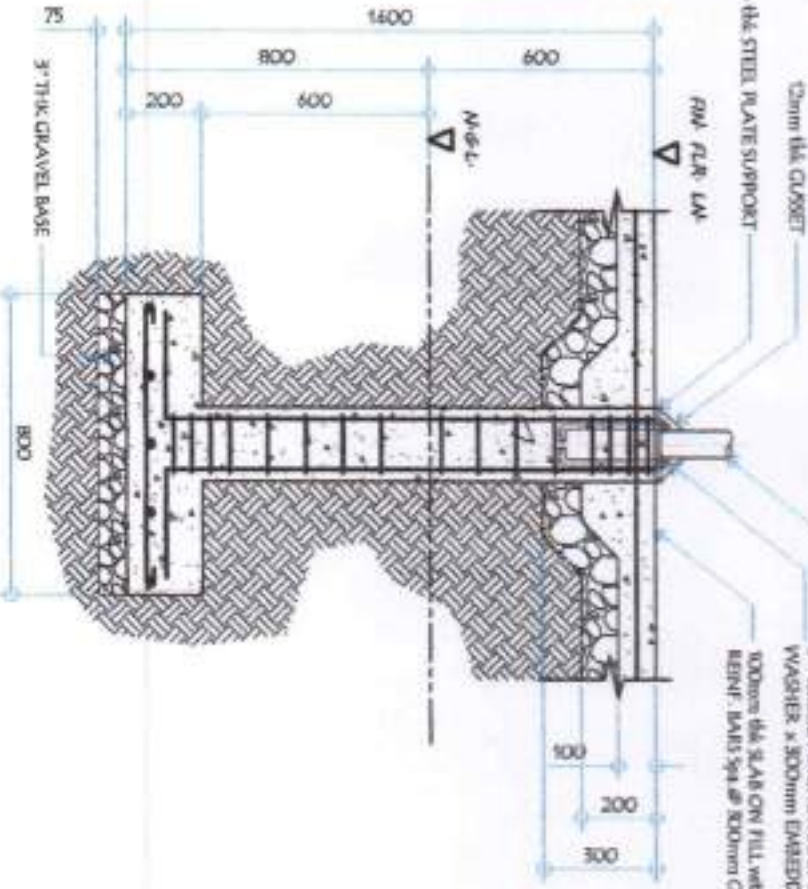




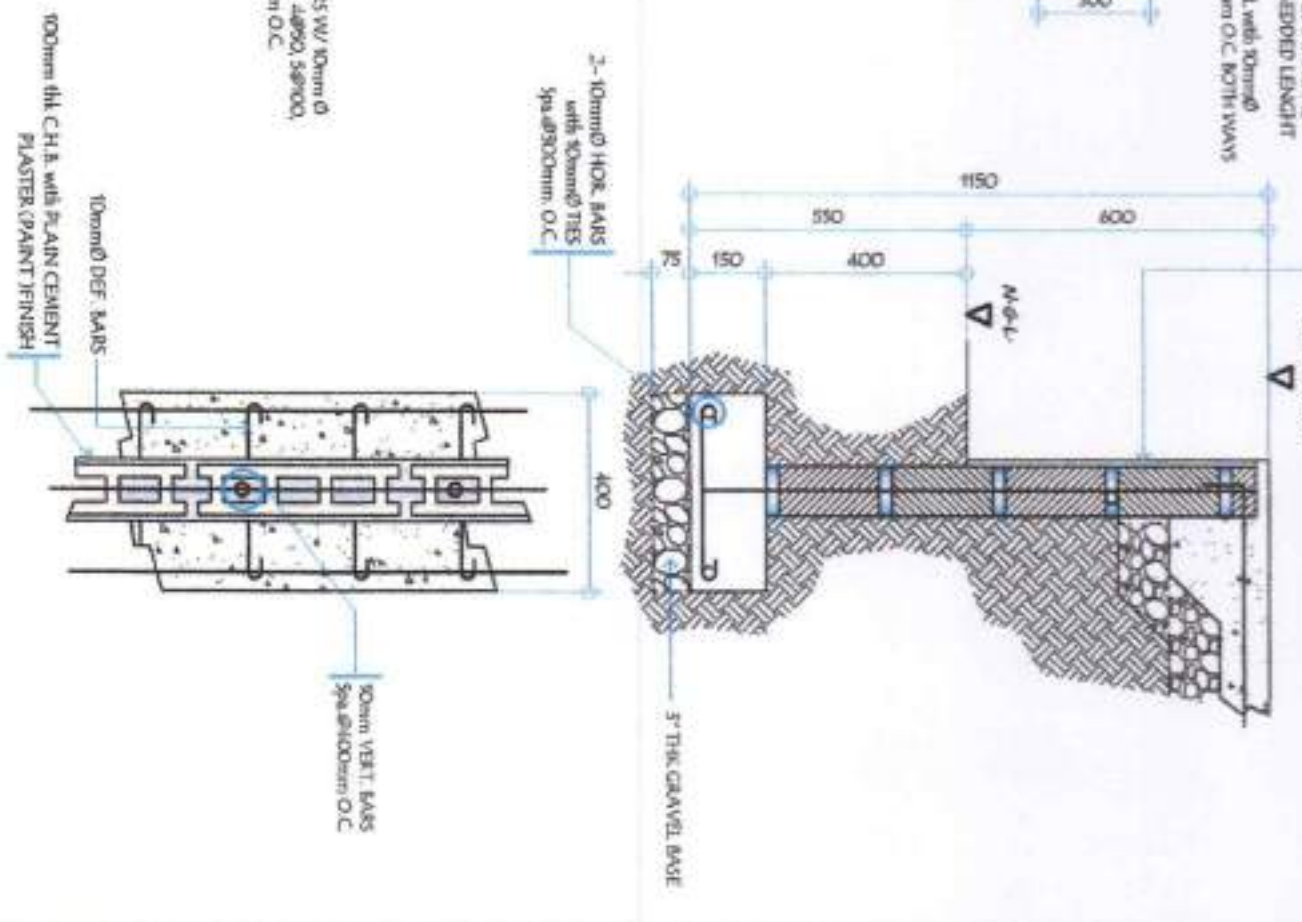
04 TRUSS DETAIL (GENSET SHED)
SCALE: 1:10 M



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



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



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



GENERAL SANTOS CITY WATER DISTRICT
E. FERRELL STREET, 3RD FLOOR, GEN. SANTOS CITY
ENGINEERING & CONSTRUCTION DEPARTMENT
PLANNING AND DESIGN DIVISION
TEL. NO. (090) 202-3894

ENGR. ROGELIO A. GUNDA
CONSULTANT ENGINEER
REG. NO. 9418866
DATE: 02/02/2011

PROJECT AND LOCATION
PROPOSED CONSTRUCTION OF
PUMPHOUSE, GENSET SHED, &
PERIMETER FENCE
LOCATION: Pineda Colony, Reg. Street, GSC

CHECKED:
ENGR. ROGELIO A. GUNDA
ENGR. ROBERTO A. BESANA, JR.
ASST. ENGINEER & TECHNICAL SERVICES

APPROVED:
ENGR. ARNOLD B. GELLANAGANI
GENERAL MANAGER A

SHEET CONTENTS
AS SHOWN
REV. NO.
DATE: MAR. 2011

SHEET NO.
S-06
13 20

ENGR. ROLLY A. GINDAY
 CIVIL ENGINEER
 REG. NO. 78446
 DATE: 02/22/2021

PROJECT AND LOCATION
 PROPOSED CONSTRUCTION OF
 PUMPHOUSE, GENSET, &
 PERIMETER FENCE
 LOCATION: Pura Calvary, Brgy. Sisonog, GTC

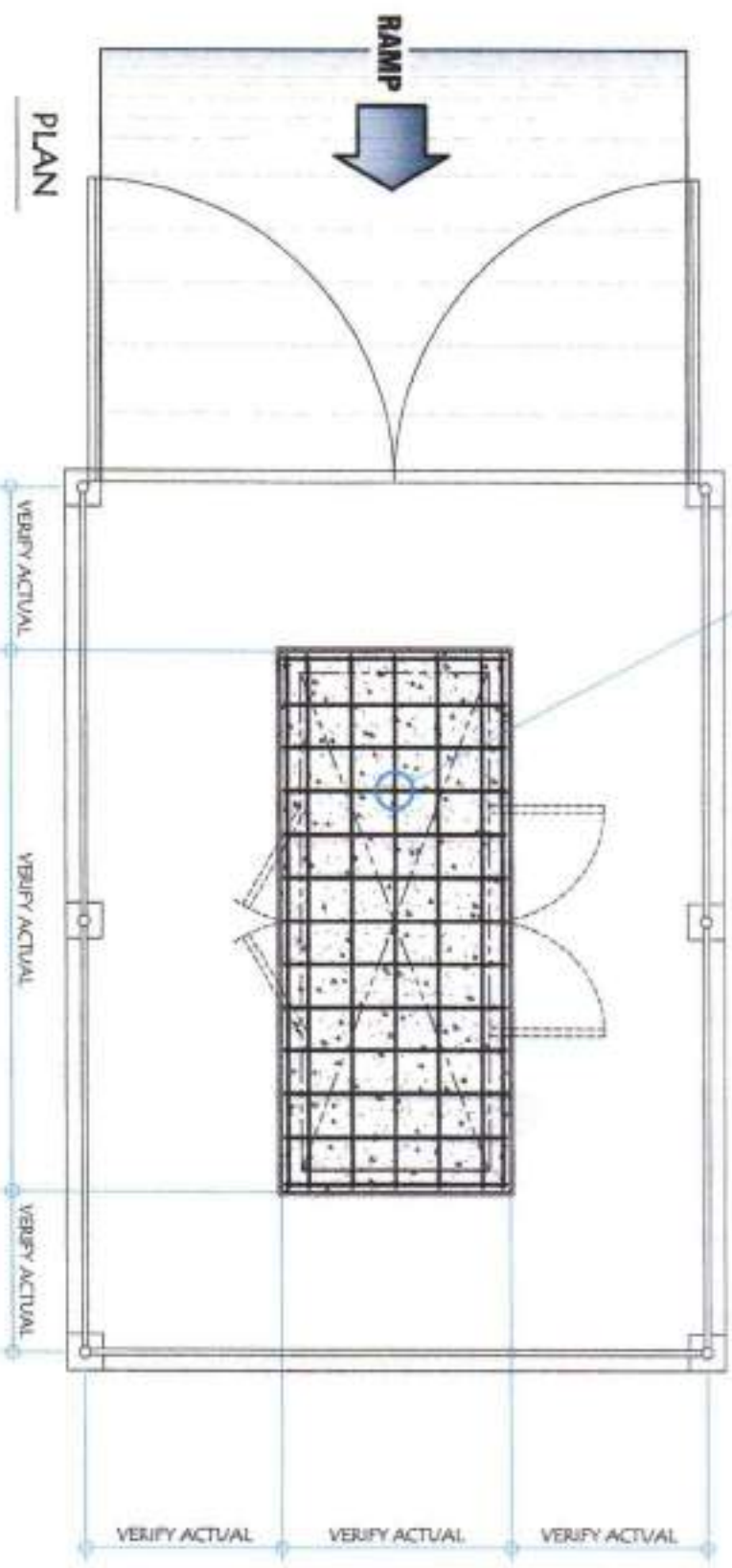
CHECKED:
ENGR. ROLLY A. GINDAY
 CIVIL ENGINEER, P.E.
 REG. NO. 78446

REVIEWED:
ENGR. ROGELIO A. BISSANA, JR.
 CIVIL ENGINEER & TECHNICAL SERVICE

APPROVED:
ENGR. ARN B. GELANGANAN
 GENERAL MANAGER

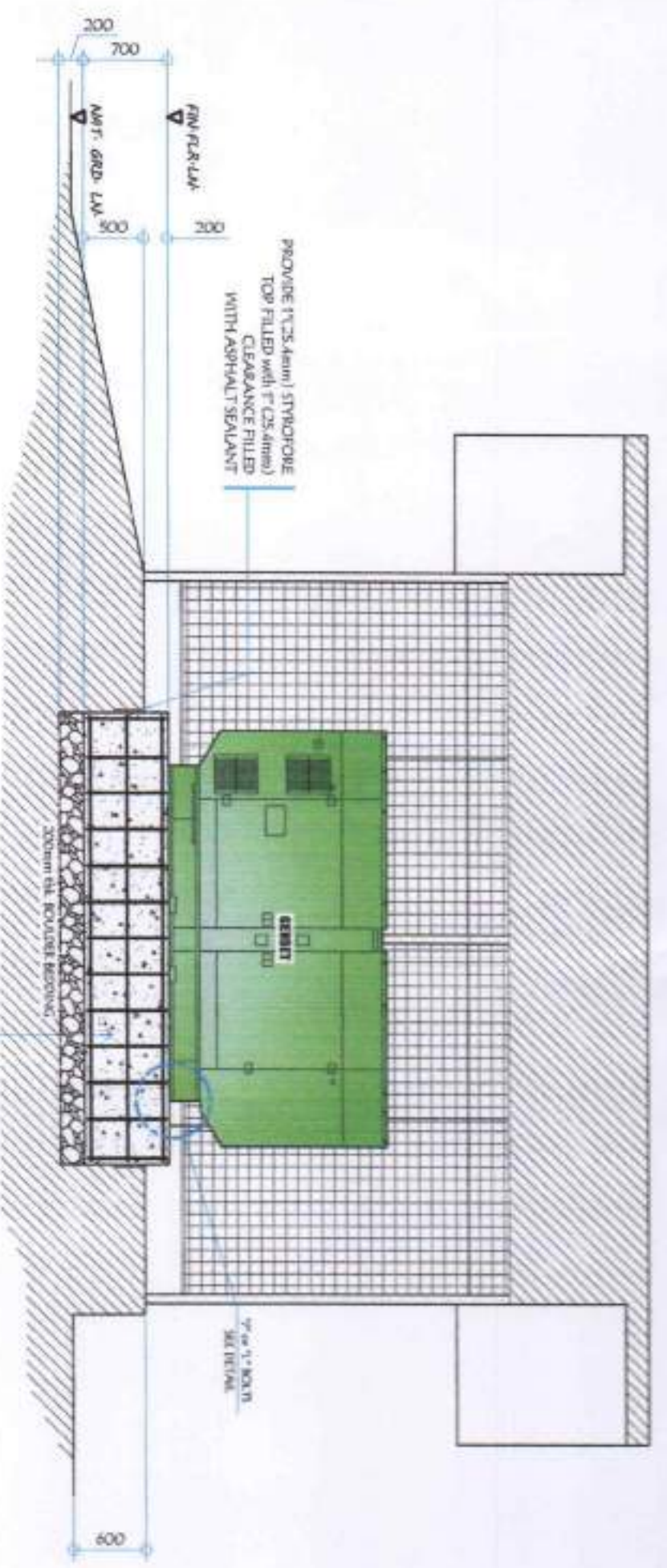
SHEET CONTENTS
 AS SHOWN
 SHEET NO. **S-07**
 14 20

01
TYPICAL VIBRATION ISOLATING FOUNDATION (GENSET SHED)
 SCALE: 1:50 M

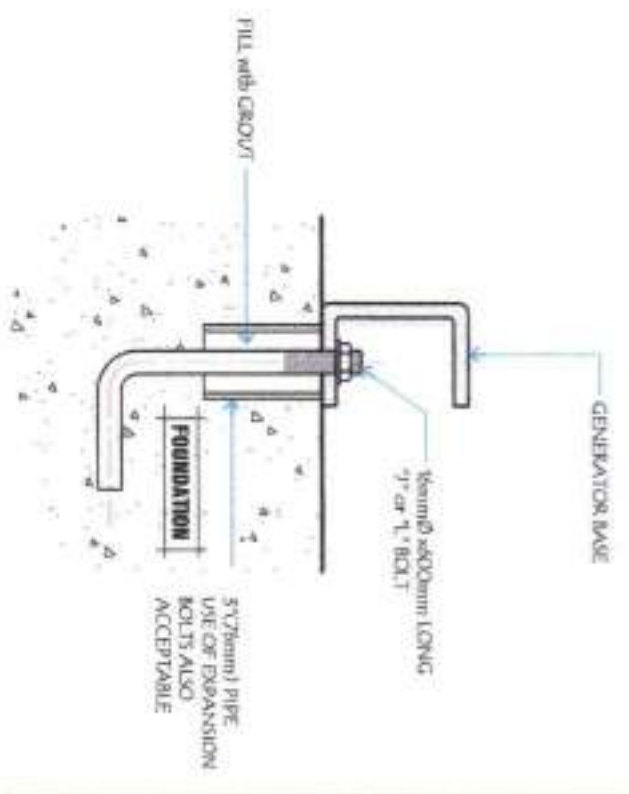


MINIMUM TOP & BOTTOM BARS
 3M @ 0.50M O.C. REINFORCEMENT
 W/ STIRRUPS

SECTION
 3000 PSI (20.68 MPa) REINF.
 CONCRETE FOUNDATION

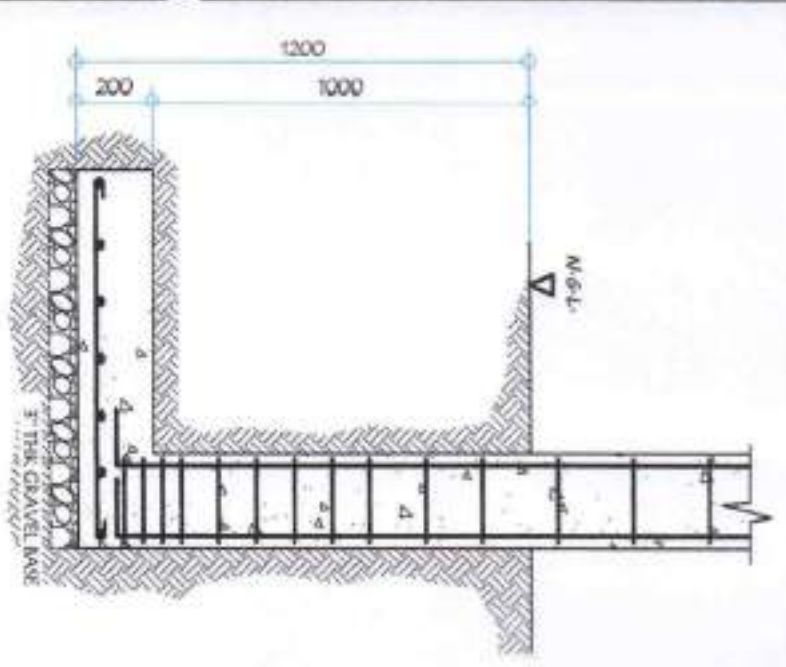


02
**DETAIL OF 3/4\"/>
 SCALE: TO**

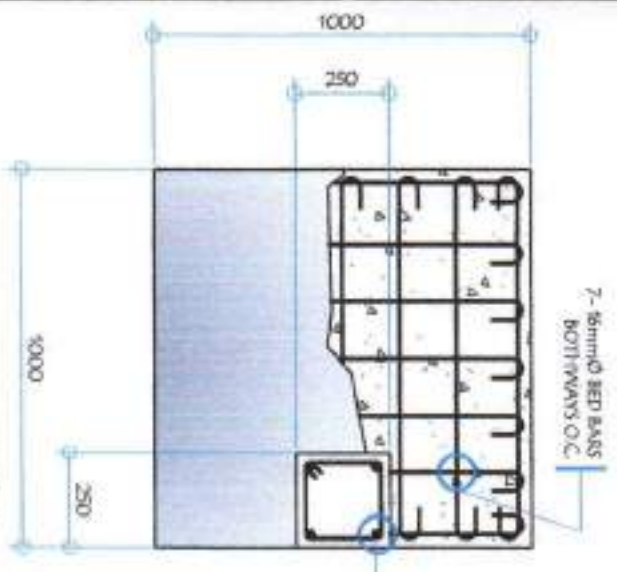


1. The foundation should extend at least 6 inches (150 mm) beyond the shed on all sides. This determines the length (L) and width (W) of the foundation.
2. The foundation should extend at least 6 inches (150 mm) above the floor to make service and maintenance of the generator set easier.
3. The foundation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

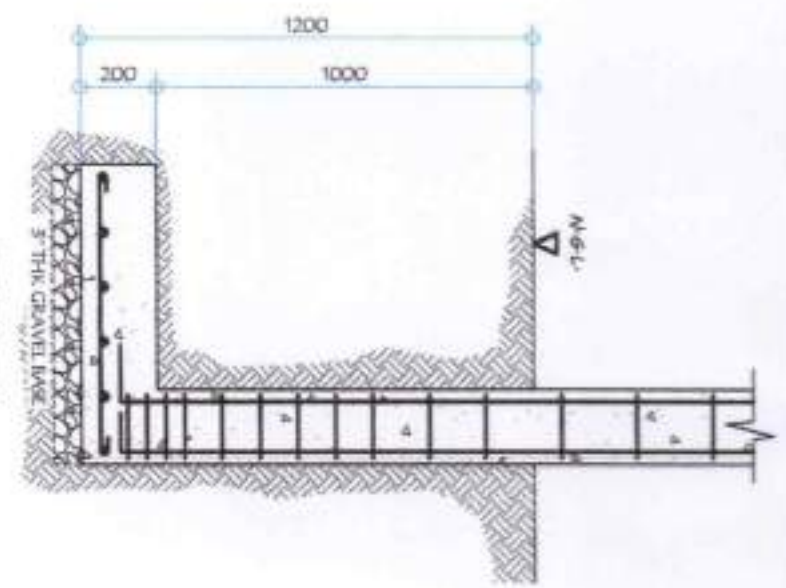
NOTE:
ELECTRICAL CONDUIT OR CONCRETE COLUMN WITH FLOORLIGHTS SHALL BE EMBEDDED IN CONCRETE.



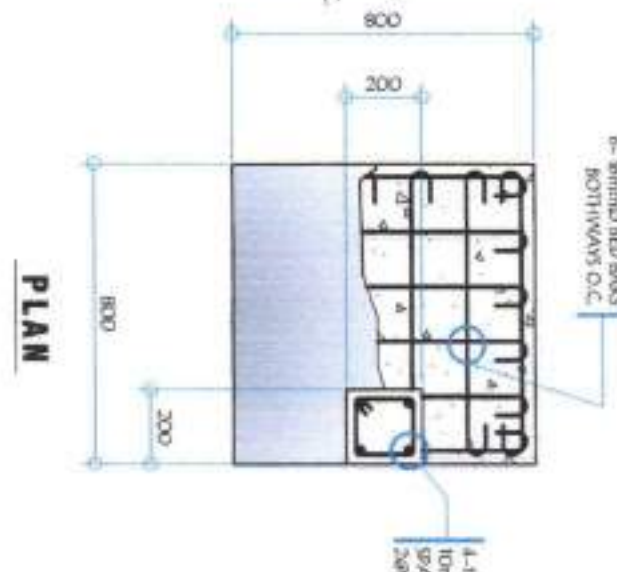
SECTION



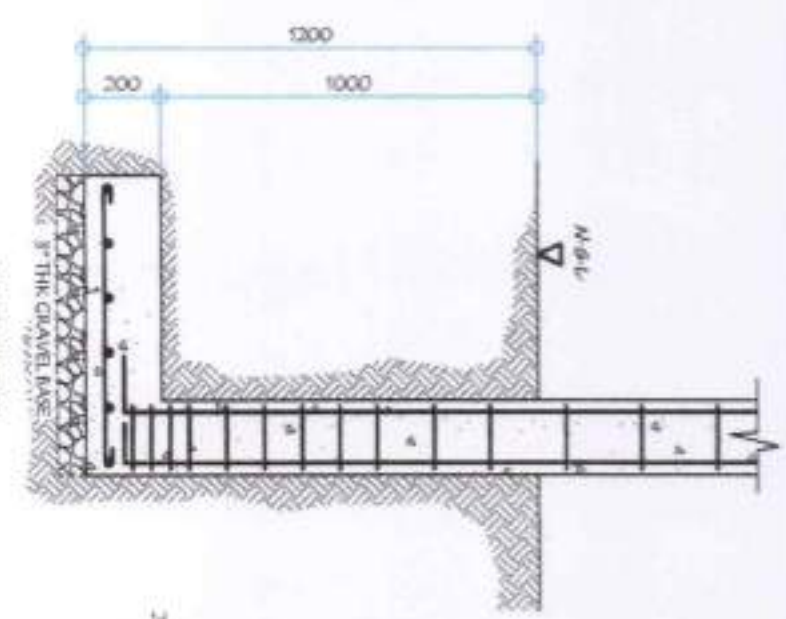
PLAN



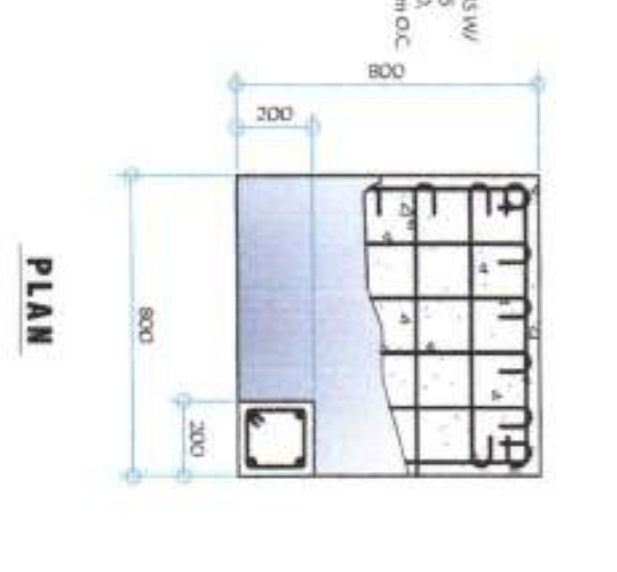
SECTION



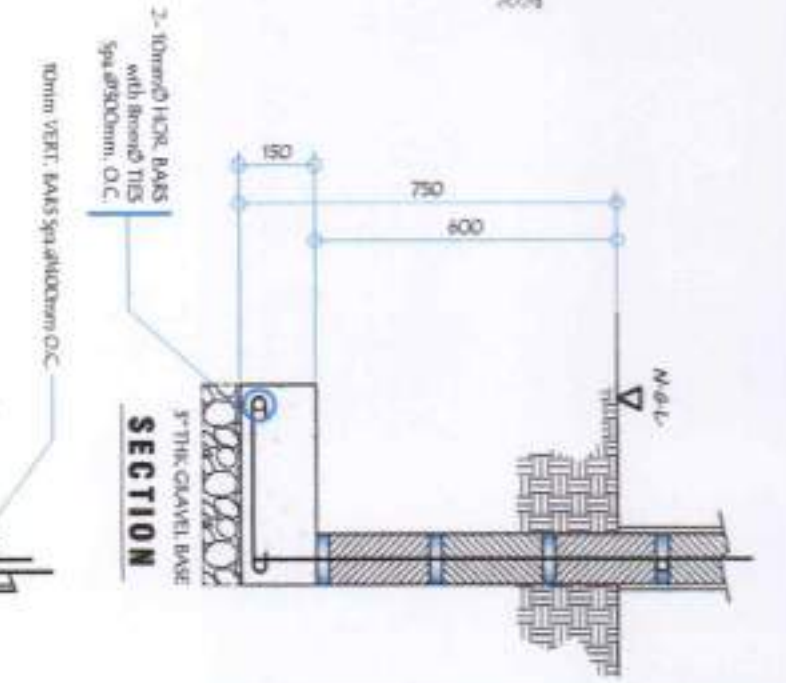
PLAN



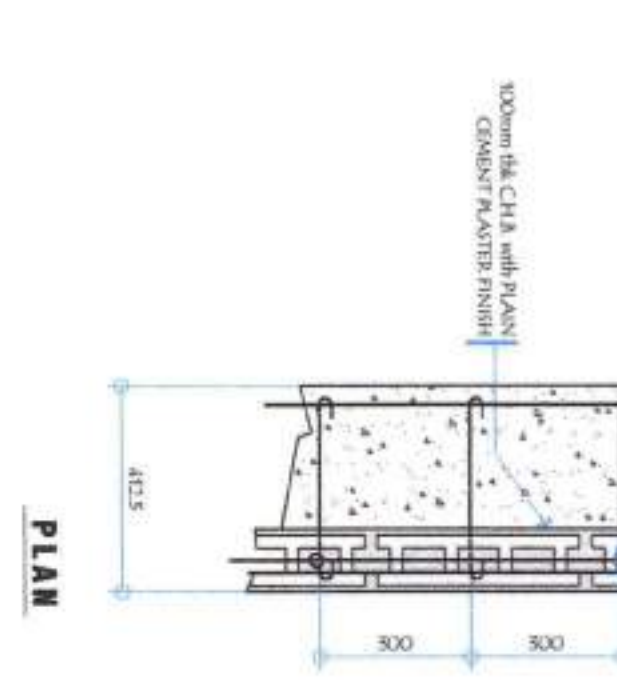
SECTION



PLAN



SECTION



PLAN

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

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

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

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

GENERAL SANTOS CITY WATER DISTRICT
E. FERNANDEZ STREET, BRGY. LAGAO, GENERAL SANTOS CITY
ENGINEERING & CONSTRUCTION DEPARTMENT
PLANNING AND DESIGN DIVISION
TEL. NO.: (903) 582-3824

ENGR. ROBERTA A. GUNDAAY
CIVIL ENGINEER
REG. NO.: 78446
DATE: 02/22/2021

PROJECT AND LOCATION:
PROPOSED CONSTRUCTION OF
PUMPHOUSE, GENERATOR SHED, &
PERIMETER FENCE
LOCATION: Pula-Culinary Bldg. Ground, CSC

CHECKED:
ENGR. ROBERTA A. GUNDAAY
OFFICIAL SIGNATURE: TBD

REVIEWED:
ENGR. JOSEPH A. BESANA, JR.
ASST. DEPARTMENT & TECHNICAL SERVICES

APPROVED:
ENGR. ARNOLD B. GELLANAGAN
GENERAL MANAGER

SHEET CONTENTS:
AS SHOWN
SHEET NO. 15 OF 20

SHEET NO. S-08

PLUMBING NOTES:

1. SQUARE OF HORIZONTAL PIPING RUN ALL HORIZONTAL PIPINGS IN PERFECT ALIGNMENT AND AT A FIRM 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 DEGREE (45°) AND LONG SWEEP QUARTER BEND, 90-DEGREE OR SIXTEEN 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. TE AND CROSS MAYBE USED IN VENT PIPES.
3. PROHIBITED FITTINGS: NO DOUBLE HUB OR TEE BRANCH SHALL BE USED ON HORIZONTAL WASTE LINES. THE SELLING AND TAPPING OF HOUSE BRAIN, WASTE OR VENT PIPES AND USE OF SADDLE HUB AND BEND ARE PROHIBITED.
4. SLEEVES: REMOVE 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.
5. PIPE CLEAN-OUTS: PIPE CLEAN-OUTS ARE REQUIRED UNDER THE FOLLOWING CONDITIONS:
 1. EVERY CHANGE IN HORIZONTAL DIRECTIONS EXCEEDING TWENTY-TWO AND ONE-HALF FEET (22'-6").
 2. ONE AND ONE-HALF METERS (1.50 m) BEFORE THE POSITIVE LINE ABOVE THE HOUSE DRAINAGE CONNECTION.
 3. EVERY FIFTEEN METERS (15.00 m) IN HORIZONTAL RUN OF PIPES.
 4. AT THE END OF ANY HORIZONTAL PIPE LINE.
6. 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 REGULATION OF THE ENGINEERING AUTHORITATIVE CONCERNED AND CITY.

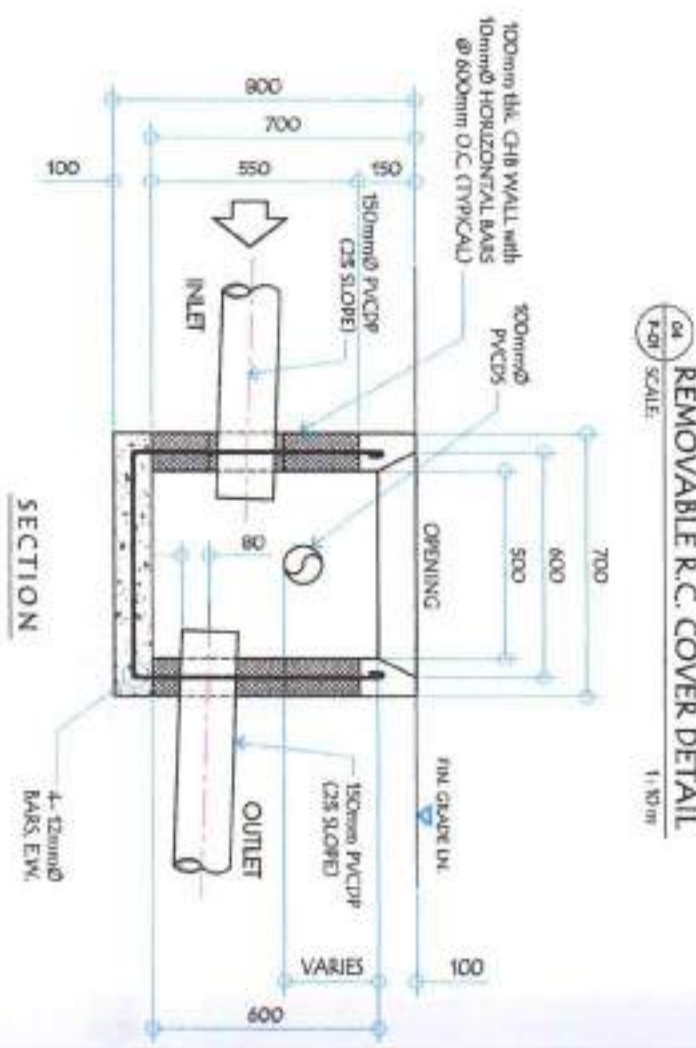
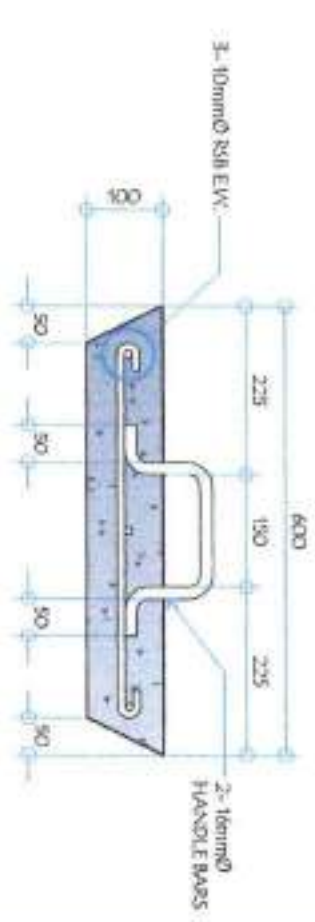
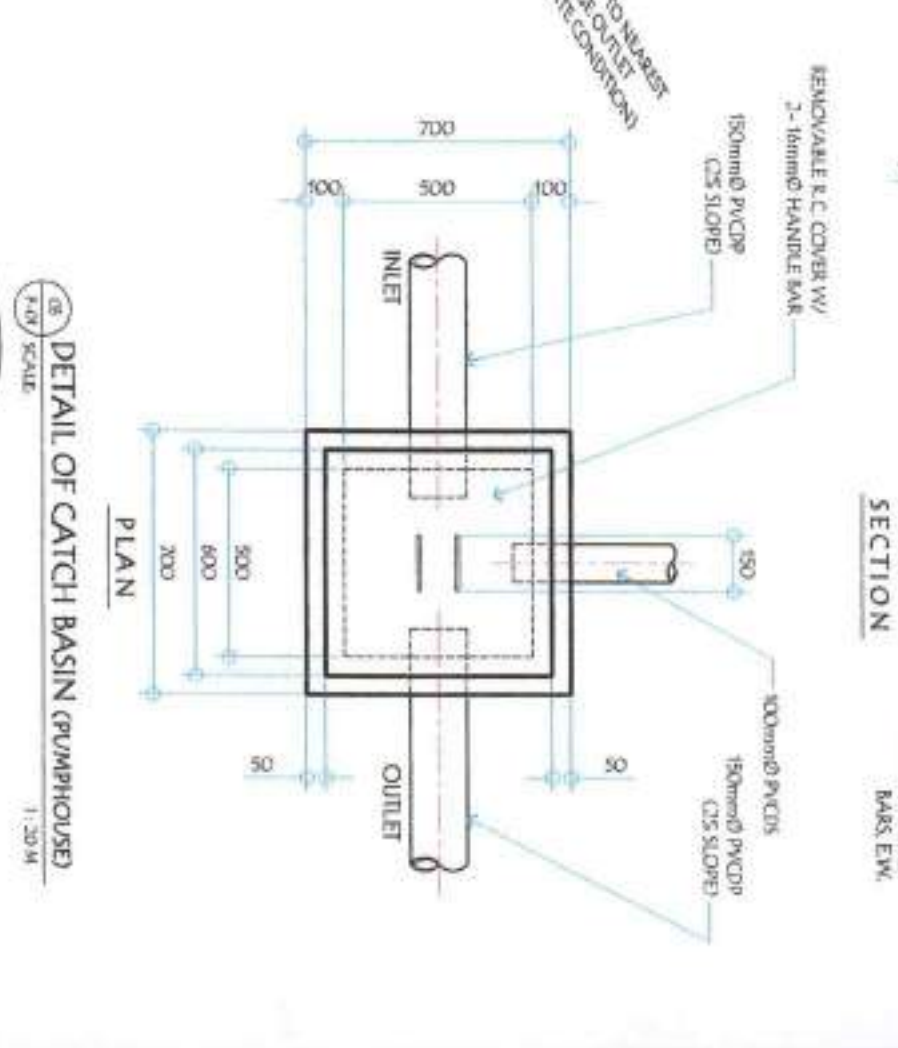
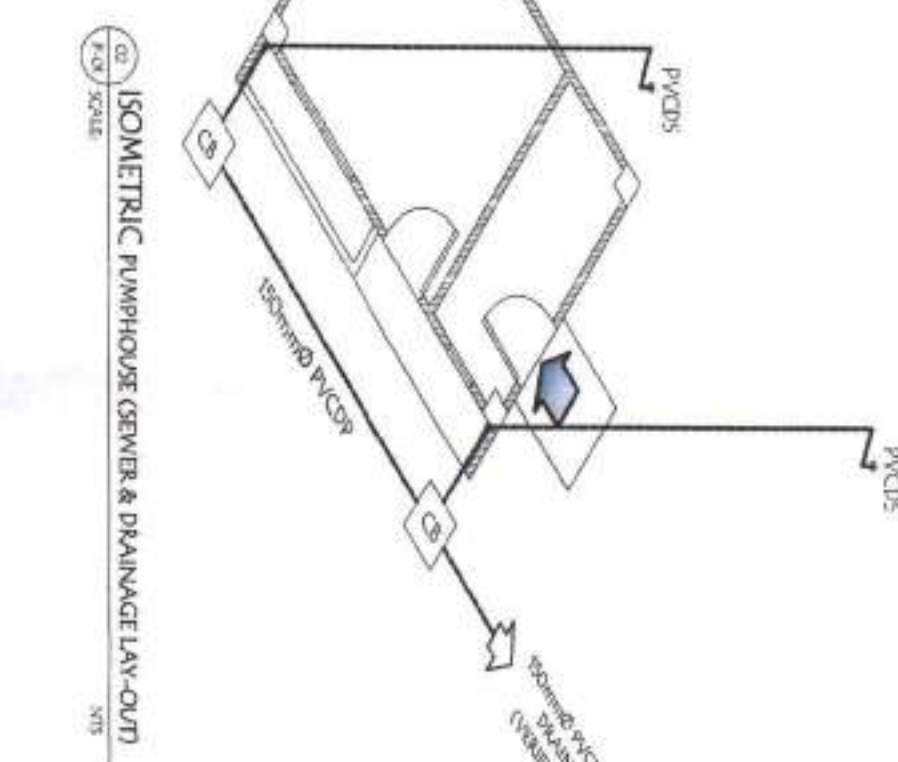
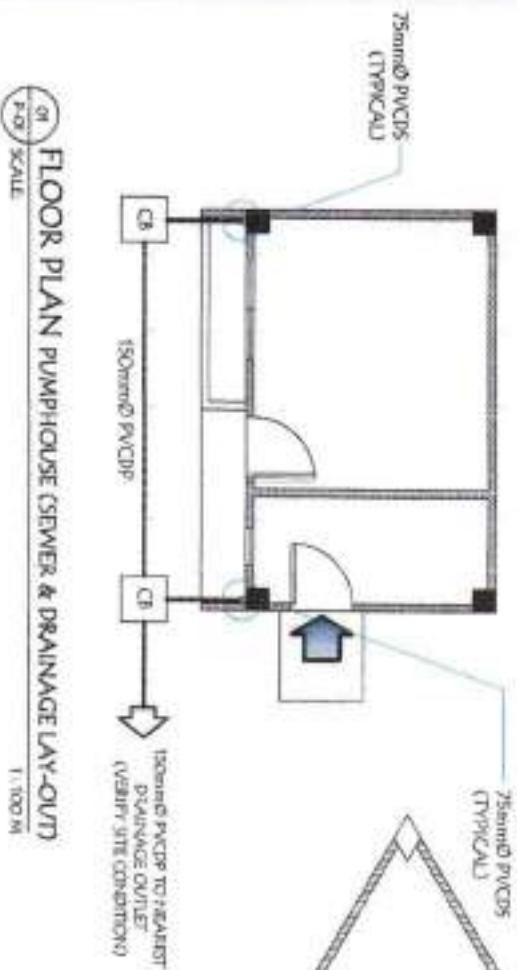
ALL HORIZONTAL PIPINGS SHALL RUN IN PRACTICAL ALIGNMENT AND SHALL BE PROVIDED WITH SLOPE OF NOT LESS THAN 1% SLOPE AND SUPPORTED BY ANCHORED EVERY 3.00M INTERVALS.

1. ALL MATERIALS SHALL BE NEW AND APPROVED TYPES FOR SANITARY LINES.
2. 75mm PVC PIPES FOR VENTS AND FIXTURES AND PVC PIPES FOR W.C. PIPES.
3. FOR WATER LINES:
 - 1. 75mm G.I. PIPE FOR FIXTURES.
 - 2. 75mm G.I. PIPE FOR BRANCHES.
 - 3. 75mm G.I. PIPE FOR MAINLINE SUPPLY.

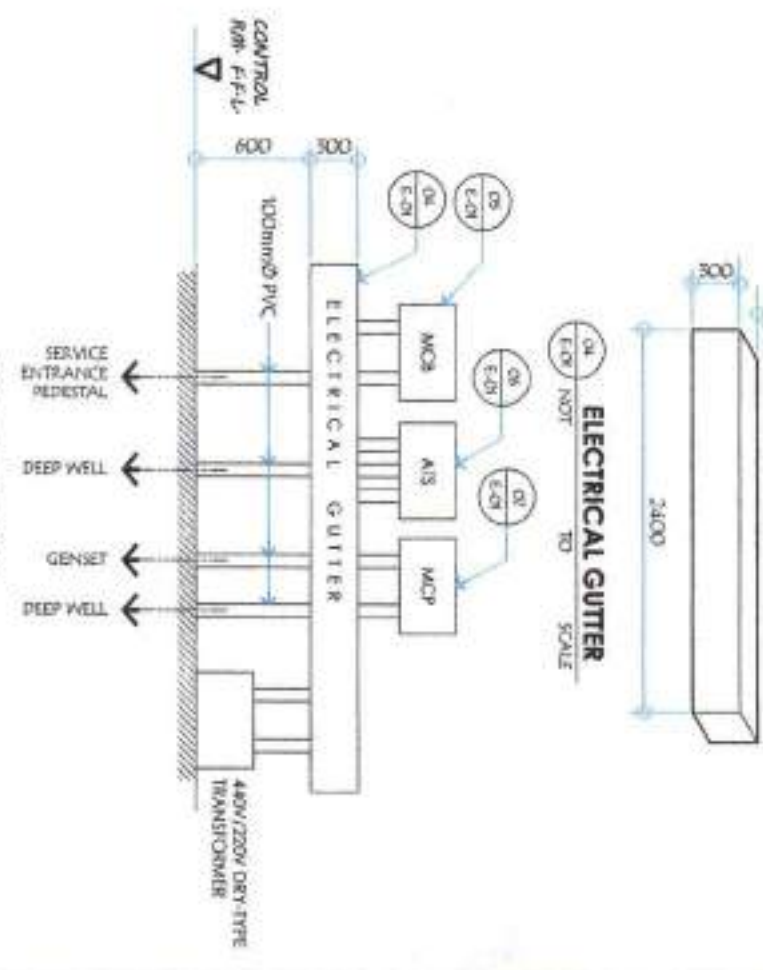
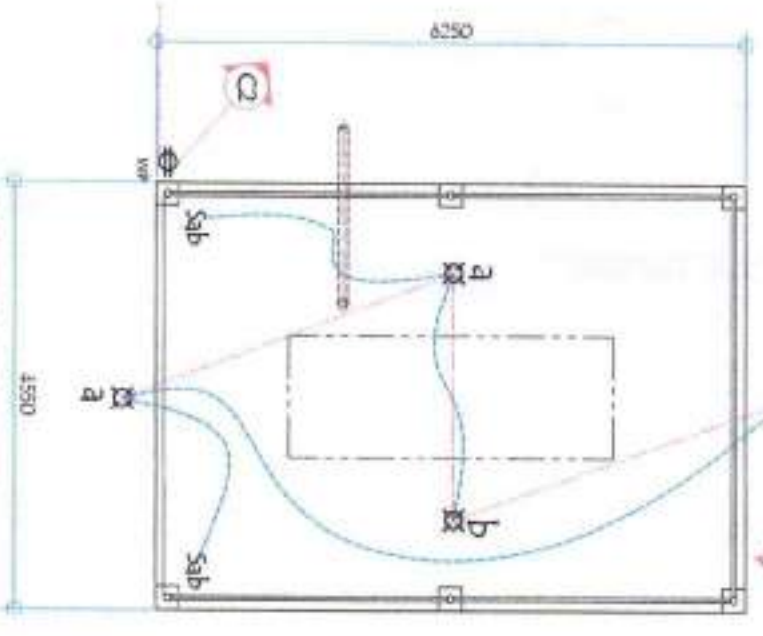
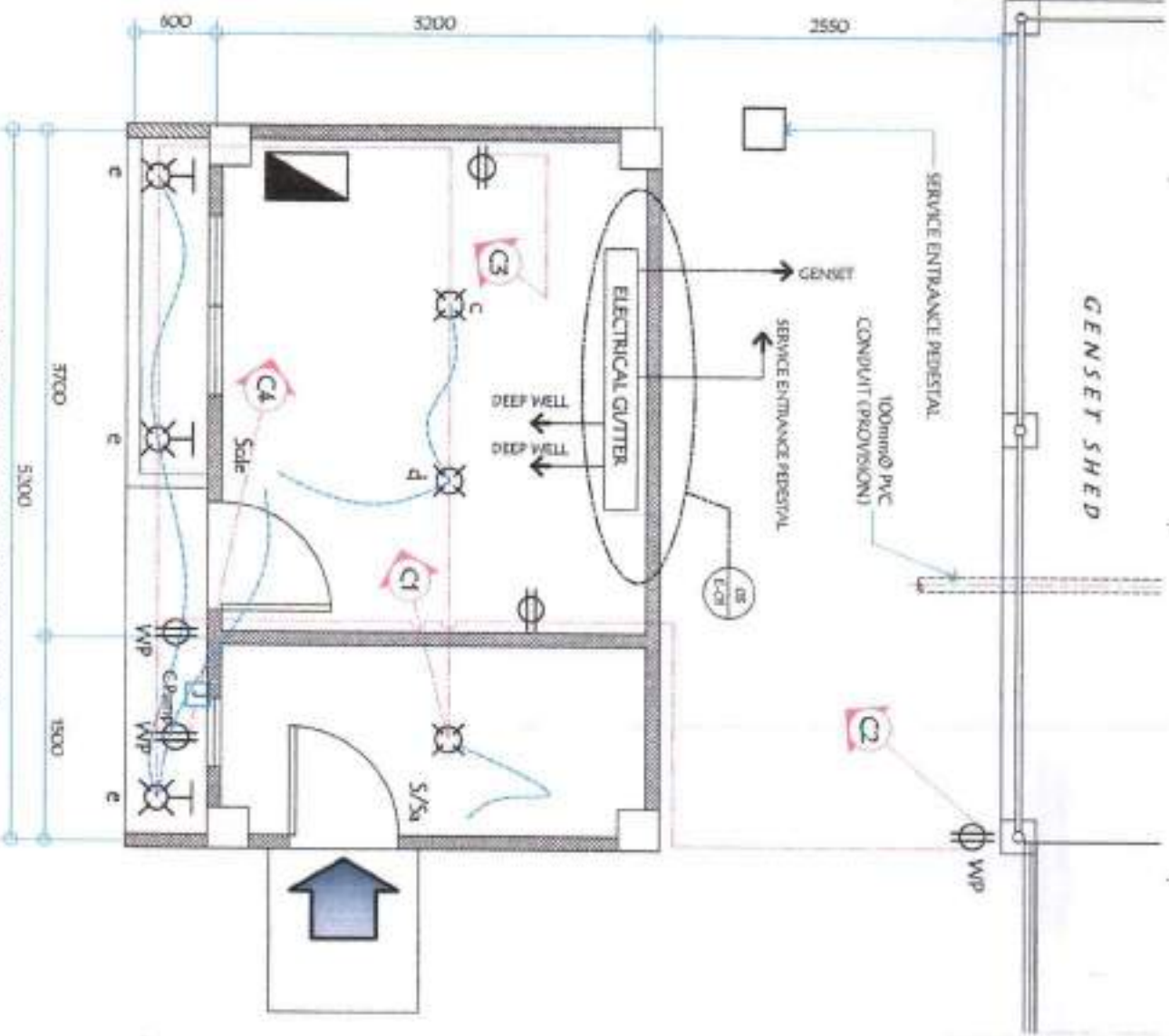
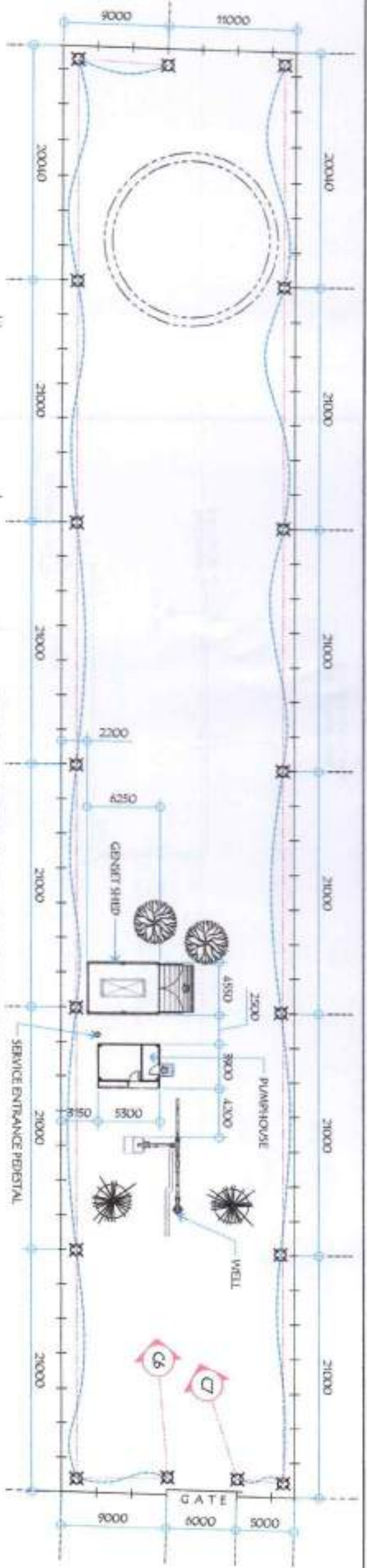
ALL PLUMBING WORKS AND INSTALLATION SHALL BE STRICTLY SUPERVISED BY A P.L.V. REGISTERED MASTER PLUMBER.

PLUMBING LEGEND:

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



<p>GENERAL SANTOS CITY WATER DISTRICT E. REMARCO STREET, BRGY. LAGDA, GEN. SANTOS CITY PLUMBING & CONSTRUCTION DEPARTMENT TEL. NO. (803) 251-2504</p>		<p>ENGR. ROGELIO A. BESANA, JR. REGISTERED MASTER PLUMBER</p>		<p>PROJECT AND LOCATION: PROPOSED CONSTRUCTION OF PUMPHOUSE, GEN-SET SHED, & PERIMETER FENCE</p>		<p>CHECKED: <i>[Signature]</i> ENGR. ROLLY A. QUNDAV CRITICAL IN-CHARGE, PDS</p>		<p>REVIEWED: <i>[Signature]</i> ENGR. ROGELIO A. BESANA, JR. AGM, OPERATION & TECHNICAL SERVICES</p>		<p>APPROVED: <i>[Signature]</i> ENGR. ARN B. GELLANGA BIN GENERAL MANAGER A</p>		<p>SHEET CONTENTS: AS SHOWN</p>		<p>SHEET NO. P-01</p>	
<p>REG. NO. 000012 P.L.V. NO. 170-455-022 DATE: 07/11/2021</p>		<p>LOCATION: Pual Cabang, Brgy. Strand CSC</p>		<p>DATE: 07/11/2021</p>		<p>DATE: 07/11/2021</p>		<p>DATE: 07/11/2021</p>		<p>DATE: 07/11/2021</p>		<p>DATE: 07/11/2021</p>			

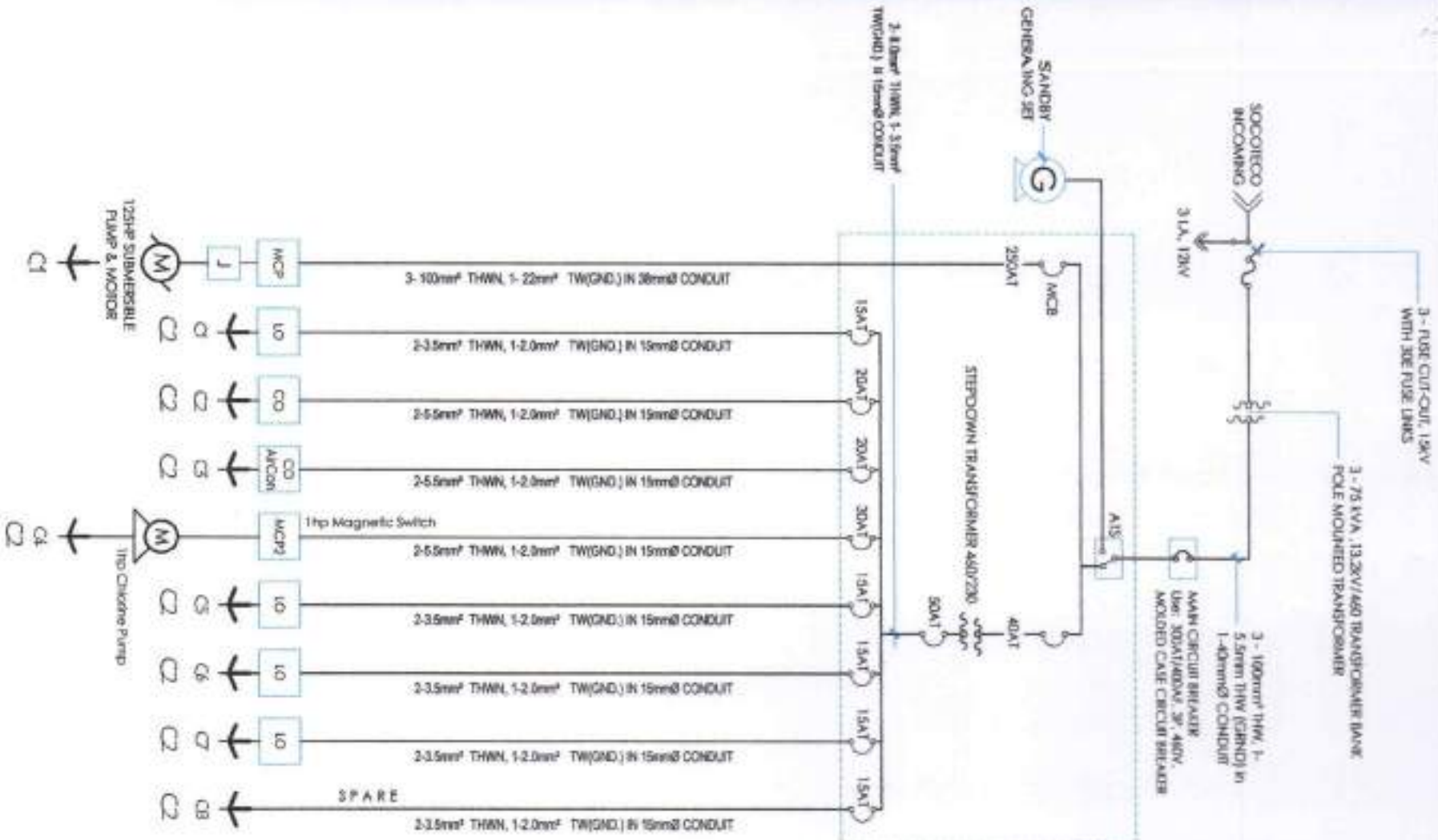


<p>GENERAL SANTOS CITY WATER DISTRICT 1. RINUADEZ STREET, 8997 USAO GEN. SANTOS CITY ENGINEERING & CONSTRUCTION DIVISION PLANNING AND DESIGN DIVISION TEL. NO. (088) 522-3824</p>		<p>PROFESSIONAL ELECTRICAL ENGINEER</p> <p>REG. NO. _____ P.E. NO. _____ DATE: _____</p>		<p>PROJECT AND LOCATION</p> <p>PROPOSED CONSTRUCTION OF PUMPHOUSE, GENSET SHED, & PERIMETER FENCE</p> <p>LOCATION: Pura Colabor, Div. Terminal, CSC</p>		<p>CHECKED:</p> <p>ENGR. KOLIV A. GUNDAY CMC/CR/CM/CR/EE, REG.</p>		<p>REVIEWED:</p> <p>ENGR. ROGELIO A. BESANA, JR. ASIA OPERATIONS & TECHNICAL SERVICES</p>		<p>APPROVED:</p> <p>ENGR. ARNIB. GELLANGANAN GENERAL MANAGER</p>		<p>SHEET CONTENTS</p> <p>AS SHOWN</p>		<p>SHEET NO.</p> <p>E-01</p>	
												<p>18</p>		<p>20</p>	

SCHEDULE OF LOADS:

CIRCUIT NO.	PARTICULARS	NO. OF OUTLET	WATTS	PHASE	VOLTAGE		AMPERE	CB RATING	WIRE SIZE AND CONDUIT
					1	2			
1	Lighting Outlet, LED Lamp	6	600	1	250	2.41	15 AT	2-1.5mm ² THWN, 1-2.0mm ² TW(GND) IN 15mm ^Ø CONDUIT	
2	Conference Outlet	3	1,500	1	250	13.04	20 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND) IN 15mm ^Ø CONDUIT	
3	ACU, 1 hp Split Type Magnetic Switch w/ Built-in 5-Prong Outlet	1	744	1	250	4.35	20 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND) IN 15mm ^Ø CONDUIT	
4	1 HP Chlorinator pump	1	1,865	1	250	8.11	30 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND) IN 15mm ^Ø CONDUIT	
5	Lighting Outlet, LED Lamp	4	400	1	250	1.74	15 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND) IN 15mm ^Ø CONDUIT	
6	Recessed LED Lighting	9	900	1	250	3.91	15 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND) IN 15mm ^Ø CONDUIT	
7	Recessed LED Lighting	8	800	1	250	3.48	15 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND) IN 15mm ^Ø CONDUIT	
8	SPARE	1	2,000	1	250	8.70	30 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND) IN 15mm ^Ø CONDUIT	
TOTAL			8,811						

COMPUTATION: @ 80% Demand Factor
 Demand load = 8,811 / 0.8 = 11,014 A
 COMPUTATION FOR MINIMUM STEP DOWN TRANSFORMER (400V/250V):
 = 30.65 x 1.25 = 38.31 AMP
 NVA = 38.31 x 250 / 1000
 NVA = 9.58
 USED 10 KVA, 400V PRI./250V SECONDARY DRY TYPE STEP DOWN TRANSFORMER
 FEEDER: 2 - 8.0mm² THWN, 1 - 3.5mm² TW(GND) IN 15mm^Ø CONDUIT
 MAIN: 50A T, 100A T, 2P, 250V



POWER SYSTEM SINGLE LINE DIAGRAM

CIRCUIT NO.	PARTICULARS	NO. OF OUTLET	WATTS	PHASE	VOLTS	AMPERE			CB RATING	WIRE SIZE AND CONDUIT
					A/B	1C	CA	3Ø		
1	125 HP submersible Motor	1	94,000	3	460			166	250 AT	3-10mm ² THWN, 1-2.2mm ² TW(GND) IN 38mm ^Ø CONDUIT
2	1P-10 KVA Dry Type Xmer	1	8,811	1	460		19.15	185.15	40 AT	2-3.5mm ² THWN, 1-2.0mm ² TW(GND) IN 15mm ^Ø CONDUIT
TOTAL			102,811					185.15		

COMPUTATION FOR TRANSFORMER REQUIREMENT:
 = 1.25 x 102,811 / (1.73 x 460 x 0.8) = 201.86 AMPS
 = 201.86 AMPS
 NVA = 102,811 / 250 / 0.80
 = 128.514
 = 128.514
 USE: 5-75 KVA, 400V/250V TRANSFORMER BANK
 POLE MOUNTED TRANSFORMER



GENERAL SANTOS CITY WATER DISTRICT
 E. REMONDO STREET, 8807, LAMAK, GEN. SANTOS CITY
 ENGINEERING & CONSTRUCTION DEPARTMENT
 PLANNING AND DESIGN DIVISION
 TEL. NO. (080) 500-3804

PROFESSIONAL ELECTRICAL ENGINEER
 REG. NO. _____
 TEL. NO. _____
 DATE: _____

PROJECT AND LOCATION
 PROPOSED CONSTRUCTION OF
 PUMP-HOUSE, GENERATOR SHED, &
 PERIMETER FENCE
 LOCATION: Pura Culture, Brg. Sanao, GZC

CHECKED:
 ENGR. ROBERTO A. GUNDAV
 OFFICE MANAGER, PEO

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

APPROVED:
 ENGR. ARN B. GELANCAAN
 GENERAL MANAGER

SHEET CONTENTS
 AS SHOWN

SHEET NO.
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