

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
REGIONAL FIELD UNIT NO. 5
SAN AGUSTIN, PILL, CAMARINES SUR

PROJECT TITLE

P R O P O S E D :

**SUPPLY, DELIVERY, INSTALLATION AND
COMMISSIONING OF SALVACION-COTNOGAN
SOLAR POWERED IRRIGATION SYSTEM (SPIS)
LOCATION: BRGY. COTNOGAN, PALANGI, ALBAY**

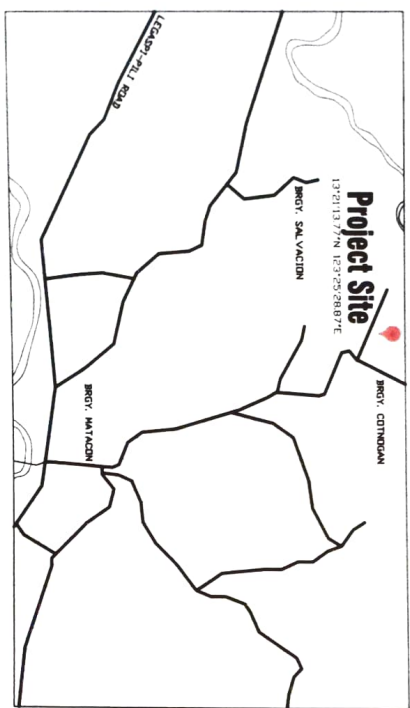
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RAED OFFICE



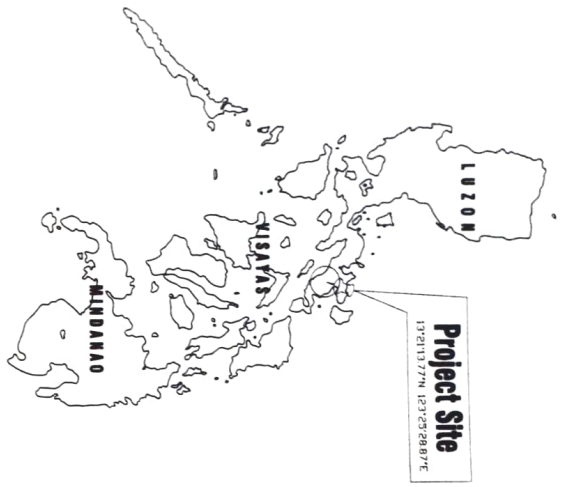


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 REGIONAL FIELD UNIT NO. 5
 SAN AGUSTIN, PILL, CAMARINES SUR

VICINITY MAP



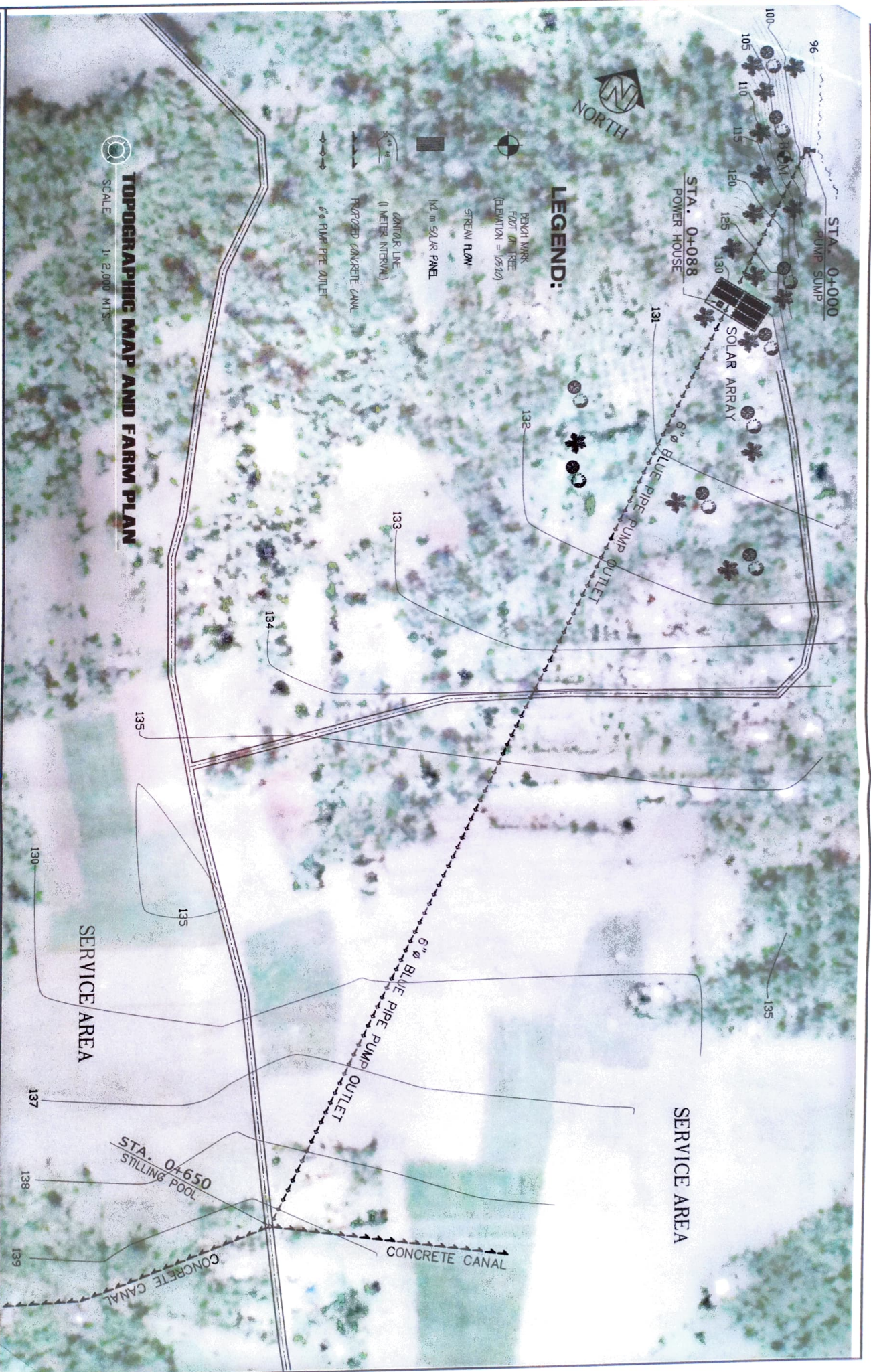
LOCATION MAP



SHEET CONTENT :

1	LOCATION & VICINITY MAP SHEET CONTENT
2	SITE DEVELOPMENT PLAN
3	TOPOGRAPHIC MAP AND FARM PLAN
4	PROFILE OF SOLAR POWERED IRRIGATION SYSTEM
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6	DETAIL OF INTAKE STRUCTURE DETAIL OF PUMP SUMP
7	PLAN OF SOLAR MOUNTING STRUCTURE FACING SOUTH ELEVATION
8	MOUNTING FRAME PLAN FACING NORTH ELEVATION
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11	DETAIL OF STILLING POOL
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13	SINGLE LINE DIAGRAM GENERAL NOTE
14	PROJECT MARKER

Prepared by: <i>[Signature]</i> RIL ASPIH I BOUNTI Engineer	Checked by: <i>[Signature]</i> ARVILLE B MIRA Engineer II	Reviewed by: <i>[Signature]</i> JERRY A EBORA District Engineer III	Submitted by: <i>[Signature]</i> GILBERT S SACCIO District Engineer	Approving Authority: <i>[Signature]</i> LUZ R MARTELINO ATD for Operations and Extension	Approved by: <i>[Signature]</i> RODEL P TRINILL Regional Engineer	Number of Copies: 1 Location: Supply, Delivery, Inst. & Commissioning of Salvation-Cotacotan SPIS Special Comments: Hrg. Cotacotan, Palangui, Albug AS SHOWN	Date by: <i>[Signature]</i> Date: 03/28/2014 Sheet No.: 01/14
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LEGEND:

- PEAK MARK
FOOT ON TREE
(ELEVATION = 15310)
- STREAM FLOW
- 1/2 m SOLAR PANEL
- CANAL LINE
(1 METER INTERVAL)
- PROPOSED CONCRETE CANAL
- 6" Ø PIPE PIPE OUTLET

TOPOGRAPHIC MAP AND FARM PLAN
SCALE 1:2,000 MTS.



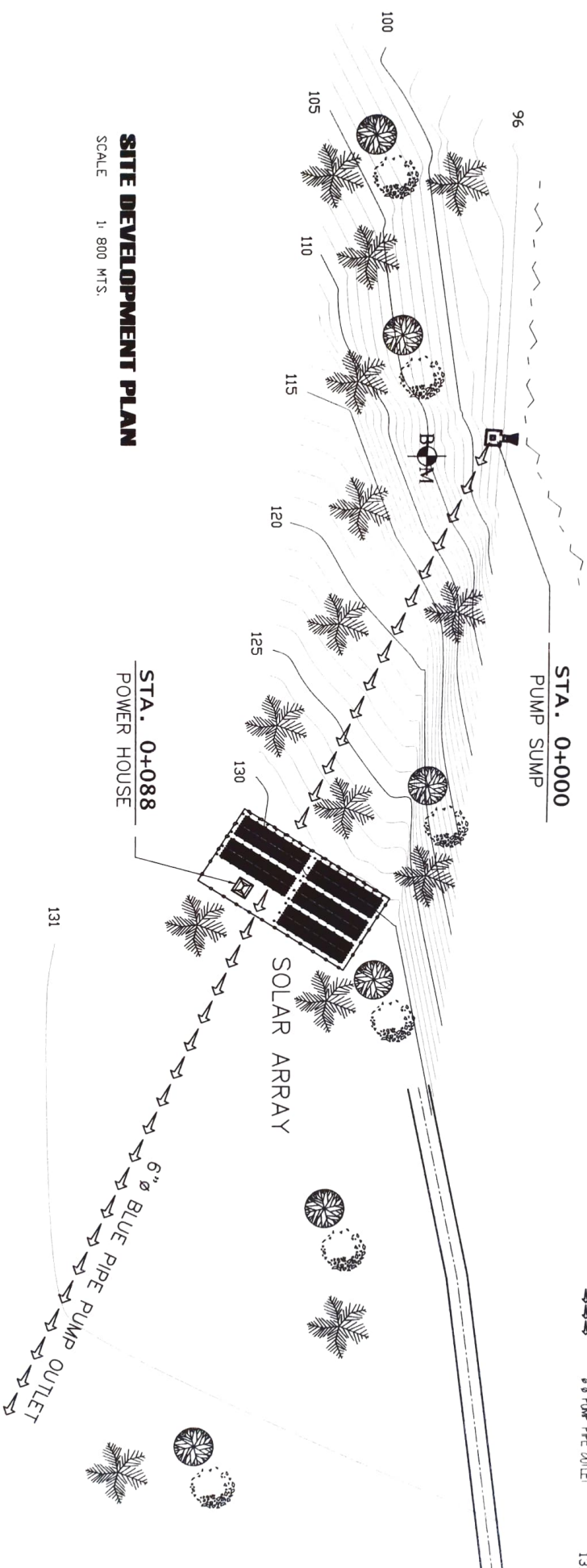
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REGIONAL FIELD UNIT NO. 5
SAN AGUSTIN, PILI, CAMARINES SUR

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						Location:
						Street/Corridor:
						AS SHOWN
						Date:
						02/14



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SITE DEVELOPMENT PLAN
SCALE 1: 800 MTS.



STA. 0+000
PUMP SUMP

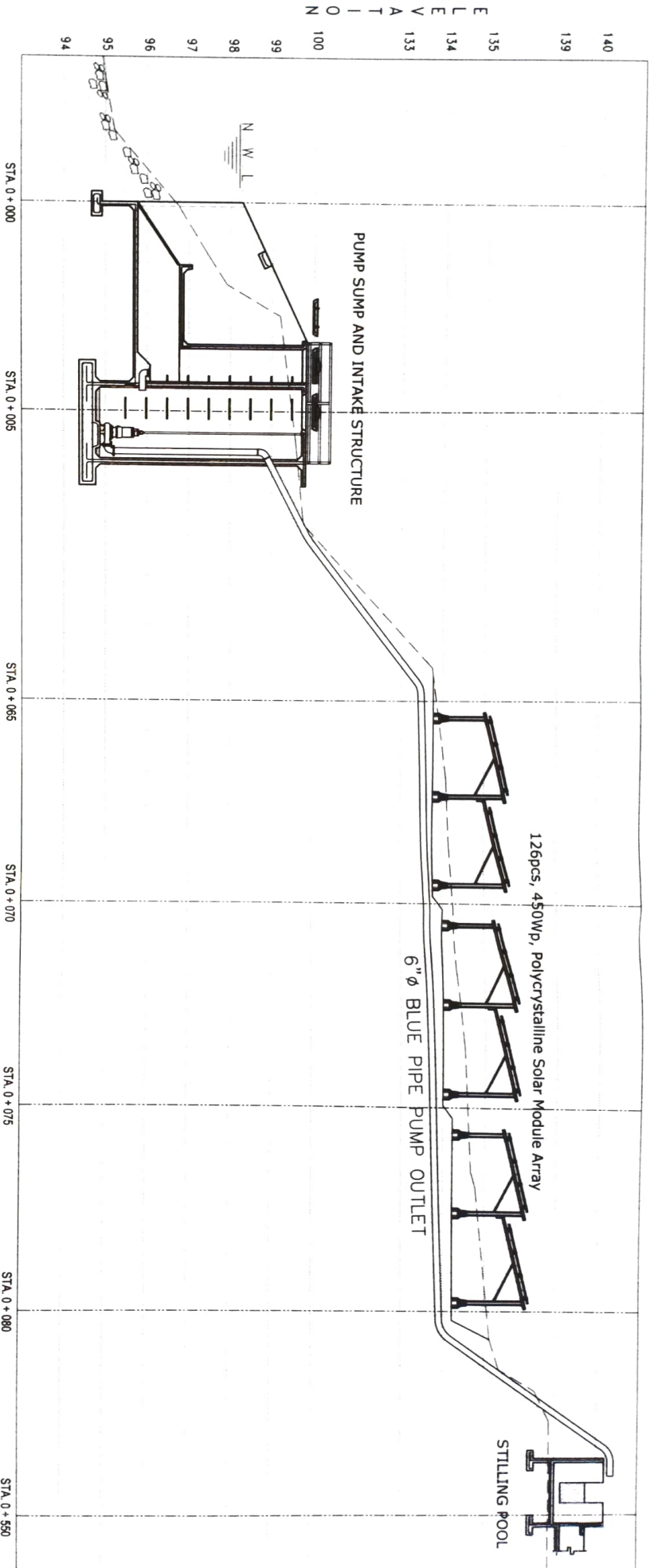
STA. 0+088
POWER HOUSE

SOLAR ARRAY

6" BLUE PIPE PUMP OUTLET

- LEGEND:**
- BENCH MARK
FOOT OF TREE
(ELEVATION = 125.00)
 - STREAM FLOW
 - 1/2 m SOLAR PANEL
 - CONTOUR LINE
(1 METERS INTERVAL)
 - PROPOSED CONCRETE CANAL
 - 6" PUMP PIPE OUTLET

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DATE: 03/14	DATE: 03/14	DATE: 03/14	DATE: 03/14	DATE: 03/14	DATE: 03/14	Location: BRGY. Catagan, Polangui, Albay
03/14	03/14	03/14	03/14	03/14	03/14	Sheet Contents: AS SHOWN



PROFILE ALONG CENTERLINE OF SPIS
 NOT TO SCALE

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--	---	---	---	--	---

Name of Project Supply, Delivery, Inst. & Commissioning of Salvacion-Catagan SPIS	Date 04/14
Location Brgy. Catagan, Polangui, Albay	Scale AS SHOWN



REPUBLIC OF THE PHILIPPINES
 DEPARTMENT OF AGRICULTURE
 REGIONAL FIELD UNIT NO. 5
 SAN AGUSTIN, P.I.L., CAGAIRES SUR

Prepared by
 RRL JESSEPH BRANTO
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Recommending Approval
 LIZ R. MANCERINO
 RTD for Operation and Extension

Approved by
 ROSEL P. CORRALA, MARE
 Regional Director

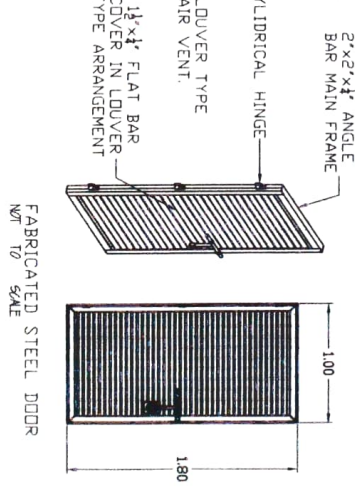
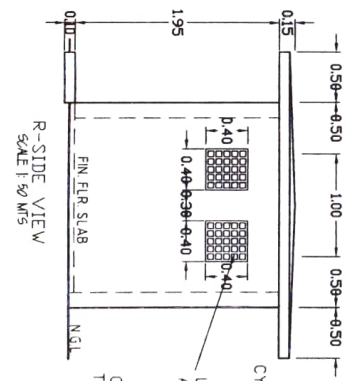
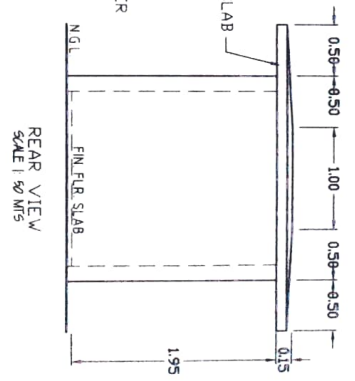
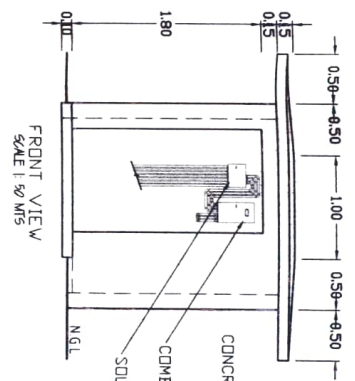
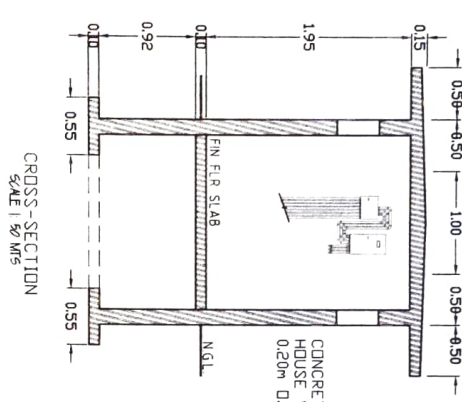
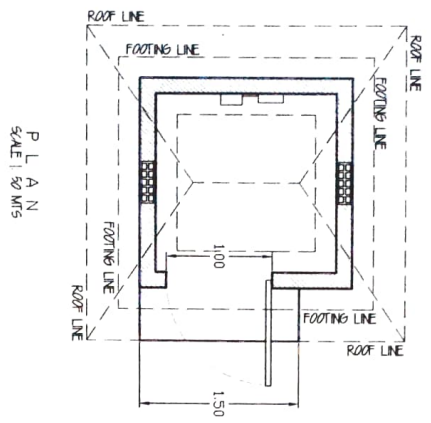
Name of Project
 Supply, Delivery, Inst. & Commissioning of Salvacion-Corrogan SPIS

Location
 BRN, Cansangon, Polangui, Albay

Special Comments
 AS SHOWN

DATE
 05/14

DETAIL OF PUMP HOUSE
 SCALE AS SHOWN





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 SAN AGUSTIN, PILL, CAGAIRES SUR

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 LUIZ B. MARCHELINO
 RFD for Operation and Extension

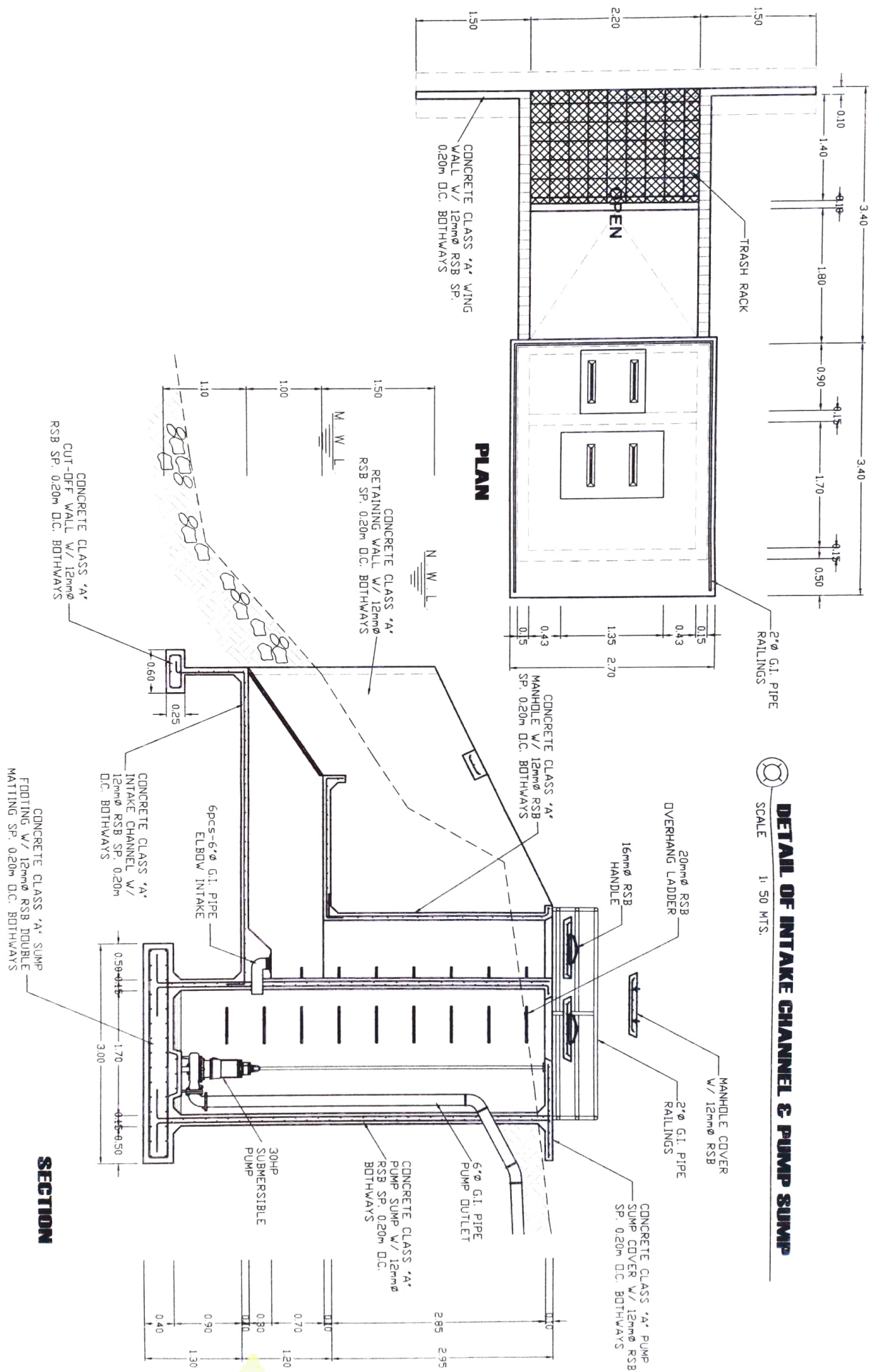
Approved by:
 RODEL P. JONILLAN
 Regional Director

Subject of Project:
 Supply, Delivery, Inst. & Commissioning of Salvacion-Caraganan SPIS

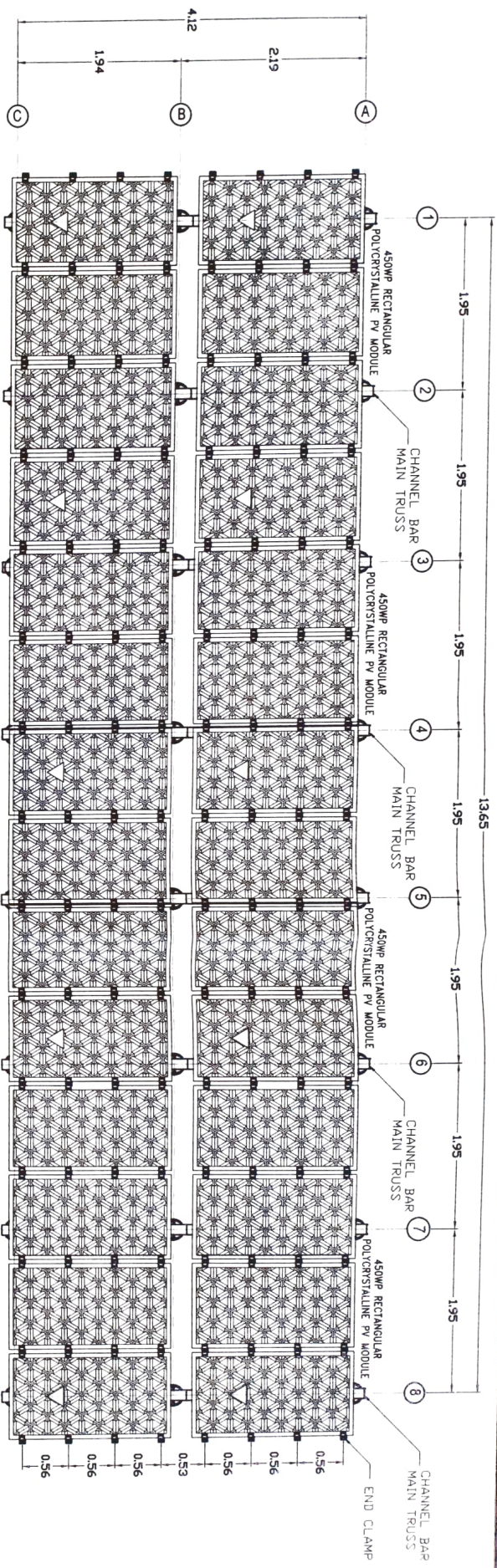
Location:
 Brgy. Caraganan, Polangui, Albay

Special Comments:
 AS SHOWN

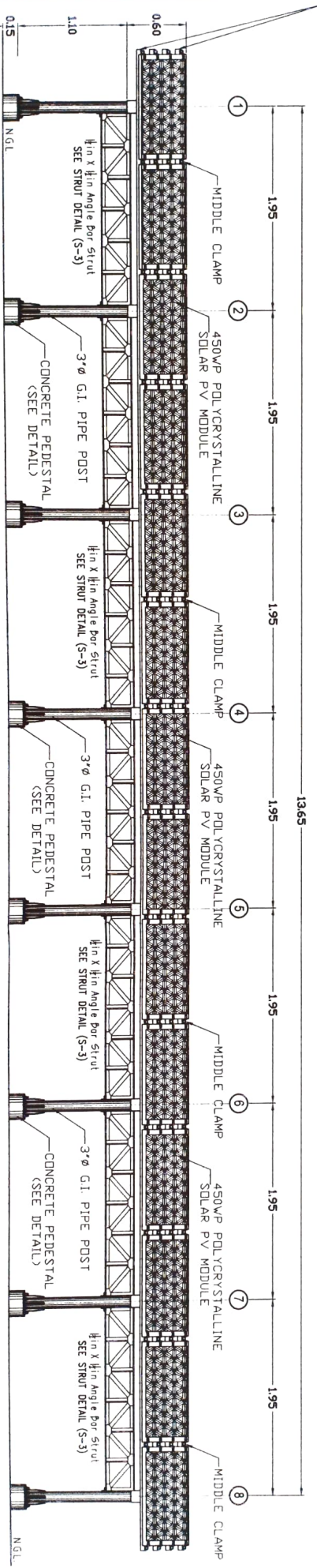
Drawn by:
 Date:
 Scale:
 06/14



DETAIL OF INTAKE CHANNEL & PUMP SUMP
 SCALE 1: 50 MTS.



PLAN OF SOLAR MOUNTING STRUCTURE
SCALE 1: 50 MTS.

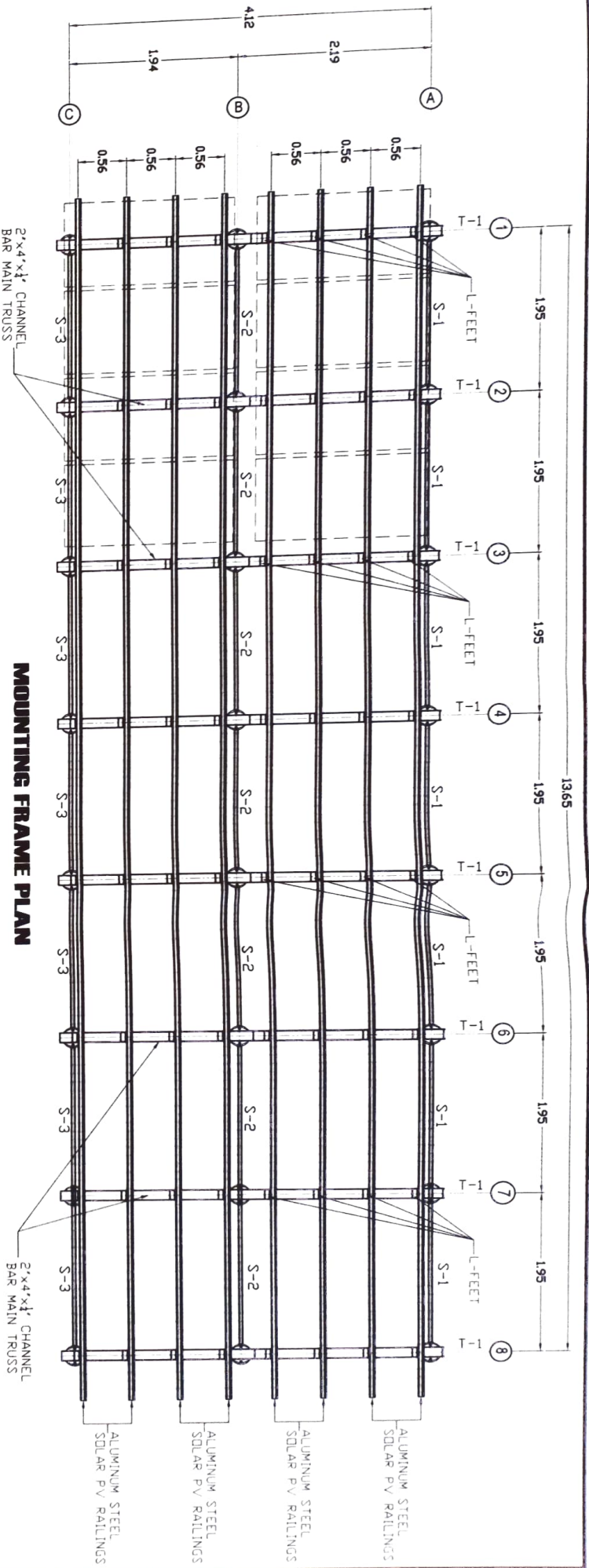


FACING SOUTH ELEVATION
SCALE 1: 40 MTS.

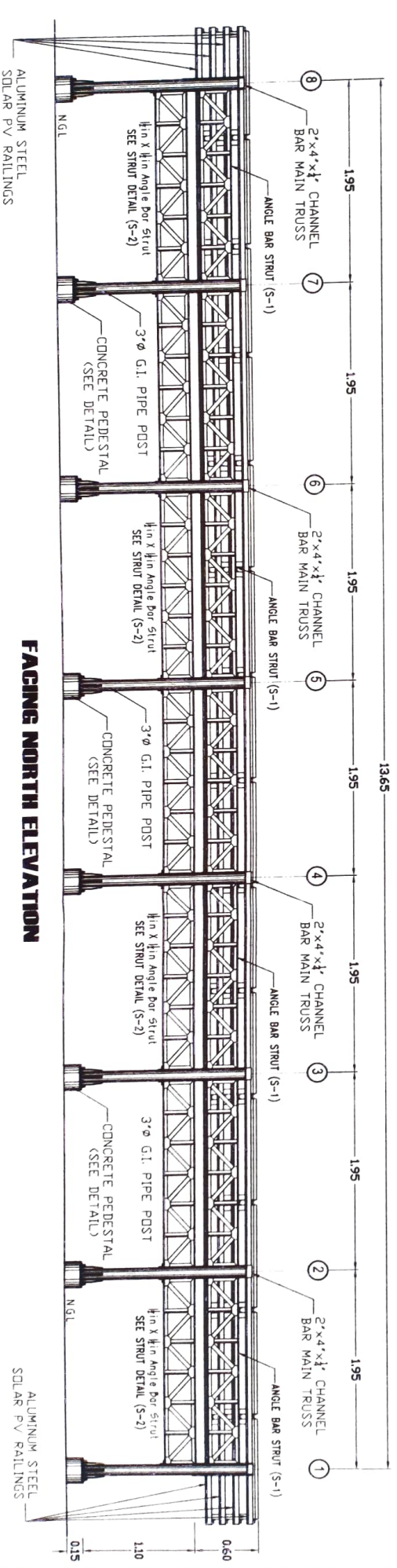


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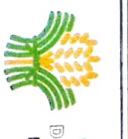
Prepared by: BEL JOSEPH D. BONTINO Engineer	Checked by: ARTHUR B. MIRA Engineer II	Reviewed by: JIMMY A. BERONA ENROSH Team Lead, Eng. III	Submitted by: GILBERT S. SALCEDO Off.-Chief, RAED	Recommending Approval: LIZ R. MARCELINEO MTO for Operation and Extension	Approved by: ROBEL P. TRINIDAD, MABE Regional Executive Officer
Name of Project: Supply, Delivery, Inst. & Commissioning of Salvation-Corrogan SPIS					
Location: BRGY. Corrogan, Polangui, Albay					
Sheet Contents: AS SHOWN					
DATE: 07/14					



MOUNTING FRAME PLAN

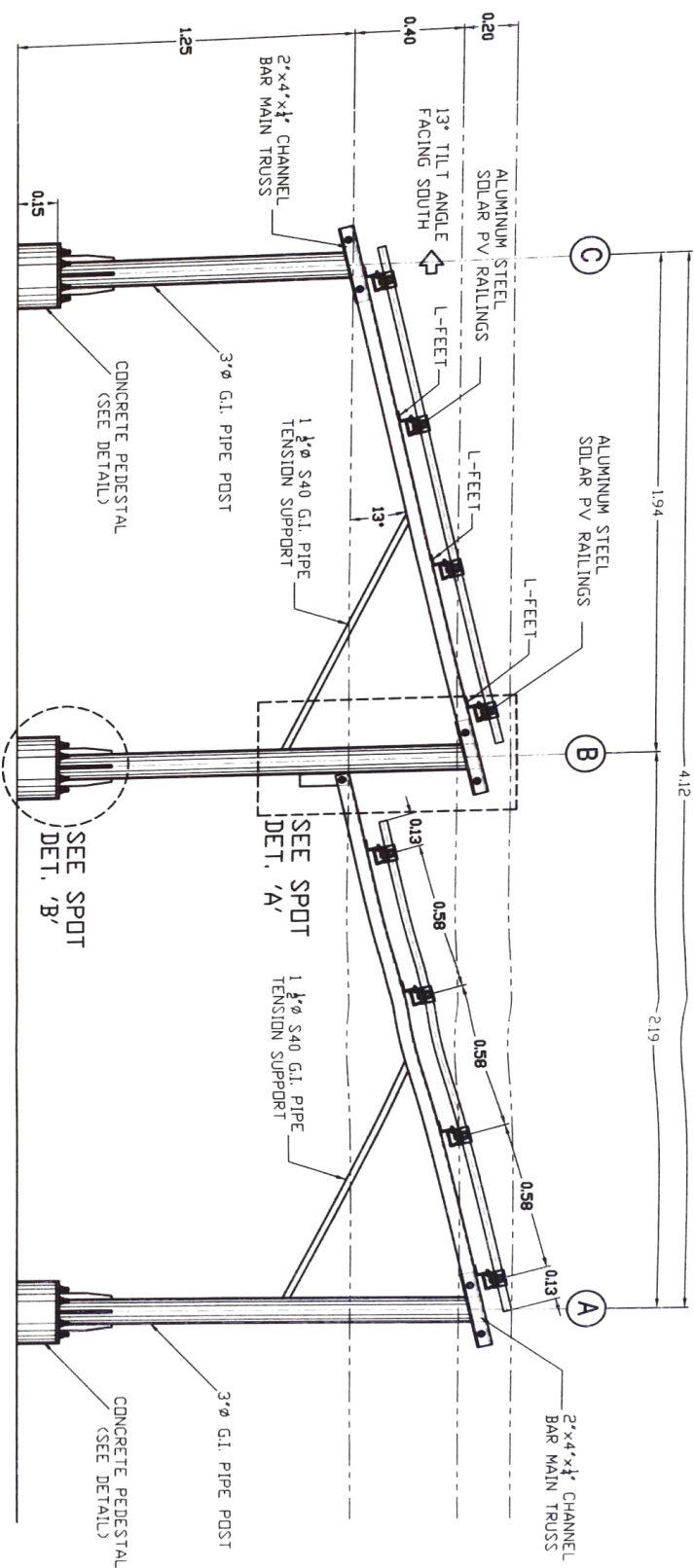


FACING NORTH ELEVATION

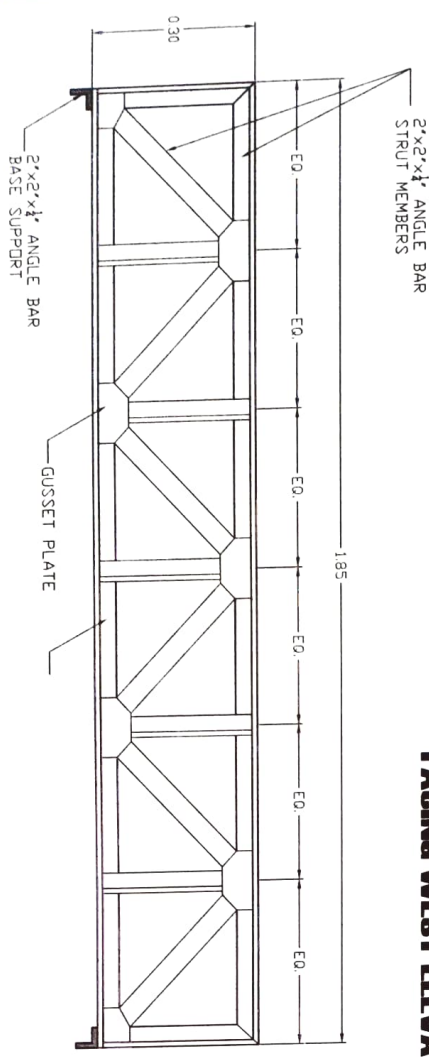


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 SAN AGUSTIN, PULI, CAGAIRES SUR

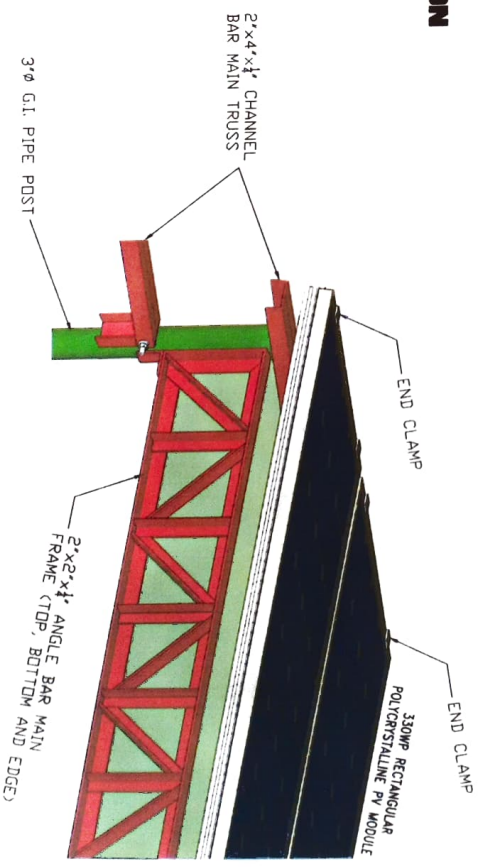
Prepared by	Checked by	Reviewed by	Submitted by	Recommending Approval	Approved by	Name of Project
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	Supply, Delivery, Inst. & Commissioning of Salvacion-Cotoguan SPIS
Engineer I	Engineer II	Engineer III	Off. Chief, RUD	RTD for Operations and Extension	Regional Director	Location
BELJESHERD MONITO	MARYLOR B. MIRA	JERRY A. ERONA	GILBERT S. SALCEDO	LIV R. MONTAÑANO	RODOLFO J. DEANIN A. MAHE	Brgy. Cotoguan, Pulangui, Albuay
						Spec. Comments
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DATE						Scale
08 / 14						



FACING WEST ELEVATION



DETAIL OF STRUT (S-1, S-2, S-3)

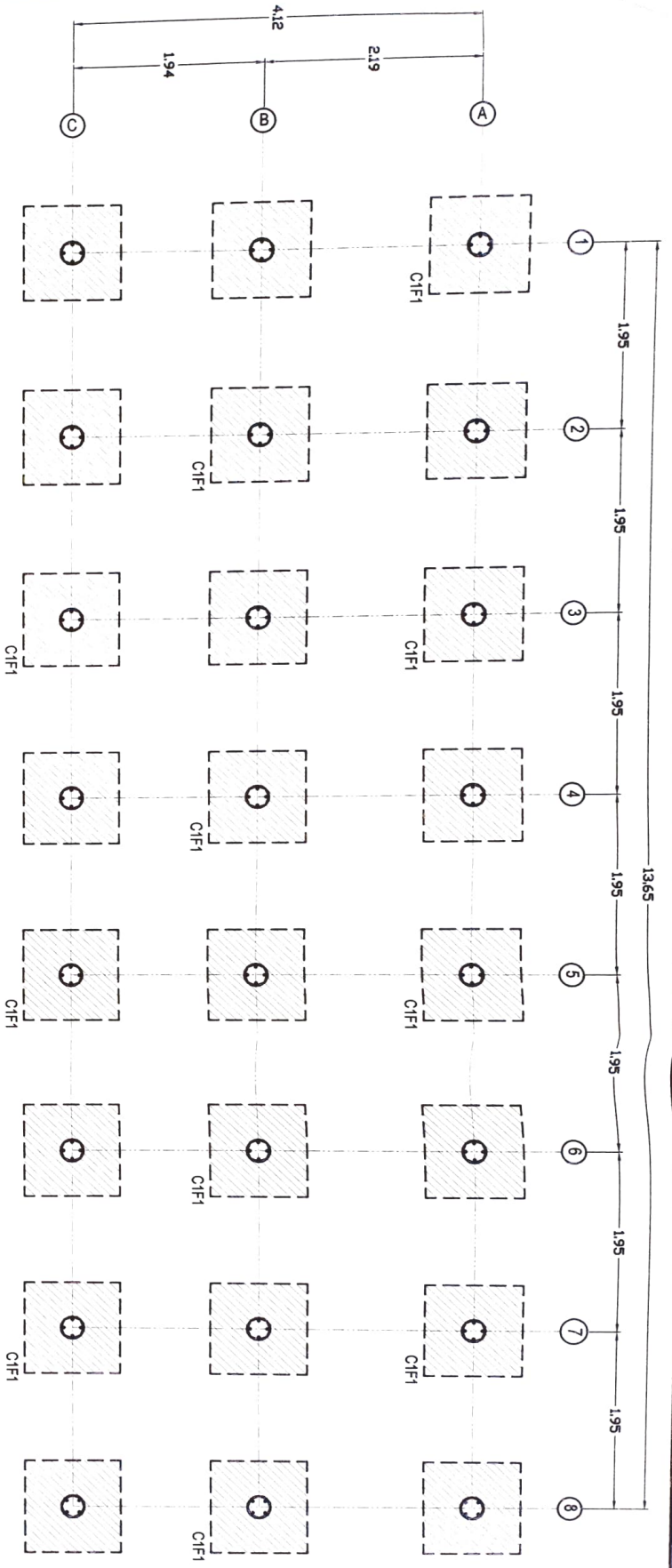


SPOT DETAIL 'A'

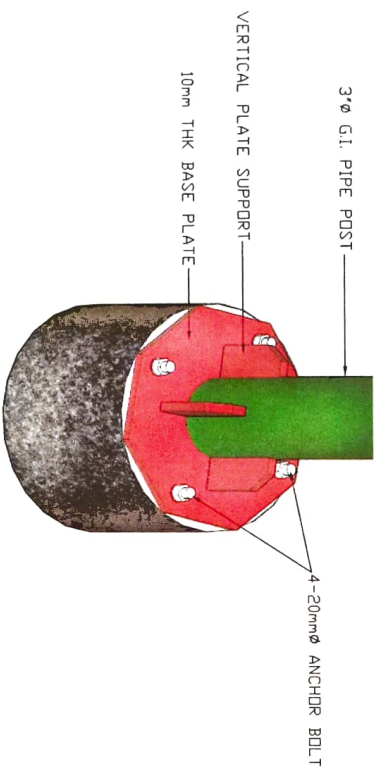


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 REGIONAL FIELD UNIT NO. 5
 SAN AGUSTIN, PULI, CAGAYAN SUR

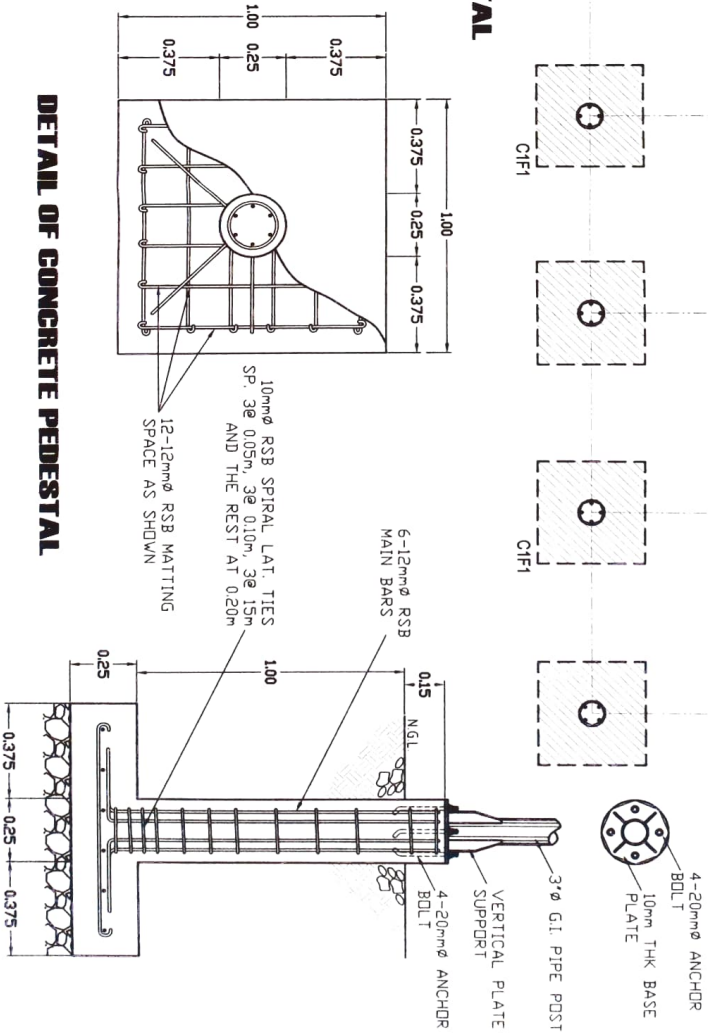
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DATE: 09/14	SCALE:	Sheet No.:	Location: Brgy. Connogan, Polangui, Albay			
AS SHOWN						



FOUNDATION PLAN OF CONG. PEDESTAL



SPOT DETAIL 'B'



DETAIL OF CONCRETE PEDESTAL

Prepared by	Checked by	Reviewed by	Submitted by	Supervising Approval	Approved by	Name of Project
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Location	Special Comments	Date	Scale	Sheet No.	Page No.	
BRN, Cadogan, Palangui, Albay	AS SHOWN	10/14				



REPUBLIC OF THE PHILIPPINES
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 SAN AGUSTIN, PULI, CAMARINES SUR

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 Engr. III

Submitted by:

GILBERT S. MALIBRO
 Engr. I

Supervisory Approval:

LIZ R. MARCELANDO
 Engr. III

Approved by:

RODEL P. KIRNUL
 Regional Administrator

Name of Project:

Supply, Delivery, Inst. & Commissioning of Salvacon-Corogon SPIS

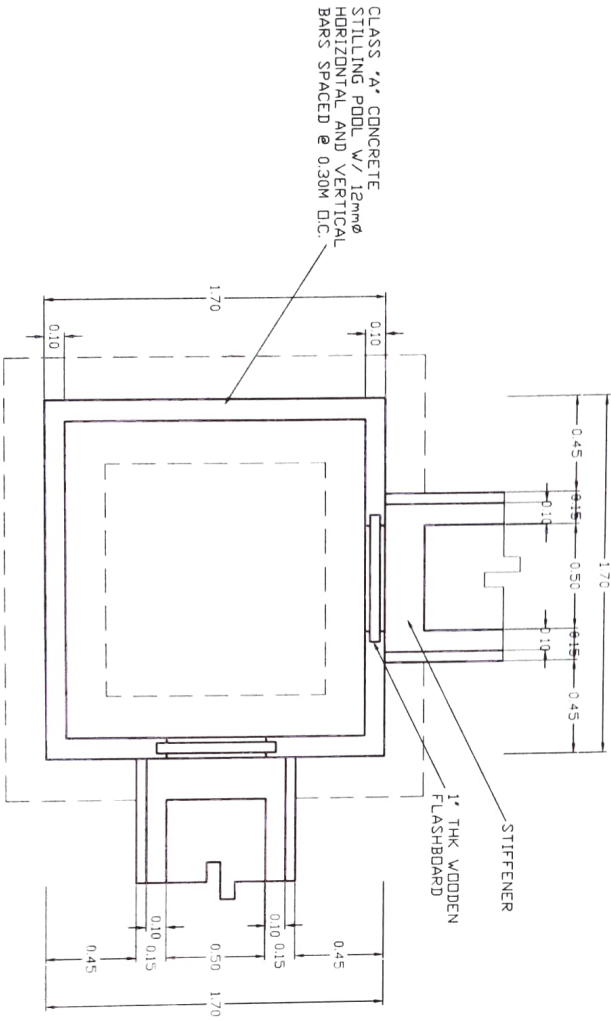
Location:

Brgy. Corogon, Pulang, Albu

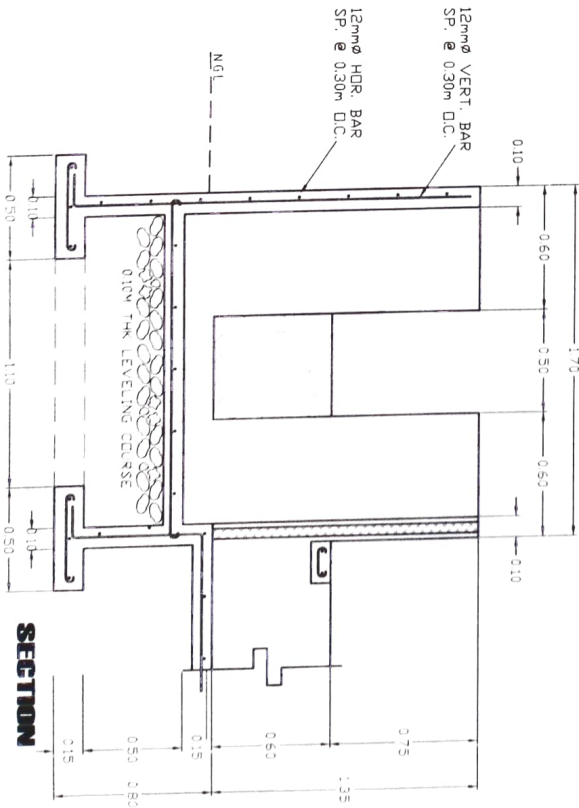
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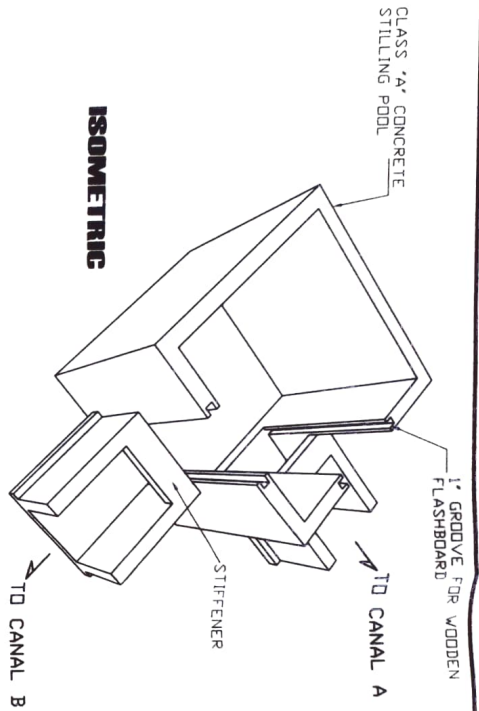
PLAN



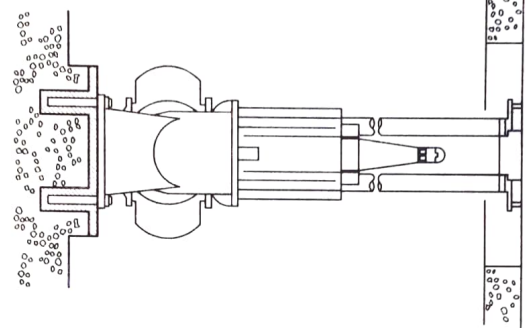
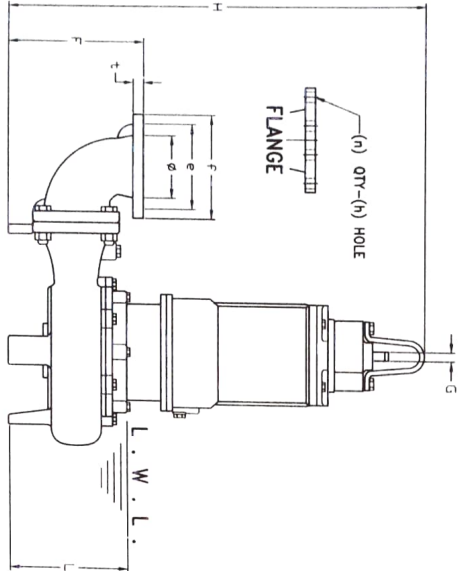
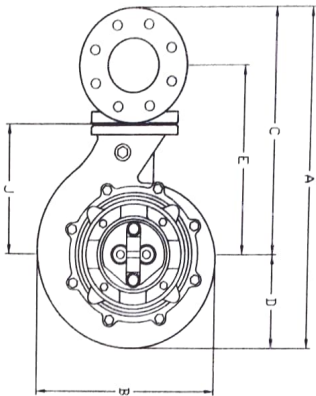
DETAIL OF STILLING POOL



ISOMETRIC



PHASE	SIZE Ø	OUTPUT		PUMP AND MOTOR												FLANGE (ANSI 125 PSI F.F)								UNIT
		KW	HP	A	B	C	D	E	F	G	H	J	L	Ø	e	f	t	n	h					
THREE	6	22	30	35.188	20.563	24.875	10.313	18.125	26.188	0.313	57.5	14.188	18.5	6	9.50	11	1	8	0.875					
	150			895	522	632	262	461	665	8	1375	360	470	150	241	279	25	8	22	(mm)				



SUBMERSIBLE PUMP DETAIL


DESIGN PARAMETER

Computed Water Duty	1290 cum/day/ha - 150 l/sec/ha
Target Rice Area	12 hectares
Pump Flow Requirement (5hrs solar pump operation)	320 litters/sec - 1950 cum/hr
Total Dynamic Head	560 meters
Total pipe length	600 meters
Total static head	4600 meters
Friction loss	1444 m/100 m pipe length
Motor Rating	30 KW (3-460V, 51A)
Inverter Size	35 KW, 360V-1000V DC INPUT
No. of Solar PV Module	120pcs, 450Wp-(4) Vmp, 10.35 Imp)




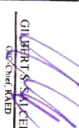
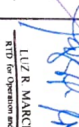

LOAD SCHEDULE & COMPUTATIONS

CKT. NO.	LOAD DESCRIPTION	VOLT	CURRENT	CIRCUIT BREAKER			CONDUCTOR		CONDUIT (mm)
				AT	POLE	NO. OF C	SIZE	INSULATOR	
1	OFF GRID SOURCE -9 STRING- (41V, 10.98A)	574	10.98	15	1	10	3.5 mm ²	THHW	25 mm ⁶
2	DC Invert. 360V-760V	574	98.82	120	2	2	30.0 mm ²	THHW	50 mm ⁶
3	30KW MOTOR	460	40	120	3	3	30.0 mm ²	THHW	50 mm ⁶

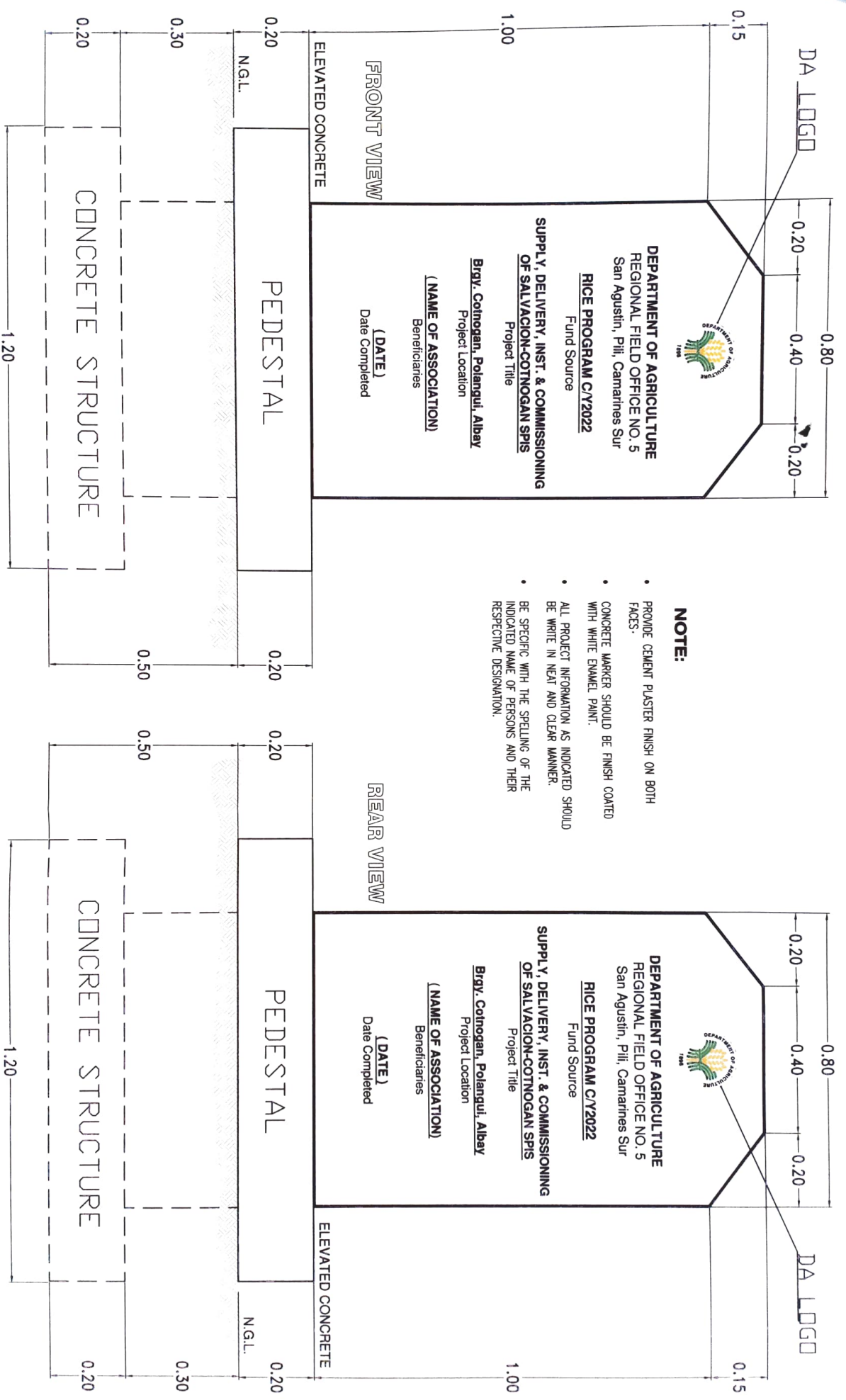
COMPUTATIONS :
 IF = 10.98x9
 = 98.82 AMPS
 FOR PV PROTECTOR
 IF = 98.82x1.25(SF)
 = 123.53 AMPS
 FROM INVERTER
 IF = 40x1.25(SF)
 = 50 AMPS
 FOR MOTOR
 USE : #4-22mm² THHW
 #2-30mm² THHW IN SOME PVC
 120AT, 3P, 460V, CKT BREAKER





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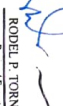
Prepared by:	Checked by:	Reviewed by:	Sponsored by:	Approving Approval:	Approved by:	Name of Project:
 BEL JOSEPH D. BONITTO <small>Engineer I</small>	 ARTHIR B. MILLA <small>Engineer II</small>	 JERRY A. EBONA <small>EPDS Team Lead III</small>	 GILMARY S. SALCEDO <small>Chief, Civil Field</small>	 LIZ R. MARCELINO <small>RTD for Operation and Extension</small>	 RODIEL P. TORRA <small>Regional Executive Officer</small>	Supply, Delivery, Inst. & Commissioning of Sanvador-Congnan SPIS Location: Brgy. Congnan, Polangui, Albay
Date: 12/14/2017						Sheet Count: AS SHOWN

NEW CONCRETE MARKER OF RICE PROGRAM PROJECT
SCALE: 1:10^m




DEPARTMENT OF AGRICULTURE
 REGIONAL FIELD OFFICE NO. 5
 San Agustin, Pili, Camarines Sur
RICE PROGRAM C/Y2022
 Fund Source
SUPPLY, DELIVERY, INST. & COMMISSIONING OF SALVACION-COTNOGAN SPIS
 Project Title
Brgy. Cotnogon, Polangui, Albay
 Project Location
(NAME OF ASSOCIATION)
 Beneficiaries
(DATE)
 Date Completed


DEPARTMENT OF AGRICULTURE
 REGIONAL FIELD OFFICE NO. 5
 San Agustin, Pili, Camarines Sur
RICE PROGRAM C/Y2022
 Fund Source
SUPPLY, DELIVERY, INST. & COMMISSIONING OF SALVACION-COTNOGAN SPIS
 Project Title
Brgy. Cotnogon, Polangui, Albay
 Project Location
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 Beneficiaries
(DATE)
 Date Completed

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF AGRICULTURE REGIONAL FIELD UNIT NO. 5 SAN AGUSTIN, PILI, CAMARINES SUR	Prepared by	Checked by	Reviewed by	Submitted by	Recommending Approval	Approved by	Name of Project	DATE
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