



## **Invitation to Bid**

### **Construction Works for Material Recovery Facility (MRF), Sorsogon, Philippines for Marine Plastics ODA Project (2023–2028) – PEMSEA Resource Facility (PRF)**

**Bid Reference No.:** [PRF/ODA/2026-002]

**Date of Issue:** 17 February 2026

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#### **BACKGROUND**

The Marine Plastics ODA Project (2023–2028) is a regional initiative implemented under PEMSEA with support from the Ministry of Oceans and Fisheries (MOF) of the Republic of Korea. The Project addresses marine plastic pollution in the East Asian Seas through improved local governance, demonstration of community-driven solutions, systematic monitoring, and strengthened partnerships.

Under the Project, PRF will hire a construction company to construct a Material Recovery Facility (MRF) to enable plastic recycling and local plastic diversion activities in Bulan Municipality.

#### **PROCURING ENTITY AND PROJECT SITES**

Procuring Entity: PEMSEA Resource Facility (PRF)

Project: Marine Plastics ODA Project (2023–2028)

Project Site:

- Municipality of Bulan, Sorsogon – Construction of Material Recovery Facility (MRF) / plastic processing facility area (target completion: December 2026)

PRF will award the Contract to the Lowest Evaluated Responsive Bid (LERB), subject to PRF's best value determination and bidder capacity.

## **SCOPE OF WORKS**

The Contractor shall provide all labor, supervision, materials, tools, equipment, and incidentals necessary to complete the Works, including but not limited to:

- Pre-construction site visit, measurements, and finalization of work method and schedule.
- Site preparation, safety barricades/signage, temporary facilities, and housekeeping.
- Civil works: flooring/slab works, minor structural repairs, equipment pads/foundations (as applicable), and drainage improvements.
- Building works: masonry/partition, roofing repairs (if any), doors/windows repairs, painting, and basic finishing works.
- Utilities: electrical works (panel board upgrades, wiring, grounding, outlets, lighting), water supply lines, and wastewater/drain connections suitable for recycling operations.
- Provision/installation of required safety features: emergency exits clearances, fire extinguishers brackets/locations, safety railings/guards (as applicable).
- Testing and commissioning of installed utilities (electrical continuity/insulation tests, grounding tests, water pressure/leak tests), and rectification of defects.
- Preparation of as-built drawings, turnover documentation, and orientation of LGU facility staff on installed utilities and maintenance.

## **REFERENCE PLANS, SPECIFICATIONS, AND STANDARDS**

The Works shall comply with the latest applicable Philippine laws and standards, including the National Building Code of the Philippines, relevant DPWH standards, the Philippine Electrical Code, the Philippine Plumbing Code, and local ordinances.

The Bidder shall base its proposal on the PRF/LGU-provided drawings/specifications as attached in Annex A and the site conditions verified during the site inspection. In case of discrepancy, the Bidder shall raise it during the clarification period.

## **MINIMUM TECHNICAL REQUIREMENTS**

Bidders shall meet or exceed the following minimum requirements. Detailed technical specifications are provided in Annex A Layout of the MRF and Annex B Bill of Materials.

- Flooring/Slab: Adequate thickness and reinforcement for industrial use and for intended equipment placement (as applicable), with smooth, non-slip finish and proper slope to drains.
- Foundations/Pads: Level and adequately reinforced pads for equipment placement (as applicable) with anchor provisions as needed.
- Electrical: Dedicated circuits for industrial loads; properly sized wires/cables; breaker protection; grounding system; labeled panel board; emergency shut-off provision (where applicable).
- Water/Drainage: Leak-free piping; valves; adequate drainage with trap and cleanout; proper slope; wastewater discharge consistent with LGU requirements.

- Safety: Compliance with basic occupational safety and health (OSH) requirements; clear working space, lighting, and access routes.

## **CONTRACT DURATION AND MILESTONES**

The Contract duration shall be 180 calendar days from the Notice to Proceed (NTP). The Bidder shall propose a detailed work schedule, including key milestones: mobilization, civil works, utilities installation, testing, punchlisting, and final turnover.

## **ELIGIBILITY AND QUALIFICATION REQUIREMENTS**

Bidders must be legally, technically, and financially capable to undertake construction works of similar nature and scale.

- Valid business registration (SEC/DTI), Business Permit, and BIR registration.
- For Philippine contractors: Valid PCAB license with appropriate category/classification for the project cost (or equivalent proof of construction license/registration).
- Completed at least two (2) similar construction projects within the last five (5) years (attach contracts/POs, completion/acceptance certificates, and client references).
- Key personnel with relevant experience (Project Engineer, Safety Officer, Electrical/Plumbing personnel as applicable).
- Proof of equipment availability (owned/leased) appropriate for the Works.
- Financial capacity to deliver the Works (audited financial statements or equivalent).

## **SITE INSPECTION AND PRE-BID MEETING**

Site inspection is strongly recommended (and may be required for the winning bidder) to validate access, working areas, existing utilities, and constraints. Bidders are responsible for factoring actual site conditions in their bid price.

A pre-bid meeting may be conducted to address technical and administrative questions. PRF will issue supplemental/bid bulletins, if any.

## **REQUIRED BID DOCUMENTS**

Bidders shall submit two (2) separate electronic files marked “TECHNICAL” and “FINANCIAL”. All documents must be signed by an authorized representative.

### **A. Technical Proposal**

1. Letter of Intent / Bidder’s Letter.
2. Company profile and legal documents: SEC/DTI registration, Business Permit, BIR registration, and latest audited financial statements (or equivalent).
3. Proof of authority of signatory (Board Resolution/Secretary’s Certificate or Special Power of Attorney).
4. PCAB license (Philippines) or equivalent construction license/registration.

5. Similar Project Experience Forms with supporting documents.
6. Key Personnel CVs and licenses/certifications.
7. List of equipment/tools to be used.
8. Construction Method Statement and Work Program/Gantt chart.
9. Project Quality Plan and Safety & Health Plan.
10. Warranty/Defects Liability commitment.

## **B. Financial Proposal**

11. Duly accomplished Price Schedule / Bill of Quantities (BOQ) for the Works (Annex G).
12. Bid validity (minimum 90 days from bid submission deadline).
13. Proposed payment terms and any applicable discounts.
14. Taxes/duties included and other commercial terms.

## **BID SUBMISSION, OPENING, AND CLARIFICATIONS**

- Deadline for Submission: 31 March 2026, 5:00 PM (Philippine Time)
- Submission Address/Email: [oda@pemsea.org](mailto:oda@pemsea.org)

**\*Compress all bidding documents into a zipped folder**

**\*Put “CONFIDENTIAL – BID SUBMISSION FOR PRF/ODA/2026/002” in the subject line**

Requests for clarifications must be submitted in writing to [emerina@pemsea.org](mailto:emerina@pemsea.org) no later than ten (10) calendar days before the submission deadline. Late bids will not be accepted. PRF reserves the right to accept or reject any bid and to annul the bidding process at any time without incurring any liability.

## **EVALUATION AND AWARD**

Bids will be evaluated for compliance, responsiveness, and value for money. Award will be made to the Lowest Evaluated Responsive Bid (LERB), subject to PRF’s best value determination.

- Completeness and validity of eligibility and technical documents.
- Technical responsiveness to the required scope, method, schedule, and safety plan.
- Demonstrated capacity to mobilize and complete within the required duration.
- Financial evaluation of the BOQ/price schedule and reasonableness of unit rates.
- PRF may request clarifications, conduct site visits, and verify references during evaluation.

## **KEY CONTRACT TERMS**

Delivery/Completion: Completed Works at the designated LGU site, including testing of utilities and turnover documentation.

Payment Terms:

- 20% mobilization advance upon signing of and submission of required securities/insurance.
- 30% payment upon completion of site preparation and foundation works.

- 20% payment upon completion of structural framework and roofing
- 20% payment upon completion of mechanical, electrical and plumbing (MEP) works
- 10% retention fee released within 6 months after defects liability period ends.

Performance Security: 10% of contract price in acceptable form to be submitted within 10 days from Notice of Award.

Warranty / Defects Liability: Minimum 6 months from Final Acceptance; Contractor shall remedy defects at its own cost within a reasonable period after notice.

Liquidated Damages: Applicable for delay beyond contract duration at 0.1% per calendar day of delay, subject to contract provisions.

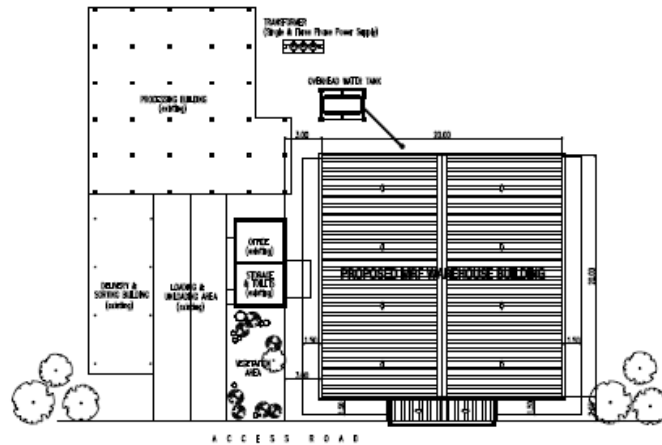
Insurance and Safety: Contractor shall comply with OSH requirements and maintain adequate insurance coverage for workers and third-party liability, as required.

## **Annex A – Lay-out of the MRF**

# Lay out of the Expanded MRF



**PERSPECTIVE**  
SCALE: 1/500 MBS

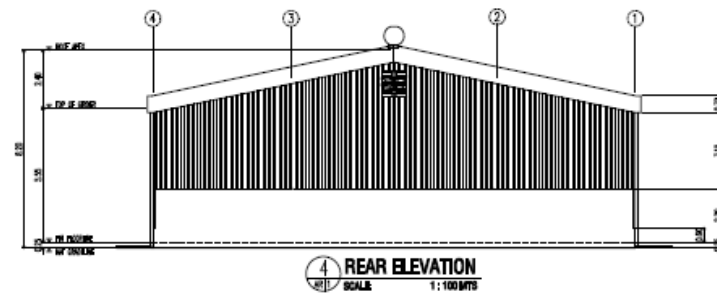
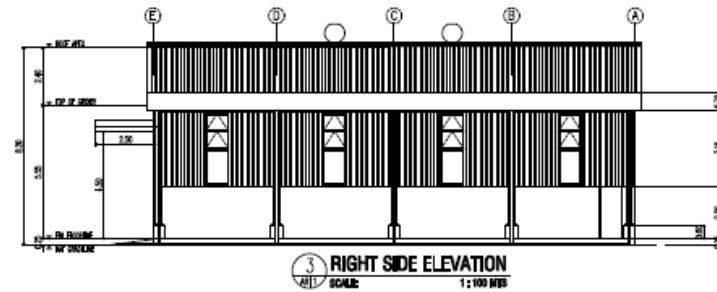
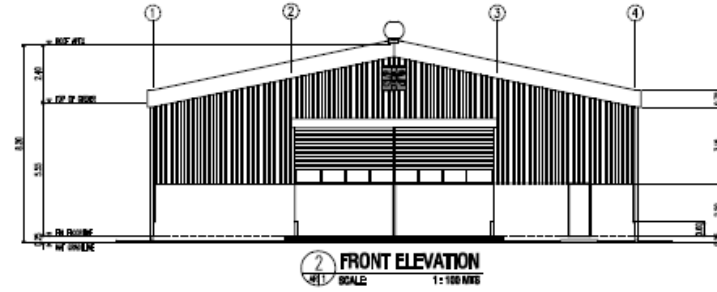
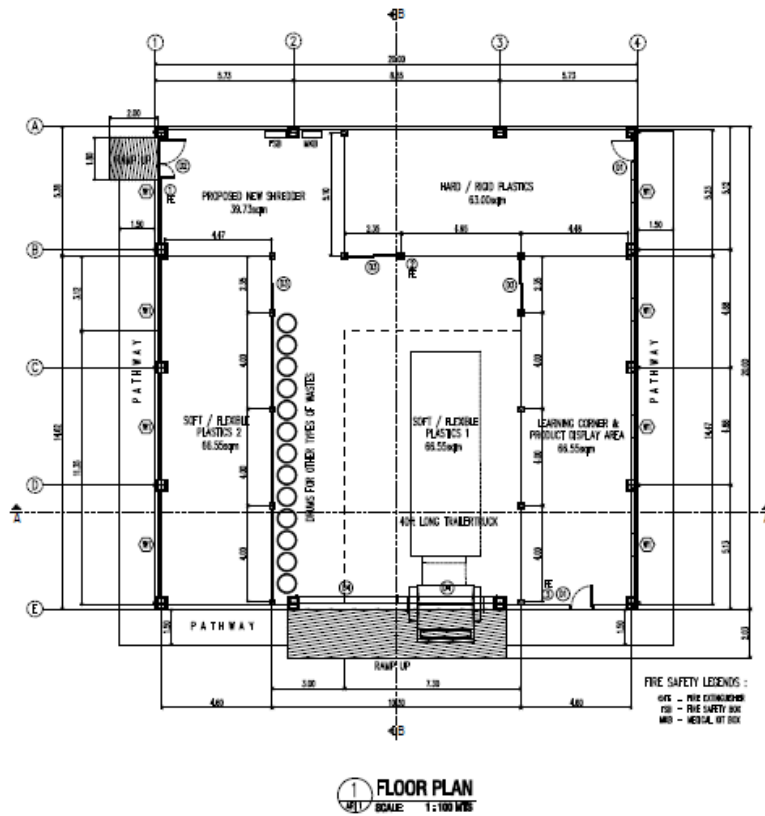


**SITE DEVELOPMENT PLAN**  
SCALE: 1/500 MBS

TABLE OF CONTENTS		Department of Public Works Transportation and Communication OFFICE OF THE BUILDING OFFICIAL
CS1	PERSPECTIVE SITE DEVELOPMENT PLAN VICINITY LOCATION MAP	CITY / MUNICIPALITY
AR1	FLOOR PLAN FRONT ELEVATION RIGHT SIDE ELEVATION REAR ELEVATION	LAND USE & ZONING
AR2	LEFT SIDE ELEVATION CROSS SECTION - A CROSS SECTION - B SCHEDULE OF DOORS & WINDOWS STRUCTURAL BAY SECTION	LINE & GRADE
ST1	FOUNDATION PLAN COLUMN FOOTING DETAIL WALL FOOTING DETAIL COLUMN FOOTING SCHEDULE TIE BEAM DETAIL & SCHEDULE PEDESTAL DETAIL & SCHEDULE ANCHOR SECTION BASE PLATE DETAIL	ARCHITECTURAL
ST2	STEEL COLUMN, TRUSS & GIRDER SECTION PARTITION WALL DETAIL GIRTS, GIRDERS LAYOUT ROOF FRAMING PLAN TRUSS DETAIL	STRUCTURAL
PL1	PLUMBING & WASTE MANAGEMENT LAYOUT ISOMETRIC PLUMBING LAYOUT SETTLING POND DETAIL CATCH BASIN DETAIL PLUMBING NOTES & LEGENDS	SANITARY
EL1	LIGHTING AND POWER LAYOUT SCHEDULE OF ELECTRICAL LOADS RESIST DIAGRAM ELECTRICAL NOTES & SYMBOLS VICINITY LOCATION MAP	ELECTRICAL
		MECHANICAL

CERTIFIED BY:	DATE: 2025 Dec 11 AM 10:40:28AM	PROJECT TITLE & LOCATION:	APPROVED BY:	DESIGN & DRAWN BY:	NO.	REVISIONS	DATE	SHEET CONTENT	SHEET NO.
PATRICK A. SALINAS JR. ARCHITECT		PROPOSED MRF WAREHOUSE BUILDING	PEMSEA	PATRICK A. SALINAS JR. ARCHITECT				AS SHOWN	CS1 1
ASL No. 24288 C/O No. 2412711 Date issued: Dec. 11, 2025 Place issued: Angeles, Bataan	Drawing is for information only and does not constitute a contract. It is subject to change without notice. The architect assumes no responsibility for the accuracy of the information provided by the client. The architect is not responsible for the accuracy of the information provided by the client. The architect is not responsible for the accuracy of the information provided by the client.	BULAN, SORSOGON, PHILIPPINES		CHECKED: DATE:					

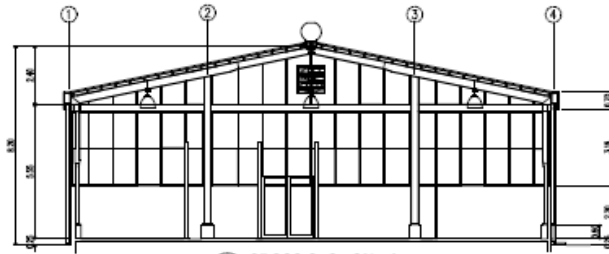
# Lay out of the Expanded MRF



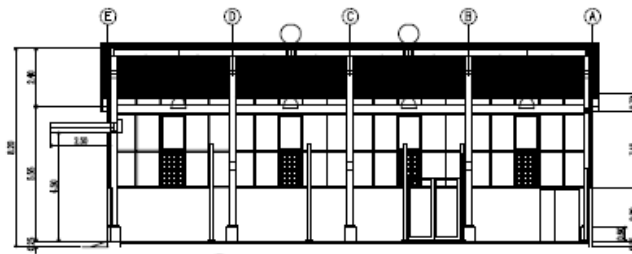
<p>CERTIFIED BY:</p> <p><b>PATRICIA A. SHAW, JR.</b></p> <p>ARCHITECT</p> <p>PROJ. NO. 2020011111 DATE ISSUED: MAY 14, 2021</p> <p>DATE: JAN. 13, 2020</p> <p>Project Name: AgriPro Inc., Birmingham</p>	<p>SA No. 5205 Sec. 22 Arch. Act of 2004</p> <p>Design is based on the information provided in the contract documents and the information provided by the client. The architect is not responsible for the accuracy of the information provided by the client. The architect is not responsible for the accuracy of the information provided by the client.</p>	<p>PROJECT TITLE &amp; LOCATION</p>	<p>APPROVED BY:</p>	<p>DESIGN &amp; DRAWING BY:</p> <p>PATRICIA A. SHAW, JR.</p> <p>CHECKED:</p> <p>DATE:</p>	<p>NO. OF DESIGNS</p> <p>DATE</p>	<p>SHEET CONTENT</p> <p>AS SHOWN</p>	<p>SHEET NO.</p> <p>AR1 2</p>
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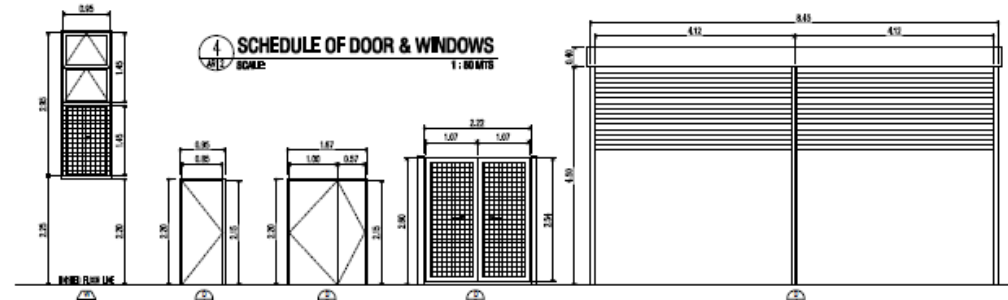
**LEFT SIDE ELEVATION**  
SCALE 1:100 MBS



2 CROSS SECTION . A  
 1/3 SCALE: 1:100 MTS



3 LONGITUDINAL SECTION . B  
SCALE 1:100 MTS



**4 SCHEDULE OF DOOR & WINDOWS**

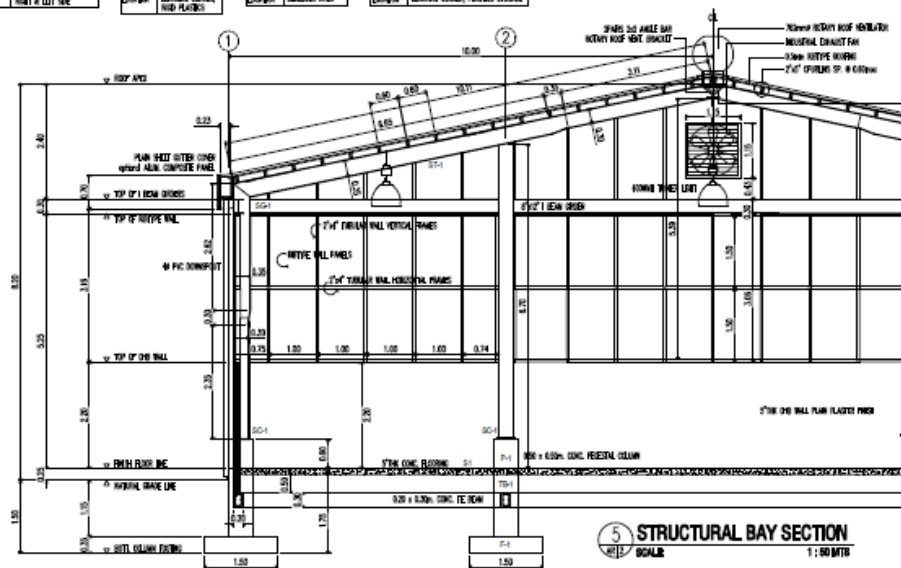
WINDOW	FIXED GLASS & WINDOW
TYP. CLADDING	RAIN TIGHT, CLEAR VINYLCL
INSTALLATION	RAIN TIGHT, CLEAR VINYLCL WITH INSULATED SCREEN
PISTEM	ANALOG ALUMINUM STANGE
QUANTITY	0
LOCATION	RIGHT & LEFT SIDE

DOOR LEAF	SPRING STEEL DOOR
DOOR JAMB	3" x 5" STEEL JAMB
FINISH	BLACK 15M GLOSS TOP COAT
QUANTITY	2
LOCATION	LEARNING CENTER, BUILD. 34, 4000 S.

DOOR KDF	DOUBLE SWING STEEL DOOR
DOOR JAMB	3" x 5" STEEL JAMB
FINISH	BLACK NEAR GLASS TOP COAT
QUANTITY	1
LOCATION	SINGAPORE AREA

DOOR LEAF	DOUBLE SIDING STEEL FINISH DOOR
DOOR JAMB	2" x 4" STEEL JAMB
FRAME	WINDUP SCREEN
FINIS	SLICK NEW GUNN TOP COAT
QUANTITY	3
USAGE IN	LOADING CORNED, PLASTIC STORAGE

DOOR LEAF	AUTOMATIC ALUMINUM ROLL-UP DOOR
FINISH	SILVER BEER GLASS TOP COAT
QUANTITY	2
LOCATION	MAIN ENTRANCE - INT




5 STRUCTURAL BAY SECTION  
SCALE 1 : 50 MTB

CERTIFIED BY			
PATRICK A. SALINAS JR.			
PROJECT			
POST No.	30808	Valid Until	July 14, 2027
PTN No.	54162115	Date Issued	Jan. 13, 2025
Please Contact: Agencio R. Dominguez			

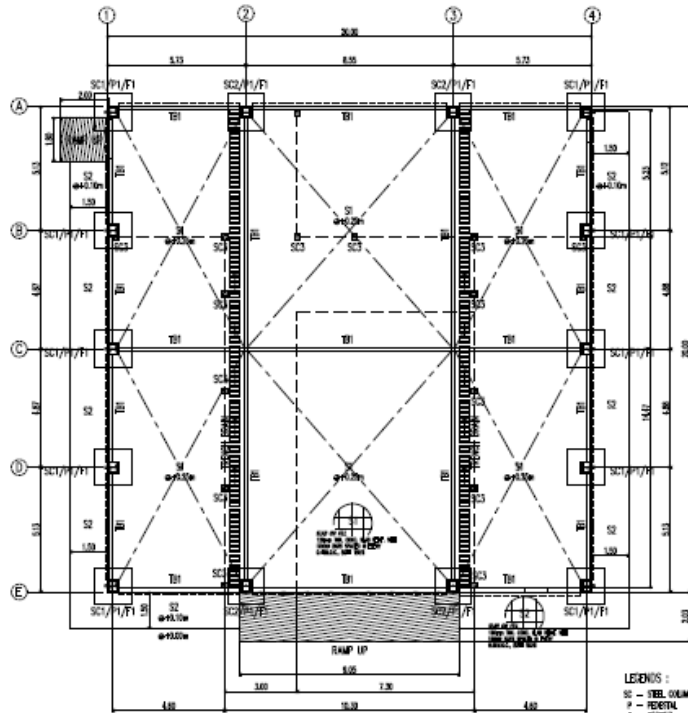
GA no. 2006 Sep 23 Arch. art of 2006

PROJECT TITLE &amp; LOCATION

APPROVED BY

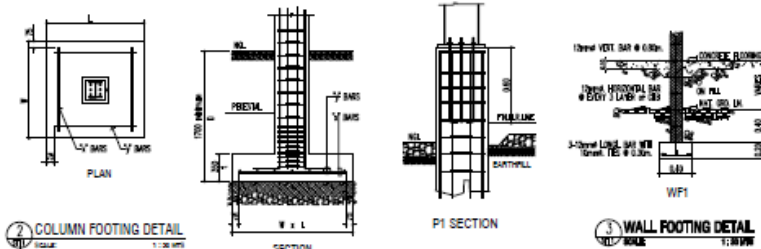
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PATRICIA A. SALINAS, IS ARCHITECT				AS SHOWN	
CHECKED:					
DATE:					

# Lay out of the Expanded MRF



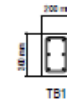
**1 FOUNDATION PLAN**  
SCALE: 1:100 MMS

LEGENDS :  
SC - STEEL COLUMN  
P - PEDESTAL  
F - FOOTING  
B - BEAM  
WF - WALL FOOTING  
S2 - STEEL SHOE  
S1 - SLAB ON PILL  
S3 - SLAB ON PILL  
T - TRUSS  
H - HAFER TRUSS  
G - GROUND FLOOR



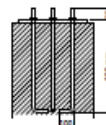
**2 COLUMN FOOTING DETAIL**  
SCALE: 1:20 MMS

MARK	DIMENSIONS					REMARKS
	W (D)	L (D)	t	"x"	"y"	
F1	1500	1500	350	8 - Ø 16	8 - Ø 16	1.70 m. below natural grade line minimum

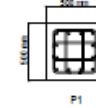


**TIE BEAM DETAIL & SCHEDULE**

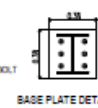
BEAM MARK	SIZE D & H	SECTION	ELEVATION	CONT. TOP BAR	EXTRA TOP BAR		BOTTOM BAR		WEB STIFFENER	EXTRA TOP BAR		
					LEFT	RIGHT	CONT.	EXTRA		LEFT	MID	RIGHT
TB1	200x300	—	—	2-Ø 16	—	—	2-Ø 16	—	—	10 @ 100	Ø 200	10 @ 100



ANCHOR SECTION  
BASE PLATE: 15mm  
USE: A-307 ANCHOR BOLT



P1  
BASE PLATE: 15mm  
USE: A-307 ANCHOR BOLT



BASE PLATE DETAIL

**PEDESTAL DETAIL & SCHEDULE**

COLUMN MARK	TYPE	SIZE D & H	VERTICAL REINF.	DEPTH from F.F.L.	HOOPS		REMARKS
					H1	H2	
P1	A	500x500	12-Ø 16	1.20 m. max.	8 @ 100	REST @ 200	TOP OF FOOTING TO MID HEIGHT OF PEDESTAL

CERTIFIED BY:	RA no. 8285 Sec.23 Arch. act of 2004	PROJECT TITLE & LOCATION	APPROVED BY:	DESIGN & DRAWING BY:	NO.	REVISIONS	DATE	SHEET CONTENT	SHEET NO.
CH. BURGESS	Drawing is the property of the engineer, architect or other professional and shall remain his or her property. It shall not be used for any other purpose without the written consent of the engineer, architect or other professional. It shall not be used for any other purpose without the written consent of the engineer, architect or other professional.			PATRICIA A. SALINAS JR.				AS SHOWN	ST1 4
CHECKED BY:				CHECKED:					
DATE:				DATE:					

[illegible]

Technical drawing of a window assembly with the following dimensions and specifications:

- Dimensions:**
  - Overall width: 1.00
  - Overall height: 1.00
  - Top section width: 0.20
  - Top section height: 0.10
  - Bottom section width: 0.80
  - Bottom section height: 0.90
  - Left section width: 0.10
  - Right section width: 0.10
  - Central section width: 0.60
- Material Specifications:**
  - 3/4" GL PIPE SCHEDULE 40 METALLIC FRAME
  - 3/4" GL PIPE SCHEDULE 40 METALLIC FRAME
  - 3/4" GL PIPE SCHEDULE 40 METALLIC FRAME
  - 1/2" SPACING STEEL WIRE

[illegible]

Figure 1: Typical Section of a Rectangular Box Girder Bridge. The diagram shows a cross-section of a bridge with a rectangular box girder. The top flange has a width of 25.00 units. The bottom flange has a width of 25.00 units. The total height of the bridge is 18.00 units. The bridge is supported by four piers, labeled 1, 2, 3, and 4. The piers are spaced 5.75 units apart. The bridge deck is 5.00 units wide. The bridge is shown in a perspective view, with the top and bottom flanges clearly visible. The bridge is labeled 'TYPICAL SECTION OF A RECTANGULAR BOX GIRDER BRIDGE'.

11

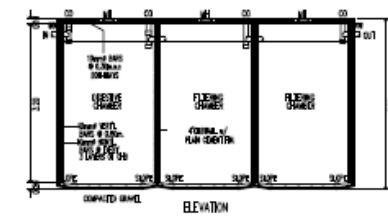
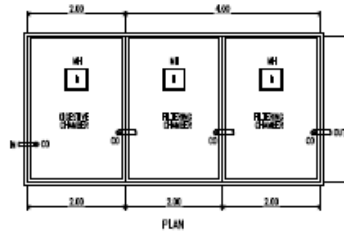
## Lay out of the Expanded MRF

### PLUMBING NOTES

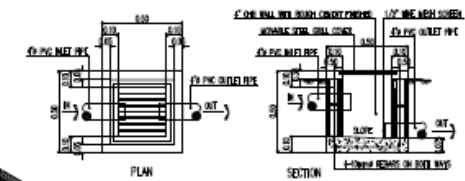
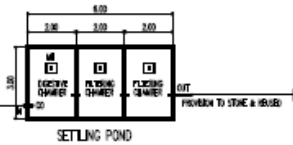
- ALL WORK SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A LICENSED SANITARY ENGINEER OR WATER PLUMBER IN STRICT ACCORDANCE WITH THESE SPECS. & OF THE METHODS AS PROVIDED BY THE NATIONAL PLUMBING CODE OF THE PHILIPPINES.
- INSTALL ALL FITTINGS & ACCESSORIES IN LOCATION PRESENTED ACCORDANCE WITH MANUFACTURER INSTRUCTIONS, MAINTAINING PIPE FITTINGS.
- ALL EQUIVARIANT PIPES, PVC PIPES, & DRAINAGE PIPES SHALL HAVE A MINIMUM SLOPE OF 1:1%.
- FITTINGS AND ACCESSORIES MUST BE STANDARD OR EQUIVALENT.
- ALL CHANGES ON THIS SPEC OR SOIL, WATER, & DRAIN LINE SHALL BE PROVIDED BY MEETING FITTING OR PRESENTED METHOD.
- INSTALL PLUMBING FITTINGS AS INDICATED ON DRAWING, EXCEPTING ALL FITTINGS, SEALS, FLANGES, & WELDS REQUIRED TO SUPPORT TRENCH WORKS PLACE.
- INSTALL LAMING PROVIDED FROM & OPEN TO AVOID ANY ACCESS FOR CLEANING.
- PROTECT PIPES BY APPROVAL, WORKING TO MAINTAIN PROPER CONDITIONS, REMOVING WORK DAMAGED & REPLACE BY PERFECT WORK WITH EXTRA COST TO THE OWNER.
- PROVIDE CORRECTLY LOCATED OPENING OF PROPER SIZES WHERE REQUIRED.
- WELDS AND JOINTS FOR PRESSURE PIPES.
- ALL PIPES SHALL BE CUT ACCORDING TO MEASUREMENTS & WORKED INTO PLACE WITH SPRINGING OR FORCE.
- ONE SHALL BE TAKEN AS NOT TO NEARER STRUCTURAL PORTION OF THE BUILDING.

### LEGENDS :

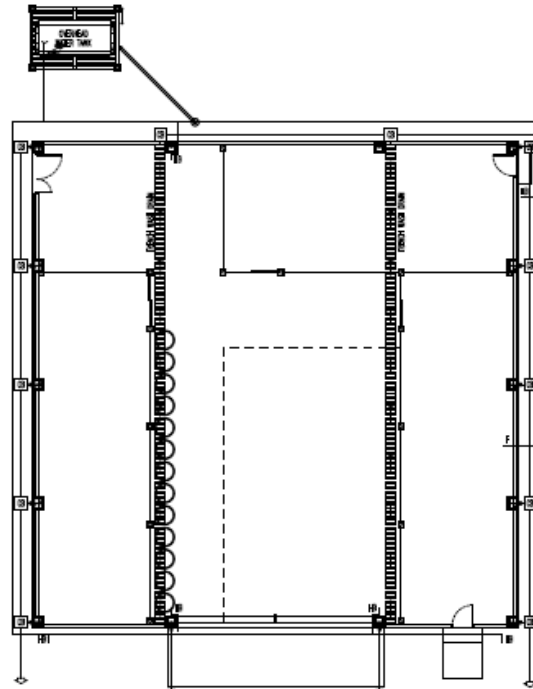
- 1. FINISH
- 2. ROSE BUSH
- 3. DRAINAGE
- 4. EXISTING DRAIN
- 5. LEADERS PIPE
- 6. SETTING POND
- 7. SANI WALK
- 8. CLEAN OUT
- 9. 1/2" & MORE SUPPLY PIPE
- 10. 4" & SYNOCHRON PIPE LINE
- 11. 4" & SOL. PIPE LINE



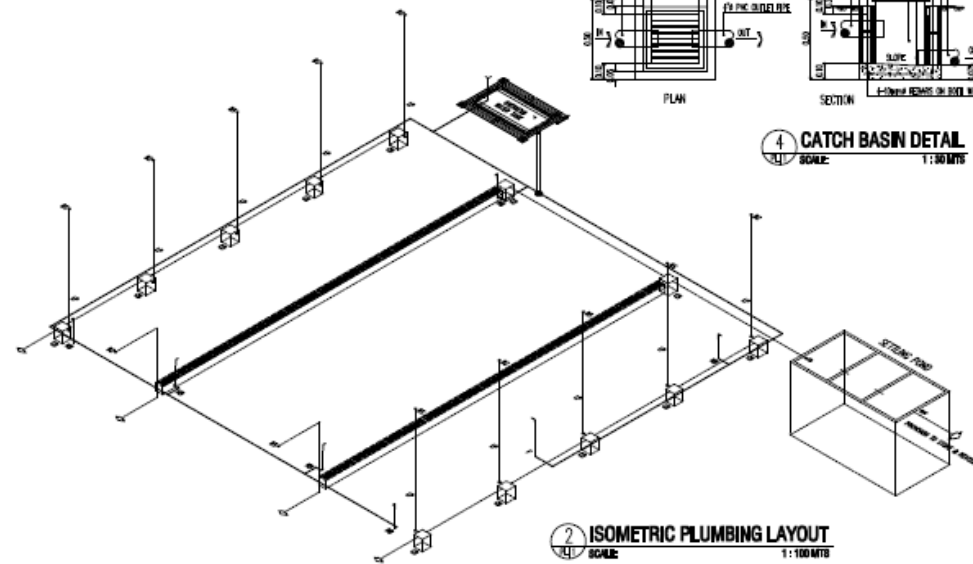
3 SETTLING POND DETAIL  
SCALE: 1:100 MTS



4 CATCH BASIN DETAIL  
SCALE: 1:100 MTS



1 PLUMBING AND WASTE MANAGEMENT LAYOUT  
SCALE: 1:100 MTS



2 ISOMETRIC PLUMBING LAYOUT  
SCALE: 1:100 MTS

CERTIFIED BY _____ DATE: _____ PLACE: _____	SA No. 5000 Sec. 33 Rev. 10/1/2004 Drawing is for information only. It is not to be used for construction of the building unless the owner has been made aware of the contents of the building and the owner has approved the building and the owner has approved the building and the owner has approved the building.	PROJECT TITLE ALLOCATION _____ APPROVED BY _____ DATE: _____	DESIGN & DRAWING BY PATRICIO A. SALINAS JR. ARCHITECT CHECKED: DATE: _____	NO. _____ REVISIONS _____ DATE _____ SHEET CONTENT AS SHOWN	SHEET NO. PL1 6
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# Annex A Layout of the Expanded MRF

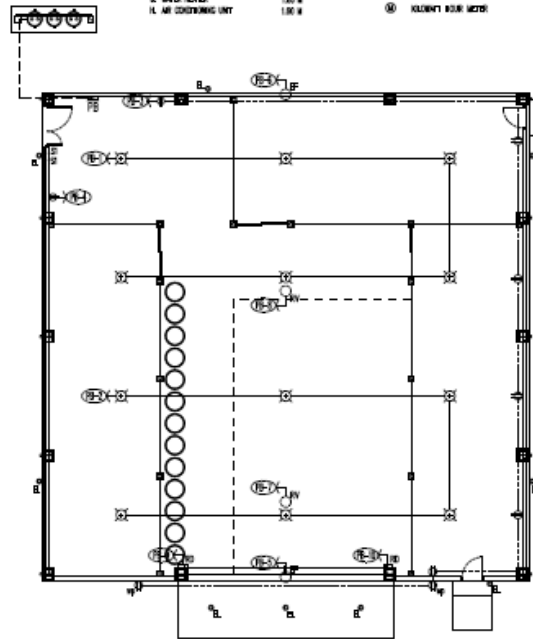
## ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF PHILIPPINE ELECTRICAL CODE.
  2. ALL MATERIALS TO BE USED SHALL BE NEW, FREE FROM DEFECTS AND APPROVED TYPE OF OWNER.
  3. MINIMUM USE OF WIRE SHALL BE 20mm<sup>2</sup> FOR LIGHTING OUTLET AND 30mm<sup>2</sup> FOR CONVENIENCE OUTLET.
- A. PANEL BOARD 1.00 M  
B. SWITCHES 1.00 M  
C. CONVENIENCE OUTLET 0.20 M  
D. OUTLET 0.20 M  
E. PANEL/REF 1.00 M  
F. EXHAUST FAN MOTOR 1.00 M  
G. WATER HEATER 1.00 M  
H. AIR CONDITIONING UNIT 1.00 M

## ELECTRICAL SYMBOL

- RECYCLE OUTLET  
OUTLET (NON-PROOF OUTLET)  
NON-PROOF TRIGGER LIGHTS  
SOLAR ESSENTIAL LIGHTS  
EXHAUST FAN  
RETRY VENT  
AUTOMATIC ROLL UP DOOR  
SINGLE SWITCH  
TWO GANG SWITCH  
THREE GANG SWITCH  
EXHAUST FAN MOTOR

- CIRCUIT BREAKER  
PANEL BOARD  
CIRCUIT BREAKER  
SERVICE ENTRANCE



**1 LIGHTING AND POWER LAYOUT**  
SCALE 1:100 MTS

## 2 SCHEDULE OF ELECTRICAL LOADS

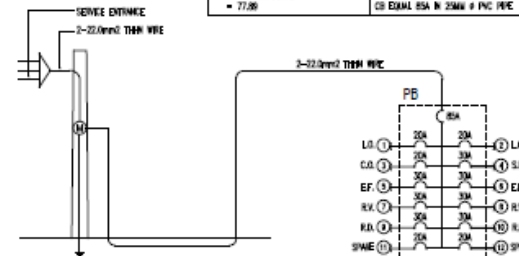
### PANEL BOARD

CIRCUIT NO.	DESCRIPTION	S1	S2	S3	NO. OF OUTLETS	TOTAL LOADS		SIZE OF WIRE	C.B. RATING		
						VA	W		TYPE	AMP	PO
1	LIGHTS, 400W/H	2			8	3000	13.04	2.0mm <sup>2</sup> PVC	2	20	50
2	LIGHTS, 400W/H				8	3000	13.04	2.0mm <sup>2</sup> PVC	2	20	50
3	CONVENIENCE OUTLET				8	1440	6.28	3.0mm <sup>2</sup> PVC	2	20	50
4	SHADES/BI MACHINE				1	2000	8.70	3.0mm <sup>2</sup> PVC	2	30	50
5	INDUSTRIAL EXHAUST FAN				1	2239	9.73	3.0mm <sup>2</sup> PVC	2	30	50
6	INDUSTRIAL EXHAUST FAN				1	2239	9.73	3.0mm <sup>2</sup> PVC	2	30	50
7	ROOF VENTILATOR, 1.5HP				1	2239	9.73	3.0mm <sup>2</sup> PVC	2	30	50
8	ROOF VENTILATOR, 1.5HP				1	2239	9.73	3.0mm <sup>2</sup> PVC	2	30	50
9	ROLL UP DOOR				1	2000	8.70	3.0mm <sup>2</sup> PVC	2	30	50
10	ROLL UP DOOR				1	2000	8.70	3.0mm <sup>2</sup> PVC	2	30	50
11	SPARE								2	20	50
12	SPARE								2	20	50
TOTAL		2			27	22,396	230 V	97.36	2-22.0mm <sup>2</sup> THHN 1-3.0mm <sup>2</sup> TV WIRE N 25mm <sup>2</sup> PVC		

L = 97.36 x 80% IF = 77.89

L = 97.36 x 80% IF = 77.89

USE 2-22.0mm<sup>2</sup> THHN WIRE MAIN CABLE  
OR EQUAL ISA IN 25MM x PVC PIPE



**3 RISER DIAGRAM**

CERTIFIED BY	DATE	PROJECT TITLE & LOCATION	APPROVED BY	DESIGN & DRAWN BY	DATE	SHEET CONTENT	SHEET NO.
PROFESSIONAL ELECTRICAL ENGINEER				EDUARDO A. SALAS JR.		AS SHOWN	EL1 7
CHECKED				CHECKED			
DATE				DATE			

## **Annex B – Bill of Materials**

Project : PROPOSED MRF WAREHOUSE BUILDING  
Location : BULAN, SORSOGON  
Owner :

**PROJECT BILL OF MATERIALS AND LABOR COST**

**A. WAREHOUSE BUILDING**

		Unit Cost	Materials Cost	Labor Cost	TOTAL
<b>I. GENERAL REQUIREMENTS AND SITEWORKS</b>					
<b>MOBILIZATION WORK</b>					
1.00 lot	Mobilization & Equipments	0.00	100,000.00	0.00	100,000.00
	Sub-total		100,000.00	-	100,000.00
<b>TEMPORARY FACILITIES</b>					
1.00 lot	Layout & Batterboards	0.00	15,000.00	0.00	15,000.00
1.00 lot	Scaffolding and Formworks	0.00	65,000.00	0.00	65,000.00
	Sub-total		80,000.00		80,000.00
<b>EARTHWORKS</b>					
82.85 cu m	Excavation	0.00		28,997.50	28,997.50
60.00 cu m	Compaction	160.00	0.00	21,000.00	21,000.00
	Sub-total		-	49,997.50	49,997.50
<b>TOTAL FOR GENERAL REQUIREMENTS &amp; SITEWORKS</b>			<b>180,000.00</b>	<b>49,997.50</b>	<b>229,997.50</b>
<b>II. STRUCTURAL WORKS</b>					
<b>Column Footing 1 (CF1)</b>					
93.56 bags	cement	215.00	20,114.33	8,045.73	28,160.06
5.72 cu.m.	sand	650.00	3,716.21	1,486.49	5,202.70
11.43 cu.m.	gravel 3/4	1100.00	12,577.95	5,031.18	17,609.13
61.80 pcs	16mm Ø x 6m def. bars	405.00	24,948.00	9,979.20	34,927.20
8.47 kl	Ga. 16 GI wire	80.00	677.60	271.04	948.64
	Sub-total		62,034.09	24,813.64	86,847.72
<b>Pedestal Column 1 (PC1)</b>					
79.70 bags	cement	215.00	17,134.43	6,853.77	23,988.20
4.87 cu.m.	sand	650.00	3,165.66	1,266.27	4,431.93
9.74 cu.m.	gravel 3/4	1100.00	10,714.55	4,285.82	15,000.37
92.40 pcs	16mm Ø x 6m def. bars	405.00	37,422.00	14,968.80	52,390.80
157.42 pcs	10mm Ø x 6m def. bars Tie bar	145.00	22,826.22	9,130.49	31,956.71
34.35 kl	Ga. 16 GI wire	80.00	2,748.04	1,099.22	3,847.26
	Sub-total		94,010.90	37,604.36	131,615.27
<b>Reinforced Concrete Tie Beam 1 (TB1)</b>					
142.56 bags	cement	215.00	30,650.40	12,260.16	42,910.56
8.71 cu.m.	sand	650.00	5,662.80	2,265.12	7,927.92
17.42 cu.m.	gravel	1100.00	19,166.40	7,666.56	26,832.96
396.00 pcs	16mm Ø x 6m def. bars	405.00	160,380.00	64,152.00	224,532.00
220.00 pcs	10mm Ø x 6m def. bars Tie bar	145.00	31,900.00	12,760.00	44,660.00
84.70 kl	Ga. 16 GI wire	80.00	6,776.00	2,710.40	9,486.40
	Sub-total		254,535.60	101,814.24	356,349.84
<b>Wall Footing ( outside &amp; inside wall )</b>					
66.88 bags	cement	215.00	14,379.20	5,751.68	20,130.88
3.87 cu.m.	sand	650.00	2,516.80	1,006.72	3,523.52
7.74 cu.m.	gravel 3/4	1100.00	8,518.40	3,407.36	11,925.76
42.90 pcs	10mm Ø x 6m def. bars Tie bar	145.00	6,220.50	2,488.20	8,708.70
23.47 pcs	10mm Ø x 6m def. bars Tie bar	145.00	3,402.67	1,361.07	4,763.73
9.13 kl	Ga. 16 GI wire	80.00	730.03	292.01	1,022.05
	Sub-total		35,767.60	14,307.04	50,074.64
<b>5" Chb Wall ( outside wall - WF1 )</b>					
2884.28 pcs	5" CHB	14.00	37,579.85	15,031.94	52,611.79
240.47 bags	cement	215.00	51,700.64	20,680.26	72,380.90
19.94 cu.m.	sand	650.00	12,958.82	5,183.53	18,142.35
62.47 pcs	10mm Ø x 6m def. bars vertical reinf.	145.00	9,058.21	3,623.28	12,681.49
83.94 pcs	10mm Ø x 6m def. bars horizontal reinf	145.00	12,171.97	4,868.79	17,040.75



6.87 kl	Ga. 16 GI wire	80.00	549.74	219.90	769.64
	Sub-total		<b>124,019.22</b>	<b>49,607.69</b>	<b>173,626.91</b>
<b>Plating - Plain Finish</b>					
170.96 bags	cement	215.00	36,756.85	51,459.60	88,216.45
28.49 cu.m.	sand	650.00	18,520.90	25,929.25	44,450.15
	Sub-total		<b>55,277.75</b>	<b>77,388.85</b>	<b>132,666.60</b>
<b>Slab on Fill ( 150mm thick - S1 )</b>					
616.78 bags	cement	215.00	132,807.68	53,043.07	185,850.75
37.69 cu.m.	sand	650.00	24,499.87	9,799.95	34,299.82
75.38 cu.m.	gravel 3/4	1100.00	82,922.63	33,169.05	116,091.68
423.03 pcs	12mm Ø x 6m def. Bars @0.40moc	240.00	101,527.56	40,611.02	142,138.58
58.17 kl	Ga. 16 GI wire	80.00	4,653.35	1,861.34	6,514.68
	Sub-total		<b>346,211.08</b>	<b>138,484.43</b>	<b>484,695.51</b>
<b>Roofing Frames</b>					
134 pcs	2"x 5" x 1.40mm c- purlins galvanized	950.00	127,300.00	50,920.00	178,220.00
20 pcs	angle bar 2"x2" x 6mm thk.	660.00	13,200.00	5,280.00	18,480.00
418.04 sqm.	pre-painted Tile Span Roofing .5mm	460.00	192,298.40	76,919.36	269,217.76
20 pcs	stainless gutter 26 x 24	1,150.00	23,000.00	9,200.00	32,200.00
20 pcs	pre-painted flashing 24" x .4mm	480.00	9,600.00	3,840.00	13,440.00
20 pcs	stainless fascia cover 24" x .4mm	580.00	11,600.00	6,000.00	17,600.00
15 gal	laquer thinner	220.00	3,300.00	1,320.00	4,620.00
15 gal	epoxy primer - gray	650.00	9,750.00	3,900.00	13,650.00
18 boxes	welding rod	1,800.00	32,400.00	12,960.00	45,360.00
1.00 lot	consumables	42,244.84	42,244.84	16,897.94	59,142.78
	Sub-total		<b>464,693.24</b>	<b>187,237.30</b>	<b>651,930.54</b>
<b>Walling Frames , Rib-Steel Panel &amp; Steel Mesh Panel</b>					
98 pcs	2"x 4"x 1.20mm tubular wall frames	1,100.00	107,800.00	43,120.00	150,920.00
259.34 sqm.	RRSpan Wall Siding .5mm	460.00	119,298.40	47,718.56	167,016.96
83 lm	steel wire mesh	650.00	53,950.00	21,580.00	75,530.00
10 pcs	1" dia. g.i. pipe	890.00	8,900.00	3,000.00	11,900.00
10 gal	laquer thinner	220.00	2,200.00	880.00	3,080.00
10 gal	epoxy primer - gray	650.00	6,500.00	2,600.00	9,100.00
6 boxes	welding rod	1,800.00	10,800.00	4,320.00	15,120.00
1.00 lot	consumables	15,472.32	15,472.32	6,188.93	21,661.25
	Sub-total		<b>324,918.72</b>	<b>129,407.49</b>	<b>454,326.21</b>
<b>Steel Column &amp; Trusses</b>					
10 pcs	12" x 10" x 6m I-Beam Column, build-up	32,000.00	320,000.00	128,000.00	448,000.00
5 pcs	14" x 10" x 6m I-Beam Column, build-up	36,000.00	190,000.00	76,000.00	266,000.00
5 pcs	12" x 10" x 6m I-Beam Trusses,build-up	32,000.00	160,000.00	64,000.00	224,000.00
11 pcs	14" x 10" x 6m I-Beam Trusses,build-up	36,000.00	418,000.00	167,200.00	585,200.00
18 pcs	12" x 8" x 6m I-Beam Girders & Ridge	28,000.00	504,000.00	201,600.00	705,600.00
20 pcs	16mm dia. Cross Bracing w/ turn buckle	950.00	19,000.00	7,600.00	26,600.00
18 pcs	12mm round bar	320.00	5,760.00	5,400.00	11,160.00
3 pcs	M.S. Plate 4' x 8' x 4mm	3,850.00	11,550.00	900.00	12,450.00
84 pcs	Machine Bolts	350.00	29,400.00	25,200.00	54,600.00
84 pcs	Anchor Bolts	250.00	21,000.00	25,200.00	46,200.00
50 gal	laquer thinner	220.00	11,000.00	4,400.00	15,400.00
40 gal	epoxy primer - gray	650.00	26,000.00	10,400.00	36,400.00
50 boxes	welding rod	1,800.00	90,000.00	36,000.00	126,000.00
1.00 lot	consumables	36,114.20	36,114.20	14,445.68	50,559.88
	Sub-total		<b>1,841,824.20</b>	<b>766,345.68</b>	<b>2,608,169.88</b>
<b>TOTAL FOR STRUCTURAL WORKS</b>			<b>3,603,292.41</b>	<b>1,527,010.71</b>	<b>5,130,303.12</b>

### III. ARCHITECTURAL WORKS

#### DOORS & JAMB

##### D1: Main Entrance

2 sets	4.00m.(w) x 4.50m.(h) Aluminum Roll Up Door	25,000.00	50,000.00	17,500.00	67,500.00
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##### D2: Hard Plastics Storage/ Leaming Corner

2 sets	0.85 x 2.15 Steel Panel Door with g.i. tubular Door Jamb	6,500.00	13,000.00	4,550.00	17,550.00
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##### D3: Shredder Area

1 set	Double Swing Steel Panel Door 1.00 x 2.15m & 0.6 x 2.15m	9,500.00	9,500.00	3,325.00	12,825.00
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		with g.i. tubular Door Jambs				
<b>D4: Shredder Area</b>						
3 sets	Double Swing Wire Mesh Door	5,500.00	16,500.00	5,775.00	22,275.00	
	1.00 x 2.30m with g.i. Pipe Jambs					
	Sub-total		<b>89,000.00</b>	<b>31,150.00</b>	<b>120,150.00</b>	
<b>WINDOWS</b>						
241.66 sq.ft.	aluminum framed fixed window		53,165.20	34,557.38	87,722.58	
	w/ 1/4 thick clear glass					
	Sub-total		<b>53,165.20</b>	<b>34,557.38</b>	<b>87,722.58</b>	
<b>PAINTING WORKS</b>						
<b>Exterior walls</b>						
152.02 sq.m.	(A) Permacoat Latex Paint		30404.00	25,083.30	55,487.30	
<b>Interior wall</b>						
161.96 sq.m.	(B) Permacoat Latex Paint		32392.00	26,723.40	59,115.40	
<b>Varnish</b>						
3.00 sets	Doors		3600.00	4,425.00	8,025.00	
	Sub-total		<b>66,396.00</b>	<b>56,231.70</b>	<b>122,627.70</b>	
<b>HARDWARES</b>						
3.00 sets	Stainless steel, knobset	940.00	2,820.00	987.00	3,807.00	
12.00 pcs	loose pin hinges	145.00	1,740.00	609.00	2,349.00	
	Sub-total		<b>4,560.00</b>	<b>1,596.00</b>	<b>6,156.00</b>	
<b>TOTAL FOR ARCHITECTURAL WORKS</b>			<b>213,121.20</b>	<b>123,535.08</b>	<b>336,656.28</b>	

#### IV. PLUMBING WORKS

<b>PLUMBING ROUGH-IN</b>						
1 lot	Storm&SoilLines-neltex pipe&fittings		35,000.00	0.00	35,000.00	
1 lot	Water Supply-fushiotherm pipe&fittings		10,000.00	0.00	10,000.00	
	Sub-total		<b>45,000.00</b>		<b>45,000.00</b>	
<b>PLUMBING INSTALLATION COST</b>						
1.00 lot	PLUMBER Labor Cost	0.00	0.00	15,750.00	15,750.00	
	Sub-total			0.00	15,750.00	<b>15,750.00</b>
<b>TOTAL FOR PLUMBING WORKS</b>			<b>45,000.00</b>	<b>15,750.00</b>	<b>60,750.00</b>	

#### V. ELECTRICAL WORKS

<b>Conduits, Boxes &amp; Fittings</b>						
32.00 pcs	2"x4" Utility Boxes	24.00	768.00	268.80	1,036.80	
18.00 pcs	4"x4" Junction Boxes	28.00	504.00	176.40	680.40	
60.00 pcs	1/2" neltex pvc pipe	65.00	3,900.00	1,365.00	5,265.00	
45.00 pcs	3/4" neltex pvc pipe	98.00	4,410.00	1,543.50	5,953.50	
1.00 lot	Other Accessories	2,586.00	2,586.00	905.10	3,491.10	
	Sub-total		<b>12,168.00</b>	<b>4,258.80</b>	<b>16,426.80</b>	
<b>Wires &amp; Cables</b>						
2.00 rolls	3.50 sq. m. TW	3,500.00	7,000.00	2,450.00	9,450.00	
2.00 rolls	5.5mm sq Stranded Wires	5,500.00	11,000.00	3,850.00	14,850.00	
5.00 lm	30 sq. m. TW	800.00	4,000.00	1,400.00	5,400.00	
1.00 lot	Other Accessories	1,760.00	1,760.00	616.00	2,376.00	
	Sub-total		<b>23,760.00</b>	<b>8,316.00</b>	<b>32,076.00</b>	
<b>Wiring Devices (Switch/Outlets)</b>						
8.00 sets	2 gang switch	157.00	1,256.00	439.60	1,695.60	
2.00 sets	duplex convenience outlet weatherproof	550.00	1,100.00	385.00	1,485.00	
10.00 sets	duplex convenience outlet	157.00	1,570.00	549.50	2,119.50	
	Sub-total		<b>3,926.00</b>	<b>1,374.10</b>	<b>5,300.10</b>	
<b>Fixtures</b>						
5.00 sets	spotlight solar	1,200.00	6,000.00	2,100.00	8,100.00	
12.00 sets	trofer pendant lighting	2,400.00	28,800.00	10,080.00	38,880.00	
	Sub-total		<b>34,800.00</b>	<b>12,180.00</b>	<b>46,980.00</b>	
<b>Panelboards</b>						
2.00 pcs	20 ampere bolt on	450.00	900.00	315.00	1,215.00	
2.00 pcs	30 ampere bolt on	450.00	900.00	315.00	1,215.00	
1.00 pc	70 ampere bolt on-two pole	3,000.00	3,000.00	1,050.00	4,050.00	
1.00 pc	panel board bolt on 10 branches-2pole	3,800.00	3,800.00	1,330.00	5,130.00	
	Sub-total		<b>8,600.00</b>	<b>3,010.00</b>	<b>11,610.00</b>	

<b>TOTAL FOR ELECTRICAL WORKS</b>	<b>83,254.00</b>	<b>29,138.90</b>	<b>112,392.90</b>
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<b>TOTAL COST OF MATERIALS</b>	<b>4,124,667.61</b>		
<b>TOTAL COST OF LABOR</b>		<b>1,745,432.19</b>	
<b>WAREHOUSE BUILDING TOTAL COST</b>			<b>5,870,099.80</b>

Prepared by:

Approved by:

PATRICIO A. SALINAS JR.  
 ARCHITECT - 30886

OWNERS