



## SUSTAINABLE DEVELOPMENT G ALS

# River Restoration: Alleviating the Quality and Quantity of Life on the Freshwater Ecosystem

Project Leader: Marilyn S. Arcilla, MAN, RN, LPT Institute of Arts and Sciences August 22, 2023





### Updates of the Project

- Launching Publicity
- Project Presentation SWM: Manila bay Restoration
- Collaboration with City ENRO
- Data Gathering
- Quotation



#### Some Updates of the Project:





#### Pampanga News (June 26) and Mabalacat City News (June 29)



MCC - Institute of Arts and Sciences August 14 at 12:15 PM · 🚱

MCC-IAS, CENRO undertake Sapang Balen Restoration Project

In a significant stride towards the restoration of Sapang Balen River, a recent assessment of its physical and chemical features was conducted last August 9, 2023, by the Institute of Arts and Sciences and Mabalacat City ENRO. This effort, headed by Dean Marilyn Arcilla and Engr. Jesusa Santiago, revolves around the assessment and restoration of Sapang Balen, Mabalacat City, Pampanga with the implications targeted on SDG Nos: 2 (Zero Hunger), 6 (Clean Water and Sanitation), 14 (Life Below Water), and 17 (Partnerships for the Goals). The assessment, led by the BS Biology faculty and Ms. Anne Jerni Peña, is a crucial step, aiming to counter the impacts of urbanization and pollution. The researchers specifically examined the river's morphology, and water parameters focusing on Sta. Ines and Poblacion areas. The findings will guide a multidisciplinary team in developing targeted strategies, including bank stabilization and pollution control, with community involvement ensuring long-term success.





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### Some Updates of the Project:



## Meeting with CENRO



July 6, 2023

July 20, 2023

| 17                                             | Lab test | Oil and Grease              | 9 | 660   | 5,940             |  |
|------------------------------------------------|----------|-----------------------------|---|-------|-------------------|--|
| 18                                             | Lab test | Total Coliform              | 9 | 900   | 8,100             |  |
| 19                                             | Lab test | Heterotrophic Plate Count   | 9 | 400   | 3,600             |  |
| 20                                             | Lab test | Thermotolerant/ E. coli     | 9 | 1050  | 9,450             |  |
| 21                                             | Lab test | Dissolved Oxygen            | 9 | 300   | 2,700             |  |
| 22                                             | Lab test | Biological Oxygen Demand    | 9 | 750   | 6,750             |  |
| 23                                             | Lab test | Free Cyanide                | 9 | 850   | 7,650             |  |
| 24                                             | Lab test | Surfactants                 | 9 | 800   | 7,200             |  |
| 25                                             | Lab test | Metal Preparation           | 9 | 250   | 2,250             |  |
| Briquettes Derived from Congo Grass Parameters |          |                             |   |       |                   |  |
| 26                                             | Lab test | Proximate analysis          | 3 | 1,990 | 5,970             |  |
| 27                                             | Lab test | Ash                         | 3 | 840   | 2,520             |  |
| 28                                             | Lab test | Moisture                    | 3 | 450   | 1,350             |  |
| 29                                             | Lab test | Volatile Combustible Matter | 3 | 700   | 2,100             |  |
| 30                                             | Lab test | Fixed Carbon                | 3 | 1,990 | 5,970             |  |
| 31                                             | Lab test | Heat Value                  | 3 | 1,500 | 4,500             |  |
|                                                |          |                             |   | TOTAL | 180,220.00<br>PHP |  |

### Execution







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### Execution





## Execution: Collect August 15, 2023: Preparation - August 16, 2023







### Quotation



#### **CRL Environmental Corporation**

Building 02, Berthaphil Compound 1 Berthaphil Industrial Park, Clark Freeport Zone Pampanga 2009, Philippines Tel:(+632) 8840-4071 (+632) 8840-2874 www.crllabs.com

#### Quoted to:

Mabalacat City College Rizal St. Dolores Mabalacat City Pampanga

#### Ship to: Mabalacat City College Rizal St. Dolores Mabalacat City Pampanga

Page:

Quote Date:

Quotation

06/26/2023

1 of 1

Quote Number: QT00008505

Attention: Glen S. Nolasco

Tel. No.: 09496878573

| Customer ID            | Good Thru              | Payment Terms    |             | Sales Rep             | D         |
|------------------------|------------------------|------------------|-------------|-----------------------|-----------|
| mcc                    |                        | C.O.D.           |             | Maricar E<br>Openiano |           |
| Project Name           |                        | Delivery Term    |             |                       |           |
|                        |                        | TAT: (7)-(10) Wo | orking Days |                       |           |
| DESCRIPTION            |                        | QTY              | UOM         | U. PRICE              | AMOUNT    |
| *Drinking Water Analys | is: River water Source |                  |             |                       |           |
| TOTAL COLIFORM - 3 [   | DILUTIONS              | 3                | TEST        | 900.00                | 2,700.00  |
| HETEROTROPHIC PLAT     | TE COUNT               | 3                | TEST        | 400.00                | 1,200.00  |
| THERMOTOLE RANT CO     | LIFORM/E.COLI          | 3                | TEST        | 1,300.00              | 3,900.00  |
| Sales Discount         |                        | 1                | TEST        | -1,560.00             | -1,560.00 |
|                        |                        |                  |             |                       |           |

Pick up result

| TERMS AND CONDITIONS:                                                                    | Total       |
|------------------------------------------------------------------------------------------|-------------|
| <ul> <li>a) Minimum transaction amount of PHP 1,500</li> </ul>                           |             |
| <li>b) For transactions PHP 2,500 and below, CASH payment require</li>                   | ed.         |
| <ul> <li>c) Cost for additional and/or re-printing of reports is PHP 150.00 [</li> </ul> | per Report. |
|                                                                                          |             |

Prepared by: Maricar Erica

Conforme:

Signature over Printed Name

6,240.00



05 July 2023

Glen S. Nolasco Contact No.: 09771426735

ATTN:

Project Name: Lab. Nos.:

Enclosed are the results for samples received by CRL Environmental Corporation and tested for the parameters in the enclosed chain of custody.

Likewise, our DOH Accreditation with Accreditation No. 03-001-2325-LW-2, is valid from January 01, 2023 until December 31, 2025.

Please note that any unused portion of the sample/s will be discarded 15 days after the date of this report, unless you have requested otherwise.

Very truly yours,

MARIA CARMELA Q. CAPULE, Ph.D. Chief Operating Officer

#### CRL Environmental Corporation

MCC - Rizal St., Dolores, Mabalacat City, Pampanga

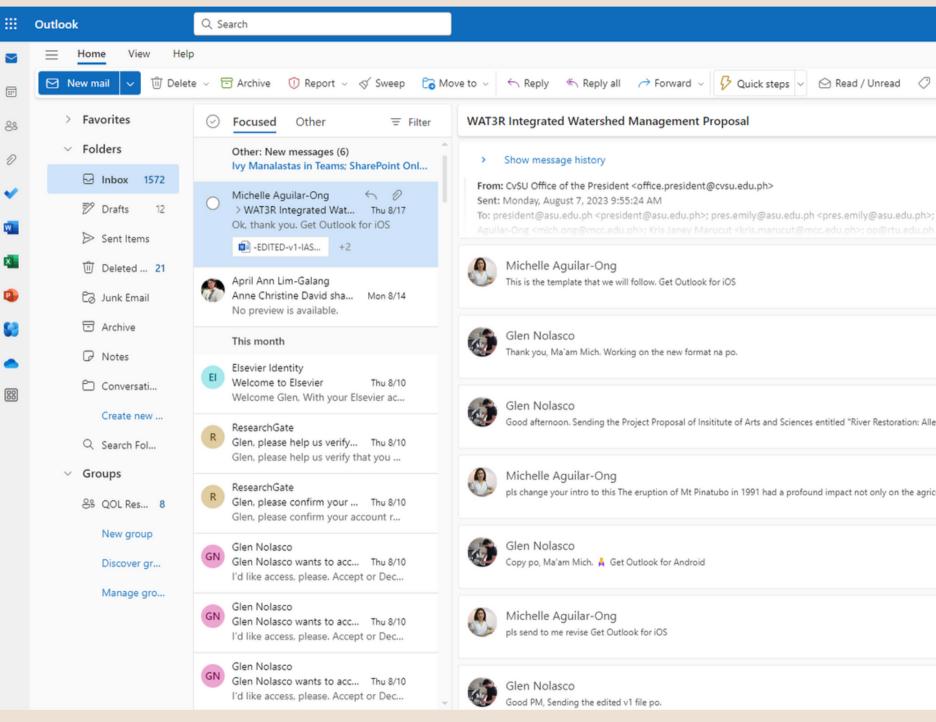
#### Mr. Glen S. Nolasco

ISIP RIVER RESTORATION P00140691-01/03

Our DENR Recognition Certificate with C. R. No. 023/2021, will expire on August 25, 2024.

Thank you for the opportunity to service the needs of your company. Please feel free to call us at (045) 599-3943 or (02) 552-5100 if we can be of further service to you.

### Reproposal: FUNDING for Bigger Project



|                                                                                                             | Teams call         | Ģ           | ¢]        | ₽ | Q   | ۵        | Q          |   |
|-------------------------------------------------------------------------------------------------------------|--------------------|-------------|-----------|---|-----|----------|------------|---|
|                                                                                                             |                    |             |           |   |     |          |            | _ |
| ✓ ₽ ✓ ☆ ⊙ ✓ ⋤ ✓                                                                                             | 5                  |             |           |   |     |          |            | _ |
|                                                                                                             |                    |             |           |   | Ø   | 3 √ ⊕    | < <u> </u> | Ŧ |
|                                                                                                             |                    |             |           |   |     |          |            |   |
|                                                                                                             |                    |             |           |   |     |          |            |   |
| President BPSU <batpenstateu@gm<br><op@rtu.edu.ph>; international.link</op@rtu.edu.ph></batpenstateu@gm<br> |                    |             |           |   |     |          |            |   |
|                                                                                                             |                    |             |           |   |     |          |            | 0 |
|                                                                                                             |                    |             |           |   | Wed | 8/16/202 | 23 1:34 P  | M |
|                                                                                                             |                    |             |           |   |     |          |            |   |
|                                                                                                             |                    |             |           |   | Wed | 8/16/202 | 23 2:38 P  | M |
|                                                                                                             |                    |             |           |   |     |          |            | 0 |
| viating the quality and quantity of life or                                                                 | n Freshwater ecos  | system". T  | hank you  |   | Wed | 8/16/202 | 23 4:14 P  | M |
|                                                                                                             |                    |             |           |   |     |          | ų          | 1 |
| ultural lands of Mabalacat City but also t                                                                  | the river ecosyste | m, resultir | ng in the |   | Wed | 8/16/202 | 23 8:20 P  | M |
|                                                                                                             |                    |             |           |   |     |          |            |   |
|                                                                                                             |                    |             |           |   | Wed | 8/16/202 | 23 8:27 P  | M |
|                                                                                                             |                    |             |           |   |     |          |            |   |
|                                                                                                             |                    |             |           |   | Thu | 8/17/202 | 23 7:40 P  | M |
|                                                                                                             |                    |             |           |   |     |          |            |   |
|                                                                                                             |                    |             |           |   | Thu | 8/17/202 | 23 7:58 P  | - |

## Reproposal: FUNDING for a Bigger Project

#### LINE-ITEM BUDGET

| Project Title:                                             | River Restoration: Alleviating the Quality and Quantity<br>Life on Freshwater Ecosystem |                          |  |  |  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|--|--|--|
| Project Leader:                                            | Marilyn S. Arcilla, RN, MAN                                                             |                          |  |  |  |
| Proponent:                                                 | Mabalacat City College                                                                  |                          |  |  |  |
| Duration:                                                  | 24 months                                                                               |                          |  |  |  |
|                                                            | DETAILS                                                                                 | 24 MONTHS (PHP)          |  |  |  |
| I. Professional Services<br>(Honoraria/Salaries)           |                                                                                         |                          |  |  |  |
| A. Project Leader                                          | 8,800/month                                                                             | 211,200.00               |  |  |  |
| 1. Project Staff                                           | 7,000/month                                                                             | 168,000.00               |  |  |  |
| B. Study Leader 1<br>(Biological parameters)               | 5,500/month                                                                             | 132,000.00<br>132,000.00 |  |  |  |
| C. Study Leader 2<br>(Chemical parameters)                 | 5,500/month                                                                             |                          |  |  |  |
| D. Study Leader 3<br>(Physical parameters)                 | 5,500/month                                                                             | 132,000.00               |  |  |  |
| Research Associate                                         | 21,500/month                                                                            | 516,000.00               |  |  |  |
| Research Associate                                         | 21,500/month                                                                            | 516,000.00               |  |  |  |
| SUBTOTAL                                                   |                                                                                         | 1,807,200.00             |  |  |  |
| II. Maintenance and Other<br>Operating Expenses            |                                                                                         |                          |  |  |  |
|                                                            | TEV @ PHP 1,000 x 6 persons                                                             | 180,000.00               |  |  |  |
| A. Travel to study sites                                   | x 30 days                                                                               | -                        |  |  |  |
| <ul> <li>Equipment, Supplies,<br/>and Materials</li> </ul> |                                                                                         | 2,000,000.00             |  |  |  |
| C. Fuel/Gasoline                                           | PHP 1,000 x 30 trips x 1 car                                                            | 30,000.00                |  |  |  |
| D. Professional Services                                   |                                                                                         |                          |  |  |  |
| 1. Biological<br>Parameters                                | At least 2 trainings/workshops                                                          | 50,000.00                |  |  |  |
| 2. PhyicalParameters                                       |                                                                                         | 100,000.00               |  |  |  |
| <ol> <li>Water Quality<br/>Parameters</li> </ol>           |                                                                                         | 100,000.00               |  |  |  |
| E. Food Expenses                                           | Project meetings                                                                        | 133,000.00               |  |  |  |
| F. Attendance to<br>Conferences/Fora                       | Transportation and Conference<br>Fees                                                   | 250,000.00               |  |  |  |
| G. Publication                                             |                                                                                         | 50,000.00                |  |  |  |
| SUBTOTAL                                                   |                                                                                         | 2,893,000.00             |  |  |  |
| III. Contingency Fund                                      |                                                                                         | 50,000.00                |  |  |  |
| IV. Administrative Cost                                    | (@5% of Total project cost)                                                             | 250,000.00               |  |  |  |
| TOTAL                                                      |                                                                                         | 5,000,200.00             |  |  |  |

