Updates on the Outputs on the Addendum to the Guidelines on the Implementation of the Solid Waste Enforcement and Education Program (SWEEP) relative to Key Result Area on Site Assessment and Designs of Proposed Sanitary Landfill

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(Team Leader)

Engr. Maila Adviento

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Mariano

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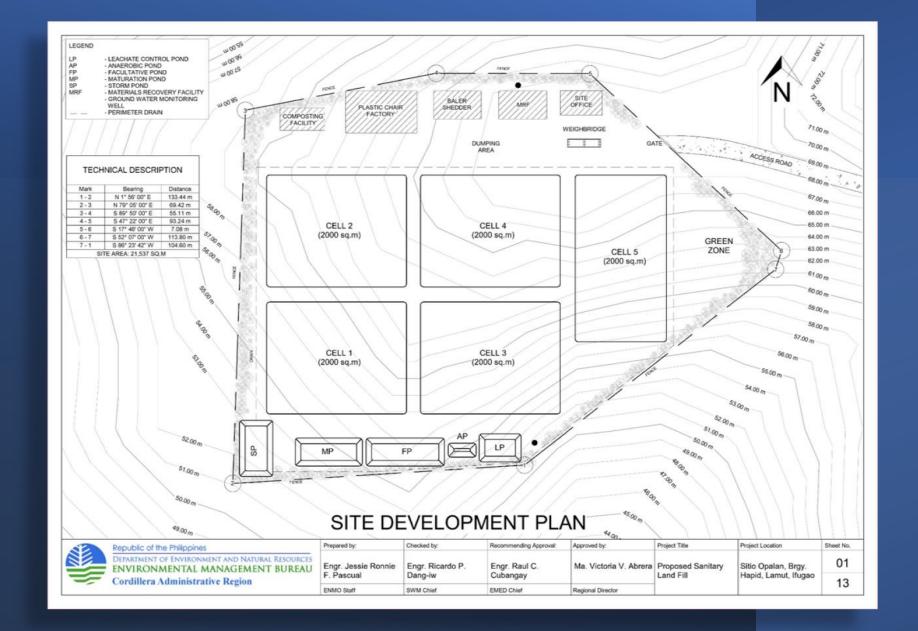
CAR

Region II

Region IX

Region 13 (CARAGA)

Total Site area2.1 hectares or 21,537 square metersDesigned landfill capacity60,000 cu.m or 36,000 tonsWaste received capacity per day4.2 tons per day or 7 cu.m per dayDuration of construction651 daysTarget lifespan16.76 yearsTotal Capital Cost/Expenditures (CAPEX)Php 43,329,813.46Operational Cost/Expenses (OPEX)Php 66,024,000Operating cost (Unit cost per ton)Php 1,834Tipping fee per tonsPhp 800 per tonReturn of Investment (ROI)14%Payback period13 yearsTotal volume of soil cover9000 cu.mVolume of soil cover applied daily1.5 cu.m/dayCost per CellPhp 4,541,344.45	Population served	102,057
Waste received capacity per day Duration of construction 651 days Target lifespan Total Capital Cost/Expenditures (CAPEX) Operational Cost/Expenses (OPEX) Operating cost (Unit cost per ton) Php 1,834 Tipping fee per tons Return of Investment (ROI) Payback period Total volume of soil cover applied daily 4.2 tons per day or 7 cu.m per day 5. total Capital Cost/Expenses 6. total Capital Cost/Expenses 6. total Capital Cost/Expenses 6. total Capital Cost/Expenses 6. total Capital Cost/Expenses 7. total Capital Cost/Expenses 9. total Capital Cost/Expenses 9. total Capital Cost/Expenses 9. total Capital Cost/Expenses 10	Total Site area	2.1 hectares or 21,537 square meters
Duration of construction651 daysTarget lifespan16.76 yearsTotal Capital Cost/Expenditures (CAPEX)Php 43,329,813.46Operational Cost/Expenses (OPEX)Php 66,024,000Operating cost (Unit cost per ton)Php 1,834Tipping fee per tonsPhp 800 per tonReturn of Investment (ROI)14%Payback period13 yearsTotal volume of soil cover9000 cu.mVolume of soil cover applied daily1.5 cu.m/day	Designed landfill capacity	60,000 cu.m or 36,000 tons
Target lifespan 16.76 years Total Capital Cost/Expenditures (CAPEX) Php 43,329,813.46 Operational Cost/Expenses (OPEX) Php 66,024,000 Operating cost (Unit cost per ton) Php 1,834 Tipping fee per tons Php 800 per ton Return of Investment (ROI) 14% Payback period 13 years Total volume of soil cover 9000 cu.m Volume of soil cover applied daily 1.5 cu.m/day	Waste received capacity per day	4.2 tons per day or 7 cu.m per day
Total Capital Cost/Expenditures (CAPEX) Php 43,329,813.46 Operational Cost/Expenses (OPEX) Php 66,024,000 Operating cost (Unit cost per ton) Php 1,834 Tipping fee per tons Php 800 per ton Return of Investment (ROI) Payback period 13 years Total volume of soil cover 9000 cu.m Volume of soil cover applied daily 1.5 cu.m/day	Duration of construction	651 days
Operational Cost/Expenses (OPEX) Php 66,024,000 Operating cost (Unit cost per ton) Php 1,834 Tipping fee per tons Php 800 per ton Return of Investment (ROI) Payback period 13 years Total volume of soil cover 9000 cu.m Volume of soil cover applied daily 1.5 cu.m/day	Target lifespan	16.76 years
Operating cost (Unit cost per ton) Php 1,834 Tipping fee per tons Php 800 per ton Return of Investment (ROI) 14% Payback period 13 years Total volume of soil cover 9000 cu.m Volume of soil cover applied daily 1.5 cu.m/day	Total Capital Cost/Expenditures (CAPEX)	Php 43,329,813.46
Tipping fee per tons Return of Investment (ROI) Payback period 13 years Total volume of soil cover 9000 cu.m Volume of soil cover applied daily 1.5 cu.m/day	Operational Cost/Expenses (OPEX)	Php 66,024,000
Return of Investment (ROI) Payback period 13 years Total volume of soil cover 9000 cu.m Volume of soil cover applied daily 1.5 cu.m/day	Operating cost (Unit cost per ton)	Php 1,834
Payback period 13 years Total volume of soil cover 9000 cu.m Volume of soil cover applied daily 1.5 cu.m/day	Tipping fee per tons	Php 800 per ton
Total volume of soil cover 9000 cu.m Volume of soil cover applied daily 1.5 cu.m/day	Return of Investment (ROI)	14%
Volume of soil cover applied daily 1.5 cu.m/day	Payback period	13 years
	Total volume of soil cover	9000 cu.m
Cost per Cell Php 4,541,344.45	Volume of soil cover applied daily	1.5 cu.m/day
	Cost per Cell	Php 4,541,344.45



Engr. Arnest Secreto (Team Leader)

Engr. Rhemelyn L. Calaoagan

Engr. Jarvis L. Valencia

Engr. Al Kenn D. Vasandani

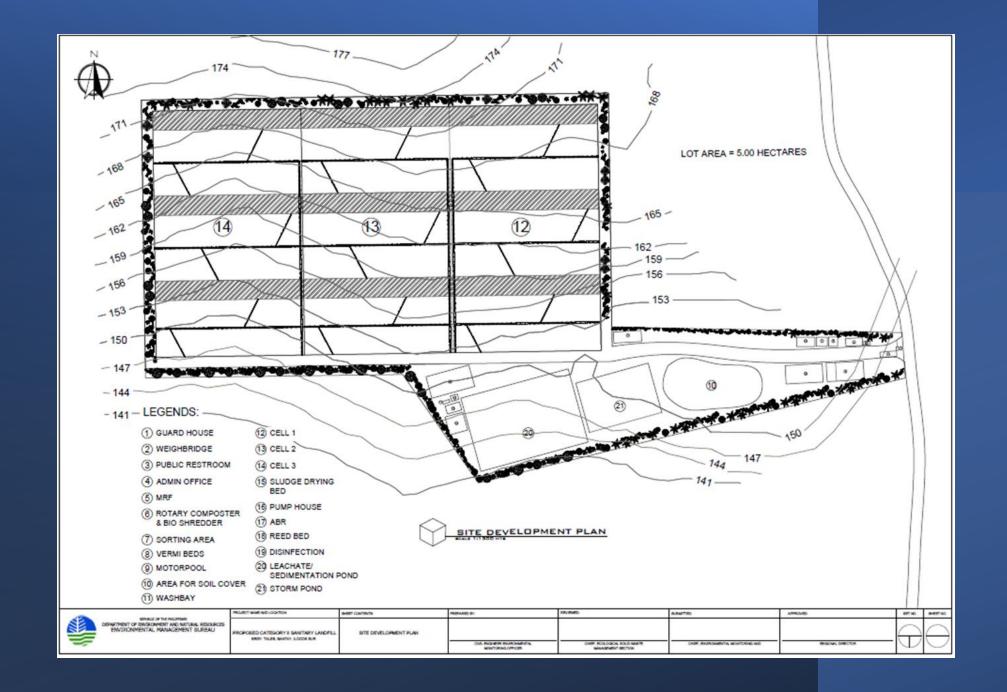
Region XII

Region I

Region IVB (MIMAROPA)

Region VIII

Population served	37,810
Total Site area	5 Has
Designed landfill capacity (how many wastes they can receive in the whole lifespan)	164,655.56 cu.m.
Waste received capacity per day	20.3 TPD
Duration of construction	18 months
Target lifespan	10 years
Total Capital Cost/Expenditures (CAPEX)	PHP 67,046,620
Operational Cost/Expenses (OPEX)	PHP 208,000
Operating cost (Unit cost per ton)	PHP346,67 per ton
Tipping fee per tons	Php 800.00
Total volume of soil cover	16,465.56 cu.m.
Volume of soil cover applied daily	4.51 cu.m.

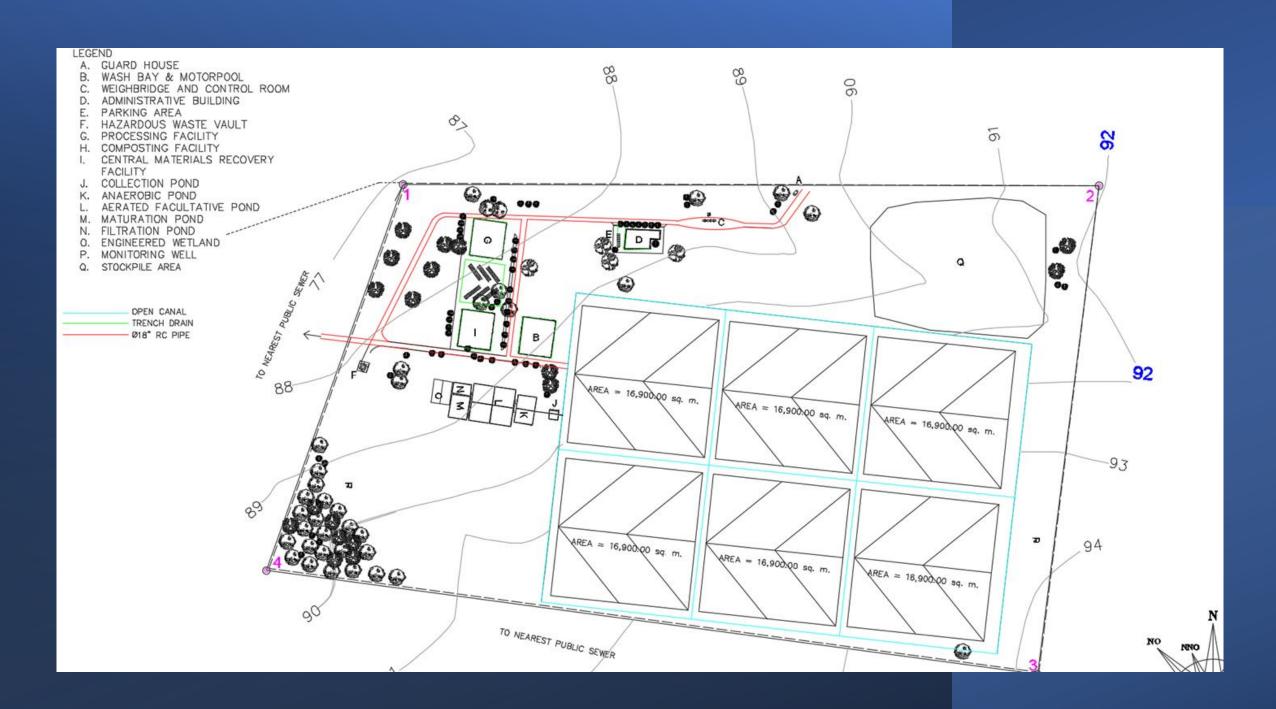


Engr. Teofilo Narvaez (Team Leader)	Region V
Engr. Jaypee S. Ayala	Region VI
Engr. Glenn Ian E. Padilla	Region X
Engr. Nikkilyn Joy T. Estaca	Region XI

Population served	712,947
Total Site area	20 hectares or 200,000 square meters
Designed landfill capacity	957,782 tons or 1,451,185 m ³
Waste received capacity per day	199 tons
Duration of construction	10 -12 months
Target lifespan	10 years
Total Capital Cost/Expenditures (CAPEX)	Php 319,399,765.10
Operational Cost/Expenses (OPEX)	Php 7,978,360.00
Operating cost (Unit cost per ton)	Php 110.00/ton
Tipping fee per tons	Php 500.00/ton
Return of Investment (ROI)	17.38%
Payback period	8.5 years
Total volume of soil cover	164,250 m ³
Volume of soil cover applied daily	45 m ³
Cost per Cell	Php 84,005,540.23







Engr. Yves Yshmael M. Balagtas (Team Leader)

lagtas Region III

Engr. Lexter B. Sandoval

Region IVA (CALABARZON)

Engr. Jay Mark Bajao

Region VII

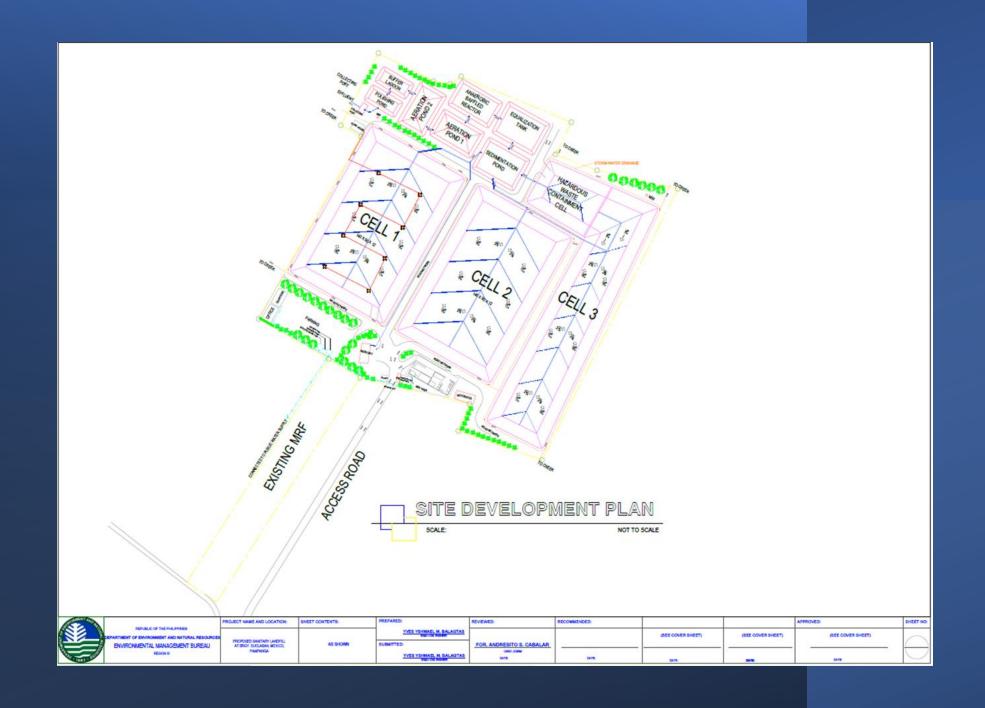
Engr. Mary Anne M. Detosil

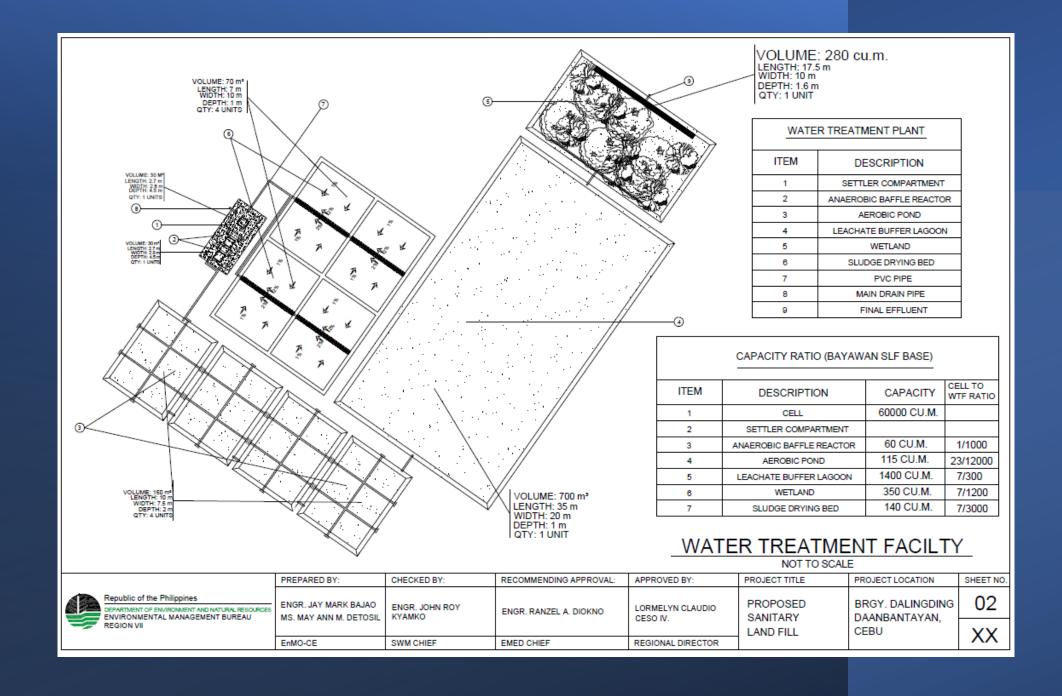
Region VII

Engr. Eroll C. Salamida

NCR

Population served	427,373
Total Site area	65,963.545 m ² or 6.60 ha
Designed landfill capacity	840,400 m ³
Waste received capacity per day	188 tons/day
Duration of construction	18 months
Target lifespan	5-10 years
Total Capital Cost/Expenditures (CAPEX)	195,792,556.88
Tipping fee per tons	Php 850.00/ton
Total volume of soil cover	46,320 m ³
Volume of soil cover applied daily	42 m ³





Way forward and Recommendations

- Additional training particularly on the computation of economic feasibility of the project and usage of computer-aided design and drafting software application (i.e. AutoCAD etc.).
- Design of Integrated/Centralized Materials Recovery Facility
- Minimum design of Residuals Containment Area

For more details on the design, kindly access the link below:

tinyurl.com/5n7nmbpf



Good Job to all our Engineers!

Thank you very much!