PROJECT DESCRIPTION FOR SCOPING (PDS)

Patrick-Viga (Manamlay) River Dredging Project

Lower Patrick-Viga (Manamlay) River,
Municipality of Sablayan,
Occidental Mindoro

PERRC

PERRC Construction and Development Corporation

PROJECT DESCRIPTION REPORT for SCOPING (PDS)

1.0 BASIC PROJECT INFORMATION

Table PD-1. Project Fact Sheet

Name of Project	**Patrick-Viga (Manamlay) River Dredging Project**
Project Location	Barangays Claudio Salgado, Tagumpay, Victoria, Lagnas, Paetan San Agustin and Pag-Asa, Municipality of Sablayan, Occidental Mindoro
Project Category & Type (based on Annex A of MC 2014-005)	Environmental Mitigation; Disaster Risk Reduction; Climate Change Adaptation. Considered critical due to potential impact on bridge
Project Area	River length : **18.65 line km** River Area: **180 ha** Offshore area/navigational: **50.2266 ha**
Project Cost	**PhP 730,704,5**27 (estimate)
Major Project Components	1. Dredging zone/basin near river mouth, totaling 18.65 line km covering 180 hectares (river) and 54 hectares (offshore) 2. 10 meters minimum buffer zone (easement) from the toe of both sides of the river bank and 1km minimum for the protection of Patrick Bridge 3. Bridge protection measures (ground sill geo-tube & armor rock bridge column protection and retaining walls at dredging basin). 4. Transport of dredged materials 5. Cost recovery through sale of dredged materials, subject to appropriate government regulations 6. Stockpile area, sheet pile, office, and other support facilities
Project Proponent	**PERRC Construction and Development Corporation** Contact Person: Mr. Walfredo Francisco R. Sun Position: Managing Officer Tel No.: (02) 8527-6783 Unit 302 and 1604 OMM Citra Building, San Miguel Avenue, Ortigas Center, Barangay San Antonio, Pasig City
EIA Preparer	**Nadia C- Perez Conde** 09276128508 nadiap2004@gmail.com

EIA Team

The table showing the list of EIA Preparers is provided below.

Table PD-2. EIA Team Composition

Name	Field of Expertise	EMB Registry No.
Nadia P. Conde	Team Leader / Social Impact Assessment	IPCO-102
Jean S. Ravelo	Technical Team Leader / Geologist	-
Benjamin S. Francisco	Marine and Freshwater Ecology	IPCO-038
Michael Chester Francisco	Fisheries	IPCO-040
Engr. Emerson B. Darroles	Water Quality Expert / ERA	IPCO-153
Angelie Faye Nicolas	Research / EIS Integrator	IPCO-259
Lawrence S. Mojica	GIS / EIS Integrator	-
Pancho Caculitan	Bathymetric Survey/ Geologist	
Rogerio Espiritu Jr	Oceanography	
Proponent's External Expertise		
Engr. Brando L. Salang-oy	Civil Engineering	
Engr. Ramon N. Santos	Mining Engineer/Geologist	

Name	Field of Expertise	EMB Registry No.
Aaron Balbloa	Geologist	
Danilo Degamo	Admin/Compliance/Research	

2.0 PROJECT DESCRIPTION

2.1 Project Area, Location and Accessibility

The proposed project is the dredging works along the lower portion of Patrick-Viga (Manamlay) River in the Municipality of Sablayan, Province of Occidental Mindoro

Occidental Mindoro covers a total area of 5,865.71 square kilometers occupying the western section of Mindoro Island, which includes outlying islands in the northwest. General land surface features that characterize the province are mountains, rivers, hills, valleys, wide plains and some small freshwater lakes. The high mountains can be found along the provincial boundary with Oriental Mindoro. Mountain ranges converge on the two central peaks, Mount Halcon in the north and Mount Baco in the south. The northern part of the province has relatively fewer plains, while the southern parts have wider flatlands. Most of the plains are cultivated fields, with few remaining untouched forests. Significant hilly areas can be found rolling off in Santa Cruz in the north, and in San Jose and Magsaysay in the south. These are grassed over rather than forested.

The Municipality of Sablayan is at the center of the province, to the northeast of Mt. Baco. Similarly, the coastal plains are wide plains, hills and valleys with a very mountainous area in the east. It is about 91 kilometers from Mamburao, the provincial capital; and 73 kilometers from San Jose, the most developed town in the province. It is bounded on the west by Mindoro Strait; on the north by the town of Sta. Cruz; and the municipalities of Baco, Naujan, Victoria and Socorro all in Oriental Mindoro province; to the east by the municipalities of Pinamalayan, Gloria, Bansud, Bongabong and Mansalay of Oriental Mindoro; and on the south by the town of Calintaan.

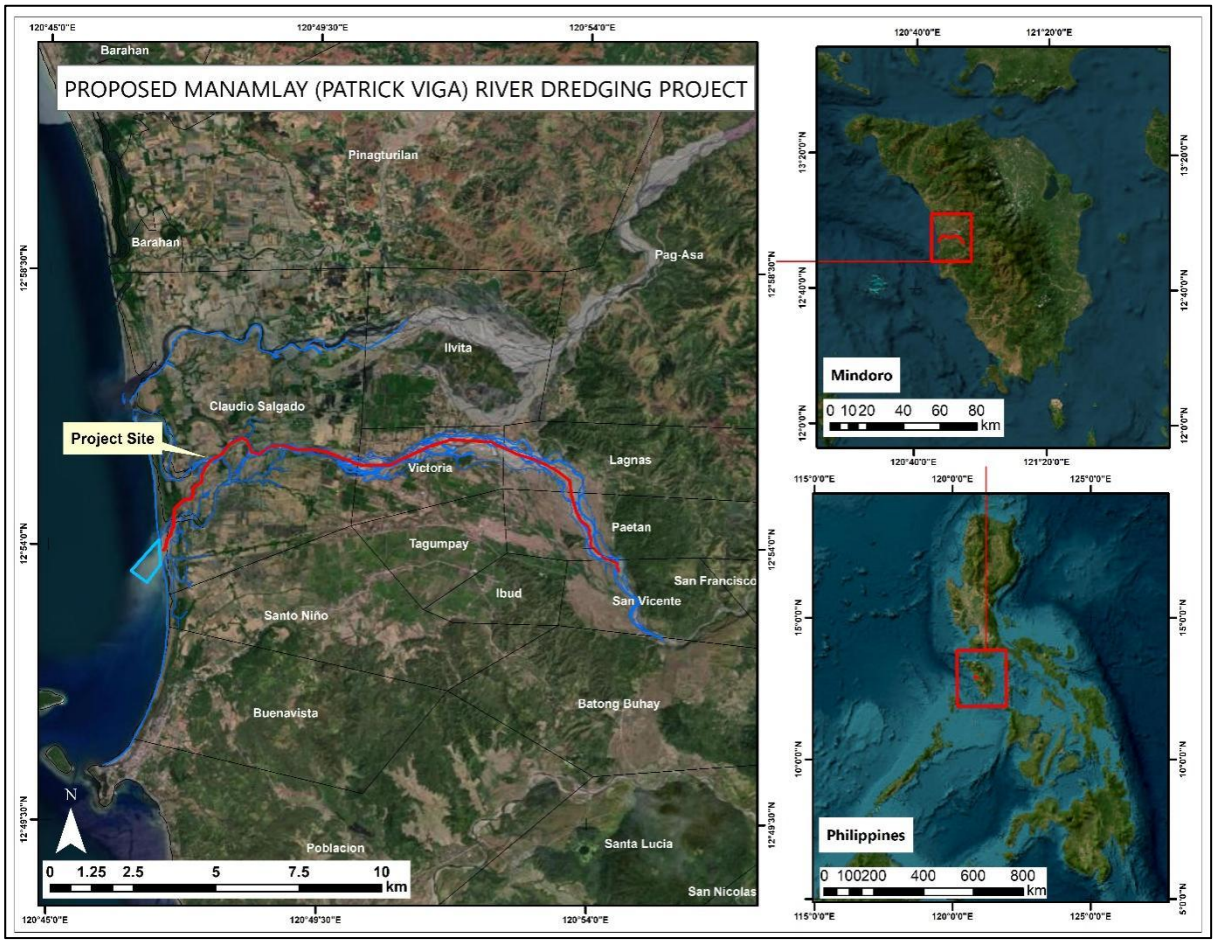

Figure PD-1. Project Area and Location Map

Geographic Coordinates (Shape File Data) of Project Area

Table PD-3. Geographical Coordinates (WGS 84) – RIVER

Station	Latitude	Longitude
0+500.00	12°53'54.05"	120°46'54.28"
0+550.00	12°53'55.43"	120°46'55.17"
0+600.00	12°53'56.8"	120°46'56.06"
0+650.00	12°53'58.38"	120°46'56.39"
0+700.00	12°53'59.98"	120°46'56.65"
0+750.00	12°54'1.59"	120°46'56.91"
0+800.00	12°54'3.2"	120°46'57.17"
0+850.00	12°54'4.8"	120°46'57.43"
0+900.00	12°54'6.27"	120°46'58.07"
0+950.00	12°54'7.67"	120°46'58.91"
1+000.00	12°54'9.07"	120°46'59.76"
1+050.00	12°54'10.47"	120°47'0.61"
1+100.00	12°54'11.87"	120°47'1.45"
1+150.00	12°54'13.27"	120°47'2.3"

Station	Latitude	Longitude
1+200.00	12°54'14.67"	120°47'3.15"
1+250.00	12°54'16.07"	120°47'3.99"
1+300.00	12°54'17.46"	120°47'4.84"
1+350.00	12°54'18.89"	120°47'5.58"
1+400.00	12°54'20.51"	120°47'5.48"
1+450.00	12°54'22.14"	120°47'5.38"
1+500.00	12°54'23.76"	120°47'5.28"
1+550.00	12°54'25.38"	120°47'5.19"
1+600.00	12°54'27"	120°47'5.31"
1+650.00	12°54'28.62"	120°47'5.48"
1+700.00	12°54'30.24"	120°47'5.65"
1+750.00	12°54'31.86"	120°47'5.81"
1+800.00	12°54'33.48"	120°47'5.98"
1+850.00	12°54'35.09"	120°47'6.15"

Station	Latitude	Longitude
1+900.00	12°54'36.29"	120°47'7.27"
1+950.00	12°54'37.47"	120°47'8.4"
2+000.00	12°54'38.66"	120°47'9.54"
2+050.00	12°54'39.85"	120°47'10.67"
2+100.00	12°54'41.04"	120°47'11.8"
2+150.00	12°54'42.22"	120°47'12.94"
2+200.00	12°54'43.09"	120°47'14.32"
2+250.00	12°54'43.86"	120°47'15.78"
2+300.00	12°54'44.62"	120°47'17.25"
2+350.00	12°54'45.39"	120°47'18.71"
2+400.00	12°54'46.15"	120°47'20.17"
2+450.00	12°54'46.91"	120°47'21.64"
2+500.00	12°54'48.27"	120°47'21.63"
2+550.00	12°54'49.88"	120°47'22.6"
2+600.00	12°54'51.47"	120°47'22.92"
2+650.00	12°54'53.07"	120°47'23.25"
2+700.00	12°54'54.66"	120°47'23.57"
2+750.00	12°54'56.15"	120°47'24.17"
2+800.00	12°54'57.51"	120°47'25.07"
2+850.00	12°54'58.43"	120°47'26.43"
2+900.00	12°54'59.31"	120°47'27.82"
2+950.00	12°55'0.19"	120°47'29.21"
3+000.00	12°55'1.07"	120°47'30.61"
3+050.00	12°55'2.02"	120°47'31.87"
3+100.00	12°55'3.64"	120°47'31.77"
3+150.00	12°55'5.27"	120°47'31.67"
3+200.00	12°55'6.89"	120°47'31.57"
3+250.00	12°55'8.51"	120°47'31.47"
3+300.00	12°55'10.03"	120°47'32.07"
3+350.00	12°55'11.54"	120°47'32.67"
3+400.00	12°55'13.06"	120°47'33.28"
3+450.00	12°55'14.57"	120°47'33.88"
3+500.00	12°55'16"	120°47'34.63"
3+550.00	12°55'17.3"	120°47'35.64"
3+600.00	12°55'18.59"	120°47'36.65"
3+650.00	12°55'19.88"	120°47'37.65"
3+700.00	12°55'21.17"	120°47'38.66"
3+750.00	12°55'22.21"	120°47'39.89"
3+800.00	12°55'22.98"	120°47'41.35"
3+850.00	12°55'23.75"	120°47'42.81"
3+900.00	12°55'24.52"	120°47'44.27"

Station	Latitude	Longitude
3+950.00	12°55'25.29"	120°47'45.73"
4+000.00	12°55'26.06"	120°47'47.19"
4+050.00	12°55'26.83"	120°47'48.65"
4+100.00	12°55'27.6"	120°47'50.11"
4+150.00	12°55'28.37"	120°47'51.57"
4+200.00	12°55'29.29"	120°47'52.91"
4+250.00	12°55'30.6"	120°47'53.89"
4+300.00	12°55'31.91"	120°47'54.87"
4+350.00	12°55'33.21"	120°47'55.86"
4+400.00	12°55'34.52"	120°47'56.84"
4+450.00	12°55'35.83"	120°47'57.82"
4+500.00	12°55'37.14"	120°47'58.81"
4+550.00	12°55'38.45"	120°47'59.79"
4+600.00	12°55'39.36"	120°48'1.13"
4+650.00	12°55'40.13"	120°48'2.59"
4+700.00	12°55'40.9"	120°48'4.05"
4+800.00	12°55'42.44"	120°48'6.97"
4+850.00	12°55'43.22"	120°48'8.43"
4+900.00	12°55'43.99"	120°48'9.89"
4+950.00	12°55'44.76"	120°48'11.35"
5+000.00	12°55'45.51"	120°48'12.81"
5+050.00	12°55'44.68"	120°48'14.24"
5+100.00	12°55'43.86"	120°48'15.67"
5+150.00	12°55'43.03"	120°48'17.1"
5+200.00	12°55'42.03"	120°48'18.31"
5+250.00	12°55'40.5"	120°48'18.87"
5+300.00	12°55'38.97"	120°48'19.44"
5+350.00	12°55'37.44"	120°48'20.01"
5+400.00	12°55'35.92"	120°48'20.58"
5+450.00	12°55'34.39"	120°48'21.14"
5+500.00	12°55'32.86"	120°48'21.71"
5+550.00	12°55'31.56"	120°48'22.49"
5+600.00	12°55'31.19"	120°48'24.1"
5+650.00	12°55'30.83"	120°48'25.72"
5+700.00	12°55'30.46"	120°48'27.33"
5+750.00	12°55'30.1"	120°48'28.95"
5+800.00	12°55'29.73"	120°48'30.56"
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5+900.00	12°55'31.43"	120°48'33.16"
5+950.00	12°55'32.52"	120°48'34.39"
6+000.00	12°55'33.6"	120°48'35.63"

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6+050.00	12°55'34.69"	120°48'36.86"
6+100.00	12°55'35.77"	120°48'38.1"
6+150.00	12°55'36.86"	120°48'39.34"
6+200.00	12°55'37.44"	120°48'40.79"
6+250.00	12°55'37.59"	120°48'42.44"
6+300.00	12°55'37.73"	120°48'44.09"
6+350.00	12°55'37.88"	120°48'45.75"
6+400.00	12°55'38.03"	120°48'47.4"
6+450.00	12°55'38.17"	120°48'49.05"
6+500.00	12°55'38.32"	120°48'50.7"
6+550.00	12°55'38.46"	120°48'52.35"
6+600.00	12°55'38.26"	120°48'53.97"
6+650.00	12°55'37.78"	120°48'55.55"
6+700.00	12°55'37.31"	120°48'57.14"
6+750.00	12°55'36.83"	120°48'58.72"
6+800.00	12°55'36.35"	120°49'0.31"
6+850.00	12°55'35.88"	120°49'1.89"
6+900.00	12°55'35.4"	120°49'3.48"
6+950.00	12°55'34.92"	120°49'5.07"
7+000.00	12°55'34.45"	120°49'6.65"
7+050.00	12°55'34.46"	120°49'8.31"
7+100.00	12°55'34.48"	120°49'9.97"
7+150.00	12°55'34.49"	120°49'11.63"
7+200.00	12°55'34.5"	120°49'13.28"
7+250.00	12°55'34.52"	120°49'14.94"
7+300.00	12°55'34.53"	120°49'16.6"
7+350.00	12°55'34.55"	120°49'18.26"
7+400.00	12°55'34.56"	120°49'19.92"
7+450.00	12°55'34.57"	120°49'21.57"
7+500.00	12°55'34.59"	120°49'23.23"
7+550.00	12°55'34.4"	120°49'24.87"
7+600.00	12°55'34.13"	120°49'26.51"
7+650.00	12°55'33.85"	120°49'28.14"
7+700.00	12°55'33.58"	120°49'29.78"
7+750.00	12°55'33.3"	120°49'31.41"
7+800.00	12°55'33.03"	120°49'33.05"
7+850.00	12°55'32.76"	120°49'34.68"
7+900.00	12°55'32.48"	120°49'36.32"
7+950.00	12°55'32.15"	120°49'37.93"
8+000.00	12°55'31.54"	120°49'39.47"
8+050.00	12°55'30.94"	120°49'41.01"

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8+150.00	12°55'29.74"	120°49'44.1"
8+200.00	12°55'29.14"	120°49'45.64"
8+250.00	12°55'28.53"	120°49'47.18"
8+300.00	12°55'27.93"	120°49'48.72"
8+350.00	12°55'27.33"	120°49'50.26"
8+400.00	12°55'26.73"	120°49'51.8"
8+450.00	12°55'26.13"	120°49'53.34"
8+500.00	12°55'25.53"	120°49'54.88"
8+550.00	12°55'25.07"	120°49'56.47"
8+600.00	12°55'24.65"	120°49'58.07"
8+650.00	12°55'24.23"	120°49'59.67"
8+700.00	12°55'23.81"	120°50'1.27"
8+750.00	12°55'23.38"	120°50'2.88"
8+800.00	12°55'22.96"	120°50'4.48"
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9+100.00	12°55'20.43"	120°50'14.09"
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9+200.00	12°55'20.37"	120°50'17.39"
9+250.00	12°55'20.38"	120°50'19.05"
9+300.00	12°55'20.4"	120°50'20.71"
9+350.00	12°55'20.41"	120°50'22.37"
9+400.00	12°55'20.43"	120°50'24.02"
9+450.00	12°55'20.44"	120°50'25.68"
9+500.00	12°55'20.45"	120°50'27.34"
9+550.00	12°55'20.47"	120°50'29"
9+600.00	12°55'20.48"	120°50'30.66"
9+650.00	12°55'20.49"	120°50'32.31"
9+700.00	12°55'20.51"	120°50'33.97"
9+750.00	12°55'20.52"	120°50'35.63"
9+800.00	12°55'20.54"	120°50'37.29"
9+850.00	12°55'20.55"	120°50'38.95"
9+900.00	12°55'20.56"	120°50'40.61"
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10+150.00	12°55'23.57"	120°50'48.2"
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10+250.00	12°55'24.98"	120°50'51.19"
10+300.00	12°55'25.68"	120°50'52.69"
10+350.00	12°55'26.38"	120°50'54.19"
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10+500.00	12°55'28.49"	120°50'58.67"
10+550.00	12°55'29.19"	120°51'0.17"
10+600.00	12°55'29.89"	120°51'1.66"
10+650.00	12°55'30.6"	120°51'3.16"
10+700.00	12°55'31.3"	120°51'4.66"
10+750.00	12°55'32"	120°51'6.15"
10+800.00	12°55'32.7"	120°51'7.65"
10+850.00	12°55'33.41"	120°51'9.14"
10+900.00	12°55'34.11"	120°51'10.64"
10+950.00	12°55'34.81"	120°51'12.13"
11+000.00	12°55'35.51"	120°51'13.63"
11+050.00	12°55'36.21"	120°51'15.13"
11+100.00	12°55'36.92"	120°51'16.62"
11+150.00	12°55'37.62"	120°51'18.12"
11+200.00	12°55'38.32"	120°51'19.61"
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11+300.00	12°55'39.52"	120°51'22.69"
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11+450.00	12°55'40.98"	120°51'27.43"
11+500.00	12°55'41.47"	120°51'29.02"
11+550.00	12°55'41.95"	120°51'30.6"
11+600.00	12°55'42.44"	120°51'32.18"
11+650.00	12°55'42.93"	120°51'33.76"
11+700.00	12°55'43.41"	120°51'35.35"
11+750.00	12°55'43.9"	120°51'36.93"
11+800.00	12°55'44.39"	120°51'38.51"
11+850.00	12°55'44.87"	120°51'40.09"
11+900.00	12°55'45.33"	120°51'41.68"
11+950.00	12°55'45.26"	120°51'43.34"
12+000.00	12°55'45.19"	120°51'44.99"
12+050.00	12°55'45.11"	120°51'46.65"
12+100.00	12°55'45.04"	120°51'48.31"
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Station	Latitude	Longitude
12+200.00	12°55'44.9"	120°51'51.62"
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12+350.00	12°55'44.68"	120°51'56.59"
12+400.00	12°55'44.61"	120°51'58.25"
12+450.00	12°55'44.54"	120°51'59.9"
12+500.00	12°55'44.47"	120°52'1.56"
12+550.00	12°55'44.39"	120°52'3.22"
12+600.00	12°55'44.32"	120°52'4.87"
12+650.00	12°55'44.25"	120°52'6.53"
12+700.00	12°55'44.18"	120°52'8.19"
12+750.00	12°55'44.11"	120°52'9.84"
12+800.00	12°55'44.04"	120°52'11.5"
12+850.00	12°55'43.96"	120°52'13.16"
12+900.00	12°55'43.89"	120°52'14.81"
12+950.00	12°55'43.82"	120°52'16.47"
13+000.00	12°55'43.75"	120°52'18.13"
13+050.00	12°55'43.68"	120°52'19.78"
13+100.00	12°53'43.68"	120°55'17.3"
13+150.00	12°55'43.19"	120°52'23.01"
13+200.00	12°55'42.49"	120°52'24.51"
13+250.00	12°55'41.79"	120°52'26"
13+300.00	12°55'41.09"	120°52'27.5"
13+350.00	12°55'40.4"	120°52'29"
13+400.00	12°55'39.7"	120°52'30.5"
13+450.00	12°55'39"	120°52'32"
13+500.00	12°55'38.3"	120°52'33.49"
13+550.00	12°55'37.6"	120°52'34.99"
13+600.00	12°55'36.9"	120°52'36.49"
13+650.00	12°55'36.2"	120°52'37.99"
13+700.00	12°55'35.51"	120°52'39.48"
13+750.00	12°55'34.81"	120°52'40.98"
13+800.00	12°55'34.11"	120°52'42.48"
13+850.00	12°55'33.41"	120°52'43.98"
13+900.00	12°55'32.71"	120°52'45.47"
13+950.00	12°55'32.01"	120°52'46.97"
14+000.00	12°55'31.51"	120°52'48.55"
14+050.00	12°55'31.05"	120°52'50.14"
14+100.00	12°55'30.59"	120°52'51.73"
14+150.00	12°55'30.13"	120°52'53.32"
14+200.00	12°55'29.67"	120°52'54.91"

Station	Latitude	Longitude
14+250.00	12°55'29.21"	120°52'56.5"
14+300.00	12°55'28.75"	120°52'58.09"
14+350.00	12°55'28.29"	120°52'59.68"
14+400.00	12°55'27.83"	120°53'1.27"
14+450.00	12°55'27.37"	120°53'2.86"
14+500.00	12°55'26.82"	120°53'4.42"
14+550.00	12°55'26.19"	120°53'5.95"
14+600.00	12°55'25.56"	120°53'7.48"
14+650.00	12°55'24.92"	120°53'9"
14+700.00	12°55'24.29"	120°53'10.53"
14+750.00	12°55'23.66"	120°53'12.06"
14+800.00	12°55'23.03"	120°53'13.59"
14+850.00	12°55'22.4"	120°53'15.12"
14+900.00	12°55'21.77"	120°53'16.64"
14+950.00	12°55'21.13"	120°53'18.17"
15+000.00	12°55'20.5"	120°53'19.7"
15+050.00	12°55'19.87"	120°53'21.23"
15+100.00	12°55'19.24"	120°53'22.76"
15+150.00	12°55'18.61"	120°53'24.29"
15+200.00	12°55'17.63"	120°53'25.61"
15+250.00	12°55'16.64"	120°53'26.92"
15+300.00	12°55'15.65"	120°53'28.24"
15+350.00	12°55'14.66"	120°53'29.55"
15+400.00	12°55'13.66"	120°53'30.87"
15+450.00	12°55'12.67"	120°53'32.18"
15+500.00	12°55'11.68"	120°53'33.49"
15+550.00	12°55'10.69"	120°53'34.81"
15+600.00	12°55'9.7"	120°53'36.12"
15+650.00	12°55'8.7"	120°53'37.44"
15+700.00	12°55'7.71"	120°53'38.75"
15+750.00	12°55'6.72"	120°53'40.07"
15+800.00	12°55'5.47"	120°53'40.92"
15+850.00	12°55'3.85"	120°53'41.13"
15+900.00	12°55'2.24"	120°53'41.35"
15+950.00	12°55'0.63"	120°53'41.56"
16+000.00	12°54'59.02"	120°53'41.78"
16+050.00	12°54'57.4"	120°53'41.99"
16+100.00	12°54'55.79"	120°53'42.2"
16+150.00	12°54'54.18"	120°53'42.42"
16+200.00	12°54'52.56"	120°53'42.63"
16+250.00	12°54'50.98"	120°53'43"

Station	Latitude	Longitude
16+300.00	12°54'49.43"	120°53'43.49"
16+350.00	12°54'47.87"	120°53'43.97"
16+400.00	12°54'46.32"	120°53'44.46"
16+450.00	12°54'44.76"	120°53'44.95"
16+500.00	12°54'43.21"	120°53'45.44"
16+550.00	12°54'41.66"	120°53'45.93"
16+600.00	12°54'40.1"	120°53'46.41"
16+650.00	12°54'38.55"	120°53'46.9"
16+700.00	12°54'36.99"	120°53'47.39"
16+750.00	12°54'35.44"	120°53'47.88"
16+800.00	12°54'34.07"	120°53'48.73"
16+850.00	12°54'32.78"	120°53'49.74"
16+900.00	12°54'31.49"	120°53'50.76"
16+950.00	12°54'30.21"	120°53'51.77"
17+000.00	12°54'28.92"	120°53'52.79"
17+050.00	12°54'27.63"	120°53'53.8"
17+100.00	12°54'26.35"	120°53'54.82"
17+150.00	12°54'25.06"	120°53'55.83"
17+200.00	12°54'23.77"	120°53'56.85"
17+250.00	12°54'22.49"	120°53'57.86"
17+300.00	12°54'21.2"	120°53'58.88"
17+350.00	12°54'19.92"	120°53'59.89"
17+400.00	12°54'18.54"	120°54'0.68"
17+450.00	12°54'16.92"	120°54'0.89"
17+500.00	12°54'15.31"	120°54'1.1"
17+550.00	12°54'13.7"	120°54'1.3"
17+600.00	12°54'12.08"	120°54'1.51"
17+650.00	12°54'10.47"	120°54'1.72"
17+700.00	12°54'8.86"	120°54'1.93"
17+750.00	12°54'7.24"	120°54'2.13"
17+800.00	12°54'5.63"	120°54'2.34"
17+850.00	12°54'4.01"	120°54'2.55"
17+900.00	12°54'2.4"	120°54'2.75"
17+950.00	12°54'0.92"	120°54'3.23"
18+000.00	12°53'59.86"	120°54'4.48"
18+050.00	12°53'58.79"	120°54'5.73"
18+100.00	12°53'57.73"	120°54'6.98"
18+150.00	12°53'56.66"	120°54'8.24"
18+200.00	12°53'55.59"	120°54'9.49"
18+250.00	12°53'54.53"	120°54'10.74"
18+300.00	12°53'53.46"	120°54'11.99"

Station	Latitude	Longitude
18+350.00	12°53'52.4"	120°54'13.25"
18+400.00	12°53'51.51"	120°54'14.61"
18+450.00	12°53'50.93"	120°54'16.16"
18+500.00	12°53'50.34"	120°54'17.7"
18+550.00	12°53'49.75"	120°54'19.25"
18+600.00	12°53'49.17"	120°54'20.8"
18+650.00	12°53'48.58"	120°54'22.34"
18+700.00	12°53'48"	120°54'23.89"
18+750.00	12°53'47.41"	120°54'25.44"

Station	Latitude	Longitude
18+800.00	12°53'46.83"	120°54'26.98"
18+850.00	12°53'46.24"	120°54'28.53"
18+900.00	12°53'45.19"	120°54'29.48"
18+950.00	12°53'43.58"	120°54'29.7"
19+000.00	12°53'41.97"	120°54'29.92"
19+050.00	12°53'40.35"	120°54'30.14"
19+100.00	12°53'38.74"	120°54'30.35"
19+150.00	12°53'37.13"	120°54'30.57"

Table PD-4. Geographical Coordinates (WGS 84) - OFFSHORE AREA

Corner ID	Latitude	Longitude
1	12.901376°	120.780706°
2	12.894651°	120.781279°
3	12.889745°	120.777544°
4	12.892870°	120.773118°

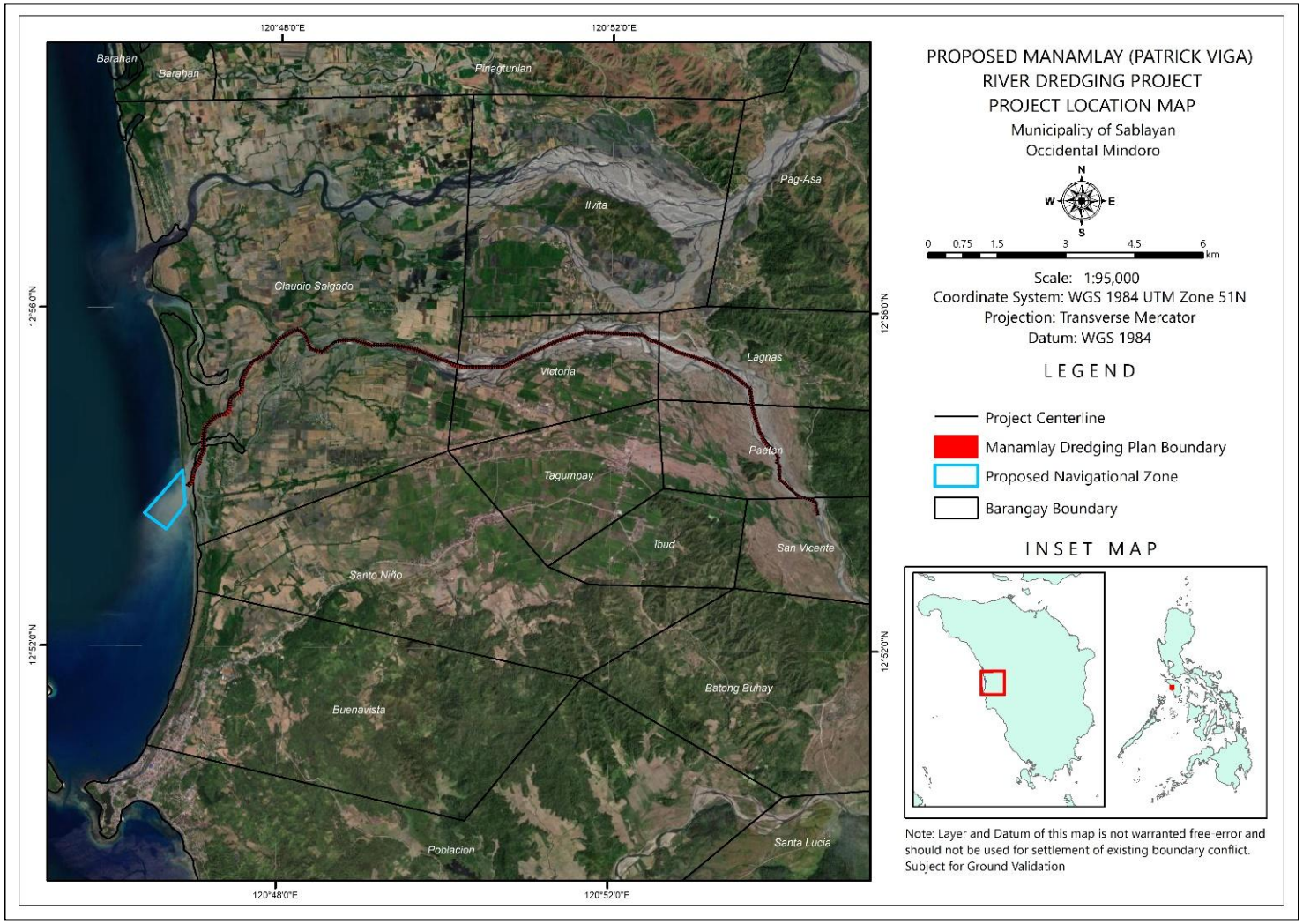

Figure PD-2. Project Location Map

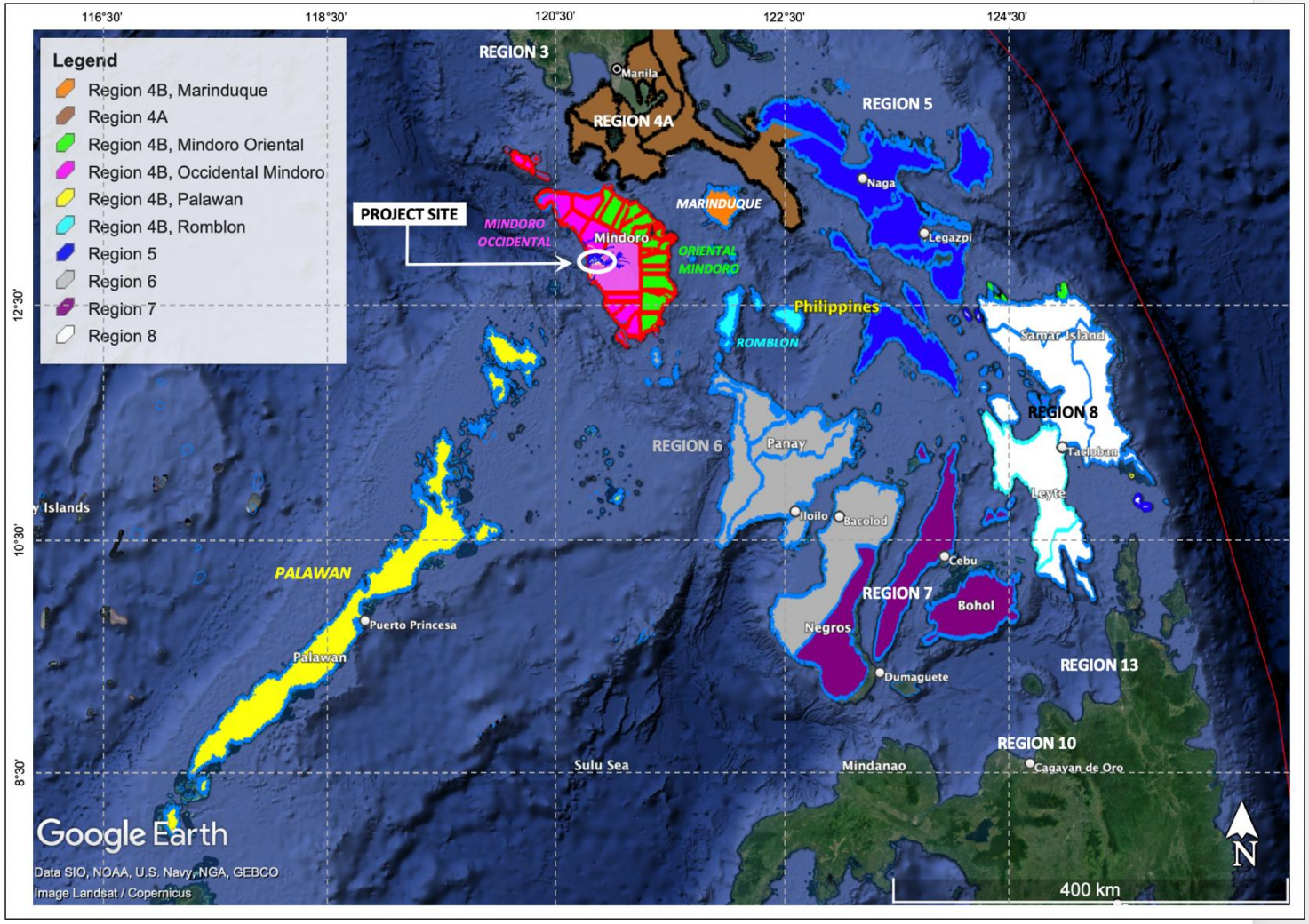

Figure PD-3. Map of Project Area vis-à-vis Regional and Provincial Boundaries

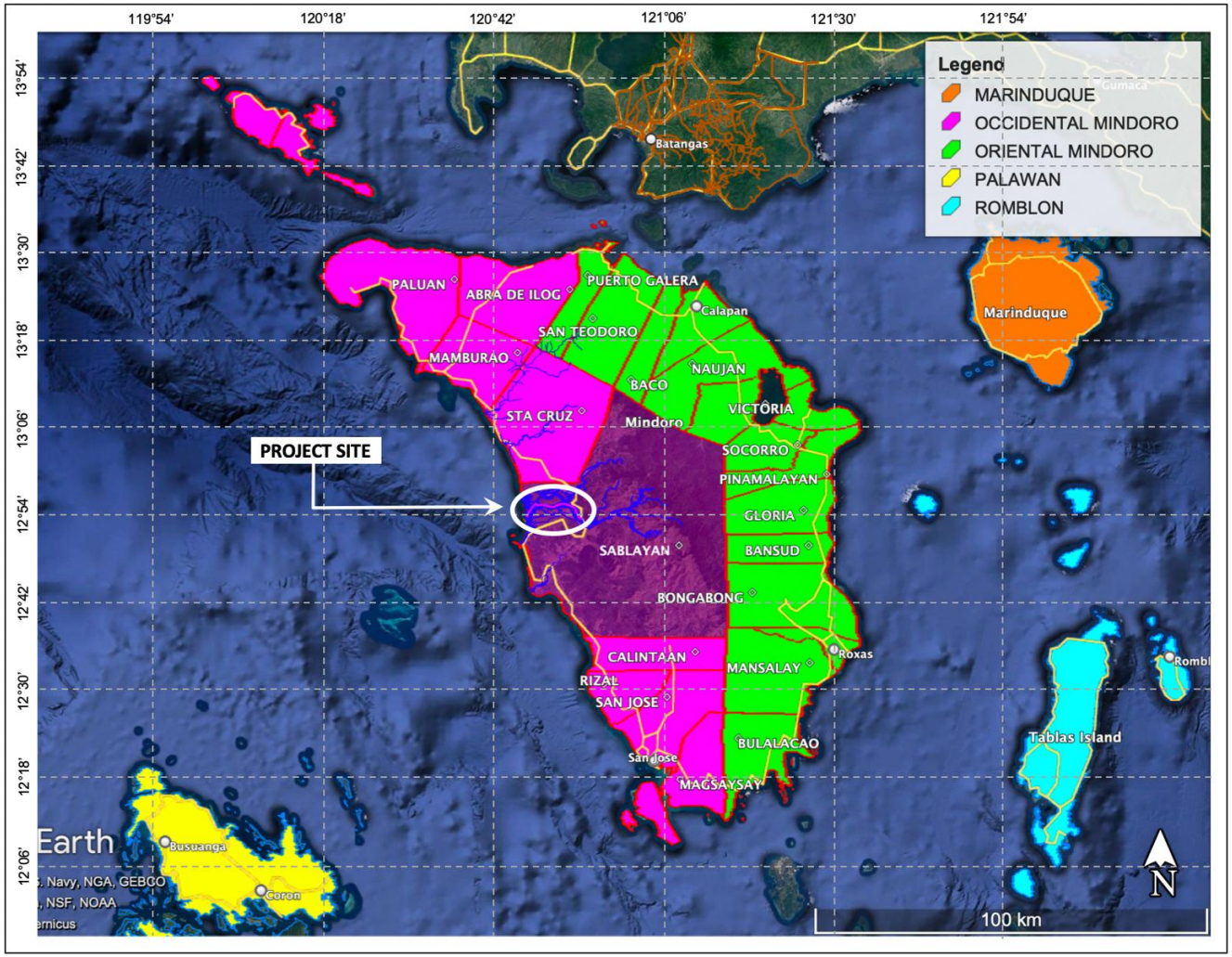

Figure PD-4. Map of Project Area vis-à-vis Municipal Boundaries

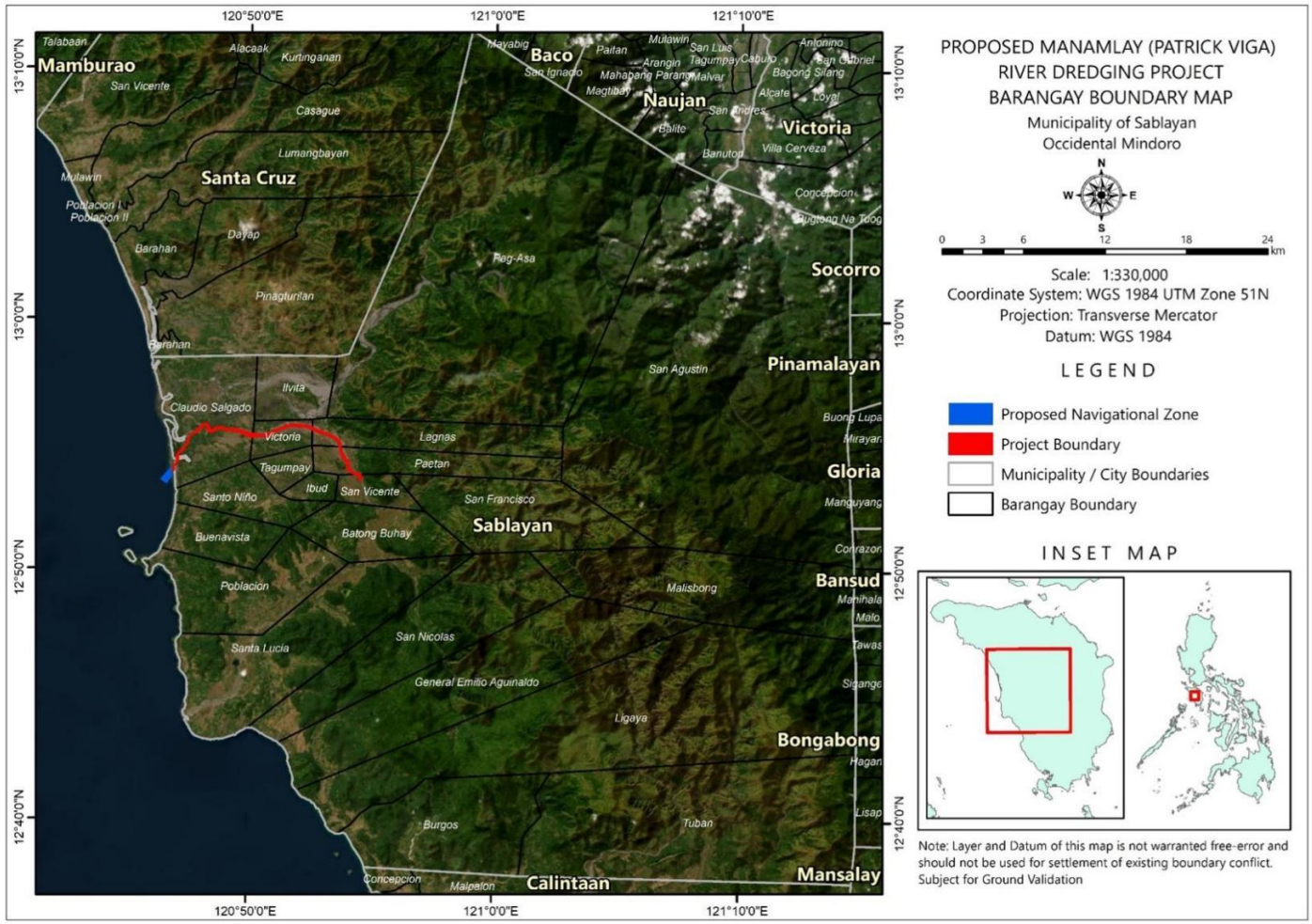

Figure PD-5. Map of Project Area vis-à-vis Barangay Boundaries

- **Accessibility**

The municipality is accessible by sea from Batangas, Manila and Visayan Islands; by land from north and south sections of the province; and by air through private aircrafts. Alternative routes may be through Batangas-Abra de Ilog-Sablayan, Batangas-Calapan City-Sablayan, Manila-Mamburao-Sablayan, and Manila-San Jose-Sablayan. There are commercial flights from Manila to San Jose, then a 2-3 hours land travel to Sablayan.

There are twenty six (26) units of bus, and sixty four (64) units of UV Express vans in the municipality providing transport services to Sablayeños from neighboring municipalities passing Sablayan on their way to the northern or southern parts of the mainland province. There are also six (6) units of jeepney providing transport services from far-flung barangays going to the town proper. However, these jeepneys are privately operated and not accredited by the Land Transportation and Franchising Regulatory Board (LTFRB). In the urban core, the popular means of transportation is tricycle, while in the rural areas motorcycle, animal pulled carts, hand tractors, and mini-trucks are used.

Sablayan has an airport also as well as seaport. The airport facility is now in poor condition and shall necessitate rehabilitation in order to meet the standards and thereby allow chartered flights. On the other hand, the existing seaport located along the coastal area of Brgy. Poblacion, was established by the Philippine Ports Authority (PPA) and constructed under the National Feeder Ports Development Project (NFPDP). Sablayan Port is managed and operated by the LGU of Sablayan through the Port Management Office (PMO) since May 21, 2003. The port serves as the municipality's direct linkage with Batangas City and Manila. Sablayan Municipal Port is currently under normal operation with an average of four ship calls (*number of cargo ships/vessels docked)* during lean season from January to March, and an average of ten ship calls during peak season from April to July.

Going to the proposed project site at the river mouth area in Brgy. Claudio Salgado, vehicles will pass through an unpaved barangay road for about 45 minutes to 1 hour from the bridge along the Western Mindoro Coastal Road (national highway).

2.2 Protected Areas

NIPAS Areas

The identified protected areas in proximity to the proposed project area are the following:

1. Mt. Iglit-Baco Natural Park
   The shortest distance from the project area to this protected area is 12km (to the SE).
2. Apo Reef Natural Park
   The shortest distance from the project area (navigation lane) to this protected area is 32.1km (to the NW).
3. Calavite and F.B. Harrison Game Refuge and Bird Sanctuary
   The portion of the project area from Sta 12+050 of centerline going upstream to the eastern boundary of the project are within this protected area.

Please refer to **Figure PD-6**.

RAMSAR

There are no RAMSAR areas in the Province of Occidental Mindoro.

2.3 Impact Areas

The identified EIA direct impact area (DIA) is the **18.65-line kilometer, 180 hectares** of lower Patrick-Viga River within barangays Claudio Salgado, Tagumpay, Victoria, Lagnas, Paetan San Agustin and Pag-Asa and **50.2266** hectares portion of offshore area for navigational lane. **Figures**

PD-7 to **PD-9** show the impact area maps of the proposed project for land, water, and people, respectively.

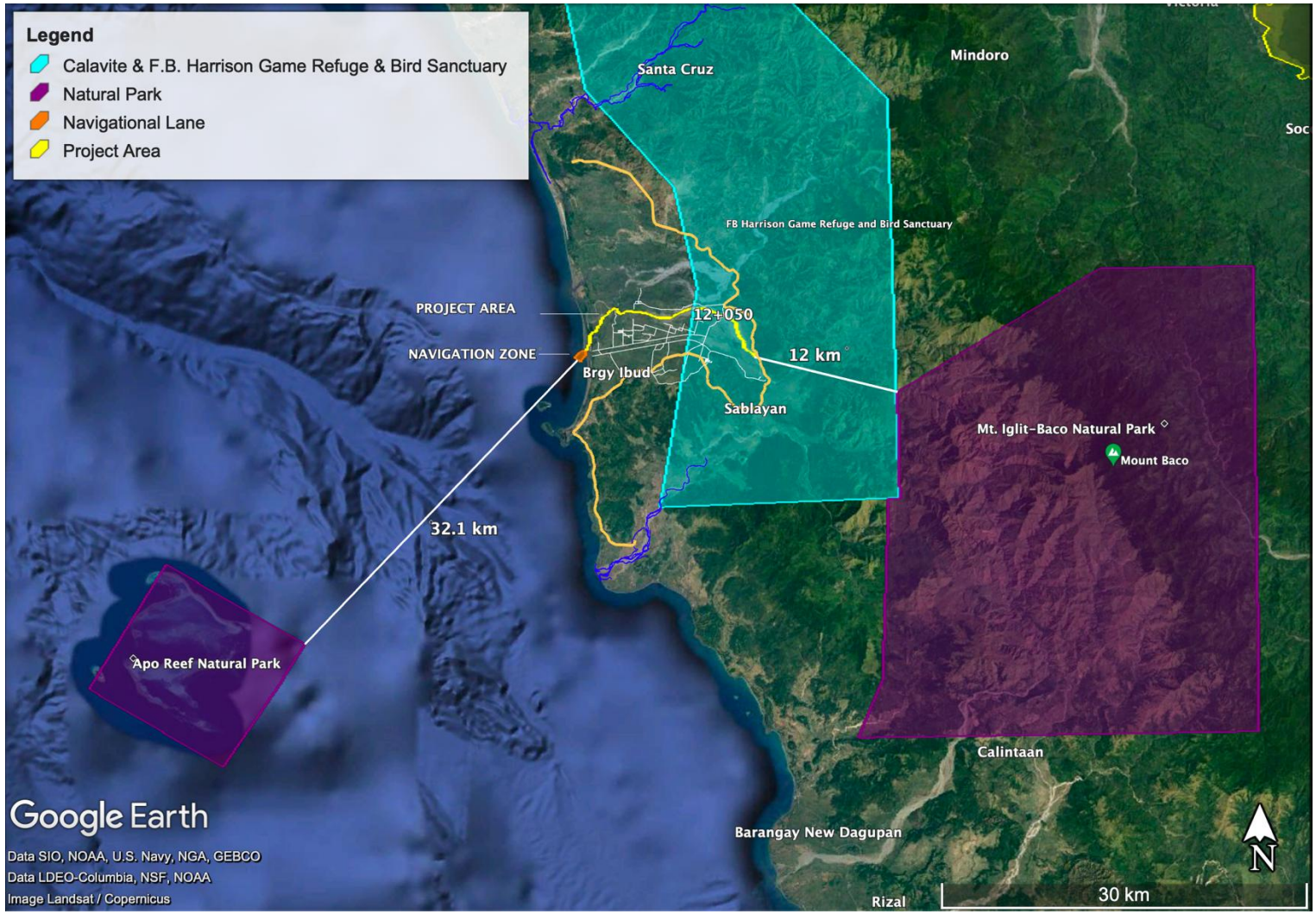

Figure PD-6. Relative Location of Project Area and Protected Areas

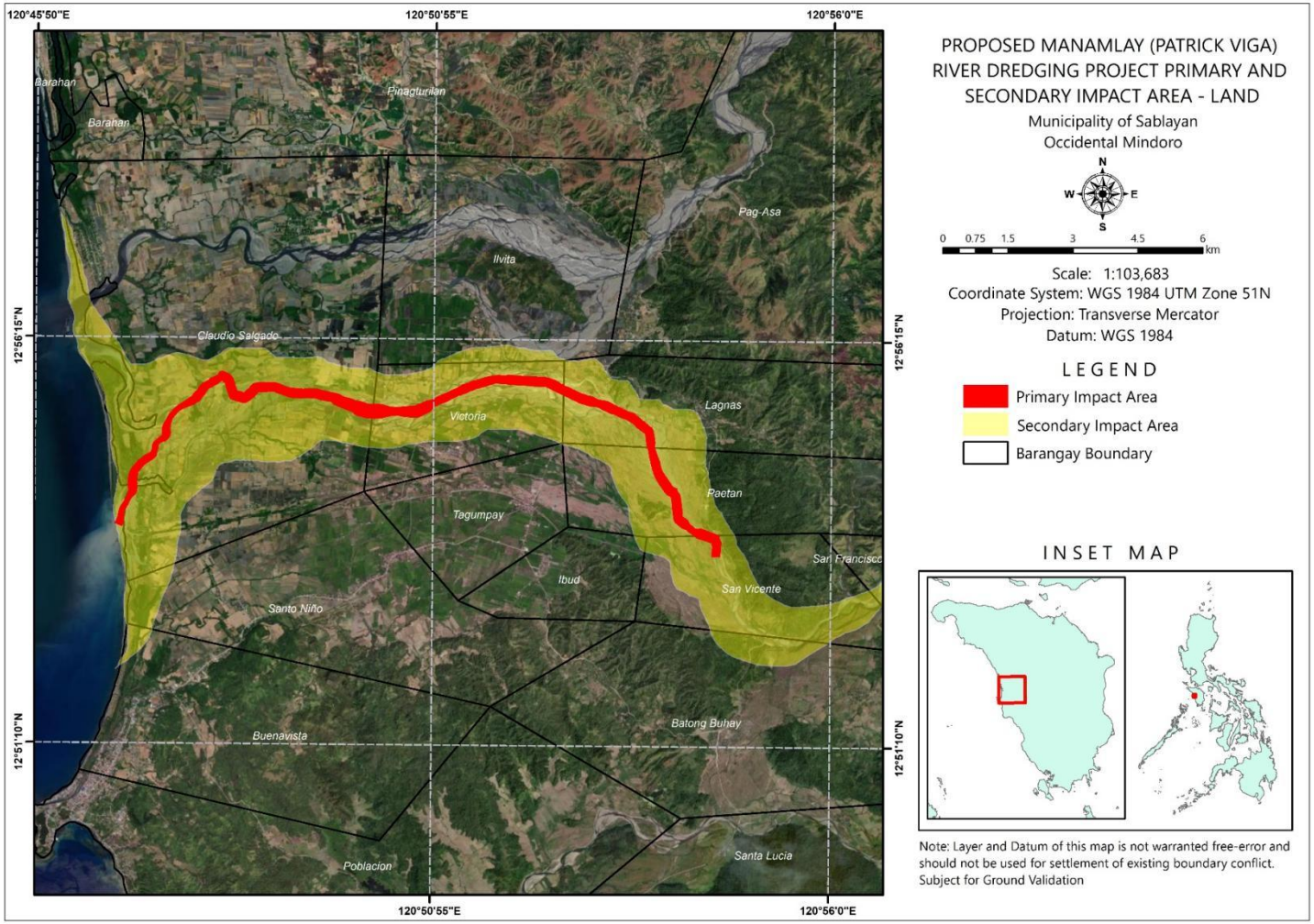

Figure PD-7. Map of Impact Areas – LAND

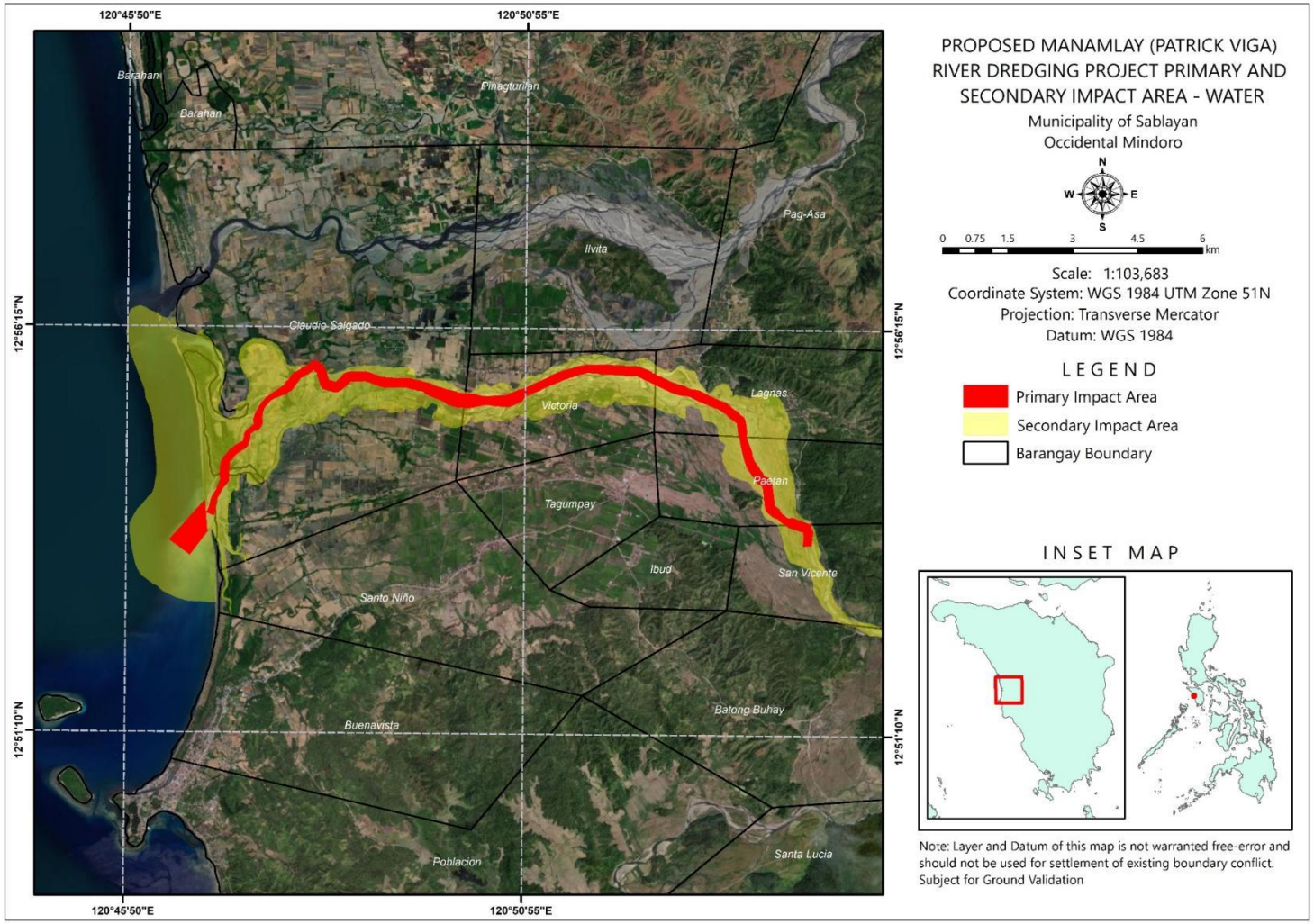

Figure PD-8. Map of Impact Areas – WATER

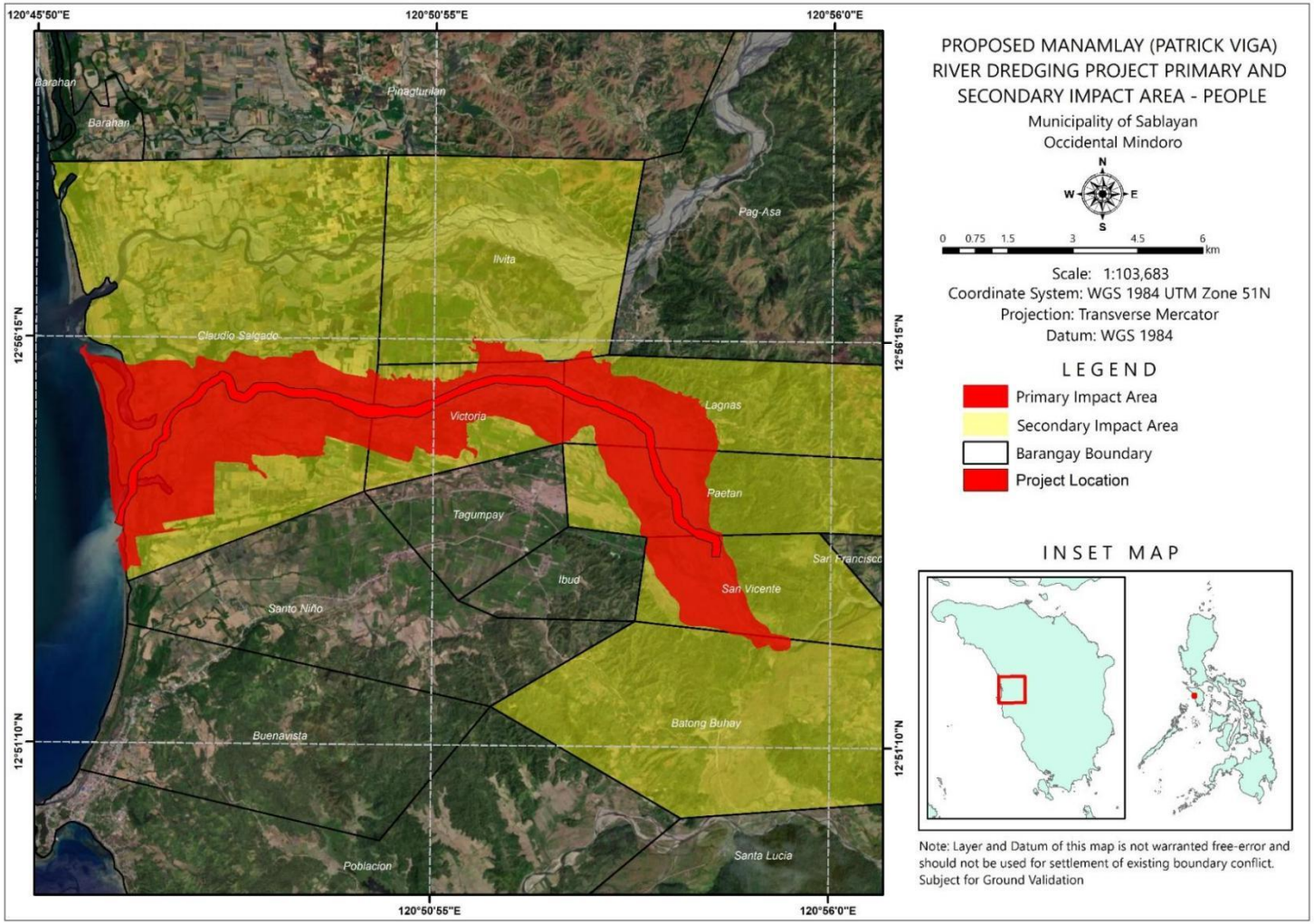

Figure PD-9. Map of Impact Areas – PEOPLE

3.0 PROJECT RATIONALE

This Project is in line with the government's efforts to mitigate flood risks in the province of Occidental Mindoro where river dredging was identified as a safety measure that can reduce water levels in flooding events.

The removal of the accumulated silt, sand and gravel from the riverbed will enable faster drainage of water from Patrick-Viga (Manamlay) River. The Project will also enable the accumulation and detention of storm drainage at the river mouth when the storm coincides with high tide, thus limiting flood expansion.

Flood control is a basic government service. With the issuance of the DPWH Department Order 139, the Government provides guidelines for private sector participation in the delivery of flood control services, similar to the principle of harnessing private sector participation in the provision and operation of important basic services such as water, road infrastructures, and telecommunications.

Private sector participation in the delivery of basic services will enable the government to utilize its limited resources for other development purposes, while providing an important basic service which impacts on public safety, agricultural productivity, avoidance of losses to the economy from damage to infrastructure and private property due to regular flooding.

4.0 PROJECT ALTERNATIVES

4.1 Consequences of Not Proceeding with the Project or the "No Project Scenario".

No Project Scenario means to allow siltation/sedimentation to accumulate until the riverbed is completely choked, for the flooding and destruction of agricultural crops to continue, and for the risks to life and property to continue.

Not pursuing this Project will prolong the agony and increase risks to life and property sustained yearly by the people of Brgys. Claudio Salgado, Tagumpay, Victoria, Lagnas, Paetan San Agustin and Pag-Asa and neighboring affected areas. The high volume of sediment transported from the watershed catchment of Patrick-Viga River to the sea will continue, the sediment accumulation in the riverbed will increase, and extreme rainfall volume in extreme Tropical Storms will become more frequent and Government expenditures for disaster preparedness, management, relief, rescue and repair of flood-damaged structures will increase. Expanse of damaged farm lands will increase. Doing nothing about the situation costs the Philippine Government and the residents, annually.

To do nothing is not a wise option when there are alternatives being offered at no obligation to the Government.

5.0 PROJECT COMPONENTS

The key components, with corresponding details are presented in **Table PD-5**.

Table PD-5. Project Components

Component	Description
Dredging zone/basin	18.650 line kilometers located downstream of Patrick Bridge to river mouth, totaling 180 hectares plus the 50.2266 hectare offshore areas
Buffer zone	10 meters minimum from the toe of existing river bank and 1km minimum from the existing bridge
Bridge protection measures	Ground sill geo-tube & armor rock bridge column protection and retaining walls at dredging basin
Transport of dredged materials	Thru barge
Cost recovery through sale of dredged materials	Subject to appropriate government regulations
Support facilities	sheet pile, stockpile area, office, camp, motor poo with oil

Component	Description
	lubricants storagel, etc.

Power Supply

The power supply for land-based equipment and the office camp will be sourced from existing power service provider (Occidental Mindoro Electric Cooperative, Inc – OMECO) while the dredging vessel shall have its own power generating unit.

Fuel / Diesel Oil Requirement

The estimated diesel/oil requirement that will be needed to fuel the dredging equipment, accessories and other equipment is around 1,150 liters per day or 29,900 liters per month.

Fuel, oil and lubricants shall be supplied either by a local fuel station or private oil company and contained in DOE-MARINA approved containers and on-board dispensers. The containers will be regularly brought onboard the dredgers through the cargo barge. The dispensing mechanism shall be required to have a latch-on mechanism with the recipient fuel tank before these release petroleum fuel. The barge and dredger crew will be given by the Proponent updated orientation of petroleum fuel management (likewise waste management, safety and disaster response) protocols and these will form part of the Dredging Contractors' Health, Safety and Environmental Management Plan.

Water Supply

The dredging activity is not a water intensive activity.

The water requirement of the dredger and anchor barge will be transported in appropriate containers filled from permitted local sources and brought on-board by barge.

Water requirements of the crew are expected to be for normal human physical cleaning, drinking and cooking.

For land-based personnel and operations, the domestic water supply shall come from the existing free-flowing deep well in Brgy. Claudio Salgado, to be coordinated with the barangay officials.

The drinking water needs of the crew, both onboard and on land shall be the purified water contained in 5-gallon canisters to be purchased from local suppliers.

6.0 PROCESS TECHNOLOGY

The dredging operation will involve simple, straightforward dredging and haul out of dredged materials. This process will be repetitive until the desired river bed elevation based on the Dredging Master Plan is attained. It is important to mention that dredging in itself is a mitigating process to address the perennial and increasing flooding problem in Patrick-Viga River.

The dredging process will be implemented using heavy equipment such as a cutter suction dredger to initially break up a small channel at the river mouth to the silting / catchment basin, and to remove the deposits at the dredging channel in and the river mouth.

Going upstream to non-navigable portions, the backhoe-truck tandem shall be used in dredging.

The cargo barge hauls the dredged material to the designated and permitted disposal site/s.

7.0 PROJECT SIZE

The proposed Project is approximately 18.65 line km, 180 hectares for the river and 50.2266 hectares for the offshore areas to cover the navigational lane. The estimated volume of materials that need to be removed for Patrick-Viga River to handle a storm with fifty-year average return interval without overbanking / flooding is at least 6.75 Million cubic meters or 7.2 Million tons for the river and 4.9 Million cubic meters or 7.84 Million tons for the navigational zone. (at 2.4 specific gravity for sand and gravel) and approximate rate of dredging is estimated to be 5 Million cubic meters/year.

8.0 DEVELOPMENT PLAN, DESCRIPTION OF PROJECT PHASES AND CORRESPONDING TIMEFRAMES

8.1 Planning / Pre - Operation / Preparation Phase

Project planning, Pre-operation and Preparation phase will include the following activities, which are not expected to generate adverse environmental impacts. Project Preparation Phase will resume as soon as the Project Dredging Permit is approved.

1. Information, Education and Communication Activities
2. Securing agreements with other permit holders in the area, as necessary
3. Other Government Permitting and Clearance Requirements such as the LGU
4. Detailed Operations Planning
5. Detailed Safety Procedure Planning for Dredger and Anchor Boat
6. Detailed Contractor's Environmental Management Plan preparation.

The Project preparation phase may last from one (1) to three (3) months due to the numerous players involved.

8.2 Project Operation Phase

The Project implementation / operation activities are as follows:

1. Cutter Suction Dredger will open up the shoreline entry channel.
2. Cutter Suction Dredger will break-up and dredge from settling / catchment basin (maintain 120m x120m x 4m operating area to provide provision for natural repose of materials at edges of basin).
3. Lay the geo-tube retaining walls for the silting / catchment basin in appropriate locations under the supervision of the Project Manager, to be undertaken in the dry season. A suitable mounted small crane will be needed to lay the geo-tube retaining walls. The geo-tube suppliers also provide engineers to oversee the installation. Necessary hoisting equipment is provided by the Proponent.
4. The pilot channel is dredged by an amphibious dredger and the backhoe/truck tandem according to the approved dredging plan. Dredged materials are piped by hydraulic means and/or trucks to the stockpile near the shoreline.
5. Repetitive removal of sediments overburden by dredger, conveyance of dredged materials to stockpile area and then to haul barges by hydraulic means and/or trucks, and haul out of dredged material by cargo barge to designated disposal site. The repetition continues until desired river bed elevation is attained.
6. The designated dredged material stockpile area shall have adequate facilities to handle the volume of materials without causing negative environmental effects.
7. The sediment volume to be dredged by the Project will only be limited to what is available in the pilot channel and the silting / catchment basin, which have to be maintained according to the approved design.
8. Bridge columns and flood control dike footings will be regularly fully reinforced with armor rock cover to protect against scouring forces as early as downward movement of river bed expose

the substructures. Lowering of river bed is expected as it is how Patrick-Viga River will regain /attain flood handling capacity for a 50-year flood.

9. As necessary, the Proponent may organize additional dredging teams to maintain the dredging areas as per specified dimensions, to facilitate continuous flow and removal of the obstructing materials.

The Operation Phase is expected to last at least five (5) years at an average annual extraction rate of 5M cubic meters (1) due to the volume of silt that need to be removed to restore the flood carrying capacity of Patrick-Viga River and (2) to consider the extraction of other private sector partners in flood control.

8.3 Project Decommissioning and Abandonment

The following conditions will be met by the Project to enable it to safely relinquish the area and be released from accountability for the Project site:

- The unobstructed and efficient surface flow in Patrick-Viga River is observed, the riverbed elevation enables it to handle a storm with longer term return period such as a 50-year ARI storm as approved by the DPWH.
- A buffer of at least 10 meters minimum at both banks of Patrick-Viga River is maintained.
- All Project structures, equipment and the geo-tube retaining walls are removed from the Project site
- All social commitments made by the Proponent, if any, have been fulfilled.
- The Project office site shall have been cleared of debris and hazardous materials;
- No complaint on damage to property against the Proponent remains unresolved.

9.0 MANPOWER REQUIREMENT

The project will be requiring a total manpower of 44 as presented in the table below.

The Company will hire technical and skilled workers for dredging operations. Nonetheless, the company will prioritize hiring of local residents in its operation. It will ensure that the requirements of the Labor Code of the Philippines will be met in determining the compensation and workplace concerns including wages, benefits and workplace health and safety.

Table PD-6. Manpower Requirement

Position	Total
Project Manager	1
Operations Engineer (Mining Engineer)	1
Motor pool/ Maintenance Supervisor	1
Accounting & Admin Officer	2
Safety Officer	1
PCO	1
Operators – Excavator & Loader	3
Equipment Operator - Dredger	4
Dredge Master	1
1st Officer	1
2nd Officer	1
Foreman (Dredge-man, Docking/ Rigging, Onshore Operations)	1
DT Driver	10
Checker	1
Warehouse & Inventory Man	1
Mechanic	3
Tireman/ Lubeman	1
Auto Electrician	1
Helper/ Fuel tender	1

Position	Total
Data Encoder	1
Service Driver	1
Cook	2
Security Guards	2
Envi Laborers	2
Total	**44**

10.0 INDICATIVE PROJECT INVESTMENT COST

The estimated project investment cost is **PhP 703,704,527 (estimate)**

11.0 IMPLEMENTATION SCHEDULE

Project Phases	Year																											
	1				2				3				4				5				6				7			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Planning/ Pre-operations																												
Operation																												
Decommissioning																												

12.0 PHOTOS OF THE PROJECT SITE


PERRC
19.01.2023 11:25
12.90056, 120.78486
Claudio Salgado, Sablayan

Table PD-7. PRELIMINARY IDENTIFIED ENVIRONMENTAL ASPECTS FOR EACH ALTERNATIVE

Project Activity which will likely Impact the Environmental Component	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Responsible Entity
PRE-CONSTRUCTION PHASE				
• **Staking of Dredging Limits & Location of geo-tubes / protection measures**	LAND	None expected	Not Applicable	
	WATER	Slight resuspension of suspended solids due to ground staking	None necessary	
	AIR	None expected	Not Applicable	
	PEOPLE	• Perceived conflict with other sand and gravel interest in Patrick-Viga River • Fears and apprehensions of the people regarding project environmental impacts • Potential displacement of workers expecting employment in other sand and gravel quarry projects along Patrick-Viga River.	Conduct of community-based IEC to discuss project activities, impacts, co-existing with other sand and gravel quarry interests mitigating measures employment opportunities and areas set aside for small scale.	PERRC
OPERATIONS PHASE				
Construction of support facilities; like site office;	LAND	Bank erosion	• Easement of at least 10 meters minimum between bank and dredging operations	PERRC
		Waste management	All operating units to have respective waste management facilities (segregated garbage, waste water receptacles, all subject to proper disposal.	PERRC
	WATER	Change in river hydrology	Maintain a central pilot channel to guide stream flow	PERRC
		Pollution of marine waters	• Confine dredging to a basin with barrier to the sea • Allow accumulated sediments to rebuild the equipment entrance channel to lower Patrick-Viga River	PERRC
		Oil spills from dredging and hauling equipment	• Regular equipment maintenance outside of river channel • Refueling by appropriate dispensers (latch-lock between dispenser and receiving fuel tank) • Prepare belt oil skimmer for oil spill emergency	PERRC
		Contamination from equipment and human	• Provision of portalet in water- operating vessels	PERRC

Project Activity which will likely Impact the Environmental Component	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Responsible Entity
		waste water	• Prevention of disposal of un-or improperly treated wastewater to water environment	
		Increase turbidity in dredging areas	• Dredging basin serves as settling pond	PERRC
	AIR	Greenhouse gas emissions and particulates from operating equipment and transport vehicles	• Install catalytic converters for SOx & NOx and particulate filters to operating equipment including genset • Opt for solar -powered equipment for site office	PERRC
		Increase in noise	• Choose less noisy equipment or cover noisy equipment with suitable noise reducing sheets	PERRC
	PEOPLE	Conflict with other interest in sand and gravel quarry	• Quarterly meetings to communicate and resolve conflicts	PERRC
		Solid and liquid waste management issues	Solid waste management and provision of sanitary facilities.	PERRC
		Equipment and personnel safety during rainy season	• Use amphibious dredger, define quick shelter route in event of strong rain • Set up barometer and anemometer at site, provide trained person to monitor weather and all-weather communication equipment with all operators. • Provide training for adaptation of working procedures and protocol under all weather conditions	PERRC
		Generation of employment	Able and trainable local residents will be given first priority in hiring, posting of notice at LGU	PERRC
		Increase in population due to employment opportunities	Hiring of non-residents will be limited to highly skilled, trained or confidential staff	PERRC
		Occupational safety and public health	• Occupational safety, health and work environmental management orientation will be conducted with emphasis on environmental compliance. • Workers will be required to do Protective Personal Equipment while at work. • Warning and safety signs will be provided where needed	PERRC
		Fair wages and laborers benefit	Project will provide employees' wages and benefits as prescribed by law	PERRC

Project Activity which will likely Impact the Environmental Component	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Responsible Entity
DECOMMISIONING AND ABANDONMENT PHASE				
Removal / dismantling of equipment and infrastructures	LAND	Possible stockpiling of waste materials at riverbanks	All waste materials will be hauled out by hauling company	PERRC
	WATER	Increase in turbidity due to sediment resuspension	Maintain sediment barrier until sediment transport is below the limit for Class C /	PERRC
		Possible spillages of oil lubricants, waste water	All waste fluids will be hauled out through accredited 3rd party hazardous waste treater	PERRC
	AIR	Greenhouse Gas particulate emissions from operating equipment	Provide catalytic converters and particulate filters for petroleum-fueled equipment	PERRC
	PEOPLE	Safety issue aesthetic / visual impact	• All equipment will be hauled out Area will be tested for and must attain environmental compliance (air quality, water quality, absence of hazardous materials and unsafe formations) • Dredging basin will be replenished by natural sediment transport; river surface flow will be restored • Area will be left clear of all structures. Beach side will be levelled for aesthetic view	PERRC
		Possible health and safety issues regarding handling of hazardous materials	• Personnel will be trained in handling used oil; • Use of PPE will be mandatory. • a 3rd party treater will be contracted to haul out and treat all hazardous materials (used oil, spent batteries, busted light bulbs).	PERRC
		Unemployment	• Agreement with LGU on the use of local mineral excise tax for livelihood development; • Participatory planning for livelihood projects to start self-sustaining livelihood preparation and implementation in due course.	CSR