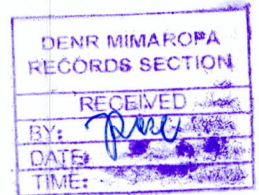


June 14, 2023



LORMELYN E. CALUDIO
Regional Executive Director
DENR MIMAROPA Region

THROUGH: FELIZARDO B. CAYATOC

Provincial Environment and Natural Resources Officer
Sta. Monica, Puerto Princesa City, Palawan

PEDRO A. VELASCO

Community Environment and Natural Resources Officer
Sta. Monica, Puerto Princesa City, Palawan

Ma'am;

Good Day!

Yurich Builders and Construction Supply has been awarded of a project for the City of Puerto Princesa thru DPWH- Region 4-B entitled "Construction of Rizal Avenue Extension Boardwalk located at Barangay Banca-Banca, Puerto Princesa City, Palawan". This is a 600 meters Boardwalk channeling from end of the existing pavement of Rizal Avenue Extension going to the scenic view of Puerto Princesa Bay.


However, during the conduct of survey and as-staking, there is a portion of at least around 10 meters of mangrove area where the boardwalk parking area is to be constructed. As per initial count, there are Thirty-Four (34) Mangrove trees that might be affected of the project development.

The proponent barangay, DPWH-Region 4B and the 3rd District wish to continue with the boardwalk construction as this may promote tourism in the area.

With this, may we request a clearance from your good Office or seek legal advice on how to go about with the mangrove portion in the area where the boardwalk is to be constructed, given the Presidential Proclamation 2152.

Attached is the plan for the boardwalk project and pictures of the mangrove area that may be affected.

Respectfully yours,


BERNARDO B. GO JR.
Owner/ Proprietor
Yurich Builders and Construction Supply



BUILDERS & CONSTRUCTION SUPPLY
Calamansi Street, Bgry. San Jose, Pto Princesa City, Palawan
Email: yurichbuilders2008@gmail.com / Contact #: 09989977967

TRANSMITTAL

June 20, 2023

NO.	PROJECT	CONTRACTOR	TYPE OF DOCS	REMARKS	NOTE
1	BAC INFRA 2023-06-16 - Concreting/Completion of Bukang Liwayway HOA Road with	YURICH BUILDERS AND CONSTRUCTION SUPPLY	REQUEST LETTER FOR CLEARANCE (BOARDWALK BRGY. BANCAO-BANCAO, PPC)		
2	Drainage System, Barangay Bancao-		ANNEX A		
3	Bancao, Puerto		ANNEX B		
4	Princesa City		ANNEX C		

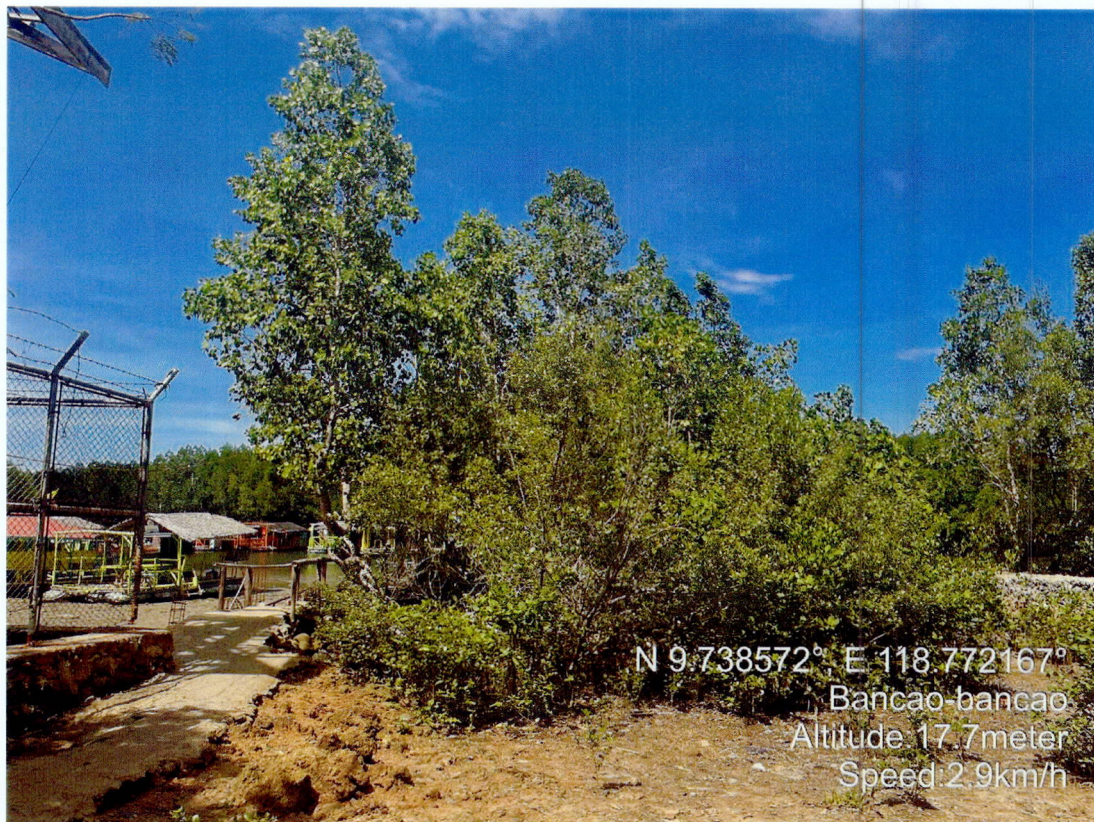
PREPARED BY :

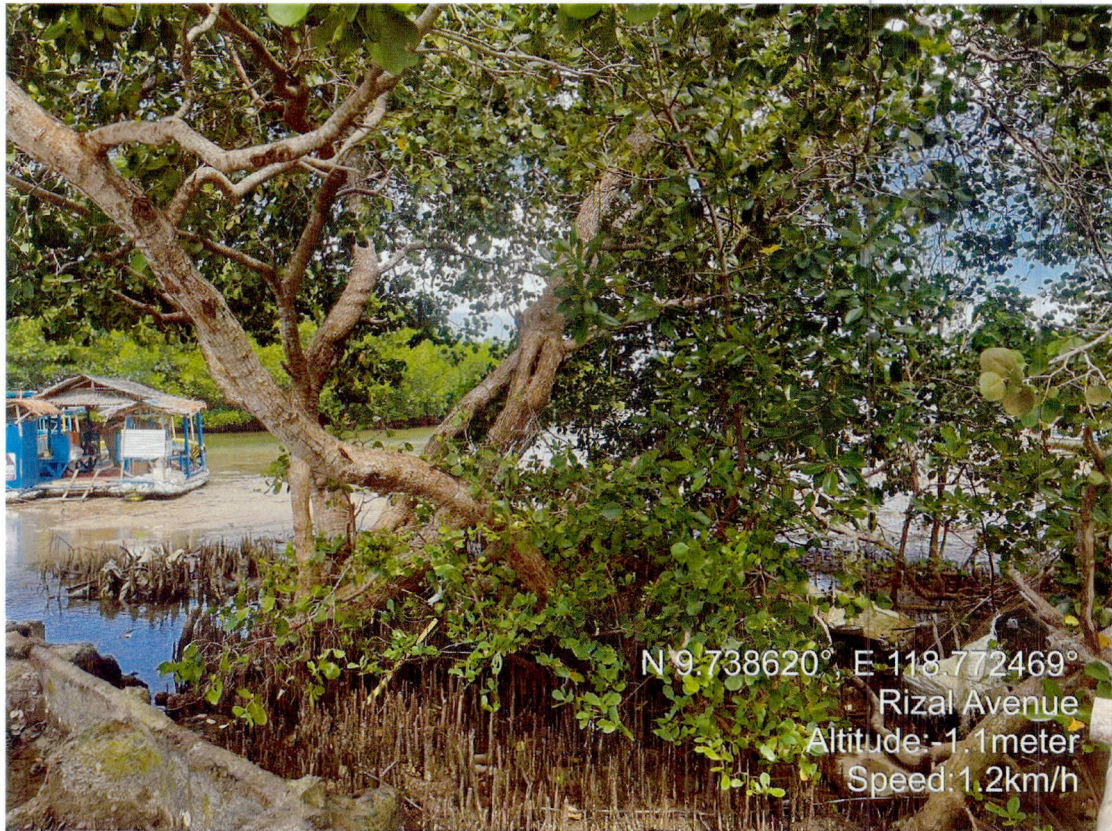

VICTORINA BADILLA

RECEIVED BY :

ANNEX A
Mangrove Area



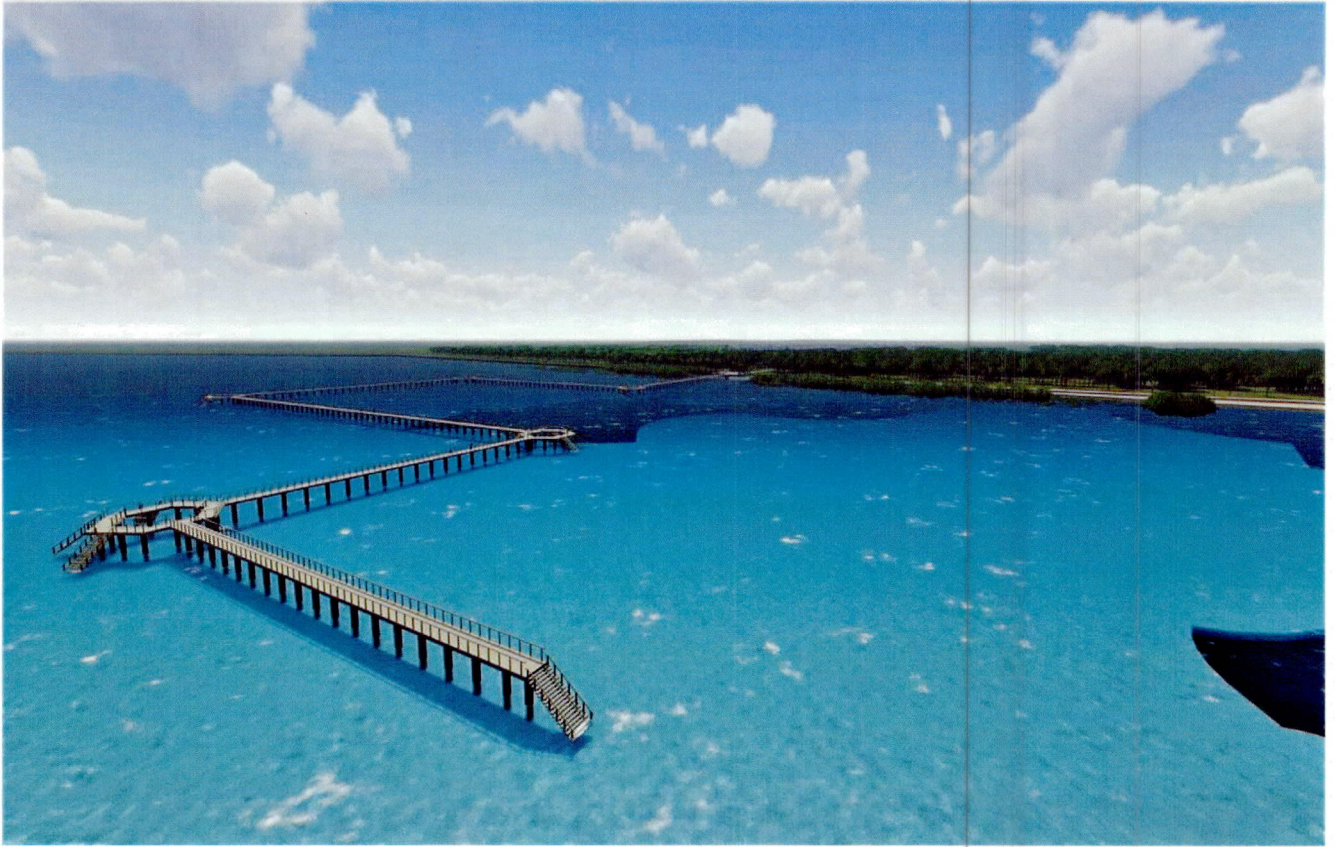




N 9.738620° E 118.772469°
Rizal Avenue
Altitude: -1.1meter
Speed: 1.2km/h

ANNEX B
PERSPECTIVE







REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE IV - B, MIMAROPA
EDSA, Diliman, QUEZON CITY

C.Y. 2023 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR THE
CONVERGE AND SPECIAL SUPPORT PROGRAM
SUSTAINABLE INFRASTRUCTURE PROJECTS ALLEVIATING GAPS (SIPAG)
ACCESS ROADS AND/OR BRIDGES FROM THE NATIONAL ROAD/S LEADING TO
MAJOR/STRATEGIC PUBLIC BUILDINGS/ FACILITIES
**CONSTRUCTION OF RIZAL AVENUE EXTENSION BOARDWALK BARANGAY
BANCAO-BANCAO, PUERTO PRINCESA CITY, PALAWAN**
PUERTO PRINCESA CITY, PALAWAN

STA. 00+000.00 - STA. 00+600.00
PROJECT LENGTH: 600.00 L.M.
PROJECT ID: P00736310LZ

SUBMITTED :

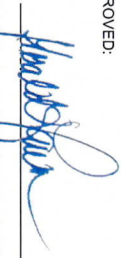
GENE RYAN A. ALTEA
CHIEF, PLANNING AND DESIGN DIVISION

DATE:

RECOMMENDED :

MELQUIADES H. STO. DOMINGO
ASSISTANT REGIONAL DIRECTOR


DATE:

APPROVED:

GERALD A. PACANAN, CESO III
REGIONAL DIRECTOR

DATE:

INDEX OF SHEET


SHEET CONTENT	SET NUMBER	SHEET NUMBER
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COVER SHEET/TITLE SHEET		
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TYPICAL DETAILS (2/6)	08	08
TYPICAL DETAILS (3/6)	09	09
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TYPICAL DETAILS (5/6)	11	11
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 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IV-B OFFICE OF THE REGIONAL DIRECTOR EDSA, CALABAN, CALABAN CITY	PROJECT NAME AND LOCATION: DETAILED ENGINEERING DESIGN PLAN FOR THE BATHNALLA RIVER INFRASTRUCTURE AND ACCESS ALTERNATIVE (BIRAO) ACCESS ALTERNATIVE, BATHNALLA RIVER INFRASTRUCTURE AND ACCESS ALTERNATIVE (BIRAO) CONSTRUCTION OF BATHNALLA RIVER INFRASTRUCTURE AND ACCESS ALTERNATIVE (BIRAO) BATHNALLA RIVER INFRASTRUCTURE AND ACCESS ALTERNATIVE (BIRAO) BATHNALLA RIVER INFRASTRUCTURE AND ACCESS ALTERNATIVE (BIRAO)	SHEET CONTENTS: INDEX OF SHEET	DATE: 10/10/2023 PREPARED: CHRISTIAN JADE A. BEATO ENGINEER (CDS) CHECKED: GLENN J. JOLENAR ENGINEER	REVIEWED: CALVIN D. CADATA ENGINEER	SUBMITTED: GENE RYAN A. ALTEA CHIEF, PLANNING AND DESIGN DIVISION	RECOMMENDED: MELQUIADES H. SITO DOMINGO ASSISTANT REGIONAL DIRECTOR	APPROVED: GERALD A. PANGANAN, CESO III REGIONAL DIRECTOR	SET NO. 01 12	SHEET NO. 01 14
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SUMMARY OF QUANTITIES

Item	Description	QUANTITY		REMARKS
		Qty	Unit	
Part A	A. 11 Field Office/Storage Facility			
A. 1(6)	Provision of Combined Field Office, Laboratory and Living Quarters Building for the Engineer (Rental Basis)	2.00	mos.	
A. 1(7)	Provision of Furniture/Fixture, Equipment and Appliances for Field Office for the Engineer	100	ls.	
A. 1(4)	Provision of the Laboratory Testing Equipment, Apparatus and Publications for the Engineer	100	ls.	
A. 1(5)	Operation and Maintenance of Temporary Field Office, Laboratory and Living Quarters Building for the Engineer	2.00	mos.	
A. 1(4)	Provision of 4x2 Pick-up Type Service Vehicle for the Engineer on Bare Rental Basis	2.00	mos.	
A. 1(6)	Operation and Maintenance of 4x2 Pick Up Type Service Vehicle for the Engineers	2.00	mos.	
A. 1(3)	Provision of Survey Personnel for the Assistance to the Engineer	2.00	mos.	
A. 1(4)	Provision of Progress Photographs	600.00	ea.	
Part B	OTHER GENERAL REQUIREMENTS			
B.2	Medical Room and First Aid Facilities	100	ls.	
B.5	Project Billboard/Signboard	2.00	ea.	
B.7(2)	Occupational Safety and Health Program	100	ls.	
B.9	Mobilization and Demobilization	100	ls.	
B.5(1)	Detour/Access Road	100	ls.	
Part C	EARTHWORKS			
D4(2)a	Embankment from Borrow	2,632.35	cum.	
Part D	SUBBASE COURSE			
200(7)	Aggregate Subbase Course	700.00	cum.	
Part G				
505(2)a	Grouted Riprap, Class A	336.90	cum.	
Part J	Flood Control and Drainage Part I-A Earthworks			
T02(1)a	Structure Excavation	5,111.97	cum.	
T02(5)a	Shoring, Cribbing and Related Works, Cribbing/Cofferdam	100	ls.	
T05(7)	Fill and Backfill	3,840.54	cum.	

Item		Description	QUANTITY		
			Qty	Unit	REMARKS
Part I-B		Bank and Slope Protection Works			
506(f)	Stone Masonry		2,44.00	cum.	
508	Handdied Rock Embankment		5,285.88	cum.	
Part III		Civil, Mechanical, Electrical and Sanitary/Plumbing Works			
900 (b2)	Structural Concrete Class "A" (Footing & lean Concrete)		502.08	cum.	
900 (b4)	Structural Concrete Class "A" (column)		27,135	cum.	
900 (b5)	Structural Concrete Class "A" (Slab, Parapet & Stairs)		662.79	cum.	
900 (b6)	Structural Concrete "A" (Beam)		123.94	cum.	
902 (1a)	Reinforcing Steelbar (Deformed) Grade 40		21,662.51	Kg.	
903(2)	Forms and Falseworks		9,674.25	cum.	
Part C		Finishings and Other Civil Works			
778(6)a	Sheet Piles, Fumished		2,025.00	lm.	
778(12)	Sheet Piles, Driven		19,93.00	lm.	
778(8)	Geotextile		36.00	bags	
7024 (c)		Floor Finishs with floor Hardener	3,989.38	sq.m.	
7027(f)	Cement plaster finish		8,544.69	sq.m.	
7032 (9a)	Painting Works, Masonry/Concrete		8,334.79	sq.m.	
705 (6)	Railings		2,663.48	lm	
624(6)	Solar LED Street Light (Integrated Street Light)		244.00	ea.	

 <p>OFFICE OF THE REGIONAL DIRECTOR REGION I BAGUIO, LAOAG, CAGAYAN</p>	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IAB</p>	<p>PROJECT NAME AND LOCATION: DETAILED ENGINEERING DESIGN PLAN FOR THE CONSTRUCTION OF THE 1.5 KM (0.93 MI) ROAD ACCESS ROAD AND/OR BRIDGE FROM THE MAINTENANCE ROAD TO THE PROJECT SITE CONSTRUCTION OF REAL ESTATE DEVELOPMENT, SAMPAGUAY SUBDIVISION, BANGAL, LAOAG CITY, ILOCOS NORTHERN IN BANGAL, BANGAL CITY, ILOCOS NORTHERN</p>	<p>SHEET CONTENTS: SUMMARY OF QUANTITIES</p>	<p>DRAFTED: CHRISTIAN JAY A. BEATO ENGINEER (CIVIL) PREPARED: GLENNIE M. JOSE ENGINEER</p>	<p>REVIEWED: CALVIN D. CADATAL ENGINEER II</p>	<p>SUBMITTED: GENE RYAN A. ALTEA CHIEF PLANNING AND DESIGN DIVISION</p>	<p>RECOMMENDED: MELQUIADES H. STO. DOMINGO ASSISTANT REGIONAL DIRECTOR</p>	<p>APPROVED: GERALD A. PANGAN, CESO III REGIONAL DIRECTOR</p>	<p>SET NO. 03 14</p>	<p>SHEET NO. 03 14</p>
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GENERAL NOTES

DRAINAGE PIPE / WEEP HOLE

DRAINAGE PIPES/WEEP HOLES SHOULD BE DESIGNED AND PROVIDED FOR BOTH TYPES OF RETEMENT FOR DINED AND NON-DINED RIVERS. DURING FLOOD TIMES, THE RISE OF FLOOD WATER LEVEL IN THE RIVER IS ALMOST COINCIDING WITH THE RISE OF GROUNDWATER BEHIND THE RETEMENT ESPECIALLY WHEN THE GROUND HAS BEEN ALREADY SATURATED AFTER THE FLOODS. THE RATE OF SUBSIDENCE OF FLOODWATER IN THE RIVER IS USUALLY GREATER THAN THE RECESSON OF GROUNDWATER LEVEL BEHIND THE RETEMENT WITHOUT DRAINAGE PIPES/WEEP HOLES. IF THE DISPARITY BETWEEN THE SUBSIDING FLOODWATER AND GROUNDWATER STAGES IS SIGNIFICANTLY HIGH, RESIDUAL HYDRAULIC PRESSURE EXISTS AT BACK OF THE RETEMENT WHICH MIGHT BECOME HIGHER (FIGURE 2.6). WEEP HOLES SHOULD BE PROVIDED IN THE RETEMENT USING 50-75 MM DIAMETER PVC DRAINPIPES, STAGGEREDLY PLACED IN THE HORIZONTAL DIRECTION AND SPACED 2 METERS CENTER TO CENTER. ONE OF THE MAIN CAUSES OF CAVING IN OF SOIL PARTICLES BEHIND THE RETEMENT IS THE FLOWING OUT OF FINE BACKFILL MATERIALS THROUGH THE JOINTS OF RETEMENT AND WEEP HOLES. THIS PHENOMENON LEADS TO THE COLLAPSE OF THE RETEMENT IN ORDER TO PREVENT THE OUTFLOW OF THESE FINE MATERIALS. MOREOVER, PERVIOUS MATERIALS CONSISTING OF CRUSHED GRAVEL OR GEO-TEXTILE IS PLACED BETWEEN THE RETEMENT AND ORIGINAL GROUND TO PREVENT THE OUTFLOW OF THE BANK MATERIALS THROUGH THE WEEP HOLES. THE LOWEST WEEP HOLES SHALL BE INSTALLED JUST ABOVE THE ORDINARY WATER LEVEL.

STRENGTHENING UPPER AND LOWER ENDS

GENERALLY, THE END POINTS OF RETEMENT ARE ALWAYS SUBJECTED TO EXTERNAL FORCES, WHICH MAKE THESE PORTIONS OF THE STRUCTURE BECOME WEAK AND PRONE TO DAMAGE OR POSSIBLE COLLAPSE. IN CONSTRUCTING A PIECE-MEAL PROJECT, TEMPORARY PROTECTION WORKS (E.G., BOULDER AND GABION) SHALL BE PROVIDED. THE END PROTECTION WORK IS INDISPENSABLE TO THE RIGID STRUCTURE TYPE RETEMENTS. THE END PROTECTION SHALL COVER THE EXTENT OF THE COVERING WORK AND CREST WORK. THE THICKNESS OF THE END PROTECTION WORK SHALL BE FROM THE SURFACE OF RETEMENT UP TO THE BACKFILL MATERIAL. THE THICKNESS OF THE END PROTECTION SHALL BE MORE THAN 50 CM.

B. MATERIALS SPECIFICATION & CONST. METHODS

1. STONE MASONRY

DESCRIPTION

THIS ITEM SHALL CONSIST OF STONE MASONRY IN MINOR STRUCTURES, IN HEADWALLS FOR CULVERTS, IN RETAINING WALLS AT THE TOES OF SLOPES, AND AT OTHER PLACES CALLED FOR ON THE PLANS. CONSTRUCTED ON THE PREPARED FOUNDATION BED, IN ACCORDANCE WITH THIS SPECIFICATION AND IN CONFORMITY WITH THE LINES, GRADES, SECTIONS, AND DIMENSIONS SHOWN ON THE PLANS OR AS ORDERED IN WRITING BY THE ENGINEER. ALL WORKS SHALL COMPLY WITH ITEM 506 OF THE STANDARD SPECIFICATION FOR HIGHWAYS, BRIDGES AND AIRPORTS 2013 EDITION.

2. SHEET PILES

THIS SHALL CONSIST OF FURNISHING, DRIVING AND CUTTING OFF OF SHEET PILING COVERED BY THE 2013 STANDARD SPECIFICATION FOR HIGHWAYS, BRIDGES AND AIRPORTS.

STEEL SHEET PILES

STEEL SHEET PILES SHALL BE THE TYPE, WEIGHT AND SECTION MODULUS INDICATED ON THE PLANS OR SPECIAL PROVISIONS, AND SHALL CONFORM TO THE REQUIREMENT OF ITEM 400, PILING, SUBSECTION 400.2.7, SHEET PILES. PAINTING SHALL CONFORM TO THE REQUIREMENTS FOR ITEM 411, PAINT, SUBSECTION 411.3.6.2, PAINTING STRUCTURAL STEEL.

3. CONCRETE

ALL CONCRETE MIXTURE SHALL BE CLASS "A" (124 MIX) FOR R.C. RETEMENT

NOTE:

THE CEMENT CONTENT OF THE DESIGN MIX SHALL BE ADJUSTED IN ACCORDANCE WITH THE AASHTO PROVISIONS WHEN CONCRETING UNDER WATER TO COMPENSATE FOR THE LOSS OF STRENGTH DUE TO WATER INFILTRATION.

4. REINFORCING STEEL

REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 40 AND 60, DEFORMED WITH MINIMUM YIELD STRENGTH AS DESCRIBED BELOW:

REBAR GRADE	YIELD STRENGTH fy (MPa)	SIZE (mm)
40	276 (40 Ksi)	16mmØ & BELOW, UNLESS OTHERWISE NOTED
60	414 (60 Ksi)	20mmØ & ABOVE

- (b) REINFORCING STEEL SHALL BE FREE OF MILL SCALES, OIL OR ANY SUBSTANCES WHICH WILL WEAKEN THE BOND WITH CONCRETE.
- (c) REINFORCING STEEL SHALL BE WELDABLE TYPE. WELDING REINFORCING STEEL SHALL CONFORM TO ANSI/ AWS D1.4.

5. BEDDING/ GRAVEL LAYER

STONES SHOULD BE WELL BLENDED. THE STONES WITH THE LARGEST DIMENSION, GRATER THAN THREE TIMES THE LEAST DIMENSION SHOULD NOT CONSTITUTE MORE THAN 10 PERCENT OF THE TOTAL.

MATERIALS SHOULD BE INERT TO CHEMICAL AND BIOLOGICAL DEGRADATION IN SEA WATER.

GRADATION REQUIREMENTS OF THE BEDDING LAYER OF FILTER BLANKET SHALL BE 015 (FILTER) 5.065 (FOUNDATION); I.E., THE DIAMETER EXCEEDED BY THE COARSEST 86 PERCENT OF THE FILTER MATERIAL MUST BE LESS THAN OR EQUAL TO FIVE TIMES THE DIAMETER EXCEEDED BY THE COARSEST 15 PERCENT OF THE FOUNDATION MATERIAL. QUARRY SPALLS RANGING IN SIZE FROM 0.45 KG TO 23 KG WILL GENERALLY SUFFICE IF THE BEDDING LAYER IS PLACED ON A FILTER CLOTH OR A COARSE GRAVEL (OR CRUSHED STONE). FILTER LAYER WHICH MEETS THE STATED FILTER DESIGN CRITERIA.

THE FOLLOWING STANDARD TESTS SHALL BE CONDUCTED TO ESTABLISH MATERIAL DURABILITY:

ABRASION TEST
TOUGHNESS TEST
HARDNESS TEST
APPARENT SPECIFIC GRAVITY AND ABSORPTION TEST

ASTM C-536 OR EQUIVALENT
ASTM C-170 OR EQUIVALENT
ASTM C-238 OR EQUIVALENT
ASTM C-127 OR EQUIVALENT

6. GEOTEXTILE


GEOTEXTILES SHALL BE WOVEN AND/OR NONWOVEN FABRIC AS SPECIFIED IN THE DRAWINGS SPECIALLY ENGINEERED TO PROVIDE EXCELLENT ROBUSTNESS, UV PROTECTION AND DURABILITY IN MARINE AND HYDRAULIC CONDITION (SEE DRAWINGS AND SPECIFICATIONS). THE GEOTEXTILES TO BE USED SHALL HAVE HIGH MODULUS AND EXTREMELY HIGH STRENGTH AT LOW STRAIN. IT MUST HAVE A GOOD WATER PERMEABILITY AND IS RESISTANT TO CHEMICAL AND BACTERIOLOGICAL ATTACK. PLACEMENT AND MATERIAL STRENGTH IS AS SPECIFIED IN THE SECTION DRAWINGS.

7. GEOTUBES

GEOTUBES TO BE USED SHALL BE MANUFACTURED FROM HIGH MODULUS POLYPROPYLENE ENGINEERED FABRICS COMBINED WITH HIGH CAPACITY BEAMS TO PRODUCE TUBULAR CONTAINERS WITH ENSURED INTEGRITY DURING FILLING AND DURING OPERATIONAL LIFE. THE TENSILE STRENGTH IS AS SPECIFIED ON THE SECTION DRAWINGS. GEOTUBES MANUFACTURED FROM POLYESTER FIBER SHALL NOT BE ACCEPTED. THE GEOTUBE SUPPLIER/ MANUFACTURER SHALL CERTIFY COMPLIANCE OF THESE REQUIREMENTS.

8. SAND FILL

THE SAND INFILL MATERIAL SHALL CONSIST OF NATURALLY OCCURRING OR PROCESSED MATERIAL WHICH AT THE TIME OF FILLING IS CAPABLE OF FIL-FILLING THE SPECIFIED REQUIREMENTS TO PROVIDE MASS AND INTEGRITY. THE FILL MATERIAL SHALL NOT CONTAIN MATERIALS SUSCEPTIBLE TO VOLUME CHANGE (I.E. MARINE MUD, SWELLING CLAYS AND COLLAPSIBLE SOILS), PEAT, VEGETATION, TIMBER, ORGANIC, SOLUBLE OR PERISHABLE MATERIAL, TOXIC, COMBUSTIBLE OR DANGEROUS MATERIAL, METAL, RUBBER OR OTHER UNSUITABLE MATERIAL.



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGION IV-A
OFFICE OF THE REGIONAL DIRECTOR
BIDON, DAVAO, CORDON CITY

PROJECT NAME AND LOCATION:
SARAWAK BOUNDARY ROAD (SARAWAK) THE
SARAWAK BOUNDARY ROAD PROJECT (SARAWAK)
ACCIDENTAL ROAD LANE TO
CONSTRUCTION OF ROAD AND BRIDGE (SARAWAK)
BRAND-ANCO, MARIPOSA, CORDON CITY, PALAWEAN
PUNTO PRINCIPAL CITY PALAWEAN

SHEET CONTENTS:
GENERAL NOTES (03)

DRAFTED:
CHRISTINA MADE A. BEATO
INVENTOR (03)
PREPARED:
GLENNIE M. POLEAR
ENGINEER (03)

REVIEWED:
CALVIN N. CADATAY
ENGINEER

SUBMITTED:
GENE RYAN A. ALTEA
CHIEF, PLANNING AND DESIGN DIVISION

RECOMMENDED:
MELQUIADES H. STO. DOMINGO
ASSISTANT REGIONAL DIRECTOR

APPROVED:
GERALD A. PANGANAN, CESO III
REGIONAL DIRECTOR

SET NO.
06 12

SHEET NO.
03 14

CODES AND REFERENCES

1. DPWH DESIGN GUIDELINES, CRITERIA AND STANDARDS (DGC9) - VOL. III, 2015 ED.
2. DPWH STANDARD SPECIFICATIONS FOR HIGHWAYS, BRIDGES AND AIRPORTS - VOL. II, 2013 ED.
3. DPWH STANDARD SPECIFICATIONS FOR PUBLIC WORKS STRUCTURES (BUILDINGS, PORTS AND HARBORS, FLOOD CONTROL AND DRAINAGE STRUCTURES AND WATER SUPPLY SYSTEMS) VOL. III, 2019 EDITION

CONSTRUCTION

THESE NOTES ARE PROVIDED FOR QUICK REFERENCE ONLY AND SHALL BE READ IN CONJUNCTION WITH THE TECHNICAL SPECIFICATIONS FOR THE PROJECT.

THE DESIGN OF BRIDGES IS BASED ON THE CONSTRUCTION SEQUENCE SHOWN IN THE DRAWING. ANY VARIATION FROM THE SEQUENCE MUST BE APPROVED BY THE ENGINEER.

CONSTRUCTION SHALL COMPLY WITH 1996 DPWH STANDARD SPECIFICATION FOR HIGHWAYS, BRIDGES AND AIRPORTS OR MODIFIED BY SPECIAL PROVISIONS.

1. DIMENSIONS

- 1.1 SECTION, DIMENSIONS AND DISTANCES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE INDICATED DIMENSION SHALL GOVERN UNLESS OTHERWISE SPECIFIED.
- 1.2 ALL DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- 1.3 ALL STATIONING ARE IN KILOMETER PLUS METER AND ELEVATION IN METER.

2. SETTING OUT

THE SETTING OUT AND THE ELEVATIONS OF THE DIFFERENT COMPONENTS OF THE STRUCTURE SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE START OF ANY CONSTRUCTION WORK.

3. REINFORCED CONCRETE

- 3.1 CAST IN PLACE CONCRETE SHALL BE CLASS "A" EXCEPT BALUNGS WHICH SHALL BE CLASS "C" UNLESS OTHERWISE NOTED ON THE PLANS. ALL EXPOSED EDGES SHALL BE CHAMFERED 25mm EXCEPT BALUNGS AND RE-ENTRANT ANGLES WHICH SHALL BE CHAMFERED AND FILED 15mm RESPECTIVELY.

3.2 CONCRETE MIX AND PLACING

- (1) DESIGN OF CONCRETE MIX SHALL MEET THE DESIGN CONCRETE STRENGTH GIVEN UNDER ITEM 1 OF MATERIALS.
- (2) CONCRETE SHALL BE DEPOSITED, VIBRATED AND CURED IN ACCORDANCE WITH THE SPECIFICATIONS.
- (3) FOR CONCRETE DEPOSITED AGAINST THE GROUND, LEAN CONCRETE WITH A MINIMUM THICKNESS OF 50mm SHALL LAID FIRST BEFORE INSTALLING THE REINFORCEMENT. THIS LEAN CONCRETE SHALL NOT BE CONSIDERED IN MEASURING THE STRUCTURAL DEPTH OF CONCRETE SECTION.
- (4) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL POURING SEQUENCES FOR ALL CONCRETE WORKS.

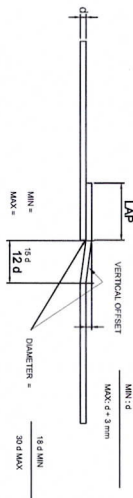
3.3 BAR BENDING, SPLICING AND PLACING

- (1) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHOP DRAWINGS INDICATING THE BENDING, CUTTING, SPLICING AND INSTALLATION OF ALL REINFORCING BARS.
- (2) BARS SHALL BE BENT COLD. BARS PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT UNLESS PERMITTED BY THE ENGINEER.
- (3) BAR SPLICING NOT INDICATED ON DRAWINGS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
- (4) WELDED SPLICES, IF APPROVED BY THE ENGINEER, SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF THE BARS.

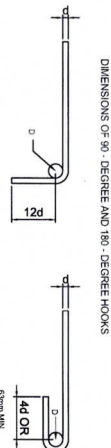
- (5) NOT MORE THAN 50% OF THE BARS AT ANY ONE SECTION SHALL BE SPLICED.

- (6) UNLESS OTHERWISE SHOWN ON DRAWINGS, THE CLEAR DISTANCE BETWEEN PARALLEL BARS IN A LAYER SHALL NOT BE LESS THAN 1.5 TIMES THE NOMINAL DIAMETER OF THE BAR NOR LESS THAN 1.5 TIMES THE MAXIMUM SIZE OF COARSE AGGREGATE. THE CLEAR DISTANCE BETWEEN LAYERS SHALL NOT BE LESS THAN 25mm NOR ONE BAR DIAMETER. THE BARS IN THE UPPER LAYER SHALL BE PLACED DIRECTLY ABOVE THOSE IN THE BOTTOM LAYER.

- (7) CRANDED SPLICES



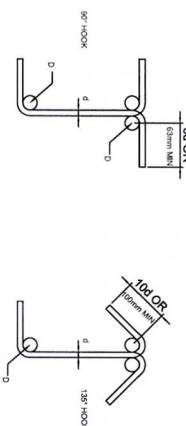
- (8) HOOKS AND BENDS



PIN DIAMETER :

D = 6d FOR Ø10 THRU Ø25
D = 8d FOR Ø28, Ø32 AND Ø36

DIMENSIONS FOR STRUTS AND TIE HOOKS



PIN DIAMETER :

D = 6d FOR Ø10 THRU Ø25
D = 8d FOR Ø28, Ø32 AND Ø36

3.4 CONCRETE COVER TO REINFORCEMENT

UNLESS OTHERWISE NOTED, ALL BAR DIMENSIONS ARE REFERRED TO THE CENTER OF BARS AND THE MINIMUM COVERING MEASURED FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY BAR SHALL BE 40mm.

FOR SUBSTRUCTURE, COVERING SHALL BE PERMANENTLY EXPOSED TO EARTH AND WEATHER

1. FRESH WATER.....75
2. SALT WATER.....100

RUBBLE CONCRETE SPECIFICATION

1. ALL CONCRETE MIXTURE SHOULD BE CLASS "B" (1.25 : 5) MIX.

2. EMBEDDED BOLLERS FOR THE FACING SHOULD NOT BE LESS THAN THIRTY (30mm) APART AND SHALL BE AT LEAST THIRTY (30mm) BELOW THE OUTSIDE.

3.5 CONCRETE COVER TO REINFORCEMENT

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE REFERRED TO THE CENTER OF BARS AND THE MINIMUM COVERING MEASURED FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY BAR SHALL BE 40mm.

FOR SUBSTRUCTURE, COVERING SHALL BE PERMANENTLY EXPOSED TO EARTH AND WEATHER

- a. FRESH WATER.....75
- b. SALT WATER.....100

3.6 CONSTRUCTION JOINT

- (1) THE POSITION AND FORM OF ANY CONSTRUCTION JOINT SHALL BE AS SHOWN ON DRAWINGS OR AS AGREED WITH THE ENGINEER.
- (2) THE INTERFACE BETWEEN THE FIRST AND SECOND POUR CONCRETES SHALL BE ROUGHENED WITH AN AMPITUDE OF 6mm MINIMUM.



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGION IV-B
OFFICE OF THE REGIONAL DIRECTOR
BIDON, DAVAO, COTABATO CITY

PROJECT NAME AND LOCATION:
DETAILED REINFORCING DESIGN FOR THE
BATHHOUSE RECONSTRUCTION PROJECTS ALAYANG BATHHOUSE (BPHO)
ACCESS NATIONAL HIGHWAY LEADING TO
CONJUNCTION OF NATIONAL HIGHWAY 100 AND NATIONAL HIGHWAY 101
BIDON, DAVAO, COTABATO CITY, PALAWAN

SHEET CONTENTS:

GENERAL NOTES (G0)

DRAFTED: CHRISTIAN ADE A. BEATO
INVENTOR (G0)

REVIEWED:

CAVIN D. CADATUL
ENGINEER

SUBMITTED:

GENE RYAN A. ALTEA
CHIEF, PLANNING AND DESIGN DIVISION

RECOMMENDED:

MELQUIMDES H. SITO, DOMINGO
ASSISTANT REGIONAL DIRECTOR

APPROVED:

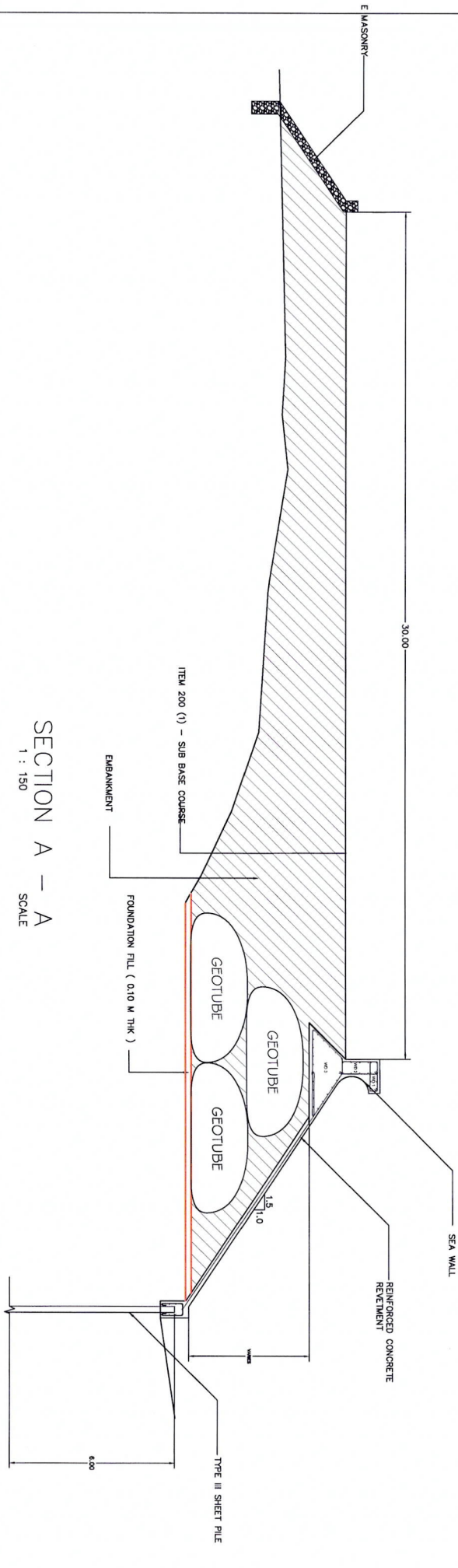
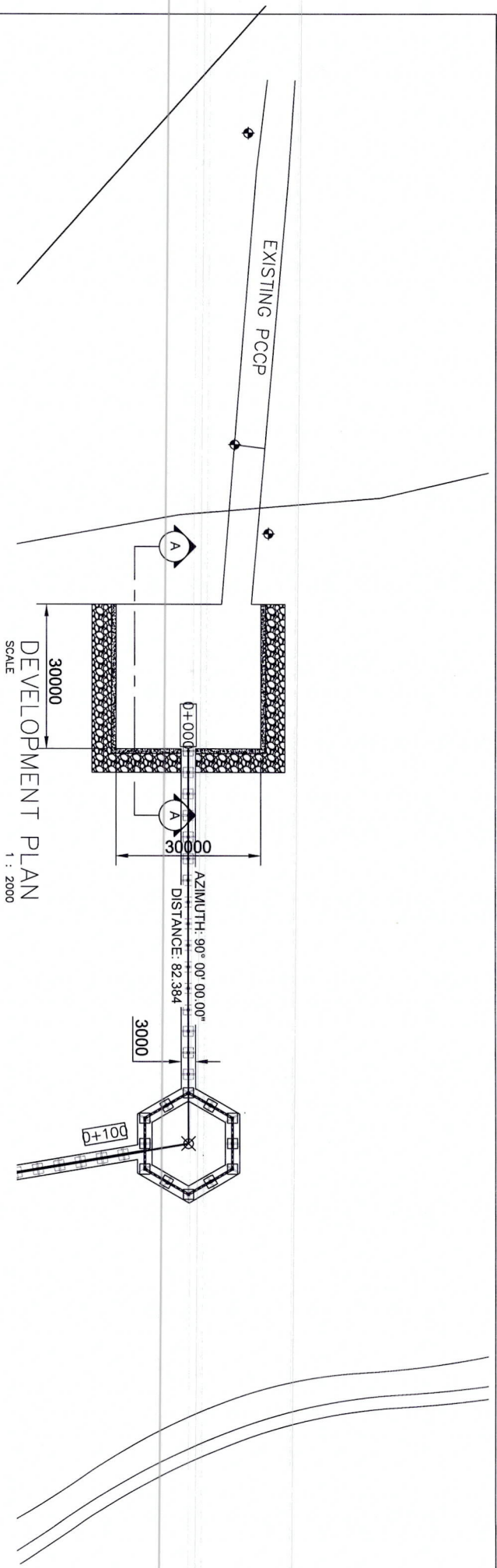
GERALD A. PACHANAN, CESO III
REGIONAL DIRECTOR


SET NO.

06

SHEET NO.

06



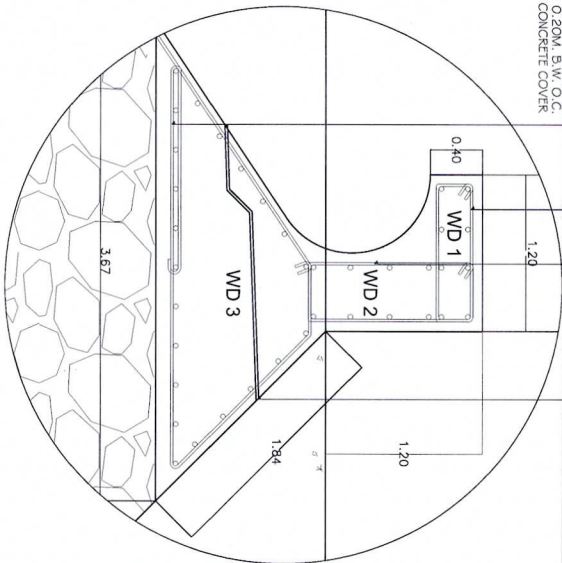
<div></div> <div>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IV-B OFFICE OF THE REGIONAL DIRECTOR EDSA TRIUMPH, CEBU CITY</div>		PROJECT NAME AND LOCATION: DETAILED ENGINEERING DESIGN PLAN FOR THE BARTIMAS & TRANSMISSION LINE PROJECT (ALAMANG ROAD BRIDGE) ACCESS TO THE NATIONAL HIGHWAY (N.H. 101) FROM THE NATIONAL HIGHWAY (N.H. 101) TO THE BRIDGE-ROAD, NORTHERN CEBU CITY, PHILIPPINES AS PER ENGINEERING PLAN		SHEET CONTENTS: TYPICAL (1/6)		DRAFTED: CHRISTIAN JADE A. BEATO ENGINEER (1/6)		REVIEWED: CALVIN D. CADATA ENGINEER		SUBMITTED: GENE RYAN A. ALTA CHIEF, PLANNING AND DESIGN DIVISION		RECOMMENDED: MELQUIADES H. SITO DOMINGO ASSISTANT REGIONAL DIRECTOR		APPROVED: GERALD A. PANGANCESO III REGIONAL DIRECTOR		SET NO. <div>6 07 12</div>		SHEET NO. <div>07 14</div>	
						PREPARED: GLENNIE P. OLIVERA ENGINEER II		DATE:		DATE:		DATE:		DATE:					

STRUCTURAL CONCRETE W/ 12MM Ø STEEL BAR STRIPUPS SPACED @ 20cm WITH 100mm CONCRETE COVER

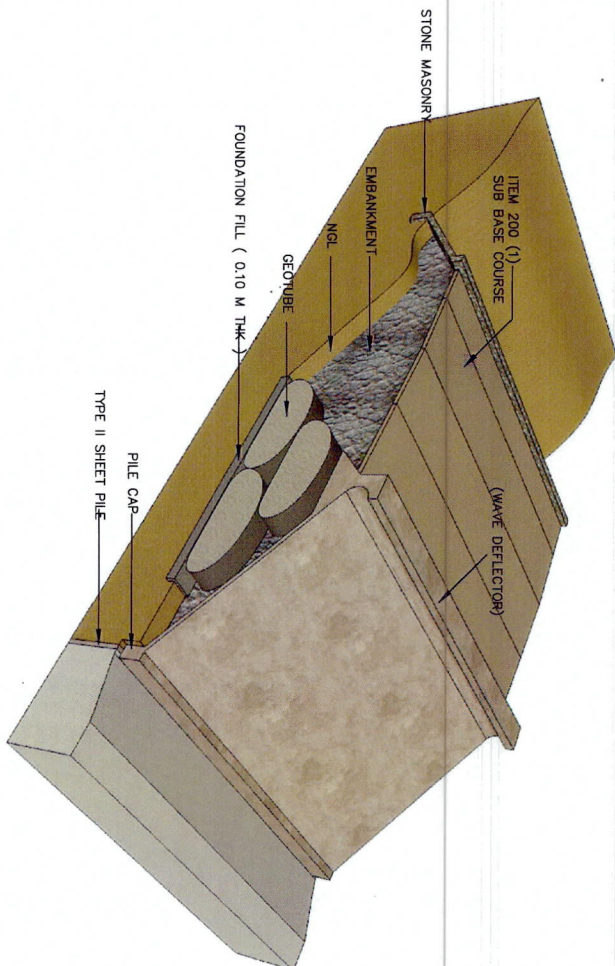
STRUCTURAL CONCRETE W/ 12MM Ø VERTICAL AND 12MM Ø RSB @ 20M, B.W. O.C. WITH 100mm CONCRETE COVER

STRUCTURAL CONCRETE W/ 12MM Ø VERTICAL AND 12MM Ø RSB @ 0.20M, B.W. O.C. WITH 100mm CONCRETE COVER


STRUCTURAL CONCRETE W/ 12MM.Ø VERTICAL
AND 12MM.Ø RSB @ 0.20M. B.W. O.C.
WITH 100mm. CONCRETE COVER



WAVE DEFLECTOR DETAIL
SCALE N T S



ISOMETRIC VIEW
SCALE N T S

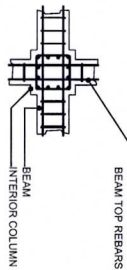
 OFFICE OF THE REGIONAL DIRECTOR DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IV-B ERISA, DUMAYAN, CUEZON CITY PUNTA PRINCESA CITY, PALAWAN	PROJECT NAME AND LOCATION: DETAILED ENGINEERING DESIGN PLANNING THE IMPROVEMENTS OF THE ROADWAY ALONG THE ACCESS ROAD AND/OR ACCESS FROM THE MAJOR HIGHWAY TO THE SUBDIVISION PLANNING CONSTRUCTION OF THE SUBDIVISION PLANNING BRANCHING ROAD, PUNTA PRINCESA CITY, PALAWAN PUNTA PRINCESA CITY, PALAWAN	SHEET CONTENTS: TYPICAL (08)	DRAWN BY: CHRISTIAN JAMIE A. BENTO ENGINEER (008)		REVIEWED BY: CALVIN D. CADOTAL ENGINEER II	SUBMITTED BY: GENE RYAN A. ALTA CHIEF, PLANNING AND DESIGN DIVISION	RECOMMENDED BY: MELQUIADES H. STO. DOMINGO ASSISTANT REGIONAL DIRECTOR	APPROVED BY: GERALD A. PANGANIBAN, CESO III REGIONAL DIRECTOR	SET NO. 08 (08 12)	SHEET NO. 08 14
			PREPARED BY: GLENNIEL FLORENTIN ENGINEER						DATE	DATE

SPLICING REQUIREMENT OF REINFORCING BARS "Ls" OR "Ld"

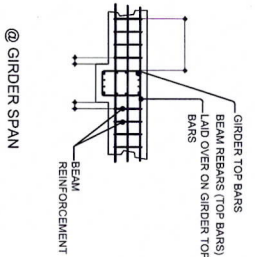
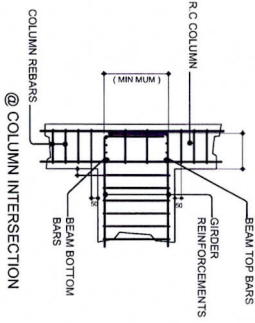
BEAMS			COLUMNS		FLOOR SLAB		NOTE:
BAR SIZE	SINGLE & 2 BAR BUNDLE	THREE BAR BUNDLE	BAR SIZE	VERTICAL REINFORCEMENT	BAR SIZE	RE BAR BUNDLE	1. Ls AND Ld DEVELOPMENT LENGTH OF RE BARS ABOVE VALUES SHALL BE THE MINIMUM SPACE OR DEVELOPMENT LENGTH. 2. ADDITIONAL MODIFICATION FACTOR SHALL BE USED WHEREVER APPLICABLE. 38 mm Ø BARS FOR BEAMS SHALL NOT BE BUNDLED.
16 Ø	600 mm	750 mm	800 mm	925 mm	20 Ø	1000 mm	
STRUCTURAL ELEMENTS							
WALLS, COLUMNS, BEAMS, GIRDERS, SIDES & SLAB ON GRADE			CLEAR SPAN BETWEEN SUPPORTS		MINIMUM PERIOD		ELEMENT
JOIST BEAMS & GIRDER SOFFIT			—		1		
ONE - WAY FLOOR			UNDER 3.00 M		7		R.C. BEAMS
SLABS			3.00 M TO 6.00 M		14		
			OVER 6.00 M		21		CANTILEVER R.C. BEAMS
			UNDER 3.00 M		4		
			3.00 M TO 6.00 M		7		R.C. SLABS
			OVER 6.00 M		10		
							MINIMUM CAMBER
							6.00mm FOR EVERY 4.50 M SPAN
							18mm FOR EVERY 3.00 M SPAN
							3mm FOR EVERY 3.00 M SHORTER SPAN

NOTE:

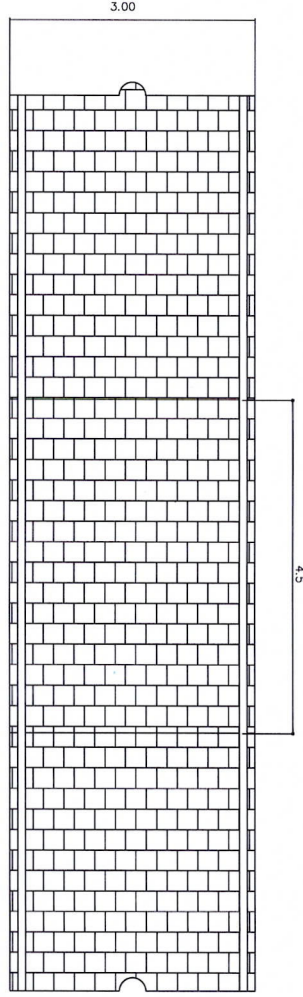
CLEAR DISTANCE BETWEEN RE BARS ARE TO BE STRICTLY MAINTAINED




01 TYPICAL PLAN OF BEAM GIRDER COLUMN JOINT
04/51 SCALE
NTS

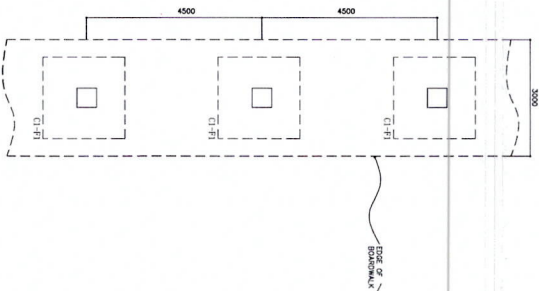


02 TYP. BEAM & GIRDER RE-BAR LAYOUT
04/51 SCALE
NTS

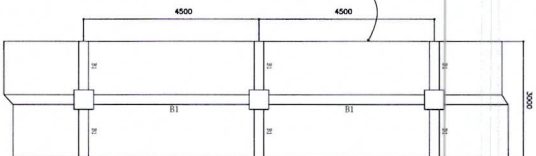


03 TYPICAL BOARDWALK PLAN
04/51 SCALE
NTS

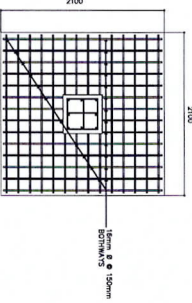
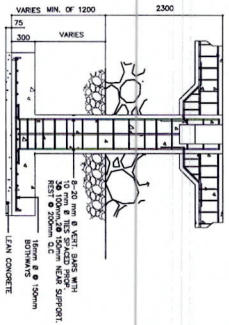
 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION IV-A OFFICE OF THE REGIONAL DIRECTOR EDSA, QUEZON CITY		PROJECT NAME AND LOCATION: SARITANAL & PROPOSED NEW ROAD TO THE NORTH SIDE OF THE NATIONAL HIGHWAY (N.H. 10) CROSSING THE NATIONAL HIGHWAY (N.H. 10) IN THE MUNICIPALITY OF SAN VICENTE, PROVINCE OF PANGASINAN PANGASINAN, PHILIPPINES		SHEET CONTENTS: TYPICAL (18)		DRAFTED: CHRISTIAN M. A. BEATO ENGINEER (100)		REVIEWED: CALVIN D. CADATA ENGINEER		SUBMITTED: GENE RYAN A. ALTA CHIEF, PLANNING AND DESIGN DIVISION		RECOMMENDED: MELODY H. SIO DOMINGO ASSISTANT REGIONAL DIRECTOR		APPROVED: GERALD A. PANGAN/CSO III REGIONAL DIRECTOR		SET NO. 09 12	SHEET NO. 09 14
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FOUNDATION PLAN
SCALE: NTS



FLOOR FRAMING PLAN
SCALE: NTS



COLUMN/FOOTING DETAIL
SCALE: NTS

SCHEDULE OF REINFORCEMENT									
Structure Component	Bar Size (mm)	Qty per component	Bar Qty	Total Qty	Length Each (m)	Total Length (m)	Unit Weight (kg/m)	Total Weight (kg)	
Footings	Typical	224	30	6720	2.25	15120	1.579	23,874.48	
	Layby	16 mm dia.	9	30	270	607.5	1.579	959.24	
	Hexagonal	16 mm dia.	12	30	360	2.35	846	1,335.83	
	Vertical Bar (Typical & Layby)	20 mm dia.	233	8	1864	5.25	9786	2,466	24,132.28
Column	Vertical Bar (Hexagonal)	20 mm dia.	12	8	96	7.25	696	2,466	1,716.34
	Outer Ties	10 mm dia.	245	89.77	21994.32	1.6	35190.91	0.617	21,712.79
	Inner Ties	10 mm dia.	245	179.55	43988.64	0.4	17595.45	0.617	10,856.40
	Main Bars	16 mm dia.	1	4	1122.42	4489.68	1.579	7,089.20	
Beam 1 at typical - longitudinal	Extra Bar (Top)	16 mm dia.	232	1	232	2.5	580	1,579	915.82
	End Beam	16 mm dia.	2	1	2	1.73	3.46	1,579	5.46
	Extra Bar (Bottom)	16 mm dia.	223	1	223	2.4	535.2	1,579	845.08
	Web Bar	12 mm dia.	1	2	1090	2180	0.888	1,935.84	
Beam 1 at transverse	Ties	10 mm dia.	223	25	5575	0.8	4460	0.617	2,751.82
	Main Bars	16 mm dia.	233	6	1398	3.46	4837.08	1.579	7,637.75
	Web Bar	12 mm dia.	233	2	466	2.92	1360.72	0.888	1,208.32
	Ties	10 mm dia.	233	24	5592	0.8	4473.6	0.617	2,760.21
Beam 2 at Hexagonal - longitudinal	Main Bars	25 mm dia.	12	4	48	7.75	372	3,853	1,433.32
	Extra Bar Top	25 mm dia.	6	2	12	2.875	34.5	3,853	132.93
	Extra Bar (Top-End Beam)	25 mm dia.	12	2	24	2.0675	49.62	3,853	191.19
	Extra Bar (Bottom)	25 mm dia.	12	2	24	2.85	68.4	3,853	263.55
Beam 3 at Hexagonal - transverse	Ties	10 mm dia.	12	42	504	1.58	796.32	0.617	491.33
	Main Bars	12 mm dia.	10	5	50	3.46	173	0.888	153.62
	Ties	10 mm dia.	2	110	220	1.08	237.6	0.617	146.60
	Main Bars	12 mm dia.	2	5	10	2.342	23.42	0.888	20.80
Beam 3 at Hexagonal - intersection	Ties	10 mm dia.	13	12	156	1.08	168.48	0.617	103.95
	Main Bars	16 mm dia.	245	4	980	5.12	5017.6	1.579	7,922.79
	Ties	10 mm dia.	245	4	980	1.72	1685.6	0.617	1,040.02
	Corbel	10 mm dia.	245	4	980	0.66	646.8	0.617	399.08

REPUBLIC OF THE PHILIPPINES
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 REGION IV-B
 OFFICE OF THE REGIONAL DIRECTOR
 REGIONAL DIVISION OFFICE
 REGIONAL DIVISION OFFICE

PROJECT NAME AND LOCATION:

NATIONAL INFRASTRUCTURE AND LOGISTICS AUTHORITY (NIA)
 ACCESS ROAD TO THE
 NATIONAL INFRASTRUCTURE AND LOGISTICS AUTHORITY (NIA)
 BRANCO BRANCO, MARINA DELICADA CITY, PALAUAN
 PROJECT NUMBER: NIA-001

SHEET CONTENTS:

TYPICAL (4/10)
 PREPARED BY: CHRISTIAN A. BEATO
 CHECKED BY: GLENN A. BEATO
 REVIEWED BY: GLENN A. BEATO

REVIEWED:

CALVIN D. CADATAY
 ENGINEER
 DATE:

SUBMITTED:

GENE RYAN A. ALTEA
 CHIEF, PLANNING AND DESIGN DIVISION
 DATE:

RECOMMENDED:

MELCJONDES H. SITO DOMINGO
 ASSISTANT REGIONAL DIRECTOR
 DATE:

APPROVED:

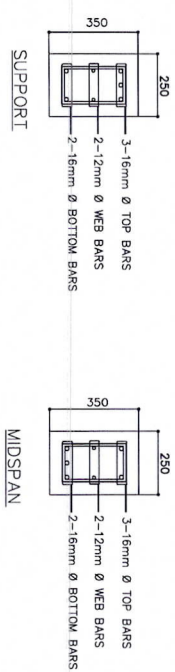
GERALD A. PACCANAN, CESO III
 REGIONAL DIRECTOR
 DATE:

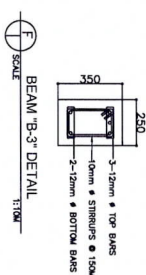
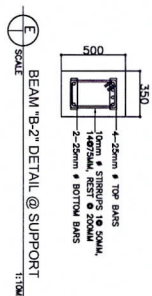
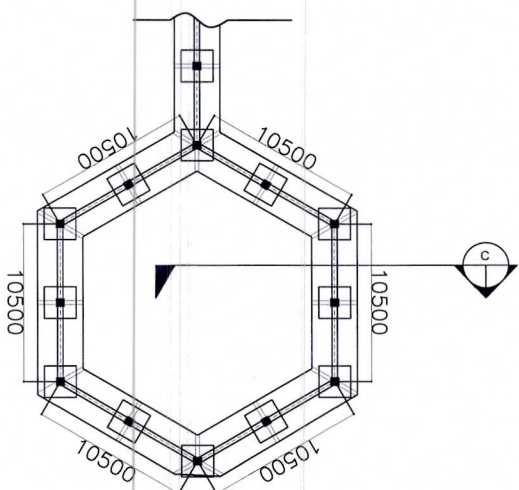
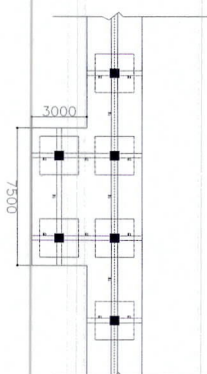
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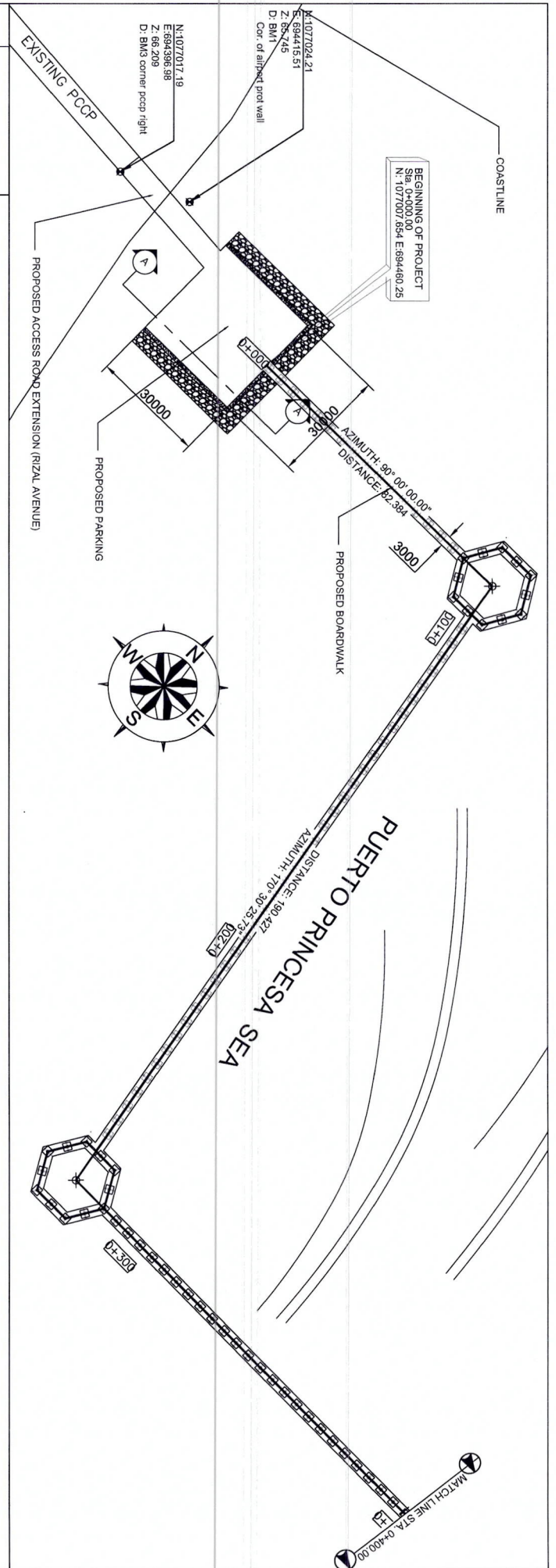
10
 12

SHEET NO.

10
 14







ELEVATION			
25.00			
20.00			
15.00			
STATION	0+000	0+100	0+200
TOP OF BOARDWALK	69.00	68.99	68.99
NATURAL GRADE LINE	64.20	64.14	64.04
MEAN HIGHEST HIGH WATER LEVEL	66.74	66.73	66.73
MEAN LOWEST LOW WATER LEVEL	64.78	64.78	64.78
STATION	0+300	0+400	
TOP OF BOARDWALK	68.99	68.96	68.96
NATURAL GRADE LINE	64.04	64.01	63.96
MEAN HIGHEST HIGH WATER LEVEL	66.73	66.73	66.73
MEAN LOWEST LOW WATER LEVEL	64.78	64.78	64.78

REPUBLIC OF THE PHILIPPINES
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 REGION IV-A
 OFFICE OF THE REGIONAL DIRECTOR
 EDSA, DAVAO, DAVAO CITY

PROJECT NAME AND LOCATION:
 SUBDIVISION AND CONSTRUCTION PROJECTS FOR THE
 DEVELOPMENT OF THE REGIONAL DIRECTOR'S OFFICE
 CONSTRUCTION OF SUBDIVISION AND CONSTRUCTION
 BRANCH OFFICE, PUERTO PRINCESA CITY, PALAUAN
 PUERTO PRINCESA CITY, PALAUAN

SHEET CONTENTS:
 PLAN AND PROFILE (1/2)

DRAFTED:
 CHRISTINE L. JOSE A. BEATO
 ENGINEER (1/2)

PREPARED:
 GLENNIE JOSEMAR
 ENGINEER

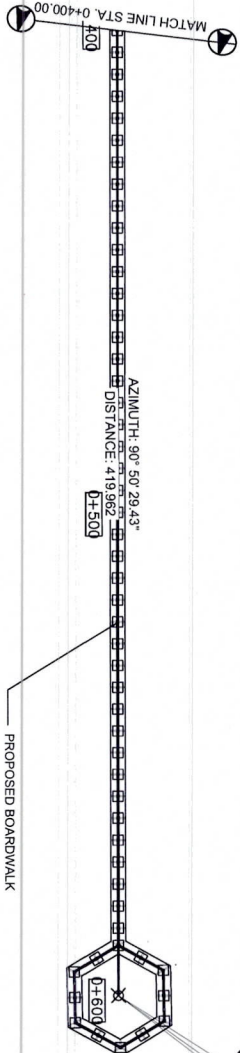
REVIEWED:
 CALVIN D. CADATAL
 ENGINEER

SUBMITTED:
 GENE RYAN A. ALTEA
 CHIEF PLANNING AND DESIGN DIVISION

RECOMMENDED:
 MELQUIADES H. SIO DOMINGO
 ASSISTANT REGIONAL DIRECTOR

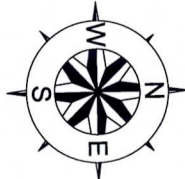
APPROVED:
 GERALD A. PANGAN/CSO III
 REGIONAL DIRECTOR

SET NO. 01
 SHEET NO. 13



END OF PROJECT
Sta. 0+600.00
N:1076813.667 E:694895.082

PUERTO PRINCESA SEA



ELEVATION		MATCH LINE STA. 0+400.00		0+500		0+600	
25.00							
20.00							
15.00							
STATION		0+400					
TOP OF BOARDWALK		68.87	68.86	68.85	68.84	68.83	68.82
NATURAL GRADE LINE		64.01	64.06	64.03	64.04	64.05	64.06
MEAN HIGHEST HIGH WATER LEVEL		66.68	66.67	66.67	66.66	66.66	66.65
MEAN LOWEST LOW WATER LEVEL		64.75	64.74	64.74	64.74	64.73	64.73

PROJECT NAME AND LOCATION:

REPAIR AND IMPROVEMENT OF THE
ACCESS ROAD ALONG THE
COASTAL AREA OF THE
MUNICIPALITY OF PUERTO PRINCESA CITY, PALAwan

SHEET CONTENTS:

PLAN AND PROFILE (2/2)

DRAWN BY:

CHRISTINA A. BEATO
ENGINEER

REVIEWED:

CALVIN D. CADATA
ENGINEER

SUBMITTED:

GENE RYAN A. ALTEA
CHIEF, PLANNING AND DESIGN DIVISION

RECOMMENDED:

MELQUIADES H. STO. DOMINGO
ASSISTANT REGIONAL DIRECTOR

APPROVED:

GERALD A. PANGANCESO III
REGIONAL DIRECTOR

SET NO.

CS
02 02

SHEET NO.

14
14



DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGION IV-B
OFFICE OF THE REGIONAL DIRECTOR
EDSA, DIVISION, CORDON CITY