



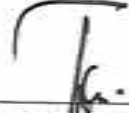
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE No. XI
GOV. CHAVEZ COR. R. MAGSAYSAY ST. DAVAO CITY

C.Y. 2025 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR

**CONSTRUCTION OF ACCESS ROAD LEADING TO MATI
FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL**

SECTION : BRGY. CENTRAL
LOCATION : MATI CITY, DAVAO ORIENTAL
STATION LIMITS : STA. 1523+574.906 TO STA. 1523+885.850 (WITH EQUATIONS)
PHYSICAL TARGETS : SLOPE PROTECTION: 300 M. / 3,900 SQ.M.
GRAVELING: 0.300 KM. / 1.200 LANE-KM.
ROAD SECTION ID : (LOCAL ROAD)

SUBMITTED:


JUDY ANN T. BERNARDINO
CHIEF, PLANNING AND DESIGN DIVISION

DATE:

RECOMMENDED:


JOSELITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR

DATE:

APPROVED:


JUBY B. CORDON
REGIONAL DIRECTOR

DATE:

A. GENERAL INFORMATION AND DETAILS

PROJECT LIMITS

BEGINNING OF PROJECT : STA. 1523 + 574.906

END OF PROJECT : STA. 1523 + 885.850

STATION EQUATIONS:

$$\frac{\text{STA. 1523 + 849.056 BK}}{\text{STA. 1523 + 860.000 AH}} = (10.944)$$

$$\text{TOTAL} = (10.944) \text{ LN.M}$$

$$\text{NET LENGTH OF PROJECT} = 300.000 \text{ LN.M}$$

BEGINNING OF ACCESS ROAD : STA. 0+000.000

END OF ACCESS ROAD : STA. 0+056.804

$$\text{NET LENGTH OF ACCESS ROAD} = 56.804 \text{ LN.M}$$

INDEX OF SHEETS

SHEET CONTENTS	SET NUMBER	OVERALL SHEET NUMBER
A. GENERAL INFORMATION AND DETAILS		
COVER SHEET	A-0	0
ROADWAY DESIGN DETAILS		
PROJECT LIMITS INDEX OF SHEETS VICINITY MAP LOCATION MAP	A-1	1
GENERAL NOTES	A-2	2
ABBREVIATIONS	A-3	3
LEGENDS AND SYMBOLS	A-4	4
SUMMARY OF QUANTITIES	A-5	5
TYPICAL ROADWAY CROSS SECTIONS	A-6	6
DESIGN CRITERIA	A-7	7
DRAINAGE DESIGN DETAILS		
SEAWALL TYPICAL SECTION W/ ANCHORAGE	A-8	8
CONCRETE BLOCK DETAILS	A-9	9
HEXAPOD DETAILS	A-10	10
STEEL SHEET PILE DETAIL CONNECTION DETAIL	A-11	11
CONCRETE MANHOLE W/ INLET FOR 910MMØ RCPC DETAIL FOR CONCRETE GRATING BUTT DETAIL MANHOLE STEPS DETAIL OF STEEL GRATING WATER INLET	A-12	12
CONCRETE INLET ON CONCRETE MANHOLE DETAIL	A-13	13
DETAIL OF RCPC JOINT DESIGN REQUIREMENTS OF RCPC METHODS OF PIPE INSTALLATION	A-14	14
DRAINAGE SCHEDULE	A-15	15
DRAINAGE SCHEDULE SUMMARY OF QUANTITIES	A-16	16

SHEET CONTENTS	SET NUMBER	OVERALL SHEET NUMBER
B. TRAFFIC MANAGEMENT DETAILS		
TRAFFIC MANAGEMENT LAYOUT TRAFFIC MANAGEMENT PROGRAM SIGNAGE TRAFFIC MANAGEMENT GENERAL NOTES	B-1	17
INFORMATORY BILLBOARD DETAIL ROAD SIGN DETAIL BILLBOARD DETAIL	B-2	18
C. CAMP HOUSE DETAILS		
ARCHITECTURAL DETAILS STRUCTURAL DETAILS PLUMBING LAYOUT ISOMETRIC LAYOUT TOILET CROSS SECTION COUNTER SINK DETAIL	C-1	21
GROUND FLOOR LIGHTING & POWER PLAN LOAD SCHEDULE & COMPUTATION FAULT CURRENT CALCULATION VOLTAGE DROP CALCULATION SINGLE LINE DIAGRAM ELECTRICAL DRAWING LEGENDS ELECTRICAL NOTES AND SPECIFICATIONS	C-2	22
D. PLAN AND PROFILE		
PLAN AND PROFILE	D-1 TO D-2	24 TO 25
E. DETAILED CROSS SECTIONS		
CROSS SECTIONS	E-1 TO E-9	26 TO 34
F. SOIL PROFILE		
SOIL PROFILE	F-1	35



LOCATION PLAN
SCALE 1:500



VICINITY MAP
SCALE 1:500

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY	PROJECT NAME AND LOCATION	SHEET CONTENTS	DRAFTED AND PREPARED	REVIEWED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
	CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	PROJECT LIMITS INDEX OF SHEETS VICINITY MAP LOCATION PLAN	EDWARD JOSEPH M. SARTIGA ENGINEER I DATE: _____	DEIVIRALDRIN A. SEMPINO ENGINEER II, CC SECTION CHIEF DATE: _____	JUDYAN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE: _____	JOSEITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE: _____	JUBY B. COROON REGIONAL DIRECTOR DATE: _____	A 1/16	1 35

C:\USERS\JPN\DESKTOP\2025\REALIGNMENT MATI FISH PORT, DO (02-10-25)\MATI FISH PORT 02-20-2025\DESIGN\TYPICAL DRAWINGS\1 & 5 - VICINITY-SUMMARY.DWG

GENERAL NOTES

(ROADS, DRAINAGE AND STRUCTURES)

SPECIFICATIONS

1. ALL WORKS SHALL COMPLY WITH THE "DPWH STANDARD SPECIFICATIONS VOLUME II, HIGHWAYS, BRIDGES AND AIRPORTS 2013", SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS PERTAINING TO THIS PROJECT.

DIMENSIONS

1. DISTANCES BETWEEN THE HORIZONTAL CONTROL POINTS INCLUDING REFERENCE POINTS ARE MEASURED AND EXPRESSED IN METERS.
2. UNLESS OTHERWISE SPECIFIED, DIMENSIONS OF PIPES, BOX CULVERTS, BRIDGES AND OTHER STRUCTURES ARE MEASURED AND EXPRESSED IN MILLIMETERS.
3. ALL OTHER DIMENSIONS ARE EXPRESSED IN METERS.

ELEVATIONS AND GRADES

1. FINISHED GRADE ELEVATION SHOWN ON PLAN AND PROFILE SHEETS REFERS TO FINISHED PAVEMENT LEVEL AS INDICATED IN THE TYPICAL ROADWAY SECTION.
2. GROUND GRADE SHOWN ON THE PLAN AND PROFILE SHEETS REFERS TO THE ELEVATION OF THE ORIGINAL GROUND ALONG THE CENTERLINE OF THE PROJECT ROAD.

GRADING AND OTHER GENERAL REQUIREMENTS

1. ALIGNMENT AND GRADES ARE SUBJECT TO ADJUSTMENT TO SUIT ACTUAL FIELD CONDITION.
2. DISTANCES AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
3. GRADE SHOWN ARE TOP OF FINISHED PAVEMENT.
4. ALL WORKS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, REVISED 2013 AND "A POLICY ON GEOMETRIC DESIGN", AASHTO 2011.
5. WHERE NO DETOURS ARE AVAILABLE, TRAFFIC SHALL BE HANDLED IN ACCORDANCE TO PROVISIONS OF CLAUSE 75 OF THE DPWH STANDARD SPECIFICATIONS, VOLUME 1, REQUIREMENTS AND CONDITIONS OF CONTRACT (2013).
6. THE APPARENT SILENCE OF SPECIFICATIONS, PLANS, SPECIAL PROVISIONS AND SUPPLEMENTARY SPECIFICATIONS, AS TO ANY DETAIL OR THE APPARENT OMISSION FROM THEM OF DETAILED DESCRIPTION CONCERNING ANY POINT SHALL BE REGARDED AS MEANING THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIAL AND WORKMANSHIP OF FIRST CLASS QUALITY ARE TO BE USED.
7. ROADS CLOSED TO TRAFFIC SHALL BE PROTECTED BY EFFECTIVE BARRICADES, AND OBSTRUCTIONS SHALL BE ILLUMINATED AT NIGHT, SUITABLE WARNING SIGNS, ILLUMINATED AT NIGHT BY LANTERNS OR FLARES, SHALL BE PROVIDED. ALL LIGHTS FOR THIS PURPOSE SHALL BE KEPT BURNING FROM SUNSET TO SUNRISE.
8. THE CONTRACTOR WILL BE REQUIRED TO ERECT WARNING SIGNS OUTSIDE OF, AND 150M FROM, EACH END OF THE PROJECT, AND 150M IN ADVANCE AT ANY PLACE ON THE PROJECT WHERE OPERATIONS INTERFERE WITH THE USE OF THE ROAD BY TRAFFIC, AND AT ALL INTERMEDIATE POINTS WHERE THE NEW WORK CROSSES OR COINCIDES WITH AN EXISTING ROAD.
9. BEFORE THE START OF ACTUAL CONSTRUCTION, THE AS-STAKED PLAN SHOULD BE SUBMITTED TO THE REGIONAL OFFICE IN ORDER THAT IMMEDIATE STEPS MAY BE TAKEN TO CORRECT OR ADJUST WHATEVER APPRECIABLE DEVIATION THERE MAY BE FROM THE ORIGINAL PLAN.
10. THE IMPLEMENTING OFFICE SHALL IDENTIFY THE LOCATIONS OF AND PROVIDE ACCESSIBILITY FACILITIES FOR PERSONS WITH DISABILITIES IN ACCORDANCE WITH DO NO. 37, S. 2009.
11. QUARRY SITE IS LOCATED AT MAYO RIVER. DISPOSAL SITE IS WITHIN FIVE (5) KM RADIUS FROM PROJECT LIMITS.
12. DESIGN WAS BASED ON SURVEY DATA SUBMITTED BY THE SURVEY AND INVESTIGATION SECTION OF PLANNING AND DESIGN DIVISION OF THE DPWH-REGIONAL OFFICE XI.

EARTHWORKS

1. SPOILS FROM DEMOLISHED/EXCAVATED MATERIALS SHALL NOT BE ALLOWED TO BE STOCKPILED AT THE SHOULDER OR PART OF THE TRAVELED ROADWAY AND SHALL BE REMOVED IMMEDIATELY TO PREVENT OBSTRUCTION. SPOILS REMOVED SHALL BE DISPOSED OFF IN DESIGNATED AREAS APPROVED BY THE ENGINEER.
2. ALL EMBANKMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 104 EMBANKMENT. IT SHALL BE COMPACTED IN HORIZONTAL LAYERS NOT EXCEEDING 200mm (LOOSE MEASUREMENT). AFTER FIVE SUCCESSIVE LAYERS, THE FILL EMBANKMENT SHALL BE FULLY SATURATED WITH WATER THEN DRIED BEFORE PLACING THE SUCCEEDING LAYERS. THE PROCEDURE SHALL BE REPEATED UNTIL THE DESIRED ELEVATION IS ATTAINED.
3. WATERING AND COMPACTING OF ALL EMBANKMENTS SHALL BE CONSIDERED AS SUBSIDIARY WORK PERTAINING TO OTHER CONTRACT ITEMS. THE COST OF PERFORMANCE THEREOF SHALL BE CONSIDERED TO BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR OTHER ITEMS.
4. APPROACHES AND ROAD CONNECTIONS SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN SUCH MANNER AS TO ENSURE PROPER CONNECTIONS TO THE RIDING SURFACES.
5. PRIOR TO COMMENCING PREPARATION OF THE SUBGRADE, ALL CULVERTS, CROSS DRAINS, DUCTS AND THE LIKE (INCLUDING THEIR FULLY COMPLETED BACKFILL), DITCHES, DRAINS AND DRAINAGE OUTLETS SHALL BE COMPLETED. ANY WORK ON THE PREPARATION OF THE SUBGRADE SHALL NOT BE STARTED UNLESS PRIOR WORK HEREIN DESCRIBED SHALL HAVE BEEN APPROVED BY THE ENGINEER.

SUBBASE AND BASE COURSES

1. RE-PREPARATION AND COMPACTION OF THE EXISTING BASE/SUBBASE TO THE REQUIRED DENSITY SHALL BE DONE PRIOR TO GRAVEL RESURFACING IN ACCORDANCE WITH DPWH STANDARD SPECIFICATIONS, VOLUME II, 2013, USING VIBRATING ROLLERS AND PNEUMATIC TIRE ROLLERS. IN AREAS WHERE THE SAID EQUIPMENT CANNOT BE USED, A PORTABLE MECHANICAL COMPACTOR SHALL BE USED.

REMOVAL OF EXISTING STRUCTURES AND OBSTRUCTIONS

1. NO PAYMENT SHALL BE MADE FOR REMOVAL OF OTHER MISCELLANEOUS STRUCTURES THAT MAY BE REQUIRED AS SUBSIDIARY WORK PERTAINING TO OTHER CONTRACT ITEMS EXCEPT FOR SPECIFIC ITEMS EXPRESSLY IDENTIFIED FOR PAYMENT.

MISCELLANEOUS STRUCTURES

1. OBSTRUCTIONS WITHIN THE ROADWAY, IF NOT ILLUMINATED, SHALL BE MARKED WITH REFLECTORIZED HAZARD MARKERS (REFER TO SECTION 7 OF THE HIGHWAY SAFETY DESIGN STANDARDS PART 2 MAY 2012 EDITION). FOR ADDITIONAL EMPHASIS, IT IS ADVISABLE TO MARK OBSTRUCTIONS WITH NO LESS THAN FIVE ALTERNATING REFLECTORIZED BLACK AND WHITE STRIPES.
2. MATERIALS WHICH ARE DEFECTIVE OR HAVE BEEN APPLIED IN AN UNSATISFACTORY MANNER OR TO INCORRECT DIMENSIONS OR IN A WRONG LOCATION SHALL BE REMOVED. THE ROAD PAVEMENT SHALL BE MADE GOOD AND MATERIALS REPLACED. RECONSTRUCTED AND/OR PROPERLY LOCATED. ALL AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

FACILITIES FOR THE ENGINEER

1. THE CONTRACTOR SHALL CONSTRUCT FIELD OFFICES, LABORATORIES AND LIVING QUARTERS, INCLUDING ALL THE NECESSARY AIR CONDITIONING, ELECTRICITY, WATER, DRAINAGE AND SECURITY SERVICES FOR THE USE OF THE ENGINEER AND HIS STAFF FOR 24 HOURS A DAY OR PROVIDE THE SAME ON RENTAL BASIS UNTIL END OF CONTRACT. ON COMPLETION OF CONTRACT, THE FACILITIES INCLUDING UTILITIES SHALL REVERT TO THE GOVERNMENT UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL AT ALL TIMES DURING THE DURATION OF THE CONTRACT PROVIDE FOR THE USE OF ENGINEER ALL EQUIPMENT, INSTRUMENTS AND APPARATUS, ALL INFORMATION AND RECORDS AND QUALIFIED CHAINMEN AND LABORERS REQUIRED BY THE ENGINEER FOR INSPECTING AND MEASURING THE WORKS. SUCH EQUIPMENT, INSTRUMENTS AND APPARATUS SHALL INCLUDE THOSE LISTED IN THE SPECIAL PROVISIONS.

REFERENCES

1. REVISED DPWH MANUAL ON HIGHWAY SAFETY DESIGN STANDARDS, MAY 2013 EDITION
 - 1.1. FOR ROAD SAFETY PLANNING AND DESIGN ACTIVITIES AS WELL AS ROAD SAFETY MAINTENANCE ACTIVITIES SUCH AS THE PROPER WAY OF INSTALLING/APPLYING ROAD SIGNS, ROAD SAFETY DEVICES AND PAVEMENT MARKINGS - DO 41, s.2012
2. LABOR CODE OF THE PHILIPPINES AND ITS IMPLEMENTING RULES AND REGULATIONS DOLE DO NO. 13, s.1998, OCCUPATIONAL SAFETY AND HEALTH STANDARDS AND ITS PROCEDURAL GUIDELINES
 - 2.1. FOR MONITORING, ENFORCEMENT AND IMPLEMENTATION OF CONSTRUCTION SAFETY AND HEALTH - DO 58, s.2005
3. DESIGN REFERENCES
 - 3.1. DPWH DESIGN GUIDELINES, CRITERIA, AND STANDARDS (DGCS), VOLUME 4, 2015 EDITION
 - 3.2. GUIDELINES FOR THE PREPARATION OF COST ESTIMATES FOR TRAFFIC MANAGEMENT AND SAFETY & HEALTH REQUIREMENTS FOR THE CONSTRUCTION AND MAINTENANCE OF ROADS, BRIDGES AND SAFETY & HEALTH REQUIREMENTS FOR SCHOOL BUILDINGS, 2018
 - 3.3. AASHTO A POLICY ON GEOMETRIC DESIGN STANDARD OF HIGHWAYS AND STREETS, 2018 7TH EDITION
 - 3.4. AASHTO GUIDE ON PAVEMENT DESIGN, 1993 EDITION
 - 3.5. HIGHWAY SAFETY DESIGN STANDARDS: PART 1 - ROAD SAFETY DESIGN, AND PART 2 - ROAD SIGNS AND PAVEMENT MARKINGS, 2012 EDITION

SURVEY SPECIFICATION

1. ALL PROJECT CONTROL POINTS ARE PROJECTED IN PRS '92 GRID COORDINATE SYSTEM (ZONE 5)
2. SURVEY INSTRUMENT USED, ROVER - CHC (80) SN1034373, BASE - CHC (80) SN1034367
3. DATE SURVEYED: JANUARY 14 - 17, 2025
4. PROJECT CONTROL POINTS, REFER TO PLAN AND PROFILE.

BENCHMARKS AND DESCRIPTION

BM NO.	NORTHING	EASTING	ELEVATION (METERS)	DESCRIPTION
9	769117.478	633185.306	7.397	#1 CONCRETE NAIL WITH BOTTLE CAP DRIVEN ON SIDEWALK AT RP-2 OF U-3, RIGHT SIDE

DESIGN SPECIFICATION

1. GEOMETRIC DESIGN CRITERIA:
 - 1.1. NORMAL CROWN SHALL BE - 1.50%, MAXIMUM SUPERELEVATION SHALL BE 6%.
 - 1.2. MINIMUM RADIUS OF HORIZONTAL CURVES SHALL BE 30 METERS.
 - 1.3. MINIMUM LENGTH OF PARABOLIC VERTICAL CURVES SHALL BE 60 METERS WITHOUT CONSIDERING K-VALUES

CONSTRUCTION REQUIREMENTS

ACCESSIBILITY LAW

1. PROVISION OF BATAS PAMBANSA BILANG 344 (ACCESSIBILITY LAW) AND ITS IMPLEMENTING RULES AND REGULATIONS. THE IMPLEMENTING OFFICE SHALL IDENTIFY THE LOCATIONS OF AND PROVIDE ACCESSIBILITY FACILITIES FOR PERSONS WITH DISABILITY IN ACCORDANCE WITH D.O. 37 SERIES OF 2009.

EMBANKMENT

2. EMBANKMENT PLACED ON EXISTING SLOPES THAT ARE STEEPER THAN 3:1 WHEN MEASURED AT RIGHT ANGLES TO THE ROADWAY SHALL BE CONTINUOUSLY BENCHED IN LAYERS SUBJECT TO THE ENGINEER'S APPROVAL. PLEASE REFER TO STANDARD SPECIFICATIONS FOR HIGHWAYS ON METHOD OF CONSTRUCTION FOR EMBANKMENT.
3. ROADWAY EMBANKMENT OF EARTH MATERIALS SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 200MM, LOOSE MEASUREMENT, AND SHALL BE COMPACTED AS SPECIFIED BEFORE THE NEXT LAYER IS PLACED. AS COMPACTION OF EACH LAYER PROGRESSES, CONTINUOUS LEVELING AND MANIPULATING WILL BE REQUIRED TO ASSURE UNIFORM DENSITY.

DRAINAGE

4. EXACT LOCATIONS, GRADIENTS, LENGTHS, SLOPES, OUTFALLS & INVERT ELEVATIONS OF ALL DRAINAGE STRUCTURES SHALL BE CHECKED IN THE FIELD BY THE ENGINEER. MINOR ADJUSTMENTS MAY BE MADE WITH THE APPROVAL OF THE ENGINEER SUIT FIELD CONDITIONS
5. EXTENSIONS AND OTHER IMPROVEMENTS OF EXISTING DRAINAGE STRUCTURES ARE SUBJECT TO CHANGE AND SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER IN-CHARGE.
6. DURING CONSTRUCTION, ANY EXISTING PIPES FOUND DAMAGED OR DEFECTIVE SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER. THE REMOVAL OF EXISTING STRUCTURES SHALL BE PAID FOR UNDER ITEM 101(4) - REMOVAL OF EXISTING PIPE CULVERT.
7. ANY MISCELLANEOUS REMOVAL NOT SHOWN ON THE PLANS INCLUDING REMOVAL OF HEADWALLS AND WINGWALLS OF EXISTING DRAINAGE STRUCTURES THAT ARE TO BE EXTENDED OR IMPROVED AND DISPOSAL OF RESULTING MATERIALS SHALL BE CONSIDERED SUBSIDIARY WORK PERTAINING TO OTHER CONTRACT ITEMS. THE COST OF PERFORMANCE THEREOF SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS.
8. ANY REVISIONS, REMOVAL AND/OR RELAYING DRAINAGE STRUCTURES AS DIRECTED BY THE ENGINEER TO SUIT EXISTING FIELD CONDITIONS SHALL BE CONSIDERED AS SUBSIDIARY WORK PERTAINING TO OTHER CONTRACT ITEMS. NO DIRECT PAYMENT SHALL BE MADE FOR THIS WORK UNLESS OTHERWISE SPECIFICALLY IDENTIFIED FOR PAYMENT IN THE SCHEDULE.
9. EXISTING DRAINAGE STRUCTURES OR PART THEREOF REMOVED BY THE CONTRACTOR THAT ARE STILL SERVICEABLE SHALL BE TURNED OVER TO THE GOVERNMENT & SHALL BE DEPOSITED AT A PLACE WITHIN THE PROJECT SITE DESIGNATED WITHOUT ANY EXTRA COMPENSATION. EXTREME PRECAUTION SHALL BE THE EXERCISED BY THE CONTRACTOR NOT TO DAMAGE THESE MATERIALS DURING THE REMOVAL & HANDLING.
10. TEST REQUIREMENTS FOR DRAINAGE
 - FOR CROSS DRAINAGE PIPES (CLASS IV)
 - D-LOAD TO PRODUCE A 0.30MM CRACK OF 100MMMM OF DIAMETER
 - D-LOAD TO PRODUCE THE ULTIMATE LOAD OF 150 100MMMM OF DIAMETER
 - FOR LATERAL PIPE (CLASS III)
 - D-LOAD TO PRODUCE A 0.30MM CRACK OF 50MMMM OF DIAMETER
 - D-LOAD TO PRODUCE THE ULTIMATE LOAD OF 75 100MMMM OF DIAMETER



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION:

CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS:

GENERAL NOTES

DRAFTED AND PREPARED:

EDWARD JOSEPH M. SARRAGA
ENGINEER II

DATE:

REVIEWED:

DEMURALDIN A. SEMPIO
ENGINEER II, C/C - DESIGN CHIEF

DATE:

SUBMITTED:

JUDYAN T. BERNARDINO
CHIEF, PLANNING AND DESIGN DIVISION

DATE:

RECOMMENDED:

JOSELUITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR

DATE:

APPROVED:

JUBY B. CORDON
REGIONAL DIRECTOR

DATE:

SHEET NO.

A
216

SHEET NO.

2
35

\\USERS\PH\HDC\TOP_2025\REALIGNMENT MATI FISH PORT, DO (02-10-25)\MATI FISH PORT 02-20-2025\DESIGN\TYPICAL DRAWINGS\02 - GEN NOTES.DWG

ABBREVIATIONS

ABUTMENT	ASUT	EXTERNAL DISTANCE / EASTING	E	RIGHT OF WAY	ROW
AHEAD STATIONING	AH STA	FINISHED	FKL	ROAD	RD
AND	&	FINISHED GRADE	FG	SOUTH	S
AREA	A	FINISHED PAVEMENT LEVEL	FPL	SIDEWALK	SDWK
ASPHALT CONCRETE PAVEMENT	ACP	GENERAL	GEN	SUBDIVISION OF UNDECREASED PROPERTY	Ctd
AT	@	GROUND LEVEL	GL	SQUARE	SQ
AZIMUTH	AZIM	HEAD WALL(s)	HW / HWS	SQUARE METER	sq. m. / m ²
BACK STATION	BK. STA.	HIGH FLOOD LEVEL	HFL	STANDARD	STD.
BARANGAY	BRGY.	HIGH TIDE LEVEL	HTL	STATION	STA.
BEGINNING OF CIRCULAR CURVE	BOC	HIGH WATER LEVEL	HWL	STRAIGHT	STR.
BEARING	BRG.	HORIZONTAL	HOR.	STREET	ST.
BEGINNING	BEG.	INCHES	IN.	STRUCTURE	STRUCT.
BELOW MEAN SEA LEVEL	BMSL	INTERSECTION ANGLE	I	TANGENT DISTANCE	T
BENCHMARK	BM	INSIDE DIAMETER	ID	TEMPERATURE	TEMP.
BETWEEN	BET.	INTERIOR	INT.	TEMPORARY BENCHMARK	TBM.
BORE HOLE	BH	KILOGRAM	KG.	VERTICAL	VERT
BOTH SIDES	BS	KILOMETER	km.	WIDTH	w
BOTH WAYS	BW	KILOMETER PER HOUR	KPH	WITH	wf
BOTTOM	BOT.	LEFT	LT.		
BRIDGE	BR.	LENGTH OF CIRCULAR CURVE	LC		
SUBDIVISION OF DECREASED PROPERTY	BSD.	LENGTH OF VERTICAL CURVE	VC		
BY BUREAU OF LANDS SURVEYORS		LONGITUDINAL	LONGIT.		
BUREAU OF LANDS LOCATION MONUMENT	BLLM	MAXIMUM	MAX.		
CENTER	CTR.	MAXIMUM FLOOD LEVEL	MFL		
CENTERLINE	CL	MEAN SEA LEVEL	MSL		
CENTIMETER	cm	METER	m		
CONCRETE HOLLOW BLOCK	CHB	MILLIMETER	mm		
CLEAR	CLR	MINIMUM	MIN.		
COLUMN	COL	MONUMENT	MON		
CONCRETE	CONC.	NORTHING	N		
CONCRETE HOLLOW BLOCK	CHB	NOT APPLICABLE	NA		
CONCRETE MONUMENT	CONC. MON.	NUMBER	NO.		
CONSTRUCTION	CONST.	ORDINARY WATER LEVEL	OWL		
CORNER	COR.	ORIGINAL GROUND LEVEL	OSL		
COVER	COV.	OUTSIDE DIAMETER	OD		
CROSS PIPE	CP	PAVEMENT WIDTH	PW		
CUBIC METER	cu. m. / m ³	PERCENT	%		
CYLINDRICAL	CYL.	PHILIPPINES	PHIL.		
DEGREE OF CURVE	D	PIECES	PCS.		
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	DPWH	PLUS / MINUS	+ / -		
DETAIL	DET.	PUBLIC LAND SUBDIVISION	PLS		
DIAMETER	DIA. / Ø	POINT OF INTERSECTION	PI		
DIAPHRAGM	DIAP.	POINT OF CURVATURE	PC		
DISTANCE	DIST.	POINT OF VERTICAL CURVE	PVC		
DRAWING	DRWG.	POINT OF VERTICAL INTERSECTION	PVI		
EAST	E	POINT OF VERTICAL TANGENT	PVT		
ELEVATION	ELEV. / EL.	POINT OF TANGENT	POT		
END OF CIRCULAR CURVE	ECC	PORTLAND CEMENT CONCRETE PAVEMENT	PCCP		
END OF PAVEMENT	EOP	PROJECT	PROJ.		
ENGINEER	ENGR.	PROJECT ROAD	PROJ. RD		
EQUATION	EQ.	PRIVATE SURVEY	P.S.		
EXCAVATION	EXCA.	RADIUS	R		
EXISTING	EXIST. / EXTG.	REFERENCE POINT	RP		
EXPANSION	EXPN.	REINFORCED CONCRETE BOX CULVERT	RCBC		
EXTENSION	EXTN.	REINFORCED CONCRETE PIPE CULVERT	RCPC		
EXTERIOR	EXTR.	RETAINING WALL	RET. WALL		



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHARLES COR. R. WAGSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
ABBREVIATIONS

DRAFTED AND PREPARED:
EDWARD JOSEPH M. SARTIGA
ENGINEER II
DATE: _____

REVIEWED:
DENNIS ALDWIN A. SEMPIO
ENGINEER II, OIC - DESIGN DIVISION
DATE: _____

SUBMITTED:
JUDY ANN T. BERNARDINO
CHIEF, TRAINING AND DESIGN DIVISION
DATE: _____

RECOMMENDED:
JOSELYN B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE: _____

APPROVED:
JUDY B. CORDON
REGIONAL DIRECTOR
DATE: _____

SET NO. 3 16
SHEET NO. 3 35

LEGENDS AND SYMBOLS

DRAWING SYMBOLS			TOPOGRAPHIC FEATURES, INFRASTRUCTURE AND UTILITIES			TOPOGRAPHIC FEATURES, INFRASTRUCTURE AND UTILITIES			DRAWING SYMBOLS		
SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION
	E	ROADWAY CENTERLINE			MAJOR CONTOUR			TREES		BH	BORE HOLE
		NORTH ARROW			MINOR CONTOUR			COCONUT			CROSS SECTION MONUMENT
	ELEV	ELEVATION CALLOUT			EDGE OF ROAD (EXISTING)			BANANA PLANTATION		BM	BENCH MARK
		WATER LEVEL			EDGE OF ROAD (PROPOSED)			SCHOOL		IBM	INTERMEDIATE BENCH MARK
	FLOW	WATER FLOW			ASPHALT CONCRETE PAVEMENT			CHURCH		PSM	PERMANENT BENCH MARK
		POINT OF INTERSECTION		PCCP	PORTLAND CEMENT CONCRETE PAVEMENT			AMANG HOUSE		TP	TEST PIT
	MATCH LINE	MATCH LINE			CHB/GROUTED/CONCRETE/ EARTH CANAL			CONCRETE HOUSE		GPS	GLOBAL POSITIONING SYSTEM
		GRID COORDINATES			NATIONAL HIGHWAY			WOODEN STORE			TRAVERSE POINT
	AZM	AZIMUTH			EXISTING CANAL (PLAN)			COMBINATION OF CONCRETE AND WOODEN HOUSE			TRAVERSE STATION AND LINE
		PLAN AND PROFILE CALLOUT			EXISTING CANAL (PROFILE)			STORE			
		RCP INVERSE ELEVATION PROFILE CALLOUT		BR	BRIDGE		SB	SIGN BOARD			
		DIRECTION			CROSS-DRAIN		SP	STEEL POST			
		MAIN DRAWING TITLE			LATERAL PIPE		SEP	STEEL ELECTRIC POST			
		SECONDARY DRAWING TITLE			RCBC		CP	CONCRETE POST			
		CROSS SECTION SYMBOL (COMPLEX)			MANHOLE		CEP	CONCRETE ELECTRIC POST			
		CROSS SECTION SYMBOL (COMPLEX)			GUARDRAIL		WEP	WOODEN ELECTRIC POST			
		DETAIL CALLOUT			CONCRETE WALL FENCE		LP	LAMP POST			
					WOOD OR BARBED WIRE FENCE						
					CYCLONE FENCE						
					CONCRETE SLOPE PROTECTION						
					GROUTED RIPRAP SLOPE PROTECTION						
					RIVER / CREEK						

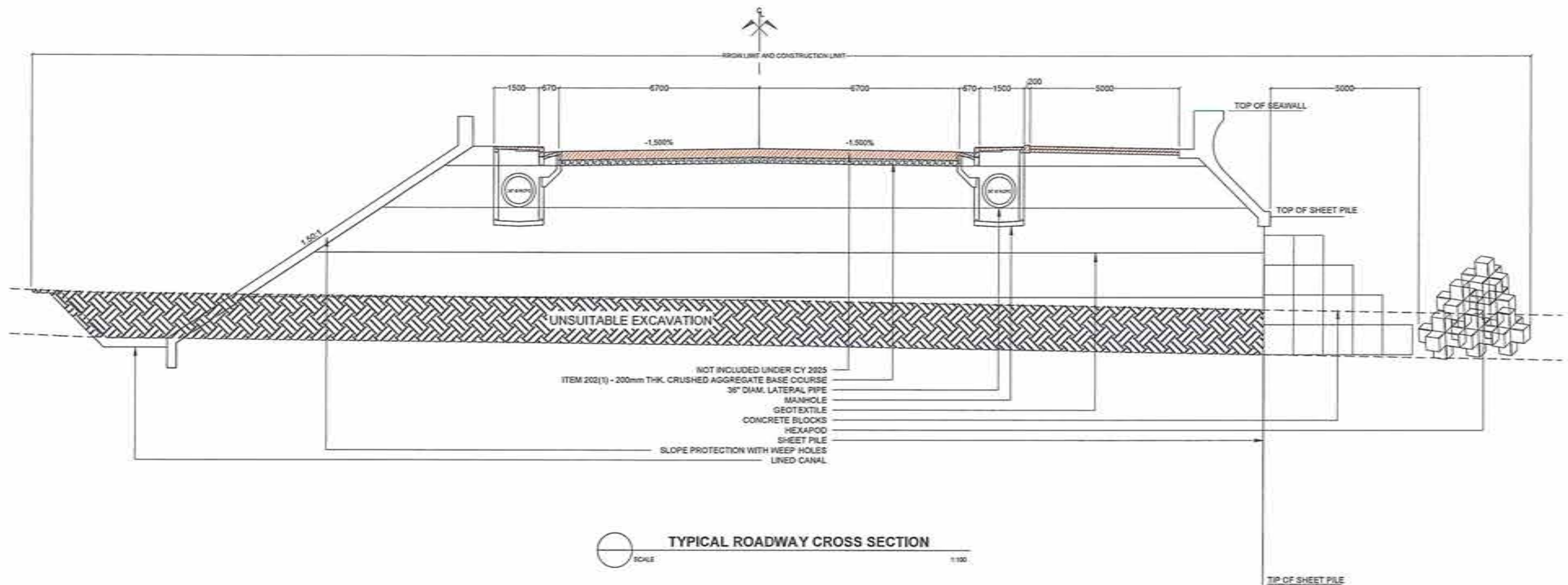
SUMMARY OF QUANTITIES

ITEM No.	DESCRIPTION OF WORK	UNIT	ROADS	SLOPE PROTECTION	TOTAL QUANTITY	REMARKS
PART A. FACILITIES FOR ENGINEER						
A.1.1(3)	CONSTRUCTION OF FIELD OFFICE FOR THE ENGINEER	LS	-	-	1.00	
A.1.1(16)	OPERATION AND MAINTENANCE OF FIELD OFFICE FOR THE ENGINEER	MONTH	-	-	11.00	
A.1.3(2)	PROVISION OF SURVEY EQUIPMENT FOR THE ASSISTANCE TO THE ENGINEER	LS	-	-	1.00	
PART B. OTHER GENERAL REQUIREMENT						
B.4(1)	CONSTRUCTION SURVEY AND STAKING	KM	-	-	0.30	
B.5	PROJECT BILLBOARD / SIGNBOARD (2 DPWH)	EACH	-	-	2.00	
B.5	PROJECT BILLBOARD / SIGNBOARD (2 DENR-EMB)	EACH	-	-	2.00	
B.5	PROJECT BILLBOARD / SIGNBOARD (2 COA)	EACH	-	-	2.00	
B.7(2)	OCCUPATIONAL SAFETY AND HEALTH PROGRAM	LS	-	-	1.00	
B.8(1)	TRAFFIC MANAGEMENT	MONTH	-	-	11.00	THE CONTRACTOR SHALL PREPARE A SEPARATE TRAFFIC OPERATIONAL PLAN (TOP) TO BE SUBMITTED AND APPROVED BY THE CONCERNED LGU TRAFFIC BOARD
B.9	MOBILIZATION / DEMOBILIZATION	LS	-	-	1.00	
PART C. EARTHWORKS						
102(1)	UNSUITABLE EXCAVATION	CUM	17,915.00	-	17,915.00	
103(3)	FOUNDATION FILL	CUM	9.50	-	9.50	FOR RCPC
104(2)	EMBANKMENT FROM BORROW, COMMON SOIL	CUM	55,999.00	-	55,999.00	
PART D. SUB-BASE & BASE COURSE						
202(1)	CRUSHED AGGREGATE BASE COURSE	CUM	861.00	-	861.00	
PART F. DRAINAGE CONSTRUCTION						
404(1)a	REINFORCING STEEL, GRADE 40	KG	-	92,409.60	92,409.60	FOR CONCRETE SEAWALL AND HEXAPODS
405(1)a3	STRUCTURAL CONCRETE, 20.68 MPa, CLASS A, 28 DAYS	CUM	-	5,486.20	5,486.20	FOR CONCRETE SEAWALL, HEXAPODS AND CONCRETE BLOCKS
PART G. DRAINAGE AND SLOPE PROTECTIONS						
500(1)a3	PIPE CULVERTS, 910 mm DIA., CLASS IV, RCPC	LM	569.00	-	569.00	
502(1)a3	MANHOLES, 910 mm DIA., CONCRETE	EACH	32.00	-	32.00	
502(2)a1	INLETS, TYPE 610 mm DIA.	EACH	32.00	-	32.00	
505(2)a	GROUTED RIPRAP, CLASS A	CUM	-	1,665.00	1,665.00	FOR GROUTED RIPRAP SLOPE PROTECTION
509(1)a1	SHEET PILES, STEEL, SLOPE PROTECTION (HOT ROLLED)	LM	-	5,160.00	5,160.00	Z-TYPE (700 mm x 499.2 mm x 15.1 mm, SECTION MODULUS: 3,596 cm ³ /m), 118.87 kg/m
715(1)	GEOTEXTILE	SQM	-	46,839.00	46,839.00	
715(3)	DRAINAGE GEOTEXTILE	SQM	-	6,841.50	6,841.50	

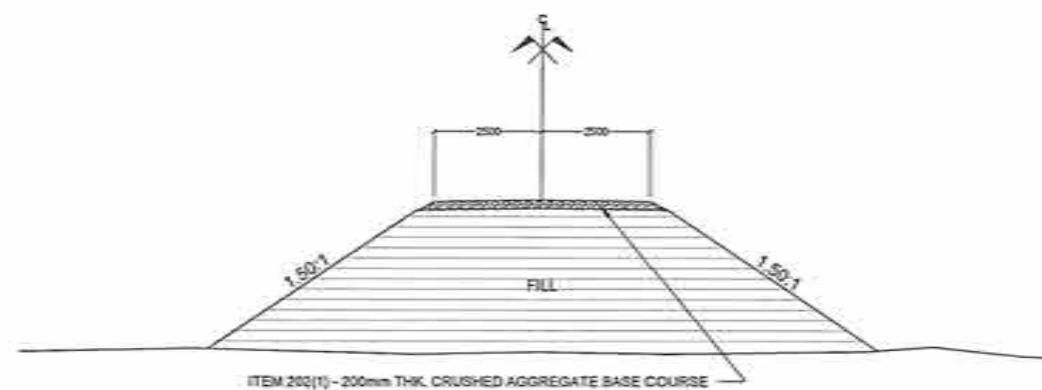
NOTE: QUANTITIES ARE SUBJECT TO INCREASE/DECREASE DEPENDING ON THE ACTUAL FIELD CONDITIONS.

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. DAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY	PROJECT NAME AND LOCATION	SHEET CONTENTS	DRAFTED AND PREPARED	REVIEWED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
	CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	SUMMARY OF QUANTITIES	EDUARDO JOSEPH M. SANTIAGO ENGINEER II DATE: _____	DENVER ACCION A. SEMPIO ENGINEER II, CIV. SECTION CHIEF DATE: _____	JUDY ANN T. BERNARDO CHIEF, PLANNING AND DESIGN DIVISION DATE: _____	JOSELYN B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE: _____	JUBY B. CORDON REGIONAL DIRECTOR DATE: _____	A 5 16	5 35

C:\USERS\DW\DESKTOP\1225REALIGNMENT MATI FISH PORT, DO (02-10-25)\MATI FISH PORT 02-20-2025\DESIGN\TYPICAL DRAWINGS\1.6.5 - VICINITY-SUMMARY.DWG



TYPICAL ROADWAY CROSS SECTION
SCALE 1:100



TYPICAL ACCESS ROAD CROSS SECTION
SCALE 1:100

UNSUITABLE EXCAVATION SCHEDULE			
STATION	LENGTH	VOLUME	
1523+574.906	1523+885.650	300.000	17.915.00

UNSUITABLE EXCAVATION SCHEDULE

SCHEDULE FOR SHOULDER			
+ 4% < 5%	+ 2%		
+ 6% > 5%	+ 2%		
+ 6% > 6%	+ 1%		
+ 4% > 7%	+ 0%		
+ 4% > 8%	+ 1%		

WARNING AND ROUND SCHEDULE	
HEIGHT OF CUT SLOPE (M)	SLOPE ROUNDING (M)
0.5 < H < 1.5	1.50 M
H > 1.50 M	2.50 M

CUT/FILL SLOPE SCHEDULE		
NATURE OF MATERIAL	CUT SLOPE	FILL SLOPE
COMMON EARTH	1:1 - 1:1.5	1.5:1
DIFFICULT SOIL	1:1.5 - 2:1	-
SOLID ROCK	1:1	-



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. SAGSAGAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION:
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS:
TYPICAL ROADWAY CROSS SECTIONS
UNSUITABLE EXCAVATION SCHEDULE

DRAFTED AND PREPARED:
EDUARDO JOSEPH M. SARTIDA
ENGINEER I
DATE: _____

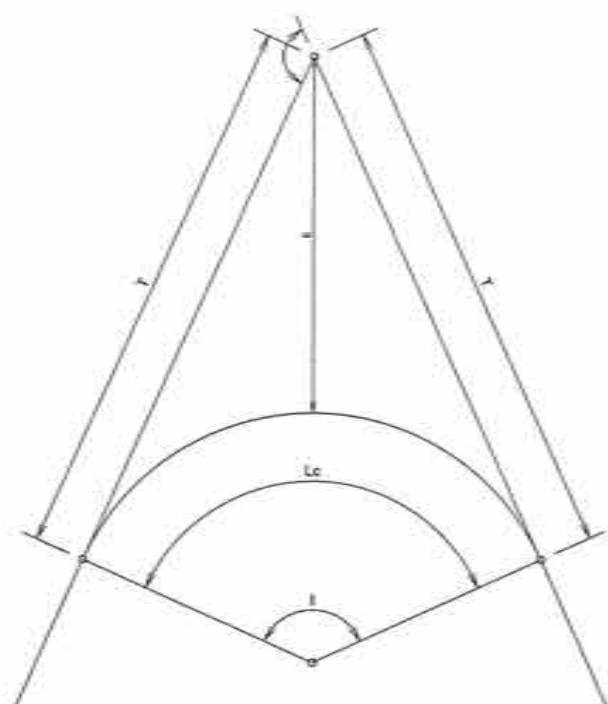
REVIEWED:
DENNIS ALLERUM SEMPINO
ENGINEER II, DEC - SECTION CHIEF
DATE: _____

SUBMITTED:
JUDY B. T. BERNARDINO
CHIEF, PLANNING AND DESIGN DIVISION
DATE: _____

RECOMMENDED:
JOSE LITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE: _____

APPROVED:
JUBY B. CORDON
REGIONAL DIRECTOR
DATE: _____

SET NO. 6
SHEET NO. 35



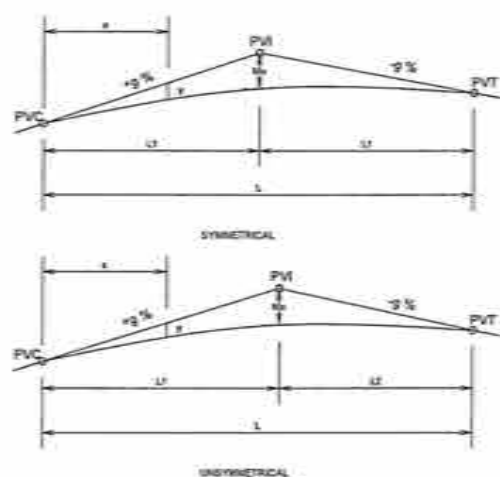
HORIZONTAL CURVE (CIRCULAR)

LEGEND: (HORIZONTAL CIRCULAR CURVE)

- PI = POINT OF INTERSECTION
- I = INTERSECTION ANGLE (CENTRAL ANGLE)
- T = TANGENT DISTANCE
- R = RADIUS
- Lc = LENGTH OF CURVE
- E = TOTAL EXTERNAL DISTANCE
- PC = POINT OF CURVATURE
- PT = POINT OF TANGENCY

NOTE:

1. NO HORIZONTAL CURVE IS REQUIRED WHEN THE INTERSECTION (CENTRAL ANGLE) IS LESS THAN ONE DEGREE (1°00').
2. LENGTH OF CIRCULAR CURVE, $L_c = \frac{360}{D} R$



VERTICAL PARABOLIC CURVE

LEGEND: (HORIZONTAL CIRCULAR CURVE)

- PVI = POINT OF VERTICAL INTERSECTION
- PVC = POINT OF VERTICAL CURVATURE
- PVT = POINT OF VERTICAL TANGENCY
- L = LENGTH OF VERTICAL CURVE
- g = GRADE IN PERCENT
- Mo = MIDDLE ORDINATE
- x = DISTANCE FROM PVC OR PVT TO ANY POINT OF CURVE
- y = VERTICAL OFFSET IN METERS
- A = ALGEBRAIC DIFFERENCE OF GRADES

NOTE:

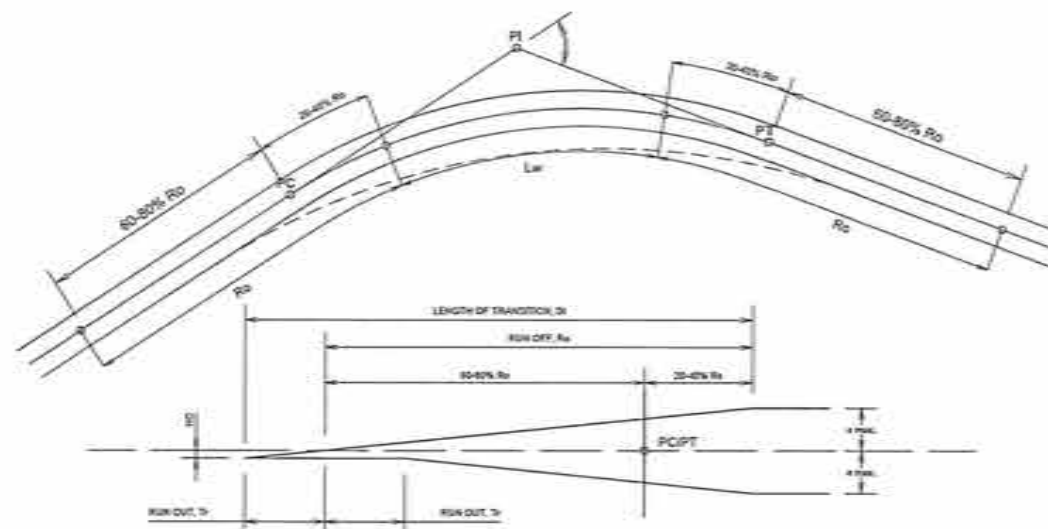
1. NO VERTICAL CURVE IS REQUIRED WHEN THE ALGEBRAIC DIFFERENCE IN GRADES IS LESS THAN 0.50% IN ANY VERTICAL PARABOLIC CURVE.

SYMMETRICAL

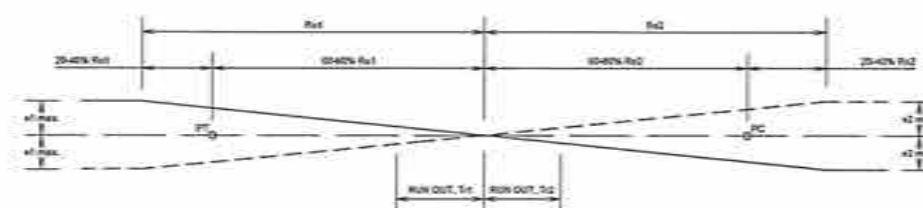
$$M_o = \frac{A}{800} \quad y = \frac{x^2(800)}{L^2}$$

UNSYMMETRICAL

$$M_o = \frac{A(1.2)}{200L} \quad y = \frac{x^2(M_o)}{5.7 \text{ or } 5.12}$$



SHOWING HALF OF TRANSITION EASEMENT - HORIZONTAL CURVATURE AND SUPERELEVATION (DIAGRAMMATIC PROFILE - PAVEMENT REVOLVED ABOUT CENTERLINE)



SHOWING HALF OF TRANSITION EASEMENT - REVERSED HORIZONTAL CURVATURE AND SUPERELEVATION (DIAGRAMMATIC PROFILE - PAVEMENT REVOLVED ABOUT CENTERLINE)

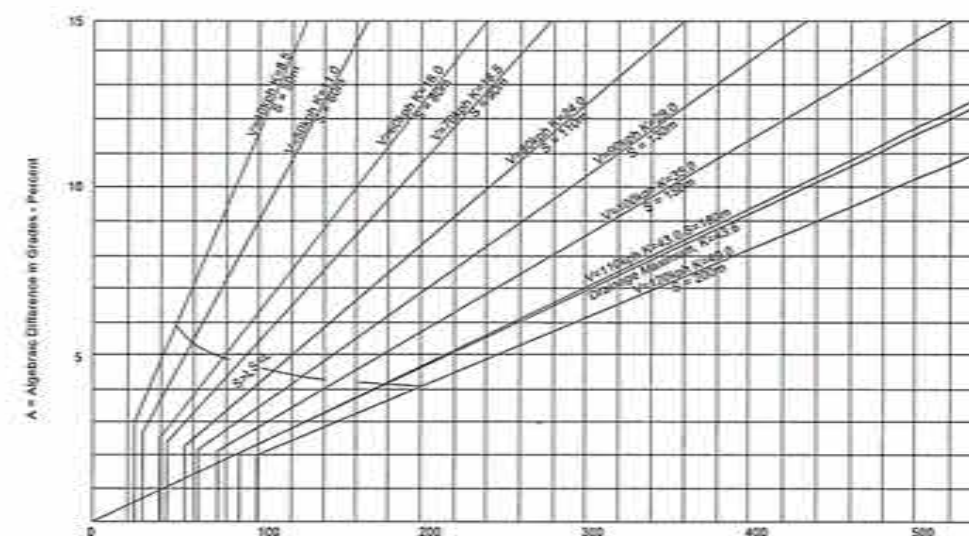
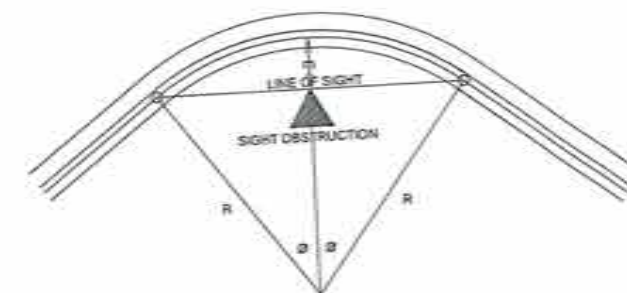
$$m = R \text{ vers } \theta$$

$$m = \frac{1145.92}{D} \text{ vers } \frac{SD}{40}$$

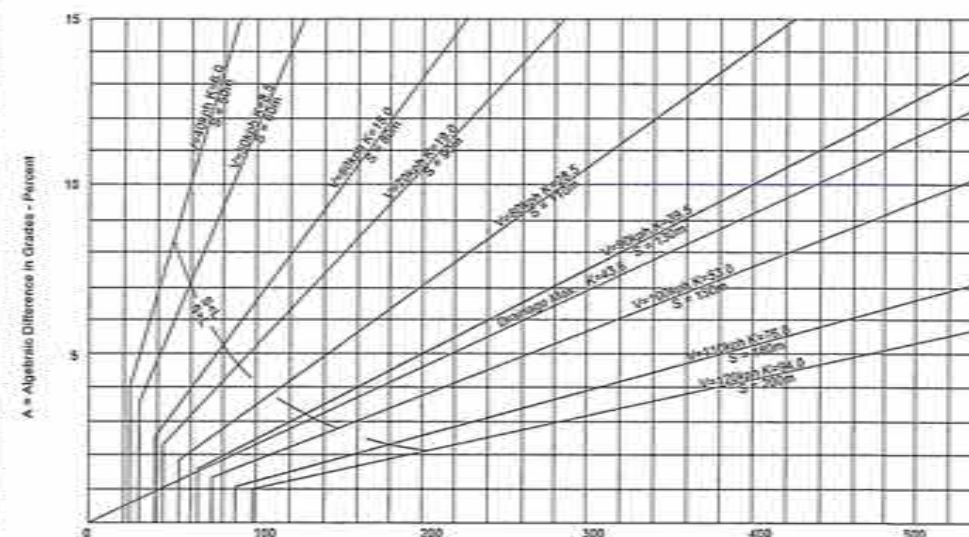
$$m = R \text{ vers } \frac{28.65 S}{R}$$

$$S = \frac{R}{28.65} \cos^{-1} \frac{R-m}{R}$$

- D = DEGREE OF CURVE
- R = RADIUS OF CURVE
- V = ASSUMED DESIGN SPEED
- S = STOPPING SIGHT DISTANCE
- m = MIDDLE ORDINATE
- θ = 1/2 OF INTERSECTION ANGLE



DESIGN CONTROLS FOR SAG VERTICAL CURVE
BASED ON MINIMUM STOPPING SIGHT DISTANCE, (HEADLIGHT DISTANCE)



$$L = KA$$

$$K = \frac{S^2}{25} \quad (K \text{ ROUNDED})$$

DESIGN CONTROLS FOR CREST VERTICAL CURVE
BASED ON MINIMUM STOPPING SIGHT DISTANCE, (S)

WIDENING WHEN TRANSITIONS NOT USED

RADIUS OF CURVE	ROADWAY WIDTH = 6.00 MTS.					
	DESIGN SPEED (KPH)					
	50	60	70	80	90	100
3000	0.5	0.5	0.6	0.6	0.6	0.6
2500	0.5	0.5	0.6	0.6	0.6	0.6
2000	0.6	0.6	0.6	0.6	0.6	0.7
1500	0.6	0.6	0.7	0.7	0.7	0.7
1000	0.7	0.7	0.7	0.8	0.8	0.8
800	0.7	0.7	0.8	0.8	0.8	0.8
600	0.7	0.8	0.8	0.8	0.9	0.9
500	0.8	0.8	0.8	0.9	0.9	1.0
400	0.9	0.9	1.0	1.0	1.1	1.1
300	1.0	1.0	1.1	1.1	1.2	1.2
250	1.1	1.2	1.2	1.3	1.4	1.4
200	1.2	1.3	1.4	1.4	1.5	
150	1.4	1.5	1.6	1.6		
140	1.7	1.8	1.9	1.9		
130	1.8	1.9				
120	1.9	2.0				
110	2.0	2.1				
100	2.1	2.2				
90	2.2	2.3				
80	2.4					
70	2.6					



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. NROKSAWAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
DESIGN CRITERIA

DRAFTED AND PREPARED:
EDUARDO JOSEPH M. SARTIGA
ENGINEER II
DATE:

REVIEWED:
DENNIS ALDRIN A. SEMPINO
ENGINEER II, DEC. - SECTION CHIEF
DATE:

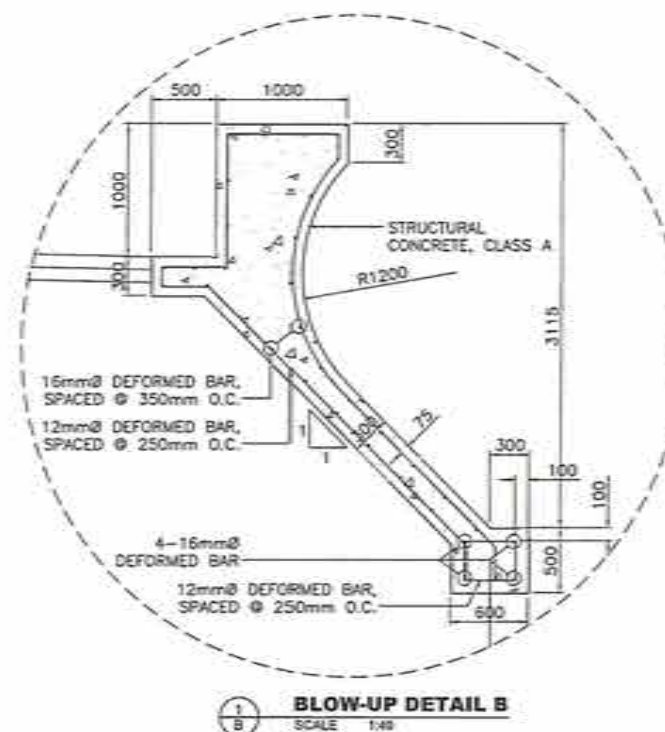
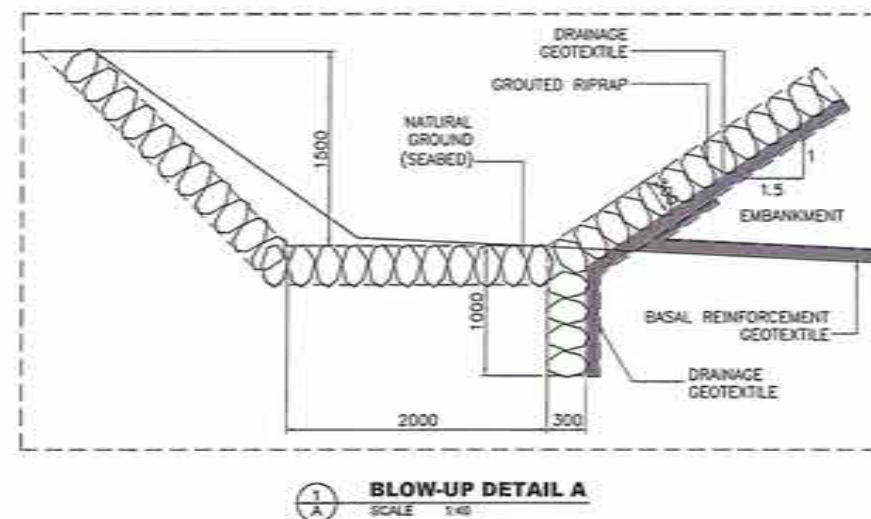
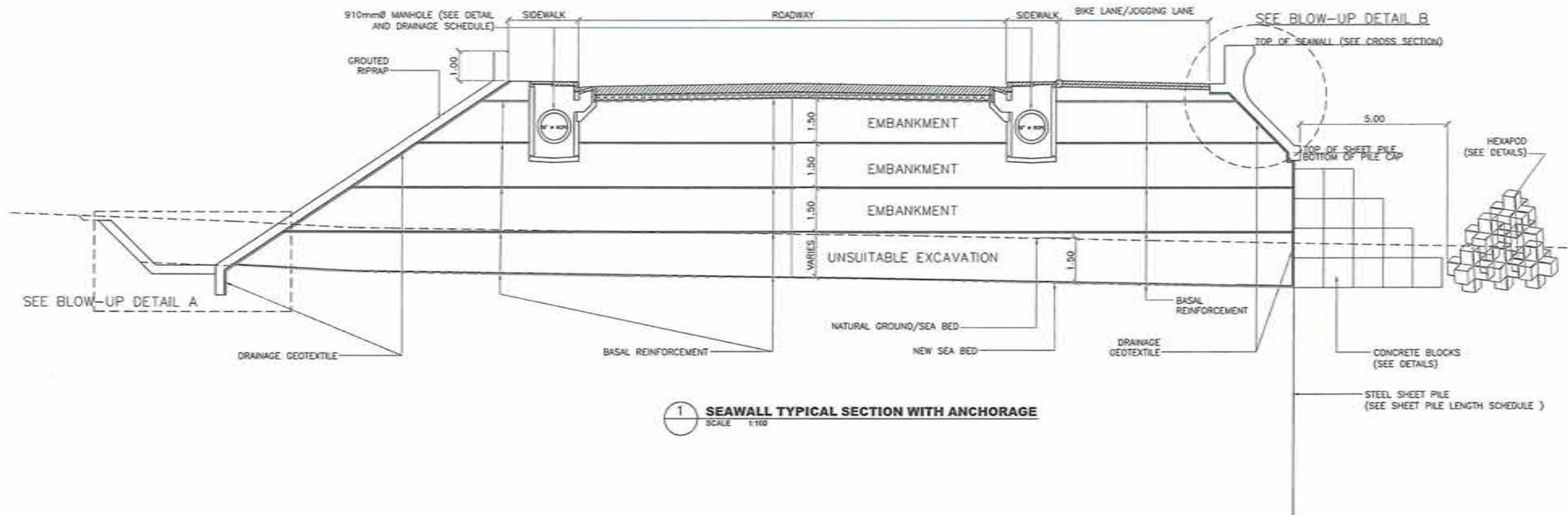
SUBMITTED:
JUDY ANN T. BERNARDINO
CHIEF, TRAINING AND DESIGN DIVISION
DATE:

RECOMMENDED:
JOSE LITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE:

APPROVED:
JUDY B. CORDON
REGIONAL DIRECTOR
DATE:

SET NO.
A
7 16

SHEET NO.
7
35



1. SEPARATION/BASAL REINFORCEMENT GEOTEXTILE (ITEM 715.7.3)

THE BASAL REINFORCEMENT GEOTEXTILE IS MADE FROM HIGHLY SPECIALIZED FIBER TECHNOLOGY GEOTEXTILE THAT PROVIDES EXCELLENT ABRASION RESISTANCE AND DURABILITY OVER TIME.

MECHANICAL PROPERTIES	TEST METHOD	UNIT	MINIMUM AVERAGE VALUES	
			MACHINE DIRECTION	CROSS DIRECTION
TENSILE STRENGTH	ISO 10319	kN/m	125 (min.)	125 (min.)
CBR PUNCTURE STRENGTH	ISO 12236	kN	12 (min.)	
HYDRAULIC OPENING SIZE	ISO 12956	mm	0.20	
WATER PERMEABILITY	ISO 11058	l/m ² s	13	
UV RESISTANCE STRAIN STRENGTH	ASTM D4355	% retained	90	

2. DRAINAGE GEOTEXTILE (ITEM 715.7.1)

THE DRAINAGE GEOTEXTILE IS MANUFACTURED USING SPECIAL ENGINEERED NONWOVEN FABRICS TO PROVIDE EXCELLENT ROBUSTNESS, UV PROTECTION AND DURABILITY IN MARINE AND HYDRAULIC CONDITION.

MECHANICAL PROPERTIES	TEST METHOD	UNIT	MINIMUM AVERAGE VALUES	
			MACHINE DIRECTION	CROSS DIRECTION
TENSILE STRENGTH	ISO 10319	kN/m	30 (min.)	30 (min.)
CBR PUNCTURE STRENGTH	ISO 12236	kN	4.50 (min.)	
HYDRAULIC OPENING SIZE	ISO 12956	mm	0.80	
WATER PERMEABILITY	ISO 11058	l/m ² s	35	
UV RESISTANCE STRAIN STRENGTH	ASTM D4355	% retained	90	



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
SEAWALL TYPICAL SECTION WITH ANCHORAGE

DRAFTED AND PREPARED
PELAGIO A. L. BERNARDINO
ENGINEER II
DATE

REVIEWED
ALAN JOHN R. SOTERO
ENGINEER III
DATE

SUBMITTED
JUDITHAN T. BERNARDINO
CHIEF, TRAINING AND DESIGN DIVISION
DATE

RECOMMENDED
JOSELO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE

APPROVED
JUBY B. CORDON
REGIONAL DIRECTOR
DATE

SET NO. 8
SHEET NO. 35

D:\INNET\TOPWA PROJECTS\2025\04 02 MATI FISH PORT\TYPICAL\SEAWALL TYPICAL CP_35\FINAL.DWG

NOTE:

COMPRESSIVE STRENGTH OF CONCRETE SHOULD BE EQUAL TO 3000 PSI OR 20.69 MPa

GENERAL NOTES FOR CONCRETE BLOCKS/ HEXAPOD

1407.3.1 MATERIAL REQUIREMENTS

1. PORTLAND CEMENT

CEMENT SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF ASTM C150, SPECIFICATION FOR PORTLAND CEMENT. IT IS RECOMMENDED TO USE TYPE I, II AND III OR V, SULPHATE-RESISTING CEMENTS.

2. FINE AGGREGATE

THE FINE AGGREGATE TO BE USED SHALL BE A NATURAL SAND OR SAND MANUFACTURED FROM COARSE AGGREGATE. IT SHALL CONFORM TO ASTM C33, SPECIFICATION FOR CONCRETE AGGREGATES, EXCEPT FOR GRADATION WITH A MAXIMUM SIZE OF FIVE (5) PERCENT PASSING No. 100 (0.15mm) SIEVE AND MAXIMUM OF THREE (3) PERCENT PASSING No. 200 (0.075mm) SIEVE.

3. COARSE AGGREGATE

THE COARSE AGGREGATE SHALL BE CLEAN, HARD, STRONG, DURABLE AND INERT, FREE FROM DELETERIOUS OR STAINING MATERIAL AND SHALL COMPLY WITH ASTM C33, SPECIFICATION FOR CONCRETE AGGREGATES, EXCEPT FOR GRADATION. USE OF LIGHTWEIGHT AGGREGATES IS NOT RECOMMENDED AS STABILITY FORMULAE SHOW THAT VERY LARGE UNITS ARE REQUIRED. MAXIMUM DIAMETER OF AGGREGATES SHALL BE 20mm.

4. REINFORCING BARS

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT. A TWENTY-FIVE (25mm) CHAMFER STRIP SHALL BE USED IN ALL CORNERS. FORMS SHALL BE WATER-TIGHT AND SHALL NOT BE REMOVED UNTIL AT LEAST TWENTY-FOUR (24) HOURS AFTER THE CONCRETE IS PLACED. CONCRETE COVER SHALL NOT BE LESS THAN 127mm.

1407.4.3 CONSTRUCTION

1. THE PRECAST BREAKWATER STRUCTURE UNIT PROTECTION SHALL BE PLACED IN CONJUNCTION WITH THE CONSTRUCTION OF THE EMBANKMENT, SO THAT THE EMBANKMENT IS FULLY PROTECTED.

2. THE CONTRACTOR SHALL PROVIDE THE EQUIPMENT, A SORTING SITE AND THE LABOR TO UNDERTAKE THE TESTING REQUIRED.

3. THE CONTRACTOR SHALL PLACE THE PRECAST BREAKWATER STRUCTURE UNIT SUCH THAT THE UNDERLYING MATERIALS AND ANY ADJUTING STRUCTURES ARE NOT DAMAGED.

4. PRECAST BREAKWATER STRUCTURE UNITS SHALL BE PLACED SUCH THAT EACH UNIT IS STABLE, SECURE AND SUPPORTED BY ROCKS BELOW AND THE PLACEMENT SHALL BE CONTROLLED TO ENSURE THAT A UNIFORM AND CONTINUOUS COVER RESULTS.

5. NO PUSHING OR DUMPING OF PRECAST BREAKWATER STRUCTURE UNIT SHALL BE PERMITTED DURING PLACEMENT.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF DAMAGED PRECAST BREAKWATER STRUCTURE UNIT DUE TO WATER LEVEL VARIATIONS, WAVES OR WEATHER CONDITIONS.

1407.4.3.1 VISUAL INSPECTION

ALL PRECAST BREAKWATER STRUCTURE UNITS SHALL BE SOUND AND FREE OF DEFECTS THAT INTERFERE WITH EITHER THE PROPER PLACEMENT OF THE UNITS OR IMPAIR THE PERFORMANCE OF THE SYSTEM.

CRACKS EXCEEDING 6.35mm IN WIDTH AND/OR 254mm IN DEPTH SHALL BE DEEMED GROUNDS FOR REJECTION.

CHIPPING RESULTING IN A HEIGHT LOSS EXCEEDING TEN(10) PERCENT OF THE AVERAGE HEIGHT OF A CONCRETE UNIT SHALL BE DEEMED GROUNDS FOR REJECTION.

REJECTED PRECAST BREAKWATER STRUCTURE UNITS AT THE JOB SITE SHALL BE REPAIRED WITH STRUCTURAL GROUT OR REPLACED AT THE EXPENSE OF THE CONTRACTOR.

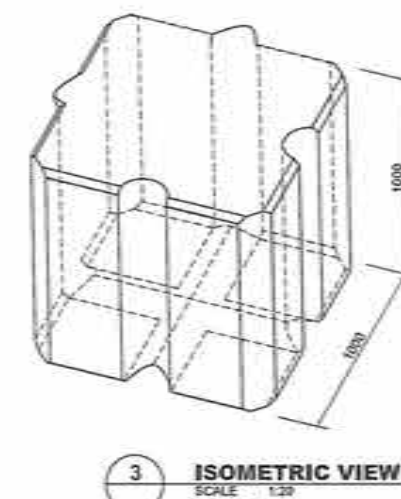
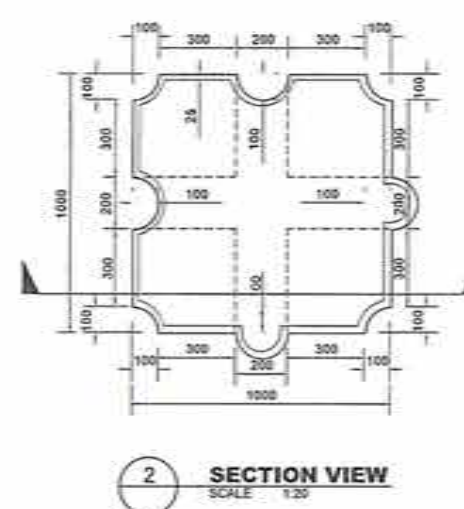
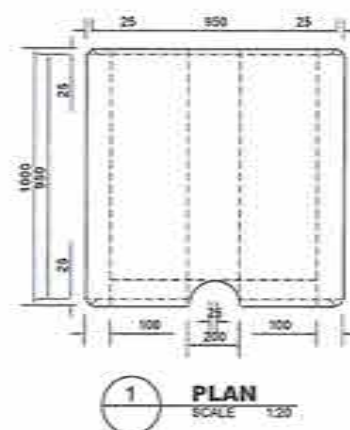
1407.4.3.2 HANDLING AND STORAGE

HANDLING OF PRECAST BREAKWATER STRUCTURE UNITS IN CASTING YARDS SHALL USE CRANE WITH EITHER SINGLE OR DOUBLE SLINGS FOR LARGE UNITS AND USE SUITABLE LIFTING DEVICES OR FRONT-END LOADERS FOR SMALL AND MEDIUM UNITS. THE MOST EFFICIENT STORAGE PATTERN FOR PRECAST BREAKWATER STRUCTURE UNITS IS TO PLACE THE UNITS IN A ROW, TIPPED OVER, RESTING AT A 45-DEGREE ANGLE ON THE CENTRAL FLAKE WITH MINIMAL SPACE BETWEEN ADJACENT UNITS. IT CAN ALSO BE STORED ONE ON TOP OF ANOTHER.

1407.4.4 CONCRETE MIXTURE

PRECAST BREAKWATER STRUCTURE UNITS SHALL BE OF THE DESIGN SHOWN ON THE PLANS. CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ITEM 900, REINFORCED CONCRETE OF THE DPMH STANDARD SPECIFICATIONS FOR PUBLIC STRUCTURES. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 27.50 MPa, WITH MAXIMUM AGGREGATES SIZE OF 20mm, UNLESS OTHERWISE SPECIFIED IN THE PLANS. THE PRODUCT SHALL NOT BE SHIPPED OR MOVED UNLESS THE CONCRETE STRENGTH HAS REACHED AT LEAST 75% OF THE SPECIFIED 28-DAY COMPRESSIVE STRENGTH.

WORKABILITY OF CONCRETE SHALL BE PROPORTIONED TO ACHIEVE A RANGE OF 50mm AND 100mm SLUMP. THE USE OF APPROPRIATE PLASTICIZER/ADDITIVES TO ASSURE MIX FLUIDITY AND CONSISTENCY SHALL BE ALLOWED AND WITH THE ENGINEER'S APPROVAL. IT CAN BE INCREASED BY THE USE OF PLASTICIZERS TO KEEP THE WATER-CEMENT RATIO NOT GREATER THAN 0.45.



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
CONCRETE BLOCKS DETAILS

DRAFTED AND PREPARED
PELACIO A. LINDANGAN
ENGINEER
DATE:

REVIEWED
ALAN JOHN R. SOTTO
ENGINEER
DATE:

SUBMITTED
JUDY ANN T. BERNARDINO
CHIEF PLANNING AND DESIGN DIVISION
DATE:

RECOMMENDED
JOSELITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE:

APPROVED
JUBY B. CORDON
REGIONAL DIRECTOR
DATE:

SHEET NO.
A
9
16

SHEET NO.
9
35

GENERAL NOTES FOR HEXAPOD

1407.3.1 MATERIAL REQUIREMENTS

1. PORTLAND CEMENT

CEMENT SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF ASTM C150, SPECIFICATION FOR PORTLAND CEMENT. IT IS RECOMMENDED TO USE TYPE I, II AND III OR V, SULPHATE-RESISTING CEMENTS.

2. FINE AGGREGATE

THE FINE AGGREGATE TO BE USED SHALL BE A NATURAL SAND OR SAND MANUFACTURED FROM COARSE AGGREGATE. IT SHALL CONFORM TO ASTM C33, SPECIFICATION FOR CONCRETE AGGREGATES, EXCEPT FOR GRADATION WITH A MAXIMUM SIZE OF FIVE (5) PERCENT PASSING No. 100 (0.15mm) SIEVE AND MAXIMUM OF THREE (3) PERCENT PASSING No. 200 (0.075mm) SIEVE.

3. COARSE AGGREGATE

THE COARSE AGGREGATE SHALL BE CLEAN, HARD, STRONG, DURABLE AND INERT, FREE FROM DELETERIOUS OR STAINING MATERIAL AND SHALL COMPLY WITH ASTM C33, SPECIFICATION FOR CONCRETE AGGREGATES, EXCEPT FOR GRADATION. USE OF LIGHTWEIGHT AGGREGATES IS NOT RECOMMENDED AS STABILITY FORMULAE SHOW THAT VERY LARGE UNITS ARE REQUIRED. MAXIMUM DIAMETER OF AGGREGATES SHALL BE 20mm.

4. REINFORCING BARS

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT. A TWENTY-FIVE (25mm) CHAMFER STRIP SHALL BE USED IN ALL CORNERS. FORMS SHALL BE WATER-TIGHT AND SHALL NOT BE REMOVED UNTIL AT LEAST TWENTY-FOUR (24) HOURS AFTER THE CONCRETE IS PLACED. CONCRETE COVER SHALL NOT BE LESS THAN 127mm.

1407.4.3 CONSTRUCTION

1. THE PRECAST BREAKWATER STRUCTURE UNIT PROTECTION SHALL BE PLACED IN CONJUNCTION WITH THE CONSTRUCTION OF THE EMBANKMENT, SO THAT THE EMBANKMENT IS FULLY PROTECTED.

2. THE CONTRACTOR SHALL PROVIDE THE EQUIPMENT, A SORTING SITE AND THE LABOR TO UNDERTAKE THE TESTING REQUIRED.

3. THE CONTRACTOR SHALL PLACE THE PRECAST BREAKWATER STRUCTURE UNIT SUCH THAT THE UNDERLYING MATERIALS AND ANY ABUTTING STRUCTURES ARE NOT DAMAGED.

4. PRECAST BREAKWATER STRUCTURE UNITS SHALL BE PLACED SUCH THAT EACH UNIT IS STABLE, SECURE AND SUPPORTED BY ROCKS BELOW AND THE PLACEMENT SHALL BE CONTROLLED TO ENSURE THAT A UNIFORM AND CONTINUOUS COVER RESULTS.

5. NO PUSHING OR DUMPING OF PRECAST BREAKWATER STRUCTURE UNIT SHALL BE PERMITTED DURING PLACEMENT.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF DAMAGED PRECAST BREAKWATER STRUCTURE UNIT DUE TO WATER LEVEL VARIATIONS, WAVES OR WEATHER CONDITIONS.

1407.4.3.1 VISUAL INSPECTION

ALL PRECAST BREAKWATER STRUCTURE UNITS SHALL BE SOUND AND FREE OF DEFECTS THAT INTERFERE WITH EITHER THE PROPER PLACEMENT OF THE UNITS OR IMPAIR THE PERFORMANCE OF THE SYSTEM.

CRACKS EXCEEDING 6.35mm IN WIDTH AND/OR 254mm IN DEPTH SHALL BE DEEMED GROUNDS FOR REJECTION.

CHIPPING RESULTING IN A WEIGHT LOSS EXCEEDING TEN(10) PERCENT OF THE AVERAGE WEIGHT OF A CONCRETE UNIT SHALL BE DEEMED GROUNDS FOR REJECTION.

REJECTED PRECAST BREAKWATER STRUCTURE UNITS AT THE JOB SITE SHALL BE REPAIRED WITH STRUCTURAL GROUT OR REPLACED AT THE EXPENSE OF THE CONTRACTOR.

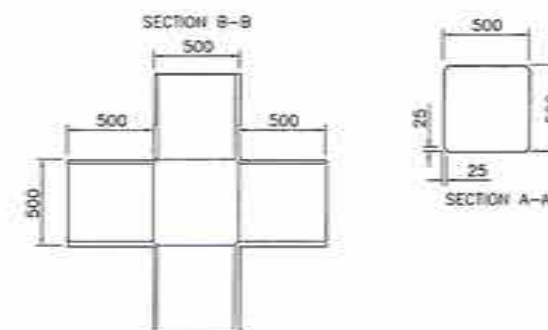
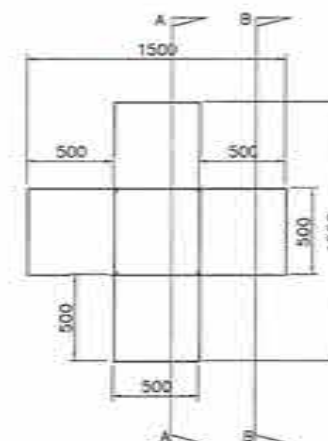
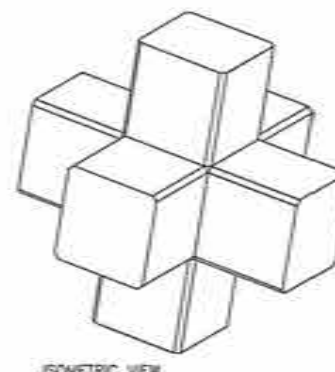
1407.4.3.2 HANDLING AND STORAGE

HANDLING OF PRECAST BREAKWATER STRUCTURE UNITS IN CASTING YARDS SHALL USE CRANE WITH EITHER SINGLE OR DOUBLE SLINGS FOR LARGE UNITS AND USE SUITABLE LIFTING DEVICES OR FRONT-END LOADERS FOR SMALL AND MEDIUM UNITS. THE MOST EFFICIENT STORAGE PATTERN FOR PRECAST BREAKWATER STRUCTURE UNITS IS TO PLACE THE UNITS IN A ROW, TIPPED OVER, RESISTING AT A 45-DEGREE ANGLE ON THE CENTRAL FLUKE WITH MINIMAL SPACE BETWEEN ADJACENT UNITS. IT CAN ALSO BE STORED ONE ON TOP OF ANOTHER.

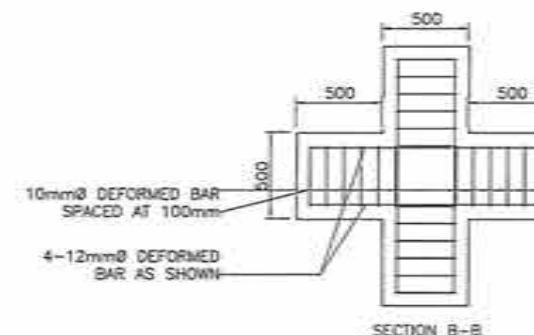
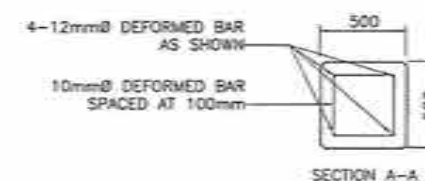
1407.4.4 CONCRETE MIXTURE

PRECAST BREAKWATER STRUCTURE UNITS SHALL BE OF THE DESIGN SHOWN ON THE PLANS. CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ITEM 900, REINFORCED CONCRETE OF THE DPWH STANDARD SPECIFICATIONS FOR PUBLIC STRUCTURES. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 27.50 MPa, WITH MAXIMUM AGGREGATES SIZE OF 20mm, UNLESS OTHERWISE SPECIFIED IN THE PLANS. THE PRODUCT SHALL NOT BE SHIPPED OR MOVED UNLESS THE CONCRETE STRENGTH HAS REACHED AT LEAST 75% OF THE SPECIFIED 28-DAY COMPRESSIVE STRENGTH.

WORKABILITY OF CONCRETE SHALL BE PROPORTIONED TO ACHIEVE A RANGE OF 50mm AND 100mm SLUMP. THE USE OF APPROPRIATE PLASTICIZER/ADDITIVES TO ASSURE MIX FLUIDITY AND CONSISTENCY SHALL BE ALLOWED AND WITH THE ENGINEER'S APPROVAL, IT CAN BE INCREASED BY THE USE OF PLASTICIZERS TO KEEP THE WATER-CEMENT RATIO NOT GREATER THAN 0.45.



1 HEXAPOD DETAIL
SCALE 1:30



1 HEXAPOD REINFORCING DETAIL
SCALE 1:30



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
604, CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
HEXAPOD DETAILS

DRAFTED AND PREPARED
PERACITO A. LINDANGAN
ENGINEER I
DATE

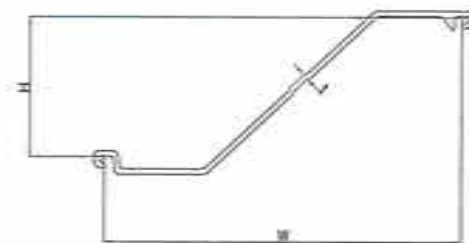
REVIEWED
ALAN JOHN A. SOTTO
ENGINEER II
DATE

DESIGNED
JUDITH T. BERNARDINO
CHIEF, PLANNING AND DESIGN DIVISION
DATE

RECOMMENDED
JOSELYN B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE

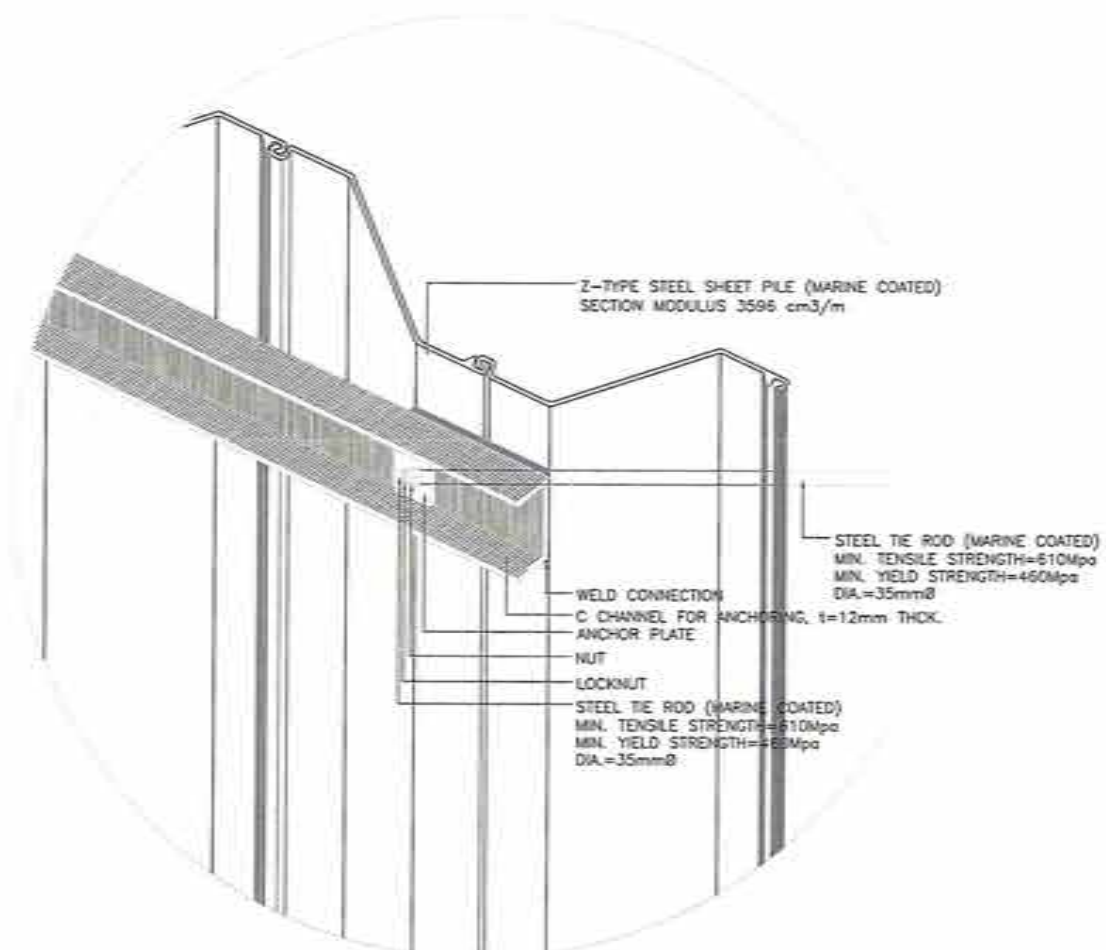
APPROVED
JUBY B. CORDON
REGIONAL DIRECTOR
DATE

SET NO. 10
SHEET NO. 35

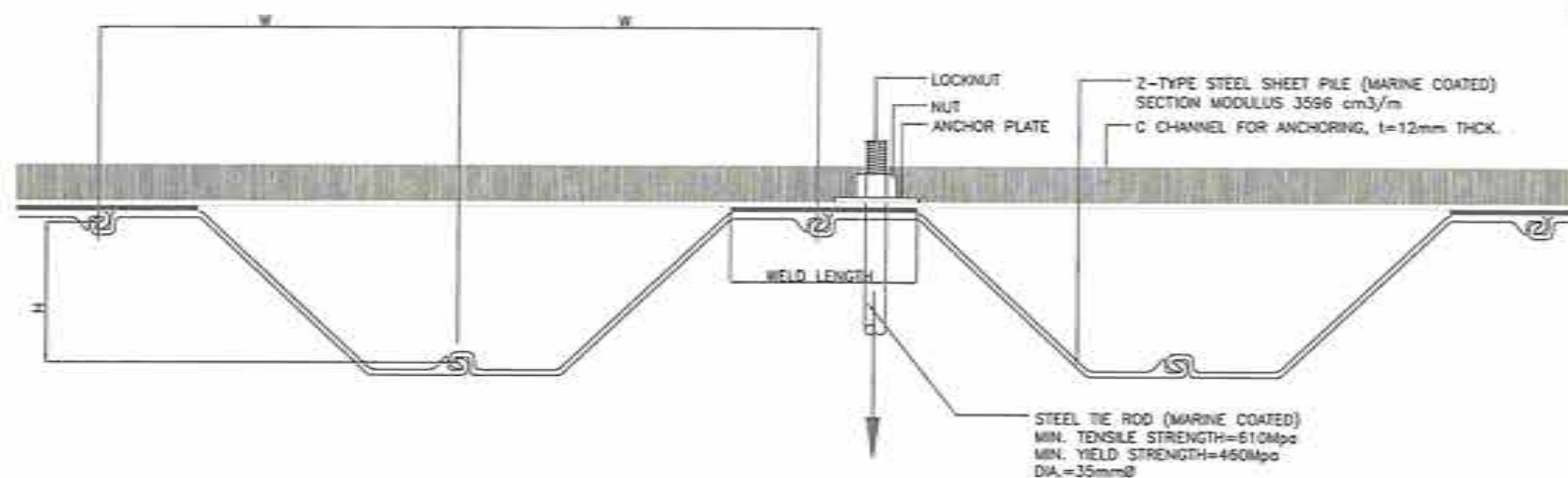


PROPERTIES OF STEEL SHEET PILES				
WIDTH (mm)	H (mm)	t (mm), MIN.	SECTION MODULUS cm^3 / m	STEEL GRADE
700.00	500.00	15.10	3596	355

1 **STEEL SHEET PILE DETAIL**
SCALE: NTS



1 **ISOMETRIC VIEW**
SCALE: NTS



2 **CONNECTION DETAIL**
SCALE: NTS



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. DARVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
STEEL SHEET PILE DETAIL
CONNECTION DETAIL

DRAFTED AND PREPARED
PELACITO A. UNDAANGAN
ENGINEER II
DATE:

REVIEWED
ALAIN JOHNSON SOTTO
ENGINEER II
DATE:

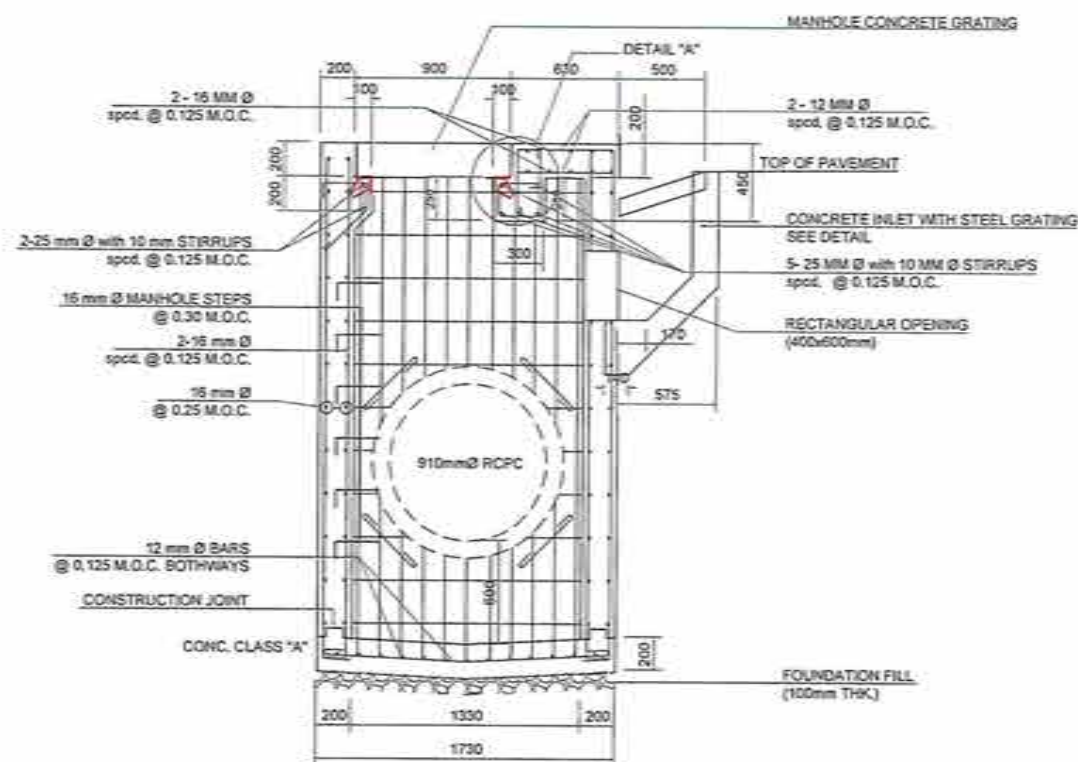
SUBMITTED
JUDY ANN T. BERNARDINO
CHIEF, PLANNING AND DESIGN DIVISION
DATE:

RECOMMENDED
JOSELYN B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE:

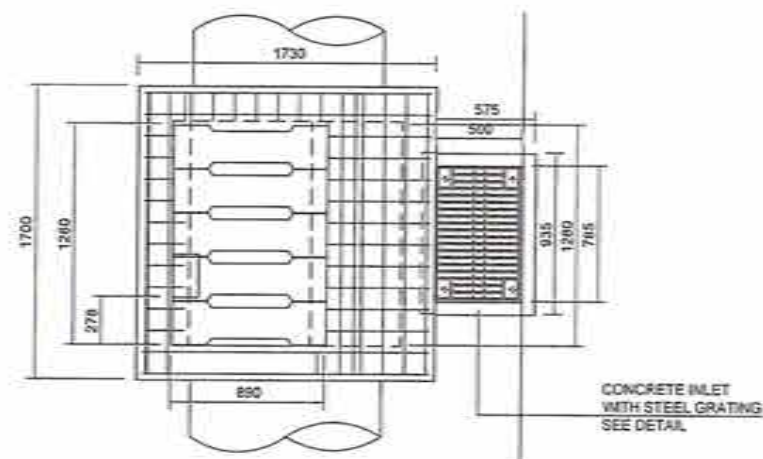
APPROVED
JUBY B. CORDON
REGIONAL DIRECTOR
DATE:

SET NO.
A
11/16

SHEET NO.
11
35

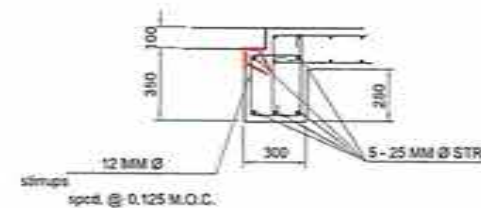


1 SECTION
SCALE 1:30

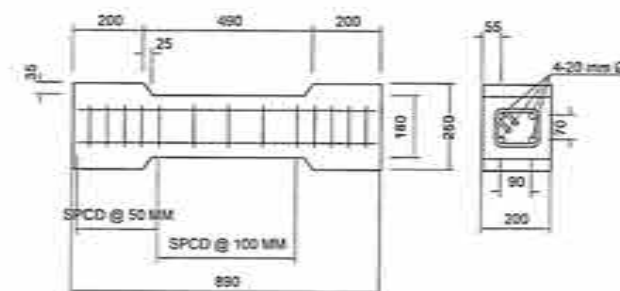


1 PLAN
SCALE 1:30

1 CONCRETE MANHOLE w/ INLET FOR 910mmØ RCPC



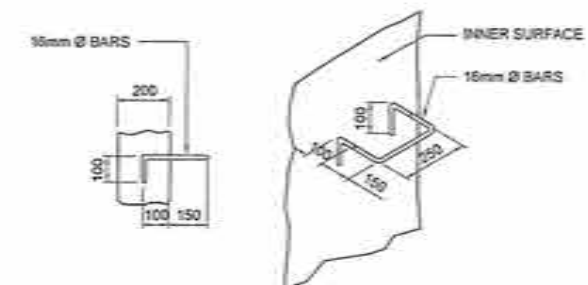
1 DETAIL "A"
SCALE 1:25



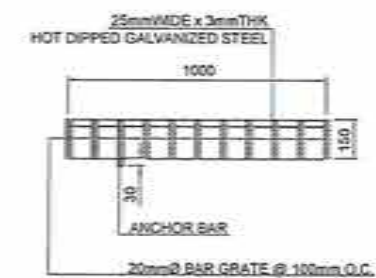
2 DETAIL FOR CONCRETE GRATING
SCALE 1:15



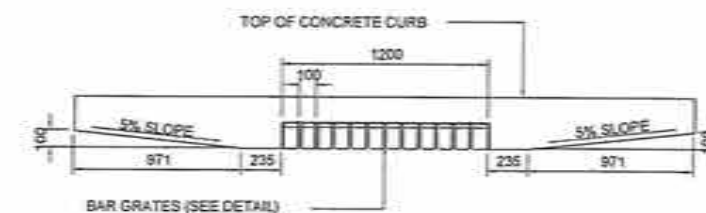
3 BUTT DETAIL
SCALE 1:20



4 MANHOLE STEPS
SCALE 1:20



5 DETAIL OF STEEL GRATING
NTS



6 WATER INLET
NTS



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
CONCRETE MANHOLE w/ INLET FOR 910mmØ RCPC
DETAIL FOR CONCRETE GRATING
BUTT DETAIL
MANHOLE STEPS
DETAIL OF STEEL GRATING
WATER INLET

DRAFTED AND PREPARED
PELACITO A. DADANGAN
ENGINEER I
DATE

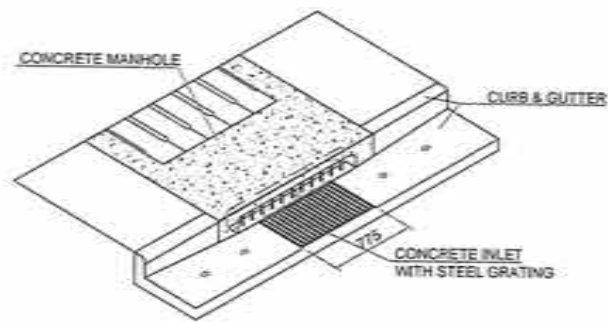
REVIEWED
ALAIN JOHN R. SOTTO
ENGINEER II
DATE

SUPPLIER
JUDY ANN T. BERNARDO
CHIEF, PLANNING AND DESIGN DIVISION
DATE

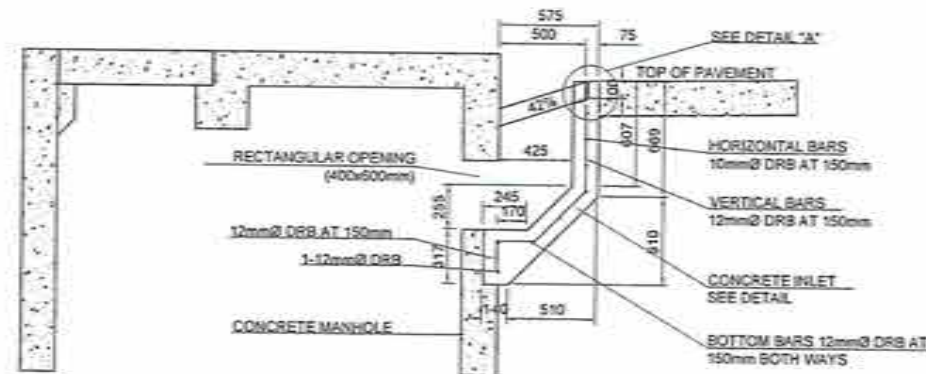
RECOMMENDED
JOSELYN B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE

APPROVED
JUBY B. CORDON
REGIONAL DIRECTOR
DATE

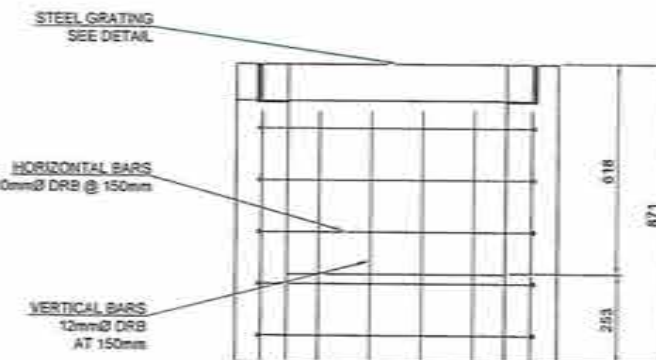
SET NO.
A
12/16
SHEET NO.
12
35



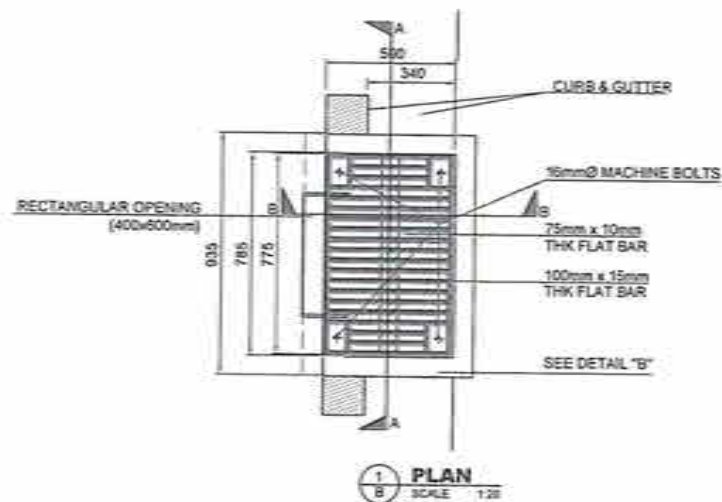
1
A COMBINED INLET ISOMETRIC VIEW
SCALE 1:50



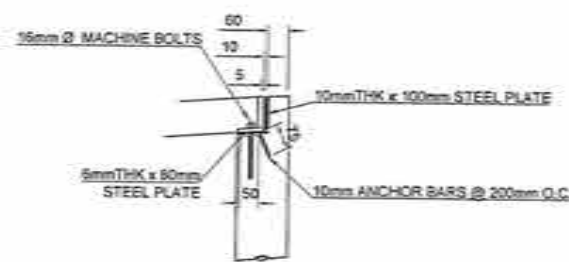
1
C SECTION SHOWING INLET @ CONCRETE MANHOLE
SCALE 1:30



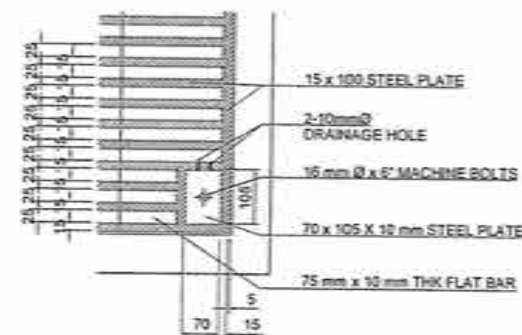
1
F SECTION "A-A"
SCALE 1:15



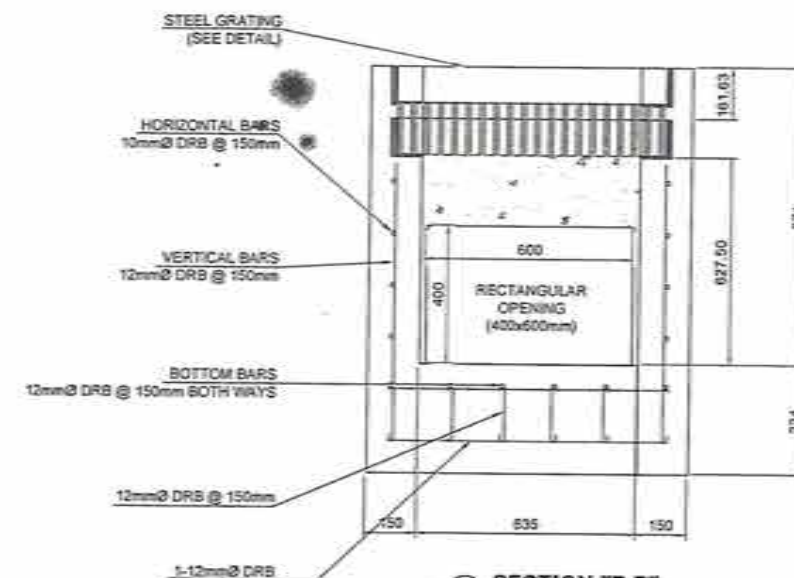
1
B PLAN
SCALE 1:25



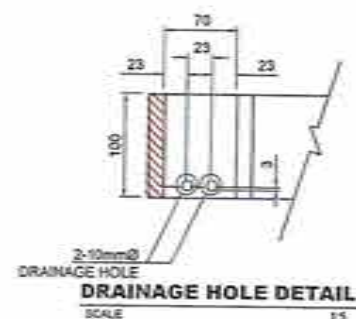
1
D DETAIL "A"
SCALE 1:15



1
E DETAIL "B"
SCALE 1:15



1
G SECTION "B-B"
SCALE 1:15



1
H DRAINAGE HOLE DETAIL
SCALE 1:5

1
CONCRETE INLET ON CONCRETE MANHOLE DETAIL



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. WINGKAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
CONCRETE INLET ON CONCRETE MANHOLE DETAIL

DRAFTED AND PREPARED
RELATO L. UNDAANGAN
ENGINEER I
DATE

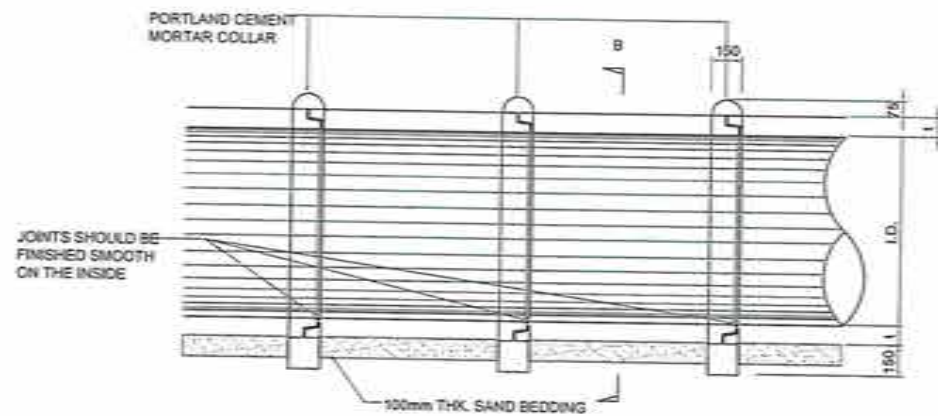
REVIEWED
ALAN JOHN R. SOTTO
ENGINEER II
DATE

SUBMITTED
JUDY A. T. BERNARDINO
CHIEF PLANNING AND DESIGN DIVISION
DATE

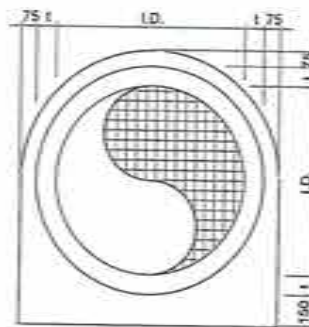
RECOMMENDED
JOSELITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE

APPROVED
JUDY B. CORDON
REGIONAL DIRECTOR
DATE

SET NO. SHEET NO.
A 13
1316 35

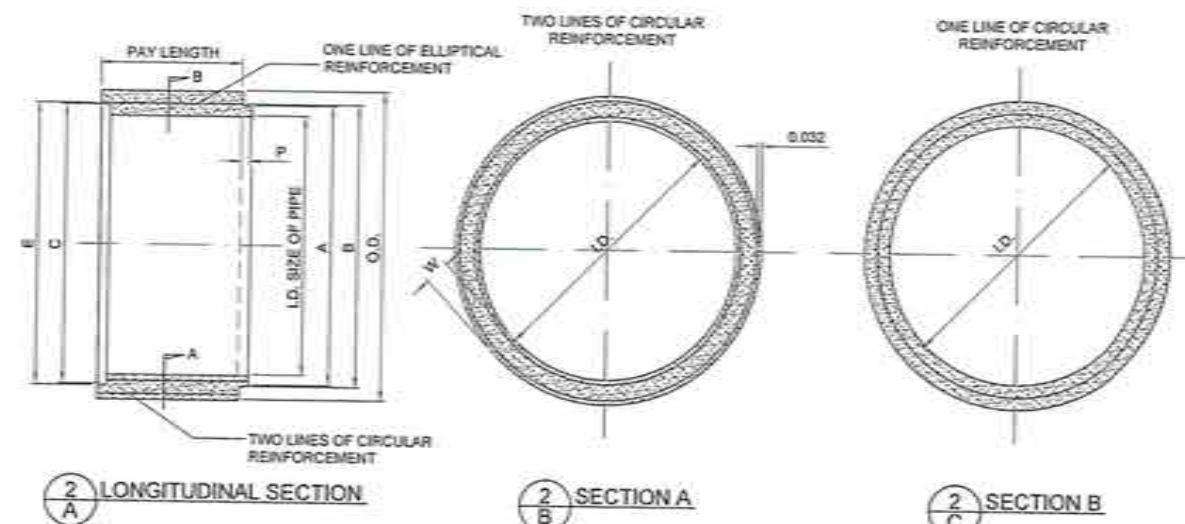


1 LONGITUDINAL SECTION



1 SECTION B

1 DETAIL OF RCPC JOINT
SCALE: NTS



2 LONGITUDINAL SECTION

2 SECTION A

2 SECTION B

2 REINFORCED CONCRETE PIPE CULVERT
SCALE: NTS

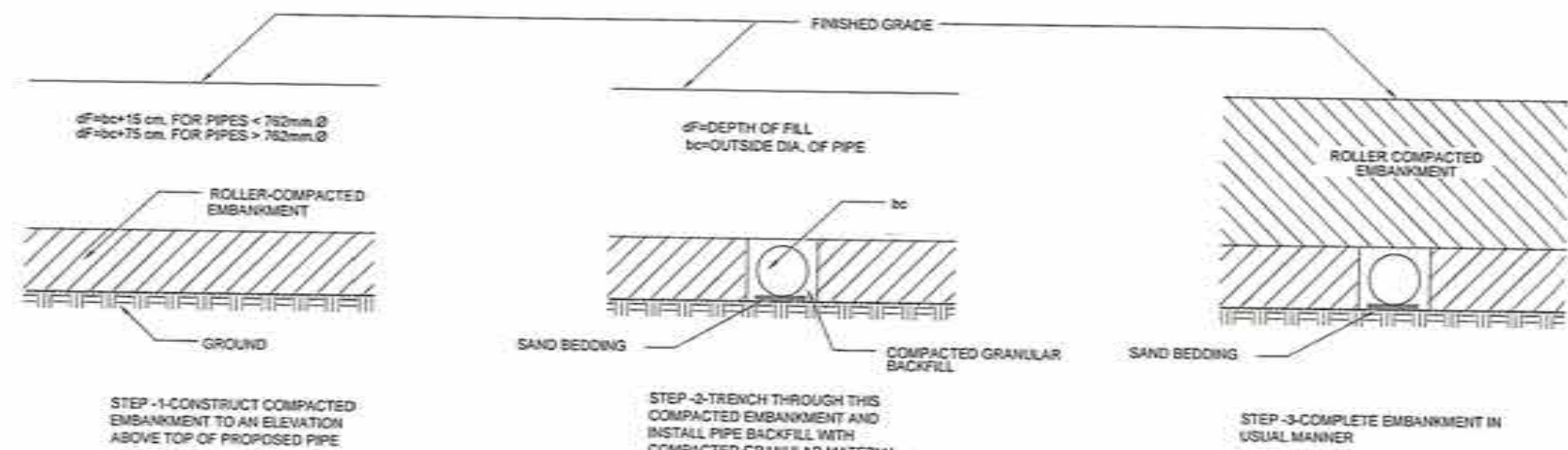
I.D. (mm)	1 (mm)		C
	MACHINE MADE	HAND MADE	
910	85	114	150

NOTES:
JOINTS SHALL BE MADE WITH
(A) PORTLAND CEMENT MORTAR,
AS MAY BE SPECIFIED, MORTAR JOINTS SHALL BE MADE
WITH AN EXCESS OF MORTAR TO FORM A CONTINUOUS
BEAD AROUND THE OUTSIDE OF THE CONDUIT AND
FINISHED SMOOTH ON THE INSIDE. FOR GROUTED JOINTS,
MOLDS OR RUNNERS SHALL BE USED TO RETAIN THE
POURED GROUT.

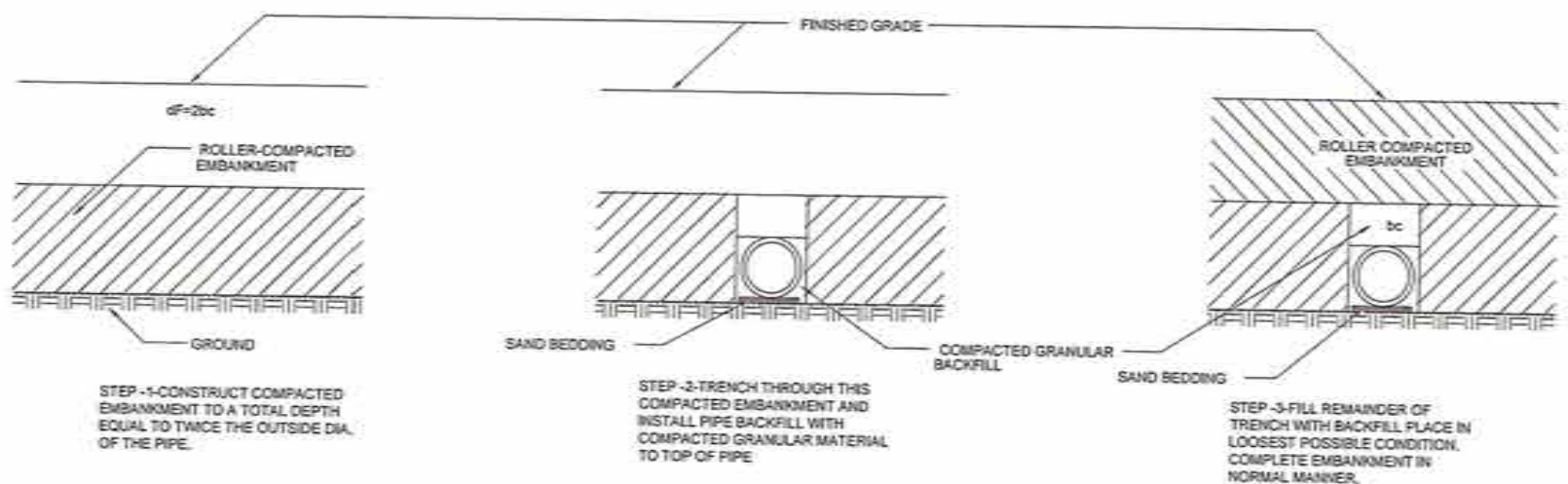
SIZE OF PIPE		CONCRETE 317 KG/SQ. CM. (4,500 LB/SQ. IN.)						
IN.	M.	WALL THICKNESS (M)	TONGUE (M)		GROOVE (M)		DEPTH (M)	MINIMUM REINFORCEMENT SQ. CM./M. OF PIPE *
		W	A	B	C	E	P	CIRCULAR REINFORCEMENT
36"	0.910	0.085	0.988	1.007	1.994	1.013	0.064	2 LINE EACH 4.66

* - THE DISTANCE FROM CENTERLINE OF THE REINFORCEMENT TO THE NEAREST SURFACE OF THE
CONCRETE HAS BEEN ASSUMED AS 0.032 M. FOR PIPES WITH A SHELL THICKNESS OF 0.064 M. OR MORE.
NOTE: DESIGN REQUIREMENTS ARE BASED ON THE SPECIFICATIONS FOR MATERIALS OF AASHTO M-170

3 DESIGN REQUIREMENTS OF REINFORCED CONCRETE PIPES CULVERTS



CALIFORNIA METHOD A



CALIFORNIA METHOD B

4 METHODS OF PIPE INSTALLATION

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CORRAL COR. R. BRIGGS AVE. DAVAO CITY	PROJECT NAME AND LOCATION	SHEET CONTENTS	DRAWN AND PREPARED	REVIEWED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
	CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	DETAIL OF RCPC JOINT DESIGN REQUIREMENTS OF REINFORCED CONCRETE PIPES CULVERTS METHODS OF PIPE INSTALLATION	RELACIONA, UNDAANGAN ENGINEER	JOHN K. SOTTO ENGINEER	JUDY T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION	JOSE L. CABALLERO ASSISTANT REGIONAL DIRECTOR	JURY B. CORDON REGIONAL DIRECTOR	A 14/16	14 35

DRAINAGE SCHEDULE

D R A I N A G E S C H E D U L E															
STATION	DESCRIPTION	100(3)	400(1)a	400(1)a.3	500(1)a.3	500(1)a.3	500(2)a.1	500(2)a	500(1)a.1	715(1)	715(2)	REMARKS	DESIGN PARAMETERS		
		cu.m.	lgs	cu.m.	ln.m.	ea.	ea.	cu.m.	ln.m.	ln.m.	sq.m.		Q(cu.m./s.)	A(hec.)	v(m/s)
MANHOLE (LEFT SIDE)															
1523+580.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+600.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+620.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+640.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+660.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+680.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+700.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+720.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+740.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+760.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+780.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+800.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+820.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+840.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+860.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+880.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
LATERAL DRAIN (LEFT SIDE)															
1523+574.906 TO 1523+576.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	5.00	-	-	-	-	-	-				
1523+580.685 TO 1523+589.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+600.685 TO 1523+619.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+620.685 TO 1523+639.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+640.685 TO 1523+659.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+660.685 TO 1523+679.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+680.685 TO 1523+699.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+700.685 TO 1523+719.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+720.685 TO 1523+739.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+740.685 TO 1523+759.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+760.685 TO 1523+779.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+780.685 TO 1523+799.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+800.685 TO 1523+819.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+820.685 TO 1523+839.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+840.685 TO 1523+859.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	8.00	-	-	-	-	-	-				
1523+860.685 TO 1523+879.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-				
1523+880.685 TO 1523+885.850	INSTALL 910mmØ LATERAL RCPC	-	-	-	6.00	-	-	-	-	-	-				
MANHOLE (RIGHT SIDE)															
1523+580.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+600.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+620.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+640.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+660.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+680.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+700.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+720.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+740.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+760.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+780.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+800.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+820.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+840.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+860.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
1523+880.000	CONSTRUCT 910mmØ CONCRETE MANHOLE W/ INLET	0.30	-	-	-	1.00	1.00	-	-	-	-				
PAGE TOTAL		9.60	-	-	285.00	32.00	32.00	-	-	-	-				
SUB TOTAL		9.60	-	-	285.00	32.00	32.00	-	-	-	-				



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CORREA COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
DRAINAGE SCHEDULE

DRAFTED AND PREPARED
FELACITO A. UNDAVIGAN
ENGINEER I
DATE

REVIEWED
JAN JOHN R. SOTTO
ENGINEER II
DATE

SUBMITTED
JUDY ANN T. BERNARDO
DRAFT, PLANNING AND DESIGN DIVISION
DATE

RECOMMENDED
JOSE LITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE

APPROVED
JUSY B. CORDON
REGIONAL DIRECTOR
DATE

SET NO. 15
SHEET NO. 35

D R A I N A G E S C H E D U L E													
LATERAL DRAIN (RIGHT SIDE)													
1523+575.591	TO	1523+579.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	4.00	-	-	-	-	-	-
1523+580.685	TO	1523+599.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+600.685	TO	1523+619.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+620.685	TO	1523+639.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+640.685	TO	1523+659.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+660.685	TO	1523+679.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+680.685	TO	1523+699.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+700.685	TO	1523+719.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+720.685	TO	1523+739.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+740.685	TO	1523+759.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+760.685	TO	1523+779.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+780.685	TO	1523+799.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+800.685	TO	1523+819.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+820.685	TO	1523+839.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+840.685	TO	1523+859.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	8.00	-	-	-	-	-	-
1523+860.685	TO	1523+879.315	INSTALL 910mmØ LATERAL RCPC	-	-	-	19.00	-	-	-	-	-	-
1523+880.685	TO	1523+885.850	INSTALL 910mmØ LATERAL RCPC	-	-	-	5.00	-	-	-	-	-	-
SLOPE PROTECTION													
1523+574.906	TO	1523+885.850	300.00 L.m. GROUTED RIPRAP SLOPE PROTECTION	-	-	-	-	-	-	1665.00	-	-	-
XBLOC													
1523+574.906	TO	1523+885.850	XBLOC	-	-	61812.00	1566.16	-	-	-	-	-	-
CONCRETE BLOCKS													
1523+574.906	TO	1523+885.850	300.00 L.m. CONCRETE BLOCKS	-	-	-	4201.00	-	-	-	-	-	-
CONCRETE SEAWALL													
1523+574.906	TO	1523+885.850	CONCRETE SEAWALL/ STEEL SHEET PILE	-	-	30597.60	717.00	-	-	-	5160.00	-	-
GEOTEXTILE													
1523+574.906	TO	1523+885.850	MECHANICALLY STABILIZED EARTH (GEOTEXTILE)	-	-	-	-	-	-	-	-	46838.92	6841.50
PAGE TOTAL													
				-	-	92,409.60	6,496.16	284.00	-	-	1,665.00	5,160.00	46,838.92
				9.60	-	92,409.60	6,496.16	569.00	32.00	32.00	1,665.00	5,160.00	46,838.92
				9.60	-	92,409.60	6,496.20	569.00	32.00	32.00	1,665.00	5,160.00	46,838.92
				SAY	-	9.60	92,409.60	6,496.20	569.00	32.00	32.00	1,665.00	5,160.00

S U M M A R Y O F Q U A N T I T I E S

ITEM #	DESCRIPTION	UNIT	MINOR DRAINAGE	SLOPE PROTECTION	REMARKS
103(3)	FOUNDATION FILL	cu.m.	9.60	-	FOR RCPC
404(1)a	REINFORCING STEEL, GRADE 40	kg.	-	92,409.60	FOR CONCRETE SEAWALL AND HEXAPODS
405(1)a3	STRUCTURAL CONCRETE, CLASS "A"	cu.m.	-	6,496.20	FOR CONCRETE SEAWALL, HEXAPODS AND CONCRETE BLOCKS
500(1)b3	PIPE CULVERTS, 910mmØ CLASS "W"	ln.m.	569.00	-	
502(1)a3	CONCRETE MANHOLE, 910mmØ	each	32.00	-	
502(2)a1	CONCRETE INLET, 610mmØ	each	32.00	-	
505(2)a	GROUTED RIPRAP, CLASS "A"	ln.m.	-	1,665.00	FOR GROUTED RIPRAP SLOPE PROTECTION
509(1)b1	SHEET PILES	cu.m.	-	5,160.00	Z-TYPE (700mm x 499.2mm x 15.1mm, SECTION MODULUS 3,595cm ³ /m), 118.87 kg/m.
715(1)	GEOTEXTILE	cu.m.	-	46,838.92	
715(3)	DRAINAGE GEOTEXTILE	sq.m.	-	6,841.50	



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
DRAINAGE SCHEDULE
SUMMARY OF QUANTITIES

DRAFTED AND PREPARED
PELICITO A. MANDANGAN
ENGINEER II
DATE:

REVIEWED
ALAIN JOHN R. SOTTO
ENGINEER II
DATE:

SUBMITTED
JUDY M. T. BERNARDINO
CHIEF, PLANNING AND DESIGN DIVISION
DATE:

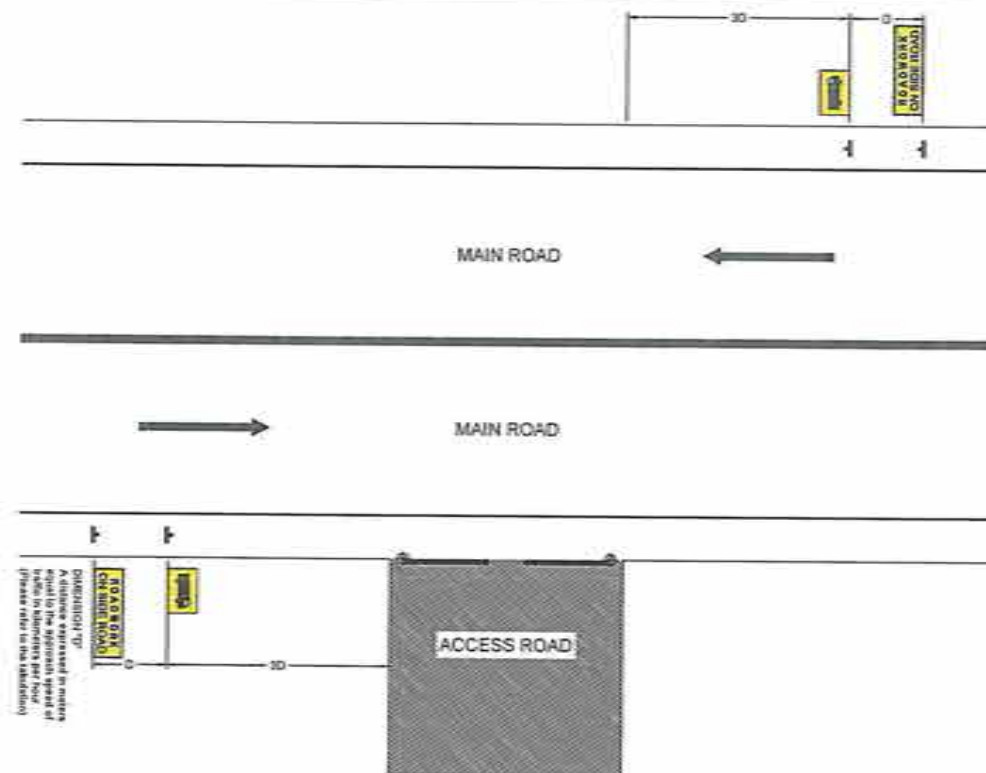
RECOMMENDED
JOSELYN B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE:

APPROVED
JULY B. CORDON
REGIONAL DIRECTOR
DATE:

SET NO.
A
16/16

SHEET NO.
16
35

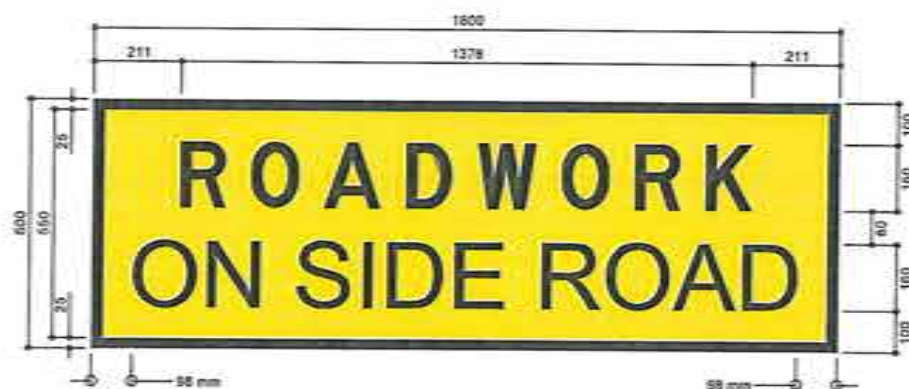
B. TRAFFIC MANAGEMENT DETAILS



TRAFFIC MANAGEMENT STAGES	DESCRIPTION	QUANTITY
SCHEME 1: ALONG HIGHWAY WHERE THE PROJECT INTERSECTS WITH THE ACCESS ROAD	ROADWORK ON SIDE ROAD (T1-25)	1
	TRUCKS ENTERING (T2-25)	1
	BATTERY-OPERATED BARRICADE FLASHER LIGHT	1
	BARRIER BOARD	1

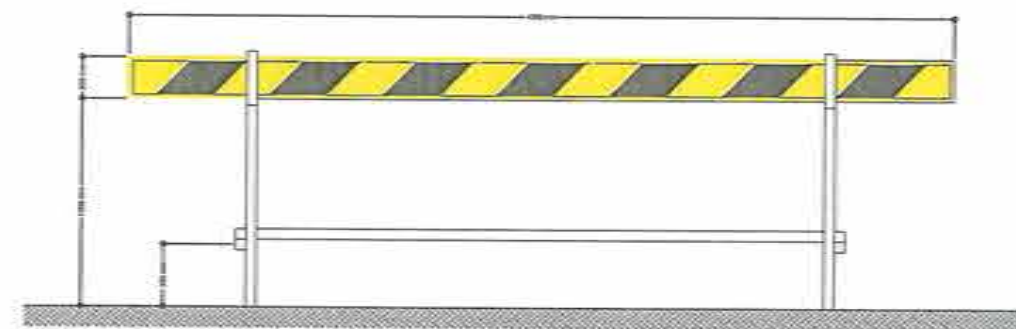
THE CONTRACTOR SHALL PREPARE A SEPARATE TRAFFIC OPERATIONAL PROGRAM (TOP) WHICH SHALL BE IMPLEMENTED DURING THE ENTIRE CONSTRUCTION DURATION.

1 TRAFFIC MANAGEMENT LAYOUT
SCALE: 1:100



ROADWORK ON SIDE ROAD DETAILS

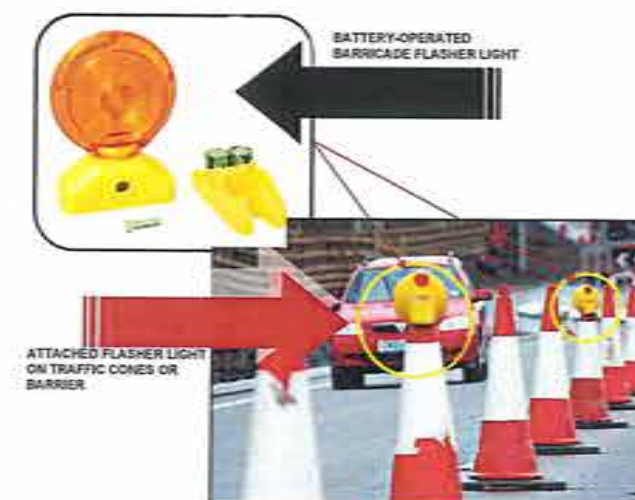
SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T1-25	1800 X 600	LINE 1 - BLACK 160 EN LINE 2 - BLACK 160 DN	YELLOW REFLECTORIZED	ADVANCE WARNING SIGNS



NOTE:

1. BOARD DIMENSIONS: (4M X 0.15M X 0.20M) WITH DIAGONAL BLACK AND REFLECTIVE YELLOW STRIPES PREFERABLY TERMINATING IN YELLOW AT EACH END.
2. MOUNTING HEIGHT: APPROXIMATELY 1 METER USING TRESTLES (SHOULD BE ERECTED PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW).
3. BARRIER BOARD SHALL NOT BE USED FOR DELINEATION PURPOSES OR INSTALLED PARALLEL TO VEHICULAR TRAFFIC UNLESS THERE IS AN OFFSET OF AT LEAST FOUR (4) METERS FROM THE TRAVELLED PATH.

2 BARRIER BOARD DETAIL
SCALE: 1:100



3 BARRICADE FLASHER LIGHT
SCALE: 1:100



TRUCKS ENTERING DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T2-25	600 X 600	BLACK	YELLOW REFLECTORIZED	HAZARD SIGNS

4 TRAFFIC MANAGEMENT PROGRAM SIGNAGE
SCALE: 1:100

	PROJECT NAME AND LOCATION CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	SHEET CONTENTS TRAFFIC MANAGEMENT LAYOUT	DRAFTED AND PREPARED EDWARD JOSEPH M. SARTIGA ENGINEER II DATE:	REVIEWED DENVER ALON A. SEMPIO ENGINEER I, OIC - SECTION CHIEF DATE:	DESIGNED JUDY ANN T. BERNARDINO ENGINEERING AND DESIGN DIVISION DATE:	RECOMMENDED JOSE LITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	APPROVED JUDY B. CORDON REGIONAL DIRECTOR DATE:	SET NO. B 14	SHEET NO. 17 35
	C:\USERS\DPW\WORKSPACE\2023\REALIGNMENT MATI FISH PORT, DO (02-15-25)\MATI FISH PORT 02-15-25\DESIGN\TMP\17-35 NEW TRAFFIC MANAGEMENT PROGRAM.DWG								

GENERAL NOTES FOR TRAFFIC MANAGEMENT PLAN:

A. GENERAL NOTES:

- BEFORE THE START OF ACTUAL CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A TRAFFIC OPERATION PLAN TO THE REGIONAL OFFICE. THE CONTRACTOR MAY ADOPT THE TRAFFIC MANAGEMENT PLAN PREPARED DURING THE DETAILED ENGINEERING DESIGN (DED) PLAN OR FORMULATE THEIR OWN TRAFFIC OPERATION PLAN TO PROPERLY SUIT THE EXISTING WORKSITE CONDITIONS AND THE PROPOSED CONSTRUCTION METHODS TO BE USED BY THE CONTRACTOR.
- THE PROJECT ENGINEER SHALL IDENTIFY ALL DIMENSIONS "D" BASED ON SITE CONDITIONS.
- THE PROJECT ENGINEER SHALL IDENTIFY THE PROPER LOCATION AND PLACEMENT OF ALL "SPEED RESTRICTION" SIGNS BASED ON SITE CONDITIONS.
- SIGNS SHALL BE MOUNTED SO THAT THEY ARE AT OR ABOUT THE DRIVER'S EYE LEVEL, APPROXIMATELY 1 METER, WITH A MINIMUM MOUNTING HEIGHT OF 200 mm FROM THE GROUND.
- "ROADWORK AHEAD" THE FIRST ADVANCE WARNING SIGN SEEN BY DRIVERS, SHALL BE LOCATED AT A MINIMUM DISTANCE "2D" METERS (D IS THE APPROACHED SPEED OF TRAFFIC) BEFORE THE START OF THE WORKS, OR IF THERE IS A TRANSITION AREA, THE START OF THE TAPER.
- OTHER SIGNS IN THE ADVANCE WARNING AREA SHALL BE SPACED "D" METERS APART.
- LONGITUDINAL BUFFER SPACE SHALL BE 20 TO 30 METERS LONG BUT CAN BE EXTENDED IF THE WORK AREA IS HIDDEN FROM APPROACHING ROAD USER, e.g. BY A CURVE OR CREST.
- LATERAL BUFFER SPACE SHALL BE A MINIMUM OF 1.2 METERS IN SLOW SPEED AREAS, OR IN HIGH SPEED AND HIGH VOLUME AREAS, A LARGE ADJACENT CLEARANCE IN DESIRABLE WITH SAFETY BARRIERS ADJACENT TO THE WORK AREA.
- LOCATION OF TRAFFIC CONTROLLER SHALL BE 30 METERS IN ADVANCE OF WORK AREA, WITH GOOD SITE DISTANCE OF ONCOMING TRAFFIC, WITH AN ESCAPE PATH IN AN EMERGENCY, WHERE THE OTHER TRAFFIC CONTROLLER IS VISIBLE, AND CAN BE SEEN BY THE ROAD USER.
- A MINIMUM LANE WIDTH OF 2.75 m FOR CARS AND 3.25 m FOR TRUCKS IS RECOMMENDED AND EXCESSIVELY WIDE LANES SHALL BE AVOIDED TO NOT INDUCE SPEEDING IN TIMES OF LOWER TRAFFIC VOLUMES.
- THE CONTRACTOR SHALL PREPARE A SEPARATE TRAFFIC OPERATIONAL PROGRAM (TOP) WHICH SHALL BE IMPLEMENTED DURING THE ENTIRE CONSTRUCTION DURATION.

USE OF TRAFFIC CONTROLLERS (FLAGMEN)

- THE TRAFFIC CONTROLLER USES A POTABLE STOP/SLOW HAND HELD SIGN OR RED AND GREEN STOP/GO FLAG TO CONTROL THE TRAFFIC.
- WHEN CONTROLLING TRAFFIC, A TRAFFIC CONTROLLER SHOULD ENSURE THAT A SYMBOLIC WORKMAN SIGN AND PREPARE TO STOP SIGN AND ADDITIONAL SIGNS AND DEVICES REQUIRED FOR THE OVERALL WORKSITE TRAFFIC MANAGEMENT SCHEME, ARE IN PLACE TO PROVIDE ADVANCE WARNING AND INFORMATION TO ROAD USERS.
- THE TRAFFIC CONTROLLER SHOULD STAND APPROXIMATELY 30 METERS IN ADVANCE OF WORK AREA.
- THE TRAFFIC CONTROLLER SHOULD BE VISIBLE TO THE APPROACHING ROAD USER AND STAND ON THE CURB SIDE OR SHOULDER CLEAR OF THE TRAVELLED PATH TO VIEW BOTH THE WORKSITE AND ONCOMING TRAFFIC.
- TRAFFIC CONTROLLER WILL NEED TO USE TWO-WAY RADIOS TO ENSURE ADEQUATE COMMUNICATION OVER LONG DISTANCE OR WHERE THERE IS LIMITED VISIBILITY.

NOTE:

- ROADWORK AHEAD - THE FIRST ADVANCE WARNING SIGN SEEN BY DRIVERS, SHOULD BE LOCATED AT MINIMUM DISTANCE "2D" METERS (D IS THE APPROACHED SPEED OF TRAFFIC) BEFORE THE START OF THE WORKS, OR IF THERE IS A TRANSITION AREA, THE START OF THE TAPER.
- OTHER SIGN IN ADVANCE WARNING AREA SHOULD BE SPACE "D" METERS APART.
- LONGITUDINAL BUFFER SPACE SHOULD BE 20 TO 30 METERS LONG BUT CAN BE EXTENDED IF THE WORK AREA IS HIDDEN FROM APPROACHING ROAD USER, e.g. BY A CURVE OR CREST.
- LATERAL BUFFER SPACE SHOULD BE A MINIMUM OF 1.2 METERS IN SLOW SPEED AREAS, OR IN HIGH SPEED AND HIGH VOLUME AREAS, A LARGE ADJACENT CLEARANCE IN DESIRABLE WITH SAFETY BARRIERS ADJACENT TO THE WORK AREA.
- LOCATION OF TRAFFIC CONTROLLER SHOULD BE 30 METERS IN ADVANCE OF WORK AREA, WITH GOOD SITE DISTANCE OF ONCOMING TRAFFIC, WITH AN ESCAPE PATH IN AN EMERGENCY, WHERE THE OTHER TRAFFIC CONTROLLER IS VISIBLE, AND CAN BE SEEN BY THE ROAD USER.

REFERENCES:

- D.O. NO.13, SERIES 2018 - GUIDELINE FOR THE PREPARATION OF COST ESTIMATES FOR THE TRAFFIC MANAGEMENT AND SAFETY AND HEALTH REQUIREMENTS FOR THE CONSTRUCTION AND MAINTENANCE OF ROADS, BRIDGES AND SAFETY AND HEALTH.
- ROAD SAFETY MANUAL 2004
- PART 2: ROAD SAFETY AND PAVEMENT DESIGN MANUAL 2012

TRANSITION AREA			
SPEED OF TRAFFIC (KPH)	LENGTH OF DIVERGELATERAL SHIFT TAPER (m)	LENGTH OF MERGE TAPER (m)	LENGTH OF STRAIGHT SECTION BETWEEN MULTI-LANE CLOSURES (m)
≤ 40	40	80	60
50	50	100	75
60	60	120	90
70	70	140	105
80	80	160	120
90	90	180	135
100	100	200	150
110	110	220	165

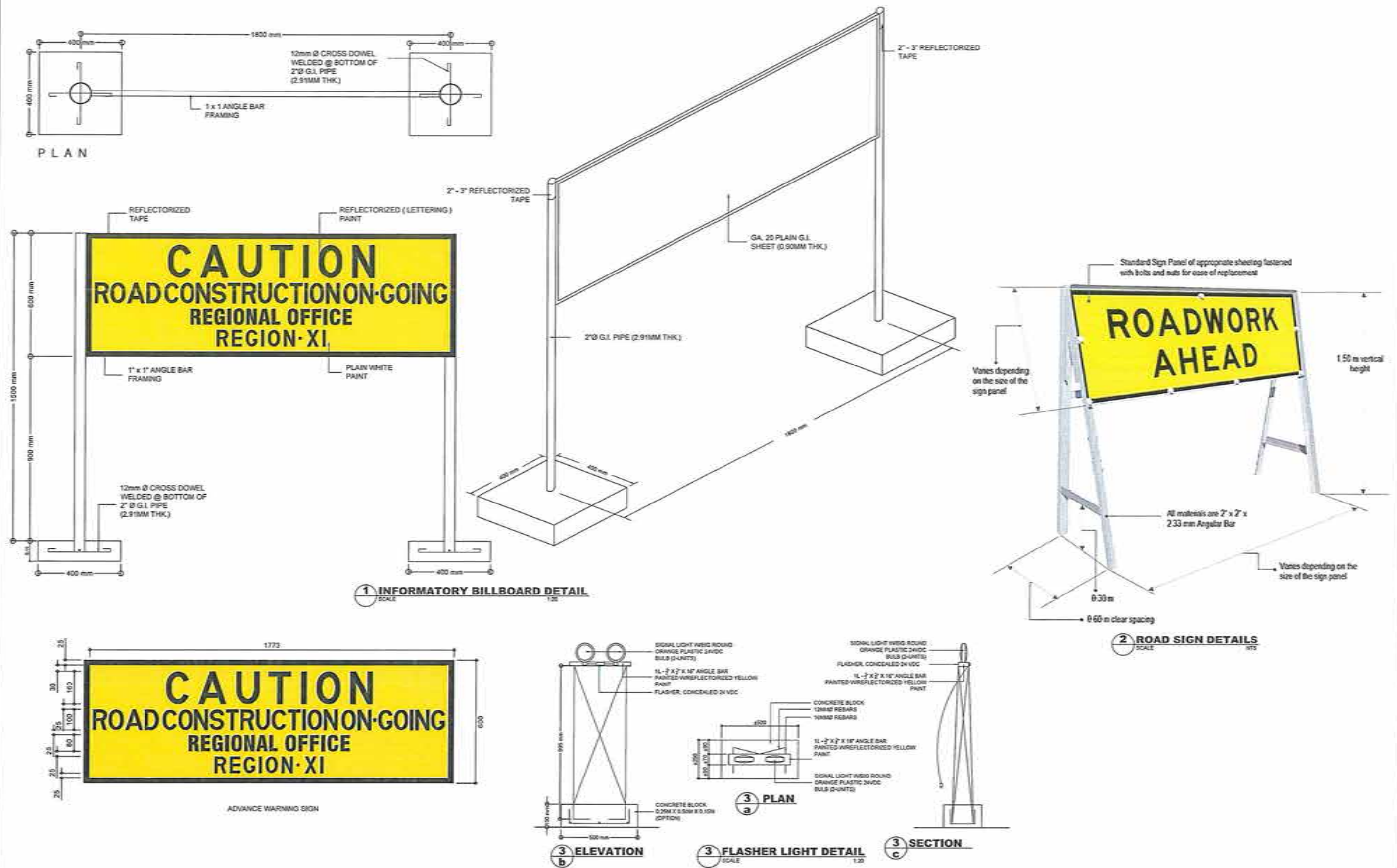
APPROACH CLEARANCE AREA	
SPEED OF TRAFFIC (KPH)	BUFFER LENGTH (m)
≤ 40	0
50	0
60	20 - 30
70	20 - 30
80	20 - 30
90	20 - 30
100	20 - 30
110	20 - 30

ADVANCE WARNING AREA	
SPEED OF TRAFFIC (KPH)	SIGNAGE SPACING (10' VALUE) (m)
≤ 40	0 - 5
50	15
60	45
70	75
80	90
90	90
100	100
110	110

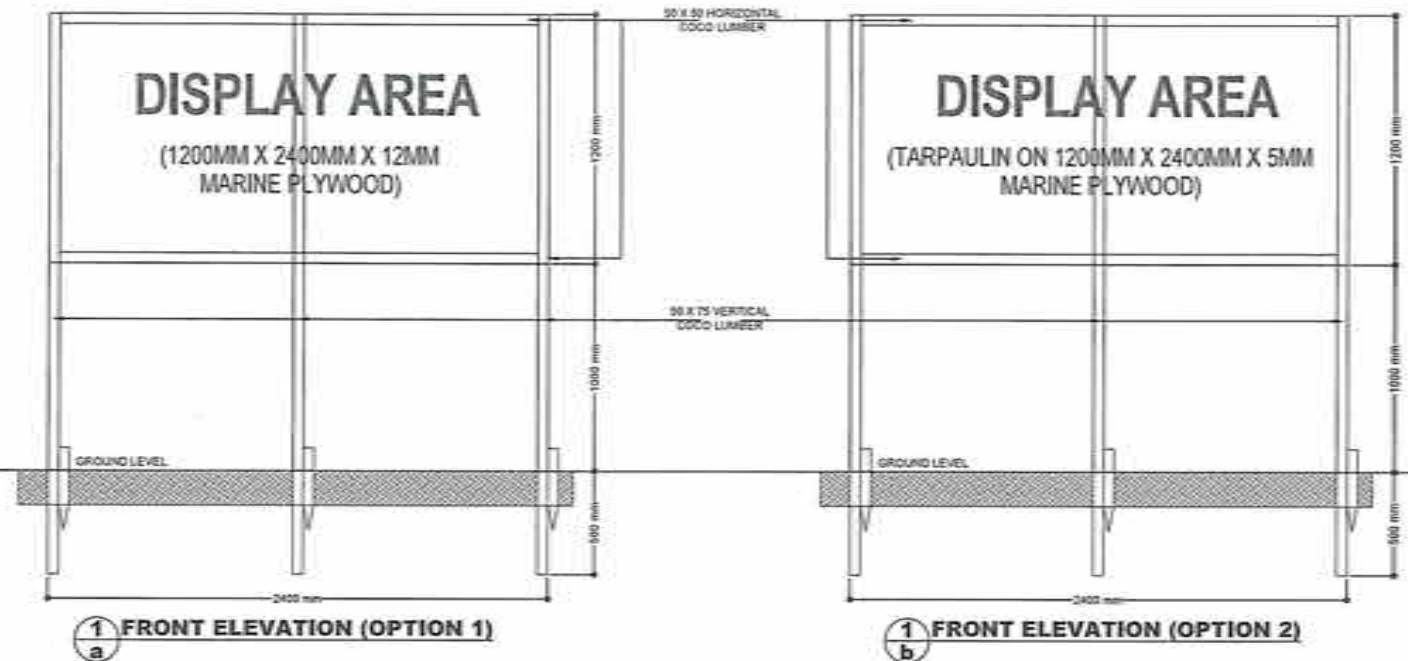
TERMINATION AREA			
SPEED OF TRAFFIC (KPH)	LENGTH OF DIVERGELATERAL SHIFT TAPER (m)	LENGTH OF MERGE TAPER (m)	LENGTH OF STRAIGHT SECTION BETWEEN MULTI-LANE CLOSURES (m)
≤ 40	40	80	N OF LEAD TAPER LENGTH
50	50	100	
60	60	120	
70	70	140	
80	80	160	
90	90	180	
100	100	200	
110	110	220	

1 TRAFFIC MANAGEMENT LAYOUT SCALE GENERAL NOTES

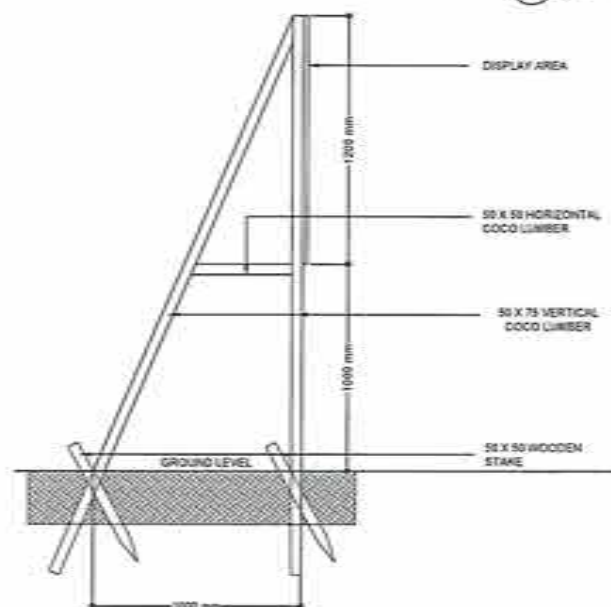
PROJECT NAME AND LOCATION	SHEET CONTENTS	DRAFTED AND PREPARED	REVIEWED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY	CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	TRAFFIC MANAGEMENT GENERAL NOTES	EDUARDO JOSEPH M. BARTISA ENGINEER I DATE: _____	DENVIL ALDEMA, SEPIPO ENGINEER I, IIC - REGIONAL DESIG DATE: _____	JUAN ANTON T. BERNARDINO CHIEF PLANNING AND DESIGN DIVISION DATE: _____	JOSELUITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE: _____	JUBY B. CORDON REGIONAL DIRECTOR DATE: _____	B 2/4 18 35



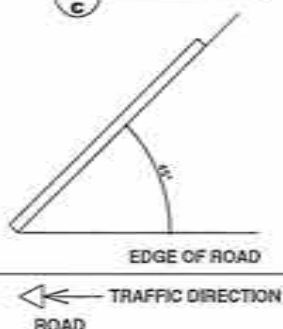
 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY	PROJECT NAME AND LOCATION CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	SHEET CONTENTS INFORMATORY BILLBOARD DETAIL FLASHER LIGHT DETAIL ROAD SIGN DETAILS	DRAFTED AND PREPARED EDUARDO JOSEPH M. SARTIGA ENGINEER I	REVIEWED GENIVIA ALONSO A. SEMPIO ENGINEER I, DEC. - SECTION CHIEF	SUBMITTED JUDY B. BERNARDINO CHIEF, TRAINING AND DESIGN DIVISION	RECOMMENDED JOSELYN B. CABALLERO ASSISTANT REGIONAL DIRECTOR	APPROVED JUDY B. CORDON REGIONAL DIRECTOR	SET NO. B 3/4 SHEET NO. 19 35
--	---	--	---	--	--	--	---	---



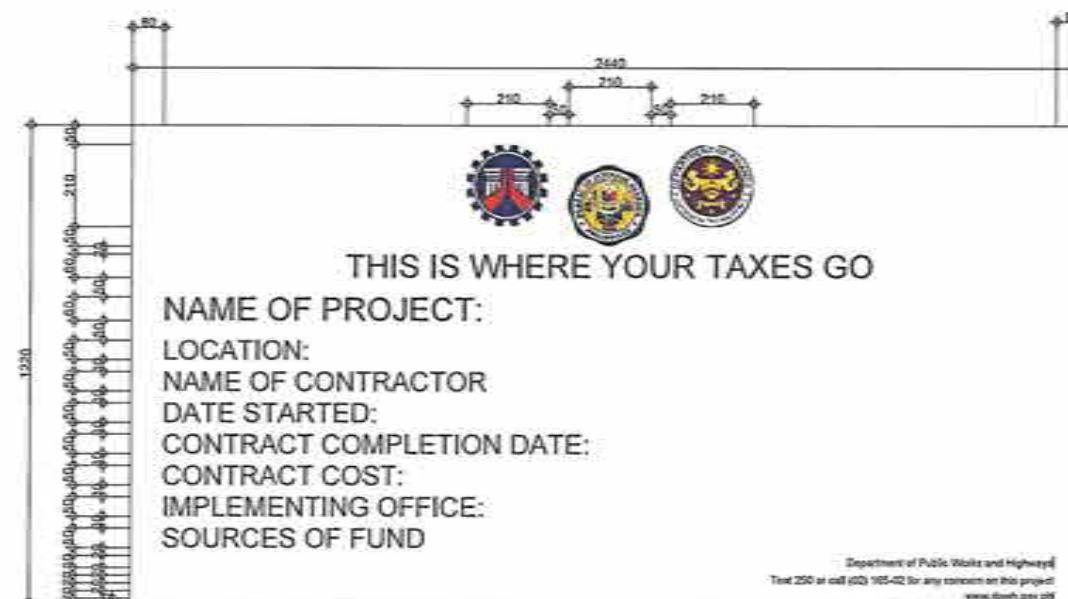
1 BILLBOARD POST DETAILS



1 ELEVATION



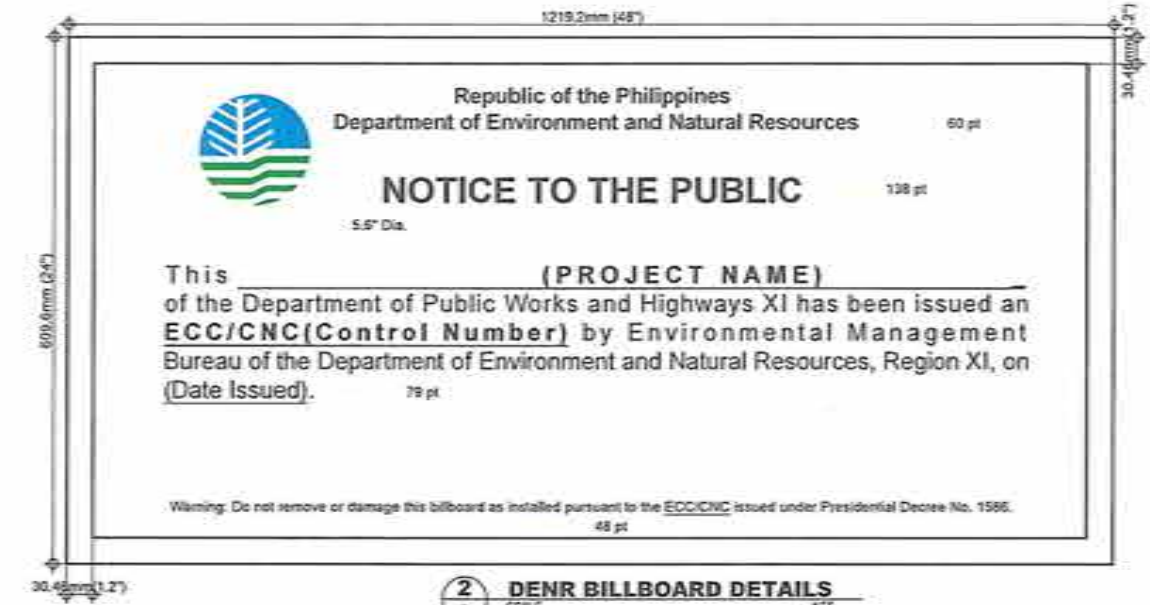
1 ORIENTATION



NOTE:

For source of Fund, state if DPWH Regular Budget, Priority Development Assistance Fund, DepEd/DA/DAR Budget, Calamity Fund, MVUC Fund etc.

2 DPWH BILLBOARD DETAILS



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
Regional Office No. XI
Gov. Chavez Cor. R. Magsaysay Avenue, Davao City

Project: _____ Cost: _____
Location: _____ Fund Sources: _____

Implementing Agency/ies: _____
Development Partner/s: _____
Contractor/Supplier: _____
Brief Description of Project: _____

Project Details:

Project Date			Project Status				Remarks
Duration	Started	Target Date of Completion	Percentage of Completion	As of (Date)	Cost Incurred to Date	Date Completed	

For Particular of complaints about this project, please contact the Regional Office or Cluster which has audit jurisdiction on this project.

COA Regional Office No./Cluster : XI
Address : Buhangin, Davao City
Contact No. : (062) 241-2941 or Text COA Citizens Desk (0915-5391-957)

NOTES FOR COA BILLBOARD:

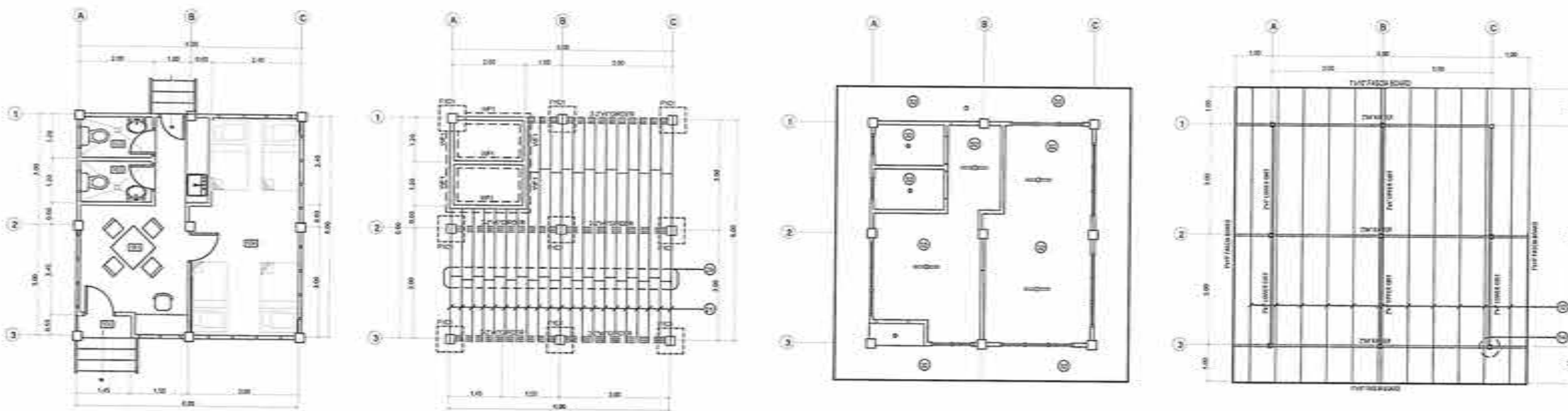
- TARPULIN, WHITE, 8FT x 8 FT
- RESOLUTION: 700PI
- FONT: HELVETICA
- FONT SIZE : MAIN INFORMATION - 3"
- : SUB-INFORMATION - 1"
- FONT COLOR: BLACK

2 COA BILLBOARD DETAILS

2 BILLBOARD DISPLAY DETAILS

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY	PROJECT NAME AND LOCATION CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	SHEET CONTENTS BILLBOARDS DETAIL	DRAFTED AND PREPARED: EDWARD JOSEPH M. SARTIGA ENGINEER I	REVIEWED: DENNIS ACCORIN A. SEMPIO ENGINEER II, OIC - SECTION CHIEF	DESIGNED: JUDY ANN T. BERNARDINO DIRECT PLANNING AND DESIGN DIVISION	RECOMMENDED: JOSEITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR	APPROVED: JUDY B. CORDON REGIONAL DIRECTOR	SET NO. B 4 4 SHEET NO. 20 35
--	---	--	---	---	--	---	--	---

C. CAMP HOUSE DETAILS

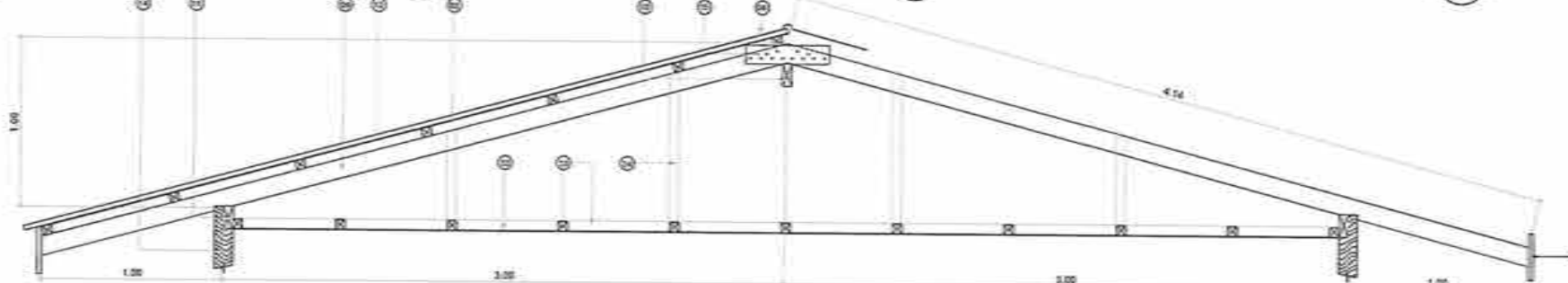


1 FLOOR PLAN
A-1 SCALE 1:100

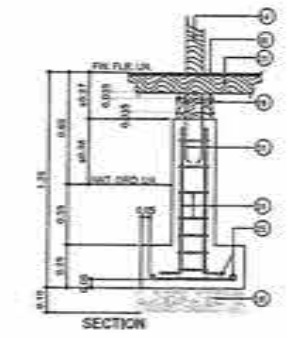
2 FLOOR FRAMING PLAN
A-1 SCALE 1:100

3 REFLECTED CEILING PLAN
A-1 SCALE 1:100

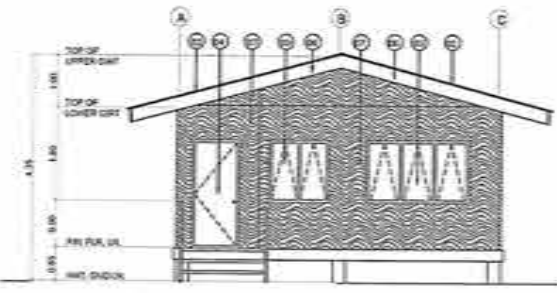
4 ROOF FRAMING PLAN
A-1 SCALE 1:100



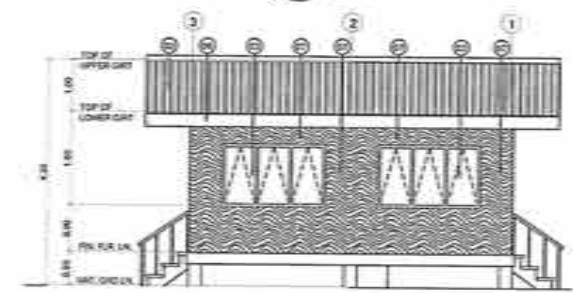
5 DETAIL OF RAFTER
A-1 SCALE 1:20



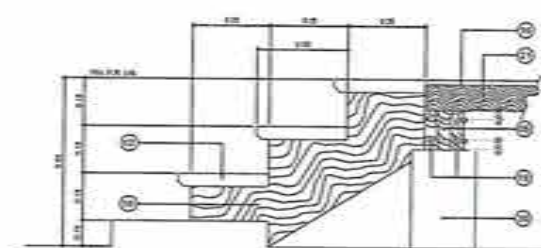
SECTION



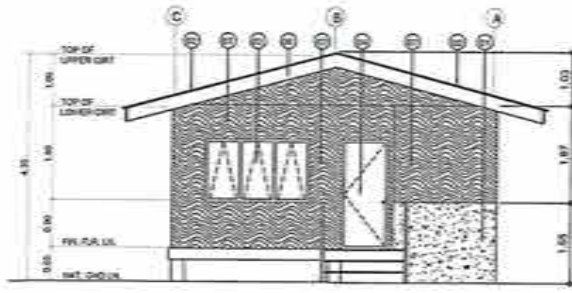
6 FRONT ELEVATION
A-1 SCALE 1:100



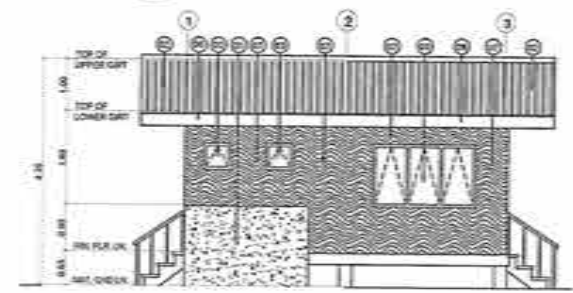
7 RIGHT SIDE ELEVATION
A-1 SCALE 1:100



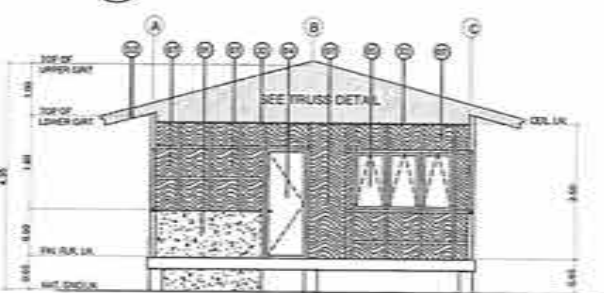
8 DETAIL OF WOODEN STAIR
A-1 SCALE 1:20



10 REAR ELEVATION
A-1 SCALE 1:100

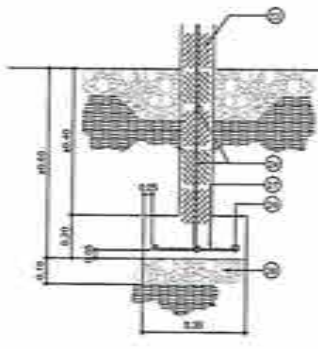


11 RIGHT SIDE ELEVATION
A-1 SCALE 1:100



12 CROSS SECTION
A-1 SCALE 1:100

9 COLUMN/FOOTING (F1C1) DETAIL
A-1 SCALE 1:20



13 WALL FOOTING (WF) DETAIL
A-1 SCALE 1:20

ROOM DESIGNATION	
100	ENTRANCE PORCH 10TH IN. 4" COCO PLANK FLOORING
101	KITCHEN/DINING/RECEIVING AREA 10TH IN. 4" COCO BOARD FLOORING
102	MEN'S TOILET PLAN CEILING FINISH COLOR TO BE APPROVED BY THE OWNER AND THE ARCHITECT
103	WOMEN'S TOILET PLAN CEILING FINISH COLOR TO BE APPROVED BY THE OWNER AND THE ARCHITECT
104	SLEEPING QUARTERS 10TH IN. 4" COCO PLANK FLOORING
INDEX	
01	4" THK. CONCRETE HOLLOW BLOCKS, PLAIN CEMENT PLASTER FINISH
02	MPA ROOFING SHEETS
03	AWNING PLYWOOD WINDOW
04	40MM THK HOLLOW CORE FLUSH DOOR
05	2" X 4" WOOD BLOCK SPACER
06	1" X 12" FASCIA BOARD (COCO LUMBER)
07	4MM THK. ORDINARY PLYWOOD SINGLE PARTITION WALL ON 2"x2" COCO LUM. NAILERS SP @ 0.60M O.C.B.W.
08	G.A. 25 RIDGE ROLL
09	2" X 4" RAFTER (COCO LUMBER)
10	2" X 6" UPPER GIRT (COCO LUMBER)
11	2" X 6" LOWER GIRT (COCO LUMBER)
12	2" X 2" WOODEN FURLINS SP @ 0.70M ON CENTER
13	P.E. FOAM ROOF THERMAL INSULATOR (OPTIONAL)
14	4" X 4" COCO WOODEN POST
15	2-2" X 4" X 0.50M COLLAR PLATE (COCO LUMBER)
16	1/2" THK. X 6" COCO BOARD FLOORING
17	2"x12" THREAD
18	2-2"x12" STRINGER
19	2-2"x6" GIRDER W/3-15MM2 MACHINE BOLT W/ NUT & WASHER
20	CONCRETE PEDESTAL
21	2"x4" FLOOR JOIST
22	4-12MM2 VERT. BARS W/ 10MM2 TIES SP @ 0.20M ON CENTER
23	4" THK. CONCRETE HOLLOW BLOCKS
24	10MM2 REINFORCING BARS SP. @ 0.50M HORIZONTALLY & VERTICALLY ON CENTER
25	6-10MM2 BEDBARS SP AS SHOWN ON CENTER BOTHWAYS
26	3-10MM2 CONTINUOUS BEDBARS SP AS SHOWN
27	10MM2 TIES SP @ 0.40M O.C.
28	100MM COMPACTED GRAVEL BASE
29	2"x4" WOODEN FLOOR BLOCKS
30	CONCRETE PEDESTAL
31	1/2" X 2" X 12" ANCHOR STRAP
32	1/2" THK. ORDINARY PLYWOOD ON 2"x2" COCO LUMBER FRAMING SP. @ 0.60M O.C.B.W. W/ 2"x2" COCO LUMBER HANGER SP @ 1.20M O.C.B.W.
33	2" X 2" COCO LUMBER FRAMING SP @ 0.60M O.C.B.W.
34	2" X 2" COCO LUMBER HANGER SP @ 1.20M O.C.B.W.
LEGEND	
—	30W TLD FLUORESCENT LAMP (DAYLIGHT)
○	18W COMPACT FLUORESCENT LAMP ON 3/4" PVC RECEPTACLE



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
ARCHITECTURAL DETAILS
STRUCTURAL DETAILS

DRAFTED AND PREPARED
FERDINAND M. RAÑOSA
ARCHITECT

REVIEWED
ALGIN A. GINGAYAN
ENGINEER

SUBMITTED
JUDY ANN T. BERNARDINO
CHIEF PLANNING AND DESIGN DIVISION

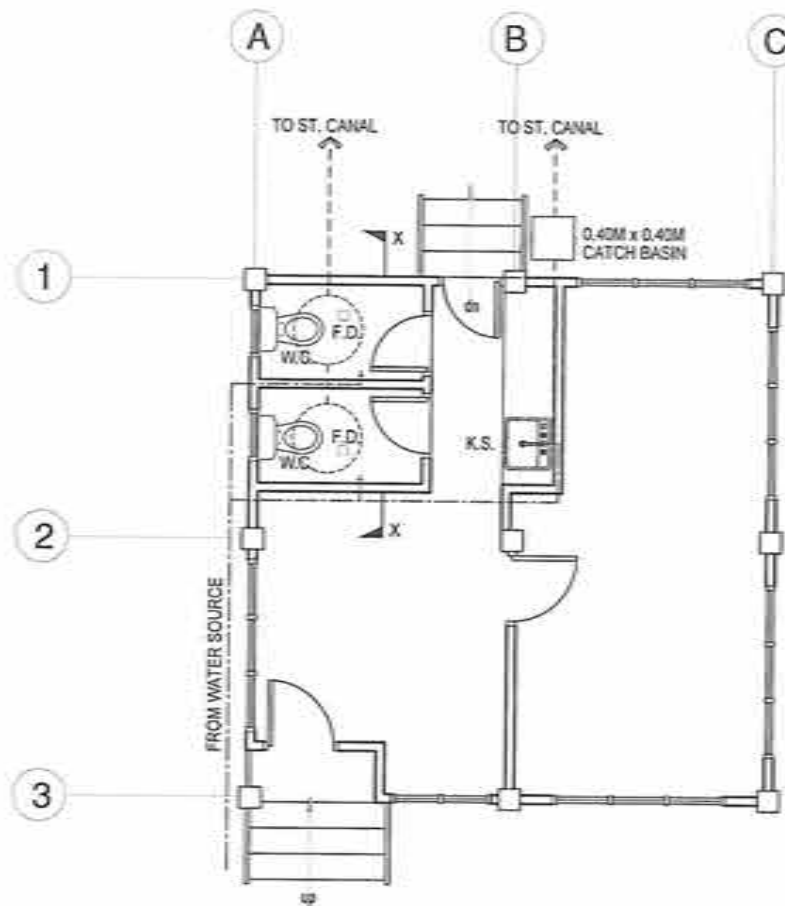
RECOMMENDED
JOSE LITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR

APPROVED
JUDY B. CORDON
REGIONAL DIRECTOR

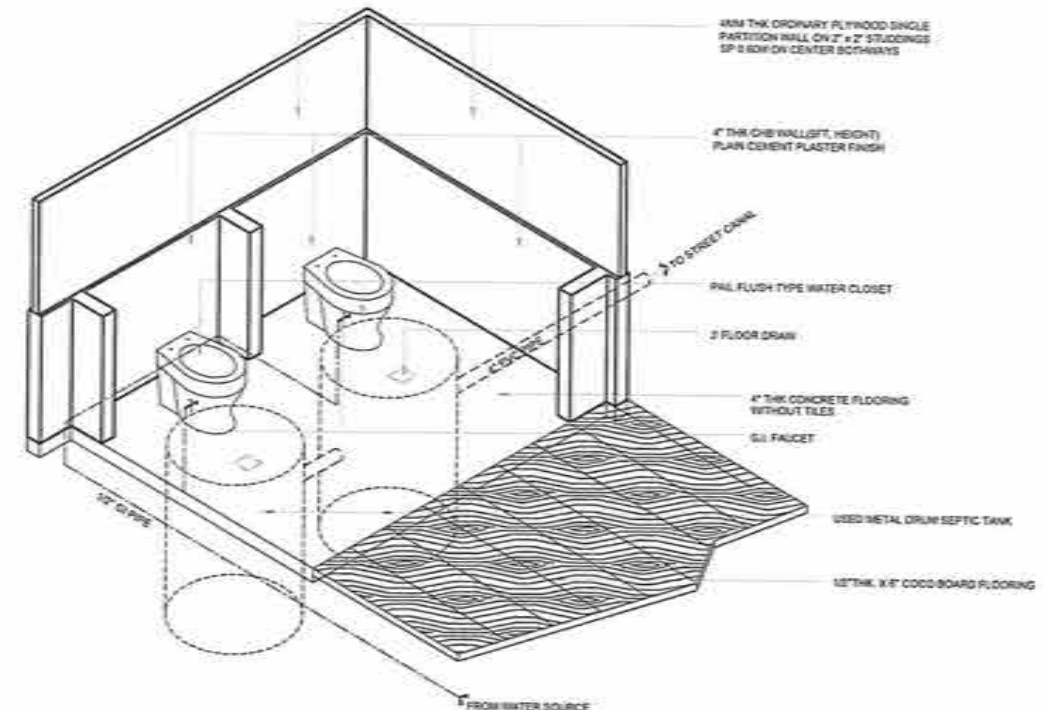
SHEET NO.
C
1 3
21
35

LEGEND

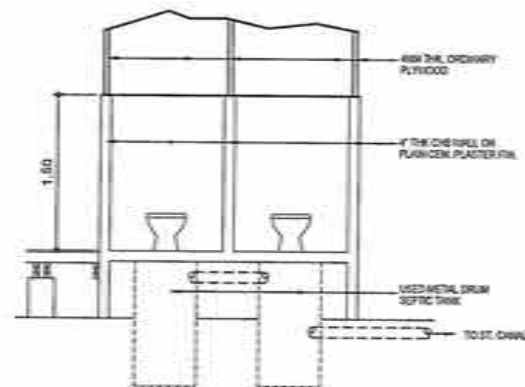
CO CLEAN OUT
LAV LAVATORY
— WATER LINE
DST DRUM SEPTIC TANK
F FAUCET
WC WATER CLOSET
FD FLOOR DRAIN
CB CATCH BASIN
KS KITCHEN SINK



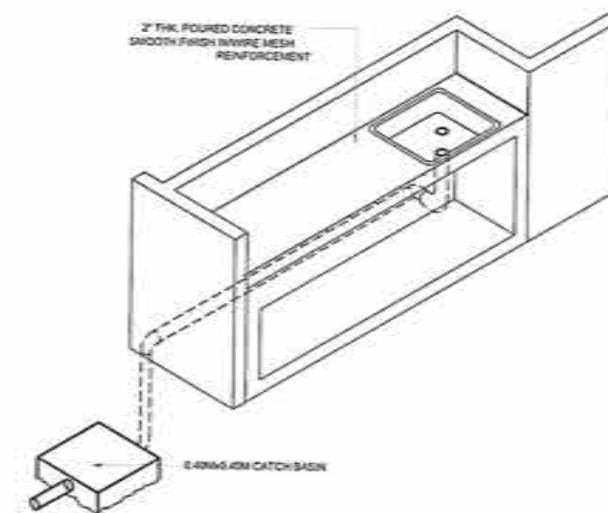
1 PLUMBING LAYOUT
SCALE 1:500



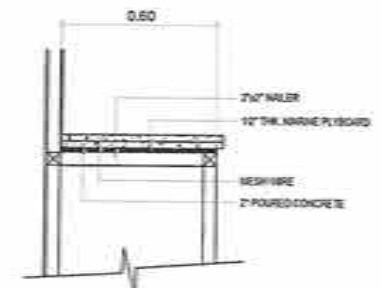
2 ISOMETRIC LAYOUT
SCALE 1:500



3 SECTION X-X
SCALE 1:500



4 COUNTER SINK DETAIL
SCALE 1:500



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
PLUMBING LAYOUT
ISOMETRIC LAYOUT
TOILET CROSS SECTION
COUNTER SINK DETAIL

DRAFTED AND PREPARED:
FERDINAND M. RAÑOSA
ARCHITECT I

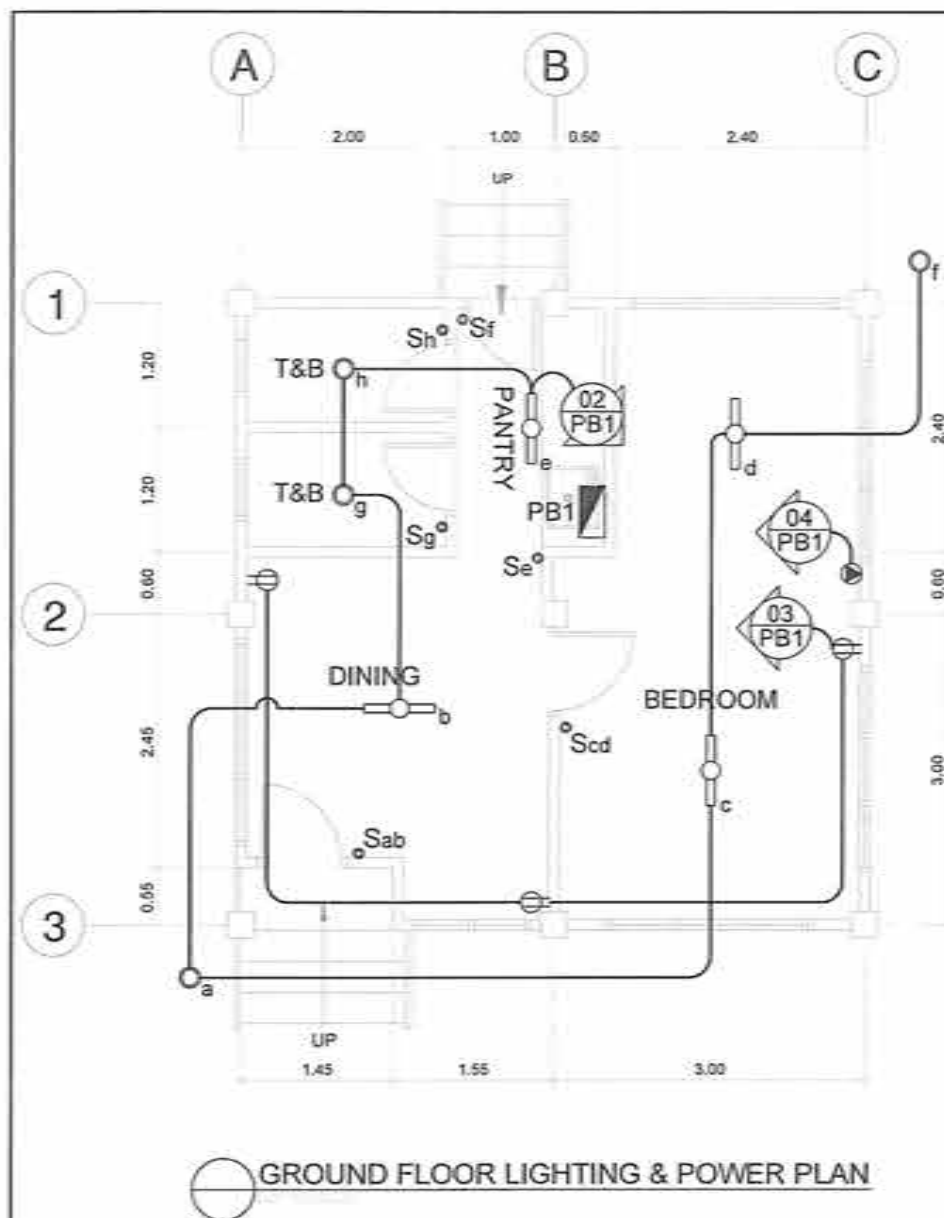
REVIEWED:
ALVIN A. GINGA
ENGINEER II

SUBMITTED:
JUDY ANN T. BERNARDINO
CHECK PLANNING AND DESIGN DIVISION

RECOMMENDED:
JOSE LITO S. CABALLERO
ASSISTANT REGIONAL DIRECTOR

APPROVED:
JUBY S. CORDON
REGIONAL DIRECTOR

SET NO. C
2 3
SHEET NO. 22
35



GROUND FLOOR LIGHTING & POWER PLAN



VICINITY MAP

LOAD SCHEDULE & COMPUTATION

PANEL	CKT	DESCRIPTION	VOLT	POWER	AMPERE	PROTECTION				CONDUCTOR & CONDUIT
						AT	AF	POLE	KAIC	
PB1	1	SERVICE/FEEDER LINE	230	2 780	12.09	40	100	2	10	2 - 8.0mm ² THW Cu. + 1 - 8.0mm ² THW Cu. (G) IN 20mm ² RMC PIPE
	2	LIGHTING LOADS	230	400	1.74	20	100	2	10	2 - 3.5mm ² THHN Cu. + 1 - 2.0mm ² THHN Cu. (G) IN 20mm ² uPVC PIPE
	3	ALL PURPOSED LOADS	230	540	2.35	20	100	2	10	2 - 3.5mm ² THHN Cu. + 1 - 2.0mm ² THHN Cu. (G) IN 20mm ² uPVC PIPE
	4	AIR-CONDITION UNIT 1.0Hp	230	1 840	8.00	20	100	2	10	2 - 3.5mm ² THHN Cu. + 1 - 3.5mm ² THHN Cu. (G) IN 20mm ² uPVC PIPE

LOAD COMPUTATION

(AREA CALCULATION)

GENERAL LIGHTING & RECEPTACLE LOAD
 $35.10 \text{ m}^2 \times 24 \text{ VOLT-AMPERES / m}^2 = 842 \text{ VA}$
 PROVIDE ONE 20-AMPERE LIGHTING & RECEPTACLE CIRCUIT
 SMALL APPLIANCE LOAD = 1 500 VA
 PROVIDE ONE 20-AMPERE SMALL APPLIANCE LOAD CIRCUIT
 SUB-TOTAL = 2 342 VA

APPLICATION OF DEMAND FACTOR

FIRST 3 000 VOLT-AMPERES @ 100% DF = 3 000 VA
 REMINDER @ 35% DF = 0 VA
 OTHER LOADS

ONE AIR-CONDITION UNIT 1.0Hp @ 100% DF = 1 840 VA
 TOTAL NET COMPUTED LOAD = 4 840 VA

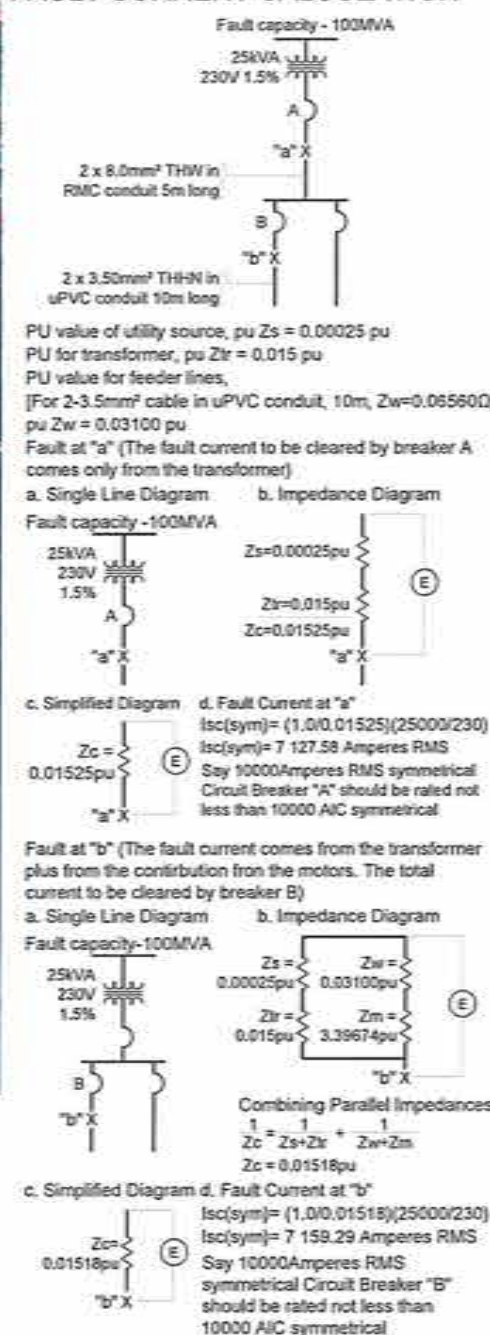
SERVICE FEEDER CONDUCTORS

TOTAL FULL LOAD CURRENT
 $I = 1.25 \times 1 840 + 4 840 / 230 = 31.04 \text{ AMPERES}$
 USE: 2 - 8.0mm² THW Cu. WIRE
 1 - 8.0mm² THW Cu. WIRE (G)
 INSIDE 1-20mm² RMC PIPE

SERVICE EQUIPMENT PROTECTION

TOTAL FULL LOAD CURRENT
 $I = 2.50 \times 1 840 + 4 840 / 230 = 41.04 \text{ AMPERES}$
 USE: 1-40AT ACB 240V 2P 60Hz 10KAIC

FAULT CURRENT CALCULATION



VOLTAGE DROP CALCULATION

FROM TRANSFORMER TO PB1
 2 x 8.0mm² THW COPPER WIRE

WHERE:
 $R = 0.78\Omega$ $L = 5.0\text{m}$
 $X = 0.064\Omega$ $I = 41.04\text{A}$
 $VD = 1.05\text{V}$

PERCENT VOLTAGE DROP
 $\%VD = 0.46\%$

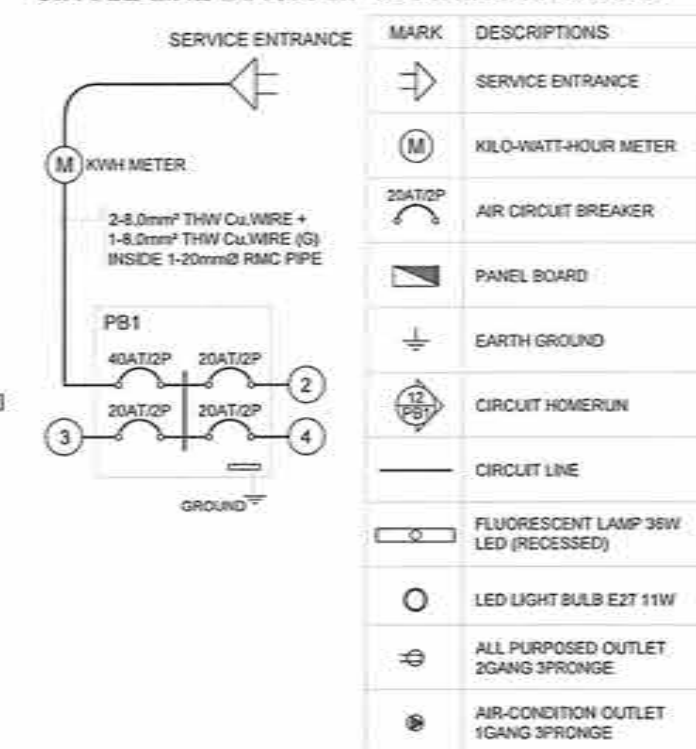
FROM PB1 TO A.C.U. LOAD CIRCUIT 4
 FOR 3.5mm² THHN COOPER WIRE

WHERE:
 $R = 2.0\Omega$ $L = 10.0\text{m}$
 $X = 0.054\Omega$ $I = 8.0\text{A}$
 $VD = 1.05\text{V}$

PERCENT VOLTAGE DROP
 $\%VD = 0.46\%$

TOTAL PERCENT VOLTAGE DROP
 $\%VD = 0.91\%$

SINGLE LINE DIAGRAM DRAWING LEGENDS



NOTES & SPECIFICATIONS

- ALL ELECTRICAL INSTALLATIONS MADE HEREIN SHALL CONFORM WITH THE RULES AND REGULATIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE (PEC), THE EXISTING LOCAL ORDINANCES, RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITY AND THE REQUIREMENT OF THE LOCAL UTILITY COMPANY
- THE TYPE OF POWER SERVICE TO BE USED SHALL BE SINGLE PHASE, 3 WRES, 230V 60HERTZ ALTERNATING CURRENT
- ALL MATERIALS AND DEVICES TO BE USED AND INSTALLED HEREIN SHALL BE NEW, GOOD WORKMANSHIP AND OF APPROVED TYPE BY THE BUREAU OF STANDARDS
- ELECTRICAL WIRING INSTALLATION SHALL BE DONE IN LOCATION AS FOLLOWS: (a) RIGID METALLIC CONDUIT (RMC) TO BE USED, IN SERVICE ENTRANCE AND FEEDERS, (b) ELECTRICAL METALLIC TUBING (EMT) TO BE USED ABOVE CEILING AND BETWEEN DOUBLE WALL PARTITION MADE OF COMBUSTIBLE MATERIALS (c) UNPLASTICIZED POLYVINYL CHLORIDE CONDUIT (uPVC) TO BE USED IF EMBEDDED IN CONCRETE OR UNDERGROUND
- ALL WIRES SHALL BE COPPER AND THERMOPLASTIC INSULATED TYPE "THW" UNLESS OTHERWISE INDICATED. THE MINIMUM SIZE OF WIRE AND CONDUIT TO BE USED SHALL BE 3.5mm² THW AND 15mm NOMINAL DIAMETER RESPECTIVELY
- ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF PEC PART1, LATEST EDITION
- ANY DISCREPANCY IN THE LOCATION AND RATINGS OF EQUIPMENTS AND APPARATUS SHALL BE VERIFIED WITH THE OWNER OR ANY OF HIS REPRESENTATIVES AND CHANGES SHALL BE MADE ACCORDINGLY
- ALL PIPE SLEEVES SHALL BE PROVIDE WITH PROPER SUPPORT OR ANCHORAGE NECESSARY FOR PERMANENT CONNECTION TO CONCRETE WALLING OR BEAM
- WHEREVER REQUIRED AND NECESSARY, PULL BOXES OR JUNCTION BOXES OF PROPER SIZES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATIONS, ALTHOUGH SUCH BOXES ARE NOT SHOWN AND MENTIONED IN THE PLANS OR IN THE SPECIFICATIONS
- ALL FEEDERS LOCATED OUTSIDE THE BUILDING SHALL BE ENCASED IN ALL AROUND CONCRETE WATER PROOFED ENVELOP, AND SHALL BE BURIED WITH NOT LESS THAN 600MM BELOW THE GROUND SURFACE
- STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATIONS, AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATIONS SHALL BE USED
- MOUNTING HEIGHT OF PANEL AND DEVICES WERE AS FOLLOWS: (FROM THE FLOOR FINISH TO CENTER OF UNIT)
 A. WALL SWITCHES 1 400mm
 B. WALL CONVENIENCE OUTLETS 300mm
 C. kWh METER 1 650mm
 D. PANELBOARD 1 800mm
- THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATIONS OF SERVICE ENTRANCE FOR CONNECTIONS TO POWER SERVICE POINT
- ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE STRICT SUPERVISIONS OF A DULY REGISTERED ELECTRICAL ENGINEER



REPUBLIC OF THE PHILIPPINES
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 REGIONAL OFFICE NO. XI
 GOV. CHAVEZ COR. B. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
 CONSTRUCTION OF ACCESS ROAD LEADING TO
 MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
 ORIENTAL

SHEET CONTENTS
 GROUND FLOOR LIGHTING & POWER PLAN
 LOAD SCHEDULE & COMPUTATION
 FAULT CURRENT CALCULATION
 VOLTAGE DROP CALCULATION
 SINGLE LINE DIAGRAM
 ELECTRICAL DRAWING LEGENDS
 ELECTRICAL NOTES AND SPECIFICATIONS

DRAFTED AND PREPARED:
 JOHN PHILIP S. ORSIEVES
 ENGINEER I
 DATE: _____

REVIEWED:
 ALGIN A. GINGO
 ENGINEER
 DATE: _____

DESIGNED:
 JUDY ANN T. BERNARDINO
 ENGINEER
 DATE: _____

RECOMMENDED:
 JOSELUJO B. CABALLERO
 ASSISTANT REGIONAL DIRECTOR
 DATE: _____

APPROVED:
 JUBY B. GORDON
 REGIONAL DIRECTOR
 DATE: _____

SHEET NO.
 23
 35

D. PLAN AND PROFILE

LEGEND:

- TRAVERSE LINE
- WATER LINE / SHORE LINE
- PIPE CULVERT (RCPC)
- GRAVEL ROAD (RE)
- RIPRAP
- ACCESS ROAD
- CENTERLINE

REFERENCE POINT OF P1-8A				
NEW RP-8	AZIMUTH	DISTANCE	NORTHING	EASTING
NEW RP-8	67°25'30"	28.927 M.	769952.742	832883.577
NEW RP-8	67°54'50"	20.333 M.	769948.387	832890.142
RP-1 - #1 CONCRETE NAIL WITH BOTTLE CAP DRIVEN ON RIPRAP				
RP-2 - #1 CONCRETE NAIL WITH BOTTLE CAP DRIVEN ON RIPRAP				

REFERENCE POINT OF U-3				
RP-1	AZIMUTH	DISTANCE	NORTHING	EASTING
RP-1	105°10'30"	4.137 M.	769926.250	832883.347
RP-2	12°21'40"	7.902 M.	769917.478	832885.308
RP-1 - #1 CONCRETE NAIL WITH BOTTLE CAP DRIVEN ON SIDEWALK				
RP-2 - #1 CONCRETE NAIL WITH BOTTLE CAP DRIVEN ON SIDEWALK				

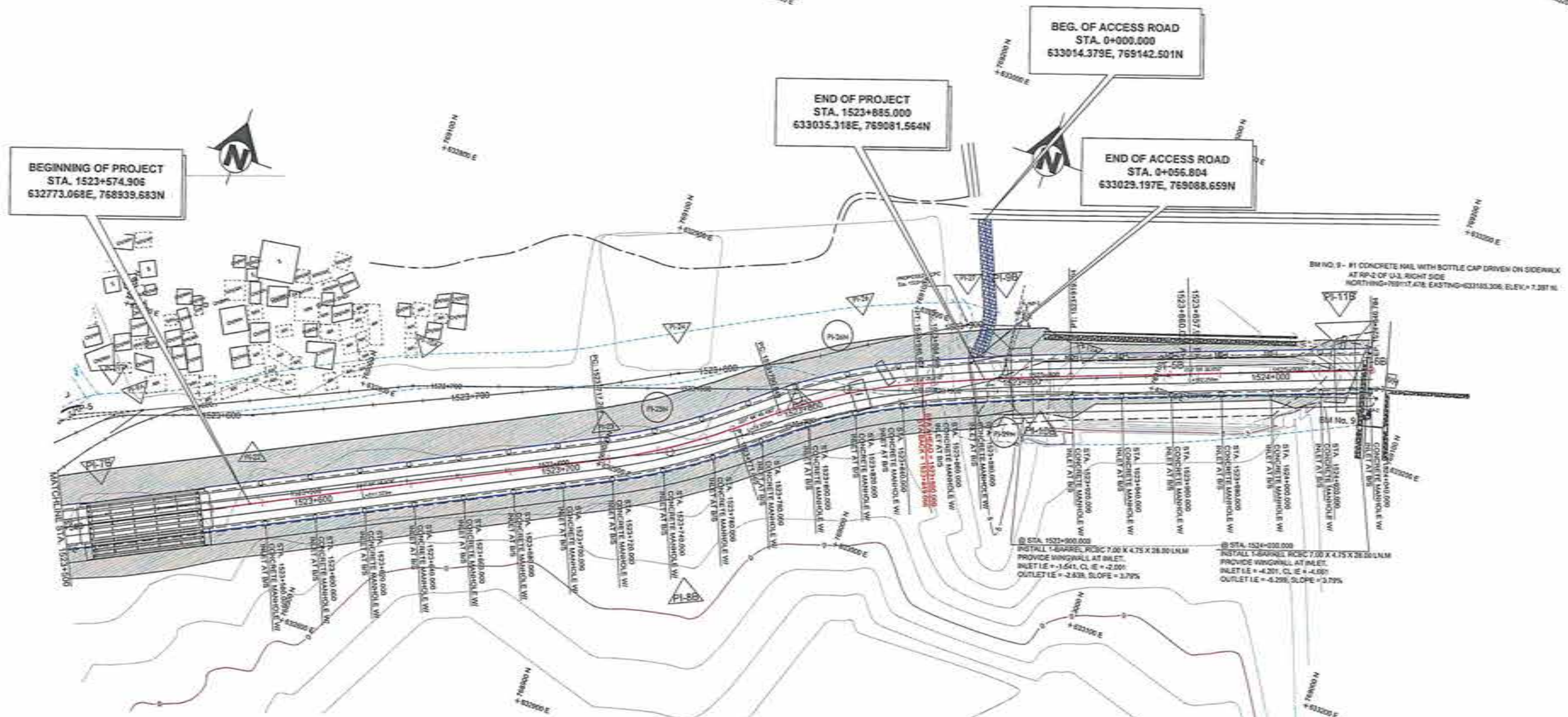
TRAVERSE LINE		
PI#	AZIMUTH	DISTANCE
P1-8A TO P1-8B	210°21'10"	208.698 M.
P1-8A TO P1-11B	210°21'10"	108.560 M.
P1-8B TO P1-11B	210°21'10"	208.698 M.
P1-11B TO U-3	210°21'10"	108.560 M.

STATION COORDINATES			
POINT	STATION	NORTHING	EASTING
U-3	1524+072.440	769925.172	833186.982

ELEMENTS OF CURVE														
PI-NO.	PI STATION	NORTHING	EASTING	I	D	R	T	E	Lc	Pc	Pt	e	w	V (kph)
PI-8A	1523+178.595	769952.742	832883.577	67°25'30"	67°54'50"	110.001	32.458	4.363	49.909	1523+246.246	1523+246.246	-	-	-
PI-8B	1523+246.246	769948.387	832890.142	67°54'50"	67°54'50"	110.001	32.458	4.363	49.909	1523+314.801	1523+314.801	-	-	-
PI-11A	1523+314.801	769948.387	832890.142	67°54'50"	67°54'50"	110.001	32.458	4.363	49.909	1523+383.356	1523+383.356	-	-	-

ELEMENTS OF CURVE (NEW)														
PI NUMBER	STATION	NORTHING	EASTING	I	D	R	T	E	LC	PC	PT	e (m)	w (m)	V (km/h)
P1-23H	1523+744.278	769912.725	832928.391	12°18'30"	4°21'30"	200.000	20.000	1.400	53.781	1523+717.284	1523+717.000	--	--	30
P1-20H	1523+818.045	769900.196	832944.208	18°17'40"	5°21'20"	210.000	28.100	1.884	56.987	1523+790.849	1523+790.857	--	--	30
P1-29H	1523+891.822	769888.400	832961.415	21°07'10"	1°58'30"	1000.000	27.217	0.270	54.422	1523+864.508	1523+864.508	--	--	30

TRAVERSE LINE (NEW)		
PI-NO.	DISTANCE	AZIMUTH
P1-23H TO P1-20H	311.223 M.	247°04'18.879"
P1-20H TO P1-29H	74.878 M.	231°44'46.890"
P1-29H TO U-3	82.151 M.	247°02'26.810"
P1-29H TO T-18	180.250 M.	150°09'32.057"



PLAN
SCALE 1:1250 m.



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CIRVEL COR. R. NINGAYAT AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION:
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS:
PLAN AND PROFILE

SURVEYED:
RUEL M. SANCAY
ENGINEER II

REVIEWED:
DENNIS M. SANCAY
ENGINEER III

PREPARED:
EDUARDO JOSEPH M. SARTIGA
ENGINEER II

REVIEWED:
DENNIS ALONSO A. SEMPIO
ENGINEER I, OIC - SECTION CHIEF

SUBMITTED:
JUDY B. CORDON
CHIEF, PLANNING AND DESIGN DIVISION

DATE: 10/10/2023

RECOMMENDED:
JOSELUIS B. CABALLERO
ASSISTANT REGIONAL DIRECTOR

DATE: 10/10/2023

APPROVED:
JUDY B. CORDON
REGIONAL DIRECTOR

DATE: 10/10/2023

SHEET NO.:
D
1 2

SHEET NO.:
24
35

PROFILE

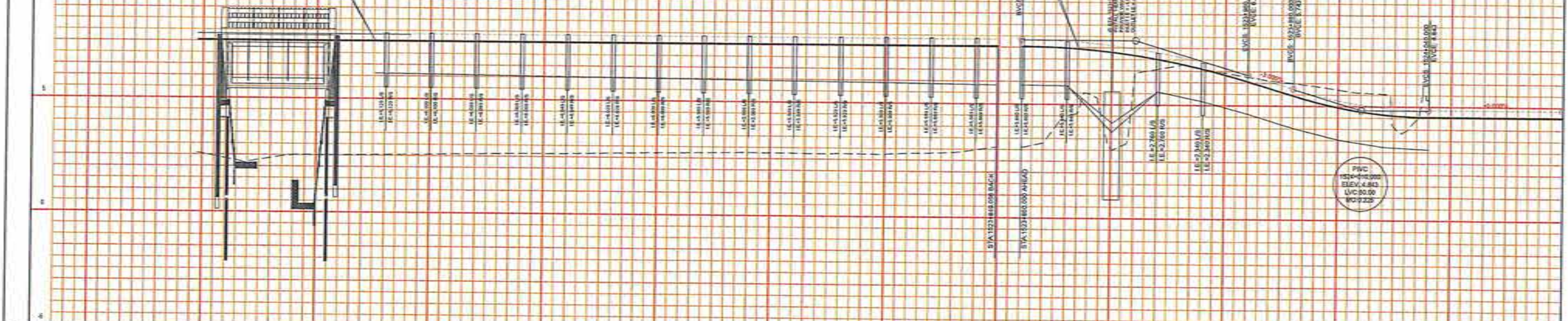
SCALE 1:125 m. HOR.
SCALE 1:25 m. VERT.

NOT INCLUDED ON PROJECT
PROJECT CY 2025

BEGINNING OF PROJECT
STA. 1523+574.906
632773.068E, 768939.683N

END OF PROJECT
STA. 1523+885.000
633035.318E, 769081.564N

ELEVATION

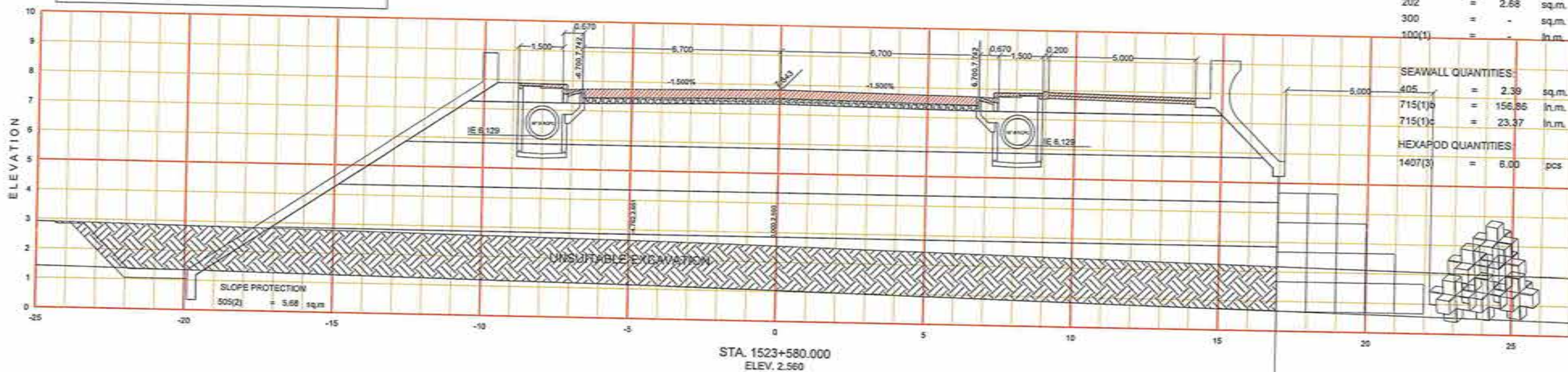


STATION	1523+500	1523+600	1523+700	1523+800	1523+900	1523+1000
FINISHED GRADE ELEVATION	2.7027.843	3.5587.843	2.2287.843	2.5407.843	2.5387.843	2.6007.843
GROUND ELEVATION	2.7027.843	3.5587.843	2.2287.843	2.5407.843	2.5387.843	2.6007.843
WIDENING DIAGRAM						
SUPER ELEVATION DIAGRAM						

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DRAID CITY	PROJECT NAME AND LOCATION CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	SHEET CONTENTS: PLAN AND PROFILE	SURVEYED RUEL M. BACAY ENGINEER II	PREPARED EDWARD JOSEPH M. SANTIGA ENGINEER II	SUBMITTED JUDY ANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION	RECOMMENDED JOSEPHITO B. CASALLERO ASSISTANT REGIONAL DIRECTOR	APPROVED JURY B. CORDON REGIONAL DIRECTOR	SHEET NO. D 22	SHEET NO. 25 35
			REVIEWED DANIEL M. CERRERA ENGINEER III	REVIEWED DENNIS ALDRIN A. SEMPIO ENGINEER I, DIST. SECTION CHIEF	DATE JAN 27, 2025	DATE JAN 27, 2025	DATE JAN 27, 2025		

E. DETAILED CROSS SECTIONS

PROJECT CY 2025
NOT INCLUDED ON PROJECT

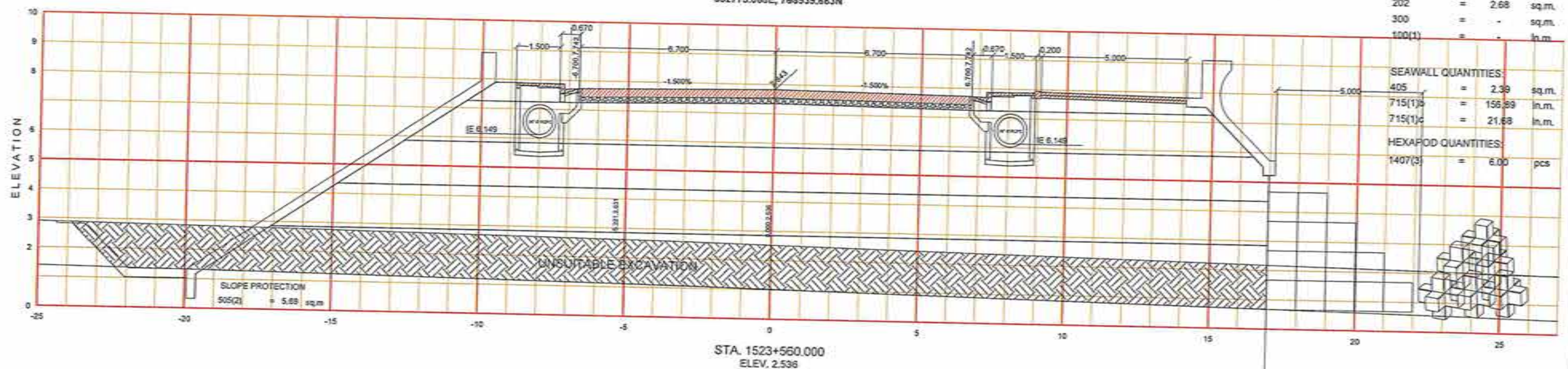


UNSUITABLE = 60.17 sq.m.
FILL = 192.11 sq.m.
105(1) = - ln.m.
202 = 2.68 sq.m.
300 = - sq.m.
100(1) = - ln.m.

SEAWALL QUANTITIES:
405 = 2.39 sq.m.
715(1)a = 156.86 ln.m.
715(1)c = 23.37 ln.m.

HEXAPOD QUANTITIES:
1407(3) = 6.00 pcs

BEGINNING OF PROJECT
STA. 1523+574.906
632773.063E, 763939.683N



UNSUITABLE = 60.22 sq.m.
FILL = 203.98 sq.m.
105(1) = - ln.m.
202 = 2.68 sq.m.
300 = - sq.m.
100(1) = - ln.m.

SEAWALL QUANTITIES:
405 = 2.39 sq.m.
715(1)a = 156.89 ln.m.
715(1)c = 21.68 ln.m.

HEXAPOD QUANTITIES:
1407(3) = 6.00 pcs



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. DRIVE COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION:
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS:
CROSS SECTIONS

SURVEYED:
RUEL M. SANCIA
ENGINEER II
REVIEWED:
DANIEL M. C. SANCIA
ENGINEER II

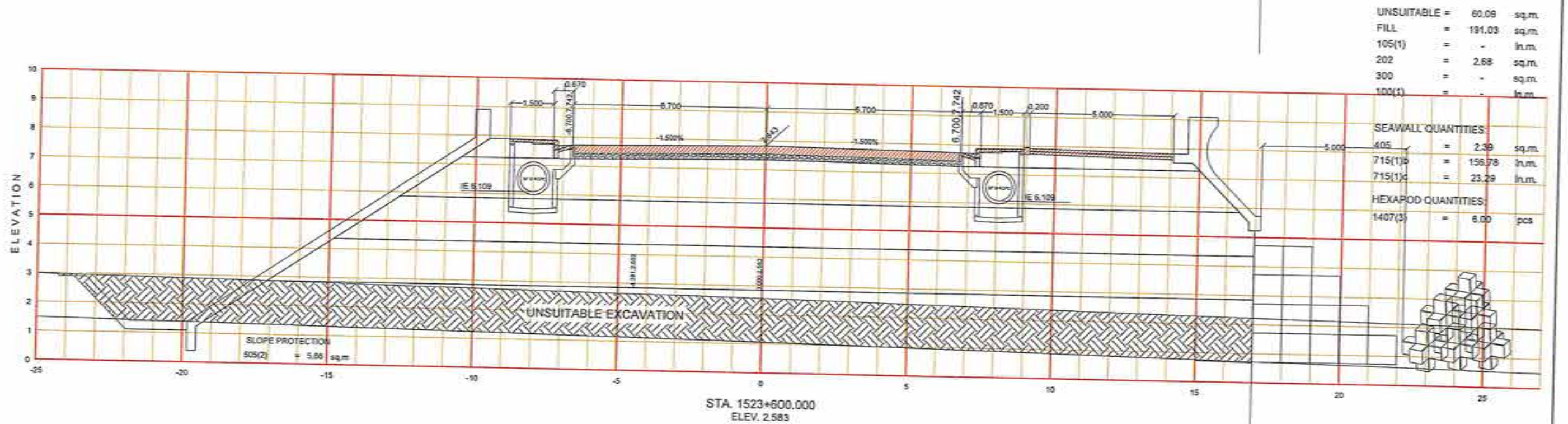
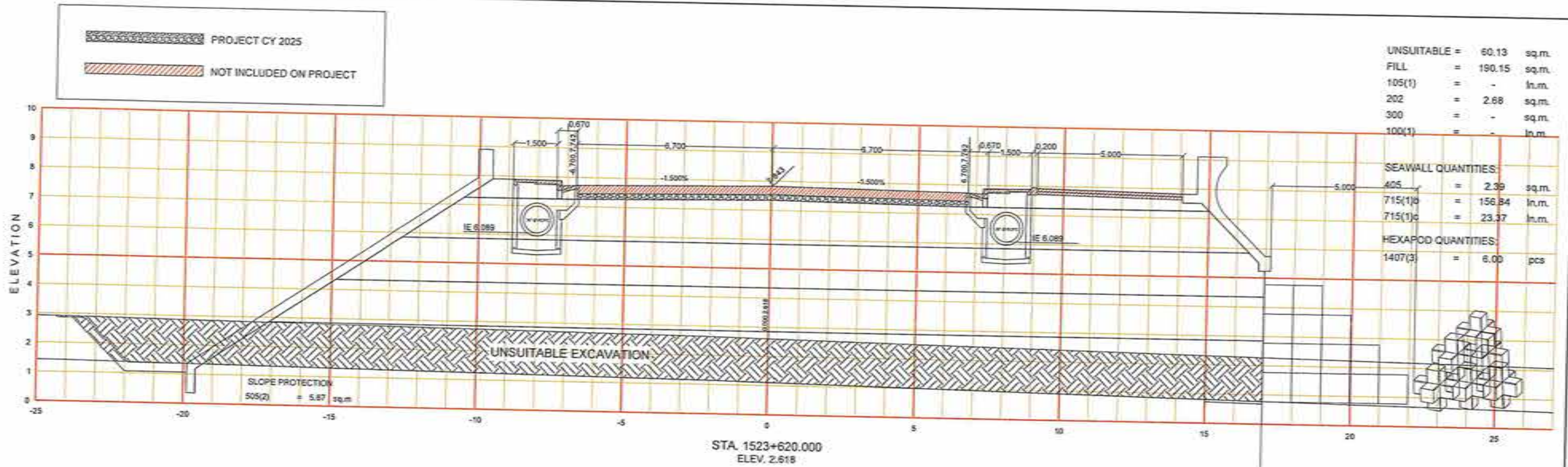
PREPARED:
EDUARDO JOSEPH M. SANCIA
ENGINEER I
REVIEWED:
DENNIS ARNOLD A. SEMPIO
ENGINEER I, O.C. - SECTION CHIEF

DATE: 10/10/2023
SUBMITTED:
JULIAN T. BERNARDINO
CHIEF PLANNING AND DESIGN DIVISION
DATE: 10/10/2023

RECOMMENDED:
JOSE LITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE: 10/10/2023

APPROVED:
JUSY B. CORDON
REGIONAL DIRECTOR
DATE: 10/10/2023

SET NO. 1/9
SHEET NO. 26/35



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
SOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION:
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS:
CROSS SECTIONS

SURVEYED:
RUEL M. SANCAY
ENGINEER II

PREPARED:
EDWARD JOSEPH M. SANCAY
ENGINEER II

SUBMITTED:
JUDYAN T. BERNARDINO
CHIEF PLANNING AND DESIGN DIVISION

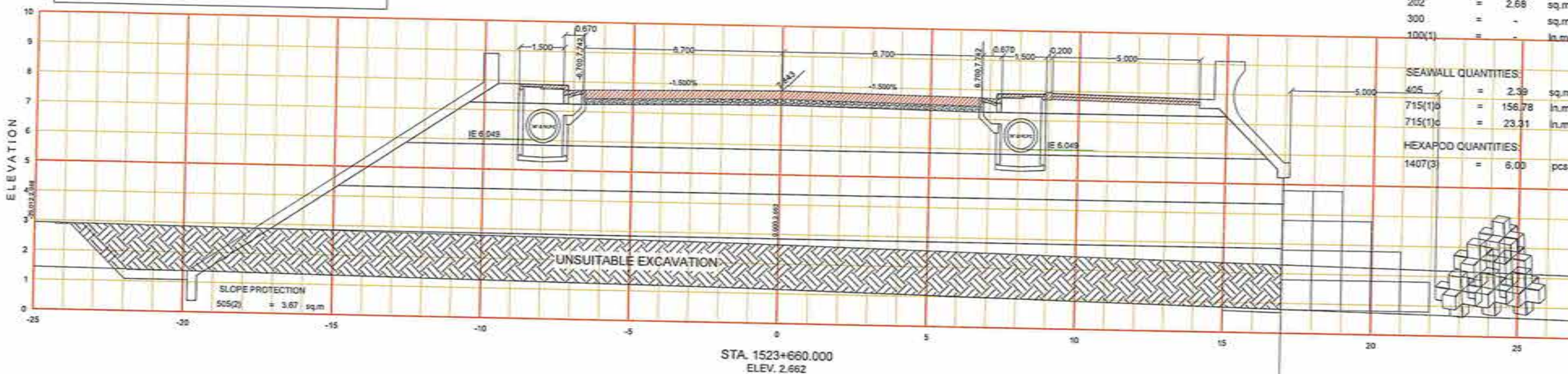
RECOMMENDED:
JOSE LITO S. CABALLERO
ASSISTANT REGIONAL DIRECTOR

APPROVED:
JUSY B. CORDON
REGIONAL DIRECTOR

SET NO.
E
2/9

SHEET NO.
27
35

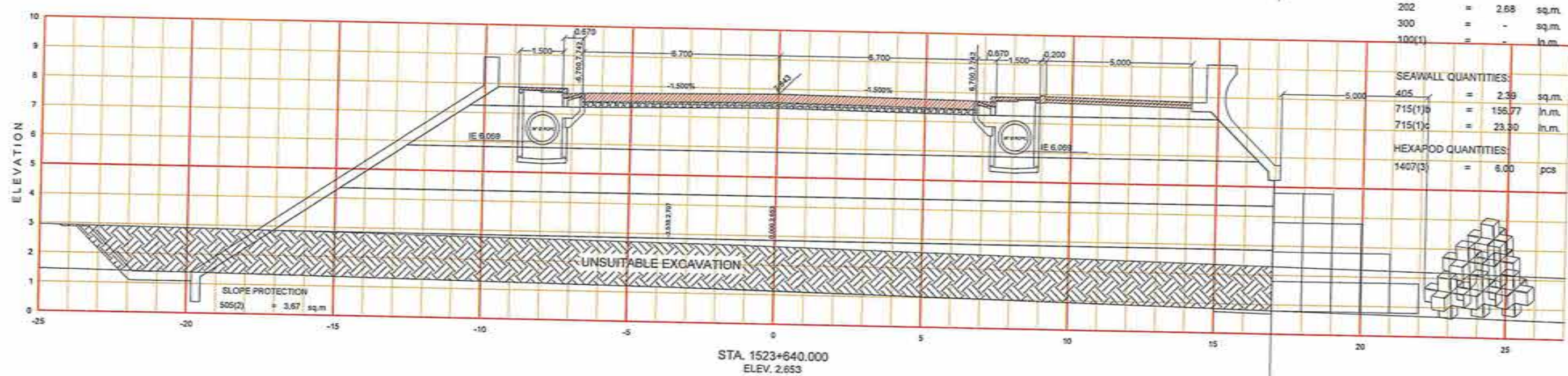
PROJECT CY 2025
NOT INCLUDED ON PROJECT



UNSUITABLE	=	60.08	sq.m.
FILL	=	188.92	sq.m.
105(1)	=	-	ln.m.
202	=	2.68	sq.m.
300	=	-	sq.m.
100(1)	=	-	ln.m.

SEAWALL QUANTITIES		
405	=	2.39 sq.m.
715(1)a	=	156.78 ln.m.
715(1)c	=	23.31 ln.m.

HEXAPOD QUANTITIES		
1407(3)	=	6.00 pcs



UNSUITABLE	=	60.07	sq.m.
FILL	=	189.07	sq.m.
105(1)	=	-	ln.m.
202	=	2.68	sq.m.
300	=	-	sq.m.
100(1)	=	-	ln.m.

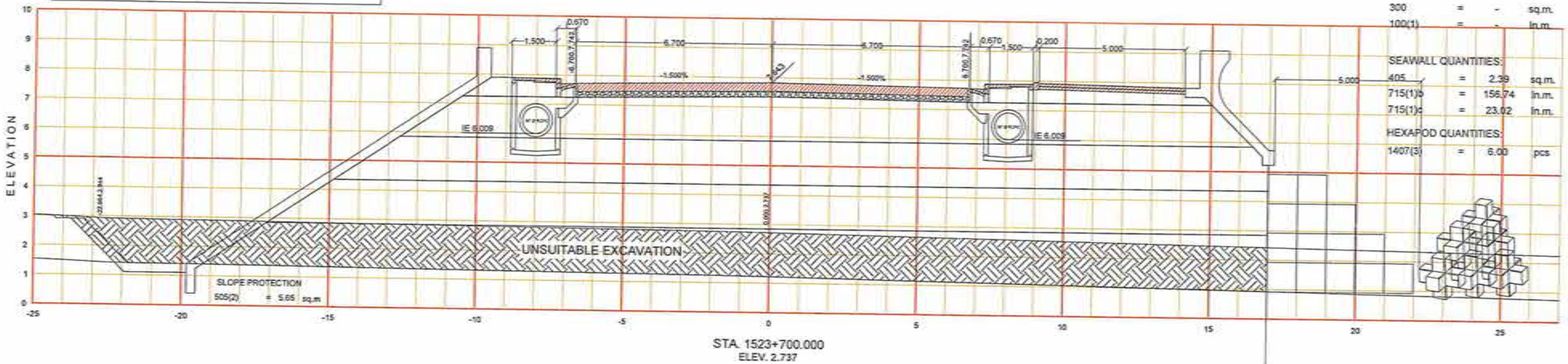
SEAWALL QUANTITIES		
405	=	2.39 sq.m.
715(1)a	=	156.77 ln.m.
715(1)c	=	23.30 ln.m.

HEXAPOD QUANTITIES		
1407(3)	=	6.00 pcs

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY	PROJECT NAME AND LOCATION	SHEET CONTENTS	SURVEYED	PREPARED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
	CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	CROSS SECTIONS	RUEL M. BACAY ENGINEER II DANIEL M. SANCHEZ ENGINEER II	EDWARD JOSEPH M. SANCHEZ ENGINEER I DENVER ALON A. SEMPIO ENGINEER I, C/C - SECTION CHIEF	JUDY B. CORDON CHIEF PLANNING AND DESIGN DIVISION DATE: _____	JOSE LITO B. CARALLERO ASSISTANT REGIONAL DIRECTOR DATE: _____	JUDY B. CORDON REGIONAL DIRECTOR DATE: _____	E 39	28 35

C:\USER\DPWH\KIDSTOP_2025\REALIGNMENT MATI FISH PORT, DO (02-10-25)\MATI FISH PORT 02-25-2025\DESIGN\2 SECTION.DWG

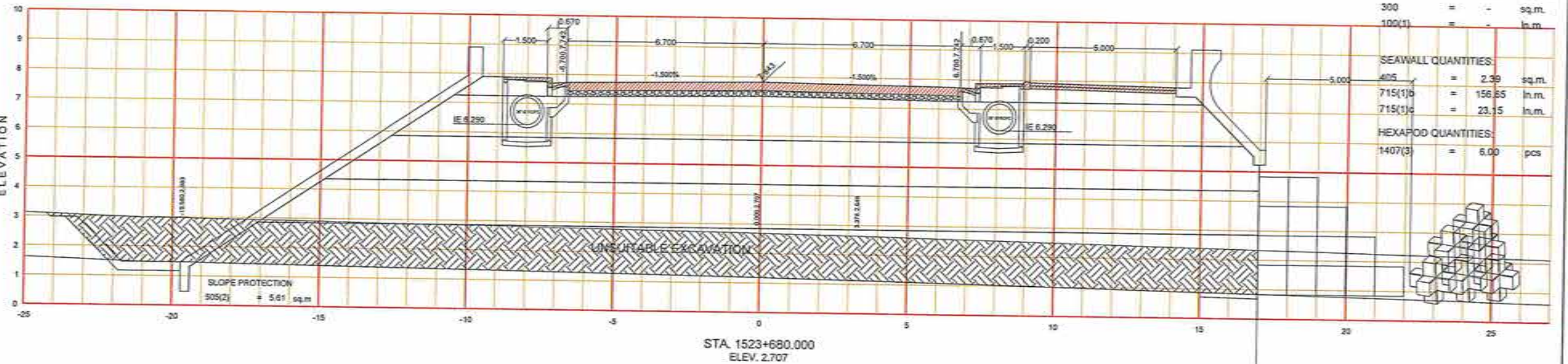
PROJECT CY 2025
NOT INCLUDED ON PROJECT



UNSUITABLE = 60.06 sq.m.
FILL = 186.26 sq.m.
105(1) = - in.m.
202 = 2.68 sq.m.
300 = - sq.m.
100(1) = - in.m.

SEAWALL QUANTITIES:
405 = 2.39 sq.m.
715(1)b = 156.74 in.m.
715(1)c = 23.02 in.m.

HEXAPOD QUANTITIES:
1407(3) = 6.00 pcs



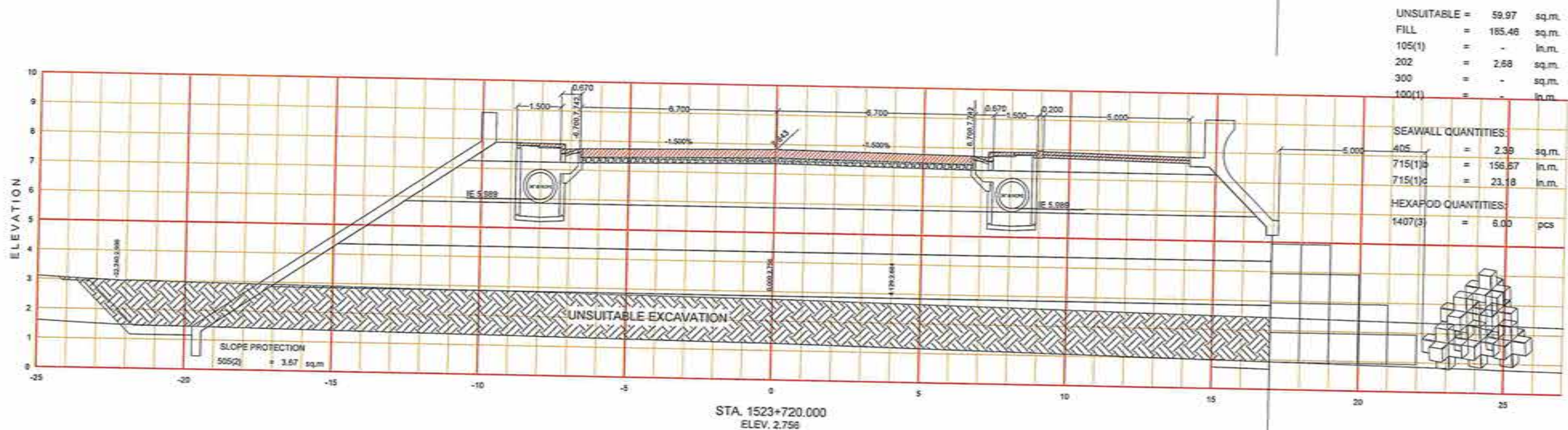
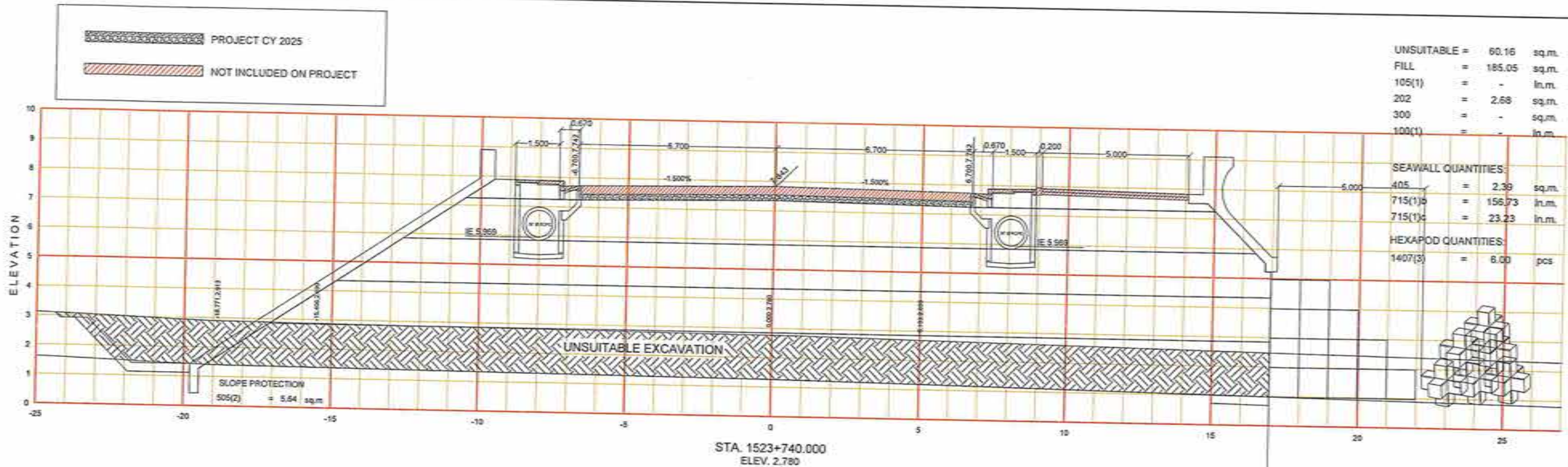
UNSUITABLE = 59.97 sq.m.
FILL = 186.90 sq.m.
105(1) = - in.m.
202 = 2.68 sq.m.
300 = - sq.m.
100(1) = - in.m.

SEAWALL QUANTITIES:
405 = 2.39 sq.m.
715(1)b = 156.65 in.m.
715(1)c = 23.15 in.m.

HEXAPOD QUANTITIES:
1407(3) = 6.00 pcs

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY	PROJECT NAME AND LOCATION	SHEET CONTENTS	SURVEYED	PREPARED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
	CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	CROSS SECTIONS	RUEL M. LACAY ENGINEER II REVIEWED: DAVID M. CARAGA ENGINEER II	EDWARD JOSEPH M. SARRAGA ENGINEER I REVIEWED: DEWY ALDWIN A. SEMPIO ENGINEER I & QC - SECTION CHIEF	JUDY ANN T. BERNARDINO CHIEF PLANNING AND DESIGN DIVISION DATE:	JOSELUITO S. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUDY B. CORDON REGIONAL DIRECTOR DATE:	E 4/9	29 35

C:\USER\GDP\WORK\DESIGN\2025\REALIGNMENT MATI FISH PORT, DO (02-10-25)\MATI FISH PORT 02-30-2025\DESIGN\XSECTION.DWG



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
CROSS SECTIONS

SURVEYED:
RUEL M. BRICAY
ENGINEER II

PREPARED:
EDUARDO JOSEPH M. SARTINA
ENGINEER I

REVIEWED:
DENYR ARON A. SEMPIO
ENGINEER I, OIC - SECTION CHIEF

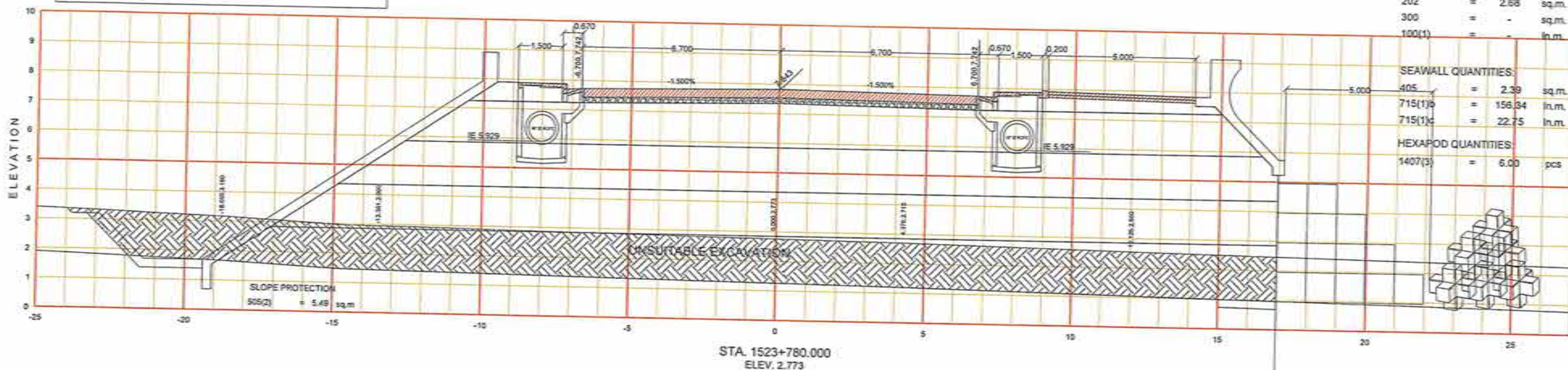
RECOMMENDED:
JOSEFED B. CABALLERO
ASSISTANT REGIONAL DIRECTOR

APPROVED:
JUBY B. CORDON
REGIONAL DIRECTOR

SET NO. 5
SHEET NO. 30
35

C:\USER\DPWH\DESIGN\2025\REALIGNMENT MATI FISH PORT, DO (02-18-25)\MATI FISH PORT 02-20-2025\DESIGN\A2 SECTION.DWG

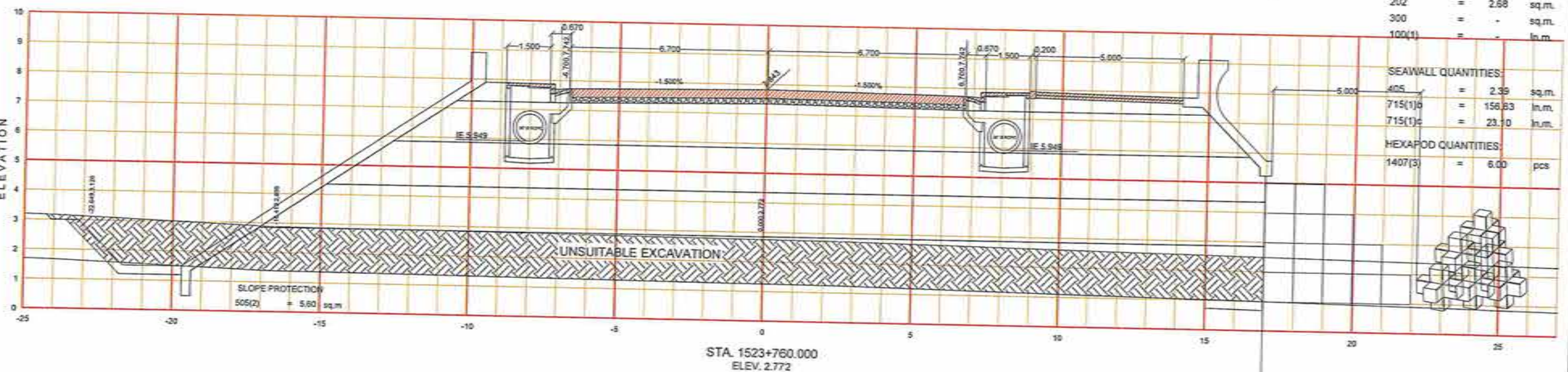
PROJECT CY 2025
NOT INCLUDED ON PROJECT



UNSUITABLE = 59.55 sq.m.
FILL = 183.75 sq.m.
105(1) = - ln.m.
202 = 2.68 sq.m.
300 = - sq.m.
100(1) = - ln.m.

SEAWALL QUANTITIES:
405 = 2.39 sq.m.
715(1) = 156.34 ln.m.
715(1)c = 22.75 ln.m.

HEXAPOD QUANTITIES:
1407(3) = 6.00 pcs



UNSUITABLE = 60.01 sq.m.
FILL = 184.96 sq.m.
105(1) = - ln.m.
202 = 2.68 sq.m.
300 = - sq.m.
100(1) = - ln.m.

SEAWALL QUANTITIES:
405 = 2.39 sq.m.
715(1) = 156.83 ln.m.
715(1)c = 23.10 ln.m.

HEXAPOD QUANTITIES:
1407(3) = 6.00 pcs



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. NARAYAN AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
CROSS SECTIONS

SURVEYED
RUEL M. SANCHEZ
ENGINEER II
REVIEWED
DANILLO M. CARAGA
ENGINEER II

PREPARED
EDWARD JOSEPH M. SANCHEZ
ENGINEER II
REVIEWED
DENVER ALDRIN A. SEMPIO
ENGINEER II, OIC - SECTION CHIEF

DATE
JULY 2025
JULY 2025
JULY 2025

RECOMMENDED
JOSELUITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE
JULY 2025

APPROVED
JUBY B. CORDON
REGIONAL DIRECTOR
DATE
JULY 2025

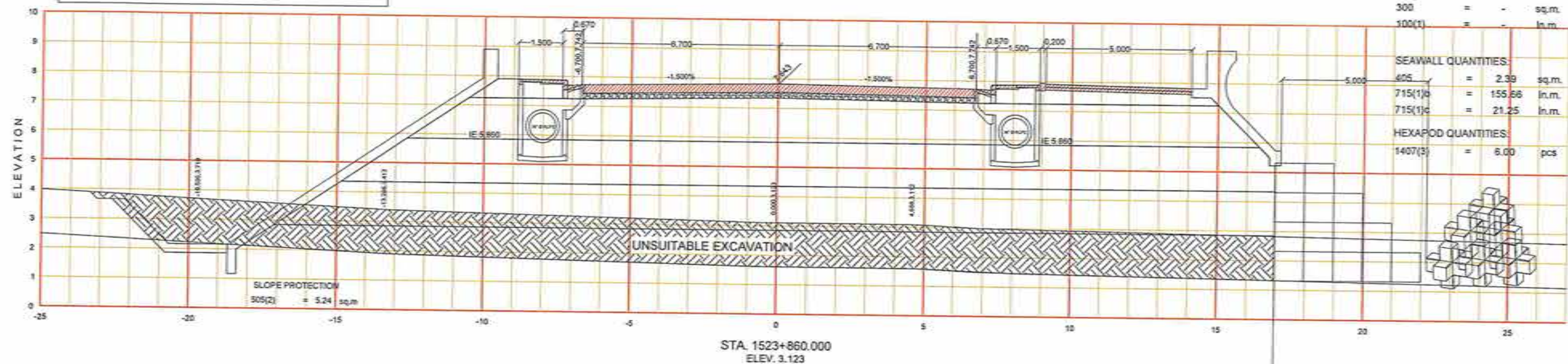
SET NO.
E
6/9
SHEET NO.
31
35

PROJECT CY 2025
NOT INCLUDED ON PROJECT

UNSUITABLE = 58.60 sq.m.
FILL = 169.73 sq.m.
105(1) = - ln.m.
202 = 2.68 sq.m.
300 = - sq.m.
100(1) = - ln.m.

SEAWALL QUANTITIES:
405 = 2.39 sq.m.
715(1)a = 155.66 ln.m.
715(1)c = 21.25 ln.m.

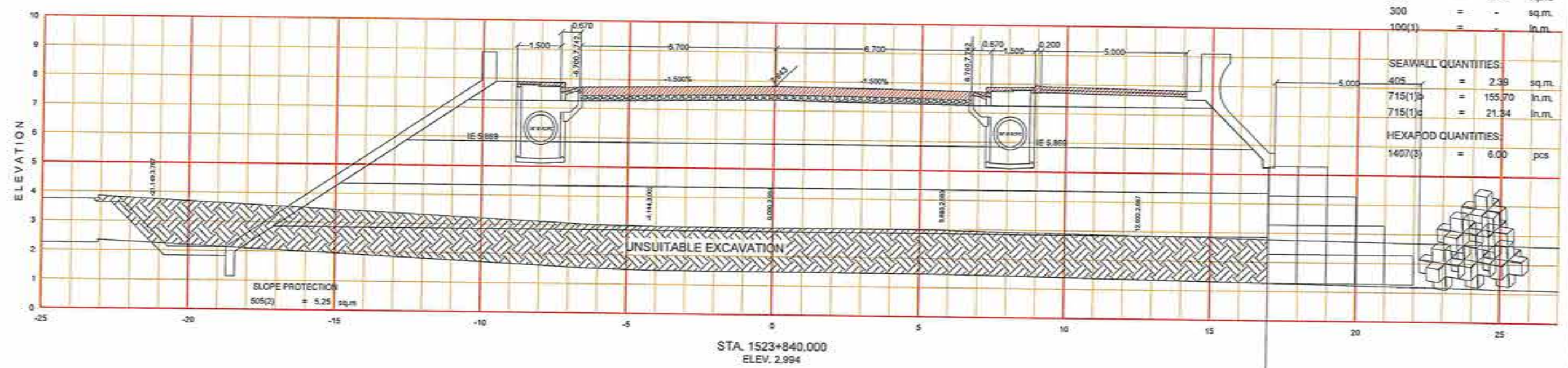
HEXAPOD QUANTITIES:
1407(3) = 6.00 pcs



UNSUITABLE = 58.63 sq.m.
FILL = 173.00 sq.m.
105(1) = - ln.m.
202 = 2.68 sq.m.
300 = - sq.m.
100(1) = - ln.m.

SEAWALL QUANTITIES:
405 = 2.39 sq.m.
715(1)a = 155.70 ln.m.
715(1)c = 21.34 ln.m.

HEXAPOD QUANTITIES:
1407(3) = 6.00 pcs



REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. XI GOV. CHAVEZ COR. R. MASSARAY AVENUE, DAVAO CITY	PROJECT NAME AND LOCATION	SHEET CONTENTS	SURVEYED	PREPARED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
	CONSTRUCTION OF ACCESS ROAD LEADING TO MATI FISH PORT, PHASE 4, MATI CITY, DAVAO ORIENTAL	CROSS SECTIONS	RUEL M. SACAY ENGINEER II DANIEL M. ORSERA ENGINEER II	EDWARD JOSEPH M. SARTINA ENGINEER II DENVER ACORIS A. SEMPIO ENGINEER II, CIVIL SECTION CHIEF	JOSEPH T. BERNARDINO CHIEF PLANNING AND DESIGN DIVISION	JOSEFINO B. CABALLERO ASSISTANT REGIONAL DIRECTOR	JURY B. CORDON REGIONAL DIRECTOR	E 8 9	33 35

C:\Users\CPW\DESKTOP_2025\REALIGNMENT MATI FISH PORT, DO (02-10-25)\MATI FISH PORT (02-30-2025)\DESIGN\XSECTION.DWG

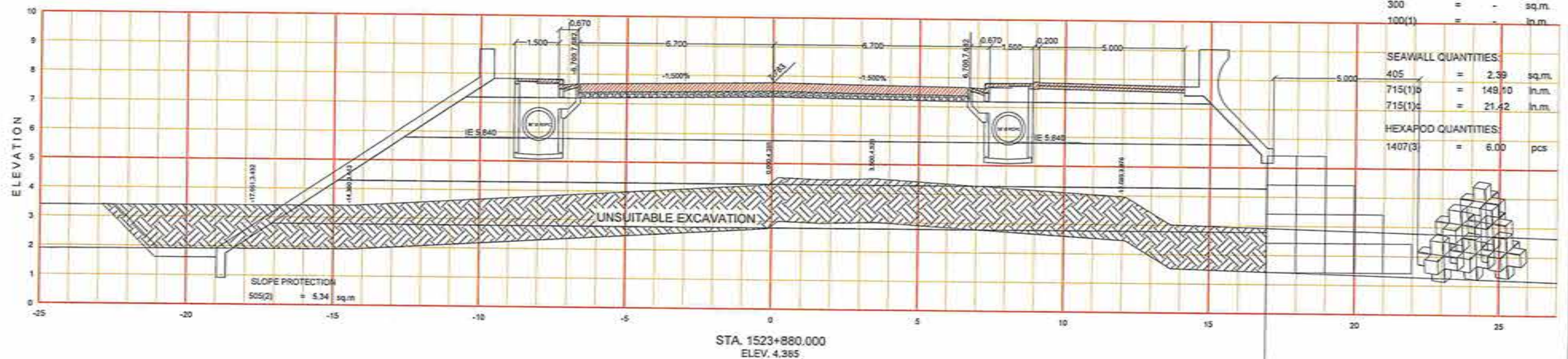
PROJECT CY 2025
NOT INCLUDED ON PROJECT

END OF PROJECT
STA. 1523+885.000
633035.318E, 769081.564N

UNSUITABLE = 58.65 sq.m.
FILL = 142.79 sq.m.
105(1) = - ln.m.
202 = 2.68 sq.m.
300 = - sq.m.
100(1) = - ln.m.

SEAWALL QUANTITIES:
405 = 2.39 sq.m.
715(1) = 149.10 ln.m.
715(1) = 21.42 ln.m.

HEXAPOD QUANTITIES:
1407(3) = 6.00 pcs



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. CHAVEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION
CONSTRUCTION OF ACCESS ROAD LEADING TO
MATI FISH PORT, PHASE 4, MATI CITY, DAVAO
ORIENTAL

SHEET CONTENTS
CROSS SECTIONS

SURVEYED:
RUEL M. SANCAY
ENGINEER II
REVIEWED:
DANIEL M. CARERA
ENGINEER II

PREPARED:
EDWARD JOSEPH M. SANCAY
ENGINEER II
REVIEWED:
DENVER ALDRIN A. SEMPINO
ENGINEER II, CIV. SECTION CHIEF

DESIGNED:
JULIAN T. BERNARDINO
CHIEF PLANNING AND DESIGN DIVISION
DATE:

RECOMMENDED:
JOSE LITO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE:

APPROVED:
JESY B. CORDON
REGIONAL DIRECTOR
DATE:

SET NO. SHEET NO.
E 34
9 35

F. SOIL PROFILE
