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

PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR

SECTION	:	BRGY. PALIGUE - BRGY. NORTHERN PALIGUE
LOCATION	:	HAGONOY - PADADA, DAVAO DEL SUR
STATION LIMITS (AS PER RBIA)	:	K1574 + 000 TO K1575 + 425
STATION LIMITS (AS PER PLAN)	:	STA. 1574 + 000.000 TO STA. 1575 + 436.407 (W/ EQUATION)
NET LENGTH	:	1.436 KM. (5.744 LANE KM.)
ROAD SECTION ID	:	S00184MN

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. 1574 + 000.000
END OF PROJECT — STA. 1575 + 436.407

STATION EQUATIONS

STA. 1574+299.799 BK / STA. 1574+300.000 AH = (0.201)

STA. 1574+799.794 BK / STA. 1574+800.000 AH = (0.206)

TOTAL EQUATION = (0.407)

LIMITS OF ASPHALT OVERLAY:

STA. 1574 + 000.000 - STA. 1574 + 436.407 = 1,436.41 LN. M

LENGTH = 1,436.00 LN. M (W/ EQUATION)

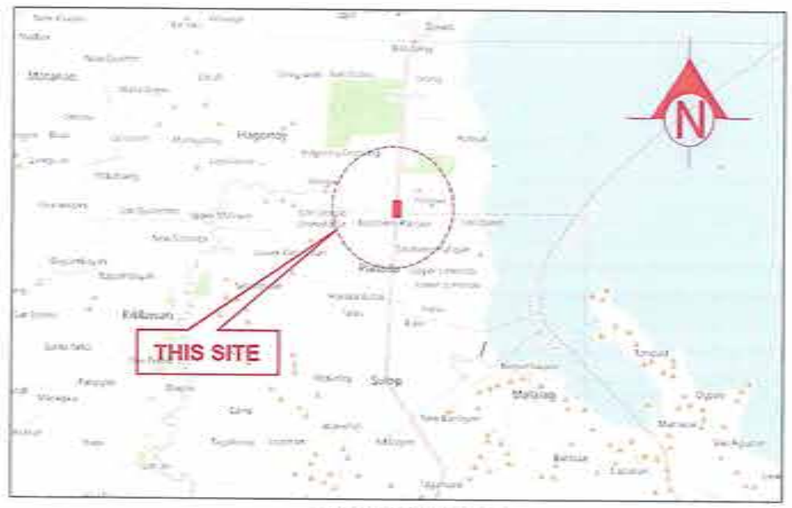
NET LENGTH = **1,436.00 LN.M (W/ EQUATION)**

AS PER RBIA:

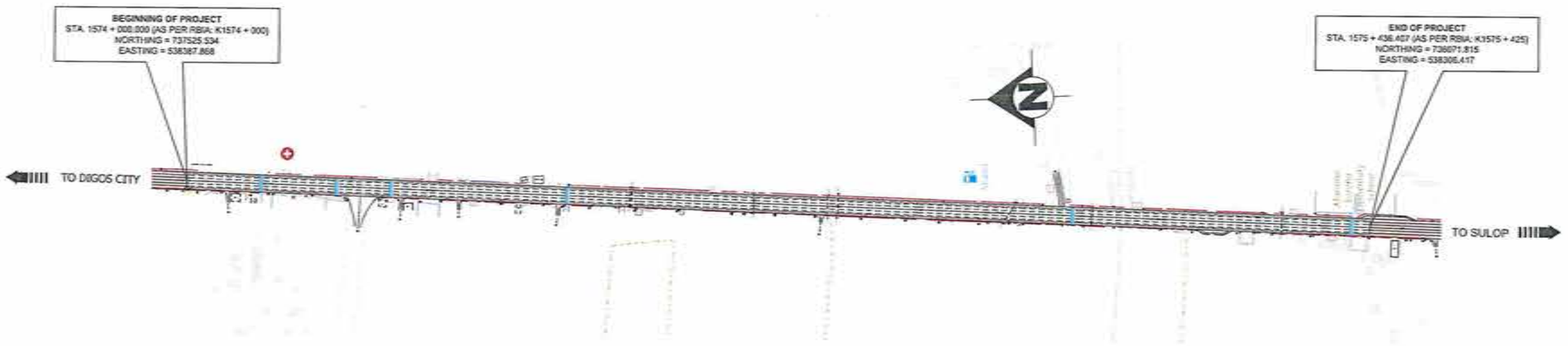
K1574 + 000 - K1575 + 425 = 1,436.00 LN.M

NET LENGTH OF PROJECT = 1,436.00 LN.M

INDEX OF SHEETS



LOCATION PLAN
NOT TO SCALE



VICINITY MAP
SCALE 1:4000

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	RECOMMENDING APPROVAL	APPROVED	SET NO.	SHEET NO.
PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR	PROJECT LIMIT INDEX OF SHEETS VICINITY MAP LOCATION PLAN	ARMANDO M. BASOC, JR. ENGINEER II DATE:	DENNIS ALDRIN A. SEMPIO ENGINEER II, OIC SECTION CHIEF DATE:	JUDY ANN T. BERNARDINO CHIEF PLANNING AND DESIGN DIVISION DATE:	JOSELITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUBY B. CORDON REGIONAL DIRECTOR DATE:	A 01 | 05	01 15

\\RENAL\LOCAL DATA\MAN\2025 PROJECTS_DIGOS MAKAR DATA\04. DIGOS MAKAR NEW PROJECT\- K1574- K1575\TYPICAL_ COMBINED TYPICAL #14.DWG

R O A D W A Y
GENERAL NOTES

FACILITIES FOR 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 A RENTAL BASIS UNTIL END OF CONTRACT, ON COMPLETION OF THE 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 THE ENGINEER ALL EQUIPMENT, INSTRUMENTS AND APPARATUS, ALL INFORMATION AND RECORDS. THE CONTRACTOR SHALL PROVIDE QUALIFIED AND EXPERIENCED OFFICE, SURVEY AND LABORATORY STAFF/PERSONNEL FOR THE ASSISTANCE OF THE ENGINEER.

OTHER GENERAL REQUIREMENTS

1. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN OFFICES, SHOPS, STORES, AND WORKMENS ACCOMMODATION AS ARE NECESSARY. A MEDICAL ROOM TOGETHER WITH ALL NECESSARY SUPPLIES SHALL ALSO BE PROVIDED AND MAINTAINED AND A TRAINED MEDICAL AIDE SHALL BE EMPLOYED SOLELY ON MEDICAL DUTIES.
2. TWO (2) PROJECT BILLBOARDS SHALL BE INSTALLED, ONE AT THE BEGINNING AND ONE AT THE END OF THE PROJECT. FOR ROAD PROJECTS WITH LENGTH OF 10 KILOMETERS OR MORE, ADDITIONAL BILLBOARD SHALL BE INSTALLED EVERY 5-KILOMETER INTERVAL.
3. BASIC PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR ALL CONSTRUCTION WORKERS SHALL BE PROVIDED AND OTHER REQUIRED SPECIALTY PPE AS PER DOLE DO 13, S. 1998, SAFETY PERSONNEL AND EMERGENCY OCCUPATIONAL HEALTH PERSONNEL AND FACILITIES ARE REQUIRED DEPENDING ON THE NUMBER OF WORKERS.
4. **TRAFFIC MANAGEMENT LAYOUTS PROVIDED IN THE PLAN MAY NOT NECESSARILY BE SIMILAR ON SITE. ADJUSTMENTS MAY BE MADE TO PROVIDE THE NECESSARY TRAFFIC CONTROL DEVICES TO BE INSTALLED ON SITE. A TRAFFIC CONTROLLER MUST ALSO BE PROVIDED ESPECIALLY WHEN CLOSING A CERTAIN LANE OF THE ROAD HINDERS THE CONTINUOUS TRAFFIC FLOW FOR A TWO-WAY TRAFFIC.**
5. ADEQUATE BARRICADES AND TRAFFIC WARNING SIGNS SHALL BE INSTALLED AND WORKING AREA SHALL BE ADEQUATELY ILLUMINATED AT NIGHT TO WARN MOTORISTS OF ONGOING CONSTRUCTION. FLAGMEN SHALL BE PROVIDED AT EACH END OF THE CLOSED SECTION TO DIRECT COUNTER FLOW TRAFFIC.
6. **THE AS-STAKED PLAN SHALL BE PREPARED BY THE CONTRACTOR BASED ON THE PRE-CONSTRUCTION SURVEY JOINTLY CONDUCTED BY THE CONTRACTOR AND IMPLEMENTING OFFICE (CONSTRUCTION AND PLANNING AND DESIGN DIVISIONS).**
7. ALL SURVEY, STAKING, RECORDING OF DATA, AND CALCULATIONS NECESSARY TO CONSTRUCT THE PROJECT FROM THE INITIAL LAYOUT TO FINAL COMPLETION SHALL BE PERFORMED. WORK SHALL BE STARTED AFTER STAKING FOR THE AFFECTED WORK IS ACCEPTED.
8. ANY EXISTING ROAD WHILE UNDERGOING IMPROVEMENT SHALL BE KEPT OPEN TO TRAFFIC CONTINUOUSLY IN SATISFACTORY CONDITION AND TRAFFIC SHALL BE ACCOMMODATED DURING THE ENTIRE CONTRACT PERIOD; CONSTRUCTING AND MAINTAINING DETOURS SHALL BE DONE AS LOCATED BY THE ENGINEER.
9. ASPHALT BATCH PLANT SITE IS LOCATED AT CARMEN.
10. QUARRY SITE FOR ITEM 200 AND 300 IS LOCATED AT BALATUKAN RIVER QUARRY. DISPOSAL SITE IS FIVE KILOMETERS (5.00 KM), WITHIN PROJECT LIMIT.

EARTHWORK

1. CLEARING SHALL EXTEND ONE (1) METER BEYOND THE TOE OF THE FILL SLOPES OR BEYOND ROUNDING OF CUT SLOPES FOR THE ENTIRE LENGTH OF THE PROJECT PROVIDED THAT IT IS WITHIN THE RIGHT-OF-WAY LIMITS OF THE PROJECT.
2. ALL CONCRETE PAVEMENT, BASE COURSE, SIDEWALKS, CURBS, GUTTERS, ETC. DESIGNATED FOR REMOVAL, SHALL BE BROKEN INTO PIECES, THE SIZE OF WHICH SHALL NOT EXCEED 300MM IN ANY DIMENSION AND STOCKPILED AT DESIGNATED LOCATIONS ON THE PROJECT FOR USE BY THE GOVERNMENT OTHERWISE DEMOLISHED AND DISPOSED OF AS DIRECTED BY THE ENGINEER.
3. EXCAVATION OPERATIONS SHALL BE CONDUCTED SO THAT MATERIAL OUTSIDE OF THE LIMITS OF SLOPES WILL NOT BE DISTURBED.
4. 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.
5. PRIOR TO FINAL ACCEPTANCE, THE INSPECTOR SHALL VISUALLY INSPECT THE ENTIRE SECTION OF THE COMPACTED EMBANKMENT. IF FOUND NOT UNIFORM OR THE TEST VALUES MAY NOT BE REPRESENTATIVE OF THE ENTIRE SECTION, ADDITIONAL TESTS MAY BE PERFORMED AND DEFICIENCIES SHALL BE CORRECTED BY THE CONTRACTOR.
6. ADEQUATE DUST CONTROL MUST BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES DURING EARTH-MOVING OPERATIONS THROUGH THE USE OF WATER.
7. THE CONTRACTOR SHALL NOT PLACE STOCKPILES AT LOCATIONS WHERE THEY ARE SUBJECT TO EROSION. THE CONTRACTOR SHALL MAINTAIN EROSION AND DRAINAGE CONTROL NEAR ALL STOCKPILES AND SHALL ENSURE THAT SURFACE DRAINAGE DOES NOT ADVERSELY AFFECT ADJACENT LANDS, WATERCOURSES OR FUTURE RECLAMATION SITES.
8. STOCKPILES SHALL NOT BE SITUATED AT LOCATIONS THAT WILL INTERFERE OR CAUSE DAMAGE TO UTILITIES. IT SHALL NOT BE SITUATED WITHIN 30M OF A WATERCOURSE OR PERMANENT STRUCTURE OR WITHIN 4M OF ADJACENT PROPERTY BOUNDARY UNLESS OTHERWISE PERMITTED IN WRITING BY THE PROPERTY OWNER.
9. **FINISHED SURFACES IN ALL CASES SHALL CONFORM WITH LINES, GRADES, DIMENSIONS AND ADJUSTMENTS SHOWN ON THE APPROVED PLANS, EXCEPT AS MODIFIED BY WRITTEN ORDERS.**
10. CUT SLOPES, EXCEPT IN ROCKS AND FILL SLOPES SHALL BE ADJUSTED AND WARPED FLOW INTO EACH OTHER OR INTO NATURAL GROUND SURFACE WITHOUT NOTICEABLE BREAK.

SUB-BASE AND BASE COURSE

1. FOR SUBBASE MATERIALS, WHERE THE REQUIRED THICKNESS IS 200MM OR LESS, THE MATERIAL SHALL BE SPREAD AND COMPACTED IN ONE (1) LAYER USING A VIBRATORY ROLLER EQUIPMENT. WHERE THE REQUIRED THICKNESS IS MORE THAN 200MM, THE AGGREGATE SUBBASE SHALL BE SPREAD AND COMPACTED IN TWO OR MORE LAYERS OF APPROXIMATELY EQUAL THICKNESS, AND THE MAXIMUM COMPACTED THICKNESS OF ANY LAYER SHALL NOT EXCEED 200MM.

SURFACE COURSES

1. APPLICATION OF BITUMINOUS MATERIALS SHALL BE MADE ONLY WHEN THE AGGREGATE IS DRY AND ATMOSPHERIC TEMPERATURE IN THE SHADE IS 15 DEGREES OR ABOVE AND WHEN THE WEATHER IS NOT FOGGY OR RAINY. THE PROPORTION OF BITUMINOUS MATERIAL ON THE BASIS OF TOTAL DRY AGGREGATE SHALL BE FROM 5.0 TO 8.0 MASS PERCENT. THE EXACT PERCENTAGE TO BE USED SHALL BE IN ACCORDANCE WITH THE JOB-MIX FORMULA AND OTHER QUALITY CONTROL REQUIREMENTS.
2. ALL JOINTS SHALL BE SUFFICIENTLY SEALED WITH ASPHALT SEALANT PRIOR TO OPENING TO VEHICULAR TRAFFIC.
3. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO CONTROL TRAFFIC OVER NEWLY-LAID BITUMINOUS SURFACE TREATMENT SO THAT THE SURFACE IS NOT DAMAGED IN ANY WAY. TRAFFIC SHALL BE PROHIBITED FROM TRAVELING AT SPEEDS IN EXCESS OF 40KPH UNTIL THE ASPHALTIC MATERIAL HAS SET. NO VEHICLES, INCLUDING THOSE DELIVERING AGGREGATES SHALL BE PERMITTED TO TURN AROUND ON NEWLY-LAID MATERIAL.
4. WHEN RAIN APPEARS IMMINENT, ALL PAVING OPERATIONS SHALL STOP.
5. EXISTING PAVEMENTS WITH DEFECTS (OTHER THAN SHATTERED SLABS) AND JOINTS SHALL BE SEALED/REPAIRED BEFORE OVERLAYING THE ASPHALT.
6. CRACKS TO BE FILLED WITH ASPHALT SEALANT SHALL BE APPLIED WITH WASHED SAND. EXCESS SAND SHALL BE BROOMED AFTER 2-4 HOURS.
7. IN ASPHALT OVERLAYING AT CURVES, SUPERELEVATION OF THE EXISTING PAVEMENT SHALL BE MAINTAINED OR IMPROVED. APPROPRIATED CROSS SLOPES (NORMAL CROWN) SHALL BE APPLIED TO DRAIN THE PAVEMENT.
8. **PURSUANT TO DEPARTMENT ORDER NO. 137, SERIES OF 2016, FOR NEWLY CONSTRUCTED CONCRETE AND ASPHALT ROAD PROJECTS, AN IRI VALUE OF NOT MORE THAN 3.00M/KM IS PRESCRIBED. NON-COMPLIANCE WITH THE SAID DO SHALL BE SUBJECTED TO PAY ADJUSTMENTS CORRESPONDING TO THE ACQUIRED IRI VALUE. COMPLIANCE OF THE CONTRACTORS TO THE IRI REQUIREMENT AND STRICT IMPLEMENTATION OF PROPER BASE AND SUBBASE PREPARATION IS EMPHASIZED PRIOR TO CONCRETE POURING. PREPARATORY WORKS IN EXISTING SURFACES/ROADBED PRIOR TO ASPHALT LAYING AND PAVING AND FINISHING FOR CONCRETE PAVEMENT.**

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.
2. REMOVAL OF EXISTING ASPHALT OVERLAY SHALL BE THROUGH ROTO-MILLING TO SYSTEMATICALLY REMOVE THE SPECIFIED THICKNESS OF EXISTING ASPHALT OVERLAY.
3. ROTO-MILLING OR COLD MILLING, SHALL BE CONDUCTED USING A ROTO-MILLING MACHINE OR COLD MILLING ASPHALT PAVEMENT MACHINE WITH ROTATING CUTTING DRUMS WITH TEETH THAT WILL GRIND AND REMOVE THE ASPHALT SURFACE. THE DEPTH OF MILLING SHALL BE CLOSELY MONITORED BY THE PROJECT ENGINEER TO ENSURE COMPLIANCE TO APPROVED PLANS AND SPECIFICATIONS.
4. PROPER TRAFFIC CONTROL MEASURES SHALL BE IMPLEMENTED DURING THE MILLING OPERATION TO ENSURE THE SAFETY OF WORKERS AND THE TRAVELLING PUBLIC. TRAFFIC LANES MAY BE TEMPORARILY SHIFTED OR CLOSED AS NECESSARY TO FACILITATE THE MILLING PROCESS AND PROTECT WORKERS FROM VEHICULAR TRAFFIC.
5. FOLLOWING THE COMPLETION OF THE MILLING PROCESS, THE MILLED ASPHALT SHALL BE COLLECTED AND TRANSPORTED TO THE CONCERNED DISTRICT ENGINEERING OFFICE FOR STOCKPILING AND FUTURE RECYCLING OR DISPOSAL. THE STOCKPILED MILLED ASPHALT SHALL BE COVERED WITH TARPAULIN OR ANY EQUIVALENT MATERIAL TO PREVENT EXPOSURE FROM THE ELEMENTS.

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. PAVEMENT MARKINGS SHALL NOT BE APPLIED DURING RAIN OR WET WEATHER OR WHEN THE AIR IS MISTY. PAINT SHALL NOT BE APPLIED UPON DAMP PAVEMENT SURFACES, OR UPON PAVEMENT WHICH HAS ABSORBED HEAT SUFFICIENT TO CAUSE THE PAINT TO BLISTER AND PRODUCE A POROUS FILM OF PAINT.
3. PAVEMENT MARKINGS THAT FAIL TO HAVE A UNIFORM, SATISFACTORY APPEARANCE EITHER BY DAY OR NIGHT, SHALL BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE GOVERNMENT.
4. TRAFFIC PAINT OF LANE MARKERS AND TRAFFIC STRIPS SHALL BE APPLIED TO THE PAVEMENT AT THE RATE OF 0.33 USG/M, AND SHALL DRY SUFFICIENTLY TO BE FREE FROM CRACKING IN FROM 15 TO 30 MINUTES. THE AMOUNT OF GLASS BEADS TO BE MIXED WITH THE PAINT SHALL BE 500 GRAMS PER LITER OF PAINT.
5. JOINT SEALANT APPLICATION SHALL BE TAKEN CARE OF TO AVOID OVERFILLING OF THE JOINT SPACES. ANY EXCESS MATERIAL SHOULD BE IMMEDIATELY SCRAPED FROM THE PAVEMENT SURFACE.

SURVEY SPECIFICATION

1. ALL PROJECT CONTROL POINTS ARE PROJECTED IN PRS'92 GRID COORDINATE SYSTEM (ZONE 5)
2. SURVEY INSTRUMENT USED; ROVER - CHC (670+) SN1045120, BASE - CHC (460+) SN1060962
3. DATE SURVEYED: APRIL 8 -12, 2024
4. PROJECT CONTROL NUMBER, REFER TO PLAN AND PROFILE

BENCHMARK AND DESCRIPTION

BM NO.	NORTHING	EASTING	ELEVATION (METERS)	DESCRIPTION
5	737024.343	1126027.363	10.124 HL	BM No. 5 – ON TOP OF RA-C OF T-10.
6	737139.253	1126253.573	16.548 HL	BM No. 6 – ON TOP OF GROUND ROD OF GLOSE CONCRETE ELECTRIC POST , AT STA. 1574+364.000 DISTANCE= 12.5 M FROM CENTERLINE TO END OF PAVEMENT, RIGHT SIDE
7	736945.507	1126236.2	9.968 HL	BM No. 7 – ON TOP OF GROUND ROD OF CONCRETE ELECTRIC POST NO. D 1506250 , AT STA. 1574+067.439, DISTANCE= 13.26 HL, RIGHT SIDE
8	736515.76	1126319.56	11.776 HL	BM No. 8 – ON TOP OF KM POST 1575 ,AT STA. 1575+012.400, DISTANCE= 11.50 HL, RIGHT SIDE
9	736085.044	1126269.845	10.62 HL	BM No. 9 – ON TOP OF GROUND ROD OF CONCRETE ELECTRIC POST , AT STA. 1575+324.000, DISTANCE= 13.26 M FROM CENTERLINE, RIGHT SIDE

OTHERS

1. BEFORE FINAL ACCEPTANCE, THE RIGHT-OF-WAY, BORROW PITS AND ALL GROUND OCCUPIED BY THE CONTRACTOR SHALL BE CLEANED OF ALL RUBBISH, EXCESS MATERIALS, TEMPORARY STRUCTURES AND EQUIPMENT AND ALL PARTS OF THE WORK SHALL BE LEFT IN A NEAT AND PRESENTABLE CONDITION.
2. ANY DEFECTIVE WORK WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS, OR OF ANY OTHER CAUSE, FOUND PRIOR TO ACCEPTANCE, SHALL BE REMOVED IMMEDIATELY AND REPLACED BY WORK AND MATERIALS WHICH SHALL CONFORM TO THE SPECIFICATIONS.
3. DAMAGES TO ANY PORTION OF WORK BEFORE FINAL ACCEPTANCE EXCEPT DAMAGES DUE TO UNFORESEEABLE CAUSES BEYOND THE CONTROL OF AND WITHOUT FAULT OF NEGLIGENCE BY THE CONTRACTOR SHALL BE REBUILT, REPAIRED AND RESTORED.

REFERENCES

1. REVISED DPWH MANUAL ON HIGHWAY SAFETY DESIGN STANDARDS, MAY 2013 EDITION
   - 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
   - FOR MONITORING, ENFORCEMENT AND IMPLEMENTATION OF CONSTRUCTION SAFETY AND HEALTH
   - DO 56, s.2005
3. DPWH DESIGN CRITERIA, GUIDELINES AND STANDARDS, 2015.
4. 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, 2016
5. AASHTO A POLICY ON GEOMETRIC DESIGN STANDARDS OF HIGHWAYS AND STREETS, 2011, 6TH EDITION.,
6. AASHTO GUIDE ON PAVEMENT DESIGN, 1993 EDITION
7. HIGHWAY SAFETY DESIGN STANDARDS: PART 1– ROAD SAFETY DESIGN, AND PART 2 - ROAD SIGNS AND PAVEMENT MARKINGS, 2012 EDITION.

DESIGN SPECIFICATION

1. GEOMETRIC DESIGN CRITERIA
   - NORMAL CROWN SHALL BE -1.50%, MAXIMUM SUPERELEVATION SHALL BE 8.00%
   - MINIMUM RADIUS OF HORIZONTAL CURVES SHALL BE 30M
   - MINIMUM LENGTH OF PARABOLIC VERTICAL CURVE SHALL BE 60M WITHOUT CONSIDERING K-VALUES

CONSTRUCTION REQUIREMENTS

1. B.P. 344 ACCESSIBILITY LAW
   - 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.

2. PAVEMENT
   - TIE BARS SHALL BE INSTALLED FIRMLY AT THE HOLES AT ONE HALF OF ITS LENGTH AND SHALL BE HELD IN POSITION PARALLEL TO THE SURFACE OF SLAB.
   - TIE BARS SHALL BE PAINTED WITH RED LEAD AND THE SURFACE SHALL BE COATED WITH APPROVED BITUMINOUS MATERIALS.
   - TIE BARS SHALL NOT BE PLACED WITHIN 375 MM OF TRANSVERSE JOINTS.

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: **PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD., - K1574 + 000 - K1575 + 425, DAVAO DEL SUR.**	SHEET CONTENTS: **GENERAL NOTES**	DRAFTED AND PREPARED: ARMANDO M. BASOC, JR. ENGINEER II DATE:	REVIEWED: DENNIS ALVIN A. SEMPIO ENGINEER III, OIC SECTION CHIEF DATE:	SUBMITTED: JUDY ANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE:	RECOMMENDING APPROVAL: JOSELITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	APPROVED: JUBY B. CORDON REGIONAL DIRECTOR DATE:	SET NO. A 02 05	SHEET NO. 02 15

\\RENAVLOCAL_DAVRAM\2025 PROJECTS_DIGOS MAKAR DATA\14 DIGOS MAKAR NEW PROJECT\- K1574- K1575\TYPICAL_ COMBINED TYPICAL #14.DWG

ABBREVIATIONS

ABUTMENT	ABUT
AHEAD STATIONING	AH.STA
AND	&
AREA	A
ASPHALT CONCRETE PAVEMENT	ACP
AT	@
AZIMUTH	AZIM.
BACK STATION	BK. STA.
BARANGAY	BRGY.
BEGINNING OF CIRCULAR CURVE	BCC
BEARING	BRG.
BEGINNING	BEG.
BELOW MEAN (SEA LEVEL	BMSL
BENCHMARK	BM
BETWEEN	BET.
BORE HOLE	BH
BOTH SIDES	BS
BOTH WAYS	BW
BOTTOM	BOT.
BRIDGE	BR.
SUBDIVISION OF DECREASED PROPERTY BY BUREAU OF LANDS SURVEYORS	BSD.
BUREAU OF LANDS LOCATION MONUMENT	BLM
CENTER	CTR.
CENTERLINE	℄
CENTIMETER	cm
CONCRETE HOLLOW BLOCK	CHB
CLEAR	CLR.
COLUMN	COL.
CONCRETE	CONC.
CONCRETE HOLLOW BLOCK	CHB
CONCRETE MONUMENT	CONC. MON.
CONSTRUCTION	CONST.
CORNER	COR.
COVER	COV.
CROSS PIPE	CP
CUBIC METER	cu. m. / m3
CYLINDRICAL	CYL
DEGREE OF CURVE	D
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	DPWH
DETAIL	DET.
DIAMETER	DIA. / Ø
DIAPHRAGM	DIAP.
DISTANCE	DIST.
DRAWING	DRWG.
EAST	E
ELEVATION	ELEV. / EL.
END OF CIRCULAR CURVE	ECC
END OF PAVEMENT	EOP
ENGINEER	ENGR.
EQUATION	EQ.
EXCAVATION	EXCA.
EXISTING	EXIST. / EXTG.
EXPANSION	EXPN.
EXTENSION	EXTN.
EXTERIOR	EXTR.
EXTERNAL DISTANCE / EASTING	E
FINISHED	FIN.
FINISHED GRADE	FG.
FINISHED PAVEMENT LEVEL	FPL
GENERAL	GEN.
GROUND LEVEL	GL
HEAD WALL(s)	HW / HWS
HIGH FLOOD LEVEL	HFL
HIGH TIDE LEVEL	HTL
HIGH WATER LEVEL	HWL
HORIZONTAL	HOR.
INCHES	IN.
INTERSECTION ANGLE	I
INSIDE DIAMETER	ID
INTERIOR	INT.
KILOGRAM	KG.
KILOMETER	Km.
KILOMETER PER HOUR	KPH
LEFT	LT.
LENGTH OF CIRCULAR CURVE	LC
LENGTH OF VERTICAL CURVE	VC
LONGITUDINAL	LONGIT.
MAXIMUM	MAX.
MAXIMUM FLOOD LEVEL	MFL
MEAN SEA LEVEL	MSL
METER	m
MILLIMETER	mm
MINIMUM	MIN.
MONUMENT	MON
NORTHING	N
NOT APPLICABLE	NA
NUMBER	NO.
ORDINARY WATER LEVEL	OWL
ORIGINAL GROUND LEVEL	OGL
OUTSIDE DIAMETER	ø.
PAVEMENT WIDTH	PW

PAVEMENT WIDTH	PW
PERCENT	%
PHILIPPINES	PHIL.
PIECES	PCS.
PLUS / MINUS	±
PUBLIC LAND SUBDIVISION	PLS
POINT OF INTERSECTION	PI
POINT OF CURVATURE	PC
POINT OF VERTICAL CURVE	PVC
POINT OF VERTICAL INTERSECTION	PVI
POINT OF VERTICAL TANGENT	PVT
POINT OF TANGENT	POT
PORTLAND CEMENT CONCRETE PAVEMENT	PCCP
PROJECT	PROJ.
PROJECT ROAD	PROJ. RD.
PRIVATE SURVEY	P.S.
RADIUS	R
REFERENCE POINT	RP
REINFORCED CONCRETE BOX CULVERT	RCBC
REINFORCED CONCRETE PIPE CULVERT	RCPC
RETAINING WALL	RET. WALL
RIGHT OF WAY	ROW
ROAD	RD
SOUTH	S
SIDEWALK	SDWK
SUBDIVISION OF UNDECREASED PROPERTY	Csd
SQUARE	SQ.
SQUARE METER	sq. m. / m2
STANDARD	STD.
STATION	STA.
STRAIGHT	STR.
STREET	ST.
STRUCTURE	STRUCT.
TANGENT DISTANCE	T
TEMPERATURE	TEMP.
TEMPORARY BENCH MARK	TBM
VERTICAL	VERT
WIDTH	W
WITH	w/

LEGENDS AND SYMBOLS

DRAWING SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
	℄	ROADWAY CENTERLINE
		NORTH SIGNS
ELEV		ELEVATION CALLOUT
WATER LINE		WATER LEVEL
FLOW		WATER FLOW
		POINT OF INTERSECTION
MATCH LINE STA. 0+000		MATCH LINE
		GRID COORDINATES
	AZIM.	AZIMUTH
		PLAN AND PROFILE CALLOUT
		RCPC INVERSE ELEVATION PROFILE CALLOUT
DIRECTION		DIRECTION
DRAWING TITLE		MAIN DRAWING TITLE
DRAWING TITLE		SECONDARY DRAWING TITLE
		CROSS SECTION SYMBOL (COMPLEX)
		CROSS SECTION SYMBOL (COMPLEX)
		DETAIL CALLOUT

DRAWING SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
	BH	BORE HOLE
		CROSS SECTION MONUMENT
	BM	BENCH MARK
	IBM	INTERMEDIATE BENCH MARK
	PBM	PERMANENT BENCH MARK
	TP	TEST PIT
	GPS	GLOBAL POSITIONING SYSTEM
		TRAVERSE POINT
		TRAVERSE STATION AND LINE

TOPOGRAPHIC FEATURES, INFRASTRUCTURE AND UTILITIES

SYMBOL	ABBREVIATION	DESCRIPTION
		MAJOR CONTOUR
		MINOR CONTOUR
		EDGE OF ROAD (EXISTING)
		EDGE OF ROAD (PROPOSED)
		ASPHALT CONCRETE PAVEMENT
	PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
		CHB/GROUTED/CONCRETE/ EARTH CANAL
		NATIONAL HIGHWAY
		EXISTING CANAL (PLAN)
		EXISTING CANAL (PROFILE)
	BR.	BRIDGE
		CROSS-DRAIN
		LATERAL PIPE
		RCBC
		MANHOLE
		GUARDRAIL
		CHB WALL FENCE
		WOOD OR BARBED WIRE FENCE
		CYCLONE FENCE
		CONCRETE SLOPE PROTECTION
		GROUTED RIPRAP SLOPE PROTECTION
		RIVER / CREEK

TOPOGRAPHIC FEATURES, INFRASTRUCTURE AND UTILITIES

SYMBOL	ABBREVIATION	DESCRIPTION
		TREES
		COCONUT
		BANANA PLANTATION
SC		SCHOOL
		CHURCH
AP		AIRWAY HOUSE
CH		CONCRETE HOUSE
WS		WOODEN STORE
HOU		COMBINATION OF CONCRETE AND WOODEN HOUSE
S		STORE
SB	SB	SIGN BOARD
SP	SP	STEEL POST
SEP	SEP	STEEL ELECTRIC POST
CP	CP	CONCRETE POST
CEP	CEP	CONCRETE ELECTRIC POST
WEP	WEP	WOODEN ELECTRIC POST
LP	LP	LAMP POST

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:
PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR

SHEET CONTENTS:
ABBREVIATIONS, LEGENDS AND SYMBOLS

DRAFTED AND PREPARED:
ARMANDO M. BASOC, JR.
ENGINEER II
DATE:

REVIEWED:
DENVER ALDRIN A. SEMPIO
ENGINEER III, DPC SECTION CHIEF
DATE:

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

RECOMMENDING APPROVAL:
JOSEFUTO B. CABALLERO
ASSISTANT REGIONAL DIRECTOR
DATE:

APPROVED:
JUBY B. CORDON
REGIONAL DIRECTOR
DATE:

SHEET NO. A 03|05

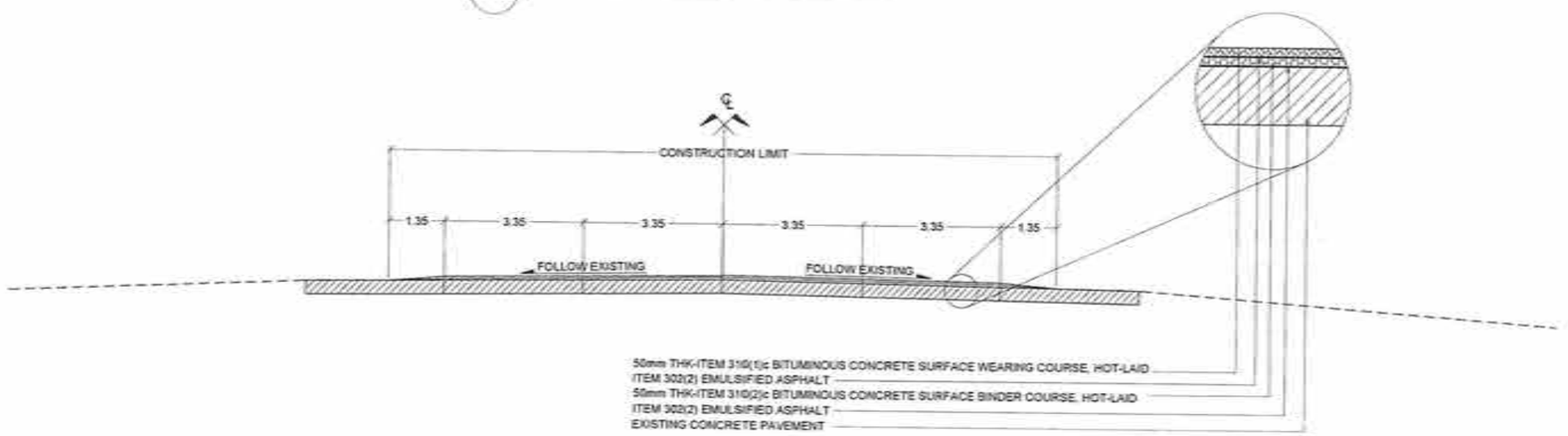
SHEET NO. 03 15

\\RENAISSANCE\DRAWINGS\2025\PROJECTS_DIGOS MAKAR DATA\14. DIGOS MAKAR NEW PROJECT\- K1574- K1575\TYPICAL_COMBINED TYPICAL #14.DWG

ITEM No.	DESCRIPTION OF WORK	UNIT	QUANTITY	REMARKS
PART A. FACILITIES FOR ENGINEER				
A.1.1(3)	CONSTRUCTION OF FIELD OFFICE FOR THE ENGINEER	LS	1.00	BAHAY KUBO
A.1.1(16)	OPERATION AND MAINTENANCE OF FIELD OFFICE FOR THE ENGINEER	MONTH	4.00	
PART B. OTHER GENERAL REQUIREMENT				
B.4(1)	CONSTRUCTION SURVEY AND STAKING	KM	1.436	
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	4.00	USE APPROPRIATE TRAFFIC SCHEME LAYOUT PER D.O. 13 s. 2018
B.9	MOBILIZATION / DEMOBILIZATION	LS	1.00	
PART E. SURFACE COURSE				
302(2)	EMULSIFIED ASPHALT	SQ M	46,239.20	
310(1)c	BITUMINOUS CONCRETE SURFACE WEARING COURSE (HOT LAID), 50mm THK	SQ M	21,181.00	
310(2)c	BITUMINOUS CONCRETE SURFACE BINDER COURSE (HOT LAID), 50mm THK	SQ M	21,181.00	
PART H. MISCELLANEOUS STRUCTURE				
612(1)	REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS, WHITE	SQ M	504.18	FOR EDGE LINES & SUB-CENTERLINE
612(2)	REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS, YELLOW	SQ M	430.80	FOR DOUBLE SOLID CENTERLINE
613(1)	CONCRETE JOINT SEALANT (HOT-POURED ELASTIC TYPE)	KG	307.22	

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

1 SUMMARY OF QUANTITIES



2a 4 - LANE ASPHALT OVERLAY

SCALE 1:100

2 TYPICAL ROADWAY CROSS SECTIONS

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: PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR

SHEET CONTENTS: SUMMARY OF QUANTITIES, TYPICAL ROADWAY CROSS SECTIONS

DRAFTED AND PREPARED: ARMANDO M. BASOC, JR., ENGINEER II, DATE

REVIEWED: DENNIS ALDRIN A. SEMPIO, ENGINEER III, DIC DESIGN CHIEF, DATE

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

RECOMMENDING APPROVAL: JOSELITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR, DATE

APPROVED: JUBY B. CORDON, REGIONAL DIRECTOR, DATE

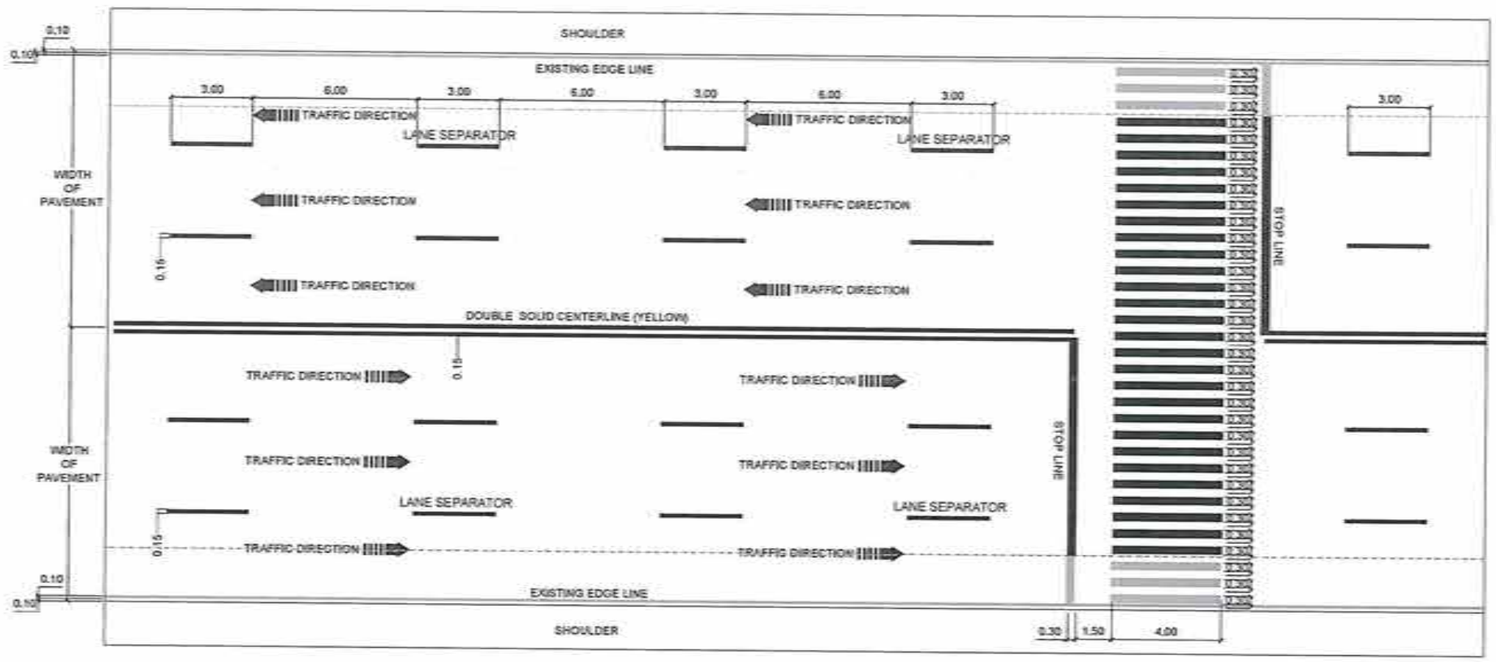
SET NO: A 04 05

SHEET NO: 04 15

I:\R11-DOD-1\DILOCAL Chairperson\05 PROJECTS\1_DIGOS MAKAR DATA\4_DIGOS MAKAR NEW PROJECT - # K174- K1575\TYPICAL\01_COMBINED-TYPICAL #04.DWG

LEGEND:

EXISTING PAVEMENT MARKINGS



3 TYPICAL PAVEMENT MARKING DETAILS

SCALE NTS

FOR DOUBLE SOLID CENTER LINE:

REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS (YELLOW)				
STATION LIMITS	STATION EQUATIONS		CENTERLINE	AREA
	BACK	AHEAD	DOUBLE SOLID (0.15 M THK.)	
STA. 1574+000.000 - STA. 1575+436.407	STA. 1574+299.799	STA. 1574+300.000	1,436.00	430.80
	STA. 1574+799.794	STA. 1574+800.000		
		TOTAL	1,436.00	430.80

2 a PAVEMENT MARKINGS SCHEDULE (YELLOW)

SCALE NTS

PAVEMENT MARKINGS FOR PEDESTRIAN CROSSING

ZEBRA MARKINGS				
STATION	LENGTH	WIDTH	NO. OF STRIPS	AREA
1574+091.000	4.00	0.30	26.00	31.20
1574+184.000	4.00	0.30	26.00	31.20
1574+251.000	4.00	0.30	26.00	31.20
1574+468.000	4.00	0.30	26.00	31.20
1575+091.000	4.00	0.30	26.00	31.20
1575+434.000	4.00	0.30	26.00	31.20
			TOTAL =	187.20

STOP LINE				
STATION	LENGTH	WIDTH	NO. OF STOP LINE	AREA
1574+091.000	8.05	0.30	2.00	4.83
1574+184.000	8.05	0.30	2.00	4.83
1574+251.000	8.05	0.30	2.00	4.83
1574+468.000	8.05	0.30	2.00	4.83
1575+091.000	8.05	0.30	2.00	4.83
1575+434.000	8.05	0.30	2.00	4.83
			TOTAL =	28.98

MAIN ROAD:

100 MM THK. ACP SCHEDULE					
STATION LIMITS	STATION EQUATIONS		LENGTH (M)	WIDTH (M)	AREA (SQ.M)
	BACK	AHEAD			
STA. 1574+000.000 - STA. 1575+436.407	STA. 1574+299.799	STA. 1574+300.000	1,436.00	13.40	19,242.40
	STA. 1574+799.794	STA. 1574+800.000			
		TOTAL	1,436.00		19,242.40

TRANSITION SCHEDULE:

TRANSITION SCHEDULE						
STATION LIMITS	STATION EQUATIONS		LENGTH (M)	WIDTH (M)	AREA (SQ.M)	SIDE
	BACK	AHEAD				
STA. 1574+000.000 - STA. 1575+436.407	STA. 1574+299.799	STA. 1574+300.000	1,436.00	1.35	1,938.60	BOTH
	STA. 1574+799.794	STA. 1574+800.000				
		TOTAL	1,436.00		1,938.30	

1 SCHEDULE OF ACP

FOR SUB-CENTERLINE:

STATION LIMITS	STATION EQUATIONS		LENGTH	SUB C/L BROKEN (0.15M X 3.00M)	AREA
	BACK	AHEAD			
STA. 1574+000.000 - STA. 1575+436.407	STA. 1574+299.799	STA. 1574+300.000	1,436.00	160.00	268.00
	STA. 1574+799.794	STA. 1574+800.000			
		TOTAL	1,436.00	160.00	268.00

2 b PAVEMENT MARKINGS SCHEDULE (WHITE)

SCALE 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: PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIDOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR

SHEET CONTENTS: SCHEDULE OF 100 MM THK ACP PAVEMENT MARKINGS SCHEDULE TYPICAL PAVEMENT MARKING DETAILS

DRAFTED AND PREPARED: ARMANDO M. BASOC, JR., ENGINEER II, DATE:

REVIEWED: DENNIS ALDRIN A. SEMPIO, ENGINEER II, OIC-SECTION CHIEF, DATE:

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

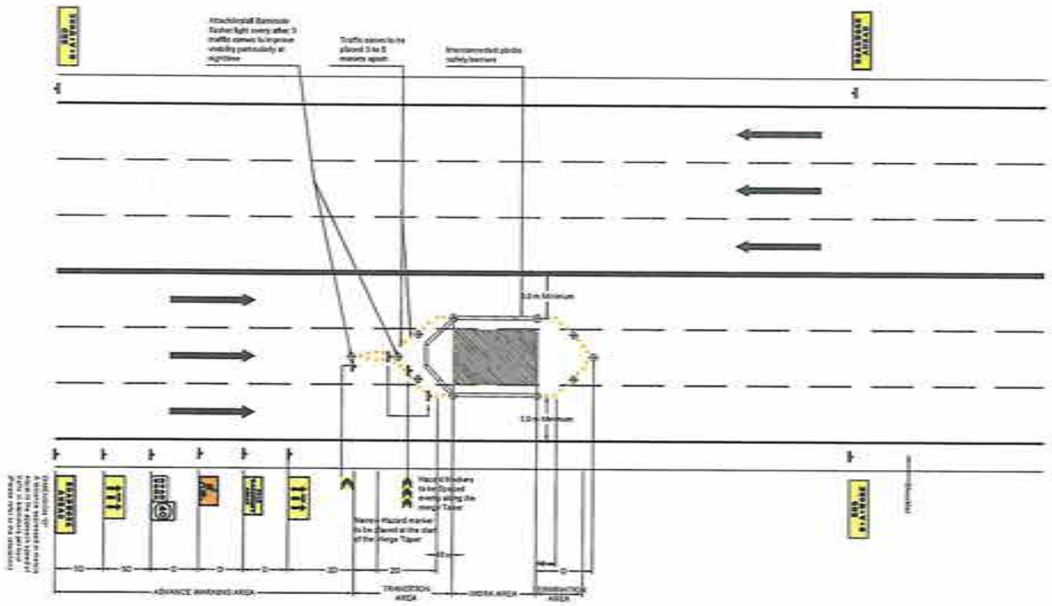
RECOMMENDING APPROVAL: JOSELITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR, DATE:

APPROVED: JUBY B. CORDON, REGIONAL DIRECTOR, DATE:

SET NO. A | SHEET NO. 05 of 15

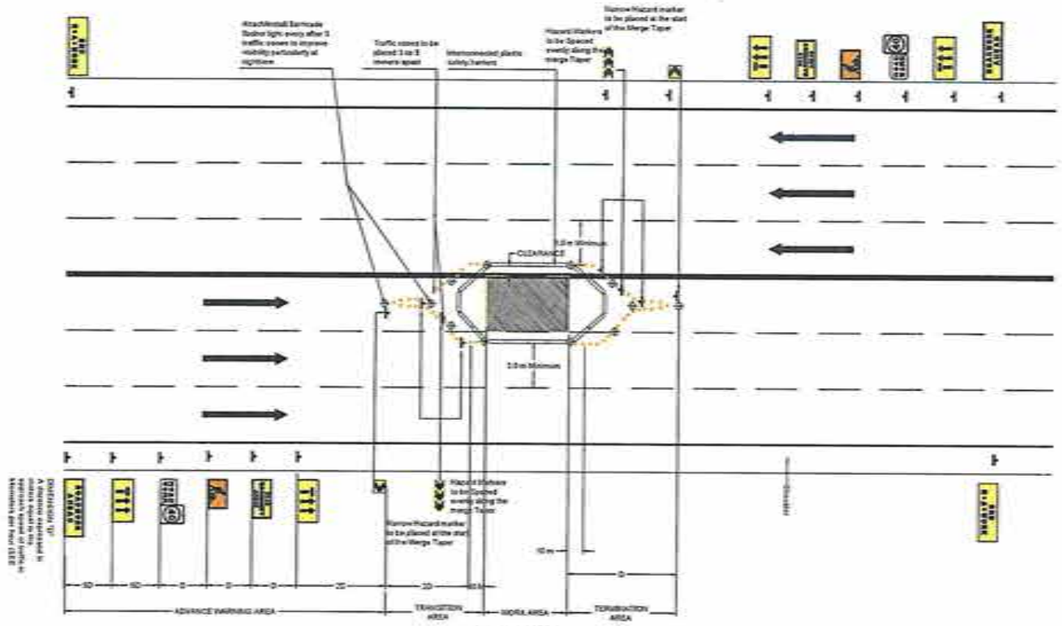
\\RIIDAVILOCAL DAVIDAN\2025-PROJECTS_DIDOS MAKAR DATA\14. DIDOS MAKAR NEW PROJECT- K1574 - K1575\TYPICAL_COMBINED TYPICAL #14.DWG

B. TRAFFIC MANAGEMENT DETAILS



STAGE 1
FOR ASPHALT OVERLAY INNER LANE WITHOUT ISLAND

TRAFFIC MANAGEMENT STAGES		DESCRIPTION	QUANTITY
STAGE 1: ASPHALT OVERLAY INNER LANE WITHOUT ISLAND	ROADWORK AHEAD	ROADWORK AHEAD (T1-1)	2
		LANE STATUS (T2-6-2)	2
	ROAD WORK	ROAD WORK (R4-3)	1
	40	SPEED RESTRICTION (R4-1)	1
		WORKMEN AHEAD (SYMBOLIC) (T1-5)	1
	ROAD MACHINERY AHEAD	ROADWORK MACHINERY AHEAD (T1-3)	1
		TEMPORARY HAZARD MARKER (T5-5)	1
		TEMPORARY HAZARD MARKER (T5-5)	3
	END ROADWORK	END ROADWORK (T2-16)	2
		TRAFFIC CONES	36
		BARRICADE FLASHER LIGHT	13
		PLASTIC SAFETY BARRIER (200 meters - Working Area Considered)	84



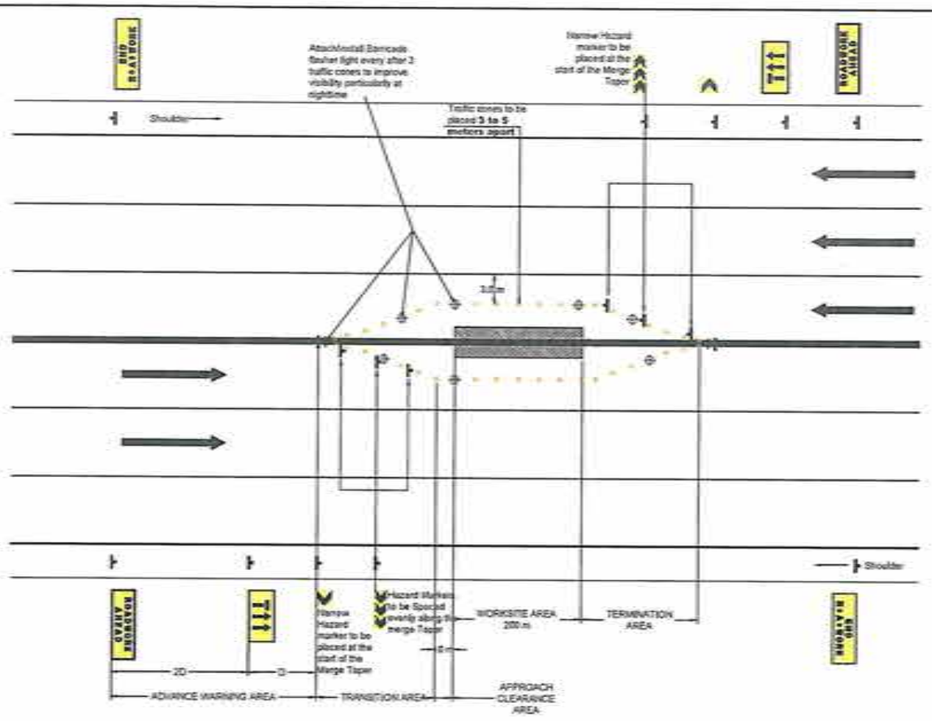
STAGE 2
FOR ASPHALT OVERLAY INNERMOST LANE WITHOUT ISLAND

TRAFFIC MANAGEMENT STAGES		DESCRIPTION	QUANTITY
STAGE 2: ASPHALT OVERLAY INNERMOST LANE WITHOUT ISLAND	ROADWORK AHEAD	ROADWORK AHEAD (T1-1)	2
		LANE STATUS (T2-6-2)	4
	ROAD WORK	ROAD WORK (R4-3)	2
	40	SPEED RESTRICTION (R4-1)	2
		WORKMEN AHEAD (SYMBOLIC) (T1-5)	2
	ROAD MACHINERY AHEAD	ROADWORK MACHINERY AHEAD (T1-3)	2
		TEMPORARY HAZARD MARKER (T5-5)	2
		TEMPORARY HAZARD MARKER (T5-5)	6
	END ROADWORK	END ROADWORK (T2-16)	2
		TRAFFIC CONES	36
		BARRICADE FLASHER LIGHT	13
		PLASTIC SAFETY BARRIER (200 meters - Working Area Considered)	66

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.
PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD., - K1574 + 000 - K1575 + 425, DAVAO DEL SUR	TRAFFIC MANAGEMENT LAYOUT	ARMANDO M. BASOC, JR. ENGINEER II DATE:	DENVER ALDRIN A. SEMPIO ENGINEER II, OIC SECTION CHIEF DATE:	JUDI ANN T. BERNARDINO OIC-PLANNING AND DESIGN DIVISION DATE:	JOSELITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUBY B. CORDON REGIONAL DIRECTOR DATE	B 01 | 08	06 15

I:\HIGHWAY\LOCAL D\MAKAR\2025 PROJECT\DI_DIGOS MAKAR DATA\14 DIGOS MAKAR NEW PROJECT- K1574- K1575\TYPICAL\OVERLAY TYPICAL\OVERLAY NEW TRAFFIC MANAGEMENT PROGRAM.DWG



APPLICATION OF REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS FOR 6 LANES

TRAFFIC MANAGEMENT STAGES		DESCRIPTION	QUANTITY
STAGE 3: APPLICATION OF REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS	ROADWORK AHEAD	ROADWORK AHEAD (T1-1)	2
		LANE STATUS (T2-6-2)	2
		TEMPORARY HAZARD MARKER (T5-5)	2
		TEMPORARY HAZARD MARKER (T5-5)	6
	END ROADWORK	END ROADWORK (T2-16)	2
		TRAFFIC CONES	128

TRAFFIC MANAGEMENT FOR ASPHALT OVERLAY

	DESCRIPTION	STAGE 1: LAYING OF ASPHALT W/O ISLAND: INNER LANE	STAGE 2: LAYING OF ASPHALT W/O ISLAND: INNERMOST LANE	STAGE 3: APPLICATION OF REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS
		QUANTITY		
ROADWORK AHEAD	ROADWORK AHEAD (T1-1)	2	2	1
	LANE STATUS (T2-6-2)	2	4	2
ROAD WORK	ROAD WORK (R4-3)	1	2	-
40	SPEED RESTRICTION (R4-1)	1	2	-
	WORKMEN AHEAD (SYMBOLIC) (T1-5)	1	2	-
ROAD MACHINERY AHEAD	ROADWORK MACHINERY AHEAD (T1-3)	1	2	-
	TEMPORARY HAZARD MARKER (T5-5)	1	2	2
	TEMPORARY HAZARD MARKER (T5-5)	3	6	6
END ROADWORK	END ROADWORK (T2-16)	2	2	2
	TRAFFIC CONES (200 meters - Working Area Considered)	36	36	128
	BARRICADE FLASHER LIGHT	13	13	-
	PLASTIC SAFETY BARRIER (200 meters - Working Area Considered)	84	88	-

TERMINATION AREA			
SPEED OF TRAFFIC (KPH)	LENGTH OF DIVERGE/LATERAL SHIFT TAPER (m)	LENGTH OF MERGE TAPER (m)	LENGTH OF STRAIGHT SECTION BETWEEN MULTI-LANE CLOSURES (m)
≤ 40	40	80	½ 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	

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

TRANSITION AREA			
SPEED OF TRAFFIC (KPH)	LENGTH OF DIVERGE/LATERAL 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

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

USE OF TRAFFIC CONTROLLERS (FLAGMEN)

1. THE TRAFFIC CONTROLLER USES A POTABLE STOP/SLOW HAND HELD SIGN OR RED AND GREEN STOP/GO FLAG TO CONTROL THE TRAFFIC.
2. 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.
3. THE TRAFFIC CONTROLLER SHOULD STAND APPROXIMATELY 30 METERS IN ADVANCE OF WORK AREA.
4. 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.
5. TRAFFIC CONTROLLER WILL NEED TO USE TWO-WAY RADIOS TO ENSURE ADEQUATE COMMUNICATION OVER LONG DISTANCE OR WHERE THERE IS LIMITED VISIBILITY.

NOTE:

1. 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.
2. OTHER SIGN IN ADVANCE WARNING AREA SHOULD BE SPACE "D" METERS APART.
3. 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.
4. 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.
5. 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 AN D MAINTENANCE OF ROADS, BRIDGES AND SAFETY AND HEALTH.
- ROAD SAFETY MANUAL 2004
- PART 2: ROAD SAFETY AND PAVEMENT DESIGN MANUAL 2012

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: PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR

SHEET CONTENTS: TRAFFIC MANAGEMENT LAYOUT

DRAFTED AND PREPARED: ARMANDO M. BASOC, JR., ENGINEER II — DATE:

REVIEWED: DENNIS ROBIN R. SEMPIO, ENGINEER III, CPC SECTION CHIEF — DATE:

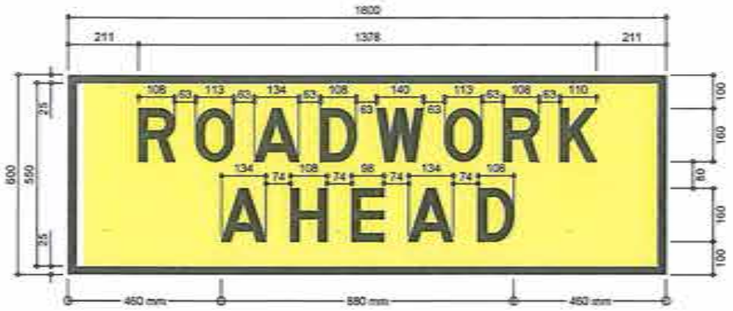
SUBMITTED: JUDY ANN T. BERNARDINO, CHIEF, PLANNING AND DESIGN DIVISION — DATE:

RECOMMENDED: JOSE ALFREDO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR — DATE:

APPROVED: JUBY B. CORDON, REGIONAL DIRECTOR — DATE:

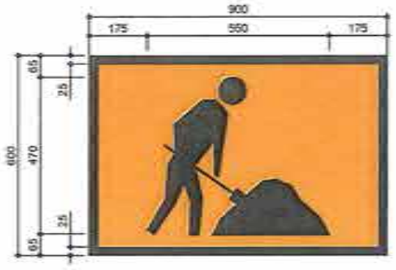
SET NO.: B 02 08

SHEET NO.: 07 15



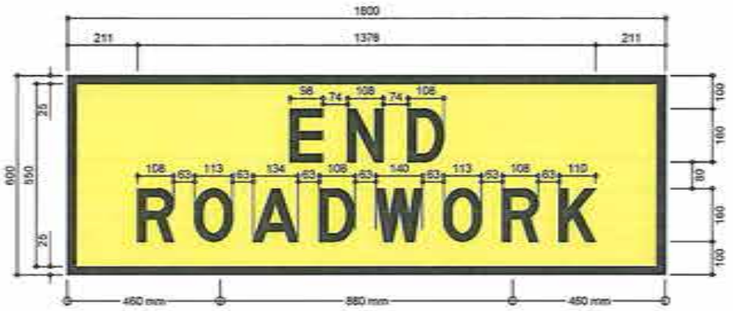
ROADWORK AHEAD DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T1-1	1800 X 600	LINE 1 - BLACK 200 DM LINE 2 - BLACK 160 DM	YELLOW REFLECTORIZED	ADVANCE WARNING SIGNS



WORKMEN AHEAD (SYMBOLIC) DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T1-5	900 X 600	BLACK	REDIORANGE - FLUORESCENT FOR DAY USE - REFLECTORIZED FOR NIGHT	ADVANCE WARNING SIGNS

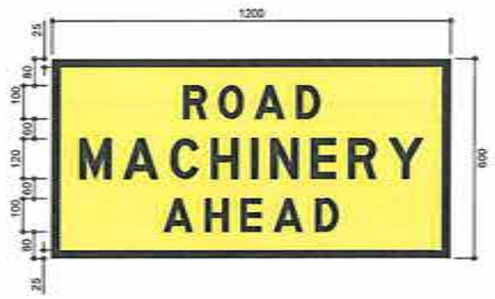


END ROADWORK DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T2-16	1800 X 600	LINE 1 - BLACK 200 DM LINE 2 - BLACK 160 DM	YELLOW REFLECTORIZED	ADVANCE WARNING SIGNS

PREPARED TO STOP DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T1-18	900 X 600	LINE 1 - WHITE 120 DM LINE 2 - WHITE 120 DM LINE 3 - WHITE 120 EM REFLECTORIZED	RED REFLECTORIZED	REGULATORY SIGNS



ROAD MACHINERY AHEAD DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T1-3	1200 X 600	LINE 1 - BLACK 100 EM LINE 2 - BLACK 120 EM LINE 3 - BLACK 100 EM	YELLOW REFLECTORIZED	ADVANCE WARNING SIGNS

SPEED RESTRICTION DETAILS

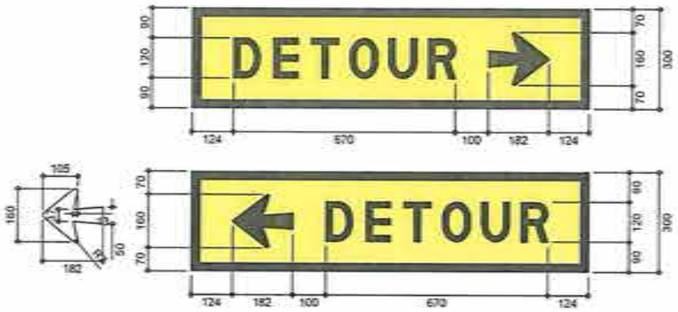
SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
R4-1	600 X 600 (SIZE B)	BLACK 240 DM CIRCLE - 600 DIA. RED	WHITE REFLECTORIZED RED CIRCLE - REFLECTORIZED	REGULATORY SIGNS

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.
PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD., - K1574 + 000 - K1575 + 425, DAVAO DEL SUR	TRAFFIC MANAGEMENT PROGRAM SIGNAGE	ARMANDO M. BASOC, JR. ENGINEER II DATE:	DENNIS ALDRIN A. SEMPIO ENGINEER III, OIC SECTION CHIEF DATE:	JUDY ANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE:	JOSEFINO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUBY B. CORDON REGIONAL DIRECTOR DATE:	B 03 08	08 15

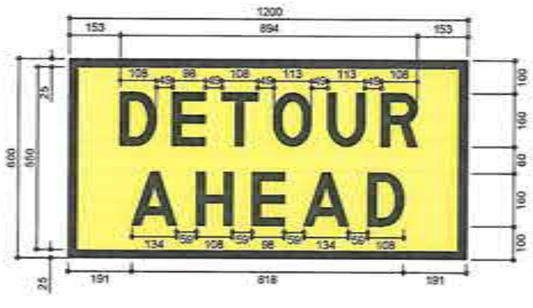
END SPEED RESTRICTION DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
R4-12	600 X 800 (SIZE B)	SYMBOL - 600 DIA. BLACK	WHITE REFLECTORIZED	REGULATORY SIGNS



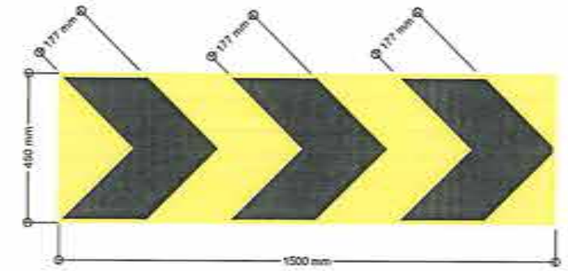
DETOUR (LEFT OR RIGHT) DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T5-1	1200 X 300	BLACK 120 EN	YELLOW REFLECTORIZED	DETOUR SIGNS



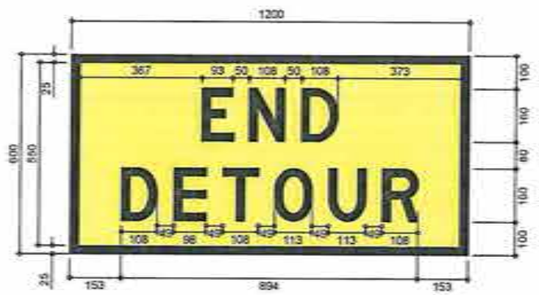
DETOUR AHEAD DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T1-6	1200 X 600	LINE 1 - BLACK 160 EN LINE 2 - BLACK 160 EM	YELLOW REFLECTORIZED	DETOUR SIGNS



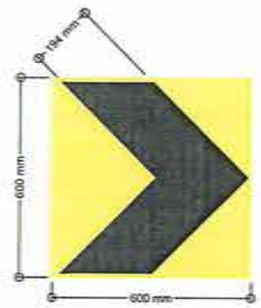
TEMPORARY HAZARD MARKER DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T5-4	1500 X 450 TYPE B-1	BLACK 177 WIDE AT 45°	YELLOW REFLECTORIZED	TEMPORARY HAZARD MARKER



END DETOUR DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T2-23	1200 X 600	LINE 1 - BLACK 160 DM LINE 2 - BLACK 160 DM	YELLOW REFLECTORIZED	DETOUR SIGNS



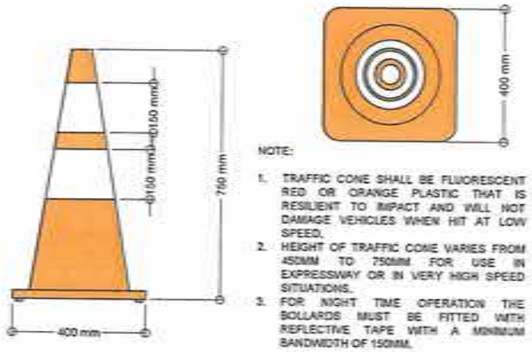
SPEED RESTRICTION DETAILS

SIGN NO.	SIZE (mm)	LETTERS/SYMBOLS	BACKGROUND	TYPE OF SIGNS
T5-5	600 X 600 TYPE B-1	BLACK 194 WIDE AT 45°	YELLOW REFLECTORIZED	TEMPORARY HAZARD MARKER

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.
PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR	TRAFFIC MANAGEMENT PROGRAM SIGNAGE	ARMANDO M. BASOC, JR. ENGINEER II DATE:	DENVIR ALDRIN A. SEMPIO ENGINEER II, OIC SECTION CHIEF DATE:	JUDY ANN T. BERNARDINO CHIEF PLANNING AND DESIGN DIVISION DATE:	ROSELITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUBY B. CORDON REGIONAL DIRECTOR DATE:	B 04 08	09 15

\\REGIONALOCAL CHAIRMAN\2025 PROJECTS_DIGOS MAKAR DATA\14. DIGOS MAKAR NEW PROJECT- K1574- K1575\TYPICALOVERLAY TYPICALOVERLAY NEW TRAFFIC MANAGEMENT PROGRAM.DWG

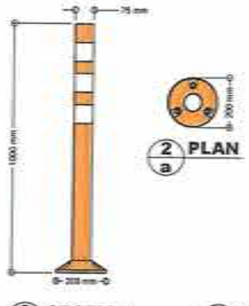


NOTE:

1. TRAFFIC CONE SHALL BE FLUORESCENT RED OR ORANGE PLASTIC THAT IS RESILIENT TO IMPACT AND WILL NOT DAMAGE VEHICLES WHEN HIT AT LOW SPEED.
2. HEIGHT OF TRAFFIC CONE VARIES FROM 450MM TO 750MM FOR USE IN EXPRESSWAY OR IN VERY HIGH SPEED SITUATIONS.
3. FOR NIGHT TIME OPERATION THE BOLLARDS MUST BE FITTED WITH REFLECTIVE TAPE WITH A MINIMUM BANDWIDTH OF 150MM.

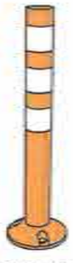
SPACING	CONDITION
5 - 10 METERS	ON TAPER
	WHEN USED AROUND SMALL WORK SITES *(MAY BE REDUCED TO 3m TO GUIDE PEDESTRIANS OR TO PREVENT TRAFFIC TAKING A WRONG TURN THOUGH A GAP IN THE LINE OF BOLLARDS)*
10 - 20 METERS	WHEN USED AS LONGITUDINAL SEPARATION BETWEEN OPPOSING TRAFFIC FLOWS
	WHEN USED AS LONGITUDINAL SEPARATION OF TRAFFIC FROM THE WORKSITE OR CLOSED LANE *(MAY BE INCREASED TO 50m WHERE THE LENGTH OF BOLLARDS EXCEEDS 1KM)*

1 TRAFFIC CONE
SCALE NTS



2 a PLAN

2 b SECTION



2 c ISOMETRIC VIEW

	SPECIFICATION
REFLECTIVE:	ROAD SAFETY POLE
COLOR:	ORANGE
MATERIAL:	PU MATERIAL, ELASTIC, FLEXIBLE
REFLECTIVE FILM:	CRYSTAL LATTICE

NOTE

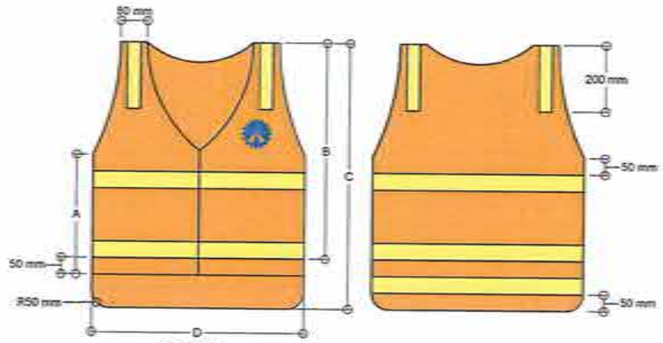
1. BOLLARDS SHALL BE FLUORESCENT RED OR ORANGE PLASTIC THAT IS RESILIENT TO IMPACT AND WILL NOT DAMAGE VEHICLES WHEN HIT AT LOW SPEED.
2. HEIGHT OF BOLLARDS MUST BE UP TO 1 METER.
3. FOR NIGHT TIME OPERATION THE BOLLARDS MUST BE FITTED WITH REFLECTIVE TAPE WITH A MINIMUM BANDWIDTH OF 250MM.
4. SPACING @ 0.60 M. O.C.

SPACING	CONDITION
5 - 10 METERS	ON TAPER
	WHEN USED AROUND SMALL WORK SITES *(MAY BE REDUCED TO 3m TO GUIDE PEDESTRIANS OR TO PREVENT TRAFFIC TAKING A WRONG TURN THOUGH A GAP IN THE LINE OF BOLLARDS)*
10 - 20 METERS	WHEN USED AS LONGITUDINAL SEPARATION BETWEEN OPPOSING TRAFFIC FLOWS
	WHEN USED AS LONGITUDINAL SEPARATION OF TRAFFIC FROM THE WORKSITE OR CLOSED LANE *(MAY BE INCREASED TO 50m WHERE THE LENGTH OF BOLLARDS EXCEEDS 1KM)*

2 FLEXIBLE BOLLARD DETAIL
SCALE NTS

NOTE:

1. ALL PERSONNEL WORKING ON OR ADJACENT TO A ROADWORK SITE SHALL WEAR APPROPRIATE ROAD SAFETY MATERIALS SUCH AS HIGH VISIBILITY VEST (MADE FROM FLUORESCENT RED/ORANGE MATERIAL), HARD HAT AND SAFETY SHOES.
2. THE VEST SHALL BE WORN OVER NORMAL CLOTHING AND PROPERLY FASTENED SO THAT THE ENTIRE AVAILABLE AREA OF HIGH VISIBILITY MATERIAL CAN BE SEEN IN ANY DIRECTION. TO MAXIMIZE EFFECTIVENESS THE VEST SHOULD BE KEPT CLEAN AND IN GOOD CONDITION.
3. THE TRAFFIC SAFETY VEST SHALL BE MADE FROM FLUORESCENT RED OR ORANGE MATERIAL. HE VEST SHALL ALSO HAVE TWO (2) STRIPS OF YELLOW RETRO-REFLECTIVE MATERIAL AT THE FRONT AND THREE (3) STRIPS AT THE BACK. REFLECTIVE MATERIALS SHALL BE 50mm WIDE. DPWH LOGO SHALL BE 80mm DIAMETER. THE SAFETY VEST SHOULD HAVE A SECURE FASTENING PREFERABLY A ZIP.
4. THE JACKET MAY BE WORN OVER WET WEATHER CLOTHING. ALTERNATIVELY, WET WEATHER HIGH VISIBILITY CLOTHING SHALL BE MADE FROM WATER PROOF MATERIAL MATCHING THOSE PROPERTIES ABOVE FOR COLOR AND RETRO REFLECTIVITY.



FRONT **BACK**

SIZE	A (mm)	B (mm)	C (mm)	D (mm)
MEDIUM	280	600	750	580
LARGE	295	625	775	610
EXTRA LARGE	310	650	800	640

3 TRAFFIC SAFETY VEST DETAILS
SCALE NTS

4 BARRICADE FLASHER LIGHT
SCALE NTS

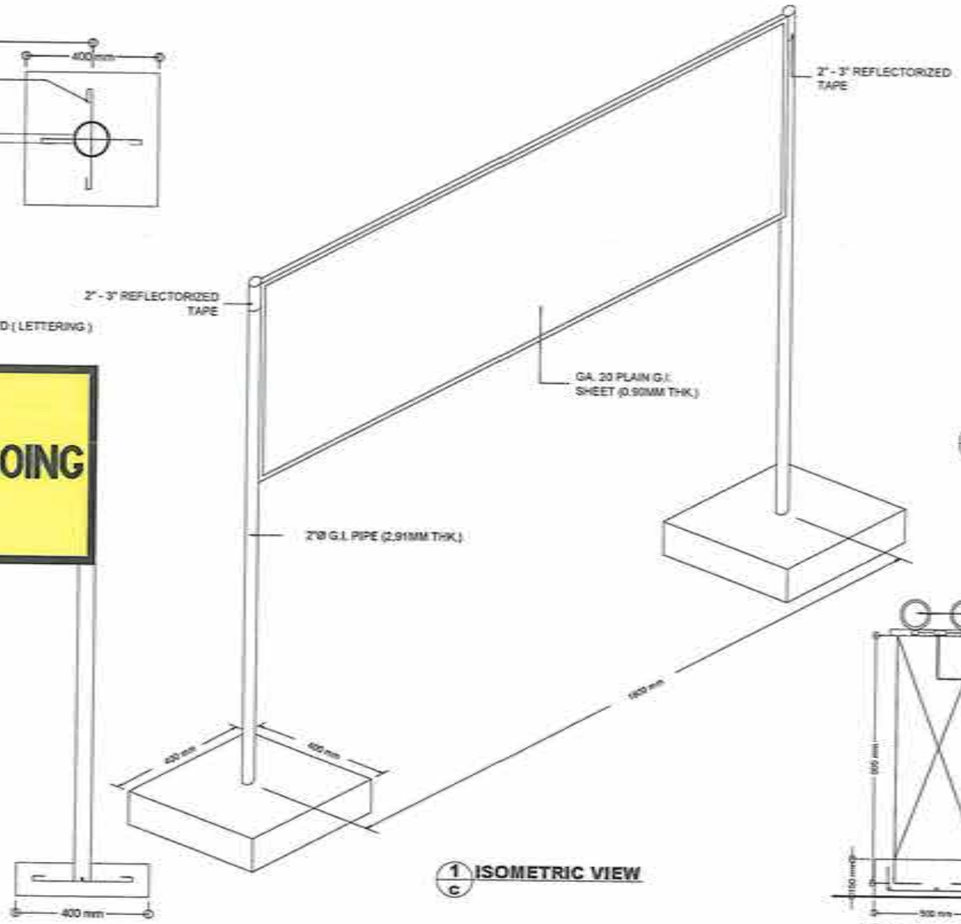
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. XI
GOV. DAVIEZ COR. R. MAGSAYSAY AVENUE, DAVAO CITY

PROJECT NAME AND LOCATION	SHEET CONTENTS	DRAFTED AND PREPARED	REVIEWED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD., - K1574 + 800 - K1575 + 425, DAVAO DEL SUR	TRAFFIC CONE, FLEXIBLE BOLLARD DETAIL, TRAFFIC SAFETY VEST DETAIL, BARRICADE FLASHER LIGHT	ARMANDO M. BASOC, JR. ENGINEER II DATE	DENVER MARTIN M. SEMPIO ENGINEER II, OIC SECTION CHIEF DATE	JUDYANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE	JOSEPH D. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE	JUBY B. CORDON REGIONAL DIRECTOR DATE	B 05 08	10 15

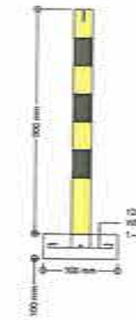
\\REGIONAL\OCIL DVARMANI2025 PROJECTS_DIGOS MAKAR DATA\14 DIGOS MAKAR NEW PROJECT\- K1574- K1575\STYPICAL\OVERLAY TYPICAL\OVERLAY NEW TRAFFIC MANANGEMENT PROGRAM.DWG

1 a **PLAN**

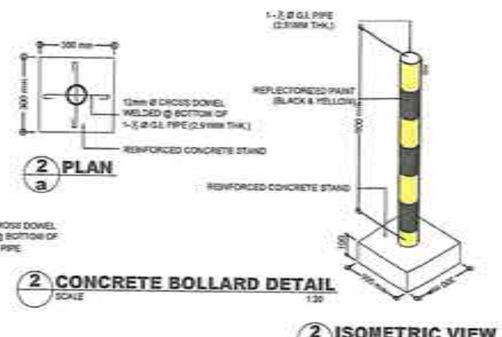
1 b **FRONT ELEVATION**



1 c **ISOMETRIC VIEW**

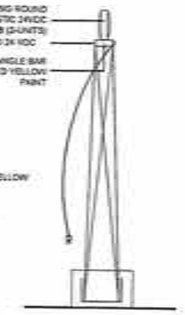


2 b **SECTION**

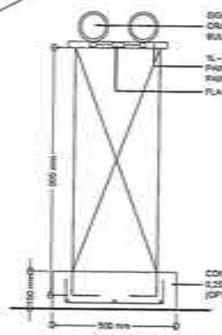


2 a **PLAN**

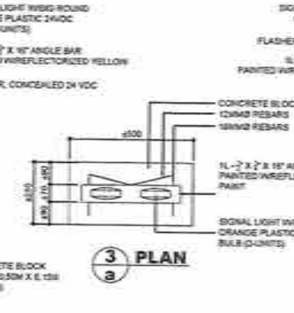
2 **CONCRETE BOLLARD DETAIL** SCALE 1:20



2 c **ISOMETRIC VIEW**



3 b **ELEVATION**



3 a **PLAN**

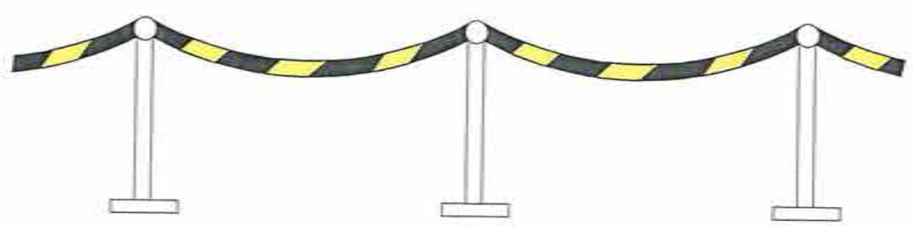
3 **FLASHER LIGHT DETAIL** SCALE 1:20

3 c **SECTION**

ADVANCE WARNING SIGN

1 d **BILLBOARD DETAIL**

1 **INFORMATORY BILLBOARD DETAIL** SCALE 1:20



NOTE:

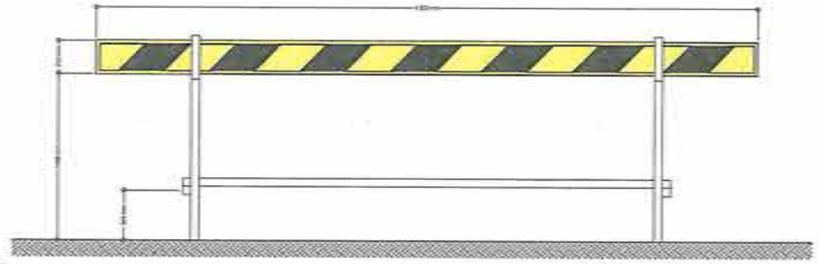
1. THE TAPE (CAUTION) SHALL BE TIED OR SUPPORT APPROXIMATELY 1 METER HIGH.
2. THE TAPE SHALL BE 100MM WIDE WITH ALTERNATING BLACK AND YELLOW STRIPES.

4 **CONSTRUCTION OF SAFETY FENCE** SCALE 1:20

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.
PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR	INFORMATORY BILLBOARD DETAIL CONSTRUCTION OF SAFETY FENCE CONCRETE BOLLARD DETAILS FLASHER LIGHT DETAIL	ARMANDO M. BASOC, JR. ENGINEER II DATE:	DENNIS ACOPIA A. SEMPID ENGINEER II, OIC-SECTION CHIEF DATE:	JUDY ANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE:	JOSELITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUBY B. CORDON REGIONAL DIRECTOR DATE:	B 06 08	11 15

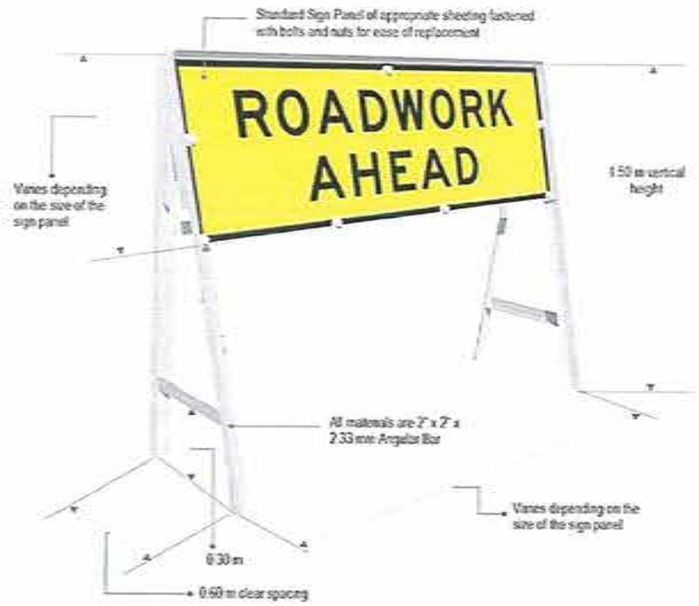
M:\REGIONAL\DIGOS\DVARMAN\2025 PROJECTS_DIGOS MAKAR DAT\K14. DIGOS MAKAR NEW PROJECT- K1574- K157\5\TYPICAL\OVERLAY TYPICAL\OVERLAY NEW TRAFFIC MANAGEMENT PROGRAM.DWG



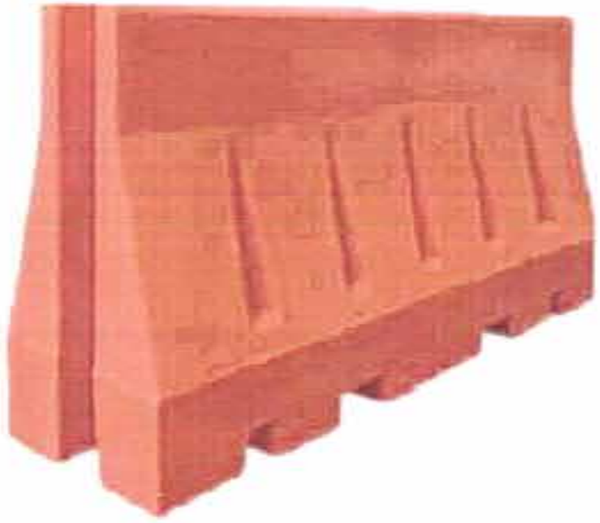
NOTE:

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.

1 BARRIER BOARD DETAIL
SCALE NTS



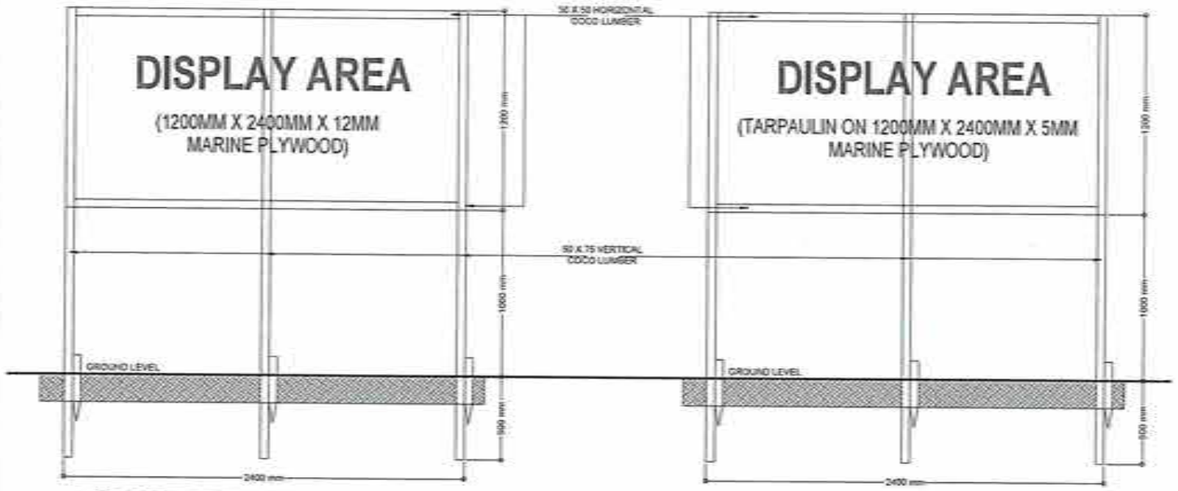
2 ROAD SIGN DETAILS
SCALE NTS



3 PLASTIC SAFETY BARRIER
SCALE 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: PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD., - K1574 + 000 - K1575 + 425, DAVAO DEL SUR	SHEET CONTENTS: ROAD SIGN DETAIL BARRIER BOARD DETAIL PLASTIC SAFETY BARRIER	DRAFTED AND PREPARED: ARMANDO M. BASOC, JR. ENGINEER II DATE:	REVIEWED: DENNIS ALDRIN A. SEMPIO SHOP/SITE INSPECTION CHIEF 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:	SET NO. B 07 08	SHEET NO. 12 15

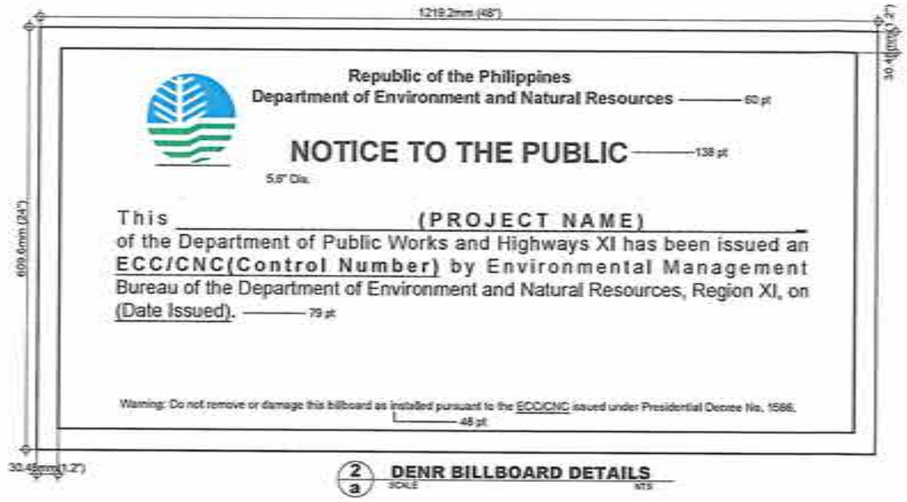
\\REVA\LOCAL DIA\MANDOS PROJECTS_DIGOS MAKAR DATA\14. DIGOS MAKAR NEW PROJECT- K1574- K1578\TYPICAL\OVERLAY TYPICAL\OVERLAY NEW TRAFFIC MANAGEMENT PROGRAM.DWG



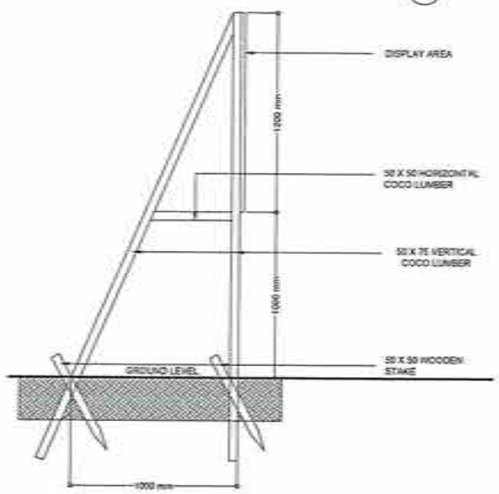
1a FRONT ELEVATION (OPTION 1)

1b FRONT ELEVATION (OPTION 2)

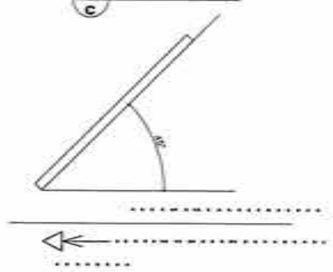
1 BILLBOARD POST DETAILS
SCALE 1:40



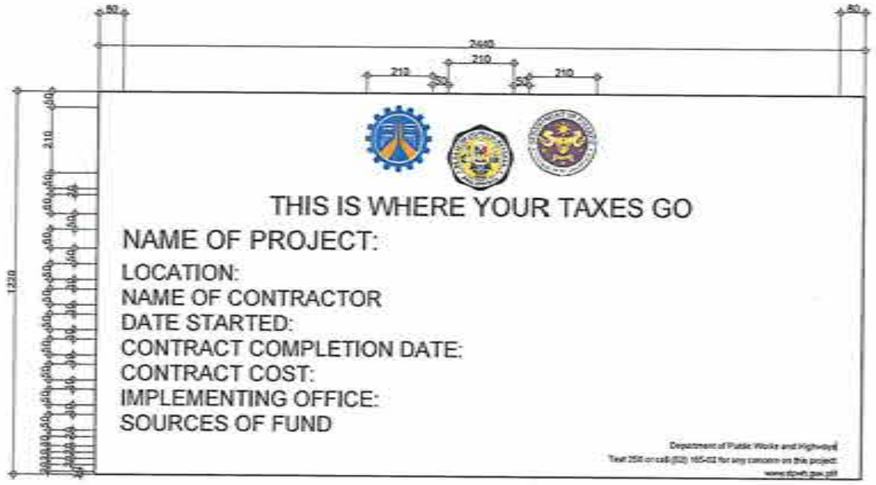
2a DENR BILLBOARD DETAILS
SCALE NTS



1c ELEVATION

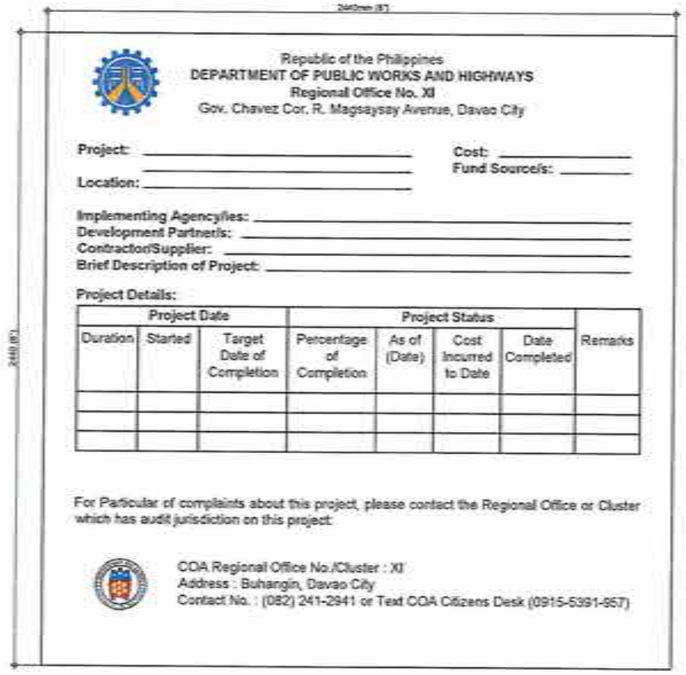


1d ORIENTATION



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

2b DPWH BILLBOARD DETAILS
SCALE NTS



2c COA BILLBOARD DETAILS
SCALE NTS

NOTES FOR COA BILLBOARD:
- TARPAULIN, WHITE, 8FT x 8 FT
- RESOLUTION: 70DPI
- FONT: HELVETICA
- FONT SIZE : MAIN INFORMATION - 3"
  : SUB-INFORMATION - 1"
- FONT COLOR: BLACK

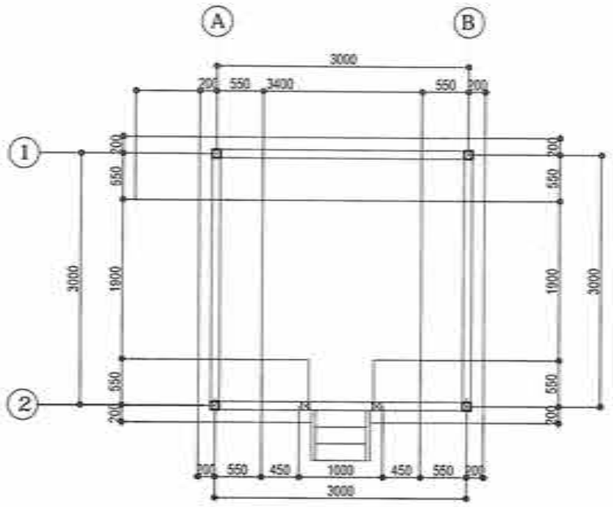
2 BILLBOARD DISPLAY DETAILS
SCALE NTS

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

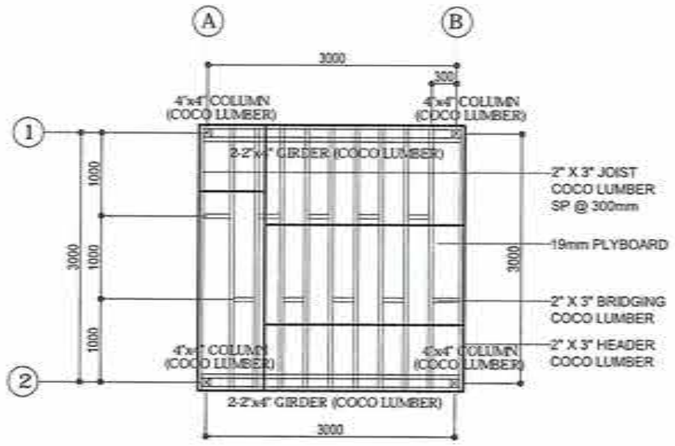
PROJECT NAME AND LOCATION	SHEET CONTENTS	DRAFTED AND PREPARED	REVIEWED	SUBMITTED	RECOMMENDED	APPROVED	SET NO.	SHEET NO.
PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR	BILLBOARD DETAILS	ARMANDO M. BASOC, JR. ENGINEER II DATE:	DENVIR ALDRIN E. SEMPIO ENGINEER II, CIC SECTION CHIEF DATE:	JUDYANN T. BERNARDINO CHIEF, PLANNING AND DESIGN DIVISION DATE:	JOSELITO B. CABALLERO ASSISTANT REGIONAL DIRECTOR DATE:	JUSY B. CORDON REGIONAL DIRECTOR DATE:	B 08 08	13 15

N:\REGIONAL\LOCAL DIA\PMO\2025 PROJECTS_DIGOS MAKAR DATA\14. DIGOS MAKAR NEW PROJECT\- K1574-K1575\TYPICAL\OVERLAY TYPICAL\OVERLAY NEW TRAFFIC MANANGEMENT PROGRAM.DWG

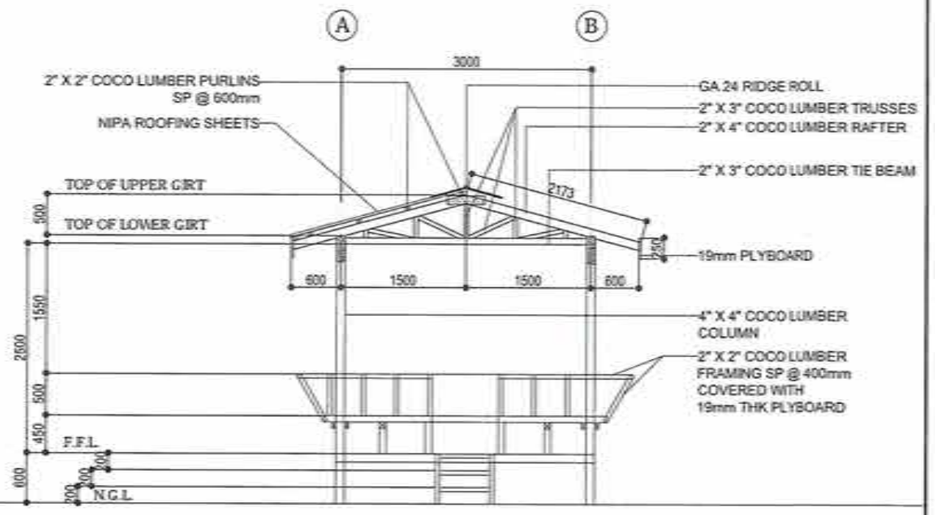
C. FACILITIES FOR THE FIELD ENGINEER



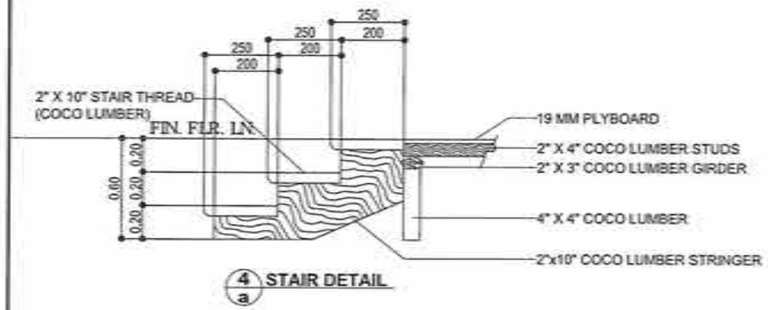
1 a FLOOR PLAN



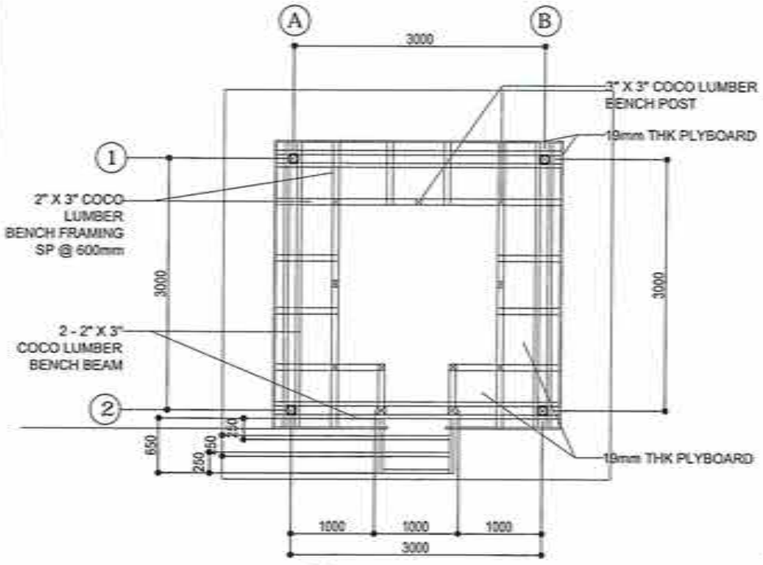
2 a FLOOR FRAMING



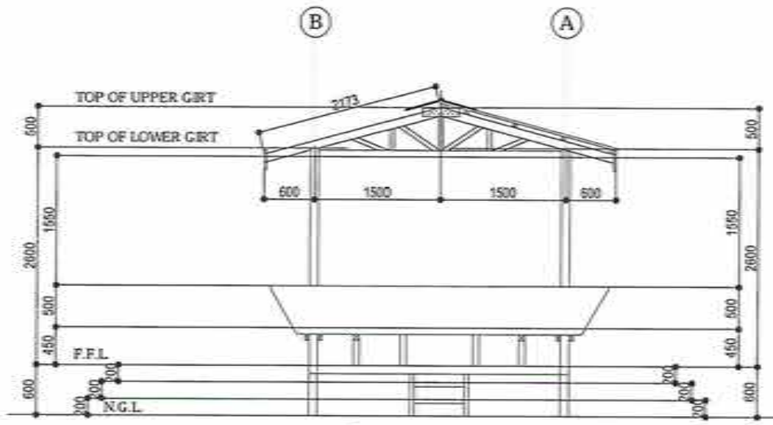
3 a SECTION



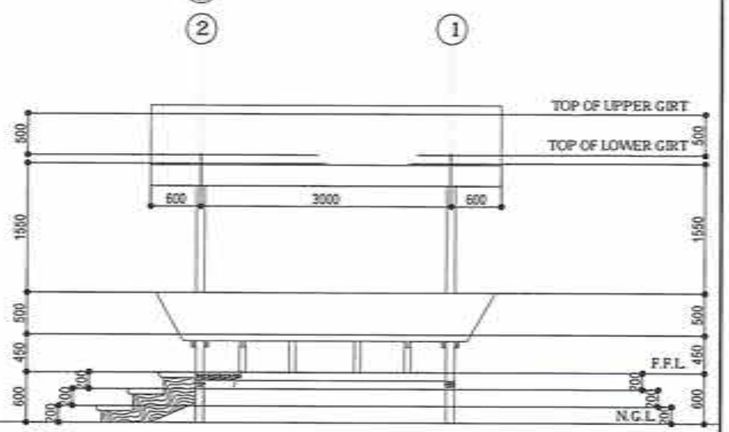
4 a STAIR DETAIL



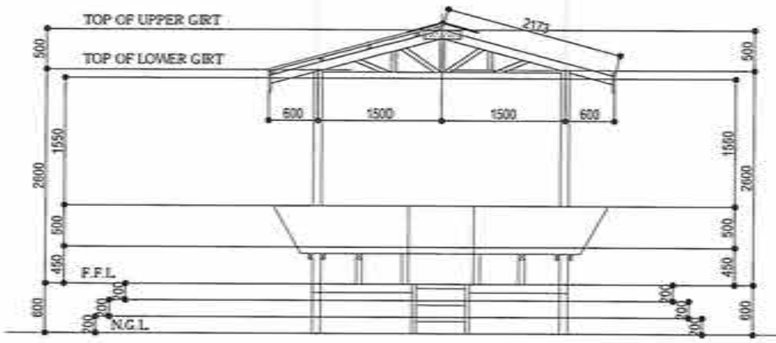
5 a BENCH FRAMING



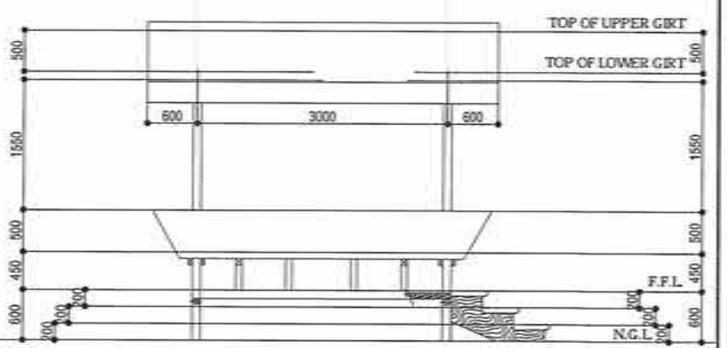
6 a REAR ELEVATION



7 a RIGHT SIDE ELEVATION



8 a FRONT ELEVATION



9 a LEFT SIDE ELEVATION

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

PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED AND PREPARED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO:	SHEET NO.
PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS - MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR	CAMPHOUSE TYPICAL DETAILS (BAHAY KUBO)	FERDINAND M. RAÑOSA, ARCHITECT II, DATE:	ALGIN A. GINGAYEN, ENGINEER III, DATE:	JUDY ANN T. BERNARDINO, CHIEF PLANNING AND DESIGN DIVISION, DATE:	JOSELITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR, DATE:	JUBY B. CORDON, REGIONAL DIRECTOR, DATE:	C 01 01	14 15

\\RENAILOCAL (DAVRAW2025 PROJECTS)_DIGOS MAKAR DATA\14. DIGOS MAKAR NEW PROJECT- K1574-K1575\TYPICAL\08272025 BAHAY KUBO\08272025 BAHAY KUBO TYPICAL.DWG

D. PLAN

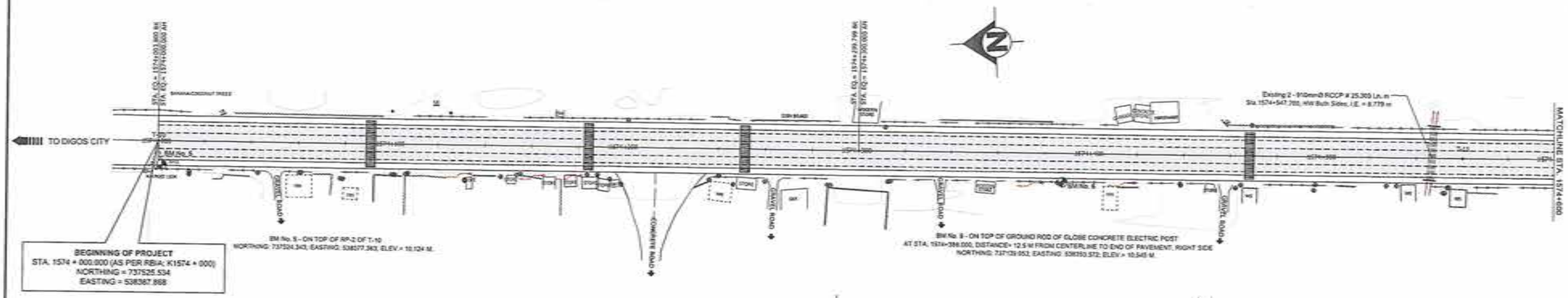
LEGEND:

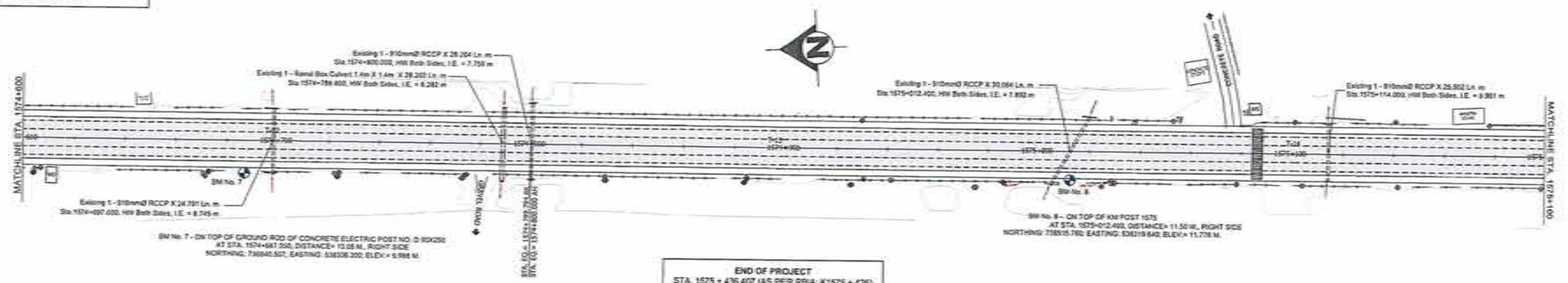
- SB SIGN BOARD
- CH CONCRETE HOUSE
- WH WOODEN HOUSE
- ELECTRIC POST
- GUARD RAILS
- CONCRETE FENCE
- ASPHALT OVERLAY
- SUB-CENTERLINE
- TRANSITION

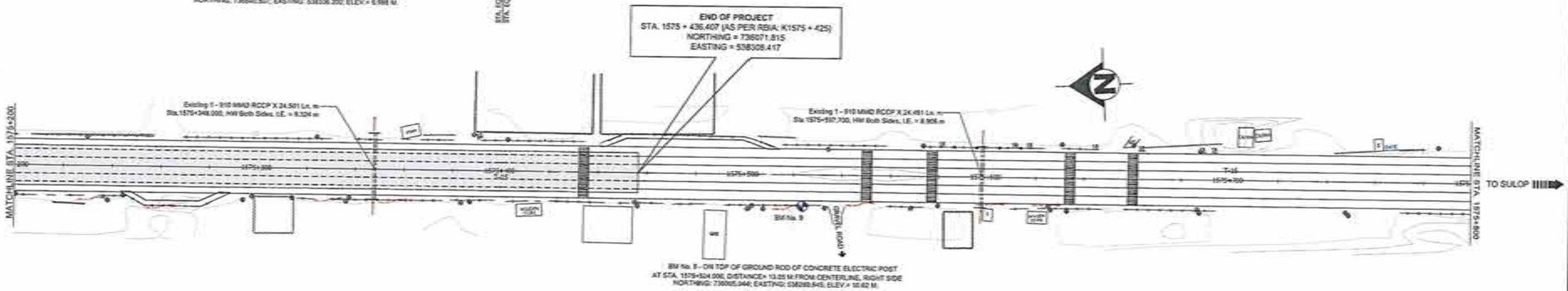
TRAVERSE LINE		
PI#	AZIMUTH	DISTANCE
T-10 TO T-11	03°13'30"	559.664 M.
T-11 TO T-12	03°13'29"	137.524 M.
T-12 TO T-13	03°12'55"	202.304 M.
T-13 TO T-14	03°09'06"	200.051 M.
T-14 TO T-15	03°12'10"	299.084 M.
T-15 TO T-16	03°10'26"	300.037 M.
T-16 TO T-17	03°12'59"	322.745 M.

STATION COORDINATES			
POINT	STATION	NORTHING	EASTING
T-10	1574+003.600	7375525.534	538387.868
T-11	1574+559.865	736966.757	538356.384
T-12	1574+697.469	736829.355	538348.643
T-13	1574+899.999	736627.365	538357.296
T-14	1575+100.030	736427.836	538326.299
T-15	1575+400.014	736128.121	538309.539

REFERENCE POINT OF T-10		
	AZIMUTH	DISTANCE
RP-1	107°39'26"	10.839 M.
RP-2	43°30'26"	10.545 M.
RP-1 - CONCRETE NAIL WITH BOTTLE CAP DRIVEN ON EDGE OF CONCRETE PAVEMENT		
RP-2 - CONCRETE NAIL WITH BOTTLE CAP DRIVEN ON EDGE OF CONCRETE PAVEMENT		







PLAN

SCALE 1:700 m.

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: PREVENTIVE MAINTENANCE OF ROAD: ASPHALT OVERLAY - DIGOS – MAKAR RD. - K1574 + 000 - K1575 + 425, DAVAO DEL SUR

SHEET CONTENTS: PLAN

For and in the absence of the Chief, ESIS:
JAY H. PASCUAS
Engineer II

SURVEYED: RUEL M. BACAY, ENGINEER II
REVIEWED: DANILO M. CARIAGA, ENGINEER III
PREPARED: ARMANDO M. BASOC, JR., ENGINEER II, DATE:
REVIEWED: DENNIS ALVIN C. SEMPIO, ENGINEER II, OIC SECTION CHIEF, DATE:
SUBMITTED: JUDY ANN T. BERNARDINO, CHIEF, PLANNING AND DESIGN OFFICE, DATE:
RECOMMENDED: ROSELITO B. CABALLERO, ASSISTANT REGIONAL DIRECTOR, DATE:
APPROVED: JUBY B. CORDON, REGIONAL DIRECTOR, DATE:

SET NO. D 01|01
SHEET NO. 15 / 15

R:\REGIONAL DIARMAM\2025 PROJECTS_DIGOS MAKAR DATA\04. DIGOS MAKAR NEW PROJECT- K1574- K1575\PLAN AND PROFILE\PLAN AND PROFILE-#14.DWG