

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS & HIGHWAYS

**Pilot Study
for the
Rural Road Network Development Project**

FINAL REPORT

DRAWINGS 4

(VOLUME VII)

PROVINCE OF AGUSAN DEL NORTE

FEBRUARY, 1989

JAPAN INTERNATIONAL COOPERATION AGENCY

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REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS & HIGHWAYS

**Pilot Study
for the
Rural Road Network Development Project**

FINAL REPORT

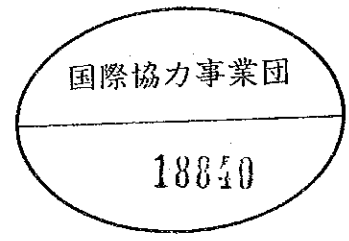
DRAWINGS 4

(VOLUME VII)

PROVINCE OF AGUSAN DEL NORTE

FEBRUARY, 1989

JAPAN INTERNATIONAL COOPERATION AGENCY



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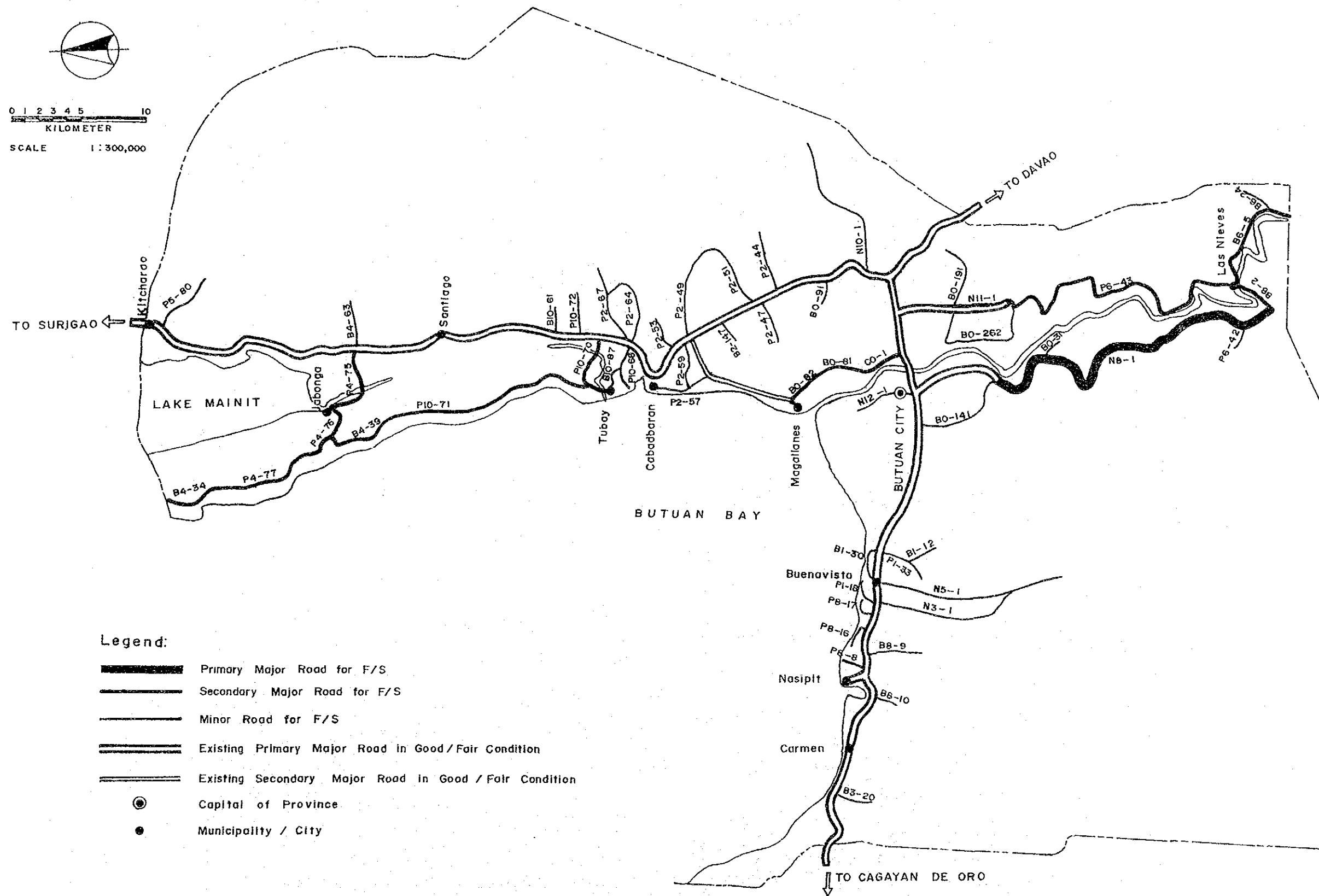
18840

C O N T E N T S

Drawing No	Title
1	LOCATION MAP
2 to 9	TYPICAL ROAD SECTIONS
10 to 45	PRESENT CONDITION AND PROPOSED IMPROVEMENT

L I S T O F R O A D S

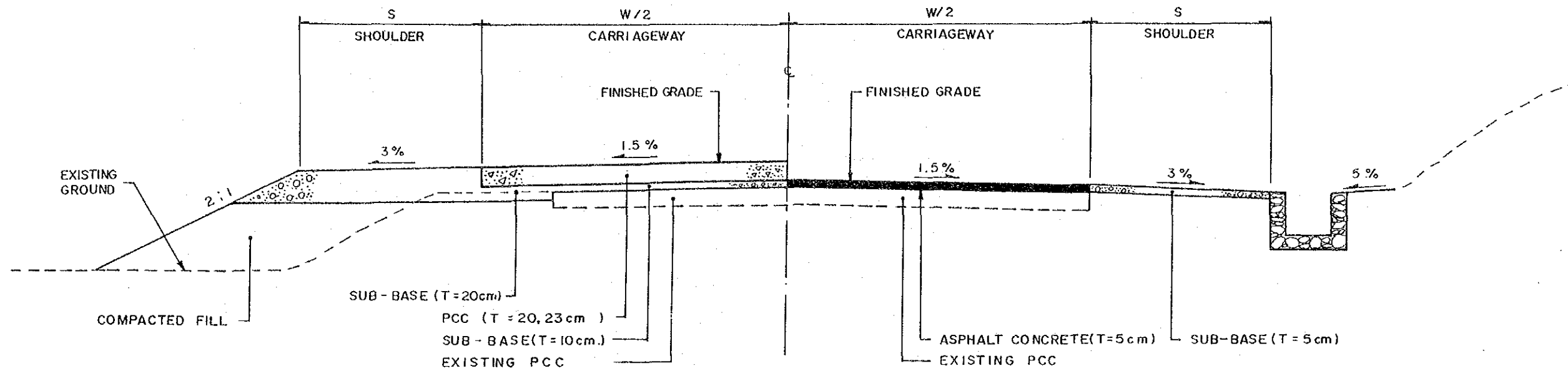
Road Class	R o a d No.	Drawing No.	Road Class	R o a d No.	Drawing No.	Road Class	R o a d No.	Drawing No.
Primary Major Road	N 8 - 1	10	Minor Road	N 10 - 1	23	Minor Road	P 10 - 68	35
				N 12 - 1	24		P 10 - 72	35
Secondary Major Road	N 11 - 1	11		P 1 - 18	25		B 0 - 31	36
	P 4 - 75	12		P 1 - 33	25		B 0 - 91	37
	P 4 - 76	12		P 2 - 44	26		B 0 - 141	38
	P 4 - 77	13		P 2 - 47	27		B 0 - 191	39
	P 6 - 43	14		P 2 - 49	28		B 0 - 262	40
	P 10 - 70	15		P 2 - 51	29		B 1 - 12	41
	P 10 - 71	16		P 2 - 53	30		B 1 - 30	41
	C 0 - 1	17		P 2 - 57	30		B 2 - 147	42
	B 0 - 81	17		P 2 - 59	31		B 3 - 20	42
	B 0 - 82	18		P 2 - 64	31		B 4 - 63	43
	B 6 - 5	18		P 2 - 67	32		B 6 - 24	43
	B 4 - 34	19		P 5 - 80	32		B 8 - 9	44
	B 4 - 39	20		P 6 - 42	33		B 8 - 10	44
B 6 - 2	20	P 8 - 8		33	B 10 - 61		45	
Minor Road	N 3 - 1	21		P 8 - 16	34		B 10 - 87	45
	N 5 - 1	22		P 8 - 17	34			



Legend:

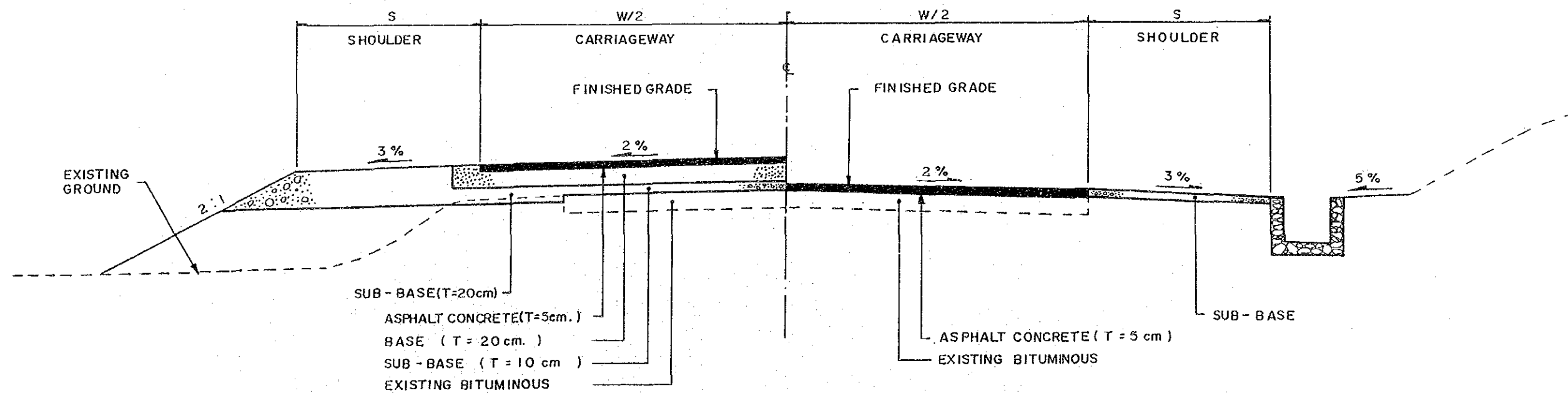
- Primary Major Road for F/S
- Secondary Major Road for F/S
- Minor Road for F/S
- Existing Primary Major Road in Good/Fair Condition
- Existing Secondary Major Road in Good/Fair Condition
- Capital of Province
- Municipality / City

LOCATION OF F/S ROADS



TYPE 1-1
 PROPOSED PAVEMENT : PCC
 EXISTING PAVEMENT : PCC (BAD / VERY BAD)

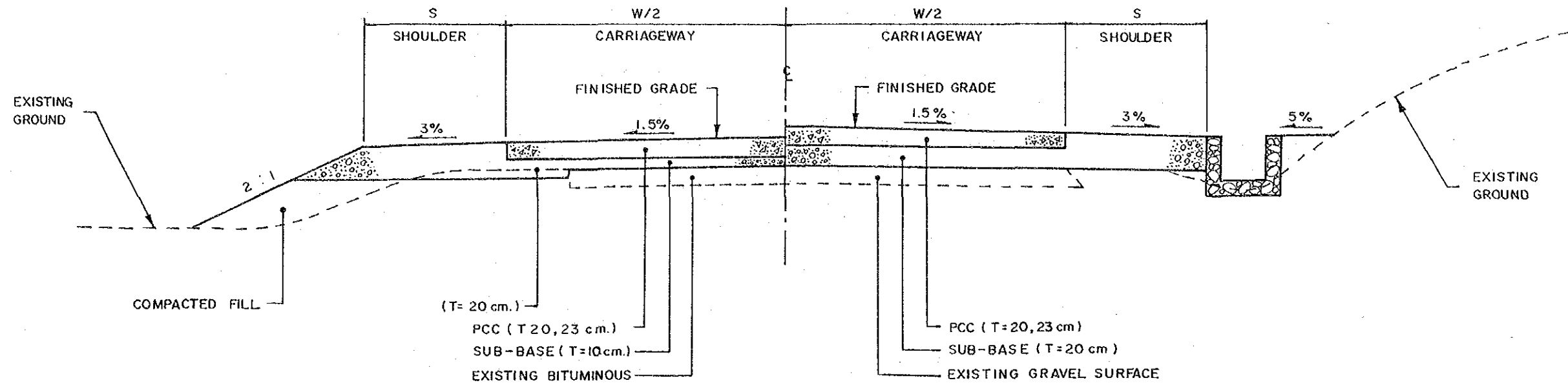
TYPE 1-2
 PROPOSED PAVEMENT : ASPHALT CONCRETE OVERLAY
 EXISTING PAVEMENT : PCC (BAD / VERY BAD)



TYPE 1-3
 PROPOSED PAVEMENT : ASPHALT CONCRETE
 EXISTING PAVEMENT : BITUMINOUS (BAD / VERY BAD)

TYPE 1-4
 PROPOSED PAVEMENT : ASPHALT CONCRETE OVERLAY
 EXISTING PAVEMENT : BITUMINOUS (BAD / VERY BAD)

REHABILITATION (1)

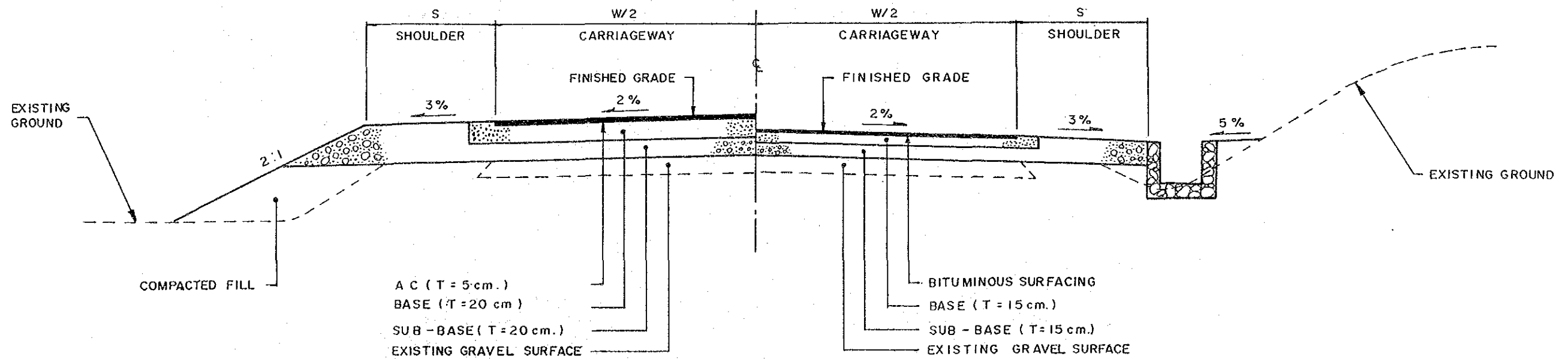


TYPE 2-1

PROPOSED PAVEMENT : PCC
EXISTING PAVEMENT : BITUMINOUS (BAD/VERY BAD)

TYPE 2-2

PROPOSED PAVEMENT : PCC
EXISTING PAVEMENT : GRAVEL SURFACING (BAD/VERY BAD)



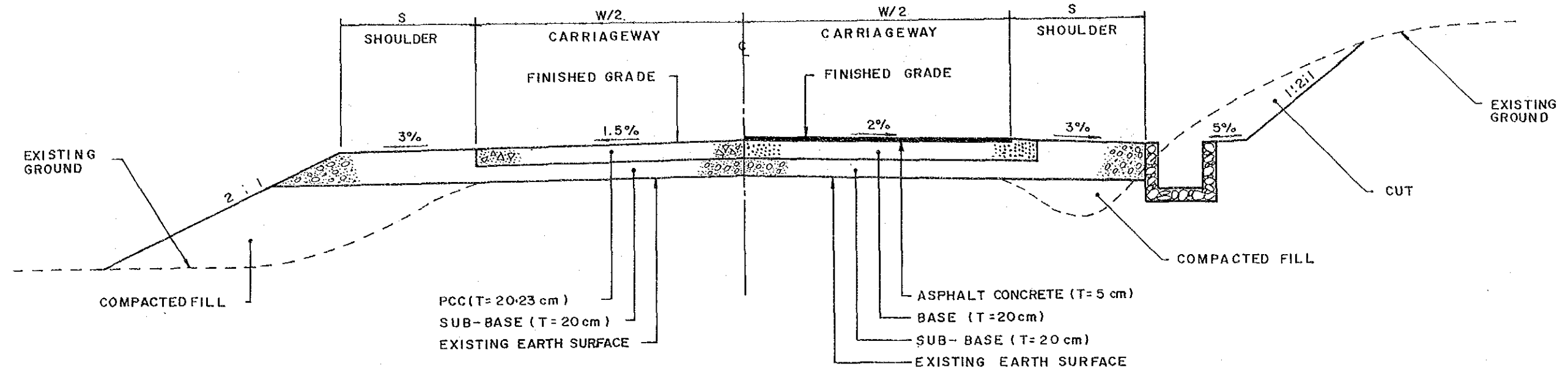
TYPE 2-3

PROPOSED PAVEMENT : ASPHALT CONCRETE
EXISTING PAVEMENT : GRAVEL SURFACING
(BAD/VERY BAD)

TYPE 2-4

PROPOSED PAVEMENT : BITUMINOUS MACADAM / DOUBLE BITUMINOUS
SURFACE TREATMENT
EXISTING PAVEMENT : GRAVEL SURFACING (BAD/VERY BAD)

IMPROVEMENT - I (I)

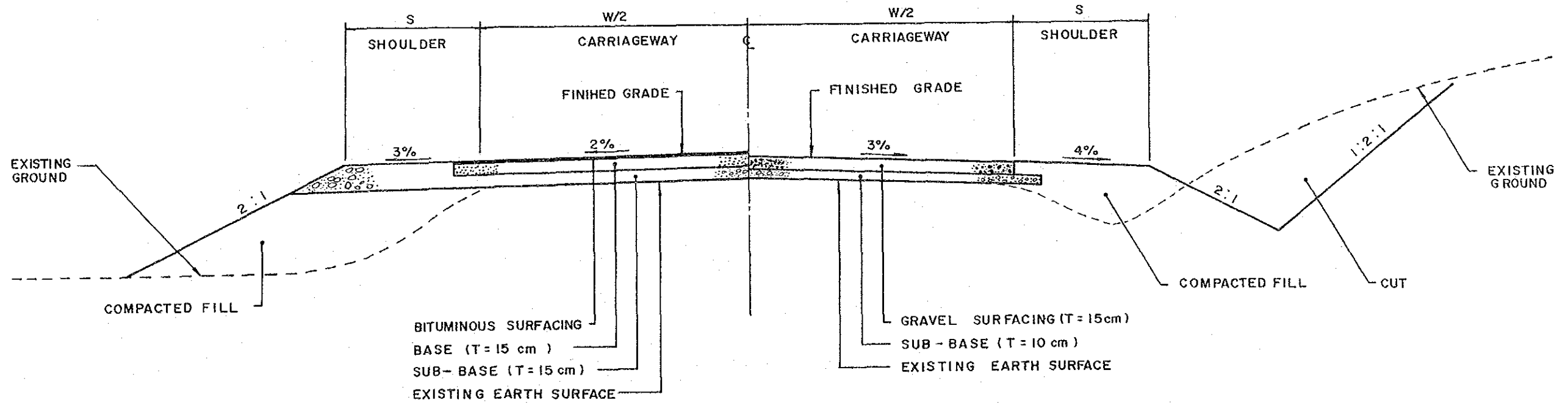


TYPE 2-5

PROPOSED PAVEMENT : PCC
 EXISTING PAVEMENT : EARTH SURFACE

TYPE 2-6

PROPOSED PAVEMENT : ASPHALT CONCRETE
 EXISTING PAVEMENT : EARTH SURFACE



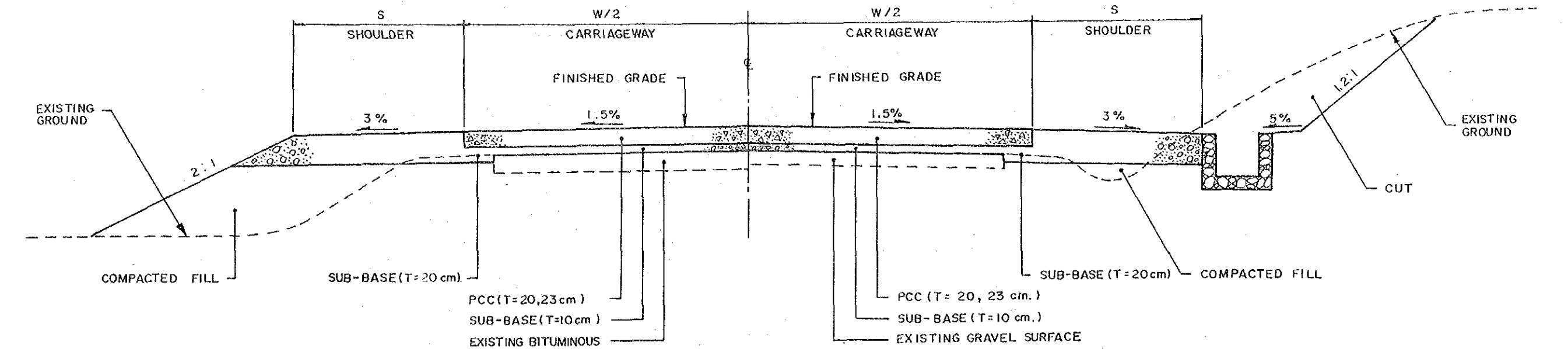
TYPE 2-7

PROPOSED PAVEMENT : BITUMINOUS MACADAM /
 DOUBLE BITUMINOUS
 SURFACE TREATMENT
 EXISTING PAVEMENT : EARTH SURFACE

TYPE 2-8

PROPOSED PAVEMENT : GRAVEL SURFACING
 EXISTING PAVEMENT : EARTH SURFACING

IMPROVEMENT - 1 (2)

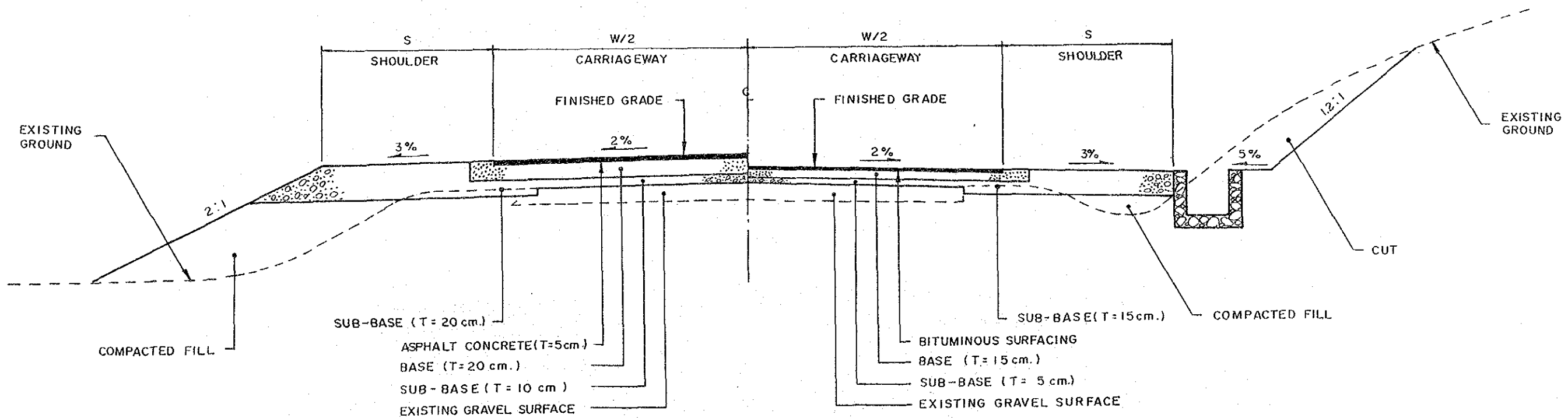


TYPE 3-1

PROPOSED PAVEMENT : PCC
EXISTING PAVEMENT : BITUMINOUS (Good/Fair)

TYPE 3-2

PROPOSED PAVEMENT : PCC
EXISTING PAVEMENT : GRAVEL SURFACING (Good/Fair)



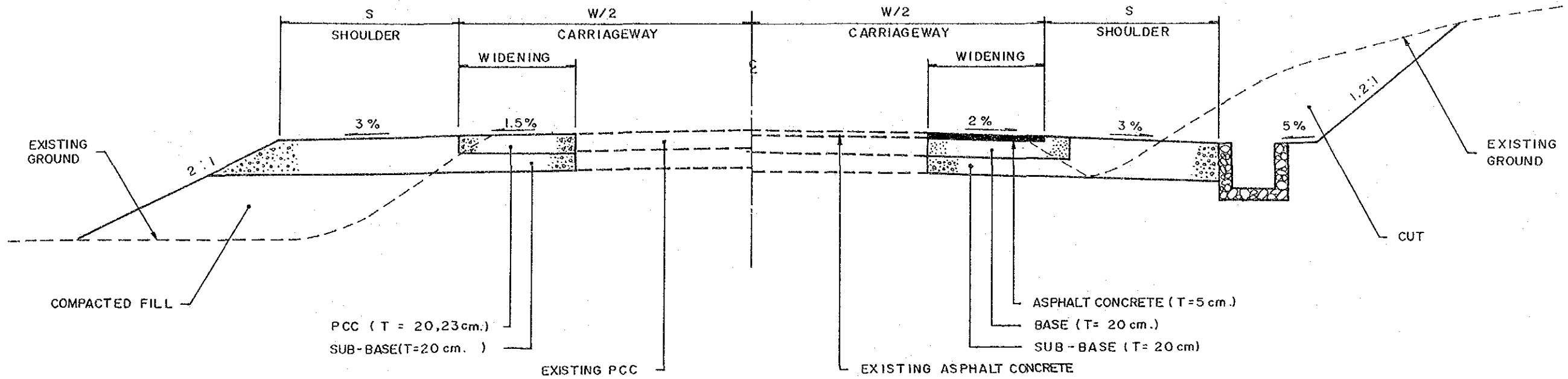
TYPE 3-3

PROPOSED PAVEMENT : ASPHALT CONCRETE
EXISTING PAVEMENT : GRAVEL SURFACING (Good/Fair)

TYPE 3-4

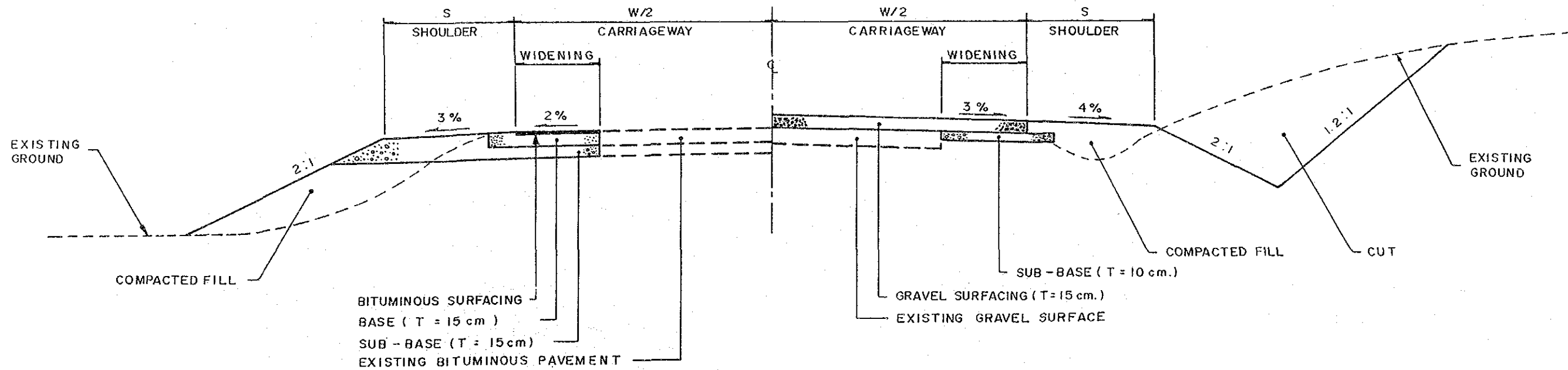
PROPOSED PAVEMENT : BITUMINOUS MACADAM/DOUBLE BITUMINOUS SURFACE TREATMENT
EXISTING PAVEMENT : GRAVEL SURFACING (Good/Fair)

IMPROVEMENT-2



TYPE 4-1
PROPOSED PAVEMENT : PCC
EXISTING PAVEMENT : PCC

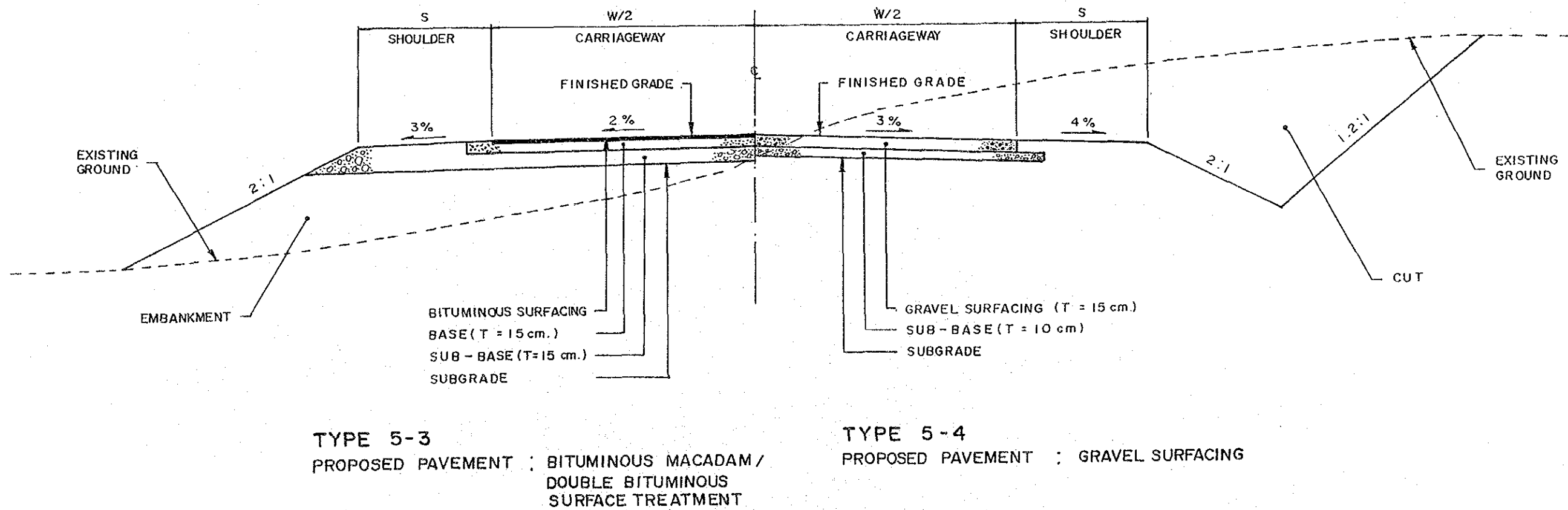
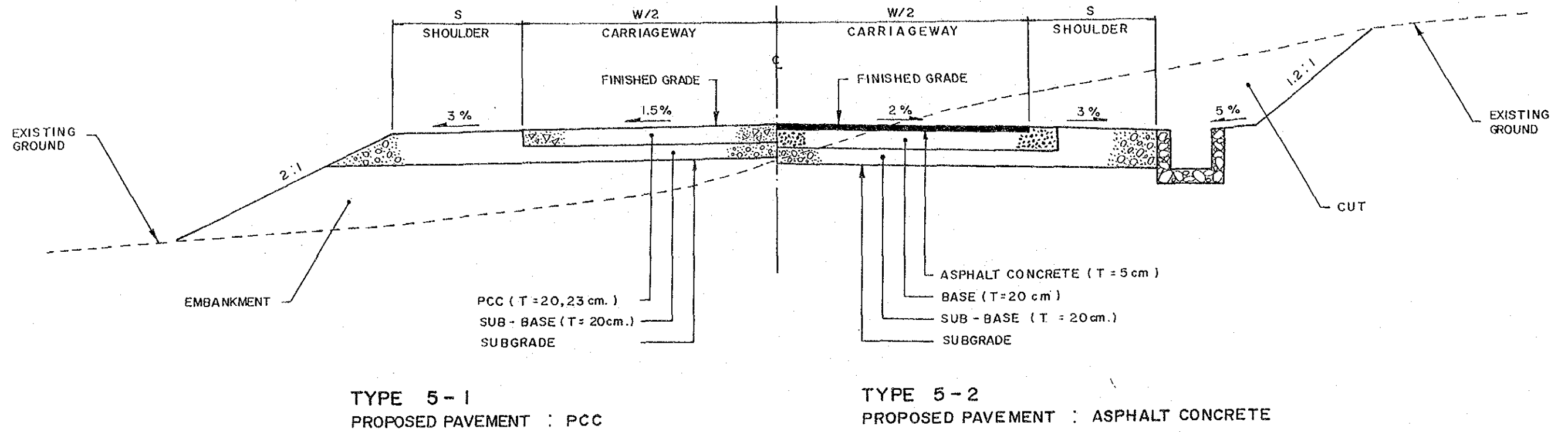
TYPE 4-2
PROPOSED PAVEMENT : ASPHALT CONCRETE
EXISTING PAVEMENT : ASPHALT CONCRETE



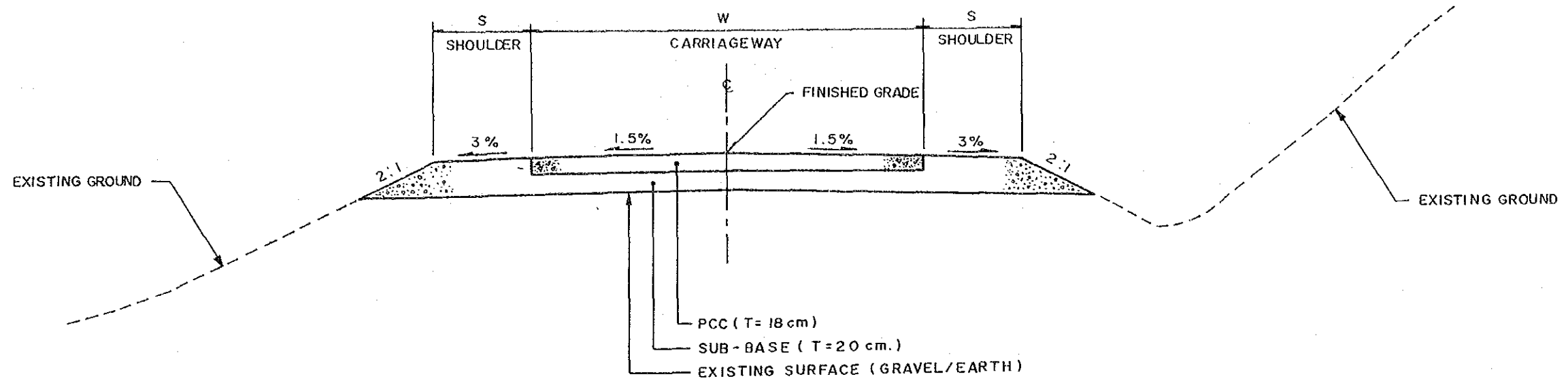
TYPE 4-3
PROPOSED PAVEMENT : BITUMINOUS MACADAM/
DOUBLE BITUMINOUS
SURFACE TREATMENT
EXISTING PAVEMENT : BITUMINOUS

TYPE 4-4
PROPOSED PAVEMENT : GRAVEL SURFACING
EXISTING PAVEMENT : GRAVEL SURFACING

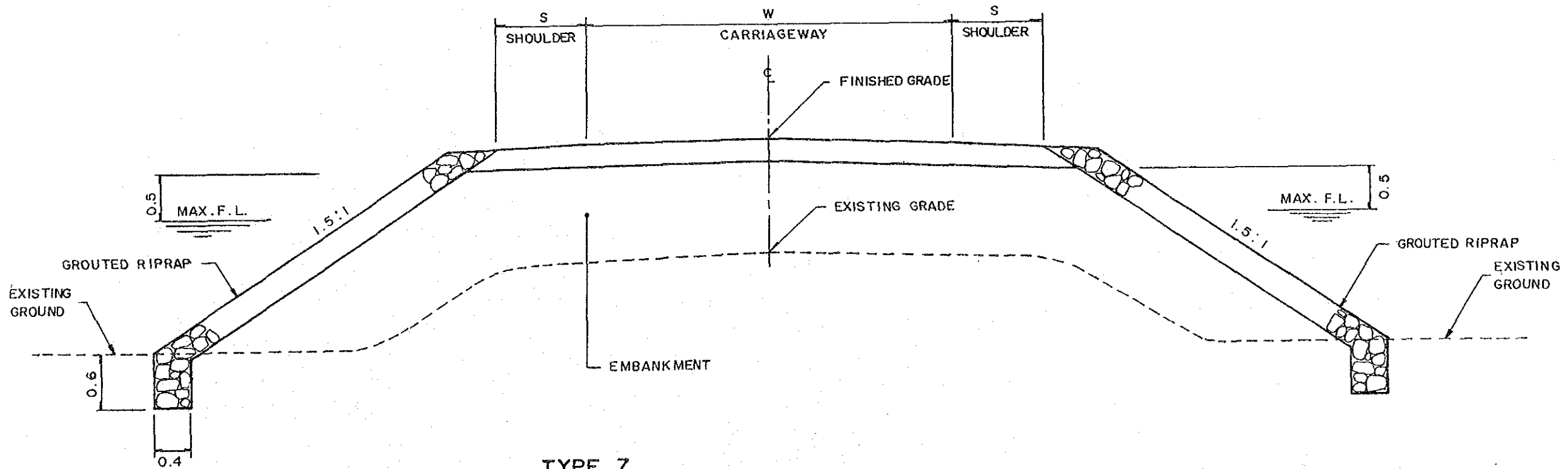
WIDENING



NEW CONSTRUCTION



TYPE 6
PCC PAVEMENT FOR STEEP GRADIENT SECTIONS



TYPE 7
GRADE RAISING SECTIONS IN FLOOD AREA

**THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
IN THE REPUBLIC OF THE PHILIPPINES**

PRESENT CONDITION AND PROPOSED IMPROVEMENT

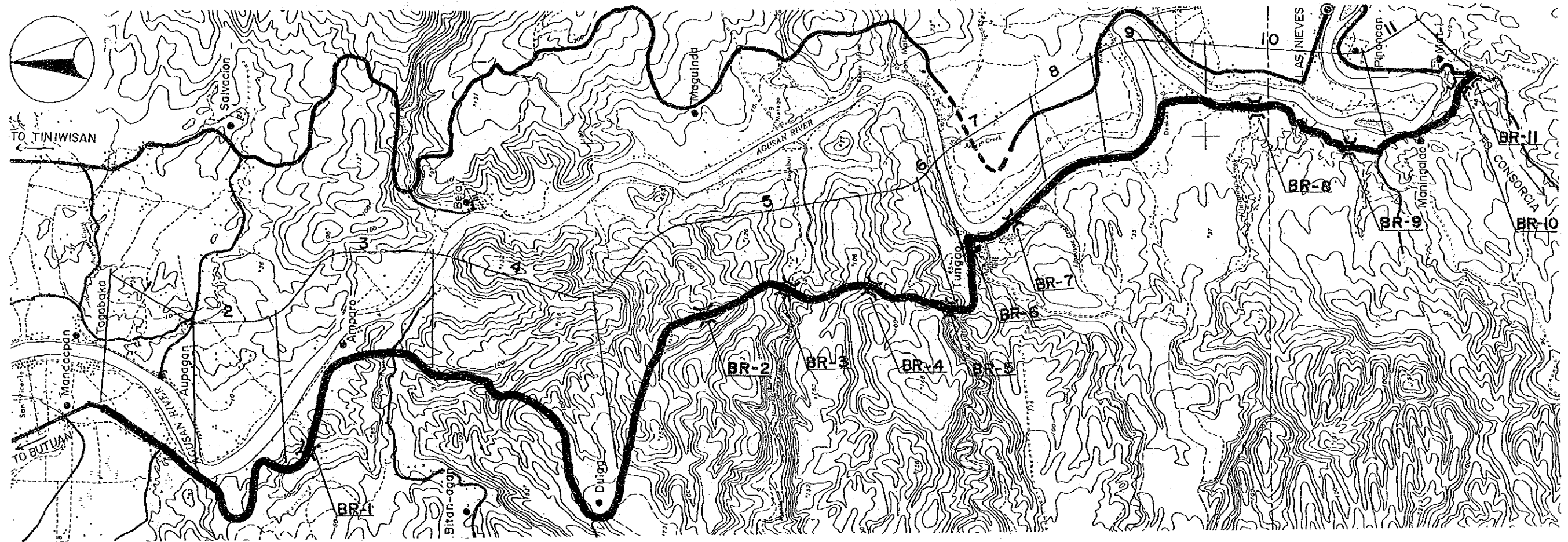
Scale
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Drawing No.
10

Road No: N8-1

Road Name: AGUSAN-MALAYBALAY ROAD

Location : BUTUAN & LAS NIEVES, AGUSAN DEL NORTE



Road Classification	Primary Major (National Road)										
Total Length	30.3 km										
Sub-section No.	1	2	3	4	5	6	7	8	9	10	11
Length (km)	1.6	2.6	3.4	4.4	7.0	1.2	1.9	.9	2.1	3.0	2.2
Terrain	Rolling	Rolling	Rolling	Flat	Rolling	Rolling	Flat	Rolling	Flat	Flat	Rolling
Existing Road Surface	6.0-GRV (Bad)	6.0-GRV (V.Bad)	6.0-GRV (Bad)	6.0-GRV (Bad)	6.0-GRV (V.Bad)	6.0-GRV (Bad)	6.0-GRV (Bad)	6.0-GRV (Bad)	6.0-GRV (Bad)	6.0-GRV (Bad)	3.6-GRV (Bad)
Proposed Improvement	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.
Improvement Type	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel
Surface Type	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel
Carriageway Width(m)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Shoulder Width (m)	1.5	1.5	1.5	2.0	1.5	1.5	2.0	1.5	2.0	2.0	1.5
Ref. Typical Section	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6
Special Treatment	-	-	-	-	-	-	-	-	-	-	660
Steep Section Length	-	-	-	-	-	-	-	-	-	-	660
Bridge No.	BR-1	BR-2	BR-3	BR-4	BR-5	BR-6	BR-7	BR-8	BR-9	BR-10	BR-11
Existing Type	Timber	Concrete	Timber	Timber	Timber	Timber	Timber	Bailey	Bailey	Bailey	Ford-Cr.
Length (m)	38	55	29	17	32	12	11	39	42	9	-
Proposed Type	2Lane-Br	-	2Lane-Br	2Lane-Br	2Lane-Br	2Lane-Br	2Lane-Br	2Lane-Br	2Lane-Br	2Lane-Br	2Lane-Br
Length (m)	40	-	30	17	36	12	12	40	42	12	30
No. of Spans	2	-	1	1	2	1	1	2	2	1	2

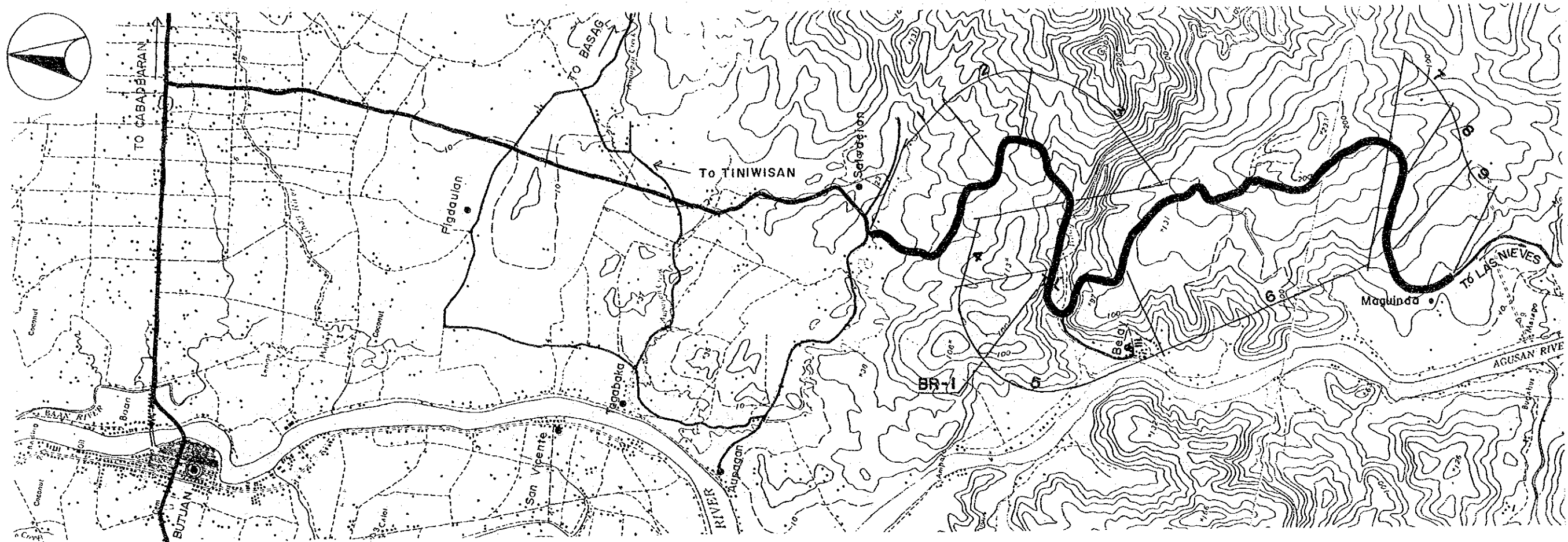
THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
IN THE REPUBLIC OF THE PHILIPPINES

PRESENT CONDITION AND PROPOSED IMPROVEMENT

Scale
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Drawing No.
11

Road No: N11-1 Road Name: JCT.-TINIWISAN-MAGUINDA ROAD
Location : BUTUAN, AGUSAN DEL NORTE



Road Classification	Secondary Major (National Road)								
Total Length	14.6 km								
Sub-section No.	1	2	3	4	5	6	7	8	9
Length (km)	2.4	.8	1.1	.9	1.9	4.6	.5	1.2	1.2
Terrain	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling	Rolling
Existing Road Surface	5.5-GRV (Bad)	5.0-EAR (V.Bad)	5.5-GRV (Bad)	5.0-GRV (V.Bad)	5.5-GRV (V.Bad)	4.5-GRV (Bad)	5.5-GRV (V.Bad)	5.0-GRV (Bad)	5.0-GRV (Bad)
Proposed Improvement	Rehabil.	Impr.-1	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.
Improvement Type	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel
Surface Type	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel
Carriageway Width(m)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Shoulder Width (m)	.5	.5	.5	.5	.5	.5	.5	.5	.5
Ref. Typical Section	TYPE 1-6	TYPE 2-8	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6
Special Treatment	-	-	-	270	-	-	-	-	-
Steep Section Length	-	-	-	270	-	-	-	-	-
Bridge No.	BR-1								
Existing Type	Others								
Length (m)	20								
Proposed Type	-								
Length (m)	-								
No. of Spans	-								

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
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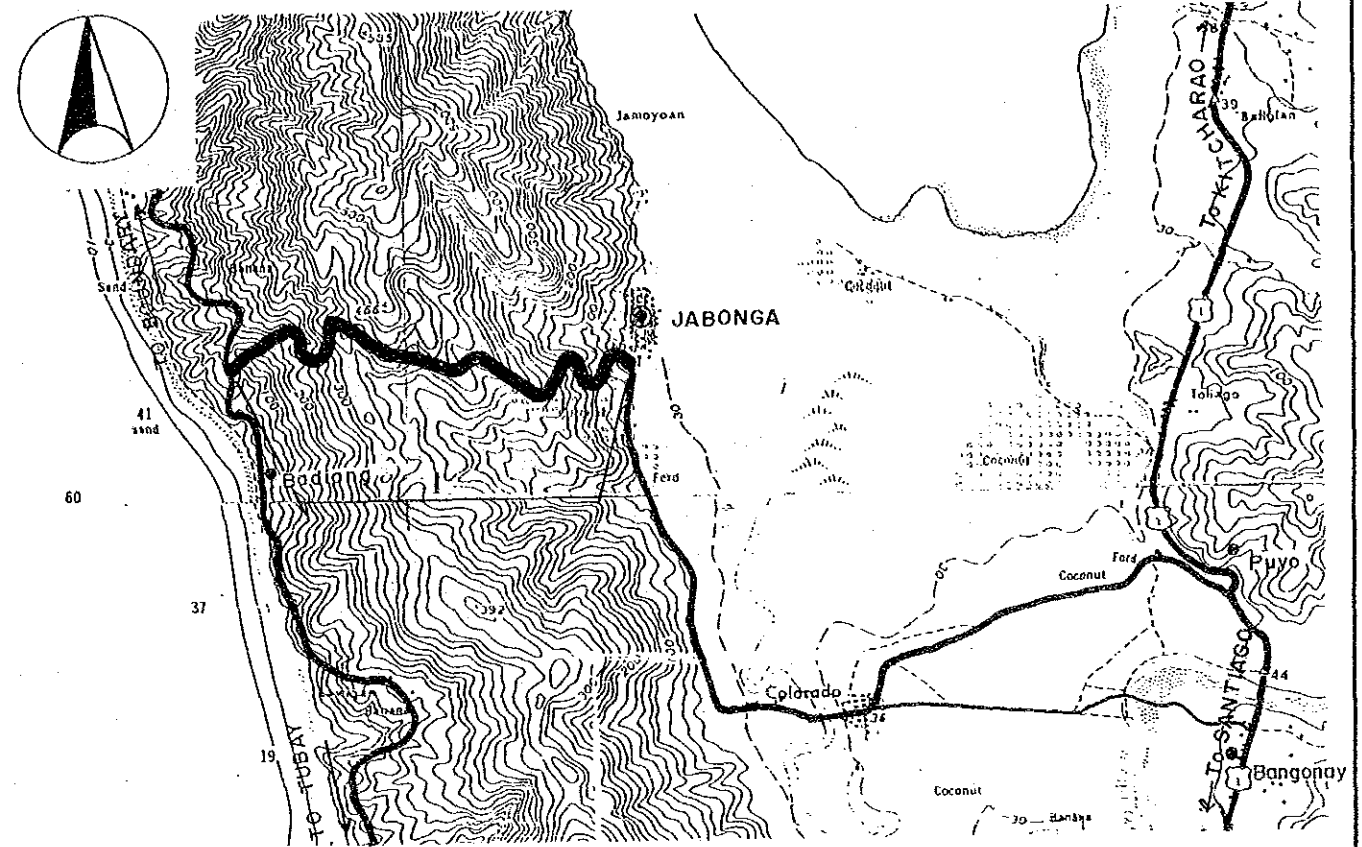
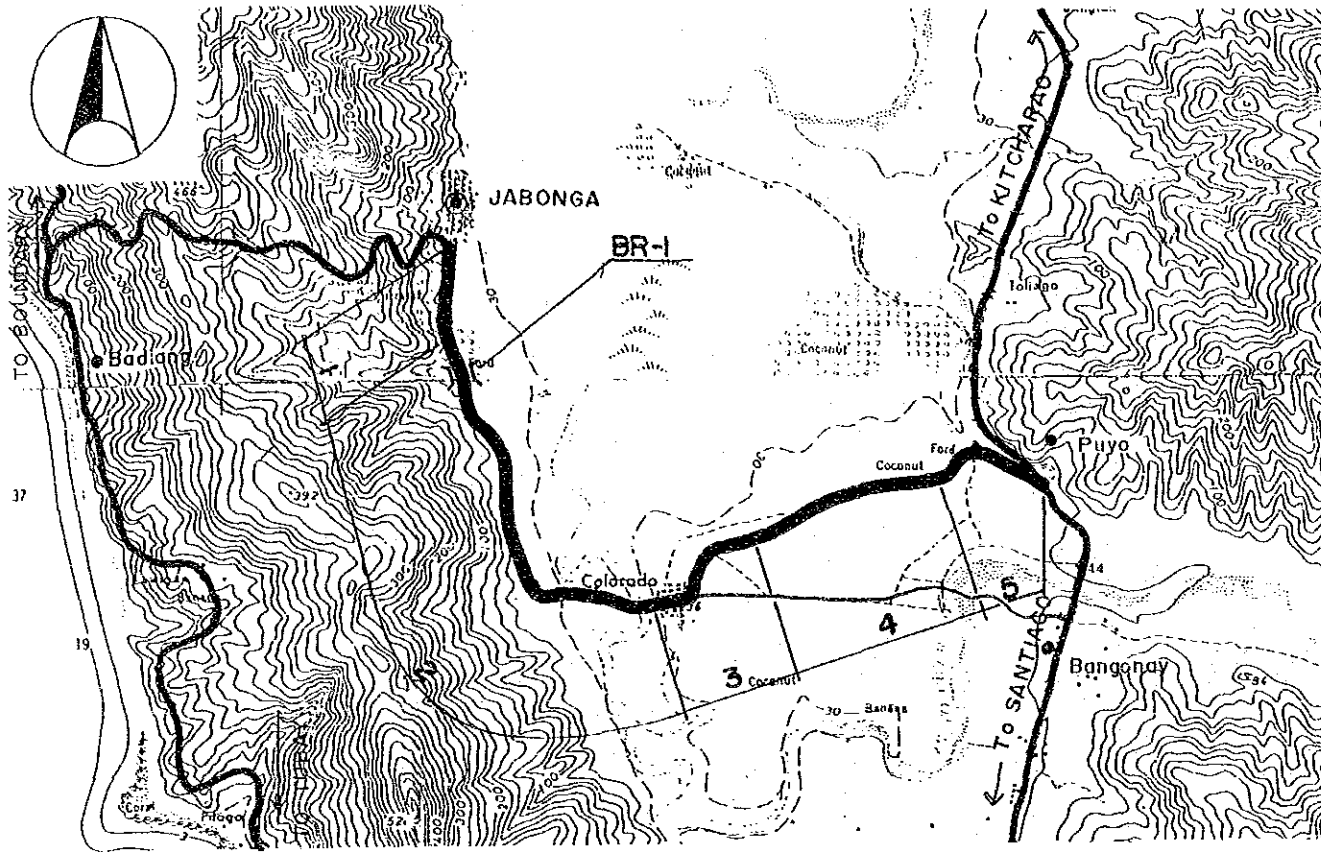
PRESENT CONDITION AND PROPOSED IMPROVEMENT

Scale
1:50,000

Drawing No.
12

Road No: P4-75 Road Name: PUYO-COLORADO-JABONGA RD
Location : JABONGA, AGUSAN DEL NORTE

Road No: P4-76 Road Name: JABONGA-BADIANG RD.
Location : JABONGA, AGUSAN DEL NORTE



Road Classification	Secondary Major (Provincial Road)				
Total Length	7.1 km				
Sub-section No.	1	2	3	4	5
Length (km)	.7	2.8	.9	1.8	.9
Terrain	Flat	Flat	Flat	Flat	Flat
Existing Road Surface	6.4-PCC (Good)	6.0-GRV (Bad)	6.0-GRV (V.Bad)	6.0-GRV (Fair)	6.5-GRV (Bad)
Proposed Improvement	-	Impr.-1	Impr.-1	Impr.-2	Impr.-1
Improvement Type	-	* BMP	* BMP	* BMP	* BMP
Surface Type	-	6.0	6.0	6.0	6.0
Carriageway Width(m)	-	1.5	1.5	1.5	1.5
Shoulder Width (m)	-	TYPE 2-4			
Ref. Typical Section	-	TYPE 2-4		TYPE 3-4	
Bridge No.	BR-1				
Existing Type	Bailey				
Length (m)	113				
Proposed Type	2Lane-Br				
Length (m)	120				
No. of Spans	6				

Road Classification	Second'y Major Rd (Provincial Road)
Total Length	3.6 km
Sub-section No.	1
Length (km)	3.6
Terrain	Mt'nous
Existing Road Surface	4.5-GRV (V.Bad)
Proposed Improvement	Rehabil.
Improvement Type	Gravel
Surface Type	6.0
Carriageway Width(m)	.5
Shoulder Width (m)	TYPE 1-6
Ref. Typical Section	
Special Treatment	
Steep Section Length	900
Slope Protection (Cut Slope)	100
(Embank't Slop)	20

* DBST can be applied instead depending on conditions of subgrade,
axle load, drainage, etc.

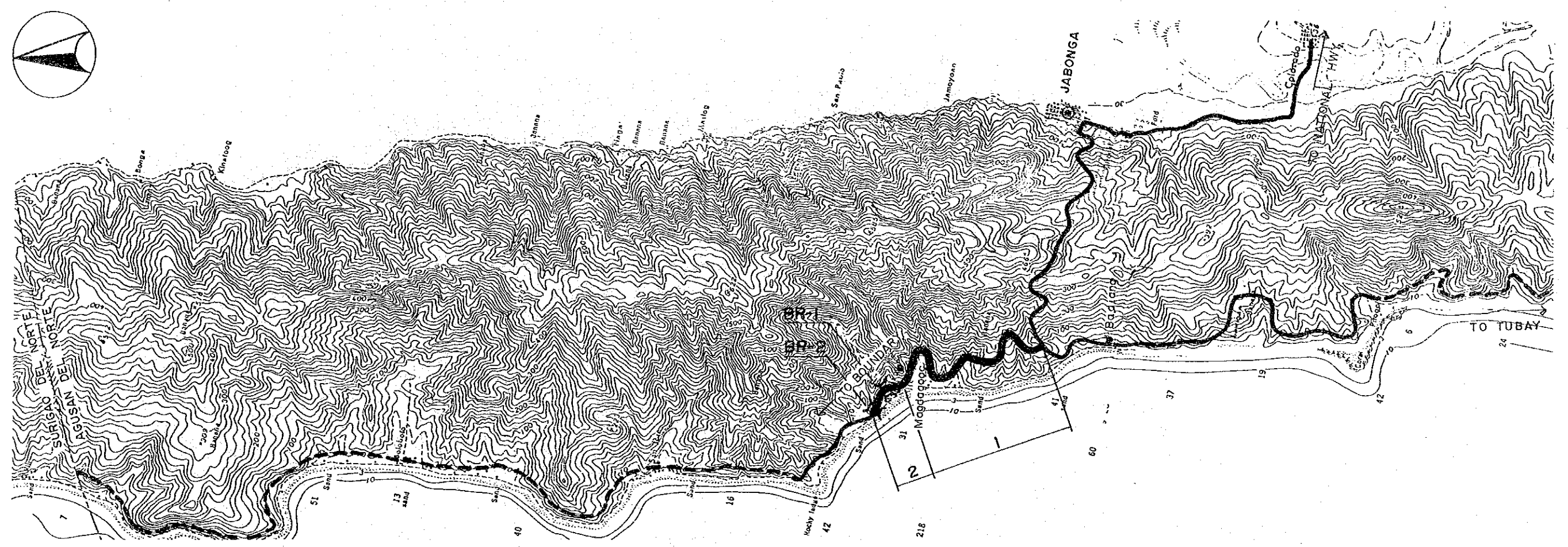
**THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
IN THE REPUBLIC OF THE PHILIPPINES**

PRESENT CONDITION AND PROPOSED IMPROVEMENT

Scale
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Drawing No.
13

Road No: P4-77 Road Name: BADIANG - MAGDAGOOC RD.
Location : JABONGA, AGUSAN DEL NORTE



Road Classification	Second'y Major Rd (Provincial Road)	
Total Length	3.1 km	
Sub-section No.	1	2
Length (km)	2.6	.5
Terrain	Mt'nous	Flat
Existing Road Surface	4.0-EAR (V.Bad)	5.0-EAR (V.Bad)
Proposed Improvement	Impr.-1	Impr.-1
Improvement Type	Gravel	Gravel
Surface Type	4.0	4.0
Carriageway Width(m)	.5	1.0
Shoulder Width (m)	TYPE 2-8	TYPE 2-8
Ref. Typical Section	780	-
Special Treatment	BR-1	BR-2
Steep Section Length	Ford-Cr.	Ford-Cr.
Bridge No.	-	-
Existing Type	1Lane-Br	1Lane-Br
Length (m)	15	15
Proposed Type	1	1
Length (m)		
No. of Spans		

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
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PRESENT CONDITION AND PROPOSED IMPROVEMENT

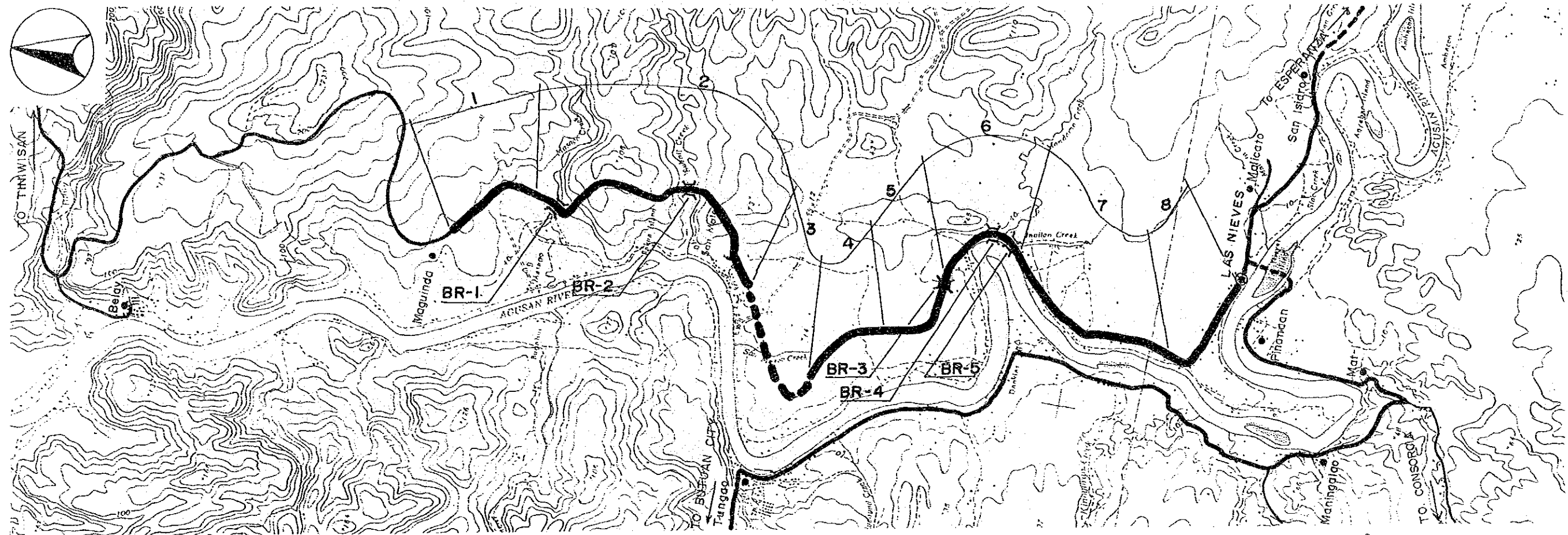
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Drawing No.
14

Road No: P6-43

Road Name: JCT.-T-MAGUINDA-LAS NIEVES

Location : BUTUAN & LAS NIEVES, AGUSAN DEL NORTE



Road Classification	Secondary Major (Provincial Road)							
Total Length	16.0 km							
Sub-section No.	1	2	3	4	5	6	7	8
Length (km)	1.2	4.0	2.0	1.0	1.1	1.0	3.5	2.2
Terrain	Rolling	Flat	Rolling	Flat	Flat	Flat	Flat	Flat
Existing Road Surface	4.0-EAR (V.Bad)	4.0-EAR (Bad)	Impass./ Non-ex.	4.5-GRV (Fair)	3.6-GRV (V.Bad)	4.0-GRV (V.Bad)	4.5-GRV (V.Bad)	4.0-GRV (Bad)
Proposed Improvement	Impr.-1	Impr.-1	New Con.	Widening	Rehabil.	Rehabil.	Rehabil.	Rehabil.
Improvement Type	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel
Surface Type	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel
Carriageway Width(m)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Shoulder Width (m)	.5	1.0	.5	1.0	1.0	1.0	1.0	1.0
Ref. Typical Section	TYPE 2-8	TYPE 2-8	TYPE 5-4	TYPE 4-4	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6
Bridge No.	BR-1	BR-2	BR-3	BR-4	BR-5			
Existing Type	Bailey	Bailey	Timber	Timber	Timber			
Length (m)	18	18	14	22	14			
Proposed Type	2Lane-Br	2Lane-Br	2Lane-Br	2Lane-Br	2Lane-Br			
Length (m)	20	20	18	23	16			
No. of Spans	1	1	1	1	1			

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PRESENT CONDITION AND PROPOSED IMPROVEMENT

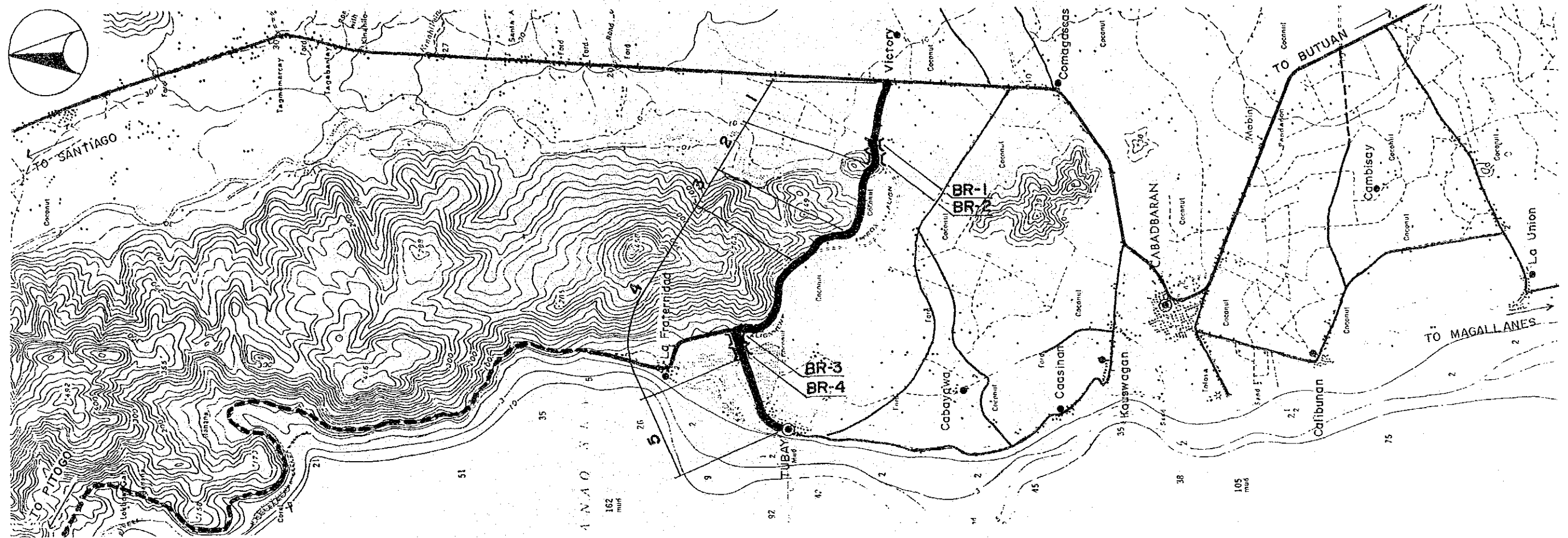
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Drawing No.
15

Road No: P10-70

Road Name: DONA ROSARIO-TUBAY ROAD

Location : TUBAY, AGUSAN DEL NORTE



Road Classification	Secondary Major (Provincial Road)				
Total Length	5.6 km				
Sub-section No.	1	2	3	4	5
Length (km)	1.2	.9	.6	2.0	.9
Terrain	Flat	Rolling	Flat	Rolling	Flat
Existing Road Surface	6.0-GRV (Bad)	5.5-GRV (Bad)	5.5-GRV (Bad)	5.5-GRV (Bad)	5.5-GRV (Fair)
Proposed Improvement	Impr.-1	Impr.-1	Impr.-1	Impr.-1	Impr.-2
Improvement Type	* BMP	* BMP	* BMP	* BMP	* BMP
Surface Type	6.0	6.0	6.0	6.0	6.0
Carriageway Width(m)	1.5	1.0	1.5	1.0	1.5
Shoulder Width (m)	TYPE 2-4 TYPE 2-4 TYPE 2-4 TYPE 2-4 TYPE 3-4				
Ref. Typical Section					
Bridge No.	BR-1	BR-2	BR-3	BR-4	
Existing Type	Steel	Bailey	Bailey	Bailey	
Length (m)	46	75	42	18	
Proposed Type	-	2Lane-Br	2Lane-Br	2Lane-Br	
Length (m)	-	75	45	20	
No. of Spans	-	3	3	1	

* DBST can be applied instead depending on conditions of subgrade, axle load, drainage, etc.

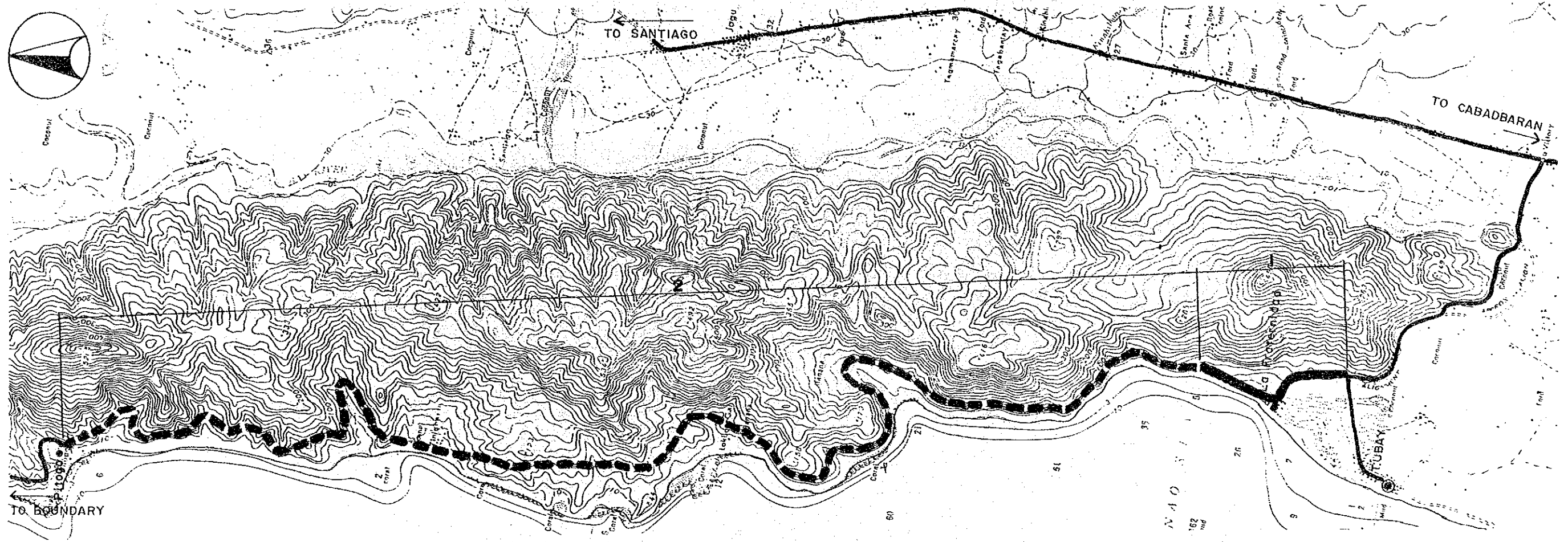
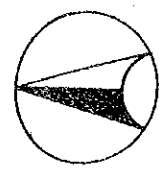
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PRESENT CONDITION AND PROPOSED IMPROVEMENT

Scale
1:50,000

Drawing No.
18

Road No: P10-71 Road Name: LA FRATERNIDAD-PITOGO RD.
Location : TUBAY & JABONGA, AGUSAN DEL NORTE



Road Classification	Second'y Major Rd (Provincial Road)	
Total Length	20.6 km	
Sub-section No.	1	2
Length (km)	2.1	18.5
Terrain	Flat	Rolling
Existing Road Surface	4.0-GRV Impass./ (Bad) Non-ex.	
Proposed Improvement	Rehabil.	New Con.
Improvement Type	Gravel	Gravel
Surface Type	4.0	4.0
Carriageway Width(m)	1.0	.5
Shoulder Width (m)	TYPE 1-6 TYPE 5-4	
Ref. Typical Section		

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IN THE REPUBLIC OF THE PHILIPPINES

PRESENT CONDITION AND PROPOSED IMPROVEMENT

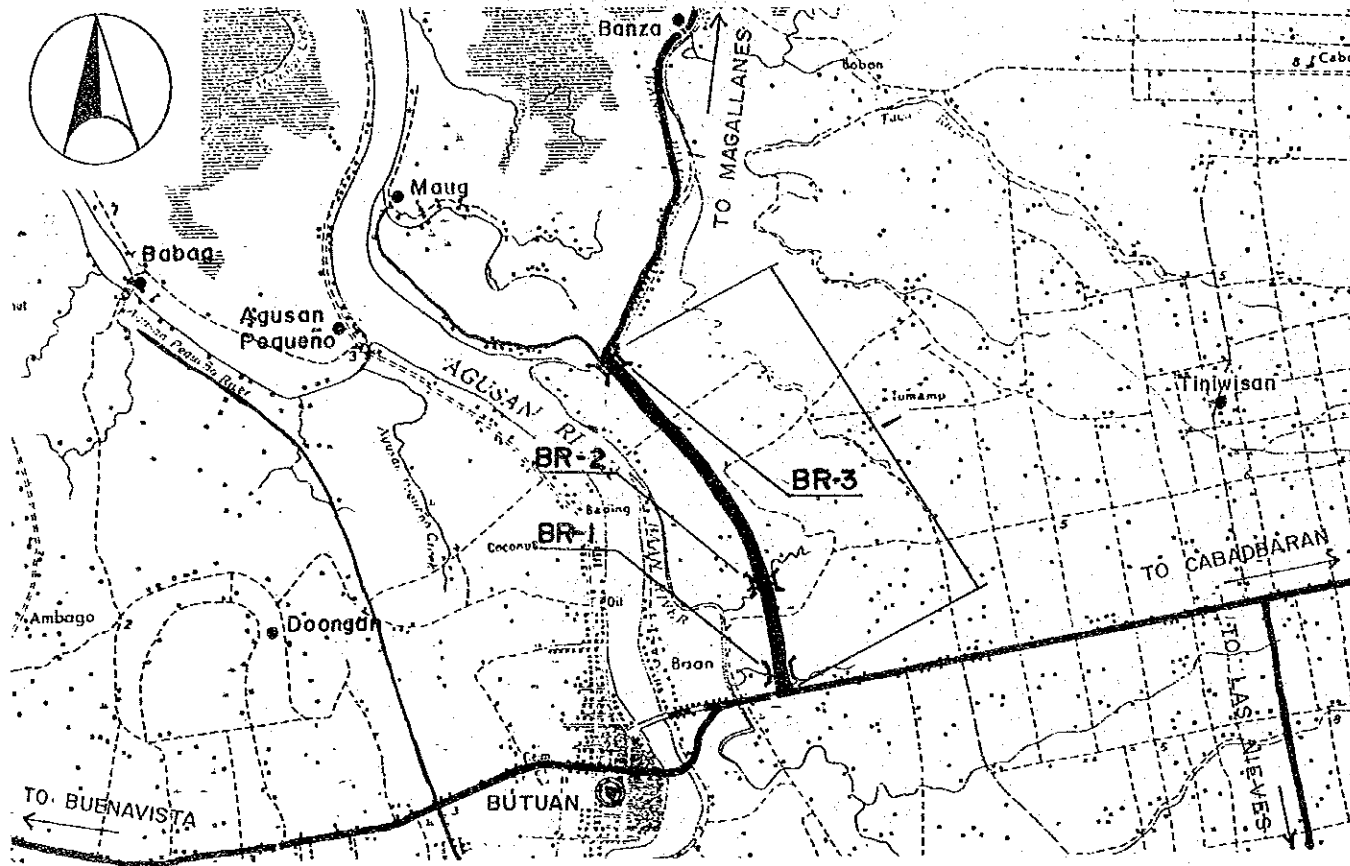
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Drawing No.
17

Road No: CO-1

Road Name: BANZA RD.

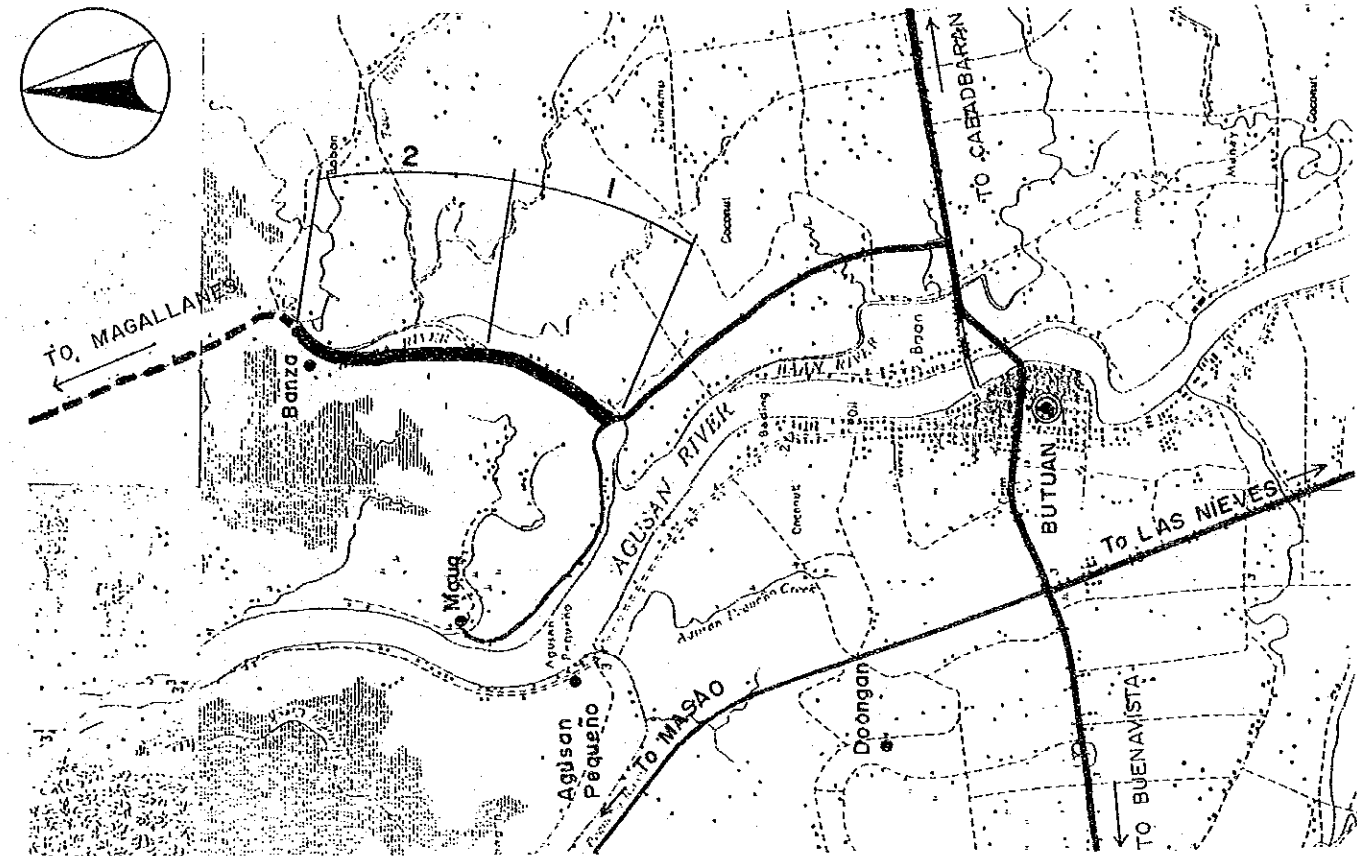
Location : BUTUAN, AGUSAN DEL NORTE



Road No: B0-81

Road Name: JCT. MAUG BANZA RD.

Location : BUTUAN, AGUSAN DEL NORTE



Road Classification	Second'y Major (City Road)		
Total Length	2.8 km		
Sub-section No.	1		
Length (km)	2.8		
Terrain	Flat		
Existing Road Surface	4.5-GRV (Fair)		
Proposed Improvement	Impr.-2		
Improvement Type	* BMP		
Surface Type	6.0		
Carriageway Width(m)	1.5		
Shoulder Width (m)	TYPE 3-4		
Ref. Typical Section			
Bridge No.	BR-1	BR-2	BR-3
Existing Type	Concrete	Concrete	Concrete
Length (m)	10	12	39
Proposed Type	-	-	-
Length (m)	-	-	-
No. of Spans	-	-	-

* DBST can be applied instead depending on conditions of subgrade, axle load, drainage, etc.

Road Classification	Second'y Major Rd (Barangay Road)	
Total Length	1.7 km	
Sub-section No.	1	2
Length (km)	1.0	.7
Terrain	Flat	Flat
Existing Road Surface	6.0-GRV (Bad)	4.0-GRV (V.Bad)
Proposed Improvement	Impr.-1	Impr.-1
Improvement Type	* BMP	* BMP
Surface Type	6.0	6.0
Carriageway Width(m)	1.5	1.5
Shoulder Width (m)	TYPE 2-4	TYPE 2-4
Ref. Typical Section		

* DBST can be applied instead depending on conditions of subgrade, axle load, drainage, etc.

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT IN THE REPUBLIC OF THE PHILIPPINES

PRESENT CONDITION AND PROPOSED IMPROVEMENT

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Drawing No.
18

Road No: B0-82

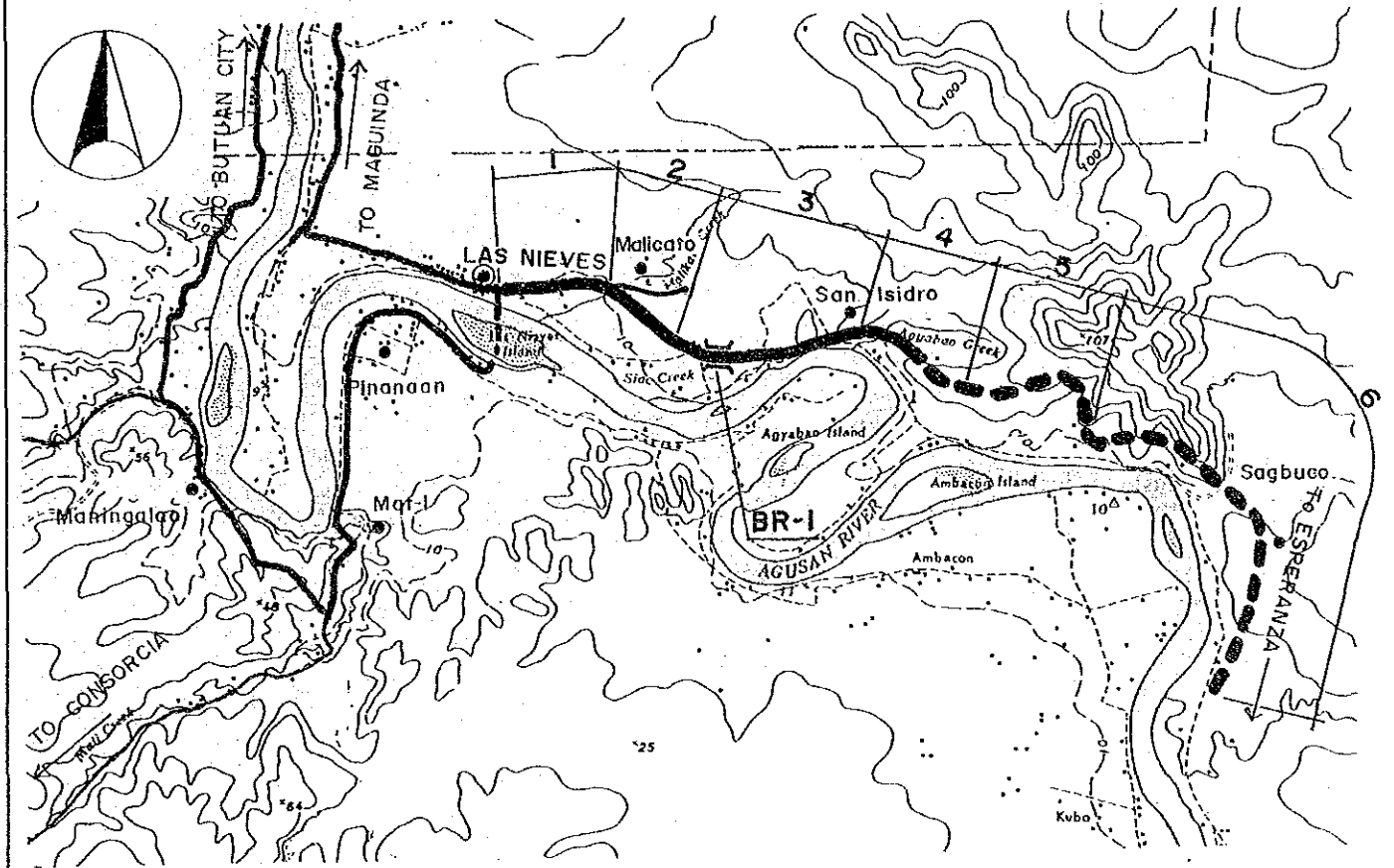
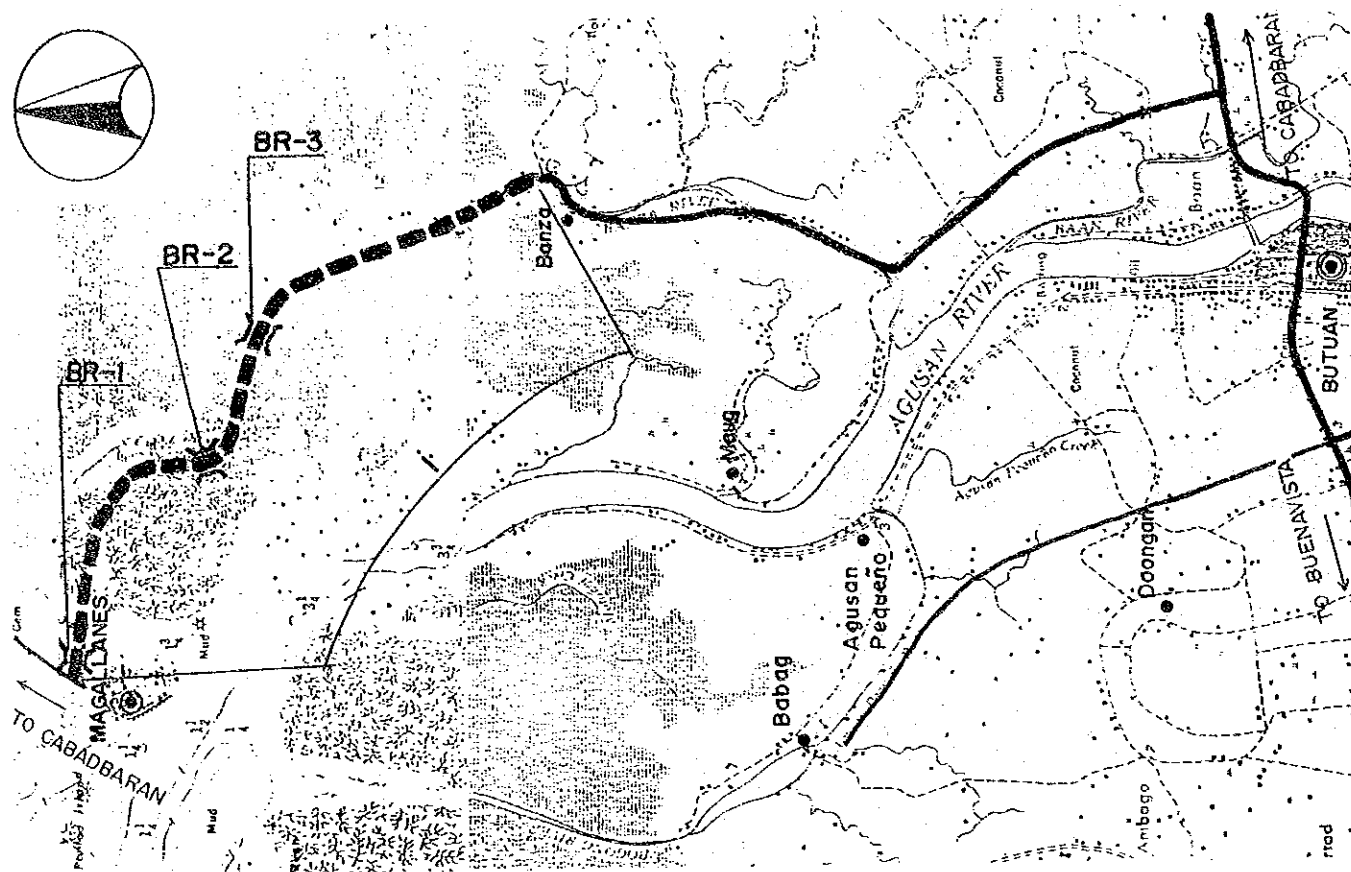
Road Name: MAGALLANES-BANZA

Location : MAGALLANES & BUTUAN, AGUSAN DEL NORTE

Road No: B6-5

Road Name: LAS NIEVES-SAGBUCO-BDRY.

Location : LAS NIEVES, AGUSAN DEL NORTE



Road Classification	Secondary Major (Barangay Rd)		
Total Length	5.5 km		
Sub-section No.	1		
Length (km)	5.5		
Terrain	Flat		
Existing Road Surface	Impass./ Non-ex.		
Proposed Improvement	New Con.		
Improvement Type	* BMP		
Surface Type	6.0		
Carriageway Width(m)	1.5		
Shoulder Width (m)	TYPE 5-3		
Ref. Typical Section			
Bridge No.	BR-1	BR-2	BR-3
Existing Type	Ford-Cr.	Ford-Cr.	Ford-Cr.
Length (m)	-	-	-
Proposed Type	2Lane-Br	2Lane-Br	2Lane-Br
Length (m)	30	100	60
No. of Spans	2	4	3

* DBST can be applied instead depending on conditions of subgrade, axle load, drainage, etc.

Road Classification	Secondary Major (Barangay Road)					
Total Length	9.4 km					
Sub-section No.	1	2	3	4	5	6
Length (km)	.9	.6	1.5	.9	1.3	4.2
Terrain	Flat	Rolling	Flat	Rolling	Mt'nous	Rolling
Existing Road Surface	5.5-GRV (Fair)	5.5-GRV (Fair)	3.6-GRV (Bad)	3.2-EAR (V.Bad)	Impass./ Non-ex.	Impass./ Non-ex.
Proposed Improvement	-	-	Rehabil.	Impr.-1	New Con.	New Con.
Improvement Type	-	-	Gravel	Gravel	Gravel	Gravel
Surface Type	-	-	6.0	6.0	6.0	6.0
Carriageway Width(m)	-	-	1.0	.5	.5	.5
Shoulder Width (m)	-	-	TYPE 1-6	TYPE 2-8	TYPE 5-4	TYPE 5-4
Ref. Typical Section	-	-				
Bridge No.	BR-1					
Existing Type	Others					
Length (m)	-					
Proposed Type	-					
Length (m)	-					
No. of Spans	-					

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
IN THE REPUBLIC OF THE PHILIPPINES

PRESENT CONDITION AND PROPOSED IMPROVEMENT

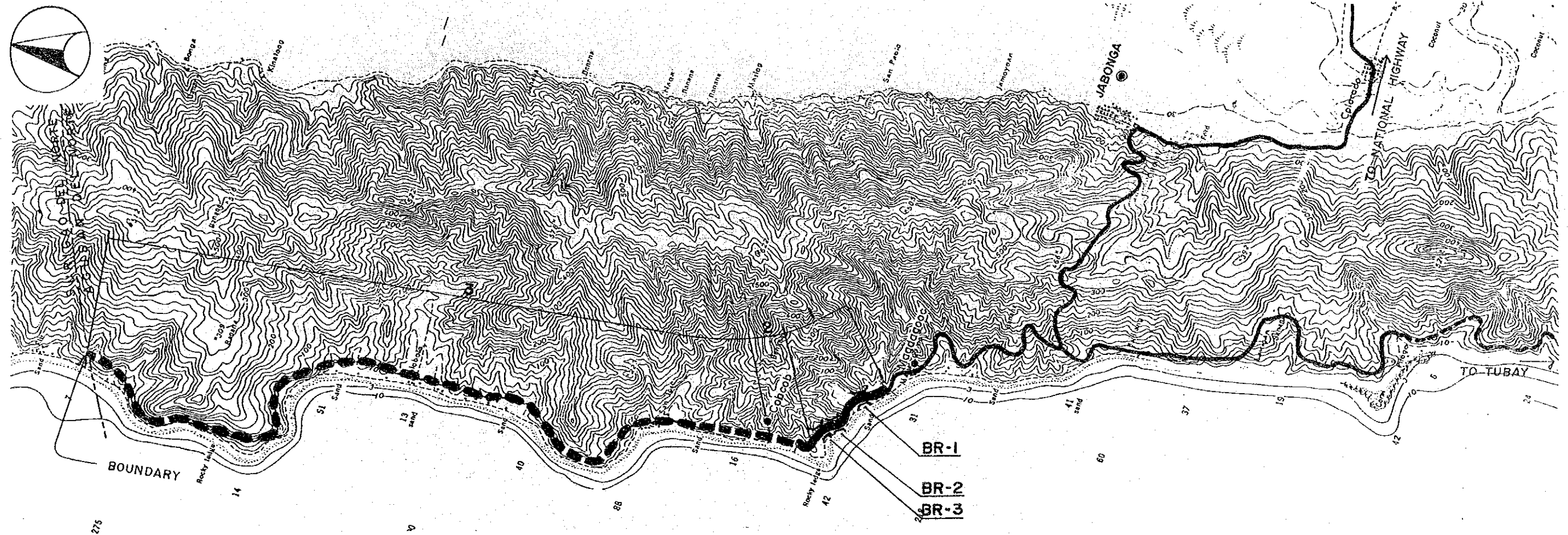
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Drawing No.
19

Road No: B4-34

Road Name: MAGDAGOOC-BDRY, SURIGAO

Location : JABONGA, AGUSAN DEL NORTE



Road Classification	Second'y Major (Barangay Rd)		
Total Length	8.8 km		
Sub-section No.	1	2	3
Length (km)	1.1	.4	7.3
Terrain	Rolling	Rolling	Rolling
Existing Road Surface	2.8-EAR	Impass./	Impass./
	(V.Bad) Non-ex.	Non-ex.	Non-ex.
Proposed Improvement	Impr.-1 New Con. New Con.		
Improvement Type	Gravel Gravel Gravel		
Surface Type	Gravel Gravel Gravel		
Carriageway Width(m)	4.0	4.0	4.0
Shoulder Width (m)	.5	.5	.5
Ref. Typical Section	TYPE 2-8	TYPE 5-4	TYPE 5-4
Bridge No.	BR-1	BR-2	BR-3
Existing Type	Ford-Cr.	Ford-Cr.	Ford-Cr.
Length (m)	-	-	-
Proposed Type	1Lane-Br	1Lane-Br	1Lane-Br
Length (m)	7	7	10
No. of Spans	1	1	1

**THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
IN THE REPUBLIC OF THE PHILIPPINES**

PRESENT CONDITION AND PROPOSED IMPROVEMENT

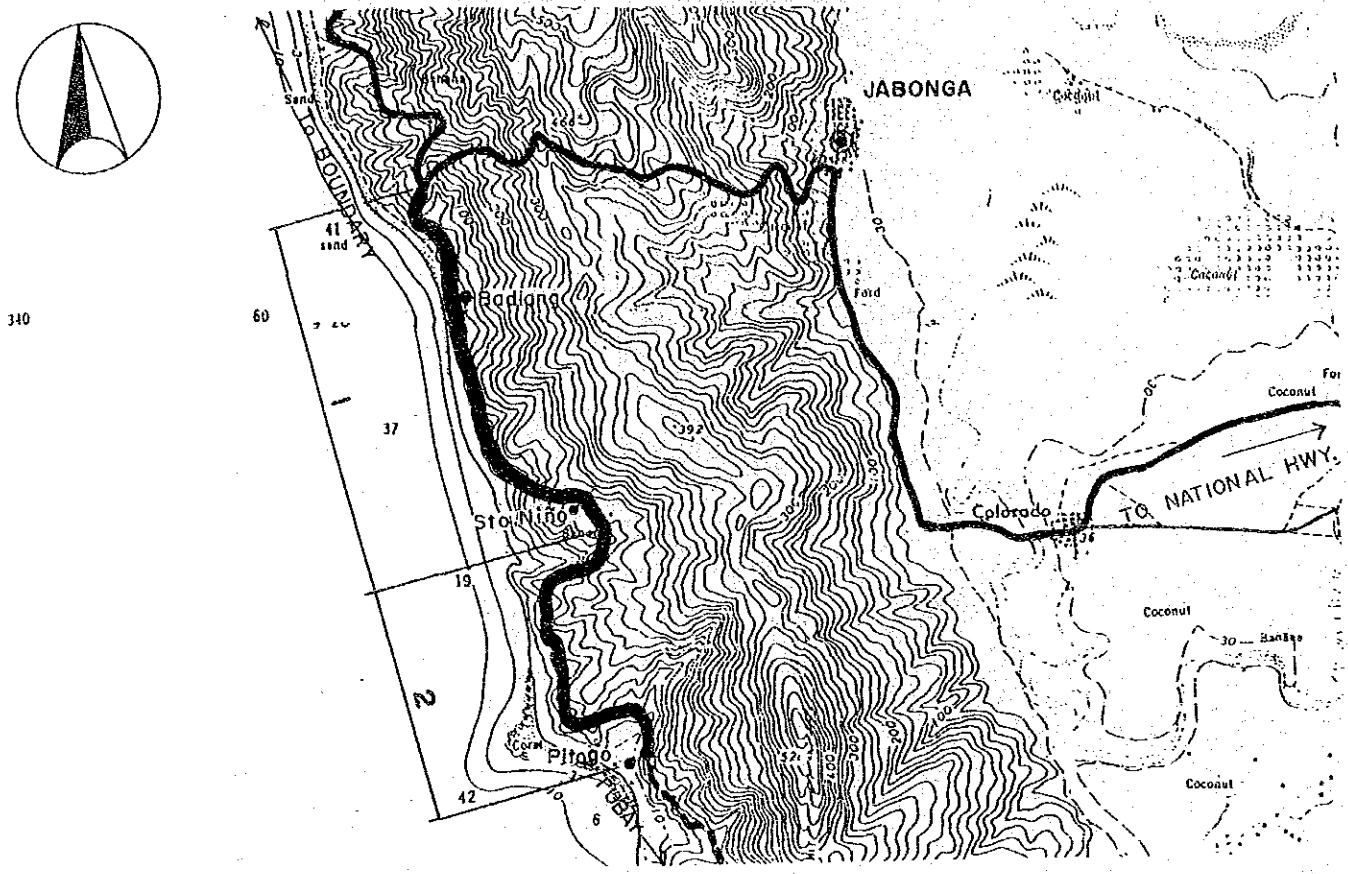
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Drawing No.
20

Road No: B4-39

Road Name: BADIANG-PITOGO

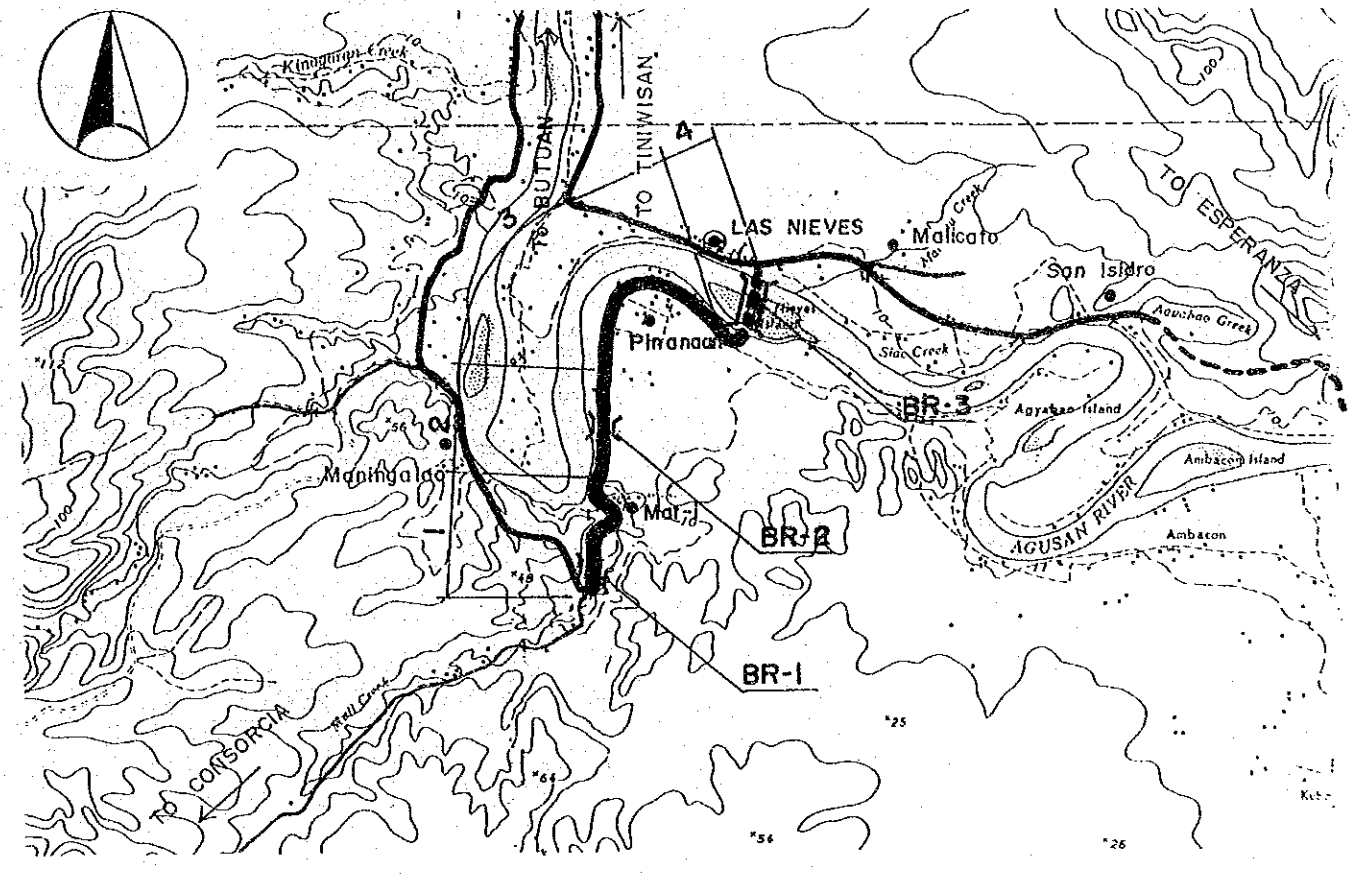
Location : JABONGA, AGUSAN DEL NORTE



Road No: B6-2

Road Name: MAT I-BDRY PINANAAN RD.

Location : LAS NIEVES, AGUSAN DEL NORTE



Road Classification	Second'y Major Rd (Barangay Road)	
Total Length	5.5 km	
Sub-section No.	1	2
Length (km)	3.0	2.5
Terrain	Rolling	Rolling
Existing Road Surface	Impass./ Non-ex.	Impass./ Non-ex.
Proposed Improvement	New Con.	New Con.
Improvement Type	Gravel	Gravel
Surface Type		
Carriageway Width(m)	4.0	4.0
Shoulder Width (m)	.5	.5
Ref. Typical Section	TYPE 5-4	TYPE 5-4

Road Classification	Secondary Major (Barangay Road)			
Total Length	4.4 km			
Sub-section No.	1	2	3	4
Length (km)	1.3	.7	1.7	.7
Terrain	Rolling	Flat	Flat	Flat
Existing Road Surface	3.6-EAR (Bad)	5.5-EAR (Bad)	4.0-EAR (Bad)	3.6-EAR (V.Bad)
Proposed Improvement	Impr.-1	Impr.-1	Impr.-1	Impr.-1
Improvement Type	Gravel	Gravel	Gravel	Gravel
Surface Type				
Carriageway Width(m)	6.0	6.0	6.0	6.0
Shoulder Width (m)	.5	1.0	1.0	1.0
Ref. Typical Section	TYPE 2-8	TYPE 2-8	TYPE 2-8	TYPE 2-8
Bridge No.	BR-1	BR-2	BR-3	
Existing Type	Timber	Timber	Ford-Cr.	
Length (m)	30	23	-	
Proposed Type	2Lane-Br	2Lane-Br	2Lane-Br	
Length (m)	30	25	243	
No. of Spans	1	1	9	

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
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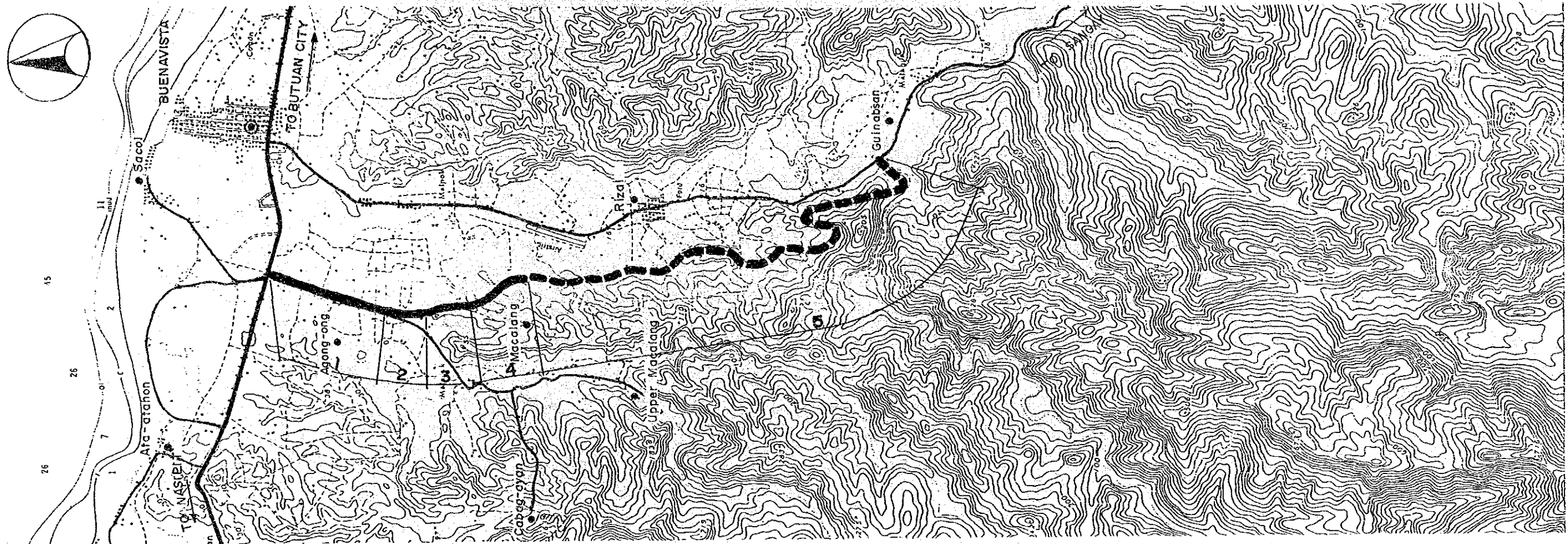
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Drawing No.
21

Road No: N3-1

Road Name: AGUSAN-DEL NORTE-BUKIDNON

Location : BUENAVISTA, AGUSAN DEL NORTE



Road Classification	Minor Road (National Road)				
Total Length	10.5 km				
Sub-section No.	1	2	3	4	5
Length (km)	1.6	.4	.6	.9	7.0
Terrain	Flat	Flat	Rolling	Rolling	Mt'nous
Existing Road Surface	4.0-GRV (Fair)	5.5-GRV (Fair)	5.5-GRV (Bad)	5.5-GRV (V.Bad)	Impass./ Non-ex.
Proposed Improvement	-	-	Rehabil.	Rehabil.	New Con.
Improvement Type	-	-	Gravel	Gravel	Gravel
Surface Type	-	-	6.0	6.0	4.0
Carriageway Width(m)	-	-	.5	.5	.5
Shoulder Width (m)	-	-	-	-	-
Ref. Typical Section	-	-	TYPE 1-6	TYPE 1-6	TYPE 5-4

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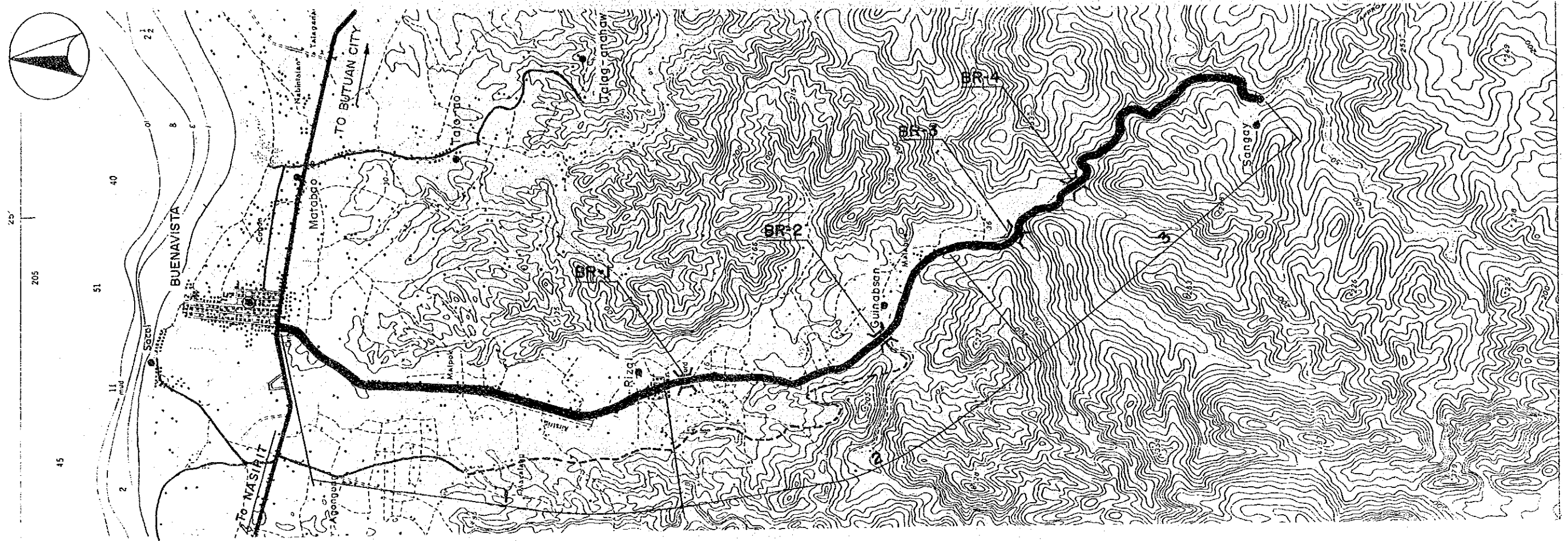
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Drawing No.
22

Road No: N5-1

Road Name: BUENAVISTA-BANAGUIT ROAD

Location : BUENAVISTA, AGUSAN DEL NORTE



Road Classification	Minor Road (National Road)			
Total Length	16.5 km			
Sub-section No.	1	2	3	
Length (km)	7.8	4.1	4.6	
Terrain	Flat	Flat	Rolling	
Existing Road Surface	6.0-GRV (Fair)	6.0-GRV (Fair)	6.0-GRV (Bad)	
Proposed Improvement	-	-	Rehabil.	
Improvement Type	-	-	Gravel	
Surface Type	-	-	6.0	
Carriageway Width(m)	-	-	.5	
Shoulder Width (m)	-	-	TYPE 1-6	
Ref. Typical Section	-	-		
Bridge No.	BR-1	BR-2	BR-3	BR-4
Existing Type	Ford-Cr.	Ford-Cr.	Ford-Cr.	Ford-Cr.
Length (m)	-	-	-	-
Proposed Type	2Lane-Br	2Lane-Br	2Lane-Sp	2Lane-Sp
Length (m)	60	60	15	30
No. of Spans	3	3	-	-

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT IN THE REPUBLIC OF THE PHILIPPINES

PRESENT CONDITION AND PROPOSED IMPROVEMENT

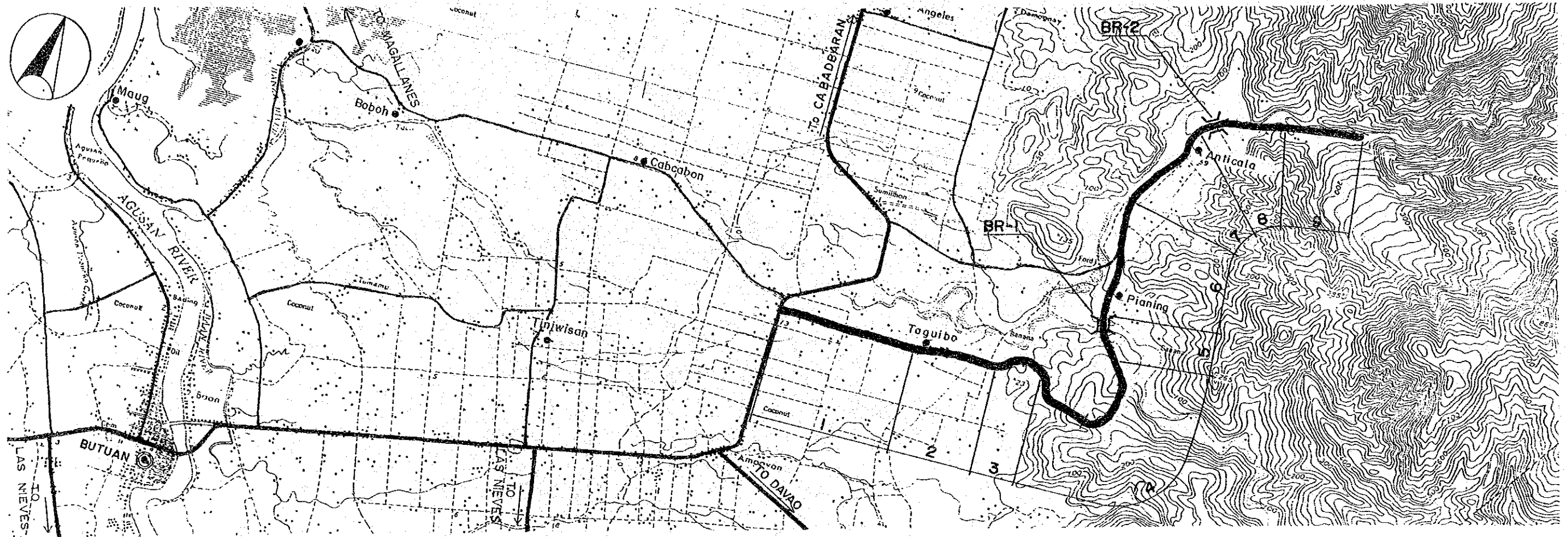
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Drawing No.
23

Road No: N10-1

Road Name: BUTUAN C-PIANING-TANDAG ROAD

Location: BUTUAN, AGUSAN DEL NORTE



Road Classification	Minor Road (National Road)								
Total Length	11.0 km								
Sub-section No.	1	2	3	4	5	6	7	8	9
Length (km)	1.7	1.0	.6	1.1	.5	1.7	1.2	1.3	1.9
Terrain	Flat	Flat	Flat	Rolling	Rolling	Flat	Flat	Rolling	Rolling
Existing Road Surface	6.0-GRV (Bad)	6.0-GRV (V.Bad)	6.0-GRV (Bad)	5.5-GRV (Bad)	5.5-GRV (Bad)	5.5-GRV (Bad)	5.5-GRV (Bad)	5.5-GRV (Bad)	5.5-GRV (Bad)
Proposed Improvement	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.	Rehabil.
Improvement Type	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel	Gravel
Surface Type	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Carriageway Width(m)	1.0	1.0	1.0	.5	.5	1.0	1.0	.5	.5
Shoulder Width (m)	TYPE 1-6								
Ref. Typical Section	TYPE 1-6								
Bridge No.	BR-1	BR-2							
Existing Type	Timber	Timber							
Length (m)	12	12							
Proposed Type	2Lane-Br	2Lane-Br							
Length (m)	15	15							
No. of Spans	1	1							

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
IN THE REPUBLIC OF THE PHILIPPINES

PRESENT CONDITION AND PROPOSED IMPROVEMENT

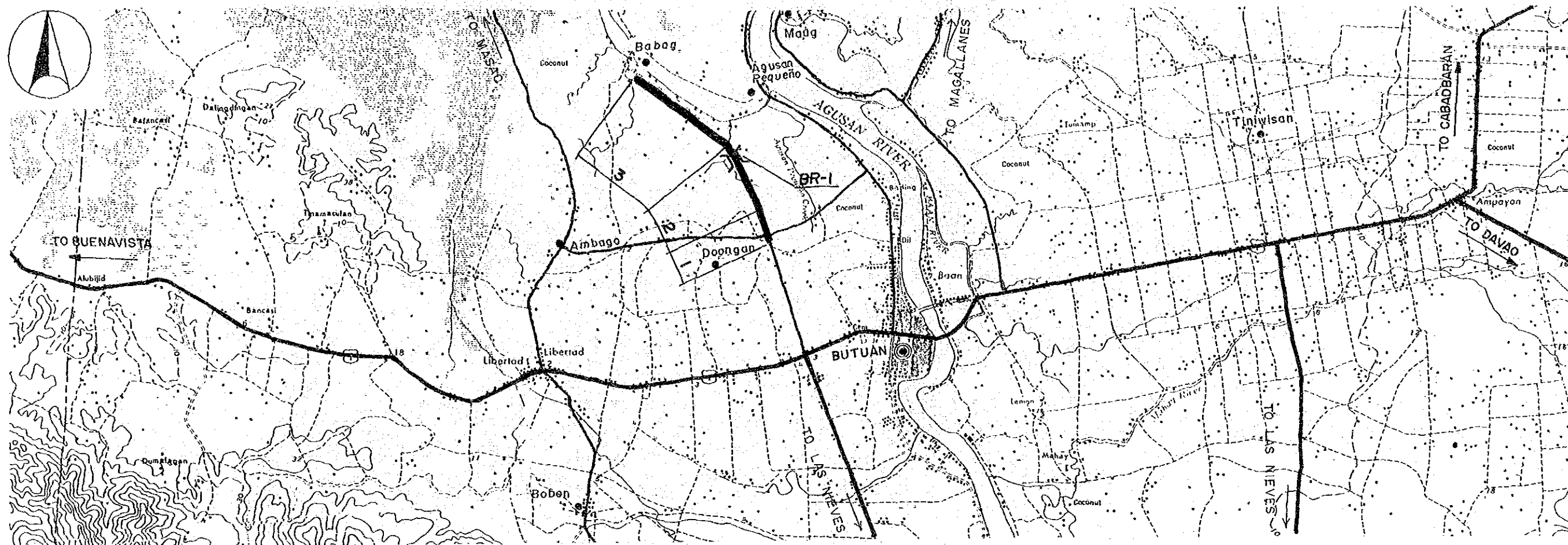
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Drawing No.
24

Road No: N12-1

Road Name: BUTUAN CITY-MASAO PORT ROAD

Location : BUTUAN, AGUSAN DEL NORTE



Road Classification	Minor Road (National Road)		
Total Length	2.5 km		
Sub-section No.	1	2	3
Length (km)	.4	.9	1.2
Terrain	Flat	Flat	Flat
Existing Road Surface	6.7-PCC (Good)	5.5-GRV (V.Bad)	5.5-GRV (V.Bad)
Proposed Improvement	-		
Improvement Type	- Rehabil. Rehabil.		
Surface Type	- Gravel Gravel		
Carriageway Width(m)	- 6.0 6.0		
Shoulder Width (m)	- 1.0 1.0		
Ref. Typical Section	- TYPE 1-6 TYPE 1-6		
Bridge No.	BR-1		
Existing Type	Concrete		
Length (m)	24		
Proposed Type	-		
Length (m)	-		
No. of Spans	-		

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
IN THE REPUBLIC OF THE PHILIPPINES

PRESENT CONDITION AND PROPOSED IMPROVEMENT

Scale
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Drawing No.
25

Road No: P1-18

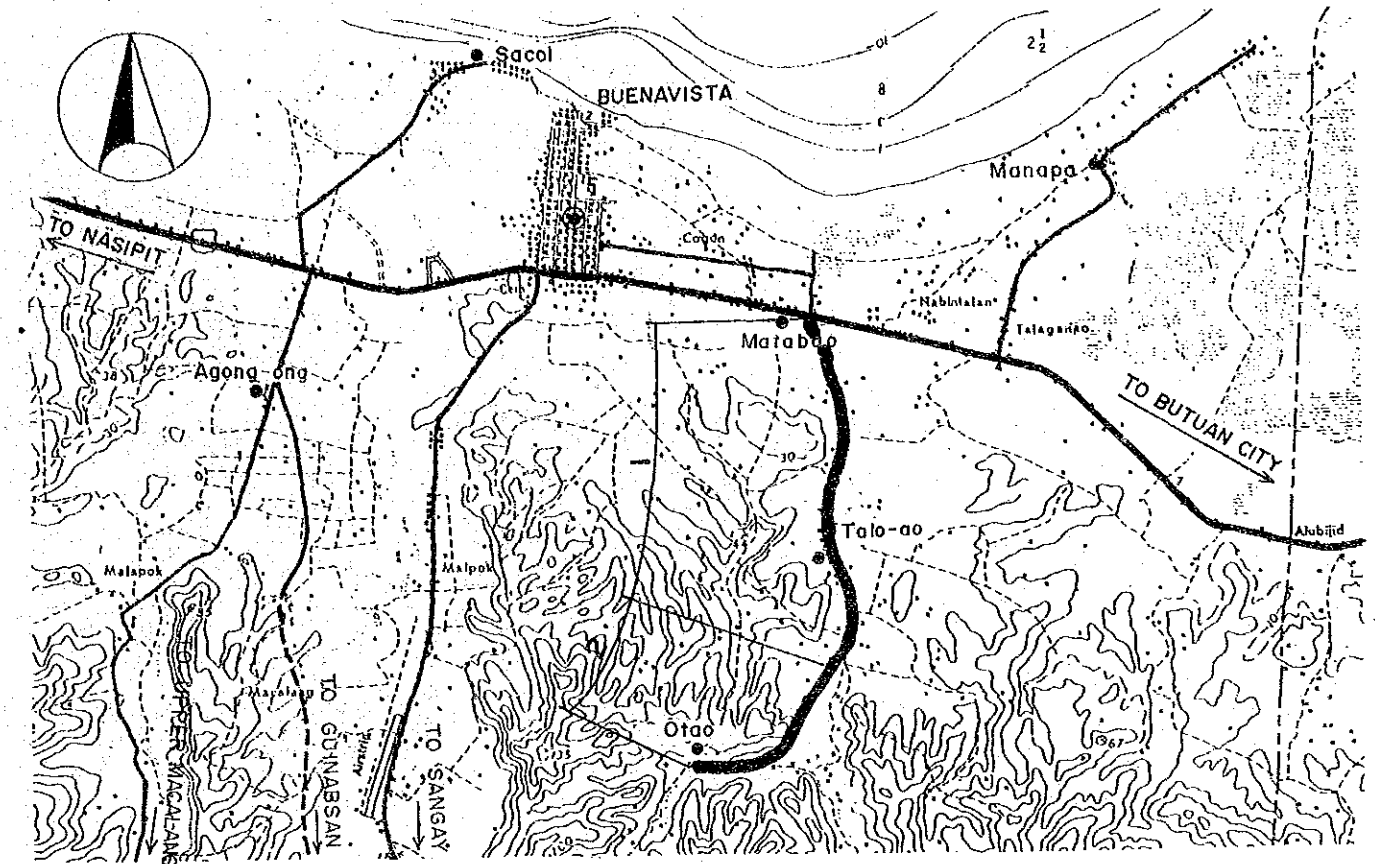
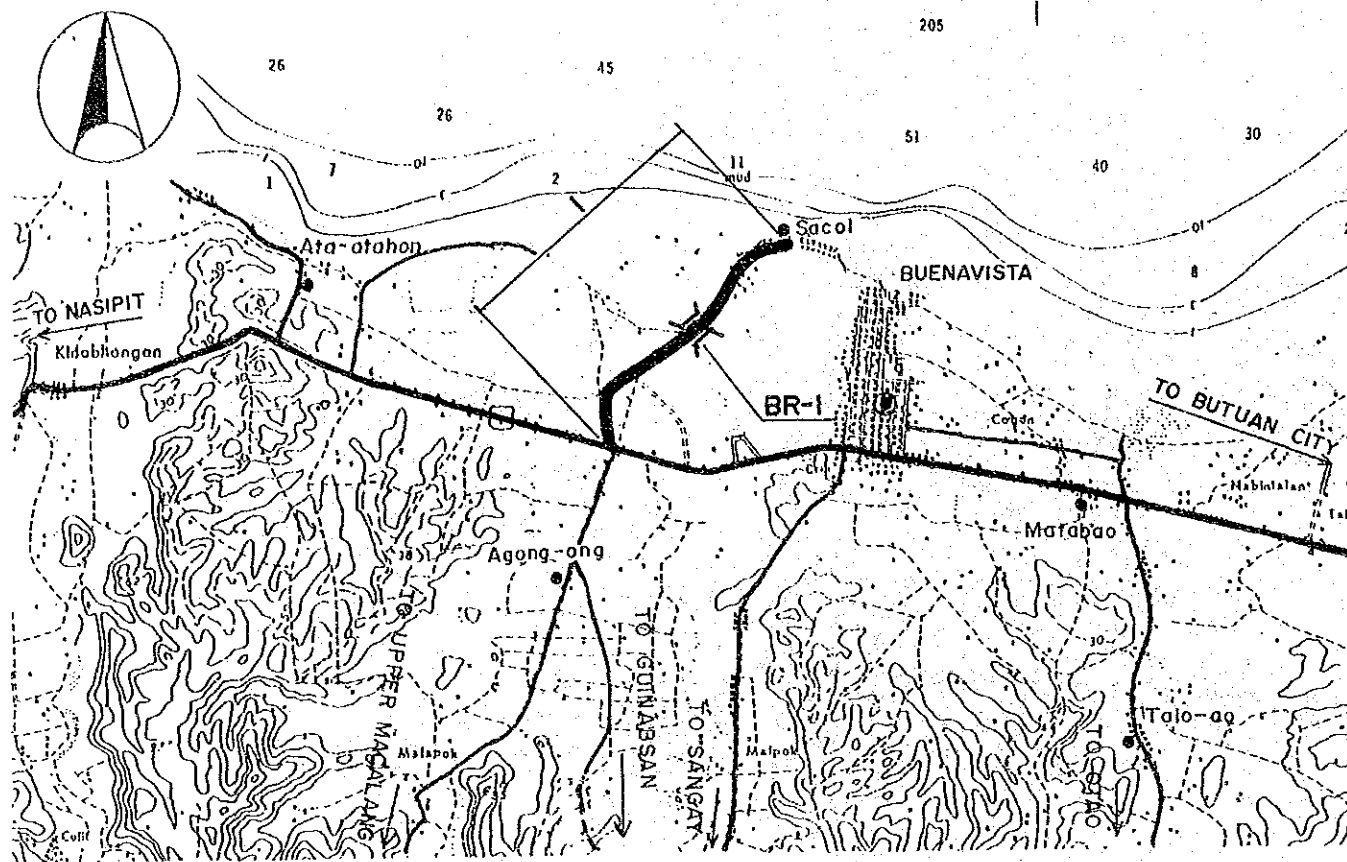
Road Name: SACOL BEACH ROAD

Location: BUENAVISTA, AGUSAN DEL NORTE

Road No: P1-33

Road Name: TALO-AO-OTAO ROAD

Location: BUENAVISTA, AGUSAN DEL NORTE



Road Classification	Minor Road (Provincial Road)
Total Length	1.9 km
Sub-section No.	1
Length (km)	1.9
Terrain	Flat
Existing Road Surface	4.5-GRV (Fair)
Proposed Improvement	
Improvement Type	Widening
Surface Type	Gravel
Carriageway Width(m)	6.0
Shoulder Width (m)	1.0
Ref. Typical Section	TYPE 4-4
Bridge No.	BR-1
Existing Type	Bailey
Length (m)	15
Proposed Type	-
Length (m)	-
No. of Spans	-

Road Classification	Minor Road (Provincial Road)	
Total Length	4.6 km	
Sub-section No.	1	2
Length (km)	3.4	1.2
Terrain	Flat	Rolling
Existing Road Surface	4.5-GRV (Fair)	4.0-GRV (Bad)
Proposed Improvement		
Improvement Type	Widening	Rehabil.
Surface Type	Gravel	Gravel
Carriageway Width(m)	6.0	6.0
Shoulder Width (m)	1.0	.5
Ref. Typical Section	TYPE 4-4	TYPE 1-6

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT IN THE REPUBLIC OF THE PHILIPPINES

PRESENT CONDITION AND PROPOSED IMPROVEMENT

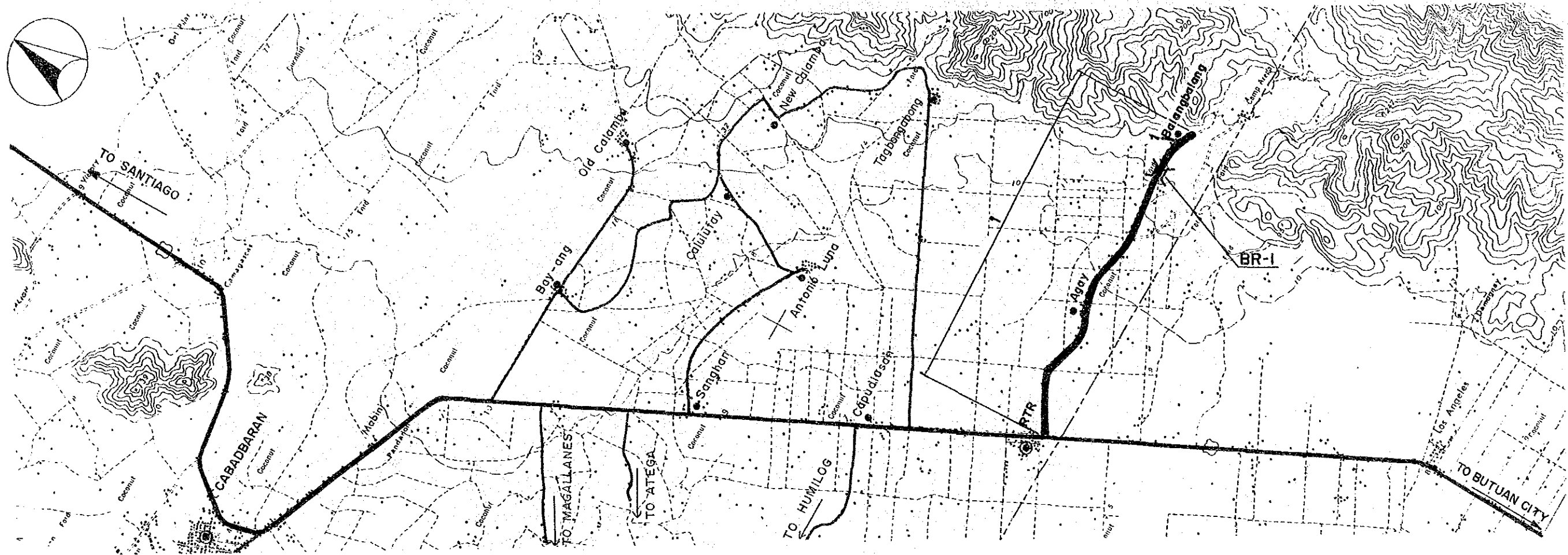
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Drawing No.
28

Road No: P2-44

Road Name: AGAY-BALANG-BALANG ROAD

Location: CABADBARAN, AGUSAN DEL NORTE



Road Classification	Minor Road (Provincial Road)
Total Length	3.7 km
Sub-section No.	1
Length (km)	3.7
Terrain	Flat
Existing Road Surface	5.5-GRV (V.Bad)
Proposed Improvement	
Improvement Type	Rehabil.
Surface Type	Gravel
Carriageway Width(m)	6.0
Shoulder Width (m)	1.0
Ref. Typical Section	TYPE 1-6
Bridge No.	BR-1
Existing Type	Concrete
Length (m)	26
Proposed Type	-
Length (m)	-
No. of Spans	-

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT
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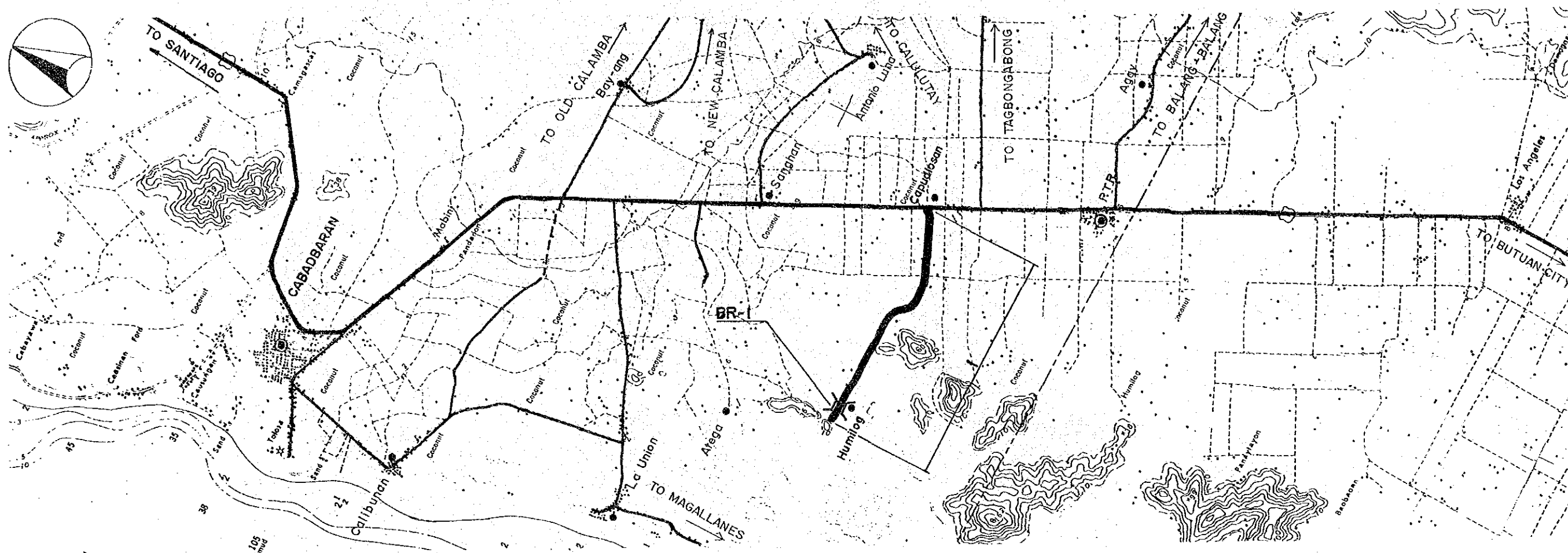
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Drawing No.
27

Road No: P2-47

Road Name: CAPUDLOSAN-HUMILOG ROAD

Location: CABADBARAN, AGUSAN DEL NORTE



Road Classification	Minor Road (Provincial Road)
Total Length	3.0 km
Sub-section No.	1
Length (km)	3.0
Terrain	Flat
Existing Road Surface	4.0-GRV (Bad)
Proposed Improvement	
Improvement Type	Rehabil.
Surface Type	Gravel
Carriageway Width(m)	4.0
Shoulder Width (m)	1.0
Ref. Typical Section	TYPE 1-6
Bridge No.	BR-1
Existing Type	Ford-Cr.
Length (m)	-
Proposed Type	1Lane-Sp
Length (m)	20
No. of Spans	-

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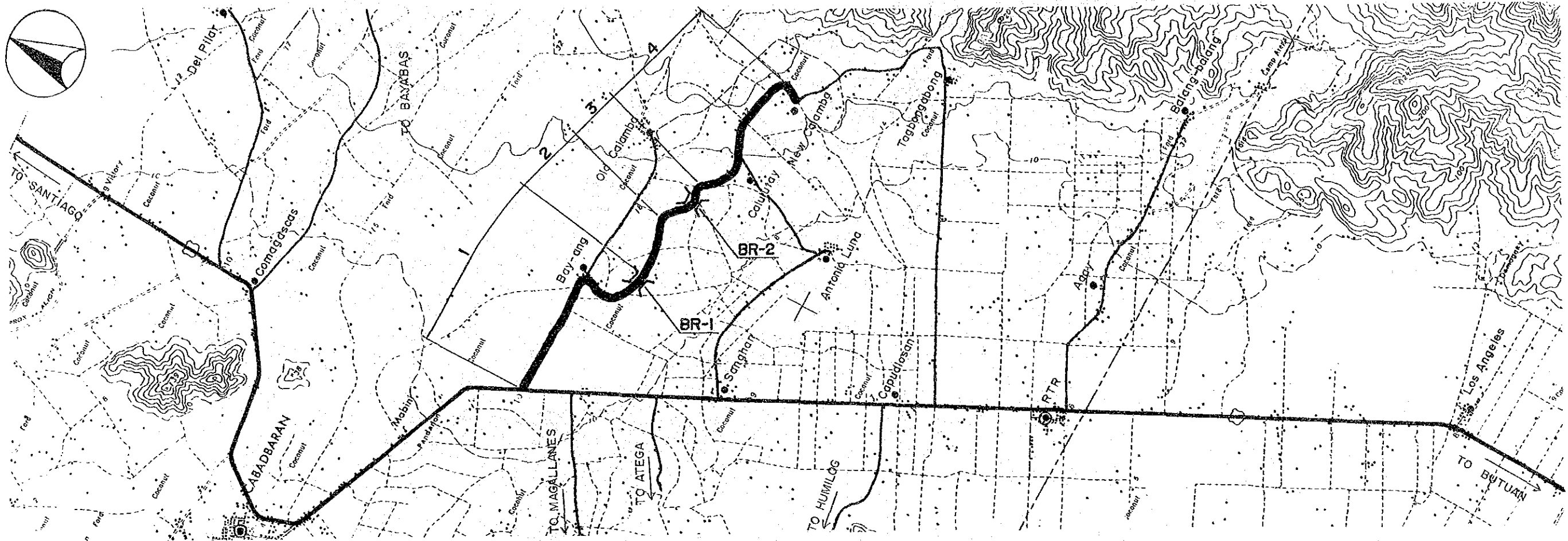
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Drawing No.
28

Road No: P2-49

Road Name: PANDANON-BAY-ANG-CALAMBA ROAD

Location : CABADBARAN, AGUSAN DEL NORTE



Road Classification	Minor Road (Provincial Road)			
Total Length	6.0 km			
Sub-section No.	1	2	3	4
Length (km)	2.5	.7	.7	2.1
Terrain	Flat	Flat	Flat	Flat
Existing Road Surface	6.0-GRV (Bad)	5.5-GRV (V.Bad)	4.0-GRV (V.Bad)	5.5-GRV (Bad)
Proposed Improvement	Rehabil.	Rehabil.	Rehabil.	Rehabil.
Improvement Type	Gravel	Gravel	Gravel	Gravel
Surface Type	Gravel	Gravel	Gravel	Gravel
Carriageway Width(m)	6.0	6.0	6.0	6.0
Shoulder Width (m)	1.0	1.0	1.0	1.0
Ref. Typical Section	TYPE 1-6	TYPE 1-6	TYPE 1-6	TYPE 1-6
Bridge No.	BR-1	BR-2		
Existing Type	Concrete	Bailey		
Existing Length (m)	28	15		
Proposed Type	-	-		
Proposed Length (m)	-	-		
Proposed No. of Spans	-	-		

THE PILOT STUDY FOR THE RURAL ROAD NETWORK DEVELOPMENT PROJECT IN THE REPUBLIC OF THE PHILIPPINES

PRESENT CONDITION AND PROPOSED IMPROVEMENT

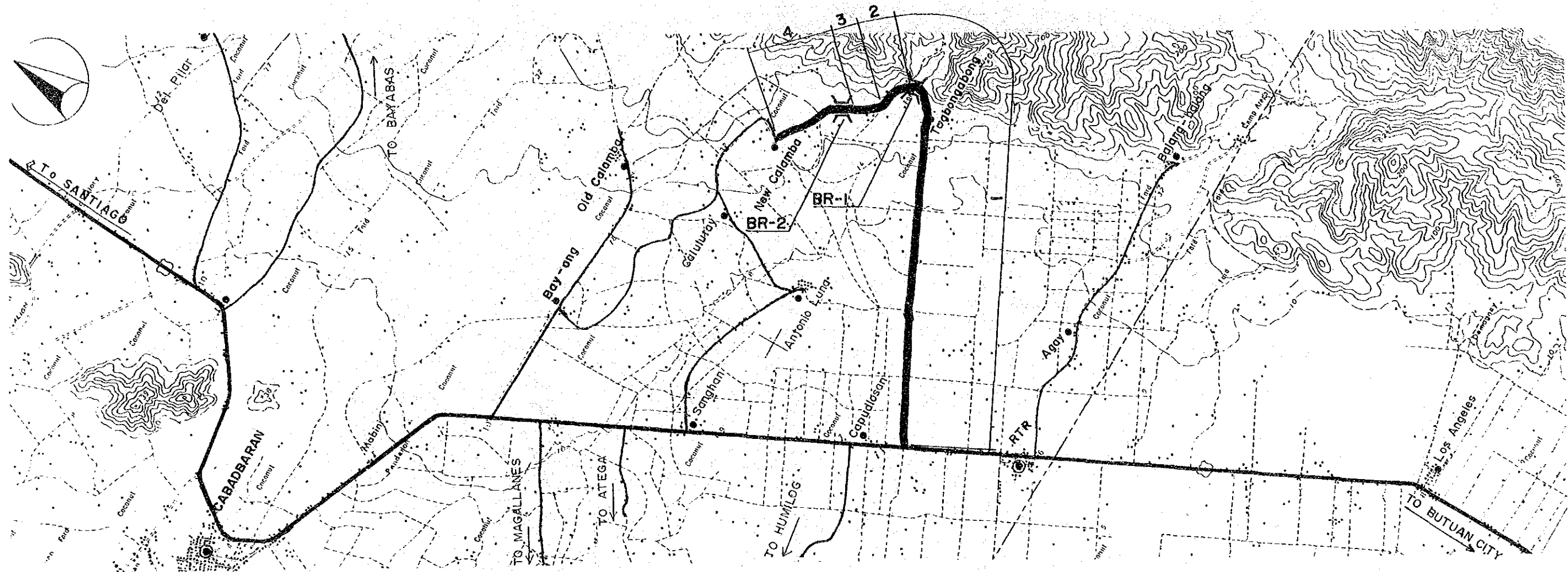
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Drawing No.
28

Road No: P2-51.

Road Name: CAPUDLOSAN-T-CALAMBA

Location : CABADBARAN, AGUSAN DEL NORTE



Road Classification	Minor Road (Provincial Road)			
Total Length	7.4 km			
Sub-section No.	1	2	3	4
Length (km)	4.9	.7	.5	1.3
Terrain	Flat	Flat	Flat	Flat
Existing Road Surface	4.0-GRV (V.Bad)	4.0-GRV (V.Bad)	4.5-EAR (V.Bad)	4.0-GRV (V.Bad)
Proposed Improvement	Rehabil.	Rehabil.	Impr.-1	Rehabil.
Improvement Type	Gravel	Gravel	Gravel	Gravel
Surface Type	6.0	6.0	6.0	6.0
Carriageway Width(m)	1.0	1.0	1.0	1.0
Shoulder Width (m)	TYPE 1-6	TYPE 1-6	TYPE 2-8	TYPE 1-6
Ref. Typical Section				
Bridge No.	BR-1	BR-2		
Existing Type	Ford-Cr.			
Length (m)	-			
Proposed Type	2Lane-Sp		2Lane-Sp	
Length (m)	20	10		
No. of Spans	-			