

## **APPENDIX 6**

### **PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT**

PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (1/5)

No.	Bridge No. Bridge Name Location	Existing Bridge Condition			Affected Area Condition			Road Condition						Proposed Scheme		Girder Trans- port Difficulty	Construc- tion Difficulty	Recon- struction Neces- sity	Peace and Order	Necessity of Reconstr.		Socioeco. Effects	
		Bridge Length	Struc- ture Type	Condition	Population	Major Products	Develop Plan	Traffic Volume (ADT)	Read Class	Carriage way Width	Surface Type	Condi- tion	Improvement Plan	Bridge Height	Bridge Length					Judge- ment	Reason	Judge- ment	Reason
1	10-01-01 Tag-Anahao Bridge Butuan City	17.3	Timber	Dilapi- dated	177,100	Log Corn Banana		80	Nat'l	5.0	Gravel	Fair	Proposed	5.2	22.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated timber	Yes	Affected population & ADT are many
2	10-01-02 Pianing Bridge Butuan City	12.4	Timber	Dilapi- dated	77,100	Vege. Banana Log		40	Nat'l	5.0	Gravel	Fair	Proposed	6.0	30.0	Easy	Easy	V. much	Good	Yes	Existing bridge is dilapidated timber	Yes	Affected population is large
3	10-01-03 Tungao I Bridge Butuan City	13.2	Timber	Heavily Damaged	177,100	Log Banana Pinnacle		80	Nat'l	5.0	Gravel	Fair	Proposed	5.5	17.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is damaged timber	Yes	Affected population & ADT are many
4	10-01-04 Ubod-Ubod Bridge Butuan City	19.1	Bailey	Collapsed	71,100	Rice Banana Log		70	Brngy	5.0	Gravel	Fair		5.0	22.0	Easy	V. easy	Much	Good	Yes	Bailey bridge is collapsed	Yes	Affected population & ADT are large
5	10-01-05 Tungao II Bridge Butuan City	10.8	Timber	Weak	177,100	Log Banana Rice		80	Nat'l	5.5	Gravel	Fair	Proposed	5.5	15.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large
6	10-01-06 Mat-I Bridge Agusan del Norte	-	None	Collapsed	177,100	Rice Corn Banana		60	Nat'l	6.0	Gravel	Fair	Proposed	9.0	30.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is collapsed	Yes	Affected population & ADT are large
7	10-01-07 Anticala Bridge Butuan City	12.0	Timber	Weak	77,100	Vege. Banana Log		30	Nat'l	5.0	Gravel	Fair	Proposed	3.5	15.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large
8	10-01-08 Lingsyao Bridge Agusan del Norte	33.6	Bailey	Dilapi- dated	177,100	Rice Log Copra		60	Nat'l	5.0	Gravel	Fair	Proposed	7.5	40.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large
9	10-01-09 Magus Bridge Agusan del Norte	34.8	Bailey	Dilapi- dated	177,100	Rice Banana Copra		60	Nat'l	5.0	Gravel	Fair	Proposed	9.5	44.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey		Affected population & ADT are large
10	10-01-10 Rizal Bridge Agusan del Norte	-	Ford	-	59,200	Banana Rice Corn		70	Nat'l	6.0	Gravel	Fair	Proposed	7.0	96.0	Easy	Easy	V. much	V. good	Yes	Bridge is not constructed	Yes	Affected population & ADT are large
11	10-01-11 Lemon Bridge Butuan City	25.4	-	Collapsed	71,100	Rice Banana Log		70	Brngy	5.0	Gravel	Fair		6.0	30.0	Easy	V. easy	Much	Good	Yes	Bridge was collapsed	Yes	Affected population & ADT are large
12	10-01-12 Guinabsan Bridge Agusan del Norte	-	Ford	-	59,200	Rice Vege. Banana		70	Nat'l	6.0	Gravel	Fair	Proposed	6.0	96.0	Easy	Easy	V. much	V. good	Yes	Bridge is not constructed	Yes	Affected population & ADT are large
13	10-01-13 Alternate Magsaysay Bridge Agusan del Norte	-	None	-	175,500	Rice Lumber Rattan		0	Nat'l	-	-	-		20.0	800.0	Easy	Difficult	V. much	V. good				
14	10-02-01 Mesli Bridge Agusan del Sur	41.0	Timber	Washedout	120,300	Log Corn Banana		70	Nat'l	6.0	Gravel	Fair	Proposed	5.0	42.0	Easy	Little difficult	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large
15	10-02-02 Azpitia Bridge Agusan del Sur	50.0	Timber	Washedout	120,300	Corn Banana Log		72	Nat'l	6.0	Gravel	Fair	Proposed	4.0	48.0	Easy	Easy	V. much	Good	Yes	Under construction bridge is weak temporary	Yes	Affected population & ADT are large
16	10-02-03 Anibongan Bridge Agusan del Sur	23.1	Timber	Heavily Damaged	120,300	Corn Banana Log		70	Nat'l	6.0	Gravel	Fair	Proposed	6.0	30.0	Easy	Easy	V. much	Good	Yes	Existing bridge is damaged timber	Yes	Affected population & ADT are large
17	10-02-04 Maog Bridge Agusan del Sur	-	Ford	-	120,300	Copra Banana Log		82	Nat'l	6.0	Gravel	Fair	Proposed	5.0	120.0	Easy	Little difficult	V. much	Good	Yes	Bridge is not constructed	Yes	Affected population & ADT are large

PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (1/5)

No.	Affected Area Condition			Road Condition						Proposed Scheme		Girder Trans- port Difficulty	Construc- tion Difficulty	Recon- struction Neces- sity	Peace and Order	Necessity of Reconst.		Socioeco. Effects		Appropriateness		Priority	Remarks
	Population	Major Products	Develop Plan	Traffic Volume (ADT)	Road Class	Carriage way Width	Surface Type	Condi- tion	Improvement Plan	Bridge Height	Bridge Length					Judge- ment	Reason	Judge- ment	Reason	Judge- ment	Reason		
177,100	Log Corn Banana			80	Nat'l	5.0	Gravel	Fair	Proposed	5.2	22.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated timber	Yes	Affected population & ADT are many	Yes	Appropriate in all the aspects		It fulfills all the conditions for priority A
177,100	Vege. Banana Log			40	Nat'l	5.0	Gravel	Fair	Proposed	6.0	30.0	Easy	Easy	V. much	Good	Yes	Existing bridge is dilapidated timber	Yes	Affected population is large	Yes	Appropriate in all the aspects	C	ADT is not large Less important nat'l road
177,100	Log Banana Pinnacle			80	Nat'l	5.0	Gravel	Fair	Proposed	5.5	17.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is damaged timber	Yes	Affected population & ADT are many	Yes	Appropriate in all the aspects	C	Bridge size is relatively small
71,100	Rice Banana Log			70	Brngy	5.0	Gravel	Fair		5.0	22.0	Easy	V. easy	Much	Good	Yes	Bailey bridge is collapsed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	C	Less important barangay road Road improvement is not proposed
177,100	Log Banana Rice			80	Nat'l	5.5	Gravel	Fair	Proposed	5.5	15.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large	No	Bridge height, bridge length is small	No	
177,100	Rice Corn Banana			60	Nat'l	6.0	Gravel	Fair	Proposed	9.0	30.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is collapsed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	C	Temporary detour bridge was constructed
77,100	Vege. Banana Log			30	Nat'l	5.0	Gravel	Fair	Proposed	3.5	15.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large	No	Bridge length, height are small	No	
177,100	Rice Log Copra			60	Nat'l	5.0	Gravel	Fair	Proposed	7.5	40.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
177,100	Rice Banana Copra			60	Nat'l	5.0	Gravel	Fair	Proposed	9.5	44.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey		Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
59,200	Banana Rice Corn			70	Nat'l	6.0	Gravel	Fair	Proposed	7.0	96.0	Easy	Easy	V. much	V. good	Yes	Bridge is not constructed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
71,100	Rice Banana Log			70	Brngy	5.0	Gravel	Fair		6.0	30.0	Easy	V. easy	Much	Good	Yes	Bridge was collapsed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	C	Less important barangay road
59,200	Rice Vege. Banana			70	Nat'l	6.0	Gravel	Fair	Proposed	6.0	96.0	Easy	Easy	V. much	V. good	Yes	Bridge is not constructed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
175,500	Rice Lumber Rattan			0	Nat'l	-	-	-		20.0	800.0	Easy	Difficult	V. much	V. good							No	Excluded from the Study
120,300	Log Corn Banana			70	Nat'l	6.0	Gravel	Fair	Proposed	5.0	42.0	Easy	Little difficult	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
120,300	Corn Banana Log			72	Nat'l	6.0	Gravel	Fair	Proposed	4.0	48.0	Easy	Easy	V. much	Good	Yes	Under construction bridge is weak temporary	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	C	Temporary bridge with timber pier is under construction
120,300	Corn Banana Log			70	Nat'l	6.0	Gravel	Fair	Proposed	6.0	30.0	Easy	Easy	V. much	Good	Yes	Existing bridge is damaged timber	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
120,300	Copra Banana Log			82	Nat'l	6.0	Gravel	Fair	Proposed	5.0	120.0	Easy	Little difficult	V. much	Good	Yes	Bridge is not constructed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A

PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (2/5)

No.	Bridge No. Bridge Name Location	Existing Bridge Condition			Affected Area Condition			Road Condition						Proposed Scheme		Girder Trans- port Difficulty	Construc- tion Difficulty	Recon- struction Neces- sity	Peace and Order	Necessity of Reconst.		Socioeco. Effects	
		Bridge Length	Struc- ture Type	Condition	Population	Major Products	Develop Plan	Traffic Volume (ADT)	Road Class	Carriage Way Width	Surface Type	Condi- tion	Improvement Plan	Bridge Height	Bridge Length					Judge- ment	Reason	Judge- ment	Reason
18	10-03-01 Casisang Bridge Bukidnon	18.3	Bailey	Dilapi- dated	105,800	Sugar C. Corn Coffee		150	Nat'l	3.4	Gravel	Fair	Proposed	5.0	22.0	V. easy	V. easy	Less	V. good	Yes	Existing bridge is dilapidated bailey	No	Alternative road is existing nearby
19	10-03-02 Musuan Bridge Bukidnon	12.3	RCDG	Light Damaged	558,500	Sugar C. Rubber Rice		3,550	Nat'l	6.0	AC	Good	Proposed	5.0	15.0	V. easy	V. easy	Less	V. good				
20	10-03-03 Agusan Canyon Bridge Bukidnon	40.0	Bailey	Weak	98,100	Pineappl Corn Tomato		1,230	Nat'l	5.0	BST	Fair	Proposed	7.0	46.0	Easy	Easy	V. much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large
21	10-03-04 Olayan Bridge Bukidnon	21.2	Bailey	Weak	23,500	Copra Corn Lumber		100	Nat'l	4.0	Gravel	Fair	Proposed	9.0	24.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected ADT is large
22	10-03-05 Kinapolo Bridge Bukidnon	24.0	RCDG	Light Damaged	558,500	Sugar C. Corn Rice		2,200	Nat'l	7.3	Gravel	Fair	Proposed	5.4	24.0	V. easy	V. easy	Less	V. good				
23	10-03-06 Aglayan Bridge Kukidnon	27.4	Bailey	Weak	151,700	Sugar C. Rice Corn		165	Nat'l	5.0	Gravel	Fair	Proposed	6.3	30.0	V. easy	V. easy	V. much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large
24	10-03-07 Zamboanguita Bridge Bukidnon	43.4	Bailey	Weak	49,500	Sugar C. Rice Corn		35	Nat'l	5.0	Gravel	Fair	Proposed	18.0	52.0	Easy	Little difficult	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large
25	10-03-08 Abuhan Bridge Bukidnon	15.6	Bailey	Weak	151,700	Rice Corn Sugar C.		100	Nat'l	5.0	Gravel	Fair	Proposed	6.5	20.0	V. easy	V. easy	V. much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large
26	10-03-09 Silae Bridge Bukidnon	27.8	Bailey	Weak	49,500	Sugar C. Rice Corn		40	Nat'l	5.0	Gravel	Fair	Proposed	9.5	32.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large
27	10-04-01 Sulipat Diut Bridge Misamis Occidental	16.6	Timber	Weak	55,100	Copra		5	Nat'l	4.0	Gravel	Fair		5.0	20.0	Easy	V. easy	Much	Good	Yes	Existing bridge is weak timber	No	Affected ADT is very small
28	10-04-02 Labo Bridge Misamis Occidental	24.8	Bailey	Dilapi- dated	50,300	Copra Corn Cassava		65	Brngy	4.0	Gravel	Fair		10.2	32.0	Easy	Easy	V. much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population & ADT are large
29	10-04-03 Tipalac Bridge Misamis Occidental	19.5	Bailey	Dilapi- dated	55,100	Copra Rootcrop Cereals		30	Nat'l	4.0	Gravel	Fair		6.0	22.0	V. easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population is large
30	10-04-04 Tipan Diut Bridge Misamis Occidental	19.3	Bailey	Dilapi- dated	55,100	Copra Rootcrop Cereals		30	Nat'l	4.0	Gravel	Fair		6.4	24.0	V. easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population is large
31	10-04-05 Tipan Daku Misamis Occidental	19.4	Bailey	Dilapi- dated	55,100	Copra Rice Corn		21	Nat'l	4.0	Gravel	Fair		6.7	23.0	V. easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population is large
32	10-04-06 Deboloc Bridge Misamis Occidental	24.6	Bailey	Dilapi- dated	55,100	Copra Rice Corn		5	Nat'l	4.0	Gravel	Fair		6.0	30.0	Easy	V. easy	Mmuch	Good	Yes	Existing bridge is dilapidated bailey	No	Affected ADT is minimal
33	10-04-07 Sulipat Daku Misamis Occidental	23.6	Timber	Dilapi- dated	55,100	Copra Rootcrop Cereals		5	Nat'l	4.0	Gravel	Fair		9.3	30.0	Easy	V. easy	Much	Good	Yes	Existing bridge is dilapidated timber	No	Affected ADT is minimal
34	10-04-08 Taguima Bridge Misamis Occidental	-	None	-	16,800	Copra Rice Corn		0	Brngy	3.0	Earth	V. bad		9.0	40.0	Easy	V. easy	Less	Good	Yes	Bridge is not constructed	No	Alternative road is existing near-by

PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (2/5)

No.	Affected Area Condition			Road Condition						Proposed Scheme		Girder Transport Difficulty	Construction Difficulty	Reconstruction Necessity	Peace and Order	Necessity of Reconst.		Socioeco. Effects		Appropriateness		Priority	Remarks	
	Population	Major Products	Develop Plan	Traffic Volume (ADT)	Road Class	Carriage Way Width	Surface Type	Condition	Improvement Plan	Bridge Height	Bridge Length					Judgment	Reason	Judgment	Reason	Judgment	Reason			
ed	105,800	Sugar C. Corn Coffee		150	Nat'l	3.4	Gravel	Fair	Proposed	5.0	22.0	V. easy	V. easy	Less	V. good	Yes	Existing bridge is dilapidated bailey	No	Alternative road is existing nearby	Yes	Appropriate in all the aspects	No		
	558,500	Sugar C. Rubber Rice		3,550	Nat'l	6.0	AC	Good	Proposed	5.0	15.0	V. easy	V. easy	Less	V. good								No	Excluded from the Study
	98,100	Pineappl Corn Tomato		1,230	Nat'l	5.0	BST	Fair	Proposed	7.0	46.0	Easy	Easy	V. much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A	
	23,500	Copra Corn Lumber		100	Nat'l	4.0	Gravel	Fair	Proposed	9.0	24.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected ADT is large	Yes	Appropriate in all the aspects	C	Affected population is small	
	558,500	Sugar C. Corn Rice		2,200	Nat'l	7.3	Gravel	Fair	Proposed	5.4	24.0	V. easy	V. easy	Less	V. good								No	Excluded from the Study
	151,700	Sugar C. Rice Corn		165	Nat'l	5.0	Gravel	Fair	Proposed	6.3	30.0	V. easy	V. easy	V. much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A	
	49,500	Sugar C. Rice Corn		35	Nat'l	5.0	Gravel	Fair	Proposed	16.0	52.0	Easy	Little difficult	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	Priority should be same as Agulayan & Abuhan since they are on same road, despite ADT is not large	
	151,700	Rice Corn Sugar C.		100	Nat'l	5.0	Gravel	Fair	Proposed	6.5	20.0	V. easy	V. easy	V. much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A	
	49,500	Sugar C. Rice Corn		40	Nat'l	5.0	Gravel	Fair	Proposed	9.5	32.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	Priority should be same as Agulayan & Abuhan since they are on same road, despite ADT is not large	
	55,100	Copra		5	Nat'l	4.0	Gravel	Fair		5.0	20.0	Easy	V. easy	Much	Good	Yes	Existing bridge is weak timber	No	Affected ADT is very small	Yes	Appropriate in all the aspects	No		
ed	50,300	Copra Corn Cassava		65	Brngy	4.0	Gravel	Fair		10.2	32.0	Easy	Easy	V. much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	C	Less important barangay road	
ed	55,100	Copra Rootcrop Cereals		30	Nat'l	4.0	Gravel	Fair		6.0	22.0	V. easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	ADT is not large but light traffic (tricycle) is large	
ed	55,100	Copra Rootcrop Cereals		30	Nat'l	4.0	Gravel	Fair		6.4	24.0	V. easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	ADT is not large but light traffic (tricycle) is large	
ed	55,100	Copra Rice Corn		21	Nat'l	4.0	Gravel	Fair		6.7	23.0	V. easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	C	ADT is not large	
ed	55,100	Copra Rice Corn		5	Nat'l	4.0	Gravel	Fair		6.9	30.0	Easy	V. easy	Mmuch	Good	Yes	Existing bridge is dilapidated bailey	No	Affected ADT is minimal	Yes	Appropriate in all the aspects	No		
ed	55,100	Copra Rootcrop Cereals		5	Nat'l	4.0	Gravel	Fair		9.3	30.0	Easy	V. easy	Much	Good	Yes	Existing bridge is dilapidated timber	No	Affected ADT is minimal	Yes	Appropriate in all the aspects	No		
	16,800	Copra Rice Corn		0	Brngy	3.0	Earth	V. bad		9.0	40.0	Easy	V. easy	Less	Good	Yes	Bridge is not constructed	No	Alternative road is existing nearby	Yes	Appropriate in all the aspects	No		

PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (3/5)

No.	Bridge No. Bridge Name Location	Existing Bridge Condition			Affected Area Condition			Road Condition						Proposed Scheme		Girder Transport Difficulty	Construc- tion Difficulty	Recon- struction Neces- sity	Peace and Order	Necessity of Reconst.		Socioeco. Effects	
		Bridge Length	Struc- ture Type	Condition	Population	Major Products	Develop Plan	Traffic Volume (ADT)	Road Class	Carriage Way Width	Surface Type	Condi- tion	Improvement Plan	Bridge Height	Bridge Length					Judge- ment	Reason	Judge- ment	Reason
35	10-04-09 Old Pelaez Utility Misamis Occidental	75.3	Truss	Dilapi- dated	46,600	(Urban)		0	Nat'l	7.0	BST	Fair		7.0	90.0	Easy	Little difficult	V. much	V. good	Yes	Existing bridge is dilapidated truss	Yes	Affected population is large
36	10-04-10 Katipunan Bridge Misamis Occidental	67.3	Bailey	Weak	74,100	Rice Copra Mango		35	Prov'l	3.5	Gravel	Fair		7.0	69.0	V. easy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large
37	10-05-01 Sta Ana II Bridge Misamis Occidental	25.3	Bailey	Weak	35,100	Corn Copra Papaya		110	Prov'l	5.0	BST	Fair		5.0	30.0	V. easy	V. easy	V. much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected ADT is large
38	10-05-02 Cabulig Bridge Misamis Occidental	31.6	Bailey	Heavily Damaged	40,800	Corn Rice Tomato		44	Nat'l	5.0	Gravel	Bad		6.7	35.0	Possible after repair	Easy	Much	Uncer- tain				
39	10-05-03 Guibone Bridge Misamis Occidental	24.2	Bailey	Heavily Damaged	40,800	Rice Corn Tomato		44	Nat'l	5.0	Gravel	Bad		4.8	30.0	Possible after repair	Easy	Much	Uncer- tain				
40	10-05-04 Hinandigan Bridge Gingog City	12.1	Bailey	Weak	40,800	Copra Corn Vege.		17	Nat'l	3.0	Gravel	Bad		3.5	15.0	Possible after repair	V. easy	Much	Uncer- tain				
41	10-05-05 Kahulugan Bridge Gingog City	12.0	Bailey	Weak	40,800	Copra Corn Vege.		70	Nat'l	5.0	Gravel	Fair		4.5	15.0	Easy	V. easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected ADT is large
42	10-05-06 Dal-As Bridge Misamis Occidental	22.2	Bailey	Weak	40,800	Rice Corn Coffee		44	Nat'l	5.0	Gravel	Bad		8.2	25.0	Possible after repair	Easy	Much	Uncer- tain				
43	10-05-07 Minanopol Bridge Misamis Occidental	12.2	Bailey	Fair	40,800	Rice Corn Coffee		44	Nat'l	5.0	Gravel	Bad		4.0	20.0	Possible after repair	Easy	Much	Uncer- tain				
44	10-05-08 Batinay Bridge Cagayan de Oro City	36.9	Bailey	Weak	20,000	Gold Corn Banana		29	Brgy.	4.0	Gravel	Bad		5.5	44.0	Possible after repair	Little difficult	Much	Good	Yes	Existing bridge is weak bailey	No	Affected population & ADT are small
45	10-05-09 Pagatpat-San Simon Bridge Cagayan de Oro City	-	None	-	20,000	Corn Rice Copra		0	Brgy.	6.0	Gravel	Fair		8.5	128.0	Easy	Easy	Much	Good	Yes	No bridge is existing People use rafts to cross river	Yes	Development po- tential in affected area and impact on it by the project is great
46	10-06-01 Hayangabon II Bridge Surigao del Norte	19.8	Timber	Weak	99,800	Nictel Rice Copra	Mining	139	Nat'l	7.0	Gravel	Fair	On-going	5.0	24.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large
47	10-06-02 Cagandan Bridge Surigao del Norte	14.6	Timber	Weak	99,800	Nictel Rice Copra	Mining	149	Nat'l	7.0	Gravel	Fair	On-going	4.0	18.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large
48	10-06-03 Capalayan Bridge Surigao del Norte	19.7	Timber	Dilapi- dated	68,000	Rice Corn Coconut		20	Brgy.	4.0	Gravel	Fair	Proposed	6.5	24.0	Easy	V. easy	Much	Good	Yes	Existing bridge is dilapidated timber	Yes	Affected population is large
49	10-06-04 Orak Bridge Surigao del Norte	18.0	Timber	Dilapi- dated	68,000	Copra Rice Rootcrop		22	Nat'l	4.0	Gravel	Fair	Proposed	5.0	24.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated timber	Yes	Affected population is large
50	10-06-05 Cuyangan Bridge Surigao del Norte	49.3	Timber	Weak	67,200	Fish Copra Rootcrop	Mining	54	Prov'l	5.0	Gravel	Fair	Proposed	5.5	54.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population ans ADT are large
51	10-06-06 Tigbao Bridge Surigao del Norte	40.4	Timber	Weak	67,200	Fish Banana Rice		98	Prov'l	5.0	Gravel	Fair	Proposed	5.5	44.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large

PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (3/5)

No.	Affected Area Condition			Road Condition					Proposed Scheme		Girder Transport Difficulty	Construction Difficulty	Reconstruction Necessity	Peace and Order	Necessity of Reconst.		Socioeco. Effects		Appropriateness		Priority	Remarks
	Population	Major Products	Develop Plan	Traffic Volume (ADT)	Road Class	Carriage Way Width	Surface Type	Condition	Improvement Plan	Bridge Height					Bridge Length	Judgment	Reason	Judgment	Reason	Judgment		
46,600	(Urban)		0	Nat'l	7.0	BSY	Fair		7.0	90.0	Easy	Little difficult	V. much	V. good	Yes	Existing bridge is dilapidated truss	Yes	Affected population is large	Yes	Appropriate in all the aspects	C	Alternative road is existing
74,100	Rice Copra Mango		35	Prov'l	3.5	Gravel	Fair		7.0	69.0	V. easy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	Since it is only one road in the area, priority is high, despite ADT is relatively small
35,100	Corn Copra Papaya		110	Prov'l	5.0	BSY	Fair		5.0	30.0	V. easy	V. easy	V. much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected ADT is large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
40,800	Corn Rice Tomato		44	Nat'l	5.0	Gravel	Bad		6.7	35.0	Possible after repair	Easy	Much	Uncertain							No	Excluded from the Study
40,800	Rice Corn Tomato		44	Nat'l	5.0	Gravel	Bad		4.8	30.0	Possible after repair	Easy	Much	Uncertain							No	Excluded from the Study
40,800	Copra Corn Vege.		17	Nat'l	3.0	Gravel	Bad		3.5	15.0	Possible after repair	V. easy	Much	Uncertain							No	Excluded from the Study
40,800	Copra Corn Vege.		70	Nat'l	5.0	Gravel	Fair		4.5	15.0	Easy	V. easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected ADT is large	No	Bridge length, height are small	No	
40,800	Rice Corn Coffee		44	Nat'l	5.0	Gravel	Bad		8.2	25.0	Possible after repair	Easy	Much	Uncertain							No	Excluded from the Study
40,800	Rice Corn Coffee		44	Nat'l	5.0	Gravel	Bad		4.0	20.0	Possible after repair	Easy	Much	Uncertain							No	Excluded from the Study
20,000	Gold Corn Banana		29	Brgy	4.0	Gravel	Bad		5.5	44.0	Possible after repair	Little difficult	Much	Good	Yes	Existing bridge is weak bailey	No	Affected population & ADT are small	Yes	Appropriate in all the aspects	No	Road is bad and impassable during rainy seasons
20,000	Corn Rice Copra		0	Brgy	6.0	Gravel	Fair		8.5	120.0	Easy	Easy	Much	Good	Yes	No bridge is existing People use rafts to cross river	Yes	Development potential in affected area and impact on it by the project is great	Yes	Appropriate in all the aspects	B	Priority is high since the area is isolated during rainy seasons
99,800	Nickel Rice Copra	Mining	139	Nat'l	7.0	Gravel	Fair	On-going	5.0	24.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
99,800	Nickel Rice Copra	Mining	149	Nat'l	7.0	Gravel	Fair	On-going	4.0	18.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	B	Bridge size is relatively small
68,000	Rice Corn Coconut		20	Brgy	4.0	Gravel	Fair	Proposed	6.5	24.0	Easy	V. easy	Much	Good	Yes	Existing bridge is dilapidated timber	Yes	Affected population is large	Yes	Appropriate in all the aspects	C	ADT is not large. Barangay road is less important
68,000	Copra Rice Rootcrop		22	Nat'l	4.0	Gravel	Fair	Proposed	5.0	24.0	Easy	V. easy	V. much	Good	Yes	Existing bridge is dilapidated timber	Yes	Affected population is large	Yes	Appropriate in all the aspects	C	ADT is not large and the road is less important
67,200	Fish Copra Rootcrop	Mining	54	Prov'l	5.0	Gravel	Fair	Proposed	5.5	54.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population and ADT are large	Yes	Appropriate in all the aspects	C	Relatively less important provincial road
67,200	Fish Banana Rice		98	Prov'l	5.0	Gravel	Fair	Proposed	5.5	44.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	B	ADT is large provincial road

PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (4/5)

No.	Bridge No. Bridge Name Location	Existing Bridge Condition			Affected Area Condition			Road Condition						Proposed Scheme		Girder Trans- port Difficulty	Construc- tion Difficulty	Recon- struction Neces- sity	Peace and Order	Necessity of Reconst.		Socioeco. Effects	
		Bridge Length	Struc- ture Type	Condition	Population	Major Products	Develop Plan	Traffic Volume (ADT)	Road Class	Carriage way Width	Surface Type	Condi- tion	Improvement Plan	Bridge Height	Bridge Length					Judge- ment	Reason	Judge- ment	Reason
52	10-06-07 Balite Bridge Surigao del Norte	-	Ford	-	67,200	Fish Rice Lumber		98	Prov'l	5.0	Gravel	Fair	Proposed	6.0	52.0	Easy	Easy	V. much	Good	Yes	Bridge was washed out	Yes	Affected population & ADT are large
53	11-01-01 Andanan Bridge Surigao de Sur	48.7	Bailey	Dilapi- dated	43,600	Log Copra Rice		107	Nat'l	6.0	Gravel	Fair		8.0	54.0	Easy	Little difficult	Much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population & ADT are large
54	11-01-02 Pagtilaan Bridge Surigao de Sur	25.4	Bailey	Under Const'ing	60,000	Log Copra Rice		58	Nat'l	4.5	Gravel	Fair		5.8	29.0	Easy	Easy	Much	Good	Yes	Bridge under construction is weak bailey	Yes	Affected population & ADT are large
55	11-01-03 Quezon Bridge Surigao de Sur	19.2	Timber	Weak	50,700	Log Copra Rice		80	Nat'l	6.0	Gravel	Fair		5.0	30.0	V. easy	Easy	Much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large
56	11-01-04 Pagbakatan Bridge Surigao de Sur	16.0	Timber	Weak	58,300	Log Copra Rice		30	Nat'l	5.0	Gravel	Fair		8.6	24.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population is large
57	11-01-05 Union II Bridge Surigao de Sur	24.6	Timber	Weak	54,900	Log Copra Rice		30	Nat'l	5.0	Gravel	Fair		5.5	72.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population is large
58	11-01-06 Tagasaka Bridge Surigao de Sur	26.9	Timber	Weak	60,000	Rice Corn Log		12	Nat'l	4.0	Gravel	Fair		7.5	30.0	Easy	Easy	Much	Good	Yes	Existing bridge is weak timber	Yes	Affected population is large Traffic is detouring private road
59	11-02-01 Kilob Bridge South Cotabato	24.9	Bailey	Weak	53,600	Fish Rice Corn	Tourism	64	Nat'l	4.0	Gravel	Fair		10.4	24.0	V. easy	Little difficult	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large
60	11-02-02 Kalma I Bridge South Cotabato	30.8	Bailey	Weak	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	4.5	Gravel	Fair		5.6	34.0	V. easy	Easy	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large
61	11-02-03 Kalma II Bridge South Cotabato	30.8	Bailey	Weak	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	5.0	Gravel	Fair		4.5	32.0	V. easy	Easy	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large
62	11-02-04 Luhib Bridge South Cotabato	36.8	Bailey	Weak	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	5.0	Gravel	Fair		7.6	42.0	V. easy	Easy	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large
63	11-02-05 Lower Silway Bridge South Cotabato	120.0	Bailey	Dilapi- dated	85,600	Fish Livestock Veg.		0	City	6.5	AC	Bad		5.3	120.0	V. easy	Little difficult	V. much	V. good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population is large
64	11-02-06 Colongolo Bridge South Cotabato	92.4	Bailey	Weak	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	5.0	Gravel	Fair		4.6	96.0	V. easy	Little difficult	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large
65	11-03-01 Dao-An Bridge Davao Oriental	-	Ford	-	58,800	Log Copra Corn		102	Nat'l	4.0	Gravel	Bad	On-going	5.0	51.0	Easy	Easy	Much	Good	Yes	No bridge is constructed	Yes	Affected population & ADT are large
66	11-03-02 Licop Bridge Davao Oriental	24.8	Bailey	Weak	72,000	Log Copra Corn		37	Nat'l	5.0	Gravel	Fair	Proposed	7.1	30.0	Easy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large
67	11-03-03 Tawas Bridge Davao Oriental	12.6	Bailey	Weak	72,000	Log Copra Corn		47	Nat'l	4.0	Gravel	Fair	Proposed	6.1	15.0	Easy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large
68	11-03-04 Pangyan Bridge Davao Oriental	13.3	Bailey	Weak	72,000	Corn Copra Banana		30	Nat'l	4.5	Gravel	Fair	Proposed	5.0	15.0	Easy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large



PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (4/5)

Location	Affected Area Condition			Road Condition						Proposed Scheme		Girder Transport Difficulty	Construction Difficulty	Reconstruction Necessity	Peace and Order	Necessity of Reconst.		Socioeco. Effects		Appropriateness		Priority	Remarks
	Population	Major Products	Develop Plan	Traffic Volume (ADT)	Road Class	Carriageway Width	Surface Type	Condition	Improvement Plan	Bridge Height	Bridge Length					Judgment	Reason	Judgment	Reason	Judgment	Reason		
	67,200	Fish Rice Lumber		98	Prov'l	5.0	Gravel	Fair	Proposed	6.0	52.0	Easy	Easy	V. much	Good	Yes	Bridge was washed out	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	B	ADT is large provincial road
ted	43,600	Log Copra Rice		107	Nat'l	6.0	Gravel	Fair		8.0	54.0	Easy	Little difficult	Much	Good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	B	Affected population is relatively small
ng	60,000	Log Copra Rice		58	Nat'l	4.5	Gravel	Fair		5.8	29.0	Easy	Easy	Much	Good	Yes	Bridge under construction is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	C	Bailey (pier is timber) is under construction
	50,700	Log Copra Rice		80	Nat'l	6.0	Gravel	Fair		5.0	30.0	V. easy	Easy	Much	Good	Yes	Existing bridge is weak timber	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
	58,300	Log Copra Rice		30	Nat'l	5.0	Gravel	Fair		8.6	24.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	It is Mindanao East Coast Road which is very important despite ADT is not large
	54,900	Log Copra Rice		30	Nat'l	5.0	Gravel	Fair		5.5	72.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak timber	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	It is Mindanao East Coast Road which is very important despite ADT is not large
	60,000	Rice Corn Log		12	Nat'l	4.0	Gravel	Fair		7.5	30.0	Easy	Easy	Much	Good	Yes	Existing bridge is weak timber	Yes	Affected population is large Traffic is detouring private road	Yes	Appropriate in all the aspects	B	It is Mindanao East Coast Road which is very important despite ADT is not large
	53,600	Fish Rice Corn	Tourism	64	Nat'l	4.0	Gravel	Fair		10.4	24.0	V. easy	Little difficult	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	No	
	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	4.5	Gravel	Fair		5.6	34.0	V. easy	Easy	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	No	
	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	5.0	Gravel	Fair		4.5	32.0	V. easy	Easy	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	No	
	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	5.0	Gravel	Fair		7.6	42.0	V. easy	Easy	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	No	
ted	85,600	Fish Livestock Veg.		0	City	6.5	AC	Bad		5.3	120.0	V. easy	Little difficult	V. much	V. good	Yes	Existing bridge is dilapidated bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	A	Bridge is closed to vehicles Tricycle traffic is very large
	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	5.0	Gravel	Fair		4.6	96.0	V. easy	Little difficult	Much	Good	No	Existing sub-structures are permanent structure	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	No	
	58,800	Log Copra Corn		102	Nat'l	4.0	Gravel	Bad	On-going	5.0	51.0	Easy	Easy	Much	Good	Yes	No bridge is constructed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
	72,000	Log Copra Corn		37	Nat'l	5.0	Gravel	Fair	Proposed	7.1	30.0	Easy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	Road is important despite ADT is not large. Road improvement is proposed
	72,000	Log Copra Corn		47	Nat'l	4.0	Gravel	Fair	Proposed	6.1	15.0	Easy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	Important national road, improvement is proposed Bridge is small but high
	72,000	Corn Copra Banana		30	Nat'l	4.5	Gravel	Fair	Proposed	5.0	15.0	Easy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	C	Bridge length, height is relatively small

PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (5/5)

No.	Bridge No. Bridge Name Location	Existing Bridge Condition			Affected Area Condition			Road Condition						Proposed Scheme		Girder Trans- port Difficulty	Construc- tion Difficulty	Recon- struction Neces- sity	Peace and Order	Necessity of Reconst.		Socioeco. Effects		Appropriateness		Priority
		Bridge Length	Struc- ture Type	Condition	Population	Major Products	Develop Plan	Traffic Volume (ADT)	Road Class	Traffic Volume (ADT)	Surface Type	Condi- tion	Improvement Plan	Bridge Height	Bridge Length					Judge- ment	Reason	Judge- ment	Reason	Judge- ment	Reason	
69	11-03-05 Manat Bridge Davao Oriental	33.3	Bailey	Dipapi- dated	50,000	Log Copra Rice		20	Nat'l	4.0	Gravel	Bad	On-going	5.0	40.0	Possible after repair	Little difficult	Much	Uncer- in							No
70	11-03-06 Mahan-Ub Bridge Davao Oriental	-	Ford	-	68,300	Copra Fish Corn		102	Nat'l	4.0	Gravel	Bad	On-going	7.0	60.0	Easy	Little difficult	Much	Good	Yes	No bridge is constructed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A
71	11-03-07 Upper Sumlog Bridge Davao Oriental	60.0	Bailey	Const'ing	72,000	Lumber Copra Corn		26	Nat'l	3.5	Gravel	Fair	Proposed	5.0	75.0	Easy	Easy	Much	Uncer- tain							No
72	11-04-01 Agusan Bridge Davao	21.4	Bailey	Weak	45,000	Veg. Coffee Rice		4	Nat'l	5.0	Gravel	Fair	Proposed	6.5	24.0	Possible after repair	Easy	Much	Good	Yes	Existing bridge is weak bailey	No	Affected Population is minimal	Yes	Appropriate in all the aspects	No
73	11-04-02 Binasbas Bridge Davao	48.8	Bailey	Weak	53,700	Copra Banana Rice		18	Prov'l	4.0	Gravel	Bad		15.5	48.0	Easy	Little difficult	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	C
74	11-04-03 Inambatan Bridge Davao	60.8	Bailey	Weak	58,700	Copra Banana Corn		36	Prov'l	4.0	Gravel	Bad		8.2	75.0	V. easy	Little difficult	Much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B
75	11-05-01 Culaman Bridge Davao del Sur	61.0	Bailey	Weak	110,100	Copra Cacao Fish		69	Nat'l	5.0	Gravel	Fair	Proposed	5.9	78.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A
76	11-05-02 Los Amigos Bridge Davao City	30.5	Bailey	Weak	51,200	Fruits Copra L' stock		37	Brgy	4.0	Gravel	Fair		6.2	35.0	V. easy	Easy	Much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B
77	11-05-03 Mintal Bridge Davao City	33.5	Bailey	Weak	52,800	Cone Coffee Fruits		35	Nat'l	3.4	Gravel	Fair		5.5	35.0	Easy	Easy	Much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B
78	11-05-04 Estrella Bridge Davao Del Sur	-	None	-	30,800	Veg. Coffee Fruits		0	Munic.	3.5	Gravel	Fair		5.0	22.0	V. easy	V. easy	Less	V. good							No
79	11-05-05 Sacub-Lanuro Bridge Davao del Sur	15.5	Bailey	Weak	71,600	Sugar C. Copra Rice		63	Prov'l	3.5	Gravel	Fair		5.0	19.0	Easy	V. easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	C
80	11-05-06 Riedad Bridge Davao Dity	40.1	Bailey	Weak	55,000	Copra Fruits Rice		200	Nat'l	4.4	AC	Fair		9.6	45.0	V. easy	Easy	Much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A
81	11-05-07 Lais Bridge Davao del Sur	-	Ford	-	100,900	Copra Banana Fish		64	Nat'l	4.5	Gravel	Bad	Proposed	4.5	102.0	Easy	Easy	V. much	Good	Yes	No bridge is constructed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A
82	11-05-08 Hagonoy Bridge Davao del Sur	-	None	-	133,900	Copra Cacao Banana		0	Brgy	3.5	Earth	V. bad		13.0	80.0	V. easy	Little difficult	Less	Good	Yes	No bridge is constructed	No	Effect of new barangay road const. is not big	Yes	Appropriate in all the aspects	No
83	11-05-09 Mal Bridge Davao del Sur	-	None	-	55,100	Corn Rice Copra		0	Brgy	3.5	Earth	V. bad		5.0	62.0	Possible after repair	Little difficult	Less	Good	Yes	No bridge is constructed	No	Effect of new barangay road const. is not big	Yes	Appropriate in all the aspects	No
84	11-06-01 Luan Bridge Sarangani	-	Ford	-	18,200	Rice Fish Corn		34	Nat'l	4.0	Gravel	Fair	On-going	5.0	60.0	Easy	Easy	Much	Uncer- tain							No
85	11-06-02 Baltion Bridge Sarangani	27.4	Bailey	Weak	32,100	Copra Fish Corn		51	Nat'l	5.0	Gravel	Fair	On-going	5.5	30.0	V. esy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected ADT is large	Yes	Appropriate in all the aspects	B
86	11-06-03 Pangyan Bridge Sarangani	-	Ford	-	32,100	Copra Fish Corn		23	Nat'l	4.0	Gravel	Bad	On-going	4.0	30.0	Easy	Easy	Much	Good	Yes	No bridge is constructed	Yes	Development poten- tial is big and im- pact on it by the project is great	Yes	Appropriate in all the aspects	B

PRIORITY AND SELECTION OF CANDIDATE BRIDGES FOR THE PROJECT (5/5)

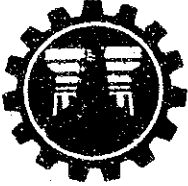
Bridge Length	Existing Bridge Condition			Affected Area Condition			Road Condition					Proposed Scheme		Girder Transport Difficulty	Construction Difficulty	Reconstruction Necessity	Peace and Order	Necessity of Reconst.		Socioeco. Effects		Appropriateness		Priority	Remarks	
	Structure Type	Condition		Population	Major Products	Develop Plan	Traffic Volume (ADT)	Road Class	Traffic Volume (ADT)	Surface Type	Condition	Improvement Plan	Bridge Height					Bridge Length	Judgment	Reason	Judgment	Reason	Judgment			Reason
33.3	Bailey	Dipapadated		50,000	Log Copra Rice		20	Nat'l	4.0	Gravel	Bad	On-going	5.0	40.0	Possible after repair	Little difficult	Much	Uncertain						No	Excluded from the Study	
-	Ford	-		68,300	Copra Fish Corn		102	Nat'l	4.0	Gravel	Bad	On-going	7.0	60.0	Easy	Little difficult	Much	Good	Yes	No bridge is constructed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
60.0	Bailey	Const'ing		72,000	Lumber Copra Corn		26	Nat'l	3.5	Gravel	Fair	Proposed	5.0	75.0	Easy	Easy	Much	Uncertain						No	Excluded from the Study	
21.4	Bailey	Weak		45,000	Vege. Coffee Rice		4	Nat'l	5.0	Gravel	Fair	Proposed	6.5	24.0	Possible after repair	Easy	Much	Good	Yes	Existing bridge is weak bailey	No	Affected Population is minimal	Yes	Appropriate in all the aspects	No	
48.8	Bailey	Weak		53,700	Copra Banana Rice		18	Prov'l	4.0	Gravel	Bad		15.5	48.0	Easy	Little difficult	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	C	ADT is not large It is provincial road
60.8	Bailey	Weak		58,700	Copra Banana Corn		36	Prov'l	4.0	Gravel	Bad		8.2	75.0	V. easy	Little difficult	Much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	Low ADT, provincial road, but it is important only one road in the area
61.0	Bailey	Weak		110,100	Copra Cacao Fish		69	Nat'l	5.0	Gravel	Fair	Proposed	5.9	78.0	Easy	Easy	V. much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
30.5	Bailey	Weak		51,200	Fruits Copra L'stack		37	Brgy	4.0	Gravel	Fair		6.2	35.0	V. easy	Easy	Much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	Low ADT barangay road, but it is important since it is plantation area
33.5	Bailey	Weak		52,800	Cone Coffee Fruits		35	Nat'l	3.4	Gravel	Fair		5.5	35.0	Easy	Easy	Much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population is large	Yes	Appropriate in all the aspects	B	ADT is not large, but it is important national road
-	None	-		30,800	Vege. Coffee Fruits		0	Munic.	3.5	Gravel	Fair		5.0	22.0	V. easy	V. easy	Less	V. good						No	Excluded from the Study	
15.5	Bailey	Weak		71,600	Sugar C. Copra Rice		63	Prov'l	3.5	Gravel	Fair		5.0	19.0	Easy	V. easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	C	Alternative road is existing Bridge is relatively small size Provincial road
40.1	Bailey	Weak		55,000	Copra Fruits Rice		200	Nat'l	4.4	AC	Fair		9.6	45.0	V. easy	Easy	Much	V. good	Yes	Existing bridge is weak bailey	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
-	Ford	-		100,900	Copra Banana Fish		64	Nat'l	4.5	Gravel	Bad	Proposed	4.5	102.0	Easy	Easy	V. much	Good	Yes	No bridge is constructed	Yes	Affected population & ADT are large	Yes	Appropriate in all the aspects	A	It fulfills all the conditions for priority A
-	None	-		133,900	Copra Cacao Banana		0	Brgy	3.5	Earth	V. bad		13.0	80.0	V. easy	Little difficult	Less	Good	Yes	No bridge is constructed	No	Effect of new barangay road const. is not big	Yes	Appropriate in all the aspects	No	
-	None	-		55,100	Corn Rice Copra		0	Brgy	3.5	Earth	V. bad		5.0	62.0	Possible after repair	Little difficult	Less	Good	Yes	No bridge is constructed	No	Effect of new barangay road const. is not big	Yes	Appropriate in all the aspects	No	
-	Ford	-		18,200	Rice Fish Corn		34	Nat'l	4.0	Gravel	Fair	On-going	5.0	60.0	Easy	Easy	Much	Uncertain						No	Excluded from the Study	
27.4	Bailey	Weak		32,100	Copra Fish Corn		51	Nat'l	5.0	Gravel	Fair	On-going	5.5	30.0	V. easy	Easy	Much	Good	Yes	Existing bridge is weak bailey	Yes	Affected ADT is large	Yes	Appropriate in all the aspects	B	Population is not large, but it is important national road, whose improvement is on-going
-	Ford	-		32,100	Copra Fish Corn		23	Nat'l	4.0	Gravel	Bad	On-going	4.0	30.0	Easy	Easy	Much	Good	Yes	No bridge is constructed	Yes	Development potential is big and impact on it by the project is great	Yes	Appropriate in all the aspects	B	Population and ADT is not large, but it is important national road, whose improvement is on-going



## **APPENDIX 7**

### **LETTERS**





Letter of Change of Request Bridges

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
OFFICE OF THE SECRETARY  
MANILA

16 February 1994

The Japan International Cooperation Agency  
Tokyo, Japan

THRU : MR. KATSUYOSHI KANAZAWA  
Team Leader  
Basic Design Study Team

S i r :

This has reference to the proposed Phase V of the Bridge Construction Project Along Rural Roads under the Japan's Grant Aid Program.

In this regard, may request for your consideration for the replacement of six bridges consisting of five bridges in Bukidnon and one bridge in Davao del Sur out of the 86 bridges that are being proposed under the said grant aid as indicated in the attached list.

Please be informed that due to the urgency of implementing the bridge projects which were heavily damaged during the rainy season, funds have been made available for these bridges. These bridges need to be reconstructed immediately in order not to hamper the economic activities in the areas affected.

We will appreciate it, therefore, if this request be favorably considered.

Very truly yours,

  
TEODORO T. ENCARNACION  
Undersecretary

PLNG 275 2/23

LISTS OF PROPOSED BRIDGES FOR PHASE V  
GROUP-I

REGION	DISTRICT	BRIDGE No.	NAME OF BRIDGE	EXISTING BRIDGE	
				LENGTH (M)	TYPE/CONDITION
X	BUTUAN CITY	:10-01-01:	TAG-ANAHAO	18.00	Timber
	"	:10-01-02:	PIANING	12.00	Timber
	"	:10-01-03:	TUNGAO I	10.00	Timber
	"	:10-01-04:	UBCD-UBOD	18.00	Bailey
	"	:10-01-05:	TUNGAO II	10.00	Timber
	"	:10-01-07:	ANTICALA	12.00	Timber
	AGUSAN DEL NORTE	:10-01-06:	MAT-I	20.00	Timber
	AGUSAN DEL SUR	:10-02-01:	MESLI	29.00	Ford
	"	:10-02-02:	AZPITIA	30.00	Timber
	"	:10-02-03:	ANIBONGAN	24.00	Timber
	BUKIDNON I	:10-03-01:	CASISANG (BOBONAWAN)*	18.00	Bailey
	"	:10-03-02:	MUSUAN	12.10	RCDG
	"	:10-03-03:	AGUSAN CANYON	49.00	Bailey
	"	:10-03-06:	GLAYAN	21.00	Bailey
	"	:10-03-07:	KINAPOLO	22.00	RCDG
	"	:10-03-08:	AGLAYAN (IMPASUG-ONG)*	27.44	Bailey
	"	:10-03-09:	ZAMBOANGUITA (KULASIHAN)*	45.75	Bailey
	BUKIDNON II	:10-03-04:	ABUHAN (BUGCAON)*	15.24	Bailey
	"	:10-03-05:	SILAE (ALANIB)*	27.44	Bailey
	MISAMIS OCCIDENTAL	:10-04-01:	SULIPAT DIUT	16.00	Timber
	"	:10-04-03:	TIPALAC BRIDGE	18.00	Bailey
	"	:10-04-04:	TIPAN DIUT	18.00	Bailey
	"	:10-04-05:	TIPAN DAKU	18.00	Bailey
	"	:10-04-06:	DEBOLOC	24.00	Bailey
	"	:10-04-07:	SULIPAT DAKU	22.00	Timber
	"	:10-04-08:	TAGUIMA	20.00	Ford



LISTS OF PROPOSED BRIDGES FOR PHASE V  
GROUP-I

REGION	DISTRICT	BRIDGE No.	NAME OF BRIDGE	EXISTING BRIDGE LENGTH (M)	TYPE/CONDITION
	OZAMIS CITY	10-04-02	LABO	24.00	Bailey
X	MISAMIS ORIENTAL	10-05-01	STA ANA II	24.00	Bailey
	"	10-05-02	CABULIG	30.00	Bailey
	"	10-05-03	GUIBONE	24.39	Bailey
	"	10-05-06	DAL-AS	20.00	Bailey
	"	10-05-07	MINANOPOL	12.00	Bailey
	GINGOOG CITY	10-05-04	HINANDIGAN	12.20	Bailey
	"	10-05-05	KAHULUGAN	12.00	Bailey
	CAGAYAN DE ORO	10-05-08	BATINAY	38.40	Bailey
	SURIGAO DEL NORTE	10-06-01	HAYANGABON II	19.00	Timber
	"	10-06-02	CAPANDAN	14.00	Timber
	SURIGAO CITY	10-06-03	CAPALAYAN	19.50	Timber

Legend:

- \* Included in the 1994 DPWH Infrastructure Program
- Replacement

LISTS OF PROPOSED BRIDGES FOR PHASE V  
GROUP-II

REGION	DISTRICT	BRIDGE No.	NAME OF BRIDGE	EXISTING BRIDGE	
				LENGTH (M)	TYPE/CONDITION
X	AGUSAN DEL NORTE	10-01-08	LINGAYAO	39.65	Bailey
		10-01-09	MAGUS	36.00	Bailey
		10-01-10	RIZAL	-	Ford
		10-01-12	GUINABSAN	-	Ford
	BUTUAN CITY	10-01-13	ALTERNATE MAGSAYSAY	242.00	Steel
		10-01-11	LEMON	18.00	Bailey
	AGUSAN DEL SUR	10-02-04	HAOG	-	Ford
		10-04-09	OLD PELAEZ UTILITY	75.50	Steel
	OROQUIETA CITY	10-04-10	KATIPUNAN	69.00	Bailey
		10-05-09	PAGATPAT-SAN SIMON	150.00	Ford
	SURIGAO CITY	10-06-04	OROK	18.00	Timber
	SURIGAO DEL NORTE	10-06-05	CUYANGAN	50.00	Timber
		10-06-06	TIGBAO	40.00	Timber
	"	10-06-07	BALITE	33.00	Culvert

LISTS OF PROPOSED BRIDGES FOR PHASE V

Group 1

REGION	PROVINCE	BRIDGE NO.	NAME OF BRIDGE	EXISTING BRIDGE LENGTH (M)	EXISTING BRIDGE TYPE/CONDITION	PROPOSED BRIDGE LENGTH (M)		
XI	SURIGAO DEL SUR	11-01-01	ANDANAN	48.00	Timber	24.0x2=48.0		
		11-01-02	PAGTILAAN	25.50	Timber	25.00		
		11-01-03	QUEZON	19.50	Timber	20.00		
		11-01-04	FAGBAKATAN	23.60	Timber	24.00		
		11-01-05	UNION	21.50	Timber	22.00		
		11-01-06	TAGASAKA	26.00	Timber	26.00		
SOUTH COTABATO		11-02-01	KILOB	24.38	Bailey	25.00		
		11-02-02	KALMA I	30.48	Bailey	40.00		
		11-02-03	KALMA II	30.48	Bailey	40.48		
		11-02-04	LUHIB	36.60	Bailey	40.00		
DAVAO ORIENTAL		11-03-01	DAO-AN	-	Ford	45.00		
		11-03-02	LICOP (Taguibo)	33.30	Bailey	35.00		
		11-03-03	TAWAS	15.00	bailey	15.00		
		11-03-04	PANGYAN	15.00	Bailey	15.00		
		11-03-07	UPPER SUMLOG	-	Ford	80.00		
DAVAO DEL NORTE		11-04-01	AGUSAN	24.28	Bailey	30.00		
DAVAO DEL SUR		11-05-02	LCS AMIGOS	30.00	Bailey	20.0x2=40.0		
		11-05-03	MINTAL	33.00	Steel	23.0x3=69.0		
		11-05-04	ESTRELLA	20.00	Pailey	22.0x1=22.0		
		11-05-05	SACUB-LANORO*	15.00	Bailey	15.00		
		11-05-06	PIEDAD	39.00	Bailey	60.00		
		11-05-08	GUIHINE/HAGONOY**	15.00	Bailey	15.00		
		11-05-09	MAL	-	Ford	65.00		
		SARANGGANI		11-06-01	LUAN	-	Ford	45.00
				11-06-02	BALITON	21.35	Bailey	30.00
11-06-03	PANGYAN			-	Ford	30.00		

\*\* formerly Matanao  
 \*\* formerly Hagonoy

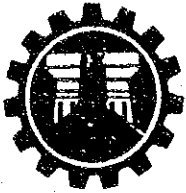
Replacement

j-final

LISTS OF PROPOSED BRIDGES FOR PHASE V  
Group 2

REGION	PROVINCE	BRIDGE NO.	NAME OF BRIDGE	EXISTING BRIDGE LENGTH (M)	TYPE/CONDITION	PROPOSED BRIDGE LENGTH (M)
XI	SOUTH COTABATO	11-02-05	LOWER SILWAY	120.00	Bailey	120.00
		11-02-06	COLONGGOLLO	91.44	Steel	25.0x4=100
	DAVAO ORIENTAL	11-03-05	MANAT	33.00	Bailey	30.0x3=90.0
		11-03-06	MAHAN-UB	-	Ford	80.00
	DAVAO DEL NORTE	11-04-02	BINASBAS	49.00	Timber	23.0x3=69.0
		11-04-03	INAMBATAN	50.00	Timber	30.0x3=90.0
	DAVAO DEL SUR	11-05-01	CULAMAN	60.00	Timber	25.0x3=75.0
		11-05-07	LAIS	-	Ford	80.00

j-final



**Letter of Request for 6 Priority C bridges  
Be Added to the Basic Design Study**

**REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
OFFICE OF THE SECRETARY  
MANILA**

02 May 1994

The Japan International Cooperation Agency  
Tokyo, Japan

**ATTENTION : MR. KATSUYOSHI KANAZAWA**  
Team Leader  
Basic Design Study Team

**T H R U : MR. MINORU MIURA**  
Katahira & Engineers International

**S i r :**

This has reference to the proposed Bridge Construction Project Along Rural Roads in the Mindanao Area under the Japan's Grant Aid Program.

The Interim Report on the Basic Design Study for the aforementioned Project, has grouped the candidate bridges into three priorities, namely : very high priority as Priority A, high as Priority B and low as Priority C. Priorities A & B which are likely to be included consist of only 40 bridges. We understand that the survey of the 40 bridges will be started this May, 1994

In this regard, may we request that the following bridges considering the importance of the same as indicated hereunder but included in the Priority C be included in the conduct of the survey to be undertaken, to wit :

1. 10-01-06 Mat-i Bridge, Agusan del Norte

The construction of the bridge will provide direct connection for the Agusan-Malaybalay Road. At present there is no existing bridge and longer route is being utilized.

2. 10-02-02 Azpitia Bridge, Agusan del Sur

This bridge is between the three bridges Maog, Anibongan and Mesli Bridges, which are being included as candidate bridges. For continuity Azpitia Bridge is being recommended for inclusion.

3. 10-06-05 Cuyangan Bridge, Surigao del Norte

The construction of this bridge is very important since the road where this bridge is located will serve as an alternate road to Surigao City and Lipata Ferry Terminal.

4. 10-01-02 Pianing Bridge, Agusan del Norte

The construction of this bridge is necessary for future development of the Butuan-Tandag Road.

5. 11-01-02 Pagtilaan Bridge, Surigao del Sur

The inclusion of this bridge is very vital because this will provide connection for the Surigao-Davao Coastal Road

6. 11-03-04 Fangyan Bridge, Davao Oriental

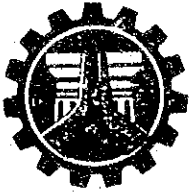
This bridge is located along Mati-Maragusan-Nabunturan Road which will shorten the travel from Mati-Nabunturan via Pan-Phil Highway.

We will appreciate it, therefore, for the favorable consideration of this request as we look forward for your continued support to our development efforts.

Very truly yours,



TEODORO T. ENCARNACION  
Undersecretary



Letter of Confirmation of Peace & Order Conditions of the Project Sites

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
OFFICE OF THE SECRETARY  
MANILA

DEPT. OF PUBLIC WORKS AND HIGHWAYS  
RECEIVED  
OFFICE OF THE SECRETARY  
JUN 12 1994

30 June 1994

Mr. MINORU MIURA  
Project Manager/Technical Adviser  
Katahira and Engineers International  
Unit 4B, JMT Corporate Condominium  
ADB Avenue, Ortigas Center  
Pasig, Metro Manila

Sir :

This has reference to your letters dated May 16, 1994, requesting confirmation regarding the present "Peace and Order Situation" in all areas covered by the project for Constructing Bridges along Rural Roads in Mindanao Area, and letter dated May 27, 1994 also requesting information on the "Designated Ports of Disembarkation" for the bridge materials for the individual bridges under Group 1 of the said project.

In this regard, we are furnishing you herewith, copies of the letters from our Regional Offices of Regions X and XI together with the confirmation from the respective PNP Regional Command, stating that the peace and order situation where the proposed bridges are located are not affected by the insurgent's activities.

For the designated ports of disembarkation for the steel bridge materials, attached are copies of the letters sent by our Regional Offices informing us that the following seaports will be utilized, to wit :

Region X, Cagayan de Oro City

- a) Cagayan de Oro (Pier I and II)
- b) Nasipit
- c) Ozamiz (Pier I and II)

Region XI, Davao City

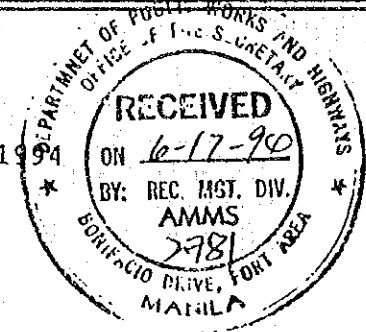
- a) Sasa Port
- b) Makar Wharf

We hope that the above information will be sufficient.

Very truly yours,

MANUEL M. BONGAN  
Assistant Secretary for Planning

15 June 1994



HON. TEODORO T. ENCARNACION  
Undersecretary  
Department of Public Works & Highways  
Bonifacio Drive, Port Area  
M a n i l a


S i r :

In compliance with your memorandum dated 31 May 1994, submitted herewith are the confirmation of Chief Superintendent Teddy S. Carian, Regional Director of Regional Command XI, Catitipan, Davao City on the peace and order situation in areas where the proposed bridges for consideration under the Japans Grant Aid Program are located and the RDC endorsement of these proposed bridges per RDC XI Excom Resolution No. 4, series of 1994 (copy attached).

Confirmation on the peace and order situation of bridges located in General Santos City and Sarangani Province will be submitted as soon as same is received by this office from Recon XII.

It is informed that Region XI does not have any international port at present, however, Sasa Port of Davao City and Makar Wharf in General Santos City could be utilized as a place for disembarkation of bridge materials to be provided as grant by the Japanese Government.

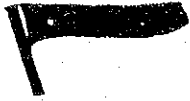
Very truly yours,

  
JESUS M. CAMAYO, CESO II  
Regional Director

1248-D

JPC/DVN/TPL/acc





REGIONAL COMMAND 11  
Catitipan, Davao City



June 15, 1994

The Regional Director  
Department of Public Works and Highways  
Regional Office XI  
Davao City

Sir:

This pertains to the letter of Mr Eleno U. Colinares, DPWH Assistant Regional Director requesting a confirmation of the peace and order situation on areas where Phase V bridge construction projects along Rural roads under the Japan Grand Aid Program will be implemented,

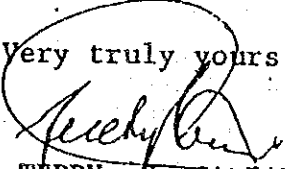
As per record of this office, the following areas where these projects will be implemented are classified as follows:

<u>LOCATION</u>	<u>AFFECTION OF THREATS GROUPS</u>		
	<u>LCTs/NPA</u>	<u>SPTs</u>	<u>OCG</u>
1. Quezon Bridge Coastal road Tagbina, SDS	Unaffected	Unaffected	Unaffected
2. Dao-on Bridge coastal road, Caraga, Dvo Or	Unaffected	Unaffected	Unaffected
3. Mahan-ub Bridge coastal road Manay, Dvo Or	Unaffected	Unaffected	Unaffected
4. Lais Bridge coastal road Malita, Dvo Sur	Unaffected	Unaffected	Unaffected
5. Tawas Bridge coastal road Mati, Dvo Or	Unaffected	Unaffected	Unaffected
6. Los Amjgos Bridge coastal road Tugbok Dist, Dvo City	Unaffected	Unaffected	Unaffected
7. Mintal Bridge coastal road Mintal, Dvo City	Unaffected	Unaffected	Unaffected
II.			
1. Andanan Bridge coastal road Lianga, SDS	Unaffected	Unaffected	Unaffected
2. Pagbakatan Bridge coastal road Lingig, SDS	Unaffected	Unaffected	Unaffected
3. Union Bridge coastal road Lingig, SDS	Unaffected	Unaffected	Unaffected

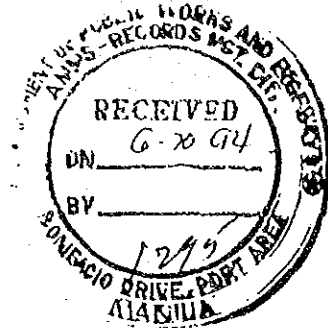
- |   |            |            |            |
|---|------------|------------|------------|
| road Hinatuan, SDS  |            |            |            |
| 5. Licop Bridge coastal road Lupon, Dvo Or                      | Unaffected | Unaffected | Unaffected |
| III.  |            |            |            |
| 1. Pagtilaan Bridge coastal road Lingig, SDS                    | Unaffected | Unaffected | Unaffected |
| 2. Pangyan Bridge coastal road Lupon, Dvo Or                    | Unaffected | Unaffected | Unaffected |
| IV.   |            |            |            |
| 1. Culaman Bridge coastal road, Malita, Dvo del Sur             | Unaffected | Unaffected | Unaffected |
| 2. Piedad Bridge Eden road Toril, Davao City                    | Unaffected | Unaffected | Unaffected |
| V.  |            |            |            |
| Inambatan Bridge<br>Compostela road, Monkayo<br>Davao del Norte | Unaffected | Unaffected | Unaffected |

The aforementioned areas are enjoying relatively peaceful atmosphere and threat of organized groups is in manageable condition.

Very truly yours,

  
 TEDDY S. CARIAN  
 Police Chief Superintendent  
 Regional Director

Philippines  
Department of Public Works & Highways  
REGIONAL DIRECTOR  
Region X  
Highway Hill  
Buhay, Cagayan de Oro City



June 14, 1994

The Honorable Secretary  
Department of Public Works and Highways  
Bonifacio Drive, Port Area  
M a n i l a

Attn.: Chief, Planning Service

S i r :

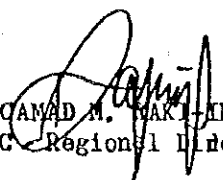
In connection with the 23 bridges for Region X selected by the JICA Basic Design Study Team, please be informed that the peace and order situation of the barangays/municipalities where the 20 proposed bridges are to be located are not presently affected by the insurgents' activities as confirmed by the PNP Regional Command 10 and the 4th Infantry Division, Cagayan de Oro City.

The remaining 3 bridges all located in Misamis Occidental are within the jurisdiction of Region 9 and per telegram received from DPWH Regional Director thereat, so far there was no report of peace disturbance reaching in these three (3) bridge sites. However, we are still awaiting response from the PNP Regional Command 9 in Zamboanga City.

We are also informing you the designated National Ports in Region X selected to comply with handling requirements for disembarkation of the needed Japan bridge materials as indicated in the attached map.

It is hoped the above information supported by the attached tabulated list, satisfy the JICA requirements as desired in your Memorandum of 31 May 1994.

Very truly yours,

  
MOHAMMAD M. MARTIN, SR.  
OIC Regional Director

7.10 PD.:LMC:bcb:s:T.S



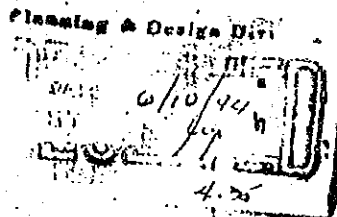
Department of the Interior and Local Government  
**PHILIPPINE NATIONAL POLICE**  
 REGIONAL COMMAND 10  
 Office of the Regional Director  
 Camp Alagar, Cagayan de Oro City



DARDO-

10 June 1994

Engr Melquiades P. Varias, Jr.  
 Assistant Regional Director  
 Department of Public Works & Highways  
 Region 10, Bulua, Cagayan de Oro City



Sir:

This has reference to your letter dated June 7, 1994 inquiring on the current peace and order situation in the areas where bridges are proposed for construction.

Please be informed that the barangays mentioned in Annex I of your letter are presently not affected by the insurgents' activities.

It is, however, recommended that appropriate direct coordination with our Police Stations in the areas mentioned be made upon actual start of the project so that appropriate security assistance will be available when needed by your field personnel.

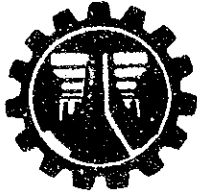
Thank you for bringing this matter to us.

Very truly yours,

FOR THE REGIONAL DIRECTOR:

*[Signature]*  
 TEODORICO B. CAPUYAN  
 Police Superintendent  
 ARD for Operations

*PDD/LMC  
 action  
 6/10*



Letter of Withdrawal of Sta. Ana II Bridge from the Project  
REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
OFFICE OF THE SECRETARY  
MANILA

24 October 1974

The Japan International Cooperation Agency  
Tokyo, Japan

ATTENTION : Mr. KATSUYOSHI KANAZAWA  
Team Leader  
Basic Design Study Team

S i r :

This has reference to the draft "Basic Design Study Report on the Project for Constructing Bridges Along Rural Roads in Mindanao Area" under the Japan's Grant Aid Program which involves 39 bridges for implementation under the said program.

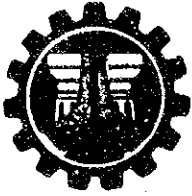
As listed in the draft, the Sta. Ana II Bridge along a provincial road in Tagoloan, Misamis Oriental is one of the bridges considered under the said Project.

In this regard, we wish to inform you that in view of the urgent need to construct the bridge, the provincial government has provided the funds for its immediate implementation. May we, therefore, suggest that the said bridge be dropped from the list.

Once again, we appreciate your continued support to our development efforts.

Very truly yours,

MANUEL M. BONDAN  
Assistant Secretary for Planning



Letter of Confirmation of DPWH Fund Allocation for the Project

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
OFFICE OF THE SECRETARY  
MANILA

24 October 1974

The Japan International Cooperation Agency  
Tokyo, Japan

ATTENTION : Mr. KATSUYOSHI KANAZAWA  
Team Leader  
Basic Design Study Team

S i r :

This is to inform you that the allocation for the Project for Constructing Bridges Along Rural Roads in Mindanao Area are the following:

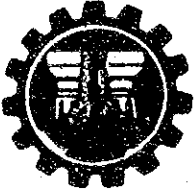
<u>For 1974</u>	<u>Allocation P</u>
Region X	3.480 Million
Region XI	4.302 Million
	<hr/>
	7.782 Million

<u>For 1975</u>	
Region X	110.00 Million
Region XI	110.00 Million
	<hr/>
	220.00 Million

We hope that the above information is adequate as we look forward for your continued support to our development efforts.

Very truly yours,

MANUEL M. BONDAN  
Assistant Secretary for Planning



Letter of Confirmation that Any Project Bridge is not included in  
Other Foreign Assisted Project.

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
OFFICE OF THE SECRETARY  
MANILA

24 October 1974

The Japan International Cooperation Agency  
Tokyo, Japan

ATTENTION : Mr. KATSUYOSHI KANAZAWA  
Team Leader  
Basic Design Study Team

S i r :

Please be informed that the 39 bridges identified in the draft Basic Design Study Report on the Project for Constructing Bridges Along Rural Roads in Mindanao Area, except for Sta. Ana II Bridge in Tagoloan, Misamis Oriental (to be implemented thru local funding) are not included for implementation in any other foreign assisted projects.

We hope that the above information is adequate as we look forward for your continued support to our development efforts.

Very truly yours,



MANUEL M. BONDAN

Assistant Secretary for Planning



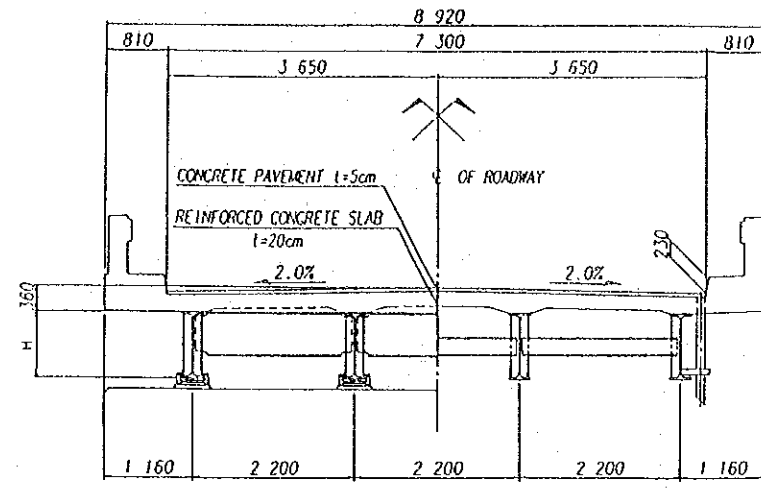


## **APPENDIX 8**

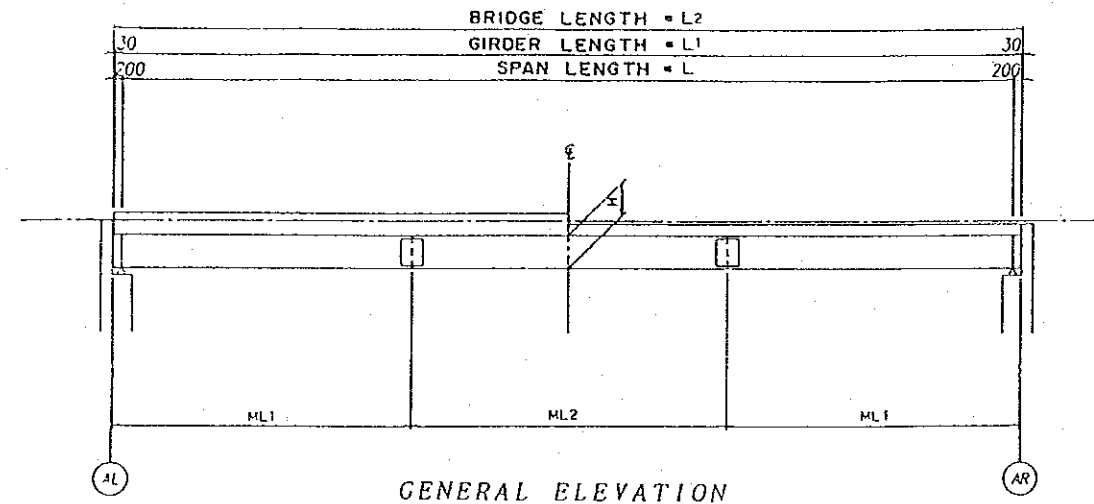
**FIGURES AND TABLES**

**OF**

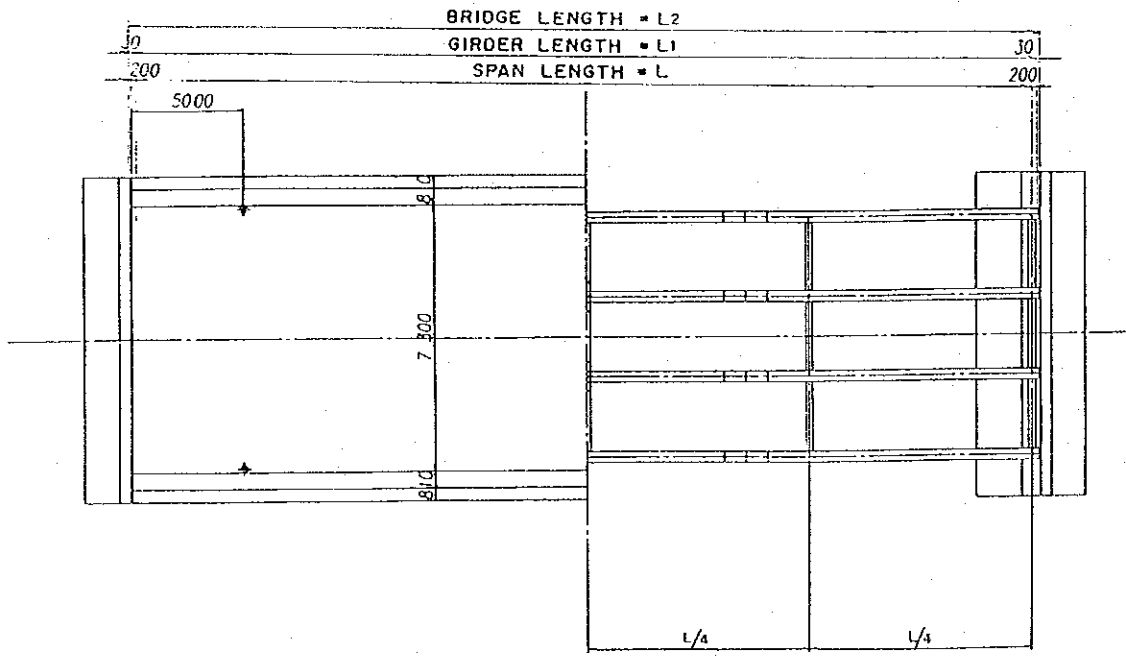
**THE BASIC DESIGN**



**SUPERSTRUCTURE CROSS SECTION**



**GENERAL ELEVATION**

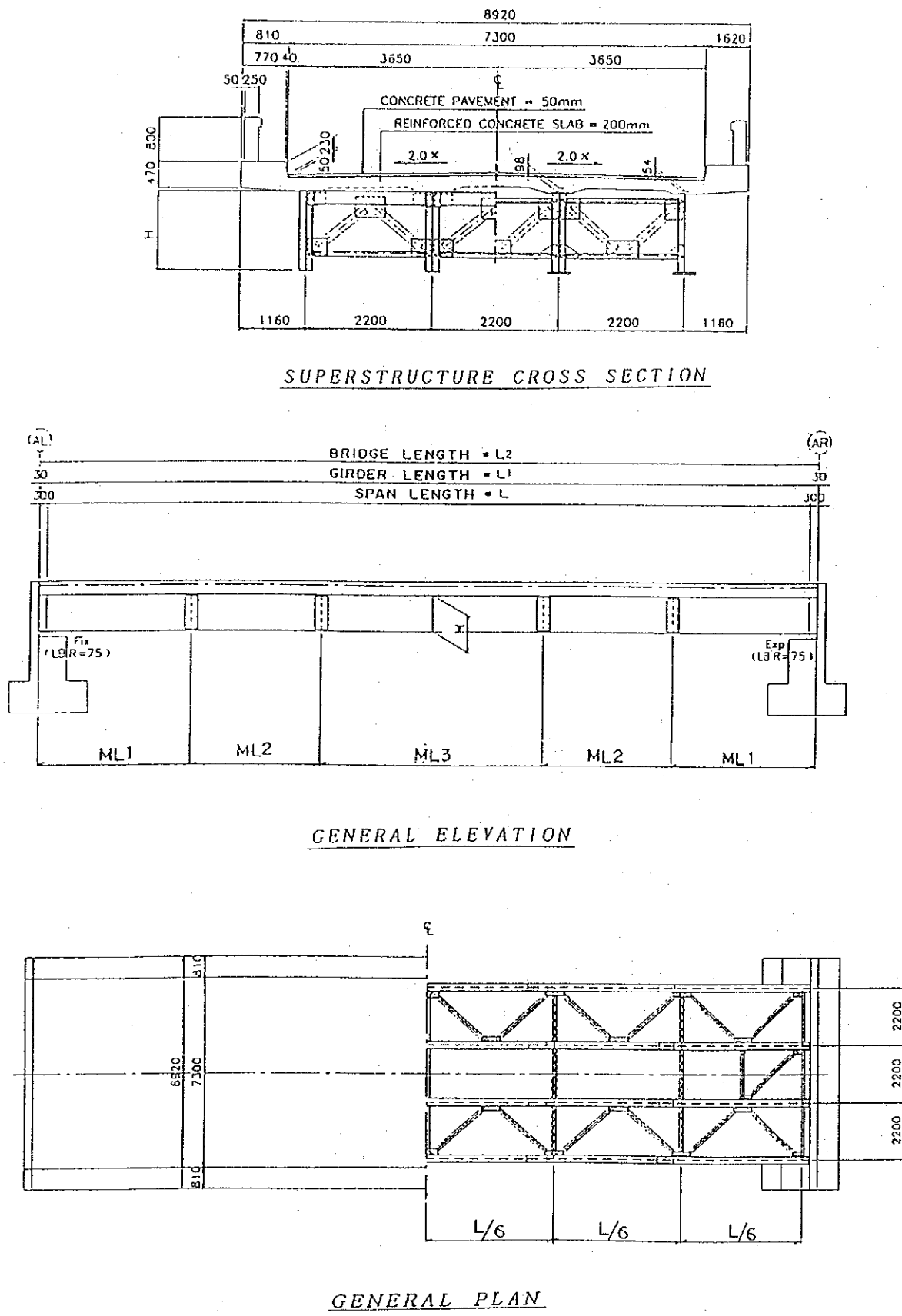


**GENERAL PLAN**

**H-Beam Dimension Table**

Span L (m)	Bridge length L <sub>2</sub> (m)	Girder length L <sub>1</sub> (m)	Girder depth (m)	Member Length (m)		
				ML <sub>1</sub> (m)	ML <sub>2</sub> (m)	L/4
15	15.46	15.4	0.700	4.7	6.0	3.75
18	18.46	18.4	0.890	5.5	7.4	4.5
19	19.46	19.4	0.900	5.7	8.0	4.75
20	20.46	20.4	0.912	6.2	8.0	5.0
21	21.46	21.4	0.912	6.7	8.0	5.25
22	22.46	22.4	0.912	7.0	8.4	5.5
23	23.46	23.4	0.912	7.7	8.0	5.75
24	24.46	24.4	0.912	7.95	8.5	6.0

**Figure A8-1 BASIC DESIGN OF SIMPLE H-BEAM COMPOSITE GIRDERS**



Built-Up Beam Dimension Table

Span L (m)	Bridge length $L_2$ (m)	Girder length $L_1$ (m)	Girder depth H (m)	Member Length (m)			
				ML <sub>1</sub>	ML <sub>2</sub>	ML <sub>3</sub>	L/6
25	25.66	25.6	1.2	4.99	4.29	7.0	4.17
28	28.66	28.6	1.4	5.55	4.73	8.03	4.67
29	29.66	29.6	1.4	5.74	4.88	8.37	4.83
30	30.66	30.6	1.5	5.93	6.23	6.30	5.10
32	32.66	32.6	1.6	6.3	6.67	6.67	5.33
35	35.66	35.6	1.7	6.86	7.29	7.29	5.83 右75°
38	38.66	38.6	1.9	6.83	8.37	8.20	(4.75)
40	40.86	40.8	2.0	7.275	8.775	8.7	(5.0) 左70°

Figure A8-2 BASIC DESIGN OF SIMPLE BUILT-UP BEAM COMPOSITE GIRDERS

Table A8-1 SUMMARY OF DESIGN COMPUTATION OF SUPERSTRUCTURES (GROUP 1)

(1/3)

No.	Bridge No.	Bridge Name	Girder Section (@ Span center)		Maximum Stress (Outer girder)						Maximum Stress (Inner girder)						Deflection (Allowance is 1/800)	
			Outer girder	Inner girder	Slab	Allow- ance	Upper flange	Allow- ance	Lower flange	Allow- ance	Slab	Allow- ance	Upper flange	Allow- ance	Lower flange	Allow- ance	Outer G.	Inner G.
1	10-01-01	Tag Anahao L=21	H- 912× 302×18/34	H- 912× 302×18/34	-35	80	-1241	2415	1768	2100	-35	80	-1228	2415	1744	2100	1/1451	1/1496
2	10-02-01	Mesli L=40	PL 280×6 PL 2000×10 PL 480×22	PL 300×16 PL 2000×10 PL 410×19	-27	80	-2071	2415	1950	2100	-27	80	-1984	2415	1959	2100	1/1616	1/1669
3	10-02-03	Anibongan L=24	H- 912× 302×18/34	H- 912× 302×18/34	-40	80	-1492	2415	2094	2100	-40	80	-1460	2415	2064	2100	1/1084	1/1120
4	10-03-03	Agusan Canyon L=24	H- 912× 302×18/34	H- 912× 302×18/34	-40	80	-1492	2415	2094	2100	-40	80	-1460	2415	2064	2100	1/1084	1/1120
		L=18	H- 890× 299×15/23	H- 890× 299×15/23	-39	80	-1292	2415	2062	2100	-31	80	-1222	2415	1787	2100	1/1549	1/1549
5	10-03-06	Aglayan L=24	H- 912× 302×18/34	H- 912× 302×18/34	-40	80	-1492	2415	2094	2100	-40	80	-1460	2415	2064	2100	1/1084	1/1120
6	10-03-09	Silae L=29	PL 280×16 PL 1400×9 PL 420×32	PL 300×16 PL 1400×9 PL 420×25	-36	80	-2266	2415	1907	2100	-27	80	-2161	2415	1932	2100	1/1120	1/1074
7	10-04-03	Tipalac L=20	H- 912× 302×18/34	H- 912× 302×18/34	-33	80	-1152	2415	1637	2100	-33	80	-1138	2415	1614	2100	1/1615	1/1669
8	10-04-04	Tipan Diut L=21	H- 912× 302×18/34	H- 912× 302×18/34	-35	80	-1241	2415	1768	2100	-35	80	-1228	2415	1744	2100	1/1451	1/1549
9	10-04-10	Katipunan L=18	H- 890× 299×15/23	H- 890× 299×15/23	-39	80	-1292	2415	2062	2100	-31	80	-1222	2415	1787	2100	1/1549	1/1549
10	10-06-01	Hayangabon L=23	H- 912× 302×18/34	H- 912× 302×18/34	-41	80	-1462	2415	2025	2100	-40	80	-1448	2415	1967	2100	1/1190	1/1229
11	10-06-02	Capandan L=19	H- 900× 300×16/28	H- 900× 300×16/28	-39	80	-1256	2415	1944	2100	-31	80	-1175	2415	1678	2100	1/1551	1/1551
12	10-06-06	Tigbao L=22	H- 912× 302×18/34	H- 912× 302×18/34	-38	80	-1363	2415	1935	2100	-37	80	-1348	2415	1906	2100	1/1309	1/1352
13	10-06-07	Balite L=24	H- 912× 302×18/34	H- 912× 302×18/34	-40	80	-1492	2415	2094	2100	-40	80	-1460	2415	2064	2100	1/1084	1/1120

Table A8-1 SUMMARY OF DESIGN COMPUTATION OF SUPERSTRUCTURES (GROUP 1)

(2/3)

No.	Bridge No.	Bridge Name	Girder Section (@ Span center)		Maximum Stress (Outer girder)						Maximum Stress (Inner girder)						Deflection (Allowance is 1/800)	
			Outer girder	Inner girder	Slab	Allow- ance	Upper flange	Allow- ance	Lower flange	Allow- ance	Slab	Allow- ance	Upper flange	Allow- ance	Lower flange	Allow- ance	Outer G.	Inner G.
14	11-01-01	Andanan L=20	H- 912× 302×18/34	H- 912× 302×18/34	-33	80	-1152	2415	1637	2100	-33	80	-1138	2415	1614	2100	1/1615	1/1669
15	11-01-02	Pagtitilaan L=32	PL 300×16 PL 1600×9 PL 430×32	PL 320×16 PL 1600×9 PL 430×25	-35	80	-2246	2415	1909	2100	-25	80	-2133	2415	1914	2100	1/1185	1/1127
16	11-01-03	Quezon L=19	H- 900× 300×16/28	H- 900× 300×16/28	-39	80	-1256	2415	1944	2100	-31	80	-1175	2415	1678	2100	1/1551	1/1551
17	11-01-04	Pagbakatan L=24	H- 912× 302×18/34	H- 912× 302×18/34	-40	80	-1492	2415	2094	2100	-40	80	-1460	2415	2064	2100	1/1084	1/1120
18	11-01-05	Union L=35	PL 310×22 PL 1700×9 PL 510×32	PL 360×19 PL 1700×9 PL 420×30	-35	80	-2217	2415	1898	2100	-24	80	-2134	2415	1931	2100	1/1186	1/1054
19	11-01-06	Tagasaka L=28	PL 280×16 PL 1400×9 PL 420×32	PL 300×16 PL 1400×9 PL 420×25	-36	80	-2266	2415	1907	2100	-27	80	-2161	2415	1932	2100	1/1162	1/1111
20	11-03-01	Dao-An L=24	H- 912× 302×18/34	H- 912× 302×18/34	-40	80	-1492	2415	2094	2100	-40	80	-1460	2415	2064	2100	1/1084	1/1120
21	11-03-02	Licop L=25	PL 280×14 PL 1200×9 PL 420×32	PL 300×14 PL 1200×9 PL 380×28	-38	80	-2335	2415	1874	2100	-29	80	-2231	2415	1902	2100	1/1096	1/1055
22	11-03-03	Tawas L=15	H- 700× 300×13/24	H- 700× 300×13/24	-42	80	-1164	2415	2001	2100	-34	80	-1106	2415	1743	2100	1/1455	1/1455
23	11-03-06	Mahan-Ub L=20	H- 912× 302×18/34	H- 912× 302×18/34	-33	80	-1152	2415	1637	2100	-33	80	-1138	2415	1614	2100	1/1615	1/1669
24	11-05-02	Los Amigos L=38	PL 280×16 PL 1900×10 PL 480×22	PL 300×16 PL 1900×10 PL 410×19	-27	80	-2071	2415	1950	2100	-27	80	-1984	2415	1959	2100	1/1338	1/1300
25	11-05-06	Piedad L=22  L=12	H- 912× 302×18/34	H- 912× 302×18/34	-38	80	-1363	2415	1935	2100	-37	80	-1348	2415	1906	2100	1/1309	1/1352
			H- 588× 300×12/20	H- 588× 300×12/20	-40	80	-1018	2415	1863	2100	-33	80	-978	2415	1636	2100	1/1659	1/1659





**Table A8-2 REACTION FORCE OF SUPERSTRUCTURES (GROUP 1)**

**Reaction Force on Abutment**

Span (m)		Loading Group I		
		Vertical force (t)		
		Dead load	Live load	Total
Simple H-beam composite girders	12	47.1	51.4	98.5
	15	60.0	54.9	114.9
	18	72.8	57.4	130.2
	19	76.9	58.1	135.0
	20	82.3	58.7	141.0
	21	86.3	59.2	145.5
	22	92.5	59.8	152.3
	23	96.6	60.3	156.9
Simple built-up beam composite girders	24	101.9	60.7	162.6
	25	107.1	77.9	185.0
	28	117.2	78.8	196.0
	29	120.8	79.1	199.9
	30	125.3	79.5	204.8
	32	133.3	80.4	213.7
	35	153.3	81.8	235.1
	38	165.2	83.8	249.0
	40	173.2	84.3	257.5

**Reaction Force on Pier**

Span (m)		Loading Group I		
		Vertical force (t)		
		Dead load	Live load	Total
Simple H-beam composite girders	24+18	174.7	60.7	235.4
	18+18+18	145.6	57.4	203
	22+22	185	59.8	244.8
	20+20+20	164.6	58.7	233.3
	24+24	203.8	60.7	264.5
	12+22+12	139.6	59.8	199.4

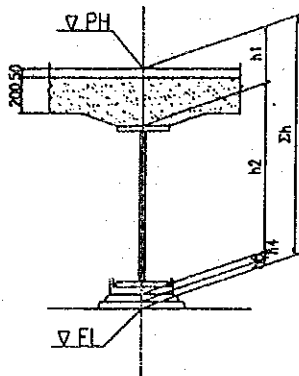
**Reaction Force of Each Bearing**

Span (m)		Outer girder			Inner girder		
		Dead load	Live load	Total	Dead load	Live load	Total
Simple H-beam composite girders	24+18	52.4	16.7	69.1	43.7	19.0	62.7
	18+18+18	43.7	15.8	59.5	36.4	17.9	54.3
	22+22	55.6	16.4	72	46.3	18.7	65
	20+20+20	49.3	16.1	65.4	41.1	18.3	59.4
	24+24	61.2	16.7	77.9	51.0	19.0	70
	12+22+12	41.9	16.4	58.3	34.9	18.7	53.6

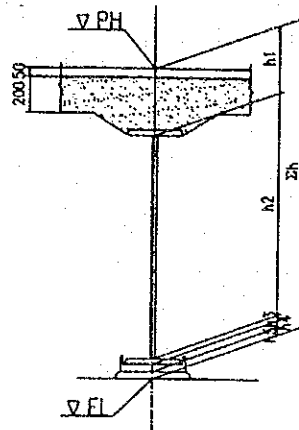


Table A8-3 HEIGHTS OF GIRDERS, SLABS, BEARINGS (GROUP 1)

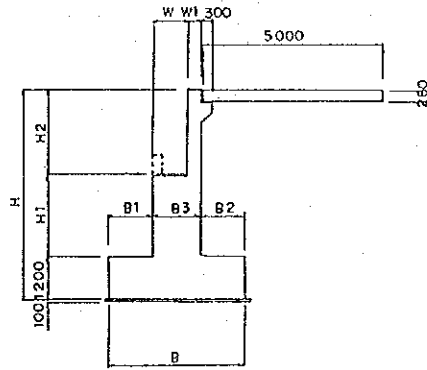
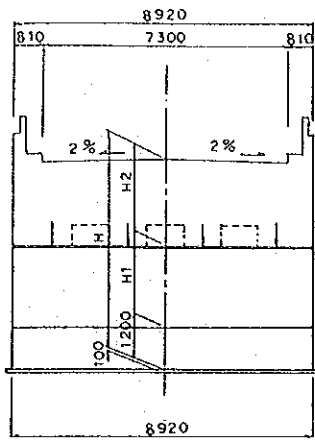
Simple H-Beam Composite Girder (HBB)



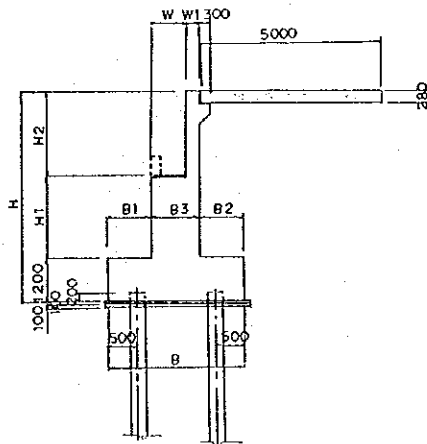
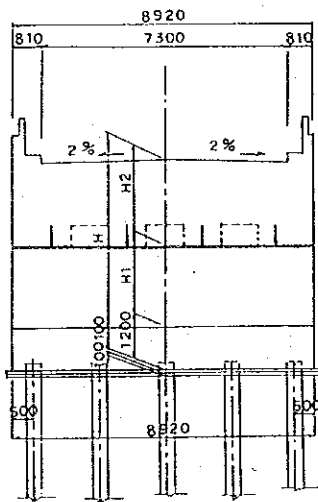
Simple Built-Up Beam Composite Girder (PLG)



Type	Span (m)	h1	h2	h3		h4	h5	Σh
				Flange	Sole PL	Bearing	Mortar	
Simple H-beam composite girders	12	360	588	-	22	58	32	1,060
	15	360	700	-	22	63	35	1,180
	18	360	890	-	22	63	35	1,370
	19	360	900	-	22	73	35	1,370
	20	360	912	-	22	73	33	1,380
	21	360	912	-	22	73	33	1,380
	22	360	912	-	22	73	33	1,400
	23	360	912	-	22	73	33	1,400
	24	360	912	-	22	73	33	1,400
Simple built-up beam composite girders	25	360	1,200	10	22	92	46	1,730
	28	360	1,400	10	22	92	46	1,930
	29	360	1,400	10	22	92	46	1,930
	30	360	1,500	12	22	110	36	2,040
	32	360	1,600	12	22	110	36	2,140
	35	360	1,700	12	22	110	36	2,240
	38	360	1,900	16	22	150	42	2,490
	40	360	2,000	16	22	150	42	2,590

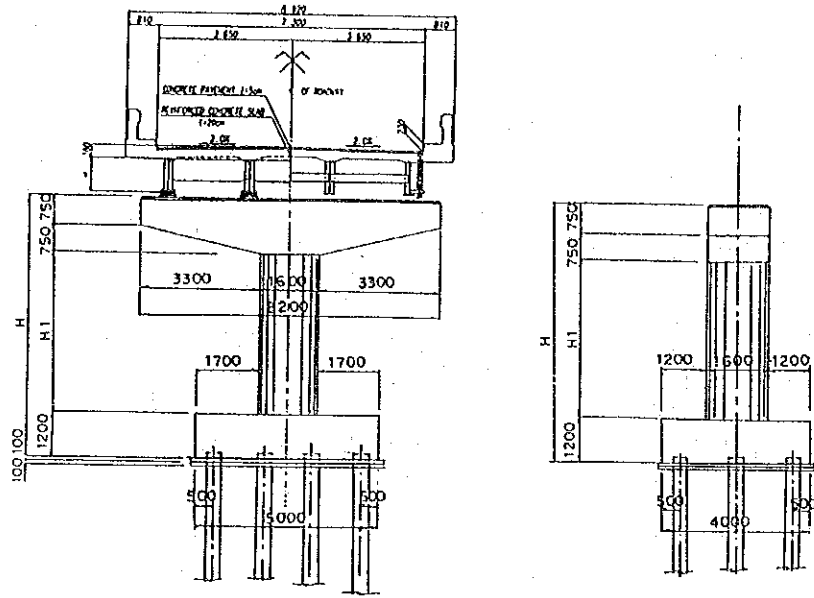


Spread Foundation Abutment

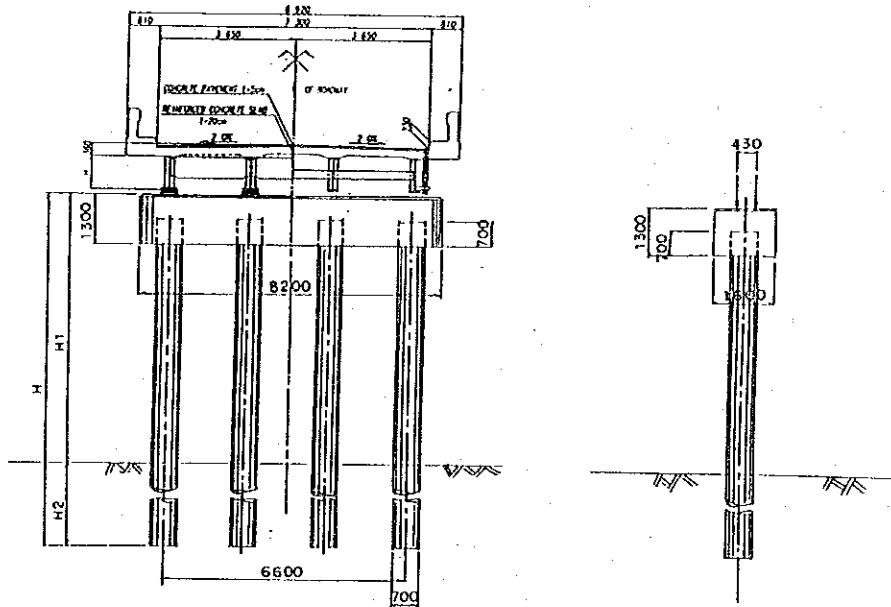


Pile Foundation Abutment

Figure A8-3 STANDARD ABUTMENTS



Standard Pier

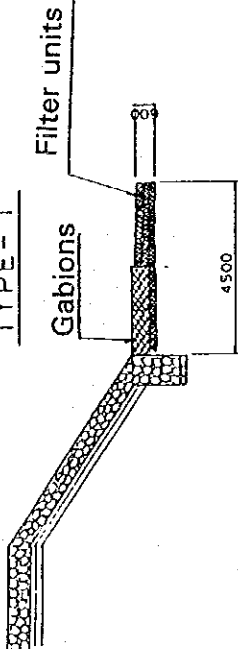


Pile-bent Pier

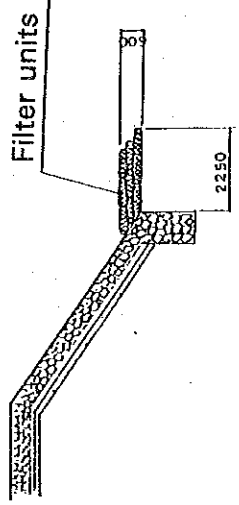
Figure A8-4 STANDARD PIER AND PILE-BENT PIER



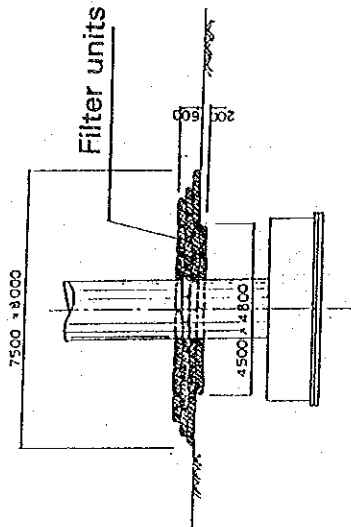
TYPE-1



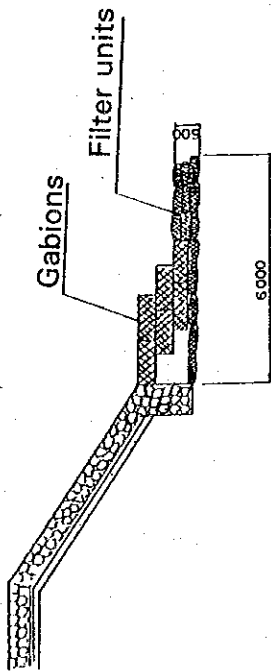
TYPE-2



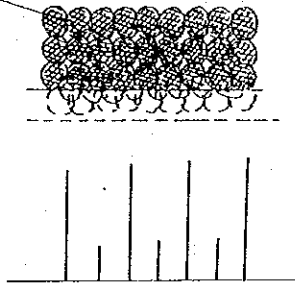
TYPE-3



TYPE-4



TYPE-5



TYPE-6

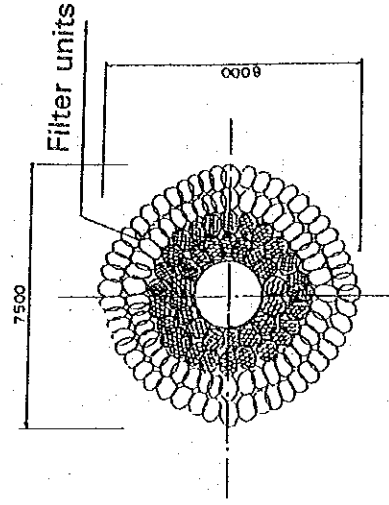
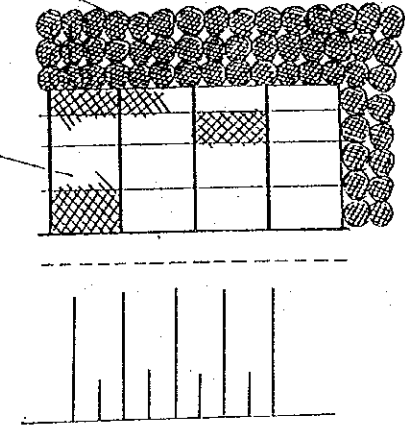
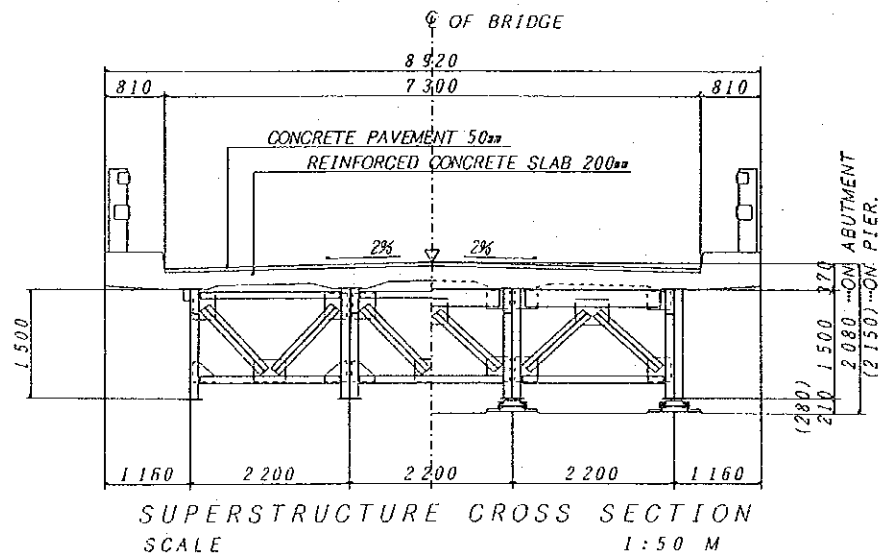
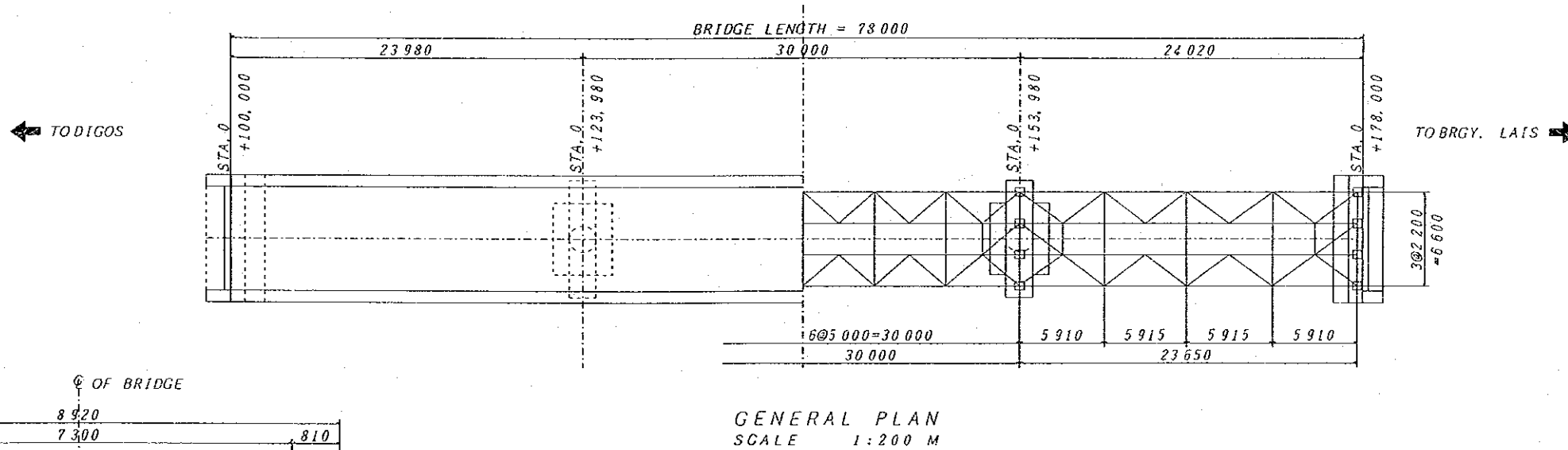
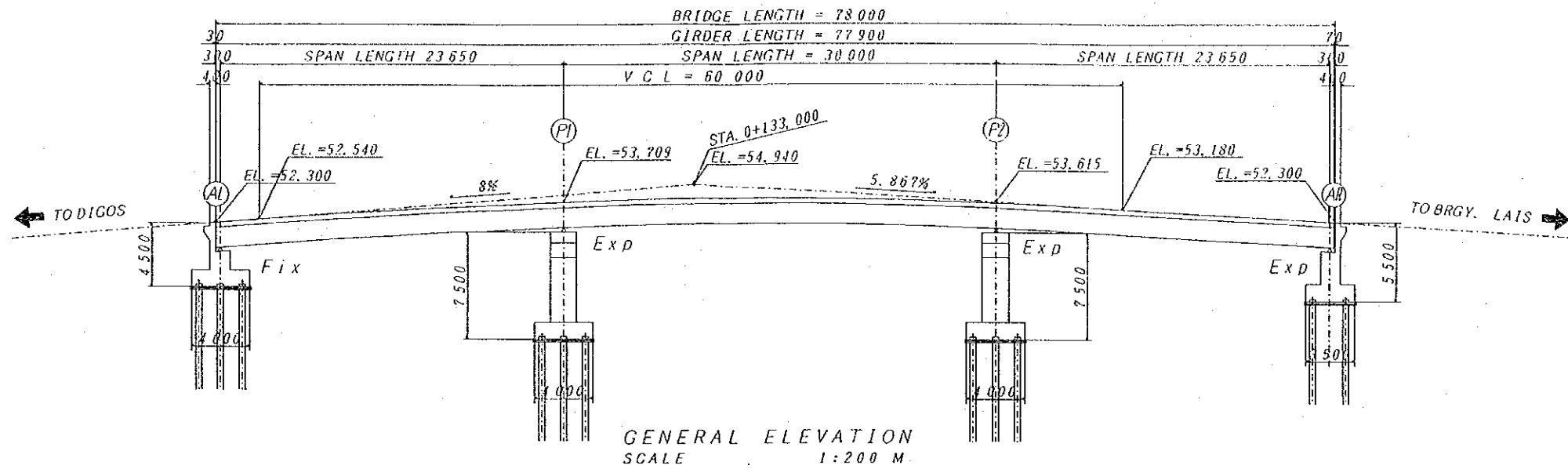


Figure A8-6 SCOURING PROTECTION







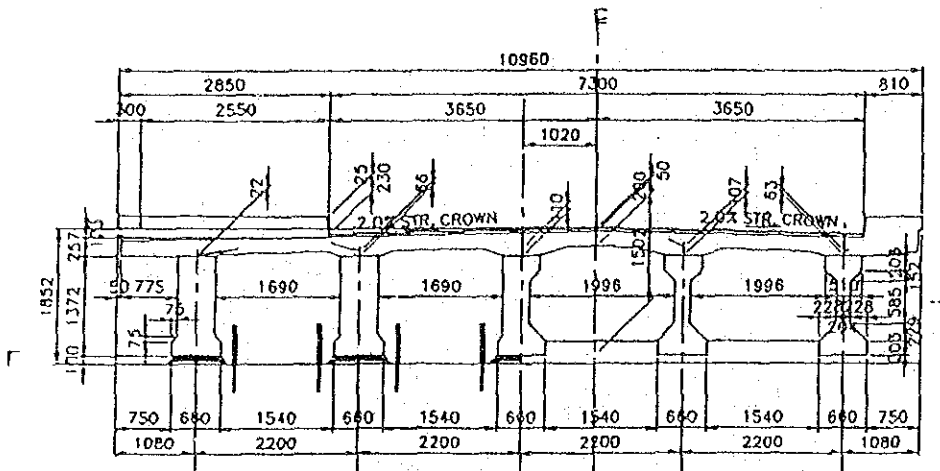
11-05-01 Culaman

Figure A8-7 BASIC DESIGN OF CONTINUOUS BUILT-UP BEAM GIRDERS (2/2)

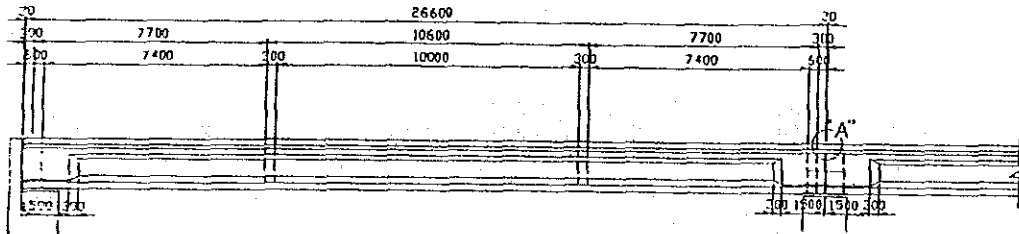




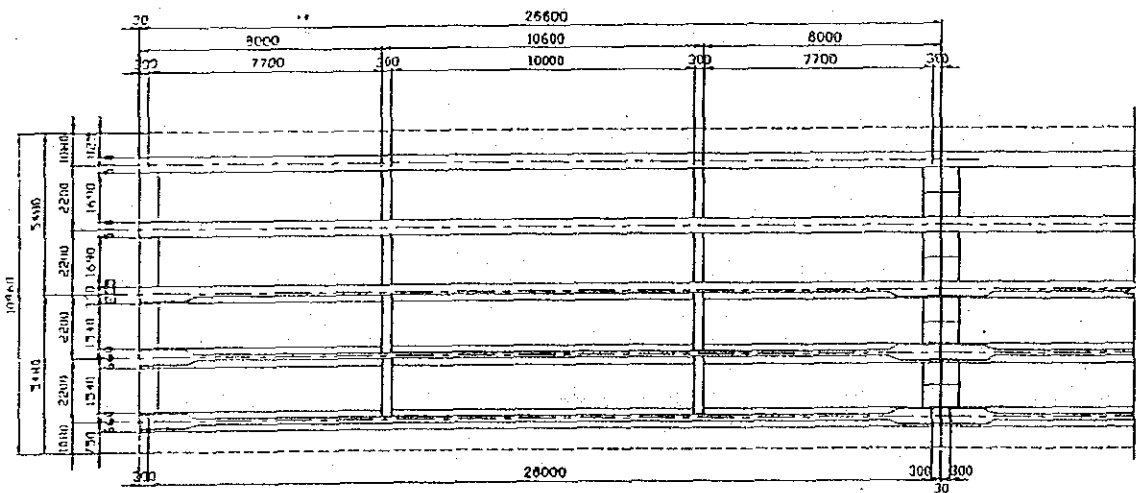




SUPERSTRUCTURE CROSS SECTION



GENERAL ELEVATION



GENERAL PLAN

11-02-05 Lower Silway

Figure A8-8 BASIC DESIGN OF PC COMPOSITE GIRDERS (2/2)



Table A8-4 SUMMARY OF DESIGN COMPUTATION OF SUPERSTRUCTURES (GROUP 2)

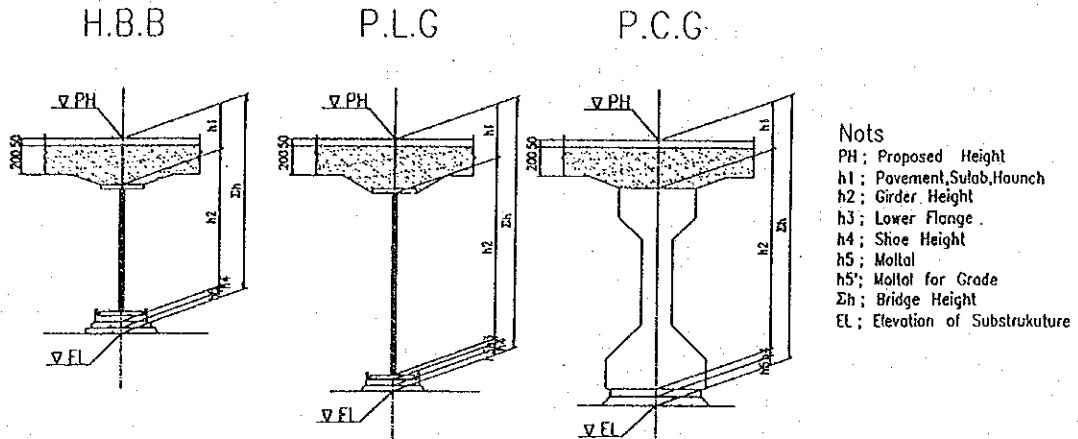
No.	Bridge No.	Bridge Name	Girder Section (@ Span center)		Maximum Stress (Outer girder)						Maximum Stress (Inner girder)						Deflection (Allowance is 1/800)	
			Outer girder	Inner girder	Slab	Allowance	Upper flange	Allowance	Lower flange	Allowance	Slab	Allowance	Upper flange	Allowance	Lower flange	Allowance	Outer G.	Inner G.
1	10-01-08	Lingayao L=20	H- 912× 302×18/34	H- 912× 302×18/34	-33	80	-1152	2415	1637	2100	-33	80	-1138	2415	1614	2100	1/1615	1/1669
2	10-01-09	Magus L=19	H- 900× 300×16/28	H- 900× 300×16/28	-39	80	-1256	2415	1944	2100	-31	80	-1175	2415	1678	2100	1/1551	1/1551
3	10-01-10	Rizal L=20	H- 912× 302×18/34	H- 912× 302×18/34	-33	80	-1152	2415	1637	2100	-33	80	-1138	2415	1614	2100	1/1615	1/1669
4	10-01-12	Guinabsan L=20	H- 912× 302×18/34	H- 912× 302×18/34	-33	80	-1152	2415	1637	2100	-33	80	-1138	2415	1614	2100	1/1615	1/1669
5	10-02-04	Maog L=23	H- 912× 302×18/34	H- 912× 302×18/34	-41	80	-1459	2415	2134	2100	-35	80	-1388	2415	1912	2100	1/1190	1/1229
6	10-05-09	Pagatapat 28.65+36+28.65	PL 340×22 PL 1700×9 PL 340×22	PL 340×19 PL 1700×9 PL 340×19	-44	80	-1314	1400	1314	1400	-44	80	-1294	1400	1294	1400	1/1333	1/1059
7	11-02-05	Lower Silway L=26.6	510×203 1372×204 660×203	510×203 1372×204 660×203	-44	80	-109	140	6.2	14.9	-44	80	-109	140	6.2	14.9	1/2500	1/2500
8	11-04-03	Inambatan L=27.6	510×203 1372×204 660×203	510×203 1372×204 660×203	-44	80	-115	140	5.5	14.9	-44	80	-115	140	5.5	14.9	1/2500	1/2500
9	11-05-01	Culaman 23.65+36+23.65	PL 300×19 PL 1500×9 PL 300×19	PL 320×16 PL 1500×9 PL 320×16	-44	80	-1258	1400	1258	1400	-44	80	-1338	1400	1338	1400	1/1579	1/1250
10	11-05-03	Mintal L=40	PL 280×16 PL 2000×10 PL 480×22	PL 300×16 PL 2000×10 PL 410×19	-27	80	-2071	2415	1950	2100	-27	80	-1984	2415	-1959	2100	1/1270	1/1235



**Table A8-5 REACTION FORCE OF SUPERSTRUCTURES (GROUP 2)**

No.	Bridge No.	Bridge Name Span (m)	A: Abut P: Pier	F: Fix. E: Exp.	Reaction on Substructure (t)		Reaction on Outer Bearing (t)		Reaction on Inner Bearing (t)	
					Dead Load	Live Load	Dead Load	Live Load	Dead Load	Live Load
1	10-01-08	Lingayao Br. 20.0+20.0=36.0	AL	F	73.5	62.3	-	-	-	-
			P1	EF	147.0	64.6	44.1	17.8	36.8	20.2
			AR	E	73.5	62.3	-	-	-	-
2	10-01-09	Magus Br. 19.0+19.0=36.0	AL	F	82.2	62.6	-	-	-	-
			P1	EF	164.4	65.2	49.3	17.9	41.1	20.4
			AR	E	82.2	62.6	-	-	-	-
3	10-01-10	Rizal Br. 4@20.0=80.0	AL	F	85.6	62.7	-	-	-	-
			P1	EF	171.2	64.5	51.4	17.7	42.8	20.2
			P2	EF	171.2	64.5	51.4	17.7	42.8	20.2
			P3	EF	171.2	64.5	51.4	17.7	42.8	20.2
			AR	E	85.6	62.7	-	-	-	-
4	10-01-12	Guinabsan Br. 4@20.0=80.0	AL	F	85.6	62.7	-	-	-	-
			P1	EF	171.2	64.5	51.4	17.7	42.8	20.2
			P2	EF	171.2	64.5	51.4	17.7	42.8	20.2
			P3	EF	171.2	64.5	51.4	17.7	42.8	20.2
			AR	E	85.6	62.7	-	-	-	-
5	10-02-04	Maog Br. 4@23.0=92.0	AL	F	99.5	63.1	-	-	-	-
			P1	EF	199.0	66.2	59.7	18.2	49.8	20.7
			P2	EF	199.0	66.2	59.7	18.2	49.8	20.7
			P3	EF	199.0	66.2	59.7	18.2	49.8	20.7
			AR	E	99.5	63.1	-	-	-	-
6	10-05-09	Pagatpat San Simon Br. 29+36+29=94.0	AL	F	93.2	63.6	-	-	-	-
			P1	E	314.4	70.5	94.3	19.4	78.6	22.0
			P2	E	314.4	70.5	94.3	19.4	78.6	22.0
			AR	E	93.2	63.6	-	-	-	-
7	11-02-05	Lower Silway Br. 5@26.0=130.0	AL	E	237.3	83.1	-	-	-	-
			P1	FF	474.5	94.4	142.4	26.0	118.6	29.5
			P2	FF	474.5	94.4	142.4	26.0	118.6	29.5
			P3	FF	474.5	94.4	121.0	23.4	90.4	13.6
			P4	FF	474.5	94.4	121.0	23.4	90.4	13.6
			AR	E	237.3	83.1	-	-	-	-
8	11-04-03	Inambatan Br. 26.0+32.0+26.0 =84.0	AL	E	187.2	75.7	-	-	-	-
			P1	FF	374.4	79.3	101.8	22.5	42.7	19.9
			P2	FF	374.4	79.3	101.8	22.5	42.7	19.9
			AR	E	187.2	75.7	-	-	-	-
9	11-05-01	Culaman Br. 24.0+30.0+24.0 =78.0	AL	F	77.1	63.0	-	-	-	-
			P1	E	260.2	68.6	78.1	18.9	65.1	21.4
			P2	E	260.2	68.6	78.1	18.9	65.1	21.4
			AR	E	77.1	63.0	-	-	-	-
10	11-05-03	Mintal Br. L=40.0	AL	F	173.0	65.4	-	-	-	-
			AR	E	173.0	65.4	-	-	-	-

**Table A8-6 HEIGHTS OF GIRDERS, SLABS, BEARINGS (GROUP 2)**



**Nots**  
 PH ; Proposed Height  
 h1 ; Pavement, Subslab, Haunch  
 h2 ; Girder Height  
 h3 ; Lower Flange  
 h4 ; Shoe Height  
 h5 ; Mortar  
 h5' ; Mortar for Grade  
 Zb ; Bridge Height  
 EL ; Elevation of Substruktüre

Grupe 2			SHOE SET DEMENSION											
			TYPE	NAME	F, E	PH	h1	h2	h3	h4	h5	h5'	Σh	EL
1	10-01-08	Lingayao Br. 20.0+20.0 36.0	HBB	AL	F	52.700	0.36	0.912	0.022	0.063	0.023		1.380	51.320
				P1	EF	52.700	0.36	0.912	0.022	0.063	0.023		1.380	51.320
				AR	E	52.700	0.36	0.912	0.022	0.063	0.023		1.380	51.320
2	10-01-10	Rizal.Br 4@20.0=80.0	HBB	AL	F	53.800	0.36	0.912	0.022	0.063	0.023		1.380	52.420
				P1	EF	53.800	0.36	0.912	0.022	0.063	0.023		1.380	52.420
				P2	EF	53.800	0.36	0.912	0.022	0.063	0.023		1.380	52.420
				P3	EF	53.800	0.36	0.912	0.022	0.063	0.023		1.380	52.420
3	10-01-12	Guinabsan.Br 4@20.0=80.0	HBB	AL	F	52.800	0.36	0.912	0.022	0.063	0.023	0.018	1.380	51.420
				P1	EF	53.906	0.36	0.912	0.022	0.063	0.023		1.380	52.526
				P2	EF	53.893	0.36	0.912	0.022	0.063	0.023		1.380	52.513
				P3	EF	53.347	0.36	0.912	0.022	0.063	0.023		1.380	51.967
				AR	E	52.800	0.36	0.912	0.022	0.063	0.023	0.005	1.380	51.420
4	10-02-04	Maog.Br 4@23.0=92.0	HBB	AL	F	50.800	0.36	0.912	0.022	0.073	0.033		1.400	49.400
				P1	EF	50.800	0.36	0.912	0.022	0.073	0.033		1.400	49.400
				P2	EF	50.800	0.36	0.912	0.022	0.073	0.033		1.400	49.400
				P3	EF	50.800	0.36	0.912	0.022	0.073	0.033		1.400	49.400
5	10-05-09	Pagatpat San Simon.Br 29+36+29 =94.0	PLG	AL	F	20.100	0.36	1.700	0.035	0.155	0.030		2.280	17.820
				P1	E	20.100	0.36	1.700	0.047	0.210	0.043		2.360	17.740
				P2	E	20.100	0.36	1.700	0.047	0.210	0.043		2.360	17.740
				AR	E	20.100	0.36	1.700	0.035	0.155	0.030		2.280	17.820
6	11-02-05	Lower Silway.Br 5@26.0=130.0	PCG	AL	E	53.200	0.38	1.372		0.042	0.026	0.007	1.820	51.380
				P1	FF	53.637	0.38	1.372		0.042	0.026		1.820	51.817
				P2	FF	53.855	0.38	1.372		0.042	0.026		1.820	52.035
				P3	FF	53.855	0.38	1.372		0.042	0.026		1.820	52.035
				P4	FF	53.637	0.38	1.372		0.042	0.026		1.820	51.817
7	11-04-03	Inanbatan.Br 26.0+32.0+26.0 =84.0	PCG	AL	E	50.140	0.37	1.372		0.042	0.036	0.007	1.820	51.380
				P1	FF	50.140	0.37	1.372		0.042	0.036		1.820	48.320
				P2	FF	50.140	0.37	1.372		0.042	0.036		1.820	48.320
				AR	E	50.140	0.37	1.372		0.042	0.036		1.820	48.320
8	11-05-01	Culaman.Br 24.0+30.0+24.0 =78.0	PLG	AL	F	52.300	0.36	1.400	0.034	0.140	0.016	0.026	1.950	50.350
				P1	E	53.709	0.36	1.400	0.047	0.195	0.038		2.040	51.669
				P2	E	53.615	0.36	1.400	0.047	0.195	0.038		2.040	51.575
9	11-05-03	Mintal.Br L=40.0	PLG	AL	F	52.600	0.36	2.000	0.041	0.150	0.039	0.022	1.950	50.350
				AR	E	52.600	0.36	2.000	0.041	0.150	0.039		2.590	50.010
				AR	E	52.600	0.36	2.000	0.041	0.150	0.039		2.590	50.010
10	10-01-09	Magus.Br 19.0+19.0 =36.00	HBB	AL	F	52.800	0.36	0.900	0.022	0.063	0.025		1.370	51.430
				P1	EF	52.800	0.36	0.900	0.022	0.063	0.025		1.370	51.430
				AR	E	52.800	0.36	0.900	0.022	0.063	0.025		1.370	51.430







## **APPENDIX 9**

### **FIGURES AND TABLES OF IMPLEMENTATION PLAN**

Table A9-1 TRANSPORTATION ROUTE AND TEMPORARY BRIDGE REINFORCEMENT PLAN (GROUP 1)

(1/4)

No.	Bridge No. Bridge Name	Location	Materials to be Procured		Landing Port	Landing Transport Route	Road Condition and Temporary Bridge Reinforcement	
			Steel Girders (t)	Other Materials (t)			Road Surface Condition	Temporary Bridge Reinforcement
1	10-01-01 Tag-Anahao	Km. 1264 + 050 Butuan City-Malaybalay Road Butuan City, Agusan del Norte	H-beams 21m 32.031 t		Nasipit	Nasipit to Site Distance: 47km	' Nasipit to Butuan is paved. ' Butuan to site is gravel in fair condition.	None
2	10-02-01 Mesli	Km. 1299 + 780 NRJ-Awa-Azpitia-Lianga National Secondary Road, Agusan del Sur	Built-up beams 40m 67.653 t	Gabions 4m x 1.2m x 0.5m 213 each	Nasipit	Nasipit to Site Distance: 63 km	' Nasipit to Prosperidad is paved. ' Prosperidad to site is gravel in fair condition.	Replacement of timber br. (by this project) (Anibongan Br. L=24.0m)
3	10-02-03 Anibongan	Km. 1297 + 655 NRJ-Awa-Azpitia-Lianga National Secondary Road, Agusan del Sur	H-beams 24m 36.029 t		Nasipit	Nasipit to Site Distance: 61km	' Nasipit to Prosperidad is paved. ' Prosperidad to site is gravel in fair condition.	Reinforcement of timber br. (Azpitia Br. L=30.0m)
4	10-03-03 Agusan Canyon	Km. 1452 + 000 Jct. Manolo Fortich-Libona-Indahad Road Agusan Canyon, Manolo Fortich, Bukidnon	H-beams 24m + 18m 57.948 t	Gabions 4m x 1.2m x 0.5m 165 each	Cagayan de Oro	Cagayan de Oro to Site Distance: 40km	' Cagayan De Oro to Prosperidad is paved. ' Delmonte to site is gravel in fair condition.	None
5	10-03-06 Aglayan	Km. 1519 + 419.51 Jct. Sayre Highway Aglayan-Zamboangita Road, Barangay Aglayan, Malaybalay Bukidnon	H-beams 24m 36.029 t		Cagayan de Oro	Cagayan de Oro to Site Distance: 110km	' Cagayan De Oro to Malaybalay is paved. ' Malaybalay to site is gravel in good condition.	None
6	10-03-09 Silae	Km. 1559 + 465 Jct. Sayre Highway Aglayan-Zamboangita Road, Barangay Silae, Malaybalay Bukidnon	Built-up beams 29m 39.106 t		Cagayan de Oro	Cagayan de Oro to Site Distance: 150km	' Cagayan De Oro to Malaybalay is paved. ' Malaybalay to site is gravel in fair condition.	Replacement of Bailey br. (Aglayan Br. L=27.35m)  Reinforcement of Bailey br. (Abuhan Br. L=15.60m)
7	10-04-03 Tipalac	Km. 1754 + 303.09 Oroquieta-Dipolog Mt. Road Barangay Rizal, Oroquieta City Misamis Occidental	H-beams 20m 30.863 t		Ozamiz	Ozamiz to Site Distance: 46km	' Ozamiz to Oroquieta is paved. ' Oroquieta to site is partially gravel in good condition.	None
8	10-04-04 Tipan Duit	Km. 1753 + 933 Oroquieta-Dipolog Mt. Road Barangay Tipan, Oroquieta City Misamis Occidental	H-beams 21m 32.031 t		Ozamiz	Ozamiz to Site Distance: 47km	' Ozamiz to Oroquieta is paved. ' Oroquieta to site is partially gravel in good condition.	Replacement of Bailey br. (Tipalac Br. L=19.45m)
9	10-04-10 Katipunan	Km. 1763 + 422 Looc-Katipunan-Cartagena-Luzaran Prov'l Road, Barangay Katipunan, Plaridel Misamis Occidental	H-beams 18m + 18m + 18m 65.825 t	Sheetpiles (Type III) L = 8m 68 sheets	Ozamiz	Ozamiz to Site is paved. Distance: 59km	' Ozamiz to site is paved.	None

Table A9-1 TRANSPORTATION ROUTE AND TEMPORARY BRIDGE REINFORCEMENT PLAN (GROUP 1)

(2/4)

No.	Bridge No. Bridge Name	Location	Materials to be Procured		Landing Port	Landing Transport Route	Road Condition and Temporary Bridge Reinforcement	
			Steel Girders (t)	Other Materials (t)			Road Surface Condition	Temporary Bridge Reinforcement
10	10-06-01 Hayangabon II	Km. 1195 + 345 Surigao-Davao Coastal Road Surigao del Norte	H-beams 23m 34.861 t		Nasipit	Nasipit to Site Distance: 156km	* Nasipit to Saison is paved. * Saison to site is gravel in good condition.	Replacement of timber br. (by this project) (Capandan Br. L=14.00m) Reinforcement of timber br. (Taganitol Br. L=24.50m)
11	10-06-02 Capandan	Km. 1186 + 970 Surigao-Davao Coastal Road Surigao del Norte	H-beams 19m 25.661 t		Nasipit	Nasipit to Site Distance: 143km	* Nasipit to Saison is paved. * Saison to site is gravel in good condition.	None
12	10-06-06 Tigbao	Km. 470 + 430 Surigao-Anoa-aon-Malimono Road Surigao del Norte	H-beams 22m + 22m 66.578 t		Nasipit	Nasipit to Site Distance: 138km	* Nasipit to Agana An is paved. * Agana An to site is gravel in good condition.	Replacement of timber br. (by this project) (Balite Br. L=36.00m)
13	10-06-07 Balite	Km. 469 + 420 Surigao-Anoa-aon-Malimono Road Surigao del Norte	H-beams 24m 36.029 t		Nasipit	Nasipit to Site Distance: 137km	* Nasipit to Agana An is paved. * Agana An to site is gravel in good condition.	Reinforcement of timber brs. (Tayactac Br. L=12.00m Oslao Br. L=18.00m Duncilla Br. L=18.00m Ligaya Br. L= 6.00m)
14	11-01-01 Andanan	Km. 1381 + 655 Davao Oriental-Surigao del Sur Coastal Road, Andanan Liangá, Surigao del Sur	H-beams 20m + 20m + 20m 92.441 t	Sheetpiles L = 4m 112 sheets L = 4m 98 sheets	Nasipit	Nasipit to Site Distance: 82km	* Nasipit to Prosperidad is paved. * Prosperidad to site is gravel in fair condition.	Reinforcement of timber brs. (Ban-as Br. L=21.00m Banahao Br. L= 7.50m Sanayon Br. L= 7.50m) Replacement of timber br. (by this project) (Mesli Br. L=30.00m)
15	11-01-02 Pagtilaan	Km. 1505 + 068 Davao Oriental-Surigao del Sur Coastal Road, Lingig Surigao del Sur	Built-up beams 32m 45.118 t		Nasipit	Nasipit to Site Distance: 172km	* Nasipit to Prosperidad is paved. * Prosperidad to site is gravel in fair condition.	See Note 1).
16	11-01-03 Quezon	Km. 1409 + 885 Surigao del Sur-Davao Oriental Coastal Road, Tagbina Surigao del Sur	H-beams 19m 25.661 t		Nasipit	Nasipit to Site Distance: 89km	* Nasipit to Prosperidad is paved. * Prosperidad to site is gravel in fair condition.	None
17	11-01-04 Pagbakatan	Km. 1482 + 694 Davao Oriental-Surigao del Sur Coastal Road, Lingig Surigao del Sur	H-beams 24m 36.029 t		Nasipit	Nasipit to Site Distance: 153km	* Nasipit to Prosperidad is paved. * Prosperidad to site is gravel in fair condition.	Replacement of timber br. (by this project) (Tagasaka Br. L=26.00m)

Table 9A-1 TRANSPORTATION ROUTE AND TEMPORARY BRIDGE REINFORCEMENT PLAN (GROUP 1)

(3/4)

No.	Bridge No. Bridge Name	Location	Materials to be Procured		Landing Port	Landing Transport Route	Road Condition and Temporary Bridge Reinforcement	
			Steel Girders (t)	Other Materials (t)			Road Surface Condition	Temporary Bridge Reinforcement
18	11-01-05 Union	Km. 1501 + 162 Davao Oriental-Surigao del Sur Coastal Road, Lingig Surigao del Sur	Built-up beams 35m 55.058 t		Nasipit	Nasipit to Site Distance: 168km	* Nasipit to Prosperidad is paved. * Prosperidad to site is gravel in fair condition.	See Note 2)
19	11-01-06 Tagasaka	Km. 1439 + 658 Davao Oriental-Surigao del Sur Coastal Road, Hinatuan, Surigao del Sur	Built-up beams 28m 38.374 t		Nasipit	Nasipit to Site Distance: 117km	* Nasipit to Prosperidad is paved. * Prosperidad to site is gravel in fair in fair condition.	Reinforcement of timber brs. (Matin-ao Br. L= 6.00m Bitas Br. L=13.00m Tagangon Br. L=13.00m) Replacement of Bailey br. (Quezon Br. L=19.50m)
20	11-03-01 Dao-An	Km. 1632 + 388 Davao Oriental-Surigao del Sur Coastal Road, Caraga Davao Oriental	H-beams 24m + 24m 71.982 t		Davao City Sasa Port	Davao City to Site Distance: 241km	* Davao to Mati is paved. * Mati to site is gravel in fair condition except mountainous sections are steel and narrow.	
21	11-03-02 Licop	Km. 1726 + 439 Mati-Compostela-Montevista Road Lupon, Davao Oriental	Built-up beams 25m 32.790 t 32.790 t		Davao City Sasa Port	Davao City to Site Distance: 173km	* Davao to Mati is paved. * Mati to site is gravel in fair condition.	Replacement of Bailey br. (by this project) (Tawas Br. L=15.00m)
22	11-03-03 Tawas	Km. 1723 + 920 Mati-Compostela-Montevista Road Mati, Davao Oriental	H-beams 15m 16.739 t		Davao City Sasa Port	Davao City to Site Distance: 169km	* Davao to Mati is paved. * Mati to site is gravel in fair condition.	Reinforcement of RC br. (Lubuganon Br. L=24.00m)
23	11-03-06 Mahan-Ub	Km. 1649 + 210 Davao Oriental-Surigao del Sur Coastal Road, Manay Davao Oriental	H-beams 20m + 20m + 20m 92.441 t		Davao City Sasa Port	Davao City to Site Distance: 223km	* Davao to Mati is paved. * Mati to site is gravel in fair condition except mountainous sections are steel and narrow.	Reinforcement of Bailey br. (Tagsagaong Br. L=27.43m)
24	11-05-02 Los Amigos	Km. 1689 + 282 Tugbok-Balengaseng Road Tugbok District, Davao City	Built-up beams 38m 62.763 t	Gabions 4m x 1.2m x 0.5m 144 each Gabions 4m x 1.2m x 0.5m 160 each	Davao City Sasa Port	Davao City to Site Distance: 26km	* Davao to site is paved.	None
25	11-05-06 Piedad	Km. 1562 + 780 Toril District-Eden Road Toril, Davao City	H-beams 12m + 22m + 12m 55.193 t		Davao City Sasa Port	Davao City to Site Distance: 29km	* Davao to Mati is paved.	None

Table A9-1 TRANSPORTATION ROUTE AND TEMPORARY BRIDGE REINFORCEMENT PLAN (GROUP 1)

(4/4)

No.	Bridge No. Bridge Name	Location	Materials to be Procured		Landing Port	Landing Transport Route	Road Condition and Temporary Bridge Reinforcement	
			Steel Girders (t)	Other Materials (t)			Road Surface Condition	Temporary Bridge Reinforcement
26	11-05-07 Lais	Km. 1645 + 160 Davao del Sur-Sarangani Coastal Road, Malita Davao del Sur	Built-up beams 15m, 30m 36.029 t 42.210 t		Davao City Sasa Port	Davao City to Site Distance: 123km	* Davao to Sulop is paved. * Sulop to site is gravel in fair condition.	Reinforcement of RC br. (Pangyan Br. L=18.29m) Replacement of Bailey br. (by this project) (Culaman Br. L=61.00m)
27	11-06-02 Baliton	Km. 1717 + 376 Sarangani-Davao del Sur Coastal Road, Baliton Glan, Sarangani	Built-up beams 30m 42.201 t		General Santos Makar Wharf	Makar to Site Distance: 82km	* Makar to Glan is paved. * Glan to site is gravel in good condition.	Reinforcement of Bailey brs. (Bakong Br. L=12.20m Calambiga Br. L=15.24m)
28	11-06-03 Pangyan	Km. 1733 + 949 Sarangani-Davao del Sur Coastal Road, Pangyan Glan, Sarangani	Built-up beams 32m 45.118 t		General Santos Makar Wharf	Makar to Site Distance: 90km	* Makar to Glan is paved. * Glan to site is gravel in good condition.	Reinforcement of Bailey br. (Tampalasa Br. L=7.20m) Replacement of Bailey br. (by this project) (Baliton Br. L=21.35m)

Note: 1) 11-01-02 Pagtilaan Br.  
Reinforcement of timber brs.  
Pagtilaan I Br. L = 12.00m  
Aquino Patilaan Br. L = 12.00m  
Pagtilaan II Br. L = 12.50m  
Pagtilaan III Br. L = 25.50m  
  
Replacement of timber br. (by this project)  
Union Br. L = 24.50m

2) 11-01-05 Union Br.  
Sua Br. L = 10.00m  
Reinforcement of timber brs.  
Tuwaw-an Br. L = 18.00m  
Haguimitan Br. L = 19.50m  
Janipaan Br. L = 10.00m  
Cadilotan Br. L = 7.50m  
Hamindang Br. L = 13.50m  
Paglinahan Br. L = 13.50m  
Buelaan Br. L = 16.56m  
Union Br. L = 13.50m  
  
Replacement of timber br. (by this project)  
Pagbakatan Br. L = 23.60m

Table A9-2 TRANSPORTATION ROUTE AND TEMPORARY BRIDGE REINFORCEMENT PLAN (GROUP 2)

(1/2)

No.	Bridge No. Bridge Name	Location	Materials to be Procured		Landing Port	Landing Transport Route	Road Condition and Temporary Bridge Reinforcement	
			Steel Girders (t)	Other Materials (t)			Road Surface Condition	Temporary Bridge Reinforcement
1	10-01-08 Lingayao	Km. 1273+484.22 ~ 1273+524.22 Agusan-Malaybalay Road Agusan Del Norte	H-beams 2@ 20m = 40m 61.602 t	Sheetpiles Type III 561m 33.66 t H-beam 7.614t	Nasipit	Nasipit to Site Distance: 56km	· Nasipit to KM24.6 is paved. · KM24.6 to site is gravel in good condition.	· Reinforcement of 3 timber bridges Tag-anahao L = 18m Tungao I L = 12m Tungao II L = 16m
2	10-01-09 Magus	Km. 1271 + 920 Agusan-Malaybalay Road Agusan Del Norte	Built-up beams 2@ 19m = 40m 51.204 t	Sheetpiles Type III 429m 25.76 t H-beam 3.807t	Nasipit	Nasipit to Site Distance: 58km	· Nasipit to KM24.6 is paved. · KM24.6 to site is gravel in good condition.	None
3	10-01-10 Rizal	Km. 1261+171.89 ~ 1261+231.89 Buenavista-Bunaguit Road Agusan Del Norte	H-beams 4@ 20m = 80m 123.204 t	Sheetpiles Type III 1,419m 85.14 t H-beam 11.421t	Nasipit	Nasipit to Site Distance: 14km	· Nasipit to site is paved.	None
4	10-01-12 Guinabsan	Km. 1263 + 560 Buenavista-Bunaguit Road Agusan Del Norte	H-beams 4@ 20m = 80m 123.204 t	Sheetpiles Type III 1,470m 88.20 t H-beam 11.205t	Nasipit	Nasipit to Site Distance: 17km	· Nasipit to KM14.0 is paved. · KM14.0 to site is gravel in good condition.	None
5	10-02-04 Maog	Km. 1292+650 ~ 1292+713.60 Nr. J. Awa-Azipitia-Lianga National Secondary Road Agusan Del Sur	H-beams 4@ 23m = 92m 138.384 t	Sheetpiles Type III 1,353m 81.18 t H-beam 11.421t	Nasipit	Nasipit to Site Distance: 101km	· Nasipit to site is gravel in good condition.	None
6	10-05-09 Pagatpat-San Simon	Km. 0 + 050 Bulua-Pagatpat-San Simon Road Cagayan De Oro City, Misamis Oriental	Built-up beams 2@ 29.65m = 57.30m 1@ 36.00m = 36.00m Total 93.30m 128.262 t	Sheetpiles Type III 924m 55.44 t H-beam 7.614t	Cagayan De Oro	Cagayan De Oro to Site Distance: 17km	· Cagayan De Oro to KM8.5 is paved. · KM8.5 to site is gravel in good condition.	None
7	11-02-05 Lower Silway	Km. 1756 + 032 Gen. Santos City-Makar Wharf Road, Gen. Santos City, South	None (RC girder)	Sheetpiles Type III 2,072m 124.32 t H-beam 17.484t	Gen. Santos	Gen. Santos to Site Distance: 3km	· Gen. Santos to site is paved.	None
8	10-04-03 Inambatan	Km. 1400 + 570 Olaycon-Inambatan-Macopa -Compostela Road, Monkayao, Davao	None (RC girder)	Sheetpiles Type III 1,258m 75.48 t H-beam 13.113t	Davao	Davao to Site Distance: 100km	· Davao to site is paved.	None



Table A9-2 TRANSPORTATION ROUTE AND TEMPORARY BRIDGE REINFORCEMENT PLAN (GROUP 2)

(2/2)

No.	Bridge No. Bridge Name	Location	Materials to be Procured		Landing Port	Landing Transport Route	Road Condition and Temporary Bridge Reinforcement	
			Steel Girders (t)	Other Materials (t)			Road Surface Condition	Temporary Bridge Reinforcement
9	10-05-01 Culaman	Km. 1637 + 000 Davao Del Sur-Sarangani Coastal Road Malita, Davao Del Sur	Built-up beams 2@ 23.75m = 47.50m 1@ 30.00m = 30.00m Total 77.30m 93.883 t	Sheetpiles Type III 957m H-beams 7.614t	Davao	Davao to Site Distance: 47km	· Davao to KM84.3 is paved. · KM84.3 to site is gravel in fair condition.	Reinforcement of RC br. Pangyan br. L = 18m
10	10-05-03 Mintal	Km. 1696 + 012 Mintal-Calinan Road, Mintal, Davao City	Built-up beams 1@ 40m = 40m 67.650 t	None	Davao	Davao to Site Distance: 29km	· Davao to KM22.2 is paved. · KM22.2 to site is gravel in good condition.	None



Table A9-3 ERECTION PLAN (GROUP 2 BRIDGES)

No.	Bridge No. Bridge Name	Girders	No. of Splice	Erection Method	Bent Type	No. of Bents	Platform	Remarks
1	10-01-08 Lingayao	H-beams 20m x 2 = 40m	6	Truck crane with bent	Wooden bent	6	Timber platform L = 29.0 m	
2	10-01-09 Magus	H-beams 19m x 2 = 38m	6	Truck crane with bent	Wooden bent	6	Timber platform L = 22.5 m	
3	10-01-01 Rizal	H-beams 20m x 4 = 80m	12	Truck crane with bent	Wooden bent	12	Timber platform L = 40.0 m	
4	10-01-12 Guinabsan	H-beams 20m x 4 = 80m	12	Truck crane with bent	Wooden bent	12	Timber platform L = 34.5 m	
5	10-02-04 Maog	H-beams 23m x 4 = 92m	12	Truck crane with bent	Wooden bent	12	Timber platform L = 42.0 m	
6	10-05-09 Pagatpat-San Simon	Built-up beams 28.65m x 2 + 36m = 93.3m	10	Truck crane with bent	Wooden bent	10	Timber platform L = 39.0 m	
7	11-02-05 Lower Silway	PC girders 26m x 5 = 130m	-	Double crane direct erection	None	-	Timber platform L = 156.0 m	
8	11-04-03 Inambatan	PC girders 27m x 3 = 81m	-	Double crane direct erection	None	-	Timber platform L = 72.0 m	
9	11-05-01 Culaman	H-beams 20m x 2 = 40m	7	Truck crane with bent	Wooden bent	7	Timber platform L = 18.0 m	
10	10-05-03 Mintal	Built-up beams 23.75m x 2 + 30m = 77.3m	4	Truck crane with bent	Wooden bent	4	Timber platform L = 27.0 m	

Table A9-4 COFFERDAM CONSTRUCTION PLAN (GROUP 2 BRIDGES)

No.	Bridge No. Bridge Name	Abutments (L) Length x Sheet (m)	Abutments (R) Length x Sheet (m)	Piers (P1) Length x Sheet (m)	Piers (P2) Length x Sheet (m)	Piers (P3) Length x Sheet (m)	Piers (P4) Length x Sheet (m)	Riverbank Protection		Remarks
								Left side	Right side	
1	10-01-08 Lingayao	None	None	Sheetpiles 8.5m x 66 = 561m	-----	-----	-----	Sheetpiles 128 pcs.	Sheetpiles 96 pcs.	
2	10-01-09 Magus	None	None	Sheetpiles 6.5m x 66 = 429m	-----	-----	-----	Sheetpiles 77 pcs.	Sheetpiles 90 pcs.	
3	10-01-10 Rizal	None	None	Sheetpiles 6.5m x 66 = 429m	Sheetpiles 7.5m x 66 = 495m	Sheetpiles 7.5m x 66 = 495m	-----	Sheetpiles 103 pcs.	Sheetpiles 98 pcs.	
4	10-01-12 Guinabsan	None	None	Sheetpiles 7.5m x 66 = 495m	Sheetpiles 7.5m x 66 = 495m	Sheetpiles 7.5m x 64 = 480m	-----	None	None	
5	10-02-04 Maog	None	None	Sheetpiles 6.0m x 66 = 396m	Sheetpiles 7.0m x 66 = 462m	Sheetpiles 7.5m x 66 = 495m	-----	None	None	
6	10-05-09 Pagatpat-San Simon	None	None	Sheetpiles 7.0m x 66 = 462m	Sheetpiles 7.0m x 66 = 462m	-----	-----	Sheetpiles 111 pcs.	None	
7	11-02-05 Lower Silway	None	None	Sheetpiles 7.0m x 74 = 518m	Sheetpiles 7.0m x 74 = 518m	Sheetpiles 7.0m x 74 = 518m	Sheetpiles 7.0m x 74 = 518m	Sheetpiles 128 pcs.	Sheetpiles 96 pcs.	
8	11-04-03 Inambatan	None	None	Sheetpiles 8.0m x 74 = 529m	Sheetpiles 9.0m x 74 = 666m	-----	-----	Sheetpiles 99 pcs.	Sheetpiles 103 pcs.	
9	11-05-01 Culaman	None	None	Sheetpiles 7.5m x 66 = 495m	Sheetpiles 7.0m x 66 = 462m	-----	-----	None	None	
10	10-05-03 Mintal	None	None	-----	-----	-----	-----	None	Fill type 1.0m x 64.2m	

Note: Sheetpiles will be used as cofferdams for riverbank protection after being used as cofferdams for piers.

Table A9-5 DETOUR ROAD CONSTRUCTION PLAN (GROUP 2 BRIDGES)

No.	Bridge No. Bridge Name	Existing Bridge		New Bridge		Necessity of Exist. Br. Demolition	Detour Bridge Plan		Remarks
		Type	Length (m)	Location	Type		Location	Type	
1	10-01-08 Lingayao	Bailey	36.60	Same as exist. br.	H-beam	Need	Upstream side of new br.	Timber	
2	10-01-09 Magus	Timber	36.60	Same as exist. br.	H-beam	Need	Downstream side of new br.	Timber	
3	10-01-10 Rizal	Ford	-	Along exist. road	H-beam	No need	-	Ford	
4	10-01-12 Guinabsan	Ford	-	Along exist. road	H-beam	No need	-	Ford	
5	10-02-04 Maog	Ford	-	Along exist. road	H-beam	No need	-	Ford	
6	10-05-09 Pagatpat-San Simon	None (by raft)	-	Along exist. road	Built-up beam	No need	-	None	
7	11-02-05 Lower Silway	Bailey	122.00	Upstream side of exist. br.	PC girder	No need	-	Use exist. br.	
8	11-04-03 Inambatan	Bailey	61.00	Upstream side of exist. br.	PC girder	No need	-	Use exist. br.	
9	11-05-01 Culaman	Bailey	61.00	Downstream side of exist. br.	Built-up beam	No need	-	Use exist. br.	
10	10-05-03 Mintal	Bailey	33.60	Same as exist. br.	Built-up beam	Need	Upstream side of new br.	Timber	

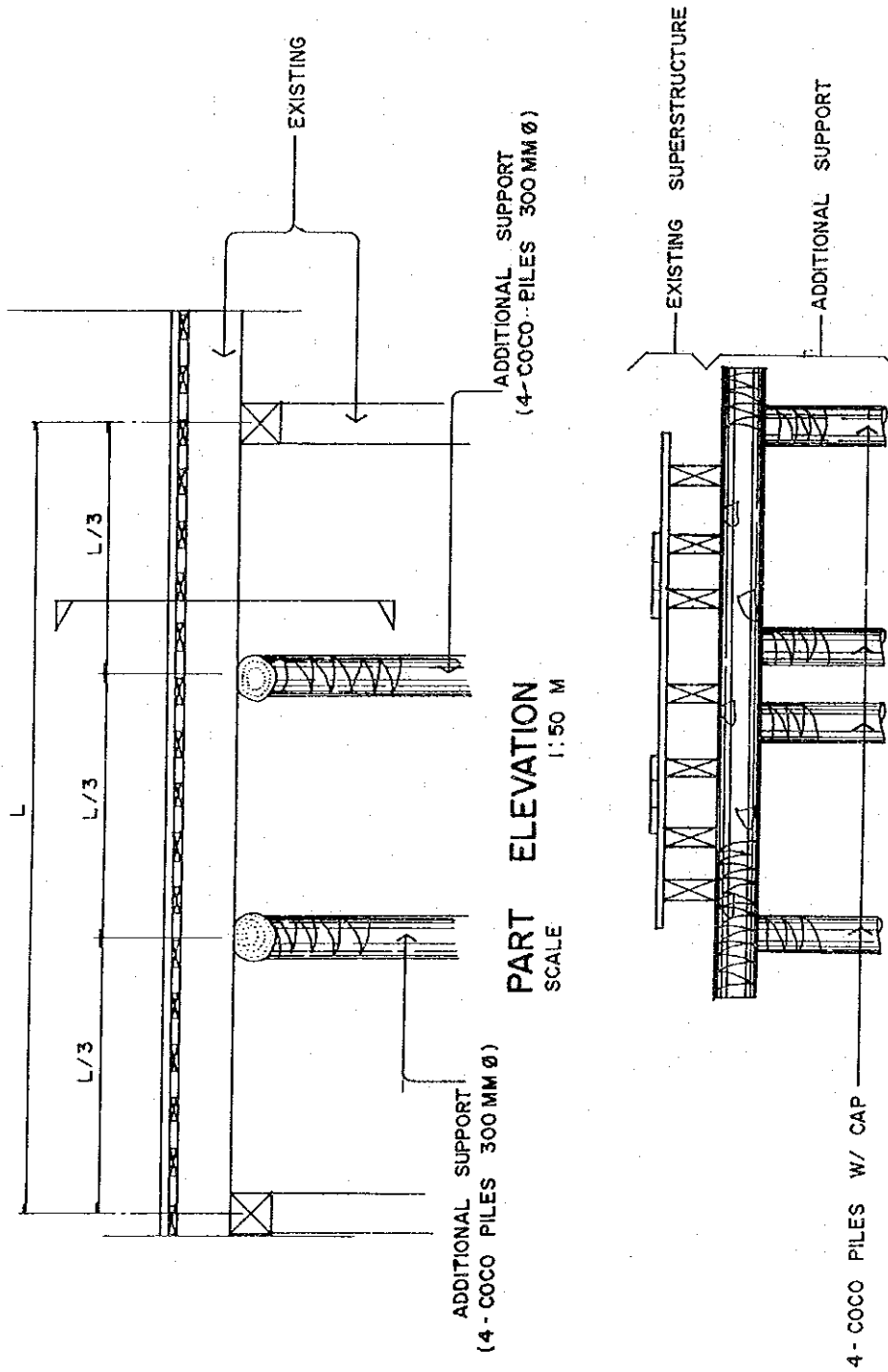
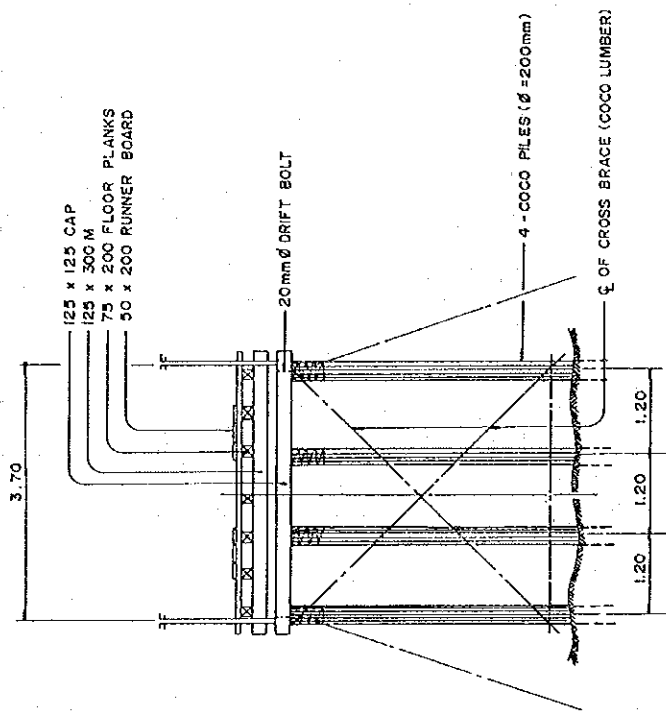
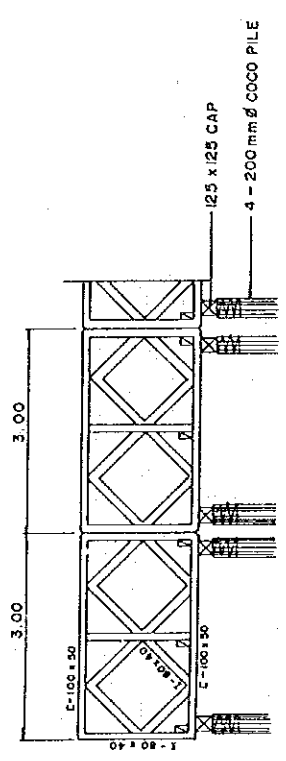


Figure A9-1 WOODEN BRIDGE REINFORCING PLAN

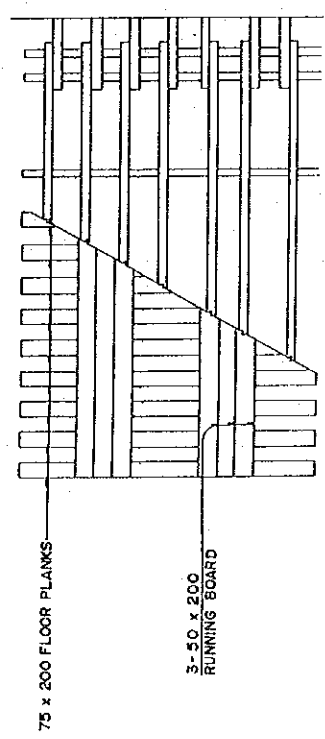


BILL OF MATERIALS FOR 6m LENGTH

REMARKS	NO.	SIZE	LENGTH	QUANTITY
COCO PILE	16	Ø 200	6 500	1.04 m <sup>3</sup>
PILE CAP	4	125 x 125	4 000	0.25 m <sup>3</sup>
CROSS BRACE	12	50 x 200	5 300	0.64 m <sup>3</sup>
HORIZONTAL BRACE	8	50 x 200	4 000	0.32 m <sup>3</sup>
FLOOR PLANKS	15	75 x 200	4 000	0.90 m <sup>3</sup>
RUNNING BOARD	6	50 x 200	6 000	0.36 m <sup>3</sup>
STEEL CLAMP	32	Ø 22	600	56.37 kg
NAIL				30 kg



ELEVATION



PLAN

Figure A9-2 BAILEY BRIDGE REINFORCING PLAN

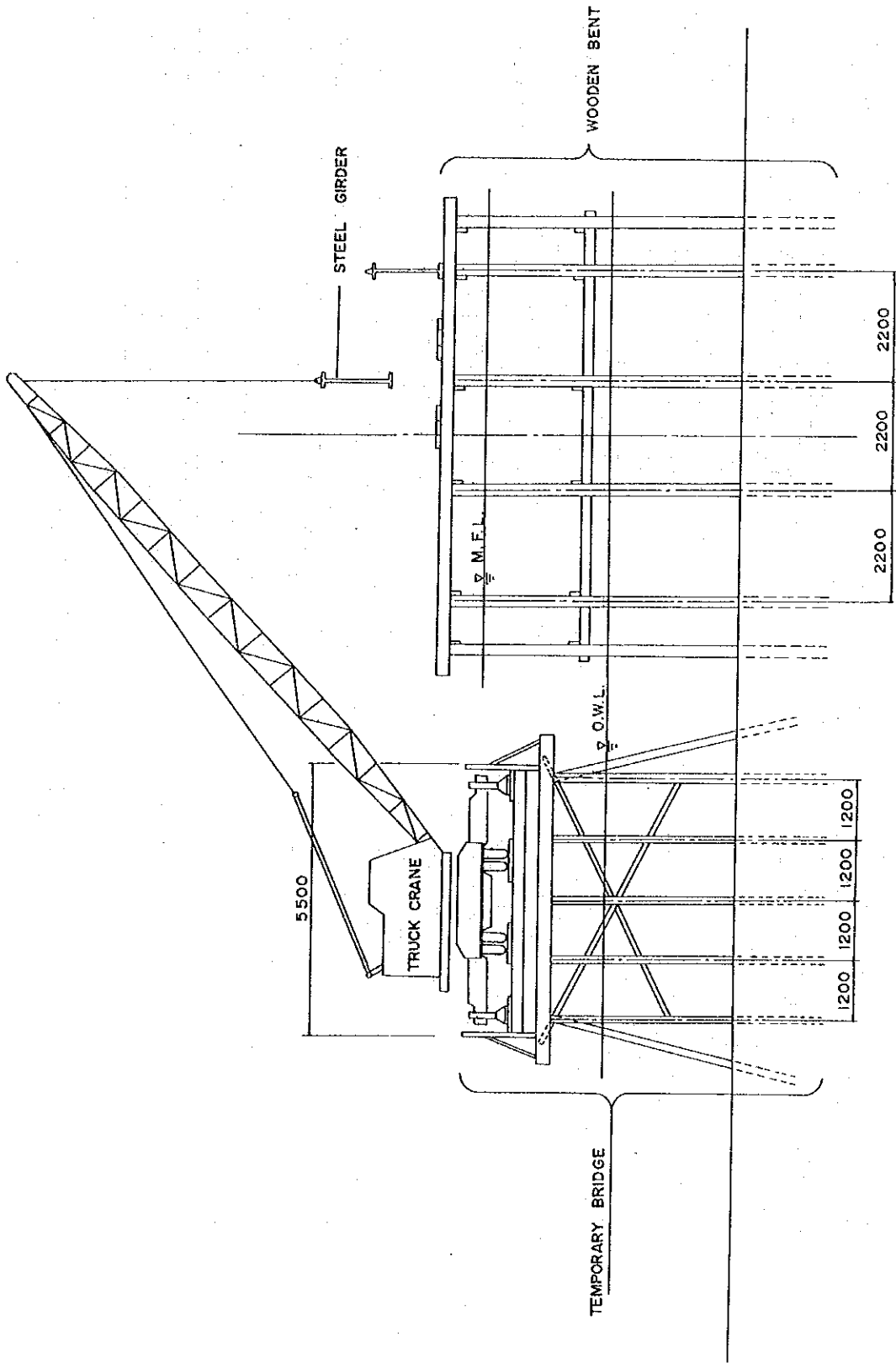
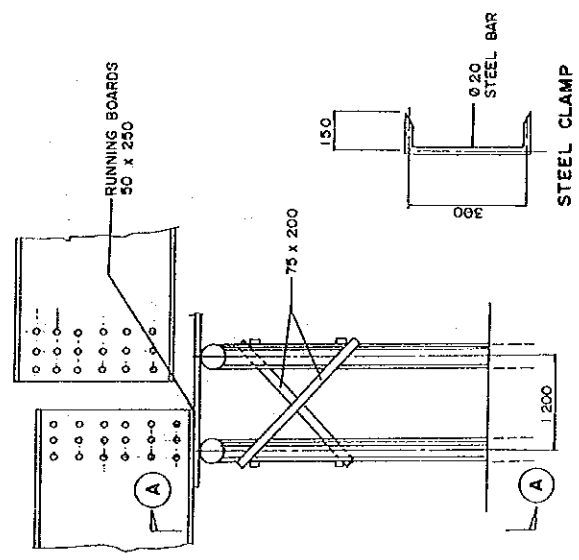
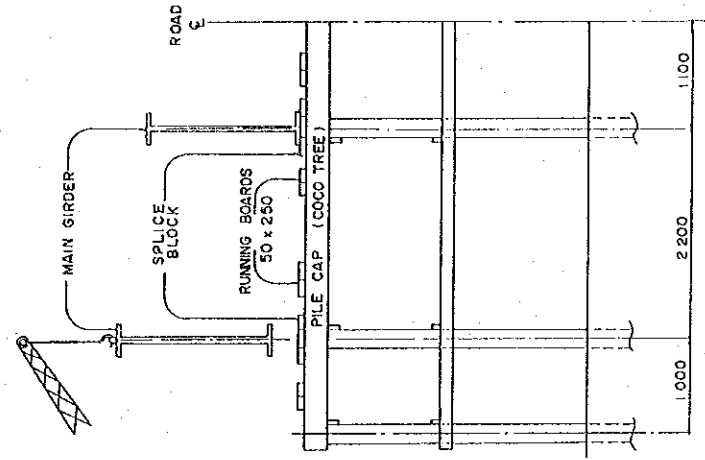
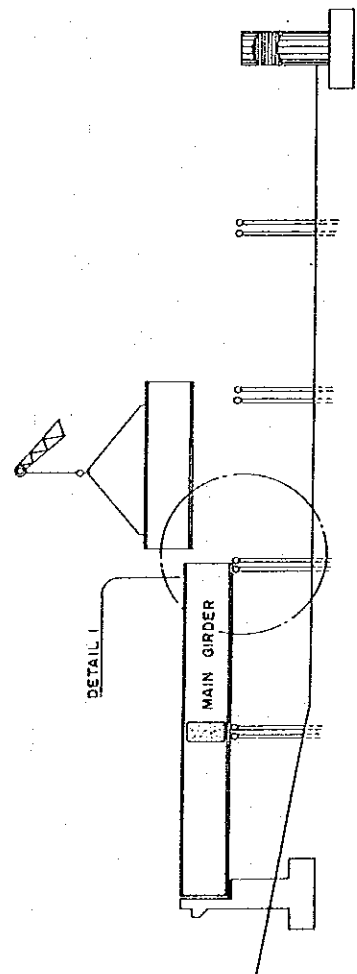


Figure A9-3 STEEL GIRDER ERECTION SCHEME

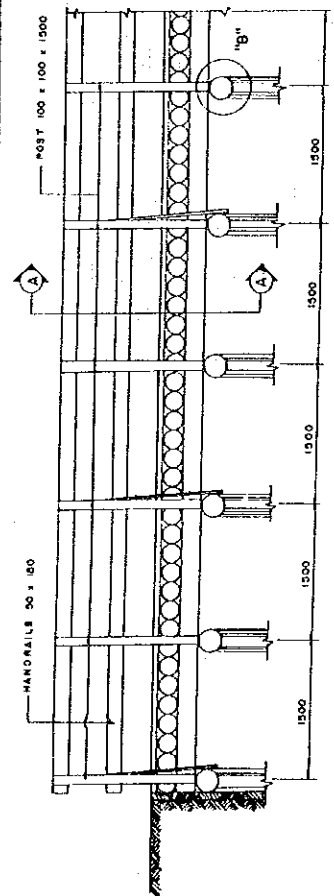


**BILL OF MATERIAL FOR WOODEN BENT  
FOR 1 SET**

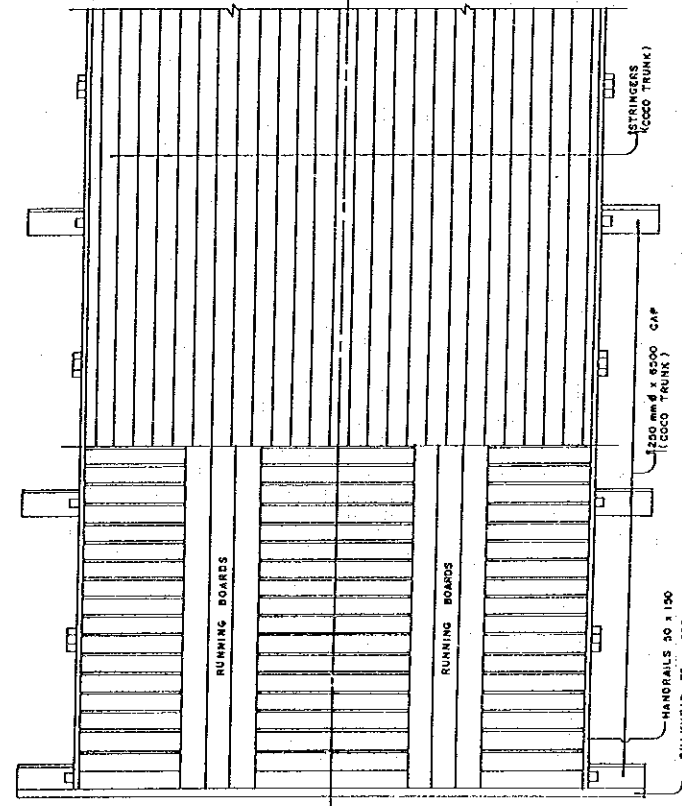
REMARKS	NO.	SIZE	LENGTH	QUANTITY
COCO PILE	12	Ø 200	5 000	1.884 m <sup>3</sup>
PILE CAP	2	Ø 200	9 200	0.578 m <sup>3</sup>
BRACE	24	75x200	2 000	0.720 m <sup>3</sup>
HORIZONTAL BRACE	4	75x200	9 200	0.552 m <sup>3</sup>
RUNNING BOARD	16	50x250	2 000	0.400 m <sup>3</sup>
STEEL CLAMP	24	Ø 22	6 000	43.8 Kg



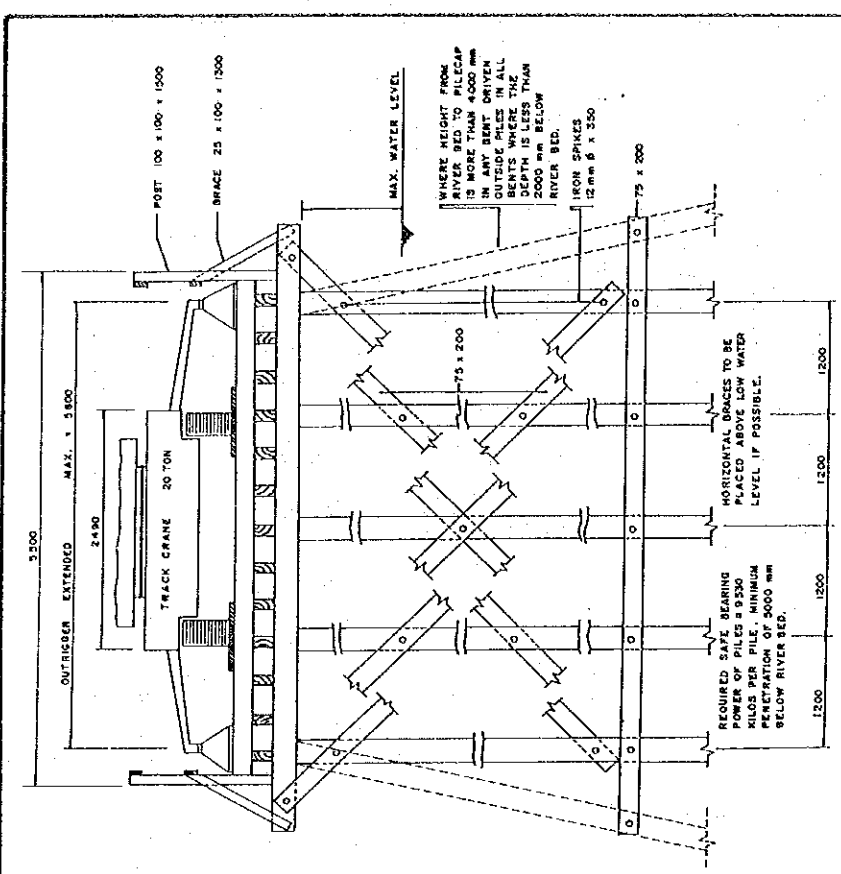
**Figure A9-4 WOODEN BENT FOR STEEL GIRDER ERECTION**



PART ELEVATION



PART PLAN

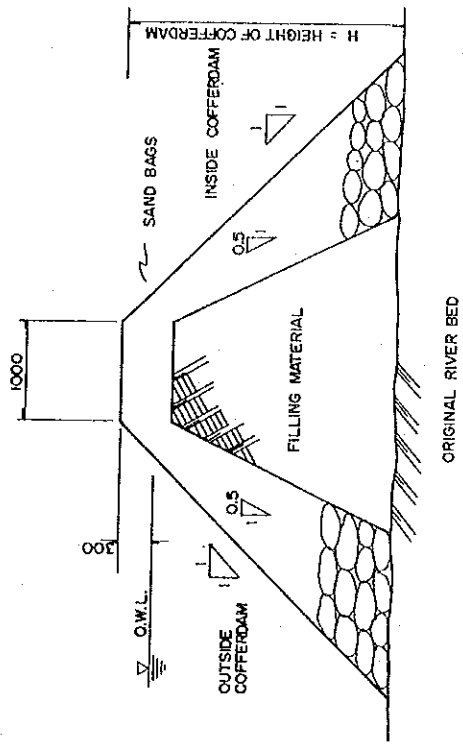
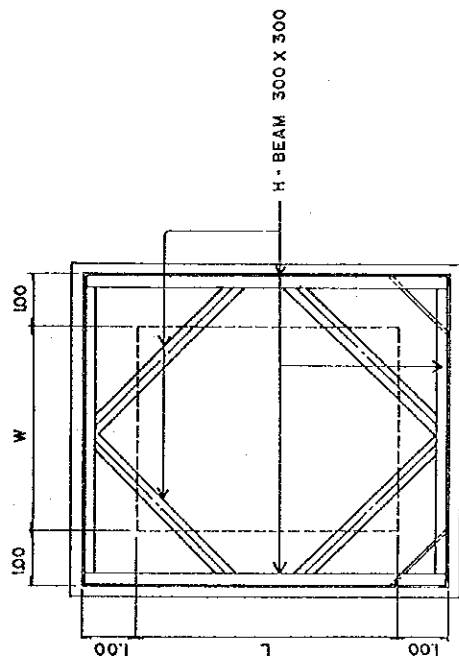
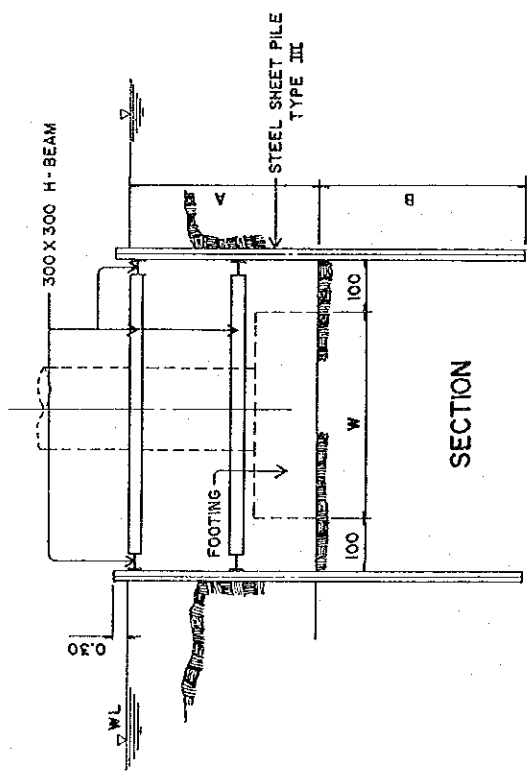


SECTION "A - A"

BILL OF MATERIALS FOR 10 M LENGTH

LUMBER				
NUMBER	SIZE	LENGTH	QUANTITY	
12 Pcs	50 x 150	3000	HANDRAIL	0.45 m <sup>3</sup>
16 Pcs	100 x 100	1500	POST	0.25 m <sup>3</sup>
10 Pcs	25 x 100	1300	BRACING (RAILING)	0.25 m <sup>3</sup>
12 Pcs	25 x 100	1300	RUNNING BOARD	0.25 m <sup>3</sup>
40 Pcs	250 x 500	5000	FLOOR PLANK (CCCO)	10.21 m <sup>3</sup>
13 Pcs	250 x 500	10000	STRINGER	7.80 m <sup>3</sup>
8 Pcs	250 mm x 6000	6000	PILE CAP (CCCO TRUNK)	2.25 m <sup>3</sup>
18 Pcs	75 x 250	6000	BRACING (HORIZONTAL)	0.78 m <sup>3</sup>
18 Pcs	75 x 250	6000	BRACING (DIAGONAL)	1.58 m <sup>3</sup>
40 Pcs	250 mm x 6000	6000	PILE (CCCO TRUNK)	14.13 m <sup>3</sup>
HARDWARE				
80 Pcs	18 mm x 500	500	STEEL FASTENER	620 kg
225 Pcs	12 mm x 500	500	IRON SPIKE	112 kg
140 Pcs	12 mm x 300	300	IRON SPIKE	42 kg
300 Pcs	200 mm x 100	100	WIRE NAIL	111 kg

Figure A9-5 STANDARD TIMBER BRIDGE FOR CONSTRUCTION



FILL TYPE COFFERDAM

SHEETPILE COFFERDAM

**Figure A9-6 COFFERDAM PLAN**

