

CHAPTER 5

PROJECT EVALUATION AND CONCLUSION

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PROJECT EVALUATION AND CONCLUSION

The present situation and problems and expected effects by the project are evaluated as summarized in Table 5-1.

Table 5-1 EXPECTED EFFECTS BY IMPLEMENTING THE PROJECT

Present Situation and Problems	Proposed Measures	Effects of the Project
1. Ford crossings without bridges cut roads during rainy seasons and isolate local populations.	Permanent bridges are constructed at ford crossings inconvenient for a large number of travelers and vehicles.	The local populations are always accessible to towns, cities and markets safely.
2. Temporary bridges easily become dilapidated and dangerous to cross.	Temporary bridges are replaced by permanent bridges which require minimal maintenance.	Crossing the bridges becomes safer and the bridge maintenance cost becomes less.
3. Temporary bridges have too small loading capacity to carry large trucks to transport local products and to bring in heavy construction equipment. Consequently, they constrain expansion of rural industries.	Temporary bridges are replaced by permanent bridges which can carry heavy vehicles.	Accessibility for large trucks and heavy construction vehicles induces development of the areas.
4. Closing of roads by temporary bridges collapsing or being washed out is a bottleneck of the rural road network development.	As many as possible, temporary bridges are replaced by introducing economical and durable type permanent bridges.	Construction of permanent bridges induces development of the road network.
5. Difficult accessibility to markets constitutes a disincentive to the population to develop the area.	High priority for replacement is given to the temporary bridges located on the roads which greatly contribute to development of the areas.	Providing low cost transportation services will benefit rural development.

This project aims to provide efficient transportation facilities by constructing permanent bridges and replacing temporary bridges with permanent ones to promote social and economic development in rural areas in Mindanao where the socioeconomic development level is generally low due to difficulties in transportation.

Improvement of essential transport facilities in rural areas to increase activities in those areas for greater production and to induce direct development therein, especially in Mindanao area, is emphasized in the national development plan. In line with national development policy, this project will contribute to increasing the productivity of rural industries and promoting greater investment in rural development. As a result, it is appropriate to implement this project under Japan's Grant Aid.

APPENDIX 1

MEMBER LIST OF SURVEY TEAM

MEMBER LIST OF SURVEY TEAM

First Field Survey

- | | |
|-------------------------|---|
| Mr. Katsuyoshi KANAZAWA | Leader,
Manager of Road Division,
Planning and Development Department,
Honshu-Shikoku Bridge Authority |
| Mr. Shinji TOTSUKA | Project Coordinator,
Second Basic Design Study Division,
Grant Aid Study & Design Department,
Japan International Cooperation Agency
(JICA) |
| Mr. Minoru MIURA | Project Manager,
Katahira & Engineers International |
| Mr. Yasuaki MURAMOTO | Bridge Planner (1),
Katahira & Engineers International |
| Mr. Soemu OSHITA | Bridge Planner (2),
Katahira & Engineers International |

Second Field Survey

- | | |
|-------------------------|---|
| Mr. Katsuyoshi KANAZAWA | Leader,
Manager of Road Division,
Planning and Development Department,
Honshu-Shikoku Bridge Authority |
| Mr. Yukihiro KOIZUMI | Project Coordinator,
Second Basic Design Study Division,
Grant Aid Study & Design Department,
Japan International Cooperation Agency
(JICA) |

Mr. Minoru MIURA	Project Manager, Katahira & Engineers International
Mr. Yasuaki MURAMOTO	Bridge Planner, Katahira & Engineers International
Mr. Akihiko HIROTANI	Bridge Designer (1), Oriental Consultants Co., Ltd.
Mr. Toshio KACHI	Bridge Designer (2), Katahira & Engineers International
Mr. Koichi KADOYA	Natural Condition Surveyor (1), Katahira & Engineers International
Mr. Keigo KONNO	Natural Condition Surveyor (2), Oriental Consultants Co., Ltd.
Mr. Soemu OSHITA	Cost Estimator/Construction Planner, Katahira & Engineers International

Consultation on Draft Report

Mr. Katsuyoshi, KANAZAWA	Leader, Manager of Road Division, Planning and Development Department, Grant Aid Planner, Honshu-Shikoku Bridge Authority
Mr. Hiroyasu MURAKASHI	Grant Aid Division, Bureau of Economic Cooperation, Ministry of Foreign Affairs
Mr. Minoru MIURA	Project Manager, Katahira & Engineers International
Mr. Yasuhiro MURAMOTO	Bridge Planner, Katahira & Engineers International
Mr. Soemu OSHITA	Coordinator, Katahira & Engineers International

APPENDIX 2

SURVEY ITINERARY

SURVEY ITINERARY

First Field Survey Itinerary

(1/3)

No.	Date	Activities	
		Discussion, etc.	Site Survey
1	1994 Feb. 16 (Wed)	<ul style="list-style-type: none"> Project Manager (Mr. MIURA), Bridge Planner (1) (Mr. MURAMOTO) & Bridge Planner (2) (Mr. OSHITA) Lv. Tokyo Ar. Manila Discussion with JICA Philippine Office 	
2	Feb. 17 (Thu)	<ul style="list-style-type: none"> Discussion with DPWH 	
3	Feb. 18 (Fri)	<ul style="list-style-type: none"> Discussion with DPWH Discussion with JICA Philippine Office 	
4	Feb. 19 (Sat)	<ul style="list-style-type: none"> Preparation of site survey Check of pre-survey data 	
5	Feb. 20 (Sun)	<ul style="list-style-type: none"> Preparation of site survey Check of pre-survey data 	
6	Feb. 21 (Mon)	<ul style="list-style-type: none"> Mr. MIURA & Mr. MURAMOTO Lv. Manila Ar. Davao Discussion with DPWH Region XI Office Bridge site survey Mr. OSHITA Lv. Manila Ar. Cagayan de Oro 	Los Amigos Br. Mintal Br. Piedad Br.
7	Feb. 22 (Tue)	<ul style="list-style-type: none"> Discussion with DPWH Agusan del Sur District Office Bridge site survey 	Sta Ana II Br. Inambatan Br. Pagatpat-San Simon Br. Maog Br. Batinay Br.
8	Feb. 23 (Wed)	<ul style="list-style-type: none"> Discussion with DPWH Region XI Office Mr. MIURA Lv. Cagayan de Oro Ar. Manila 	Katipnan Br. Pagatpat-San Simon Br. Sulipat Daku Br. Cabulig Br. Salipat Diut Br. Guibone Br. Deboloc Br. Minanopol Br. Sta. Ana II Br. Dal-As Br.
9	Feb. 24 (Thu)	<ul style="list-style-type: none"> Survey team received letter of change of request bridges Report about change of request bridges to JICA Head Office & Philippine Office Bridge site survey 	Tupalac Br. Lingayao Br. Tipan Diut Br. Tungao II Br. Tipan Daku Br. Tungao I Br. Old Pelaez Br. Tag-anahao Br. Taguima Br. Guinabsan Br. Labo Br. Rizal Br. Mat-I Br. Culaman Br. Magus Br. Lais Br.

No.	Date	Activities	
		Discussion, etc.	Site Survey
10	Feb. 25 (Fri)	· Bridge site survey	Agusan Canyon Br. Capalayan Br. Zamboanguita Br. Orok Br. Silae Br. Binasbas Br. Abuhan Br. Agusan Br. Aglayan Br. Upper Simlog Br. Cuyangan Br. Licop Br. Tigbao Br. Tawas Br. Balite Br.
11	Feb. 26 (Sat)	· Bridge site survey	Casisang Br. Capandan Br. Musuan Br. Pangyan Br. Olayan Br. Mahan-ub Br. Kinapolo Br. Dao-an Br. Hayangabon II Br.
12	Feb. 27 (Sun)	· Check & analysis of site survey results	Alternate Magsaysay Br. Inambatan Br. Lemon Br. Andanan Br. Ubod-ubod Br. Quezon Br. Anticala Br. Tagasaka Br. Pianing Br.
13	Feb. 28 (Mon)	· Check & analysis of site survey results	Hagonoy Br. Anibongan Br. Mal Br. Azpitia Br. Estrella Br. Manat Br. Sacub-Lanuro Br. Pagtilaan III Br. Maog Br. Union II Br. Mesli Br. Pagbakatan Br.
14	Mar. 1 (Tue)	· Team Leader (Mr. KANAZAWA) & Project Coordinator (Mr. TOTSUKA) Lv. Tokyo Ar. Manila · Discussion with JICA Philippine Office	Hinandigan Br. Kohulugan Br.
15	Mar. 2 (Wed)	· Discussion with DPWH · Check & analysis of site survey results	
16	Mar. 3 (Thu)	· Mr. KANAZAWA, Mr. TOTSUKA & Mr. MIURA Lv. Manila Ar. Davao	
17	Mar. 4 (Fri)	· Discussion with DPWH Region XI Office · Bridge site survey	Calaman Br. Lais Br. Estrella Br.
18	Mar. 5 (Sat)	· Bridge site survey	Los Amigos Br. Piedad Br. Mintal Br. Binasbas Br.

No.	Date	Activities	
		Discussion, etc.	Site Survey
19	Mar. 6 (Sun)	<ul style="list-style-type: none"> • Bridge site survey • Mr. MURAMOTO Lv. Davao Ar. Manila • Discussion with DPWH Agusan del Sur District Office 	<ul style="list-style-type: none"> Inambatan Br. Ubod-Ubod Br. Maog Br. Lemon Br.
20	Mar. 7 (Mon)	<ul style="list-style-type: none"> • Bridge site survey • Discussion with DPWH Region XI Office • Bridge site survey 	<ul style="list-style-type: none"> Sta Ana Br. Pagatpat-Sam Simon Br.
21	Mar. 8 (Tue)	<ul style="list-style-type: none"> • Bridge site survey • Call on Surigao City Office 	<ul style="list-style-type: none"> Balite Br. Orok Br. Tigbao Br. Capalayan Br.
22	Mar. 9 (Wed)	<ul style="list-style-type: none"> • Bridge site survey • Mr. KANAZAWA, Mr. TOTSUKA & Mr. MIURA Lv. Butuan Ar. Manila, Mr. OSHITA Lv. Cagayan de Oro Ar. Manila 	<ul style="list-style-type: none"> Rizal Br. Guinabsan Br. Alternate Magsaysay Br.
23	Mar. 10 (Thu)	<ul style="list-style-type: none"> • Discussion with DPWH • Discussion within Survey Team 	
24	Mar. 11 (Fri)	<ul style="list-style-type: none"> • Inspection of bridge sites constructed in Phase III Project and others • Bamban Br. • San Francisco Br. • Carmen Br. • Maphilindo Br. 	
25	Mar. 12 (Sat)	<ul style="list-style-type: none"> • Inspection of bridge sites constructed in Phase III Project and others • San Jan Br. • Tabon-Baton Br. • Binambang Br. • Leviste II Br. 	
26	Mar. 13 (Sun)	<ul style="list-style-type: none"> • Discussion within Survey Team 	
27	Mar. 14 (Mon)	<ul style="list-style-type: none"> • Discussion with DPWH • Signing of Minutes of Discussion • Report to JICA Philippine Office • Mr. KANAZAWA, Mr. TOTSUKA & Mr. MURAMOTO Lv. Manila Ar. Tokyo 	
28	Mar. 15 (Tue)	<ul style="list-style-type: none"> • Check and analysis of site survey results 	
29	Mar. 16 (Wed)	<ul style="list-style-type: none"> • Check and analysis of site survey results 	
30	Mar. 17 (Thu)	<ul style="list-style-type: none"> • Mr. MIURA and Mr. OSHITA Lv. Manila Ar. Tokyo 	

Second Field Survey Itinerary

(1/4)

No.	Date	Activities	
		Discussion, etc.	Site Survey
1	1994 Apr. 27 (Wed)	<ul style="list-style-type: none"> · Project Manager (Mr. MIURA), · Bridge Planner (Mr. MURAMOTO), · Cost Estimator (Mr. OSHITA) Lv. Tokyo Ar. Manila 	
2	Apr. 28 (Thu)	<ul style="list-style-type: none"> · Discussion with Embassy of Japan · Preparation for site survey 	
3	Apr. 29 (Fri)	<ul style="list-style-type: none"> · Discussion with DPWH 	
4	Apr. 30 (Sat)	<ul style="list-style-type: none"> · Preparation for site survey 	
5	May 1 (Sun)	<ul style="list-style-type: none"> · Preparation for site survey 	
6	May 2 (Mon)	<ul style="list-style-type: none"> · Discussion with DPWH, · JICA Office and · Embassy of Japan 	
7	May 3 (Tue)	<ul style="list-style-type: none"> · Mr. MIURA, Mr. MURAMOTO, · Mr. OSHITA · Lv. Manila Ar. Davao 	
8	May 4 (Wed)	<ul style="list-style-type: none"> · Discussion with DPWH Region XI · Office 	<ul style="list-style-type: none"> · Project site survey and · site discussion
9	May 5 (Thu)	<ul style="list-style-type: none"> · Mr. MIURA Lv. Davao Ar. Manila · Bridge Designer (Mr. HIROTANI), · Natural Condition Surveyor · (Mr. KONNO) Lv. Tokyo · Discussion with JICA Office 	<ul style="list-style-type: none"> · Ditto
10	May 6 (Fri)	<ul style="list-style-type: none"> · Mr. KONNO Lv. Manila Ar. Davao · Study on bridge design 	<ul style="list-style-type: none"> · Ditto
11	May 7 (Sat)	<ul style="list-style-type: none"> · Study on bridge design 	<ul style="list-style-type: none"> · Ditto
12	May 8 (Sun)	<ul style="list-style-type: none"> · Project site survey 	<ul style="list-style-type: none"> · Ditto
13	May 9 (Mon)	<ul style="list-style-type: none"> · Study on bridge design 	<ul style="list-style-type: none"> · Topographic survey and · geological survey of · project sites
14	May 10 (Tue)	<ul style="list-style-type: none"> · Discussion with DPWH · Project Coordinator (Mr. KOIZUMI) · Lv. Tokyo Ar. Manila 	<ul style="list-style-type: none"> · Ditto
15	May 11 (Wed)	<ul style="list-style-type: none"> · Discussion with JICA Office and · DPWH 	<ul style="list-style-type: none"> · Ditto

No.	Date	Activities	
		Discussion, etc.	Site Survey
16	May 12 (Thu)	<ul style="list-style-type: none"> • Natural Condition Surveyor (Mr. KADOYA) Lv. Tokyo Ar. Manila • Mr. KOIZUMI & Mr. HIROTANI Lv. Manila Ar. Butuan 	<ul style="list-style-type: none"> • Topographic survey and geological survey of project sites
17	May 13 (Fri)	<ul style="list-style-type: none"> • Project site survey • Data collection 	<ul style="list-style-type: none"> • Ditto
18	May 14 (Sat)	<ul style="list-style-type: none"> • Project site survey 	<ul style="list-style-type: none"> • Ditto
19	May 15 (Sun)	<ul style="list-style-type: none"> • Leader (Mr. KANAZAWA), Bridge Designer (Mr. KACHI) Lv. Tokyo Ar. Manila • Mr. KADOYA Lv. Manila Ar. Cagayan de Oro • Mr. MURAMOTO, Mr. Konno Lv. Butuan Ar. Manila • Mr. KOIZUMI, Mr. HIROTANI, Mr. OSHITA Lv. Butuan Ar. Cagayan de Oro 	<ul style="list-style-type: none"> • Ditto
20	May 16 (Mon)	<ul style="list-style-type: none"> • Call on JICA Office, Embassy of Japan and DPWH 	<ul style="list-style-type: none"> • Ditto
21	May 17 (Tue)	<ul style="list-style-type: none"> • Mr. KANAZAWA, Mr. MIURA, Mr. KACHI Lv. Manila Ar. Cagayan de Oro • Call on DPWH Region X Office 	
22	May 18 (Wed)	<ul style="list-style-type: none"> • Project site survey 	<ul style="list-style-type: none"> • Ditto
23	May 19 (Thu)	<ul style="list-style-type: none"> • Mr. KANAZAWA, Mr. Koizumi, Mr. Miura, Mr. HIROTANI, Mr. OSHITA Lv. Cagayan de Oro Ar. Davao • Mr. MURAMOTO Lv. Manila Ar. Tokyo 	<ul style="list-style-type: none"> • Ditto
24	May 20 (Fri)	<ul style="list-style-type: none"> • Call on Region XI Office • Mr. KANAZAWA, Mr. KOIZUMI, Mr. MIURA, Mr. HIROTANI, Mr. OSHITA Lv. Davao Ar. Gen. Santos 	<ul style="list-style-type: none"> • Ditto
25	May 21 (Sat)	<ul style="list-style-type: none"> • Mr. KANAZAWA, Mr. KOIZUMI, Mr. MIURA, Mr. HIROTANI, Mr. OSHITA Lv. Gen. Santos Ar. Davao • Mr. KONNO Lv. Manila Ar. Davao 	<ul style="list-style-type: none"> • Ditto

No.	Date	Activities	
		Discussion, etc.	Site Survey
26	May 22 (Sun)	· Project site survey	· Topographic survey and geological survey of project sites
27	May 23 (Mon)	· Mr. KANAZAWA, Mr. KOIZUMI, Mr. MIURA, Mr. HIROTANI, Mr. OSHITA Lv. Davao Ar. Butuan · Mr. KOIZUMI Lv. Davao Ar. Manila	· Ditto
28	May 24 (Tue)	· Project site survey	· Ditto
29	May 25 (Wed)	· Mr. KANAZAWA, Mr. MIURA, Mr. HIROTANI, Mr. OSHITA Lv. Butuan Ar. Manila	· Ditto
30	May 26 (Thu)	· Discussion with Survey Team · Discussion with DPWH	· Ditto
31	May 27 (Fri)	· Discussion with DPWH · Signing of Minutes of Discussion	· Ditto
32	May 28 (Sat)	· Mr. KANAZAWA, Mr. KOIZUMI Lv. Manila Ar. Tokyo · Bridge planning · Data collection	· Ditto
33	May 29 (Sun)	· Mr. HIROTANI Lv. Manila Ar. Tokyo · Mr. KACHI Lv. Butuan Ar. Manila	· Ditto
34	May 30 (Mon)	· Discussion with DPWH · Bridge planning · Data collection	· Check and analysis survey results
35	May 31 (Tue)	· Ditto	· Ditto
36	Jun. 1 (Wed)	· Ditto · Mr. MIURA Lv. Manila Ar. Tokyo	· Ditto
37	Jun. 2 (Thu)	· Bridge planning · Data collection	· Ditto
38	Jun. 3 (Fri)	· Ditto · Discussion with DPWH	· Ditto
39	Jun. 4 (Sat)	· Bridge planning · Data collection	· Ditto
40	Jun. 5 (Sun)	· Ditto	· Ditto

No.	Date	Activities	
		Discussion, etc.	Site Survey
41	Jun. 6 (Mon)	· Ditto · Mr. KONNO Lv. Cagayan de Oro Ar. Manila	· Ditto
42	Jun. 7 (Tue)	· Bridge planning · Data collection	· Ditto
43	Jun. 8 (Wed)	· Ditto · Mr. KONNO Lv. Manila Ar. Davao	· Site survey of flooded project site
44	Jun. 9 (Thu)	· Bridge planning · Data collection	· Ditto
45	Jun. 10 (Fri)	· Ditto	· Ditto
46	Jun. 11 (Sat)	· Ditto	· Ditto
47	Jun. 12 (Sun)	· Ditto · Mr. KONNO Lv. Davao Ar. Manila	· Ditto
48	Jun. 13 (Mon)	· Bridge planning · Data collection	· Re-survey of topography of flooded project sites
49	Jun. 14 (Tue)	· Ditto · Mr. KONNO Lv. Manila Ar. Davao	· Ditto
50	Jun. 15 (Wed)	· Bridge planning · Data collection	· Ditto
51	Jun. 16 (Thu)	· Ditto	· Ditto
52	Jun. 17 (Fri)	· Ditto · Discussion with DPWH	· Ditto
53	Jun. 18 (Sat)	· Ditto · Mr. KONNO Lv. Davao Ar. Manila	· Ditto
54	Jun. 19 (Sun)	· Ditto	· Ditto
55	Jun. 20 (Mon)	· Mr. KACHI, Mr. KONNO, Mr. OSHITA Lv. Manila Ar. Tokyo	· Ditto

Consultation on Draft Report Itinerary

No.	Date	Activities	
		Discussion, etc.	Site Survey
1	1994 Oct. 20 (Thu)	<ul style="list-style-type: none"> · Mr. KANAZAWA, Mr. MURAKASHI, Mr. MIURA, Mr. MURAMOTO, Mr. OSHITA Lv. Tokyo Ar. Manila · Discussion with JICA Manila Office & Embassy of Japan 	
2	Oct. 21 (Fri)	<ul style="list-style-type: none"> · Discussion within DPWH 	
3	Oct. 22 (Sat)	<ul style="list-style-type: none"> · Discussion within Team 	
4	Oct. 23 (Sun)	<ul style="list-style-type: none"> · Discussion within Team 	
5	Oct. 24 (Mon)	<ul style="list-style-type: none"> · Discussion within DPWH 	
6	Oct. 25 (Tue)	<ul style="list-style-type: none"> · Signing of Minutes of Discussion 	
7	Oct. 26 (Wed)	<ul style="list-style-type: none"> · Mr. MURAKASHI, Mr. MIURA, Mr. OSHITA Lv. Manila Ar. Davao · Mr. KANAZAWA, Mr. MURAMOTO Lv. Manila Ar. Tokyo 	<ul style="list-style-type: none"> · Inspection Mintal Bridge, Los Amigos Bridge
8	Oct. 27 (Thu)	<ul style="list-style-type: none"> · Mr. MURAKASHI, Mr. MIURA, Mr. OSHITA site inspection in General Santos City 	<ul style="list-style-type: none"> · Inspection Lower Silway Bridge
9	Oct. 28 (Fri)	<ul style="list-style-type: none"> · Mr. MURAKASHI, Mr. MIURA Mr. OSHITA Lv. Davao Ar. Manila 	
10	Oct. 29 (Sat)	<ul style="list-style-type: none"> · Mr. MURAKASHI, Mr. MIURA Mr. OSHITA Lv. Manila Ar. Tokyo 	

APPENDIX 3

MEMBER LIST OF PARTY CONCERNED IN THE PHILIPPINES

MEMBER LIST OF PARTY CONCERNED IN THE PHILIPPINES

DPWH CENTRAL OFFICE

- MR. TEODORO ENCARNACION - Undersecretary
- MR. MANUEL BONOAN - Asst. Secretary for Planning
- MR. YUKIHIRO TSUKADA - JICA Highway Engineering Adviser
- MS. LINDA TEMPLO - Engr. V, Chief, Development Planning
- MR. JAIME MAGNAYE - Engr. IV, Development Planning Division
- MS. SOLITA GENOTA - Engr. IV, Traffic Division
- MR. EDWIN FORTES - Engr. III, Development Planning Division
- MR. RENATO REYES - Engr. III, Development Planning Division
- MR. EDGAR RIVERA - Engr. II, Development Planning Division

DPWH REGIONAL OFFICE (Region X)

- MR. JULIO LUSPO - Regional Director
- MR. MOCAMAD RAKI-IN - Assistant Regional Director (Operations)
- MR. MELOQUIADES VARIAS, JR. - Assistant Regional Director (Services)
- MR. LEOPOLDO CADETE - Chief, Planning & Design Division

DPWH MISAMIS ORIENTAL ENG'G. DISTRICT

- MR. NAZARIO LERIAS - District Engineer
- MR. OTHELLO DOONG - Chief, Planning & Design Section
- MR. ROLANDO SIMON - Engr. III, Planning & Design Section
- MR. EDUARDO BARANGGAN - Engr. II, Planning & Design Section

DPWH MISAMIS ORIENTAL SUB-DISTRICT ENG'G. OFFICE

(CAGAYAN DE ORO CITY)

- MR. JOSE LLOREN GUE - District Engineer
- MS. VIRGINIA YBANEZ - Engr. II, Chief, Planning & Design Section
- MR. VIRGILIO PETALCORIN - Instrumentman

DPWH AGUSAN DEL NORTE ENG'G. DISTRICT

- MR. DANIEL ARQUISOLA - District Engineer
- MR. ALIPIO GRANA - Chief, Planning & Design Section

DPWH AGUSAN DEL NORTE SUB-DISTRICT ENG'G. OFFICE (BUTUAN CITY)

- MR. OSCAR JANDUG, SR. - District Engineer
- MR. ALFREDO RIVERA - Asst. District Engineer
- MR. RAOUL LERIAS - Engr. II, Chief, Planning & Design Section

DPWH AGUSAN DEL SUR 1ST ENG'G. DISTRICT

- MR. FELIPE MISSION - OIC District Engineer
- MR. MAURO BRAVO, JR. - Asst. District Engineer
- MR. JAIME BERNAT - Engr. III, Chief, Planning & Design Section

DPWH SURIGAO DEL NORTE 1ST ENG'G. DISTRICT

- MR. ANTONIO PIZARRO - District Engineer
- MR. ROMEO ABAO - Asst. District Engineer
- MR. APOLINARIO LARONG - Engr. III, Chief, Planning & Design Section

DPWH MISAMIS OCCIDENTAL ENG'G. DISTRICT

- MR. JUSTINIANO PASAL - Assistant District Engineer
- MR. PERFECTO PENECIOS - Chief, Planning & Design Section

DPWH CITY ENGR'S. OFFICE (OZAMIS CITY)

- MR. ROMEO CAÑETE - Acting Asst. City Engineer

DPWH BUKIDNON 1ST ENG'G. DISTRICT

- MR. IGNACIO DUETES, JR. - Chief, Planning & Design Section
- MR. GOMERSINDO DIEZ - Engr. II, Sr. Geodetic Engineer

DPWH BUKIDNON 2ND ENG'G. DISTRICT

- MR. ALBERTO ALBIT - Chief, Planning & Design Section
- MR. SABENIANO CALIA, JR. - Engineer II, Planning & Design Section

DPWH REGIONAL OFFICE (Region XI)

- MR. JESUS CAMAYO - Regional Director
- MR. EVELIO PIRA - (OIC Regional Director) Chief, Construction Section
- MS. DAHLIA NOLASCO - Engr. V, Chief, Planning & Design Division
- MR. NAZARIO MABAGOS - OIC Project Manager
- MS. TRINIDAD LUMAMBA - Engr. III, Planning & Design Division

DPWH DAVAO CITY ENGR'S. OFFICE

- MR. ROBERT LALA - OIC District Engineer
- MR. GREGORIO YEE - Engr. II, Planning & Design Section

DPWH DAVAO DEL SUR SUB-DISTRICT ENG'G. OFFICE (MALITA)

- MR. ANTONIO CAYOCA - OIC District Engineer
- MR. ADRIANO BADILLES - OIC Asst. District Engineer

DPWH DAVAO DEL SUR ENG'G. DISTRICT

- MR. WILLIE FERNANDEZ - Engr. III, Chief, Planning & Design Section
- MR. ARNULFO CAÑONAZO - Engr. III, Chief, Mat'ls. Qlty. Control Section
- MS. ZENAIDA APIGO - Asst. Chief, Planning & Design Section

DPWH DAVAO ENG'G. DISTRICT (TAGUM)

- MR. ANDRES NARISMA - District Engineer
- MR. SERRANO GALAGALA - Engr. III, Chief, Planning & Design Section
- MR. MANUEL TUMAMAK - Engr. III, Chief, Planning & Design Section

DPWH DAVAO ENG'G. DISTRICT (NABUNTURAN)

- MR. ISIDRO PALUBON, JR. - District Engineer
- MR. DON DONALDO - Asst. District Engineer

DPWH DAVAO ORIENTAL 1ST ENG'G. DISTRICT

- MR. NOLASCO - Assistant District Engineer
MR. EDISON PALACIO - Engr. III, Chief, Planning & Design Section

DPWH DAVAO ORIENTAL 2ND ENG'G. DISTRICT

- MR. ALBERTO CAINGHOG - Engr. II, Chief, Planning & Design Section

DPWH SURIGAO DEL SUR ENG'G. DISTRICT

- MS. CORNELIA JIMENEZ - Engr. III, Chief, Planning & Design Section

DPWH SURIGAO DEL SUR SUB-DISTRICT ENG'G. OFFICE (BISLIG)

- MR. ERNESTO TORREFRANCA - Engr. III, Asst. District Engineer

DPWH SOUTH COTABATO ENG'G. DISTRICT

- MR. EULOGIO SAGUN - District Engineer
MR. MARCIAL CARDINAS - Engr. III, Chief, Planning & Design Section

DPWH SOUTH COTABATO SUB-ENG'G. DISTRICT (GENERAL SANTOS CITY)

- MR. TITO VALDEZ - Officer-in-Charge

DPWH SARANGANI ENG'G. DISTRICT

- MR. DIMAS SOGUILON - District Engineer

EMBASSY OF JAPAN

- MR. KINJI HASEGAWA - First Secretary

JICA PHILIPPINES OFFICE

- MR. AKIHIKO HASHIMOTO - Resident Representative
MR. SATOSHI MACHIDA - Deputy Resident Representative
MR. YUKIHIKO EJIRI - Assistant Resident Representation

APPENDIX 4

MINUTES OF DISCUSSIONS

Minutes of Discussion (First Field Survey)

**MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY
ON
THE PROJECT FOR CONSTRUCTION OF BRIDGES
ALONG
RURAL ROADS IN MINDANAO AREA
IN
THE REPUBLIC OF THE PHILIPPINES**

In response to the request from the Government of the Republic of the Philippines. (hereinafter referred to as "the GOP"), the Government of Japan decided to conduct a Basic Design Study on the Project for Construction of Bridges along Rural Roads in Mindanao Area (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Philippines a study team which is headed by Mr. Katsuyoshi Kanazawa, Manager of Road Division, Planning and Development Department, Honshu-Shikoku Bridge Authority, and is scheduled to stay in the country from February 16 to March 17, 1994. The Team held discussions with the officials concerned of the GOP and conducted field surveys at the study area.

In the course of the discussions and field surveys, both parties have confirmed the main items described on the attached sheets. The Team will proceed to continue the works and prepare the Interim Report.

Manila, March 14, 1994

金澤 克義

MR. KATSUYOSHI KANAZAWA

Leader
Basic Design Study Team
JICA

Teodoro T. Encarnacion

TEODORO T. ENCARNACION

Undersecretary
Department of Public Works
and Highways
The Republic of the Philippines

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve rural transportation in Regions X and XI by constructing bridges along rural roads to contribute to the national economic development, in line with the Five Year Bridge Reconstruction Program along Secondary Roads.

2. Project Sites

The proposed sites of the Project are located in Regions X and XI which are shown in ANNEX-I.

3. Executing Agency

The Department of Public Works and Highways of the GOP is responsible for the administration and execution of the Project.

4. Items Requested by the GOP

After discussions with the Basic Design Study Team, the following items were requested by the GOP.

- 1) To provide steel materials necessary for construction of bridges (Group 1) listed in ANNEX-II.
- 2) To construct bridges (Group 2) listed in ANNEX-III.

However, the final components of the Project will be decided after further studies.

5. Grant Aid System

- (1) The GOP has understood the system of Japan's Grant Aid explained by the Team.
- (2) The GOP will take necessary measures described in ANNEX-IV for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

(5)

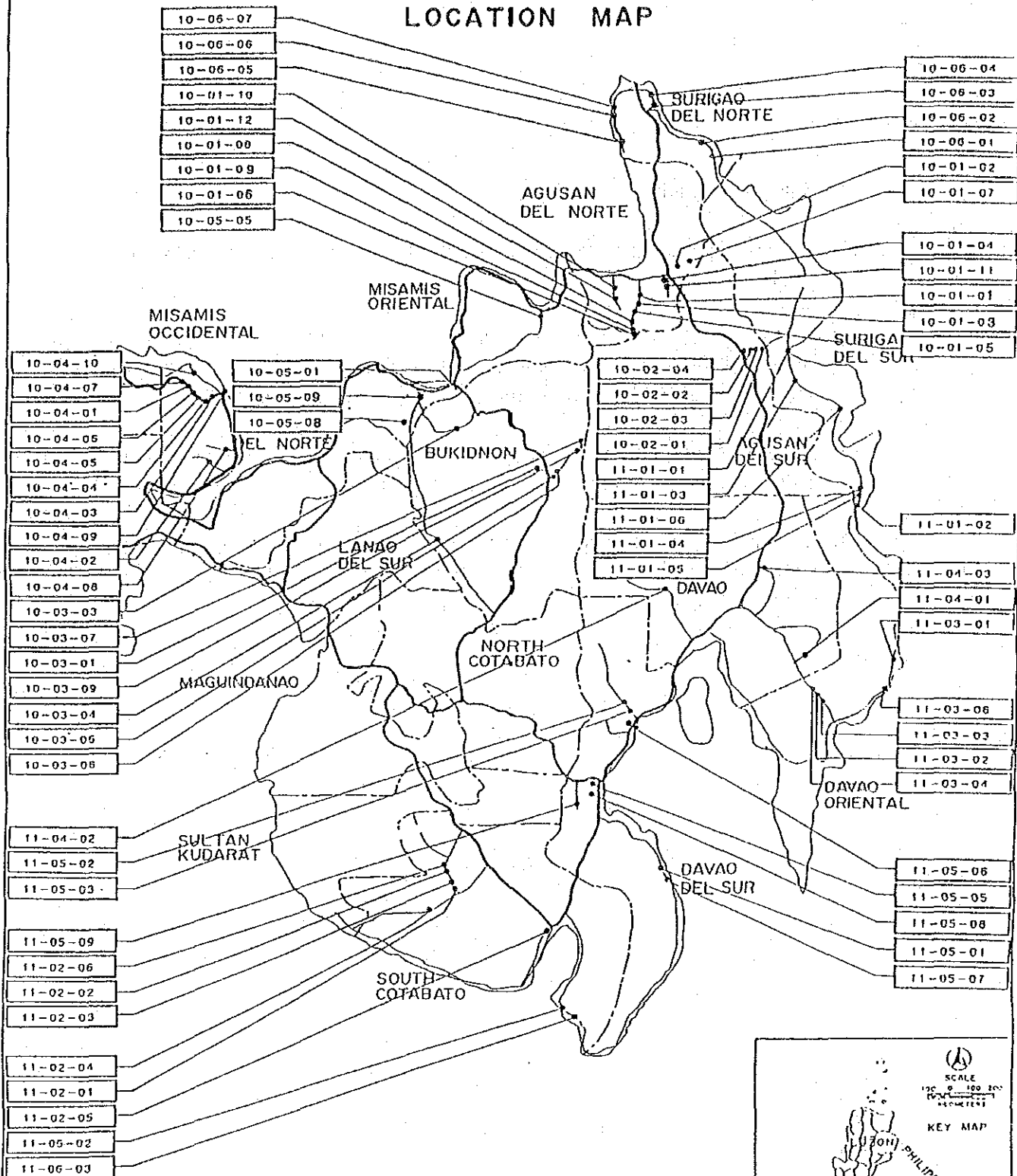
6. Schedule of the Study

- (1) The consultants will proceed to further studies in the Philippines until March 17, 1994.
- (2) JICA prepares the Interim Report in English and will dispatch a mission for further study and discussion with the concerned officials of the GOP based on the report, and additional field surveys in the project sites around May, 1994.
- (3) JICA prepares the Draft Final Report in English and will dispatch a mission in order to explain its contents around August, 1994.
- (4) In case that the contents of the Draft Final Report are accepted in principle by the GOP, JICA will complete the Final Report and send it to the GOP by October, 1994.

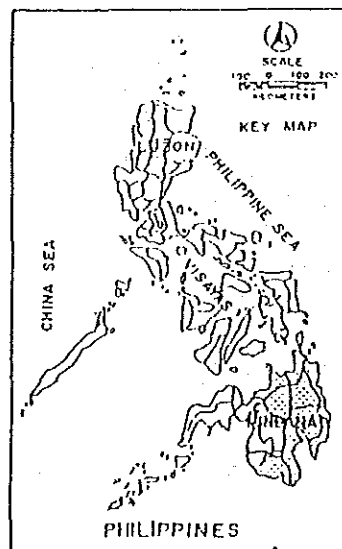
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ANNEX-I LOCATION MAP



**BASIC DESIGN STUDY ON
THE PROJECT FOR CONSTRUCTION OF
BRIDGES ALONG RURAL ROADS
IN MINDANAO AREA**



ANNEX-II
LIST OF REQUESTED BRIDGES (GROUP 1) (1/5)

No.	Bridge No.	Name of Bridge	Location
1	10-01-01	Tag-Anahao Bridge	Km. 1264+050 Butuan City-Malaybalay Road Butuan City, Agusan del Norte
2	10-01-02	Pianing Bridge	Km. 1235+500 Butuan City-Pianing-Tandag Rd. Butuan City, Agusan del Norte
3	10-01-03	Tungao I Bridge	Km. 1266+364 Butuan City-Malaybalay Road Butuan City, Agusan del Norte
4	10-01-04	Ubod-Ubod Bridge	Km. 1236+133 Jct. Tiniwisan-Maguinda-Las Nieves Barangay Road Butuan City, Agusan del Norte
5	10-01-05	Tungao II Bridge	Km. 1267+142 Butuan City-Malaybalay Road Butuan City, Agusan del Norte
6	10-01-06	Mat-I Bridge	Km. 1281+080 Agusan-Malaybalay Road Agusan del Norte
7	10-01-07	Anticala Bridge	Km. 1239+215 Butuan City-Pianing-Tandag Rd. Butuan City, Agusan del Norte
8	10-02-01	Mesli Bridge	Km. 1299+780 NRJ-Awa-Azpitia-Lianga National Secondary Road Agusan del Sur
9	10-02-02	Azpitia Bridge	Km. 1295+760 NRJ-Awa-Azpitia-Lianga National Secondary Road Agusan del Sur
10	10-02-03	Anibongan Bridge	Km. 1297+655 NRJ-Awa-Azpitia-Lianga National Secondary Road Agusan del Sur
11	10-03-01	Casisang Bridge	Km. 1507+507 Jct. Sayre Highway Impalambong- Casisang Road, Barangay Casisang Malaybalay, Bukidnon
12	10-03-03	Agusan Canyon Bridge	Km. 1452+000 Jct. Manolo Fortich-Libona-Indahad Road Agusan Canyon, Manolo Fortich Bukidnon
13	10-03-04	Olayan Bridge	Km. 1617+535.50 Kalilangan-Camp. Kibaritan Dominorog Road, Sitio Olayan, Malinao Bukidnon

ANNEX-II
LIST OF REQUESTED BRIDGES (GROUP 1) (2/5)

No.	Bridge No.	Name of Bridge	Location
14	10-03-06	Aglayan Bridge	Km. 1519+419.51 Jct. Sayre Highway Aglayan--Zamboanguita Road Barangay Aglayan, Malaybalay Bukidnon
15	10-03-07	Zamboanguita Bridge	Km. 1565+238 Jct. Sayre Highway Aglayan--Zamboanguita Road Barangay Zamboanguita, Malaybalay Bukidnon
16	10-03-08	Abuhan Bridge	Km. 1523+091.25 Jct. Sayre Highway Aglayan--Zamboanguita Road Barangay Managoc, Malaybalay Bukidnon
17	10-03-09	Silae Bridge	Km. 1559+465 Jct. Sayre Highway Aglayan--Zamboanguita Road Barangay Silae, Malaybalay Bukidnon
18	10-04-01	Sulipat Diut Bridge	Km. 1771+720 Oroquieta--Dipolog Mt. Road Brgy. Sulipat, Calamba Misamis Occidental
19	10-04-02	Labo Bridge	Km. 1705+320 Ozamis City--Carangan--Molicay--Labo-- Embargo Road, Brgy. Labo, Ozamis City Misamis Occidental
20	10-04-03	Tipalac Bridge	Km. 1754+303.09 Oroquieta--Dipolog Mt. Road Barangay Rizal, Oroquieta City Misamis Occidental
21	10-04-04	Tipan Diut Bridge	Km. 1753+933 Oroquieta--Dipolog Mt. Road Brgy. Tipan, Oroquieta City Misamis Occidental
22	10-04-05	Tipan Daku Bridge	Km. 1755+632.09 Oroquieta--Dipolog Mt. Road Barangay Tipan, Oroquieta City Misamis Occidental
23	10-04-06	Deboloc Bridge	Km. 1768+310 Oroquieta--Dipolog Mt. Road Barangay Deboloc, Piaridel Misamis Occidental
24	10-04-07	Sulipat Daku Bridge	Km. 1773+150 Oroquieta--Dipolog Mt. Road Barangay Sulipat, Calamba Misamis Occidental
25	10-04-08	Taguima Bridge	Km. 1712+495 Taguima--Napurog Barangay Road Barangay Taguima, Tudela Misamis Occidental

ANNEX-II
LIST OF REQUESTED BRIDGES (GROUP 1) (3/5)

No.	Bridge No.	Name of Bridge	Location
26	10-05-01	Sta. Ana II Bridge	Km. 1429+437 Tagoloan-Malitbog Road Misamis Oriental
27	10-05-05	Kahulugan Bridge	Km. 1317+819 Gingoog-Claveria Section Gingoog City, Misamis Oriental
28	10-05-08	Batinay Bridge	Km. 0+180 Pagalungan-Taglimao Road Misamis Oriental
29	10-06-01	Hayangabon II Bridge	Km. 1195+345 Surigao-Davao Coastal Road Surigao del Norte
30	10-06-02	Capandan Bridge	Km. 1186+970 Surigao-Davao Coastal Road Surigao del Norte
31	10-06-03	Capalayan Bridge	Km. 1134+730 Capalayab-Surigao City Road Surigao City, Surigao del Norte
32	11-01-01	Andanan Bridge	Km. 1381+655 Davao Oriental-Surigao del Sur Coastal Road, Andanan Liang, Surigao del Sur
33	11-01-02	Pagtilaan Bridge	Km. 1505+068 Davao Oriental-Surigao del Sur Coastal Road, Lingig Surigao del Sur
34	11-01-03	Quezon Bridge	Km. 1409+885 Surigao del Sur-Davao Oriental Coastal Road, Tagbina Surigao del Sur
35	11-01-04	Pagbakatan Bridge	Km. 1482+694 Davao Oriental-Surigao del Sur Coastal Road, Lingig Surigao del Sur
36	11-01-05	Union Bridge	Km. 1501+162 Davao Oriental-Surigao del Sur Coastal Road, Lingig Surigao del Sur
37	11-01-06	Tagasaka Bridge	Km. 1439+658 Davao Oriental-Surigao del Sur Coastal Road, Hinatuan, Surigao del Sur
38	11-02-01	Kilob Bridge	Km. 1741+556 Surallah-Lake Sebu Road Brgy. Colongolo, Surallah South Cotabato

ANNEX-II
LIST OF REQUESTED BRIDGES (GROUP 1) (4/5)

No.	Bridge No.	Name of Bridge	Location
39	11-02-02	Kalma I Bridge	Km. 1739+440 Surallah-Lake Sebu Road Brgy. Colongolo, Surallah South Cotabato
40	11-02-03	Kalma II Bridge	Km. 1739+992 Surallah-Lake Sebu Road Brgy. Colongolo, Surallah South Cotabato
41	11-02-04	Luhib Bridge	Km. 1743+856 Surallah-Lake Sebu Road Brgy. Colongolo, Surallah South Cotabato
42	11-03-01	Dao-An Bridge	Km. 1632+388 Davao Oriental-Surigao del Sur Coastal Road, Caraga Davao Oriental
43	11-03-02	Licop Bridge	Km. 1726+439 Mati-Compostela-Montevista Road Lupon, Davao Oriental
44	11-03-03	Tawas Bridge	Km. 1723+920 Mati-Compostela-Montevista Road Mati, Davao Oriental
45	11-03-04	Pangyan Bridge	Km. 1726+024 Mati-Compostela-Montevista Road Lupon, Davao Oriental Sarangani
46	11-04-01	Agusan Bridge	Km. 1483+895 Montevista-Compostela-New Bataan- San Mariano-Mati Road San Mariano, Davao
47	11-05-02	Los Amigos Bridge	Km. 1689+282 Tugbok-Balengaeng Road Tugbok District, Davao City
48	11-05-03	Mintal Bridge	Km. 1696+012 Mintal-Calinan road Mintal, Davao City
49	11-05-05	Sacub-Lanuro Bridge	Km. 1583+322 Lanuro-Hagonoy Road Hagonoy, Davao del Sur
50	11-05-06	Piedad Bridge	Km. 1526+780 Toril District-Eden Road Toril, Davao City
51	11-05-08	Hagonoy Bridge	Km. 1576+000 Hagonoy-Digos Road Hagonoy, Davao del Sur

ANNEX-II
LIST OF REQUESTED BRIDGES (GROUP 1) (5/5)

No.	Bridge No.	Name of Bridge	Location
52	11-05-09	Mal Bridge	Km. 1593+300 Matanao-Davao City Road Matanao, Davao del Sur
53	11-06-02	Baliton Bridge	Km. 1717+376 Sarangani-Davao del Sur Coastal Road, Baliton Glan, Sarangani
54	11-06-03	Pangyan Bridge	Km. 1733+949 Sarangani-Davao del Sur Coastal Road, Pangyan Glan, Sarangani

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ANNEX-III
LIST OF REQUESTED BRIDGES (GROUP 2) (1/2)

No.	Bridge No.	Name of Bridge	Location
1	10-01-08	Lingayao Bridge	Km. 1271+920 Agusan-Malaybalay Road Agusan Del Norte
2	10-01-09	Magus Bridge	Km. 1273+484.22 ~ 1273+524.22 Agusan-Malaybalay Road Agusan Del Norte
3	10-01-10	Rizal Bridge	Km. 1261+171.89 ~ 1261++231.89 Buenavista-Bunaguit Road Agusan Del Norte
4	10-01-11	Lemon Bridge	Km. 1236+882 Jct. Tiniwisan-Maguinda-Las Nieves Barangay Road Butuan City, Agusan del Norte
5	10-01-12	Guinabsan Bridge	Km. 1263+560 Buenavista-Bunaguit Road Agusan Del Norte
6	10-02-04	Maog Bridge	Km. 1292+650 ~ 1292+713.60 NRJ. Awa-Azpitia-Lianga National Secondary Road Agusan Del Sur
7	10-04-09	Old Pelaez Utility Steel Bridge	Km. 1742+294 Oroquieta-Ozamis National Road Oroquieta City Misamis Occidental
8	10-04-10	Katipunan Bridge	Km. 1763+422 Looc-Katipunan-Cartagena-Luzaran Prov'l Road, Brgy. Katipunan, Plaridel Misamis Occidental
9	10-05-09	Pagatpat-San Simon Bridge	Km. 0+050 Bulua-Pagatpat-San Simon Road Cagayan de Oro City Misamis Oriental
10	10-06-04	Orok Bridge	Km. 1137+900 Quezon-Mapawa-Capalayan-Orok Road Surigao City, Surigao del Norte
11	10-06-05	Cuyangan Bridge	Km. 482+520 Surigao-Anoa-aon-Malimono Road Surigao del Norte
12	10-06-06	Tigbao Bridge	Km. 470+430 Surigao-Anoa-aon-Malimono Road Surigao del Norte

ANNEX-III
LIST OF REQUESTED BRIDGES (GROUP 2) (2/2)

No.	Bridge No.	Name of Bridge	Location
13	10-06-07	Balite Bridge	Km. 469+420 Surigao--Anoa--aon--Malimono Road Surigao del Norte
14	11-02-05	Lower Silway Bridge	Km. 1656+032 Gen. Santos City--Makar Wharf Road Gen. Santos City, South Cotabato
15	11-02-06	Colongolo Bridge	Km. 1737+600 Surallah--Lake Sebu Road Brgy. Colongolo, Surallah South Cotabato
16	11-03-06	Mahan--ub Bridge	Km. 1649+210 Davao Oriental--Surigao del Sur Coastal Road, Manay Davao Oriental
17	11-04-02	Binasbas Bridge	Km. 1414+620 Tagum--Asuncion--San Vicente Road Binasbas, Asuncion Davao
18	11-04-03	Inambatan Bridge	Km. 1400+570 Olaycon--Inambatan--Macopa-- Compostela Road Monkayo, Davao
19	11-05-01	Culaman Bridge	Km. 1637+000 Davao del Sur--Sarangani Coastal Road, Malita Davao del Sur
20	11-05-07	Lais Bridge	Km. 1645+160 Davao del Sur--Sarangani Coastal Road, Malita Davao del Sur

(K/S)

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ANNEX - IV

Necessary measures to be taken by the GOP:

1. To provide data and information necessary for the Project.
2. To secure the land necessary for the execution of the Project, such as the lands for bridges, temporary offices, working areas, storage yards and others.
3. To clear the sites prior to commencement of the construction.
4. To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
 - Advising commission of Authorization to Pay
 - Payment commission
5. To ensure prompt unloading and customs clearance at ports of disembarkation in the Philippines and internal transportation therein of the products purchased under the Grant.
6. To exempt Japanese nationals from customs duties, internal taxes, and other fiscal levies which may be imposed in the Philippines with respect to the supply of the products and services under the verified contracts.
7. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contract of such facilities as may be necessary for their entry into the Philippines and stay therein for the performance of their work.
8. To maintain and use properly and effectively the facilities constructed under the Grant.
9. To bear all the expenses other than those to be borne by the Grant, necessary for the bridge construction, as well as for the internal transportation of the steel materials for "Group-1" bridges.
10. To construct all "Group-1" bridges within the period of one year after delivery of steel materials purchased under the Grant.
11. To coordinate and solve any issues related to the Project which may be raised from third parties or inhabitants in the project area during implementation of the Project.



Minutes of Discussion (Second Field Survey)

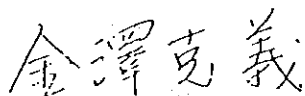
MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY
ON
THE PROJECT FOR CONSTRUCTION OF BRIDGES
ALONG
RURAL ROADS IN MINDANAO AREA
IN
THE REPUBLIC OF THE PHILIPPINES
(SECOND FIELD SURVEY)

In February, 1994, Japan International Cooperation Agency (JICA) dispatched to the Republic of the Philippines a Basic Design Study Team (First Field Survey) on the Project for Construction of Bridges along Rural Roads in Mindanao Area (hereinafter referred to as "the Project"), and through discussions, field survey, and technical examination of the results in Japan, has prepared the Interim Report of the study.

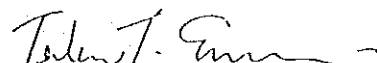
In order to discuss and consult the Government of the Republic of the Philippines (hereinafter referred to as "the GOP") on the components of the study based on Interim Report, and to conduct further field survey, JICA sent to the Republic of the Philippines a study team (Second Field Survey) which is headed by Mr. Katsuyoshi Kanazawa, Manager of Road Div., Planning and Development Dep., Honshu-Shikoku Bridge Authority, and is scheduled to stay in the country from April 27 to June 20, 1994.

The Team held discussions with the officials concerned of the GOP and conducted field surveys at the study area. In the course of the discussions and field surveys, both parties have confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Manila, May 27, 1994



MR. KATSUYOSHI KANAZAWA
Leader
Basic Design Study Team,
JICA



MR. TEODORO T. ENCARNACION
Undersecretary
Department of Public Works
and Highways
The Republic of the Philippines

ATTACHMENT

1. Component of the Interim Report

The GOP has understood and accepted in principle the components of the Interim Report proposed by the Team.

2. Subjects of the Basic Design Study

After discussions, the following bridge sites were agreed and decided to be the subject of the Basic Design Study.

- 1) Bridge sites for Group 1 are listed with their locations in ANNEX - I.
- 2) Bridge sites for Group 2 are listed with their locations in ANNEX - II.

However, the final components of the Project will be decided after further studies.

3. Grant Aid System

- 1) The GOP has understood the system of Japan's Grant Aid explained by the Team.
- 2) The GOP will take necessary measures, described in ANNEX - III for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

4. Necessary Internal Approval

- 1) The GOP will take necessary steps to obtain early clearance from the Investment Coordination Committee (ICC) to facilitate the implementation of the Project.
- 2) The GOP will take necessary preparatory measures to satisfy the internal criteria concerning environmental impact assessment as required by the Environmental Management Bureau (EMB), to facilitate the implementation of the Project.

5. Schedule of the Study

- 1) The consultants will proceed to further studies in the Republic of the Philippines until June 20, 1994.

- 2) JICA will prepare the Draft Final Report in English and will dispatch a mission in order to explain its contents in around September, 1994.
- 3) In case that the contents of the Draft Final Report are accepted in principle by the GOP, JICA will complete the Final Report and send it to the GOP by December, 1994.



ANNEX – I
LIST OF THE CANDIDATE BRIDGES (GROUP 1) FOR BASIC DESIGN STUDY (1/4)

No.	Bridge No.	Name of Bridge	Location
I. PRIORITY *A* BRIDGES			
1	10-01-01	Tag-Anahao Bridge	Km. 1264+050 Butuan City – Malaybalay Road Butuan City, Agusan del Norte
2	10-01-08	Lingayao Bridge	Km. 1271+920 Agusan – Malaybalay Road Agusan Del Norte
3	10-01-09	Magus Bridge	Km. 1273+484.22 ~ 1273+524.22 Agusan – Malaybalay Road Agusan Del Norte
4	10-02-01	Mesli Bridge	Km. 1299+780 NRJ – Awa – Azpilia – Lianga National Secondary Road Agusan del Sur
5	10-02-03	Anibongan Bridge	Km. 1297+655 NRJ – Awa – Azpilia – Lianga National Secondary Road Agusan del Sur
6	10-03-06	Aglayan Bridge	Km. 1519+419.51 Jct. Sayre Highway Aglayan – Zamboanguita Rd. Barangay Aglayan, Malaybalay Bukidnon
7	10-03-08	Abuhan Bridge	Km. 1523+091.25 Jct. Sayre Highway Aglayan – Zamboanguita Rd. Barangay Managoc, Malaybalay Bukidnon
8	10-05-01	Sta. Ana II Bridge	Km. 1429+437 Tagoloan – Malitbog Road Misamis Oriental
9	10-06-01	Hayanggabon II Bridge	Km. 1195+345 Surigao – Davao Coastal Road Surigao del Norte
10	11-01-03	Quezon Bridge	Km. 1409+885 Surigao del Sur – Davao Oriental Coastal Road, Tagbina Surigao del Sur
11	11-03-01	Dao-An Bridge	Km. 1632+388 Davao Oriental – Surigao del Sur Coastal Road, Caraga Davao Oriental

ANNEX – I
LIST OF THE CANDIDATE BRIDGES (GROUP 1) FOR BASIC DESIGN STUDY (2/4)

No.	Bridge No.	Name of Bridge	Location
12	11-03-06	Mahan-Ub Bridge	Km. 1649+210 Davao Oriental-Surigao del Sur Coastal Road, Manay Davao Oriental
13	11-05-07	Lais Bridge	Km. 1645+160 Davao del Sur-Sarangani Coastal Road, Malita Davao del Sur

II. PRIORITY 'B' BRIDGES

14	10-03-07	Zamboanguita Bridge	Km. 1565+238 Jct. Sayre Highway Aglayan-Zamboanguita Rd. Barangay Zamboanguita, Malaybalay Bukidnon
15	10-03-09	Silae Bridge	Km. 1559+465 Jct. Sayre Highway Aglayan-Zamboanguita Rd. Barangay Silae, Malaybalay Bukidnon
16	10-04-03	Tipalac Bridge	Km. 1754+303.09 Oroquieta-Dipolog Mt. Road Barangay Rizal, Oroquieta City Misamis Occidental
17	10-04-04	Tipan Diut Bridge	Km. 1753+933 Oroquieta-Dipolog Mt. Road Brgy. Tipan, Oroquieta City Misamis Occidental
18	10-04-10	Katipunan Bridge	Km. 1763+422 Looc-Katipunan-Cartagena-Luzaran Prov'l Road, Brgy. Katipunan, Plaridel Misamis Occidental
19	10-06-02	Capandan Bridge	Km. 1186+970 Surigao-Davao Coastal Road Surigao del Norte
20	10-06-06	Tigbao Bridge	Km. 470+430 Surigao-Anoa-aon-Malimono Road Surigao del Norte
21	10-06-07	Balile Bridge	Km. 469+420 Surigao-Anoa-aon-Malimono Road Surigao del Norte

ANNEX - I
LIST OF THE CANDIDATE BRIDGES (GROUP 1) FOR BASIC DESIGN STUDY (3/4)

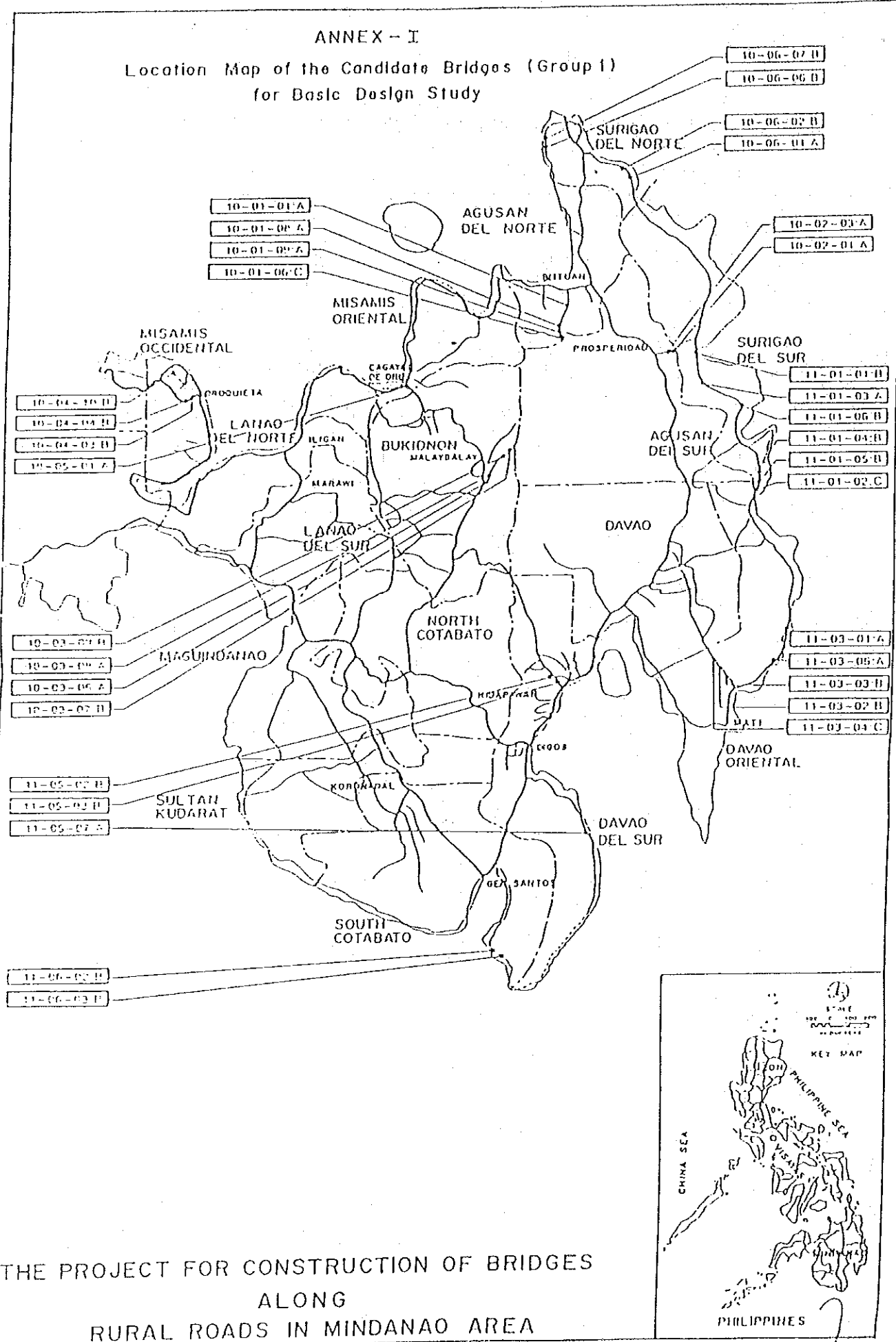
No.	Bridge No.	Name of Bridge	Location
22	11-01-01	Andanan Bridge	Km. 1381+655 Davao Oriental - Surigao del Sur Coastal Road, Andanan Lianga, Surigao del Sur
23	11-01-04	Pagbakalan Bridge	Km. 1482+694 Davao Oriental - Surigao del Sur Coastal Road, Lingig Surigao del Sur
24	11-01-05	Union Bridge	Km. 1501+162 Davao Oriental - Surigao del Sur Coastal Road, Lingig Surigao del Sur
25	11-01-06	Tagasaka Bridge	Km. 1439+658 Davao Oriental - Surigao del Sur Coastal Road, Hinatuan, Surigao del Sur
26	11-03-02	Licop Bridge	Km. 1726+439 Mati - Compostela - Montevista Road Lupon, Davao Oriental
27	11-03-03	Tawas Bridge	Km. 1723+920 Mati - Compostela - Montevista Road Mati, Davao Oriental
28	11-05-02	Los Amigos Bridge	Km. 1689+282 Tugbok - Balengaeng Road Tugbok District, Davao City
29	11-05-03	Mintal Bridge	Km. 1696+012 Mintal - Calinan road Mintal, Davao City
30	11-06-02	Baliton Bridge	Km. 1717+376 Sarangani - Davao del Sur Coastal Road, Baliton Glan, Sarangani
31	11-06-03	Pangyan Bridge	Km. 1733+949 Sarangani - Davao del Sur Coastal Road, Pangyan Glan, Sarangani

ANNEX – I
LIST OF THE CANDIDATE BRIDGES (GROUP 1) FOR BASIC DESIGN STUDY (4/4)

No.	Bridge No.	Name of Bridge	Location
III. PRIORITY 'C' BRIDGES			
32	10-01-06	Mat-I Bridge	Km. 1281+080 Agusan-Malaybalay Road Agusan del Norte
33	11-01-02	Paglilaan Bridge	Km. 1505+068 Davao Oriental-Surigao del Sur Coastal Road, Lingig Surigao del Sur
34	11-03-04	Pangyan Bridge	Km. 1726+024 Mati-Compostela-Montevista Road Lupon, Davao Oriental

ANNEX - I

Location Map of the Candidate Bridges (Group I)
for Basic Design Study



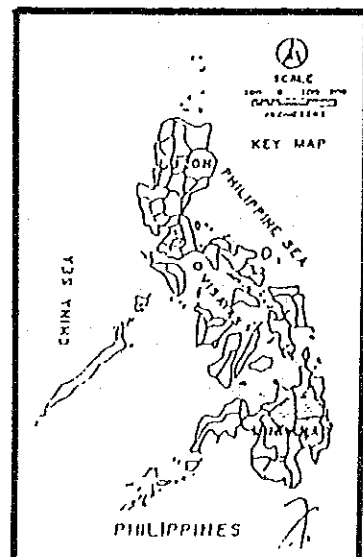
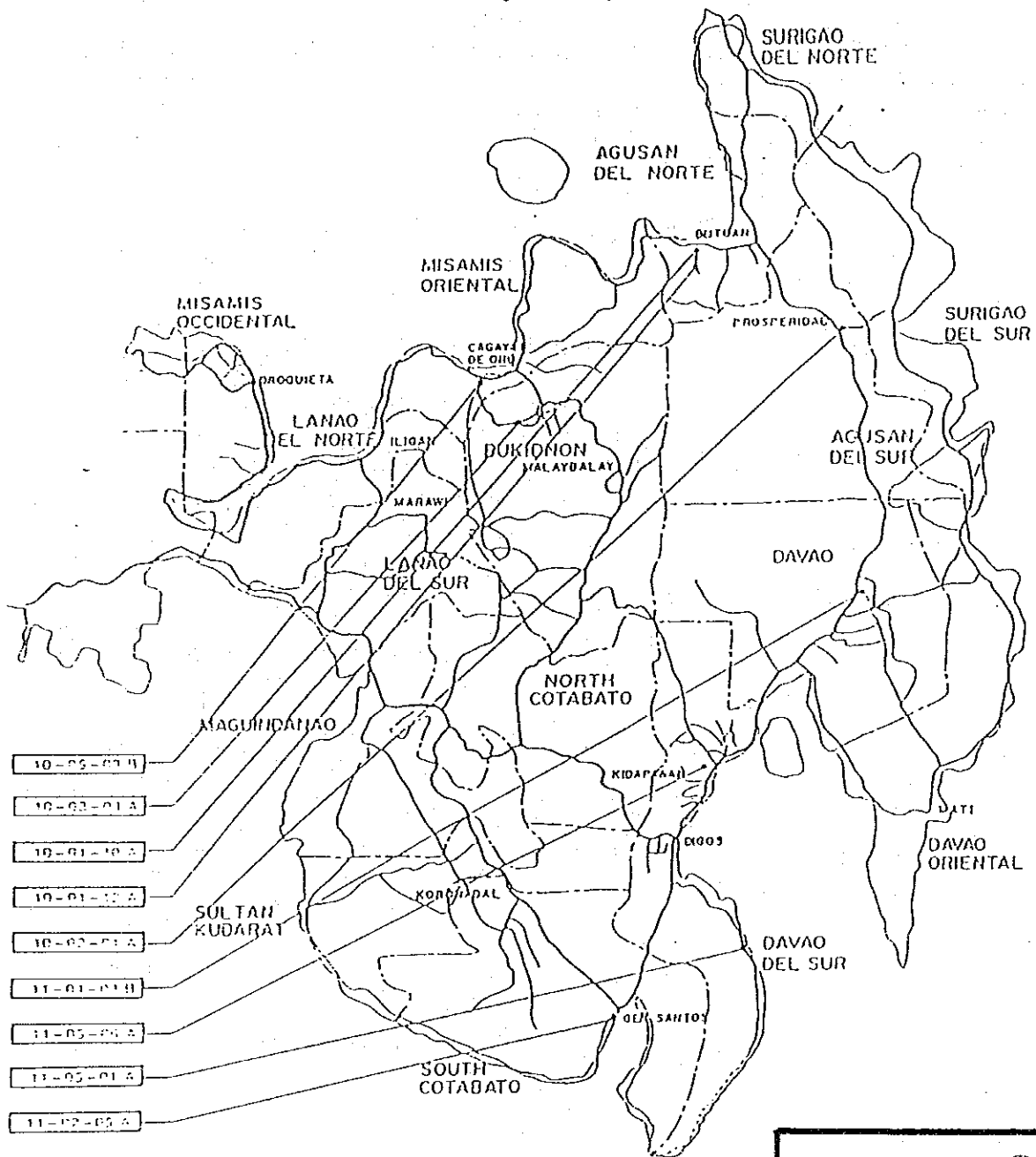
THE PROJECT FOR CONSTRUCTION OF BRIDGES
ALONG
RURAL ROADS IN MINDANAO AREA

ANNEX – II
LIST OF THE CANDIDATE BRIDGES (GROUP 2) FOR BASIC DESIGN STUDY (1/1)

No.	Bridge No.	Name of Bridge	Location
I. PRIORITY 'A' BRIDGES			
1	10-01-10	Rizal Bridge	Km. 1261+171.89 ~ 1261++231.89 Buenavista-Bunaguil Road Agusan Del Norte
2	10-01-12	Guinabsan Bridge	Km. 1263+560 Buenavista-Bunaguil Road Agusan Del Norte
3	10-02-04	Maog Bridge	Km. 1292+650 ~ 1292+713.60 NRJ. Awa-Azpilia-Lianga National Secondary Road Agusan Del Sur
4	10-03-03	Agusan Canyon Bridge	Km. 1452+000 Jct. Manolo Fortich-Libona-Indahad Road Agusan Canyon, Manolo Fortich Bukidnon
5	11-02-05	Lower Silway Bridge	Km. 1656+032 Gen. Santos City-Makar Wharf Road Gen. Santos City, South Cotabato
6	11-05-01	Culaman Bridge	Km. 1637+000 Davao del Sur-Sarangani Coastal Road, Malita Davao del Sur
7	11-05-06	Piedad Bridge	Km. 1526+780 Toril District-Eden Road Toril, Davao City
II. PRIORITY 'B' BRIDGES			
8	10-05-09	Pagalpat-San Simon Bridge	Km. 0+050 Bulua-Pagalpat-San Simon Road Cagayan de Oro City Misamis Oriental
9	11-04-03	Inambatan Bridge	Km. 1400+570 Olaycon-Inambatan-Macopa- Compostela Road Monkayo, Davao

ANNEX - II

Location Map of the Candidate Bridges (Group 2)
for Basic Design Study



THE PROJECT FOR CONSTRUCTION OF BRIDGES
ALONG
RURAL ROADS IN MINDANAO AREA

ANNEX - III

Necessary measures to be taken by the GOP:

1. To provide data and information necessary for the Project.
2. To secure the land necessary for the execution of the Project, such as the lands for bridges, temporary offices, working areas, storage yards and others.
3. To clear the sites prior to commencement of the construction.
4. To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
 - Advising commission of Authorization to Pay
 - Payment commission
5. To ensure prompt unloading and customs clearance at ports of disembarkation in the Republic of the Philippines and internal transportation therein of the products purchased under the Grant.
6. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the Republic of the Philippines with respect to the supply of the products and services under the verified contracts.
7. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contract of such facilities as may be necessary for their entry into the Republic of the Philippines and stay therein for the performance of their work.
8. To maintain and use properly and effectively the facilities constructed under the Grant.
9. To bear all the expenses other than those to be borne by the Grant necessary for the bridge construction, as well as for the internal transportation of the materials for "Group 1" bridges.
10. To construct all "Group 1" bridges within the period of one year after delivery of the materials purchased under the Grant.
11. To coordinate and solve any issues related to the Project which may be raised from third parties or inhabitants in the project area during implementation of the Project.

Minutes of Discussion (Consultation of Draft Report)

MINUTES OF DISCUSSIONS

BASIC DESIGN STUDY

ON

THE PROJECT FOR CONSTRUCTION OF BRIDGES

ALONG

RURAL ROADS IN MINDANAO AREA

IN

THE REPUBLIC OF THE PHILIPPINES

(CONSULTATION OF DRAFT REPORT)

In February and April, 1994, the Japan International Cooperation Agency (JICA) dispatched to the Republic of the Philippines the Basic Design Study Team on the Project for Construction of Bridges along Rural Roads in Mindanao Area in the Republic of the Philippines (hereinafter referred to as "the Project"), and through discussions, field survey, and technical examination of the results in Japan, has prepared the draft report of the study.

In order to explain and to consult with the Government of the Philippines (hereinafter referred as "the GOP") on the components of the draft report, JICA sent to the Philippines a study team (Consultation of Draft Report), which is headed by Mr. Katsuyoshi Kanazawa, Manager of Road Div., Planning and Development Dep., Honshu-Shikoku Bridge Authority from October 20 to 26, 1994. As a result of the discussions, both parties hereby confirm the main items described on the attached sheet.

Manila, October 25, 1994



MR. KATSUYOSHI KANAZAWA
Leader
Basic Design Study Team
JICA



MR. TEODORO T. ENCARNACION
Undersecretary
Department of Public Works
and Highways
Republic of the Philippines

ATTACHMENT

1. Component of the Draft Report

The GOP has understood and accepted in principle the components of the Draft Report proposed by the Team.

2. Subject bridges of the Project

After discussions on the Draft Report, the following bridges were agreed and decided to be the subject of the Project.

- 1) Bridge sites for Group 1 are listed with their locations in ANNEX-I.
- 2) Bridge sites for Group 2 are listed with their locations in ANNEX-II.

3. Scope of the Japan's Grant Aid

1) Group 1

- i) Procurement of materials
 - Steel girder materials
 - Erection tools
 - Field paint
 - Sheetpiles, PC piles
 - Gabions, Filter unit materials
 - Guardrails

ii) Delivery of materials

Designated delivery ports are as follows:

- Cagayan de Oro Port
- Nasipit Port
- Ozamiz (Pier I and II) Port
- Sasa Port (Davao City)
- Makar Wharf (General Santos City)

2) Group 2

Construction of the project bridges including detailed design and construction supervision.

- Eight (8) steel girder bridges
- Two (2) PC girder bridges



4. Grant Aid System

- 1) The GOP has understood the system of Japan's Grant Aid explained by the Team.
- 2) The GOP will take necessary measures, described in ANNEX-III for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

5. Necessary Internal Approval

- 1) The GOP will take necessary steps to obtain early clearance from the Investment Coordination Committee (ICC) to facilitate the implementation of the Project.
- 2) The GOP will take necessary preparatory measures to satisfy the internal criteria concerning environmental impact assessment as required by the Environmental Management Bureau (EMB), to facilitate the implementation of the Project.

6. Technical Assistance

Technical assistance of geological survey, detailed substructures design and construction planning for the following Group 1 bridges was requested by the GOP, since they have some technical difficulties.

- 10-03-03 Agusan Canyon Bridge
- 10-04-10 Katipunan Bridge
- 11-01-01 Andanan Bridge
- 11-03-06 Mahan-Ub Bridge
- 11-05-02 Los Amigos Bridge
- 11-05-06 Piedad Bridge

7. Schedule of the Study

The Team will prepare the final report in accordance with the confirmed items, and send it to the GOP by end of December, 1994.



ANNEX - I

LIST OF PROJECT BRIDGES FOR GROUP 1

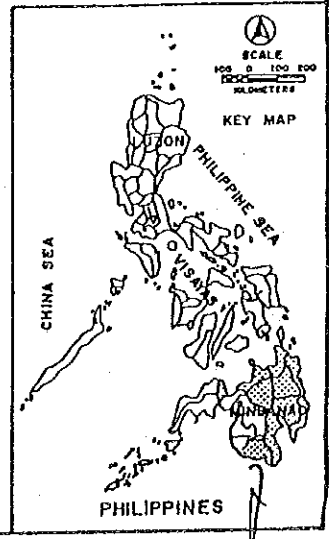
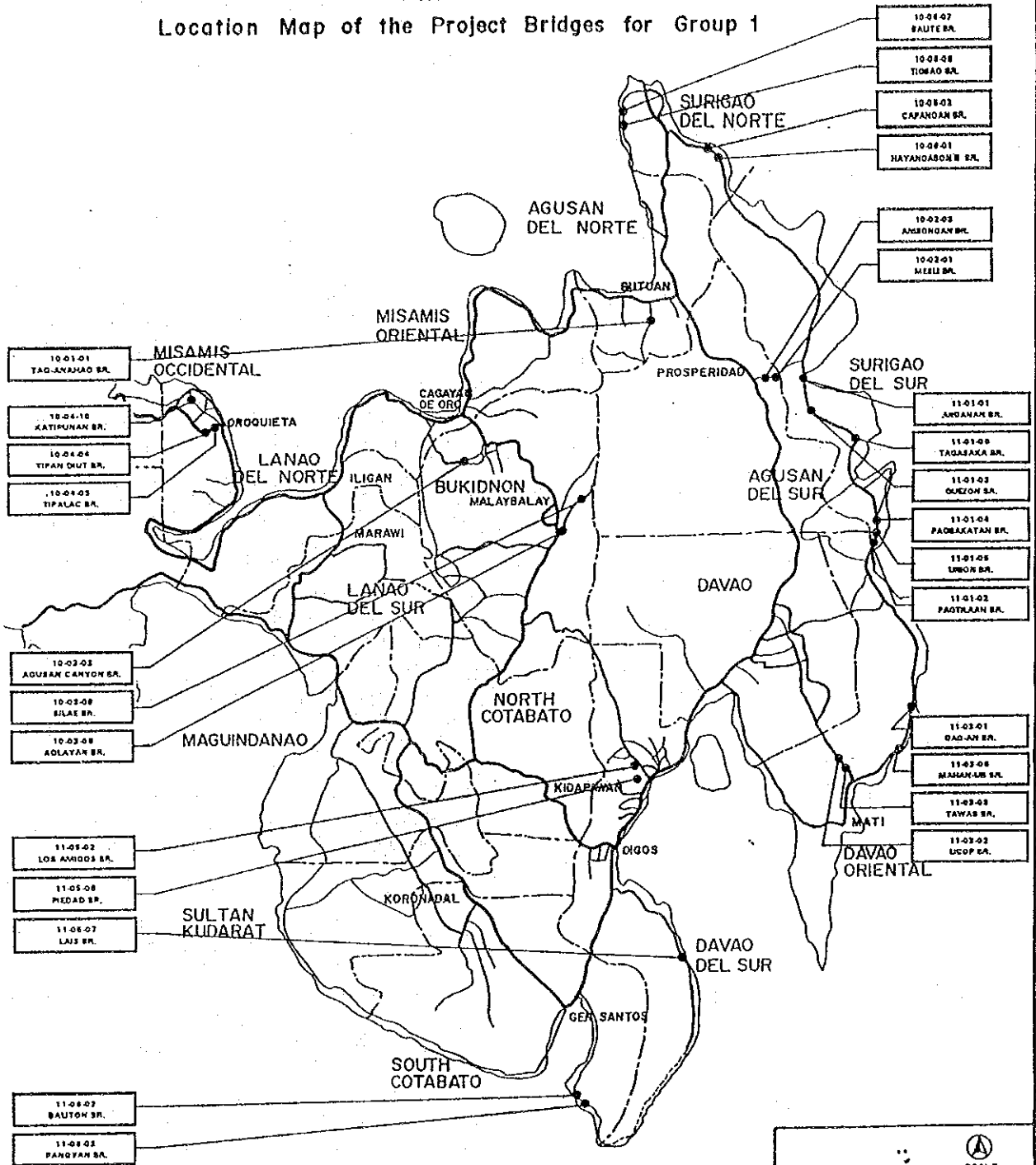
(1/2)

No.	Bridge No.	Name of Bridge	Location
1.	10-01-01	Tag-Anahao	Km. 1264 + 050 Butuan City-Malaybalay Road, Butuan City Agusan del Norte
2	10-02-01	Mesli	Km. 1299 + 780 NRJ-Awa-Azpitia-Lianga National Secondary Road, Agusan del Sur
3	10-02-03	Anibongan	Km. 1297 + 655 NRJ-Awa-Azpitia-Lianga National Secondary Road, Agusan del Sur
4	10-03-03	Agusan Canyon	Km. 1452 + 000 Jct. Manolo Fortich-Libona-Indahad Road Agusan Canyon, Manolo Fortich, Bukidnon
5	10-03-06	Aglayan	Km. 1519 + 419.51 Jct. Sayre Highway Aglayan-Zamboanguita Rd. Barangay Aglayan, Malaybalay, Bukidnon
6	10-03-09	Silae	Km. 1559 + 465 Jct. Sayre Highway Aglayan-Zamboanguita Rd. Barangay Silae, Malaybalay, Bukidnon
7	10-04-03	Tipalac	Km. 1754 + 303.09 Oroquieta-Dipolog Mt. Road, Barangay Rizal Oroquieta City, Misamis Occidental
8	10-04-04	Tipan Diut	Km. 1753 + 933 Oroquieta-Dipolog Mt. Road, Barangay Tipan Oroquieta City, Misamis Occidental
9	10-04-10	Katipunan	Km. 1763 + 422 Looc-Katipunan-Cartagena-Luzaran Prov'l Road, Brgy. Katipunan, Plaridel Misamis Occidental
10	10-06-01	Hayangabon II	Km. 1195 + 345 Surigao-Davao Coastal Road, Surigao del Norte
11	10-06-02	Capandan	Km. 1186 + 970 Surigao-Davao Coastal Road, Surigao del Norte
12	10-06-06	Tigbao	Km. 470 + 430 Surigao-Anoa-aon-Malimono Road Surigao del Norte
13	10-06-07	Balite	Km. 469 + 420 Surigao-Anoa-aon-Malimono Road Surigao del Norte
14	11-01-01	Andanan	Km. 1381 + 655 Davao Oriental-Surigao del Sur, Coastal Road Andanan Lianga, Surigao del Sur

No.	Bridge No.	Name of Bridge	Location
15	11-01-02	Pagtilaan	Km. 1505 + 068 Davao Oriental-Surigao del Sur Coastal Road Lingig, Surigao del Sur
16	11-01-03	Quezon	Km. 1409 + 885 Surigao del Sur-Davao Oriental Coastal Road Tagbina, Surigao del Sur
17	11-01-04	Pagbakatan	Km. 1482 + 694 Davao Oriental-Surigao del Sur Coastal Road Lingig, Surigao del Sur
18	11-01-05	Union	Km. 1501 + 162 Davao Oriental-Surigao del Sur Coastal Road Lingig, Surigao del Sur
19	11-01-06	Tagasaka	Km. 1439 + 658 Davao Oriental-Surigao del Sur Coastal Road Hinatuan, Surigao del Sur
20	11-03-01	Dao-An	Km. 1632 + 388 Davao Oriental-Surigao del Sur Coastal Road Caraga, Davao Oriental
21	11-03-02	Licop	Km. 1726 + 439 Mati-Compostela-Montevista Road, Lupon Davao Oriental
22	11-03-03	Tawas	Km. 1723 + 920 Mati-Compostela-Montevista Road, Mati Davao Oriental
23	11-03-06	Mahan-Ub	Km. 1649 + 210 Davao Oriental-Surigao del Sur Coastal Road Manay, Davao Oriental
24	11-05-02	Los Amigos	Km. 1689 + 282 Tugbok-Balengaeng Road, Tugbok District Davao City
25	11-05-06	Piedad	Km. 1526 + 780 Toril District-Eden Road, Toril Davao City
26	11-05-07	Lais	Km. 1645 + 160 Davao del Sur-Sarangani Coastal Road Malita, Davao del Sur
27	11-06-02	Baliton	Km. 1717 + 376 Sarangani-Davao del Sur Coastal Road Baliton, Glan, Sarangani
28	11-06-03	Pangyan	Km. 1733 + 949 Sarangani-Davao del Sur Coastal Road Pangyan, Glan, Sarangani

ANNEX - I

Location Map of the Project Bridges for Group 1



THE PROJECT FOR CONSTRUCTION OF BRIDGES
ALONG
RURAL ROADS IN MINDANAO AREA



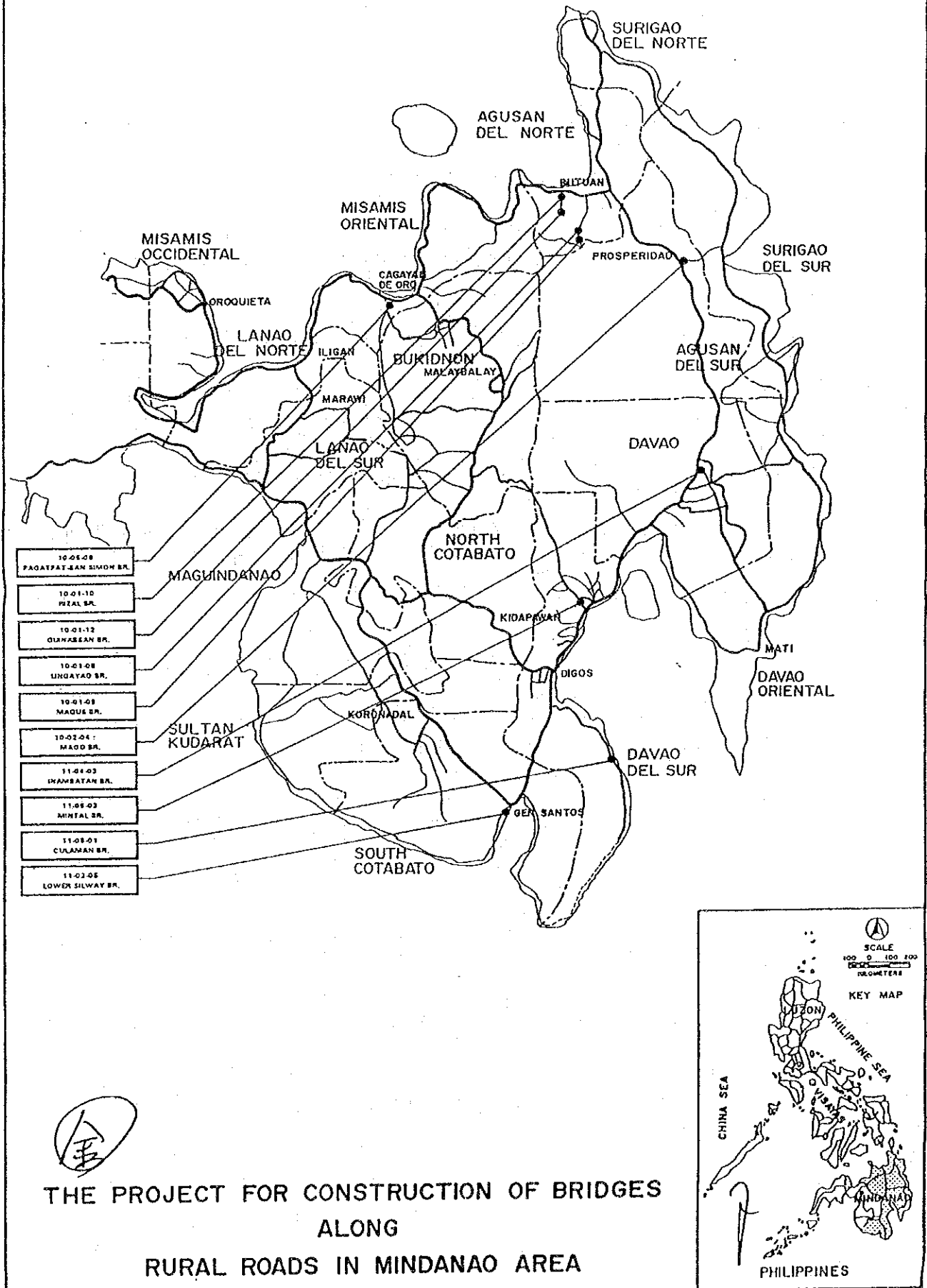
ANNEX - II

LIST OF PROJECT BRIDGES FOR GROUP 2

No.	Bridge No.	Name of Bridge	Location
1	10-01-08	Lingayao	Km. 1271 + 920 Agusan-Malaybalay Road, Agusan del Norte
2	10-01-09	Magus	Km. 1273 + 484.22 ~ 1273 + 524.22 Agusan-Malaybalay Road Agusan del Norte
3	10-01-10	Rizal	Km. 1261 + 171.89 ~ 1261 + 231.89 Buenavista-Bunaguit Road, Agusan del Norte
4	10-01-12	Guinabsan	Km. 1263 + 560 Buenavista-Bunaguit Road Agusan del Norte
5	10-02-04	Maog	Km. 1292 + 650 ~ 1292 + 713.60 NRJ. Awa-Azpitia-Lianga National Secondary Road, Agusan del Sur
6	10-05-09	Pagatpat-San Simon	Km. 0 + 050 Bulua-Pagatpat-San Simon Road Cagayan de Oro City, Misamis Oriental
7	11-02-05	Lower Silway	Km. 1656 + 032 Gen. Santos City-Makar Wharf Road Gen. Santos City, South Cotabato
8	11-04-03	Inambatan	Km. 1400 + 570 Olaycon-Inambatan-Macopa- Compostela Road, Monkayo, Davao
9	11-05-01	Culaman	Km. 1637 + 000 Davao del Sur-Sarangani Coastal Road Malita, Davao del Sur
10	11-05-03	Mintal	Km. 1696 + 012 Mintal-Calinan Road, Mintal, Davao City

ANNEX - II

Location Map of the Project Bridges for Group 2

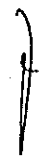


THE PROJECT FOR CONSTRUCTION OF BRIDGES
ALONG
RURAL ROADS IN MINDANAO AREA

ANNEX - III

Necessary measures to be taken by the GOP:

1. To provide data and information necessary for the Project.
2. To secure the land necessary for the execution of the Project, such as the lands for bridges, temporary offices, working areas, storage yards and others.
3. To clear the sites prior to commencement of the construction.
4. To make passable all roads and bridges leading to the project sites before the start of the inland transportation of materials and equipment.
5. To demolish existing bridges after completion of the new bridges.
6. To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
 - Advising commission of Authorization to Pay
 - Payment commission
7. To ensure prompt unloading and customs clearance at ports of disembarkation in the Republic of the Philippines and internal transportation therein of the products purchased under the Grant.
8. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the Republic of the Philippines with respect to the supply of the products and services under the verified contracts.
9. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contract of such facilities as may be necessary for their entry into the Republic of the Philippines and stay therein for the performance of their work.
10. To maintain and use properly and effectively the facilities constructed under the Grant.



11. To bear all the expenses other than those to be borne by the Grant necessary for the bridge construction, as well as for the internal transportation of the materials for "Group 1" bridges.
12. To construct all "Group 1" bridges within the period of one year after delivery of the materials purchased under the Grant.
13. To coordinate and solve any issues related to the Project which may be raised from third parties or inhabitants in the project area during implementation of the Project.



APPENDIX 5

SUMMARY

OF

THE REQUESTED BRIDGE SITE DATA

SUMMARY OF REQUESTED BRIDGES SITE DATA

No.	Bridge No. Bridge Name Location	Existing Bridge Data			Socio-eco. in Area			Road and Traffic Data						Engineering Data						Construction Condition Data				Necessity of Reconst Bridge	Peace and Order	Remarks				
		Length (m)	Type	Condi- tion	Popu- lation	Major Product	Develop- ment Plan	Traffic Volume (ADT)	Road Class	Carri- ageway Width	Surfacc Type	Condi- tion	Impro- vement Plan	Topo Type	Land use	L.W.L.		H.W.L.		Current Velocity (m/s)	Bridge Height (m)	Proposed Bridge Length	Girder Trans- port				Girder Erec- tion	Foun- dation Type	Temp.work Excavat'n	Detour Bridge Const.
																Depth (m)	Width (m)	Depth (m)	Width (m)											
1	10-01-01 Tag-Anahao Bridge Sta. 1264 + 050 Butuan City-Malaybalay Rd Butuan City	17.3	Timber	Dilapid'd	177,100	Log Corn Banana	80	Nat'l	5.0	Gravel	Fair	Proposed	Roll	Farm	9.2	2.0	2.0	15.0	0.2	5.2	22.0	Easy	Easy	RCpile	No need	No need	V.much	Good		
2	10-01-02 Pianing Bridge Sta. 1235 + 500 Butuan City-Pianing- Tandag Rd., Butuan City	12.4	Timber	Dilapid'd	77,100	Vege. Banana Log	40	Nat'l	5.0	Gravel	Fair	Proposed	Roll	Resid	0.2	10.0	4.0	20.0	0.6	6.0	30.0	Easy	Easy	RCpile	No need	No need	V.much	Good		
3	10-01-03 Tungao I Bridge Sta. 1266 + 364 Butuan City-Malaybalay Rd. Butuan City	13.2	Timber	Heavily Damaged	177,100	Log Banana Pinapple	80	Nat'l	5.0	Gravel	Fair	Proposed	Flat	Resid	0.2	4.0	3.5	10.0	0.2	5.5	17.0	Easy	Easy	RCpile	No need	No need	V.much	Good	Very small bridge RCDG is applicable	
4	10-01-04 Ubod-Ubod Bridge Sta. 1236 + 133 Jct. Tiniwisan-Maguinda-Las Nieves Brgy. Rd., Butuan City	19.1	Bailey	Collapsed	71,100	Rice Banana Log	70	Brgy	5.0	Gravel	Fair		Flat	Farm	1.0	8.0	3.0	18.0	0.0	5.0	22.0	Easy	Easy	RCpile	No need	No need (spilwy)	Much	Good		
5	10-01-05 Tungao II Bridge Sta. 1267 + 142 Butuan City-Malaybalay Rd Butuan City	10.8	Timber	Weak	177,100	Log Banana Rice	80	Nat'l	5.5	Gravel	Fair	Proposed	Flat	Resid	0.3	2.5	3.2	10.8	0.1	5.5	15.0	Easy	Easy	RCpile	No need	Need	V.much	Good	Very small bridge RCDG is applicable	
6	10-01-06 Mat-I Bridge Sta. 1281 + 080 Agusan-Malaybalay Rd. Agusan del Norte	-	None	Collapsed	177,100	Rice Corn Banana	60	Nat'l	6.0	Gravel	Fair	Proposed	Flat	Farm	1.5	4.0	3.5	10.0	0.0	9.0	30.0	Easy	Easy	RCpile	Cofferdam	No need	V.much	Good		
7	10-01-07 Anticala Bridge Sta. 1239 + 215 Butuan City-Pianing- Tandag Rd., Butuan City	12.0	Timber	Weak	77,100	Vege. Banana Log	30	Nat'l	5.0	Gravel	Fair	Proposed	Roll	Resid	0.5	8.0	1.5	10.0	0.5	3.5	15.0	Easy	Easy	Spread	No need	No need	V.much	Good		
8	10-01-08 Lingayao Bridge Sta. 1271 + 920 Agusan-Malaybalay Rd. Agusan del Norte	33.6	Bailey	Dilapid'd	177,100	Rice Log Copra	60	Nat'l	5.0	Gravel	Fair	Proposed	Flat	Farm	1.0	20.0	5.2	Vast	0.3	7.5	40.0	Easy	Easy	RCpile	Cofferdam	Need	V.much	Good		
9	10-01-09 Magus Bridge Sta. 1273 + 484 Agusan-Malaybalay Road Agusan del Norte	34.8	Bailey	Dilapid'd	177,100	Rice Banana Copra	60	Nat'l	5.0	Gravel	Fair	Proposed	Roll	Farm	2.7	27.0	7.5	Vast	0.0	9.5	44.0	Easy	Easy	RCpile	Cofferdam	Need	V.much	Good		
10	10-01-10 Rizal Bridge Sta. 1261 + 171 Buenvista-Bunaguit Rd. Agusan del Norte	-	Ford	-	59,200	Banana Rice Corn	70	Nat'l	6.0	Gravel	Fair	Proposed	Flat	Farm	0.6	20.0	4.0	Vast	0.5	7.0	96.0	Easy	Easy	RCpile	Sheetpile	No need	V.much	V.good	Sedimenting	
11	10-01-11 Lemon Bridge Sta. 1236 + 882 Jct. Tiniwisan-Maguinda-Las Nieves Brgy. Rd., Butuan City	25.4	-	Collapsed	71,100	Rice Banana Log	70	Brgy	5.0	Gravel	Fair		Flat	Farm	2.0	20.0	4.0	25.0	0.0	6.0	30.0	Easy	Easy	RCpile	No need	No need (spilwy)	Much	Good		
12	10-01-12 Guinabsan Bridge Sta. 1263 + 560 Buenvista-Bunaguit Rd. Agusan del Norte	-	Ford	-	59,200	Banana Rice Vege.	70	Nat'l	6.0	Gravel	Fair	Proposed	Flat	Resid	0.8	39.0	3.0	Vast	0.3	6.0	96.0	Easy	Easy	RCpile	Sheetpile	No need	V.much	V.good	Sedimenting	
13	10-01-13 Alternate Magsaysay Bridge Sta. 1329 + 550 Butuan City Bypass Road Butuan City	-	None	-	175,500	Rice Lumber Rattan	0	Nat'l	-	-	-		Flat	Resid	8.0	200.0	12.5	Vast	0.3	20.0	800.0	Easy	Diffcult	Steel (CCP)	Sheetpile	No need	V.much	V.good	Exist bridge is old and only one br. exists crossing Agusan River	
14	10-02-01 Mesli Bridge Sta. 1299 + 780 NRJ-Awa-Azpitia-Lianga Rd. Agusan del Sur	41.0	Timber	Washout	120,300	Log Copra Banana	70	Nat'l	6.0	Gravel	Fair	Proposed	Flat	Farm	0.7	30.0	2.5	41.0	0.8	5.0	42.0	Easy	Easy	RCpile	Sheetpile	No need	V.much	Good		

SUMMARY OF REQUESTED BRIDGES SITE DATA

No.	Bridge No. Bridge Name Location	Existing Bridge Data			Socio-eco. in Affect Area			Road and Traffic Data						Engineering Data						Construction Condition Data					Necessity of Reconst Bridge	Peace and Order	Remarks			
		Length (m)	Type	Condi- tion	Popu- lation	Major Product	Develop- ment Plan	Traffic Volume (ADT)	Road Class	Carri- age Width	Surface Type	Condi- tion	Impro- vement Plan	Topo Type	Land use	L.W.L.		H.W.L.		Current Velocity (m/s)	Bridge Height (m)	Proposed Bridge Length	Girder Trans- port	Girder Erec- tion				Foun- dation Type	Temp.work For Pier Excavat'n	Detour Bridge Const.
																Depth (m)	Width (m)	Depth (m)	Width (m)											
15	10-02-02 Azpitia Bridge Sta. 1295 + 760 NRJ-Awa-Azpitia-Lianga Rd. Agusan del Sur	50.0	Timber	Washout	120,300	Corn Banana Log		72	Nat'l	6.0	Gravel	Fair	Proposed	Flat	Farm	0.2	36.0	1.5	40.0	1.0	4.0	18.0	Easy	Easy	RCpile	Sheetpile	No need	V.much	Good	
16	10-02-03 Anibongan Bridge Sta. 1297 + 654 NRJ-Awa-Azpitia-Lianga Rd. Agusan del Sur	23.1	Timber	Heavy Damaged	120,300	Corn Banana Log		70	Nat'l	6.0	Gravel	Fair	Proposed	Flat	Farm	0.4	11.0	3.7	20.0	0.2	6.0	30.0	Easy	Easy	RCpile	No need	No need	V.much	Good	
17	10-02-04 Maog Bridge Sta. 1292 + 650 NRJ-Awa-Azpitia-Lianga Rd. Agusan del Sur	-	Ford	-	120,300	Copra Banana Log		82	Nat'l	6.0	Gravel	Fair	Proposed	Roll	Farm	0.8	36.5	3.0	95.0	1.2	5.0	120.0	Easy	Easy	RCpile	Sheetpile	No need	V.much	Good	Many traffic (motor- cycle and people) crossing by raft
18	10-03-01 Casisang Bridge Sta. 1507 + 507 Jct. Sayre Hwy Impalambong- Casisang Rd. Bukidnon	18.3	Bailey	Dilapid'd	105,800	Sugar C. Corn Coffee		150	Nat'l	3.4	Gravel	Fair	Proposed	Roll	Resid	0.0	0.0	3.0	17.0	0.0	5.0	22.0	V.easy	V.easy	Spread	No need	No need	Less	V.good	This is diversion road
19	10-03-02 Musuan Bridge Sta. 1543 + 057 Bukidnon-Cotabato Bukidnon	12.3	RCDG	Light Damaged	558,500	Sugar C. Rubber Rice		3,550	Nat'l	6.0	AC	Good	Proposed	Flat	Farm	0.1	2.0	3.0	6.0	0.2	5.0	15.0	V.easy	V.easy	RCpile	No need	Need	Less	V.good	Cracks on girders
20	10-03-03 Agusan Canyon Bridge Sta. 1452 + 000 Jct. Manolo Fortich-Libona Rd. Bukidnon	40.0	Bailey	Weak	98,100	Pineapple Corn Tomato		1,230	Nat'l	5.0	BSF	Fair	Proposed	Mount	Resid	0.6	8.0	5.0	38.0	0.4	7.0	46.0	Easy	Easy	Spread	Cofferdam	Need	V.much	V.good	
21	10-03-04 Olayan Bridge Sta. 1617 + 536 Kalilangan-Camp Kibaritan Bukidnon	21.2	Bailey	Weak	23,500	Copra Corn Lumber		100	Nat'l	4.0	Gravel	Fair	Proposed	Mount nous	Bush	2.0	15.0	5.0	23.0	0.1	9.0	24.0	Easy	Easy	Spread	No need	Need	V.much	Good	
22	10-03-05 Kinapolo Bridge Sta. 1578 + 593 Sayre Hwy-Bukidnon-Cotabato Bukidnon	24.0	RCDG	Light Damaged	558,500	Sugar C. Corn Rice		2,200	Nat'l	7.3	Gravel	Fair	Proposed	Roll	Resid	0.4	2.0	3.3	16.8	0.1	5.4	24.0	V.easy	V.easy	Spread	No need	Need	Less	V.good	Cracks on girder
23	10-03-06 Aglayan Bridge Sta. 1519 + 419 Jct. Sayre Hwy-Aglayan- Zamboanguita Rd. Bukidnon	27.4	Bailey	Weak	151,700	Sugar C. Rice Corn		165	Nat'l	5.0	Gravel	Fair	Proposed	Roll	Farm	0.5	1.5	3.5	23.0	0.3	6.3	30.0	V.easy	Easy	RCpile	No need	Need	V.much	V.good	
24	10-03-07 Zamboanguita Bridge Sta. 1565 + 238 Jct. Sayre Hwy-Aglayan- Zamboanguita Rd. Bukidnon	43.4	Bailey	Weak	49,500	Sugar C. Rice Corn		35	Nat'l	5.0	Gravel	Fair	Proposed	Roll	Farm	2.0	20.0	5.0	30.0	1.0	16.0	52.0	Easy	Little Diffi- cult	Spread	Sheetpile	No need	V.much	Good	
25	10-03-08 Abuhan Bridge Sta. 1523 + 091 Jct. Sayre Hwy-Aglayan- Zamboanguita Rd. Bukidnon	15.6	Bailey	Weak	151,700	Rice Corn Sugar C.		100	Nat'l	5.0	Gravel	Fair	Proposed	Flat	Farm	1.8	10.0	4.3	18.0	0.1	6.5	20.0	V.easy	Easy	RCpile	No need	Need	V.much	V.good	Watergate at downstream
26	10-03-09 Silac Bridge Sta. 1559 + 465 Jct. Sayre Hwy-Aglayan- Zamboanguita Rd. Bukidnon	27.8	Bailey	Weak	49,500	Sugar C. Rice Corn		40	Nat'l	5.0	Gravel	Fair	Proposed	Mount nous	Farm	0.4	4.0	7.4	25.0	0.5	9.5	32.0	Easy	Easy	RCpile	No need	No need	V.much	Good	
27	10-04-01 Sulipat Diut Bridge Sta. 1771 + 720 Oroquieta-Dipolog Mt. Rd. Misamis Occidental	16.6	Timber	Weak	55,100	Copra		5	Nat'l	4.0	Gravel	Fair		Mount nous	Farm	0.4	2.0	2.5	10.0	0.3	5.0	20.0	Easy	Easy	Spread	No need	No need	Huch	Good	Few traffic
28	10-04-02 Labo Bridge Sta. 1705 + 320 Ozamis City-Labo-Embargo Misamis Occidental	24.8	Bailey	Dilapid'd	50,300	Copra Corn Cassava		65	Brgy	4.0	Gravel	Fair		Flat	Resid	0.7	4.0	6.0	24.0	0.2	10.2	32.0	Easy	Easy	Spread	No need	No need	V.much	Good	

SUMMARY OF REQUESTED BRIDGES SITE DATA

No.	Bridge No. Bridge Name Location	Existing Bridge Data			Socio-eco. in Affect Area			Road and Traffic Data					Engineering Data							Construction Condition Data					Necessity of Reconst Bridge	Peace and Order	Remarks			
		Length (m)	Type	Condi- tion	Popu- lation	Major Product	Develop- ment Plan	Traffic Volume (ADT)	Road Class	Carri- ageway Width	Surface Type	Condi- tion	Impro- vement Plan	Topo Type	Land use	L.W.L.		H.W.L.		Current Velocity (m/s)	Bridge Height (m)	Proposed Bridge Length	Girder Trans- port	Girder Erec- tion				Founda- tion Type	Temp.work for Pier Excavat'n	Detour Bridge Const.
29	10-04-03 Tipalac Bridge Sta. 1754 + 303 Oroquieta-Dipolog Mt. Road Misamis Occidental	19.5	Bailey	Dilapid'd	55,100	Copra Rootcrop Cereals		30	Nat'l	4.0	Gravel	Fair		Mount- nous	Farm	0.2	2.0	3.8	10.9	0.3	6.0	22.0	V.easy	V.easy	Spread	No need	No need	V.much	Good	Many tricycle and bike
30	10-04-04 Tipan Diut Bridge Sta. 1753 + 933 Oroquieta-Dipolog Mt. Road Misamis Occidental	19.3	Bailey	Dilapid'd	55,100	Copra Rootcrop Cereals		30	Nat'l	4.0	Gravel	Fair		Mount- nous	Farm	0.2	1.0	4.4	14.1	0.4	6.4	24.0	V.easy	V.easy	RCpile	No need	No need	V.much	Good	Many tricycle and bike
31	10-04-05 Tipan Daku Sta. 1755 + 632 Oroquieta-Dipolog Mt. Road Misamis Occidental	19.4	Bailey	Dilapid'd	55,100	Copra Rice Corn		21	Nat'l	4.0	Gravel	Fair		Mount- nous	Farm	0.1	1.5	4.7	10.6	0.2	6.7	23.0	V.easy	V.easy	Spread	No need	No need	V.much	Good	Many tricycle and bike
32	10-04-06 Deboloc Bridge Sta. 1768 + 310 Oroquieta-Dipolog Mt. Road Misamis Occidental	24.6	Bailey	Dilapid'd	55,100	Copra Rice Corn		5	Nat'l	4.0	Gravel	Fair		Mount- nous	Farm	0.4	5.0	3.8	21.2	0.5	6.0	30.0	Easy	Easy	Spread	No need	No need	Much	Good	Few traffic
33	10-04-07 Sulipat Daku Sta. 1773 + 150 Oroquieta-Dipolog Mt. Road Misamis Occidental	23.6	Timber	Dilapid'd	55,100	Copra Rootcrop Cereals		5	Nat'l	4.0	Gravel	Fair		Mount- nous	Farm	0.3	5.0	7.3	19.8	0.5	9.3	30.0	Easy	Easy	Spread	No need	No need	Much	Good	Few traffic
34	10-04-08 Taguima Bridge Sta. 1712 + 495 Taguima-Napulog Misamis Occidental	-	None	-	16,800	Copra Rice Corn		0	Brgy	3.0	Earth	V.bad		Roll	Farm	1.5	5.0	7.0	15.0	0.2	9.0	40.0	Easy	Easy	RCpile	No need	No need	Less	Good	New road
35	10-04-09 Old Pelsez Utility Sta. 1742 + 294 Old Oroquieta-Ozamis Road Misamis Occidental	75.3	Truss	Dilapid'd	46,600	(Urban)		0	Nat'l	7.0	BST	Fair		Flat	Resid	0.3	64.3	4.8	70.0	Tidal	7.0	90.0	Easy	L.diff't	RCpile	Sheetpile	No need	V.much	V.good	Former nat'l road, going to collapse, used by many tricycle
36	10-04-10 Katipunan Bridge Sta. 1763 + 422 Katipunan-Cartagena Road Misamis Occidental	67.3	Bailey	Weak	74,100	Rice Copra Mango		35	Prov'l	3.5	Gravel	Fair		Swamp	Farm	2.7	58.0	4.2	66.0	Tidal	7.0	69.0	V.esay	L.diff't	RCpile	Sheetpile	No need	Much	Good	
37	10-05-01 Sta Ana II Bridge Sta. 1429 + 437 Tagoloan-Malitbog Road Misamis Oriental	25.3	Bailey	Weak	35,100	Corn Copra Papaya		110	Prov'l	5.0	BST	Fair		Flat	Farm	0.2	5.0	3.5	50.0	0.0	5.0	30.0	V.easy	V.easy	RCpile	Divert	Need	V.much	V.good	
38	10-05-02 Cabulig Bridge Sta. 1351 + 734 Villanueva-Claveria-Gingoog Misamis Oriental	31.6	Bailey	Heavy Damaged	40,800	Corn Rice Tomato		44	Nat'l	5.0	Gravel	Bad		Roll	Farm	0.5	11.0	3.0	25.0	0.7	6.7	35.0	Possible after repair	Easy	Spread	Divert	Need	Much	Uncert'n	
39	10-05-03 Guibone Bridge Sta. 1352 + 451 Villanueva-Claveria-Gingoog Misamis Oriental	24.2	Bailey	Heavy Damaged	40,800	Rice Corn Tomato		44	Nat'l	5.0	Gravel	Bad		Roll	Farm	0.8	6.0	2.5	12.0	0.4	4.8	30.0	Possible after repair	Easy	Spread	Cofferdam	Need	Much	Uncert'n	
40	10-05-04 Hinandigan Bridge Sta. 1330 + 210 Villanueva-Claveria-Gingoog Gingoog City	12.1	Bailey	Weak	40,800	Copra Corn Vege.		17	Nat'l	3.0	Gravel	Bad		Flat	Roll	0.2	3.0	1.5	10.0	0.8	3.5	15.0	Possible after repair	Easy	RCpile	No need	Need	Much	Uncert'n	Very small bridge
41	10-05-05 Kahulugan Bridge Sta. 1317 + 819 Villanueva-Claveria-Gingoog Gingoog City	12.0	Bailey	Weak	40,800	Copra Corn Vege.		70	Nat'l	5.0	Gravel	Fair		Flat	Farm	0.2	4.0	2.5	18.0	0.4	4.5	15.0	Easy	Easy	RCpile	No need	No need	Much	Good	Very small bridge
42	10-05-06 Dal-As Bridge Sta. 1358 + 400 Villanueva-Claveria-Gingoog Misamis Oriental	22.2	Bailey	Weak	40,800	Rice Corn Coffee		44	Nat'l	5.0	Gravel	Bad		Roll	Forest	1.0	2.0	3.0	6.0	0.2	8.2	25.0	Possible after repair	Easy	Spread	No need	No need	Much	Uncert'n	

SUMMARY OF REQUESTED BRIDGES SITE DATA

No.	Bridge No. Bridge Name Location	Existing Bridge Data			Socio-eco. in Affect Area			Road and Traffic Data					Engineering Data							Construction Condition Data					Necessity of Reconst Bridge	Peace and Order	Remarks			
		Length (m)	Type	Condi- tion	Popu- lation	Major Product	Develop- ment Plan	Traffic Volume (ADT)	Road Class	Carri- ageway Width	Surface Type	Condi- tion	Improv- ement Plan	Topo Type	Land use	H.W.L. Depth (m)	H.W.L. Width (m)	H.W.L. Depth (m)	H.W.L. Width (m)	Current Velocity (m/s)	Bridge Height (m)	Proposed Bridge Length	Girder Trans- port	Girder Erec- tion				Founda- tion Type	Temp.work for Pier Excavat'n	Detour Bridge Const.
43	10-05-07 Minanopol Bridge Sta. 1356 + 246 Villanueva-Claveria-Gingoog Misamis Oriental	12.2	Bailey	Fair	40,800	Rice Corn Coffee		44	Nat'l	5.0	Gravel	Bad		Roll	Forest	0.2	1.0	1.5	2.5	0.1	4.0	20.0	Possible after repair	Easy	Spread	No need	Need	Much	Uncert'	
44	10-05-08 Batinay Bridge Sta. 0 + 180 Pagalungan-Taglimao Road Cagayan de Oro City	36.9	Bailey	Weak	20,000	Gold Corn Banana		29	Brgy	4.0	Gravel	Bad		Mount- nous	Farm	1.5	6.0	3.5	30.0	1.5	5.5	44.0	Possible after repair	Easy	RCpile	Cofferdam	No need	Much	Good	
45	10-05-09 Pagatpat-San Simon Bridge Sta. 0 + 050 Bulua-Pagatpat-San Simon Rd. Cagayan de Oro City	-	None	-	26,000	Corn Rice Copra		0	Brgy	6.0	Gravel	Fair		Roll	Farm	1.0	32.0	6.5	120.0	0.5	8.5	128.0	Easy	Easy	RCpile	Sheetpile	No need	Much	Good	Many traffic (people) crossing by rafts
46	10-06-01 Hayangabon II Bridge Sta. 1195 + 345 Surigao-Davao Coastal Road Surigao del Norte	19.8	Timber	Weak	99,800	Nickel Rice Copra	Mining	139	Nat'l	7.0	Gravel	Fair	On-going	Roll	Farm	0.6	15.0	2.0	18.0	0.2	5.0	24.0	Easy	Easy	RCpile	No need	Need	V.much	Good	
47	10-06-02 Capandan Bridge Sta. 1186 + 970 Surigao-Davao Coastal Rd. Surigao del Norte	14.6	Timber	Weak	99,800	Nickel Rice Copra	Mining	149	Nat'l	7.0	Gravel	Fair	On-going	Flat	Resid	0.2	8.0	1.7	14.0	0.4	4.0	18.0	Easy	Easy	RCpile	No need	Need	V.much	Good	
48	10-06-03 Capalayan Bridge Sta. 1134 + 730 Capalayan-Surigao City Road Surigao City, Surigao del Norte	19.7	Timber	Dilapid'd	68,000	Rice Corn Coconut		20	Brgy	4.0	Gravel	Fair		Flat	Resid	1.0	6.0	4.6	20.0	0.5	6.5	24.0	Easy	Easy	RCpile	No need	No need	Much	Good	Many walking traffic
49	10-06-04 Orok Bridge Sta. 1137 + 900 Quezon-Mapawa-Capalayan-Orok- Sur. City Rd., Sur. del Norte	18.0	Timber	Dilapid'd	68,000	Copra Rice Rootcrop		22	Nat'l	4.0	Gravel	Fair	Proposed	Roll	Farm	0.3	5.0	3.0	15.0	0.4	5.0	24.0	Easy	Easy	RCpile	No need	No need	V.much	Good	Many walking traffic
50	10-06-05 Cuyangan Bridge Sta. 482 + 520 Surigao-Anao-aon-Malimono Road Surigao del Norte	49.3	Timber	Weak	67,200	Fish Copra Rootcrop	Mining	54	Prov'l	5.0	Gravel	Fair	Proposed	Roll	Farm	0.5	6.2	3.2	40.0	0.3	5.5	54.0	Easy	Easy	Spread	No need (dry)	No need	V.much	Good	
51	10-06-06 Tigbao Bridge Sta. 470 + 430 Surigao-Anao-aon-Malimono Road Surigao del Norte	40.4	Timber	Weak	67,200	Fish Banana Rice		98	Prov'l	5.0	Gravel	Fair	Proposed	Roll	Forest	0.1	6.0	3.5	30.0	0.1	5.5	44.0	Easy	Easy	RCpile	No need (dry)	No need	V.much	Good	
52	10-06-07 Balite Bridge Sta. 469 + 420 Surigao-Anao-aon-Malimono Road Surigao del Norte	-	Ford	-	67,200	Fish Rice Lumber		98	Prov'l	5.0	Gravel	Fair	Proposed	Roll	Farm	0.0	0.0	4.0	30.0	0.0	6.0	52.0	Easy	Easy	RCpile	No need (dry)	No need (spilwy)	V.much	Good	
53	11-01-01 Andanan Bridge Sta. 1381 + 655 Surigao del Sur - Davao Or. Coastal Rd., Surigao del Sur	48.7	Bailey	Dilapid'd	43,600	Log Copra Rice		107	Nat'l	6.0	Gravel	Fair	On-going	Roll	Farm	1.5	27.8	6.0	45.0	Tidal	8.0	54.0	Easy	Easy	RCpile	Sheetpile	Need	Much	Good	
54	11-01-02 Pagtilaan III Bridge Sta. 1505 + 068 Surigao del Sur - Davao Or. Coastal Rd., Surigao del Sur	25.4	Bailey	Under Const'ing	60,000	Log Copra Rice		58	Nat'l	4.5	Gravel	Fair	On-going	Flat	Resid	0.9	20.5	5.0	21.5	1.5	5.8	34.0	Easy	Easy	RCpile	Cofferdam	No need	Much	Good	
55	11-01-03 Quezon Bridge Sta. 1409 + 885 Surigao del Sur - Davao Or. Coastal Rd., Surigao del Sur	19.2	Timber	Weak	50,700	Log Copra Rice		80	Nat'l	6.0	Gravel	Fair	On-going	Roll	Farm	0.2	9.5	2.8	18.5	1.6	5.0	30.0	V.easy	Easy	RCpile	Cofferdam	No need	Much	Good	
56	11-01-04 Pagbakatan Bridge Sta. 1482 + 694 Surigao del Sur - Davao Or. Coastal Rd., Surigao del Sur	16.0	Timber	Weak	58,300	Log Copra Rice		30	Nat'l	5.0	Gravel	Fair	On-going	Roll	Farm	1.3	9.5	7.2	14.5	1.5	8.6	24.0	Easy	Easy	RCpile	Cofferdam	Need	V.much	Good	

SUMMARY OF REQUESTED BRIDGES SITE DATA

No.	Bridge No. Bridge Name Location	Existing Bridge Data			Socio-eco. in Affect Area			Road and Traffic Data						Engineering Data								Construction Condition Data					Necessity of Reconst Bridge	Peace and Order	Remarks	
		Length (m)	Type	Condi- tion	Popu- lation	Major Product	Develop- ment Plan	Traffic Volume (ADT)	Road Class	Carri- age Width	Surface Type	Condi- tion	Impro- vement Plan	Topo Type	Land use	L.W.L.		H.W.L.		Current Velocity (m/s)	Bridge Height (m)	Proposed Bridge Length	Girder Trans- port	Girder Erec- tion	Foun- dation Type	Temp.work for Pier Excavat'n				Detour Bridge Const.
																Depth (m)	Width (m)	Depth (m)	Width (m)											
57	11-01-05 Union 11 Bridge Sta. 1501 + 162 Surigao del Sur - Davao Or. Coastal Rd., Surigao del Sur	24.6	Timber	Weak	54,900	Log Copra Rice		30	Nat'l	5.0	Gravel	Fair	On-going	Roll	Farm	0.8	21.5	3.4	55.5	0.8	5.5	72.0	Easy	V.easy	RCpile	Cofferdam	No need	V.much	Good	
58	11-01-06 Tagasaka Bridge Sta. 1439 + 658 Surigao del Sur - Davao Or. Coastal Rd., Surigao del Sur	26.9	Timber	Weak	60,000	Rice Corn Log		12	Nat'l	4.0	Gravel	Fair	On-going	Roll	Resid	1.3	8.0	5.3	17.0	0.3	7.5	30.0	Easy	Easy	RCpile	Cofferdam	No need	Much	Good	Most traffic take diversion road (PICOP)
59	11-02-01 Kilob Bridge Sta. 1741 + 556 Surallah-Lake Sebu-Maitum Rd. South Cotobato	24.9	Bailey	Weak	53,600	Fish Rice Corn	Tourism	64	Nat'l	4.0	Gravel	Fair		Roll	Farm	0.4	3.0	3.6	13.5	1.5	10.4	24.0	V.easy	Easy	Spread	Cofferdam	Need	Much	Good	Erection over deep valley
60	11-02-02 Kalma I Bridge Sta. 1739 + 440 Surallah-Lake Sebu-Maitum Rd. South Cotobato	30.8	Bailey	Weak	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	4.5	Gravel	Fair		Flat	Farm	0.2	4.0	3.3	26.0	1.0	5.6	34.0	V.easy	V.easy	Spread	Cofferdam	No need	Much	Good	
61	11-02-03 Kalma II Bridge Sta. 1739 + 992 Surallah-Lake Sebu-Maitum Rd. South Cotobato	30.8	Bailey	Weak	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	5.0	Gravel	Fair		Roll	Farm	0.2	1.5	2.0	26.0	1.0	4.5	32.0	V.easy	V.easy	Spread	Cofferdam	No need	Much	Good	
62	11-02-04 Luhib Bridge Sta. 1743 + 856 Surallah-Lake Sebu-Maitum Rd. South Cotobato	36.8	Bailey	Weak	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	5.0	Gravel	Fair		Roll	Farm	0.3	20.5	5.0	24.2	2.1	7.6	42.0	V.easy	Easy	Spread	Cofferdam	No need	Much	Good	
63	11-02-05 Lower Silway Bridge Sta. 1656 + 032 G. Santos-Makar Wharf Rd. South Cotobato	120.0	Bailey	Dilapid'd	85,600	Fish Livestock Veg.		0	City	6.5	AC	Bad		Flat	Res.	0.5	79.5	3.2	108.5	Tidal	5.3	120.0	V.easy	L.diff.	RCpile	Sheetpile	No need	V.much	V.good	Many motorcycle (5,000) Walking (10,000)
64	11-02-06 Colongolo Bridge Sta. 1737 + 600 Surallah-Lake Sebu-Maitum Rd. South Cotobato	92.4	Bailey	Weak	53,600	Fish Handcraft Corn	Tourism	64	Nat'l	5.0	Gravel	Fair		Flat	Farm	2.0	87.2	2.0	92.4	0.8	4.6	96.0	V.easy	L.diff.	RCpile	Sheetpile	No need	Much	Good	Watergate at downstream
65	11-03-01 Dao-An Bridge Sta. 1632 + 388 Davao Or. - Surigao del Sur Coastal Rd., Davao Oriental	-	Ford	-	58,800	Log Copra Corn		102	Nat'l	4.0	Gravel	Bad	On-going	Roll	Farm	0.6	12.2	2.5	40.0	1.4	5.0	51.0	Easy	V.easy	RCpile	Divert	No need	Much	Good	
66	11-03-02 Licop Bridge Sta. 1726 + 439 Mati-San Mariano-Compostela Rd. Davao Oriental	24.8	Bailey	Weak	72,000	Log Copra Corn		37	Nat'l	5.0	Gravel	Fair	Proposed	Roll	Farm	0.2	1.5	3.0	15.0	1.0	7.1	30.0	Easy	Easy	Spread	No need	Need	Much	Good	
67	11-03-03 Tawas Bridge Sta. 1723 + 920 Mati-San Mariano-Compostela Rd. Davao Oriental	12.6	Bailey	Weak	72,000	Log Copra Corn		47	Nat'l	4.0	Gravel	Fair	Proposed	Roll	Farm	0.1	1.0	3.5	7.5	0.8	6.1	15.0	Easy	V.easy	Spread	No need	No need	Much	Good	
68	11-03-04 Pangyan Bridge Sta. 1743 + 949 Mati-San Mariano-Compostela Rd. Davao Oriental	13.3	Bailey	Weak	72,000	Corn Copra Banana		30	Nat'l	4.5	Gravel	Fair	Proposed	Flat	Farm	0.5	5.5	3.0	10.0	1.5	5.0	15.0	Easy	V.easy	Spread	Divert	No need	Much	Good	
69	11-03-05 Manat Bridge Sta. 1639 + 413 Davao Or. - Surigao del Sur Coastal Rd., Davao Oriental	33.3	Bailey	Dilapid'd	50,000	Log Copra Rice		20	Nat'l	4.0	Gravel	Bad	On-going	Flat	Farm	0.5	23.2	3.1	32.0	1.0	5.0	40.0	Possible after repair	V.easy	RCpile	Sheetpile	No need	Much	Uncert'n	
70	11-03-06 Mahan-Ub Bridge Sta. 1649 + 210 Davao Or. - Surigao del Sur Coastal Rd., Davao Oriental	-	Ford	-	68,300	Copra Fish Corn		102	Nat'l	4.0	Gravel	Bad	On-going	Flat	Farm	0.8	11.0	5.0	54.0	Tidal	7.0	60.0	Easy	V.easy	RCpile	Sheetpile	No need	Much	Good	This traffic volume along the detour road which is a municipal road.

SUMMARY OF REQUESTED BRIDGES SITE DATA

No.	Bridge No. Bridge Name Location	Existing Bridge Data			Socio-eco. in Affect Area			Road and Traffic Data						Engineering Data							Construction Condition Data					Necessity of Reconst Bridge	Peace and Order	Remarks		
		Length (m)	Type	Condi- tion	Popu- lation	Major Product	Develop- ment Plan	Traffic Volume (ADT)	Road Class	Carri- ageway Width	Surface Type	Condi- tion	Improv- ement Plan	Topo Type	Land use	L.W.L.		H.W.L.		Current Velocity (m/s)	Bridge Height (m)	Proposed Bridge Length	Girder Trans- port	Girder Erec- tion	Foun- dation Type				Temp.work for Pier Excavat'n	Detour Bridge Const.
																Depth (m)	Width (m)	Depth (m)	Width (m)											
71	11-03-07 Upper Sumlog Bridge Sta. 1743 + 971 Mati-San Mariano-Compostela Rd. Davao Oriental	60.0	Bailey	Const'ing	72,000	Lumber Copra Corn		26	Nat'l	3.5	Gravel	Fair	Proposed	Roll	Forest	0.6	18.5	1.9	73.0	1.5	5.0	75.0	Easy	Easy	RCpile	Divert	No need	Much	Uncert'n	Bailey bridge on-going construction
72	11-04-01 Agusan Bridge Sta. 1483 + 895 Montevista-Compostela-New Bataan-Mati Rd., Davao	21.4	Bailey	Weak	45,000	Vege. Coffee Rice		4	Nat'l	5.0	Gravel	Fair	Proposed	Flat	Farm	1.1	9.6	4.3	21.0	1.4	6.5	24.0	Possible	Easy	RCpile	Cofferdam	Need	Much	Good	Most traffic take alternative (prov'l)
73	11-04-02 Binabas Bridge Sta. 1414 + 820 Tagum-Asuncion-San Vicente Rd. Davao	48.8	Bailey	Weak	53,700	Copra Banana Rice		18	Prov'l	4.0	Gravel	Bad		Roll	Farm	0.8	19.0	7.5	39.0	1.2	15.5	48.0	Easy	L.difcult	Spread	Cofferdam	No need	Much	Good	
74	11-04-03 Inambatan Bridge Sta. 1400 + 570 Olapon-Inambatan-Compostela Rd. Davao	60.8	Bailey	Weak	58,700	Copra Banana Corn		36	Prov'l	4.0	Gravel	Bad		Flat	Farm	1.7	55.3	6.7	Vast	1.0	8.2	75.0	V.easy	L.difcult	RCpile	Sheetpile	No need	Much	V.good	
75	11-05-01 Culaman Sta. 1637 + 000 Davao del Sur-Sarangani Coastal Rd., Davao del Sur	61.0	Bailey	Weak	110,100	Copra Cacao Fish		69	Nat'l	5.0	Gravel	Fair	Proposed	Flat	Resid	1.2	12.8	3.0	Vast	0.8	5.9	78.0	Easy	Easy	RCpile	Sheetpile	No need	V.much	Good	
76	11-05-02 Los Amigos Sta. 1689 + 282 Tugbok-Balengaeng Road Davao City	30.5	Bailey	Weak	51,200	Fruits Copra L'stock		37	Brgy	4.0	Gravel	Fair		Flat	Farm	0.6	20.7	3.8	25.0	0.8	6.2	35.0	V.easy	L.difcult	Spread	Cofferdam	No need	Much	V.good	Divert Br. at 10 Km up
77	11-05-03 Mintal Bridge Sta. 1696 + 012 Mintal-Calinan Road Davao City	33.5	Bailey	Weak	52,800	Corn Coffee Fruits		35	Nat'l	3.4	Gravel	Fair		Roll	Resid	1.5	23.0	3.7	28.0	1.0	5.5	35.0	Easy	L.difcult	Spread	Cofferdam	No need	Much	V.good	Old nat'l road
78	11-05-04 Estrella Sta. 1582 + 728 Bansalan-Davao City Rd. Davao del Sur	-	None	-	30,800	Vege. Coffee Fruits		0	Munic.	3.5	Gravel	Fair		Flat	Resid	0.6	7.0	2.5	16.0	0.3	5.0	22.0	V.easy	V.easy	Spread	No need	No need	Less	V.good	Divert Br. at 0.2 Km dn
79	11-05-05 Sacub-Lanuro Bridge Sta. 1583 + 322 Lanuro-Hagonoy Road Davao del Sur	15.5	Bailey	Weak	71,600	Sugar C. Copra Rice		63	Prov'l	3.5	Gravel	Fair		Roll	Farm	0.3	4.0	3.0	15.0	0.2	5.0	19.0	Easy	Easy	Spread	No need	No need	Much	Good	Alternate road
80	11-05-06 Piedad Bridge Sta. 1526 + 780 Toril-Eden Road Davao City	40.1	Bailey	Weak	55,000	Copra Fruits Rice		200	Nat'l	4.4	AC	Fair		Roll	Resid	1.8	15.3	3.8	25.5	1.0	9.6	45.0	V.easy	Easy	Spread	Cofferdam	No need	Much	V.good	
81	11-05-07 Lais Bridge Sta. 1645 + 160 Davao del Sur-Sarangani Coastal Rd., Davao del Sur	-	Ford	-	100,900	Copra Banana Fish		64	Nat'l	4.5	Gravel	Bad	Proposed	Flat	Farm	0.5	40.0	2.2	64.0	0.8	4.5	102.0	Easy	Easy	RCpile	Cofferdam	No need	V.much	Good	
82	11-05-08 Hagonoy Bridge Sta. 1576 + 000 Hagonoy-Davao City Rd. Davao del Sur	-	None	-	133,900	Copra Cacao Banana		0	Brgy	3.5	Earth	V.bad		Flat	Farm	2.0	6.0	10.0	70.0	0.1	13.0	80.0	V.easy	L.difcult	RCpile	Sheetpile	No need	Less	Good	New road Diversion of Highway
83	11-05-09 Mal Bridge Sta. 1593 + 300 Matanao-Davao City Rd. Davao del Sur	-	None	-	55,100	Corn Rice Copra		0	Brgy	3.5	Earth	V.bad		Roll	Farm	0.2	5.0	3.0	52.0	0.2	5.0	62.0	Possible	L.difcult	Spread	No need	No need	Less	Good	New road
84	11-06-01 Luan Bridge Sta. 1775 + 616 Sarangani-Sultan Kudarat Coastal Road, Sarangani	-	Ford	-	18,200	Rice Fish Corn		34	Nat'l	4.0	Gravel	Fair	On-going	Flat	Farm	0.5	15.4	2.5	50.4	1.2	5.0	60.0	Easy	V.easy	RCpile	Cofferdam	No need	Much	Uncert'n	Bad road in rain season

SUMMARY OF REQUESTED BRIDGES SITE DATA

No.	Bridge No. Bridge Name Location	Existing Bridge Data			Socio-eco. in Affect Area			Road and Traffic Data							Engineering Data							Construction Condition Data					Necessity of Reconst Bridge	Peace and Order	Remarks	
		Length (m)	Type	Condi- tion	Popu- lation	Major Product	Develop- ment Plan	Traffic Volume (ADT)	Road Class	Carri- age Width	Surface Type	Condi- tion	Impro- vement Plan	Topo Type	Land use	L.W.L.		H.W.L.		Current Velocity (m/s)	Bridge Height (m)	Proposed Bridge Length	Girder Trans- port	Girder Erec- tion	Foun- dation Type	Temp.work for Pier Excavat'n				Detour Bridge Const.
																Depth (m)	Width (m)	Depth (m)	Width (m)											
85	11-06-02 Baliton Bridge Sta. 1717 + 376 Sarangani-Davao del Sur Coastal Road, Sarangani	27.4	Bailey	Weak	32,100	Copra Fish Corn		51	Nat'l	5.0	Gravel	Fair	On-going	Flat	Farm	0.3	7.3	1.8	21.5	1.3	5.5	30.0	V.easy	V.easy	Spread	Cofferdam	Need	Much	Good	
86	11-06-03 Pangyan Bridge Sta. 1726 + 024 Sarangani-Davao del Sur Coastal Road, Sarangani	-	Ford	-	32,100	Copra Fish Corn		23	Nat'l	4.0	Gravel	Bad	On-going	Roll	Farm	0.4	17.8	1.5	25.0	1.2	4.0	30.0	Easy	V.easy	Spread	Cofferdam	No need	Much	Good	

