

**MINISTRY OF HIGHWAYS
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA**

No.

**BASIC DESIGN STUDY REPORT
ON
THE PROJECT FOR RECONSTRUCTION
OF
GAMPOLA BRIDGE AND MUWAGAMA BRIDGE
IN
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA**

DECEMBER 2000

**JAPAN INTERNATIONAL COOPERATION AGENCY
ORIENTAL CONSULTANTS CO., LTD.**

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PREFACE

In response to a request from the Government of the Democratic Socialist Republic of Sri Lanka, the Government of Japan decided to conduct a basic design study on the Project for Reconstruction of Gampola Bridge and Muwagama Bridge and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Sri Lanka a study team from June 22 to July 12, and also from July 31 to August 29, 2000.

The team held discussions with the officials concerned of the Government of Sri Lanka, and conducted a field study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Sri Lanka in order to discuss a draft basic design, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Democratic Socialist Republic of Sri Lanka for their close cooperation extended to the teams.

December, 2000



Kunihiko SAITO

President

Japan International Cooperation Agency

December, 2000

Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Reconstruction of Gampola Bridge and Muwagama Bridge in the Democratic Socialist Republic of Sri Lanka.

This study was conducted by Oriental Consultants Company Limited, under a contract to JICA, during the period from May 12, 2000 to December 22, 2000. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Sri Lanka and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,



Kazurou YANAGIDA

Project manager

Basic design study team on
the Project for Reconstruction of
Gampola Bridge and Muwagama Bridge
Oriental Consultants Company Limited



THE PROJECT FOR RECONSTRUCTION OF
THE GAMPOLA AND MUWAGAMA BRIDGE



The Perspective of GAMPOLA Bridge



The Perspective of MUWAGAMA Bridge

Definition and Abbreviation

A Authorities and Agencies

ADB	Asian Development Bank
IDA	International Development Association
JICA	Japan International Cooperation Agency
JRA	Japan Road Association
MOFP	Ministry of Finance & Planning
MOTH	Ministry of Transport & Highways
OECD	The Overseas Economic Cooperation Fund
RDA	Road Development Authority

B Other Abbreviations

A	Drainage Area
AADT	Annual average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
ADL	Actual Datum Level
@	At the rate
B	Name of Live Load in Japan
B/D	Basic Design
BS	British Standard
C	Coefficient of Drainage Area in Sri Lanka
CBR	California Bearing Ratio
£	Center Line
cm	Centimeter
cm ²	Square centimeter
D/F	Draft Final Report
Ec	Young's modules of Concrete
Es	Young's modules of steel
Esp	Modules of elasticity
Ex	Existing
El	Elevation
H	Height
HB	Name of Live Load in BS5400
HWL	High water level
I	Coefficient of impact
Kgf/cm ²	Kilogram force per square centimeter
Kgf/cm ³	Kilogram force per cubic meter
Kgf/mm ²	Kilogram force per square millimeter
Km	Kilometer
Km ²	Square kilometer
Km/h	Kilometer per hour
L	Length of Span
l	Length of Span
LWL	Low water level
m	Meter
M	Million
m ²	Square meter

m ³	Cubic meter
m ³ /s	Cubic meter per Second
MSL	Mean sea level
N	N-value or Number of wheel load application
n	Number of Ratio of Es to Ec
%	Percent
	Diameter
PC	Prestressed concrete
Q	Discharge volume of River
RC	Reinforced concrete
Rs.	Rupees
S	Scale
SD	Deformed Steel
ck	Allowable stress of concrete
sa	Allowable stress of steel bar
t	Ton or Thickness
W	Width
W.L	Water level

CONTENTS

	<u>page</u>
Preface	
Letter of Transmittal	
Location Map / Perspective	
Abbreviations	
Chapter 1 Background of the Project	1 - 1
Chapter 2 Contents of the Project	2 - 1
2-1 Objectives of the Project	2 - 1
2-2 Basic Concept of the Project	2 - 3
2-2-1 Selection of bridges to be surveyed	2 - 3
1) Basic policy for selection	2 - 3
2) Determination of priority among bridges under survey ..	2 - 6
3) Selection of bridges to be rehabilitated	2 - 13
2-2-2 Rehabilitation plan policy	2 - 15
2-3 Basic Design	2 - 22
2-3-1 Design Concept	2 - 22
1) Basic design considerations	2 - 22
2) Applicable standards	2 - 24
3) Design standard	2 - 29
2-3-2 Basic Design	2 - 37
1) Selection of bridge points	2 - 37
2) Topological and geological conditions	2 - 39
3) Hydraulic and hydrologic conditions	2 - 43
4) Road design	2 - 57
5) Bridge design	2 - 61
6) Selection of bridge type	2 - 64
Chapter 3 Implementation Plan	3 - 1
3-1 Implementation Plan	3 - 1
3-1-1 Implementation Concept	3 - 1
3-1-2 Implementation Conditions	3 - 8
3-1-3 Scope of Works	3 - 14
3-1-4 Consultant Supervision	3 - 15
3-1-5 Procurement Plan	3 - 16

3-1-6	Implementation Schedule	3 - 30
3-1-7	Obligations of the recipient country	3 - 34
3-2	Operation and Maintenance Method	3- 36
Chapter 4	Project Evaluation and Recommendation	4 - 1
4-1	Project Effect	4 - 1
4-2	Technical cooperation and tie-ups with other donors	4 - 3
4-3	Recommendation	4 - 4
Drawings	D- 1
(Appendices)		
1.	Member List of the Survey Team	A-1
2.	Survey Schedule	A-2
3.	List of Party Concerned in the Recipient Country	A-3
4.	Minutes of Discussion	A-4
5.	Technical Memorandum	A-5
6.	Other Relevant Date	A-6
	(Present Condition of the 11 Bridges under the Survey)	