JAPAN INTERNATIONAL COOPERATION AGENCY
ROAD DEVELOPMENT AUTHORITY
MINISTRY OF HEALTH, HIGHWAYS
AND SOCIAL SERVICES

MASTER PLAN STUDY ON BRIDGE DEVELOPMENT IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

FINAL REPORT

VOLUME III

APPENDICES

JULY 1996

JAPAN BRIDGE & STRUCTURE INSTITUTE, INC., TOKYO
PACIFIC CONSULTANTS INTERNATIONAL, TOKYO

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LIST OF APPENDICES

Appendix - A

MEMBER LISTS OF COMMITTEES AND TEAMS

LIST OF CONTENTS

1. Member of Steering Committee

Position	Designation	Name of Person
Chairman	General Manager, Road Development Authority (RDA)	Mr. P. B. L. Cooray
Member	Director, Engineering Services, RDA	Dr. G. L. A. J. de Silva
Member	Assistant Director, Engineering Services, RDA	Mr. M. G. E. Perera
Member	Deputy Director, Traffic & Planning, RDA	Mr. R. G. Rajapakse (~ 1995. 7)
Member	Deputy Director, Traffic & Planning, RDA	Mrs. S. S. Senanayake (1995. 6 ~)
Member	Deputy Director, Bridge Design, RDA	Mrs. H. Y. Fernando

2. Member of Technical Committee

Position	Designation	Name of Person
Chairman	Director, Engineering Services, RDA	Dr. G. L. A. J. de Silva
Member	Assistant Director, Engineering Services, RDA	Mr. M. G. E. Perera
Member	Deputy Director, Traffic & Planning	Mr. R. G. Rajapakse (~ 1995. 7)
Member	Deputy Director, Traffic & Planning, RDA	Mrs. S. S. Senanayake (1995. 6 ~)
Member	Deputy Director, Bridge Design, RDA	Mr. H. Y. Fernand
Member	Chief Engineer, Traffic & Planning, RDA	Mr. H.M.K.G.G. Bandara
Member	Senior Engineer, Bridge Design, RDA	Mr. D. K. Rohitha Swarna

3. **Member of Counterpart Team**

Position		Designation	Name of Person
Chief Counterpart	:	Director, Engineering Services, RDA	Dr. G. L. A. J. de Silva
Counterpart	:	Engineer, Traffic & Planning, RDA	Mr. K. Sivanathan
Counterpart	:	Engineer, RDA	Mr. L. V. S. Weerakoon
Counterpart	:	Engineer, RDA	Mr. S. Bakeerathan
Counterpart	:	Engineer, RDA	Mr. H. A. Wickramsinghe

4. **Member of Japan International Cooperation Agency (JICA)**

Position		Designation	Name of Person
Coordinator	:	Social Development Study Department, JICA Headquarters	Mr. Toshihisa Hasegawa (Mar. 1995 to Aug. 1995)
Coordinator	:	Social Development Study Department, JICA Headquarters	Mr. Toru Naito (Sep. 1995 ~)
Coordinator	:	Personal Depertment JICA Headquarters	Mr. Takamitu Kinoshita (May 1996)
Coordinator	:	Assistant Resident Representative, JICA, Colombo Office	Mr. Shinji Yoshiura

5. Member of Advisory Committee

Position		Designation	Name of Person
Chairman	:	Road Planning Officer Road Department Tohoku Regional Construction Bureau, Ministry of Construction	Mr. Yasuhiro Nishimura
Member	:	Deputy Manager Research Division, Planning & Development Dept. Honshu-Shikoku Bridge Authority	Mr. Seigo Nasu (~ Ma. 1996)
Member	:	Manager of Engineering Management Division, First Maintenance Department Second Operation Bureau Honshu-Shikoku Bridge Authority	Mr. Shigeku Yamamoto

6. Member of JICA Study Team

Designation	Name of Person
Team Leader / Bridge Planning	Mr. Hiroshi Namba
Traffic Planning / Traffic Demand	Mr. Isamu Gunji
Bridge Rehabilitation Planning	Mr. Akio Kasuga
Bridge Design (1)	Mr. Kazuo Kataoka
Bridge Design (2)	Mr. Kiyohisa Hariya
Maintenance / Management Planning	Mr. Yasuo Furukawa
Economist	Mr. Teruhiko Horie
Environmental	Mr. Masami Miyadera

Appendix - B

MINUTES OF MEETINGS

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MINUTES OF MEETING
ON THE INCEPTION REPORT FOR
THE MASTER PLAN STUDY ON
BRIDGE DEVELOPMENT IN
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
AGREED UPON BETWEEN
ROAD DEVELOPMENT AUTHORITY

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

COLOMBO, 6TH APRIL, 1995

Mr K.S.C. de Fonseka
Chairman
Road Development Authority
Ministry of Health, Highways
& Social Services

Mr Hiroshi Namba
Team Leader
JICA Study Team
Japan International Cooperation Agency

JICA Study Team submitted the Inception Report of the Master Plan Study on Bridge Development in the Democratic Socialist Republic of Sri Lanka to the Road Development Authority (RDA) on 31st of March, 1995. Joint meetings between the Sri Lankan and Japanese sides were held on 4th and 5th of April, 1995 for the presentation and discussion on the Inception Report. The attendants of the meetings appear in the Attendants list attached.

During the joint meetings, the Sri Lankan and the Japanese sides discussed and confirmed the following subjects:

1. Submission of the Inception Report
   The Study Team submitted 20 copies of the Inception Reports to RDA. RDA acknowledged the receipt of the Reports and agreed to the contents therein in principle.

2. Main items agreed upon by both sides are as follows:

   1) The study area will cover the Northern and the Eastern Provinces, if the safety of these areas could be confirmed (Chapter 1, 1.4).

   2) Considering the objectives of the Study, the Master Plan should cover all bridges on A routes and the selected bridges on B routes, which include the 28 bridges scheduled to be repaired/improved with aid from the Kuwaiti government. Eventually, the second sentence of Operation 6, Chapter 2 (page 7) should be deleted.

   3) The Study Team and RDA agreed that bridge inspection forms and bridge rehabilitation record forms attached to the Inception Report should be reviewed and modified as required. (Chapter 2, Operation 7, page 9).

   4) Since there is a variety of bridge design conditions and design records are not available for all the bridges, it is difficult to repair bridges under the same design standard. Therefore, the Study Team should consider an appropriate standard allowable for the Master Plan Study. As a consequence, the third and fourth sentences of Operation 9, Chapter 2 (page 18) should be deleted.

5) The Study Team requested Sri Lanka side to provide a complete list of bridges on A routes and to reconfirm every contents of inventory of selected bridges.

6) The Study Team requested Sri Lanka side to provide a suitable office space, office equipment and a permanent counterpart personnel. Sri Lanka side replied that the Study Team can choose the office space from two alternative places and RDA will provide a permanent counterpart personnel.

LIST OF ATTENDANTS

Road Development Authority

1. Mr K.S.C. de Fonseka, Chairman
2. Mr P.B.L. Cooray, General Manager
3. Dr G.L. Asoka de Silva, Director, Engineering Services
4. Mrs H.Y. Fernando, Deputy Director, Bridge Design

Advisor to RDA

1. Mr Takeo Kai, JICA Expert, Engineering Services/Advisor

JICA Advisory Committee

1. Mr Yasuhiro Nishimura, Chairman, Advisory Committee
2. Mr Seigo Nasu, Member, Advisory Committee

JICA Coordinator

1. Mr Toshihisa Hasegawa, JICA Headquarters

JICA Sri Lanka Office

1. Mr Shinji Yoshiura

Study Team

1. Mr H. Namba, Leader, Study Team
2. Mr I. Gunji, Member, Study Team

MINUTES OF MEETING
ON
THE INTERIM REPORT
FOR
THE MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

AGREED UPON BETWEEN

ROAD DEVELOPMENT AUTHORITY

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

COLOMBO, 19TH OCTOBER, 1995

Dr. G.L. Asoka de Silva
for General Manager
Road Development Authority
Ministry of Health, Highways
& Social Services

Mr. Hiroshi Namba
Team Leader
JICA Study Team
Japan International Cooperation Agency

JICA Study Team submitted the Interim Report of the Master Plan Study on Bridge Development in the Democratic Socialist Republic of Sri Lanka to the Road Development Authority (RDA) on 10th of October, 1995. Joint meetings between the Sri Lankan and Japanese sides were held on 18th and 19th of October, 1995 for the presentation and discussion on the Interim Report. The attendants of the meetings appear in the Attendants list attached.

During joint meetings, the Sri Lankan and Japanese sides discussed and confirmed the following subjects:

1. RDA accepted the selection of 101 bridges for the preliminary bridge inspection and the selection of 10 representative bridges for detailed survey.

2. The Study Team pointed out that the ten bridges selected for detailed survey are not bridges that are required urgently to be rehabilitated. They are selected mainly in consideration of different types of construction and also the age of the bridges. The selected bridges have no relation with respect to new projects proposed for the near future rehabilitation.

3. The Study team pointed out that the substandard shown in Table 8.5 of the report can be applied only in respect of the width of bridges to be considered for Repair and Reinforcement (Chapter 8, 8 - 8).

4. As for the design live loading for repair and reinforcement, present specification used by RDA can not be applied as the design load ,that has been considered for the existing old bridges at the time of construction is unknown. As such, RDA has no objection for the application of the Japanese specification of 1973.

5. The Study Team again requested RDA to submit the list of about 3,700 bridges on A and B class roads which RDA is now preparing during the second site study term in order to prepare the guideline for the bridge maintenance and rehabilitation.

6. After the meeting had discussed and taken note of above points, RDA accepted, in principle, the Interim Report.

LIST OF ATTENDANTS

Road Development Authority

1.	Mr. P.B.L. Cooray	General Manager
2.	Dr. G.L. Asoka de Silva	Director, Engineering Services
3.	Mrs. H.Y. Fernando	Deputy Director, Bridge Design Div.
4.	Mrs. S.S. Senanayake	Deputy Director , Traffic & Planning Div.
5.	Mr. D.K. Rohitha Swarna	Senior Engineer, Bridge Design Div.
6.	Mr. H.M.K.G.G. Bandara	Chief Engineer, Planning, Traffic & Planning Div.

JICA Advisory Committee

1.	Mr. Yasuhiro Nishimura	Chairman, Advisory Committee
2.	Mr. Seigo Nasu	Member, Advisory Committee

JICA Study Team

1.	Mr. Hiroshi Namba	Team Leader, Study Team
2.	Mr. Akio Kasuga	Member, Study Team
3.	Mr. Kiyohisa Hariya	Member, Study Team
4.	Mr. Kazuo Kataoka	Member, Study Team

MINUTES OF MEETING
ON
THE DRAFT FINAL REPORT
FOR
THE MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

AGREED UPON BETWEEN

ROAD DEVELOPMENT AUTHORITY

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

COLOMBO, 20TH MAY, 1996

Mr. P.B.L. Cooray
General Manager
Road Development Authority
Ministry of Health, Highways,
& Social Services

Mr. Hiroshi Namba
Team Leader
JICA Study Team
Japan International Cooperation Agency

The Study Mission consisting of the JICA Advisory Committee, JICA Coordinator and Study Team had a series of presentations and discussions on the Draft Final Report of the Master Plan Study on Bridge Development in Sri Lanka with the RDA from 16th to 17th May, 1996. The attendants of the meeting appear in the Attendants List attached.

During joint meetings, the Sri Lanka and Japanese sides discussed and confirmed the following subjects :-

1. Submission of the Draft Final Report
   RDA acknowledged the receipt of the Reports on 2nd May.

2. Main items agreed upon by both sides are as follows :-

   1) RDA accepted the contents of the Report in principle.

   2) RDA requested the Study Team to submit the results of subletted works such as survey maps, soil investigation reports, loading test reports and strength test of steel samples. The Study Team replied that these data will be submitted to RDA after approval of JICA Headquarters.

   3) RDA agreed that the Final Report of the Study is to be opened to the public.

   4) As for the design live loading for repair and reinforcement, RDA accepted the design live loadings proposed by the Study Team in Chapter 3.8 of Summary of the Draft Final Report (ref. Clause 4 of the Minutes of Meeting on the Interim Report dated on 19th October, 1995).

   5) The Study Team requested to RDA to submit comments on the Draft Final Report to JICA Sri Lanka office by 19th of June, 1996. RDA agreed the matter.

   6) RDA informed that the total numbers of bridges of 4,720 managed by RDA shall be amended to about 4,430. RDA will give the data to the Study Team before the Study Team leaves for Japan.

   7) RDA informed that the word AB-class roads should be deleted as they are actually A-class roads. The Study Team agreed to amend the matter in the Report.

   8) RDA pointed out that the some of unit prices and project cost shall be reviewed on the part of profit and overhead. The Study Team agreed to review the matter and amend in the report if necessary.

   9) RDA informed that the ratio of foreign and local components of project cost shall be 67% and 33% respectively. The Study Team agreed to amend the ratio in the cost estimation.

LIST OF ATTENDANTS

Road Development Authority

1.	Mr. P.B.L. Cooray	General Manager
2.	Dr. G.L. Asoka J. de Silva	Director, Engineering Services
3.	Mrs. H.Y. Fernando	Deputy Director, Bridge Design Div.
4.	Mrs. S.S. Senanayake	Deputy Director, Traffic & Planning Div.
5.	Mr. D.K. Rohitha Swarna	Senior Engineer Design, Bridge Design Div.
6.	Mr. H.M.K.G.G. Bandara	Chief Engineer, Planning, Traffic & Planning Div.

JICA Advisory Committee

1.	Mr. Shigeki Yamamoto	Member, Advisory Committee

JICA Coordinator

1.	Mr. Takamitsu Kinoshita	JICA Headquarters

JICA Sri Lanka Office

1.	Mr. Shinji Yoshiura	

JICA Study Team

1.	Mr. Hiroshi Namba	Team Leader, Study Team
2.	Mr. Akio Kasuga	Member, Study Team
3.	Mr. Kazuo Kataoka	Member, Study Team
4.	Mr. Yasuo Furukawa	Member, Study Team

Appendix - C

LIST OF 206 BRIDGES TO BE REHABILITATED

Note: Attached List of 206 Bridges is a computer output of bridge database of RDA and was provided to the Study Team by RDA.

LIST OF CONTENTS

Table C. 1 List of 206 Bridges to be Rehabilitated

SER No.	ROUTE No.	BRIDGE No.	TRAFFIC VOLUME	YEAR OF CONST	TYPE OF BRIDGE	LENGTH EXST	LENGTH PROP	EXISTING WIDTH CARR	EXISTING WIDTH OVRAL	PROP WIDTH CARR	PROP WIDTH OVRAL	EXISTING DEFFCT/S NARROW	WEAK	POOR ALINE	DAMEGE	SETT LED	CORRD	BADLY DAM	FLOOD DAM	PROPOSED TREATMENT RE CONST	REDEC	REPL	REPAIR	WIDEN	FUNDING AGENCY	DESIGN STAGE
84	AA001	110/ 2 K	16.100	1933	ST. TR/	68.50	80.00	5.50	8.30	7.40	12.00	○								○					KU. 2	
85	AA001	91/ 2 K	7.100	1894	ARCH/BR	71.60	75.00	6.40	7.50	7.40	10.00	○		○						○					KU. 1	
0	AA002	104/ 1 K		1933	RCB/RCS	57.70		5.49	5.79														○			T.C
1	AA002	61/ 1 K	6.700		RCB/RCS	29.70	30.00	7.30	9.50	7.40	10.40	○			○						○			○		T.C
27	AA002	87/ 1 K	6.700	1898	ARCH/ST	33.40	33.00	6.70	6.70	7.40	9.80	○	○							○					KU. 7	T.C
28	AA002	81/ 1 K	6.700	1932	ST. TR/	46.00	54.40	5.50	5.50	7.40	11.40	○	○							○					KU. 6	T.C
29	AA002	72/ 3 K	6.700	1929	RCS	7.60	16.28	5.40	5.50	7.40	10.40	○								○					KU. 5	T.C
75	AA002	62/ 2 K	8.900		ST. TR/	40.50		5.35	5.65	7.40	12.00		○							○			○		KU. 4	
76	AA002	62/ 1 K	8.900		RSJ/RCS	91.30		5.80	6.00	7.40	12.00		○							○			○		KU. 3	
86	AA002	199/ 3 K	3.400		PSC/	7.40		8.30	10.00							○				○						
87	AA002	256/ 1 K	1.600		PSC	4.90		5.00	5.60			○								○						
79	AA003	43/ 2 K	17.600	1918	RSJ/RCS	69.60	70.00	4.92	6.25	7.40	10.40	○								○						T.C
80	AA003	96/ 2 K	2.600	1898	RSJ/BUC	104.00	112.80	4.30	5.50	7.40	9.80	○	○							○						T.C
83	AA003	JPB			ST. TR/	228.00		7.40	9.50				○							○						
43	AA004	206/ 9 K	300		ARCH/ST	34.00	34.00	4.90		7.40	9.80	○									○			○		
44	AA004	196/ 7 K	300		RSJ/RCS	30.90	33.00	4.60	4.60	7.40	9.80	○									○			○		
45	AA004	206/10 K	300		ARCH/ST	38.90	37.00	4.25	4.25	7.40	9.80	○									○			○		
88	AA004	371/ 1			PSC/PRE	78.94		3.84	4.27								○				○					
89	AA004	163/ 9 K	1.100		PSJ/RCS	4.80		4.20	4.50			○									○			○		
90	AA004	199/ 2 K	300		RSJ/RCS	6.90	7.00	5.20	5.65	7.40	9.80		○		○					○						D.P
91	AA004	169/ 9 K	1.100		RCS	13.80	13.80	6.80	7.10	7.40	9.80					○				○						
92	AA004	427/ 1 K			ST. TR/	288.00		4.60	5.60						○								○			
159	AA004	427/ 1 K			ST. TR/	292.00		4.50	4.50				○							○						
178	AA004	192/ 2 K	300		RSJ/BUC	44.40	48.00	4.65	4.65	7.40	9.80	○									○			○		
183	AA004	361/ 1 C																								
11	AA005	133/ 1 K	2.800	1905	ST. TR/	48.40	48.00	4.30	4.30	7.40	11.70	○	○											○		T.C
81	AA005	242/ 2 K			RSJ/BUC	21.20	20.00	4.50	5.80	7.40	9.80	○	○							○						
82	AA005	242/ 1 K			RSJ/BUC	65.00	65.00	3.80	4.00	7.40	9.80	○	○							○						
93	AA005	21/ 4 K	5.000		ST. TR/	98.20	100.00	4.90	4.90	7.40	12.00	○								○						
94	AA005	283/ 7 K			RCS	36.50		4.70	5.60						○								○			
189	AA005	249/ 1 K			BAILEY	21.35							○							○						
95	AA006	3/ 2 K	5.900		RSJ/RCS	11.50	12.00	5.50	6.00	7.40	10.00	○									○			○	KU. 8	T.P
96	AA006	8/ 1 K	5.900		ST. TR/RCS	97.80	99.00	5.50	7.10	7.40	12.00	○								○					KU. 9	
174	AA006	86/ 1 K	3.400		RCS	10.40	16.28	6.10	7.35	7.40	9.80			○						○					KU. 11	T.C

SER No	ROUTE No	BRIDGE No	TRAFFIC VOLUME	YEAR OF CONST	TYPE OF BRIDGE	LENGTH		EXISTING WIDTH		PROP WIDTH		EXISTING DEFFCT/S								PROPOSED TREATMENT					FUNDING AGENCY	DESIGN STAGE
						EXST	PROP	CARR	OVRAL	CARR	OVRAL	NARROW	WEAK	POOR ALINE	DAMEGE	SETTLED	CORRD	BADLY DAM	FLOOD DAM	RE CONST	REDEC	REPL	REPAIR	WIDEN		
203	AA006	71/ 3 K	3.800		RCS	5.80		6.50							○								○		KU. 10	D.P
46	AA007	73/ 5	1.500		ARCH/ST	12.20	13.00	6.20	6.50	6.80	9.20	○								○						
47	AA007	70/ 8	1.500		ARCH/ST	12.20	13.00	5.20	6.00	6.80	9.20	○								○						
12	AA008	49/ 6 K	1.900	1920	ST. TR/	13.80	14.00	3.15	3.60	7.40	10.60	○									○			○	KU. 16	T.C
48	AA008	25/ 4 K	3.400	1929	ST. TR/	22.90	28.00	5.50	6.50	7.40	9.80	○									○			○	KU. 14	
49	AA008	25/ 3 K	3.400	1930	ST. TR/	13.60	13.00	4.30	4.80	7.40	9.80	○									○			○	KU. 13	
50	AA008	35/ 1 K	3.400	1940	ST. TR/	38.20	33.00	3.90	3.90	7.40	9.80	○								○					KU. 15	
51	AA008	24/ 1 K	3.400	1929	ST. TR/	13.60	13.00	5.40	6.00	7.40	9.80	○									○			○	KU. 12	
97	AA008	58/ 2 K	1.900	1900	RSJ/	8.80	8.60	4.55	4.55	7.40	9.80	○									○			○		T.C
98	AA008	58/ 2 K	1.900	1940	RSJ/RCS	8.90	8.00	3.60	3.30	7.40	9.80	○								○					KU. 17	
99	AA009	5/ 1 K	6.200	1860	ST. TR/	137.40	140.00	6.70	9.70	7.40	12.00	○								○						
100	AA009	161/ 2 K			RCS	6.10		6.10	10.30						○					○						
101	AA009	200/ 1			MASONRY	17.00		11.50	12.50						○					○						
150	AA009	115/ 5 K	1.300		RSJ/RCS	19.20	20.00	4.80	6.40	7.40	9.80							○		○						
2	AA010	75/ 1 K	1.200		RSJ/COR	122.40	120.00	5.60	5.60	6.80	9.20	○									○			○		T.C
36	AA010	48/ 1 K	3.300		RSJ/BUC	31.20	32.00	5.20	5.40	7.40	10.40	○	○							○						T.C
102	AA010	25/ 2 K	3.600		RSJ/COR	17.20	17.00	5.60	5.80	7.40	9.80	○	○								○			○		
65	AA011	24/ 3 K	1.700	1967	RSJ/RCS	9.75	11.00	5.64	5.64	7.40	9.80	○	○							○						
161	AA011	50/ 4	1.700		RSJ/	290.00		4.70	6.00	7.40	9.80	○								○						
103	AA012	16/ 1 K	700		RCS	5.20		7.90	7.90				○								○					
162	AA014	147/ 3			ST. TR/	122.00		4.20		7.40	9.80	○	○							○						
163	AA014	114/ 3			RSJ/T	31.10	31.00	4.57	4.70	6.80	9.20				○					○						
104	AA015	1/ 1			RSJ/RCS	14.60		9.20	12.20			○								○						
105	AA015	25/ 2 K			RSJ	8.50		6.80	7.50			○								○				○		
3	AA017	25/ 5 K	1.400		RSJ/	10.50	11.00	3.50	3.55	7.40	9.80	○	○							○						T.C
52	AA017	2/ 2 K	1.400		RSJ/T	10.40	10.00	4.30	4.40	6.80	9.20	○			○					○						
179	AA017	38/ 1 K	1.300		RSJ/T	16.40		4.55	4.55			○	○							○						T.C
77	AA019	3/ 2 K	2.100	1869	RSJ/RCS	120.35		5.30	5.70	7.40	9.80	○									○			○		D.P
53	AA021	36/ 3 K	700	1899	ST. TR/	38.50	40.00	3.38	6.05	7.40	9.80	○									○			○		
106	AA026	69/ 1 K	1.400		RSJ/RCS	14.30	15.60	3.50	4.70	7.40	9.40	○												○		
164	AA027	14/ 2 K			RCB	47.00	47.30	7.30	7.80	7.40	9.80		○							○						
165	AA029	17/ 3 K			RCS	10.60	11.00	3.00	4.20	6.80	9.20	○			○					○						
166	AA029	1/ 7 K			RSJ	3.90	5.00	3.90	4.20	6.80	9.20				○					○						
107	AA032	30/ 2			RSJ/RCS	5.00		3.00	5.50								○				○					

SER No.	ROUTE No.	BRIDGE No.	TRAFFIC VOLUME	YEAR OF CONST	TYPE OF BRIDGE	LENGTH		EXISTING WIDTH		PROP WIDTH		EXISTING DEFECT/S								PROPOSED TREATMENT					FUNDING AGENCY	DESIGN STAGE
						EXST	PROP	CARR	OVRAL	CARR	OVRAL	NARROW	WEAK	POOR ALINE	DAMEGE	SETT LED	CORRD	BADLY DAM	FLOOD DAM	RE CONST	REDEC	REPL	REPAIR	WIDEN		
107	AA032	25/ 2			RSJ/BUC	17.00	18.00	3.38	6.00	6.80	9.20		○							○						
108	AA033	16/ 7	7,700		RSJ/BUC	5.90		3.75	3.95	6.80	6.80	○					○				○			○		
168	AA034	2/ 4			TIMBER	31.00	32.00	3.80	4.00	6.80	9.20		○							○						
109	AA035	1/ 2			RSJ	4.25		3.60	9.75						○					○						
110	AA035	4/ 2			RSJ	10.00		3.00	4.00						○					○						
111	AA035	5/ 6			RSJ	10.00		3.00	4.20						○					○						
112	AA035	1/ 1			RSJ	14.60		3.60	9.75						○					○						
169	AA035	6/ 1			RSJ	40.00	45.00	2.70	3.00	7.40	9.80	○	○							○						
113	AB001	32/ 1 K			RSJ	8.70		5.80	5.90						○					○						
114	AB001	33/ 5 K			BAILEY	20.00		5.40	5.90											○						
115	AB019	1/ 1			RSJ	13.70		3.65	5.50						○					○						
116	AB021	13/ 3			RCS	245.00		4.50	7.50						○					○						
117	AB021	17/ 4			RCS										○					○						
118	AB021	3/ 2			RCS	7.50		7.50	8.25						○						○					
170	AB021	27/ 1			RCS	114.50		5.50	6.50						○					○						
119	AB026	2/ 4 K			ARCH/RSJ	14.30	10.00	4.40	4.40	6.80	9.20		○							○						
175	AB027	1/ 2 K	5,200		ST.C	4.32		8.00									○			○						
120	AB029	12/ 2 K	2,200		RSJ/BUC	4.90		4.40	4.55	7.40		○					○				○			○		

SER No.	ROUTE No.	BRIDGE No.	TRAFFIC VOLUME	YEAR OF CONST	TYPE OF BRIDGE	LENGTH		EXISTING WIDTH		PROP WIDTH		EXISTING DEFECT/S								PROPOSED TREATMENT					FUNDING AGENCY	DESIGN STAGE
						EXST	PROP	CARR	OVRAL	CARR	OVRAL	NARROW	WEAK	POOR ALINE	DAMEGE	SETTLED	CORRD	BADLY DAM	FLOOD DAM	RE CONST	REDEC	REPL	REPAIR	WIDEN		
30	B 014	5/ 5 M	1,820		RSJ/BUC	20.60		5.50	5.65				○							○						T.C
194	B 019	13/ 1			CAUSEWAY																					
180	B 027	1/ 1 K			RCS	16.90		5.30	5.30																	
121	B 033	2/ 2 K			RCS	4.80		4.80	5.00						○					○						
4	B 039	7/ 7 M			BAILEY	15.50	16.00	3.20		6.20	8.60									○						T.C
122	B 045	19/ 1 K	760		RSJ/RCS	18.50		3.45	5.00			○	○							○						
13	B 056	4/ 5	780		CAUSEWAY	53.30	40.50	5.50	5.50	6.80	9.20											○				T.C
14	B 056	10/ 5	780		CAUSEWAY	30.50	60.00	5.50	5.50	7.40	10.40											○				T.C
15	B 057	7/ 2 M	530		CAUSEWAY	16.76	27.00	5.80	5.80	6.80	9.20	○										○				T.C
123	B 079	23/ 2 M	1,880		PSC/PRE	12.00	12.00	3.65	4.25	7.40	11.00	○									○			○		
16	B 084	24/ 5 K	8,060		RSJ/	9.70	9.83	4.50	4.50	7.40	9.80	○	○							○					KU. 18	T.C
37	B 084	26/ 3 K	8,060		BAILEY	21.70	10.74	4.20	4.20	7.40	9.80	○									○			○	KU. 19	T.C
54	B 084	31/ 4 K	8,060		RSJ/RCS	10.80	11.00	5.50	5.50	7.40	11.00	○									○			○	KU. 19	
124	B 084	36/ 2 K	8,060		RSJ/BUC	4.70	4.70	4.60	4.60	7.40	11.00	○									○			○	KU. 23	
125	B 084	27/ 7 K	8,060		RSJ/	4.20	4.00	5.70	5.70	7.40	11.00	○									○			○	KU. 20	
126	B 084	34/ 1 K	8,060		RSJ/	7.00	7.00	4.50	4.50	7.40	11.00	○	○							○					KU. 22	
55	B 093	8/ 1 K	840		RSJ/BUC	20.40	22.00	4.55	4.55	6.80	9.20	○									○			○		
56	B 093	3/ 7 K	840		RSJ/BUC	10.10	10.10	4.70	4.70	6.80	9.20	○									○			○		
127	B 093	13/ 2 K	840		RST/T	10.30	11.00	4.25	4.25	6.80	9.20	○									○			○		T.C
128	B 097	15/ 4 K	140		RSJ/RCS	15.30	15.30	3.00	3.50	7.40	9.80	○	○							○						
66	B 111	4/ 2 M	6,710	1930	RSJ/COR	36.80	42.00	5.50	6.40	7.40	11.00			○						○						D.P
31	B 114	3/ 3 K	630		RSJ/	12.20		3.05	3.50				○							○						T.P
57	B 116	2/ 2 K			RSJ/RCS	10.00	10.00	4.50		6.80	9.20	○									○			○		
129	B 127	2/ 7 K	1,240	1900	ARCH/BR	4.50	4.30	4.45	5.25	6.80	9.20		○							○						T.C
130	B 127	7/ 1 K	1,240	1917	ST. TR/	24.75	26.00	4.20	5.35	7.40	9.80	○	○							○						D.P
131	B 127	1/ 2 K	1,240	1900	RSJ/RCS	5.80	7.00	4.20	4.40	7.40	9.80	○	○							○						T.C
132	B 129	18/ 4 M	1,570		RSJ/BUC	7.20	7.00	3.45	3.70	6.80	9.20	○			○					○						
191	B 156	24/23 K			RCB/RCS	8.60		4.10	3.50				○							○						
199	B 156	24/ 7 K			RSJ/T	6.00		2.70	2.70				○							○						
33	B 157	12/ 3 K	1,040		RSJ/RCS	68.85	71.50	3.30	3.80	6.80	9.20	○	○							○						D.P
58	B 157	44/ 3 K	1,040	1930	RSJ/RCS	10.30	10.00	3.40	4.20	6.80	9.20	○	○							○						D.P
59	B 157	43/ 4 K	1,040	1924	RSJ/COR	46.10	46.00	3.30	3.80	6.80	9.20	○								○						T.P
67	B 157	23/ 2 K	710	1960	RSJ/RCS	19.40	20.00	3.50	3.50	6.80	9.20	○									○			○		
18	B 158	11/ 1 M	1,410		RSJ/	31.20	30.00	3.40	3.80	6.80	9.20	○								○				○		T.C

SER No.	ROUTE No.	BRIDGE No.	TRAFFIC VOLUME	YEAR OF CONST.	TYPE OF BRIDGE	LENGTH		EXISTING WIDTH		PROP WIDTH		EXISING DEFECTS								PROPOSED TREATMENT					FUNDING AGENCY	DESIGN STAGE
						EXST	PROP	CARR	OVRAL	CARR	OVRAL	NARROW	WEAK	POOR ALINE	DAMEGE	SETTLED	CORRD	BADLY DAM	FLOOD DAM	RE CONST	REDEC	REPL	REPAIR	WIDEN		
68	B 164	1/ 5	870		RSJ/	97.70	46.00	3.90	6.00	6.00		○	○									○				
208	B 172	10/ 4 K	350		BAILEY	18.30		4.20	4.80											○						
69	B 188	3/ 6	870		ST. TR/COR	13.60	16.00	3.00	3.60	6.80	9.20	○									○			○		
133	B 188	5/ 2	870		RSJ/CON	9.00	9.00	3.50	3.60	6.80	9.20	○									○			○		
78	B 199	5/ 5 K	1.980	1918	RSJ/BUC	127.20		6.65	6.65	7.40	10.00	○									○			○		
19	B 207	6/10 M	1.220	1890	ST. TR/H	32.40	40.00	4.30	4.30	6.80	9.20	○	○							○						T.C
71	B 227	1/ 5 M	320		ST. TR	16.60	16.00	4.25	5.40	6.80	9.20		○							○						T.C
134	B 230	4/ 4			ARCH/ST	12.19		4.80	5.50						○					○						
5	B 240	14/ 7 K	7.120		RSJ/	4.80	7.10	4.20	5.20	7.40	10.40	○	○							○						T.C
184	B 274	34/ 1 M			PSC/PRE	59.80	59.80	4.26	4.26											○						
190	B 274	33/ 3			RCC/BAILY	4.70		7.20	7.20						○					○						T.C
72	B 248	6/ 6 M	2.700		ST. TR/T	12.50	12.00	4.30	4.82	6.80	9.20				○					○						
135	B 249	5/ 9 K	400		RSJ/	10.00		4.50	4.75	6.80	9.20	○	○							○						
20	B 264	16/ 6	1.690		RSJ/RCS	14.60	14.00	4.25	4.25	7.40	9.80	○								○						T.C
34	B 264	5/ 1	1.690		ST. TR/T	27.60	27.00	4.25	4.25	6.80	9.20	○	○								○			○		T.C
38	B 265	8/ 1 K			RSJ/T	17.00	19.70	3.30	3.30	6.80	9.20	○	○							○						T.C
136	B 272	9/ 4 M	1.730		RSJ/RCS	31.30	38.00	4.20	4.35	7.40	9.80	○	○							○						
192	B 272	3/ 2 M	2.190		RSJ/	3.10		6.09	9.45				○							○						T.C
137	B 276	2/ 1			ARCH/ST	12.80		4.60	5.50						○					○						
195	B 288	10/ 2 K	10.800		RSJ/COR	5.30		5.50	5.50			○		○						○						D.P
197	B 288	10/ 3 K	10.800		ST. TR/	52.80		5.60	6.70			○		○						○						D.P
201	B 288	10/ 5 K	10.800		ARCH/CC	7.20		7.00	8.00					○						○						
70	B 295	3/ 6 K	10.700	1960	RSJ/RCS	43.50	45.00	5.50	5.50	7.40	11.00	○								○						D.P
60	B 300	10/ 3	830		CAUSEWAY	6.70	32.50	4.60	4.60	6.80	9.20	○										○				T.P
138	B 304	16/ 5	2.770		RSJ/	12.00	12.00	4.60	4.80	6.80	9.20		○							○						
173	B 304	17/ 1 K	2.770	1940	RSJ/BUC	7.00		5.75	5.75								○			○						T.P
202	B 304	14/ 5 K	2.770	1993	BAILEY	3.90		5.70	5.70						○					○						
139	B 312	25/ 1 K	430	1880	CAUSEWAY	68.40	97.40	3.00	3.50	6.80	9.20	○	○							○						T.C
181	B 312	11/ 5 K		1960	RSJ/RCS	18.90		3.50	4.11			○									○			○		
196	B 312	13/ 3 M			BAILEY	12.20		4.80	4.80											○						T.C
6	B 322	38/ 3 K	3.770		BAILEY	99.00	98.00	4.95	4.95	7.40	11.00									○		○				T.C
140	B 322	23/ 3 K	470	1965	RSJ/RCS	14.50		4.00	4.60	6.80	9.20	○	○							○						
141	B 344	1/ 1 K			BAILEY	144.50		6.00	9.60											○						
187	B 346	19/ 3 K			BAILEY	10.38		3.50	3.65																	

SER	ROUTE	BRIDGE	TRAFFIC	YEAR OF	TYPE OF	LENGTH		EXISTING WIDTH		PROP WIDTH		EXISTING DEFECTS								PROPOSED TREATMENT					FUNDING	DESIGN
No.	No.	No.	VOLUME	CONST	BRIDGE	EXST	PROP	CARR	OVRAL	CARR	OVRAL	NARROW	WEAK	POOR ALINE	DAMEGE	SETT LED	CORRD	BADLY DAM	FLOOD DAM	RE CONST	REDEC	REPL	REPAIR	WIDEN	AGENCY	STAGE
39	B 349	30/ 2 K	1,410	1927	RSJ/C	23.10	23.00	3.85	4.45	6.80	9.20	○	○								○			○		T.C
171	B 350	3/ 1			RSJ	26.00	27.00	6.00		6.80	9.20	○														
142	B 363	30/ 2 K			RSJ/T	25.95	30.00	2.90	2.90	6.80	9.20	Submersible								○						T.P
143	B 374	3/ 3 K		1965	ST. TR/	154.50		6.09	7.68								○				○					
186	B 374	16/ 4			CAUSEWAY															○						
61	B 379	4/ 9			BAILEY	36.00	36.00	4.10	4.10	6.80	9.20								○	○						D.P
144	B 379	1/ 1 K			RSJ/RCS	6.10		6.50	6.50				○							○						
193	B 379	51/ 2			PSC/	10.66		5.48	6.32										○	○						
145	B 409	21/ 3	1,410		ST. TR/	13.90	14.00	4.25	4.25	6.80	9.20		○								○			○		T.C
198	B 409	2/ 4 K																								
146	B 412	16/ 7 M	190		RSJ/	5.90	9.83	3.70	3.90	7.40	9.80	○	○							○						T.C
147	B 419	31/ 2 M	2,400		RSJ/COR	10.90		4.40	4.80			○	○							○						
148	B 419	42/ 2 M	2,400		RSJ/	11.00		3.85	4.04			○	○							○						
21	B 421	8/ 1 K	900	1930	ST. TR/II	36.40	36.90	4.40	4.40	6.80	9.20	○								○						T.C
40	B 421	66/ 2 K	1,580	1930	RSJ/COR	21.30	21.00	4.70	4.70	6.80	9.20	○	○							○						T.P
149	B 421	50/ 2 K	1,580	1970	RCS/	7.10	7.00	3.60	4.50	6.80	9.20	○									○			○		T.P
62	B 423	29/ 3 K	450		CAUSEWAY	15.00	49.00	3.20	3.20	6.80	9.20	○										○				T.C
63	B 423	27/ 2 K	450		CAUSEWAY	7.00	32.50	3.60	3.60	6.80	9.20	○										○				T.C
73	B 423	28/ 2 M	450		RCS	7.00	9.00	3.30	3.90	6.80	9.20	○	○							○						
172	B 424	13/ 1			RCB	290.00		3.50	4.40	6.80	9.20	○								○						
7	B 425	20/ 4 K	1,630		PSC	139.00		5.85	5.85	7.40	11.00		○								○			○		T.C
8	B 427	12/ 3 M	640		CAUSEWAY	15.90	49.00	5.20	5.20	6.80	9.20											○				T.P
22	B 431	2/ 3 K	590		BAILEYS	162.00		4.20	5.60	7.40	9.80											○				T.C
23	B 435	9/ 1 K	10,930	1898	ST. TR/	16.60	20.00	6.30	6.30	7.40	9.80	○								○		○				T.C
204	B 435	9/ 2 K	10,930		RSJ/RCS	16.60		6.30	6.30		10.00	○								○					KU. 24	D.P
205	B 435	9/ 3 K	10,930	1963	RCS/	11.20		7.70	7.70		10.00	○												○	KU. 25	
206	B 435	11/ 1 K	10,930	1963	RCS/	7.80		8.60	8.60		10.00	○												○	KU. 26	
207	B 435	11/ 2 K	10,930		RSJ/	5.90		5.70	5.70		10.00	○												○	KU. 27	
17	B 437	2/ 3 M			RSJ/BUC	10.30	11.00	3.45	3.45	6.80	9.20	○	○							○					KU. 28	
32	B 437	3/ 1 M			RSJ/BUC	10.20	11.00	3.70	3.70	6.80	9.20	○								○						T.C
150	B 444	4/ 5 K	1,230		RSJ/COR	7.90		4.35	4.50	6.80							○				○			○		T.C
182	B 441	1/ 2 K	1,230		RSJ/T	12.20		2.95	3.60			○								○						
151	B 445	9/ 3 M	4,310		RSJ/BUC	10.30		4.80	6.80	6.80							○				○			○		T.C
152	B 445	19/ 6 M			RSJ/BUC	7.00	7.00	4.50	4.50	7.40	9.80	○								○						

SER No	ROUTE No	BRIDGE No	TRAFFIC VOLUME	YEAR OF CONST	TYPE OF BRIDGE	LENGTH EXST	LENGTH PROP	EXISTING WIDTH CARR	EXISTING WIDTH OVRAL	PROP WIDTH CARR	PROP WIDTH OVRAL	EXISTING DEFECTS NARROW	WEAK	POOR ALINE	DAMEGE	SETTLED	CORRD	BADLY DAM	FLOOD DAM	PROPOSED TREATMENT RE CONST	REDEC	REPL	REPAIR	WIDEN	FUNDING AGENCY	DESIGN STAGE
153	B 445	18/ 3 M			RSJ/BUC	19.50	20.00	3.50	3.50	7.40	9.80	○									○			○		
154	B 445	9/ 4	4.310		RSJ/BUC	10.50		4.80	6.80	6.80							○				○			○		
185	B 453	2/ 5 M			BAILELY	24.40		4.00	4.10			○									○			○		T.C
24	B 454	12/ 4 M	480		RSJ/T	11.00	12.00	2.75	3.70	6.80	9.20	○	○							○						T.C
25	B 454	4/ 9 M	480		RSJ/RCS	25.01	27.00	3.00	3.30	6.80	9.20	○	○							○						T.C
35	B 454	2/10 M	480	1945	PSC/PRE	23.60	24.00	3.00	3.25	6.80	9.20	○								○						T.C
41	B 454	10/ 3 M	480	1924	RCS/	7.00	12.00	3.70	4.00	6.80	9.20	○	○							○						T.C
155	B 461	15/10			BAILEY	12.20	12.20	4.30	4.90	7.40	9.80		○							○						
156	B 461	29/ 3 M			RSJ	10.20	7.00	2.70	3.90	6.80	9.20	○									○			○		
157	B 461	28/ 2 K			RSJ/BUC	24.80		3.05	3.25				○							○						
26	B 462	10/ 1 K	1.290		ST. TR/	20.00	20.00	4.40	5.20	7.40	9.80	○									○			○		T.P
42	B 464	3/ 3 M	1.590	1964	RSJ/RCS	67.50	60.00	6.70	7.90	7.40	9.80	○								○						
74	B 466	6/ 5 K	760	1940	RSJ/BUC	10.20	10.00	5.68	5.68	6.80	9.20	○								○						
9	B 471	8/ 7 M		1889	ST. TR/COR	30.50	27.00	2.60	2.75	7.40	10.30	○								○						T.C
188	B 472	3/ 4 M			RSJ/T	10.20		4.20	4.40																	
158	B 473	3/ 2			ST. TR/	19.70		4.30	5.20			○	○							○						
10	B 473	4/ 2 M	270		RSJ/BUC	57.50	54.00	4.20	4.70	6.80	9.20	○	○							○						T.C
200	B 478	6/ 6 M			ST. TR/II	78.60		3.95	4.25			○												○		
		Σ 206			A-ROUTE	41																				
		15			B-ROUTE	66																				
	KUWAT	28			TOTAL	107																				

TYPE OF BRIDGE	SER No.	
RCS	91 , 103 , 73 , 41	4
RCB	1	1
PSC/PR PSC/PO	86 , 87 , 123 ,(133),(7), 35	6
ARCH/BR	(119), 129	2
ARCH/ST	27 , 43 , 45 , 46 , 47	5
ARCH/CC	201	1
ARCH/STE	85	1
ST. TR/T ST. TR/D	84 ,(99),(53),(130), 19 ,(71),(72),(34),(197),(21),(26),(69), 93 , 75	14
RSJ/RCS	79 , 44 , 89 , 100 , 65 ,(101), 77 , 106 ,(113),(175), 122 , 128 ,(31), 57 , 131 , 33 , 58 , 67 ,(18),(68), 133 ,(135), 20 , 136 , 70 , 39 , 144 , 25 , 42 , 90	31
RSJ/BUC	80 , 178 , 81 , 82 , 36 , 108 , 120 , 30 , 55 , 56 , 32 , 17 , 32 , 78 ,(138), 173 , 151 , 154 , 74	19
RSJ/COR	2 , 102 , 66 , 59 , 195 , 147 ,(148), 40 , 150	9
RSJ/T	52 , 127 , 38 , 24	4
BAILEY	189 , 114 , 208 , 202 , 61 , 22	6
CAUSEWAY	60 , 139 , 62 , 63	4
TOTAL		107

In addition to the list of 206 bridges to be rehabilitated, 3 bridges were selected to be inspected.
Those bridges are located on the route which have relatively heavy traffic volume.

Table C.2 List of 3 Additional Bridges to be Inspected

SER NO.	ROUTE NO.	ROAD NAME	PRO	C.E REG	BRIDGE NO. KM	BRIDGE NO. MILE	YEAR OF CONT.	O/L (M)	O/W (M)	C/W (M)	W/W (M)	NO SPA	TYPE OF BRIDGE	DEFECT type	code	TREATMENT	NAME OF BRIDGE	NAME OF STREAM
209	B146	HANWELLA-PUGODA-WEKA-URAPOLA	WEST	GH	21/1	13/2	1861	6	7	3.7		1	RSJ/RCS	WEAK	RP2			DIYAMANDA ELLA
210	B146	HANWELLA-PUGODA-WEKA-URAPOLA	WEST	GH	6/3	4/3	1942	48.1	3.9	3.5		2	RSJ/RCS	NARROW	RP3		KAPUGODA BRIDGE	DELKANDA OYA
211	B146	HANWELLA-PUGODA-WEKA-URAPOLA	WEST	GH	8/3	5/4	1942	47.6	3.9	3.5		2	RSJ/RCS	NARROW	RP3			NIKOWALA ELA

Furthermore, one bridge is additionally selected.
Because this bridge has serious damage on the undersurface of main beam on a concrete bridge on AA002 138/km (SER No. 212) though it is younger than 20 years old.

Appendix - D

DATA OF SOCIO-ECONOMIC FRAMEWORK AND TRAFFIC DEMAND ANALYSIS

LIST OF CONTENTS

D - 1 Estimated Vehicle - Km and Growth Ratio by Section Route A and AB

Ser No.	ROUTE NO.	ROAD NAME	SITE NO.	LENGTH OF ROAD KM	LOCATION Km	NODE A	NODE B	revised Veh.-Km 1995	revised Veh.-Km 2000	revised Veh.-Km 2005	revised Veh.-Km 2010	Growth Ratio 2000/1995	2005/2000	2010/2005
Route A														
1	AA000	Kollupitiya - Sri Jayewardenepura	100000	9.65	S	-	-		0	0	0			
								0	0	0	0			
2	AA001	Colombo - Kandy	100100	116.58	6			0	0	0	0			
3	AA001	Colombo - Kandy	100151	116.58	7			0	0	0	0			
4	AA001	Colombo - Kandy	100171	116.58	8			0	0	0	0			
5	AA001	Colombo - Kandy		116.58	14			0	0	0	0			
6	AA001	Colombo - Kandy	100101	116.58	24			0	0	0	0			
					30	101	104	915173	1221216	1591744	2080494	1.33	1.30	1.31
7	AA001	Colombo - Kandy		116.58	41			0	0	0	0			
8	AA001	Colombo - Kandy	100102	116.58	52			0	0	0	0			
					62	104	135	266036	352067.1	466599.8	620295.9	1.32	1.33	1.33
9	AA001	Colombo - Kandy	100103	116.58	68	134	135	120423	156709.9	204257	269256.6	1.30	1.30	1.32
					79			0	0	0	0			
10	AA001	Colombo - Kandy		116.58	91			0	0	0	0			
11	AA001	Colombo - Kandy		116.58	95			0	0	0	0			
12	AA001	Colombo - Kandy	100104	116.58	100			0	0	0	0			
					110	130	134	215673	278281.8	356618.9	452135.9	1.29	1.28	1.30
13	AA001	Colombo - Kandy	100105	116.58	111			0	0	0	0	0	0	0
14	AA001	Colombo - Kandy		116.58	113			0	0	0	0	0	0	0
						129	130	99060	126724	162397.1	210447.4	1.28	1.28	1.30
15	AA002	Colombo - Galle - Hambantota - Wellawaya		314.07	1			0	0	0	0	0	0	0
16	AA002	Colombo - Galle - Hambantota - Wellawaya		314.07	S			0	0	0	0	0	0	0
17	AA002	Colombo - Galle - Hambantota - Wellawaya	100200	314.07	10			0	0	0	0	0	0	0
18	AA002	Colombo - Galle - Hambantota - Wellawaya	100261	314.07	15			0	0	0	0	0	0	0
19	AA002	Colombo - Galle - Hambantota - Wellawaya	100201	314.07	17			0	0	0	0	0	0	0
20	AA002	Colombo - Galle - Hambantota - Wellawaya		314.07	23			0	0	0	0	0	0	0
21	AA002	Colombo - Galle - Hambantota - Wellawaya		314.07	26			0	0	0	0	0	0	0
					27	101	105	984795	1314121	1770412	2373356	1.32	1.35	1.34
22	AA002	Colombo - Galle - Hambantota - Wellawaya	100202	314.07	35			0	0	0	0	0	0	0
23	AA002	Colombo - Galle - Hambantota - Wellawaya		314.07	42			0	0	0	0	0	0	0
24	AA002	Colombo - Galle - Hambantota - Wellawaya	100221	314.07	44			0	0	0	0	0	0	0
25	AA002	Colombo - Galle - Hambantota - Wellawaya	100251	314.07	51			0	0	0	0	0	0	0
26	AA002	Colombo - Galle - Hambantota - Wellawaya	100203	314.07	74			0	0	0	0	0	0	0
27	AA002	Colombo - Galle - Hambantota - Wellawaya	100251	314.07	100			0	0	0	0	0	0	0
28	AA002	Colombo - Galle - Hambantota - Wellawaya	100204	314.07	105			0	0	0	0	0	0	0
					116	105	107	750485	993179.3	1305397	1706223	1.32	1.31	1.31
29	AA002	Colombo - Galle - Hambantota - Wellawaya	100205	314.07	141	107	109	194819	255803.3	333416.3	432068	1.31	1.30	1.30
					161			0	0	0	0	0	0	0
30	AA002	Colombo - Galle - Hambantota - Wellawaya	100253	314.07	177			0	0	0	0	0	0	0
31	AA002	Colombo - Galle - Hambantota - Wellawaya	100206	314.07	180			0	0	0	0	0	0	0
					223	109	110	199966	266836.7	350720	458409.7	1.33	1.31	1.31
32	AA002	Colombo - Galle - Hambantota - Wellawaya	100207	314.07	225			0	0	0	0	0	0	0
33	AA002	Colombo - Galle - Hambantota - Wellawaya	100208	314.07	256			0	0	0	0	0	0	0
34	AA002	Colombo - Galle - Hambantota - Wellawaya		314.07	273			0	0	0	0	0	0	0
35	AA002	Colombo - Galle - Hambantota - Wellawaya		314.07	284			0	0	0	0	0	0	0
36	AA002	Colombo - Galle - Hambantota - Wellawaya	100209	314.07	306			0	0	0	0	0	0	0
						110	116	144306	192564	253098.8	330813.6	1.33	1.31	1.31
37	AA003	Peliyagoda - Puttalam (Victoria Br)	100300	126.30	1			0	0	0	0	0	0	0

D - 1 Estimated Vehicle - Km and Growth Ratio by Section Route A and AB

Ser No.	ROUTE NO.	ROAD NAME	SITE NO.	LENGTH OF ROAD KM	LOCATION Km	NODE A	NODE B	revised Veh.-Km 1995	revised Veh.-Km 2000	revised Veh.-Km 2005	revised Veh.-Km 2010	Growth Ratio 2000/1995	2005/2000	2010/2005
38	AA003	Peliyagoda - Puttalam (SLIF Br)	100300	126.30	1			0	0	0	0	0	0	0
39	AA003	Peliyagoda - Puttalam		126.30	2			0	0	0	0	0	0	0
40	AA003	Peliyagoda - Puttalam		126.30	4			0	0	0	0	0	0	0
41	AA003	Peliyagoda - Puttalam	100301	126.30	7			0	0	0	0	0	0	0
					13	101	102	519626	693384.6	934155.7	1262734	1.33	1.35	1.35
42	AA003	Peliyagoda - Puttalam	100302	126.30	22			0	0	0	0	0	0	0
43	AA003	Peliyagoda - Puttalam		126.30	27			0	0	0	0	0	0	0
44	AA003	Peliyagoda - Puttalam		126.30	30			0	0	0	0	0	0	0
45	AA003	Peliyagoda - Puttalam		126.30	31			0	0	0	0	0	0	0
46	AA003	Peliyagoda - Puttalam		126.30	32			0	0	0	0	0	0	0
47	AA003	Peliyagoda - Puttalam		126.30	36			0	0	0	0	0	0	0
48	AA003	Peliyagoda - Puttalam		126.30	39			0	0	0	0	0	0	0
49	AA003	Peliyagoda - Puttalam	100303	126.30	52			0	0	0	0	0	0	0
50	AA003	Peliyagoda - Puttalam		126.30	60			0	0	0	0	0	0	0
51	AA003	Peliyagoda - Puttalam	100304	126.30	90			0	0	0	0	0	0	0
52	AA003	Peliyagoda - Puttalam		126.30	97			0	0	0	0	0	0	0
53	AA003	Peliyagoda - Puttalam		126.30	120			0	0	0	0	0	0	0
						102	152	979172	1339012	1789279	2378661	1.37	1.34	1.33
54	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa		430.57	1			0	0	0	0	0	0	0
55	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	104000	430.57	9			0	0	0	0	0	0	0
56	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	100461	430.57	11			0	0	0	0	0	0	0
57	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	100401	430.57	16			0	0	0	0	0	0	0
58	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	100402	430.57	47			0	0	0	0	0	0	0
59	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa		430.57	51			0	0	0	0	0	0	0
					63	101	133		0	0	0			0
60	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	100403	430.57	90	113	133	226280	294464.6	380582.5	493189.9	1.30	1.29	1.30
					100			0	0	0	0	0	0	0
61	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	100404	430.57	104			0	0	0	0	0	0	0
62	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa		430.57	109			0	0	0	0	0	0	0
					120	113	114	127326	172712.9	230790.6	306812.1	1.36	1.34	1.33
63	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa		430.57	128			0	0	0	0	0	0	0
64	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	100405	430.57	180			0	0	0	0	0	0	0
					184	114	115	96626	124676.9	159773.7	207047.9	1.29	1.28	1.30
65	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa		430.57	193			0	0	0	0	0	0	0
66	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	100406	430.57	206			0	0	0	0	0	0	0
					221	115	116	11904	15228.3	19848.7	26165.04	1.28	1.30	1.32
67	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	100407	430.57	225	116	121	40670	52476.42	68973	90921.91	1.29	1.31	1.32
					254			0	0	0	0	0	0	0
68	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa	100408	430.57	270	121	122	21420	27165.74	35408.06	46280.22	1.27	1.30	1.31
					288			0	0	0	0	0	0	0
69	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa		430.57	304	122	123		0	0	0			
					385			0	0	0	0			
	AA004	Colombo - Ratnapura - Wellawaya - Batticaloa		430.57		123	125	0	0	0	0			
					431			0	0	0	0			
70	AA005	Peradeniya - Badulla - Chenkaladi	100501	279.30	15			0	0	0	0			
71	AA005	Peradeniya - Badulla - Chenkaladi	100502	279.30	35			0	0	0	0			
					68	130	131	194989	249443.3	325126.6	428589.8	1.28	1.30	1.32
72	AA005	Peradeniya - Badulla - Chenkaladi	100503	279.30	82			0	0	0	0			
73	AA005	Peradeniya - Badulla - Chenkaladi	100504	279.30	114			0	0	0	0			

D - 1 Estimated Vehicle - Km and Growth Ratio by Section Route A and AB

Ser No.	ROUTE NO.	ROAD NAME	SITE NO.	LENGTH OF ROAD KM	LOCATION Km	NODE A	NODE B	revised Veh.-Km 1995	revised Veh.-Km 2000	revised Veh.-Km 2005	revised Veh.-Km 2010	Growth Ratio 2000/1995	2005/2000	2010/2005
					117	118	131	48033	61472.29	79450.09	104733.1	1.28	1.29	1.32
74	AA005	Peradeniya - Badulla - Chenkaladi			138			0	0	0	0			
75	AA005	Peradeniya - Badulla - Chenkaladi		279.30	142			0	0	0	0			
					143	118	120	67031	86490.11	111784.6	146108.5	1.29	1.29	1.31
76	AA005	Peradeniya - Badulla - Chenkaladi	100505	279.30	177	120	128	17503	22776.85	29937.03	38794.84	1.30	1.31	1.30
					215			0	0	0	0			
77	AA005	Peradeniya - Badulla - Chenkaladi		279.30	220	127	128	0	0	0	0			
					245			0	0	0	0			
	AA005	Peradeniya - Badulla - Chenkaladi			279	126	127	0	0	0	0			
								0	0	0	0			
78	AA006	Ambepussa - Kurunegala - Trincomalee	100601	195.00	4	135	136	70416	93963.67	127619.3	171082.2	1.33	1.36	1.34
					17			0	0	0	0	0	0	0
79	AA006	Ambepussa - Kurunegala - Trincomalee	100602	195.00	20	136	137	100200	133707.3	181597.8	243444.1	1.33	1.36	1.34
					35			0	0	0	0	0	0	0
80	AA006	Ambepussa - Kurunegala - Trincomalee		195.00	57			0	0	0	0	0	0	0
81	AA006	Ambepussa - Kurunegala - Trincomalee	100603	195.00	81			0	0	0	0	0	0	0
					92	137	140	202035	278509.4	378264.3	502863	1.38	1.36	1.33
82	AA006	Ambepussa - Kurunegala - Trincomalee		195.00	99			0	0	0	0	0	0	0
83	AA006	Ambepussa - Kurunegala - Trincomalee	100604	195.00	105			0	0	0	0	0	0	0
					110	141	142	39790	53973.83	72714.67	95854.26	1.36	1.35	1.32
84	AA006	Ambepussa - Kurunegala - Trincomalee		195.00	116	142	145	62645	83594.16	116282.2	158482.2	1.33	1.39	1.36
85	AA007	Avissawella - Hatton - Nuwara Eliya		116.00	2			0	0	0	0	0	0	0
86	AA007	Avissawella - Hatton - Nuwara Eliya	100701	116.00	13			0	0	0	0	0	0	0
					13	132	133	50811	66122.08	85459.86	110745.9	1.30	1.29	1.30
87	AA007	Avissawella - Hatton - Nuwara Eliya	100702	116.00	40			0	0	0				
88	AA007	Avissawella - Hatton - Nuwara Eliya	100703	116.00	91			0	0	0	0			
89	AA007	Avissawella - Hatton - Nuwara Eliya		116.00	99			0	0	0	0			
90	AA007	Avissawella - Hatton - Nuwara Eliya		116.00	113			0	0	0	0			
						131	132	124826	152802.5	188122.2	242967.3	1.22	1.24	1.28
91	AA008	Panadura - Nambapana - Ratnapura	100801	67.68	5			0	0	0	0			
92	AA008	Panadura - Nambapana - Ratnapura	100802	67.68	22			0	0	0	0			
93	AA008	Panadura - Nambapana - Ratnapura	100803	67.68	52			0	0	0	0			
						105	113	189094	251038	327205.2	427674.6	1.32	1.30	1.31
94	AA009	Kandy - Jaffna		320.99	4	129	138	69136	88443.6	113340.7	146876.2	1.28	1.28	1.30
					4			0	0	0	0			
95	AA009	Kandy - Jaffna	100901	320.99	7			0	0	0	0			
96	AA009	Kandy - Jaffna	100902	320.99	50			0	0	0	0			
					70	138	140	245271	311062.9	405442.1	534463.7	1.27	1.30	1.32
	AA009	Kandy - Jaffna		320.99	85	141	148	64287	80113.76	105298.5	139983.4	1.25	1.31	1.33
					103			0	0	0	0			
97	AA009	Kandy - Jaffna		320.99	105			0	0	0	0			
98	AA009	Kandy - Jaffna	100903	320.99	110			0	0	0	0			
99	AA009	Kandy - Jaffna		320.99	116			0	0	0	0			
	AA009	Kandy - Jaffna		320.99	121			0	0	0	0			
					123	148	149	31900	40457.16	51845.97	67186.24	1.27	1.28	1.30
100	AA009	Kandy - Jaffna		320.99	130	149	155	3196	4052.666	5326.67	7021.747	1.27	1.31	1.32
					131			0	0	0	0	ERR	ERR	ERR
101	AA009	Kandy - Jaffna	100904	320.99	145	155	158	26300	34224.88	46858.2	63340.05	1.30	1.37	1.35

D - 1 Estimated Vehicle - Km and Growth Ratio by Section Route A and AB

Ser No.	ROUTE NO.	ROAD NAME	SITE NO.	LENGTH OF ROAD KM	LOCATION Km	NODE A	NODE B	revised Veh.-Km 1995	revised Veh.-Km 2000	revised Veh.-Km 2005	revised Veh.-Km 2010	Growth Ratio 2000/1995	2005/2000	2010/2005
	AA009	Kandy - Jaffna			151			0	0	0	0			
								0	0	0	0			
102	AA010	Katugastota - Kurunegala - Puttlam	101001	124.00	321			0	0	0	0			
102	AA010	Katugastota - Kurunegala - Puttlam		124.00	6			0	0	0	0			
					30			0	0	0	0			
104	AA010	Katugastota - Kurunegala - Puttlam	101002	124.00	38	137	138	130260	169510.7	217228.5	279075.7	1.30	1.28	1.28
					50	137	153	80532	104797.7	141185.7	190846.2	1.30	1.35	1.35
105	AA010	Katugastota - Kurunegala - Puttlam	101003	124.00	63			0	0	0	0			
106	AA010	Katugastota - Kurunegala - Puttlam	101004	124.00	70			0	0	0	0			
					110			0	0	0	0			
107	AA011	Maradankadawela Habarana Tirikkondiadimadu	101101	128.00	15	152 142	153 148	67040 17914	90198.23 23707.08	118553.1 31679	154955.2 41406.14	1.35 1.32	1.31 1.34	1.31 1.31
108	AA011	Maradankadawela Habarana Tirikkondiadimadu			26			0	0	0	0			
109	AA011	Maradankadawela Habarana Tirikkondiadimadu		128.00	40			0	0	0	0			
110	AA011	Maradankadawela Habarana Tirikkondiadimadu		128.00	76			0	0	0	0			
				128.00	77			0	0	0	0			
111	AA012	Puttalam - Trincomalee			107	142	144	173714	226058.6	292170.7	375354.7	1.30	1.29	1.28
112	AA012	Puttalam - Trincomalee	101201	177.00	15			0	0	0	0			
113	AA012	Puttalam - Trincomalee	101202	177.00	36			0	0	0	0			
			101203	177.00	55			0	0	0	0			
114	AA012	Puttalam - Trincomalee	101204	177.00	73	151	152	75813	100329.6	136265	184194.7	1.32	1.36	1.35
					82	151	155	57613	71796.47	95152.93	130747.9	1.25	1.33	1.37
115	AA012	Puttalam - Trincomalee			90			0	0	0	0	ERR	ERR	ERR
				177.00	100	155	156	24570	31702.62	44446.63	63059.42	1.29	1.40	1.42
	AA012	Puttalam - Trincomalee			132			0	0	0	0			
				177.00		147	156	0	0	0	0			
116	AA013	Galkulama - Anuradhapura	101301	16.33	3			0	0	0	0			
117	AA013	Galkulama - Anuradhapura		16.33	10			0	0	0	0			
								0	0	0	0			
118	AA014	Medawachchiya - Mannar - Talaimannar				149	150		0	0	0			
119	AA014	Medawachchiya - Mannar - Talaimannar		113.83	10			0	0	0	0			
				113.83				0	0	0	0			
120	AA015	Batticaloa - Tirikkondiadimadu - Trincomalee				158	162	0	0	0	0			
				130.86		144	145	0	0	0	0			
121	AA016	Beragala - Mali-Ela	101601	38.68	20	115	117	80678	104098.7	131122.3	166939.4	1.29	1.26	1.27
					26			0	0	0	0	0	0	0
122	AA016	Beragala - Mali-Ela	101602	38.68	35	117	118	11209	14833.95	19172.23	24844.94	1.32	1.29	1.30
123	AA017	Galle - Deniyaya - Madampe	101701	144.00	22	107	108	0	0	0	0	0	0	0
					35				0	0	0			0
124	AA017	Galle - Deniyaya - Madampe	101702	144.00	42			0	0	0	0	0	0	0
125	AA017	Galle - Deniyaya - Madampe	101703	144.00	85			0	0	0	0	0	0	0
126	AA017	Galle - Deniyaya - Madampe		144.00	140			0	0	0	0	0	0	0
127	AA018	Pelmadulla - Embilipitiya - Nonagama	101802	85.00	4	108	112	65835	82042.61	101543.4	125916.3	1.25	1.24	1.24
128	AA018	Pelmadulla - Embilipitiya - Nonagama		85.00	12			0	0	0	0			
					14	112	114	35110	43948.76	66386.19	92440.26	1.42	1.37	1.35
129	AA018	Pelmadulla - Embilipitiya - Nonagama	101803	85.00	30			0	0	0	0			

D - 1 Estimated Vehicle - Km and Growth Ratio by Section Route A and AB

Ser No.	ROUTE NO.	ROAD NAME	SITE NO.	LENGTH OF ROAD KM	LOCAT-ION Km	NODE A	NODE B	revised Veh.-Km 1995	revised Veh.-Km 2000	revised Veh.-Km 2005	revised Veh.-Km 2010	Growth Ratio 2000/1995	2005/2000	2010/2005
130	AA018	Pelmadulla - Embilipitiya - Nonagama	101801	85.00	70			0	0	0	0			
131	AA018	Pelmadulla - Embilipitiya - Nonagama	101851	85.00	82			0	0	0	0			
132	AA019	Polgahawela -Kegalle	101901	11.86	6	110 134	112 136	83453 24526	103997.5 32728.4	143524.8 44092.38	194008.1 59108.81	1.25 1.33	1.38 1.35	1.35 1.34
133	AA020	Anuradhapura - Rambewa	102001	14.50	8	151	154	0 20996	0 27322.64	0 37707.43	0 51391.84	1.30	1.38	1.36
134	AA021	Kegalle - Bulathkohupitiya - Karawanella		41.94	4			0	0	0	0			
135	AA021	Kegalle - Bulathkohupitiya - Karawanella	102101	41.94	10			0	0	0	0			
136	AA021	Kegalle - Bulathkohupitiya - Karawanella		41.94	35			0	0	0	0			
137	AA022	Passara - Moneragala	102201	32.18	21	132 120	134 121	39926 11360	51959.82 14406.64	67155.77 18619.95	87025.94 24545.27	1.30 1.27	1.29 1.29	1.30 1.32
138	AA023	Wellavaya - Ella - Kumbalwela	102301	30.27	21	116	117	0 18011	0 24430.85	0 32378.58	0 42682.23	1.36	1.33	1.32
139	AA024	Matara - Akuressa	102401	20.21	12	108	109	0 42360	0 52788.61	0 65335.97	0 81018.22	1.25	1.24	1.24
140	AA025	Siyambalanduwa - Damana - Ampara		57.12		122	124	0 0	0 0	0 0	0 0			
141	AA026	Kandy - Mahiyangana - Padiyatalawa	102601	101.40	4			0	0	0	0			
142	AA026	Kandy - Mahiyangana - Padiyatalawa	102602	101.40	38			0	0	0	0			
143	AA026	Kandy - Mahiyangana - Padiyatalawa		101.40	67			0	0	0	0			
144	AA026	Kandy - Mahiyangana - Padiyatalawa	102661	101.40	75			0	0	0	0			
145	AA026	Kandy - Mahiyangana - Padiyatalawa		101.40	80			0	0	0	0			
146	AA027	Ampara - Uhana - MahaOya		57.92		128 124	129 127	257299 0	326317.2 0	421750.5 0	546538.8 0	1.27	1.29	1.30
147	AA028	Anuradhapura - Padeniya	102801	83.73	13			0	0	0	0			
148	AA028	Anuradhapura - Padeniya	102802	83.73	72			0	0	0	0			
149	AA029	Vavuniya - Horowopotana		46.01		151 156	153 167	151067 0	194921.2 0	264736.9 0	360812.6 0	1.29	1.36	1.36
150	AA030	Vavuniya - Parayanalankulam		35.80		157	159	0 0	0 0	0 0	0 0			
151	AA031	Karativu - Ampara		24.14		123	124	0 0	0 0	0 0	0 0			
152	AA032	Navathkuli - Karativu - Mannar		98.38		160	163	0 0	0 0	0 0	0 0			
153	AA033	Ja-Ela - Ekala - Gampaha - Yakkala		16.70	2			0	0	0	0			
154	AA033	Ja-Ela - Ekala - Gampaha - Yakkala	103301	16.70	5			0	0	0	0			
155	AA033	Ja-Ela - Ekala - Gampaha - Yakkala		16.70	15			0	0	0	0			
156	AA034	Kankulam - Mullaitivu		49.25		102 166	104 157	113772 0	151819.1 0	206196.8 0	278724.1	1.33	1.36	1.35
157	AA035	Paranthan - Kachchai - Mullaitivu		52.13		165	166	0 0	0 0	0 0				
		AA Total						9105001 0	12018601 1.32	15864554 1.32	20941211 1.32	1.32	1.32	1.32

D - 1 Estimated Vehicle - Km and Growth Ratio by Section Route A and AB

Ser No.	ROUTE NO.	ROAD NAME	SITE NO.	LENGTH OF ROAD KM	LOCATION Km	NODE A	NODE B	revised Veh.-Km 1995	revised Veh.-Km 2000	revised Veh.-Km 2005	revised Veh.-Km 2010	Growth Ratio 2000/1995	2005/2000	2010/2005
Route AB														
158	AB001	Ampara - Inginiyagala		19.79										
159	AB002	Anuradhapura New Town Roads		12.66										
160	AB002	(4) Harishchandra Mawatha		12.66	1									
161	AB002	(6) Naithripala Senanayake Mawatha		12.66	1									
162	AB002	(2) Dharmapala Mawatha		12.66	1									
163	AB002	(5) Market Junction To Lion Pillar		12.66	1									
164	AB002	(1) Jayanthi Mawatha		12.66	1									
165	AB002	(3) D.S.Senanayake Mawatha		12.66	1									
166	AB003	Approach Road to Gampola Bridge		0.48										
167	AB004	Approach Road to Kaduwela Bridge		0.08	Center of the Road			838	1106	1461	1928	1.32	1.32	1.32
168	AB005	Approach Road to Sri Jayewardenepura Hospital		2.46	1			0 9990	0 13187	0 17407	0 22977	1.32	1.32	1.32
169	AB006	Avissawella Town Road		0.06				0 0	0 0	0 0	0 0	0 0	0 0	0 0
170	AB007	Balangoda By Pass		1.13				0 0	0 0	0 0	0 0	0 0	0 0	0 0
171	AB008	Bandarawela By Pass		0.51				0 0	0 0	0 0	0 0	0 0	0 0	0 0
172	AB009	Canada Friend-ship Road		2.40	2			0 41165	0 54338	0 71726	0 94678	0 1.32	0 1.32	0 1.32
173	AB010	Colombo - Hanwella Low Level Road		24.94	2			0	0	0	0	0	0	0
174	AB010	Colombo - Hanwella Low Level Road		24.94	9			0	0	0	0	0	0	0
175	AB010	Colombo - Hanwella Low Level Road		24.94	20			0	0	0	0	0	0	0
176	AB011	Galle Road New Deviation (Cross Junc. to Egoda Uyana)		6.98	4			125786	166037	219169	289303	1.32	1.32	1.32
177	AB012	Galle - Marine Drive		1.22	1			93197	123020	162386	214350	1.32	1.32	1.32
178	AB013	Gampola - Nawalapitiya		17.54	8			16220	21410	28262	37305	1.32	1.32	1.32
179	AB014	Hospital - Esplanade road, Ratnapura		1.66				34273	45241	59718	78827	1.32	1.32	1.32
180	AB015	Inner ring Road and Pelawatte Access Road		1.61	Bridge			0	0	0	0			
181	AB016	Jaffna - Kankesanturai		18.50				24272	32040	42292	55826	1.32	1.32	1.32
182	AB017	Jaffna - Manipay - Karainagar		27.21				0	0	0	0	0	0	0
183	AB018	Jaffna - Palali		17.30				0	0	0	0	0	0	0
184	AB019	Jaffna - Pannai - Kayts		19.31				0	0	0	0	0	0	0
185	AB020	Jaffna - Point Pedro		33.79				0	0	0	0	0	0	0
186	AB021	Jaffna - Ponnalai - Point Pedro		55.39				0	0	0	0	0	0	0
187	AB022	Jail Road, Hambantota		0.43	0			0	0	0	0	0	0	0
188	AB023	Kalatteva - Matale Junction		8.44	3			557	735	970	1281	1.32	1.32	1.32
189	AB024	Link Road -- Dambulla		1.00				6672	8807	11625	15345	1.32	1.32	1.32
190	AB025	Lion Pillar - Sri Maha Bodhi Road		1.21	1			0	0	0	0	0	0	0
191	AB026	Matale - Udupihilla		6.03				3808 0	5026 0	6635 0	8758 0	1.32 0	1.32 0	1.32 0
								0	0	0	0	0	0	0

D - 1 Estimated Vehicle - Km and Growth Ratio by Section Route A and AB

Sec No.	ROUTE NO.	ROAD NAME	SITE NO.	LENGTH OF ROAD KM	LOCATION Km	NODE A	NODE B	revised Veh.-Km 1995	revised Veh.-Km 2000	revised Veh.-Km 2005	revised Veh.-Km 2010	Growth Ratio 2000/1995	2005/2000	2010/2005
192	AB027	Old Colombo - Galle Road, Panadura		1.90	0			0	0	0	0	0	0	0
193	AB027	Old Colombo - Galle Road, Panadura		1.90	0			0	0	0	0	0	0	0
194	AB027	Old Colombo - Galle Road, Panadura		1.90	2			0	0	0	0	0	0	0
								8604	11357	14992	19783	1.32	1.32	1.32
195	AB028	Old Colombo - Puttalam Road, Ja Ela		0.95	0			0	0	0	0	0	0	0
196	AB028	Old Colombo - Puttalam Road, Ja Ela		0.95	1			0	0	0	0	0	0	0
								7143	9429	12446	16429	1.32	1.32	1.32
197	AB029	Pasyala - Giriulla		19.31	6			0	0	0	0	0	0	0
198	AB029	Pasyala - Giriulla		19.31	16			0	0	0	0	0	0	0
								102071	134734	177849	234761	1.32	1.32	1.32
199	AB030	Poonakary - Sangupiddy		8.85				0	0	0	0	0	0	0
200	AB031	Puloly - Kodikamam - Kachchai		18.91				0	0	0	0	0	0	0
201	AB032	Puttur - Keesalai		13.68				0	0	0	0	0	0	0
202	AB033	Samanturai village Road		1.85				0	0	0	0	0	0	0
203	AB034	Sea Street, Galle		0.16				0	0	0	0	0	0	0
204	AB035	Section A - B NEW TOWN ROAD, Ratnapura		1.85				0	0	0	0	0	0	0
205	AB036	Thalapitiya road, Galle		0.98				0	0	0	0	0	0	0
206	AB037	Upper Gampola Road		2.57	2			14975	19768	26093	34443	1.32	1.32	1.32
207	AB038	Valachchenai - Nasavantivu - Nawaladi		5.12				0	0	0	0	0	0	0
208	AB039	Valukkairaru - Pungudutivu - Kurikadduwan		24.54				0	0	0	0	0	0	0
209	AB040	Wattala Deviation		0.64	1			23540	31073	41016	54141	1.32	1.32	1.32
210	AB041	Weligama By Pass		4.18	2			16390	21635	28558	37696	1.32	1.32	1.32
211	AB042	Getambe Kandy By Pass		3.80	2			33812	44632	58915	77767	1.32	1.32	1.32
212	AB043	Wellawaya By Pass		1.15				0	0	0	0	0	0	0
213	AB044	Mahiyangana - Dimbulagala - Dalukkane		72.60	5			94050	124198	163942	216403	1.32	1.32	1.32
214	AB045	Avissawela By pass		0.88				0	0	0	0	0	0	0
Route AC											0	0	0	0
215	AC005	Base Line Rd(Between Dematagoda to Level Cross)			2			0	0	0	0	0	0	0
216	AC005	Lotus Road						0	0	0	0	0	0	0
217	AC019	Maradana Road		2.60	2			84549	111605	147319	194461	1.32	1.32	1.32
								0	0	0	0	0	0	0
Total AB & AC								741953	979378	1292779	1706468	1.32	1.32	1.32
									1.32	1.32	1.32	1.00	1.00	1.00

D - 2 Estimated Vehicle - Km and Growth Ratio by Section Route B

Ser No.	ROUTE NO.	ROAD NAME	LENGTH OF ROAD Km	PROV	LOCAT-ION Km	ADT vpd in each yr	YEAR	SVY (*)	Revised Veh-km 1995	Revised Veh-km 2000	Revised Veh-km 2005	Revised Veh-km 2010	Growth Ratio 00/95	05/00	10/05
	B014	Ambalangoda - Elpitiya - Pitigala	29	Sout	10 k.m	1390	91		53294	69638	90428	116729	1.30	1.29	1.28
233	B014	Ambalangoda - Elpitiya - Pitigala	29	Sout	19 k.m	1230	94		37845	49451	64214	82891	1.30	1.29	1.28
239	B019	Anamaduwa - Uswewa - Galgamuwa	39	Nwp	9 k.m	460	90		23237	28158	33909	40592	1.20	1.19	1.19
240	232	Anamaduwa - Uswewa - Galgamuwa	39	Nwp	18 k.m	150	89		7979	9669	11643	13938	1.20	1.19	1.19
248	B027	Approach Roads to Railway Stations	13	Cent	LNOTFX										
255	B033	Avarangal - Thondamanaru	6	NorEast	LNOTEX										
264	B039	Balangoda - Rassagala - Uwella	15	Sab	LNOTEX										
270	B045	Bangadeniya - Andigama - Anamaduwa	38	Nwp	8 k.m	1050	95	*	40131	48629	58561	70103	1.20	1.19	1.19
271	B045	Bangadeniya - Andigama - Anamaduwa	38	Nwp	31 k.m	540	92		29200	35383	42610	51009	1.20	1.19	1.19
283	B056	Bibile - Medagama - Nakkala	34	Uva	8 k.m	740	94		26390	36294	49604	67395	1.36	1.36	1.35
284	B057	Bibile - Uraniya - Mahiyangana	40	Uva	21 k.m	480	94		20898	28741	39282	53370	1.36	1.36	1.35
285	B057	Bibile - Uraniya - Mahiyangana	40	Uva	37 k.m	1060	91		57079	78500	107290	145769	1.36	1.36	1.35
310	B079	Chilaw - Wariyapola	51	Nwp	14 k.m	1650	94		95033	115157	138676	166009	1.20	1.19	1.19
311	B079	Chilaw - Wariyapola	51	Nwp	35 k.m	1999	94		113816	137918	166086	198821	1.20	1.19	1.19
316	B084	Colombo - Horana	28	West	2 k.m	31140	94		1035390	1230995	1454463	1708320	1.18	1.17	1.17
317	B084	Colombo - Horana	28	West	24 k.m	6492	94		225817	320759	452783	635378	1.41	1.40	1.39
318	B085	Cross Road - Medawachchiya	0	Nep	LNOTFX										
319	B086	Dambagahapitiya - Pinnagolla - Arawa - Meegahakiula	15	Uva	5 k.m	80	93		1243	1709	2336	3174	1.36	1.36	1.35
326	B093	Dehiowita - Deraniyagala - Noori	28	Sab	13 k.m	670	89		23431	26428	29622	33006	1.12	1.11	1.11
332	B097	Demodera - Spring Valley - Badulla	21	Uva	4 k.m	120	93		2984	4104	5609	7621	1.36	1.36	1.35
346	B111	Ekala - Kotadeniyawa	27	West	2 k.m	3750	92		129134	181746	254204	353443	1.40	1.39	1.38
347	B111	Ekala - Kotadeniyawa	27	West	12 k.m	6125	94		180929	256998	362783	509077	1.41	1.40	1.39
348	B111	Ekala - Kotadeniyawa	27	West	15 k.m	3000	93		80380	113852	159214	221371	1.40	1.39	1.38
351	B114	Elpitiya - Opatha - Avittawa	4	Sout	2 k.m	480	91		2520	2842	3186	3550	1.12	1.11	1.11
353	B116	Embilmeegama - Daulagala - Penideniya	11	Cent	LNOTFX										
366	B127	Galigomuwa - Ruwanwella	23	Sab	10 k.m	1054	94		27947	31521	35351	39367	1.12	1.11	1.11
368	B129	Galle - Udugama	37	Sout	15 k.m	1200	91		57355	74944	97318	125624	1.30	1.29	1.28
369	B129	Galle - Udugama	37	Sout	32 k.m	750	91		34891	45591	59202	76421	1.30	1.29	1.28
377	B137	Ginoya - Bolawatte - Dankotuwa	5	Nwp	LNOTEX										
404	B156	Hiniduma - Opatha - Pitabeddera	31	Sout	15 k.m	230	92		8814	11517	14955	19305	1.30	1.29	1.28
405	B157	Horena - Anguruwatot - Ajuthgama	54	West	10 k.m	750	91		56273	79199	110775	154020	1.40	1.39	1.38
406	B157	Horena - Anguruwatot - Ajuthgama	54	West	20 k.m	554	94		38656	54405	76095	105802	1.40	1.39	1.38
407	B157	Horena - Anguruwatot - Ajuthgama	54	West	46 k.m	750	91		56273	79199	110775	154020	1.40	1.39	1.38
408	B158	Horawela - Pelawatte - Pitigala	26	West	9 k.m	940	90		36396	51224	71647	99617	1.40	1.39	1.38
409	B158	Horawela - Pelawatte - Pitigala	26	West	20 k.m	460	92		15129	21294	29783	41410	1.40	1.39	1.38
415	B164	Jaffna Junction - Sri Maha Bodhi	2	Nep	2 k.m	670	92		2091	3011	4310	6132	1.43	1.42	1.41
424	B172	Kadugannawa - Gampola	17	Cent	2 k.m	180	93		3666	5159	7216	10034	1.40	1.39	1.38
425	B172	Kadugannawa - Gampola	17	Cent	16 k.m	300	93		6110	8599	12027	16725	1.40	1.39	1.38
441	B188	Kaluaggala - Labugama	14	West	6 k.m	873	95	*	12221	17199	24056	33448	1.40	1.39	1.38
452	B199	Karandupona - Rambukkana	9	Sab	6 k.m	1829	94		17550	19794	22186	24721	1.12	1.11	1.11
461	B207	Katukurunda - Neboda	16	West	2 k.m	4367	94		78277	110168	154090	214246	1.40	1.39	1.38
462	B207	Katukurunda - Neboda	16	West	7 k.m	1088	94		20118	28314	39602	55063	1.40	1.39	1.38
485	B227	Kiriyankalli - Andigama	14	Nwp	6 k.m	320	95	*	4378	5305	6388	7647	1.20	1.19	1.19
489	B230	Kokkuvil - Vaddukoddai	8	NorEast	LNOTEX										
499	B240	Kotte - Bope	29	West	16 k.m	5826	94		204941	291106	410930	576640	1.41	1.40	1.39
500	B240	Kotte - Bope	29	West	30 k.m	1665	94		52028	73225	102418	142402	1.40	1.39	1.38

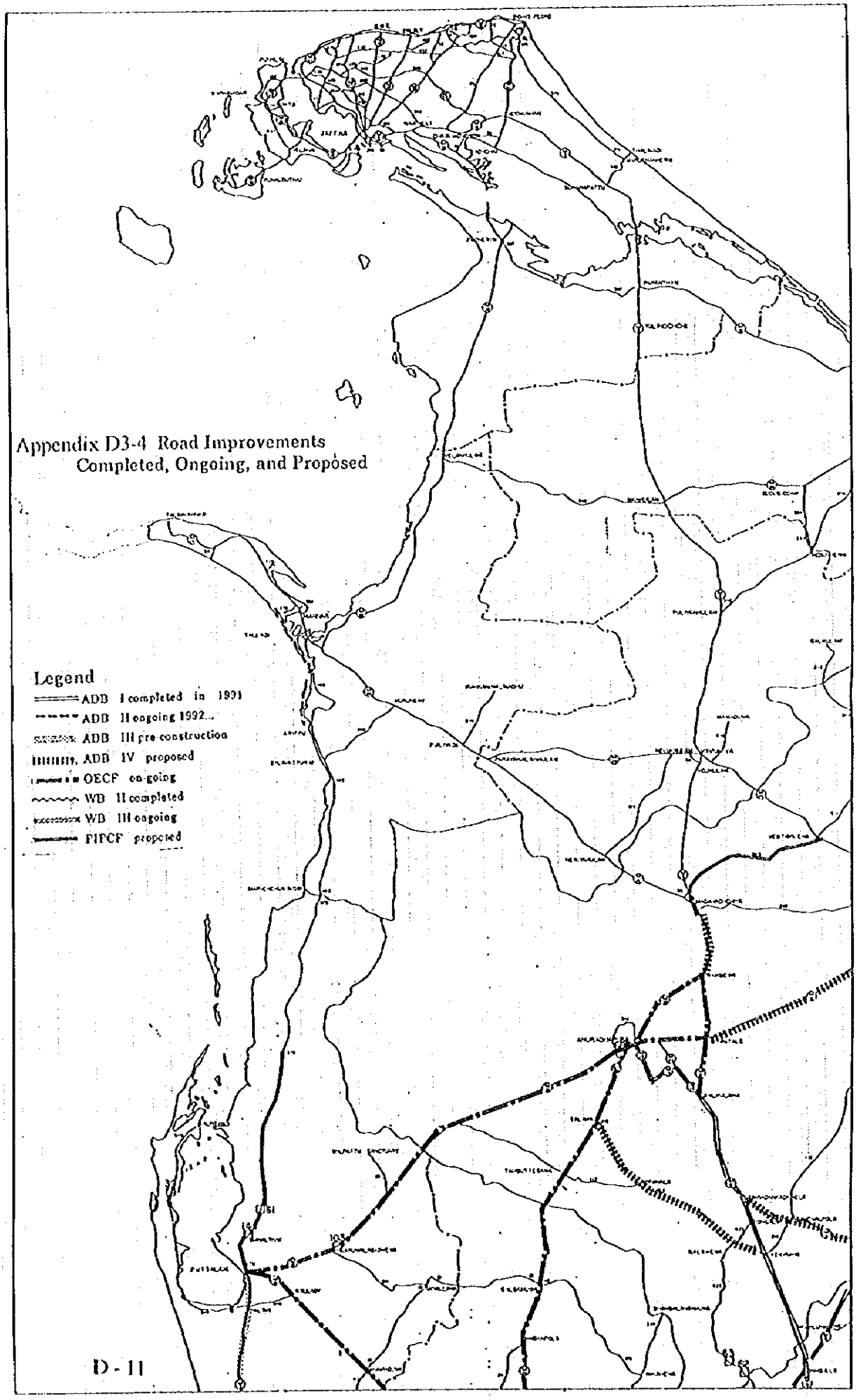
D - 2 Estimated-Vehicle - Km and Growth Ratio by Section Route B

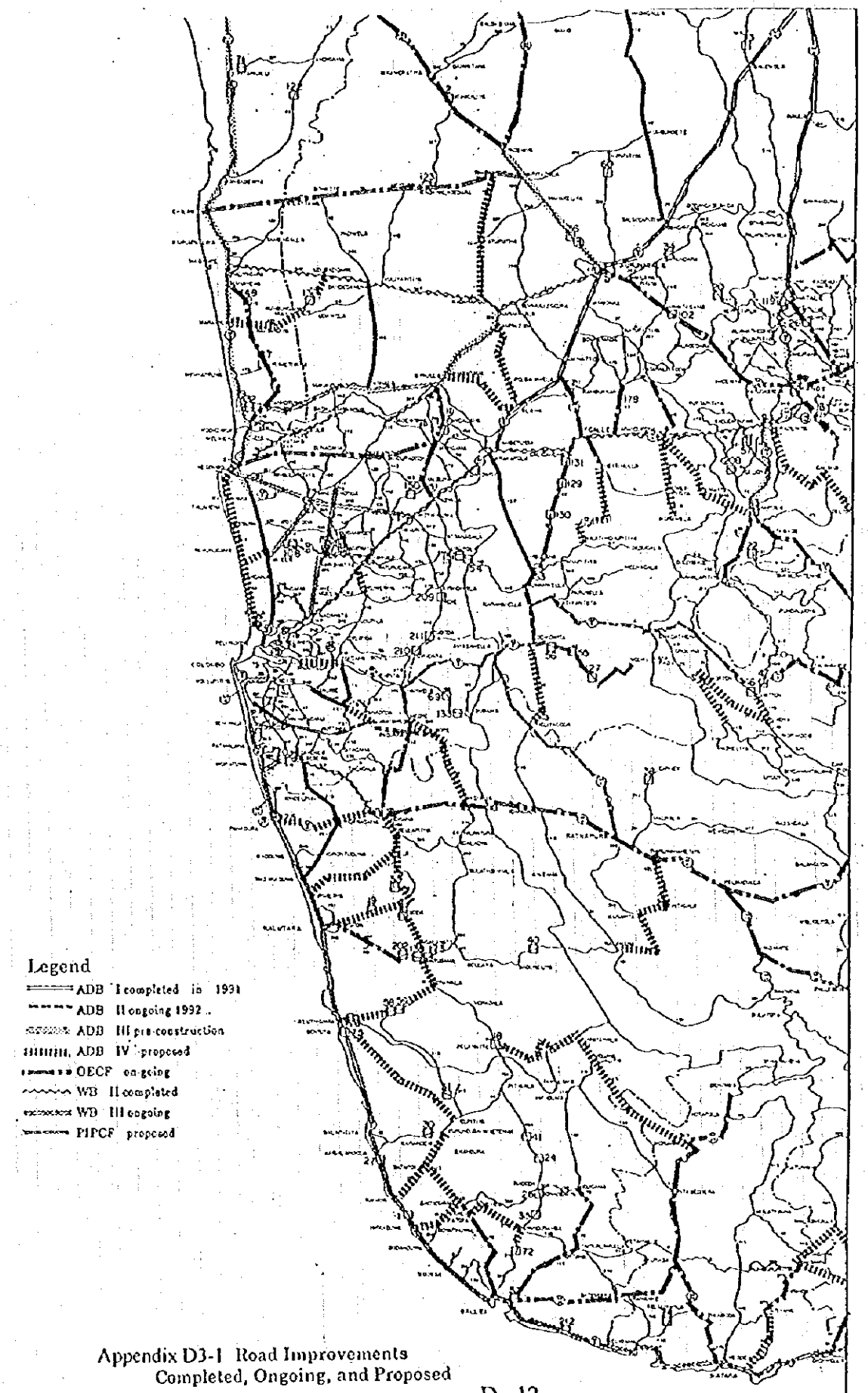
Ser No.	ROUTE NO.	ROAD NAME	LENGTH OF ROAD Km	PROV	LOCAT-ION Km	ADT vpd in each yr	Y E A R	S V Y (*)	Revised Veh-km 1995	Revised Veh-km 2000	Revised Veh-km 2005	Revised Veh-km 2010	Growth Ratio 00/95	05/00	10/05
507	B247	Kurunegala - Naranumala - Madampe	64	Nwp	8km	4571	94		309782	375581	452047	541146	1.20	1.19	1.19
508	B247	Kurunegala - Narammala - Madampe	64	Nwp	48 km	3130	95	*	201447	244105	293960	351900	1.20	1.19	1.19
509	B248	Labuduwa - Wandurambe - Sandarawela	22	Sout	5 km	2210	92		59719	67355	75497	84121	1.12	1.11	1.11
510	B249	Lady Macallums Drive	6	Cent	1 km	320	92		2301	3239	4530	6298	1.40	1.39	1.38
525	B264	Mallawapitiya - Rambodagalla - Keppetigala	35	Nwp	8km	1601	94		58314	70662	85094	101866	1.20	1.19	1.19
526	B265	Malwala - Carney	14	Sab	LNOTEX										
553	B272	Marawila - Udubaddawa	20	Nwp	5km	2080	94		43520	52736	63506	76024	1.20	1.19	1.19
554	B272	Marawila - Udubaddawa	20	Nwp	16 km	1270	89		34401	41686	50200	60094	1.20	1.19	1.19
540	B276	Mathagal - Pandatherippu - Sambilitural	7	NorEast	LNOTEX										
553	B288	Minuwangoda - Gampaha - Miriswatte	13	West	5 km	3100	92		52544	73951	103434	143814	1.40	1.39	1.38
554	B288	Minuwangoda - Gampaha - Miriswatte	13	West	13 km	8480	94		143276	203515	287285	403135	1.41	1.40	1.39
561	B295	Moratuwa - Piliyandala	5	West	1 km	8818	94		51622	73326	103508	145249	1.41	1.40	1.39
566	B300	Muttetugala - Hiripitiya	19	Nwp	9 KM	610	89		15384	18642	22449	26874	1.20	1.19	1.19
570	B304	Nagoda - Kalawellawa - Bellapitiya	56	West	3 km	2719	94		163761	230480	322368	448218	1.40	1.39	1.38
571	B304	Nagoda - Kalawellawa - Bellapitiya	56	West	11 km	2000	91		153858	216545	302874	421114	1.40	1.39	1.38
572	B304	Nagoda - Kalawellawa - Bellapitiya	56	West	28 km	2100	90		175283	246696	345049	479754	1.40	1.39	1.38
573	B304	Nagoda - Kalawellawa - Bellapitiya	56	West	37 km	600	91		46157	64963	90862	126334	1.40	1.39	1.38
574	B304	Nagoda - Kalawellawa - Bellapitiya	56	West	40km	1407	94		84741	119267	166815	231939	1.40	1.39	1.38
584	B312	Naula - Elahera - Kaluganga	33	Cent	14 km	310	91		14173	19947	27900	38792	1.40	1.39	1.38
593	B322	Negombo - Giriulla	38	West	10 km	4868	94		203569	289157	408179	572780	1.41	1.40	1.39
594	B322	Negombo - Giriulla	38	West	20 km	1570	89		96847	136304	190645	265072	1.40	1.39	1.38
595	B322	Negombo - Giriulla	38	West	24 km	2310	89		142494	200549	280504	390010	1.40	1.39	1.38
608	B332	Nuwara Eliya - Uda Pussellawa	46	Cent	6 km	970	91		61859	87033	121731	169254	1.40	1.39	1.38
609	B332	Nuwara Eliya - Uda Pussellawa	46	Cent	20 km	370	92		21740	30597	42796	59503	1.40	1.39	1.38
622	B344	Padiruppu - Vellaveli	6	NorEast	LNOTFX										
624	B346	Palapathwela - Galewela	28	Cent	15 km	351	94		10220	14384	20118	27972	1.40	1.39	1.38
627	B349	Palavi - Kalpitiya	40	Nwp	16 km	1410	95	*	56724	68736	82775	99090	1.20	1.19	1.19
628	B350	Pallang Oya - Inginiyagala	13	NorEast	LNOTFX										
642	B363	Pelawatta - Kankotayawatta - Tinniyawela - Morawaka	53	West	12 km	227	94		13098	18454	25784	35850	1.40	1.39	1.38
643	B363	Pelawatta - Kankotayawatta - Tinniyawela - Morawaka	53	Sout	46 km	480	92		31183	40746	52911	68300	1.30	1.29	1.28
644	B363	Pelawatta - Kankotayawatta - Tinniyawela - Morawaka	53	Sout	48 km	420	92		27285	35653	46297	59763	1.30	1.29	1.28
657	B374	Poruvil - Panama	18	NorEast	LNOTFX										
662	B379	Puttalam - Marichchikadai	66	Nwp	LNOTFX										
694	B409	Talgodapitiya - Yatawatte - Dombawala	29	Nwp	8km	1284	94		41353	50110	60544	72238	1.20	1.19	1.19
698	B412	Tawalantenne - Talawakela	34	Cent	16 km	176	94		6420	9036	12658	17572	1.40	1.39	1.38
706	B419	Thoppu - Madampe	27	Nwp	4 km	4600	94		130540	158184	190490	228036	1.20	1.19	1.19
707	B419	Thoppu - Madampe	27	Nwp	12 km	2260	94		64572	78246	94227	112799	1.20	1.19	1.19
709	B421	Tiruwanaketiya - Agalawatte	68	Sab	32 km	875	94		61046	68852	77175	85991	1.12	1.11	1.11
710	B421	Tiruwanaketiya - Agalawatte	68	West	57 km	1452	94		107097	150730	210823	293128	1.40	1.39	1.38
713	B423	Tonigala - Kalawewa - Galewela	46	Nep	14 km	320	91		20679	29781	42623	60640	1.43	1.42	1.41
714	B424	Trincomalee - Pulmoddai	55	NorEast	LNOTEX										
715	B425	Tudella - Pamunugama - Talahena - Negombo	20	West	17 km	1380	93		32670	45981	64312	89419	1.40	1.39	1.38
717	B427	Udawalawe - Tanamalwila	35	Uva	8 km	550	93		22710	31253	42687	57997	1.36	1.36	1.35
718	B427	Udawalawe - Tanamalwila	35	Uva	33 km	300	91		14448	19871	27158	36899	1.36	1.36	1.35
722	B431	Ulapane - Pussellawa	23	Cent	4 km	460	92		13238	18631	26059	36232	1.40	1.39	1.38
723	B431	Ulapane - Pussellawa	23	Cent	14 km	160	92		4604	6480	9064	12602	1.40	1.39	1.38

D - 2 Estimated Vehicle - Km and Growth Ratio by Section Route B

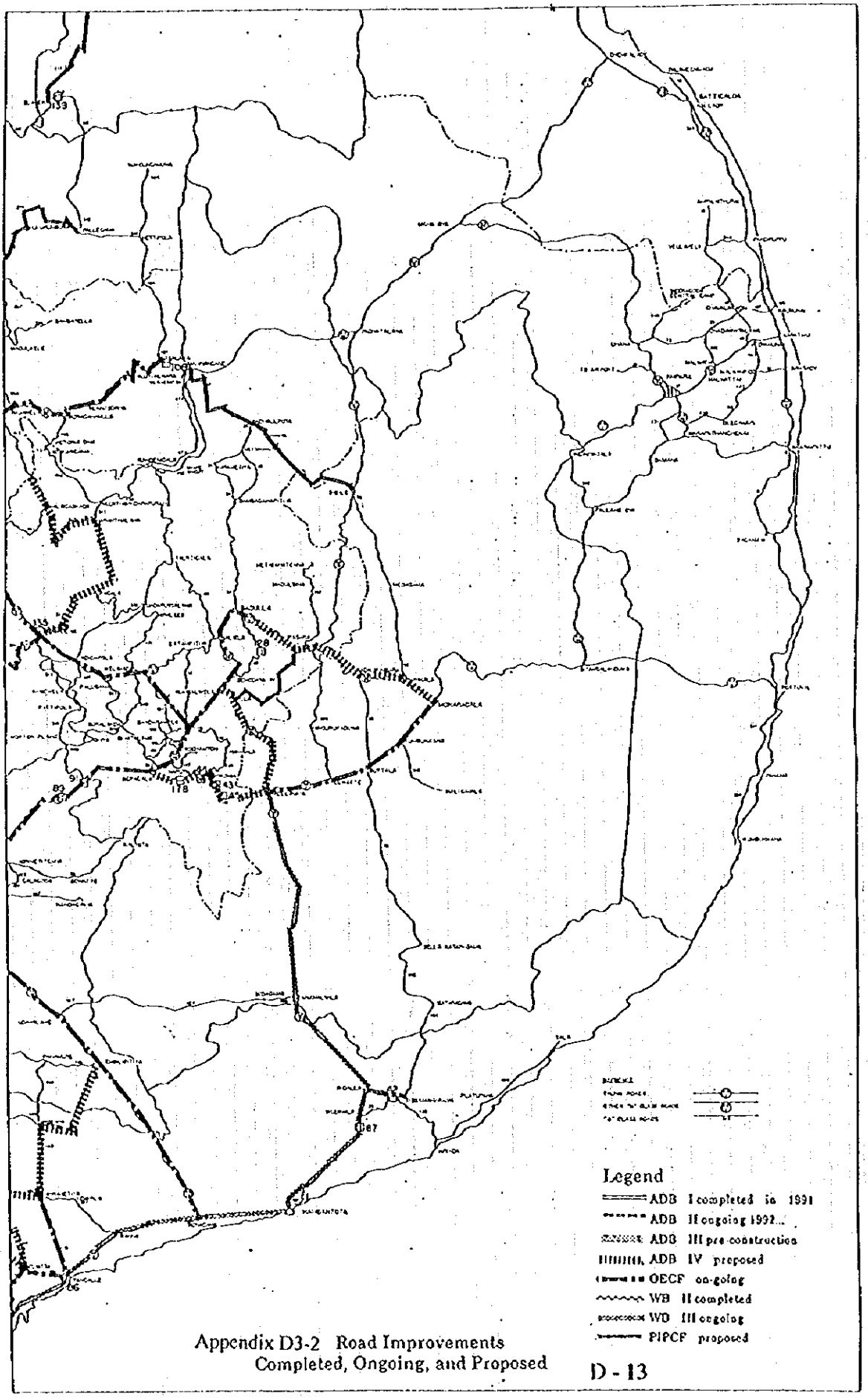
Ser No.	ROUTE NO.	ROAD NAME	LENGTH OF ROAD Km	PROV	LOCAT-ION Km	ADT vpd in each yr	YEAR	SVY (*)	Revised Veh-km 1995	Revised Veh-km 2000	Revised Veh-km 2005	Revised Veh-km 2010	Growth Ratio 00/95	05/00	10/05
727	B435	Urugodawatte - Ambatale	8	West	3 km	10929	95	*	87978	124968	176407	247544	1.41	1.40	1.39
736	B444	Veyangoda - Kaleliya	7	West	5 km	1231	95	*	9171	12907	18053	25101	1.40	1.39	1.38
737	B445	Veyangoda - Ruwanwella	32	West	2 km	5900	93		165244	234719	331334	464946	1.41	1.40	1.39
738	B445	Veyangoda - Ruwanwella	32	West	7 km	3912	94		138664	195158	272963	379526	1.40	1.39	1.38
739	B445	Veyangoda - Ruwanwella	32	West	16 km	400	92		16441	23140	32365	45000	1.40	1.39	1.38
740	B445	Veyangoda - Ruwanwella	32	Sab	25 km	512	94		17102	24070	33666	46809	1.40	1.39	1.38
748	B452	Walgama - Diyagama	7	West	6 km	5140	95	*	56288	51545	72762	102104	1.41	1.40	1.39
749	B453	Walpola - Mailawalana	9	West	4 km	930	95	*	8612	12120	16953	23571	1.40	1.39	1.38
750	B454	Wandurambe - Ethumale - Yakkatuwa	36	Sout	10 km	370	91		17491	22855	29679	38311	1.30	1.29	1.28
751	B454	Wandurambe - Ethumale - Yakkatuwa	36	Sout	28 km	500	91		23637	30885	40106	51771	1.30	1.29	1.28
759	B461	Wattegama - Kandenuwara - Warlyapola	31	Cent	26 km	50	91		2124	2989	4181	5813	1.40	1.39	1.38
760	B462	Wattegama - Matale	13	Cent	7 km	820	93		16809	23657	33089	46007	1.40	1.39	1.38
762	B464	Weerawila - Tissa - Kataragama	24	Sout	2 km	1140	90		38020	49679	64511	83274	1.30	1.29	1.28
763	B464	Weerawila - Tissa - Kataragama	24	Sout	17 km	1090	94		28501	37241	48359	62425	1.30	1.29	1.28
765	B466	Wellgama - Tellijjawila	11	Sout	5 km	580	91		8529	11144	14471	18680	1.30	1.29	1.28
770	B471	Wellmada - Kirklees	18	Uva	LNOTEX										
771	B472	Wellweriya - Kirindiwela	13	West	7 km	1650	95	*	21236	29887	41803	58122	1.40	1.39	1.38
772	B473	Wennappuwa - Kirimetiyana	6	Nwp	2 km	3560	95	*	20043	24287	29247	35012	1.20	1.19	1.19
777	B478	Wilakatupotha - Ganewattha - Kumbukgete	22	Nwp	11 km	240	93		5772	6994	8423	10083	1.20	1.19	1.19
					SUM( )				6376665	8417197	11110700	14666125			
		Total				195465			6376665						
		Ratio In Total							1.00	1.32	1.32	1.32	1.32	1.32	1.32

Appendix D3-4 Road Improvements
Completed, Ongoing, and Proposed

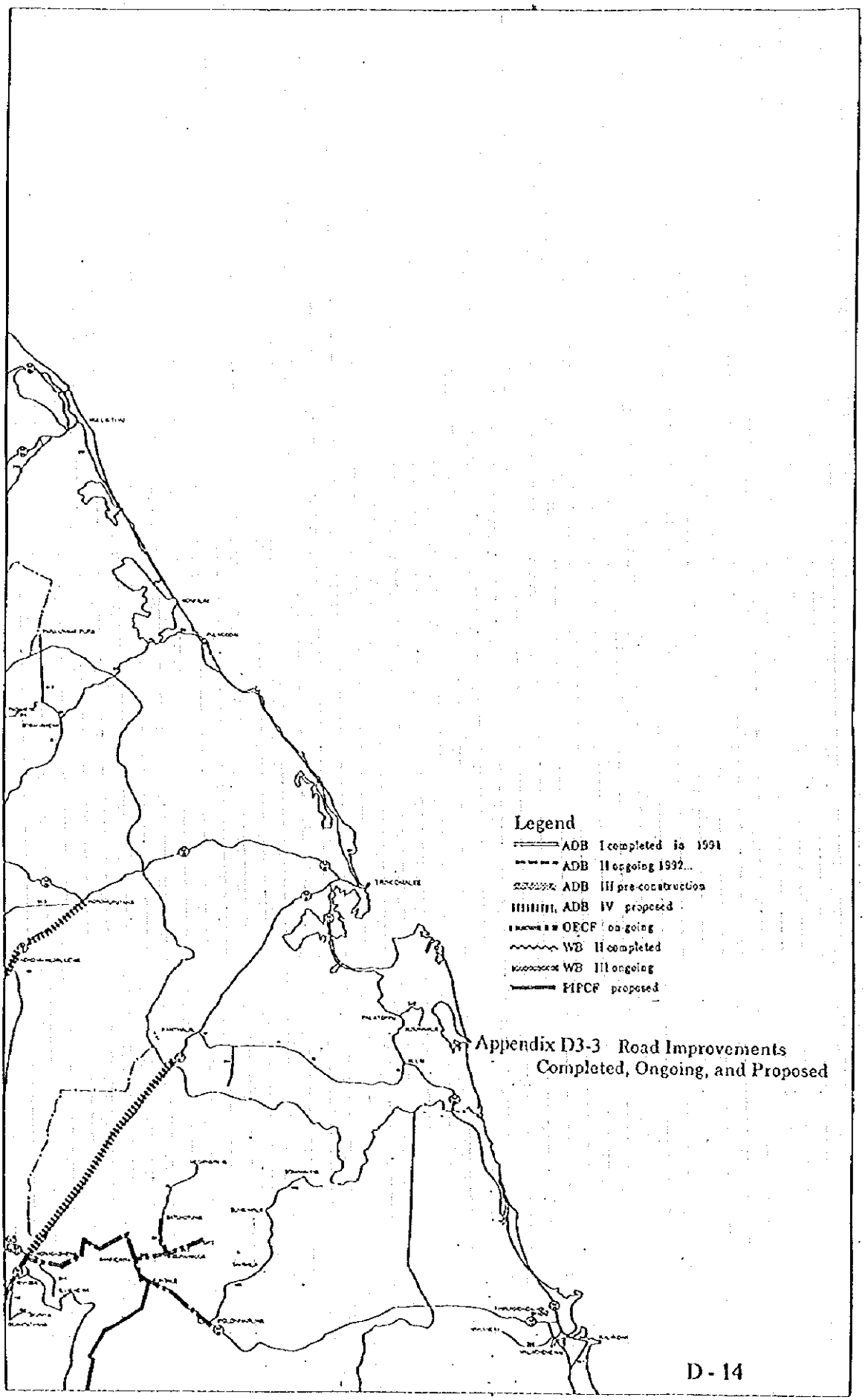




Appendix D3-1 Road Improvements
Completed, Ongoing, and Proposed



Appendix D3-2 Road Improvements
Completed, Ongoing, and Proposed



Appendix D3-3 Road Improvements
Completed, Ongoing, and Proposed

Appendix D - 4 Estimated Future Population by District

Estimated Future Urban Population by District (x 1000)

No.	District	Land Area*	1995	2000	2005	2010
1	Colombo	656.7	1791.7	2266.3	2558.8	2823.3
2	Gampaha	1597.6	485.7	567.0	751.1	963.6
3	Kalutara	1377.6	230.7	277.6	388.8	517.5
4	Kandy	1906.3	193.7	215.4	239.2	265.3
5	Matale	1993.3	52.0	58.1	64.8	72.1
6	Nuwara-Eliya	1720.5	38.4	43.6	50.3	58.0
7	Galle	1635.6	206.1	252.2	298.6	347.8
8	Matara	1282.5	85.7	100.4	115.4	131.5
9	Hambantota	2579.3	60.2	86.3	112.0	138.4
10	Jaffna	983.6	332.9	364.4	425.9	491.7
11	Kilinochchi	1235.0	9.6	14.5	24.1	33.9
12	Mannar	1985.2	19.9	23.5	31.5	40.1
13	Vavuniya	1966.9	26.0	30.4	40.0	50.2
14	Mullaitivu	2516.9	10.3	12.1	16.1	20.3
15	Batticaloa	2686.3	104.3	113.8	131.9	152.4
16	Amparai	4318.2	70.9	78.9	94.2	111.3
17	Trincomalee	2630.8	118.9	144.0	191.1	242.9
18	Kurunegara	4812.8	55.5	69.5	84.0	99.5
19	Puttalam	3013.4	81.1	103.0	125.3	149.3
20	Anuradhapura	7034.3	49.4	50.7	59.9	80.7
21	Polonnaruwa	3224.2	43.4	59.7	71.5	75.6
22	Badulla	2802.8	68.7	78.8	90.2	103.1
23	Moneragala	5545.6	9.9	11.1	12.6	14.6
24	Ratnapura	3255.4	77.1	84.5	94.0	106.6
25	Kegalle	1692.8	84.1	104.2	126.8	151.8
	Total	64453.6	4306.0	5210.0	6197.9	7241.6

Note*: Square kilometers excluding large inland water areas
SOurce: Study Team

Estimated Future Population by District (x 1000)

No.	District	Land Area*	1995	2000	2005	2010
1	Colombo	656.7	2069.4	2302.7	2558.8	2823.3
2	Gampaha	1597.6	1571.1	1682.0	1799.1	1915.6
3	Kalutara	1377.6	972.2	1063.3	1161.4	1261.1
4	Kandy	1906.3	1289.7	1319.9	1350.6	1373.5
5	Matale	1993.3	444.2	454.1	464.2	471.7
6	Nuwara-Eliya	1720.5	523.9	527.7	531.4	534.2
7	Galle	1635.6	991.3	1043.8	1099.7	1154.2
8	Matara	1282.5	814.0	866.9	923.8	979.9
9	Hambantota	2579.3	542.4	579.4	619.5	659.1
10	Jaffna	983.6	886.9	908.7	930.9	950.9
11	Kilinochchi	1235.0	113.2	116.0	118.8	121.4
12	Mannar	1985.2	142.1	158.4	176.6	194.4
13	Vavuniya	1966.9	120.0	131.0	142.9	154.3
14	Mullaitivu	2516.9	100.1	109.9	120.6	130.9
15	Batticaloa	2686.3	445.7	464.8	485.0	503.9
16	Amparai	4318.2	516.1	536.6	558.5	578.7
17	Trincomalee	2630.8	329.3	341.3	354.0	365.7
18	Kurunegara	4812.8	1490.0	1545.8	1604.7	1659.0
19	Puttalam	3013.4	632.8	661.4	691.9	720.3
20	Anuradhapura	7034.3	759.8	792.8	827.8	860.7
21	Polonnaruwa	3224.2	336.5	350.9	366.3	380.7
22	Badulla	2802.8	731.3	723.2	713.3	699.1
23	Moneragala	5545.6	373.3	363.6	352.0	335.4
24	Ratnapura	3255.4	979.6	1008.6	1038.5	1062.7
25	Kegalle	1692.8	765.2	777.2	789.6	799.4
	Total	64453.6	17940.0	18830.0	19780.0	20690.0

Note*: Square kilometers excluding large inland water areas
SOurce: Study Team

Appendix - E

PRELIMINARY INSPECTION RESULTS

LIST OF CONTENTS

E.1 LIST OF TYPES OF BRIDGES FOR PRELIMINARY BRIDGE INSPECTION (1/2)

SER No	ROUTE No	BRIDGE No	TRAFFIC VOLUME (vpd/Year)	YEAR OF CONST	TYPE OF BRIDGE	YEAR OF REPAIR	TYPE OF REPAIR	LENGTH EXST (m)	NOS. OF SPAN	EXIST WIDTH CARR. (m)	EXIST WIDTH OVRAL (m)	TYPE OF ABUTMENT: ABUTMENT	TYPE OF ABUTMENT: FOUNDATION	TYPE OF PIER: PIER	TYPE OF PIER: FOUNDATION	Invert of River	Remark
84	AA001	110/2K	16950 /95	1933	ARCH/S			68.30	3	5.50	7.30	Dressed Stone	Invisible	Dressed Stone	Invisible	-	
85	AA001	91/2K	7090 /95	1894	ARCH/BR			68.90	4	6.30	7.50	Dressed Stone	Spread	Dressed Stone	Spread	Rock	
1	AA002	99/1K	5880 /94		RCB			30.00	3	7.90	9.30	Concrete cassion Rigid Frame	Concrete Cassion	Concrete Cassion	Concrete Cassion	Sand	
27	AA002	87/1K	5360 /94	1898	ARCH/ST			35.20	3	6.80	7.60	Kubole Masonry	Spread	Kubble Masonry	Spread	Rock outcrops	
75	AA002	62/2K	8230 /94	1903	ST.TR/T/RCS		(Red)RCS	40.50	1	5.34	5.68	Dressed Stone	Invisible	None	None	Sandy Clay	
76	AA002	62/1K	8230 /94	1992	ST.TR/T/RCS		(Red)RCS	90.90	2	5.88	6.25	Dressed Stone	Invisible	Dressed Stone	Invisible	-	
166	AA002	199/3K	3170/94		PSC/POS			7.40	1	7.20	9.80	Concrete	Invisible	None	None	-	
87	AA002	256/1K	1480 /94		PSC/PRE			4.85	1	4.95	5.60	Wedge stone	Invisible	None	None	Sandy Clay	
212	AA002	138/1K	4120 /94	1975	PSC/PRE			62.48	3	10.40	11.90	RC wall	Invisible	RC wall	Invisible	-	
79	AA003	43/1K	12620 /94	1918	ST.TR/T/COR	1995	(Wdn)Footway, under cor	69.20	3	4.88	5.18	Wedge stone	Invisible	Dressed Stone	Invisible	-	
80	AA003	96/7K	2530 /94	1898	ST.TR/T/COR			104.03	4	3.94	4.24	Concrete	Invisible	Cassion (Steel cover)	Cassion	-	
43	AA004	206/9K	270 /93		ARCH/BR			30.40	3	4.25	4.70	Dressed Stone	Spread	Dressed Stone	Spread	Rock	
44	AA004	196/7K	210 /93		RSJ/BUC			31.15	3	4.50	4.50	Dressed Stone	Spread	Dressed Stone	Spread	Rock	
45	AA004	209/1K	270 /93		ARCH/CO			28.40	2	4.00	4.25	Dressed Stone	Invisible	Dressed Stone	Invisible	-	
89	AA004	163/9K	940 /93		RSJ/COR			4.80	1	4.22	4.22	Dressed Stone	Invisible	None	None	Boulder	
91	AA004	169/9K	940 /93		RC/BOX			13.80	3	6.70	7.30	Concrete	Invisible	Concrete	Invisible	Silty	
178	AA004	192/2K	295 /93		ST.TR/D/COR			43.60	4	4.60	4.60	Dressed Stone	Spread	Dressed Stone	Spread	Rock	
93	AA005	214/K	4700 /94	1926	ST.TR/T/BUC			95.30	2	4.85	9.01	Dressed Stone	Invisible	Dressed Stone	Concrete Cassion	Sandy Soil	
46	AA007	73/5K	1380 /94		ARCH/ST			11.70	1	5.20	5.80	Dressed Stone	Invisible	None	None	Rock outcrops	
47	AA007	70/5K	1380 /94	1918	ARCH/ST			14.57	1	5.30	6.30	Dressed Stone	Invisible	None	None	Rock outcrops	
99	AA009	5/1K	16240 /94	1900	ST.TR/D/COR	1939	(Wdn)Footway	124.80	6	6.70	10.30	Dressed Stone	Invisible	Dressed Stone	Invisible	-	
2	AA010	75/1K	1110 /94		RSJ/COR			122.60	12	5.19	5.55	Wedge Stone	Spread	Wedge Stone	Spread	Rock	
36	AA010	40/1K	3119 /94		RSJ/COR		(Red)RCS(A1~A11)	31.12	3	5.22	5.52	Wedge Stone	Spread	Wedge Stone	Spread	Rock	
102	AA010	252/K	3450 /94	1920	RSJ/COR	1979	(Wdn)Substructure	17.20	2	5.54	5.54	Dressed Stone	Spread	Dressed Stone	Spread	Rock outcrops	
65	AA011	26/0K	1360 /93	1967	RSJ/RCS			9.70	1	5.30	5.65	Dressed Stone	Invisible	None	None	Sandy Soil	
103	AA012	16/1K	670 /94	1970	RCS			6.64	1	5.50	6.64	Dressed Stone	Invisible	None	None	-	
52	AA017	2/2K	1250 /93		RSJ/COR			10.50	1	4.30	4.30	RC wall	Invisible	None	None	-	
77	AA019	3/2K	1992 /94	1869	ST.TR/T/COR RSJ/BUC			39.22 79.66	2 8	5.36 5.36	5.66 5.66	Wedge Stone	Invisible	Wedge Stone	Cassion/Spread	Sand-Rock	
53	AA021	36/0K	644 /94	1899	ST.TR/T/RCS		(Red)RCS	39.95	1	3.37	3.65	Dressed Stone	Invisible	None	None	Soil	
106	AA026	64/1K	1700 /94		RSJ/RCS			16.30	2	4.70	4.70	Dressed Stone	Spread	Dressed Stone	Spread	Rock	
108	AA033	5/3K	3247 /94		RSJ/BUC			5.70	1	3.70	3.70	Concrete	Invisible	None	None	Sandy Clay	
119	AB026	3/1K			ARCH/BR		(Wdn)RSJ/RCS	10.87	1	5.00	7.05	Dressed Stone	Spread			Rock	
175	AB027	1/2M	4750 /94		RSJ/COR			4.40	1	5.70	9.70	Concrete	Invisible	None	None	-	
128	AB029	12/2K	2059 /94		RSJ/RCS	1994	(Red)COR→RCS (Rep)Con.Cov(MB) (Wdn)	4.25	1	7.03	7.03	Wedge Stone	Invisible	None	None	Silty Clay	
30	B014	8/1K	1390 /91		RSJ/COR			20.70	2	5.50	5.60	Cassion	Cassion	RSJ	Piled	Pew	
122	B085	19/1K	560 /92	1992	ST.TR/T/RCS	Reuse	(Rep)Prot.Con. Foundatio	18.50	1	3.40	3.60	Concrete	Invisible	None	None	-	
123	B079	23/2M	1999 /94		RCB		(Resuper)RCB	12.02	2	3.67	4.25	Wedge Stone	Spread	Concrete	Spread	Rock	
55	B093	8/10K	670 /89		RSJ/BUC			20.90	2	4.50	4.50	Dressed Stone	Spread	Dressed Stone	Spread	Rock outcrops	
56	B093	7/9K	670 /89		RSJ/BUC			10.10	1	4.57	4.57	Dressed Stone	Spread	None	None	Rock outcrops	
127	B093	12/2K	670 /89		RSJ/COR			10.20	1	4.25	4.25	Dressed Stone	Invisible	None	None	-	
128	B097	15/8K	120 /93	1915	ST.TR/T/RCS			14.67	1	3.09	3.09	Dressed Stone	Spread	None	None	Rock	
66	B111	7/1K	6125 /94	1930	ST.TR/T/COR			36.80	2	5.50	5.50	Dressed Stone	Invisible	Concrete Cassion	Concrete Cassion	Sandy Clay	
31	B114	3/3M	480 /91		RSJ/RCS			12.38	2	3.03	3.45	Dressed Stone	Invisible	RSJ	Piled	-	
57	B116	2/2K	1126 /93		RSJ/BUC	1991	(Wdn)Footway	9.20	1	4.50	5.65	Concrete/Dressed Stone	Spread	None	None	Rock	
129	B127	2/7K	1054 /94	1909	ARCH/BR			4.60	1	4.85	5.25	Wedge Stone	Spread	None	None	Rock outcrops	
130	B127	7/1K	1054 /94	1917	ST.TR/T/COR			24.73	1	4.16	4.56	Wedge Stone	Spread	None	None	Rock outcrops	
131	B127	1/2K	1054 /94	1909	RSJ/COR		(Rep)Con.Cov(MB) outside beam only. (Rep)Pro.Con.founda.. (Rep)Abutment	4.73	1	4.27	4.27	Wedge Stone	Invisible	None	None	Rock	
209	B146	21/1K	2620 /94	1861	ARCH/BR		(Wdn)RSJ/COR	6.40	1	6.26	7.26	R.R Masonry	Invisible	None	None	-	
210	B146	6/3K	2620 /94		RSJ/RCS			23.70	3	3.54	4.20	Concrete	Invisible	Piles with Concrete beam	Piled	-	
211	B146	8/3K	2620 /94	1982	RSJ/RCS			23.60	3	3.55	3.83	Concrete	Spread	Piles with Concrete Beam	Piled	-	

Type of Superstructure

ARCH/BR	Brick Arch Bridge
ARCH/CO	Concrete Arch Bridge
ARCH/S	Steel Arch Bridge
ARCH/ST	Stone Arch Bridge
BAILEY	Bailey Bridge
CAUSEWAY	Causeway Bridge
PSC/PRE	Prestressed Pretensioned Concrete Beam
PSC/POS	Prestressed Posttensioned Concrete beam
RCB	Reinforced Concrete Beam Bridge
RCS	Reinforced Concrete Slab Bridge
RC/BOX	Reinforced Concrete Box Culvert
RSJ/BUC	Buckle Plate over Rolled Steel Joist
RSJ/COR	Corrugated Plate over Rolled Steel Joist
RSJ/DEC	Deck Plate over Rolled Steel Joist
RSJ/RCS	Reinforced Concrete Slab over Rolled Steel Joist
RSJ/T	Timber over Rolled Steel Joist
ST.TR/D	Steel Deck Truss
ST.TR/T	Steel Through Truss

Type of Repair

EXT	Extension of Bridge
RED	Re-decking
REP	Repair
RESUPER	Replacement of Superstructure
WDN	Widening of Bridge
MB	Main Beam

E . 1 LIST OF TYPES OF BRIDGES FOR PRELIMINARY BRIDGE INSPECTION (2/2)

SER. No	ROUTE No	BRIDGE No	TRAFFIC VOLUME (vpd)/Year	YEAR OF CONST.	TYPE OF BRIDGE	YEAR OF REPAIR	TYPE OF REPAIR	LENGTH EXIST (m)	NOS. OF SPAN	EXIST. WIDTH CARR. (m)	EXIST. WIDTH OVRAL (m)	TYPE OF ABUTMENT: ABUTMENT	TYPE OF ABUTMENT: FOUNDATION	TYPE OF PIER: PIER	TYPE OF PIER: FOUNDATION	Invert of River	Remark
33	B157	120K	750 /91	1945	ST.TR/T/RCS RSJ/RCS			51.09 17.85	1 2	3.30	3.66	Dressed Stone	Invisible	Concrete Caisson	Concrete Caisson	-	
58	B157	44/3K	750 /91	1930	RSJ/RCS		(Rep)Con.Cov(MB) Abn Steel Piers(P1-4)	10.35	1	3.68	3.96	RC wall	Invisible	Abandoned RSJ	Piled	Soil bed	
59	B157	43/4K	750 /91	1924	RSJ/BUC			51.00	5	3.20	3.56	RSJ embedded in concrete	Invisible	RSJ embedded in concrete	Piled	-	
67	B157	2/02K	556 /96	1960	RSJ/BUC		Abandoned Steel Piers	19.10	4	3.36	3.36	Wedge Stone	Invisible	Concrete Caisson	Concrete Caisson	Soil bed	
18	B158	16/7K	960 /91	1935	RSJ/RCS		(Rep)BUC=RCS	31.20	3	3.60	3.70	Dressed Stone	Invisible	Dressed Stone	Invisible	Rock outcrops	
68	B164	1/5K	670 /92		RSJ/BUC (4/0)		(Ext)PSC/PRE	46.9 30.6	4 5	4.55 4.90	4.55 6.14	R.C. Masonry Concrete	Spread	R.C. Masonry RC-Multiple Column	Spread	Rock	
208	B172	184K	300 /93		BAILEY			18.30	1	4.12	4.12	-	-	-	-	Clay	
69	B185	5/4K	875 /95		ST.TR/T/RCS		(Rep)COR=RCS	12.60	1	3.66	3.66	Caisson	Caisson	None	None	-	
133	B185	3/2M	875 /95		RSJ/BUC			9.00	1	3.60	3.60	Concrete curtain on Stone	Invisible	None	None	-	
79	B199	5/5K	1929 /96	1918	RSJ/BUC	1995	(Wdn)Footway	124.40	12	4.52	4.52	Wedge Stone	Invisible	Wedge Stone	Invisible	-	
191	B207	103K	1000 /96	1950	ST.TR/T/COR	1987	(Rep)COR, Cross Beam	32.38	1	4.28	4.28	Wedge Stone	Invisible	None	None	Sandy Clay	
71	B227	1/5M	320 /95	1956	PSC/PRE		(Remper)	16.20	1	4.50	5.98	Concrete Curtain	Invisible	None	None	-	
72	B248	9/4K	2210 /92		ST.TR/T/COR			12.10	1	4.30	4.30	Wedge Stone	Invisible	None	None	-	
135	B249	5/9K	320 /92		RSJ/BUC			9.30	1	4.60	4.60	Wedge Stone	Invisible	None	None	-	
20	B264	23/7K	1601 /96		RSJ/COR			14.35	2	3.97	4.29	Wedge Stone	Invisible	Dressed Stone	Invisible	Rock	
34	B266	7/1K	1601 /96		ST.TR/T/COR			27.23	2	4.33	4.33	Dressed Stone	Spread	Dressed Stone	Spread	Rock outcrops	
38	B265	8/1K	-		RSJ/T			17.02	3	3.19	3.49	Wedge Stone	Spread	RSJ	Spread	Rock outcrops	
136	B272	15/2K	1278 /89		RSJ/DEC			30.50	5	4.25	4.28	RSJ embedded in concrete	Invisible	RSJ embedded in concrete	Invisible	-	
195	B288	10/2K	8480 /98		RSJ/COR			5.50	1	6.06	6.06	Wedge Stone	Invisible	None	None	-	
197	B288	10/3K	8480 /98	1918	ST.TR/T/DEC			52.90	2	5.48	5.48	Dressed Stone	Invisible	Concrete Caisson	Concrete Caisson	Silty Clay	
201	B288	10/5K	8480 /98		ARCH/CO			7.20	2	6.00	8.06	Wedge Stone	Invisible	Wedge Stone	Invisible	Silty Clay	
70	B295	3/6K	8818 /98	1960	RSJ/RCS			43.23	5	5.46	5.93	RSJ embedded in concrete	Invisible	RSJ embedded in concrete	may be Caisson	Sandy	
60	B300	15/6K	610 /89	1933	CAUSEWAY			7.87	3	4.60	4.60	Concrete	Invisible	Concrete	Invisible	-	
138	B308	25/3K	2000 /91		RSJ/BUC			10.30	1	5.47	5.47	Wedge Stone	Invisible	None	None	Soil bed	
173	B308	17/1K	2000 /91	1946	RSJ/BUC			6.39	1	5.55	5.70	Wedge Stone	Invisible	None	None	Boulders	
202	B308	14/5K	2600 /91	1993	BAILEY			9.15	1	4.42	4.80	-	-	-	-	-	
139	B312	29/1K	310 /91	1950	CAUSEWAY	Sch 1995		67.90	20	3.50	4.01	Concrete	Spread	Concrete	Spread	Rock	
39	B349	30/2K	1410 /95	1927	RSJ/COR			23.10	3	3.87	3.87	Concrete Caisson	Concrete Caisson	Concrete Caisson	Concrete Caisson	Sand bed	
61	B379	7/6K	-		BAILEY			33.90	1	4.11	4.75	-	-	-	-	-	
144	B379	1/1K	-		RSJ/RCS			3.10	1	5.50	6.38	Concrete curtain on Stone	Invisible	None	None	-	
147	B419	6/2K	2260 /98		RSJ/BUC			9.54	1	4.35	4.68	Brick Masonry	Invisible	None	None	-	
149	B419	24/2K	2260 /98		RSJ/BUC			8.46	1	3.60	3.60	Brick Masonry	Invisible	None	None	-	
21	B421	8/1K	875 /94	1930	ST.TR/T/COR RSJ/BUC			26.22 10.50	1 1	4.22	4.22	Wedge Stone	Invisible	Wedge Stone	Invisible	-	
40	B421	66/2K	1452 /98	1930	RSJ/BUC			21.00	2	4.60	4.70	Wedge Stone	Invisible	Caisson	Caisson	Soil bed	
62	B423	29/3K	351 /94		CAUSEWAY			15.02	4	3.00	3.66	Concrete	Spread	Concrete	Spread	Rock	
63	B423	27/2K	351 /94		CAUSEWAY			7.00	3	3.30	3.30	Concrete	Spread	Concrete	Spread	Rock	
73	B423	44/3K	351 /94		RCS			7.60	2	4.00	4.00	Dressed Stone	Invisible	Dressed Stone	Invisible	Sand/Silt	
75	B425	20/4K	1300 /93		PSC/PRE,RCS			139.18	18	5.85	6.85	Pile Bent	Piled	Pile Bent	Piled	Sandy Soil	
22	B431	2/3K	460 /92	1978	BAILEY			162.30	5	4.17	4.17	Concrete	-	Bailey Truss	-	-	
17	B437	3/1K	-		RSJ/BUC			10.35	1	3.42	3.42	Brick Masonry	Invisible	None	None	-	
32	B437	2/1K	-		RSJ/COR			10.20	1	3.70	3.70	Brick Masonry	Invisible	None	None	-	
150	B444	4/5K	1231 /95		RSJ/COR			7.90	1	4.00	4.33	Wedge Stone	Invisible	None	None	Boulders	
151	B445	14/2K	3912 /98		RSJ/BUC			10.10	1	4.66	4.66	Wedge Stone	Invisible	None	None	Soil	
156	B445	14/3K	3912 /98		RSJ/BUC			10.35	1	4.60	4.60	Wedge Stone	Invisible	None	None	Clay	
24	B454	19/2K	370 /91	1937	RSJ/T			13.60	2	2.75	3.06	Wedge Stone	Invisible	RSJ	Piled	Soil	
25	B454	6/6K	370 /91		RSJ/RCS		(Rep)Con.Cov(MB)	24.20	4	3.28	3.28	Wedge Stone	Invisible	RSJ embedded in concrete	Invisible	Sand Soil	
35	B454	7/1K	370 /91	1945	RSJ/RCS		(Rep)Con.Cov(MB)	22.30	5	3.30	3.30	Dressed Stone	Invisible	RSJ embedded in concrete	Invisible	Sandy Soil	
41	B454	15/3K	370 /91	1924	RCS			10.30	2	3.63	3.63	Wedge Stone	Invisible	Wedge Stone	Invisible	Sandy Soil	
26	B462	31/1K	820 /93		ST.TR/T/COR			19.00	1	4.00	4.26	Dressed Stone	Invisible	None	None	-	
42	B462	5/1K	1140 /90	1960	ST.TR/T/COR			39.20	3	4.29	4.29	Dressed Stone	Invisible	Dressed Stone	Invisible	-	
74	B466	6/3K	580 /91	1940	RSJ/BUC			10.30	1	5.60	5.60	Dressed Stone	Invisible	None	None	Sandy Clay	

Type of Superstructure

ARCH/BR	Brick Arch Bridge
ARCH/CO	Concrete Arch Bridge
ARCH/S	Steel Arch Bridge
ARCH/ST	Stone Arch Bridge
BAILEY	Bailey Bridge
CAUSEWAY	Causeway Bridge
PSC/PRE	Prestressed Pretensioned Concrete Beam
PSC/POS	Prestressed Posttensioned Concrete beam
RCB	Reinforced Concrete Beam Bridge
RCS	Reinforced Concrete Slab Bridge
RC/BOX	Reinforced Concrete Box Culvert
RSJ/BUC	Buckle Plate over Rolled Steel Joist
RSJ/COR	Corrugated Plate over Rolled Steel Joist
RSJ/DEC	Deck Plate over Rolled Steel Joist
RSJ/RCS	Reinforced Concrete Slab over Rolled Steel Joist
RSJ/T	Timber over Rolled Steel Joist
ST.TR/D	Steel Deck Truss
ST.TR/T	Steel Through Truss

Type of Repair

EXT	Extension of Bridge
RED	Re-decking
REP	Repair
RESUPER	Replacement of Superstructure
WDN	Widening of Bridge
MB	Main Beam

E.2 LIST OF LOCATION OF BRIDGES FOR PRELIMINARY BRIDGE INSPECTION (1/2)

SER No	ROUTE No	BRIDGE No.	Name of Road	CE/Regional District	Name of Bridge	Name of Stream	Remark
84	AA001	110/2K	Colombo - Kandy	Kandy	Peradeniya Bridge	Mahaweli Ganga	
85	AA001	91/2K	Colombo - Kandy	Kegalle	Mawanela Bridge	Ma Oya	
1	AA002	98/1K	Colombo - Galle - Hambantota - Wellewaya	Galle	Hukkaduwa Bridge	Molapu Oya	
27	AA002	87/1K	Colombo - Galle - Hambantota - Wellewaya	Galle	Modara Bridge	Madampagama Ganga	
75	AA002	62/2K	Colombo - Galle - Hambantota - Wellewaya	Galle	Bentota Bridge 2	Bentota River	
76	AA002	62/1K	Colombo - Galle - Hambantota - Wellewaya	Galle	Bentota Bridge 1	Bentota River	
86	AA002	199/3K	Colombo - Galle - Hambantota - Wellewaya	Hambantota	-	-	
87	AA002	256/1K	Colombo - Galle - Hambantota - Wellewaya	Hambantota	Alubokuwa Bridge	Kunu Ela	
212	AA002	138/1K	Colombo - Galle - Hambantota - Wellewaya	Galle	Goviyapana Bridge (Ahungama)	Goviyapana Ela	
79	AA003	43/1K	Pelivadgoda - Puttalam	Chilaw	Nainamadama Bridge	Maha Oya	
80	AA003	96/7K	Pelivadgoda - Puttalam	Chilaw	-	Battu Oya	
43	AA004	206/9K	Colombo - Ratnapura - Wellawaya - Batticaloa	Bandarawela	Divaluma Bridge	Kuda Oya	
44	AA004	196/7K	Colombo - Ratnapura - Wellawaya - Batticaloa	Bandarawela	Le Mastota Bonda Bridge	Le Mastota Bonda Ela	
45	AA004	209/1K	Colombo - Ratnapura - Wellawaya - Batticaloa	Bandarawela	Kuda Oya Bridge	Kuda Oya	
89	AA004	163/9K	Colombo - Ratnapura - Wellawaya - Batticaloa	Ratnapura	Meda Bridge	Ran Agge Ara Ela	
91	AA004	169/9K	Colombo - Ratnapura - Wellawaya - Batticaloa	Bandarawela	Silipe Bridge	-	
178	AA004	192/2K	Colombo - Ratnapura - Wellawaya - Batticaloa	Bandarawela	Nikapotha Bridge	Nikapotha Ela	
93	AA005	21/4K	Peradeniya - Baddulla - Chenkaladi	Kandy	Gampola Bridge	Mahaweli Ganga	
46	AA007	73/5K	Avissawalla - Hatton - Nuwara Eliya	Nuwara Eliya	Kuda Oya Bridge	Kuda Oya	
47	AA007	70/8K	Avissawalla - Hatton - Nuwara Eliya	Nuwara Eliya	Shannon Bridge	-	
99	AA009	5/1K	Kandy - Jaffna	Kandy	Katugasutota Bridge	Mahaweli Ganga	
2	AA010	75/1K	Katugastota - Kurunegala - Puttalam	Kurunegala	Daduru Oya Briddge	Daduru Oya	
36	AA010	48/1K	Katugastota - Kurunegala - Puttalam	Kurunegala	Maspotha Bridge	Maguru Oya	
102	AA010	25/2K	Katugastota - Kurunegala - Puttalam	Kurunegala	Kospothu Bridge	Kospothu Ova	
65	AA011	24/3K	Manadankadawela - Habarana - Tirikkondiadi	Anuradhapura	Yan Ova Bridge	Yan Oya	
103	AA012	16/1K	Puttalam - Trincomalee	Chilaw	-	Tabbowa Wewa	
52	AA017	2/2K	Galle - Denivava - Madampe	Galle	Rambagala Bridge	Rambagala Ela	
77	AA019	3/2K	Polgahawela - Kegalle	Kurunegala	Karandara Bridge	Maha Oya	
53	AA021	36/3K	Kegalle - Bulathkohupitiya - Karawanella	Kegalle	Rittigaha Oya Bridge	Rittigaha Oya	
106	AA026	69/1K	Kandy - Mahiyangana - Padiyatalawa	Kandy	Hasalaka Bridge	Nikaliyadi Oya	
108	AA033	5/3K	Ja Ela - Ekala - Gampaha - Yakkala	Gampaha	-	Usseyadana Ela	
119	AB026	3/1K	Matale - Uduphilla	Matale	Kumbiyangoda Bridge	Kumbiyangoda Ela	
175	AB027	1/2M	Old Galle Road Panadura	Kalutara	Susantha Mawatha Bridge	Garbage	
120	AB029	12/2K	Pasyala - Ginijulla	Gampaha	-	Tanigodiou Channel	
30	B014	8/1K	Ambalangoda - Elpitiya - Pitigala	Galle	-	Aluwarha Ova	
122	B045	19/1K	Bangadeniya - Andigama - Anamaduwa	Chilaw	-	Battulu Oya	
123	B079	23/2M	Chilaw - Wariyapola	Kurunegala	Thoragala Bridge	Kalamunu Ova	
55	B093	8/10K	Dehiowita - Deraniyagola - Noori	Kegalle	Rukanal Ova Bridge	Rukanal Ova	
56	B093	3/7K	Dehiowita - Deraniyagola - Noori	Kegalle	Maha Ova Bridge	Maha Ova Ela	
127	B093	12/2K	Dehiowita - Deraniyagola - Noori	Kegalle	Pahala Deraniyagala Bridge	-	
128	B097	15/4K	Demodara - Spring Valley - Badulla	Badulla	Spring Valley Bridge	Spring Valley	
66	B111	7/1K	Ekala - Kotadeniyawa	Gampaha	Kotugoda Bridge	Attanagalu Oya	
31	B114	3/3M	Elpitiya - Opatha - Avittawa	Galle	Goluwamulla Moda Bridge	Galleoka Ela	
57	B116	2/2K	Embilmeegama - Daulagala - Penideniya	Kandy	Damunuwa Bridge	Pamunuwa Ela	
129	B127	2/7K	Galigamuwa - Ruwanwella	Chilaw	Balapttawa Bridge	Balapttawa Ela	
130	B127	7/1K	Galigamuwa - Ruwanwella	Kegalle	-	Gurugoda Ova	
131	B127	1/2K	Galigamuwa - Ruwanwella	Kegalle	-	Bissowela Ela	
209	B146	21/1K	Hanwella Pugoda - Weka - Urapola	Gampaha	Divamanda Bridge	Divamanda Ela	
210	B146	6/3K	Hanwella Pugoda - Weka - Urapola	Gampaha	Kapugoda Bridge	Delkanda Ova	
211	B146	8/3K	Hanwella Pugoda - Weka - Urapola	Gampaha	Nikawala Bridge	Nikawala Ela	

E.2 LIST OF LOCATION OF BRIDGES FOR PRELIMINARY BRIDGE INSPECTION (2/2)

SER No	ROUTE No	BRIDGE No	Name of Road	CE/Regional Distrct	Name of Bridge	Name of Stream	Remark
33	B157	12/3K	Horana - Anguruwatota - Aluthgama	Kalutara	Anguruwatota Bridge	Kalu Ganga	
58	B157	44/3K	Horana - Anguruwatota - Aluthgama	Kalutara	Kaduruwatthe Bridge	Kaduruwatthe Ela	
59	B157	43/4K	Horana - Anguruwatota - Aluthgama	Kalutara	Muhunumalwatta Bridge	Muhunumallwatta Ela	
67	B157	23/2K	Horana - Anguruwatota - Aluthgama	Kalutara	Neboda Bridge	-	
18	B158	16/7K	Horawela - Pelewatta - Pitigala	Kalutara	Pelowatta Bridge	Pelowatta Ova	
68	B164	1/5K	Jaffna junction - Sri Maha Bodhi	Anuradhapura	Jaffna Junction Bridge	Malwathu Ova	
208	B172	10/4K	Kadugannawa - Gampola	Kandy	Manikkawa Bridge	Manikkawa Ela	
69	B188	5/4K	Kaluggala - Labugama	Colombo	Gal Wala Kade Bridge	Heen Ela	
133	B188	5/2M	Kaluggala - Labugama	Colombo	Digan Wela Bridge	Digan Wela Ela	
78	B190	5/5K	Larandupone - Rambukkana	Kegalle	Hinfiadunna	Maha Ova	
19	B207	10/3K	Katukurunda - Neboda	Kalutara	-	Kalu Ganga(Beruvangala)	
71	B227	1/5M	Keenankalli - Andigama	Chilaw	-	Keenvankalli Ova	
72	B248	9/4K	Labuduwa - Wanduramba - Sandarawela	Galle	Ganegoda Bridge	Anthathola Ela	
135	B249	5/9K	Lady Maccalum Drive	Nuwara Eliya	Love Sleep Bridge	Love Sleep Ganga	
20	B264	25/7K	Mallawapitiya - Rambodagalla - Kegalle	Kurunegala	Ogodapola Bridge	Ogodapola Ela	
34	B264	7/1K	Mallawapitiya - Rambodagalla - Kegalle	Kurunegala	Barandann Bridge	Kospothu Ova	
38	B265	8/1K	Malwala - Carney	Ratnapura	Eluwanmale Bridge	Eluwamalle Ela	
136	B272	15/2K	Marawila Udubeddewa	Kurunegala	-	Megahapalatha Ova	
195	B288	10/2K	Minuwangoda - Gampaha - Minuwatta	Gampaha	-	Attanagalla Ova	
197	B288	10/3K	Minuwangoda - Gampaha - Minuwatta	Gampaha	Idallaurada Bridge	Attanagalu Ova	
201	B288	10/5K	Minuwangoda - Gampaha - Minuwatta	Gampaha	-	Ketawala Amuna Channel	
70	B295	3/6K	Moratuwa - Piliyandala	Colombo	Molpe Bridge	Polgoda Lake	
60	B300	15/6K	Muttetugala - Hirapitiya	Kurunegala	Katukenda Causewav	Katukenda Ela	
138	B304	25/3K	Nagoda - Kalawellawa - Bellapitiya	Kalutara	-	Thelpa Ela	
173	B304	17/1K	Nagoda - Kalawellawa - Bellapitiya	Kalutara	-	Menikgodalla Ela	
202	B304	14/5K	Nagoda - Kalawellawa - Bellapitiya	Kalutara	-	Ambalama Ela	
139	B312	25/1K	Naula - Elahera - Kalugamga	Polonnaruwa	Ambanganga Causewav	Amban Ganga	
39	B349	30/2K	Palavi - Kalpitiya	Chilaw	Karukattive Bridge	Puttalam Lagoon	
61	B379	7/6K	Puttalam - Manchchikade	Chilaw	-	-	
144	B379	1/1K	Puttalam - Manchchikade	Chilaw	-	Canal	
147	B419	6/2K	Thoppu - Madampe	Chilaw	-	Haldandu Ela	
148	B419	24/2K	Thoppu - Madampe	Chilaw	Sudubokkuwa Bridge	Olanda Ela	
21	B421	8/1K	Tiruwanaketiya - Agalawatta	Ratnapura	Deela Bridge	Way Ganga	
46	B421	66/2K	Tiruwanaketiya - Agalawatta	Kalutara	-	Kithulkahalntaththa Ela	
62	B423	29/3K	Tonigala - Kalawewa - Galewela	Anuradhapura	Pelhandiyawa Causewav	Haven Ella Ova or Maha Ova	
63	B423	27/2K	Tonigala - Kalawewa - Galewela	Anuradhapura	Kalugala Ova Causewav	Kalugala Ova	
73	B423	44/3K	Tonigala - Kalawewa - Galewela	Anuradhapura	Kalugala Ova Bridge	Kalugala Ova	
7	B425	20/4K	Tudella - Pamunugama - Talahena - Negombo	Gampaha	Mankulva Bridge	Negombo Lagoon	
22	B431	2/3K	Ulapana - Pussellawa	Kandy	Ulapane Bailey Bridge	Mahaweli Ganga	
17	B437	3/1K	Gin Ova - Bolawatta - Dankotuwa	Chilaw	-	Gin Ova	
32	B437	2/1K	Gin Ova - Bolawatta - Dankotuwa	Chilaw	-	Gin Ova	
150	B445	4/5K	Vevanyoda - Kaleliya	Gampaha	-	Madigira Ela	
151	B445	14/2K	Vevanyoda - Ruwanwella	Gampaha	-	Ingation Channal	
154	B445	14/3K	Vevanyoda - Ruwanwella	Gampaha	-	Ingation Channal	
24	B454	19/2K	Wanduramba - Etumale - Yakkatuwa	Galle	Digana Bridge	Digana Ela	
25	B454	6/6K	Wanduramba - Etumale - Yakkatuwa	Galle	Rukmalagoda Bridge	Mamanadela Ela	
35	B454	3/1K	Wanduramba - Etumale - Yakkatuwa	Galle	Urala Bridge	Mamanadela Ova	
41	B454	15/3K	Wanduramba - Etumale - Yakkatuwa	Galle	-	Halwatte Ela	
26	B462	10/1K	Wattegama - Matale	Matale	Sudu Ganga Bridge	Sudu Ganga	
42	B464	5/1K	Weerawila - Tissa - Kataragama	Hambantota	Kirindi Ova Steel Bridge	Kirindi Ova	
74	B466	6/5K	Welegama - Tellijawela	Matara	Davawinikumbura Bridge	Javawickramapura Pradana Ela	

Appendix - F

DATA OF TOPOGRAPHIC SURVEY

LIST OF CONTENTS

REFERENCES TO MSL DATUM

Bridge Serial No.		Old BM Reference, Elevation and approx. distance to Site
65	-	SD BM No.45 of Primary Level Line No.XVI - Elv. 216.851m Distance 150m
77	-	SD BM Nos.6 & 7 of Primary Level Line No.XCV - Elvs. 68.899m & 69.038m respectively within the site area.
53	-	Not on MSL Datum.
33	-	SD BM No.19 of Secondary Level line No.CXXXIII - Elv. 3.338m. Distance 1.6 Km.
59	-	BM No.44 established for the proposed Bandaragama - Matara Highway Project. Elv.1.118m. (Within site area).
20	-	Not on MSL Datum.
70	-	SD BM No.4 of Minor Level line No.9/1966 Elv .5.322m. Distance 2.5 Km.
7	-	Negombo Town Survey BM (SD) near New Rest House. Elv. 2.104m .Distance 2 Km.
211	-	SD BM No.10 of Secondary Level Line No.CXXVI Elv. 24.873m. Distance 4 Km.
212	-	SD BM No.3 (Secondary Traverse No.1/94 Stn.13) Elv. 2.585m. Distance 4 Km.

MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 85 BRIDGE NO: 91/2 km

ROUTE NO: AA 001

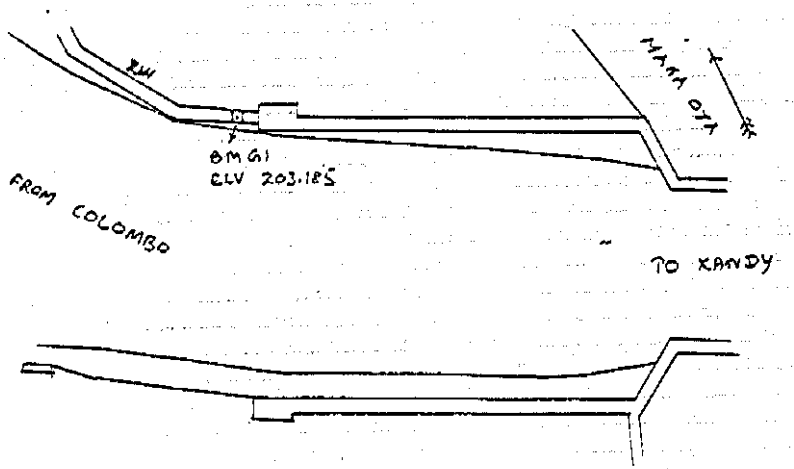
NAME OF ROAD: Colombo to Kandy

BENCH MARK DESCRIPTION: Brass Bolt set in cement on Bridge Retaining Wall.

BENCH MARK NO: 01 ELEVATION: 203.185 m

REMARKS: Datum M.S.L.

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 85 BRIDGE NO: 91/2 km

ROUTE NO: AA 001

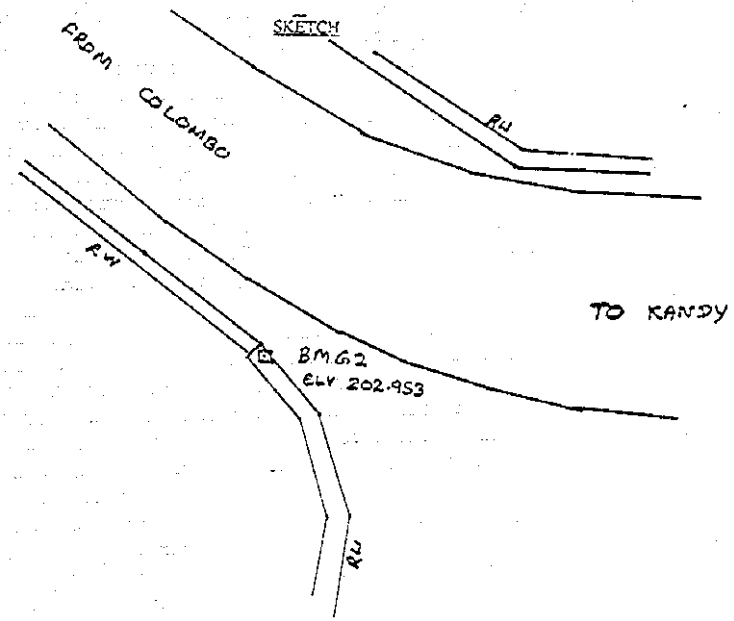
NAME OF ROAD: Colombo to Kandy

BENCH MARK DESCRIPTION: Brass Bolt set in cement on bridge Retaining Wall.

BENCH MARK NO: 02 ELEVATION: 202.953 m

REMARKS: Datum M.S.L.

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 77 BRIDGE NO: 3/2 km

ROUTE NO: A 019

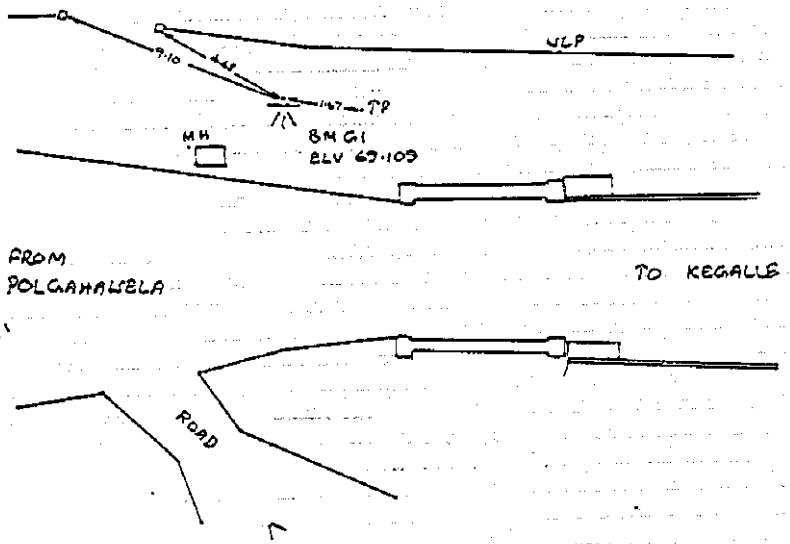
NAME OF ROAD: Polgahawela to Kegalle

BENCH MARK DESCRIPTION: Re-bar with a rounded top set in concrete.

BENCH MARK NO: G1 ELEVATION: 69.109 m

REMARKS: Datum M.S.L.

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 77 BRIDGE NO: 3/2 km

ROUTE NO: A 019

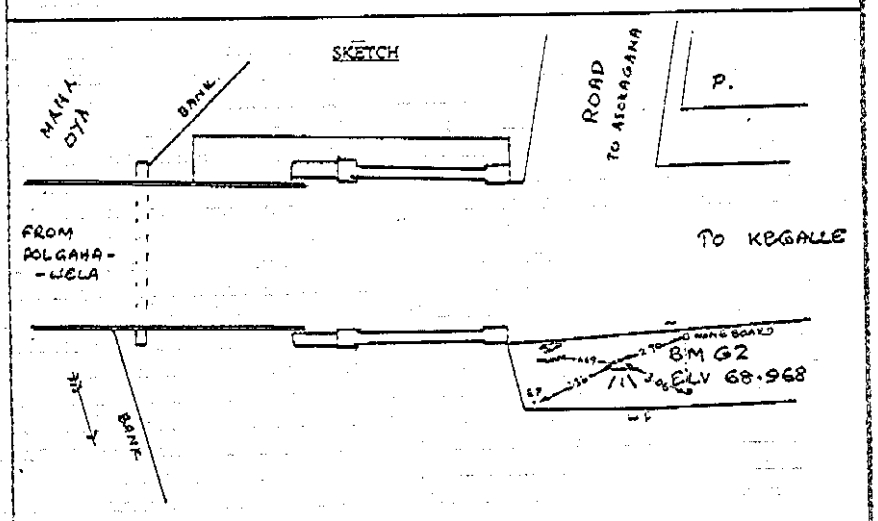
NAME OF ROAD: Polgahawela to Kegalle

BENCH MARK DESCRIPTION: Re-bar with a rounded top set in concrete.

BENCH MARK NO: G 2 ELEVATION: 68.968 m

REMARKS: Datum M.S.L.

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 53 BRIDGE NO: 36./3 km

ROUTE NO: AA 021

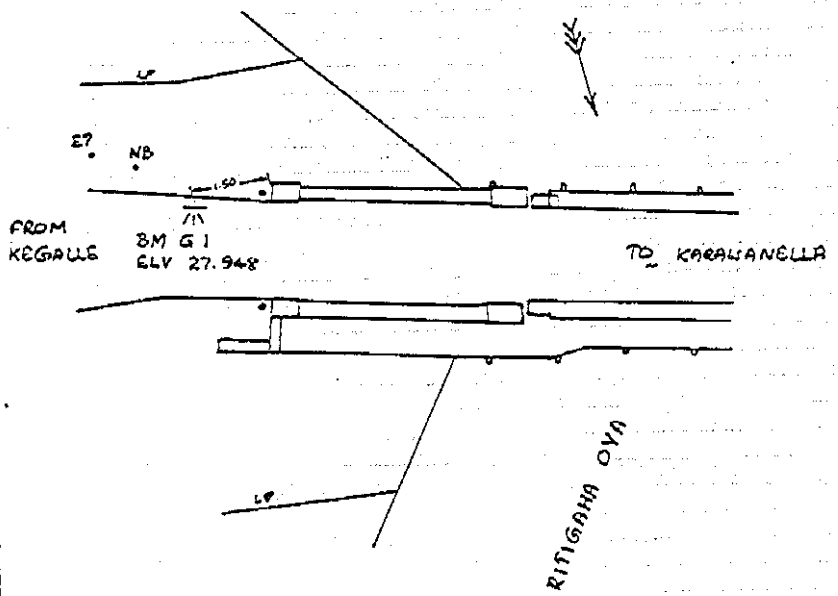
NAME OF ROAD: Kegalle to Karawanella via Bulathkonupitiya.

BENCH MARK DESCRIPTION: Brass bolt set in cement on bridge retaining wall.

BENCH MARK NO: 01 ELEVATION: 27.948 m

REMARKS: Assumed Datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 53 - BRIDGE NO: 36/3 km

ROUTE NO: AA 021

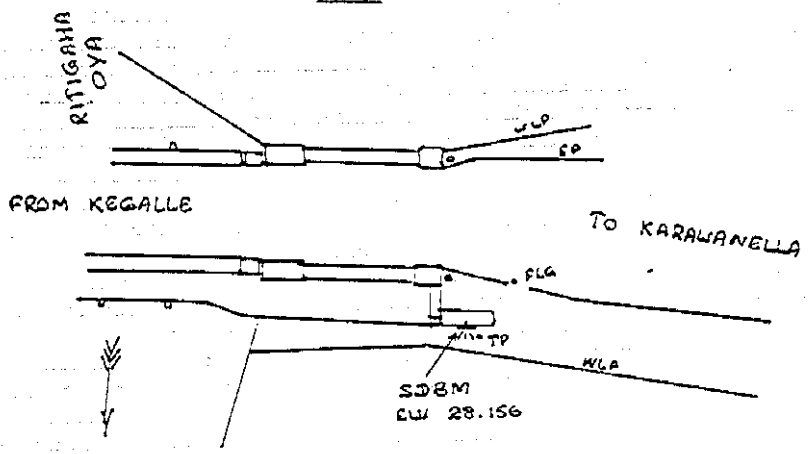
NAME OF ROAD: Kegalle to Karawanella via Bulathkohipitiya

BENCH MARK DESCRIPTION: Survey Dept. BM. Brass bolt set in cement on bridge retaining wall.

BENCH MARK NO: -- ELEVATION: 28.156 m

REMARKS: On an assumed Datum.

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 33 BRIDGE NO: 12/3 km

ROUTE NO: B 157

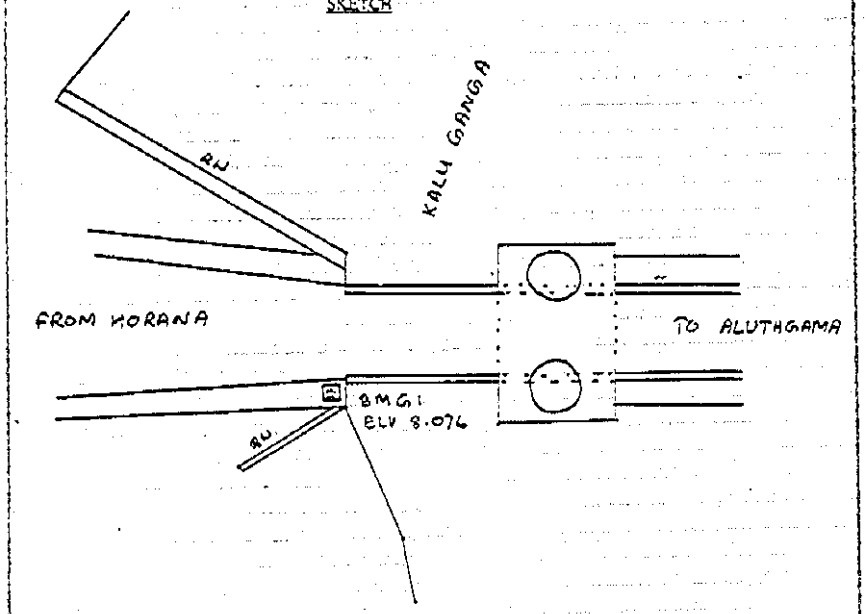
NAME OF ROAD: Horana to Aluthgama via Anguruwatota.

BENCH MARK DESCRIPTION: Brass bolt set in cement on bridge retaining wall.

BENCH MARK NO: 01 ELEVATION: 8.076 m

REMARKS: On M.S.L. Datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 33 BRIDGE NO: 12/3 km

ROUTE NO: B 157

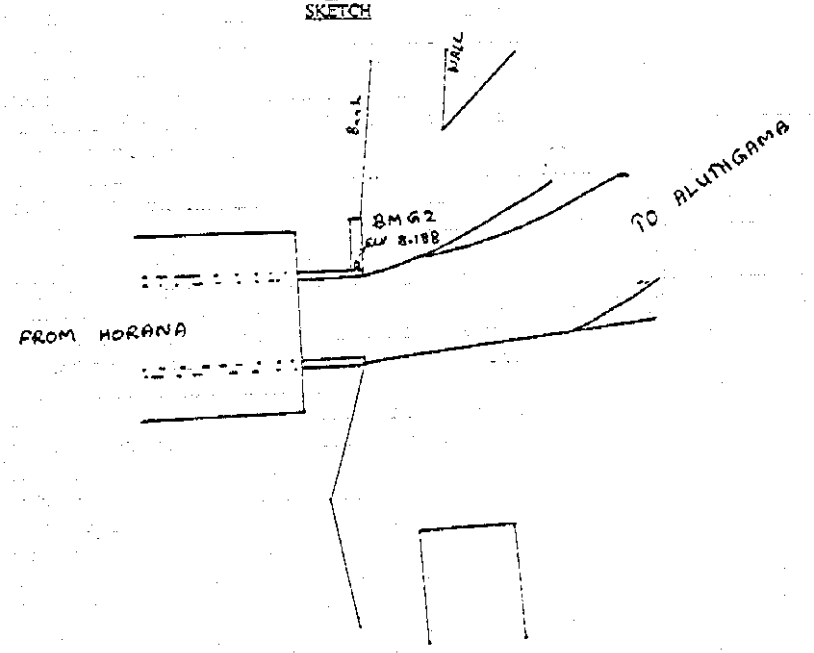
NAME OF ROAD: Horana to Aluthgama via Anguruwatota.

BENCH MARK DESCRIPTION: Brass bolt set in cement on bridge retaining wall.

BENCH MARK NO: 02 ELEVATION: 8.188 m

REMARKS: On M.S.L. Datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 59 BRIDGE NO: 43/4 km

ROUTE NO: B 157

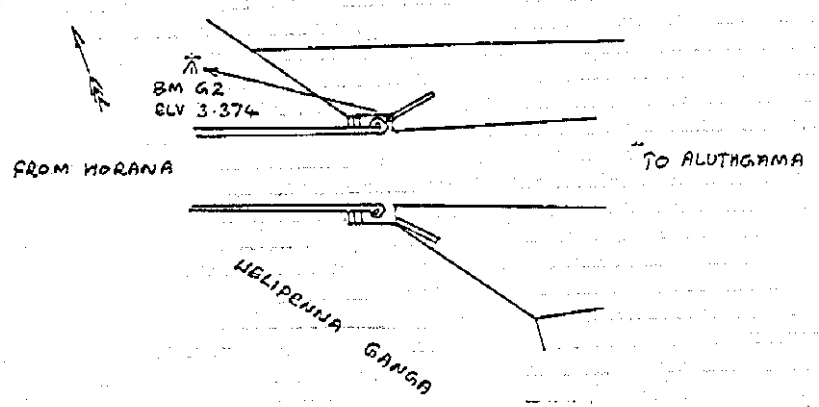
NAME OF ROAD: Horana to Aluthgama via Anguruwatota

BENCH MARK DESCRIPTION: Brass bolt set in cement on bridge retaining wall.

BENCH MARK NO: 02 ELEVATION: 3·374 m

REMARKS: On M.S.L. datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 59 BRIDGE NO: 43/4 km

ROUTE NO: B 157

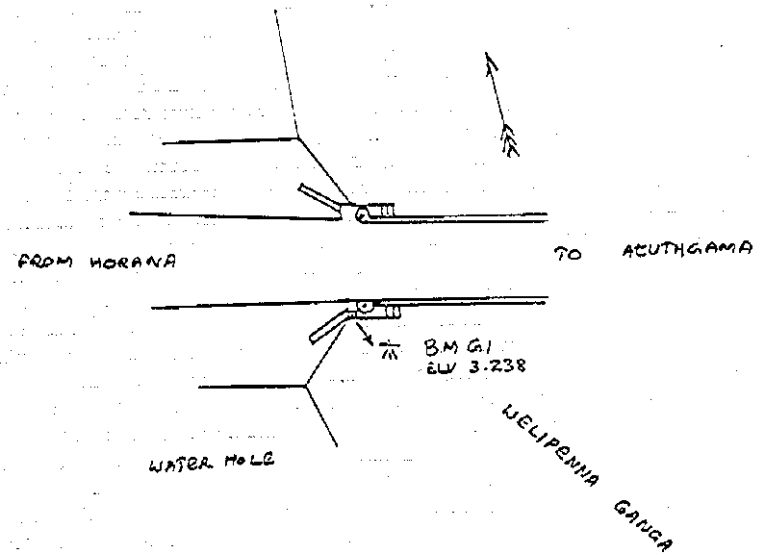
NAME OF ROAD: Horana to Aluthgama via Anguruwatota.

BENCH MARK DESCRIPTION: Brass bolt set in cement on bridge retaining wall.

BENCH MARK NO: 01 ELEVATION: 3·238 m

REMARKS: On M.S.L. datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 20 BRIDGE NO: 25/7 km

ROUTE NO: 3-254

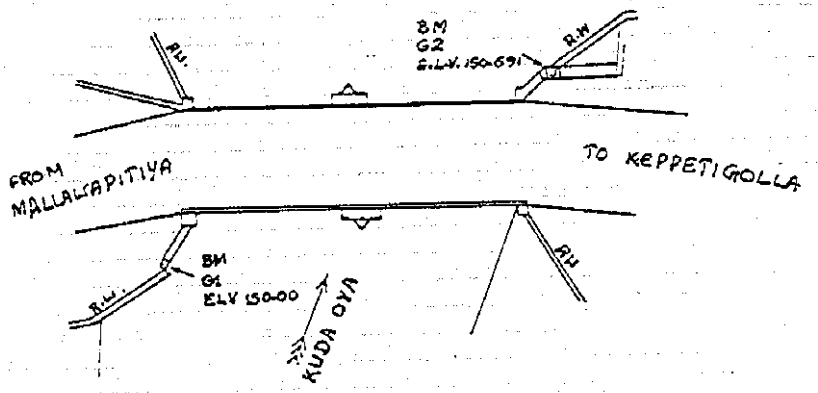
NAME OF ROAD: Malwalapitiya to Keppettigolla

BENCH MARK DESCRIPTION: Brass bolt set in cement on bridge retaining wall

BENCH MARK NO: G1 ELEVATION: 150.000 m
G2 150.691

REMARKS: Datum assumed.

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 70 BRIDGE NO: 3/6 km

ROUTE NO: B 295

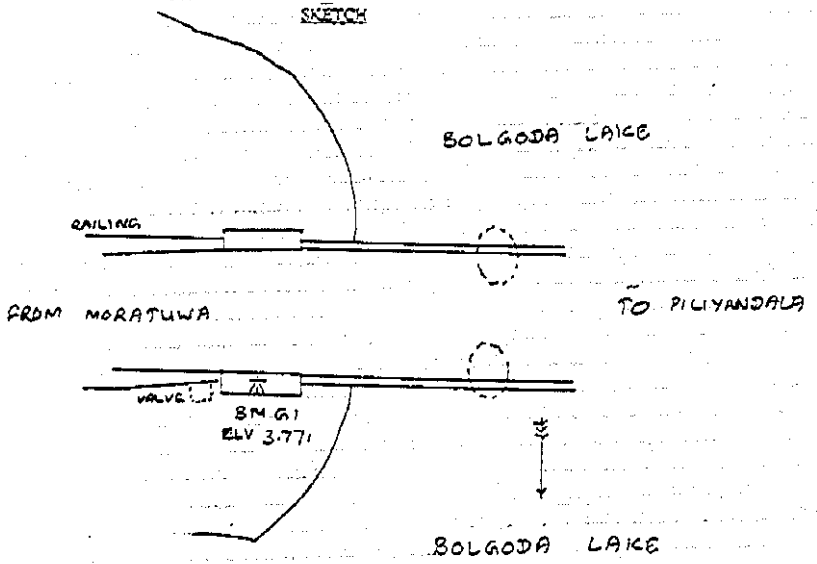
NAME OF ROAD: Moratuwa to Piliyandala.

BENCH MARK DESCRIPTION: Brass bolt set in cement on brioge retaining wall.

BENCH MARK NO: G1 ELEVATION: 3·771 m

REMARKS: On M.S.L. Datum.

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 70 BRIDGE NO: 3/6 km

ROUTE NO: B 295

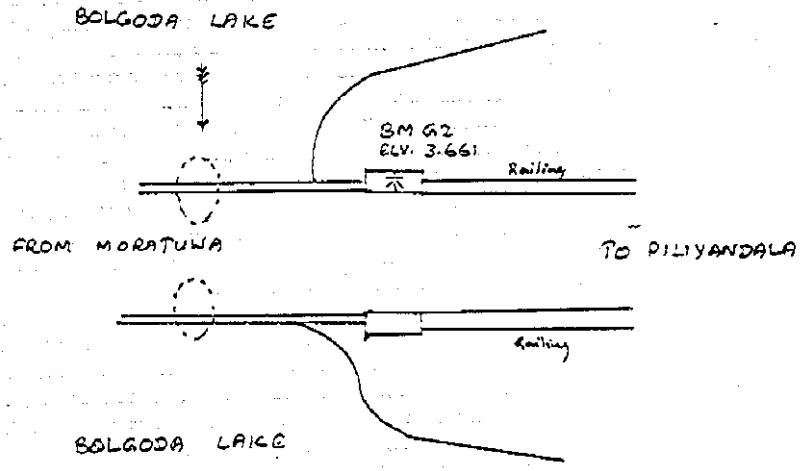
NAME OF ROAD: Moratuwa to Piliyandala.

BENCH MARK DESCRIPTION: Brass bolt set in cement on bridge retaining wall

BENCH MARK NO: G2 ELEVATION: 3·661 m

REMARKS: In MSL datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 7 BRIDGE NO: 20/4 km

ROUTE NO: B 425

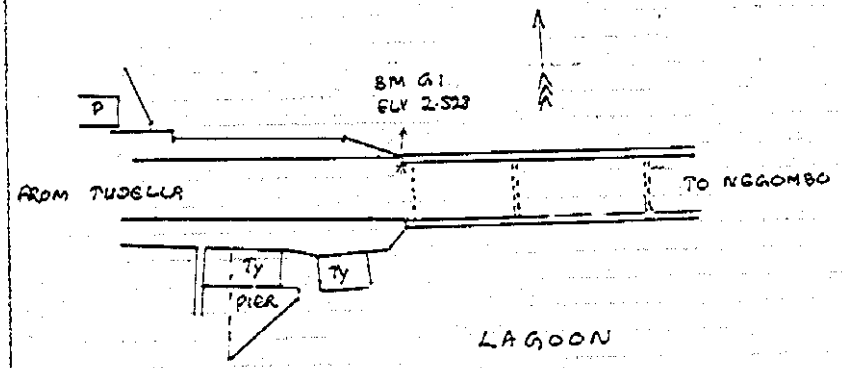
NAME OF ROAD: Tudella to Negombo.

BENCH MARK DESCRIPTION: Brass boly set in cement on bridge retaining wall.

BENCH MARK NO: G1 ELEVATION: 2·528 m

REMARKS: On M.S.L. datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 7 BRIDGE NO: 20/4 km

ROUTE NO: B 425

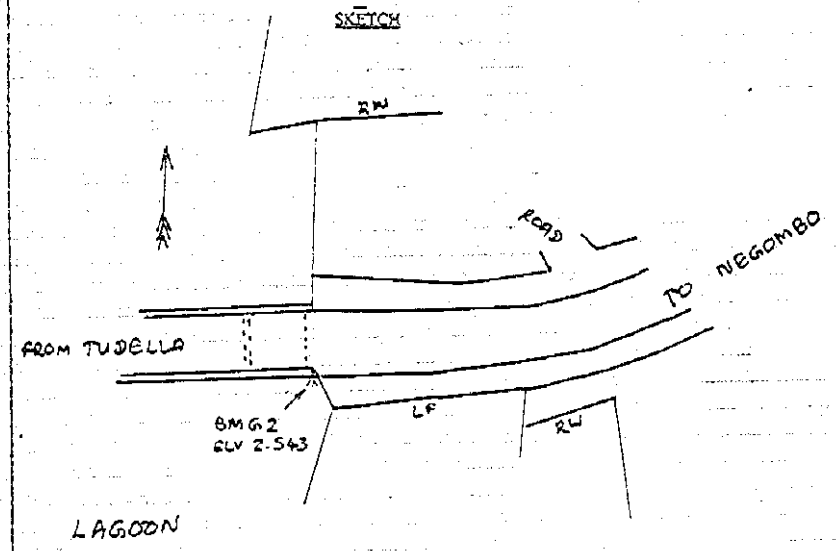
NAME OF ROAD: Tudella to Negombo

BENCH MARK DESCRIPTION: Brass bolt set in ce ent on bridge retaining wall.

BENCH MARK NO: G 2 ELEVATION: 2·543 m

REMARKS: n M.S.L. datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 211 BRIDGE NO: 8/3 km

ROUTE NO: B 145

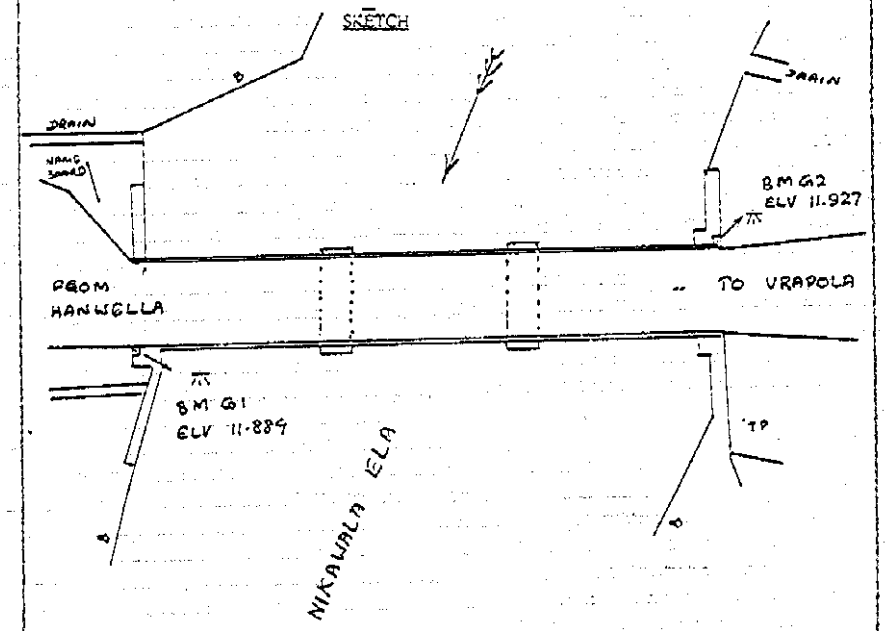
NAME OF ROAD: Hanwella to Urapola.

BENCH MARK DESCRIPTION: Brass bolt set in cement on bridge retaining wall.

BENCH MARK NO:	ELEVATION:	
G1	11·889	m
G2	11·927	

REMARKS: On V.S.L. Datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 212 BRIDGE NO: 138/1 km

ROUTE NO: AA 002

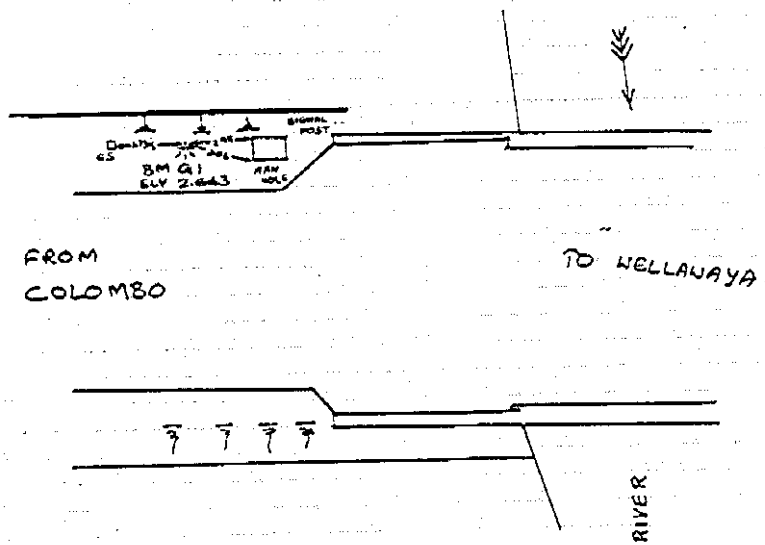
NAME OF ROAD: Colombo to Wellawaya

BENCH MARK DESCRIPTION: Rebar with a rounded top set in concrete.

BENCH MARK NO: 01 ELEVATION: 2·643 m

REMARKS: On M.S.L. Datum

SKETCH



MASTER PLAN STUDY ON BRIDGE DEVELOPMENT
IN SRI LANKA BY J.B.S.I.INC., TOKYO,JAPAN.

BENCH MARK LOCATION SKETCH

BRIDGE SER. NO: 212 BRIDGE NO: 138/1 km

ROUTE NO: AA 002

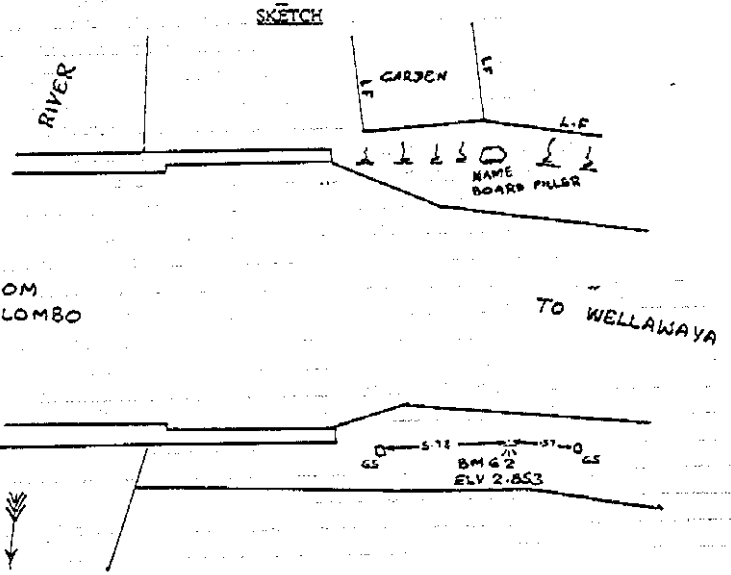
NAME OF ROAD: Colombo toWellawaya.

BENCH MARK DESCRIPTION: Rebar witha rounded top set in concrete.

BENCH MARK NO: 02 ELEVATION: 2.853 m

REMARKS: On M.S.L. Datum

SKETCH



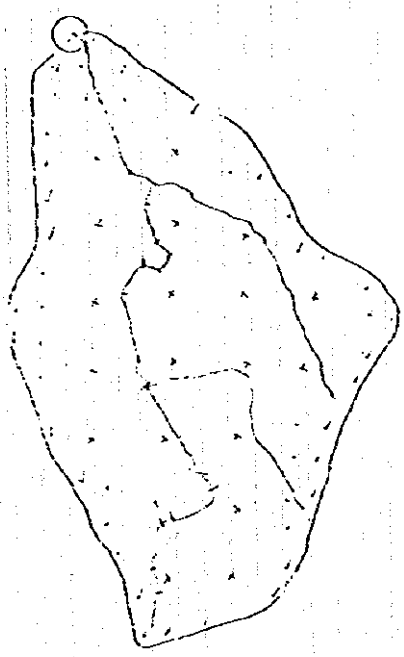
Appendix - G

DATA OF HYDROLOGICAL ANALYSIS

LIST OF CONTENTS

SER NO. 85

Scale = 1:250,000



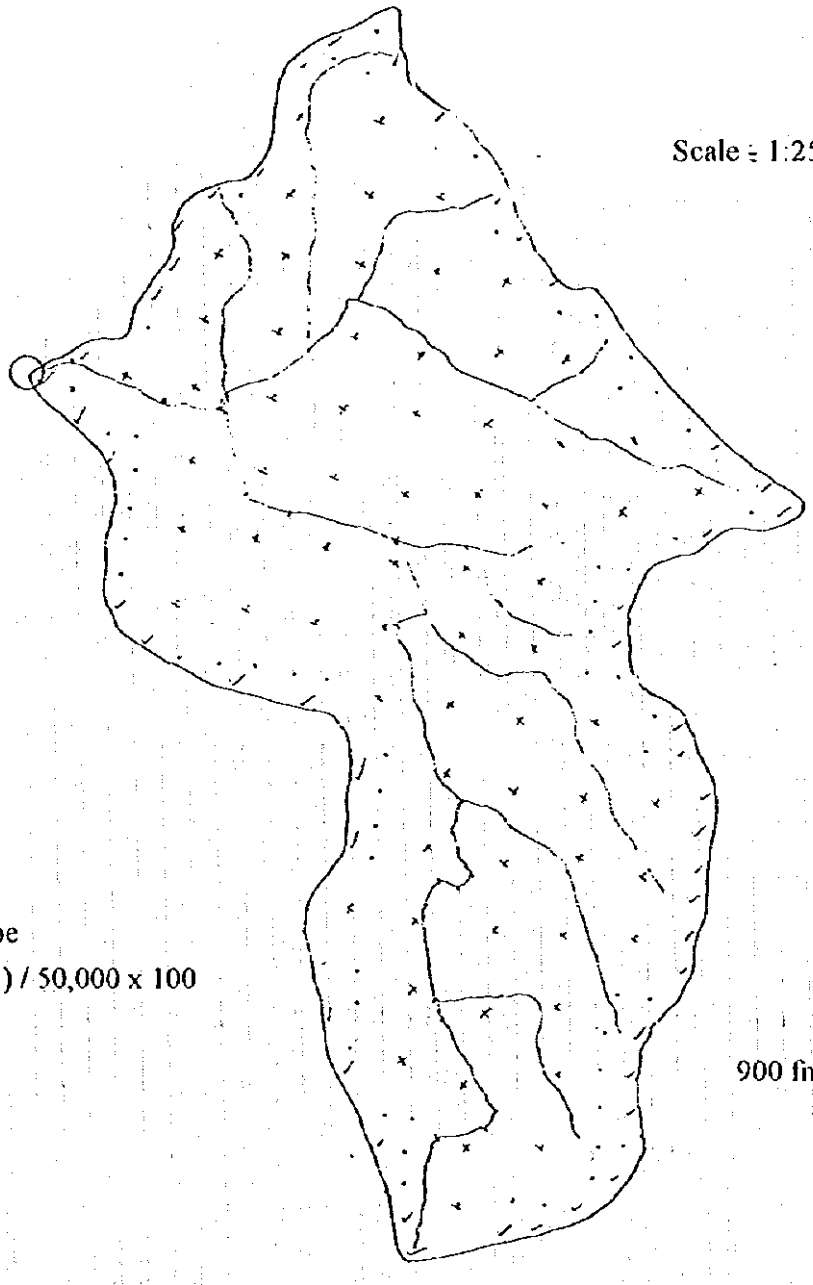
2822 mm²

Catchment Area = $2822 \times 250{,}000^2 \times 10^{-12}$ km²
= 176.375 km²

Longest Water Course = $100 \times 250{,}000 \times 10^{-6}$ km
= 25 km

Catchment Slope = (1200 - 190.6) / 25,000 x 100 = 4.04 %

SER 77



Scale = 1:250,000

Catchment Slope
= (1200 - 61.41) / 50,000 x 100
= 2.28 %

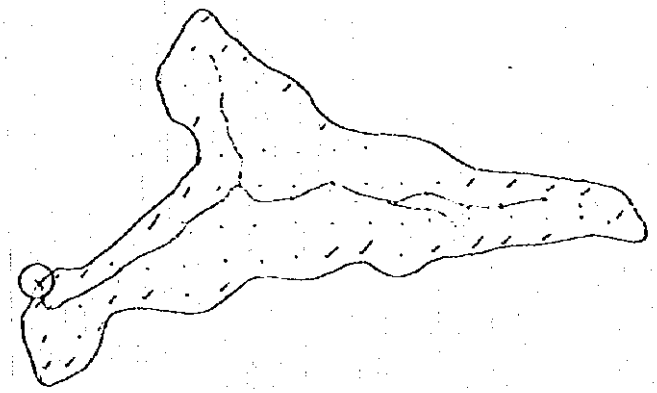
900 fmm²

Catchment Area : 900f x 250,000² x 10^{-12} km²
= 562.93 fskm²

Longest Water Course = 200 x 250,000 x 10^{-6} km
= 50 km

SER 53

Scale ≡ 1:250,000



1437 mm²

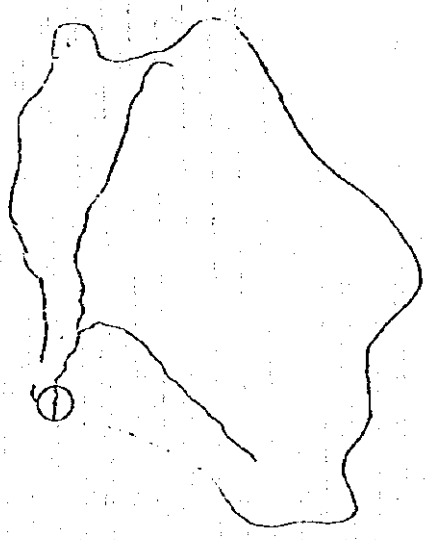
Catchment Area = 1437 x 250,000² x 10^{-12} km²
= 89.8125 km²

Longest Water Course = 91 x 250,000 x 10^{-6} km
= 22.75 km

Catchment Slope = (900-75) / 22,750 x 100 = 3.63 %

SER 59

Scale = 1:250,000



2605mm²

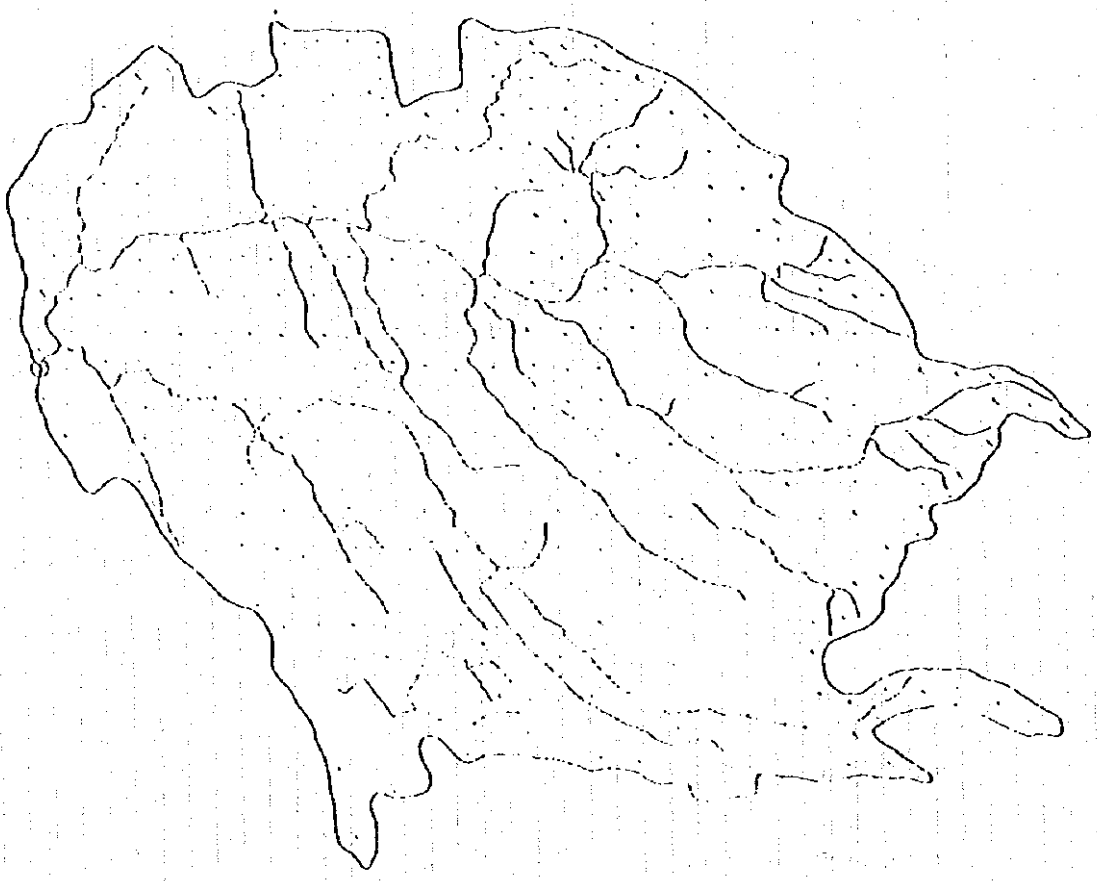
Catchment Area = $2605 \times 250{,}000^2 \times 10^{-12}$ km²
= 162.8125 km²

Longest Water Course = $55 \times 250{,}000 \times 10^{-6}$ km
= 13.75 km

Cathment Slope = (300 - 0) / 13,750 = 2.18 %

SER 33

Scale = 1:250,000



41,986 mm²

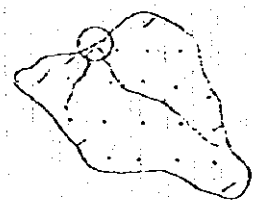
Catchment Area = 41,986 x 250,000² x 10^{-12} km²
= 2624.125 km²

Longest Water Course = 97.5 km

Catchment Slope = (1300-8.00) / 97,500 x 100
= 1.33%

SER 20

Scale = 1:250,000



461 mm²

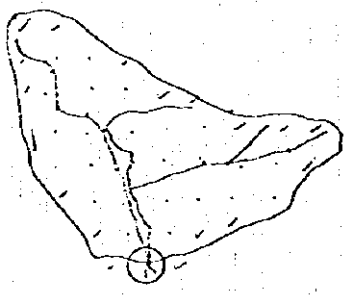
Catchment Area = 461 x 250,000² / 10^{12} km²
= 28.8125 km²

Longest Water Course = 7.5 km

Catchment Slope = (700 - 225) / 7,500 x 100
= 6.33 %

SER 70

Scale = 1:250,000



865 mm²

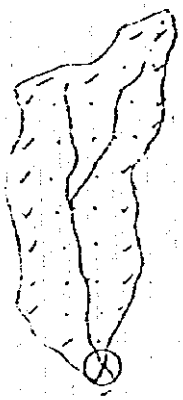
Catchment Area = 865 x 250,000² x 10^{-12} km²
= 54.0625 km²

Longest Water Course = 41 x 250,000 x 10^{-6} km
= 10.25 km

Catchment Slope = (50 - 0) / 10,250 = 0.49 %

SER 211

Scale = 1:250,000



734 mm²

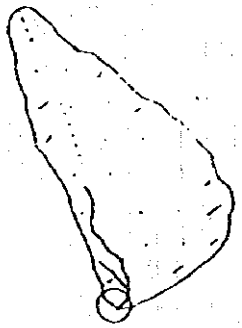
Catchmen Area = 734 x 250,000² x 10^{-12} km²
= 45.875 km²

Longest Water Course = 55 x 250,000 x 10^{-6} km
= 13fskm

Catchment Slope = (140 - 7.50) / 13,750
= 0.96 %

SER 212

Scale = 1:250,000



660 mm²

Catchment Area = (660 x 250,000²) / 10^{12} km²
= 41.25 km²

Longest Water Course = 50 x 250,000 10^{-6} km
= 12.50 km

Catchment Slope = (150 - 0.250) / 12,500 x 100
= 1.20 %

Reference	Calculation	Out put
	Waterway Calculation for Bridge SER No. 20 | Route No. B264 | Bridge No 25/7 km	
Survey of map	Data Catchment Area A = 28.81 km2 Longest water courses L = 7.5 km Catchment slope s = 6.33 %	
	Assumptions Returned Period 50 years. Slope of stream i = 0.2 %	
	Design Discharge : Q	
	Empirical formula method	
Essential of Bridge Engineering cl: 2.5.2	The flood discharge is given by $Q = C A^{2/3}$ where; Q = Max flood discharge in m3/sec A = Catchment Area in km2 C = Constant depending on the nature of catchment location. In this case, limited area near hills C = 10.0	
	Q1 = 94.0 m^3/sec	Q1= 94.0 m^3/sec
	Rational formula method	
Irrig. Head works cl: 4.2.6	Time of concentrating, "Tc" is given by; Tc = L/60V + 15 min. where; L = longest water course in feet V = velocity in feet/sec corresponds to stream gradient.	
Irrig. Head works T. 4.2.6	In this case; L = 7.5 km V = 5.0 feet/sec Tc = 22.62 min	
	ie; Duration of Storm " D " = " Tc"	
	Intensity of Rainfall " I " is given by;	
Irrig. Head works cl: 4.1.2	$I = X D^{-Y}$ where: X,Y are constant in relation to the flood return period and zone in which the site located. I = Intensity of rainfall in In/hr	
Irrig. Head works T. 4.1.2	Located in zone 3 For Return period = 50 yrs. X = 167.77 Y = 0.844	

Reference	Calculation	Out put
cl: 5.2	I = 12.06 In/hr	
	The value of Runoff is given by	
Irrig. Head works cl: 4.2.2	Q = C I A where; C = Runoff coefficient which is depending on the catchment slope. I = Rainfall Intensity in In/hr A = Catchment Area in Acres	
Irrig. Head works T. 4.2.4	In this case; s = 6.33 % therefore; C = [0.5]	
	Q2 = 42945.5 ft³/sec = 1216.0 m³/sec	Q2= 1216.0 m³/sec
	Design Discharge : Qd	
	Q1 (m³/sec) Empirical Method: 94.0 Q2 (m³/sec) Rational Method: 1216.0 Qd (m³/sec) Design Discharge Q1 x 1.5: 141.0	Qd= 141.0 m³/sec
	Area - Velocity Method	
Survey map of Study	Elevation of road surface ELr = [150.48] m Depth of road surface to sofit of the beam Dl = [0.52] m Free board Fr = -1.74 m Elevation of river bed EL rb = [146.5] m Assumed water level ELwl = 151.70 m High flood level [Record] HFL = 152.88 m (150.48+2.4)	ELwl= 151.7 m
	River cross section at centre of the Bridge (Ignored pier thickness) Width of the river Wr = [13.42] m Width of river bed Wb = [13.42] m Height of slope hs = [0.0] m Height of vertical hv = [5.2] m	
	Area A = 69.784 m2 Wetted Perimeter P = 23.82 142.0	
Essential of Bridge Engineering cl: 2.5.4	And also; Velocity of flow is given by; $v = 1/n * R^{2/3} * S^{1/2}$ where; v = velocity of flow in m/sec n = coefficient of roughness which can be taken from Table 2.3 s = slope of stream R = mean hydraulic radius, (A/P) in metre	
Essential of Bridge Engineering T. 2.3	In this case; n = [0.045] s = 0.2 % v = 2.03 m/sec	v=

Reference	Calculation	Out put
	$Q3 = A * v =$ 142.0 m^3/sec ≧ Qd = 141.0 m^3/sec	2.03 m/sec Q3= 142.0 m^3/sec
	Rehabilitation Plan	
	Elevation of road surface ELr = 152.00 m Depth of road surface to sofit of the beam Dl = 0.60 m Free board Fr = 0.60 m Elevation of river bed EL rb = 146.5 m Assumed water level ELwl = 150.80 m High flood level [Record] HFL = 152.88 m (150.48+2.4)	ELwl= 150.8 m
	River cross section at centre of the Bridge (Ignored pier thickness) Width of the river Wr = 17.00 m Width of river bed Wb = 17.00 m Height of slope hs = 0.0 m Height of vertical hv = 4.3 m Area A = 73.1 m2 Wetted Perimeter P = 25.60 146.2	
Essential of Bridge Engineering cl: 2.5.4	And also; Velocity of flow is given by; $v = 1/n * R^{2/3} * S^{1/2}$ where; v = velocity of flow in m/sec n = coefficient of roughness which can be taken from Table 2.3 s = slope of stream R = mean hydraulic radius, (A/P) in metre	
Essential of Bridge Engineering T. 2.3	In this case; n = [0.045] s = 0.2 % v = 2.00 m/sec	v= 2.00 m/sec
	$Q3 = A * v =$ 146.2 m^3/sec ≧ Qd = 141.0 m^3/sec	

Appendix - II

DATA OF GEOLOGICAL SURVEY

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