Road Development Authority

Japan International Cooperation Agency

Bridge Inspection and Diagnosis Manual

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The Project for Capacity Development on Bridge Management In The Democratic Socialist Republic of Sri Lanka

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Abbreviations

Organizations	
GOSL	Government of Sri Lanka
MHEH	Ministry of Higher Education and Highways
JICA	Japan International Cooperation Agency
RDA	Road Development Authority
Division in RDA	
CD	Construction Division
ES	Engineering Services
M&M	Maintenance and Management
BD	Bridge Designs
P	Planning
PMU	Project Management Unit
RBCU	Rural Bridges Construction Unit
R&D	Research and Development
BM&AU	Bridge Management and Assessment Unit
BAU	Bridge Assessment Unit (1990s)
Position	
DG	Director General
ADG	Additional Director General
DD	Deputy Director
C/P	Counterpart
PD	Provincial Director
CE	Chief Engineer
EE	Executive Engineer
TO	Technical Officer
Manual	
BMM1997	Bridge Maintenance Manual /1997 RDA
RMM1989	Road Maintenance Manual /1989.2 RDA
VRCSG	Visual Road Condition Surveys Guidelines / 2012.6 RDA Planning Division
Others	
BMS	Bridge Management System
OJT	On-the-Job Training
BOQ	Bill of Quantity
RMTF	Road Maintenance Trust Fund
BIV	Bridge Inspection Vehicle
PPE	Personal Protective Equipment
DP	Damage Point
HI	Health Index
II	Importance Index
FOI	Functionally Obsolete Index
LHS	Left Hand Side
RHS	Right Hand Side
BDS	Bridge Database System
BRMS	Bridge Repair and maintenance System
BISS	Bridge Inspection Support System

1. General

1.1 Scope of Application

This manual shall apply to the periodic inspection for bridges with clear span of 3 meters or longer bridges on Class AA, AB AC and B roads under RDA's management (including box bridges).

In general, there are 3 types of bridge inspections: Routine Inspection, Periodic Inspection and Emergency Inspection. This manual provides the details of "Periodic Inspection". It is necessary to understand properly the contents of this manual when bridge inspection is executed.

Maintenance and repair works are not included in this manual.

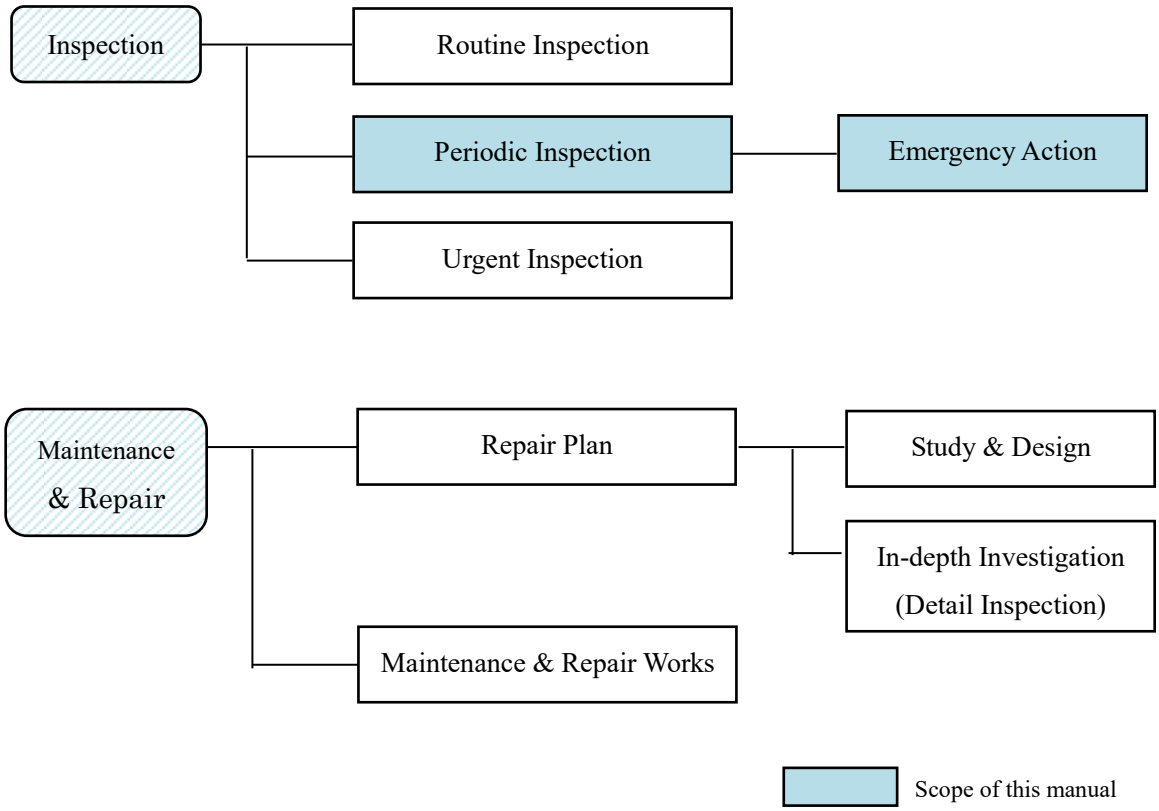


Figure 1.1 Flow of Inspection and Maintenance & Repair

1.2 Purpose of Bridge Inspection

Periodic inspection of bridges shall be implemented for the purpose of obtaining the necessary data and information for management of bridges.

Periodic inspection of bridges will enable to understand the present condition of bridges, to identify the defects, damage and deterioration at an earlier stage and to take appropriate measures for securing the safe and smooth traffic movements across the bridge.

This manual is focusing on the periodic inspections.

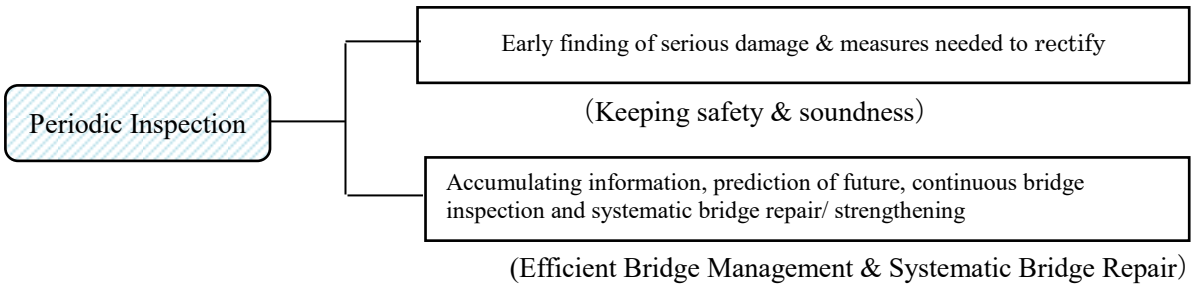


Figure 1.2 Purpose of Periodic Inspection

The target bridges are all bridges on Class A, AB, AC and B Class roads under the management of RDA in Sri Lanka.

Necessary data and information for bridge management are quantified for e.g. status of bridge conditions and cost of bridge repairs. For the efficient and effective bridge management within the limited financial resources, such data and information could help to make a comparative analysis among the target bridges to select the bridges which should be taken for repairs on a priority basis that satisfies the budgetary limitations and larger social needs. During the periodic inspection, if a serious damage is detected which needs emergency treatment, the inspection shall be interrupted and necessary actions shall be taken for the safety of traffic and the public.

1.3 Types of Bridge Inspections

In General, there are the following types of inspections:

(1) Routine Inspection

Routine inspection is to visually inspect the bridges on-board during the road patrol to identify the damage at an early stage.

(2) Periodic Inspection

Inspection is done periodically by binoculars on superstructure & substructure and close visual observations on members is to prepare a list of damages and evaluation of soundness of members. Periodic inspection is to periodically inspect the bridges by visual inspection as close to the bridge structures (superstructure & substructure) as possible, supplemented with ladder, pole camera, bridge inspection vehicle and binoculars, to obtain the necessary data and information to prepare a list of damages and evaluation of soundness of members for bridge management.

(the) Emergency Inspection

Inspection is mainly for the safety of the bridge by checking whether there is any serious damage such as scouring of foundation, tilting of pier etc., after a heavy natural disaster such as floods and landslides in the aftermath of such natural disasters. After natural disasters such as flooding and landslides, it is very essential to inspect the bridges for serious damages to consider whether any corrective action is required.

Types of inspection and their implementations are shown below.

Table 1.1. Type of Inspection and Implementation (Tentative)

Type of inspection	Implementing Organization	Implementing staff	Application
Routine inspection	EE Office	E and TO	
Periodic inspection	BM&AU	E and TO	This manual. Note 1*
Emergency inspection	BM&AU / EE Office	E and TO	

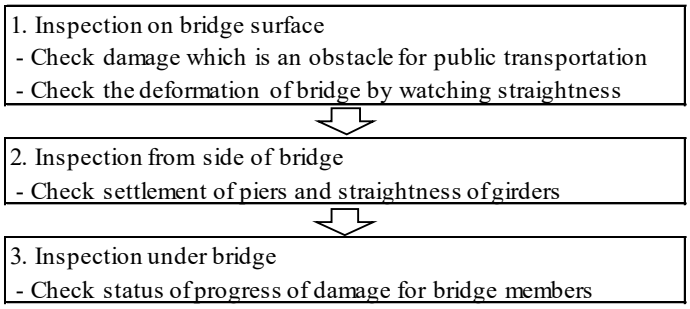
EE: Executive engineer, E: Engineer, TO: Technical officer,
BM & AU: Bridge Management and Assessment Unit

Note 1: Whenever an inspection is carried out, the inspector shall not only look for new damages but also observe the condition of damages that have been found at the previous inspection.

(1) The routine inspection is a visual inspection mainly from the vehicle.

The inspection shall be carried out based on the periodic inspection records. It is recommended that the visual inspection be carried out from the vehicle, where the damage cannot be seen on-board.

The inspection shall be carried out according to the flowchart below.



In case serious damage is found, the inspector shall report to EE office and BM&AU for further inspection.

Figure 1.3 Flow of Routine Inspection

1.4 Frequency of Bridge Inspection

Frequency of bridge inspection is shown in the table below.

Table 1.2 Inspection Frequency（Tentative)

a	Frequency of inspection	Application
Routine Inspection	Carrying out at daily patrol	
Periodic Inspection	Initial Inspection：within 1 year after completion of bridge construction Periodic Inspection：Once in 5 years	This manual
Urgent Inspection	Immediately after a disaster	

Initial Inspection shall be executed not only for newly constructed bridges but also for reconstructed and widened bridges.

The major function/ performance of the bridge is to support the traffic on the bridge. In Japan, the periodic inspection is carried out once in 5 years to avoid serious accidents. In this manual, 5 years frequency of periodic inspection is also applied. However, it is recommended that the frequency of periodic inspection shall be reviewed after ascertaining actual status of all bridges in Sri Lanka.

1.5 Safety Measures

1. During inspection, it is necessary to protect the inspector's head (helmet), hand (gloves), foot (safety boots) and further safety belt to prevent falling from high positions and safety vest for vehicle drivers also required.

2. In case traffic restriction is required at the site, coordination with local police in advance is necessary for security and efficient control of traffic. And it is required to install signboards and other equipment that clearly inform the inspection activity or repair works to road users.

Basic safety gears required in the inspection are shown in Figure 1.4 and Figure 1.5.

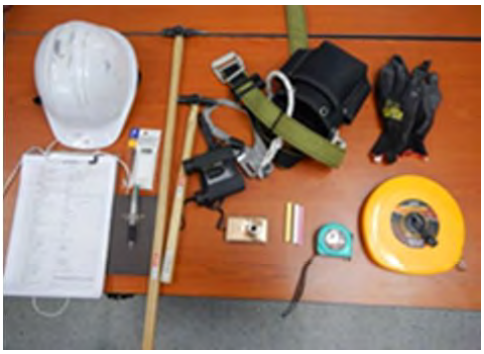


Figure 1.4 Inspection Gear

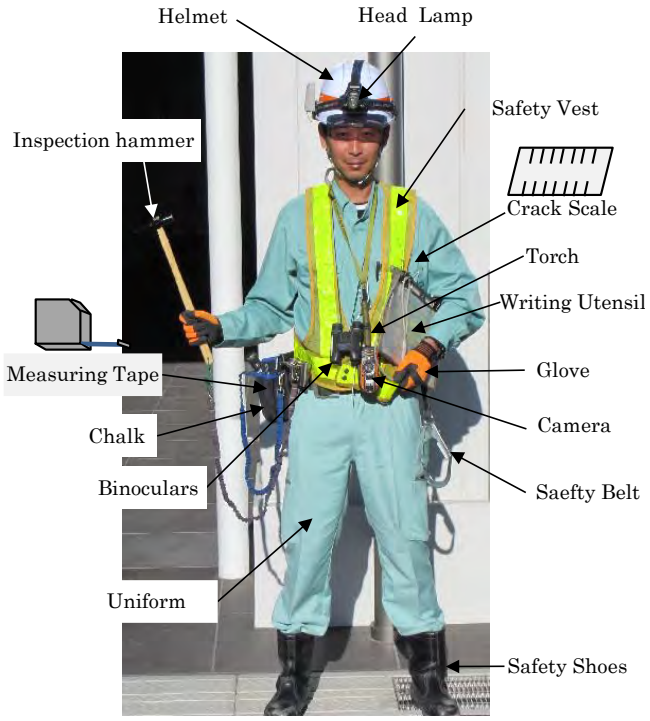


Figure 1.5 Gear and Protective Clothes

1.6 Update of Manual

When it is considered necessary to include new technologies and/or findings, this manual shall be updated as needed.

This manual was prepared based on the latest information and research results available at the time of releasing it; however, there will be a possibility that some of the contents will be outdated. Therefore, it is required to update this manual if considered necessary. When an update of this manual is planned, it is necessary to verify the contents based on the following information and revise the necessary sections.

(1) New findings gained from inspection

When it is found that there are new damages or some structure defect that is likely to be increased to greater proportions after summarization of bridge inspection reports, item inspected shall be added into the manual as well as updating of calculation of health index and categorization of Bridge Soundness.

(2) New research results on damages

Based on research results on damages to bridges, evaluation of degree of damages shall be updated periodically.

(3) Development of technology and research

If any effective and practical inspection methodology is established based on the development of technology & research, or importance of damage assessment is changed due to development of repair & strengthening technology, the contents of this manual shall be modified.

(4) Issues on application of manual

If any issue is raised on application of the manual, it is necessary to review the contents and modify it as and when necessary.

2. Periodic Inspection

2.1 Scope and Work Flow of Periodic Inspections

Activity Flow of Periodic Inspection

In principle, the periodic inspection shall be executed in accordance with Figure 2.1.

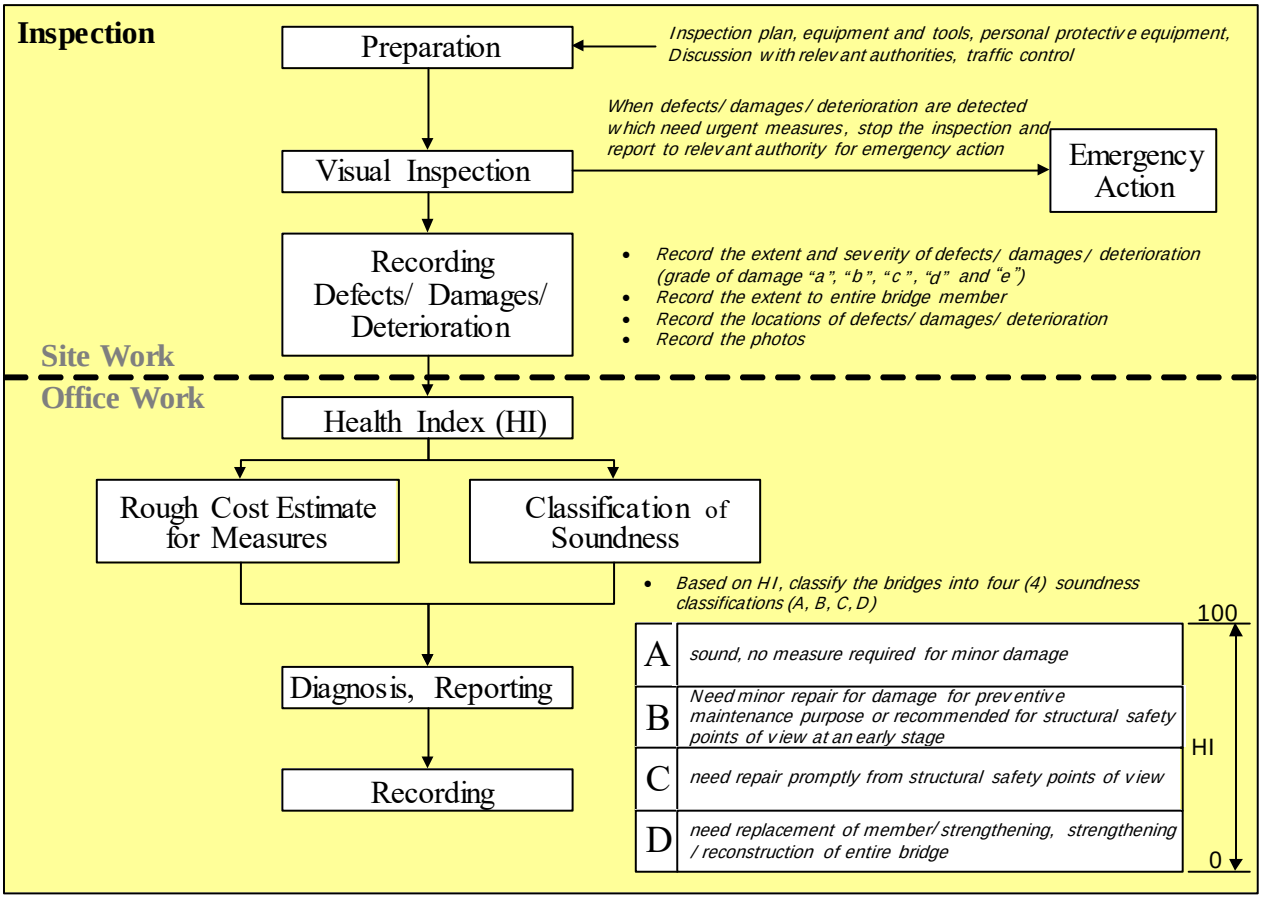


Figure 2.1 Flow of Periodic Inspection Activity

Scope of Periodic Inspection is Given Below:

1) Preparation :

After studying the inspection methods, inspection plan should be developed**.** Which include schedule, arrangement of inspection equipment and tools, arrangement of vehicle for inspection, requirement of safety gears and arrangement of Bridge Inspection Vehicle (if necessary).

The inventory worksheets and inspection worksheet could be obtained from Bridge Inspection Support System to be checked and data entered during visual inspection. The discussion shall be done with relevant authorities on traffic control at the site.

2) Visual Inspection :

The visual inspection shall be done at the site and damage shall be recorded.

3) Emergency Action :

The inspectors shall stop the inspection and report to relevant authorities to implement “emergency actions” for defects, damage and deterioration etc. in need of urgent corrective measures.

The degree of damage (from “a” to “e”) for each element for each member and total quantity of elements shall be recorded in the inspection sheets. The location of worst degree of damage shall be marked on the sheets. Representative damage shall be recorded by photographs taken in close proximity and from a distance (general view of the damage.)

5）Calculation of Health Index（HI）：

The health Index (HI) shall be calculated based on the inspection records.

6）Rough Cost Estimate for Measures：

The repair cost shall be calculated based on HI.

7）Classification of Soundness：

The bridge conditions will be classified into four (4) categories, depending on the HI.

Engineer of BM&AU shall make the final decision for bridge soundness taking into account rate of progress of damage, influence of location of damage to the soundness, and so on. Results of such diagnosis shall be reported to the relevant officials.

9）Recording：

The records prepared at site shall be input to Bridge Database System and Bridge Inspection Support System. The data shall be exported/ imported between 2 systems and all records will be stored in Bridge Database System. The periodic inspection to follow shall be done by using printouts from these 2 systems.

Figure 2.1 shows the basic flow of periodic inspection.

Since the periodic inspection is carried out by a large number of inspectors, this manual is prepared considering that they could evaluate the damages objectively.

If a risky condition is observed during inspection demanding emergency measures, the Engineer of BM&AU and or EE should take action immediately on the results of the inspection done by the inspector. Please refer Attachment 6 for details.

2.2 Implementation Structure

(1) Implementation Structure in Office

The implementation structure at office is as follows:

Table 2.1. Implementation Structure in Office for Periodic Inspection

Organization	Staffing	Office Equipment	Roles and responsibility
BM&AU	1 - Engineer	4 - Lap top or desktop, 1 - A3/A4 Photocopy/printer with scanning function 1- A4 color printer 1- Wi-Fi	Preparation, Inspection of Bridge
	2- Technical Officer		Preparation, Input of record prepared at site
	1 – Assistant Officers		Preparation, Input of record prepared at site

There are 9 BM&AU Engineers under the Provincial Director Office in Sri Lanka

Diagnosis will be conducted in head office including DD-BM&AU with help of BM&AU Engineers and often provincial staff

(2) Implementation Structure at Site

Implementation structure at site for periodic inspection is as follows: -

Table 2.2 Implementation Structure at Site for Periodic Inspection

Staff/ Equipment	Inspection without Bridge Inspection Vehicle	Inspection with Bridge Inspection Vehicle	Roles/Responsibility of Staff, Driver and Security
Inspection staff	3	3	Engineer: Leader of inspection team Inspectors: members of inspection team
Double cab (Driver)	1	1	To transport inspector and inspection gears
Bridge Inspection Vehicle (Driver)	-	1	To drive bridge inspection vehicle while inspection is on.
Truck (Driver)	-	1	To transport safety equipment and security.
Traffic control security	-	3	To protect passing vehicles, pedestrians and residents, staying at front and back of inspection To give instruction to driver and operator of inspection vehicle during inspection under and near the superstructure.

The weekly schedule for BM&AU for Periodic Inspection is Assumed as Follows:

Works	Mon	Tue	Wed	Thu	Fri
In Office					
at Site					

The capacity of one team is estimated 9 bridges/per week.

In case there are 600 bridges in one province the frequency is 600/ 50 weeks / 9 = about 1.3 years. This is enough to carry out continuous periodical inspection by BM&AU.

2.3 Details of Inspection

2.3.1 Basic Idea

In the periodic inspection, the classification shall be done on status of progress of damage in severity and extent and quantity of each item of damage for each element (minimum unit of bridge member to be evaluated) of each member shall be recorded.

In case, the damage is found at site, focusing on specific damage, for the degree of damage (Severity and Extent) shall be graded as (a, b, c, d and e) for each damage.

The extent of damage to all member of a component shall be evaluated by elements of members.

In the main girder, one (1) number of main girders is one element. In the slab, the numbers of element is counted by the numbers of grid supported by main girders and cross beams. However, in case of road surface, the element is difficult to specify because the road surface is one plane only. Therefore, the road surface is divided into 9 elements (in the longitudinal direction, both support parts and middle part: 3 divisions, in the transverse direction, both outsides and middle part: 3 divisions, total 3 x 3 =9).
In case, the footing of abutment and pier are buried in the ground and invisible, the footing cannot be the element.

2.3.2 Type of Damage

There are 24 types of damage as shown in Table 2.3.

Table 2.3 Type of Damage

Bridge Surface		Bridge Structure	
No.	Type of Damage	No.	Type of Damage
1	Pothole	12	Spall / Dela / Ex-Rebar
2	Pavement Crack	13	Crack
3	Rutting	14	Damage on Anchorage
4	Waving	15	Water Leakage from Expansion Joint
5	Damage on Expansion Joint	16	Damage on Bridge Bearing
6	Difference in Levels	17	Scour
7	Damage on Drainage	18	Mud Deposition / Vegetation
8	Damages on Service Duct	19	Paint Degradation
9	Damages on Railing / Parapet	20	Corrosion
10	Settlement of Surface	21	Damage (Rivet / HSFG)
11	Approach Bank / River Bank	22	Damage of Deck Slab
		23	Arch Line (Displacement)
		24	Deteriorated (Loose)

The type of damage listed above is based on the results of bridge inspection carried out for 3 provinces in Sri Lanka.

In order to select the types of damage to be inspected, the damage evaluation criteria, followed in Japan were studied.

- Bridge Inspection Manual, Ministry of Construction (formal name of Ministry of Land, Infrastructure, Transportation and Tourism of Japan), July 1988 (MOC88)
- Periodic Bridge Inspection Manual, Ministry of Land, Infrastructure, Transportation and Tourism of Japan, June 2014 (MLIT14)

The selection of type of damage is shown in Table At 1-3 of Attachment 1.

The focus on the type of damage in this manual for each type of material is shown in Table 2.4.

Table 2.4 Material and Damage

Bridge Surface

Material	No	Damage
Others	1	Pothole
	2	Pavement crack
	3	Rutting
	4	Waving
	5	Damage on Expansion Joint
	6	Difference in Level
	10	Settlement of Surface
	11	Approach Bank River Bank
Common	7	Damage on Drainage
	8	Damage on Service Duct
	9	Damage on Railing/ Parapet

Bridge Structure

Material	No	Damage
Concrete	12	Spall/ Dela/ Ex-Rebar
	13	Crack
	22	Damage on Deck Slab (RC)
Steel	19	Paint Degradation
	20	Corrosion
	21	Damage (Rivet/ HSFG)
	22	Damage on Deck Slab (Steel)
Others	23	Arch Line (Displacement)
	24	Deteriorated (Loose)
Common	14	Damage of Anchorage
	15	Water Leakage from Expansion
	16	Damage on Bridge Bearing
	17	Scour
	18	Mud Deposition/ Vegetation

2.3.3 Target type of bridge for Inspection

In the periodic inspection, the target bridge types are shown in Table 2.5.

Table 2.5 Target Type of Bridge

No.	Type of Bridge
1	Bridge Structure (PSC-PRE)
2	Bridge Structure (RC-S)
3	Bridge Structure (PSC-POS,RCS-RCB)
4	Bridge Structure (Box Bridge)
5	Bridge Structure (Truss Bridge)
6	Bridge Structure (Steel Bridge)
7	Bridge Structure (Arch Bridge)

Number of standardized bridge types is 7, based on the results of the studies done on existing bridge types in Sri Lanka.

2.3.4 Target Members for Inspection and Type of Damage

Periodic inspection, shall be done on the items (type of damage) related to the component and members to obtain the required information.

Table 2.6 Targeted Members of Inspection and Type of Damage

Bridge Component/Member			Items	
			No.	Type of Damage
Bridge Surface	Pavement		1	Pothole
			2	Pavement Crack
			3	Rutting
			4	Waving
	Expantion Joint		5	Damage on Expansion joint
			6	Difference in Levels
	Accessary		7	Damage on Drainage
			8	Damages on Service Duct
			9	Damages on Railing / Parapet
	Approach		10	Settlement of Surface
			11	Approach Bank / River Bank
Superstructure (PSC-PRE,PSC-POS,RCS-RCB)	Main Girder		12	Spall / Dela / Ex-Rebar
			13	Crack
			14	Damage on Anchorage
	Cross Beam		12	Spall / Dela / Ex-Rebar
			13	Crack
RC-S	Slab		12	Spall / Dela / Ex-Rebar
			13	Crack
Supertructure (Steel)	Main Gieder		19	Paint Degradation
			20	Corrosion
			21	Damage (Rivet / HSFG)
			18	Mud Deposition / Vegetation
	Deck Slab	Concrete	22	Damage Deck Slab (RC)
		Steel	22	Damage of Deck Slab (Steel)
	Cross Beam		20	Corrosion
			21	Damage (Rivet / HSFG)
Arch Bridge	Arch Rib		23	Arch Line (Displacement)
			13	Crack
			24	Deteriorated (Loose)
			18	Mud Deposition / Vegetation
	Spandrel		13	Crack
			24	Deteriorated (Loose)
			18	Mud Deposition / Vegetation
Bridge Bearing	Bridge Bearing		15	Water Leakage from Expansion Joint
			16	Damage on Bridge Bearing
Box Bridge	Slab		12	Spall / Dela / Ex-Rebar
			13	Crack
Substructure	Abutment and Pier		17	Scour
			12	Spall / Dela / Ex-Rebar
			13	Crack
			18	Mud Deposition / Vegetation

Table 2.6 shows the damage to be evaluated and the bridge component/ members, where the damage exists.

2.3.5 Method of Inspection

In principle, the inspection shall be carried out by visual inspection as close to the structure as possible. A non-destructive test such as palpation and hammering test shall be done if necessary.

In this manual, visual inspection is applied to understand the entire condition of the bridge at an early stage.
In the visual inspection, there are several methods to be adopted, such as hammering test, directly touching the member to confirm extent of delamination of concrete, corrosion of steel, loosening of anchor bolts etc.
Test hammer with weight of 230g（approximately half pound）is recommended in consideration of workability, impact to bridge structures, and ease of sound detection. Criteria on judgment due to hammering test sound is shown in Table 2.7

Table 2.7 Standard of Judgment by Hammering Test Sound

Damage	Hammering Test Results	Condition of Member
No.12 *) Delamination of Concrete material *) Refer Attachment 1	Strong rebound and clear sound	Soundness
	Weak rebound and no clear sound	There is degradation, or voids near surface
No.20 *) Corrosion and No.21 *) Damage (Rivet/ HSFG **) of Steel material *) Refer Attachment 1 **)High Strength Friction Grip Bolt	Strong rebound and clear sound	Soundness
	Weak rebound and no clear sound	Steel is corroded
	Moving of Rivet/ Bolt	Rivet/ bolt is loosened

The inspection shall be done on the damage, which exist in component and members, which can be seen by visual observation. For the component/ member which is beyond reach, such as buried footing, “invisible” shall be recorded in Remarks of Inspection Sheet.

Equipment for Inspection is shown in Table 2.8 below.

Table 2.8 Equipment for Inspection

Name	Measurement Item	Application
Standard Equipment		
Measuring tape 30m	The dimensions of bridge, required in inventory work sheet, shall be measured.	
Testing Hammer	Checking of concrete by knocking by test hammer. Checking of rivet/bolt loosen	
Camera	Recording of damage	
Measuring Tape	The photo shall be taken to show the scale of damage with these equipment.	
Crack scale		
Inspection Equipment		
Bridge inspection vehicle	Inspection under main girder	In case approach to structure is difficult.
Pole camera	Visual inspection and record	In case approach to structure is difficult.
Ladder	Visual inspection and record	In case approach to structure is difficult.
Measurement device for water	Measurement of water depth surrounding pier	In case scour of river bed

Inspection by Bridge Inspection Vehicle

Inspection by Pole Camera

Inspection by Ladder

Photo 2.1 Inspection Done with Equipment

2.4 Evaluation and Record of Defects, Damage, and Deterioration at Site

2.4.1 Basic Idea of Status of Progress of Damage

The damage shall be graded on its degree for each member.

Firstly, the damage shall be inspected on its severity and extent. Then the damage shall be objectively graded on status of progress only in accordance with “Attachment 1 Guideline for Development of Bridge Inspection Record Sheets (Example)”

Please note that the evaluation of damage is not related to the grade of damage, which affects the loading capacity and durability.

2.4.2 Standard Grade of Damage

The evaluation of damage is classified into 5 grades for each type of damage.

Table 2.9 Grade of Damage

Grade of Damage	Status	Degree of Damage
a	Good	There is no damage or it is not recognized as damage.
b	Almost good	There is small damage.
c	Slight	There is damage.
d	Big	There is big damage
e	Serious	There is very big damage.

The grade of damage of element of member shall be classified with status of damage considering severity and extent of damage.

The severity means the damage is increasing in depth and extent means the damage is progressing to surface area basically.

Status of progress of damage is detailed in Attachment 1 for reference.

2.4.3 Evaluation of Damage/ Record (at site work)

The damage, quantity of elements in total, quantity of each damage grade, which shall be recorded as shown in Table 2.10.

Table 2.10 Record of Damage

Notes.
◎ : Quantity of elements is easy to count. The ratio of each grade of damage shall be recorded.
○ : Quantity of elements is not easy to count. The percentage of each grade of damage shall be recorded.
▲ : Quantity of elements is not easy to count. The ratio of each grade of damage shall be recorded by 9 elements, 6 elements or 1 element.
- : No need to record.

Bridge Surface

Component	Member	Damage		Grade of Damage				
		No.	Type	a	b	c	d	e
Bridge Surface	Pavement	1	Pothole	▲	-	▲	-	▲
		2	Pavement Crack	▲	-	▲	-	▲
		3	Rutting	▲	-	▲	-	▲
		4	Waving	▲	-	▲	-	▲
	Expansion Joint	5	Damage on Expansion joint	○	-	-	-	○
		6	Difference in Levels	○	-	○	-	○
	Accessories	7	Damage on Drainage	○	-	-	-	○
		8	Damages on Service Duct	○	-	-	-	○
		9	Damages on Railing / Parapet	○	-	-	-	○
	Approaches	10	Settlement of Surface	▲	-	-	-	▲
		11	Approach Bank / River Bank	▲	-	-	-	▲

Bridge Structure (PSC-PRE)

Component	Member	Damage		Grade of Damage				
		No.	Type	a	b	c	d	e
Superstructure	Main Beam	12	Spall / Dela / Ex-Rebar	◎	◎	◎	◎	◎
		13	Crack	◎	◎	◎	◎	◎
		14	Damage on Anchorage	◎	-	◎	-	◎
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○
		16	Damage on Bridge Bearing	○	-	○	-	○
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲
		13	Crack	▲	▲	▲	▲	▲
		18	Mud Deposition / Vegetation	▲	-	-	-	▲

Bridge Structure (RC-S)

Component	Member	Damage		Grade of Damage				
		No.	Type	a	b	c	d	e
Superstructure	Deck Slab	12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲
		13	Crack	▲	▲	▲	▲	▲
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○
		16	Damage on Bridge Bearing	○	-	○	-	○
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲
		13	Crack	▲	▲	▲	▲	▲
		18	Mud Deposition / Vegetation	▲	-	-	-	▲

Bridge Structure (PSC-POS,RCS-RCB)

Component	Member	Damage		Grade of Damage				
		No.	Type	a	b	c	d	e
Superstructure	Main Beam	12	Spall / Dela / Ex-Rebar	◎	◎	◎	◎	◎
		13	Crack	◎	◎	◎	◎	◎
		14	Damage on Anchorage	◎	-	◎	-	◎
	Deck Slab	12	Spall / Dela / Ex-Rebar	◎	◎	◎	◎	◎
		13	Crack	◎	◎	◎	◎	◎
	Diaphragm	12	Spall / Dela / Ex-Rebar	◎	◎	◎	◎	◎
		13	Crack	◎	◎	◎	◎	◎
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○
		16	Damage on Bridge Bearing	○	-	○	-	○
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲
		13	Crack	▲	▲	▲	▲	▲
		18	Mud Deposition / Vegetation	▲	-	-	-	▲

Bridge Structure (Box Bridge)

Component	Member	Damage		Grade of Damage				
		No.	Type	a	b	c	d	e
Superstructure	Deck Slab	12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲
		13	Crack	▲	▲	▲	▲	▲
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲
		13	Crack	▲	▲	▲	▲	▲

Bridge Structure (Truss Bridge)

Component	Member	Damage		Grade of Damage				
		No.	Type	a	b	c	d	e
Superstructure	Main Beam	19	Paint Degradation	◎	◎	◎	◎	◎
		20	Corrosion	◎	◎	◎	◎	◎
		21	Damage (Rivet / HSFG)	◎	-	◎	-	◎
		18	Mud Deposition / Vegetation	◎	-	-	-	◎
	Deck Slab	22	Damage on Deck Slab (Steel)/(RC)	◎	◎	◎	◎	◎
	Cross Beam	20	Corrosion	◎	◎	◎	◎	◎
		21	Damage (Rivet / HSFG)	◎	-	◎	-	◎
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○
		16	Damage on Bridge Bearing	○	-	○	-	○
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲
		13	Crack	▲	▲	▲	▲	▲
		18	Mud Deposition / Vegetation	▲	-	-	-	▲

Bridge Structure (Steel Bridge)

Component	Member	Damage		Grade of Damage				
		No.	Type	a	b	c	d	e
Superstructure	Main Beam	19	Paint Degradation	◎	◎	◎	◎	◎
		20	Corrosion	◎	◎	◎	◎	◎
		21	Damage (Rivet / HSFG)	◎	-	◎	-	◎
		18	Mud Deposition / Vegetation	◎	-	-	-	◎
	Deck Slab	22	Damage on Deck Slab (Steel)/(RC)	◎	◎	◎	◎	◎
	Cross Beam	20	Corrosion	◎	◎	◎	◎	◎
		21	Damage (Rivet / HSFG)	◎	-	◎	-	◎
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○
		16	Damage on Bridge Bearing	○	-	○	-	○
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲
		13	Crack	▲	▲	▲	▲	▲
		18	Mud Deposition / Vegetation	▲	-	-	-	▲

Bridge Structure (Arch Bridge)

Component	Member	Damage		Grade of Damage				
		No.	Type	a	b	c	d	e
Superstructure	Arch Rib	23	Arch Line (Displacement)	▲	-	-	-	▲
		13	Crack	▲	▲	▲	▲	▲
		24	Deteriorated (Loose)	▲	-	-	-	▲
		18	Vegetation	▲	-	-	-	▲
	Spandrel	13	Crack	▲	▲	▲	▲	▲
		24	Deteriorated (Loose)	▲	-	-	-	▲
		18	Vegetation	▲	-	-	-	▲
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲
		13	Crack	▲	▲	▲	▲	▲
		18	Mud Deposition / Vegetation	▲	-	-	-	▲

The location of lowest/ worst damage degree shall be recorded in the “Location” in the Bridge Inspection Sheet.

The inspection will be done by many engineers and inspectors. And the grading of damage shall be done objectively. Considering the above, the record is simplified. In case the amount of information to be recorded is increased, the evaluations become complicated. Therefore, the consideration is given to simplify the information to be recorded and understandability of evaluation is improved. Although the record is simplified, degree of damage (from “a” to “e”) shall be recorded to all members. The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet. The record of damage shall be carried out at site in accordance with Attachment 1.

The methods on counting element, degree of damage (severity and extent), and grade of damage are detailed in Attachment 1. Inspection at site shall be carried out after understanding the contents of this manual and Attachment 1, fully.

In the bridge inspection, general observation for whole of bridge shall be executed to confirm any unusual condition.

If there is functional disorder of bridge by insufficient discharge area or traffic congestion due to bottleneck at bridge due to insufficient numbers of lanes, it shall be recorded in the “Remarks” in the Bridge Inspection Sheet.

And, the following situations shall be observed:

- Is there any scours on river bed ? (Refer Damage No.17 in this manual)
- Is there any settlement of bridge surface?
- Is there any settlement / tilting of abutment or pier?
- Is there any unusual sound / vibration?
- Is there any damage that affects traffic safety of vehicles and pedestrian?

Such situations should also be recorded as “Remarks” in the Bridge Inspection Sheet.

2.5 Calculation of Health Index (HI)

Health Index (HI) shall be calculated for each member, span and bridge based on the degree of damage on members.

(1) HI of a member is a quantitative representation of soundness of the said member, which is determined as a result of visual inspection. Purposes of HI are as follows:

(a) to avoid any variations in soundness evaluations, which are conducted by different inspectors (standardization of soundness evaluation)

(b) to determine the necessity of repairs and calculation of standard repair cost in order to formulate a bridge maintenance, management & repair plan

HI of the span and the bridge that can be obtained by integrating HI of the members are taken as one of the indices for prioritization of repairs.

(2) In this Manual, HI is a quantitative representation of performance and functions required for a concerned member. In other words, HI is considered as one hundred (100) at completion of construction (new construction). HI is considered as zero (0) when the initial performance and functions are degraded due to the damage, leading to some restrictions such as lane closures, loading restrictions and speed limit.

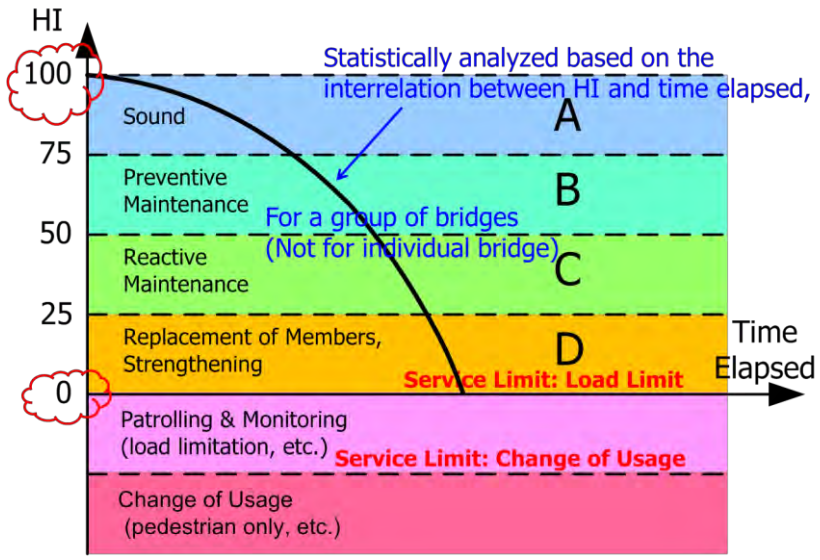


Figure 2.2 Diagram of HI Image

(3) HI shall be an aggregate total of the following 2 items: (a) Evaluation point of multiple damages based on the degree of damage (severity and extent), and (b) Weighing factor concerning the following evaluation items: significance of the damage type, significance of the member and significance of the structure

The method of calculation of HI is mentioned below:

1) Calculate Damage Point (DP) by adding the weighing factor based on the significance of the damage to the evaluation point according to the degree and extent of the damage on the member as observed at inspection.

2) Consider HI is 100 when the condition is absolutely sound with or without damage. Calculate HI by subtracting DP from 100.

$$\text{Health Index (HI)} = 100 - \sum \text{Damage Point (DP)}$$

3) Calculate HI by integrating DP of each span and structure type, based on the DP of each member and weighing factor evaluated according to the significance of types of member and structure.

4) HI of the bridge shall be the minimum HI of its spans.
Refer "Attachment-2 Calculation and Recording of Health Index (HI)" for more detailed procedure of HI calculation

HI introduced in this manual is a quantitative calculation as a result of visual inspections from a viewpoint of performance and functions of bridges. It must be noted that it does not show load capacity or durability of bridges.

2.6 Bridge Member Repair Cost Estimates

The cost for standard repair works shall be calculated based on the health index (HI).

(1) Repair can be divided into two (2) categories, which are (i) Repair method & cost depends on HI and (ii) Replacement of member depends on period of its durability or defect conditions found by inspection.
In this clause, the following concept is established:
Repair cost for substructure & superstructure excluding bearing is considered as the cost depending on HI.
Repair cost for bridge surface and bearing is considered as the cost for replacement.

(2) The objective of calculation of cost for standard repair works is to confirm approximate repair scale on the bridges under operation & maintenance.

Although the cost for standard repair works can be decided in accordance with HI of member, there are various contents of damage even in same HI. It is noted that there is the possibility to make subsequent variations in each bridge's repair cost. In case actual repair cost estimate is required for each bridge separately, it is necessary to make cost estimation with breakdown of each cost item.

Regarding the detailed calculation method in this inspection, refer to Attachment 4- Standard Unit Rate of Bridge Under Repairs.

2.7 Record of Inspection Results (Office Work)

After the inspection is executed, the inspection record prepared shall be entered in the system and the inventory shall be updated in the system as database.

Since inspection records at site become important data to execute practical operation & maintenance, it is necessary to record the inspection results whenever inspection is carried out.

Preparation of inspection report and record of inspection results shall be conducted in accordance with the following orders:

[In office work: before inspection]

1) To input basic data of bridge (location, dimensions and other data) into “Bridge Database System” and obtain a printout.
2) To print worksheet for inspection from “Bridge Inspection Support System”
3) To study and understand the outline of bridge and main points for inspection based on the previous data, and to execute the inspection. In the site inspection, the worksheet for inspection shall be used.

[In site works: inspection]

4) To carry out inspection. The results shall be recorded in the output of “Bridge Inspection Record Sheet” and the basic data shall be updated in the “Bridge Database System”.
5) To update the inventory in “Bridge Database System”.
6) To input inspection results into “Bridge Inspection Support System” with review of HI (A, B, C and D) using bridge diagnosis manual
7) To make the report by printing out the Inventory form and Inspection form from “Bridge Inspection Support System”.

All the records will be registered in “Bridge Database System” automatically.

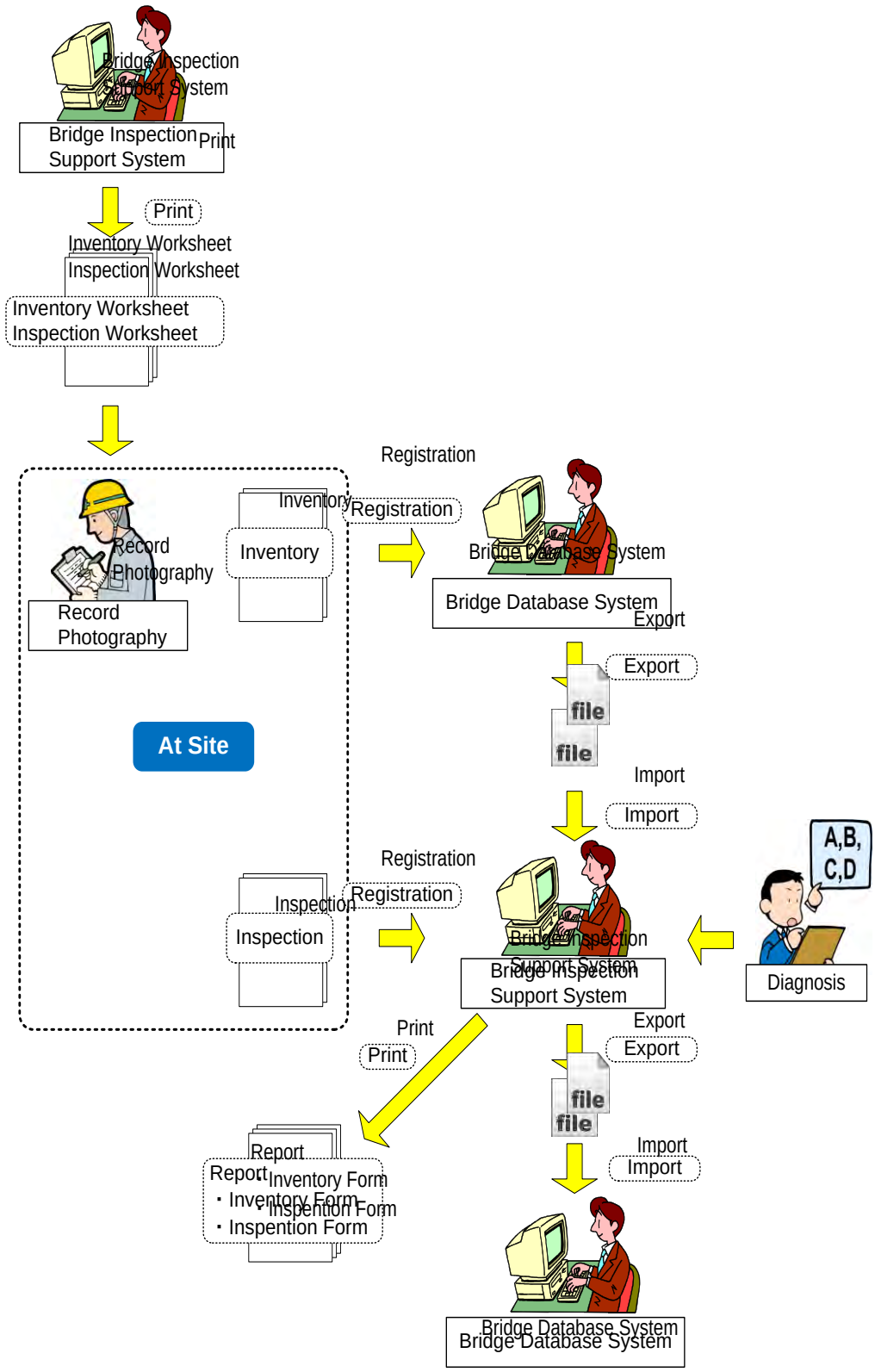


Figure 2.3 Record of Bridge Inspection Results

(Please refer BMS Operation Manual)

2.8 Categorization of Bridge Soundness

Bridge Conditions shall be classified in to four (4) categories, depending on the health index (HI) as shown in the table 2.11.

Table 2.11 Bridge Soundness Classification

Categorization	HI (Reference)	Description
A	100 - 75	There is no lack of structure function.
B	75 - 50	Although there is no lack of structure function, it would be better to take action from preventive maintenance viewpoint.
C	50 - 25	There is the possibility that structure function will be a problem, and it is judged that early measure is required.
D	25 - 0	There is a problem in structure function or there is high possibility of defect of function at structure. It is required to take quick measure.

(1) Table 2.11 shows HI that is reference for categorization of bridge soundness. HI is to quantify the conditions of a bridge member, a span, an entire bridge to reduce the variations of evaluation results from person to person. Therefore, it is noted that the categorization shall not be decided by this HI (reference) only. At present, the categorization follows this table, but it is necessary to review after accumulated data is obtained based on the future periodic inspections.

(2) As for the categorization of HI for each member, it shall be considered from the viewpoint of impact to the bridge function. Therefore, adequate technical evaluation with focus on damage conditions, cause of damage, and assumption of damage development is required. In order to review the classified categorization, it is recommended to refer to “Attachment 7 Sample for Categorization of Bridge Soundness”.

2.9 Emergency Actions

If any damage is detected at the inspection that requires immediate measures, the inspector shall report to BM&AU or EE so that necessary measures can be taken.

In the following cases, it is required to report immediately to BM&AU or EE so that necessary measures can be decided:

It is observed that the safety of bridge structure is seriously in question, after considering several aspects together such as importance of member or development of damage that impacts on the function of the Bridge.

There is a possibility to cause obstruction to vehicles or pedestrians.

Practical sample which requires immediate measures is as follows, and it needs temporary support by bent or saddle, installation of steel plate, traffic restriction (speed, number of carriageway, closing traffic and etc.): detailed explanation is shown in Attachment of diagnosis.

- Possibility of falling bridge due to serious damage of superstructure or substructure
- Possibility of falling pedestrian or vehicles from road surface due to lack of handrail or guardrail
- Possibility to damages to vehicles or driving hazards due to serious damage to expansion joint
- Possibility of falling concrete block from curb, handrail, or deck slab will cause damages to vehicles or pedestrians beneath the bridge
- Possibility of road surface subsidence due to serious damage of deck slab
- Unusual noise and vibration occurs at inspected girder or deck, and it affects the residents of near vicinity of the bridge

Member	Photo on damage	
Overview	Scour of river bed	Settlement of surface

Photo 2.2 Damage to the Whole Bridge

The purpose of such type of measures is only to improve partially some functions of members of the bridge, but not to improve total soundness of the bridge. Therefore, the periodic inspection shall be planned after securing the safety of bridge by these countermeasures.

In order to give a subjective viewpoint judgement, it is recommended that BM&AU and EE shall refer to Attachment 6: “Description and Examples in need of Emergency Actions”.

Table At 1-1 Damage, Status Progress of Damage and Grade of Damage

Bridge Surface

Note: The threshold value is reference.

Damage		Status Progress of Damage						Grade of damage										Basic Concept of Element	No.
		Severity of damage (Y)			Extent of damage (Z)			a		b		c		d		e			
No.	Type	Large (L)	Middle (M)	Small (S)	Large (L)	Middle (M)	Small (S)	(Y)	(Z)	(Y)	(Z)	(Y)	(Z)	(Y)	(Z)	(Y)	(Z)		
1	Pothole	exposed slab, Depth ≥ 50mm	–	slab is covered by asphalt, Depth < 50mm	Dia ≥ 0.2m	–	Dia < 0.2m	Not Exist		–	–	S	S L	–	–	L	L S	9 in holizontal plane	1
2	Pavement Crack	–	–	–	–	–	–	Not Exist		–	–	Crack width < 5mm		–	–	Crack width ≥ 5mm			2
3	Rutting	凹凸 ≥ 30mm	–	30 > 凹凸 ≥ 20mm	–	–	–	Not Exist		–	–	S	–	–	–	L	–		3
4	Waving	–	–	–	–	–	–	Not Exist		–	–	20mm > 凹凸		–	–	凹凸 ≥ 20mm			4
5	Damage on Expansion joint	–	–	–	–	–	–	Not Exist		–	–	–	–	–	–	Exist		Percentage in length (100)	5
6	Difference in Levels	–	–	–	–	–	–	Not Exist		–	–	Gap H > 20mm		–	–	20mm > Gap H			6
7	Damage on Drainage	–	–	–	–	–	–	Not Exist		–	–	–	–	–	–	Exist		Percentage in numbers (100)	7
8	Damages on Service Duct	–	–	–	–	–	–	Not Exist		–	–	–	–	–	–	Exist		Percentage in length (100)	8
9	Damages on Railing / Parapet	–	–	–	–	–	–	Not Exist		–	–	–	–	–	–	Exist			9
10	Settlement of Surface	–	–	–	–	–	–	Not Exist		–	–	–	–	–	–	Exist		3 in transverse direction	10
11	Approach Bank / River Bank	–	–	–	–	–	–	Not Exist		–	–	–	–	–	–	Exist			11

Bridge Structure

Note: The threshold value is reference.

Damage		Status Progress of Damage						Grade of damage										Basic Concept of Element	No.
		Severity of damage (Y)			Extent of damage (Z)			a		b		c		d		e			
No.	Type	Large (L)	Middle (M)	Small (S)	Large (L)	Middle (M)	Small (S)	(Y)	(Z)	(Y)	(Z)	(Y)	(Z)	(Y)	(Z)	(Y)	(Z)		
12	Spall / Dela / Ex-Rebar	Note: In case this damage is found with grade c, d and e, the same grade shall be given to No.13 Crack.						Not Exist		-		Spall without ex-rebar		Ex-rebar with slight corrosion		Ex-rebar with remarkable corrosion or broken re-bar. Or dela		PSC-PRE: numbers of girder RC-S, Box Bridge: 9 in holizontal plane PSC-POS, RCS-RCB: main beam divided by cross beam Substructure: 9 in vertical plane Arch rib: 9 in holizontal plane Spandrel: 6 outside of 9.	12
13	Crack (PC)	Width ≥ 0.2mm	0.2mm > Width ≥ 0.1mm	Width < 0.1mm	Interval ≤ 50cm	–	Interval > 50cm	Not Exist		S	S	S M	L S	M L	L S	L	L		13
	Crack (RC)	Width ≥ 0.3mm	0.3mm > Width ≥ 0.2mm	Width < 0.2mm	Interval ≤ 50cm	–	Interval > 50cm	Not Exist		S	S	S M	L S	M L	L S	L	L		
	Crack (Arch: stone)	Width ≥ 30mm	30mm > Width ≥ 10mm	Width < 10 mm	Water leak	–	No water leak	Not Exist		S	S	S M	L S	M L	L S	L	L		
14	Damage on Anchorage	–	–	–	–	–	–	Not Exist		–	–	Crack on plug concrete		–	–	Trace of rust, Broken plug concrete etc.		Numbers of girder	14
15	Water Leakage from Expansion Joint	–	–	–	–	–	–	Not Exist		–	–	Exist		–	–	Extreme		Persentage of length or numbers (100)	15
16	Damage on Bridge Bearing	–	–	–	–	–	–	Not Exist		–	–	Corrosion of bearing, crack of bearing seat concrete		–	–	Broken, loss of function			16
17	Scour	–	–	–	–	–	–	Not Exist		–	–	Spread and piled: Surround of footing but not under footing Caisson: < width of caisson		–	–	Spread and Piled: Under footing Caisson: ≥ width of caisson		1, exist or not exist	17
18	Mud Deposition / Vegetation	–	–	–	–	–	–	Not Exist		–	–	–	–	–	–	Exist		Truss, Steel: Girder divided by cross beam Substructure: 9 in vertical plane	18
19	Paint Degradation (Steel girder)	–	–	–	–	–	–	Not Exist		-	-	Discoloring on top coat or partial delamination of paint film		-	-	Loss of paint film ≥ 50% of elements or dot rust exists			19
	Paint Degradation (Truss)	–	–	–	–	–	–												
20	Corrosion (Steel girder) Corrosion (Truss)	Section Loss (Corrosion)	–	Rust	Surface area ≥ 1/2 of element	–	Surface area < 1/2 of element	Not Exist		S	S	S	L	L	S	L	L	Girder divided by cross beam/ lateran bracing	20
21	Damage (Rivet / HSFG)	–	–	–	–	–	–	Not Exist		–	–	Nos of loose or lost bolt < 5% of bolt group		–	–	Nos of loose or lost bolt ≥ 5% of bolt group			21
22	Damage on Deck Slab (RC)	Status		a		b		c		d				e				Slab divided by girder and cross beam. Add 1 element for cantilever slab.	22
		1 way crack (Cracks are mainly one way)	Crack	Not Exist		Min interval > about 1m and Max w < 0.05mm (hair crack)		Interval any and Mainly w < 0.1mm (w>0.1 partly)		Interval any and Mainly max w < 0.2mm (w > 0.2mm partly)		Interval any and Mainly max w < 0.2mm (w > 0.2mm partly)		Interval any and Many w > 0.2mm (broken crack edge is observed)		Interval any and Many w > 0.2mm (broken crack edge is observed) or dela or other serious damage such as broken slab			
			Water leak/ free lime	No water leak		No water leak		No water leak		No water leak		Water leak		No water leak		Water leak			
		2 way crack (Cracks are cell patern)	Crack	–		–		Cell pattern size > about 0.5m and Mainly w < 0.1mm (w>0.1 partly)		Cell pattern size 0.5m - 0.2m and Mainly w < 0.2mm (w>0.2 partly)		Cell pattern size any and Mainly w < 0.2mm (w>0.2 partly)		Cell pattern size ≤ 0.2m and Many w > 0.2mm (broken crack edge is observed)		Cell pattern size any and Many w ≥ 0.2mm (broken crack edge is observed) or dela or other serious damage such as broken slab			
			Water leak/ free lime	–		–		No water leak		No water leak		Water leak		No water leak		Water leak			
	Damage on Deck Slab (Steel)	–	–	–	–	–	–	Not Exist		Surface rust and no water leak		Surface rust and water leak		Loss of section and slight water leak		Loss of section and remarkable water leak or other serious damage such as crack of steel			
23	Arch Line (Displacement)	–	–	–	–	–	–	Not Exist		–	–	–	–	–	–	Exist		1, exist or not exist	23
24	Deteriorated (Loose)	–	–	–	–	–	–	Not Exist		–	–	–	–	–	–	Exist		Arch rib: 9 in holizontal plane Spandrel: 6 out side of 9	24

Table At 1-2 Damage, Grade of Damage and Concept of Element

Notes:

◎: Quantity of elements are easy to calculate. The ratio of each grade of damage shall be recorded.

○: Quantity of elements are not easy to calculate. The percentage of each grade of damage shall be recorded.

▲: Quantity of elements is not easy to calculate. The ratio of each grade of damage shall be recorded by 9 elements, 6 elements or 1 element.

- No need to record.

Bridge Surface

Component	Member	Damage		Grade of Damage					Basic Concept of Element
		No.	Type	a	b	c	d	e	
Bridge Surface	Pavement	1	Pothole	▲	-	▲	-	▲	9 elements in horizontal plane
		2	Pavement Crack	▲	-	▲	-	▲	
		3	Rutting	▲	-	▲	-	▲	
		4	Waving	▲	-	▲	-	▲	
	Expansion Joint	5	Damage on Expansion joint	○	-	-	-	○	Percentage of damage in length
		6	Difference in Levels	○	-	○	-	○	
	Accessories	7	Damage on Drainage	○	-	-	-	○	Percentage of damage in numbers of drainage on catch basin
		8	Damages on Service Duct	○	-	-	-	○	Percentage of damage in length
		9	Damages on Railing / Parapet	○	-	-	-	○	
	Approaches	10	Settlement of Surface	▲	-	-	-	▲	divided by 3 in the transverse direction
		11	Approach Bank / River Bank	▲	-	-	-	▲	

Bridge Structure (PSC-PRE)

Component	Member	Damage		Grade of Damage					Concept of Element
		No.	Type	a	b	c	d	e	
Superstructure	Main Beam	12	Spall / Dela / Ex-Rebar	◎	◎	◎	◎	◎	numbers of girder
		13	Crack	◎	◎	◎	◎	◎	
		14	Damage on Anchorage	◎	-	◎	-	◎	
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○	Percentage of damage in length or numbers of bearing
		16	Damage on Bridge Bearing	○	-	○	-	○	
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲	1 element, exist or not exist
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲	9 elements in vertical plane
		13	Crack	▲	▲	▲	▲	▲	
		18	Mud Deposition / Vegetation	▲	-	-	-	▲	

Bridge Structure (RC-S)

Component	Member	Damage		Grade of Damage					Concept of Element
		No.	Type	a	b	c	d	e	
Superstructure	Deck Slab	12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲	9 elements in horizontal plane
		13	Crack	▲	▲	▲	▲	▲	
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○	Percentage of damage in length or numbers of bearing
		16	Damage on Bridge Bearing	○	-	○	-	○	
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲	1 element, exist or not exist
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲	9 elements in vertical plane
		13	Crack	▲	▲	▲	▲	▲	
		18	Mud Deposition / Vegetation	▲	-	-	-	▲	

Bridge Structure (PSC-POS,RCS-RCB)

Component	Member	Damage		Grade of Damage					Concept of Element
		No.	Type	a	b	c	d	e	
Superstructure	Main Beam	12	Spall / Dela / Ex-Rebar	◎	◎	◎	◎	◎	Main beam divided by Cross Beam
		13	Crack	◎	◎	◎	◎	◎	
		14	Damage on Anchorage	◎	-	◎	-	◎	Numbers of girder
	Deck Slab	12	Spall / Dela / Ex-Rebar	◎	◎	◎	◎	◎	Slab divided by girder and cross beam
		13	Crack	◎	◎	◎	◎	◎	
	Diaphragm	12	Spall / Dela / Ex-Rebar	◎	◎	◎	◎	◎	Cross beam divided by main girder
		13	Crack	◎	◎	◎	◎	◎	
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○	Percentage of damage in length or numbers of bearing
		16	Damage on Bridge Bearing	○	-	○	-	○	
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲	1 element, exist or not exist
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲	9 elements in vertical plane
		13	Crack	▲	▲	▲	▲	▲	
		18	Mud Deposition / Vegetation	▲	-	-	-	▲	

Bridge Structure (Box Bridge)

Component	Member	Damage		Grade of Damage					Concept of Element
		No.	Type	a	b	c	d	e	
Superstructure	Deck Slab	12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲	9 elements in horizontal plane
		13	Crack	▲	▲	▲	▲	▲	
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲	1 element, exist or not exist
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲	9 elements in vertical plane
		13	Crack	▲	▲	▲	▲	▲	

Bridge Structure (Truss Bridge)

Component	Member	Damage		Grade of Damage					Concept of Element
		No.	Type	a	b	c	d	e	
Superstructure	Main Beam	19	Paint Degradation	◎	◎	◎	◎	◎	girder divided by cross beam/lateral bracing
		20	Corrosion	◎	◎	◎	◎	◎	
		21	Damage (Rivet / HSFG)	◎	-	◎	-	◎	
		18	Mud Deposition / Vegetation	◎	-	-	-	◎	
	Deck Slab	22	Damage on Deck Slab (Steel)/(RC)	◎	◎	◎	◎	◎	Slab divided by girder and cross beam
	Cross Beam	20	Corrosion	◎	◎	◎	◎	◎	Cross beam divided by main girder
		21	Damage (Rivet / HSFG)	◎	-	◎	-	◎	
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○	Percentage of damage in length or numbers of bearing
		16	Damage on Bridge Bearing	○	-	○	-	○	
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲	1 element, exist or not exist
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲	9 elements in vertical plane
		13	Crack	▲	▲	▲	▲	▲	
		18	Mud Deposition / Vegetation	▲	-	-	-	▲	

Bridge Structure (Steel Bridge)

Component	Member	Damage		Grade of Damage					Concept of Element
		No.	Type	a	b	c	d	e	
Superstructure	Main Beam	19	Paint Degradation	◎	◎	◎	◎	◎	girder divided by cross beam/lateral bracing
		20	Corrosion	◎	◎	◎	◎	◎	
		21	Damage (Rivet / HSFG)	◎	-	◎	-	◎	
		18	Mud Deposition / Vegetation	◎	-	-	-	◎	
	Deck Slab	22	Damage on Deck Slab (Steel)/(RC)	◎	◎	◎	◎	◎	Slab divided by girder and cross beam
	Cross Beam	20	Corrosion	◎	◎	◎	◎	◎	Cross beam divided by main girder
		21	Damage (Rivet / HSFG)	◎	-	◎	-	◎	
Bridge Bearing	Bridge Bearing	15	Water Leakage from Expansion Joint	○	-	○	-	○	Percentage of damage in length or numbers of bearing
		16	Damage on Bridge Bearing	○	-	○	-	○	
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲	1 element, exist or not exist
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲	9 elements in vertical plane
		13	Crack	▲	▲	▲	▲	▲	
		18	Mud Deposition / Vegetation	▲	-	-	-	▲	

Bridge Structure (Arch Bridge)

Component	Member	Damage		Grade of Damage					Concept of Element
		No.	Type	a	b	c	d	e	
Superstructure	Arch Rib	23	Arch Line (Displacement)	▲	-	-	-	▲	1 element, exist or not exist
		13	Crack	▲	▲	▲	▲	▲	9 elements in horizontal plane
		24	Deteriorated (Loose)	▲	-	-	-	▲	
		18	Vegetation	▲	-	-	-	▲	
	Spandrel	13	Crack	▲	▲	▲	▲	▲	Out sides of 6 elements in 9 elements
		24	Deteriorated (Loose)	▲	-	-	-	▲	
		18	Vegetation	▲	-	-	-	▲	
Substructure	Abutment and Pier	17	Scour	▲	-	▲	-	▲	1 element, exist or not exist
		12	Spall / Dela / Ex-Rebar	▲	▲	▲	▲	▲	9 elements in vertical plane
		13	Crack	▲	▲	▲	▲	▲	
		18	Mud Deposition / Vegetation	▲	-	-	-	▲	

Table At 1-3 Selection of Kind of Damage

MOC 88			MLIT14			This Manual		
Material	No	Damage	Material	No	Damage	Material	No	Damage
Bridge Surface								
Others	17	Pothole	Others	15	Abnormality of pavement	Others	1	Pothole
Others	18	Pavement crack	Others	15	Abnormality of pavement	Others	2	Pavement crack
Others	19	Rutting				Others	3	Rutting
Others	16	Gap/ Corrugation	Others	14	凹凸of pavement surface	Others	4	Waving
Others	15	Abnormality of girder end space	Others	13	Abnormality of girder end space	Others	5	Damage on Expansion Joint
Others	16	Gap/ Corrugation				Others	6	Difference in Level
Common	27	Sedimentation of soil	Common	24	Sedimentation of soil	Common	7	Damage on Drainage
Steel	5	Break	Steel	4	Break	Common	8	Damage on Service Duct
Steel	5	Break	Steel	4	Break	Common	9	Damage on Railing/ Parapet
						Others	10	Settlement of Surface
						Others	11	Approach Bank River Bank
Bridge Structure								
Concrete	8	Spall/ Ex-Rebar	Concrete	7	Spall/ Ex-Rebar	Concrete	12	Spall/ Dela/ Ex-Rebar
Concrete	10	Honeycomb/ Void						
			Concrete	12	Delamination			
Concrete	7	Crack	Concrete	6	Crack	Concrete	13	Crack
Common			Common	18	Abnormality of anchorage	Common	14	Damage of Anchorage
Common	22	Water leak/ stagnancy	Common	20	Water leak/ stagnancy	Common	15	Water Leakage from Expansion Joint
			Others	16	Function damage of bridge bearing	Common	16	Damage on Bridge Bearing
Common	31	Scour	Common	26	Scour	Common	17	Scour
Common	27	Sedimentation of soil	Common	24	Sedimentation of soil	Common	18	Mud Deposition/ Vegetation
Steel	6	Degradation of Paint	Steel	5	Degradation of rust proof	Steel	19	Paint Degradation
Steel	1	Corrosion	Steel	1	Corrosion	Steel	20	Corrosion
Steel	2	Crack	Steel	2	Crack			
Steel	5	Break	Steel	4	Break			
Steel	3	Loose	Steel	3	Loose/ Fallen	Steel	21	Damage (Rivet/ HSFG)
	4	Fallen						
Concrete	9	Free lime	Concrete	8	Water leak/ Free lime	Concrete	22	Damage on Deck Slab (RC)
Concrete	12	Broken slab	Concrete	9	Broken slab			
Concrete	14	Crack of deck slab	Concrete	11	Crack of deck slab			
			Concrete	12	Delamination			
Steel	1	Corrosion	Steel	1	Corrosion	Steel	22	Damage on Deck Slab (Steel)
Steel	2	Crack	Steel	2	Crack			
Common	25	Abnormal	Common	22	Abnormal	Others	23	Arch Line (Displacement)
						Others	24	Deteriorated (Loose)
Concrete	13	Repair by steel plate	Common	10	Damage on repaired reinforced member			Evaluation method of No.1 to No.24 shall be applied.
Concrete	11	Worn down/ erosion						Not considered.
Others	20	Others	Others	17	Others			Not considered.
Common	21	Change color/ deterioration	Common	19	Change color/ deterioration			Not considered.
Common	23	Abnormal sound	Common	21	Abnormal sound/ vibration	Others	25	These damages shall be recorded in the Remarks of Bridge Inspection Sheet and photographs shall be taken.
Common	24	Abnormal vibration						
Common	25	Abnormal deflection	Common	22	Abnormal deflection			
Common	26	Deformation	Common	23	Deformation and lack of structural member			
Common	32	Lack of structural member						
Common	28	Settlement	Common	25	Settlement/ Movement/ Inclination			
Common	29	Movement	Common					
Common	30	Inclination	Common					

Attachment 1
Guideline for Development of Bridge Inspection Record Sheets (Example)

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Introduction

Attachment 1 shows the way of recording of a damage, observed on the structure member at periodic inspections.

1. Damage Evaluation System

It is necessary to evaluate the degree of damage quantitatively, specially focused on severity and extent of damage.

The extent of damage towards whole member will be recorded as the number of total damaged element / Total elements, which is related to Soundness Index and scale of repair work.

Quantitative evaluation and damage recording should be done at the site. The damage between different members is described as weighing for calculation. Actual value of weighing factor was surveyed through the recommendation of RDA by AHP method, the data will be digitalized.

For example, in the case of rust, distinguishing evaluation of rusted point and section loss due to the severity of rusting including degree of damage, evaluated by Extent / Severity. Severity is a concept which describes the degree of damage by depth or vertically. However, it is not a procedure to measure the depth, and information should be collected through eye observation.

2. The system of evaluation and recording of damage, to be expanded it to whole members. (Unit of member and Marking on the diagram)

   Use of Inspection Support System, will save time of inspection work & make the work more standardized and easy to prepare inspection records. Records of inspection will be entered into the database which could be utilized as a planning and management tool.

- Worksheet for Site Work

Blank inspection worksheet can be printed from the inspection support system and taken to the site. On the worksheet each type of damage will be recorded. Damaged unit number and the location will be recorded too. After the inspection has been completed the data can be entered into the system by another person in order to save time.

On the worksheet each type of damage will be recorded, damaged unit number and the location, inspect for damages all over the structure to ascertain that all the damages have been identified and information taken**.** After inspection, data input to the system could be done by a person other than the inspector, in order to save time.

- Marking the Diagram

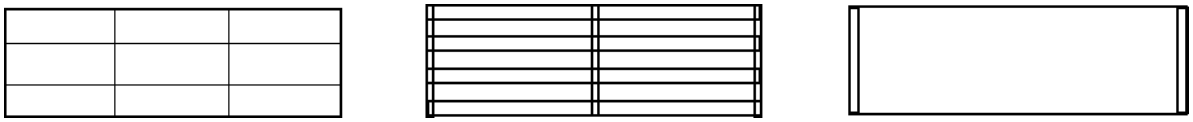
The purpose of marking the diagram is to confirm the damage at the site, to evaluate degree and the cause of damage.

The basic pattern of marking a diagram is 9 divisions of each member. Because the cause of damage due to external force (shearing forces on mid span and at support, bending moment, Impact etc.) through span section force is different, divide marking into 3 parts in span direction.

In the width direction, outer side and inner side, the loading condition or environmental conditions are different, then divide in to 3 parts in transverse direction of the bridge is required.

Therefore marking diagrams of members are divided into 9. Shapes of diagrams are different: as uniformed structures are divided into 9 parts, girder bridges are divided into number of main beams and cross beams.

Example of marked diagram is shown below.



Uniform structure Divide into 9

Number of main beams and cross beams

Expansion Joint

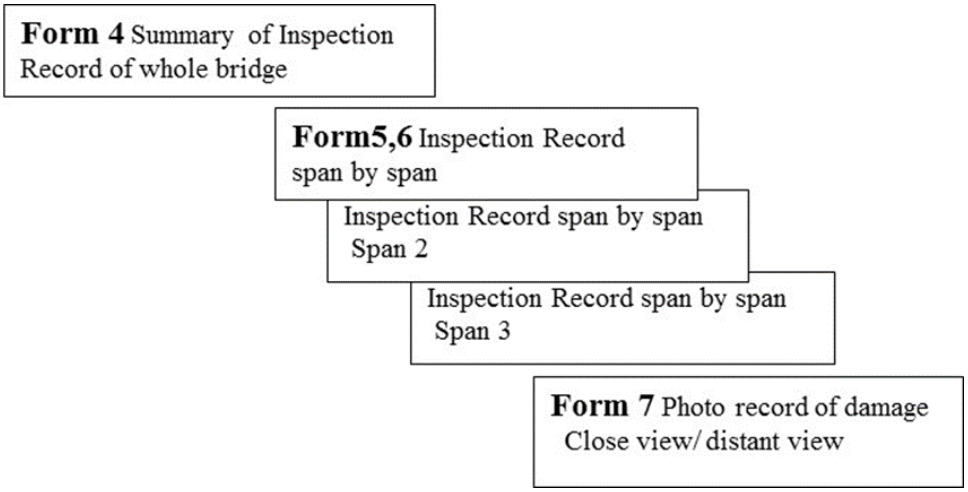
Sample of Marked Diagram

3. Inspection Record Form

Inspection form is prepared for time saving and standardizing;

It is also useful to understand the condition of the whole bridge in general. Prepare a record for the whole bridge and record for each span separately.

- Form 4 Summary sheet of Inspection Record for the whole bridge : Soundness index, classification of soundness, standard repair cost for each span/member. As a result, low soundness span or members can be easily found out.
- Form 5 &6, Inspection Record of each span : record of damage objectively/mark the diagram (Confirm damage at site, evaluation of progress of damage, estimation of cost of damage)
- Form 7 Photo record of damage : For each damage close and distant photos are taken for record purposes.



Components of Inspection record

A. Bridge Surface

A.1 Pavement

No.1 Pothole

(1) General Conditions and Features of Damage

Pothole is bowl-shaped; holes of various sizes in the asphalt pavement surface. The standard thickness of asphalt pavement is 50mm. In case the damage reaches to the slab, this will be the cause of water leakage to slab concrete/ steel deck.

Pothole will have the possibility to cause and develop cracks in the pavement. If pavement cracks caused are observed during the inspection of potholes, such pavement cracks shall be recorded at the same time.

Although the pothole had been repaired, the slab underneath the damage shall be checked.

(2) Relation with other Damages

No.2 Pavement Crack

No.12 Spall/ Dela/ Ex-Rebar

No.22 Damage on Deck Slab

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be calculated by the combination of severity and extent of damage.

i) Evaluation on Grade of Damage

Grade of Damage	General Condition	
	Severity of damage	Extent of damage
a	Not Exist	
b	-	-
c	Small	Small, Large
d	-	-
e	Large	Large, Small

ii) General Condition on Status of Progress of Damage

Note: The threshold value is for reference only.

a) Severity of Damage

Classification	General Condition
Large	Deck slab is exposed. Depth of pot hole is 50mm or more.
Small	Deck slab is not exposed. Depth of pot hole is less than 50mm.

Note: The standard thickness of asphalt pavement is 50mm in Sri Lanka. In case the pavement is thinner than 50mm due to rutting and wearing and deck slab is exposed, the classification is “large”.

b) Extent of Damage

Classification	General Condition
Large	Pothole on pavement, size of pot hole is nearly 0.2m in diameter and more
Small	Pothole on pavement, size of pot hole is less than 0.2m.in diameter

Note: In case there are many potholes in one element, the pot hole with the largest diameter shall be the target.

(4) Sample of Damage

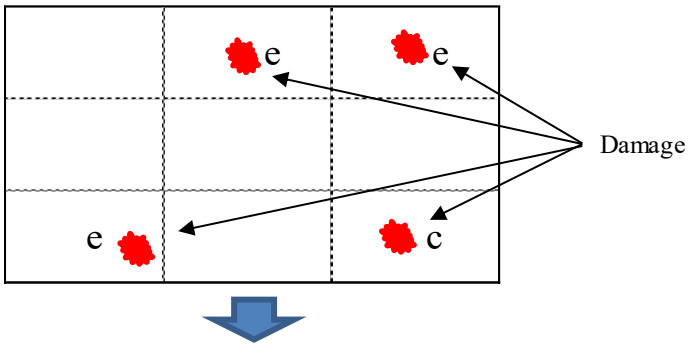
<table>
<tr><td>Grade：c</td><td>Severity：S
Extent：S</td><td>Grade：e</td><td>Severity：L
Extent：L</td></tr>
<tr><td colspan="2"> </td><td colspan="2"> </td></tr>
<tr><td colspan="2">Remark：In case damage on slab such as free lime etc. is observed under this, the severity shall correct to “larger”. Then the grade becomes “e”.</td><td colspan="2">Remark：Check the slab underneath the damage.</td></tr>
</table>

(5) Recording of Damage

The total numbers of elements are 9 ($\sum = 9$) in plane.

As for the target of recording damage, grade of damage “a, c, e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Pavement		☑ Pothole	Quantify	a	b	c	d	e	Σ	<Distant View>
				5		1		3	9	
			Location	Start	Center	End				<Close View>
				Left	☐	☑	☑			
				Center	☐	☐	☐			
				Right	☑	☐	☐			<Remarks>
				[Superstructure Plane Marking]						

Figure 1 Pothole

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be used to show scale of damage.
- Far photo which covers above.

No.2 Pavement Crack

(1) General Conditions and Features of Damage

Cracks that are predominantly perpendicular to or along the pavement centerline and are not located over joints in underlying concrete pavements.

In some cases, one way crack extends to 2 ways crack (square block type crack). In case the damage is 2 way crack and the crack width is more than 0.5mm, there is a possibility that deck slab underneath the pavement crack has damaged due to leakage of water from the pavement crack. Due to stage construction of pavement, there may be 1 way crack with wider width**.** Therefore, deck slab shall also be checked in this instance. In some cases, Pavement crack and Pothole can be observed at the same time. (Refer Damage No.1 Pothole)

(2) Relation with Other Damage

No.1 Pothole

No.12 Spall/ Dela/ Ex-Rebar

No.22 Damage on Deck Slab

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Note: The threshold value is reference only.

Grade of Damage	General Condition
a	Not Exist
b	-
c	Pavement crack width is less than about 5mm.
d	-
e	Pavement crack width is about 5mm and more.

Note: In general, the width of pavement crack is less than 5mm. In case the crack width is more than 5mm, the deck slab shall be checked from bottom side of the slab if the deck slab has damaged.

(4) Sample Damage

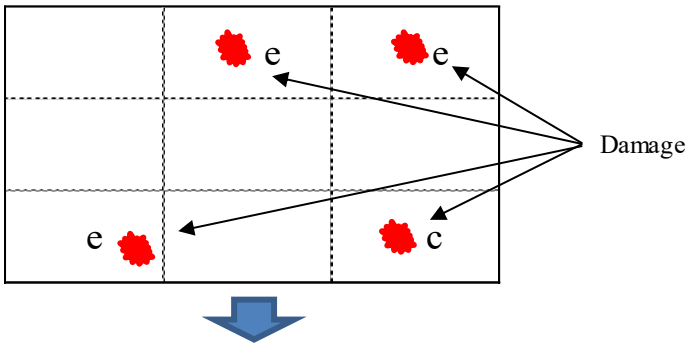
Grade : c		Grade : e	
Remark : Crack width is narrow. No damage on the deck slab.		Remark : Check the slab underneath of this damage whether the slab is damaged or not.	

(5) Record of damage

The total numbers of elements are 9 ($\sum = 9$) in plane.

As for the target of recording damage, grade of damage “a, c, e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Pavement		☑ Crack	Quantify	a	b	c	d	e	å	<Distant View>
				5		1		3	9	
			Location	Start	Center	End			<Close View>
				Left ☐	☑	☑			
				Center ☐	☐	☐			<Remarks>
				Right ☑	☐	☐			
				[Superstructure Plane Marking]					

Figure 2 Pavement Crack

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.3 Rutting

(1) General Conditions and Features of Damage

Rutting is a longitudinal surface depression of pavement caused by wheel path. In case the rutting exists on bridge surface, the water stagnating on the rutting splash onto moving vehicles and pedestrians.

Rutting with level difference less than 20mm is not considered as a damage

(2) Relation with Other Damage

Not Applicable

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be calculated by the combination of severity and extent of damage.

i) Evaluation on grade of damage

Grade of Damage	General Condition	
	Severity of damage	Extent of damage
a	Not Existed	
b	-	-
c	Small	-
d	-	-
e	Large	-

ii) General Condition on Status Progress of Damage

Note: The threshold value is reference only.

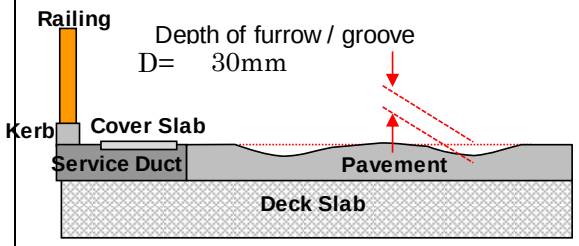
a) Severity of damage

Classification	General Condition
Large	Difference in level (凹凸) is about 30mm or more.
Small	Difference in level (凹凸) is between 20 and 30 mm

b) Extent of damage

Classification	General Condition
Large	Not Applicable
Small	Not Applicable

(4) Sample of Damage

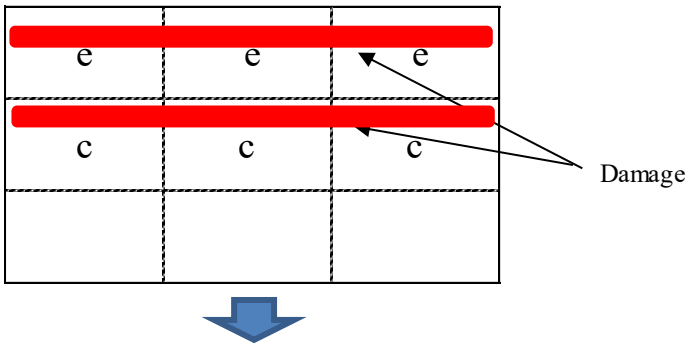
Grade：c	Severity: S 凹凸： 20mm< D <30mm	Grade：e	Severity: L 凹凸：≧30mm
			
Remark：		Remark：	

(5) Record of Damage

The total numbers of elements are 9 (∑ = 9) in plane.

As for the target of recording damage, grade of damage “a, c, e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Pavement		☑ Rutting	Quantify	a	b	c	d	e	å	<Distant View>
				3		3		3	9	
			Location	Start	Center	End				<Close View>
				Left ☑	☑	☑				
				Center ☐	☐	☐				<Remarks>
				Right ☐	☐	☐				
				[Superstructure Plane Marking]						

Figure 3 Rutting

The damage shall be marked on the surface of the bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.

Far photo which covers above.

(6) Other Key Points

Not Applicable

No.4 Waving

(1) General Conditions and Features of Damage

The unevenness or the difference in level in the transverse direction of bridge that creates an impact to running vehicles. As a result, the damage increases impact force to bridge components and members.

(2) Relation with other Damage

Not Applicable

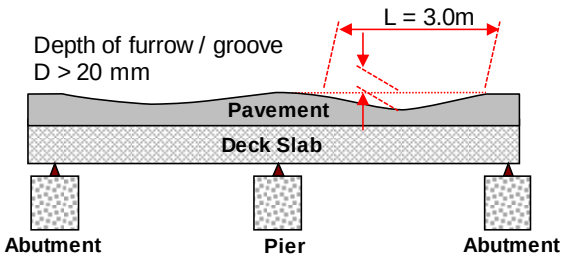
(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent of damage to a member shall be considered by the ratio of each element damaged and total of elements.

Note: The threshold value is reference only.

Grade of Damage	General Condition
a	Not Exist
b	-
c	Difference in level (凹凸) is less than about 20mm.
d	-
e	Difference in level (凹凸) is about 20mm or more.

(4) Sample of damage

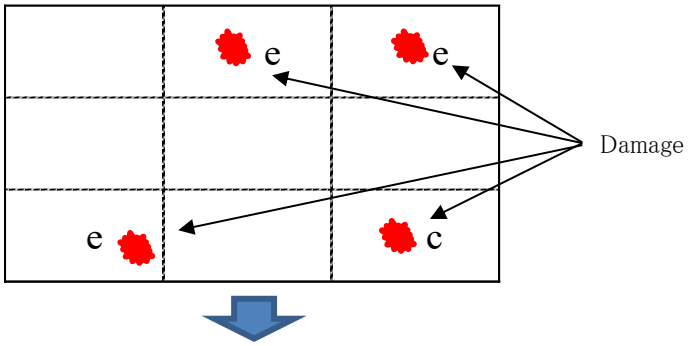
Grade：c	Severity: S	Grade：e	Severity: L
			
Remark：		Remark：	

(5) Record of Damage

The total numbers of elements are 9 (∑ = 9) in plane.

As for the target of recording damage, grade of damage "a, c, e" and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Pavement		☑ Waving	Quantify	a	b	c	d	e	∑	<Distant View>
				5		1		3	9	
			Location	Start	Center	End				<Close View>
				Left	☐	☑	☑			
				Center	☐	☐	☐			<Remarks>
				Right	☑	☐	☐			
				[Super Structure Plane Marking]						

Figure 4 Waving

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

(6) Other key points

Not Applicable

No.5 Damage on Expansion Joint

(1) General conditions and Features of Damage

Damage of expansion of body itself, bolts or dummy joint.

In case the expansion joint is damaged, rain water will damage bridge bearing (damage No. 15 and 16), concrete main girder (refer Damage No.12, 13 and 14), steel structure (refer Damage No.19, 20 and 21), and deck slab (refer Damage No.22).

(2) Relation with other Damage

No.6 Difference in Level

No.15 Water Leakage from Expansion Joint and No.16 Damage on Bridge Bearing

No.12 Spall/ Dela/ Ex-Rebar, No.13 Crack and No.14 Damage on Anchorage

No. 19 Paint Degradation and No.20 Corrosion

No. 22 Damage on Deck Slab

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent of damage to a member shall be considered by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Not Exist
b	-
c	-
d	-
e	Expansion joint is damaged.

Note: In case the space between girder and ballast wall of abutment is very wide (i.e.: the steel finger is widely opened) or girder touching the ballast wall (including trace of touching), the grade shall be “e” and shall be recorded on the Remarks in the Bridge Inspection Sheet.

(4) Sample of Damage

Grade：e	Damage exists.	Grade：e	Damage exists.
Remark：Damage of dummy joint		Remark : Damage of finger plate of expansion joint	

(5) Record of Damage

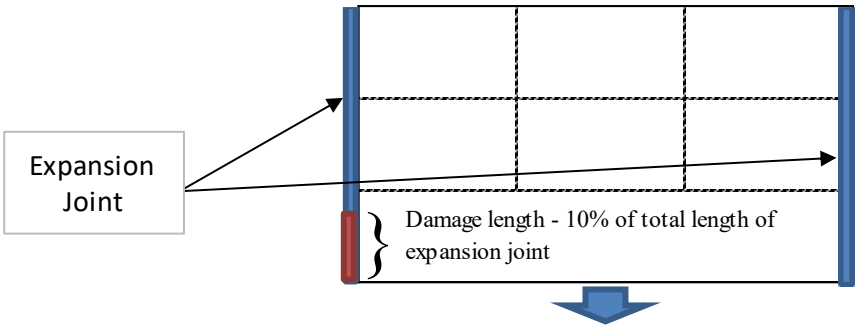
The quantity of elements is percentage in length of expansion Joint (% of total length of damage/ % of total length of expansion joint = 100%).

As for the target of recording damage, grade of damage “a” and “e” and percentage of damage and total shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.

In case of multi span bridge, i.e. 2 span bridge, the damage on A1 and P1 shall be recorded in the inspection sheet of A1-P1 and the damage on A2 shall be recorded in the inspection sheet of P1-A2.

Record sample for single span bridge is as follows:



Component	Member	Defect/Damage/Deterioration							Photographs
Expansion Joint		☑ Damage on Expansion Joint	Quantify	a	b	c	d	e	Σ	<Distant View>
				90		0		10	100	
			Location	Start	Center	End				<Close View>
				Left	☐		☐			
				Center	☐		☐			
				Right	☑		☐			<Remarks>
				[Superstructure Plane Marking]						

Figure 5 Damage on Expansion Joint

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.6 Difference in Levels on Expansion Joint

(1) General Conditions and Features of Damage

There is a difference in level between carriageway and expansion joint or a difference in level at expansion joint. If the level difference is high, it affects safety of moving vehicles (especially motor bikes). As a result, the damage increases impact force on bridge components and members.

(2) Relation with other Damage

No.5 Damage of Expansion Joint

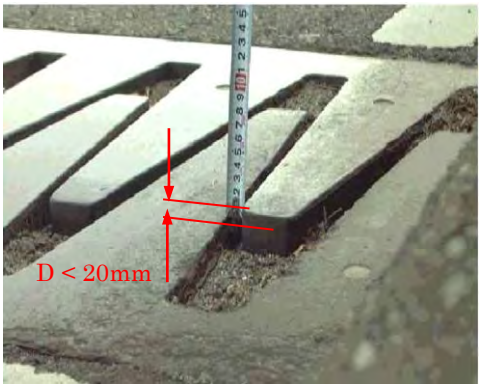
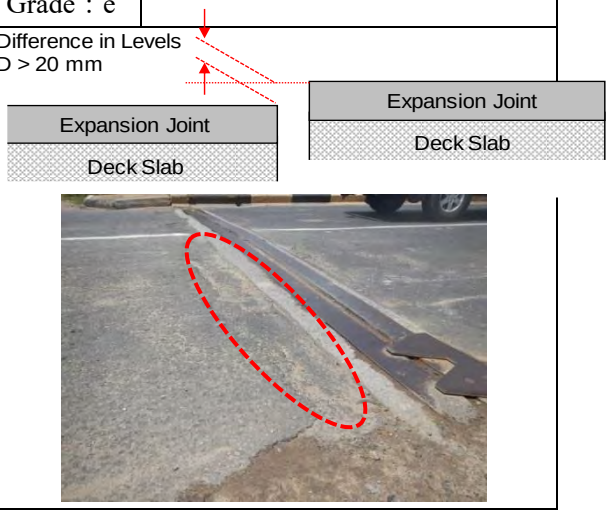
(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general conditions taking into account the severity and extent of damage to the element. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Note: The threshold value is reference only.

Grade of Damage	General Condition
a	Not Exist
b	-
c	Difference in level is less than about 20mm.
d	-
e	Difference in level is about 20mm or more.

(4) Sample of damage

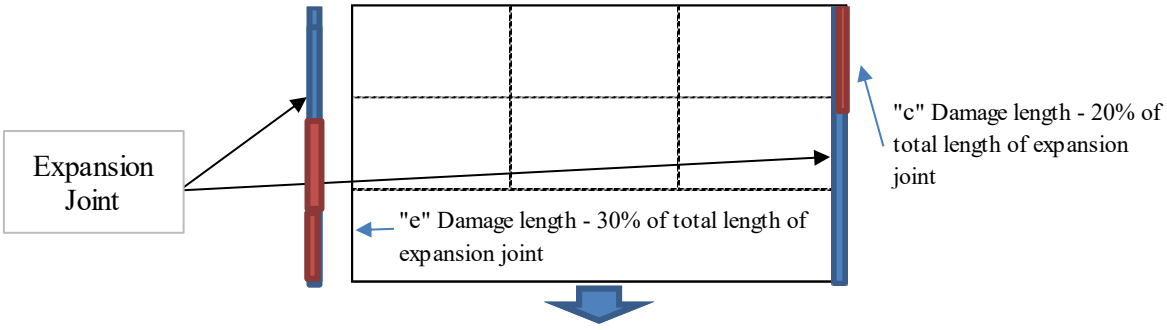
Grade：c	Grade：e
	
Remark：Difference in level is small	Remark：Difference in level is large

(5) Record of Damage

The quantity of elements is percentage in length of expansion Joint (% of total length of each damage/ % of total length of expansion joint).

As for the target for recording damage, grade of damage “a, c and e” and percentage of damage and total shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet. The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.

In case of a multi span bridge, i.e. 2 span bridge, the damage on A1 and P1 shall be recorded in the inspection sheet of A1-P1 and the damage on A2 shall be recorded in the inspection sheet of P1-A2. Record sample for single span bridge is as follows.



Component	Member	Defect/Damage/Deterioration								Photographs
Expansion Joint		✓ Difference in Level	Quantify	a	b	c	d	e	Σ	<Distant View>
				50		20		30	100	
			Location	Start	Center	End				<Close View>
				Left	□		□			
				Center	✓		□			
				Right	✓		□			<Remarks>
				[Superstructure Plane Marking]						

Figure 6 Difference in Level on Expansion Joint

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

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No.7 Damage on Drainage

(1) General conditions and Features of Damage

If there is sedimentation at catch pit or drainage pipe, rain water directly affects the outside girders due to absence of drainage. Evaluation shall be done based on the premise that the drainage system functions as per the requirements or is non-functional as expected. In case of no drainage in accordance with design or as-built-drawing, it can be evaluated as damage has not existed.

(2) Relation with other Damage

No.18 Mud Deposition
No. 20 Corrosion
No. 21 Damage (Rivet/ HSG)

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition, considering severity and extent of element. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Not Exist
b	-
c	-
d	-
e	Catch basin or drainage pipe is plugged with soil and other debris.

(4) Sample of damage

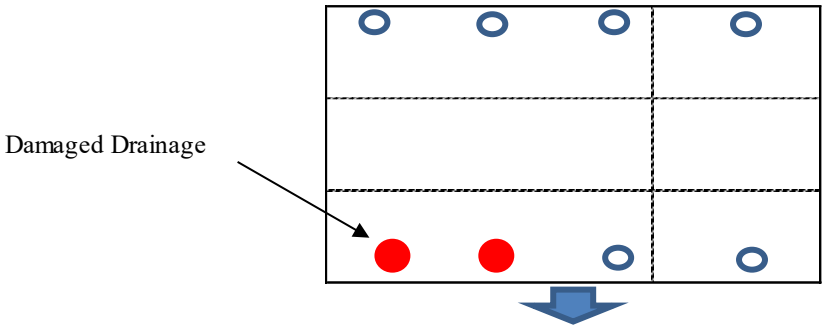
Grade：e		Grade：e	
Remark：Sediment of soil at catch basin		Remark：The drainage pipe is plugged with mud.	

(5) Record of damage

The quantity of elements is percentage of catch basin in quantity (total percentage of damaged drainage /100%).

As for the target of recording damage, grade of damage “a” and “e” and percentage of damage and total shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.

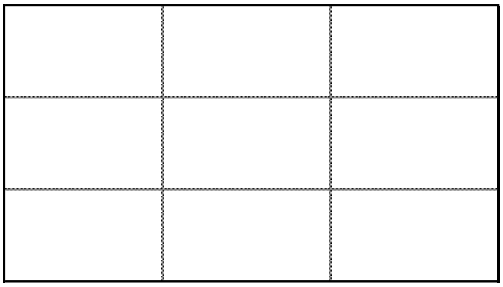


Component	Member	Defect/Damage/Deterioration							Photographs
Accessories		☑ Damage on Drainage	Quantify	a	b	c	d	e	Σ	<Distant View>
				75				25	100	
			Location	Start / Center / End						<Close View>
				Left: ☐ ☐ ☐						
				Center: ☐ ☐ ☐						
				Right: ☑ ☑ ☐						<Remarks>
				[Superstructure Plane Marking]						

Figure 7-1 Damage on Drainage

In case, there is no drainage on the bridge, the record shall be as follows:

No Drainage



Component	Member	Defect/Damage/Deterioration								Photographs
Accessories		☑ Damage on Drainage	Quantify	a	b	c	d	e	å	<Distant View>
									100	
			Location	Start / Center / End						<Close View>
				Left	□	□	□			
				Center	□	□	□			
				Right	□	□	□			<Remarks>
				[Superstructure Plane Marking]						

In the column of Remarks, no drainage shall be written.

Figure 7-2 Damage on Drainage (No drainage)

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

(6) Other key points

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.8 Damage on Service Duct

(1) General conditions and Features of Damage

Damage of concrete cover of service duct or damage of service duct itself.

(2) Relation with other Damage

Not Applicable

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Not Exist
b	-
c	-
d	-
e	Service duct is damaged.

(4) Sample of Damage

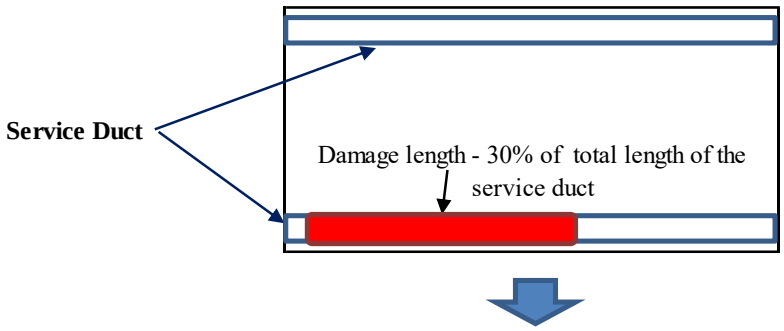
Grade：e	Damage exists.	Grade：	
Remark：Damage of concrete cover		Remark：	

(5) Record of Damage

The quantity of elements is percentage in length of service duct (total percentage of damaged service duct in length / total percentage of service duct in length = 100%.)

As for the target of recording damage, grade of damage “a” and “e” and percentage of damage and total shall be counted. The results shall be recorded in the columns of quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Accessories		☑ Service Duct	Quantify	a	b	c	d	e	Σ	<Distant View>
				70				30	100	
			Location	Start / Center / End						<Close View>
				Left: ☐ ☐ ☐						
				Center: ☐ ☐ ☐						
				Right: ☑ ☑ ☐						<Remarks>
				[Superstructure Plane Marking]						

Figure 8 Damage on Service Duct

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.9 Damage on Railing / Parapet

(1) General conditions and Features of Damage

This damage may cause local deformation or loss of member due to vehicle collision or other causes. Minor damage such as bent of railing only is not required to be evaluated.

(2) Relation with other Damage

Not Applicable

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Not Exist
b	-
c	-
d	-
e	Railing/ Parapet is broke.

Note: Although there is minor damage, the member still has the function/ performance required, it can be evaluated as a.

(4) Sample of Damage

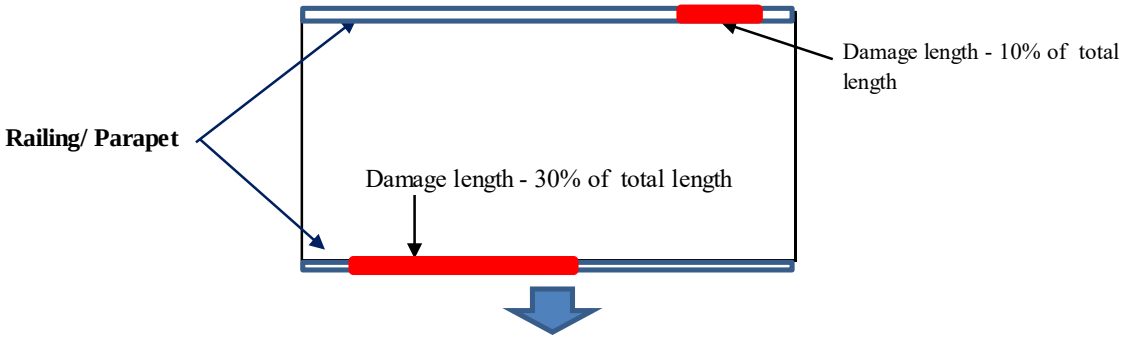
Grade：e	Damage exists.	Grade：a	Minor Damage.
Remark：Lack of handrail partially		Remark：Deformation of handrail locally and no damage on posts. Function of railing is kept.	

(5) Record of Damage

The quantity of elements is percentage in length of handrail (percentage of total damage in length /total length of handrail = 100%).

As for the target of recording damage, grade of damage “a” and “e” and percentage of damage and total shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Accessories		☑ Damage on Railing/ Parapet	Quantify	a	b	c	d	e	Σ	<Distant View>
				60				40	100	
			Location		Start	Center	End			<Close View>
				Left	☐	☐	☑			
				Center	☐	☐	☐			<Remarks>
				Right	☑	☑	☐			
				[Superstructure Plane Marking]						

Figure 9 Damage on Railing / Parapet

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.10 Settlement of Surface at Approaches

(1) General conditions and Features of Damage

This damage means that there is settlement of road surface at approach road. Settlement of surface incline less than 1/20 (I < about 1/20) is evaluated as no damage exists.

(2) Relation with other Damage

Not Applicable

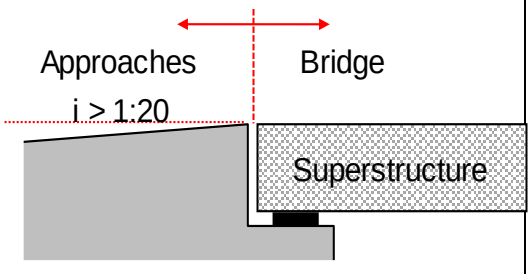
(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Note: The threshold value is reference only.

Grade of Damage	General Condition
a	Not Exist.
b	-
c	-
d	-
e	Approach is settled. In-line i ≥ about 1/20

(4) Sample of Damage

Grade：e	Settlement	Grade：	
			
Remark：		Remark：	

(5) Record of damage

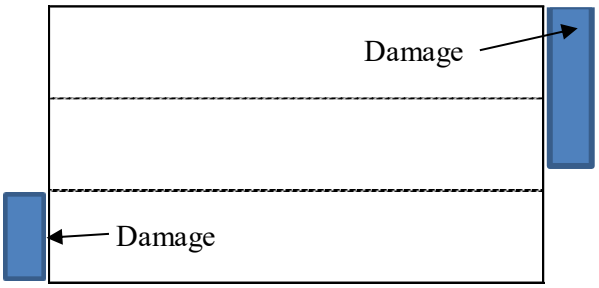
The quantity of elements is 3 in transverse direction of bridge width.

As for the target of recording damage, grade of damage “a” and “e” and numbers of damage and total numbers shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.

In case of a multi span bridge, i.e. 3 span bridge, the damage behind A1 shall be recorded in the inspection sheet of A1-P1 and the damage behind A2 shall be recorded in the inspection sheet of P2-A2.

Record sample for single span bridge is as follows.



Component	Member	Defect/Damage/Deterioration							Photographs
Approaches		☑ Settlement of Surface	Quantify	a	b	c	d	e	Σ	<Distant View>
				3				3	6	
			Location	Start	Center	End				<Close View>
				Left ☐	☐	☑				
				Center ☐	☐	☑				
				Right ☑	☐	☐				<Remarks>
				[Superstructure Plane Marking]						

Figure 10 Settlement of Surface

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.11 Approach Bank / River Bank

(1) General conditions and Features of Damage

This damage denotes the collapse or outflow of approach embankment or its slope protection block /settlement of road surface at approach to the bridge

(2) Relation with other Damage

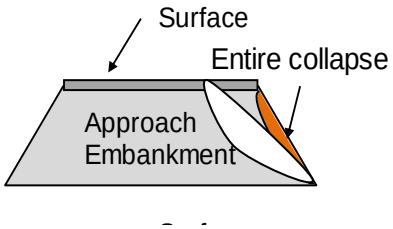
No.17 Scour

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of damage to the element. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Not Exist
b	-
c	-
d	-
e	Approach embankment is collapsed or out-flown.

(4) Sample of Damage

Grade：e	Damage exists.	Grade：e	Damage exists.
			
Remark：Collapse of approach embankment. The damage reached to middle of approach embankment.		Remark：Collapse of approach embankment.	

(5) Record of damage

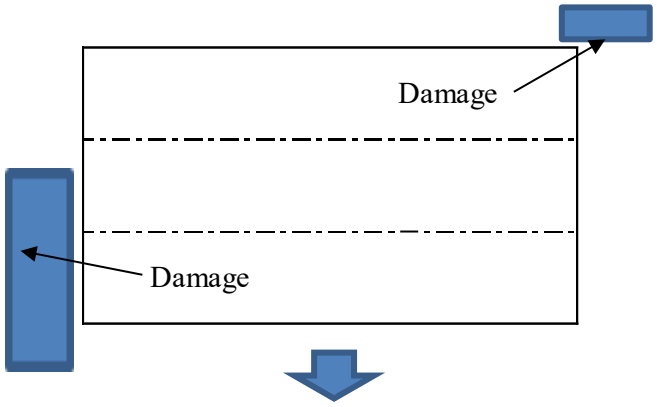
The quantity of elements is 3 in transverse direction of bridge width.

As for the target of recording damage, grade of damage “a” and “e” and numbers of damage and total numbers shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.

In case of a multi span bridge, i.e. 3 span bridge, the damage behind A1 shall be recorded in the inspection sheet of A1-P1 and the damage behind A2 shall be recorded in the inspection sheet of P2-A2.

Record sample for single span bridge is as follows.



Component	Member	Defect/Damage/Deterioration							Photographs
Approaches		☑ Approach Bank/ River Bank	Quantify	a	b	c	d	e	Σ	<Distant View>
				3				3	6	
			Location		Start		Center		End	<Close View>
				Left	☐				☑	
				Center	☑				☐	
				Right	☑				☐	<Remarks>
				[Superstructure Plane Marking]						

Figure 11 Approach Bank/ River Bank

The damage shall be recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

B. Bridge Structure

No.12 Spall / Dela / Exposed-Rebar

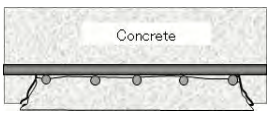
(1) General conditions and Features of Damage

Dela: Although surface of concrete member is slightly damaged (cosmetic repair), there is no exposure of re-bars.

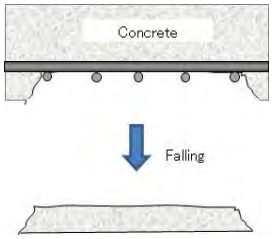
Spall: Falling off of concrete surface and main corroded re-bar is exposed**.**

Exposure of re-bars : Outside re-bars can be seen with exfoliation/detachment of concrete cover caused by thin concrete cover. Re-bar is rusted or slightly corroded.

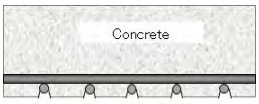
Dela



Spall



Exposure of re-bars



Cover concrete is not enough.

In General, the damage of concrete progress is as follows.

i) Crack (refer damage No.12)

ii) Water affects the re-bar inside of concrete, it then becomes dela.

iii) Spall of concrete.

And/ or

i) Change of property of cover convert from alkaloid to neutral

ii) Corrosion of re-bar since cover concrete cannot protect the re-bar

iii) Dela causes spall of cover. Re-bar exposure.

In case the concrete cover is too thin, this action progresses quickly.

Pothole and wide width crack on pavement increas**e** the damage of spall and dela. (Refer damage No.1 and 2)

The surface concrete of dela shall be checked by using hammering method. In case the rebound reaction is weak and knocking sound is not clear, the surface area of concrete has void or dela.

The honeycomb is mainly caused by poor construction techniques adopted e.g. there had been no proper compaction during laying of concrete. This damage shall be evaluated whether re-bar is exposed or not and the ex-rebar is slightly corroded or highly corroded.

(2) Relation with other Damage

No.1 Pothole and No.2 Pavement Crack

No.5 Damage on Expansion Joint

No.12 Crack

No.22-1 Damage on Deck Slab (RC)

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent of damage to member shall be assessed by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Not Exist
b	-
c	Spall without ex-rebar.
d	Ex-rebar with slight corrosion
e	Ex-rebar with remarkable corrosion or broken re-bar. Or delamination of surface concrete.

Note: In case, this damage is found, the same grade shall be given to the element in No.13 Crack although the crack is not found.

(4) Sample of damage

Grade：c	Spall but no exposure of re-bar	Grade：d	Ex-rebar with slight corrosion
Remark：There is no exposure of re-bars and there is spall.		Remark：Exposed re-bar (no corrosion) caused by thin concrete cover	

Grade：d	Ex-rebar with slight corrosion	Grade：e	Dela
Remark：Exposed re-bar (rust but slight corrosion) caused by thin concrete cover		Remark：In case of dara, re-bars are corroded. Check the dela with testing hummer.	

Grade：e	Ex-rebar with remarkable corrosion	Grade：e	Ex-rebar with remarkable corrosion
Remark：Corrosion of re-bars is remarkable. The concrete surface shall be checked with hammering test.		Remark：Corrosion of re-bars is remarkable. The concrete surface shall be checked with hammering test.	

(5) Record of damage

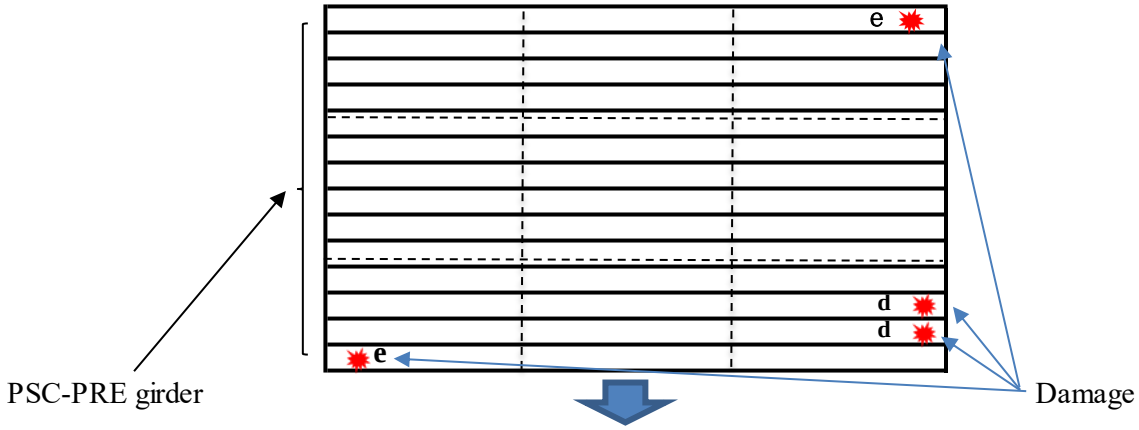
(PSC-PRE)

Main Beam

The total numbers of elements are numbers of main girder.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Main Beam	☑ Spall/ Dela/ Ex-Rebars	Quantify	a	b	c	d	e	å	<Distant View>
				10	0	0	2	2	14	
			Location	Start / Center / End						<Close View>
				Left: ☐ ☐ ☑						
				Center: ☐ ☐ ☐						
				Right: ☑ ☐ ☐						<Remarks>
				[Superstructure Plane Marking]						

Figure 12-1 PSC-PRE

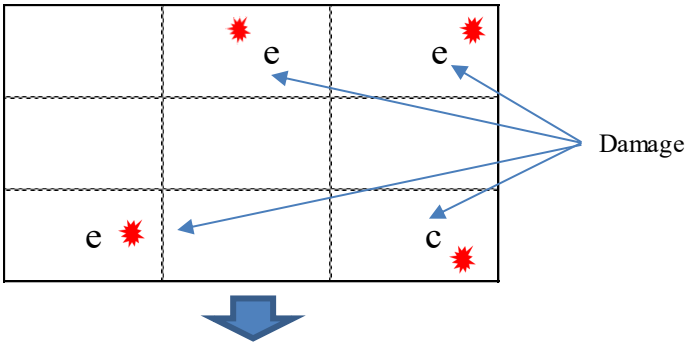
(RC-S)

Deck Slab

The total numbers of elements are 9 (∑ = 9) in plan.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Main Beam	☑ Spall/ Dela/ Ex-Rebar	Quantify	a	b	c	d	e	å	<Distant View>
				5	0	1	0	3	9	
			Location	Start / Center / End Left: ☐ ☑ ☑ Center: ☐ ☐ ☐ Right: ☑ ☐ ☐ [Superstructure Plane Marking]						<Close View>
										<Remarks>

Figure 12-2 RC-S

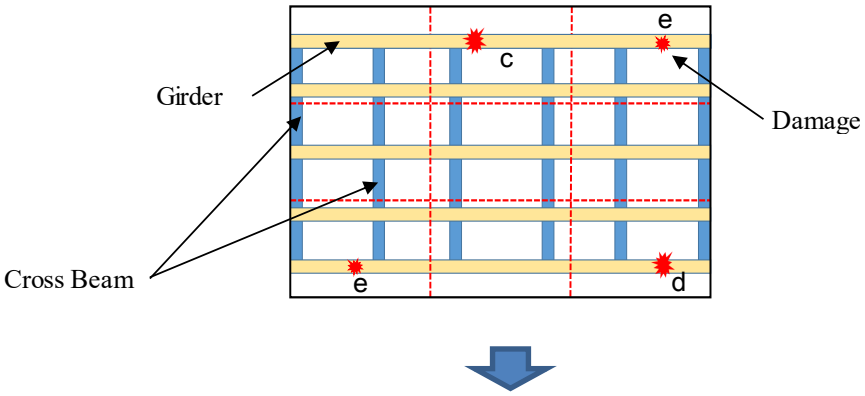
(PSC-POS, RCS-RCB)

Main beam

The elements are main girder divided by cross beam. In case, there are 5 main girders and 6 cross beams, total numbers of elements are 25 (5 x 5).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Main Beam	☑ Spall/ Dela/ Ex-Rebar	Quantify	a	b	c	d	e	Σ	<Distant View>
				21	0	1	1	2	25	
			Location		Start	Center	End			<Close View>
				Left	☐	☐	☑			
				Center	☐	☐	☐			<Remarks>
				Right	☑	☐	☐			
				[Superstructure Plane Marking]						

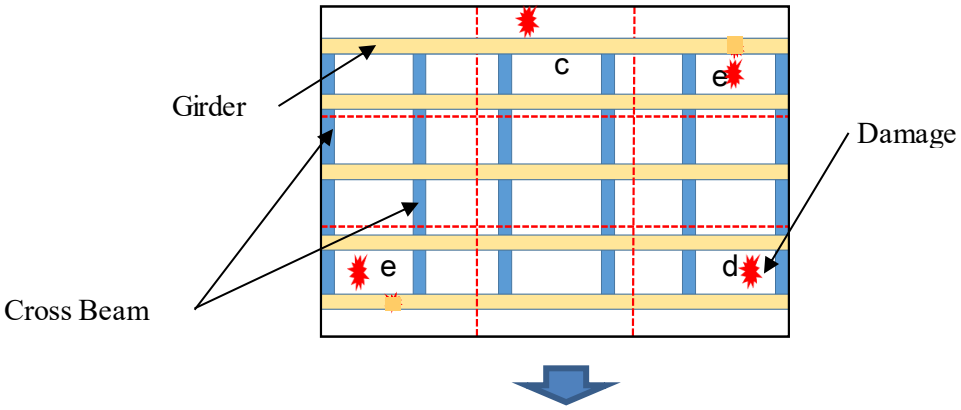
Figure 12-3 Main Beam of PSC-POS, RCS-RCB

Deck Slab

The elements are slab panel divided by main girder and cross beam. In case there are 5 main girders and 6 cross beams and cantilever slab on both sides, the total number of elements is 22 (4 x 6)

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Deck Slab	☑ Spall/ Dela/ Ex-Rebar	Quantify	a	b	c	d	e	Σ	<Distant View>
				18	0	1	1	2	22	
			Location	Start	Center	End				<Close View>
				Left	☐	☐	☑			
				Center	☐	☐	☐			
				Right	☑	☐	☐			<Remarks>
				[Superstructure Plane Marking]						

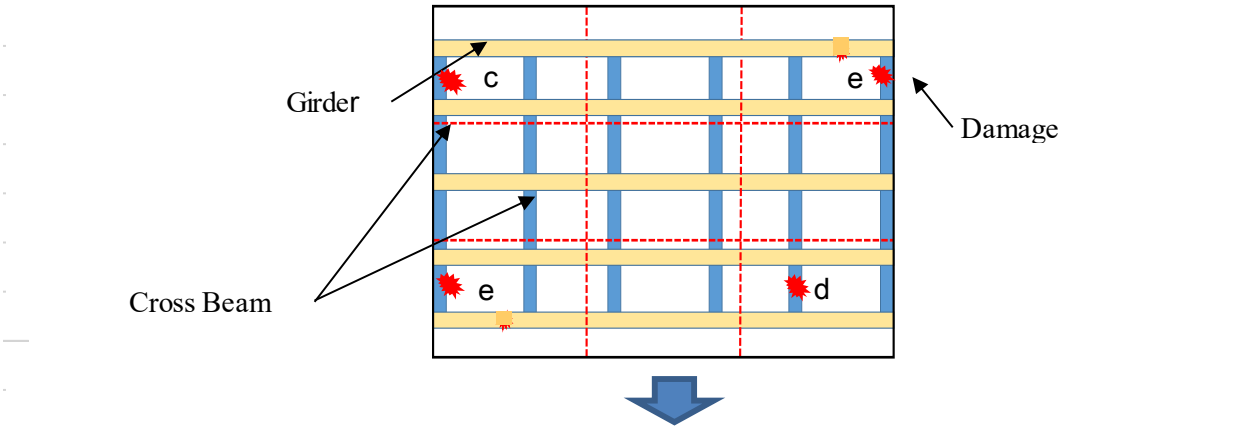
Figure 12-4 Deck Slab of PSC-POS, RCS-RCB

Diaphragm

The elements are diaphragm divided by main girder. In case there are 5 main girders and 6 cross beams, total numbers of elements are 24 (4 x 6).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Diaphragm	☑ Spall/ Dela/ Ex-Rebar	Quantify	a	b	c	d	e	Σ	<Distant View>
				20	0	1	1	2	24	
			Location	Start / Center / End Left: ☐ ☐ ☑ Center: ☐ ☐ ☐ Right: ☑ ☐ ☐ [Superstructure Plane Marking]						<Close View>
										<Remarks>

Figure 12-5 Diaphragm of PSC-POS, RCS-RCB

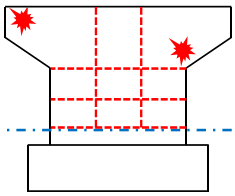
Substructure

The total numbers of elements are 9 (∑ = 9) in vertical projection of plane.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

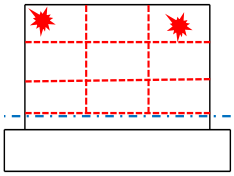
The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet

T – Type Pier



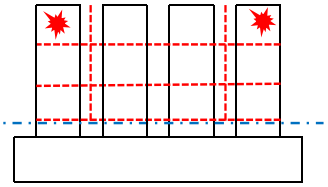
【Vertical】
3 panels for pier body
【Horizontal】
Beam + pier body 2 panels above water level or ground level

Wall Type Pier



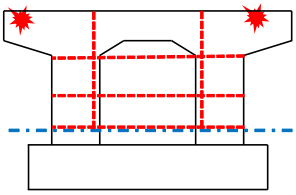
【Vertical】
3 panels for pier body
【Horizontal】
Pier body 3 panels above water level or ground level

Multi Column Pier



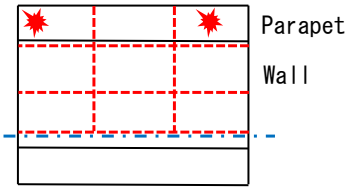
【Vertical】
Total numbers of columns shall be divided into 3 panels.
【Horizontal】
Pier body 3 panels above water level or ground level

Rigid Frame Type Pier



【Vertical】
Total numbers of columns shall be divided into 3 panels.
【Horizontal】
Beam + pier body 2 panels above water level or ground level

Abutment



【Vertical】
3 panels for body
【Horizontal】
Parapet + wall body 2 panels above water level or ground

凡例
Grid line
Exsiting ground or water level
Damage

Component	Member	Defect/Damage/Deterioration								Photographs
Substructure		☑ Spall/ Dela/ Ex-Rebar	Quantify	a	b	c	d	e	Σ	<Distant View>
				7	0	1	1	0	9	
			Location	Start / Center / End						<Close View>
				Left	□	□	☑			
				Center	□	□	□			
				Right	□	□	□			<Remarks>
				[Substructure Plane Marking]						

Figure 12-6 Substructure

RC Bridge

The component of RC Bridge is divided into deck slab, abutment and pier as shown in Figure 12.7.

Superstructure (Deck Slab)

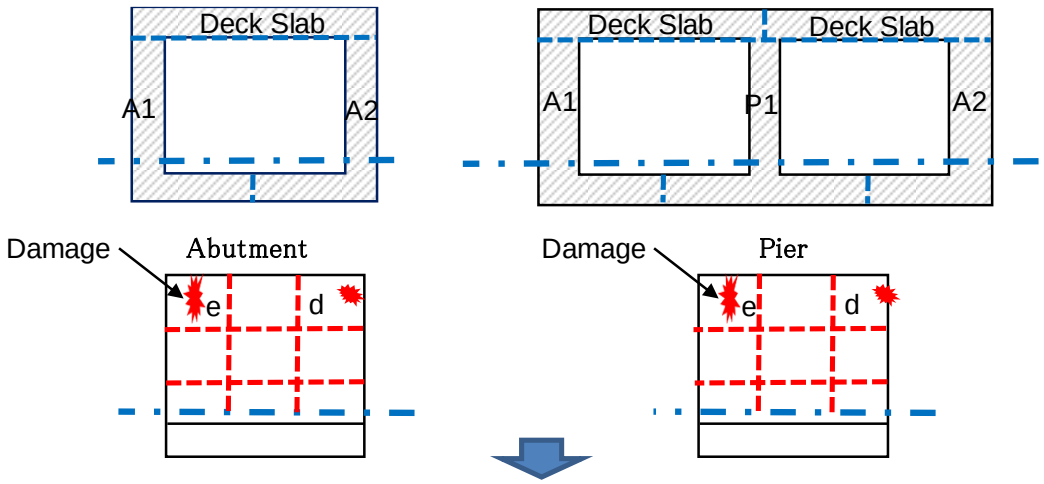
The numbers of elements and record of damage are same as RC-S (refer Figure 12-2).

Substructure

The total numbers of elements are 9 (∑ = 9) in vertical projection of plane.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Substructure		☐ Spall/ Dela/ Ex-Rebar	Quantify	a	b	c	d	e	∑	<Distant View>
				7	0	0	1	1	9	
			Location	Start	Center	End				<Close View>
				Left ☐	☐	☐				
				Center ☐	☐	☐				
				Right ☐	☐	☐				<Remarks>
				[Substructure Plane Marking]						

Figure 12-7 RC Bridge

(6) Other key points

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

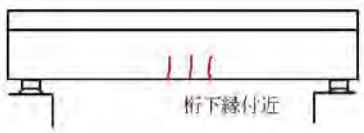
In case there is any deformation or lack of component (due to vehicle collision) on the structure, this shall be recorded in the Remarks of Bridge Inspection Sheet

No.13 Concrete Crack

(1) General Conditions and Features of Damage

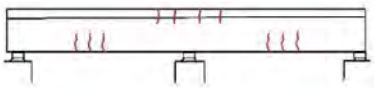
There are cracks at the surface of concrete member.

Center of Span

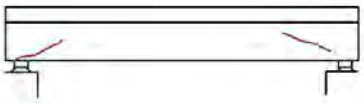


Upper side at intermediate support

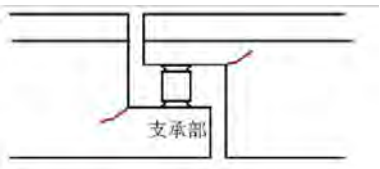
Bottom side of intermediate spans



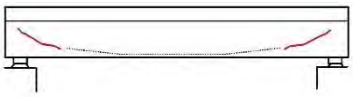
Diagonal crack near support



Gerber hinge



Crack along PC tendon



(2) Relation with other Damage

No.5 Damage on Expansion Joint

No.12 Spall/ Dela/ Ex-Rebar

No.22-1 Damage on Deck Slab (RC)

No.23 Arch Line (Displacement) and No.24 Deteriorated (Loose)

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be calculated by the combination of severity and extent of damage.

i) Evaluation on grade of damage

Grade of Damage	General Condition	
	Severity of damage	Extent of damage
a	Not Exist	
b	Small	Small
c	Small	Large
	Middle	Small
d	Middle	Large
	Large	Small
e	Large	Large

Note: In case, No. 12 Spall/ Dela/ Ex-Rebar is found, the same grade of No.12 shall be given to the element although the crack is not found.

ii) General Condition on Status of Progress of Damage

Note: The threshold value is reference only.

a) Severity of damage

Classification	General Condition
Large	(PC) Width of crack is about 0.2mm or more (RC) Width of crack is about 0.3mm or more (Arch: stone masonry) Width of crack is about 30mm or more
Middle	(PC) Width of crack is about 0.1mm ≤ Width < 0.2mm (RC) Width of crack is about 0.2mm ≤ Width < 0.3mm (Arch: stone masonry) Width of crack is about 10mm ≤ width < 30mm
Small	(PC) Width of crack is less than about 0.1mm (RC) Width of crack is less than about 0.2mm (Arch: stone masonry) Width of crack is less than about 10mm

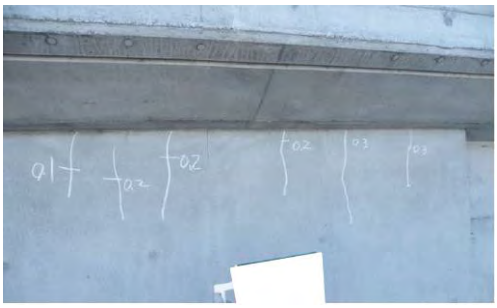
b) Extent of damage

Classification	General Condition
Large	(PC) Width of crack is about interval ≤ 50cm or less (RC) Width of crack is about interval ≤ 50cm or less (Arch: stone masonry) - Water leakage
Middle	-
Small	(PC) Width of crack is about interval > 50cm and more (RC) Width of crack is about interval > 50cm and more (Arch: stone masonry) - No water leakage.

Note: The free line (Trace of water leakage) shall also be checked when crack is observed

(4) Sample of damage

PC

Grade: d	Severity: L Extent: S	Grade: c	Severity: M Extent: S
			
Remark : PSC-PRE, PCS-POS crack width w ≥ 0.2mm. interval > 0.5m		Remark : PSC-PRE, PCS-POS crack width 0.1 ≥ w > 0.2mm is existed in element. Interval > 0.5m	

RC

Grade: c	Severity: M Extent: S	Grade：d	Severity: L Extent: S
Remark：crack width 0.2mm ≤ w < 0.3mm Interval > 0.5m		Remark：crack width w ≥ 0.3mm Interval >0.5m	

Grade：e	Severity: L Extent: L	Grade：	Severity: Extent:
Remark：crack width w > 0.5mm Interval < 0.5m		Remark：	

Arch rib (Stone/ brick masonry)

Grade：e	Severity: L Extent: L	Grade：d	Severity: M Extent: L
Remark：crack width w > 30 mm Water leakage is observed		Remark：Crack along arch rib. Width of crack is about 20mm, water leakage (free lime) is observed.	

(5) Record of damage

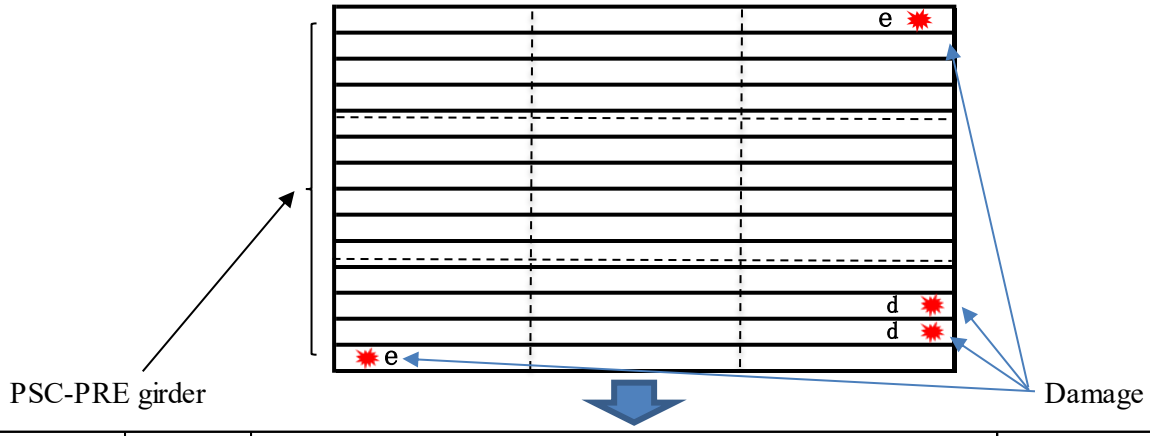
(PSC-PRE)

Main Beam

The total numbers of elements are numbers of main girder.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Main Beam	☑ Crack	Quantify	a	b	c	d	e	Σ	<Distant View>
				10	0	0	2	2	14	
			Location	Start / Center / End						<Close View>
				Left: ☐ ☐ ☑						
				Center: ☐ ☐ ☐						
				Right: ☑ ☐ ☐						<Remarks>
				[Superstructure Plane Marking]						

Figure 13-1 PSC-PRE

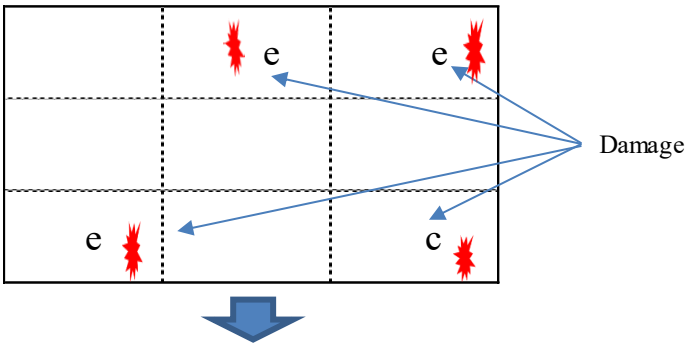
(RC-S)

Deck Slab

The total numbers of elements are 9 (∑ = 9) in plane.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Main Beam	☑ Crack	Quantify	a	b	c	d	e	Σ	<Distant View>
				5	0	1	0	3	9	
			Location	Start	Center	End				<Close View>
				Left	☐	☑	☑			
				Center	☐	☐	☐			<Remarks>
				Right	☑	☐	☐			
				[Superstructure Plane Marking]						

Figure 13-2 RC-S

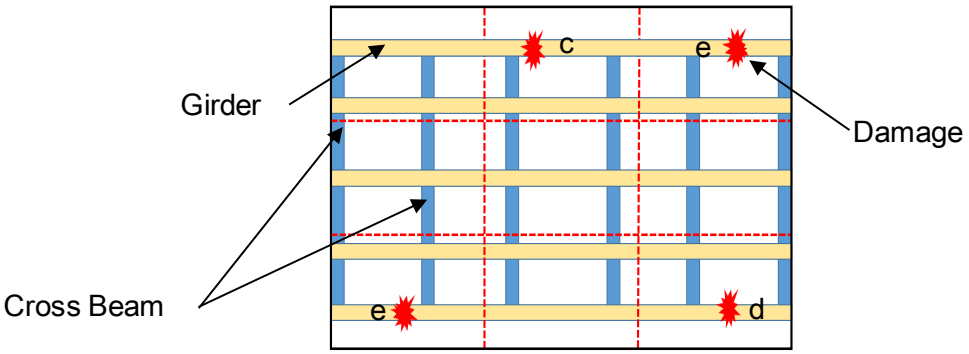
(PSC-POS, RCS-RCB)

Main Beam

The elements are main girder divided by cross beam. In case, there are 5 main girders and 6 cross beams, total numbers of elements are 25 (5 x 5).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Main Beam	☐✓Crack	Quantify	a	b	c	d	e	Σ	<Distant View>
				21	0	1	1	2	25	
			Location	Start / Center / End						<Close View>
				Left ☐ ☐ ☑						
				Center ☐ ☐ ☐						
				Right ☑ ☐ ☐						<Remarks>
				[Superstructure Plane Marking]						

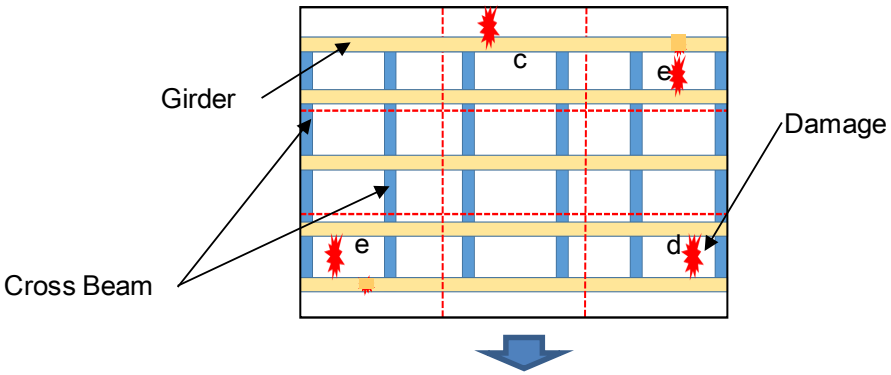
Figure 13-3 Main Beam of PSC-POS, RCS-RCB

Deck Slab

The elements are slab panel divided by main girder and cross beam. In case, there are 5 main girders and 6 cross beams and cantilever slab on both sides, total numbers of elements are 22 (4 x 5 + 2).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Deck Slab	☑ Crack	Quantify	a	b	c	d	e	Σ	<Distant View>
				18	0	1	1	2	22	
			Location	Start	Center	End				<Close View>
				Left	☐	☐	☑			
				Center	☐	☐	☐			
				Right	☑	☐	☐			<Remarks>
				[Superstructure Plane Marking]						

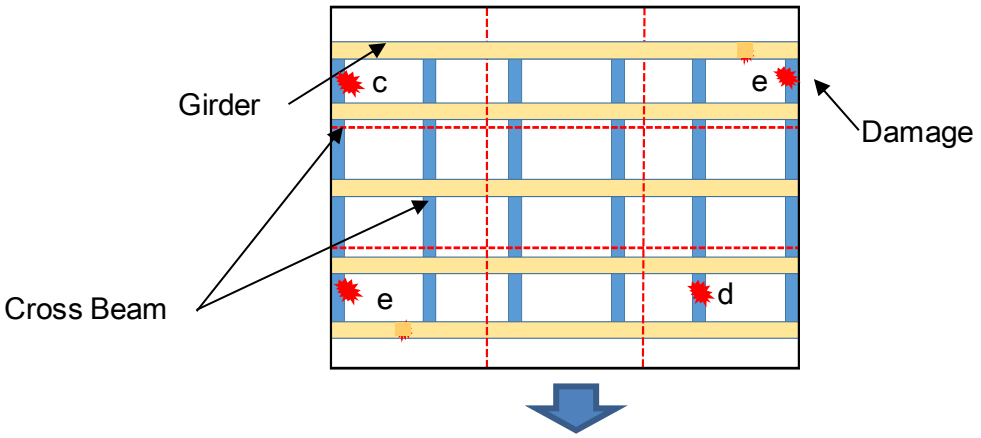
Figure 13-4 Deck Slab of PSC-POS, RCS-RCB

Diaphragm

The elements are diaphragm divided by main girders. In case, there are 5 main girders and 6 cross beams, total numbers of elements are 24 (4 x 6).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Diaphragm	☑ Crack	Quantify	a	b	c	d	e	Σ	<Distant View>
				20	0	1	1	2	24	
			Location	Start / Center / End Left: ☐ ☐ ☑ Center: ☐ ☐ ☐ Right: ☑ ☐ ☐ [Superstructure Plane Marking]							<Close View>
										<Remarks>

Figure 13-5 Diaphragm of PSC-POS, RCS-RCB

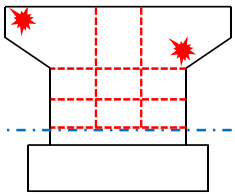
Substructure

The total numbers of elements are 9 (∑ = 9) in vertical projection plane.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

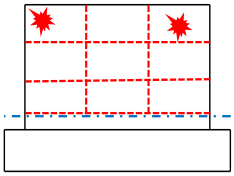
The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.

T – Type Pier



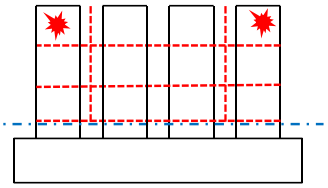
【Vertical】
3 panels for pier body
【Horizontal】
Beam + pier body 2 panels above water level or ground level

Wall Type Pier



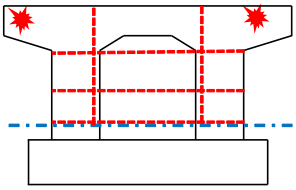
【Vertical】
3 panels for pier body
【Horizontal】
Pier body 3 panels above water level or ground level

Multi Column Pier



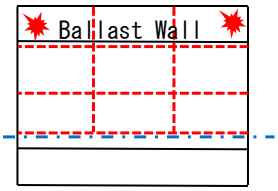
【Vertical】
Total numbers of columns shall be divided into 3 panels.
【Horizontal】
Pier body 3 panels above water level or ground level

Rigid Frame Type Pier



【Vertical】
Total numbers of columns shall be divided into 3 panels.
【Horizontal】
Beam + pier body 2 panels above water level or ground level

Abutment



【Vertical】
3 panels for body
【Horizontal】
Ballast w + wall body 2 panels above water level or

凡例
Grid line
Exsiting ground or water level
Damage

Component	Member	Defect/Damage/Deterioration								Photographs
Substructure		☑ Crack	Quantify	a	b	c	d	e	Σ	<Distant View>
				7	0	1	0	1	9	
			Location	Start	Center	End				<Close View>
				Left ☑	☐	☑				
				Center ☐	☐	☐				
				Right ☐	☐	☐				<Remarks>
				[Substructure Plane Marking]						

Figure 13-6 Substructure

RC Bridge

The component of RC Bridge is divided to deck slab, abutment and pier as shown in Figure 13.7.

Superstructure (Deck Slab)

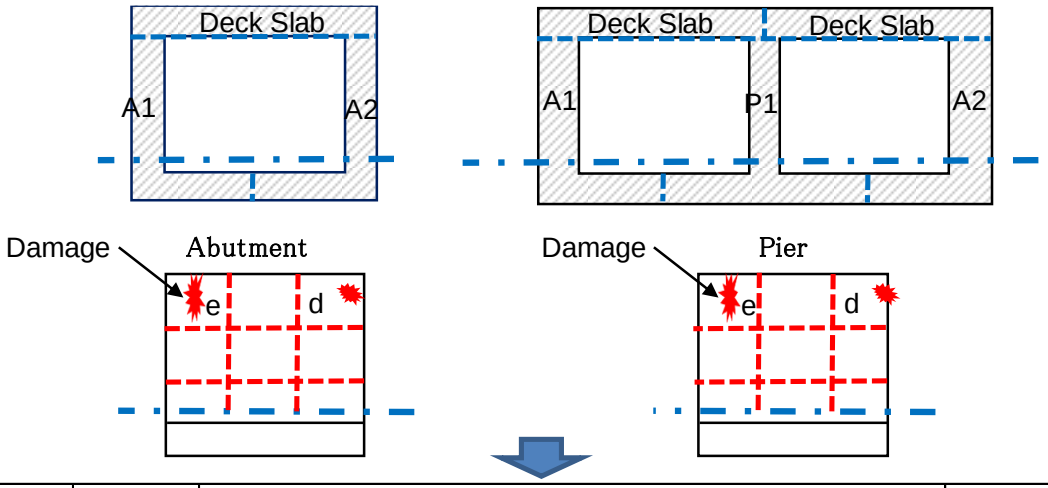
The numbers of elements and record of damage is the same as RC-S (refer Figure 13-2).

Substructure

The total numbers of elements are 9 (∑ = 9) in vertical plane.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Substructure		☑ Crack	Quantify	a	b	c	d	e	∑	<Distant View>
				7	0	0	1	1	9	
			Location	Start / Center / End; Left ☑ ☐ ☑; Center ☐ ☐ ☐; Right ☐ ☐ ☐ [Substructure Plane Marking]						<Close View>
										<Remarks>

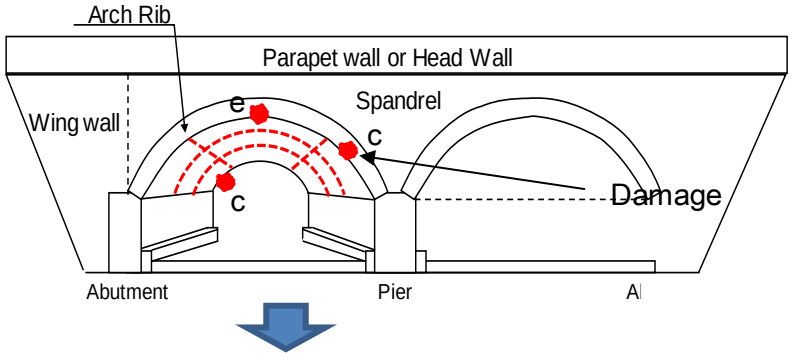
Figure 13-7 RC Bridge

Arch Bridge (Arch Rib)

The total numbers of elements are 9 (∑ = 9) in the plane.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Substructure	Arch Rib	☑ Crack	Quantify	a	b	c	d	e	∑	<Distant View>
				7	0	2	0	1	9	
			Location		Start	Center	End			<Close View>
				Left	☐	☐	☐			
				Center	☐	☐	☐			
				Right	☐	☑	☑			<Remarks>
				[Substructure Plane Marking]						

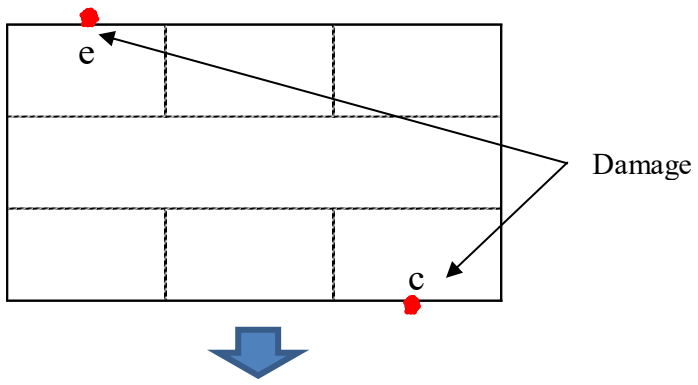
Figure 13-8 Arch Bridge (Arch Rib)

Arch Bridge (Spandrel)

The total numbers of elements are 6 (both outside) out of 9 in the plane.

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Substructure	Spandrel	☑ Crack	Quantify	a	b	c	d	e	Σ	<Distant View>
				4	0	1	0	1	6	
			Location		Start	Center	End			<Close View>
				Left	☑	□	□			
				Center						
				Right	□	□	☑			<Remarks>
				[Superstructure Plane Marking]						

Figure 13-9 Arch Bridge (Spandrel)

(6) Other Key Points

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

In case there is any deformation or loss of part (due to a vehicle collision) on the structure, this shall be recorded in the Remarks of Bridge Inspection Sheet

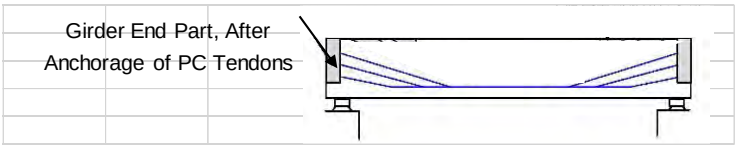
No.14 Damage on Bridge Anchorage

(1) General Conditions and Features of Damage

Abnormality at any anchoring point such as leakage of rust corroded re-bars or damages due to leaching on concrete cover (such as blister).

And any component of anchorage (dewater cover, anchorage block, anchorage, PC tendon etc.) shall be target of inspection.

Anchorage for longitudinal PC tendon



(2) Relation with other Damage

No.5 Damage on Expansion Joint

(3) Evaluation of Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of damage to the element. The extent to member shall be assessed by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Does Not Exist
b	-
c	Crack on plug concrete.
d	-
e	Trace of rust or broken plug concrete or remarkable damage on anchorage part etc.

(4) Sample of damage

Grade：e	Damage of anchorage	Grade：e	Damage of anchorage
Remark: Transverse PC tendon at end crossbeam is corroded.		Remark: Longitudinal PC tendon	

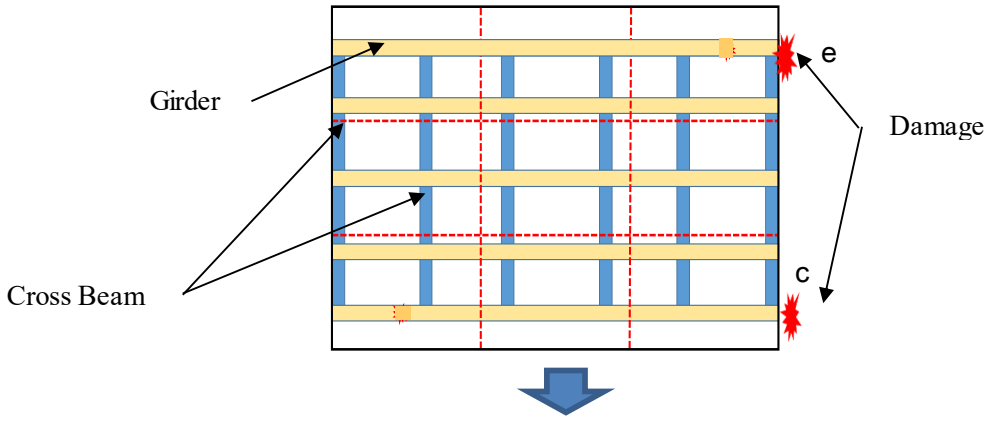
(5) Record of damage

(PSC-PRE), (PSC-POS)

Main Beam

The elements are numbers of main girder. In case, there are 5 main girders, total numbers of elements are 10 (5x 2). As for the target of recording damage, grade of damage “a, c and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Superstructure	Main Beam	☑ Damage on Anchorage	Quantify	a	b	c	d	e	Σ	<Distant View>
				8		1		1	10	
			Location	Start / Center / End						<Close View>
				Left: □ □ ☑						
				Center: □ □ □						
				Right: □ □ □						<Remarks>
				[Superstructure Plane Marking]						

Figure 14 Diaphragm of PSC-PRE, PSC-POS

Diaphragm

No evaluation of diaphragm.

(6) Other Key Points

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.15 Water Leakage from Expansion Joint

(1) General Conditions and Features of Damage

Rainwater does not flow through expansion's drainage system but there is water leakage from expansion to bridge bearing, bearing seat and substructures.

In general, water leakage from expansion joint increases the damage to substructure as well as bridge bearings.

(2) Relation with other Damage

No.5 Damage on Expansion Joint

No. 16 Damage of Bridge Bearing

No. 18 Mud Deposition/ Vegetation

(3) Evaluation of Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent of damages to member shall be considered by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Does Not Exist
b	-
c	Water leakage has existed.
d	-
e	Extreme water leakage from expansion joint and/or there is pond at bearing seat.

Note: When it rains during the inspection, this damage can be found easily. On a sunny day, the damage shall be inspected by visual inspection by tracing of water leakage.

(4) Sample of damage

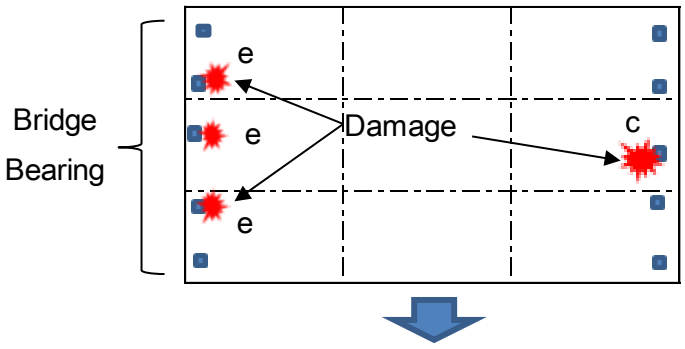
Grade: e	Extreme water leakage	Grade: e	Extreme water leakage
Remark : Puddle of leaked water around bearing seat		Remark : Remarkable water leakage from expansion joint	

(5) Record of Damage

The quantity of elements is percentage in length of bearing seat at expansion joint (% of total length of damage/% of total length of expansion joint = 100%).

As for the target of recording damage, grades of damage “a, c and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Bridge Bearing		☑ Water Leakage from Expansion Joint	Quantify	a	b	c	d	e	Σ	<Distant View>
				60		10		30	100	
			Location		Start		Center		End	<Close View>
				Left	☑		☐		☐	
				Center	☑		☐		☐	
				Right	☑		☐		☐	<Remarks>
				[Superstructure Plane Marking]						

Figure 15 Water Leakage from Expansion Joint

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.16 Damage on Bridge Bearing

(1) General Conditions and Features of Damage

There is lack of bearing capacity or movability of bearing, partially or totally.

(2) Relation with other Damages

No.5 Damage on Expansion Joint
No.16 Damage on Bridge Bearing
No.18 Mud Deposition/ Vegetation

(3) Evaluation on Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of damage to element. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Does Not Exist
b	-
c	Slight damage, which does not affect bridge function such as corrosion of bearing, crack on bearing seat.
d	-
e	There is lack of bearing function such as broken bearing.

(4) Sample of damage

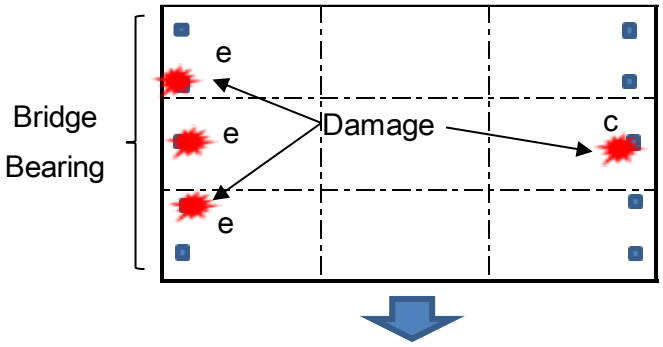
Grade: e		Grade: e	
Remark： Disorder of bearing		Remark： Disorder of bearing	

(5) Record of damage

The elements are percentage of damaged bearings in relation to number of bearings. Total quantity of elements are 100%. Sample of calculation is below.

As for the target of recording damage, grades of damage “a, c and e” and numbers of each element for each grade shall be counted**.** The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Bridge Bearing		☑ Damage on Bridge Bearing	Quantify	a	b	c	d	e	Σ	<Distant View>
				60		10		30	100	
			Location		Start	Center	End			<Close View>
				Left	☑	□	□			
				Center	☑	□	□			
				Right	☑	□	□			<Remarks>
				[Superstructure Plane Marking]						

Figure 16 Damage on Bridge Bearing

In case the number of bearing is not countable, such as rubber pad bearing, the elements can also be calculated by the percentage in length of bearing seat (% of total length of damage/ % in relation to total length of bearing seat = 100 %).

The damage shall be recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No 17 Scour

(1) General Conditions and Features of Damage

Scouring means that the foundation itself or soil surrounding the foundation is eroded due to the flow of water from stream/river. There are 2 types of scour, namely i) local scouring caused by the pier and ii) common scouring caused by whole bridge structure such as narrow open space and many piers on river bed .

(2) Relation with other Damage

No. 11 Approach Bank/ River Bank

(3) Evaluation of Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The severity shall be evaluated as grade “c” or grade “e”.

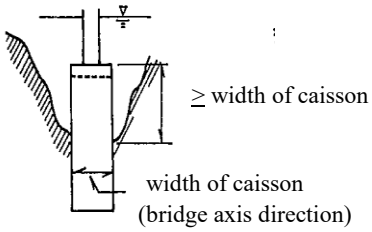
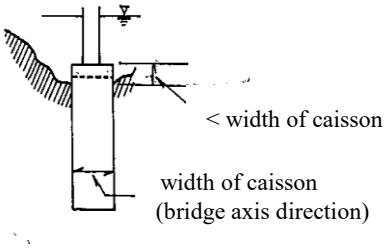
Note: The threshold value is reference only.

Grade of Damage	General Condition
a	Does Not Exist
b	-
c	Spread/piled foundation: Surrounding of pier/ abutment is scoured due to scour. Caisson: Slight scour (less than width of caisson in bridge axial direction).
d	-
e	Spread/piled foundation: Under footing of pier/ abutment is scoured due to scour. Caisson: Serious scour. (more than width of caisson in bridge axial direction)

Note: In case the piled foundation is designed as exposed pile in river as shown in as-built drawing, the evaluation results shall be reviewed.

(4) Sample of damage

Grade: e	Scour under footing of pier	Grade：e	Scour under footing of abutment
Remark：		Remark：	

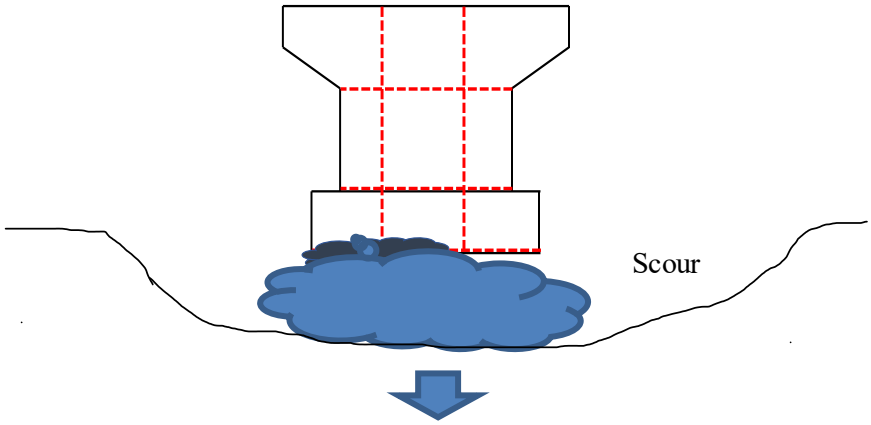
Grade: e	Serious scour of caisson	Grade：c	Slight scour of caisson
			
Remark：		Remark：	

(5) Record of damage

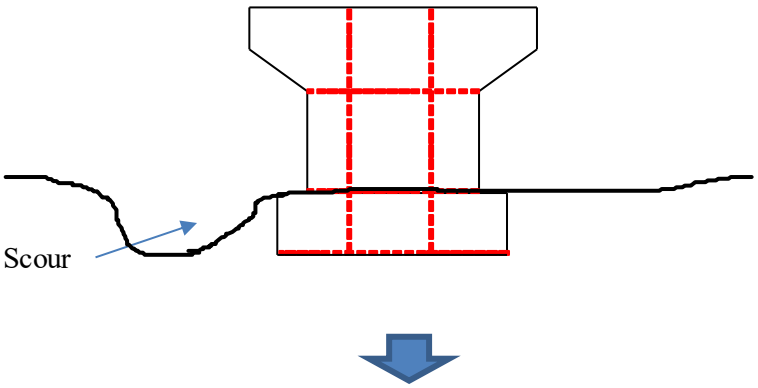
The quantity of element is 1.

As for the target of recording damage, grades of damage “a, c and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Substructure		☑ Scour	Quantify	a	b	c	d	e	Σ	<Distant View>
				0		0		1	1	
			Location	Start / Center / End						<Close View>
				Left: ☐ ☐ ☐						
				Center: ☐ ☐ ☐						
				Right: ☑ ☑ ☑						<Remarks>
				[Substructure Plane Marking]						



Component	Member	Defect/Damage/Deterioration								Photographs
Substructure		☑ Scour	Quantify	a	b	c	d	e	Σ	<Distant View>
				0		0		1	1	
			Location	Start / Center / End						<Close View>
				Left: ☐ ☐ ☐						
				Center: ☐ ☐ ☐						
				Right: ☑ ☐ ☐						<Remarks>
				[Substructure Plane Marking]						

Figure 17 Scour

The damage shall be recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No. 18 Mud Deposition / Vegetation

(1) General conditions and Features of Damage

This damage means that there is vegetation and/ or mud deposition at the substructure, main girder of truss/ steel and superstructure (arch rib and spandrel) of arch bridge including fungus on brick surface.

(2) Relation with other Damage

No. 7 Damage on Drainage

No.15 Water Leakage from Expansion Joint

No.16 Damage on Bridge Bearing

(3) .Evaluation of Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent to member shall be considered by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Does Not Exist
b	-
c	-
d	-
e	Damage exists at substructure, truss girder, steel girder, arch rib and spandrel.

(4) Sample of damage

Grade: e	Damage exists	Grade: e	Damage exists
Remark： vegetation		Remark： Mud deposition	
Grade e	Damage exists.	Grade：	
Remark：Vegetation occurs at spandrel		Remark：	

(5) Record of damage

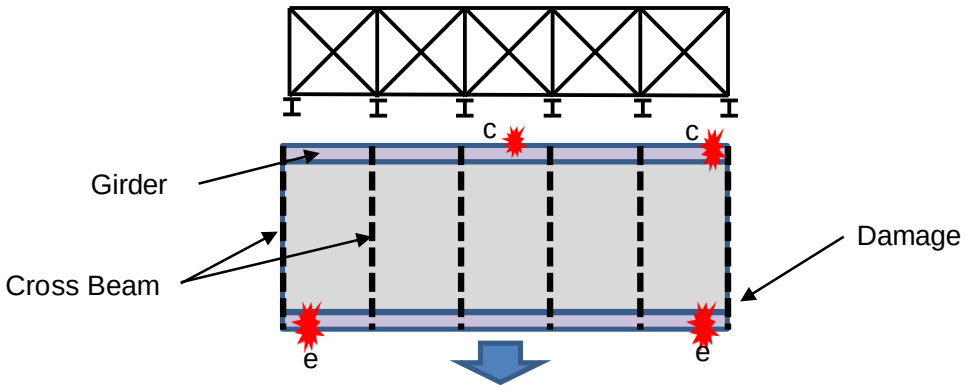
(Truss Bridge)

Main Beam

The elements are main girder divided by cross beam. In case there are 2main girders and 6 cross beams, total numbers of elements are 10 (2 x 5).

As for the target of recording damage, grade of damage “a” and “e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Superstructure	Main Beam	☑ Mud Deposition/ Vegitation	Quantify	a	b	c	d	e	Σ	<Distant View>
				6	0	2	0	2	10	
			Location	Start / Center / End						<Close View>
				Left □ □ □						
				Center □ □ □						
				Right ☑ □ ☑						<Remarks>
				[Substructure Plane Marking]						

Figure 18-1 Mud Deposition/ Vegetation (Truss)

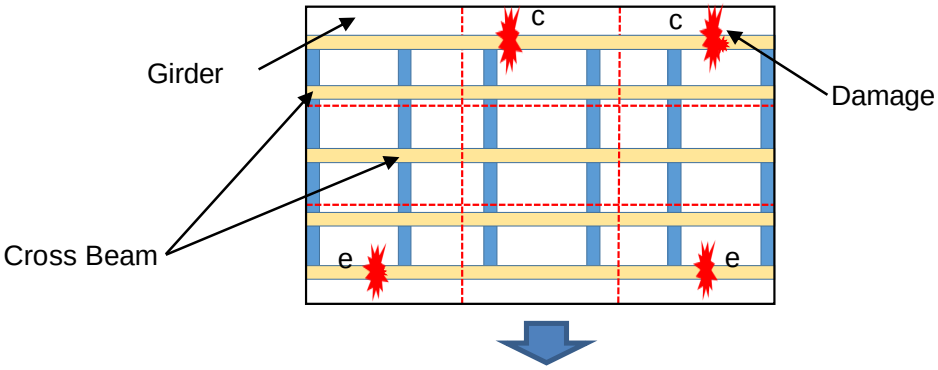
(Steel Bridge)

Main Beam

The elements are main girder divided by cross beam. In case, there are 5 main girders and 6 cross beams, total numbers of elements are 25 (5 x 5).

As for the target of recording damage, grades of damage “a, c and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Superstructure	Main Beam	☑ Mud Deposition/ Vegitation	Quantify	a	b	c	d	e	Σ	<Distant View>
				21	0	2	0	2	25	
			Location	Start	Center	End				<Close View>
				Left ☐	☐	☐				
				Center ☐	☐	☐				
				Right ☑	☐	☑				<Remarks>
				[Substructure Plane Marking]						

Figure 18-2 Mud Deposition/ Vegetation (Steel Girder)

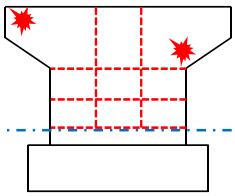
Substructures

The total quantity of elements is 9 in vertical plane.

As for the target of recording damage, grade of damage “a” and “e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

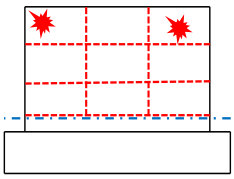
The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.

T – Type Pier



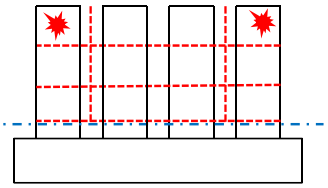
【Vertical】
3 panels for pier body
【Horizontal】
Beam + pier body 2 panels above water level or ground level

Wall Type Pier



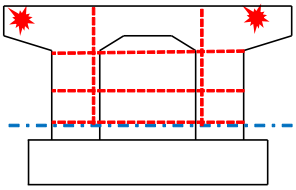
【Vertical】
3 panels for pier body
【Horizontal】
Pier body 3 panels above water level or ground level

Multi Column Pier



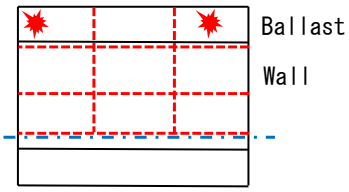
【Vertical】
Total numbers of columns shall be divided into 3 panels.
【Horizontal】
Pier body 3 panels above water level or ground level

Rigid Frame Type Pier



【Vertical】
Total numbers of columns shall be divided into 3 panels.
【Horizontal】
Beam + pier body 2 panels above water level or ground level

Abutment



【Vertical】
3 panels for body
【Horizontal】
Ballast w + wall body 2 panels above water level or

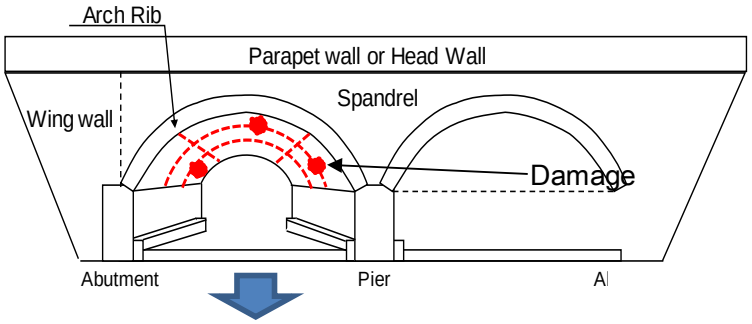
凡例
Grid line
Exsiting ground or water level
Damage

Component	Member	Defect/Damage/Deterioration								Photographs
Substructure		☑ Mud Deposition/ Vegitation	Quantify	a	b	c	d	e	Σ	<Distant View>
				7				2	9	
			Location	Start	Center	End				<Close View>
				Left ☐	☐	☑				
				Center ☑	☐	☐				
				Right ☐	☐	☐				<Remarks>
				[Substructure Plane Marking]						

Figure 18-3 Mud Deposition/ Vegetation (Substructure)

Arch Bridge (Arch rib)

The total numbers of elements are 9 (∑ = 9) in the plane.
As for the target of recording damage, grade of damage “a” and “e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.
The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Substructure	Arch Rib	☑ Mud Deposition/ Vegetation	Quantify	a	b	c	d	e	∑	<Distant View>
				6				3	9	
			Location	Start / Center / End Left: □ □ □ Center: □ □ □ Right: □ ☑ ☑ [Substructure Plane Marking]						<Close View>
										<Remarks>

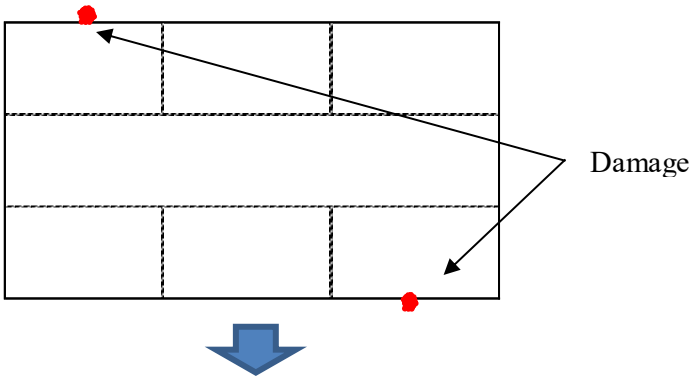
Figure 18-4 Mud Deposition/ Vegetation (Arch Rib)

Arch Bridge (Spandrel)

The total numbers of elements are 6 (both outside) out of 9 in the plane.

As for the target of recording damage, grade of damage “a” and “e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Superstructure	Sprandel	☑ Mud Deposition / Vegetation	Quantify	a	b	c	d	e	Σ	<Distant View>
				4				2	6	
			Location		Start	Center	End			<Close View>
				Left	☑	□	□			
				Center						<Remarks>
				Right	□	□	☑			
				[Superstructure Plane Marking]						

Figure 18-5 Mud Deposition/ Vegetation (Arch - Spandrel)

The damage shall be recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.19 Paint Degradation

(1) General Conditions and Features of Damage

The meaning of paint degradation is loss of paint film (due to rusting), color change, crack, crazing (expansion) of paint and paint peeling at the surface of member .The function of the paint film is to protect surface of steel against corrosion.

(2) Relation with other Damage

No.5 Damage on Expansion Joint
No.20 Corrosion
No.21 Damage (Rivet/ HSFG)

(3) Evaluation of Grade of Damage

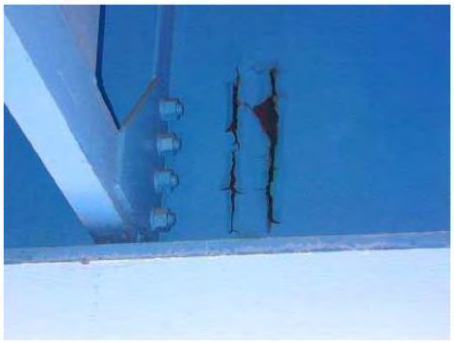
Basically, the grade of damage shall be evaluated by general condition considering severity and extent of paint degradation to the element. The extent of paint loss to the member shall be considered by the ratio of each element damaged and total of elements.

Note: The threshold value is reference only.

Grade of Damage	General Condition
a	Does Not Exist
b	-
c	Discoloring on top coat or partial delamination of paint film
d	
e	Loss of paint film degrades large surface area of element and dot rust exists in element.

Note: Classification of large area is roughly more than 50% of surface area of element.

(4) Sample of damage

Grade: c	Delamination of paint film	Grade: e	Loss of paint film and rust
			
Remark : Defoliation of prime coating can be seen partially.		Remark : Paint degradation occurs over a wide range and rust can be seen.	

(5) Record of damage

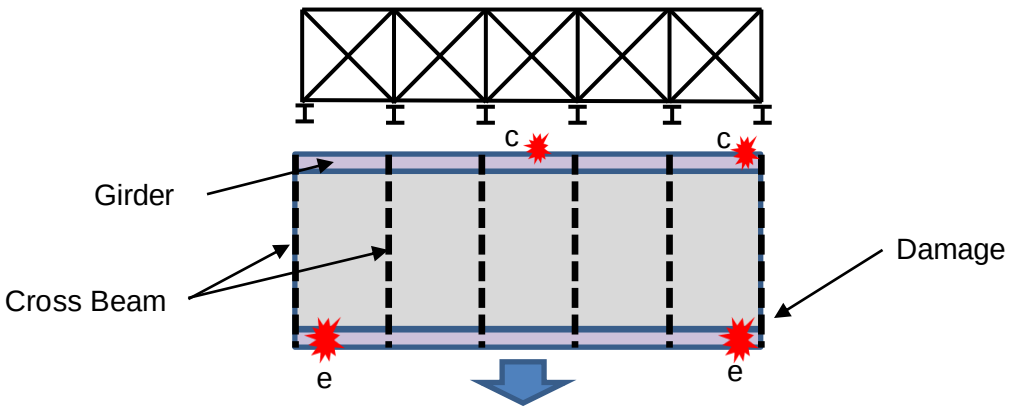
(Truss Bridge)

Main Beam

The elements are main girder divided by cross beam. In case there are 2main girders and 6 cross beams, total numbers of elements are 10 (2 x 5).

As for the target of recording damage, grades of damage “a, c and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Superstructure	Main Beam	☑ Paint Degradation	Quantify	a	b	c	d	e	Σ	<Distant View>
				6	0	2	0	2	10	
			Location		Start	Center	End			<Close View>
				Left	☐	☐	☐			
				Center	☐	☐	☐			
				Right	☑	☐	☑			<Remarks>
				[Superstructure Plane Marking]						

Figure 19-1 Paint Degradation (Truss Girder)

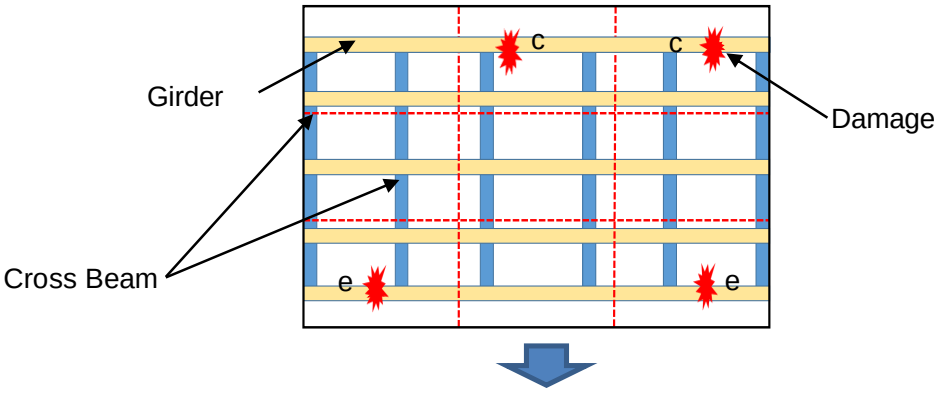
(Steel Bridge)

Main Beam

The elements are main girder divided by cross beam. In case, there are 5 main girders and 6 cross beams, total numbers of elements are 25 (5 x 5).

As for the target of recording damage, grade of damage “a, c and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Main Beam	☑ Paint Degradation	Quantify	a	b	c	d	e	Σ	<Distant View>
				21	0	2	0	2	25	
			Location		Start	Center	End			<Close View>
				Left	☐	☐	☐			
				Center	☐	☐	☐			
				Right	☑	☐	☑			<Remarks>
				[Superstructure Plane Marking]						

Figure 19-2 Paint Degradation (Steel Girder)

The damage shall be recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

(6) Other key points

In case of the galvanized coating, the evaluation of grade of damage is as follows:

Note: The threshold value is reference only.

Grade of Damage	General Condition
a	Not Exist
b	-
c	Partial degradation of galvanized coating and dot rust exists in element.
d	-
e	Galvanized coating is degraded with large surface area and dot rust exists in element.

Note: Classification of large area is about more than 50% of surface area of element.

The grade of damage for b and d in the periodic inspection form are kept to fill various type of rust prevention, which are not applied in this manual, such as weather resistant steel.

No.20 Corrosion

(1) General Conditions and Features of Damage

In case the paint film lost its function (protection) on surface of steel against corrosion. The damage increase extent of corrosion and decreasing of cross section area of steel. The damage to steel and cracks on the steel shall also be checked.

(2) Relation with other Damage

No.5 Damage on Expansion Joint
No.7 Damage on Drainage
No. 19 Paint Degradation
No.21 Damage (Rivet/ HSFG)

(3) .Evaluation of Grade of Damage

Basically, the grade of damage shall be calculated by the combination of severity and extent of damage.

i) Evaluation on grade of damage

Grade of Damage	General Condition	
	Severity of damage	Extent of damage
a	Not Exist	
b	Small	Small
c	Small	Large
d	Large	Small
e	Large	Large

Note: In case break of steel or crack of steel is found, the element shall be evaluated “e” and this shall be recorded in “Remarks” in the Bridge Inspection Sheet.

ii) General Condition on Status Progress of Damage

a) Severity of Damage

Classification	General Condition
Large	There is a remarkable expanding of steel at the steel surface or decreasing of steel cross section area is confirmed clearly.
Small	Rusting is seen just at surface of member and remarkable decreasing of steel section area is not confirmed visually.

Note) Judgment criterion is whether there is existence of decreased steel. Any kind of corrosion (hole, corrosion like sheets etc.), which causes section loss of steel is classified as large.

b) Extent of Damage

Classification	General Condition
Large	There is rusting at whole extent of target element or several numbers of spreading rusting group at target element.
Small	Damage Extent is small and limited.

Note) Whole extent means all extent of target element for evaluation. And classification of “large” and “small” is more than about 50% and less than 50% of surface area.

(4) Sample of damage

Grade: b	Severity : S Extent : S	Grade: c	Severity : S Extent : L
Remark : Although there is some rusting, it is limited and loss of steel section cannot be seen.		Remark : Rusting can be seen, and the area of the damage is larger than 50% of element.	

Grade: c	Severity : S Extent : L	Grade: e	Severity : L Extent : L
Remark : Although loss of steel section is confirmed clearly, it is limited. Crack on steel shall also be checked.		Remark : Remarkable corrosion can be seen, and the area of the damage is more than 50% of element.	

Grade: e	Severity : L Extent : L	Grade:	Severity : Extent :
Remark : Web has large section loss (hole).		Remark :	

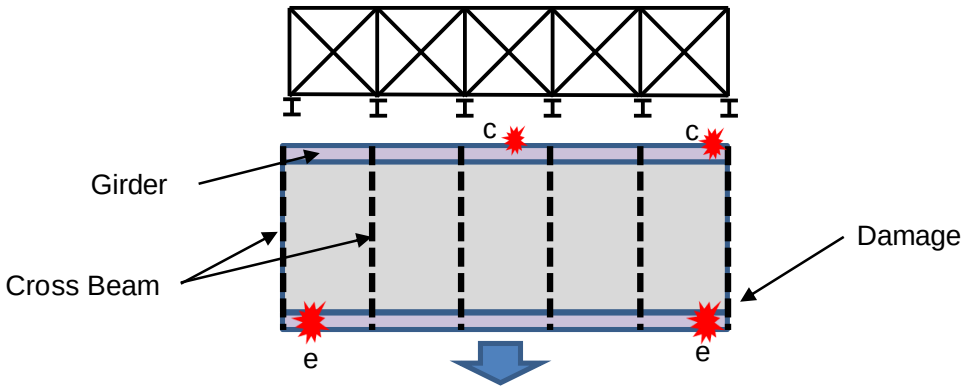
(5) Record of damage

(Truss Bridge)

Main Beam

The elements are main girder divided by cross beam. In case there are 2 main girders and 6 cross beams, total numbers of elements are 10 (2x 5).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Main Beam	☑ Corrosion	Quantify	a	b	c	d	e	Σ	<Distant View>
				6	0	2	0	2	10	
			Location		Start		Center		End	<Close View>
				Left	☐		☐		☐	
				Center	☐		☐		☐	
				Right	☑		☐		☑	<Remarks>
				[Superstructure Plane Marking]						

Figure 20-1 Corrosion (Main Girder of Truss)

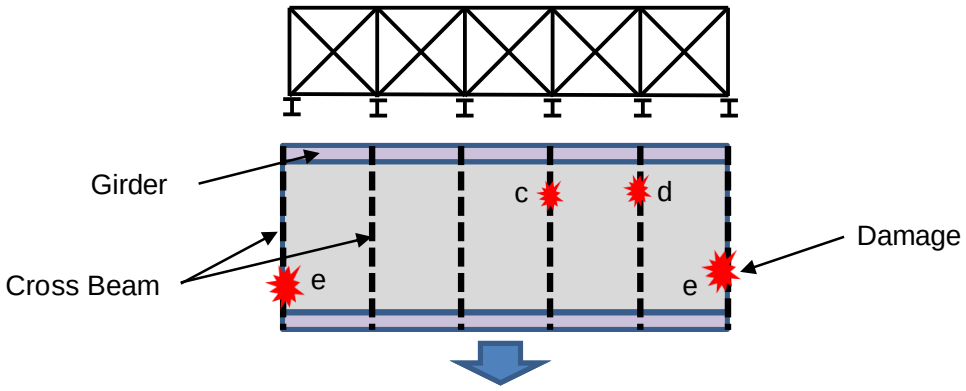
The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.

Cross Beam

The elements are cross beam divided by main girder. In case there are 2 main girders and 6 cross beams, total numbers of elements are 6 (1x 6).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Cross Beam	☑ Corrosion	Quantify	a	b	c	d	e	Σ	<Distant View>
				2	0	1	1	2	6	
			Location	Start	Center	End				<Close View>
				Left	□	□	□			
				Center	□	□	□			
				Right	☑	□	☑			<Remarks>
				[Superstructure Plane Marking]						

Figure 20-2 Corrosion (Cross Beam of Truss)

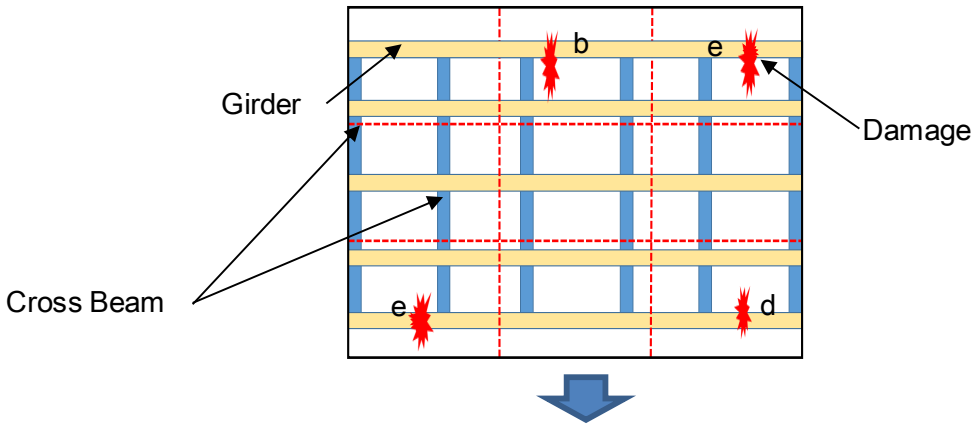
(Steel Bridge)

Main Beam

The elements are main girder divided by cross beam. In case there are 5 main girders and 6 cross beams, total numbers of elements are 25 (5x 5).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Main Beam	☑ Corossion	Quantify	a	b	c	d	e	Σ	<Distant View>
				21	1	0	1	2	25	
			Location	Start / Center / End Left: □ □ ☑ Center: □ □ □ Right: ☑ □ □ [Superstructure Plane Marking]						<Close View>
										<Remarks>

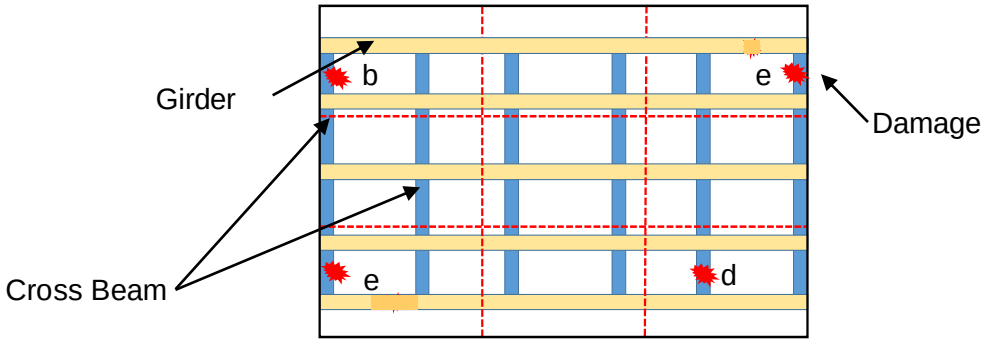
Figure 20-3 Corrosion (Main Girder of Steel Bridge)

Cross Beam

The elements are cross beam divided by main girder. In case there are 5 main girders and 6 cross beams, total numbers of elements are 24 (4x 6).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Cross Beam	☑ Corrosion	Quantify	a	b	c	d	e	Σ	<Distant View>
				20	1	0	1	2	24	
			Location		Start		Center		End	<Close View>
				Left	☐		☐		☑	
				Center	☐		☐		☐	
				Right	☑		☐		☐	<Remarks>
				[Superstructure Plane Marking]						

Figure 20-4 Corrosion (Cross Beam of Steel Bridge)

The damage shall be marked on the surface of bridge component/ member and recorded by camera. Photo taken at a distance.

No.21 Damage (Rivet / HSFG)

(1) General Conditions and Features of Damage

At the parts connected with bolts and rivets, there could be loosened or missing bolts which negates the purpose required from these components. The loosened bolts shall be checked by testing with hammer.

(2) Relation with other Damage

No.7 Damage on Drainage
No.19 Paint Degradation
No.20 Corrosion

(3) Evaluation of Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of element. The extent of impact on the member shall be considered by the ratio of each element damaged and total of elements.

Note: The threshold value is reference only.

Grade of Damage	General Condition
a	Does Not Exist.
b	-
c	Nos of loose or lost bolts < 5% of bolt group.
d	-
e	Nos of loose or lost bolts ≥ 5% of bolt group.

Note: The most serious damage of bolt grout in an element shall be evaluated.

(4) Sample of Damage

<table>
<tr><td>Grade: a</td><td>Does Not exist</td><td>Grade: e</td><td>Apply Evaluation of No. 20
Corrosion,
Severity: L, Extent: L</td></tr>
<tr><td colspan="2"> </td><td colspan="2"> </td></tr>
<tr><td colspan="2">Remark：There are rusted bolts and slight corrosion bolts, but no loosened nor lost bolts.</td><td colspan="2">Remark：Expanding rust and corrosion of bolts are observed in a large area of a bolt group. In cases of corrosion but no loosened nor lost bolts, Evaluation of Grade of Damage specified in No.20 Corrosion shall be applied.</td></tr>
</table>

(5) Record of Damage

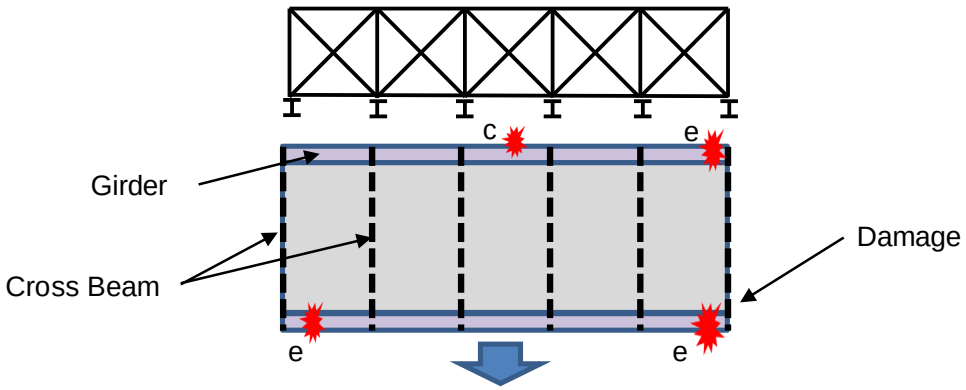
(Truss Bridge/ Steel Bridge)

Main Beam

The elements are main girder divided by cross beam. In case there are 2 main girders and 6 cross beams, total numbers of elements are 10 (2x 5). The bolts/ rivet at splice joints are places to be inspected.

As for the target of recording damage, grades of damage “a, c and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Superstructure	Main Beam	☑ Damage (Rivet/ HSFG	Quantify	a	b	c	d	e	Σ	<Distant View>
				6		1		3	10	
			Location	Start	Center	End				<Close View>
				Left ☐	☐	☑				
				Center ☐	☐	☐				
				Right ☑	☐	☑				<Remarks>
				[Superstructure Plane Marking]						

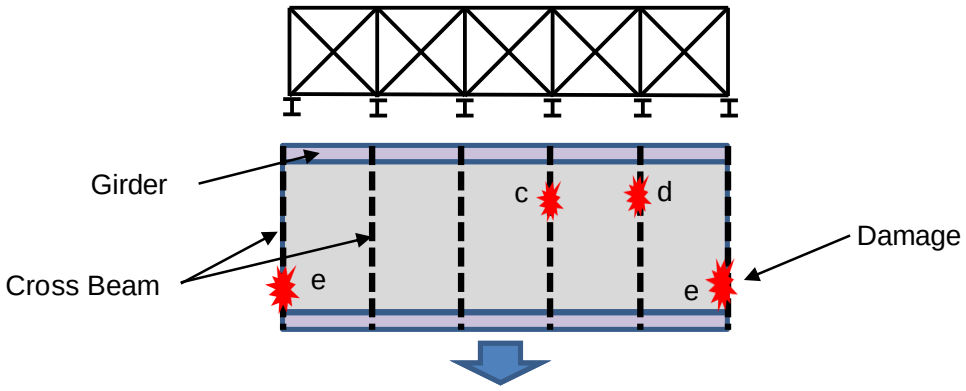
Figure 21-1 Damage (Rivet / HSFG) (Main Girder)

Cross Beam

The elements are cross beam divided by main girder. In case there are 2 main girders and 6 cross beams, total numbers of elements are 6 (1x 6).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration							Photographs
Superstructure	Cross Beam	☑ Damage (Rivet/ HSFG	Quantify	a	b	c	d	e	Σ	<Distant View>
				2	0	1	1	2	6	
			Location	Start	Center	End				<Close View>
				Left ☐	☐	☑				
				Center ☐	☐	☐				
				Right ☑	☐	☑				<Remarks>
				[Superstructure Plane Marking]						

Figure 21-2 Damage (Rivet/ HSFG) (Cross Beam)

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

(6) Other key points

The damage can be checked by hammering test.

No.22 Damage of Deck Slab

22.1 Deck Slab on RC Bride

(1) General Conditions and Features of Damage

In this type of damages there are one direction and two direction cracks (cell pattern cracks) and remarkable damage (i.e.: crack width is large and the crack is serious) at the bottom of RC deck slab including spall and dela. Major cause of this damage is water leaking from the surface of the bridge penetrating into the slab.

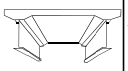
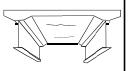
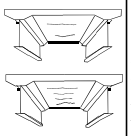
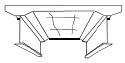
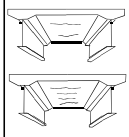
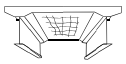
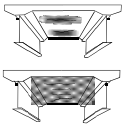
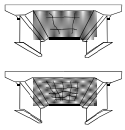
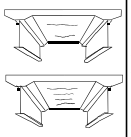
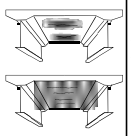
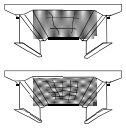
(2) Relation with other Damages

No.1 Pothole and No.2 Pavement Crack
No.5 Damage on Expansion Joint
No.12 Spall/ Dela/ Ex-Rebar and No.13 Crack

(3) Evaluation of Grade of Damage

Basically, the grade of damage shall be evaluated by general condition assessing severity and extent of damage to the element considering status of crack and water leakage/and presence of free lime. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Note: The threshold value is reference only.

Grade	1 way crack (Cracks are mainly one way)			2 way crack (Cracks are cell pattern)		
	Image	Status of Crack	Water leak/ Free lime	Image	Status of Crack	Water leak/ Free lime
a		Not Exist	No	-	-	-
b		Min interval > about 1m and Max w < 0.05mm (hair crack)	No	-	-	-
c		Interval any and Mainly w < 0.1mm (w>0.1 partly)	No		Cell pattern size > about 0.5m and Mainly w < 0.1mm (w>0.1 partly	No
d		Interval any and Mainly max w < 0.2mm (w > 0.2mm partly)	No		Cell pattern size 0.5m - 0.2m and Mainly w < 0.2mm (w>0.2 partly)	No
		Interval any and Mainly max w < 0.2mm (w > 0.2mm partly)	Exist		Cell pattern size any and Mainly w < 0.2mm (w>0.2 partly)	Exist
e		Interval any and Many w > 0.2mm (broken crack edge is observed)	No		Cell pattern size < 0.2m and Many w > 0.2mm (broken crack edge is observed)	No
		Interval any and Many w > 0.2mm (broken crack edge is observed) or dela or other serious damage such as broken slab	Exist		Cell pattern size any and Many w > 0.2mm (broken crack edge is observed) or dela or other serious damage such as broken slab	Exist

Note: In case, broken slab (fallen down of deck slab concrete from concrete block) is found, the element shall be evaluated as “e” and this shall be recorded in “Remarks” in the Bridge Inspection Sheet.

(4) Sample of damage

Grade: d	2 way crack, mainly w<0.2mm Water leakage/ free lime	Grade: d	2 way crack, cell pattern size 0.5m - 0.2m, mainly w<0.2mm No water leakage
Remark：Pothole and pavement crack shall also be checked.		Remark：	

Grade: e	1 way crack with severe damage	Grade: d	Serious damage with water leakage *1
Remark：Check the pavement as well.		Remark： Status of pavement Check the pavement as well. Repair shall be recorded in the column of "Remarks" in the Inspection Sheet.	

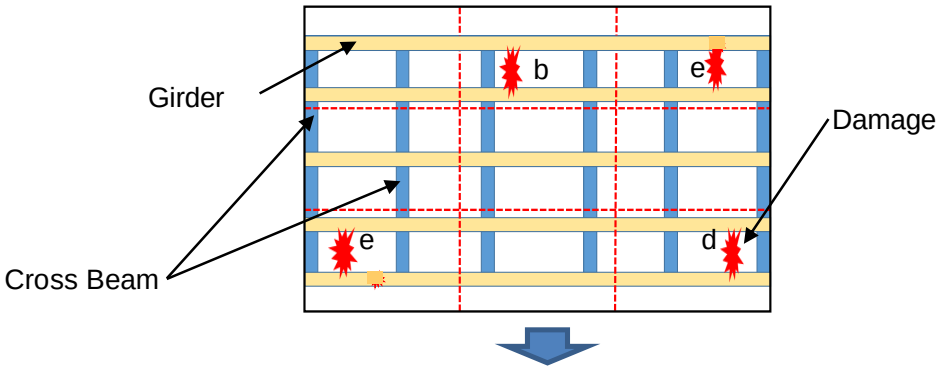
Note *1) The deck slab is precast panel type. The pavement on the slab is cracked along joint of deck slab with water leakage. Therefore, this damage is evaluated as serious damage with water leakage. The slab was reinforced by additional new girders between existing girders. Considering these, the grade is amended “e” to “d”.

(5) Record of Damage

The elements are main girder divided by cross beam. In case there are 5 main girders and 6 cross beams, total numbers of elements are 20 (4x 5). In case there are cantilever slabs on both sides in addition to other girders and cross beams , total numbers of elements are 22 (20 + 2).

As for the target of recording damage, grades of damage “a, b, c, d and e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Deck Slab	☑ Damage on Deck Slab (RC)	Quantify	a	b	c	d	e	Σ	<Distant View>
				18	1	0	1	2	20	
			Location		Start	Center	End			<Close View>
				Left	☐	☐	☑			
				Center	☐	☐	☐			
				Right	☑	☐	☐			<Remarks>
				[Superstructure Plane Marking]						

Figure 22-1 Damage on Deck Slab (RC)

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

22-2 Damage on Deck Slab (Steel)

(1) General Conditions and Features of Damage

This damage is due to corrosion on steel deck. It shows that the corrosion is heavy and usefulness of the steel plate section is decreasing. Major cause of this damage is the leakage of water from the surface of the bridge penetrating on to the slab.

(2) Relation with other Damage

No.1 Pothole and No.2 Pavement Crack
No.5 Damage on Expansion Joint

(3) Evaluation of Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of damage to the element. The extent of damage to member shall be assessed by the ratio of each element damaged and total of elements.

Note: The threshold value is reference only.

Grade of Damage	General Condition
a	Does Not Exist
b	Surface rust and no water leak
c	Surface rust and water leak
d	Loss of section and slight water leak
e	Loss of section and remarkable water leak or other serious damage such as crack of steel

(4) Sample of damage

Grade: b	Surface rust but no water leakage	Grade: d	Section loss and trace of water leak
Remark：		Remark：Check pavement as well	

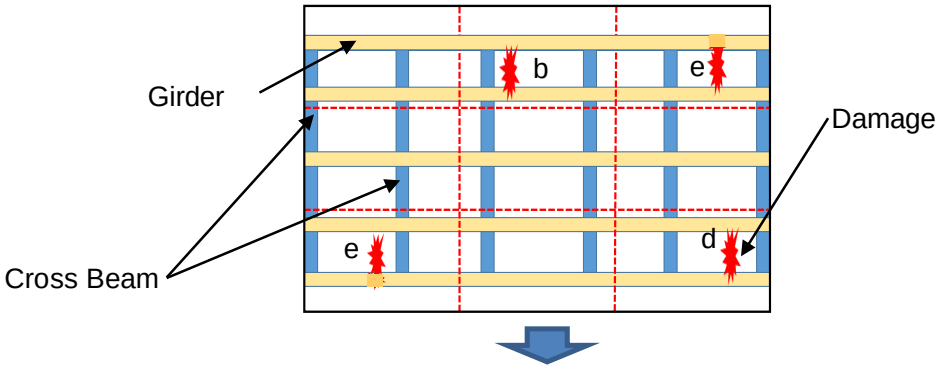
Grade: e	Crack of steel	Grade:	
Remark：Crack of steel deck due to fatigue.		Remark：	

(5) Record of damage

The elements are steel slab panel divided by main girder and cross beam. In case there are 5 main girders and 6 cross beams, total numbers of elements are 20 (4 x 5). In case there are 10 main girders and no cross beam, total number of elements is 10.

As for the target of recording damage, grades of damage “a, b, c, d and e” and number of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Deck Slab	☑ Damage on Deck Slab (Steel)	Quantify	a	b	c	d	e	Σ	<Distant View>
				16	1	0	1	2	20	
			Location	Start / Center / End Left: ☐ ☐ ☑ Center: ☐ ☐ ☐ Right: ☑ ☐ ☐ [Superstructure Plane Marking]						<Close View>
										<Remarks>

Figure 22-2 Damage on Deck Slab (Steel)

No.23 Arch Line (Displacement)

(1) General conditions and features of Damage

There is deformation due to displacement of arch line (rib).

(2) .Relation with other Damage

No. 13 Crack

No. 24 Deteriorated (Loose)

(3) .Evaluation of Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of damage to element. The extent of damage to member shall be assessed by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Does Not Exist
b	-
c	-
d	-
e	Deformation at Arch line (rib)

(4) Sample of damage

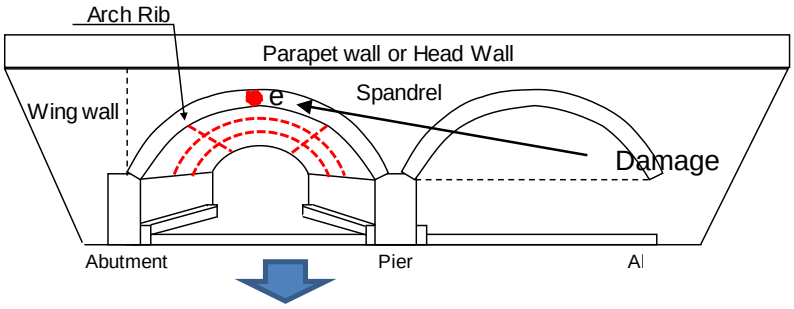
Grade: e	Exist	Grade:	
Remark： Deformation of arch line (rib)		Remark：	

(5) Record of damage

The element is only 1 and check if the damage exists or does not exists.

As for the target of recording damage, grades of damage “a” and “e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Arch Rib	☑ Arch Line (Displacement)	Quantify	a	b	c	d	e	Σ	<Distant View>
				0				1	1	
			Location	Start / Center / End; Left: □ □ □; Center: □ □ □; Right: □ ☑ □ [Substructure Plane Marking]						<Close View>
										<Remarks>

Figure 23 Arch Line (Deformation due to Displacement)

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No. 24 Deteriorated (Loose)

(1) General conditions and Features of Damage

There is loose or missing arch rib and spandrel materials.

(2) Relation with other Damage

No. 13 Crack

No. 23 Arch Line (Displacement)

(3) Evaluation of Grade of Damage

Basically, the grade of damage shall be evaluated by general condition considering severity and extent of damage to the element. The extent of damage to member shall be considered by the ratio of each element damaged and total of elements.

Grade of Damage	General Condition
a	Does Not Exist
b	-
c	-
d	-
e	Loose or missing material of arch rib and spandrel

(4) Sample of damage

Grade: e	Damage exists	Grade: e	Damage exists
Remark : Damage of arch rib material		Remark : Damage on spandrel material	

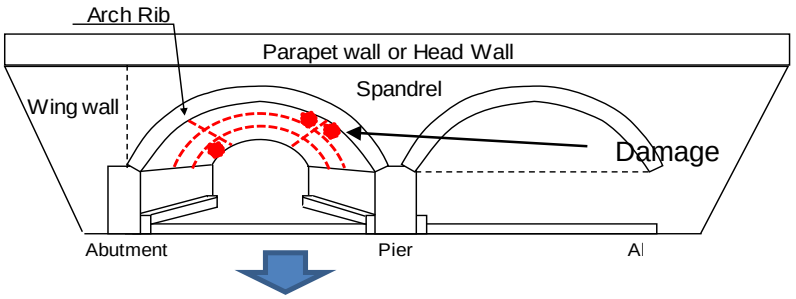
(5) Record of damage

Arch Rib

The numbers of elements are 9 in the plane.

As for the target of recording damage, grades of damage “a” and “e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Substructure	Arch Rib	☑ Deteriorated	Quantify	a	b	c	d	e	Σ	<Distant View>
				6				3	9	
			Location	Start	Center	End				<Close View>
				Left ☑	☐	☐				
				Center ☐	☐	☐				
				Right ☐	☑	☑				<Remarks>
				[Substructure Plane Marking]						

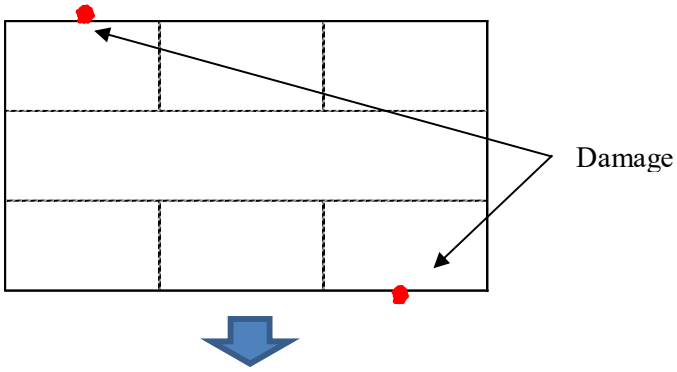
Figure 24-1 Deteriorated (Loose) - Arch Rib

Spandrel

The numbers of elements are 6 (∑ = both outside elements) out of 9 in plane.

As for the target of recording damage, grade of damage “a” and "e” and numbers of each element for each grade shall be counted. The results shall be recorded in the columns of Quantity in the Bridge Inspection Sheet.

The location of worst grade shall be recorded with check mark (✓) on the Location in the Bridge Inspection Sheet.



Component	Member	Defect/Damage/Deterioration								Photographs
Superstructure	Spandrel	☑ Deteriorated (Loose)	Quantify	a	b	c	d	e	∑	<Distant View>
				4				2	6	
			Location	Start	Center	End				<Close View>
				Left	☑	☐	☐			
				Center						<Remarks>
				Right	☐	☐	☑			
				[Superstructure Plane Marking]						

Figure 24-2 Deteriorated (Loose) – Spandrel of Arch

The damage shall be marked on the surface of bridge component/ member and recorded by camera.

- Close by photo of worst damage. Measuring tape shall be applied when photo is taken to show scale of damage.
- Far photo which covers above.

No.25 Others

Repaired Members

When the members which have been repaired are in place, the evaluation shall be done on the damage together with repaired members in accordance with evaluation method shown from No.1 to No.24.

Others

At the inspection at site, other damages shown below shall also be checked.

- Abnormal sound and vibration
- Abnormal deflection
- Deformation and absence of structural members
- Settlement, movement and inclination of substructures

These damages shall be recorded in the Remarks and Location of Inspection Worksheet and photographs shall be taken.

<table>
<tr><td>Component</td><td>Member</td><td colspan="8">Defect/Damage/Deterioration</td><td>Photographs</td></tr>
<tr><td rowspan="3">Others</td><td rowspan="3">Others</td><td rowspan="3">☑</td><td rowspan="2">Quantify</td><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td><td>Σ</td><td rowspan="2"><Distant View></td></tr>
<tr><td>-</td><td></td><td></td><td></td><td>-</td><td>-</td></tr>
<tr><td>Location</td><td colspan="6"><table><tr><td></td><td>Start</td><td>Center</td><td>End</td></tr><tr><td>Left</td><td>□</td><td>□</td><td>□</td></tr><tr><td>Center</td><td>□</td><td>□</td><td>□</td></tr><tr><td>Right</td><td>□</td><td>□</td><td>□</td></tr></table>[Superstructure Plane Marking]</td><td><Close View></td></tr>
<tr><td colspan="8"></td><td><Remarks></td></tr>
</table>

The measures shall be studied in accordance with Attachment 6 in the manual (Described Damage and Example of Emergency Action).

It is noted that these damages are not counted for Health Index (HI).

C. Widened Bridge and Separated Bridge

In case the superstructure types are different in original structure and that of widened structure, the target shall be original bridge basically.

For example, original bridge is Arch Bridge and widened by PSC-PRE, the periodical inspection of Bridge Structure shall be recorded in “Bride Inspection Sheet: Arch Bridge”. Regarding the Bridge Surface, the record can be done on both original and widened structures

In case the widened component is needed to be evaluated as a bridge, it can be evaluated as a separate bridge.

For example, original bridge is arch bridge and widened by PSC-PRE, the inspection shall be recorded in 2 types of sheets:

“Bride Inspection Sheet: Superstructure (Arch Bridge)” and

“Bride Inspection Sheet: Superstructure (PSC-PRE)”

Attachment 2 - Calculation and Recording of Health Index (HI)

Table of Contents

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1 Fundamental Philosophy of HI

(1) Purpose of HI

HI quantitatively represents the soundness of the bridge members based on the objective damage evaluation by visual inspection (the degree and extent of the damage on the member). HI is utilized for the following purposes:

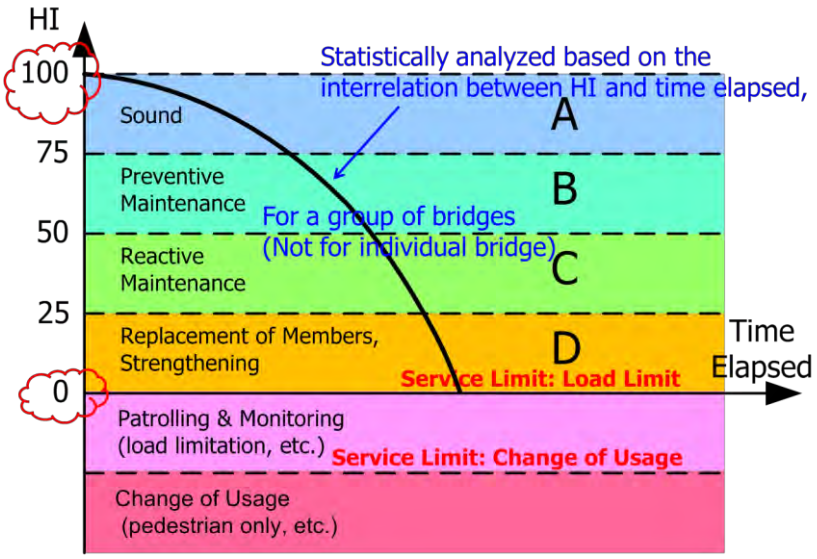
- To reduce the variations in the soundness evaluation results of different inspectors (standardization)
- To calculate the standard repair cost applied when formulating the management plan

(2) What HI Represents

In general, HI is a quantitative representation of the evaluation of the conditions of the members and entire bridges. However, the conditions can be based on a variety of viewpoints such as mechanical viewpoint (loading capacity and stress) and financial viewpoint (asset value and repair scale).

In this manual, HI shall be an index to represent the bridge conditions as the "performance" in a composite relation to load capacity and repair scale.

The "performance" is considered lost (HI=0) when the damage degrades the "performance" initially available at the time of construction and causes some restrictions (lane closure, loading restriction, speed limit).



In other words, HI represents the level of required treatment against the damage (degree of urgency and scale of repair).

The visual inspection is employed to grasp the conditions. Since no asset evaluation and pressure measurement are conducted, it should be noted that the contents mentioned here are only “conceptual.”

(3) Calculation Unit for HI

HI for each structure, span and entire bridge shall be calculated based on the HI calculated for each member.

2 Calculation Method for HI

HI of a member shall be an overall total of the following 2 items:

a) Evaluation point of multiple damages based on the degree and extent of the damage on the member

b) Weighting factor concerning the following evaluation items: significance of the damage type, significance of the member and significance of the structure

HI=100, i.e. no damage, is confirmed and members are sound. HI of concerned members shall be calculated by subtracting the total of the following 2 items from 100:

a) Evaluation point according to the degree and extent of the damage on the members

b) Weighting factor concerning the significance of the damage

【Calculation Procedure for HI】

(1) Calculate DP (Damage Point) by adding the weighting factor based on the significance of the damage to the evaluation point according to the degree and extent of the damage on the member as observed at inspection.

(2) Consider HI=100 when the condition is sound without any damage. Calculate HI (Health Index) by subtracting DP from 100.

Health Index（HI）＝100－∑ Damage Point（DP）

(3) Calculate HI of span, structure and member by integration method at each stage according to DP of each member and weighting factors concerning the significance of the span, structure and member.

HI of the bridge shall be the minimum HI of the span.

3 Calculation Method for Damage Point (DP)

3.1 DP for Each Member

DP (Damage Point) shall be calculated by considering the weighting factor concerning the significance of the damage type based on the following 2 items obtained by inspection:

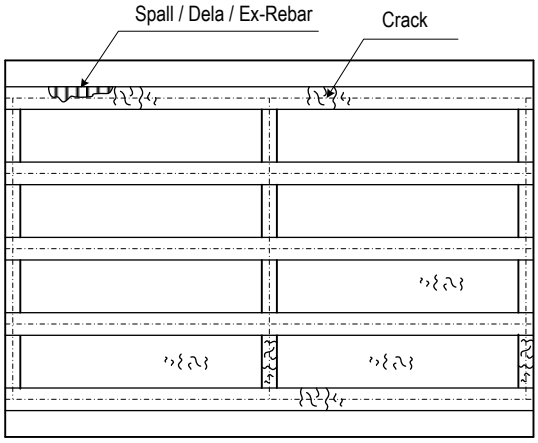
a) Evaluation point corresponding with damage classification

b) Damage extent (distribution ratio of damage classification)

3.2 DP of Each Structure and Span

DP of each structure and span shall be calculated by Subtraction Integration Method based on DP of each member and weighting factor concerning the significance of the member and the structure.

【Example of DP Calculation: Bridge Structure (PSC-POS)】



(1) Evaluation Point of Each Damage Type

Construction	Member	Damage	DP	Extent of Damage					
				a (0)	b (25)	c (50)	d (75)	e (100)	Σ
Superstructure	Main Beam	Spall / Dela / Ex-Rebar	10.0	9				1	10
		Crack	15.0	7		3			10
		Damage on Anchorage	0.0	10					10
	Deck Slab	Spall / Dela / Ex-Rebar	0.0	8					8
		Crack	18.8	5		3			8
	Diaphragm	Spall / Dela / Ex-Rebar	0.0	12					12
		Crack	16.7	10				2	12
Bridge Bearing	None	Water Leakage from Expansion Joint	30.0	7				3	10
		Damage on Bridge Bearing	20.0	8				2	10
Substructure	None	Scour	0.0	1					1
		Spall / Dela / Ex-Rebar	16.7	7		1		1	9
		Crack	22.2	7				2	9
		Mud Deposition / Vegetation	0.0	9					9

Main Beam → Spall / Dela / Ex-Rebar → DP=100×1/10=10

Main Beam → Crack → DP= 50×3/10=15

Deck Slab → Crack → DP= 50×3/8=18.8

Diaphragm → Crack → DP=100×2/12=16.7

(2) DP of Each Member, Structure and Span

Bridge Structure (PSC-POS,F Bridge Structure (PSC-POS,RCS-RCB)

Construction	DP	Construction	Correlation Factor	DP	Member	Correlation Factor	DP	Damage	Correlation Factor	DP
Bridge Structure	46.7	Superstructure	0.7	27.0	Main Beam	1.0	18.0	Spall / Dela / Ex-Rebar	0.3	10.0
								Crack	1.0	15.0
								Damage on Anchorage	0.3	0.0
					Deck Slab	0.3	18.8	Spall / Dela / Ex-Rebar	0.3	0.0
								Crack	1.0	18.8
					Diaphragm	0.2	16.7	Spall / Dela / Ex-Rebar	0.3	0.0
								Crack	1.0	16.7
		Bridge Bearing	0.3	26.0	None	1.0	26.0	Water Leakage from Expansion Joint	0.2	30.0
								Damage on Bridge Bearing	1.0	20.0
		Substructure	1.0	20.0	None	1.0	20.0	Scour	1.0	0.0
								Spall / Dela / Ex-Rebar	0.4	16.7
								Crack	0.6	22.2
								Mud Deposition / Vegetation	0.1	0.0

3.3 Weighting Factor of Each Damage Type and DP

Bridge

Structure	Correlation Factor
Bridge Surface	0.1
Bridge Structure	1.0

Bridge Surface

Construction	Correlation Factor	Member	Correlation Factor	Damage	Correlation Factor	Damage Point				
						a (0)	b (25)	c (50)	d (75)	e (100)
Bridge Surface	1.0	Pavement	0.3	Pothole	1.0	◎	–	◎	–	◎
				Crack	0.5	◎	–	◎	–	◎
				Rutting	0.1	◎	–	◎	–	◎
				Waving	0.1	◎	–	◎	–	◎
		Expansion Joint	1.0	Damage on Expansion joint	1.0	◎	–	–	–	◎
				Difference in Levels	0.1	◎	–	◎	–	◎
		Accessories	0.1	Damage on Drainage	0.7	◎	–	–	–	◎
				Damages on Service Duct	0.2	◎	–	–	–	◎
				Damages on Railing / Parapet	0.2	◎	–	–	–	◎
		Approaches	0.2	Settlement of Surface	1.0	◎	–	–	–	◎
				Approach Bank / River Bank	0.5	◎	–	–	–	◎

Bridge Structure (PSC-PRE)

Construction	Correlation Factor	Member	Correlation Factor	Damage	Correlation Factor	Damage Point				
						a (0)	b (25)	c (50)	d (75)	e (100)
Superstructure	1.0	Main Beam	1.00	Spall / Dela / Ex-Rebar	0.7	◎	◎	◎	◎	◎
				Crack	1.0	◎	◎	◎	◎	◎
				Damage on Anchorage	0.5	◎	–	◎	–	◎
Bridge Bearing	0.2	None	1.00	Water Leakage from Expansion Joint	0.2	◎	–	◎	–	◎
				Damage on Bridge Bearing	1.0	◎	–	◎	–	◎
Substructure	1.0	None	1.00	Scour	1.0	◎	–	◎	–	◎
				Spall / Dela / Ex-Rebar	0.4	◎	◎	◎	◎	◎
				Crack	0.6	◎	◎	◎	◎	◎
				Mud Deposition / Vegetation	0.1	◎	–	–	–	◎

Bridge Structure (RC-S)

Construction	Correlation Factor	Member	Correlation Factor	Damage	Correlation Factor	Damage Point				
						a (0)	b (25)	c (50)	d (75)	e (100)
Superstructure	1.0	Deck Slab	1.00	Spall / Dela / Ex-Rebar	0.3	◎	◎	◎	◎	◎
				Crack	1.0	◎	◎	◎	◎	◎
Bridge Bearing	0.2	None	1.00	Water Leakage from Expansion Joint	0.2	◎	–	◎	–	◎
				Damage on Bridge Bearing	1.0	◎	–	◎	–	◎
Substructure	1.0	None	1.00	Scour	1.0	◎	–	◎	–	◎
				Spall / Dela / Ex-Rebar	0.4	◎	◎	◎	◎	◎
				Crack	0.6	◎	◎	◎	◎	◎
				Mud Deposition / Vegetation	0.1	◎	–	–	–	◎

Bridge Structure (PSC-POS,RCS-RCB)

Construction	Correlation Factor	Member	Correlation Factor	Damage	Correlation Factor	Damage Point				
						a (0)	b (25)	c (50)	d (75)	e (100)
Superstructure	1.0	Main Beam	1.0	Spall / Dela / Ex-Rebar	0.3	◎	◎	◎	◎	◎
				Crack	1.0	◎	◎	◎	◎	◎
				Damage on Anchorage	0.3	◎	–	◎	–	◎
		Deck Slab	0.2	Spall / Dela / Ex-Rebar	0.3	◎	◎	◎	◎	◎
				Crack	1.0	◎	◎	◎	◎	◎
		Diaphragm	0.1	Spall / Dela / Ex-Rebar	0.3	◎	◎	◎	◎	◎
				Crack	1.0	◎	◎	◎	◎	◎
Bridge Bearing	0.2	None	1.0	Water Leakage from Expansion Joint	0.2	◎	–	◎	–	◎
				Damage on Bridge Bearing	1.0	◎	–	◎	–	◎
Substructure	1.0	None	1.0	Scour	1.0	◎	–	◎	–	◎
				Spall / Dela / Ex-Rebar	0.4	◎	◎	◎	◎	◎
				Crack	0.6	◎	◎	◎	◎	◎
				Mud Deposition / Vegetation	0.1	◎	–	–	–	◎

Bridge Structure (Box Bridge)

Construction	Correlation Factor	Member	Correlation Factor	Damage	Correlation Factor	Damage Point				
						a (0)	b (25)	c (50)	d (75)	e (100)
Superstructure	1.0	Deck Slab	1.0	Spall / Dela / Ex-Rebar	1.0	◎	◎	◎	◎	◎
				Crack	1.0	◎	◎	◎	◎	◎
Substructure	1.0	None	1.0	Scour	1.0	◎	–	◎	–	◎
				Spall / Dela / Ex-Rebar	0.4	◎	◎	◎	◎	◎
				Crack	0.6	◎	◎	◎	◎	◎
				Mud Deposition / Vegetation	0.1	◎	–	–	–	◎

Bridge Structure (Truss Bridge)

Construction	Correlation Factor	Member	Correlation Factor	Damage	Correlation Factor	Damage Point				
						a (0)	b (25)	c (50)	d (75)	e (100)
Superstructure	1.0	Main Beam	1.0	Paint Degradation	0.2	◎	◎	◎	◎	◎
				Corrosion	0.6	◎	◎	◎	◎	◎
				Damage (Rivet / HSFG)	1.0	◎	–	◎	–	◎
				Mud Deposition / Vegetation	0.1	◎	–	–	–	◎
		Deck Slab	0.1	Damage on Steel / (RC) Deck Slab	1.0	◎	◎	◎	◎	◎
		Cross Beam	0.3	Corrosion	1.0	◎	◎	◎	◎	◎
				Damage (Rivet / HSFG)	0.2	◎	–	◎	–	◎
Bridge Bearing	0.1	None	1.0	Water Leakage from Expansion Joint	0.2	◎	–	◎	–	◎
				Damage on Bridge Bearing	1.0	◎	–	◎	–	◎
Substructure	0.3	None	1.0	Scour	1.0	◎	–	◎	–	◎
				Spall / Dela / Ex-Rebar	0.4	◎	◎	◎	◎	◎
				Crack	0.6	◎	◎	◎	◎	◎

Bridge Structure (Steel Bridge)

Construction	Correlation Factor	Member	Correlation Factor	Damage	Correlation Factor (OLD)	Damage Point				
						a (0)	b (25)	c (50)	d (75)	e (100)
Superstructure	1.0	Main Beam	1.0	Paint Degradation	0.2	◎	◎	◎	◎	◎
				Corrosion	0.6	◎	◎	◎	◎	◎
				Damage (Rivet / HSFG)	1.0	◎	–	◎	–	◎
				Mud Deposition / Vegetation	0.1	◎	–	–	–	◎
		Deck Slab	0.1	Damage on Steel / (RC) Deck Slab	1.0	◎	◎	◎	◎	◎
		Cross Beam	0.3	Corrosion	1.0	◎	◎	◎	◎	◎
				Damage (Rivet / HSFG)	1.0	◎	–	◎	–	◎
Bridge Bearing	0.1	None	1.0	Water Leakage from Expansion Joint	0.2	◎	–	◎	–	◎
				Damage on Bridge Bearing	1.0	◎	–	◎	–	◎
Substructure	0.3	None	1.0	Scour	1.0	◎	–	◎	–	◎
				Spall / Dela / Ex-Rebar	0.4	◎	◎	◎	◎	◎
				Crack	0.6	◎	◎	◎	◎	◎
				Mud Deposition / Vegetation	0.1	◎	–	–	–	◎

Bridge Structure (Arch Bridge)

Construction	Correlation Factor	Member	Correlation Factor	Damage	Correlation Factor (OLD)	Damage Point				
						a (0)	b (25)	c (50)	d (75)	e (100)
Superstructure	1.0	Arch Rib	1.0	Arch Line (Displacement)	1.0	◎	–	–	–	◎
				Crack	0.4	◎	◎	◎	◎	◎
				Deteriorated (Loose)	0.4	◎	–	–	–	◎
				Vegetation	0.1	◎	–	–	–	◎
		Spandrel	0.2	Crack	1.0	◎	◎	◎	◎	◎
				Deteriorated (Loose)	0.9	◎	–	–	–	◎
				Vegetation	0.1	◎	–	–	–	◎
Substructure	1.0	None	1.0	Scour	1.0	◎	–	◎	–	◎
				Spall / Dela / Ex-Rebar	0.6	◎	◎	◎	◎	◎
				Crack	0.9	◎	◎	◎	◎	◎
				Mud Deposition / Vegetation	0.1	◎	–	–	–	◎

4. Status as HI=0

Each structural member has function and performance required.

The status of members, which lost required function and performance is specified as HI=0 as shown below.

Bridge Surface

Component	Member	Damage	Basic Concept of Element	Required Major Function/Performance	Status as HI = 0
Bridge Surface	Pavement	Pothole	9 elements in horizontal plane	- Protect deck slab and impact to bridge -Ensure safety and comfortability of passing vehicles	Grade "e" in No.1 Pot hole exists all elements, or "e" in No.2 Crack exists all elements and "e" in No.1 Pothole exists 2 elements.
		Pavement Crack			
		Rutting			
		Waving			
	Expansion Joint	Damage on Expansion joint	Percentage of damage in length	-Protect bearing and structure - Driving comfortability	"e" in No.5 Damage of expansion joint exists all elements.
		Difference in Levels			
	Accessories	Damage on Drainage	Percentage of damage in numbers of drainage on catch basin	-Discharge water from road surface	"e" in No.7 Damage of Drainage exists all elements.
		Damages on Service Duct	Percentage of damage in length	-Safety for utility	
		Damages on Railing / Parapet		-Safety for passing vehicle	
	Approaches	Settlement of Surface	divided by 3 in the transverse direction	-Safety for passing vehicle	"e" in No.10 Settlement of Surface exists all elements.
		Approach Bank / River Bank			

Bridge Structure (PSC-PRE)

Component	Member	Damage	Concept of Element	Required Major Function/Performance	Status as HI = 0
Superstructure	Main Beam	Spall / Dela / Ex-Rebar	numbers of girder	-Support load on deck slab and deliver to bridge bearing	Grade "e" in No.13 Crack exists all elements, or "e" in No.13 Crack and "e" in No.12 Spall/Dela/ Ex-Rebar exists 6 elements.
		Crack			
		Damage on Anchorage			
Bridge Bearing	None	Water Leakage from Expansion Joint	Percentage of damage in length or numbers of bearing	-Support horizontal/vertical load -Perform against movement and rotation	"e" in No.16 Damage on Bridge Bering exists all elements.
		Damage on Bridge Bearing			
Substructure	None	Scour	1 element, exist or not exist	- Stability of substructure	"e" in No.17 Scour exists, or "e" in No.13 Crack exists all elements and "e" in No.12 Spall/Dela/Ex-Rebar exists 2 elements.
		Spall / Dela / Ex-Rebar	9 elements in vertical plane	-Deliver loads from superstructure to foundation	
		Crack			
		Mud Deposition / Vegetation			

Bridge Structure (RC-S)

Component	Member	Damage	Concept of Element	Required Major Function/Performance	Status as HI = 0
Superstructure	Deck Slab	Spall / Dela / Ex-Rebar	9 elements in horizontal plane	-Directory support vehicle/pedestrian loads	Grade "e" in No.13 Crack exists all elements, or "e" in No.13 Crack and "e" in No.12 Spall/Dela/ Ex-Rebar exists 6 elements.
		Crack			
Bridge Bearing	None	Water Leakage from Expansion Joint	Percentage of damage in length or numbers of bearing	-Support horizontal/vertical load -Perform against movement and rotation	"e" in No.16 Damage on Bridge Bering exists all elements.
		Damage on Bridge Bearing			
Substructure	None	Scour	1 element, exist or not exist	- Stability of substructure	"e" in No.17 Scour exists, or "e" in No.13 Crack exists all elements and "e" in No.12 Spall/Dela/Ex-Rebar exists 2 elements.
		Spall / Dela / Ex-Rebar	9 elements in vertical plane	-Deliver loads from superstructure to foundation	
		Crack			
		Mud Deposition / Vegetation			

Bridge Structure (PSC-POS,RCS-RCB)

Component	Member	Damage	Concept of Element	Required Major Function/Performance	Status as HI = 0
Superstructure	Main Beam	Spall / Dela / Ex-Rebar	Main beam divided by Cross Beam	-Support loads on deck slab and deliver to bridge bearing	Grade "e" in No.13 Crack exists all elements, or "e" in No.13 Crack and "e" in No.12 Spall/Dela/ Ex-Rebar exists 6/9 of total elements.
		Crack			
		Damage on Anchorage	Numbers of girder		
	Deck Slab	Spall / Dela / Ex-Rebar	Slab divided by girder and cross beam	-Directory support vehicle/pedestrian loads	
		Crack			
	Diaphragm	Spall / Dela / Ex-Rebar	Cross beam divided by main girder	-Loads distribution by connection of main girders	
		Crack			
Bridge Bearing	None	Water Leakage from Expansion Joint	Percentage of damage in length or numbers of bearing	-Support horizontal/vertical load -Perform against movement and rotation	"e" in No.16 Damage on Bridge Bering exists all elements.
		Damage on Bridge Bearing			
Substructure	None	Scour	1 element, exist or not exist	- Stability of substructure	"e" in No.17 Scour exists, or "e" in No.13 Crack exists all elements and "e" in No.12 Spall/Dela/Ex-Rebar exists 2 elements.
		Spall / Dela / Ex-Rebar	9 elements in vertical plane	-Deliver loads from superstructure to foundation	
		Crack			
		Mud Deposition / Vegetation			

Bridge Structure (Box Bridge)

Component	Member	Damage	Concept of Element	Required Major Function/Performance	Status as HI = 0
Superstructure	Deck Slab	Spall / Dela / Ex-Rebar	9 elements in horizontal plane	-Directory support vehicle/pedestrian loads	Grade "e" in No.13 Crack exists all elements, or "e" in No.13 Crack and "e" in No.12 Spall/Dela/ Ex-Rebar exists 6 elements.
		Crack			
Substructure	None	Scour	1 element, exist or not exist	- Stability of substructure	"e" in No.17 Scour exists, or "e" in No.13 Crack exists all elements and "e" in No.12 Spall/Dela/Ex-Rebar exists 2 elements.
		Spall / Dela / Ex-Rebar	9 elements in vertical plane	-Deliver loads from superstructure to foundation	
		Crack			

Bridge Structure (Truss Bridge)

Component	Member	Damage	Concept of Element	Required Major Function/Performance	Status as HI = 0
Superstructure	Main Beam	Paint Degradation	girder divided by cross beam/lateral bracing	-Support loads on deck slab and deliver to bridge bearing	"e" in No.19 Paint Degradation exists all elements and "e" in No.20 Corrosion exists all elements.
		Corrosion			
		Damage (Rivet / HSFG)			
		Mud Deposition / Vegetation			
	Deck Slab	Damage on Steel / (RC) Deck Slab	Slab divided by girder and cross beam	-Directory support vehicle/pedestrian loads	"e" in No.22 Damage on Deck slab exists all elements.
	Cross Beam	Corrosion	Cross beam divided by main girder	-Loads distribution by connection of main girders	"e" in No.20 Corrosion exists all elements.
		Damage (Rivet / HSFG)			
Bridge Bearing	None	Water Leakage from Expansion Joint	Percentage of damage in length or numbers of bearing	-Support horizontal/vertical load -Perform against movement and rotation	"e" in No.16 Damage on Bridge Bering exists all elements.
		Damage on Bridge Bearing			
Substructure	None	Scour	1 element, exist or not exist	- Stability of substructure	"e" in No.17 Scour exists, or "e" in No.13 Crack exists all elements and "e" in No.12 Spall/Dela/Ex-Rebar exists 2 elements.
		Spall / Dela / Ex-Rebar	9 elements in vertical plane	-Deliver loads from superstructure to foundation	
		Crack			
		Mud Deposition / Vegetation			

Bridge Structure (Steel Bridge)

Component	Member	Damage	Concept of Element	Required Major Function/Performance	Status as HI = 0
Superstructure	Main Beam	Paint Degradation	girder divided by cross beam/lateral bracing	-Support loads on deck slab and deliver to bridge bearing	"e" in No.19 Paint Degradation exists all elements and "e" in No.20 Corrosion exists all elements.
		Corrosion			
		Damage (Rivet / HSFG)			
		Mud Deposition / Vegetation			
	Deck Slab	Damage on Steel / (RC) Deck Slab	Slab divided by girder and cross beam	-Directory support vehicle/pedestrian loads	"e" in No.22 Damage on Deck slab exists all elements.
	Cross Beam	Corrosion	Cross beam divided by main girder	-Loads distribution by connection of main girders	"e" in No.20 Corrosion exists all elements.
		Damage (Rivet / HSFG)			
Bridge Bearing	None	Water Leakage from Expansion Joint	Percentage of damage in length or numbers of bearing	-Support horizontal/vertical load -Perform against movement and rotation	"e" in No.16 Damage on Bridge Bering exists all elements.
		Damage on Bridge Bearing			
Substructure	None	Scour	1 element, exist or not exist	- Stability of substructure	"e" in No.17 Scour exists, or "e" in No.13 Crack exists all elements and "e" in No.12 Spall/Dela/Ex-Rebar exists 2 elements.
		Spall / Dela / Ex-Rebar	9 elements in vertical plane	-Deliver loads from superstructure to foundation	
		Crack			
		Mud Deposition / Vegetation			

Bridge Structure (Arch Bridge)

Component	Member	Damage	Concept of Element	Required Major Function/Performance	Status as HI = 0
Superstructure	Arch Rib	Arch Line (Displacement)	1 element, exist or not exist	-Support vertical load and deliver to arch with axial force and horizontal reaction on foundation	"e" in No.23 Arch Line (Displacement) exists.
		Crack	9 elements in horizontal plane		
		Deteriorated (Loose)			
		Vegetation			
	Spandrel	Crack	Out sides of 6 elements in 9 elements	- Deliver vertical loads to arch	"e" in No.24 Deteriorated (Loose) exists all elements.
		Deteriorated (Loose)			
		Vegetation			
Substructure	None	Scour	1 element, exist or not exist	- Stability of substructure	"e" in No.17 Scour exists, or "e" in No.13 Crack exists all elements and "e" in No.12 Spall/Dela/Ex-Rebar exists 2 elements.
		Spall / Dela / Ex-Rebar	9 elements in vertical plane	-Deliver loads from superstructure to foundation	
		Crack			
		Mud Deposition / Vegetation			

Attachment 3
Example of Record and Outputs of Bridge Inspection Record by BMS

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1 Record and Outputs of Bridge Inspection Record by BMS

1.1 PSC-PRE

1) Record

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : A002 | Bridge No. : 65 / 1
Separation : | Widened :
Name of Bridge :
Date of Inspection : 12/07/2016
Span No. : 1 | Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Span Name : A1-P1 | Name of Inspector : Mr. Jeewan

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---		---		9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---		---		9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---		---		9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---		---		9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
50	---	---	---	50	100	<Close View>

Location

	Start	Center	End
Left	☑		☑
Center	☐		☐
Right	☑		☑

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
100	---		---		100	<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

☑ Accessories

☑ Damage on Drainage

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
100	---	---	---	0	100	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Damages on Railing / Parapet

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
65	---	---	---	35	100	

Location

	Start	Center	End
Left	☐	☑	☐
Center	☐	☐	☐
Right	☐	☑	☑

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
0	---	---	---	3	3	

Location

	Start	Center	End	
Left	☑			☐
Center	☑			☐
Right	☑			☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
3	---	---	---		3	

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

Inspection Work Sheet (Superstructure:PSC-PRE 1/2)

Route No. : A002
Separation :
Name of Bridge :

Bridge No. : 65 / 1
Widened :

Span No. : 1
Span Name : A1-P1

Date of Inspection : 12/07/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

☑ Main Beam

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
8			2		10

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
8		2			10

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks: Damages were taken from Spall/Dela/Ex-Rebar

☑ Damage on Anchorage

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
20	---		---		20

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks: Invisible

☐ Others(Superstructure)

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Superstructure:PSC-PRE 2/2)

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
70	---	30	---		100

Photographs

<Distant View>

<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☑		☑
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☑ Damage on Bridge Bearing

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Photographs

<Distant View>

<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs

<Distant View>

<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : A002
Bridge No. : 65 / 1
Separation :
Widened :
Name of Bridge :
Date of Inspection : 12/07/2016
Span No. : 2
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Span Name : P1-P2
Name of Inspector : Mr. Jeewan

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
50	---	---	---	50	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☑		☑
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

☑ Accessories

☑ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	---	---	0	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
40	---	---	---	60	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☑	☐
Center	☐	☐	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Remarks

☐ Approaches

☐ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Remarks

☐ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Superstructure:PSC-PRE 1/2)

Route No. : A002
Separation :
Name of Bridge :

Bridge No. : 65 / 1
Widened :

Span No. : 2
Span Name : P1-P2

Date of Inspection : 12/07/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jarwan

☑ Main Beam

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
8		0	2	0	10	

Location

	Start	Center	End
Left	☑	☑	☐
Center	☑	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
8	0	0	2	0	10	

Location

	Start	Center	End
Left	☑	☑	☐
Center	☑	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks
Damages were taken from Spall / Dela / Ex. Rebar

☑ Damage on Anchorage

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
10	---		---		10	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks
Invisible

☐ Others(Superstructure)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

Inspection Work Sheet (Superstructure:PSC-PRE 2/2)

✓ Bridge Bearing

✓ Water Leakage from Expansion Joint

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
70	---	30	---		100

Photographs

<Distant View>

<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☑		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

✓ Damage on Bridge Bearing

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Photographs

<Distant View>

<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs

<Distant View>

<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : A002
Bridge No. : 65 / 1
Separation :
Widened :
Name of Bridge :
Date of Inspection : 12/07/2016
Span No. : 3
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Span Name : P2~P3
Name of Inspector : Mr. Jeewan

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---		---		9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
8	---	1	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
50	---	---	---	50	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☑
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

✓ Accessories

✓ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	---	---	0	100

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
50	---	---	---	50	100

Location

	Start	Center	End
Left	☐	☑	☑
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Approaches

☐ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

Inspection Work Sheet (Superstructure:PSC-PRE 1/2)

Route No. : A002
Separation :
Name of Bridge :

Bridge No. : 65 / 1
Widened :

Date of Inspection : 12/07/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Span No. : 3
Span Name : P2 - P3

☑ Main Beam

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
10	0	0	0	0	10	

<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
10	0	0	0	0	10	

<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Damage on Anchorage

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
20	---		---		20	

<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks: Invisible

☐ Others(Superstructure)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Superstructure:PSC-PRE 2/2)

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
70	---	30	---	0	100

Photographs <Distant View>

<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☑		☑
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☑ Damage on Bridge Bearing

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Photographs <Distant View>

<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View>

<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : A002
Separation :
Name of Bridge :

Bridge No. : 65 / 1
Widened :

Date of Inspection : 12/07/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Span No. : 4
Span Name : P3 - A2

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
50	---	---	---	50	100	<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☑
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
100	---	0	---	0	100	<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

☑ Accessories

☑ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	---	---	0	100

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
65	---	---	---	35	100

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	---	---	---	3	3

Location

	Start	Center	End	
Left	☐			☑
Center	☐			☑
Right	☐			☑

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
3	---	---	---	0	3

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

Inspection Work Sheet (Superstructure:PSC-PRE 1/2)

Route No. : A002
Separation :
Name of Bridge :

Bridge No. : 65 / 1
Widened :

Date of Inspection : 12/07/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Span No. : 4
Span Name : P3 - A2

☑ Main Beam

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
10	-	0	0	0	10	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
10	0	0	0	0	10	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Damage on Anchorage

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
20	---		---		20	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks: Invisible

☐ Others(Superstructure)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

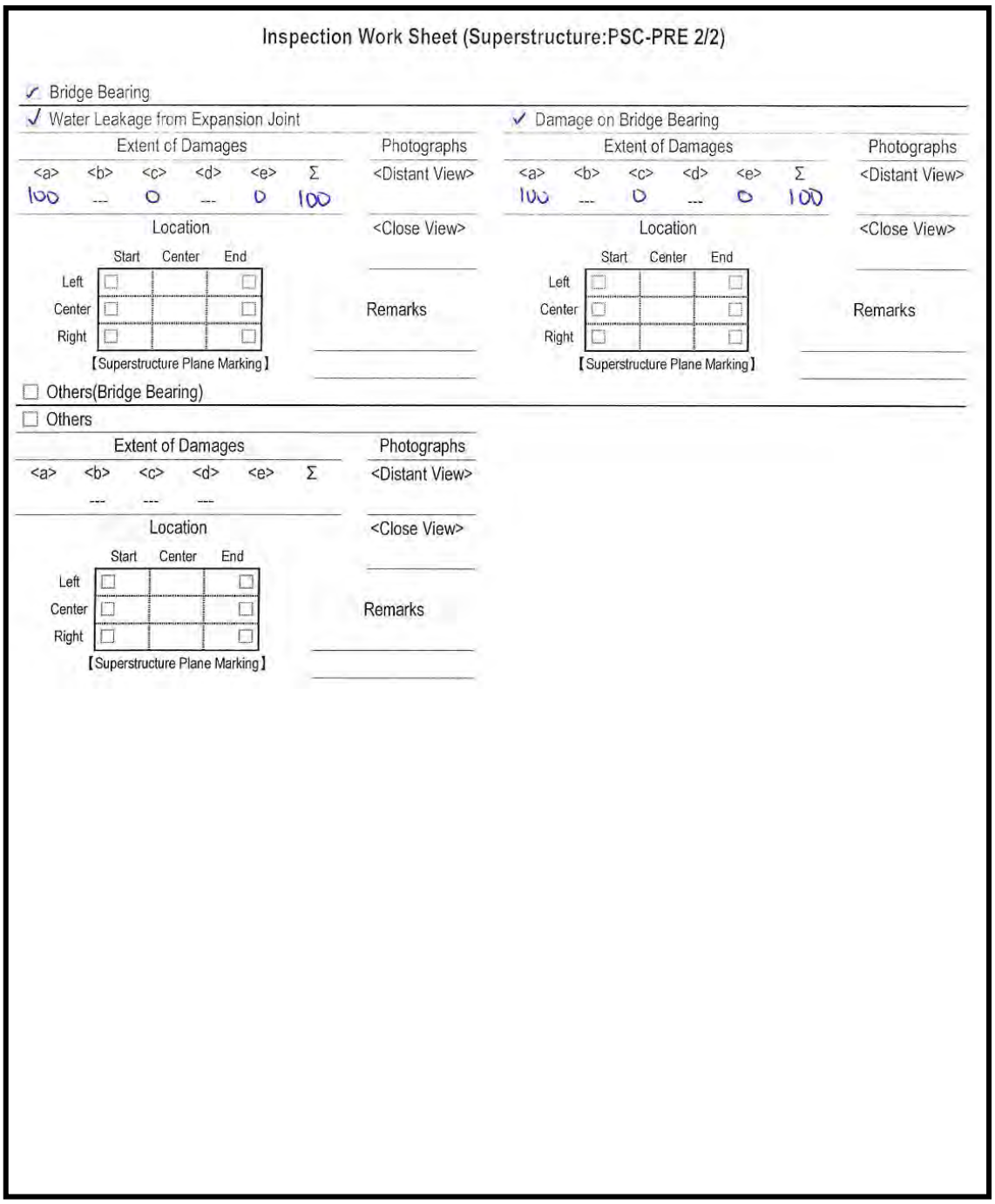
Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks



Inspection Work Sheet (Superstructure:PSC-PRE 2/2)

✓ Bridge Bearing

✓ Water Leakage from Expansion Joint

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

✓ Damage on Bridge Bearing

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

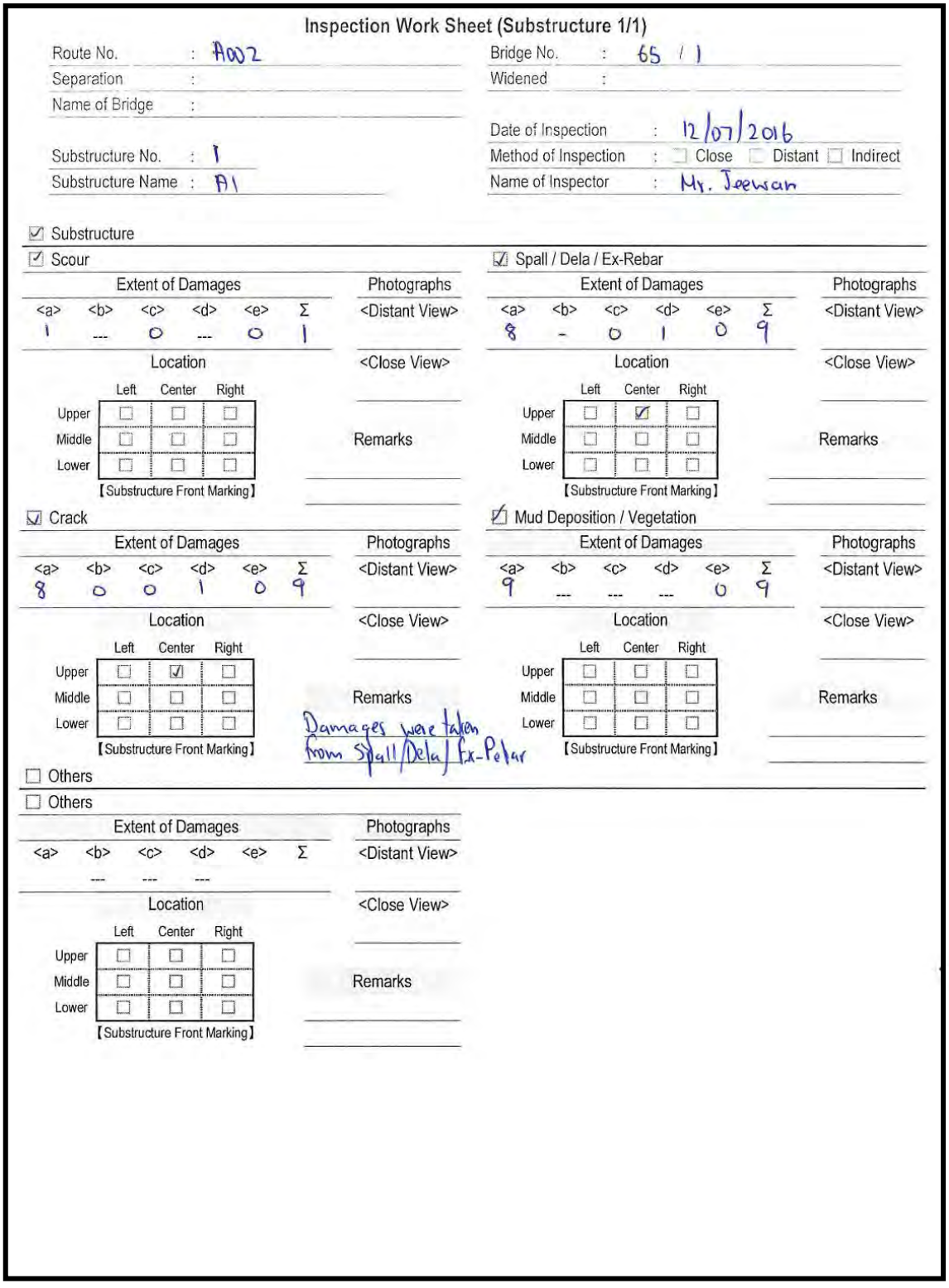
【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks



Inspection Work Sheet (Substructure 1/1)

Route No. : A002
Separation :
Name of Bridge :

Bridge No. : 65 / 1
Widened :

Date of Inspection : 12/07/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Substructure No. : 1
Substructure Name : A1

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
8	-	0	1	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☑	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
8	0	0	1	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☑	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks
Damages were taken from Spall/Dela/Ex-Pelar

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

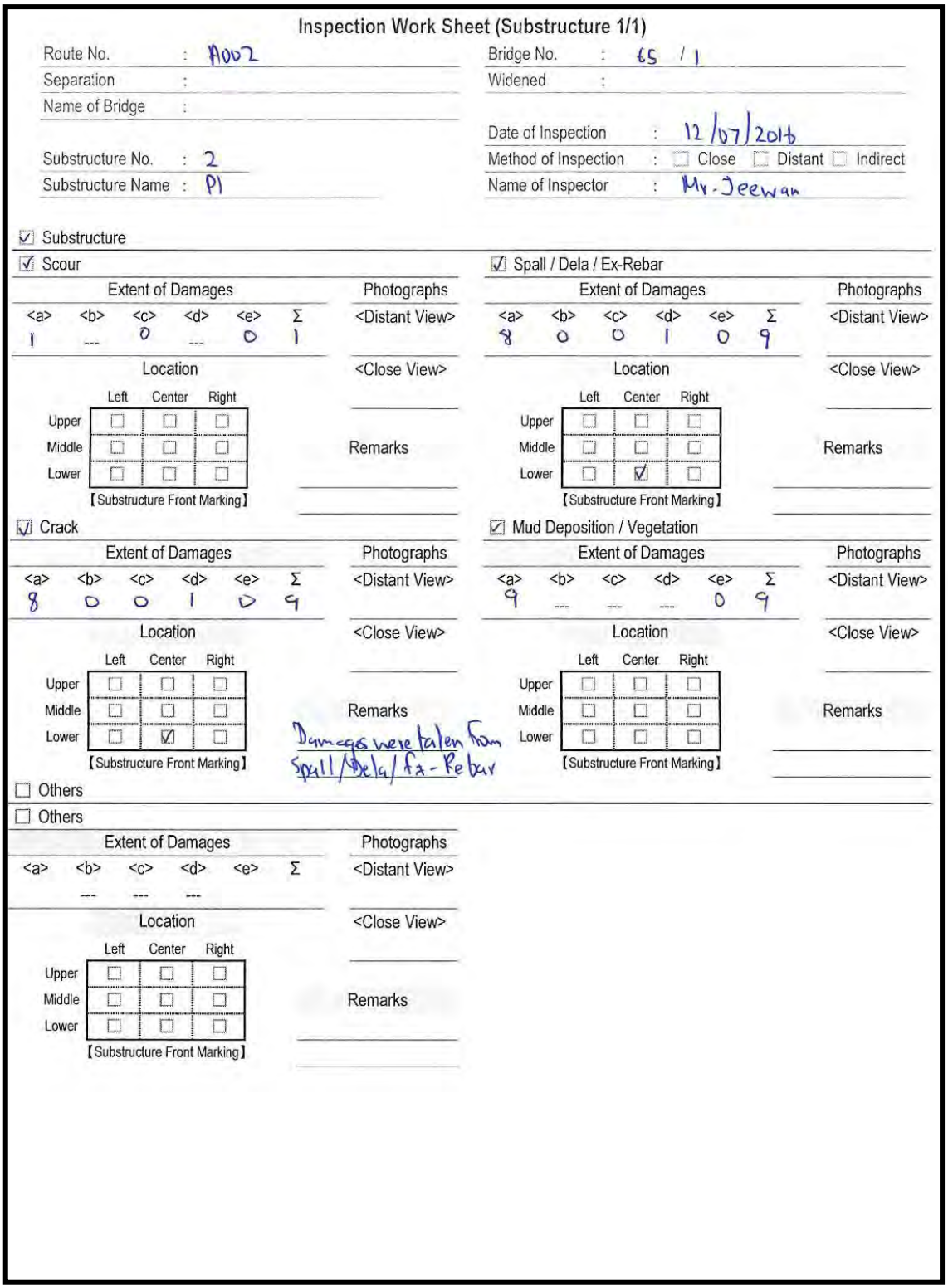
Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks



Inspection Work Sheet (Substructure 1/1)

Route No. : A002
Separation :
Name of Bridge :

Substructure No. : 2
Substructure Name : P1

Bridge No. : 65 / 1
Widened :

Date of Inspection : 12/07/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
8	0	0	1	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☑	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
8	0	0	1	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☑	☐

【Substructure Front Marking】

Remarks: Damages were taken from Spall/Dela/Ex-Rebar

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

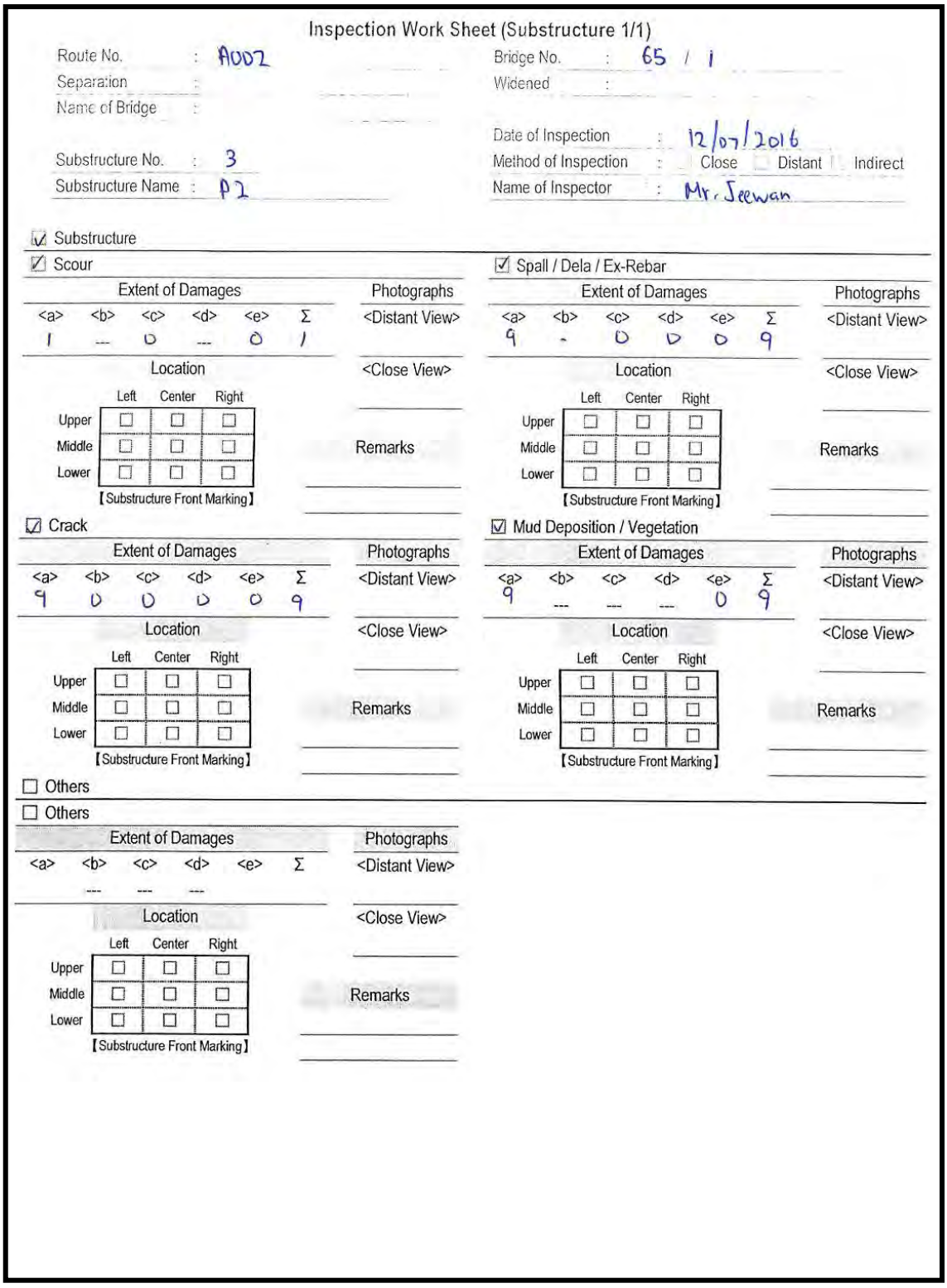
Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks



Inspection Work Sheet (Substructure 1/1)

Route No. : A002
Bridge No. : 65 / 1
Separation :
Widened :
Name of Bridge :
Date of Inspection : 12/07/2016
Substructure No. : 3
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Substructure Name : P2
Name of Inspector : Mr. Seewan

☑ Substructure

☑ Scour

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
1	---	0	---	0	1	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	-	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	0	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	---	---	---	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : A002
Separation :
Name of Bridge :

Bridge No. : 65 / 1
Widened :

Date of Inspection : 12/07/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan.

Substructure No. : 4
Substructure Name : P3

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

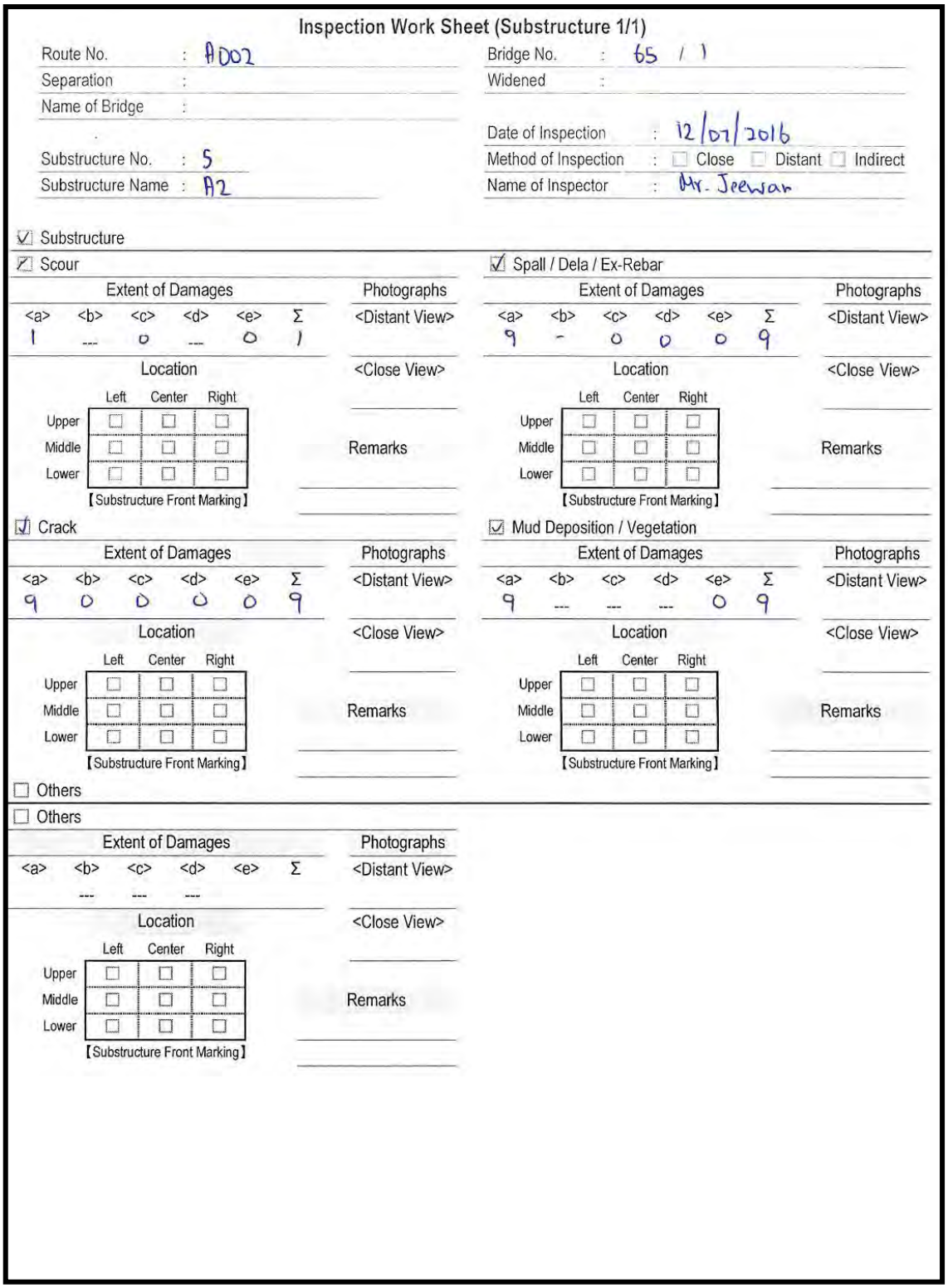
Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks



Inspection Work Sheet (Substructure 1/1)

Route No. : A002
Separation :
Name of Bridge :

Bridge No. : 65 / 1
Widened :

Date of Inspection : 12/07/2016
Substructure No. : 5
Substructure Name : A2
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

☑ Substructure

☑ Scour

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
1	---	0	---	0	1	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	-	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	0	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	---	---	---	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

2) Outputs

Form 4 Inspection Form (Summary)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
			Date of Inspection	:	2016/07/12
			Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

Health Index & Soundness Grade

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	D (25)	D (0)	B (69)
P1 - P2	B (54)	C (46)	A (76)
P2 - P3	A (77)	C (45)	A (99)
P3 - A2	B (55)	D (0)	A (100)
Whole	D (25)	D (0)	B (69)

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	A (100)	C (50)	A (90)	D (0)
P1 - P2	A (100)	C (50)	A (82)	A (100)
P2 - P3	A (96)	C (50)	A (85)	A (100)
P3 - A2	A (100)	C (50)	A (90)	D (0)

<<Bridge Structure>>

	Entire Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	A (76)	A (76)	-	-	A (96)	A1	A (88)
P1 - P2	A (85)	A (85)	-	-	A (96)	P1	A (88)
P2 - P3	A (100)	A (100)	-	-	A (96)	P2	A (100)
P3 - A2	A (100)	A (100)	-	-	A (100)	P3	A (100)
						A2	A (100)

Repair costs (Unit:Thousands LKR)

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	577.6	150.3	427.3
P1 - P2	354.8	58.5	296.3
P2 - P3	152.5	60.6	91.9
P3 - A2	150.3	150.3	0.0
Total	1,235.2	419.7	815.5

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	0.0	50.0	4.9	95.4
P1 - P2	0.0	50.0	8.5	0.0
P2 - P3	3.6	50.0	7.0	0.0
P3 - A2	0.0	50.0	4.9	95.4
Total	3.6	200.0	25.3	190.8

Form 4 Inspection Form (Summary)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
			Date of Inspection	:	2016/07/12
			Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Bridge Structure>>

	Entier Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	266.1	266.1	-	-	91.9	A1	69.3
P1 - P2	135.1	135.1	-	-	91.9	P1	69.3
P2 - P3	0.0	0.0	-	-	91.9	P2	0.0
P3 - A2	0.0	0.0	-	-	0.0	P3	0.0
Total	401.2	401.2	0.0	0.0	275.7	A2	0.0
						Total	138.6

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	: AA002	Name of Road	: Colombo - Galle - Hambantota - Wellawaya
Bridge No.	: 65 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 1	Date of Inspection	: 2016/07/12
Span Name	: A1 - P1	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Pavement>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	9	-	0	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack									
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	50	-	-	-	50	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint	●		●	–	–	–	●		●
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 90

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	100	-	-	-	0	100	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	65	-	-	-	35	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet				●		●			●

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/07/12
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Approaches>> Soundness Grade: D HealthIndex: 0

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	0	-	-	-	3	3	
Approach Bank / River Bank	3	-	-	-	0	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface	●	●		–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-PRE))

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/07/12
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Main Beam>> Soundness Grade: A HealthIndex: 76

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	8	0	0	2	0	10	
Crack	8	0	0	2	0	10	
Damage on Anchorage	20	-	0	-	0	20	Invisible

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar			●			●			●
Crack						●			●
Damage on Anchorage									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 96

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	70	-	30	-	0	100	
Damage on Bridge Bearing	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint		●		–	–	–		●	
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-PRE))

Route No. :	AA002	Name of Road :	Colombo - Galle - Hambantota - Wellawaya
Bridge No. :	65 / 1 in Km	Name of Bridge :	
Separation :	Not Separated	Widened :	Not Widened
Span Number :	1	Date of Inspection :	2016/07/12
Span Name :	A1 - P1	Method of Inspection :	Close Visual Inspection
		Name of Inspector :	Jeewan

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Substructure: A1>> Soundness Grade: A HealthIndex: 88

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	8	0	0	1	0	9	Damage are taken from Spall/Dela/Ex-Rebar
Crack	8	0	0	1	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar				●					
Crack				●					
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/07/12
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

No 1 Structural Member : Expansion Joint — Damage : Damage on Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Accessories — Damage : Damages on Railing / Parapet

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Approaches — Damage : Settlement of Surface

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/07/12
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

No 4 Structural Member : Main Beam Damage : Spall / Dela / Ex-Rebar

<< Distant View >>

<< Close View >>

Remarks :

No 5 Structural Member : Main Beam Damage : Crack

<< Distant View >>

<< Close View >>

Remarks :

No 6 Structural Member : Bridge Bearing Damage : Water Leakage from Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/07/12
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

No 7 Structural Member : Substructure: A1 Damage : Spall / Dela / Ex-Rebar

<< Distant View >>

<< Close View >>

Remarks : Damage are taken from Spall/Dela/Ex-Rebar

No 8 Structural Member : Substructure: A1 Damage : Crack

<< Distant View >>

<< Close View >>

Remarks :

No 9 Structural Member : Damage :

<< Distant View >>

<< Close View >>

Remarks :

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	: AA002	Name of Road	: Colombo - Galle - Hambantota - Wellawaya
Bridge No.	: 65 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 2	Date of Inspection	: 2016/07/12
Span Name	: P1 - P2	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Pavement>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	9	-	0	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack									
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	50	-	-	-	50	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint		●		–	–	–		●	
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 82

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	100	-	-	-	0	100	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	40	-	-	-	60	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet				●		●			

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No. : AA002		Name of Road : Colombo - Galle - Hambantota - Wellawaya	
Bridge No. : 65 / 1 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 2		Date of Inspection : 2016/07/12	
Span Name : P1 - P2		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Jeewan	

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	0	-	-	-	0	0	
Approach Bank / River Bank	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-PRE))

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/07/12
Span Name	:	P1 - P2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Main Beam>> Soundness Grade: A HealthIndex: 85

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	10	0	0	0	0	10	
Crack	8	0	0	2	0	10	Damages were taken from Spall/Dela/Ex-Rebar
Damage on Anchorage	20	-	0	-	0	20	Invisible

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar									
Crack	●	●		●					
Damage on Anchorage									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 96

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	70	-	30	-	0	100	
Damage on Bridge Bearing	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint		●		–	–	–			
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-PRE))

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/07/12
Span Name	:	P1 - P2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				-	-	-			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Substructure: P1>> Soundness Grade: A HealthIndex: 88

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	8	0	0	1	0	9	
Crack	8	0	0	1	0	9	Damages were taken from Spall/Dela/Ex-Rebar
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar						●			
Crack						●			
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): P1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/07/12
Span Name	:	P1 - P2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

No 1 Structural Member : Expansion Joint — Damage : Damage on Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Accessories — Damage : Damages on Railing / Parapet

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Main Beam — Damage : Spall / Dela / Ex-Rebar

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/07/12
Span Name	:	P1 - P2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

No 4 Structural Member : Main Beam Damage : Crack

<< Distant View >>

<< Close View >>

Remarks : Damages were taken from Spall/Dela/Ex-Rebar

No 5 Structural Member : Bridge Bearing Damage : Water Leakage from Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 6 Structural Member : Substructure: P1 Damage : Spall / Dela / Ex-Rebar

<< Distant View >>

<< Close View >>

Remarks :

Form 5 Inspection Form (Damage: Bridge Surface)

Route No. : AA002		Name of Road : Colombo - Galle - Hambantota - Wellawaya	
Bridge No. : 65 / 1 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 3		Date of Inspection : 2016/07/12	
Span Name : P2 - P3		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Jeewan	

<<Pavement>> Soundness Grade: A HealthIndex: 96

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	8	-	1	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack						●			
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	50	-	-	-	50	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint				–	–	–		●	
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 85

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	100	-	-	-	0	100	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	50	-	-	-	50	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet							●		

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	3	Date of Inspection	:	2016/07/12
Span Name	:	P2 - P3	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	0	-	-	-	0	0	
Approach Bank / River Bank	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-PRE))

Route No. :	AA002	Name of Road :	Colombo - Galle - Hambantota - Wellawaya
Bridge No. :	65 / 1 in Km	Name of Bridge :	
Separation :	Not Separated	Widened :	Not Widened
Span Number :	3	Date of Inspection :	2016/07/12
Span Name :	P2 - P3	Method of Inspection :	Close Visual Inspection
		Name of Inspector :	Jeewan

<<Main Beam>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	10	0	0	0	0	10	
Crack	10	0	0	0	0	10	
Damage on Anchorage	20	-	0	-	0	20	Invisible

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar									
Crack									
Damage on Anchorage									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 96

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	70	-	30	-	0	100	
Damage on Bridge Bearing	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint		●		–	–	–		●	
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-PRE))

Route No.	: AA002	Name of Road	: Colombo - Galle - Hambantota - Wellawaya
Bridge No.	: 65 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 3	Date of Inspection	: 2016/07/12
Span Name	: P2 - P3	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Substructure: P2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): P2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	3	Date of Inspection	:	2016/07/12
Span Name	:	P2 - P3	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

No 1 Structural Member : Expansion Joint — Damage : Damage on Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Accessories — Damage : Damages on Railing / Parapet

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Bridge Bearing — Damage : Water Leakage from Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	4	Date of Inspection	:	2016/07/12
Span Name	:	P3 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Pavement>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	9	-	0	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack									
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	50	-	-	-	50	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint				-	-	-		●	
Difference in Levels				-	-	-			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 90

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	100	-	-	-	0	100	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	65	-	-	-	35	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet						●			

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	4	Date of Inspection	:	2016/07/12
Span Name	:	P3 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Approaches>> Soundness Grade: D HealthIndex: 0

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	0	-	-	-	3	3	
Approach Bank / River Bank	3	-	-	-	0	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–	●	●	●
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-PRE))

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	4	Date of Inspection	:	2016/07/12
Span Name	:	P3 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Main Beam>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	10	0	0	0	0	10	
Crack	10	0	0	0	0	10	
Damage on Anchorage	20	-	0	-	0	20	Invisible

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar									
Crack									
Damage on Anchorage									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	100	-	0	-	0	100	
Damage on Bridge Bearing	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint				–	–	–			
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-PRE))

Route No.	: AA002	Name of Road	: Colombo - Galle - Hambantota - Wellawaya
Bridge No.	: 65 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 4	Date of Inspection	: 2016/07/12
Span Name	: P3 - A2	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Substructure: P3>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): P3>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-PRE))

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	4	Date of Inspection	:	2016/07/12
Span Name	:	P3 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Substructure: A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA002	Name of Road	:	Colombo - Galle - Hambantota - Wellawaya
Bridge No.	:	65 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	4	Date of Inspection	:	2016/07/12
Span Name	:	P3 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

No 1 Structural Member : Expansion Joint — Damage : Damage on Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Accessories — Damage : Damages on Railing / Parapet

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Approaches — Damage : Settlement of Surface

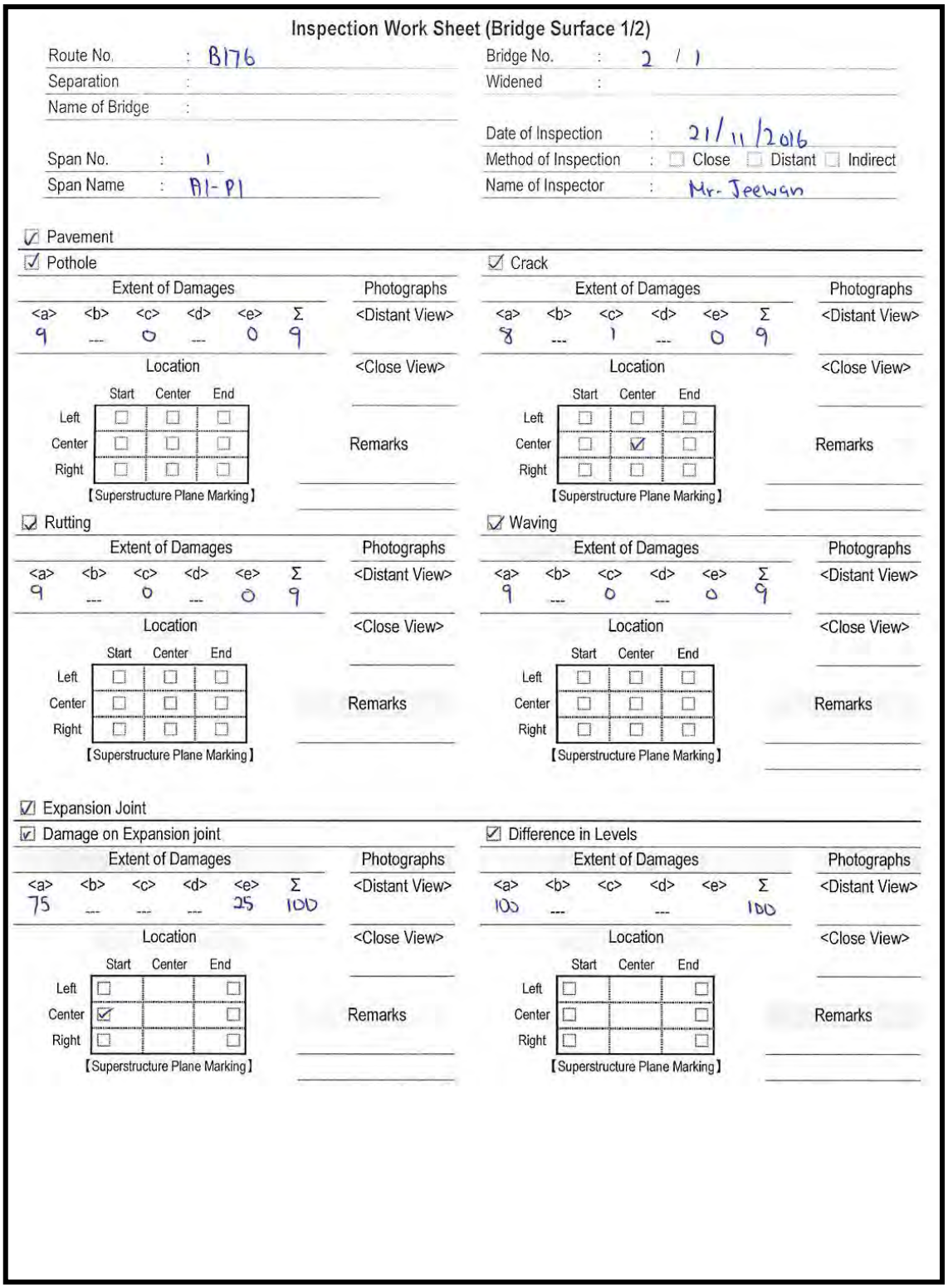
<< Distant View >>

<< Close View >>

Remarks :

1.2 RC-S

1) Record



Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B176
Separation :
Name of Bridge :

Bridge No. : 2 / 1
Widened :

Date of Inspection : 21/11/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Span No. : 1
Span Name : A1-P1

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
8	---	1	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☑	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
75	---	---	---	25	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☑		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
100	---		---		100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

☑ Accessories

☐ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☑ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
30	---	---	---	70	100

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
3	---	---	---	0	3

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
2	---	---	---	1	3

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☑			☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

Inspection Work Sheet (Superstructure:RC-S 1/1)

Route No. : B176
Separation :
Name of Bridge :

Bridge No. : 2 / 1
Widened :

Date of Inspection : 21/11/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Span No. : 1
Span Name : A1-P1

☑ Deck Slab

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
5			1	3	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☐
Center	☐	☐	☐
Right	☐	☐	☑

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
5			1	3	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☐
Center	☐	☐	☐
Right	☐	☐	☑

【Superstructure Plane Marking】

Remarks
Damages are taken from Spall/Dela/Ex-Rebar

☐ Others(Superstructure)

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
30	---		---	70	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑		☑
Center	☐		☐
Right	☑		☑

【Superstructure Plane Marking】

Remarks

☐ Damage on Bridge Bearing

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---		---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B176
Bridge No. : 2 / 1
Separation :
Widened :
Name of Bridge :
Date of Inspection : 21/11/2016
Span No. : 2
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Span Name : P1-A2
Name of Inspector : Mr. Jeewan

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---		---		9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
8	---	1	---		9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☑	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---		---		9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---		---		9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
50	---	---	---	50	100	<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☑
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
100	---		---		100	<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

✓ Accessories

Damage on Drainage

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

Damages on Service Duct

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Damages on Railing / Parapet

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
40	---	---	---	60	100	

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
3	---	---	---	0	3	

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
2	---	---	---	1	3	

Location

	Start	Center	End	
Left	☐			☑
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

Inspection Work Sheet (Superstructure:RC-S 1/1)

Route No. : B176
Separation :
Name of Bridge :

Bridge No. : 2 / 1
Widened :

Date of Inspection : 21/11/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Span No. : 2
Span Name : P1-A2

☑ Deck Slab

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9					9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9					9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☐ Others(Superstructure)

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
	---	---	---			<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
30	---		---	70	100	<Close View>

Location

	Start	Center	End
Left	☑		☑
Center	☐		☐
Right	☑		☑

【Superstructure Plane Marking】

Remarks

☑ Damage on Bridge Bearing

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
100	---		---		100	<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☐ Others(Bridge Bearing)

☐ Others

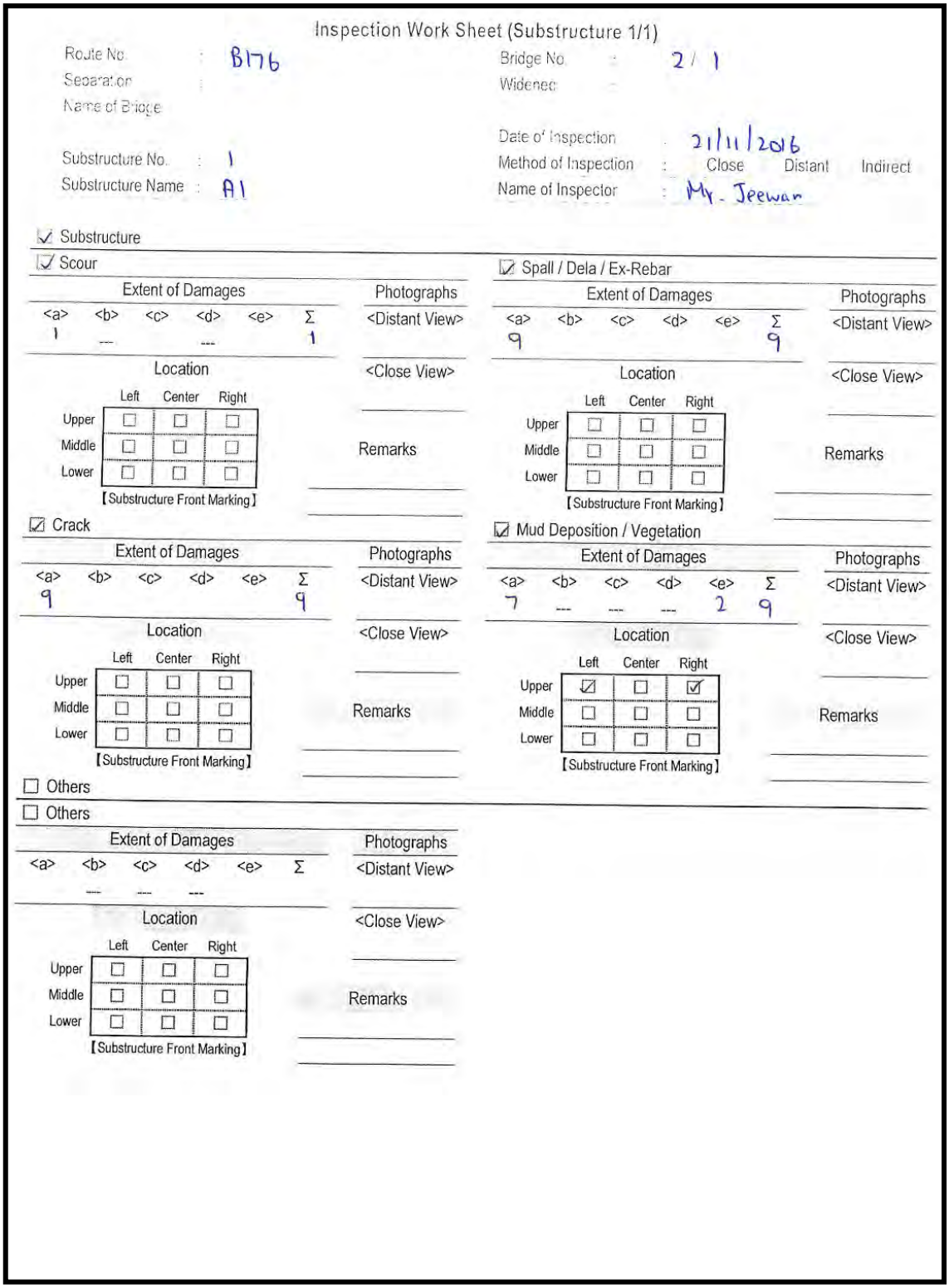
Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
	---	---	---			<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks



Inspection Work Sheet (Substructure 1/1)

Route No. : B176
Separation :
Name of Bridge :

Bridge No. : 2 / 1
Widened :

Substructure No. : 1
Substructure Name : A1

Date of Inspection : 21/11/2016
Method of Inspection : Close Distant Indirect
Name of Inspector : Mr. Jeewan

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
1	---		---		1	<Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9					9	<Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9					9	<Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
7	---	---	---	2	9	<Close View>

Location

	Left	Center	Right
Upper	☑	☐	☑
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

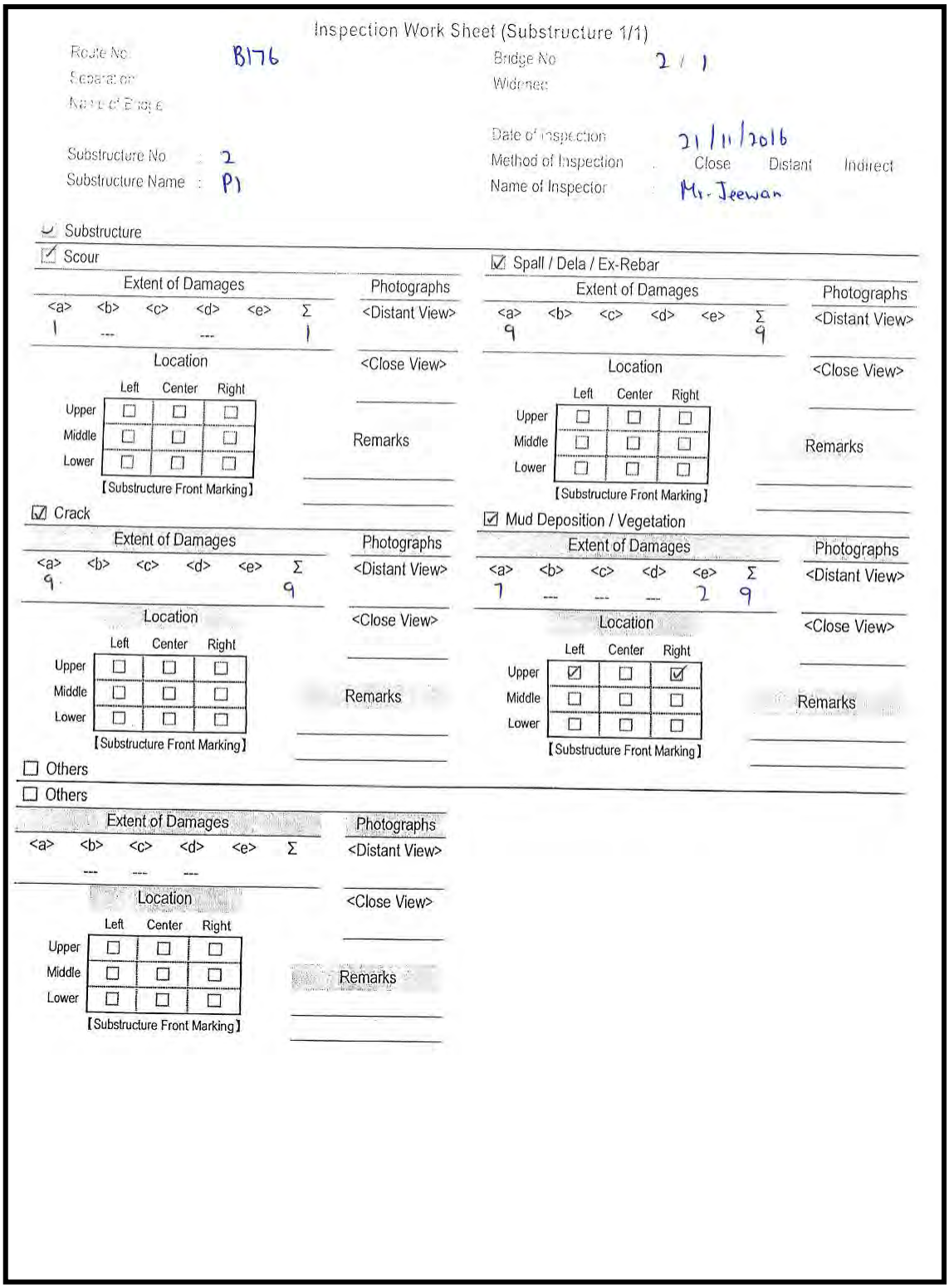
Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
	---	---	---			<Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks



Inspection Work Sheet (Substructure 1/1)

Route No : B176
Separation :
Name of Bridge :

Bridge No : 2 / 1
Widened :

Substructure No : 2
Substructure Name : P1

Date of Inspection : 21/11/2016
Method of Inspection : Close / Distant / Indirect
Name of Inspector : Mr. Jeewan

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
1	---		---		1	<Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9					9	<Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9					9	<Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
7	---	---	---	2	9	<Close View>

Location

	Left	Center	Right
Upper	☑	☐	☑
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
	---	---	---			<Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : B176
Separation :
Name of Bridge :

Bridge No : 2 / 1
Widened :

Substructure No. : 3
Substructure Name : A2

Date of Inspection : 21/11/2016
Method of Inspection : Close Distant Indirect
Name of Inspector : Mr. Jeewan

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---		---		1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9					9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9					9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---		9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

2) Outputs

Form 4 Inspection Form (Summary)

Route No.	:	B176	Name of Road	:	Kahawa - Batapola
Bridge No.	:	2 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
			Date of Inspection	:	2016/11/21
			Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

Health Index & Soundness Grade

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	D (25)	B (51)	C (45)
P1 - A2	B (62)	C (26)	A (92)
Whole	D (25)	C (26)	C (45)

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	A (96)	B (75)	A (79)	B (70)
P1 - A2	A (96)	C (50)	A (82)	B (70)

<<Bridge Structure>>

	Entire Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	C (33)	-	C (33)	-	A (79)	A1	A (98)
P1 - A2	A (100)	-	A (100)	-	A (79)	P1	A (98)
						A2	A (100)

Repair costs (Unit:Thousands LKR)

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	439.7	18.5	421.2
P1 - A2	144.4	24.9	119.5
Total	584.1	43.4	540.7

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	0.3	6.9	3.4	7.9
P1 - A2	0.3	13.8	2.9	7.9
Total	0.6	20.7	6.3	15.8

<<Bridge Structure>>

	Entier Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	301.7	-	301.7	-	118.4	A1	1.1
P1 - A2	0.0	-	0.0	-	118.4	P1	1.1
Total	301.7	0.0	301.7	0.0	236.8	A2	0.0
						Total	2.2

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	: B176	Name of Road	: Kahawa - Batapola
Bridge No.	: 2 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 1	Date of Inspection	: 2016/11/21
Span Name	: A1 - P1	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Pavement>> Soundness Grade: A HealthIndex: 96

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	8	-	1	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack					●				
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: B HealthIndex: 75

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	75	-	-	-	25	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint		●		–	–	–			
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 79

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	0	0	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	30	-	-	-	70	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet	●		●	●		●	●		●

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	: B176	Name of Road	: Kahawa - Batapola
Bridge No.	: 2 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 1	Date of Inspection	: 2016/11/21
Span Name	: A1 - P1	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Approaches>> Soundness Grade: B HealthIndex: 70

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	3	-	-	-	0	3	
Approach Bank / River Bank	2	-	-	-	1	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank	●	●	●	–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (RC-S))

Route No.	: B176	Name of Road	: Kahawa - Batapola
Bridge No.	: 2 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 1	Date of Inspection	: 2016/11/21
Span Name	: A1 - P1	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Deck Slab>> Soundness Grade: C HealthIndex: 33

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	5	0	0	1	3	9	
Crack	5	0	0	1	3	9	Damages are taken from Spall/Dela/Ex-Rebar

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar	●			●					●
Crack	●			●					●

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 79

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	30	-	0	-	70	100	
Damage on Bridge Bearing	0	-	0	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint	●		●	–	–	–	●		●
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (RC-S))

Route No.	:	B176	Name of Road	:	Kahawa - Batapola
Bridge No.	:	2 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/11/21
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Substructure: A1>> Soundness Grade: A HealthIndex: 98

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	7	-	-	-	2	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation	●						●		

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No. : B176		Name of Road : Kahawa - Batapola	
Bridge No. : 2 / 1 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 1		Date of Inspection : 2016/11/21	
Span Name : A1 - P1		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Jeewan	

No 1 Structural Member : Pavement Damage : Crack

<< Distant View >> << Close View >>

Remarks :

No 2 Structural Member : Expansion Joint Damage : Damage on Expansion Joint

<< Distant View >> << Close View >>

Remarks :

No 3 Structural Member : Accessories Damage : Damages on Railing / Parapet

<< Distant View >> << Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No. : B176		Name of Road : Kahawa - Batapola	
Bridge No. : 2 / 1 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 1		Date of Inspection : 2016/11/21	
Span Name : A1 - P1		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Jeewan	

No 4 Structural Member : Approaches Damage : Approach Bank / River Bank

<< Distant View >> << Close View >>

Remarks :

No 5 Structural Member : Deck Slab Damage : Spall / Dela / Ex-Rebar

<< Distant View >> << Close View >>

Remarks :

No 6 Structural Member : Bridge Bearing Damage : Water Leakage from Expansion Joint

<< Distant View >> << Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No. :	B176	Name of Road :	Kahawa - Batapola
Bridge No. :	2 / 1 in Km	Name of Bridge :	
Separation :	Not Separated	Widened :	Not Widened
Span Number :	1	Date of Inspection :	2016/11/21
Span Name :	A1 - P1	Method of Inspection :	Close Visual Inspection
		Name of Inspector :	Jeewan

No 7 Structural Member : Substructure: A1 Damage : Mud Deposition / Vegetation

<< Distant View >> << Close View >>

Remarks :

No 8 Structural Member : Damage :

<< Distant View >> << Close View >>

Remarks :

No 9 Structural Member : Damage :

<< Distant View >> << Close View >>

Remarks :

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B176	Name of Road	:	Kahawa - Batapola
Bridge No.	:	2 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/11/21
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Pavement>> Soundness Grade: A HealthIndex: 96

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	8	-	1	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack					●				
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	50	-	-	-	50	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint				–	–	–		●	
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 82

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	0	0	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	40	-	-	-	60	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet	●		●	●		●	●		●

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B176	Name of Road	:	Kahawa - Batapola
Bridge No.	:	2 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/11/21
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Approaches>> Soundness Grade: B HealthIndex: 70

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	3	-	-	-	0	3	
Approach Bank / River Bank	2	-	-	-	1	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–	●		

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (RC-S))

Route No.	: B176	Name of Road	: Kahawa - Batapola
Bridge No.	: 2 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 2	Date of Inspection	: 2016/11/21
Span Name	: P1 - A2	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Deck Slab>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar									
Crack									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 79

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	30	-	0	-	70	100	
Damage on Bridge Bearing	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint	●		●	–	–	–	●		●
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (RC-S))

Route No.	:	B176	Name of Road	:	Kahawa - Batapola
Bridge No.	:	2 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/11/21
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Substructure: P1>> Soundness Grade: A HealthIndex: 98

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	7	-	-	-	2	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation	●						●		

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): P1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 6 Inspection Form (Damage: Bridge Structure (RC-S))

Route No.	:	B176	Name of Road	:	Kahawa - Batapola
Bridge No.	:	2 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/11/21
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Substructure: A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	B176	Name of Road	Kahawa - Batapola
Bridge No.	2 / 1 in Km	Name of Bridge	
Separation	Not Separated	Widened	Not Widened
Span Number	2	Date of Inspection	2016/11/21
Span Name	P1 - A2	Method of Inspection	Close Visual Inspection
		Name of Inspector	Jeewan

No 1 Structural Member : Pavement Damage : Crack

<< Distant View >> << Close View >>

Remarks :

No 2 Structural Member : Expansion Joint Damage : Damage on Expansion Joint

<< Distant View >> << Close View >>

Remarks :

No 3 Structural Member : Accessories Damage : Damages on Railing / Parapet

<< Distant View >> << Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No. : B176		Name of Road : Kahawa - Batapola	
Bridge No. : 2 / 1 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 2		Date of Inspection : 2016/11/21	
Span Name : P1 - A2		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Jeewan	

No 4 Structural Member : Approaches Damage : Approach Bank / River Bank

<< Distant View >> << Close View >>

Remarks :

No 5 Structural Member : Bridge Bearing Damage : Water Leakage from Expansion Joint

<< Distant View >> << Close View >>

Remarks :

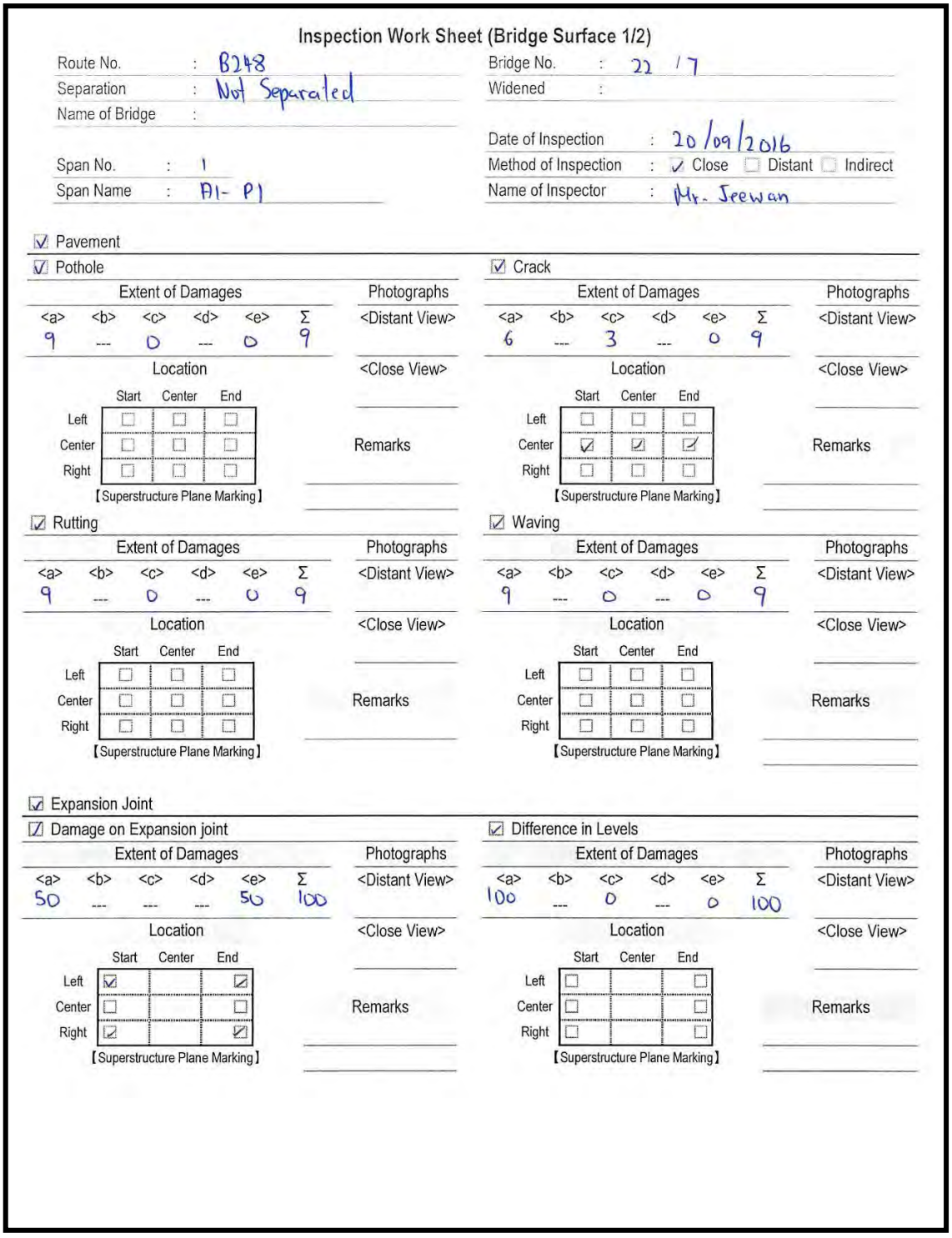
No 6 Structural Member : Substructure: P1 Damage : Mud Deposition / Vegetation

<< Distant View >> << Close View >>

Remarks :

1.3 PSC-POS,RCS-RCB

1) Record



Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B248
Separation : Not Separated
Name of Bridge :
Bridge No. : 22 / 7
Widened :
Date of Inspection : 20/09/2016
Span No. : 1
Span Name : A1- P1
Method of Inspection : ☑ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
6	---	3	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☑	☑	☑
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
50	---	---	---	50	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑		☑
Center	☐		☐
Right	☑		☑

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

☑ Accessories

☐ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	---	---	0	100

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
3	---	---	---	0	3

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
3	---	---	---	0	3

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

Inspection Work Sheet (Superstructure:PSC-POS,RCS-RCB 1/2)

Route No. : B248
Separation : Not Separated
Name of Bridge :

Bridge No. : 22 / 7
Widened :

Date of Inspection : 20/09/2016
Method of Inspection : ☑ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Span No. : 1
Span Name : A1-P1

☑ Main Beam

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
12	-	0	3	0	15	<Close View>

Location

	Start	Center	End
Left	☑	☐	☑
Center	☐	☐	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
12	-	0	3	0	15	<Close View>

Location

	Start	Center	End
Left	☑	☐	☑
Center	☐	☐	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Remarks
Damages were taken from Spall/Dela/Ex-Rebar

☑ Damage on Anchorage

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
10	---	0	---	0	10	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Deck Slab

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
14	-	0	0	0	14	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

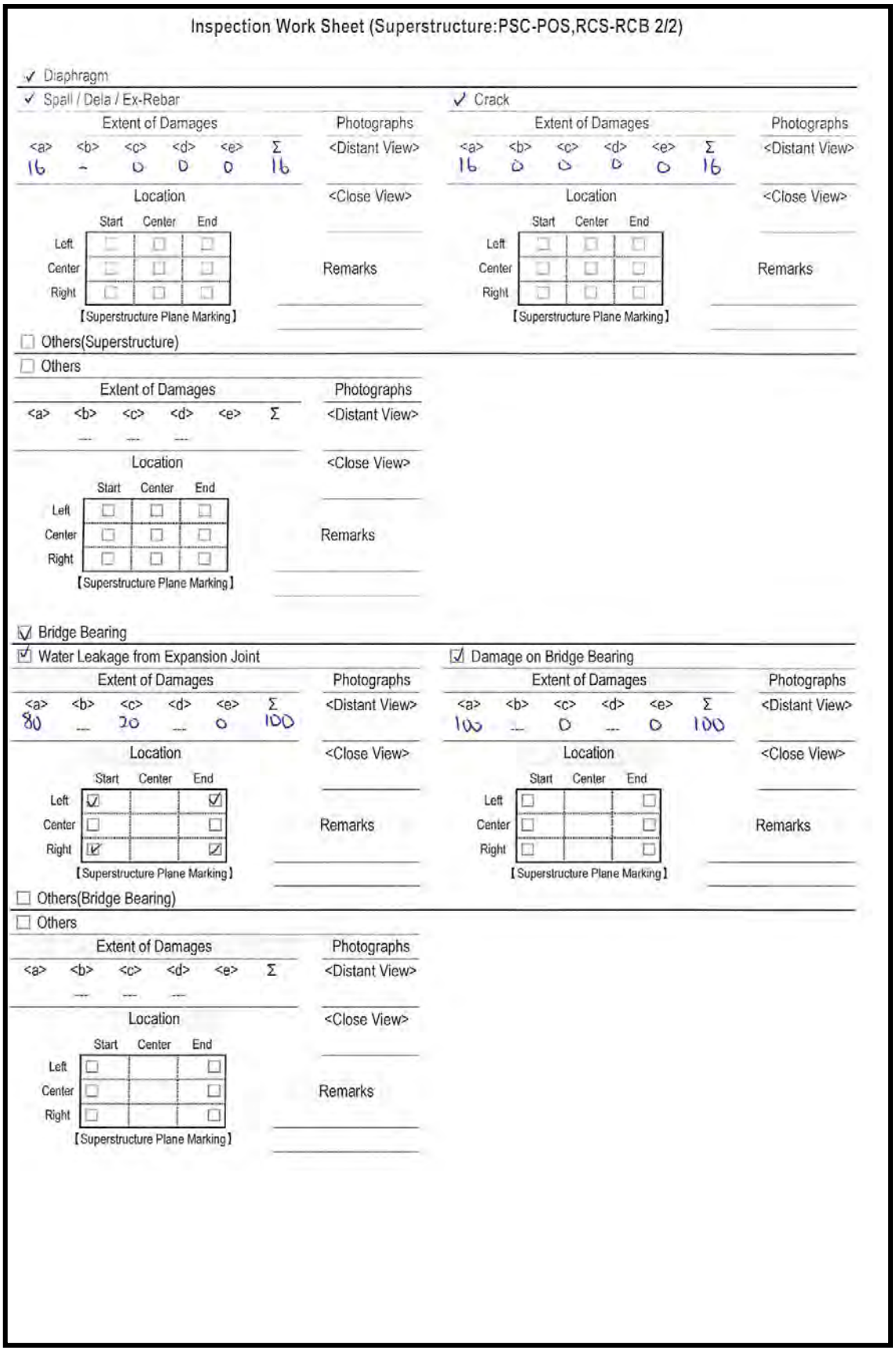
Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
14	0	0	0	0	14	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks



Inspection Work Sheet (Superstructure:PSC-POS,RCS-RCB 2/2)

✓ Diaphragm

✓ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
16	-	0	0	0	16	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

✓ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
16	0	0	0	0	16	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Others(Superstructure)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
80	---	20	---	0	100	

Location

	Start	Center	End
Left	☑		☑
Center	☐		☐
Right	☑		☑

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Damage on Bridge Bearing

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
100	---	0	---	0	100	

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

<Close View>

Remarks

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B248
Separation : Not Separated
Name of Bridge :

Bridge No. : 22 / 7
Widened :

Date of Inspection : 20/09/2016
Method of Inspection : ☑ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Span No. : 2
Span Name : P1-A2

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
6	---	3	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☑	☑	☑
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
50	---	---	---	50	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☑
Center	☐		☑
Right	☐		☑

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

✓ Accessories

Damage on Drainage

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Damages on Railing / Parapet

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
100	---	---	---		100	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
3	---	---	---	0	3	

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
3	---	---	---	0	3	

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

Inspection Work Sheet (Superstructure:PSC-POS,RCS-RCB 1/2)

Route No. : B248
Separation : Not Separated
Name of Bridge :

Bridge No. : 22 / 7
Widened :

Date of Inspection : 20/09/2016
Method of Inspection : ☑ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Span No. : 2
Span Name : P1-A2

☑ Main Beam

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
15	-	0	0	0	15

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
15	0	0	0	0	15

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Damage on Anchorage

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
10	---	0	---	0	10

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Deck Slab

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
14	-	0	0	0	14

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
14	0	0	0	0	14

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Superstructure:PSC-POS,RCS-RCB 2/2)

✓ Diaphragm

✓ Spall / Dela / Ex-Rebar

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
16	-	0	0	0	16

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

✓ Crack

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
16	0	0	0	0	16

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☐ Others(Superstructure)

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
80	---	20	---	0	100

Location

	Start	Center	End
Left	☑		☑
Center	☐		☐
Right	☑		☑

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Damage on Bridge Bearing

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : B248
Separation : Not Separated
Name of Bridge :

Bridge No. : 22 / 7
Widened :

Date of Inspection : 20/09/2016
Method of Inspection : ☑ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Seewan

Substructure No. : 1
Substructure Name : A1

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : B248
Separation : Not Separated
Name of Bridge :

Bridge No. : 22 / 7
Widened :

Date of Inspection : 20/09/2016
Method of Inspection : ☑ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

Substructure No. : 2
Substructure Name : P1

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

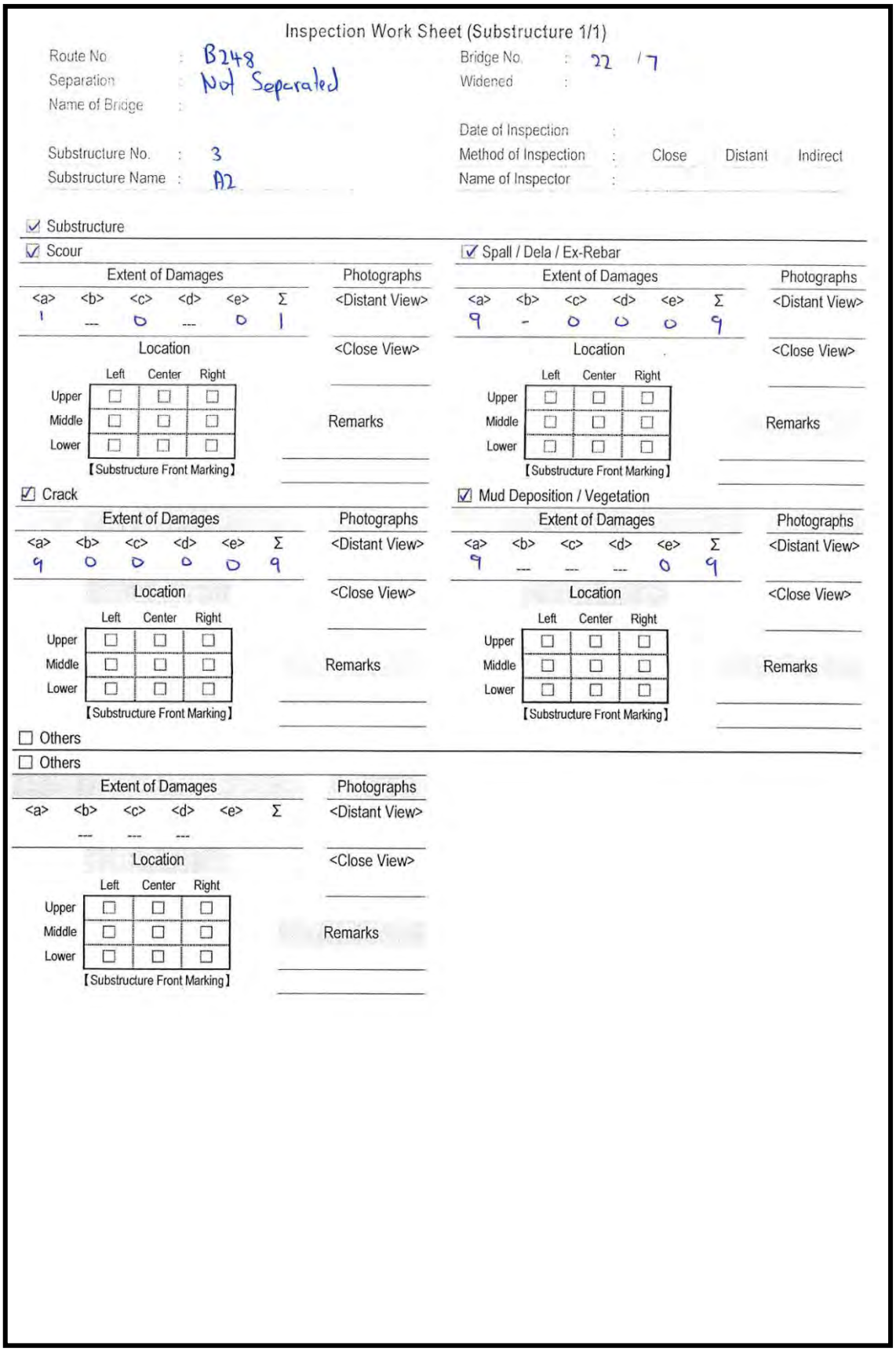
Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks



Inspection Work Sheet (Substructure 1/1)

Route No. : B248
Separation : Not Separated
Name of Bridge :

Bridge No. : 22 / 7
Widened :

Substructure No. : 3
Substructure Name : A2

Date of Inspection :
Method of Inspection : Close Distant Indirect
Name of Inspector :

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

2) Outputs

Form 4 Inspection Form (Summary)

Route No.	:	B248	Name of Road	:	Labuduwa - Wandurambe - Sandarawela
Bridge No.	:	22 / 7 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
			Date of Inspection	:	2016/09/20
			Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

Health Index & Soundness Grade

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	B (62)	C (43)	A (84)
P1 - A2	A (76)	C (43)	A (99)
Whole	B (62)	C (43)	A (84)

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	A (87)	C (50)	A (100)	A (100)
P1 - A2	A (87)	C (50)	A (100)	A (100)

<<Bridge Structure>>

	Entire Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	A (79)	A (79)	A (100)	A (100)	A (97)	A1	A (100)
P1 - A2	A (100)	A (100)	A (100)	A (100)	A (97)	P1	A (100)
						A2	A (100)

Repair costs (Unit:Thousands LKR)

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	380.8	30.3	350.5
P1 - A2	60.9	30.3	30.6
Total	441.7	60.6	381.1

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	5.3	25.0	0.0	0.0
P1 - A2	5.3	25.0	0.0	0.0
Total	10.6	50.0	0.0	0.0

<<Bridge Structure>>

	Entier Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	319.9	319.9	0.0	0.0	30.6	A1	0.0
P1 - A2	0.0	0.0	0.0	0.0	30.6	P1	0.0
Total	319.9	319.9	0.0	0.0	61.2	A2	0.0
						Total	0.0

Form 5 Inspection Form (Damage: Bridge Surface)

Route No. : B248		Name of Road : Labuduwa - Wandurambe - Sandarawela	
Bridge No. : 22 / 7 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 1		Date of Inspection : 2016/09/20	
Span Name : A1 - P1		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Jeewan	

<<Pavement>> Soundness Grade: A HealthIndex: 87

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	6	-	3	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack		●			●			●	
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	50	-	-	-	50	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint	●		●	–	–	–	●		●
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	0	0	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	100	-	-	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	: B248	Name of Road	: Labuduwa - Wandurambe - Sandarawela
Bridge No.	: 22 / 7 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 1	Date of Inspection	: 2016/09/20
Span Name	: A1 - P1	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	3	-	-	-	0	3	
Approach Bank / River Bank	3	-	-	-	0	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-POS))

Route No.	:	B248	Name of Road	:	Labuduwa - Wandurambe - Sandarawela
Bridge No.	:	22 / 7 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/09/20
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Main Beam>> Soundness Grade: A HealthIndex: 79

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	12	0	0	3	0	15	
Crack	12	0	0	3	0	15	Damage taken from Spall/Dela/Ex-Rebar
Damage on Anchorage	10	-	0	-	0	10	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar	●					●	●		
Crack	●					●	●		
Damage on Anchorage									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Deck Slab>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	14	0	0	0	0	14	
Crack	14	0	0	0	0	14	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar									
Crack									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Diaphragm>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	16	0	0	0	0	16	
Crack	16	0	0	0	0	16	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar									
Crack									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-POS))

Route No.	:	B248	Name of Road	:	Labuduwa - Wandurambe - Sandarawela
Bridge No.	:	22 / 7 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/09/20
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 97

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	80	-	20	-	0	100	
Damage on Bridge Bearing	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint	●		●	–	–	–	●		●
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-POS))

Route No.	: B248	Name of Road	: Labuduwa - Wandurambe - Sandarawela
Bridge No.	: 22 / 7 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 1	Date of Inspection	: 2016/09/20
Span Name	: A1 - P1	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Substructure: A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No. : B248		Name of Road : Labuduwa - Wandurambe - Sandarawela	
Bridge No. : 22 / 7 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 1		Date of Inspection : 2016/09/20	
Span Name : A1 - P1		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Jeewan	

No 1 Structural Member : Pavement Damage : Crack

<< Distant View >> << Close View >>

Remarks :

No 2 Structural Member : Expansion Joint Damage : Damage on Expansion Joint

<< Distant View >> << Close View >>

Remarks :

No 3 Structural Member : Main Beam Damage : Spall / Dela / Ex-Rebar

<< Distant View >> << Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No. : B248		Name of Road : Labuduwa - Wandurambe - Sandarawela	
Bridge No. : 22 / 7 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 1		Date of Inspection : 2016/09/20	
Span Name : A1 - P1		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Jeewan	

No 4 Structural Member : Main Beam Damage : Crack

<< Distant View >> << Close View >>

Remarks : Damage taken from Spall/Dela/Ex-Rebar

No 5 Structural Member : Bridge Bearing Damage : Water Leakage from Expansion Joint

<< Distant View >> << Close View >>

Remarks :

No 6 Structural Member : Damage :

<< Distant View >> << Close View >>

Remarks :

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B248	Name of Road	:	Labuduwa - Wandurambe - Sandarawela
Bridge No.	:	22 / 7 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/09/20
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Pavement>> Soundness Grade: A HealthIndex: 87

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	6	-	3	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack		●			●			●	
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	50	-	-	-	50	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint				–	–	–	●	●	●
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	0	0	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	100	-	-	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B248	Name of Road	:	Labuduwa - Wandurambe - Sandarawela
Bridge No.	:	22 / 7 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/09/20
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	3	-	-	-	0	3	
Approach Bank / River Bank	3	-	-	-	0	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-POS))

Route No. :	B248	Name of Road :	Labuduwa - Wandurambe - Sandarawela
Bridge No. :	22 / 7 in Km	Name of Bridge :	
Separation :	Not Separated	Widened :	Not Widened
Span Number :	2	Date of Inspection :	2016/09/20
Span Name :	P1 - A2	Method of Inspection :	Close Visual Inspection
		Name of Inspector :	Jeewan

<<Main Beam>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	15	0	0	0	0	15	
Crack	15	0	0	0	0	15	
Damage on Anchorage	10	-	0	-	0	10	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar									
Crack									
Damage on Anchorage									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Deck Slab>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	14	0	0	0	0	14	
Crack	14	0	0	0	0	14	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar									
Crack									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Diaphragm>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	16	0	0	0	0	16	
Crack	16	0	0	0	0	16	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar									
Crack									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-POS))

Route No.	:	B248	Name of Road	:	Labuduwa - Wandurambe - Sandarawela
Bridge No.	:	22 / 7 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/09/20
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 97

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	80	-	20	-	0	100	
Damage on Bridge Bearing	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint	●		●	–	–	–	●		●
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-POS))

Route No.	:	B248	Name of Road	:	Labuduwa - Wandurambe - Sandarawela
Bridge No.	:	22 / 7 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/09/20
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Substructure: P1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): P1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Substructure: A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 6 Inspection Form (Damage: Bridge Structure (PSC-POS))

Route No.	:	B248	Name of Road	:	Labuduwa - Wandurambe - Sandarawela
Bridge No.	:	22 / 7 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/09/20
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Others(Substructure): A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	B248	Name of Road	Labuduwa - Wandurambe - Sandarawela
Bridge No.	22 / 7 in Km	Name of Bridge	
Separation	Not Separated	Widened	Not Widened
Span Number	2	Date of Inspection	2016/09/20
Span Name	P1 - A2	Method of Inspection	Close Visual Inspection
		Name of Inspector	Jeewan

No 1 Structural Member : Pavement Damage : Crack

<< Distant View >> << Close View >>

Remarks :

No 2 Structural Member : Expansion Joint Damage : Damage on Expansion Joint

<< Distant View >> << Close View >>

Remarks :

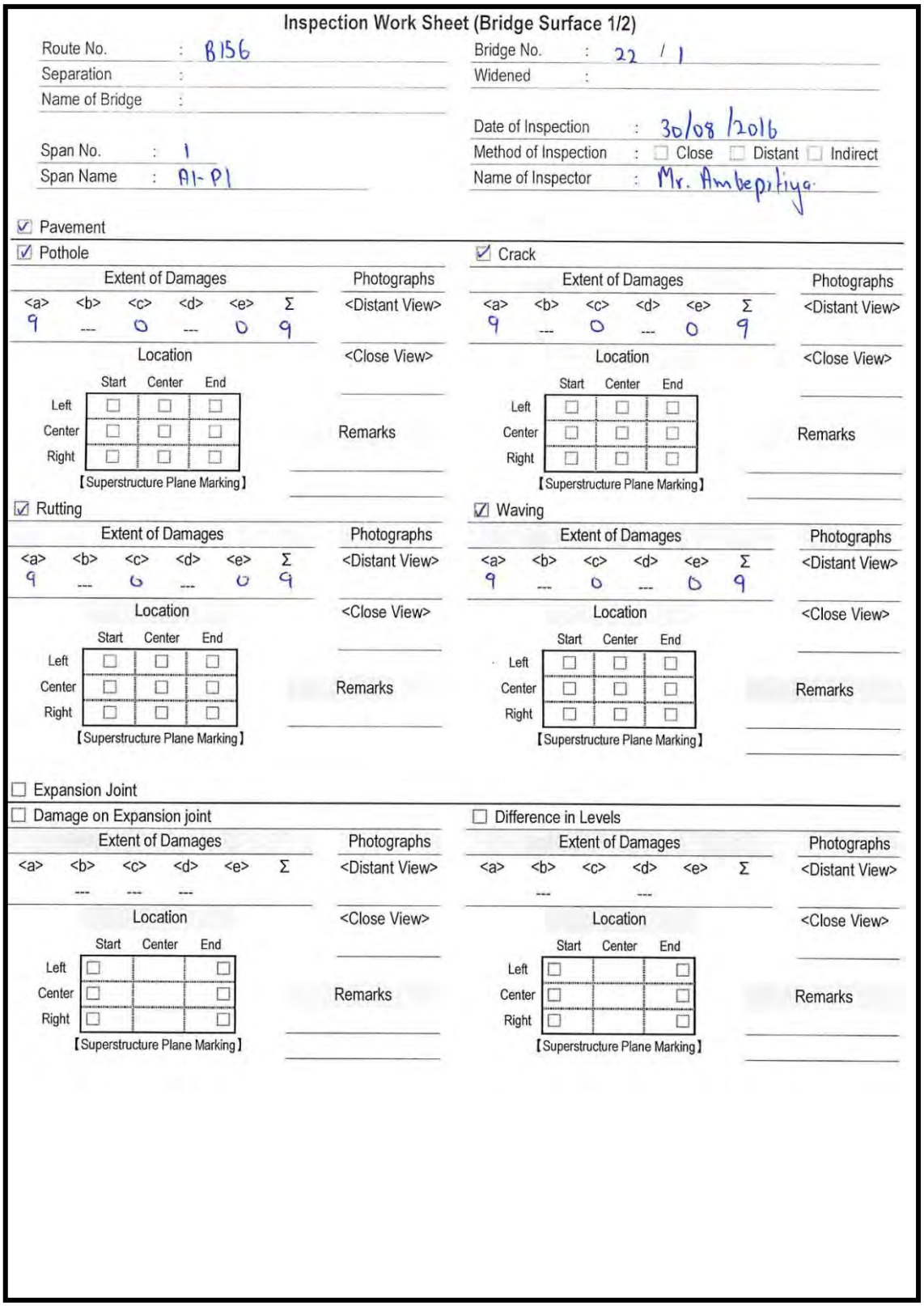
No 3 Structural Member : Bridge Bearing Damage : Water Leakage from Expansion Joint

<< Distant View >> << Close View >>

Remarks :

1.4 Box Bridge

1) Record



Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B156
Bridge No. : 22 / 1
Separation :
Widened :
Name of Bridge :
Date of Inspection : 30/08/2016
Span No. : 1
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Span Name : A1-P1
Name of Inspector : Mr. Ambepitiya.

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☐ Expansion Joint

☐ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☐ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---		---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

✓ Accessories

✓ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	---	---	---	100	100

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	---	---	0	100

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
3	---	---	---	0	3

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
3	---	---	---	0	3

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

Inspection Work Sheet (Superstructure:Box Bridge 1/1)

Route No. : B156
Separation :
Name of Bridge :

Bridge No. : 22 / 1
Widened :

Date of Inspection : 30/08/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Ambepitiya

Span No. : 1
Span Name : A1-P1

☑ Deck Slab

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
5	-	0	4	0	9	<Close View>

Location

	Start	Center	End
Left	☑	☑	☐
Center	☑	☑	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
5	0	0	4	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks
Taken from Spall/Dela/Ex-Rebar

☐ Others(Superstructure)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B156
Separation :
Name of Bridge :

Bridge No. : 22 / 1
Widened :

Date of Inspection : 30/08/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Ambepitiya

Span No. : 2
Span Name : P1-A2

☑ Pavement

☑ Pothole

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Crack

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Rutting

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Waving

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☐ Expansion Joint

☐ Damage on Expansion joint

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☐ Difference in Levels

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---		---		

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

Inspection Work Sheet (Bridge Surface 2/2)

✓ Accessories

✓ Damage on Drainage

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
0	---	---	---	100	100	

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Damages on Railing / Parapet

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
100	---	---	---	0	100	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
3	---	---	---	0	3	

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
3	---	---	---	0	3	

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

Inspection Work Sheet (Superstructure:Box Bridge 1/1)

Route No. : B156
Bridge No. : 22 / 1
Separation :
Widened :
Name of Bridge :

Date of Inspection : 30/08/2016
Span No. : 2
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Span Name : P1-A2
Name of Inspector : Mr. Ambepitiya

☑ Deck Slab

☑ Spall / Dela / Ex-Rebar

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
8	-	0	1	0	9

Photographs
<Distant View>
<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☑	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
8	0	0	1	0	9

Photographs
<Distant View>
<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☑	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks
Taken from Spall/ Dela/ Ex - Rebar

☐ Others(Superstructure)

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs
<Distant View>
<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No : B156
Bridge No : 22 1
Name of Bridge :
Weather :

Date of Inspection : 30/08/2016
Substructure No. : 1
Method of Inspection : Close Distant Indirect
Substructure Name : A1
Name of Inspector : Mr. Ambepitiya

✓ Substructure

✓ Scour

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
1	---	0	---	0	1	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

✓ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	-	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	0	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	---	---	---	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No : B156
Bridge No : 22 1
Name of Bridge :
Work No :

Date of Inspection : 30/08/2016
Substructure No : 2
Substructure Name : P1
Method of Inspection : Close Distant Indirect
Name of Inspector : Mr. Ambepitiye

✓ Substructure

/ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper			
Middle			
Lower			

【Substructure Front Marking】

Remarks

✓ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper			
Middle			
Lower			

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper			
Middle			
Lower			

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper			
Middle			
Lower			

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper			
Middle			
Lower			

【Substructure Front Marking】

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : B156
Bridge No. : 22 1
Name of Bridge :
Weather :

Date of Inspection : 30/08/2016
Substructure No. : 3
Substructure Name : A2
Method of Inspection : Close Distant Indirect
Name of Inspector : Mr. Ambepitiya

✓ Substructure

✓ Scour

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
1	---	0	---	0	1	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
8	0	1	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☑	☐

【Substructure Front Marking】

<Close View>

Remarks
Taken from Spall/Dela/Ex-Rebar

☐ Others

✓ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
8	-	1	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☑	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	---	---	---		9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

2) Outputs

Form 4 Inspection Form (Summary)

Route No.	:	B156	Name of Road	:	Hiniduma - Opatha - Pitabeddera
Bridge No.	:	22 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
			Date of Inspection	:	2016/08/30
			Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Ambepitiya

Health Index & Soundness Grade

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	C (39)	A (90)	C (43)
P1 - A2	B (75)	A (90)	A (79)
Whole	C (39)	A (90)	C (43)

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	A (100)	A (100)	C (50)	A (100)
P1 - A2	A (100)	A (100)	C (50)	A (100)

<<Bridge Structure>>

	Entire Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	C (43)	-	C (43)	-	-	A1	A (100)
P1 - A2	A (86)	-	A (86)	-	-	P1	A (100)
						A2	A (92)

Repair costs (Unit:Thousands LKR)

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	501.9	5.2	496.7
P1 - A2	87.8	5.2	82.6
Total	589.7	10.4	579.3

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	0.0	0.0	5.2	0.0
P1 - A2	0.0	0.0	5.2	0.0
Total	0.0	0.0	10.4	0.0

<<Bridge Structure>>

	Entier Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	496.7	-	496.7	-	-	A1	0.0
P1 - A2	75.8	-	75.8	-	-	P1	0.0
Total	572.5	0.0	572.5	0.0	0.0	A2	6.8
						Total	6.8

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B156	Name of Road	:	Hiniduma - Opatha - Pitabeddera
Bridge No.	:	22 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/08/30
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Ambepitiya

<<Pavement>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	9	-	0	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack									
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	0	-	-	-	0	0	
Difference in Levels	0	-	0	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint				–	–	–			
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	100	100	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	100	-	-	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage	●		●	●		●	●		●
Damages on Service Duct									
Damages on Railing / Parapet									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B156	Name of Road	:	Hiniduma - Opatha - Pitabeddera
Bridge No.	:	22 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/08/30
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Ambepitiya

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	3	-	-	-	0	3	
Approach Bank / River Bank	3	-	-	-	0	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Box Bridge))

Route No.	:	B156	Name of Road	:	Hiniduma - Opatha - Pitabeddera
Bridge No.	:	22 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/08/30
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Ambepitiya

<<Deck Slab>> Soundness Grade: C HealthIndex: 43

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	5	0	0	4	0	9	
Crack	5	0	0	4	0	9	Taken from Spall/Dela/Ex-Rebar

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar		●		●	●				
Crack	●	●		●	●				

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Substructure: A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Box Bridge))

Route No.	:	B156	Name of Road	:	Hiniduma - Opatha - Pitabeddera
Bridge No.	:	22 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/08/30
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Ambepitiya

<<Others(Substructure): A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	B156	Name of Road	:	Hiniduma - Opatha - Pitabeddera
Bridge No.	:	22 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/08/30
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Ambepitiya

No 1 Structural Member : Accessories Damage : Damage on Drainage

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Deck Slab Damage : Spall / Dela / Ex-Rebar

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Deck Slab Damage : Crack

<< Distant View >>

<< Close View >>

Remarks : Taken from Spall/Dela/Ex-Rebar

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B156	Name of Road	:	Hiniduma - Opatha - Pitabeddara
Bridge No.	:	22 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/08/30
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Ambepitiya

<<Pavement>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	9	-	0	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack									
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	0	-	-	-	0	0	
Difference in Levels	0	-	0	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint				–	–	–			
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	100	100	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	100	-	-	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage	●		●	●		●	●		●
Damages on Service Duct									
Damages on Railing / Parapet									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	: B156	Name of Road	: Hiniduma - Opatha - Pitabeddara
Bridge No.	: 22 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 2	Date of Inspection	: 2016/08/30
Span Name	: P1 - A2	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Ambepitiya

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	3	-	-	-	0	3	
Approach Bank / River Bank	3	-	-	-	0	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Box Bridge))

Route No.	: B156	Name of Road	: Hiniduma - Opatha - Pitabeddera
Bridge No.	: 22 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 2	Date of Inspection	: 2016/08/30
Span Name	: P1 - A2	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Ambepitiya

<<Deck Slab>> Soundness Grade: A HealthIndex: 86

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Spall / Dela / Ex-Rebar	8	0	0	1	0	9	
Crack	8	0	0	1	0	9	Taken from Spall/Dela/Ex-Rebar

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Spall / Dela / Ex-Rebar				●	●				
Crack					●				

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Substructure: P1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Box Bridge))

Route No.	: B156	Name of Road	: Hiniduma - Opatha - Pitabeddera
Bridge No.	: 22 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 2	Date of Inspection	: 2016/08/30
Span Name	: P1 - A2	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Ambepitiya

<<Others(Substructure): P1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Substructure: A2>> Soundness Grade: A HealthIndex: 92

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	8	0	1	0	0	9	
Crack	8	0	1	0	0	9	Taken from Spall/Dela/Ex-Rebar

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar						●			
Crack						●			

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	B156	Name of Road	:	Hiniduma - Opatha - Pitabeddera
Bridge No.	:	22 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/08/30
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Ambepitiya

No 1 Structural Member : Accessories Damage : Damage on Drainage

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Deck Slab Damage : Spall / Dela / Ex-Rebar

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Deck Slab Damage : Crack

<< Distant View >>

<< Close View >>

Remarks : Taken from Spall/Dela/Ex-Rebar

Form 7 Inspection Form (Damage Photos)

Route No.	:	B156	Name of Road	:	Hiniduma - Opatha - Pitabeddera
Bridge No.	:	22 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/08/30
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Ambepitiya

No 4 Structural Member : Substructure: A2 Damage : Spall / Dela / Ex-Rebar

<< Distant View >>

<< Close View >>

Remarks :

No 5 Structural Member : Substructure: A2 Damage : Crack

<< Distant View >>

<< Close View >>

Remarks : Taken from Spall/Dela/Ex-Rebar

No 6 Structural Member : Damage :

<< Distant View >>

<< Close View >>

Remarks :

1.5 Truss Bridge

1) Record

TRUSS BRIDGE

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B108 Bridge No. : 1 / 2
Separation : Widened :
Name of Bridge :

Date of Inspection : 24/04/2016
Span No. : 1 Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Span Name : A1-A2 Name of Inspector : Mr. Duminda

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
0	---	0	---	9	9	<Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☑	☑	☑
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
50	---	---	---	50	100	<Close View>

Location

	Start	Center	End
Left	☑		☑
Center	☑		☑
Right	☑		☑

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
100	---	0	---	0	100	<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Bridge Surface 2/2)

☐ Accessories

☐ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☐ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
6	---	---	---	0	6

Location

	Start	Center	End	
Left ☐				☐
Center ☐				☐
Right ☐				☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
6	---	---	---	0	6

Location

	Start	Center	End	
Left ☐				☐
Center ☐				☐
Right ☐				☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Superstructure:Truss Bridge,Steel Bridge 1/2)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Method of Inspection : ☑ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Dumindu

Span No. : 1
Span Name : A1-A2

☑ Main Beam

☑ Paint Degradation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
0	-	0	-	24	24

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Corrosion

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
0	0	0	24	0	24

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Damage (Rivet / HSFG)

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
24	---	0	---	0	24

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
0	---	---	---	24	24

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Deck Slab

☑ Damage on Steel / RC Deck Slab

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
0	0	12	0	0	12

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Superstructure:Superstructure:Truss Bridge,Steel Bridge 2/2)

✓ Cross Beam

✓ Corrosion

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
0	-	10	-	3	13	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☑	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

<Close View>

Remarks

✓ Damage (Rivet / HSFG)

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
13	---	0	---	0	13	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Others(Superstructure)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
30	---	70	---	0	100	

Location

	Start	Center	End
Left	☑		☑
Center	☑		☑
Right	☑		☑

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Damage on Bridge Bearing

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
100	---		---		100	

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

<Close View>

Remarks

Invisible

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

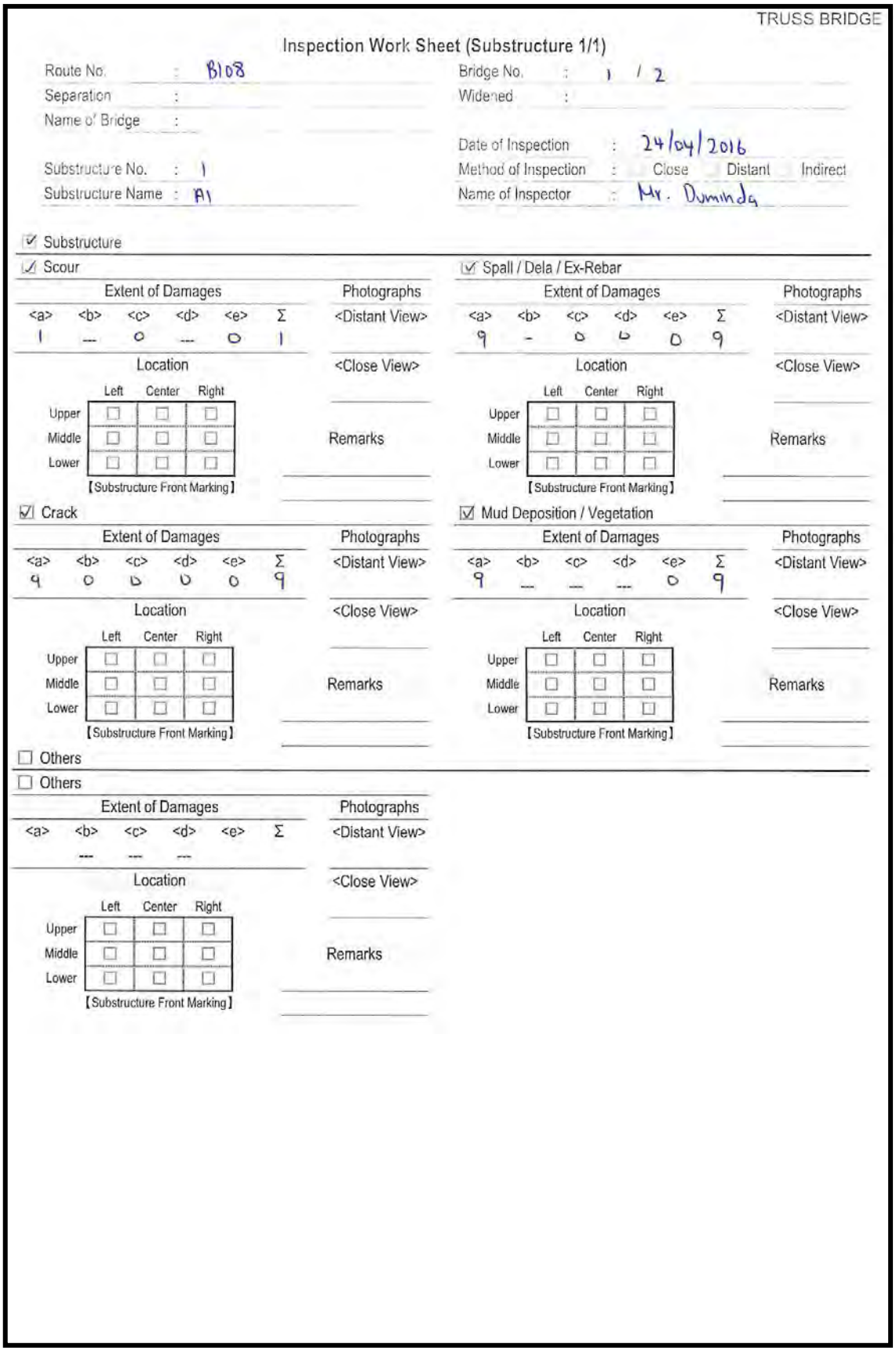
Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

<Close View>

Remarks



TRUSS BRIDGE

Inspection Work Sheet (Substructure 1/1)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Method of Inspection : Close Distant Indirect
Name of Inspector : Mr. Dumindg

Substructure No. : 1
Substructure Name : A1

☑ Substructure

☑ Scour

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
1	---	0	---	0	1	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	-	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	0	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	---	---	---	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Substructure 1/1)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Substructure No. : 2
Substructure Name : A2
Method of Inspection : Close Distant Indirect
Name of Inspector : Mr. Duminda

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Duminda

Span No. : 1
Span Name : A1-A2

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
0	---	0	---	9	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☑	☑	☑
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
50	---	---	---	50	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑		☑
Center	☑		☑
Right	☑		☑

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Bridge Surface 2/2)

☐ Accessories

☐ Damage on Drainage

Extent of Damages: <a> <b> <c> <d> <e> Σ

--- --- ---

Photographs: <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☐ Damages on Service Duct

Extent of Damages: <a> <b> <c> <d> <e> Σ

--- --- ---

Photographs: <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☐ Damages on Railing / Parapet

Extent of Damages: <a> <b> <c> <d> <e> Σ

--- --- ---

Photographs: <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages: <a> <b> <c> <d> <e> Σ

6 --- --- --- 0 6

Photographs: <Distant View> <Close View>

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Remarks

☑ Approach Bank / River Bank

Extent of Damages: <a> <b> <c> <d> <e> Σ

6 --- --- --- 0 6

Photographs: <Distant View> <Close View>

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Remarks

☐ Others

☐ Others

Extent of Damages: <a> <b> <c> <d> <e> Σ

--- --- ---

Photographs: <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Superstructure:Truss Bridge,Steel Bridge 1/2)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Dumindo

Span No. : 1
Span Name : A1-A2

☑ Main Beam

☑ Paint Degradation

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	-	0	-	24	24

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Corrosion

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	0	0	24	0	24

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Damage (Rivet / HSFG)

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
24	---	0	---	0	24

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	---	---	---	24	24

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Deck Slab

☑ Damage on Steel / RC Deck Slab

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	0	12	0	0	12

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☐	☑

【Superstructure Plane Marking】

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Superstructure:Superstructure:Truss Bridge,Steel Bridge 2/2)

✓ Cross Beam

✓ Corrosion

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	-	10	-	3	13

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☑	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

✓ Damage (Rivet / HSFG)

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
13	---	0	---	0	13

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Others(Superstructure)

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
30	---	70	---	0	100

Location

	Start	Center	End
Left	☑		☑
Center	☑		☑
Right	☑		☑

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Damage on Bridge Bearing

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---		---		100

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

Invisible

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Substructure 1/1)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Duminda

Substructure No. : 1
Substructure Name : A1

☑ Substructure

☑ Scour

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
1	---	0	---	0	1	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	-	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Crack

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	0	0	0	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
9	---	---	---	0	9	

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

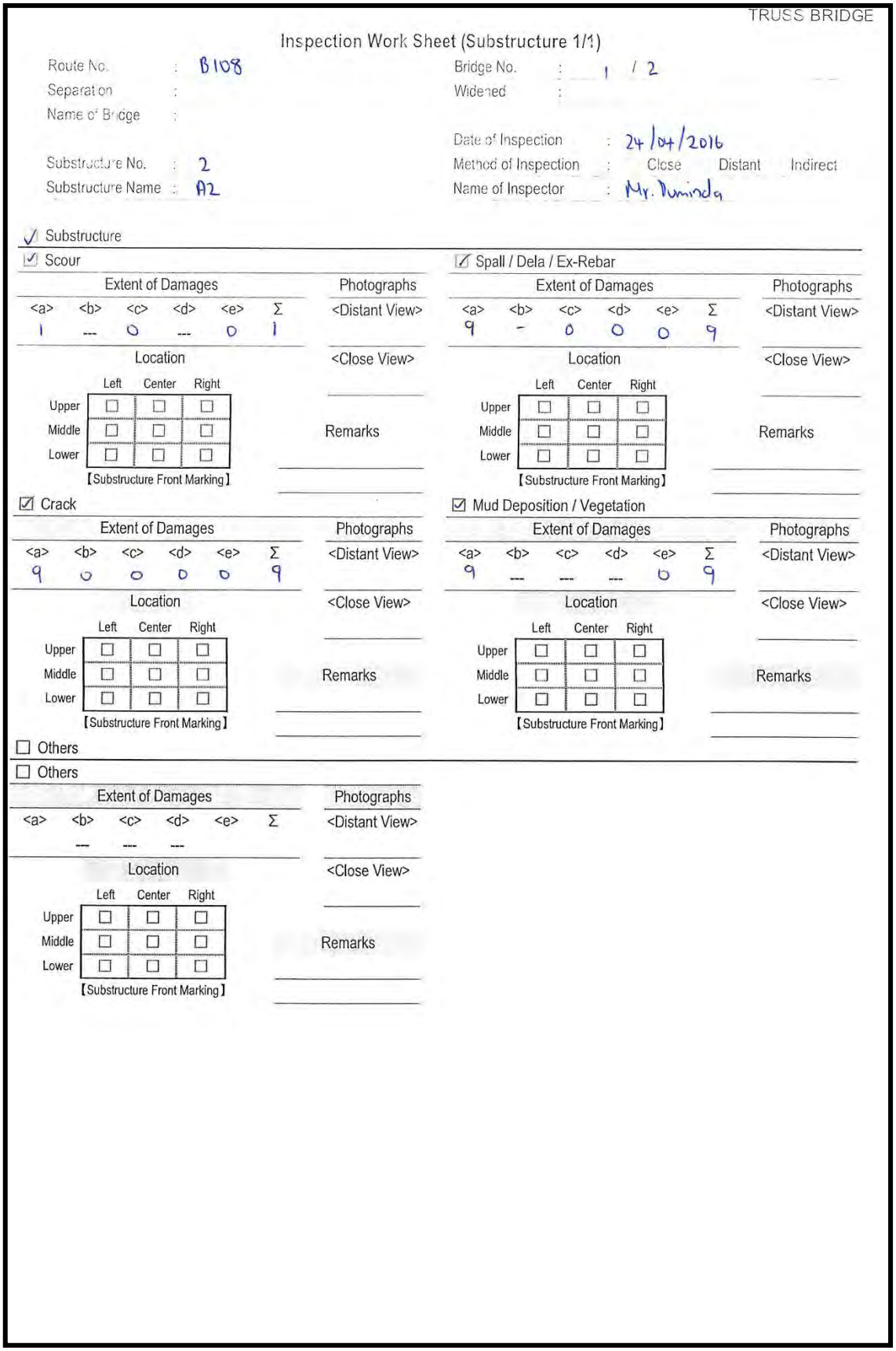
Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

<Close View>

Remarks



TRUSS BRIDGE

Inspection Work Sheet (Substructure 1/1)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Substructure No. : 2
Substructure Name : A2
Method of Inspection : Close Distant Indirect
Name of Inspector : Mr. Nuwinda

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Duminda

Span No. : 1
Span Name : A1-A2

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
0	---	0	---	9	9	<Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☑	☑	☑
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
9	---	0	---	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
50	---	---	---	50	100	<Close View>

Location

	Start	Center	End
Left	☑		☑
Center	☑		☑
Right	☑		☑

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
100	---	0	---	0	100	<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Bridge Surface 2/2)

☐ Accessories

☐ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☐ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
6	---	---	---	0	6

Location

	Start	Center	End	
Left ☐				☐
Center ☐				☐
Right ☐				☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
6	---	---	---	0	6

Location

	Start	Center	End	
Left ☐				☐
Center ☐				☐
Right ☐				☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs

<Distant View>

<Close View>

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Superstructure:Truss Bridge,Steel Bridge 1/2)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Dumindu

Span No. : 1
Span Name : A1-A2

☑ Main Beam

☑ Paint Degradation

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	-	0	-	24	24

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Corrosion

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	0	0	24	0	24

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Damage (Rivet / HSFG)

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
24	---	0	---	0	24

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Mud Deposition / Vegetation

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	---	---	---	24	24

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Deck Slab

☑ Damage on Steel / RC Deck Slab

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	0	12	0	0	12

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☐	☑

【Superstructure Plane Marking】

Photographs
<Distant View>
<Close View>
Remarks

TRUSS BRIDGE

Inspection Work Sheet (Superstructure:Superstructure:Truss Bridge,Steel Bridge 2/2)

✓ Cross Beam

✓ Corrosion

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
0	-	10	-	3	13	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☑	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

<Close View>

Remarks

✓ Damage (Rivet / HSFG)

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
13	---	0	---	0	13	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Others(Superstructure)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
30	---	70	---	0	100	

Location

	Start	Center	End
Left	☑		☑
Center	☑		☑
Right	☑		☑

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Damage on Bridge Bearing

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
100	---		---		100	

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

<Close View>

Remarks

Invisible

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

<Close View>

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Substructure 1/1)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Substructure No. : 1
Substructure Name : A1
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Duminda

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

TRUSS BRIDGE

Inspection Work Sheet (Substructure 1/1)

Route No. : B108
Separation :
Name of Bridge :

Bridge No. : 1 / 2
Widened :

Date of Inspection : 24/04/2016
Method of Inspection : Close Distant Indirect
Name of Inspector : Mr. Nuwinda

Substructure No. : 2
Substructure Name : A2

☑ Substructure

☑ Scour

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Crack

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Mud Deposition / Vegetation

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

2) Outputs

Form 4 Inspection Form (Summary)

Route No.	:	B108	Name of Road	:	Dunagaha - Nilpanagoda
Bridge No.	:	1 / 2 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
			Date of Inspection	:	2016/04/24
			Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

Health Index & Soundness Grade

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - A2	D (0)	D (10)	D (0)
Whole	D (0)	D (10)	D (0)

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - A2	D (20)	C (50)	A (100)	A (100)

<<Bridge Structure>>

	Entire Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - A2	D (0)	D (0)	C (50)	C (39)	A (90)	A1	A (100)
						A2	A (99)

Repair costs (Unit:Thousands LKR)

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - A2	2,116.3	34.6	2,081.7
Total	2,116.3	34.6	2,081.7

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - A2	19.4	15.2	0.0	0.0
Total	19.4	15.2	0.0	0.0

<<Bridge Structure>>

	Entier Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - A2	2,014.6	1,442.9	181.8	389.9	65.4	A1	0.0
Total	2,014.6	1,442.9	181.8	389.9	65.4	A2	1.7
						Total	1.7

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B108	Name of Road	:	Dunagaha - Nilpanagoda
Bridge No.	:	1 / 2 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/04/24
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

<<Pavement>> Soundness Grade: D HealthIndex: 20

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	0	-	0	-	9	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack	●	●	●	●	●	●	●	●	●
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	50	-	-	-	50	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint	●	●	●	–	–	–	●	●	
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	0	0	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B108	Name of Road	:	Dunagaha - Nilpanagoda
Bridge No.	:	1 / 2 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/04/24
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	6	-	-	-	0	6	
Approach Bank / River Bank	6	-	-	-	0	6	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Truss Bridge))

Route No.	:	B108	Name of Road	:	Dunagaha - Nilpanagoda
Bridge No.	:	1 / 2 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/04/24
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

<<Main Beam>> Soundness Grade: D HealthIndex: 0

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Paint Degradation	0	0	0	0	24	24	
Corrosion	0	0	0	24	0	24	
Damage (Rivet / HSFG)	24	-	0	-	0	24	
Mud Deposition / Vegetation	0	-	-	-	24	24	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Paint Degradation	●		●	●		●	●		●
Corrosion	●		●	●		●	●		●
Damage (Rivet / HSFG)									
Mud Deposition / Vegetation	●		●	●		●	●		●

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Deck Slab>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Steel / RC Deck Slab	0	0	12	0	0	12	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Steel / RC Deck Slab	●		●	●		●	●		●

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Cross Beam>> Soundness Grade: C HealthIndex: 39

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Corrosion	0	0	10	0	3	13	
Damage (Rivet / HSFG)	13	-	0	-	0	13	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Corrosion					●	●			
Damage (Rivet / HSFG)									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Truss Bridge))

Route No.	:	B108	Name of Road	:	Dunagaha - Nilpanagoda
Bridge No.	:	1 / 2 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/04/24
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 90

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	30	-	70	-	0	100	
Damage on Bridge Bearing	100	-	0	-	0	100	Invisible

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint	●	●	●	–	–	–	●	●	●
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Truss Bridge))

Route No. : B108		Name of Road : Dunagaha - Nilpanagoda	
Bridge No. : 1 / 2 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 1		Date of Inspection : 2016/04/24	
Span Name : A1 - A2		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Duminda	

<<Substructure: A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Substructure: A2>> Soundness Grade: A HealthIndex: 99

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	8	-	-	-	1	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation							●		

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Truss Bridge))

Route No.	:	B108	Name of Road	:	Dunagaha - Nilpanagoda
Bridge No.	:	1 / 2 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/04/24
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

<<Others(Substructure): A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	B108	Name of Road	:	Dunagaha - Nilpanagoda
Bridge No.	:	1 / 2 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/04/24
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 1 Structural Member : Pavement Damage : Crack

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Expansion Joint Damage : Damage on Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Main Beam Damage : Paint Degradation

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	B108	Name of Road	:	Dunagaha - Nilpanagoda
Bridge No.	:	1 / 2 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/04/24
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 4 Structural Member : Main Beam Damage : Corrosion

<< Distant View >>

<< Close View >>

Remarks :

No 5 Structural Member : Main Beam Damage : Mud Deposition / Vegetation

<< Distant View >>

<< Close View >>

Remarks :

No 6 Structural Member : Deck Slab Damage : Damage on Steel / RC Deck Slab

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	B108	Name of Road	:	Dunagaha - Nilpanagoda
Bridge No.	:	1 / 2 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/04/24
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 7 Structural Member : Cross Beam Damage : Corrosion

<< Distant View >>

<< Close View >>

Remarks :

No 8 Structural Member : Bridge Bearing Damage : Water Leakage from Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 9 Structural Member : Substructure: A2 Damage : Mud Deposition / Vegetation

<< Distant View >>

<< Close View >>

Remarks :

Inspection Work Sheet (Bridge Surface 2/2)

☑ Accessories

☐ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
95	---	---	---	5	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☑	☐
Center	☐	☐	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
3	---	---	---	0	3

Photographs <Distant View> <Close View>

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Remarks

☑ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
3	---	---	---	0	3

Photographs <Distant View> <Close View>

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Superstructure:Truss Bridge,Steel Bridge 1/2)

Route No. : A004
Bridge No. : 31 / 1
Separation :
Widened :
Name of Bridge :
Date of Inspection : 03/03/2016
Span No. : 1
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Span Name : A1-P1
Name of Inspector : Mr. Dumindu

☑ Main Beam

☑ Paint Degradation

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	-	0	-	20	20

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Corrosion

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	12	0	8	0	20

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☐ Damage (Rivet / HSFG)

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---		---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
12	---	---	---	8	20

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Deck Slab

☑ Damage on Steel / RC Deck Slab

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	16	0	0	0	16

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☑	☑	☑
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Superstructure:Superstructure:Truss Bridge,Steel Bridge 2/2)

✓ Cross Beam

✓ Corrosion

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
0	15	0	1	0	16	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	✓

【Superstructure Plane Marking】

<Close View>

Remarks

✓ Damage (Rivet / HSFG)

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
16	---	0	---	0	16	

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☐ Others(Superstructure)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
50	---	50	---	0	100	

Location

	Start	Center	End
Left	☑		☑
Center	☐		☐
Right	☑		☑

【Superstructure Plane Marking】

<Close View>

Remarks

☑ Damage on Bridge Bearing

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
100	---		---		100	

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

<Close View>

Remarks

Invisible

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

<Close View>

Remarks

Inspection Work Sheet (Bridge Surface 1/2)

Route No. : A004
Separation :
Name of Bridge :

Bridge No. : 31 / 1
Widened :

Date of Inspection : 03/03/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Duminda

Span No. : 2
Span Name : P1-A2

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
8	---	0	---	1	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
3	---	5	---	1	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Remarks
Cracks had been repaired.

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Expansion Joint

☑ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
0	---	---	---	100	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☑
Center	☐		☑
Right	☐		☑

【Superstructure Plane Marking】

Remarks

☑ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
100	---	0	---	0	100

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

✓ Accessories

Damage on Drainage

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location — <Close View>

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Damages on Service Duct

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location — <Close View>

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Damages on Railing / Parapet

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
100	---	---	---	0	100	

Location — <Close View>

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
3	---	---	---	0	3	

Location — <Close View>

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Remarks

☑ Approach Bank / River Bank

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
3	---	---	---	0	3	

Location — <Close View>

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Remarks

☐ Others

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			

Location — <Close View>

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Superstructure:Truss Bridge,Steel Bridge 1/2)

Route No. : A004
Separation :
Name of Bridge :

Bridge No. : 31 / 1
Widened :

Date of Inspection : 03/03/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Duminda

Span No. : 2
Span Name : P1-A2

☑ Main Beam

☑ Paint Degradation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
0	-	0	-	8	8

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Corrosion

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
0	6	0	2	0	8

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☐	☐	☐
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☐ Damage (Rivet / HSFG)

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---		---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
2	---	---	---	6	8

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☑	☑	☑
Center	☑	☑	☑
Right	☑	☑	☑

【Superstructure Plane Marking】

Remarks

☑ Deck Slab

☑ Damage on Steel / RC Deck Slab

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
0	2	0	5	0	7

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Superstructure:Superstructure:Truss Bridge,Steel Bridge 2/2)

Cross Beam

Corrosion

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
						<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Damage (Rivet / HSFG)

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---		---			<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☐ Others(Superstructure)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Bridge Bearing

☑ Water Leakage from Expansion Joint

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
0	---	0	---	100	100	<Close View>

Location

	Start	Center	End
Left	☐		☑
Center	☐		☑
Right	☐		☑

【Superstructure Plane Marking】

Remarks

☑ Damage on Bridge Bearing

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
100	---		---		100	<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Invisible

☐ Others(Bridge Bearing)

☐ Others

Extent of Damages						Photographs
<a>	<b>	<c>	<d>	<e>	Σ	<Distant View>
	---	---	---			<Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : A004
Separation :
Name of Bridge :

Bridge No. : 31 / 1
Widened :

Date of Inspection : 03/03/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Duminda

Substructure No. : 1
Substructure Name : A1

☑ Substructure

☑ Scour

Extent of Damages	<a>	<b>	<c>	<d>	<e>	Σ
	1	---	0	---	0	1

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages	<a>	<b>	<c>	<d>	<e>	Σ
	8	0	1	0	0	9

Location

	Left	Center	Right
Upper	☑	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Crack

Extent of Damages	<a>	<b>	<c>	<d>	<e>	Σ
	8	0	0	1	0	9

Location

	Left	Center	Right
Upper	☑	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages	<a>	<b>	<c>	<d>	<e>	Σ
	8	---	---	---	1	9

Location

	Left	Center	Right
Upper	☐	☐	☑
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Others

☐ Others

Extent of Damages	<a>	<b>	<c>	<d>	<e>	Σ
		---	---	---		

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs <Distant View> <Close View>

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : A004
Separation :
Name of Bridge :

Bridge No. : 31 / 1
Widened :

Date of Inspection : 03/03/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Duminda

Substructure No. : 2
Substructure Name : P1

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
7	---	---	---	2	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☑	☐	☑
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : A004
Separation :
Name of Bridge :

Bridge No. : 31 / 1
Widened :

Substructure No. : 3
Substructure Name : A2

Date of Inspection : 03/03/2016
Method of Inspection : Close / Distant / Indirect
Name of Inspector : Mr. Duminda

☑ Substructure

☐ Scour

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Crack

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Mud Deposition / Vegetation

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
7	---	---	---	2	9

Location

	Left	Center	Right
Upper	☑	☐	☑
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

2) Outputs

Form 4 Inspection Form (Summary)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
			Date of Inspection	:	2016/03/03
			Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

Health Index & Soundness Grade

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	D (4)	C (50)	D (25)
P1 - A2	D (0)	D (0)	D (8)
Whole	D (0)	D (0)	D (8)

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	A (100)	C (50)	A (99)	A (100)
P1 - A2	B (58)	D (0)	A (100)	A (100)

<<Bridge Structure>>

	Entire Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	C (30)	C (36)	B (75)	A (95)	A (93)	A1	A (88)
P1 - A2	D (23)	C (35)	C (39)	A (100)	B (70)	P1	A (98)
						A2	B (70)

Repair costs (Unit:Thousands LKR)

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - P1	883.6	24.5	859.1
P1 - A2	1,362.5	61.2	1,301.3
Total	2,246.1	85.7	2,160.4

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - P1	0.0	24.0	0.5	0.0
P1 - A2	13.1	48.1	0.0	0.0
Total	13.1	72.1	0.5	0.0

<<Bridge Structure>>

	Entier Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - P1	760.9	630.6	116.5	13.8	73.6	A1	24.6
P1 - A2	940.2	657.3	282.9	0.0	294.5	P1	4.5
Total	1,701.1	1,287.9	399.4	13.8	368.1	A2	62.1
						Total	91.2

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/03/03
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

<<Pavement>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	9	-	0	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack									
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: C HealthIndex: 50

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	50	-	-	-	50	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint	●		●	–	–	–	●		●
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 99

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	0	0	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	95	-	-	-	5	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet				●		●			

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No. :	AA004	Name of Road :	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No. :	31 / 1 in Km	Name of Bridge :	
Separation :	Not Separated	Widened :	Not Widened
Span Number :	1	Date of Inspection :	2016/03/03
Span Name :	A1 - P1	Method of Inspection :	Close Visual Inspection
		Name of Inspector :	Duminda

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	3	-	-	-	0	3	
Approach Bank / River Bank	3	-	-	-	0	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Steel Bridge))

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/03/03
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

<<Main Beam>> Soundness Grade: C HealthIndex: 36

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Paint Degradation	0	0	0	0	20	20	
Corrosion	0	12	0	8	0	20	
Damage (Rivet / HSFG)	0	-	0	-	0	0	
Mud Deposition / Vegetation	12	-	-	-	8	20	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Paint Degradation	●		●	●		●	●		●
Corrosion	●		●	●		●	●		●
Damage (Rivet / HSFG)									
Mud Deposition / Vegetation	●		●	●		●	●		●

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Deck Slab>> Soundness Grade: B HealthIndex: 75

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Steel / RC Deck Slab	0	16	0	0	0	16	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Steel / RC Deck Slab	●	●	●	●	●	●	●	●	●

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Cross Beam>> Soundness Grade: A HealthIndex: 95

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Corrosion	15	0	0	1	0	16	
Damage (Rivet / HSFG)	16	-	0	-	0	16	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Corrosion									●
Damage (Rivet / HSFG)									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Steel Bridge))

Route No.	: AA004	Name of Road	: Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	: 31 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 1	Date of Inspection	: 2016/03/03
Span Name	: A1 - P1	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Duminda

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: A HealthIndex: 93

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	50	-	50	-	0	100	
Damage on Bridge Bearing	100	-	0	-	0	100	Invisible

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint	●		●	–	–	–	●		●
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Steel Bridge))

Route No. :	AA004	Name of Road :	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No. :	31 / 1 in Km	Name of Bridge :	
Separation :	Not Separated	Widened :	Not Widened
Span Number :	1	Date of Inspection :	2016/03/03
Span Name :	A1 - P1	Method of Inspection :	Close Visual Inspection
		Name of Inspector :	Duminda

<<Substructure: A1>> Soundness Grade: A HealthIndex: 88

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	8	0	1	0	0	9	
Crack	8	0	0	1	0	9	
Mud Deposition / Vegetation	8	-	-	-	1	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar	●								
Crack	●								
Mud Deposition / Vegetation							●		

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/03/03
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 1 Structural Member : Expansion Joint Damage : Damage on Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Accessories Damage : Damages on Railing / Parapet

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Main Beam Damage : Paint Degradation

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/03/03
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 4 Structural Member : Main Beam Damage : Corrosion

<< Distant View >>

<< Close View >>

Remarks :

No 5 Structural Member : Main Beam Damage : Mud Deposition / Vegetation

<< Distant View >>

<< Close View >>

Remarks :

No 6 Structural Member : Deck Slab Damage : Damage on Steel / RC Deck Slab

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/03/03
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 7 Structural Member : Cross Beam Damage : Corrosion

<< Distant View >>

<< Close View >>

Remarks :

No 8 Structural Member : Bridge Bearing Damage : Water Leakage from Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 9 Structural Member : Substructure: A1 Damage : Spall / Dela / Ex-Rebar

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/03/03
Span Name	:	A1 - P1	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 10 Structural Member : Substructure: A1 Damage : Crack

<< Distant View >>

<< Close View >>

Remarks :

No 11 Structural Member : Substructure: A1 Damage : Mud Deposition / Vegetation

<< Distant View >>

<< Close View >>

Remarks :

No 12 Structural Member : Damage :

<< Distant View >>

<< Close View >>

Remarks :

Form 5 Inspection Form (Damage: Bridge Surface)

Route No. : AA004		Name of Road : Colombo - Ratnapura - Wellawaya - Batticaloa	
Bridge No. : 31 / 1 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 2		Date of Inspection : 2016/03/03	
Span Name : P1 - A2		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Duminda	

<<Pavement>> Soundness Grade: B HealthIndex: 58

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	8	-	0	-	1	9	
Crack	3	-	5	-	1	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole						●			
Crack						●			
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: D HealthIndex: 0

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	0	-	-	-	100	100	
Difference in Levels	100	-	0	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint				–	–	–	●	●	●
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	0	0	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	100	-	-	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No. : AA004		Name of Road : Colombo - Ratnapura - Wellawaya - Batticaloa	
Bridge No. : 31 / 1 in Km		Name of Bridge :	
Separation : Not Separated		Widened : Not Widened	
Span Number : 2		Date of Inspection : 2016/03/03	
Span Name : P1 - A2		Method of Inspection : Close Visual Inspection	
		Name of Inspector : Duminda	

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	3	-	-	-	0	3	
Approach Bank / River Bank	3	-	-	-	0	3	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Steel Bridge))

Route No.	: AA004	Name of Road	: Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	: 31 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 2	Date of Inspection	: 2016/03/03
Span Name	: P1 - A2	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Duminda

<<Main Beam>> Soundness Grade: C HealthIndex: 35

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Paint Degradation	0	0	0	0	8	8	
Corrosion	0	6	0	2	0	8	
Damage (Rivet / HSFG)	0	-	0	-	0	0	
Mud Deposition / Vegetation	2	-	-	-	6	8	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Paint Degradation	●		●	●		●	●		●
Corrosion	●		●	●		●	●		●
Damage (Rivet / HSFG)									
Mud Deposition / Vegetation	●	●	●	●	●	●	●	●	●

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Deck Slab>> Soundness Grade: C HealthIndex: 39

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Steel / RC Deck Slab	0	2	0	5	0	7	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Steel / RC Deck Slab			●	●		●			

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Cross Beam>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Corrosion	0	0	0	0	0	0	
Damage (Rivet / HSFG)	0	-	0	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Corrosion									
Damage (Rivet / HSFG)									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Steel Bridge))

Route No.	: AA004	Name of Road	: Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	: 31 / 1 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 2	Date of Inspection	: 2016/03/03
Span Name	: P1 - A2	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Duminda

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Bridge Bearing>> Soundness Grade: B HealthIndex: 70

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Water Leakage from Expansion Joir	0	-	0	-	100	100	
Damage on Bridge Bearing	100	-	0	-	0	100	Invisible

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Water Leakage from Expansion Joint				–	–	–	●	●	●
Damage on Bridge Bearing				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Others(Bridge Bearing)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Others				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Steel Bridge))

Route No. :	AA004	Name of Road :	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No. :	31 / 1 in Km	Name of Bridge :	
Separation :	Not Separated	Widened :	Not Widened
Span Number :	2	Date of Inspection :	2016/03/03
Span Name :	P1 - A2	Method of Inspection :	Close Visual Inspection
		Name of Inspector :	Duminda

<<Substructure: P1>> Soundness Grade: A HealthIndex: 98

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	7	-	-	-	2	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation	●						●		

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): P1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Substructure: A2>> Soundness Grade: B HealthIndex: 70

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	5	0	0	4	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack	●	●	●				●		
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Steel Bridge))

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/03/03
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

<<Others(Substructure): A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/03/03
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 1 Structural Member : Pavement Damage : Pothole

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Pavement Damage : Crack

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Expansion Joint Damage : Damage on Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/03/03
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 4 Structural Member : Main Beam Damage : Paint Degradation

<< Distant View >>

<< Close View >>

Remarks :

No 5 Structural Member : Main Beam Damage : Corrosion

<< Distant View >>

<< Close View >>

Remarks :

No 6 Structural Member : Main Beam Damage : Mud Deposition / Vegetation

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/03/03
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 7 Structural Member : Deck Slab — Damage : Damage on Steel / RC Deck Slab

<< Distant View >>

<< Close View >>

Remarks :

No 8 Structural Member : Bridge Bearing — Damage : Water Leakage from Expansion Joint

<< Distant View >>

<< Close View >>

Remarks :

No 9 Structural Member : Substructure: P1 — Damage : Mud Deposition / Vegetation

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	AA004	Name of Road	:	Colombo - Ratnapura - Wellawaya - Batticaloa
Bridge No.	:	31 / 1 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	2	Date of Inspection	:	2016/03/03
Span Name	:	P1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Duminda

No 10 Structural Member : Substructure: A2 Damage : Crack

<< Distant View >>

<< Close View >>

Remarks :

No 11 Structural Member : Damage :

<< Distant View >>

<< Close View >>

Remarks :

No 12 Structural Member : Damage :

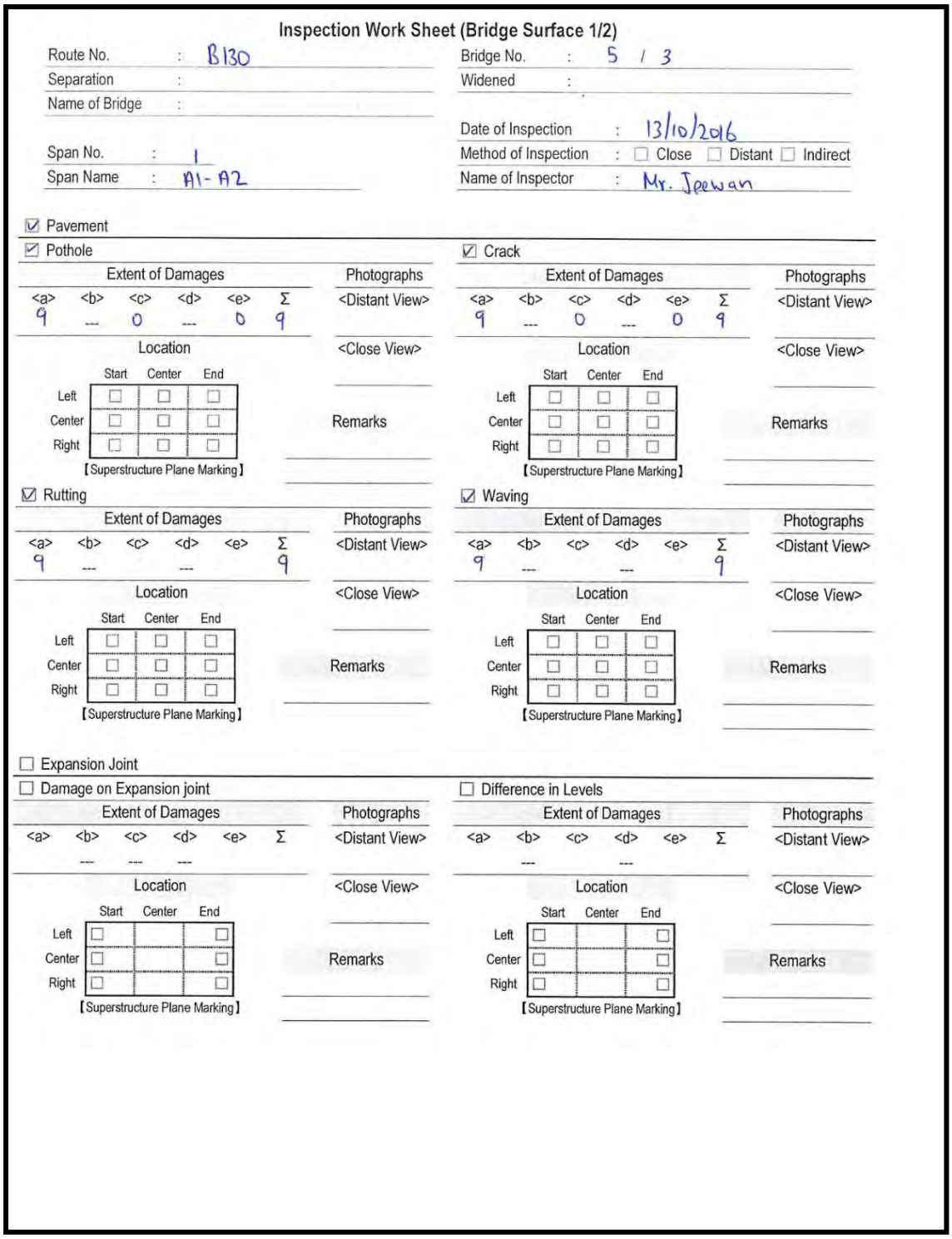
<< Distant View >>

<< Close View >>

Remarks :

1.7 Arch Bridge

1) Record



Inspection Work Sheet (Bridge Surface 1/2)

Route No. : B130 | Bridge No. : 5 / 3
Separation : | Widened :
Name of Bridge :
Date of Inspection : 13/10/2016
Span No. : 1 | Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Span Name : A1-A2 | Name of Inspector : Mr. Jeewan

☑ Pavement

☑ Pothole

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	0	---	0	9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Rutting

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---		---		9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Waving

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---		---		9

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☐ Expansion Joint

☐ Damage on Expansion joint

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

☐ Difference in Levels

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---		---		

Photographs <Distant View> <Close View>

Location

	Start	Center	End
Left	☐		☐
Center	☐		☐
Right	☐		☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Bridge Surface 2/2)

☑ Accessories

☐ Damage on Drainage

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Damages on Service Duct

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Damages on Railing / Parapet

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
100	---	---	---	0	100

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Approaches

☑ Settlement of Surface

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
6	---	---	---	0	6

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☑ Approach Bank / River Bank

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
6	---	---	---	0	6

Location

	Start	Center	End	
Left	☐			☐
Center	☐			☐
Right	☐			☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Photographs <Distant View> <Close View>

Remarks

Inspection Work Sheet (Superstructure:Arch Bridge 1/1)

Route No. : B130
Separation :
Name of Bridge :

Bridge No. : 5 / 3
Widened :

Span No. : 1
Span Name : A1- A2

Date of Inspection : 13/10/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

☑ Arch Rib

☑ Arch Line (Displacement)

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
1	---	---	---	0	1	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
5	0	0	4	0	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Deteriorated (Loose)

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
8	---	---	---	1	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☑	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
8	---	---	---	1	9	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Spandrel

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
6	0	0	0	0	6	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Deteriorated (Loose)

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
6	---	---	---	0	6	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
5	---	---	---	1	6	<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☑	☐

【Superstructure Plane Marking】

Remarks

☐ Others(Superstructure)

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ	Photographs <Distant View>
	---	---	---			<Close View>

Location

	Start	Center	End
Left	☐	☐	☐
Center	☐	☐	☐
Right	☐	☐	☐

【Superstructure Plane Marking】

Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : B130
Separation :
Name of Bridge :

Substructure No. : 1
Substructure Name : A1

Bridge No. : 5 / 3
Widened :

Date of Inspection : 13/10/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeewan

☑ Substructure

☑ Scour

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
0	---	0	---	1	1

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☑	☑	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Crack

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☑ Mud Deposition / Vegetation

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

☐ Others

☐ Others

Extent of Damages

<a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Photographs
<Distant View>
<Close View>
Remarks

Inspection Work Sheet (Substructure 1/1)

Route No. : B130
Separation :
Name of Bridge :

Bridge No. : 5 / 3
Widened :

Substructure No. : 2
Substructure Name : A2

Date of Inspection : 13/10/2016
Method of Inspection : ☐ Close ☐ Distant ☐ Indirect
Name of Inspector : Mr. Jeevan

☑ Substructure

☑ Scour

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
1	---	0	---	0	1

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Spall / Dela / Ex-Rebar

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	-	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Crack

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	0	0	0	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☑ Mud Deposition / Vegetation

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
9	---	---	---	0	9

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

☐ Others

☐ Others

Extent of Damages <a>	<b>	<c>	<d>	<e>	Σ
	---	---	---		

Photographs <Distant View> <Close View>

Location

	Left	Center	Right
Upper	☐	☐	☐
Middle	☐	☐	☐
Lower	☐	☐	☐

【Substructure Front Marking】

Remarks

2) Outputs

Form 4 Inspection Form (Summary)

Route No.	:	B130	Name of Road	:	Galle - Wakwella
Bridge No.	:	5 / 3 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
			Date of Inspection	:	2016/10/13
			Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

Health Index & Soundness Grade

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - A2	D (0)	A (100)	D (0)
Whole	D (0)	A (100)	D (0)

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - A2	A (100)	A (100)	A (100)	A (100)

<<Bridge Structure>>

	Entire Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - A2	B (65)	B (66)	A (97)	-	-	A1	D (0)
						A2	A (100)

Repair costs (Unit:Thousands LKR)

<<Bridge>>

	Entire Bridge	Bridge Surface	Bridge Structure
A1 - A2	223.7	0.0	223.7
Total	223.7	0.0	223.7

<<Bridge Surface>>

	Pavement	Expansion Joint	Accessories	Approaches
A1 - A2	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0

<<Bridge Structure>>

	Entier Superstructure	Main Beam Arch Rib	Deck Slab Spandrel	Diaphram Cross Beam	Bridge Bearing	Substructure	
A1 - A2	98.3	89.7	8.6	-	-	A1	125.4
Total	98.3	89.7	8.6	0.0	0.0	A2	0.0
						Total	125.4

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	: B130	Name of Road	: Galle - Wakwella
Bridge No.	: 5 / 3 in Km	Name of Bridge	:
Separation	: Not Separated	Widened	: Not Widened
Span Number	: 1	Date of Inspection	: 2016/10/13
Span Name	: A1 - A2	Method of Inspection	: Close Visual Inspection
		Name of Inspector	: Jeewan

<<Pavement>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Pothole	9	-	0	-	0	9	
Crack	9	-	0	-	0	9	
Rutting	9	-	0	-	0	9	
Waving	9	-	0	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Pothole									
Crack									
Rutting									
Waving									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Expansion Joint>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Expansion Joint	0	-	-	-	0	0	
Difference in Levels	0	-	0	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Damage on Expansion Joint				–	–	–			
Difference in Levels				–	–	–			

	Start	Center	End
Left	11		13
Center	21		23
Right	31		33

[Superstructure Plan Marking]

<<Accessories>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Damage on Drainage	0	-	-	-	0	0	
Damages on Service Duct	0	-	-	-	0	0	
Damages on Railing / Parapet	100	-	-	-	0	100	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Damage on Drainage									
Damages on Service Duct									
Damages on Railing / Parapet									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 5 Inspection Form (Damage: Bridge Surface)

Route No.	:	B130	Name of Road	:	Galle - Wakwella
Bridge No.	:	5 / 3 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/10/13
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Approaches>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Settlement of Surface	6	-	-	-	0	6	
Approach Bank / River Bank	6	-	-	-	0	6	

Location

<Damage Type>	<11>	<21>	<31>	-	-	-	<13>	<23>	<33>
Settlement of Surface				–	–	–			
Approach Bank / River Bank				–	–	–			

	Start	End
Left	11	13
Center	21	23
Right	31	33

[Superstructure Plan Marking]

<<Others(Bridge Surface)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Arch Bridge))

Route No.	:	B130	Name of Road	:	Galle - Wakwella
Bridge No.	:	5 / 3 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/10/13
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Arch Rib>> Soundness Grade: B HealthIndex: 66

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Arch Line (Displacement)	1	-	-	-	0	1	
Crack	5	0	0	4	0	9	
Deteriorated (Loose)	8	-	-	-	1	9	
Mud Deposition / Vegetation	8	-	-	-	1	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Arch Line (Displacement)									
Crack		●	●			●			●
Deteriorated (Loose)		●							
Mud Deposition / Vegetation						●			

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Spandrel>> Soundness Grade: A HealthIndex: 97

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Crack	6	0	0	0	0	6	
Deteriorated (Loose)	6	-	-	-	0	6	
Mud Deposition / Vegetation	5	-	-	-	1	6	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Crack									
Deteriorated (Loose)									
Mud Deposition / Vegetation						●			

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

<<Others(Superstructure)>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Start	Center	End
Left	11	12	13
Center	21	22	23
Right	31	32	33

[Superstructure Plan Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Arch Bridge))

Route No.	:	B130	Name of Road	:	Galle - Wakwella
Bridge No.	:	5 / 3 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/10/13
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Substructure: A1>> Soundness Grade: D HealthIndex: 0

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	0	-	0	-	1	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour			●			●		●	●
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Others(Substructure): A1>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

<<Substructure: A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Scour	1	-	0	-	0	1	
Spall / Dela / Ex-Rebar	9	0	0	0	0	9	
Crack	9	0	0	0	0	9	
Mud Deposition / Vegetation	9	-	-	-	0	9	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Scour									
Spall / Dela / Ex-Rebar									
Crack									
Mud Deposition / Vegetation									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 6 Inspection Form (Damage: Bridge Structure (Arch Bridge))

Route No.	:	B130	Name of Road	:	Galle - Wakwella
Bridge No.	:	5 / 3 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/10/13
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

<<Others(Substructure): A2>> Soundness Grade: A HealthIndex: 100

Extent of Damage

<Damage Type>	<a>	<b>	<c>	<d>	<e>	<Σ>	<Remarks>
Others	0	-	-	-	0	0	

Location

<Damage Type>	<11>	<21>	<31>	<12>	<22>	<32>	<13>	<23>	<33>
Others									

	Left	Center	Right
Upper	11	12	13
Middle	21	22	23
Lower	31	32	33

[Substructure Front Marking]

Form 7 Inspection Form (Damage Photos)

Route No.	:	B130	Name of Road	:	Galle - Wakwella
Bridge No.	:	5 / 3 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/10/13
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

No 1 Structural Member : Arch Rib Damage : Crack

<< Distant View >>

<< Close View >>

Remarks :

No 2 Structural Member : Arch Rib Damage : Deteriorated (Loose)

<< Distant View >>

<< Close View >>

Remarks :

No 3 Structural Member : Arch Rib Damage : Mud Deposition / Vegetation

<< Distant View >>

<< Close View >>

Remarks :

Form 7 Inspection Form (Damage Photos)

Route No.	:	B130	Name of Road	:	Galle - Wakwella
Bridge No.	:	5 / 3 in Km	Name of Bridge	:	
Separation	:	Not Separated	Widened	:	Not Widened
Span Number	:	1	Date of Inspection	:	2016/10/13
Span Name	:	A1 - A2	Method of Inspection	:	Close Visual Inspection
			Name of Inspector	:	Jeewan

No 4 Structural Member : Spandrel Damage : Mud Deposition / Vegetation

<< Distant View >>

<< Close View >>

Remarks :

No 5 Structural Member : Substructure: A1 Damage : Scour

<< Distant View >>

<< Close View >>

Remarks :

No 6 Structural Member : Damage :

<< Distant View >>

<< Close View >>

Remarks :