

Appendix-6

Bridge Inspection Sheets of Visual Survey

Bridge name	Opening	Authority	Type	定期点検、日常的な補修の継続 で対応可能(損傷少ない)	定期点検、日常的な補修の継続 で対応可能(損傷有り)	定期点検までに落橋の危険性は ないが詳細な点検が望ましい	全面改修が必要	補修履歴	補修計画
01_Patum Tani	1984	DOH	PC-Box	概ね健全である					
02_Patom Tani2	2009	DOH	PC-Box	概ね健全である					
03_Nonthaburi	1959	DOH	Truss				全面的に腐食、ひび割れがある	高欄追加	なし
04_Rama 4	2006	DRR	PC-Box	概ね健全である					
05_New Phra Nangklao	2008	DOH	PC-Box	概ね健全である					
06_Phra Nangklao	1985	DOH	PC-Box		ヒンジの抜け、支承の移動、漏水				
07_Rama 5	2002	DRR	PC-Box	概ね健全である					
08_Rama 7	1992	DRR	PC-Box	概ね健全である					
10_Krung Thon	1958	DRR	Truss			断面減少、ひび割れが多い			来年度全 面補修
11_Rama 8	2002	BMA	Cable-stayed	概ね健全である					
12_Pinklao	1973	DRR	PC-Box		伸縮排水の劣化、取付橋ひび割れ				
13_Memorial	1932	DRR	Truss			歩道床版の橋軸ひび割れ、車両 衝突、船舶衝突による部材変形		大規模補修	歩道床版 打ち替え
14_Phra Pokklao	1984	DRR	PC-Box	概ね健全である					
15_Taksin	1982	DRR	PC-Box		斜めひびわれの可能性				
16_Rama 3	2000	DRR	PC-Box	概ね健全である					
17_Krung Thep	1959	DRR	Truss		中央支間の一部断面減少			塗装が新しい	
18_Rama 9	1987	EXAT	Cable-stayed	大規模点検が行われ補修中				20年点検済	
19_IRR North	2006	DRR	Cable-stayed			塔柱のひび割れの可能性			
20_IRR_South	2006	DRR	Cable-stayed			塔柱のひび割れの可能性			
21_Kanchanapisek	2007	DOH	Cable-stayed						

Bridge name	Completion	Authority	Type	Superstructure				Slab		Pavement	Pier, pylon	Bearing	Expansion joint		Drainage		Barrier	Handrail	Others
				Main girder, chord	Other member	Ship collision	Vehicle collision	Main road	Walkway				Spacing, Structure	Drain	Blocked	Others			
01_Patum Tani	1984	DOH	PC-Box	lime, crack under medium								set error of side block, rust		partly			chipped		difference of grade of longitudinal joint
02_Patom Tani2	2009	DOH	PC-Box	lime												lack of catch basin			
03_Nonthaburi	1959	DOH	Truss	rust	reduce thickness			breaking exfoliation	breaking	breaking			fixed	leakage		rust			Lighting
04_Rama 4	2006	DRR	PC-Box	lime leakage of rust											partly				
05_New Phra Nangklao	2008	DOH	PC-Box												partly				
06_Phra Nangklao	1985	DOH	PC-Box	lime								rust, movement		leakage	partly		chipped		Hinge breaking, leakage of water supply
07_Rama 5	2002	DRR	PC-Box	lime		scratch							extension spacing		upstream	lack of catch basin		stolen	
08_Rama 7	1992	DRR	PC-Box	lime on approach										leakage	partly			lost bolt	leakage of water supply, lighting cover
10_Krung Thon	1958	DRR	Truss	rust	reduce thickness		surface, under girder		crack exfoliation			rust soil dump		leakage		pipe falling	chipped		
11_Rama 8	2002	BMA	Cable-stayed							pot-hole									leakage from cable
12_Pinklao	1973	DRR	PC-Box	lime									corrosion	leakage					leakage from manhole, crack of approach pier
13_Memorial	1932	DRR	Truss	rust remaining water	rust remaining water	1 member lost		lime, crack	lime, crack		crack under bearing	rust soil dump	rust						rivet lost
14_Phra Pokklao	1984	DRR	PC-Box	lime on center bridge		scratch											chipped		
15_Taksin	1982	DRR	PC-Box	lime, cold joint or crack				-		unevenness (small)		rust, movement		partly			cover disappear		
16_Rama 3	2000	DRR	PC-Box									-	-	-	-	-	-	-	
17_Krung Thep	1959	DRR	Truss	rust	reduced thickness at center span			lime, crack	crack exfoliation		crack under bearing (approach)	rust		partly		lack of catch basin			
18_Rama 9	1987	EXAT	Cable-stayed																
20_IRR North	2006	DRR	Cable-stayed	remaining water					crack		crack		noise						unevenness of vertical alignment
21_IRR_South	2006	DRR	Cable-stayed	-					crack		crack								
22_Kanchanapisek	2007	DOH	Cable-stayed																

Slight defect
 Remarkable defect
 Difficult to approach and measure the defect. Possibility of remarkable defect



Inspection sheet of visual survey

Bridge No. 1




Photo No. (~)

Bridge name		Patum Thani Bridge		Route name		3110, 346		Authority		DOH		Code of authority		-	
Place		from Amphue Lat Lun Kaeo		Distance		from km+ 0						No.		-	
		to Amphoe Mueang Pathum Thani				to km+ 0						Survey date		2009/10/28	
Bridge properties	Bridge type(1)	main road · side road · ramp													
	Bridge type(2)	bridge · viaduct · plank pass													
	Bridge type(3)	4-span continuous PC box girder													
	Total length	240.00 (m)													
	Span	47 + 73 + 73 + 47 (m)													
	Nos. of span	4 span													
	Width	32.21 (m) / 10.6-original (m)													
	Completion	1984 original, 2006 additional													
Road information	Horizontal	Straight · incli(= 1.5 °) · Curve (R m)													
	Gradient	One way (·) parab (▽ · ▽)													
	Nearby tunnel	yes · no (m)													
	Nearby crossing	yes · no (m)													
	Traffic	Much · Medium · Little													
	Commercial traffic	Much · Medium · Little													
Environment	1.Urban	2.Suburbs		3.Mountain		4.Seaside									
	5.Industrial	6.Harbor		7.Residential		8.Bussiness									
	9.Salty	10.Cold and snow		11.Heavy snow		12.Others									
Under bridge	1.Shinkansen	2.Railway		3.Highway		4.Road									
	5.River	6.Lake		7.Ravine		8.Valley									
	9.Waterway	10.Parking		11.Bike parkin		12.Park									
	13.Vacant	14.Harbor		Name (Chao Phraya)											
Access method	Superstructure	1.Inspection car 2.Falsework 3.On ground 4.Ladder 5.Lift car 6.On boat 7.Special camera 8.Others()													
	Substructure	1.Inspection car 2.Falsework 3.On ground 4.Ladder 5.Lift car 6.On boat 7.Special camera 8.Others()													
	Reason	· All bridge section is on the water · If inspection car is not available, false work will be required													
Survey result	Camber deform	yes · no													
	Difference in glade	yes · no													
	Continuous of barrier	yes · no													
	Continuous of curve	yes · no													
Joint	Noise	yes · no													
	Space change	yes · no													
	difference grade	yes · no													
	draining damage	yes · no													
Outline of damage	Blocked drainage	yes · no													
	Crack of pavement	yes · no													
	Damage of lighting	yes · no													
	Damage of sign	-													
Inspection way	Damage of handrail	yes · no													
	Possibility of scout	yes · no													
	Walkway yes · no														
	Vehicle yes · no														
Impressions	Height of girde	about 10m													
	· Fracture of slab concrete is seen under longitudinal joint by leakage														
	· Difference of grade (less than 10mm?) is appeared														
Diagnosis	Deterioration of bridge deficient · fair · good														
	Noticeable point														
	· Fracture of slab under gap														
	· Difference of grade of Longitudinal joint														
History of repair	Additional 2-box girder was opened at 2006.														
	Repaint ; - yy - mm														
	Surveyor ; Mr.Chujo, Mr.Kudo														

Present state (1 / 6)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				

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Span	1																														
Member	View under bridge																														
Left; original bridge																															
Right; additional bridge																															


Present state (2 / 6)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				


	Picture No.	4
	Span	1
	Member	Longitudinal joint
	Longitudinal joint between girder	
	Leakage from joint	
	Picture No.	5
	Span	1
	Member	Longitudinal joint
	Longitudinal joint between girder	
	Exfoliation of concrete	
	Picture No.	6
	Span	1
	Member	Approach bridge
	Limit of vehicle height, 3.5m	


This photograph shows a close-up of a concrete beam-column joint. The concrete surface is heavily deteriorated, with large areas of spalling and exposed aggregate. A vertical reinforcement bar is visible on the left side of the joint. The overall condition indicates severe structural damage.

A close-up photograph of a metal railing, likely part of a ship's deck structure. The railing is made of a dark, possibly stainless steel, material. It features a horizontal top rail and a vertical support post. The background is a light-colored, textured surface, possibly a ship's hull or a wall, with some horizontal lines or rivets visible. The lighting is bright, suggesting an outdoor setting.Ap-55




Present state (4 / 6)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				

	Picture No.	10
	Span	1
	Member	Bearing
	Deterioration of corrosion proofing	



	Picture No.	11
	Span	1
	Member	bearing
	Spacing of side block	
<i>*Survey on board, 31-oct</i>		

	Picture No.	12
	Span	1
	Member	Bearing
	Additional bridge, no movement	

Present state (5 / 6)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				

	Picture No.	7
	Span	1
	Member	manhole
	About 5m.	
	Picture No.	8
	Span	1
	Member	Catch basin
	Blocking of catch basin	
	Picture No.	9
	Span	1
	Member	Walkway
	Obstacle of bicycle	

Present state (6 / 6)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				

	Picture No.	10
	Span	1
	Member	Barrier
	Chipping of barrier	
	Picture No.	11
	Span	1
	Member	Footing
	Ship collision to protection	
	Picture No.	12
	Span	1
	Member	

Inspection sheet of visual survey

Bridge No. 2

Photo No. (~)

Bridge name		Patom Thani 2 Bridge		Route name		345		Authority		DOH		Code of authority		-		
Place		from Amphue Lat Lun Kaeo		Distance		from km+ 0						No.		-		
		to Amphoe Mueang Pathum Thani				to km+ 0						Survey date		2009/10/28		
Bridge properties	Bridge type(1)	main road · side road · ramp														
	Bridge type(2)	bridge · viaduct · plank pass														
	Bridge type(3)	3-span continuous PC box girder														
	Total length	778.10 (m)														
	Span	(180) + 129.05 + 160 + 129.05 + (180) (m)														
	Nos. of span	3 span														
	Width	27.90 (m) / (m)														
	Completion	2009														
Road information	Horizontal	Straight · incli(= °) · Curve (R m)														
	Gradient	One way (·) parab (▽ · ▽)														
	Nearby tunnel	yes · no (m)														
	Nearby crossing	yes · no (m)														
	Traffic	Much · Medium · Little														
	Commercial traffic	Much · Medium · Little														
Environment	1.Urban	2.Suburbs	3.Mountain	4.Seaside												
	5.Industrial	6.Harbor	7.Residential	8.Bussiness												
	9.Salty	10.Cold and snow	11.Heavy snow	12.Others												
Under bridge	1.Shinkansen	2.Railway	3.Highway	4.Road												
	5.River	6.Lake	7.Ravine	8.Valley												
	9.Waterway	10.Parking	11.Bike parkin	12.Park												
	13.Vacant	14.Harbor	Name (Chao Phraya)													
Access method	Superstructure	1.Inspection car 2.Falsework 3.On ground 4.Ladder 5.Lift car 6.On boat 7.Special camera 8.Others()														
	Substructure	1.Inspection car 2.Falsework 3.On ground 4.Ladder 5.Lift car 6.On boat 7.Special camera 8.Others()														
	Reason	· All bridge section is on the water · If inspection car is not available, false work will be required														
Survey result	Joint	Camber deform	yes · no													
		Difference in glade	yes · no													
		Continuous of barrier	yes · no													
		Continuous of curve	yes · no													
	Noise	Noise	yes · no													
		Space change	yes · no													
		difference grade	yes · no													
		draining damage	yes · no													
Blocked drainage	Blocked drainage	yes · no														
	Crack of pavement	yes · no														
	Damage of lighting	yes · no														
	Damage of sign	-														
Damage of handrail	Damage of handrail	yes · no														
	Possibility of scout	yes · no														
	Walkway yes · no															
	Vehicle yes · no															
Inspection way																
Impressions	· New bridge and generally healthy															
Diagnosis	Deterioration of bridge deficient · fair · good															
	Noticeable point															
History of repair	History of repair ; Repaint ; - yy - mm															
	Surveyor ; Mr.Chujo, Mr.Kudo															

Present state (1 / 2)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani 2 bridge				



Picture No.	1
Span	1
Member	Side view



Picture No.	2
Span	2
Member	View on road



Picture No.	3
Span	1
Member	View under bridge

Present state (2 / 2)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani 2 bridge				

	Picture No.	4
	Span	1
	Member	Bearing
	Picture No.	5
	Span	1
	Member	Longitudinal joint
	Lime from construction hole	
	Picture No.	6
	Span	1
	Member	Drainage
	Without catch basin	




Inspection sheet of visual survey

Bridge No. 3


Photo No. (~)


Bridge name		Nonthaburi Bridge		Route name		307		Authority		DOH		Code of authority		-		
Place		from Phathum Thani		Distance		from km+ 0						No.		-		
		to Nonthaburi				to km+ 0						Survey date		2009/10/28		
Bridge properties	Bridge type(1)	main road · side road · ramp														
	Bridge type(2)	bridge · viaduct · plank pass														
	Bridge type(3)	4-span steel truss														
	Total length	260.00 (m)														
	Span	65+65+65+65 (m)														
	Nos. of span	4 span														
	Width	about 13 (m) / (m)														
	Completion	1959														
Road information	Horizontal	Straight · incli(= °) · Curve (R m)														
	Gradient	One way (·) parab (▽ · ▽)														
	Nearby tunnel	yes · no (m)														
	Nearby crossing	yes · no (m)														
	Traffic	Much · Medium · Little														
	Commercial traffic	Much · Medium · Little														
Environment	1.Urban	2.Suburbs		3.Mountain		4.Seaside										
	5.Industrial	6.Harbor		7.Residential		8.Bussiness										
	9.Salty	10.Cold and snow		11.Heavy snow		12.Others										
Under bridge	1.Shinkansen	2.Railway		3.Highway		4.Road										
	5.River	6.Lake		7.Ravine		8.Valley										
	9.Waterway	10.Parking		11.Bike parkin		12.Park										
	13.Vacant	14.Harbor		Name (Chao Phraya)												
Access method	Superstructure	1.Inspection car 2.Falsework 3.On ground 4.Ladder 5.Lift car 6.On boat 7.Special camera 8.Others()														
	Substructure	1.Inspection car 2.Falsework 3.On ground 4.Ladder 5.Lift car 6.On boat 7.Special camera 8.Others()														
	Reason	· All bridge section is on the water · If inspection car is not available, false work will be required														
Survey result	Joint	Camber deform	yes · no													
		Difference in glade	yes · no													
		Continuous of barrier	yes · no													
		Continuous of curve	yes · no													
Outline of damage	Noise	yes · no														
		Space change	yes · no													
		difference grade	yes · no													
		draining damage	yes · no													
Inspection way	Blocked drainage	yes · no														
		Crack of pavement	yes · no													
		Damage of lighting	yes · no													
		Damage of sign	-													
Impressions	Damage of handrail	yes · no														
		Possibility of scour	yes · no													
		Walkway yes · no														
		Vehicle yes · no														
Diagnosis	Height of girde	about 7m														
		Deterioration of bridge														
		deficien · fair · good														
		Noticeable point														
History of repair	Surveyor ;	Mr.Chujo, Mr.Kudo														
		Setting of barrier to protect vehicle collision to vertical member														
		Repaint ; - yy - mm														


Present state (1 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	1
	Span	1
	Member	Side view
	<i>*Survey on board, 31-oct</i>	
	Picture No.	2
	Span	2
	Member	View on road
	Picture No.	3
	Span	1
	Member	View under bridge

Present state (2 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	4
	Span	1
	Member	Side view of a span
*Survey on board, 31-oct		

	Picture No.	5
	Span	1
	Member	Walkway

	Picture No.	6
	Span	1
	Member	Expansion joint
	Expansion joint was filled by asphalt	
	Bangkok side	

Present state (3 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	7
Span	1
Member	Expansion joint
Leakage from expansion joint	



Picture No.	8
Span	1
Member	Expansion joint
Thon Buri side	



Picture No.	9
Span	1
Member	
Lack of rubber at end	
Thon Buri side	

Present state (4 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	10
Span	1
Member	Water supply
Water supply was removed	
Limit of vehicle height, 3.0m	






Picture No.	11
Span	1
Member	Newel



Picture No.	12
Span	1
Member	Newel
Opening of door	
Erosion of abutment	




Present state (5 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	7
	Span	1
	Member	Approach road
	Approach road is 4 lane	
	Main bridge is 2 lane	
	Approach road of Thon Buri side is under widening.	
	Picture No.	8
	Span	1
	Member	Bearing
	Structure around bearing	
	Picture No.	9
	Span	1
	Member	Approach bridge
	Corrosion on bearing	
	Deterioration of corrosion proofing	

Present state (6 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	10
	Span	1
	Member	Bearing
	Expansion of steel by corrosion	
	Deterioration of corrosion proofing	
	Picture No.	11
	Span	1
	Member	Bearing
	Inclination of locker bearing of Approach bridge	
	Picture No.	12
	Span	1
	Member	Vertical member
	Gap between steel and slab	
	Mount up around steel member	
	It's good countermeasure for corrosion proofing by water	

Present state (7 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	13
	Span	1
	Member	Vertical member
	Remarkable reducing of thickness of plate	
	Opening at bottom end	
	Picture No.	14
	Span	1
	Member	Vertical member
	Enlarged photo	
	Opening at bottom end	
	Picture No.	15
	Span	1
	Member	Vertical member
	Remarkable reducing of thickness of plate	
	Hole position is higher than contact section with concrete	

Present state (8 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	16
	Span	1
	Member	Bearing
	Remarkable reducing of thickness of plate	
	Picture No.	17
	Span	1
	Member	Vertical member
	Proceeding of corrosion is different between each member	
	Picture No.	18
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	




Present state (9 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	13
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	
	Picture No.	14
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	
	Picture No.	15
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	




Present state (10 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	16
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	
	Mark of reinforcement	
	Picture No.	17
	Span	1
	Member	Chord member
	Deformation by vehicle collision	
	Picture No.	18
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	




Present state (11 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	19
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	
	Picture No.	20
	Span	1
	Member	Bracket
	Deformation by vehicle collision	
	Picture No.	21
	Span	1
	Member	Pavement
	Breaking of pavement on cross beam	

Present state (12 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	22
	Span	1
	Member	Pavement
	Breaking of pavement on cross beam	
	Severe leakage is found on bottom slab.	
	It is estimated that this breaking go through slab.	
	Picture No.	23
	Span	1
	Member	Pavement
	Breaking of pavement on cross beam	
	Picture No.	24
	Span	1
	Member	Drainage
	Catch basin may exist under barrier	
	Deterioration of drain function	




Present state (15 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	25
	Span	1
	Member	Drainage
	Drainage under barrier	
	Picture No.	26
	Span	1
	Member	slab
	Crack	
	Free lime	
	Picture No.	27
	Span	1
	Member	Slab
	Deterioration of corrosion proofing	
	Fracture of concrete surface	
	Free lime	

Present state (16 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	28
	Span	1
	Member	Slab
	Leakage from slab on cross beam	
	Picture No.	29
	Span	1
	Member	Slab
	Leakage from slab on cross beam	
	Picture No.	30
	Span	1
	Member	slab
	Crack	
	Free lime	

Present state (17 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	31
	Span	1
	Member	Slab
	Leakage from slab on cross beam	
	Crack, free lime	
	Concrete slab was changed to dirt	
	<i>*Survey on board, 31-oct</i>	
	Picture No.	32
	Span	1
	Member	slab
	Plant	
	Possibility of soil dump	
	Picture No.	33
	Span	1
	Member	Slab
	Reduce of thickness by corrosion	
	<i>*Survey on board, 31-oct</i>	

Present state (18 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	34
Span	1
Member	Approach bridge

コンクリートの剥離と補修



Picture No.	35
Span	1
Member	Chord member


防蝕性能の劣化




Picture No.	36
Span	1
Member	Lighting pole

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Present state (17 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	37
	Span	1
	Member	Substructure
	<i>*Survey on board, 31-oct</i>	


	Picture No.	38
	Span	1
	Member	Transverse beam
	Corrosion and fall of rivet	
	<i>*Survey on board, 31-oct</i>	

	Picture No.	39
	Span	1
	Member	Cross frame
	Deformation by ship collision	
	2nd span from Bangkok side	
	<i>*Survey on board, 31-oct</i>	

Present state (18 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	40
	Span	1
	Member	Bottom chord
	Deformation by ship collision	
	<i>*Survey on board, 31-oct</i>	
	Picture No.	41
	Span	1
	Member	Bottom chord
	Deformation by ship collision	
	<i>*Survey on board, 31-oct</i>	
	Picture No.	42
	Span	1
	Member	Bottom chord
	Deformation by ship collision	
	<i>*Survey on board, 31-oct</i>	

Present state (19 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	43
	Span	1
	Member	Slab
	Fracture of concrete surface	
	Rock pocket	
	Crack	
	<i>*Survey on board, 31-oct</i>	
	Picture No.	44
	Span	1
	Member	
	<i>*Survey on board, 31-oct</i>	
	Picture No.	45
	Span	1
	Member	

Inspection sheet of visual survey

Bridge No. 4

Photo No. (~)

Bridge name		RAMA IV Bridge		Route name		-		Authority		Code of authority		-	
Place		from Anphoe Bang Bua Thong		Distance		from km+ 0				No.		-	
		to Anphoe Pak Kret				to km+ 0				Survey date		2009/10/20	
Bridge properties	Bridge type(1)	main road · side road · ramp											
	Bridge type(2)	bridge · viaduct · plank pass											
	Bridge type(3)	3-span continuous PC box girder											
	Total length	278.00 (m)											
	Span	72 + 134 + 72 (m)											
	Nos. of span	3 span											
	Width	13.65 x 2 (m) / (m)											
	Completion	2006											
Road information	Horizontal	Straight · incli(= °) · Curve (R m)											
	Gradient	One way (·) parabo (▽ · ▽)											
	Nearby tunnel	yes · no (m)											
	Nearby crossing	yes · no (m)											
	Traffic	Much · Medium · Little											
	Commercial traffic	Much · Medium · Little											
Environment	1.Urban 2.Suburbs 3.Mountain 4.Seaside				5.Industrial 6.Harbor 7.Residential 8.Bussiness				9.Salty 10.Cold and snow 11.Heavy snow 12.Others				
	1.Shinkansen 2.Railway 3.Highway 4.Road				5.River 6.Lake 7.Ravine 8.Valley				9.Waterway 10.Parking 11.Bike parkin 12.Park				
	13.Vacant 14.Harbor				Name (Chao Phraya)								
Access method	Superstructure	1.Inspection car 2.Falsework 3.On ground 4.Ladder 5.Lift car 6.On boat 7.Special camera 8.Others()											
	Substructure	1.Inspection car 2.Falsework 3.On ground 4.Ladder 5.Lift car 6.On boat 7.Special camera 8.Others()											
	Reason	· All bridge section is on the water · If inspection car is not available, false work will be required											
Survey result	Joint	Camber deform	yes · no										
		Difference in glade	yes · no										
		Continuous of barrier	yes · no										
		Continuous of curve	yes · no										
	Noise	Noise	yes · no										
		Space change	yes · no										
		difference grade	yes · no										
		draining damage	yes · no										
Blocked drainage	Blocked drainage	yes · no											
	Crack of pavement	yes · no											
	Damage of lighting	yes · no											
	Damage of sign	-											
Damage of handrail	Damage of handrail	yes · no											
	Possibility of scour	yes · no											
	Walkway	yes · no (water supply)											
	Vehicle	yes · no											
Inspection way													
Impressions													
Diagnosis	Deterioration of bridge deficient · fair · good												
	Noticeable point												
	Generally healthy												
History of repair	History of repair ; Repaint ; - yy - mm												
	Surveyor ; Mr.Chujo, Mr.Kudo												

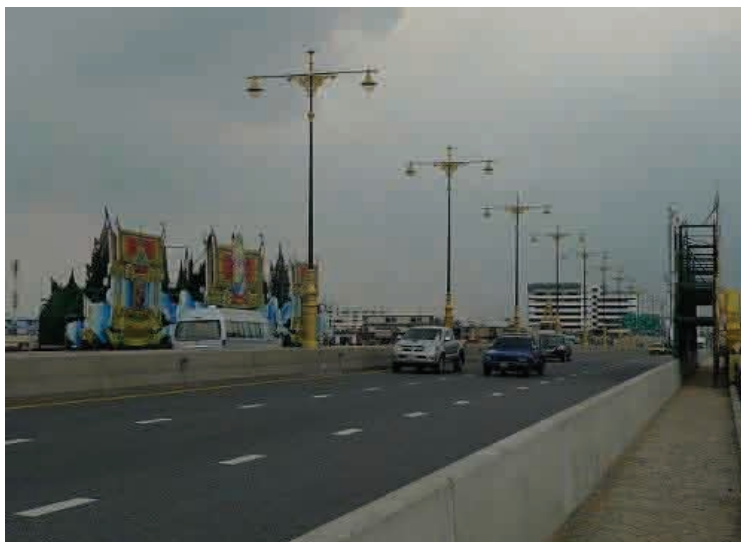
Present state (1 / 5)

Road		Address	Bangkok	Data	20-Oct-09
Bridge	RAMA IV				



Picture No.	1
Span	1
Member	View under girder

**Survey on board, 31-oct*



Picture No.	2
Span	1
Member	View on ground

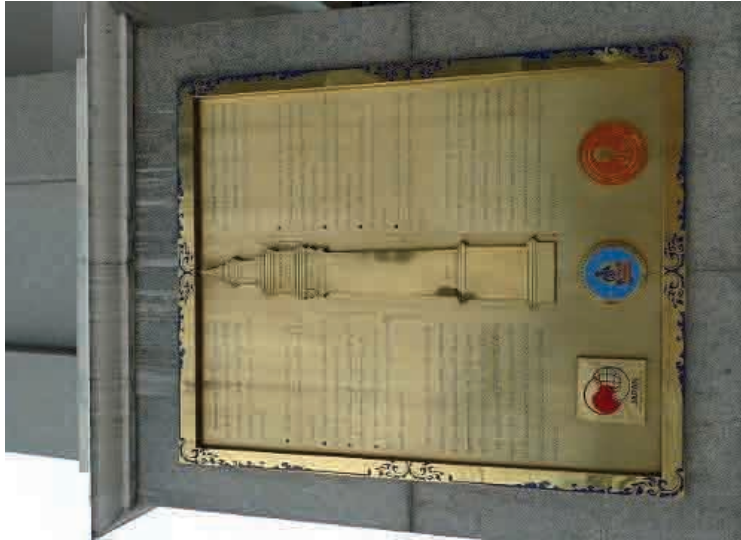
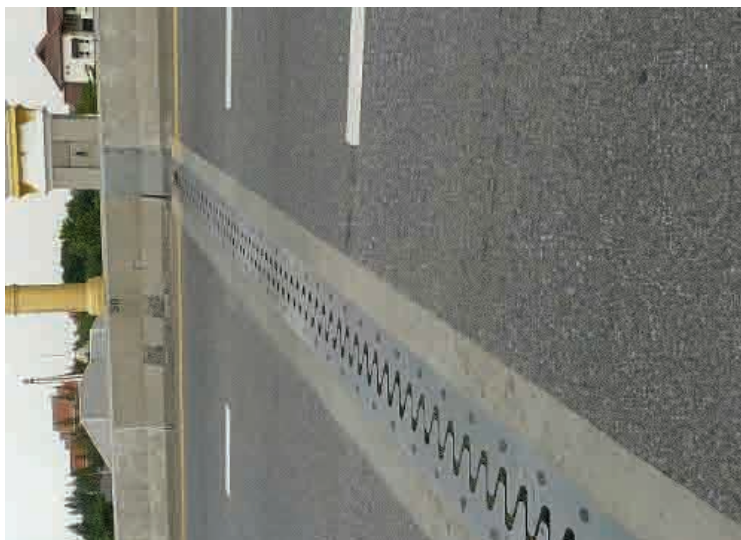


Picture No.	3
Span	1
Member	Side view




**Survey on board, 31-oct*

Present state (2 / 5)

Road		Address	Bangkok	Data	20-Oct-09
Bridge	RAMA IV				

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Present state (3 / 5)					
Road		Address	Bangkok	Data	20-Oct-09
Bridge	RAMA IV				

	Picture No.	7
	Span	1
	Member	桁下全景
	water supply	
	No expanded metal plate.	
	It's not suitable for inspection.	
	Picture No.	8
	Span	1
	Member	slab (walkway, roadway)
	Ooze out of rust	
	Picture No.	9
	Span	1
	Member	Bearing
	Drainage function of joint is good.	

Present state (4 / 5)

Road		Address	Bangkok	Data	20-Oct-09
Bridge	RAMA IV				



Picture No.	10
Span	1
Member	Lighting pole

Mark of filling concrete at bottom of lighting pole

Possibility of fracturing in future




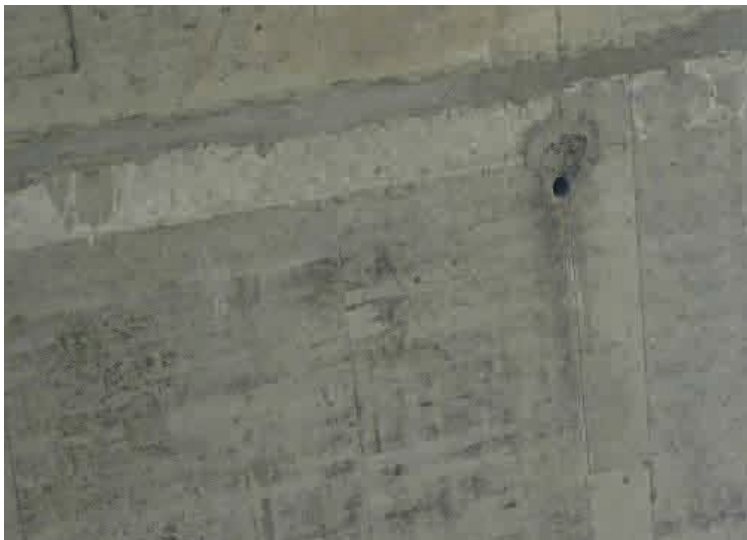

Picture No.	11
Span	1
Member	Catch basin

Partly blocked



Picture No.	12
Span	1
Member	View of walkway

Present state (5 / 5)					
Road		Address	Bangkok	Data	20-Oct-09
Bridge	Rama IV				

	Picture No.	13
	Span	1
	Member	Barrier
	Crack.	
	Repariring material with permeability?	
	Picture No.	14
	Span	1
	Member	
	Chipped concrete around drainage	
	Picture No.	15
	Span	1
	Member	Substructure
*Survey on board, 31-oct		



Inspection sheet of visual survey

Bridge No. 5

Photo No. (~)

Bridge name		New Phra Nangklao Bridge		Route name		-		Authority		DOH		Code of authority		-			
Place		from Anphoe Bang Bua Thong to Anphoe mueang Nonthaburi		Distance		from km+ 0 to km+ 0						No.		-			
												Survey date		2009/10/24			
Bridge properties	Bridge type(1)		main road · side road · ramp		Survey result	Camber deform		yes · no		Outline of damage	Item		Type		State		
	Bridge type(2)		bridge · viaduct · plank pass			Difference in glade		yes · no			Main girder		PC-Box		Generally healthy		
	Bridge type(3)		5-span continuous PC box girder			Continuous of barrier		yes · no			Cross beam		-		-		
	Total length		329.10 (m)			Continuous of curve		yes · no			Stringer		-		-		
	Span		50.55 + 72 + 84 + 72 + 50.55 (m)			Noise		yes · no			Cross frame		-		-		
	Nos. of span		5 span			Space change		yes · no			Lateral brace		-		-		
	Width		10.9 x 2 (m) / (m)			difference grade		yes · no			Slab				Generally healthy		
	Completion		2008			draining damage		yes · no			Abutment		-		-		
Road information	Horizontal		Straight · incli(= °) · Curve (R m)		Joint	Blocked drainage		yes · no			Pier		2plate, oval		-		
	Gradient		One way (·) parab (▽ · ▽)			Crack of pavement		yes · no			Bearing		Slide bearing		-		
	Nearby tunnel		yes · no (m)			Damage of lighting		yes · no			Barrier		Trapezoidal		Generally healthy		
	Nearby crossing		yes · no (m)			Damage of sign		-			Railing		Steel		Generally healthy		
	Traffic		Much · Medium · Little			Damage of handrail		yes · no			Curb		-		-		
	Commercial traffic		Much · Medium · Little			Possibility of scout		yes · no			Pavement		asphalt · concrete		Generally healthy		
Environment	1.Urban		2.Suburbs		3.Mountain		4.Seaside		Inspection way		Walkway yes · no		Joint		drained · indrained		
	5.Industrial		6.Harbor		7.Residential		8.Bussiness				Vehicle yes · no		Drainage		yes · no		
Under bridge	1.Shinkansen		2.Railway		3.Highway		4.Road		Impressions								
	5.River		6.Lake		7.Ravine		8.Valley										
Access method	Superstructure		1.Inspection car		2.Falsework		3.On ground		4.Ladder		5.Lift car		6.On boat		7.Special camera		
	Substructure		1.Inspection car		2.Falsework		3.On ground		4.Ladder		5.Lift car		6.On boat		7.Special camera		
	Reason		· All bridge section is on the water		· If inspection car is not available, false work will be required		Deterioration of bridge		deficient · fair · good		Noticeable point		Generally healthy		History of repair ;		
															Repaint ; - by - mm		
														Surveyor ; Mr.Chujo, Mr.Kudo			

Present state (1 / 3)					
Authority	DOH	Address	Bangkok	Data	24-Oct-09
Bridge	New Phra Nangklao Bridge				

	Picture No.	1
	Span	1
	Member	Side view
	Picture No.	2
	Span	1
	Member	View on road
	Picture No.	3
	Span	1
	Member	View under girder

Present state (2 / 3)

Authority	DOH	Address	Bangkok	Data	24-Oct-09
Bridge	New Phra Nangklao Bridge				



Picture No.	4
Span	1
Member	Pier
Pier height is low The structure may occur large moment after shrinkage, creep and temperature.	
Continuous careful checking is required.	



Picture No.	5
Span	1
Member	Drainage
Parts for water sprinkling Garbage	



Picture No.	6
Span	1
Member	Drainage

Present state (3 / 3)

Authority	DOH	Address	Bangkok	Data	24-Oct-09
Bridge	New Phra Nangklao Bridge				

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