

BRIDGE NO. A-02-008 (RIVER STREET OVER FORT POND BROOK AT CARRIAGE DRIVE)

Bridge Description and Orientation:

The River Street Bridge over Fort Pond Brook is a single span corrugated steel arch deck structure that was built in 1937 (see Sketches & Photos #1 & #2). River Street, at the bridge, is oriented West and East over the Fort Pond Brook which flows South to North.

Summary of Existing Conditions:

Bridge Rail & Approach Guardrail Deficiencies (NBIS Item #36 in Inspection Report)

Element	Deficiency	Reference Photo(s)
Bridge Rail	<ul style="list-style-type: none"> • Areas of missing mortar, separation of mortar, random voids and narrow to medium cracks in mortar • 25% of South bridge rail is missing mortar • 2 voids under 4th cap stone from East end, South bridge rail that measure measures 10”L x 2”H x 4”D • Small void in North bridge rail, located approximately 20’-0” from East end and 12” above roadway that measures 10”H x 3” L x 2.5”D • Small void in North bridge rail, located approximately 30’-0” from West end that measures 18”L x 1”H x 2”D • Granite cap stones show minor misalignment and minor cracked and/or missing mortar between stones • Western most cap stone along the North bridge rail is misaligned up to 1” 	3
		4
Approach Guardrail	<ul style="list-style-type: none"> • Not attached to stone masonry bridge rail • Minor impact to terminal end at Southeast approach 	

Top of Bridge Deficiencies (NBIS Item #58 in Inspection Report)

Element	Deficiency	Reference Photo(s)
Wearing Surface	<ul style="list-style-type: none"> • Hairline to narrow random cracks throughout • Light vegetation growth along curbs • Beveled curb is spalled throughout 	3



Superstructure Deficiencies (NBIS Item #59 in Inspection Report)

Element	Deficiency	Reference Photo(s)
Corrugated Steel Arch Deck	<ul style="list-style-type: none"> Light oxidation throughout upper portion of arch, light to moderate rusting of the lower portion and random areas of protective coat deterioration 2" outward deformation at the West side of deck arch above spring line 	5
	<ul style="list-style-type: none"> Random missing and deteriorated connection bolts Light to moderate rusting of lower connection plate between arch and abutment Heavier rusting and minor steel delamination at Southeast, Southwest and Northwest corners 	6, 7, 8
Headwalls	<ul style="list-style-type: none"> Numerous hairline to narrow cracks in mortar and separation of the mortar between stones Minor separation and small voids along arch ring, especially at the North headwall 	1

Abutment/Foundation Deficiencies (NBIS Item #60 in Inspection Report)

Element	Deficiency	Reference Photo(s)
Abutment Breastwalls	<ul style="list-style-type: none"> Moderate to heavy scaling (waterline abrasion) throughout Spall at the Northwest corner that measures 40"L x 7"H x 3"D (at waterline) Minor aggradation at Southeast corner of bridge 	8
Wingwalls	<ul style="list-style-type: none"> Numerous hairline to narrow random cracks in mortar and minor separation between stones 	9
	<ul style="list-style-type: none"> Large voids in Southeast wingwall along bottom and random small voids between stones Area of missing mortar near East end of Northeast wingwall that measures 8'-0"W x 4'-0"H 	10

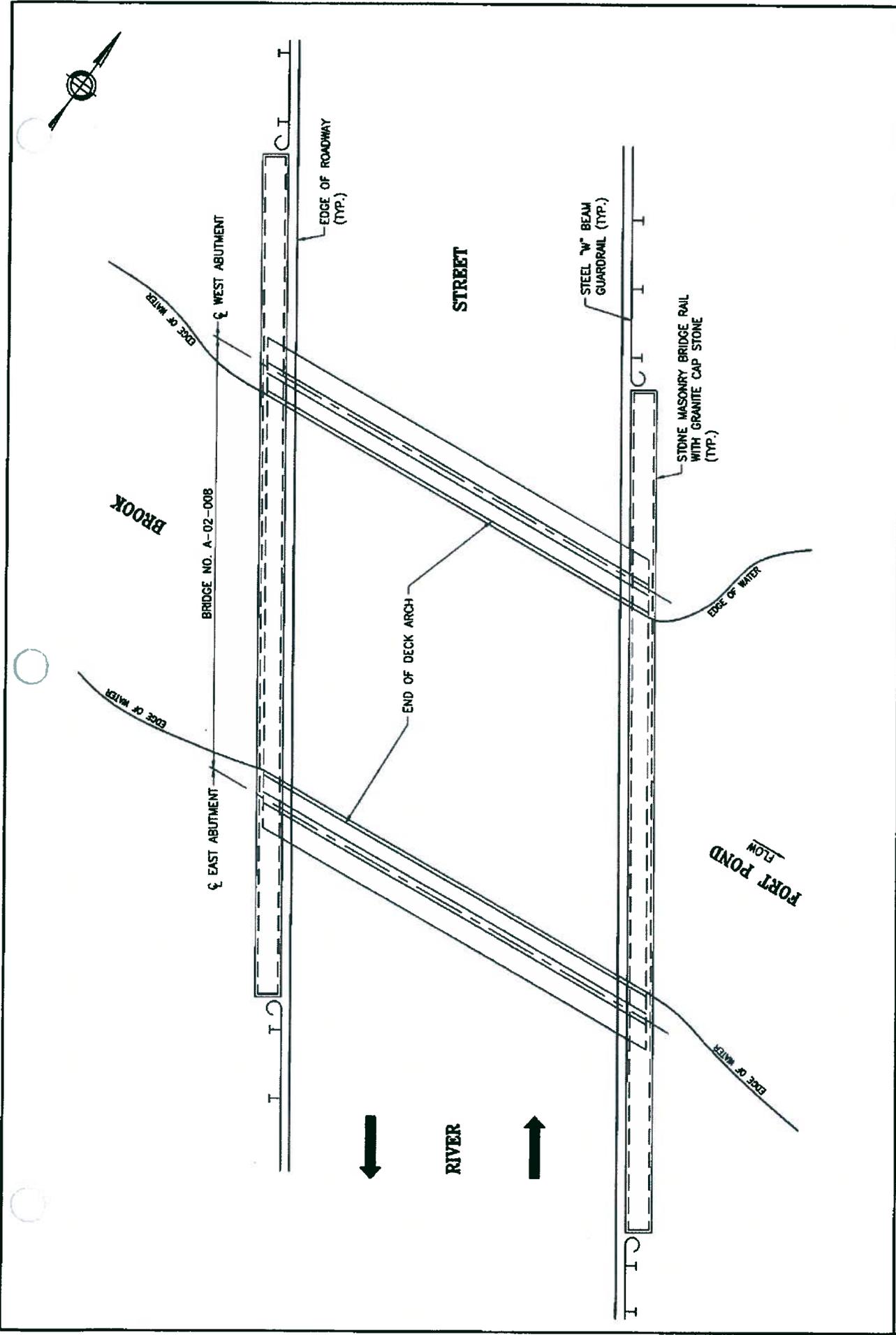
Recommended Maintenance:

The following table outlines the deficiencies and repairs needed, along with the priority of the repair, to the River Street Bridge over Fort Pond Brook (at Carriage Drive):

Element & Location		Deficiency	Repair Needed	Priority
#1	Top of bridge	Beveled curb spalling along bridge rail	Remove beveled curb and replace with asphalt berm	Low



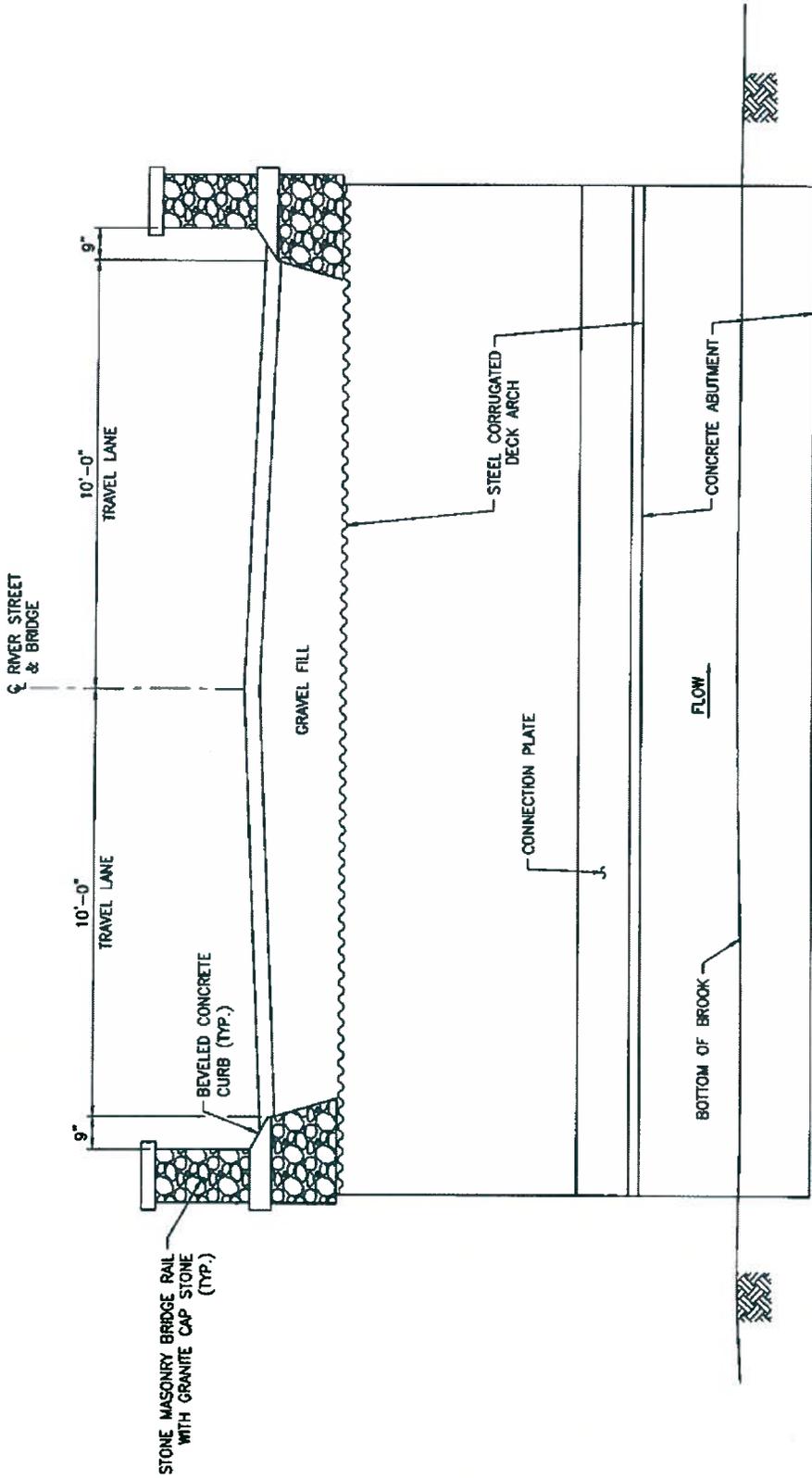
#2	SE approach guardrail terminal end	Collision Damage	Remove and replace terminal end	Low
#3	North and South bridge rail	Hairline to narrow cracks in mortar and between cap stones & voids between stones	Fill voids and repoint stone masonry as needed	Low
#4	Steel Arch Deck	Cracking and peeling throughout and light to moderate rusting and minor steel delamination at abutments	Clean and place new protective coating throughout	Moderate
#5	North and South stone masonry headwalls	Hairline to narrow cracks in mortar	Repoint stone masonry as needed	Low
#6	West Abutment, North end	Spall at waterline	Patch with cementitious mortar	Low
#7	Wingwalls	Hairline random cracks in mortar	Repoint stone masonry as needed	Low



**ACTION: RIVER STREET OVER
 FORT POND BROOK, BRIDGE NO. A-02-008
 PLAN - SCALE: N.T.S.**

CHAS. H. SELLS, INC.
 CONSULTING ENGINEERS, SURVEYORS & PHOTOGRAMMETERS

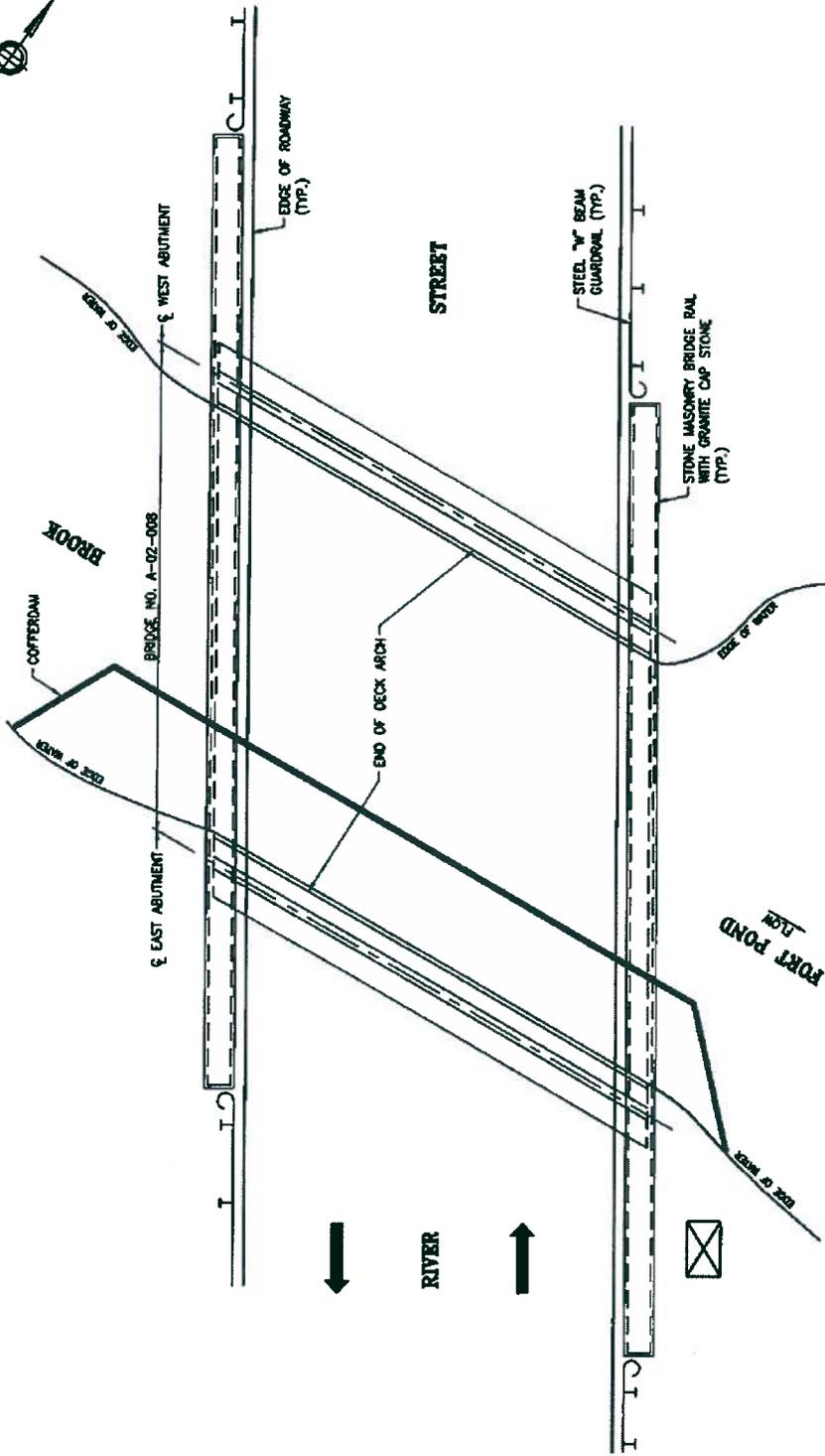




**ACTION: RIVER STREET OVER
 FORT POND BROOK, BRIDGE NO. A-02-008
 BRIDGE TRANSVERSE SECTION - SCALE: N.T.S.**

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Consulting Engineers, Surveyors & Photogrammetrists





LEGEND

- - - COPPERDAM

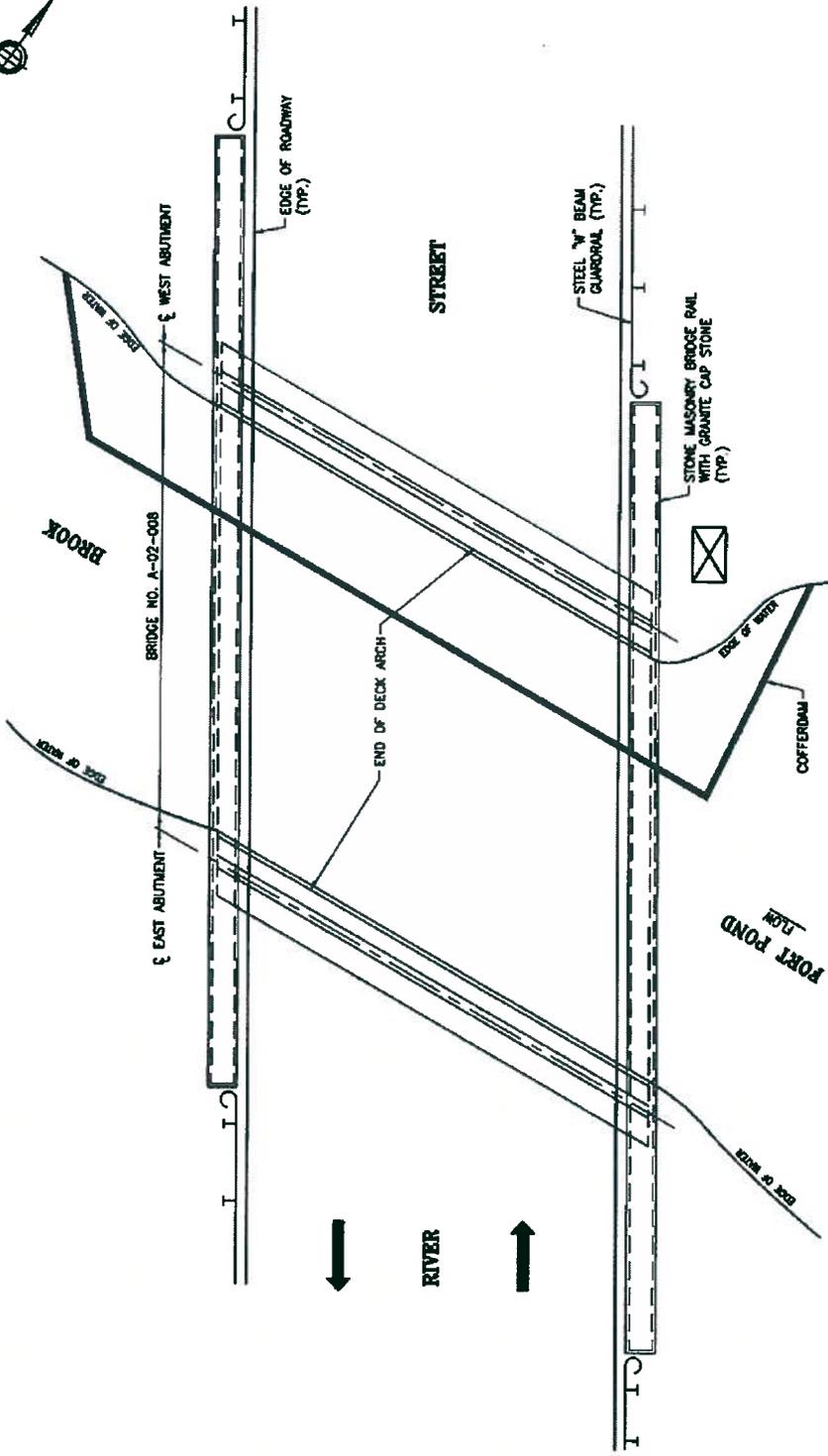
☒ SEDIMENTATION BASIN

STAGE I

CHAS. H. SELLS, INC.
Civil, Mechanical, Structural & Electrical Engineering

**ACTION: RIVER STREET OVER
FORT POND BROOK, BRIDGE NO. A-02-008
WATER CONTROL PLAN - SCALE: N.T.S.**





- LEGEND**
- COFFERDAM
 - ⊠ SEDIMENTATION BASIN

STAGE II



**ACTION: RIVER STREET OVER
FORT POND BROOK, BRIDGE NO. A-02-008
WATER CONTROL PLAN - SCALE: N.T.S.**

CHAS. H. SELLS, INC.
Consulting Engineers, Surveyors & Environmentalists

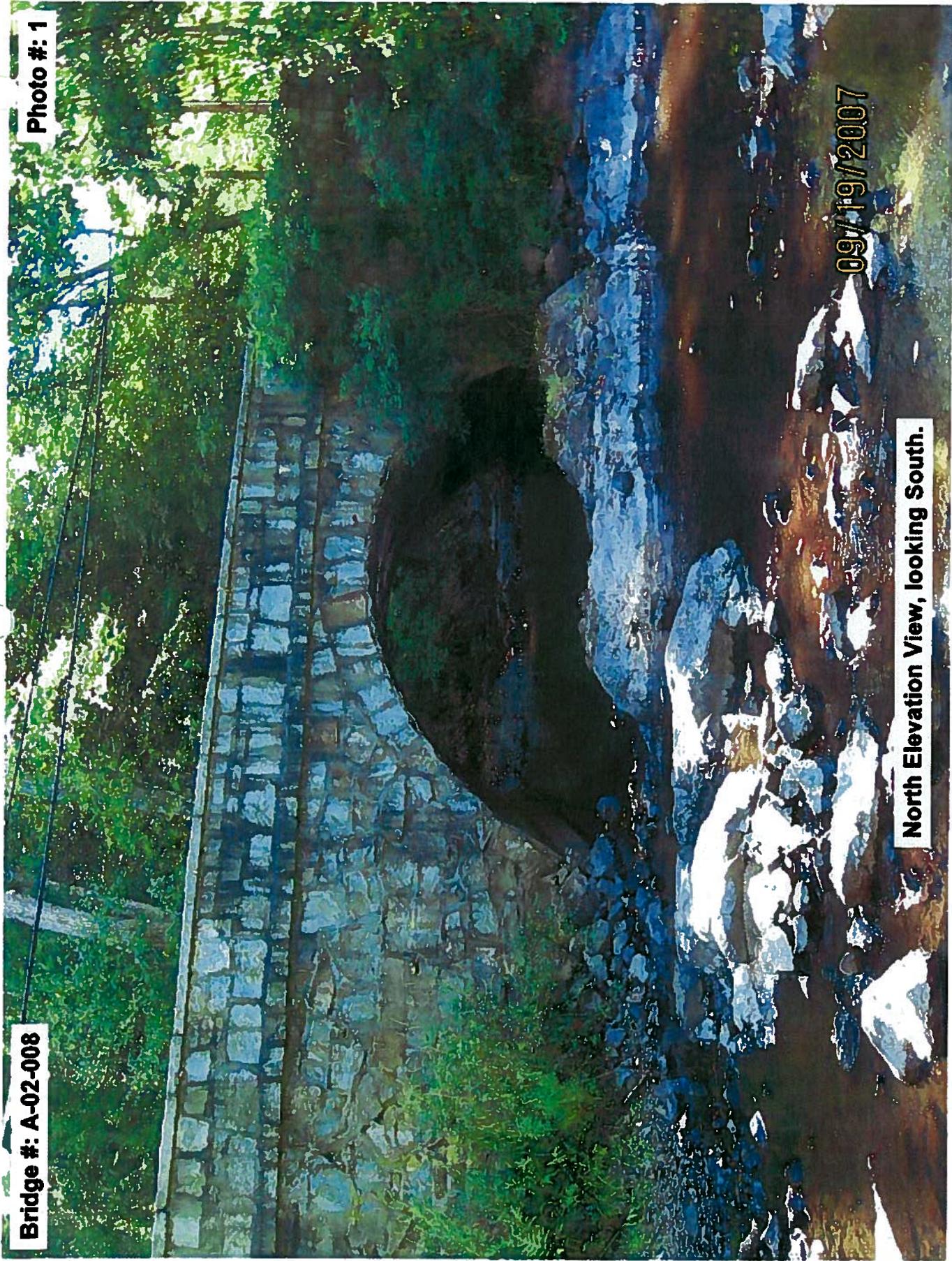


Bridge #: A-02-008

Photo #: 1

North Elevation View, looking South.

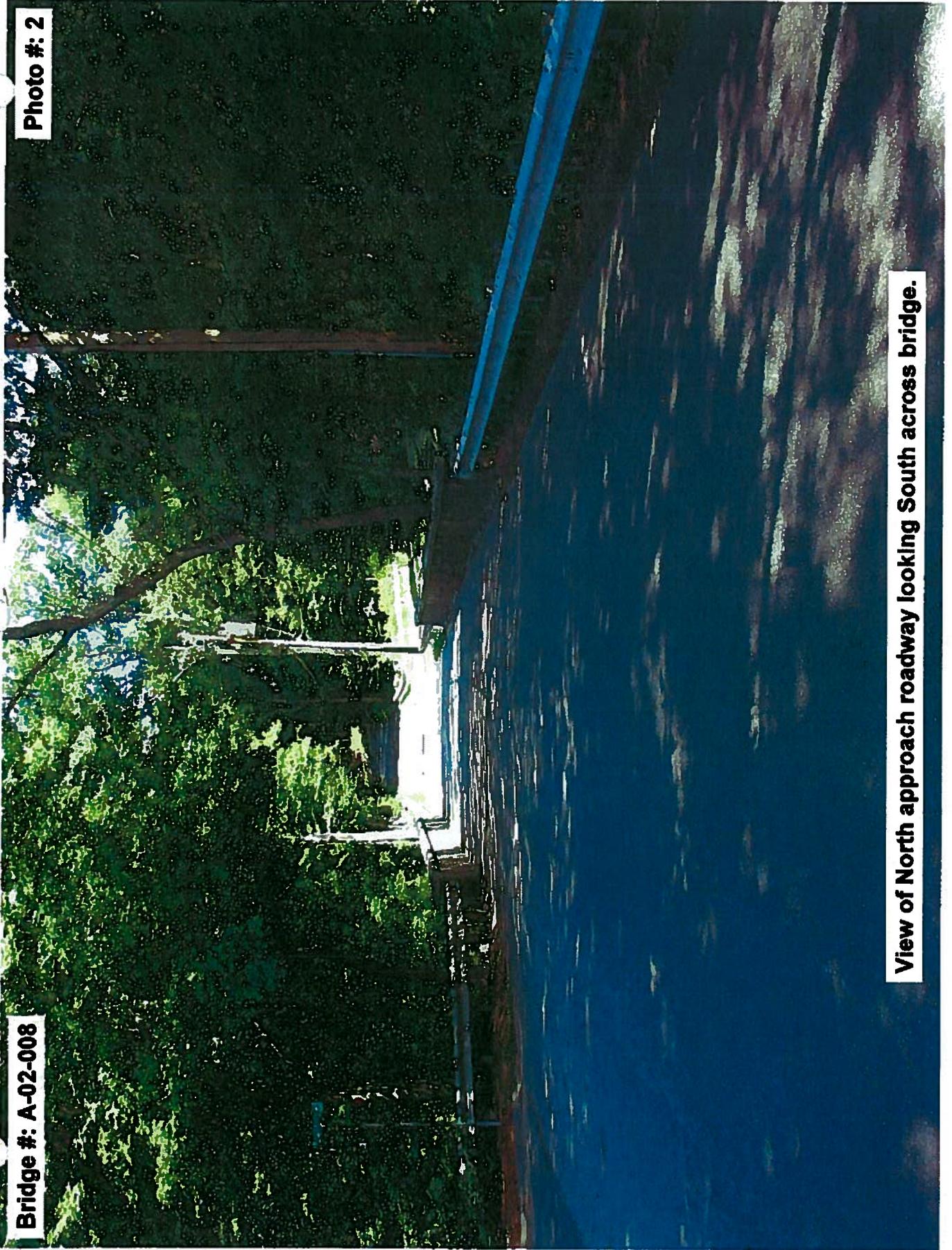
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Bridge #: A-02-008

Photo #: 2

View of North approach roadway looking South across bridge.



Bridge #: A-02-008

Photo #: 3

09/19/2007

(Missing mortar)

Spalled curb
throughout

View of South bridge rail near the midspan, looking East.



Bridge #: A-02-008

Photo #: 4

1" Misalignment

09/19/2007

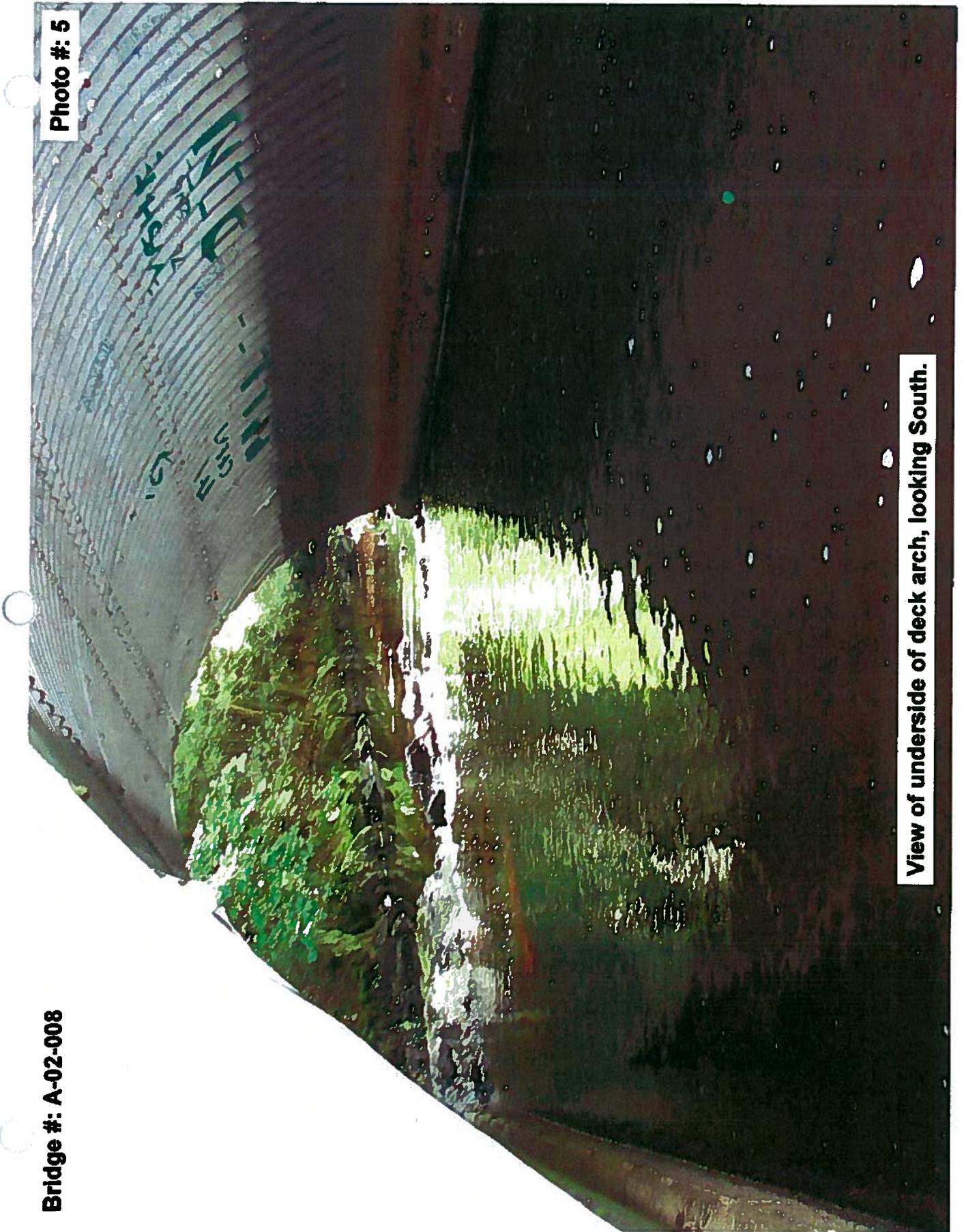
View of North bridge rail at the West end, looking East.



Bridge #: A-02-008

Photo #: 5

View of underside of deck arch, looking South.



Bridge #: A-02-008

Photo #: 6

09/19/2007

View of Southeast corner of the deck arch, looking East.



Bridge #: A-02-008

Photo #: 7

09/19/2007

View of the Southwest corner of the deck arch, looking West.



Bridge #: A-02-008

Photo #: 8

09/19/2007

40" L x 7" H x
3" D spall

View of the Northwest corner of the deck arch, looking West.



Bridge #: A-02-008

Photo #: 9

09/19/2007

View of the Southeast retaining wall, looking South.



Bridge #: A-02-008

Photo #: 10

8'-0" wide

4'-0" high

09/19/2007

View of the Northeast wingwall, near the East end, looking South.

