STRUCTURE NO. 03369

RTE 504 NB ON VIAD

over

LOWER SMITH SCHOOL BROOK

HARTFORD

Routine Inspection

on

5/14/2012

Inspected by AI Engineers - 2

for Area 6

TEAM:	Forwarded to TE3 David Tassavor	Date	6/26/2012
TE3:	Reviewed by TE3 David Tassavor	Date	9/4/2012
	BMM Required	Yes	
	Town Bridge	No	
	Rating <= 5 (Items 58,59,60 or 62)	Yes	
	Rating Change 2 or More Values	No	
	Forwarded to Supervisor Leo Cain Jr.	Date	9/4/2012
	Forwarded to "To Be Copied Drawer" ☐	Date	
	Date BRI-19 Entered	9/4/2012	
SUPERVISOR:	Reviewed by Supervisor Leo Cain Jr.	Date	9/6/2012
SUPPORT:	Date Copies Made 9-13-12	BMM No	
	Scanned By: LD	Date Scanned 9-15-12	PDF Box No

NBI: Yes

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

BRIDGE SAFETY INSPECTION
STATE PROJECT NO. 170-3013

ROUTINE INSPECTION REPORT FOR BRIDGE NO. 03369

CARRYING ROUTE 504 (NORTHBOUND)
OVER
LOWER SMITH SCHOOL BROOK
HARTFORD, CONNECTICUT

RECEIVED
JUN 26 2012

PRESTRESSED CONCRETE MULTI GIRDER

INSPECTED MAY 14, 2012

Prepared by:

AI Engineers, Inc.

919 Middle Street
Middletown, CT 06457

STATE OF CONNECTICUT
ASLAM H. SIDDIQUI
22856
LICENSED PROFESSIONAL ENGINEER
06/26/2012

DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

FORM BRI-27

Structure No. **03369**

Inspectors: MAI, CK, DY, ZRI (AI Eng)

Town Hartford

Date 5/14/2012

TABLE OF CONTENTS

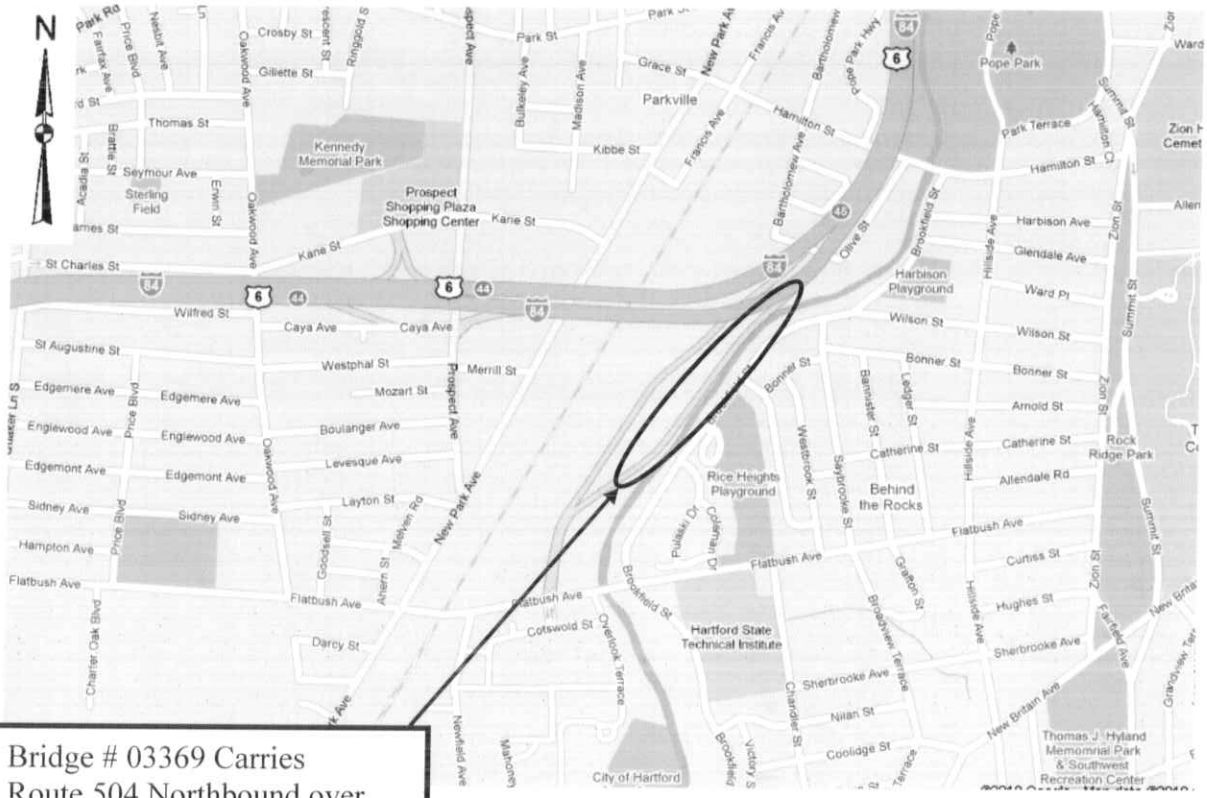
Loose Forms (not bound in report)	No. of Sheets Enclosed
Maintenance Memo	2
Flagging Memos	1
BRI-11, Seismic Screening Data Sheet	0
BRI-12, Fracture Critical Inspection Data Sheet	0
BRI-19, Hwy Bridge SI&A Form	2
BRI-25, Under Entry SI&A Form	0
BRI-39, RR Bridge SI&A Form	0
BRI-49, Sign Structure SI&A Form	0
PONTIS Element Data Collection Form	2
Plan Sheets PROJ. # 63-184 YEAR 1962 ..... Check here if already on file ☑	

Bound Report Pages	
Title Cover Sheet	1
Table of Contents	1
Executive Summary	5
BRI-18, Bridge Inspection Form	11
BRI-48, Sign Structure Inspection Form	0
Field Notes (Include Forms ~~BRI-10~~, BRI-13, ~~BRI-14~~, ~~BRI-15~~, ~~BRI-16~~, BRI-17, ~~BRI-29~~, ~~BRI-30~~)	106
Calculations:	
Load Rating Evaluation	0
Quantities & Cost Estimate	0
Photo Sheets	24
Photos	48
Back-up Material	5
Location Map.	1

AI Engineers, Inc.

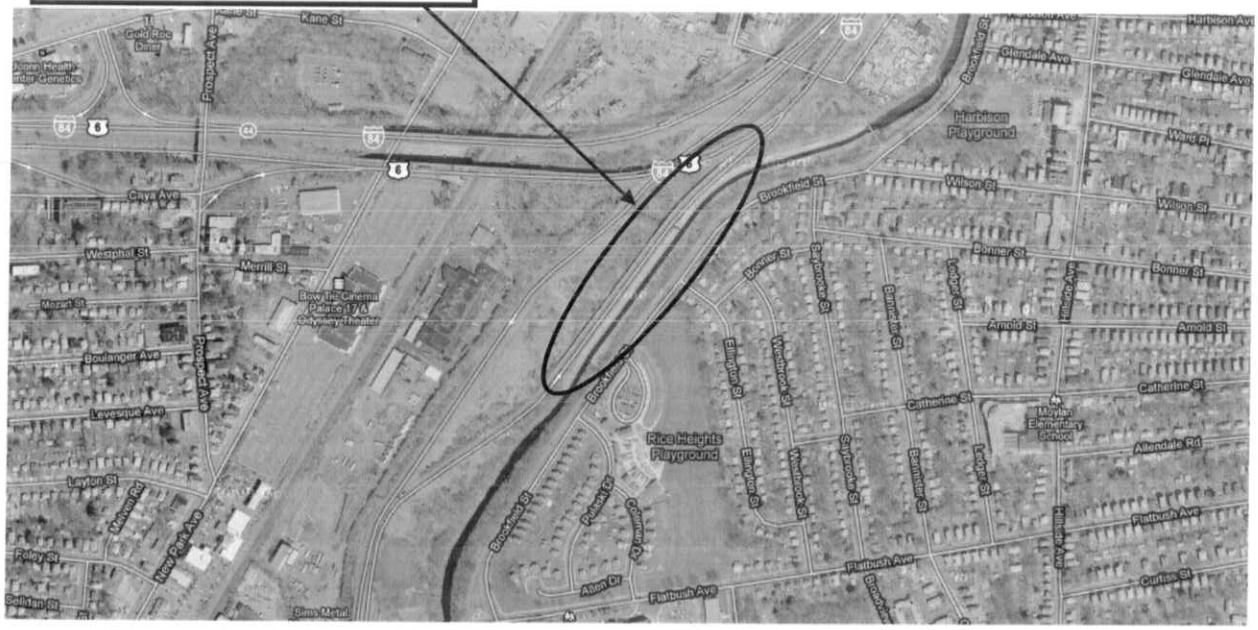
BRIDGE SAFETY INSPECTION
STATE PROJECT NO. 170-3013

LOCATION MAP



Bridge # 03369 Carries
Route 504 Northbound over
Lower Smith School Brook
Hartford. CT

AERIAL VIEW



Project No. 170- 3013

EXECUTIVE SUMMARY
05-14-12

Bridge No. 03369 carries State Route 504 Northbound over Lower Smith School Brook in Hartford, Connecticut. The bridge consists of twenty (20) spans of 5 prestressed concrete AASHTO Type-IV I-beams with a reinforced concrete deck and bituminous concrete overlay supported on prestressed concrete pile bents, random cast-in-place concrete columns and reinforced concrete abutments. The bridge was built in 1967. The bridge has an overall length of 1539' and a curb-to-curb width of 38'. According to a load rating on file with the Connecticut Department of Transportation completed in 1997 using the Load Factor Method, the Inventory Rating for an HS-20 loading is 41.0 tons. Since significant deterioration was noted on the east fascia beam B5 in spans 14, 15 and 16, a reevaluation is therefore recommended at this time. Only item 1 of the previously issued BMM No. 10-517 dated August 16, 2010 has been completely addressed and the remaining items have not been addressed yet. In addition, a Priority B flagging memorandum was sent to Bridge Safety at the time of inspection. There is also a new maintenance memorandum associated with this report. During the meeting on 10/04/06 between Bridge Safety, Bridge Design, Chief Engineer and FHWA, it has been decided to remove this bridge entirely and reconstruct an on-ramp (roadway) adjacent to the off-ramp approximately 300 feet to the west of the existing bridge. In 2010, a limited testing program was also carried out on the bridge for the compressive strength, chloride content and petrographic analysis of the concrete.

A routine inspection completed on May 18, 2012 found the bridge to be in serious condition (overall rating = 3). The deficiencies found on the bridge and recommendations for repairs are as follows:

Deck:

The deck is in satisfactory condition. (Rating = 6).

1. The bituminous concrete overlay exhibits random longitudinal cracks up to 40' long x 1/4" wide (span 10). There are numerous areas of map cracks up to full span length x 6' wide and open up to 1/4" wide, mainly along both shoulders. Some of these areas have light raveling. Also, the longitudinal paving seam is open up to 1/2" wide for full length. There are isolated potholes/heavy raveling up to 3' long x 16" wide x 1" deep, mainly along the left shoulder in spans 14, 18 and 19. Seal cracks and repair/patch the potholes as part of routine maintenance.

2. There is light accumulation of sand and debris along the gutter lines and light to heavy behind the temporary jersey barriers in spans 14-16, which allows water to pond behind the barriers in spans 14 and 15 on top of the deck. It should be noted that the severely deteriorated fascia beams are located under this area. Clear sand and debris behind the temporary barriers as required.

3. The underside of the concrete deck exhibits random full width transverse and areas of hairline map cracks up to 10' long x full width with and without efflorescence. There are isolated shallow rebars up to 4' x 1', random spalls up to 3' x 3' x 3" deep with and without exposed rebar, some with repaired concrete patches and random honeycomb areas up to 2' x 2' x 1" deep with and without exposed rebar. In span 4, bay 1, at pier 3, there is evidence of leakage (dampness and rust stains) at the underside of the deck and the beam B1 top flange/deck interface. The total underside of the deck deterioration is 2.0% with a maximum of 8.4% in span 19. Repair deteriorated areas. Total 10 CF.

4. The PVC deck weep pipes do not extend below the beam bottom flange but they do not appear to drain on to the superstructure. In span 4, between beams B1 and B2 near pier 4, there is one missing weep pipe with evidence of past leakage. Install/extend the missing/short PVC deck weep pipes below the beam bottom flanges. Total 6 LF.

5. In span 11, between beams B1 and B2, there is an 8" long x 1-1/2" high rusted through hole in the top collar of the scupper downspout. Repair/replace the deteriorated scupper downspout collar. Total 1 EA.

6. In spans 3 and 19, the light standards on the east parapet have 4" x 2" x 1" dents (no cracks found) due to a collision damage. Also, the light standard on the east parapet at the south approach has up to (4) 6" long x 1" wide scrapes with a 10" x 6" x 1/2" dent (no cracks found) due to past collision damage. Continue to monitor the dents for cracks in future inspections.

7. Asphaltic plug joints at both abutments and piers have adhesion cracks up to full length x 1/4" wide (pier 14 joint) and cohesion cracks up to 10' long x 1/2" wide (pier 18 joint) with the exception of the south abutment and piers 1, 2 and 9 joints which display no apparent cracks. At piers 14 and 15 along the right shoulder behind the temporary jersey barrier in areas of standing water, there are adhesion and cohesion cracks near the severely deteriorated fascia beams. There was evidence of active and past leakage through the deck joints at piers 3, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, and 19. The leakage is causing further deterioration to the beams. Seal the adhesion and cohesion cracks in the deck joints. Total ±150 LF.

8. The pier 9 joint exhibits an isolated pothole up to 1' long x 4" wide x 1/2" deep. There is settlement and/or depressed areas up to 2' long x full width x 1" deep at piers 7, 13, 15 and 18 joints. Piers 11 and 18 joints are heaved up to 1/2" high. A banging noise was noted under pier 18 joint at the time of inspection. Repair/patch the pothole in pier 9 joint and the settlement/heaving in piers 7, 11, 13, 15 and 18 deck joints. Total ±100 LF.

Superstructure:

The superstructure is in serious condition. (Rating =3). The rating is based on the severely deteriorated condition of the east fascia beams in spans 14, 15 & 16 at piers 13, 14 & 15 respectively.

1. Elastomeric expansion and fixed bearing pads in all spans are over compressed and bulging up to 1.5". Numerous bearings have horizontal splits up to 1/4" wide x full length in the vertical faces of the pad (typical). There are a few isolated splits open up to 5/8" wide (span 14, beam B1 at pier 13). A few bearings are rotated and have lifted edges up to 5/8" along the east and west sides. Most of the bearings at the piers are covered with construction debris up to 1' high. In span 16, beam B5 at pier 15 has approximately 41.5% loss of bearing area (increased from 38%) due to a spall in the beam. In span 19, beam B5 at pier 18 the bearing pad is severely rotated with a 9" x 3-1/2" missing section of pad along the east edge and a 12" x 1-3/4" (previously reported as 9" x 1-3/4") missing section along the south edge with approximately 42% loss of the bearing area (including spalls in the beam). The loss of bearing area has increased from 40% since the last inspection. Beam B5 bearing pad is exposed up to full length x 4" deep due to a spall in beam bottom flange at pier 17 in span 18. Continue to monitor all the bearings in the future inspections.

2. The prestressed concrete beams exhibit longitudinal hairline cracks up to 3' long in the bottom of bottom flanges at the following locations: Span 12 at pier 11, beam B3; Span 13 at pier 13, beam B5; Span 14 at pier 13, beam B5; and Span 19 at pier 18, beam B5. Beam B4 in span 15 at pier 15, the east side has a 12" long hairline diagonal (shear) crack at the bottom flange end over centerline of bearing. In addition, beam B5 end in span 16 at pier 15 has six (6) diagonal (shear) cracks up to 25" long x 0.03" wide (previously noted as 0.025" wide) in the east face of the bottom flange (a few

extending into the web), located 6-1/2" to 18" away from the centerline of the bearing. On the west face of the bottom flange, there are two fine hairline diagonal (shear) cracks up to 17-1/2" long and a 2' long x 3" high x 3" deep spall. One of the cracks is located at the bearing and the other crack is up to 9" away from the centerline of the bearing. Continue to monitor the shear cracks at the supports in future inspections.

3. The beams have random corner spalls in the bottom flange with exposed rusted strand ends up to 1" long. In span 4 at beam B3, the bottom flange has up to 6' long x 4" wide x 1/2" deep failed patch with moderate to heavy rust and negligible section loss on an exposed strand at the bottom. There is a corner spall on the west side of beam B5 in span 18 over pier 17 up to 15" long x 10" high x 3" deep with 3 exposed strands +/- 3" long with laminated rust and up to 1/16" deep section loss resulting in up to 21% deterioration in the bottom flange. In span 18 at beam B4 (mid-span), the bottom flange has a 18" long exposed strand with light rust at the bottom. Beams B1 bottom flange ends are in contact over pier 12 in spans 12 & 13 causing cracked and hollow areas in the bottom flange. The worst condition was noted at the following locations;
    - Span 14, beam B5 at pier 13: There are random hollow areas up to 18" x 10" with a 7" x 5" x 1.5" deep spall (east side) along the sides of the bottom flange. The underside of the bottom flange has random spalls up to 32" x 16" x 1-3/4" deep with exposed rebars, (2) exposed stirrups with (1) having 100% section loss and (4) exposed strands.
    - Span 15, beam B5 at pier 14: The east side of the bottom flange has a 29" long x up to 14" high x 7" deep spall (spall size increased since the last inspection) with a total of nine (9) exposed strands up to 15-1/2" long. The strands have up to 100% section loss for the end 12" (layer 1) and 4" (layer 2). The remaining exposed portions have 50-75% section loss and concrete around the strands is punky. There is up to 22% deterioration (increased from 18% since the last inspection) in the bottom flange.
    - Span 16, beam B5 at pier 15: The east side of the bottom flange has up to 57" long (previously 52") x 16" high x 16" deep spall with a total of eighteen (18) exposed strands (3 rows of 4 strands each and the additional 6 new at the bottom 1st row which stop near the bearing pad). Previously there were a total of twelve (12) strands exposed. The bottom course of strands is exposed up to 53" long (previously 40" long) with 100% section loss for the end 28" (previously 18") and 50%-75% section loss for an additional 25" (previously 6"). The second course of the strands is exposed up to 40" long with 100% section loss for the end 9" for all three strands (previously noted for two strands). The third course is exposed up to 36" long with up to 100% section loss for the end 9" of one strand, 6" and 3" for two other strands. Additional 4" to 6" of the strands have 50%-75% section loss. There are new six (6) exposed strands up to 20" long in the bottom row with up to 50% section loss. There is up to 38% deterioration in the bottom flange. The loss in bearing is 41.5% and has increased from 38% since the last inspection. The remaining portion of the concrete is punky and hollow.

    Continue to monitor all the beams further deterioration, especially beam B5 in spans 14, 15 and 16 for signs of distress in the future inspections. Repair/patch the large spalls in the beams to reduce future deterioration, clean and seal all areas of exposed prestressed strands. Total ±30 CF. Provide temporary support under the severely affected girders. **Consider a special inspection every six (6) months of the affected areas until the bridge is replaced.**

4. Random diaphragm ends (concrete encasement) at the fascia beams over the piers have cracks, spalls and/or 100% loss of the concrete cover with up to 1/16" deep section loss on the exposed rusted rebars (beam B5 in span 5 at pier 5 and in span 13 over piers 12 and 13). Repair/patch the deteriorated areas. Total ±15 CF.

5. There is a past collision damage area up to 1' x 6" x 1" deep with scrape marks and (2) spalls up to 10" in diameter x 1" deep in the bottom flange of beam B1 in span 20 near pier 19. Repair/patch the deteriorated areas. Total ±1 CF.

Substructure:

The substructure is in satisfactory condition. (Rating = 6).

1. Both abutment stems exhibit minor popouts. The north abutment stem between beams B3 and B4 has a full height x 1/8" wide vertical crack which extends into the abutment seat and backwall. At the south abutment, the pedestals for beams B3 and B4 have a horizontal hairline crack 2' long. No recommendations for repair at this time.

2. The south abutment footing is exposed for 24' long x 2' wide x 6" high and the north abutment footing is exposed for 4' long x up to 18" wide x 30" high due to erosion. The exposed portions of the footings have light scale. Fill in the exposed portions of the footings at both abutments with suitable fill material. Total ±1.5 CY.

3. The wingwalls have light to heavy vegetation growth and random joints with vine growth and missing joint material. The east cheek wall at the north abutment has a 1' high x 3" wide isolated hollow area. Remove the vegetation/vine as required and install the missing joint filler material (Total ±35 LF).

4. The concrete pier caps have random vertical and horizontal hairline cracks with and without efflorescence and a few isolated 1/4" wide cracks. There are areas of map cracks, hollow areas up to 8' long x 3' high (pier 10, north elevation between beams B1 & B2), random areas of light scale and spalls up to 6' long x 2' high x 2-1/2" deep with and without exposed rebars (pier 17, north elevation between beams B3 & B4). The exposed rebars have up to 1/16" section loss. Random repaired concrete patches sounded hollow and have hairline cracks with and without efflorescence. The pedestals have random vertical and horizontal cracks, corner spalls up to 10" x 5" x 1-1/2" deep (with no undermining of the bearings). Repair/patch deteriorated concrete. Total < 1 CY.

5. The prestressed concrete piles have isolated vertical cracks open up to 1/16" wide, areas of map cracks, hollow areas up to 2' x 2' and spalls up to 8" x 7" x 2" deep with exposed rebars. There are random failed repaired concrete patches which have exposed some to the cut off lift handles. Repair/patch the deteriorated concrete. Total < 1/2 CF.

6. The reinforced concrete columns have random cracks open up to 3/16" wide, map cracks with and without efflorescence, isolated areas of minor popouts and shallow rebar. There are hollow areas up to 5' x full width (column 5 of pier 17, south elevation) and spalls up to 3' x 1' x 3.5" deep with exposed rebars having section loss up to 1/16" deep (column 5 of pier 8, south elevation). Repair/patch deteriorated concrete. Total < 1 CY.

7. The embankment under pier 19 has a 15' long x 2' wide x 1' deep eroded area between columns 1 and 3. Fill in the eroded area with suitable fill material. Total ±2 CY.

8. Heavy construction, sand and joint material debris piled up to 1' high on top of the pier caps and around the bearings. Light debris is present on the south abutment seats. Remove the debris from the top of the caps and south abutment as required.

Channel and Channel Protection:

The channel is in good condition. (Rating = 7).

1. There is moderate to heavy vegetation along both embankments. No recommendation for repair at this time.

Approaches:

The approaches are in satisfactory condition. (Rating = 6).

1. Metal beam rail at the southwest and northeast corners have minor dents and scrapes. No approach railing at the northwest corner. There is a 10' long collision damage area at the southwest metal beam rail transition. Repair/replace the collision damage area at the southwest metal beam rail transition. Total 10 LF.

2. The bituminous concrete approach pavement exhibits random longitudinal and transverse cracks open up to 1/2" wide. Also, the longitudinal paving seams are open up to 1/2" wide. There is an isolated 1/4" wide crack for full width in the south approach pavement. Seal cracks as part of routine maintenance.

Connecticut Department of Transportation

Bridge Inspection Report BRI-18

Bridge #: 03369 **Inspection Date: 05/14/2012**

Inspection Type:	Routine	**Previous Inspection Date:**	5/18/2010	**Snooper Required:**	Yes
Inspection Performed By:	AI Engineers	**Feature Carried:**	RTE 504 NB ON VIAD	**Snooper Used:**	Yes
Town:	HARTFORD	**Feature Intersected:**	LOWER SMITH SCHOOL BROOK	**Year Built:**	1967
Location:	FLATBUSH AVE ON-RAMP I-84	**Main Design:**	Stringer/Multi-beam or Girder	**Year Rebuilt:**	-
Main Material:	Prestressed concrete				

Visits

Visit Date:	Temp:	Start Time:	End Time:
5/14/2012	73	8:30:00 AM	3:00:00 PM
5/15/2012	65	8:30:00 AM	3:00:00 PM
5/16/2012	65	8:30:00 AM	3:30:00 PM
5/17/2012	72	8:30:00 AM	3:00:00 PM
5/18/2012	70	8:30:00 AM	11:00:00 AM

Inspectors:

Inspector:	Task:
C. Kolasa	Inspector
D. Yenuga	Lead Inspector
M. Iqbal	Lead Inspector
Z. Ismail	Inspector

DECK: Reinforced concrete deck with bituminous concrete overlay. The deck is in satisfactory condition. **Overall Rating:** 6

	Rating	
OVERLAY:	6	The bituminous concrete overlay exhibits random longitudinal cracks up to 40' long x 1/4" wide (span 10). There are numerous areas of map cracks up to full span length x 6' wide and open up to 1/4" wide, mainly along both shoulders. See photo 5. Some of these have areas of light raveling with a few areas of heavy raveling in the left shoulder of span 19. See photo 6. Also, the longitudinal paving seam is open up to 1/2" wide for full length. There are isolated potholes/heavy raveling mainly along the left shoulder at the following locations: span 14, up to 18" long x 6" wide x 1" deep; span 18, 3' long x 18" wide x 3/4" deep; and two areas in span 19, up to 3' long x 16" wide x 1" deep. Some previously noted potholes have been patched/repaired since the last inspection. There is light accumulation of sand and debris along the gutter lines and light to heavy accumulation behind the temporary jersey barriers in spans 14-16. There is also water ponding behind the barriers in spans 14 and 15. See photo 7. See field notes sheets 4-13.
DECK-STR. CONDITION:	6	The underside of the concrete deck exhibits random full width transverse and areas of hairline map cracks up to 10' long x full width with and without efflorescence. There are isolated shallow rebars up to 4' x 1', random spalls up to 3' x 3' x 3" deep (bay 3, span 17) with and without exposed rebar, some

		with repaired concrete patches and random honeycomb areas up to 2' x 2' x 1" deep (bay 4, span 17) with and without exposed rebar. See photo 9. In span 4, bay 1, at pier 3, there is evidence of leakage (dampness and rust stains) on the underside of the deck and the beam B1 top flange interface. The total underside of the deck deterioration is 2.0% with a maximum of 8.4% in span 19. See field notes sheets 20-48 and photo 8.
CURBS:	6	Sloped concrete curbs exhibit random full height vertical hairline cracks and minor edge chipping. The protective concrete coating is peeling at random locations. The north curb displays an 8" long x 4" high x 2" deep spall in span 5, near pier 4. The south curb displays a 6" long shallow rebar in span 18. Average west curb reveal is 3-3/4". Average east curb reveal is 4". See field notes sheets 4-13 and photo 6.
MEDIAN:	N	-
SIDEWALKS:	N	-
PARAPET:	6	The concrete parapets exhibit random vertical cracks and map cracks open up to 1/16" wide with and without efflorescence. In span 2, the west parapet has a 1' x 6" x 1" deep spall. There are random areas of light to moderate scale, mainly in spans 16-20. The west parapet shows some scrapes and few popouts. The protective concrete coating is peeling at random locations. In spans 14-16 in the right shoulder (previously noted up to span 17), temporary concrete jersey barriers with sand barrel impact attenuators are in place to isolate live load traffic from two severely deteriorated east fascia beams (Beam B5) in spans 15 and 16. See photo 10. The temporary barrier exhibits spalls up to 4' long x 1.5' high x 4" deep with exposed rebar. See photo 11. The previously noted missing lid for one of the impact attenuator barrels has been installed since the last inspection. See field notes sheets 4-19.
RAILING:	N	-
PAINT:	N	-
FENCE:	N	-
DRAINS:	6	None of the PVC deck weep pipes extend below the beam bottom flanges but they do not appear to drain on to the superstructure. In span 4, between beams B1 and B2 near pier 4, there is one missing weep pipe with evidence of past leakage. See photo 12. Downspouts in spans 1, 3, 6, in bay 1, and span 20 in bay 4, have laminated rust with up to 1/8" deep section loss x 4" high at the bottom. In span 11, between beams B1 and B2, there is an 8" long x 1-1/2" high rusted through hole in the top collar of the scupper downspout. See photo 13. The previously noted scuppers with downspout deficiencies in spans 1 and 9 have been repaired since the last inspection. See field notes sheets 4-46.
LIGHTING STANDARD:	6	Light standards and junction box covers along the east parapet exhibit light rust at random loctions. Junction box covers are missing up to 9 of 12 screws (span 12). In spans 3 and 19, the light standards on the east parapet have 4" x 2" x 1" dents (no cracks found) due to a collision damage. Also, the light standard on the east parapet at the south approach has up to (4) 6" long x 1" wide scrapes with a 10" x 6" x 1/2" dent (no cracks found) due to past collision damage. See photo 14. See field notes sheets 4-13.
UTILITIES TYPE/SIZE:	N	-
CONSTR JOINTS:	N	-
EXPANSION		Asphaltic plug joints exist at both abutments and piers have adhesion cracks

JOINTS:	5	up to full length x 1/4" wide (pier 14 joint) and cohesion cracks up to 10' long x 1/2" wide (pier 18 joint) with the exception of the south abutment and piers 1, 2 and 9 joints which display no apparent cracks. See photos 15 & 16. At piers 14 and 15 along the right shoulder behind the temporary jersey barrier in areas of standing water, there are adhesion and cohesion cracks in the joint near the severely deteriorated fascia beams with evidence of active and past leakage noted underneath the bridge at the time of inspection. The leakage is causing further damage to the beams. The pier 9 joint exhibits an isolated pothole up to 1' long x 4" wide x 1/2" deep. There is settlement and/or depressed areas up to 2' long x full width x 1" deep at piers 7, 13, 15 and 18 joints. Piers 11 and 18 joints are heaved up to 1/2" high. Some previously noted potholes at piers 1, 5, 16 & 17 joints and depressed areas at piers 3 & 9 have been patched/repaired since the last inspection. There was evidence of active and past leakage through the deck joints at piers 3, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, and 19. A banging noise was noted under the pier 18 joint at the time of inspection. See field notes sheets 4-13.

59. SUPERSTRUCTURE:	Prestressed concrete AASHTO Type-IV I-beams. The superstructure is in serious condition based on the severely deteriorated condition of the east fascia beams in spans 14, 15 & 16 at piers 13, 14 & 15 respectively.	Overall Rating:	3

	Rating	
BEARING DEVICES:	3	Elastomeric expansion and fixed bearing pads in all spans are over compressed and bulging up to 1.5". Numerous bearings have horizontal splits up to 1/4" wide x full length in the vertical faces of the pad (typical). See photo 18. There are a few isolated splits open up to 5/8" wide (span 14, beam B1 at pier 13). A few bearings are rotated and have lifted edges up to 5/8" along the east and west sides. See photo 19. Most of the bearings at the piers are covered with construction debris up to 1' high. See photo 20. In span 16, beam B5 at pier 15 has approximately 41.5% loss of bearing area (increased from 38%) due to a spall in the beam. In span 19, beam B5 at pier 18 the bearing pad is severely rotated with a 9" x 3-1/2" missing section of pad along the east edge and a 12" x 1-3/4" (previously reported as 9" x 1-3/4") missing section along the south edge with approximately 42% loss of the bearing area (including spalls in the beam). See photo 21. The loss of bearing area has increased from 40% since the last inspection. Beam B5 bearing pad is also exposed up to full length x 4" deep due to a spall in beam bottom flange at pier 17 in span 18. See field notes sheets 20-46 and photo 17.
STRINGERS:	N	-
GIRDERS:	3	The rating is based on the condition of the east fascia beams in spans 14, 15 and 16. Temporary jersey barriers have been placed in the past to isolate live load from the three severely deteriorated fascia beams. These temporary barriers are located approximately 10' from the parapet in spans 14-16. The beams exhibit longitudinal hairline cracks up to 3' long in the bottom of bottom flanges at the following locations: Span 12 at pier 11, beam B3; Span 13 at pier 13, beam B5; Span 14 at pier 13, beam B5; and Span 19 at pier 18, beam B5. Beam B4 in span 15 at pier 15, the east side has a 12" long hairline diagonal (shear) crack at the bottom flange end over centerline of bearing. In addition, beam B5 end in span 16 at pier 15 has six (6) diagonal (shear) cracks up to 25" long x 0.03" wide (previously noted as 0.025" wide) in the east face of the bottom flange (a few extending into the web), located 6-1/2" to 18" away from the centerline of the bearing. See photo 22. On the west face of the bottom flange, there are two fine hairline diagonal (shear) cracks up to 17-1/2" long and a 2' long x 3" high x 3" deep spall. One of the cracks is located at the bearing and the other crack is up to 9" away from the centerline of the bearing. The beams have random corner spalls in the bottom flange with exposed rusted strand ends up to 1" long. The exposed prestressed strands at the beam ends have light to moderate rust. There are random shallow rebars in the web, exposed hold-down anchors in the bottom flanges and random shallow straps. There are random beam webs at the bearings which have spalls with exposed rebar. In span 4 at beam B3, the bottom flange has up to 6' long x 4" wide x 1/2" deep failed patch with moderate to heavy rust and negligible section loss on an exposed strand at the bottom. There is a corner spall on the west side of beam B5 in span 18 over pier 17 up to 15" long x 10" high x 3" deep with 3 exposed strands +/- 3" long with laminated rust and up to 1/16" deep section loss resulting in up to 21% deterioration in the bottom flange. See photo 23. In span 18 at beam B4 (mid-span), the bottom flange has a 18" long exposed strand with light rust at the bottom. Beams B1 bottom flange ends are in contact over pier 12 in spans 12 & 13 causing cracked and

		hollow areas in the bottom flange. The worst conditions were noted at the following locations; Span 14, beam B5 at pier 13: There are random hollow areas up to 18" x 10" with a 7" x 5" x 1.5" deep spall (east side) along the sides of the bottom flange. The underside of the bottom flange has random spalls up to 32" x 16" x 1-3/4" deep with exposed rebars, (2) exposed stirrups with (1) having 100% section loss and (4) exposed strands. See photo 24. Span 15, beam B5 at pier 14: The east side of the bottom flange has a 29" long x up to 14" high x 7" deep spall (spall size increased since the last inspection) with a total of nine (9) exposed strands up to 15-1/2" long. The strands have up to 100% section loss for the end 12" (layer 1) and 4" (layer 2). The remaining exposed portions have 50-75% section loss and concrete around the strands is punky. There is up to 22% deterioration (increased from 18% since the last inspection) in the bottom flange. See photo 25. Span 16, beam B5 at pier 15: The east side of the bottom flange has up to 57" long (previously 52") x 16" high x 16" deep spall with a total of eighteen (18) exposed strands (3 rows of 4 strands each and the additional 6 new at the bottom 1st row which stop near the bearing pad). See photo 26. Previously there were a total of twelve (12) strands exposed. The bottom course of strands is exposed up to 53" long (previously 40" long) with 100% section loss for the end 28" (previously 18") and 50%-75% section loss for an additional 25" (previously 6"). See photo 27. The second course of the strands is exposed up to 40" long with 100% section loss for the end 9" for all three strands (previously noted for two strands). The third course is exposed up to 36" long with up to 100% section loss for the end 9" of one strand, 6" and 3" for two other strands. Additional 4" to 6" of the strands have 50%-75% section loss. There are new six (6) exposed strands up to 20" long in the bottom row with up to 50% section loss. There is up to 38% deterioration in the bottom flange. The loss in bearing is 41.5% and has increased from 38% since the last inspection. See photo 28. The remaining portion of the concrete is punky and hollow. Bridge Safety was notified of the above conditions and a Priority "B" memorandum was issued at the time of inspection. Random diaphragm ends (concrete encasement) at the fascia beams over the piers have cracks, spalls and/or 100% loss of the concrete encasement with up to 1/16" deep section loss on the exposed rusted rebars (beam B5 in span 5 at pier 5 and in span 13 over piers 12 and 13). See photos 29 & 30. Also, see item "Collision Damage" below. See field notes sheets 20-46.
FLOOR BEAMS:	N	-
TRUSSES-GENERAL:	N	-
TRUSSES-PORTALS:	N	-
TRUSSES-BRACING:	N	-
PAINT:	N	-
RUST:	N	-
MACHINERY MOV SPAN:	N	-
RIVETS & BOLTS:	N	-
WELDS - CRACKS:	N	-

TIMBER DECAY:	N	-
CONCRETE CRACKING:	3	See item "Girders" above.
COLLISION DAMAGE:	7	There is a past collision damage area up to 1' x 6" x 1" deep with scrape marks and (2) spalls up to 10" in diameter x 1" deep in the bottom flange of beam B1 in span 20 near pier 19.
MEMBER ALIGNMENT:	6	Beams have uniform settlement up to 1" due to over-compressed elastomeric bearings.
DEFLECT. UNDER LOAD:	N	(N) Normal ; (E) Excessive.
VIBRATION UNDER LOAD:	N	(N) Normal ; (E) Excessive.
STAND PIPES:	N	-
BARREL LADDERS:	N	-

ARE BARREL LADDERS OSHA COMPLIANT? NA

---

60. SUBSTRUCTURE: Reinforced concrete piers and abutments. The substructure is in satisfactory condition. **Overall Rating:** 6

	Rating	
ABUTMENTS-STEM:	6	Both abutment stems exhibit a few random vertical and horizontal hairline cracks, minor pop outs, and light graffiti. The north abutment stem between beams B3 and B4 has a full height x 1/8" wide vertical crack which extends into the abutment seat and backwall. Concrete Pedestals: At the south abutment, the pedestals for beams B3 and B4 have a horizontal hairline crack 2' long. See field notes sheets 49-51 and photos 31 & 32.
ABUTMENTS-BACKWALL:	7	The north abutment backwall has one isolated 18" long x 1/8" wide crack between beams B3 and B4. There is a also a 2' long diagonal hairline crack near beam B5. See field notes sheets 49-51 and photo 33.
ABUTMENTS-FOOTINGS:	6	The south abutment footing is exposed up to 24' long x 2' wide x 6" high and the north abutment footing is exposed up to 4' long x 18" wide x 30" high due to an erosion area along the stems. The exposed portion of the footings have light scale. See field notes sheets 49-51 and photos 31, 32 & 34.
ABUTMENTS-SETTLEMENT:	8	-
ABUTMENTS-WINGWALLS:	7	The northeast wingwall has two hairline cracks up to 4' originating from the weep pipe. There is light to heavy vegetation growth and random joints with vine growth and missing joint material. The southeast and northeast wingwalls have areas of moderate to heavy graffiti. See photo 36. Cheekwall: The east cheek wall at the north abutment has a 1' high x 3" wide isolated hollow area. See field notes sheets 49 & 52-53 and photo 35.
PIERS/BENTS-CAPS:	6	Piers are prestressed concrete pile bents with cast-in-place concrete caps and random cast-in-place concrete columns. Rate cast-in-place concrete caps

		under this item. The cast-in place concrete pier caps have random vertical and horizontal hairline cracks with and without efflorescence and a few isolated 1/4" wide cracks. There are areas of map cracks, hollow areas up to 8' long x 3' high (pier 10, north elevation between beams B1 & B2), random areas of light scale and spalls up to 6' long x 2' high x 2-1/2" deep with and without exposed rebars (pier 17, north elevation between beams B3 & B4). The exposed rebars have up to 1/16" section loss. Random repaired concrete patches sounded hollow and have hairline cracks with and without efflorescence. See photos 37-39. Concrete Pedestals: The pedestals have random vertical and horizontal cracks, corner spalls up to 10" x 5" x 1-1/2" deep (with no undermining of the bearings). See field notes sheets 49, & 54-91.
PIERS/BENTS-PILE BENT:	6	Piers are prestressed concrete pile bents with cast-in-place concrete caps and random cast-in-place concrete columns. Rate prestressed concrete piles under this item. The prestressed concrete piles/columns have isolated vertical cracks up to 3' long x 1/16" wide, areas of map cracks, hollow areas up to 2' x 2' and spalls up to 8" x 7" x 2" deep with exposed rebars. There are random failed patches whtich have expsoed some of the cut off lift handles. See field notes sheets 49 & 54-91 and photo 37.
PIERS/BENTS-COLUMNS:	6	Piers are prestressed concrete pile bents with cast-in-place concrete caps and random cast-in-place concrete columns. Rate cast-in-place concrete columns under this item. There are reinforced concrete columns at the following locations: Pier 2, column 2; Pier 3, columns 4 & 5; Pier 4, columns 4 & 5; Pier 7, column 2; Pier 8, column 5; Pier 11, column 5; Pier 12 columns 1 & 5; Pier 13, column 4; Pier 17, column 5 and Pier 18, column 5. The reinforced concrete columns have random cracks open up to 3/16" wide, map cracks with and without efflorescence, isolated areas of minor pop-outs and shallow rebar. There are hollow areas up to 5' x full width (column 5 of pier 17, south elevation) and spalls up to 3' x 1' x 3.5" deep with exposed rebars having section loss up to 1/16" deep (column 5 of pier 8, south elevation). See field notes sheets 49 & 54-91 and photos 37, 40 & 41.
PIERS/BENTS-FOOTING:	N	Not visible.
PIERS/BENTS-SETTLMT:	8	-
EROSION-SCOUR:	6	Erosion: Rated 6. There are random erosion areas along both abutments which have exposed the footings up to 24' long x 2' wide x 6" high. The embankment under pier 19 has a 15' long x 2' wide x 1' deep eroded area between columns 1 and 3. Scour: Rated N. No substructure units in water. See field notes sheets 49-91 and photos 31, 32, and 42.
CONCRETE CRACK-SPALL:	6	See the above items.
STEEL CORROSION:	N	-
PAINT:	N	-
TIMBER DECAY:	N	-

COLLISION DAMAGE:	8	-
DEBRIS:	5	Heavy construction, sand and joint material debris up to 1' high on top of the pier caps and around the bearings. Light debris on the abutment seats. See photo 43.

---

61. CHANNEL & CHANNEL PROTECTION: Concrete lined trapazoidal channel. The channel is in good condition. **Overall Rating:** 7

	Rating	
CHANNEL SCOUR:	7	Concrete lined trapazoidal channel with minor changes in stream bed elevations. See field notes sheets 92-93 and photos 47-48.
EMBANKMENT EROSION:	7	The embankments are protected with stone rip-rap. See field notes sheets 92-93.
DEBRIS:	8	-
VEGETATION:	7	There is moderate to heavy vegetation along both embankments.
CHANNEL CHANGE:	7	No significant changes in stream bed elevations.
FENDER SYSTEM:	N	-
SPUR, DIKES & JETTIES:	N	-
RIP RAP:	8	Stone rip-rap at embankments. Note: the embankment under the west edge of the structure for the Park River flood plain is also lined with rip-rap.

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62. CULVERTS & RETAINING WALL: - **Overall Rating:** N

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65. APPROACH CONDITION Reinforced concrete slab with bituminous concrete pavement. The approaches are in satisfactory condition. **Overall Rating:** 6

	Rating	
APPROACH SLAB:	6	The approach slabs are paved over and not visible. Rating is based on the condition of the approach pavement.
RELIEF JOINTS:	N	-
APPROACH GUIDE RAIL:	6	Metal beam rail at the southwest and northeast corners have minor dents and scrapes. The southeast approach has a reinforced concrete parapet (along top of wingwall) and a metal beam rail attached to the end. No deficiencies noted. No approach railing at the northwest corner. There is a 10' long collision damage area at the southwest metal beam rail transition (previously

		noted collision damage at this location has been repaired since last inspection). See photo 44. See field notes sheets 4 & 13.
APPROACH PAVEMENT:	6	The bituminous concrete approach pavement exhibits random longitudinal and transverse cracks open up to 1/2" wide. See photos 45 & 46. Also, the longitudinal paving seams are open up to 1" wide. There is an isolated 1/2" wide crack for full width in the south approach pavement. See field notes sheets 4 & 13.
APPROACH EMBANKMENT:	8	-

TRAFFIC SAFETY FEATURES

	Rating	
BRIDGE RAILINGS:	Last Inspection: 1 Current: 1	Meets standards.
TRANSITIONS:	Last Inspection: 1 Current: 0	Substandard.
APPROACH GUARDRAILS:	Last Inspection: 1 Current: 0	Substandard. Not R-B 350 type.
APPR. GUARDRAIL ENDS:	Last Inspection: 1 Current: 1	Meets standards.

66. LOAD POSTING

	- Posted Loading -	
SINGLE UNIT (TONS):	Last Inspection: - Current: -	-
SEMI TRAILER (TONS):	Last Inspection: - Current: -	-
4 AXLE (TONS):	Last Inspection: - Current: -	-
3S2 (TONS):	Last Inspection: - Current: -	-

ADVANCE WARNING (Y/N):	N	-
LEGIBILITY:	N	-
VISIBILITY/LOCATION:	N	-

67. MISCELLANEOUS

	Rating	
MIN. VERT. UNDERCLEARANCE:	Last Inspection: 0' 0" Current: 0' 0"	-
POSTED CLR. UNDER BRIDGE:	Last Inspection: -' -" Current: -' -"	-
POSTED CLR. ON BRIDGE:	Last Inspection: -' -" Current: -' -"	-
ADVANCED WARNING (YES/NO):	No	-
SPEED LIMIT (IF ANY):	Last Inspection: - Current: -	-
CHARACTER OF TRAFIC:		Mixed.

ADDITIONAL NOTES:

- Bridge identification number is slightly damaged and obscurred by the approach railing anchorage. See photo 1.
- The bridge is logged from south to north with beam B1 at the west fascia and the Lower Smith School Brook (under span 13) flows from west to east, which is consistent with the previous inspection report and plans.
- A 60' snooper was used for the inspection (deployed off the east side and west side for spans 15 and 16).
- Only item 1 of the previously issued BMM No. 10-517 dated August 16, 2010 has been addressed and the remaining items have not been addressed yet. In addition, a Priority "B" flagging memorandum was sent to Bridge Safety during the inspection regarding the severely deteriorated east fascia B5 beams in spans 14, 15 & 16 at piers 13, 14 and 15 respectively. There is also a new maintenance memorandum associated with this report.
- Per last inspection report during the meeting on 10/04/06 between Bridge Safety, Bridge Design, Chief Engineer and FHWA, it has been decided to remove this bridge entirely and reconstruct an on-ramp (roadway) adjacent to the off-ramp approximately 300 feet to the west of the existing bridge.

ADDITIONAL COMMENTS: See the report table of contents.

Inspectors' Signatures:
1) DURGA VENUGA — Date: 6/26/12
2) CHRISTOPHER KOLASA — Date: 6/26/12
3) — Date: ----/----/-----
4) — Date: ----/----/-----

P.E. Signature: Aslam Siddiqi — Date: 06/26/2012

P.E. #: 22856 — Date: ----/----/-----

Reviewed by: conndot — Date: 9/5/12

NOTE: (1) This bridge will be removed under project # 63-601 list #15 JUN 26 2012 superstructur is rated "3".

(2) the BMN priority "B" # 12-313 was to repair or temporary support under the beam #5 ends in span # 16 at Pier # 15 was issued on 6/4/12 and the work is completed (Mr David HISCOX informed me that the work has completed) See attached e-mail copy. method of repair. D.T

(3) issued BRI-8 and requested monitoring the Beam end section Loss on fascia beam B5 in span 13, 14, 15 & 16 at pier # 14, 15 & 16 an 12 months cycle inspection. D.T 9/5/12

Tentative Advertising Date: 1/23/13
L.C.C.

AI Engineers, Inc.

JOB NO: 170-3013

BRIDGE NO: 03369

FIELD TIME LOG

DATE: See Below

SHEET 1 OF 106

DATE: 5/14/12
WEATHER: Sunny 73°F
EQUIP. LIST: AI White Truck
VISITOR: None
TC & NOTES: Shoulder closure on Rte. 504 NB. Inspected Spans 1-5 underside & piers 1-5 (100%).

DESCRIPTION		TIME AT SITE	
CREW:	MAI, CK	8:30 AM	to 3:00 PM
SNOOPER:	60' McClain	8:30 AM	to 3:00 PM
TMA TRUCK:	McClain	8:30 AM	to 3:00 PM
RR FLAGMAN:	—		to
STATE TROOPER:	C. Granger #196	8:30 AM	to 3:00 PM

DATE: 5/15/12
WEATHER: Cloudy/Rainy 65°F
EQUIP. LIST: AI White Truck
VISITOR: NONE
TC & NOTES: Shoulder closure on Rte. 504 NB. Inspected Spans 6-11 Underside & Piers 6-11 (100%)

DESCRIPTION		TIME AT SITE	
CREW:	MAI, CK	8:30 AM	to 3:00 PM
SNOOPER:	60' McClain	"	to "
TMA TRUCK:	McClain	"	to "
RR FLAGMAN:	—		to
STATE TROOPER:	M. Hassett #274	8:30 AM	to 3:00 PM

DATE: 5/16/12
WEATHER: Cloudy 65°F
EQUIP. LIST: AI White Truck
VISITOR: NONE
TC & NOTES: Shoulder closure on Rte. 504 NB. Inspected Spans 12, 13, 17-19 (100%), SP-20 (50%) & substructure.

DESCRIPTION		TIME AT SITE	
CREW:	MAI, CK	8:30 AM	to 3:30 PM
SNOOPER:	60' McClain	8:30 AM	to 3:30 PM
TMA TRUCK:	McClain	8:30 AM	to 3:30 PM
RR FLAGMAN:	—		to
STATE TROOPER:	K. Dowd #1339	8:30 AM	to 3:30 PM

DATE: 5/17/12
WEATHER: Sunny 72°F
EQUIP. LIST: AI White Truck
VISITOR: None
TC & NOTES: Shoulder closure on Rte. 504 NB. Inspected spans 14, 15, 16 & 20 (100%) & substr. (100%).

DESCRIPTION		TIME AT SITE	
CREW:	MAI, CK	8:30 AM	to 3:00 PM
SNOOPER:	60' McClain	8:30 AM	to 2:30 PM
TMA TRUCK:	McClain	8:30 AM	to "
RR FLAGMAN:	—		to
STATE TROOPER:	C. MELANSON #779	8:30 AM	to 2:30 PM

AI Engineers, Inc.

JOB NO: 170-3013

BRIDGE NO: 03369

FIELD TIME LOG

DATE: See below

SHEET 2 OF 106

DATE: 05/18/12

WEATHER: 70°F

EQUIP. LIST: AT White Van

VISITOR: None

TC & NOTES: Right Shoulder closure on Rt 504 NB. top of deck completed. Inspection completed.

	DESCRIPTION	TIME AT SITE
CREW:	D4, 2RI	8:30AM to 11:00AM
SNOOPER:	–	to
TMA TRUCK:	–	to
RR FLAGMAN:	–	to
TROOPER:	Alex Rios #246	8:30AM to 10:30AM

DATE:

WEATHER:

EQUIP. LIST:

VISITOR:

TC & NOTES:

	DESCRIPTION	TIME AT SITE
CREW:		to
SNOOPER:		to
TMA TRUCK:		to
RR FLAGMAN:		to
TROOPER:		to

DATE:

WEATHER:

EQUIP. LIST:

VISITOR:

TC & NOTES:

	DESCRIPTION	TIME AT SITE
CREW:		to
SNOOPER:		to
TMA TRUCK:		to
RR FLAGMAN:		to
TROOPER:		to

DATE:

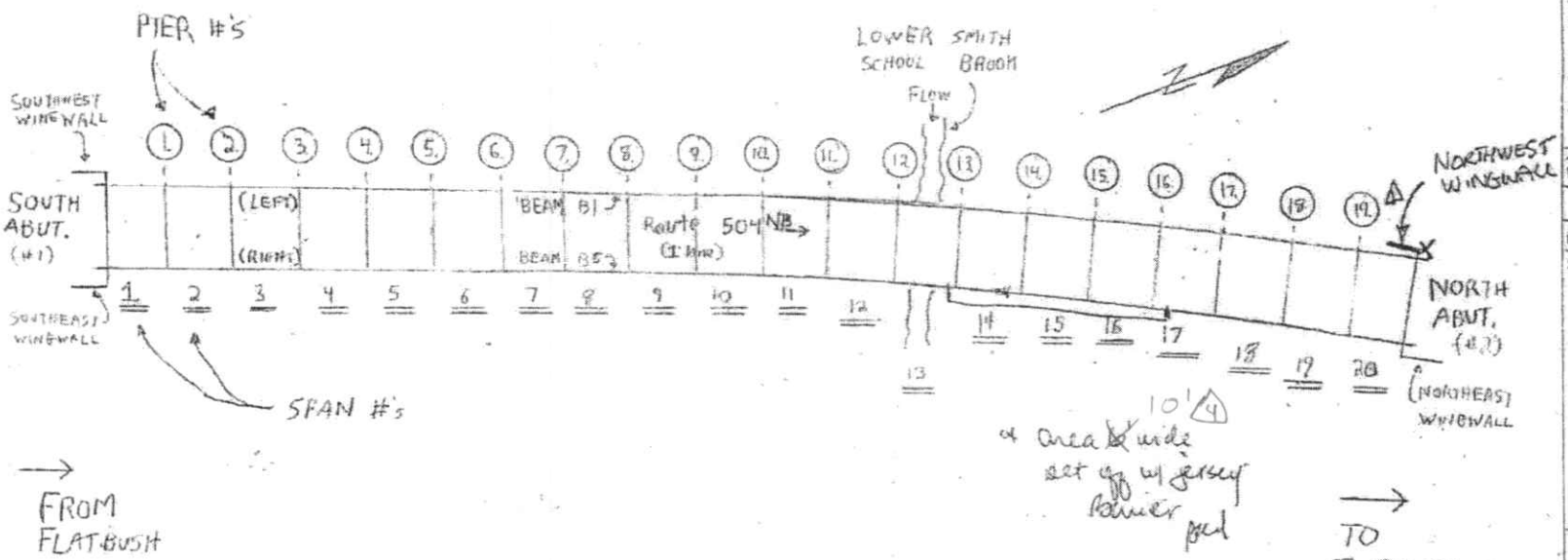
WEATHER:

EQUIP. LIST:

VISITOR:

TC & NOTES:

	DESCRIPTION	TIME AT SITE
CREW:		to
SNOOPER:		to
TMA TRUCK:		to
RR FLAGMAN:		to
TROOPER:		to



KEY PLAN

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, CK(AIENG)
3	5/18/10	GM, Ck (AI Eng)
2	7/8/08	MJW, MJW, JCW
1	6/12/06	GCS PG, SW

REVISIONS

DESCRIPTION: KEY PLAN

CREW: SRD, AR, MEB

FIELD NOTES

United International Corporation
Civil Engineers and Surveyors

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 03-24-04 SHEET 18 OF 19

3/106

Average West Curb Reveal: 3¾"
Average East Curb Reveal: 4"

UPDATE OR REV. NO. 3 — AI Engineers, Inc. Date: 5/20/2016 By: GM, CK

UPDATE OR REV. NO. 4 — AI Engineers, Inc. Date: 5/18/12 By: DY, ZRT

DESCRIPTION: TOP OF DECK

FIELD NOTES

United International Corporation
Civil Engineers and Surveyors

JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2/27/04 SHEET 12 of 14
CREW: SRD, MEB

4/106

(J) The light STD @ the South Approach on the East PPT has (4) 6" long gouges/scrapes up to 1" wide w/ a 10"x6"x ½" deep dent (3). No cracks were found.

(4) 10'L COLLISION DAMAGE @ TRANSITION

SOUTH ABUT.

BEARINGS

MBR (SUBST.)

PIER 1

PIER 2

Asphaltic Plug Joint (typ)

fill material (R) (4) leveled up to ½" shoulder only

(4) 20'L x 2"W

FW or SWL

½"W (4)

3'W x 50'L x ¼"W.

16"x16"x1" DP. POTHOLE in repaired

(4) 2½" x ½" (1)

(3) 1'H x 6'W x 1" D

(J) CONCRETE PARAPET AND W/RB 350 MBR @ END. (4)

(4) SCUPPERS CLEARED, ~~GRATES REPLACED~~ ~~Scupper grates are displaced up to 3/4" and the grates are 3/4" [illegible] up the 1½" below overlay~~

SPANS 1-2

(I) All Cracks in Bit Overlay Open up to ¼" W. (3)

(H) PAVING SEAM OPEN UP TO ½"W

~~pavement markings typical to all spans~~

DETERIORATION NOTES

(2) - SOME OF THE ADHESION & COHESION CRKS IN THE JOINTS HAVE BEEN REPAIRED SINCE LAST INSP (4)

(1) Adhesion separation between joint material and pavement

(2) Cracks in joint material (cohesion) (3)

(3) NEW ASPH PLUG IN TRAVELWAY

GENERAL NOTES

(A) VERY (4) Light ~~to moderate~~ debris and sand in scuppers. ✓

(B) The curbs exhibit random full height vertical cracks at random locations. ✓

(C) The parapets exhibit vertical hairline cracks up to X' FH (4) long at random locations (3). Also, light scaling @ rand. loc. w/&w/o efflo (4) MPCR (4)

(D) The protective paint coating on the curbs and parapets is peeling at random locations ✓

(E) The light standards and the junction cover boxes in the parapets exhibit light rust at random locations ✓

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA or pothole (typ)
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)

EFFLORESCENCE IS PRESENT

(4) (R) - Repaired

(F) JCT BOX COVERS MISSING SCREWS (TYP)

(G) LT. RAVELLING ALONG LT. SHLDR LINE

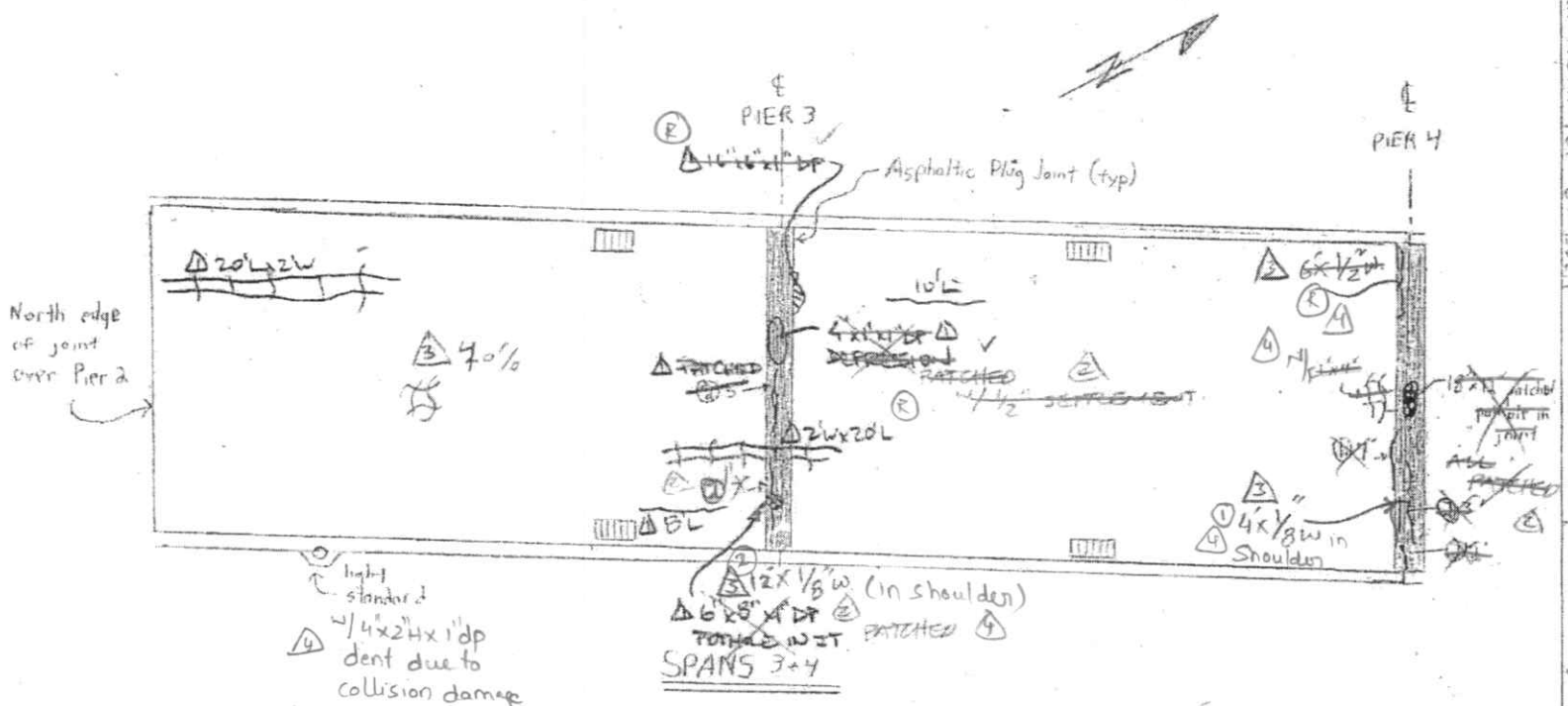
(4) (R) Num FH crks on the ppt extended to the top

United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: TOP OF DECK

JOB NO: 170-2357 | BRIDGE NO: 03369
DATE: 2/24/04 | SHEET ~~14~~ 15 ~~OF 15~~
CREW: SRD, MEB



DETERIORATION NOTES:

① See notes on ~~Sheet No. 13~~ SPANS 1 & 2

GENERAL NOTES:

Ⓐ See ~~Sheet No. 13~~ for notes typical to all Spans SPANS 1 & 2

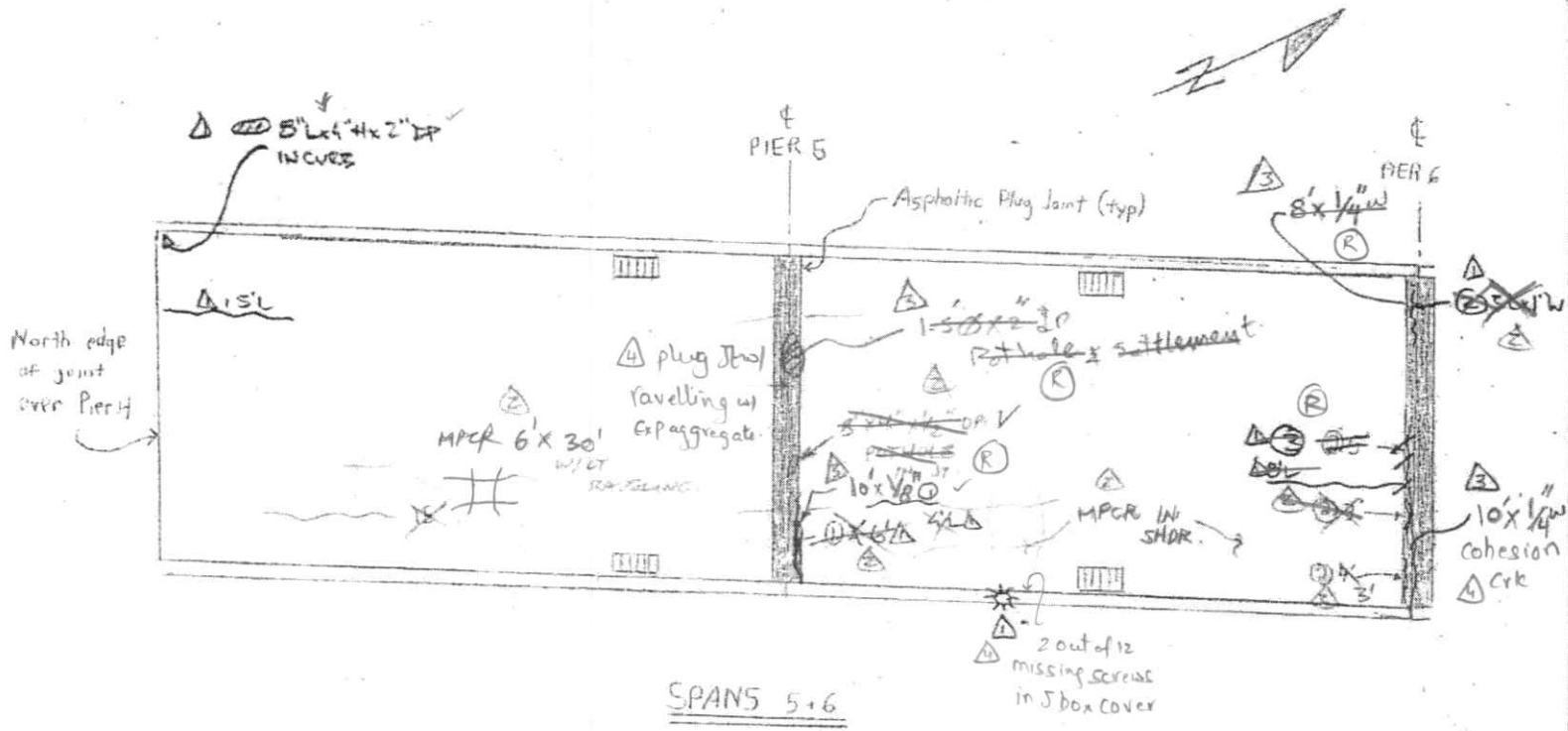
EGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- Scupper grate

NO.	DATE	DESCRIPTION
4	5/18/12	DY, ZRI (AI)
3	5/20/10	GM, CK (AI)
2	7/11/08	PHH, MJW, JW
1	6/13/06	GCS PG, SW

REVISIONS

5/106



DETERIORATION NOTES:

① See notes on ~~Sheet No. 13~~ △ SPANS 1 & 2

GENERAL NOTES:

Ⓐ See ~~Sheet No. 13~~ for notes typical to all Spans △ SPANS 1 & 2

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- Scupper grate △
- LIGHT STANDARD

NO.	DATE	DESCRIPTION
REVISIONS		
M	5/18/12	D4, 2RI (AJ)
3	5Pdlo	6M, Ck (AJ)
2	7/11/08	PMH, MJW, JW
1	6/13/06	GCS PG, SW

DESCRIPTION: Top of Deck

FIELD NOTES

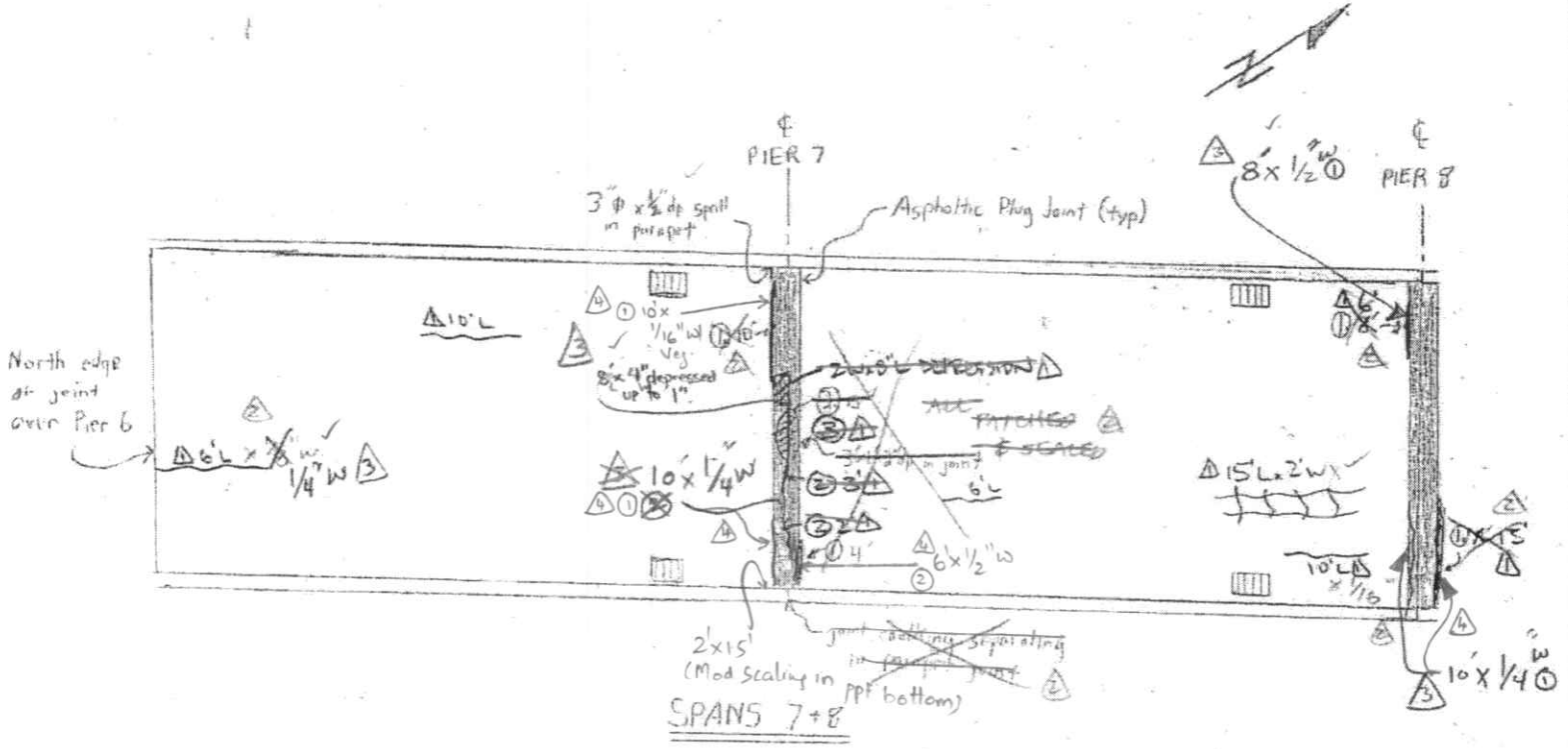
CREW: SRD, MEB

JOB NO: 170-2357 BRIDGE NO: 03367

DATE: 2/24/04 SHEET 15 OF 15 16

United International Corporation
Civil Engineers and Surveyors

6/106



DETERIORATION NOTES:

① See notes on ~~Sheet No. 13~~ SPANS 1 & 2

GENERAL NOTES:

Ⓐ See ~~Sheet No. 11~~ for notes typical to all Spans SPANS 1 & 2

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)

EFFLORESCENCE IS PRESENT

SCUPPER GRATE

NO.	DATE	DESCRIPTION
4	5/12/12	D4, 2RI (AF)
3	5/21/10	GM, CK (AT)
2	7/1/08	PHH, MJW, JW
1	6/13/06	GCS PG, SW

REVISIONS

DESCRIPTION: TOP OF DECK

FIELD NOTES

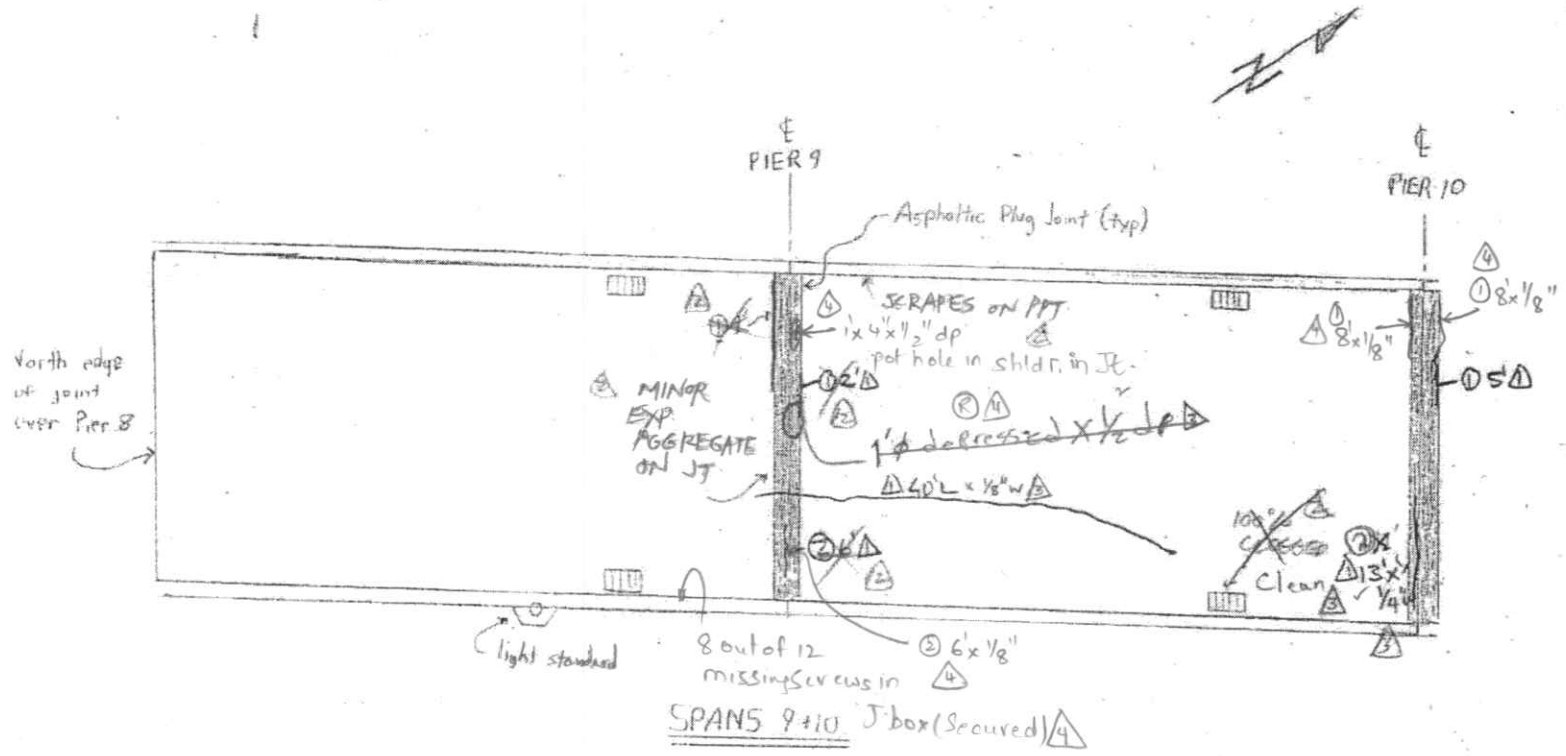
CREW: SRD, MEB

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2/24/04 SHEET 16 OF 15

United International Corporation
Civil Engineers and Surveyors

7/106



DETERIORATION NOTES:

① See notes on ~~Sheet No. 13~~ △ SPANS 1&2

GENERAL NOTES:

Ⓐ See ~~Sheet No. 13~~ for notes typical to all Spans △ SPANS 1&2

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MapC) OR HAIRLINE MAP CRACKS (HLMapC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- Scupper Grate

NO.	DATE	DESCRIPTION
4	5/18/12	DY, ZRI (AI ENG)
3	5/20/10	GM, CK (AI Eng)
2	7/11/08	PMH, MJW, JCW
1	6/13/06	GCS PG, SW

REVISIONS

DESCRIPTION: TOP OF DECK

FIELD NOTES

CREW: SRD, MEB

DATE: 3/24/04

JOB NO: 170-2357

SHEET 17 OF 116 SHTS

BRIDGE NO: 03369

United International Corporation
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8/106

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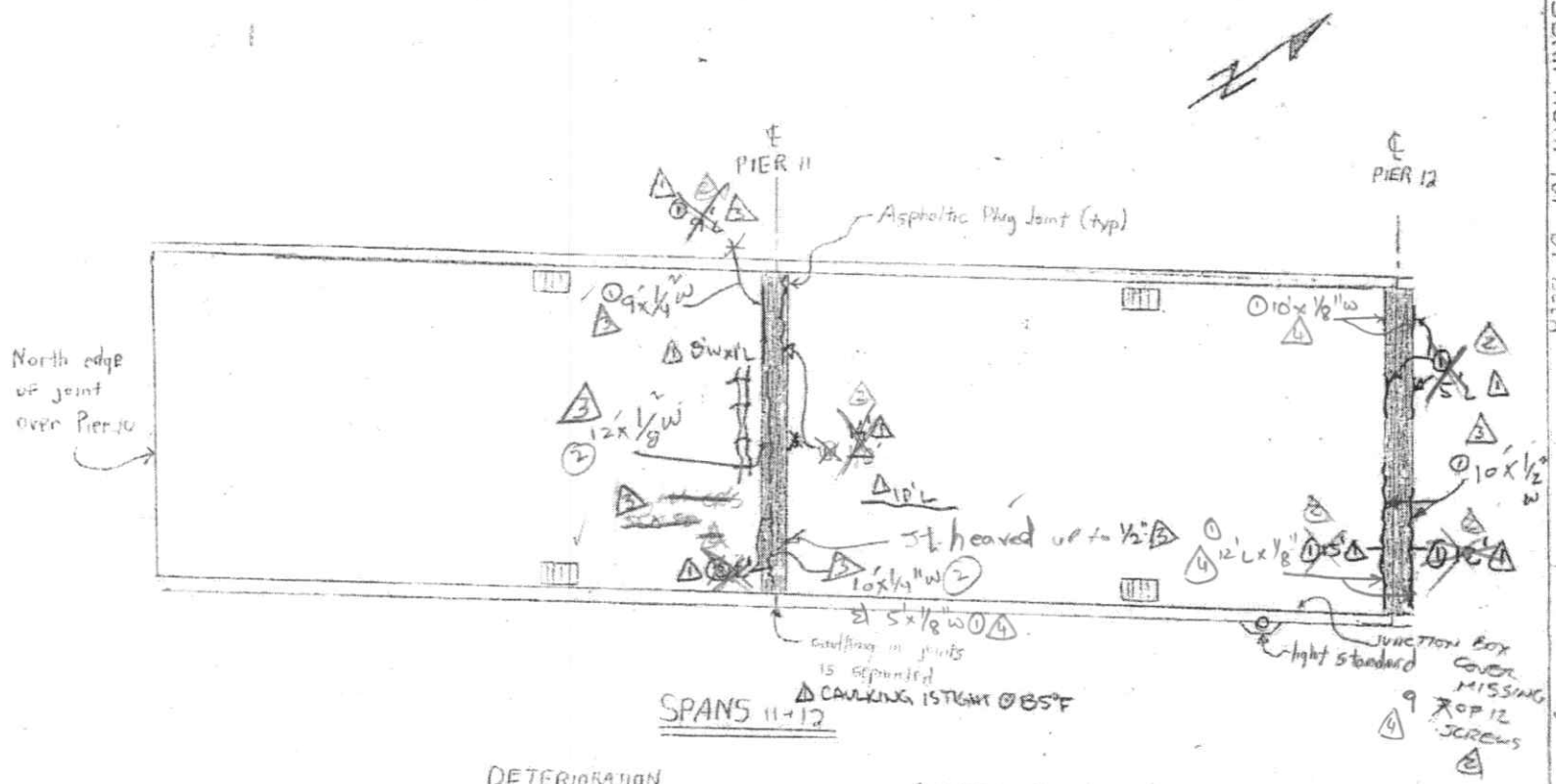
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: TOP OF DECK

JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2/24/04 SHEET 18 OF 115
CREW: SRD, MEB



SPANS 11+12

DETERIORATION NOTES:

① See notes on ~~Sheet No. 13~~
△ SPANS 1 & 2

GENERAL NOTES:

Ⓐ See ~~Sheet No. 15~~ for notes typical to all Spans
△ SPANS 1 & 2

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- Scupper Grate

NO.	DATE	DESCRIPTION
4	5/18/12	DY, ZRI (AI)
3	5/20/10	GM, CK (AI)
2	7/11/08	PHH, MJV, JW
1	6/13/06	GCS PG, SW

REVISIONS

United International Corporation
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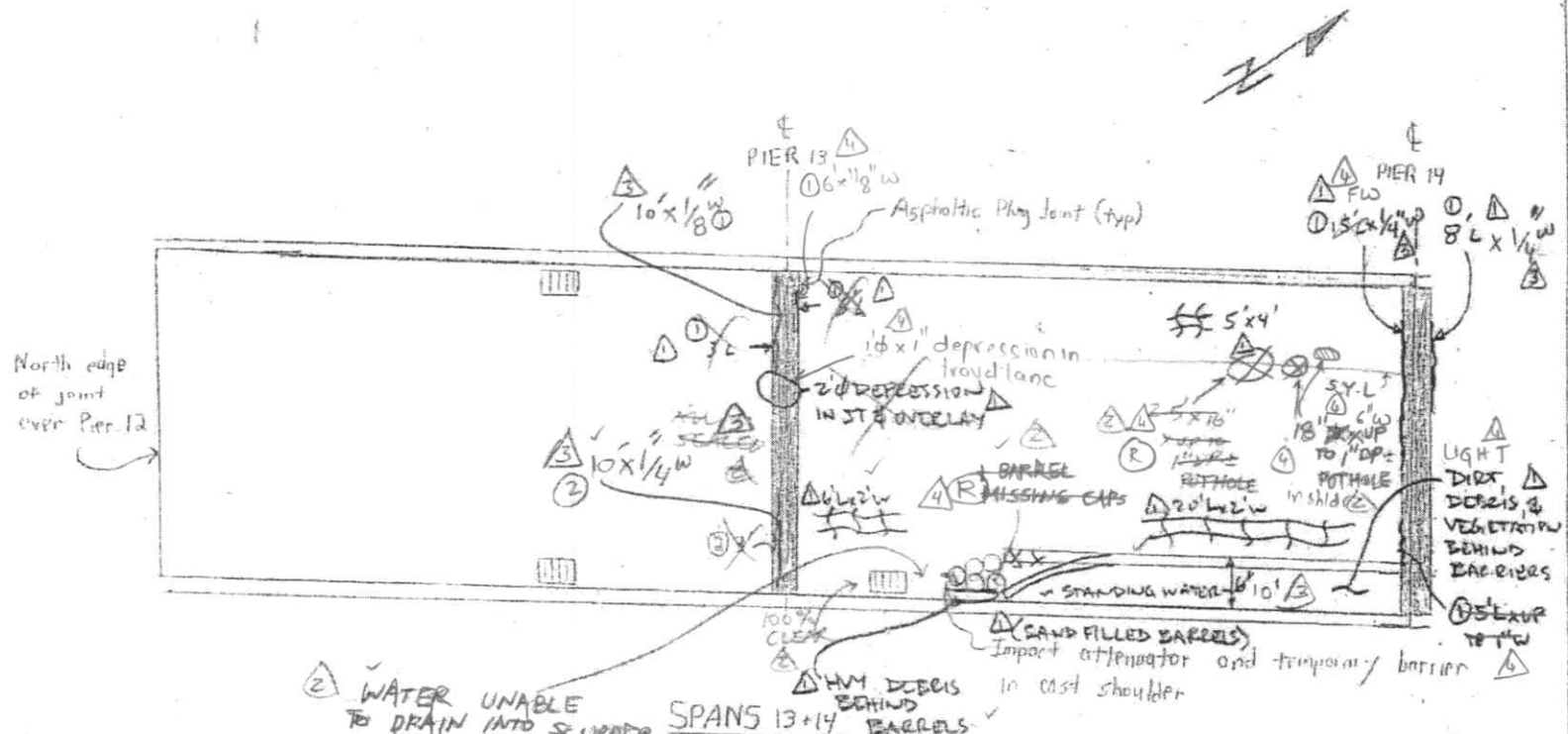
FIELD NOTES

DESCRIPTION: TOP OF DECK

JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2/24/04 SHEET 19 OF 115 20
CREW: SRD, MEB



SPANS 13+14

DETERIORATION NOTES:

① See notes on ~~Sheet No. 13~~ SPANS 1&2

GENERAL NOTES:

Ⓐ See ~~Sheet No. 13~~ for notes typical to all Spans SPANS 1&2

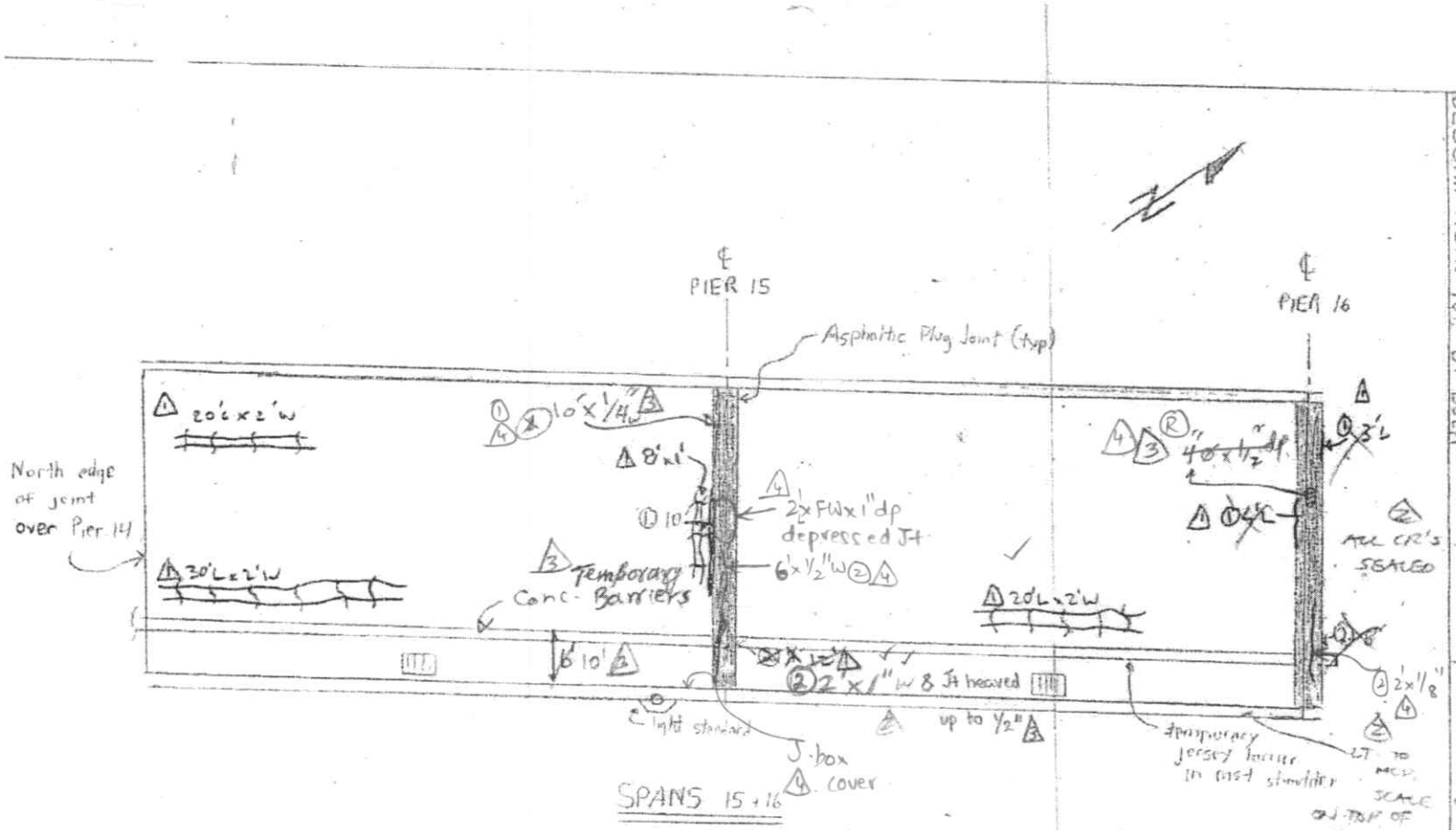
Ⓑ Num. spalls up to 4'x 15'x 4"dp w/ exp rebar on the temp Jersey barriers

EGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- Scupper Grate

NO.	DATE	DESCRIPTION
4	5/18/12	DY, ZRI (AI)
3	5/20/10	GM, CK (AI Eng)
2	7/11/08	PHH, MJW, JW
1	6/13/06	GCS PG, SW

REVISIONS



DETERIORATION NOTES:

① See notes on ~~Sheet No. 15~~ SPANS 1 & 2

GENERAL NOTES:

Ⓐ See ~~Sheet No. 13~~ for notes typical to all Spans
SPANS 1 & 2

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRAKRS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- Scupper hole

NO.	DATE	DESCRIPTION
4	5/18/12	DY, ZRI (AI)
3	5/24/11	GMCK (AI)
2	7/1/02	PHH, MJW, JW
1	6/13/06	GCS, PG, SW

REVISIONS

DESCRIPTION: TOP OF DECK

FIELD NOTES

CREW: SRD, MEB

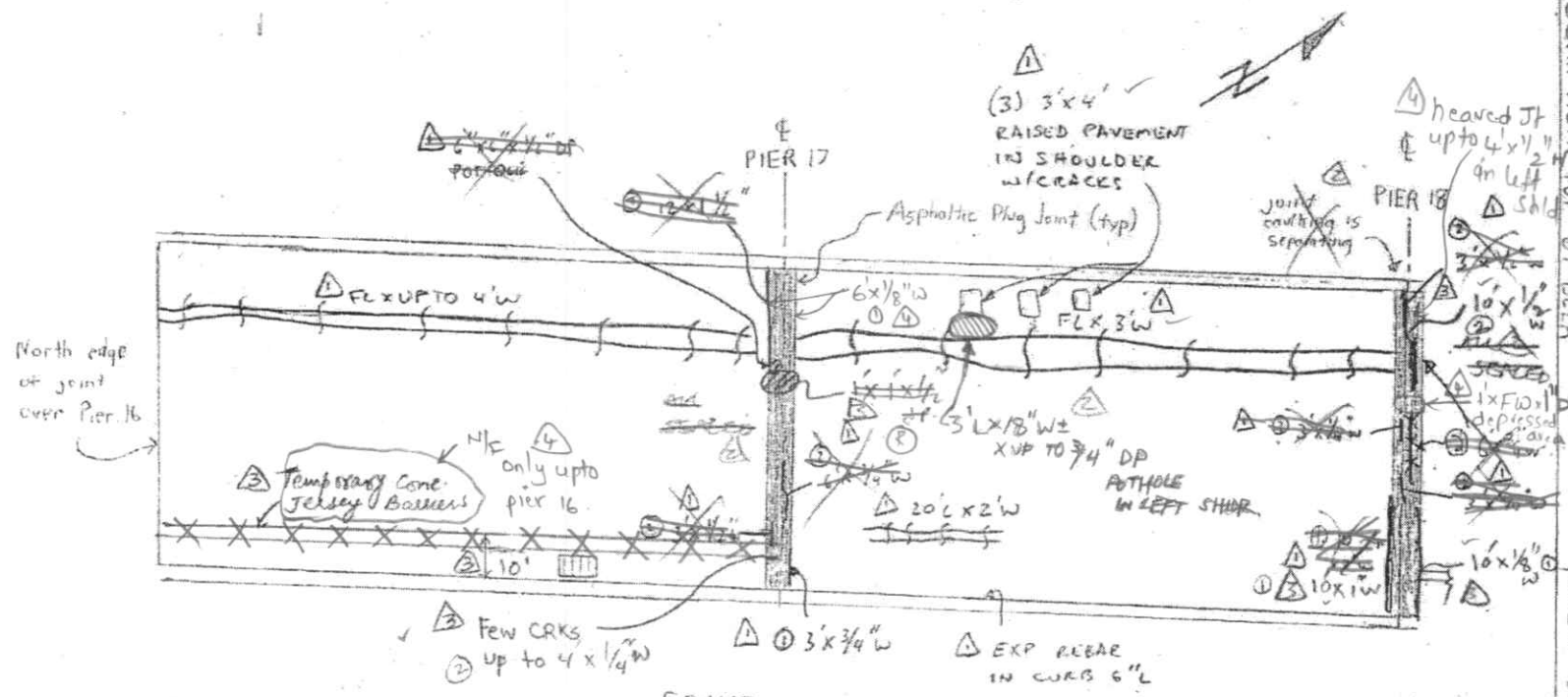
DATE: 3/24/04

JOB NO: 170-3357 BRIDGE NO: 03369

SHEET 20 OF ~~25~~ 24

United International Corporation
Civil Engineers and Surveyors

11/106



SPANS 17 & 18

DETERIORATION NOTES:

① See notes on ~~Sheet No. 13~~ ⚠ SPANS 1 & 2

GENERAL NOTES:

Ⓐ See ~~Sheet No. 13~~ for notes typical to all Spans ⚠ SPANS 1 & 2

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMAPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- Scupper grate

NO.	DATE	DESCRIPTION
⚠	5/18/12	PY, ZRI (AI)
⚠	5/26/10	GM, CK (AJ)
⚠	7/14/08	PMH, MDW, JW
⚠	6/13/06	GCS PG, SW

REVISIONS

DESCRIPTION: TOP OF DECK

FIELD NOTES

CREW: SRD, MEB

DATE: 2/24/04

JOB NO: 170-2357 BRIDGE NO: 03369

SHEET 24 OF 44 SHTS

United International Corporation
Civil Engineers and Surveyors

12/1/06

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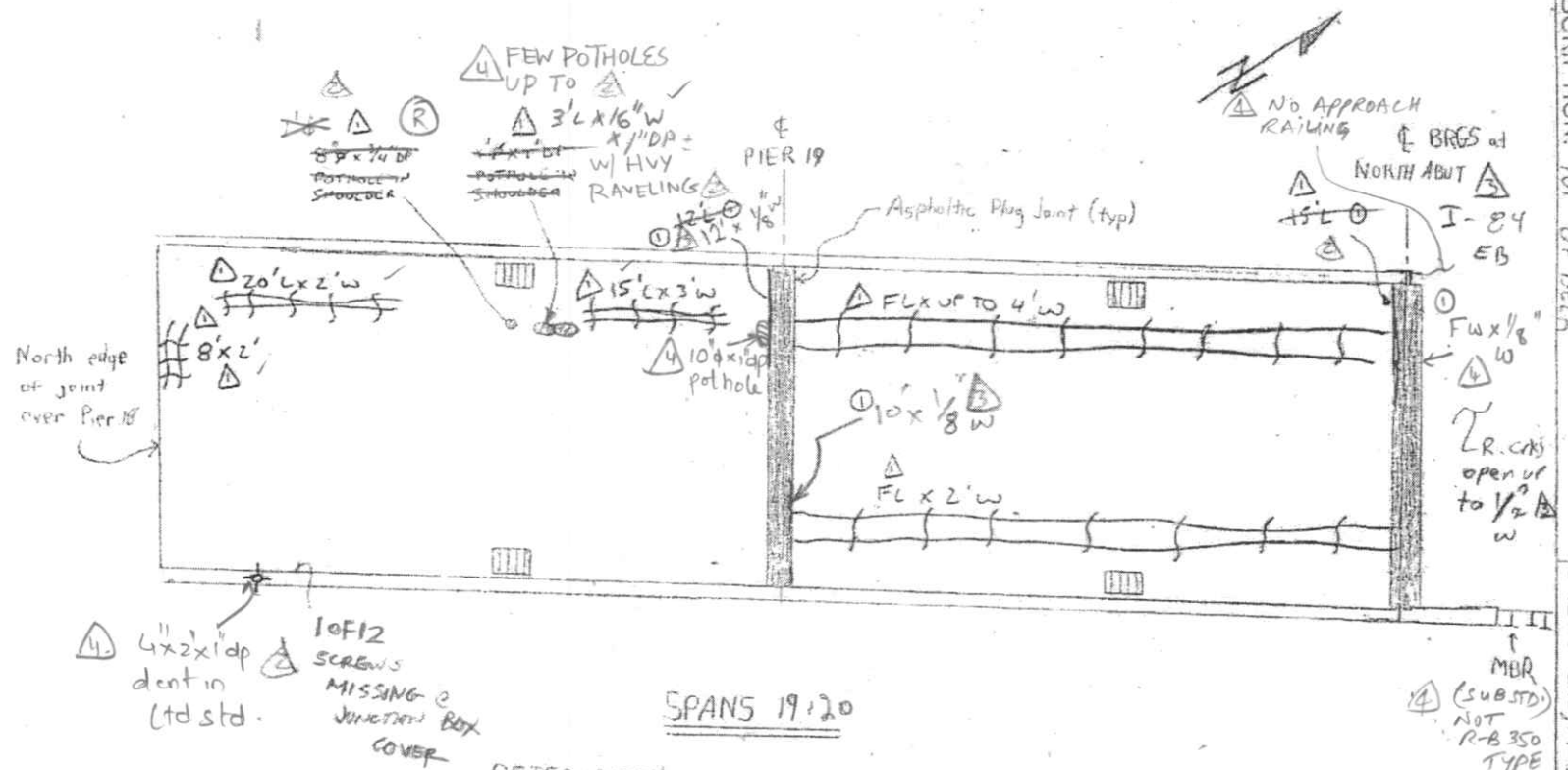
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: TOP OF DECK

JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2/24/04 SHEET ~~22 OF 115~~ 23
CREW: SRD, MEB



SPANS 19 & 20

DETERIORATION NOTES:

① See notes on ~~Sheet No. 13~~ SPANS 1 & 2

GENERAL NOTES:

① See ~~Sheet No. 13~~ for notes typical to all Spans SPANS 1 & 2

④ - THE MBR @ SOUTHWEST & NORTHEAST CORNERS EXHIBIT MINOR DENTS & SCRAPES.

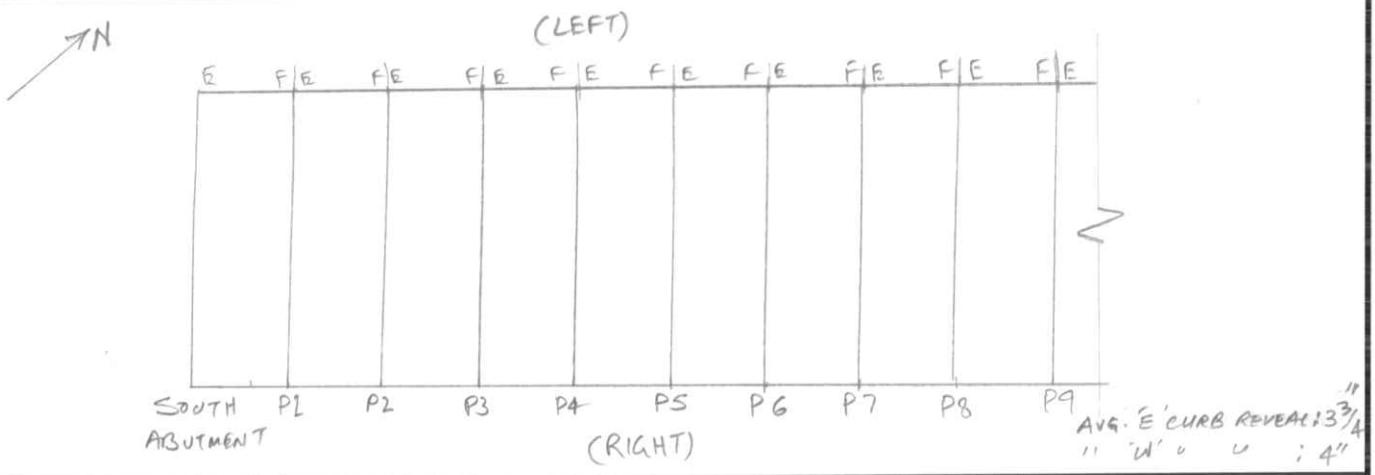
LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- Scupper grate
- LT STANDARD

NO.	DATE	DESCRIPTION
4	5/18/12	DY, 2RI (AI)
3	5/20/10	GM, CK (AI)
2	7/11/08	HH, JW, MJW
1	6/13/06	GCS PG, SW

REVISIONS

AI Engineers, Inc.	JOB NO: 170-3013	BRIDGE NO: 03369
	DATE: 5/18/12	SHEET 14 OF 106
FIELD NOTES	CREW:	
DESCRIPTION: PARAPET JOINT MEASUREMENTS	2RI, DY	

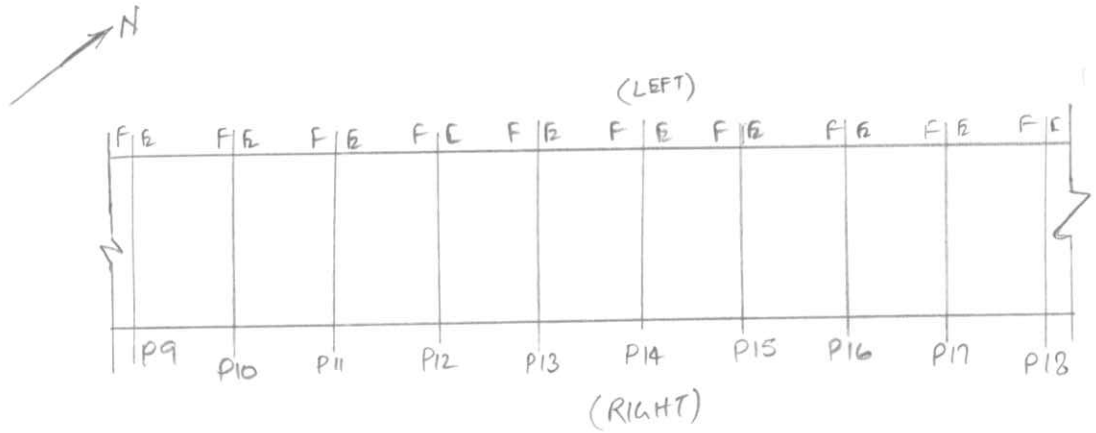


LOCATION	WINTER MEASUREMENT < 50° F				SUMMER MEASUREMENT > 50° F				JOINT TYPE
	LEFT	RIGHT	TEMP	DATE	LEFT	RIGHT	TEMP	DATE	
S. ABUT					3 1/8"	3 1/16"	70°F	5/8/12	PLUG
P. 1					3 7/16"	3"	70°F	5/8/12	PLUG
P. 2					3 1/8"	3"	70°F	5/8/12	PLUG
P. 3					3 1/16"	3 1/4"	70°F	5/8/12	PLUG
P. 4					3 3/8"	3 5/16"	70°F	5/8/12	PLUG
P. 5					2 15/16"	3 5/16"	70°F	5/8/12	PLUG
P. 6					3"	3 3/16"	70°F	5/8/12	PLUG
P. 7					3 1/2"	3 3/4"	70°F	5/8/12	PLUG
P. 8					3"	3 3/16"	70°F	5/8/12	PLUG
P. 9					3 1/16"	3 1/4"	70°F	5/8/12	PLUG

GENERAL NOTES:

- Measurements taken 3" down from the top of the parapet at chisel marks.
- Measurements taken from chamfer to be consistent with previous inspection (joints are sealed).

AI Engineers, Inc.	JOB NO: 170-3013	BRIDGE NO: 03369
	DATE: 5/18/12	SHEET 15 OF 106
FIELD NOTES	CREW: ZRI, DY	
DESCRIPTION: PARAPET JOINT MEASUREMENTS		

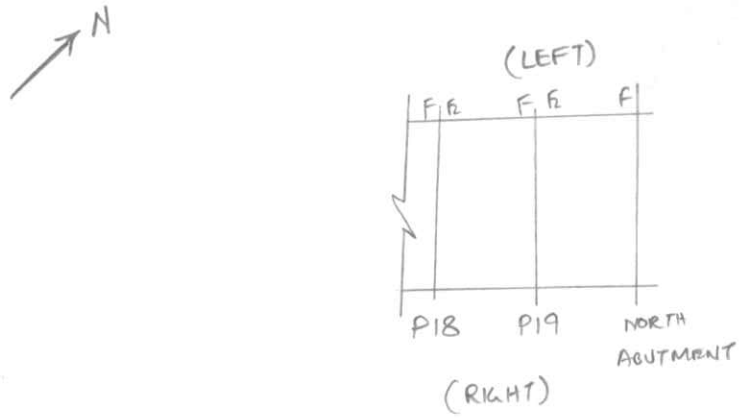


LOCATION	WINTER MEASUREMENT < 50° F				SUMMER MEASUREMENT > 50° F				JOINT TYPE
	LEFT	RIGHT	TEMP	DATE	LEFT	RIGHT	TEMP	DATE	
P. 10					3"	3 1/16"			
P. 11					3"	3 1/16"			
P. 12					3 1/8"	3 1/8"			
P. 13					2 15/16"	3 1/8"	70°F	05/18/2012	PMA
P. 14					3 1/8"	3 1/16"			
P. 15					3 3/8"	3 5/16"			
P. 16					2 7/8"	3 1/4"			
P. 17					3 1/8"	3 1/4"			
P. 18					3 3/8"	4 10/16"			

GENERAL NOTES:

- Measurements taken 3" down from the top of the parapet at chisel marks.
- Measurements taken from chamfer to chamfer to be consistent with previous inspection (joints are sealed).

AI Engineers, Inc.	JOB NO: 170-3013	BRIDGE NO: 03369
	DATE: 05/18/2012	SHEET 16 OF 106
FIELD NOTES	CREW: ZRI, DY	
DESCRIPTION: PARAPET JOINT MEASUREMENTS		



LOCATION	WINTER MEASUREMENT < 50° F				SUMMER MEASUREMENT > 50° F				JOINT TYPE
	LEFT	RIGHT	TEMP	DATE	LEFT	RIGHT	TEMP	DATE	
P.19					2 7/8"	3 3/8"	70°F	5/18/12	PLUG
N. ABUT					6 1/16"	3 1/16"	70°F	5/18/12	PLUG

GENERAL NOTES:

- Measurements taken 3" down from the top of the parapet at chisel marks
- Measurements taken from chamfer to chamfer to be consistent with previous inspection (joints are sealed).

REGULAR INSPECTION [X]
Date: 5/14/12

SUMMER / WINTER JOINT MEASUREMENTS [ ]
Summer 20__ __ Winter 20__ __

JOINT MEASUREMENTS

Form BRI-17, Rev. 9/03

Bridge No.: 03369 SR 504NB over Lower Smith School Brook **Town:** Hartford, CT

Measurements Taken By: ZRI

Measurements Reviewed By: DY

Deck Joint Location	Deck Joint Type	Effect Span (ft.)	Previous Measurements Temp °F	Previous Measurements Date: 5/20/10 Left (in.)	Previous Measurements Date: 5/20/10 Right (in.)	Current Measurements Temp °F	Current Measurements Date: 5/18/12 Left (in.)	Current Measurements Date: 5/18/12 Right (in.)	Differential Movements Actual Left (in.)	Differential Movements Actual Right (in.)	Differential Movements by Formula	Comments	Difference Between Actual & Calc'd Mov't Left (in.)	Difference Between Actual & Calc'd Mov't Right (in.)
S. Abut.	Plug	78.5	70	3- 2/16	3- 1/16	70	3- 2/16	3- 1/16	0	0	0	Expansion	0	0
Pier 1	Plug	77.0	70	3- 7/16	3	70	3- 7/16	3	0	0	0	Fixed/Expansion	0	0
Pier 2	Plug	77.0	70	3- 2/16	3- 2/16	70	3- 2/16	3	0	2/16	0	Fixed/Expansion	0	- 2/16
Pier 3	Plug	77.0	70	3- 1/16	3- 4/16	70	3- 1/16	3- 4/16	0	0	0	Fixed/Expansion	0	0
Pier 4	Plug	77.0	70	3- 6/16	3- 5/16	70	3- 6/16	3- 5/16	0	0	0	Fixed/Expansion	0	0
Pier 5	Plug	77.0	70	2-15/16	3- 5/16	70	2-15/16	3- 5/16	0	0	0	Fixed/Expansion	0	0
Pier 6	Plug	77.0	70	3	3- 4/16	70	3	3- 3/16	0	1/16	0	Fixed/Expansion	0	- 1/16
Pier 7	Plug	77.0	70	3- 8/16	3-12/16	70	3- 8/16	3-12/16	0	0	0	Fixed/Expansion	0	0
Pier 8	Plug	77.0	70	3- 1/16	3- 2/16	70	3	3- 3/16	1/16	- 1/16	0	Fixed/Expansion	- 1/16	1/16

1. The "Deck Joint Type" should be "plug" for Asphaltic Plug joints, "strip" for Strip Seals, "seg." for Segmental Joints, etc.
2. The "Effective Span" is the length contributing to expansion at the joint. This should be 0 at fixed joints of single span bridges.

Reviewer's Comments: Measurments taken 3" down from the top of the parapet at the chisel marks.

Measuements taken from the chamfer to chamfer to be consistent with previous inspection (joints are sealed).

Summer / Winter Joint Measurements: (IF ADDING OR REMOVING, SEND A COPY OF THIS FORM TO SUPERVISOR FOR REVIEW/APPROVAL WITH REASONS FOR CHANGE INDICATED)

[ ] **ADD** TO SUMMER/WINTER LIST SUPERVISOR APPROVAL: _____

[ ] **REMOVE** FROM SUMMER/WINTER LIST MASTER LIST ENTRY: _____

17/156

REGULAR INSPECTION [X]
Date: 5/14/12

SUMMER / WINTER JOINT MEASUREMENTS [ ]
Summer 20__ __ Winter 20__ __

JOINT MEASUREMENTS

Form BRI-17, Rev. 9/03

Bridge No.: 03369 SR 504NB over Lower Smith School Brook **Town:** Hartford, CT

Measurements Taken By: ZRI

Measurements Reviewed By: DY

Deck Joint Location	Deck Joint Type	Effect Span (ft.)	Previous Measurements Temp °F	Previous Measurements Date: 5/20/10 Left (in.)	Previous Measurements Date: 5/20/10 Right (in.)	Current Measurements Temp °F	Current Measurements Date: 5/18/12 Left (in.)	Current Measurements Date: 5/18/12 Right (in.)	Differential Movements Actual Left (in.)	Differential Movements Actual Right (in.)	Differential Movements by Formula	Comments	Difference Between Actual & Calc'd Mov't Left (in.)	Difference Between Actual & Calc'd Mov't Right (in.)
Pier 9	Plug	78.5	70	3- 2/16	3- 4/16	70	3- 1/16	3- 4/16	1/16	0	0	Fixed/Expansion	- 1/16	0
Pier 10	Plug	77.0	70	3	3- 1/16	70	3	3- 1/16	0	0	0	Fixed/Expansion	0	0
Pier 11	Plug	77.0	70	3- 1/16	3- 2/16	70	3	3- 1/16	1/16	1/16	0	Fixed/Expansion	- 1/16	- 1/16
Pier 12	Plug	75.8	70	3- 2/16	3- 2/16	70	3- 2/16	3- 2/16	0	0	0	Fixed/Expansion	0	0
Pier 13	Plug	75.8	70	2-15/16	3- 2/16	70	2-15/16	3- 2/16	0	0	0	Fixed/Expansion	0	0
Pier 14	Plug	75.8	70	3- 2/16	3- 1/16	70	3- 2/16	3- 1/16	0	0	0	Fixed/Expansion	0	0
Pier 15	Plug	75.8	70	3- 6/16	3- 6/16	70	3- 6/16	3- 5/16	0	1/16	0	Fixed/Expansion	0	- 1/16
Pier 16	Plug	77.0	70	2-14/16	3- 6/16	70	2-14/16	3- 4/16	0	2/16	0	Fixed/Expansion	0	- 2/16
Pier 17	Plug	77.0	70	3- 2/16	3- 4/16	70	3- 2/16	3- 4/16	0	0	0	Fixed/Expansion	0	0

1. The "Deck Joint Type" should be "plug" for Asphaltic Plug joints, "strip" for Strip Seals, "seg." for Segmental Joints, etc.
2. The "Effective Span" is the length contributing to expansion at the joint. This should be 0 at fixed joints of single span bridges.

Reviewer's Comments: Measurments taken 3" down from the top of the parapet at the chisel marks.

Measuements taken from the chamfer to chamfer to be consistent with previous inspection (joints are sealed).

Summer / Winter Joint Measurements: (IF ADDING OR REMOVING, SEND A COPY OF THIS FORM TO SUPERVISOR FOR REVIEW/APPROVAL WITH REASONS FOR CHANGE INDICATED)

[ ] **ADD** TO SUMMER/WINTER LIST SUPERVISOR APPROVAL: _____

[ ] **REMOVE** FROM SUMMER/WINTER LIST MASTER LIST ENTRY: _____

991/181

REGULAR INSPECTION [X]
Date: 5/14/12

SUMMER / WINTER JOINT MEASUREMENTS [ ]
Summer 20__ __ Winter 20__ __

JOINT MEASUREMENTS

Form BRI-17, Rev. 9/03

Bridge No.: 03369 SR 504NB over Lower Smith School Brook **Town:** Hartford, CT

Measurements Taken By: ZRI

Measurements Reviewed By: DY

Deck Joint Location	Deck Joint Type	Effect Span (ft.)	Previous Measurements Temp °F	Previous Measurements Date: 5/20/10 Left (in.)	Previous Measurements Date: 5/20/10 Right (in.)	Current Measurements Temp °F	Current Measurements Date: 5/18/12 Left (in.)	Current Measurements Date: 5/18/12 Right (in.)	Differential Movements Actual Left (in.)	Differential Movements Actual Right (in.)	Differential Movements by Formula	Comments	Difference Between Actual & Calc'd Mov't Left (in.)	Difference Between Actual & Calc'd Mov't Right (in.)
Pier 18	Plug	77.0	70	3- 6/16	4-11/16	70	3- 6/16	4-10/16	0	1/16	0	Fixed/Expansion	0	- 1/16
Pier 19	Plug	77.0	70	2-14/16	3- 6/16	70	2-14/16	3- 6/16	0	0	0	Fixed/Expansion	0	0
N. Abut	Plug	78.5	70	6- 1/16	3- 1/16	70	6- 1/16	3- 1/16	0	0	0	Fixed	0	0

1. The "Deck Joint Type" should be "plug" for Asphaltic Plug joints, "strip" for Strip Seals, "seg." for Segmental Joints, etc.
2. The "Effective Span" is the length contributing to expansion at the joint. This should be 0 at fixed joints of single span bridges.

Reviewer's Comments: Measurments taken 3" down from the top of the parapet at the chisel marks.

Measuements taken from the chamfer to chamfer to be consistent with previous inspection (joints are sealed).

Summer / Winter Joint Measurements: (IF ADDING OR REMOVING, SEND A COPY OF THIS FORM TO SUPERVISOR FOR REVIEW/APPROVAL WITH REASONS FOR CHANGE INDICATED)

[ ] **ADD** TO SUMMER/WINTER LIST SUPERVISOR APPROVAL: _____

[ ] **REMOVE** FROM SUMMER/WINTER LIST MASTER LIST ENTRY: _____

9/1/06

United International Corporation
Civil Engineers and Surveyors

20/106

FIELD NOTES	JOB NO: 30-2357	BRIDGE NO: 53369
	DATE: 3-24-04	SHEET ~~26 OF 115~~ ~~28~~
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING	CREW: SAD, AR, MEB	19/~~20~~ ~~30~~/151

UNDERSIDE OF DECK AND FRAMING NOTES

GENERAL NOTES:

(A) Random concrete patches on the undersides of deck and bottom flanges of beams were checked and sounded with no deficiencies found except as noted

(B) There are projecting rebar rods and pattern rust spots from rebar in the decks and haunches at random locations

(C) ~~There are hairline cracks between the deck haunches and diaphragms, up to the full length of the diaphragms at random locations,~~ 1 CONSTRUCTION JOINTS.

(D) The elastomeric bearing pads are bulging up to 1" 3 x FL 4 at all locations and exhibit cracks and splits as noted 2 along their top edges 4

(E) None of the PVC Deck weep pipes extend below the beam bottom flange, but do not appear to contribute to deterioration of the structure. 4

DETERIORATION NOTES:

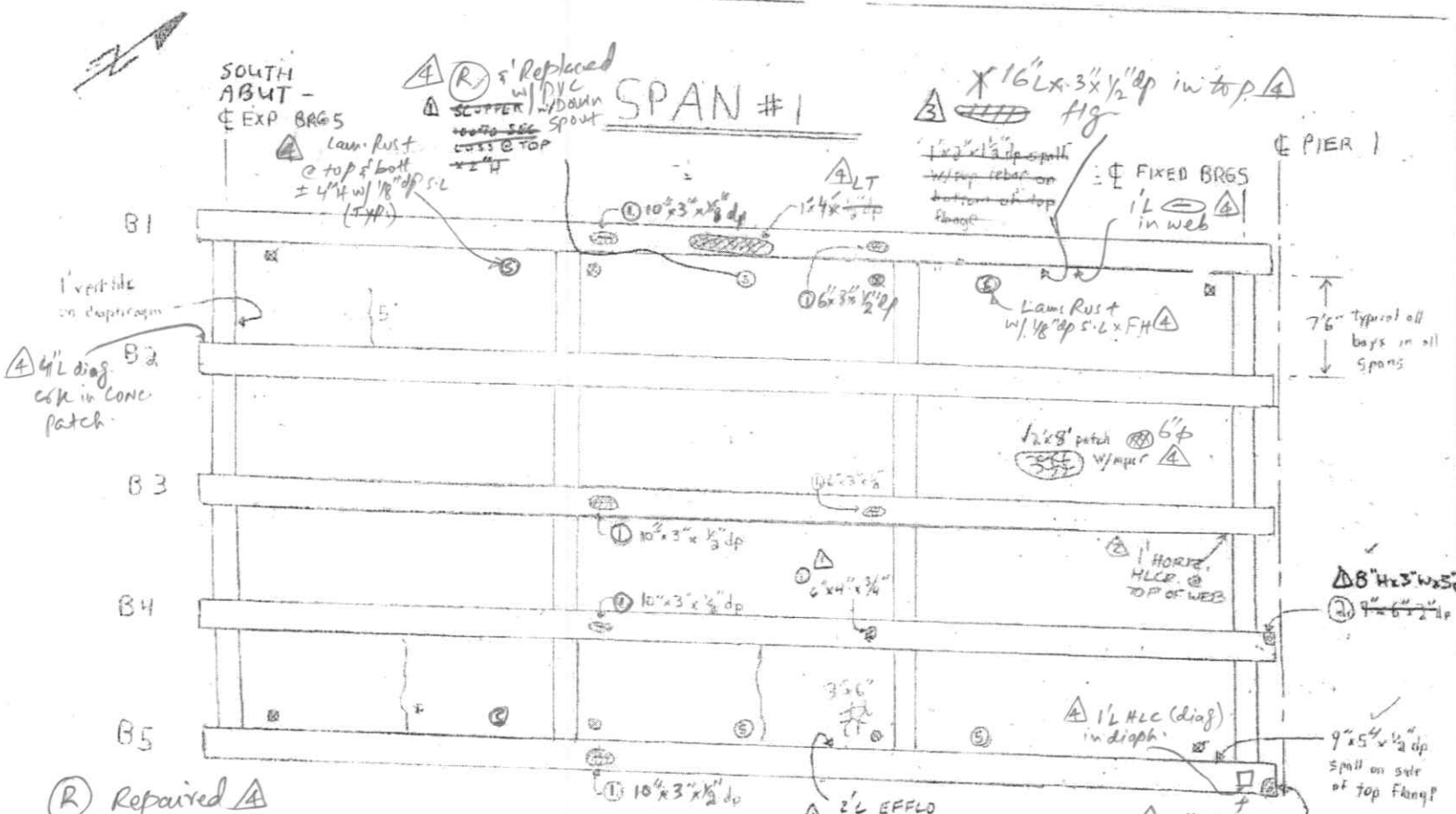
(1) = Spall on the underside of the bottom flange of a beam with exposed ~~strap~~ 1 HOLD DOWN ANCHOR

(2) = Spall on the end or side of the bottom flange as noted, size indicated

(3) = Split or crack in the side of elastomeric bearing pads, size indicated.

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, CK (AI)
3	5/18/12	GM, CK (AI)
2	7/4/08	(HAKS) MJW, PHH
1	6/12/06	GCS PG, SW

REVISIONS



LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- PVC DECK WEEP PIPE
- SCUPPER DOWNSPOUT

DETERIORATION NOTES

① See notes on ~~Sheet No. 26~~ U/S OF DECK & FRAMING SHEET

GENERAL NOTES: U/S OF DECK & FRAMING SHEET

Ⓐ See ~~Sheet No. 26~~ for notes typical to all spans

Ⓑ ~~PREVIOUSLY NOTED HAIRLINE MAP CRACKING ADJACENT THE SOUTH ABUTMENT BETWEEN BEAMS B1 AND B3 WAS NOT FOUND. THIS DETERIORATION THOUGHT TO BE SPALLING RATHER THAN CRACKING. IN ADDITION, PREVIOUS NOTES INDICATE NO EFFLO BUT COMPARES THE AREA OF DETERIORATION BASED UPON THESE BEING EFFLO.~~

UPDATE OR REV. NO	AI Engineers, Inc.
	Date: 5/18/2016
3	By: GM, CK
4	BY: MAI, CK

5/14/12

United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

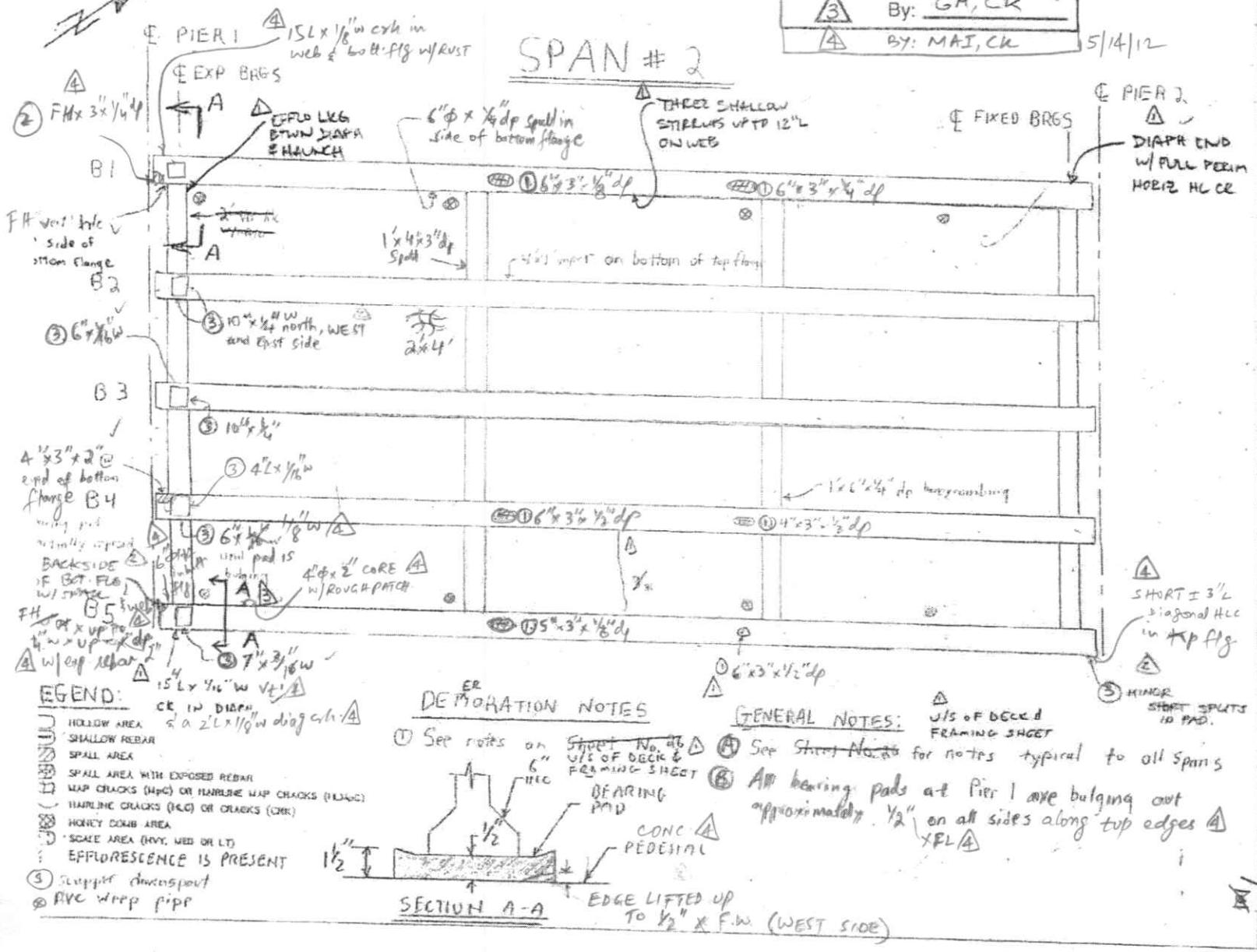
JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2-24-04 SHEET 27 OF 115
CREW: SRD, AR

GLS 6/12/06 PG, SW
HAKS MJW, MH 7/3/08

21/106

UPDATE OR REV. NO. | AI Engineers, Inc.
Date: 5/18/2-6
3 By: GM, CK
4 BY: MAI, CK 5/14/12

SPAN # 2



EGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- (5) Scupper downspout
- ⊗ RVC weep pipe

DEMORATION NOTES

(1) See notes on ~~Sheet No. 26~~ U/S OF DECK & FRAMING SHEET

SECTION A-A

EDGE LIFTED UP TO 1/2" x F.W. (WEST SIDE)

GENERAL NOTES:

U/S OF DECK & FRAMING SHEET

(A) See ~~Sheet No. 26~~ for notes typical to all Spans

(B) All bearing pads at Pier 1 are bulging out approximately 1/2" on all sides along top edges XFL

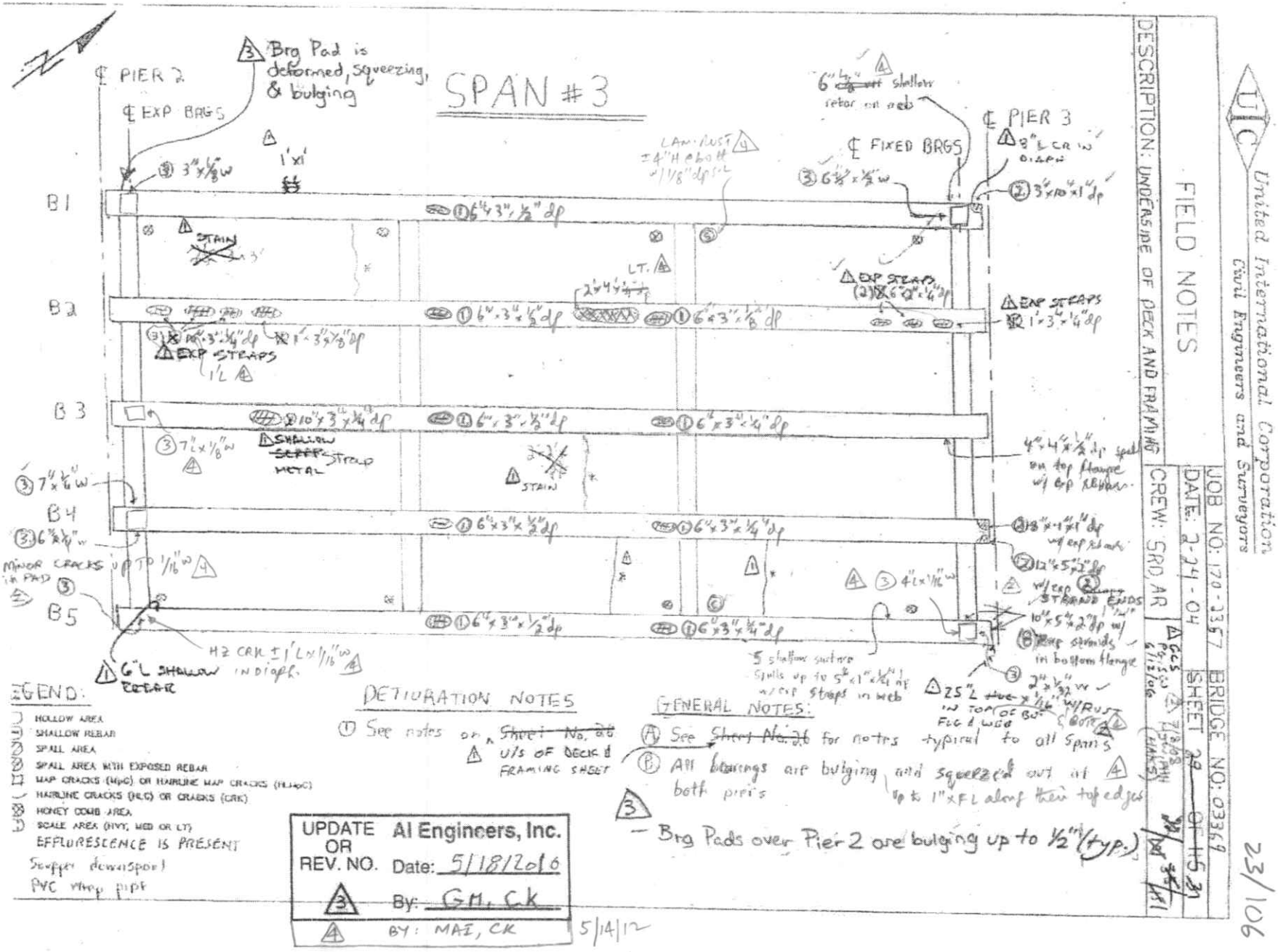
UIC United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2-24-04 SHEET 26 OF 15-36
CREW: SRD, AR
GCS 6/12/06 PG, SW
9/8/08 (HAKS) MJW, PHH

22/106



LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)

EFFLORESCENCE IS PRESENT

Scupper downspout

PVC weep pipe

DETURATION NOTES

1. See notes on ~~Sheet No. 20~~ U/S OF DECK & FRAMING SHEET

GENERAL NOTES:

A. See ~~Sheet No. 26~~ for notes typical to all Spans

B. All bearings are bulging and squeezed out at both piers up to 1"×FL along their top edges

3 – Brg Pads over Pier 2 are bulging up to ½" (typ.)

UPDATE OR REV. NO.	Al Engineers, Inc. Date: 5/18/2016
3	By: GM, CK
4	BY: MAI, CK 5/14/12

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

FIELD NOTES

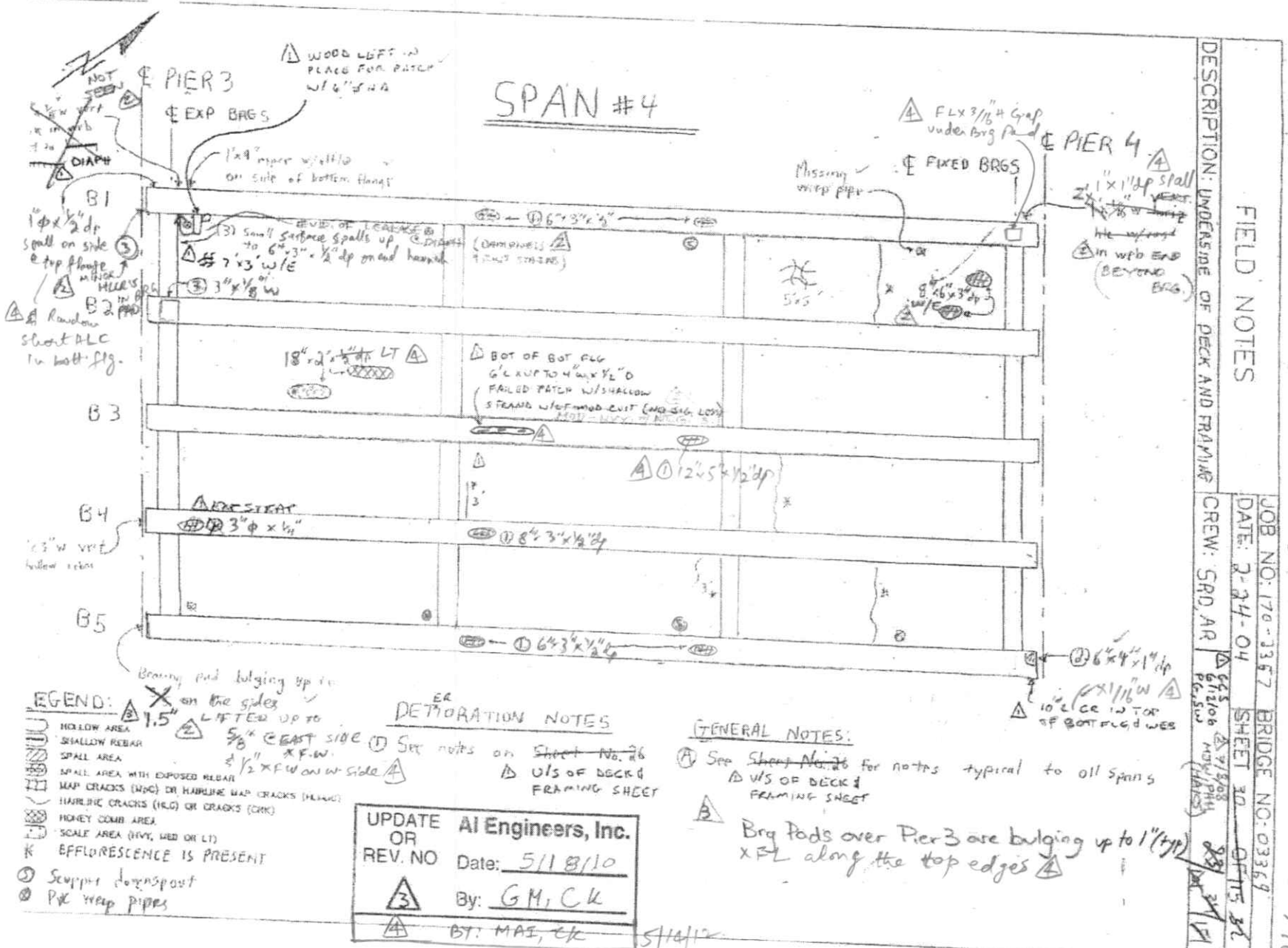
CREW: SRD, AR

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET 29 OF 45 31

United International Corporation
Civil Engineers and Surveyors

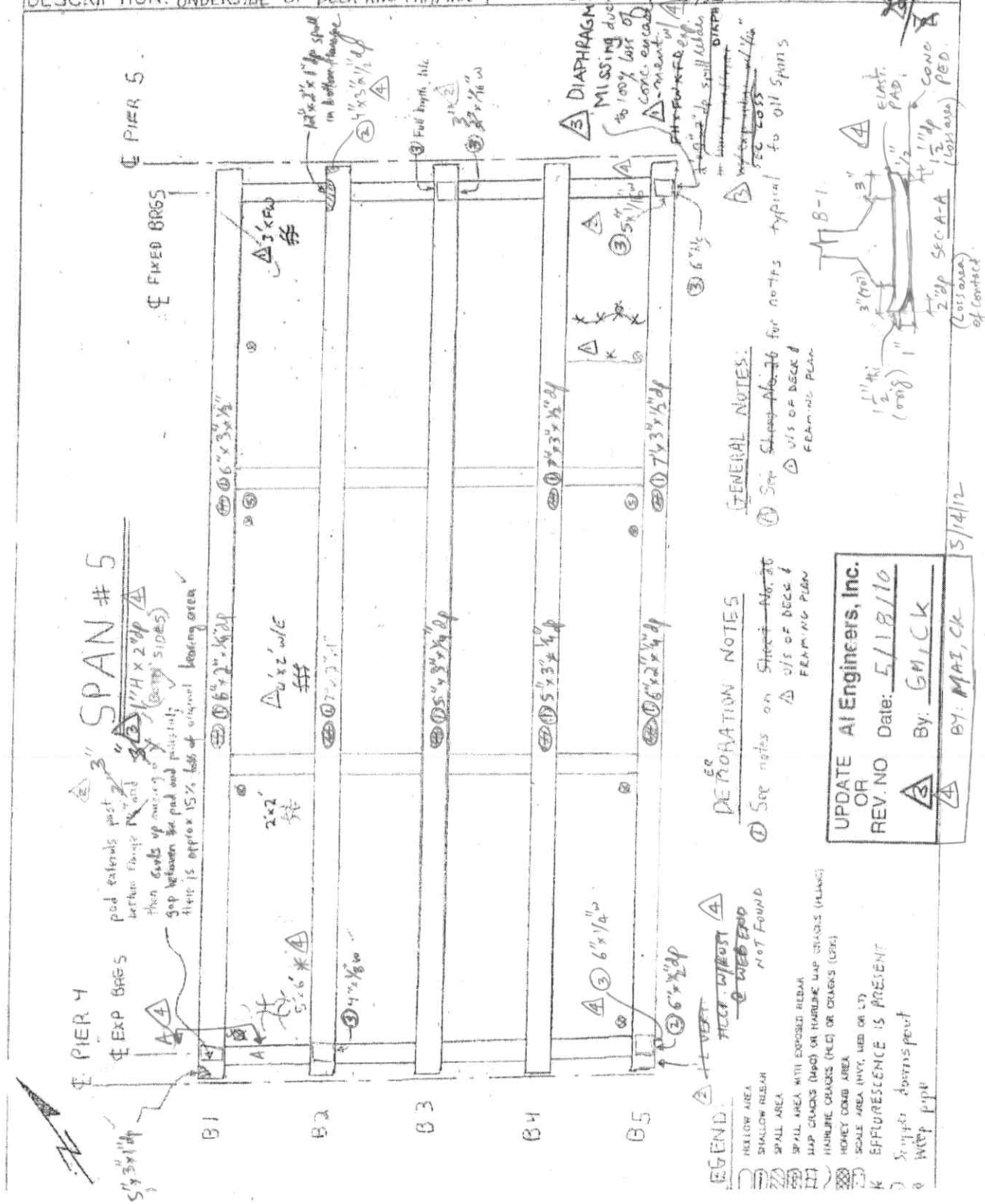
23/106

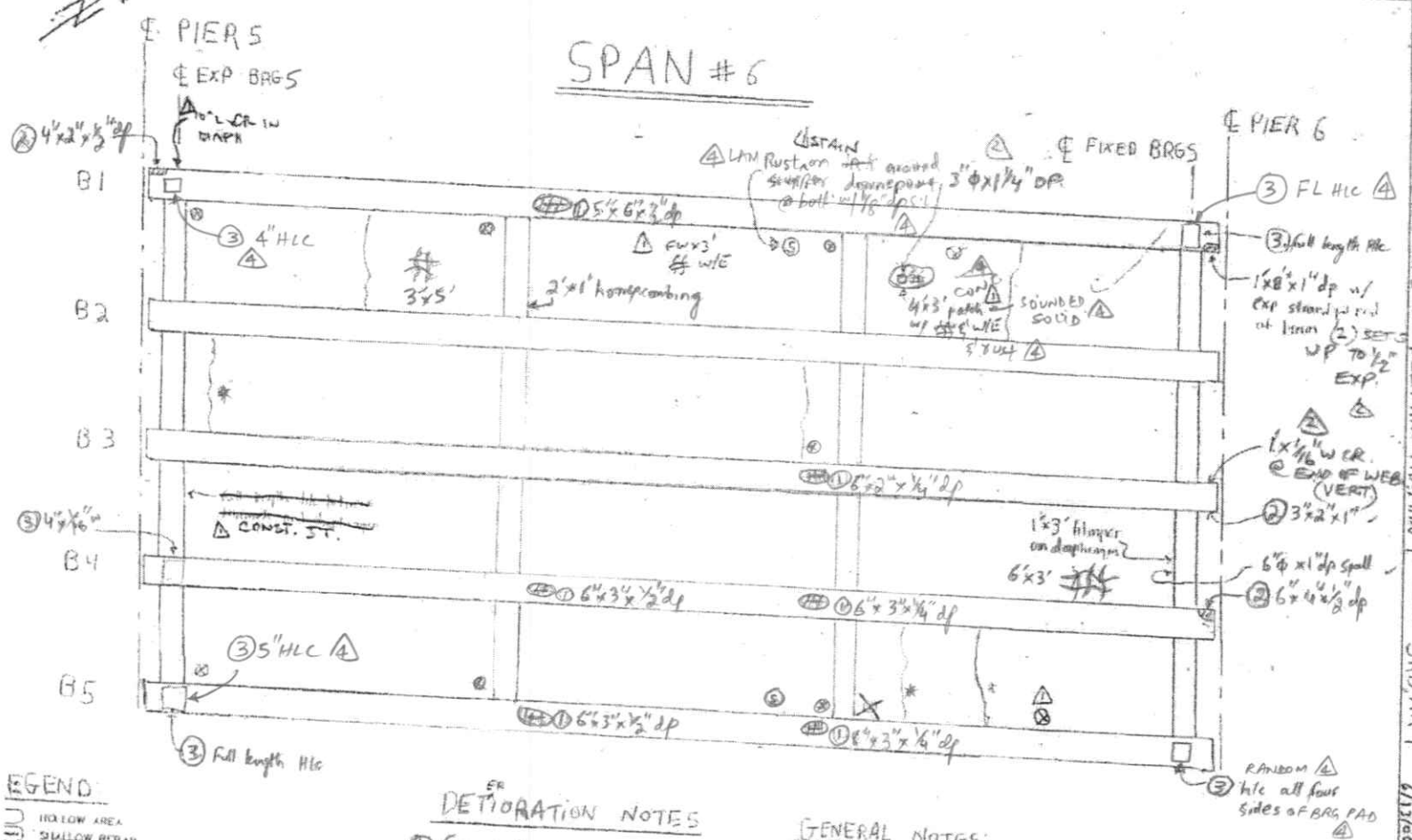

SPAN #4
℄ PIER 3
℄ EXP BRGS
℄ PIER 4
℄ FIXED BRGS
B1
B2
B3
B4
B5
DIAPH
NOT USED
1 WOOD LEFT IN PLACE FOR PATCH W/ 6"SNA
1x9" repair w/ allfld on side of bottom flange
(3) Small surface spalls up to 6"x3"x1/2" dp on end heads
7'x3' W/E
3"x1/8" W
Random short ALC in both flg.
18"x2"x1/2" dp LT
BOT OF BOT FLG 6'L x UP TO 4"W x 1/2"D FAILED PATCH W/ SHALLOW S FRAMG W/ GOOD CNST (NO SIG. LOSS)
12"x5"x1/2" dp
NOT USED
3"ϕ x 1/4"
8"x3"x1/2" dp
6"x3"x1/2"
6"x3"x1/2"
Bearing pad bulging up to 1.5" on the sides
LIFTED UP TO 5/8" @ EAST SIDE
1/2"x F.W. on W side
FLX 3/16" Gap under Brg Pad
Missing weep pipe
1"x1" dp spall
in web end BEYOND BRG.
8"x6"x3" dp
6"x4"x1" dp
10" CL CR IN TOP OF BOT FLG d WEB
1/16" W
5'x5'
LEGEND:
HOLLOW AREA
SHALLOW REBAR
SPALL AREA
SPALL AREA WITH EXPOSED REBAR
MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMAP)
HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
HONEY COMB AREA
SCALE AREA (HVY, MED OR LT)
EFFLORESCENCE IS PRESENT
Scupper downspout
PVC weep pipes
DETERIORATION NOTES
1 See notes on Sheet No. 26
2 U/S OF DECK & FRAMING SHEET
GENERAL NOTES:
A See Sheet No. 26 for notes typical to all spans
2 U/S OF DECK & FRAMING SHEET
B Brg Pads over Pier 3 are bulging up to 1" (typ) x FL along the top edges
UPDATE OR REV. NO
3
4
Al Engineers, Inc.
Date: 5/18/10
By: GM, CK
BY: MAE, CK
5/14/12
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING
FIELD NOTES
CREW: SRD, AR
JOB NO: 170-33567 BRIDGE NO: 03369
DATE: 2-24-04 SHEET 30 OF 115 SH
6/12/06 P&SW
7/5/06 PH, MOB (HANS)
United International Corporation
Civil Engineers and Surveyors
24/106

United International Corporation
Civil Engineers and Surveyors

25/106

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-24-04	SHEET ~~31 OF 115~~ 33
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING	CREW: SRD, AR	GCS 6/12/06 PG, SW; 7/8/06 (HAKS) MJW, PHH





EGEND

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT
- ⑤ Scupper downspout
- ⊗ PVC Weep Pipe

DETERIORATION NOTES

① See notes on ~~Sheet No. 26~~ △ U/S OF DECK & FRAMING SHEET

GENERAL NOTES:

Ⓐ See ~~Sheet No. 26~~ △ U/S OF DECK & FRAMING SHEET for notes typical to all Spans

UPDATE OR REV. NO	AI Engineers, Inc.
3	Date: 5/18/2010
	By: GM, CK
4	BY MAI, CK

③ No change 5/15/12

United International Corporation
Civil Engineers and Surveyors

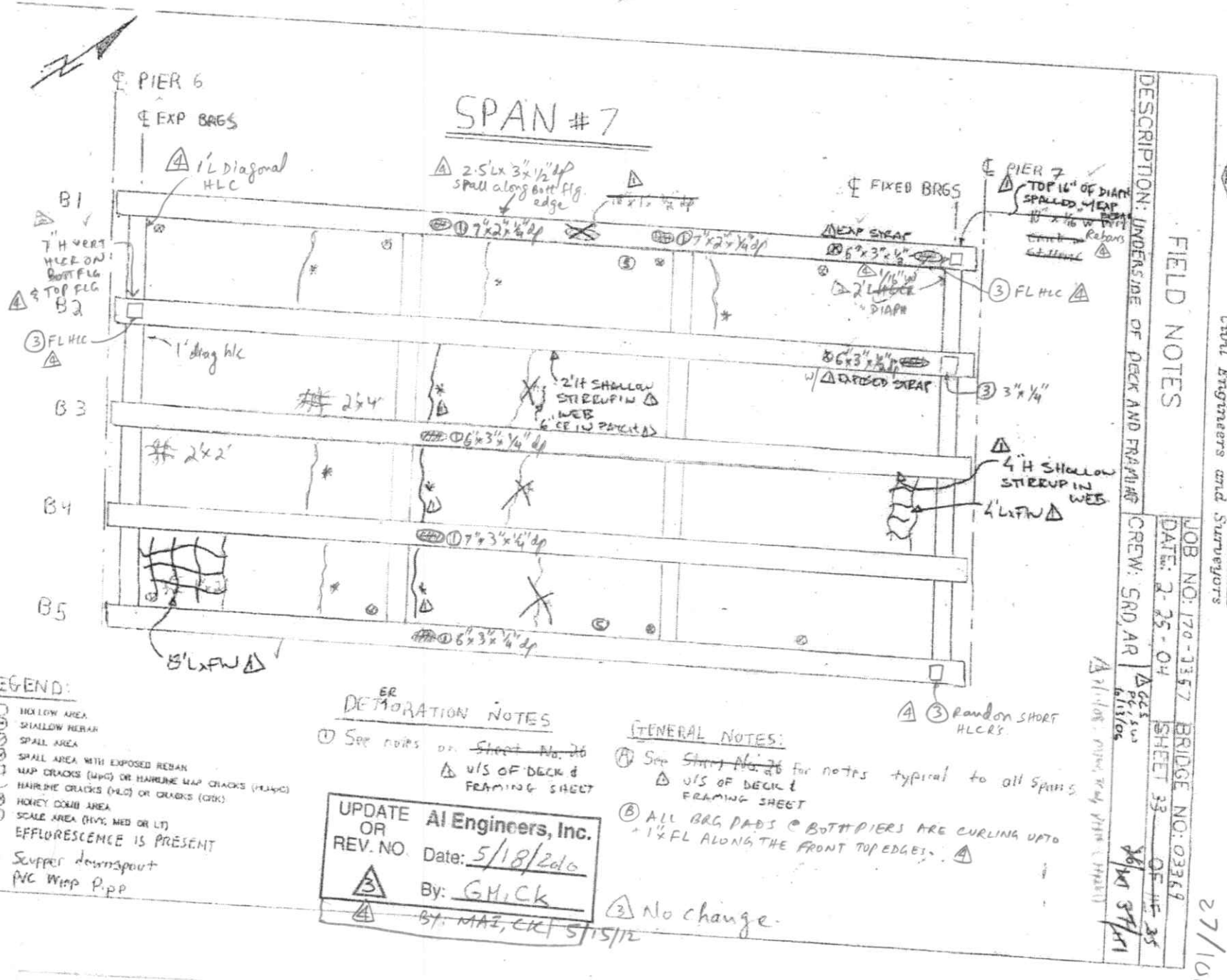
FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2-25-04 SHEET 32 OF 115
CREW: SRD, AR

△ GCS PC, SW 6/13/06 △ 7/8/08 (HAKS) MTW, PHH

26/106



LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT
- Scupper downspout
- PVC Weep Pipe

DETERIORATION NOTES

1 See notes on ~~Sheet No. 26~~ △ u/s OF DECK & FRAMING SHEET

GENERAL NOTES:

A See ~~Sheet No. 26~~ for notes typical to all spans △ u/s OF DECK & FRAMING SHEET

B ALL BRG PADS @ BOTH PIERS ARE CURLING UP TO 1"x FL ALONG THE FRONT TOP EDGES. 4

3 No change.

UPDATE OR REV. NO	Al Engineers, Inc.
3	Date: 5/18/2016
	By: GM, CK
4	~~By: MAI, CK~~ 5/15/12

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

FIELD NOTES

JOB NO: 170-13357 BRIDGE NO: 03369

DATE: 2-25-04 SHEET 33 OF 35

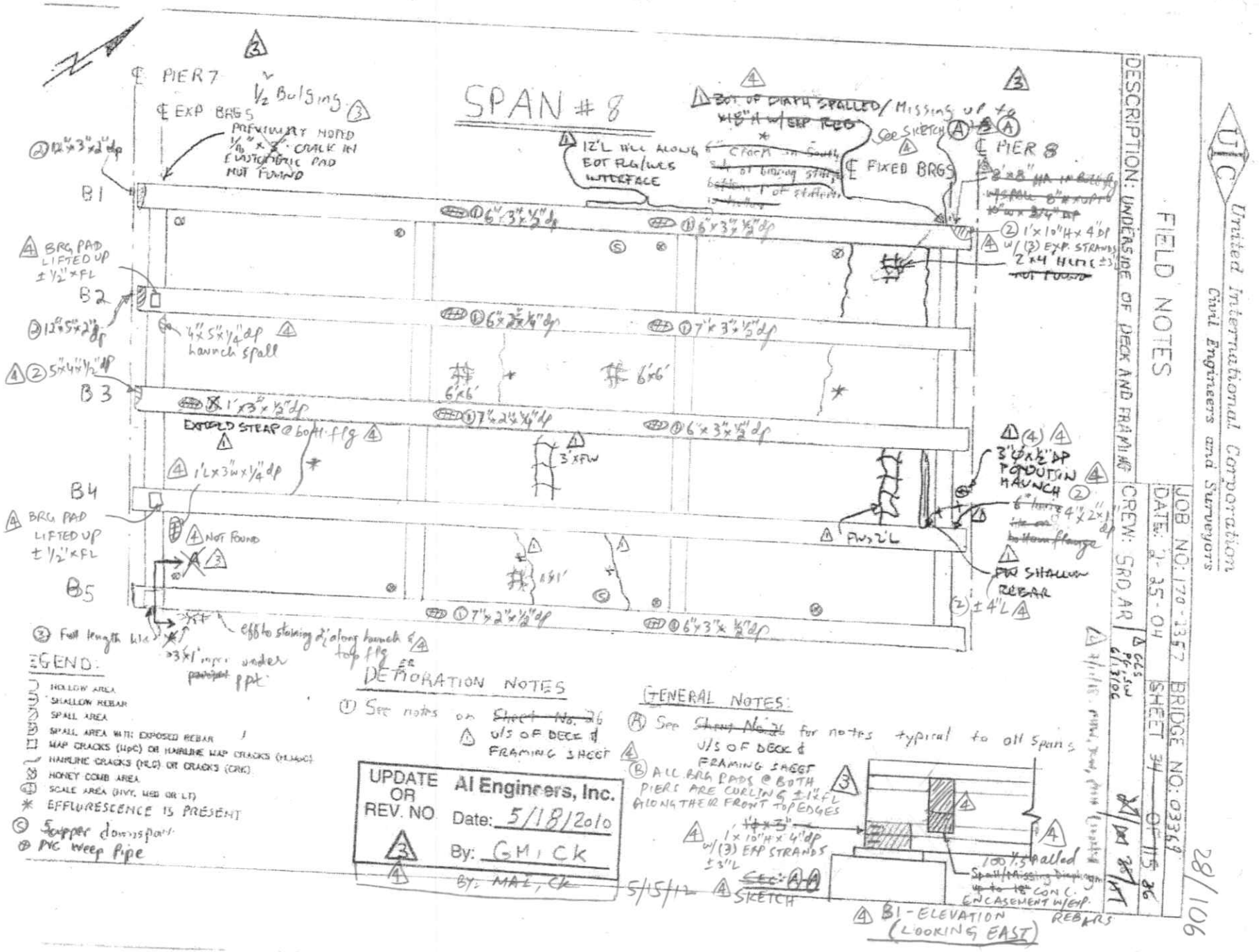
CREW: SRD, AR

△ 625 PCS SW 6/13/06

△ 2 1/16" dia hole thru web (typ)

United International Corporation
Civil Engineers and Surveyors

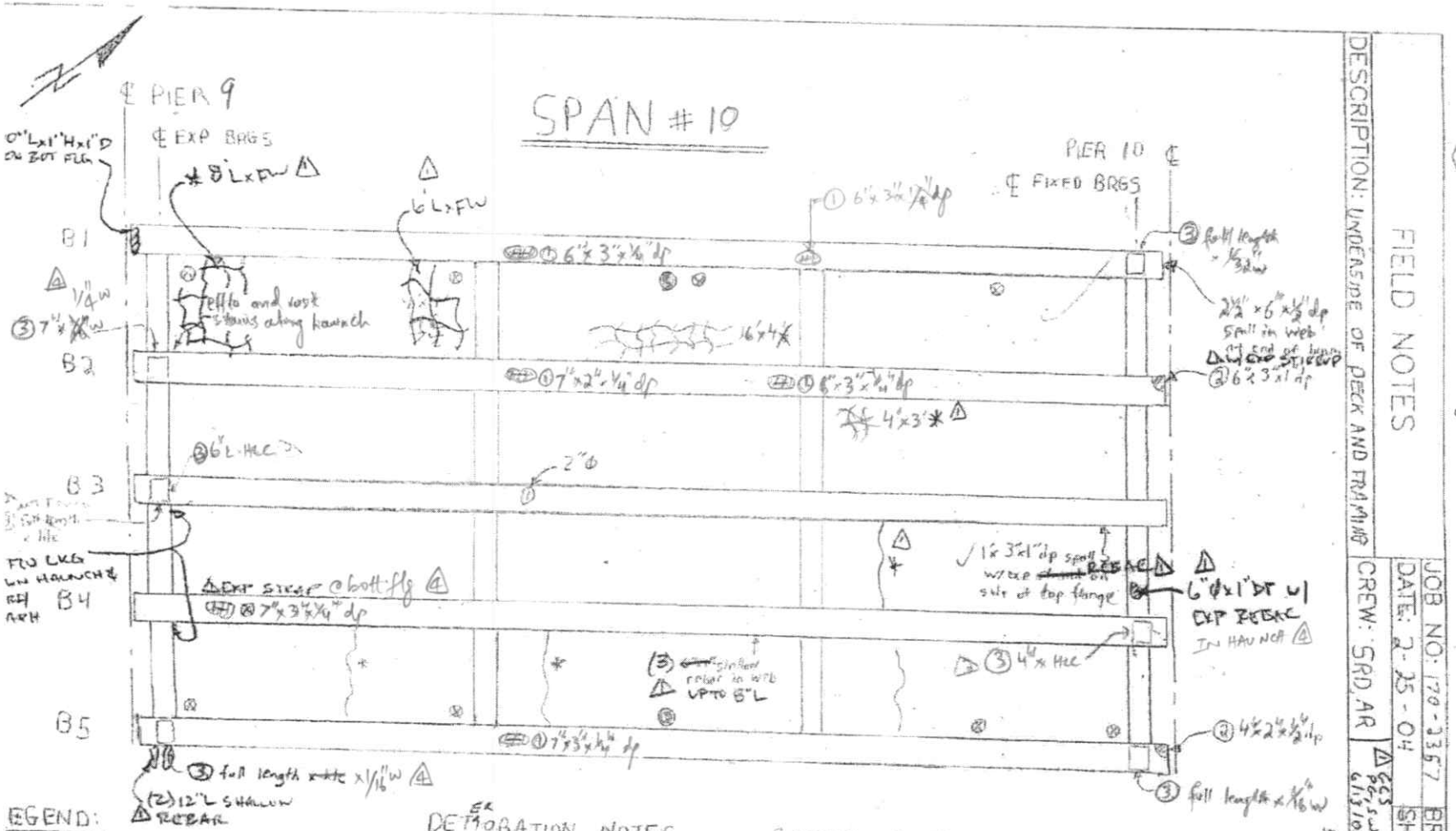
27/106


SPAN #8
℄ PIER 7
℄ EXP BRGS
½ Bulging
PREVIOUSLY NOTED ⅛" × 3" CRACK IN ELASTOMERIC PAD NOT FOUND
B1
B2
B3
B4
B5
BRG PAD LIFTED UP ± ½" × FL
4"×5"×¼" dp launch spall
EXPOSED STEEP @ both flg
1'L×3"w×¼"dp
NOT FOUND
Full length wire
eff to staining 2' along haunch & top flg
>3'×1' mpr under parapet ppt.
12'L WEB ALONG BOT FLG/WEB INTERFACE
Crack in South 1/3 of bearing stiffener
FIXED BRGS
℄ PIER 8
1'×10"H×4"dp w/(3) EXP. STRANDS
2×4 HERC (±) NOT FOUND
3'×2'×½" dp POLYDUR HAUNCH
6" horiz 4"×2"×1" dp
FW 3'L
FW SHALLOW REBAR
±4"L
3'×1' mpr under
1'×10"H×4'dp w/(3) EXP STRANDS ±3"L
SKETCH
100 1/3 spalled
Spall/Missing Diaphragm up to 18" CONC. ENCASEMENT W/EXP. REBARS
B1-ELEVATION (LOOKING EAST)
LEGEND:
HOLLOW AREA
SHALLOW REBAR
SPALL AREA
SPALL AREA WITH EXPOSED REBAR
MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMAPC)
HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
HONEY COMB AREA
SCALE AREA (HVY, MED OR LT)
EFFLURESCENCE IS PRESENT
Copper downspout
PVC Weep Pipe
DETERIORATION NOTES
① See notes on Sheet No. 26 U/S OF DECK & FRAMING SHEET
GENERAL NOTES:
Ⓐ See Sheet No. 26 for notes typical to all spans U/S OF DECK & FRAMING SHEET
Ⓑ ALL BRG PADS @ BOTH PIERS ARE CURLING ± 1/2" FL ALONG THEIR FRONT TOP EDGES
UPDATE OR REV. NO
Al Engineers, Inc.
Date: 5/18/2010
By: GMICK
BY: MAL, CK 5/15/12
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING
FIELD NOTES
JOB NO: 170-23527 BRIDGE NO: 03369
DATE: 2-25-04 SHEET 34 OF 115
CREW: SRD, AR
GCS PF&SW 6/13/06
United International Corporation
Civil Engineers and Surveyors
28/106

United International Corporation
Civil Engineers and Surveyors

29/106

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-25-04	SHEET ~~35 OF 115~~ 37
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING	CREW: SRD, AR	Δ GCS PG, SW 6/13/06 ~~28/~~~~30~~ ~~37~~/144



LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMC)
- HAIRLINE CRACKS (HLC) OR CRABKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT
- Ⓢ Scupper downspout
- ⊗ PVC Weep pipe

DETERIORATION NOTES

① See notes on ~~Sheet No. 26~~ Δ u/s of DECK & FRAMING SHEET

GENERAL NOTES:

Ⓐ See ~~Sheet No. 26~~ for notes typical to all spans Δ u/s of DECK & FRAMING SHEET

UPDATE OR REV. NO.	Al Engineers, Inc.
3	Date: 5/14/2010
	By: GM, UCQ
4	~~BY: MAI, CK~~ 5/15/12

③ No change.

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

FIELD NOTES

CREW: SRD, AR

DATE: 2-25-04

JOB NO: 170-33567 BRIDGE NO: 03369

SHEET 36 OF 112 38

Δ 6/13/06 per SW

Δ 11/08 per SW (HHH)

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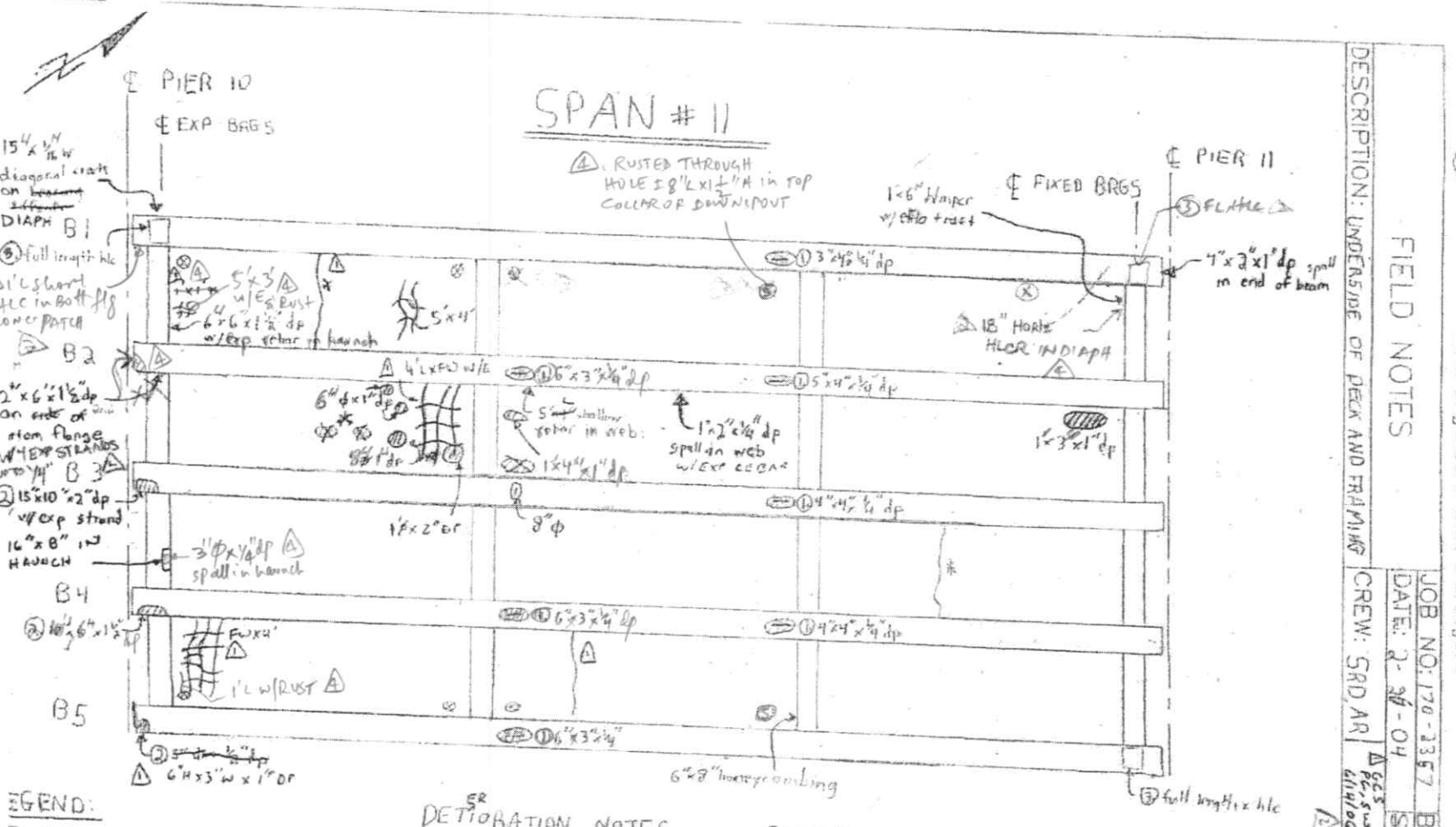
Civil Engineers and Surveyors

30/106



FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

CREW: SRD, AR

JOB NO: 170-23567 BRIDGE NO: 03369

DATE: 2-26-04 SHEET 32 OF 45 SH

30

DETERIORATION NOTES

1. See notes on Sheet No. 26
2. U/S OF DECK ℄ FRAMING SHEET

GENERAL NOTES:

A. See Sheet No. 26 for notes typical to all spans
B. Honeycombing in deck haunches up to 1'x6"x½"dp at random locations.

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (DIVC, WEB OR LT)
- EFFLORESCENCE IS PRESENT

Stepper downspout PVC Wrap PPP

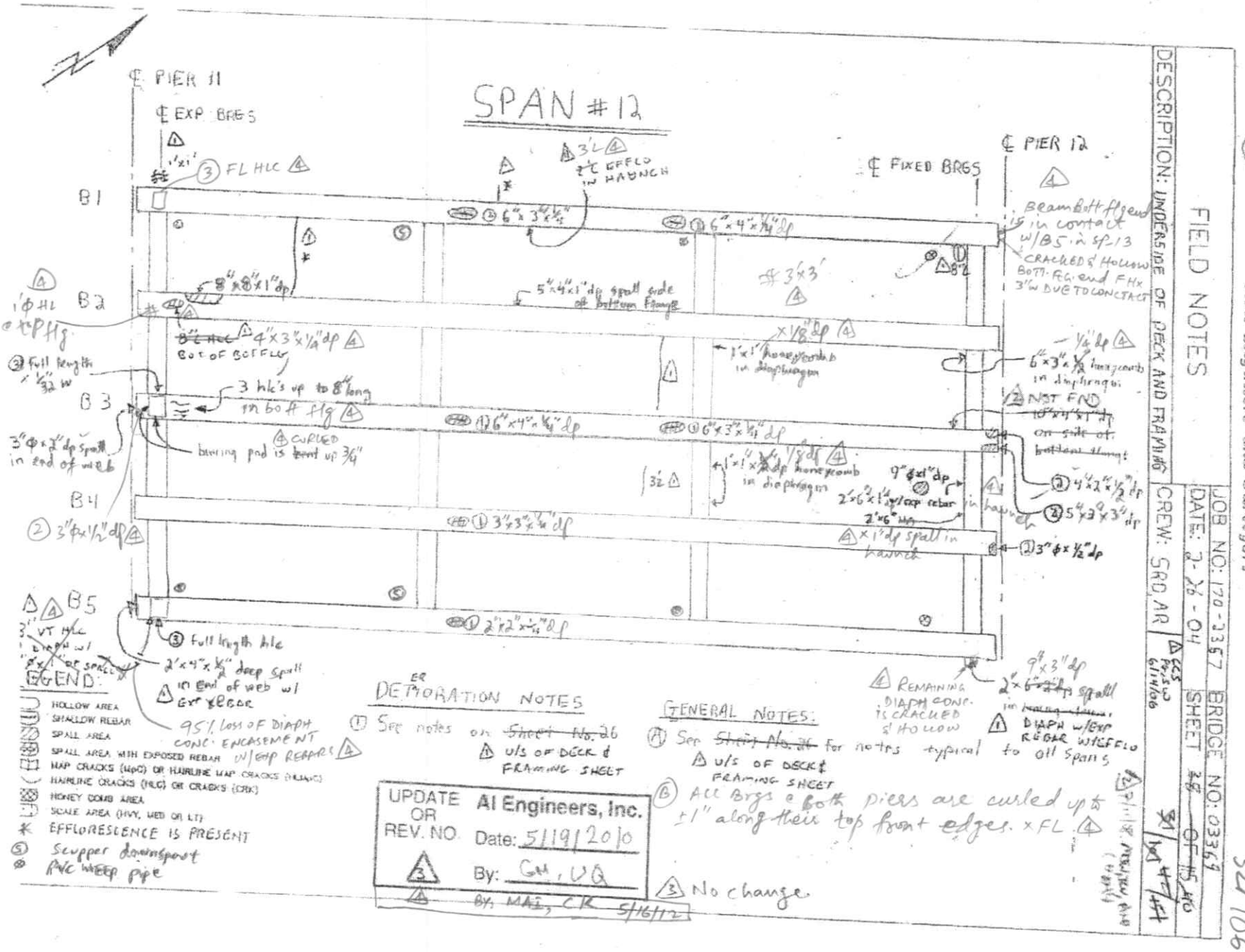
UPDATE OR REV. NO. 3 — AI Engineers, Inc. Date: 5/19/2010 By: GM, UR

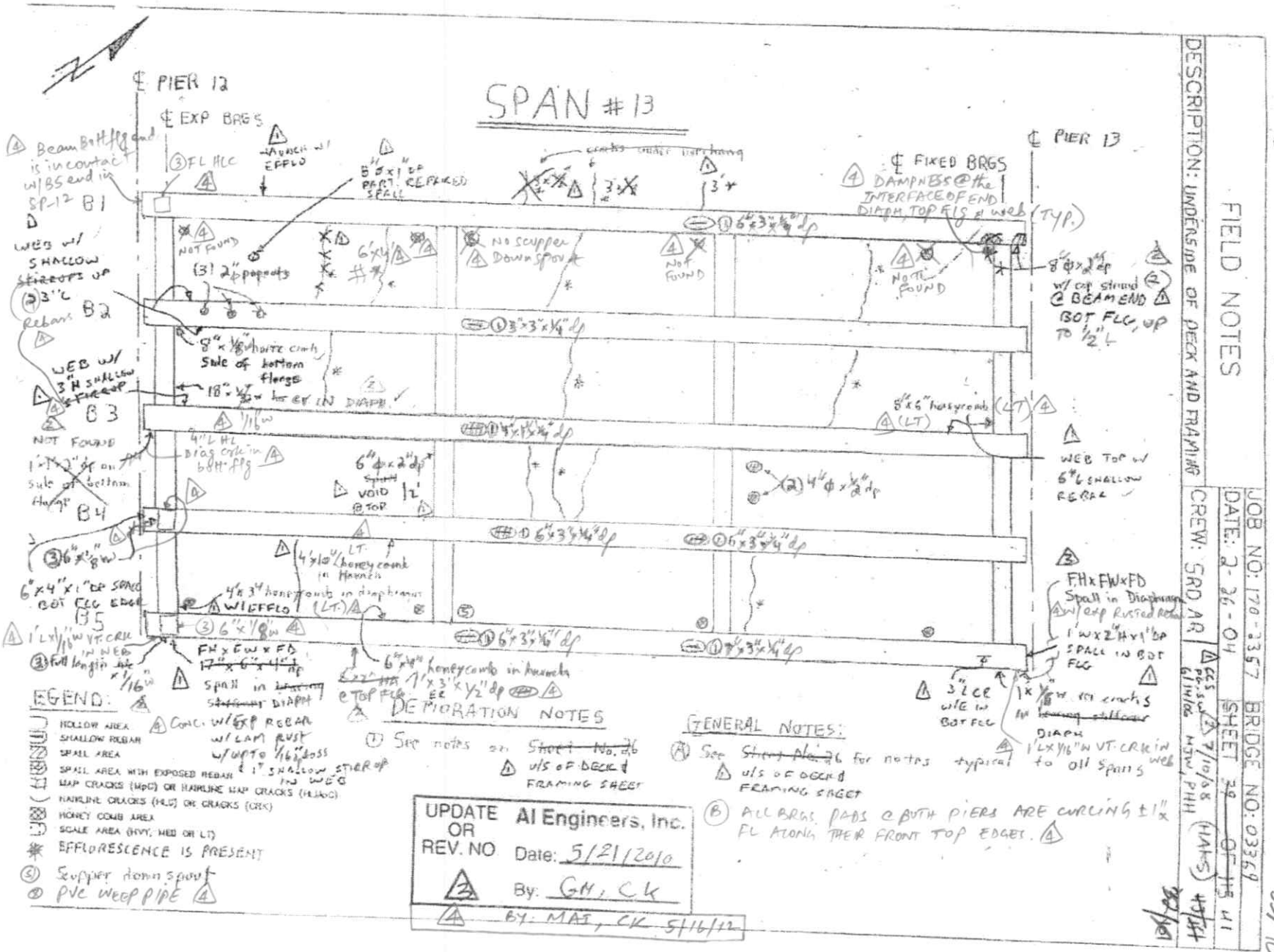
4 BY: MAI, CK 5/15/12

3 No Change

United International Corporation
Civil Engineers and Surveyors

31/106


SPAN #12
℄ PIER 11
℄ EXP BRGS
℄ FIXED BRGS
℄ PIER 12
B1
B2
B3
B4
B5
FL HLC
3'L
2'℄ EFFLO IN HAUNCH
6"x3"x1/4"
6"x4"x1/4" dp
8"x8"x1" dp
5"x4"x1" dp spall side of bottom flange
#3x3'
4"x3"x1/4" dp
BOT OF BOFFLE
3 hlc's up to 8" long in bot of flg
bearing pad is bent up 3/4"
3"ϕx1/2" dp spall in end of web
3"ϕx1/2" dp
1'x1' honeycomb in diaphragm
9"ϕx1" dp
2'x6"x1 1/4" y/cap rebar
2'x6" WA
3"x3"x1/4" dp
x 1" dp spall in haunch
2"x2"x1/4" dp
full length hlc
2'x4"x1/4" deep spall in end of web w/ EXP REBAR
95% LOSS OF DIAPH CONC. ENCASEMENT
Beam Bott flgs is in contact w/ B5 in sp 13
CRACKED & HOLLOW BOTT. FLG. end FHx 3"W DUE TO CONCTACT
6"x3"x1/2" honeycomb in diaphragm
NST END
10"x4"x1" dp on side of bottom flange
4"x2"x1/2" dp
5"x3"x3/4" dp
3"ϕx1/2" dp
9"x3" dp
2"x6" spall in bearing seat
DIAPH w/EXP REBAR W/EFFLO
REMAINING DIAPH CONC. IS CRACKED & HOLLOW
1'ϕ HL
tr ϕ flg
3" full length x 1/32" w
3" VT HLC
2'x4"x1/4" deep spall
95% LOSS OF DIAPH CONC. ENCASEMENT
LEGEND:
HOLLOW AREA
SHALLOW REBAR SPALL AREA
SPALL AREA WITH EXPOSED REBAR W/EXP REPAIRS
MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMC)
HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
HONEY COMB AREA
SCALE AREA (HVY, MED OR LT)
EFFLORESCENCE IS PRESENT
Scupper downspout
PVC WEEP PIPE
DETERIORATION NOTES
(1) See notes on Sheet No. 26
Δ u/s OF DECK & FRAMING SHEET
GENERAL NOTES:
(A) See Sheet No. 26 for notes typical to all spans
Δ u/s OF DECK & FRAMING SHEET
(B) All Brgs & both piers are curled up ± 1" along their top front edges. x FL
UPDATE OR REV. NO. 3
Al Engineers, Inc.
Date: 5/19/2010
By: GM, VG
BY: MAI, CR 5/16/12
3 No change
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING
FIELD NOTES
CREW: SRD, AR
DATE: 2-26-04
JOB NO: 170-23357
BRIDGE NO: 03369
SHEET 38 OF 115 SHTS
United International Corporation
Civil Engineers and Surveyors
32/106



United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2-26-04 SHEET 29 OF 115
CREW: SRD AR

33/106

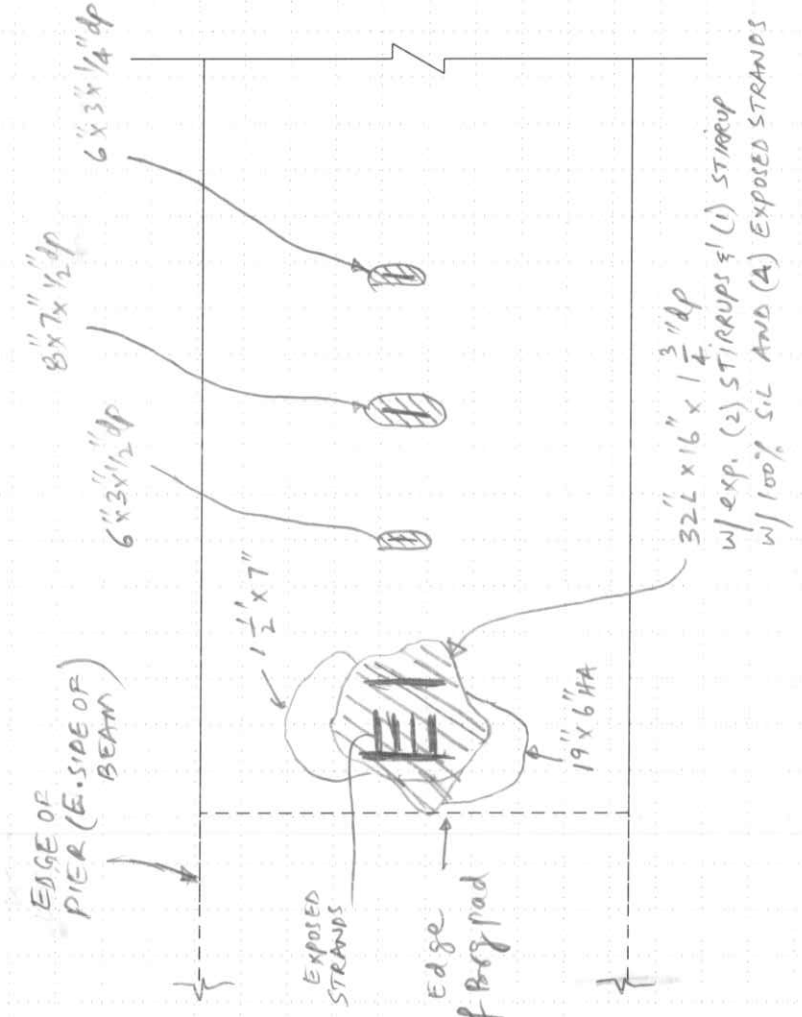
United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

JOB NO: 170-2357	BRIDGE NO: 03369
DATE: 2-26-04	SHEET ~~40 OF 115~~ 42
CREW: SRD, AR	6/15/06 PG, SW, DLC; 7/10/08 MJW, PHH (HAKS)

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

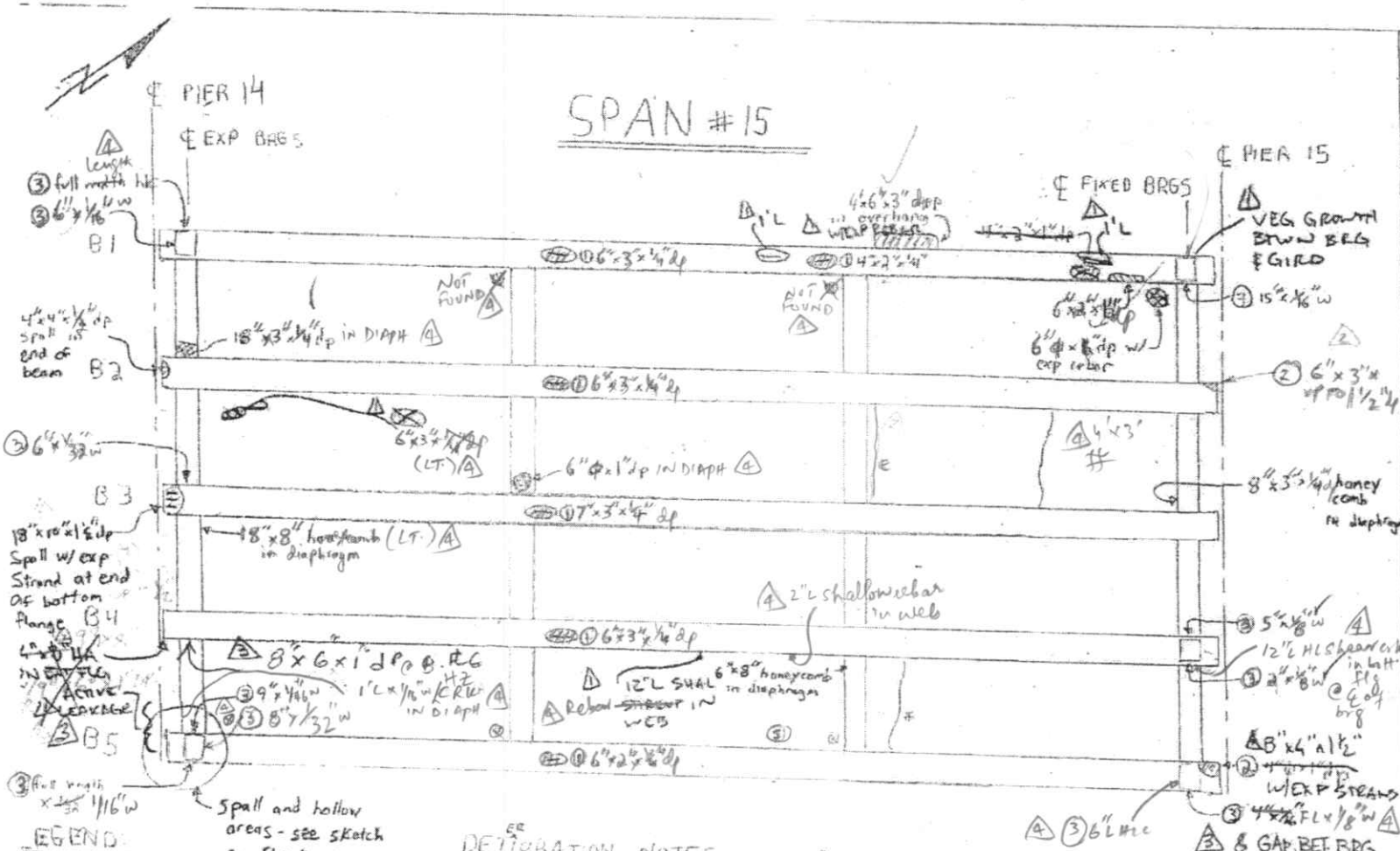
AI Engineers, Inc.	JOB NO. 170-3013	BRIDGE NO: 03369
	DATE: 5/17/12	SHEET 35 OF 106
FIELD NOTES	CREW: MAI, CK	
DESCRIPTION: BEAM B5 DETERIORATION DETAILS		



UNDERSIDE VIEW OF THE BOTTOM FLANGE OF BEAM B5 AT PIER 13 IN SPAN 14

LEGEND:
- E EFFLORESCENCE
- HAIRLINE CRACKS
- MAP CRACKS
- HOLLOW AREA
- SHALLOW REBAR
- SCALE AREA
- SPALL AREA
- SPALL AREA w/EXPOSED REBAR
- HONEYCOMB AREA
- HONEYCOMB AREA w/EXPOSED REBAR

Revision 1	Date	Crew	Company	Revision 3	Date	Crew	Company
Revision 2	Date	Crew	Company	Revision 4	Date	Crew	Company



DETERIORATION NOTES

1. See notes on ~~Sheet No. 26~~ U/S OF DECK & FRAMING SHEET

GENERAL NOTES:

A. See ~~Sheet No. 26~~ for notes typical to all spans

B. Honeycomb in haunch up to 3"x6"x1/2" dp

UPDATE OR REV NO	AI Engineers, Inc.
3	Date: 5/21/2010
	By: GM, CK
4	~~BY: MAE, CK 5/17/12~~

United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2-26-04 SHEET 41 OF 115 43
CREW: SRD, AR

36/106

United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369
DATE: 2-26-04 SHEET ~~42~~ ~~OF 115~~ 44 ~~35~~ ~~46~~ 111
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING
CREW: SRD, AR

3 DETERIORATION CALCULATIONS

AREA OF BOTT. FLG = 361 in² 4

Loss Area { ~~8" x 8" = 48 in² = 56 in²~~ ½(6"×6") = ~~18 in²~~ = 24.5 in² 4 ; ~~66~~ 80.5 in² 4 }

7" 4 7"×7" 4

~~66~~/361 ≡ ~~18.0%~~ 22% 4 Total Deterioration to the bott. flg.

1 DIAPHRAGM

~~Bearing Stiffener~~

1 ACTIVE LEAKAGE FROM JT

~~DRY AT TIME OF EXAM~~ LEVEL OF LAST LEAKAGE 4

Diaphragm

4" 27" 8-¼" 27½"×9"×4"dp spall in Bearing Stiffener 9" EXP REBAR

9" 9" (3) EXP Strands in 3" layer ±3'L

(3) EXPOSED STRANDS FOR 100% LOSS 4"L 4

8½" up

14" 5" 3"

(3) EXPOSED STRANDS WITH up to 100% S.L. 12"L 4

11-20¼ 19" REMAINING PATTERN ON BOTH ENDS

7" up 4

END VIEW 3

TOTAL (9) 4 (3) Strands exposed w/ up to 100% section loss @ END 12" 4 50% - 75% Loss

24" 29" 4

EAST SIDE VIEW 4

15½" 4

1 CONCRETE AROUND STRANDS IS PUNKY.

4 ~~BEAM B5 AT PIER No. 14 IN SPAN No. 15~~

4 BEAM ~~GIRDER~~ B5, SPAN 15 AT PIER 14 1

(LOOKING SOUTH)

EDGE OF PIER, N→

2.5

21"L 4

~~1'-6" HA~~ 4

3 Bott. of Bott. Flg.

BRG PAD EXPOSED UP TO ~~1'-6"~~ 11½" x 7"W 4 w/ 1½" GAP and FW x 3/16" cut in pad 3

1½" GAP

PIER (Looking South) 4

N ← edge of pad

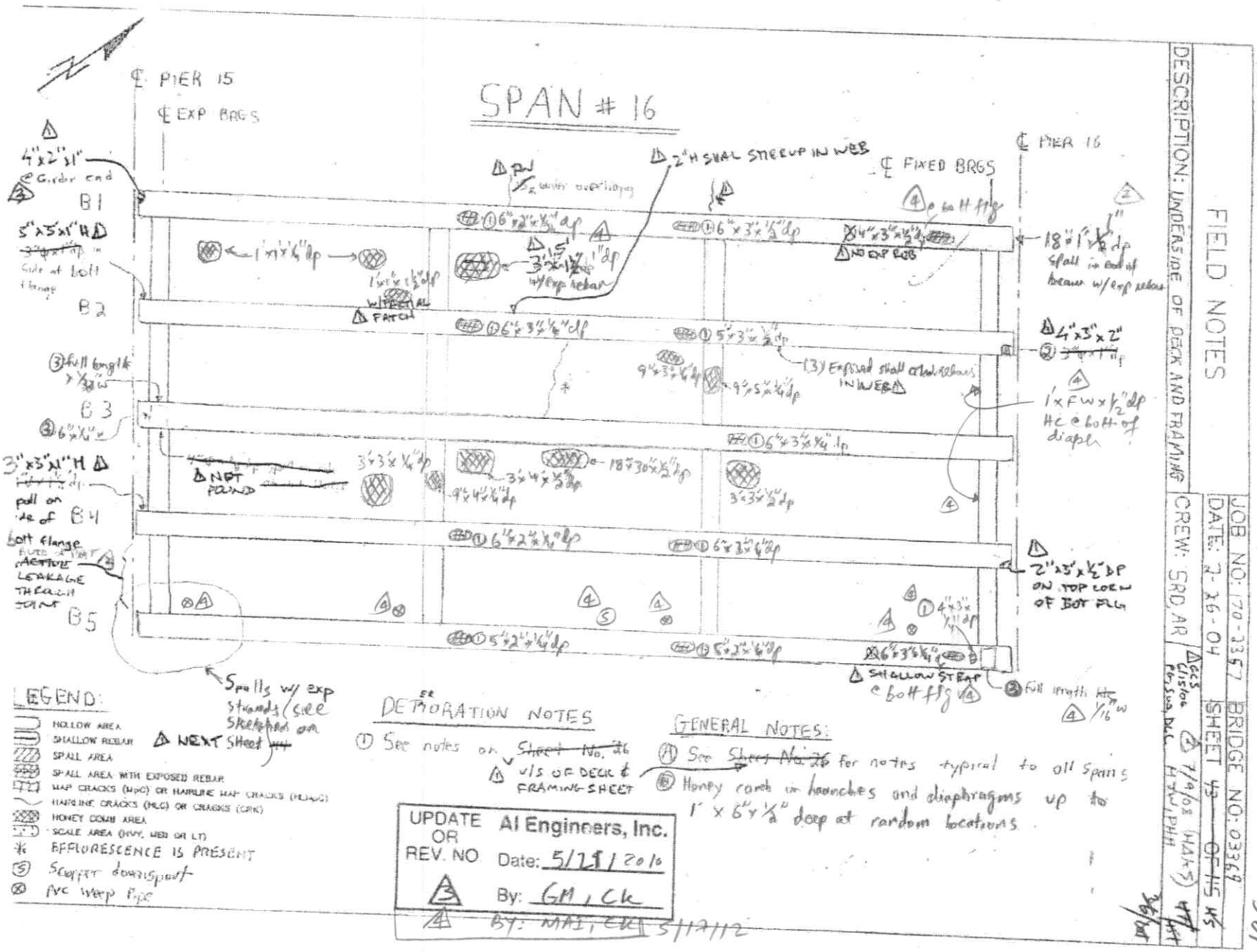
spalled edge of B5

2" 7"L 3½" 7"W 11"L

4 PLAN VIEW OF BRG PAD @ PIER

NO.	DATE	DESCRIPTION
4	5/17/12	MAI, CK (AJ)
3	5/21/10	GM, CK (AJ ENG)
2	7/16/08	MJW, PHH
1	6/15/04	GCS PG, SW, DLC

REVISIONS


SPAN # 16
℄ PIER 15
℄ EXP BRGS
℄ FIXED BRGS
℄ PIER 16
B1
B2
B3
B4
B5
LEGEND:
HOLLOW AREA
SHALLOW REBAR
SPALL AREA
SPALL AREA WITH EXPOSED REBAR
MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMC)
HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
HONEY COMB AREA
SCALE AREA (HVY, MED OR LT)
EFFLORESCENCE IS PRESENT
SCUPPER downspout
PVC Weep Pipe
DETERIORATION NOTES
See notes on Sheet No. 16 v/s OF DECK & FRAMING SHEET
GENERAL NOTES:
See Sheet No. 26 for notes typical to all spans
Honey comb in haunches and diaphragms up to 1' x 6"w x 1/8" deep at random locations.
UPDATE OR REV. NO
Al Engineers, Inc.
Date: 5/25/2010
By: GM, CK
BY: MAI, EK 5/12/12
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING
CREW: SRD, AR
JOB NO: 170-3357
BRIDGE NO: 03368
DATE: 2-26-04
SHEET 45 OF 115 SHS
FIELD NOTES
United International Corporation
Civil Engineers and Surveyors

38/106

39/106

FIELD NOTES

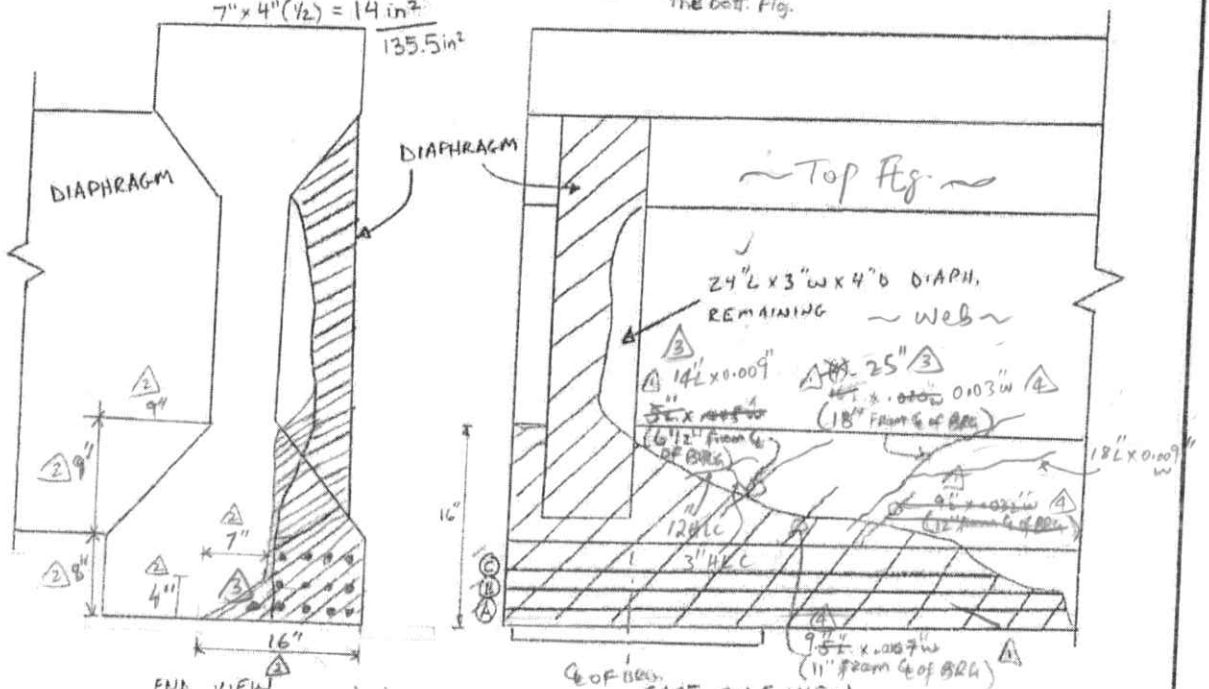
FIELD NOTES	JOB NO. 0156EXT	BRIDGE NO. 3369
	DATE 6/15/06	SHEET ~~46~~ ~~48~~ OF ~~47~~ ~~37~~/~~DA~~
PREPARED BY: Garg Consulting Services, Inc. ENGINEERS • CONSULTANTS • CONSTRUCTION MANAGERS	CREW PG, SW, DLG	1 7/9/08 MTW, PHH (HEKS)

2 DETERIORATION CALCULATIONS:

Area of bott. flg = 361 in²

9" x 9" (1/2) = 40.5 in²
9" x 9" = 81 in²
7" x 4" (1/2) = 14 in²
135.5 in²

135.5/361 = 37.5%
38% Deterioration in the bott. flg.



END VIEW (Looking North) 3

EAST SIDE VIEW

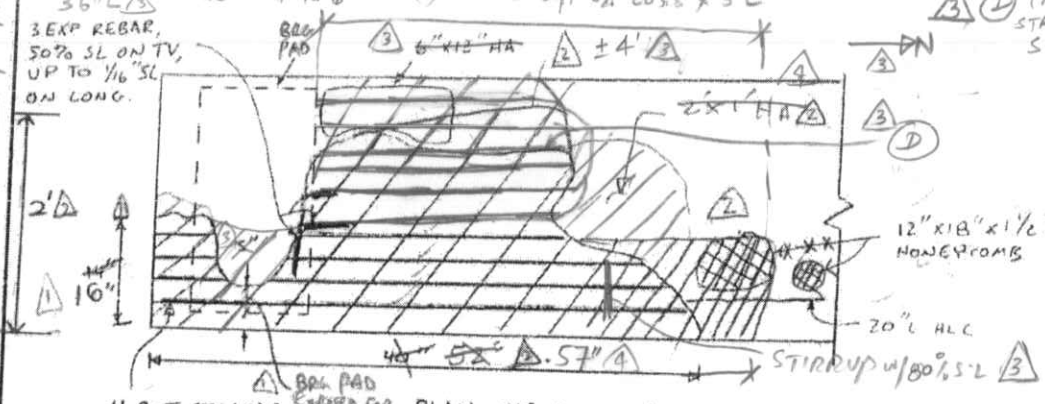
10 3 22"L 3 25"L

(A) BOT COURSE: 4 STRANDS w/100% LOSS x 12"L & 50%-75% LOSS x 6"L

TOTAL 40"L 3 (B) 2ND COURSE: 2 STRANDS w/100% LOSS x 9"L & 1 w/100% SL x 3"L, 50%-75% SL x 4" TO 6"

TOTAL 36"L 3 (C) 3RD COURSE: 1 STRAND w/100% LOSS x 9"L & 1 w/100% SL x 6"L, 50%-75% SL ON REM 4" TO 6" (1) STRAND w/100% LOSS x 3"L

3 (D) (NEW) SIX (6) STRANDS w/ 50% S.L x 20"L.



PLAN VIEW

4 BOT STRANDS
100% LOSS x 12"L & 28"L 3
50%-75% LOSS REM LENGTH (±25"L)

3 TOTAL EXP. length = ±53"L

2 See Sketch on next page for loss of brg. area

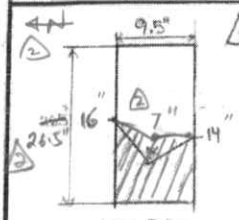
NOTE: REMAINING CONCRETE IS PUNKY/HOLLOW 3 OR HONEYCOMBED w/VOIDS UP TO 1" DP. ACTIVE LEAKAGE FROM JOINT ABOVE 1 ~~DRY AT TIME OF INSP~~ 3

BEAM B5 @ PIER 15 SPAN 16

5/17/12

NO. Date: 5/21/2010
By: GM, CK
BY: MAI, CK

HAKS FIELD NOTES	BRIDGE NO. 03369	DATE: 7/10/08
	CREW: MJW, PHH	SHEET: ~~49~~ OF ~~151~~ ~~38~~/~~101~~



BRG PAD (PLAN VIEW) (2)

(1) LOSS OF BEARING AREA (2)

$\{[(16+7)/2]/2 + [(14+7)/2]/2\}(9.5) = \cancel{95}\ 104.5\ in^2$

AREA OF BRG PAD $= (9.5)(26.5) = 251.75\ in^2$

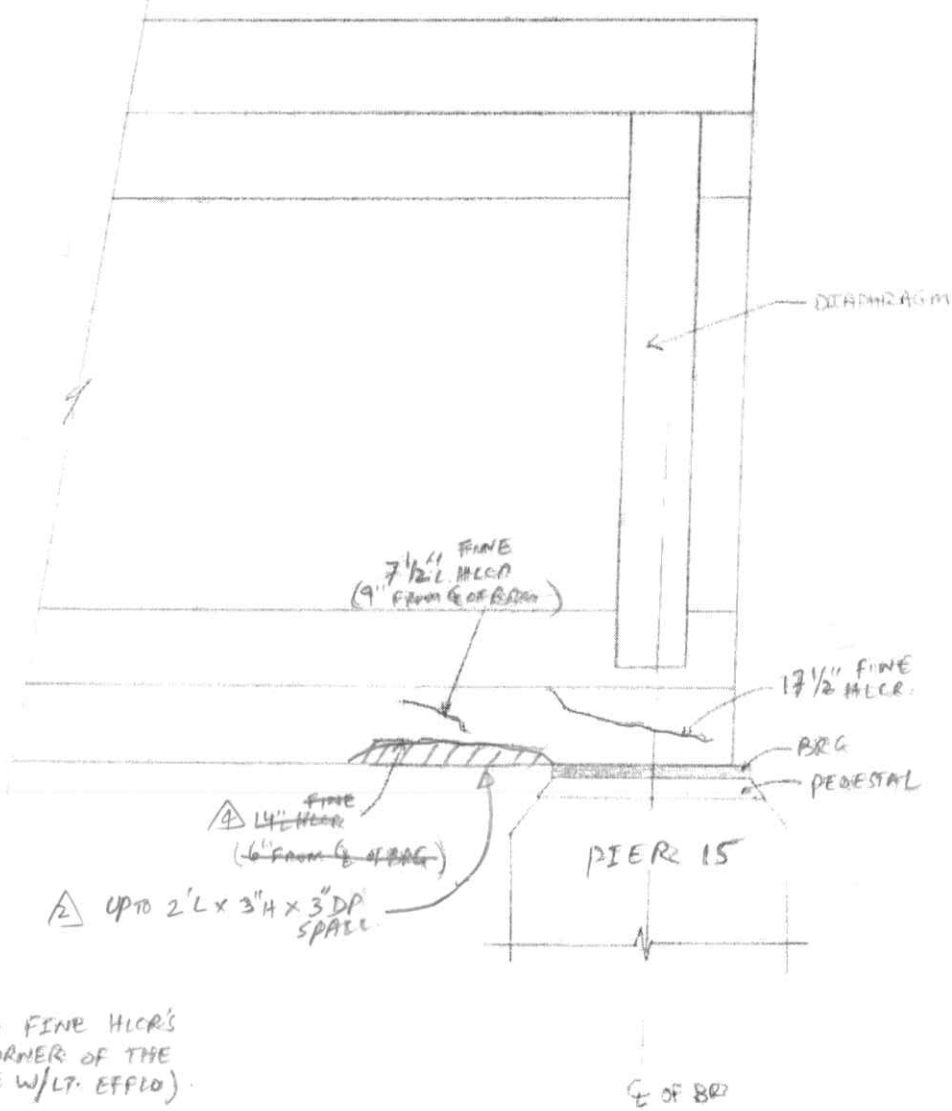
$= \cancel{95}\ 104.5 / 251.75$

$= 37.7$

$\sim$ ~~38%~~ Loss in Bearing Area (2) 41.5%

UPDATE OR REV. NO. (1) — Al Engineers, Inc. Date: 5/21/2010 By: GY, CK

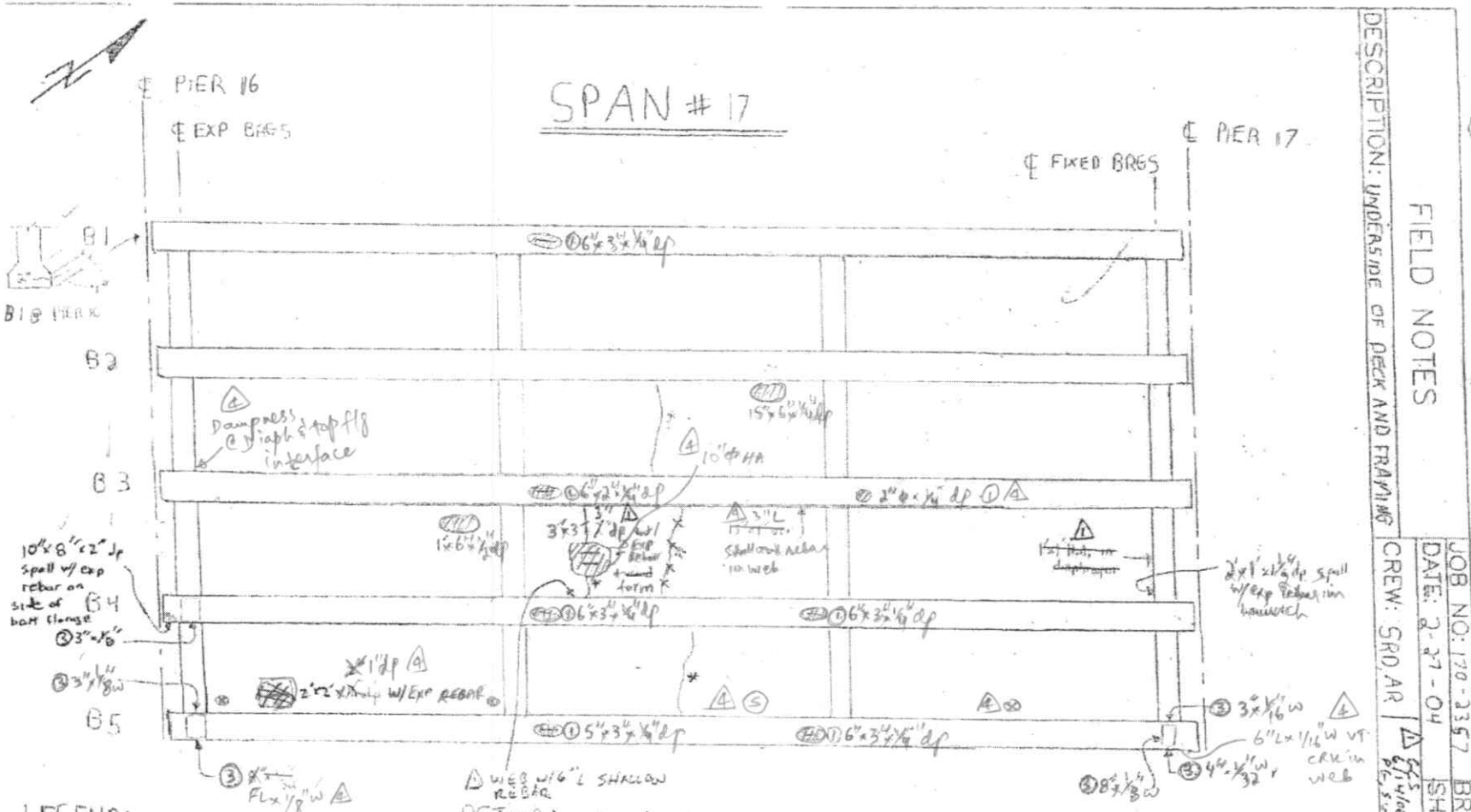
(2) MAI, CK 5/17/12



GEN.
NOTE:
THERE ARE ALSO FINE HLCR'S AROUND BOTT CORNER OF THE B'M FLANGE (SOME W/LT. EFFLO)

LEGEND: (2)
▨ LOSS AREA (2)

SPAN 16 ~~GIRDER~~ BEAM B5 (WEST ELEV) AT PIER 15
N.T.S



LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT
- Scupper downspout
- PVC Weep Pipe

DETIORATION NOTES

(1) See notes on ~~Sheet No. 26~~ V U/S OF DECK & FRAMING FACES

GENERAL NOTES:

(A) See ~~Sheet No. 26~~ for notes typical to all spans

(B) Honey Comb areas up to 2' x 6" x 3" deep in haunches and diaphragms at random locations

UPDATE OR REV. NO.	Al Engineers, Inc.
3	Date: 5/21/2010
	By: GM, CK
4	By: MAI, CK 5/16/12

3 No Change

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

CREW: SRD, AR

FIELD NOTES

DATE: 2-27-04

JOB NO: 170-3357 BRIDGE NO: 03369

SHEET 45 ~~OF 115~~ 47

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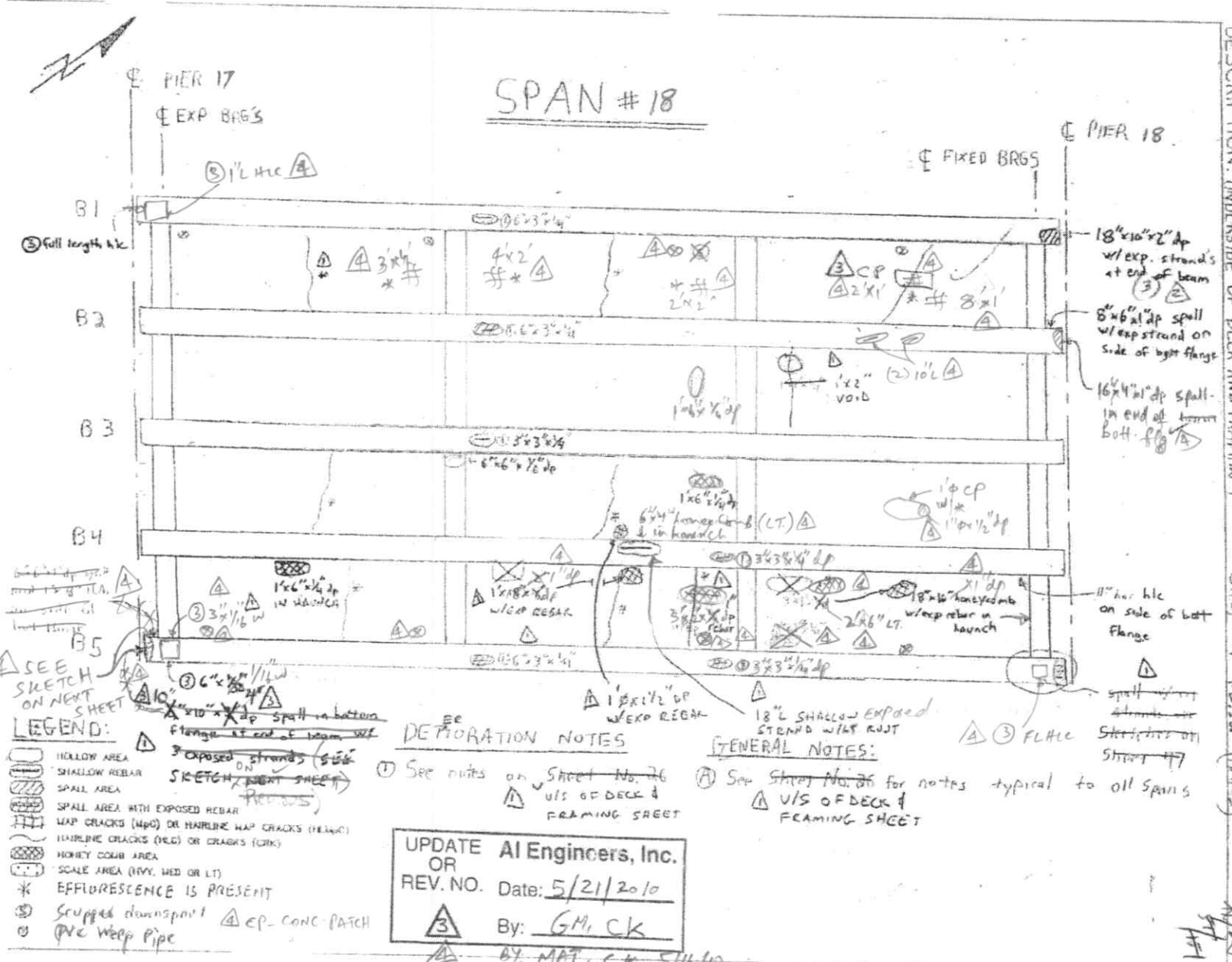
Civil Engineers and Surveyors

41/106


SPAN #18
℄ PIER 17
℄ EXP BRGS
℄ FIXED BRGS
℄ PIER 18
B1
B2
B3
B4
B5
3 Full length h/c
18"x10"x2" dp w/exp. strand's at end of beam
8"x6"x1" dp spall w/exp strand on side of bott flange
16"x4"x1" dp spall in end of both ftgs
1'x2" VOID
(2) 10'L
1'x6"x1/2" dp
1'x6"x1/2" dp
6"x4" honeycomb & in haunch ck
(LT)
1'ϕ cp w/ 1"dp x 1/2" dp
3"x3"x1/4" dp
1'x6"x1/4" dp in haunch
1'x18"x1/2" dp w/exp rebar
1" dp
18"x16" honeycomb w/exp rebar in haunch
2'x6" LT.
11" bar h/c on side of bott flange
3 3"x1"/16 W
3"x3"x1/2" dp rebar
1'ϕx1'1/2" dp w/exp rebar
18"L SHALLOW EXPOSED STRAND W/LIGHT RUST
3 FLHC
SEE SKETCH ON NEXT SHEET
3 C"x1/2"x1/16W
10"x10"x2" dp spall in bottom flange at end of beam
3 exposed strands
SEE SKETCH ON NEXT SHEET (PREVIOUS)
LEGEND:
HOLLOW AREA
SHALLOW REBAR
SPALL AREA
SPALL AREA WITH EXPOSED REBAR
MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
HONEY COMB AREA
SCALE AREA (HVY, MED OR LT)
EFFLORESCENCE IS PRESENT
Scupped downspout
PVC Weep Pipe
4 EP- CONC PATCH
DETERIORATION NOTES
1 See notes on Sheet No. 76 U/S OF DECK & FRAMING SHEET
GENERAL NOTES:
A See Sheet No. 80 for notes typical to all spans
A U/S OF DECK & FRAMING SHEET
UPDATE OR REV. NO. 3
Al Engineers, Inc.
Date: 5/21/2010
By: GM, CK
4 BY: MAT, CK 5/16/12
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING
FIELD NOTES
CREW: SRD, AR
JOB NO: 170-03367
DATE: 2-27-04
BRIDGE NO: 03369
SHEET 46 OF 48
4 6/5/06 6/10/08 REVISED PER FIELD (HAKS)
United International Corporation
Civil Engineers and Surveyors
42/106

United International Corporation
Civil Engineers and Surveyors

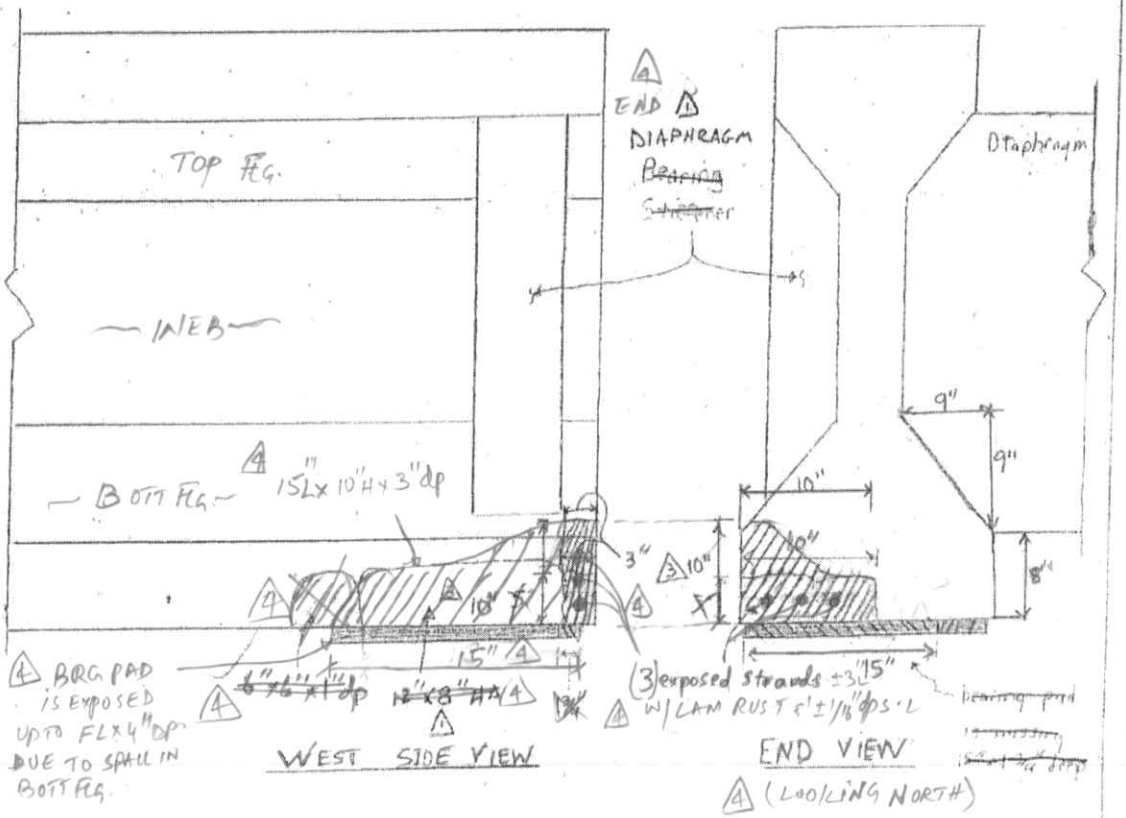
43/106

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-27-04	SHEET ~~47 OF 115~~ 49
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING	CREW: SRD, AR	96/ 151 52/ 151

△3 Deterioration Calculations

(75%) 10" x 10" = 75 in²
tot. bott. flg. Area = 361 in²

75/361 = 20.8% deterioration
21% in the bott. flg.



BEAM B5 AT PIER No. ~~16~~ 17 △1 IN SPAN No. ~~7~~ △1 18

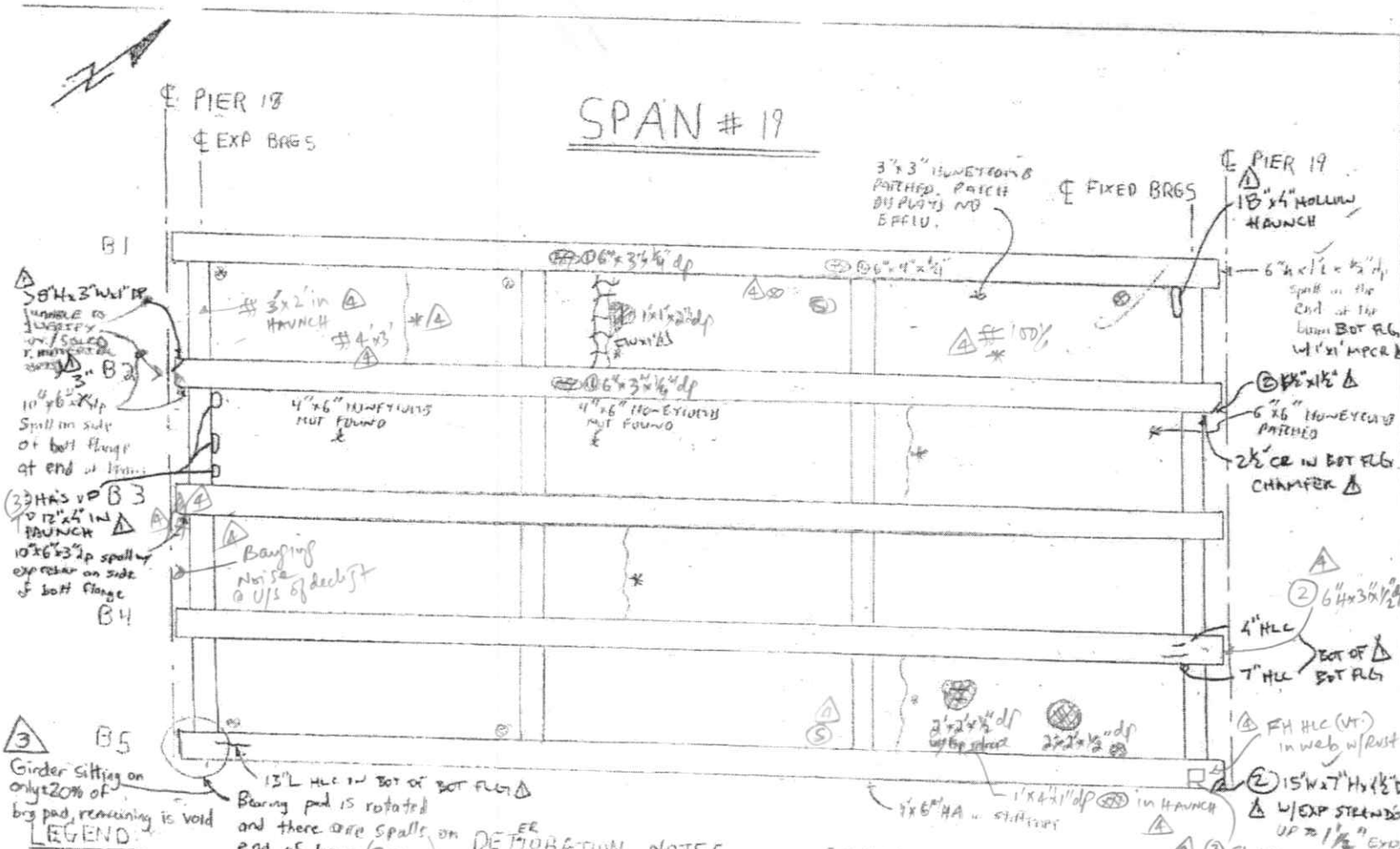
Jersey Barriers do not
Extend this far -

Notice spall and the areas
of Exposed Strands

LEGEND
(??) Spall
~ hairline cracks

NO.	DATE	DESCRIPTION
△4	5/16/12	MAI, CK
△3	8/21/10	GM, CK
△2	7/10/08	MJW, PHH
△1	6/15/06	GCS PG, SW

REVISIONS



LEGEND

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT
- PVC WEEP PIPE
- (5) SCUPPER DOWNSPOUT (4)

DETERIORATION NOTES

(1) See notes on ~~Sheet No. 26~~ U/S OF DECK & FRAMING SHEET

GENERAL NOTES:

(A) See ~~Sheet No. 26~~ for notes typical to all Spans

(B) Honey comb areas up to 15" x 6" x 1/2" dp in the haunches and diaphragms at random locations

UPDATE OR REV. NO. 3 — AI Engineers, Inc. Date: 5/21/2010 By: GM / CK

BY: MAI, CK 5/16/12

United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-27-04 SHEET 48 OF 115

CREW: SRD, AR

(1) GCS 6/15/06 (2) 7/14/08 MSWIFRAM (HAKS)

44/106

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Civil Engineers and Surveyors

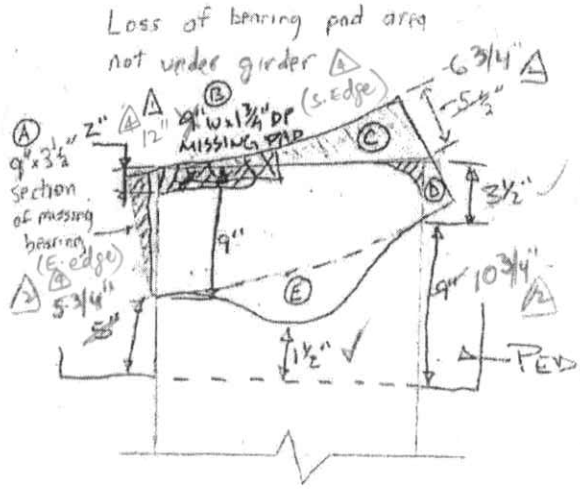
FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 09369
DATE: 2-27-04 SHEET 42 OF 115 ~~51~~
CREW: SRD, AR

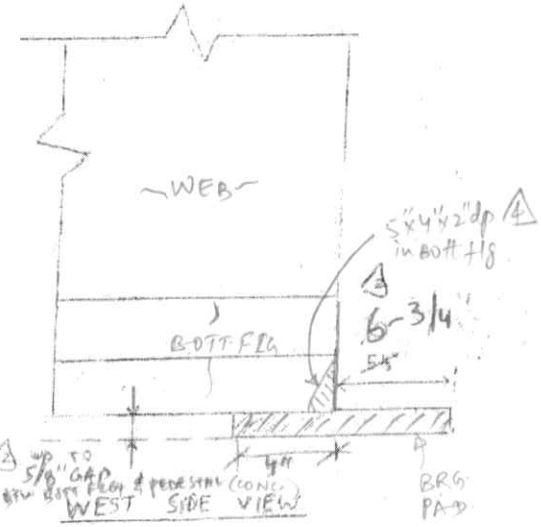
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING

~~33~~ / ~~54~~ / 47

BEAM B5 AT PIER No. 15 IN SPAN No. 19



PLAN VIEW



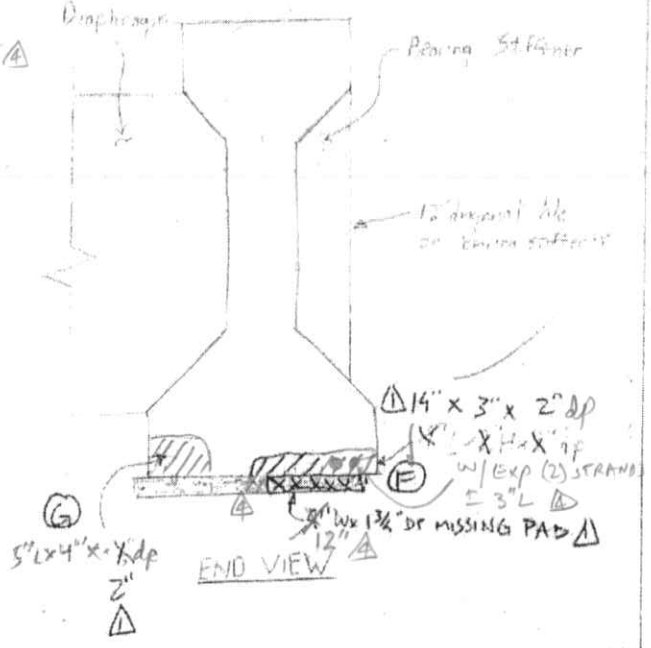
BEARING AREA = 216 in² (9" x 24")

APPROXIMATE AREA NOT IN CONTACT

(B) 12" x (1.75) = 21 in²
(C) 1/2 (24-9)(5.5) = 41 in²
(D) 1/2 (3.5)(3.5) = 6 in²
(E) (5-1.5)(10) = 35 in²
SPALLS (F) 14 x 2 = 28 in²
(G) 1/2 x 6 x 4 = 12 in²

91 / 216 in² ≈ 42% loss of original bearing area

(A) + (B) + (C) + (D) - (E) + (F) + (G)



NO.	DATE	DESCRIPTION
4	5/16/12	MAI, CK (A1)
3	5/21/10	GM, CK (A1)
2	7/10/08	MJW, PHH (HAKS)
1	4/15/06	GCS PG, SW, DLC

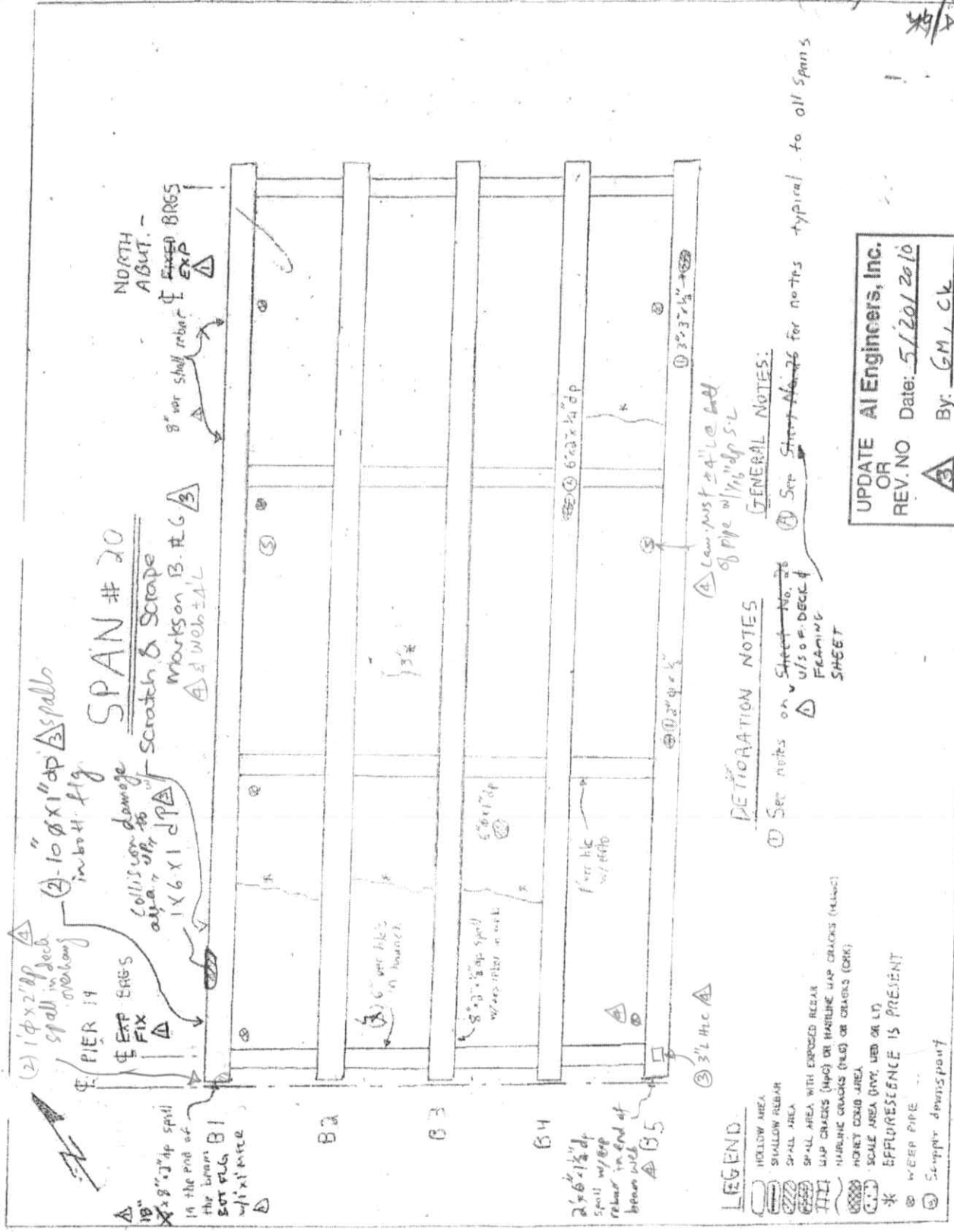
REVISIONS

3 No Change.

United International Corporation
Civil Engineers and Surveyors

46/106

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-27-04	SHEET ~~50 OF 115~~ 52
DESCRIPTION: UNDERSIDE OF DECK AND FRAMING	CREW: SRD, AR	7/10/08 MJW, PHH (HAKS)



AI Engineers, Inc.

Bridge Number : 03369 Date: 05/18/20 Prepared by: DS Checked By: WLD

CONCRETE DETERIORATION WORKSHEET

Form BRI-10, Rev. 9/01

	Deterioration By Span- In Square Feet										
	Span Number										
Deterioration Type	1	2	3	4	5	6	7	8	9	10	Total (1 to 10)
Spalled and Delaminated Areas	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:
	Bot:	Bot:	Bot:	Bot: 1	Bot:	Bot:	Bot:	Bot:	Bot: 1	Bot:	Bot: 2
Scale (Moderate to Severe only)	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top: 0
	Bot:	Bot:	Bot:	Bot: 3	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot: 3
Cracks: w/ Efflorescence (use 6in. width x length	Bot: 4	Bot: 9	Bot: 19	Bot: 17	Bot: 4	Bot: 15	Bot: 38	Bot: 24	Bot: 98	Bot: 14	Bot: 242
w/o Efflo. (use 3in. width x length)	Bot: 4	Bot:	Bot:	Bot:	Bot:	Bot: 4	Bot: 1	Bot: 2	Bot: 21	Bot: 2	Bot: 34
Map Cracking: w/Efflorescence (use full area)	Bot:	Bot:	Bot:	Bot: 21	Bot: 38	Bot: 41	Bot:	Bot:	Bot:	Bot: 76	Bot: 176
w/o Efflo. (use 50 % of area)	Bot: 9	Bot: 4	Bot: 1	Bot: 13	Bot: 14	Bot: 17	Bot: 63	Bot: 46	Bot: 0	Bot: 61	Bot: 228
Honeycombed Areas (only areas more than 1-1/2in. deep)	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot: 0
TOTAL	17	13	20	55	56	77	102	72	120	153	685
Total Span Area (Square Feet)	3413	3346	3346	3346	3346	3346	3346	3346	3346	3346	33527
% Spalled and Delaminated on Top	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Deterioration on Bottom	0.5%	0.4%	0.6%	1.6%	1.7%	2.3%	3.0%	2.2%	3.6%	4.6%	2.0%

AI Engineers, Inc.

Bridge Number : 03369 Date: 05/18/20 Prepared by: DS Checked By: WLD

CONCRETE DETERIORATION WORKSHEET

Form BRI-10, Rev. 9/01

	Deterioration By Span- In Square Feet										
	Span Number										
Deterioration Type	11	12	13	14	15	16	17	18	19	20	Total (1 to 20)
Spalled and Delaminated Areas	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:
	Bot: 3	Bot: 1	Bot: 1	Bot: 1	Bot:	Bot:	Bot: 9	Bot:	Bot: 1	Bot: 1	Bot: 19
Scale (Moderate to Severe only)	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:	Top:
	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot:	Bot: 3
Cracks: w/ Efflorescence (use 6in. width x length	Bot: 9	Bot: 6	Bot: 46	Bot: 10	Bot: 9	Bot: 6	Bot: 14	Bot: 38	Bot: 19	Bot: 21	Bot: 420
w/o Efflo. (use 3in. width x length)	Bot: 2	Bot: 3	Bot: 5	Bot: 2	Bot: 2	Bot:	Bot:	Bot: 2	Bot: 2	Bot:	Bot: 52
Map Cracking: w/Efflorescence (use full area)	Bot: 53	Bot:	Bot: 24	Bot: 38	Bot:	Bot:	Bot:	Bot: 23	Bot: 252	Bot: 0	Bot: 566
w/o Efflo. (use 50 % of area)	Bot: 29	Bot: 5	Bot:	Bot:	Bot: 6	Bot:	Bot:	Bot:	Bot: 6	Bot:	Bot: 274
Honeycombed Areas (only areas more than 1-1/2in. deep)	Bot:	Bot:	Bot:	Bot: 12	Bot:	Bot: 1	Bot:	Bot:	Bot:	Bot:	Bot: 13
TOTAL	96	15	76	63	17	7	23	63	280	22	1347
Total Span Area (Square Feet)	3346	3346	3295	3295	3295	3295	3346	3346	3346	3412	66849
% Spalled and Delaminated on Top	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Deterioration on Bottom	2.9%	0.4%	2.3%	1.9%	0.5%	0.2%	0.7%	1.9%	8.4%	0.6%	2.0%

United International Corporation
Civil Engineers and Surveyors

49/106

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 23357
	DATE: 2-27-04	SHEET ~~51 OF 115~~ 55
DESCRIPTION: SUBSTRUCTURE	CREW: SRD, AA, MEB	55/~~151~~ 47/101

SUBSTRUCTURE NOTES

GENERAL NOTES

(A) There are concrete patches on the abutments and piers that were checked and sounded with no deficiencies found except as noted.

(B) The ~~pier~~ ✓ caps exhibit random areas of light scale and water and rust stains
△1 ~~PILE~~ △4

(C) There is a minor to moderate accumulation of debris on top of the ~~pier~~ ✓ caps, unless otherwise noted, @ SOME LOCATIONS HEAVY △4
△1 ~~PILE~~ △4

△2 NO CHANGE SINCE LAST INSP.

DETERIORATION NOTES:

(1) There are no deterioration notes at this time

△3 No Change

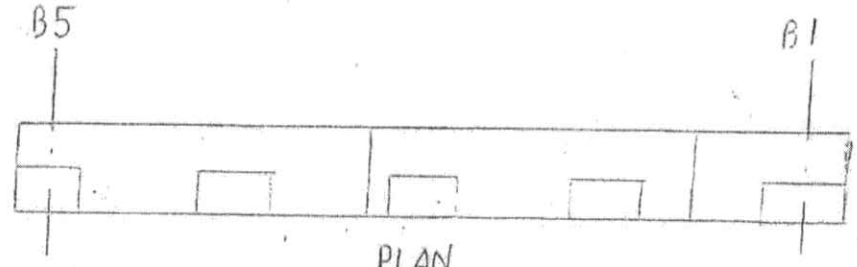
NO.	DATE	DESCRIPTION
△4	5/14/12	MAI, CK (AI)
△3	5/18/10	GM, CK (AI ENG)
△2	7/8/08	MJW, PHH (HAKS)
△1	6/12/06	GCS PG, SW

REVISIONS

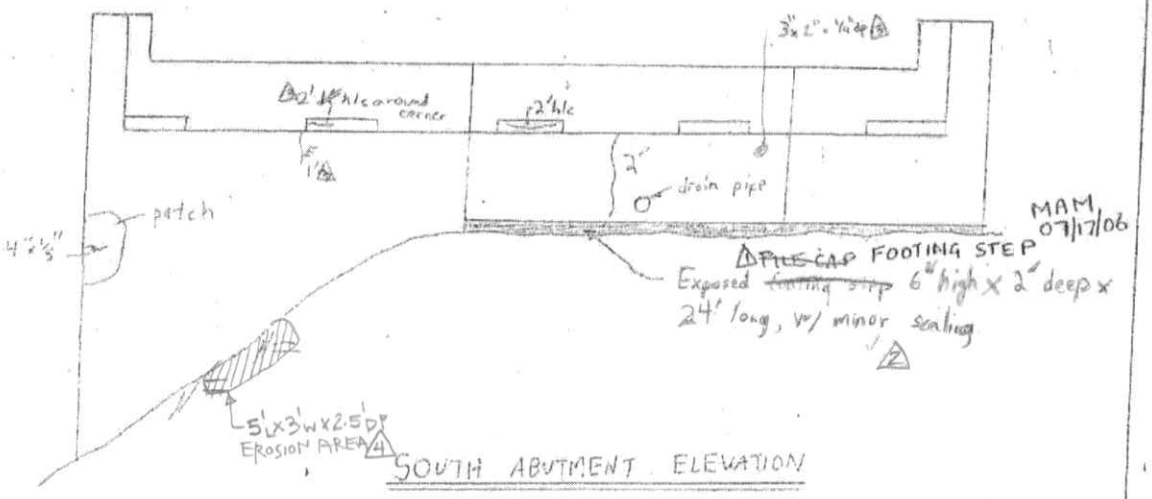
United International Corporation
Civil Engineers and Surveyors

50/106

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-24-04	SHEET 52 ~~OF 115~~ 56
DESCRIPTION: SUBSTRUCTURE	CREW: SRD, AR, MEB	48/~~101~~ ~~57~~/~~151~~



PLAN



SOUTH ABUTMENT ELEVATION

(ABUT #1)

NOTES

Ⓐ Light debris on the Abutment Seat
Ⓑ The backwall is partially obscured by the end diaphragms
△3 - Lt. Graffiti on stem

LEGEND:

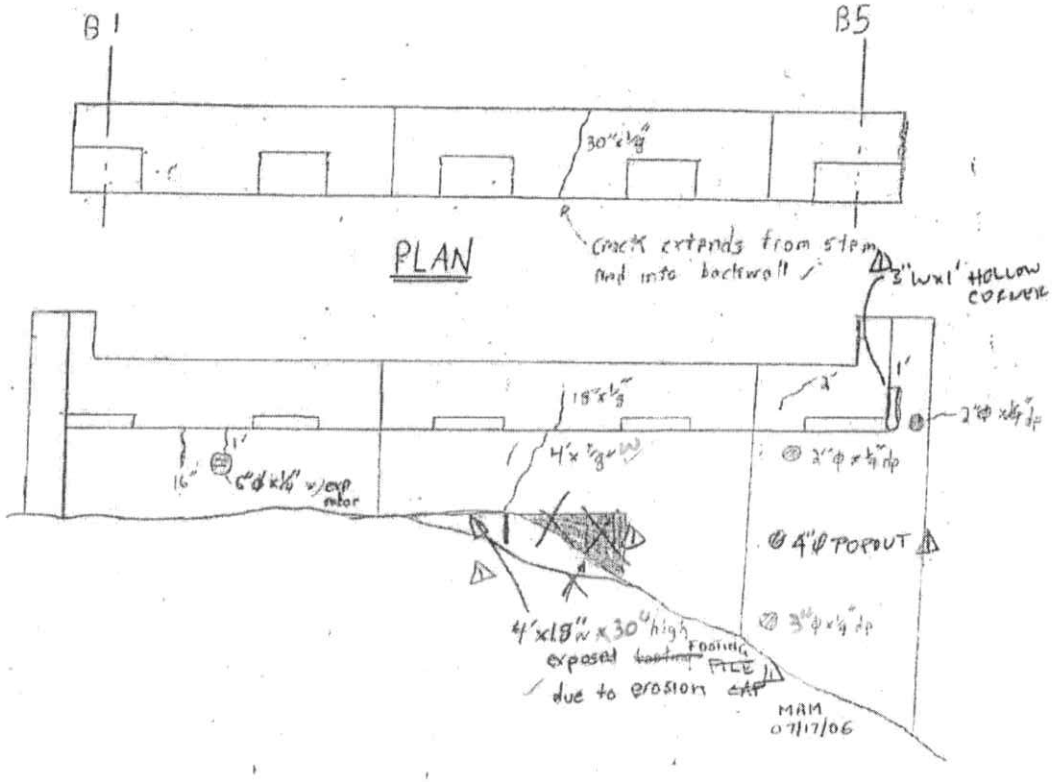
- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

NO.	DATE	DESCRIPTION
△4	5/14/12	MAI, CK (AI)
△3	5/18/10	GM, CK (AI Eng.)
△2	7/2/08	PHH, MJW (HAKS)
△1	6/12/06	GCS PG, SW

REVISIONS

Civil Engineers and Surveyors

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-24-04	SHEET 53 OF 115
DESCRIPTION: SUBSTRUCTURE	CREW: SRD, AR, MEB	



NORTH ABUTMENT ELEVATION

(ABUT # 2)

NOTES:-

(A) The backwall is partially obscured by the end diaphragms

(2) - GRAFFITI ON STEM

(3) No Change

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MapC) OR HAIRLINE MAP CRACKS (HLMapC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

NO.	DATE	DESCRIPTION
REVISIONS		
4	5/17/12	CK, MAI (AI)
3	5/20/10	GM, CK (AI)
2	7/10/08	PHH, MTW
1	6/15/06	GCS PG, SW, DLC

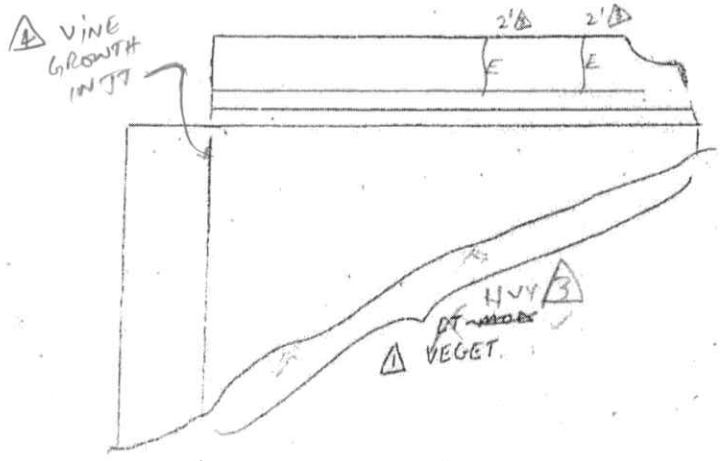
ULC — Civil Engineers and Surveyors

FIELD NOTES

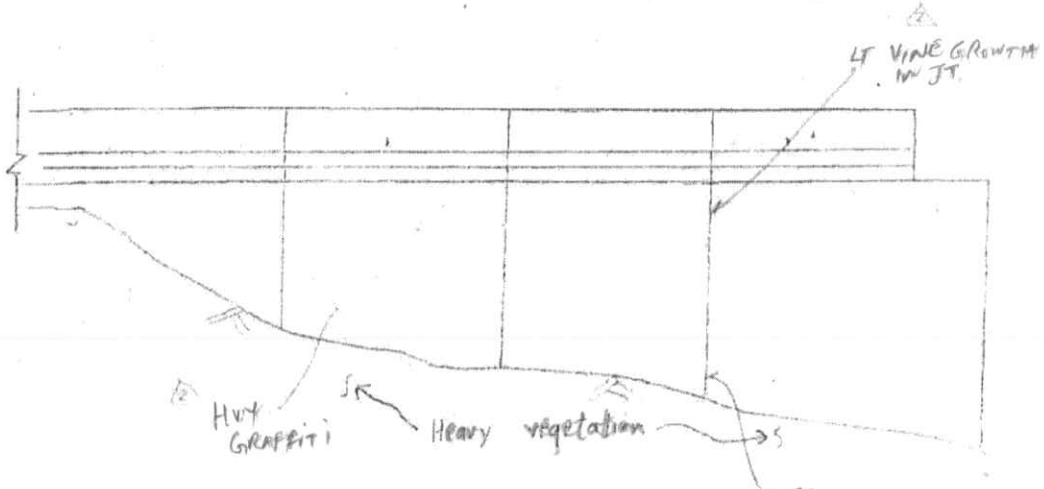
JOB NO: 170-2357 | BRIDGE NO: 03367
DATE: 2-24-04 | SHEET ~~54~~ ~~OF 115~~ 58
DESCRIPTION: SUBSTRUCTURE | CREW: SRD, AR, MEB

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, CK (AI)
3	5/19/10	GM, CK (AIEng)
2	7/2/08	PHH; MJW (HAK)
1	6/12/06	GCS PG, SW

REVISIONS



SOUTHWEST WINGWALL



SOUTHEAST WINGWALL

LEGEND:
- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- EFFLORESCENCE IS PRESENT

NOTES

(A) The parapets above the wingwalls exhibit scattered hairline cracks w/ + w/o efflo.

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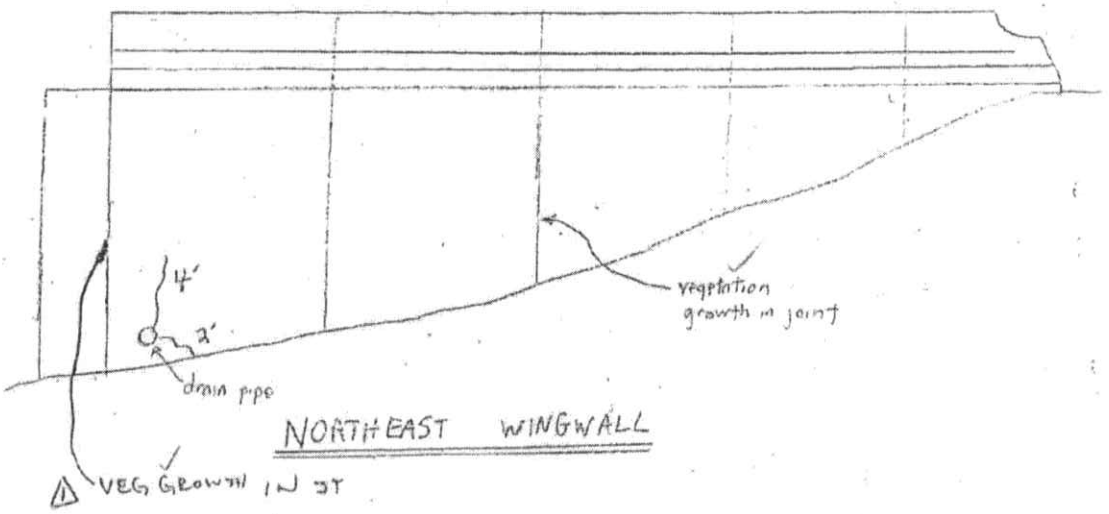
FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-24-04	SHEET ~~55 OF 115~~ 51
DESCRIPTION: SUBSTRUCTURE	CREW: SRD, AR, MEB	51/~~[illegible]~~ 52/~~[illegible]~~



NOTES:

(A) The Northwest Wingwall RUNS ALONG G1 AND IS OBSCURED BY IT. 1 ~~is below the finished grade and is not visible~~

(B) There is MOD 4 Graffiti on the wingwall at random locations ✓

1 (C) MOD - HVY VEGET ALONG WINGWALL ✓

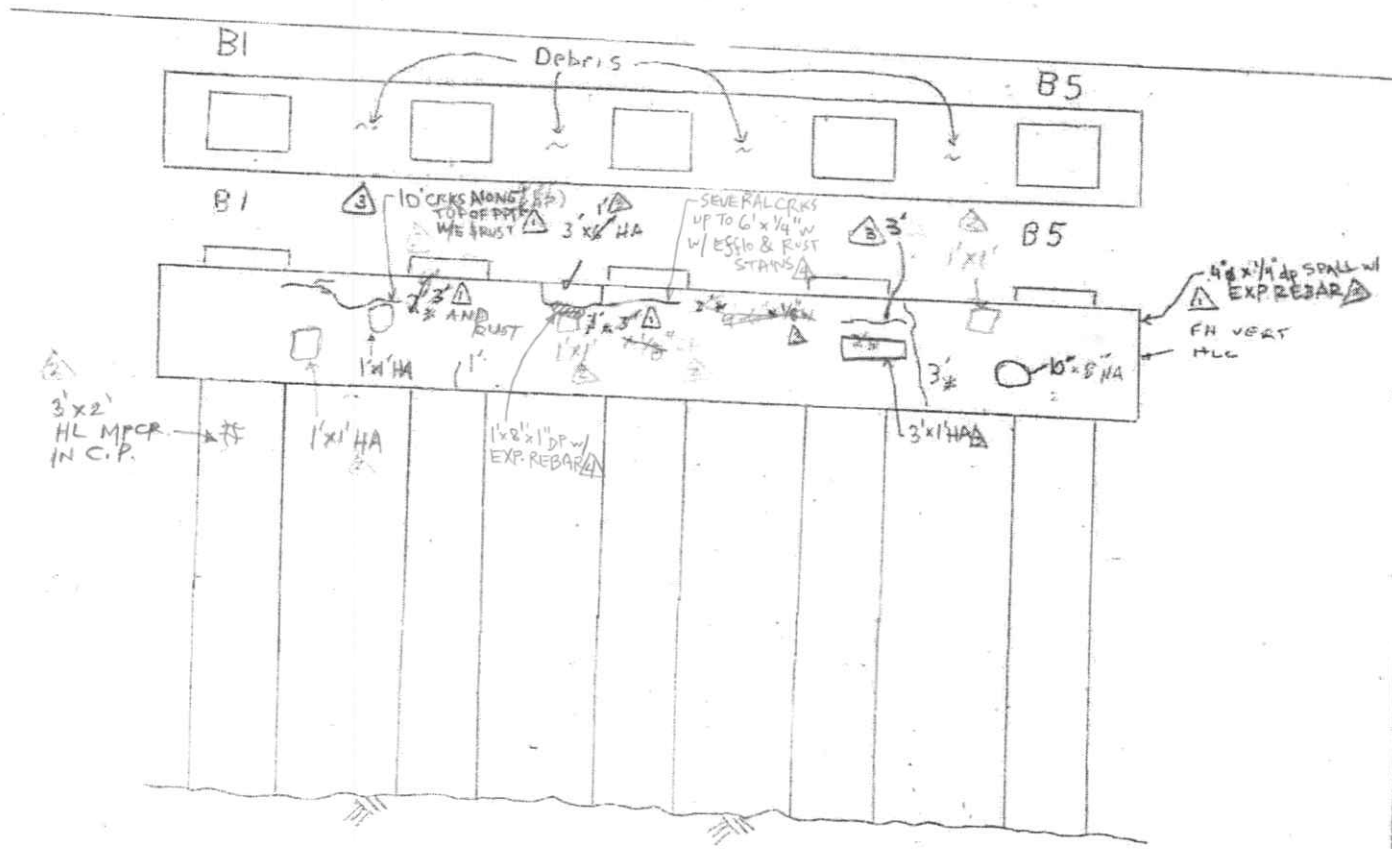
3 No Change

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

NO.	DATE	DESCRIPTION
4	5/17/12	CK, MAI (AI)
3	5/21/10	GM, CK (AI Eng)
2	7/10/08	PHH, MTW
1	6/15/06	GCS PG, SW

REVISIONS



PIER 1 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, CK (AI)
3	5/18/10	GM, CK (AI Eng)
2	7/8/08	MJW, PHH (HAKS)
1	6/12/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

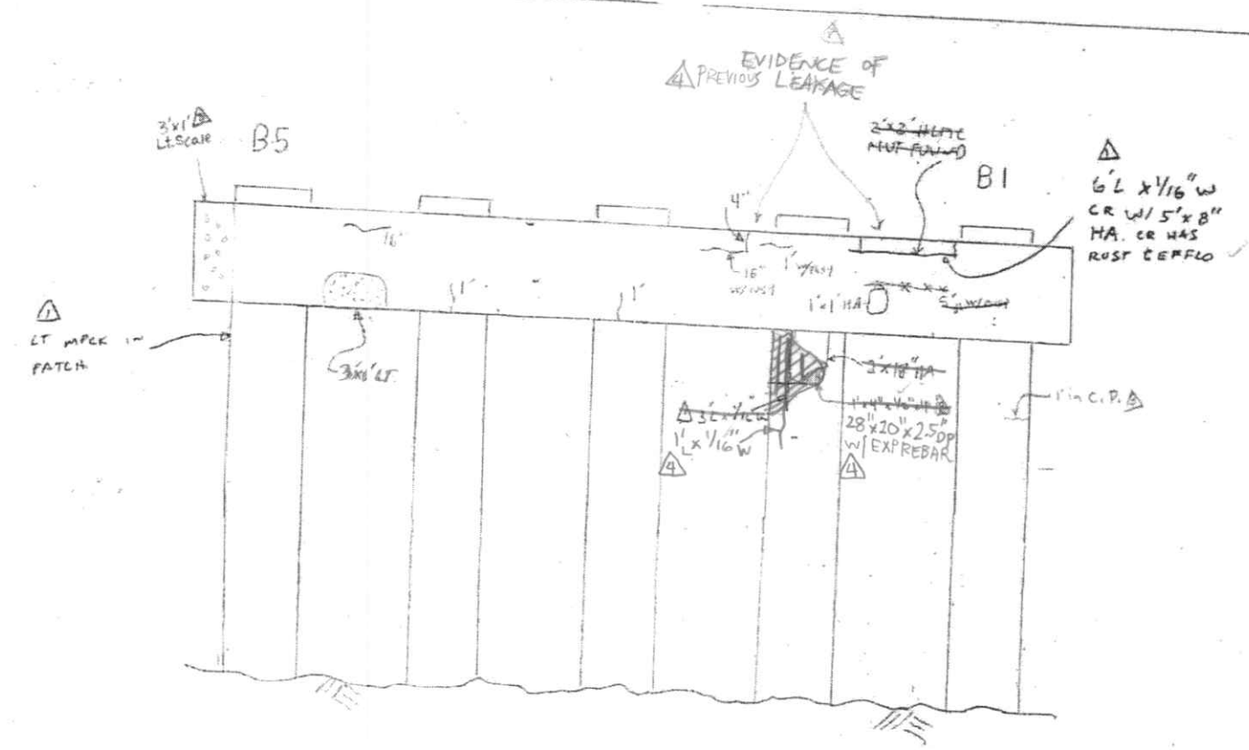
FIELD NOTES

JOB NO: 170-2357
DATE: 2-24-04
CREW: SRD, AR, MEB

BRIDGE NO: 03369
SHEET 56 OF 113

United International Corporation
Civil Engineers and Surveyors

54/106



PIER 1 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- ✳ EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ ⚠1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(2) See notes on ~~Sheet No. 51~~ ⚠1 SUBSTRUCTURE NOTES SHEET

NO.	DATE	DESCRIPTION
⚠4	5/14/12	MAI, CK (AI)
⚠3	5/18/10	GM, CK (AI Eng)
⚠2	7/8/08	MJW, [illegible] (MAI-S)
⚠1	6/12/06	GES, PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357

DATE: 2-24-04

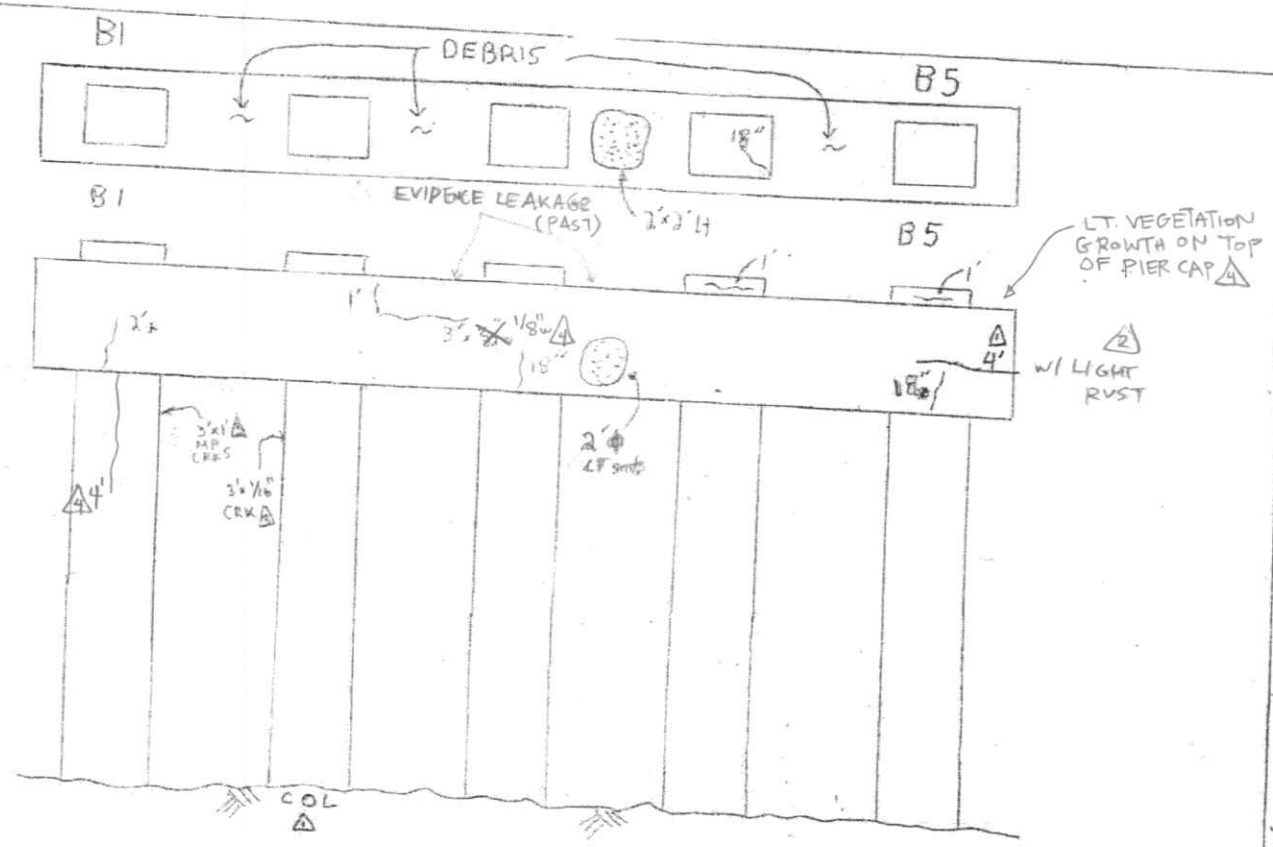
BRIDGE NO: 03379

CREW: SRD, AR, MEB

SHEET 52 OF 115 SHEETS

United International Corporation
Civil Engineers and Surveyors

55/106



PIER 2 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

1. See notes on ~~Sheet No.~~ 51
   1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

4. See notes on ~~Sheet No.~~ 51
   1 SUBSTRUCTURE NOTES SHEET

1 COL - CONCRETE COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, CK (AI)
3	5/18/10	GM, CK (AL Eng)
2	7/8/08	MJW, PHH (HAKS)
1	6/12/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357
DATE: 2-24-04
CREW: SRD, AR, MEB
BRIDGE NO: 03369
SHEET 58 OF 115 62

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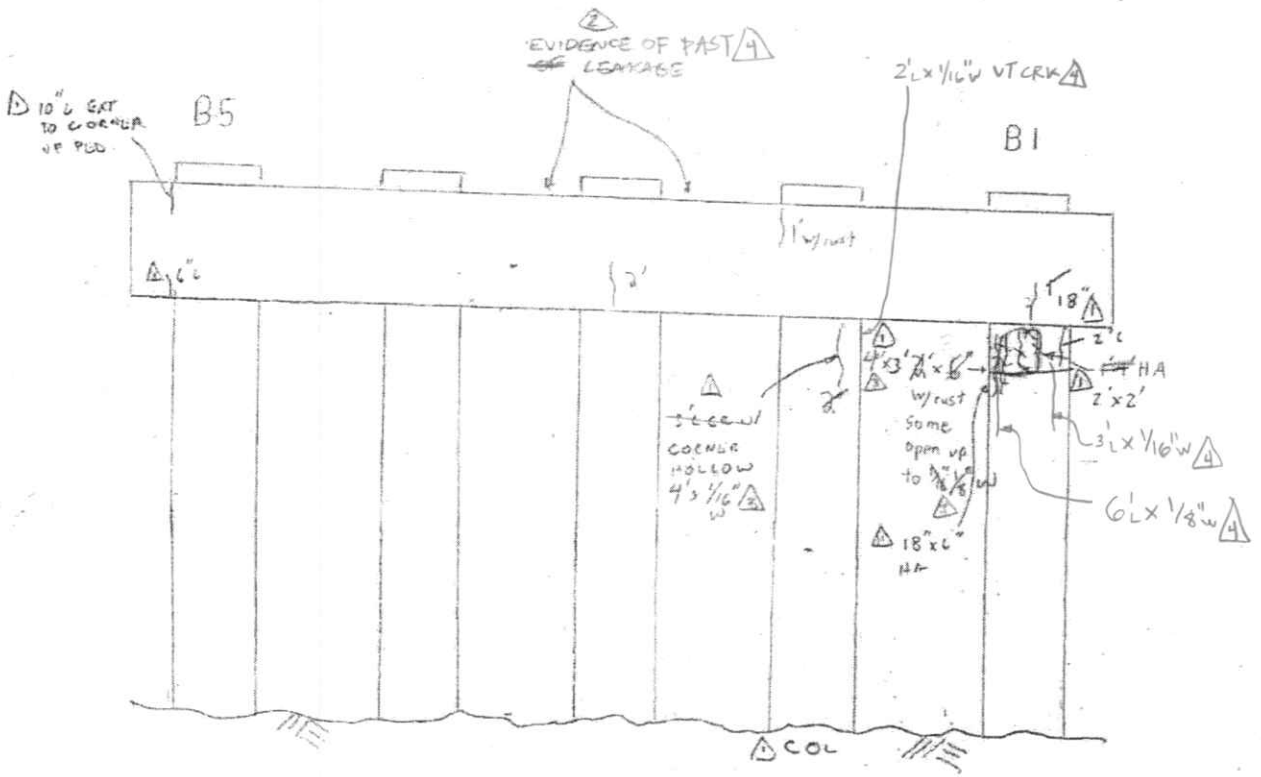
Civil Engineers and Surveyors

56/106



PIER 2 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMAC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

(1) COL - CONCRETE COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
REVISIONS		
4	5/14/12	MAI, CK(AI)
3	5/18/10	GM, CK(AIEng)
2	7/2/08	HJW, PPH (HAES)
1	12/06	GCS PG, SW

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

United International Corporation
Civil Engineers and Surveyors

JOB NO: 170-2357 BRIDGE NO: 03754

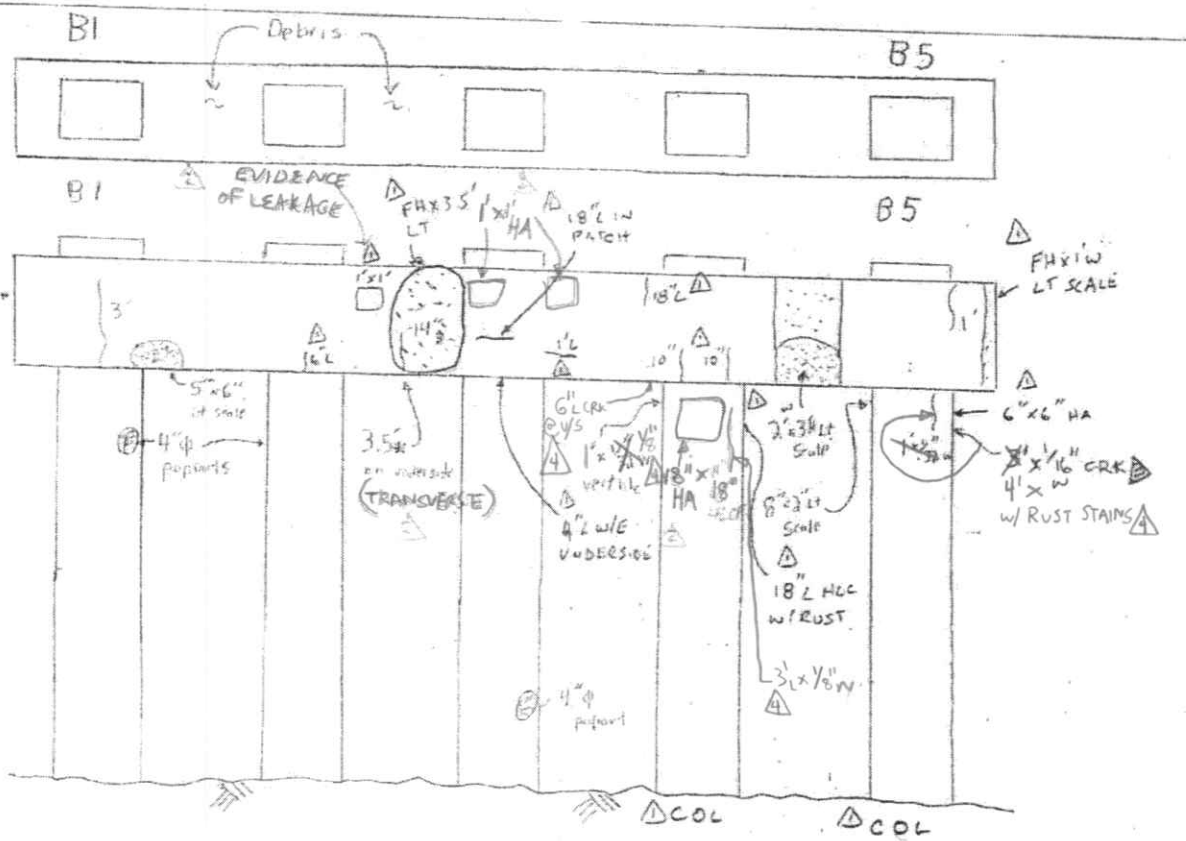
DATE: 2-24-04 SHEET 52 OF 115 62

CREW: SRD, AR, MEB

57/106

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, CK(AI)
3	5/18/10	GM/CK(AI Eng)
2	7/8/08	MJW, PHH (HAKS)
1	6/12/06	GCS PG, SW

REVISIONS



PIER 3 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

1. See notes on ~~Sheet No. 51~~ 1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES 1 SUBSTRUCTURE NOTES SHEET

4. See notes on ~~Sheet No. 51~~
2. ~~Previously noted out of plumb columns were not found~~ PILES

1 COL - CONCRETE COLUMN FOUNDED ON PRESTRESSED PILE

United International Corporation
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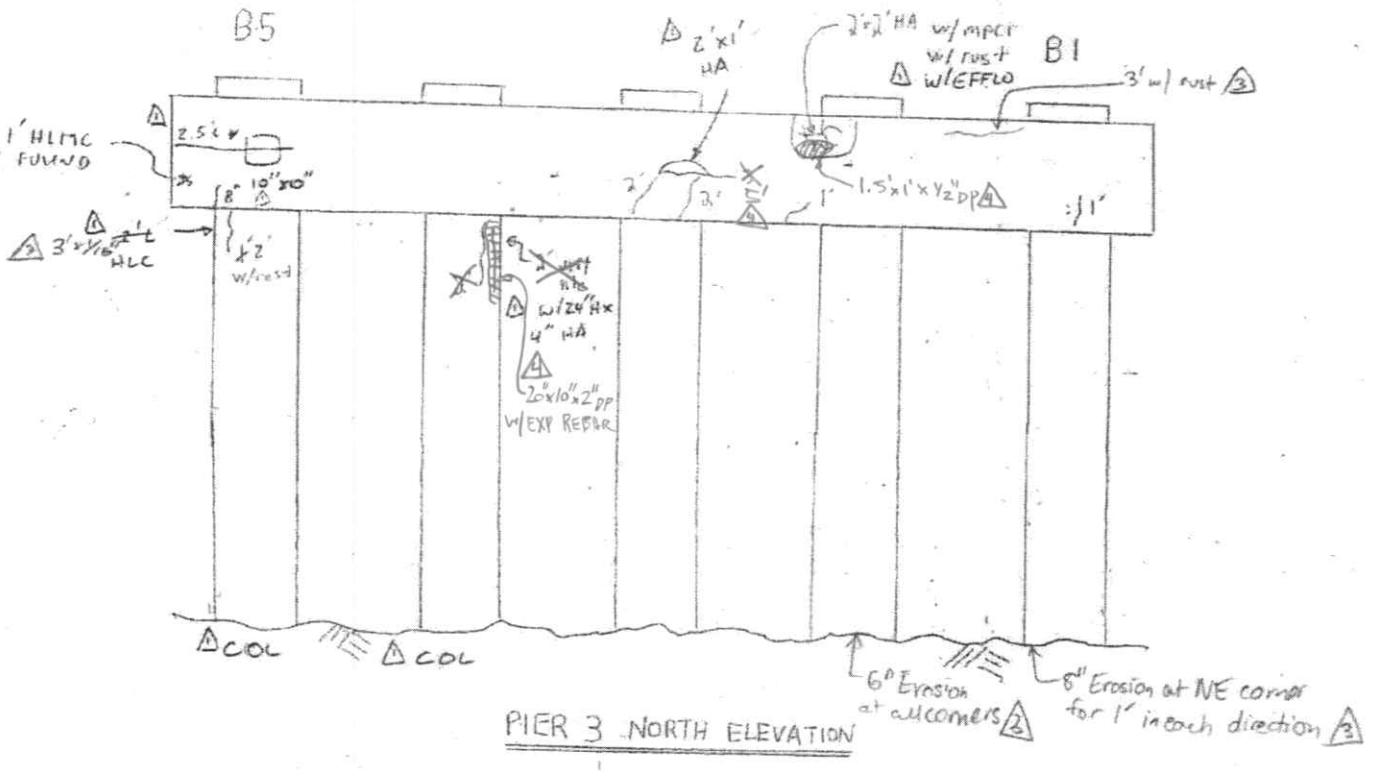
FIELD NOTES

DESCRIPTION: SUBSTRUCTURE

JOB NO: 170-2357 | BRIDGE NO: 03369
DATE: 2-24-04 | SHEET 60 OF 115 64
CREW: SRD, AR, MEB

58/106



PIER 3 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 5~~, (1) SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 5~~, (1) SUBSTRUCTURE NOTES SHEET

(1) COL - CONCRETE COLUMN FOUNDED ON PRESTRESSED PILE

(2) - MOD. TO HVY. DEBRIS ON CAP. 8"±

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, Ck(AT)
3	5/18/10	GM, Ck(AE Eng.)
2	7/2/08	MJW, PHH (HAKS)
1	6/12/06	GLS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

CREW: SRD, AR, MEB

DATE: 2-24-04

JOB NO: 170-23357

BRIDGE NO: 03359

SHEET 4 OF 17 65

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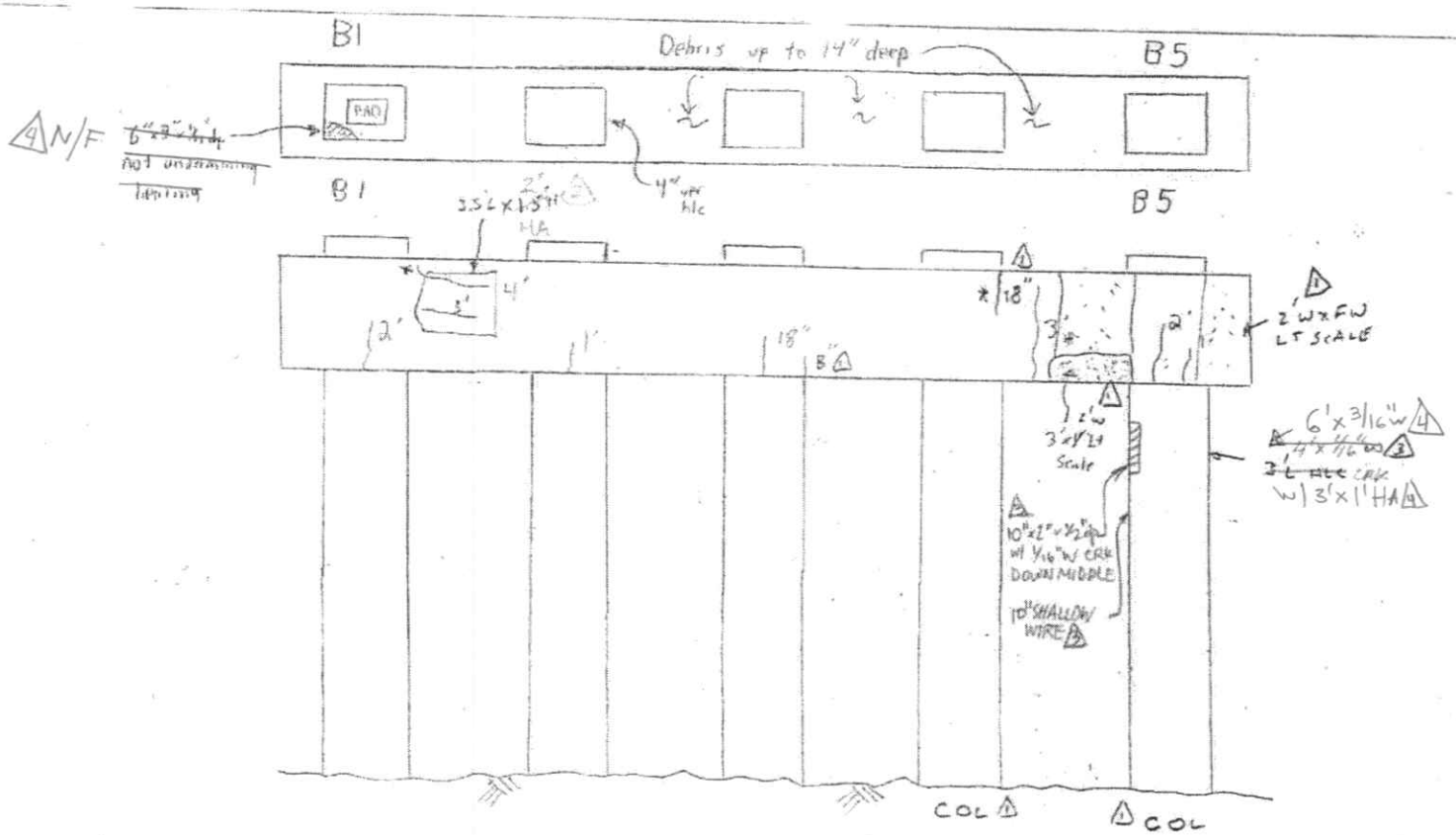
Civil Engineers and Surveyors

5/9/06



PIER 4 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

1. See notes on ~~Sheet No. 51~~ 1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

4. See notes on ~~Sheet No. 51~~ 1 SUBSTRUCTURE NOTES SHEET

1 COL - CONCRETE COLUMN FOUNDED ON PRESTRESSED PILE

2 - MOD TO HVY DEBRIS ON [illegible] (CONCRETE)

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, CK (AI)
3	5/18/10	GM, CK (AI Eng)
2	7/8/08	MJW, PHH (HAIS)
1	6/12/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET 62 OF 115 66

CREW: SRD, AA, MEB

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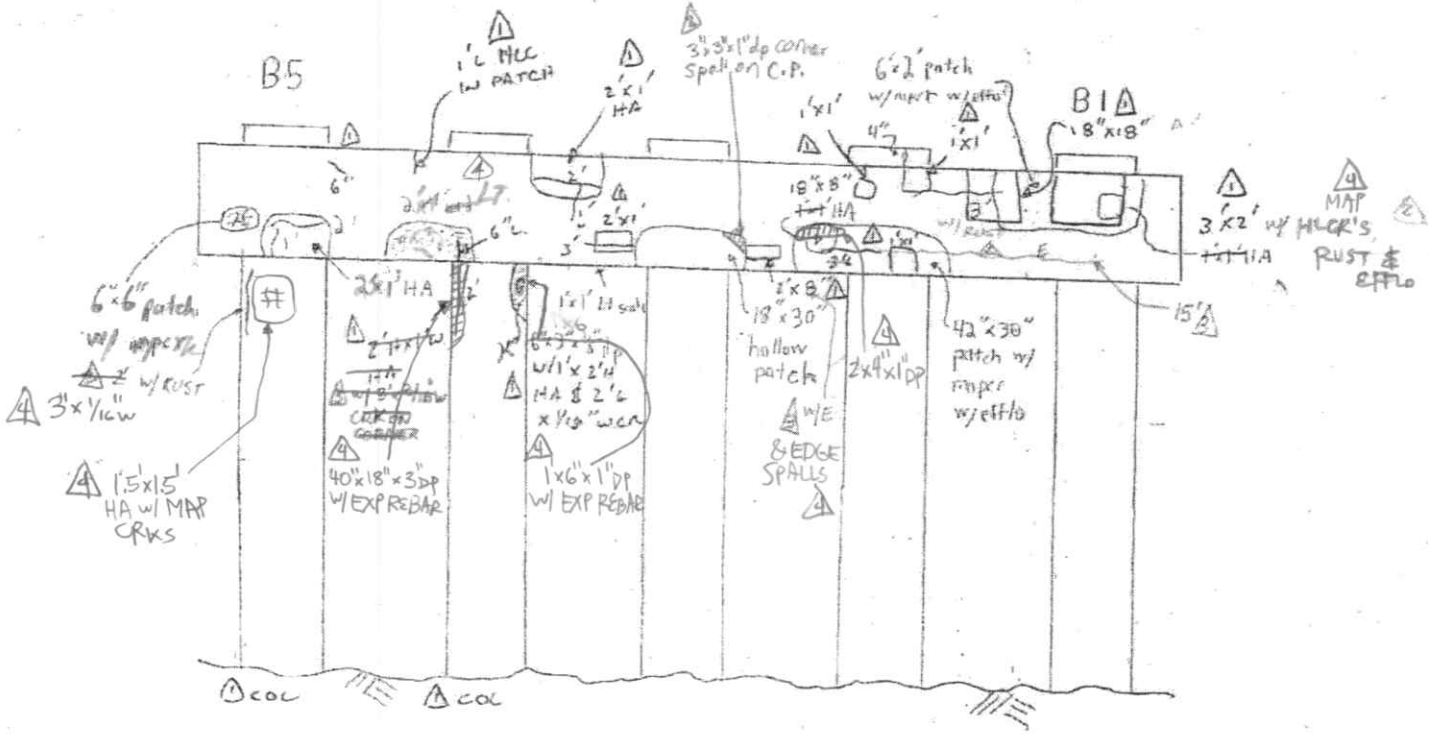
60/106



PIER 4 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 5~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 5~~ SUBSTRUCTURE NOTES SHEET

SUBSTRUCTURE NOTES SHEET

COL - CONC COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, CK (AI)
3	5/18/10	GM, CK (AI 5.0)
2	7/2/08	MJW, PMH (HAKS)
1	6/17/06	GCS PE, SW

REVISIONS

United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

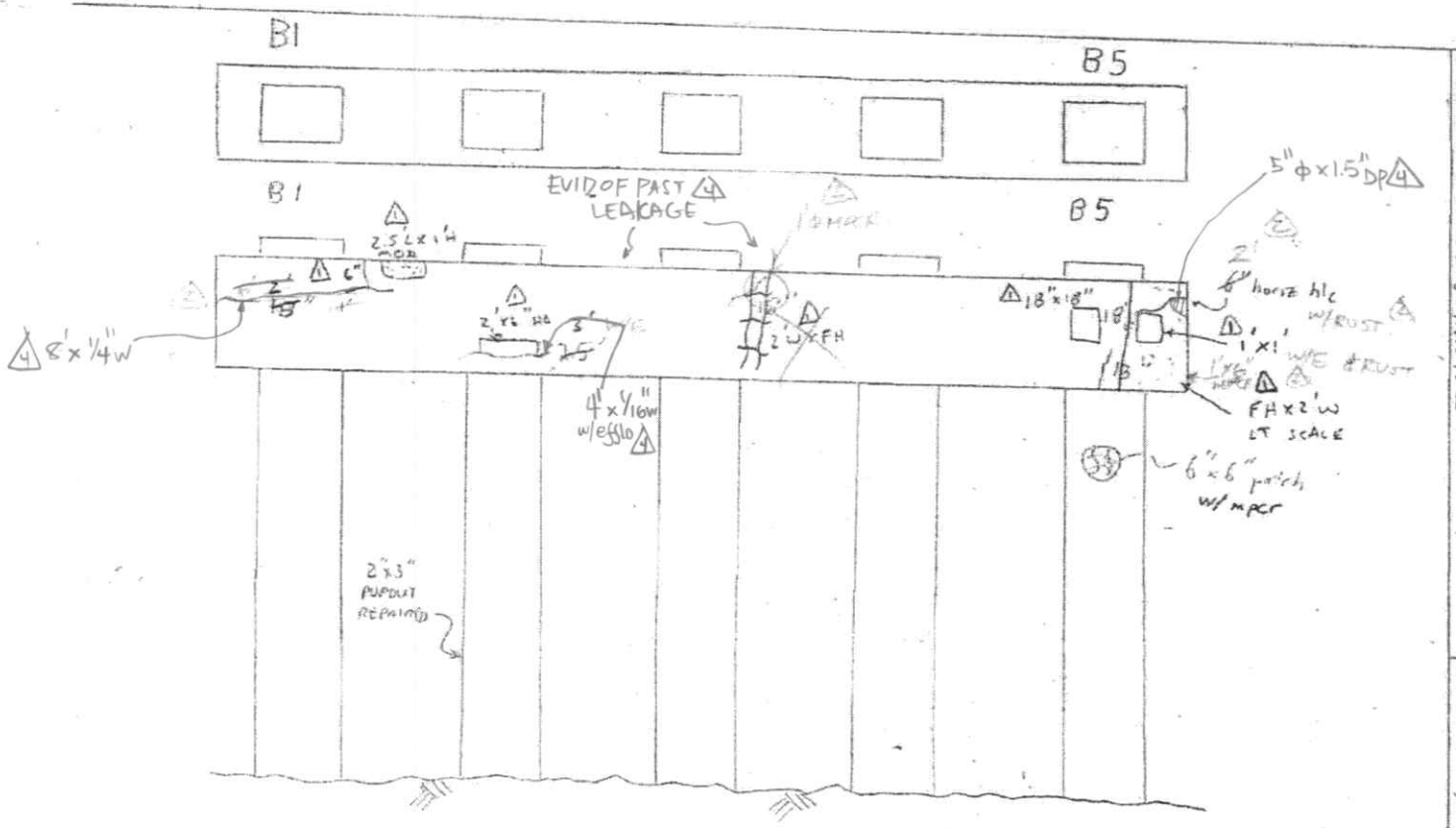
DESCRIPTION: SUBSTRUCTURE

JOB NO: 170-2357 BRIDGE NO: 033619

DATE: 2-14-04 SHEET 63 OF 115 67

CREW: SRD, AR, MEB

61/106



PIER 5 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 5~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 5~~ SUBSTRUCTURE NOTES SHEET

NO.	DATE	DESCRIPTION
REVISIONS		
4	5/14/12	MAI, CK (AI)
3	5/12/10	GH, CK (AIENG)
2	7/8/08	MJW, PHH (HAS)
1	6/12/06	GCS PG, SW

DESCRIPTION: SUBSTRUCTURE

CREW: SRD, AR, MEB

JOB NO: 170-2357

DATE: 2-24-04

BRIDGE NO: 03369

SHEET 6A OF 46 68

FIELD NOTES

United International Corporation
Civil Engineers and Surveyors

6/2/06

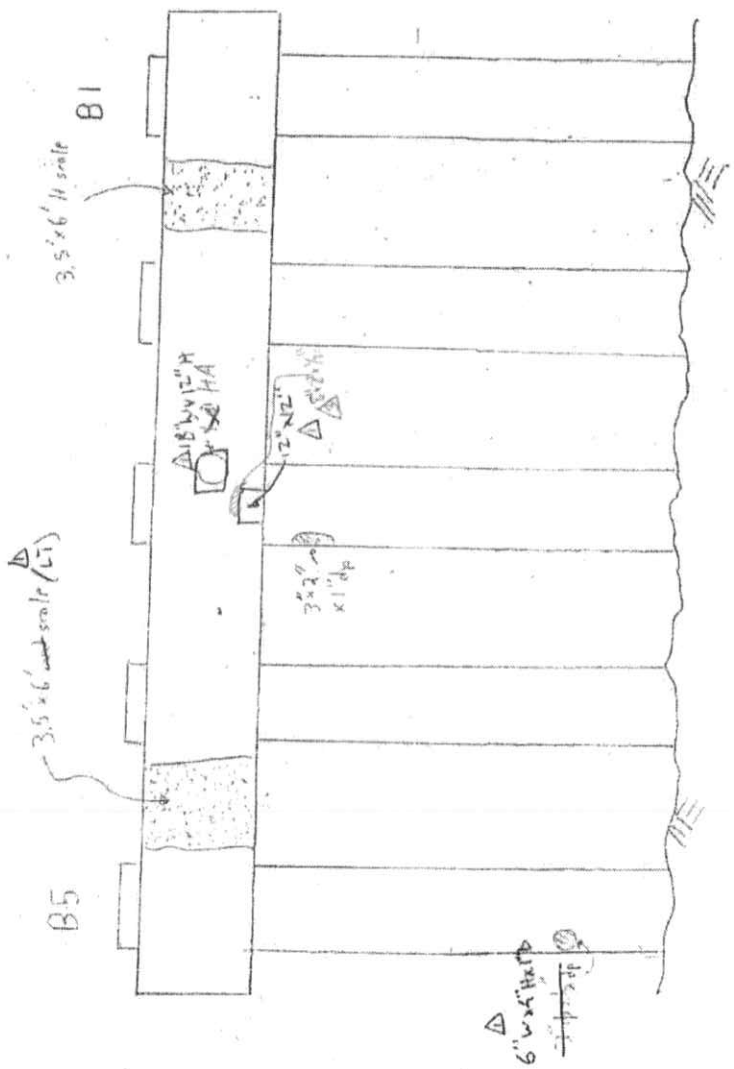
United International Corporation
Civil Engineers and Surveyors

63/106

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-24-04	SHEET ~~65 OF 115~~ 69
DESCRIPTION: SUBSTRUCTURE	CREW: SRD, AR, MEB	61/101 70/101

NO.	DATE	DESCRIPTION
4	5/14/12	MAI, CK(AI)
3	5/19/10	GM, CK(AI Eng)
2	7/14/08	HAFS, MSM, JW
1	6/13/06	GCS PG, SW

REVISIONS



PIER 5 NORTH ELEVATION

GENERAL NOTES

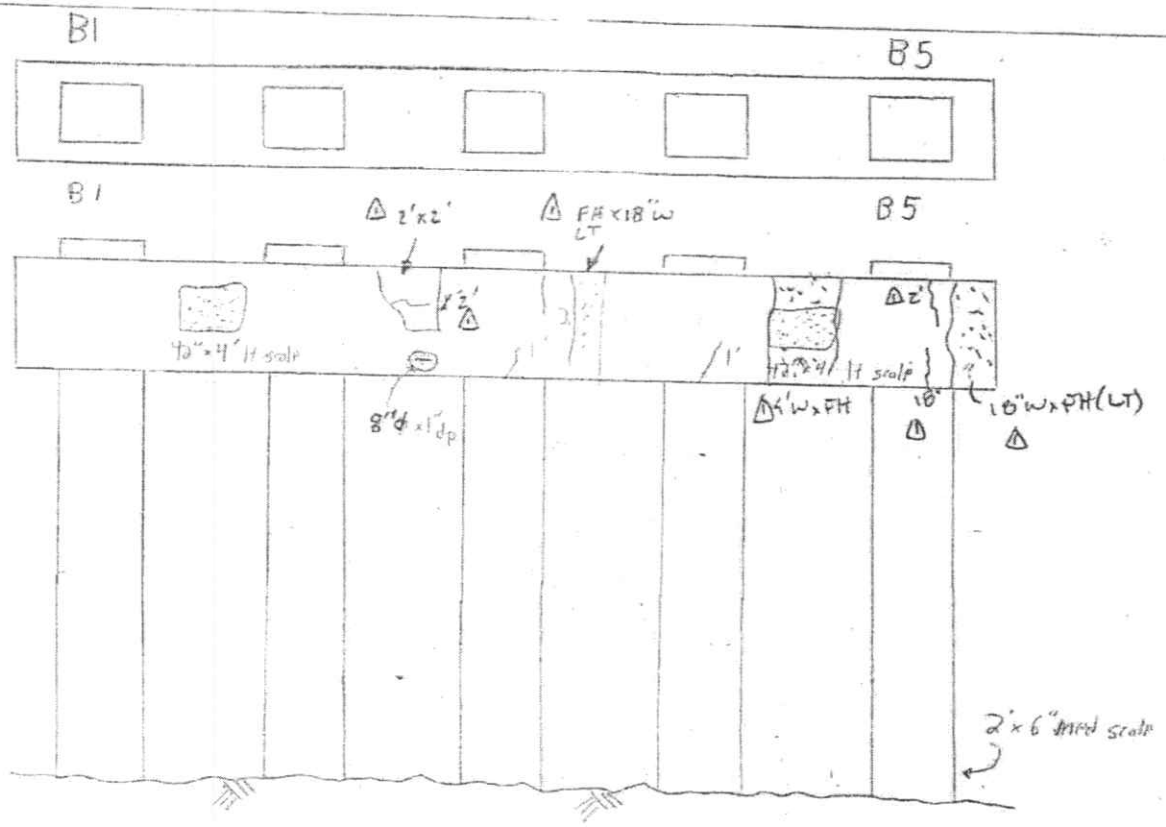
(4) See notes on ~~Sheet No. 51~~ △ SUBSTRUCTURE NOTES SHEET

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ △ SUBSTRUCTURE NOTES SHEET

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLURESCENCE IS PRESENT



PIER 6 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ △1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ △1 SUBSTRUCTURE NOTES SHEET

△3 EVID OF PAST △4 ~~Active~~ leakage over west end. near B1.

NO.	DATE	DESCRIPTION
△4	5/15/12	CK, MAI (AI)
△2	5/18/10	GM, CK (AI ENG)
△2	7/8/08	MJW, PHH (HAKS)
△1	6/13/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

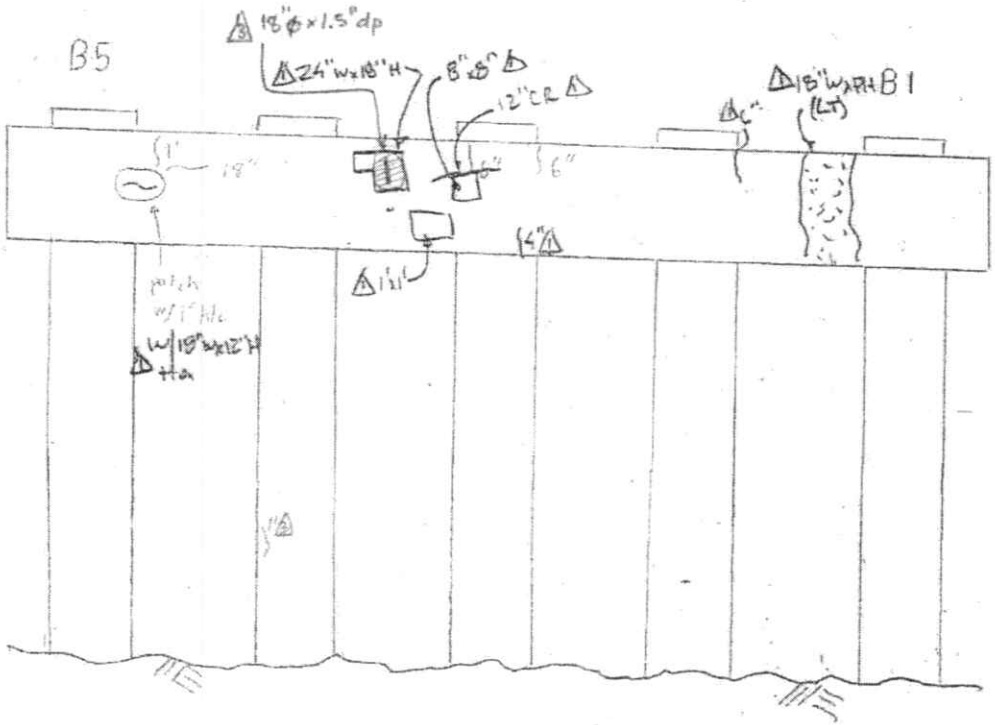
JOB NO: 170-2367 BRIDGE NO: 03369

DATE: 2-24-04 SHEET ~~66~~ OF ~~115~~ 76

CREW: SRD, AR, MEB

United International Corporation
Civil Engineers and Surveyors

64/106



PIER 6 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(2) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

(3) Active Leakage on West end near B1

NO.	DATE	DESCRIPTION
4	5/15/12	Ck, MAI (AI)
3	5/18/10	GM, Ck (AI ER)
2	7/11/08	MJW, JW, PHH
1	6/13/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

CREW: SR, AR, MEB

DATE: 2-24-04

JOB NO: 170-1357

BRIDGE NO: 033879

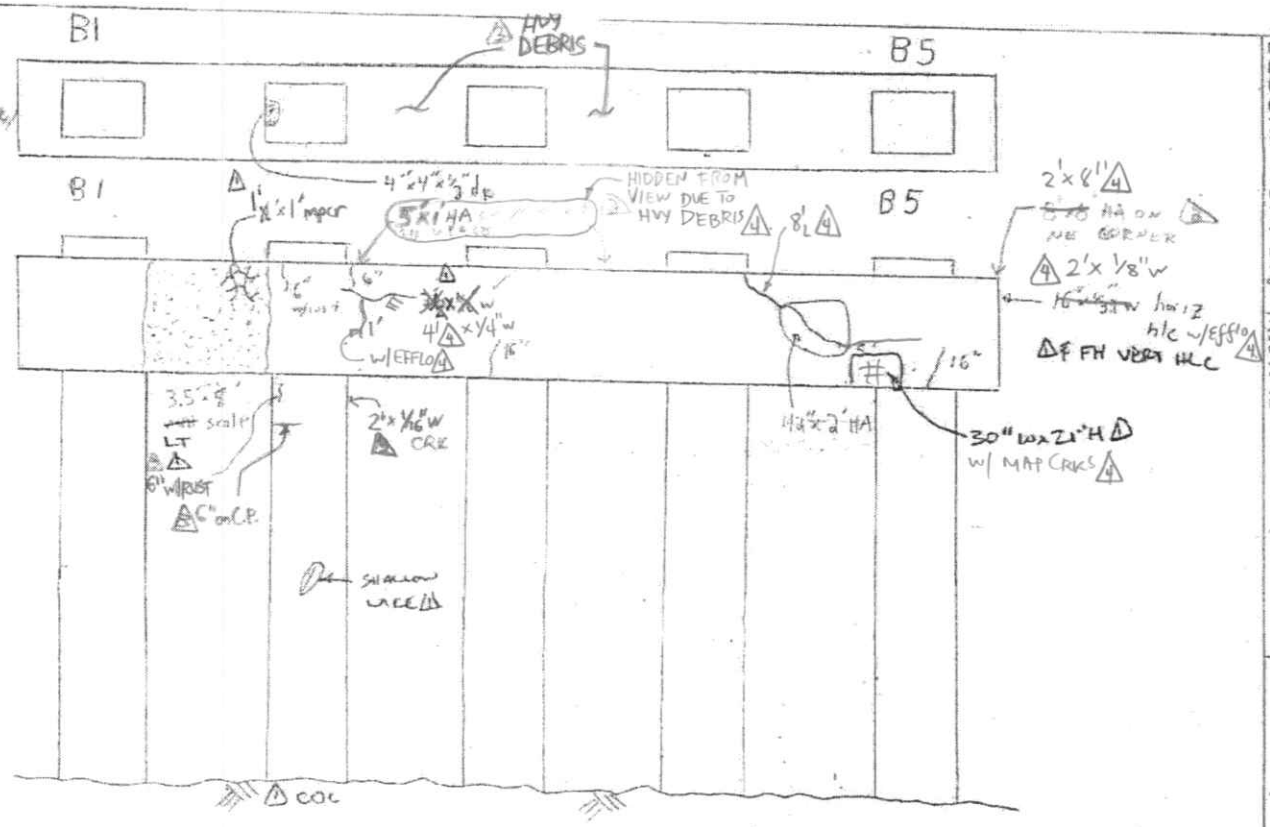
SHEET 62 OF 115 SHTS

United International Corporation
Civil Engineers and Surveyors

65/106

NO.	DATE	DESCRIPTION
4	5/15/12	CK, MAI (AI)
3	5/18/10	GM, CK (AI Eng)
2	7/11/06	MW, TCW, HW (CHAR)
1	6/13/06	GCS PG, SW

REVISIONS



PIER 7 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES SUBSTRUCTURE NOTES SHEET

(2) EVIDENCE OF PAST LEAKAGE

(A) See notes on ~~Sheet No. 51~~

(B) Active joint leakage onto Pier cap full length, up to 12" of debris on cap

COL - CONC. COLUMN FOUNDED ON PRESTRESSED PILE

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

United International Corporation
Civil Engineers and Surveyors

JOB NO: 170-2357 | BRIDGE NO: 03369
DATE: 2-24-04 | SHEET 68 OF 115 22
CREW: SRD, AR, MEB

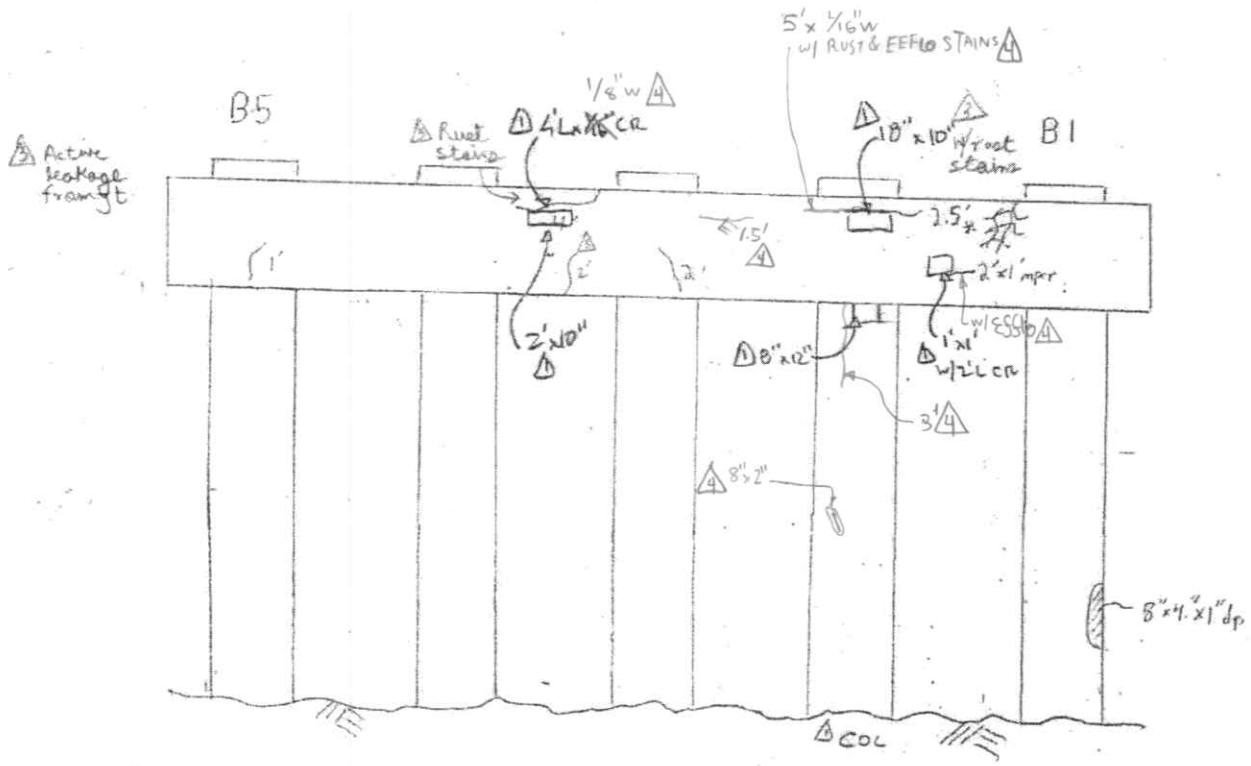
66/106

United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: SUBSTRUCTURE

JOB NO: 170-2357 | BRIDGE NO: 03369
DATE: 2-24-04 | SHEET 62 OF 115 73
CREW: SRD, AR, MEB



PIER 7 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

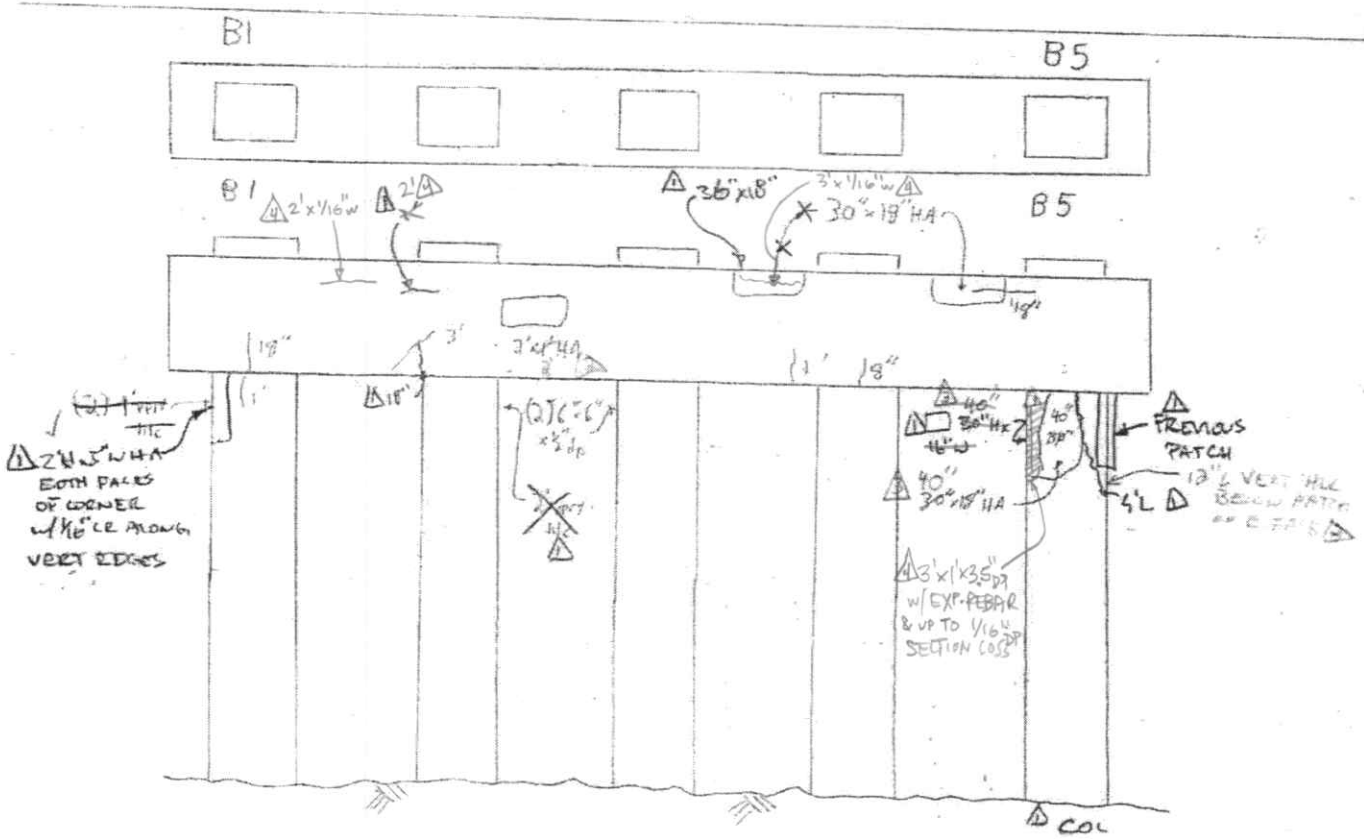
GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

COL - CONC. COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/15/12	CK, MAI (AI)
3	5/19/10	UQ, GM (AI)
2	7/11/08	MDW, KW, [illegible]
1	6/13/06	GCS PG, SW

REVISIONS



PIER 8 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MEB OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

(1) COL - CONC. COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/15/12	CK, MAI (AI)
3	5/19/10	UQ, GM (AI)
2	7/11/08	(HAI), MJ, SW
1	6/13/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

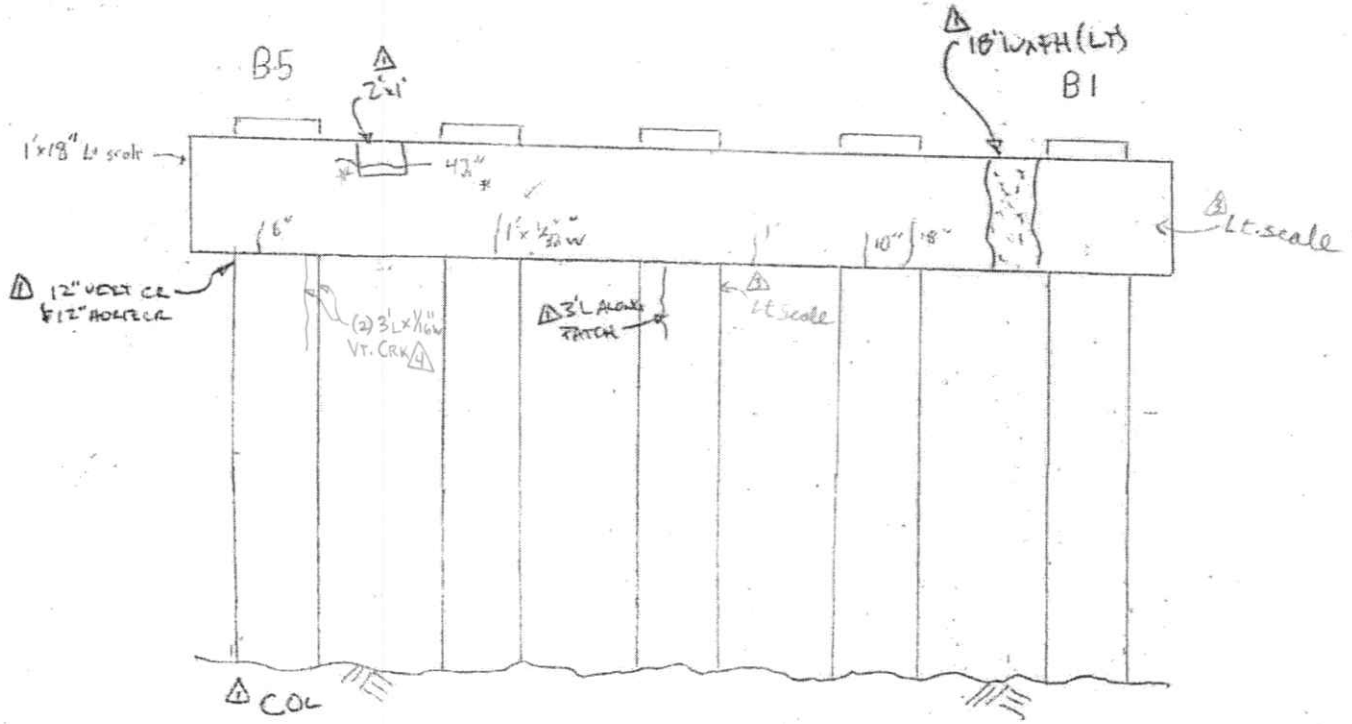
JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET ~~70~~ OF 75 ~~74~~

CREW: SRD, AR, MEB

United International Corporation
Civil Engineers and Surveyors

68/106



PIER 8 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

COL. CONC. COLUMN FOUNDED ON PRESTRESSED PILE.

NO.	DATE	DESCRIPTION
4	5/15/12	CK, MAI (AI)
3	5/19/10	UQ, GM (AI)
2	7/11/08	MJW, RW, [illegible]
1	6/13/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET 21 OF 115

CREW: SRD, AR, MEB

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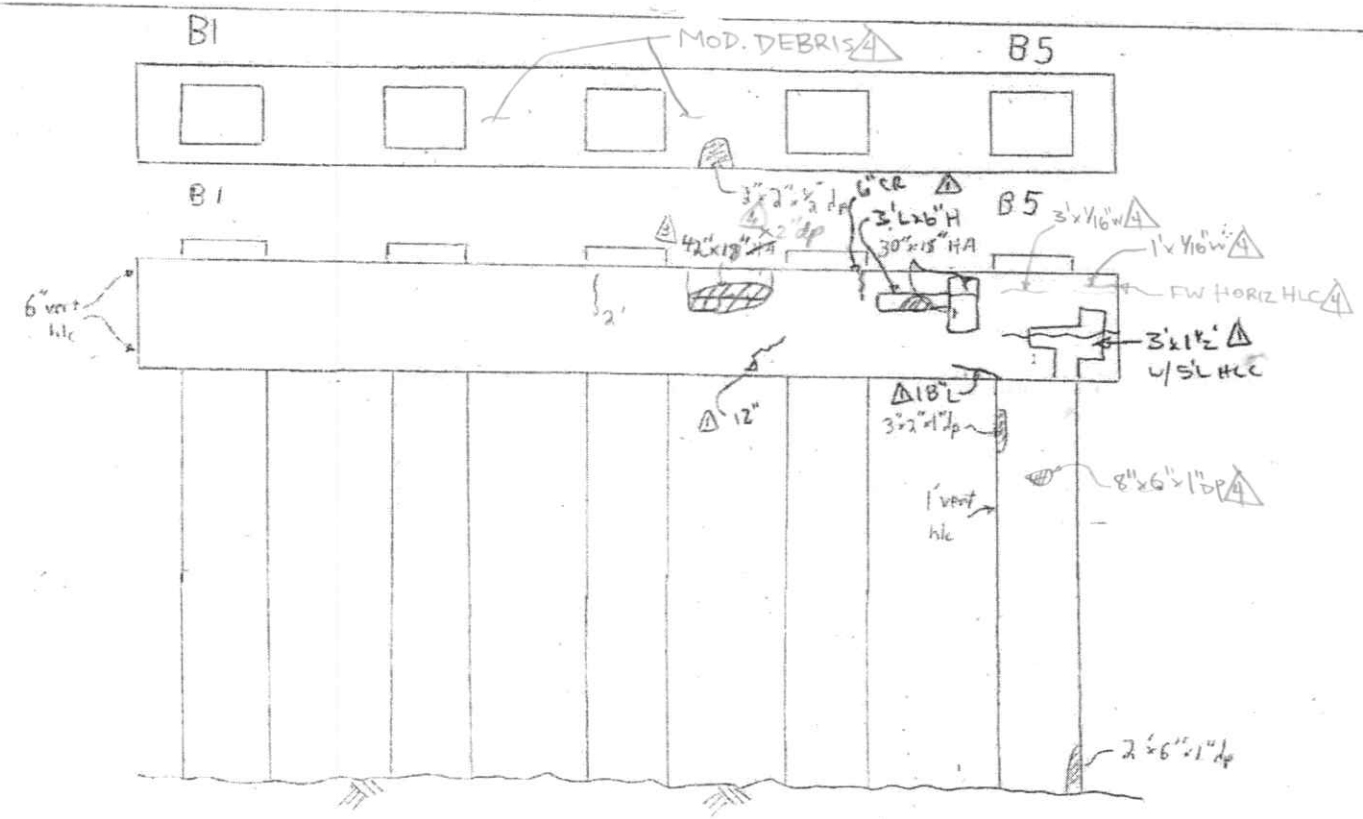
Civil Engineers and Surveyors

69/106



PIER-9 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ 1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ 1 SUBSTRUCTURE NOTES SHEET

NO.	DATE	DESCRIPTION
4	5/15/12	CK, MAI (AI)
3	5/19/10	UQ, GM (AI)
2	7/11/08	MJW, TCW, [illegible]
1	6/13/06	GCS PG, SW

REVISIONS

(HORIZ)

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Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: SUBSTRUCTURE

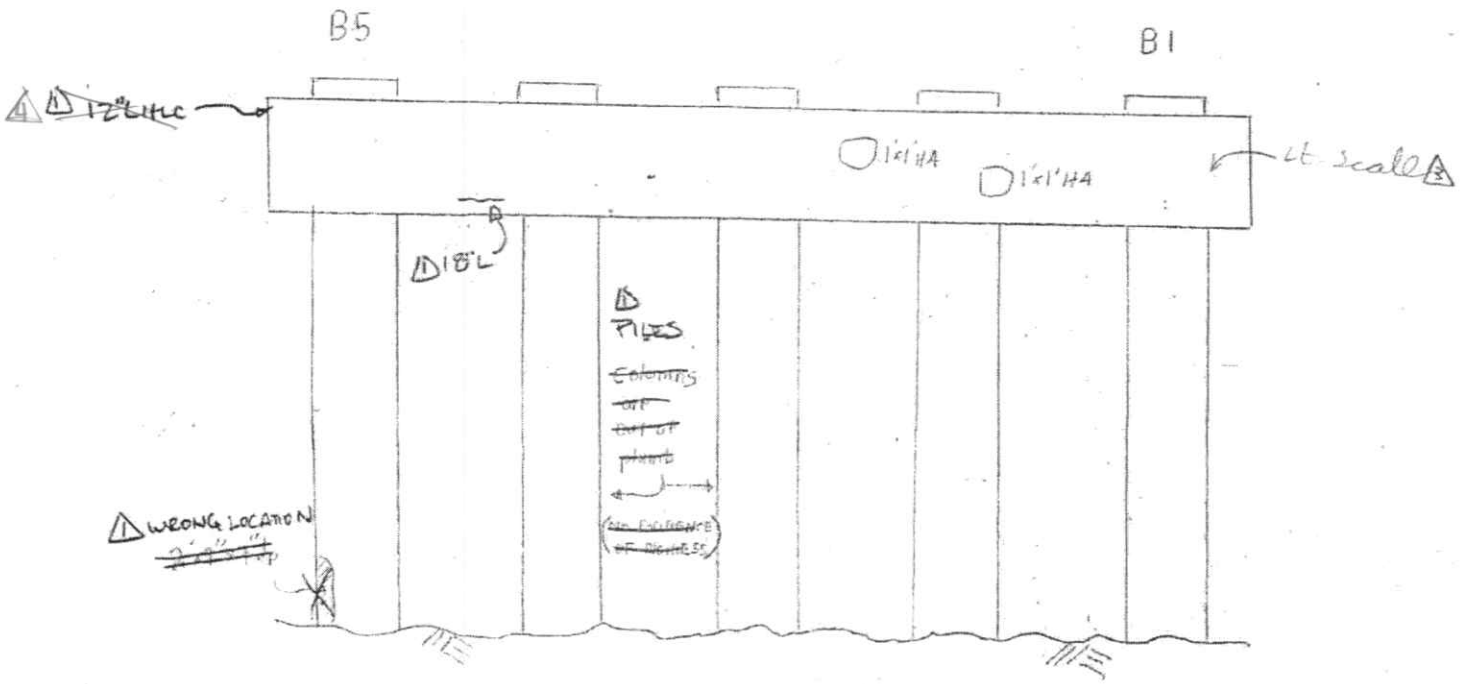
JOB NO: 170-2357 BRIDGE NO: 07369

DATE: 2-24-04 SHEET ~~72 OF 115~~ 76

CREW: SRD, AR, MEB

68/[illegible]

70/106



PIER 9 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. S1~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(A) See notes on ~~Sheet No. S1~~ SUBSTRUCTURE NOTES SHEET

NO.	DATE	DESCRIPTION
4	5/15/12	CK, MAI (AI)
3	5/19/10	UQ, GM (AI)
2	7/11/08	MDW, PPH, JCW
1	6/13/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

JOB NO: 170-2357 BRIDGE NO: 03269

DATE: 2-24-04 SHEET 73 OF 115 77

CREW: SROAR, MEB

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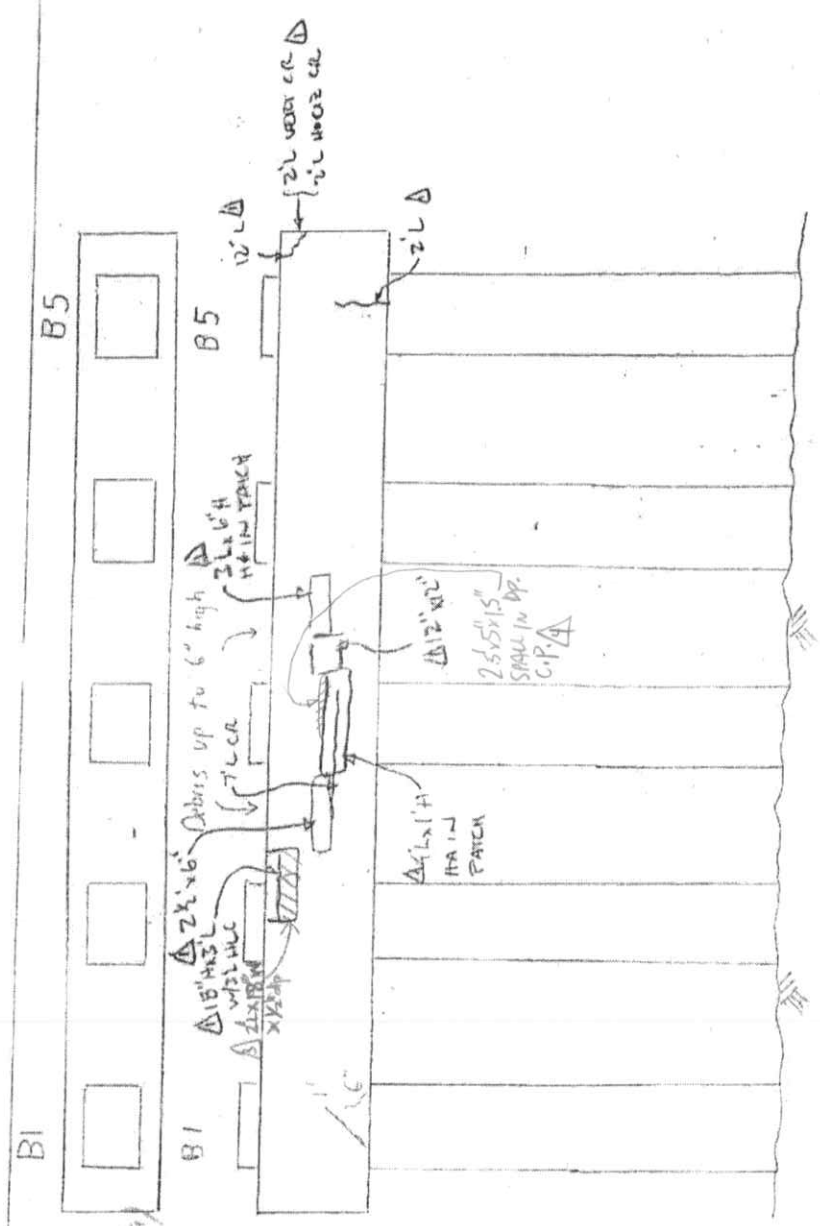
Civil Engineers and Surveyors

7/1/06

United International Corporation
Civil Engineers and Surveyors

72/106

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-24-04	SHEET ~~24 OF 115~~ 78
DESCRIPTION: SUBSTRUCTURE	CREW: SRD, AR, MEB	~~70/101~~ ~~81/151~~



PIER 10 SOUTH ELEVATION

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(A) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

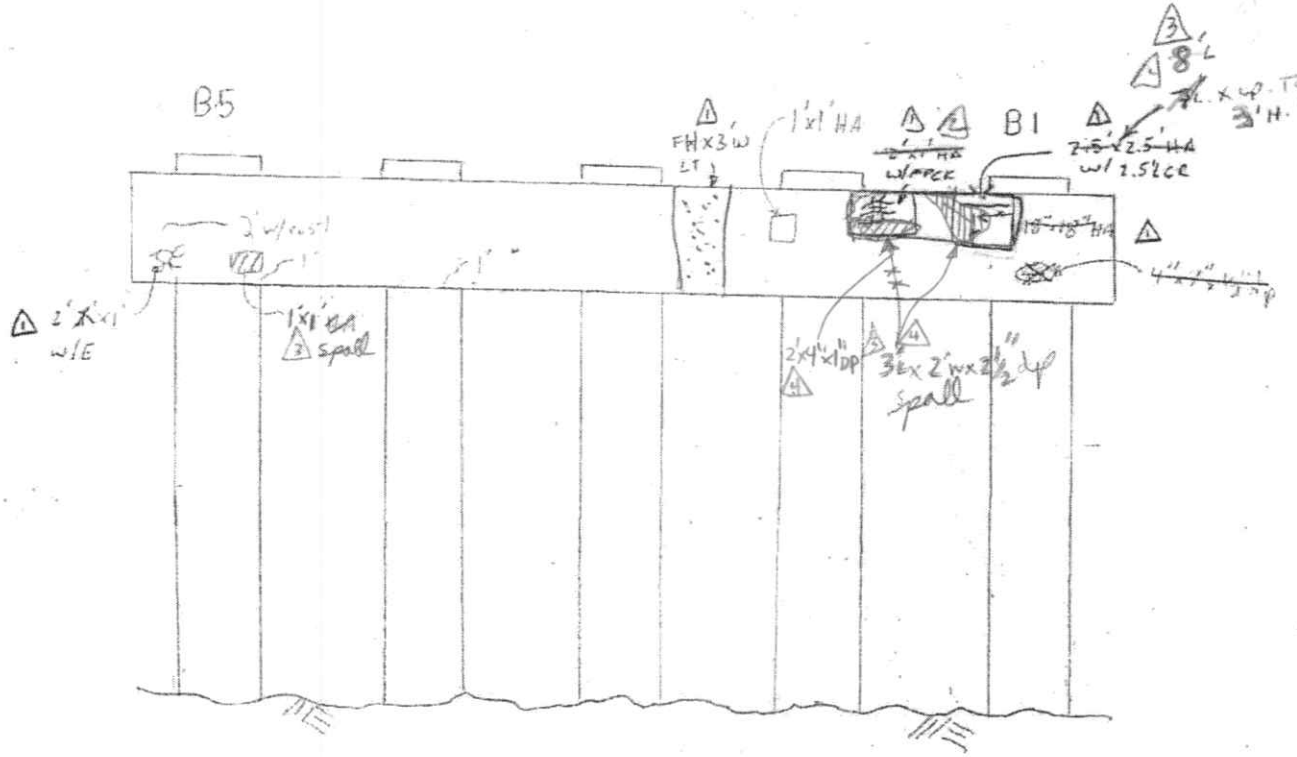
(B) ~~Previously noted out of plumb columns were not found~~ PILES

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR MAIRLINE MAP CRACKS (MLMpC)
- MAIRLINE CRACKS (MLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

NO.	DATE	DESCRIPTION
4	5/15/12	CK, MAI (AI)
3	5/19/10	UQ, GM (AI)
2	7/11/08	MTW, JCW, PJH, [illegible]
1	6/13/06	GCS PG, SW

REVISIONS



PIER 10 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ (1) SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(2) See notes on ~~Sheet No. 51~~ (1) SUBSTRUCTURE NOTES SHEET

NO.	DATE	DESCRIPTION
4	5/15/12	CK, MAI (AI)
3	5/19/10	UQ, GM (AI)
2	7/11/08	MJW, JCW, PHH
1	6/14/06	GCS PG, SW

REVISIONS

(VAN)

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET ~~25 OF 115~~ 29

CREW: SRD, AR, MEB

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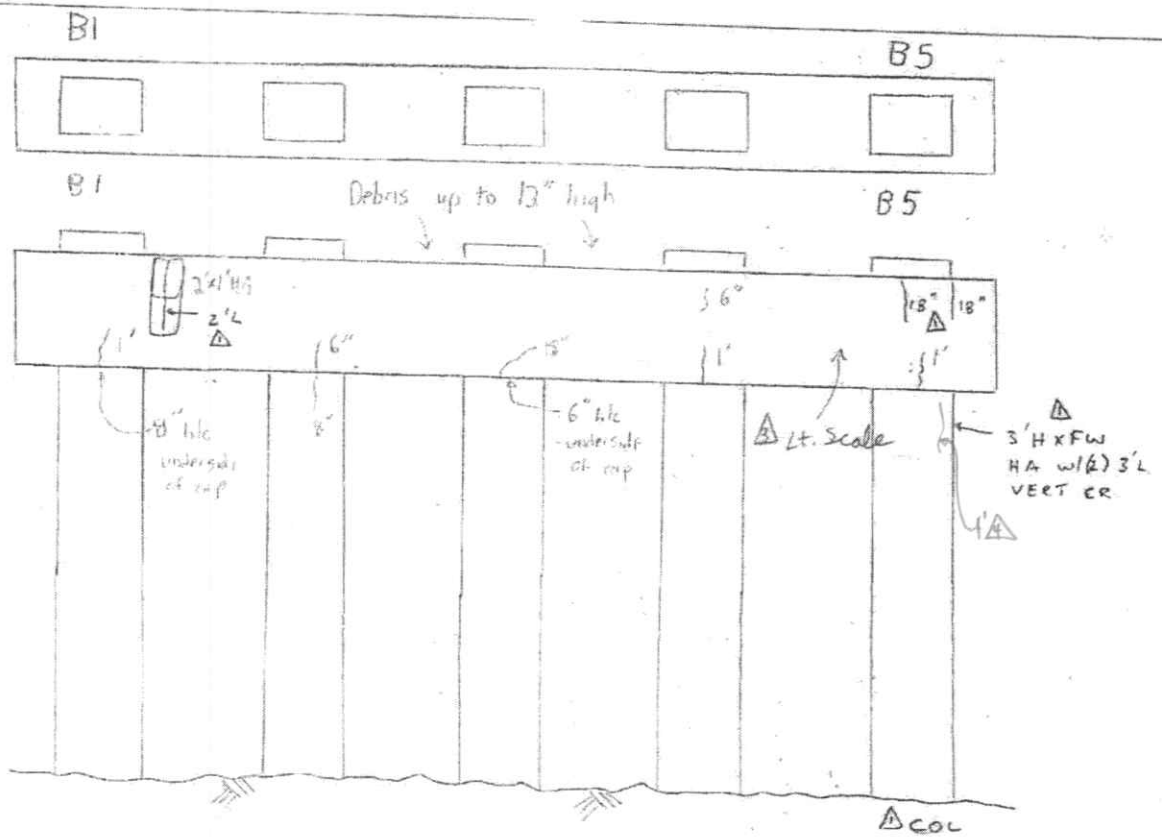
Civil Engineers and Surveyors

73/106



PIER 11 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

COL - CONC. COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/15/12	CK, MAI (AI)
3	5/19/10	UQ, GM (AI)
2	7/11/08	[illegible]
1	6/14/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET ~~76~~ OF ~~115~~ 80

CREW: SRA, AR, MEB

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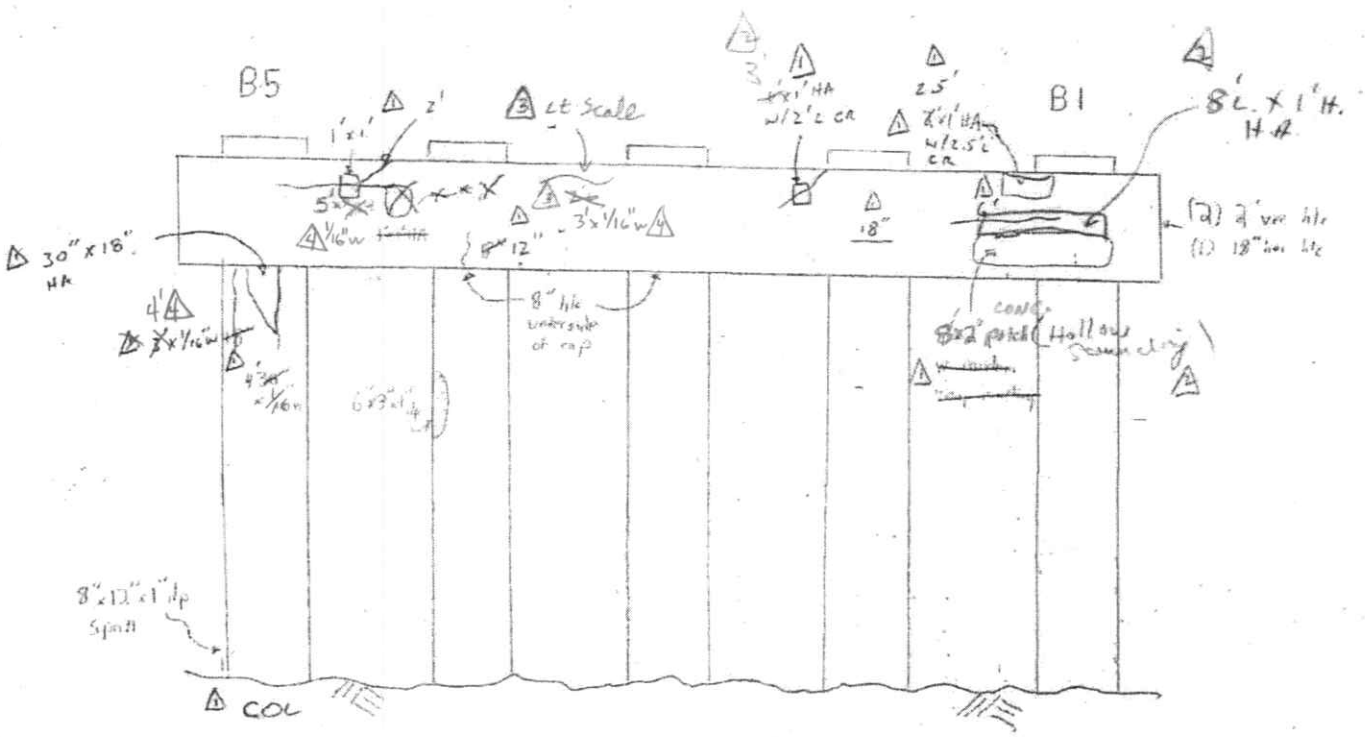
Civil Engineers and Surveyors

74/106



PIER 11 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

COL - CONCRETE COLUMN FOUNDED (UNK) ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
3	5/19/10	UQGM (AI)
2	7/14/08	MTW, TLW, PWH
1	6/14/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET ~~77 OF 115~~ 81

CREW: SRO, AR, MEB

78/101 ~~84/07~~

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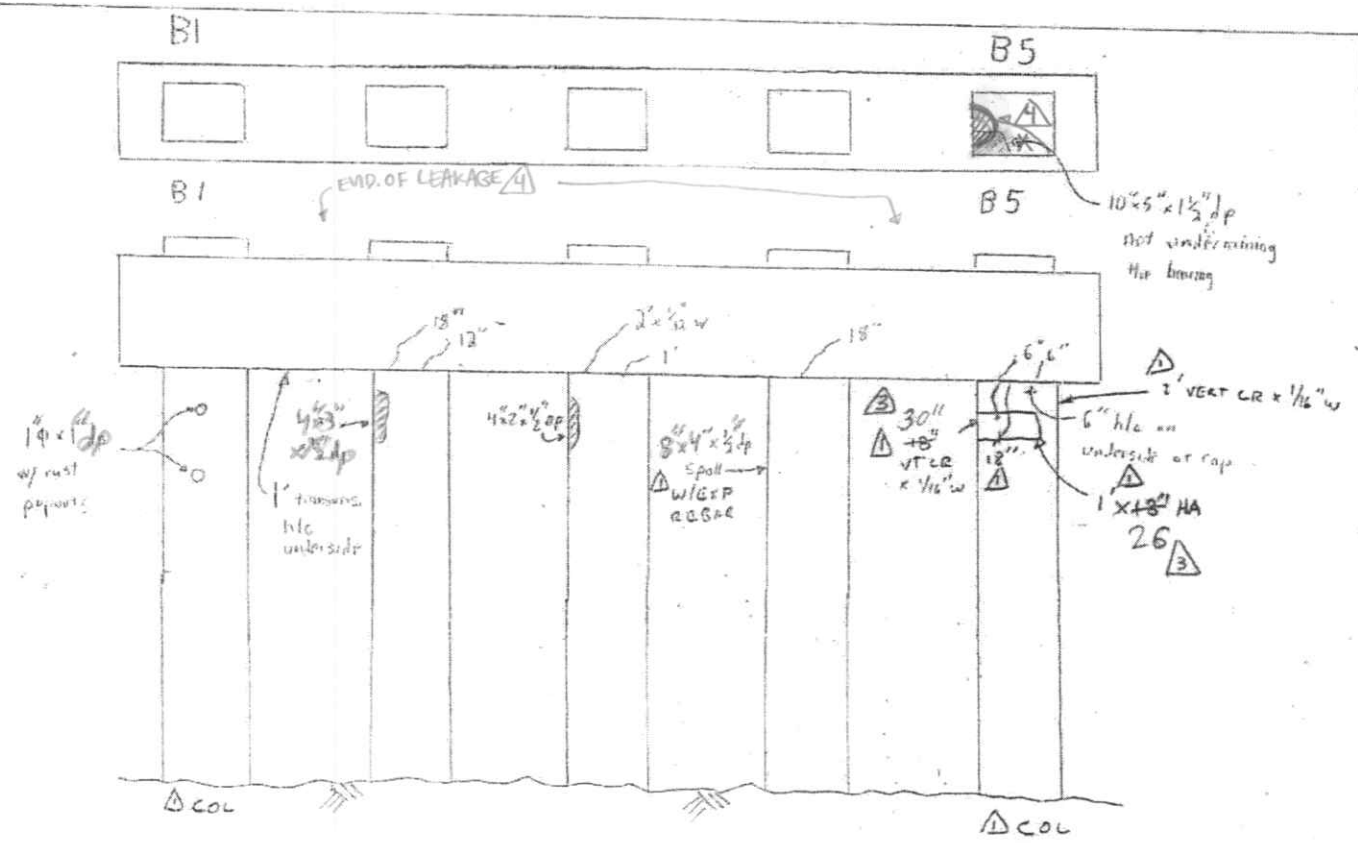
Civil Engineers and Surveyors

75/106



PIER 12 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

1. See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

4. See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

COL - CONC. COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
3	5/19/10	UQ, GM (AI)
2	7/10/03	MJW, PHH (HAKS)
1	6/15/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET 28 OF 115 82

CREW: SRD, AR, MEB

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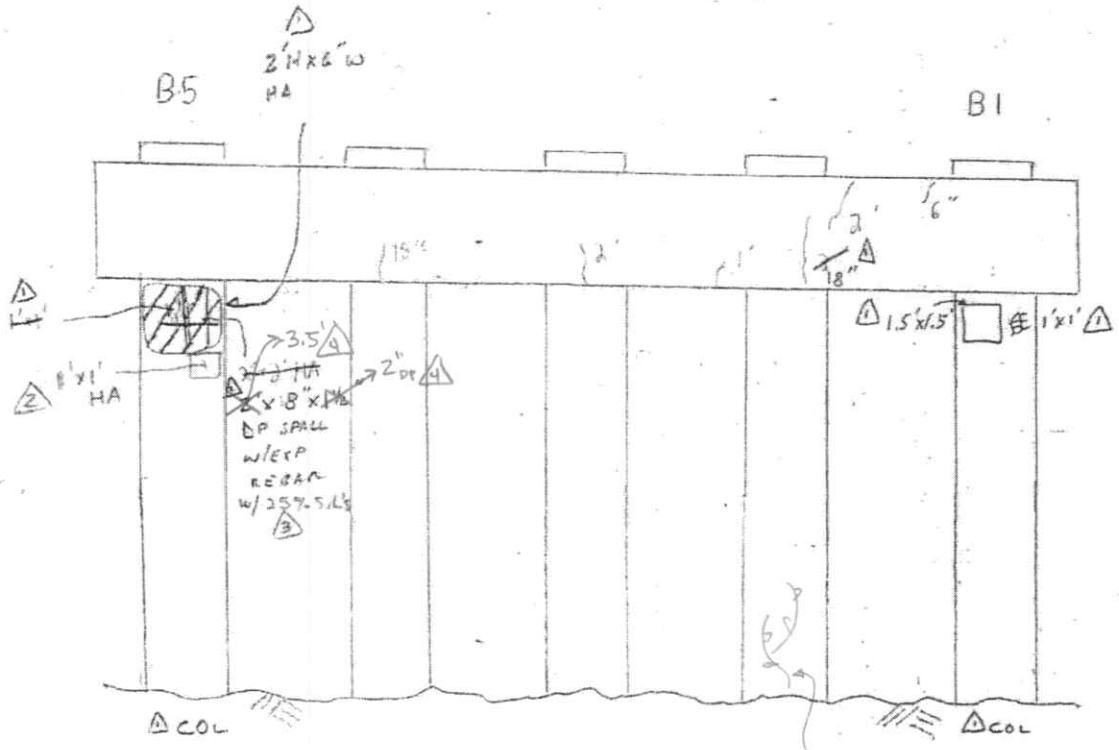
Civil Engineers and Surveyors

76/106



PIER 12 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 5~~
(A) SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 5~~
(A) SUBSTRUCTURE NOTES SHEET

(A) COL - CONC COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
3	5/21/10	GM, CK (ALEG)
2	7/10/08	MJW/PHH (HAKS)
1	6/14/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03359
DATE: 2-24-04 SHEET 79 OF 115 83
CREW: SRD, AR, MEB

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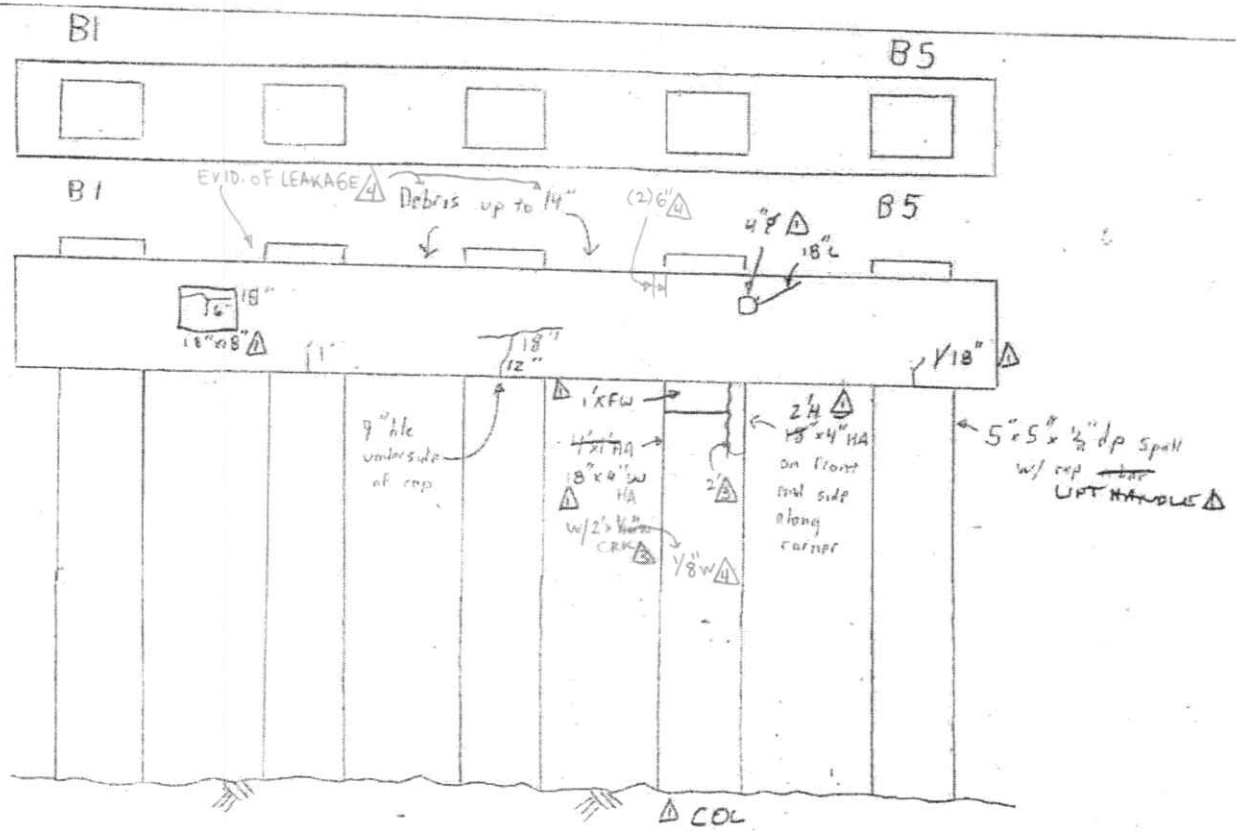
Civil Engineers and Surveyors

UIC

7/1/06



PIER 13 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLURESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ 1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ 1 SUBSTRUCTURE NOTES SHEET

1 COL - CONC. COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
3	5/21/10	GM, CK (AI Eng)
2	7/10/08	MJW, PHH (MAK)
1	6/14/06	GCS SW, PG

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 09369

DATE: 2-24-04 SHEET ~~80 OF 115~~ 84

CREW: SRD, AR, MEB

76/106 ~~87/114~~

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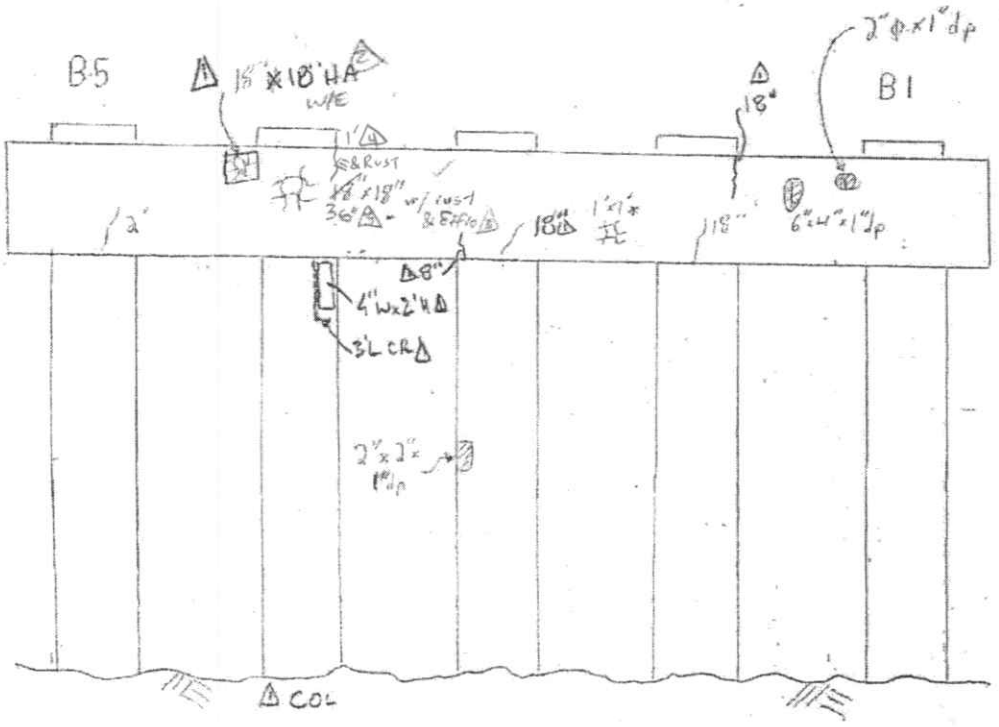
Civil Engineers and Surveyors

78/106



PIER 13 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ △1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(2) See notes on ~~Sheet No. 51~~ △1 SUBSTRUCTURE NOTES SHEET

△1 COL - CONC. COLUMN FOUNDED ON PRESTRESSED PILE.

NO.	DATE	DESCRIPTION
4	5/17/12	CK, MAI (AI)
3	5/21/10	GM, CK (AIEG)
2	7/24/08	MJW, PYM (HAKS)
1	6/15/06	GCS PG, SW, DLC

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 | BRIDGE NO: 03369

DATE: 2-24-04 | SHEET 81 OF 115 85

CREW: SRD, AR, MEB

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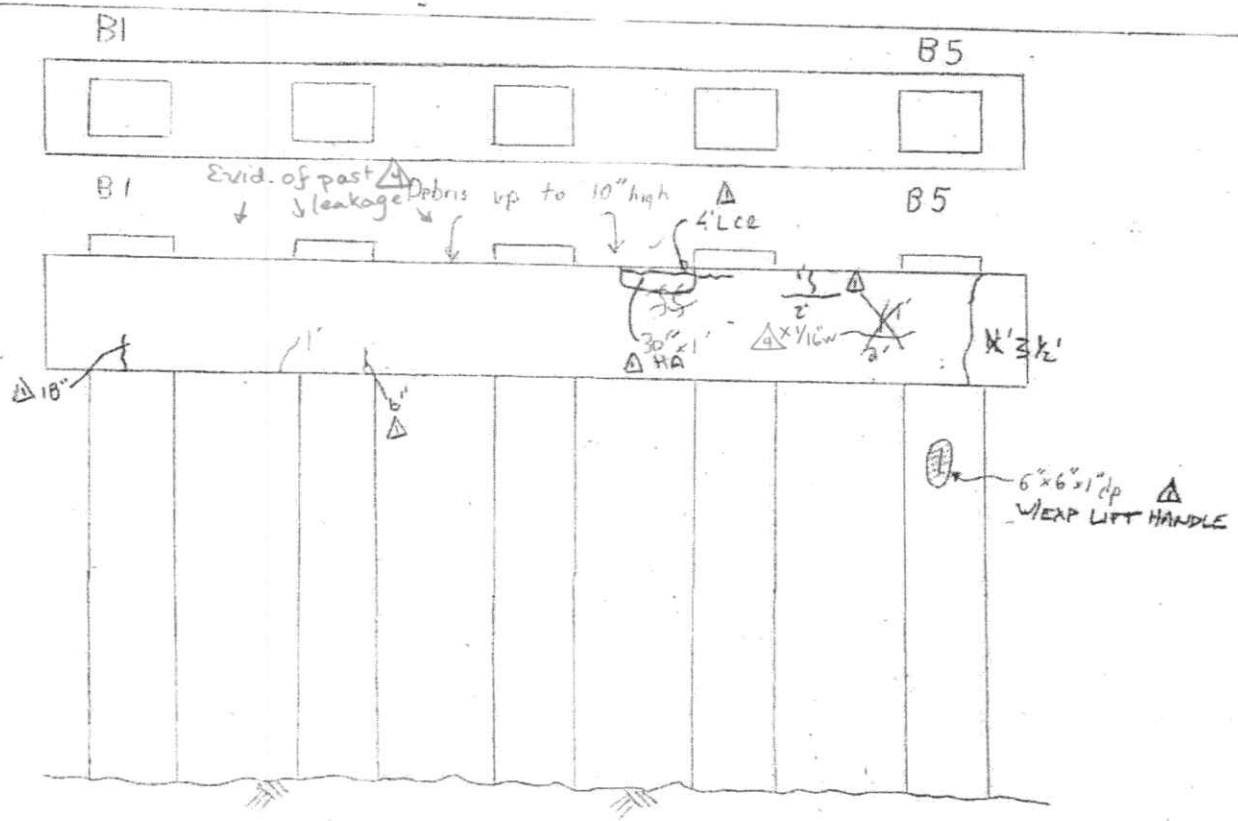
Civil Engineers and Surveyors

79/106



PIER 14 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ △1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ △1 SUBSTRUCTURE NOTES SHEET

△3 No Change

NO.	DATE	DESCRIPTION
△4	5/17/12	CK, MAI (AI)
△3	5/21/10	GM, CK (AI Eng)
△2	7/10/08	MJW, PHH (HAI)
△1	6/15/06	GCS PG, SW, DLC

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET 82 OF 115 86

CREW: SRD, AR, MEB

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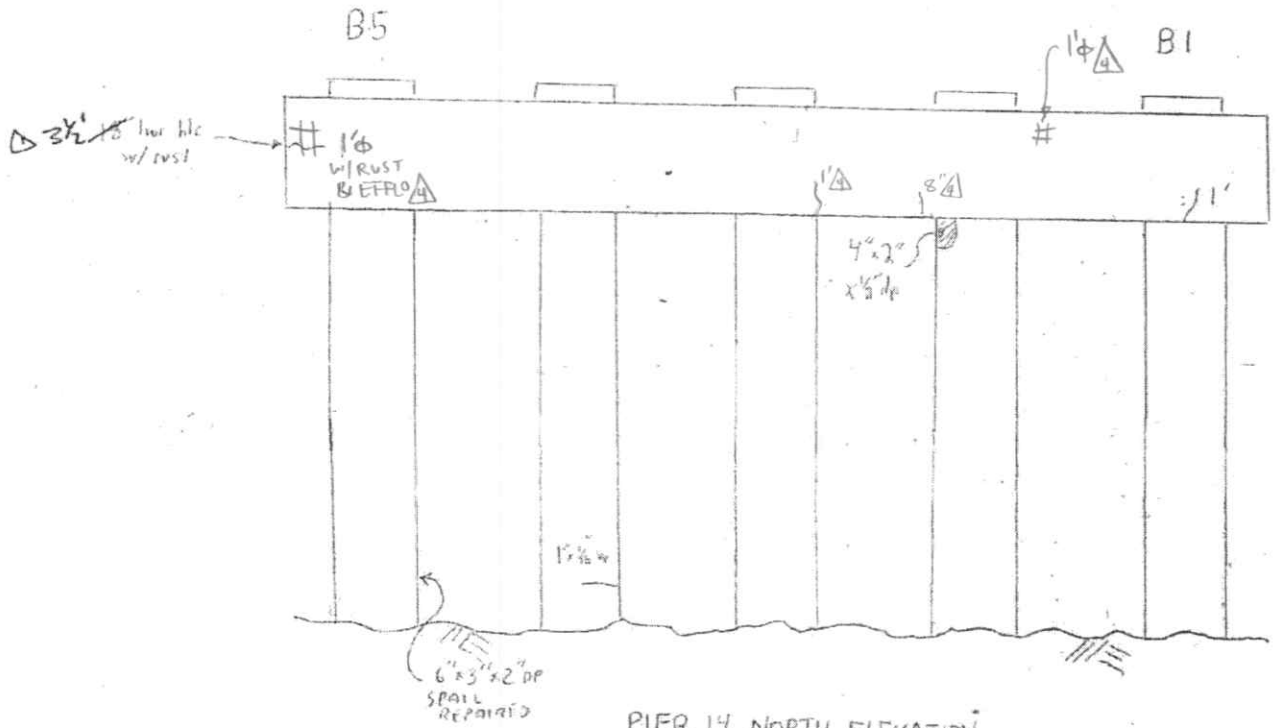
Civil Engineers and Surveyors

80/106



PIER 14 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLG) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

① See notes on ~~Sheet No. 51~~ ⚠ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

Ⓐ See notes on ~~Sheet No. 51~~ ⚠ SUBSTRUCTURE NOTES SHEET

⚠3 No Change.

NO.	DATE	DESCRIPTION
⚠4	5/17/12	CK, MAI (AI)
⚠3	5/21/10	GM, CK (AI Eng)
⚠2	7/9/02	MJW, PH H (HAKS)
⚠1	6/15/06	GCS PG, SWJ, DLC

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

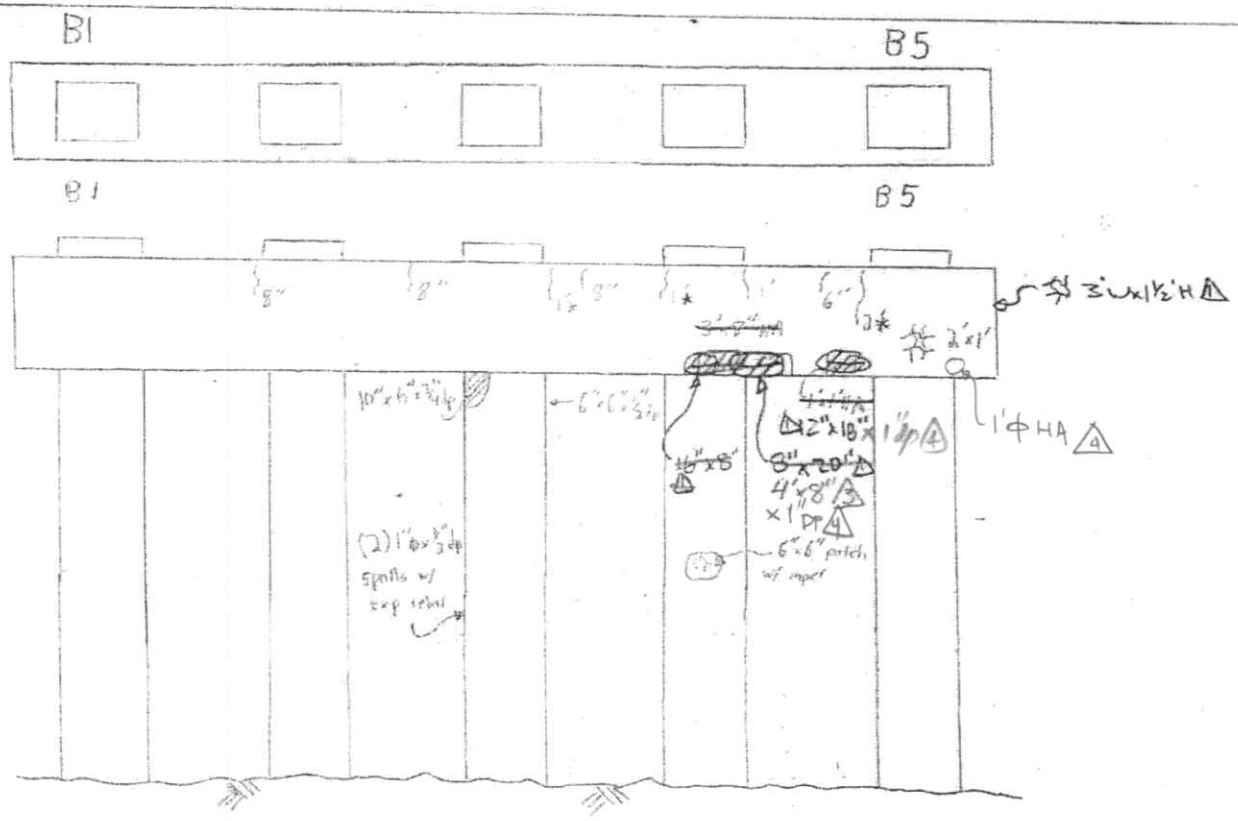
CREW: SRD, AR, MEB

JOB NO: 170-2357 BRIDGE NO: 03359

DATE: 2-14-04 SHEET 23 OF 115 SHTS

United International Corporation
Civil Engineers and Surveyors

81/106



PIER 15 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 5~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 5~~ SUBSTRUCTURE NOTES SHEET

NO.	DATE	DESCRIPTION
REVISIONS		
4	5/17/12	CK, MAI (AI)
3	5/21/10	GM, CK (AI Eng)
2	7/9/08	HJW, PH (HAHS)
1	6/15/06	GCS PG, SW, DLC

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

CREW: SRA, AR, MEB

JOB NO: 170-3357 BRIDGE NO: 033619

DATE: 2-24-04 SHEET ~~34~~ 85 OF ~~45~~ 88

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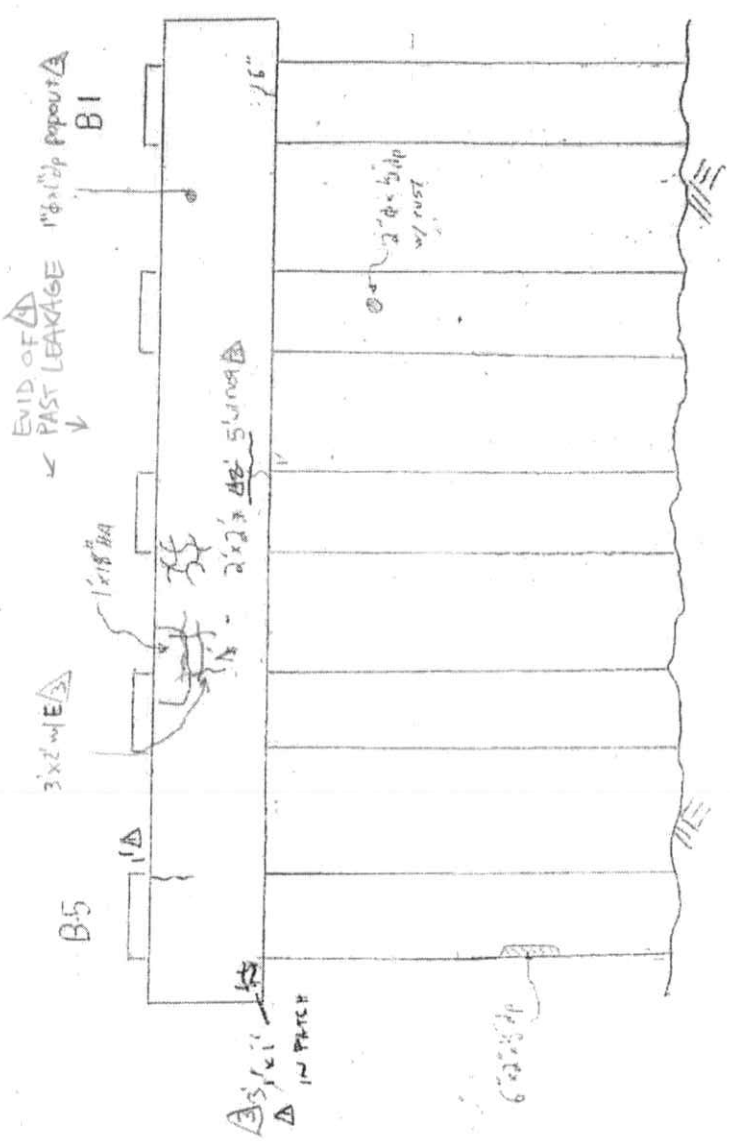
Civil Engineers and Surveyors

8/1/06

United International Corporation
Civil Engineers and Surveyors

83/106

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-24-04	SHEET ~~85 OF 115~~ 89
DESCRIPTION: SUBSTRUCTURE	CREW: SRO, AR, MEB	80/~~201~~ ~~72~~/151



PIER 15 NORTH ELEVATION

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

LEGEND:

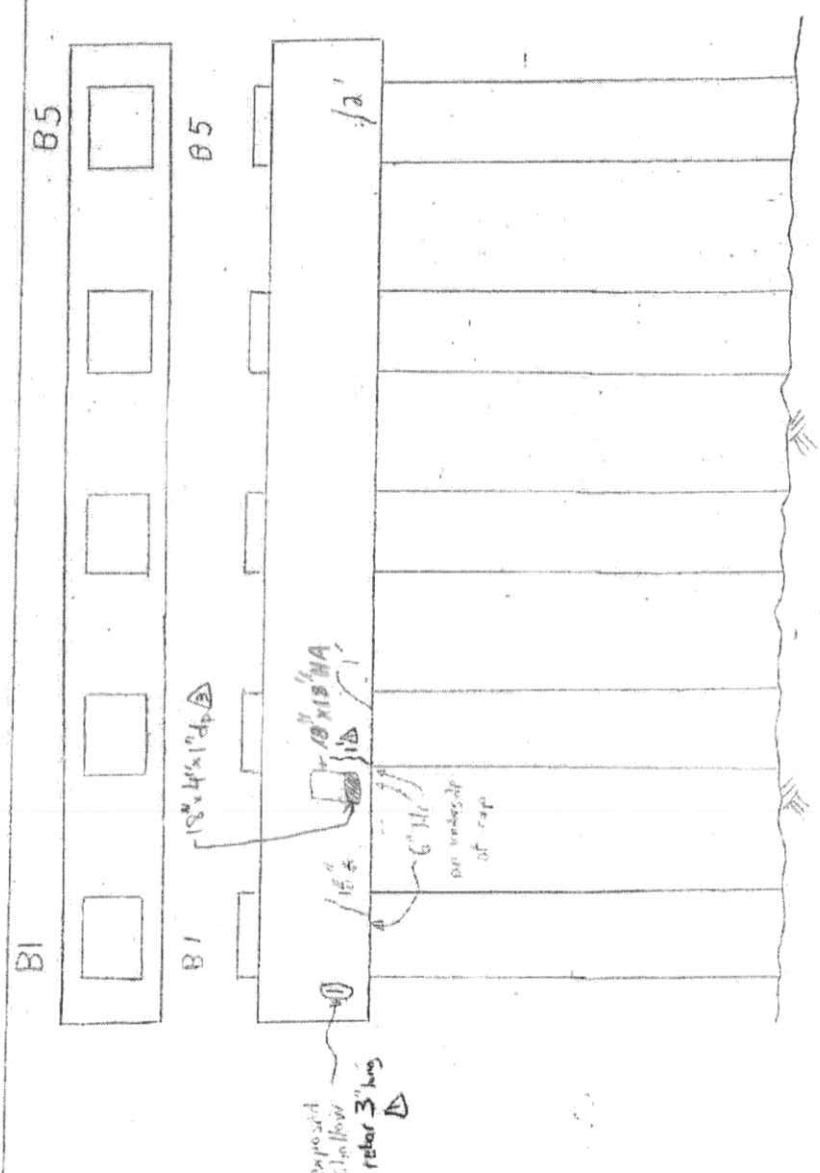
- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HMC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

NO.	DATE	DESCRIPTION
4	5/17/12	CK, MAI (AI)
3	5/21/10	GM, CK (AI Eng)
2	7/9/08	MJW, PHH (HAKS)
1	6/15/06	GCS PG, SW, DLC

REVISIONS

United International Corporation
Civil Engineers and Surveyors

FIELD NOTES	JOB NO: 170-2357	BRIDGE NO: 03369
	DATE: 2-24-04	SHEET ~~86 OF 115~~ 90
DESCRIPTION: SUBSTRUCTURE	CREW: SRD, AR, MEB	82/101, 75/151



PIER 16 SOUTH ELEVATION

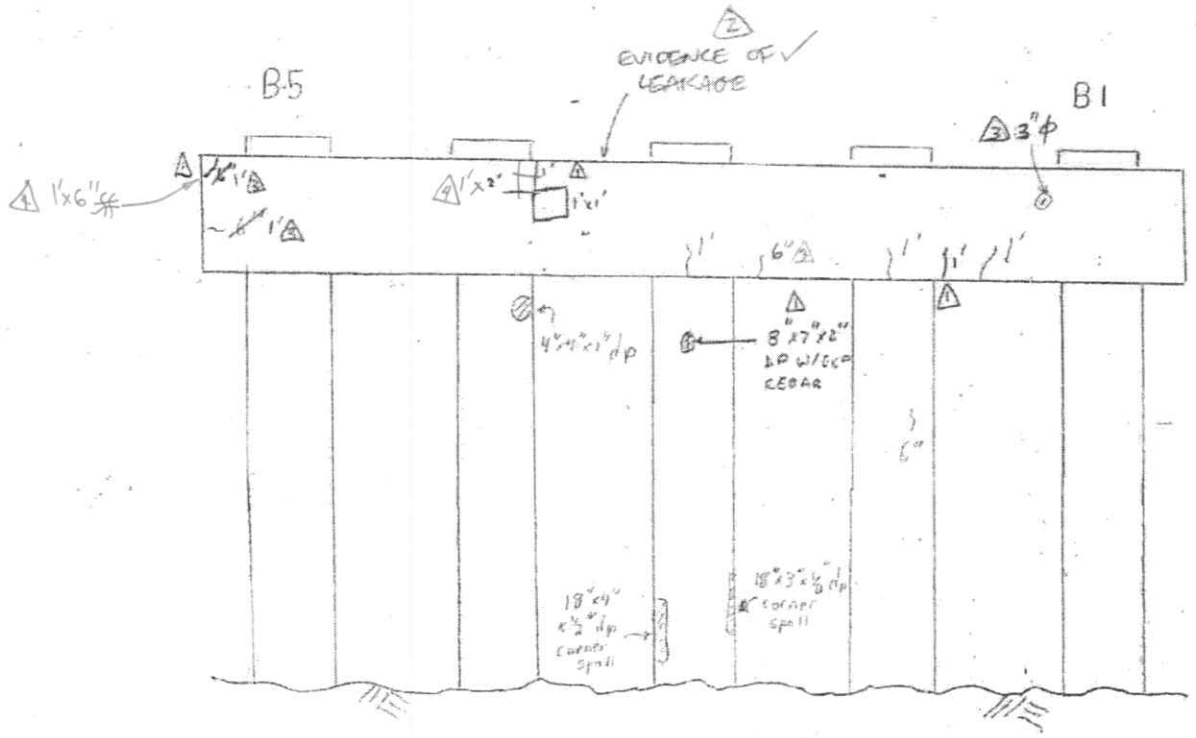
DETERIORATION NOTES:
1. See notes on Sheet No. 51
1. SUBSTRUCTURE NOTES SHEET

GENERAL NOTES
A. See notes on Sheet No. 51
A. SUBSTRUCTURE NOTES SHEET

LEGEND:
- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

NO.	DATE	DESCRIPTION
4	5/17/12	CK, MAI (AI)
3	5/21/10	GM, CK (AI Eng)
2	7/9/08	MJW, PHH (HAKS)
1	6/15/06	GCS PC, SW

REVISIONS



PIER 16 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MPC) OR HAIRLINE MAP CRACKS (HLMPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. S1~~ (A) SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. S1~~ (A) SUBSTRUCTURE NOTES SHEET

NO.	DATE	DESCRIPTION
REVISIONS		
(4)	5/16/12	CK, MAI (A1)
(3)	5/21/10	GM, CK (A1 Eng)
(2)	7/10/08	MJW, PHH
(1)	1/14/06	GCS PG, SW

(HALS)

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Civil Engineers and Surveyors

FIELD NOTES

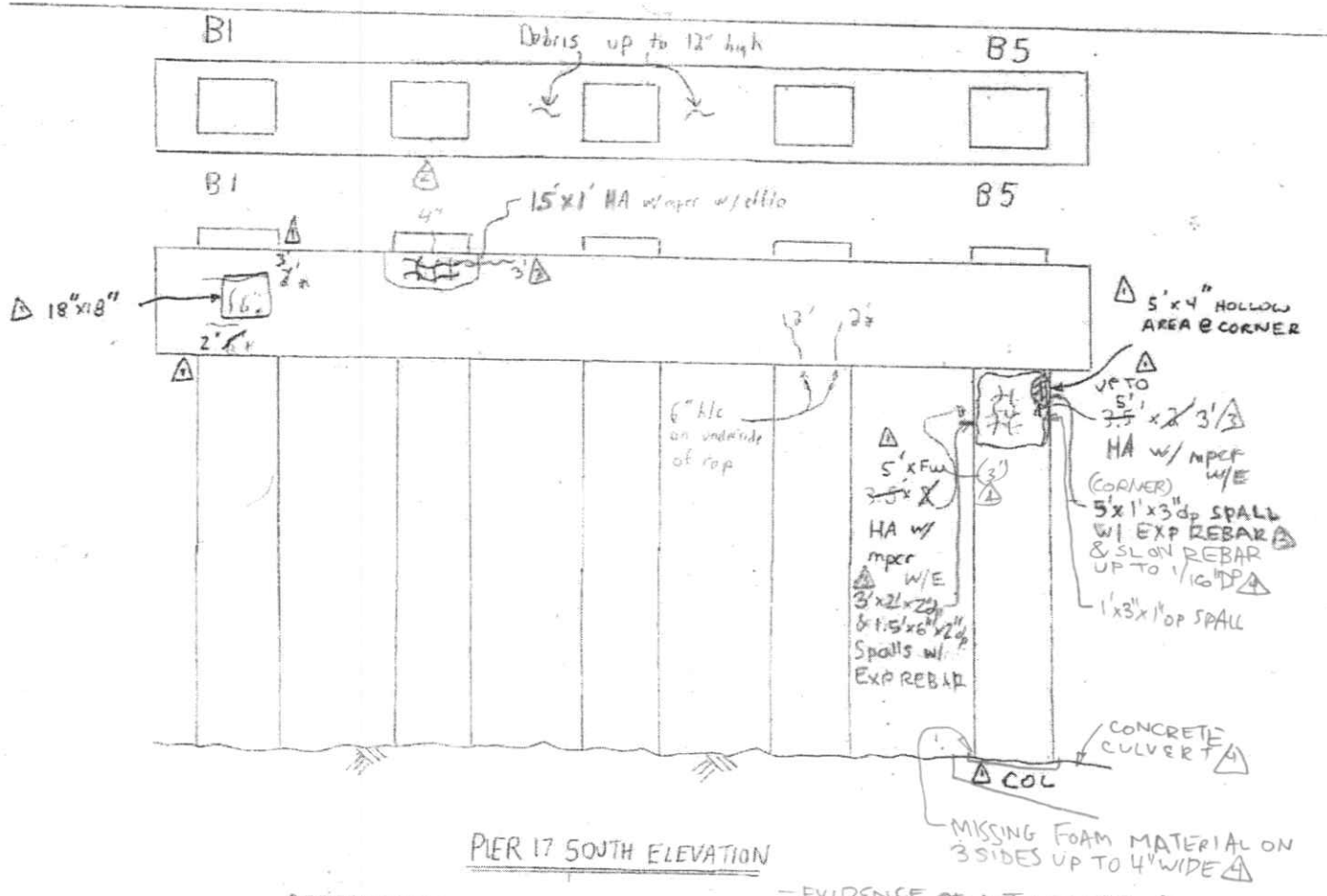
DESCRIPTION: SUBSTRUCTURE

JOB NO: 170-2757 BRIDGE NO: 03359

DATE: 2-24-04 SHEET 87 OF 113 87

CREW: SRD, AR, MEB

85/106



PIER 17 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ (1) SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ (1) SUBSTRUCTURE NOTES SHEET

(1) COL - CONCRETE COLUMN FOUNDED ON PRESTRESSED PILE

(5) Lt Graffiti on Columns

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
3	5/21/10	GM, CK (AI Eng)
2	7/10/08	MJW, PHH
1	6/14/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET ~~55~~ OF ~~15~~ 82

CREW: SRD, AR, MEB

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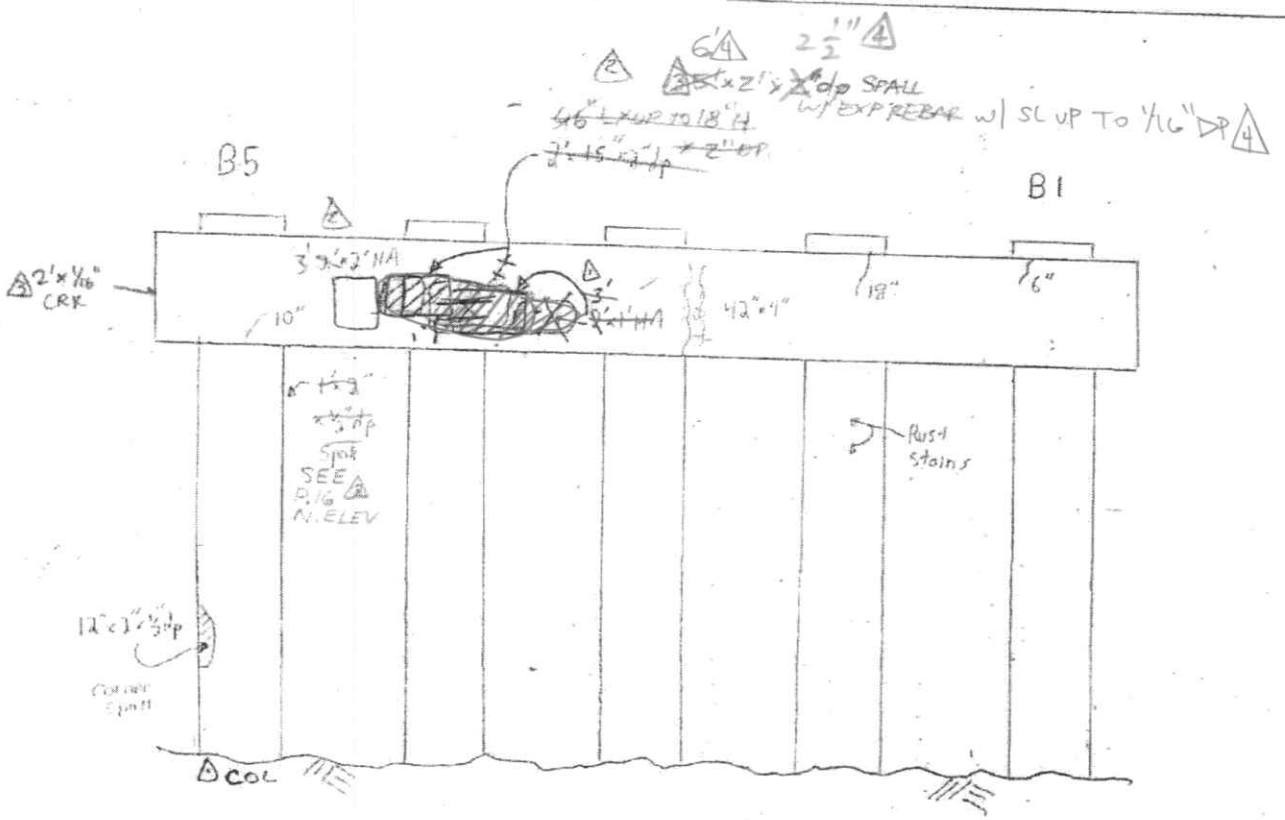
Civil Engineers and Surveyors

86/106



PIER 17 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ (1) SUBSTRUCTURE NOTES SHEET

GENERAL NOTES

(4) See notes on ~~Sheet No. 51~~ (1) SUBSTRUCTURE NOTES SHEET

(1) COL - CONC. COLUMN, FOUNDED (HAIS) ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
2	5/21/10	GM, CK (AI Eng)
2	7/10/08	MJW, PHH
1	6/14/06	GCS PG, SW

REVISIONS

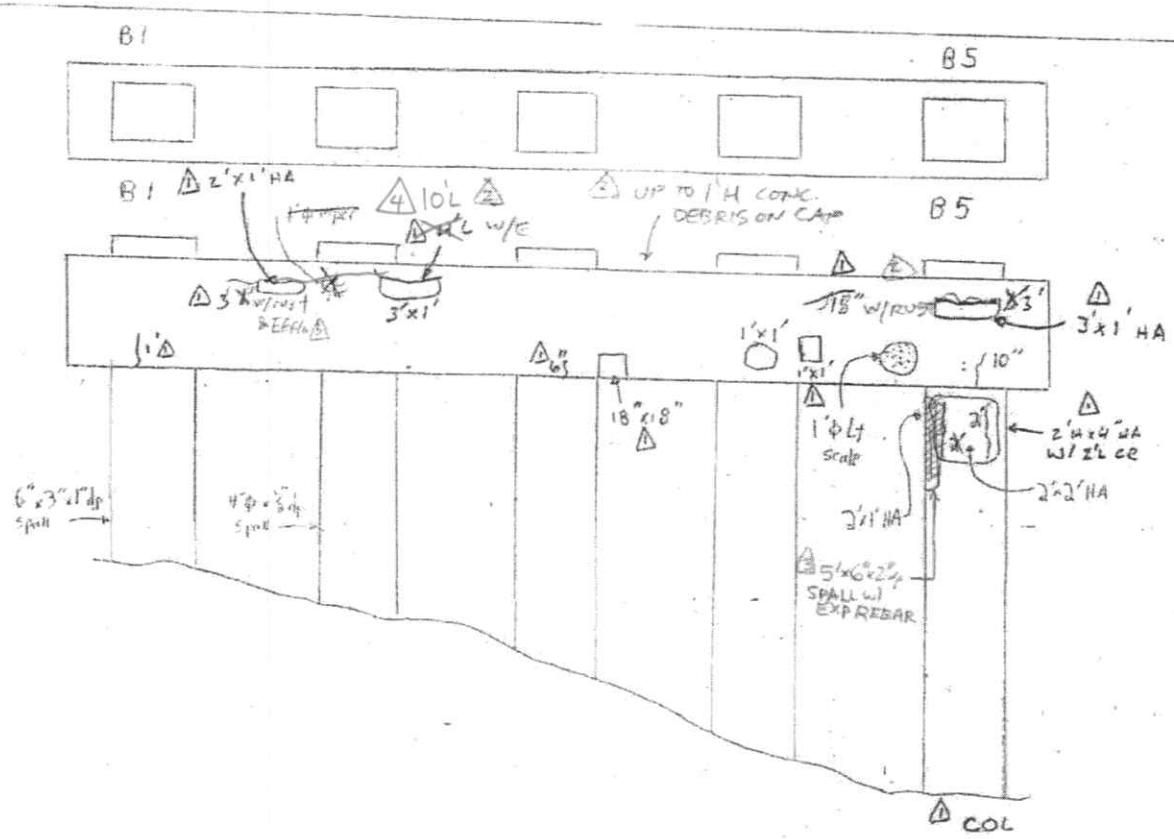
DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

United International Corporation
Civil Engineers and Surveyors

JOB NO: 170-2357
DATE: 2-24-04
CREW: SRD, AR, MEB
BRIDGE NO: 03369
SHEET 52 OF 115 83

87/106



PIER 18 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 5~~ △1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES:

(A) See notes on ~~sheet No. 5~~ △1 SUBSTRUCTURE NOTES SHEET

△1 COL - CONCRETE COLUMN FOUNDED ON PRESTRESSED PILE

- EVID. OF LEAKAGE ON PIERCAP △4

NO.	DATE	DESCRIPTION
△4	5/16/12	CK, MAI (AI)
△3	5/21/10	GM, CK (AI Eng)
△2	7/10/08	MTW, PAH (Hals)
△1	6/14/06	GCS PG, SW

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

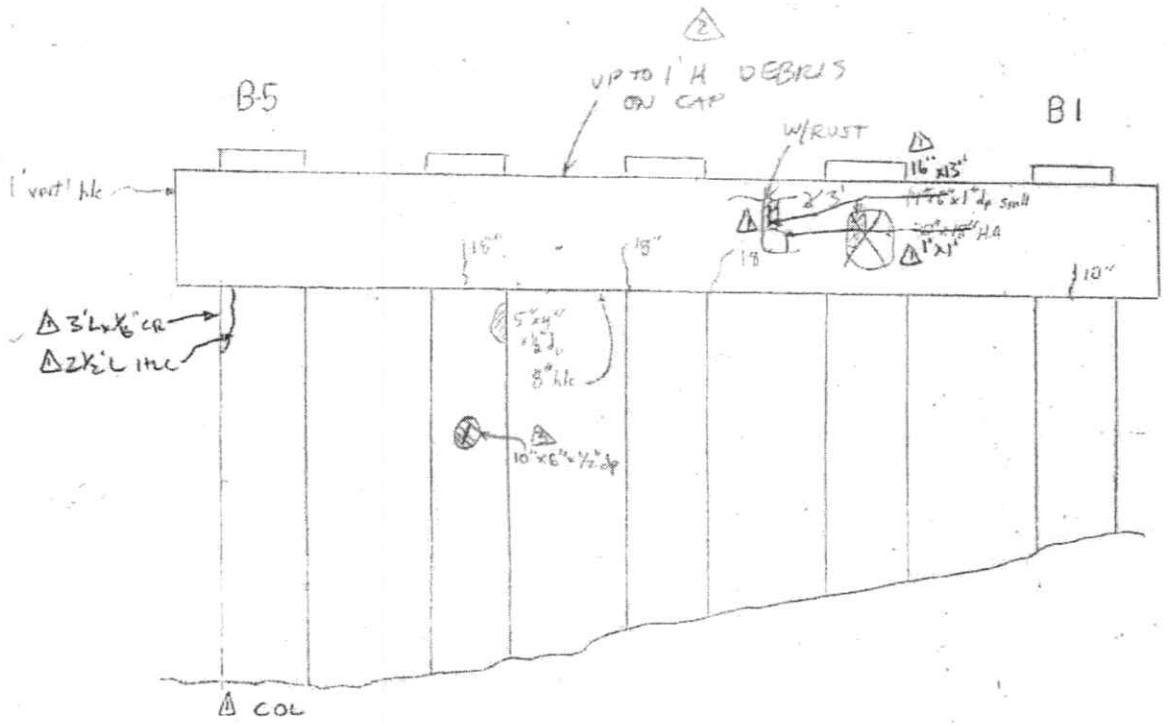
DATE: 2-24-04 SHEET 90 OF 115 94

CREW: SRD, AR, MEB

86/106

88/106

United International Corporation
Civil Engineers and Surveyors



PIER 18 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(D) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES:

- EVIDENCE OF ACTIVE LEAKAGE ON CAP (4)
- LT GRAFFITI ON COLUMNS (4)

(A) See notes on ~~Sheet No. 51~~ SUBSTRUCTURE NOTES SHEET

COL - CONCRETE COLUMN FOUNDED ON PRESTRESSED PILE

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
3	5/21/10	GM, CK (AI Eng)
2	7/10/08	MJW, PHH
1	6/15/06	GCS PG, SW, DLC

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357

DATE: 2-24-04

CREW: SRO, AR, MEB

BRIDGE NO: 03369

SHEET ~~91 OF 115~~ 95

87/106

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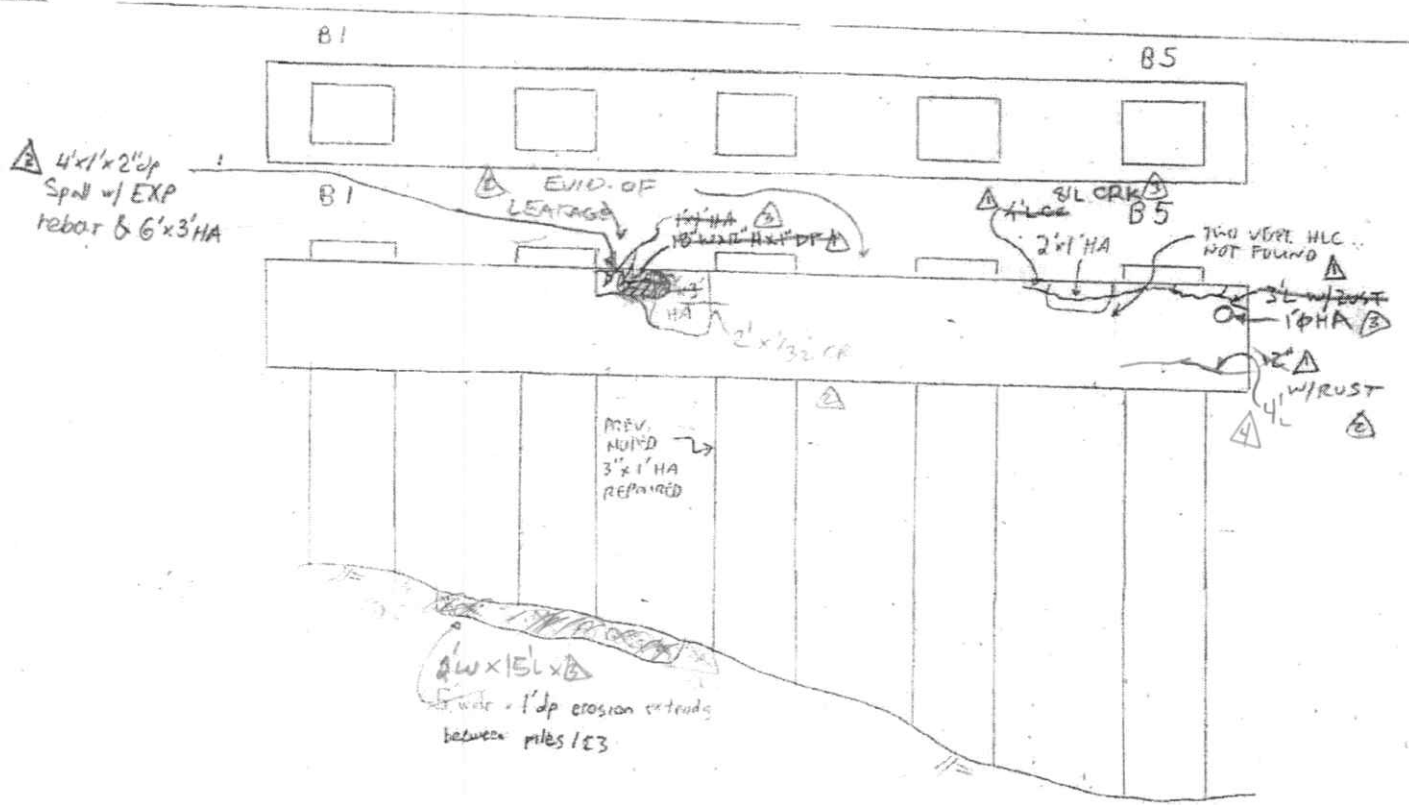
Civil Engineers and Surveyors

89/106



PIER 19 SOUTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MAPC) OR HAIRLINE MAP CRACKS (HLMAPC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 5~~ △ SUBSTRUCTURE NOTES SHEET

GENERAL NOTES:

(A) See notes on ~~sheet No. 5~~ △ SUBSTRUCTURE NOTES SHEET

(MARKS)

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
3	5/21/10	GM, CK (AI Eng)
2	7/10/08	MJW, PHH
1	6/15/06	GCS PG, SW, DLC

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

CREW: SRD, AR, MEB

DATE: 2-24-04

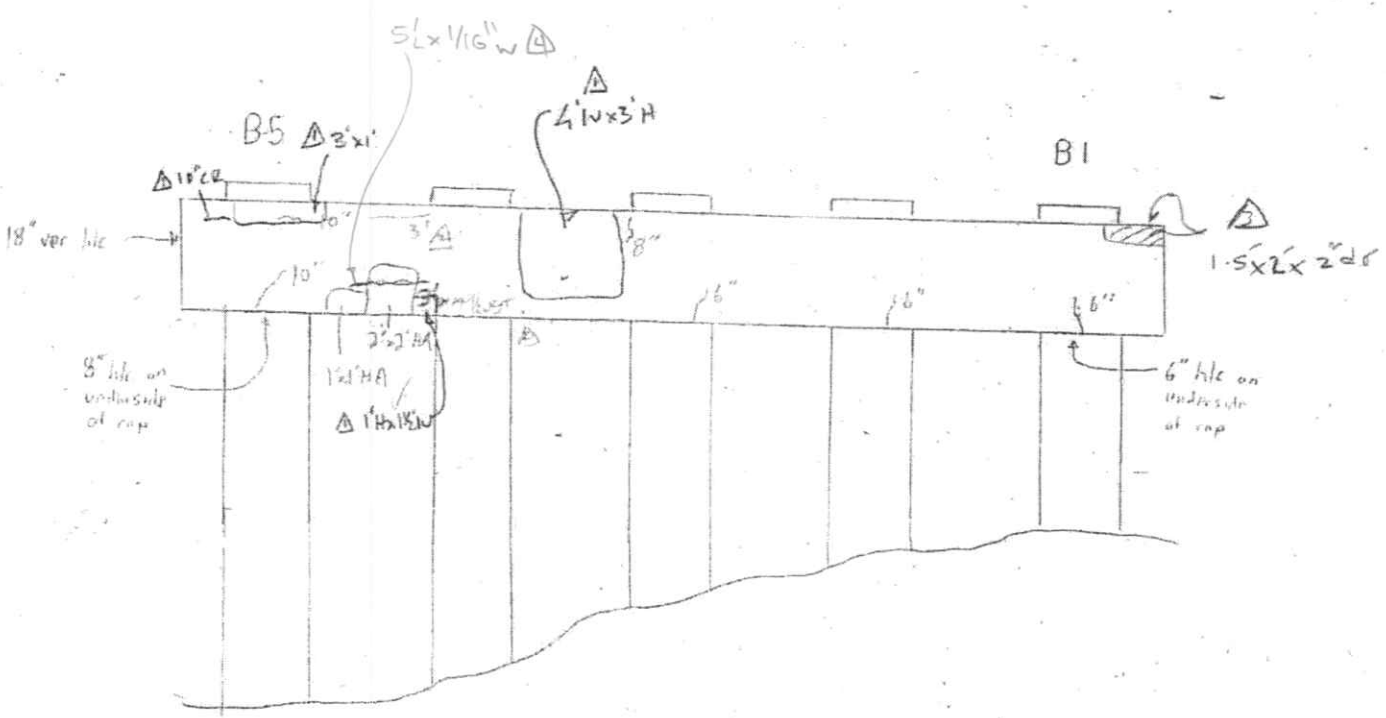
JOB NO: 170-2357

BRIDGE NO: 07369

SHEET 92 OF ~~115~~ 96

United International Corporation
Civil Engineers and Surveyors

90/106



PIER 19 NORTH ELEVATION

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- MAP CRACKS (MpC) OR HAIRLINE MAP CRACKS (HLMpC)
- HAIRLINE CRACKS (HLC) OR CRACKS (CRK)
- HONEY COMB AREA
- SCALE AREA (HVY, MED OR LT)
- * EFFLORESCENCE IS PRESENT

DETERIORATION NOTES:

(1) See notes on ~~Sheet No. 51~~ 1 SUBSTRUCTURE NOTES SHEET

GENERAL NOTES:

(A) See notes on ~~sheet No. 51~~ 1 SUBSTRUCTURE NOTES SHEET

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
3	5/24/10	GM, CK (AI)
2	7/19/08	MJW, PHH
1	6/15/06	GCS PG, SW, DLC

REVISIONS

DESCRIPTION: SUBSTRUCTURE

FIELD NOTES

JOB NO: 170-2357 BRIDGE NO: 03369

DATE: 2-24-04 SHEET ~~93 OF 115~~ 89

CREW: SRD, AR, MEB

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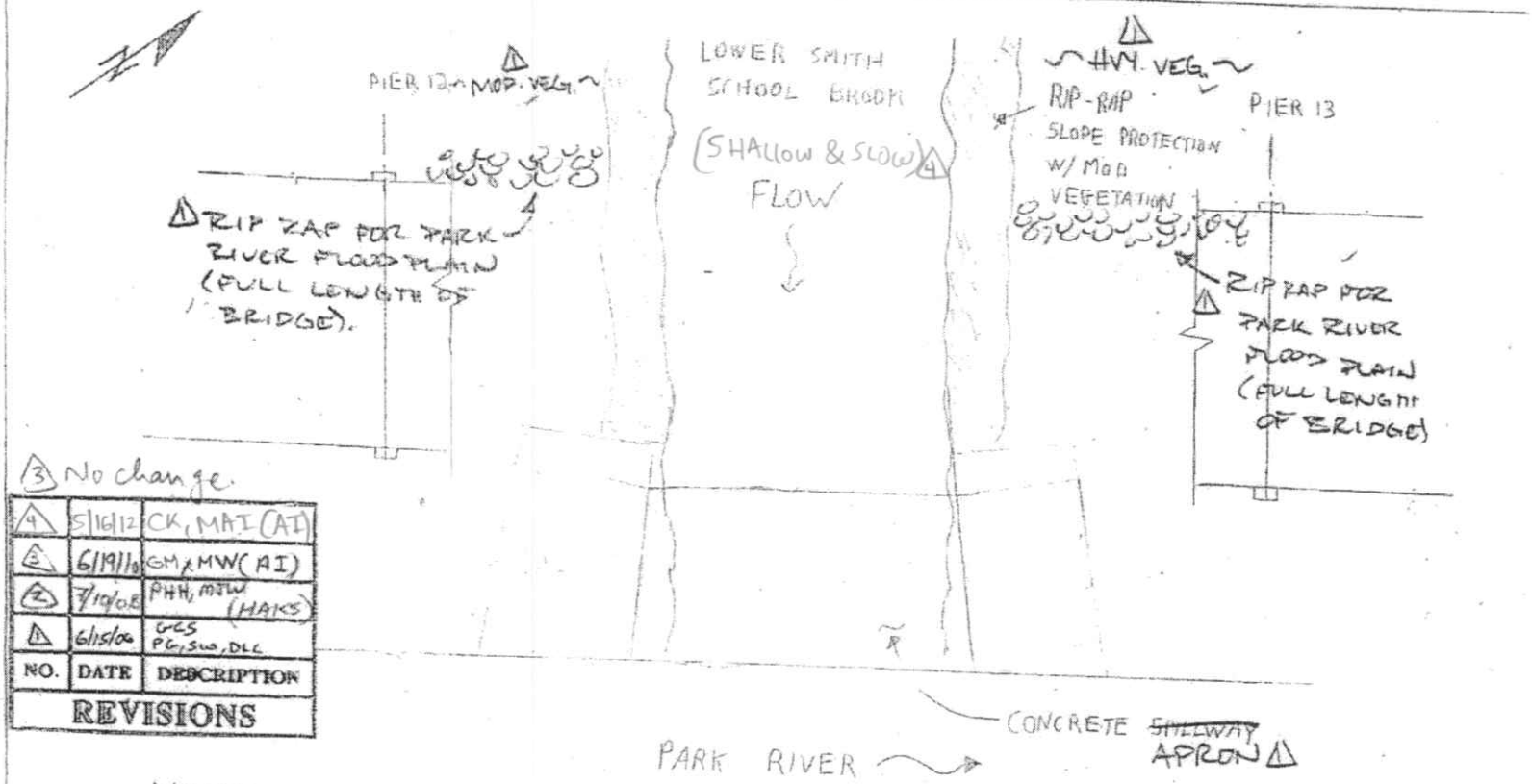
Civil Engineers and Surveyors

91/106



3 No change.

NO.	DATE	DESCRIPTION
4	5/16/12	CK, MAI (AI)
3	6/19/10	GM, MW (AI)
2	7/10/08	PHH, MJW (HAKS)
1	6/15/06	GCS PG, SW, DLC

REVISIONS

NOTES

(A) Channel bottom is sand and ~~large stones~~ 1 RIP RAP UPTO 2' DIA and becomes a concrete ~~spillway~~ APRON 1

(B) There is rip-rap slope protection along both slopes w/ moderate to HEAVY 2 vegetation. The rip-rap exhibits no deficiencies

1 - THE EMBANKMENT THAT PARALLELS THE BRIDGE ALONG THE WEST SIDE IS LINED WITH RIPRAP AS PROTECTION FROM PARK RIVER FLOOD CONDITIONS.

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FIELD NOTES

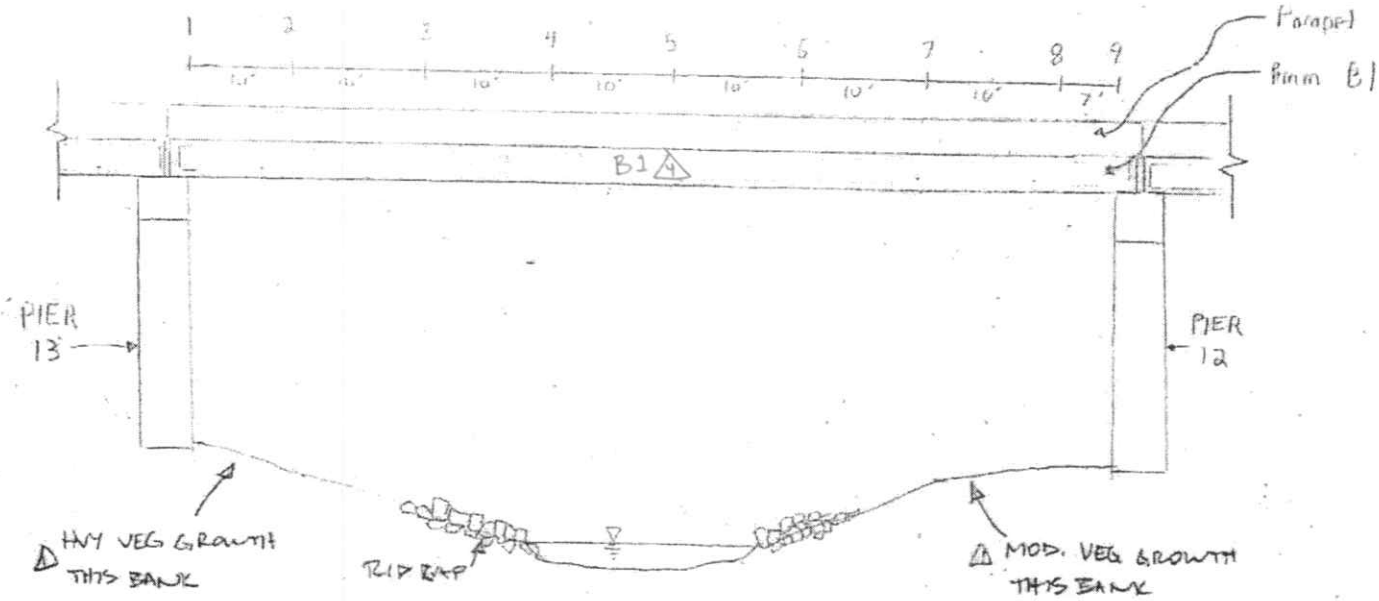
DESCRIPTION: CHANNEL NOTES

JOB NO: 170-2357 BRIDGE NO: C3369
DATE: 2-26-04 SHEET ~~94~~ OF ~~115~~ 98
CREW: SAD, AA

90/101 ~~111~~ 151

92/106

UPDATE OR REV NO Al Engineers, Inc. Date: 6/19/2010 By: GM, MW



SPAN 13 WEST ELEVATION
(UPSTREAM)

NOTES
(A) Drop line measurements taken from top of parapet at locations indicated above ✓
(B) w = water depth taken at location 5 ✓

	1 (@ Pier)	2	3	4	5	6	7	8	9 (@ Pier)	w
2001	29.6'	32.5'	31.1'	39.2'	39.4'	36.0'	31.4'	30.3'	30.1'	
2004	29.6'	32.3'	36.5'	38.7'	39.4'	36.0'	31.3'	30.6'	30.1'	12"
2006 △1	30.0'	30.2'	32.8'	37.1'	39.8'	39.5	36.6'	30.0'	30.4'	8"
2008 △2	30.2'	30.5'	32.9	37.5'	39.8'	39.7'	36.2'	31'	29.9'	12"
2012 △4	30.0'	30.3'	33.0'	37.2'	39.8'	39.6'	36.4'	30.6'	29.9'	6" △2
										8"

△5 No Change in Meas.

NOTE: RIP RAP LINES THE EMBANKMENT THAT FOLLOWS THE WEST SIDE OF THE BRIDGE FOR PARK RIVER OVERFLOW (FLOOD PLAIN). △1

United International Corporation
Civil Engineers and Surveyors

FIELD NOTES

DESCRIPTION: CHANNEL SOUNDINGS

JOB NO: 170-1357 BRIDGE NO: 13369
DATE: 2-26-04 SHEET 95 OF 115
CREW: [illegible] △1 GCS PG, SW, DLC 6/15/06 △2 7/11/08 (MAKS) PHH, MJW, JW

93/106

AI Engineers, Inc.

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 03369 Date: 5/14/12

Town: Hartford Photographer: MAI

Carried / Crossed: Rte. 504NB / Lower Smith School Brook

Film Frame #	Image Description
1	Brg ID
2 & 3	E. Elev.
4	S. Abut stem w/erosion @ E. end & exposed footing
5 & 13	Erosion hole along S. Abut stem b/w B4 & B5.
6	Exposed footing " " " " B1 & B3
7	SW W wall
8	B1, brg @ S. Abut
9	S. backwall & end diaph. in bay 1
10	Scupper downspout in bay 1, w/ rusted top & bott of pipe near S. Abut.
11	U/S of SP-1
12	P-1, S. elev.
14	Short weep & Downspout in bay 4, near S. Abut
15	Scupper down spout in bay 1, b/w diaph 1 & 2 from S. Abut has been sep.
16	spalls in B1 top flg & web, E. face & Downspout w/ lam, wst & 1/8" dps. L
	in SP-1
17 & 18	spall in P-1, S. side b/w B2 & B3 & debris on pier seat & on brg.
19	U/S of deck w/ conc patch w/ ~~#~~ & HC in bay 2 near P-1, SP-1
20	spall in B4 bott. flg end & P-1 in SP-1 3/16"w
21	B5 ends @ P-1, in span 1 & 2 w/ crks on E-side & split in B5 brg pad, SP-2
22	B1 brg pad lifted up to 1/2" x FW along W-side o/P-1 in SP-2
23	15" L x 1/8" w crk in web & bott flg of B1, @ P-1 in, SP-1
24	B4 brg @ P-1, SP-1 w/ crks / splits ± 1/4" w.
25	Spall in C2, @ SE corner of P-1
26-28	" " B5 end web & bott flg w/ exp. rebar @ P-1 in SP-2

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95/106

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 03369 Date: 5/14/12

Town: Hartford Photographer: MAI

Carried / Crossed: Rte 50 & NB / Lower Smith School Brook

Film Frame #	Image Description
29	spall @ bott of bott flg & edge of B1 bott flg in sp-2
30	B5, fixed brg pad @ p-2, sp-2
31	scallow straps @ B2 bott flg near p-3 in sp-3
32	U/S of sp-3
33	B4 brg @ p-2, sp-3
34	B1 " " " " "
35	shallow straps @ B2 bott flg near p-2, sp-3
36 & 37	end of B1 @ p-3 in sp-4
38	LT-scaling/HC in bay 2 (U/S) in sp-4, near p-3
39	Failed patch @ bott flg of B3 in sp-4
40	spall w/exp rebar in B4 end bott flg @ p-3, sp-3
41	spalls w/exp. strands in B5 " " " " " "
42	B5 brg @ p-3 w/ curling & lifted up 5/8", in sp-4
43	B5 " " " " " " " " " " " " & cracks in
	webs & flgs of B5 in sp-3 @ p-3
44	p-3, N. elev. w/hvy debris on top of cap.
45	spall w/exp rebar in bay 1, sp-4 near p-4
46	Spall up to 3" dp w/exp corroded rebars in Col. C4 @ NE corner of p-4
47	Missing end diaph encasement w/ exp rebar on E side of B5 @ p-5, sp-5
48	B1, Brg pad @ p-4, in sp-5
49	Map cracks in bay 1 U/S near p-4, sp-5
50	Map cracks w/efflo in bay 1, sp-6

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96/106

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 03369 Date: 5/15/12

Town: Hartford Photographer: MAI

Carried / Crossed: Rte. 504 NB / Lower Smith & School Brook

Film Frame #	Image Description
1	Br. ID
2	Missing weep in bay 1, Sp-4 near P-4
3	Conc. patch w/efflo & rust in bay 1, sp-6 near p-6
4	P-5, N. elev. w/evid of leakage on Pier cap.
5	B1, end Bott flg spall w/exp strand @ P-6, Sp-6
6	Hvy debris on P-7 cap in bays 2 & 3
7	Hanging Deck Jt mat @ P-7
8 & 9	B1, End & End diaph encasement w/spalls (1 w/) & exp (3) strands
	@ P-8, Sp-8.
10	U/s of Sp-8
11	P-8, Col 5, spall w/exp rusted rebar @ S W corner
12	B1, brg @ P-8, in Sp-9
16	Rusted thru hole in scupper downspout top collar b/w B1 & B2 in Sp-11
17	HA & spalls w/exp rebar in P-10 Cap, N. elev.
18	Spalls @ U/s of deck in bay 2, Sp-11
13	scupper downspout Replaced in bay 1, Span-9
14 & 15	Spall w/exp rebar in web of B5 @ P-9, Sp-9
5/16/12 19	B5 ends @ P-11 w/spall diaph conc w/exp rebar for Sp-12
20	B5 brg ped w/spall (NO U/M) @ P-12, Sp-12
21	P-12, Col. 5 has spall w/exp rusted rebar w/ 1 1/4" dp S.L @ N face
22	Sp-13, u/s of deck
23	B1/B.H.B ends in contact @ P-12, spans 12 & 13
24	Downstream view of brook under sp-13
25	Dampweps @ diaph & B2 interface @ P-13, Sp-13
26	Upstream view under sp-13

AI Engineers, Inc.

97/106

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 03369 Date: 5/16/12

Town: Hartford Photographer: MAI

Carried / Crossed: Rte. 504 NB / Lower Smith School Brook

Film Frame #	Image Description
27	HC ±1'lg w/exp rebar in bay 4 of Sp-17 near P-16
28	Deck Jt mat lying on P-17 cap in bay 2 w/ actuve lkg
29	U/s of Sp-17
30	spall w/exp rebar in bay 3, Sp-17 @ u/s of deck
31, 32 & 33	B5, end (W-Side) @ P-17, Sp-18 w/spall & (3) exp. strands.
34	U/s of deck Jt @ P-17, bay 4
35	spalls w/exp rebar in P-17 cap & Col 5 (N elev.)
36	Deck Jt Mat. hanging o/P-18
37, 38 & 39	B5 Bott flg end & Brg pad @ P-18, Sp-19
40	Exp strand w/LT rust @ bott flg of B4 @ mid of Sp-18
41	HC in bay 4 of Sp-18
43	same as 37-39 (W. Side of beam 5' shown @ P-18, Sp-19
44	U/s of deck Jt @ P-18 w/banging Noise
45	P-18, N. elev. w/evid of actuve lkg on cap @ W-end.
42	Long HLC @ B5 in Sp-19 near P-18
46	collision damage area @ bott flg of B1 in Sp-20 near P-19
47	Spalls in W deck overhang @ P-19
48 & 49	N-Abut stem & exp footing
50	NE wwall
51	Erosion b/w P-19 Cols 1-3

AI Engineers, Inc.

98/106

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 03369 Date: 5/17/12

Town: Hartford Photographer: MAI

Carried / Crossed: Rte. 504 NB / Lower Smith School Brook

Film Frame #	Image Description
1-5	U/S of ~~bott flg~~ of BS near P-13 in Sp-14 w/spalls & exp. strands.
6	U/S of Sp-14
7-10	BS, east elev. @ P-14 in Sp-15 (severe deterioration)
11	" U/S of Bott Flg " " " " " ①
12	Haunch Spall @ W. dechoven hang in Sp-15
13	Shear Crk in BS, bott flg (E side) @ P-15 in Sp-15
14-28	BS @ P-15, Sp-16 (worst Condition)

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99/106

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 03369 Date: 05/18/12

Town: Hartford Photographer: DH/ZRI

Carried / Crossed: Rte. 504 NB / Lower Smith School Brook

Film Frame #	Image Description
1	ID
2	Bridge from South app.
3	South app from bridge.
4.	plug Joint over S. Abut. Note prev noted crks repaired.
5.	S App pavement w/ crks open upto 1"w.
6	" " w/ FW crk open upto 1/2"w.
7.	East ppt in span 1 w/ MPCR & FH crks, light scaling.
8.	plug Jt over pier 1 Note new jt since last inspection
9	overlay in span 2
10	Light std w/ collision damage dent in E ppt span 3
11	12'Lx 1/8"w cohesion crk w/ new plug Jt over travel way over pier 3
12	overlay Span 4
13	plug Jt over pier 4. Note spall in W curb.
14	plug Jt over pier 5. Note prev noted pothole patched.
15	plug Jt w/ cohesion & adhesion crks. depressed Jt over pier 7.
16.	cohesion crk in plug Jt & mod scaling in E ppt over p-7
17	Span 9. overlay
18	plug Jt over p-8
19.	8 out of 12 missing screws in J box cover in E ppt. span 9.
20	plug Jt over p-9 w/ 1'x 4"x 1/2" dp pothole in Jt left shoulder.
21	plug Jt over p-11 Note adh & coh crks
22	" p-13. Note 1' ϕ depression in Jt.
25 23 24	hvy acc of sand along the curb w/ water stagnant
26	one patched pothole & one Existing pothole in left shld sp 14.

AI Engineers, Inc.

100/106

PHOTO LOG

Form BRI-13, Rev. 9/97

Bridge Information System

Image Inventory

Bridge No. 3369 Date: 05/18/12

Town: Hartford Photographer: DH/ZEJ

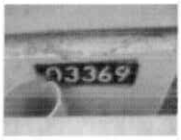
Carried / Crossed: Rte 504 NB/ lower Smith School brook

Film Frame #	Image Description
27	F10x 1/4"w adh crk in plug Jt over P-14. w/exp aggregate
28	Minor dirt debris along E-curb span 14-15-16.
29, 31	spalls in the Temp. J. barriers
30	plug Jt over P-15.
32	Mod scaling on top of E. ppt
33	plug Jt over P 16
34	plug Jt over P-17
35	Span 18 overlay
36	plug Jt over P-18
37	dent in ltd std. E ppt span 19
38	P-19 plug Jt.
39	N. App from bridge
40	plug Jt over N. Abut. Note F10x 1/8" adhesion crk
41	N App. pavement
42	Bridge from N App.
43	Rough bit. patches in left shoulder span 19.
44	1'x6" HA w/ 1" dp edge spall in W. ppt near P-1 Jt. Sp 2
45	prev. noted collision damage @ SW corner to/repaired
46	Ltd Std @ SE corner w/ (4) dent in Ltd st.

AI Engineers, Inc.

BRIDGE NO. 03369

FIELD PHOTO LOG THUMBNAILS
MAI 05-14-12



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MAI 5-14-12 (2)

MAI 5-14-12 (3)

MAI 5-14-12 (4)

MAI 5-14-12 (5)

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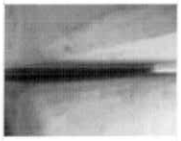
MAI 5-14-12 (8)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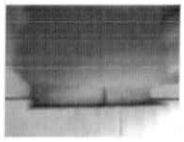
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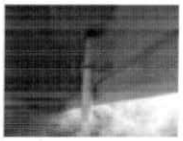
MAI 5-14-12 (11)

MAI 5-14-12 (12)

MAI 5-14-12 (13)

MAI 5-14-12 (14)

MAI 5-14-12 (15)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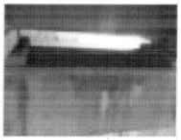
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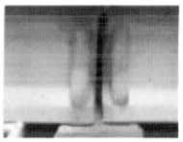
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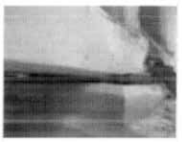
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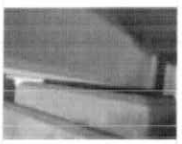
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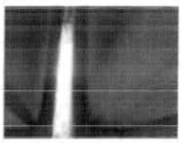
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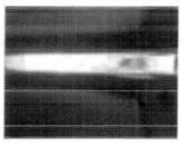
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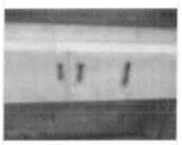
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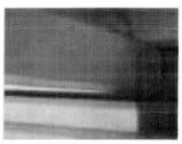
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MAI 5-14-12 (36)

AI Engineers, Inc.

BRIDGE NO. 03369

FIELD PHOTO LOG THUMBNAILS
MAI 05-14-12 (Continued)

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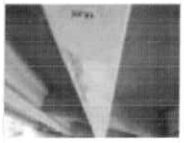
MAI 5-14-12 (38)

MAI 5-14-12 (39)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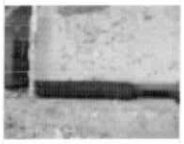
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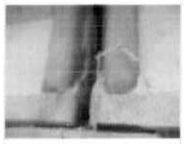
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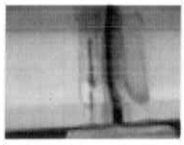
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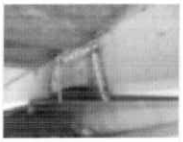
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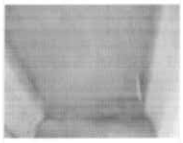
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MAI 05-15-12 & 05-16-12

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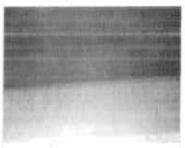
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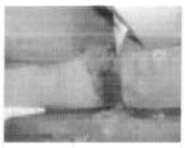
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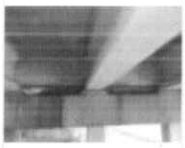
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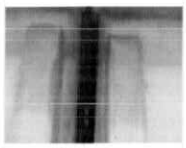
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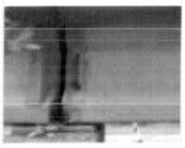
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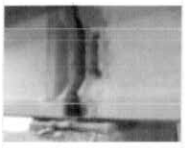
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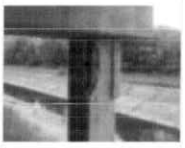
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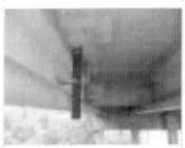
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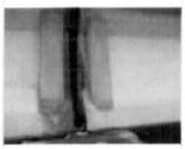
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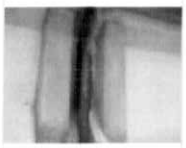
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MAI 05-15-12 & 05-16-12 017

MAI 05-15-12 & 05-16-12 018

AI Engineers, Inc.

BRIDGE NO. 03369

FIELD PHOTO LOG THUMBNAILS
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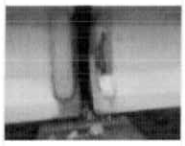
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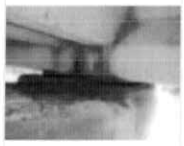
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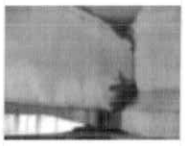
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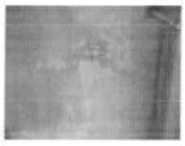
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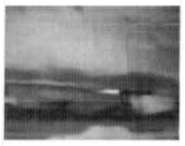
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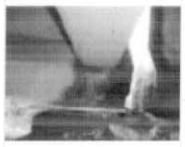
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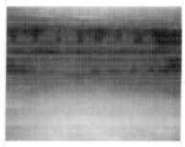
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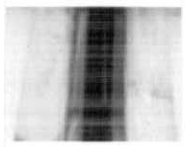
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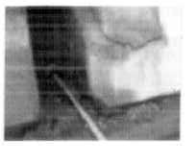
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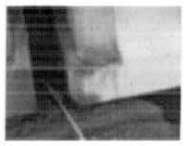
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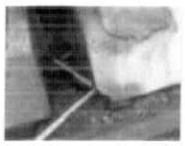
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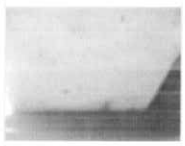
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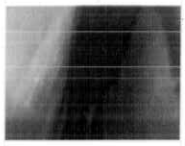
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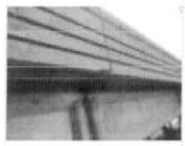
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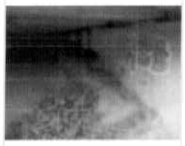
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MAI 05-15-12 & 05-16-12 050

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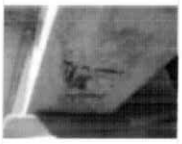
AI Engineers, Inc.

BRIDGE NO. 03369

FIELD PHOTO LOG THUMBNAILS
MAI 05-17-12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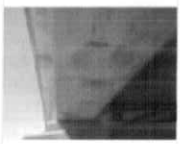
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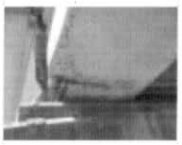
MAI 05-17-12 (9)

MAI 05-17-12 (10)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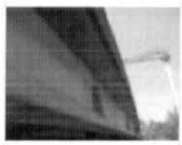
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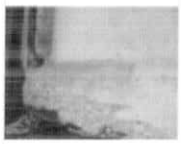
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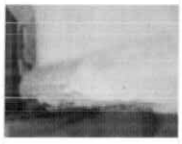
MAI 05-17-12 (24)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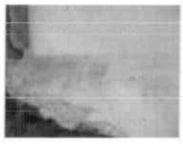
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MAI 05-17-12 (27)

MAI 05-17-12 (28)

AI Engineers, Inc.

BRIDGE NO. 03369

FIELD PHOTO LOG THUMBNAILS
DY 05-18-12

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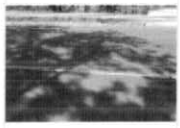
DY 5-18-12 (2)

DY 5-18-12 (3)

DY 5-18-12 (4)

DY 5-18-12 (5)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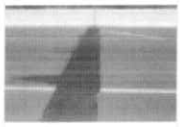
DY 5-18-12 (11)

DY 5-18-12 (12)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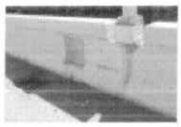
DY 5-18-12 (15)

DY 5-18-12 (16)

DY 5-18-12 (17)

DY 5-18-12 (18)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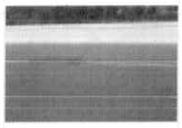
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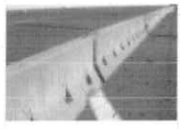
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DY 5-18-12 (31)

DY 5-18-12 (32)

DY 5-18-12 (33)

DY 5-18-12 (34)

DY 5-18-12 (35)

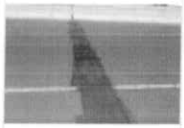
DY 5-18-12 (36)

AI Engineers, Inc.

BRIDGE NO. 03369

FIELD PHOTO LOG THUMBNAILS
DY 05-18-12 (Continued)

DY 5-18-12 (37)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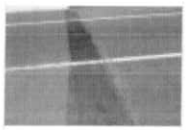
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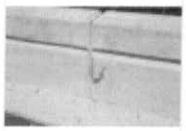
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DY 5-18-12 (46)

AI Engineers, Inc.

DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

Photo # 1: Bridge identification number. Partially obscured by approach railing anchorage.

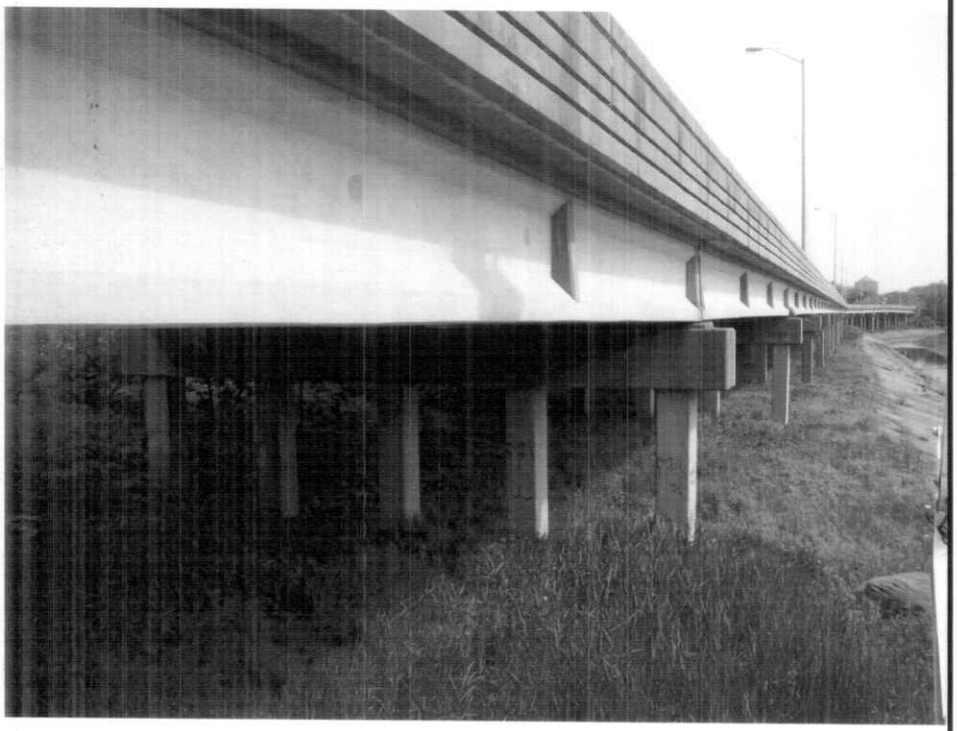

Photo # 2: East elevation of bridge.

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DATE:	05/14/2012
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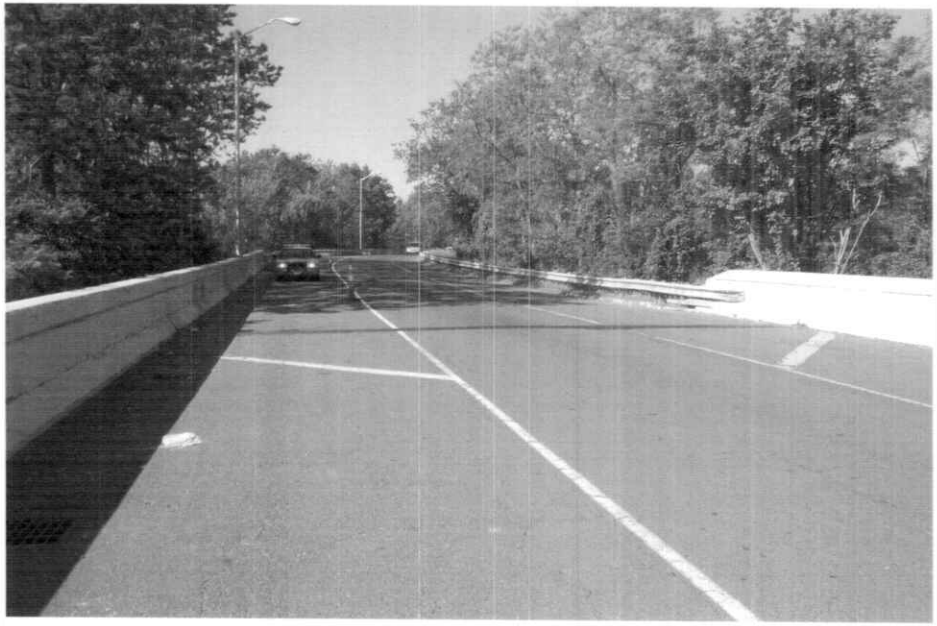

Photo # 3: South approach from bridge.

Photo # 4: Bridge from south approach.

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DATE:	05/14/2012	FEATURE CARRIED:	ROUTE 504 NORTHBOUND
JOB NO.:	170-3013	FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
		LOCATION:	HARTFORD

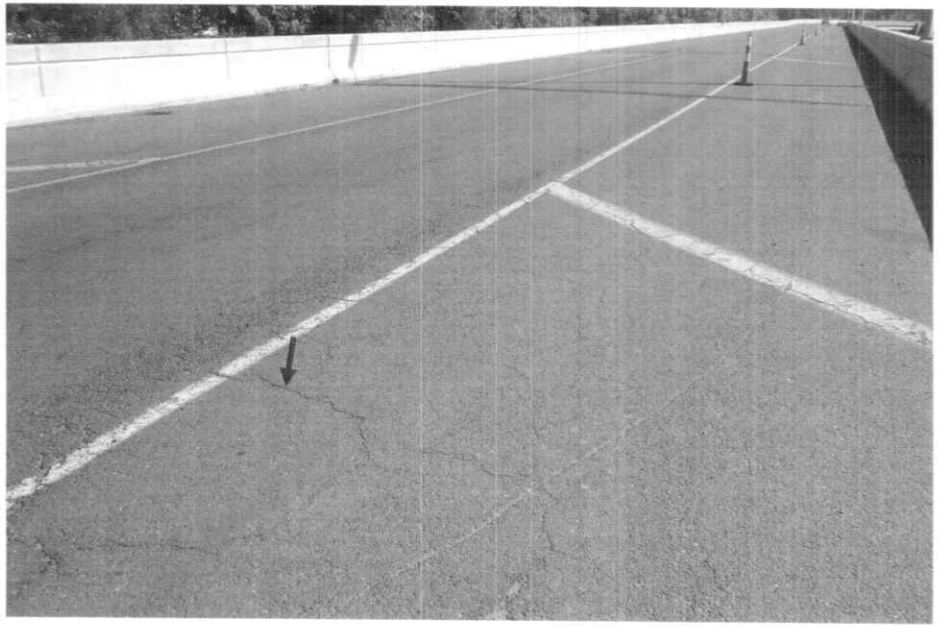

Photo # 5: Bituminous concrete overlay in span 2 with long areas of map cracks open up to ¼" wide.

Photo # 6: Bituminous concrete overlay in the left shoulder of span 19 with heavy raveling and potholes. Note the slopped concrete curbs with peeling protective coating.

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DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
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LOCATION:	HARTFORD

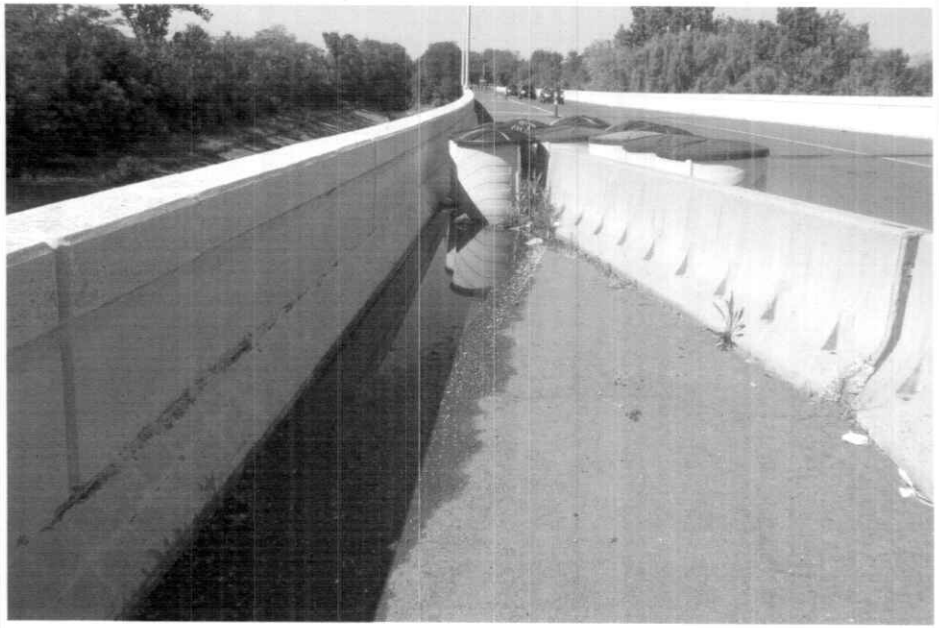

Photo # 7: Water ponding behind temporary jersey barriers in the right shoulder of span 14.

Photo # 8: Underside of concrete deck and prestressed beams in span 17.

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DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
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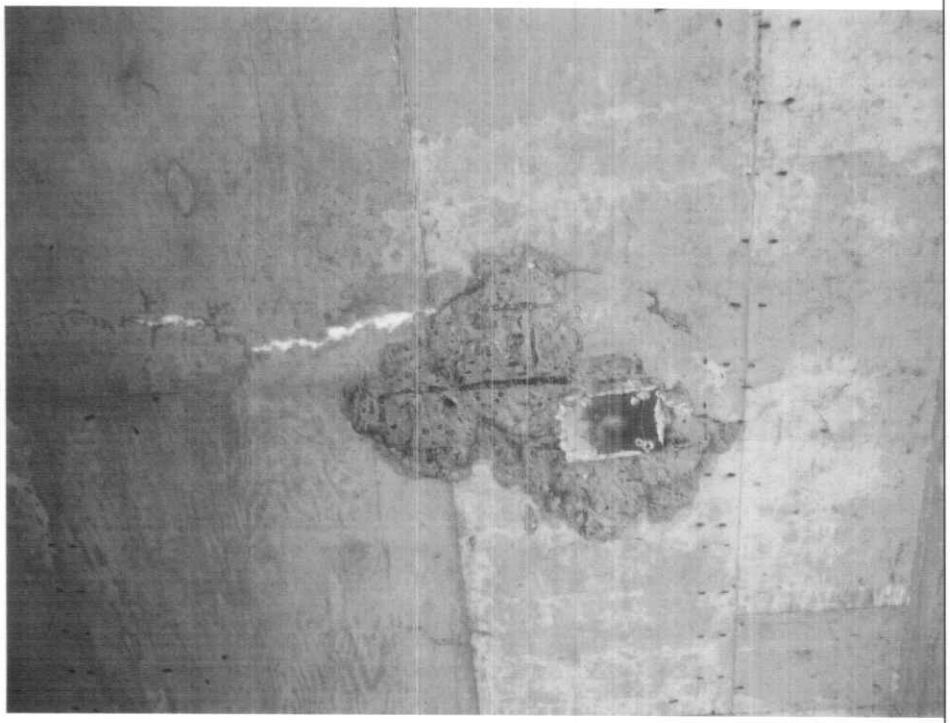

Photo # 9: Underside of concrete deck in bay 3 in span 17 with a 3' x 3' x 3" deep spall with exposed rebar.

Photo # 10: General view of the east parapet and temporary concrete jersey barriers with sand barrel impact attenuators in place in the right shoulder of spans 14-16 to isolate live load traffic from two severely deteriorated east fascia beams in spans 15 and 16.

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DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
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Photo # 11: Temporary jersey barrier in span 16 has spalls up to 4' long x 1.5' high x 4" deep with exposed rebar.

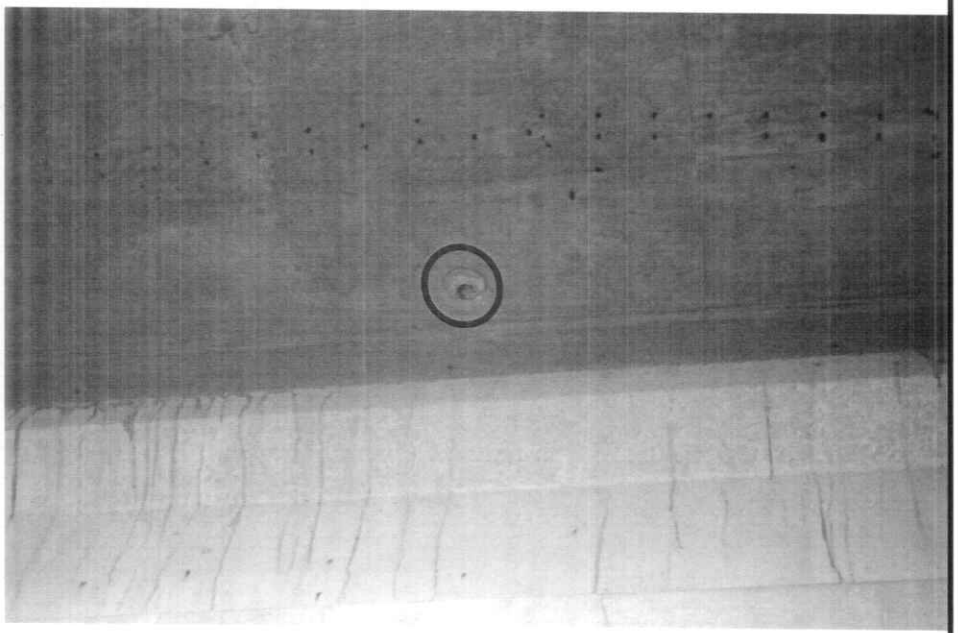

Photo # 12: Missing weep pipe with evidence of past leakage in span 4, between beams B1 and B2 near pier 4.

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DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
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Photo # 13: In span 11, between beams B1 and B2 there is an 8" long x 1-1/2" high rusted thru hole in the top collar of the scupper downspout.

Photo # 14: The light standard on the east parapet at the south approach has up to (4) 6" long x 1" wide scrapes with a 10" x 6" x 1/2" dent (no cracks found) due to past collision damage.

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DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
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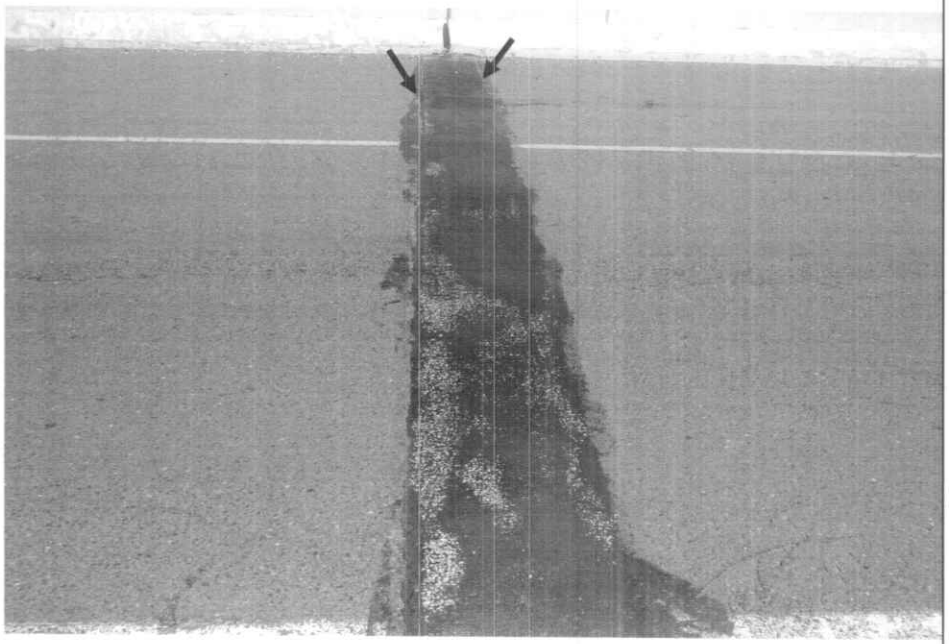

Photo # 15: Asphaltic plug joint over pier 14 with adhesion and cohesion cracks open up to 1/4" wide. There is evidence of leakage underneath the bridge.

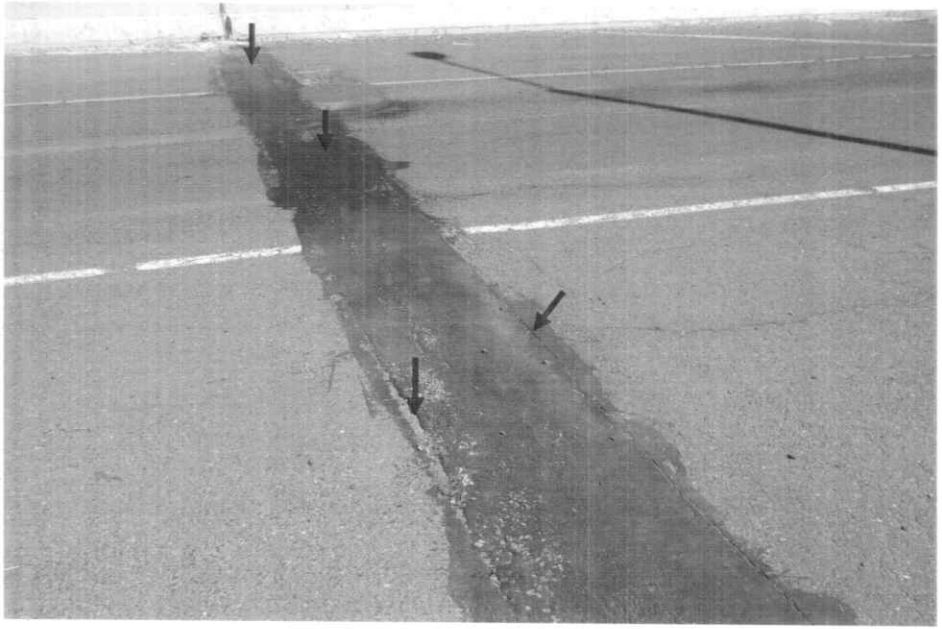

Photo # 16: Asphaltic plug joint over pier 18 with adhesion and cohesion cracks open up to ½" wide. There are also settled/depressed and heaved areas up to 1" deep. There is evidence of leakage and banging noise heard during the inspection underneath the bridge.

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DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
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FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

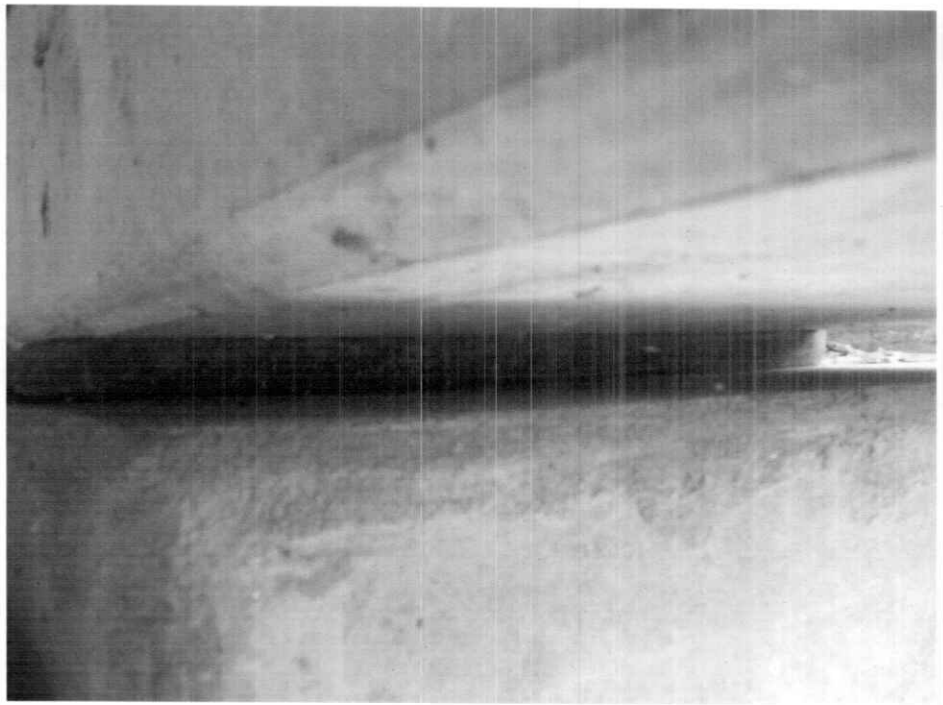

Photo # 17: General view of beam B1 bearing over the south abutment.

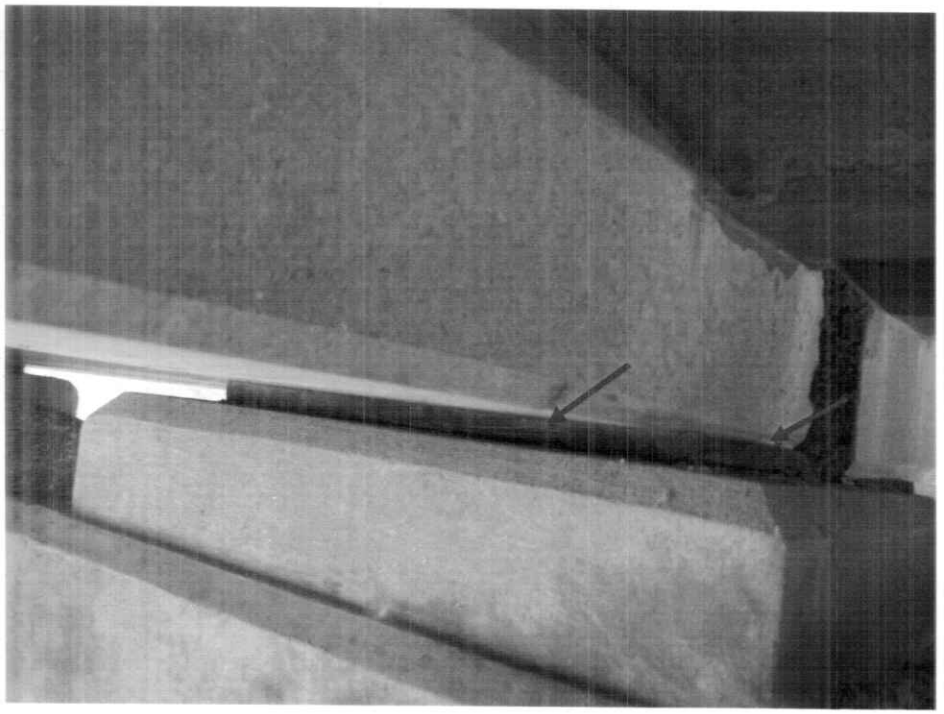

Photo # 18: Beam B4 bearing pad over pier 1 in span 1 with slight curling and splits up to ¼" wide.

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DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
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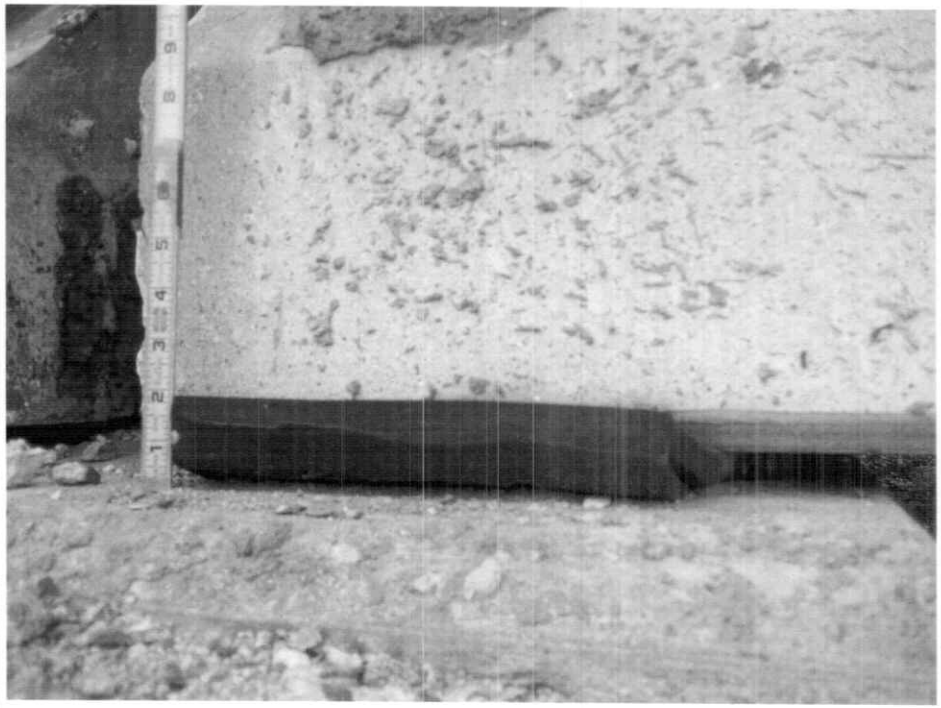

Photo # 19: Beam B5 bearing at pier 3 in span 4 with cracks and lifting up to 5/8" wide.

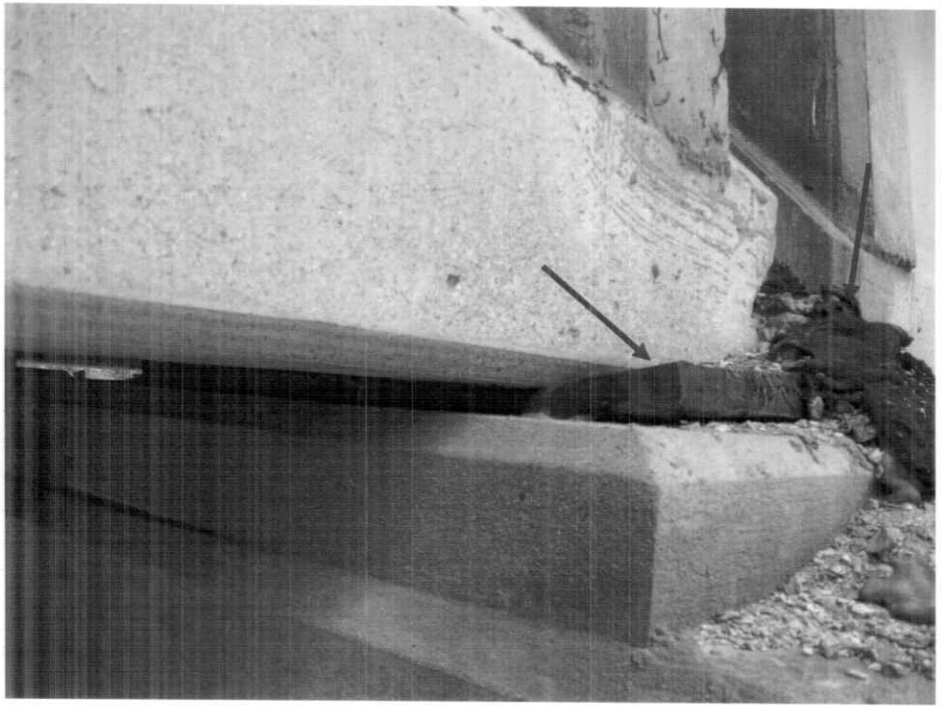

Photo # 20: Beam B1 bearing pad over pier 1 in span 2 is lifted up ½" and is covered in construction debris.

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DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

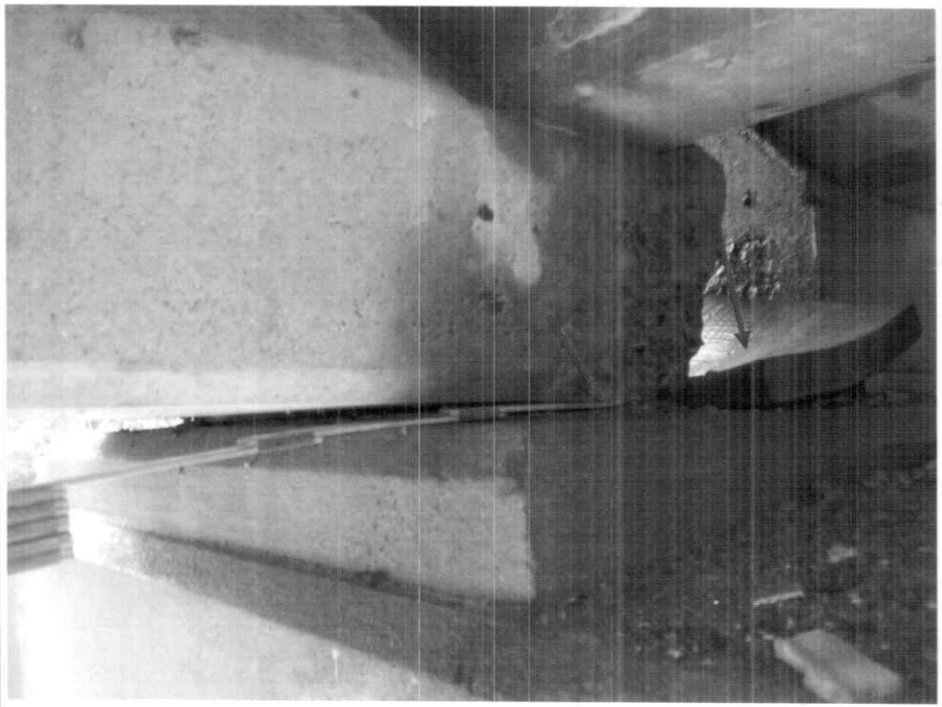

Photo # 21: Beam B5 bearing pad over pier 18 in span 19 the bearing pad is severely rotated with a missing section of pad resulting in 40% loss of bearing area.

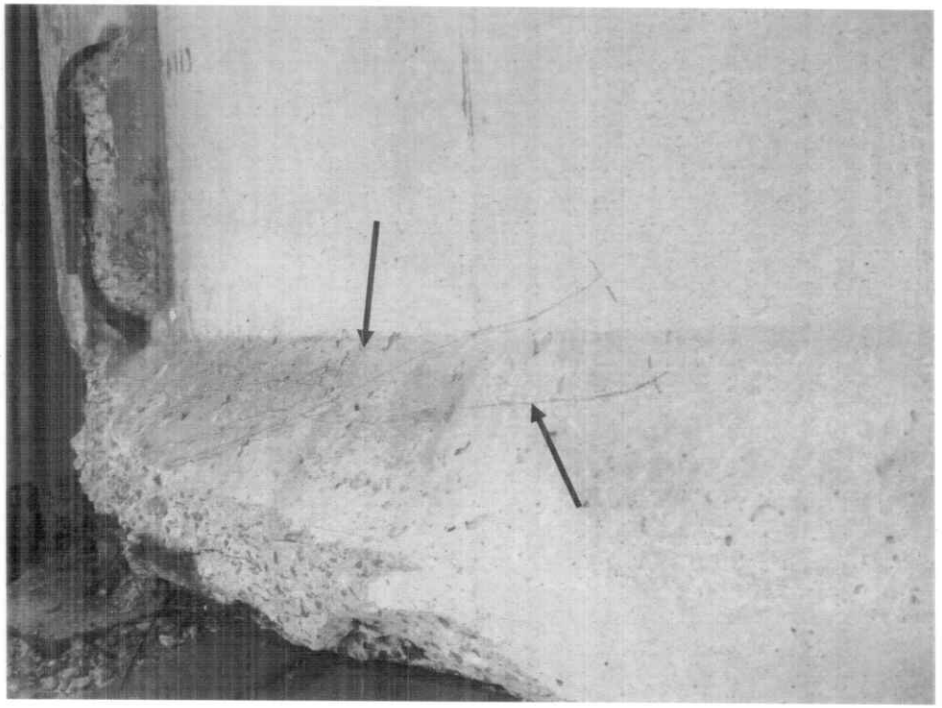

Photo # 22: Beam B5 bottom flange at pier 15 in span 16. Note the shear cracks open up to 0.03" wide in the bottom flange with a few extending to the web of the beam at the east fascia.

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DATE:	05/14/2012
JOB NO.:	170-3013

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Photo # 23: West side of beam B5 end over pier 17 in span 18 with spalls and (3) exposed strands.

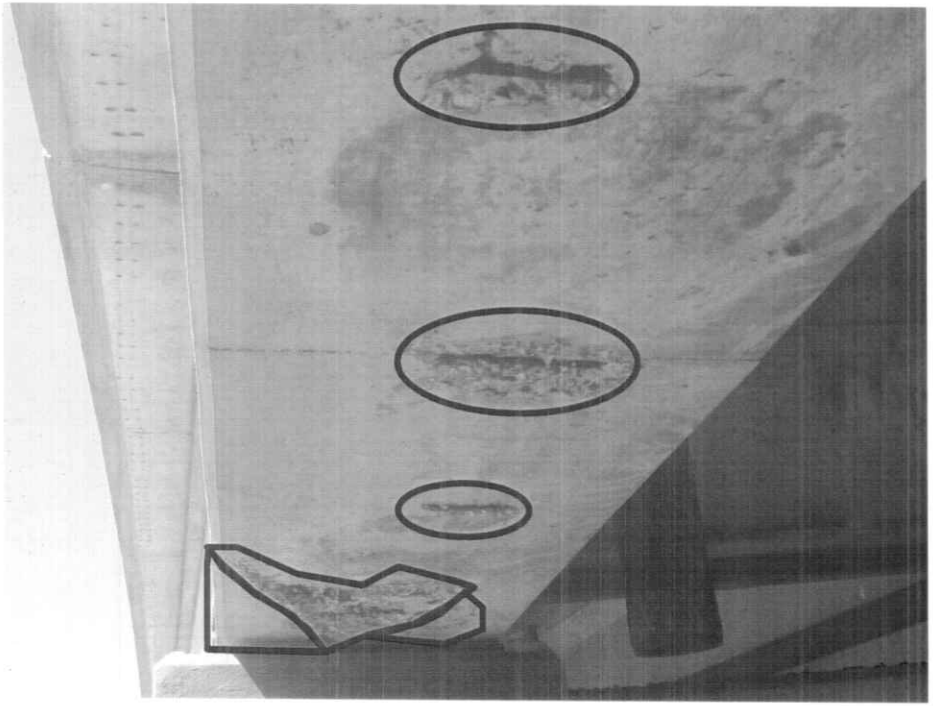

Photo # 24: Beam B5 bottom flange at pier 13 in span 14 with random hollow areas up to 18" x 10" and random spalls up to 32" x 16" x 1-3/4" deep with exposed rebars, (2) exposed stirrups with (1) having 100% section loss and (4) exposed strands.

AI Engineers, Inc.

DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
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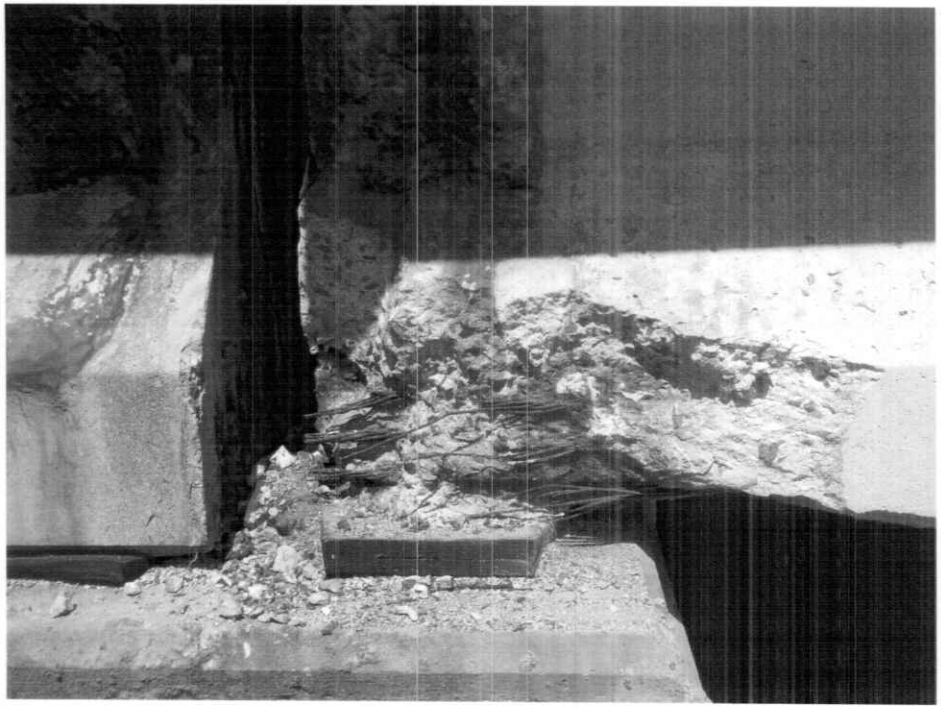

Photo # 25: Beam B5 is severely deteriorated over pier 14 in span 15 with several exposed and severed strands.

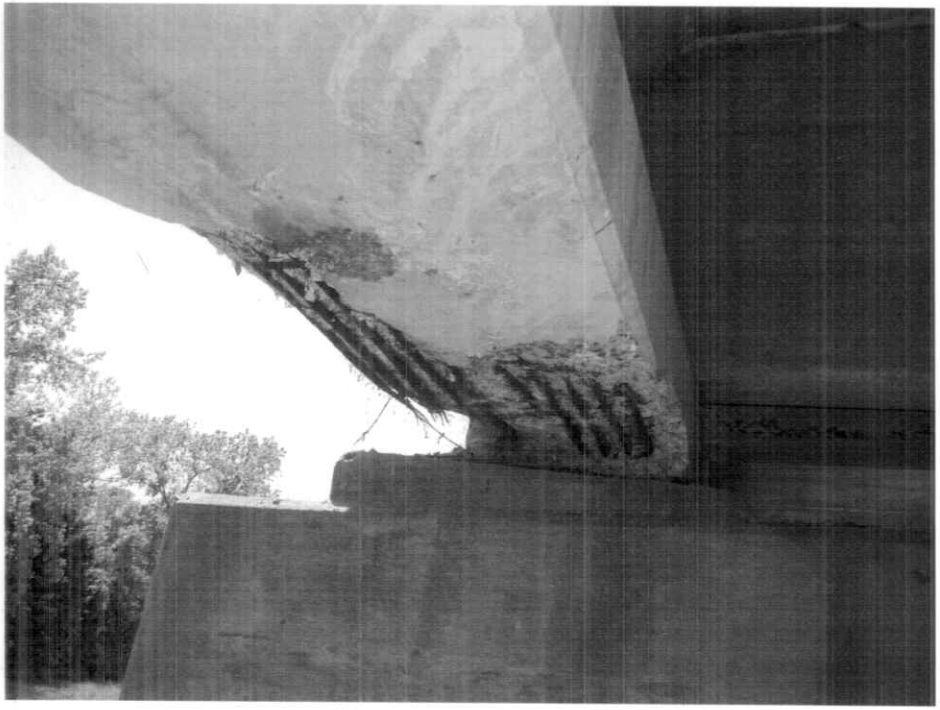

Photo # 26: Beam B5 bottom flange at pier 15 in span 16. Note the spall with six (6) new exposed strands. A total of ten (10) exposed strands can be seen in the photo, many severed.

AI Engineers, Inc.

DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
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FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

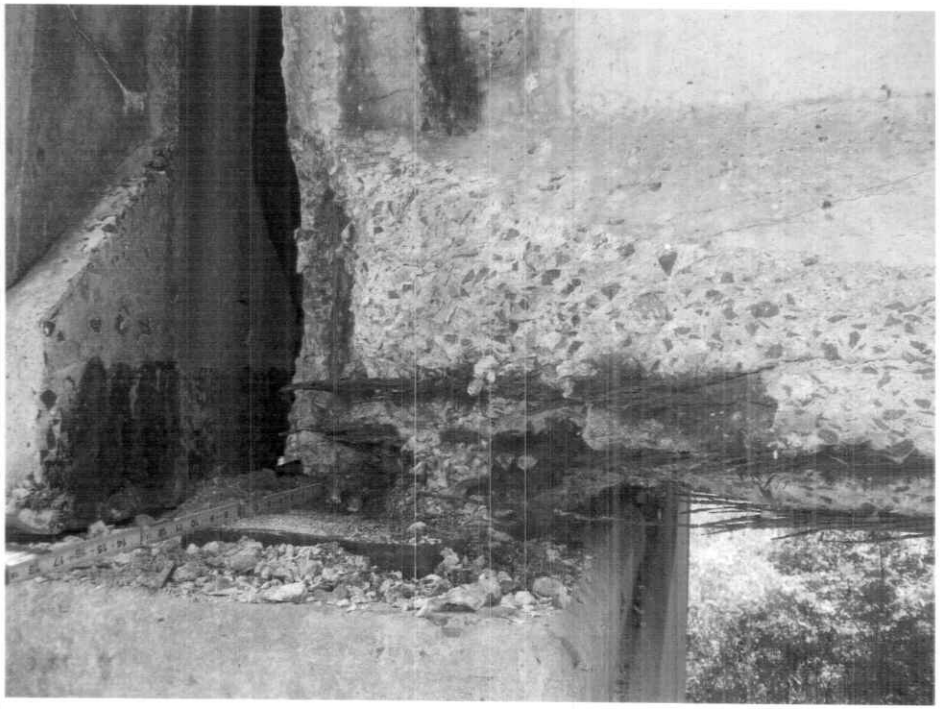

Photo # 27: Beam B5 bottom flange at pier 15 in span 16. Note exposed strands with up to 100% section loss at the bottom course for the end 28"+/-. The remaining has up to 50%-75% section loss.

Photo # 28: Beam B5 bottom flange at pier 15 in span 16. End of the beam is shown with up to 42% loss of the bearing area.

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DATE: 05/14/2012	BRIDGE IDENTIFICATION: 03369
	FEATURE CARRIED: ROUTE 504 NORTHBOUND
JOB NO.: 170-3013	FEATURE CROSSED: LOWER SMITH SCHOOL BROOK
	LOCATION: HARTFORD

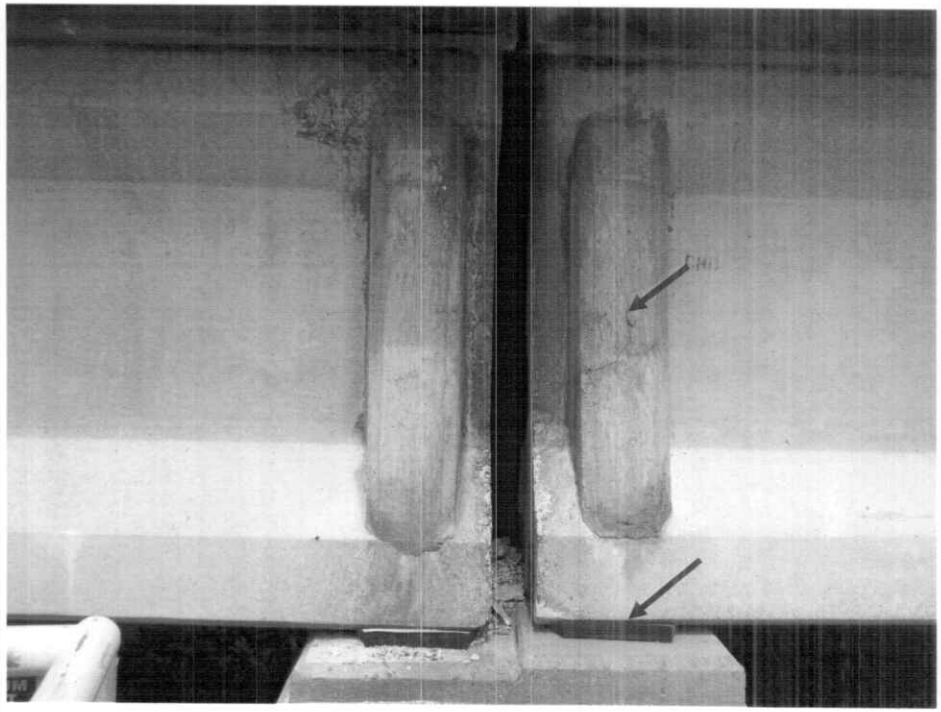

Photo # 29: Beam B5 ends over pier 1 in spans 1 & 2. Note cracks in diaphragm encasement and splits up to 3/16" wide in the bearing pads.

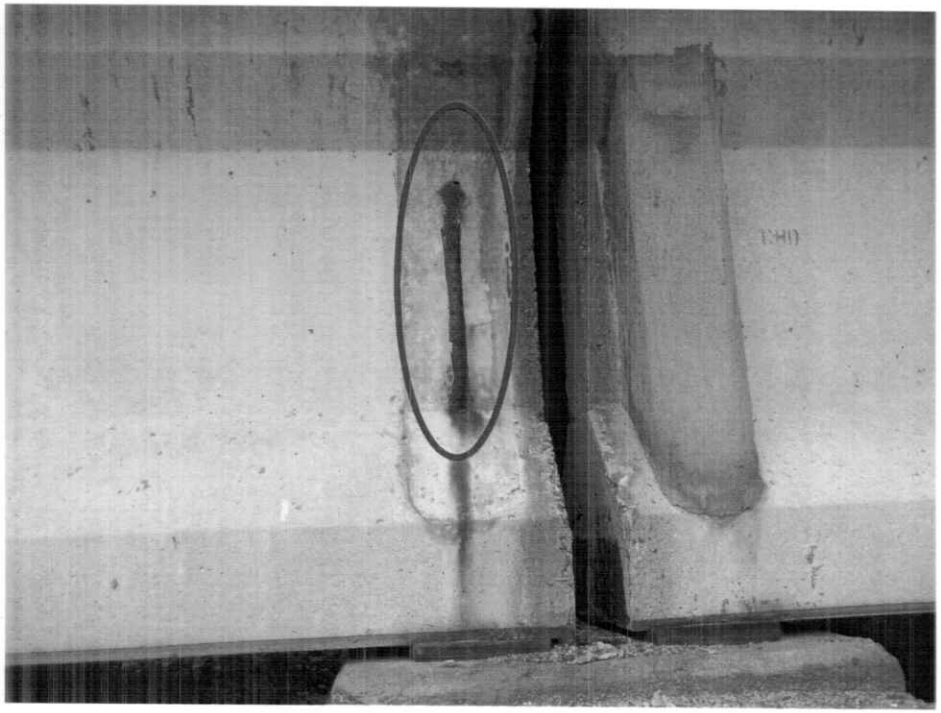

Photo # 30: Missing end diaphragm encasement with exposed rebar on the east side of beam B5 at pier 5 in span 5.

AI Engineers, Inc.

DATE:	05/14/2012
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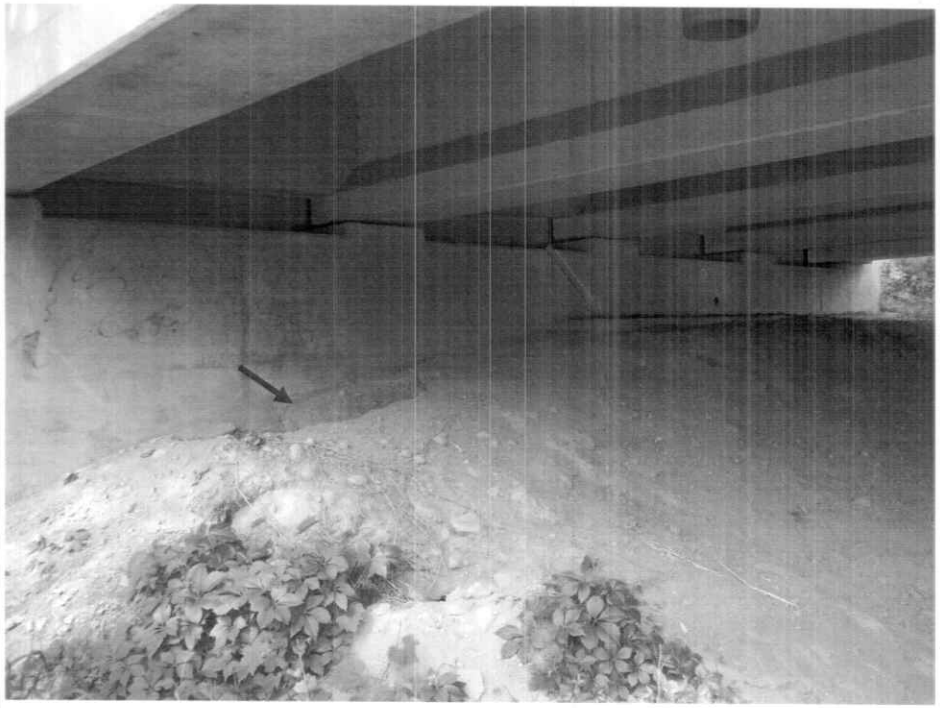

Photo # 31: General view of the south abutment stem. Note erosion hole at the east end (see Photo #42) and exposed footing between beams B1 & B3.

Photo # 32: General view of north abutment stem. Note exposed footing due to erosion and graffiti on stem.

AI Engineers, Inc.

DATE:	05/14/2012
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FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

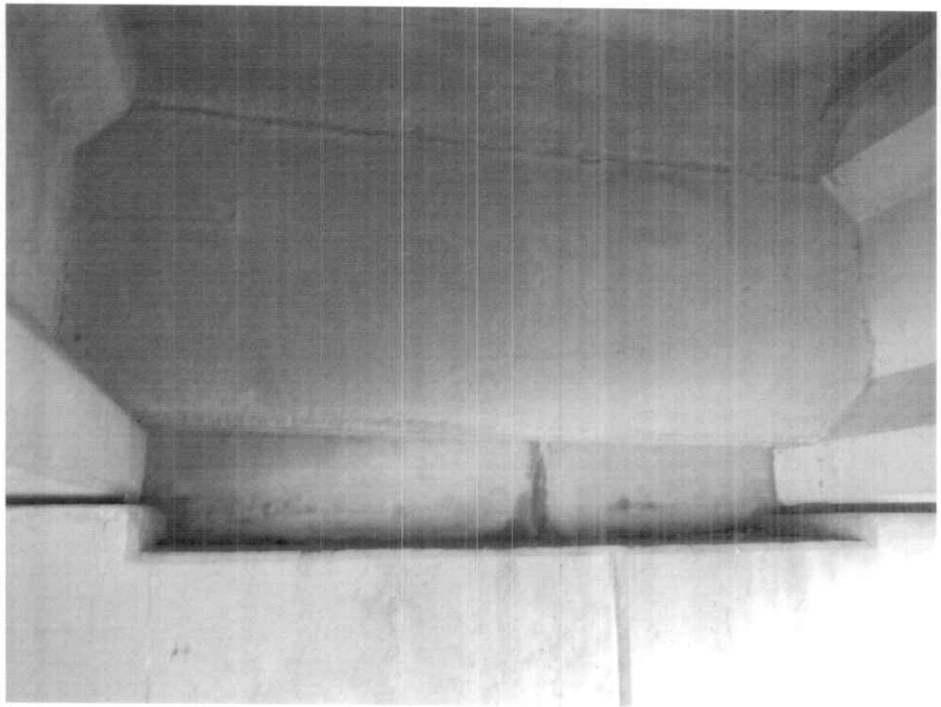

Photo # 33: South abutment backwall and end diaphragm in bay 1.

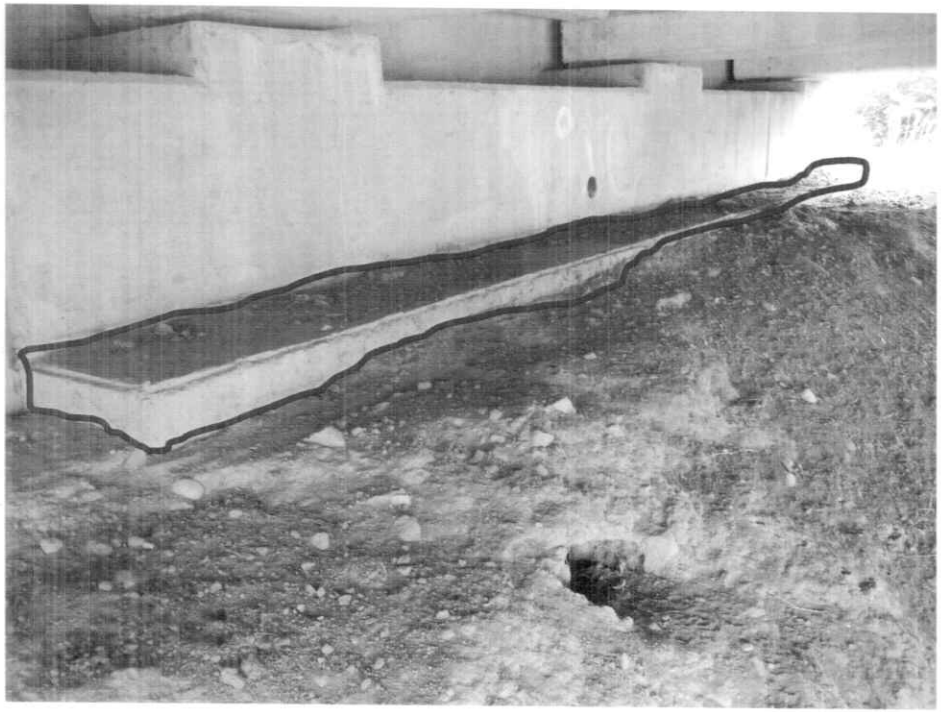

Photo # 34: Exposed footing for the south abutment stem between beams B1 and B3.

AI Engineers, Inc.

DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

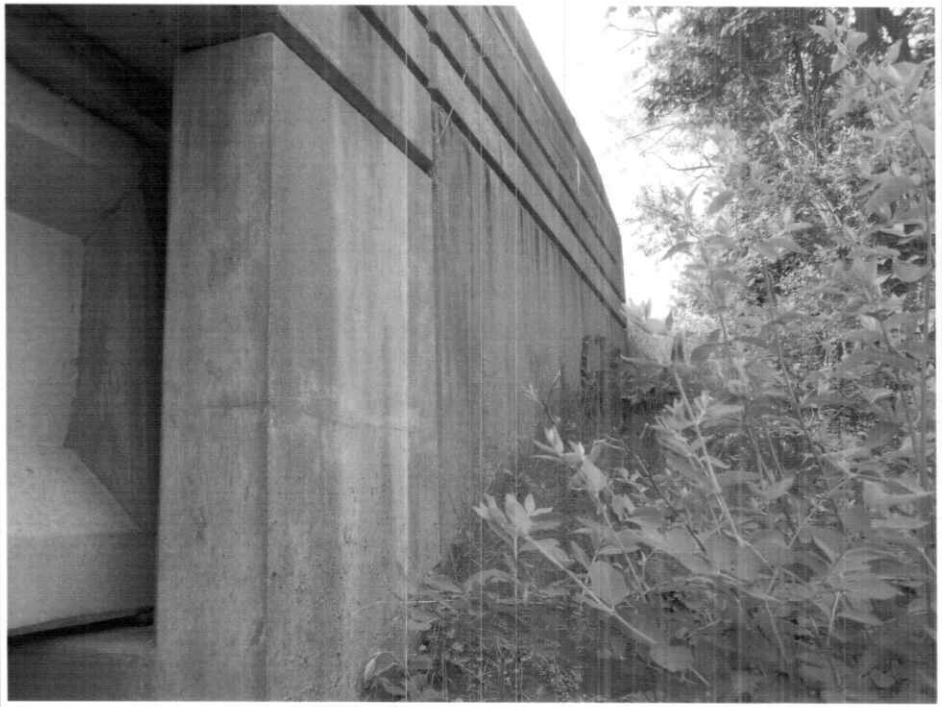

Photo # 35: General view of the southwest wingwall. Note heavy vegetation growth along the wingwall.

Photo # 36: Northeast wingwall with a moderate graffiti.

AI Engineers, Inc.	BRIDGE IDENTIFICATION: 03369
DATE: 05/14/2012	FEATURE CARRIED: ROUTE 504 NORTHBOUND
JOB NO.: 170-3013	FEATURE CROSSED: LOWER SMITH SCHOOL BROOK
	LOCATION: HARTFORD

Photo # 37: General view of pier 1 south elevation.

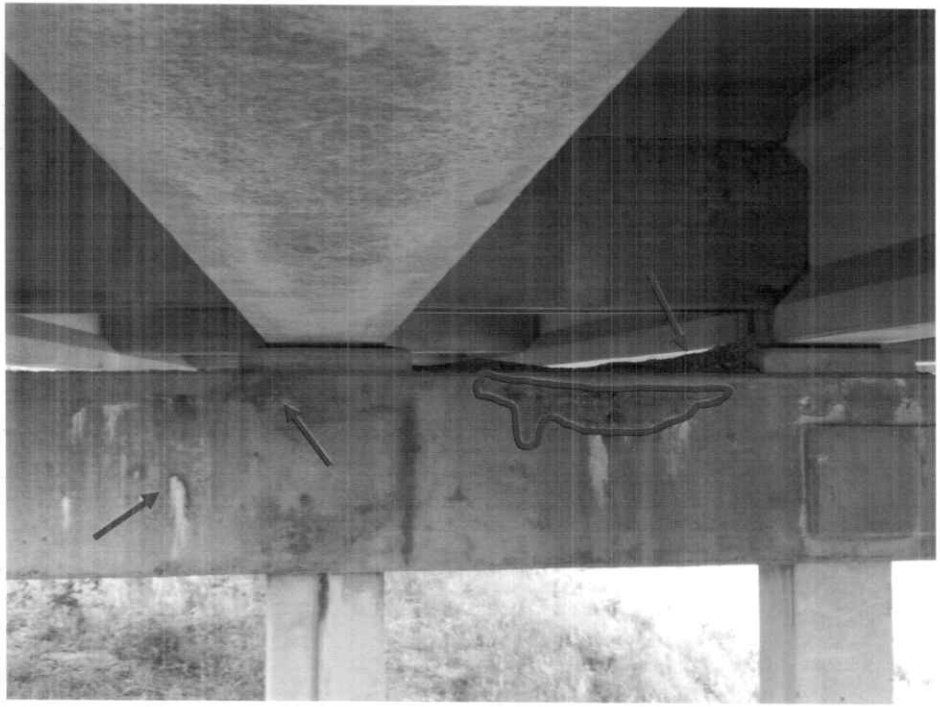

Photo # 38: South side of pier 1 cap between beams B2 and B3 exhibits cracks with and without efflorescence, spalls, rust stains, and accumulation of debris on top of the cap.

AI Engineers, Inc.

DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

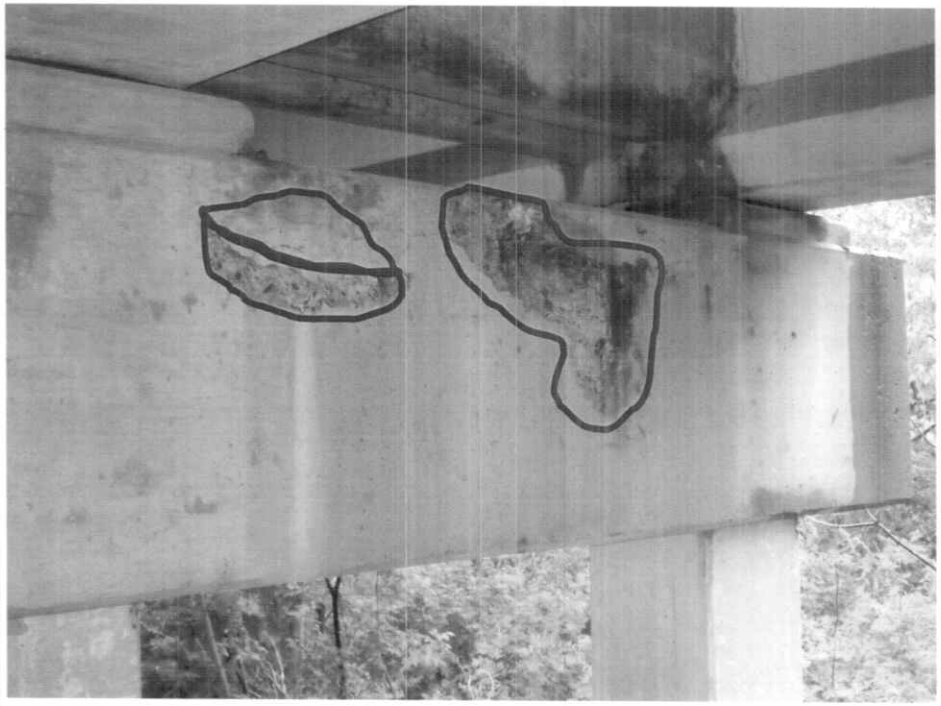

Photo # 39: North elevation of pier 10 cap has spalls with exposed rebar and hollow areas between beams B1 and B2.

Photo # 40: Pier 4 (reinforced) column 4 north east corner has a 3" deep spall with exposed and rusted rebar.

AI Engineers, Inc.

DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

Photo # 41: Pier 12 (reinforced) column 5 has a spall with exposed rusted rebars having 25% section loss on the north face.

Photo # 42: 5' long x 3' wide x 2.5' deep erosion area along the south abutment stem between beams B4 and B5.

AI Engineers, Inc.

DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

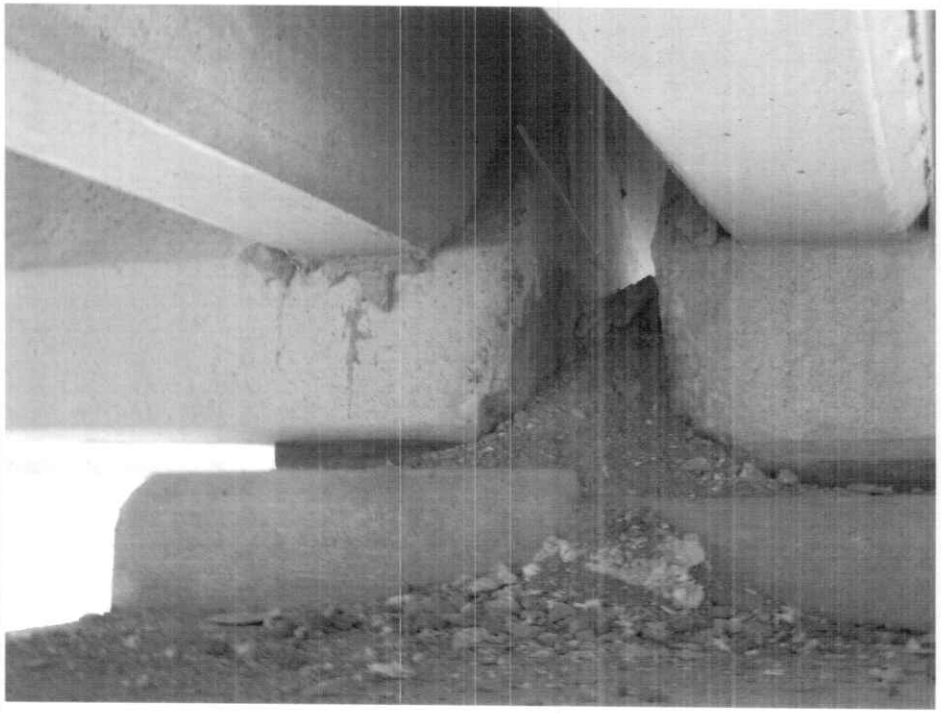

Photo # 43: Heavy debris accumulation up to 1' high on top of pier 1 at the beam B4 bearing pedestal.

Photo # 44: Southwest approach metal beam rail with 10' long collision damage. Note previously noted damaged section has been repaired since the last inspection.

Engineers, Inc.

DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

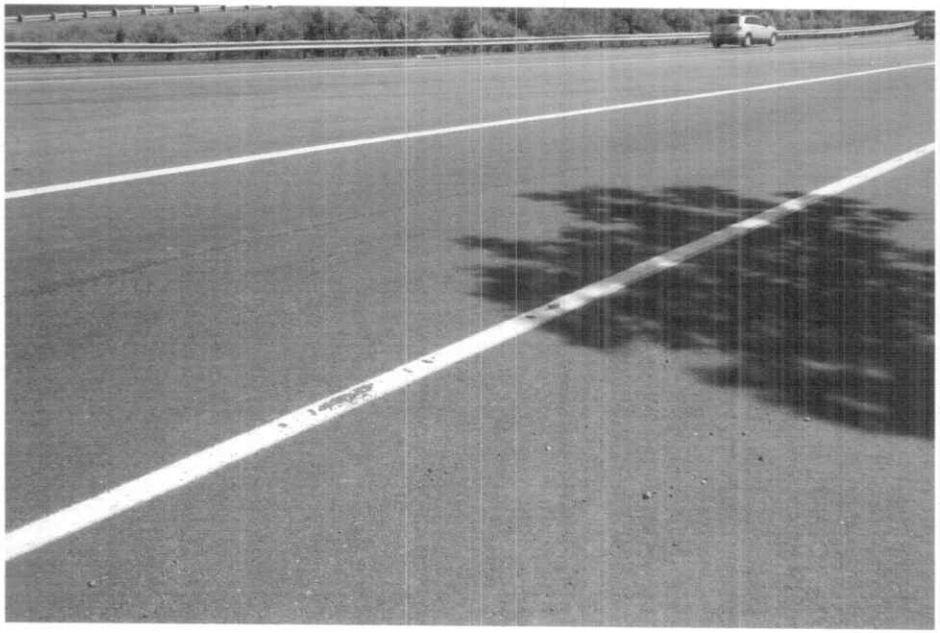

Photo # 45: General overview of the north approach pavement.

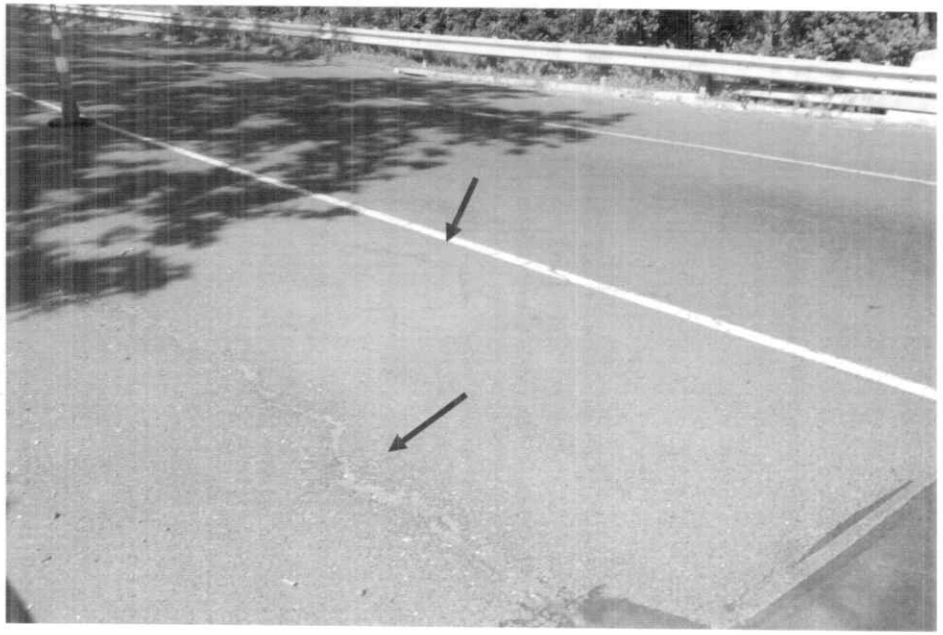

Photo # 46: South approach pavement with longitudinal and transverse cracks open up to 1/2" wide.

AI Engineers, Inc.

DATE:	05/14/2012
JOB NO.:	170-3013

BRIDGE IDENTIFICATION:	03369
FEATURE CARRIED:	ROUTE 504 NORTHBOUND
FEATURE CROSSED:	LOWER SMITH SCHOOL BROOK
LOCATION:	HARTFORD

Photo # 47: Downstream (east) view of brook in span 13.

Photo # 48: Upstream (west) view of brook in span 13. Note moderate to heavy vegetation growth.

AI ENGINEERS, INC.
BACK UP FIELD NOTES

Muhammad Iqbal

From: Muhammad Iqbal
Sent: Friday, June 22, 2012 10:17 AM
To: Muhammad Iqbal
Subject: FW: 03369 (carries Rte. 504 NB over Lower Smith School Brook)
Attachments: 100_1281.JPG; 100_1278.JPG; 100_1279.JPG; 100_1280.JPG; image001.jpg

Leo,
Attached please see the photos for Beam B5 at Pier 14 in Span 15. The bearing loss area is +/-18% at this location. This will give you a better illustration of the deterioration as compare to beam B5 at Pier 15 in Span 16.

Hope the above information will be helpful.

Please let me know if you need more information on the above.

Thanks,
Asif

Muhammad Asif Iqbal, EIT, LEED Green Associate
Senior Engineer

AI Engineers, Inc.
Celebrating 20 years of Engineering Excellence
19 Middle Street
Middletown, CT 06457
Phone: 860-635-7740 ext. 125
Fax: 860-635-7312
www.aiengineers.com

From: Muhammad Iqbal
Sent: Tuesday, May 22, 2012 10:30 AM
To: Aslam Siddiqui; David.Tassavor@ct.gov
Cc: Robert.Zaffetti@ct.gov; Cain, Leo C; Basil Bantimba
Subject: RE: 03369 (carries Rte. 504 NB over Lower Smith School Brook)

David,
Per our telephonic conversation today, the locations of Beam B5 deterioration are as follows;

- At Pier No. 13 in Span 14
- At Pier No. 14 in Span 15
- At Pier No. 15 in Span 16 (worst case)

Please let me know if you need more information on the above.

Thanks,
Asif

From: Aslam Siddiqui
Sent: Monday, May 21, 2012 5:32 PM
To: David.Tassavor@ct.gov

Cc: Muhammad Iqbal; Robert.Zaffetti@ct.gov; Cain, Leo C; Basil Bantimba
Subject: RE: 03369 (carries Rte. 504 NB over Lower Smith School Brook)

Please see the revised one. Please disregard the previous one.
Thanks

Aslam

From: Aslam Siddiqui
Sent: Monday, May 21, 2012 5:12 PM
To: David.Tassavor@ct.gov
Cc: Muhammad Iqbal; Robert.Zaffetti@ct.gov; Cain, Leo C; Basil Bantimba
Subject: RE: 03369 (carries Rte. 504 NB over Lower Smith School Brook)

Hi David,
As per your direction, attached please see the Priority "B" memo along with the photos. During the last inspection the same item was issued as Priority "C".

Let me know if you need more information on the above.

Thanks,

Aslam

From: Basil Bantimba
Sent: Friday, May 18, 2012 1:35 PM
To: David.Tassavor@ct.gov; Cain, Leo C
Cc: Aslam Siddiqui; Muhammad Iqbal; Robert.Zaffetti@ct.gov
Subject: FW: 03369 (carries Rte. 504 NB over Lower Smith School Brook)

David
As a follow up of our telephone conversation, please take a look at the field report below. We recommend that some shoring be installed under Beam 5 in Spans 15, 16 and 17. This recommendation will be included in the inspection report as Priority B. Please call me if you have any questions.
Basil

Basil B. Bantimba, PE
Associate Vice President

AI Engineers, Inc.

Celebrating 20 years of Engineering Excellence
919 Middle Street
Middletown, CT 06457
Phone: 860-635-7740 ext. 150
Fax: 860-635-7312
Cell: 508-517-0393
www.aiengineers.com

From: Muhammad Iqbal
Sent: Friday, May 18, 2012 10:48 AM
To: Aslam Siddiqui
Cc: Basil Bantimba
Subject: 03369 (carries Rte. 504 NB over Lower Smith School Brook)

Aslam,
While doing the inspection of the subject bridge, we found the following changes in the deterioration of beam B5 in span 16 at pier 15.

Beam B5 in Span 16 at Pier 15: The deterioration of this beam has increased with more exposed strands since the last inspection as follows;
The east side of the bottom flange has up to 57" long (previously 52") x 16" high x 16" deep spall with a total of eighteen (18) exposed strands (3 rows of 4 strands each and 6 at the bottom 1st row which stops near the bearing pad). Previously there were a total of twelve (12) strands exposed. The bottom course of strands is exposed up to 53" long (previously 40" long) with 100% section loss for the end 28" (previously 18") and 50%-75% section loss for an additional 25" (previously 6"). The second course of the strands is exposed up to 40" long with 100% section loss for the end 9" for all three strands (previously noted for two strands). The third course is exposed up to 36" long with up to 100% section loss for the end 9" of one strand, 6" and 3" for two other strands. Additional 4" to 6" of the strands have 50%-75% section loss. There are new six (6) exposed strands up to 20" long in the bottom row with up to 50% section loss. There is up to 38% deterioration in the bottom flange. The loss in bearing is 41.5% and has increased from 38% since the last inspection. The remaining portion of the concrete is punky and hollow. Also, there are shear cracks in the bottom flange and a few extend to the web. See attached photos.

There are jersey barriers in place on top of the bridge between piers 14 to 16 (in the east shoulder) in order to direct the live load from beam B5.

Note: Per the previous inspection report and BMM's this structure is to be discontinued following construction of a roadway to the west of this location. It is recommended shoring be installed and that the bridge be assigned for special inspection for the fascia beam B5 in spans 14, 15 and 16 till the above project is completed.

If you need more information on the above, please let me know.

Thanks,
Asif

4/5

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MEMORANDUM

subject: **BMM No.** 10-517
Bridge No. 03369
Route 504 Northbound over Lower
Smith School Brook
Hartford, CT.

date: 8/16/10

to: Robert P. Mongillo
Transportation Maintenance Administrator
Bureau of Highway Operations

from: Ralph A. Phillips
Transportation Supervising Engineer
Bridge Safety and Evaluation
Bureau of Engineering and Construction

Attached are two copies of our most recent inspection report for the subject structure. The following deficiencies were found:

Done replaced w/ PVC downspout & rubber collar

1. ~~In span 1, between girders G1 and G2 at midspan, the top of the downspout is rusted through 2in high and the downspout is partially disconnected from the scupper. In span 9, between girders G1 and G2, the top of the scupper downspout has a 2in x 4in rusted through area. See report photo 11.~~

Nope max up to 1/4" w

most of the items took care of it

partially Done

2. The asphaltic plug joints at the south abutment and piers have random adhesion and/ or cohesion cracks up to 15ft long x ~~1in~~ wide with the exception of the north abutment and piers 9 & 16 joints. ~~The joints at piers 1, 5, 16, and 17 have potholes in the joint up to 1.5ft diameter x 2in deep~~. There is settlement and/or depressed areas up to 8ft x 4in x 1in deep at piers 3, 7 and 9 joints. The south abutment and ~~piers 11 & 15 joints are heaved~~ up to 1/2in. See report photos 12-14.

N/D

15"L H

w/ lam. rust & 1/16" dp S.L

3. There is a corner spall up to ~~10in~~ x 10in x 3in deep with 3 exposed strands resulting in up to 21% deterioration in the bottom flange of girder G5 in span 18 over pier 17. ~~See report photo 22~~. In span 18 at girder G4 (mid-span), the bottom flange has a 1-1/2ft long exposed strand with light rust at the bottom. The worst condition was noted at the following locations:

N/D

7"

- Spans 15, girder G5 at pier 14: The east side of the bottom flange has a 29in long x up to 14in high x ~~6in~~ deep spall (spall size increased since the last inspection) with a total of six (~~6~~) exposed strands for up to 15-1/2in long. The strands have up to 100% section loss for the end ~~3in~~. ~~Remaining exposed portions have 50%-75% section losses~~. The remaining concrete around the strands is punky. There is up to 18% deterioration in the bottom flange. See report photo 24.

(9) ±12"

57"

- Span 16, girder G5 at pier 15: The east side of the bottom flange has up to ~~52in~~ long x 16in high x 16in deep spall (spall size increased since the last inspection) with a total of twelve (~~12~~) exposed strand ends (3 rows of 4 strands each). The bottom course of the strands is exposed up to ~~40in~~ long with 100% section loss for the end ~~18in~~ and 50%-75% section loss for an additional ~~6in~~. The remaining exposed portions have ~~light to moderate~~ rust with ~~negligible~~ loss. The second course of strands is exposed up to 40in long with 100% section loss for the end 9in of two strands and 3in of the remaining two strands with 50%-75% section loss for an additional 4in to 6in. The third course of strands is exposed up to 36in long with 100% section loss for the end 9in of one strand, 6in and 3in for two other strands. Additional 4in to 6in of the strands have 50%-75% section loss. There is up to 38% deterioration in the bottom flange. See report photos 25-28.

18 53 25" 28"

8' (6) @ the bott. row

lam

New → The (6) exposed strand in bott row are ± 20"L exposed w/ 50% S.L

5/5

To: Robert P. Mongillo
From: Ralph A. Phillips

BMM No.
Bridge No. 03369

Please direct persons under your jurisdiction to:

1. Replace the deteriorated scupper downspouts in spans 1 and 9. Total 2 EA.
2. Seal adhesion and cohesion cracks in the asphaltic plug joints. Total 250 LF.
3. Repair/patch the large spalls in the girders to reduce future deterioration, clean and seal all areas of exposed prestressed strands. Total +/- 20 CF.

Item 3 should be considered Priority C and items 1 and 2 should be considered Priority D. There may be other deficiencies which are considered routine maintenance and should be corrected.

The attached inspection report also notes that the following items were issued under a previous BMM No. 08-752 dated December 15, 2008 and have not been addressed. Please note that a memorandum dated December 3, 2008 was sent to Traffic addressing the relocation of the Jersey barrier and has not been addressed yet.

BMM No.	Item
08-752	2. Temporary jersey barrier have been placed in spans 14-16 (in the right shoulder) in the past to isolate live load from the two severely deteriorated fascia girders (in spans 15 and 16). But, these temporary barriers are located approximately 6ft from the parapet, and the girders are still subjected to some live load. Temporary concrete barriers in spans 14-16 have accumulated sand and debris behind them causing water to pond. The ponding water could potentially leak through the deck joints onto the severely deteriorated fascia girders. (Priority C). See report photo 15.
	3. The asphaltic plug joints at the south abutment and piers 1, 6, 10, 14 and 15 have adhesion and cohesion cracks (open up to 1in wide) with evidence of leakage below. (Priority D). See report photo 13.

Bridge Safety and Evaluation believes that these repairs are structurally important and should be addressed.

All repairs shall be performed utilizing appropriate approved materials and tried and proven methods unless otherwise specified.

If you have any questions concerning this/these repair(s), please contact me at ext. 3159. Please notify this section when the work has been completed.

Attachments

Muhammad Asif Iqbal/mai

cc: Joseph J. Obara
Robert P. Zaffetti – Ralph A. Phillips – David Tassavor
AI Engineers, Inc.

Bridge Number **03369**

Inspected By: M. IQBAL & C. KOLASA

Sufficiency Rating 54.45
Previous Inspection Date 5/18/2010

BS&E Received ☑ Data Entry By: D.T
Copies Made ☑ Data Entry Date: 9/4/12

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BRIDGE SAFETY & EVALUATION

STRUCTURE EVALUATION

SHEET 1 OF 2 FORM BRI-19 REV 10/00

SHEET 1 OF 2

90) Inspection Date	Inspection Team	91) Frequency	Class:
05/14/12	2424	24	03
Indepth Insp	**Deck Survey**	**Access**	**Flagman**
2/24/2004	1/1/1900	16	00

CRITICAL FEATURE INSPECTIONS

	Type	Frequency	Team	Date
Fracture:				
Uwater:				
Special:	X	12		5/14/12

RED FLAG

IDENTIFICATION

Bridge Name
Town Name HARTFORD Town Code 37070
5) Inventory Route:
A) Record Type 1
B) Signing Prefix 3 State Highway
C) Level of Service 1 Mainline
D) Route Number 00504
E) Directional Suffix 1 North
6) Feature Intersected LOWER SMITH SCHOOL BROOK
7) Facility Carried: RTE 504 NB ON VIAD
9) Location FLATBUSH AVE ON-RAMP I-84
11) Milepoint 0.35 Miles
16) Latitude 41deg 44 min 48.00 sec
17) Longitude 72deg 42 min 30.00 sec
98) Border Bridge:
A) State Code
B) Percent Responsibility %
C) Border Town Name
99) Border Bridge Structure No

STRUCTURE TYPE AND MATERIAL

43) Structure Type, Main:
A) Material 5 Prestressed concret
B) Design Type 2 Stringer/Multi-beam o
44) Structure Type, Approach:
A) Material 0 Other
B) Design Type 0 Other
45) Number of Spans, Main Unit 20
46) Number of Approach Spans 0
107) Deck Structure Type 1 Concrete Cast-in-Place
108) Wearing Surface/Protective System:
A) Type of Wearing Surface 6 Bituminous
B) Type of Membrane 8 Unknown
C) Type of Deck Protection 0 None

AGE AND SERVICE

27) Year Built 1967
106) Year Reconstructed
42) Type of Service:
A) On 1 Highway
B) Under 5 WATERWAY
28) Number of Lanes:
A) On 1
B) Under
29) Average Daily Traffic 9950
Half ADT?: -Yes
109) Percent Truck 8%
30) Year of ADT 2008
19) Bypass, Detour Length 1miles

GEOMETRIC DATA

48) Length of Max Span 76ft
49) Structure Length 1539ft
50) Curb or Sidewalk Widths:
A) Left 0.0ft
B) Right 0.0ft
51) Brg Rdwy width,curb-curb 40.0ft
52) Deck Width, Out-Out 43.5ft
32) Approach Roadway Width 40ft
33) Bridge Median 0 No Median
Deck Area 66947 sqft
34) Skew Angle 99deg
35) Structure Flared 0
10)Inv. Rte. Min. Vert Clearance 99ft 99in
47) Log Inv. Rte. Total Horiz Clr.: 27.2ft
47) RLog Inv. Rte. Total Horiz. Clr.: ft
53) Min Vert Clearance Over Bridge 99ft 99in
54) Min Vert Under Clearance N Ref 0ft 0in Ref
55) Min Lat Under Clearance on Right N Ref 99.9ft Ref
56) Min Lat Under Clearance on Left 0.0ft

BRIDGE COMMENTS

Girder B5 in Span 16 was to have been replaced under Proj 63-601 with an advertising date in 2007. Due to the condition of the bearings, Bridge Design reevaluated the project and the structure will now be replaced by a roadway to the west of the current structure location. This was approved by Chief Engineer and FHWA @ meeting 10/4/06. The area over B5 in Span 16 is barricaded with Jersey
ITEM 51 WAS PREVIOUSLY MISCODED.

special inspection of beam ends section losses on fascia beams in span 14, 15, 16 & at pier # 14, 15, 16 D.T

STRUCTURE EVALUATION

SHEET 2 OF 2 FORM BRI-19 REV 10/00

SHEET 2 OF 2

Bridge Number	03369 NBIS Length
Town Name	HARTFORD Yes 1539
Facility Carried	RTE 504 NB ON VIAD
Feature Crossed	LOWER SMITH SCHOOL BROO

Inspected By: M. IQBAL & C. KOLASA

CLASSIFICATION

112) NBIS Bridge Length	Yes	
104) Highway System	0	Off System
26) Functional Class	19	Urban Local
100) Defense Highway	0	Route is not a STRAHNET Route
101) Parallel Structure	N	No parallel structure exists
102) Direction of Traffic	1	1-way traffic
103) Temporary Structure		
110) Designated National Network	0	Not on national network
20) Toll	3	On Free Road
21) Maintain	1	State Highway Agency
22) Owner	1	State Highway Agency
Report Class	S	STATE
37) Historical Significance	5	Bridge is not eligible for National Register

WATERWAY

DrainageBasinCode	4499	
38) Navigation Control	0	No navigation control on waterway
39) Navigation Vert Clr.	0	40) Navigation Horiz Clr. 0
116) Vert-Lift Brg Nav Min		
111) Pier Abutment Protection		

PROPOSED IMPROVEMENTS

75A) Type of Work Proposed		
75B) Work Done By		
76) Length of Struct. Improvement		ft
94) Bridge Improvement Cost	$	
95) Roadway Improvement Cost	$	
96) Total Project Cost	$	
97) Year of Improvement Cost Est.		
114) Future ADT		115) Year Future ADT

List No. 15 Project No. 0063-0601 Advertised 11/11/2011

POSTED SIGNS & UTILITIES

Other Posted Signs 1					
Other Posted Signs 2					
Actual P.L. Single Unit Truck	tons		Actual P.L. 4Axle Truck	tons	
Rec. P.L. Single Unit Truck	tons		Rec. P.L. 4Axle Truck	tons	
Actual P.L. Semi-TrailerTruck	tons		Actual P.L. 3S2 Truck	tons	
Rec. P.L. Semi-TrailerTruck	tons		Rec. P.L. 3S2 Truck	tons	
Rec. P.L. All Vehicles	tons		Actual P.L. All Vehicles	tons	
Posted Vert Clearance On Bridge	ft	in		ft	In
Posted Vert UnderClearance	ft	in		ft	In
Posted Speed Limit	mph				mph
Utility					

LOAD RATING AND POSTING

31) Design Load	4	Evaluation Code	L
63) Operating Rating Type	1	Year of Evaluation	1997
64) Operating Rating	82.0	70) Bridge Posting	5
65) Inventory Rating Type	1	41) Structure Status	A
66) Inventory Rating	41.0		

CONDITION

		Rating	By
58) Deck	6	6	MAI
59) Superstructure	3	3	MAI
60) Substructure	6	6	MAI
61) Channel & Chan. Protection	7	7	MAI
62) Culverts	N	N	MAI

APPRAISALS

		Rating	By
67) Structure Evaluation	3	3	AHS
68) Deck Geometry	9	9	MAI
69) Under Clear Vert & Horiz	N	N	MAI
71) Waterway Adequacy	8	8	MAI
72) Approach Rdwy Alignment	8	8	MAI
113) Scour Critical	8		

Items 58 Thru 72 Checked By: AHS

36) Traffic Safety Features:

A) Bridge Railings	1	1
B) Transitions	1	0
C) Approach Guardrail	1	0
D) Approach Guardrail End	1	1

> SUBSTANDARD - NOT R-B 350 TYPE.

OTHER FEATURES

Fence Required	No	LEAVE FIELDS BLANK	Barrel Ladder	No N
Fence Present	No		Stand Pipes	No N
Fence Height	0.0 ft		Cat Walks	No N
Fence Type			Movable Inspection System	No N
Fence Material			Loose Concrete Checked?	Yes Y
Fence Top Type				

INSPECTION COMMENTS

Proposed Next Indepth Insp Year	2014
Senior	Rosmery Rodrigu
Supervisor	Sandra Dumas

REVIEWED BY: Aslam Siddiqui, PE #22852 Date 06/26/2012

Your Agency Name

Your Office Name
Your Department Name

Structure Inventory and Appraisal Sheet (English Units)

Bridge Key: 03369 Agency ID: 03369 SR: 53.0 SD/FO: SD

IDENTIFICATION

State 1:	09 Connecticut	Struc Num 8:	03369
Facility Carried 7:	RTE 504 NB ON VIAD	Location 9:	FLATBUSH AVE ON-RAMP I-84
Rte.(On/Under) 5A:	Route On Structure	Rte. Signing Prefix 5B:	3 State Hwy
Level of Service 5C:	1 Mainline	Route Number 5D:	00504
Directional Suffix 5E:	1 North	% Responsibility:	0.00
SHD District 2:	01	County Code 3:	Hartford
Place Code 4:	HARTFORD	Mile Post 11:	0.350 mi
Feature Intersected 6:	LOWER SMITH SCHOOL BROOK		
Latitude 16:	41° 14' 48"	Longitude 17	072° 42' 30"
Border Bridge Code 98	Unknown (P)		
Border Bridge Number 99	NA		

STRUCTURE TYPE AND MATERIALS

Number of Approach Spans 46	0	Number of Spans Main Unit 45:	20

5 Prestressed Concrete

Deck Type 107:	1 Concrete-Cast-in-Place
Wearing Surface 108A:	6 Bituminous
Membrane 108B:	8 Unknown
Deck protection 108C	None

AGE AND SERVICE

Year Built 27:	1967	Year Reconstructed 106:	-1		
Type of Service on 42A	1 Highway				
Type of Service under 42B	5 Waterway				
Lanes on 28A:	1	Lanes under 28B:	0	Detour Length 19:	1.0 mi
ADT 29:	9,450	Truck ADT 109:	8%	Year of ADT 30:	2010

GEOMETRIC DATA

Length Max Span 48:	76.00 ft	Structure Length 49:	1,539.00 ft
Curb/Sdwlk Width L 50A	0.00 ft	Curb/Sidewalk Width R 50B	0.00 ft
Width Curb to Curb 51:	38.00 ft	Width Out to Out 52:	43.64 ft
Approach Roadway width 32: (w/ shoulders)	40.00 ft	Median 33:	0 No median
Deck Area:	66,947.00 sq. ft		
Skew 34:	99.00°	Structure Flared 35	0 No flare
Vertical Clearance 10	328.05 ft	Horizontal Clearance 47:	27.20 ft
Minimum Vertical Clearance Over Bridge 53:	328.05 ft		
Minimum Vertical Underclearance Reference 54A	N Feature not hwy or RR		
Minimum Vertical Underclearance 54B:	0.00 ft		
Minimum Lateral Underclearance Reference R 55A:	N Feature not hwy or RR		
Minimum Lateral Underclearance R 55:	327.76 ft		
Minimum Lateral Underclearance L 56:	0.00 ft		

INSPECTION

Frequency 91:	24 months	Inspection Date 90:	5/14/2012	Next Inspection:	5/14/2014
FC Frequency 92A:	NA	FC Inspection Date 93A:	NA	Next FC Inspection:	NA
UW Frequency 92B:	NA	UW Inspection Date 93B:	NA	Next UW Inspection	NA
SI Frequency 92C:	NA	SI Date 93C:	NA	Next SI:	NA
Element Frequency:	24 months	Element Insp. Date:	5/14/2012	Next Elem. Insp.:	5/14/2014

CLASSIFICATION

Defense Highway 100:	0 Not a STRAHNET hwy	Parallel Structure 101:	No || bridge exists
Direction of Traffic 102:	1 1-way traffic	Temporary Structure 103:	Unknown (NBI)
Highway System 104:	0 Not on NHS	NBIS Length 112:	Long Enough
Toll Facility 20:	3 On free road	Functional Class 26:	19 Urban Local
Defense Hwy 110:	0 Not a STRAHNET hwy	Historical Significance 37	5 Not eligible for NRHP
Owner 22:	01 State Highway Agency		
Custodian 21:	01 State Highway Agency		

CONDITION

Deck 58:	6 Satisfactory	Super 59:	3 Serious	Sub 60:	6 Satisfactory
Culvert 62:	N N/A (NBI)	Channel/Channel Protection 61:		7 Minor Damage	

LOAD RATING AND POSTING

Inventory Rating Method 65:	1 LF Load Factor	Operating Rating Method 63:	1 LF Load Factor
Inventory Rating 66:	HS22.7	Operating Rating 64:	HS45.5
Design Load 31:	4 M 18 (H 20)	Posting 70:	5 At/Above Legal Loads
Posting Status 41:	A Open, no restriction		

APPRAISAL

Bridge Rail 36A:	1 Meets Standards	Approach Rail 36C:	0 Substandard
Transition 36B:	0 Substandard	Approach Rail Ends 36D:	1 Meets Standards
Str Evaluation 67:	3 Intolerable - Correct	Deck Geometry 68:	5 Above Tolerable
Underclearance, Vertical and Horizontal 69:	N Not applicable (NBI)		
Waterway Adequacy 71:	8 Equal Desirable	Approach Alignment 72:	8 Equal Desirable Crit
Scour Critical 113:	8 Stable Above Footing		

PROPOSED IMPROVEMENTS

Bridge Cost 94:	$1,000	Type of Work 75:	38 Other Structural
Roadway Cost 95:	$1,000	Length of Improvement 76	0.3 ft
Total Cost 96:	$2,000	Future ADT 114:	4,975
Year of Cost Estimate 97	2000	Year of Future ADT 115:	2029

NAVIGATION DATA

Navigation Control 38	Permit Not Required		
Vertical Clearance 39	0.0 ft	Horizontal Clearance 40:	0.0 ft
Pier Protection 111:	Unknown (NBI)	Lift Bridge Vertical Clearance 116	0.0 ft

Structure Inventory and Appraisal Sheet (English Units)

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
0	14/3	P Conc Deck/AC Ovly	(SF)	58,482	0%	0	100%	58,482	0%	0	0%	0	0%	0
0	109/3	P/S Conc Open Girder	(LF)	7,644	80%	6,115	17%	1,299	3%	229	0%	0	0%	0
0	205/3	R/Conc Column	(EA)	95	60%	57	40%	38	0%	0	0%	0	0%	0
0	215/3	R/Conc Abutment	(LF)	89	96%	85	4%	4	0%	0	0%	0	0%	0
0	234/3	R/Conc Cap	(LF)	817	81%	662	15%	123	4%	33	0%	0	0%	0
0	305/3	Asphaltic Plug Joint	(LF)	797	0%	0	80%	638	20%	159	0%	0	0%	0
0	310/3	Elastomeric Bearing	(EA)	200	0%	0	15%	30	85%	170	0%	0	0%	0
0	331/3	Conc Bridge Railing	(LF)	4,610	0%	0	100%	4,610	0%	0	0%	0	0%	0
0	359/3	Soffit Smart Flag	(EA)	1	0%	0	100%	1	0%	0	0%	0	0%	0
0	370/3	deck drainage system	(LF)	151	65%	98	35%	53	0%	0	0%	0	0%	0
0	371/3	Free Fall Pipes, Scu	(EA)	37	0%	0	100%	37	0%	0	0%	0	0%	0

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BRIDGE SAFETY & EVALUATION

INSPECTION FREQUENCY CHANGE REQUEST

FORM BRI 8 REVISED 6/07

BRIDGE NUMBER	TOWN NAME	NBIS
03369	HARTFORD	YES

BORDER TOWN	REPORT CLASS: S
FACILITY CARRIED: RTE 504 NB ON VIAD	FEATURE CROSSED: LOWER SMITH SCHOOL BROOK
ROUTINE INSP. DATE & FREQ.: 5/14/2012 — 24	(90I) INDEPTH DATE: 2/24/2004
UW INSP. DATE & FREQ.	SPEC. INSP. DATE & FREQ.: 5/14/2012
	FRAC. INSP. DATE & FREQ.

PROPOSED FREQUENCY CHANGES

ROUTINE INSP. DATE	/ /	FREQ.	
UW INSP. DATE	/ /	UW FREQ.	
SPEC. INSP. DATE	5/14/12	SPEC.FREQ.	12
FRAC. INSP. DATE	/ /	FRAC.FREQ.	

(Prop. inspection && uwater dates should match) (Max. inspection freq 48 mos.)

BS&E RECEIVED ☐ DATA ENTRY DATE: _____

COPIES MADE ☐ DATA ENTERED BY: _____

Submitted by: David Tassavor Date: 9/4/12

Reviewed by: _____ Date: _____

Structure Inventory Data

(43) Structure Type	5 2 Prestressed concrete	Stringer/Multi-beam or Girder	☐		
(45) No. of Spans	20	☐	(54) Min. Vert. Clearance >= 14'3"	0 0	☐
(48) Max. Span Length <=100'	76	☐	(66) Inv. Rating >= 34 tons	41	☐
(49) Structure Length	1539	☐	(64) Operating Rating >= 63	82	☐
(41) Struc. Operational Status	A	☐	Evaluation type && year L	1997	☐

Condition Rating

(58) Deck	6
(59) Superstructure	3
(60) Substructure	6
(61) Channel	7
(62) Culverts	N
(113) Scour Critical Bridge	8
Scour screening susceptibility rating	

Steel Superstructures

(29) ADT <= 50,000	9,450	☐
(109) ADTT=	8%	☐
(27) Year Built <= 50 years old	1967	☐
(106) Year Rebuilt >= 4 years old		☐

Concrete Structures

(29) ADT <= 125,000	9,450	☐
(109) ADTT=	8 %	☐

An assessment of frequency and degree of overload that is anticipated on the structure has been made and found to be:

Acceptable ☐ Not Acceptable ☐ Date: ____ / ____ / ____ By: _____

Comments:

Special inspection monitoring in one year cycle of beam ends section losses on fascia beams in span 13, 14, 15 and 16 at pier No. 14, 15 and 16. David Tassavor

Approved by: _____ Date: _____ Approved by FHWA Date: _____ Approved By Town Date: _____

Manager, Bridge Safety & Evaluation Section **For 48 Months Proposed Frequency**

NOTES:

This form is to be used to increase or decrease inspection frequency.

Prior to proposing to change inspection frequency, the submitter must review the bridge inspection file and Bridge Inspection Manual (BIM) section 3.2.2.2 "INCREASED INSPECTION INTERVAL" as approved by the FHWA. All requirements of this section must be met unless otherwise noted below.

For non-NBIS structures, there are no scour susceptibility index ratings nor item 113 "scour critical bridge" assignments. Thus, visual scour evidence, history of scour at the structure, channel stability and vulnerability of the structure to failure due to scour should be considered and utilized instead.

Tassavor, David R.

From: Hiscox, David
Sent: Wednesday, September 05, 2012 1:42 PM
To: Tassavor, David R.
Subject: RE: BMM # 12-313 work on Bridge # 03369 Hartford

Dave,

As far as I understand, and I understand that you talked with the District this morning, the District installed cribbing from the pier cap to the underside of the deck. As the deck is anchored into the top of the precast beam which is in good condition, they wrote off the "B" as they addressed the immediate potential failure due to the poor condition of the beam at the bearing.

David Hiscox
Bridge Operations
Bureau of Highway Operations
(860) 594-2626

From: Tassavor, David R.
Sent: Wednesday, September 05, 2012 1:23 PM
To: Hiscox, David
Subject: BMM # 12-313 work on Bridge # 03369 Hartford

David
Can you please inform us about the subject completed repair work? What method of repair work was used?

David

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MEMORANDUM

subject: **BMM No.** 12.~~350~~ 313
Bridge No. 03369
Route 504 Northbound over Lower
Smith School Brook
Hartford

date: 6/4/12

to:
Transportation Maintenance Administrator
Bureau of Highway Operations

from: Leo C. Cain Jr.
Leo C. Cain, Jr.
Transportation Supervising Engineer
Bridge Safety and Evaluation
Bureau of Engineering and Construction

This memorandum is a follow-up to a telephone conversation on May 18, 2012 between Mary Mears of your staff and David Tassavor of Bridge Safety and Evaluation, concerning the following deficiency and recommendation for the subject structure:

- There are spalls with exposed strands with section loss on the end of Beam No. 5, Span No. 16 at Pier No. 15. The deterioration of this beam has increased with more exposed strands with section loss and additional loss of bearing of the beam end since the last inspection.

Please direct persons under your jurisdiction to:

checked with David Hiscox maintenance This was completed. See copy of David Hiscox email David Tassavor 9/5/12

- Provide temporary support under the end of Beam No. 5 in Span No. 16 at Pier No. 15.

This item is considered **Priority B**.

This inspection is currently in progress. Additional items may be forwarded with the final inspection report.

All repairs shall be performed utilizing appropriate approved materials and tried and proven methods unless otherwise specified.

If you have any questions concerning this repair, please contact me at ext. 3171. Please notify this section when the work has been completed.

RECEIVED
OFFICE OF MAINTENANCE
JUN - 7 2012
AND HIGHWAY OPERATIONS

Leo C. Cain Jr./lcc

cc: Thomas A. Harley – Jennifer Trio
James H. Norman
Scott A. Hill – Robert P. Zaffetti – Leo C. Cain, Jr. – David Tassavor
Team 6

Cain, Leo C

From: Hiscox, David
Sent: Thursday, September 06, 2012 8:16 AM
To: Cain, Leo C
Cc: Tassavor, David R.
Subject: FW: Br. No. 03369
Attachments: P5280007.jpg

Leo,

Here's a picture of the blocking at the end diaphragm at Pier 15, Beam 5, Span 16. However, the picture does not Show that maintenance formed around the entire end of the beam and encased in concrete (4,000psi Class "S"\ Concrete probably but I don't know for sure) – no pics are available unfortunately.

District 1 also cribbed, in a similar fashion, at the other location Dave Tassavor was concerned with.

David Hiscox
Bridge Operations
Bureau of Highway Operations
(860) 594-2626

From: Cain, Leo C
Sent: Thursday, September 06, 2012 7:50 AM
To: Hiscox, David
Cc: Tassavor, David R.
Subject: Br. No. 03369

Dave,
Can you tell me the actual areas that Maintenance cribbed. Also, are there any pictures available.
The inspection was completed before Maintenance got in.
I believe more than 1 area was cribbed.

Route 504 over Lower Smith School Brook, Hartford

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Project Tentative Adv. Date
1/23/2013

MEMORANDUM

subject: **BMM No.**
Bridge No. 03369
Route 504 NB over Lower Smith School Brook, Hartford

date:

to:
Transportation Maintenance Administrator
Bureau of Highway Operations

from: Leo C. Cain, Jr.
Transportation Supervising Engineer
Bridge Safety and Evaluation
Bureau of Engineering and Construction

Attached are two copies of our most recent inspection report for the subject structure, which indicates the location of the following deficiencies:

1. In span 4, between beams B1 and B2 near pier 4, there is one missing weep pipe with evidence of past leakage. In span 11 between beams B1 and B2 there is an 8 in. long x 1 ½ in. high rusted through hole in the top collar of the scupper downspout, see report photos 12-13.
2. Temporary concrete barriers in spans 14-16 have accumulated sand and debris behind them causing water to pond. The ponding water could potentially leak through the deck joints onto the severely deteriorated fascia girders, see report photo 7.
3. This item supersedes item no. 2 of BMM 10-517 and item no. 3 of 08-752. Asphaltic plug joints at both abutments and piers and have adhesion cracks up to full length x ¼ of an inch wide (pier 14 joint) and cohesion cracks up to 10 ft. long x ½ in. wide (pier 18 joint) with the exception of the south abutment and piers 1, 2 and 9 joints which display no apparent cracks. The pier 9 joint exhibits an isolated pothole up to 1 ft. long x 4 in. wide x ½ in. deep. There is settlement and/or depressed areas up to 2 ft. long x full width x 1 in. deep at piers 7, 13, 15 and 18 joints. Piers 11 and 18 joints are heaved up to ½ in. high. There was evidence of active and past leakage through the deck joints at piers 3, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, and 19, see report photos 15 and 16.

Please direct persons under your jurisdiction to:

1. Install the missing PVC deck weep pipe in span 4 between beams B1 and B2 (Total ± 6 LF) and repair/replace the deteriorated scupper downspout collar in span 4 (Total ± 1 each).
2. Clear sand and debris behind the temporary barriers as required.
3. Seal the adhesion and cohesion cracks in the deck joints, repair/patch the pothole in pier 9 joint, and the settlement/heaving in piers 7, 11, 13, 15 and 18 deck joints (Total ± 250 LF).

The above items should be considered Priority D. There are also other deficiencies which are considered routine maintenance that should be corrected

All repairs shall be performed utilizing appropriate approved materials and tried and proven methods unless otherwise specified.

To: Transportation Maintenance Administrator
Bureau of Highway Operations
From: Leo C. Cain

BMM No.
Bridge No. 03369

If you have any further questions concerning these repairs, please contact me at ext. 3171. Please notify this section when the work has been completed.

Attachment

Daniel Schneider/ds/esk

cc: Scott A. Hill – Robert P. Zaffetti – Leo C. Cain, Jr. – David R. Tassavor
AI Engineers, Inc.
Team