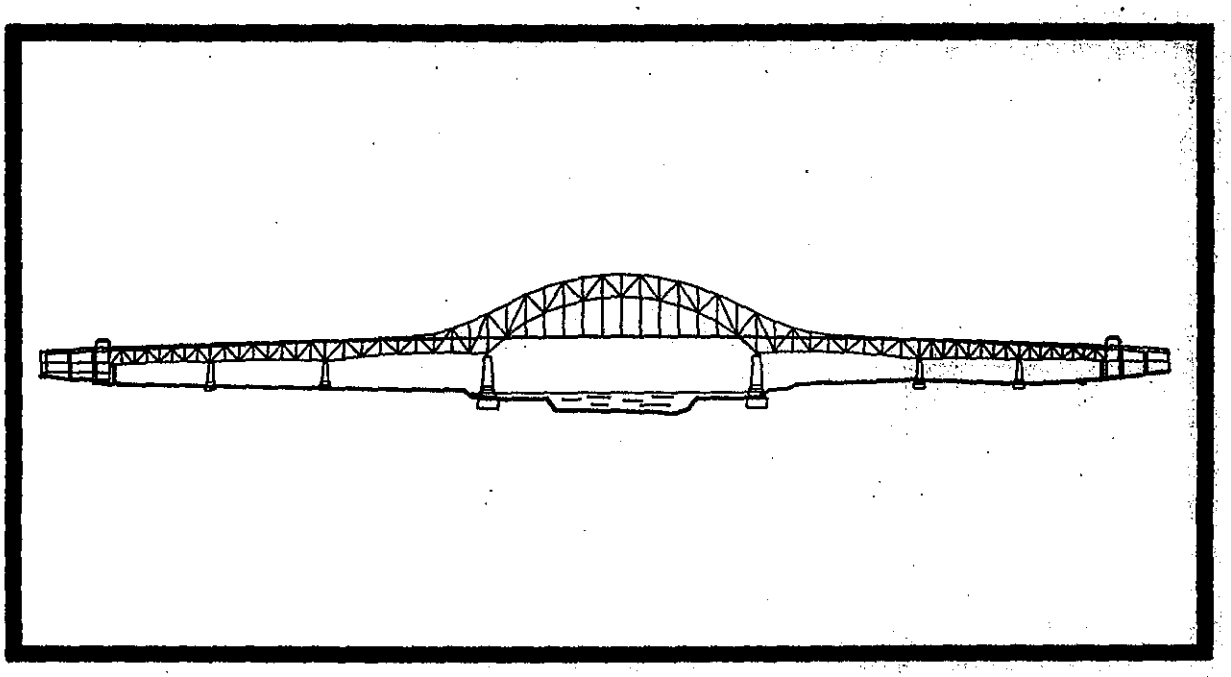
US ARMY CORPS
OF ENGINEERS
NEW ENGLAND DIVISION

VOLUME II

ROUTINE INSPECTION FIELD NOTES



BOURNE HIGHWAY BRIDGE

CAPE COD CANAL - BOURNE, MA

MAY 1995 **NEW ENGLAND DIVISION**

Lichtenstein

NEW YORK NEW JERSEY PENNSYLVANIA MASSACHUSETTS OHIO CONNECTICUT FLORIDA

BRIDGES HIGHWAYS RAILWAYS HISTORIC STRUCTURES DAMS

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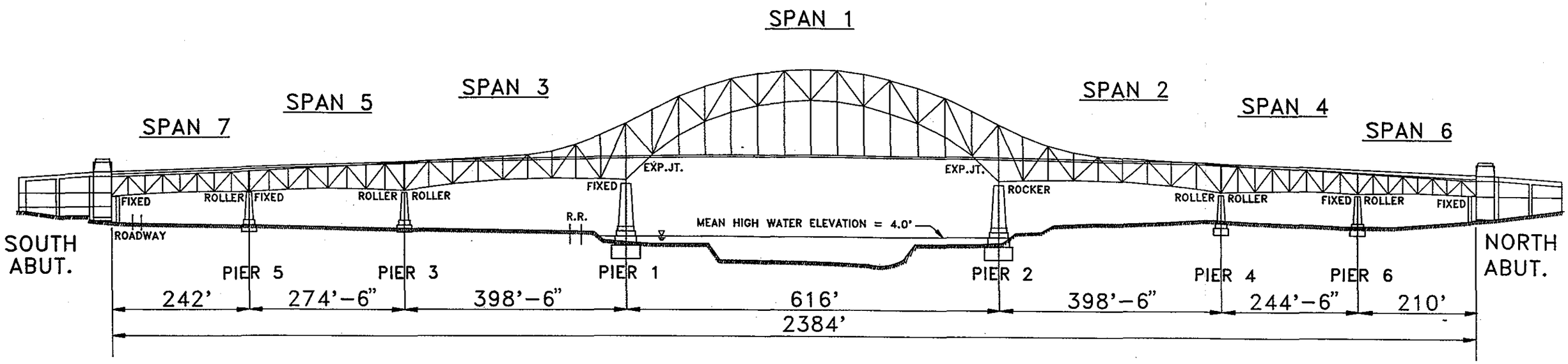
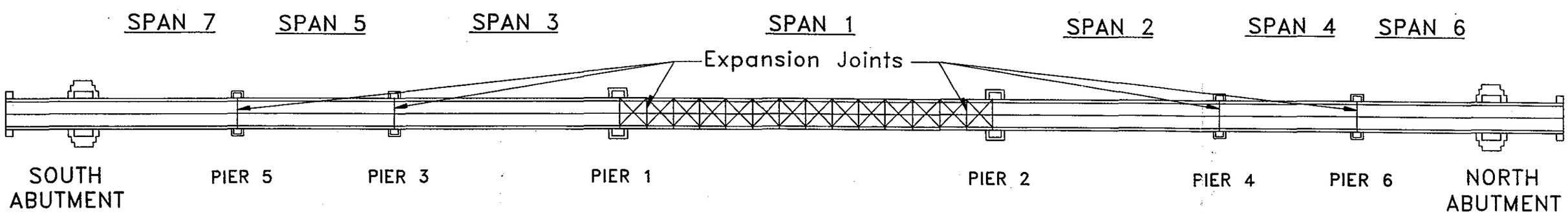


EAST ELEVATION



PLAN

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

Lichtenstein
A.G. LICHTENSTEIN & ASSOCIATES, INC.
CONSULTING ENGINEERS

GENERAL PLAN & ELEVATION

FILE: C:\RUH\BELEV

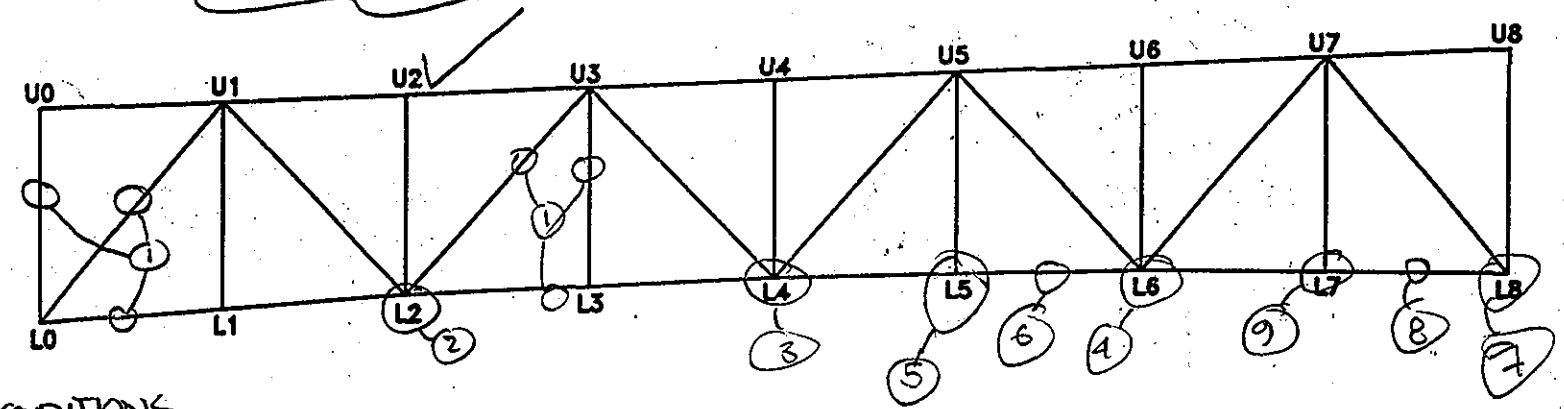
SCALE: N.T.S.

DATE: 5/95

MAIN TRUSS MEMBERS

GENERAL NOTES: • ALL HORIZ. FL'S OF BOTTOM CHD. MEMBERS HAVE PITTING UP TO 3/16" OVER 50% OF SURFACE
• TOP Chord: 1/8" Impacted rust betw. cover PL & Main Member.

FOR PANEL POINTS 1 & 0 NOTES, SEE SHEET 4 of 12, 9/7/94



TYP. CONDITIONS

(A) LOSSES ON 1 FACE OF TRUSS MEMBER, 50% OF FACE HAS LOSS (1/8" STANDARD @ ALL LOCATIONS)
(B) LOSS ON VERTICAL GUSSET ALONG HEIGHT OF TRUSS MEMBER (1/16" STANDARD @ ALL LOCATIONS)
(C) LOSS ON TRUSS MEMBER @ EDGE OF GUSSET PL (1/16" STANDARD @ ALL LOCATIONS)
(D) IMPACTED RUST BETWEEN GUSSET PL & TRUSS MEMBER (1/8" STANDARD @ ALL LOCATIONS)
(E) LOSS ON GUSSET PL ALONG TOP OF BOTTOM CHD (1/16" STANDARD @ ALL LOCATIONS)
(F) PITTING OF VERT. GUSSET PL ABOVE & BELOW CLOSS BRACING CONN. VERTICAL ANGLES (1/16" STANDARD @ ALL)

(9) (D) 1/4" MAX E&W, VERT GUSSET PL'S; (E) E&W 1/8"; (F) 1/8" W

SPAN 7

E TRUSS E ELEVATION

NOTES: (1) DRAIN PIPE CONN. L'S WELDED TO MEMBER
(2) GUSSET PL (HORIZ, UNDER BOT. CHD): BURNT-CUT
(D) BOTTOM GUSSET 1/4" MAX
(3) GUSSET PL (HORIZ, UNDER BOT. CHD) BURNT-CUT & (D) UP TO 3/8"
(4) GUSSET PL (HORIZ, UNDER BOT. CHD) BURNT-CUT & (D) 1/4" @ ENDS
(5) (D) = 1/4" MAX, E&W VERT. GUSSET. (E) W = 1/8"; (F) 1/8"
(6) 1/8" INTERMIT. IMPACTED RUST, BETW. OUTSIDE COVER PL'S, BOT. CHD
(7) LOOPS WELDED TO E&W FACE OF GUSSETS; PL'S WELDED TO BOTTOM OF GUSSETS UP TO 1/4"
(8) 50% SURFACE AREA OF L6-L7, 3/16" PITTING & IMPACTED RUST BETW. EXT. COVER PL'S

TRUSS ELEVATION	
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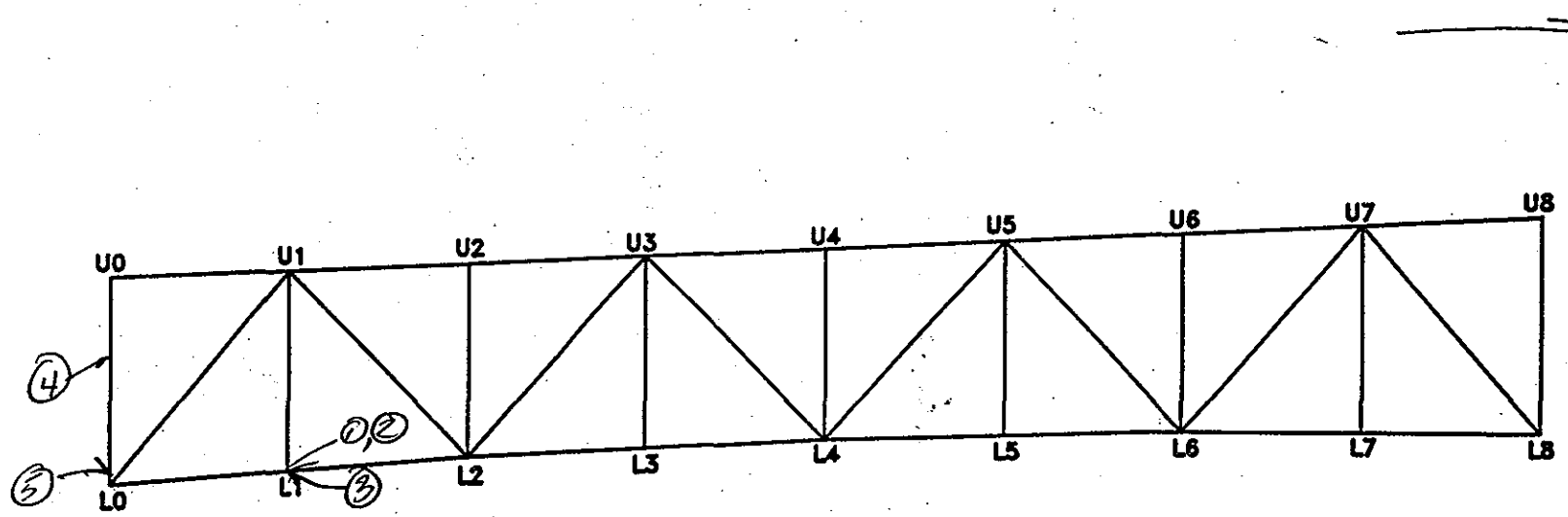
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/6/94
CREW: GG/LB	SHEET 2 OF 11



SPAN 7

E TRUSS E ELEVATION

NOTES:

1. Up to 1/4" (IR) btwn. bot. chord : Gus PL's (E: W PL's) South side
2. 1/16" pit. x 10" & 1/8" pit. x 6" on int. face of W. Gus. PL along top of bot. chord
3. 1/8" pit x 9" high on W. gus. PL along N. PL of W. Vert. Channel, w/ 1/8" pit. x 4" high on W. Gus PL along S. PL of W. vert. channel
4. 3/16" pit. x 4" wide on W. face, W. channel
5. Various spots of up to 1/8" pit. x 4" ϕ on both faces of E. : W. Gus. PL w/ 1 isolated spot of 3/16" pit. x 5" ϕ on W. face of E. Guss. PL

TRUSS ELEVATION	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
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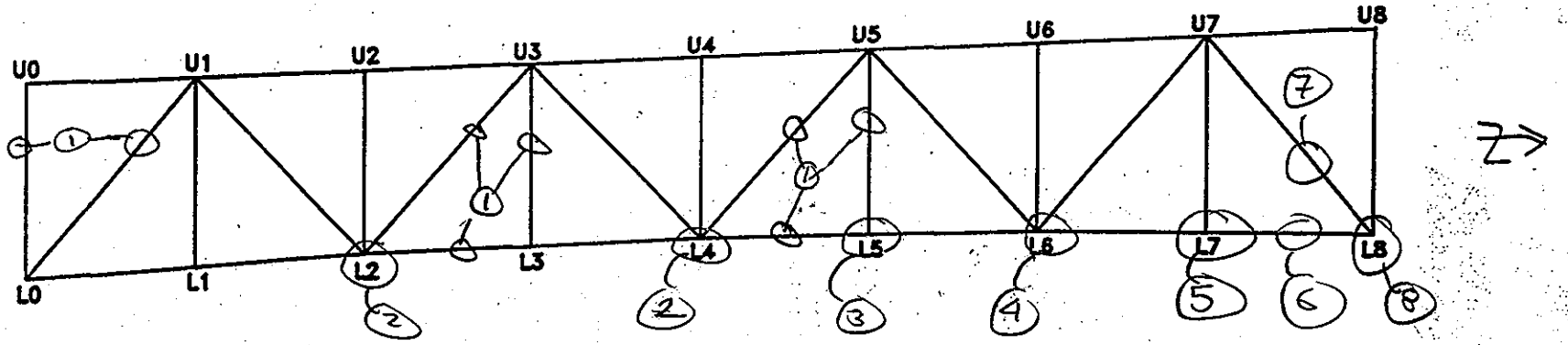
JOB #1784	DATE: 9/7/94
CREW: BH, PWN, WM	SHEET 4 OF 12

FOR GENERAL NOTES & TYPICAL CONDITIONS SEE SPAN 5, E. TRUSS, W. ELEV.



FOR PANEL POINTS 1 & 0 NOTES, SEE SHEET 2 OF 12, 9/7/94

SPAN 7

W TRUSS E ELEVATION

NOTES:
1. DRAIN PIPE SUPPT L's WELDED TO MEMBER
2. BOTTOM CHD HORIZ. GUSS PL BURNT-OUT
3. (B) 1/8" NW, (F) = 1/8" E&W
4. (D) 1/4" @ BOT. HORIZ. GUSSET L's PL BURNT-OUT
5. (E) 3/16" W (B) 1/8" SE & NW (F) 1/8" FULL WIDTH
6. 3/16" PITTING EAST FACE OVER 50% SURF. AREA
7. 1/4" MAX IR BETWEEN F&W OUTSIDE COVER PL's E. FACE
8. 1 FT. OF LENGTH PITTED 1/8", 2ND CENT. COVER PL @ GUSSET, L7L8 & WELDED PL BETW. INTERIOR GUSSET PL FACES

TRUSS ELEVATION	
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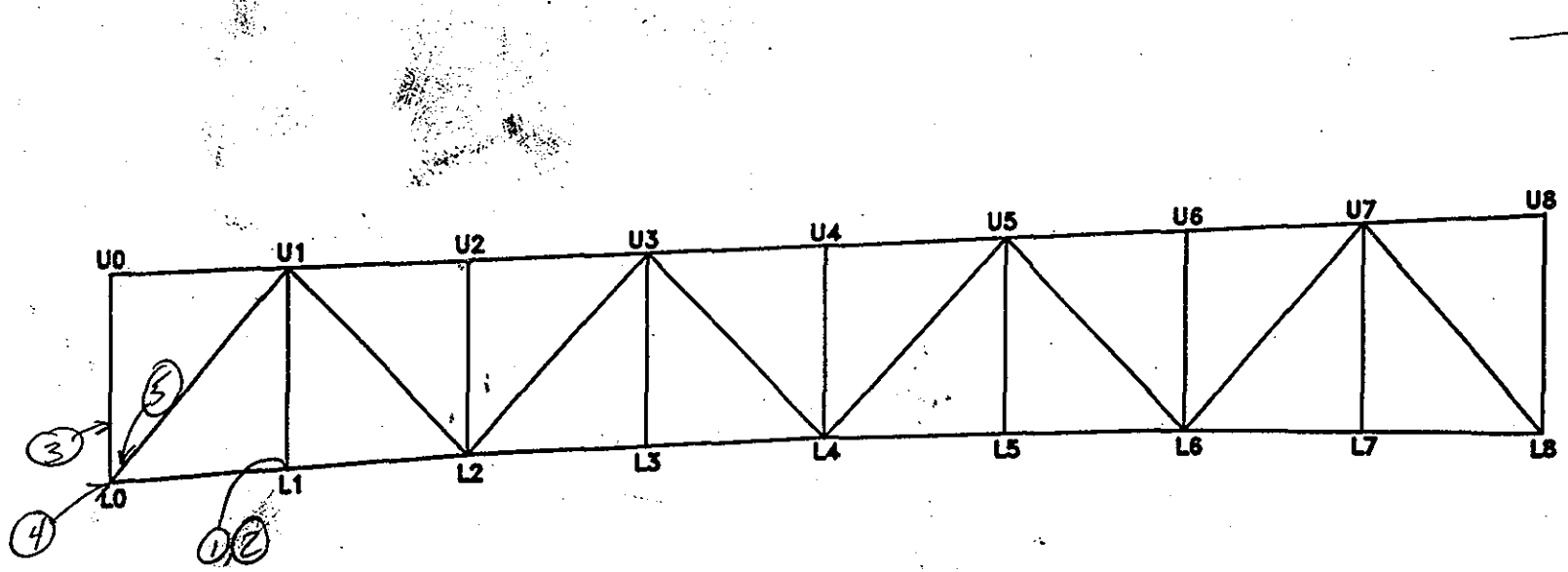
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/6/94
CREW: GG/RB	SHEET 1 OF 11



SPAN 7

W TRUSS E ELEVATION

NOTES:

1. 1/8" pit. x 6" wide on E vert channel along top edge of gusset PL (ext. face of channel)
2. 1/8" pit. on interior face of W. vert. gus. PL along top of bot. chord x 1' long x 1½" high
3. 1/8" pit. x 5" wide on E. face of E. vert. channel
4. 1/8" pit. x 4" ϕ on E. face of both E. & W. Gus. PL's, 3/16" pit. x 4" ϕ on E. face of E. Gus PL.
5. PL welded to U1 L0 connecting E & W. Channels @ top PL

TRUSS ELEVATION	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
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JOB #1784	DATE: 9/7/94
CREW: BH, PWW, WM	SHEET 2 OF 12

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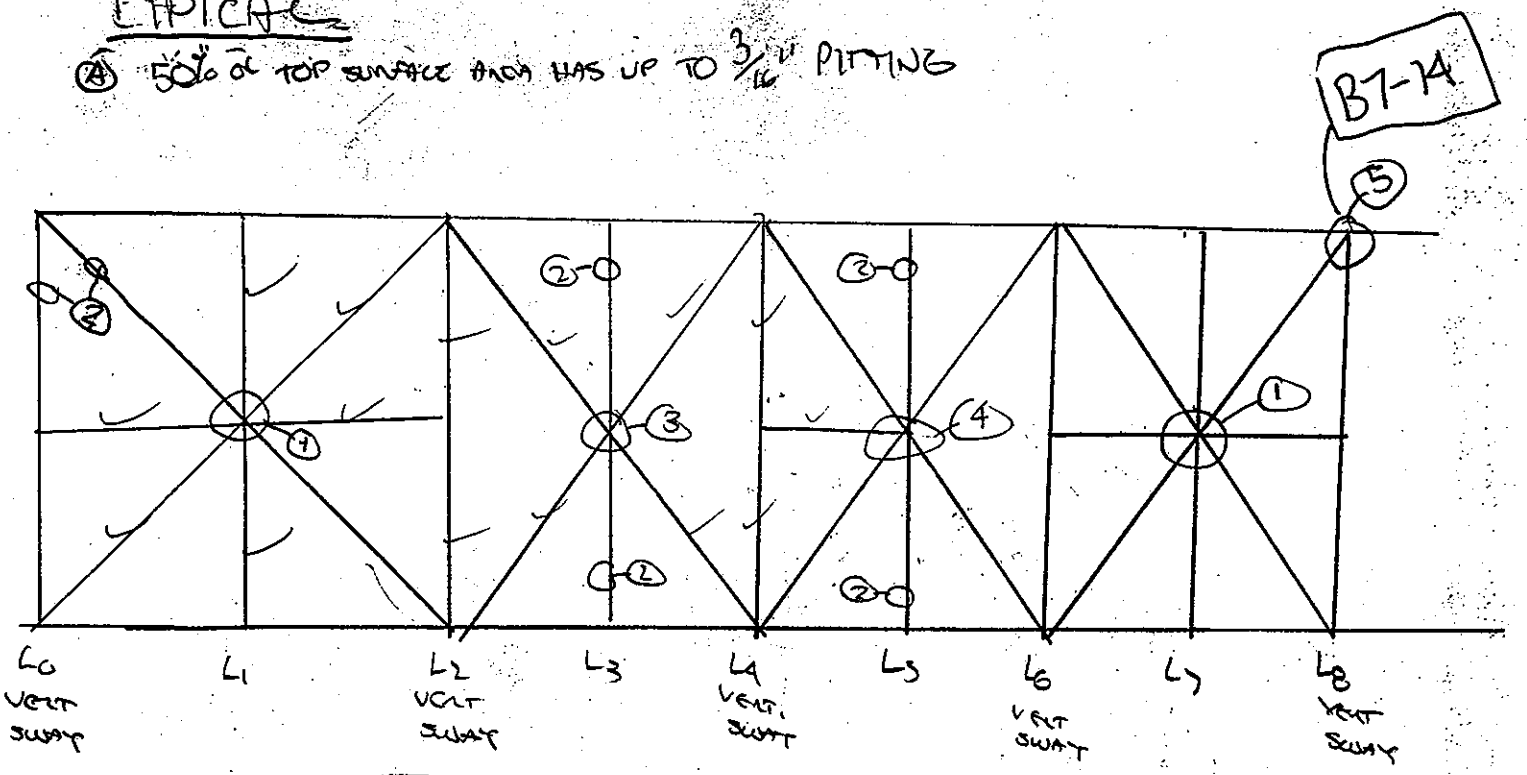
TYPICAL

(A) 50% OF TOP SURFACE AREA HAS UP TO 3/16" PITTING



FOR ADDITIONAL BRACING NOTES FOR BAYS BETW. L2 & L0, see sheet 3 of 12, 9/7/94

SPAN 7

NOTES:

(1) GUSSET PL BURNT-CUT : BOTTOM GUSSET,
(2) DRAW PIPE SUPPT L WELDED TO MEMBER
(3) BOTTOM GUSSET BURNT-CUT
(4) " " " " "
(5) " " " " AND
DIAG X-BRACE WELDED TO VERT GUSSET PL
SEE PHOTO B7-14

BOTTOM CHD BRACING

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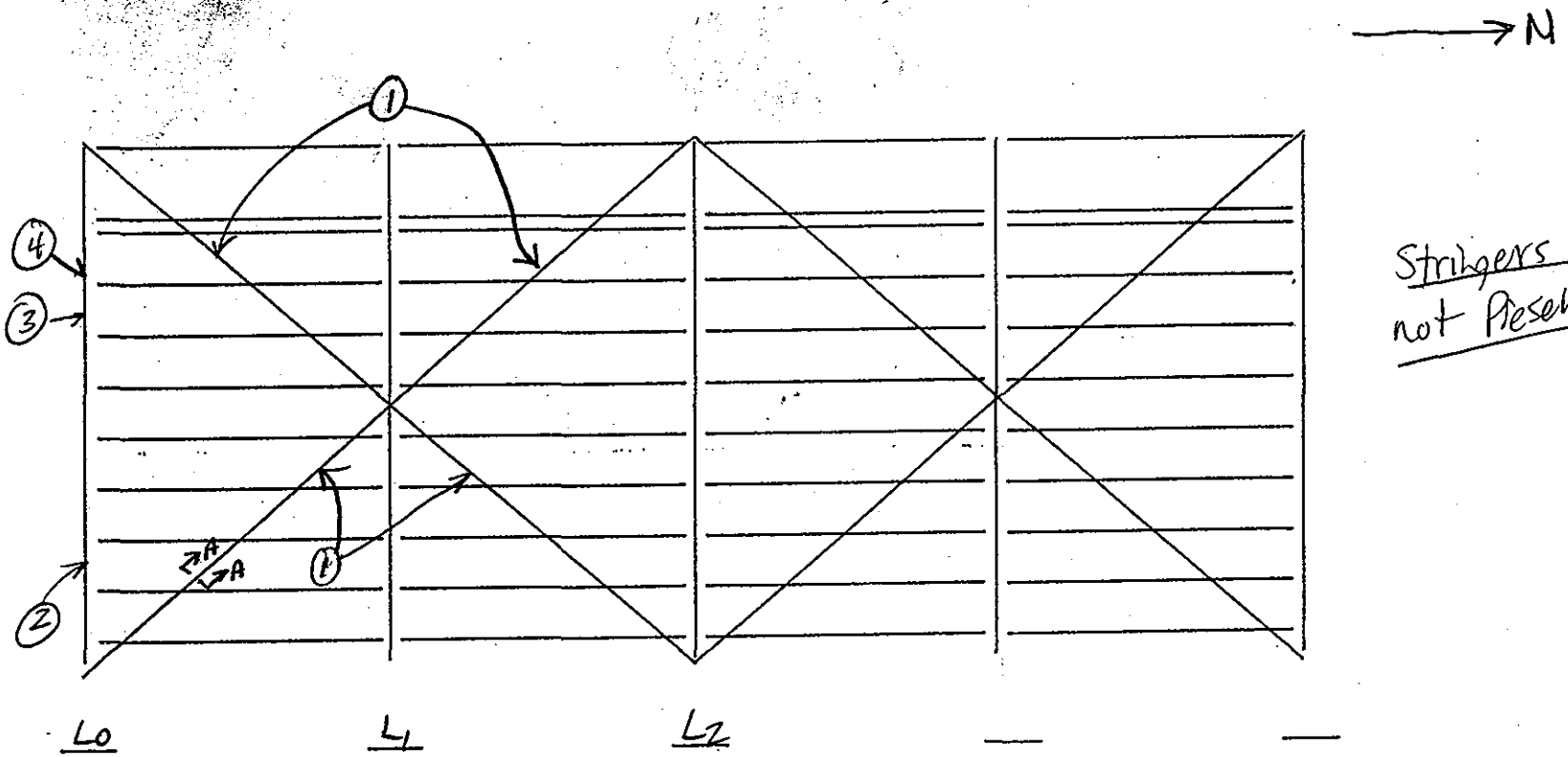
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/6/94
CREW: GABE / RB	SHEET 5 OF 11



BOTTOM CHORD BRACING

Note: Sway bracing @ S. Abut. has excessive movement.

SPAN 7

NOTES:

1. Bracing replaced w/ Back to Back Bolted 4"x6"x6"x3/8"
2. Sway bracing btwn. Up West and Lo East has up to 1/4" pit. x 3" wide on top surface
3. Horiz. bracing has 1/8" pit. x 4" wide on top of top ℄
4. Same a 2 for sway brace member Up East - Lo West.

FLOOR SYSTEM	
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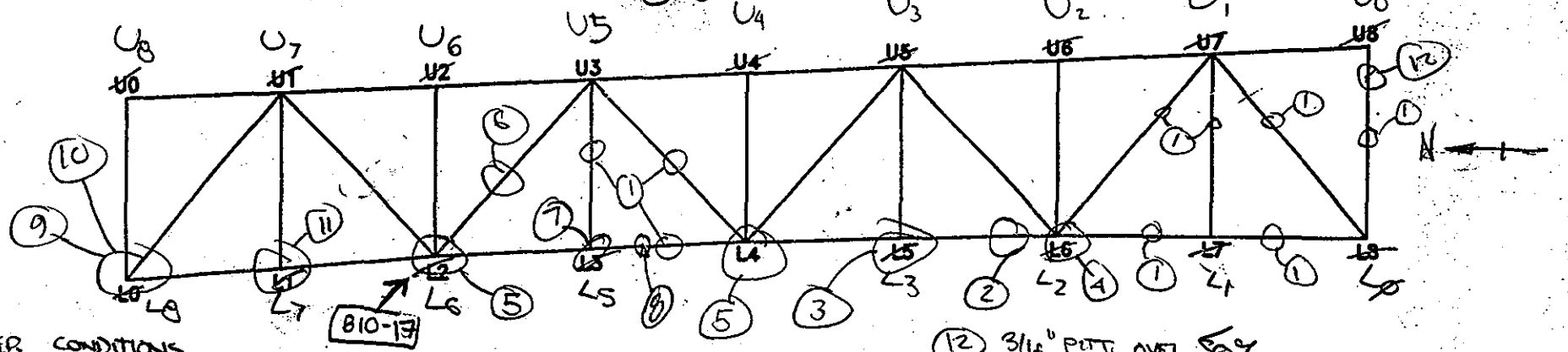
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/7/94
CREW: BH, WM, PWV	SHEET 3 OF 12

GENERAL NOTES
- ALL HORIZ. PL'S OF BOTTOM CHD MEMBERS HAVE PITTING UP TO 3/16" OVER 50% OF SURFACE
- TOP CHORD: 1/8" IMPACTED RUST BETWEEN COVER PL & MAIN MEMBER

(10) WELDS SAME AS W. TRUSS

(11) (E) 1/8" E & (E) 1/8" W BELOW VERTICAL CHANNEL; (B) 1/8" NW, (D) BETW. W. BOT GUSSET & TRUSS VERT.

(E) 1/8 W



TYP. CONDITIONS

(A) LOSSES ON 1 FACE OF TRUSS MEMBER, 50% OF FACE HAS LOSS (1/8" STANDARD @ ALL LOCATIONS)
(B) LOSS ON VERTICAL GUSSET ALONG HEIGHT OF TRUSS MEMBER (1/16" STANDARD @ ALL LOCATIONS)
(C) LOSS ON TRUSS MEMBER @ EDGE OF GUSSET PL (1/16" STANDARD @ ALL LOCATIONS)
(D) IMPACTED RUST BETWEEN GUSSET PL & TRUSS MEMBER (1/8" STANDARD @ ALL LOCATIONS)
(E) LOSS ON GUSSET PL ALONG TOP OF BOTTOM CHD (1/16" STANDARD @ ALL LOCATIONS)
(F) LOSS ON VERT. GUSSET ABOVE DOUBLE L'S FOR BOT. CHD. BRACING (1/16 STAND)
(G) FLAME-CUT GUSSET, BOTTOM HORIZ. GUSSET, W/ IMPACTED RUST BETW. GUSSET & TRUSS UP TO 1/2"

(12) 3/16" PITT. OVER 50%

SPAN 5

E TRUSS W ELEVATION

NOTES:
(1) - welded drainage connections to truss members.
(2) UP TO 1/2" (IR) WEST FACE
(3) (B) 1/8" NW & SE; (D) 1/4" MAX E & W; 1/8" PITTING OVER 5% GUSSET PL SURFACE AREA — E & W Vert.
(4) SAME AS 12, W. TRUSS
(5) (G)
(6) (IR) UP TO 1/4" E & W BETW. COVER PL'S & CHANNELS (truss)
(7) (B) 1/8 NWest, (IR) Betw. Bot Bracing Gusset & Truss, 1/4" MAX, (A) 3/16" 50% face
(8) (IR) (D), 1/4" MAX. E & W. Vert.
(9) (IR) 3/8" ALONG EXTERIOR W. GUSSET PL; (IR) 1/4" OF GUSSET @ L8U7

TRUSS ELEVATION	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/6/94
CREW: GG/RB	SHEET 8 OF 11

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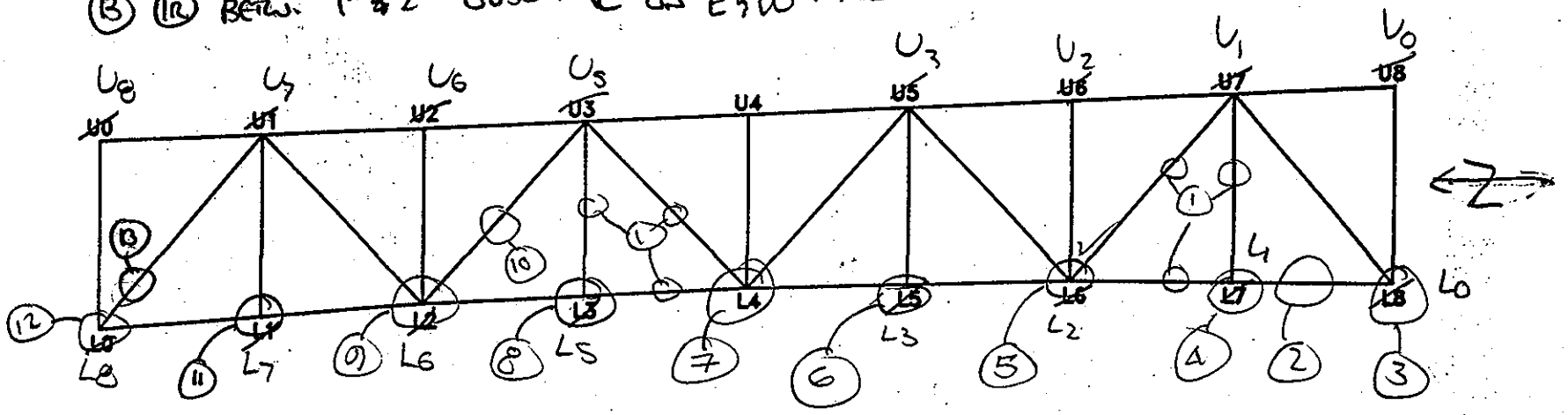
GENERAL NOTES & TYPICAL CONDITIONS SHOWN ON SPAN 7, E. TRUSS, W. ELEVATION

(13) (IR) BETW. 1ST & 2ND GUSSET PL ON E & W FACE



(12) BETW. 1ST & 2ND CONN. PL, 1/4" (IR) W.; 1/8" PITTING OF 1ST CONN. PL FULL LFT W
BETW. 2ND & 3RD CONN. PL, 1/4" (IR) E
WELDED PL INSIDE U7L8 @ L8; LOOPS WELDED TO EXTR. GUSSET, W. FACE; X-BRACING CONN. WELDED TO E. FACE.

(8) (B) NW 1/8" & (E) E & W 1/8"; IMPACTED RUST (1/4" MAX) BETWEEN BOTT. CHD & HORIZ. BOT. GUSSET

(9) G

(10) (IR) E & W 1/4" MAX

(11) (IR) 1/4" MAX W & E VERT. GUSSET; (E) E & W 1/8" (IR) @ BOT. HORIZ. GUSSET 1/4" MAX E. FACE

SPAN 5
W TRUSS E ELEVATION

NOTES:
(1) DRAIN PIPE SUPPORT L WELDED TO MEMBER
(2) 1/4" (IR) BETW. BOTTOM CHD COVER PL'S & CHANNELS.
(3) WELDED LOOPS E & W FACE & WELDED GUSSET BETWEEN CHANNELS OF DIAG-CHD MEMBERS
(4) (E) 1/8" E & W (B) 1/8 @ ALL CORNERS (C) 1/8" EAST (D) UP TO 1/4" VERT. GUSSET & TRUSS VERT E & W
(5) BURN-CUT BOT HORIZ. GUSSET
(6) (D) @ VERT-GUSS & VERT AGMD 1/4" MAX;
(7) (G)

TRUSS ELEVATION	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
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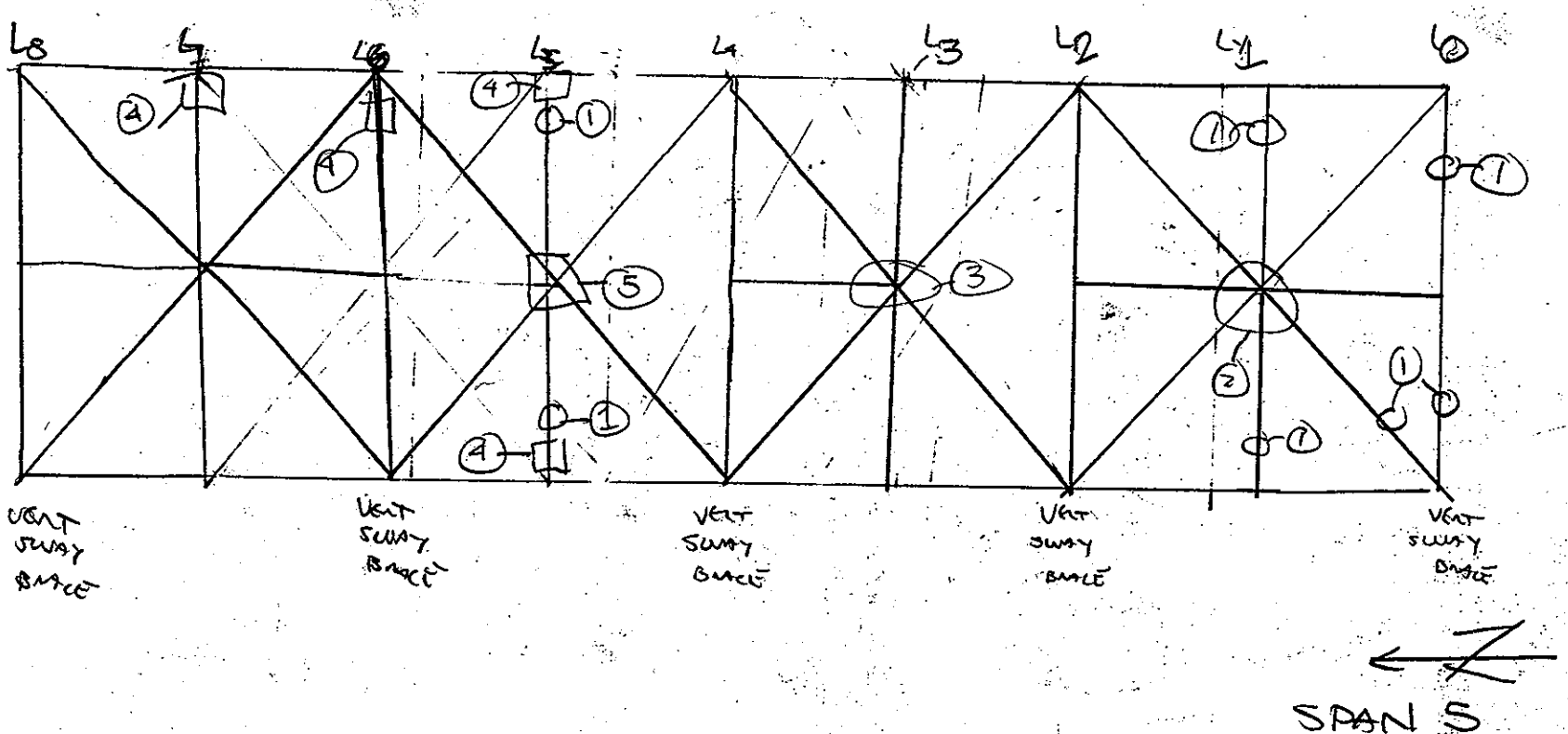
JOB #1784	DATE: 9/6/94
CREW: GG/RB	SHEET 9 OF 11

GENERAL

- 50% of HORIZ. SURFACE HAS UP TO 3/16" PITTING FOR ALL HORZ. Bracing Surfaces.



NOTES:
1. DRAIN PIPE SUPPORT L WELDED TO MEMBER
2. CUT-BURNT BOTTOM GUSSET
3. BURNT-CUT BOTTOM GUSSET
4. BOLTED REPAIR PL TO BOTTOM L'S
5. FLAME CUT PL, BOTTOM GUSSET

BOTTOM CHORD BRACING

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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JOB #1784 | DATE: 9/6/94
CREW: GABE/RB | SHEET 11 OF 11

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GENERAL NOTES: • ALL HORIZ. FL'S OF BOTTOM CHD MEMBERS HAVE PITTING UP TO 3/16" OVER 50% OF SURFACE
• TOP CHORD: UP TO 1/8" IMPACTED RUST BETWEEN COVER PL'S AND OR GUSS PL'S

(15) (D) = 1/4 E & W OF BOTT. CHD & DIAG ; PITTING OF W. GUSSET PL 1/8" MAX ON 5% of Area.

(10) 3/16" PITTING OVER 50% ON W

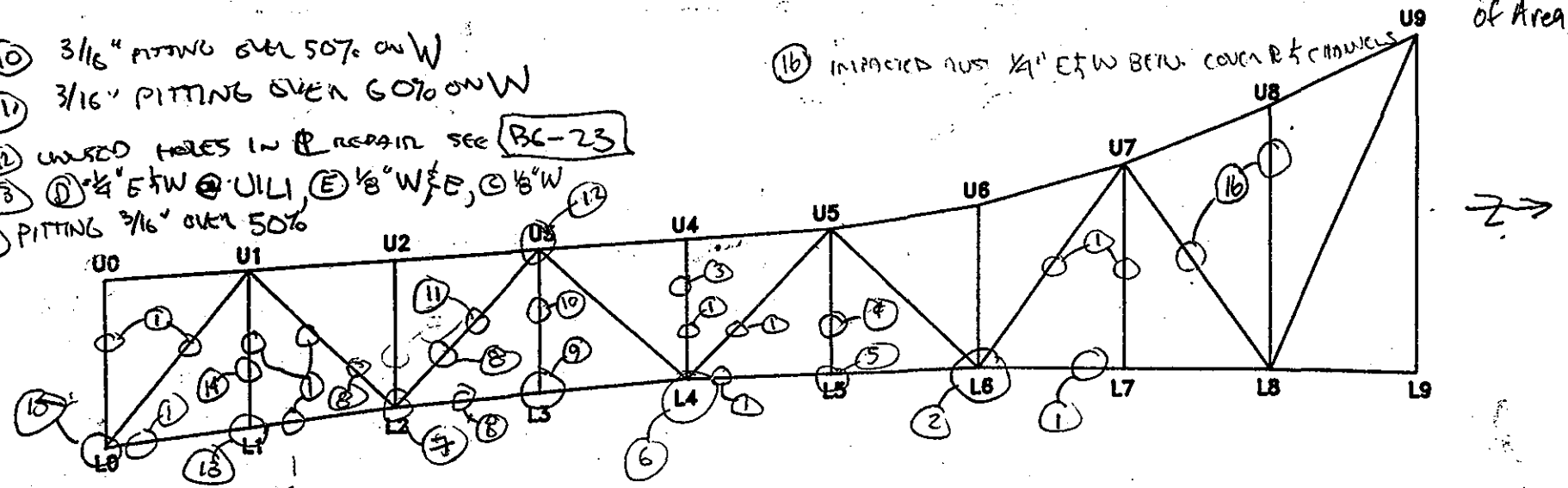
(11) 3/16" PITTING OVER 60% ON W

(12) UNUSED HOLES IN PL REPAIR SEE BG-23

(13) (D) = 1/4" E & W @ U1L1, (E) 1/8" W & E, (C) 1/8" W

(14) PITTING 3/16" OVER 50%

(16) IMPACTED RUST 1/4" E & W BETW. COVER PL & CHANNELS



TYPICAL CONDITIONS

(A) LOSSES ON 1 FACE OF TRUSS MEMBER, 50% OF FACE HAS LOSS (1/8" STANDARD @ ALL LOCATIONS)

(B) LOSS OF VERTICAL GUSSET ALONG HEIGHT OF TRUSS MEMBER (1/16" STANDARD @ ALL LOCATIONS)

(C) LOSS ON TRUSS MEMBER @ EDGE OF GUSSET PL (1/16" STANDARD @ ALL LOCATIONS)

(D) IMPACTED RUST BETWEEN GUSSET PL & TRUSS MEMBER (1/8" STANDARD @ ALL LOCATIONS)

(E) LOSS ON GUSSET PL ALONG TOP OF BOT. CHD (1/16" STANDARD @ ALL LOCATIONS)

SPAN 3

E TRUSS W ELEVATION

NOTES: (1) WELDED L FOR DRAIN PIPE SUPPT ON TRUSS MEMBER

(2) (C) VERTICAL, WEST FACE = 1/8" & L6-U5, W. FACE = 1/8" (D) L6-U5 UP TO 1/4" E & W

(3) 3/16" DEEP PITTING OVER 75% OF SURFACE AREA

(4) 3/16" DEEP PITTING OVER 50% OF SURFACE AREA

(5) 30% OF FACE OF W. VERTICAL GUSSET HAS 3/16" PITTING

(6) HOLES IN HORIZ. GUSSET. SEE PHOTO BG-21

(7) 1/8" OF (E) E & W, (C) = 1/8" W, (B) = 1/8" SE & W, (D) @ VERT GUSSETS 1/4" E & W

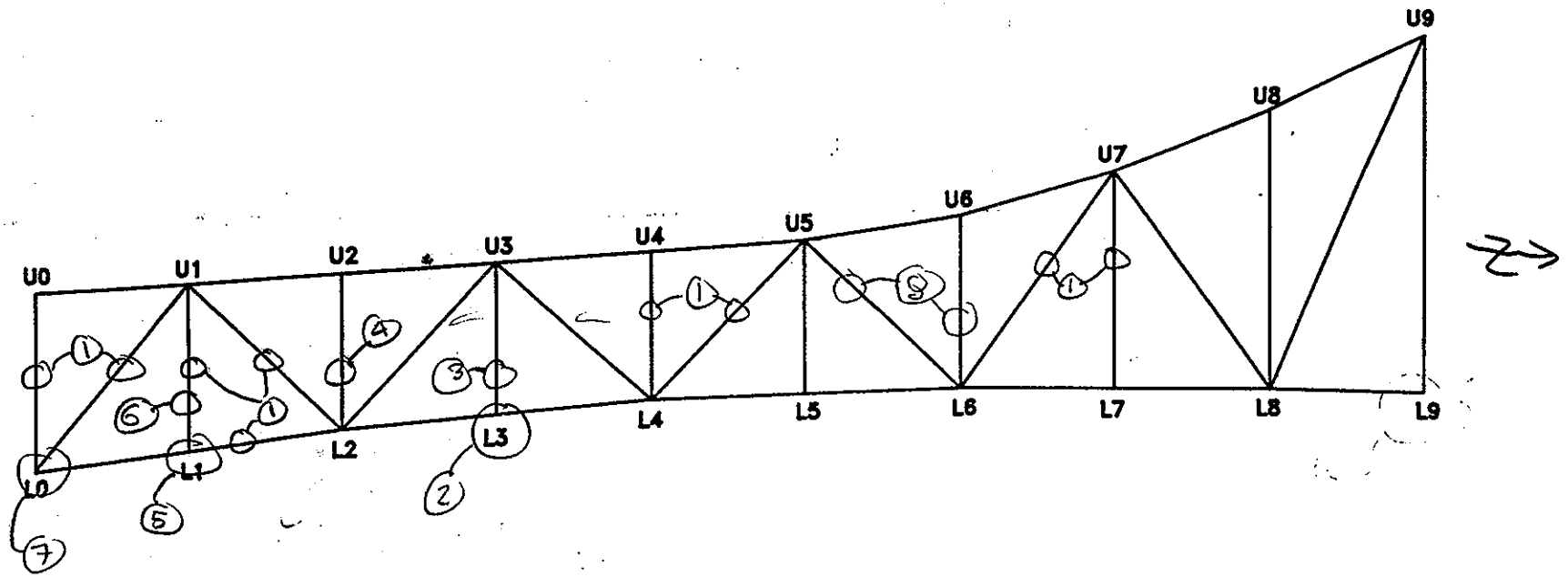
(8) 1/4" OF (D) E & W

(9) (C) = 1/8" W. FACE @ L2-U3

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: 66 / RB	SHEET 1 OF 7

(10)

FOR GENERAL NOTES & TYPICAL CONDITIONS, SEE SPAN 3, E. TRUSS, WEST ELEV.



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SPAN 3

W TRUSS E ELEVATION

NOTES: (1) WELDED ANGLES ON MEMBER AS DRAINS PIPE SUPPORT.
(2) (B) 1/8" E&W (E) 3/16" E&W BELOW E'S
(3) 1/4" PITTING OVER 60% SURF. AREA, E&W
(4) 3/16" PITTING OVER 50% SURFACE AREA (W)
(5) (D) 1/4" MAX E&W (C) = 1/8" (W) ON VERTICAL
(6) 3/16" PITTING OVER 50% SURF. AREA (W)
(7) (B) 3/16" PITTING OVER FULL LENGTH OF L0-U1 W. GUSSET PL
(D) 1/4" ON E&W @ DIAGONAL L0-U1
(8) IMPACTED NUT ON E. FACE 1/4" MAX BTWN COVER PL & CHANNEL

TRUSS ELEVATION	
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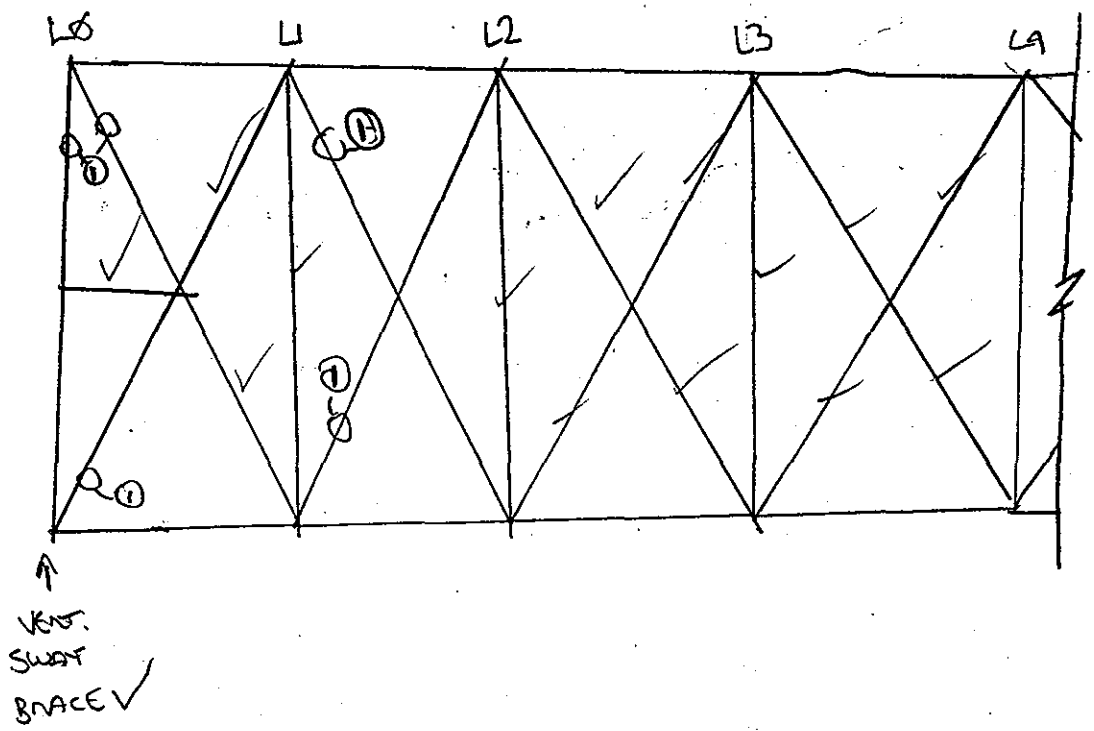
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: GG/RB	SHEET 2 OF 7

GENERAL NOTES

(A) 50% OF HORIZ. ℄/HAVE SURFACE AND 1/8" TO 3/16" PITTING (BRACING MEMBERS)



SPAN 3

NOTES: (1) - welded drainage Bracket to truss member

BOTT. CHORD BRACING	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: Gabe / [illegible]	SHEET 3 OF 7

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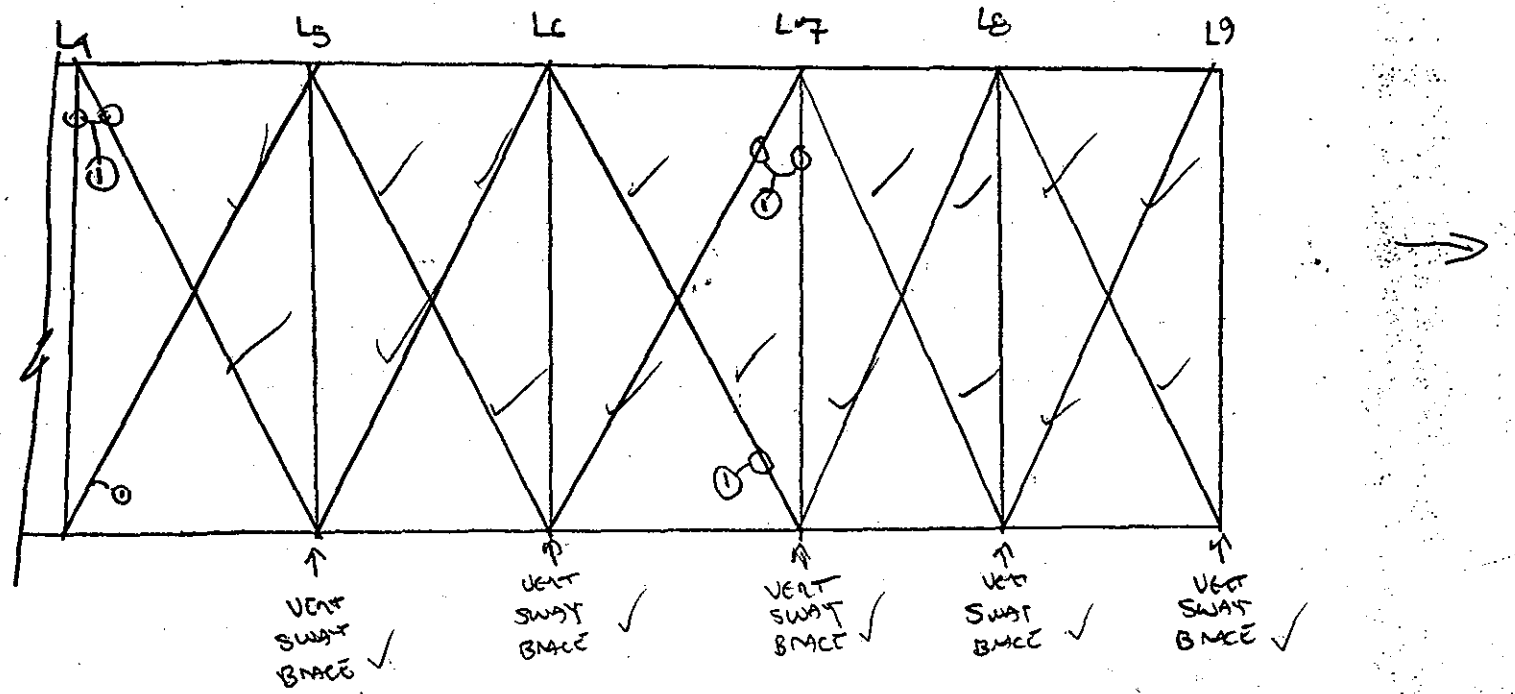

SPAN 3

NOTES: ① DRAW PIPE SUPP'T L WELDED TO MEMBER

BOTTOM CHORD BRACING

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/29/4
CREW: [illegible] / RB	SHEET 4 OF 7

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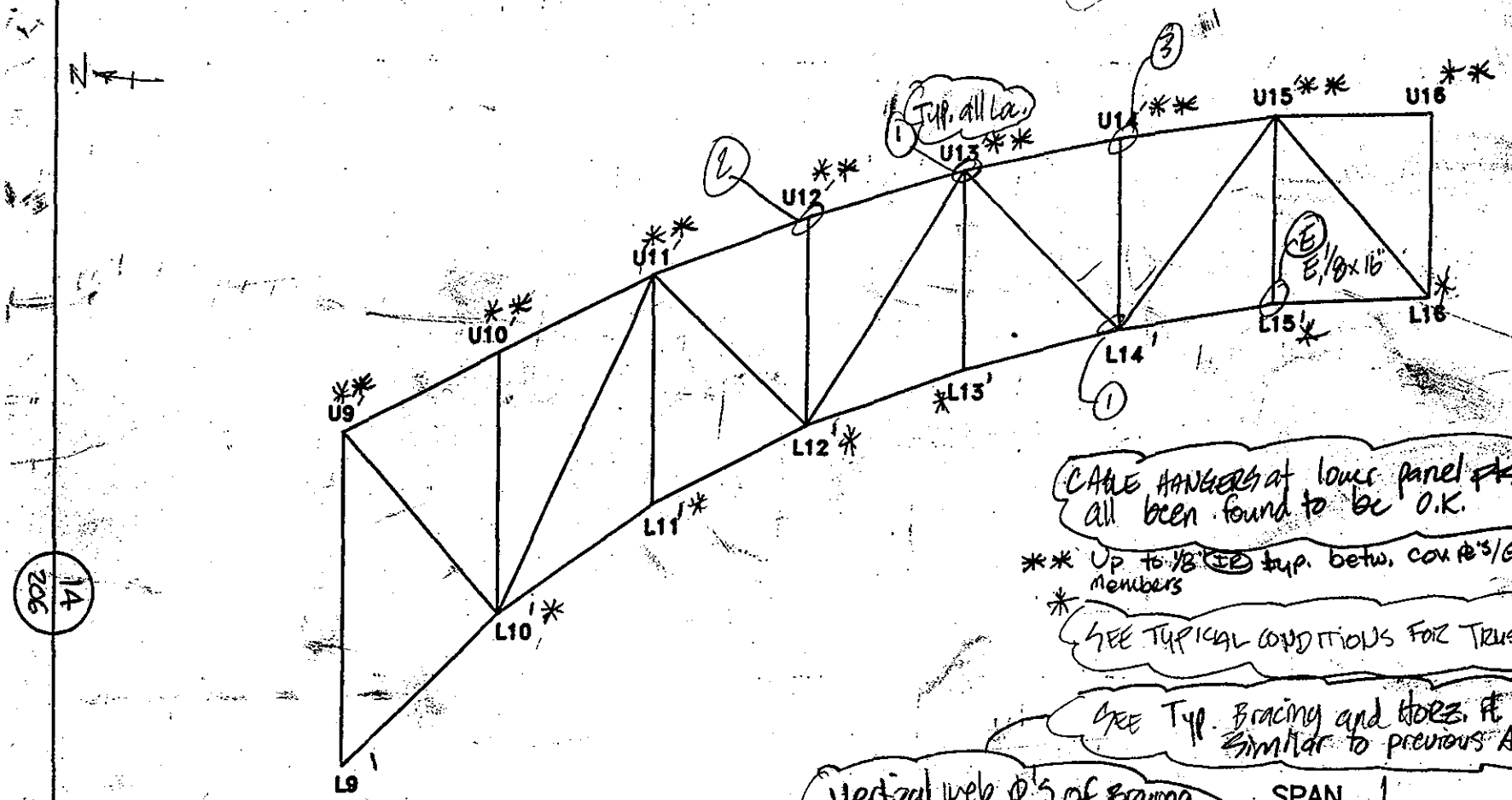

CABLE HANGERS at lower panel pts. HAVE all been found to be O.K.

** Up to 1/8" IR typ. betw. cov. PL's/Gus. PL's & Top Chord members

* SEE TYPICAL CONDITIONS FOR TRUSS MEMBERS

SEE Typ. Bracing and Horz. PL Conditions Similar to previous Appr. cond.

Vertical web PL's of Bracing Members Typically has 1/8" pitt. 50% of height, on face

SPAN 1

E TRUSS W ELEVATION

NOTES: Bolted repair PL's TO L14E/L13W Bracing, see sim. other spans

(1) welded angle to chord member @ upper panel pt. Similar to west truss, all locations

(2) 3/16" pitt. 3"Ø above Bracing conn. ℄ to West face of Guss. PL. cover PL

(3) 1/8" pitt on interior face of Guss. PL Cover PL, ≤ 5%

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/15/94
CREW: GG/BH/PN	SHEET 1 OF 2

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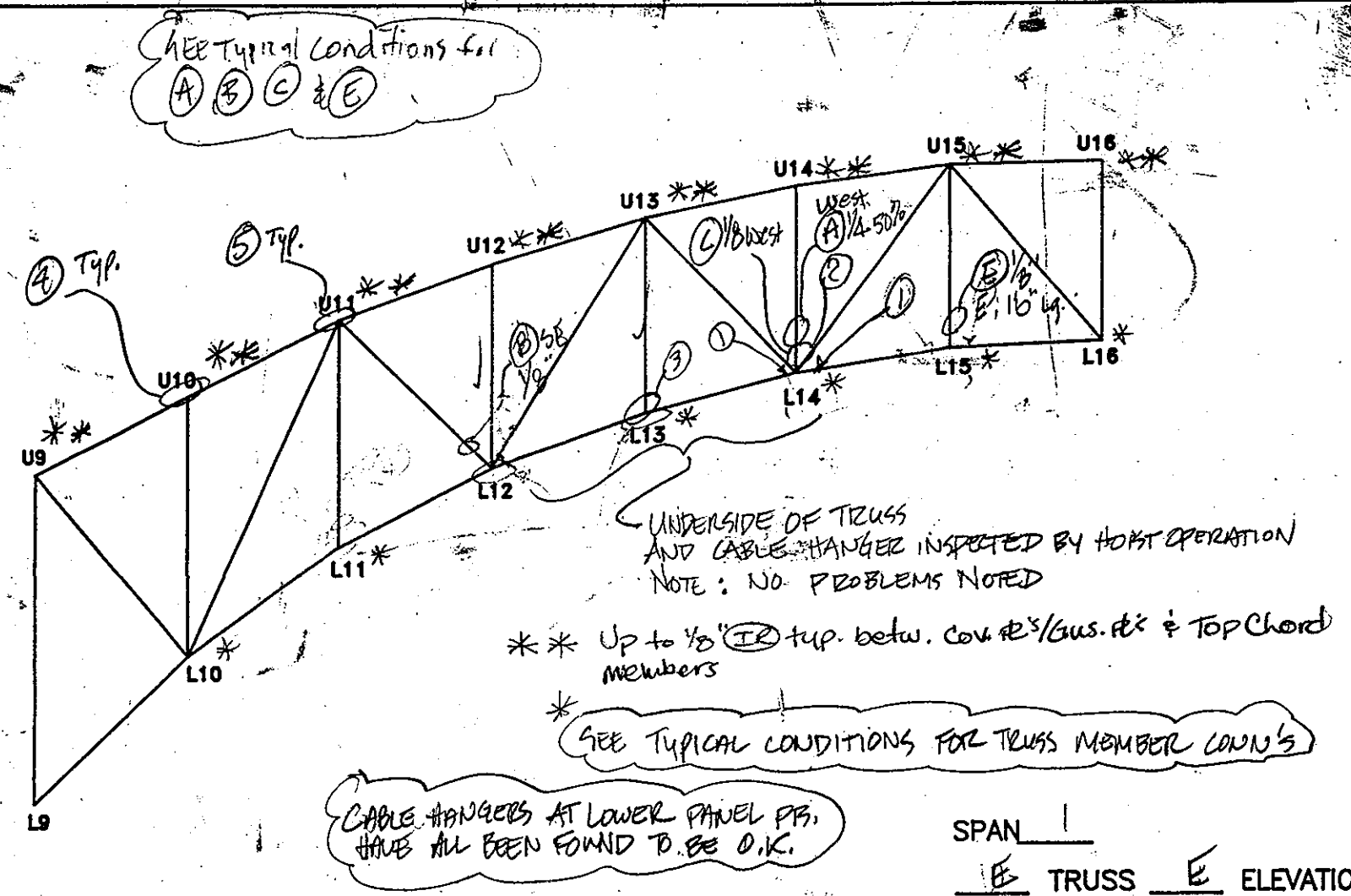

SPAN 1

E TRUSS E ELEVATION

NOTES: (1) welded repair PL 6"x6" to batten PL's (Typ. All Locations)
(2) (E) 1/8 E & W (Typ.) Below vert. channels
(3) (E) 1/8" E (Typ.)
(4) welded brackets to top chord, Typical all locations, similar to West truss
(5) 1/8" pitt. on inter. face of Guss PL cover PL ≤ 5%

TRUSS ELEVATION	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
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JOB #1784	DATE: 9/13/94
CREW: GRBE / BH / PN	SHEET 3 OF 3

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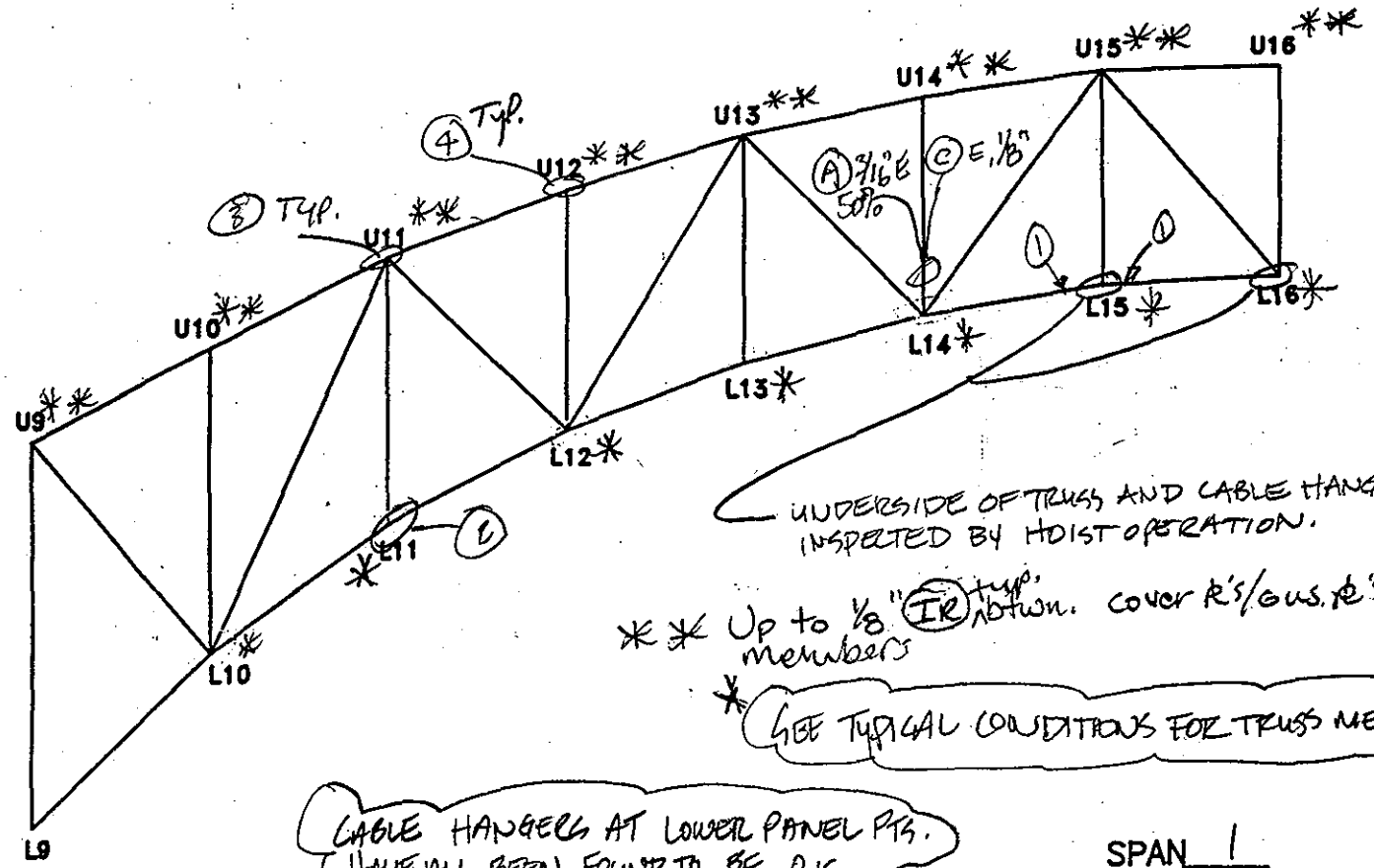

SPAN 1

W TRUSS E ELEVATION

NOTES: ① - welded repair PL 6"x6" to batten PL's (Top & Bot, all locations Typ.)
② west channel Ⓐ 3/16" 50% of surface.
③ welded brackets to top chord, Typical all locations, (Similar see photo B18-7)
④ 1/8" pitt. on interior face of Guss. PL cover PL ≥ 5%

TRUSS ELEVATION	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
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JOB #1784	DATE: 9/13/94
CREW: GABE/BH/PN	SHEET 2 OF 3

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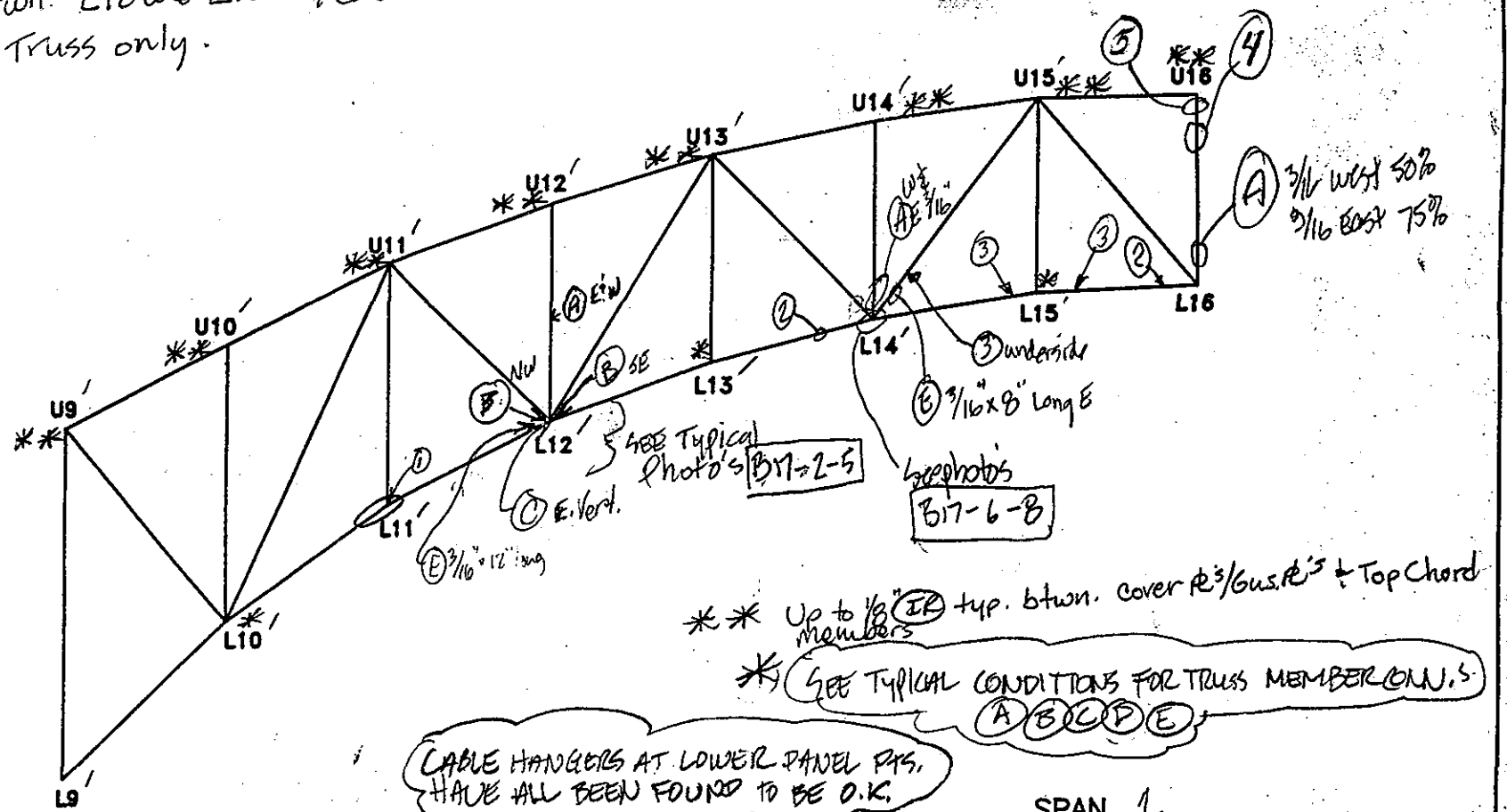
NOTE:
Catwalk btwn. L12' and L16' w/cable on West Truss only.



** Up to 1/8" IR typ. btwn. cover PL's/Gus. PL's & Top Chord members

* SEE TYPICAL CONDITIONS FOR TRUSS MEMBER CONN.'S (A) (B) (C) (D) (E)

CABLE HANGERS AT LOWER PANEL PTS. HAVE ALL BEEN FOUND TO BE O.K.

SPAN 1

W TRUSS W ELEVATION

Gen. Note: Catwalk typ. 5% Grating bars broken or missing.

NOTES:

1. Welded 6"x6" PL to stiff. PL inside joint
2. Welded Catwalk Support [See Photo - B17-9]
3. Typical welded plate to Top of Batten PL, 6"x6"
4. 2 unused ladder support holes, E. Face, 1/2" ϕ
5. Welded ladder supports to vertical, West face, see photo [B18-6], welded Brackets to top chord, South of U16, [B18-7], Pitt ≤5% west face, 1/8" deep, Guss. PL.

Typical all West upper locations.

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/13/94
CREW: BJ/GG/PN	SHEET 1 OF 3

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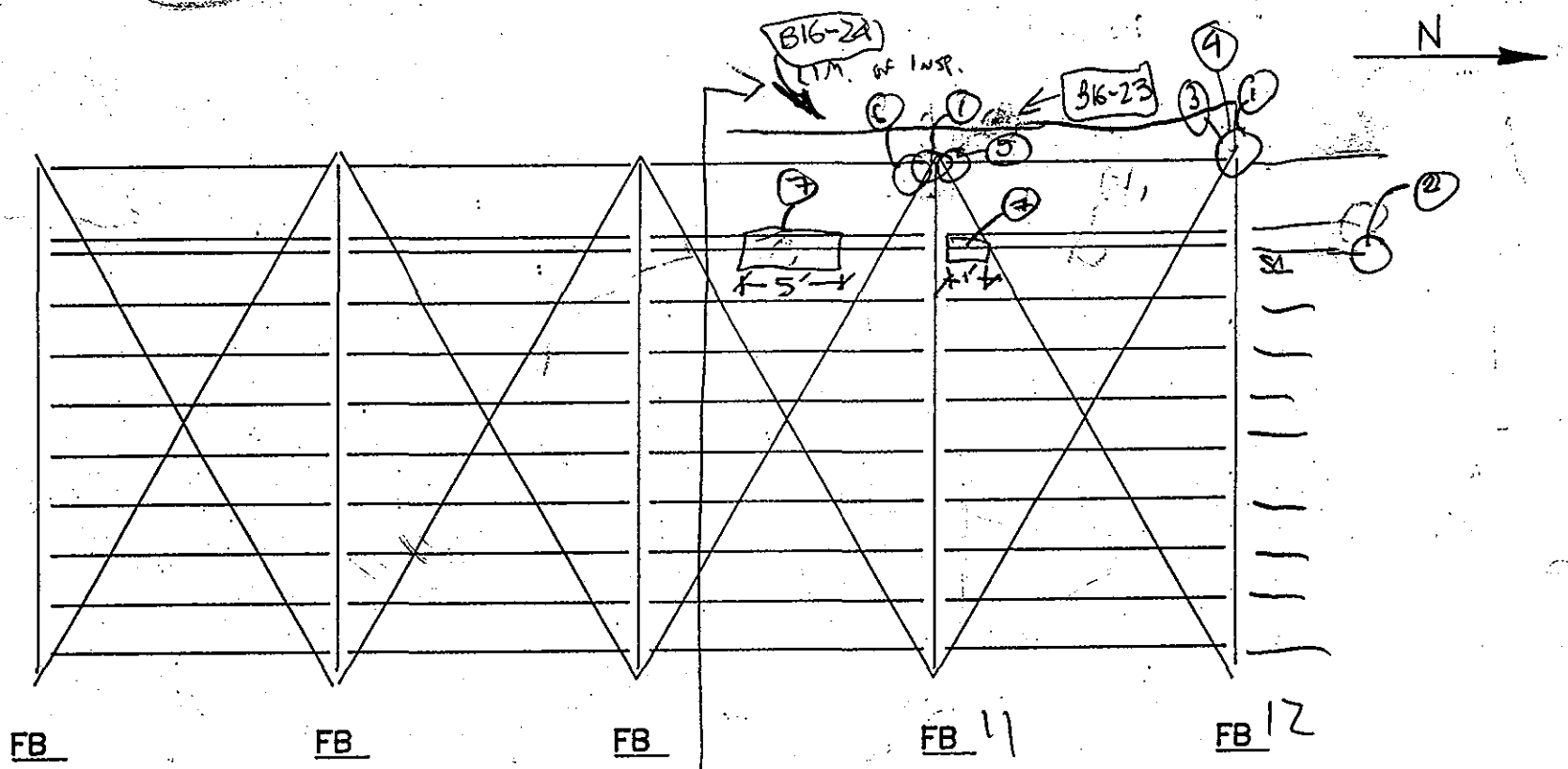


(7) PITTING (1/8" DEEP) @ BOTTOM 1" OF WEB INTO FILLET FOR LENGTHS MARKED ABOVE ON WEST FACE

(1) 2 RIVET HEADS COUN. BOT. ∈ L'S OF FLBM BLOOMED, BOTH SIDES, W/#2 RUST IN VICINITY, BEHIND CABLE

NOTES:

(2) 3/16" PITTING OVER 1/2 OF AREA OF TOPSIDE BOT. FL, W. 1/2 OF FL FOR 10' LENGTH MIDSPAN AND 1/8" PITTING BOTT. 1" OF WEB (SAME AREA)

(3) (12) LESS THAN 1/4" RUNNING ALONG FULL HT BETW. VERT L'S NORTH FILL R BEHIND CABLE, SAME AREA AS (1)

(4) UP TO 3/16" PITTING UP 18" OF FLBM WEB EXTENSION @ W. FASCIA

(5) N. CABLE: SLIGHT (1/8") SEPARATION BETW. 2 OUTSIDE TWISTED STRANDS

(6) S. CABLE: ELECT. CONDUIT TWIST-TIE CONNECTED TO CABLE ~3" ABOVE BASE SOCKET

~~FLOOR SYSTEM~~ WEST WIND CHORD	
DEPARTMENT OF THE ARMY	
NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE	
ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/15/99
CREW: WM/RB	SHEET 2 OF 3

FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

JOB NO. 1784

DATE 9/15/94

CREW WM/RB

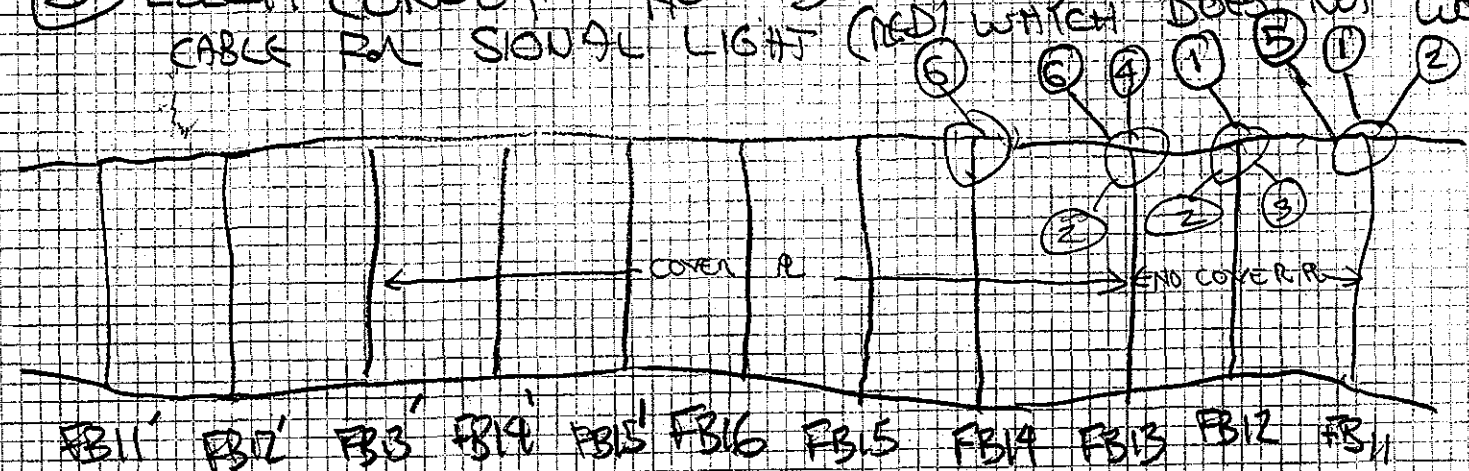
BRIDGE NO. Bourne Br.

SHEET 3 of 3

LOWER (WEST) CABLE CONN'S & STRUT

(6) SAME AS (1) BUT WITH COLLECTING DEBRIS

(5) ELECT. CONDUIT NOT SUPPORTED; CONDUIT CARRIES CABLE FOR SIGNAL LIGHT (RED) WHICH DOES NOT WORK



(1) RUST BLOOM OF RIVET HEADS & #2 RUST BEHIND CABLE, N. & S. FACE

(2) DEBRIS COLLECTING IN CABLE GUIDE

(3) NO. 1 RUST AROUND CIRCUM. OF CABLE @ GUIDE, N. CABLE

(4) 1/4" DEEP PITTING 1" HI x 6" LONG ON NORTH FACE, N. GUSSET SUPPORTING CABLE GUIDE BRACKET

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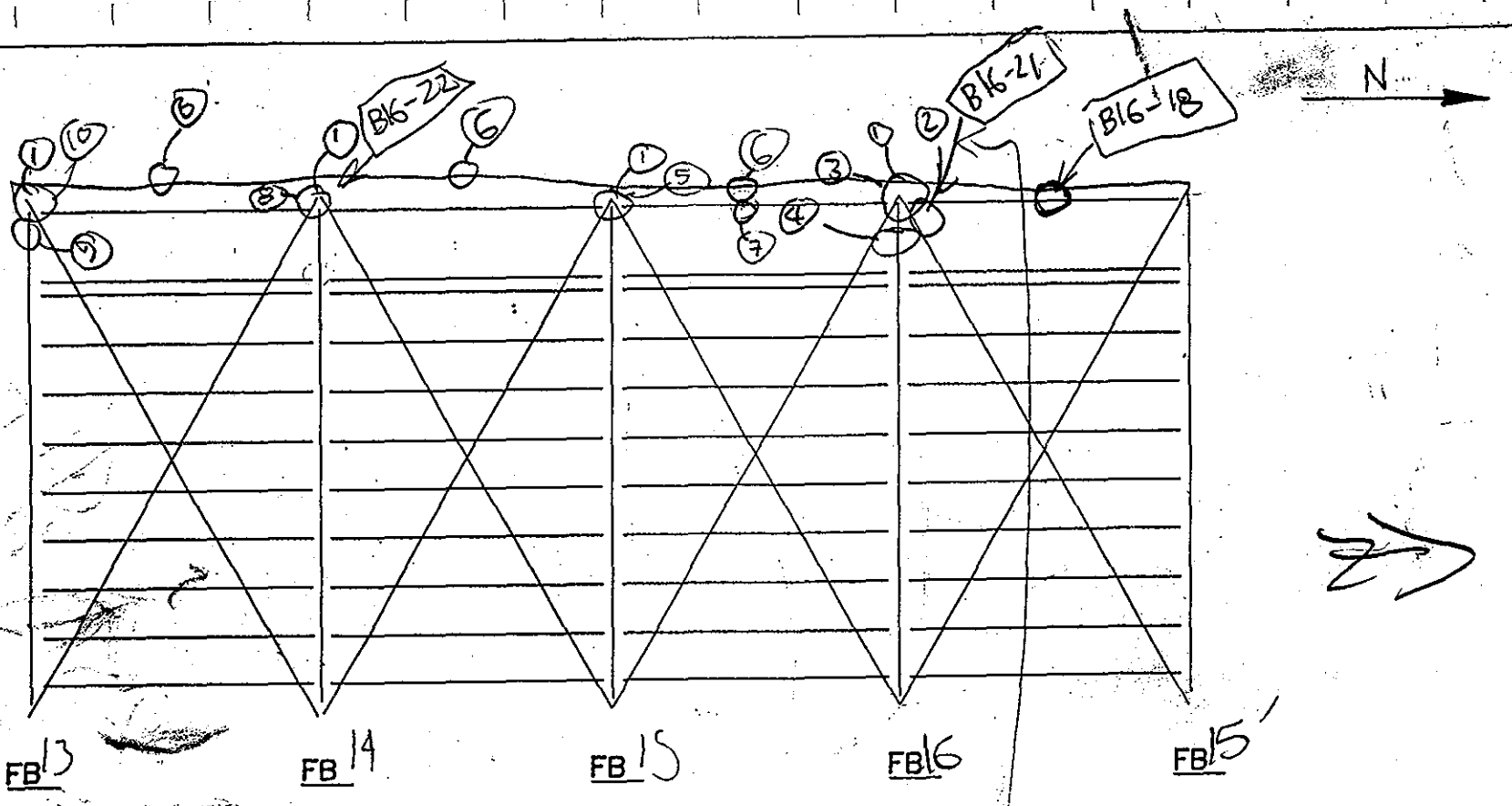

(10) BOTTOM OF CONDUIT HOLDING LIGHTING STANDARD ELECT. WIRE IS CORRODED @ END W/ SHARP EDGE

(9) PITTING 4" H1 x 3/16" DEEP, W. STIFF., S. FACE OF FB.

NOTES:
(1) MUSHROOMED RIVET HDS, BOTH SIDES, W/ #2 RUST OF L IN AREA
(2) WIRES FOR GREEN SIGNAL (NOT WORKING) ARE EXPOSED S. FACE
(3) NO. 1 RUST, BOTH FACES, OVER 5% OF AREA
(4) W. STIFFENER, BOTH FACES, WELDED REPAIR PL
(5) N. FACE OF FB: GUSSET HOLDING GUIDE BRACKET HAS 2"Ø PITTING UNDER BRACKET.
(6) (1R) ~1/8" BETW. LAT. BRACING CHANNELS & COV. PL'S @ TOP
(7) 1/16" PITTING UP FULL HT OF SIDEWALK SM FASCIA @ RAIL CONN.
(8) S. GUSSET PL FOR GUIDE BRACKET INSIDE FACE AT CONN. L'S: 1/8" (1R) BETWEEN

~~FLOOR SYSTEM~~
WEST WIND CHORD

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/13/94
CREW: WM/RB	SHEET 1 OF 3

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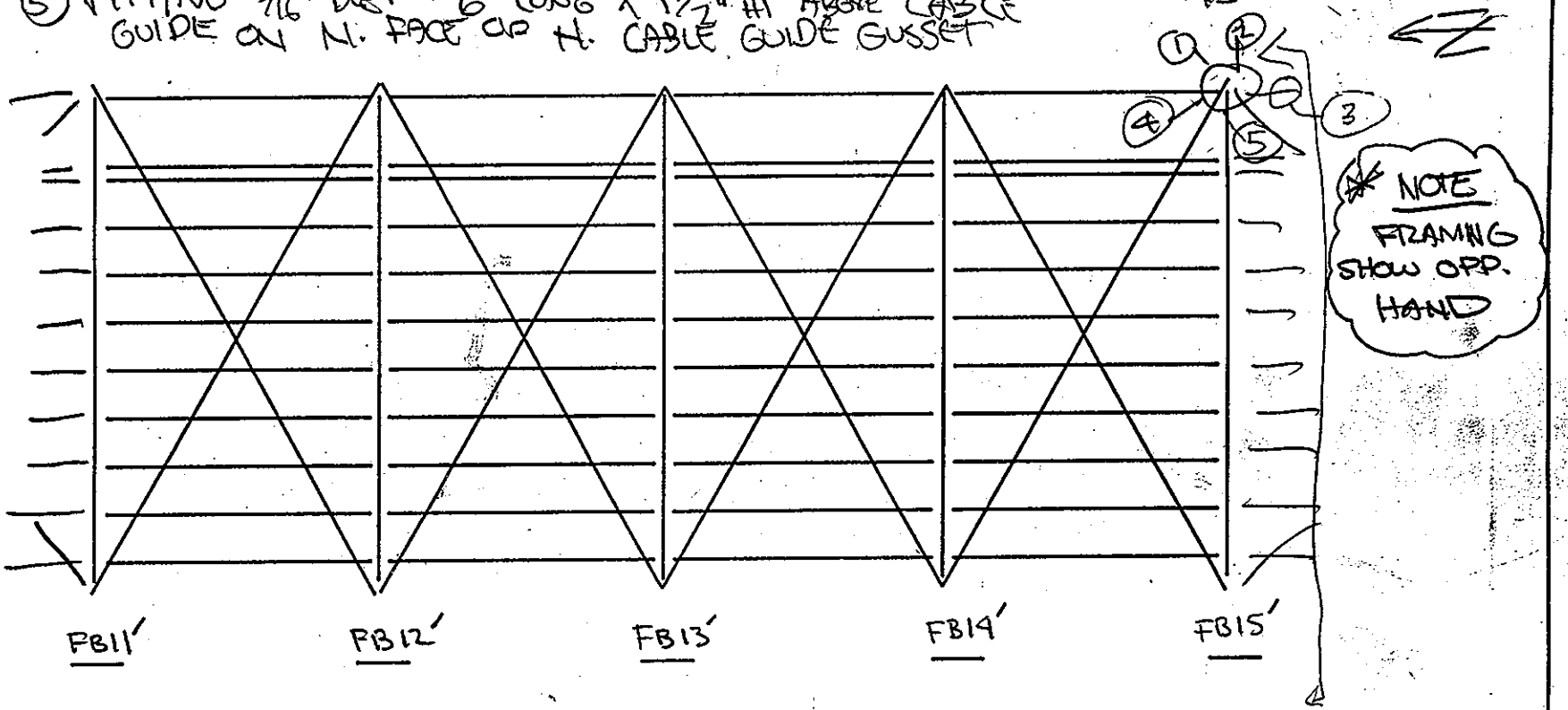
EAST LATERAL STRUT & LOWER CHORD CONNECTIONS

(5) PITTING 3/16" DEEP x 6" LONG x 1½" HI ABOVE CABLE GUIDE ON N. FACE OF N. CABLE GUIDE GUSSET



SPAN 1

NOTES: (1) #2 RUST & BLOWED RIVETS HEADS BEHIND CABLE, N & S

(2) DEBRIS IN CABLE GUIDE AROUND CIRCUM. OF CABLE NORTH & SOUTH CABLES

(3) ON SHINGER, FROM 1' S OF FBM15', PITTING IN FILLET 1/8" DEEP FOR 12" OF LENGTH, ~1" HI

(4) PAINT ON CABLES CALED FOR ~1/2' ABOVE T. OF FBM ESPECIALLY ON S. FACES OF BOTH CABLES

~~FLOOR SYSTEM~~
EAST WIND CHORD

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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JOB #1784 | DATE: 9/16/94

CREW: WM / RB | SHEET 1 OF 2

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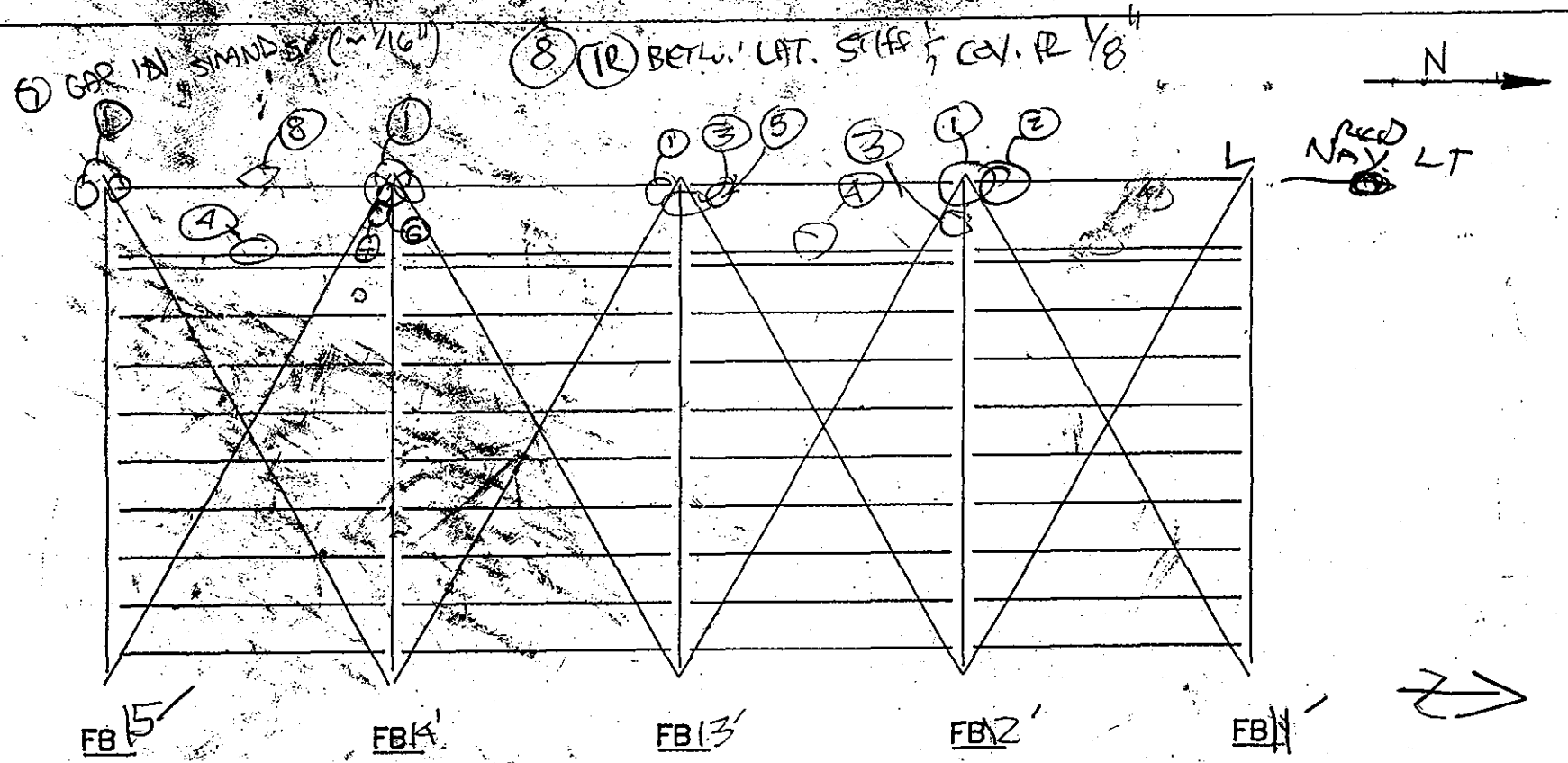

GEN. NOTE

- OUTSIDE EDGE OF FLBM WEB EXTENDING OUTSIDE OF HANGERS HAS 1/8" PITTING UP 50% OF HEIGHT.
- VERTICAL PL CONNECTING HANGER GUIDES HAS UP TO 1/8" PITTING OVER 50% OF AREA

WEST TRUSS

NOTES:
(1) RIVET HEADS ON VERT L LEG PITTED 1/8" DEEP W/ #2 RUST AROUND ALL
(2) 1/8" PITTING ON VERT L, FULL HEIGHT OF L OVER END 1", BOTH ENDS
(3) WELDED REPAIR PL @ TOP OF WESTERLY STIFF, 18" FROM BOT. OF TOP FL
(4) 1/8" DEEP PITTING, FULL WIDTH OF L 1/2 OF BOT. FL 10' S. OF MIDSPAN
(5) MINOR (1R) OF CABLE GUIDE PL AROUND CABLE
(6) #1 RUST, S. CABLE @ TOP OF SOCKET, RING @ TOP OF SOCKET

FLOOR SYSTEM
LATERAL STIFF.

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9/13/94
CREW: WM/RB | SHEET 4 OF 4

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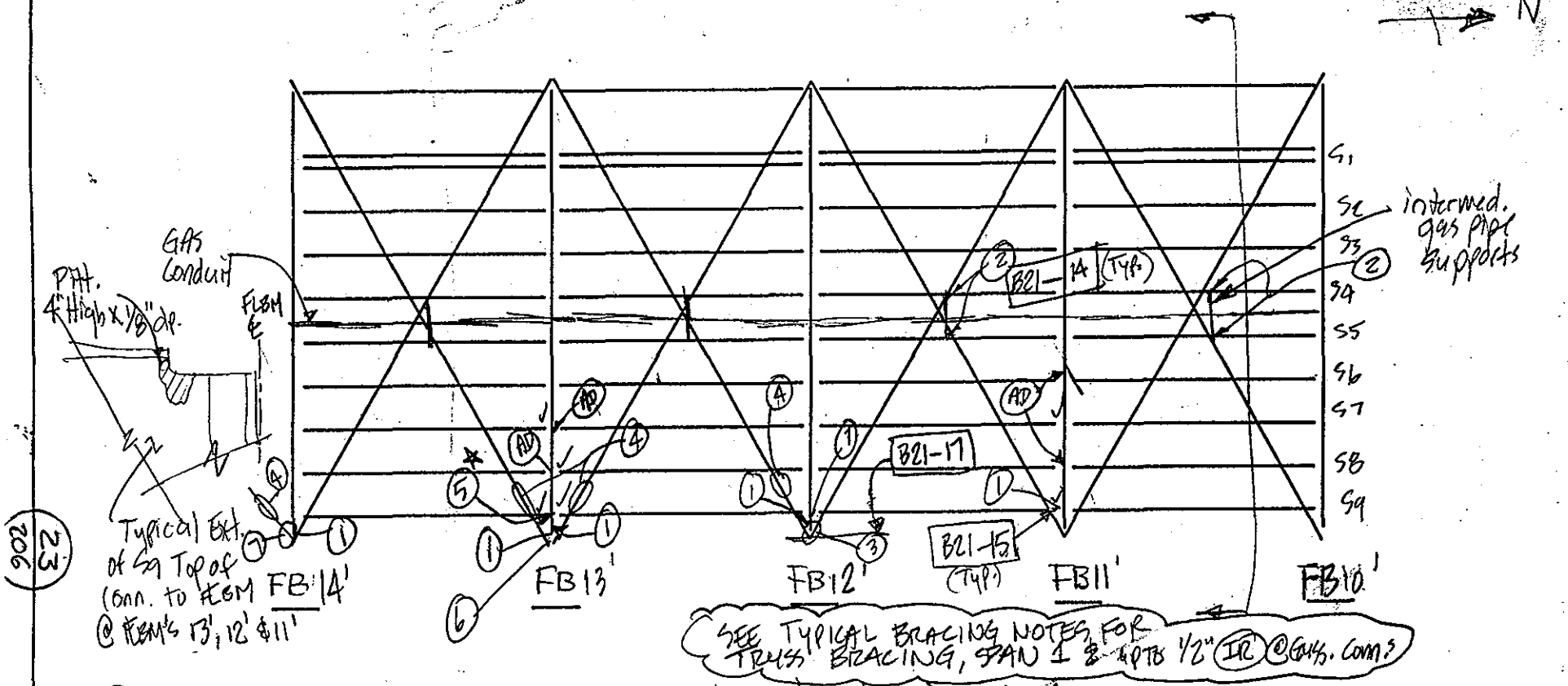
EAST LATERAL STRUT & LOWER CABLE CONNECTIONS



(SM) ≅ (AD)

Typical for Longitudinal wind Bracing Chord:

- Top Horz. ~~FLS~~ 5 lacing Bars 1/8" Pitt. 50% of width
- Pitt. on Exter. of channels, 3/16" for 6" H on west, 1/8", 6" H for East
- up to 1/4" IR at locations with Exter. cover PL's

SPAN 1

NOTES: (1) - Typical Medium to heavy Rust on vert. leg of cable support conn. ∡ (all locations.)
(2) - welded plates (2" x 6" x 1") to Bot. FL of Stringer (Typical).
(3) - Typical Base of Cable at FLBM 12', see photo B21-16,
(4) - welded or Bolted repair PL to Bracing.
(5) - welded Repair PL to Bottom Section of Stiff / conn ∡, (5)* - (5) with repair welded to Bot. FL of FLBM
(6) - cable strands separated 1/8" along length of cable, see prev.
(7) - (1), small object or intrusion betw. 2 strands of cable, creating 1/8" gap in strands, light rust around intrusion, strands are all o.k., see photo B21-24

Notes BY WM/RB, B21-18

FLOOR SYSTEM	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/16/94
CREW: GG/PN/BH	SHEET 5 OF 6

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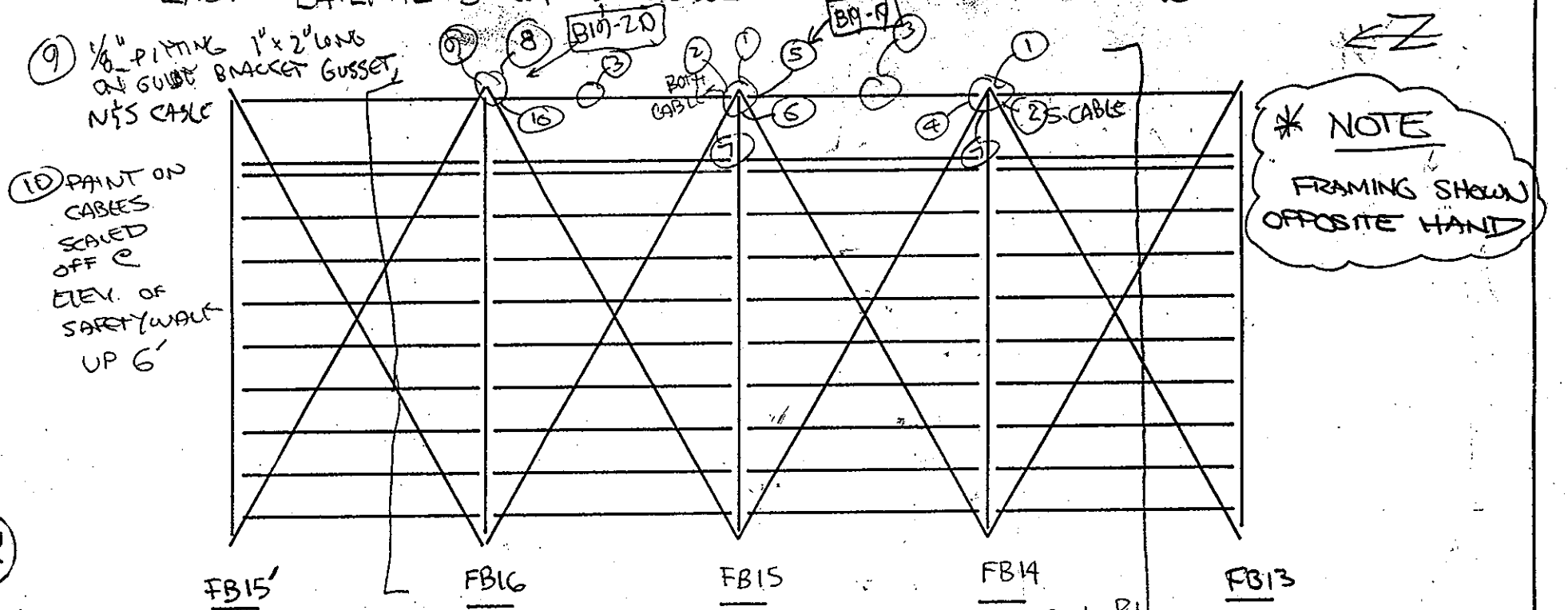
EAST LATERAL STRUT & LOWER CABLE CONNECTIONS



(6) (1R) N. FACE 1/4" BETW TOP FL & L ABOVE TOP FL

(7) DEBRIS ON TOP OF BOT. FL BEHIND CABLE, N&S. FACE

(8) AREA BEHIND CABLE @ TOP OF BOTTOM FLANGE HAS BEEN CLEANED & RIVETS HAVE BEEN PLACED W/BOLTS

SPAN 1

NOTES: (1) NO. 2 RUST ON VERT L OF FLBM & BOTTOM OF RIVETS BEHIND CABLE, N&S FACE

(2) DEBRIS COLLECTING IN GUIDE BRACKET AROUND CIRCUM. OF CABLE (N or S IS SPEC. ABOVE)

(3) 1/4" (1R) @ INTERMITT. LOCATIONS BETW. COV. PL'S & CHANNELS OF LAT. STRUT

(4) 2" Ø PITT. ON S. FACE OF FLBM WEB EXT. BEYOND CABLES, 3/16" DEEP

(5) PITTING OF S. GUSSET FOR CABLE GUIDE BRACKET 1"1x 5"

~~FLOOR SYSTEM~~ EAST	
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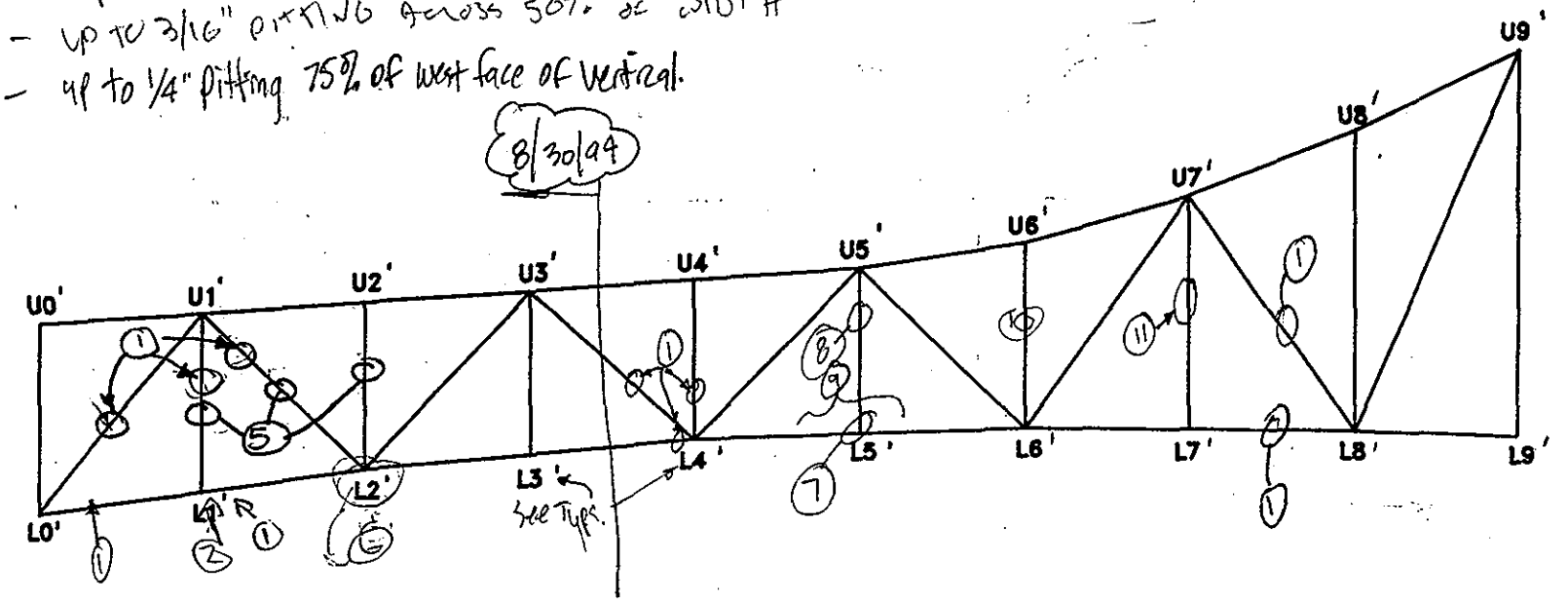
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/16/94
CREW: WM/RB	SHEET 2 OF 2

(7) - (C) - 1/8" west face of East truss,
(8) - 3/16" loss on west face of vert. 75% of face.
(9) - Top of chord flanges and Lacing & Batten PL's have up to 3/16" pitting, 10% of Top surfaces.
(10) - up to 3/16" pitting across 50% of width
(11) - up to 1/4" pitting 75% of west face of vertical.



SPAN E

E TRUSS W ELEVATION

NOTES: (1) welded drainage support to chord members see photo (B-3) & (B-4)
(2) LOSS TO GUSSET (W. PL E. FACE) ALONG TOP OF BOTT. CHD:
DIMENSIONS: SEE (B)
(3) 1/4" DEEP x 3 1/2" L x 3 1/2" W PITTING [illegible] UPHEIGHT
(6) ~5% OF interior Gusset PL/conn. PL has 3/16" pitting.
(5) DEEP PITTING OF 50% OF MEMBER, 1/8" DEEP AVG.

TRUSS ELEVATION	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/29/94
CREW: GG / RB	SHEET 2 OF 7

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Typ. Note for this sheet: PITTING ON INTERIOR FACE OF GUSSET/PL'S ABOVE VERTICAL SWAY-BRACE CONN. L'S. (1/16 STANDARD FOR ALL)

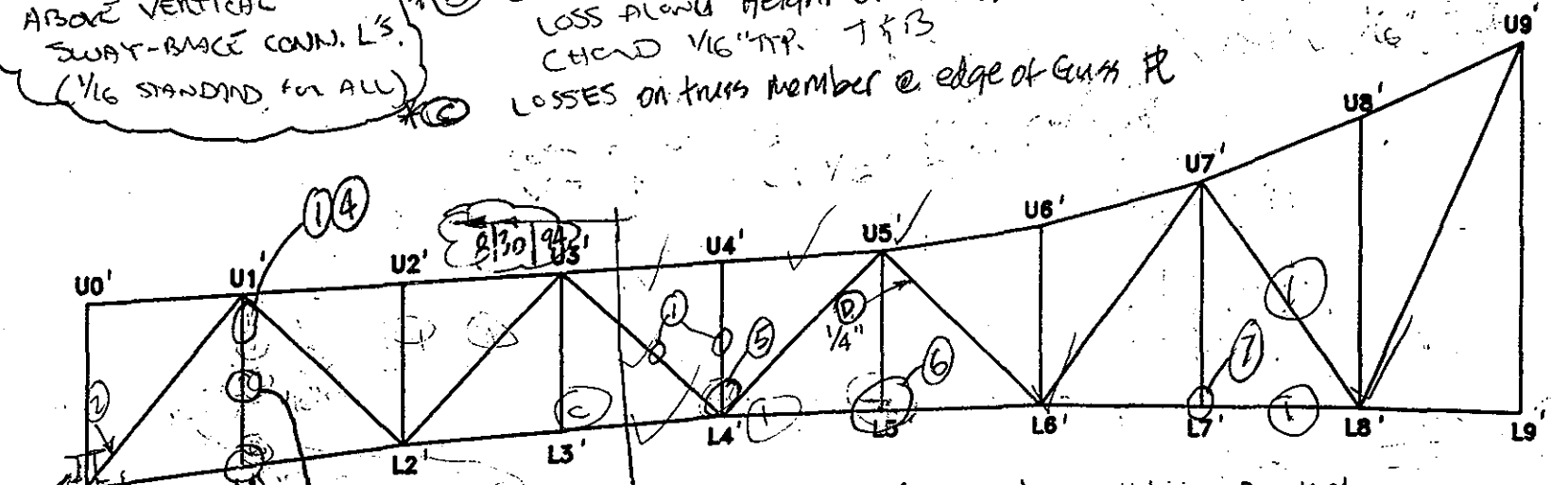
TYPICAL

(A) Random 3"ϕ Areas of up to 1/8" pitting on up to 50% of Face

*(B) GUSSET & LOSS, LOSS ALONG Height of truss member CHORD 1/16" TYP. T & B

*(C) LOSSES on truss member @ edge of Guss PL

*Typical of Cond.'s 1/16" loss at all Locations.



(E) Loss in vert. gusset (interior) @ bottom of vert. member & Top of bot. chord

(C) 6" of 3/16"
(B) 1/16" on EAST
(E) 1/8" FULL WIDTH E&W

(D) IMPACTED rust betw. cover plates, batten plates & chord members (Typ. up to 1/8")

Typ. Note This Sht: UP TO 1/8" PITTING OF LACING BARS OF TRUSS MEMBERS, FULL width

SPAN R (opposite Hand)

W TRUSS E ELEVATION

NOTES:
(1) - welded pipe supports to chord members.
(2) (A) Random Areas 3" ϕ w/ 1/4" pitting. TYPICAL
(3) cross strut has Typ. 3/16" pitting on South face, 75% of height.
(4) 3/16" pitt. 60% of EAST face OF INTERIOR CHANNEL.
(5) 1/8" Deep PITT. L of VERT & L4-U5 @ Vert GUSSET
(6) 1/8" DEEP PITTING, W. FACE OF E. V GUSSET, FULL WIDTH @ bottom chord.
(7) - (C) with 3/16" pitting East face for 6" long, 1/4" pitting 4" long also East face.

TRUSS ELEVATION	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/29/94
CREW: GG / RB	SHEET 1 OF 7

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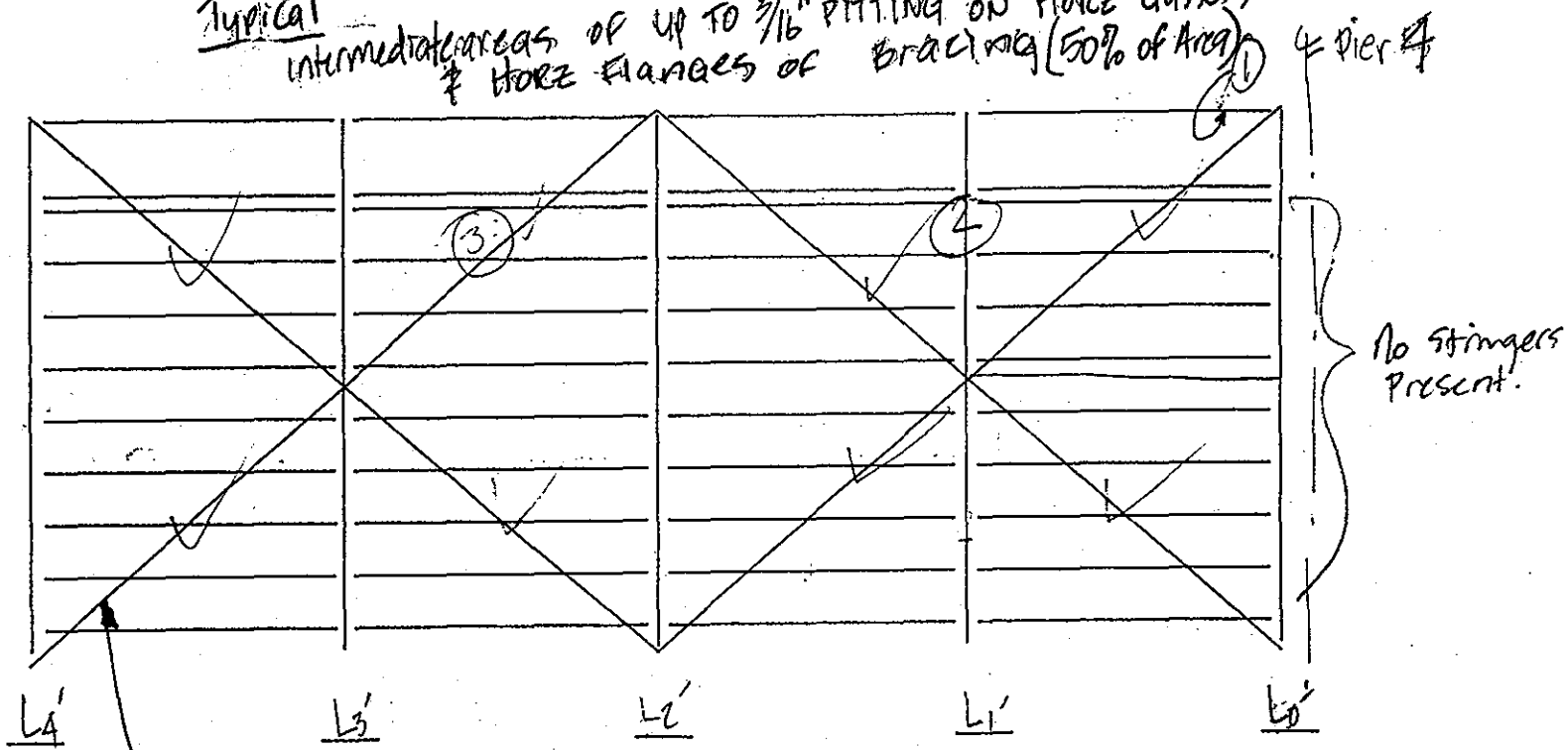
Bottom Truss Framing

Start 8/29/94

Typical intermediate areas of up to 3/16" pitting on horz gussets & horz flanges of bracing (50% of Area)



Note: Bracing shown is incorrect for span, cross bracing is present for each bay not for every two bays.

SPAN 2

NOTES: (1) up to 1/4 pitting of East face of Bottom chord, 30% of height
(2) 3/16" pitting 4" ht. max
(3) Minor construction dent to top ft. of bracing

FLOOR SYSTEM	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/29/94
CREW: Gage / RB	SHEET 5 OF 7

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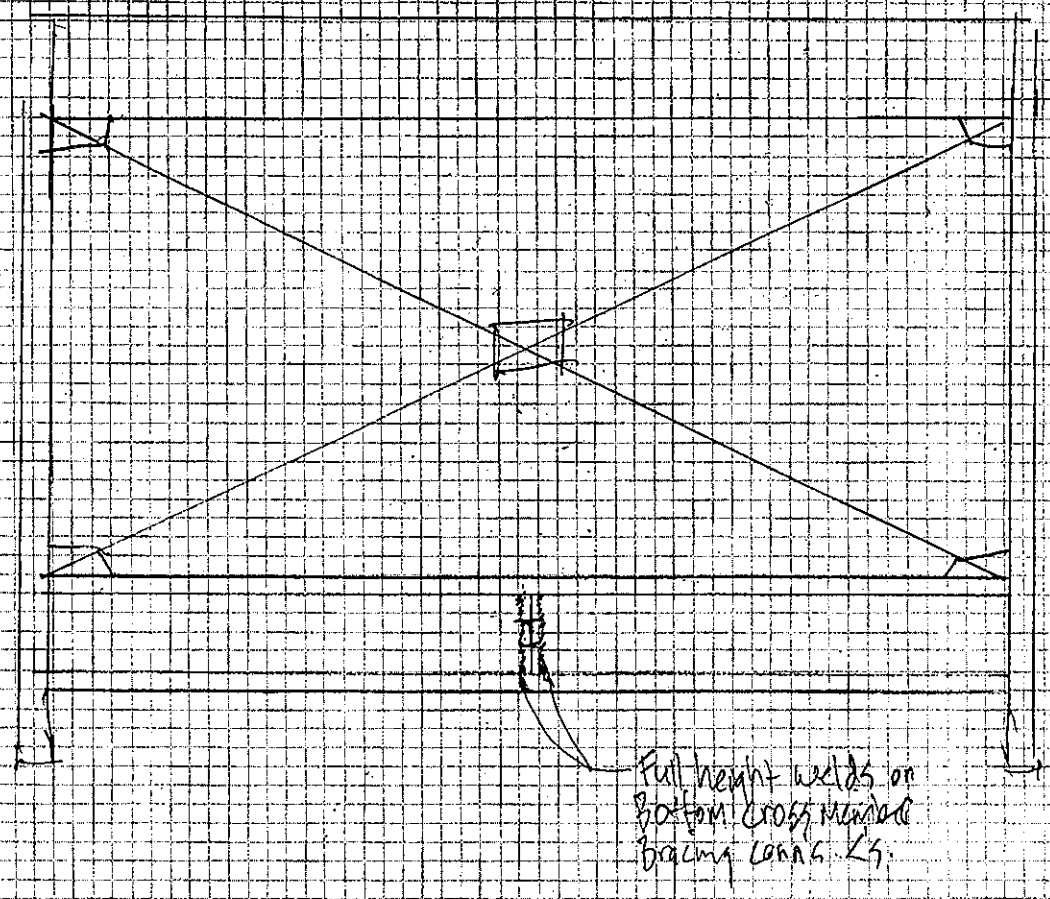
FIELD NOTES

	JOB NO. 1784	BRIDGE NO.
	DATE 8/29/94	SHEET 1 of 2
PREPARED BY: A.G. LICHTENSTEIN	CREW GG/RB	

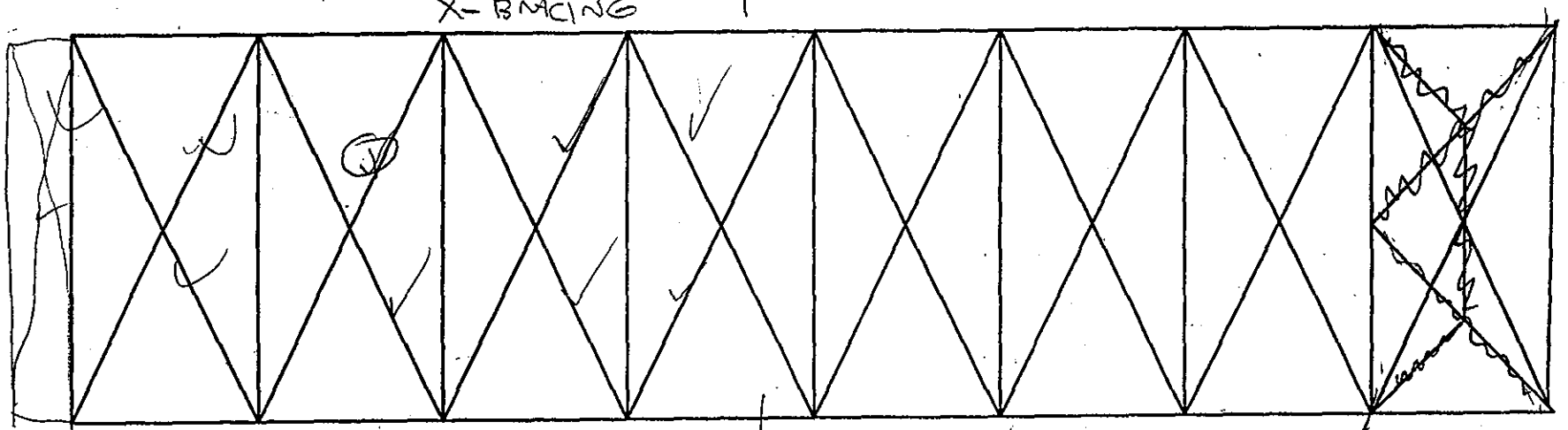


@ L0' South Face
(span 2)

TYPICAL:

DEEP PITTING ACROSS 50% OF WIDTH UP TO 3/16" DEEP FOR ALL X-BRACING

8/30/94 GG/BH



SEE SHEET 5 (8/29/94)

L5'-L9' HAVE VERT X-BRACING
L0'-L4' DO NOT. THE VERT X-BRACING IS IN GOOD COND'N.

NOTES: ① DENT IN TOP & BOTTOM L'S OF X-BRACING 1"
SEE PHOTO BT 12. DEFL. 1" DOWN FOR 1 FT.

SPAN 2
Bottom CHORD BRACING

TRUSS BRACING

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

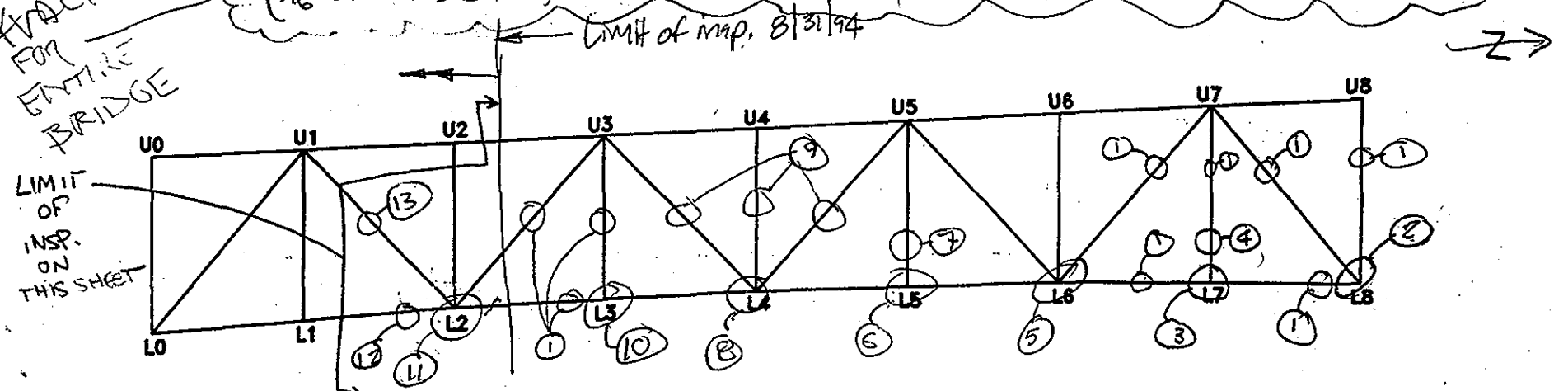
NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8/30/9
CREW: GABE/RB | SHEET 4 OF

GENERAL NOTES: • ALL HORIZ. PL'S OF BOTTOM CHD MEMBERS HAVE PITTING UP TO 3/16" OVER 50% OF SURFACE INCLUDING LACING

• (1/16" STANDARD @ ALL) PITTING ON INTERIOR FACE OF GUSSET PL'S ABOVE VERTICAL BRACING CONN. L'S

*VALID FOR ENTIRE BRIDGE



TYPICAL CONDITIONS

(A) LOSSES ON 1 FACE OF TRUSS MEMBER, 50% OF FACE HAS LOSS (1/8" STANDARD @ ALL LOCATIONS)

(B) LOSS ON VERTICAL GUSSET ALONG HEIGHT OF ~~VERTICAL~~ MEMBER (1/16" STANDARD @ ALL LOCATIONS)

(C) LOSS ON TRUSS MEMBER @ EDGE OF GUSSET PL (1/16" STANDARD @ ALL LOCATIONS)

(D) IMPACTED RUST BETW. COVER PL/GUSS. PL & TRUSS MEMBER (1/8" STANDARD @ ALL LOCATIONS) (Including Top Chord)

(E) LOSS ON GUSSET PL ALONG TOP OF BOTTOM CHD (1/16" STANDARD @ ALL LOCATIONS)

(10) 10% E&W FACE HAS 3/16" PITTING, (E) = 1/8" E&W, (B) = 1/8" SE

(11) BURT-OFF BOTTOM CHD HORIZ GUSSET: [ ], (C) 1/8" (DIAG L2-U1), (D) 1/4" @ L2-U1

(12) 1/8" DEEP PITTING FULL HT @ EDGE OF L2 GUSSET PL

(13) PITTING 3/16" OVER 75%

SPAN 4

E TRUSS E ELEVATION

NOTES: (1) WELDED L TO TRUSS MEMBER TO SUPPORT DRAIN PIPE [B2-18]

(2)-(A) 3/16" L8U7; L8U8 & L8L7, (D) 1/4" E&W OF L8U7, (Repair Batten PL's) welded Horiz. Guss PL, to face of panel Pt.

(3) (E) E=1/8" W=1/8"

(4) 1/4" DEEP PITTING, REFER TO SKETCH OF ELEV. & SECTION

(5) Cut away Bot Bracing gusset PL, similar to previously noted.

(6) (E) = 1/8" E (D) = 1/4"

(7) 3/16" PITTING ACROSS 50% SURFACE AREA

(8) CUT-OUT OF BOT. HORIZ. GUSSET [ ]

(9) 3/16" PITTING ACROSS 50% SURFACE AREA

TRUSS ELEVATION	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/94
CREW: GG/RB	SHEET 10 OF 15

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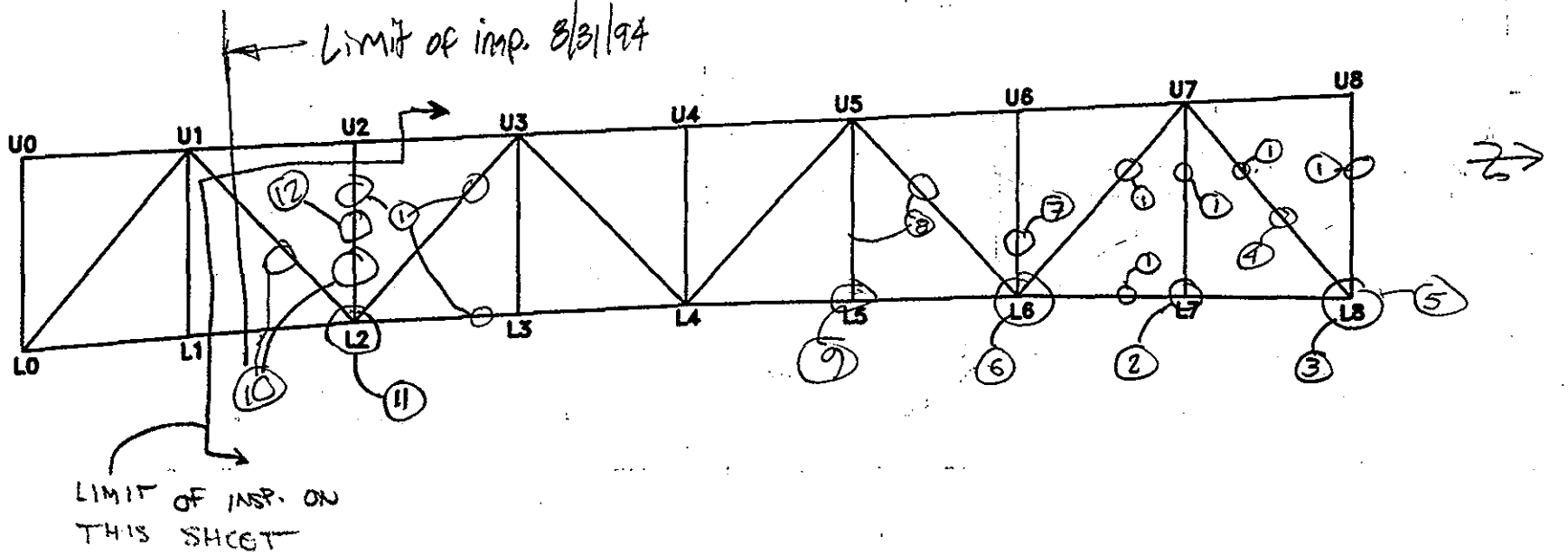
FOR GENERAL NOTES & TYPICAL CONDITIONS, SEE SPAN 4, E TRUSS, W ELEVATION
TOP CHORD: UP TO 1/8" (PL) BETW. OUTSIDE COVER PL'S/GUSS PL'S & TOP CHORD



(12) 3/16" PITTING ACROSS 50% OF SURFACE AREA

(11) BURNT-OFF BOTTOM CHD HORIZ. GUSSET :

(10) PITTING : 3/16" DEEP OVER 50% SURFACE AREA

SPAN 4

W TRUSS E ELEVATION

NOTES: (1) ANGLE WELDED TO MEMBER TO SUPPORT DRAIN PIPE
(2) - (E) - 1/8" E & W.
(3) - (B) 1/4" E & 3/8" W PL FULL WIDTH @ DIAGONAL CUT-AWAY HORIZ. GUSSET PL @ E. FACE & REPAIRED BATTEN PL'S;
(4) - 3/16" PITTING 50% OF SURFACE FOR E. FACE
(5) MISCELL. WELDS @ E. FACE GUSSET PL & W. FACE BATTEN COVER PL - [RIGGING WELDS]
(6) BOT. HORIZ. GUSSET BURNT OFF :
(7) 1/8" DEEP PITTING OVER 50% SURFACE AREA.
(8) 3/16" DEEP PITTING OVER 50% SURFACE AREA
(9) (B) = 1/8" NW, = 1/8" SE, (E) = 1/8" W

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/99
CREW: GG/RB	SHEET 11 OF 15

SPAN 4 TRUSS FRAMING

① Ⓔ = 3/16" E & W (BELOW CHANNEL) Ⓒ = 1/8" W, 1/4" PITTING OVER 10% OF SURF., VERTICAL GUSSETS E & W
SEE SKETCH.

② 3/16" DEEP PITTING OVER 75% OF SURFACE AREA, W. FACE OF W. CHANNEL, 1/16" ON E FACE, W. CHANNEL
SEE SKETCH.

③ 75% OF SURFACE AREA PITTED 3/16" DEEP

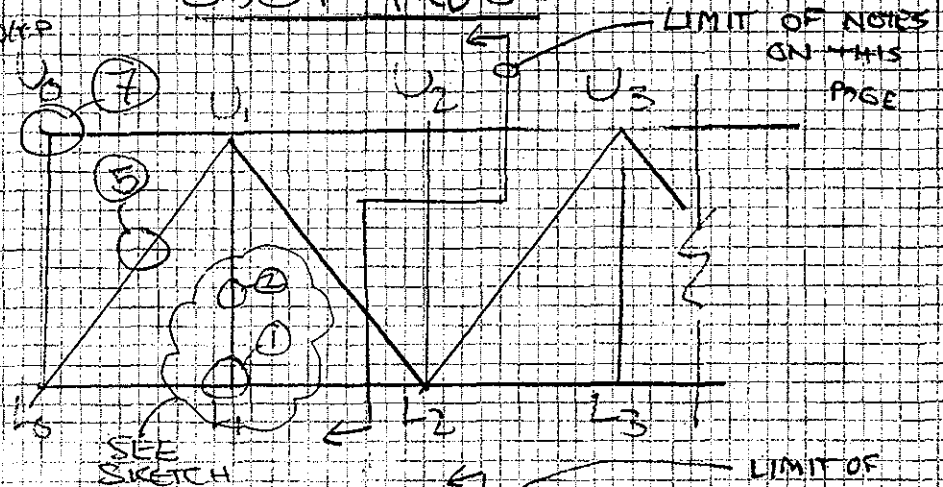
④ Ⓒ = 1/8" NW
Ⓔ = 1/8" E & W
3/16" PITTING BELOW VERT CHANNEL ON GUSSET PL. E & W
5% OF EAST FACE OF VERT. GUSSET HAS 3/16" DEEP PITTING

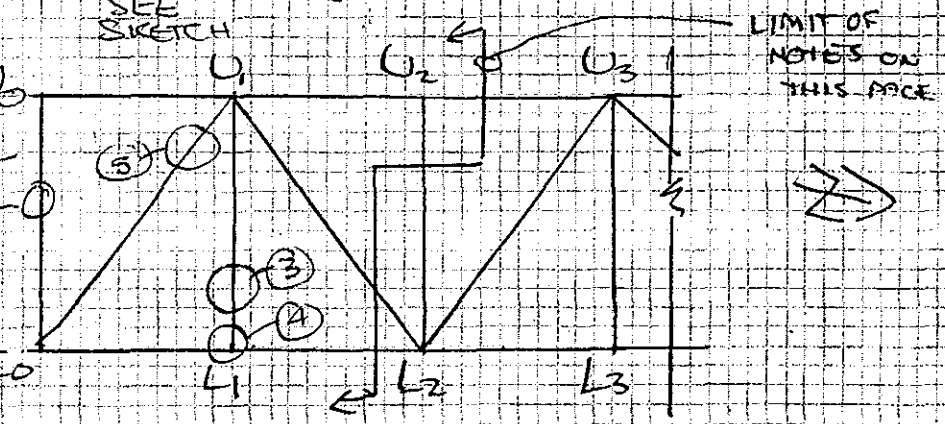
⑤ IMPACTED RUST, FULL LENGTH, 3/8" MAX E & W FACE

⑥ W. CHANNEL INTERIOR FACE 1/4" PITTING, 10" WIDE
E CHANNEL, EXTER. FACE 3/16" PITTING OVER 50% OF SURF. AREA.
1/8" = ⑥

⑦ 1/8" DEEP PITTING OVER 30% OF SURFACE AREA, WEST VERT. GUSSET

EAST TRUSS





WEST TRUSS

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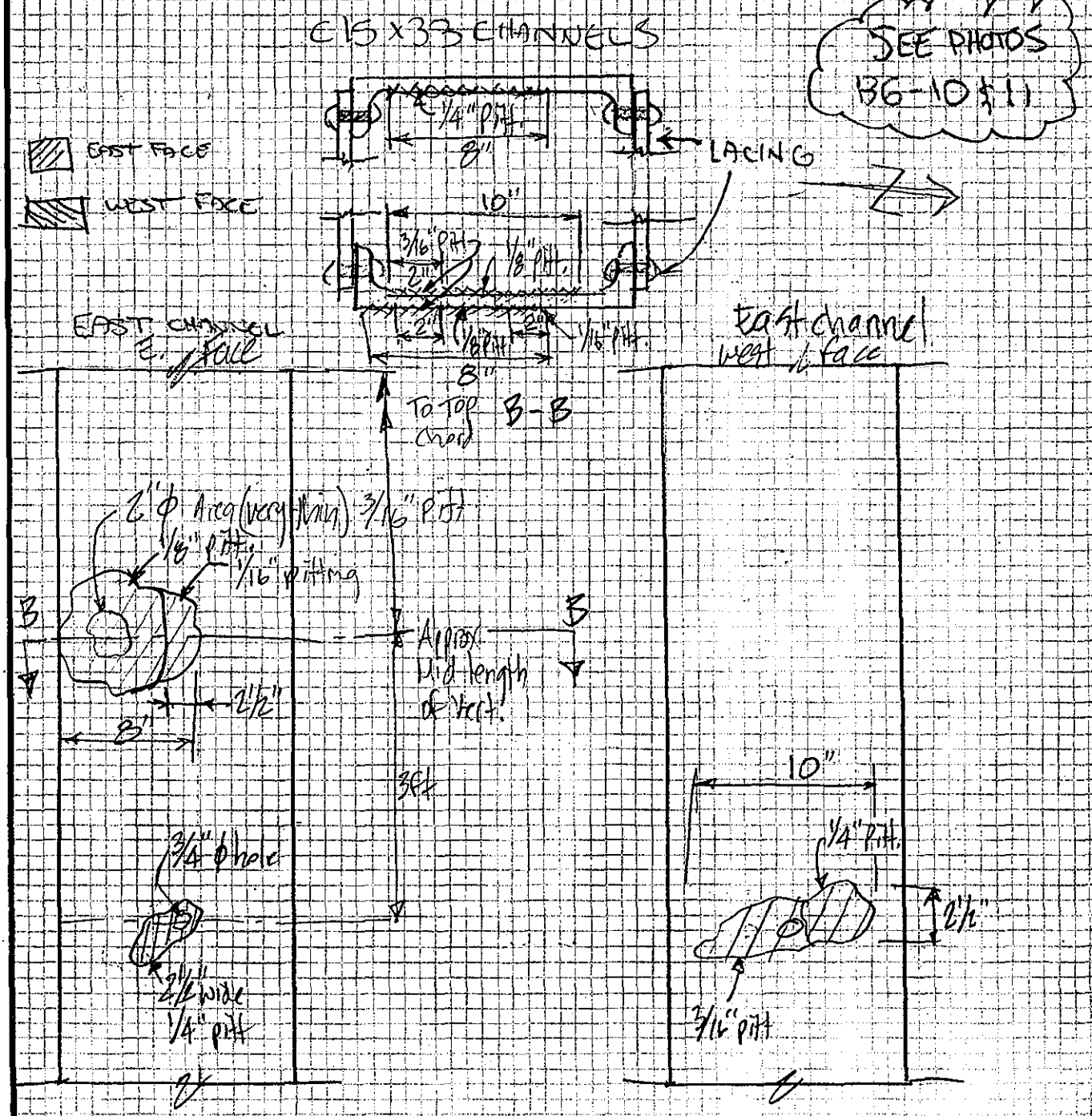
FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

JOB NO. 1184
DATE 9/1/94
CREW GG/RB
BRIDGE NO.
SHEET 1 of 9

FIELD NOTES	JOB NO. 1784	BRIDGE NO.
	DATE 9/11/94	SHEET 2 of 9
PREPARED BY: A.G. LICHTENSTEIN	CREW GG/RB	

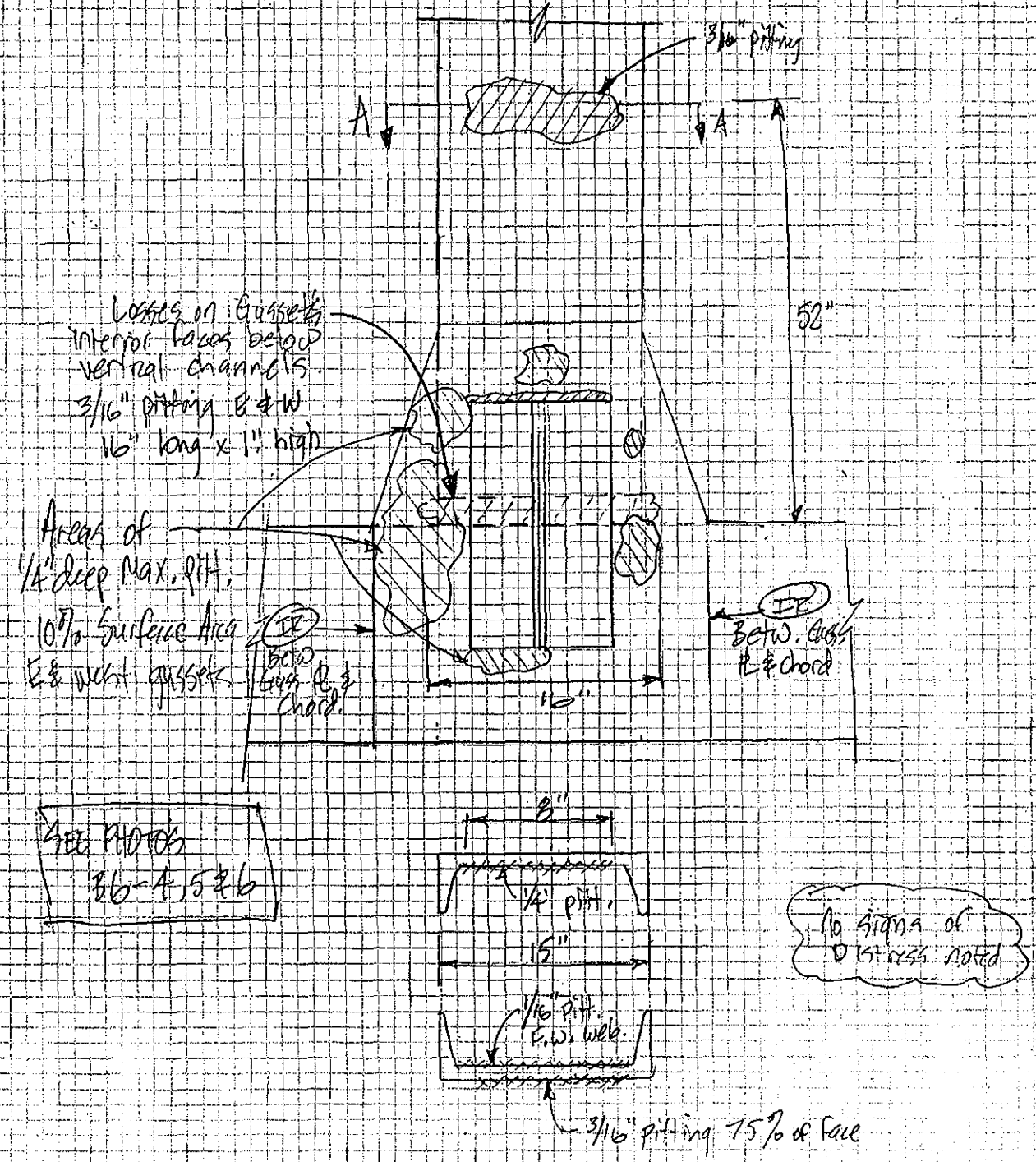
SPAN 4, WEST TRUSS, L1-U1



FIELD NOTES

JOB NO. 1784	BRIDGE NO.	
DATE 9/1/94	SHEET 3 of 9	
PREPARED BY: A.G. LICHTENSTEIN	CREW GABE / RB	

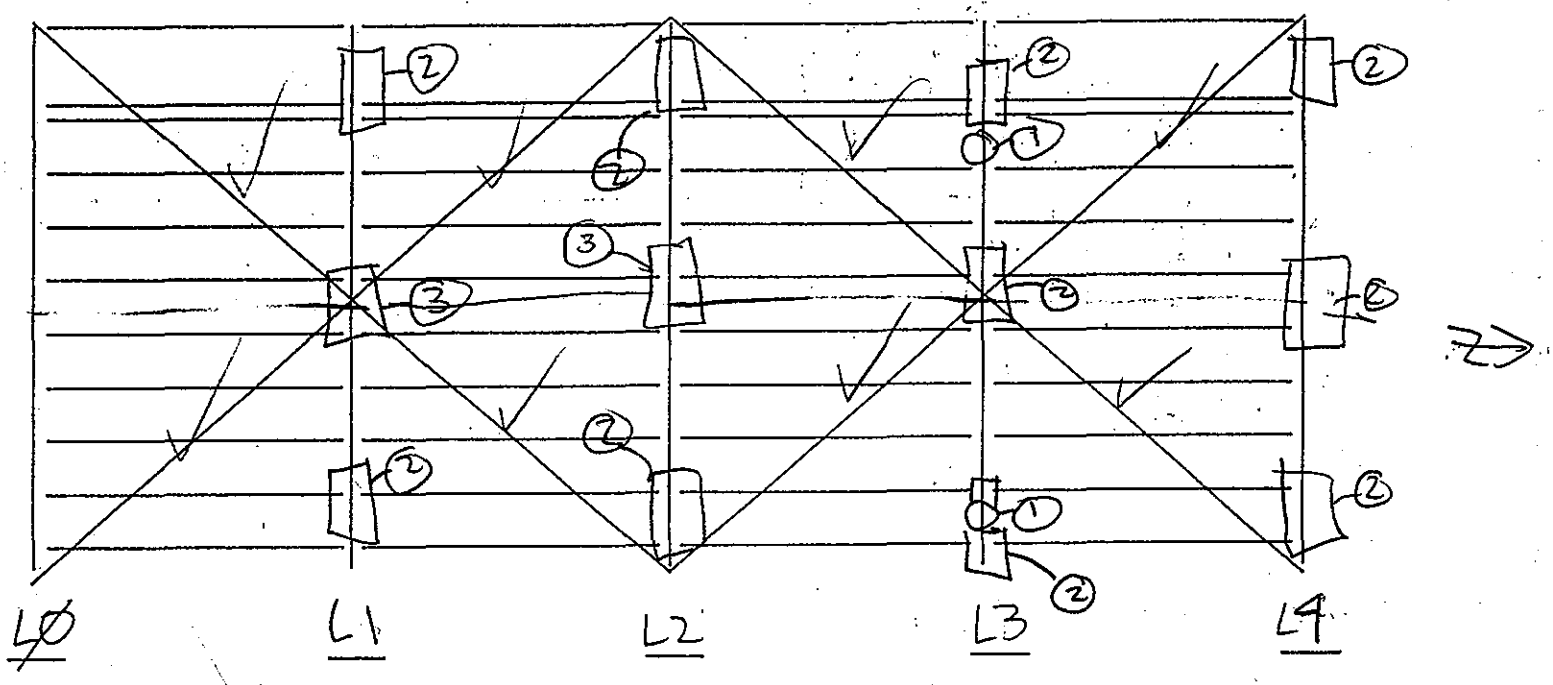
L1 East Truss, Span 4



BOTTOM CHORD BRACING (1/2)

GENERAL: • FOR ALL X-BRACING, HORIZ. PL'S & VERT. GUSSETS HAVE PITTING UP TO 1/4" DEEP OVER 50% OF SURFACE AREA

• FOR ALL X-BRACING GUSSETS, PITTING UP TO 3/16" DEEP OVER 5% OF SURFACE AREA



NOTES: ① WELDED CONN. OF ANGLE TO MEMBER TO SUPPORT DRAIN PIPE

② BOLTED PL TO BOTTOM L'S AS REPAIR

③ GUSSET BURNT-CUT

SPAN 4

LOWER CHORD TRUSS BRACING ~~FLOOR~~ SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8/31/94

CREW: GG/RB | SHEET 12 OF 15

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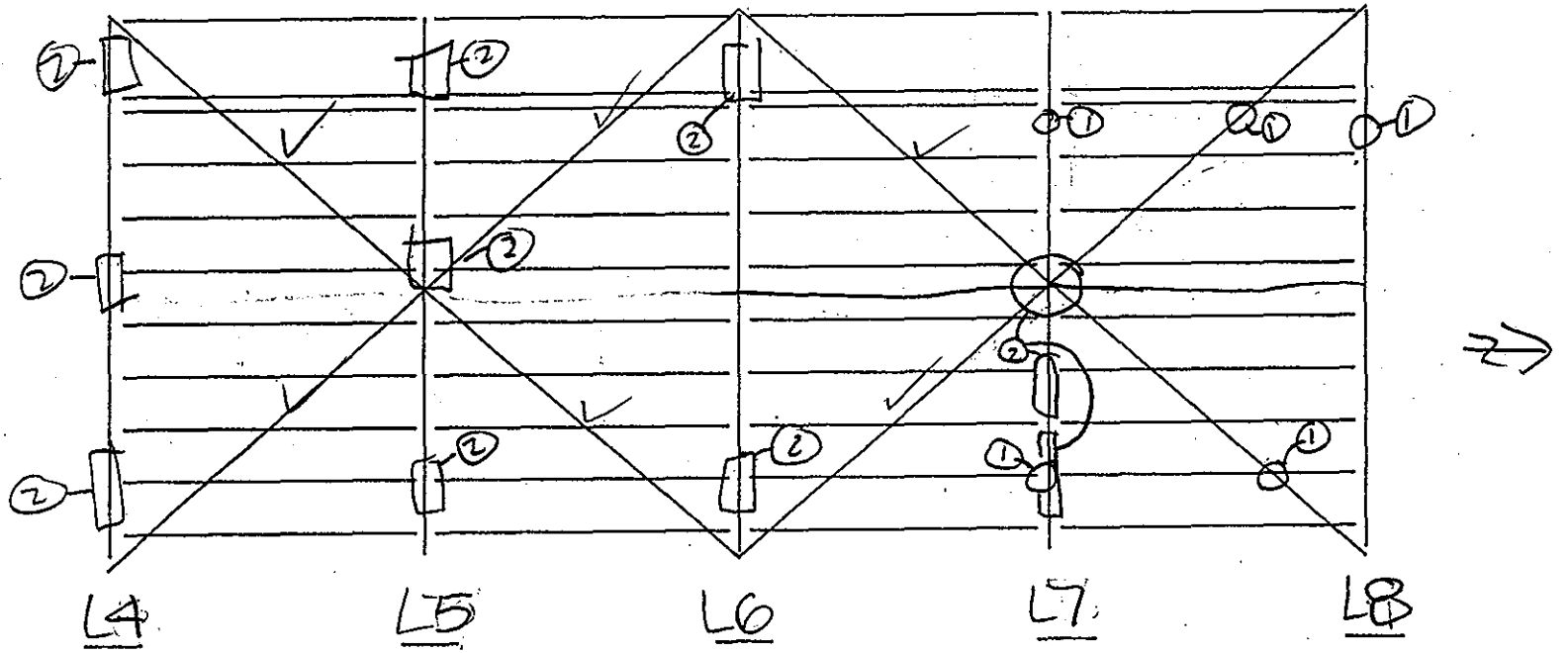
BOTTOM CHORD BRACING (2/2)

GEN. NOTES ON PREV. PAGE



SPAN 4

LOWER CHORD TRUSS BRACING
~~FLOOR SYSTEM~~

NOTES:
① ANGLE WELDED TO MEMBER TO SUPPORT DRAIN PIPE
② BOLTED REPAIR PL TO LOWER L'S

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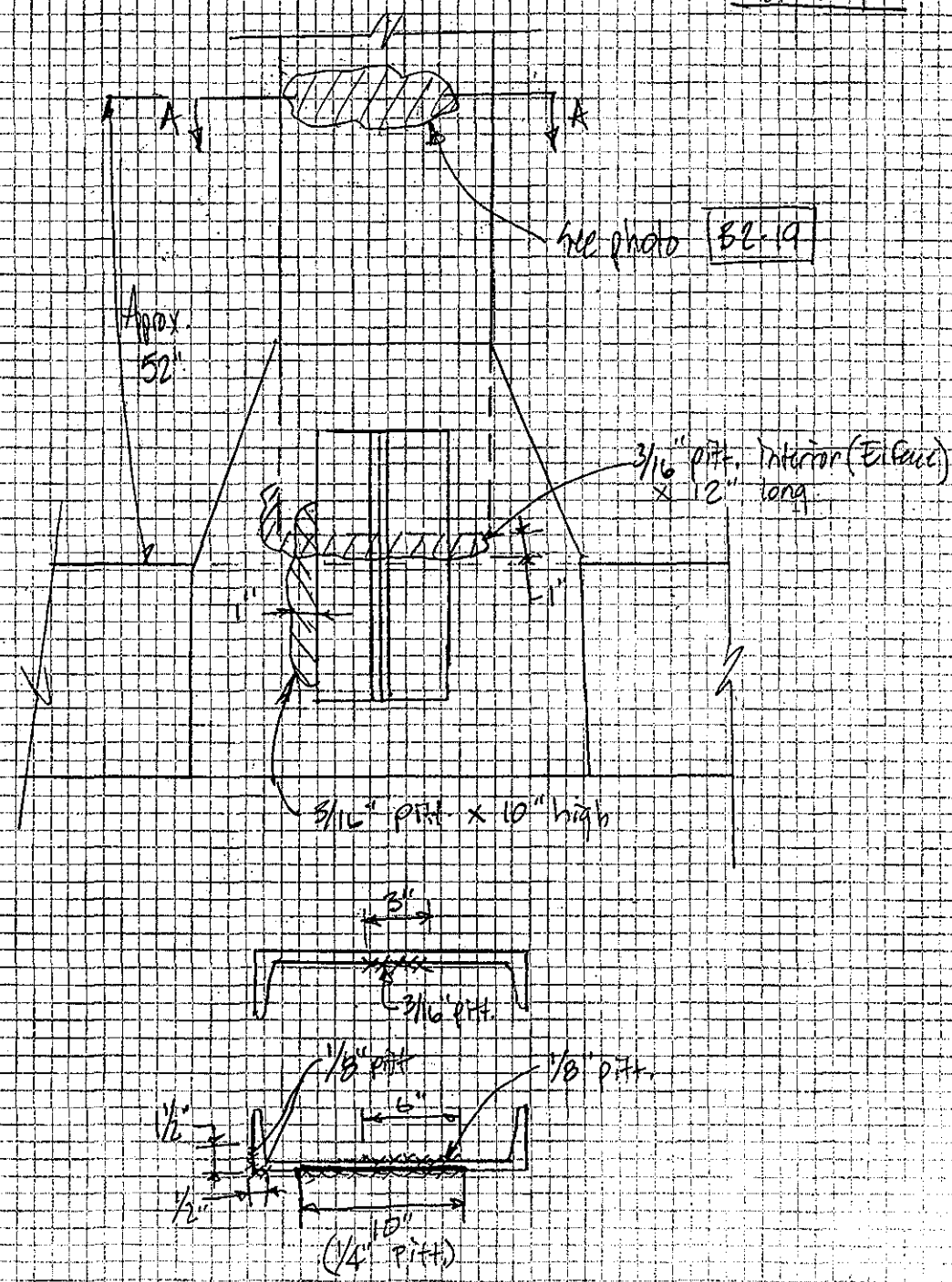
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8/31/94
CREW: GG/RB | SHEET 13 OF 15

FIELD NOTES	JOB NO. 1784	BRIDGE NO.
	DATE 8/31/94	SHEET 7 of 15
PREPARED BY: A.G. LICHTENSTEIN	CREW GABE / RB	

Losses @ L7L7 Ertruss
Span 4



Typical Cond.

(A) – Losses on 1 face of truss member, 50% of face has loss (1/8" standard all locations)

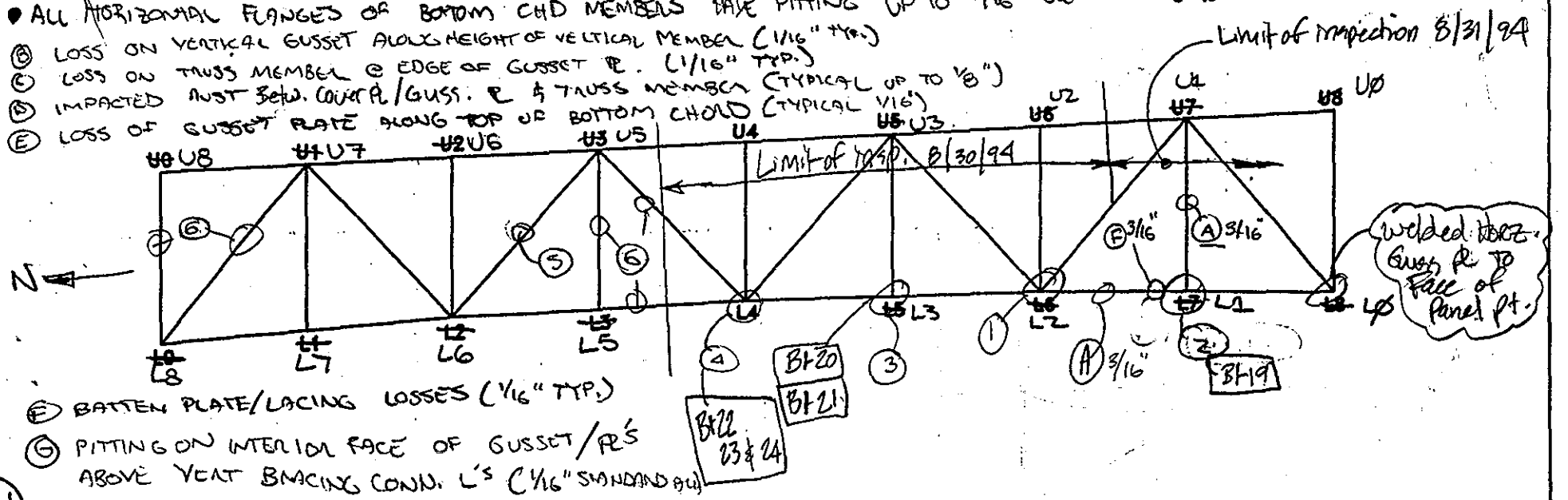
• ALL HORIZONTAL FLANGES OF BOTTOM CHD MEMBERS HAVE PITTING UP TO 3/16" DEEP OVER 50% SURFACE

(B) LOSS ON VERTICAL GUSSET ALONG HEIGHT OF VERTICAL MEMBER (1/16" TYP.)

(C) LOSS ON TRUSS MEMBER @ EDGE OF GUSSET PL. (1/16" TYP.)

(D) IMPACTED RUST BETW. COVER PL/GUSS. PL & TRUSS MEMBER (TYPICAL UP TO 1/8")

(E) LOSS OF GUSSET PLATE ALONG TOP OF BOTTOM CHORD (TYPICAL 1/16")



(F) BATTEN PLATE/LACING LOSSES (1/16" TYP.)

(G) PITTING ON INTERIOR FACE OF GUSSET/PL'S ABOVE VERT BRACING CONN. L'S (1/16" STANDARD ALL)

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(1) – Bottom gusset PL @ E. Truss is Deteri. w/ Approx. 50% thickness remain of original plate, Diagonal sides of Plate have been cut off leaving a PL in a "T" shape. , cut edges are very rough, 10% of outer conn. PL on west face has pitting of up to 1/4".

– U_6-L_6 has 3/16" pitt. for 75% of West face.

– Bottom side of Bottom chord PL's has 3/16" loss f.W., E,W,N &S at end of side gussets.

SPAN 6

E TRUSS W ELEVATION

(6) WELDED L FOR DRAW SUPPT

NOTES: (2) (E) = 3/16" ~~EAST~~, 1/8" WEST; (C) = 1/8" E & W; (D); (B) = 1/8" SE

(3) (B) = 1/8" S.E.; (C) (D) (E) = 1/8" *SEE SKETCH OF HOLE IN VERT. GUSSET

– 1/4" pitting over 25% of West surface area of Vert. Guss. PL

(4) LOWER HORIZ. GUSSET SIMILAR CONDN AS NOTE *(1) w/ HOLES IN LOWER PL COVERED BY WELDED PL ABOVE WELDED TO BOT. FL. OF BOT. CHD. SEE PHOTO BH-22 & 23 SKETCH OF DETAIL. West face of the 2 outermost conn/gusset PL's have 1/4" pitting of 25% of surface below Bracing Top horz. Guss. PL. BH-24

(5) 75% OF SURFACE AREA PITTED 3/16"

TRUSS ELEVATION	
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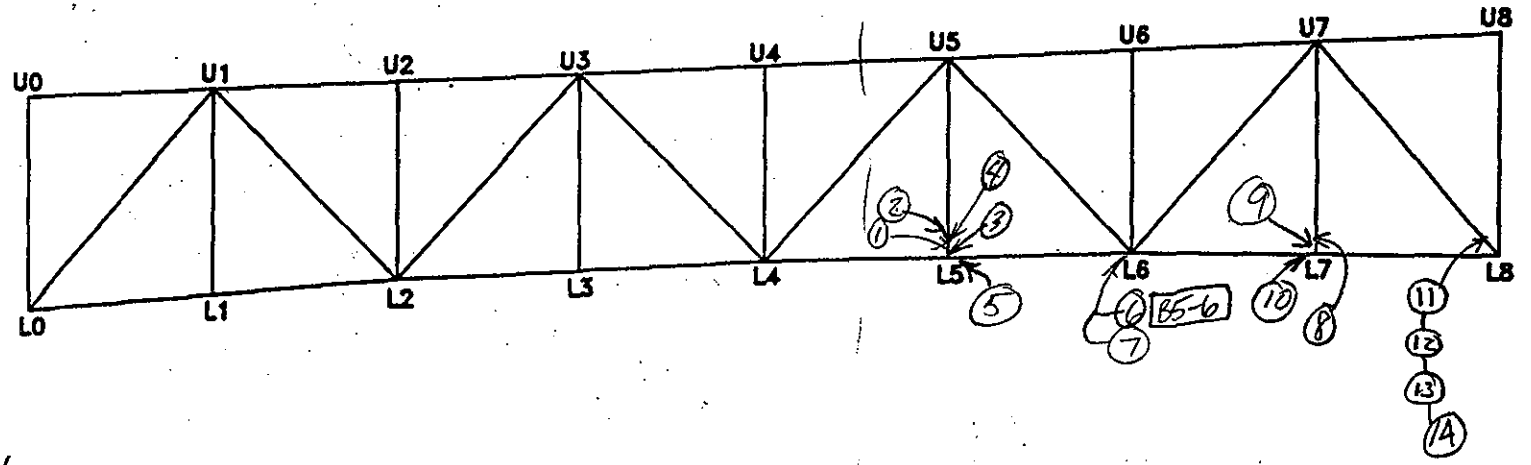
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/30/94
CREW: GADE/RB	SHEET 2 OF 15



Typ. Notes:
Sway bracing typ. has 1/8" pit. up to 40% of width on top face.

(9) 3/16" pit. x 1' wide on Interior of E & W Gus PL along bot. of vert. channels
(10) 1/8" pit. x full width on Interior of E & W Gus PL along top of bot. chord
(11) WELDED ∠ TO INTERIOR OF W. GUSSET PL B5-7
(12) 3/16 PITTING x 6" LONG ON INT. OF E & W GUSSET PL ALONG U7L8
(13) UP TO 1/8" PITTING ON INT. E & W GUSSET PL ALONG PIN PL (≈ 1' LONG)
(14) UP TO 3/16" PITTING ON INT E & W GUSSET PLATE, 6" LONG, ALONG TOP OF BOTTOM CHORD

NOTES:
(1) 1/4" (IR) btwn. W. Guss PL & vert. full height
(2) 1/8" pit. on int. of E & W Gus. PL x 11" high along vertical
(3) 1/8" pit. on int. of E. Gus. PL full width along top of bot. chord
(4) 3" ϕ x 1/4" pit. @ bot. of E vertical channel, int. on channel web
(5) 42" long x 5" wide x 1/2" thick repair plate bolted on top of N & S bot. PL ∡ on horiz. bracing
(6) Same as (5) also w/ welded repair PL on top of top S. PL ∡ and bolted repair PL on bot. of top N PL ∡ B5-6
(7) 1" x 1/4" hole in top S. PL ∡ of horiz. bracing 1/2" from S. edge B5-6
(8) 1/8" pit. x 1' wide on ext. of W. Gus PL along top of lateral bracing conn. ∡'s

SPAN 6
E TRUSS E ELEVATION

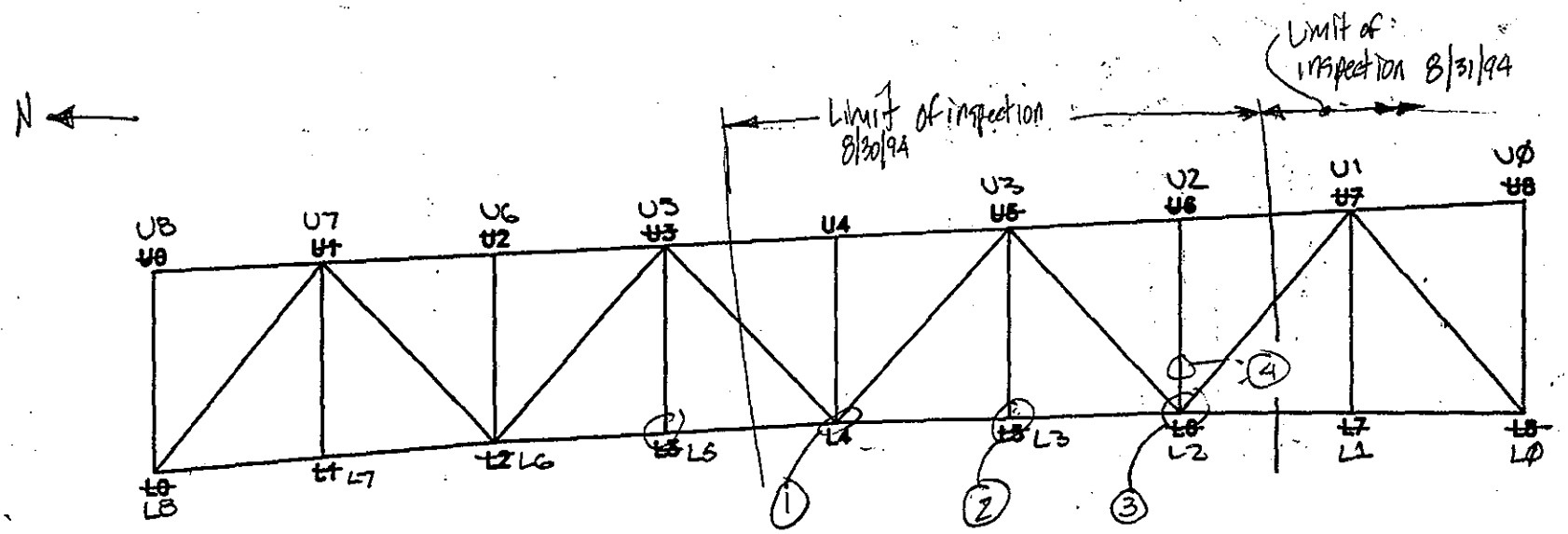
TRUSS ELEVATION

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 8/31/94
CREW: PWN, BH, WM	SHEET 17 OF 18



(1) - Similar Bottom Gusset cut away condition, see E. truss for notes, East face outer 2 gussets/conn. pl's have 20% of Area below the upper Bracing gusset PL with 1/8" pitting

SPAN 6

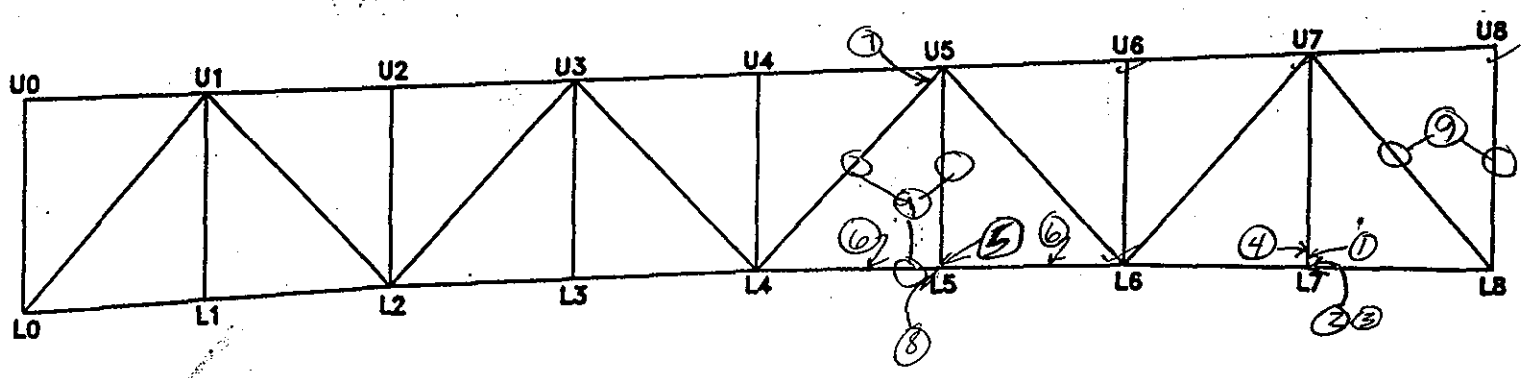
W TRUSS W ELEVATION

NOTES: (2) 1/4" DEEP PITTING 10% SURF. AREA, OF E. VERT GUSSET PL. (E) + (B) ON WEST = 1/8"

(3) SIMILAR BURNT-OFF DETERIORATED BOTTOM GUSSET AS NOTE (1) REPAIR DETAIL OF PLATE WELDED TO BOTTOM FL'S OF BOTTOM CHD CHANNELS SIMILAR TO EAST TRUSS, NOTE (3), SPAN 6

(4) 75% OF EAST FACE SURF. AREA HAS 3/16" DEEP PITTING

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8.30.94
CREW: GABE / RB	SHEET 1 OF 15



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⑨ WELDED L'S @ DRAINAGE PIPE SUPPT CONNS.

SPAN 6

W TRUSS E ELEVATION

NOTES:

① 3/16" pit. x 7" wide on int. of W. Gus. PL along bot. of vert.
② 3/16" pit. x 1' wide on int. W. Gus. PL along top of bot. chord
③ Same as ②, on E. Gus 6" wide
④ Up to 3/16" pit. x 1' wide on ext. E. Gus PL along horiz. later bracing conn. ×'s
⑤ Same location as ② w/ 1/8" pit. x 15" on int. of W. Gus. PL, 1/8" pit. x 10" on int. of E. Gus
⑥ Up to 1/4" ~~PL~~ top. btwn. E. bot. chord channel & channel cov. PL
⑦ 1/8" pit. x 3" on ext. face of E. Channel along E. Gus. PL
⑧ Bolted repair PL on top of W & S bot. PL ×'s of horiz. bracing

TRUSS ELEVATION

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

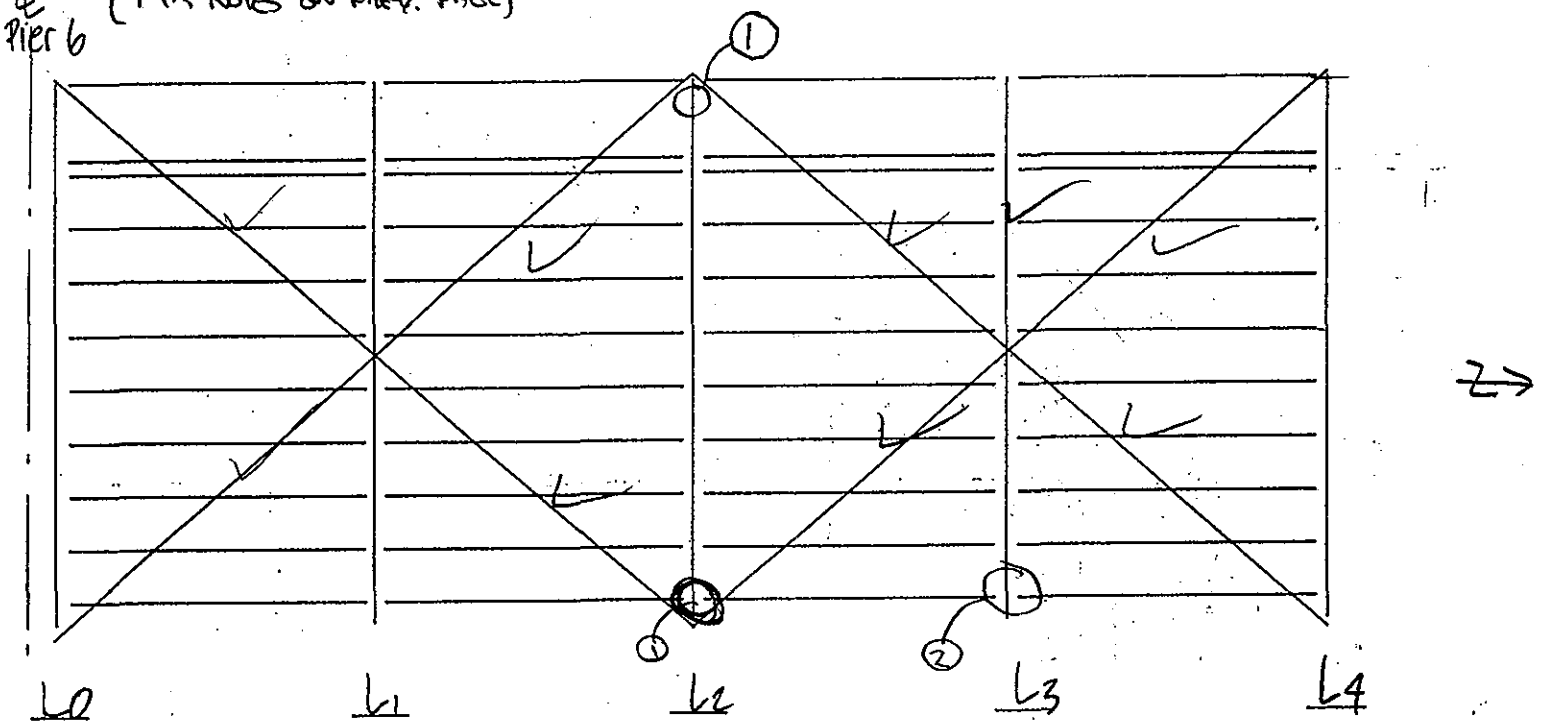
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8/31/94
CREW: DH, RON, WM | SHEET 16 OF 18

SPAN 6 BOTTOM CHORD BRACING

℄ Pier 6 (TYP. NOTES ON PREV. PAGE)



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NOTES: ① REPAIR LOCATION; ½" bolted PL ADDED TO BOTT. FL. OF BRACING

② TOP HORIZ. FL. HAS TYP. 50%, 3/16" DEEP BUT BOTTOM HAS 3/16" DEEP FULL WIDTH

SPAN 6

BOTTOM CHORD BRACING
~~FLOOR SYSTEM~~

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

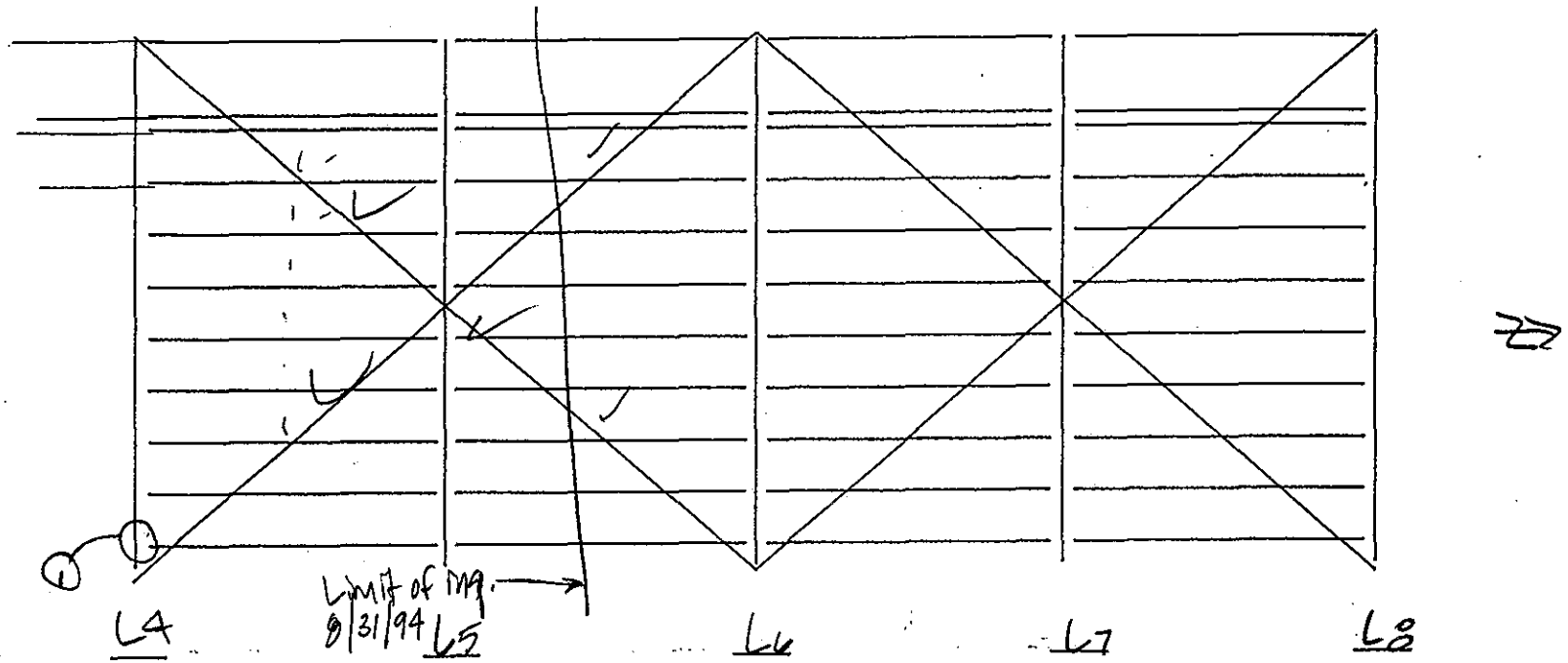
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8/31/94

CREW: GG/RB | SHEET 5 OF 15

SPAN 6 BOTTOM CHORD BRACING



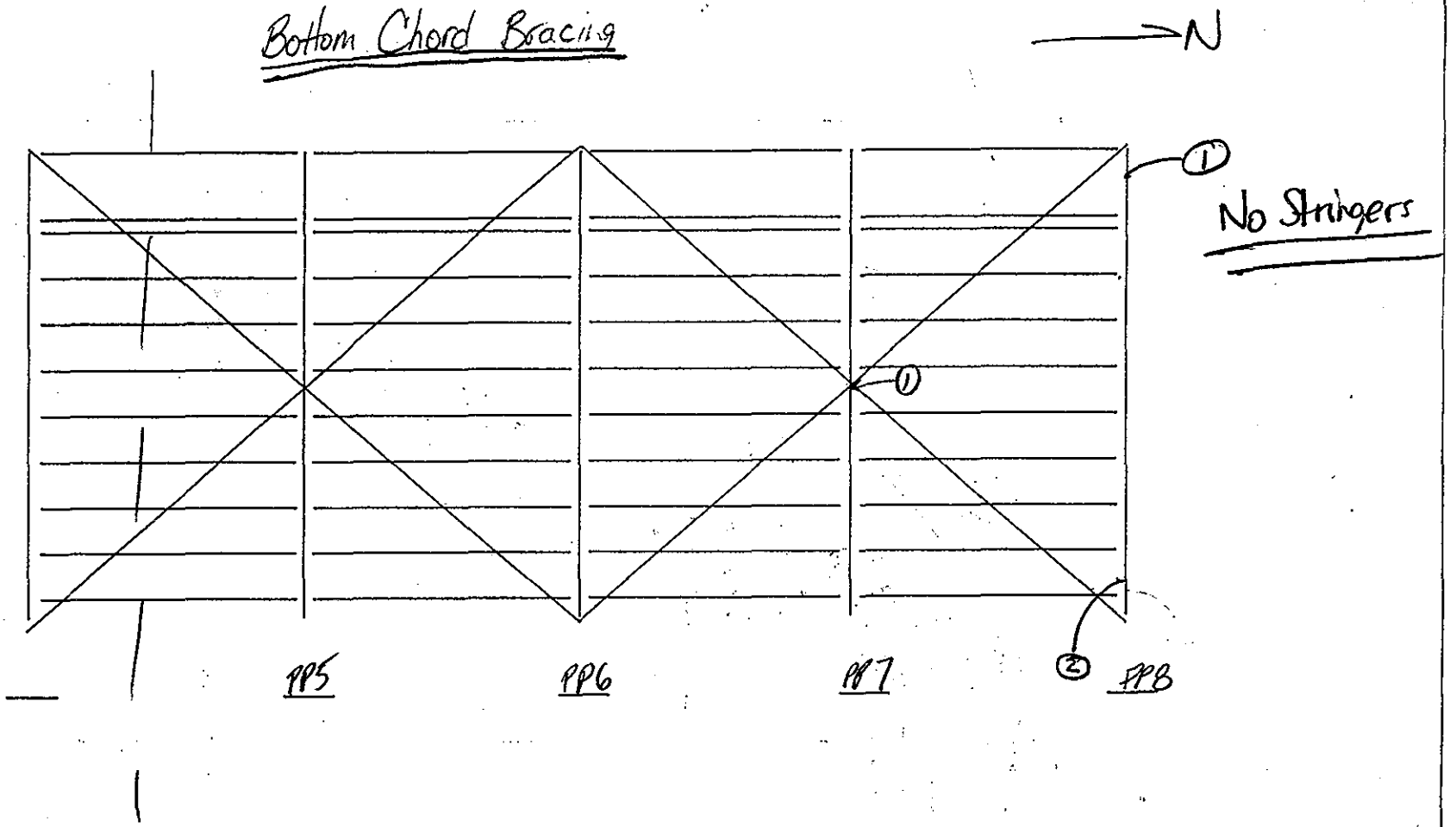
GENERAL NOTE:
- FOR ALL MEMBERS OF BOTTOM CHORD X-BRACING, HORIZ. FLANGES HAVE PITTING UP TO 1/4" DEEP 50% OF SURFACE AREA
- FOR ALL X-BRACING GUSSETS, PITTING UP TO 3/16" OVER 5% SURFACE AREA

SPAN 6

NOTES: (1) REPAIR IS SIMILAR TO REPAIR @ L5, SPAN 6. ALSO LOSS TO VERT. L'S UPTO

BOTTOM CHORD BRACING ~~FLOOR SYSTEM~~	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/94
CREW: GG/RB	SHEET 6 OF 15

Bottom Chord Bracing



SPAN 6

NOTES:

1. Bolted Repair R/N. bot. FE ∡ of horiz. bracing (TOP OF)
2. SAME AS 1 BUT N & S. FE ∡

FLOOR SYSTEM	
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BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/94
CREW: BH, PWN, WM	SHEET 18 OF 18

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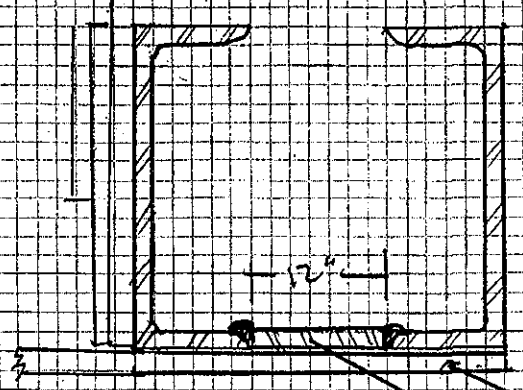
FIELD NOTES

	JOB NO.	BRIDGE NO.
	DATE 8/30/94	SHEET 7 of 7
PREPARED BY: A.G. LICHTENSTEIN	CREW 66/R3	

DETAIL OF REPAIR TO BOTTOM CHORD GUSSET PL, L4, E. TRUSS, SPAN 6

(SECTION near ℄ of panel pt.)

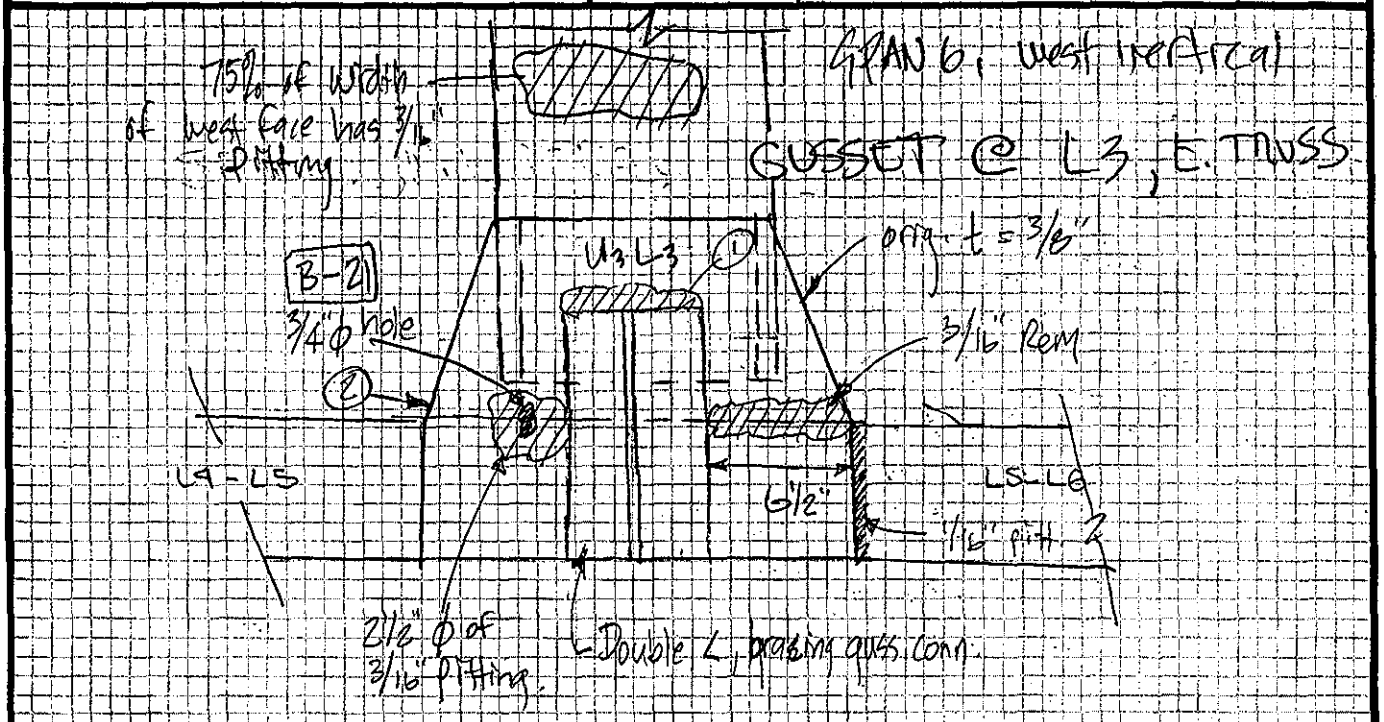


B1-21

SEVERELY DETER. GUSSET (Flame cut on sides)

NEW PLATE WELDED TO BOTTOM CHORD (4'-0" Long PL)

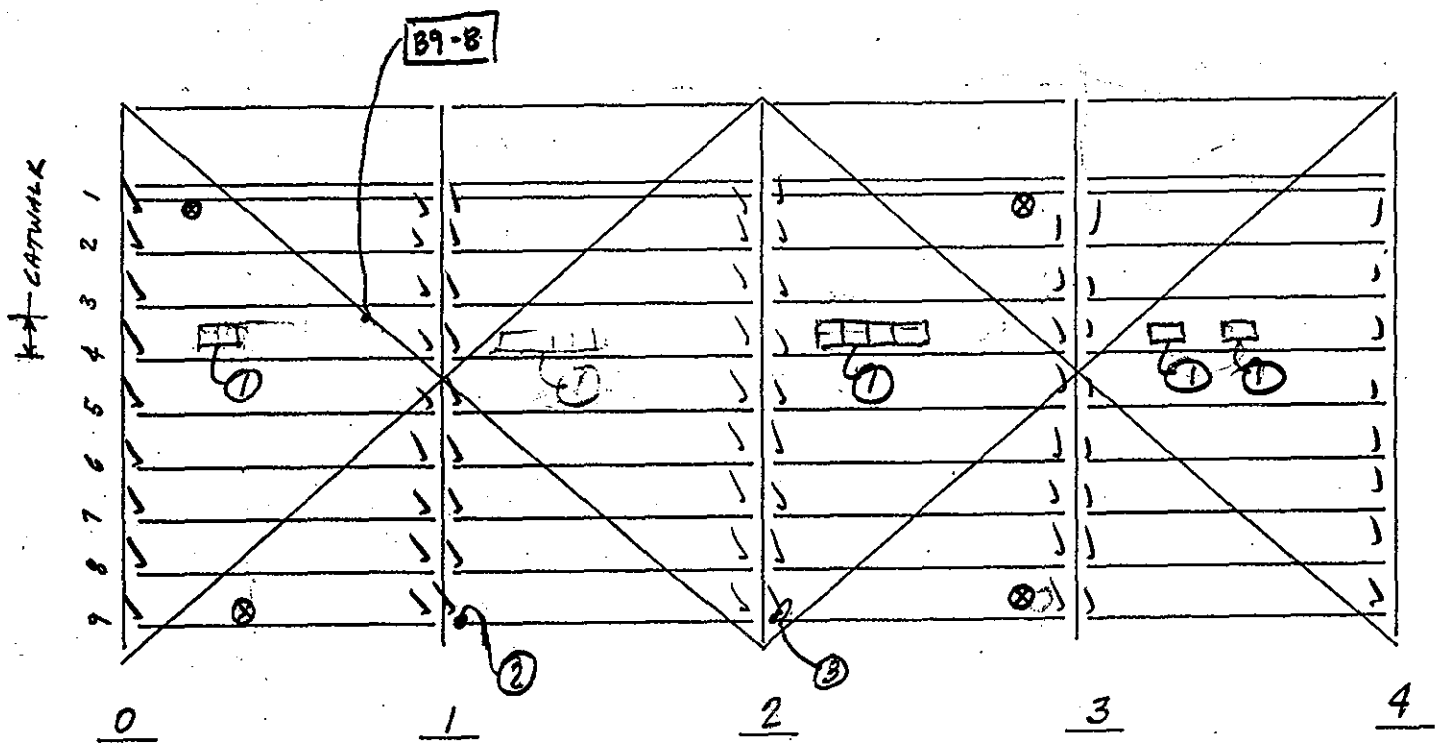
FIELD NOTES	JOB NO. 1184	BRIDGE NO.
	DATE 8/30/94	SHEET 6 of 7
PREPARED BY: A.G. LICHTENSTEIN	CREW Gabe / RB	



① – 3/16" pitting, 1 1/2" High x 6" long

② – Interior of west vert. Gusset has 1/8" pitting (at areas where Remains is not noted)

FLOOR SYSTEM



⊗ Downspout
✓ connection OK

SPAN 7

NOTES:

① loose grating panels
② up to 1/4" pitting 8" wide 1/2" high starting 3" from stiff. Str. 9
③ up to 3/16" pitting 9" " " " " @ end of stringer Str #9

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: BH, PWN, TS	SHEET 2 OF 11

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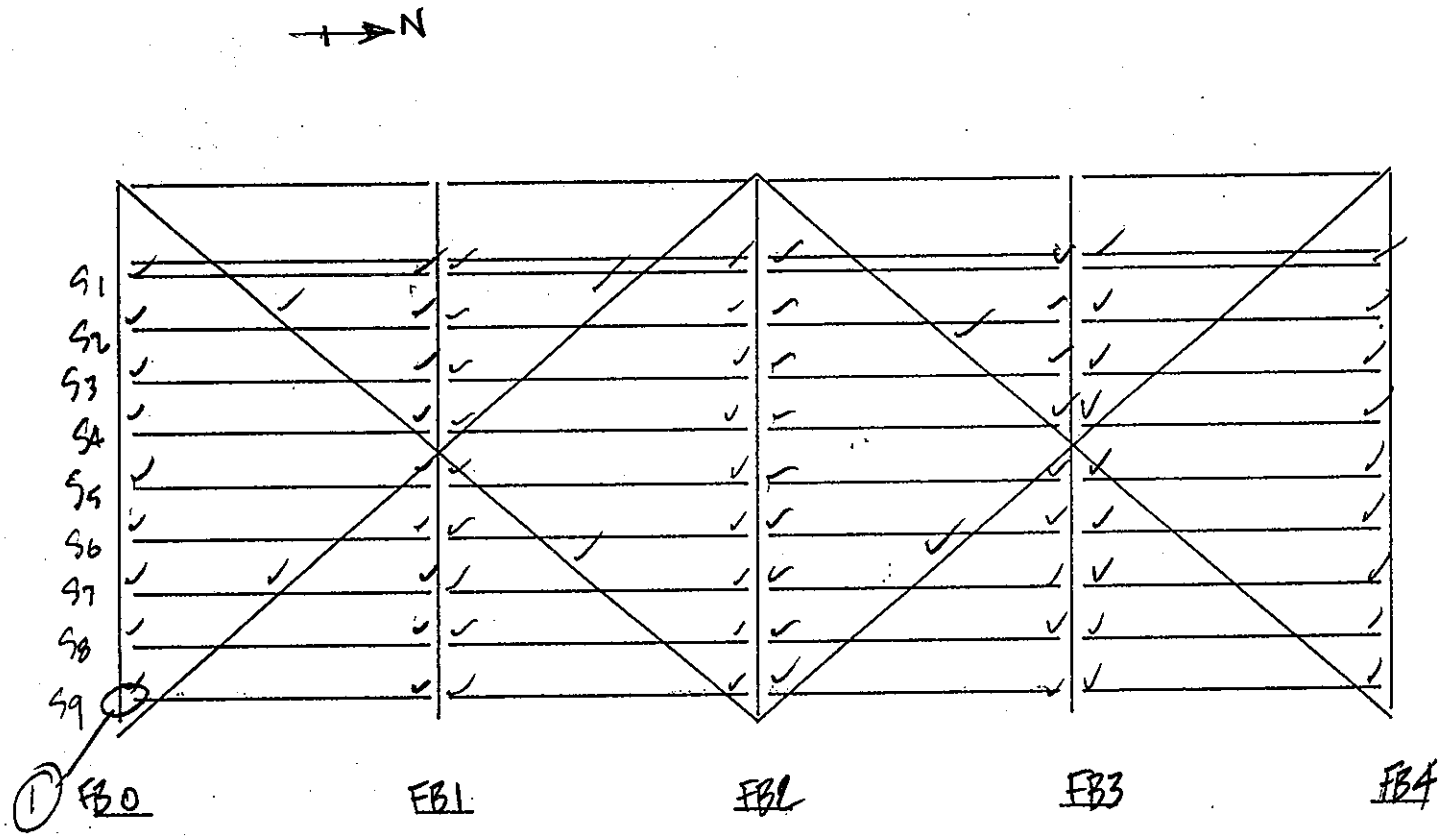

SPAN 7

NOTES: 1 - End of S9 @ end of FE Cope (@ FEBM conn.) have pitting F. Height of web, 1/16" Typ. Top of Bot. FE's have 1/8" pitt. F. width.

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/10/94
CREW: GG / RB	SHEET 3 OF 11

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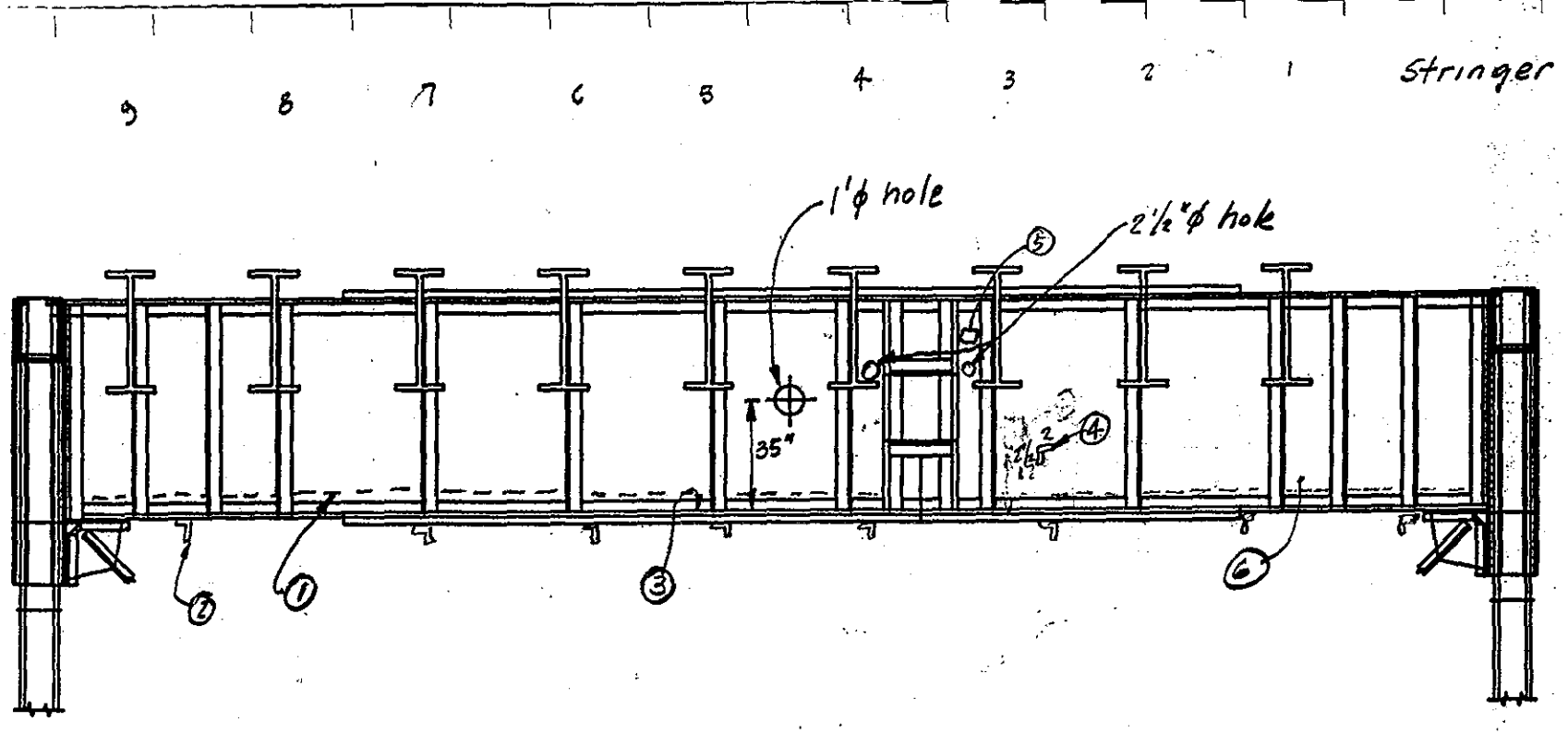

SPAN 7
FLOORBEAM O N ELEV.

NOTES:

1. Welded trough flame cut off } Trough has been removed
2. Trough support angles welded flame cut }
3. 4' east of midspan, 1/8" pitting 4" wide top of South btm. flange
4. welded catwalk rail
5. welded repair plate ≈ 6"x3"
6. up to 3/16" pitting 8" high, 8' east of vertical on south side

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: BH, PWN, TS	SHEET 1 OF 11

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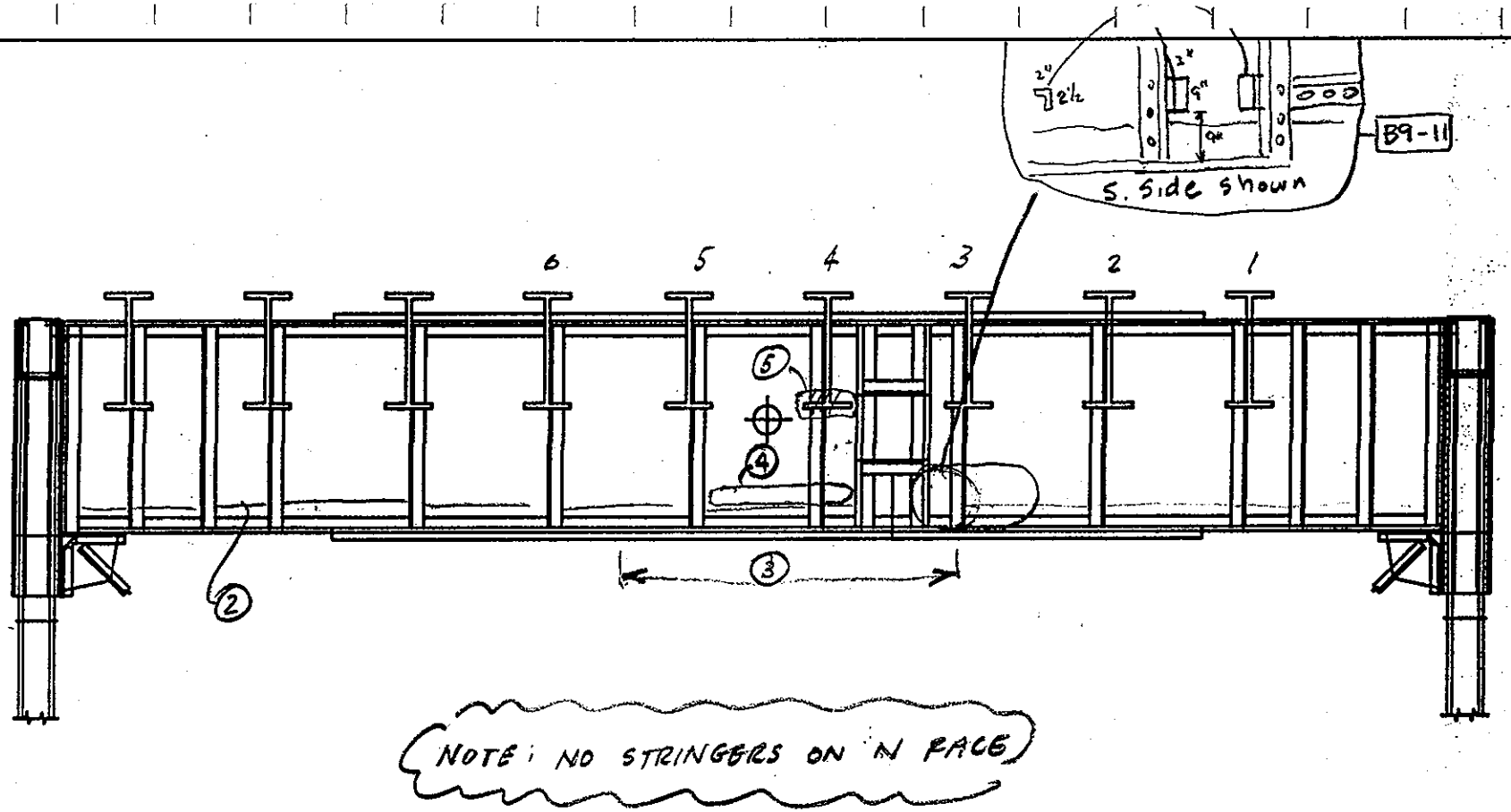

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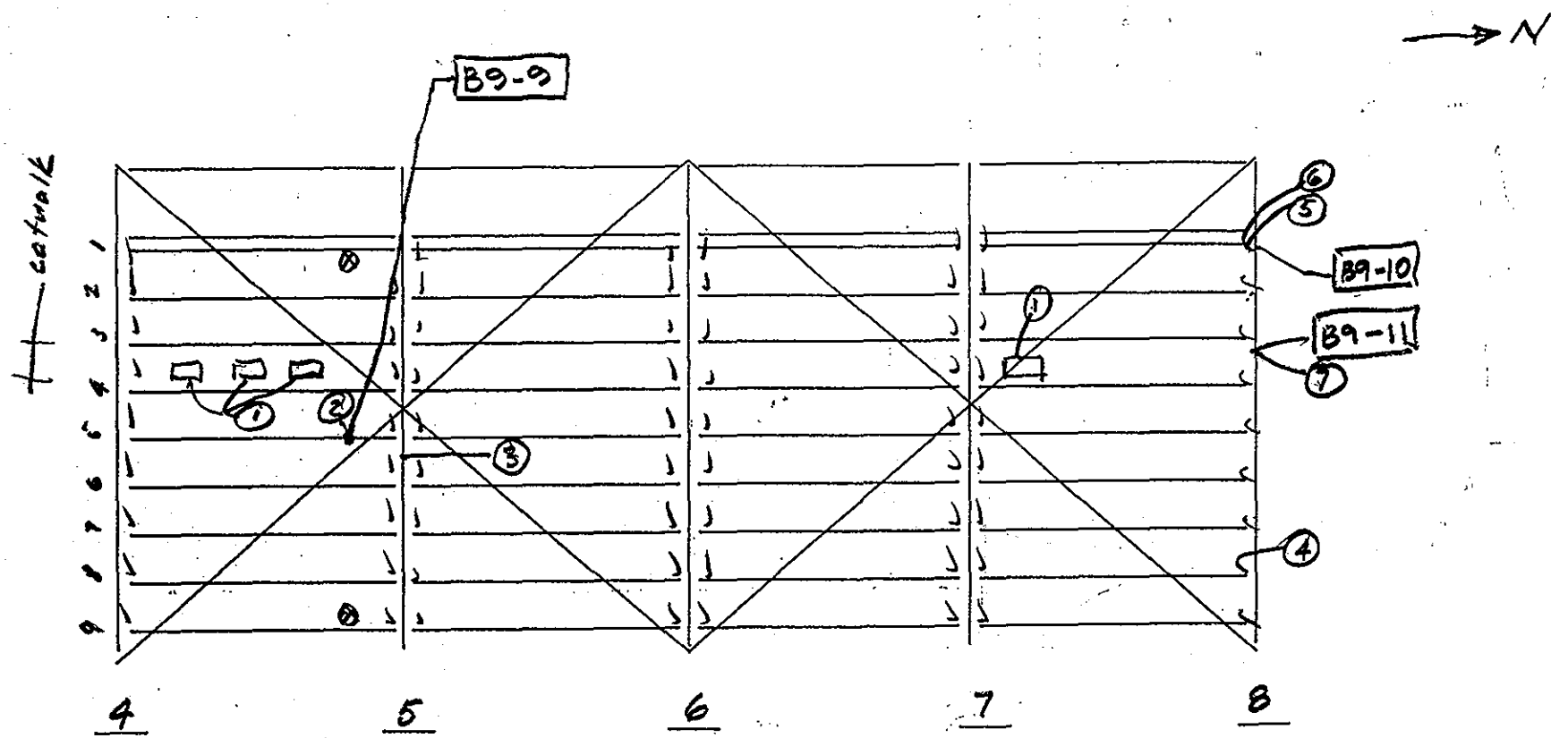
SPAN 7
FLOORBEAM 8 N ELEV.

NOTES:

1. welded ladder connections
2. welded trough removed by flame cutting
3. # 3 rust from Stringer 3 to btw 5 & 6 on top of btm cover pl. N. Face
4. up to 1/16" pitting 6" high on N. web from edge of catwalk to Stringer 5
5. up to 1/4" pitting 5" high from conc. header down @ Str. 4 N. Face

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9-2-94
CREW: BH, PVN, TS	SHEET 4 OF 11



⊗ downspout
✓ connection OK

SPAN 7

NOTES:

1. loose grating panels
2. Str. 5 3' from Fb # 5 btm flg bent up 1/2" for 1' — 1" — W. Face
3. 1/4" imp rust btw btm cover plate & btm flange 6" long btw Str. 5 & 6 N. Face
4. abrasion dust
5. #2 rust btm flg S side under str. 1
6. #1 rust btm flange W side Stringer 1
7. welded ladder attachment

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: BH, PWN, TS	SHEET 3 OF 4

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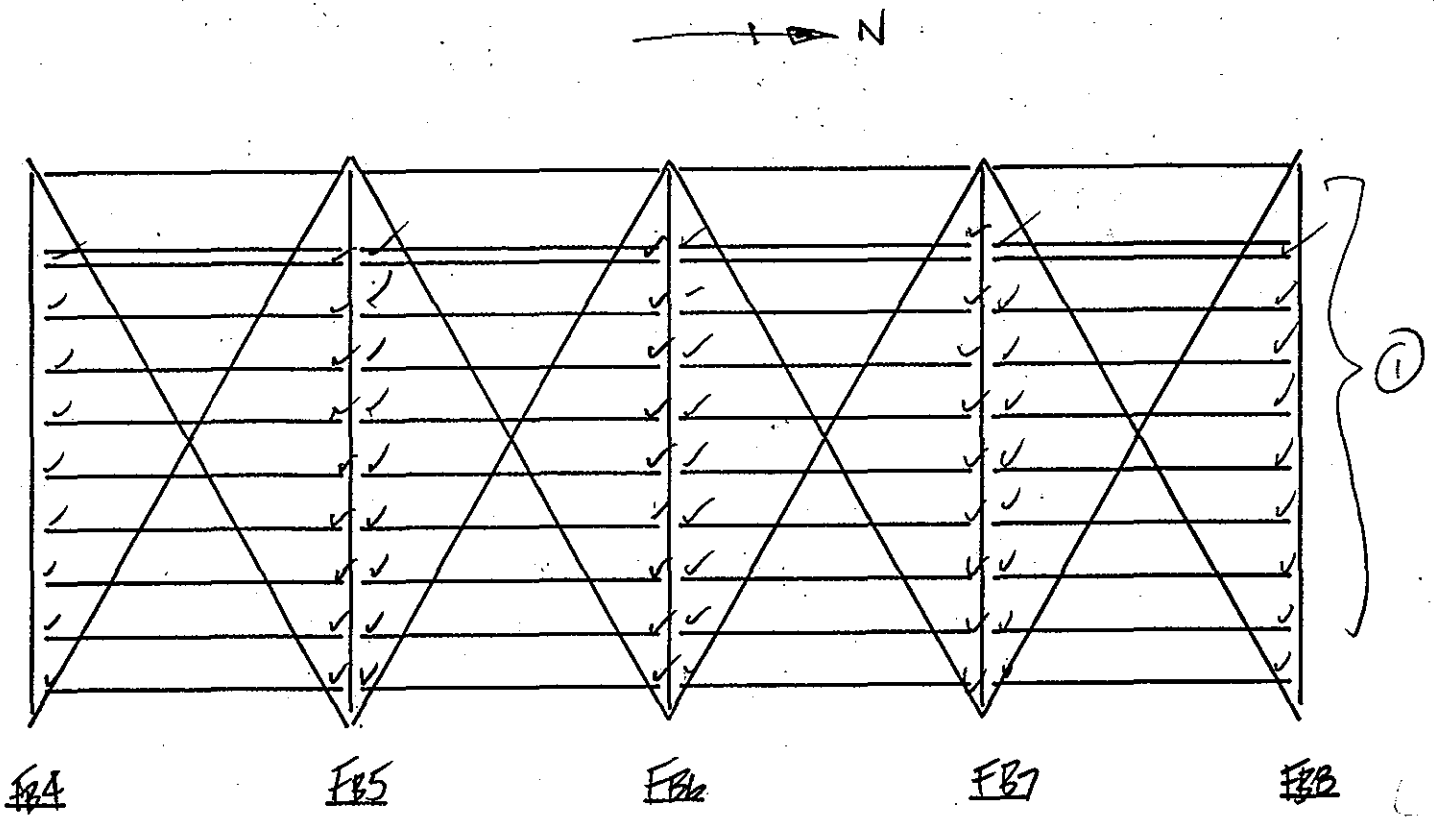

SPAN 7

NOTES: 1 Welded and Cut away through Detail near bottom of FBM (see previous sim. det) Full length of FBM. Note Deter Top Flange of FBM last 3ft (ends) and compos. nature of Haunch above FBM.

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/6/94
CREW: GG/RB	SHEET 4 OF 11

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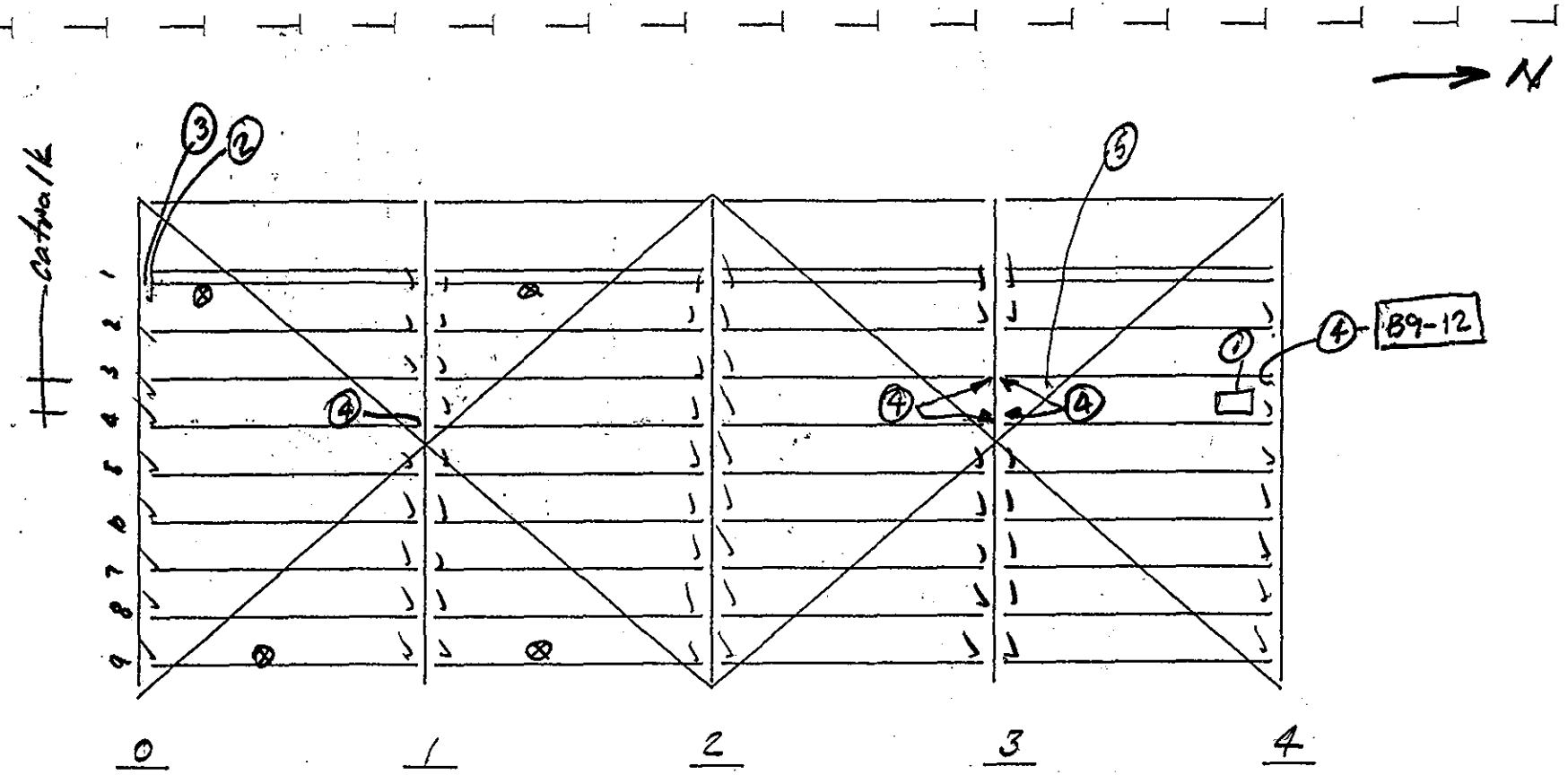


⊗

✓ connection OK

SPAN 5

NOTES:

① loose grating panels
② Stringer 1 Conn. Angle bolted
③ 1/8" pitting 4" wide top of btm. flange under Str. #1
④ abrasion dust @ connection angle (Str.)
⑤ loose railing bolt

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

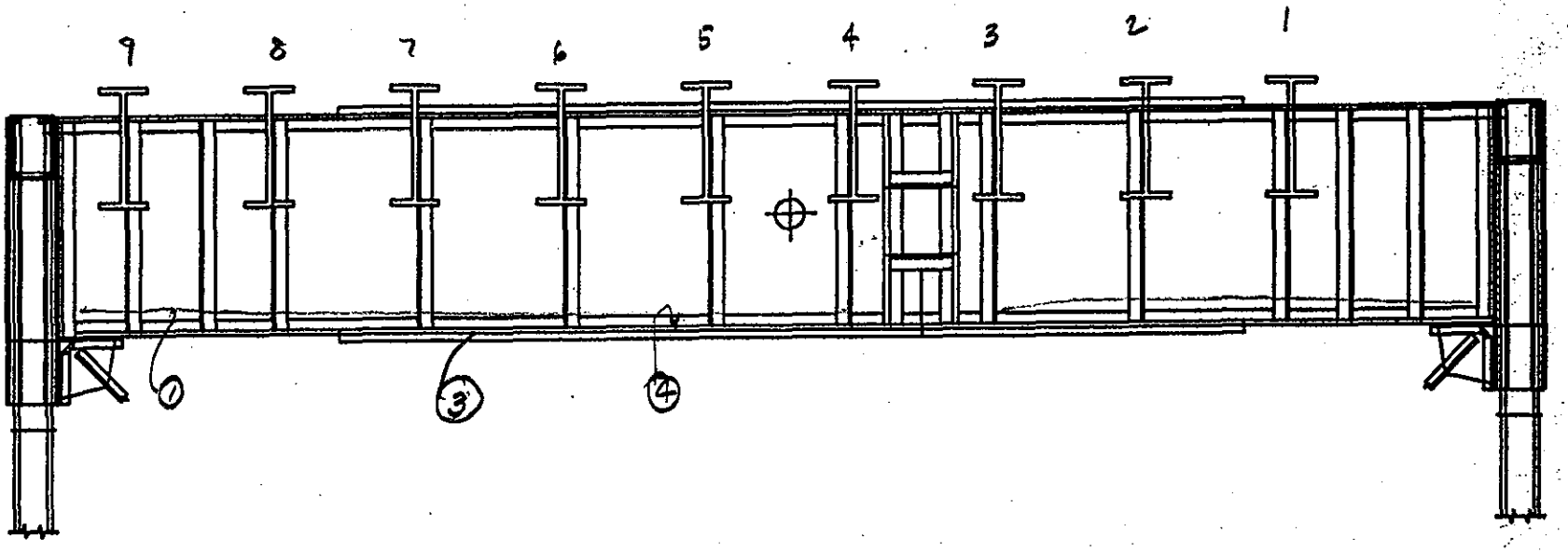
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9.2.94

CREW: BH, PWN, TS | SHEET 6 OF 11

JOINT APPEARS NOT TO BE LEAKING



NOTES FOR SOUTH SIDE UNLESS NOTED

NO STRINGERS ON SOUTH SIDE

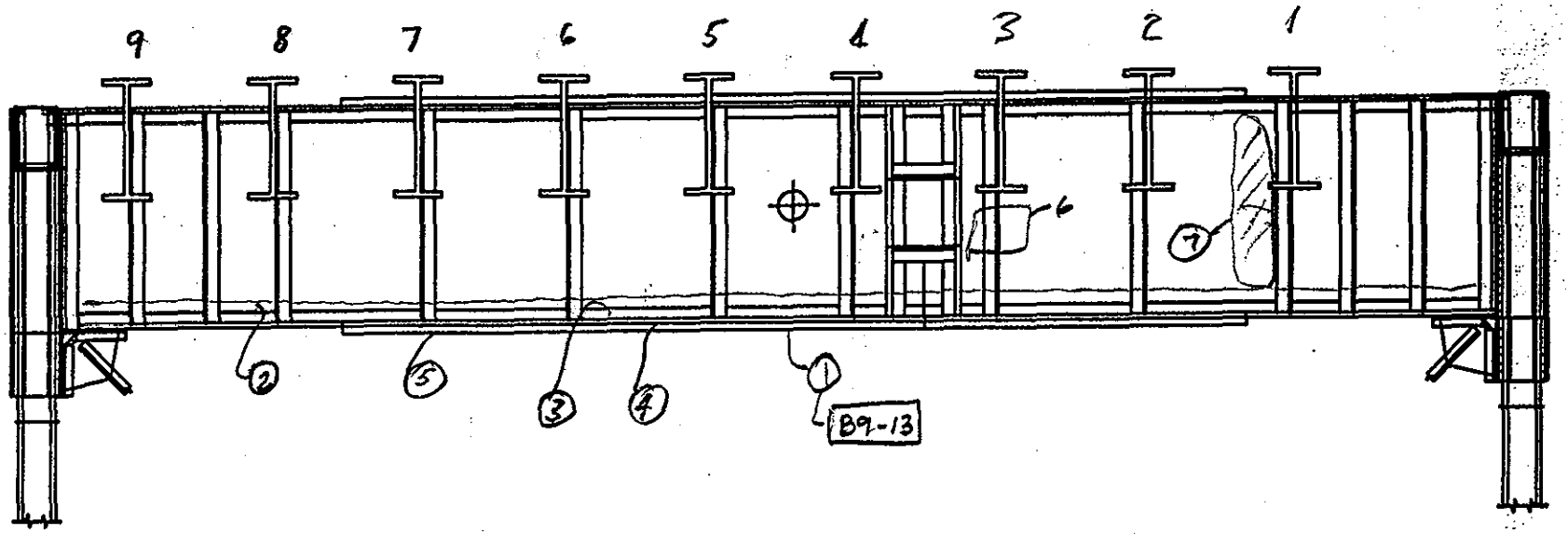
SPAN 5

FLOORBEAM 0 N ELEV.

NOTES:

1. welded trough removed by flame cutting
2. #2 rust on stiffener @ stringer #1
3. up to 1/4" imp. rust btm cov plate full length
4. up to 1/4" pitting on the top of the bottom cover plate full length

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: BH, PWN, TS	SHEET 5 OF 11



55
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SPAN 5
FLOORBEAM 8 N ELEV

NOTES:

S. Side ① up to 3/16" pitting mid span 1" wide bottom cover plate
N. Side ① flame cut welded trough
③ #2 rust top of btm flange full width
④ up to 1/4" imp. rust btw btm flg. & cover plate full width
⑤ up to 2/16" pitting bot cov plate full width
⑥ up to 1/4" pitting 2' high 20" from bot flg. both side Str. 3 Stiff
⑦ up to 1/4" pitting full hight of web east of stiff Str. #1

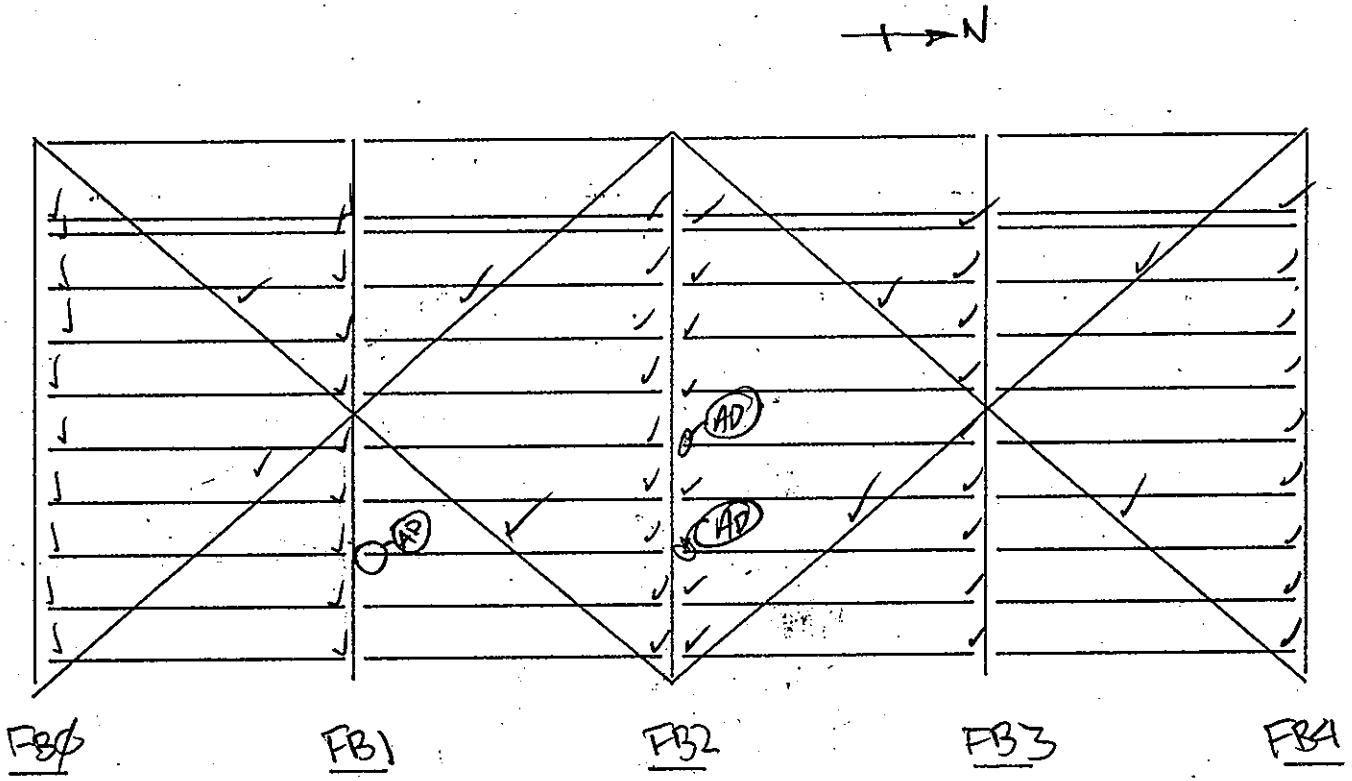
FLOORBEAM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9.2.94
CREW: BH, PWN, B | SHEET 8 OF 11



SPAN 5

NOTES:

FLOOR SYSTEM

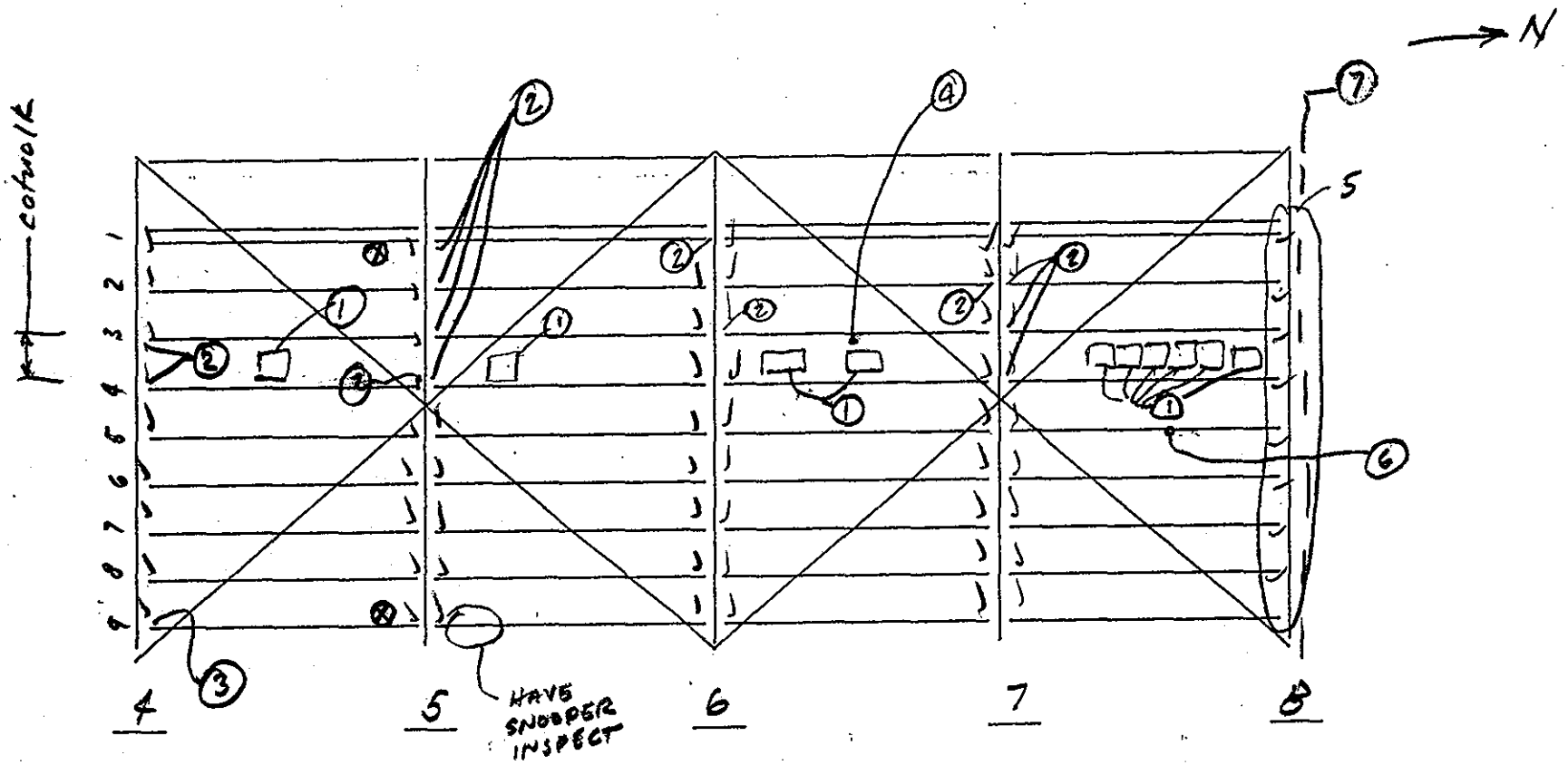
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9/6/94

CREW: GABE/RG | SHEET 10 OF 11



SPAN 5

NOTES:

1. loose grating panels
2. abrasion dust @ Str. to Fb Connection Angle
3. 3/16" pitting 1/2" high 3' wide stringer 9 above bt flange on web
4. missing bolt in catwalk connection (1 of 3)
5. bolted connections
6. up to 1/8" pitting top and bott of btm flange near mid span
7. Heavy banging noise @ Joint when liveload is present w/ vibration

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/96
CREW: BH, PWN, TS	SHEET 7 OF 11

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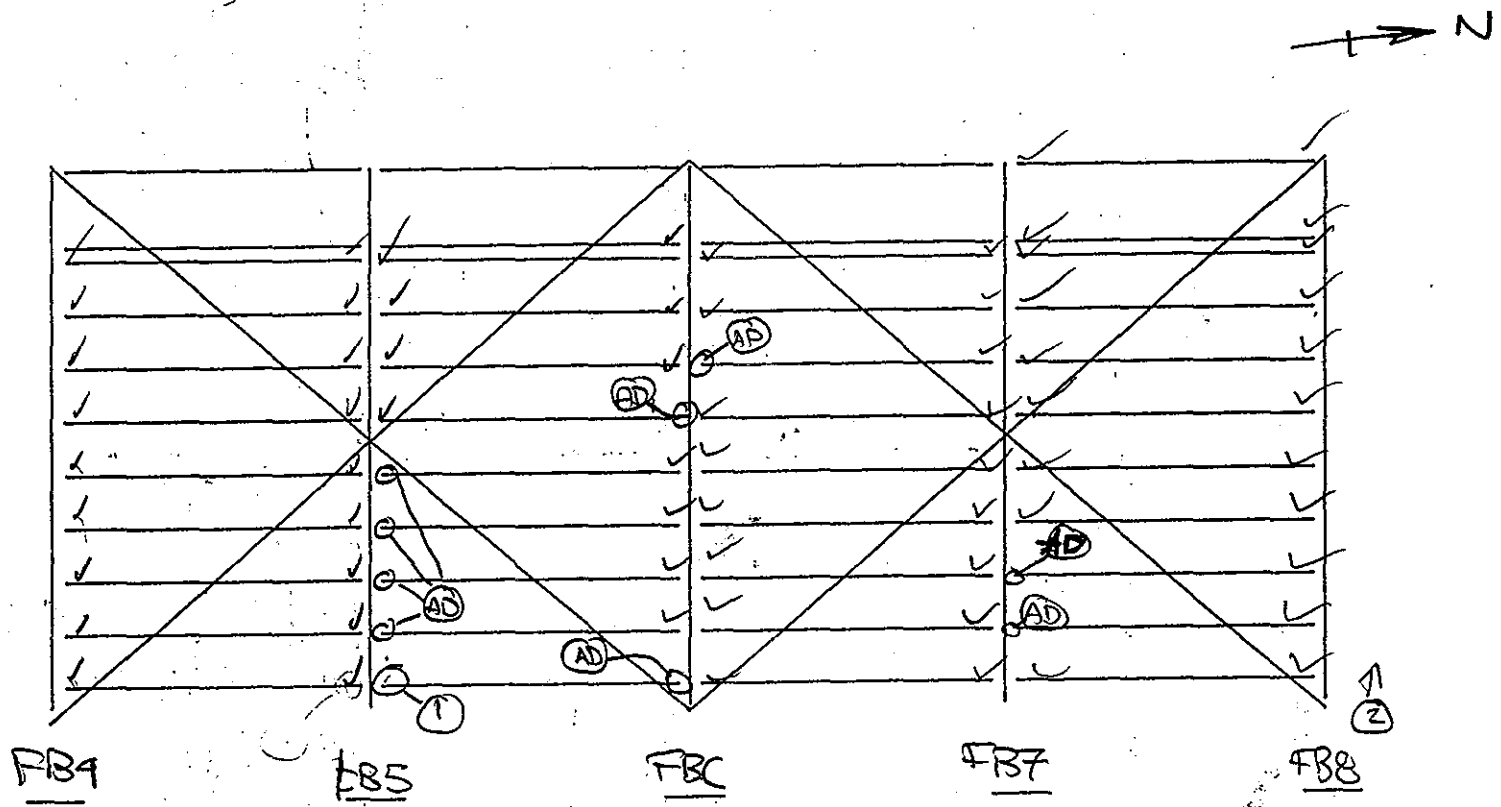
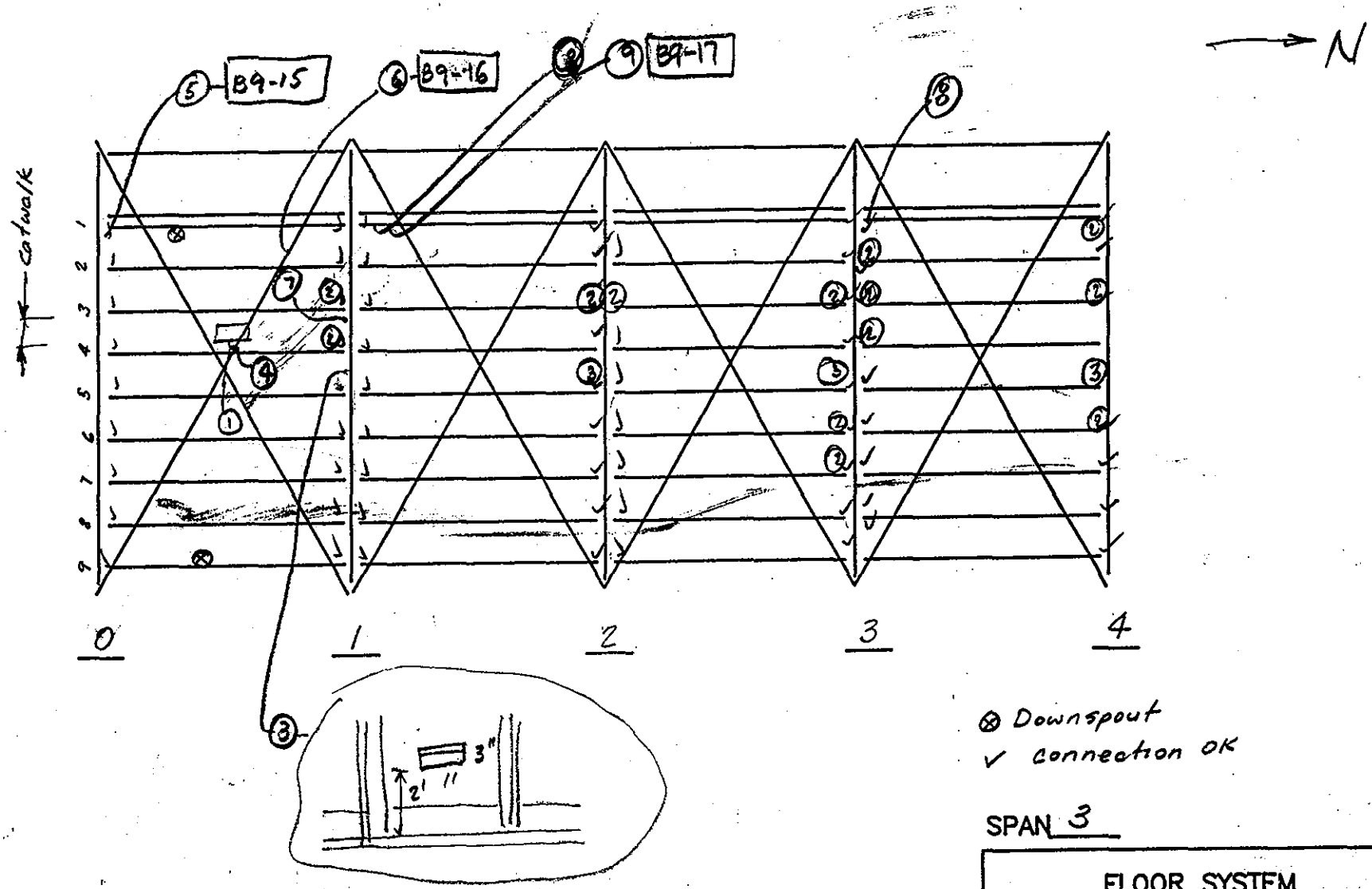


SPAN 5

NOTES: (1) WELDED REPAIR PR TO 59, SPAN 5, EAST FACE
(2) SPALL @ END OF JT. BTWN SPAN 3 & 5: 2' LONG × 16" HI × 6" DEEP. SEE PHOTOS B13-2&3

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/7/94
CREW: GABE/RB	SHEET 1 OF 2



⊗ Downspout
✓ connection OK

SPAN 3

NOTES: ① Loose grating panel
② abrasion dust
③ welded brackets, both sides of the web.
④ handrail discontinued midway btw 0 & 1
⑤ welded stiffener repair
⑥ welded cover plates top and bottom on bracing
⑦ missing bolt in railing connection
⑧ 8" long stiff welded repair bot of str #1
⑨ Last 10" of Stringer twisted 1/2" - bottom flange

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: BH/PWN/TS	SHEET 10 OF 11

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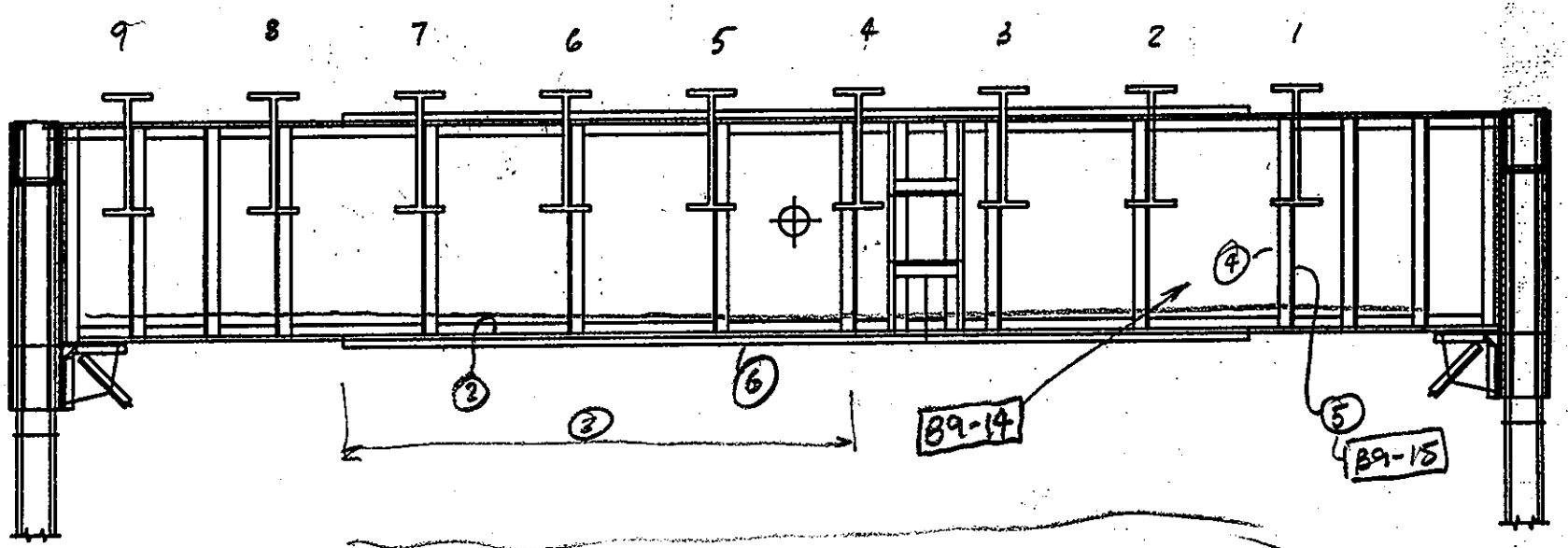


NOTES FOR SOUTH FACE UNLESS NOTED

SPAN 3
FLOORBEAM O N ELEV.

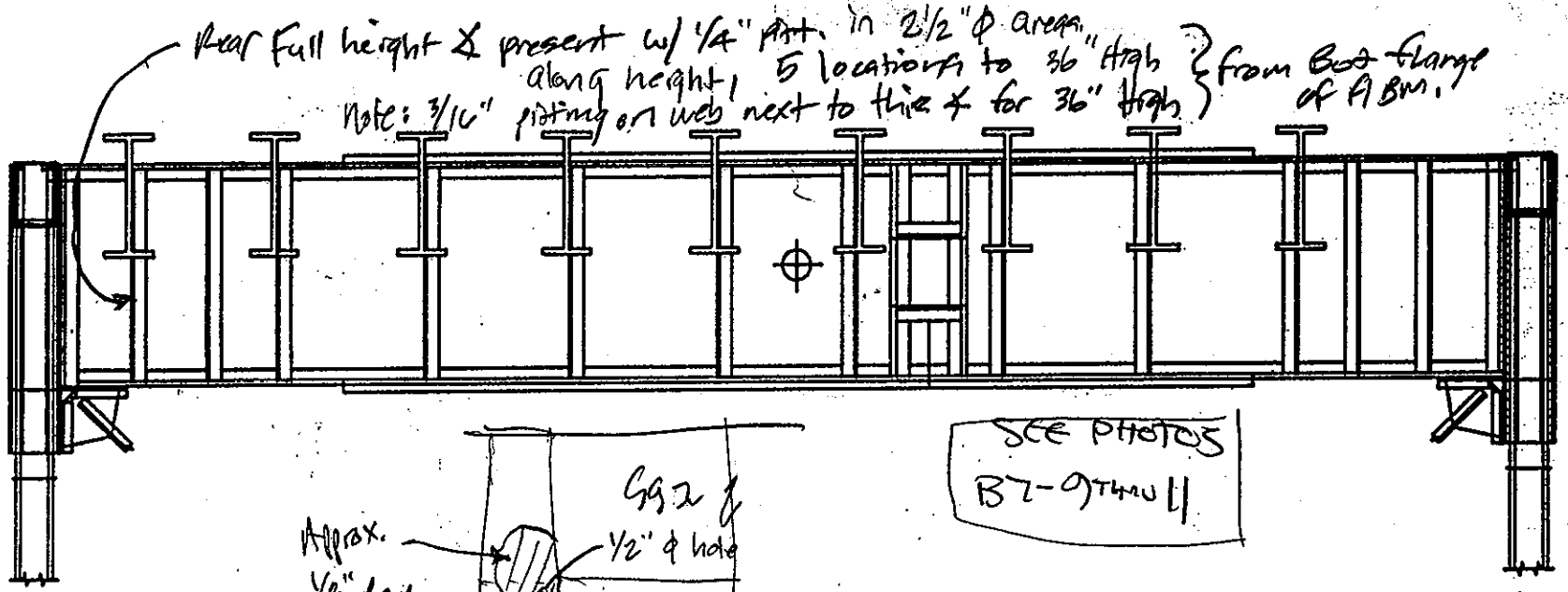
NOTES:

1. Welded Trough removed by flame cutting
2. #2 rust top of bot flange Full length
3. up to 1/8" pitting outer 1" of Cover PL from West end to Str. 4
4. #2 rust on stiffener @ String #1

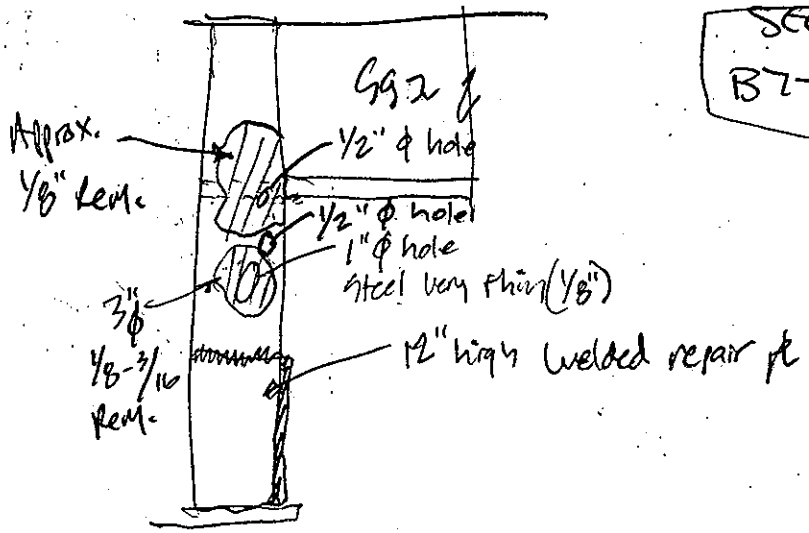
North Face

5. welded stiffener @ Stringer #1
6. up to 1/8" pitting 1" wide on bottom cover PL @ midspan

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9.2.94
CREW: BH, PNN, TS	SHEET 9 OF 11



SEE PHOTOS B7-9 THRU 11



SPAN 3
FLOORBEAM ∅ N ELEV.

NOTES:

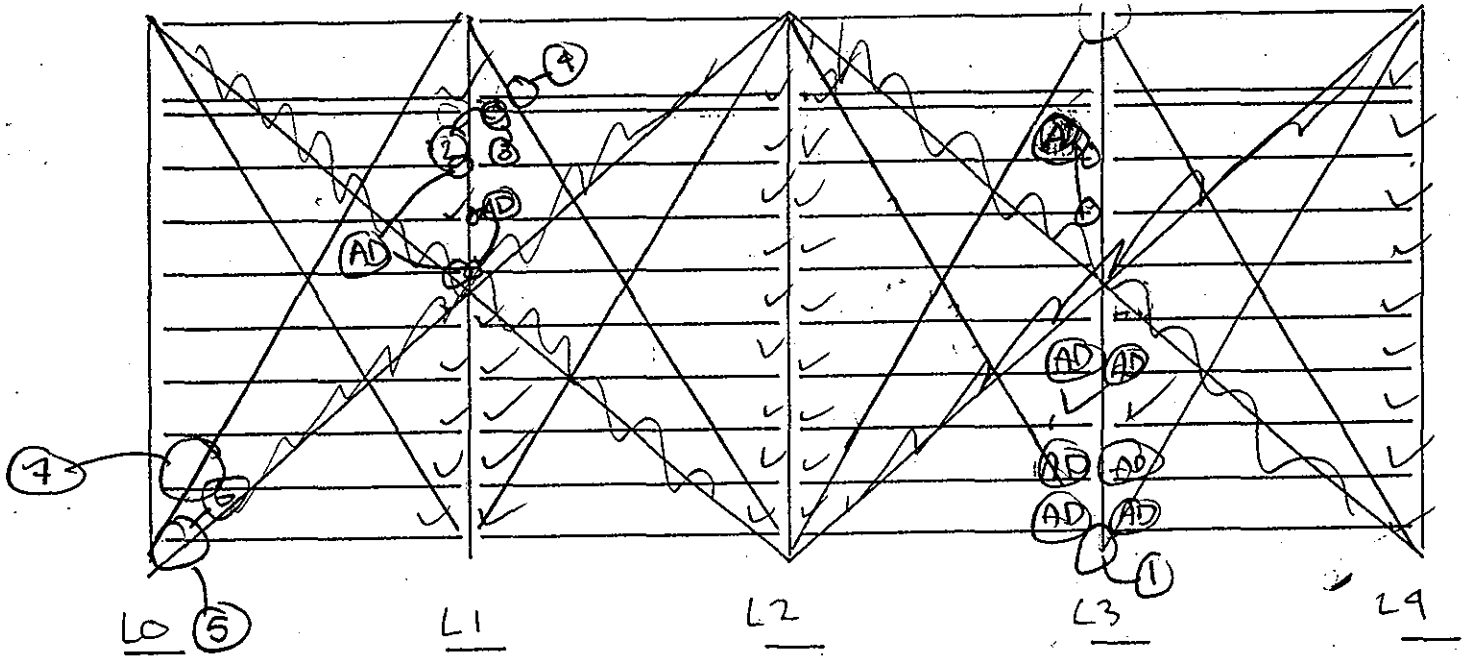
FLOORBEAM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/2/94
CREW: GABE / RB	SHEET 5 OF 7

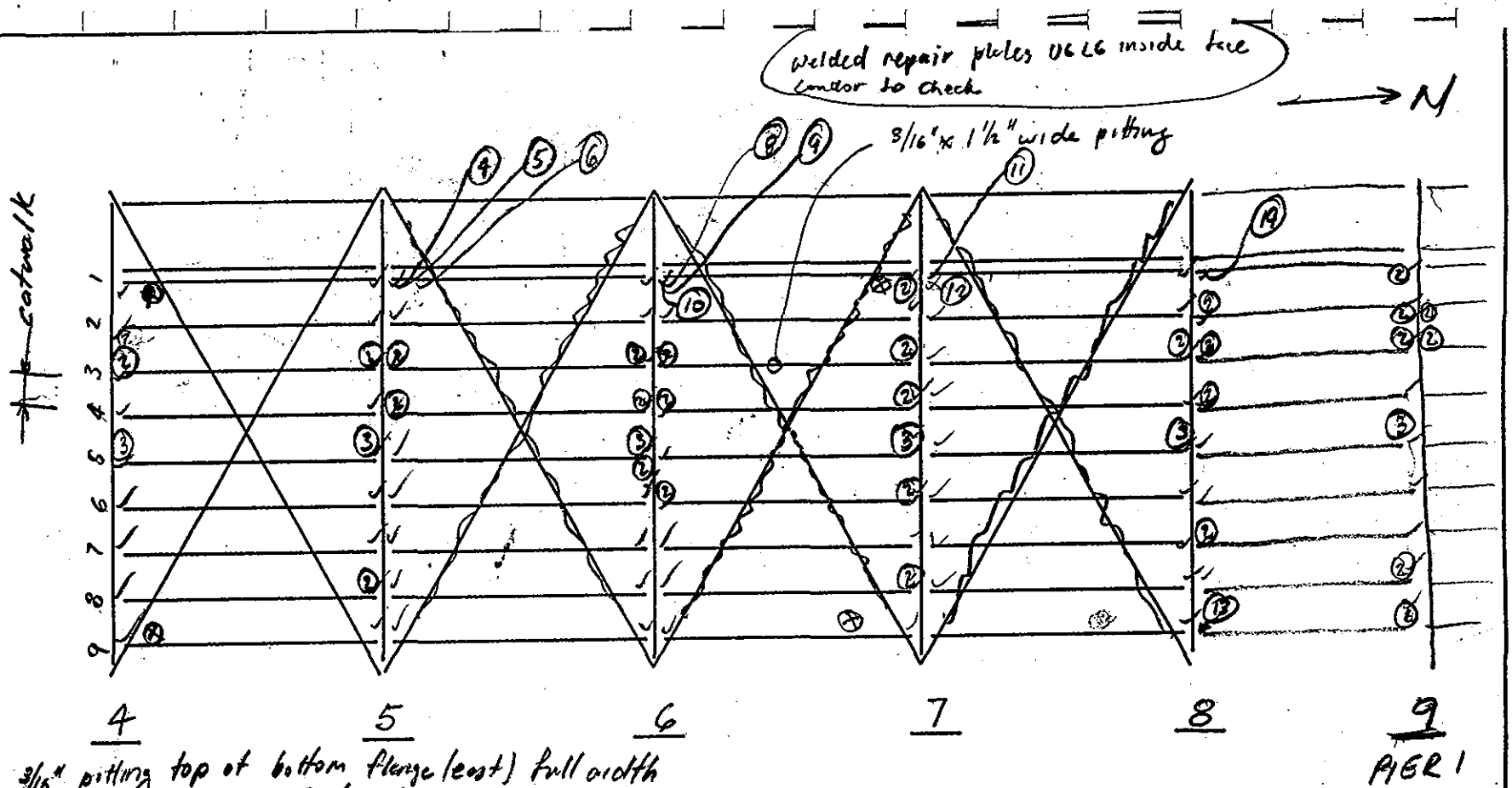


7 END 3' OF BRACING HAVE WELDED REPAIR PL'S T+B

SPAN 3

NOTES:
1. DETERIORATION HOLES IN VERT. LEGS OF BRACING L'S @ GUSSET PL (BOTH SIDES) (1½" HIGH)
2. REPAIR PL WELDED TO FLBM STIFFENER & BOT. FL, N. FACE FBM, @ S9
3. BOTTOM FL IS DEFL. UPWARD (WEST PORTION) 3/4"
4. CORROSION @ UTILITIES (#2 RUST)
5. HOLES IN STIFFENER PL UNDER S9, N. FACE @ L0
   BOTTOM PORTION REPAIRED W/ WELDED PL, BUT ALL BUT BOTTOM 6" IN POOR COND.; SEE FLBM ELEV. FOR DETAILS
6. 3/16" PATCHING OF FULL WIDTH TOPSIDE OF BOT. FL, END 4'

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: Gabe/RB	SHEET 6 OF 7



(10) 3/16" pitting top of bottom flange (east) full width
(11) welded stiff repair Plate full height
(12) 3/16" pitting 8" high stringer web (east)
(13) 8" welded stiff repair R @ str 9
(14) 3/16" pitting 1" high bottom of Str 1 web

✓ connection O2
⊗ downspouts
SPAN 3

NOTES:
(1) Loose grating panel
(2) abrasion dust @ conn. angle
(3) welded bracket both sides of web see sheet 10
(4) 1" welded stiff plate repair ½ below Str. btm flange Str. #1
(5) ¼" pitting 4" high of bottom of stiffener angles
(6) 3/16" pitting 5" high web of stringer 1 bottom
(7) ⅛ pitting top of east bottom flange Stringer 1 1st 1½ feet
(8) 10" Stiffener repair plate Str. #1
(9) ⅛" pitting full height Stringer #1 web

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9-2-94
CREW: BH, PUNITS	SHEET 11 OF 11

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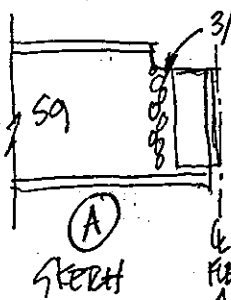
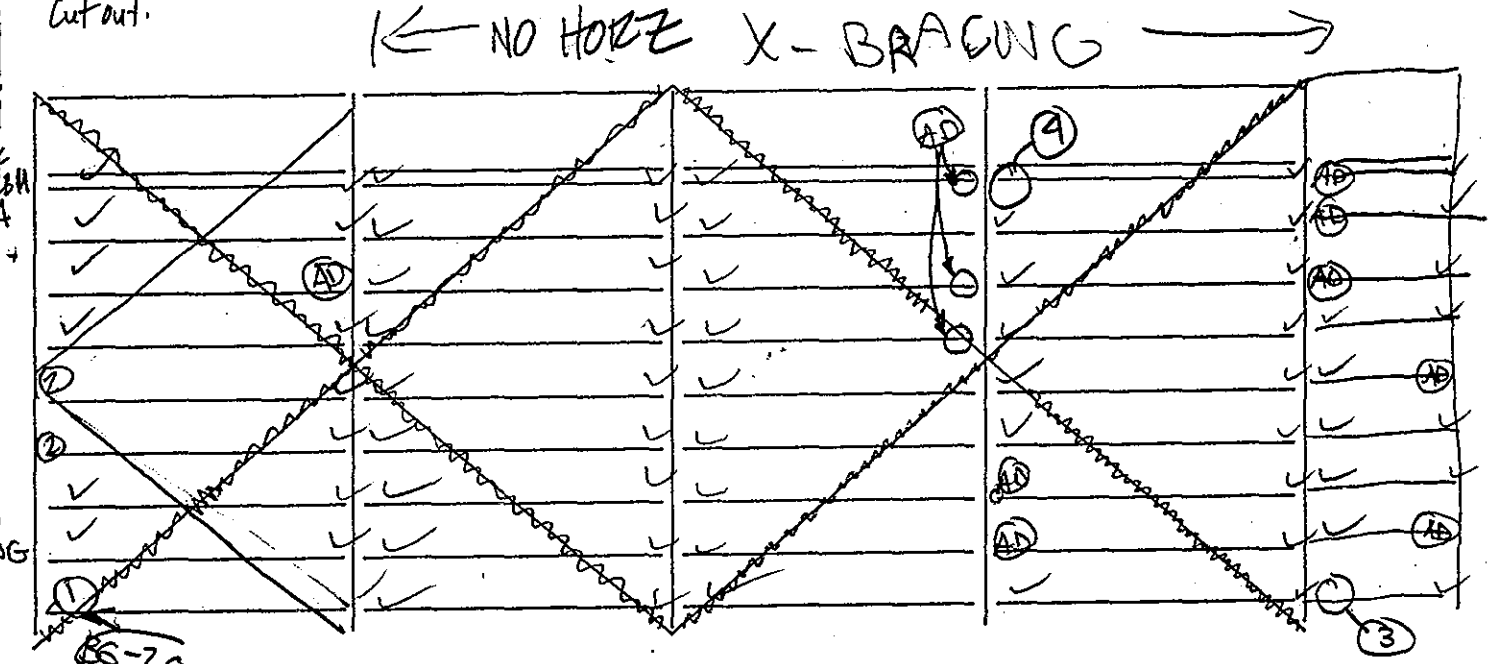
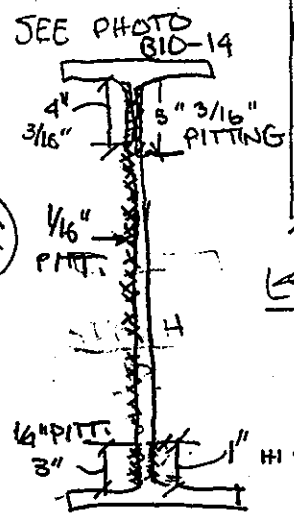






SKETCH B (REV. SIMILAR TO SKETCH A)

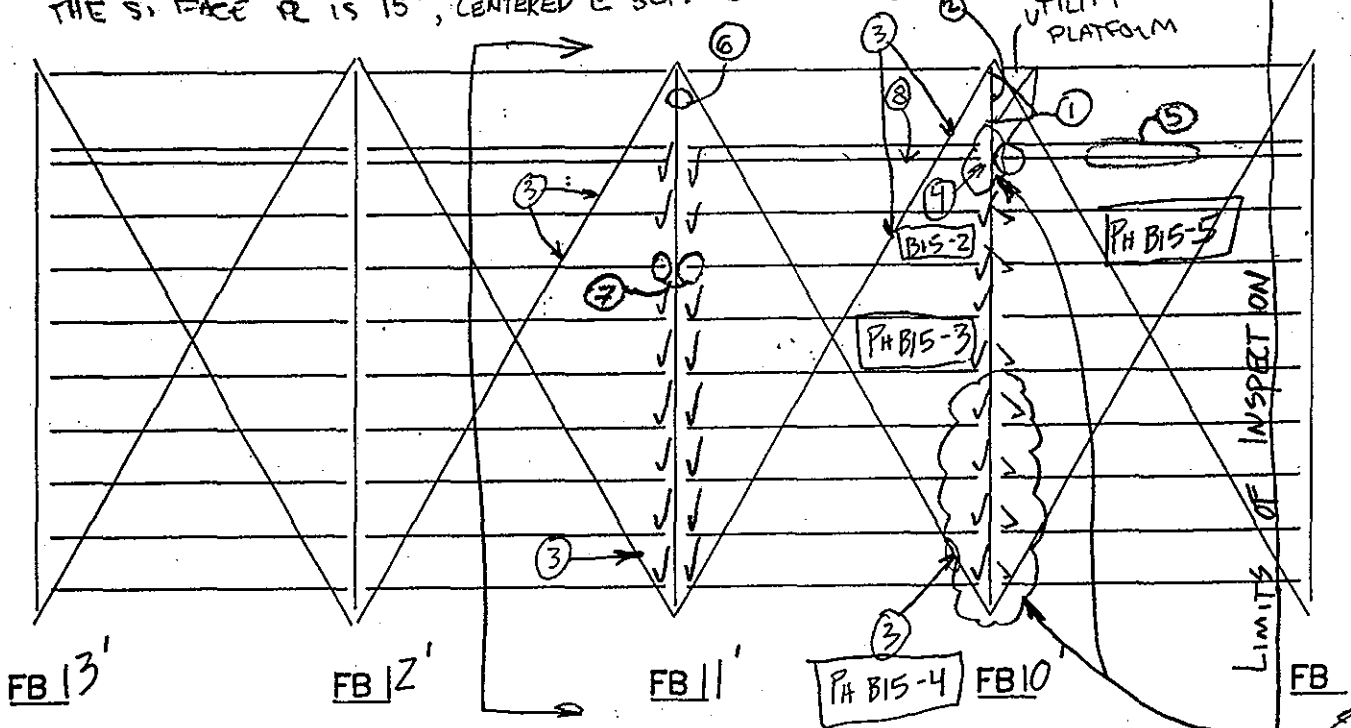
SPAN 3

NOTES: ① 3/16" PITTING ALONG 40% OF WEB HEIGHT see sketch (A)
② SEE PHOTOS (BS-18 & 19). BOTH SIDES OF BOTTOM FLANGES CUT OFF
③ PITTING 2½" HI ABOVE BOT. FL FOR 6' N. OF BS, 3/16" DEEP AND TOP FL PITTED 3/16" DEEP ON UNDERSIDE FOR 1/3 SPAN FROM BS
④ REPAIR FL UNDER STA. 1, N. FACE FBZ 5 DEEP PITTING OF STRINGER: SEE SKETCH (B) & PHOTO BIO-14

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/12/94
CREW: GBr / RB	SHEET 7 OF 7

(6) WESTERLY FBM STIFFENER, N & S FACE, HAS WELDED REPAIR PL. THE N. FACE PL IS WELDED TO BOT FL & STIFF & EXTENDS UP 15". THE S. FACE PL IS 15", CENTERED @ BOT. FL. OF STR., WELDED TO STIFF.

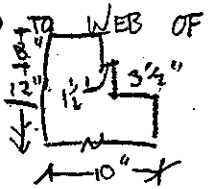
N



SEE FLOORBEAM ELEVATION FOR ADDITION. STRINGER LOSSES @ S1 & S9 AND LOSSES ON FLOORBEAM.

NOTE: GAS UTILITY BRACKET WELDED TO WEB OF FLBM - UP 21" FROM TOP OF BOT. FL - TYP. (BTWN STR #4 & 5)

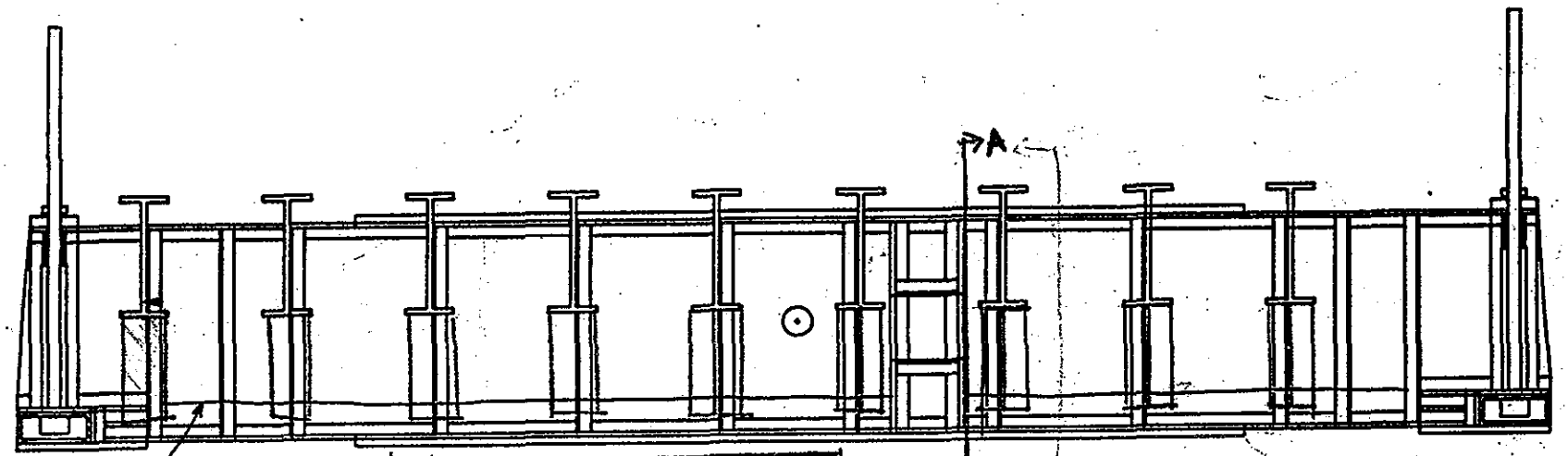
(7) BOTTOM FLANGE CUT:

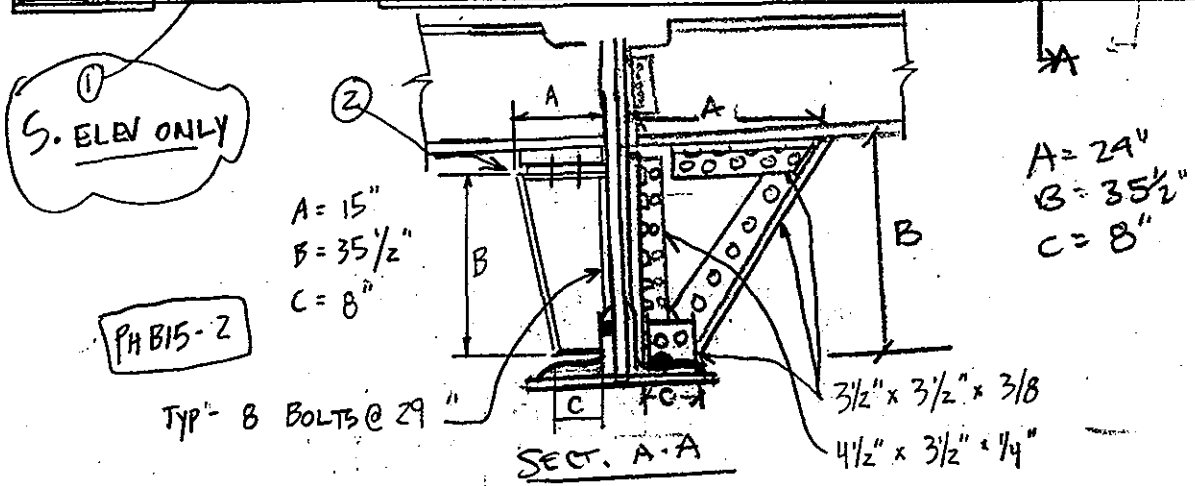


(8) 3/16" pit. x full width top of bot. FL str. 1 (E. 1/2 & W. 1/2) from FB10' to 20' south of FB10'.

NOTES:
(1) LIGHT CORROSION w/ 1/16" PITT. OF STRINGER OVER BEARING, OVER WIDTH OF BOTT. FL. (N. FACE, STR. 1)
(2) 1/16" DEEP PITTING OVER WIDTH OF NORTH ANGLE, BOTT. FL. OF FLBM 10' UNDER UTILITY PLATFORM
(3) REPAIRS ON TOP AND/OR BOT. FL OF LAT. BRACING @ VARIOUS LOCATIONS PH BIS-4
(4) UP TO 20% NO. RUST ON SURFACE AREA OF BOT. FL STR. 1 - UP TO 1/8" PIT. ON BOT. FL EAST SIDE FOR 4" LONG PH BIS-2
(5) ~ 3/16" PITT. ALONG OUTSIDE EDGES OF BOTT. FL, MID 15' OF SPAN

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/12/94
CREW: WM/RB	SHEET 1 OF 4



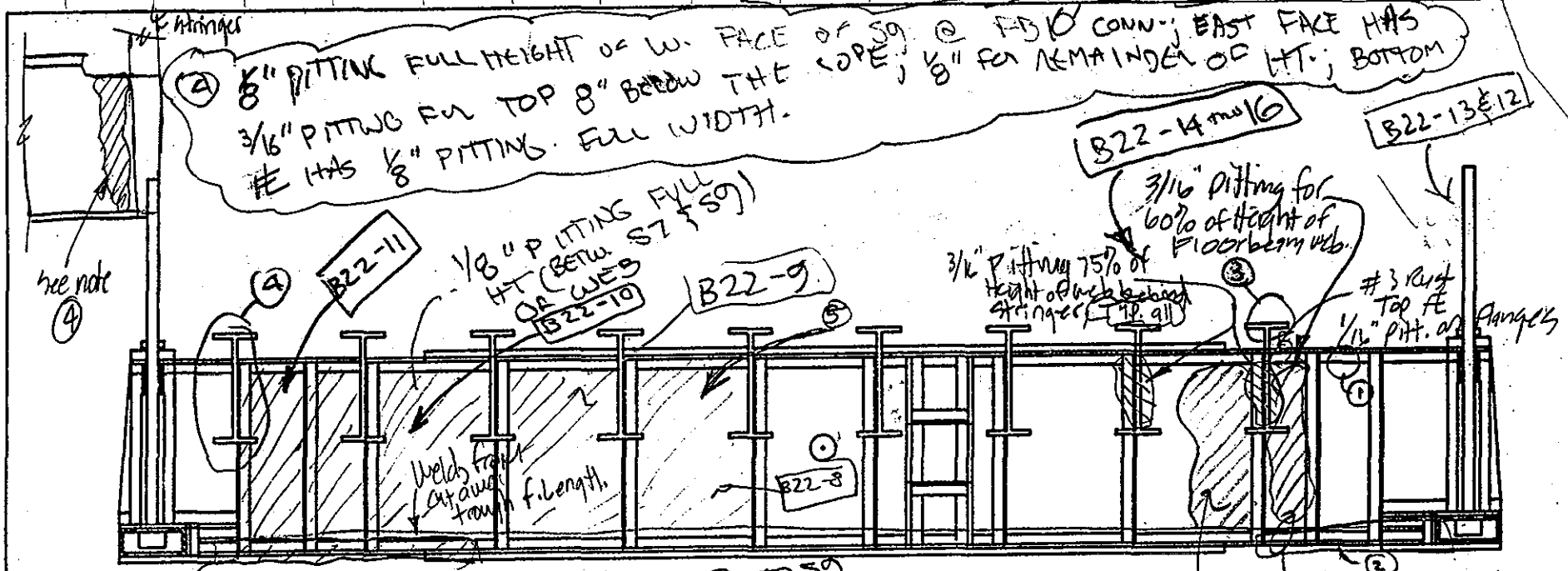


SPAN 1
FLOORBEAM 10'
ELEV.

NOTES:

1. Remains of old drainage trough (welded) flame cut full length of flbm
2. Replacement knee braces - typ all str. rolled / welded knee braces bolted through flbm PH B15-3

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/12/94
CREW: WM / RB	SHEET 2 OF 4



SEE PHOTOS B21-20 THRU B21-23 AND B22-1 THRU

⑤ 1/8" PITTING FULL OF HT BTWN S5 & S6

SPAN 1
FLOORBEAM 10' S ELEV.

NOTES: ① ON TOP ℄ L HORIZ. LEG, S. FACE, THERE ARE 2-1"Ø HOLES (SPACED 6" APART) IN THE SAME AREA 1/8" DEEP PITTING ACROSS TOP SURFACE OF HORIZ. ℄ LEG

② NO. 2 RUST ON TOP SURFACE OF BOTT ℄ L HORIZ. LEG

③ NO. 3 RUST ON WEB 1" OF S1 TOP FL. FOR 3' S. OF FB10; SIMILAR LOSSES ON EAST CHANNEL OF SIDEWALK BEAM BOT. ℄ TO W. OF S1. CORROSION OF (#3 RUST) DECK PAN BETWEEN S1 & SIDEWALK STR., ALSO

FLOORBEAM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

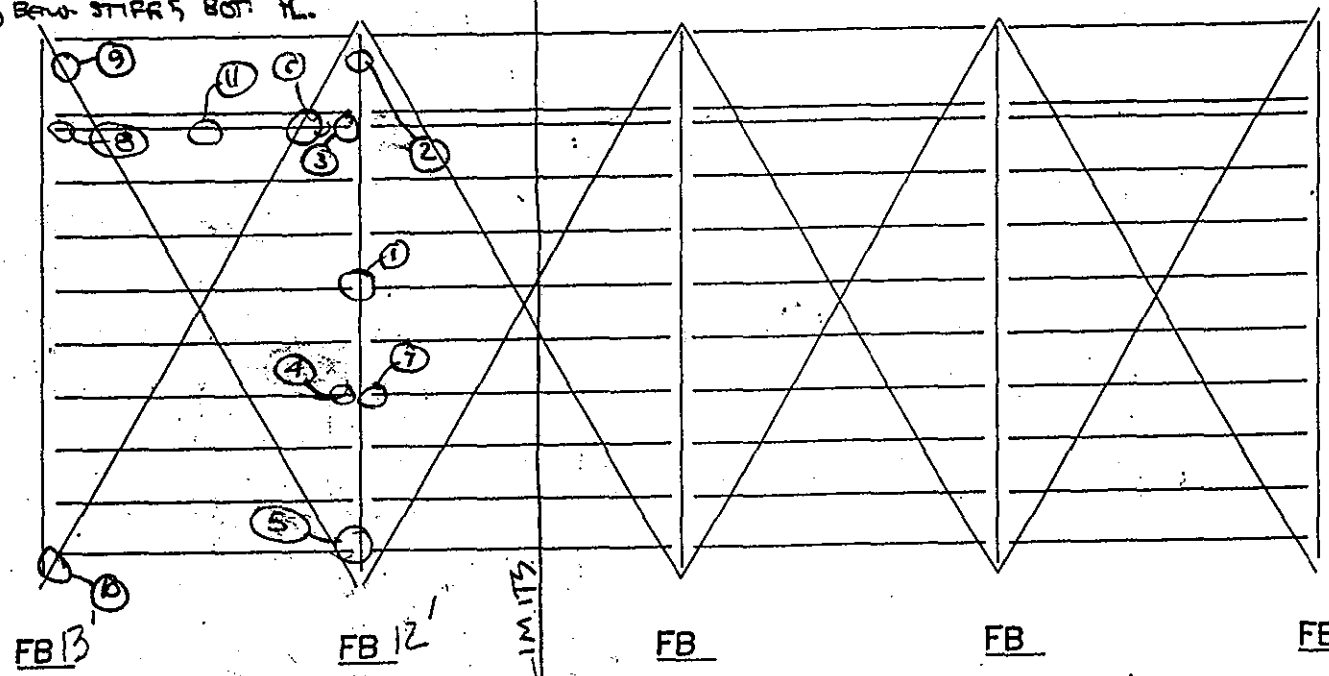
JOB #1784 | DATE: 9/16/94
CREW: GG | RB | BH | PN | SHEET 1 OF 6

(5) 12" HI REPAIR PL WELDED TO EAST SIDE OF STIFFENER UNDER STR. #9

(6) REPAIR PL'S WELDED & BOLTED TO T & B FE OF X-BRACING

(7) (AD) BETW. STIFF & BOT. FL.

N



(8) (AD) BETW. STR. WEB & STIFFENER

(9) REPAIR PL BOLTED TOP. FL OF X-BRACING

(10) REPAIR PL BOLTED BOT. FL OF X-BRACING

(11) LOSSES MID 10' OF STR. 1 OF TOPSIDE OF BOT FL.: 1/8" @ TOE, TAPERS UP TO FULL SECTION @ WEB, EAST 1/2 OF FL.

NOTE: GAS UTILITY BRACKET WELDED 21" UP FROM TOP OF BOT. FL - TYP BTWN STR # 4 & 5

NOTES: (1) BOTTOM FL CUT ON STR. 4 N & S OF FLBM 12' ON WEST HALF OF FL. SEE DETAIL TO NOTE ON STR. #3 ON P.2 OF 9/12/94 NOTES

(2) N/S FACE, THE WESTERLY STIFFENERS HAVE WELDED REPAIR PL'S LOWER 18", WELDED TO STIFFENER & BOT. FL OF FLBM

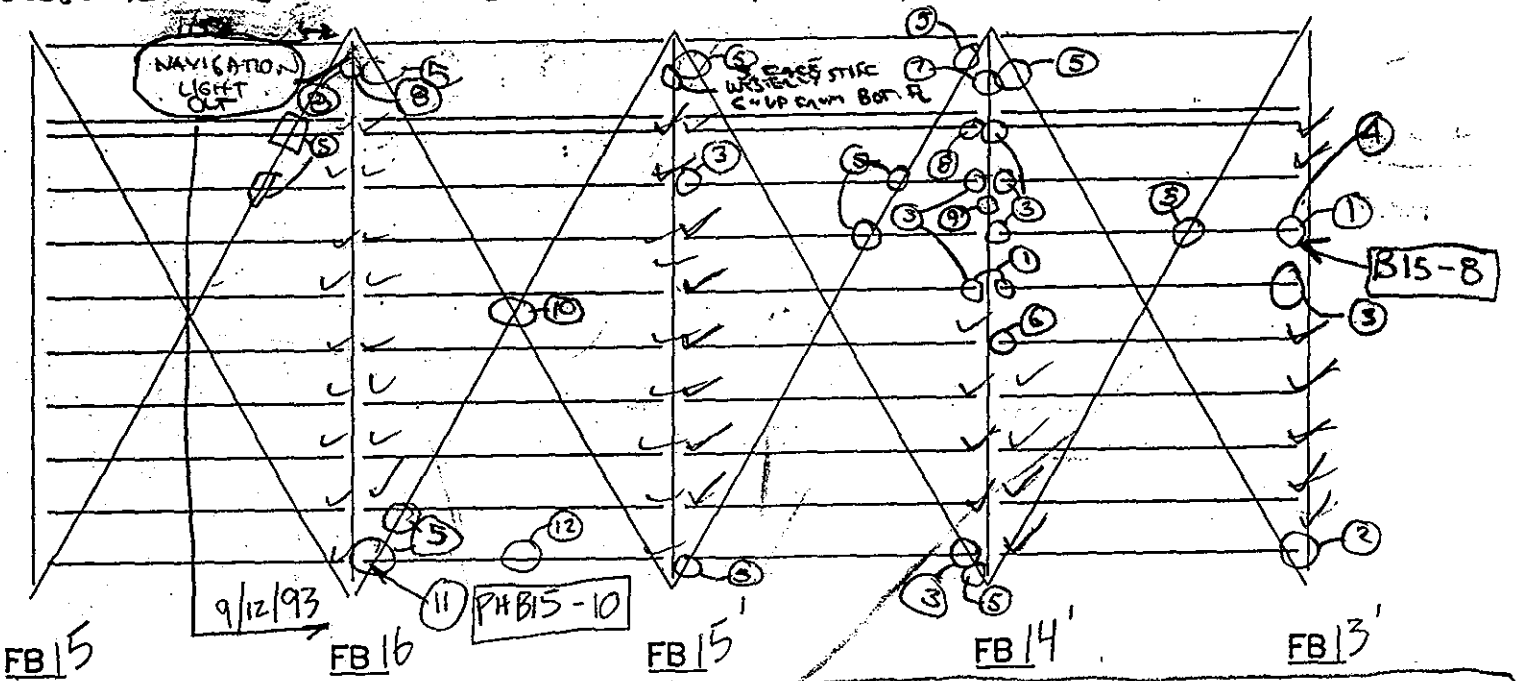
(3) WELDED REPAIR PL ON W. FACE @ STR. 1 OF FLBM 12' STIFFENER, FULL HT. WELDED TO STIFFENER

(4) @ STR. #6, (AD) BETWEEN STR. WEB & CONN. L AND BETW. STIFFENER & BOTTOM FL.

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/12/94
CREW: RB, WM	SHEET 3 OF 4

(7) 2ND STIFFENER FROM W., S. FACE FB14', (12) UP TO 1/4" FROM BOT. FL. UP VERT LEG OF FBM L.

(8) WELDED REPAIR PL TO STIFFENER @ STRINGER 1, W. FACE, @ S. FACE OF FLBM. (12"-15") UP 6" FROM BOT FL.



(9) PITTING UP TO 1/8", ~2" DIAM. ON BOTT. FL OF FLBM

(10) LOOSE HANDRAIL CONN. ON CATWALK

(11) PAIL ON GUSSET PL

(12) 1/8" DEEP PITTING, CENTER 15' OF SPAN, ON WEST 1/2 OF FLANGE

GEN. NOTE: GAS UTIL BRACKET 21" UP FROM TOP OF BOT FL WELDED TO BOTH FACES OF WEB BETW. STR #4 & #5 FOR ALL FBM's.

NOTE: LOUD CREAKING IN VICINITY OF STR #2, FB14'

NOTES:

(1) FLAME CUT BOT FL SAME DETAIL AS SHOWN @ STR #3, @ FLBM 10', P2 OF 9/12/94 NOTES

(2) REPAIR PL WELDED TO FB. STIFFENER UNDER STR. #9, ~12" HI FROM BOT. FL UP & WELDED TO STIFF & BOT. FL.

(3) (2D) BETW. BOT. FL. STRINGER & STIFFENER

(4) UNDER STR #3 1/4" REMAINS 3" LONG, OUTSIDE 1" ALONG BOT. COV. PL

(5) WELDED AND/OR BOLTED REPAIR PL ON X-BRACING FL

(6) BOLTED ATTACHMENT TO FB STIFFENER UNDER STR. #5

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/12/94
CREW: RB, WM	SHEET 4 OF 4

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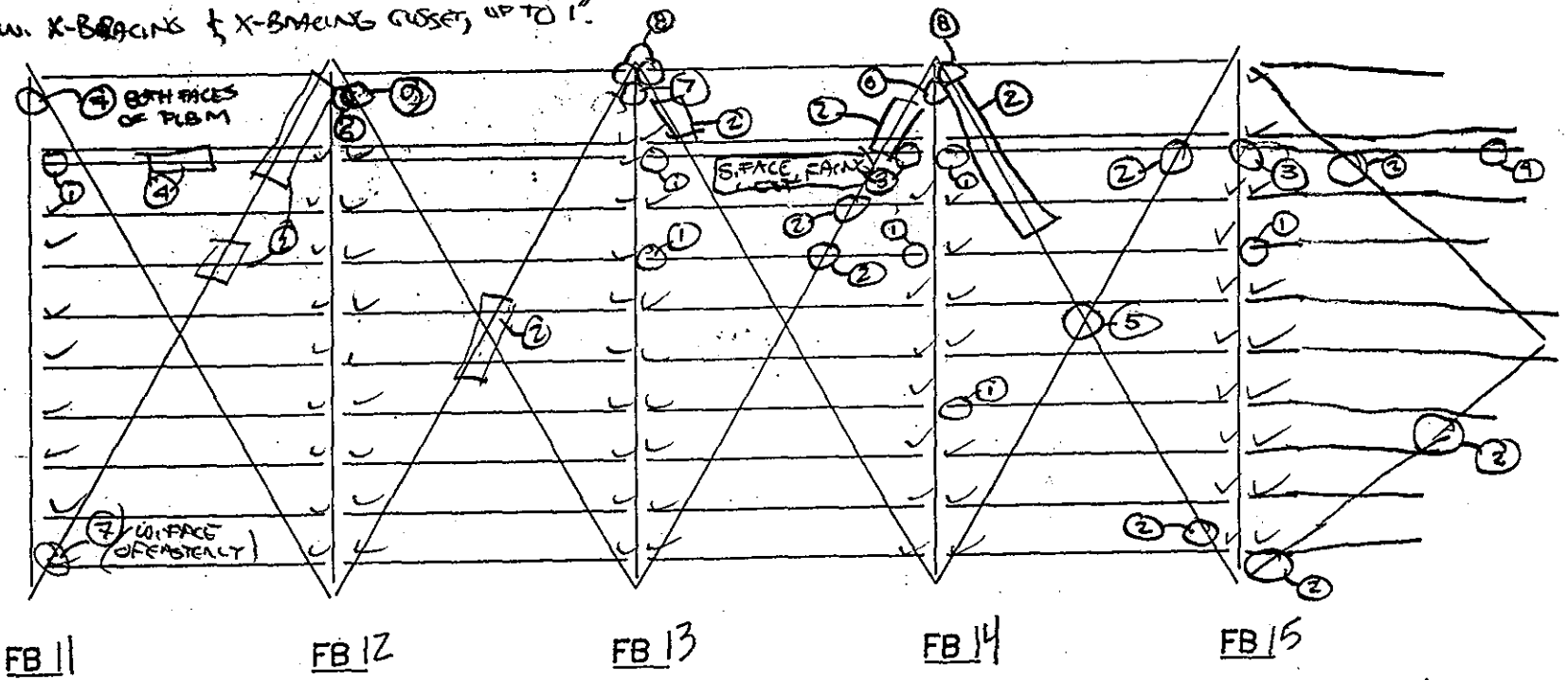
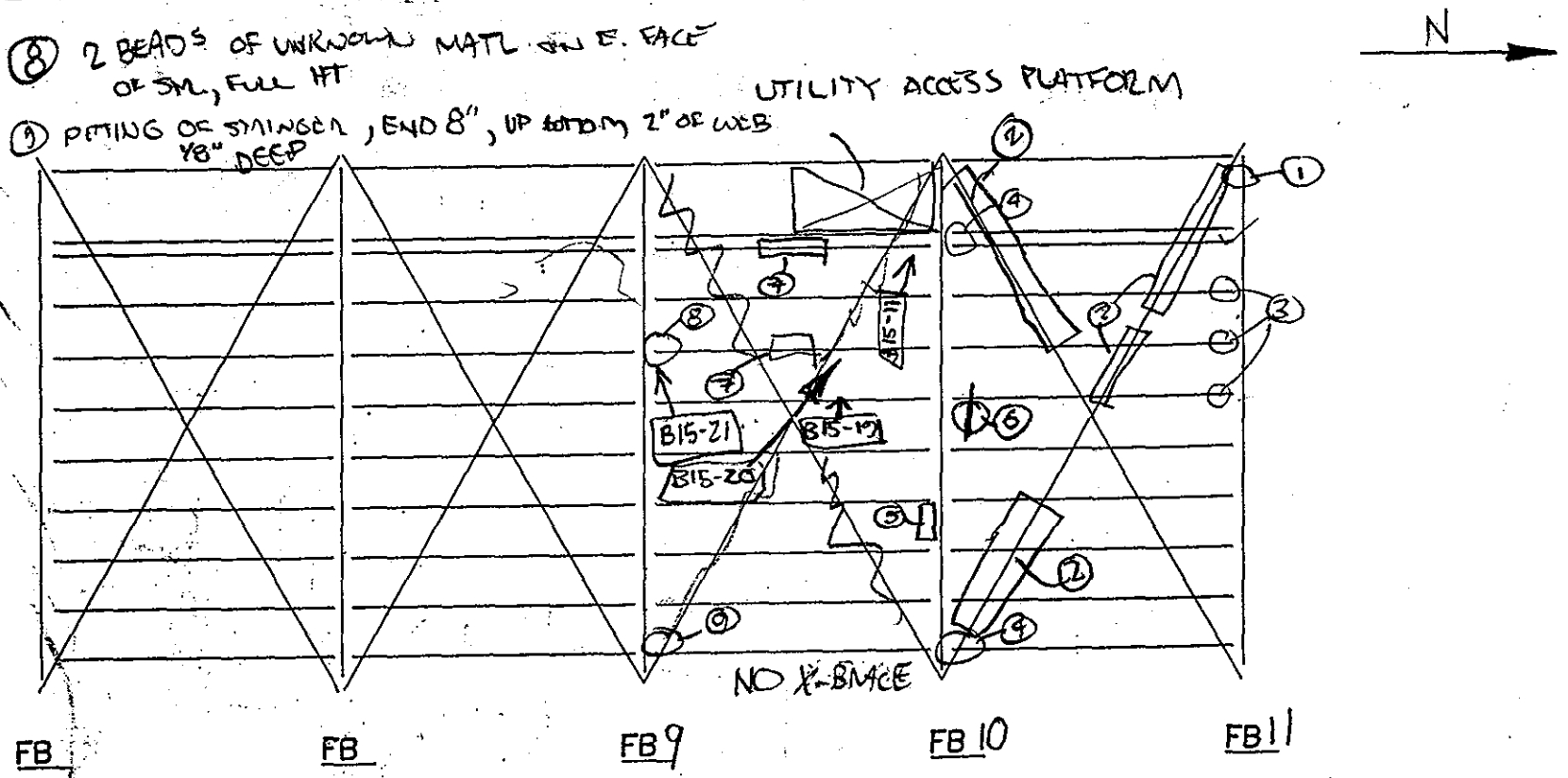
(7) SAME AS NOTE (6) BUT 10" TALL & EXTENDS TO BOT. FL.
(8) (12) BETW. X-BRACING GUSSET & TEE L'S CONNECTING TO FB (UP TO 3/8")
(9) (12) BETW. X-BRACING & X-BRACING GUSSET, UP TO 1".



GEN. NOTE: UTILITY BRACKET WELDED TO BOTH FACES OF FLBM WEB BETW. STA #4 & #5 APPROX. 21" ABOVE T OF BOT. FL.

NOTES:
(1) (AD) BETW. STA. WEB & FLBM STIFF
(2) BOLTED AND/OR WELDED REPAIR PL TO X-BRACING
(3) WELDED REPAIR PL (2") TO FLBM STIFF. (E. FACE OF STIFF, N. FACE FLBM) CENTERED @ STA. BOT. FL.
(4) PITTING MIDSPAN, ~5' LENGTH, BOT FL, 1/8" ALONG TOP OF E. 1/2 OF BOTTOM FL.
(5) BROKEN CATWALK HANDRAIL CONNECTION
(6) WELDED REPAIR PL TO WESTERLY STIFF. (E. FACE) @ N. FACE FBM, ~6" UP FROM BOT. FL.

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/13/94
CREW: WM/RB	SHEET 1 OF 9



GEN. NOTE UTILITY PIPE SUPPORT BRACKETS WELDED TO BOTH FACES OF FLBM'S 21" UP FROM TOP OF BOT. PL - BETW. STR. #4 & #5 FOR ALL FLBM'S.

NOTES ON FB#10 ON ELEVATION

NOTES:
1. WELDED PL 18" HIGH TO WESTERLY STIFFENER, EAST FACE (S. FACE OF FLBM) STARTING AT BOT. PL.
2. BOLTED AND/OR WELDED REPAIR PL TO X-BRACING
3. (AD) BETW. STRINGER & FLBM STIFFENER
4. #1 RUST OVER 50% SURF. AREA OF KNEE BRACE/STR. BEARING, N. FACE OF FLBM.
5. OUTSIDE EXPOSED EDGE OF BOT. PL COV. PL. HAS 1/4" REMAINING
6. HANDRAIL ON CATWALK ABRUPTLY ENDS
7. PITTING 1/8" DEEP @ CENTER 10' OF SPAN, E. 1/2 OF BOTTOM FLANGE (TOP OF FLANGE)

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/13/94
CREW: WM/RB	SHEET 2 OF 4

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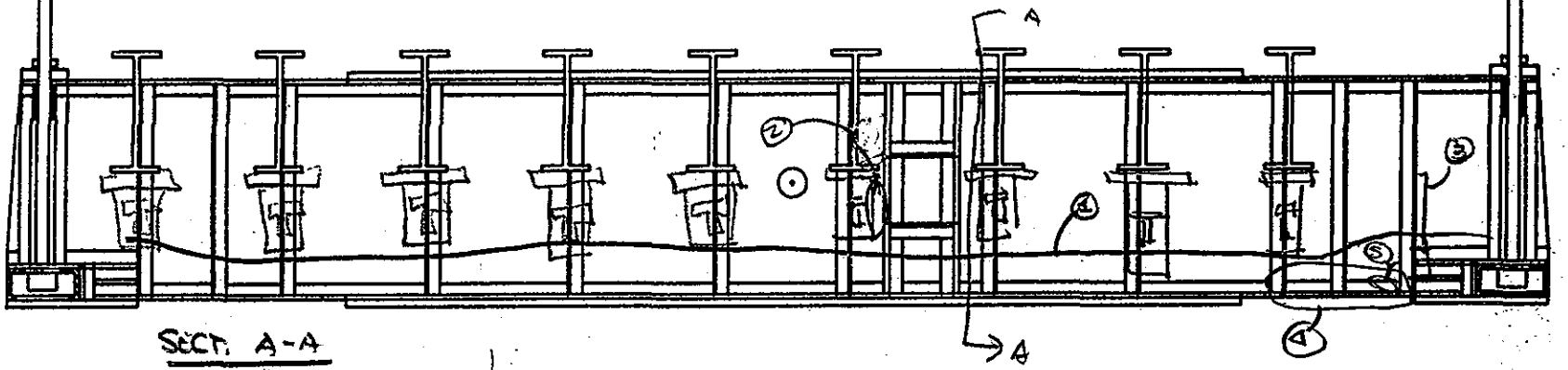
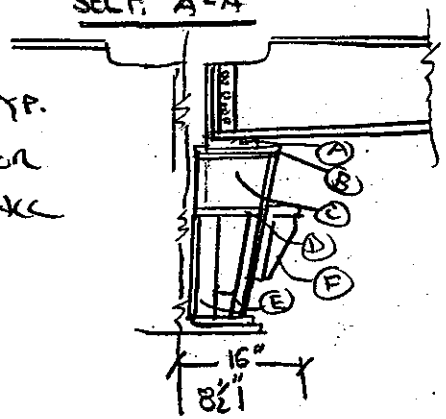
PHOTO B15-12 IS OF UTIL. PLATFORM



SECT. A-A



TYP. FOR EXC

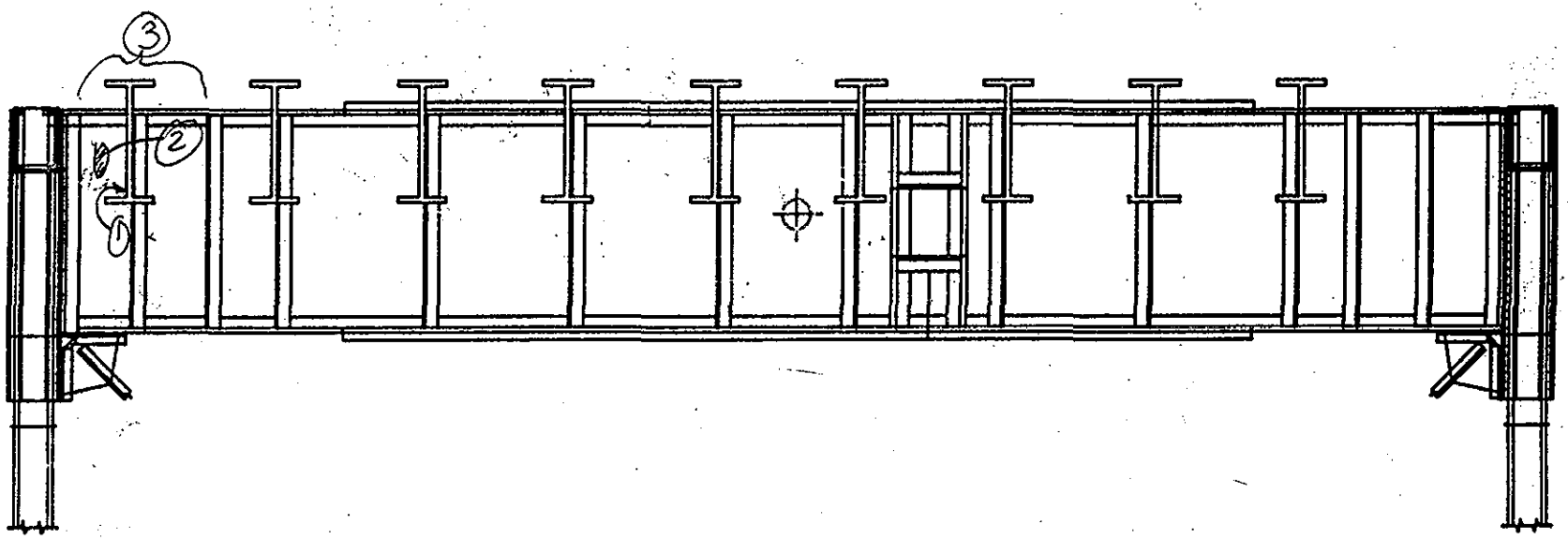
(A) 12" x 10" BEARING PL (VARIABLE DEPTH 1" - 1½")
(B) 15" x 10" PL x ¼" THICK
(C) 8" x 8" x ¼" L
(D) ¼" PL
(E) 3½ x 3½ x ⅜" L
(F) WELDED BRACKET (NON-STRUCTURAL)

SEE PHOTOS B15-11 THRU B15-14 FOR S. FACE
B15-15 THRU B15-18 FOR N. FACE

SPAN ____
FLOORBEAM 10 N ELEV.

NOTES: (1) REMAINS OF OLD DRAINAGE TROUGH WELDED TO FB FLAME CUT, FULL LENGTH OF FB
(2) ⅛" DEEP PITTING 6" HI x 3" WIDE
(3) WELDED REPAIR PL 18" HI FROM BOT. FL ON STIFFENER
(4) ⅛" PITTING, TOP OF BOT. FL, SOUTH FACE
(5) PITTING OF VERT. LEG OF FB L, SOUTH FACE ⅛" DEEP 1"x4" ONLY

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/13/08
CREW: WM/RB	SHEET 3 OF 4



SPAN 1
FLOORBEAM 10 N ELEV

NOTES:

1. 1/8" pit. on str. 9 web @ bot. x 2" high adjacent to support
2. 1/16" pit. x 8" high w/ 1/8" pit x 2" high & 3/16" pit. x 3" high all in line on FB web. 1' west of L10 U10
3. Water leakage, #2 Rust over 20% of all surfaces

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9-16-94
CREW: BH/PN/G2	SHEET 3 OF 6

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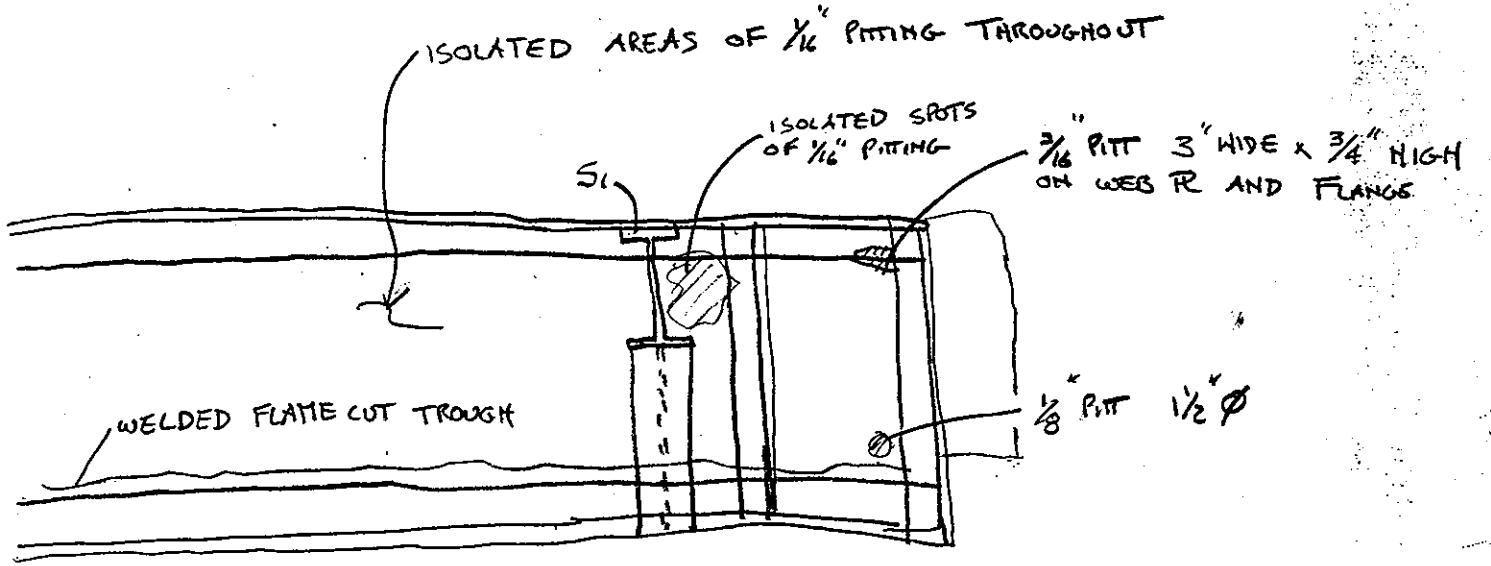
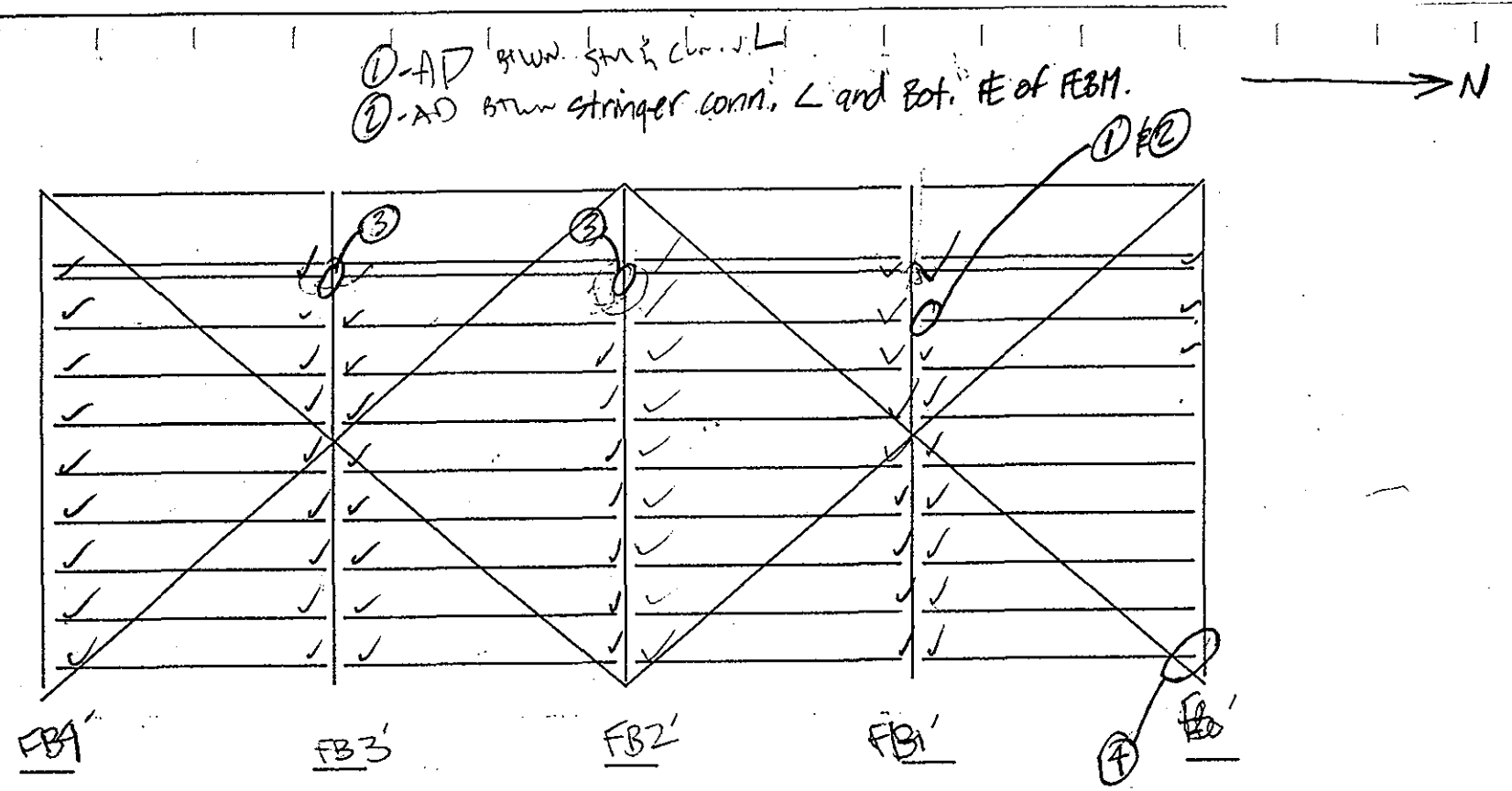


N. ELEV. FLBM 10
MAIN SPAN

NOTES:

DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/16/94
CREW: PWN, BH, GZ	SHEET 4 OF 6

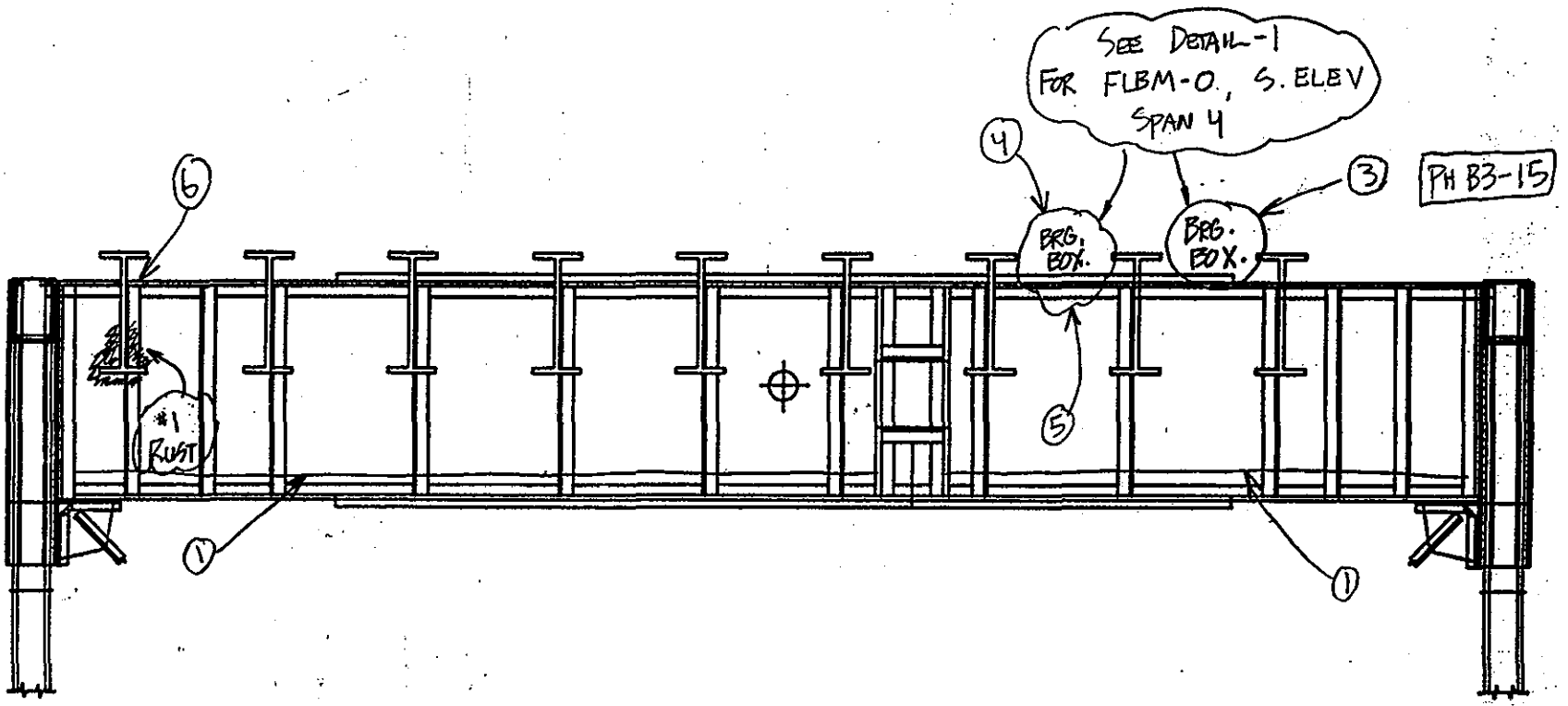


SPAN 2

NOTES: ③-VERT. STIFFENER BUILT UP BY WELDING 5/8" PL TO ANGLE & ORIGINAL ANGLE WELDED TO BOT. FL. - SEE PHOTO B1-18 THRU B1-10

④- Stringer SG has 1/8" pitting Full Height of web & Flanges (loss on 1 Face of each) B6-14

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/29/94
CREW: GG/RB	SHEET 2 OF 2



SPAN 2
FLOORBEAM 0' N ELEV.

NOTES:

1. OLD DRAW TROUGH (WELDED TO FLBM WEB) REMOVED BY FLAME CUT FULL LENGTH OF FLBM
2. ALL STUB STR'S.- BOLTED CONN'S. THRU-OUT.
3. SIGNS OF WATER LEAKAGE - NO. 2 RUST ON ALL EXP. BARS. & BRG. BOX. W/ UP TO 3/16" (IR) BTWN SHIM PL & BRG. BOX
4. (CR) TACK WELD BTWN SHIM PL & EXP. BAR BRG. BOX (BTWN STR #2 - STR #3) 1 OUT OF 4 WELDS UP TO 1/16" GAP BTWN ALL EXP. BARS. & BOT. BRG. PADS.- GAP CLOSES UNDER LIVE LOAD
5. (AD) PRESENT @ ALL 5 BARS & BRG PAD ALSO BTWN SHIM PL & BRG. BOX.
6. SIGNS OF WATER LEAKAGE @ EXP. JOINT - NO. 1 RUST ON STUB STR #9

FLOORBEAM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

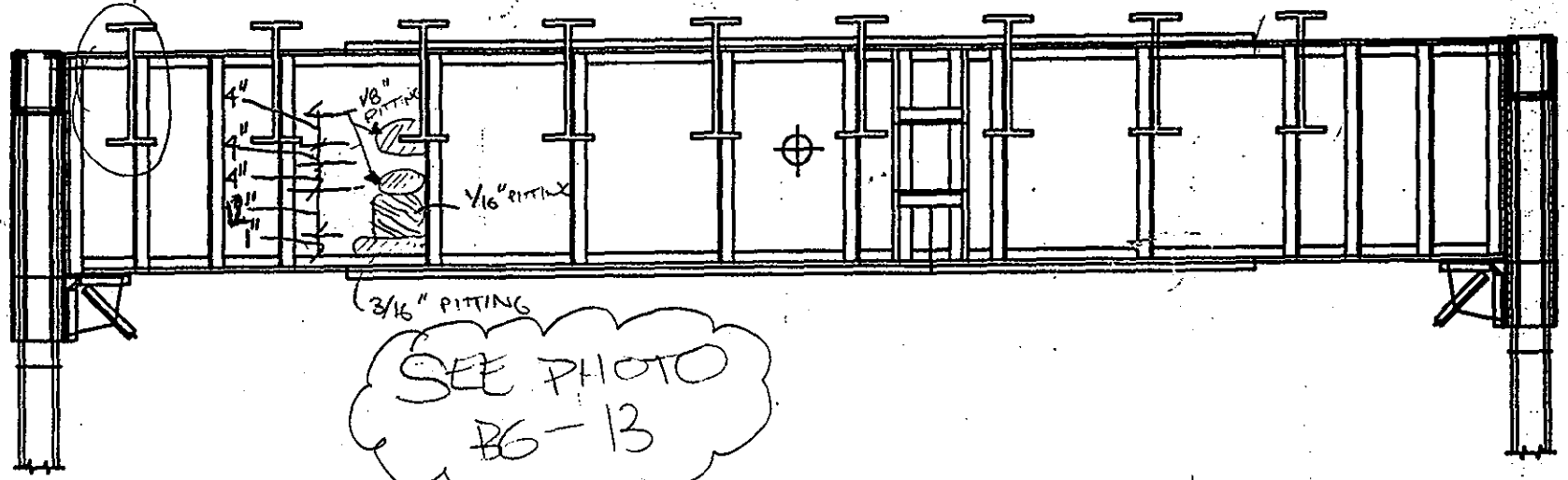
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 8/30/94	
CREW: WM, PWN	SHEET 4	OF 10

Stringer Sq has 1/8" pitting Full height of web & flanges

PHOTO B6-14



SEE PHOTO B6-13

(OPP. HAND)

Note: Loud Banging @ Jt. is due to vehicle impacted on roadway side.

SPAN 2

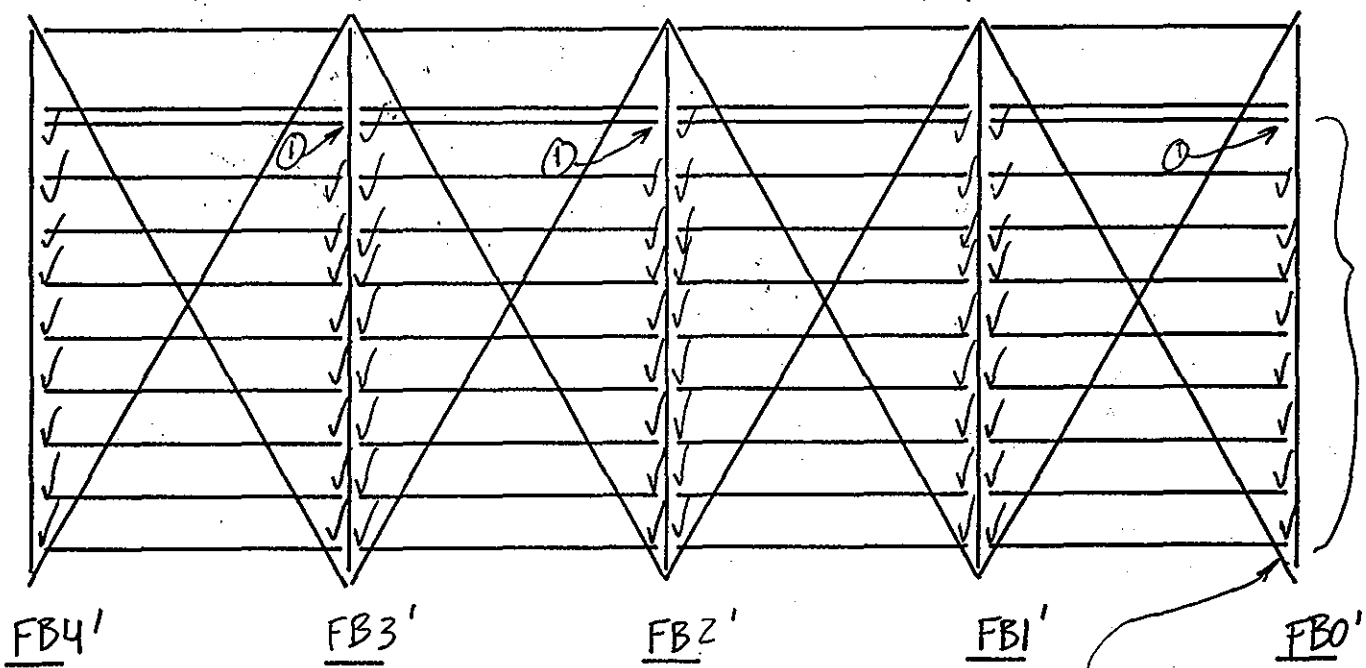
FLOORBEAM F8' S ELEV.

NOTES:

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/1/94
CREW: GAPE/RS	SHEET 5 OF 9

Typ. Note: 22" up from top of OSL of Bot. FL. Utility Bracket (4" x 3½" x 12" w ∠) welded to web of FLBM. Btwn FLBM 4' & FLBM 5'

→ N



Note: Str. to FLBM conn ∠'s Bolted thru FLBM 0' Str #1 - #9 - Typ

Note: Unidentified Squeaking Noise under live load - in area of truss U0', E.

SPAN 2

NOTES:

1. Add'l PL welded to OSL of stiff ∠ @ Str #1
2. Five cover PL rivets btwn Str #1 & Str #3 replaced w/ bolts

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/30/94
CREW: wm, PN	SHEET 5 OF 10

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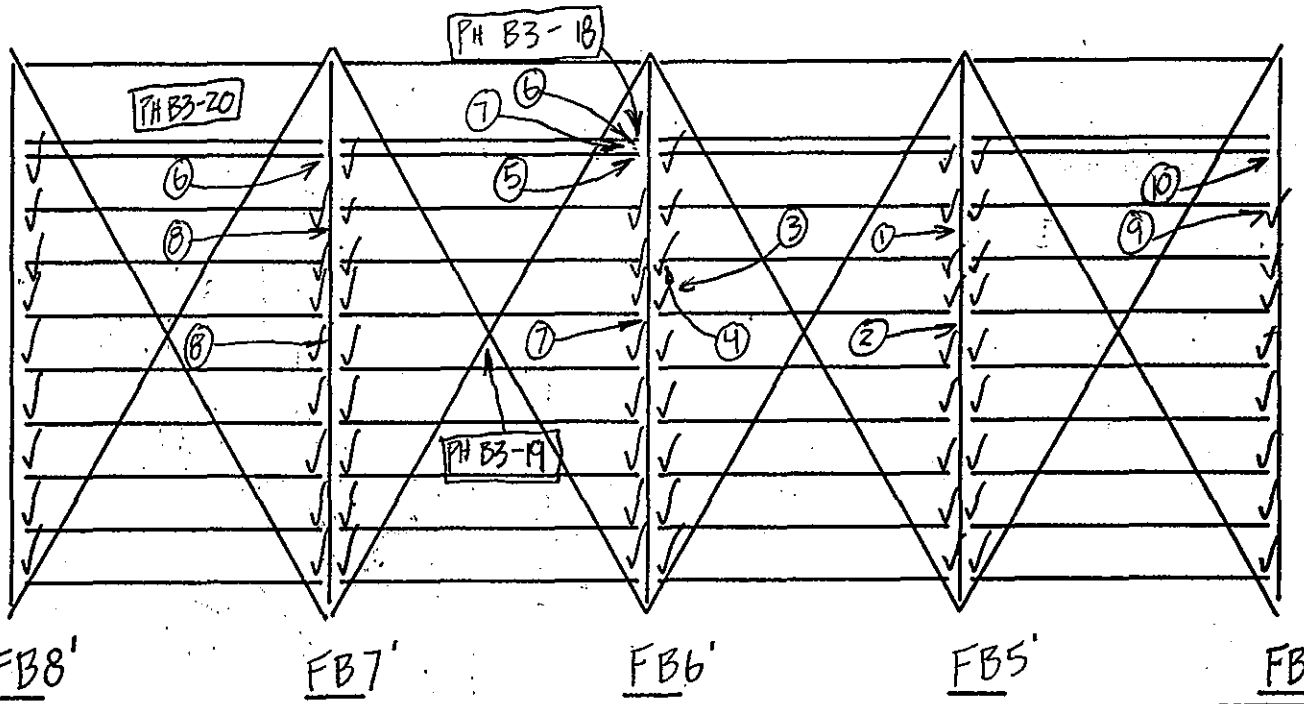
Typ. Note: Utility Bracket welded 22" (to Bot. of 4" x 3½" x 12" w ∠) Up from top of Bot. PL Btwn FB4' & FB5' - Typ. → N



Note: Hand Rail (East Side) - 2 Loose conn's. & Loose grating conn. Btwn. FB4' & FB5'

Note: Hand Rail (East Side) Conn. Loose Btwn FB3' & FB4'

(9) Btwn Str #1 & Str #3 - 3 bolts replacing rivets on Bot. Cov. PL.

(10) Approx 10" long - welded repair PL on OSL of stiff ∠ @ Str #1 from Bot. Riv. of Conn ∠ extending below Bot. FL. of Str.

SPAN 2

NOTES:

(1) Btwn Str #1 & Str #3 - 3 bolts replace rivets on Bot. Cov. PL
(2) 1/8" pitting approx midspan on outside 1" of cover PL.
(3) Clip for catwalk grating (West Side) loose
(4) (AD) Btwn Bot. FL of Str #3 & stiff. Also btwn Conn ∠ & web of Str
(5) East face Str #1 1/8" pit. x 1½" high on Str. web @ Bot. of Conn ∠
(6) Welded repair PL on stiff ∠ - extends from top of Bot FL. to Bot. Riv. of Conn ∠
(7) 1 bolt replacing rivet on Bot Cov @ Str #1 & Str #4
(8) Btwn Str #1 & Str #2 - 3 bolts replacing rivets. Bot Cov. PL., 1 bolt Btwn Str #4 & 5

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/30/94
CREW: WM, PWN	SHEET 6 OF 10

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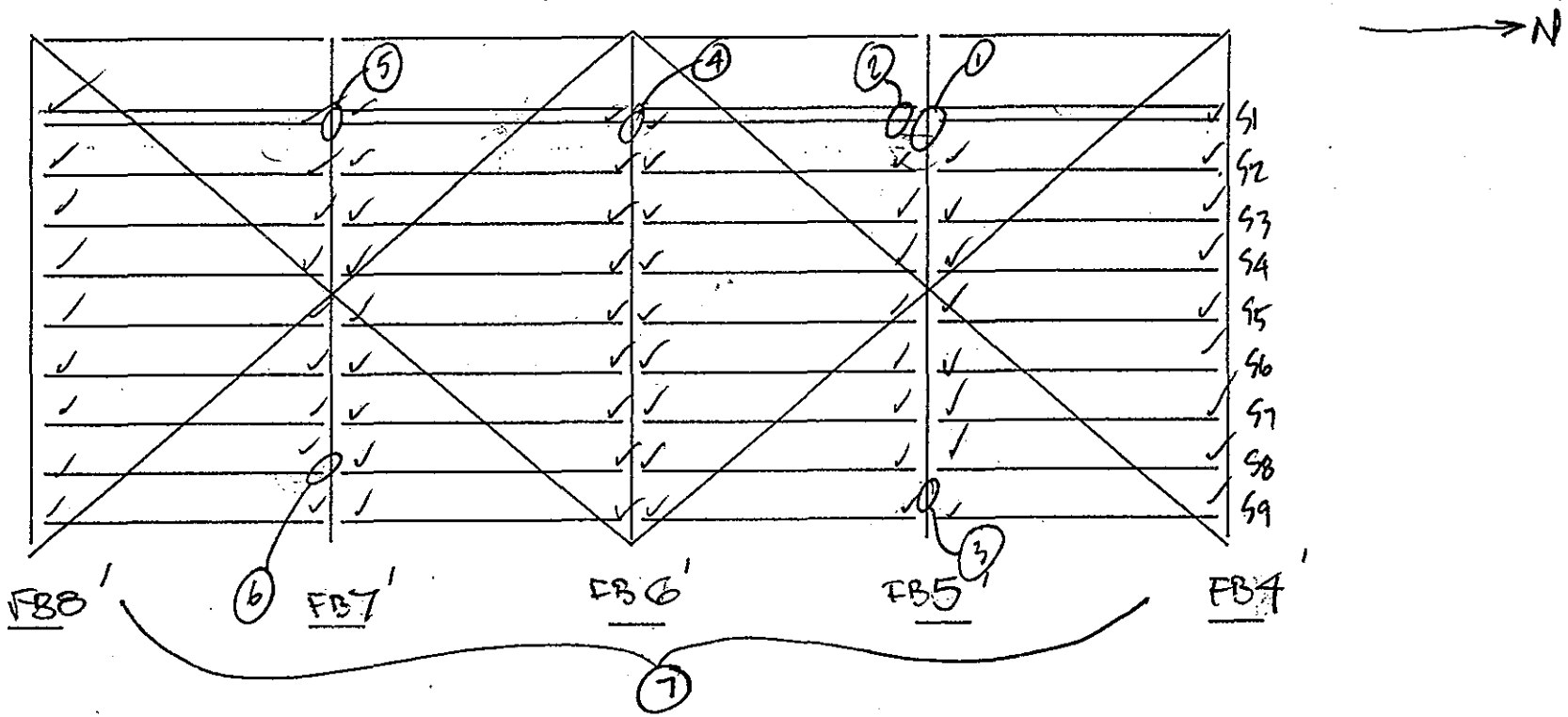
· (7) - stringer S9's underside of Bottom FLANGE HAS 1/8" PITTING ENTIRE WIDTH FOR ENTIRE SPAN



SPAN 2

NOTES: (1) DISCONTINUOUS PVC DUCT, SEE PHOTO 81-11

(2) PITTING OF STIFFENER PL UNDER STRINGER 1

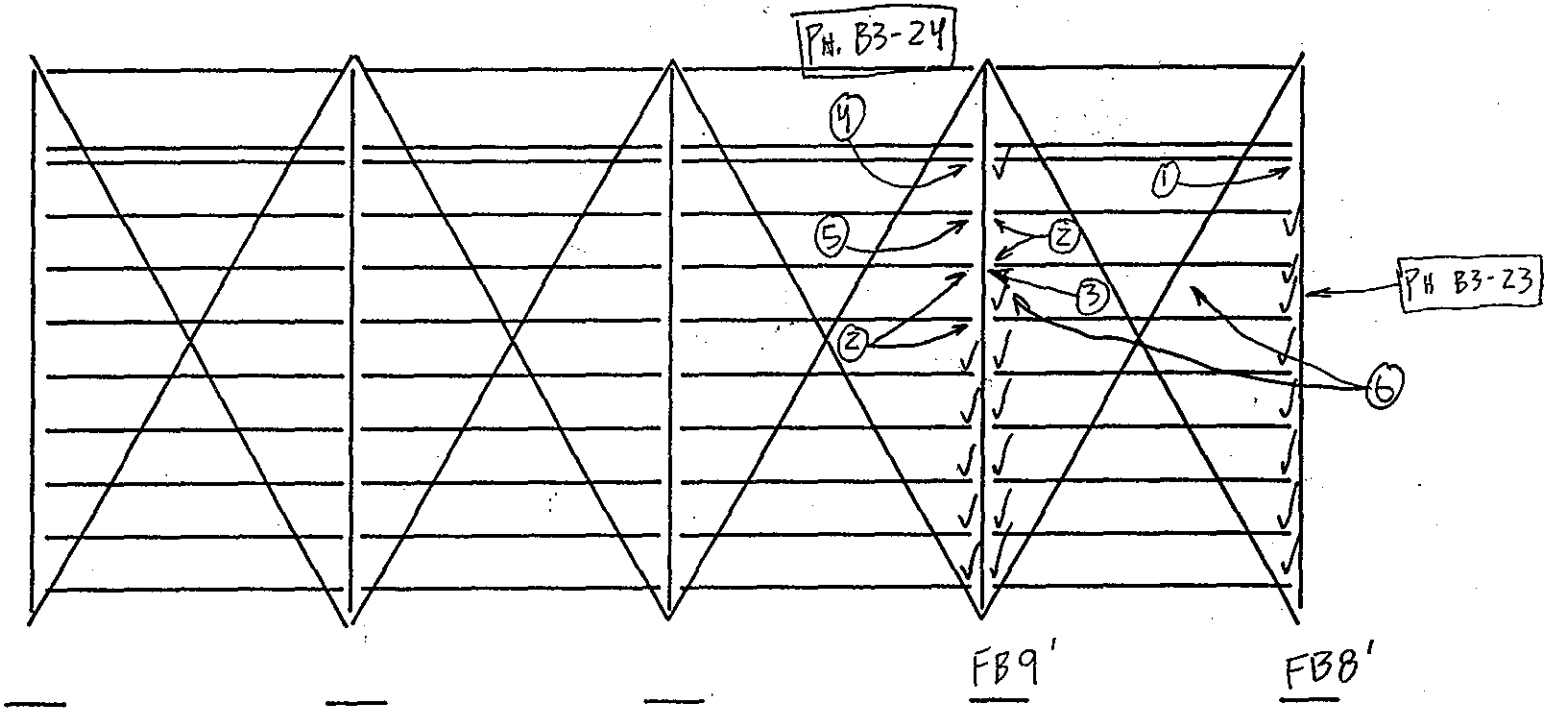
· (3) END 16" OF FLBM underside Bot. FL & web have 1/8 pitt (5" High on web)

(4) Repair PL. WELDED TO FLBM STIFF @ South, @ STR 1 ONLY COVER TO 1/2 OF STIFFENER

(5) PL WELDED TO FLBM STIFF @ South face, STR 1 CONN. half HT. OF FLBM to bot. FL.

(6) Similar to (5) BUT GOES From bottom TO 10" ABOVE Bot. Flange.

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/30/04
CREW: GG/RSB	SHEET 3 OF 7



SPAN 2

NOTES:

1. WELDED REPAIR PL ON STIFF ∠ @ STR #1 EXTENDS APPROX 8" BOT FL OF STR 1
2. (AD) BTWN BOT FL OF STR & STIFF ∠
3. WEST SIDE OF CATWALK RAIL WELDED TO WEB OF FLBM FB9' N. SIDE
4. 15" WELDED REPAIR PL ON EAST FACE OF STIFF ∠ @ STR #1 CENTERED ON BOT. FL. OF STR.
5. 12" WELDED REPAIR PL " " " " " @ STR #2 " " " "
6. LOOSE CATWALK GRATING - 2 LOCATIONS BTWN FB8' & FB9'

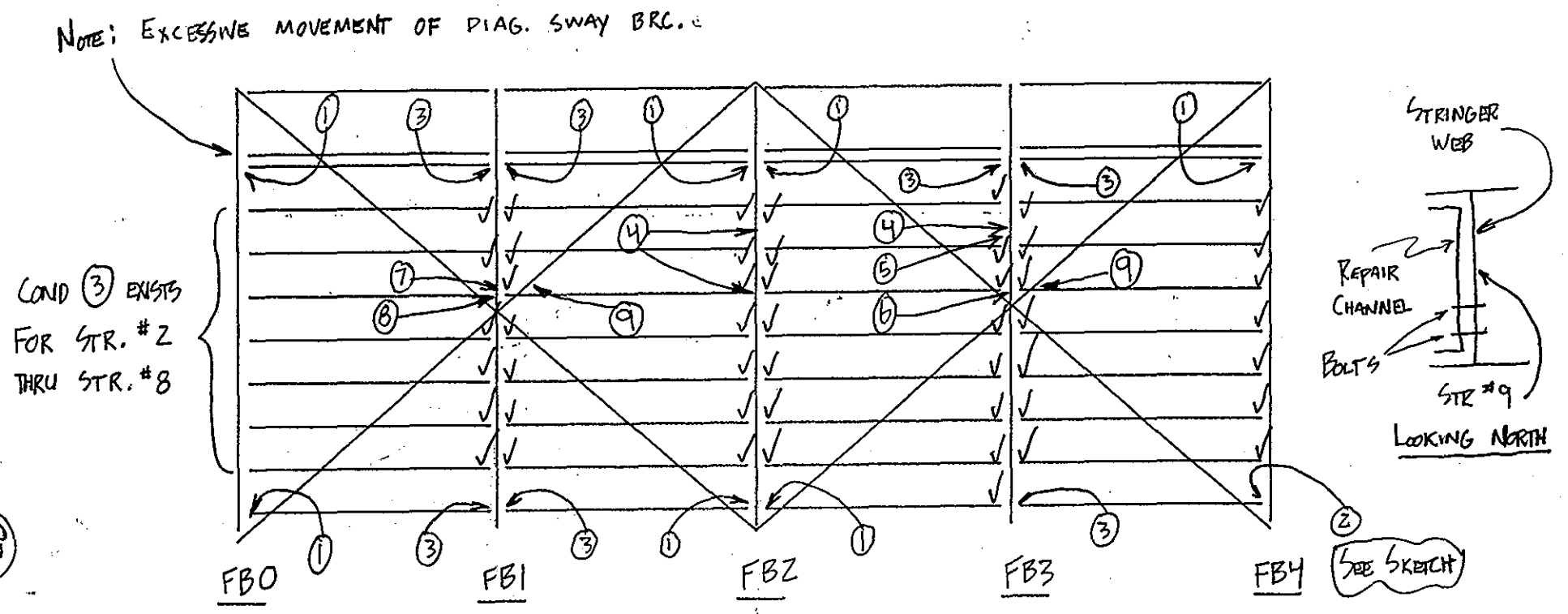
FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8/30/94
CREW: WM, PN | SHEET 7 OF 10



(8) 1/16" REM. 2' LONG ON OUTSIDE 1" OF BOT. COVER PL UNDER STR. #4 (2 BOLTS REPLACING RIVETS @ SAME LOC.)

(9) CATWALK RAIL (E. SIDE) WELDED TO X-BRC MEMBER - TYP.

SPAN 4

NOTES:

(1) STR. TO FLBM CONN. ENTIRELY BOLTED (STR. TO STIFF. - STIFF. TO FLBM)
(2) REPAIR CHANNEL APPROX. 3' LONG - BOLTED FULL DEPTH TO STR. WEB (SIM. TO COND (2) @ FLBM 8, STR #9, SPAN 4
(3) STR. TO STIFF ∠ - BOLTED CONN.
(4) 1/4" (IR) BTWN BOT. COVER PL & BOT. FL. - 6" LONG
(5) 3/16" REM ON OUTSIDE 1" OF BOT. COVER PL - 6" LONG UNDER STR #3
(6) SIM. TO COND. (5) UNDER STR #4 UP TO 18" LONG
(7) UP TO 1/4" (IR) - 2' LONG BTWN BOT. COVER PL & BOT FL UNDER STR. #4

FLOOR SYSTEM

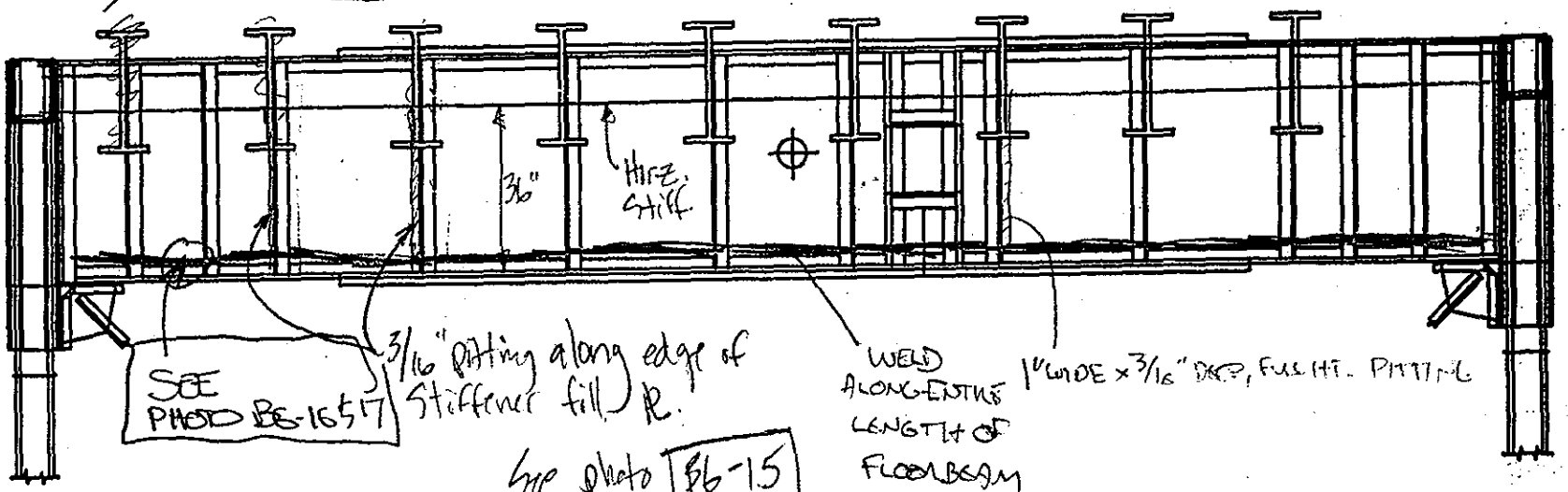
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 8/30/94
CREW: WM, PWN	SHEET 1 OF 10

South Face of Lnd FLBM has Horz. Stiffeners F.L. of FLBM stringer not present.



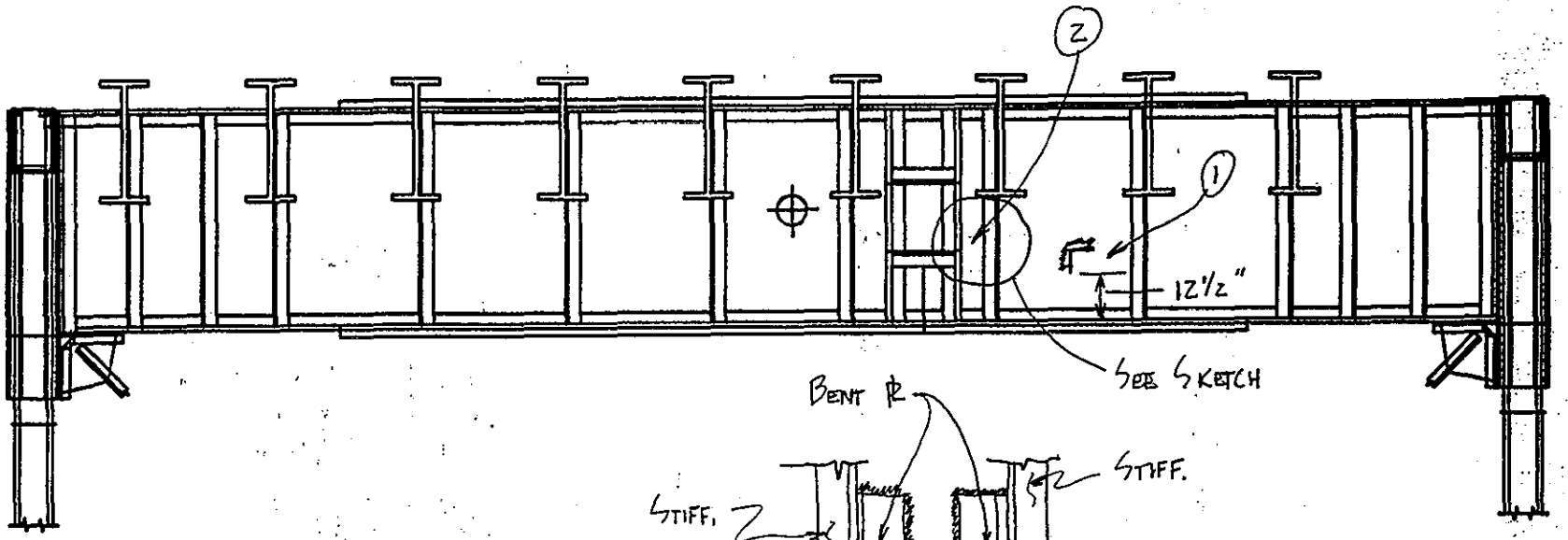
See photo B6-15

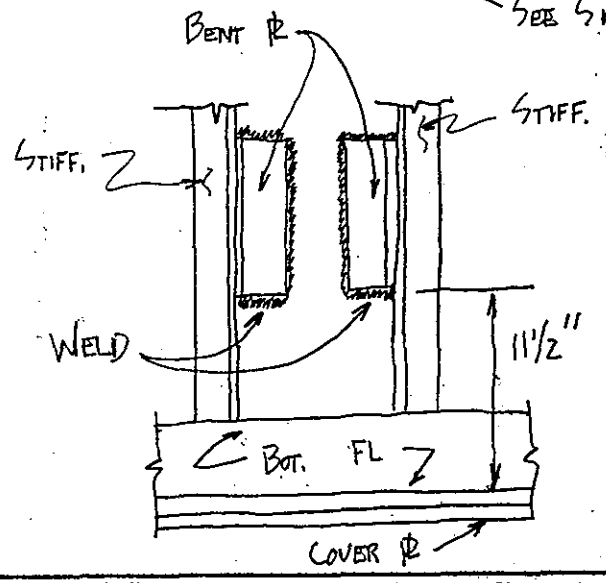
~~PHOTO 14 IS OF STR. 9~~

SPAN 4 (Opp. Hand)
FLOORBEAM 0 S. ELEV.

NOTES:

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/1/94
CREW: Gabor / KB	SHEET 4 OF 9





SPAN 4
FLOORBEAM 0 N ELEV.

NOTES:

1. CATWALK RAIL (WEST SIDE) WELDED TO FLBM WEB - 12½" BOT. OF RAIL TO TOP OF BOT. FL.
2. LADDER BRACKET (BENT PL'S) WELDED TO FLBM WEB & STIFF ∠ SEE SKETCH BTWN ACCESS HOLE & E. SIDE STR #3

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/30/94
CREW: WM, PWN	SHEET 2 OF 10

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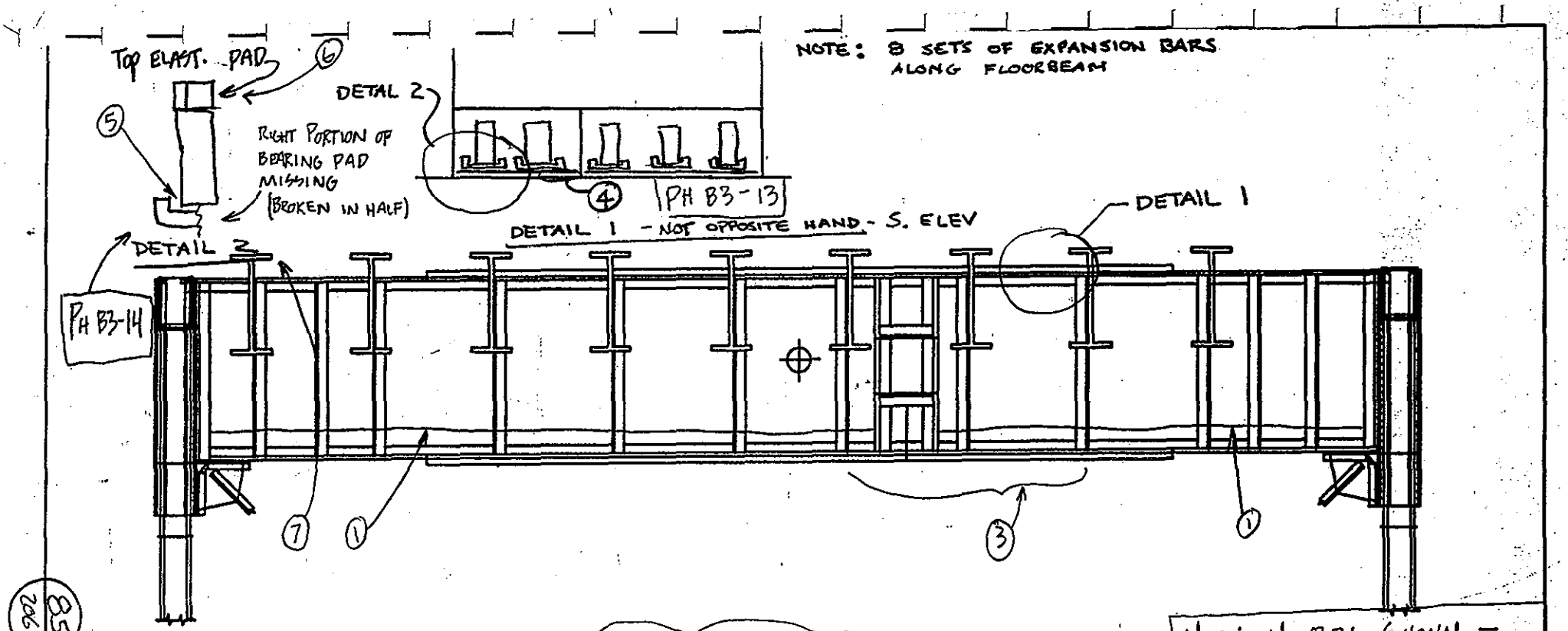


Note: N. ELEV. SHOWN — S. ELEV. NOTES OPPOSITE HAND, EXCEPT AS NOTED

(2) - NOTE: STUB STR'S PRESENT

(7) UP TO 1/8" (IR) BTWN SHIM PL & BEARING BAR BOX AT FIRST SET OF BRG. BAR ON WEST SIDE OF FLBM.

SPAN 4

FLOORBEAM 0 N ELEV.

NOTES:

(1) OLD DRAIN TROUGH (WELDED TO WEB) REMOVED BY FLAME CUT FULL LENGTH OF FLBM

(2) ALL STUB STR'S. BOLTED CONN'S. STR TO CONN ∠ - CONN. ∠ TO FLBM STR #1 - #9

(3) UP TO 1/4" (IR) FROM STR #2 THRU STR #4 BTWN BOT. COVER PL & BOT. FL. W/ 1/8" REM. ON OUTSIDE 1" OF COVER PL.

(4) BROKEN TACK WELD BETWEEN SHIM PLATE AND EXPANSION BAR BEARING BOX

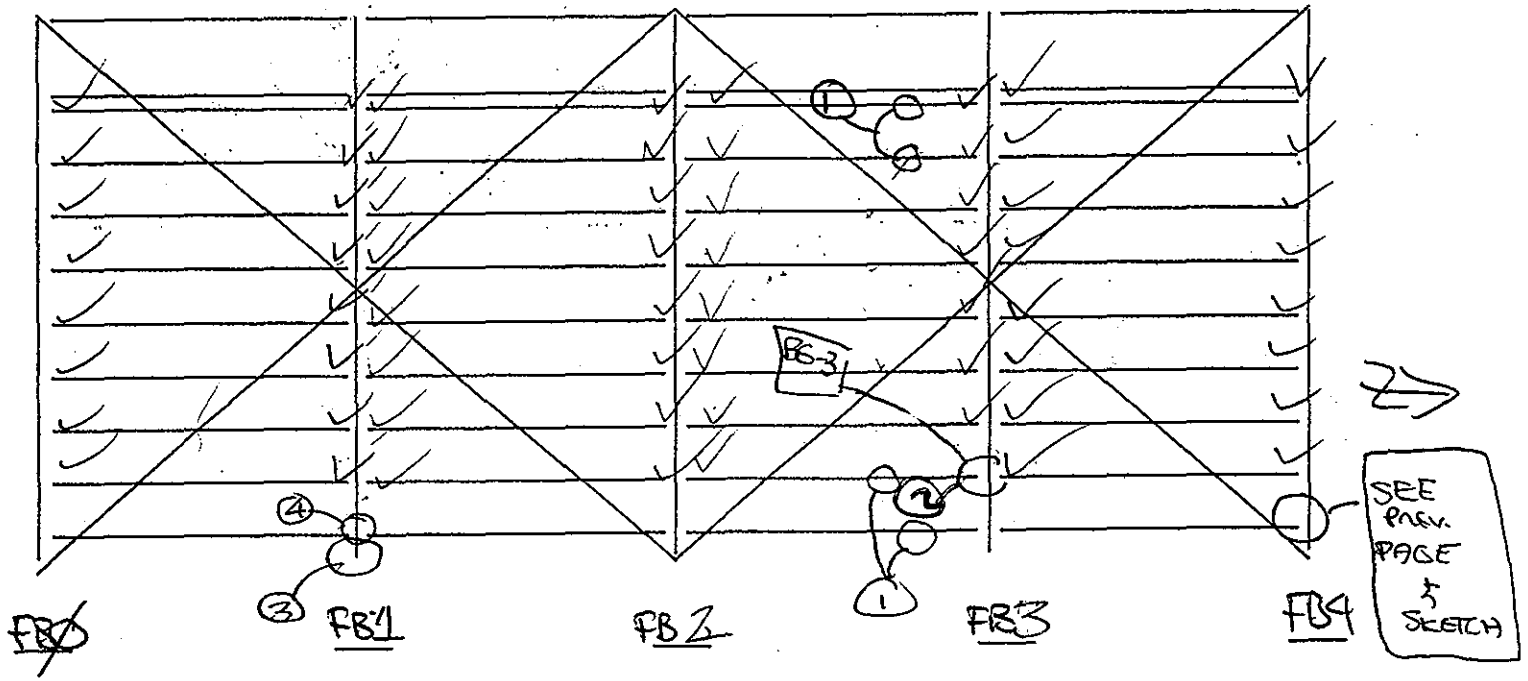
(5) 1/4" GAP BTWN BOT. OF BEARING BAR AND REMAINING PORTION OF BRG. PAD — BEARING BAR DEFLECTS 1/4" UNDER LIVE LOAD — EXCESSIVE BANGING UNDER LIVE LOAD

(6) TOP ELASTOMERIC PAD OVER BRG. BAR ROTATED - PAD REMAINS IN PLACE - ONLY ROTATED

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/30/94
CREW: WM, PWN	SHEET 3 OF 10

GENERAL NOTES ON PREVIOUS PAGE.

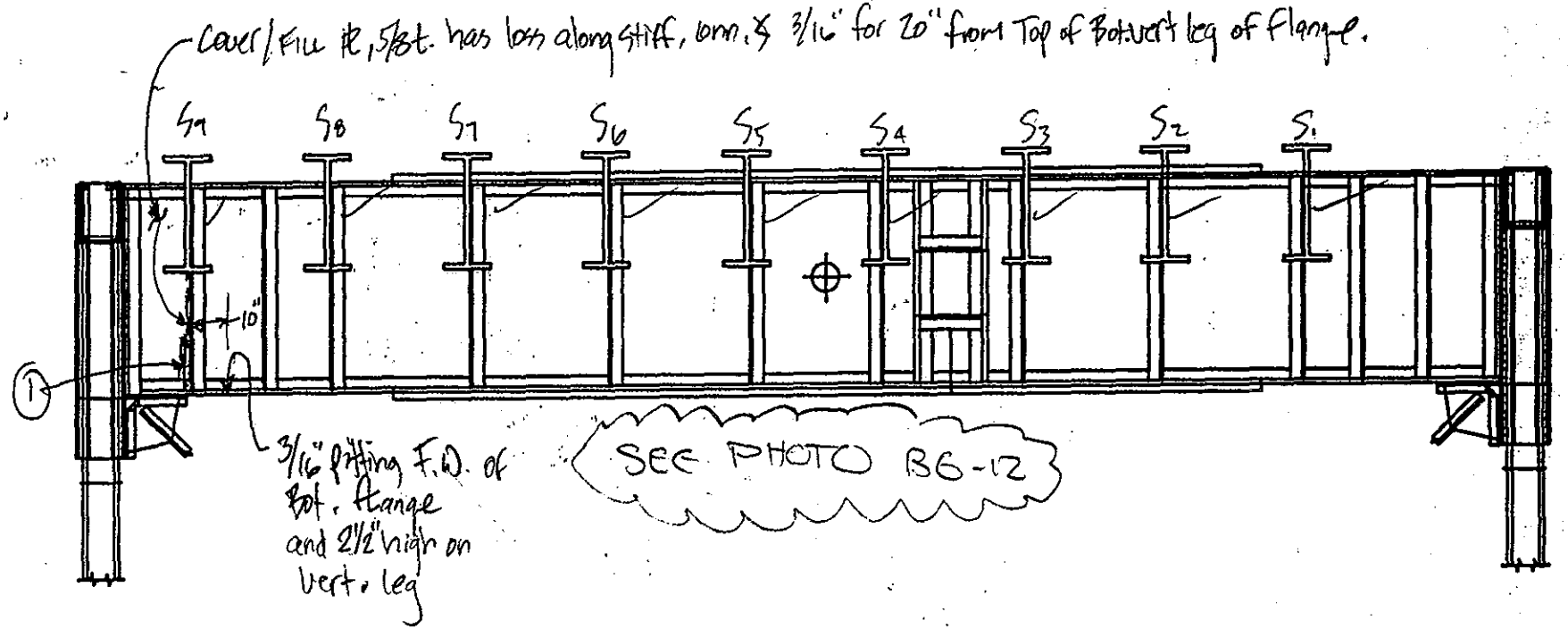
FRAMING (2/2)



SPAN 4

NOTES:
① WELDED L TO MEMBER
② WELDED REPAIR PL TO FLOORBEAM STIFF & BOTT. FL, S. FACE
③ FLOORBEAM LOSSES
*SEE FLOORBEAM ELEVATION
④ REPAIR TO VERTICAL FLOORBEAM STIFFENER UNDER STRINGER 9, S. FACE BOTTOM 10" HT, WELDED PL TO OLD STIFFENER & TO BOTTOM FL L.

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/99
CREW: GG/RB	SHEET 15 OF 15

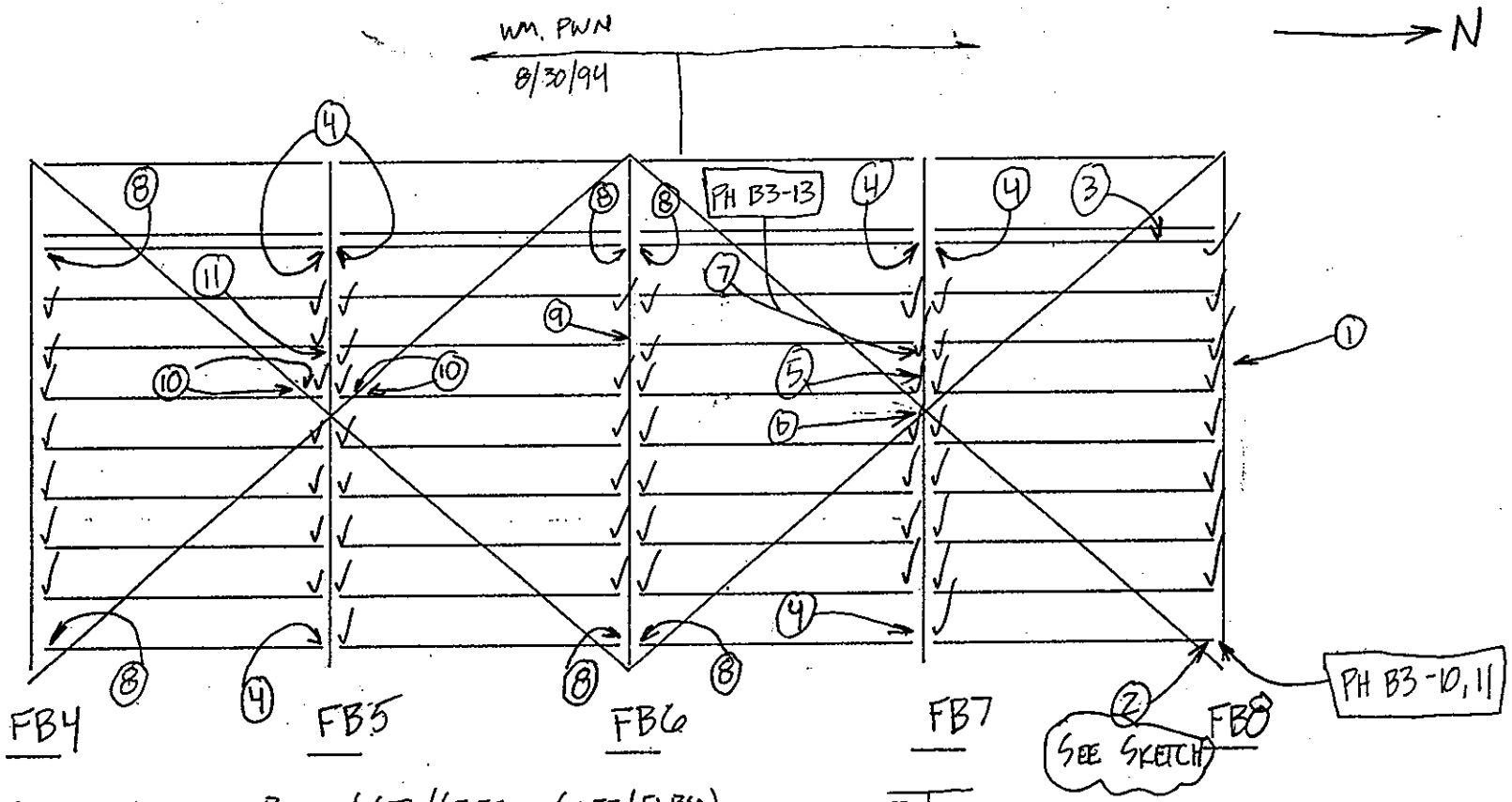


SPAN 4 (Opp. Hand)
FLOORBEAM 1 S ELEV.

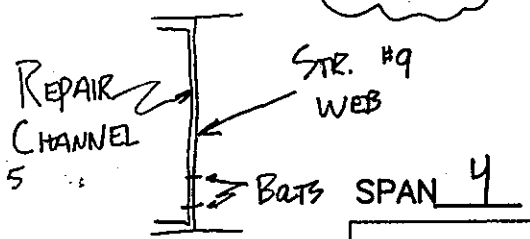
NOTES:
① welded Repair PL (½" x 4" x 10") To Stiff./conn ∡ and appears to be welded to Bot FL of FLBM

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/1/94
CREW: GABE / RB	SHEET 6 OF 9

87
206



(8) STR. TO FLBM CONN. - ENTIRELY BOLTED (STR./STIFF. - STIFF/FLBM)
(9) 3/16" (IR) BTWN BOT. COVER PL & BOT. FL. FOR 6" @ STR #3
(10) CATWALK RAIL WELDED TO X-BRC. MEMBER
(11) 1 OUT OF 2 BOLTS LOOSE, WEST CATWALK CONN. BRACKET - S. SIDE FLBM 5



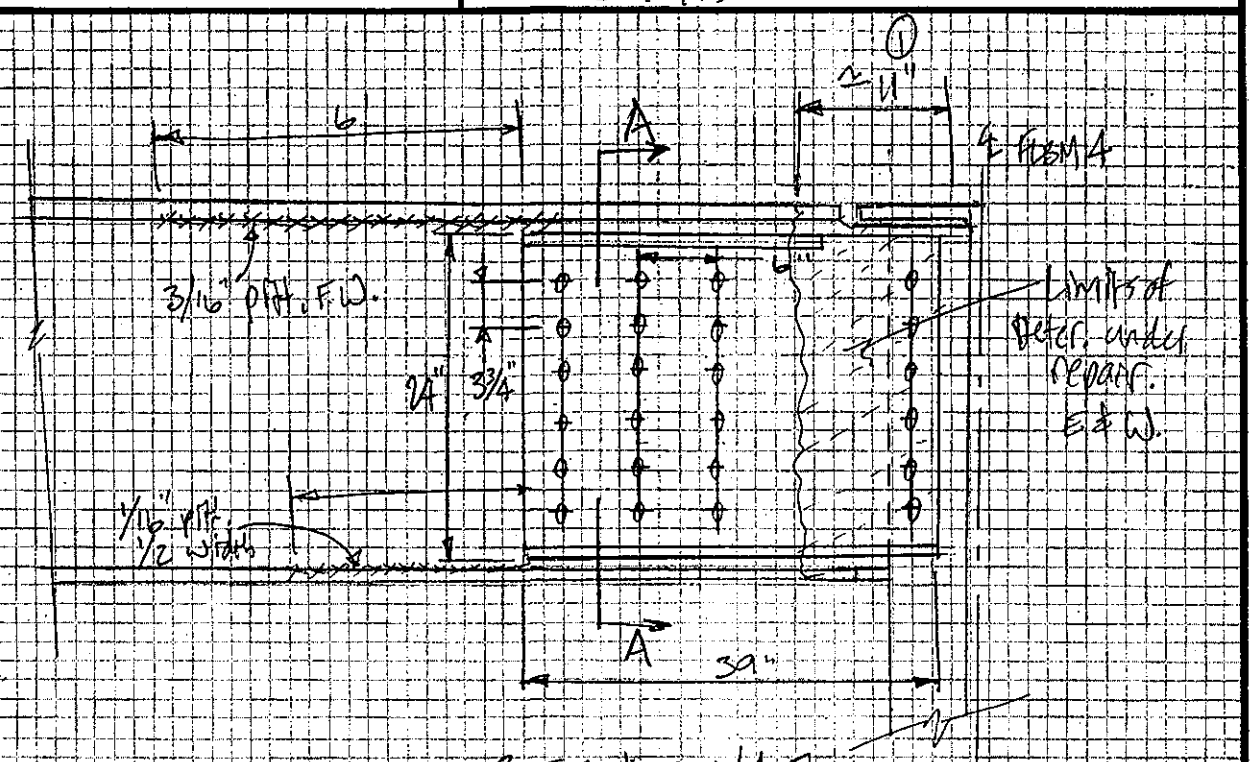
NOTES:

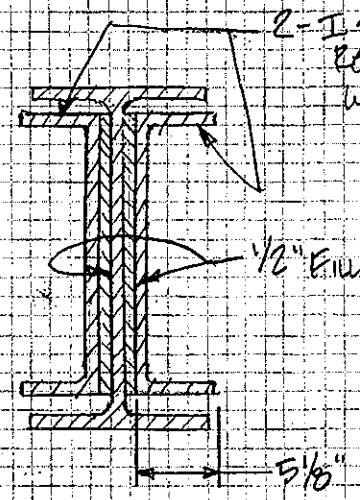
(1) MINOR HL MAP (CR) ON BOTH N. & S CONCRETE HEADER 5'W x 1'H
(2) APPROX. 3' LONG CHANNEL - BOLTED FULL DEPTH OF STR. WEB. - ALSO REPAIR PL WELDED TO STIFF. ∠ @ REPAIR LOCATION (PH B3-10,11)
(3) #1 - #2 RUST ON BOT. FL. OF STR #1 WHERE DRAINAGE PIPE EXISTS
(4) STR. TO STIFF. ∠ - BOLTED CONN.
(5) 1/4" REMAINING ON OUTSIDE 1" OF BOT. COVER PL. - 4' WEST OF MIDSPAN
(6) UP 3/8" (IR) @ MIDSPAN BTWN BOT. COVER PL & BOT. FL.
(7) WEST OF STR #3 3/16" REM. ON OUTSIDE 1" OF BOT. COVER PL. UP TO 2'L. W/ 3/8" (IR) BTWN BOT PL. (PH B3-13)

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8.29.94
CREW: EH, PN, WM	SHEET 8 OF 8

FIELD NOTES

JOB NO. 1784	BRIDGE NO.	
DATE 8/31/94	SHEET 8 of 16	
PREPARED BY: A.G. LICHTENSTEIN	CREW Gabe / RB	





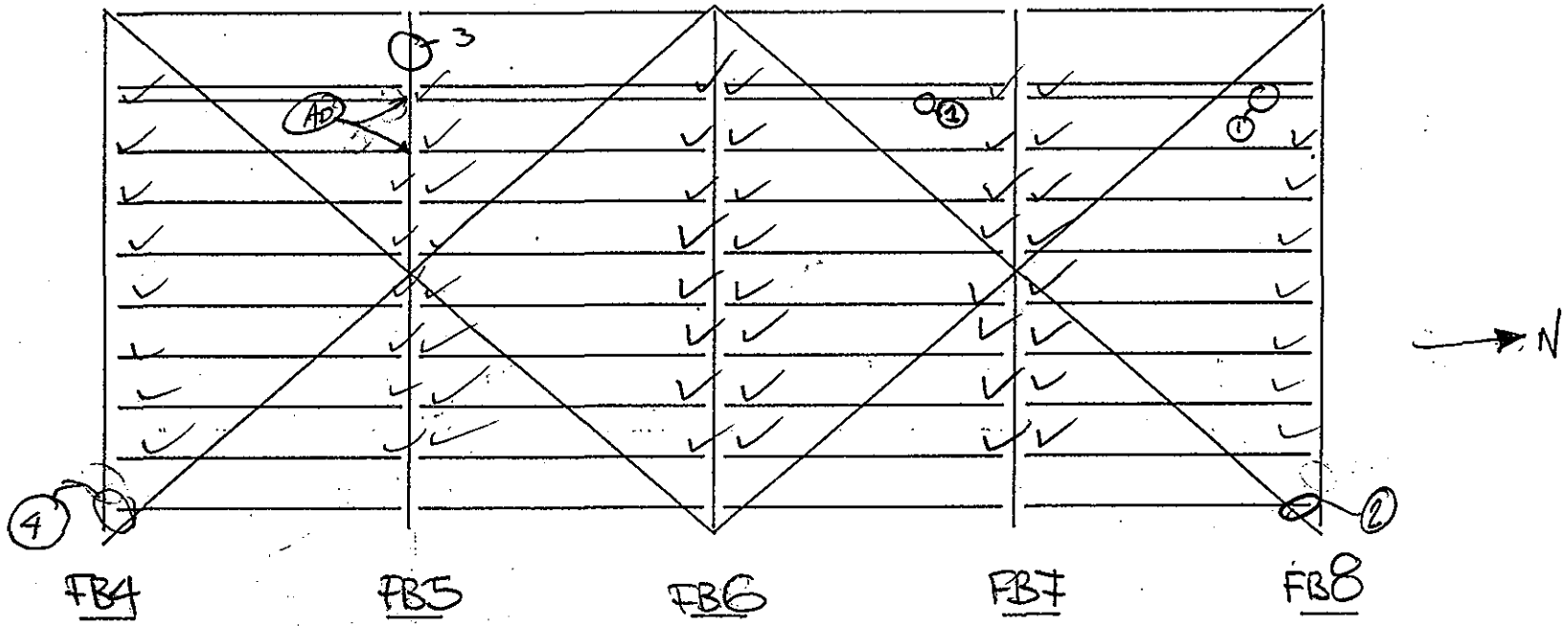
[SEE Photo's 36-1 & 2]

① The Deteriorated area of Stringer appears to be up to 11" from end of Stringer. Loss are on web (E&W) and Top & Bot. of Flanges).

Stringer S9, span 4
Connection @ South side
of Floorbeam 4

GENERAL NOTES: STRINGER #9 on W, BOT. FL LOSSES SAME AS OTHER SPAN EXCEPT WHERE NOTED FRAMING 1/2

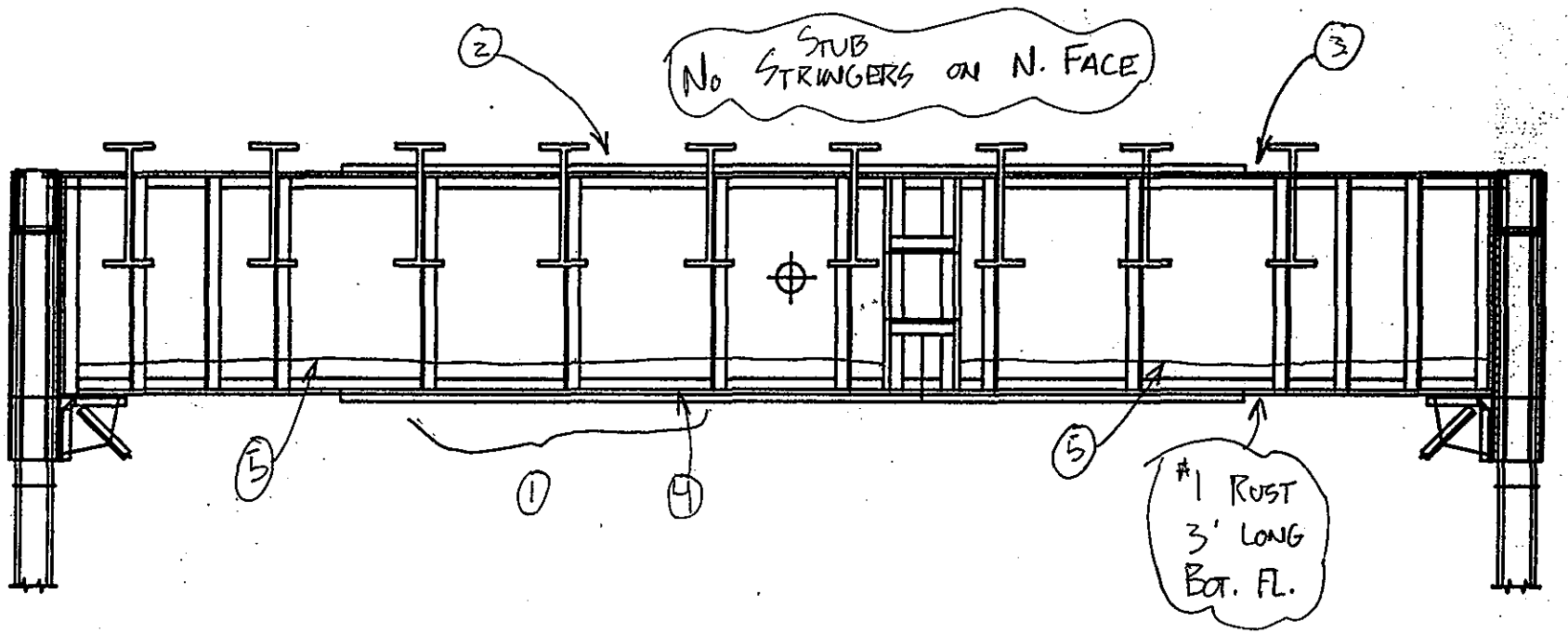
#8 & #2 " ", TOP FL HAS EVENLY SPACED HOLES ON W. SIDE, ENTIRE STRUCTURE
ON EAST



SPAN 4

NOTES: ① #1/#2 Rust on the TOP FLANGE FROM LEAKAGE @ DRAIN PIPE
② REPAIR PL" BOLTED TO BOTH SIDES OF WEB
③ PITTING 5/16" DEEP FOR 2" HT ABOVE BOT. FL X, S. FACE 1/16" FOR 1/2 OF HT.
underside of TOP FL (south) has 3/16" pit. F.W., bot FL (south) 1/8" pit. F.W.
④ REPAIR DETAIL. SEE SKETCH

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/04
CREW: GG/MB	SHEET 14 OF 15



SPAN 4
FLOORBEAM 8 N ELEV.

NOTES:

1. APPROX. 13 BOLTS REPLACING RIVETS FOR COVER PL. CONN.
2. JOINT LEAKING BTWN AREA OF STR. #5 & #6 LEAKING ON TO BOT FL.
3. " " @ STR #1 ON TO BOT. FL., WEEP HOLES LEAKS ONTO BOT. FL. IN SAME AREA
4. UP TO 1/8" PITTING - 1" WIDE IN SAME AREA AS COND. 2 TOP OF BOT. PL.
5. OLD TROUGH BRACKET (WELDED) FLAME CUT OFF FROM WEB OF FLBM

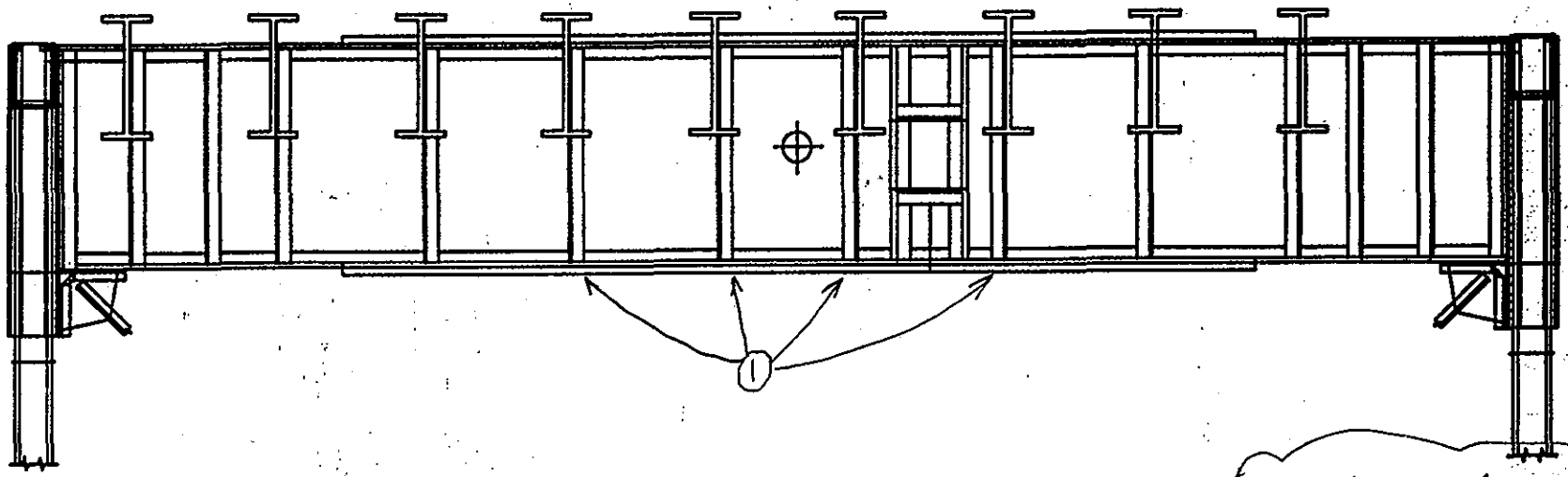
FLOORBEAM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8-29-94
CREW: WM, PN, BH | SHEET 6 OF 8



NOTE: N. ELEV. SHOWN - NOTES FOR S. ELEV. OPPOSITE HAND.

SPAN 4
FLOORBEAM 8 N ELEV.

NOTES:
1 IR BTWN COVER PL & BOT. FL ∠'S UP TO 3/8"

FLOORBEAM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 8-29-94
CREW: BH, WM, PN	SHEET 7 OF 8

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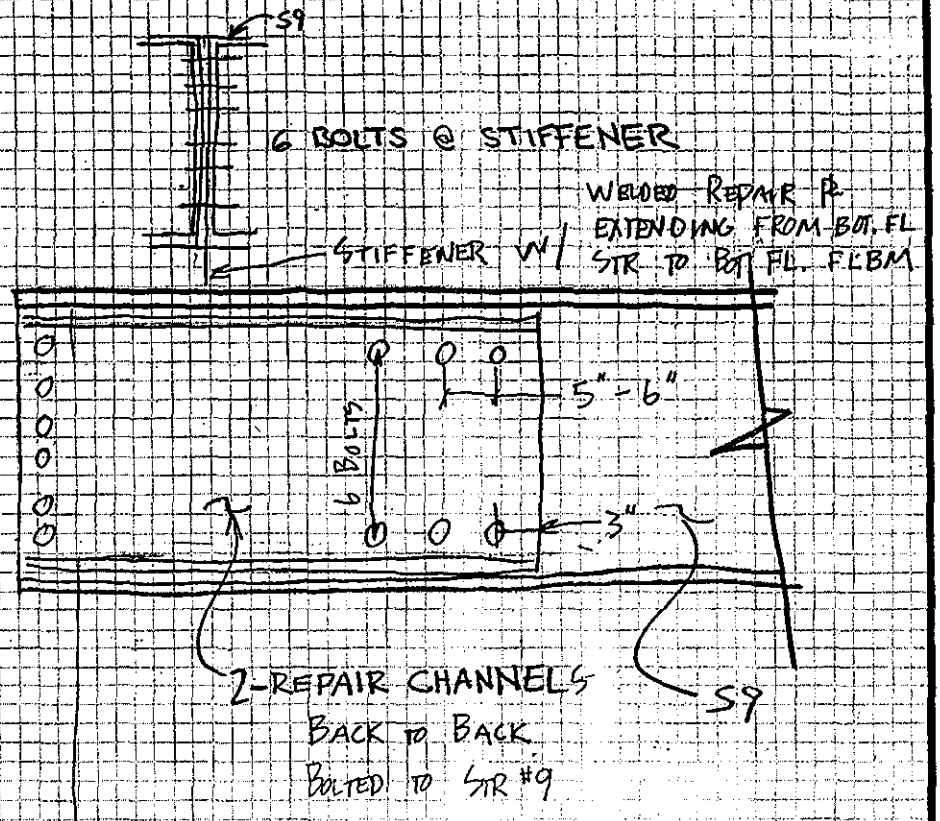
FIELD NOTES	JOB NO. 1784	BRIDGE NO. BOURNE
	DATE 8/31/94	SHEET 11 / 18
PREPARED BY: A.G. LICHTENSTEIN	CREW BH, WM, PWJN	

REPAIR CHANNEL @ S9, FB8, SPAN 4

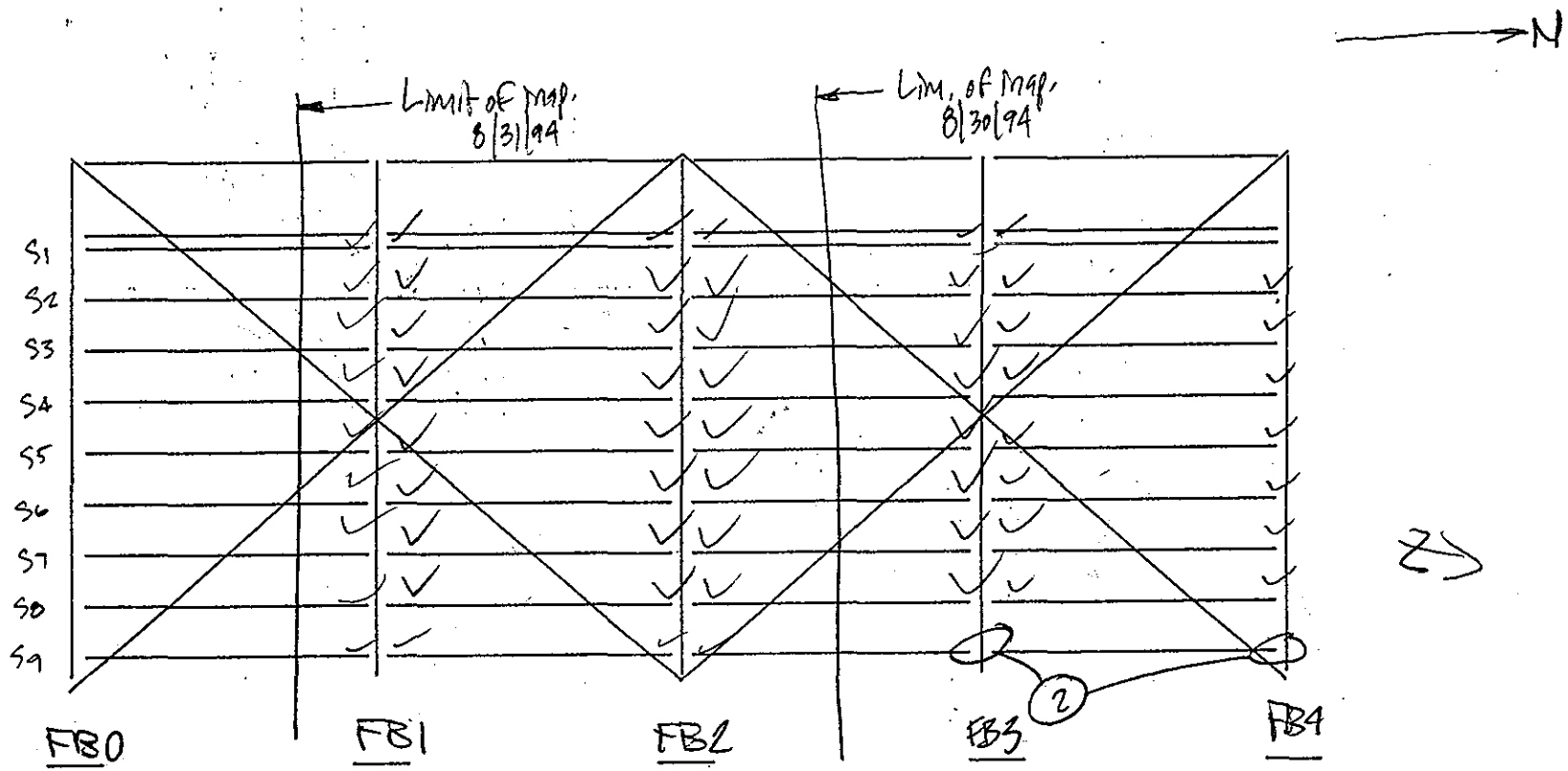
$T_F = 11/16''$

$d = 24\frac{1}{8}''$

FLANGE = $4\frac{3}{4}''$



WEST ELEV.



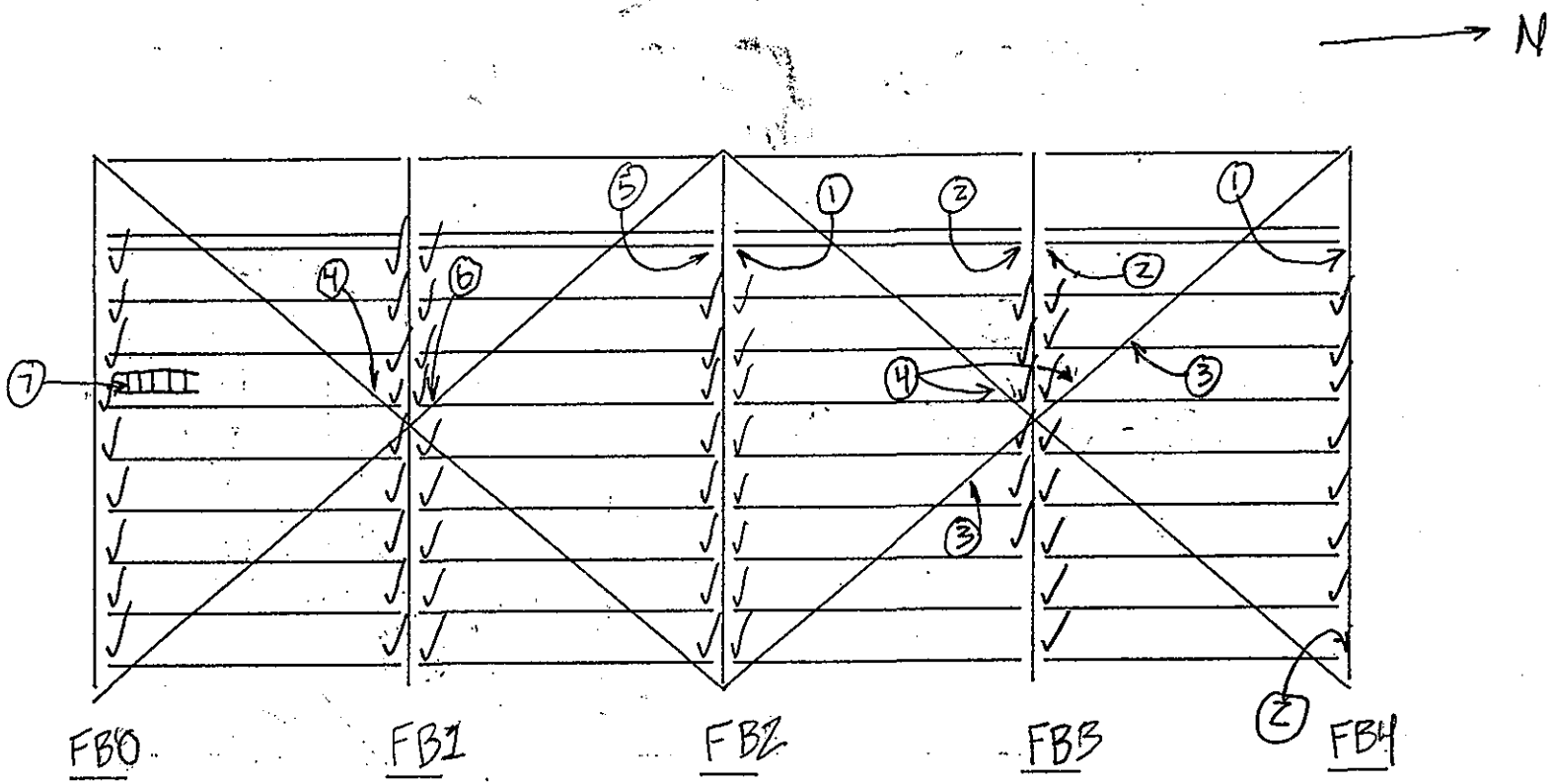
94 206

SPAN 6

NOTES:

(2) - pitting Full height of S9 web west face and f. width of flanges. 1/8" deep

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/30/94
CREW: GG/RB	SHEET 3 OF 15



SPAN 6

NOTES:

1. STR #1 BOLTED CONN. STR. TO FLBM - ENTIRELY BOLTED
2. BOLTED CONN. STR. TO STIFF. CONN.
3. 1/4" DIP x 2" LONG TOP FLG. BRACING MEMBER N & S. SIDE [PH B3-7]
4. CATWALK RAILING WELDED TO X-BRC. MEMBER
5. STR. TO FLBM BOLTED CONN.
6. (CR.) TACK WELD ON CATWALK RAIL TO X-BRC. MEMBER
7. GRATING CONN'S LOOSE ON PORTION OF CATWALK

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8.29.94
CREW: WM, PN, BH	SHEET 4 OF 8

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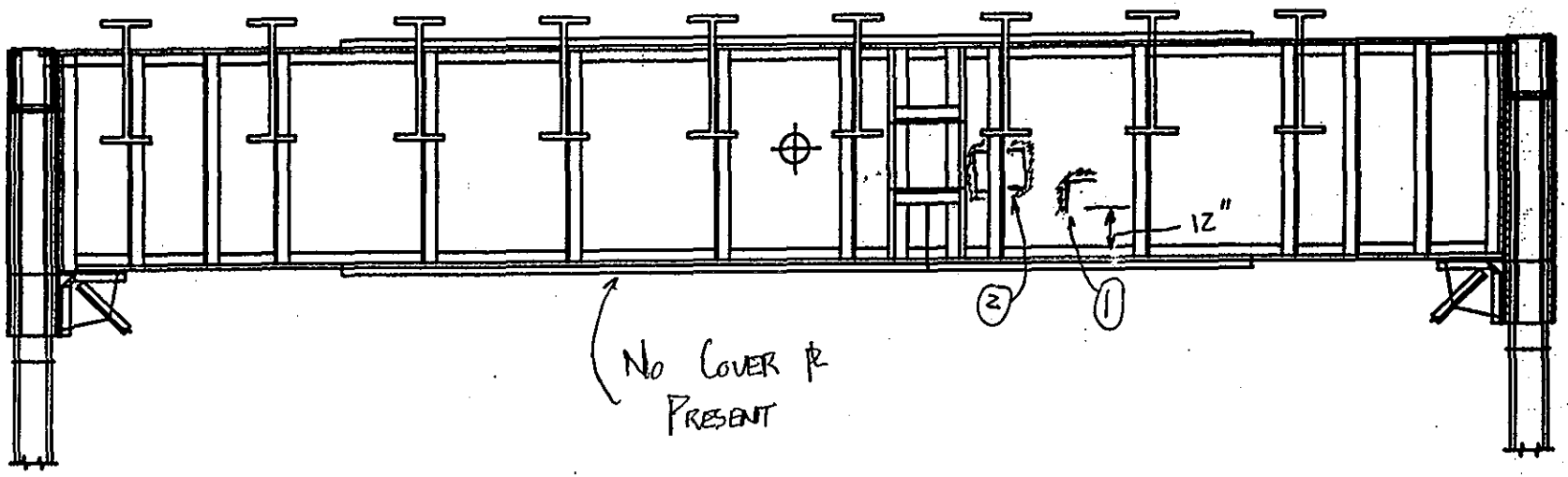
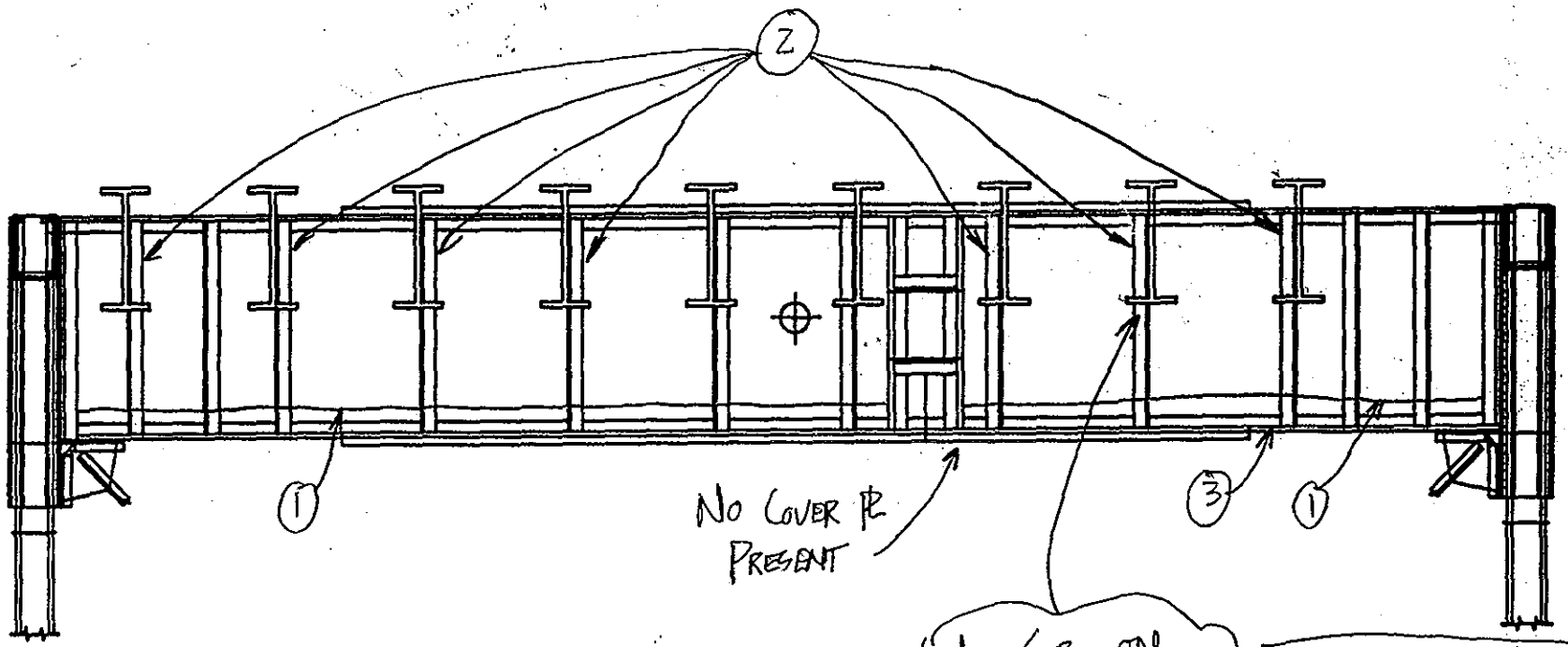


Note: X-Brc @ P.P. O
Excessive Movement

SPAN 6'
FLOORBEAM O N ELEV

NOTES:
1. West Catwalk Rail welded to FLBM - 12" up from top of Bot. FL.
2. Ladder Brackets (8" Bent Pl's) welded to FLBM starts 20" up from top of Bot. FL.

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8-29-94
CREW: WM, BH, PN	SHEET 3 OF 8



No. Str. on S. Face of FLBM

Note: Stiffeners have 1/8" Pitting 2"H x 2"W - Typ.

Note: N. Elev. Shown Notes for S. Elev. Opposite Hand

SPAN 6
FLOORBEAM O N ELEV.

NOTES:

1. Old trough bracket flame cut from FLBM web - old bracket welded to FLBM
2. Welded PL to stiff. ∠'s @ Str #1, 2, 3, 6, 7, 8 & 9
   Full length PL welded to stiff ∠ @ Str #6 & #8
3. Top of Bot. Fl. 1' x 4" w - up to #2 Rust - Joint leaks @ this loc.

FLOORBEAM

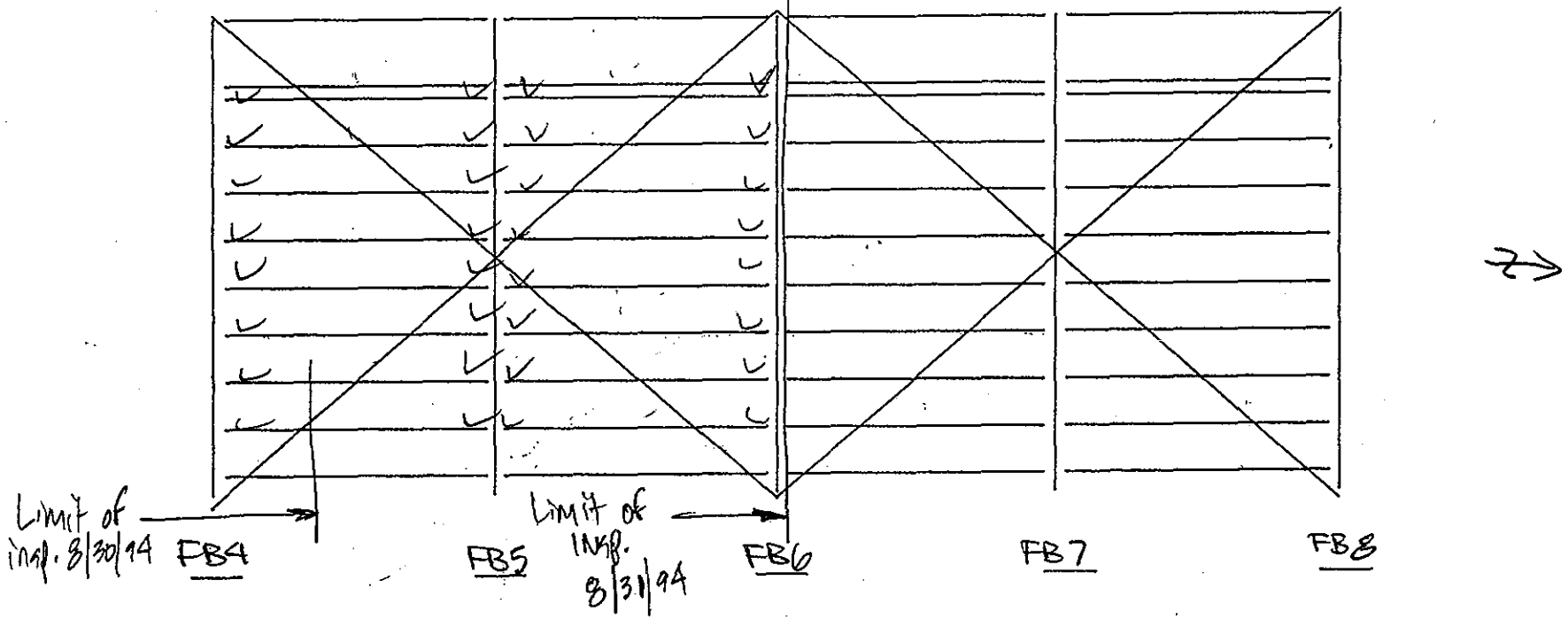
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 8-29-94
CREW: WM, PN, BH	SHEET 5 OF 8

GENERAL: • STRINGER 9, BOTTOM FL., LOSSES SAME AS OTHER SPANS EXCEPT WHERE NOTED
• STRINGER #21 #18 ON EAST TOP FL. HAS EVENLY SPACED HOLES ON W. SIDE, ENTIRE STRUCTURE



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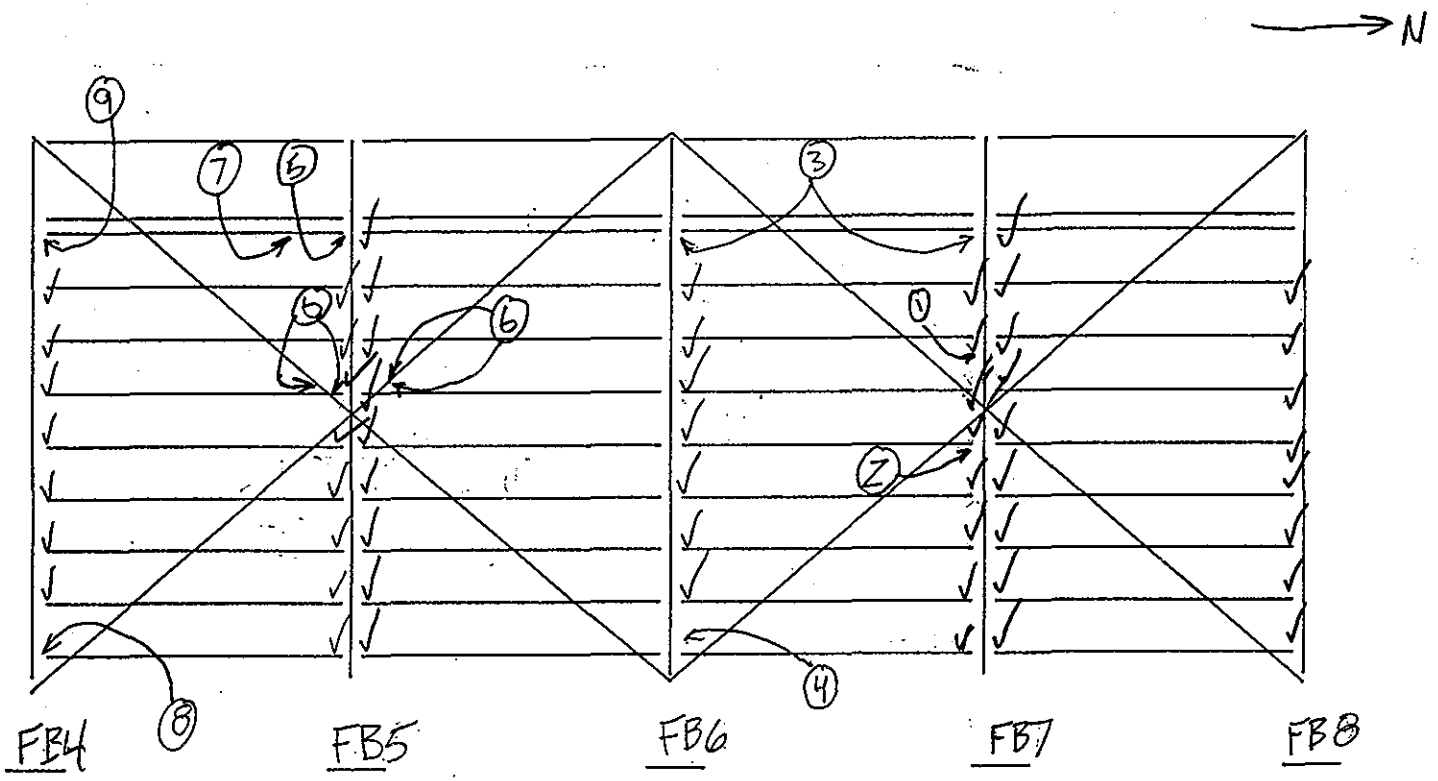
SPAN 6

NOTES:

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/30/94
CREW: GABE / RB	SHEET 4 OF 15



(9) BOLTED CONN. STR TO FLBM, ENTIRELY BOLTED

SPAN 6

NOTES:

(1) FLAME CUT COPE ON BOT. FL. ON S. SIDE FB7 | PH B3-5 | STR 3
(2) FLAME CUT COPE ON TOP FL. ON S. SIDE FB7 | PH B3-4 | STR 5
(3) BOLTED CONN. TO FLBM / STR. CONN.
(4) BOLTED STR. TO FLBM CONN. @ N. SIDE FLBM & STR #9
(5) BOLTED CONN STR. TO STIFFNER ONLY STR #1
(6) CATWALK RAIL WELDED TO X-BRACING
(7) NO. 2 RUST E. SIDE STR. 1 TOP OF BOT. FL 2' LONG @ DRAIN CONN
(8) STR. CONN. RIVETED TO FLBM, BOLTED TO STR.

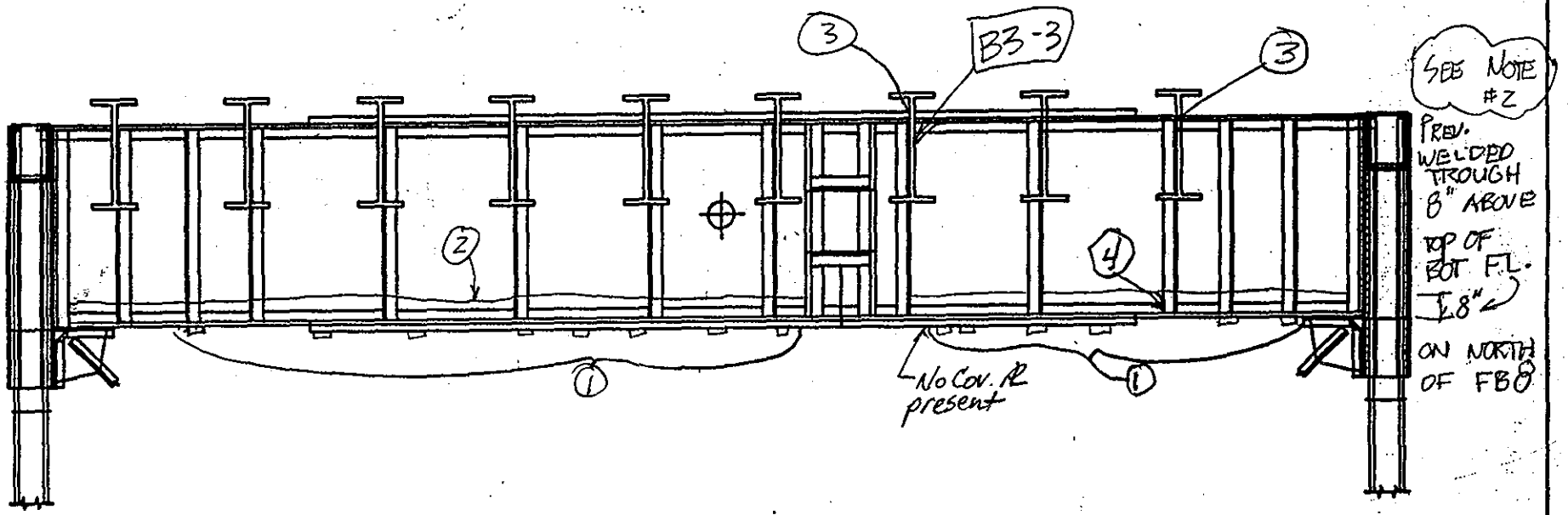
FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8/27/94
CREW: WM, BH, PWM | SHEET 1 OF 8



SPAN 6
FLOORBEAM 8 N ELEV.

NOTES:

1. Welded trough bracket connections to bot. of bot. PL (N & S face) PH B3-2
2. REMAINS OF OLD TROUGH - FLAME CUT (TROUGH PREVIOUSLY WELDED TO FB)
3. Joint leaking
4. 2' horiz. x 4" high x 2" dp. corner spall w/ 1'Ø hollow area ≈ 1' above on abut. face

FLOORBEAM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 8-29-94
CREW: BH, PN, WM	SHEET 2 OF 8

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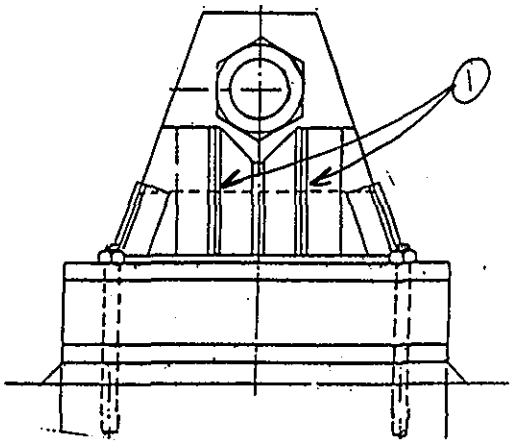
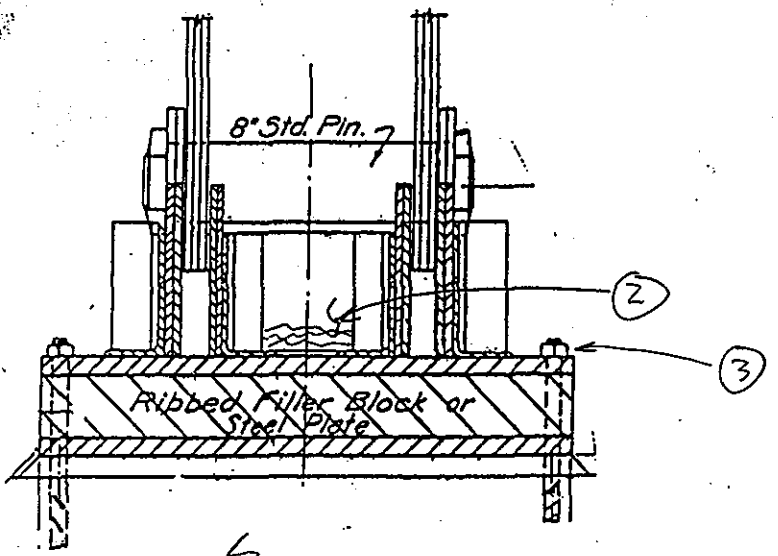
206

BEARINGS



W ELEV.



S ELEV.

Ph B11-2

101/202

EAST BEARING

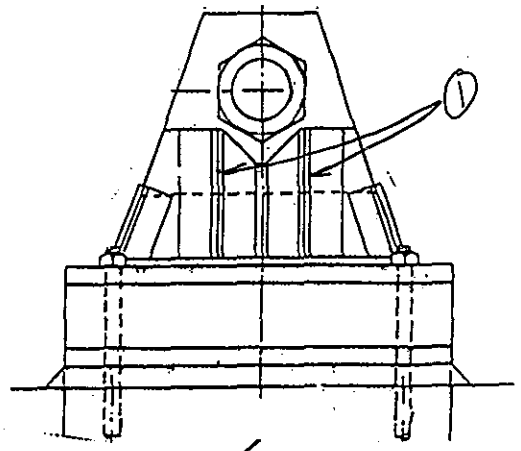
NOTE: - ANCHOR BOLTS ARE SECURE & TIGHT

S. ABUT PIER 7 SPAN

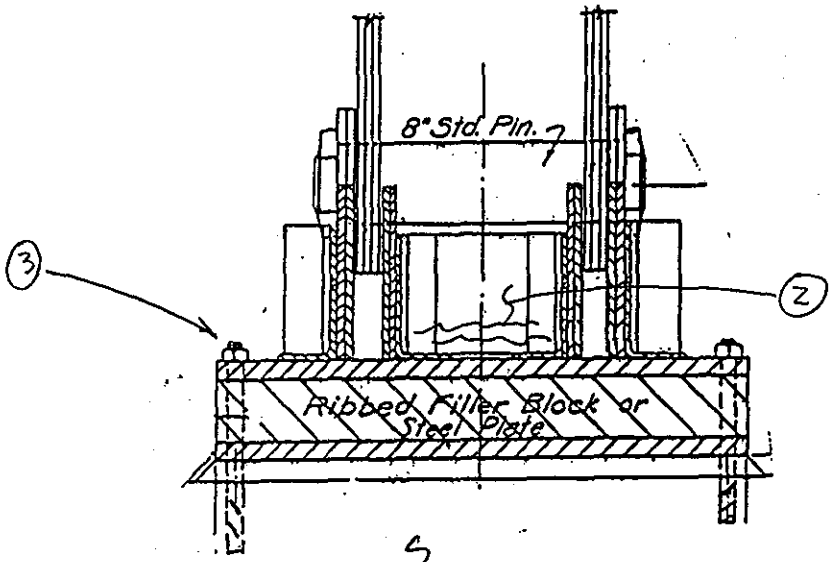
NOTES:

1. UP TO 1/2" (IR) BTWN L'S ON W. SIDE
   UP TO 3/8" (IR) " " E. SIDE
2. SOME FOAM UNDER PIN, WATER & DEBRIS COLLECTING IN AREA UNDER PIN.
3. 10% LOSS ON ANCHOR BOLT NUT, NE ANCHOR BOLT

BEARINGS	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/6/94
CREW: WM, PW, BH	SHEET 4 OF 12



E ELEV.



S ELEV.

PH B11-3

902
102
206

WEST BEARING

NOTE: ANCHOR BOLTS ARE SECURE & TIGHT.

S. ABUT PIER 7 SPAN

NOTES:

1. UP TO 3/8" (IR) BTWN L'S ON E & W FACES
2. SOME FOAM UNDER PIN, WATER & DEBRIS COLLECTING IN AREA UNDER PIN
3. 10% LOSS OF ANCHOR BOLT NUT.

BEARINGS

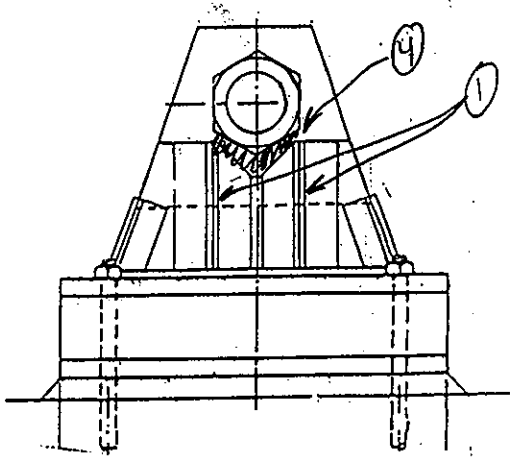
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

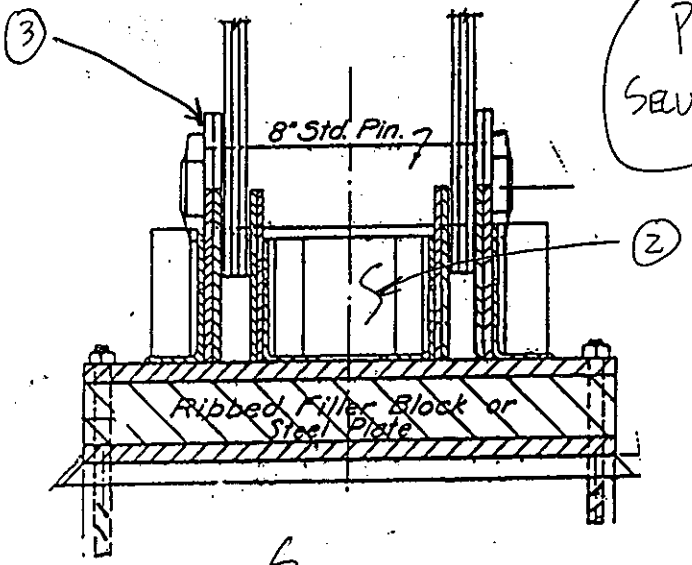
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 9/6/94

CREW: WM, PWN, BH | SHEET 15 OF 16



W ELEV.



S ELEV.

PIN NUTS ARE SECURE & TIGHT

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EAST BEARING

5 PIER 5 SPAN

NOTE:- ANCHOR BOLTS ARE SECURE & TIGHT

NOTES:

1. up TO 1/4" (IR) BTWN ∠'S ON W. FACE,
   " " 1/2" (IR) " " " E. FACE
2. SOME FOAM UNDER PIN (S. SIDE) DEBRIS & WATER COLLECTING UNDER PIN (N. SIDE)
3. up TO 1/8" (IR) BTWN PIN NUT & PIN PL ON W. SIDE
4. No. 1 RUST ON BOT. HALF OF PIN & PIN PL W. SIDE

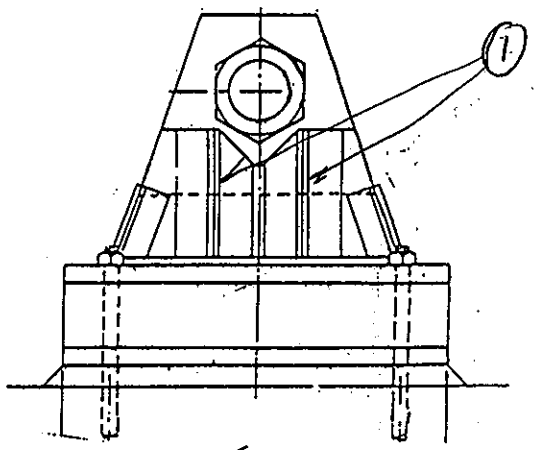
BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

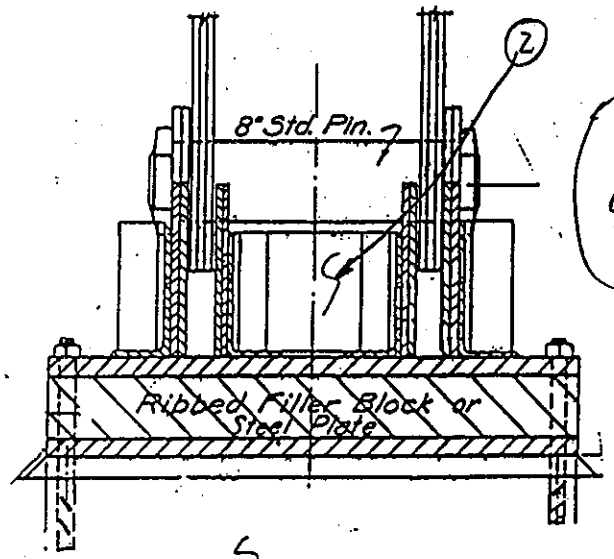
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784	DATE: 9/6/94
CREW: WM, PW, BH	SHEET 10 OF 112



E ELEV.



S ELEV.

PIN NUTS ARE SECURE & TIGHT

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NOTE:- ANCHOR BOLTS ARE SECURE & TIGHT

WEST BEARING

5 PIER 5 SPAN

NOTES:

1. UP TO 3/8" (IR) BTWN L'S ON E & W FACES
2. FOAM UNDER PIN - NO DEBRIS NOTED

BEARINGS

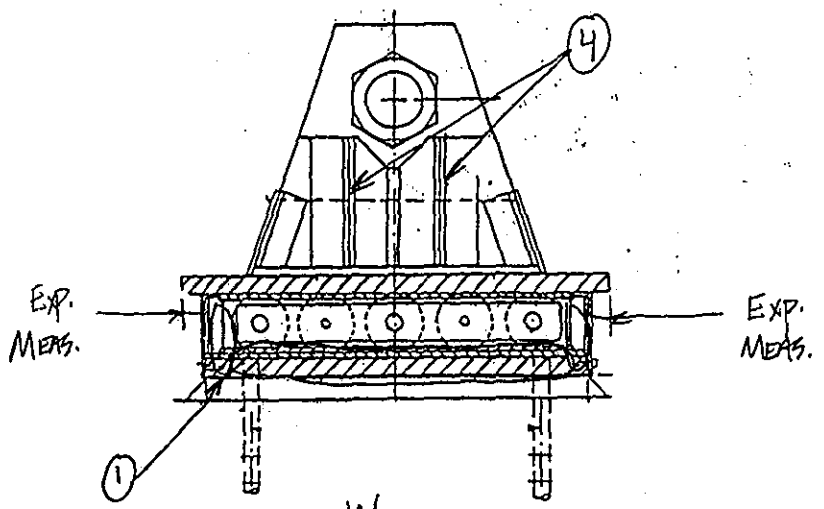
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

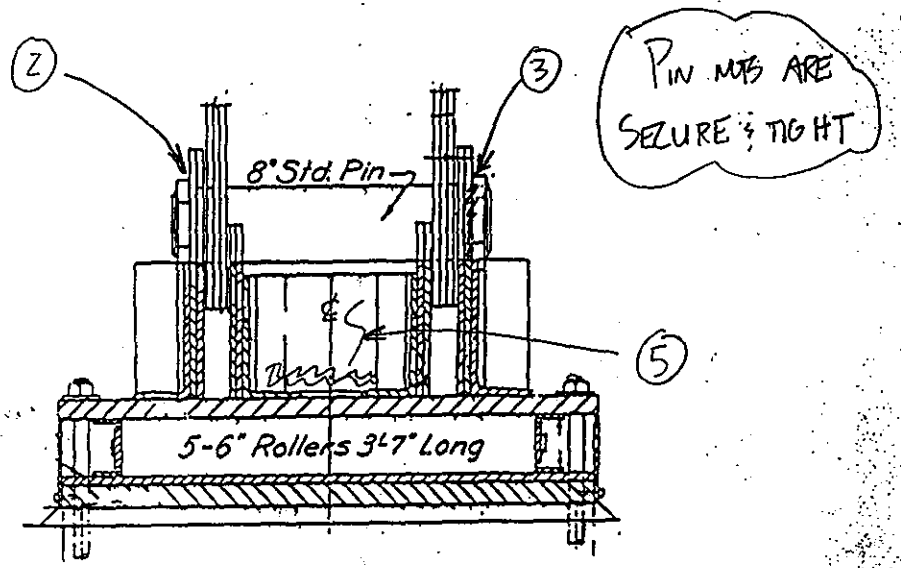
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 DATE: 9/6/94

CREW: [illegible] SHEET 9 OF 16



W ELEV.



N ELEV.

(105) 202

5. SOME FOAM UNDER PIN ON N. SIDE (DEBRIS & WATER COLLECTING UNDER PIN ON S. SIDE)

NOTE - ANCHOR BOLT COVER BOXES ARE SECURE & TIGHT
- BRG. SHOWS SIGNS OF MOVEMENT

EAST BEARING

5 PIER 7 SPAN

NOTES:

1. 11 OF 18 (L), 2 (M) OF 18 ON W. FACE OF BRG. ROLLER BOX COVER
   7 OF 18 (L), 2 (M) OF 18 " E. FACE " " " " "
2. 1/8" GAP BTWN PIN NUT & PIN PL, E. SIDE
3. UP TO 1/8" (IR) BTWN NUT & PIN PL. W. SIDE
4. UP TO 1/4" (IR) BTWN L'S ON E. SIDE
   UP TO 3/8" (IR) " " " W. SIDE

EXP. MEAS. NE: 1 1/16" NW: 1 7/16"
SE: 1 3/4" SW: 1 1/2"

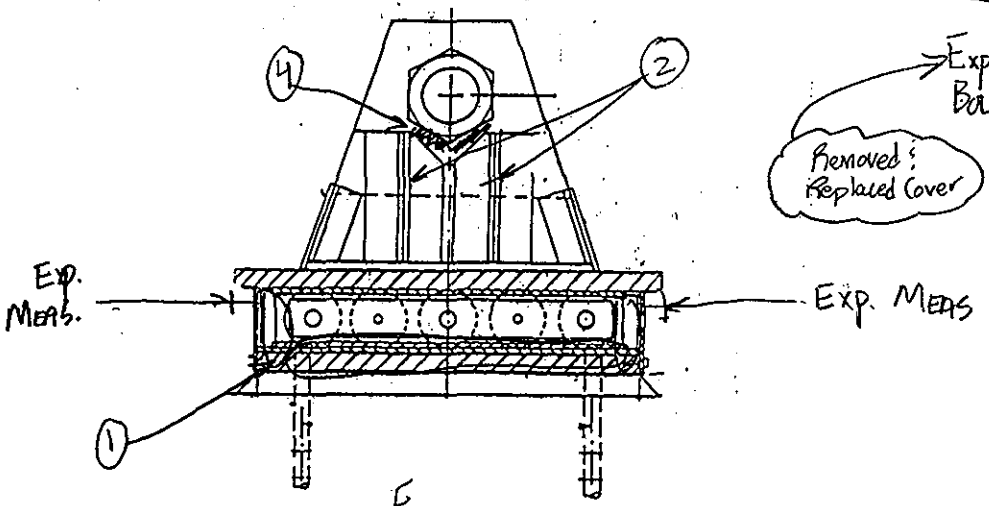
BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

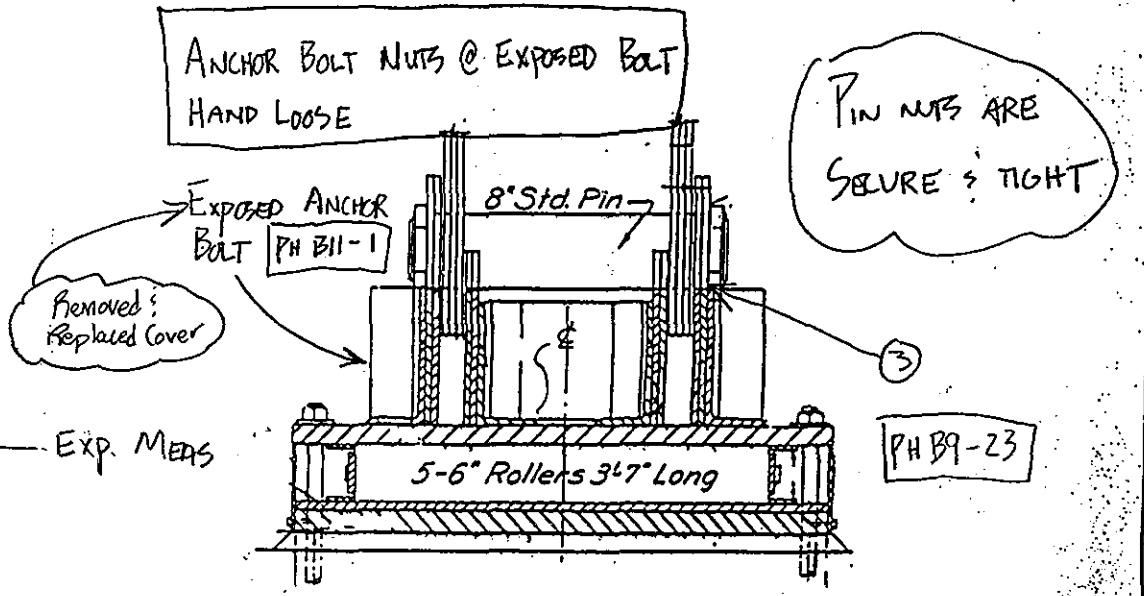
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 DATE: 9/6/94
CREW: WM, BH, PWN SHEET 12 OF 16



E ELEV.



N ELEV.

(106) 902

Note :- Anchor Bolt Cover Boxes are Secure & tight

- Brg shows signs of movement

West Bearing

5 PIER 7 SPAN

NOTES:

1. 7 of 18 (L), 3 (M) on Brg Roller Box Cover ℄ E. Face
   9 of 18 (L), 1 (M) " " " " W. Face
2. Up to 3/8" (IR) Btwn ∠'s both E & W faces
3. Up to 1/8" Gap Btwn Pin Nut & Pin ℄ - W. Face PH B9-23
4. No. 1 Rust on Bot. Half of Pin Nut @ Pin ℄.
5. Foam under Pin - No debris noted

Exp. Meas. NE : 1 3/8" NW : 1 3/8"
SE : 1 7/16" SW : 1 7/16"

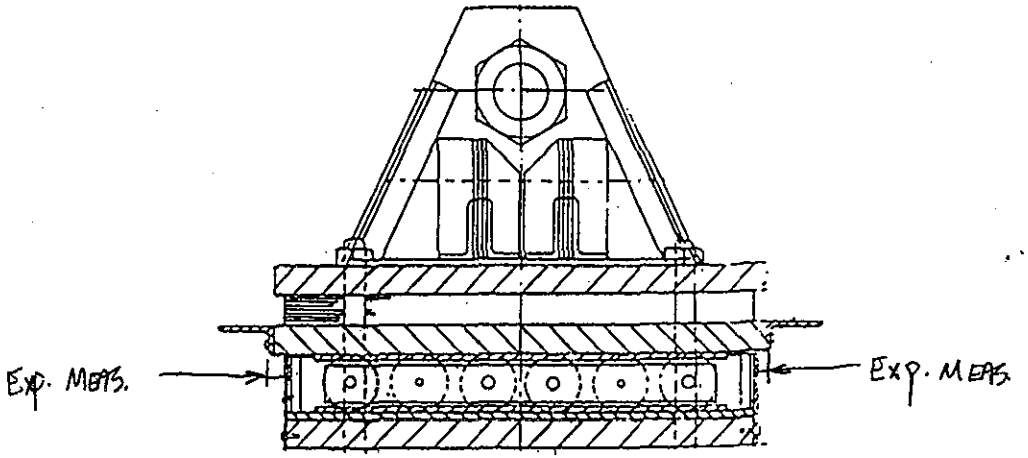
BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

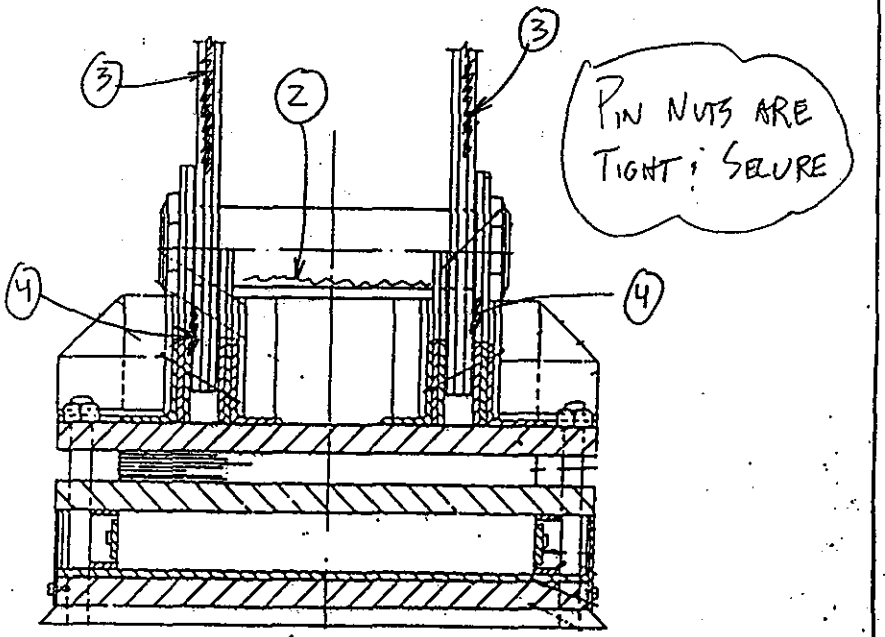
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 DATE: 9/6/94
CREW: WM, PWN, BH SHEET 11 OF 16



W ELEV.



S ELEV.

107
206

East Bearing

3 PIER 3 SPAN

Note: - Anchor Bolt Cover Boxes are tight & secure
- Brg. shows signs of movement

NOTES:

(1) 13 of 21 Bolts (L) on W. Face of Brg. Roller Box Cover.
16 of 21 " " on E. Face " " " " .
(2) Water collects in area btwn int. pin PL's & around pin.
(3) Both E & W faces (S. Elev) two outside gusset PL's - ends are flame cut.
(4) up to 1/4" (IR) btwn int. pin PL & ext. gusset PL. E. Side
up to 1/8" (IR) " " " " " W. Side
Exp. Meas. NE: 1 5/8" NW: 1 5/8"
SE: 3/8" SW: 5/16"

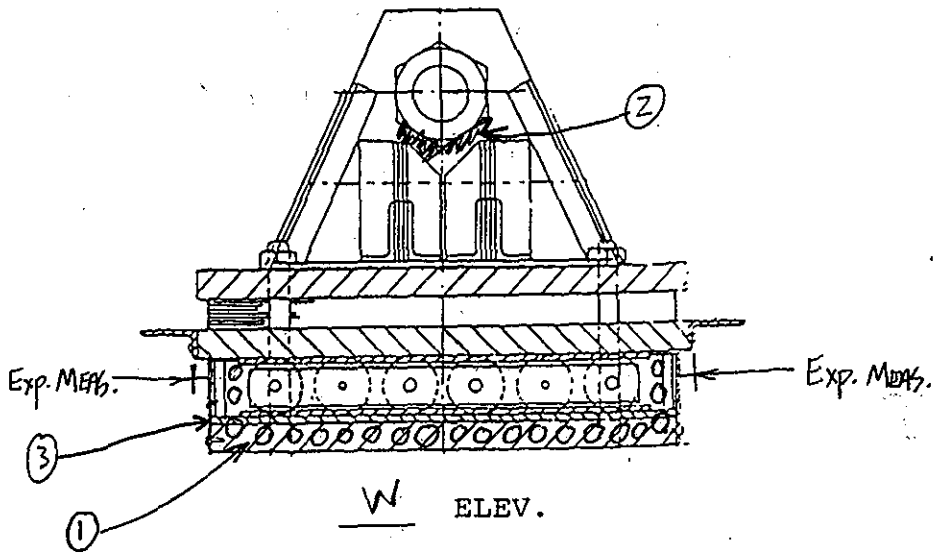
BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

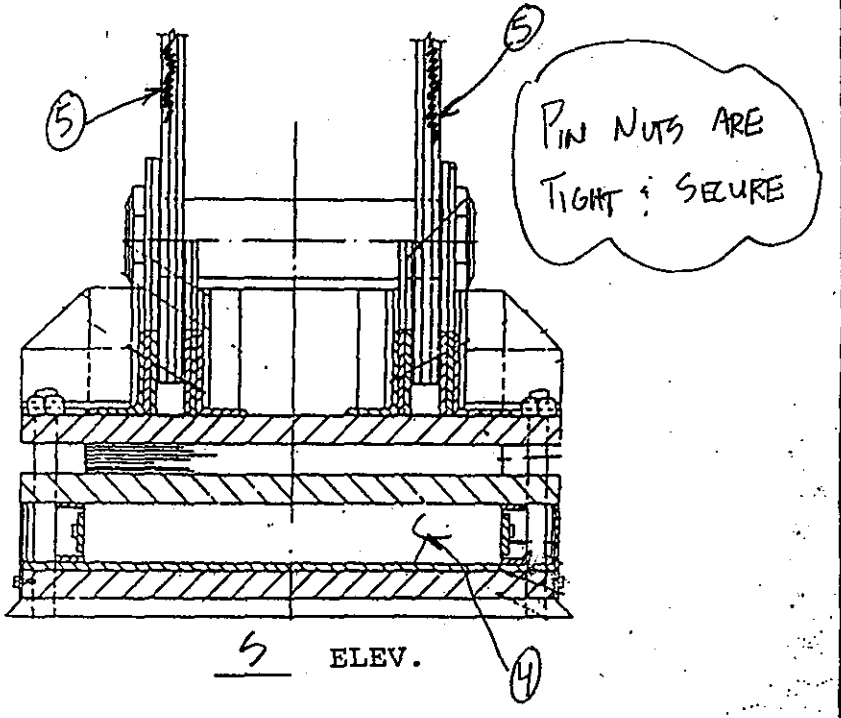
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9/6/94
CREW: WM, BH, PAN | SHEET 5 OF 16



W ELEV.



S ELEV.

(5) Both E & W. Faces - Ends of Gusset Pl's - Flame Cut (Two outside Pl's
S. Elev.

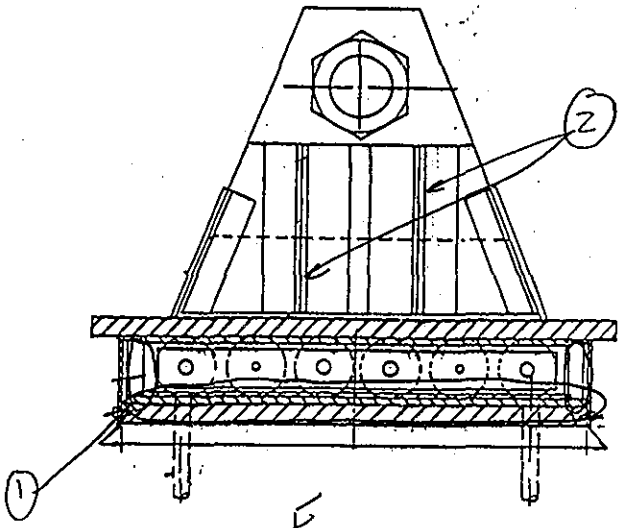
West Bearing

3 Pier 3 Span

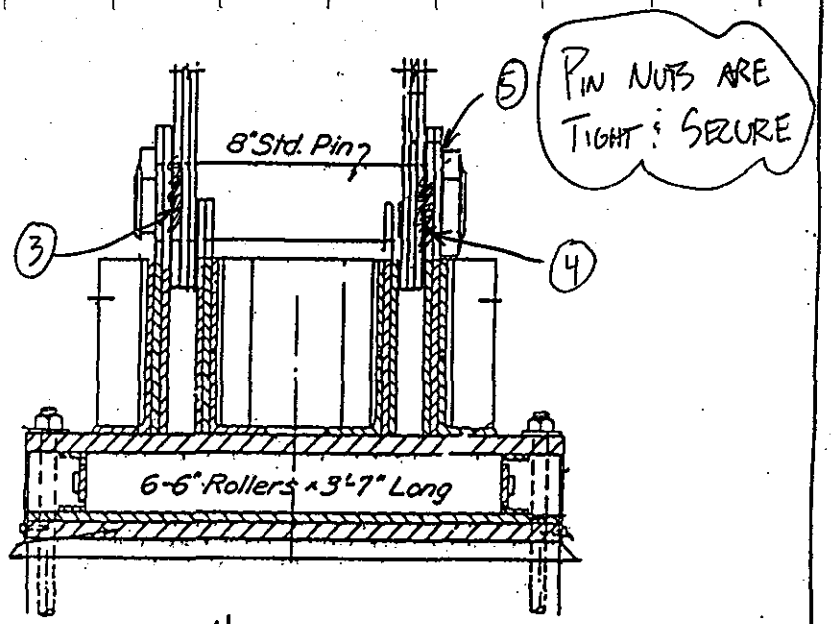
Note :- Anchor Bolt Cover Boxes are in good cond. & tight.
(N.E. Cover has 3/4" ϕ hole rusted through)
- Brg. Shows signs of movement

NOTES:
(1) 15 out of 18 Bolts (L) 1 (M) on W. Face of Brg. Roller Box Cover Pl.
8 out of 21 Bolts (L) on E. Face of " " " " "
(2) No. 1 Rust on Bot. Half of Pin & Pin Pl.
(3) Bot. Rivet on Brg. Roller Box Cover Pl. Missing, NW Corner of Brg.
(4) N. Brg. Roller Box Cover Pl Bowed N. Ward @ Ctr approx 1"
S. " " " " " S. Ward " " " 1/2"
Exp. Meas. NE: 15/16" NW: 15/16"
SE: 1/2" SW: 3/8"

BEARINGS	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/6/94
CREW: WM, BI, PMN	SHEET 4 OF [illegible]



E ELEV.



N ELEV.

(5) UP TO 1/4" GAP BTWN PIN NUT & PIN PL - W. FACE

NOTE: - ANCHOR BOLT COVER BOXES ARE TIGHT & SECURE
- BRG SHOWS SIGNS OF MOVEMENT.

EAST BEARING

3 PIER 5 SPAN

NOTES:

(1)	18 OF 19	(L) OR (M)	ON W. FACE OF BRG. ROLLER BOX COVER	
	15 OF 19	(L) OR (M)	ON E. FACE " " " "	
(2)	UP TO 1/4"	(IR)	BWTN ∠'S ON W. FACE.	
	" 1/2"	(IR)	" " E. FACE	
(3)	UP TO 1/4	(IR)	BTWN INT. PIN PL & EXT GUSSET PL - E. FACE	
(4)	1/8"	(IR)	BTWN INT. PIN PL & EXT GUSSET PL - W. FACE	
EXP. MEAS:	NE: 2 3/4"	NW: 2 5/8"		
	SE: 2"	SW: 2"		

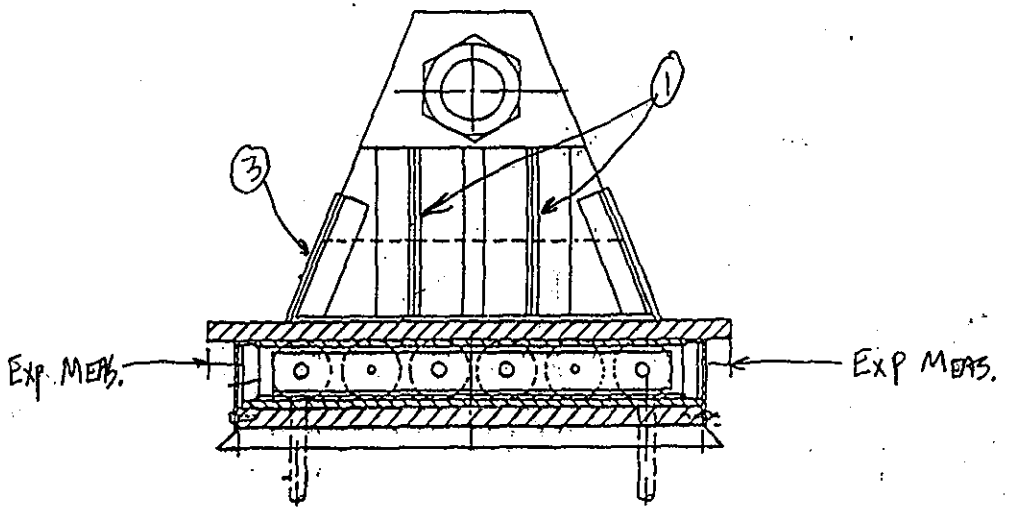
BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 DATE: 9/6/94
CREW: WM, PW, BH SHEET 7 OF 16



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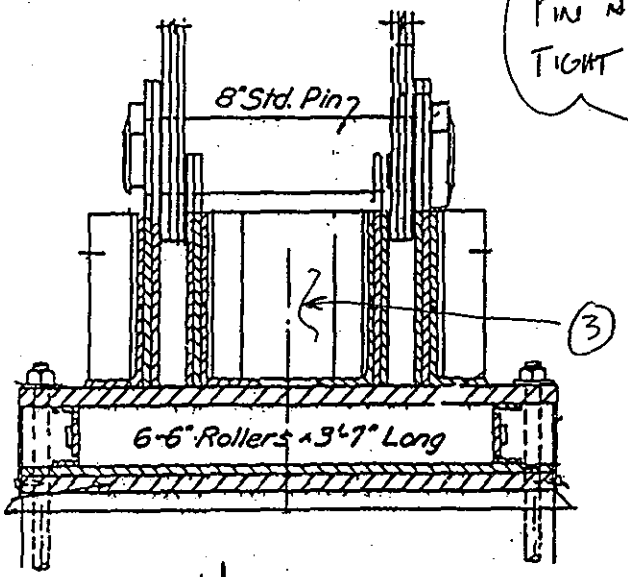


N ELEV.

Pin nuts are tight & secure

202 011

West Bearing

3 PIER 5 SPAN

Note :- Anchor Bolt Cover Boxes are secure & tight
(East Cover shows signs of #1 rust, w/ 3/4" ϕ hole in N. side)
- Brg. shows signs of movement

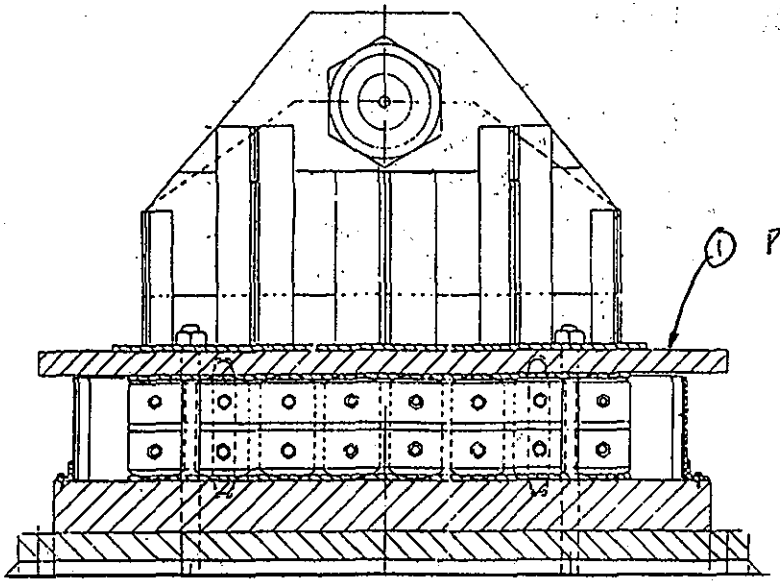
NOTES:
1. Up to 1/4" (IR) btwn ∠'s both E & W. faces
2. 8 of 19 bolts (L) on E. face of Brg. roller box cover ℞
   10 of 19 bolts (L) on W. face " " " " "
3. 25% No. 1 rust on Brg. assbly.

Exp. Meas NE: 3/8" NW: 2 1/4"
SE: 2 1/2" SW: 2 5/16"

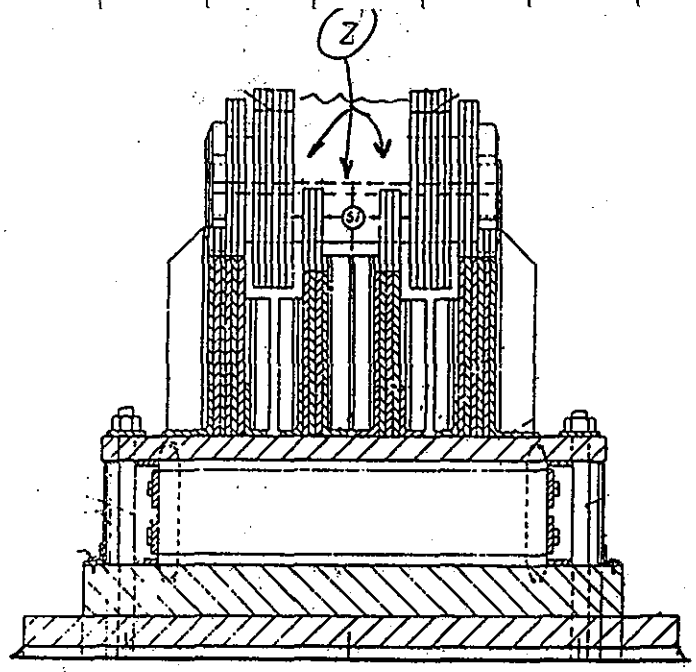
BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION
NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/6/94
CREW: WM, PWN, BH	SHEET 6 OF 16



W ELEV. PH B9-21



N ELEV.

EAST BRG.

1 PIER 1-3 SPAN

NOTE: ANCHOR BOLTS & PIN NUTS ARE SOLID & TIGHT

NOTES:

1. PROTECTIVE SKIRT SURROUNDING TOP OF BRG. BADLY DETERIOTERATED. 50% OF SKIRT IS MISSING (PH B9-19, 20)
2. AREA BTWN. INT PIN PL'S FILLED W/ FOAM, NO DEBRIS UNDER PIN

BEARINGS

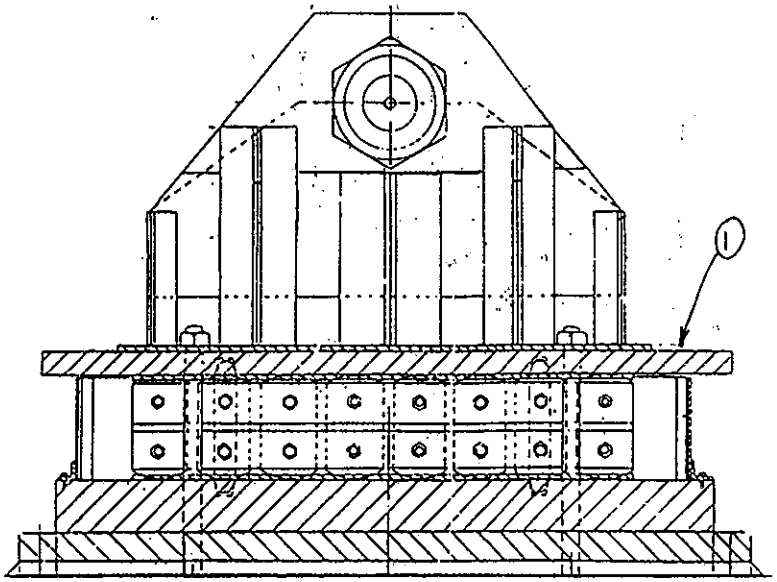
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

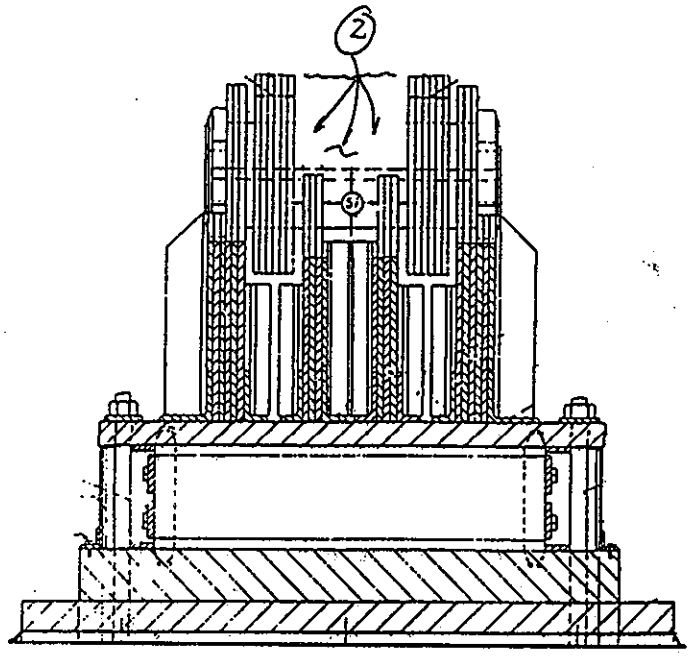
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 DATE: 9/6/87

CREW: WM, BH, PMN SHEET 1 OF 16



E ELEV.



N ELEV.

WEST BEARING

1 PIER 1 & 3 SPAN

NOTE: ANCHOR BOLTS & PIN NUTS ARE SOLID & TIGHT

NOTES:

1. PROTECTIVE SKIRT SURROUNDING TOP OF BRG. BADLY DETERIORATED UP TO 25% MISSING. (SKIRT ON S. SIDE OF BRG. IS MISSING)
2. AREA BTWN INT. PIN PL'S IS FOAM FILLED, NO DEBRIS OBSERVED

BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/6/94
CREW: WM, PWN, BH	SHEET 2 OF 16

(111)
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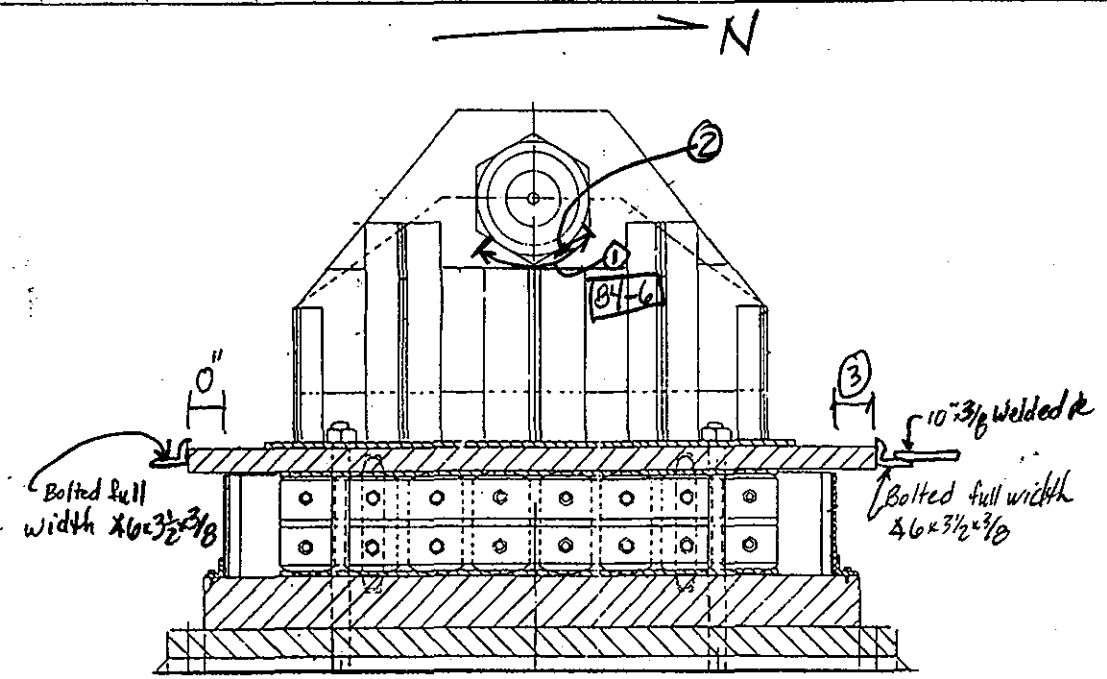

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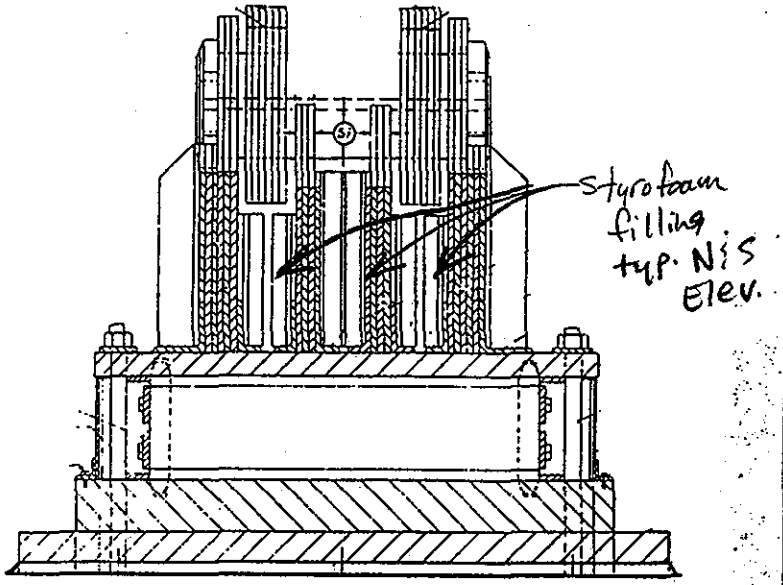

S ELEV.

2 PIER 1 & 2 SPAN

NOTES:

1. W. Face, 15" of 3/8 to 3/8" (IR) btwn. pin PL and pin retaining PL 84-6
2. 1/8" pit. x 1" on W. Face
3. -3 9/16" E & W FACE (TOP PL IS SOUTH OF BASE)

WEST BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 8/30/94
CREW: WM, BH, PN	SHEET 8 OF 10

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206

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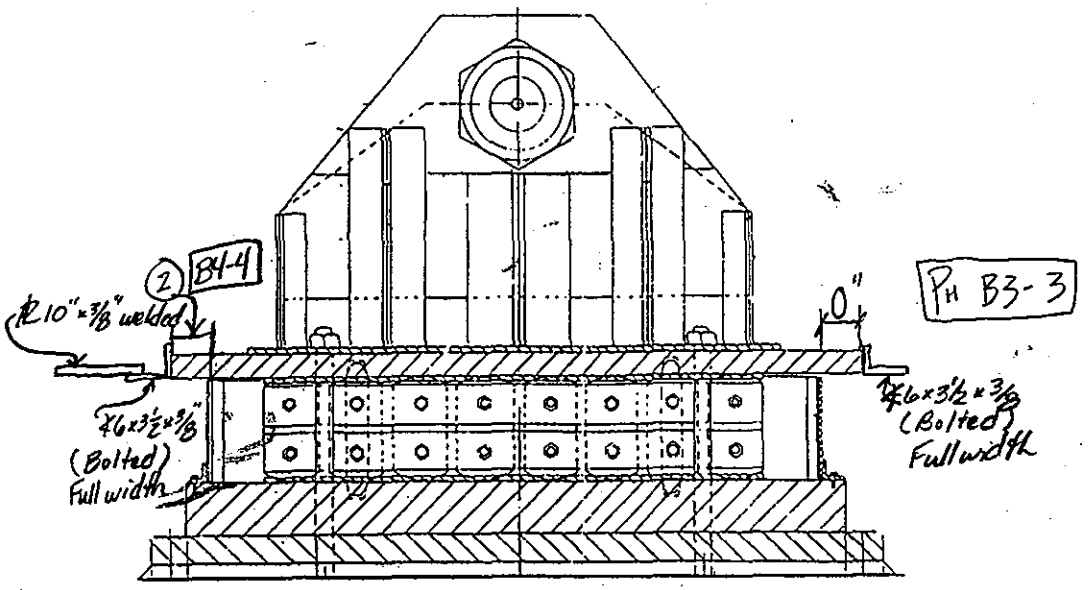

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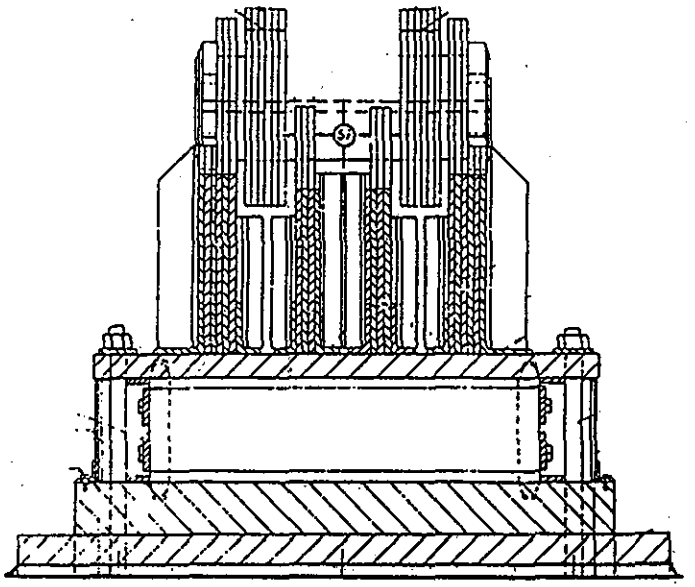


N ELEV.

Z PIER 1 & 2 SPAN

NOTES:

(1) 12 OUT OF 12 ANCHOR BOLTS LOOSE See B4-3 (SW anchor shown)

(2) -3 5/8" E&W Face (Top PL is South of base) B4-4

BEARINGS (EAST)

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

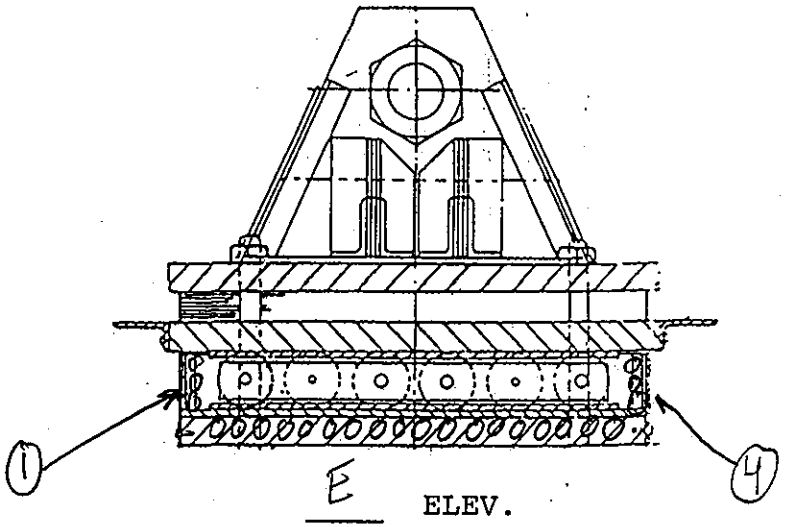
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

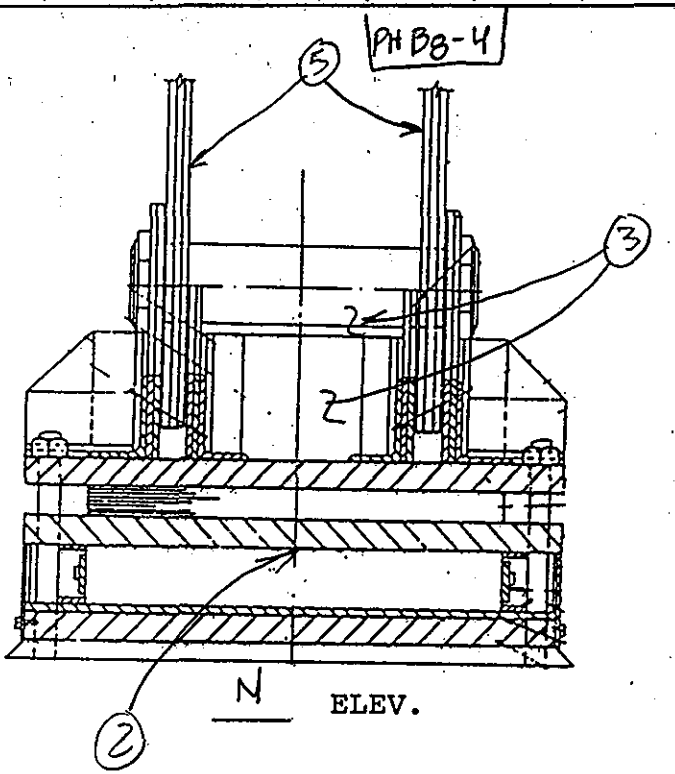
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 8/30/94

CREW: WM, BH, PWW | SHEET 9 OF 10

(114) 202





115
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EAST BEARING

4 PIER 2 SPAN

NOTE: SIGNS OF MOVEMENT PRESENT, ANCHOR BOLT COVER BOXES TYP. GOOD COND.

NOTES:

1. 9 OF 21 BOLTS LOOSE ON EAST FACE COVER PL TO BRG. ROLLER BOX
2. PL bows Southward ≈ 5/8" @ center on S. Face B8-3
3. MINOR DEBRIS AROUND PIN
4. 12 OF 21 BOLTS LOOSE ON WEST FACE COVER PL TO BRG. ROLLER BOX
5. FLAME CUT GUSSET PL'S

EXPANSION MEASUREMENTS: NE: 2 1/2" NW: 2 1/2" SEE DETAIL 1
PH B8-21 SE: -3/4" SW: -5/8" W. BRG. PIER 4, SPAN 2

BEARINGS

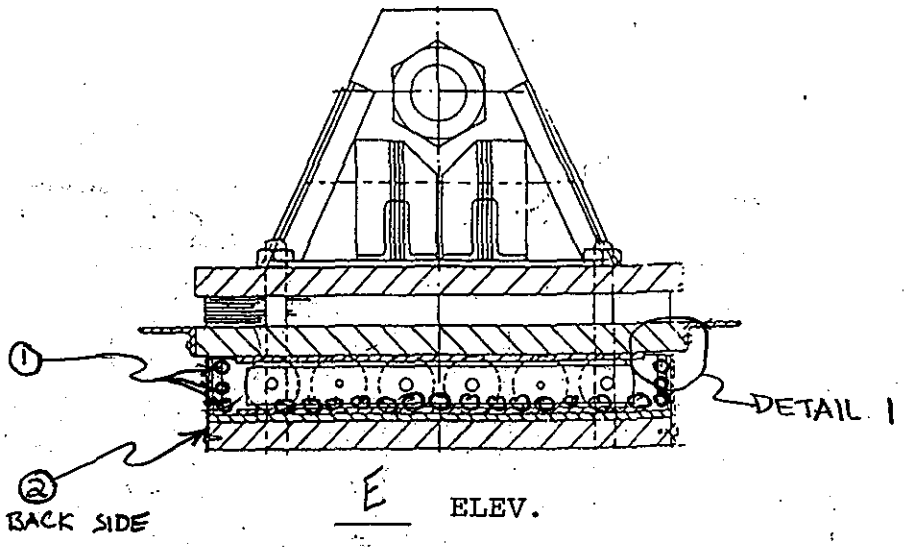
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 DATE: 8/31/94

CREW: WM, PWN, BH SHEET 5 OF 16



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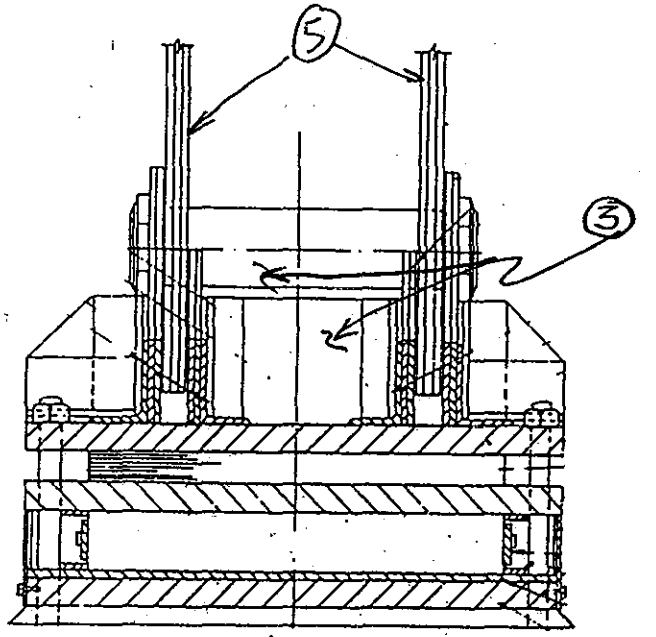

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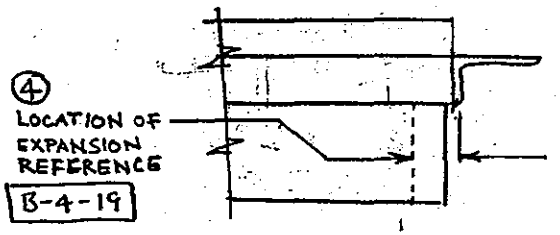

DETAIL 1

WEST BEARING

4 PIER 2 SPAN

NOTES: NOTE: SIGNS OF MOVEMENT PRESENT, ANCHOR BOLT COVER BOXES TYP. GOOD CONDITION

1. 6 OF 21 BOLTS LOOSE OR MISSING ON EAST FACE COVER PL TO BEARING ROLLER BOX, 5 OF 21 BOLTS LOOSE OR MISSING ON W. FACE
2. SW ANCHOR BOLT IS LOOSE B-4-18 NOTE: SHOULD BE FASTENED SECURELY
3. MINOR DEBRIS AROUND PIN
4. NE EXPANSION = 2 1/8", NW EXPANSION = 2 1/8" SE & SW = 0"
5. FLAME CUT GUSSET PL

BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 8/31/94

CREW: WM, PWN, BH | SHEET 1 OF 18

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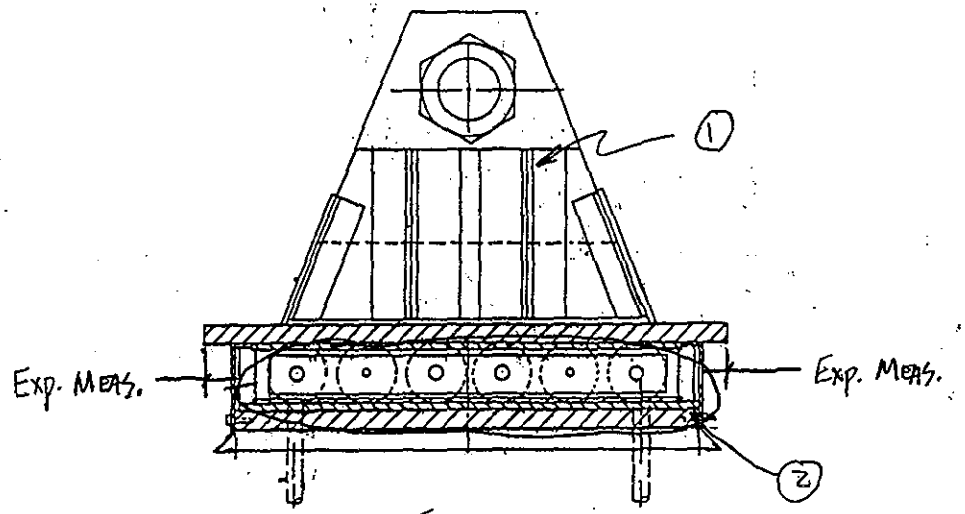

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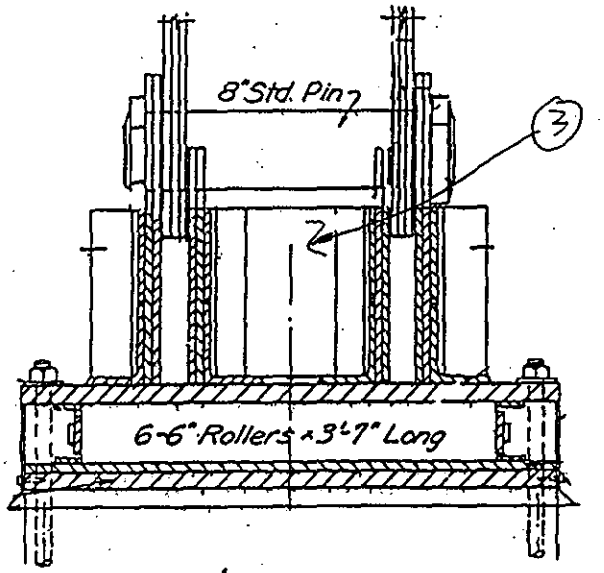


N ELEV.

EAST BEARING

4 PIER 4 SPAN

NOTE: SIGNS OF MOVEMENT PRESENT, ANCHOR BOLT COVERS IN GOOD COND - TYP.

NOTES:

1. TYP. 1/4" IR BOTH E & W FACE
2. 10 OUT OF 19 LOOSE BOLTS, 1 MISSING W. FACE COVER & BEARING ROLLER BOX
   6 OUT OF 19 LOOSE, E FACE " " " "
3. MINOR DEBRIS AROUND PIN

EXP. MEASUREMENTS: NE: 3 7/16 NW.: 3 1/2"
SE: 1 13/16 SW: 1 11/16"

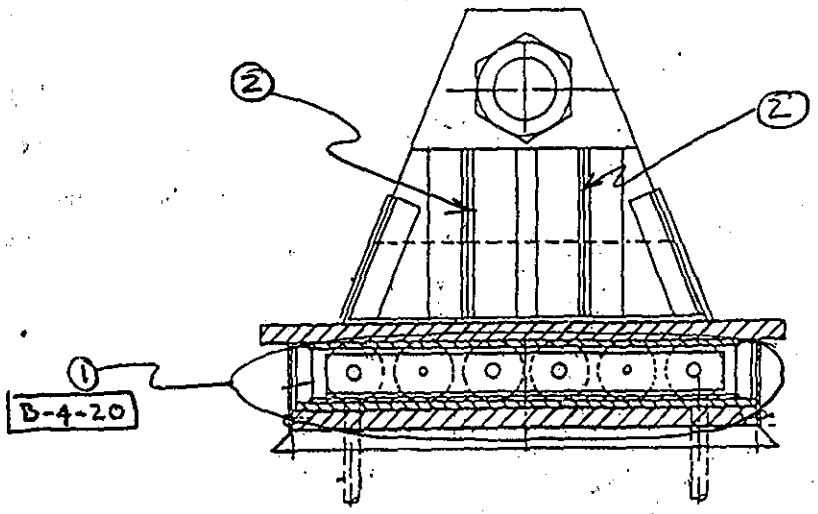
BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 DATE: 8/31/94
CREW: WM, PWN, BH SHEET 4 OF 18



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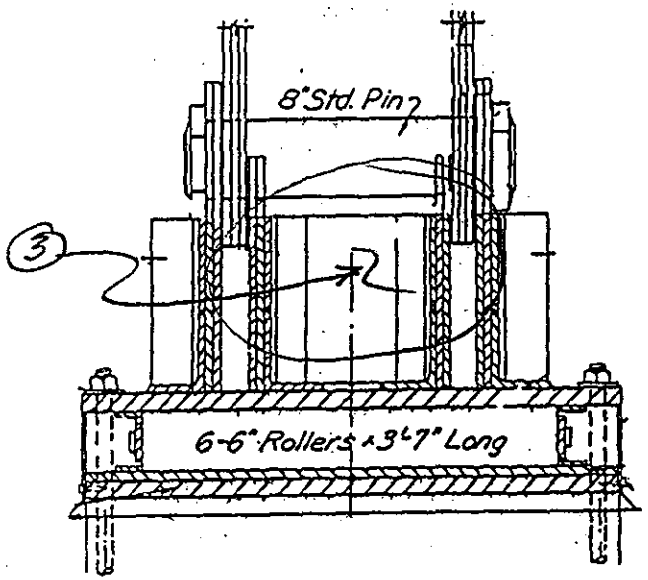


N ELEV.

WEST BEARING

4 PIER 4 SPAN

NOTE: SIGNS OF MOVEMENT PRESENT

NOTES:

1. 10 OF 19 LOOSE BOLTS OF E. FACE COVER PL TO BEARING ROLLER BOX
   10 OF 19 LOOSE BOLTS ON W FACE " " " "
2. UP TO 1/4" IR TYP. E. & WEST FACE B-4-21
3. MINOR DEBRIS AROUND PIN

EXPANSION MEASUREMENTS: NE = 3 1/2" NW = 3 1/2"
SE = 1 3/4" SW = 1 3/4"

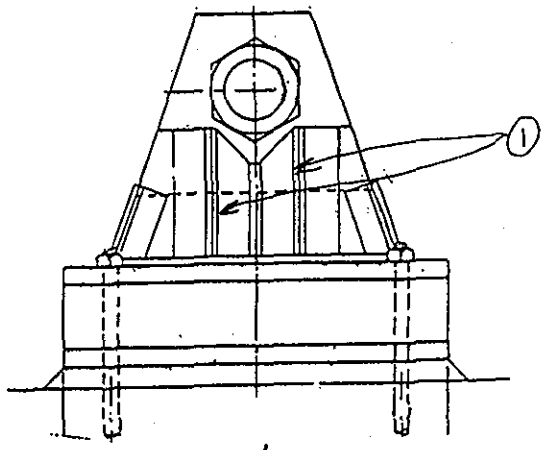
BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 DATE: 8/31/94
CREW: WM, PWN, BH SHEET 2 OF 18



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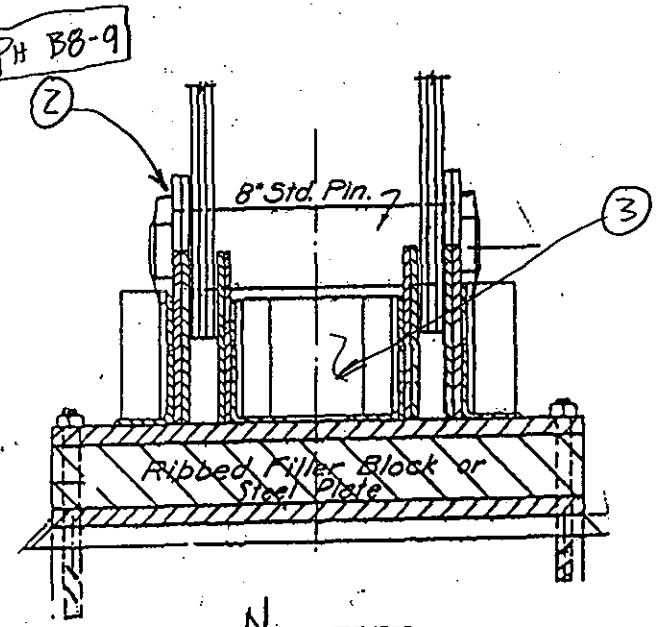

N ELEV.

E. BEARING

6 PIER 4 SPAN

NOTE: ANCHOR BOLTS & NUTS ARE SOLID & TIGHT

NOTES:

1. UP TO 9/16" (IR) BTWN L'S ON W. FACE
   UP TO 1/4" (IR) " " " E. FACE
2. UP TO 3/8" GAP BTWN PIN NUT & PIN PL. - E. SIDE (NUT IS TIGHT), NO GAP, W. SIDE
3. MINOR DEBRIS AT BOT. OF PIN

BEARINGS	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/94
CREW: BH, WM, RWN	SHEET 9 OF 18

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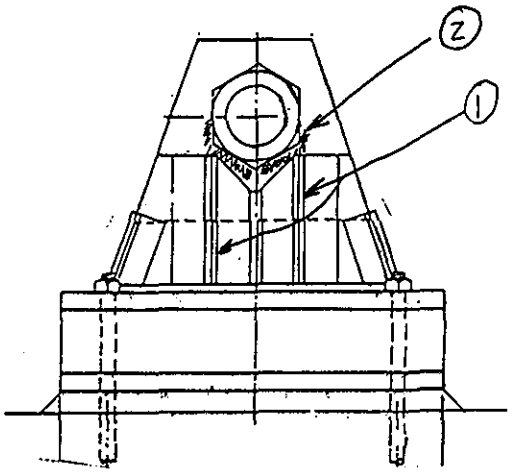

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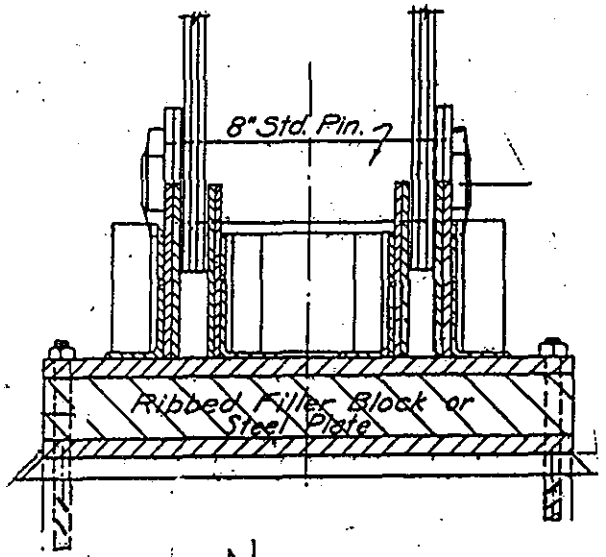


N ELEV.

120/226

WEST BEARING

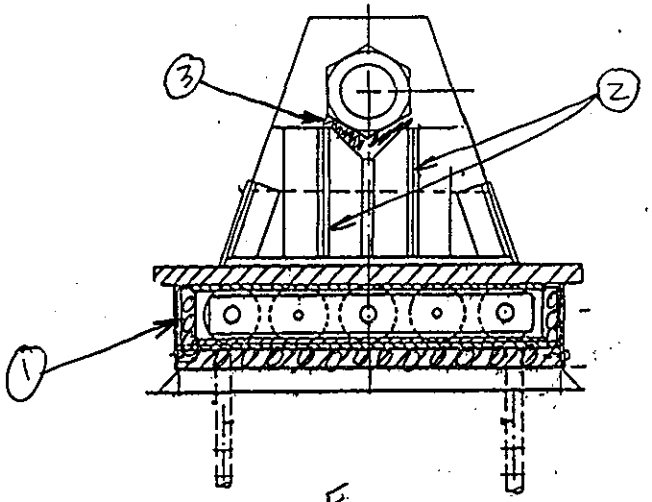
6 PIER 4 SPAN

NOTE: ALL ANCHOR BOLTS & NUTS ARE SOLID & TIGHT

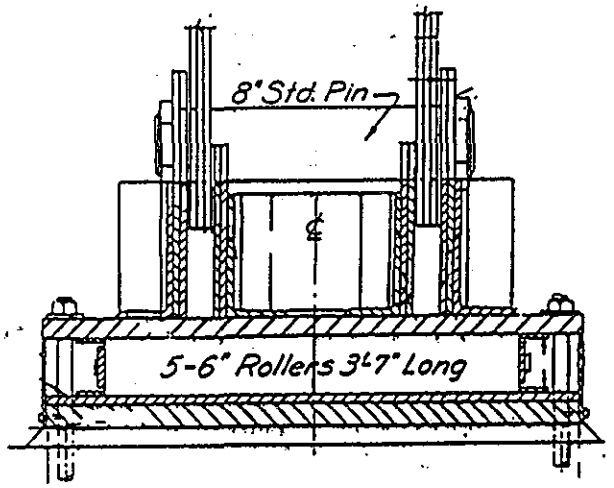
NOTES:

1. UP TO 1/4" (IR) BTWN L'S ON W. FACE
   UP TO 1/2" (IR) " " " E. FACE
2. UP TO 1/4" (IR) BTWN PIN NUT & PIN PL ON E & W FACES - BOT. HALF

BEARINGS	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 6/31/94
CREW: WM, PW, BH	SHEET 7 OF 16



E ELEV.



N ELEV.

(202 121)

E. BEARING

6 PIER 6 SPAN

NOTE: SIGNS OF MOVEMENT PRESENT, ANCHOR BOLT COVER BOXES IN GOOD COND. -TYP.

NOTES:

1. 8 OF 18 BOLTS LOOSE ON E. FACE COVER OF BRG. ROLLER BOX
   9 OF 18 BOLTS LOOSE " W. FACE " " " " "
2. UP TO 1/4" (IR) BTWN ∠'S ON E. FACE
   UP TO 1/2" (IR) " " " W. FACE
3. UP TO 1/8" (IR) BTWN PIN NUT & PIN PLATE LOWER PORTION ONLY

EXP. MEAS.: NE: 1/8" NW:
SE: 2 11/16" SW: 2 1/2"

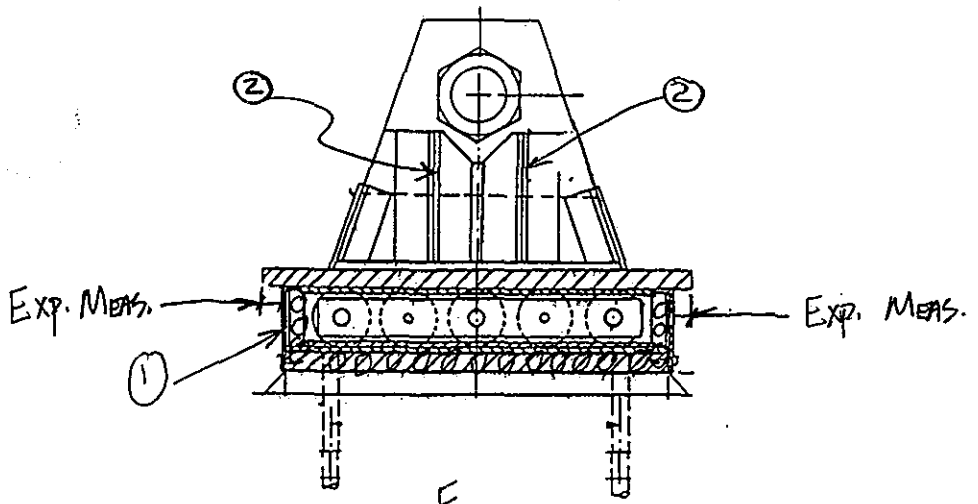
BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

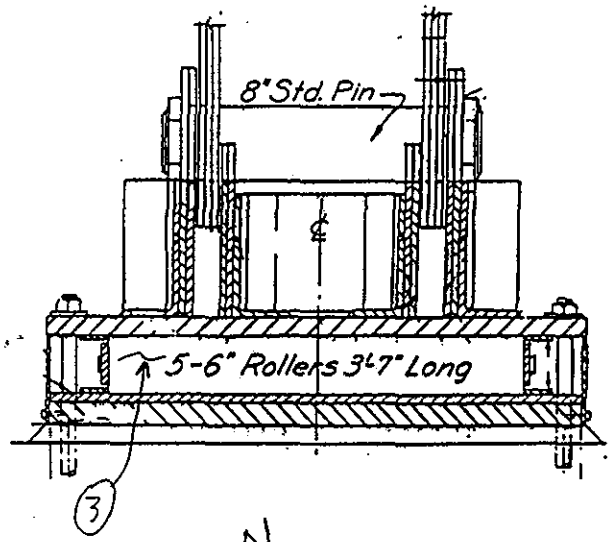
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8/31/94
CREW: DH, MM, PWN | SHEET 10 OF 18



E ELEV.



N ELEV.

202
122

WEST BEARING

6 PIER 6 SPAN

NOTE: - Signs of Movement Present, Anchor Bolt Covers in Good Cond. - Typ.

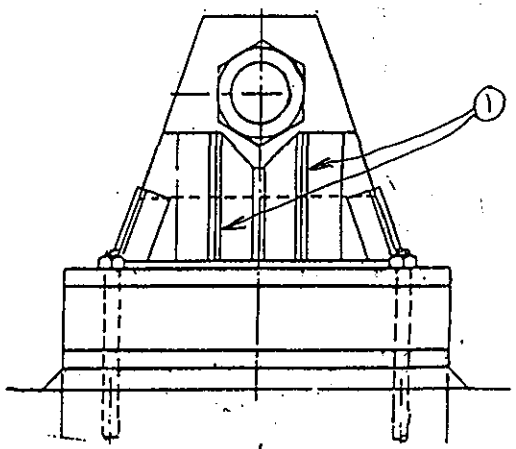
- West Anchor Bolt Cover removed, Anchor Bolts in good condition, nuts secure 88-22,23

NOTES:

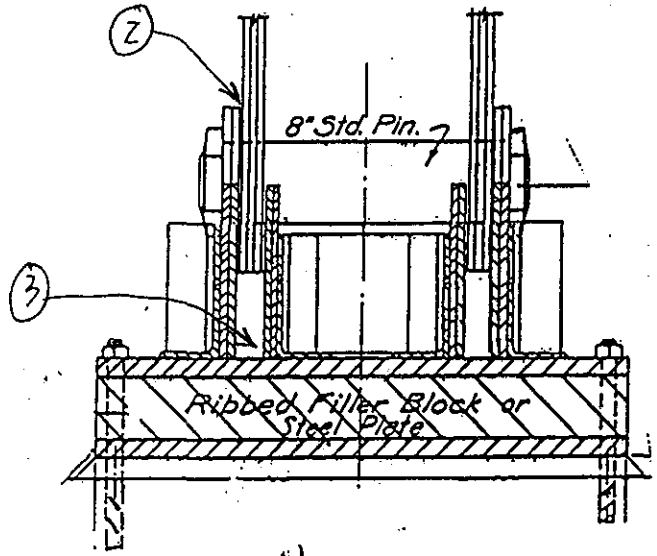
1. 9 of 18 Bolts Loose on E. Face of Brg. Roller Box
   - 6 of 18 Bolts Loose " W. Face " " " "
2. 1/4" IR Btween ∠'s on E & W. Face
3. PL Bows Northward ≈ 1/4" @ Center on North Face

Exp. Meas. NE: 1/16" NW: 5/16"
SE: 2 5/16" SW: 2 1/2"

BEARINGS	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/94
CREW: WM, PW, BH	SHEET 8 OF 18



W ELEV. PH 88-16



N ELEV.

123
206

EAST BEARING

N. ABUT PIER 6 SPAN

NOTE: ANCHOR BOLTS & NUTS ARE SOLID & TIGHT
No. 1 RUST ON 20% OF BRG. SURFACE

NOTES:

1. UP TO 1/2" (IR) BTWN L'S BOTH E & W FACES
2. UP TO 1/8" (IR) BTWN INT. PIN PL & EXT. GUSSET PL ON S. SIDE (E. ELEV.)
3. MINOR DEBRIS UNDER PIN, ALSO SMALL AMOUNT OF WATER COLLECTING BTWN EXT & INT PIN PL'S.

BEARINGS

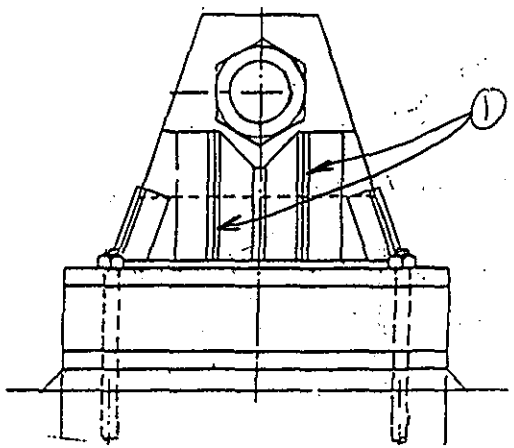
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

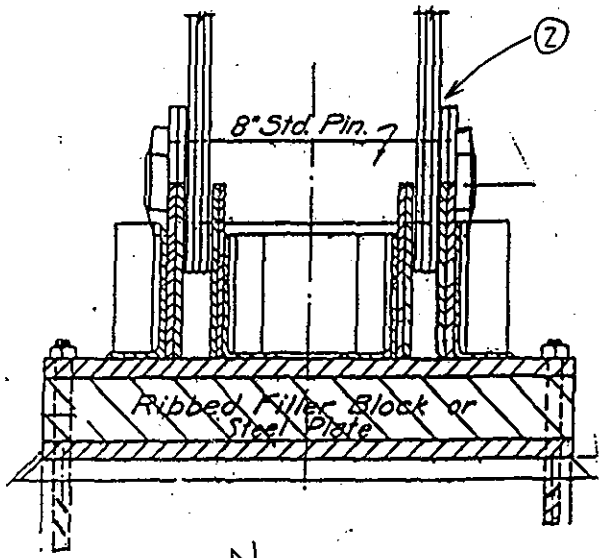
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 DATE: 8/31/94

CREW: WM/PWN, BH SHEET 3 OF



E ELEV. PH B8-12



N ELEV.

124/206

WEST BEARING

N. ABUT PIER 6 SPAN

NOTE: ANCHOR BOLTS & NUTS ARE SOLID & TIGHT
No. 1 RUST ON 20% BRG. SURFACE

NOTES:

1. UP TO 1/2" (IR) BTWN ∠'S ON W. FACE
   UP TO 1/2" (IR) " " E. FACE
2. UP TO 1/8" PITTING ON S. SIDE OF BRG. BTWN INT. PIN PL & EXT. GUSSET PL. (W. ELEV)
   " " " " " " " (E. ELEV)

BEARINGS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

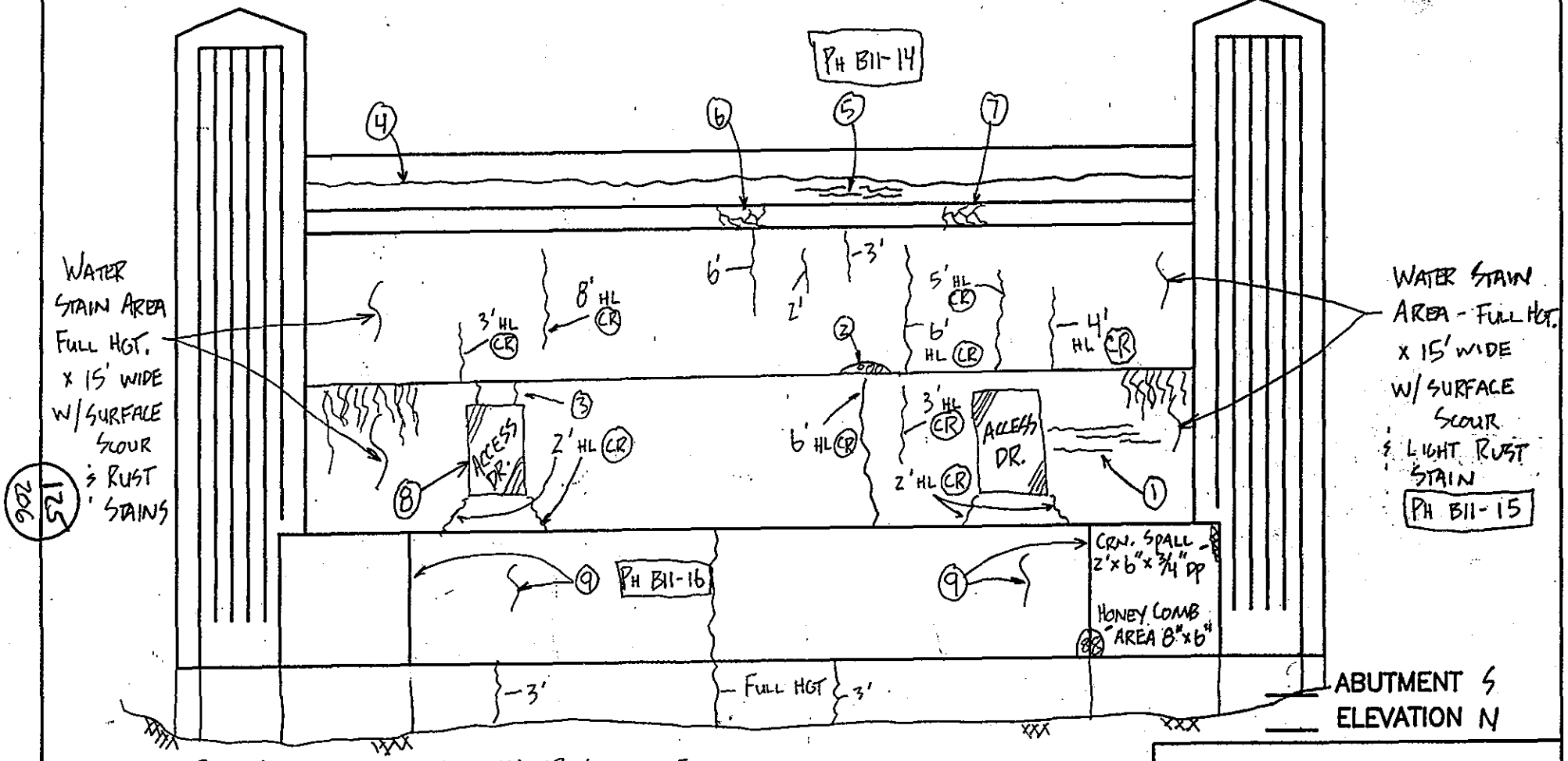
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 8/31/94

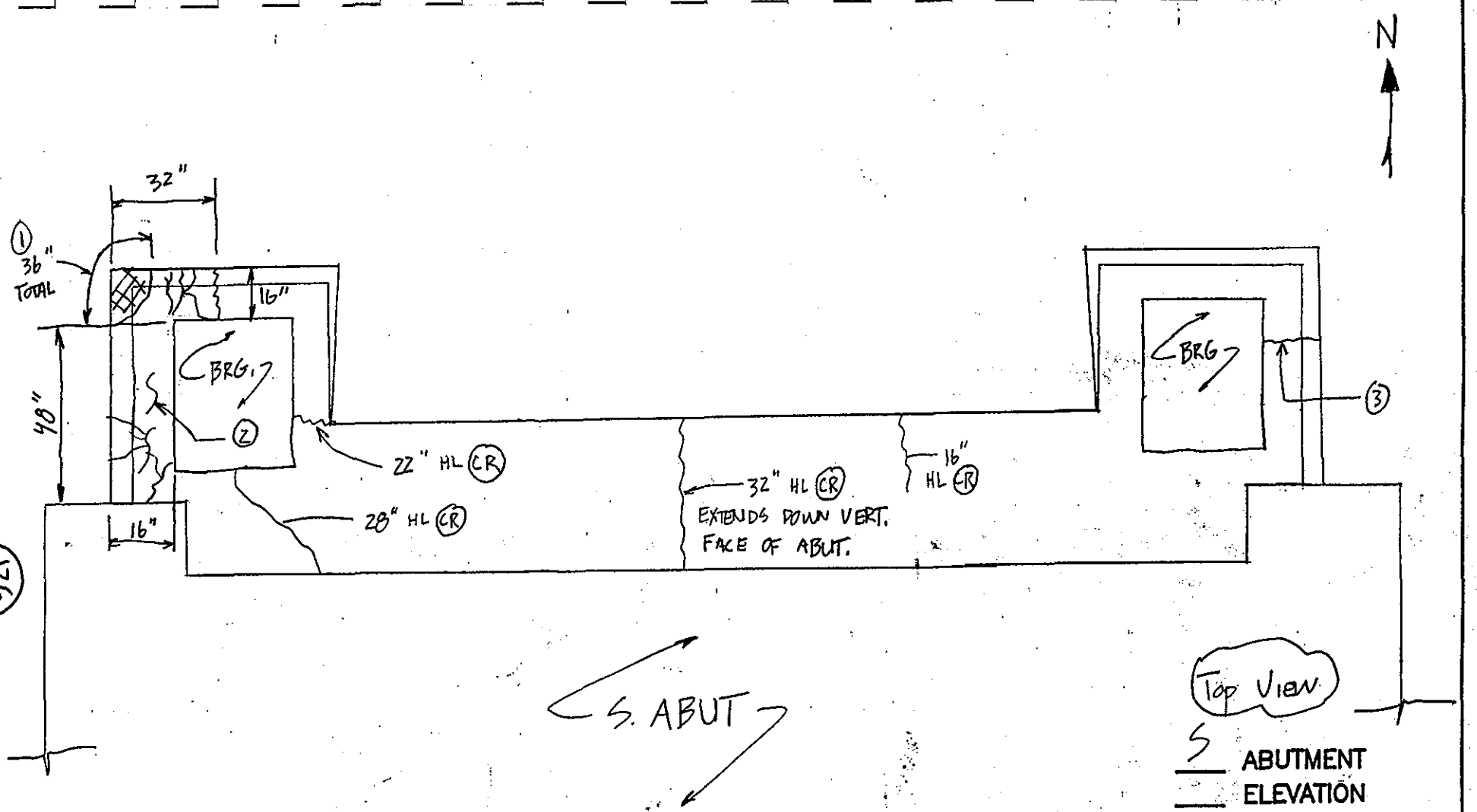
CREW: WM, PW, BH | SHEET 12 OF 18

SUBSTRUCTURE



⑨ - BOT. PORTION OF ABUT. FACE WATER STAINED - ESPECIALY IN CORNERS W/ LIGHT SURFACE SCOUR PH B11-16

~~~ = HL CR

NOTES:

1. 6' LONG x 1' WIDE AREA OF HL CR'S W/ LCH
2. HONEYCOMB AREA 2' x 6"
3. 2 - 1' HL CR'S OVER ACCESS DOOR
4. FULL LENGTH CONST. JT. IN CONC. HDR.
5. 4' x 1' AREA OF HL CR'S W/ LCH & RUST STAIN PH B11-14
6. 3' x 2' HL MAP CR W/ LCH
7. 2' x 2' " " " "
8. 2" GAP BTWN E. SIDE OF CONC. CUT-OUT & DOOR W/ 2 - 3" ϕ HOLES IN SCREEN

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784	DATE: 9/7/94
CREW: WM, PWN, BH	SHEET 1 OF 12
~~~



NOTES:

① 36" x 16" x 2" DP CORNER SPALL

② HL MAP CR AREA'S 32" x 16" & 48" x 16"

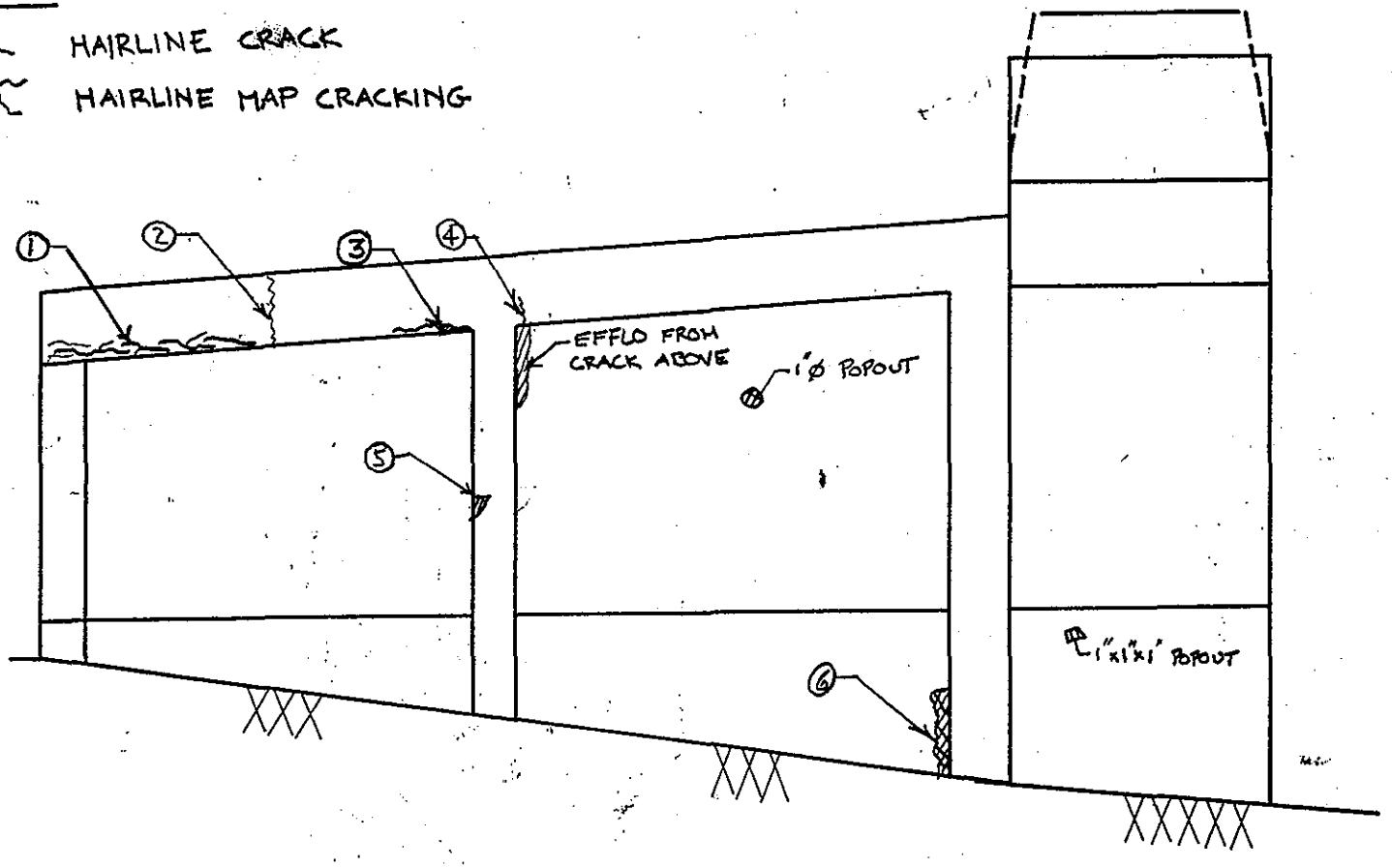
③ 22" HL CR EXTENDS DOWN VERT. FACE OF ABUT TO A 6" Φ x 3/4" DP SPALL - 6" DOWN VERT FACE OF PIER

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/6/94
CREW: MM, PWN, BH	SHEET 16 OF 16

LEGEND

HAIRLINE CRACK

HAIRLINE MAP CRACKING



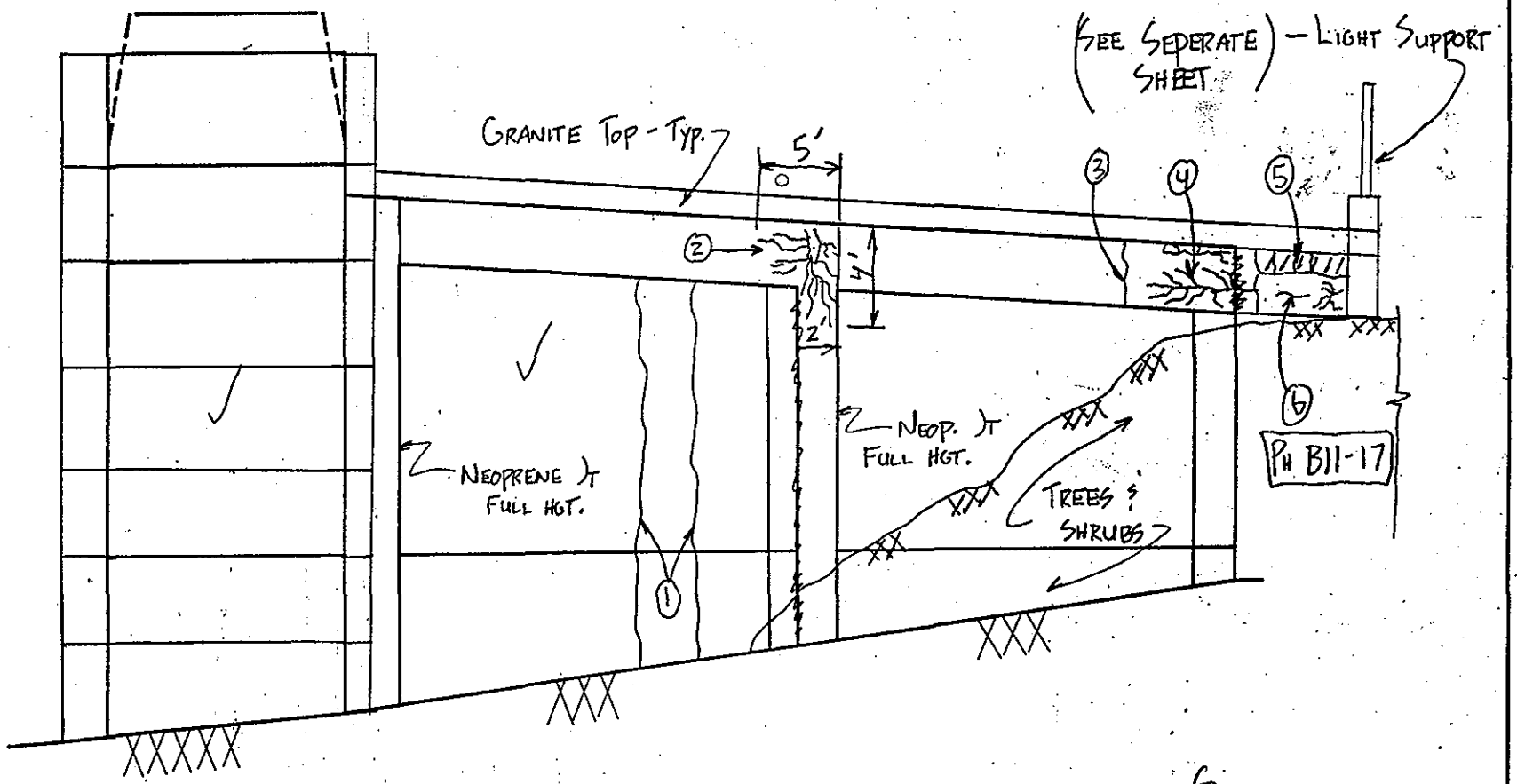
S ABUTMENT

E ELEVATION

NOTES:

1. 10' x 1' MAP CRACKING W/ LEACHING
2. 6' HAIRLINE CRACK W/ LEACHING
3. 1/16" CRACK, 6' LONG W/ LEACHING, 2" x 4" x 3/4" SPALL @ N. END OF CRACK
4. 8" H.L. CR. W/ LEACHING
5. 4"Ø x 1" SPALL
6. 5" x 32" x 3½" DEEP SPALLED AREA, PARTIALLY UNDERMINING RUBBER SEAL

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/7/94
CREW: PWN, WM, BH	SHEET 5 OF 12



S ABUTMENT
W ELEVATION

NOTES:

1. PATCHED HL (CR'S) FULL HGT.
2. HL MAP (CR) W/EFFLO
3. PATCHED HL (CR) - 4'
4. HL MAP (CR'S) W/EFFLO 4' x 1'
5. HOLLOW AREA 7' x 1' @ TOP OF WALL IN PATCHED AREA - EXTENDS OUT FROM LIGHT
6. PATCHED AREA 5' x 3' - W/TOP 1' HOLLOW AREA x 5' L.; ALSO HL MAP (CR) W/LCH THAT EXTENDS OVER FROM COND. (4)

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/7/94
CREW: WM, BH, PWJ	SHEET 6 OF 12

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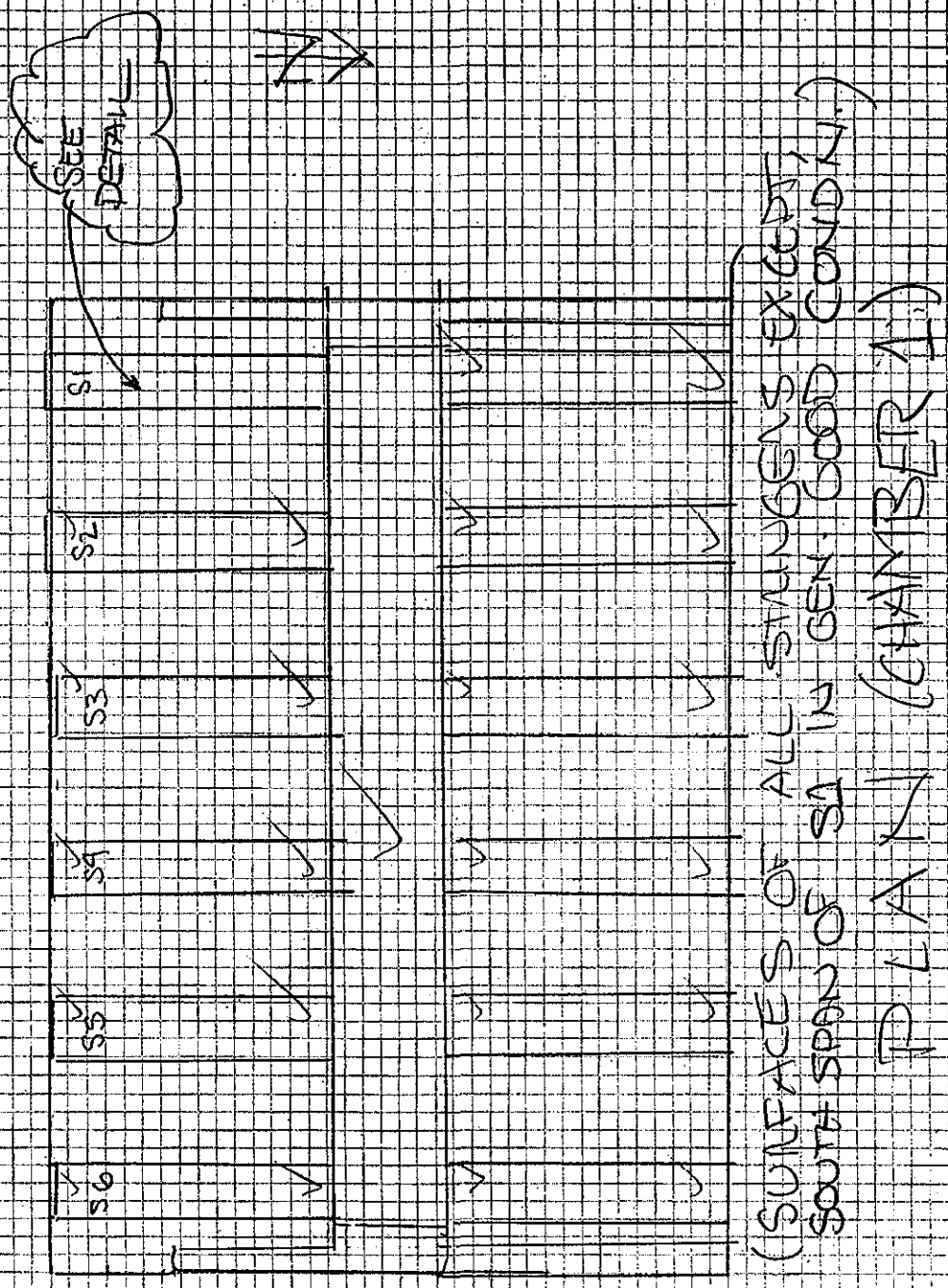
FIELD NOTES

	JOB NO. 1784	BRIDGE NO.
	DATE 9/8/94	SHEET 1 of 8
PREPARED BY: A.G. LICHTENSTEIN	CREW GABE / RB	



FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

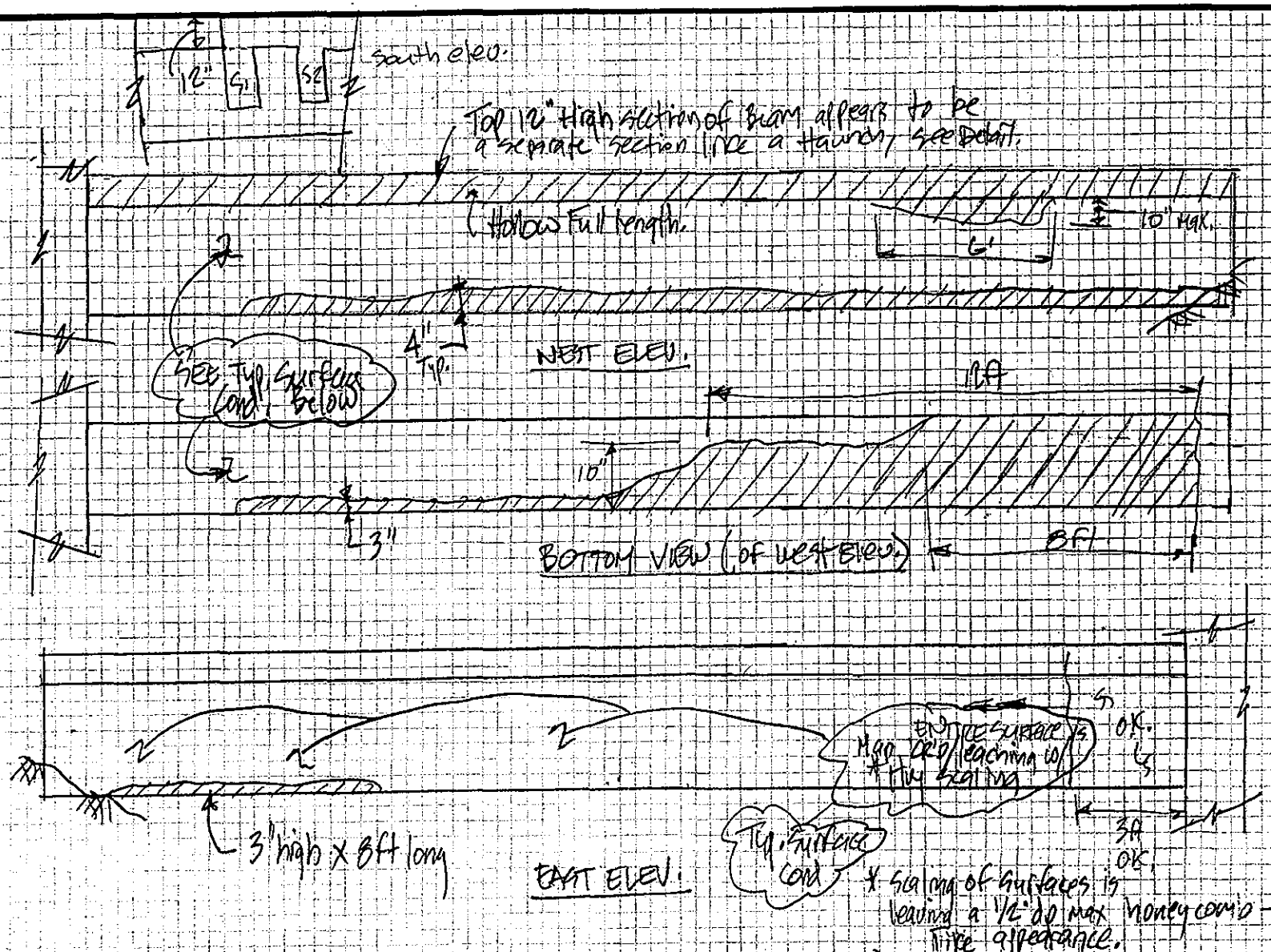
JOB NO. 1784

DATE 9/8/94

CREW GAGE / RB

BRIDGE NO.

SHEET 8 of 18



DETERIORATED STRINGER (CONCRETE) IN CHAMBER #1, SOUTH ABUTMENT, (Stringer S1)

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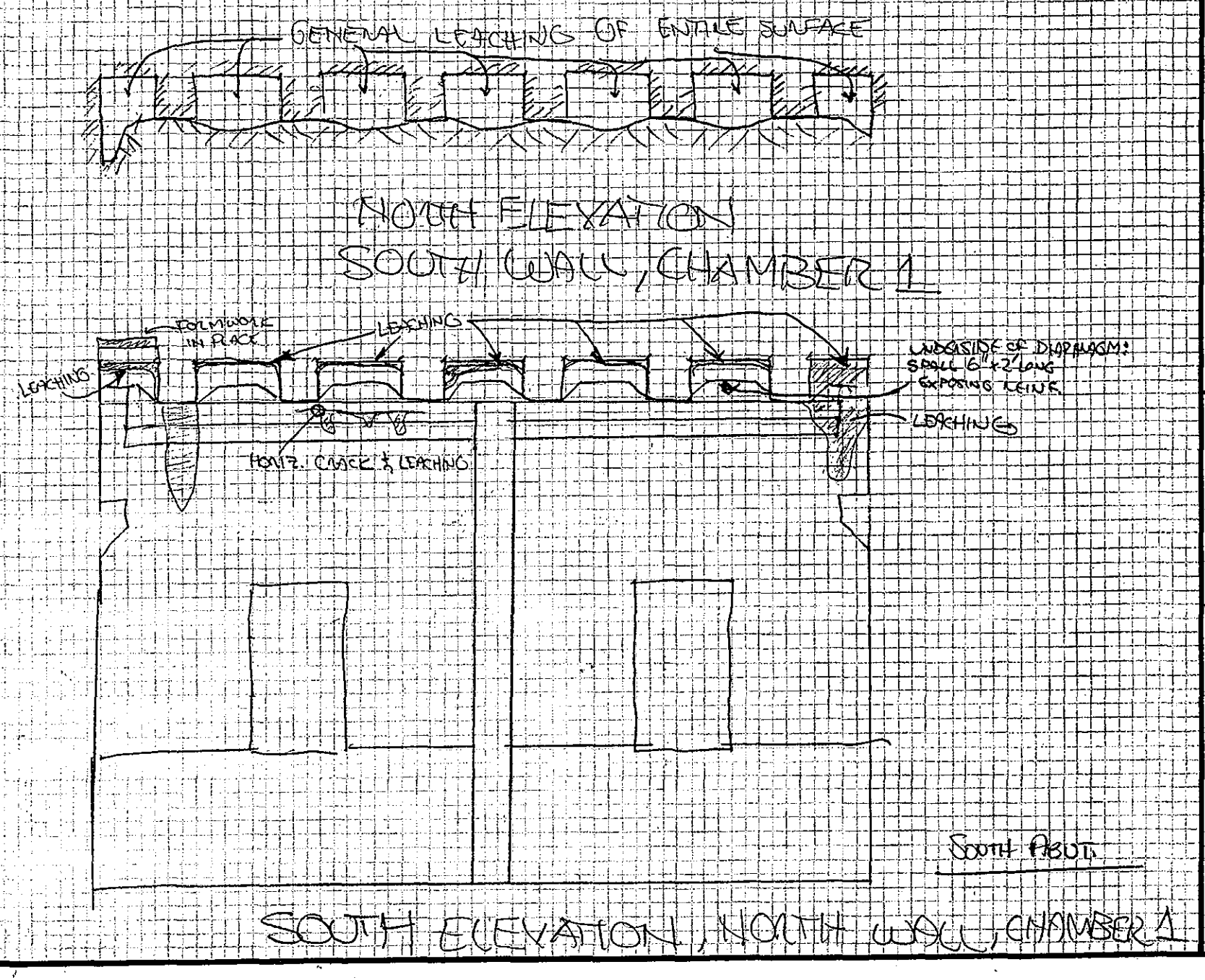
FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

JOB NO.	1784
DATE	9/8/94
CREW	GAB E / RB
BRIDGE NO.	
SHEET	2 of 19



FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

JOB NO. 1784

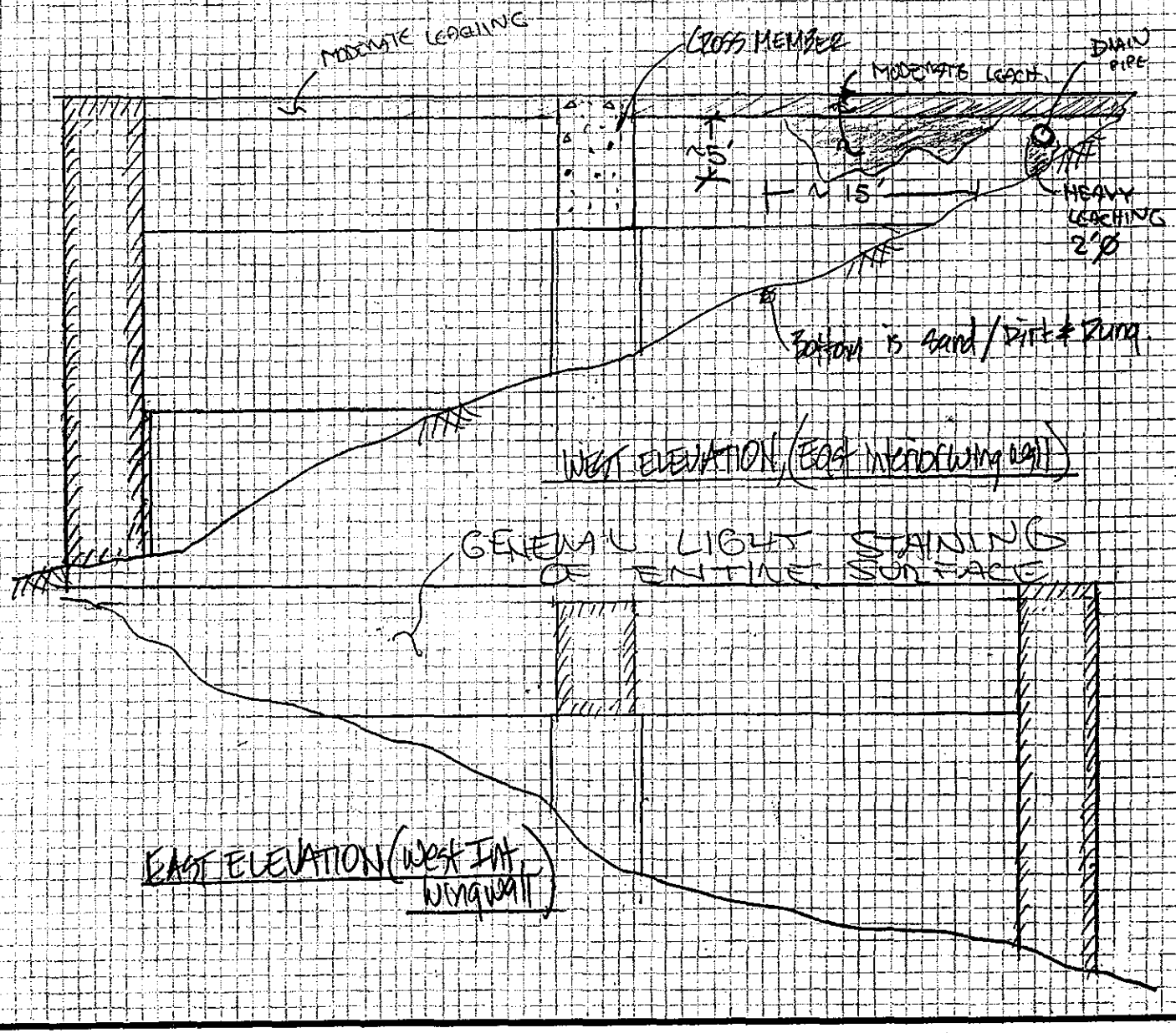
DATE 9/8/94

CREW Carpe / 23

BRIDGE NO.

SHEET 3 of 19

SOUTH ABUTMENT, CHAMBER #1



132
206

FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

JOB NO. 1784

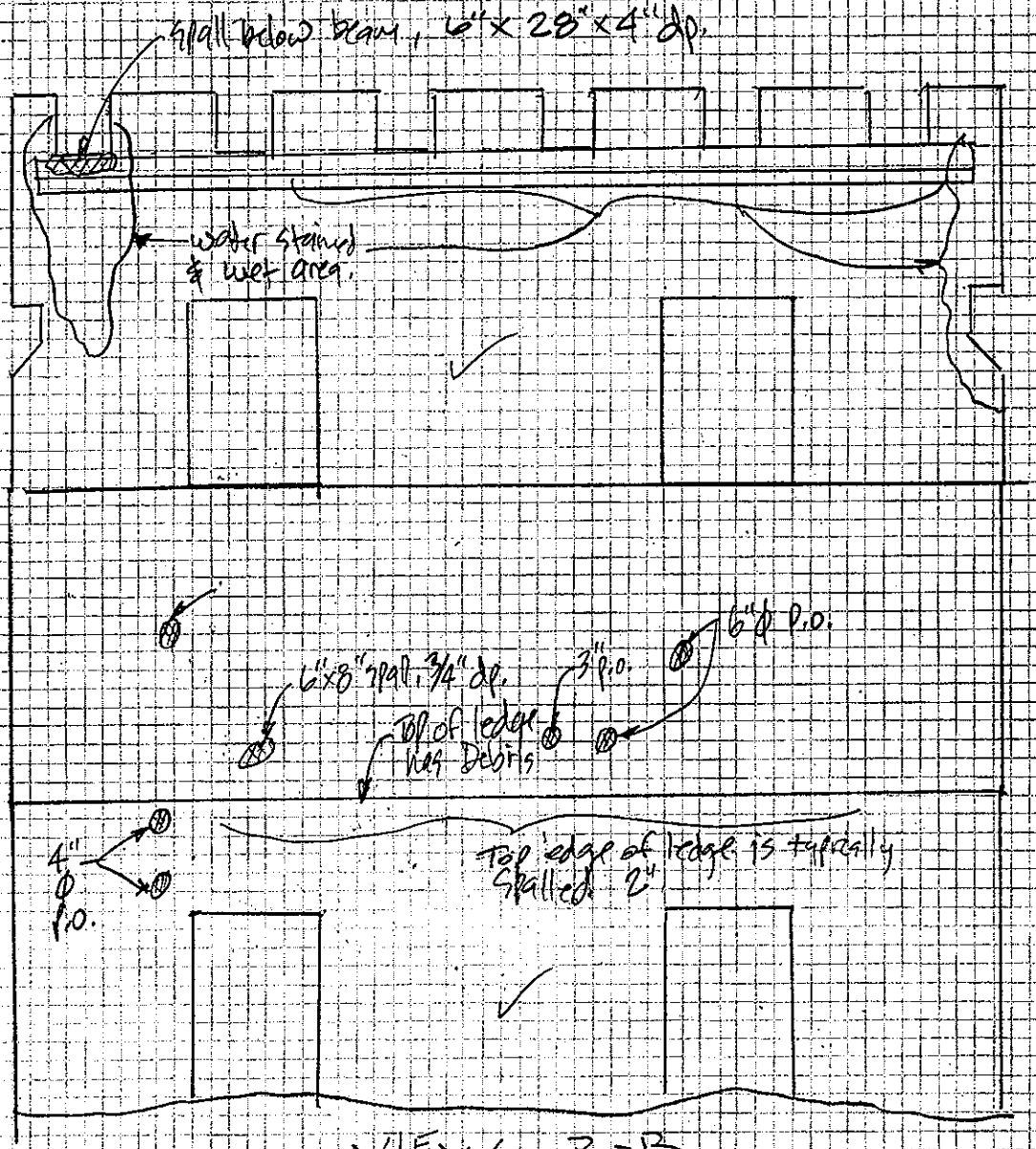
DATE 9/8/94

CREW [illegible] / RB

BRIDGE NO.

SHEET 5 of 18

P.O. = Pop out



VIEW B-B

CHAMBER #2, SOUTH ABUTMENT

133
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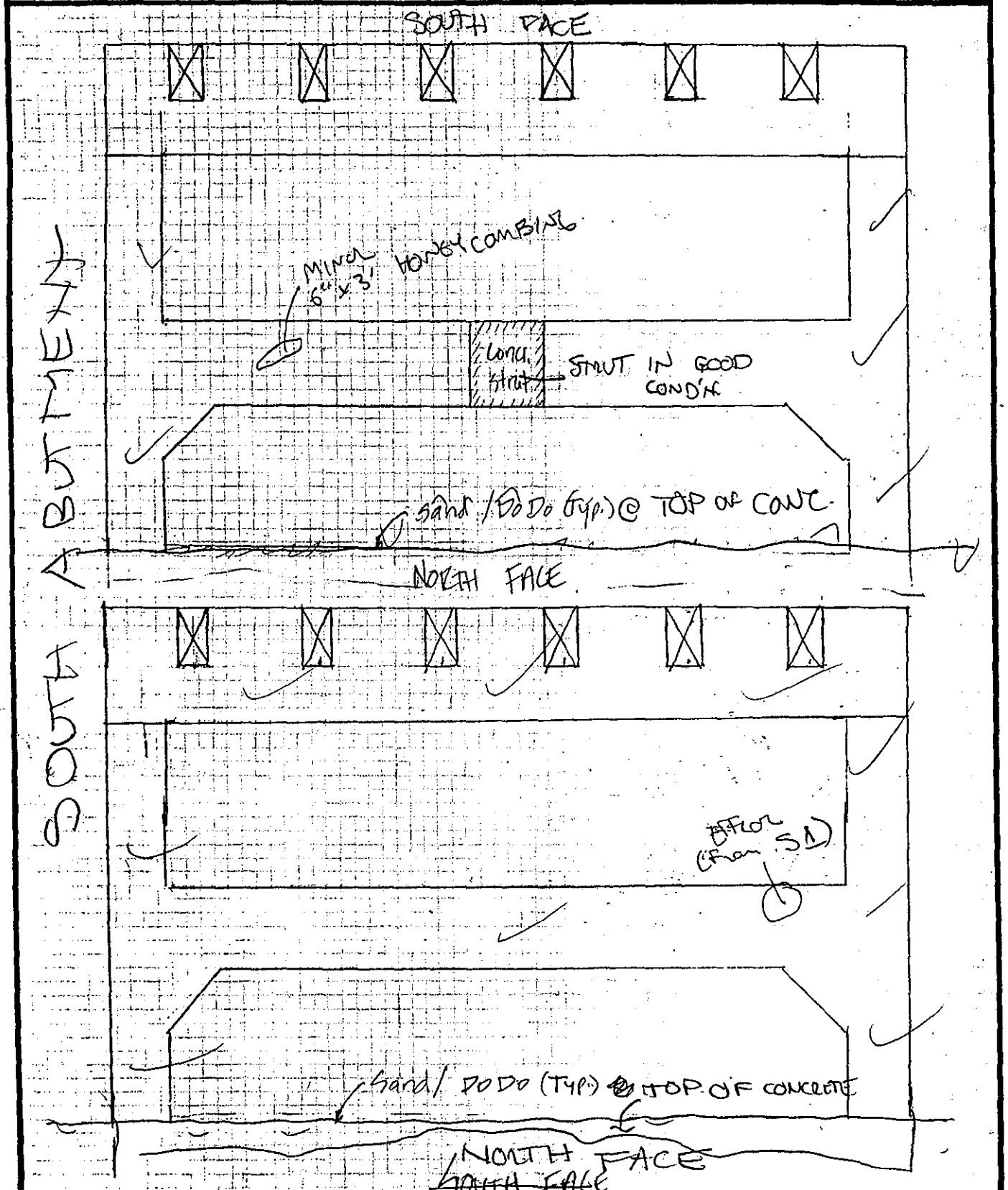
FIELD NOTES

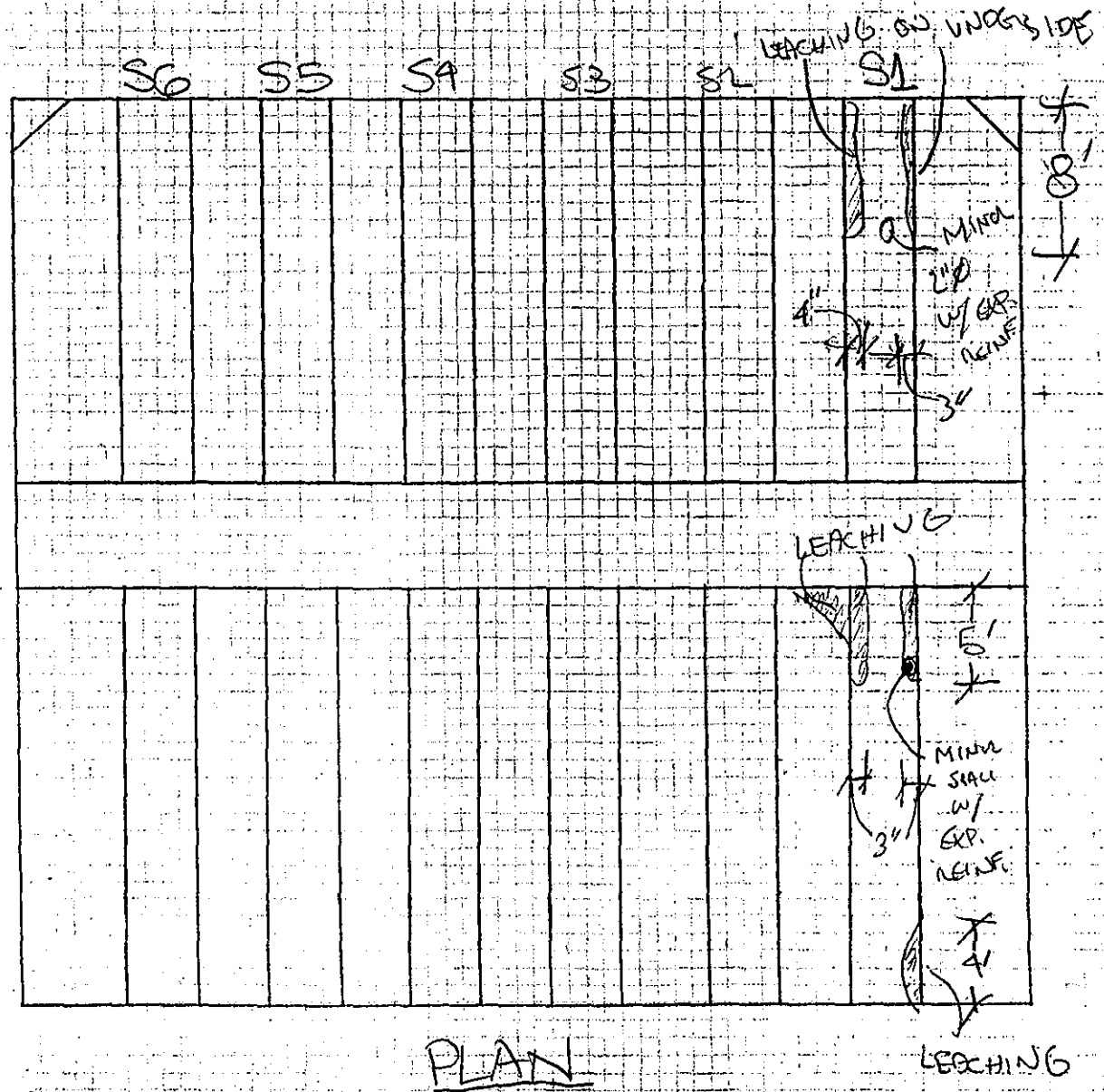
	JOB NO. 1784	BRIDGE NO.
	DATE ~~8/26/94~~ 9/8/94	SHEET 6 of 18
PREPARED BY: A.G. LICHTENSTEIN	CREW GABE/WM	



CHAMBER 2 CENTER BEAM SUPPORT

FIELD NOTES

	JOB NO. 1784	BRIDGE NO. BOURNE
	DATE ~~8/26/94~~ 9/8/94	SHEET 7 of 18
PREPARED BY: A.G. LICHTENSTEIN	CREW WM, GG	



PLAN

SOUTH ABUTMENT

CHAMBER 2

FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

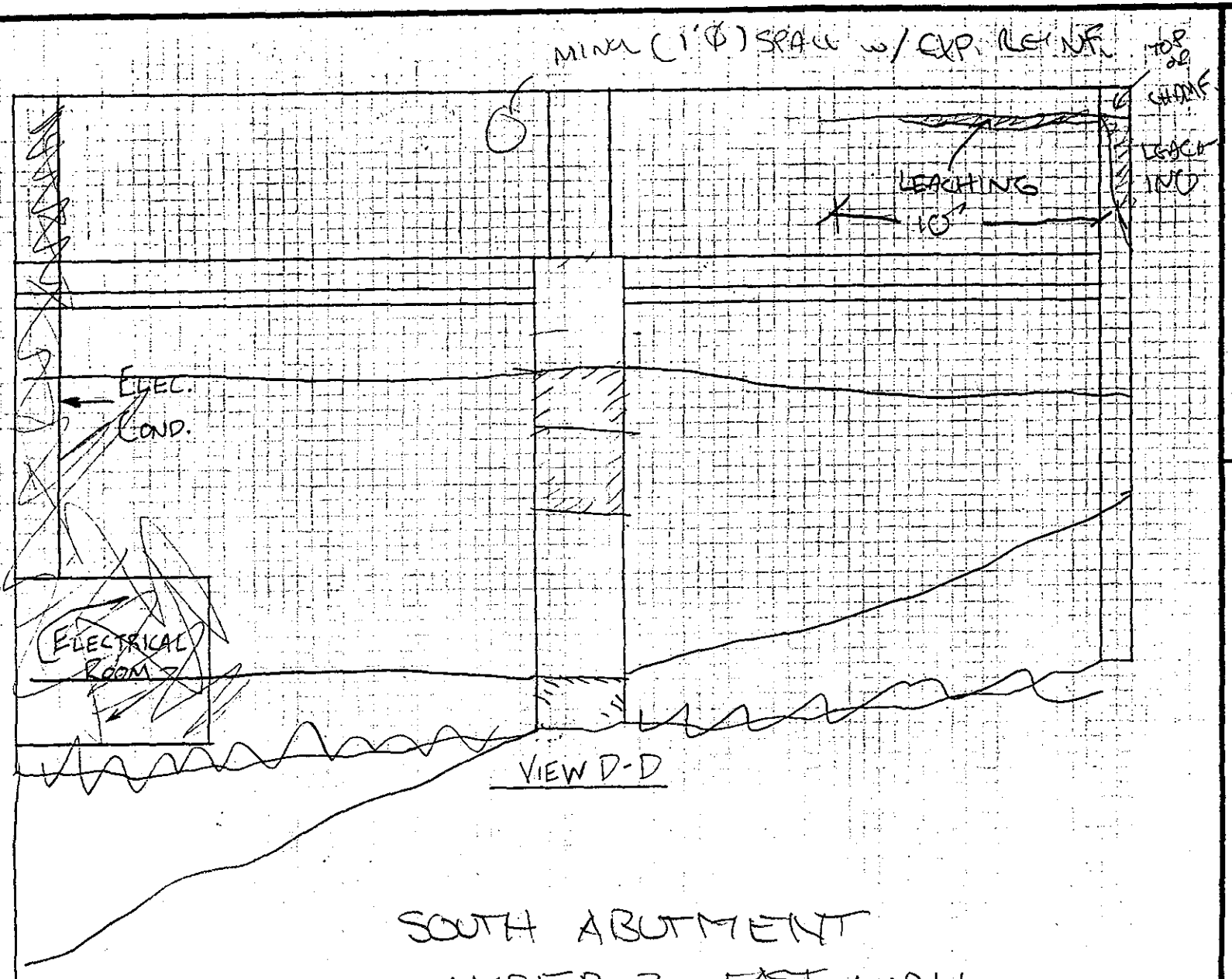
JOB NO. 1784

DATE ~~8/26/99~~ 9/8/99

CREW WM, GG

BRIDGE NO. BOURNE

SHEET 9 of 19



SOUTH ABUTMENT
CHAMBER 2, EAST WALL

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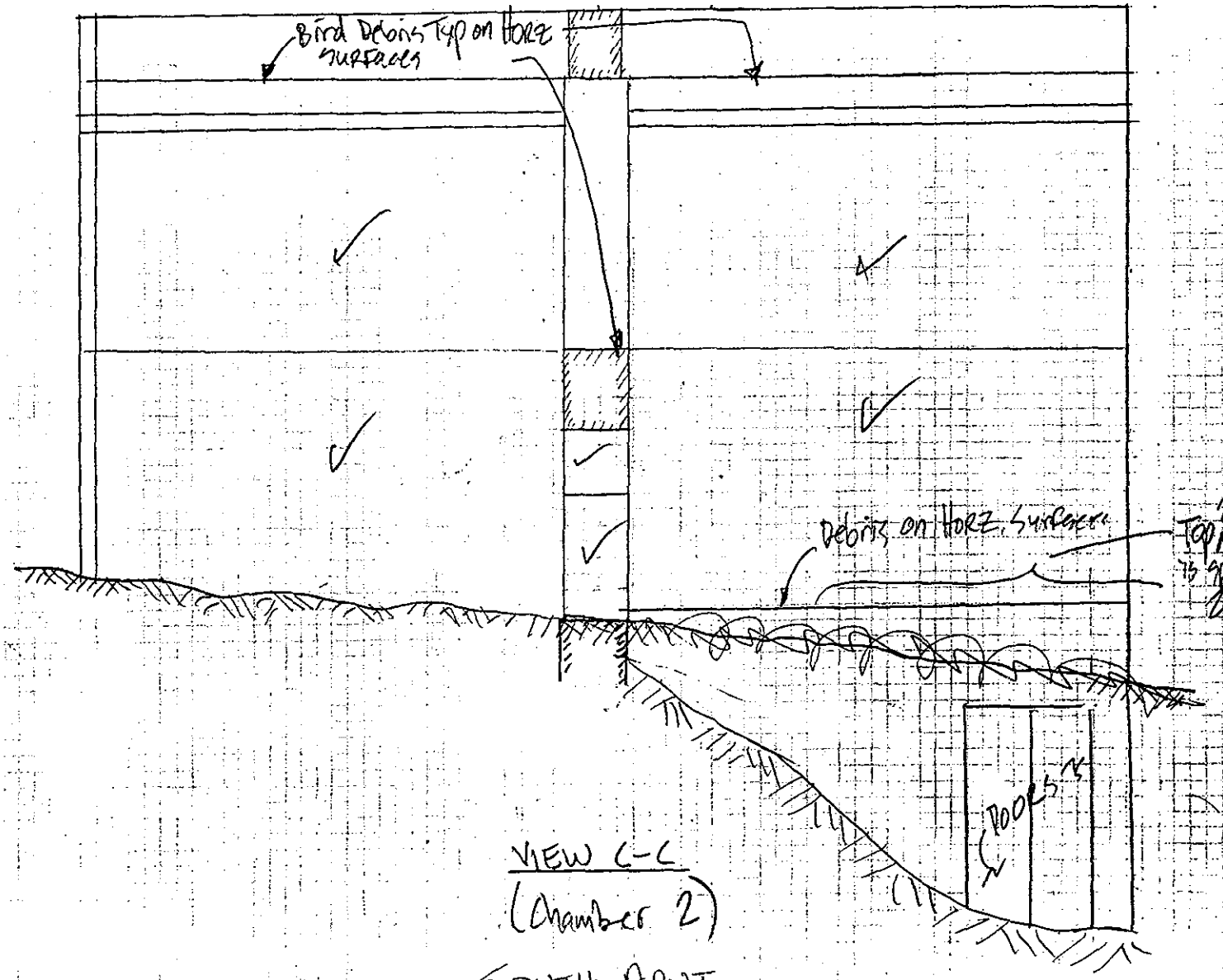
FIELD NOTES

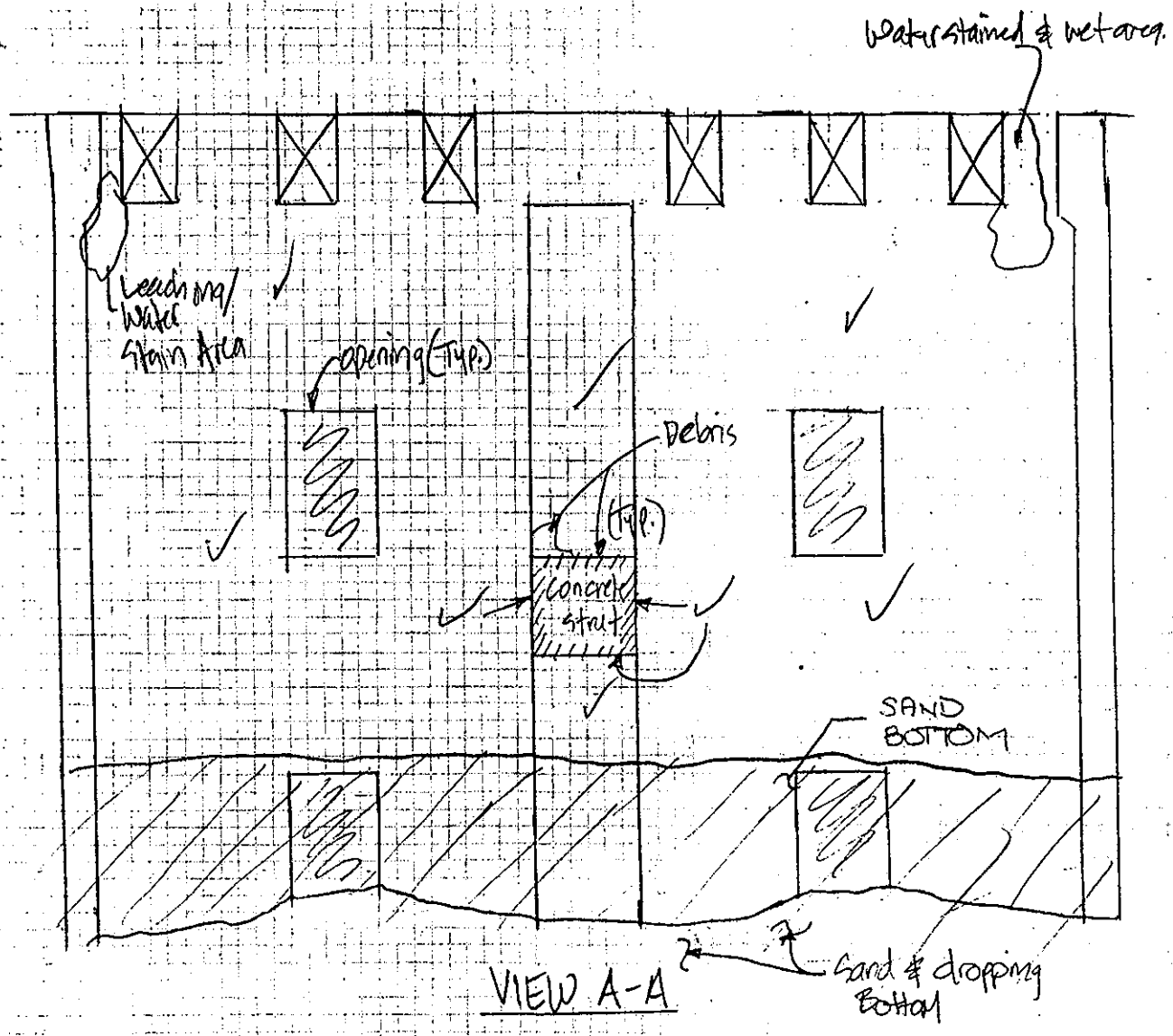
PREPARED BY: A.G. LICHTENSTEIN	JOB NO. 1784	BRIDGE NO.
	DATE ~~8/30/94~~ 9/8/94	SHEET 10 of 18
	CREW GABE / WM / RB	



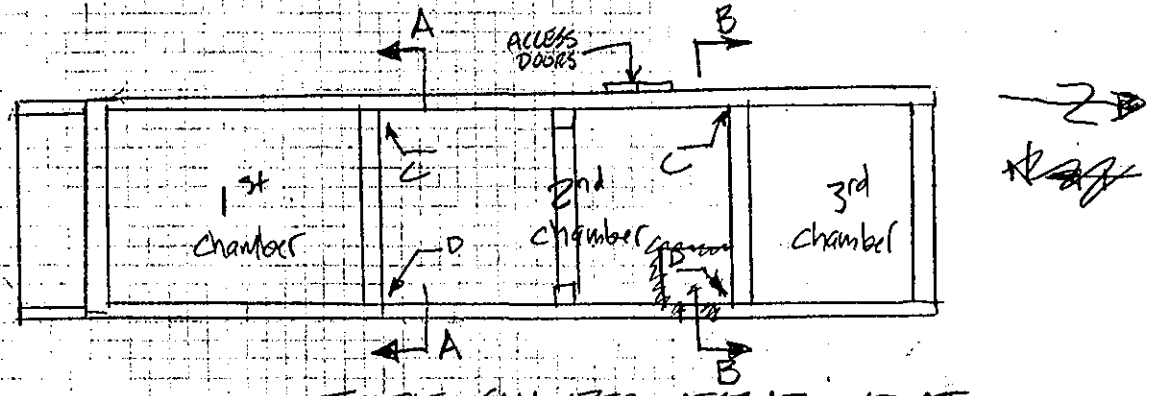
VIEW C-C
(Chamber 2)
SOUTH ABUT.

FIELD NOTES

JOB NO. 1784	BRIDGE NO.	
DATE ~~8/25/94~~ 9/8/94	SHEET	4 of 10
PREPARED BY: A.G. LICHTENSTEIN	CREW GABE / WM / RB	



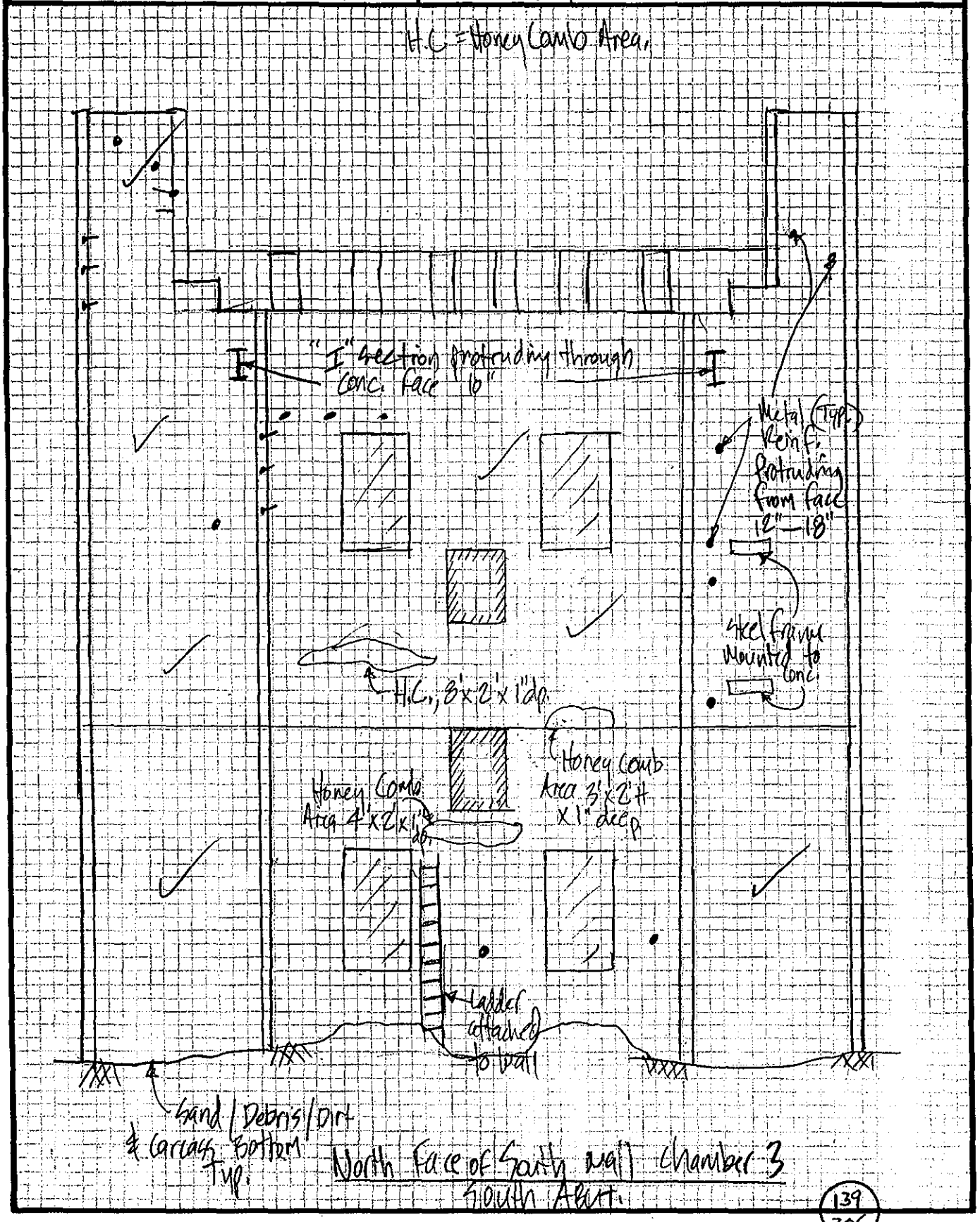
VIEW A-A

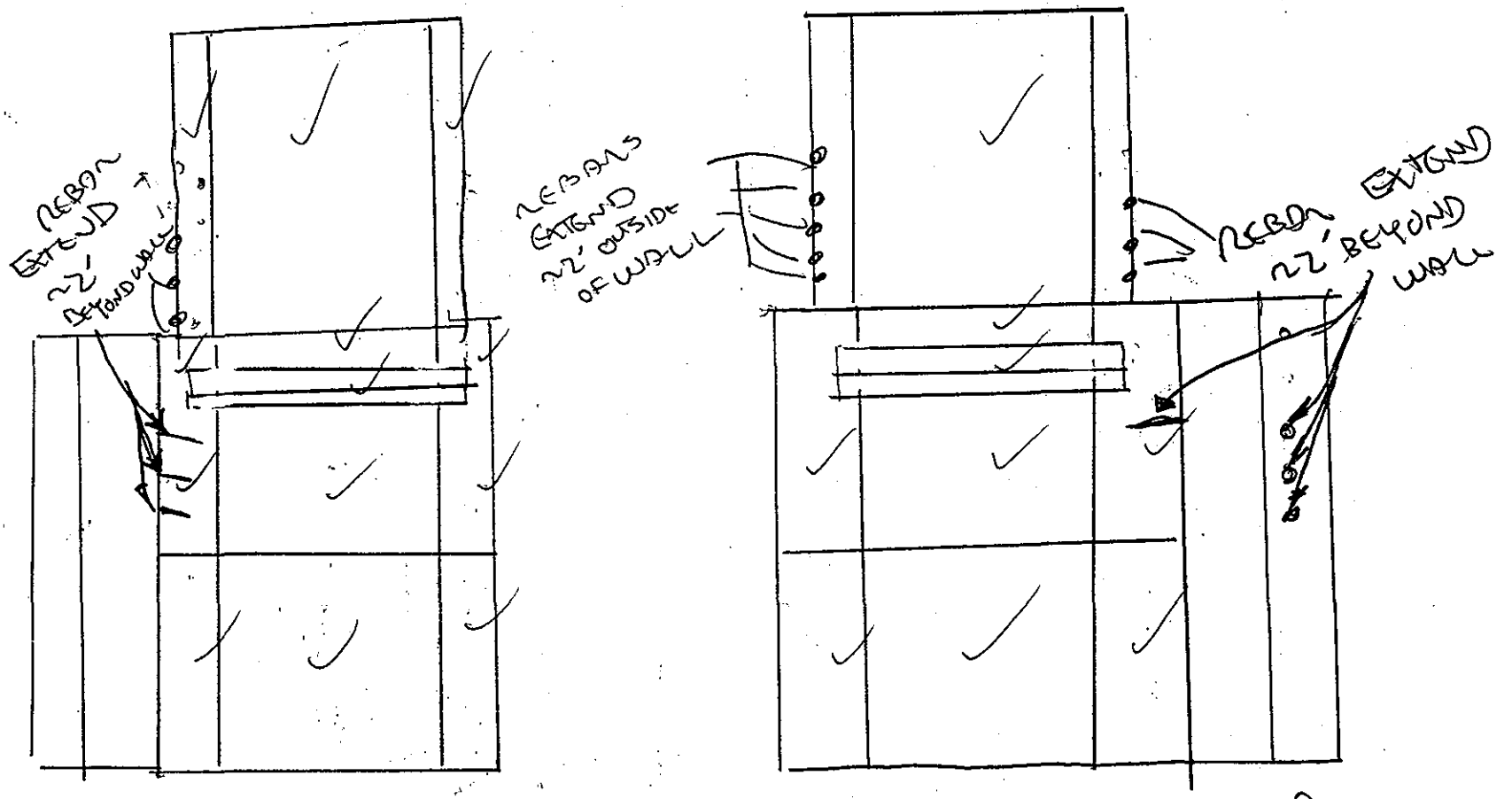


TRIPLE CHAMBER ~~WEST~~ ABUTMENT
PLAN VIEW
SOUTH

FIELD NOTES

JOB NO. 1784	BRIDGE NO.	
DATE 9/8/94	SHEET 11 of 18	
PREPARED BY: A.G. LICHTENSTEIN	CREW Gabe / RB	





WEST WALL

SOUTH ABUT CHAMBER 3

EAST WALL

S ABUTMENT
✓ ELEVATION

NOTES:

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/8/94
CREW: GG/RB	SHEET 12 OF 18

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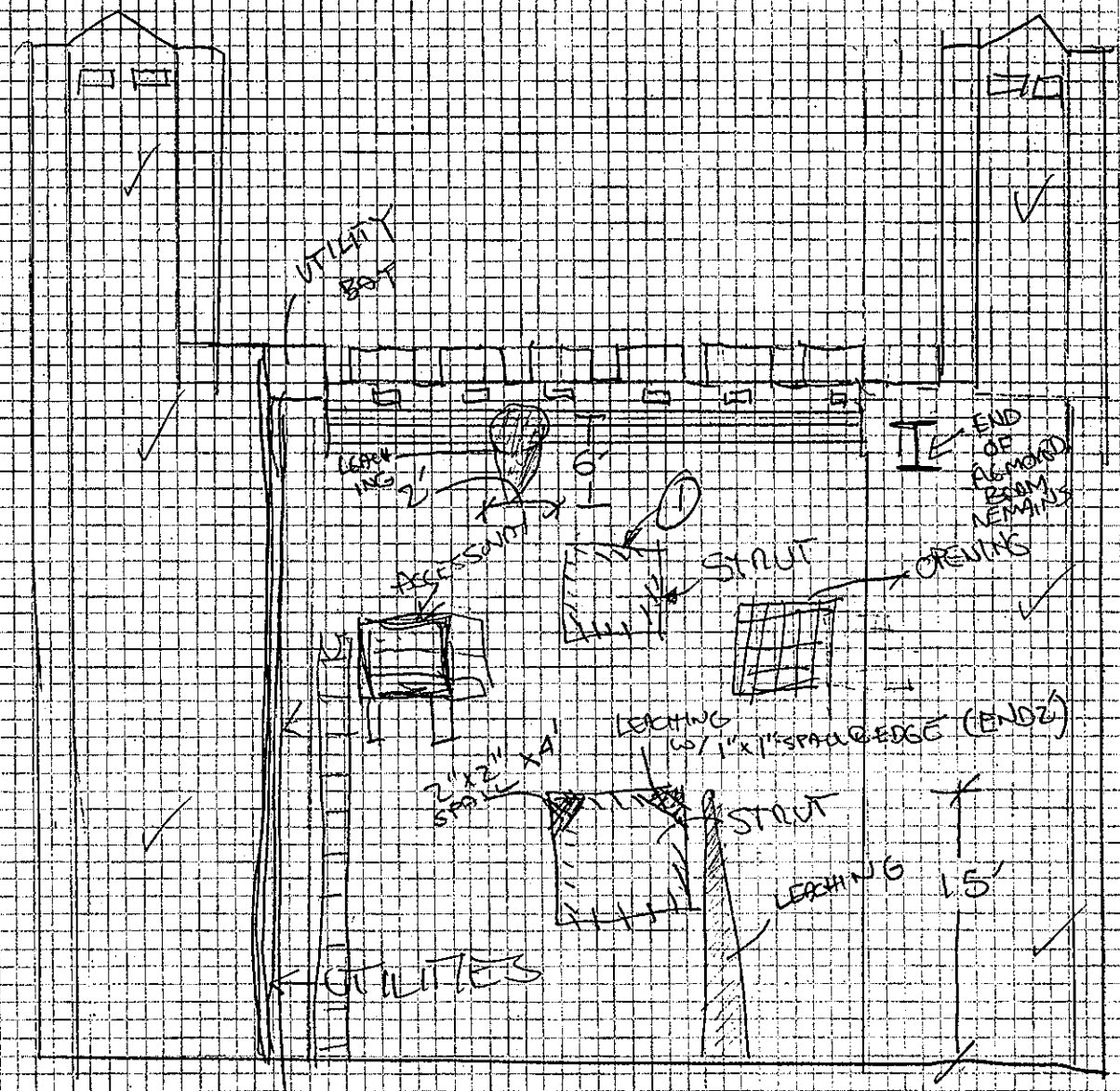
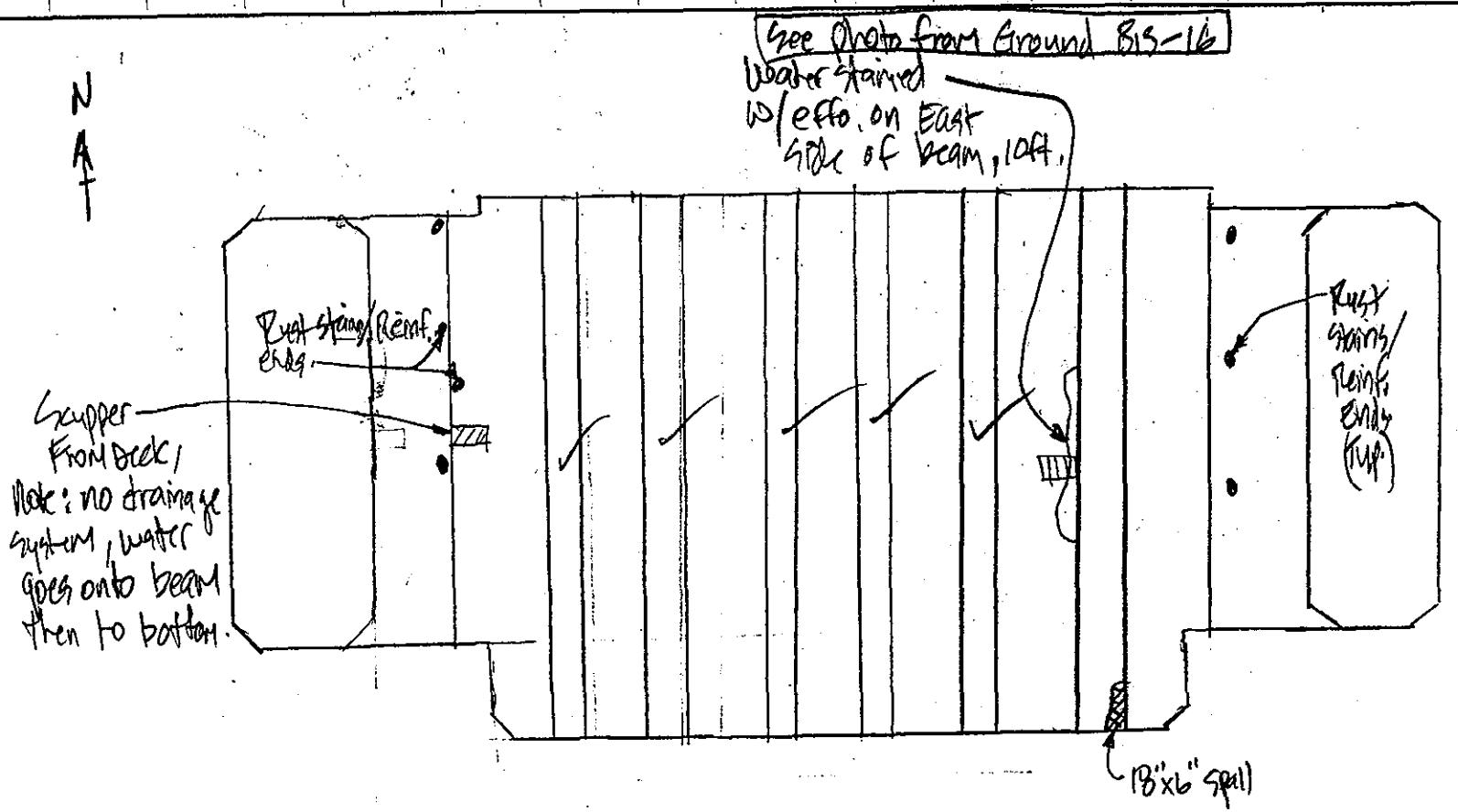
FIELD NOTES	JOB NO. 1784	BRIDGE NO.
	DATE 9/8/94	SHEET 13 of 18
PREPARED BY: A.G. LICHTENSTEIN	CREW GABE / RB	



① – Typ. Horz. surfaces have debris

SOUTH ABUTMENT
CHAMBER 3
NORTH WALL



VIEW OF UNDERSIDE OF DECK

Chamber #3

S ABUTMENT

~~ELEVATION~~

NOTES:

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/8/94
CREW: GABE / RB	SHEET 14 OF 18

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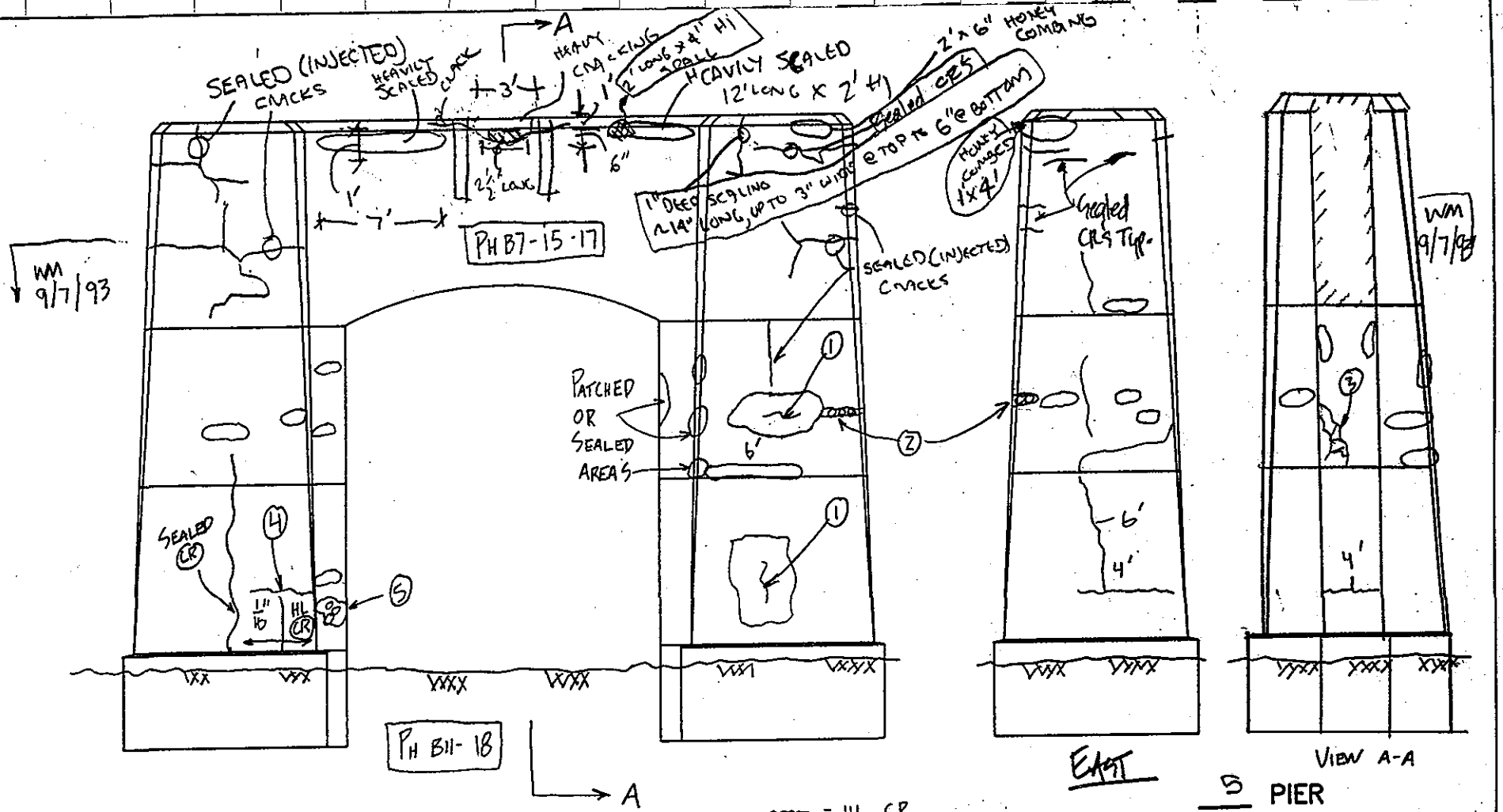


143
206

NOTES:

1. HEAVILY SCALED AREA 5' x 5'
2. HONEY COMBED AREA 6" x 4' EXTENDS AROUND CORNER TO EAST FACE
3. SEALED AREA ON CORNER 3' x 2' w/ MAP (CR'S)
4. HL (CR) FOR 2' OPENING TO 1/16" (CR) FOR ANOTHER 2'
5. HONEY COMBED AREA 3' x 2'

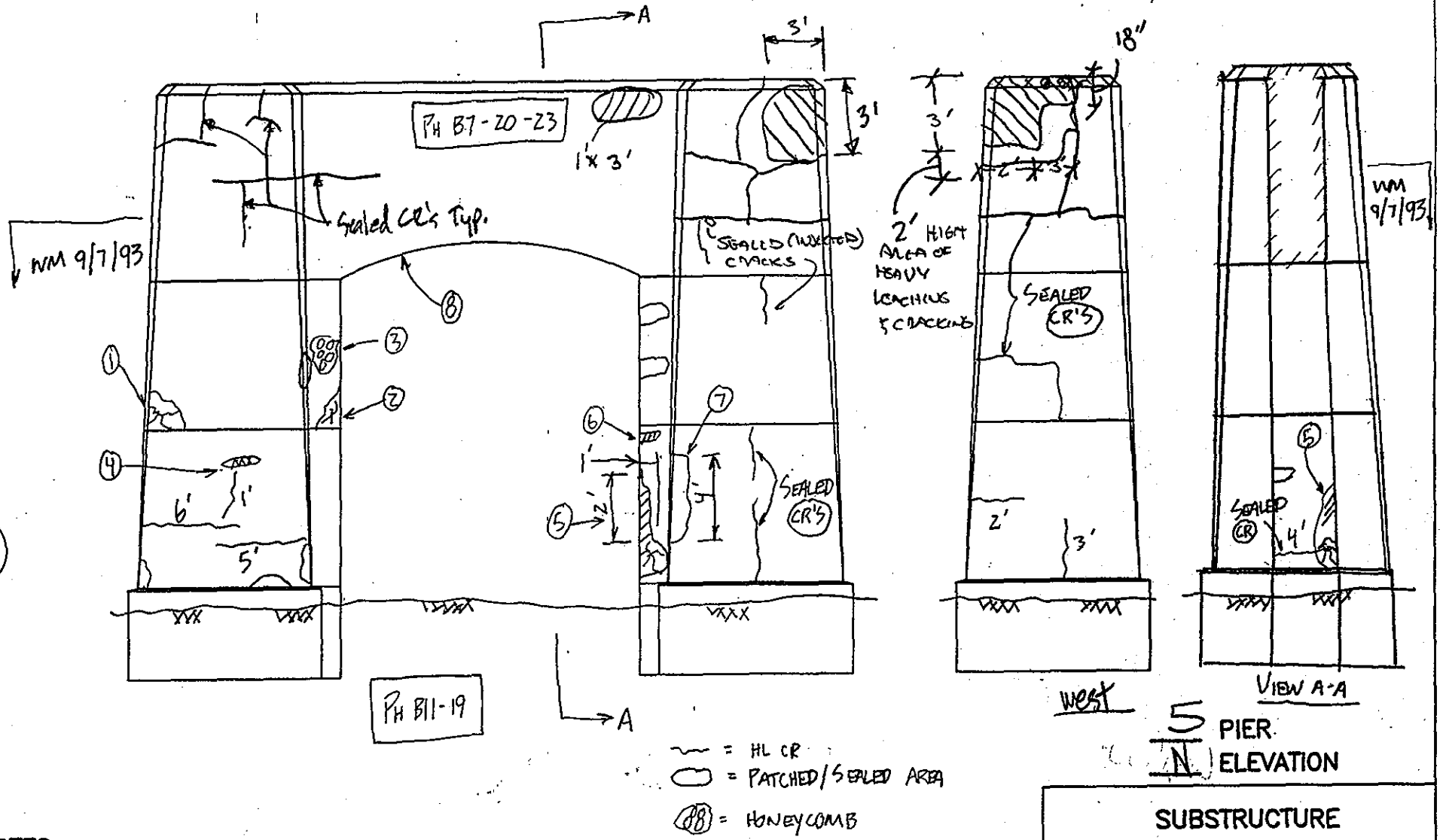
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/6/94
CREW: GABE / RB	SHEET 6 OF 11



5 PIER N ELEVATION

NOTES:

1. SEALED AREA ON CORNER 2'x2' w/ HL MAP (CR)
2. SIM. TO COND 1
3. HONEYCOMB AREA 2'x1'
4. POPOUT 8"x2"x1" DP.
5. PATCHED AREA ON CORNER w/ HL MAP CR & EFFLO, PATCH ALSO HAS HOLLOW - 2'x1' @ CORNER
6. POPOUT - SIM. TO COND 4
7. HEAVILY SCALED 4'x1' EXTENDING AROUND CORNER
8. HL (CR) FULL WIDTH UNDERSIDE/BOT. OF ARCH.

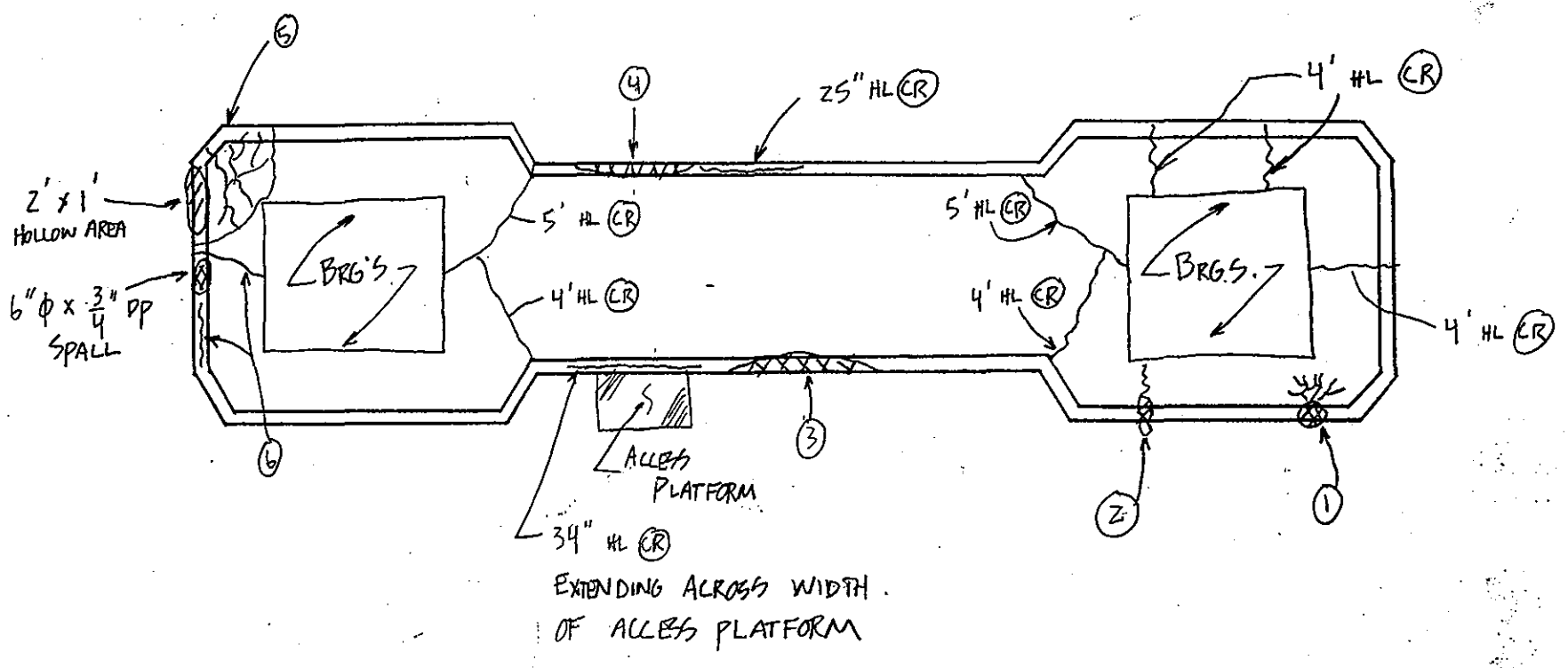
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9/6/94
CREW: GABE / RB | SHEET 7 OF 11



PIER 5 SPAN ___

NOTES:

1. 3" ϕ x 3/4" DP SPALL W/ HL MAP CR'S - 1' x 8" EXTENDING FROM SPALL
2. 18" x 3" x 3/4" DP. SPALL W/ 3" HL CR EXTENDING FROM SPALL
3. 30" x 4" x 3/4 DP SPALL AREA
4. 40" x 16" HOLLOW AREA
5. 3' x 3' HL MAP CR AREA
6. HL CR IN PATCH

TOP OF PIER

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/6/94
CREW: WM, PNN, BH	SHEET 13 OF 16

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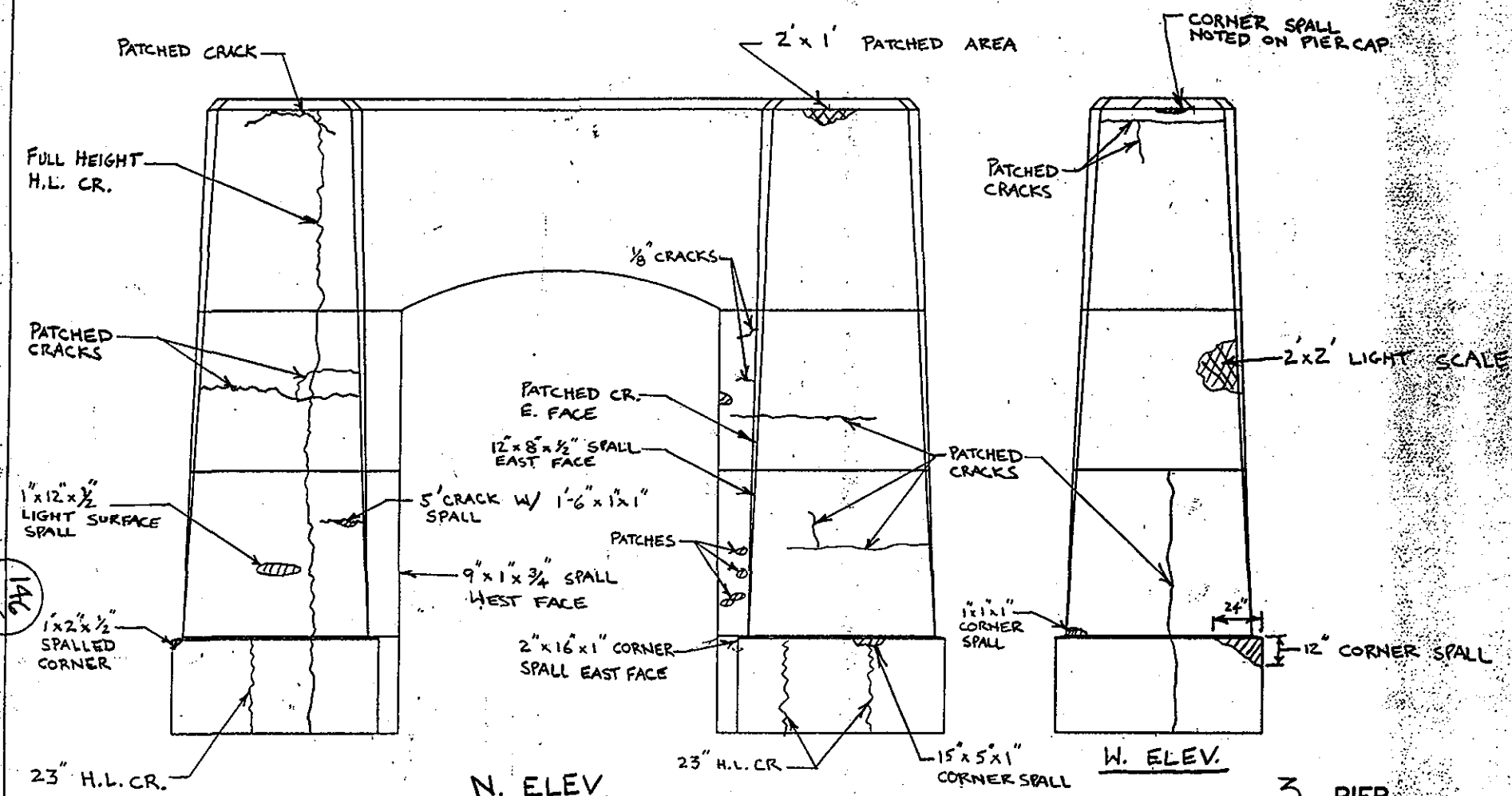

3 PIER
N ELEVATION

NOTES:

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/7/94
CREW: PWN, WM, BH	SHEET 12 OF 12

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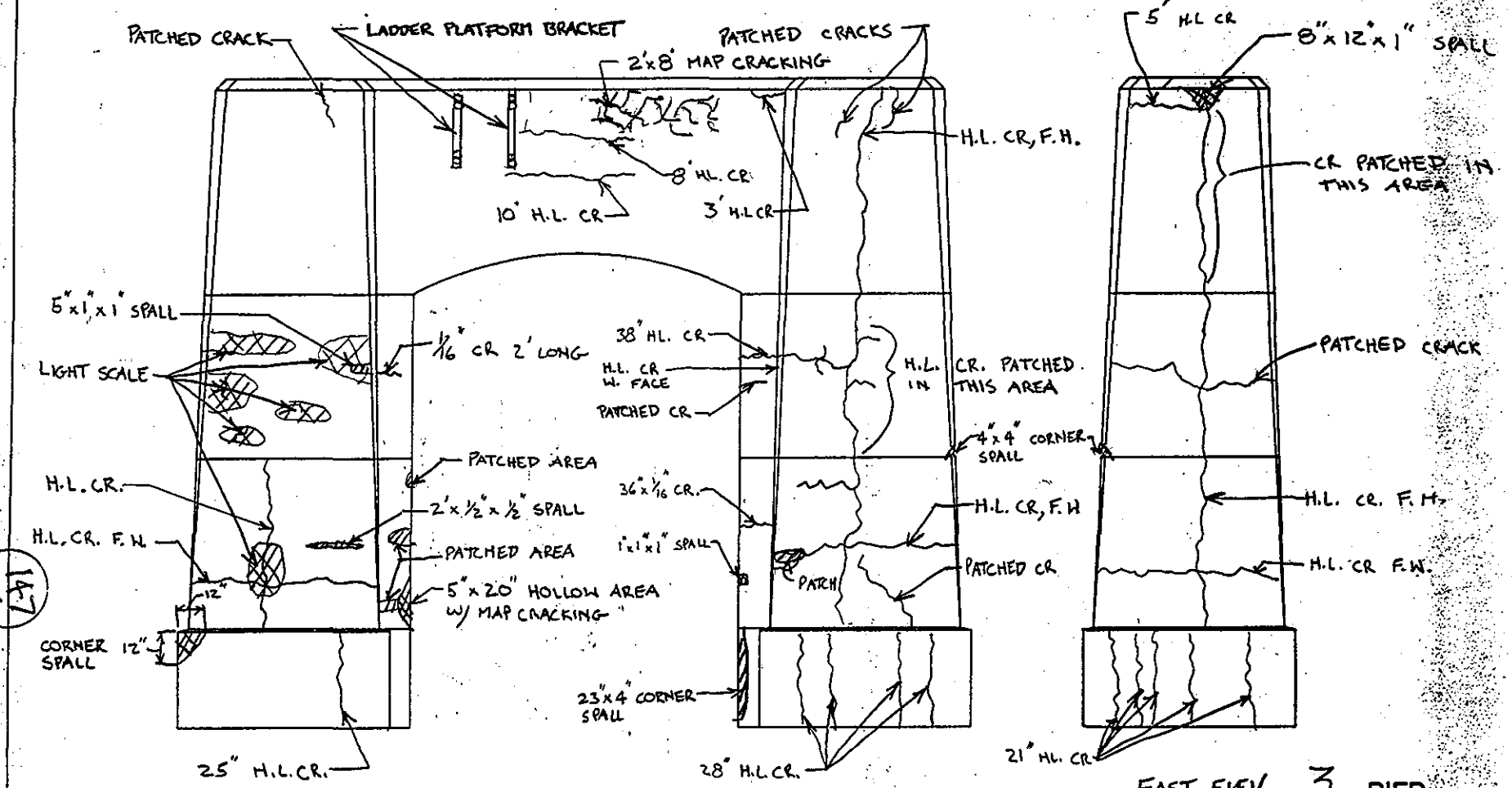
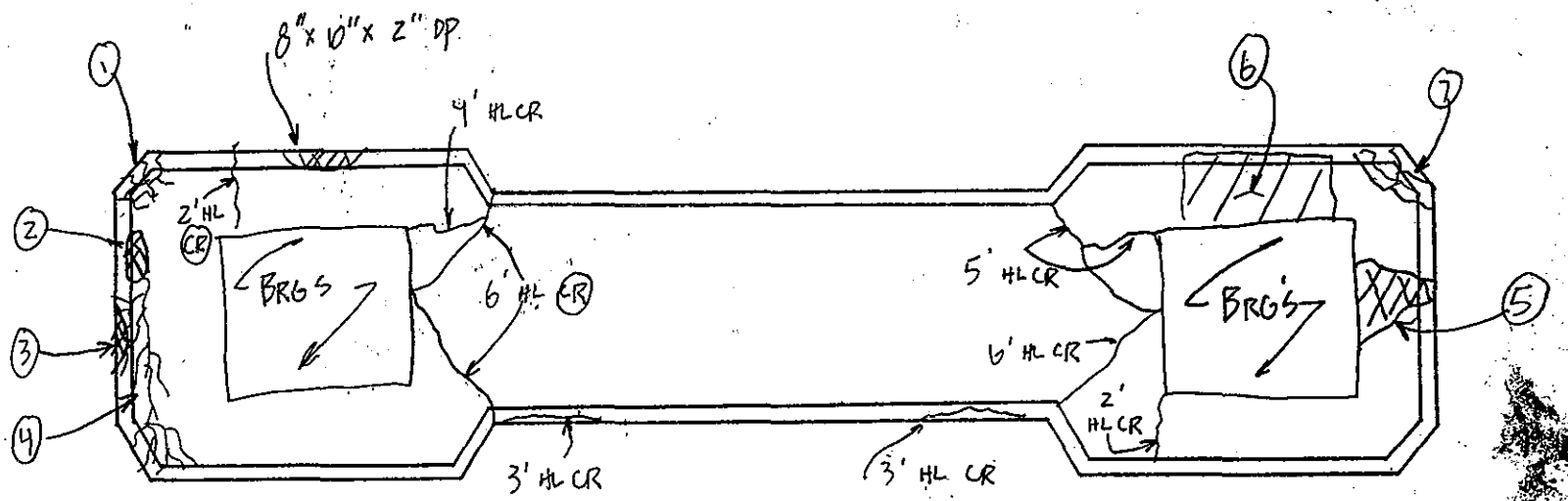


NOTES:

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/7/94
CREW: PLN, WM, BH	SHEET 11 OF 12



PIER 3 SPAN ___

NOTES:

1. HL MAP CR 2'x 2'
2. 2'x 10" x 1" DP SPALL
3. 18" x 8" x 1" DP. SPALL
4. HL MAP CR AREA 3' x 5'
5. 2' x 5' x 1 1/2" DP SPALL
6. 42" x 18" HOLLOW AREA - PATCHED AREA
7. HL MAP CR 2' x 2'

TOP OF PIER	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/6/94
CREW: WM, PWW, BH	SHEET 8 OF 16

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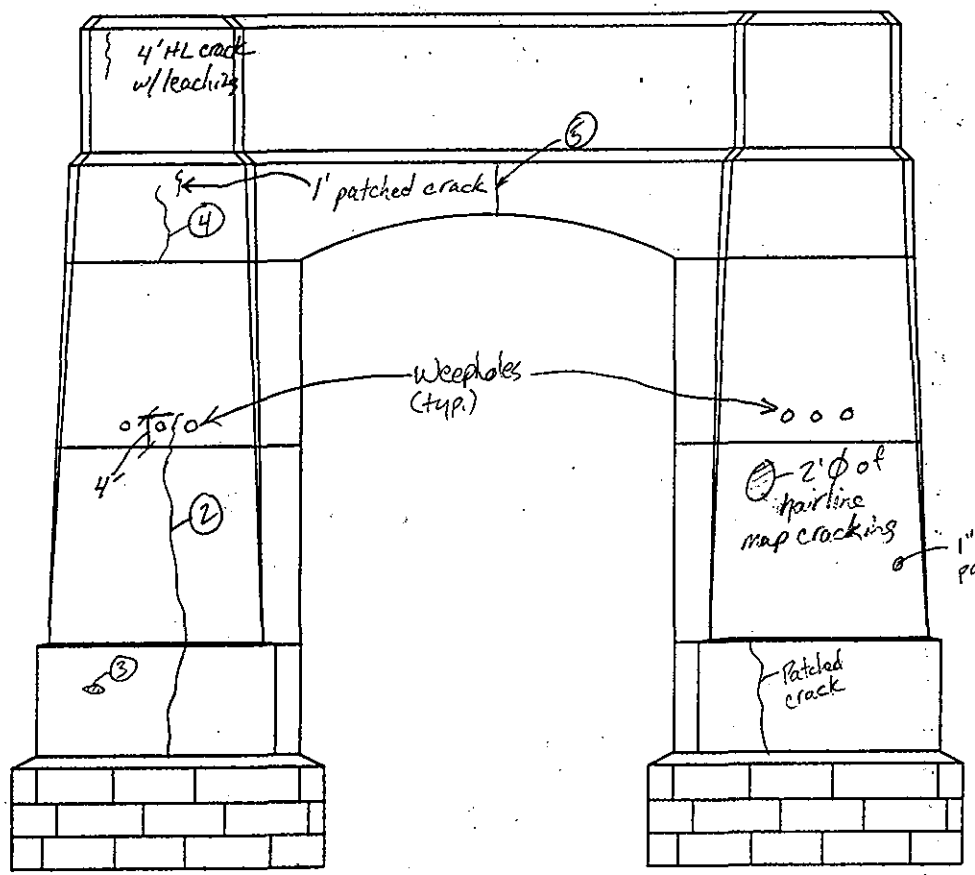
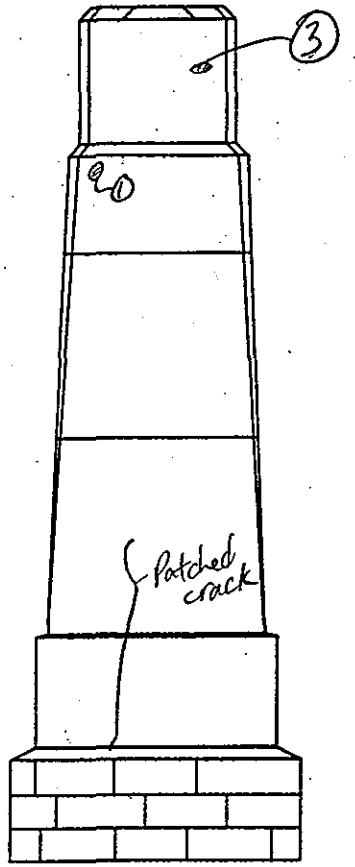


S. ELEV.



E. FACE

1 PIER
S ELEVATION

NOTES:

① 3"ϕ × 1" dp. spall
② HL crack × 20' long w/ leaching @ bottom 2'
③ 6" × 2" × ½" dp spall
④ 8' patched crack
⑤ Patched crack 16' long and also extending full width of underside of Pier cap

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9-7-94
CREW: BH, PN, WM | SHEET 9 OF 12

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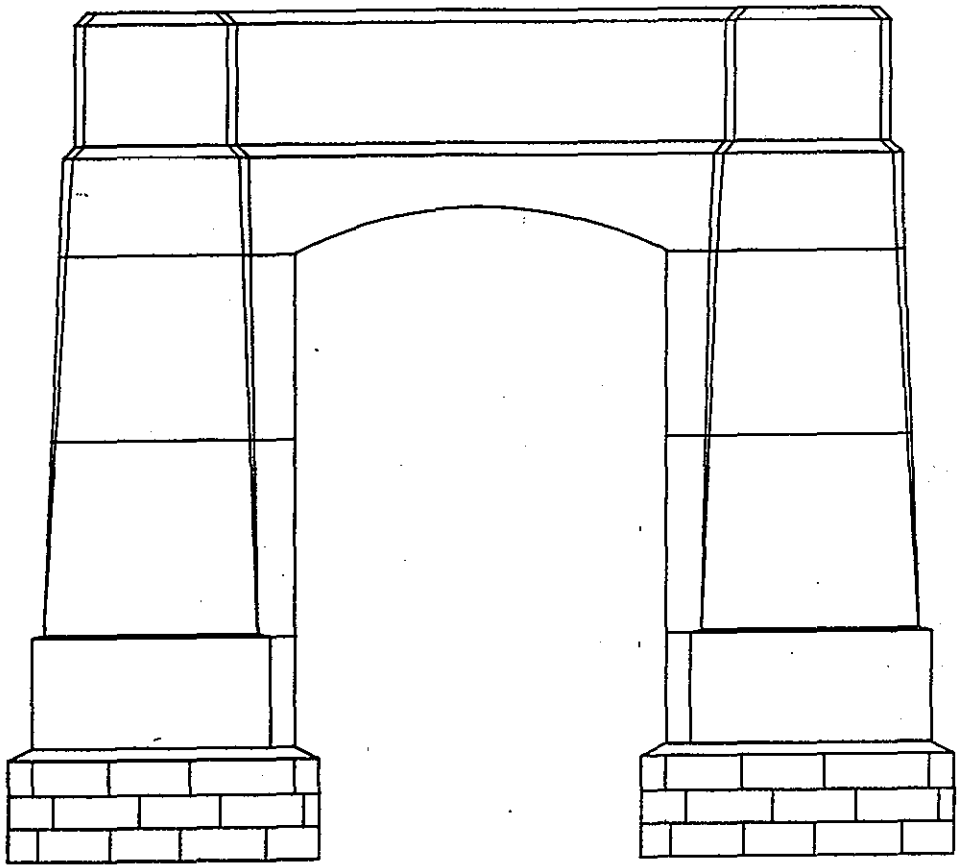
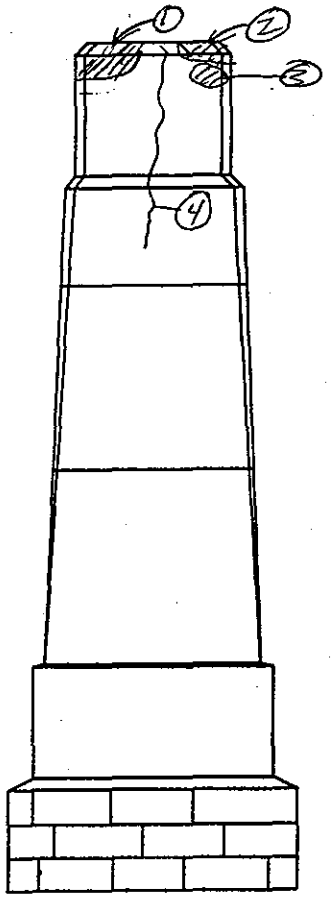


N. Elev.



W. Face

1 PIER
N ELEVATION

NOTES:

① ≈ 4'x2' Hollow area (could be knocked off) w/ leaching } Superceded BH 9-21-94
② ≈ 3'x1' " " (" " " ") " / "
③ 2'ø HL. Map Cracking w/ efflo
④ 15' HL. crack w/ efflo

SUBSTRUCTURE

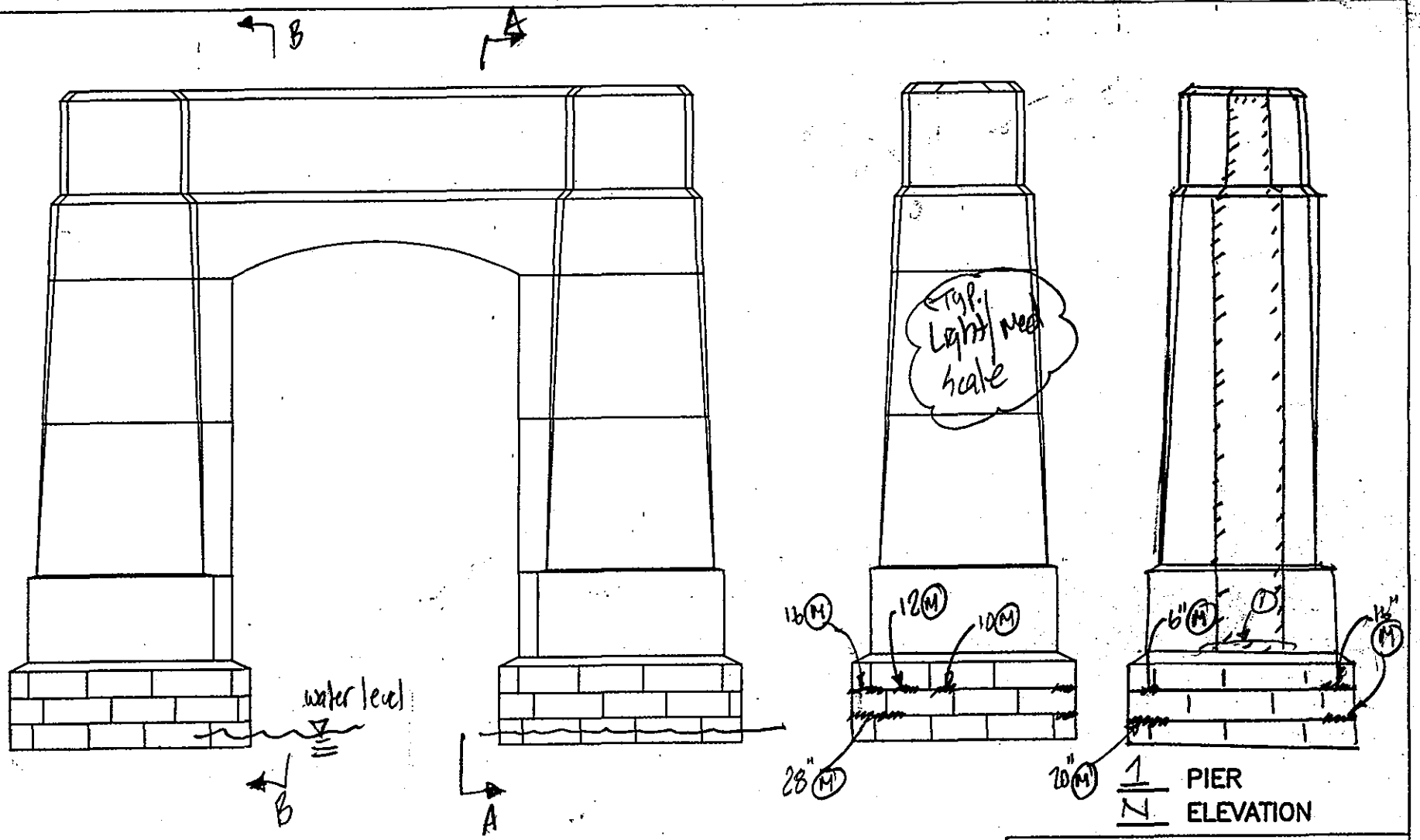
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9-1-94
CREW: BH, PN, WM	SHEET 10 OF 12

150/202



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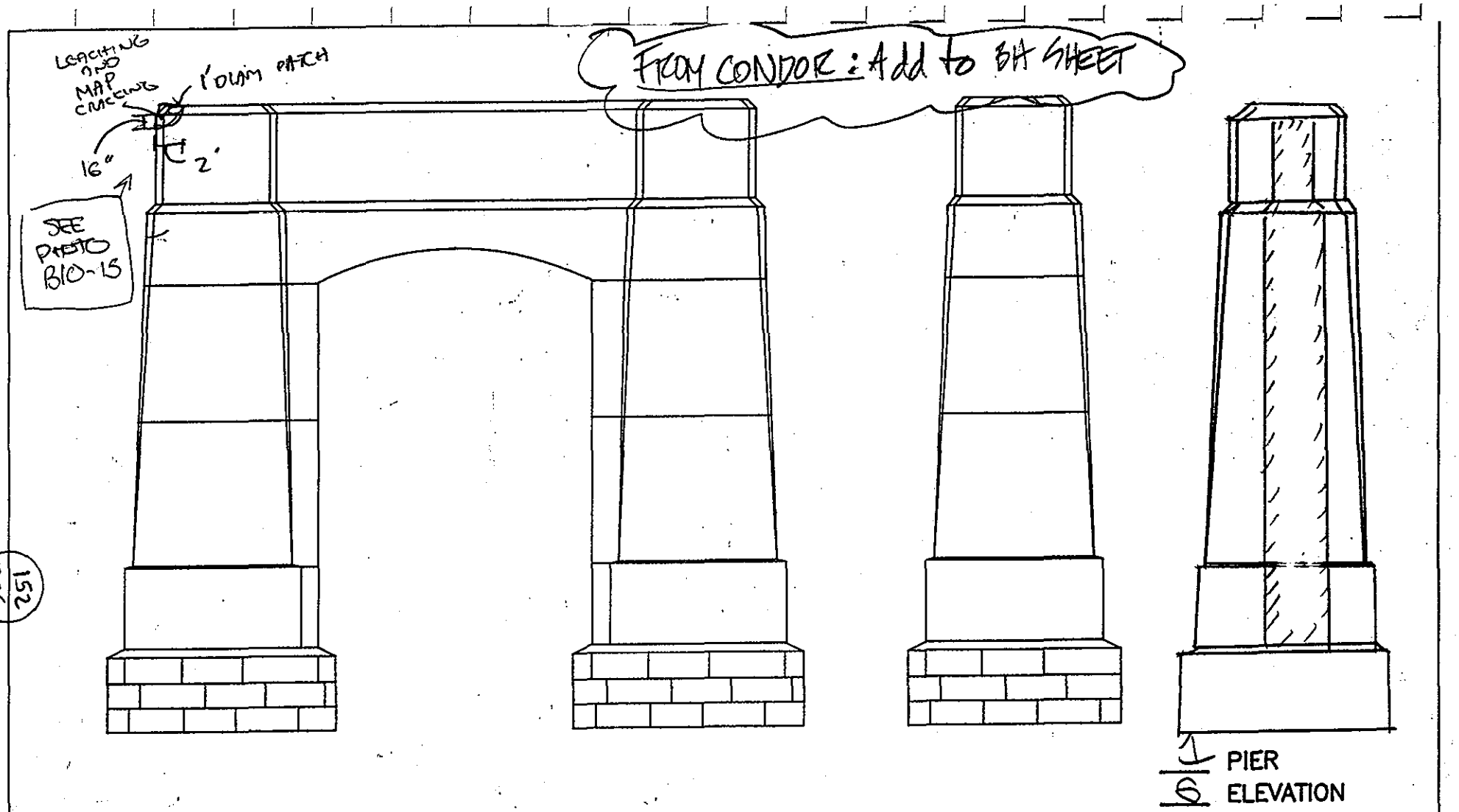
NOTES: 1 Honey combing @ ft., 6" high for 8 ft.

M - Missing Mortar

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/20/94
CREW: GABE/RB	SHEET 2 OF 2



NOTES:

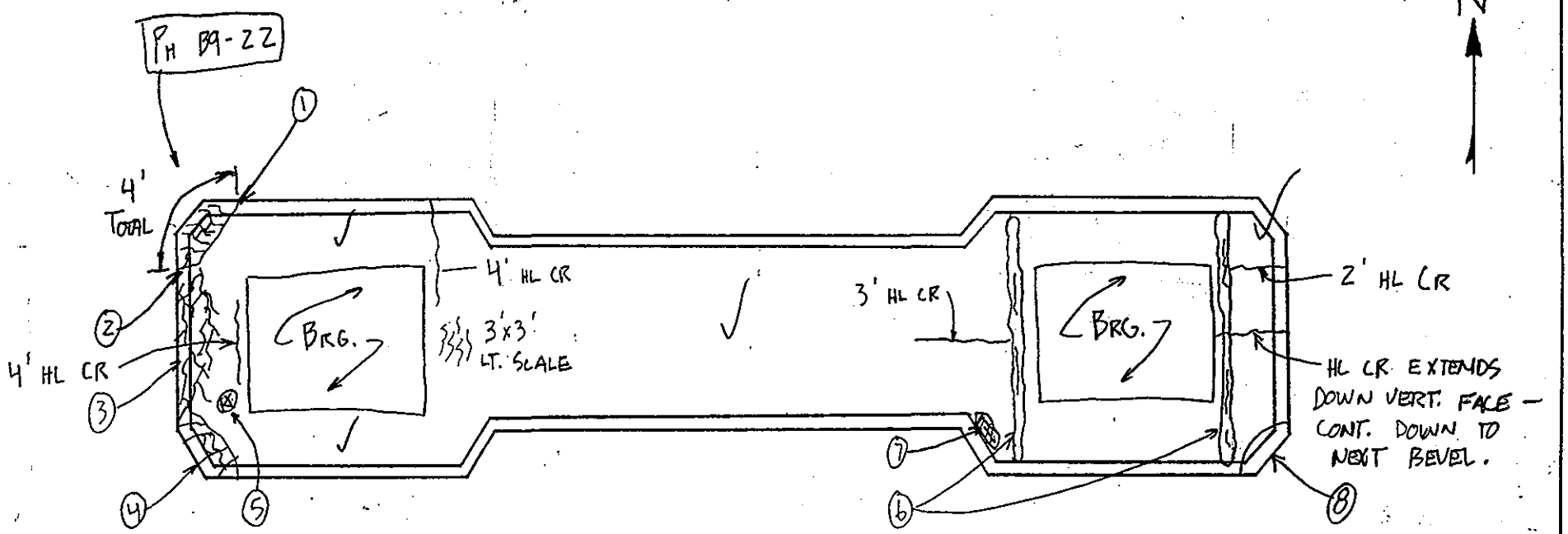
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/7/94
CREW: GABE/RB	SHEET 2 OF 2



NOTE: ACCESS LADDER IS IN FAIR CONDITION, AT MIDHEIGHT OF LADDER (EAST SIDE) - 3/4" ϕ. HOLE THROUGH CHANNEL, LADDER HAS LOOSE SPLICE BOLTS & (CR) WELD'S, LADDER IS LOOSE & VIBRATES. SOME RUNGS NEAR TOP SHOW UP TO 25% LOSES-

PIER 1 SPAN 1 & 3

Top of Pier

NOTES:

1. PATCHED CORNERS NW & SW CORNERS
2. HOLLOW AREA @ N.W. CORNER, W/ UP TO 1/16" (CR'S) IN PATCH
3. HL MAP (CR) 5' LONG x 3' WIDE
4. PATCHED CORNER W/ UP TO 1/16" (CR'S), NO HOLLOW AREA NOTED
5. 3" ϕ SPALL x 1/2" DP.
6. 3" WIDE x FULL WIDTH PATCHED AREA BOTH E & W SIDE OF E. BRG. W/ HL (CR'S)
7. 8" x 4" x 1/2" DP SPALL
8. PATCHED CORNER - S.E. CORNER PATCH IS SOLID NO HOLLOW AREA

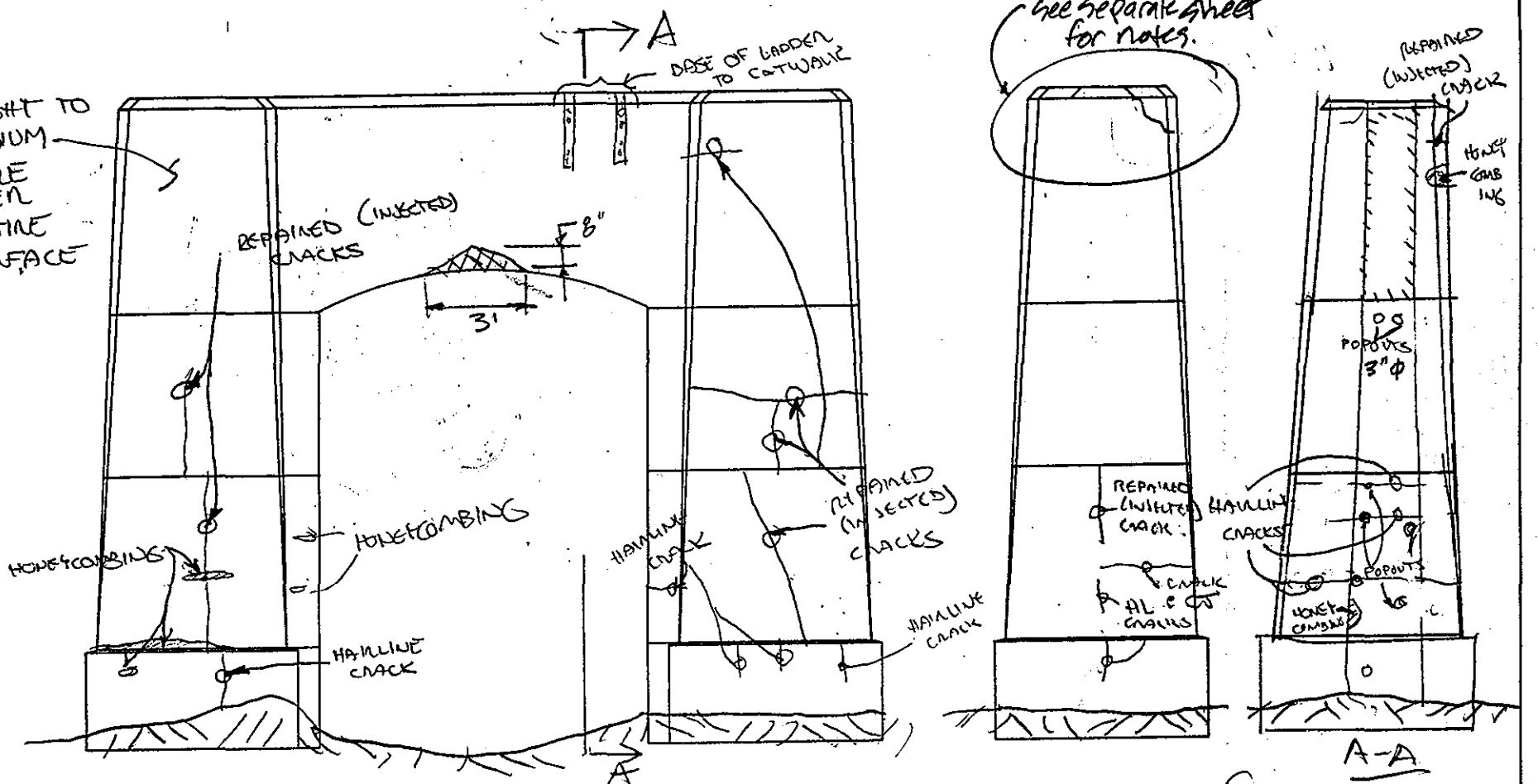
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 9/6/94

CREW: WM, BH, PWN | SHEET 3 OF 16



6 PIER
N ELEVATION

NOTES:

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/1/94
CREW: Gabe/RB	SHEET 7 OF 9

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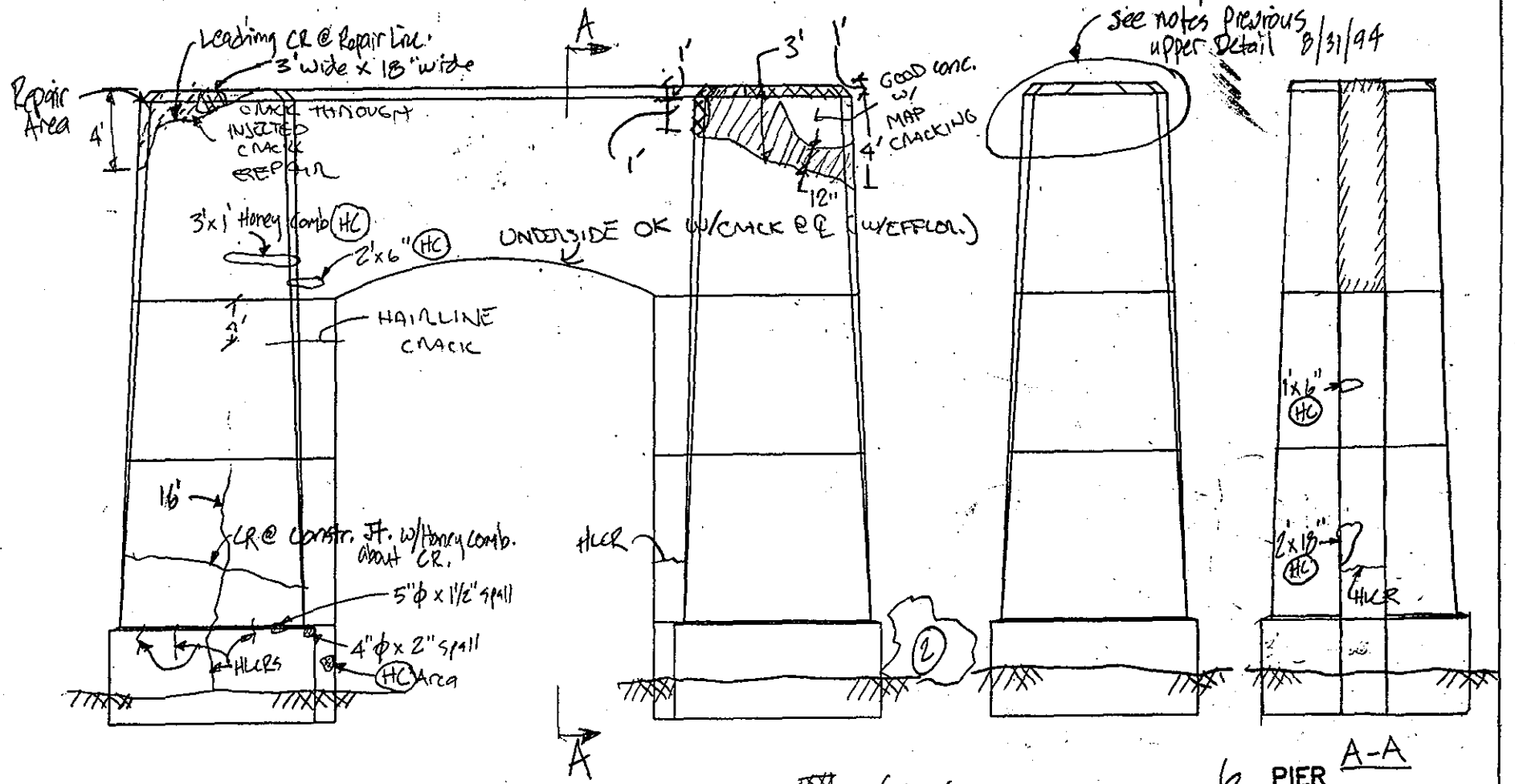

NOTES: Light to medium Scale is typical all surfaces (PO)-Pop out (HC)-Honey Comb Area

(1) Hvy Scale

(2) Cut timber is stack around pier and on piers East face & S. West face.

(3) vegetation (bushes, vines etc.) is growing on East & west sides and along North faces.

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/2/94
CREW: GG / RB	SHEET 8 OF 9

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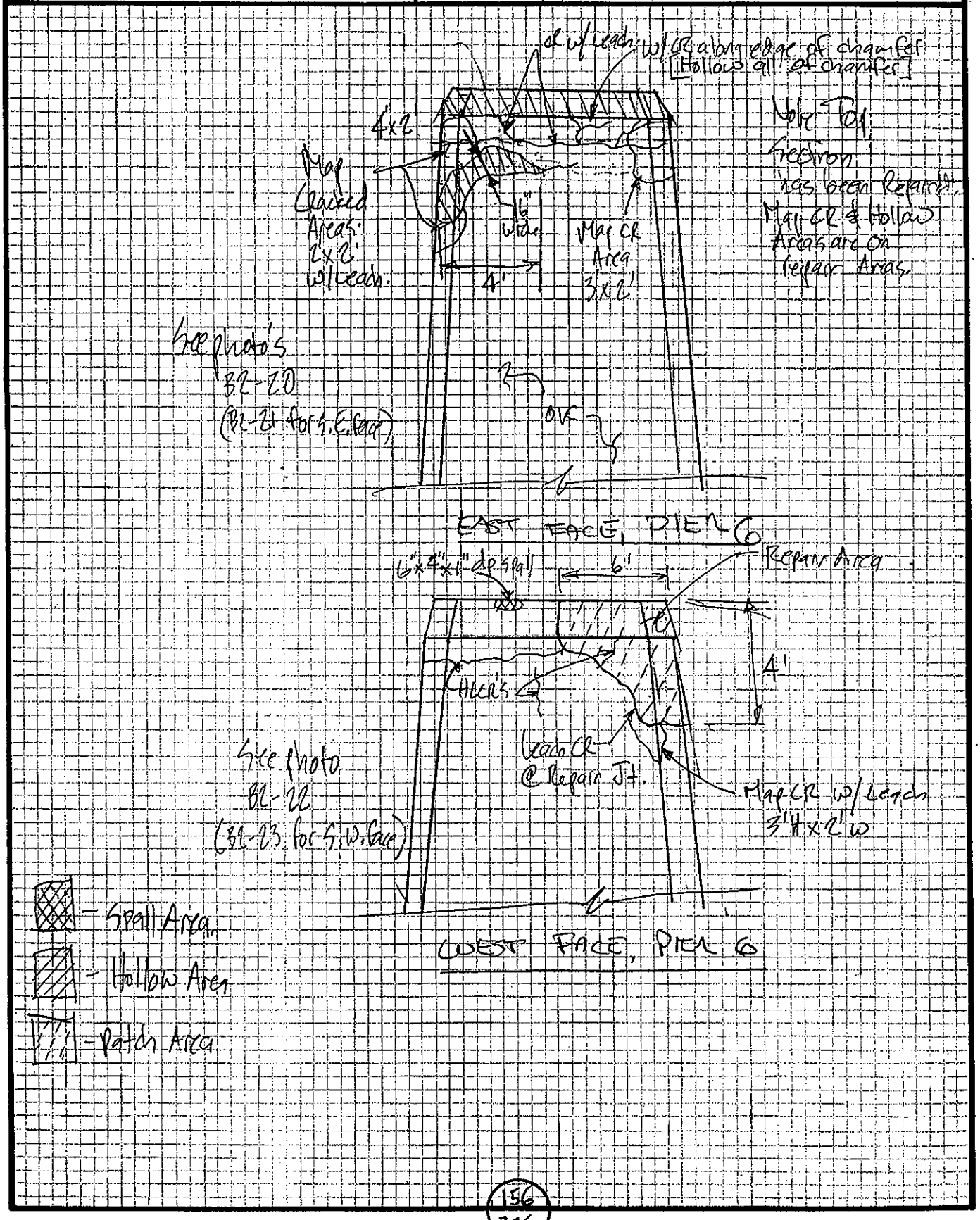
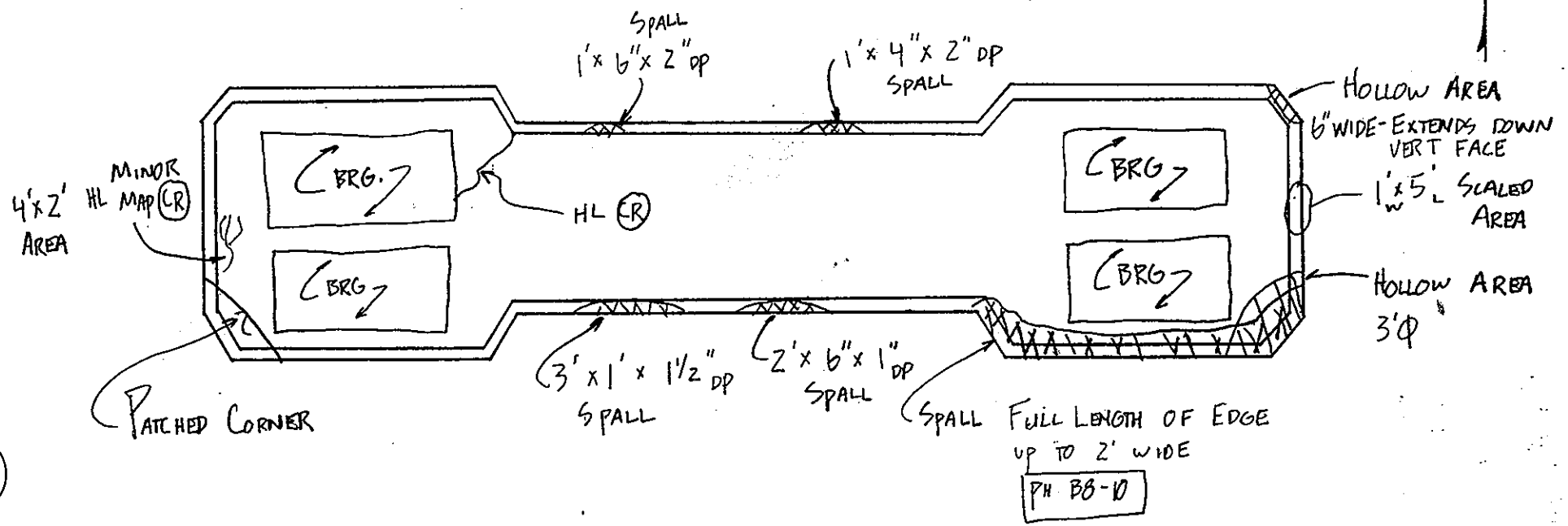
FIELD NOTES

JOB NO. 1784	BRIDGE NO.	
DATE 8/31/94	SHEET 9 of 15	
PREPARED BY: A.G. LICHTENSTEIN	CREW 66/RB	

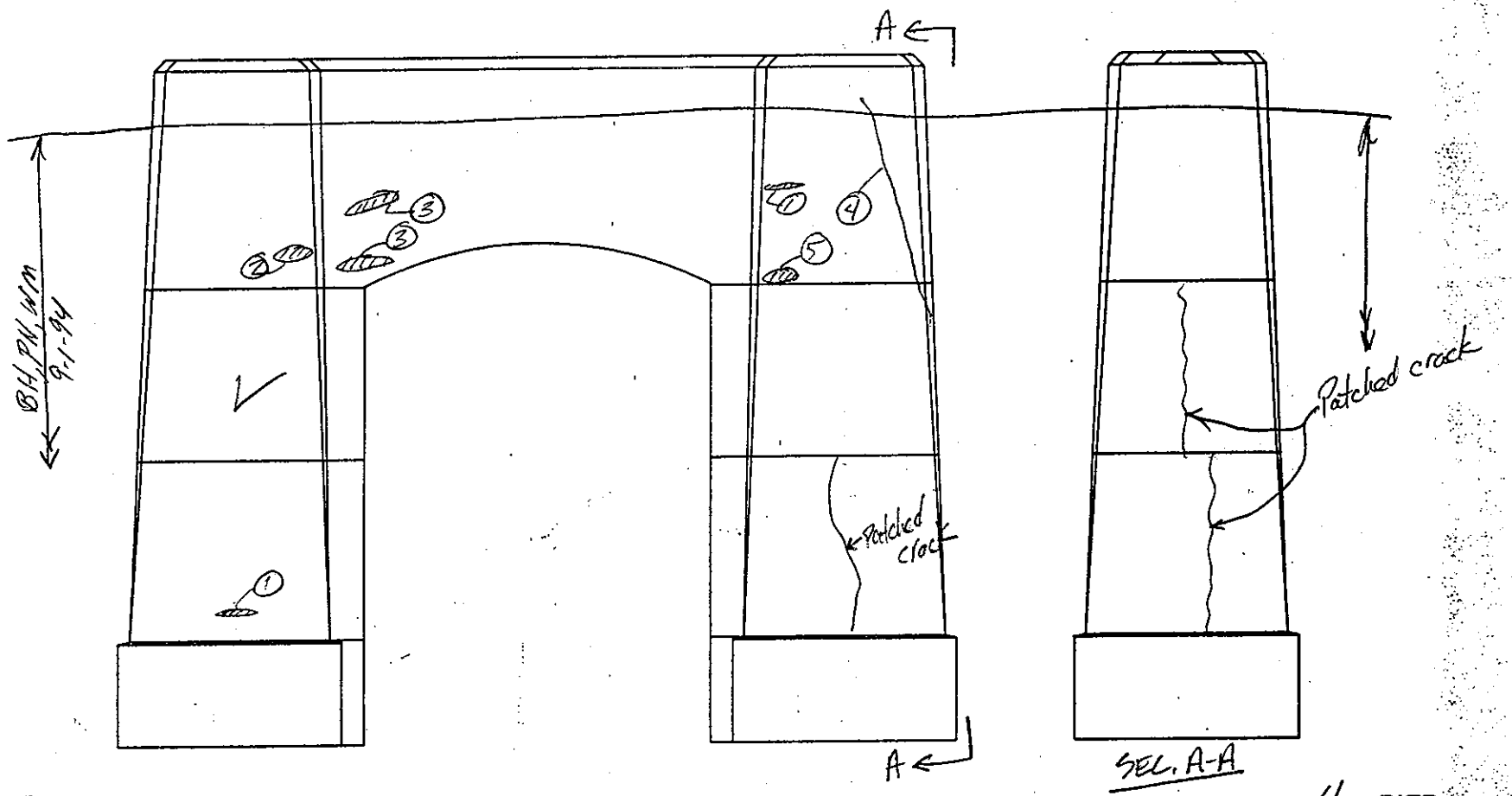




PIER 6 SPAN ____

NOTES:

TOP OF PIER	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/94
CREW: WM, PWN, BH	SHEET 6 OF 18



4 PIER
5 ELEVATION

NOTES:

1. 2'x 2" high x 1/2" dp. spall
2. 2'x 6" med. scale
3. 3'x 1' med. scale w/ isolated areas of 1" dp. spalling (6" ϕ)
4. 1/16" to 1/8" crack
5. 2'x 6' high x 2" dp. corner spall

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9-1-94
CREW: BH, PN, WM	SHEET 16 OF 17

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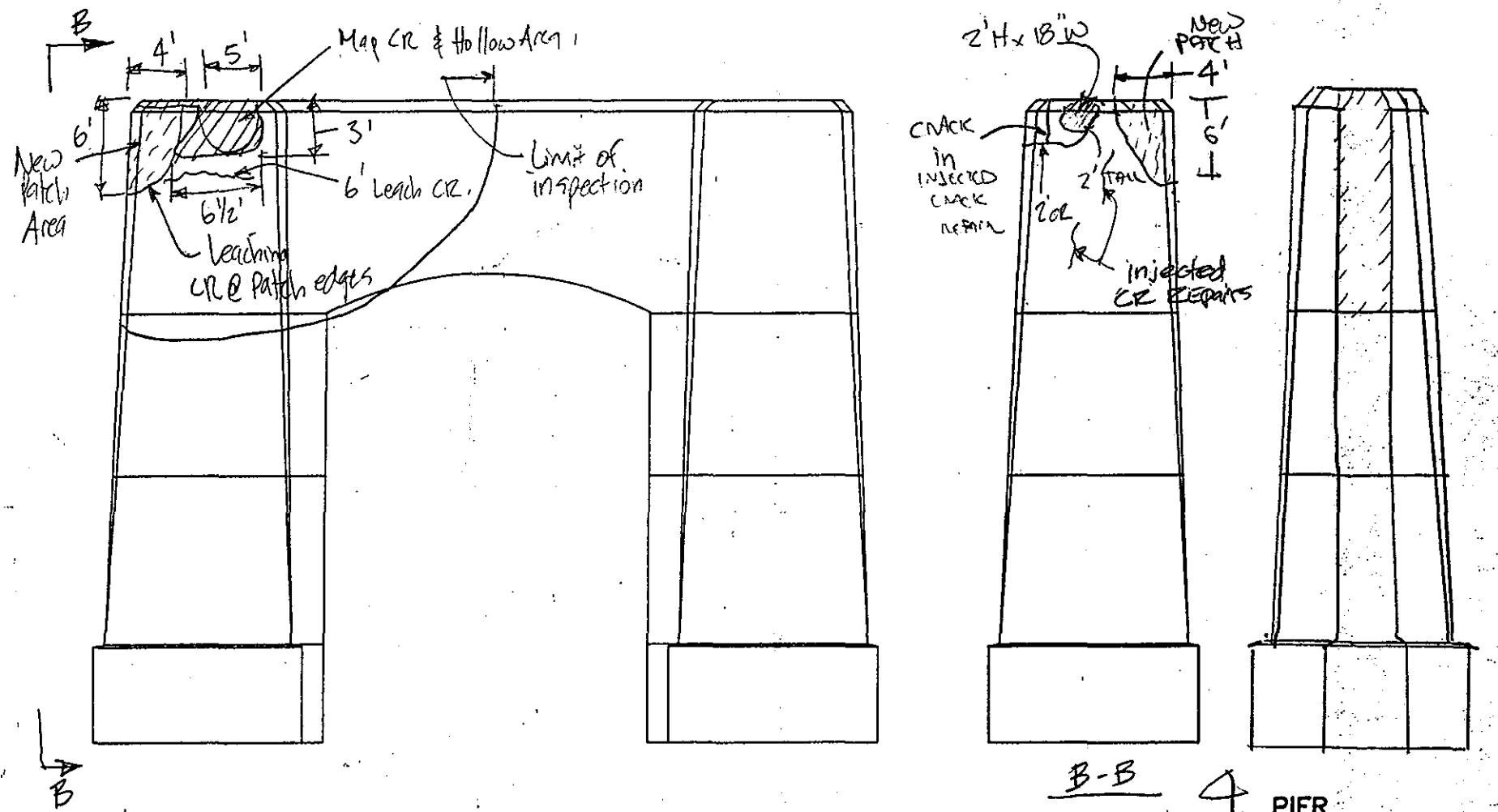


PIER ELEVATION

NOTES:

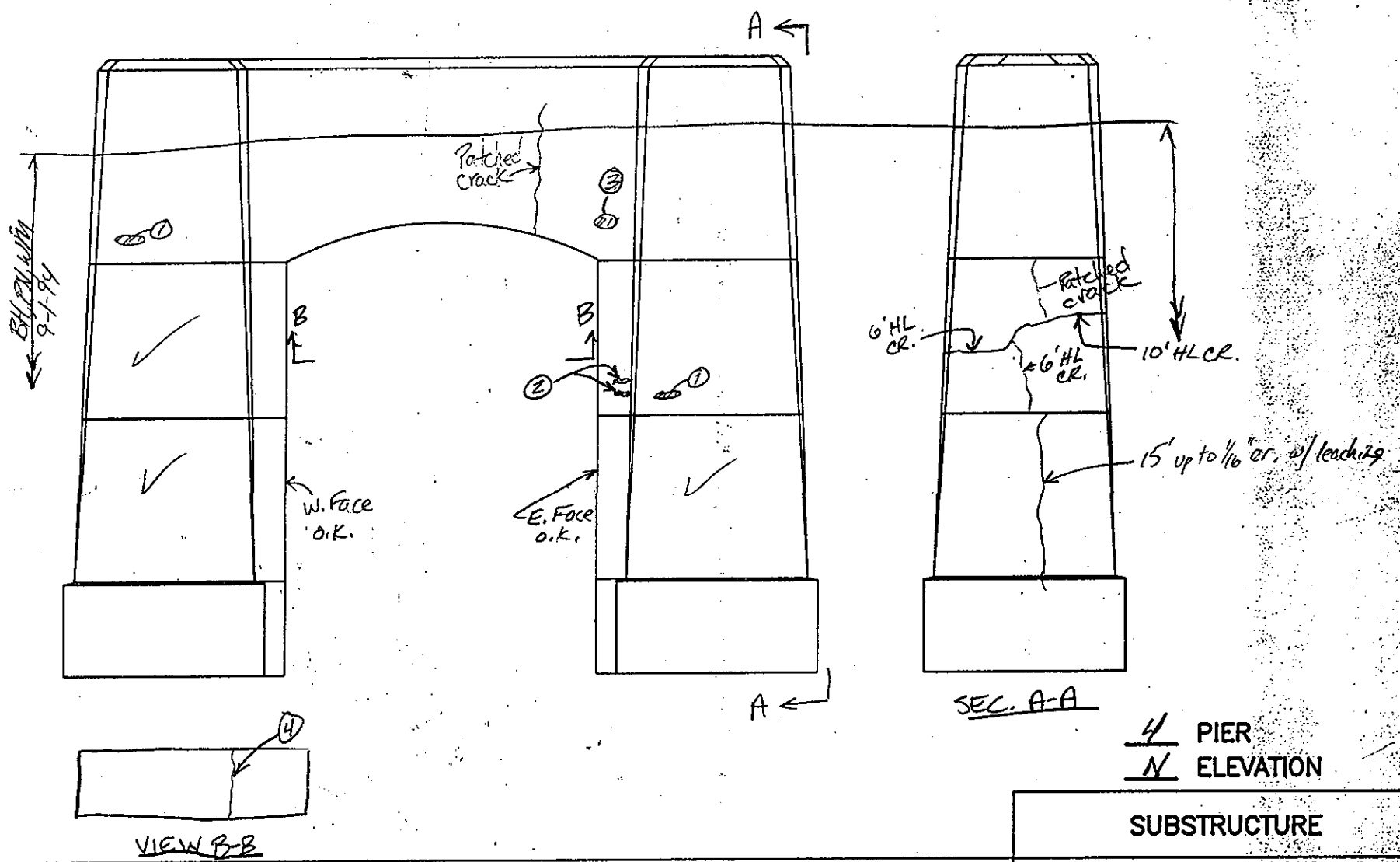
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/1/94
CREW: GABE / RB	SHEET 9 OF 9



4 PIER
N ELEVATION

NOTES:

1. 2'x6" med. scale
2. 2'x2" high x 1" dp. spall
3. 1'ϕ med. scale
4. Up to 1/16" crack

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9-1-94
CREW: BH, PN, WM	SHEET 17 OF 17

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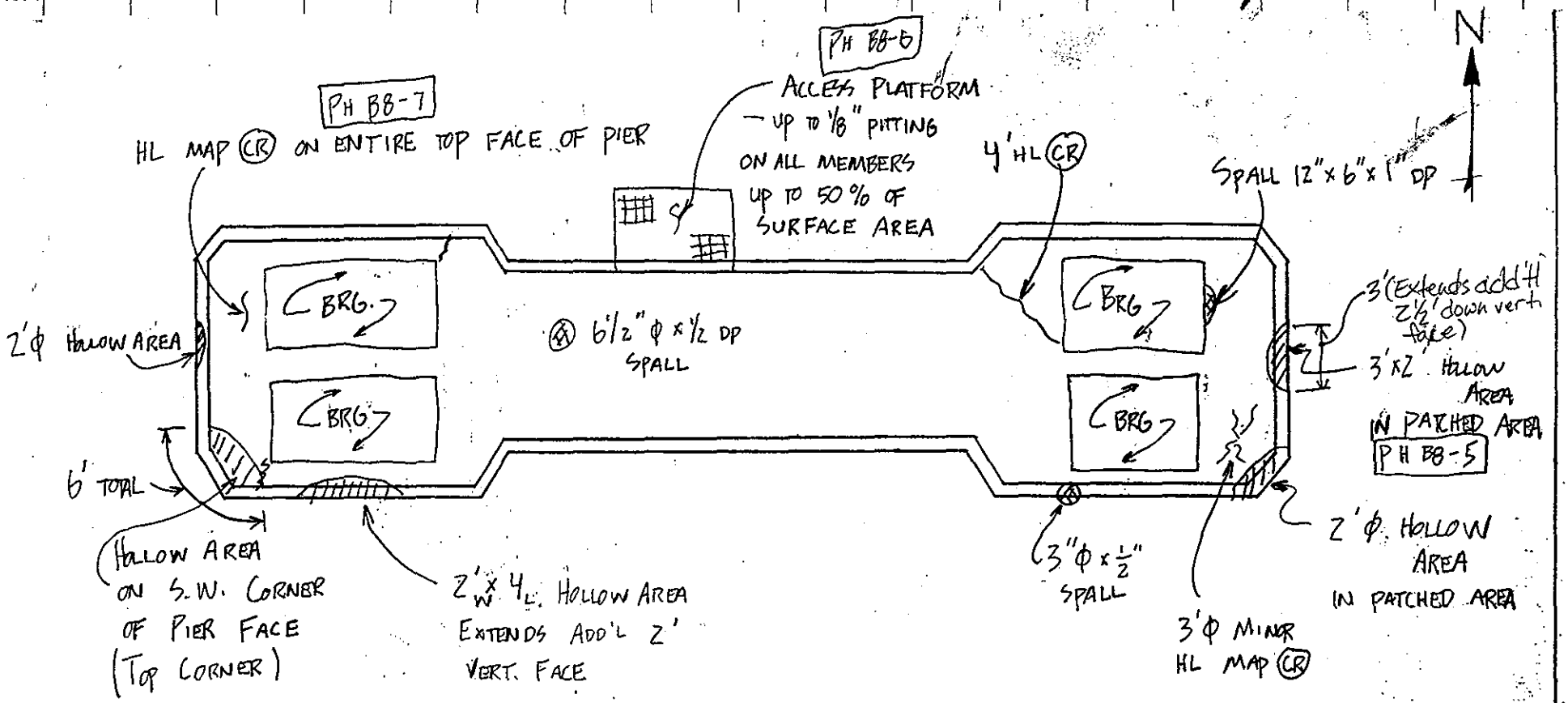
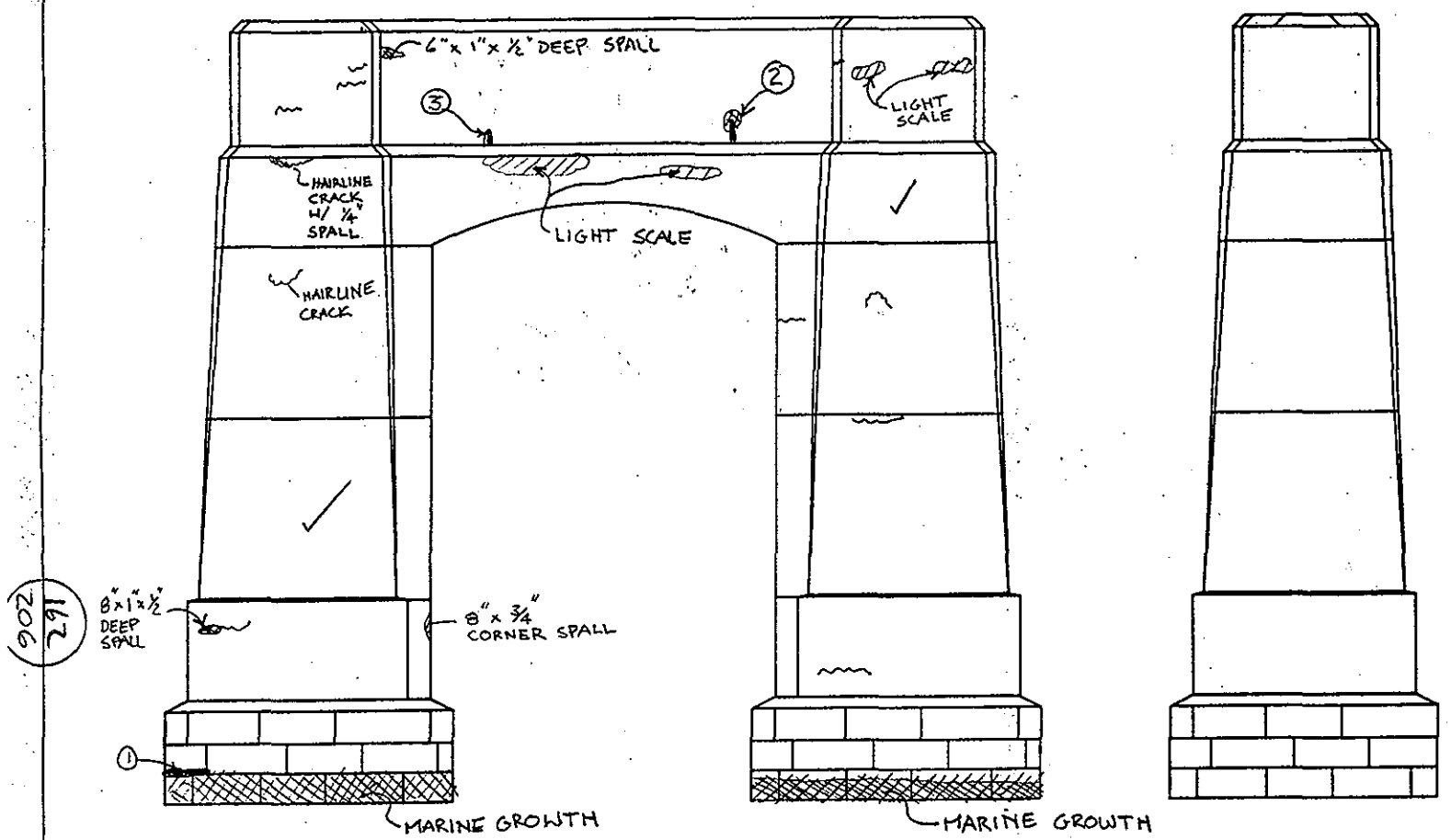


PIER 4 SPAN ___

NOTES:

TOP OF PIER	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/31/94
CREW: WM, RWN, BH	SHEET 3 OF 18



LEGEND

〰 HAIRLINE CR.

Z PIER
N ELEVATION

NOTES:

① MISSING GROUT BETWEEN BLOCKS
② 4" x 8" x ½" DEEP SPALL W/ EXPOSED REINFORCING
③ 2" x 4" x ½" DEEP SPALL W/ EXPOSED REINFORCING

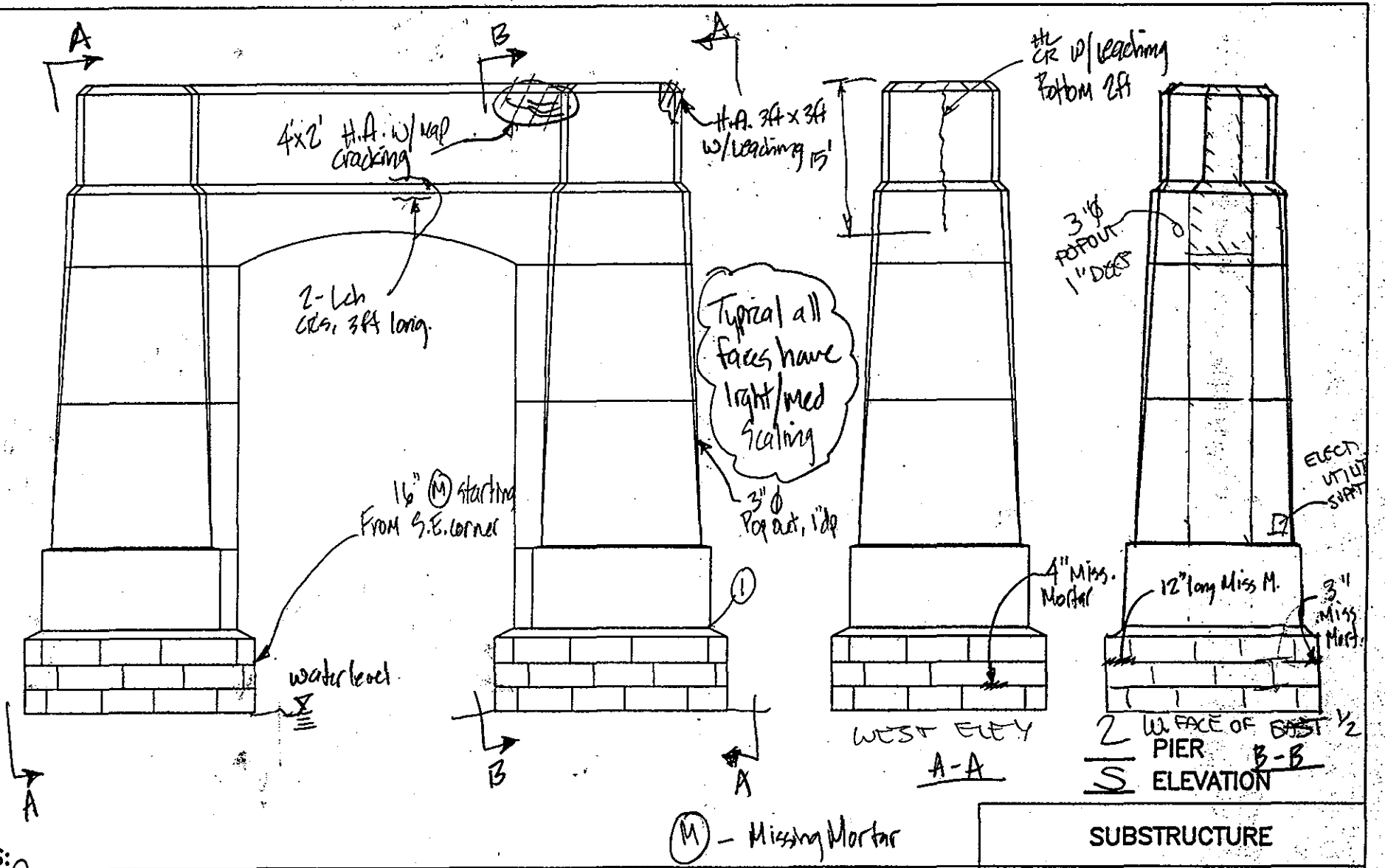
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/1/94
CREW: MM, PMN, BH	SHEET 15 OF 17



(M) - Missing Mortar

NOTES:

(1) - 3 ft long x 2" High x 1" dp spalled edge of pour, East face

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/20/94
CREW: GABE/RB	SHEET 1 OF 2

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FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

JOB NO. 1784

DATE 8/30/94

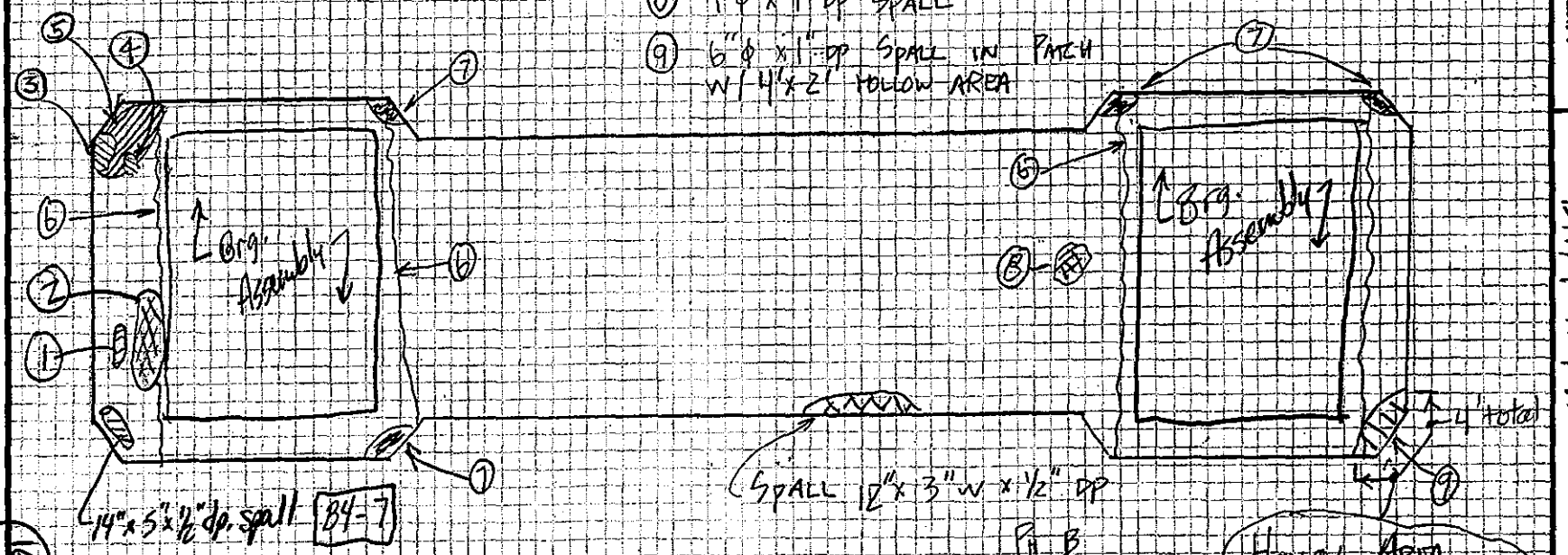
CREW BH, PWN, WM

BRIDGE NO. BOURNE

SHEET 10/10

N

1. 15"x3"x½" spall
2. Hairline map crack, 4'x1' area w/minor sealing
3. 8"ø x ½" DEEP SPALL
4. 4"ø x ¼" DEEP SPALL
5. 2' x 2' HOLLOW SOUNDING PATCHED AREA
6. CR IN PATCHED AREA ON TOP OF PIER (APPEARS LIKE CONST. JT)
7. PATCHED CONC. AREAS
8. 1'ø x 1" DP SPALL
9. 6"ø x 1" DP SPALL IN PATCH W/ 4'x2' HOLLOW AREA



Hollow Area extends 1½' down vert. face of pier B4-10

PIER 2

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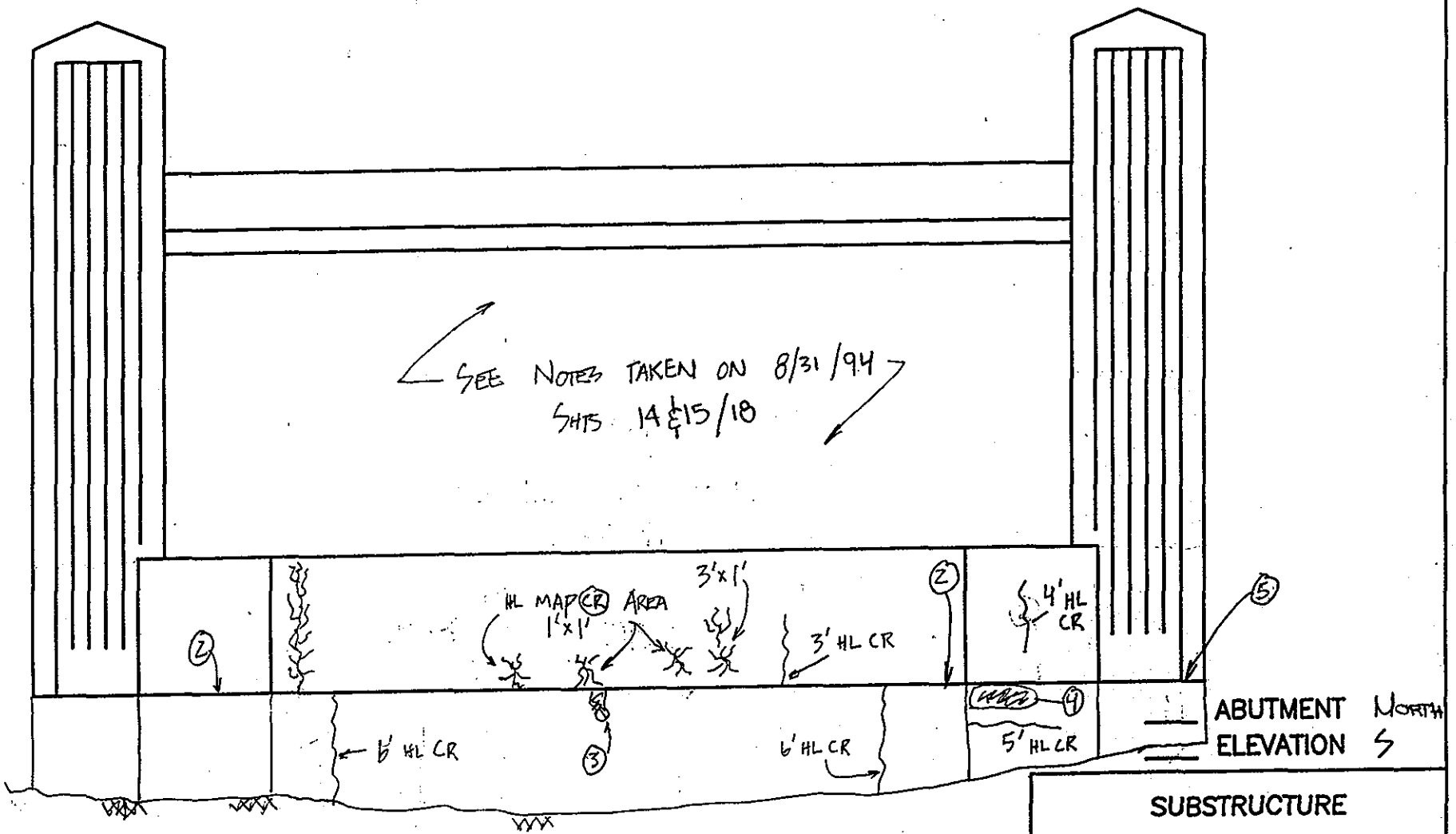


NOTES:

1. FULL HGT BOT. PORTION OF WALL HL MAP CR 2' WIDE, W. SIDE PH BD-5
2. FULL WIDTH CR UP TO 1/16" PH BD-4
3. SPALL 4" x 1" x 1" DP
4. HONEY COMB AREA 2' x 1'
5. PATCHED CR - 8' LONG

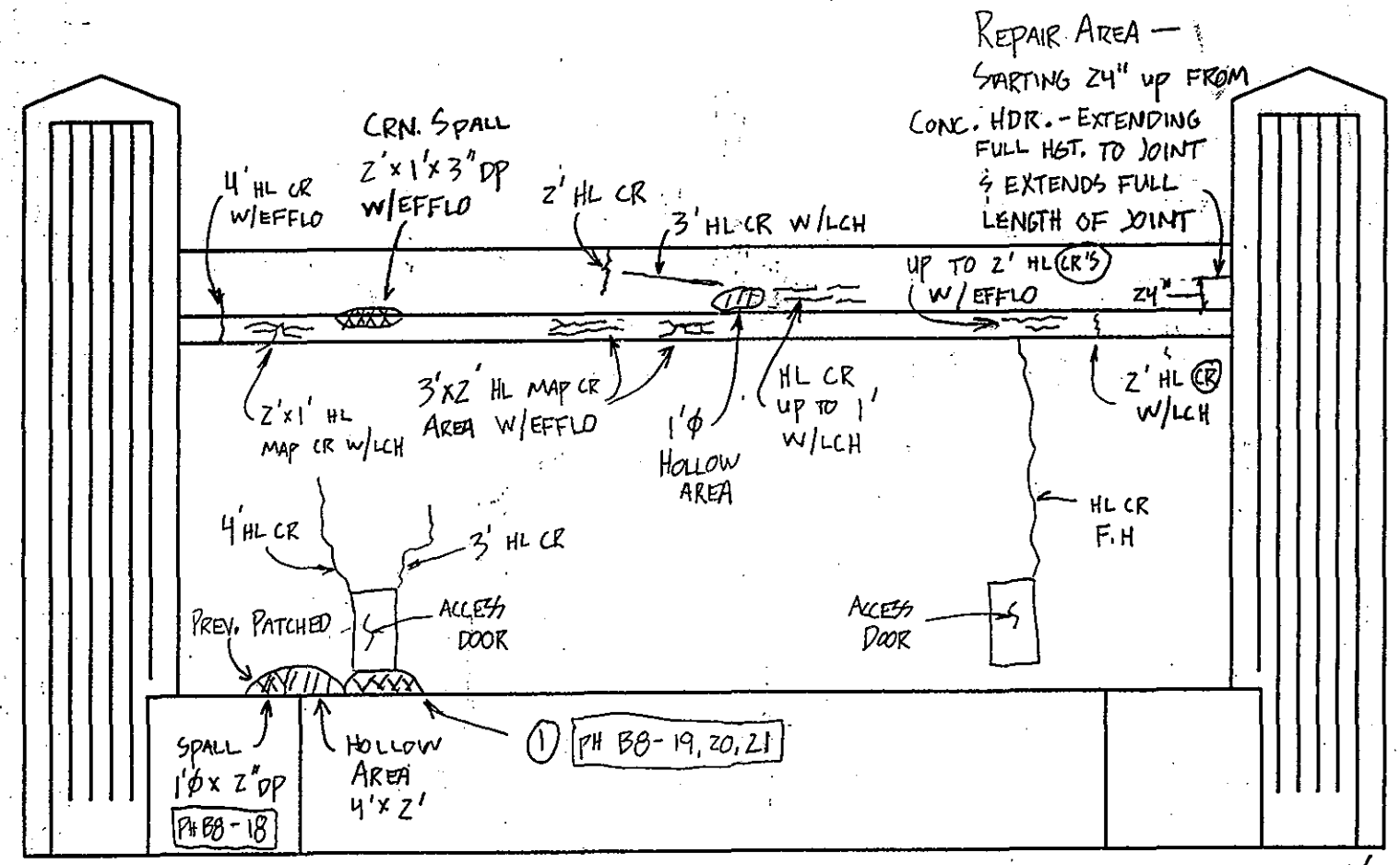
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9/1/94
CREW: WM, PAW, BH | SHEET 12 OF 17



N ABUTMENT
S ELEVATION

NOTES:

1. SPALL UNDER ACCESS DOOR THRESHOLD - SPALL EXISTS ON EXT & INT FACE OF ABUT. WALL SPALL IS FULL WIDTH DOORWAY - 4'w x 1½'H x 5" DP ON EXT. SIDE. ABUT. WALL @ DOORWAY IS 24" THICK.

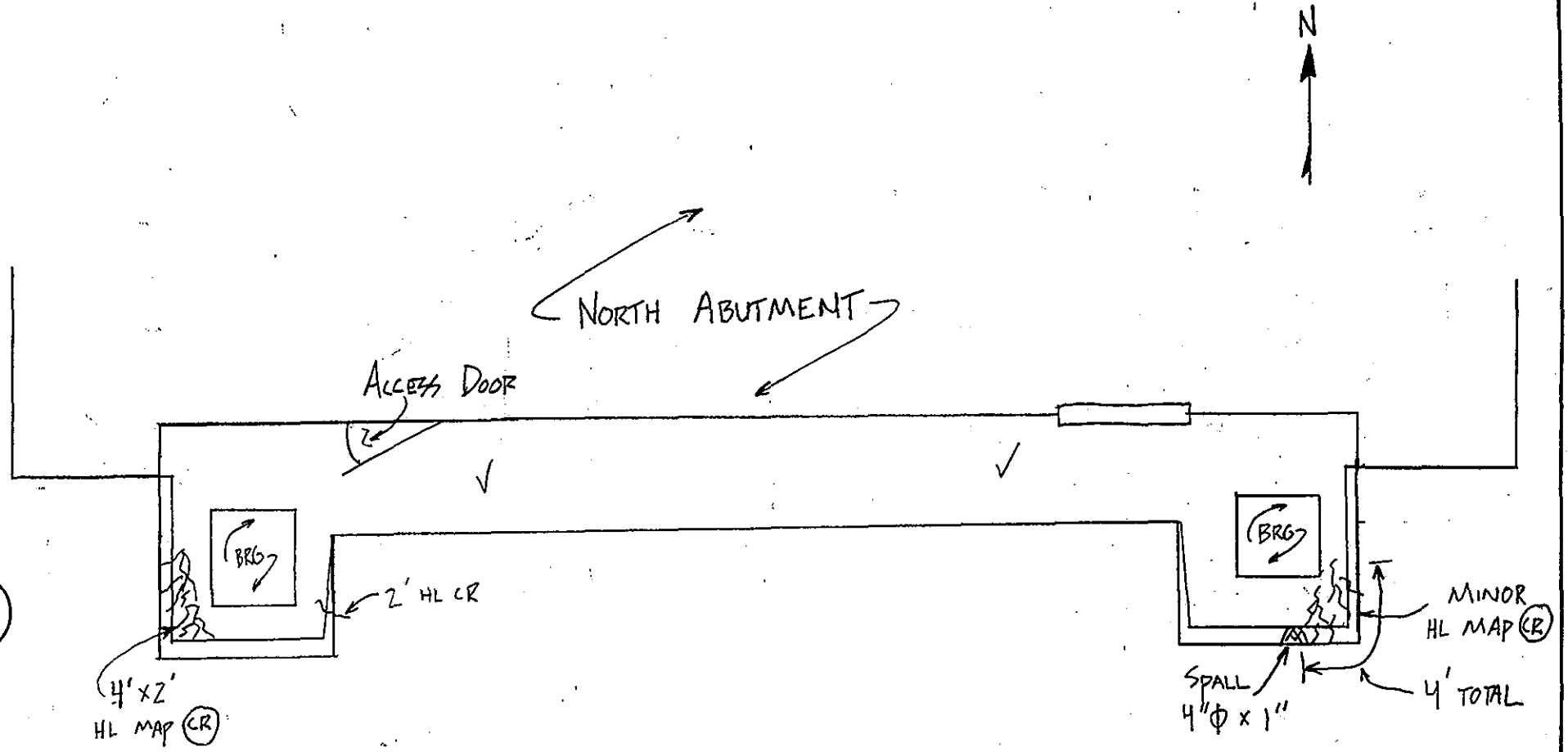
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 8/31/94
CREW: WM, PNW, BH | SHEET 14 OF 18



N ABUTMENT
TOP VIEW ELEVATION

NOTES:

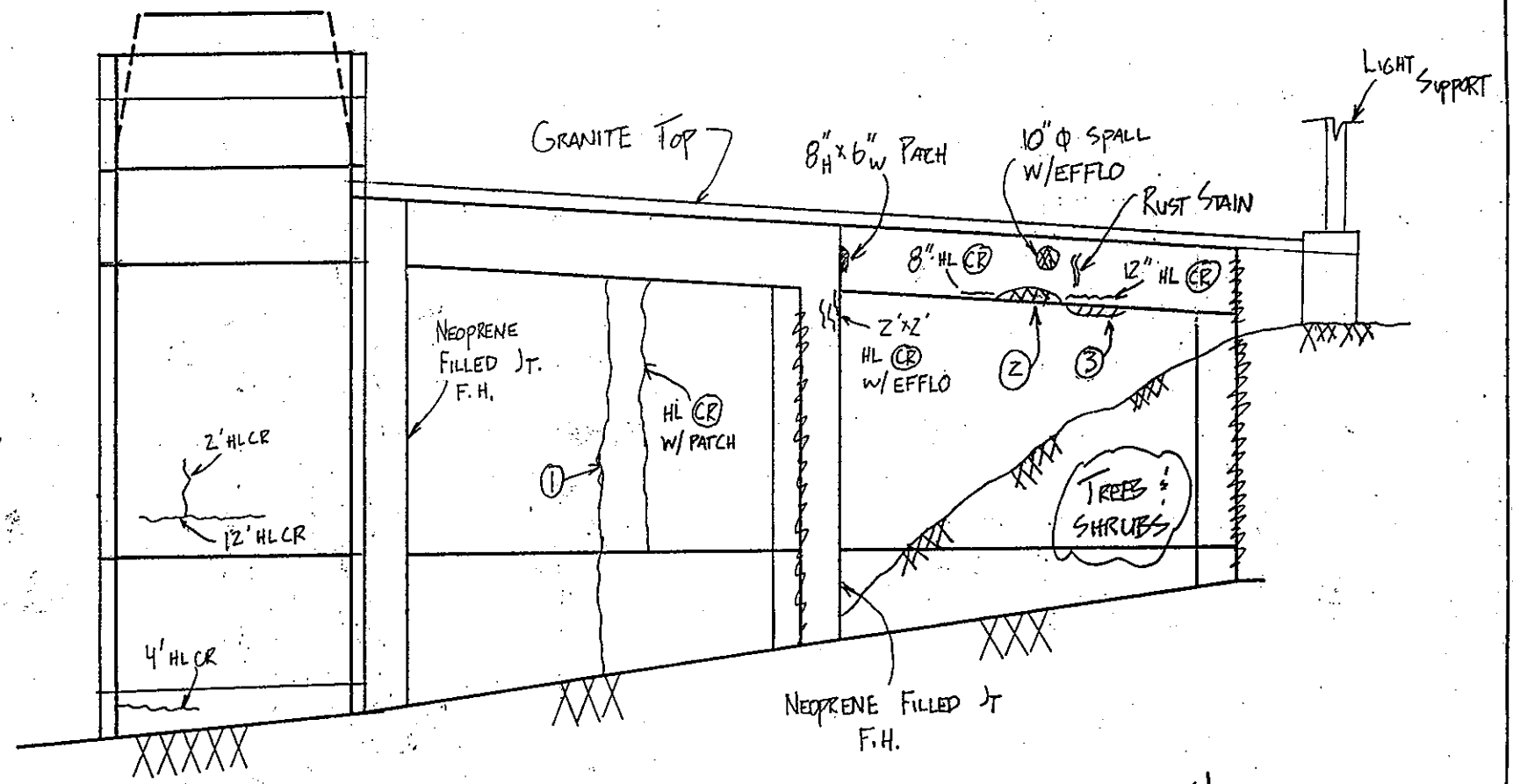
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 8/31/94
CREW: WM, PW, BH	SHEET 15 OF 18



N/E ABUTMENT ELEVATION

NOTES:

1. HL CR w/ SMALL AREAS OF EFFLO., CRACK EXTENDS F.H., CRACK HAS BEEN PATCHED
2. CORNER SPALL 2' LONG UP TO 4" DP w/ EXPOSED REBAR
3. HOLLOW AREA 18" L x 6" W ON CORNER ADJACENT TO SPALL, HOLLOW AREA HAS 1/8" W CR w/ EFFLO

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/1/94
CREW: WM/PW/BH	SHEET 13 OF 17

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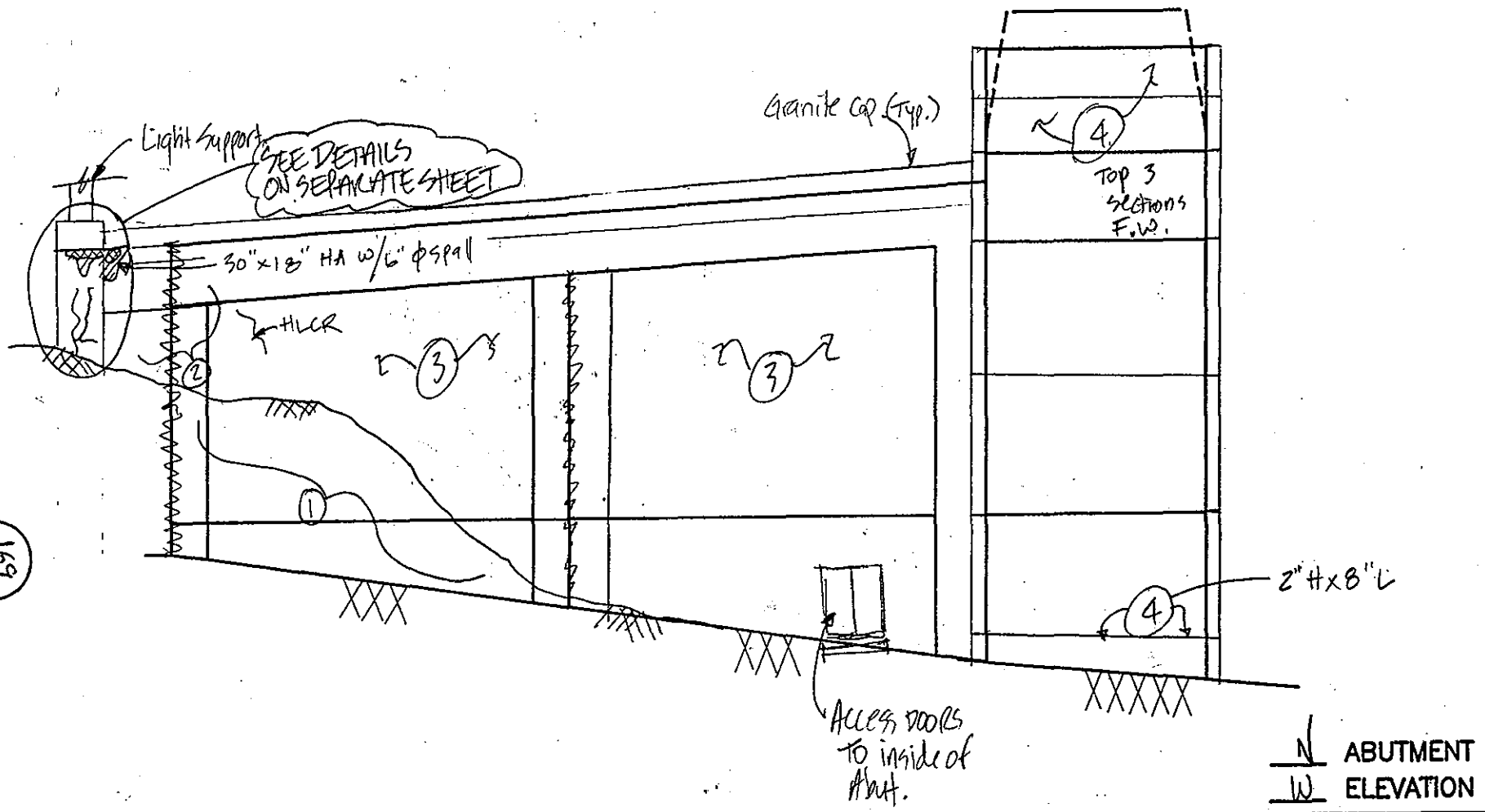


N ABUTMENT
W ELEVATION

NOTES:
1 - Vegetation (trees & Bushes) growing next to wingwall
2 - Graffiti on side in general area.
3 - Light to medium Scale Typ. all surfaces.
4 - Heavy scale.

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

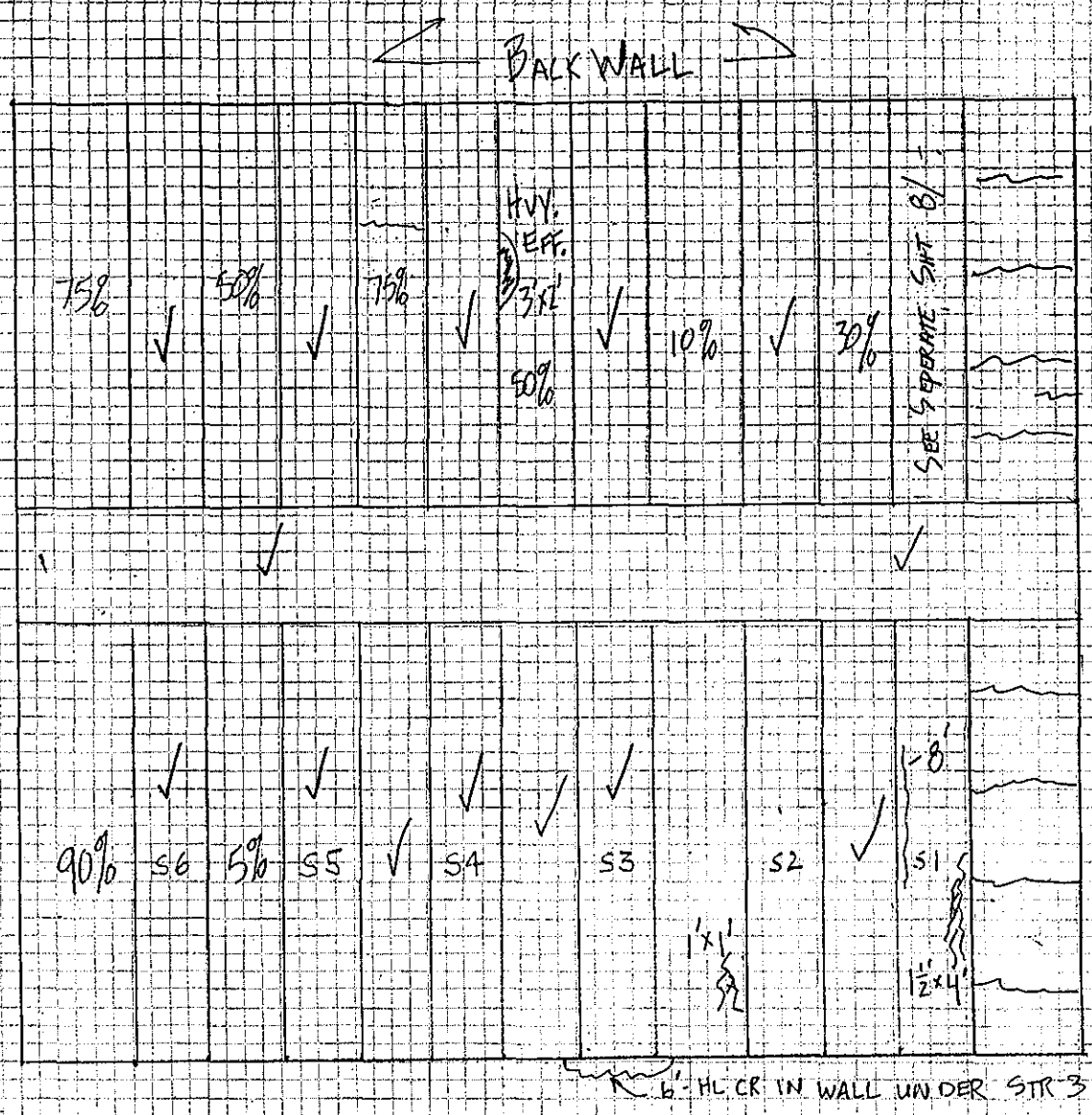
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 8/26/94
CREW: GABE / WM	SHEET 3 OF 4

FIELD NOTES

	JOB NO. 1784	BRIDGE NO. BOURNE
	DATE 9/1/94	SHEET 7/17
PREPARED BY: A.G. LICHTENSTEIN	CREW PWN, WM, BH	



NOTES: - FULL HGT. HL CR IN BACKWALL BTW STR 3 & 4 ALSO STR 4 & STR 5

~~~~ = HL CR W/ EFFLO

= MAP CR W/ EFFLO

N

N. ABUTMENT
UNDERSIDE OF DECK N. BAY (CHAMBER 1)
~~~~

FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

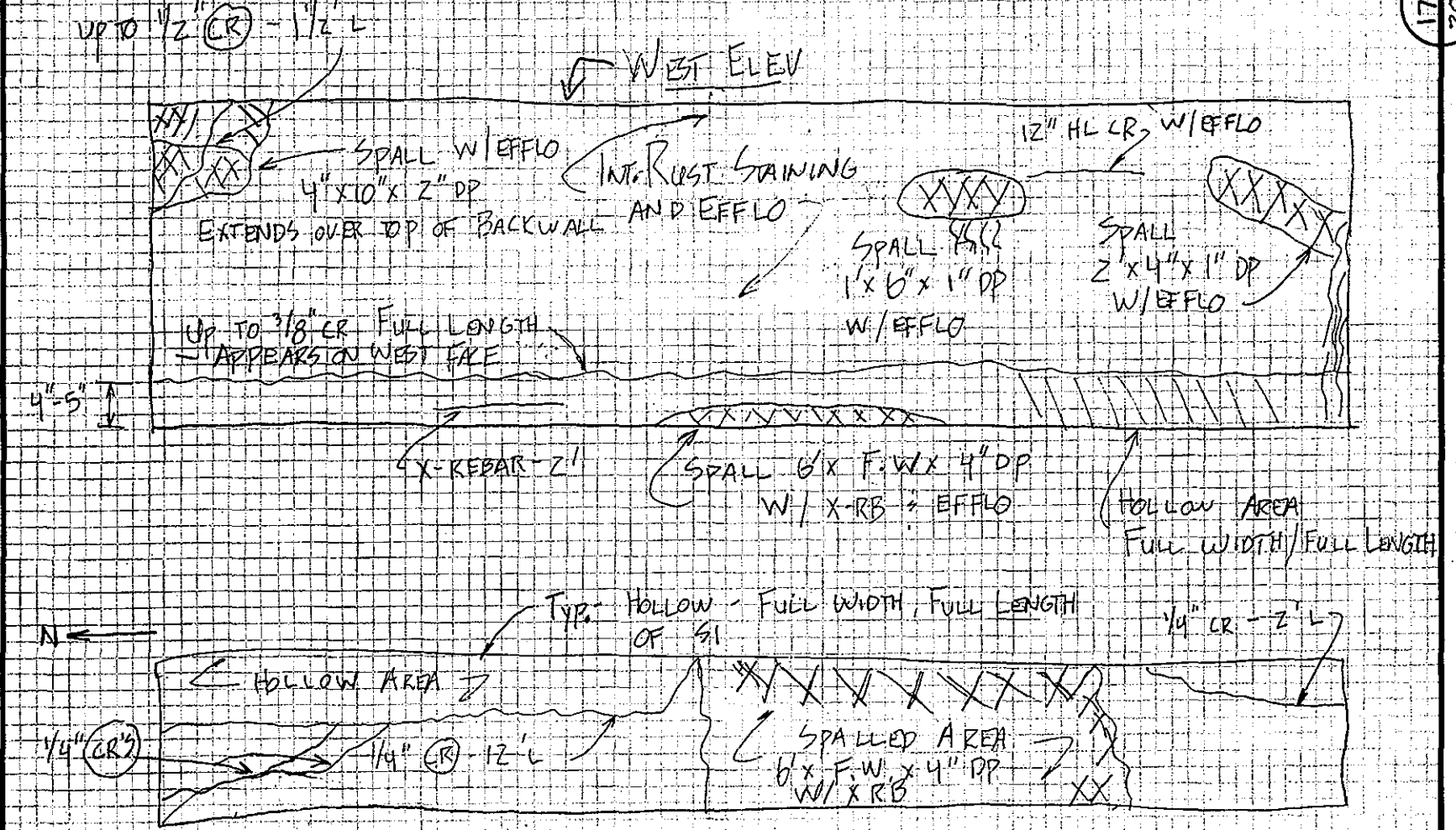
JOB NO. 1784 | BRIDGE NO. BOURNE

DATE 9/1/94 | SHEET 8/17

CREW WM, PWN, BH

PH B5 12-24

STR 1, W. ELEV, CHM. 1, N. ABUT



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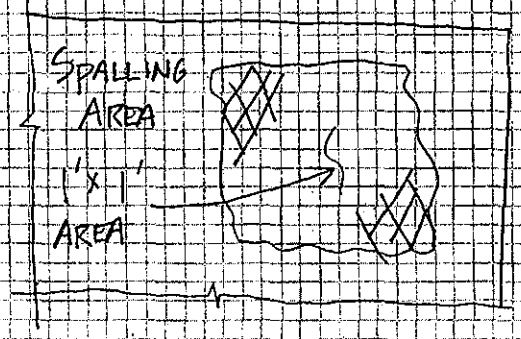
FIELD NOTES	JOB NO. 1784	BRIDGE NO. BOURNE
	DATE 9/1/94	SHEET 10/17
PREPARED BY: A.G. LICHTENSTEIN	CREW WM, BH, PWN	

NORTH ABUT.

CHAMBER 1 - GENERAL NOTES:

1.) EAST WALL - TOP RIGHT CORNER:



2.) WEST WALL - NO NOTABLE DEFECTS

3.) AREAS OF MAP GR W/EFFLO BTWN STR'S SHOWN ON UNDERSIDE OF DECK - PERCENTAGES OF SURFACE AREAS EFFECTED AS NOTED.

4.) EAST WALL - TOP LEFT CORNER:

4" ϕ WEP HOLE LEAKS WATER ONTO WALL — WALL WATER STAINED, SHOWING SIGNS OF EFFLO & LEACHING

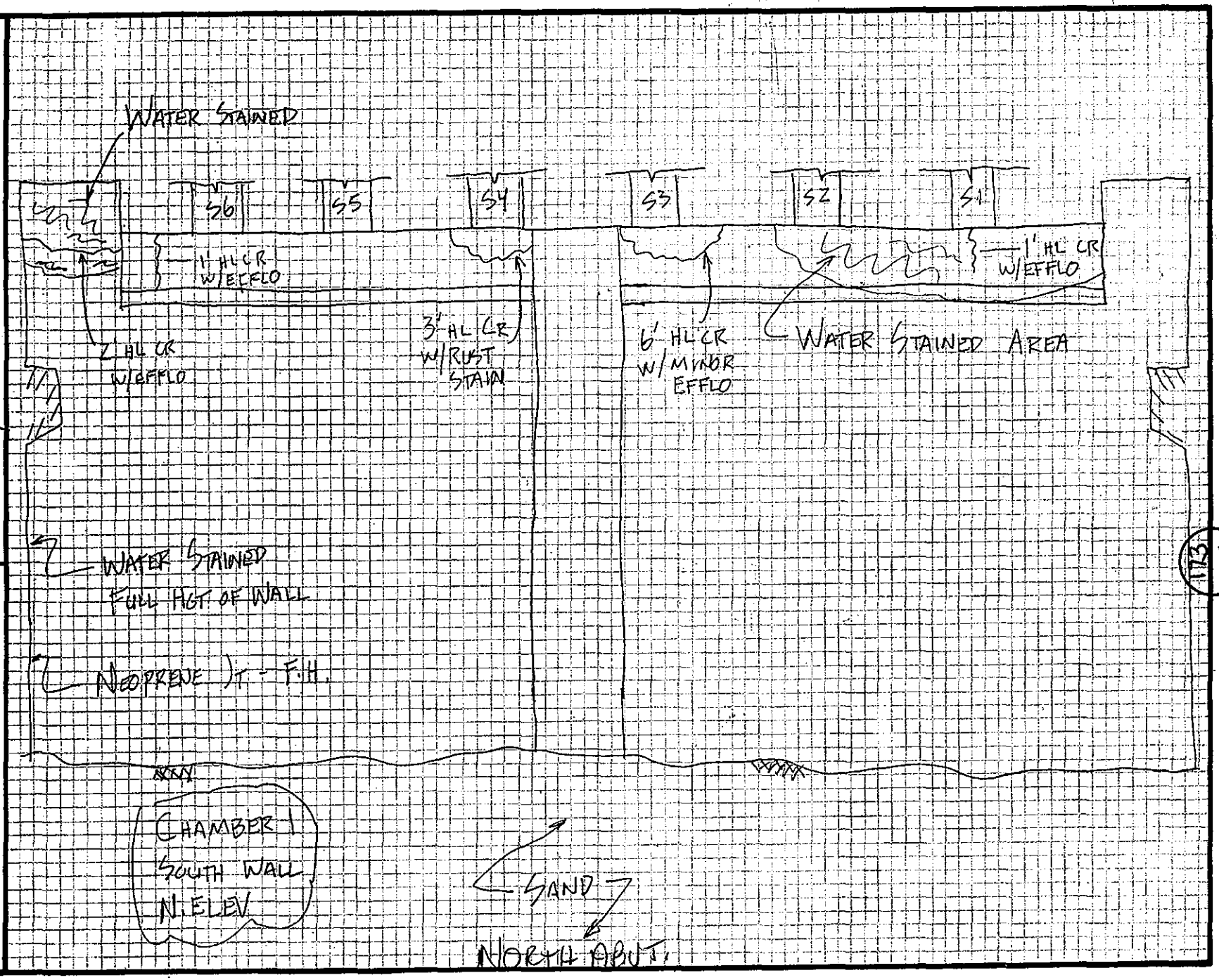
FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

JOB NO. 1784 | BRIDGE NO. BOURNE

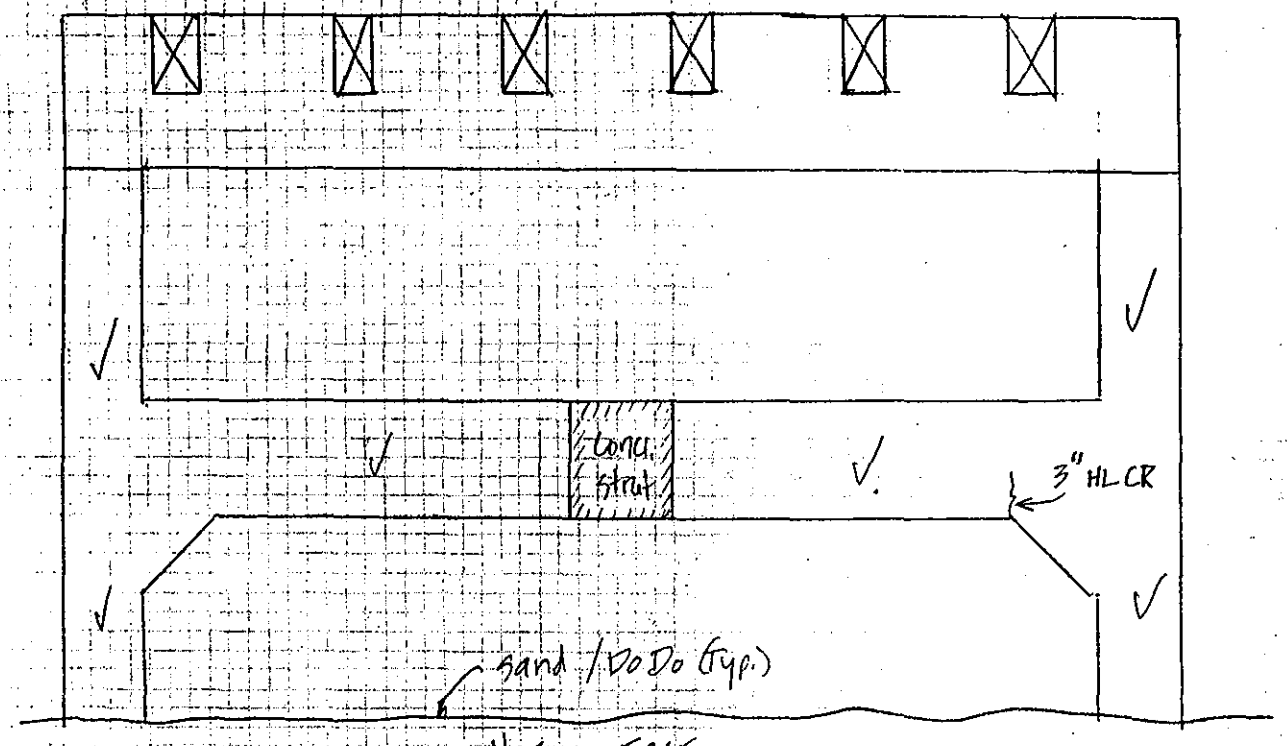
DATE 9/1/94 | SHEET 9/17

CREW WM / BH, PWN

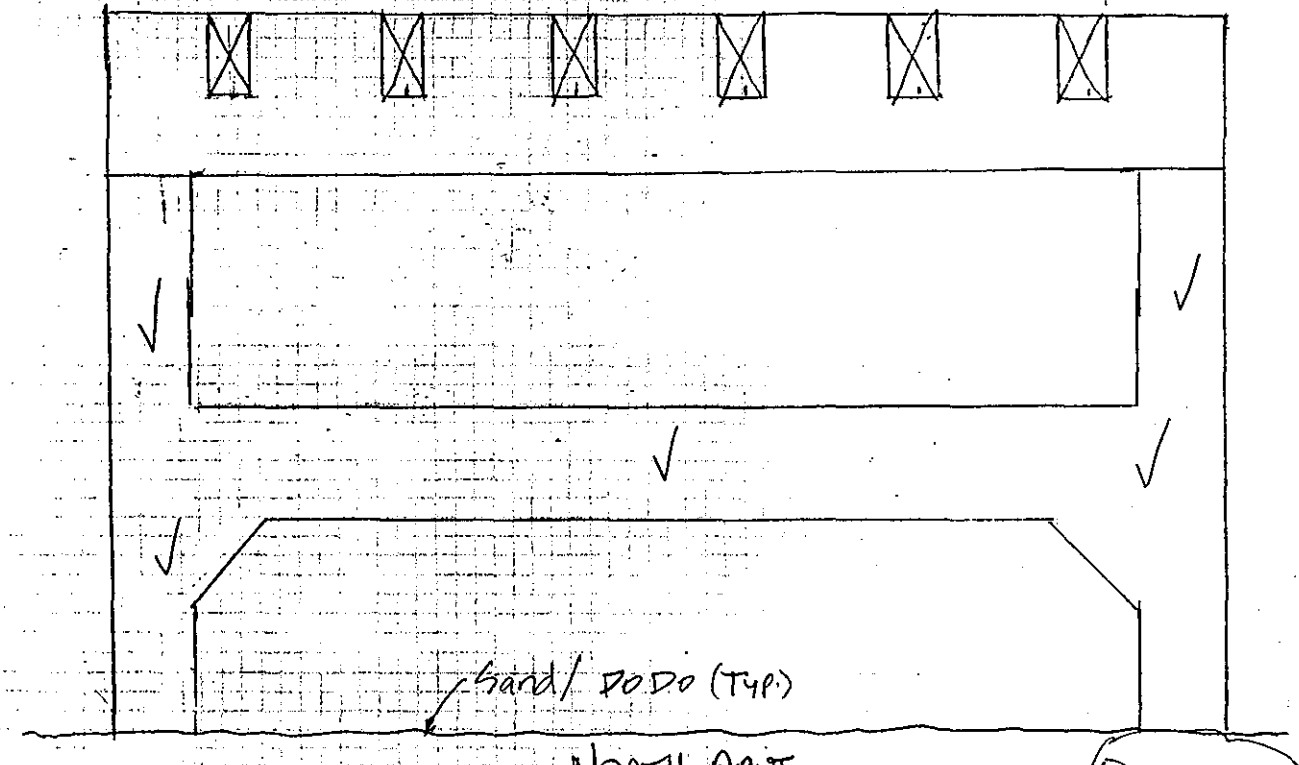


FIELD NOTES

JOB NO. 1784		BRIDGE NO. BOURNE
DATE 8/26/94		SHEET 5/17
PREPARED BY: A.G. LICHTENSTEIN	CREW ~~[illegible]~~/WM, PWN, BH	



NORTH FACE

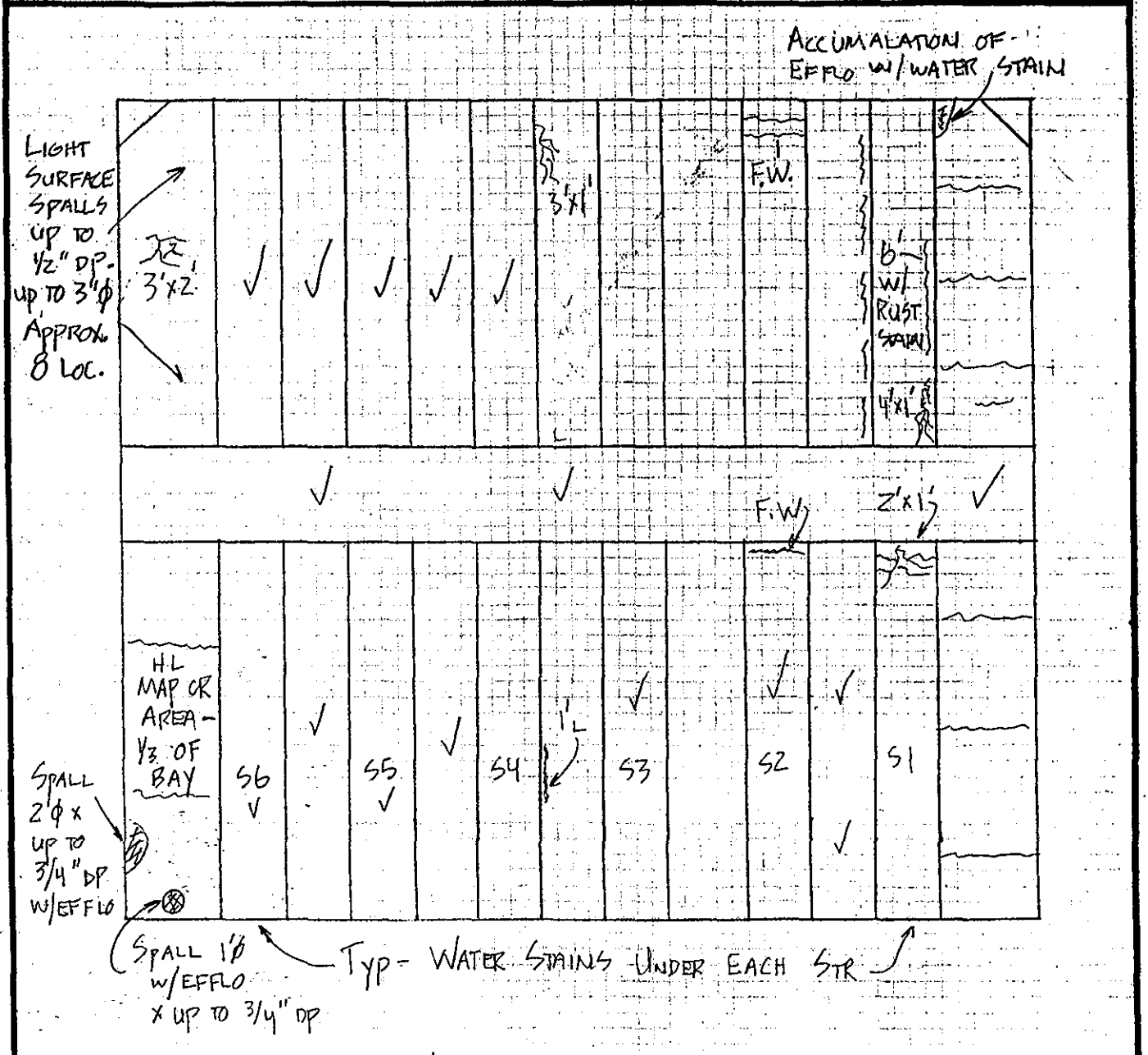


NORTH ABUT
SOUTH FACE
CHAMBER 2 CENTER BEAM SUPPORT

DATE INSP. 9/1/94

FIELD NOTES

JOB NO. 1784	BRIDGE NO. BOURNE
DATE 8/26/94	SHEET 6/17
PREPARED BY: A.G. LICHTENSTEIN	CREW WM, GG PWN, BH



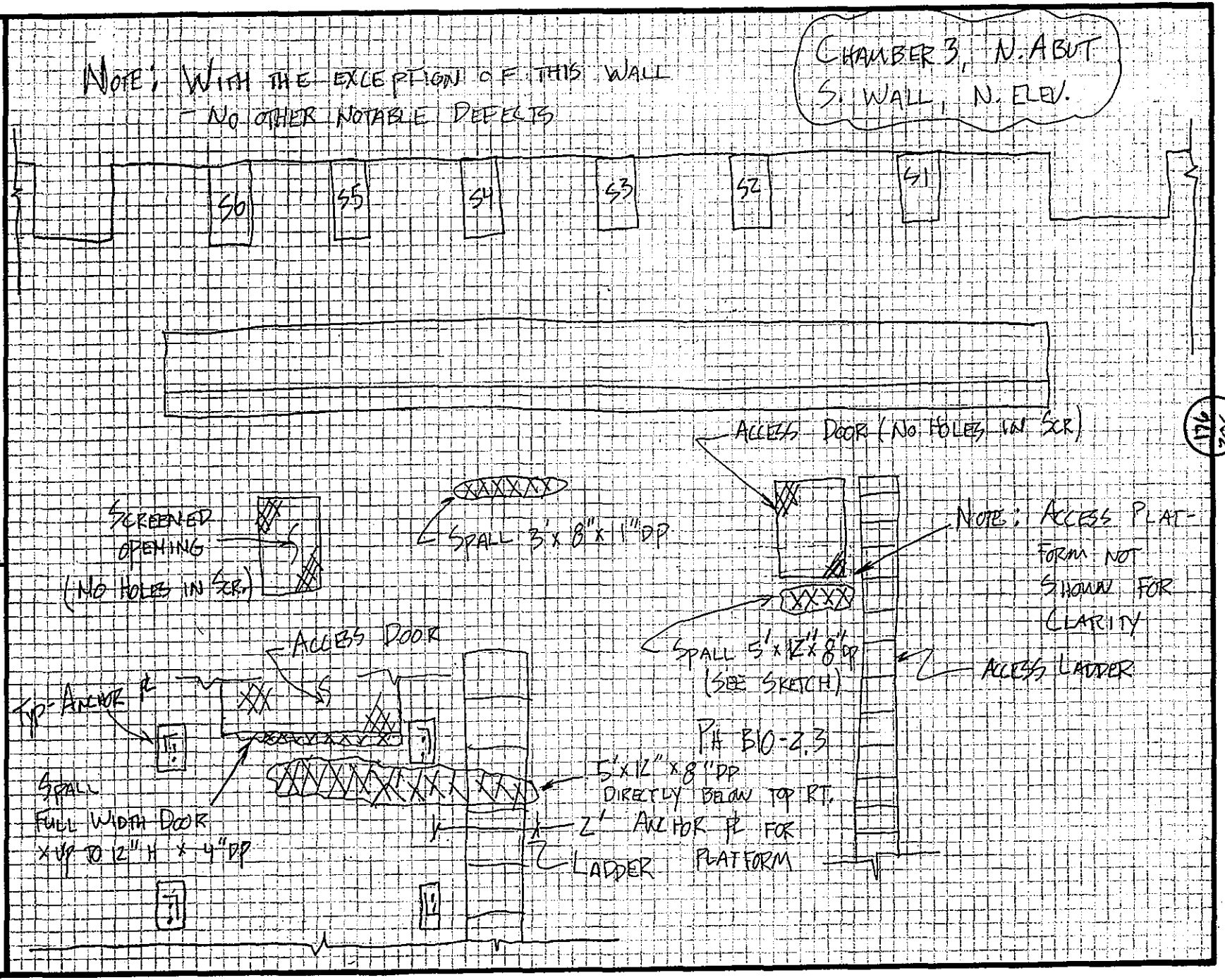
N

NORTH ABUT.
CHAMBER 2
(MIDDLE)

DATE INSP. 9/1/94

FIELD NOTES

JOB NO. 1784	BRIDGE NO. BURNE
DATE 9/1/94	SHEET 11/17
CREW WM, BH, PWN	
PREPARED BY: A.G. LICHTENSTEIN	



FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

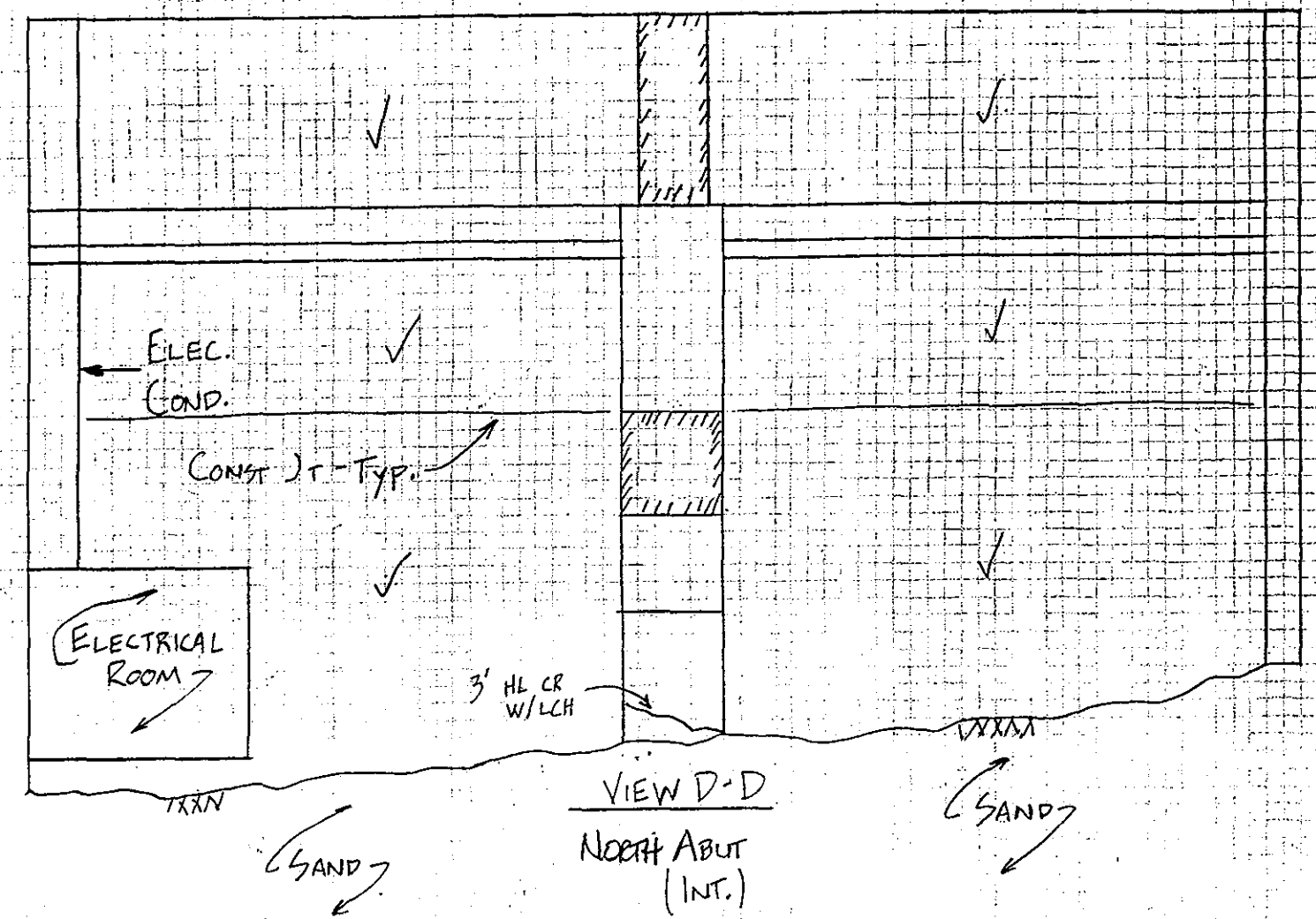
JOB NO. 1784

DATE 8/26/94

CREW WM, GG PWN, BH

BRIDGE NO. BOURNE

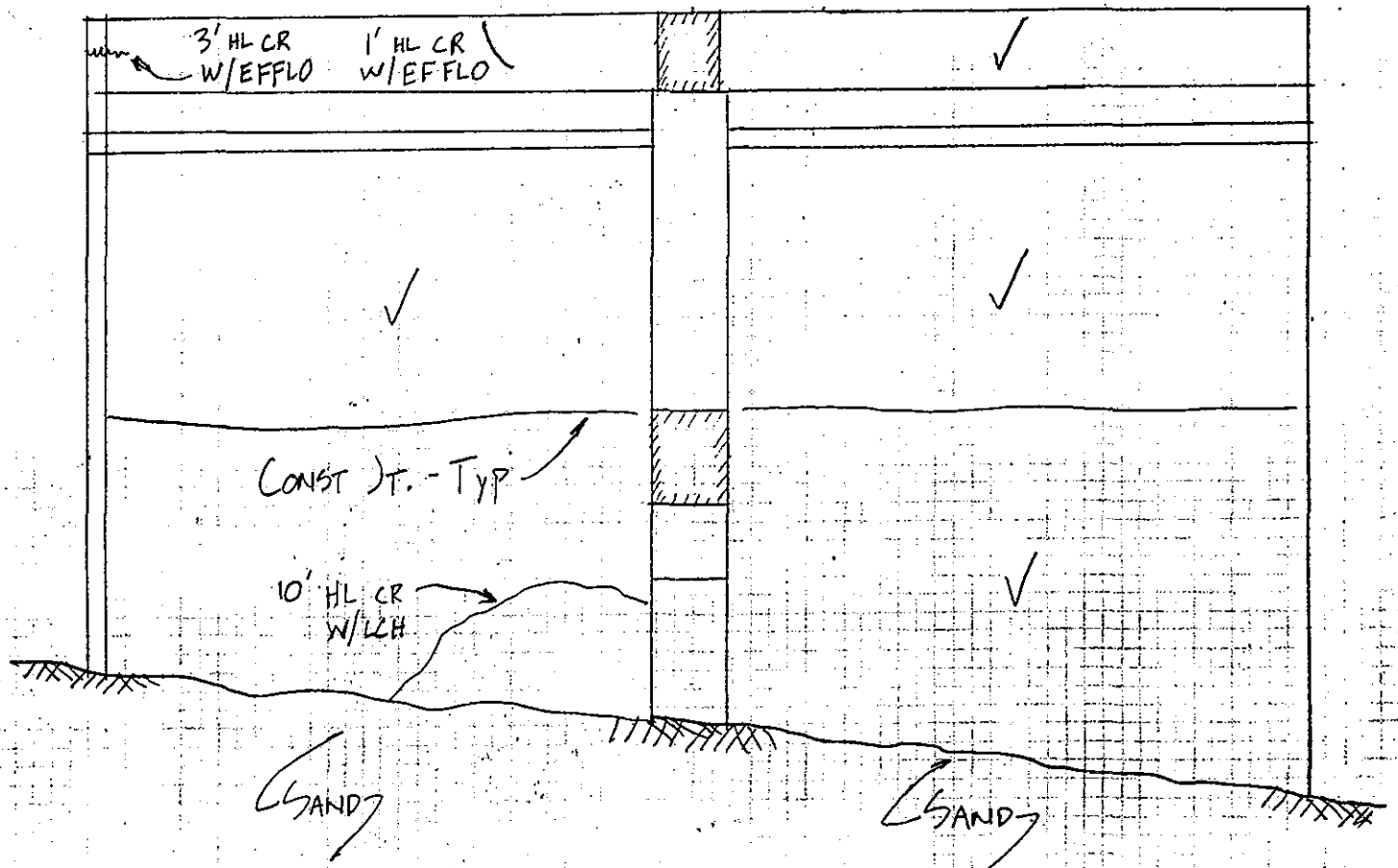
SHEET 2/17



DATE INSPECTED 9/1/94

FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN	JOB NO. 1784	BRIDGE NO. BOURNE
	DATE 8/26/94	SHEET 3/17
	CREW ~~GATE~~ UTT, BH, PWN	



VIEW C-C
NORTH ABUT.
(INT.)

DATE INSPECTED 9/1/94

178
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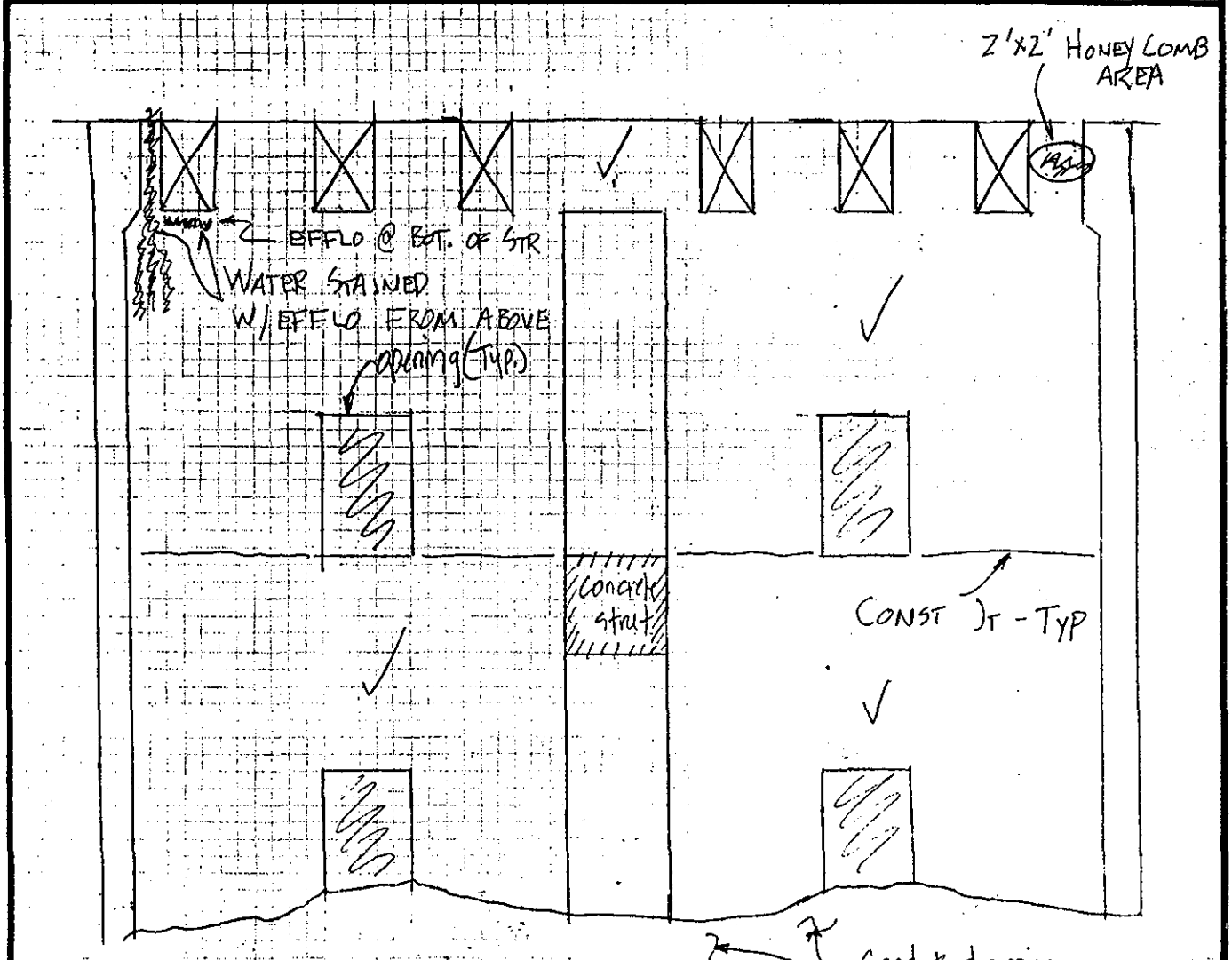
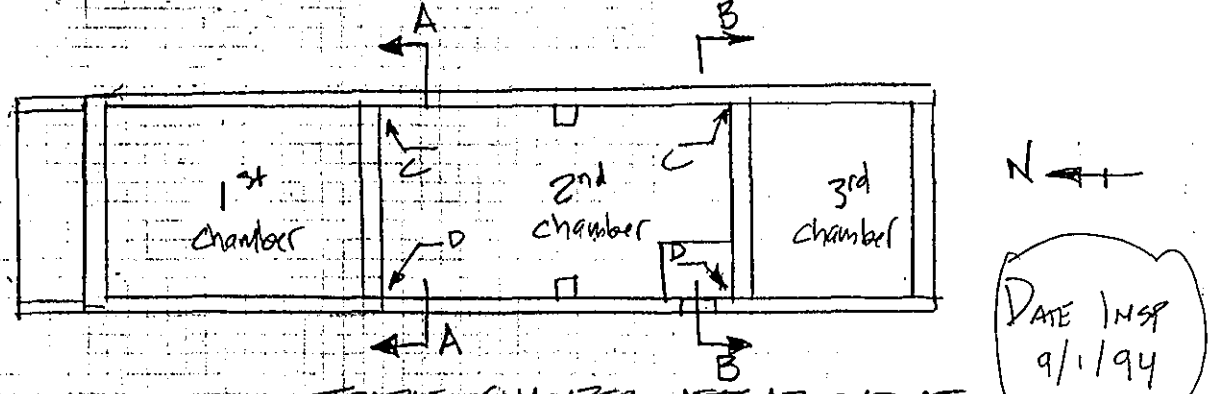
FIELD NOTES

JOB NO. 1784	BRIDGE NO. BOURNE	
DATE 8/25/94	SHEET 4/17	
PREPARED BY: A.G. LICHTENSTEIN	CREW ~~GARC~~/WH, BH PWN	



VIEW A-A

Sand & dropping Bottom



TRIPLE CHAMBER ~~WEST~~ ABUTMENT
PLAN VIEW NORTH

DATE INSP 9/1/94

FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

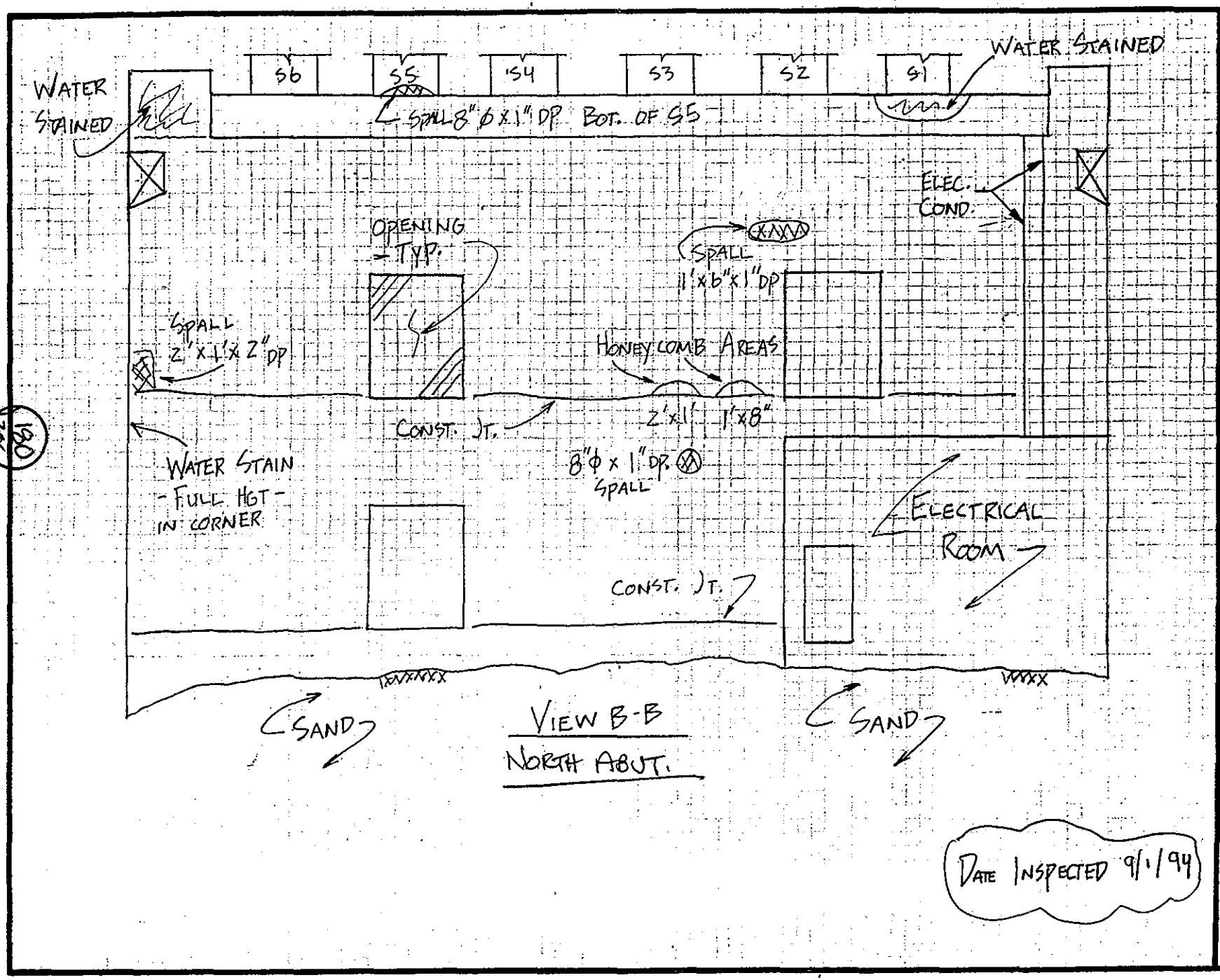
JOB NO. 1784

DATE 8/26/94

CREW WM, BH, PWY

BRIDGE NO. BOURNE

SHEET 1/17



VIEW B-B

NORTH ABUT.

DATE INSPECTED 9/1/94

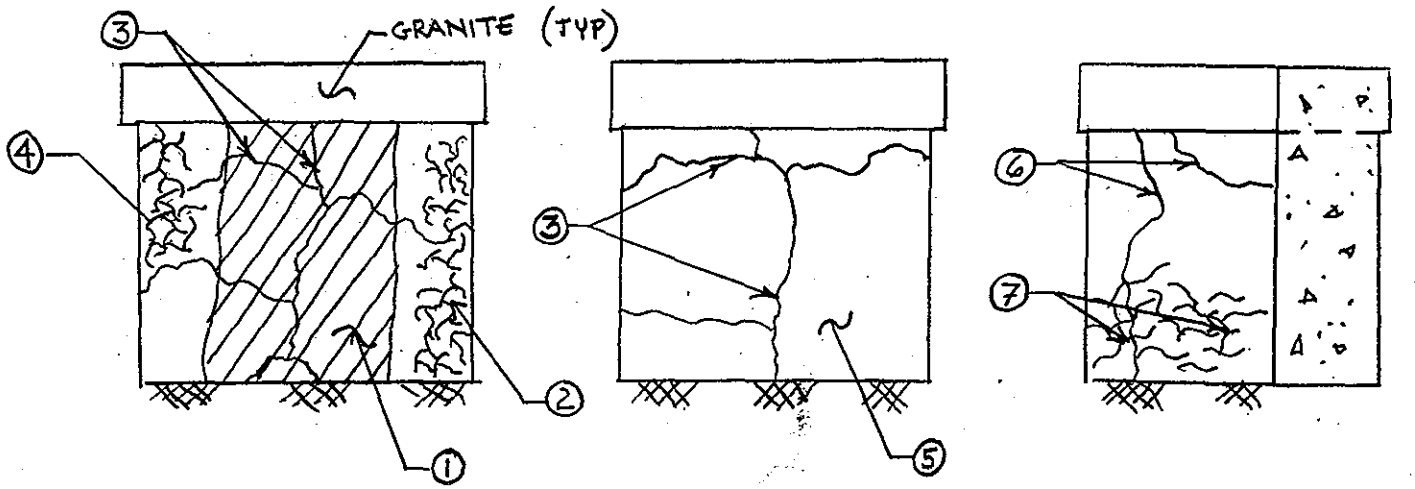
180
206

TOP OF DECK

LAMP POST SUPPORT - SOUTH ABUTMENT EAST WINGWALL

LEGEND

- CRACK
- MAP CRACK - HAIRLINE
- HOLLOW AREA



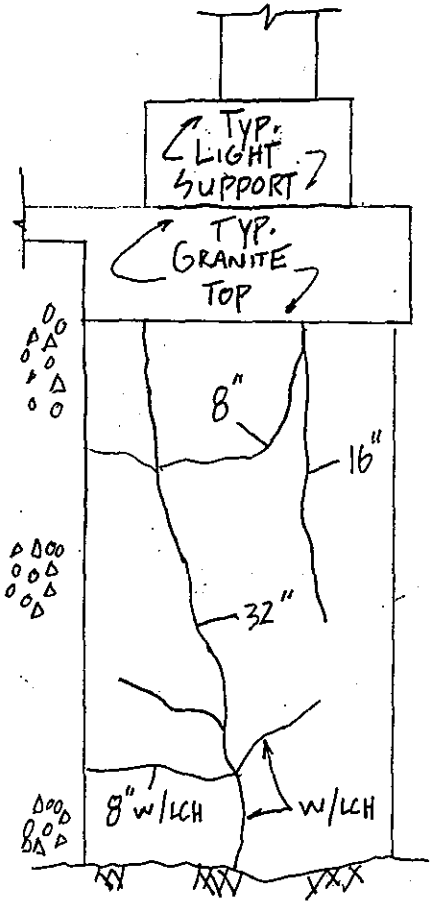
SOUTH ELEV. EAST ELEV. NORTH ELEV.

NOTES:

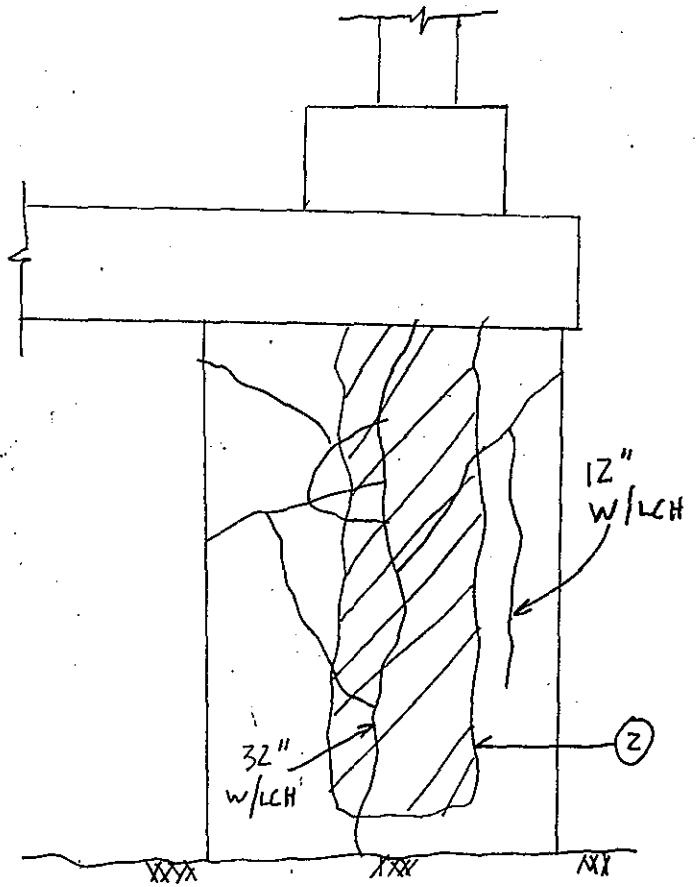
1. 32" x 20" HOLLOW AREA
2. 32" x 6" HAIRLINE MAP CRACKING
3. 1/16" CRACKING, FULL HEIGHT, FULL WIDTH
4. 9" x 15" HAIRLINE MAP CRACKING
5. ENTIRE 36" x 32" AREA IS HOLLOW, (HATCHING LEFT OUT FOR CLARITY)
6. HAIRLINE CRACK
7. 21" x 15" MAP CRACKING, LIGHT LEACHING NOTED

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS
BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION
NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS
JOB #1784 DATE: 9/7/94
CREW: PLN, HM, BH SHEET 8 OF 12

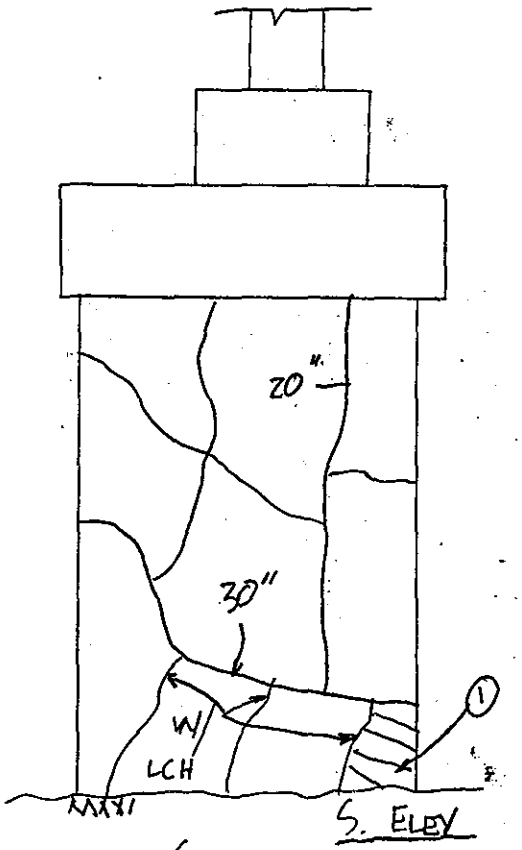
LAMP POST SUPPORT - SOUTH ABUTMENT - WEST WINGWALL



N. ELEV.



WEST ELEV.



S. ELEV

S ABUTMENT
W ELEVATION

~~~ = HL CR

NOTES:

1. HOLLOW AREA 8" ϕ
2. " " 1' WIDE x 30" HIGH

NOTE: - LIGHT LEACHING VISIBLE FROM HL (CR'S) ON ALL FACES
- EACH OF THE THREE FACES HAVE BEEN PATCHED AND/OR SEALED OR COATED

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/7/94
CREW: WM, PWN, BH	SHEET 7 OF 12

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206
~~~

FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

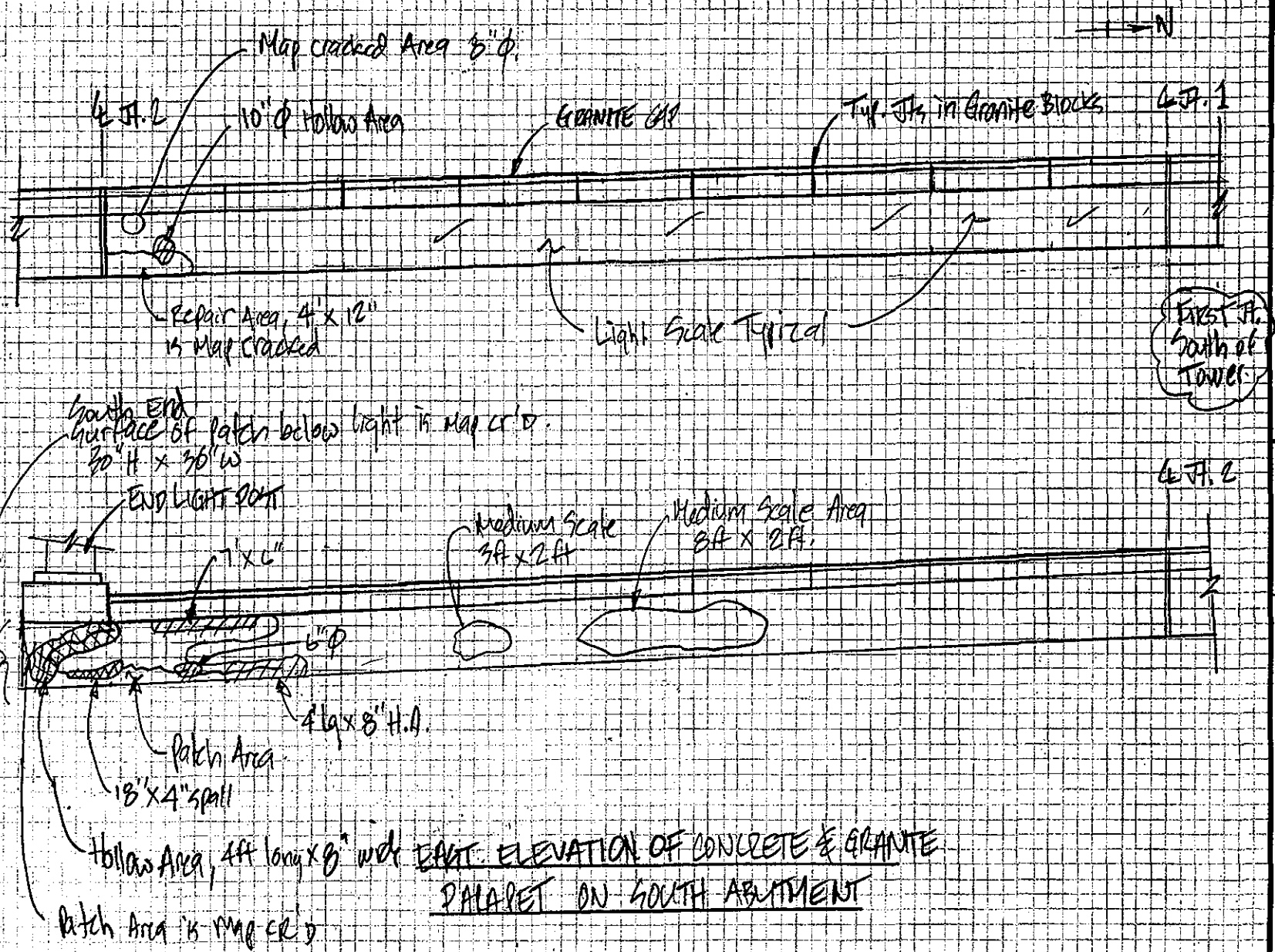
JOB NO. 17-84

DATE 9/8/94

CREW GABE / RB

BRIDGE NO.

SHEET 18 of 18



EAST ELEVATION OF CONCRETE & GRANITE PARAPET ON SOUTH ABUTMENT

183
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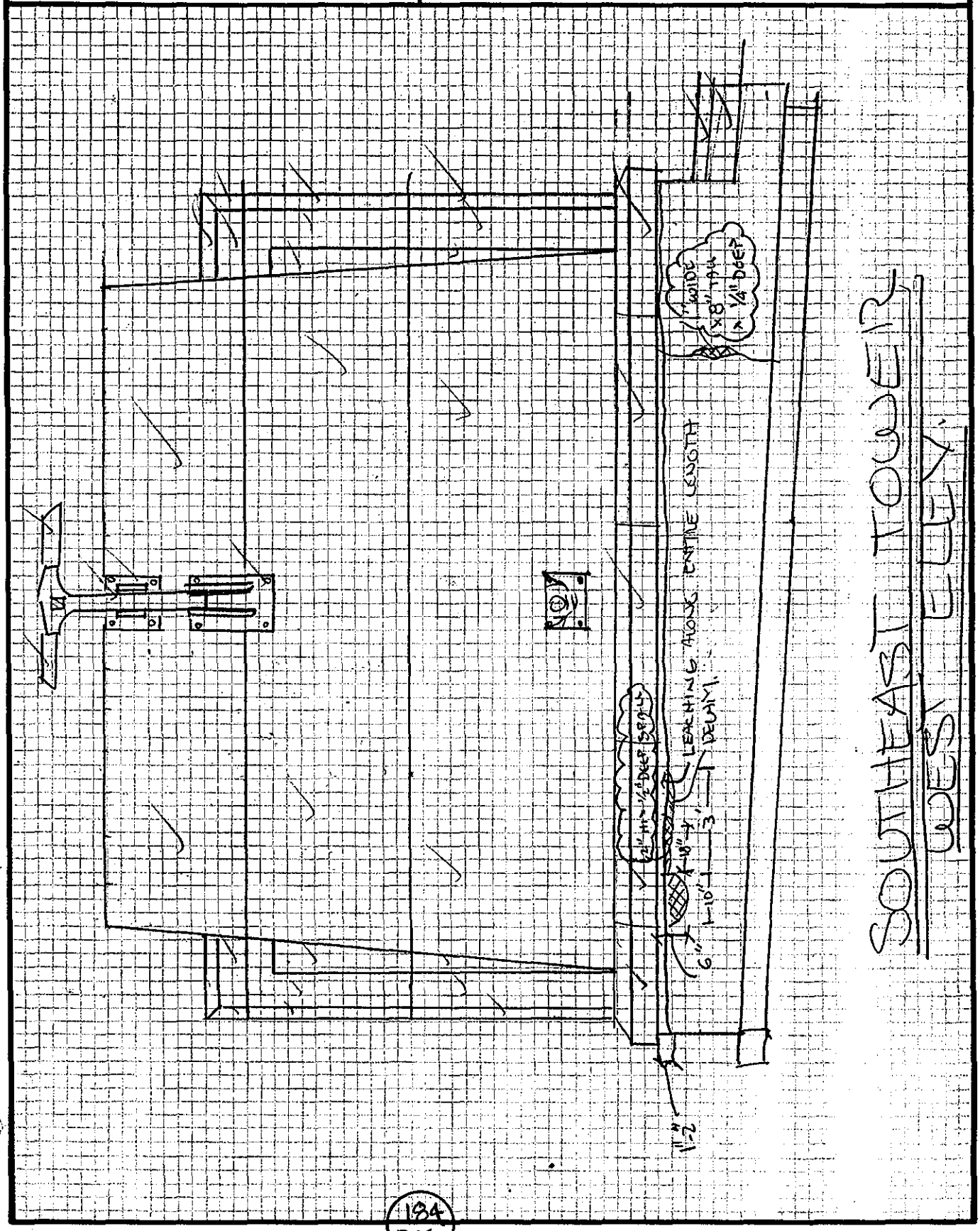
FIELD NOTES

	JOB NO. 1784	BRIDGE NO.
	DATE 9/8/94	SHEET 15 of 19
PREPARED BY: A.G. LICHTENSTEIN	CREW GG/RB	



FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

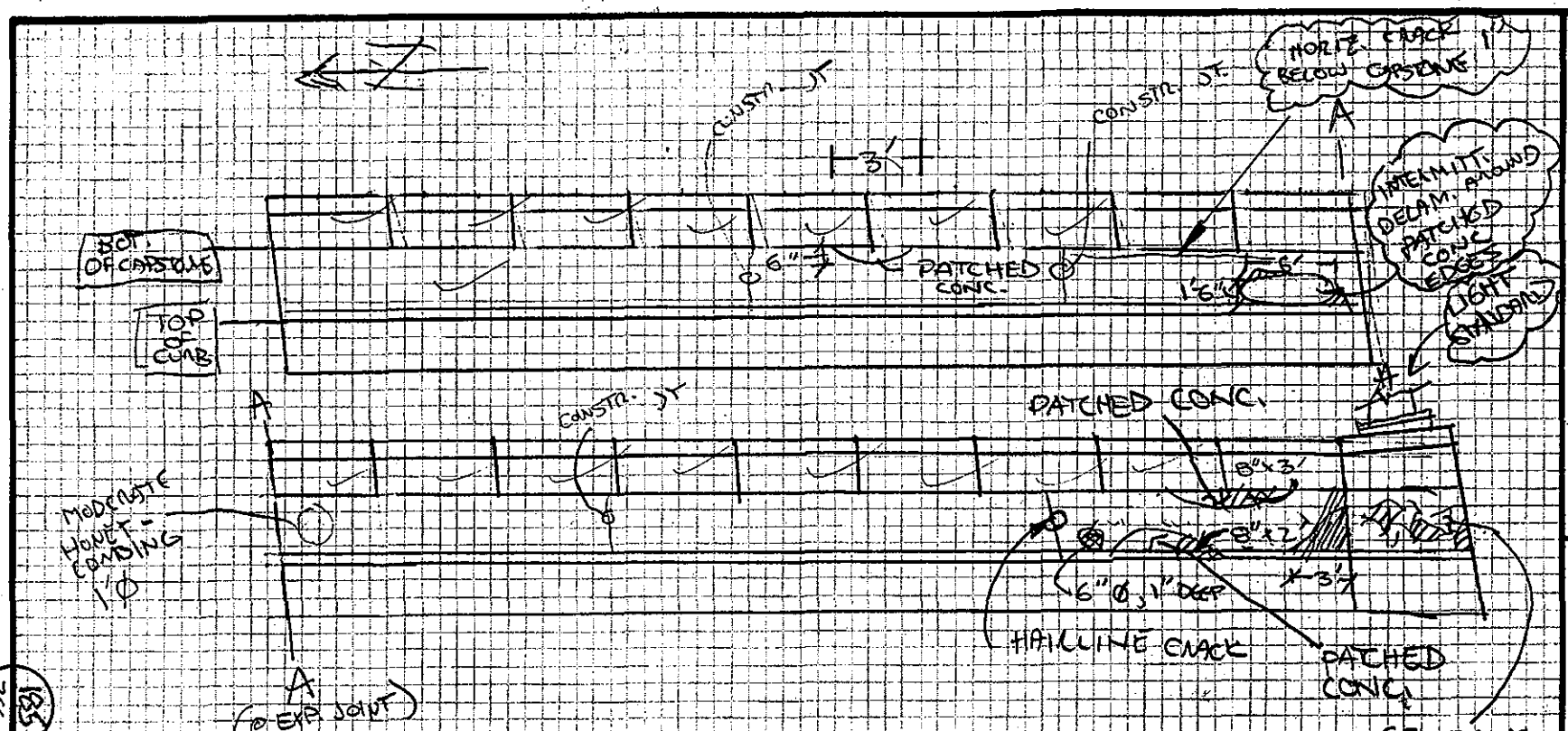
JOB NO. 1784

DATE 9/8/04

CREW GG/RB

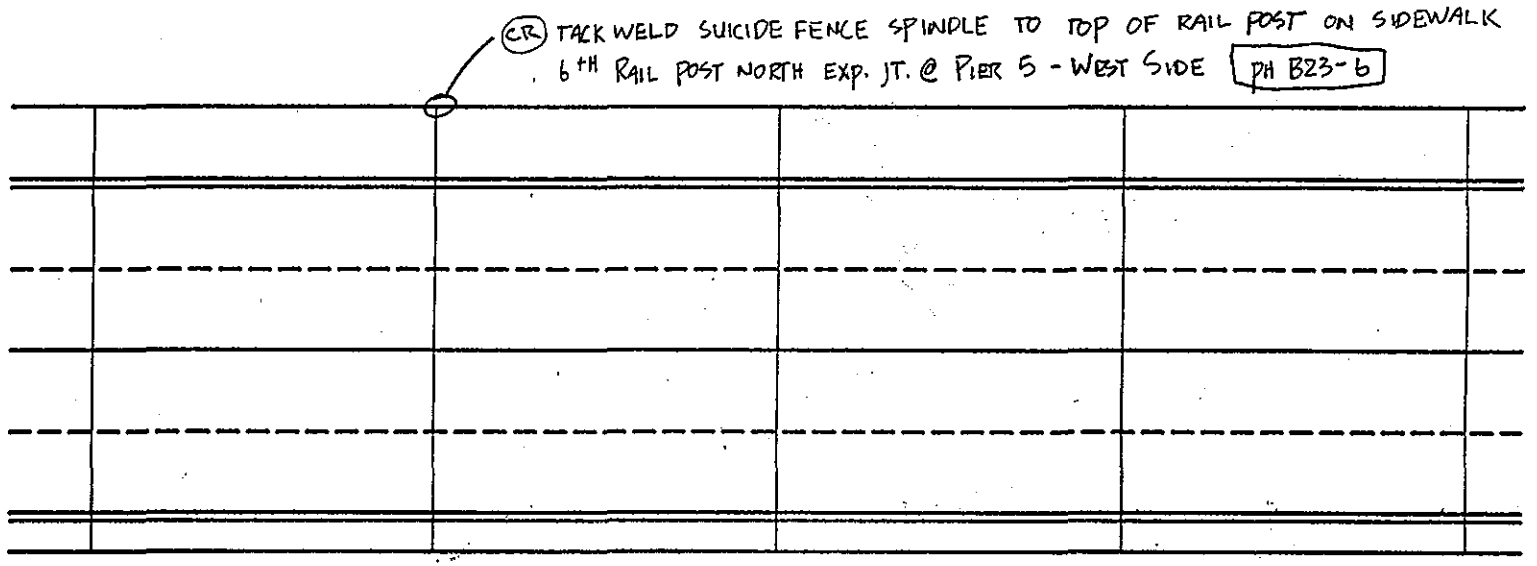
BRIDGE NO.

SHEET 16 of 16



WEST ELEV., EAST PARAPET @ SOUTH END OF BRIDGE

185
266



SPAN

NOTES: 1. RAILING JOINT @ PIER 3 → WEST RAIL; STEEL SHEETING @ EXPANSION MEMBER HOLED THROUGH FOR 4" AT BOTTOM OF PANEL SEE PHOTO B23-2+3 NOTE: FURTHER CORROSION MAY DISLODGE PANEL, OPENING A HOLE LARGE ENOUGH FOR HUMAN PASSAGE

2. RAILING JOINT @ PIER 4 → SAME AS NOTE 1. W/ HOLING UP THE SOUTH EDGE FULL HEIGHT OF SHEETING → SAME COND. @ EAST RAIL JOINT B23-5

3. LIGHT POST @ SIDEWALK OVER PIER 4 → 1½" ϕ HOLE (CORROSION) ON EAST FACE 2" ABOVE SIDEWALK 23-4

4. SAME AS COND. 1. @ RAILING JOINT (E. + W.) OVER PIER 6

~~TOP OF DECK~~ RAILING INSPECTION

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9/16/94
CREW: PWN, BH, G2 | SHEET 6 OF 6

902
981

FIELD NOTES

PREPARED BY: A.G. LICHTENSTEIN

JOB NO. 1784

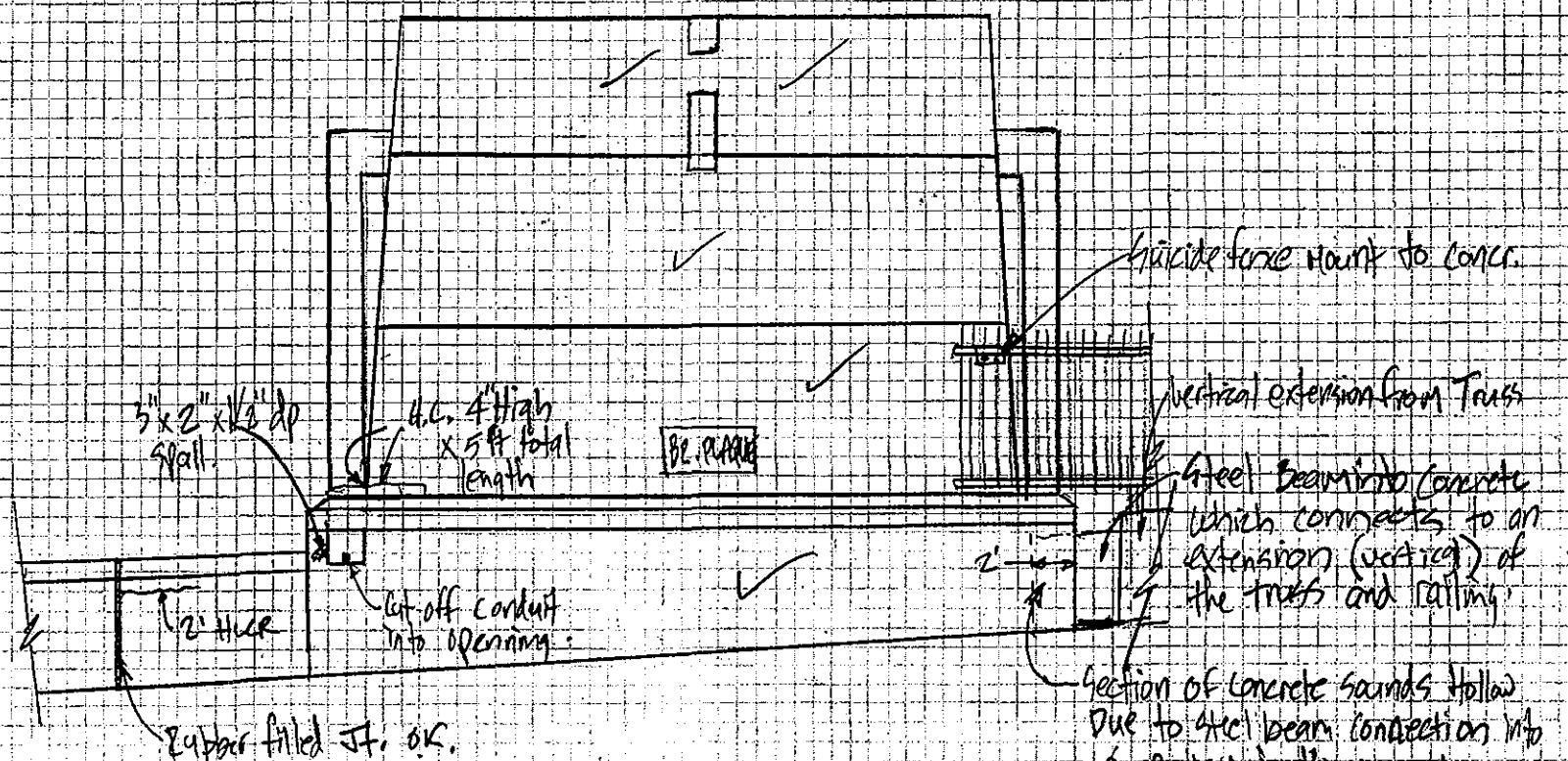
DATE 9/8/94

CREW [illegible]

BRIDGE NO.

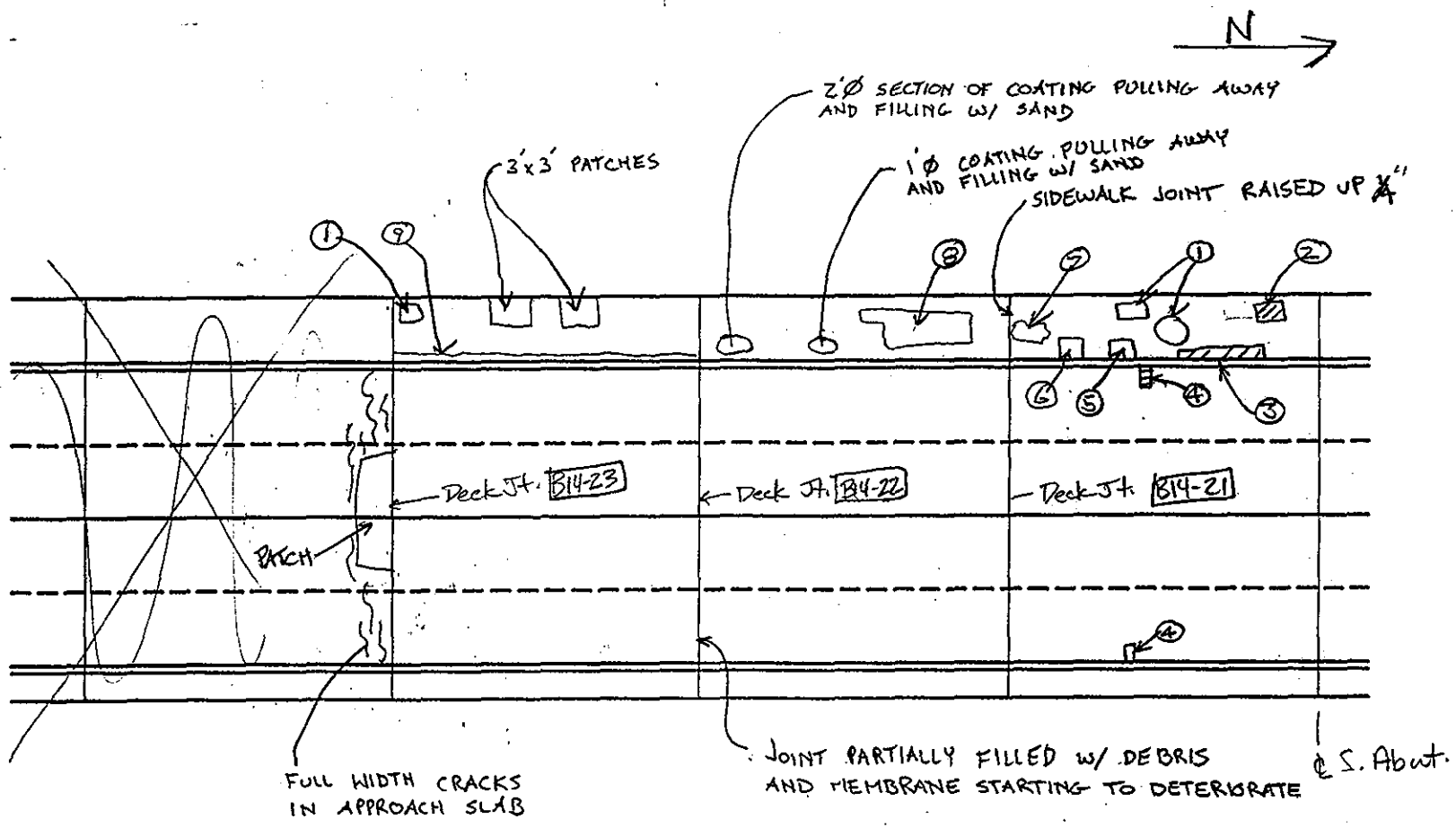
SHEET 17 of 19

H.C. = Honeycombed Area



EAST ELEVATION OF WEST ABUTMENT
TOWER ABOVE ROADWAY, (SOUTH Abut.)

187
206



TOP OF DECK
SPAN SOUTH ABUT. SPANS

⑨ WEARING SURFACE LIFTING AT INTERFACE W/ GRANITE CURB

NOTES:

① UTILITY COVER
② 1½'x 1½' PATCH
③ 6"x 7' PATCH, STARTING TO PULL AWAY B14-19
④ SCUPPER
⑤ 2'x 2' PATCH
⑥ 2'x2' PATCH W/ 1'Ø SECTION OF COATING PULLING AWAY B14-20
⑦ 2'x 1' PATCH W/ COATING PULLING AWAY
⑧ 3'x 10' PATCH

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/8/94
CREW: PWN/BH	SHEET 1 OF 17

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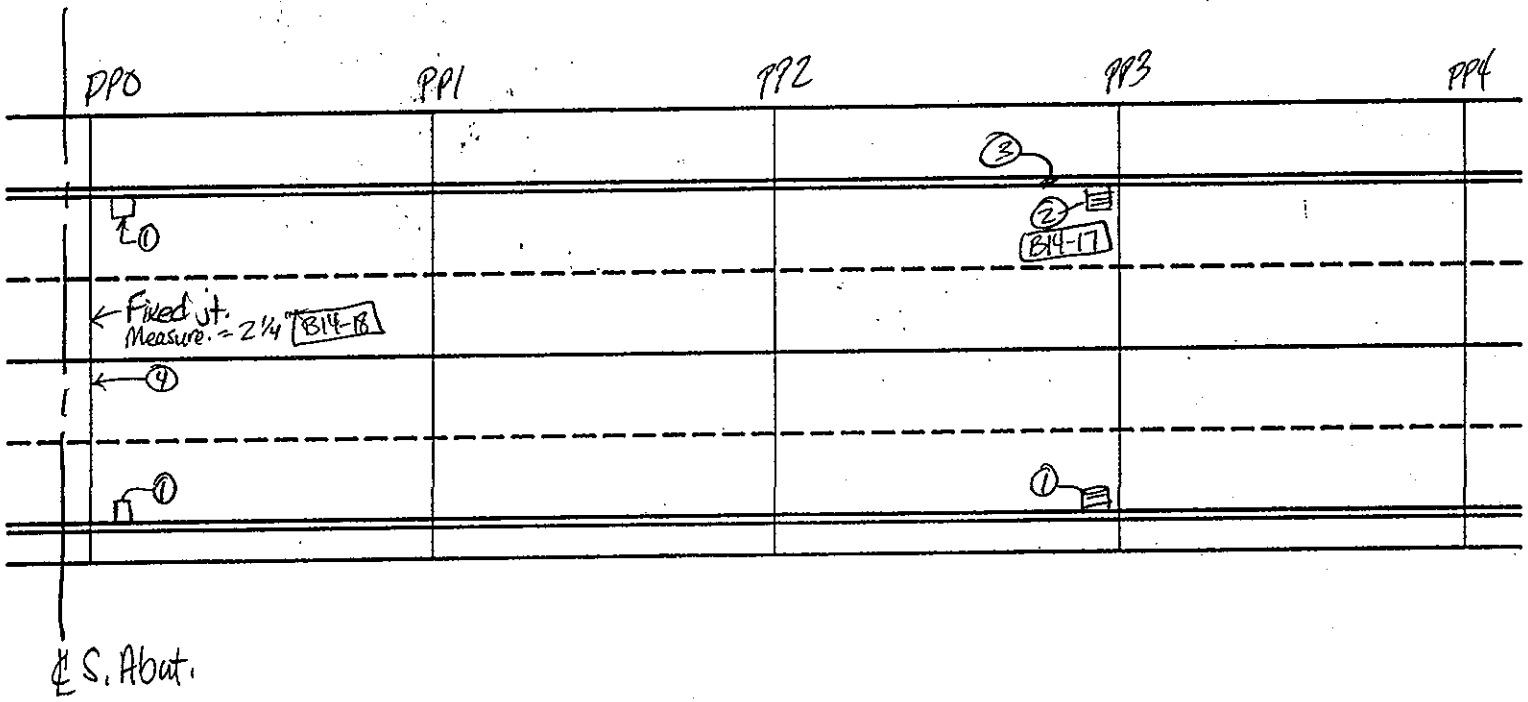


SPAN 7

NOTES:

1. Scupper w/ grating partially filled w/ debris
2. Same as (1) w/ skunk B14-17
3. 4"x4"x1½" dp. corner spall @ top granite curb
4. Jt. filled w/ sand and debris, seal starting to pullout in SB lane B14-18

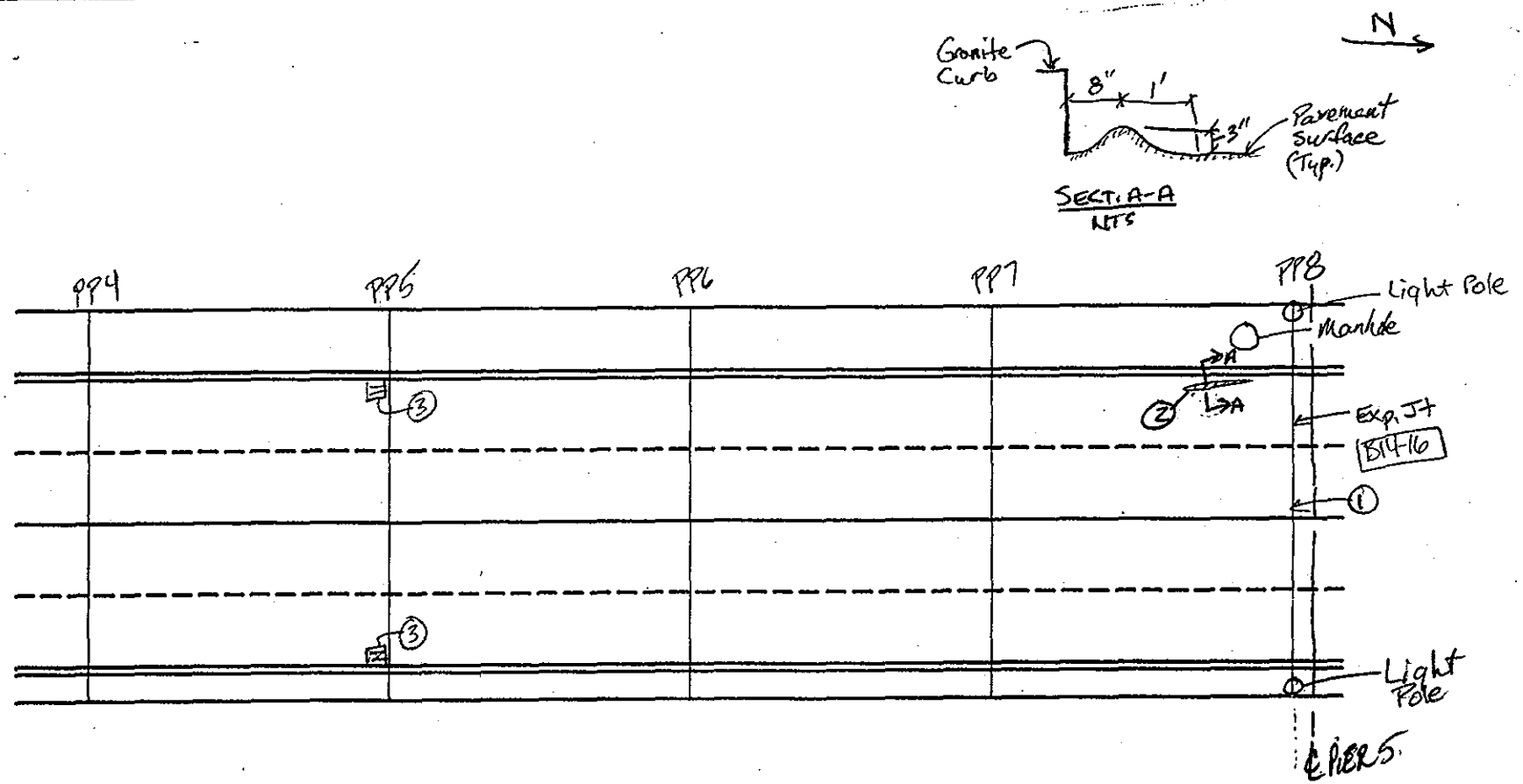
TOP OF DECK

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9-8-94
CREW: BH, PN	SHEET 2 OF 17



SPAN 7

NOTES:

① Expansion jt., Filled w/ sand & debris. Jt. measurement = 2 1/16" B14-16, South rail, E. ½ bent North slightly

② Pavement has a 3" rise x 6' long (see sec. A-A)

③ Scupper w/ grating partially filled w/ debris

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9-8-94
CREW: BH, PN	SHEET 3 OF 17

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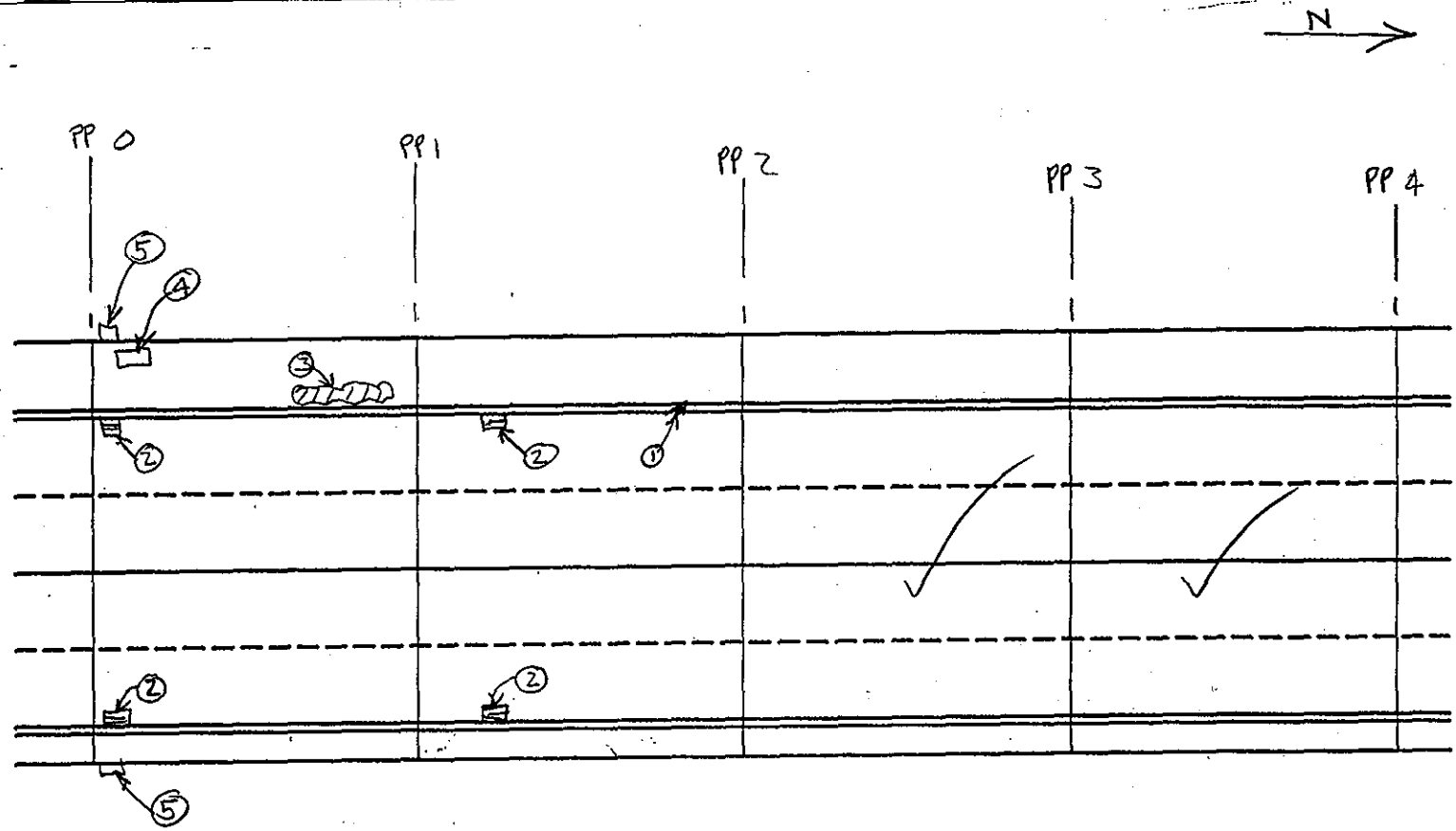


SPAN 5

NOTES:

① 4"x4"x3" CORNER SPALL IN GRANITE CURB
② SCUPPER PARTIALLY FILLED w/ DEBRIS
③ 2'x 10' AREA OF SIDEWALK WEARING SURFACE LIFTING ½"
④ UTILITY COVER
⑤ LIGHTING STANDARD

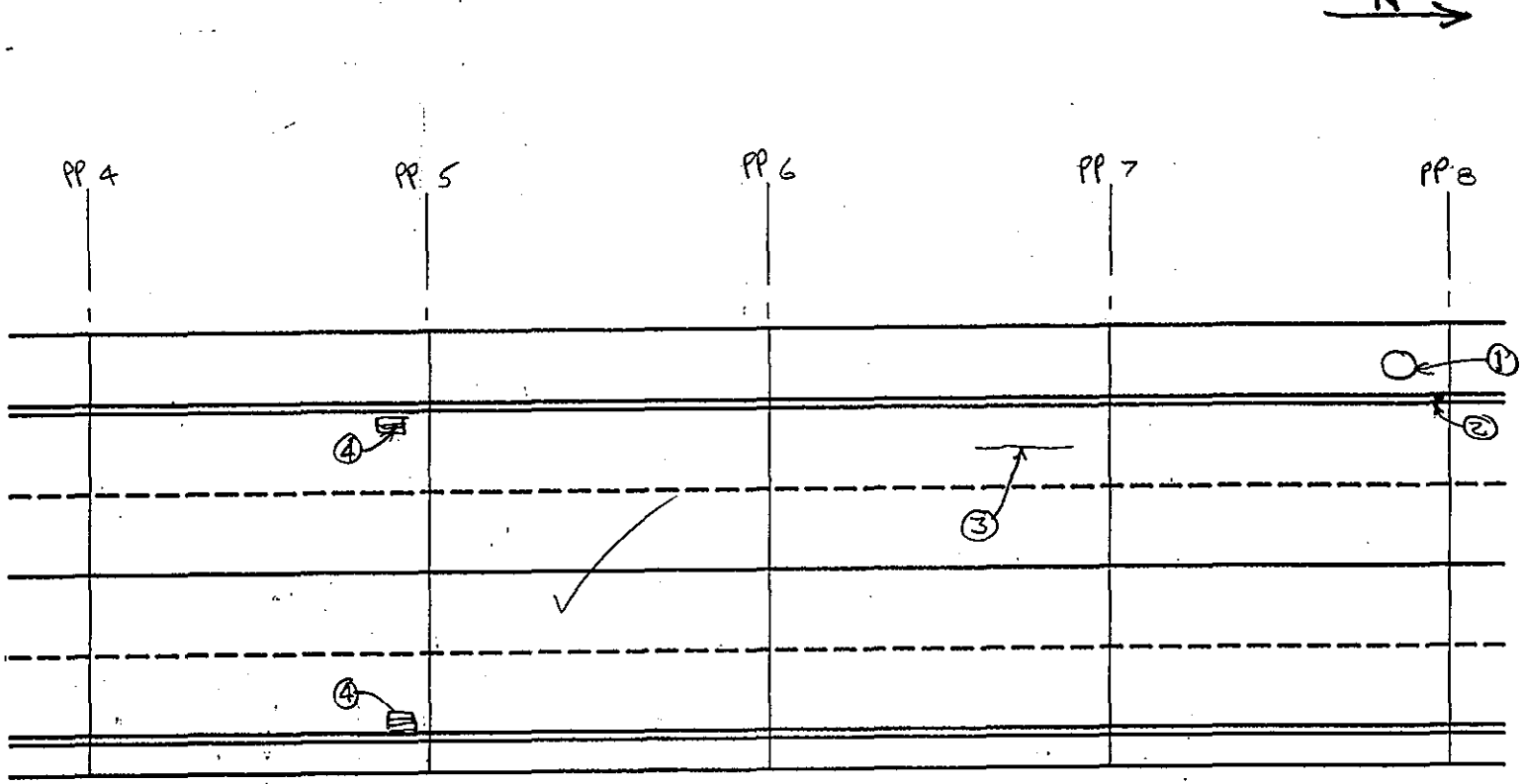
TOP OF DECK

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/8/94
CREW: PWN, BH	SHEET 4 OF 17



SPAN 5

NOTES:

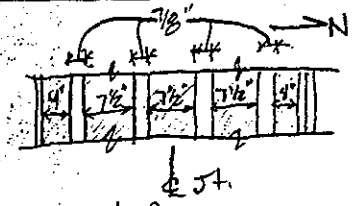
① UTILITY COVER

② 2" x 1" x 3/4" CORNER SPALL IN GRANITE CURB

③ 1/8" x 8' CR. IN PAVEMENT

④ SCUPPERS (CLEAR)

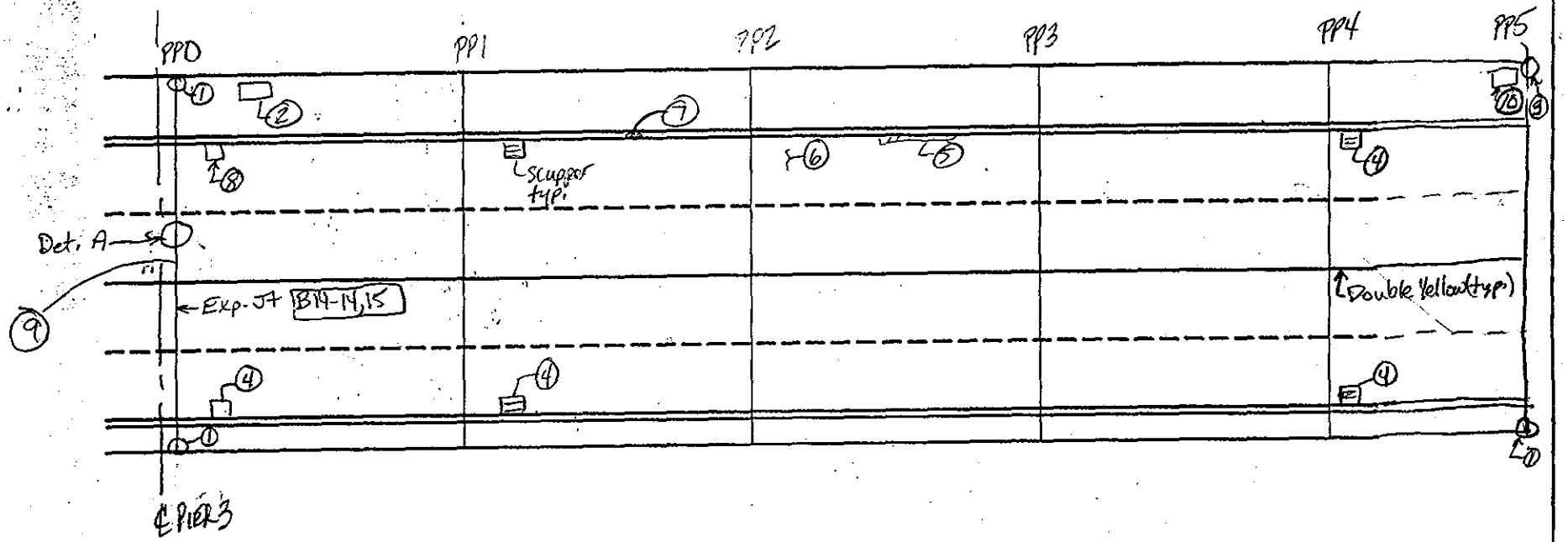
TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/8/94
CREW: PHN, BH	SHEET 5 OF 17



Det. A.
NTS

(9) Modular Exp. Jt. has 80% of rubber coating worn away. Jt. is partially filled w/ sand & debris. 5 of the rubber seals protecting the connections are missing B14-14

(10) Same as (2), but sticking up out of sidewalk ≈ 1" (Possible stumbling hazard)



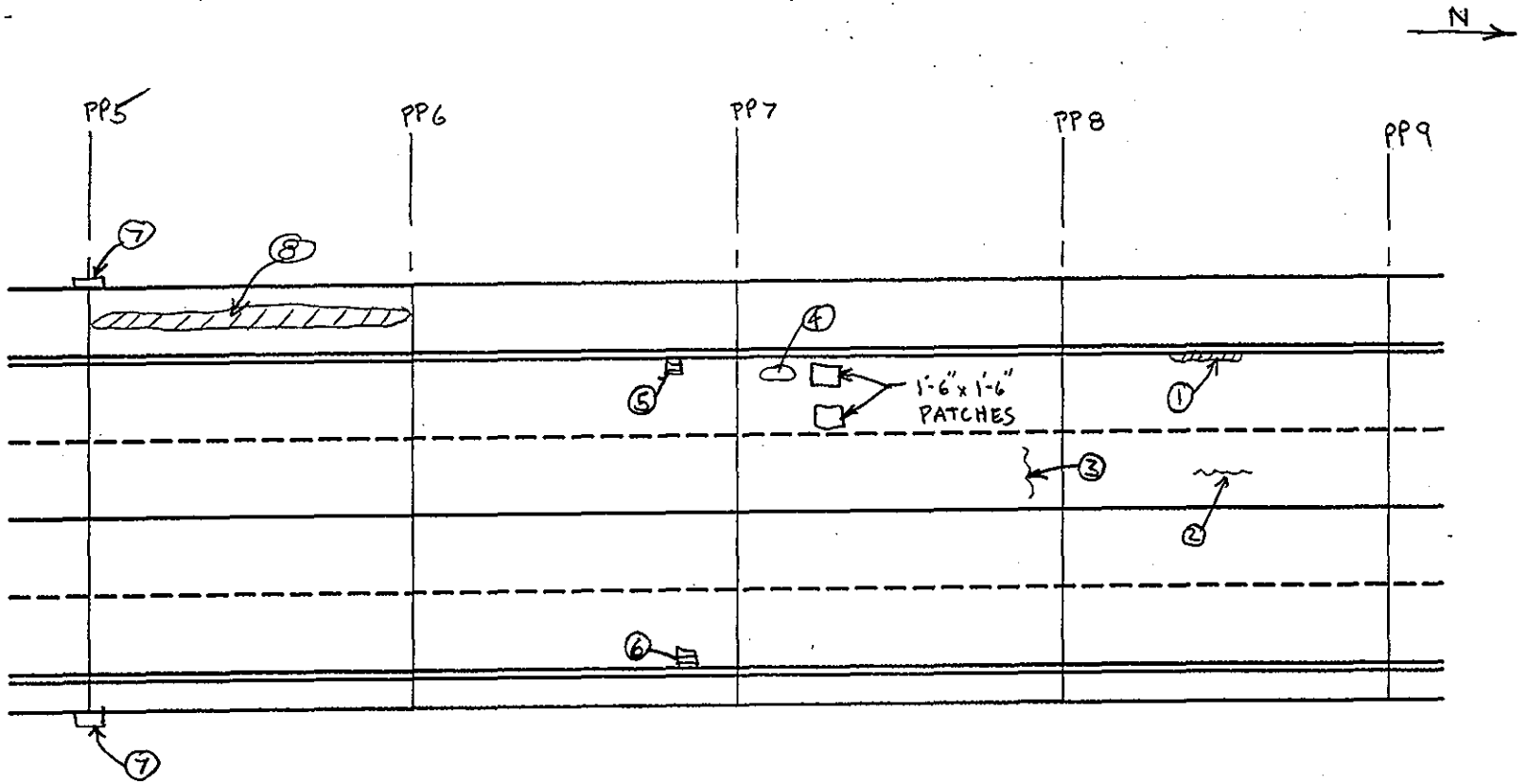
Note: Very light debris in East Gutter (Typ.) B14-13

SPAN 3

NOTES:

(1) Light Pole typ.
(2) Util. Cover typ.
(3) Same as (1) w/ 2 bolts (out of 16 total) missing on E. face access
(4) Scupper w/ grating partially filled w/ debris
(5) 6" wide x 6' long x ½" dp. pavement spall B14-11
(6) 1/16" crack x 1' long in pavement B14-12
(7) 4" x 2" x ½" dp spall on top of Granite curb
(8) Same as (4) w/ cracked grating bars (2)

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9-8-94
CREW: BH, PN	SHEET 6 OF 17



SPAN 3

TOP OF DECK

NOTES:

1. 5" x 6' x ½" PAVEMENT SPALLING
2. 1/16" x 10' CR IN PAVEMENT
3. ⅛" x 4' CR IN PAVEMENT
4. 1'-6" x 6" x ½" DEEP SPALL IN PAVEMENT
5. SCUPPER PARTIALLY FILLED W/ DEBRIS
6. SCUPPER (CLEAR OF DEBRIS)
7. LIGHTING STANDARD
8. WEARING SURFACE OF SIDEWALK WORN DOWN TO CONCRETE 8" WIDE AREA

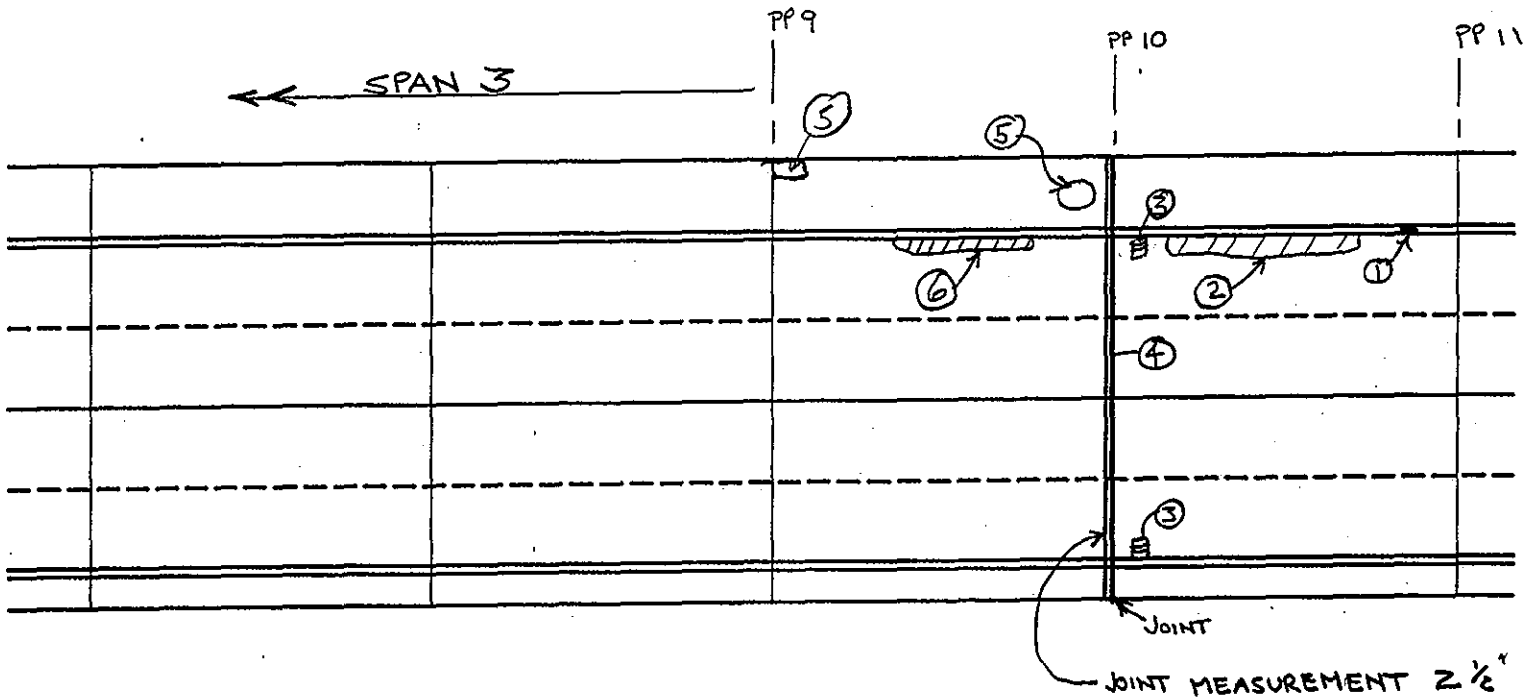
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 9/8/94

CREW: PWN, CH | SHEET 7 OF 17

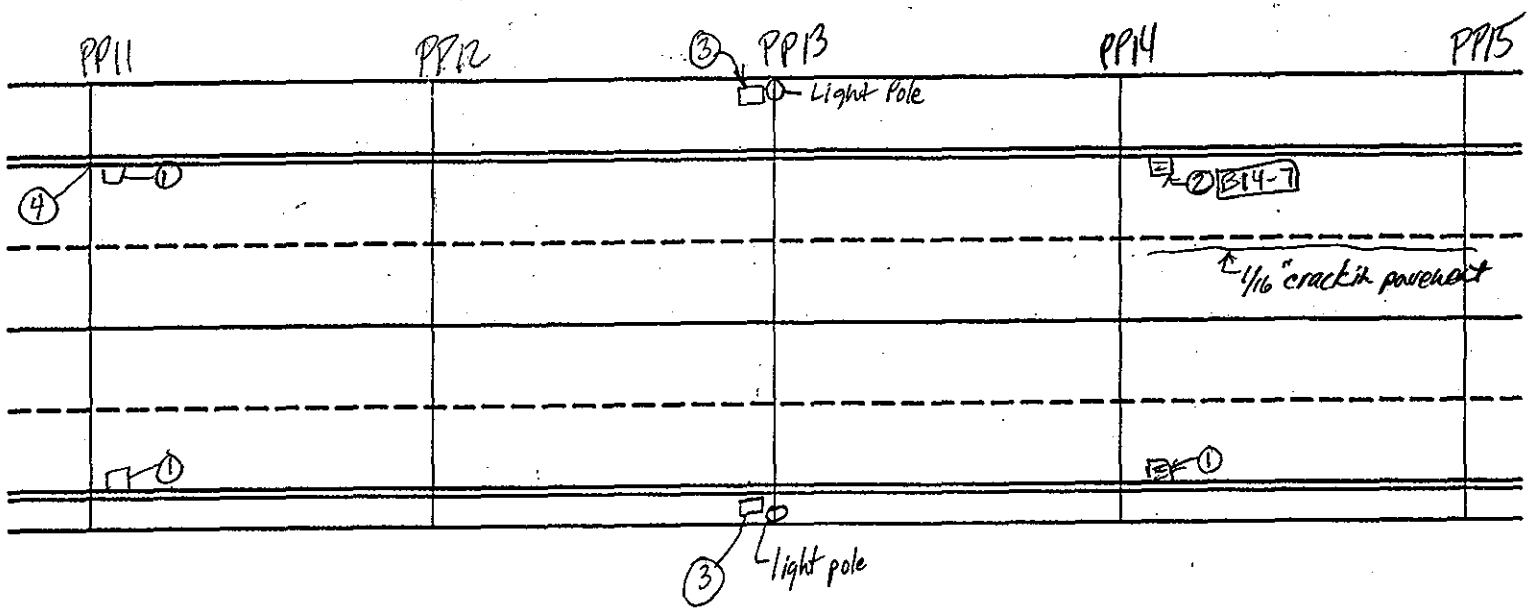


SPAN 1

NOTES:

① 8" x 8" x 2" PATCHED CORNER SPALL IN GRANITE CURB
② 8" x 20' PAVEMENT PATCH LIFTING 1"
③ SCUPPER PARTIALLY FILLED W/ DEBRIS
④ JOINT FILLED W/ DEBRIS FULL LENGTH
⑤ UTILITY COVER
⑥ 6" x 15' x 1/2" DEEP PAVEMENT SPALL

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/8/94
CREW: PWN, BH	SHEET 8 OF 17

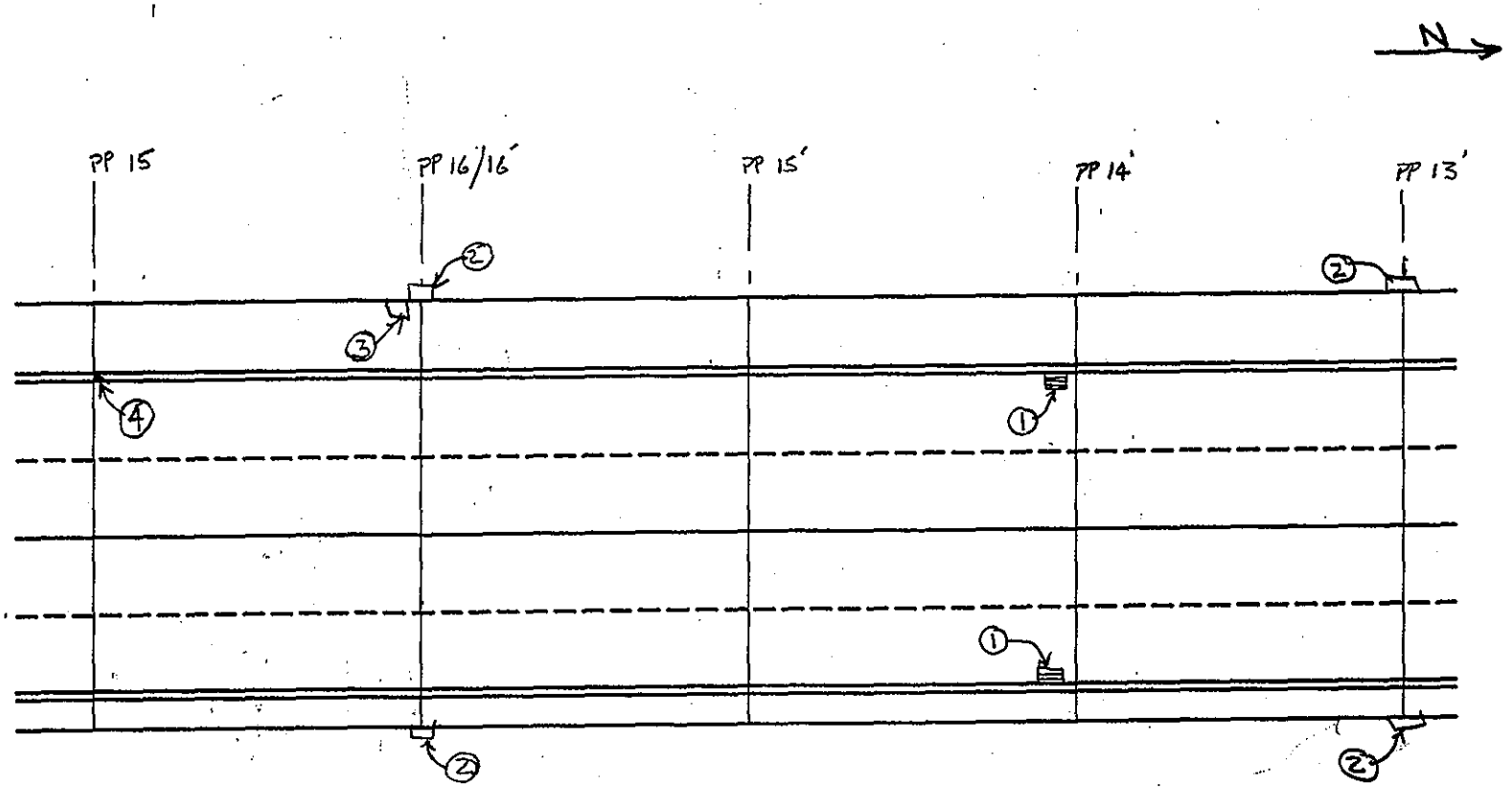


SPAN 1

NOTES:

① Scupper w/ grating partially filled w/debris
② Same as ① w/ cracked grating bars
③ Util. Cover B14-8
④ 4"x4"x1½" dp. corner spall on Granite curb

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9-8-94
CREW: BH, PN	SHEET 9 OF 17



SPAN 1

NOTES:

1. SCUPPER PARTIALLY FILLED W/ DEBRIS
2. LIGHTING STANDARD ATTACHED TO CABLE HANGERS
3. UTILITY COVER
4. 1"x1" x 1" CORNER SPALL IN GRANITE CURB

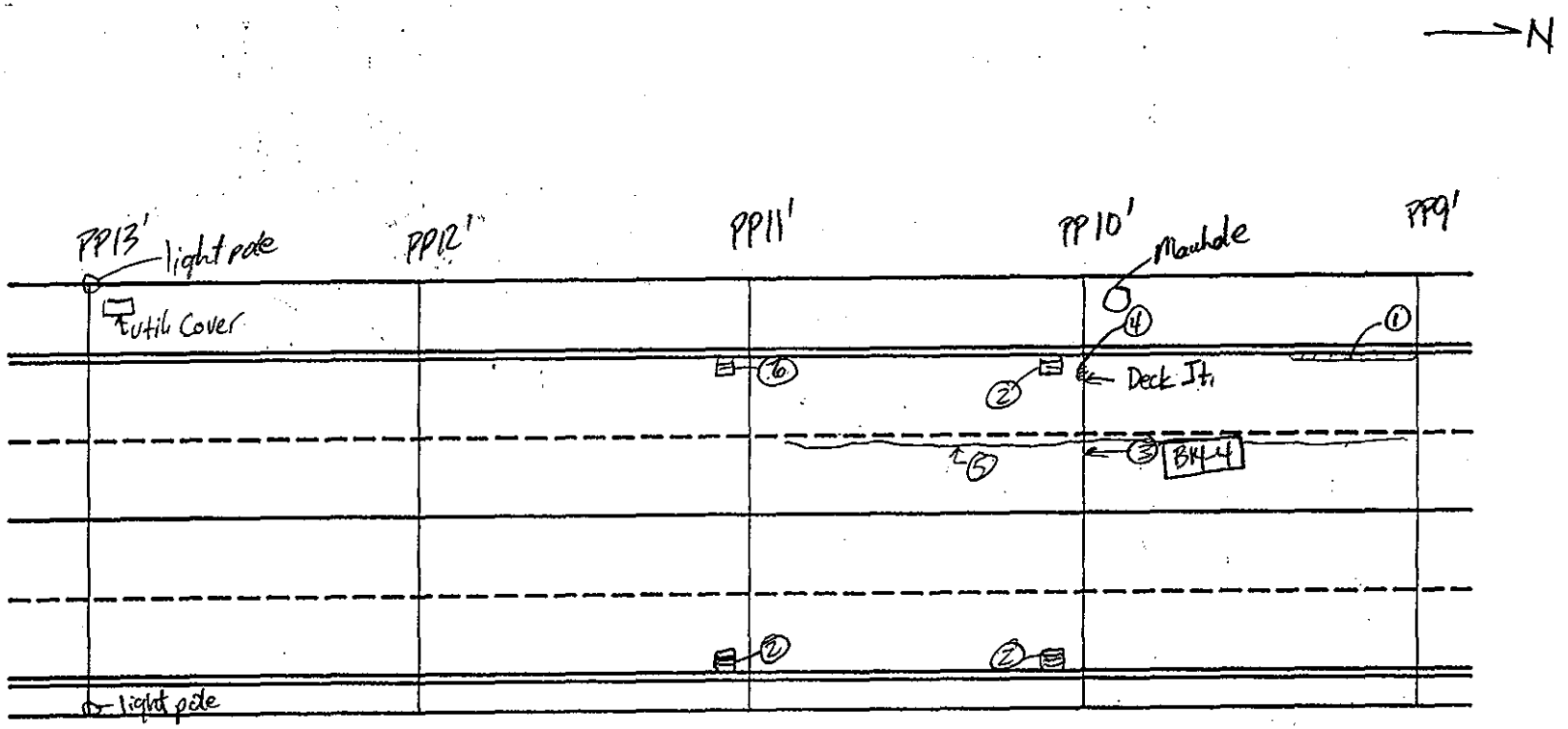
TOP OF DECK

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/8/94
CREW: PWN, GH	SHEET 10 OF 17



SPAN 1

NOTES:

1. Pavement spall 12' long x 6" wide x 1" dp.
2. Typ. Scupper w/ grating partially filled w/ debris
3. Jt. partially filled w/ Sand? debris, Measurement of jt. = 2 3/4" B14-4
4. 8" ϕ x 1/2" dp. pavement spall
5. 1/16" crack in pavement
6. Same as 2 w/ 1" long x 1" dp. section of grating missing B14-5

TOP OF DECK

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9-8-94
CREW: BH, PN	SHEET 11 OF 17

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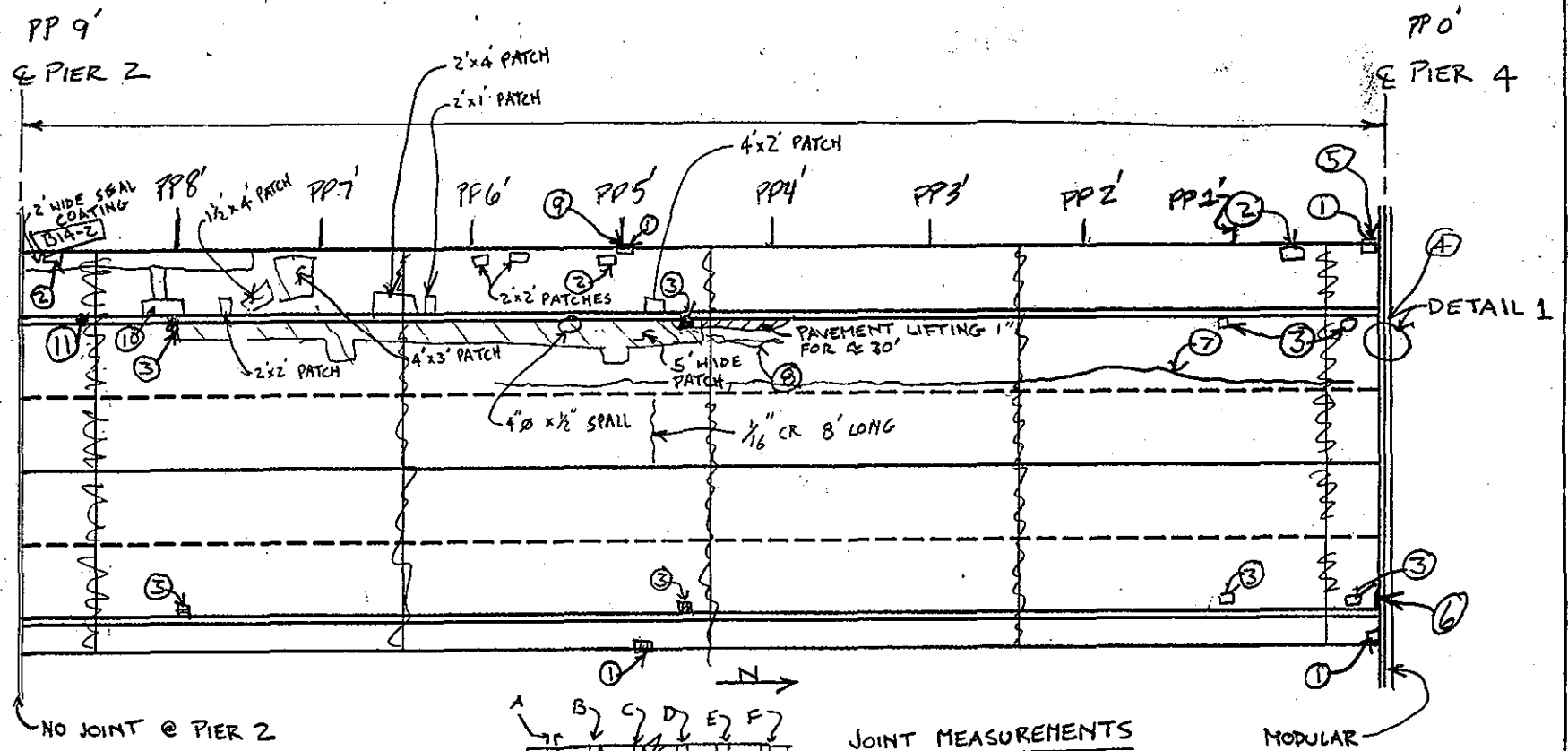

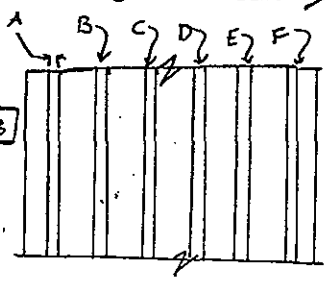

DETAIL 1

JOINT MEASUREMENTS

A	2 5/16"
B	1 3/4"
C	1 3/4"
D	1 3/4"
E	1 7/8"
F	1 13/16"

(11) 8"x6"x2" DEEP CORNER SPALL IN GRANITE CURB B14-3

(10) 2'x5' PATCH

TYP. – UNEVEN WEARING SURFACE ON SIDEWALK

(8) UP TO ⅛" CR'S, 2' LONG IN AN AREA 2'x15' LONG B12-23

(9) ⅛" PITTING 1" HIGH 4' WIDE W/ 1½" HOLE IN SOUTH FACE OF LIGHT POLE

NOTES: B12-24

(1) LOCATION OF LIGHTING STANDARD

(2) LOCATION OF UTILITY COVER

(3) SCUPPER PARTIALLY FILLED W/ DEBRIS

(4) SOUTHMOST JOINT SEAL IS CRACKED 10' LONG

(5) SUICIDE RAIL CONNECTION, 3 OF 4 BOLTS MISSING MIDDLE RAIL, AT LEAST 2 OF 4 MISSING BOTTOM RAIL, CONNECTION IS TO LIGHTING STANDARD, PIER 4 WEST RAIL

(6) 1'x3"x1" DEEP PAVEMENT SPALL ADJACENT TO JOINT

(7) ⅛" CR IN PAVEMENT

SPAN 2

TOP OF DECK

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/8/94
CREW: PWN BH	SHEET 12 OF 17

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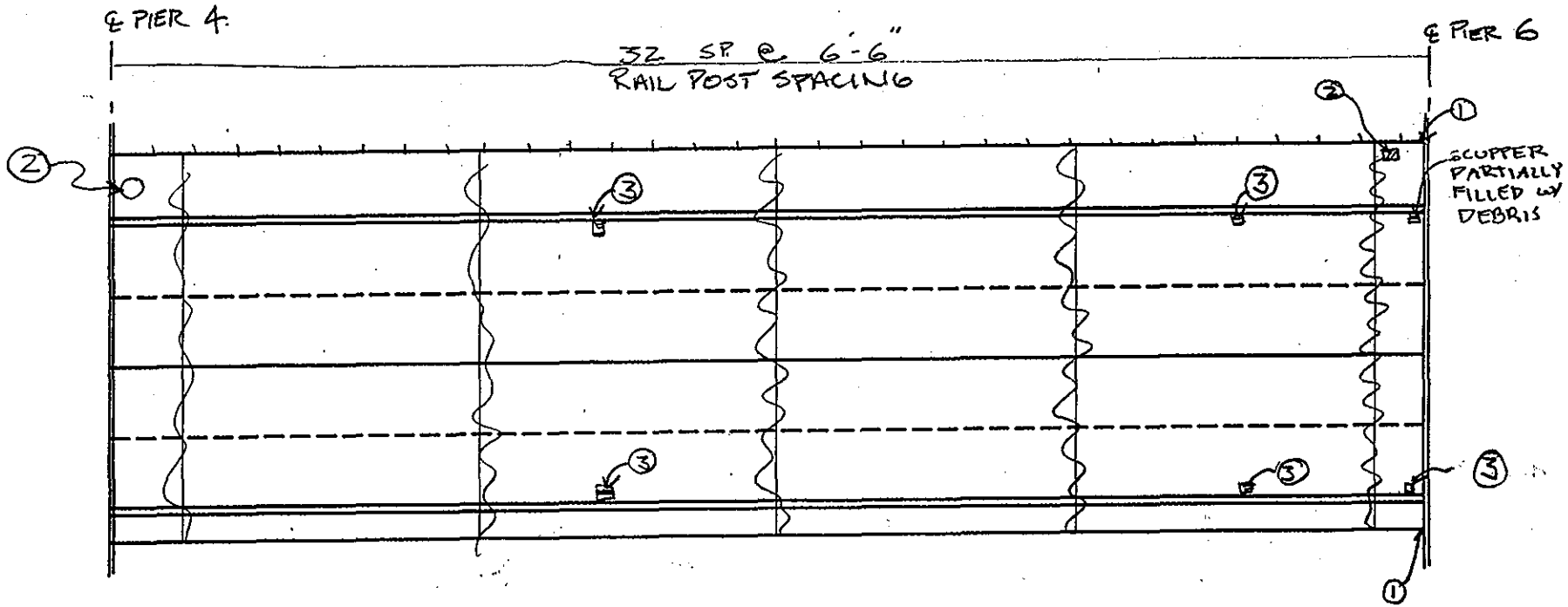
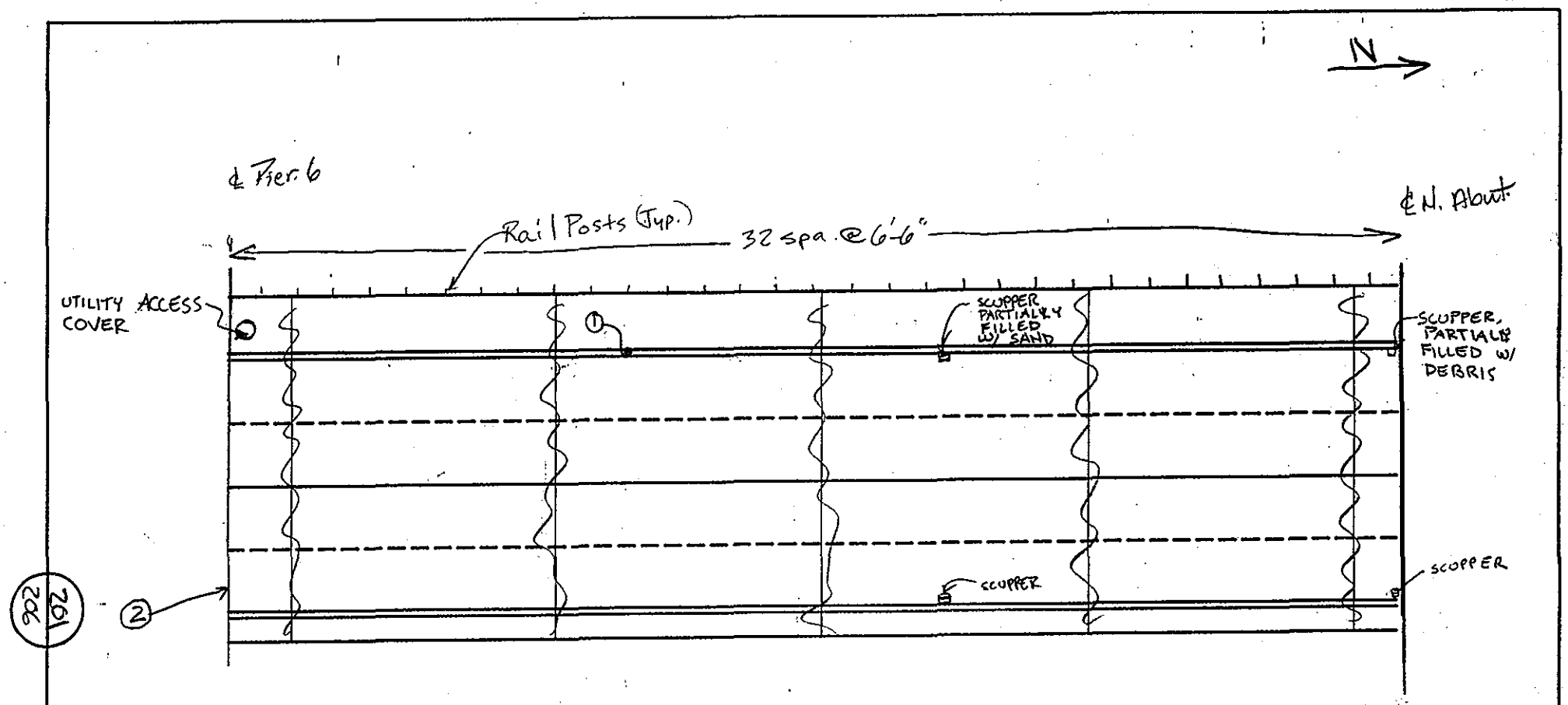


SPAN 4

NOTES:

① LOCATION OF LIGHTING STANDARD
② LOCATION OF UTILITY COVER
③ SCUPPER PARTIALLY FILLED W/ DEBRIS

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/8/94
CREW: PHN, BH	SHEET 13 OF 17



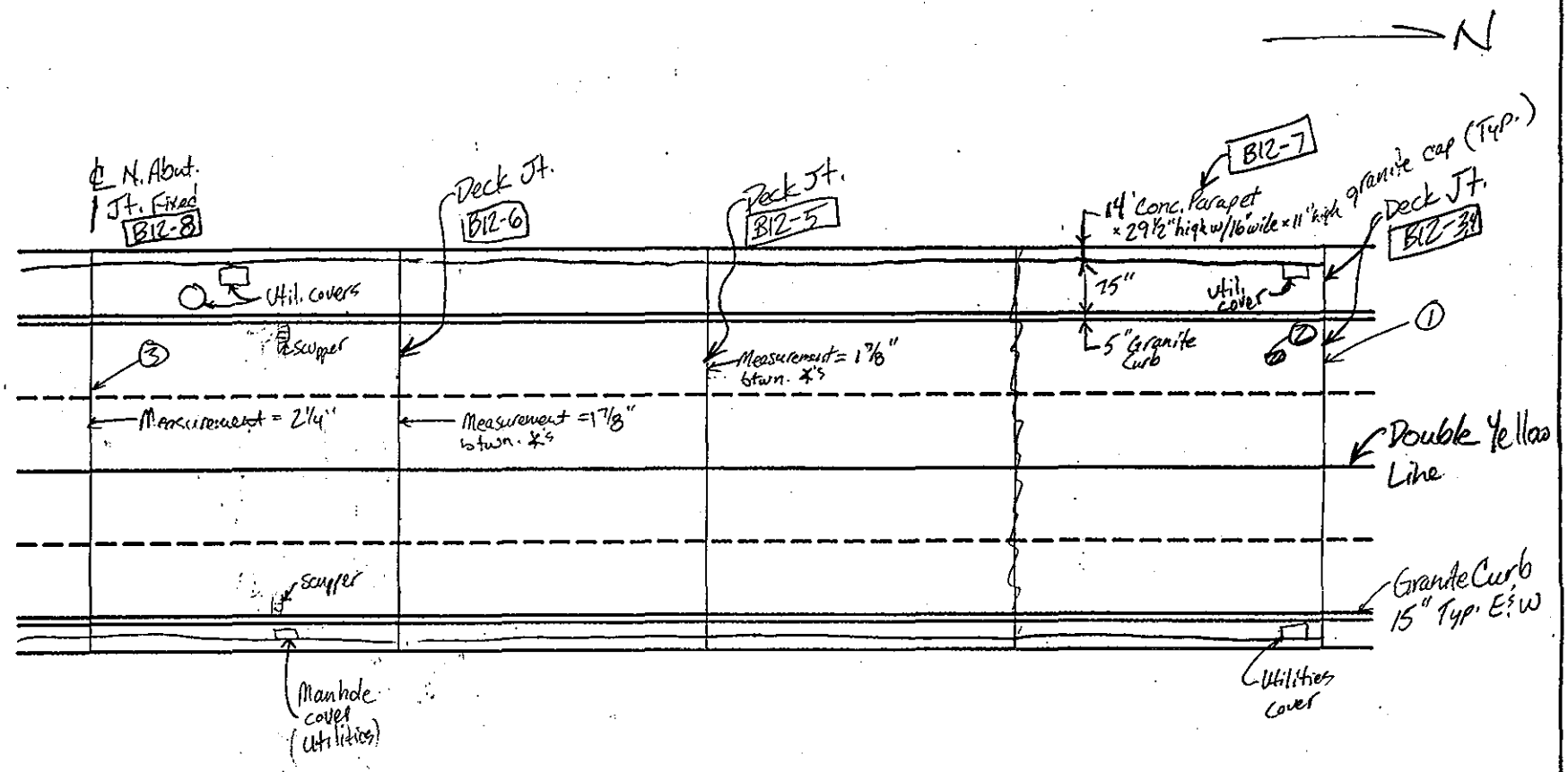
JOINT @ PIER 6 MEASUREMENT BETWEEN <'s 2 1/8"

SPAN 6

NOTES:

1. 3"x3"x1" DEEP CORNER SPALL IN GRANITE CURB
2. JOINT FILLED W/ DEBRIS

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/8/94
CREW: PWN, BH	SHEET 14 OF 17



SPAN North Approach

NOTES:

① Asphalt cracking on N. side of jt. B12-3,4

② 1×6" × ½" do spall in pavement

③ N. Jt. rail missing for 8" and bent south ≈ 1½" over an 18" span B12-8, Jt. filled w/sand/debris

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9-8-94
CREW: BA, PN	SHEET 15 OF 17

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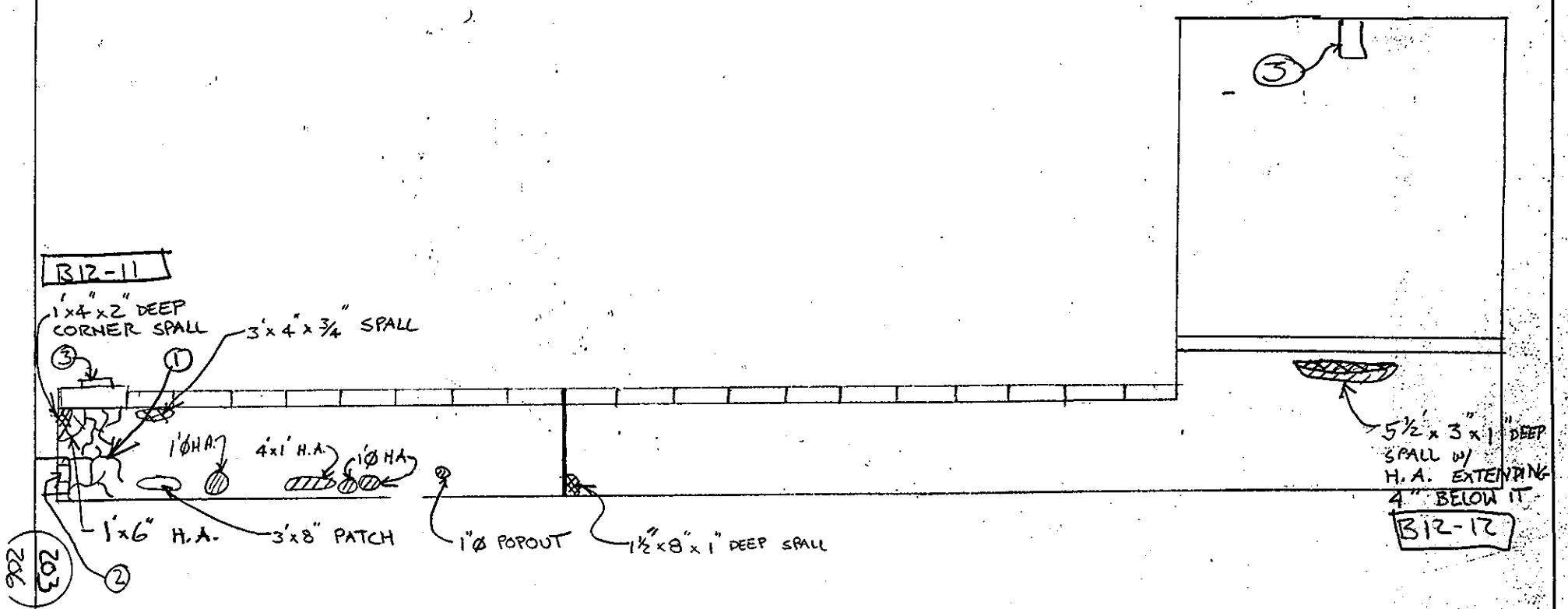


WEST ELEVATION
CONC. PARAPET - @
N. ABUT. EAST WINGWALL

NOTES:

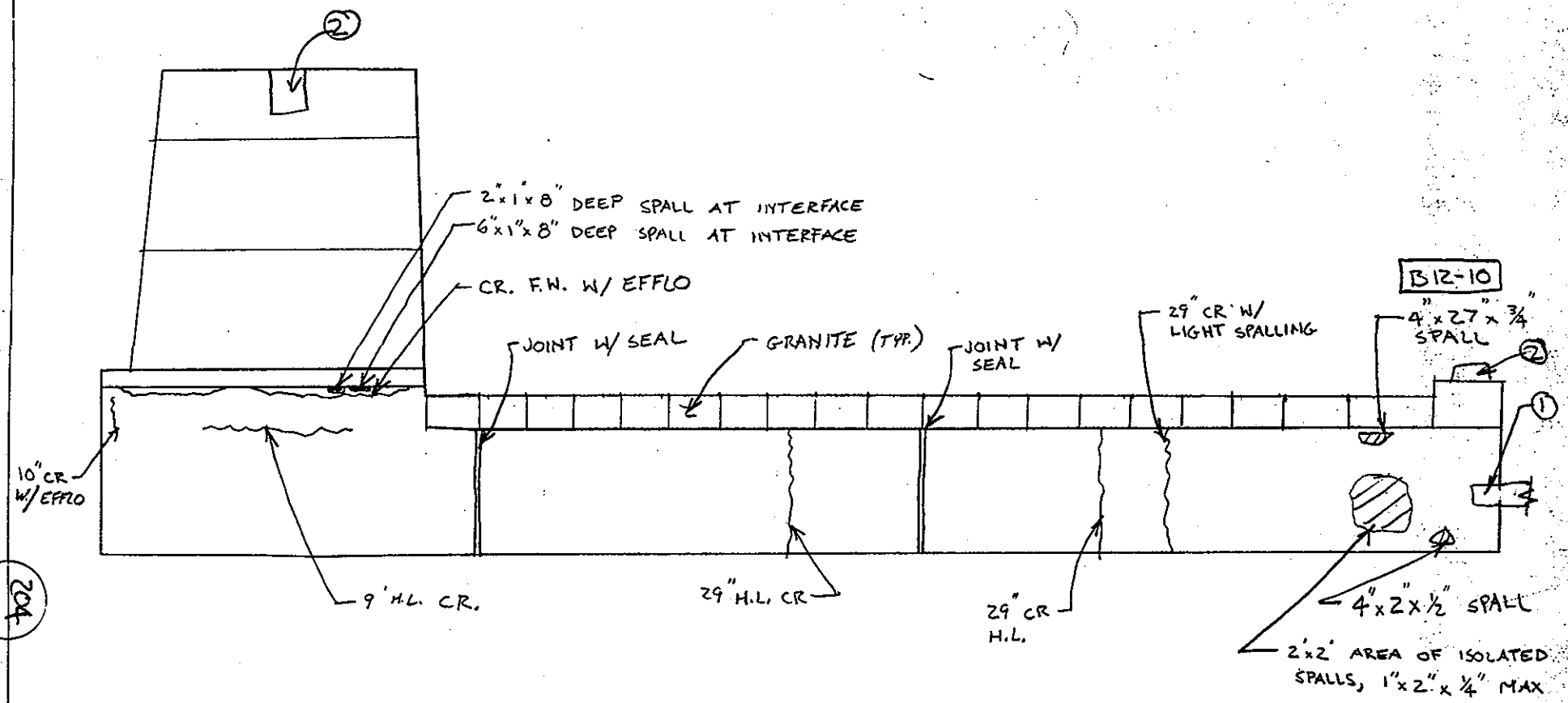
1. 4'x3' AREA, 1/16" MAP CRACKING W/ LEACHING
2. APPROACH GUARDRAIL NOT FASTENED TO PARAPET
3. LIGHTING STANDARD

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/8/94
CREW: PWN, GH	SHEET 16 OF 17



EAST ELEVATION
CONC. PARAPET @
N. ABUTMENT W. WINGWALL

NOTES:

① APPROACH GUARDRAIL NOT FASTENED TO CONCRETE PARAPET B12-9

② LIGHTING STANDARD

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

BOURNE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 9/8/94
CREW: PUN, BH	SHEET 17 OF 17

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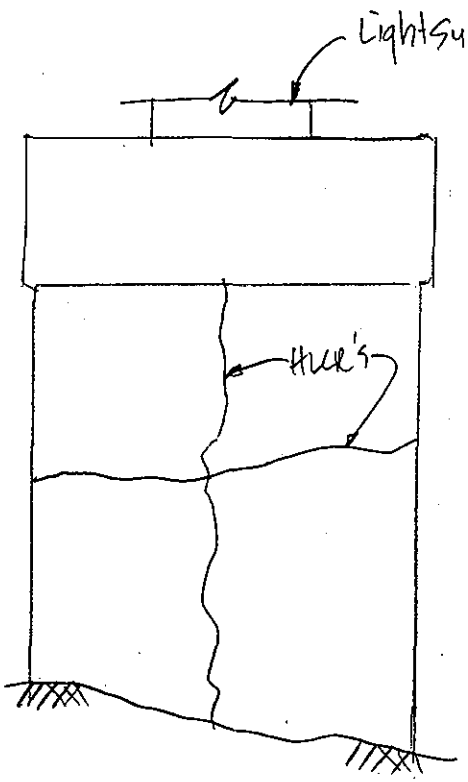
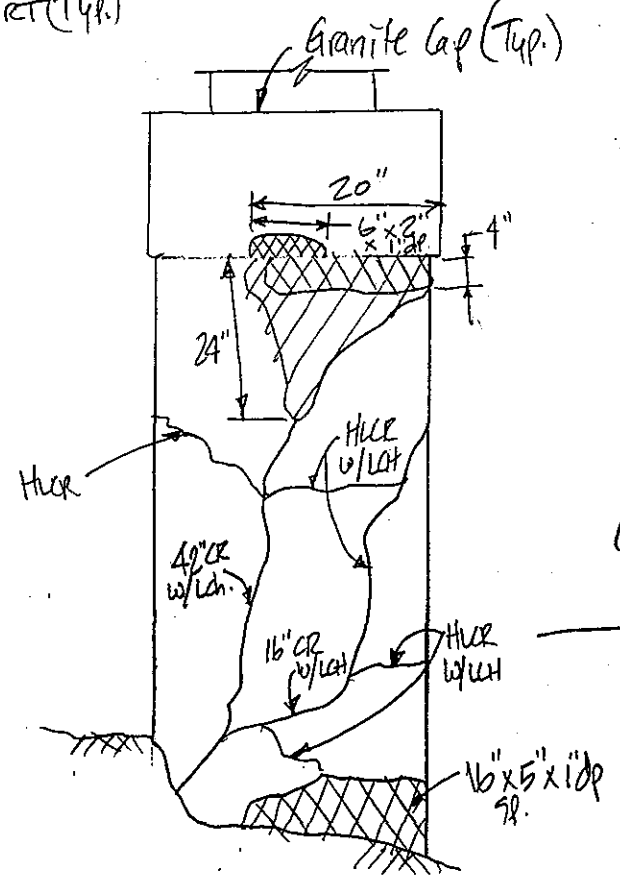
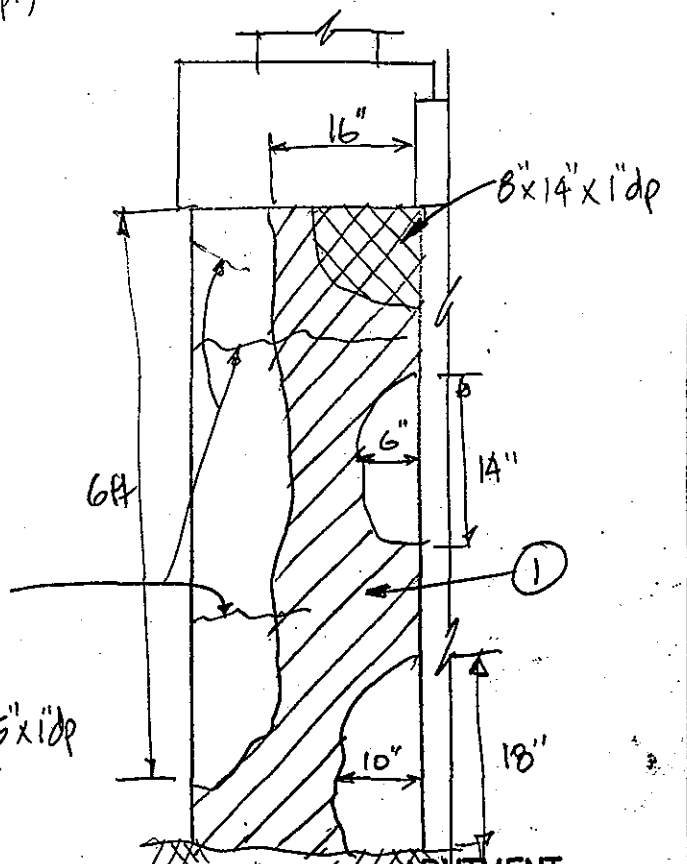


North Face



West Face



South Face

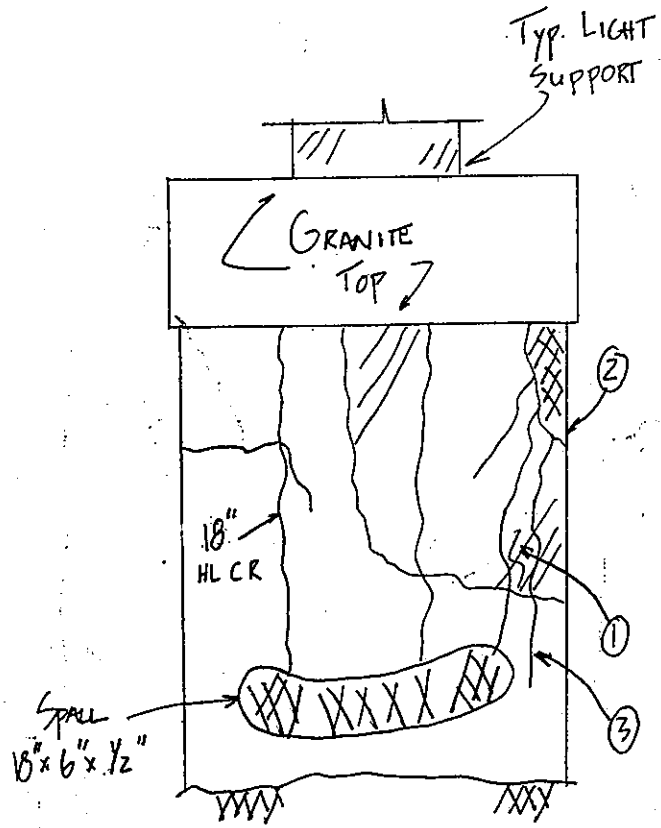
North ABUTMENT ELEVATION

NORTH WEST CORNER OF N.W. ABUT @ LIGHT SUPPORT

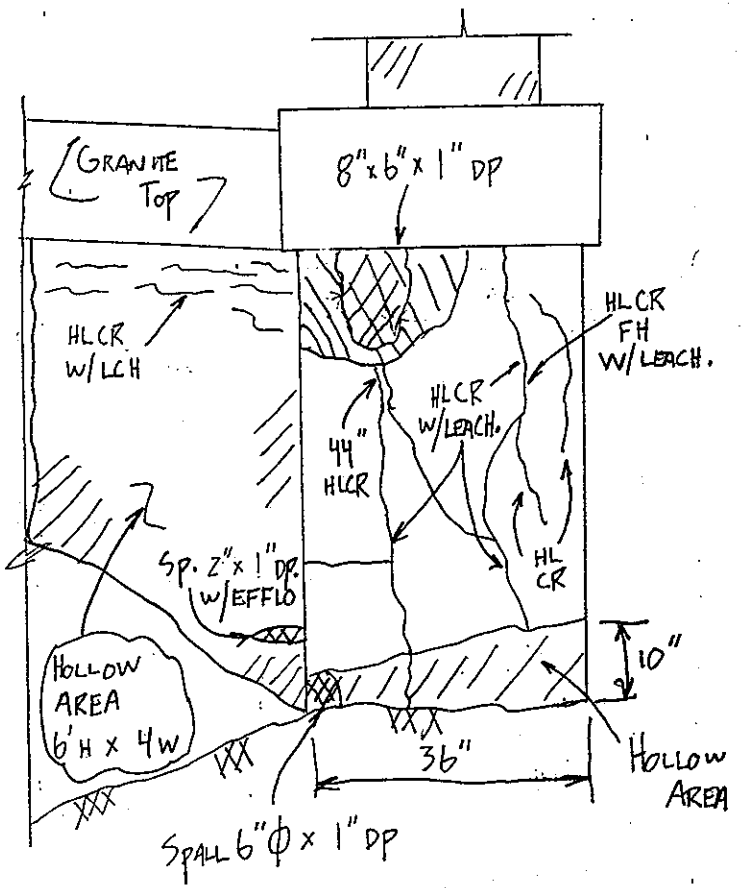
NOTES:

1. Area has leaching all over Hairline area.

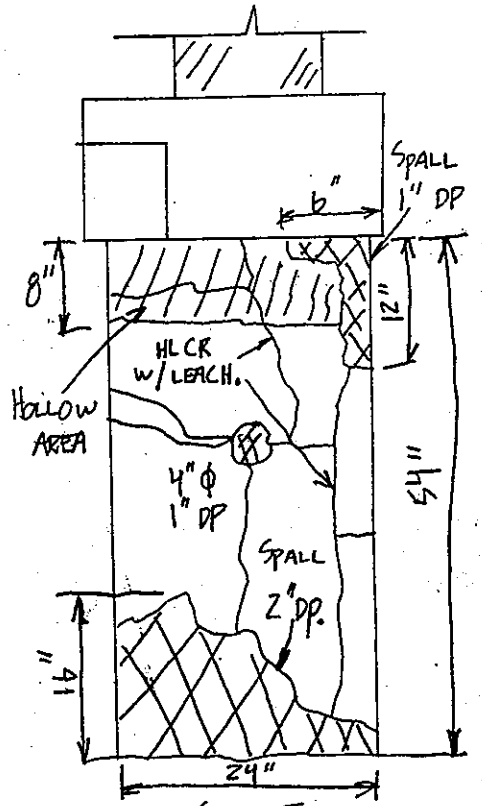
SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 8/26/94
CREW: GABE/WM	SHEET 4 OF 4



North Face



East Face



South Face

N ABUTMENT
E ELEVATION

N.E. Corner of N. Abut @ Lt. Support

NOTES:

1. Hollow Area 2'x2'
2. Spall 10"x 3"x 3/4" DP
3. HL CR's w/ LCH.

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
BOURNE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 9/1/94
CREW: WM, BH, PWN	SHEET 14 OF 17