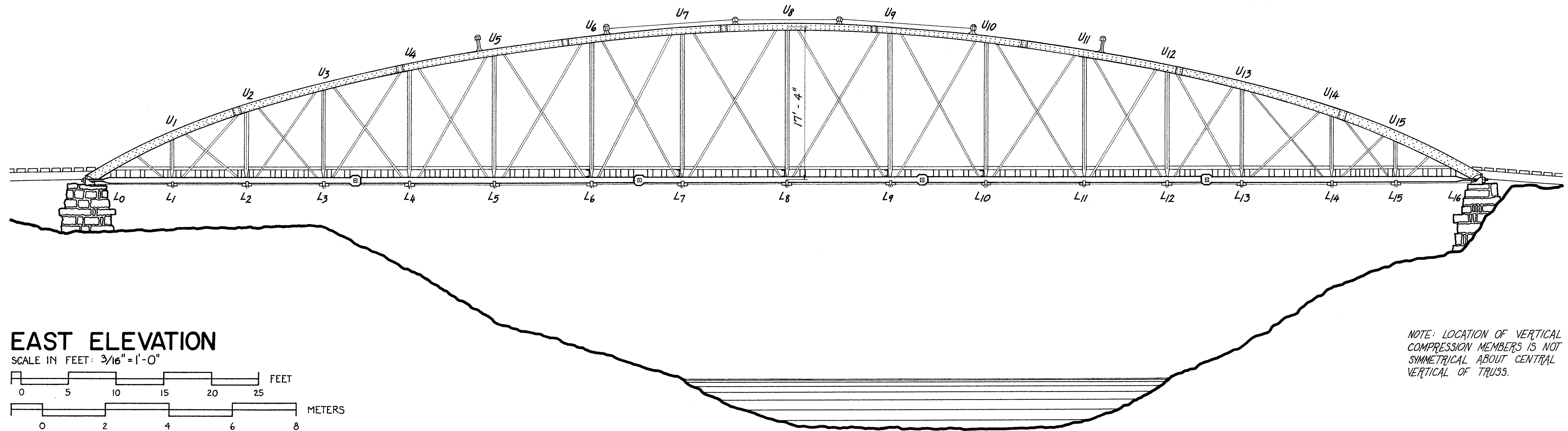


# SPRINGFIELD - DES ARC BRIDGE

## 1871 - 1874

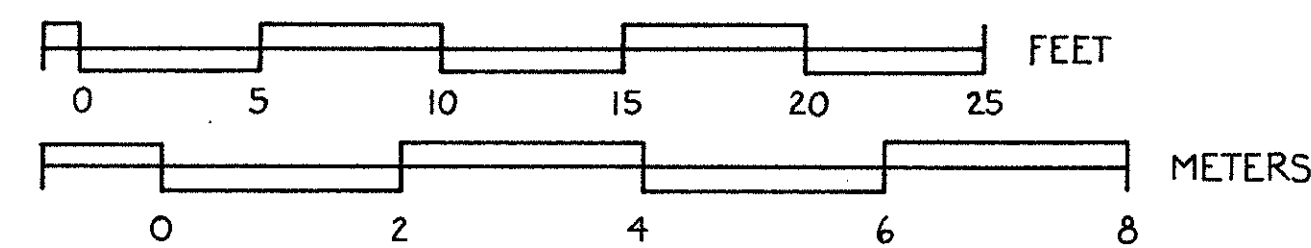
### SPRINGFIELD, ARKANSAS



NOTE: LOCATION OF VERTICAL COMPRESSION MEMBERS IS NOT SYMMETRICAL ABOUT CENTRAL VERTICAL OF TRUSS.

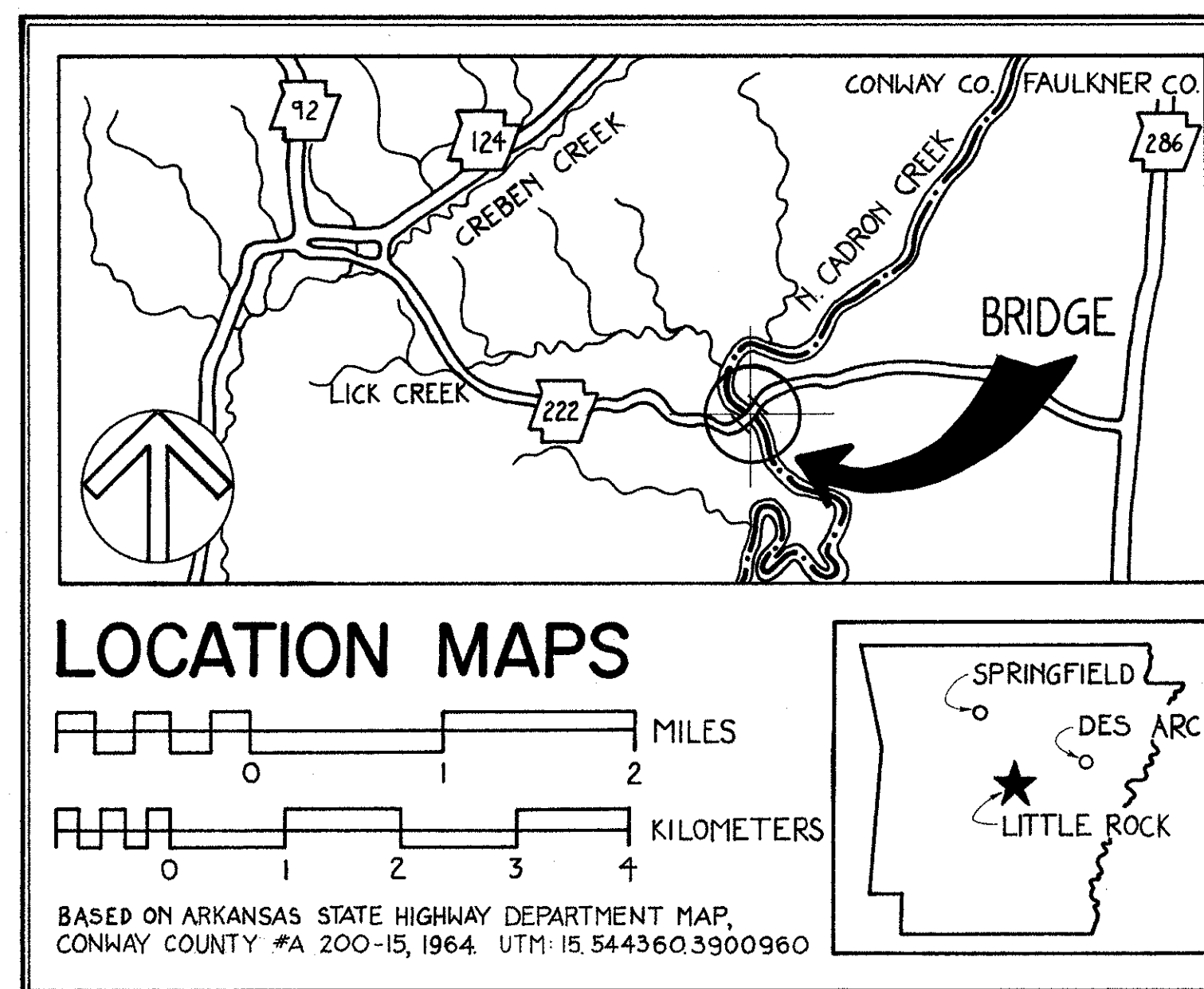
#### EAST ELEVATION

SCALE IN FEET: 3/16" = 1'-0"



THE SPRINGFIELD-DES ARC BRIDGE, SPANNING NORTH CADRON CREEK, IS THE OLDEST REMAINING IRON BOWSTRING ARCH BRIDGE IN THE STATE. THE BRIDGE WAS BUILT ON THE ROAD LINKING SPRINGFIELD, THE CONWAY COUNTY SEAT FROM 1850-1873, WITH DES ARC, AN IMPORTANT STEAMBOAT LANDING ON THE WHITE RIVER. THE BRIDGE, COMPLETED IN 1874, IS AN UNALTERED EXAMPLE OF AN IRON TUBULAR ARCH DESIGN PATENTED BY ZENAS KING IN 1861 AND 1866. KING IS A SIGNIFICANT NINETEENTH-CENTURY BRIDGE BUILDER, CREDITED WITH BEING THE FIRST TO DEVELOP A PRACTICAL SYSTEM FOR MASS-PRODUCING BOWSTRING ARCH BRIDGES. BY 1884, HIS OHIO-BASED BRIDGE COMPANY WAS THE LARGEST HIGHWAY BRIDGEWORKS IN THE UNITED STATES.

THE SPRINGFIELD-DES ARC BRIDGE WAS ONE OF A VERY FEW KNOWN BRIDGES MANUFACTURED BY THE KING IRON BRIDGE MANUFACTORY AND IRON WORKS OF IOLA, KANSAS, A SHORT-LIVED BRANCH OF THE OHIO FIRM. THE SPRINGFIELD-DES ARC BRIDGE IS ONE OF ONLY TWO KNOWN REMAINING NINETEENTH-CENTURY BRIDGES IN ARKANSAS, AND IS AN EXCELLENT EXAMPLE OF ZENAS KING'S CONTRIBUTION TO BRIDGE ENGINEERING IN THE UNITED STATES.

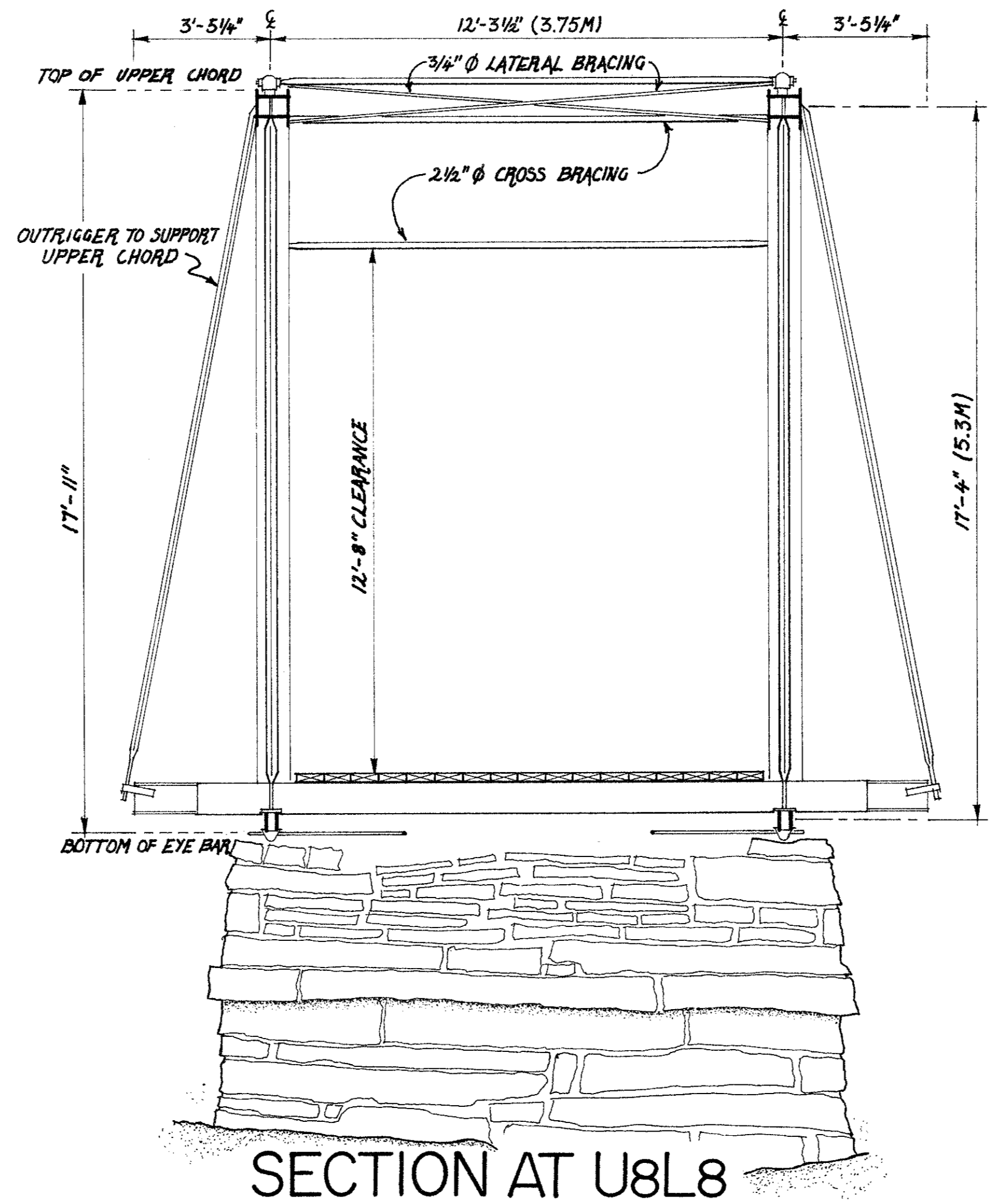
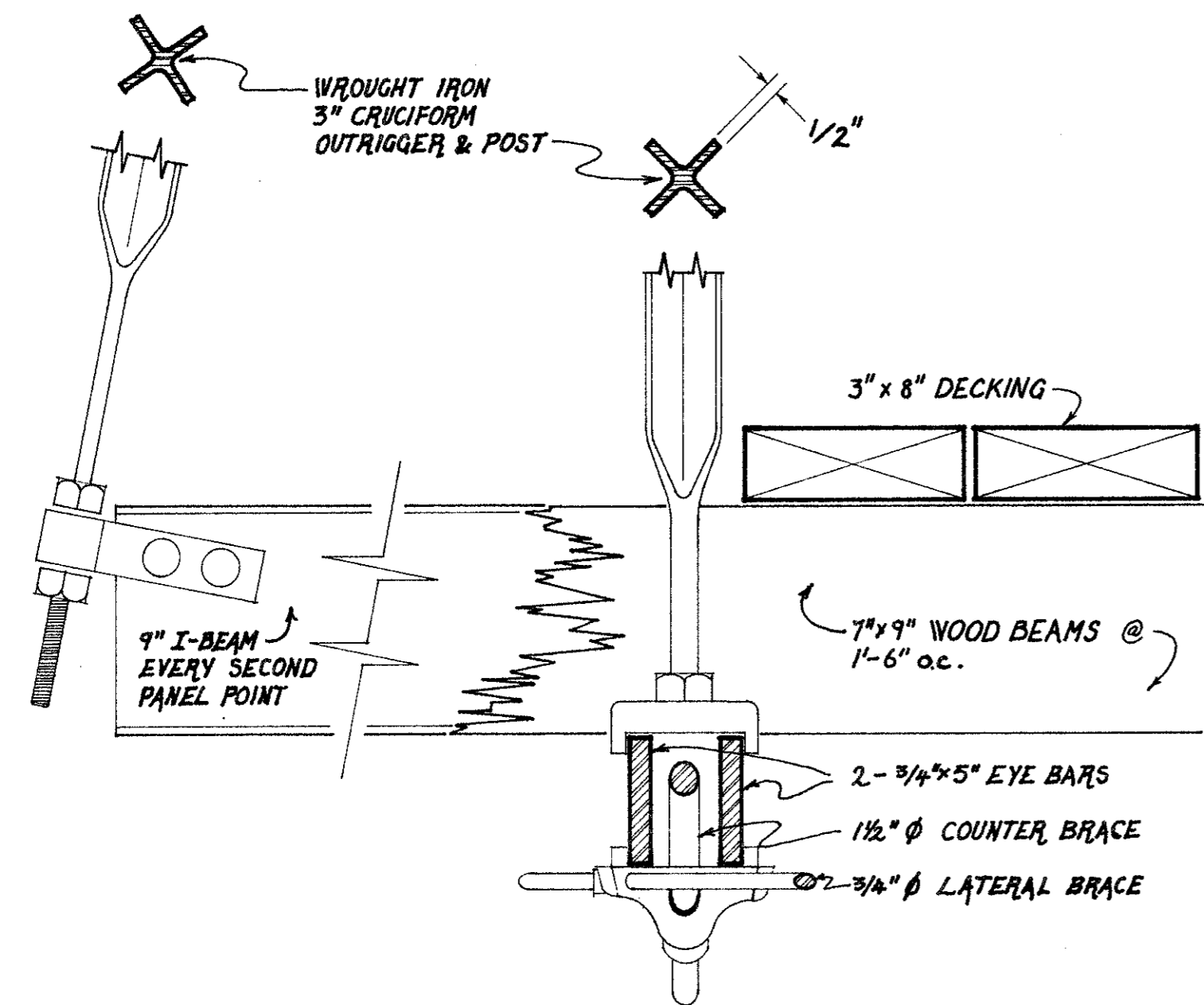
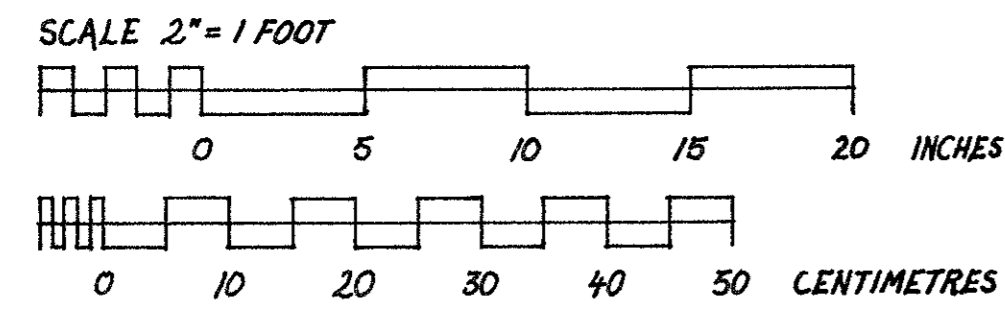


THE SPRINGFIELD-DES ARC BRIDGE WAS DOCUMENTED DURING THE SUMMER OF 1988, AS PART OF THE ARKANSAS HISTORIC BRIDGE RECORDING PROJECT BY THE HISTORIC AMERICAN ENGINEERING RECORD (HAER), A LONG-RANGE PROGRAM OF THE NATIONAL PARK SERVICE TO DOCUMENT HISTORICALLY SIGNIFICANT ENGINEERING AND INDUSTRIAL STRUCTURES IN THE UNITED STATES. THE ARKANSAS HISTORIC BRIDGE RECORDING PROJECT WAS CO-SPONSORED BY THE ARKANSAS HISTORIC PRESERVATION PROGRAM AND THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT. THE FIELD WORK, MEASURED DRAWINGS, HISTORICAL REPORTS, AND PHOTOGRAPHS WERE PREPARED UNDER THE DIRECTION OF ROBERT J. KAPSCH, CHIEF, HISTORIC AMERICAN BUILDINGS SURVEY / HISTORIC AMERICAN ENG-

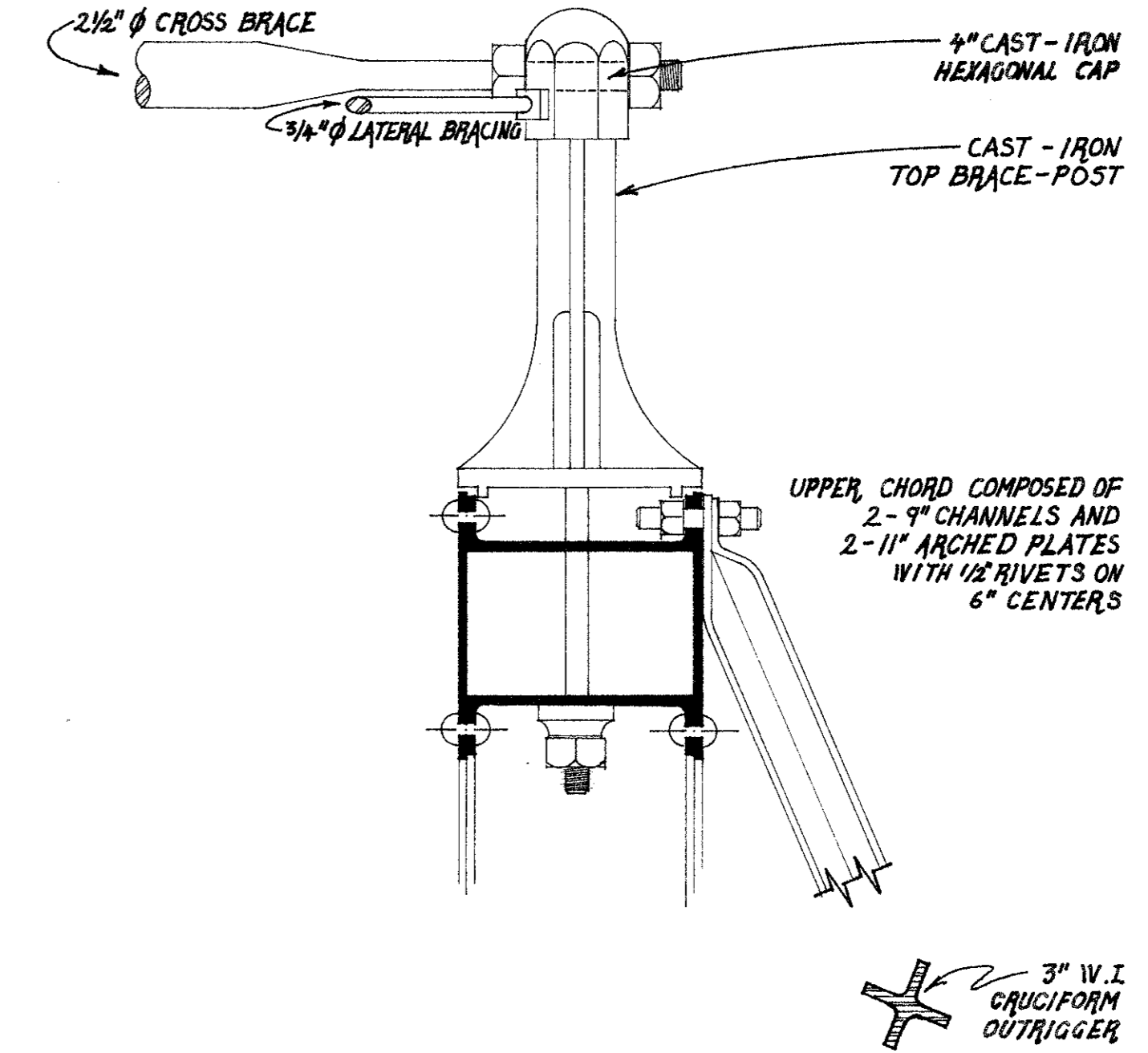
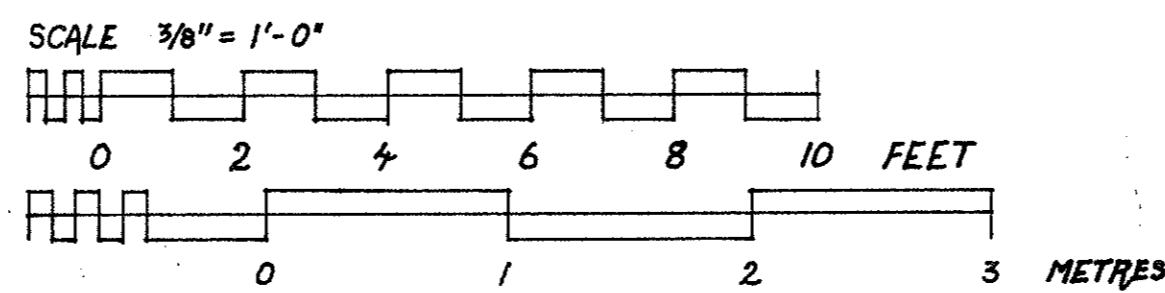
INEERING RECORD, AND ERIC N. DeLONY, CHIEF OF HAER. MICHAEL SWANDA, SURVEY COORDINATOR, ARKANSAS HISTORIC PRESERVATION PROGRAM AND BURNEY B. McCLURKAN, ARCHAEOLOGIST-HISTORIAN, ENVIRONMENTAL DIVISION, ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT SERVED AS PROJECT ADVISORS. THE RECORDING TEAM CONSISTED OF: LOLA BENNETT (UNIVERSITY OF VERMONT), PROJECT HISTORIAN; KATHRYN STEEN (LUTHER COLLEGE), AND SEAN O'REILLY (THE IRISH ARCHITECTURAL ARCHIVE, DUBLIN, IRELAND), HISTORIANS; ROBERT ARZOLA (TEXAS TECH UNIVERSITY) AND FINBAR GARVEY (UNIVERSITY COLLEGE DUBLIN, IRELAND), ARCHITECTURAL DELINEATORS; CORINNE SMITH (CORNELL UNIVERSITY), ENGINEER; AND LOUISE TAFT (LOUISIANA TECH UNIVERSITY), PHOTOGRAPHER.

HISTORIC AMERICAN ENGINEERING RECORD  
 SHEET 1 OF 3  
 ARKANSAS  
 CONWAY / FAULKNER COUNTY LINE  
 SPRINGFIELD - DES ARC BRIDGE 1871 - 1874  
 COUNTY ROAD 222, SPANNING THE NORTH BRANCH OF CADRON CREEK  
 CONWAY / FAULKNER COUNTY LINE  
 AR-32  
 DELINEATED BY: ROBERT R. ARZOLA, 1988  
 ARKANSAS HISTORIC BRIDGE RECORDING PROJECT  
 HISTORIC AMERICAN ENGINEERING RECORD  
 UNITED STATES DEPARTMENT OF THE INTERIOR  
 IF REPRODUCED, PLEASE CREDIT: HISTORIC AMERICAN ENGINEERING RECORD, NATIONAL PARK SERVICE, NAME OF DELINEATOR, DATE OF THE DRAWING

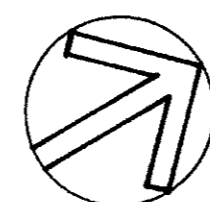
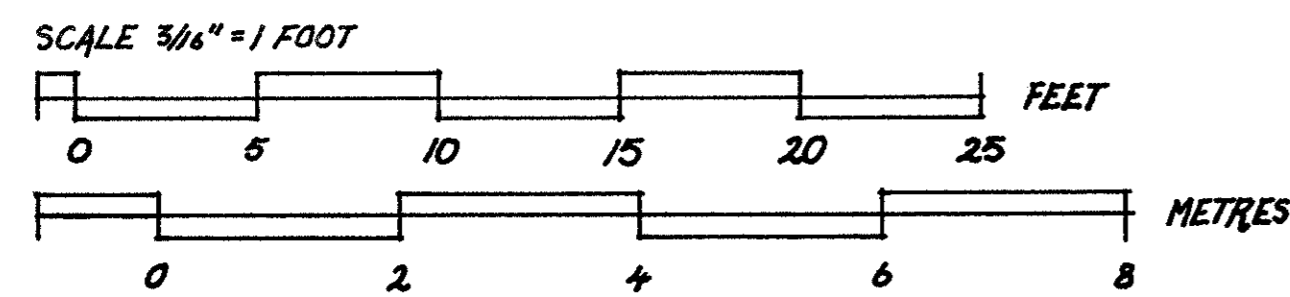
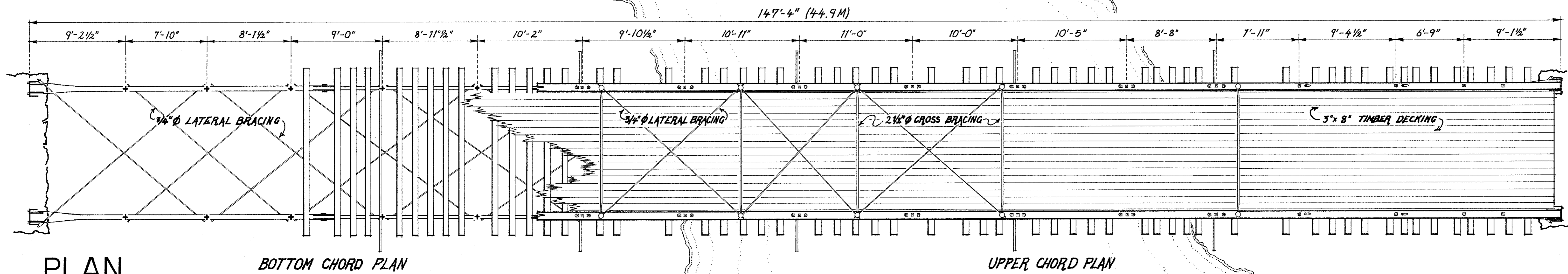
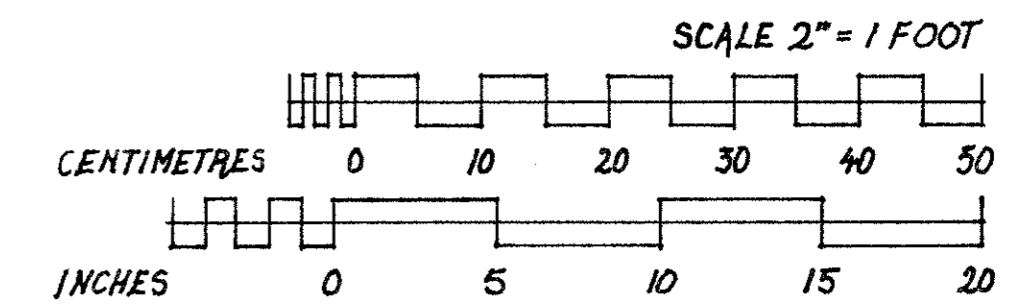
### DETAIL OF LOWER CHORD



### SECTION AT U8L8

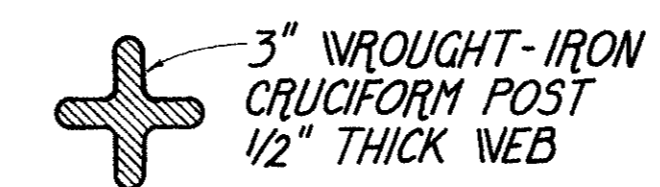
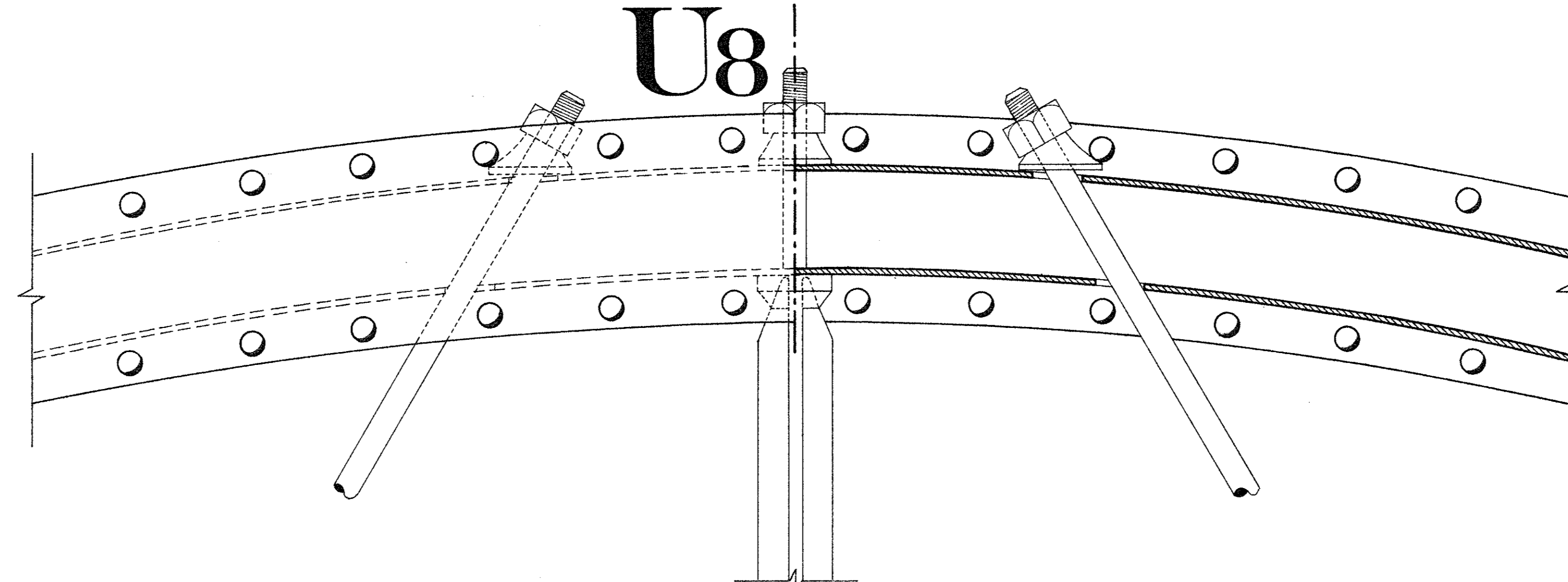


### DETAIL OF UPPER CHORD

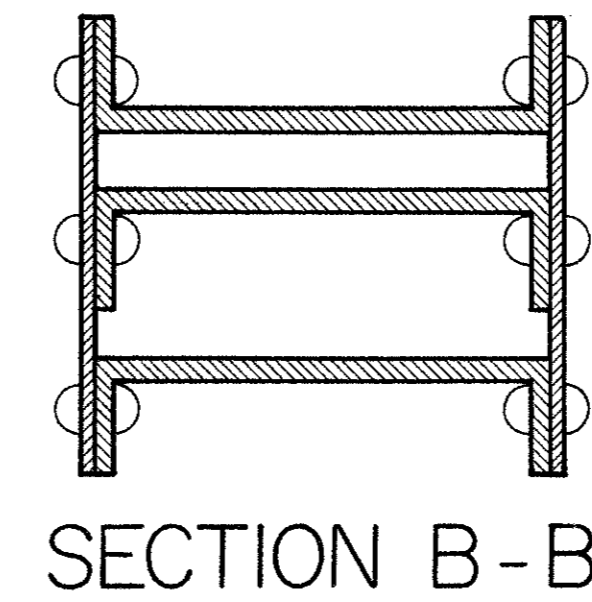
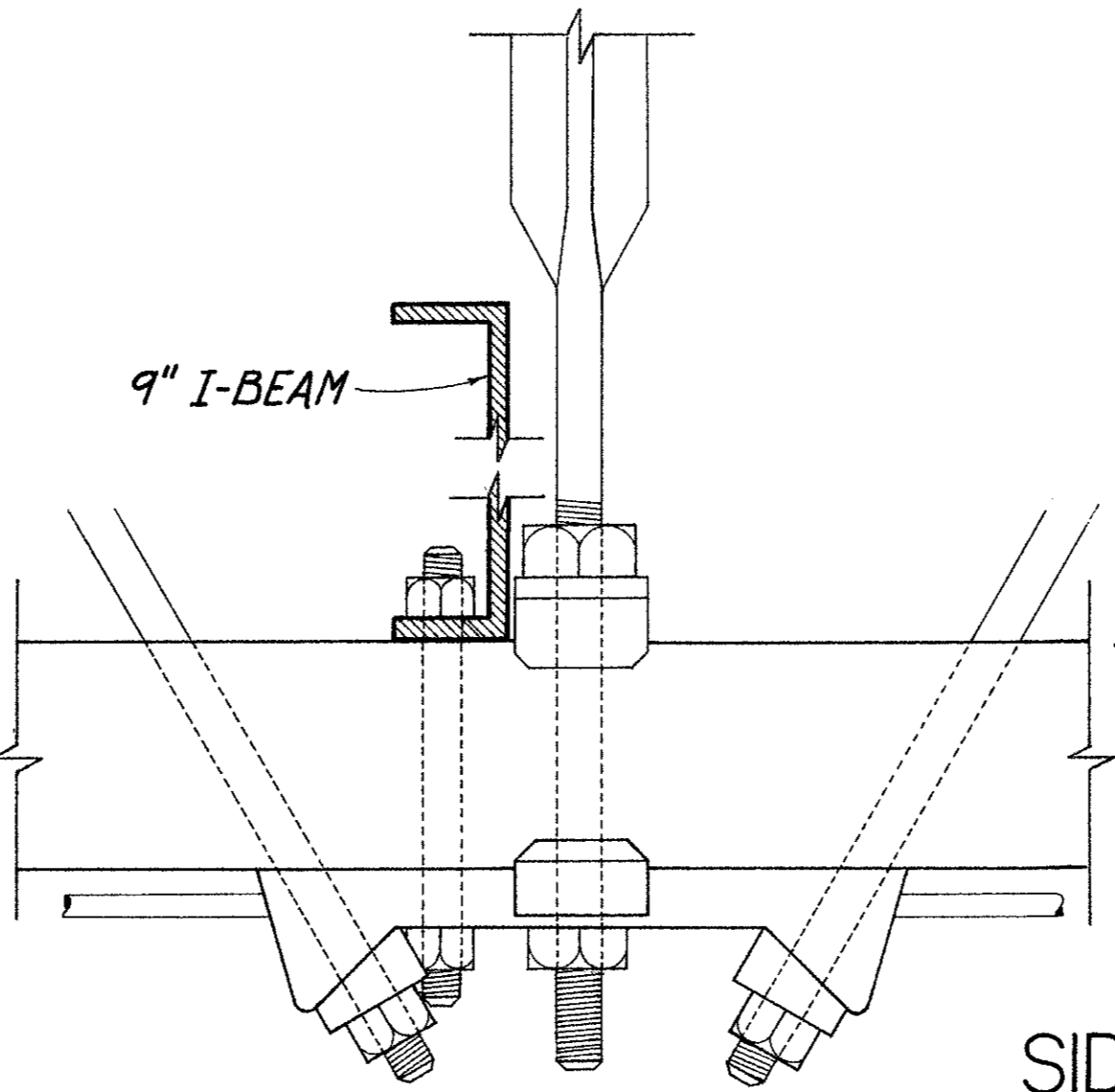


TRIM LINE

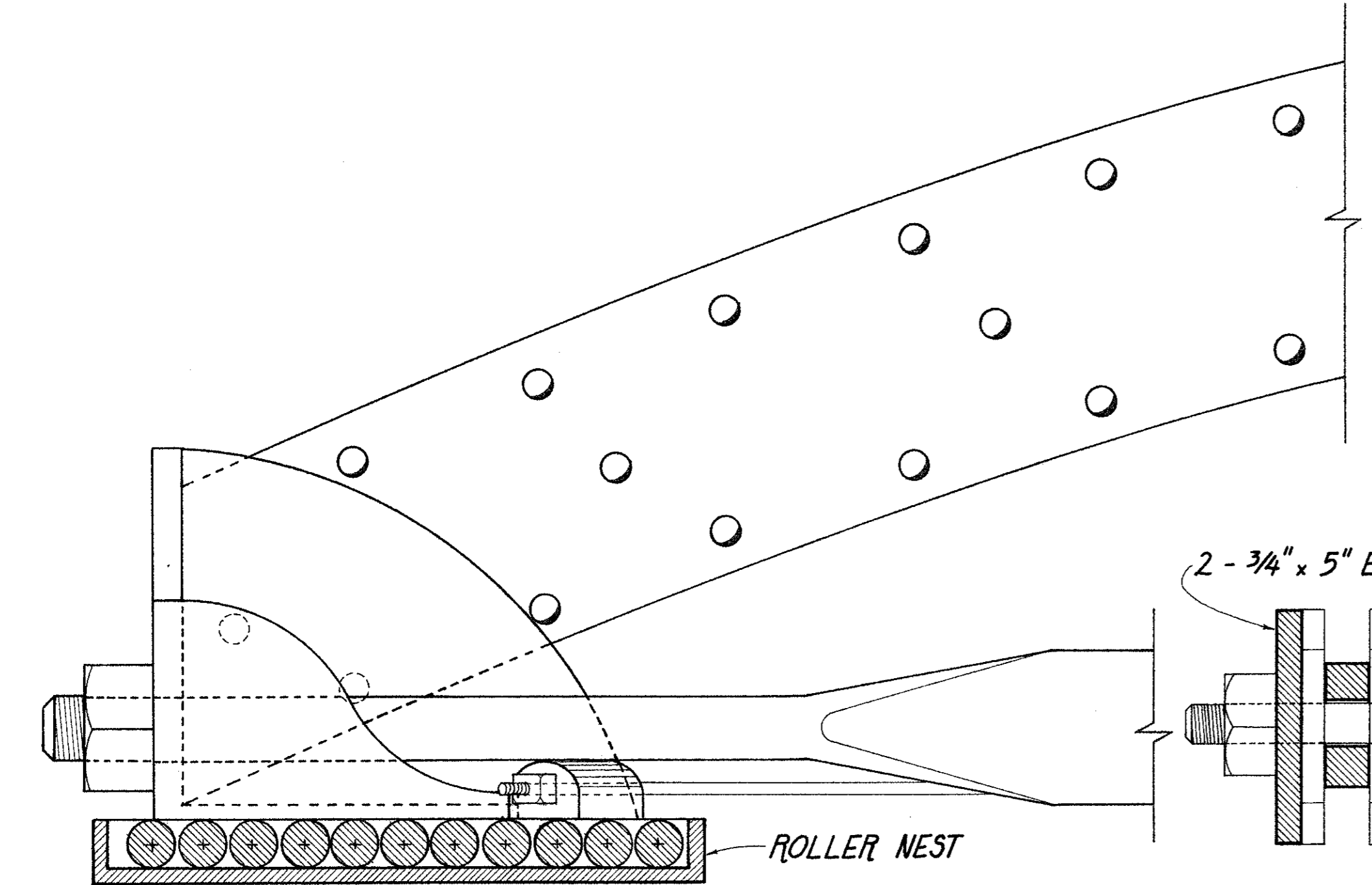
U8



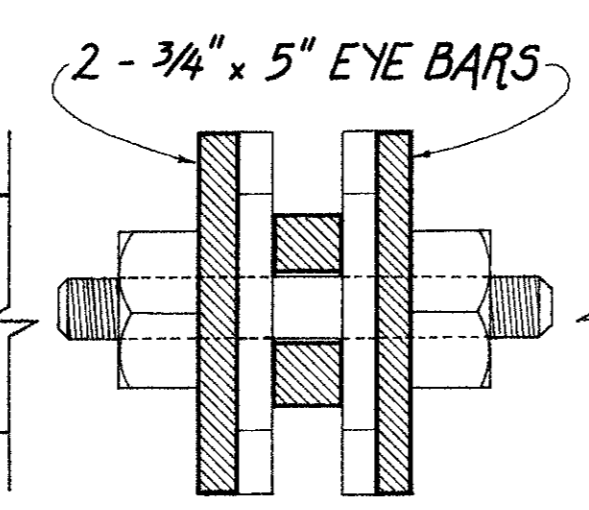
9" I-BEAM



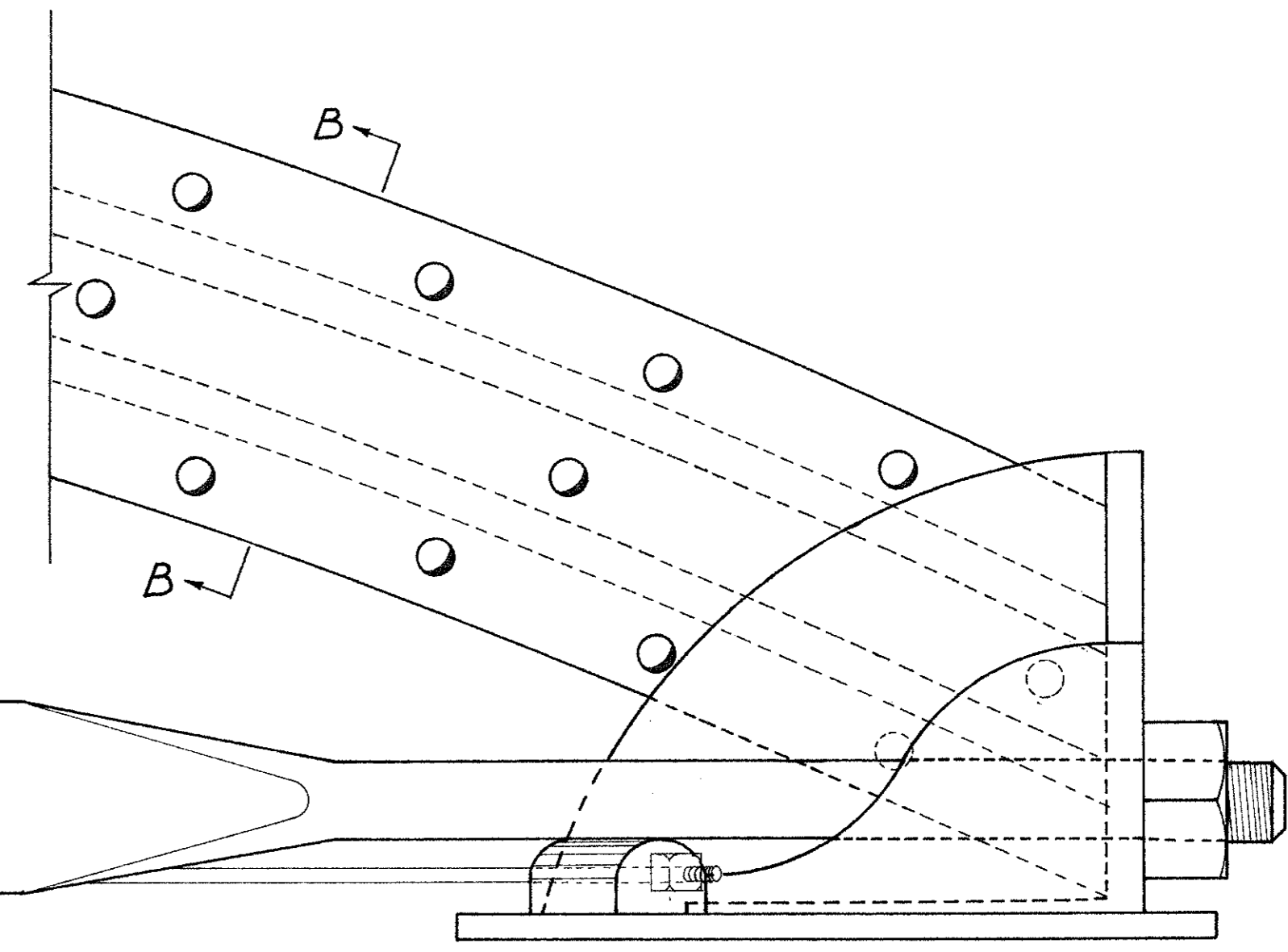
SIDE VIEW OF JOINT BETWEEN L12 AND L13



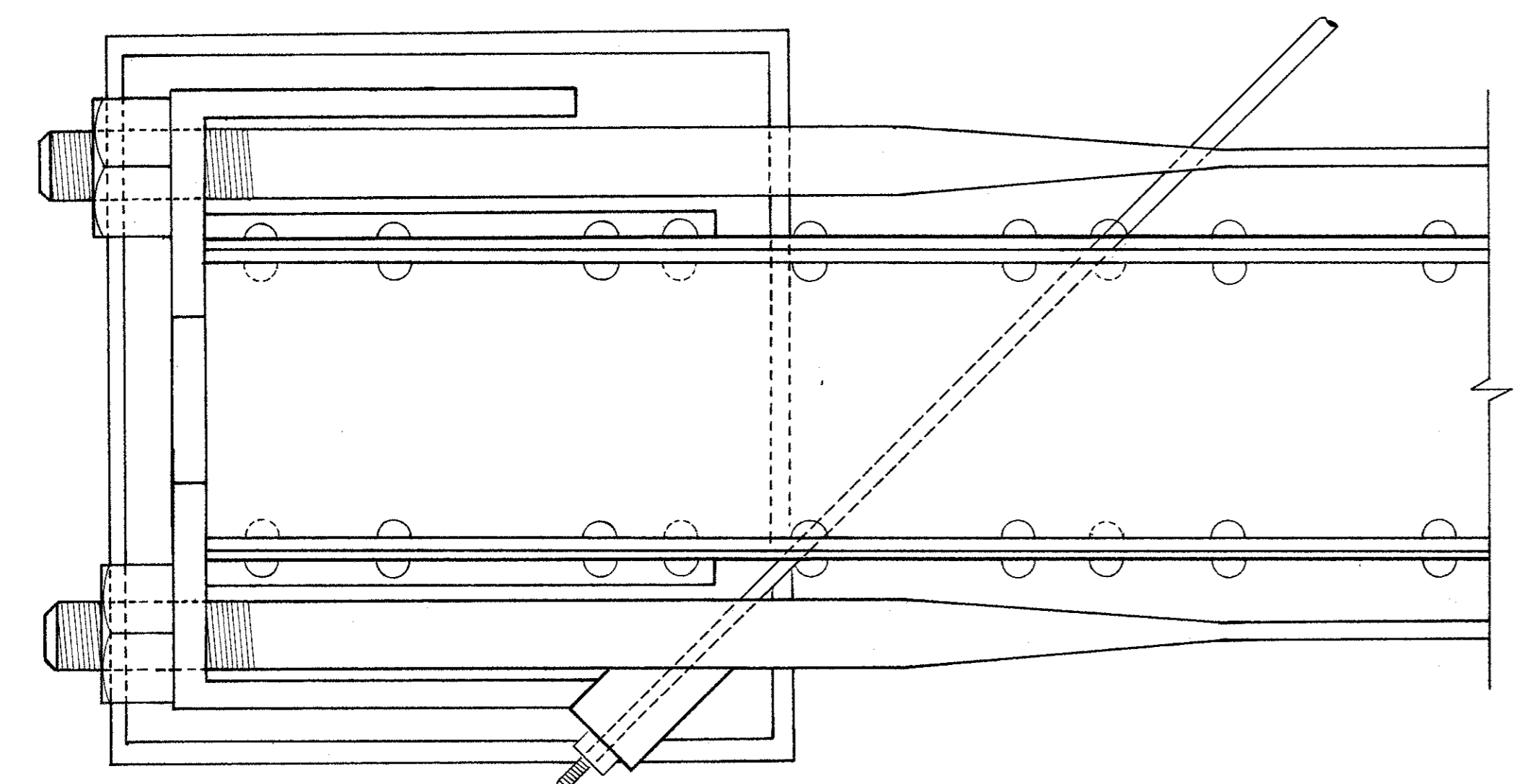
END BEARING CONDITION AT MOVABLE END, L0



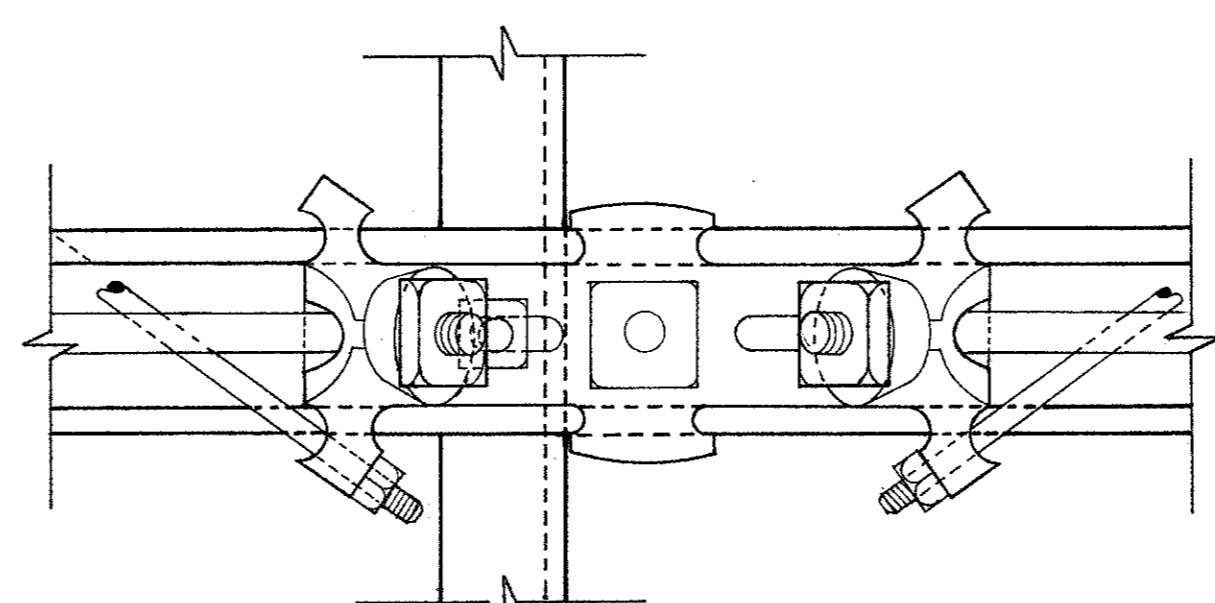
SECTION A-A



END BEARING CONDITION AT FIXED END, L16

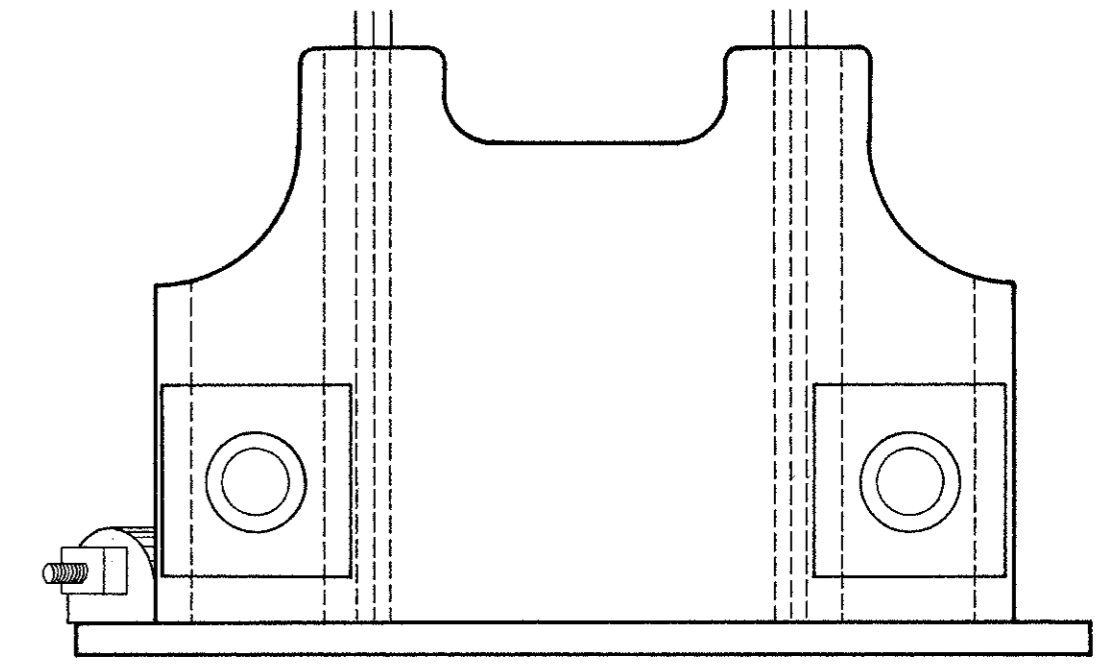


TOP VIEW OF BEARING CONDITION AT MOVABLE END, L0



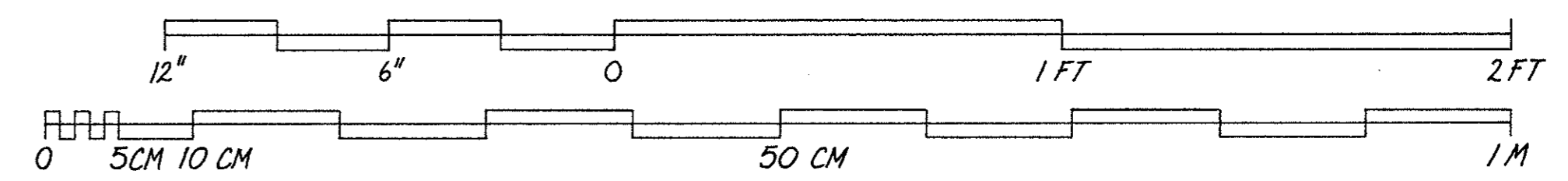
L8

BOTTOM VIEW



FRONT VIEW OF BEARING CONDITION AT FIXED END, L16

CONNECTION DETAILS



SCALE: 3 INCHES = 1 FOOT

DELINATED BY: ROBERT R. ARZOLA, 1988; ISABEL C. YANG, 1988  
ARKANSAS HISTORIC BRIDGE RECORDING PROJECT  
HISTORIC AMERICAN ENGINEERING RECORD  
UNITED STATES DEPARTMENT OF THE INTERIOR

SPRINGFIELD - DES ARC BRIDGE - 1871 - 1874  
COUNTY ROAD 222, SPANNING THE NORTH BRANCH OF CADRON CREEK  
CONWAY / FAULKNER COUNTY LINE

ARKANSAS

SHEET 3 OF 3

HISTORIC AMERICAN ENGINEERING RECORD AR-32

IF REPRODUCED, PLEASE CREDIT: HISTORIC AMERICAN ENGINEERING RECORD, NATIONAL PARK SERVICE, NAME OF DELINEATOR, DATE OF THE DRAWING

TRIM LINE