

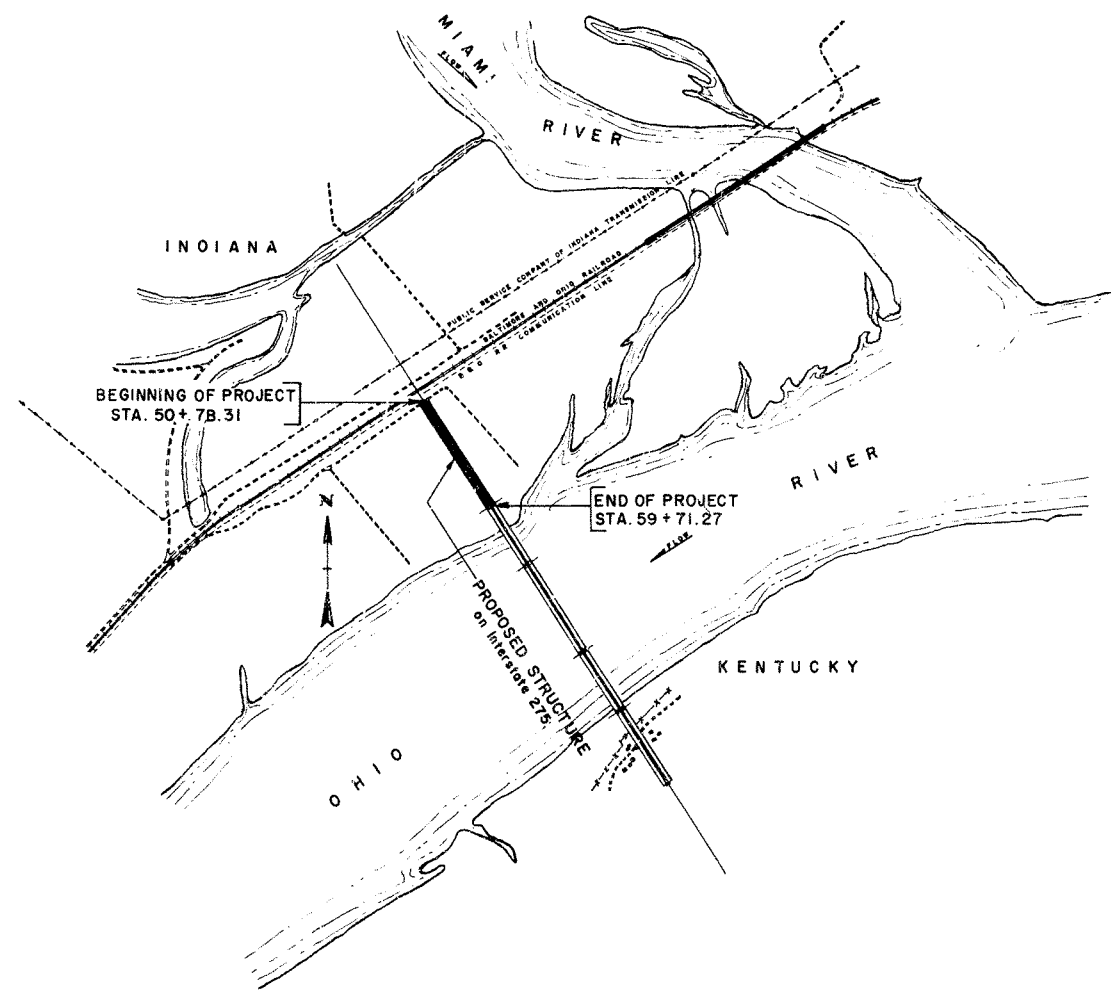
STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KY & IND			

COMMONWEALTH OF KENTUCKY
STATE OF INDIANA
STATE HIGHWAY DEPARTMENTS

PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY
BOONE COUNTY
PROJECT I-275-9 (21) 0

NORTH APPROACH
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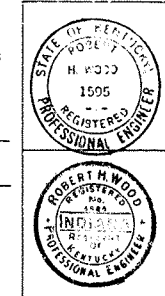
LAYOUT MAP

SCALE IN FEET
0 500 1000
GROSS LENGTH 892.96 LIN. FT. 0.169 MILES
NET LENGTH 892.96 LIN. FT. 0.169 MILES

RECOMMENDED FOR APPROVAL
HAZELET AND ERDAL
CONSULTING ENGINEERS
FILE NO. 872-C

BY *Robert H. Wood*

DATE *June 8, 1968*



APPROVED BY KENTUCKY DEPARTMENT OF HIGHWAYS

BY *H. O. Winn* DATE *6/6/68*
STATE HIGHWAY ENGINEER

BY *W. A. Thigpen* DATE *6/12/68*
COMMISSIONER HIGHWAYS

APPROVED BY INDIANA STATE HIGHWAY COMMISSION

BY *J. T. Clenchey* DATE *6-20-68*
CHIEF ENGINEER

BY *Robert S. Whitfield* DATE *6-20-68*
CHAIRMAN

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED _____ 19 _____
DIVISION ENGINEER

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 (21) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
OEARBORN COUNTY, INDIANA

STATION 55+23.81
HAZELET & ERDAL CONSULTING ENGINEERS
BRIDGE NUMBER 17210
INDEX

Sheet 40 Added 11/24/70 RCB

Sheet 1 of 39



ESTIMATED QUANTITIES

DESCRIPTION	SHEET NUMBER		CONCRETE CLASS "A" (Cu Yds)	CONCRETE CLASS "A A" (Cu Yds)	STEEL REIN-FORCEMENT (Lbs)	STRUCTURAL STEEL (Lump Sum)	HIGH-STRENGTH HANDRAIL (Lin. Ft)	PROTECT. COAT. Linseed Oil (Sq. Yds.)	6" DRAIN PIPE (Lin Ft)	STRUCTURE EXCAVATION COMMON (Cu Yds)	DRY CYCLOPEAN STONE RIPRAP (Sq. Yds)	14 BP73 STEEL PILES		PROTECT. COAT. Styrene Butadiene (Gal)
	DETAIL	QUANTITY										FURNISHING (Lin Ft)	DRIVING (Lin Ft)	
PIER 1N	9,10,11	11	293.6		25,574					180	170	1913	1913	1
PIER 2N	9,10,12	12	345.2		41,000					225	170	2127	2127	1
PIER 3N	9,10,12	12	347.0		41,461					245	170	2116	2116	1
PIER 4N	9,10,12	12	341.8		40,819					235	170	2169	2169	1
PIER 5N	9,10,11	11	314.8		27,685					170	170	2030	2030	1
PIER 6N	9,10,13	13	370.6		46,213					255	170	2166	2166	1
PIER 7N	9,10,13	13	377.9		47,096					245	170	2177	2177	1
PIER 8N	9,10,13	13	382.2		47,556					260	170	2172	2172	1
STRUCTURAL STEEL	15 thru 22	—				Lump Sum								
SUPERSTRUCTURE	23 thru 29	29		1,754.0	427,510		1,784	5,912						79
DRAINAGE	28,29	29							186					
TOTALS			2,773.1	1,754.0	744,914	Lump Sum	1,784	5,912	186	1,815	1,360	16,870	16,870	87

NOTES:

For General Notes see Sheet 3.
 © STRUCTURAL STEEL Approximately 1,781,900 Lbs. included in lump sum bid for Structural Steel.

Approximate Estimate of Structural Steel does not include overrun or weld material.

REFERENCES

(Standard Drawings listed below are the current editions and are to be used with these plans.)

- H17 E High-Strength Aluminum Handrail.
- P214 A 14" Structural Steel Bearing Pile at 73 Lbs.

SPECIAL PROVISIONS

- No. 8-A Linseed Oil Protective Coating
- No. 30-B Membrane Curing of Concrete Structures
- No. 35-B Class "AA" Concrete
- No. 36-A Set-Retarding Admixtures for Concrete
- No. 77-B Styrene-Butadiene Protective Coating
- No. 79 Concrete Bridge Deck Finishing Machine
- No. 80-A Blast Cleaning and Painting Structural Steel

SPECIAL NOTES

for Welding Structural Steel

DESIGNED BY: HMLT
 CHECKED BY: YFEB
 TRACED BY: HMLT
 DATE: 1/25/57

SHEET 2

KENTUCKY DEPARTMENT OF HIGHWAYS INDIANA STATE HIGHWAY COMMISSION PROJECT 1 275-9 () 0 BRIDGE OVER OHIO RIVER ON 1 275 BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA			
STATION 55 + 23.81			
HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX

**NORTH APPROACH
ESTIMATED QUANTITIES**

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

SPECIFICATIONS: Kentucky Department of Highways, Standard Specifications for Road and Bridge Construction, current edition, with Revisions, Special Notes, and Special Provisions shall apply to this project.

DESIGN LOAD: Bridge designed for NS20-44 loading as specified in 1961 AASHTO Specifications, including interim specifications for 1961, 1962, 1963 and 1964 and the proposed Section 8 for Structural Steel Design dated September 1, 1965, or alternate loading of two 24 kip axles spaced 4 feet apart, whichever produces the greater stress. Dead load includes 20 pounds per square foot of roadway surface allowance for future wearing surface.

DESIGN STRESSES: For reinforced concrete:

Class 'AA' Concrete:		Class 'A' Concrete:	
$f_s = 20,000$ psi.	$u = 200$ psi. for embedment	$f_s = 20,000$ psi.	$u = 200$ psi. for embedment
$f'_c = 4,000$ psi.	$u = 300$ psi. for Σ	$f'_c = 3,000$ psi.	$u = 300$ psi. for Σ
$f_c = 1,600$ psi.	$n = 8$	$f_c = 1,200$ psi.	$n = 10$
$f_c = 1,200$ psi.	for slab design		

For Structural Steel: $f_s = 20,000$ psi. for A 36 steel.

WIND LOADS: This structure is designed using wind loads based on a wind velocity of 100 miles per hour.

FOUNDATION PILE LOADS: Piles are designed for a maximum load of 95 tons per pile. This maximum is for Group I loads with increases allowed for other loading groups in accordance with AASHTO Article 1.4.1.

TYPE OF PILE: The Contractor shall use 14" Structural Steel Bearing Pile at 73 pounds. See Standard Drawing.

PILING: Piling shall be driven to solid rock or to refusal. Test piles shall be driven where designated on the plans to determine the length required. All test piles shall be accurately located so that they may be used in the finished structure.

COORDINATION WITH CONTRACTORS ON ADJACENT PROJECTS: In addition to the requirements of Article 1.5.6 of the Standard Specifications, this Contractor shall coordinate his work with that of Contractors on adjacent sections of this Project.

CONTROL OF THE WORK: In addition to the requirements of Article 1.5.9 of the Standard Specifications, subsequent to the Engineer's staking the reference lines, centerlines or base lines for the various roadway elements of this Project, the Contractor shall stake out and verify the locations of each substructure unit for agreement with the positions shown on the Plans. Prior to fabrication of the structural steel, the Contractor shall again verify the locations of each substructure unit and the dimensions between centerlines of piers and between centerlines of columns to insure correct fit of the steelwork. In the event a discrepancy is found in any dimension, the Engineer shall be notified at once and no further work will be permitted until the discrepancy is corrected.

PIER PROTECTION: Pier protection at Piers 1A through 8N inclusive shall be Dry Cyclopean Stone Riprap in accordance with Article 501.3.5 of the Standard Specifications.

CONCRETE: Class 'AA' Concrete is to be used throughout for superstructure. Class 'A' Concrete shall be used in all parts of the substructure.

CIRCULAR SECTION REINFORCED CONCRETE COLUMNS: This note modifies the requirements of Article 403.3.8 and 404.3.1 for pier columns of this project. The concrete shall be placed, finished and cured as specified in Article 404.3.1 except as required by the following:

- All forms for the circular section columns shall be made of metal or shall be plastic or plastic-lined so as to give the surface a true, smooth cylindrical shape free from fins, joints and irregularities.
- The concrete shall be placed in, and carefully vibrated against the forms to assure smooth surfaces without voids, honeycomb, air pockets or irregularities in the surface.
- A rubbed surface finish will not be required for the columns as specified in Article 403.3.8-C. Instead, the surface shall be finished as specified in Article 403.3.8-B.

No extra payment will be made to the Contractor for the use of metal, plastic or plastic-lined forms, nor for placing or finishing the concrete. The cost of furnishing the forms, placing the concrete and finishing as specified shall be included in the unit price bid for Class 'A' Concrete.

CONCRETE FINISH: Exposed surfaces of concrete on plinths, curbs and median shall be given a rubbed surface finish in accordance with Article 403.3.8-C of the Standard Specifications. Should it be necessary to grind the concrete in order to secure a straight line, and the grinding exposes the coarse aggregate in any section, then that section will not be acceptable and shall be removed and replaced. When forms are not held to true lines and grades within the limits as set out in PERMISSIBLE VARIATIONS, or if the plinth does not meet the minimum requirements of workmanship, the sections involved shall be removed and replaced.

DECK DRAINS: The cost of this item is to be included in the 'Lump Sum' bid price for Structural Steel.

CONSTRUCTION IDENTIFICATION: The names of the prime contractor and the subcontractor shall be imprinted in the concrete with one inch letters at a location designated by the Engineer. The contractor shall furnish all plans, equipment and labor necessary to do the work for which no direct payment will be made.

SLAB FORMS: Stay-in-place forms will not be permitted for the concrete bridge floors.

BEVELED EDGES: All exposed edges shall be beveled 3/8" unless otherwise shown.

PERMISSIBLE VARIATIONS: The lines of the finished concrete, except bridge floors, shall not vary more than 1/4 inch in ten feet as measured from a straight edge, or vary from plan lines more than 0.1 percent of the distance between the extremities of the unit considered.

Any variations in excess of those permitted above will be, at the discretion of the Engineer, cause either for rejection and removal of the work as set out in Article 1.5.12 of the Standard Specifications, or for a deduction from the monies due or which may become due the Contractor in an amount calculated by multiplying the volume of concrete in the portion of the structure in which such variation occurs by the unit bid price for concrete.

REINFORCEMENT: Dimensions shown from face of concrete to bars are to center of bars unless noted as clear distance. Spacing of bars is from center to center of bars.

SPIRAL TIES - PIER COLUMNS: Splices for spiral ties where desired by the Contractor shall be made with a minimum of one and one-half turns of spiral. No additional payment will be made for these splices, but the cost will be considered incidental to the cost of the developed length of spiral shown on the Plans. Spiral ties shall meet the requirements of Article 641.5.0 of the Standard Specifications.

SET RETARDING ADMIXTURE FOR CONCRETE: An approved admixture shall be added to the concrete for the bridge floor slabs to delay the initial set of the concrete so as to permit the placement and finishing of concrete in all spans of a continuous pour in a single continuous operation. The admixture and its use shall conform to the Special Provision for Set-Retarding Admixture. The amount of delay shall be dependent on the quantity of admixture and the quantity used shall be carefully determined on the basis of temperature relative humidity, wind conditions and required placing time. The retarding action shall delay the initial set in each span until after the next adjacent span in the same continuous unit has been placed. The Contractor shall secure the Engineer's approval of the quantities of admixture to be used for each placement.

CONCRETE PLACEMENT: After a given pour has been completed, concrete in an adjacent pour shall not be started until the previously placed concrete has cured for the time required for 'Slab and Girder Spans, Over 20 Ft. Span' as specified in Table of Article 403.3.5-F of the Standard Specifications.

STRUCTURAL STEEL: See Sheet No. 4 for 'Structural Steel Notes'.

PROHIBITED FIELD WELDING: Except as shown on the plans, no welding of any nature shall be performed on the load carrying members of the bridge without the written consent of the Director, Division of Bridges, or his authorized representative, and then only in the manner and at the locations designated in the authorization.

CONTINUOUS STEEL GIRDERS: Girders which do not conform to plan camber and grade in the erected position shall be considered as requiring an adjustment in depth of concrete haunch over the steel supporting members, at no additional cost to the State. Temporary supports or shoring will not be permitted under the steel girders when taking top of steel elevations or when placing the concrete floor slab.

DRAIN PIPE: This is in addition to the requirements of the Standard Specifications for pipe material. The drain pipe for the bridge floor drainage shall be one of the following types:

- Wrought Iron Pipe shall be standard weight, black pipe in accordance with the current edition of ASTM A 72.
- Continuous Weld or Seamless Steel Pipe shall be standard weight black pipe conforming with the applicable provisions of the current edition of ASTM A 53. It shall be weldable alloy steel containing a minimum of 0.75 percent copper and 1.5 percent nickel, by weight. It shall have the following minimum mechanical properties:

Tensile Strength 50,000 psi. Yield Strength 37,000 psi.
Elongation in 2 inches 30 percent

The pipe shall be of the size shown on the plans and shall be painted in accordance with the Special Provision for Blast Cleaning and Painting Structural Steel.

The drain pipe will be measured in lineal feet on the centerline of the pipe. This item will be paid for at the unit price bid per lineal foot, which price shall include and be full payment for furnishing and installing complete in place and accepted, all materials including weld materials and welding, brackets, pipe clamps and hangers, fittings, connections, hardware and tools, paint and painting equipment and incidentals necessary to complete the work.

BRIDGE RAILING POSTS: Aluminum bridge railing posts shall meet the requirements of A.A.S.H.O. Specification W-193, current edition.

CONSTRUCTION NOTE: The Contractor shall arrange the work so as not to interfere with the operation of the Baltimore and Ohio Railroad tracks at any time unless the Contractor has made prior arrangements with the Railroad. The Contractor shall arrange with the Baltimore and Ohio Railroad to provide flag protection at the Contractor's expense. Plans for the erection of the structure and for the cofferdams specified in the following note shall be submitted for approval to the Department of Highways.

The Contractor's attention is referred to Article 1.7.15 and Article 1.7.18 of the Standard Specifications.

COFFERDAMS: Cofferdams or sheeting may be necessary for the construction of piers as specified in the Standard Specifications. The cost of cofferdams or sheeting will not be paid for separately, but will be included in the unit price bid for 'Structure Excavation - Common'.

CONSTRUCTION PHOTOGRAPHS: During all periods when construction work is under way, the Contractor shall take or have taken by a competent commercial photographer at least four (4) photographs each month showing progress and details of the work. Photographs shall be made with high quality camera and developed, printed and enlarged in such a manner as to produce first class professional results.

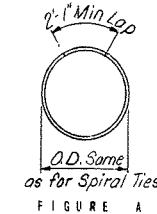
One (1) photograph shall be taken from at or about the same point each month so as to show the piers in elevation, including cofferdams, falsework, and other temporary construction. If necessary to clearly indicate the status of work, this picture may be made in two or more parts and then assembled. If material changes in the status of work occur over a short period of time, additional progress photographs are to be taken as directed by the Engineer.

The remaining monthly photographs are to be taken of critical and important phases of construction as directed by the Engineer.

All photographs are to be 8" x 10", properly identified, dated and mounted on linen with a hinge margin suitable for binding. Three (3) sets of photographs shall be delivered to the Engineer promptly each month along with the negatives thereof which shall become the property of the State with full and unrestricted reproduction rights.

No direct payment shall be made for Construction Photographs, and the cost of same shall be included in the prices bid for pay items.

ALTERNATE TO SPIRAL REINFORCEMENT: Single hoop ties made of No. 5 deformed bars meeting the requirements of the Standard Specifications, Article 641.1.0, may be used in the pier columns in lieu of the 5/8" ϕ plain bar spirals detailed in the plans. The hoop ties shall conform to the detail shown as Figure A below, and shall be spaced 12" apart which is equal to the pitch of the spirals. No additional payment will be made for the hoop ties, but the pay weight allowed shall be the plan quantity for the spiral tie reinforcement.



FALSEWORK PLANS: The contractor shall submit to the Division of Construction for submission to U. S. Coast Guard for approval and temporary navigation lighting requirements seven (7) sets of preliminary falsework plans showing the plan, elevation, and location of any and all cofferdams, temporary falsework and other obstructions to be used in connection with the construction of this bridge. One copy showing requested alterations, if any, will be returned to the Contractor by the Division of Construction. The Contractor shall submit to the Division of Construction five (5) sets of final falsework plans for final distribution.

LINSEED OIL PROTECTIVE COATING: Linseed Oil Protective Coating shall be applied in accordance with the Special Provision, except that it shall only be applied to the bridge deck between the gutter lines and shall not be applied until after the styrene-butadiene protective coating has been applied to the curbs and plinths.

STYRENE-BUTADIENE PROTECTIVE COATING: The protective coating shall be applied in accordance with the Special Provision and, in addition, to the vertical and horizontal surfaces of the median wall and tops of pier columns and top surfaces of weeballs.

SHEET 3

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT 1 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55+23.81

HAZELET & ERDAL
Consulting Engineers
File No. 472 C

BRIDGE
NUMBER

DRAWING NO.
17210

INDEX

NORTH APPROACH
GENERAL NOTES

DESIGNED BY: H.E.S.
CHECKED BY: K.G.
DATE: 1/15/65
REVISED: 1/15/65
DATE: 1/15/65

These notes are modifications of and additions to Section 408 of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction Division, Section and Article numbers and letters appearing herein refer to portions of the Standard Specifications bearing the same designation.

MATERIAL SPECIFICATIONS: The following A S T M Designations shall govern the material furnished.

- A53-69A Welded and Seamless Steel Pipe
- A72-68 Welded Wrought Iron Pipe
- A27-65 Carbon Steel Castings, Grade 70-36.
- A36-69 Structural Steel, for all steel unless noted otherwise on the plans.
- A48-64 Gray Iron Castings (Class 30 A).
- A108-69 Cold Finished Carbon Steel Bars and Shafting (Grade 1016 to 1030).
- A588-69 High Strength Low Alloy Structural Steel, Resistance to Atmospheric Corrosion of approximately four times carbon steel.
- A307-68 Low Carbon Threaded Fasteners where High Strength Bolts are NOT designated.
- A325-68 High Strength Steel Bolts, Nuts and Plain Hardened Washers.
- A441-68 High Strength Low Alloy Structural Steel, B23 55(1966) Sheet Lead and Pig Lead.

SHOP DETAIL DRAWINGS: The Contractor shall submit shop detail drawings of all structural steel to the Bridge Engineer for approval in accordance with the Standard Specifications. After the fabrication is completed and accepted for shipment, the Contractor shall furnish the Department one full set of linen or drafting film tracings of approved correct shop drawings including the welding procedures. No direct payment will be made for the record tracings, but the cost shall be included in the lump sum bid for 'Structural Steel'.

Any material ordered or work done by the Contractor before the shop drawings, including the welding procedures, are approved shall be at his own risk. Qualification Test of all welding procedures shall be completed by the Contractor and approved by the Engineer prior to the final approval of shop drawings and start of fabrication.

DESIGN: Shop welded construction is intended for all built-up members unless otherwise indicated. High Strength Bolts will be used for shop and field connections unless shown otherwise on the plans.

SHOP ASSEMBLY: Holes for field bolted splices of continuous girders shall be subpunched and reamed, or drilled, while assembled. Each continuous girder unit shall be completely shop assembled with parts adjusted to line, elevations, camber, and fit for drilling and reaming.

Girders shall remain assembled for inspection by the Department of Highways Inspector and are to be match-marked while assembled. Other field bolted connections shall be drilled or reamed in the shop with connecting parts assembled or shall be drilled or reamed to a metal template without assembly.

Connections for the diaphragms, expansion joints and other minor members may be punched or drilled full size without assembly, subject to the requirements in the Standard Specifications for general reaming.

In lieu of sub-punching or sub-drilling holes and reaming to full size with the parts assembled, electronic computer controlled drills may be used to drill holes full size. Holes drilled by this method shall be located within a tolerance of 5/1000 inch and eighty-five (85) percent of the holes in any contiguous group shall show no offset greater than 1/32 inch between adjacent thicknesses of metal. The Contractor shall submit to the Engineer for approval his proposed procedure for drilling the holes and assuring correct fit of the members. If the Contractor uses numerical tape or computer controlled drills, shop assembly of at least twenty-five percent (25%) of the girder splices and at least ten percent (10%) of the floorbeam and bracket connections will be required as proof of accurate fit. In the event holes do not match as prescribed for the assembled pieces, all girder splices shall be assembled and reamed to fit and all floorbeam connections reamed to metal templates.

HIGH STRENGTH BOLTED CONNECTIONS: These are designed as friction type connections. All high strength bolted connections shall be in accordance with Article 408.3.1-F of the Standard Specifications except as noted herein. Unless otherwise noted, high strength bolts shall be 7/8" ϕ and open holes shall be 15/16" ϕ .

Bolt, nut and washer dimensions shall conform with paragraphs 2 (b), 2 (c) and 2 (e) respectively of the "Specifications for Structural Joints Using ASTM A325 and A490 Bolts", approved by the Research Council on Riveted and Bolted Structural Joints of Engineering Foundation, September 1, 1986. (This requires the use of heavy hex structural bolts and nuts and slightly smaller hardened washers than given by Table III of the Standard Specifications.)

Installation shall be performed using the turn-of-nut method described in "Specifications for Structural Joints using ASTM A325 or A490 Bolts" noted above, and Standard Specifications.

DIMENSIONS: Dimensions shown on the plans are for a normal temperature of 50 degrees Fahrenheit with dead load on the structure. Tapes used by the Contractor including the structural steel fabricator and erector, shall have been calibrated correctly with the U. S. Bureau of Standards to insure correct fit of the steelwork.

MISFITS: With prior approval of the Engineer, the correction of minor misfits involving harmless amounts of reaming, cutting and chipping will be considered a legitimate part of the erection. However, any error in the shop fabrication or deformation resulting from handling and transportation which prevents the proper assembling and fitting of parts by the moderate use of drift pins or by a moderate amount of reaming and slight chipping or cutting, shall be reported immediately to the Inspector and his approval of the method of correction obtained. The correction shall be made in his presence.

BLAST CLEANING AND PAINTING: All structural steel shall be cleaned and painted in accordance with the Special Provision for Blast Cleaning and Painting Structural Steel, current edition.

Exterior surfaces of the cast iron drain body which will be in contact with concrete shall not be painted or coated and shall be free from rust, old sand or other foreign material. Other surfaces which will not be in contact with concrete shall be painted as required for structural steel.

ERECTION: Each continuous girder unit has fixed bearings at three consecutive piers. The steel will be fabricated for erection at 60 degrees Fahrenheit. The bearings are to be placed the proper distance apart. If the girders are erected at some other temperature, provisions shall be made to deflect the piers so that the sole plates and shoes mate.

PAYMENT: The lump sum bid for Structural Steel includes and shall be full compensation for preparing shop detail and erection drawings, furnishing, fabricating, transporting, placing and erecting all materials, drilling anchor bolt holes and leading in anchor bolts, furnishing paint and painting, furnishing linen or drafting film tracings of shop detail and erection drawings, and all labor, equipment, tools and incidentals necessary to complete the structure in accordance with the plans and specifications. The item 'Structural Steel' shall also include high strength bolts, washers, welding, and welding materials, pig lead and lead plates, anchor bolts, expansion dam bolts and nuts, cast iron drains with cast steel grates and miscellaneous materials necessary to complete the steelwork.

Payment changes for Structural Steel because of plan changes ordered by the Engineer shall be computed at a unit price rate based on the lump sum bid divided by the total estimated weight of Structural Steel listed in the plans.

STEEL FINISH: Steel bearing surfaces in contact shall be finished in accordance with Article 408.3.1-H of the Specifications.

ADDITIONAL FIELD SPLICES: If additional field splices are permitted, they shall be at the Contractor's expense and shall be included in the 'Lump Sum' bid for Structural Steel.

WELDS: All welding shall conform to "Specifications for Welded Highway and Railway Bridges (AWS D2.0-69) of the American Welding Society, Special Notes for welding structural steel, and the Plans. No field welding will be allowed except as shown on the Plans. See note, **PROHIBITED FIELD WELDING**, on the General Notes Sheet.

GIRDER AND FLOORBEAM WEB PLATES: Web plates shall be cut to provide for camber as indicated on the plans. Optional shop welded web plate splices may be made by the Contractor as noted on the Plans and shall be located on the shop details. Such splices will not be paid for, but the cost thereof shall be included in the lump sum price bid for "Structural Steel".

GIRDER FLANGES: Prior to approval of the shop detail drawings, the Contractor may request permission from the Engineer to extend a thicker flange plate in the direction of a smaller to eliminate one or more butt welded flange splices. No extra payment will be made for the additional steel weight.

MILL TEST REPORTS: The Contractor shall furnish five (5) copies of mill orders, change orders, mill shipping statements, notarized mill test reports, fabricator's shop bills (if not attached to drawings) and shipping statements to the Engineer for all structural steel materials. The notarized mill test reports shall show that all materials conform to the Standard Specifications.

FLAME CUTTING: Flame cutting shall be in accordance with Article 408.3.1-H.2 of the Standard Specifications except the roughness requirements for flame cut surfaces and repairs to such surfaces shall be as required by AWS D2.0-69, Subsection 302.

The net width of plates shall not be reduced by the repair of cracks, notches, and surface roughness at sections opposite bolt holes which would reduce the edge distances to less than the minimum required by Article 1.8.34 of AASHTO proposed Section 8.

STRUCTURAL STEEL SUBSTITUTION: A588 steel may be used wherever A441 steel is called for in these plans if the Contractor so desires.

DESIGNED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 DRAWN BY: _____ DATE: _____
 REVISIONS: _____
 FILED BY: _____ DATE: _____

SHEET 4

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
 PROJECT 1275-9 () 0
 BRIDGE OVER OHIO RIVER ON 1275
 BETWEEN BOONE COUNTY, KENTUCKY AND
 DEARBORN COUNTY, INDIANA

STATION 55+23.61

HAZELET & BERDAL
Consulting Engineers
File No. 872 C

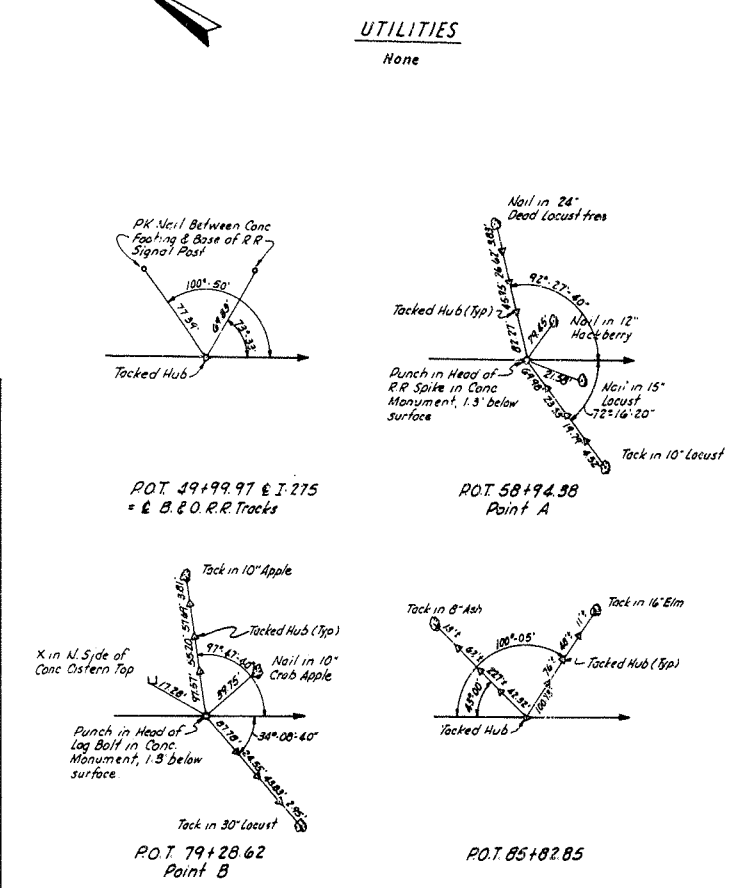
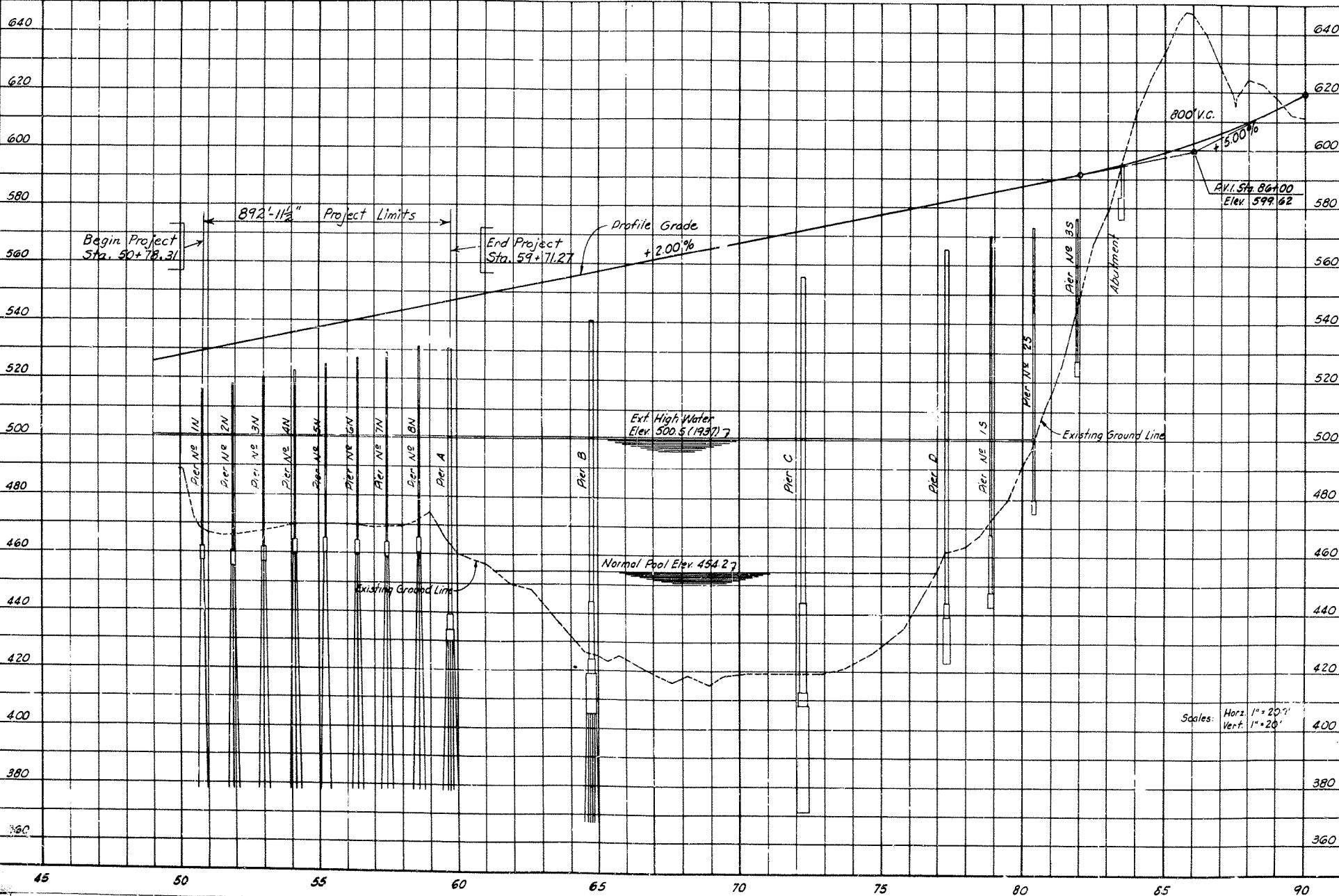
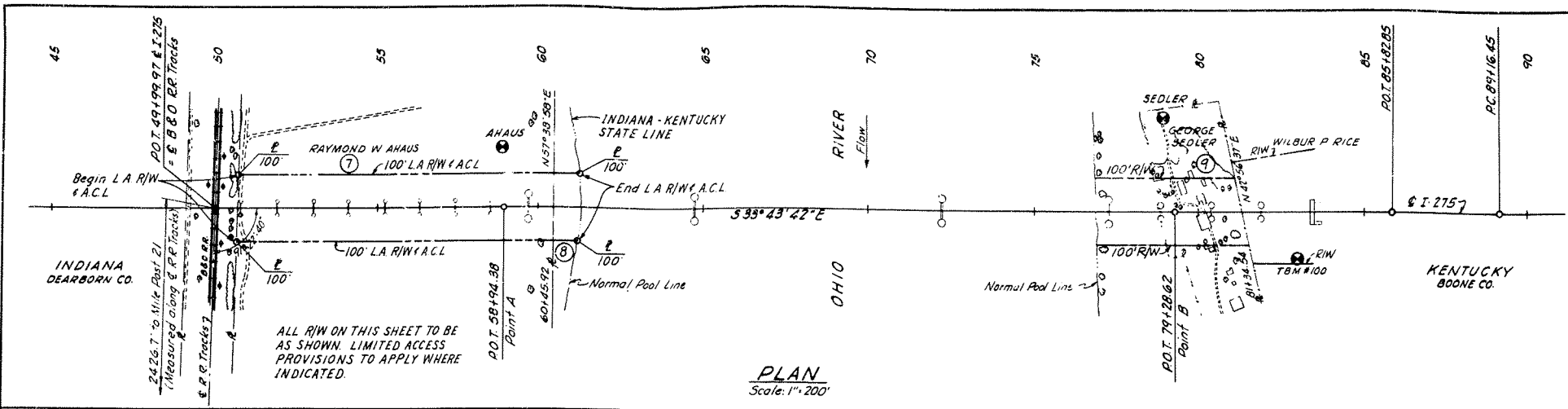
BRIDGE
NUMBER

DRAWING NO.
17210

INDEX

NORTH APPROACH
STRUCTURAL STEEL NOTES

PRO. ROAD DIST.	STATE	PRO. AID DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.	177	10		



BENCH MARKS

INDIANA
 AHAUS Elev. 474.340
 Survey Disk set in top of concrete cylinder projecting 2" and stamped AHAUS 1964, 178' Lt. Sta. 58+85

KENTUCKY
 SEDLER Elev. 482.620
 Survey Disk set in top of concrete cylinder projecting 3" and stamped SEDLER 1964, 279' Lt. Sta. 78+92

T.B.M. #100 Elev. 573.098
 R.R. Spike in N. Roof of 42" White Oak, 136' Rt. Sta. 83+03

NOTE:
 Elevations Refer to Mean Sea Level/
 U.S.C. & G.S. - 1929 General Adjustment.

SHEET 5

**KENTUCKY DEPARTMENT OF HIGHWAYS
 INDIANA STATE HIGHWAY COMMISSION**

PROJECT I 275-9 () 0
 BRIDGE OVER OHIO RIVER ON I 275
 BETWEEN BOONE COUNTY, KENTUCKY AND
 DEARBORN COUNTY, INDIANA

STATION 55+23.81

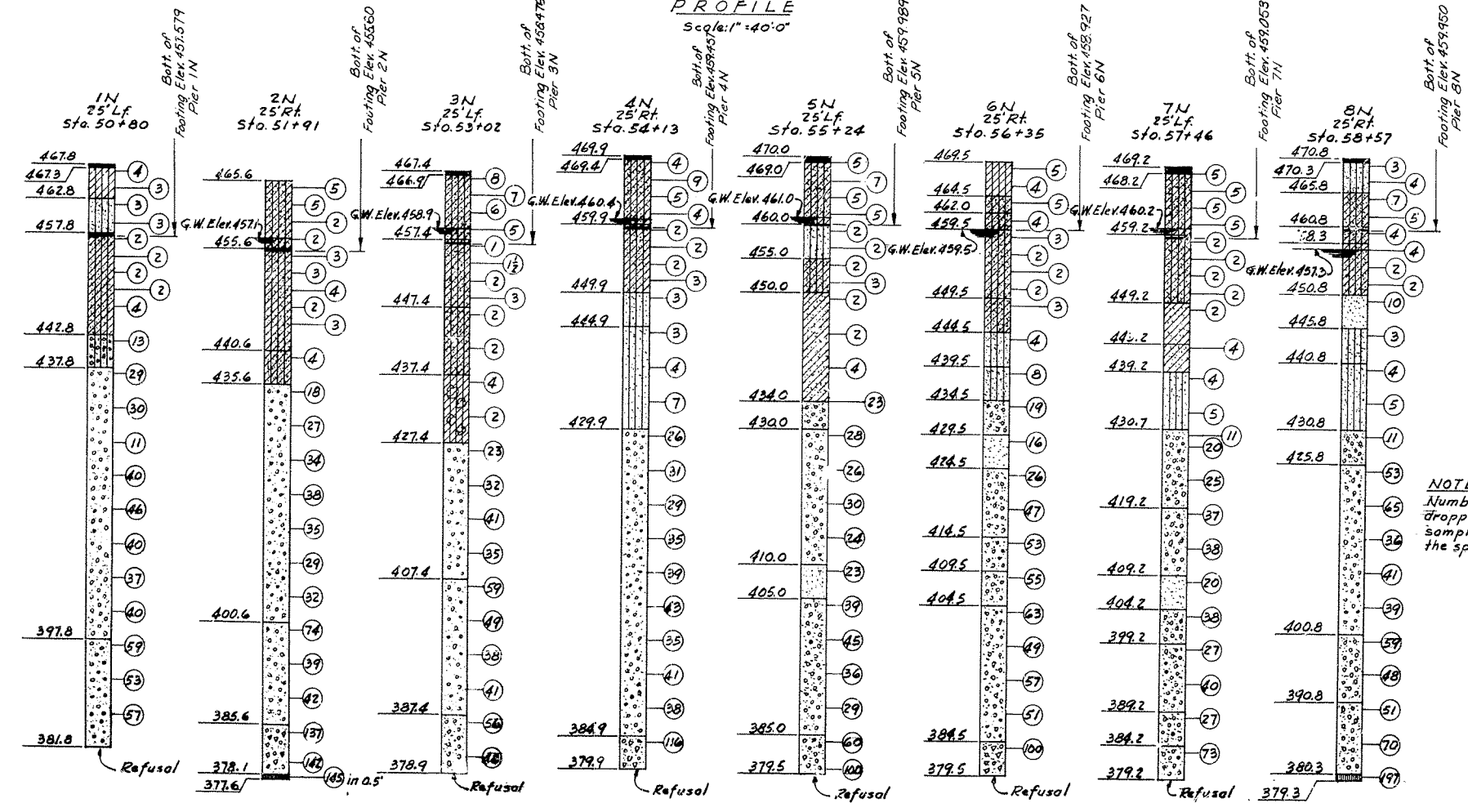
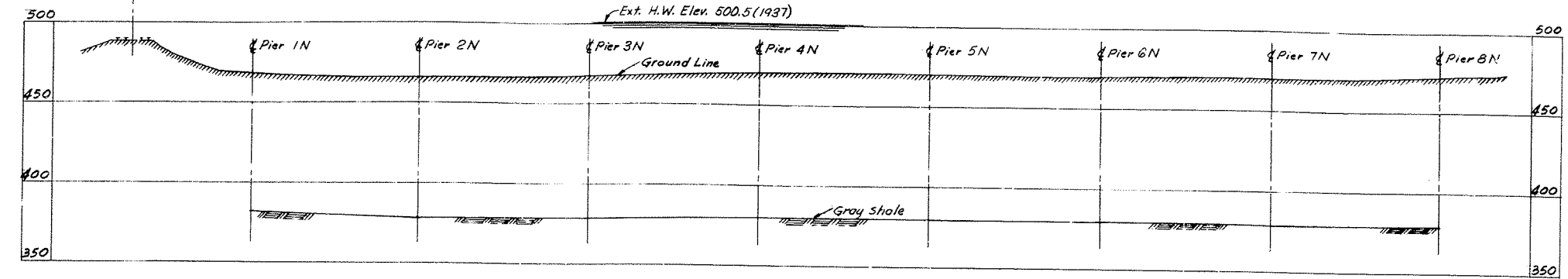
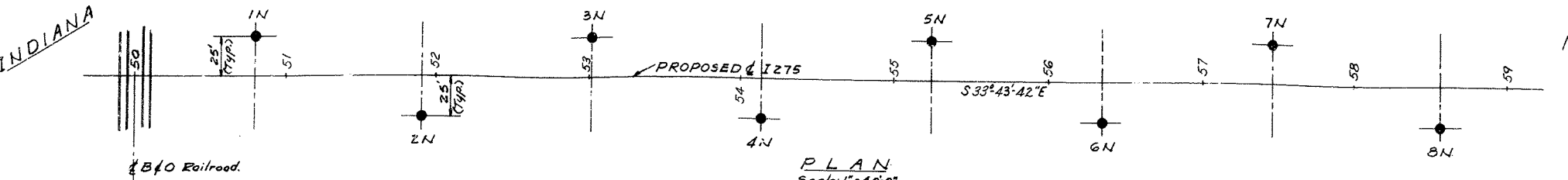
HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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**NORTH APPROACH
 PLAN & PROFILE**

Scales: Horz. 1"=20'
 Vert. 1"=20'

DESIGNED BY: [Name] DATE: [Date]
 CHECKED BY: [Name] DATE: [Date]
 TRACED BY: [Name] DATE: [Date]

INDIANA



Note: Approx. Steel H Bearing Pile Tip Elev. 378.0 (Typ.)

NORTH APPROACH
LOG OF BORINGS

SHEET 6

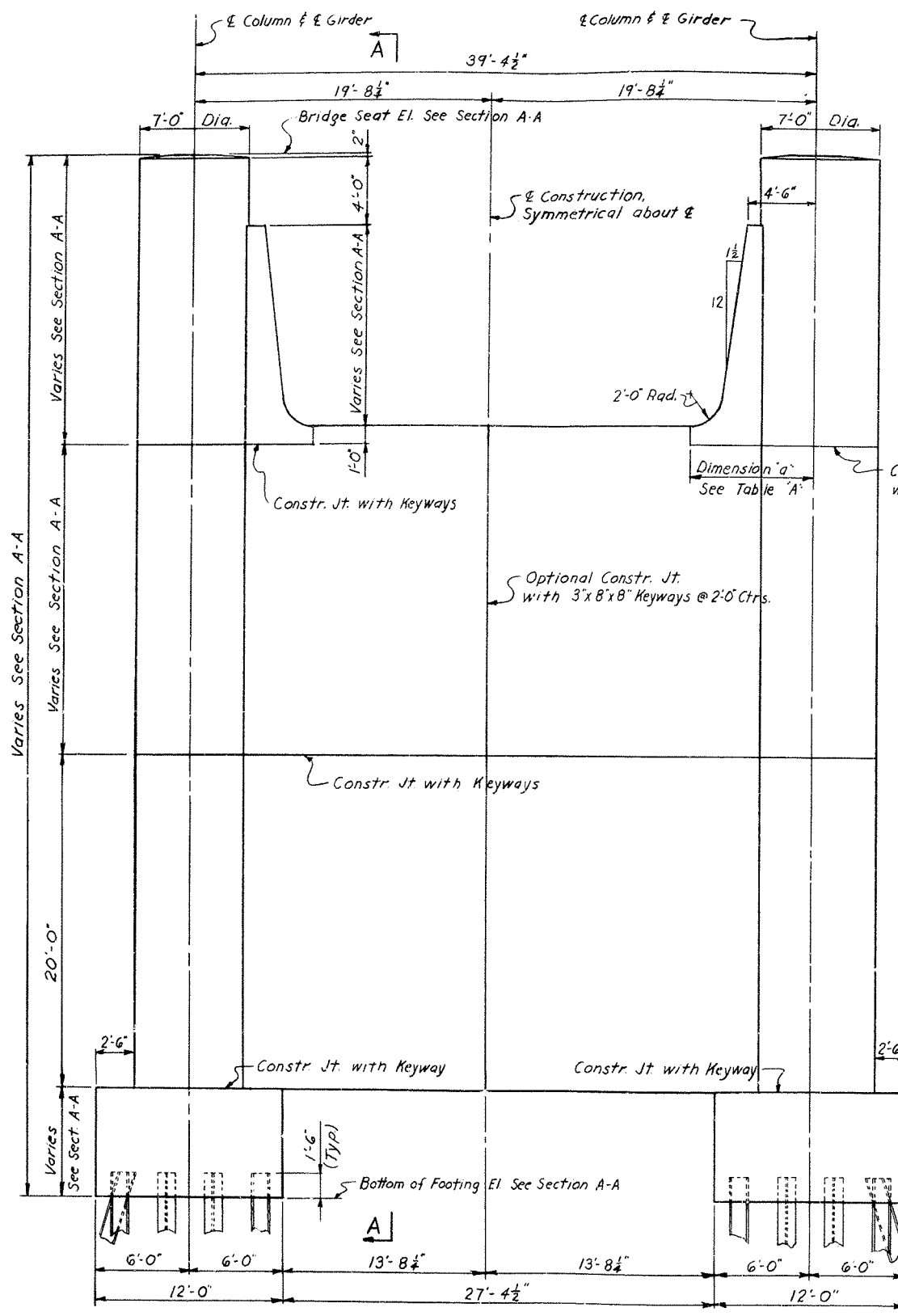
**KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION**

PROJECT I 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

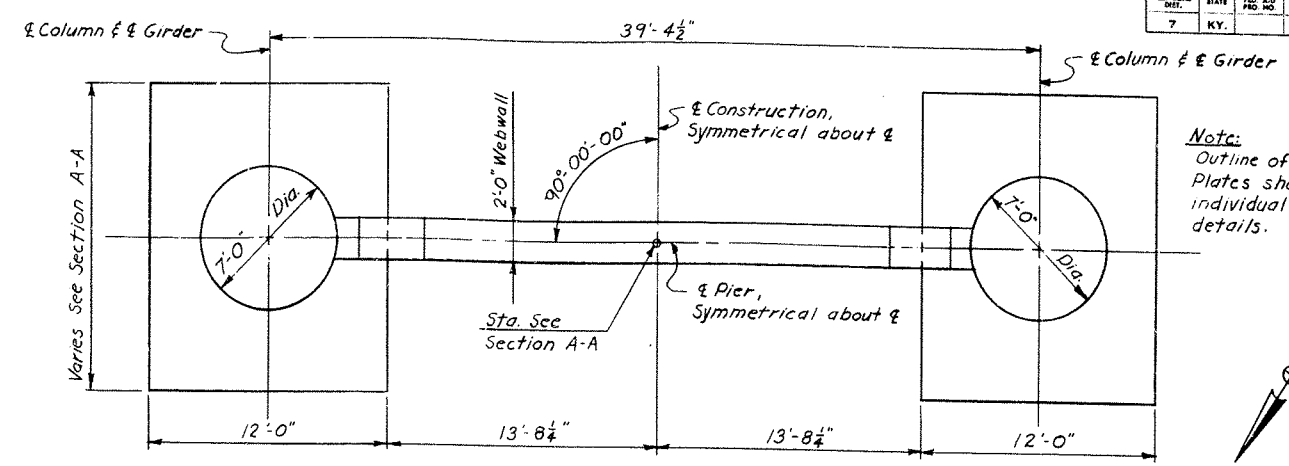
STATION 55+23.8!

HAZELET & ERDAL Consulting Engineers Fl. No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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DESIGNED BY: [Signature] DATE: 11/15/55
 CHECKED BY: [Signature] DATE: 11/15/55
 DRAWN BY: [Signature] DATE: 11/15/55
 REVISIONS: [Table with columns for DATE, BY, and DESCRIPTION]



TYPICAL ELEVATION PIERS IN THRU 8N



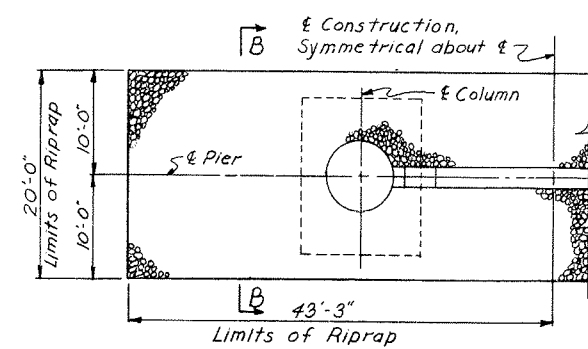
TYPICAL PLAN PIERS IN THRU 8N

TABLE 'A'

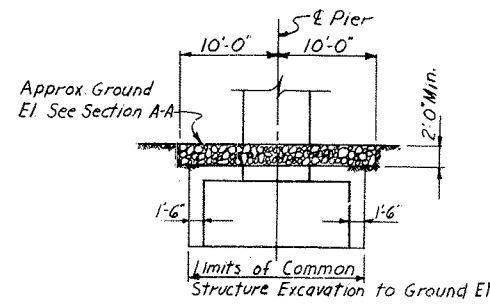
PIER	Dim. 'd'
1N	7'-6"
2N	7'-9"
3N	8'-0"
4N	8'-2"
5N	8'-4"
6N	8'-7"
7N	8'-10"
8N	9'-0"

Note:
Work this sheet with sheets 10 thru 14.
For Section A-A see sheet 10.

Pier Notes:
3" Clear Cover to main reinforcing bars or 2 1/2" to tie bars shall be maintained throughout except as noted.
All keyways are depressed keyways.
E.F. denotes each face.
For Reinforcing Bar Details see sheet 14.
For General Notes see sheet 3.



TYPICAL PLAN OF RIPRAP



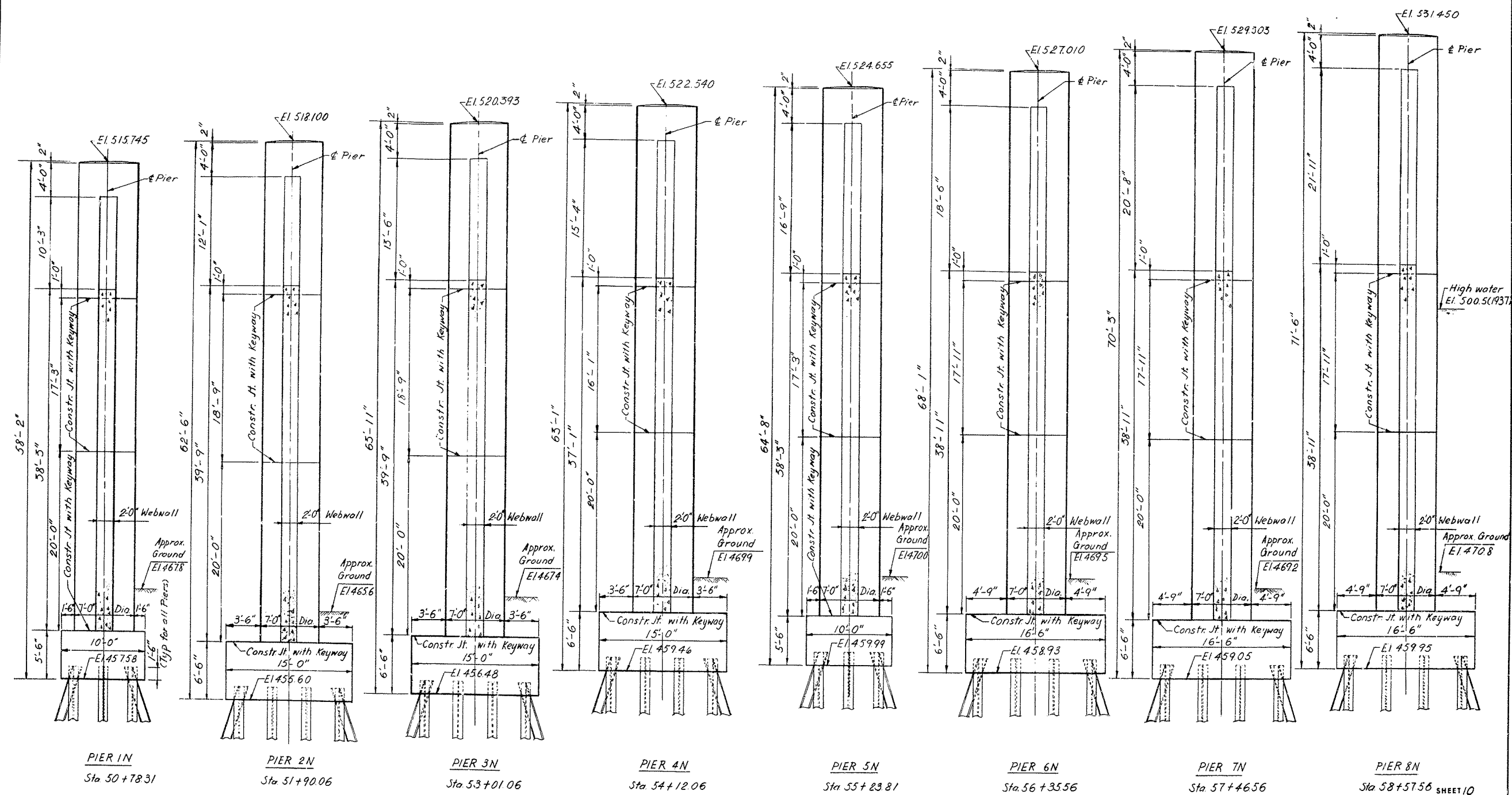
SECTION B-B

DESIGNED BY: J.W.A. DATE: 5/24/54
 CHECKED BY: J.W.A. DATE: 5/27/54
 DRAWN BY: J.W.A. DATE: 5/27/54
 REVISIONS:

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
 PROJECT 1 275-9 () 0
 BRIDGE OVER OHIO RIVER ON I 275
 BETWEEN BOONE COUNTY, KENTUCKY AND
 DEARBORN COUNTY, INDIANA
 STATION 55 + 23.81

HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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NORTH APPROACH
PIERS IN THRU 8N
GENERAL DETAILS



High water
El. 500.5(1937)

SECTION A-A

Note: Work this sheet with
Sheets 9 thru 14

NORTH APPROACH
PIERS 1N THRU 8N
GENERAL DETAILS

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

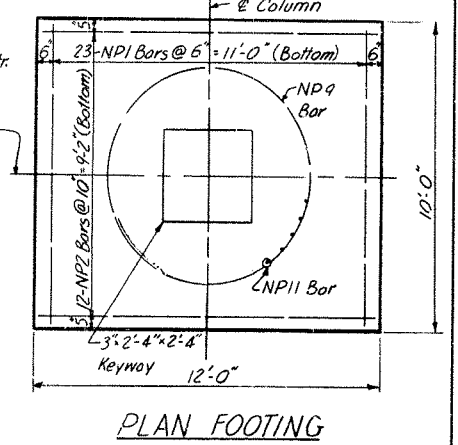
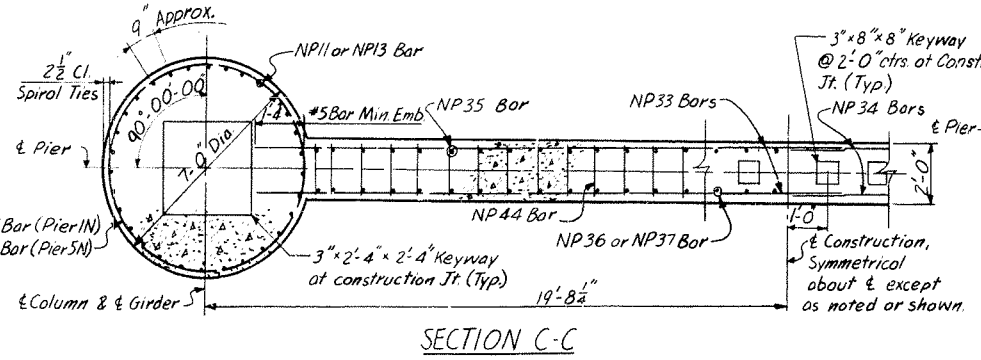
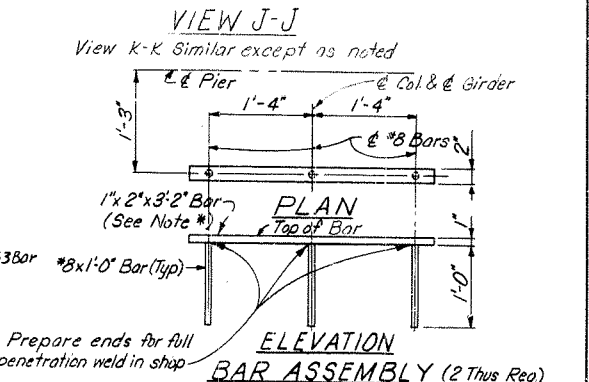
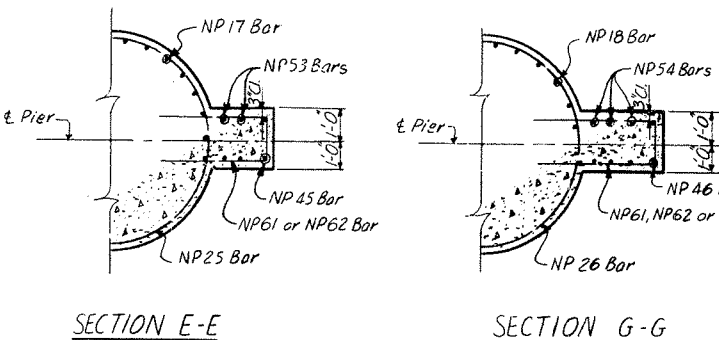
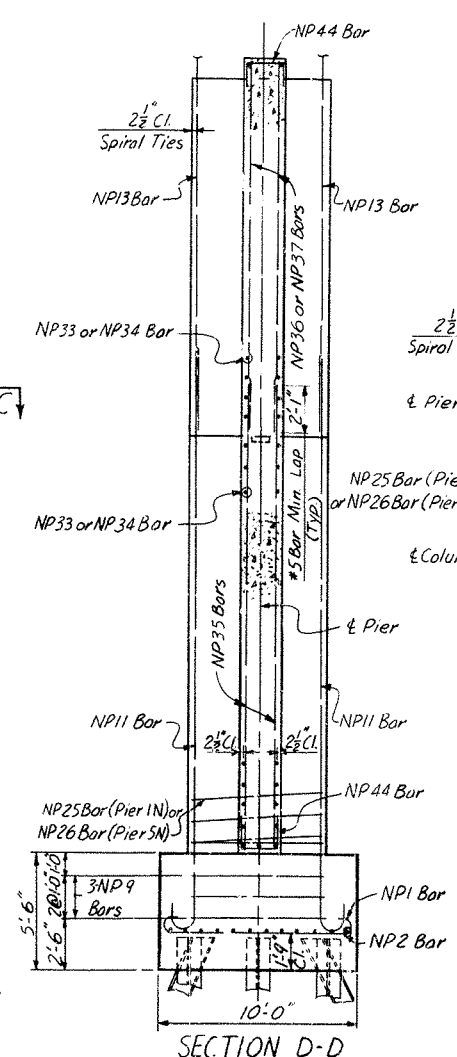
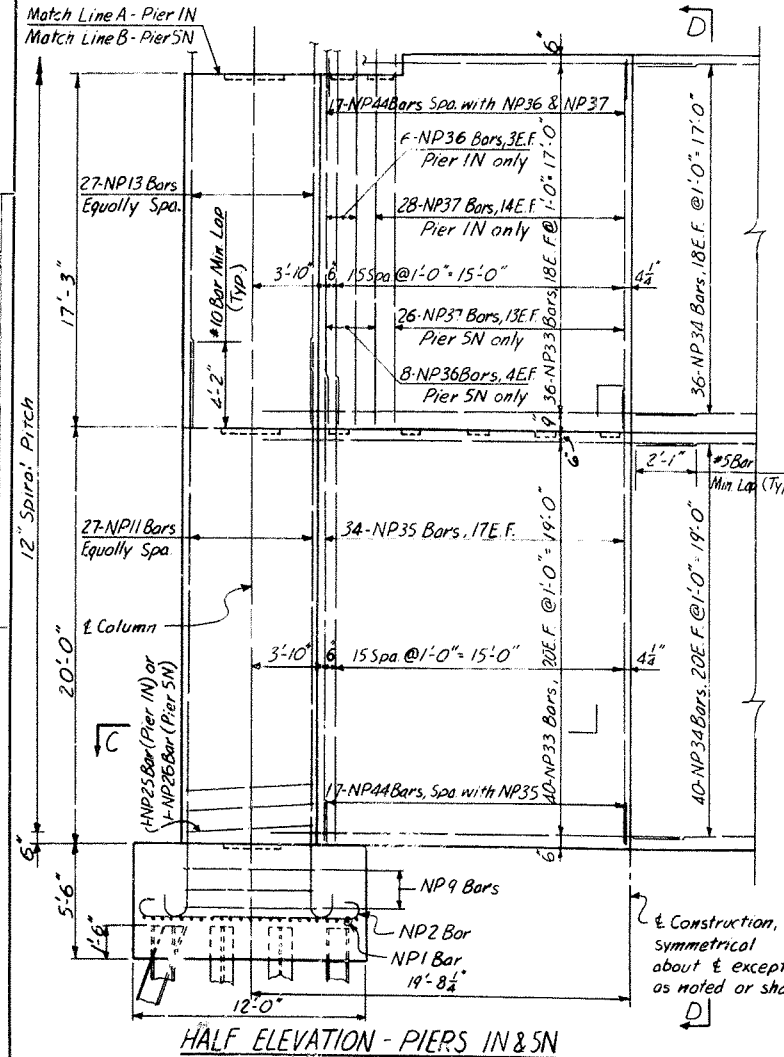
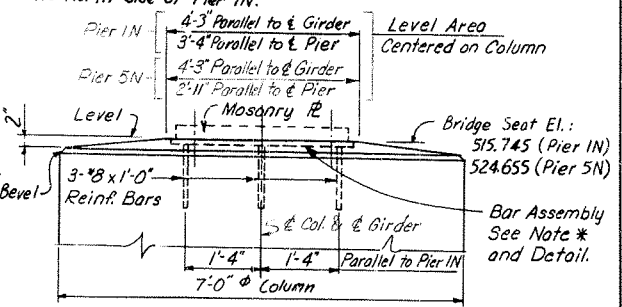
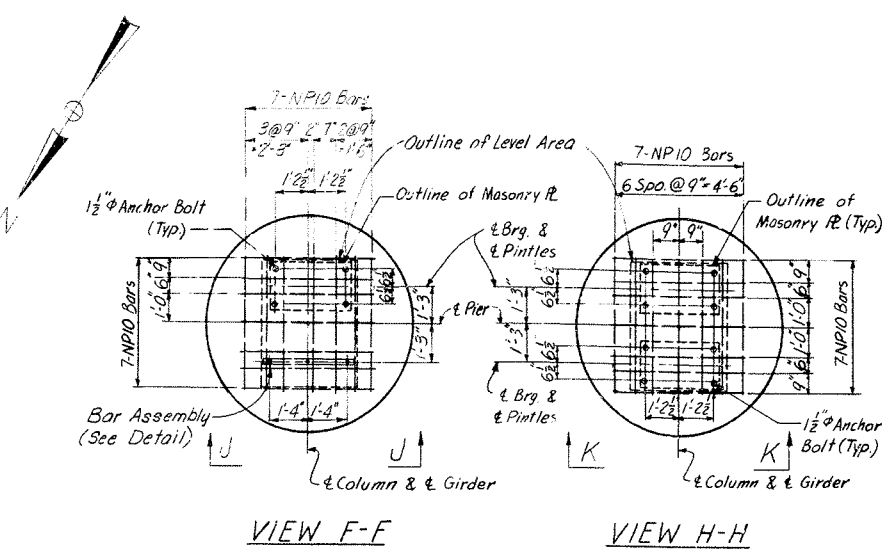
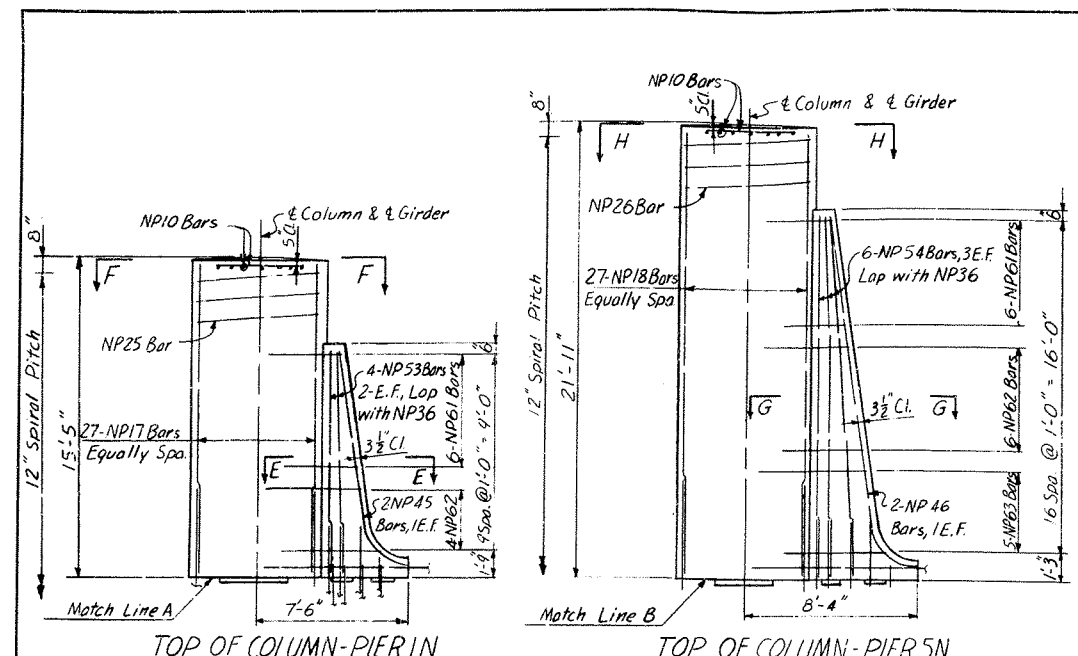
PROJECT 1 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55+23.81

HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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DESIGNED BY: J.W.A. DATE: 1/15/58
 CHECKED BY: J.H.H. DATE: 1/15/58
 TRACED BY: J.H.H. DATE: 1/15/58

* NOTE: Top of 1" x 2" x 3'-2" Bar shall be set level with or not more than 1/8" below top of concrete.
 Bars to be incidental to Pier Concrete. Bars to be furnished in this contract, are to anchor shoe shown on Indiana State Highway Dept. Contract drawings and are on the North side of Pier 1N.



ITEM	UNIT	PIER 1N	PIER 5N
Steel Reinforcement	Lbs.	25574	27685
Steel Piles (HBP73) - Furnishing	Lin Ft	1913	2030
Steel Piles (HBP73) - Driving	Lin Ft	1913	2030
Concrete Class A	Cu Yds	293.6	314.8
Structure Excavation - Common	Cu Yds	180	170
Dry Cyclopean Stone Rip Rap	Sq Yds	170	170
Protective Coating - Styrene Butadiene	(Bols)	1	1

Notes:
 Work this sheet with sheets 9, 10 and 14.
 For pier notes see sheet 9.

NORTH APPROACH
 PIERS 1N & 5N

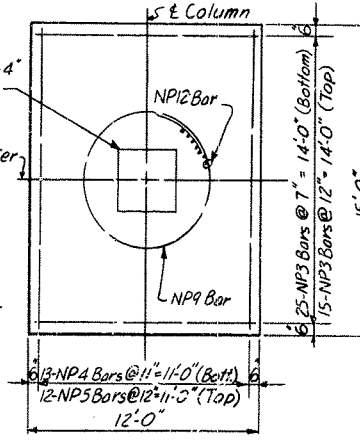
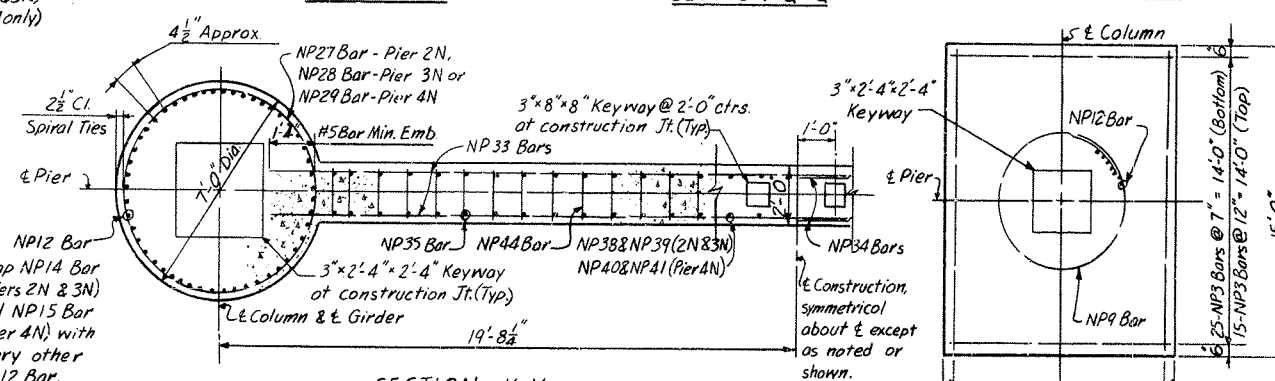
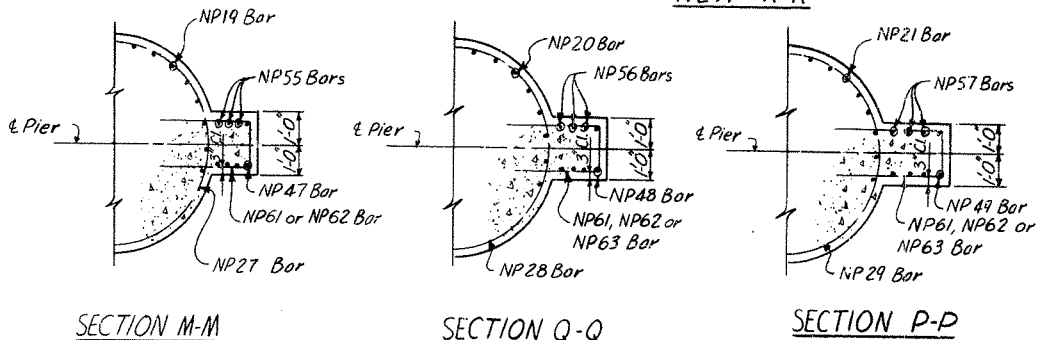
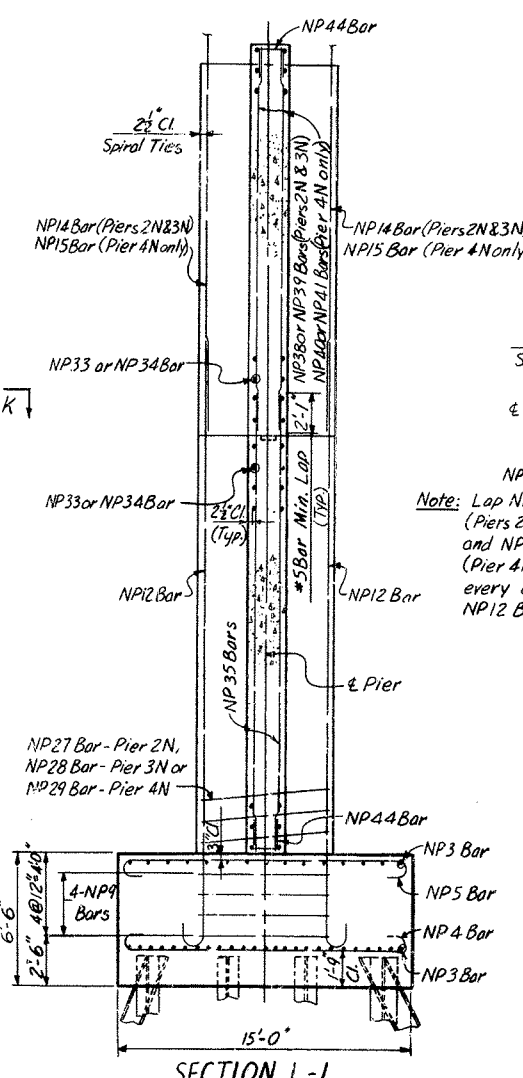
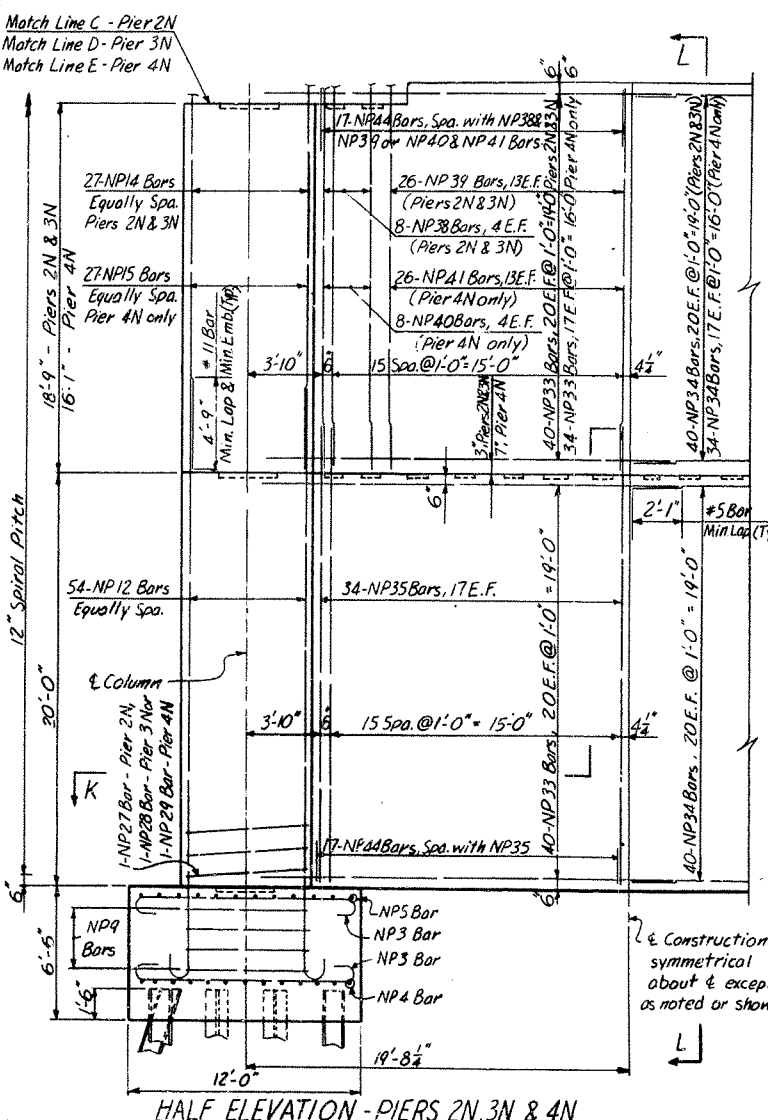
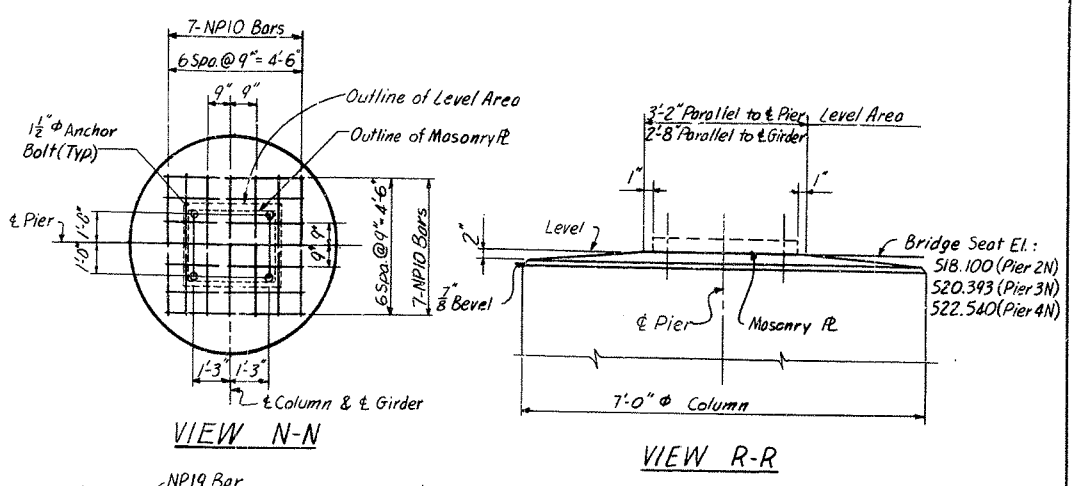
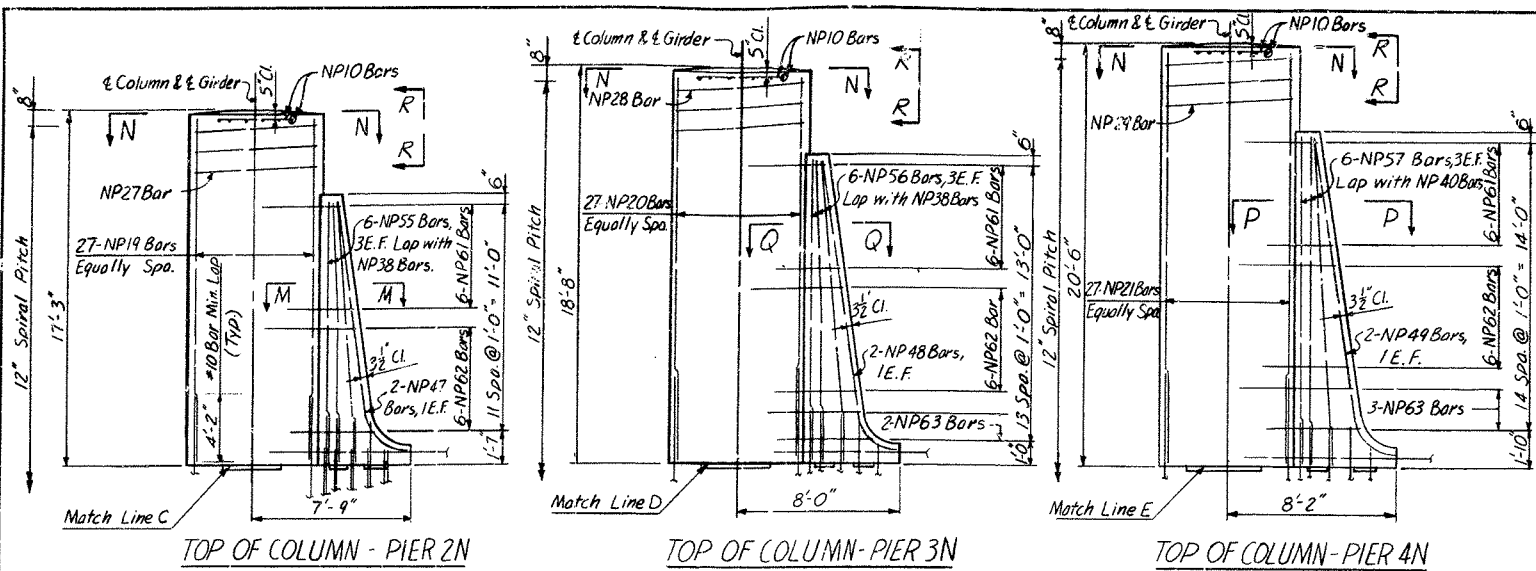
SHEET 11

**KENTUCKY DEPARTMENT OF HIGHWAYS
 INDIANA STATE HIGHWAY COMMISSION**

PROJECT 1 275-9 () 0
 BRIDGE OVER OHIO RIVER ON I 2
 BETWEEN BOONE COUNTY, KENTUCKY AND
 DEARBORN COUNTY, INDIANA

STATION 55+23.81	HAZELET & ERDAL Consulting Engineers File No. 8720	BRIDGE NUMBER	DRAWING NO 17210	INDEX
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CHECKED BY: J.W.A. DATE: 11/1/58
 DESIGNED BY: J.W.A. DATE: 11/1/58
 DRAWN BY: J.W.A. DATE: 11/1/58
 REVISIONS:



ESTIMATE OF QUANTITIES				
ITEM	UNIT	PIER 2N	PIER 3N	PIER 4N
Steel Reinforcement	Lbs.	41000	41461	40819
Steel Piles (14BPT3) - Furnishing	Lin. Ft.	212	2116	2169
Steel Piles (14BPT3) - Driving	Lin. Ft.	2127	2116	2169
Concrete Class 'A'	Cu. Yds.	345.2	347.0	341.8
Structure Excavation - Common	Cu. Yds.	225	245	235
Dry Cyclopean Stone Riprap	Sq. Yds.	170	170	170
Protective Coating - Styrene Butadiene	(Gals)	1	1	1

Notes:
Work this sheet with sheets 9, 10 and 14.
For pier notes see sheet 9.

NORTH APPROACH
PIERS 2N, 3N & 4N

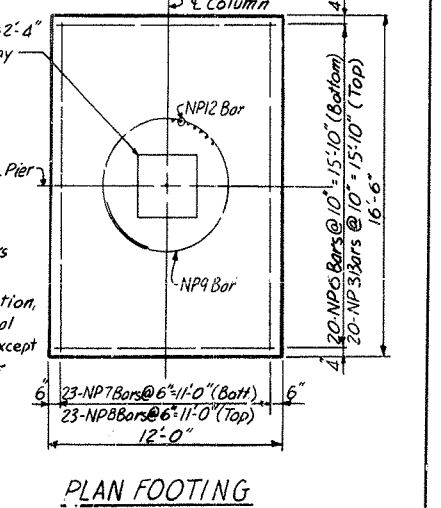
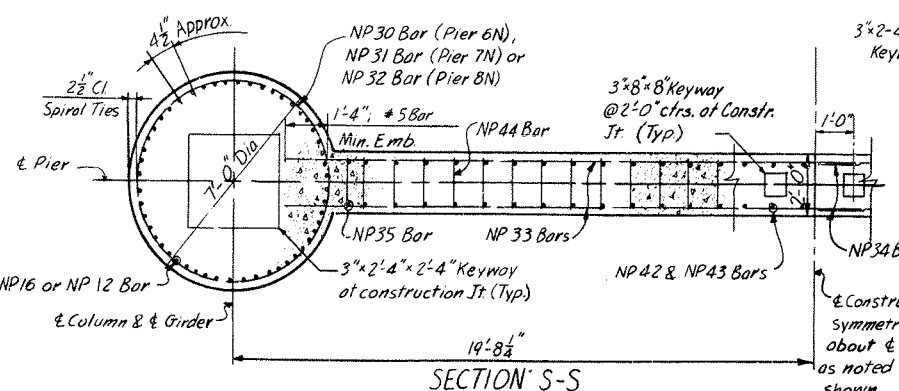
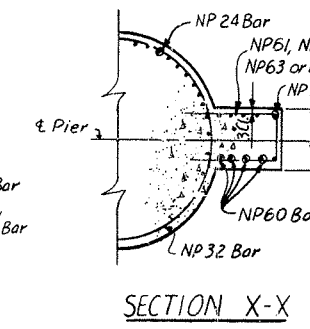
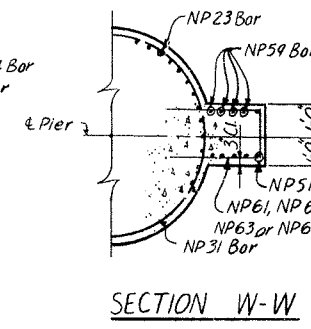
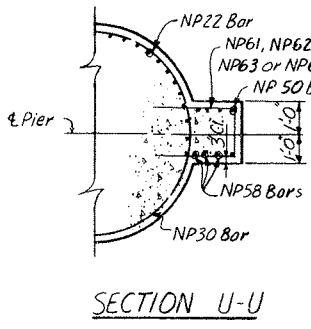
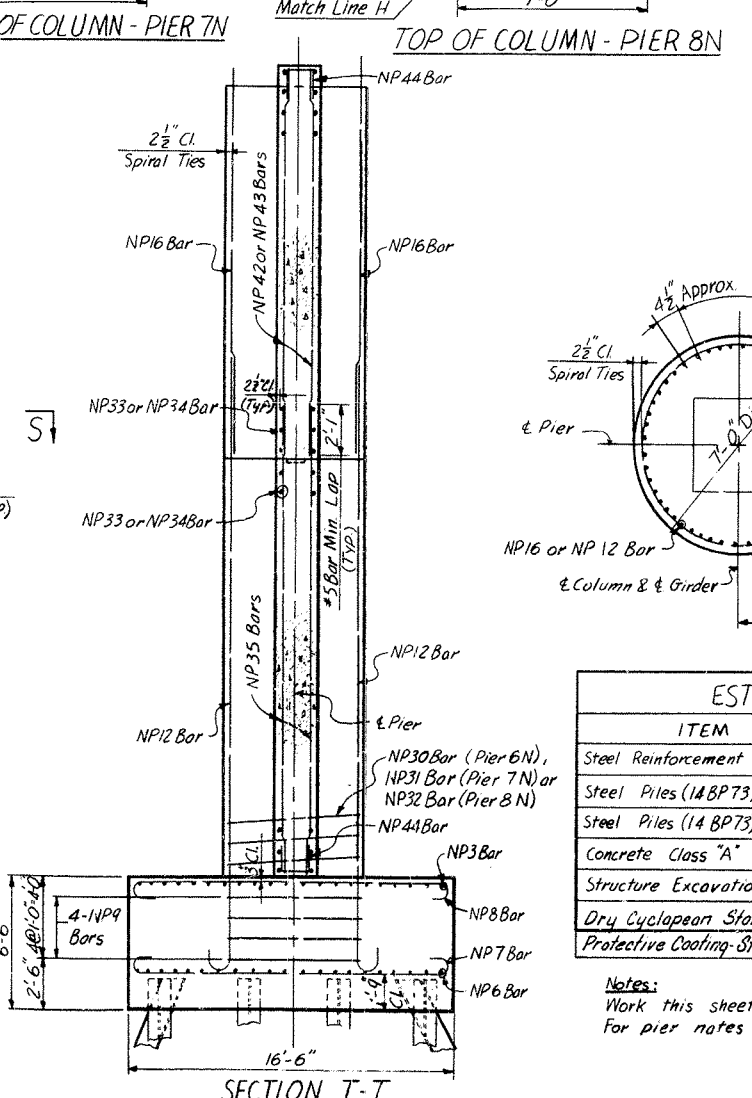
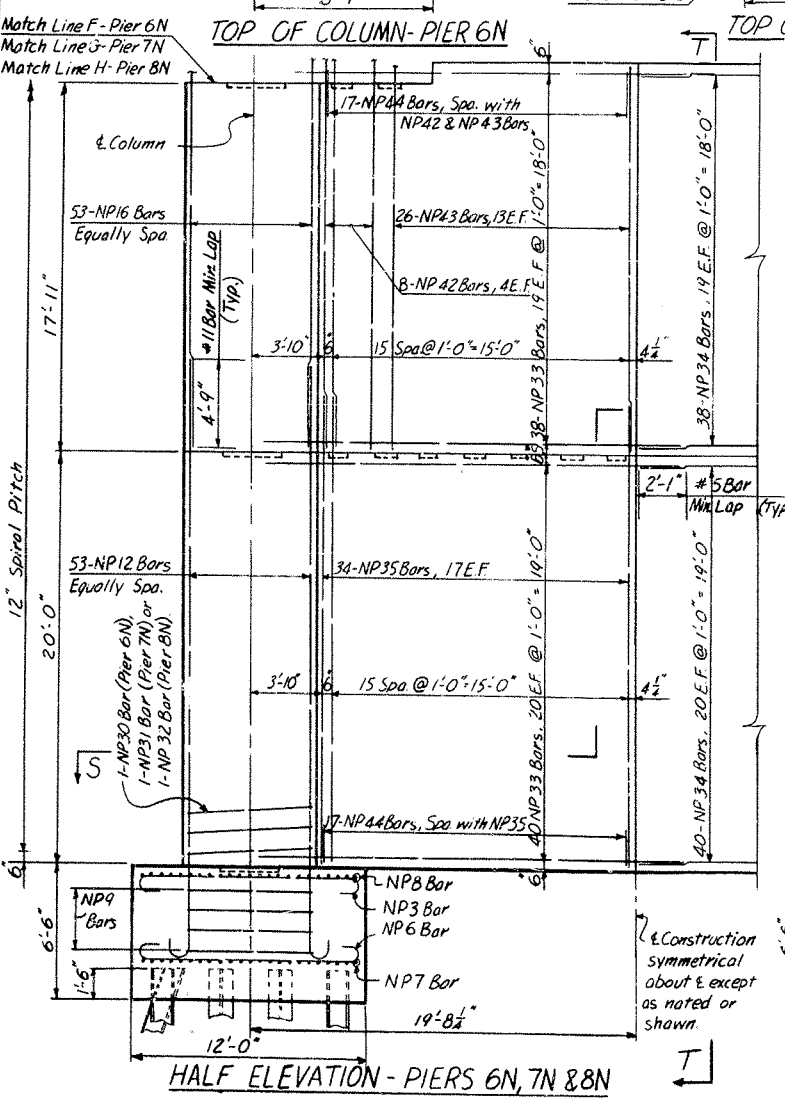
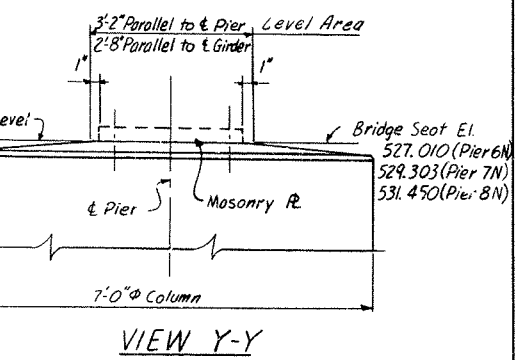
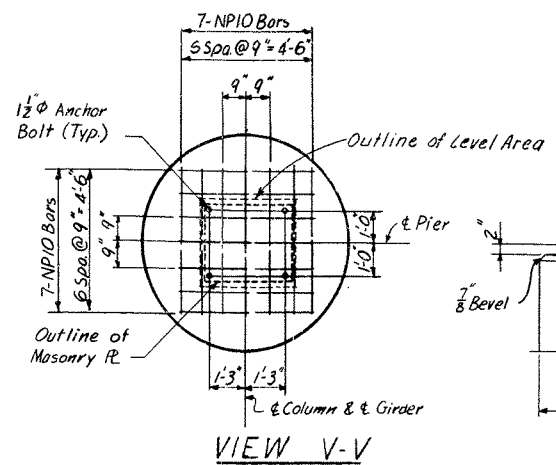
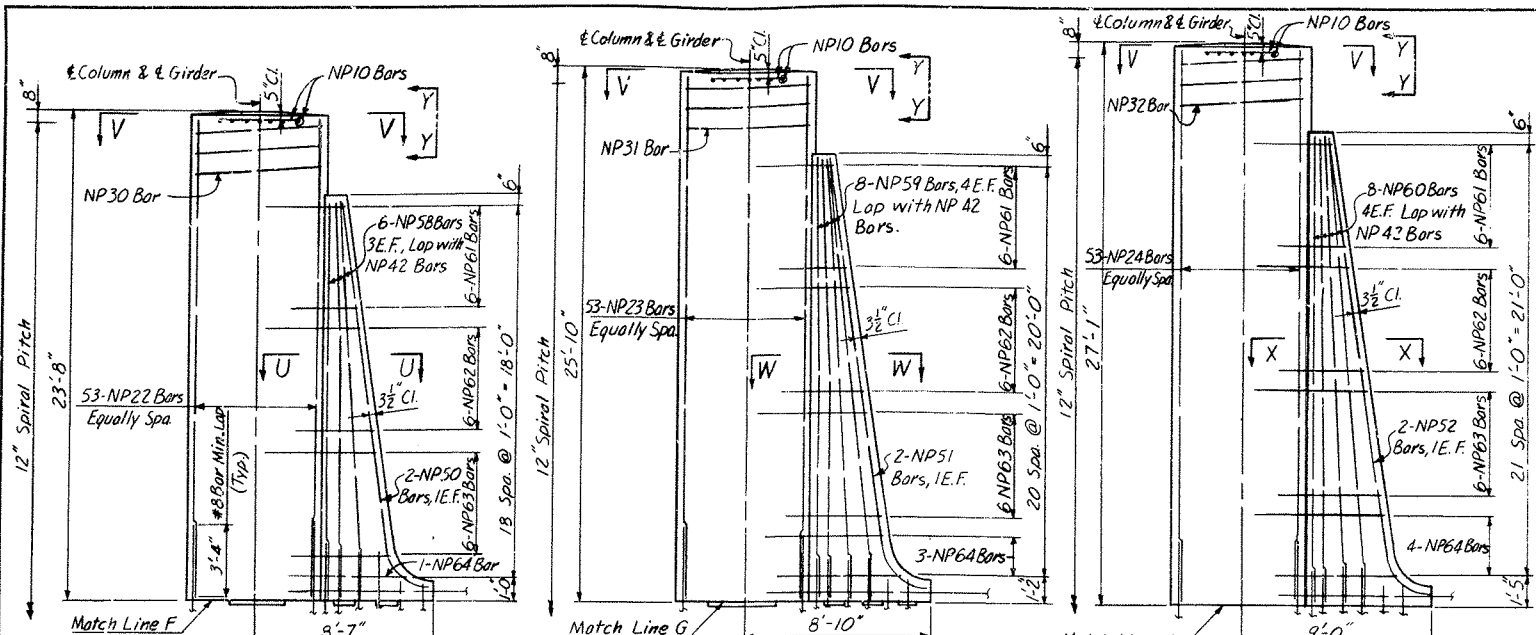
SHEET 12

**KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION**

PROJECT 1 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BEWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55 + 23.81	HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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DATE: 5/14/54
 CHECKED BY: J.W.A.
 DRAWN BY: A.S.M.B.R.T.
 REVISION: 1/11/54
 CHECKED BY: J.W.A.
 DRAWN BY: A.S.M.B.R.T.



ITEM	UNIT	PIER 6N	PIER 7N	PIER 8N
Steel Reinforcement	Lbs.	46213	47096	47556
Steel Piles (14 BP73) - Furching	Lin. Ft.	2166	2177	2172
Steel Piles (14 BP73) - Driving	Lin. Ft.	2166	2177	2172
Concrete Class "A"	Cu. Yds	370.6	377.9	382.2
Structure Excavation - Common	Cu. Yds	255	245	260
Dry Cyclopean Stone Riprap	Sq. Yds	170	170	170
Protective Coating - Styrene-Bulodiene	(Gals)	1	1	1

Notes:
Work this sheet with sheets 9, 10 and 14.
For pier notes see sheet 9.

NORTH APPROACH
PIERS 6N, 7N & 8N

SHEET 13

**KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION**

PROJECT 1 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

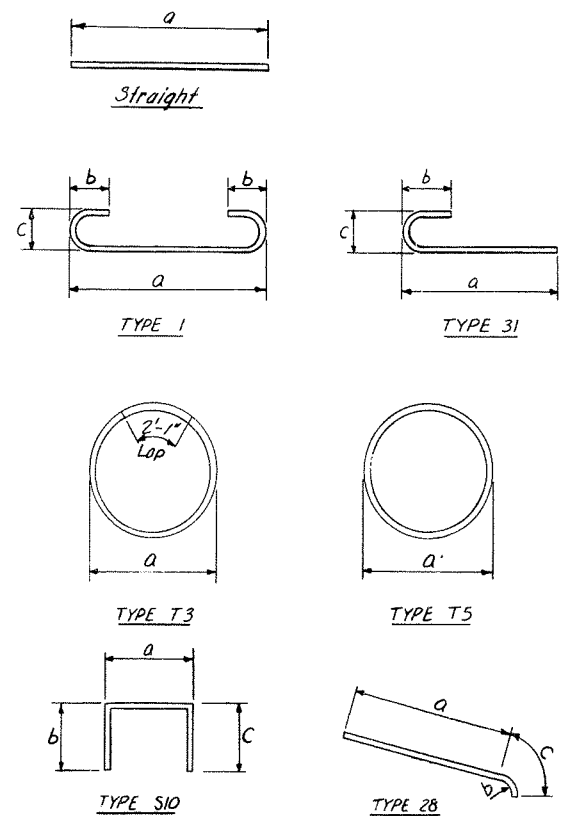
STATION 55 + 23.91

HAZLET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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BILL OF REINFORCEMENT - PIER 1N THRU PIER 8N

MARK	TYPE	SIZE	TOTAL NO OF Bars	NUMBER OF BARS PER PIER								LENGTH		Dim. a, b, C			LOCATION			
				1N	2N	3N	4N	5N	6N	7N	8N	ft.	in.	ft.	in.	ft.		in.		
NP1	I	#5	92	46				46				10	8	9	6	0	5	0	5	Footing
NP2	I	#7	48	24				24				13	2	11	6	0	7	0	7	Footing
NP3	I	#5	360		80	80	80		40	40	40	12	8	11	6	0	5	0	5	Footing
NP4	I	#11	78		26	26	26					18	1	14	6	1	2	1	5	Footing
NP5	I	#6	72		24	24	24					15	10	14	6	0	6	0	6	Footing
NP6	I	#6	120						40	40	40	12	10	11	6	0	6	0	6	Footing
NP7	I	#10	138						46	46	46	19	3	16	0	1	0 3/4	1	3 1/4	Footing
NP8	I	#5	138						46	46	46	17	2	16	0	0	5	0	5	Footing
NP9	T3	#5	60	6	8	8	8	6	8	8	8	22	9	6	7					Footing
NP10	Str.	#5	224	28	28	28	28	28	28	28	28	4	7	4	7					Column
NP11	3I	#10	108	54				54				29	7	27	11	1	0 3/4	1	3 1/4	Column
NP12	3I	#11	642		108	108	108		106	106	106	31	4	29	6	1	2	1	5	Column
NP13	Str.	#10	108	54				54				21	5	21	5					Column
NP14	Str.	#10	108		54	54						22	11	22	11					Column
NP15	Str.	#10	54					54				20	3	20	3					Column
NP16	Str.	#8	318						106	106	106	21	3	21	3					Column
NP17	Str.	#10	54	54								15	0	15	0					Column
NP18	Str.	#10	54					54				21	6	21	6					Column
NP19	Str.	#10	54		54							16	10	16	10					Column
NP20	Str.	#10	54			54						18	3	18	3					Column
NP21	Str.	#10	54				54					20	1	20	1					Column
NP22	Str.	#8	106						106			23	3	23	3					Column
NP23	Str.	#8	106							106		25	5	25	5					Column
NP24	Str.	#8	106								106	26	8	26	8					Column
NP25	T5	5/8" Bar	2	2								1119	6	6	7					Column-Ties
NP26	T5	5/8" Bar	2					2				1253	1	6	7					Column-Ties
NP27	T5	5/8" Bar	2		2							1188	0	6	7					Column-Ties
NP28	T5	5/8" Bar	2			2						1217	1	6	7					Column-Ties
NP29	T5	5/8" Bar	2				2					1179	5	6	7					Column-Ties
NP30	T5	5/8" Bar	2					2				1302	8	6	7					Column-Ties
NP31	T5	5/8" Bar	2							2		1347	3	6	7					Column-Ties
NP32	T5	5/8" Bar	2								2	1372	11	6	7					Column-Ties
NP33	Str.	#5	620	76	80	80	74	76	78	78	78	19	10	19	10					Wall
NP34	Str.	#5	620	76	80	80	74	76	78	78	78	17	9	17	9					Wall
NP35	Str.	#5	544	68	68	68	68	68	68	68	68	21	10	21	10					Wall
NP36	Str.	#5	28	12				16				19	4	19	4					Wall
NP37	Str.	#5	108	56				52				18	0	18	0					Wall
NP38	Str.	#5	32		16	16						20	10	20	10					Wall
NP39	Str.	#5	104		52	52						19	6	19	6					Wall
NP40	Str.	#5	16				16					18	2	18	2					Wall
NP41	Str.	#5	52				52					16	10	16	10					Wall
NP42	Str.	#5	48						16	16	16	20	1	20	1					Wall
NP43	Str.	#5	156						52	52	52	18	8	18	8					Wall
NP44	S10	#5	544	68	68	68	68	68	68	68	68	4	6	1	6	1	6	1	6	Wall
NP45	2B	#5	4	4								11	5	8	4	2	4	3	1	Rib
NP46	2B	#5	4					4				18	0	14	11	2	4	3	1	Rib
NP47	2B	#5	4		4							13	3	10	2	2	4	3	1	Rib
NP48	2B	#5	4			4						14	8	11	7	2	4	3	1	Rib
NP49	2B	#5	4				4					16	7	13	5	2	4	3	1	Rib
NP50	2B	#5	4					4				19	9	16	8	2	4	3	1	Rib

MARK	TYPE	SIZE	TOTAL NO OF Bars	NUMBER OF BARS PER PIER								LENGTH		Dim. a, b, C			LOCATION						
				1N	2N	3N	4N	5N	6N	7N	8N	ft.	in.	ft.	in.	ft.		in.					
NP51	2B	#5	4												4					Rib			
NP52	2B	#5	4											4	23	2	20	1	2	4	3	1	Rib
NP53	Str.	#5	8	8									11	0	11	0							Rib
NP54	Str.	#5	12												12								Rib
NP55	Str.	#5	12												12								Rib
NP56	Str.	#5	12												12	10	12	10					Rib
NP57	Str.	#5	12												14	3	14	3					Rib
NP58	Str.	#5	12												16	1	16	1					Rib
NP59	Str.	#5	12												19	3	19	3					Rib
NP60	Str.	#5	16												16								Rib
NP61	S10	#5	96	12	12	12	12	12	12	12	12	8	6	1	6	3	6	3	6				Rib
NP62	S10	#5	92	8	12	12	12	12	12	12	12	10	0	1	6	4	3	4	3				Rib
NP63	S10	#5	56			4	6	10	12	12	12	11	6	1	6	5	0	5	0				Rib
NP64	S10	#5	16												2	6	8						Rib



Notes:
 All bar dimensions are out to out.
 1 1/2 turns @ 0" pitch shall be provided at each end of the spiral ties (NP 25 thru NP 32), see GENERAL NOTES on sheet 3 for material specifications and requirements for splicing spiral ties.
 Spiral Ties may be plain round or deformed bars as specified in Art. 641.1.0 or 641.5.0 of the Standard Specifications.

SHEET 14

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
 PROJECT 1 275-9 () 0
 BRIDGE OVER OHIO RIVER ON I 275
 BETWEEN BOONE COUNTY, KENTUCKY AND
 DEARBORN COUNTY, INDIANA

STATION 55 + 23.81

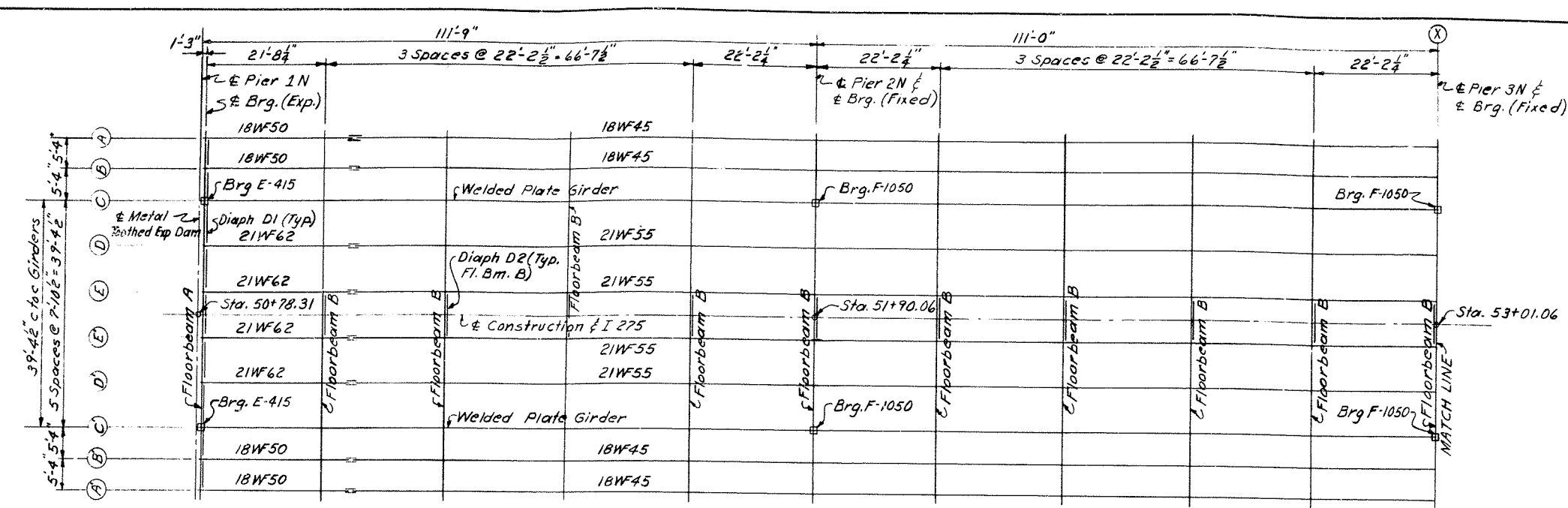
HAZELET & ERDAL
 Consulting Engineers
 File No. 8725

BRIDGE NUMBER

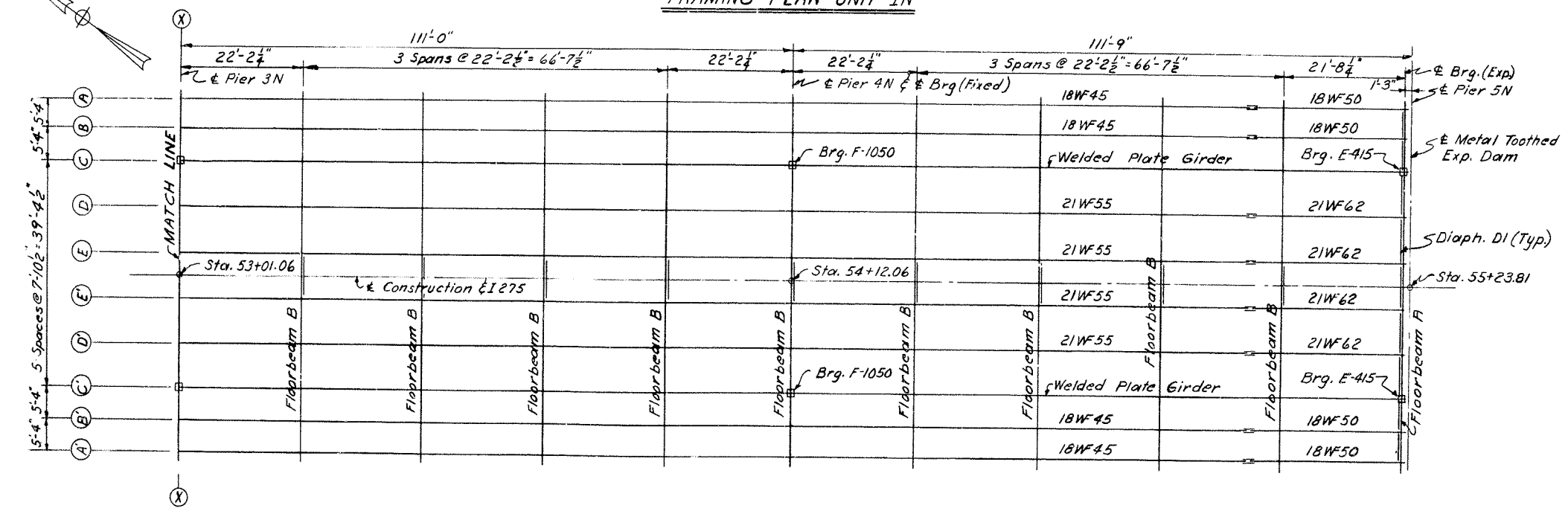
DRAWING NO. INDEX
 17210

NORTH APPROACH
BILL OF REINFORCEMENT
SUBSTRUCTURE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



FRAMING PLAN-UNIT 1N



FRAMING PLAN-UNIT 1N

Notes:
 For Structural Steel Notes see Sheet 4.
 For General Notes see Sheet 3.
 Steel - A36 U.N.
 Bolts - $\frac{3}{4}$ " A325 friction type H.S. U.N.
 Holes - $\frac{1}{8}$ " U.N.
 All dimensions shown are horizontal. These should be corrected for grade where applicable.

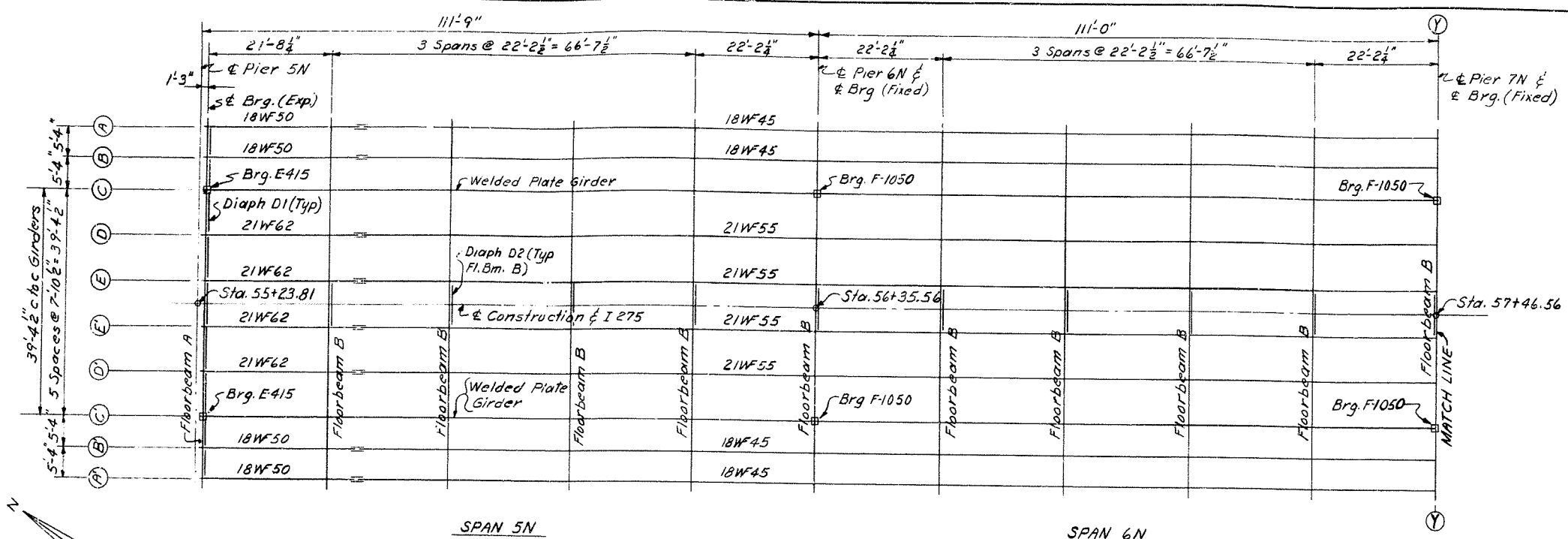
See Special Note for Structural Steel
 For Bearing Details see sheet 22.
 All floorbeam webs and stiffeners are to be truly vertical.

DESIGNED BY: K.W.T. CHECKED BY: WFB
 DATE: 12/21/50
 REVISIONS:

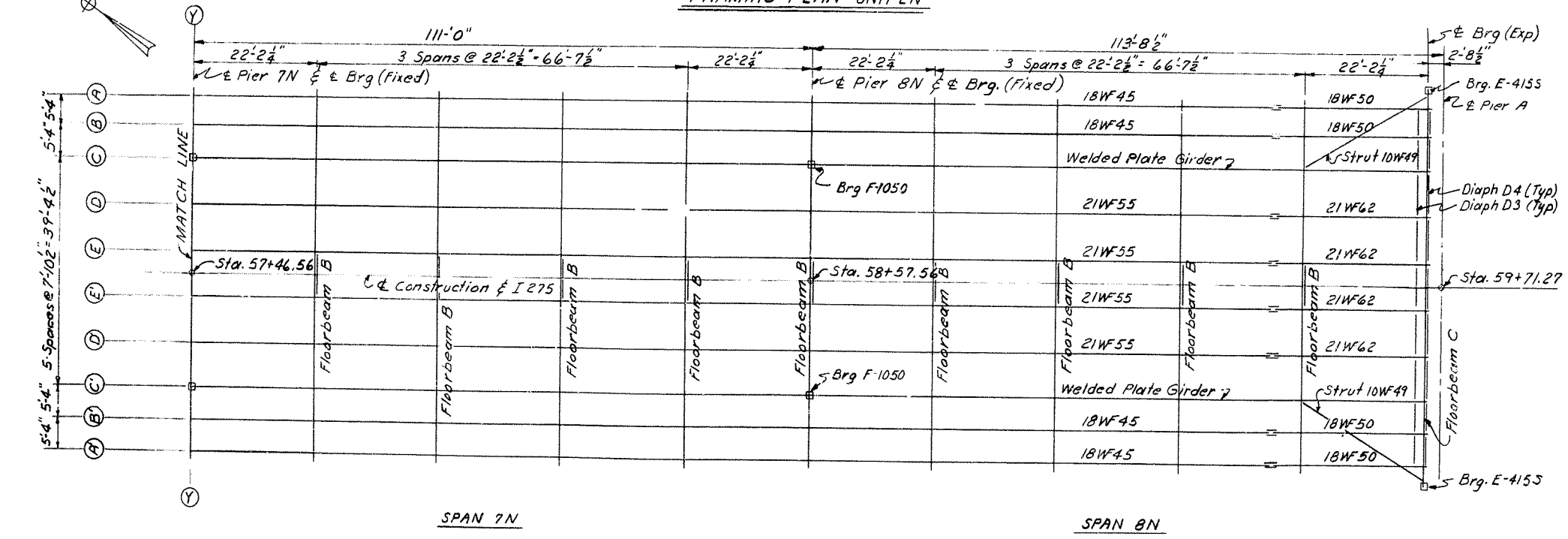
Work Sheets 15 Thru. 22 Together
 SHEET 15

NORTH APPROACH
 FRAMING PLAN
 UNIT 1N

KENTUCKY DEPARTMENT OF HIGHWAYS
 INDIANA STATE HIGHWAY COMMISSION
 PROJECT 1 275-9 () 0
 BRIDGE OVER OHIO RIVER ON I 275
 BETWEEN BOONE COUNTY, KENTUCKY AND
 DEARBORN COUNTY, INDIANA
 STATION 55+23.81
 HAZLET & ERDAL
 Consulting Engineers
 File No. 872 C
 BRIDGE NUMBER
 DRAWING NO. 17210
 INDEX



FRAMING PLAN - UNIT 2N



FRAMING PLAN - UNIT 2N

Work Sheets 15 Thru. 22 Together
SHEET 16

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

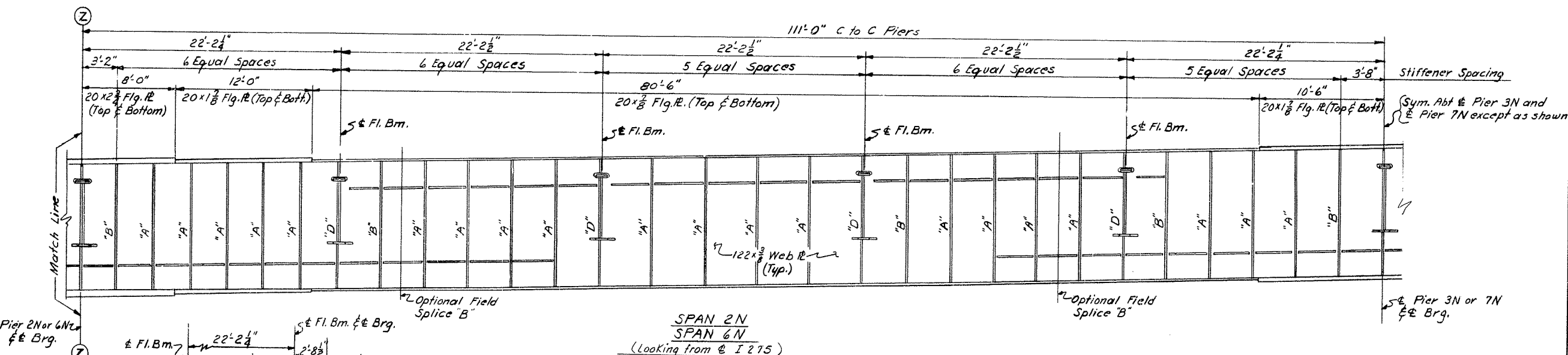
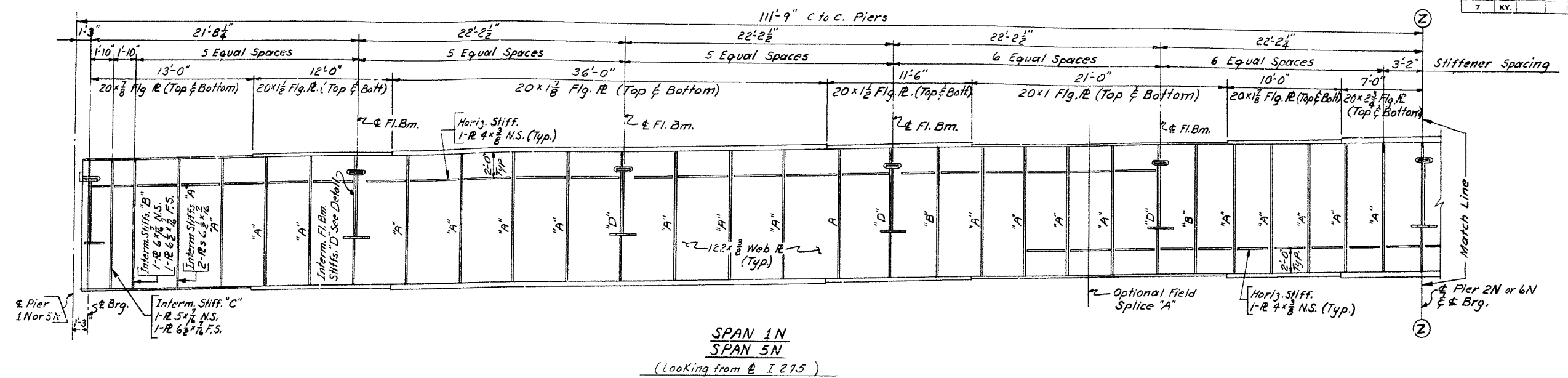
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BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55+23.81

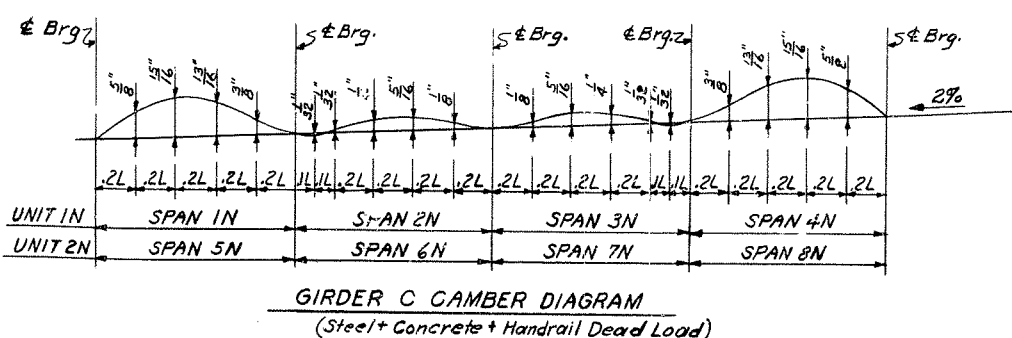
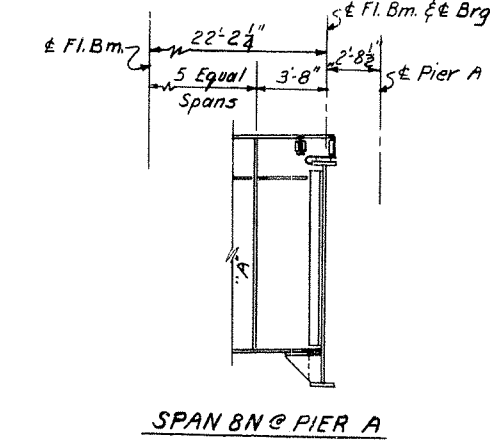
HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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**NORTH APPROACH
FRAMING PLAN
UNIT 2N**

DESIGNED BY: HWT
 CHECKED BY: JFB
 DATE: 11/27/70
 REVISIONS:



**ELEVATION GIRDER C - UNIT 1N (SHOWN)
ELEVATION GIRDER C - UNIT 2N (SAME EXCEPT AS SHOWN AT PIER A)**



Work Sheets 15 Thru. 22 Together.
SHEET 17

**KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION**

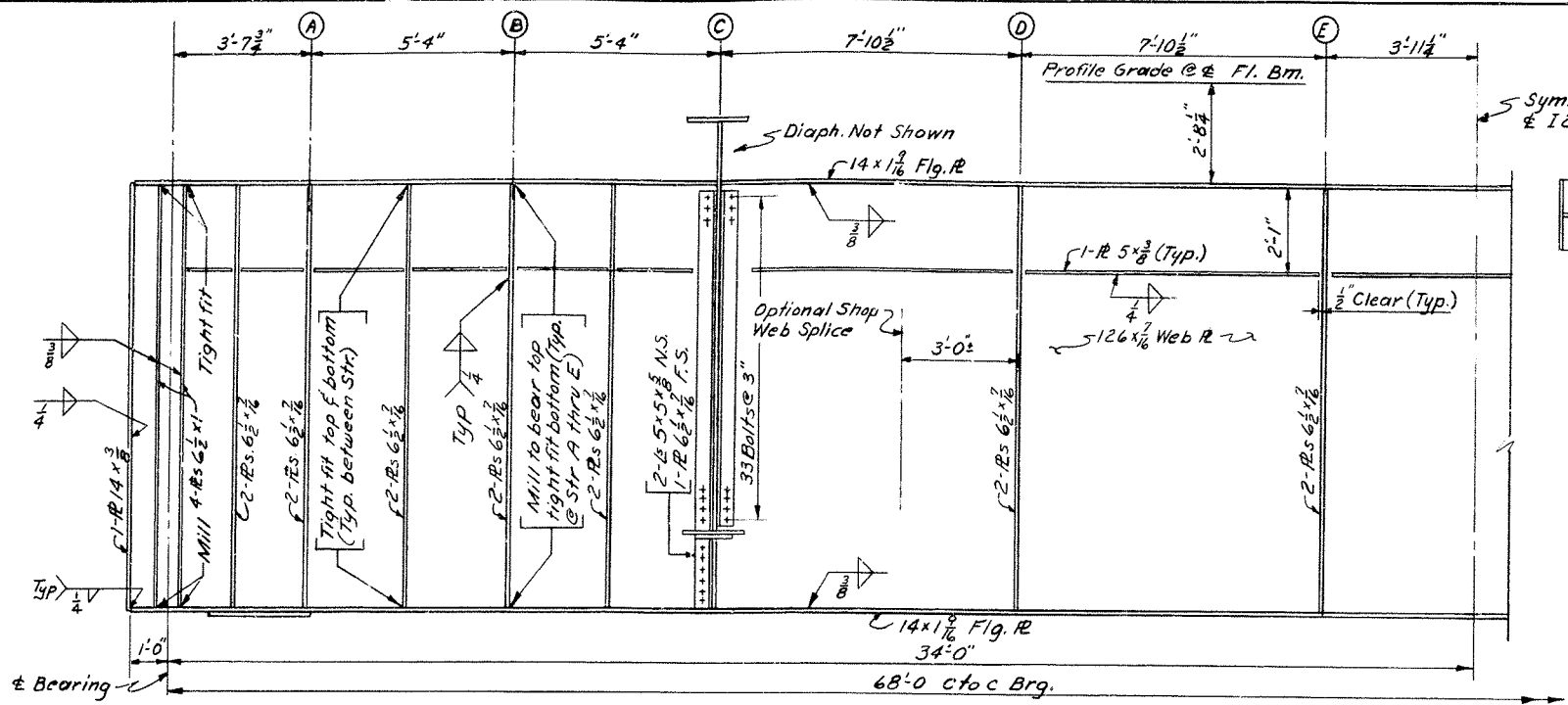
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BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55 + 23.81

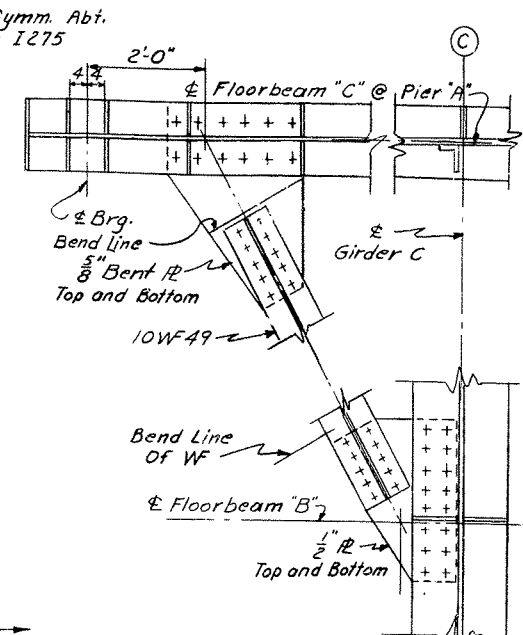
HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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**NORTH APPROACH
GIRDERS**

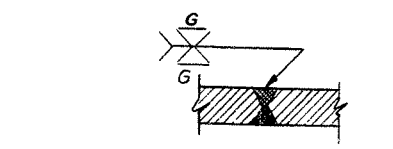
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 DESIGNED BY: W.E.B. DATE: _____
 DRAWN BY: H.M.L. DATE: _____
 SCALE: _____
 SHEET NO.: 17



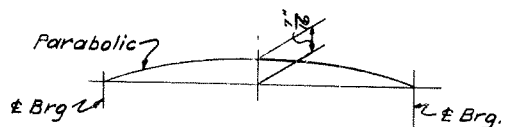
FLOORBEAM "C"



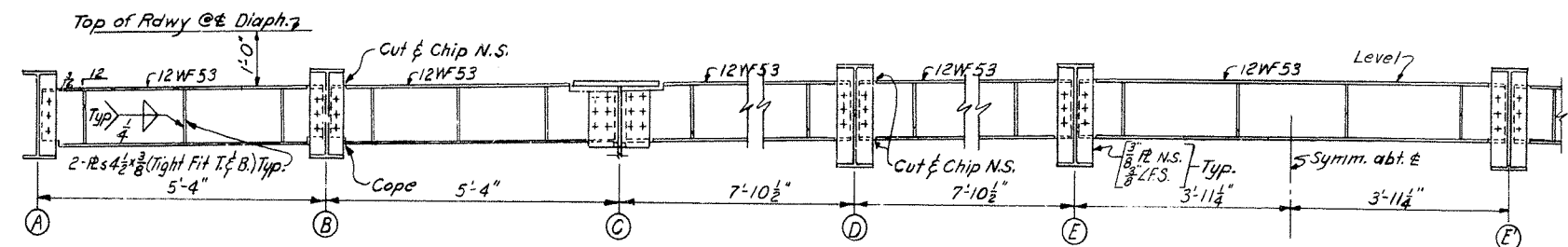
STRUT TO GIRDER DETAIL



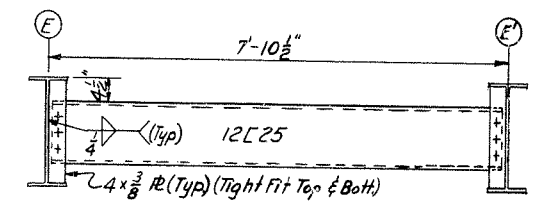
TYPICAL SHOP WEB SPLICE



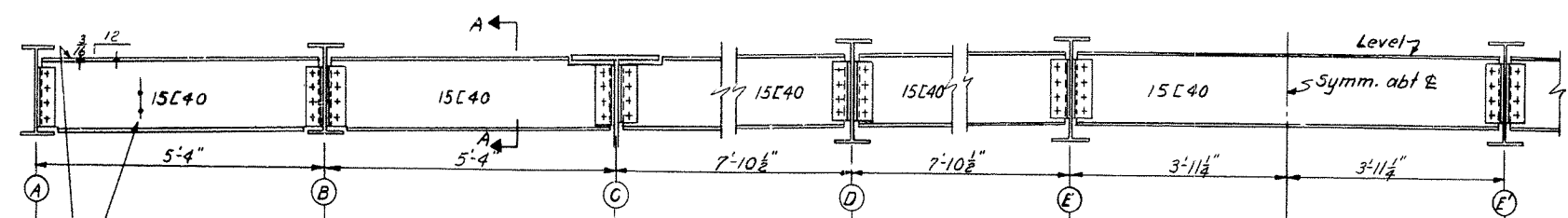
FLOORBEAM "C" CAMBER DIAGRAM



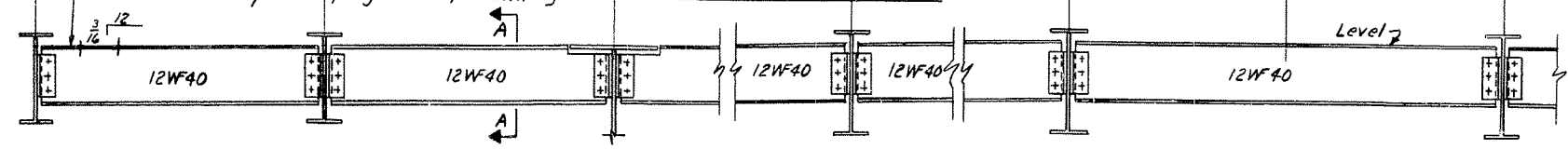
DIAPHRAGMS D1 @ PIERS IN E 5N
(See Expansion Dam for Stiff Location)



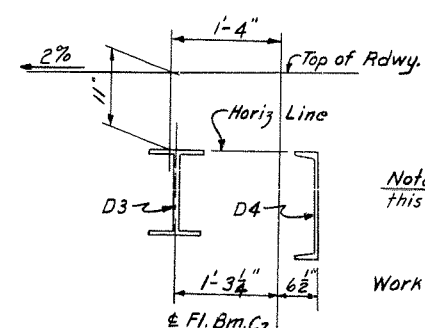
DIAPHRAGM D2



DIAPHRAGMS D4 @ PIER A



DIAPHRAGMS D3 @ PIER A



SECTION A-A

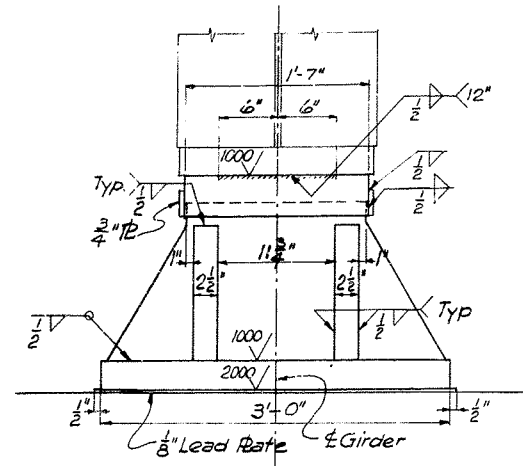
Note: D3 & D4 are a part of and furnished by this contract
Work Sheets 15 Thru. 22 Together
SHEET 20

Note: Diaphragms D3 & D4 support the Expansion Dam and drain trough at Pier A which is furnished with the Structural Steel of the Main Spans. Holes are also req'd. in the girder and stringer top flanges. The shop plans of the two projects are to be closely coordinated to assure proper fit.

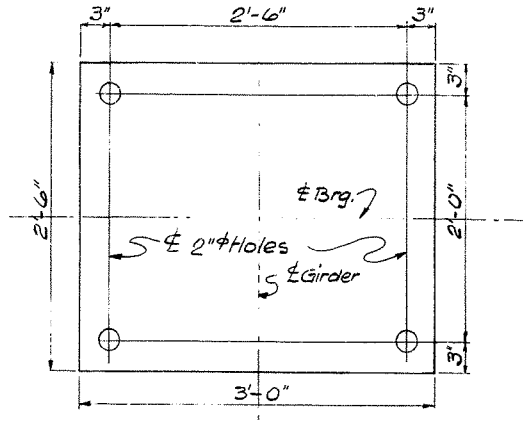
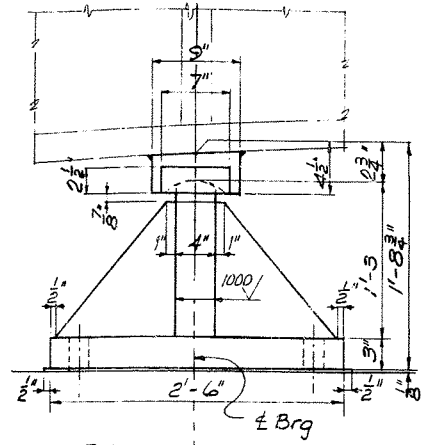
NORTH APPROACH
FLOORBEAM & DIAPHRAGMS

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT 1 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA
STATION 55+23.81
HAZLET & ERDAL
Consulting Engineers
File No. 872 C
BRIDGE
NUA BER
DRAWING NO.
17210
INDEX

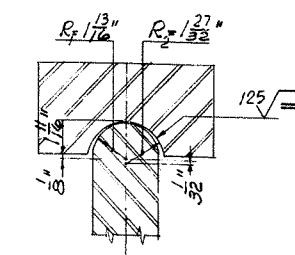
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 DATE: 12-21-57
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 DATE: 12-21-57
 REVISIONS: 1
 DATE: 12-21-57
 BY: MFB
 REASON:



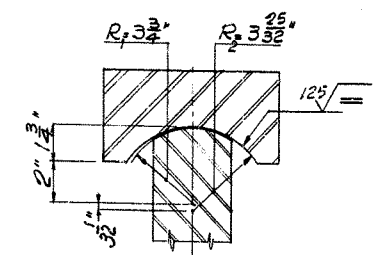
BEARING SHOE DETAIL
F-1050



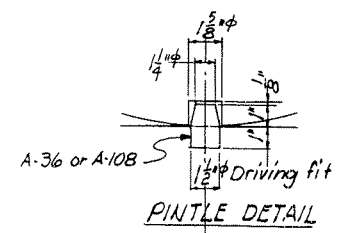
Plan of Bottom of
F-1050



Top Bearing Detail
E-415 & E-415B

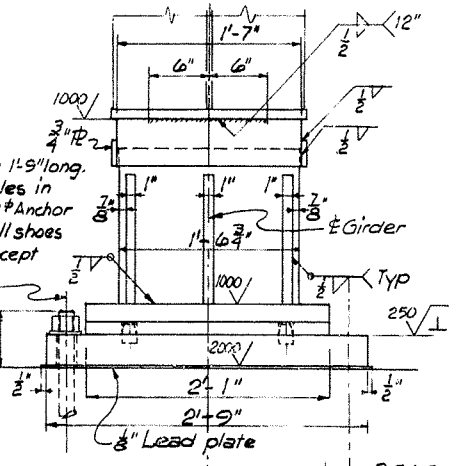


Top Bearing Detail F-1050

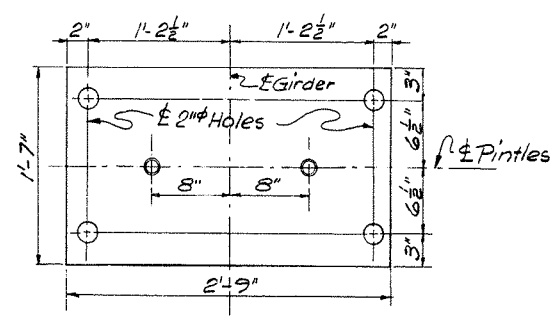
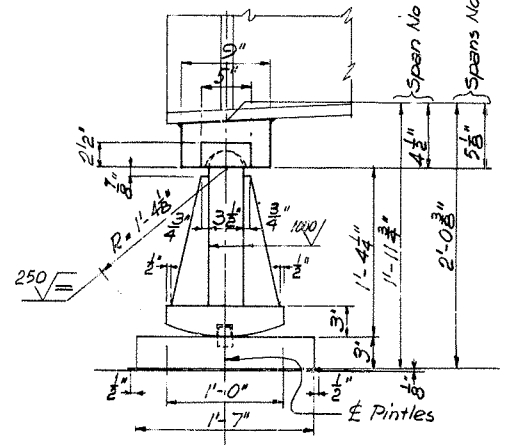


PINTLE DETAIL

1/2" Sledge Bolt 1'-9" long.
Drill 2" x 1'-3" holes in
masonry for 1/2" Anchor
Bolts. Typ. for all shoes
on this sheet except
shoe E-415B.



BEARING SHOE DETAIL
E-415



Plan of Bottom of
E-415

ANCHOR BOLTS: Holes of depth and dimensions shown on the Plans shall be drilled for anchor bolts by the Structural Steel contractor who shall be responsible for keeping holes dry in wet and freezing weather. After the base plates are properly set and anchor bolts are placed in drilled holes, molten lead shall be poured in the holes and packed until holes are completely filled flush to top of base plates. At the time of setting, anchor bolts are to be heated to a blue heat to assure free flow of lead to bottom of hole.

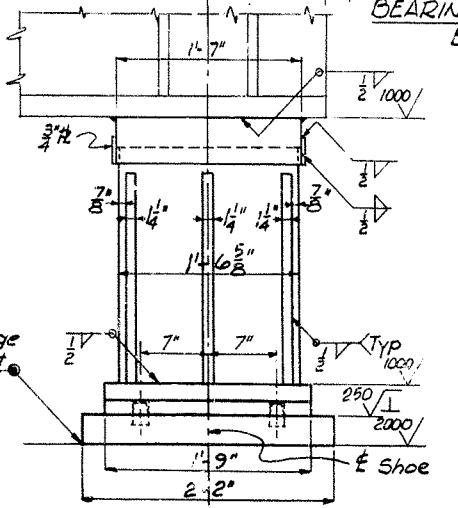
NOTES:
For Anchor bolt location see substructure plan.
For Bearing Shoe location see Framing plan, sheet 15 & 16
WHITE LEAD & TALLOW. Finished surfaces of structural steel, formed by Radii R_1 & R_2 , shall be coated with white lead and tallow in accordance with current Standard Specifications of the Kentucky Department of Highways.
SCRIBING. At each bearing the centerlines in both directions are to be scribed on all matching parts to facilitate proper field erection.
MATERIALS. All steel A-36. u.n.
FINISH SYMBOLS. For machine finish symbols see A.N.S.I. B46.1 - Current Edition

Work Sheets 15 thru 22 together.

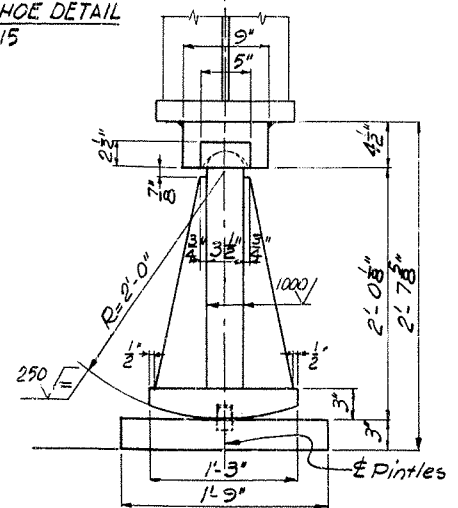
SHEET 22

CHECKED BY: C.E.B. DATE: 11/21/51
 DESIGNED BY: R.T. DATE: 11/21/51
 TRACED BY: M.J. DATE: 11/21/51
 APPROVED BY: J.S. DATE: 11/21/51

Weld to Grillage after alignment



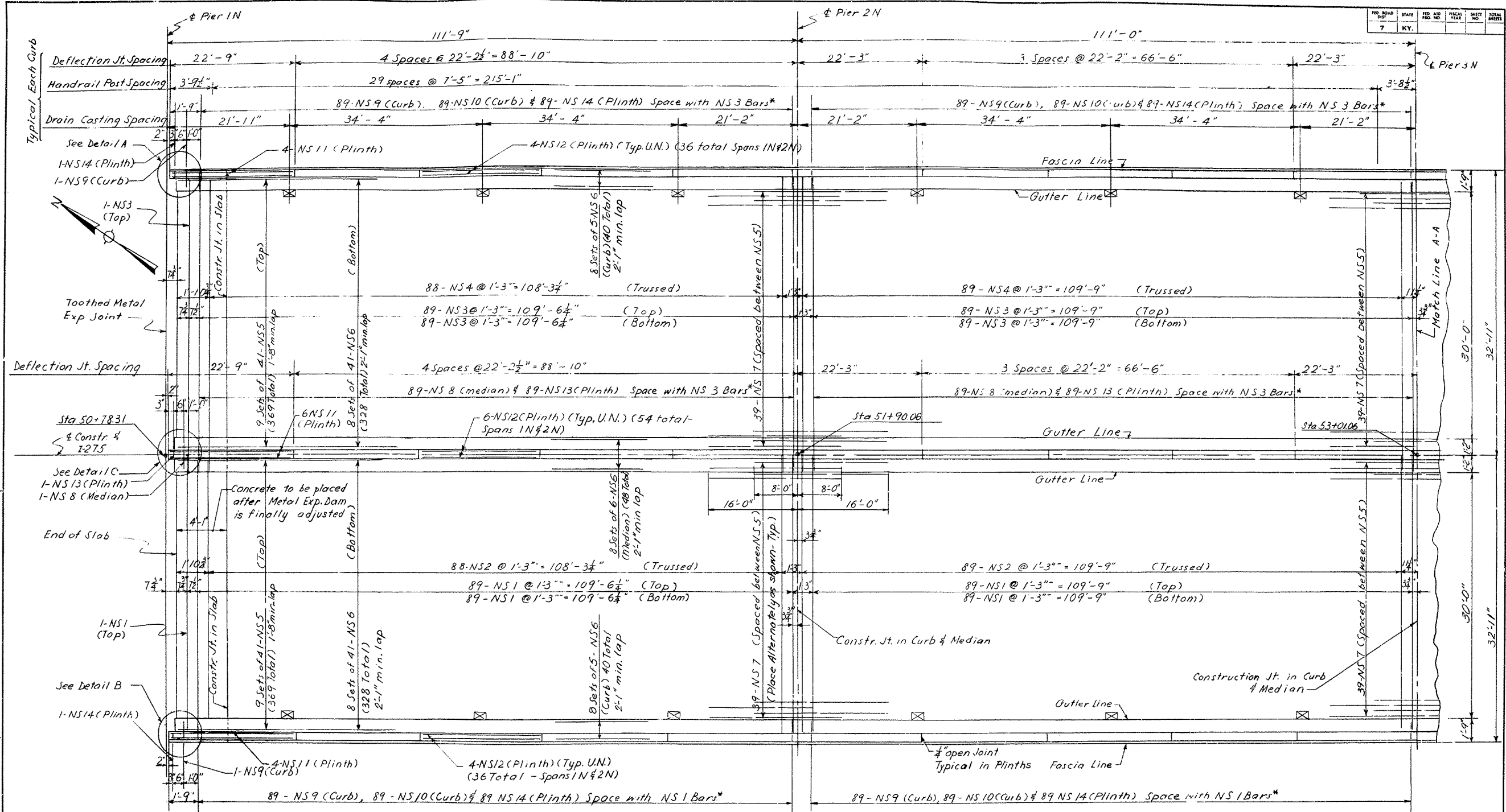
BEARING SHOE DETAIL
E-415B



NORTH APPROACH
BEARING SHOES

KENTUCKY DEPARTMENT OF HIGHWAYS INDIANA STATE HIGHWAY COMMISSION			
PROJECT 1 275-9 () 0 BRIDGE OVER OHIO RIVER ON 1 275 BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA			
STATION 55+23.81			
HAZLET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX

NO. HOLD SHEET	STATE	FED. AID DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



SPAN 1 N

SPAN 2 N

Work Sheets 23 Thru 29 Together

SHEET 23

PLAN-UNIT IN

* Adjust spacing of NS 13 & NS 14 Bars at Plinth Joints to provide 3" min. and 5" max. End clearance

Note: See sheet 29 for Slab Placing Sequence.

DESIGNED BY	CHECKED BY	DATE
REVISION	DATE	BY

NORTH APPROACH
SLAB DETAILS
UNIT IN

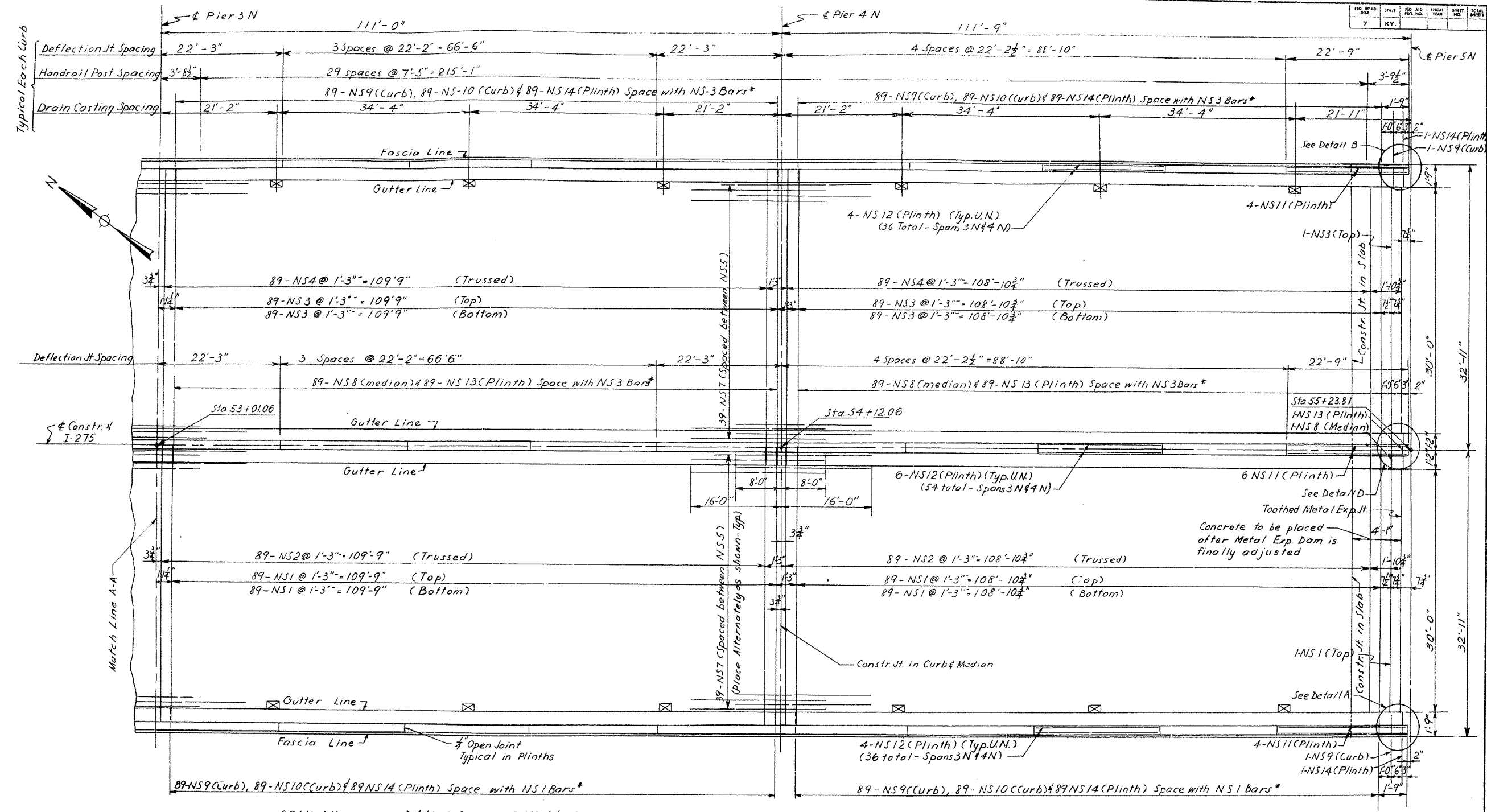
KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55+23.81

HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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FED. ROAD DIST.	STATE	FED. AID PER. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



PLAN-UNIT IN

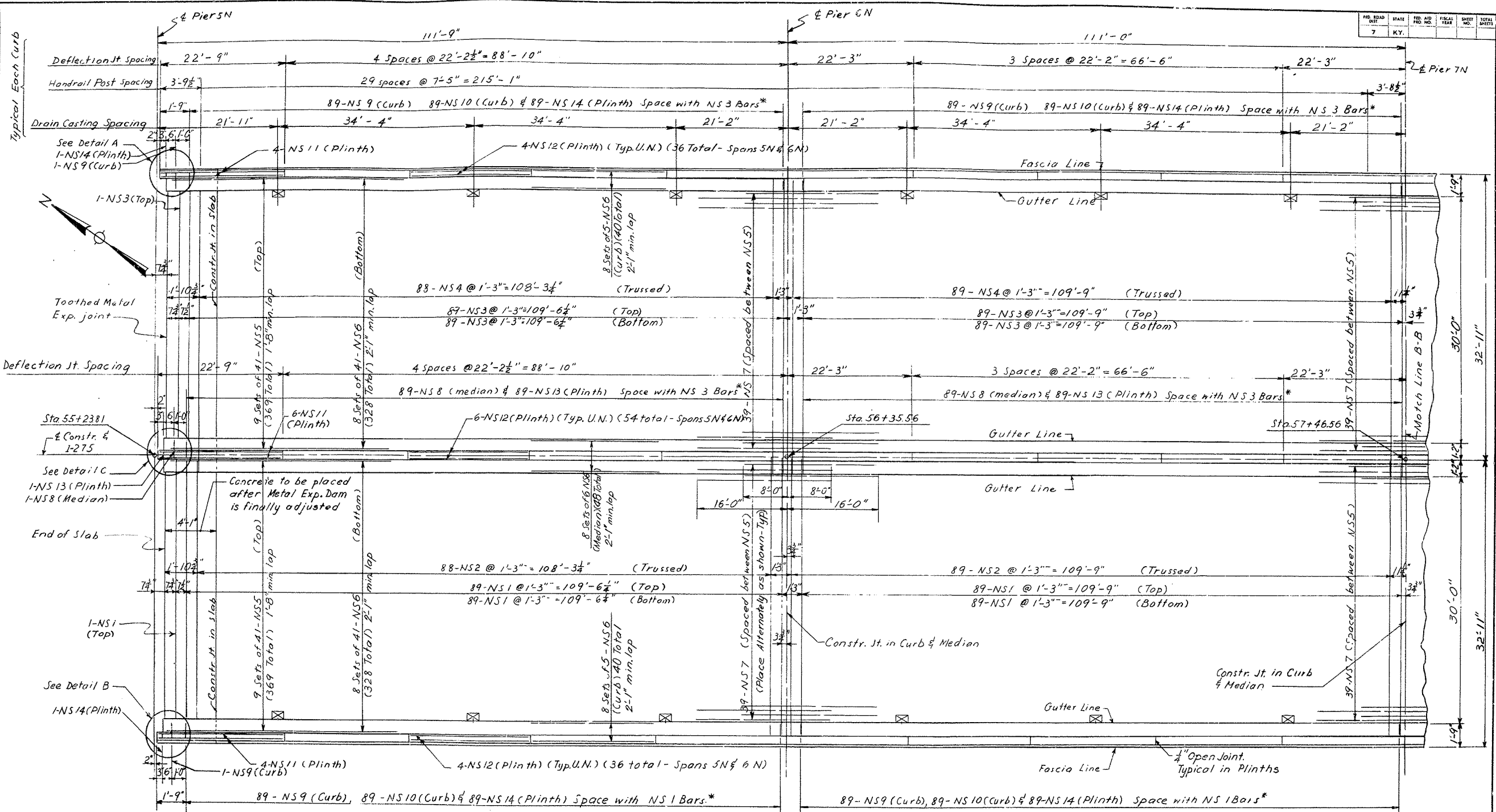
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 CHECKED BY: [Signature] DATE: []/ []/ []
 TRACED BY: [Signature] DATE: []/ []/ []

Work Sheets 23 Thru 29 Together SHEET 24

KENTUCKY DEPARTMENT OF HIGHWAYS INDIANA STATE HIGHWAY COMMISSION		
PROJECT 1 275-9 (10) BRIDGE OVER OHIO RIVER ON I 275 BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA		
STATION 55+23.81		
HAZLET & ERDAL Consulting Engineers File No. 872C	BRIDGE NUMBER	DRAWING NO 17210
		INDEX

**NORTH APPROACH
SLAB DETAILS
UNIT IN**

NO. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



SPAN 5N

*Adjust Spacing of NS13 & NS14 Bars at Plinth Joints to provide 3" min. and 5" max. End Clearance

SPAN 6N

Work Sheets 23 Thru 29 Together

SHEET 25

PLAN-UNIT 2 N

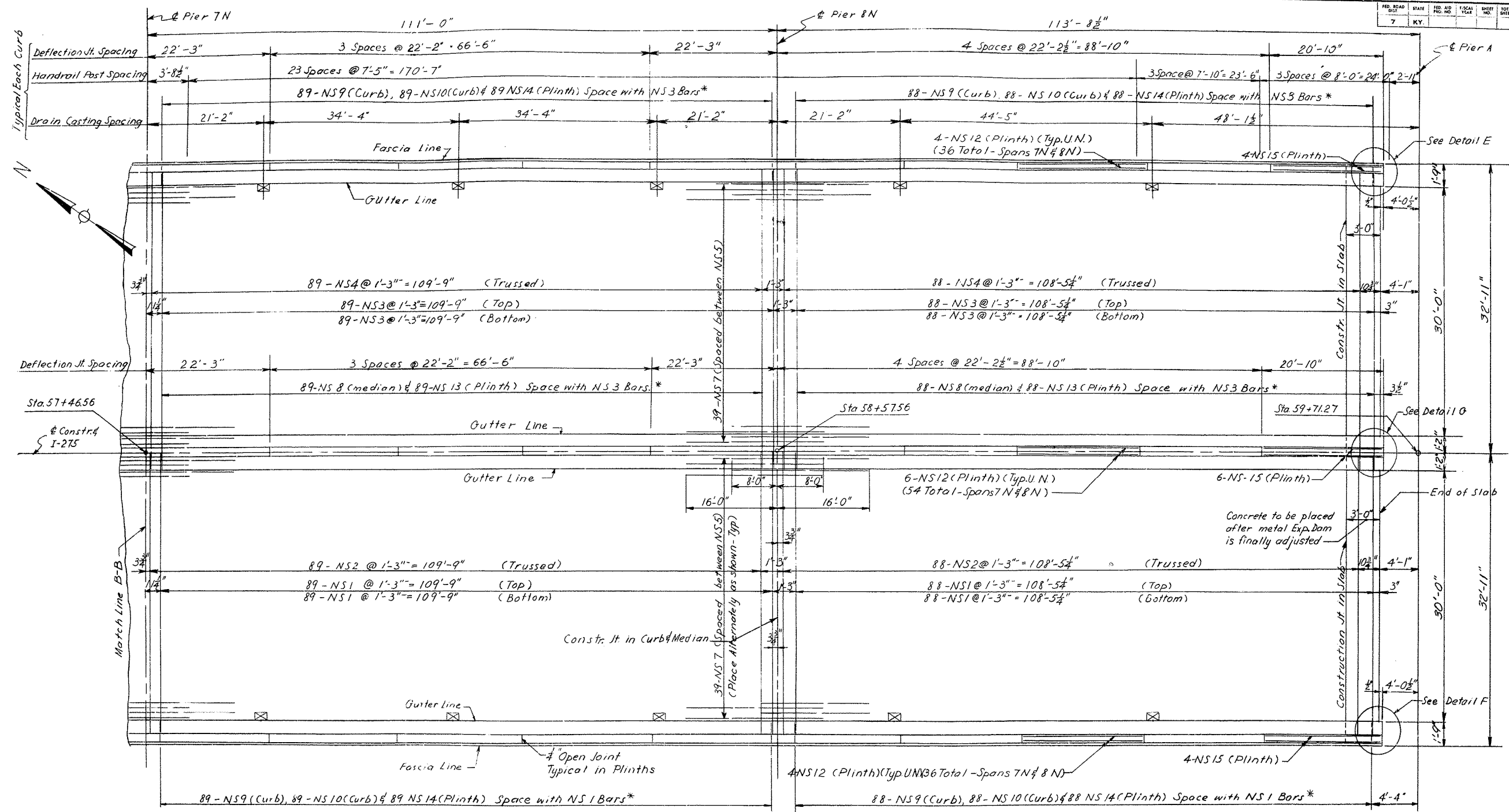
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NORTH APPROACH
SLAB DETAILS
UNIT 2N

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
 PROJECT 1 275-9 () 0
 BRIDGE OVER OHIO RIVER ON I 275
 BETWEEN BOONE COUNTY, KENTUCKY AND
 DEARBORN COUNTY, INDIANA

STATION 55 + 23.81

HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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* Adjust Spacing of N13 & N14 Bars at Plinth Joints to provide 3' min and 5' max End Clearance

PLAN - UNIT 2N

Work Sheets 23 Thru 29 Together

SHEET 26

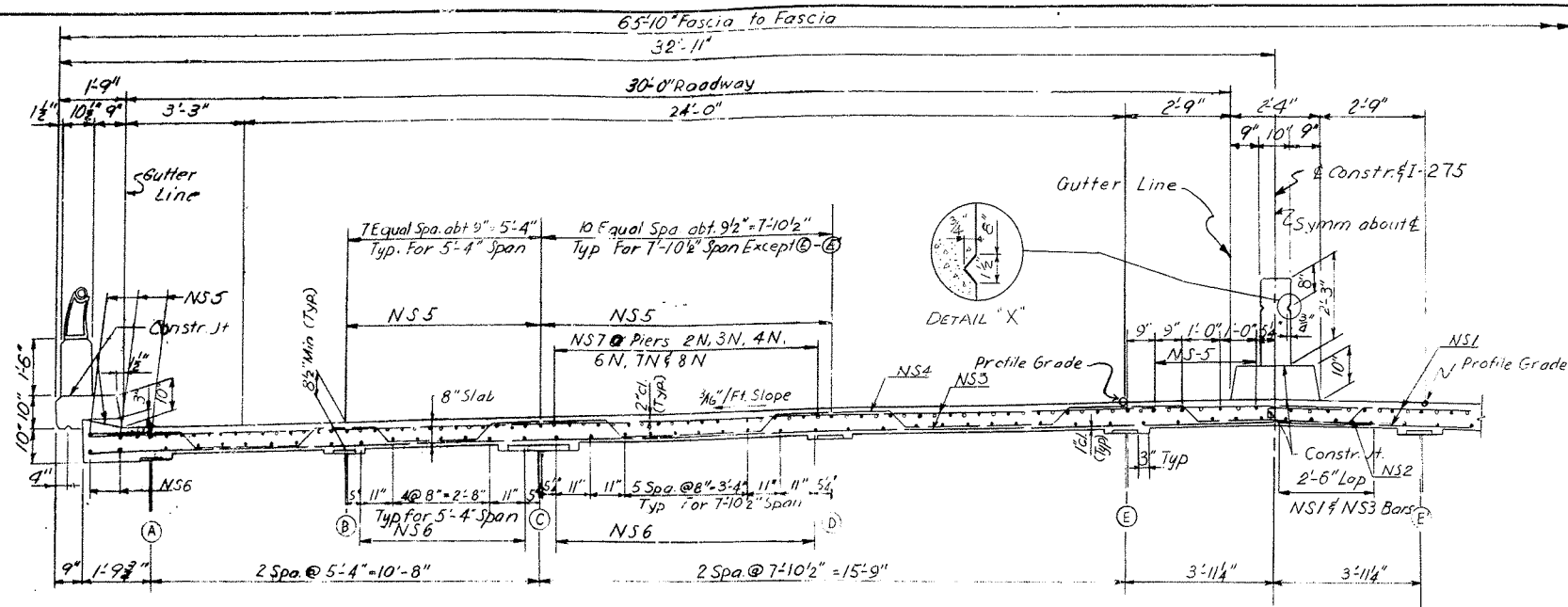
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KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
 PROJECT 1275-9 () 0
 BRIDGE OVER OHIO RIVER ON I 275
 BETWEEN BOONE COUNTY, KENTUCKY AND
 DEARBORN COUNTY, INDIANA

NORTH APPROACH
SLAB DETAILS
UNIT 2N

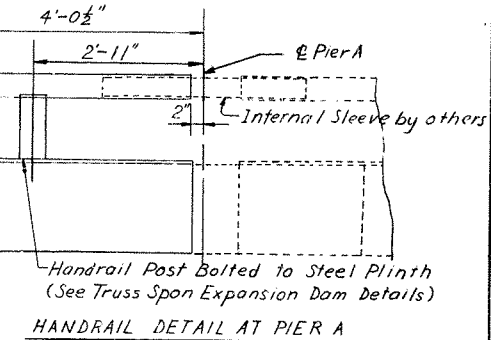
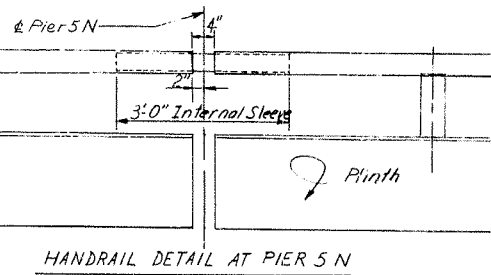
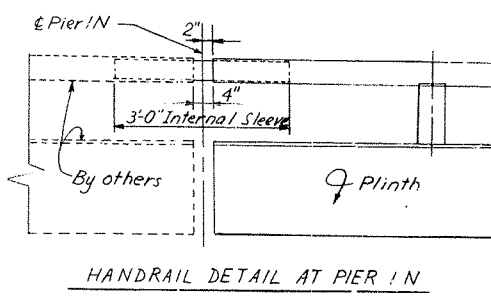
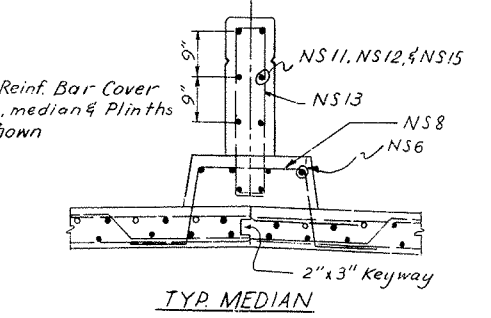
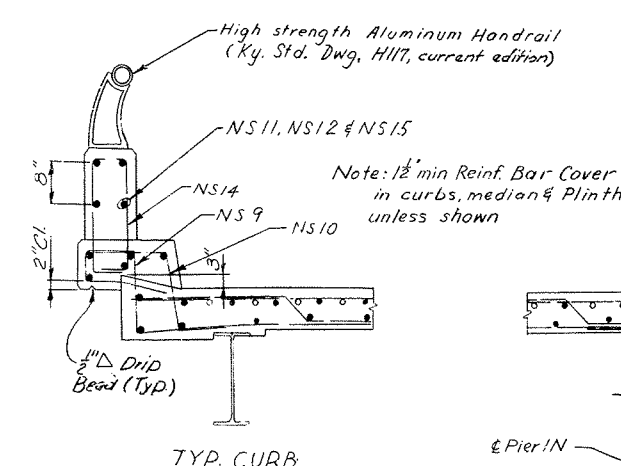
STATION 55+23.81
 HAZLET & ERDAL Consulting Engineers File No. 872 C
 BRIDGE NUMBER
 DRAWING NO. 17210
 INDEX

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



TYPICAL SECTION

Note:
The top transverse reinforcement in the roadway slabs shall be anchored to the forms with a tie down device at 8 feet centers. The Contractor shall submit the proposed anchor to the Engineer for approval.



Work Sheets 23 Thru 29 Together SHEET 27

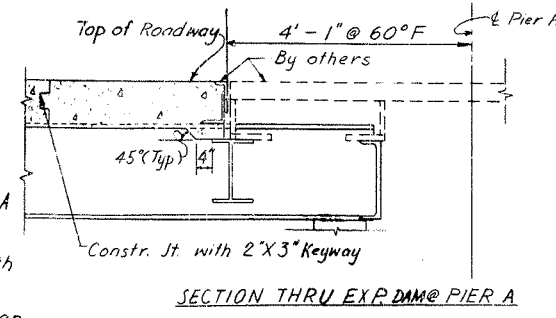
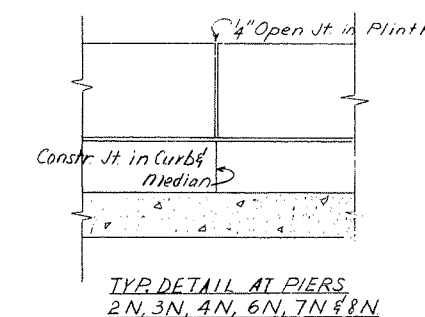
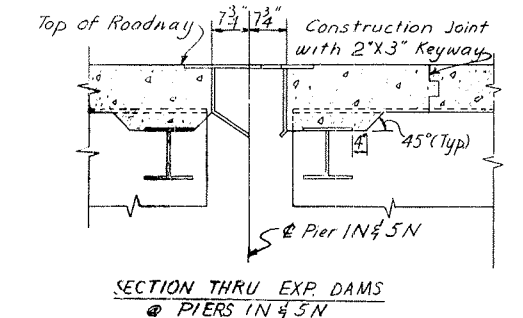
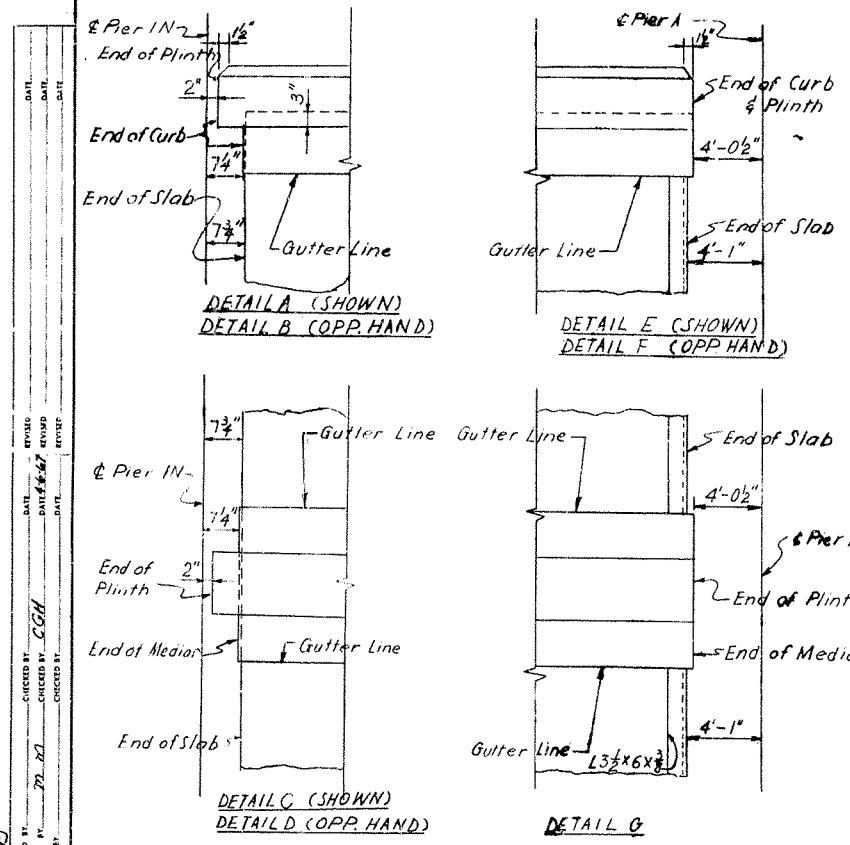
**KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION**

PROJECT 1 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

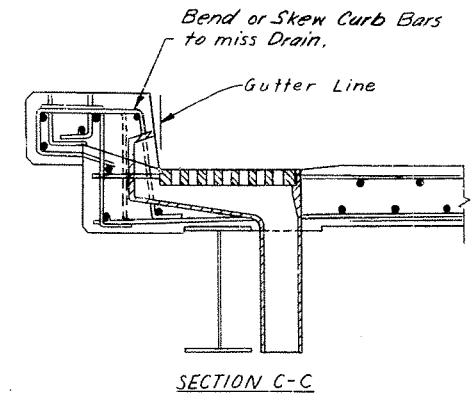
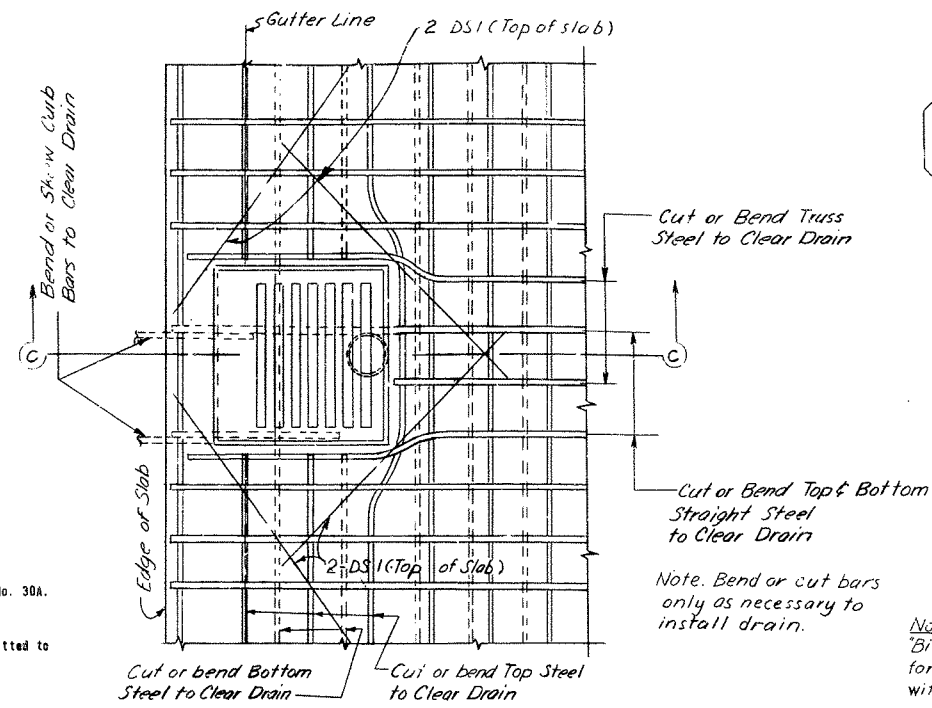
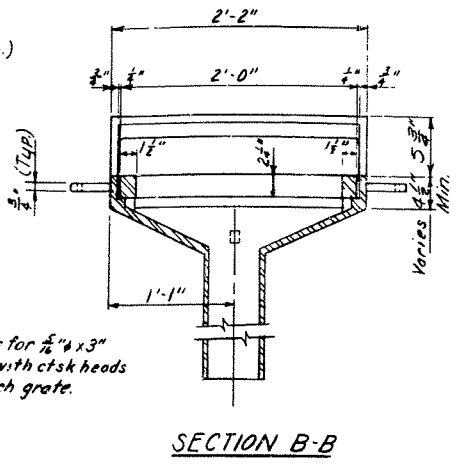
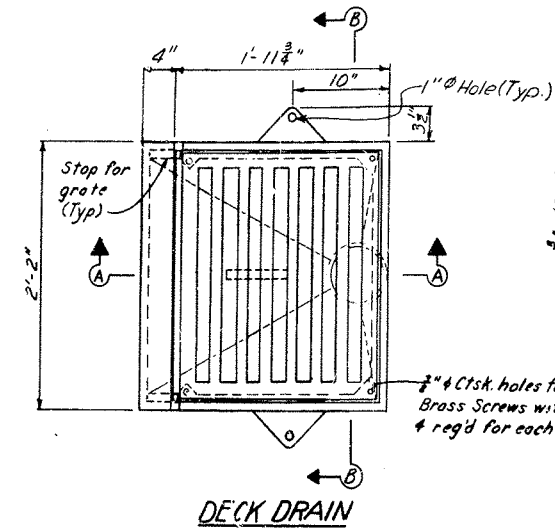
STATION 55 + 23.81

HAZELET & ERDAL Consulting Engineers File No. 872C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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**NORTH APPROACH
SLAB DETAILS
UNITS IN & 2N**

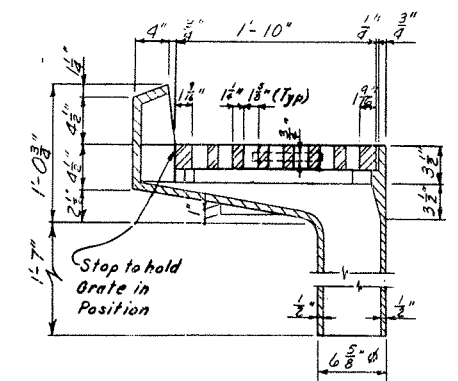


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 DRAWN BY: [] DATE: []
 REVISIONS: []
 SCALE: []



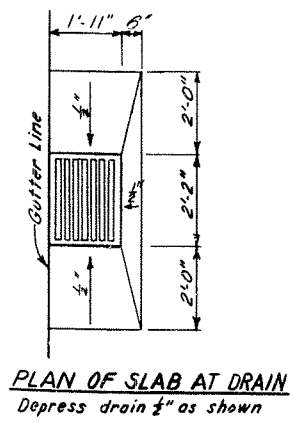
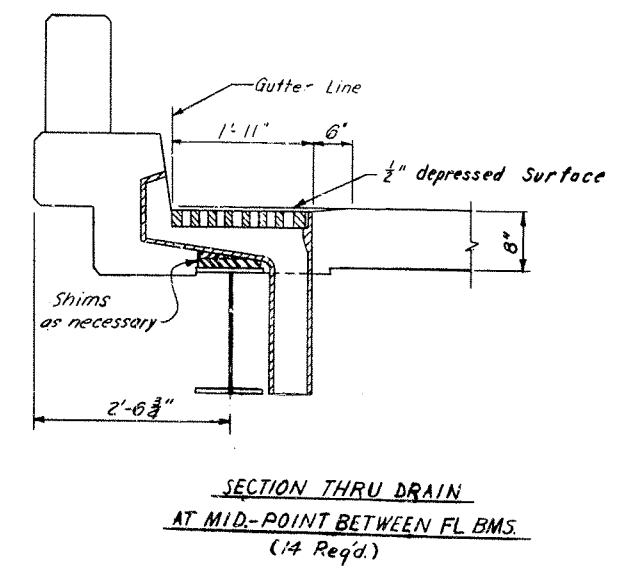
BILL OF REINFORCEMENT					
Mark	Type	Size	No.	Length	
				Ft.	In.
DSI	Str	6	4	4	0

Note: "Bill of Reinforcement" indicates the number required for each installation and bars billed for construction with superstructure.

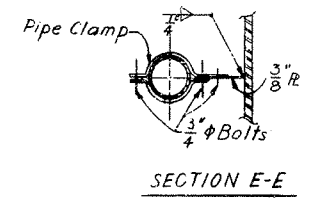


Foundry Notes
 Body of Drain Casting shall be Gray Cast Iron, ASTM A48, Class No. 30A.
 Drain Grates shall be Cast Steel, ASTM A27, Grade 70-30.
 Fit grate to body and ship in place.
 Form HD 64-201 report of field inspection of castings is to be submitted to the laboratory.
 Payment for drain castings will be included in lump sum price of Structural Steel.
 For painting, see Structural Steel Notes Sheet.
 Wall thickness of castings to be 3/4" except down pipe.
 Down pipe to have 1/2" wall thickness.

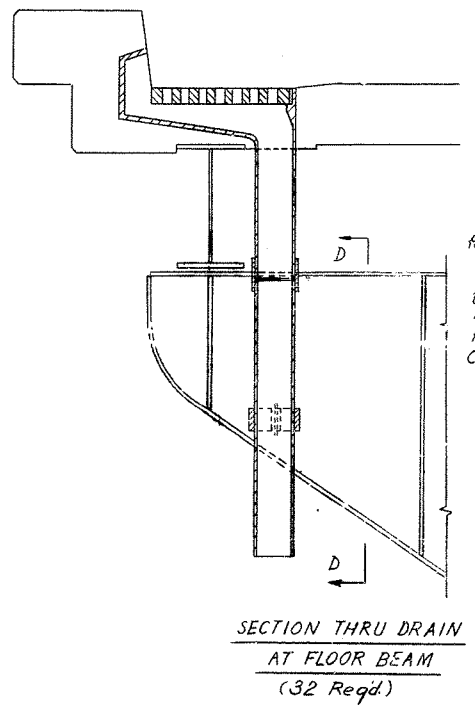
SECTION A-A



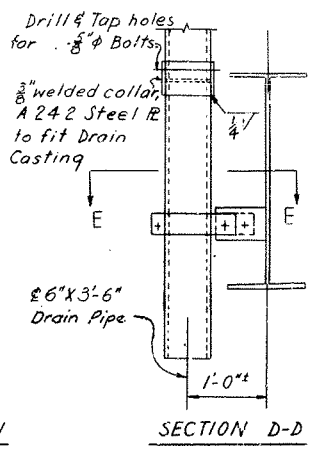
PLAN OF SLAB AT DRAIN
Depress drain 1/2" as shown



SECTION E-E



SECTION THRU DRAIN AT FLOOR BEAM (32 Req'd)



SECTION D-D

Note: 6" drain pipe will be paid for at the unit price bid for "6 Diameter Drain Pipe" which price shall include and be full payment for furnishing and installing, complete in place and accepted, all materials including weld material and welding, brackets, pipe clamps and hangers, fittings, connections, hardware and tools, paint and painting, equipment and incidentals necessary to complete the work.

See Sheet 29 for additional drainage details in Spans 1N & 5N.

Work Sheets 23 Thru 29 Together.

SHEET 28

**KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION**

PROJECT 1275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55+23.81

HAZLET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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**NORTH APPROACH
DRAINAGE DETAILS**

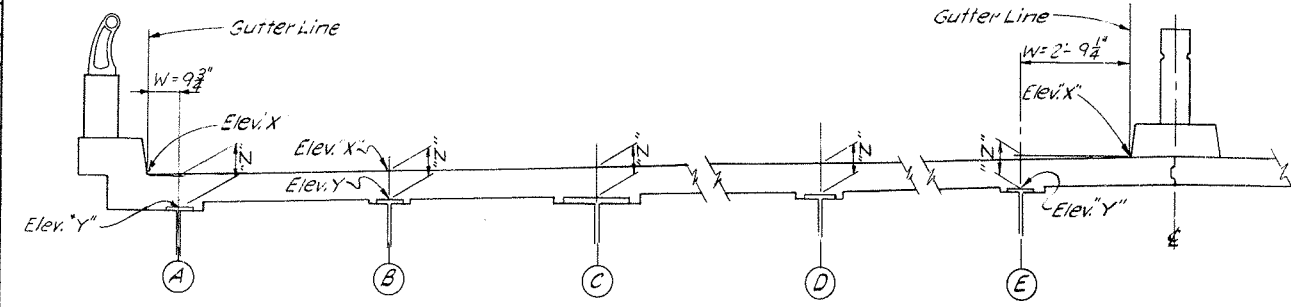
UNIT IN-NORTH BOUND

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

TABLE OF ELEVATIONS FOR UNIT

SECTION	STRINGER A			STRINGER B			GIRDER C			STRINGER D			STRINGER E		
	x@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	x@Gutter	Y	Z
1-1	528.948			529.043			529.118			529.248			529.416		
2-2	529.111			.205			.281			.410			.579		
3-3	.288			.360			.442			.567			.737		
4-4	.426			.519			.600			.726			529.895		
5-5	.581			.674			.753			529.880			530.049		
6-6	.730			.823			529.905			530.031			.199		
7-7	529.882			529.975			530.054			.182			.350		
8-8	530.026			530.119			.198			.326			.495		
9-9	.166			.259			.341			.467			.635		
10-10	.309			.402			.482			.609			.778		
11-11	.446			.539			.618			.746			530.914		
12-12	.580			.673			.755			530.881			531.049		
13-13	.722			.815			530.894			531.021			.190		
14-14	530.860			530.953			531.032			531.160			531.328		
15-15	531.149			531.242			531.321			531.449			531.618		
16-16	.297			.390			.469			.597			.766		
17-17	.446			.539			.621			.746			531.915		
18-18	.602			.695			.774			531.902			532.070		
19-19	.755			.849			531.928			532.055			.224		
20-20	531.906			531.999			532.081			.207			.375		
21-21	532.061			532.154			.233			.361			.529		
22-22	.208			.301			.380			.507			.676		
23-23	.355			.448			.530			.655			.824		
24-24	.503			.596			.675			.803			532.972		
25-25	.647			.740			.819			532.946			533.115		
26-26	.786			532.879			532.961			533.087			.255		
27-27	532.932			533.026			533.105			.232			.401		
28-28	533.076			533.169			.248			533.375			533.544		
29-29	533.372			533.466			533.545			533.671			533.841		
30-30	.523			.616			.696			.823			533.992		
31-31	.674			.767			533.849			533.974			534.143		
32-32	.831			533.924			534.003			534.130			.299		
33-33	533.982			534.076			.155			.282			.451		
34-34	534.131			.224			.306			.431			.600		
35-35	.280			.373			.453			.580			.749		
36-36	.429			.522			.601			.728			534.897		
37-37	.570			.663			.745			534.871			535.039		
38-38	.716			.809			534.888			535.016			.185		
39-39	.858			534.951			535.030			.157			.326		
40-40	534.998			535.091			.173			.298			.467		
41-41	535.146			.239			.319			.446			.615		
42-42	535.293			535.386			535.465			535.592			535.761		
43-43	535.597			535.690			535.769			535.896			536.065		
44-44	.753			535.846			535.925			536.052			.221		
45-45	535.908			536.001			536.083			.208			.377		
46-46	536.070			536.163			.243			.370			.539		
47-47	536.229			536.322			536.401			536.528			536.697		

SECTION	STRINGER A			STRINGER B			GIRDER C			STRINGER D			STRINGER E		
	x@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	x@Gutter	Y	Z
48-48	536.382			536.475			536.557			536.683			536.851		
49-49	.539			.632			.711			.839			537.007		
50-50	.690			.783			536.861			536.989			.158		
51-51	.835			536.928			537.010			537.135			.304		
52-52	536.982			537.074			.154			.281			.450		
53-53	537.122			.215			.295			.422			.591		
54-54	.260			.353			.434			.560			.729		
55-55	.400			.494			.570			.700			537.868		
56-56	537.534			537.628			537.704			537.834			538.002		



TYPICAL SECTION
CONSTRUCTION NOTES FOR LINES A THRU E

1. Lay out Sections ①-①, ②-② etc. as shown in plan on the various Construction Elevations Sheets. Center punch marks on top of girders and stringers for elevation points.
2. Read elevations on top of girders and stringers as erected, after diaphragms are in place and shoring and falsework removed but before forms are placed and before deck slab, curbs, median, etc. are poured. These elevations are to be entered in the table as Elevation "Y".
3. Compute Dimension "Z" (see Typical Section). Top of concrete Elevation "X" minus Elevation "Y" equals Dimension "Z".
4. Always measure from top of slab (Dimension "Z") for setting templates. DO NOT set templates by Elevation "X".
5. Elevation "X" includes calculated deflections due to weight of floor slab, curbs, pilings, handrail and median.
6. Gutter line elevations ("X@Gutter") contain the deflections of the adjacent stringer as shown in Typical Section. Dimension "Z" will indicate the difference in elevation of the top of steel at the center punch mark and the gutter line at a point measured along the section line. The Gutter Line is "W" distance from the center of stringers.
7. Contractor shall adjust elevations of top of metal expansion dams with adjacent elevations of completed slab so as to eliminate deviations in elevation.

Work sheets 30 thru 34 together
SHEET 31

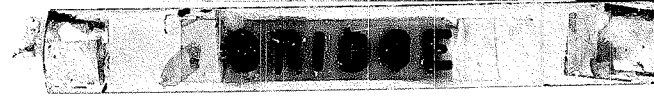
KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT 1 275-9 () 0
BRIDGE OVER OHIO RIVER ON 1 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55 + 23.81

HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO. 17210	INDEX
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NORTH APPROACH
CONSTRUCTION ELEVATIONS
UNIT IN



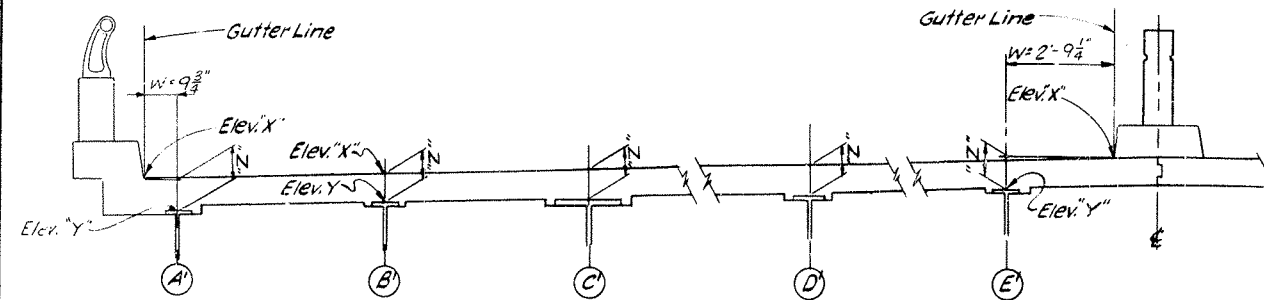
UNIT IN-SOUTH BOUND

PRO. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

TABLE OF ELEVATIONS FOR UNIT

SECTION	STRINGER A'			STRINGER B'			GIRDER C'			STRINGER D'			STRINGER E'		
	X@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X@Gutter	Y	Z
1-1	528.948			529.043			529.118			529.248			529.416		
2-2	529.111			.205			.281			.410			.579		
3-3	.268			.360			.442			.567			.737		
4-4	.426			.519			.600			.726			529.895		
5-5	.581			.674			.753			529.880			530.049		
6-6	.730			.823			529.905			530.031			.199		
7-7	529.882			529.975			530.054			.182			.350		
8-8	530.026			530.119			.198			.326			.495		
9-9	.166			.259			.341			.467			.635		
10-10	.309			.402			.482			.609			.778		
11-11	.446			.539			.618			.746			530.914		
12-12	.580			.673			.755			530.881			531.049		
13-13	.722			.815			530.894			531.021			.190		
14-14	530.860			530.953			531.032			531.160			531.328		
15-15	531.149			531.242			531.321			531.449			531.618		
16-16	.297			.390			.469			.597			.766		
17-17	.446			.539			.621			.746			531.915		
18-18	.602			.695			.774			531.902			532.070		
19-19	.755			.849			531.928			532.055			.224		
20-20	531.906			531.999			532.081			.207			.375		
21-21	532.061			532.154			.233			.361			.529		
22-22	.208			.301			.380			.507			.676		
23-23	.355			.448			.530			.655			.824		
24-24	.503			.596			.675			.803			532.972		
25-25	.647			.740			.819			532.946			533.115		
26-26	.796			532.879			532.961			533.087			.155		
27-27	532.932			533.026			533.105			.232			.401		
28-28	533.076			533.169			.248			533.375			533.544		
29-29	533.372			533.466			533.545			533.671			533.841		
30-30	.523			.616			.696			.823			533.992		
31-31	.674			.767			533.849			533.974			534.143		
32-32	.831			533.924			534.003			534.130			.299		
33-33	533.982			534.076			.155			.282			.451		
34-34	534.131			.224			.306			.431			.600		
35-35	.280			.373			.453			.580			.749		
36-36	.429			.522			.601			.728			534.897		
37-37	.570			.663			.745			534.871			535.039		
38-38	.716			.809			534.888			535.016			.185		
39-39	.858			534.951			535.030			.157			.326		
40-40	534.998			535.091			.173			.298			.467		
41-41	535.146			.239			.319			.446			.615		
42-42	535.293			535.386			535.465			535.592			535.761		
43-43	535.597			535.690			535.769			535.896			536.065		
44-44	.753			535.846			535.925			536.052			.221		
45-45	535.908			536.001			536.083			.208			.377		
46-46	536.070			536.163			.243			.370			.539		
47-47	536.229			536.322			536.401			536.528			536.697		

SECTION	STRINGER A'			STRINGER B'			GIRDER C'			STRINGER D'			STRINGER E'		
	X@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X@Gutter	Y	Z
48-48	536.382			536.475			536.557			536.683			536.851		
49-49	.539			.632			.711			.839			537.007		
50-50	.690			.783			536.861			536.989			.158		
51-51	.855			536.928			537.010			537.135			.304		
52-52	536.982			537.074			.154			.281			.450		
53-53	537.122			.215			.295			.422			.591		
54-54	.260			.353			.434			.560			.729		
55-55	.400			.494			.570			.700			537.868		
56-56	537.534			537.628			537.704			537.834			538.002		



TYPICAL SECTION

CONSTRUCTION NOTES FOR LINES A' THRU E'

1. Lay out Sections ①-①, ②-② etc. as shown in plan on the various Construction Elevations Sheets. Center punch marks on top of girders and stringers for elevation points.
2. Read elevations on top of girders and stringers as erected, after diaphragms are in place and shoring and falsework removed but before forms are placed and before deck slab, curbs, median, etc. are poured. These elevations are to be entered in the table as Elevation "Y".
3. Compute Dimension "Z" (see Typical Section). Top of concrete Elevation "X" minus Elevation "Y" equals Dimension "Z".
4. Always measure from top of steel to top of slab (Dimension "Z") for setting templates. DO NOT set templates by Elevation "X".
5. Elevation "X" includes calculated deflections due to weight of floor slab, curbs, plinths, handrail and median.
6. Gutter line elevations ("X@Gutter") contain the deflections of the adjacent stringer as shown in Typical Section. Dimension "Z" will indicate the difference in elevation of the top of steel at the center punch mark and the gutter line at a point measured along the section line. The Gutter-Line is "W" distance from the ϵ of stringers.
7. Contractor shall adjust elevations of top of metal expansion dams with adjacent elevations of completed slab so as to eliminate deviations in elevation.

Work sheets 30 thru 34 together

SHEET 32

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT 1 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55 + 23.81

HAZELET & ERDAL
Consulting Engineers
File No. 873 G

BRIDGE
NUMBER

DRAWING NO.
17210

INDEX

NORTH APPROACH
CONSTRUCTION ELEVATIONS
UNIT IN

DATE: 11/27/57
 CHECKED BY: H.W.T.
 DATE: 11/27/57
 CHECKED BY: H.W.T.
 DATE: 11/27/57
 CHECKED BY: H.W.T.
 DATE: 11/27/57
 CHECKED BY: H.W.T.

UNIT 2N - NORTH BOUND

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

TABLE OF ELEVATIONS FOR UNIT

SECTION	STRINGER A			STRINGER B			GIRDER C			STRINGER D			STRINGER E		
	x@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	x@Gutter	Y	Z
↳ Pier 5N															
57-57	537.858			537.953			538.028			538.158			538.326		
58-58	538.021			538.115			.191			.320			.489		
59-59	.178			.270			.352			.477			.647		
60-60	.336			.429			.510			.636			.805		
61-61	.491			.584			.663			.790			538.959		
62-62	.640			.733			.815			538.941			539.109		
63-63	.792			538.885			538.964			539.092			.260		
64-64	538.937			539.030			539.108			.236			.405		
65-65	539.076			.170			.252			.377			.546		
66-66	.220			.313			.392			.519			.688		
67-67	.356			.449			.528			.656			.824		
68-68	.491			.584			.666			.791			539.960		
69-69	.632			.725			.804			539.931			540.100		
70-70	539.770			539.863			539.942			540.070			540.238		
↳ Pier 6N															
71-71	540.059			540.152			540.231			540.359			540.528		
72-72	.207			.300			.379			.507			.676		
73-73	.356			.449			.531			.656			.825		
74-74	.512			.605			.684			.812			540.980		
75-75	.665			.759			.838			540.965			541.134		
76-76	.816			540.909			540.991			541.117			.285		
77-77	540.971			541.064			541.143			.271			.439		
78-78	541.118			.211			.290			.417			.586		
79-79	.265			.358			.440			.565			.734		
80-80	.413			.506			.585			.713			541.882		
81-81	.557			.650			.729			.856			542.025		
82-82	.696			.789			541.871			541.997			.165		
83-83	.842			541.936			542.015			542.142			.311		
84-84	541.986			542.079			542.158			542.285			542.454		
↳ Pier 7N															
85-85	542.282			542.376			542.455			542.582			542.751		
86-86	.433			.526			.605			.733			542.902		
87-87	.584			.677			.759			542.884			543.053		
88-88	.741			.834			542.913			543.040			.209		
89-89	542.892			542.986			543.065			.192			.361		
90-90	543.041			543.134			.216			.341			.510		
91-91	.190			.283			.363			.490			.659		
92-92	.339			.432			.511			.638			.807		
93-93	.480			.573			.655			.781			543.949		
94-94	.626			.719			.798			543.926			544.095		
95-95	.768			543.861			543.940			544.067			.236		
96-96	543.908			544.001			544.083			.208			.377		
97-97	544.056			.149			.229			.356			.525		
98-98	544.203			544.296			544.375			544.502			544.671		
↳ Pier 8N															
99-99	544.508			544.601			544.680			544.808			544.976		
100-100	.665			.758			.837			544.965			545.133		
101-101	.822			544.915			544.997			545.122			.291		
102-102	544.985			545.078			545.157			.285			.453		
103-103	545.145			545.238			545.317			545.444			.613		

SECTION	STRINGER A			STRINGER B			GIRDER C			STRINGER D			STRINGER E		
	x@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	x@Gutter	Y	Z
104-104	545.299			545.392			545.474			545.600			545.768		
105-105	.457			.550			.629			.757			545.926		
106-106	.609			.702			.781			545.909			546.077		
107-107	.755			.848			545.930			546.056			.224		
108-108	545.903			545.996			546.076			.203			.372		
109-109	546.045			546.138			.219			.345			.514		
110-110	.184			.277			.359			.484			.653		
111-111	.321			.417			.496			.627			.796		
112-112	546.450			546.550			546.630			546.763			546.933		
↳ Pier A															

DESIGNED BY: [Signature] DATE: [Date]
 CHECKED BY: [Signature] DATE: [Date]
 TRACED BY: [Signature] DATE: [Date]

Work sheets 30 thru 34 together.

SHEET 33

NORTH APPROACH
CONSTRUCTION ELEVATIONS
UNIT 2N

KENTUCKY DEPARTMENT OF HIGHWAYS INDIANA STATE HIGHWAY COMMISSION PROJECT I 275-9 () 0 BRIDGE OVER OHIO RIVER ON I 275 BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA			
STATION 55 + 23.81		BRIDGE NUMBER	INDEX
HAZELET & ERDAL Consulting Engineers File No. 872C		DRAWING NO. 17210	



UNIT 2N - SOUTH BOUND

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

TABLE OF ELEVATIONS FOR UNIT

SECTION	STRINGER A'			STRINGER B'			GIRDER C'			STRINGER D'			STRINGER E'			SECTION	STRINGER A'			STRINGER B'			GIRDER C'			STRINGER D'			STRINGER E'							
	X@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X@Gutter	Y	Z		X	Y	Z	X	Y	Z	X	Y	Z	X@Gutter	Y	Z								
↳ Pier 5N																																				
57-57	537.858			537.953			538.028			538.158			538.326						545.299			545.392			545.474			545.600			545.768					
58-58	538.021			538.115			.191			.320			.489						.457			.550			.629			.757			545.926					
59-59	.178			.270			.352			.477			.647						.609			.702			.781			545.909			546.077					
60-60	.336			.429			.510			.636			.805						.755			.848			545.930			546.056			.224					
61-61	.491			.584			.663			.790			538.959						545.903			545.996			546.076			.203			.372					
62-62	.640			.733			.815			538.941			539.109						546.045			546.138			.219			.345			.514					
63-63	.792			538.885			538.964			539.092			.260						.184			.277			.359			.484			.653					
64-64	538.937			539.030			539.108			.236			.405						.321			.417			.496			.627			.796					
65-65	539.076			.170			.252			.377			546						546.450			546.550			546.630			546.763			546.933					
66-66	.220			.313			.392			.519			.688																							
67-67	.356			.449			.528			.656			.824																							
68-68	.491			.584			.666			.791			539.960																							
69-69	.632			.725			.804			539.931			540.100																							
70-70	539.770			539.863			539.942			540.070			540.238																							
↳ Pier 6N																																				
71-71	540.059			540.152			540.231			540.359			540.528																							
72-72	.207			.300			.379			.507			.676																							
73-73	.356			.449			.531			.656			.825																							
74-74	.512			.605			.684			.812			540.980																							
75-75	.665			.759			.838			540.965			541.134																							
76-76	.816			540.909			540.991			541.117			.285																							
77-77	540.971			541.064			541.143			.271			.439																							
78-78	541.118			.211			.290			.417			.586																							
79-79	.265			.358			.440			.565			.734																							
80-80	.413			.506			.585			.713			541.882																							
81-81	.557			.650			.729			.856			542.025																							
82-82	.696			.789			541.871			541.997			.165																							
83-83	.842			541.936			542.015			542.142			.311																							
84-84	541.986			542.079			542.158			542.285			542.454																							
↳ Pier 7N																																				
85-85	542.282			542.376			542.455			542.582			542.751																							
86-86	.433			.526			.605			.733			542.902																							
87-87	.584			.677			.759			542.884			543.053																							
88-88	.741			.834			542.913			543.040			.209																							
89-89	542.892			542.986			543.065			.192			.361																							
90-90	543.041			543.134			.216			.341			.510																							
91-91	.350			.283			.363			.490			.659																							
92-92	.339			.432			.511			.638			.807																							
93-93	.480			.573			.655			.781			543.949																							
94-94	.626			.719			.798			543.926			544.095																							
95-95	.768			543.861			543.940			544.067			.236																							
96-96	543.908			544.001			544.083			.208			.377																							
97-97	544.056			.149			.229			.356			.525																							
98-98	544.203			544.296			544.375			544.502			544.671																							
↳ Pier 8N																																				
99-99	544.508			544.601			544.680			544.808			544.976																							
100-100	.665			.758			.837			544.965			545.133																							
101-101	.822			544.915			544.997			545.122			.291																							
102-102	544.985			545.078			545.157			.285			.453																							
103-103	545.145			545.238			545.317			545.444			.613																							

DESIGNED BY: [Signature] DATE: [Date]
 CHECKED BY: [Signature] DATE: [Date]
 TRACED BY: [Signature] DATE: [Date]

Work sheets 30 thru 34 together.

SHEET 34

NORTH APPROACH
CONSTRUCTION ELEVATIONS
UNIT 2N

KENTUCKY DEPARTMENT OF HIGHWAYS INDIANA STATE HIGHWAY COMMISSION PROJECT 1275-9 () 0 BRIDGE OVER OHIO RIVER ON I 275 BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA			
STATION 55 + 23.81		DRAWING NO.	INDEX
HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	17210	






Pier 1N				
Pile No	Cutoff elevation	Tip of Pile elevation as driven	Length of Pile in Place	Calculated bearing Capacity Tons
1	459.08			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24	459.08			

Pier 2N				
Pile No	Cutoff elevation	Tip of Pile elevation as driven	Length of Pile in Place	Calculated bearing Capacity
1	457.10			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26	457.10			

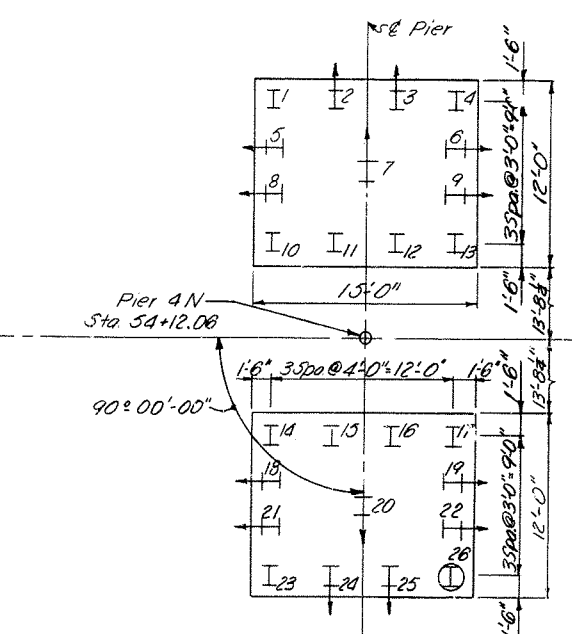
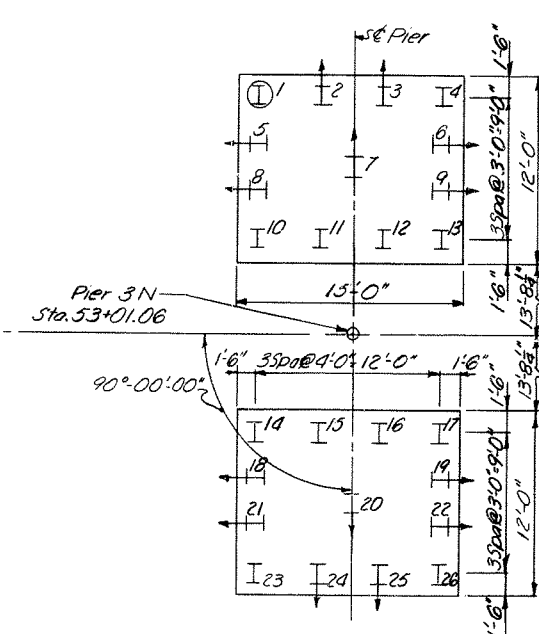
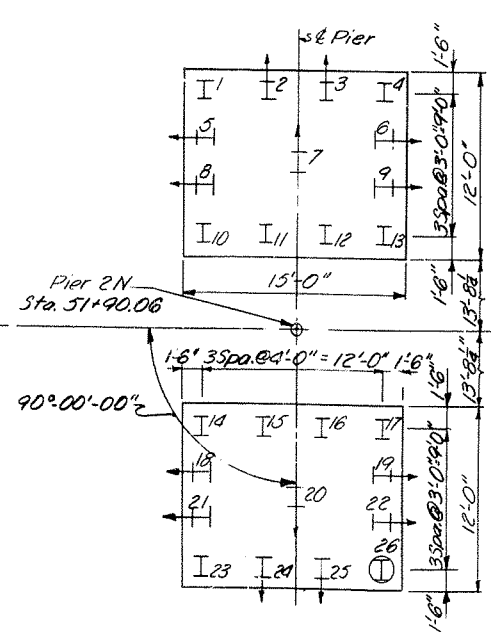
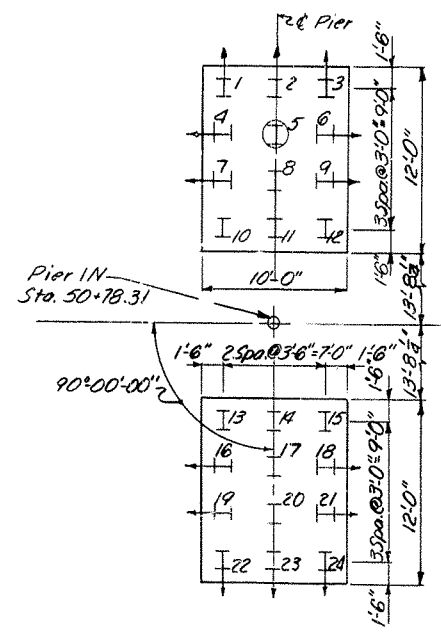
Pier 3N				
Pile No	Cutoff elevation	Tip of Pile elevation as driven	Length of Pile in Place	Calculated bearing Capacity
1	457.98			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26	457.98			

Pier 4N				
Pile No	Cutoff elevation	Tip of Pile elevation as driven	Length of Pile in Place	Calculated bearing Capacity
1	460.96			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26	460.96			

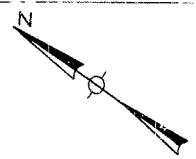
Notes:
 Denotes Vertical Pile
 Denotes Batter pile, 4:12 batter
 Denotes Test Pile
 All Piles (48P73) 95 Ton Design Capacity.

This pile record does not replace other records of piles required to be kept and submitted by the Resident Engineer.
 After all piles have been driven, the Resident Engineer shall record the tip-of-pile elevation as driven, the length of pile in place, the calculated bearing capacity of each pile, and shall return one blueprint copy of this sheet with this data to the Director of Bridges so that the data may be recorded on the original plans. Lengths of piles in place to be shown hereon are the actual lengths of piles in the finished structure below cut-off elevation and are not necessarily pay items.

DRAWN BY: [Signature] DATE: [Date]
 CHECKED BY: [Signature] DATE: [Date]
 APPROVED BY: [Signature] DATE: [Date]



to Survey, & I 275 & Construction



NOTE: Pile dimensions shown are of the bottom of the footing

**NORTH APPROACH
PILE RECORD**

SHEET 35

**KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION**

PROJECT 1 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

STATION 55+23.81

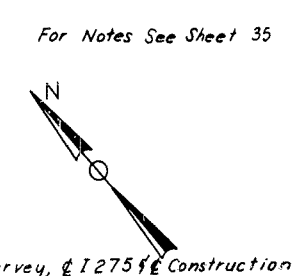
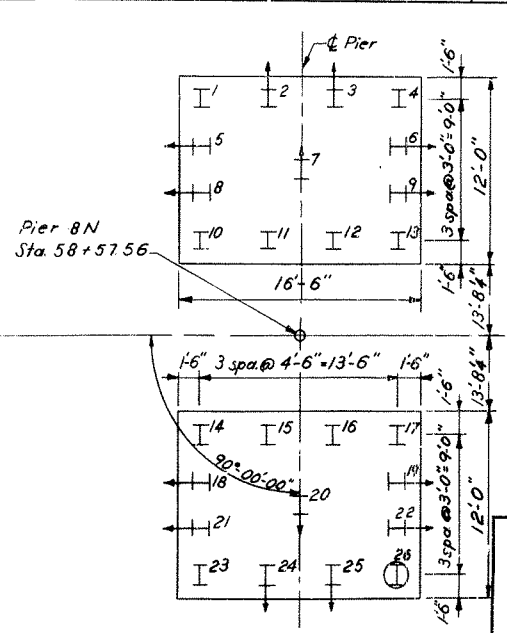
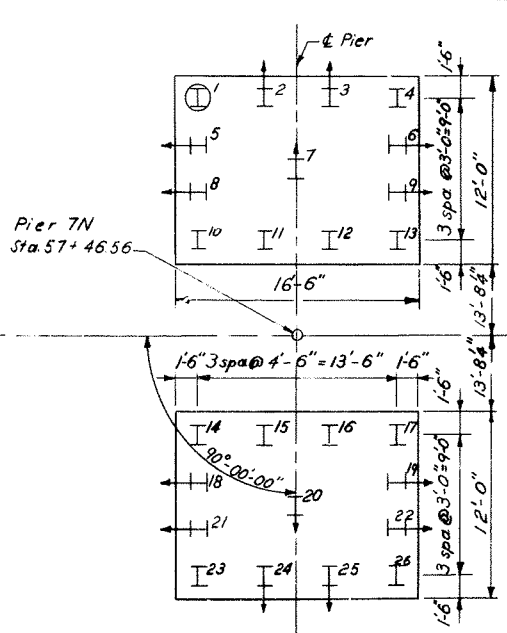
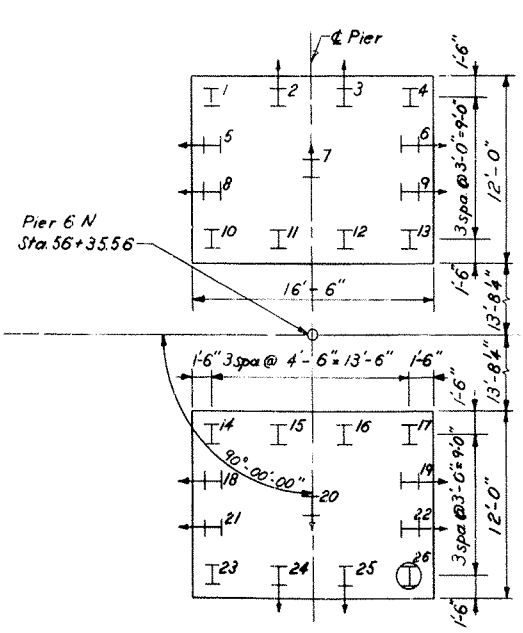
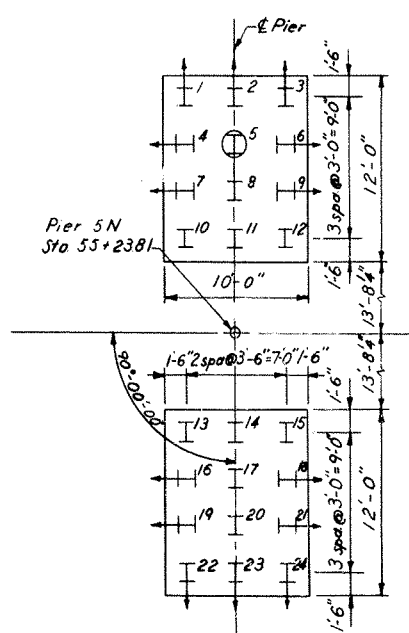
HAZLET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO 17210	INDEX
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Pier 5N				
Pile No.	Cutoff elevation	Tip of Pile elevation as driven	Length of Pile in place	Calculated bearing Capacity tons
1	461.49			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24	461.49			

Pier 6N				
Pile No.	Cutoff elevation	Tip of Pile elevation as driven	Length of Pile in place	Calculated bearing Capacity
1	460.43			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26	460.43			

Pier 7N				
Pile No.	Cutoff elevation	Tip of Pile elevation as driven	Length of Pile in Place	Calculated bearing Capacity
1	460.55			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26	460.55			

Pier 8N				
Pile No.	Cutoff elevation	Tip of Pile elevation as driven	Length of Pile in Place	Calculated bearing Capacity
1	461.45			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26	461.45			



DESIGNED BY: [Signature] DATE: 3/22/60
 CHECKED BY: [Signature] DATE: 3/22/60
 DRAWN BY: [Signature] DATE: 3/22/60
 INCHES BY: [Signature] DATE: 3/22/60

NOTE: Pile dimensions shown are at the bottom of the footing.

**NORTH APPROACH
PILE RECORD**

SHEET 36

**KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION**
 PROJECT 1275-9 () 0
 BRIDGE OVER OHIO RIVER ON I 275
 BETWEEN BOONE COUNTY, KENTUCKY AND
 DEARBORN COUNTY, INDIANA

STATION 55+23.81

HAZELET & ERDAL Consulting Engineers File No. 872 C	BRIDGE NUMBER	DRAWING NO 17210	INDEX
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Commonwealth of Kentucky
 Department of Highways
 Frankfort, Kentucky
 ATTN: D.H. Bray, State Highway Engineer

Gentlemen:

Your application to construct a highway bridge across the Ohio River near Lawrenceburg, Indiana, dated 20 August 1964, is approved.

In compliance with your request there is inclosed an instrument of approval issued by direction of the Secretary of the Army, dated 17 November 1964, authorizing the construction of a highway bridge across the Ohio River at Mile 491.6 near Lawrenceburg, Indiana. Should changes in the location or plans of the structure or work become necessary, revised plans shall be submitted to this office for approval before construction is commenced.

Please inform this office, as early as possible, the actual date upon which construction will begin and also the date when all physical work is completed. The letter information should also state whether or not the structure has been completed in accordance with the terms of the instrument and approved plans. It is requested that this office be furnished, when available, a set of the detailed construction plans of the project.

Very truly yours,

Incl
 Orig. Instrument of
 Approval w/plans
 attached.

WALTER L. GARDNER
 Major, Corps of Engineers
 Deputy District Engineer

Proposed Bridge Across Ohio River)
 near Lawrenceburg, Indiana)
 Mile 491.6)
 Kentucky Department of Highways
 Commonwealth of Kentucky
 Frankfort, Kentucky

FINDINGS OF FACT

1. The proposed bridge is a fixed structure across the Ohio River between Boone County, Kentucky and Dearborn County, Indiana at Mile 491.6 below Pittsburgh, Pennsylvania about 1.4 miles upstream from Lawrenceburg, Indiana. The structure will consist of three steel truss spans, 506 feet, 750 feet, 506 feet, center to center of piers respectively, with fill and trestle work approaches. The main channel span in about mid-river will provide a horizontal clearance of 720 feet (clear opening). The minimum vertical clearance provided at the low point of steel at the north or Indiana end of the bridge will be 78.3 feet above normal pool level, which is 32 feet above the 1937 High Water.

2. The proposed highway bridge does not replace any other structure but is an additional link in the interstate highway system in the area.

3. A preliminary conference was held in the office of Hazlet & Erdal, Consulting Engineers for the applicant in Louisville, Kentucky, on 5 August 1964, to discuss navigation clearances to be provided in the proposed structure. Those attending represented the following:

- | | |
|---|----------------------------|
| Indiana State Highway Commission | |
| Kentucky Department of Highways | |
| Bureau of Public Roads, Indiana & Kentucky Division | |
| Corps of Engineers | |
| American Commercial Lines, Inc. | Member of Bridge Clearance |
| The Ohio River Company | Committee - American |
| Mississippi Valley Barge Line Co. | Waterway Operators. |
| Hazlet & Erdal | |

The clearances and pier locations as shown on the plans accompany this application are those agreed upon by all concerned at this conference.

4. The present governing bridge clearances on the waterway are horizontal clearance of 261.5 feet in the span of the Pennsylvania Railroad Bridge across the Louisville Portland Canal Mile 604.4, and vertical clearance of 69.8 feet at low point of steel with this bridge in raised position.

5. No preliminary investigation has been made in this case, by the District Engineer since it is believed that the bridge proposed has adequate clearances for any foreseeable navigation and flood control purposes. There are no established standard bridge clearances on the Ohio River.

6. A notice of public hearing to consider the application and plans was issued on 27 August 1964. A public hearing was held at Burlington, Kentucky on 29 September 1964. The hearing was attended by 26 interested parties. Two proposed statements favoring the proposed construction were received and accompany the report on this application.

7. The principal method of handling traffic on the Ohio River is in tows of tank and cargo barges propelled by tugboats. These barges vary in size. Those used in long haul tows by the large common carriers are principally 26 feet wide by 175 feet long and 35 feet high by 195 feet long, and are capable of being loaded to a draft of 9 feet or more. They may be rafted into tows of from 1 to 20 or more barges. The present largest long haul tows for pool navigation are about 105 feet in width and not over 1200 feet in length, loaded to an 8-1/2 feet draft with a cargo of from 12,000 to 25,000 tons. It is not likely that the above size of tows will be greatly exceeded during normal pool stages of the river. During open river stages tows of somewhat greater length and width than mentioned above may be used.

The traffic which passed the site of the proposed bridge in 1963 amounted to approximately 20,400,000 tons, as compared with about 26,400,000 tons at Paducah, Kentucky; about 25,700,000 tons at Louisville, Kentucky and about 20,100,000 tons at Cincinnati, Ohio. The tonnage at the bridge site was composed principally of iron, steel, petroleum products, coal, coke, chemicals, sand, gravel, stone, sulphur and unclassified commodities.

8. The potential commercial, industrial and physical development along the Ohio River is steadily increasing and will create a further demand for river transportation for many commodities not now being shipped by water. It is believed that the proposed bridge is suitably located and provides adequate navigation clearances; it will not constitute an unreasonable hazard or menace to increased navigation and therefore, will have no adverse effect on prospective development of the area.

9. Requirements of extremes of navigation. A large percentage of the towboats operating on the Ohio River in the vicinity of the proposed bridge range in height of 35 feet to 40 feet. At maximum locking stage of the new Markland Dam there will be a minimum clearance of 52.0 feet available in the proposed bridge. The vertical clearance proposed in the structure will not restrict or hamper the operations of the larger class of towboats. During extreme high river stages such as in 1937 and 1945 there is no navigation in the reach of the river due to the fact that most of the terminal landings are inundated.

10. The bridge is designed for increased road traffic on the interstate highway systems of Kentucky and Indiana. The bridge as proposed is believed to have sufficient floodway openings to adequately pass any flood that reasonably may be expected to occur. The navigation clearances provided are believed ample for present boating needs and for any foreseeable navigation purposes.

11. The criteria used in establishing the minimum vertical clearance of 78.3 feet above normal pool level in this bridge is based on the grade and elevation of Interstate 275 at this particular site. The grade is more or less fixed by the roadway project immediately south of the bridge. The high bluffs above the river and the deep cuts necessary result in a grade which is higher than would be necessary for navigational purposes. The 720 foot clear channel width in the mid-river span was considered ample clearance by representatives of the National Bridge Committee of the American Waterways Operators, Inc. Therefore, there is no justification for an increase in cost of construction, operation and maintenance of the bridge to provide increased clearances for any foreseeable prospective navigation.

12. Other pertinent data: None.

13. Conclusions:

- The proposed bridge is within the legally navigable portion of the Ohio River.
- Approval of the location and plans of the proposed bridge is required by the Secretary of the Army and the Chief of Engineers.
- The structure is authorized by the General Bridge Act of 1946, subject to the approval of the location and plans.
- The application and description of the proposed bridge was duly publicized; a public hearing was held on 29 September 1964.
- No protests were received from navigation or other interests.
- That the clearances provided for the structure are sufficient for present navigation in this reach of the river and will not adversely affect any possible future navigation.
- The bridge will have no adverse effect on flood heights or the passage of drift.

From the foregoing facts I find that the approval of the proposed plans should be recommended to the Secretary of the Army in the best interests of the general public.

DEPARTMENT OF THE ARMY
 APPROVAL OF LOCATION AND PLANS OF BRIDGE

Whereas by Title V of an act of Congress approved August 2, 1946, entitled General Bridge Act of 1946 (54 Stat. 685-583, as amended) the consent of Congress was granted for the construction, maintenance, and operation of bridges and approaches thereto over the navigable waters of the United States;

And whereas section 402(b) of said act provides that: "The location and plans for such bridges shall be approved by the Chief of Engineers and the Secretary of the Army before construction is commenced, and, in approving the location and plans of any bridge, they may impose any specific conditions relating to the maintenance and operation of the structure which they may deem necessary in the interest of public navigation, and the conditions so imposed shall have the force of law;"

And whereas the KENTUCKY DEPARTMENT OF HIGHWAYS has submitted plans and a map of the location of a bridge to be constructed across the OHIO RIVER near Lawrenceburg, Indiana in the State of Indiana

Now therefore, This is to certify that the location and attached plans are hereby approved by the Chief of Engineers and by the Secretary of the Army, pursuant to the above-mentioned act of Congress, subject to the following conditions:

- The district engineer in charge of the locality within which the bridge is to be built may supervise its construction in order that said plans shall be complied with.
- All work shall be so conducted so that the free navigation of the waterway shall not be unreasonably interfered with and the present navigable depths shall not be impaired. The channel or channels through the structure shall be promptly cleared of all falsework, piling, or other obstructions placed thereon or caused by the construction of the bridge, to the satisfaction of the said district engineer, when in his judgment the construction work has reached a point where such action should be taken, and in any case not later than ninety days after the bridge has been opened to traffic.
- The approval hereby granted shall cease and be null and void unless the actual construction of the bridge be commenced within 2 years and completed within 4 years from the date of this instrument.
- No deviation from the approved plans shall be made either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Chief of Engineers and of the Secretary of the Army.

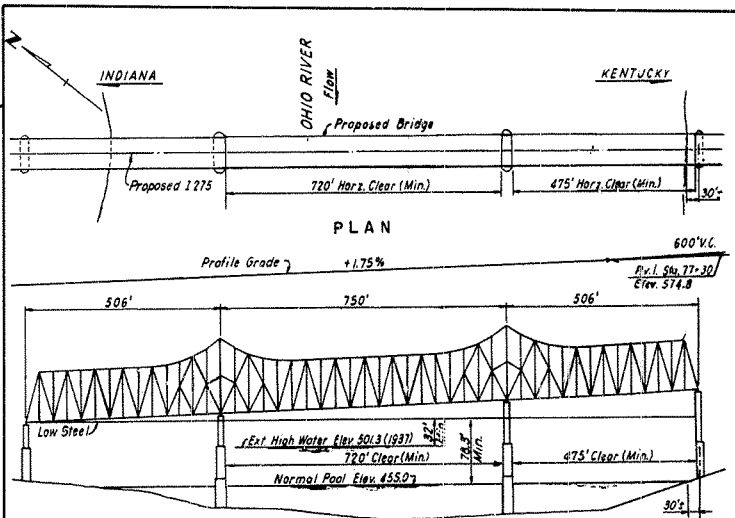
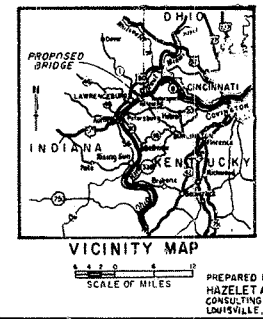
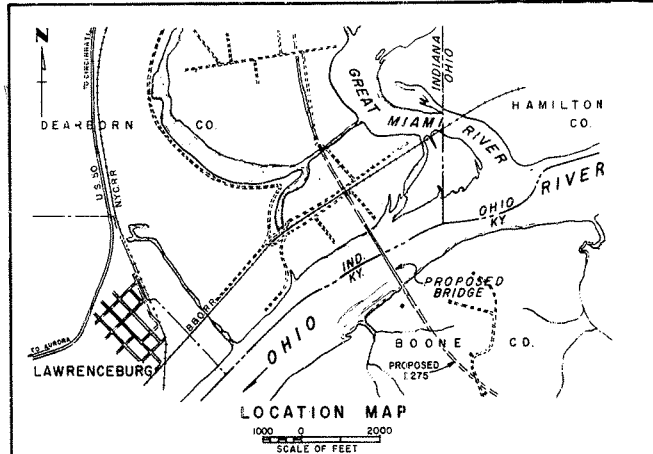
Clearance gauges, of a type to be approved by the said district engineer, shall be installed on the upstream end of the bridge at the Kentucky or Indiana end of the bridge and shall be kept in good legible condition.

In witness whereof I have hereunto set my hand by direction of the Chief of Engineers this 5th day of November 1964.

JACOB G. GRAM
 Major General, USA
 Director of Civil Works

In witness whereof I have hereunto set my hand by direction of the Assistant Secretary of the Army this 12th day of November 1964.

R. A. HERTZLER
 Chief, Office of Civil Functions



Elevations are in feet and refer to Mean Sea Level.
 Bridge to be located at Ohio River Mile 491.6
 Normal Pool Elevation corresponds to an elevation of 455.0 feet above Mean Sea Level, (Ohio River Datum)

PROPOSED BRIDGE OVER OHIO RIVER
 BOONE CO., KY - DEARBORN CO., IND.
 APPLICATION BY
 KENTUCKY DEPT. OF HIGHWAYS
 SHEET 2 of 2 DATE: 8-20-64

PROPOSED BRIDGE OVER OHIO RIVER
 BOONE CO., KY - DEARBORN CO., IND.
 APPLICATION BY
 KENTUCKY DEPT. OF HIGHWAYS
 SHEET 1 of 2 DATE: 8-20-64

COMMONWEALTH OF KENTUCKY
 DEPARTMENT OF HIGHWAYS
 FRANKFORT
 PROJECT 1275-9(10)
 BRIDGE OVER OHIO RIVER ON 1275
 BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

NORTH APPROACH
 CONSTRUCTION PERMIT INFORMATION

STATION 55 + 23.81	DRAWING NO	INDEX
BRIDGE NUMBER	17210	

FED. ROAD DIST.	STATE	FED. AID FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.			

FED ROAD DIST.	STATE	FED AID YEAR	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

ADDRESS ONLY TO:
COMMANDANT
U.S. COAST GUARD
WASHINGTON, D.C.
20591

INSTRUMENT

25 NOV 1967

WHEREAS by an instrument signed on 5 November 1964 and 12 November 1964, the Chief of Engineers and the Secretary of the Army approved the map of location and plans of a bridge to be constructed by the Kentucky Department of Highways across the Ohio River near Lawrenceburg, Indiana, under authority of the General Bridge Act of 1946;

AND WHEREAS condition 3 of said instrument of approval fixed the times for commencing and completing construction of said bridge at 12 November 1966 and 12 November 1968;

AND WHEREAS the times for commencing and completing construction have been previously extended to 12 November 1967 and 12 November 1969;

AND WHEREAS construction of said bridge has not been commenced;

AND WHEREAS the functions, powers and duties of the Chief of Engineers and the Secretary of the Army under the General Bridge Act of 1946 have been transferred to and vested in the Secretary of Transportation by section 6(a)(5)(c) of the Department of Transportation Act (80 Stat. 931) and delegated by the Secretary of Transportation to the Commandant of the Coast Guard in title 49 Code of Federal Regulations, part 1;

AND WHEREAS the - KENTUCKY DEPARTMENT OF HIGHWAYS - now requests that the times for commencing and completing construction of said bridge be extended;

NOW THEREFORE, This is to certify that the times for commencing and completing construction of said bridge are hereby extended to 11 November 1968 and 12 November 1970, all other conditions of the previous instrument of approval remaining unchanged, except condition 4 which is modified as follows:

4. No deviation from the approved plans shall be made either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Commandant of the Coast Guard.

W. J. Smith
W. J. SMITH
Admiral, U. S. Coast Guard
Commandant



DEPARTMENT OF THE ARMY
LOUISVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 59, 830 WEST BROADWAY
LOUISVILLE, KENTUCKY 40201

IN REPLY REFER TO: ORLOP-AN (Bridge Over Ohio River
Near Lawrenceburg, Ind. MI 491.6)

12 December 1967

Commonwealth of Kentucky
Department of Highways
Frankfort, Kentucky 40601

ATTN: Mr. Charles C. Cook, Director
Division of Bridges

Gentlemen:

Reference your letter dated 19 October 1967 requesting an extension of time to the original instrument of the Approval of Location and Plans of Bridge across the Ohio River near Lawrenceburg, Indiana.

Inclosed is an Instrument dated 29 November 1967, issued by the Department of Transportation, United States Coast Guard, extending the time of commencing and completing construction of said bridge to 12 November 1968 and 12 November 1970 respectively. This Instrument shall become a part of the original instrument approved 12 November 1964.

Acknowledgement of receipt of this Instrument is requested.

Very truly yours,

John R. Bledsoe
JOHN R. BLEDSOE
Chief, Operations Division

Incl
As stated

Copy furnished:

Commander, 2nd Coast Guard District (c)
1520 Market Street - Federal Bldg.
St. Louis, Mo. 63103



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT LOUISVILLE
P. O. BOX 59, 830 WEST BROADWAY
LOUISVILLE, KENTUCKY 40201

IN REPLY REFER TO: ORLOP-A (Bridge Over Ohio River Near
Lawrenceburg, Ind. - Mile 491.6)

11 March 1966

Commonwealth of Kentucky
Department of Highways
Frankfort, Kentucky

ATTN: Mr. Guy E. Vanzant, Jr.,
Director, Division of Bridges

Gentlemen:

Reference is made to your letter of 4 March 1966, requesting an extension of time for commencing and completing construction of a highway bridge across the Ohio River, 491.6 miles below Pittsburgh, Pennsylvania near Lawrenceburg, Indiana.

Condition 3 of the Instrument of Approval of the location and plans of the bridge, signed by the Chief of Engineers and the Secretary of the Army on 5 November 1964 and 12 November 1964, fixed the times for commencing and completing construction of the bridge at 12 November 1966 and 12 November 1968.

This is to certify that by authority of the Secretary of the Army and the Chief of Engineers, the times for commencing and completing construction of the bridge are extended to 12 November 1967 and 12 November 1969, all other conditions of the original instrument of Approval remaining unchanged.

Sincerely yours,

W. Roper
W. ROOPER
Colonel, Corps of Engineers
District Engineer

DESIGNED BY: _____ CHECKED BY: _____ DATE: _____
DRAWN BY: _____ CHECKED BY: _____ DATE: _____
SCALE: _____

SHEET 33

COMMONWEALTH OF KENTUCKY	
DEPARTMENT OF HIGHWAYS	
FRANKFORT	
PROJECT 1275-9 (10	
BRIDGE OVER OHIO RIVER ON 1275	
BETWEEN BOON COUNTY, KENTUCKY AND	
DEARBORN COUNTY, INDIANA	
STATION 55 + 23.81	
BRIDGE NUMBER	DRAWING NO. 17210

NORTH APPROACH
CONSTRUCTION PERMIT INFORMATION



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to:
COMMANDER (Com)
Second Coast Guard District
Federal Bldg
1520 Market St.
St. Louis, Mo 63103

3271
04 NOV 1970

Mr. Charles G. Cook
Director, Division of Bridges
Commonwealth of Kentucky
Department of Highways
Frankfort, Kentucky 40501

Re: Proposed Interstate Route No. 275 Bridge across the
Ohio River, Mile 491.6, near Lawrenceburg, Indiana

Dear Mr. Cook:

Your application dated 29 July 1970 requesting an extension
of time for completing the construction of the above-referenced
proposed bridge has been approved by the Commandant, U. S.
Coast Guard, Washington, D. C. The time for completing construction
has been extended to 12 November 1972. The instrument of
approval, Amendment to Bridge Permit No. 125-67a dated 15 October
1970, is enclosed.

We should be kept informed concerning the status of the construction
of the proposed bridge. Upon completion of the work furnish a
certification as to whether or not the bridge was constructed in
accordance with the approved plans and conditions in the Permit.
It would be appreciated, also, if you will furnish us two 8 x 10-inch
black and white glossy photographs of the completed structure showing
the bridge from abutment to abutment.

Your attention is invited to Condition No. 3 in the Amendment
to Bridge Permit which requires your compliance with the
provisions of any law or regulation under the jurisdiction of
the Federal Water Quality Administration. Enclosed for your
information is a copy of a letter dated 8 September 1971 from
that agency listing its recommended conditions for this work.

The plans for any temporary structures in the water used in
building the bridge should be submitted to us for approval. Your
cooperation will be appreciated.

Very truly yours,

C. W. Faircloth

Commandant, U. S. Coast Guard
Chief, Aids to Navigation Branch
By direction of the District Commander

Encl: (1) USCG Amendment to Bridge Permit No. 125-67a dtd 15 Oct 70
(2) Ltr dtd 8 Sept 70 from USDI, FWQA



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to:
COMMANDANT
U.S. COAST GUARD
WASHINGTON, D.C. 20391

AMENDMENT TO BRIDGE PERMIT
(125-67a)

15 October 1970

WHEREAS by a permit issued on 12 November 1964, as amended 11
March 1966, the Secretary of the Army approved the map of location and
plans of a bridge to be constructed by the Commonwealth of Kentucky
across the Ohio River near Lawrenceburg, Indiana, under authority of
the General Bridge Act of 1946;

AND WHEREAS condition 3 of said permit, as amended, fixed the time
for completing construction of said bridge at 12 November 1968;

AND WHEREAS the functions, powers and duties of the Secretary of the
Army under the General Bridge Act of 1946 were transferred to and vested
in the Secretary of Transportation by Section 6(g)(6)(C) of the Depart-
ment of Transportation Act (80 Stat. 931) and have been delegated by the
Secretary to the Commandant, U. S. Coast Guard by Section 1.46(c) of
Title 49 Code of Federal Regulations, and by permit issued 29 November
1967, the Commandant extended the time for completing construction of
said bridge to 12 November 1970;

AND WHEREAS the COMMONWEALTH OF KENTUCKY - now requests that the
time for completing the construction of said bridge be further extended;

NOW THEREFORE, This is to certify that the time for completing con-
struction of said bridge is hereby extended. In granting this time
extension, all conditions to which the original permit, as amended, was
subject are superseded by the following conditions:

1. No deviation from the approved plans shall be made either before
or after completion of the structure unless the modification of said
plans has previously been submitted to and received the approval of the
Commandant.

2. All work shall be so conducted that the free navigation of the
waterway is not unreasonably interfered with and the present navigable
depths are not impaired. The construction of felsework, pilings or
other obstructions, if required, shall be accomplished in accordance
with plans submitted to and approved by the Commandant, Second Coast Guard
District. The channel or channels through the structure shall be promptly
cleared of all obstructions placed therein or caused by the construction
of the bridge to the satisfaction of the District Commander, when in his
judgment the construction work has reached a point where such action
should be taken, and in any case not later than ninety days after the
bridge has been opened to traffic.

Conuel (1)

Commander (o-1)
St. Louis, Missouri

September 8, 1970
Page 2

6. Upon completion of earthwork operations, all fills in the water-
course or on shore and other areas on shore disturbed during construction
will be seeded, riprapped or given some other type of protection from
subsequent soil erosion.

If a time extension is granted on this application, please send a copy
of correspondence to this effect to Mr. Burton H. Atwood, Department of
the Interior Regional Coordinator, Room 215, 2310 Dempster Street, Des
Plaines, Illinois 60916.

Sincerely yours,

E. P. Baker, Jr.

E. P. Baker, Jr., F.E., Chief
Federal Activities Branch

cc:
E. M. Kari
R. H. Atwood
M. E. Noecker, FWQA, Evansville
R. C. Pickard, KY. WPC
Attn: J. Cramer
B. A. Poole, Ind. SFCB
Attn: J. Heizer



UNITED STATES
DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
Ohio Basin Region, Room 7017, Federal Building
550 Main Street, Cincinnati, Ohio 45202

RECEIVED
SEP 10 1970
BRIDGE DIVISION

Septem - 8, 1970

In reply refer to:
CG-13

Commander (o-1)
Second Coast Guard District
Federal Building
1520 Market Street
St. Louis, Missouri 63103

Your reference:
PUBLIC NOTICE
I-275 Highway Bridge
Ohio R., Mi. 491.6
Lawrenceburg, Ind.

Dear Sir:

We hereby acknowledge receipt of your letter dated 12 August 1970
regarding a request for a time extension for completing construction of
the referenced bridge across the Ohio River by the Kentucky Department
of Highways. We have considered the water pollution potential connected
with the construction of the bridge and the possible effects on water
quality of the watercourse. We recommend that if a time extension is
granted, it shall be subject to the following conditions:

1. Permittee will investigate for water supply intakes, or other
activities immediately downstream which may be affected by suspended
solids and turbidity increases caused by work in the watercourse.
He will give notice before beginning work in the watercourse in
sufficient time to allow the activities to prepare for any temporary
change in water quality.
2. Excavation, dredging or filling in the watercourse will be done
so as to minimize increases in suspended solids and turbidity which
may degrade water quality and damage aquatic life outside the immediate
area of operation.
3. Deposition of dredges or excavated materials on shore, and all
earthwork operations on shore will be carried out in such a way that
sediment runoff and soil erosion to the watercourse are controlled and
minimized. Spoil materials from watercourse or on shore operations,
including sludge deposits, will not be dumped into the watercourse.
4. Temporary sanitary facilities, for use during construction only,
will be of the portable type rather than dug pit privies.
5. Permittee will employ measures to prevent or control spills from
fuels or lubricants to keep them out of the watercourse.

Conuel (2)

AMENDMENT TO BRIDGE PERMIT: Bridge constructed by Commonwealth of
(125-67a) Kentucky across the Ohio River near
Lawrenceburg, Indiana

3. Issuance of this permit does not relieve the permittee of the
obligation or responsibility for compliance with the provisions of any
other law or regulation as may be under the jurisdiction of the Federal
Water Quality Administration or any other federal, state or local authority
having cognizance of any aspect of the location, construction or main-
tenance of said bridge.

4. Clearance gauges shall be installed and maintained in a good
legible condition by and at the expense of the owner of the bridge. The
Commandant, Second Coast Guard District will specify the type of gauges
and location in which they are to be installed.

5. The approval hereby granted shall cease and be null and void
unless construction of the bridge is completed by 12 November 1972.

M. D. Muth
M. D. MUTH
Captain, U. S. Coast Guard
Chief, Aids to Navigation Division

SHEET 40

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 () 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND
DEARBORN COUNTY, INDIANA

NORTH APPROACH
CONSTRUCTION PERMIT INFORMATION

STATION 55 +23.81	
HAZLET & ERDAL Consulting Engineers Site No. 472 D	BRIDGE NUMERE DRAWING NO. INDEX 17210

- LEGEND**
- LA R/W - Limited Access Right of Way
 - ACL - Access Control Line
 - FFTF - Form Field Type Fence
 - R/W - Right of Way
 - Property Line, Unfenced
 - LA R/W - Limited Access Right of Way
 - State Line - State Line
 - Landscape Area

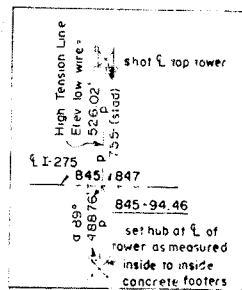
PUBLIC UTILITY OWNERS
 ALL POWER LINES / POLES THROUGHOUT THIS PROJECT ARE OWNED BY THE PUBLIC SERVICE COMPANY OF SOUTHERN INDIANA
 1000 E. MAIN STREET
 PLAINFIELD, INDIANA
 461168

RAILROADS
 THE B & O SW RR CO.
 (ST. LOUIS DIVISION)
 WASHINGTON, INDIANA.

BEGIN I PROJECT 275-2(2) OR W
 STATION 61+30 ON PROJ I-275-9(5) O

PARCEL 1 ON PROJECT I-275-2(2) O AND PARCEL 7 ON PROJECT I-275-9(5) O COVER THE SAME LAND, WITH ACQUISITION THEREOF ENTIRELY UNDER SAID PROJECT I-275-2(2) O

** The LA/R/W & ACL between Sta 61+30 (I-275-9(5)) and Sta 850+53.55 (I-275-2(2)) shall be on the alignment and grade of the underside of the coping of the Bridge.



GENERAL NOTES

- Standard Divided Lane Sections for Federal Aid Interstate Projects Adopted May 1967 as shown on sheet No 4 to be used on this project.
- Standard Pavement section E-11-R Revised 11-17-66 to be used on this Project
- Standard Ramp Section, Adopted May 1967 to be used on this Project
- Typical Cross Sections as shown on Sheets 2 and 3 to be used on this project.
- Indiana State Highway Commission Standard Specifications Dated 1963 to be used with these plans.
- Standards under dates as listed in index on Title Sheet to be used on this project.
- Grade Line as shown on profile represents top of finished surface.
- The Contractor must accept quantities of Subbase as given on the Estimate of Quantities Sheet (See Special Provisions)
- A Keyway Joint is to be constructed on Median Side of each pavement.
- All Ditches of 100% grade and over shall be sodded except where Ditch is in Rock Cut or where Paved Side Ditch is to be constructed
- All Earth Shoulders Cut and Fill slopes shall be Plain or Mulched Seeded except where sodding is specified
- Shoulders are to be sodded as shown on Standard and Typical Cross Sections and on Miscellaneous Standard Sheet B
- Sodding shall be placed along Paved Side Ditch as shown on Miscellaneous Standard Sheet E
- Excavation Quantities as shown on Plan and Profile Sheets include estimates excavation Public and Private Approaches.

- Curves on Mainline shall be Super-elevated as shown on the Super-elevation Detail Sheets
- Quantities for Pipe Culvert Headwalls are based on using Standard Headwalls for retaining 2:1 or 3:1 slopes and Private Drive Headwalls for retaining 4:1 or flatter slope.
- For kinds of Pipe permitted for each size and classification as shown in Structure Notes, See Miscellaneous Standard Sheet "P" and "P1"
- All Limited Access R/W (LA R/W) to be fenced with Chain Link Type Fence (C.L.T. Fence) or Farm Field Type Fence (P.F.T. Fence) as specified in the Plans.
- The Minimum Grade for Subsurface Drains shall be 0.20%. Where the profile grade is less than 0.20%, special grades for Subsurface Drains shall be established by the Engineer.
- The pipe gage given in structure notes applies to the C.M. Option. However, any type pipe specified under the group may be used.
- Paper Relocation is to be cross-sectioned by the Project Engineer before construction

BM #29 Corps of Engrs Mon D-9, 40' E of Signal post 80' E of E & B tracks & I-275 on S side of tracks El. 489.340

BM #28 R.A. Spike - power pole 875' E of Sta. 843+48.64 E of B10 Tracks & I-275 on South Side of tracks El. 487.534

BM #28A Corps of Engrs Mon D-10 425' E of Sta. 843+48.64 (E of B10 Tracks & I-275) on S side of tracks El. 488.815

BM #28B - Mark is set in the top of the SE end of the NE Concrete abutment of the B10 S.W.R.R. Bridge over The Great Miami River at the Ohio-Indiana State Line, 53' SE. of the SE. Rail end about 1' below the track El. 494.436

BM "AHAUS" Survey Disc set in conc. cylinder 2' above ground stamped "AHAUS 1964, 178 LI. of Sta 58+85 (Proj. I-275-9(1) O) set by others El. 474.476

Bench Mark "Equation" I-275-2(1) O B.M. AHAUS from N. El. 474.476 I-275-9(1) O B.M. AHAUS from S. El. 474.340

REV. 12-4-69 CHS. PERM. R/W TO L.A. R/W FACILITY BETWEEN STAS. 841+41.42 & 850+53.55 R/W "A" F. B. SMITH
 Rev. 3-24-69, & Relocated Channel @ 847+36 "A" Temp R/W For Channel Relocation @ 844+18 Lt. 846+50 R/W "A" A. PERRY

Sec. 12, T.5N., R.1W.
 Lawrenceburg Township
 Dearborn County 340

RAYMOND WILLIAM AHAUS

EQUATION
 Sta 833+02.69 Line "A"
 Sta 60+45.92 Line I-275-9(5) O

BEGIN PROJECT I-275-2(3) O CONST.
 STA. 842+70.30
 END PROJECT I-275-9(5) O CONST.
 STA. 50+78.31

840 LINE "A"

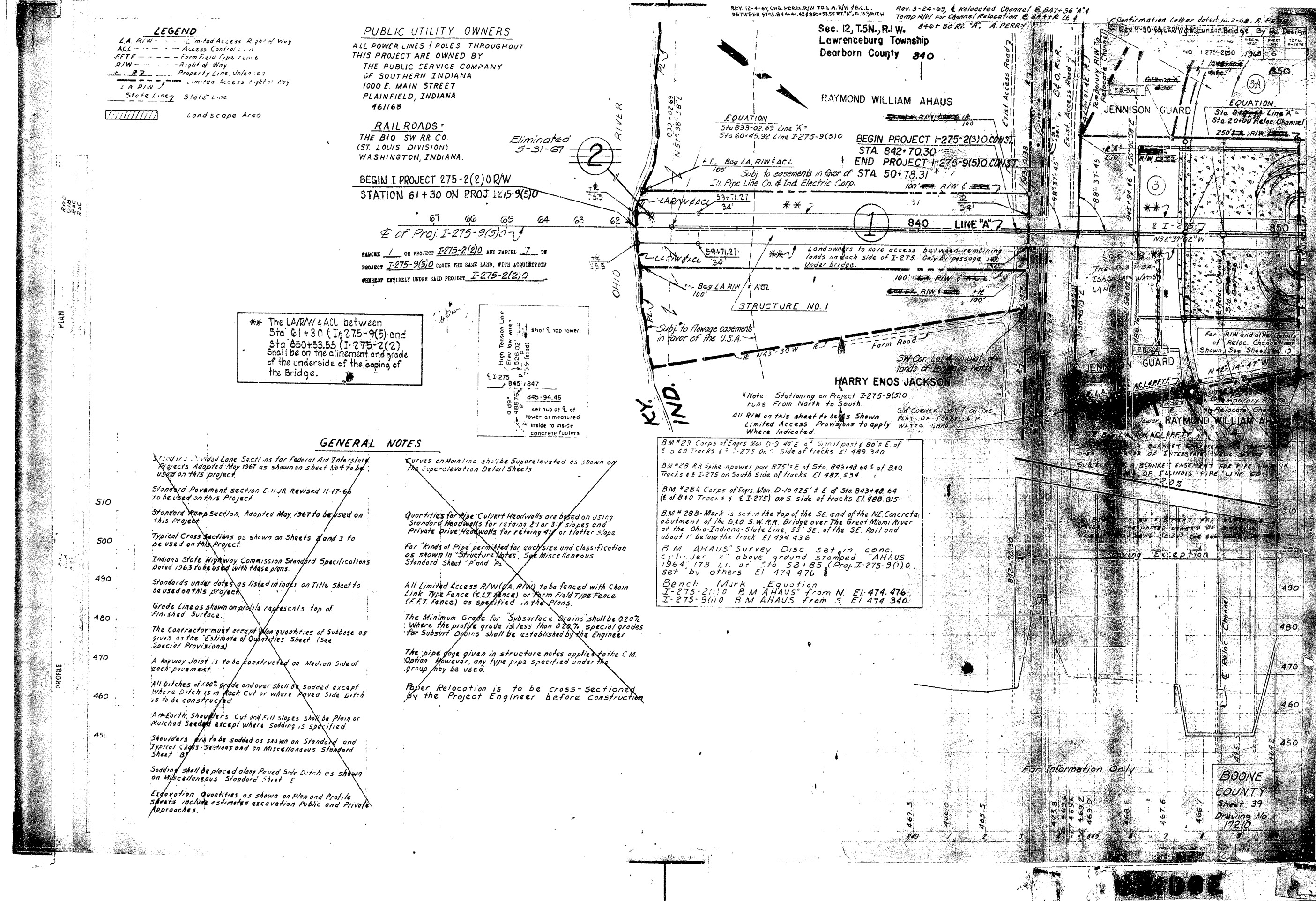
HARRY ENOS JACKSON

*Note: Stationing on Project I-275-9(5) O runs from North to South.
 All R/W on this sheet to be shown Limited Access Provisions to apply Where Indicated

Confirmation letter dated 10-2-68, A. Perry
 Rev. 9-30-64, R/W Under Bridge By R. Design

NO.	DATE	REVISION	TOTAL SHEETS
1	1-27-60	1948	6

EQUATION
 Sta. 842+70.30 Line "A"
 Sta. 20+00 Reloc. Channel
 250' R/W



BOONE COUNTY
 Sheet 39
 Drawing No 17210