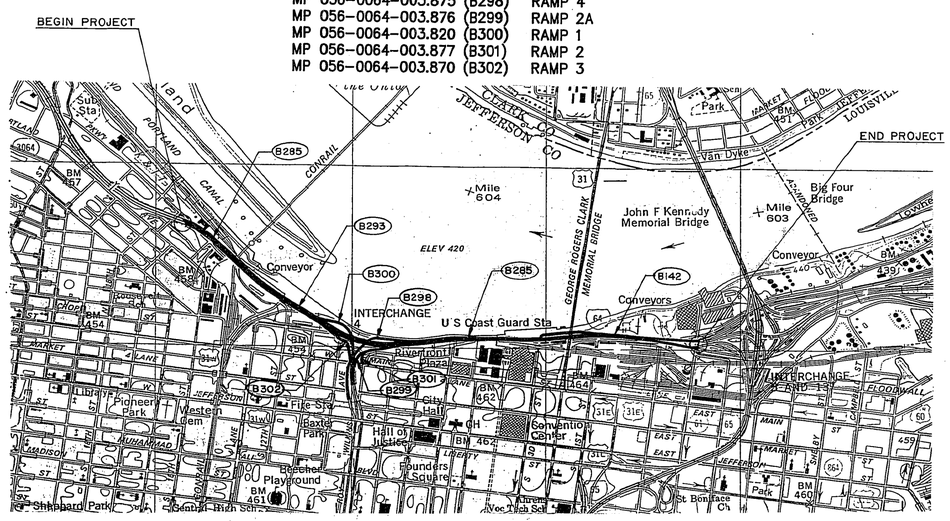
COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
JEFFERSON	1990	1	24

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

PLANS OF
PROPOSED PROJECT
JEFFERSON COUNTY

MP 056-0064-004.630 (B142) I64-3RD ST. TO PRESTON ST.
MP 056-0064-003.170 (B285) I64-17TH ST. TO 13TH ST.
MP 056-0064-004.180 (B292) I64-7TH ST. TO 2ND ST.
MP 056-0064-003.690 (B293) I64-13TH ST. TO 7TH ST.
MP 056-0064-003.875 (B298) RAMP 4
MP 056-0064-003.876 (B299) RAMP 2A
MP 056-0064-003.820 (B300) RAMP 1
MP 056-0064-003.877 (B301) RAMP 2
MP 056-0064-003.870 (B302) RAMP 3



GRAPHIC SCALE IN .....

LAYOUT MAP

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	GENERAL NOTES & QUANTITIES
4-7	LAYOUT SHEET
8-9	SUBSTRUCTURE REPAIRS
10	SUPERSTRUCTURE CONCRETE REPAIRS
11	EXPANSION DEVICE REPAIR & REPLACEMENT
12-19	FRAMING PLAN
20-23	STRUCTURAL STEEL REPAIRS
24	NEOPRENE EXPANSION DAM
	SHEETS NOT INCLUDED IN TOTAL SHEETS
	TOTAL BRIDGE SHEETS

STANDARD DRAWINGS

NUMBER	
BJJ-003-07	PREFORMED JOINT SEAL
TSC-200-04	LANE CLOSURE, CASE I
TSC-210-04	LANE CLOSURE, CASE III
TSC-215-03	INTERIOR LANE CLOSURE

REFERENCES

DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1988 EDITION
FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

SPECIAL PROVISIONS

SPECIAL NOTES

SPECIAL NOTES FOR CLASS "M" CONCRETE.
SPECIAL NOTES FOR HIGH STRENGTH BOLTS, WASHERS & NUTS.
SPECIAL NOTES FOR MODULAR EXPANSION DEVICES.
SPECIAL NOTES FOR WELDING STRUCTURAL STEEL

DESIGN CRITERIA

CLASS OF HIGHWAY _____
TYPE OF TERRAIN _____
DESIGN SPEED _____
REQUIRED NPSD _____
REQUIRED PSD _____
LEVEL OF SERVICE _____
ADT PRESENT ( ) _____
ADT FUTURE ( ) _____
DHV _____
D % _____
T % _____

GEOGRAPHIC COORDINATES

LATITUDE _____ DEGREES _____ MINUTES NORTH
LONGITUDE _____ DEGREES _____ MINUTES WEST

DESIGNED

% RESTRICTED SD _____
LEVEL OF SERVICE _____
MAX. DISTANCE W/O PASSING _____

GROSS LENGTH _____ LIN. FT. _____ MILES	GROSS LENGTH _____ LIN. FT. _____ MILES	GROSS LENGTH _____ LIN. FT. _____ MILES	GROSS LENGTH _____ LIN. FT. _____ MILES
ADDED / DEDUCTED / FOR EQUALITIES _____ LIN. FT.	ADDED / DEDUCTED / FOR EQUALITIES _____ LIN. FT.	ADDED / DEDUCTED / FOR EQUALITIES _____ LIN. FT.	ADDED / DEDUCTED / FOR EQUALITIES _____ LIN. FT.
NET LENGTH _____ LIN. FT. _____ MILES	NET LENGTH _____ LIN. FT. _____ MILES	NET LENGTH _____ LIN. FT. _____ MILES	NET LENGTH _____ LIN. FT. _____ MILES
NOT INCLUDED	NOT INCLUDED	NOT INCLUDED	NOT INCLUDED
RAILROAD CROSSINGS NO. _____ LIN. FT.	RAILROAD CROSSINGS NO. _____ LIN. FT.	RAILROAD CROSSINGS NO. _____ LIN. FT.	RAILROAD CROSSINGS NO. _____ LIN. FT.
BRIDGES _____ LIN. FT.	BRIDGES _____ LIN. FT.	BRIDGES _____ LIN. FT.	BRIDGES _____ LIN. FT.

REPAIRS TO I 64 BRIDGES, 17TH St. to Preston St. and Ramps

DRAWING NO. 22413
SHEET 1 OF 24

KENTUCKY DEPARTMENT OF HIGHWAYS
JEFFERSON COUNTY
LOUISVILLE – LEXINGTON ROAD
PROJECT NUMBER: MP 056 0064 003-005
LETTING DATE: 4-19-91

PREPARED & SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS
LOUISVILLE, KY
File No. 1150-05
BY Clyde K Coe
DATE 12-28-90

STATE OF KENTUCKY — CLYDE L COE 2615 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY ____ 19__ BY ASST. DISTRICT ENGINEER FOR PRE-CONSTRUCTION
1/29 1991 BY Art Jameson Director of Bridges
____ 19__ BY DIRECTOR OF TRAFFIC
PLAN CHECKED ____ 19__ BY CHIEF DRAFTSMAN
PLAN APPROVED ____ 19__ BY DIRECTOR OF DESIGN
PLAN APPROVED 1/29 1991 BY [signature] STATE HIGHWAY ENGINEER

APPROVED: _____
F.H.W.A. DIVISION ADMINISTRATOR

	NO. SETS	DATE
RECORD PLANS		
CONSTRUCTION PLANS		

REVIEWED BY _____
DIVISION OF CONSTRUCTION

PLANS CHECKED BY P.N.P.
FINAL CHECK BY _____

7-25-86
FORM NO.

ESTIMATE OF QUANTITIES

DETAIL SHEET	CODE	BID ITEM	UNIT	AMOUNT
10		Concrete Patching	L.S.	1
10		Light Standard Support Repair	L.S.	1
10		Sign Support Repair	L.S.	1
10		Deck Overlay Patching	S.Y.	12
8		Concrete Frames Repair	L.S.	1
8		Bearing Repair at Pier 15	L.S.	1
8		Column Top Repair	L.S.	1
9		End Bent 101W Repair	L.S.	1
9		Concrete Sealing	L.S.	1
9		Erosion Repair at End Bent R4	L.S.	1
11		Expansion Dam – Modular (Replace.)	Lin. Ft.	44.3
11		Expansion Dam – 4" Neoprene (Replace.)	Lin. Ft.	74.3
11		Modular Joint Seal Replacement	Lin. Ft.	2278
11		Finger Dam Bolster Block	Each	835
11		Compression Joint Seal Replacement	Lin. Ft.	274
23		Flange Cutting Type 1	Each	6
23		Flange Cutting Type 2	Each	7
23		Replace H.S. Bolt	Each	20
20		Stringer Web Repair – Type 1	Each	86
20		Stringer Web Repair – Type 2	Each	5
20		Fillet Weld Repairs	Each	34
20		Stringer Diaphragm Retrofit	Each	124
21		Web Drilling (1 1/16"ø Hole)	Each	45
21		Web Drilling (3"ø Hole Saw)	Each	79
22		Floorbeam Connection Retrofit – Type 1	Each	17
22		Floorbeam Connection Retrofit – Type 2	Each	9
22		Bracing Support Repair	Each	2
22		Install Cotter Pin	Each	1
–	2650	Maintain and Control Traffic	L.S.	1
–	2569	Demobilization	L.S.	1

TRAFFIC CONTROL NOTES

Lane closures will NOT be permitted between the hours of 6:00 AM and 9:00 AM nor between the hours of 3:00 P.M. and 6:00 P.M. local time, Monday thru Friday.

Lane closures will not be permitted on holidays or during special events such as Derby week, etc.

On ramps and city streets the Contractor shall maintain at least one 12'–0" lane and an adjacent shoulder open at all times for each direction of traffic. The main line of I64 shall have two 12'–0" lanes open at all times for traffic in each direction. Interior lane closures with split traffic and traffic lanes on shoulder areas require written approval.

Lane closures shall be made in accordance with the Kentucky Department of Highways Standard Drawings. Any modifications in the standard lane closures must be approved in writing by the Kentucky Department of Highways District 5 Traffic Engineer, prior to use.

The lane closure shall be continuous throughout the work zone. Changing lanes within the closure limit will not be allowed.

All signs, barricades, channelization devices and incidentals used for traffic control shall be new or, if used, in good condition & approved by the engineer; and shall be in accordance with the applicable standard drawings and the "Manual on Uniform Traffic Control Devices".

All traffic control devices must be removed from the project site or covered adequately when not in use.

Channelization devices shall be spaced at 40 feet maximum except on ramps where the spacing shall be 20 feet maximum.

GENERAL NOTES

SPECIFICATIONS: The Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, 1988 edition, shall apply to this project.

DESIGN LOAD: See original construction contract plans for design loads.

MATERIAL DESIGN SPECIFICATIONS–NEW MATERIALS:
For Class "A" Reinforced Concrete
F'C = 3500 PSI

For Class "AA" and "M" Reinforced Concrete
F'C = 4000 PSI

For Steel Reinforcement
FY = 60000 PSI

For Structural Steel
FS = 20000 PSI for AASHTO M 183 (ASTM A36) Steel
FS = 27000 PSI for AASHTO M 223, Grade 50 (ASTM A572, Grade 50) Steel

MATERIALS: AASHTO Specifications, current edition, as designated below shall govern the materials furnished.

Material	AASHTO
Structural Steel	M 183
Structural Steel	M 223, Grade 50
High Strength Bolts, Nuts and Washers	M 164

Top flange splice plates for floorbeams (Floorbeam Connection Retrofits) shall meet the longitudinal Charpy V–notch toughness test with a minimum requirement of 25 Ft. Lbs. at 40 degree F. Sampling and testing procedures shall be in accordance with ASTM A673, current edition, utilizing (H) frequency testing.

CONCRETE: Class "M" Concrete in accordance with the Special Note or Pyrament 505 Repair Material (proprietary) is to be used, where shown on the plans, for Deck Overlay Patching and for replacing concrete that is removed to install new expansion devices. Acrylic Patch Mortar (proprietary) is to be used, where shown on the plans, for vertical and overhead concrete patches. Class "AA" Concrete is to be used for all other superstructure concrete repairs. Class "A" Concrete is to be used for all other substructure concrete repairs, except as noted on the plans, and for the new slopewall curb.

ACRYLIC PATCH MORTAR: Acrylic patch mortar shall be Burke Acylic Patch as manufactured by the Burke Company, San Mateo, California (local outlet: The Burke Company, 4504 Poplar Level Road, Louisville, KY 40213) or an approved equal.

PYRAMENT 505 REPAIR MATERIAL: This material is a packaged mortar produced by Pyrament Division of Lane Star Industries, Inc. Houston, Texas. Storing, mixing and placing shall be in accordance with the manufacturers instructions.

CLEANING AND PAINTING:
All new structural steel for repair and retrofit work shall be blast cleaned in shop to a near–white condition and shop painted with one coat of inorganic zinc rich primer in accordance with Section 607 of the Standard Specifications. Existing steel areas to be in contact with new steel, including areas under bolt heads, shall be cleaned of all dirt, rust and other foreign matter before installing the new steel. Unless noted otherwise on these plans, all new and existing steel within 12" of the work limits of each completed repair and retrofit location shall be cleaned and painted with one field coat of modified epoxy mastic in accordance with Section 727 of the Standard Specifications.

The paint for all painting work shall conform to Section 821 of the Standard Specifications and shall consist of one shop coat of inorganic zinc rich primer for new steel and one field coat of modified epoxy mastic for painting completed repair and retrofit work areas (new and existing steel) and touch–up painting. The color of the epoxy coating shall be aluminum gray, matching the present color of the existing bridge steel as near as possible, and shall be approved by the Engineer before any application. Cleaning and Painting shall be incidental to respective bid items.

Some repairs may require cleaning of existing steel. Any cleaning of this nature shall be done with wire brushes. No blast cleaning of existing steel will be allowed.

TOUCH–UP PAINTING: All areas of new or existing structural steel on which the paint has been damaged by the Contractor with weld burns or by other means during construction or after final painting shall be wire brush cleaned and spot painted with one coat of modified epoxy mastic. The cost of this touch up painting is to be included in the price bid for appropriate items.

PAYMENT FOR STRUCTURAL STEEL REPAIRS: The unit price bid for all structural steel repair or retrofit bid items listed in the Estimate of Quantities shall be full compensation for access, temporary supports, removing existing bolts, drilling, reaming holes, cutting, welding, cleaning, painting and all new materials, labor, equipment, tools, and incidentals necessary to complete each item of work.

WELDING SPECIFICATIONS: All welding and welding materials except for reinforcement, shall conform to Joint Specifications ANSI/AASHTO/AWS D1.5–88 Bridge Welding Code. Modifications and additions as stated on the plans and the Special Notes for Welding Steel Bridges shall supersede the ANSI/AASHTO/AWS Specifications. Nondestructive testing by the Contractor (QC) will not be required. Welding procedures shall be submitted to the Engineer and approved prior to the start of fabrication and repairs. The cost of welding, welding materials, straightening, altering and burning new or existing steel is to be included in the unit price bid for the appropriate items.

HIGH STRENGTH BOLT CONNECTIONS: Unless otherwise provided on the plans, all new bolts shall be 7/8" diameter high strength bolts. Open holes shall be 15/16" diameter. All reaming of existing rivet holes shall be considered incidental to the appropriate item of work. Tightening shall be done with properly calibrated wrenches. Bolts, nuts and washers shall be made in USA.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are clear distances unless otherwise shown. Spacing of bars is from center to center of of bars.

BEVELED EDGES: All exposed concrete edges shall be beveled 7/8" unless otherwise shown.

DIMENSIONS: Dimensions shown on these plans are taken from original construction contract plans and do not necessarily reflect revisions made during construction. The Contractor shall verify dimensions, including thicknesses of parts, with field measurements prior to ordering materials or fabricating steelwork.

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.

ON–SITE INSPECTION: Each Contractor submitting a bid for this work shall make a thorough inspection of the bridge and the work site prior to submitting a bid and shall be thoroughly familiarized with existing conditions so that work can be expeditiously performed after a contract is awarded. A suitable method of performing the work described herein should be investigated. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department of Highways.

DAMAGE TO THE STRUCTURE: The Contractor shall bear all responsibility and expense for any and all damage to the structure during the repair and retrofit work, even to the removal and replacement of the fallen spans, should the fallen spans result from the Contractor's actions.

PROTECTION OF VEHICLES AND PEDESTRIANS: No work will be allowed over moving traffic or pedestrian accessible areas. The Contractor shall take all necessary precautions to protect vehicles, whether moving or parked, and individuals from damage and harm caused by falling debris or other objects resulting from his operations. He shall be fully responsible for all of his actions in accordance with Section 107 of the Standard Specifications.

GENERAL NOTES & QUANTITIES

SHEET 2

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I 64)

STATION | ROAD | P.E. PROJECT NO.

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO.

UPDATE DATE ________
LETTING DATE ________

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY DRH — CHECKED BY ____ DATE ____
DETAILED BY ____ — CHECKED BY P.N.P./TTG DATE 12/90
TRACED BY ____ — CHECKED BY ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____

D:\DWGFILES\1150\05\I64NOTE1

GENERAL NOTES

MAINTAINING TRAFFIC: Traffic shall be maintained at all times in accordance with the Traffic Control Notes.

BRIDGE PLANS: A copy of the bridge superstructure original construction contract plans will be made available to the successful bidder upon his written request.

CONCRETE REMOVAL: The Contractor shall remove concrete with a method that will not damage existing reinforcement or structural steel that is to remain in the structure. All removal shall be to neat saw cut lines and feather edges will not be permitted.

BONDING NEW CONCRETE TO OLD CONCRETE: New concrete shall be bonded to old concrete, unless stated otherwise on the plans, using two-component epoxy resin system conforming to Section 833 of the Specifications. The cost of this work, including all labor, tools and materials, is to be considered incidental to the specific bid item in which this work occurs.

EXISTING STEEL REINFORCEMENT: The cost of cutting, bending and cleaning existing reinforcing steel is to be incidental to this contract.

CONCRETE PATCHING: This work consists of preparing, forming and placing concrete in accordance with the plans, notes and specifications at designated spalled areas on parapets and a wingwall. The lump sum bid for this item shall include all materials and labor for saw cutting, removing loose and sound concrete, cleaning reinforcing bars, applying bonding coats and placing forms and concrete as necessary to complete the patching of these areas. A prorated unit price will be used for any additional patching required not covered by the plans.

LIGHT STANDARD SUPPORT REPAIR: This work consists of preparing and patching the spalled concrete area at one Light Standard Support Bracket and installing one new anchor bolt. The lump sum bid shall include all materials and labor, as listed above for the concrete patching and for furnishing and installing the anchor bolt.

SIGN SUPPORT REPAIR: This work consists of placing grout below one base plate and tightening all anchor bolt nuts below deck at the median side columns of the Sign Support Structure near Pier 37 EB. The lump sum bid for this item shall include all materials and labor to complete grouting and tightening of anchor bolt nuts at this location.

DECK OVERLAY PATCHING: This work consists of repairing spalled concrete areas on the deck overlay in accordance with the plans and Section 617 of the Standard Specifications. These repair areas, mostly adjacent to expansion devices, are at locations shown on the plans and/or as directed by the Engineer. The unit price bid per square yard shall be full compensation for saw cutting, removing foreign material and sound overlay, blast cleaning and placing patch concrete and for all material, labor and incidentals necessary to complete the work.

CONCRETE FRAMES REPAIR: This work consists of preparing and patching all overhead spalled and delaminated concrete areas on the beams and injecting epoxy material in all cracks exceeding 1/16" in width on the columns of Frames 4 and 8 inside of the Ramp A Concrete Bridge. The lump sum bid for this item shall include all materials and labor for testing for delaminations, removing unsound concrete, blast cleaning, placing patch mortar, cleaning cracks, injecting epoxy material, grinding repaired crack areas and incidentals necessary to complete the work.

BEARING REPAIR AT PIER 15: This work consists of installing three new anchor bolts and replacing the washer and nut on one anchor bolt at the north interior column of Pier 15 in accordance with the plans and notes. The lump sum bid shall include all materials and labor for drilling concrete, removing an existing nut, installing new anchor bolts, washers and nuts and cleaning and painting parts of the bearing.

COLUMN TOP REPAIR: This work consists of repairing the center column of Pier 56 by injecting epoxy material in the cracks and forming and placing a new reinforced concrete band around the top of the column in accordance with the plans and notes. The lump sum bid for this item shall include all materials and labor for removing unsound concrete, injecting epoxy material, scarifying the surface, applying bonding coat, forming and for placing reinforcement and concrete.

END BENT 101W REPAIR: This work consists of patching a spalled concrete area of End Bent 101W bridge seat under the bearing for Girder E by removing concrete, installing drilled-in dowels, forming and placing reinforced concrete and pouring non-shrink grout under the masonry plate, all in accordance with the plans and notes. The lump sum bid for this item shall include all materials and labor for removing concrete, blast cleaning, drilling holes in concrete, installing dowel bars, applying bonding coat, forming, placing reinforcement and concrete, pouring non-shrink grout and for cleaning and painting the bearing.

CONCRETE SEALING: This work consists of applying a concrete sealing coating to the tops and upper vertical surfaces of all substructure items in accordance with the plans and Standard Specification. The lump sum bid shall be full compensation for all materials, labor and expense of access to clean and seal all of the designated areas.

EROSION REPAIR AT END BENT R4: This work consists of repairing erosion damage along one edge of the berm and slope paving at End Bent R4 (Ramp 4) by placing compacted stone in the void under the existing paving, constructing a new concrete curb and backfilling along the curb with top soil, as shown on the plans. The lump sum bid for this item shall include all materials, labor and incidentals necessary to complete the work.

EXPANSION DAM – MODULAR (REPLACE): This work consists of the complete removal of the modular expansion dam at Pier 37 WB and the replacement with a new, special, four seal modular expansion dam fabricated for existing support conditions and for stage construction. The unit price bid shall be full compensation for removal and replacement of the device including curb treatment, removal and replacement of adjacent concrete slab as shown on the plans and for all materials, labor and incidentals necessary to complete the work.

EXPANSION DAM – 4" NEOPRENE (REPLACE): This work consists of the complete removal of the modular expansion dams at Pier R1-9 and Pier 25 EB and their replacement with new Neoprene Expansion Dams (4") in accordance with the plans. The unit price bid per linear foot between gutter lines shall be full compensation for removal and replacement of the devices including curb treatments, removal and replacement of adjacent concrete slabs as shown on the plans and for all materials, labor and incidentals necessary to complete the work.

MODULAR JOINT SEAL REPLACEMENT: This work consists of removing and replacing all neoprene seals at locations indicated on the plans. Each seal strip shall be one continuous unbroken length. The unit price bid per linear foot between gutter lines shall be full compensation for all materials, labor and incidentals necessary to complete the work in accordance with the plans and specifications.

FINGER DAM BOLSTER BLOCK: This work consists of installing new bolster blocks on the existing finger plate expansion dams listed on the plans where bolsters are missing from the fingers. The unit price bid for this item shall be full compensation for furnishing and installing new bolster blocks including grinding, preheating, welding and all other materials, labor and incidentals necessary to complete the work.

COMPRESSION JOINT SEAL REPLACEMENT: This work consists of removing and replacing all neoprene seals at locations indicated on the plans. Each seal strip shall be one continuous unbroken length. The unit price bid per linear foot between gutter lines shall be full compensation for all materials, labor and incidentals necessary to complete the work in accordance with the plans, specifications and standard drawings.

FLANGE CUTTING – TYPE 1 AND 2: These items of work consist of cutting and removing sections of flange material to provide clearance for hanger plates at locations indicated on the plans. The unit price bid shall include the necessary access and labor for flange cutting steel, protecting hanger plates, cleaning and painting and all other incidentals to complete the work.

REPLACE H.S. BOLT: This work consists of replacing missing or improperly tightened bolts at widely scattered locations with new high strength bolts. The unit price bid shall be full compensation for all costs of furnishing and installing a replacement bolt including access, reaming where necessary and cleaning and painting.

STRINGER WEB REPAIR – TYPE 1 AND 2: These items of work consist of repairing cracks in webs of rolled beam stringers by the addition of welded and bolted plates, drilling holes at the tips of all cracks and, where necessary, rewelding at cracks in stiffener welds in accordance with the plans and specifications. The unit price bid shall be full compensation for all materials and labor to complete the repair including the expense of access and cleaning and painting.

FILLET WELD REPAIRS: This work consists of repairing cracks in fillet welds which join connection plates to stringers, floorbeams and girders by rewelding in accordance with the plans, notes and specifications. The unit price bid shall be full compensation for all materials and labor to complete the repair including the expense of access and cleaning and painting.

STRINGER DIAPHRAGM RETROFIT: This work consists of removing several high strength bolts in each end of a stringer diaphragm at locations indicated on the plans.

The unit price bid shall be full compensation for all expense of access, labor and incidentals necessary to complete the work.

WEB DRILLING (1 1/16"ø HOLE) and WEB DRILLING (3"ø HOLE SAW): These items of work consist of drilling steel web plates with one or more 1 1/16"ø holes at web cracks near connections or drilling one 3"ø hole saw hole opposite a longitudinal stiffener butt weld crack.

The unit price bid shall be full compensation for all expense of access, labor and incidentals necessary to complete the work.

FLOORBEAM CONNECTION RETROFIT – TYPE 1 AND 2: These items of work consist of adding bolted and/or welded splice plates to both floorbeam flanges at their connections to interior girders at locations indicated on the plans. The unit price bid shall be full compensation for furnishing and installing splice plates, brackets, shim plates and bolts and includes the expense of access, cutting slotted holes in the girder web, drilling holes at crack ends, cleaning and painting and incidentals necessary to complete the work.

BRACING SUPPORT REPAIR: This work consists of replacing one H.S. Bolt and two Hex. Nuts on a threaded rod at a mid-panel intersection of lateral bracing of girders. The unit price bid shall be full compensation for all expense of access, materials, labor, cleaning and painting, and incidentals necessary to complete the work.

INSTALL COTTER PIN: This work consists of installing one cotter pin in a vacant hole in a large pin of a longitudinal girder hanger assembly. The unit price bid shall be full compensation for all materials and labor to complete the repair including the expense of access, and cleaning and painting.

CONTRACT CONFLICT: This contract may fall within the time restraints of other contracts and is subordinate to any other contract. Work shall be coordinated with the other contractor with the engineer's approval.

GENERAL NOTES

SHEET 3

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I 64)

STATION | ROAD | P.E. PROJECT NO.

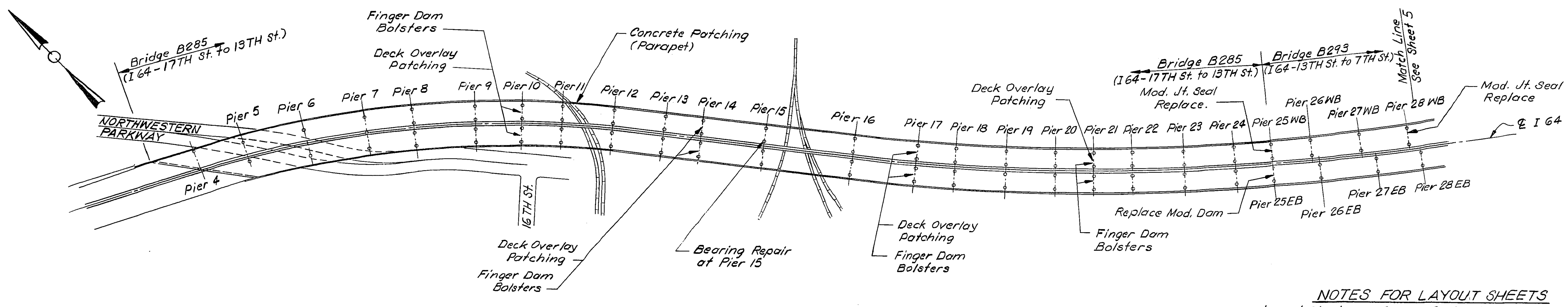
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413

UPDATE DATE ______
LETTING DATE ______

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY DRH — CHECKED BY ____ DATE ____
DETAILED BY ____ — CHECKED BY P.N.P./RG DATE 11-90
TRACED BY ____ — CHECKED BY ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____

11/20/1990 DRH



NOTES FOR LAYOUT SHEETS

Layout Sheets are for the Contractor's orientation and information. Original construction Contract Plans are available (See General Notes).

The general locations of Substructure and Superstructure Concrete repairs are noted on these sheets. For repair details and specific locations see Sheets 8 thru 11.

Repairs for structural steel are shown in other parts of these plans.

All substructure items which support these bridges are to receive "Concrete Sealing".

LAYOUT

(I 64-17TH St. to 13TH St.)
(I 64-13TH St. to 7TH St.)

SHEET 4

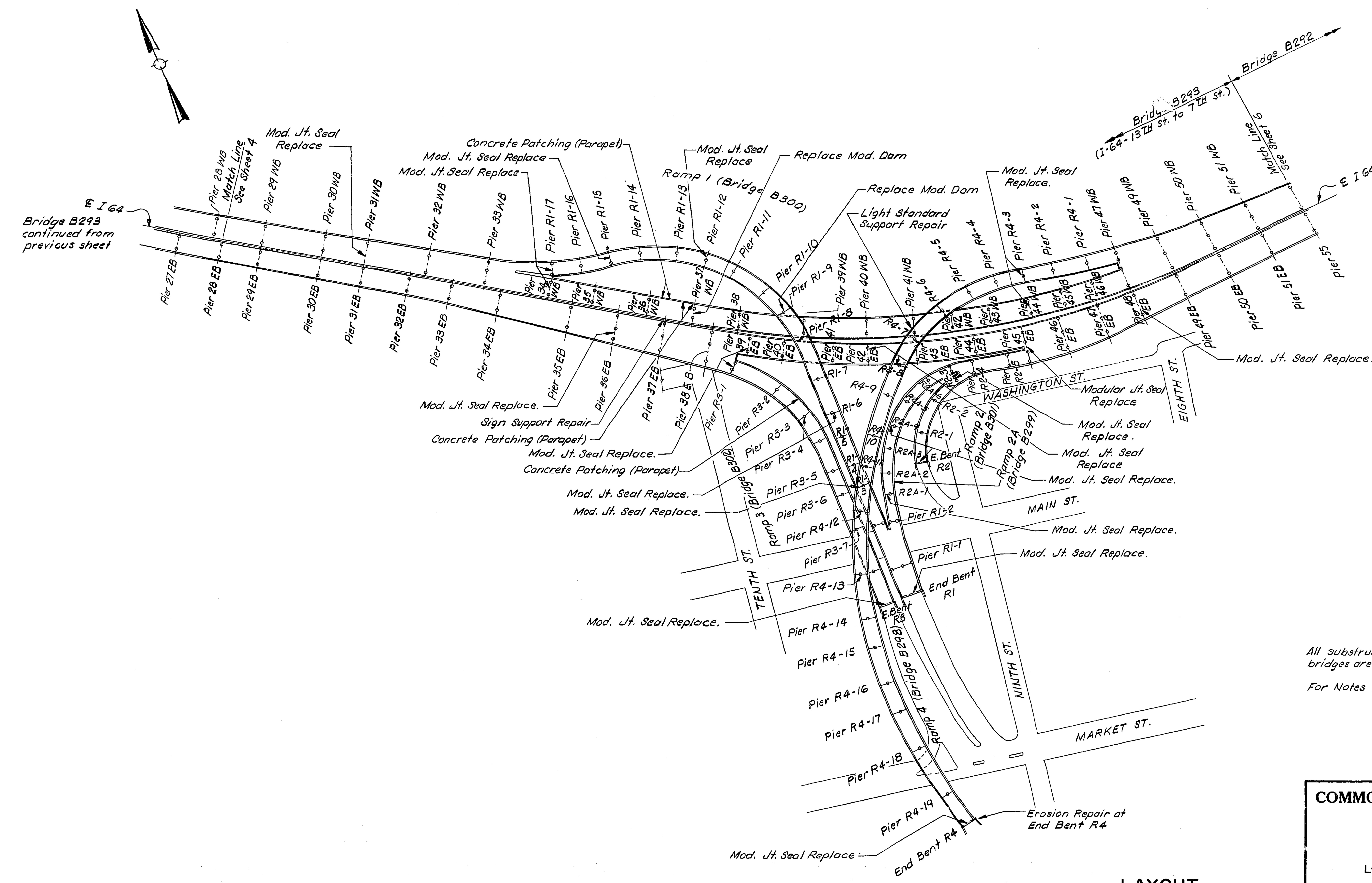
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I 64)
ROAD

STATION	P.E. PROJECT NO.	
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413

UPDATE DATE
LETTING DATE

DESIGNED BY A.R. CHECKED BY P.H.P./T.G. DATE 11-90

UPDATE DATE
LETTING DATE



All substructure items which support these bridges are to receive "Concrete Sealing".

For Notes For Layout Sheets see Sheet 4.

LAYOUT
(I 64-13TH St. to 7TH St.)
(Ramps 1, 2, 2A, 3 & 4)

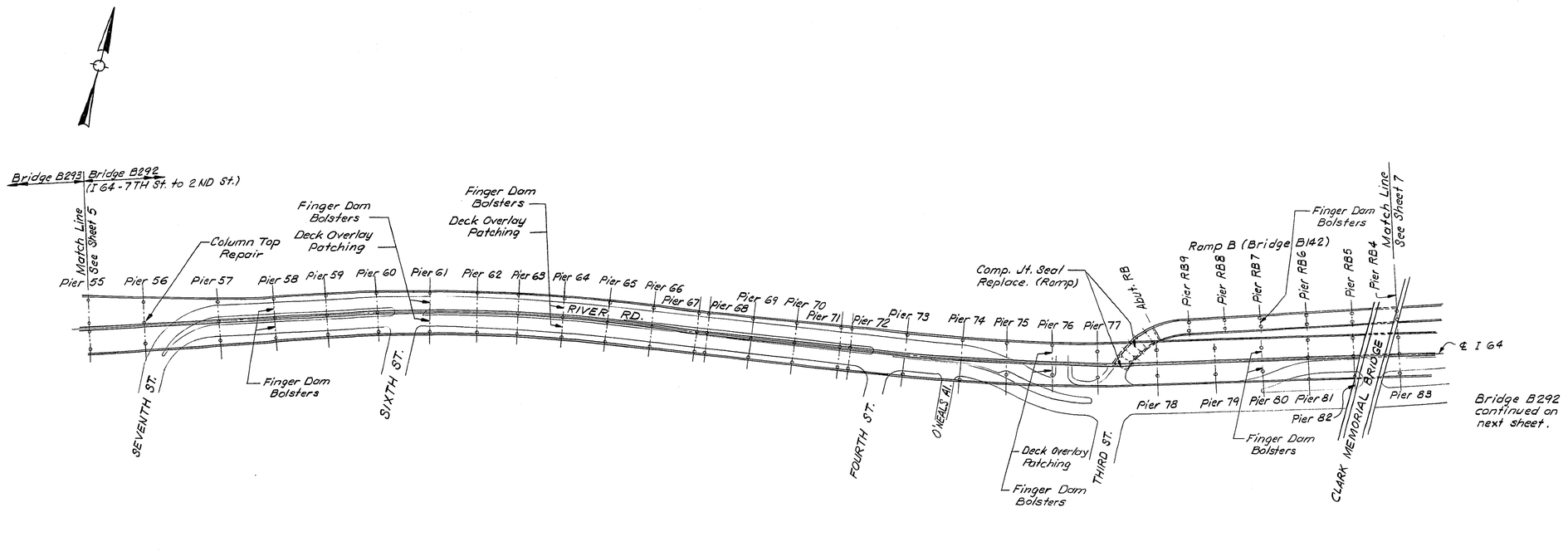
SHEET 5

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I 64)
ROAD

STATION	P. E. PROJECT NO.		
CONSTRUCTION PROJECT NO.		MAINTENANCE PROJECT NO.	DRAWING NO. 22413

DESIGNED BY A.R. CHECKED BY P.N.P./T.G. DATE 11-90
DETAILED BY CHECKED BY DATE
TRACED BY CHECKED BY DATE

UPDATE DATE
LETTING DATE



All substructure items which support these bridges are to receive "Concrete Sealing".

For Notes For Layout Sheets see Sheet 4.

DESIGNED BY A.F. DATE
DETAILED BY DATE
TRACED BY DATE
CHECKED BY P.N.P. DATE 12-90
CHECKED BY DATE
CHECKED BY DATE
REVISED
REVISED
REVISED

TELEDYNE POST MADDY

LAYOUT

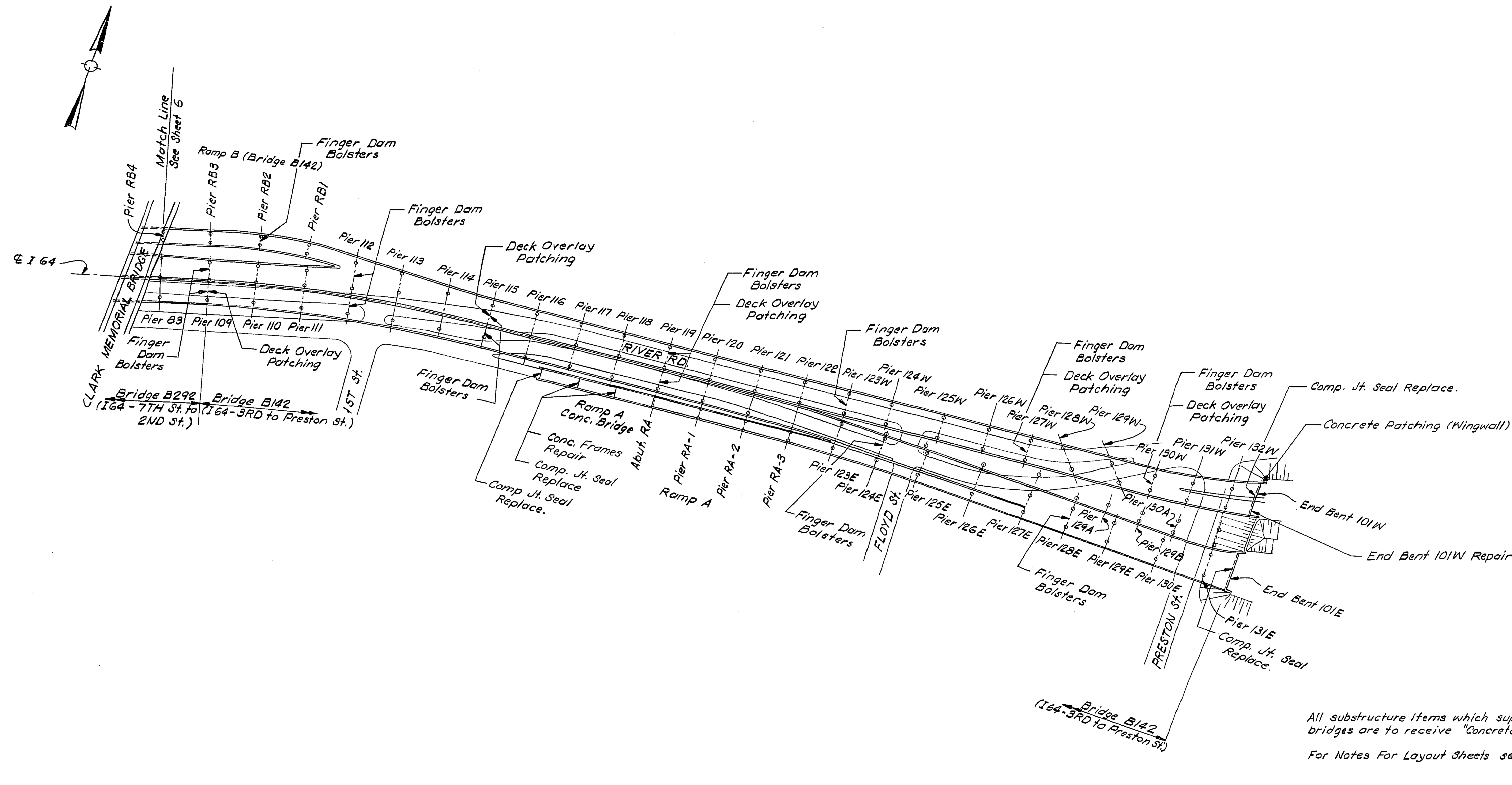
(I 64 - 7TH St. to 2ND St.)
(I 64 - 3RD St. to Preston St.)

SHEET 6

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I 64)
ROAD

STATION **P. E. PROJECT NO.**

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413



All substructure items which support these bridges are to receive "Concrete Sealing".

For Notes For Layout Sheets see Sheet 4.

UPDATE DATE
LETTING DATE

DESIGNED BY A.R. CHECKED BY P.N.R./ZWG DATE 11-90

SHEET 7

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I 64)
ROAD

STATION | P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413

LAYOUT
(I 64-7TH St. to 2ND St.)
(I 64-2ND St. to Preston St.)

UPDATE DATE

LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DATE

DATE

DATE

REVISED

REVISED

REVISED

DATE 11-90

DATE

CHECKED BY P.N.P.

CHECKED BY

CHECKED BY

DRAWN BY PNP/DRH

CHECKED BY

DETAILED BY

DRAWN BY

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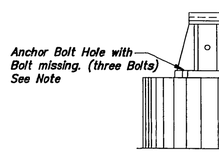
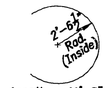


BEARING REPAIR AT PIER 15

(One Bearing at North Interior Column Only)

NOTE FOR BEARING REPAIR AT PIER 15

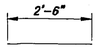
This work consists of installing three new 1½"ø Anchor Bolts and replacing the nut and washer on one existing 1½"ø Anchor Bolt. The new Anchor Bolts are to be 1½"ø x 1'-9" (M164), Swedged, with one Heavy Hex Nut and one Washer. 1⅞"ø holes are to be drilled into the concrete through the 2"ø holes in the bottom plate of the existing bearing. The new Anchor Bolts shall be installed in the drilled holes with 2½" projection above the bottom plate in accordance with Article 607.19 of the Standard Specifications. After the nuts have been tightened the entire bottom plate and the Anchor Bolts shall be cleaned and painted. Payment will be the lump sum bid for "Bearing Repair at Pier 15."



Length = 11'-3"

BAR C

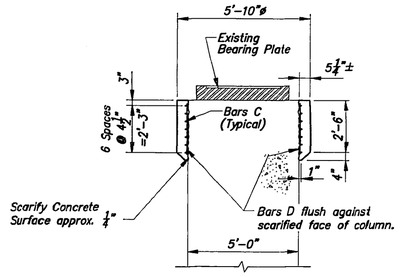
14-#5 Bars Req'd.



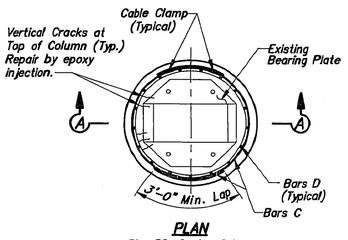
BAR D

17-#8 Bars Req'd.

NOTE: The Cost of all Bars is to be included in Lump Sum Bid.



SECTION A-A



PLAN

Pier 56, Center Column

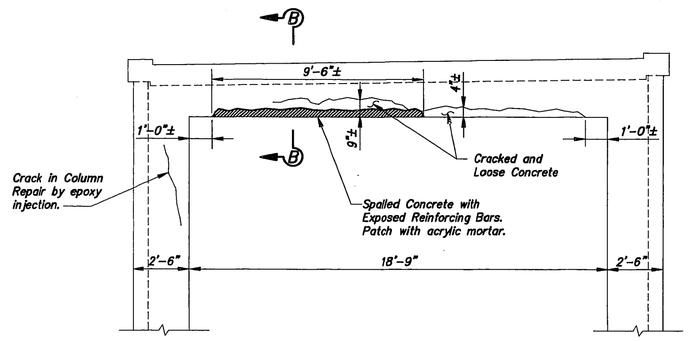
NOTE FOR COLUMN TOP REPAIR

Remove all loose concrete at cracks and delaminations near the top of Pier 56 center column. All cracks which exceed 1/16" in width are to be repaired prior to placing concrete. Clean the cracks then inject epoxy resins in accordance with the instructions for Concrete Frame Repair. The top 2'-6" of the column surface shall then be scarified approximately ¼" by chipping with hand tools or light weight power tools. Blow the surface free of dust and grit before placing bars and concrete. An epoxy bonding system is required (see General Notes).

COLUMN TOP REPAIR

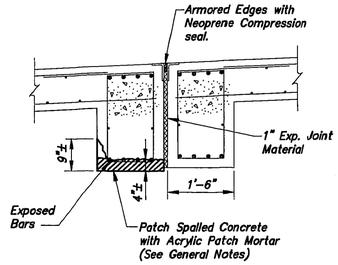
This detail is to be used for the repair of the center column at Pier 56. Payment for this repair will be the amount bid for "Column Top Repair."

Estimated length of epoxy injection crack repairs:
2 cracks @ 2 Lin. Ft.
3 cracks @ 1 Lin. Ft.
Concrete, Class "A" = 0.7 C.Y.
Steel Reinforcement = 278 Lbs.



ELEVATION

(West Side of Frame 8 Shown)



SECTION B-B

CONCRETE FRAME REPAIR

This detail is for the repair of spalled concrete and cracks in Frames 4 and 8 inside of the Ramp A Concrete Bridge. Payment for repairing both frames will be the amount bid for "Concrete Frames Repair".

Estimated lengths of overhead patching on concrete beams:
Frame 4, West Beam 18 Lin. Ft.
Frame 4, East Beam 16 Lin. Ft.
Frame 8, West Beam 17 Lin. Ft.

Estimated lengths of epoxy injection crack repair on concrete columns:
Frame 8, Southeast Column 8 Lin. Ft.

The above are estimates only. The contactor will be required to perform all repair. A pre bid inspection is critical for the contractor.

NOTE FOR CONCRETE FRAME REPAIR

Remove all unsound concrete at spalls and delaminations on the bottoms and sides of both beams of Frames 4 and 8 (4 beams total) inside of the Ramp A Concrete Bridge. Any exposed reinforcing bars shall be blast cleaned to removed rust and foreign materials. Areas to be patched shall be blown free of dust and grit and then patched with acrylic patch mortar (see General Notes). The patch mortar shall be mixed and applied in layers in accordance with manufactures instructions. An epoxy bonding system is not required for acrylic mortar patching. All cracks which exceed 1/16" in width on the inside faces of the columns of Frames 4 and 8 (4 columns total) shall be repaired by injecting epoxy resins under pressure. The cracks are to be wire brush cleaned by hand to remove loose particles before placing the epoxy cap. This crack repair work shall be performed by operators who are experienced in epoxy injection techniques. The epoxy cap shall be removed and the repaired crack and adjacent surfaces ground smooth to facilitate inspection of the completed work.

SHEET 8

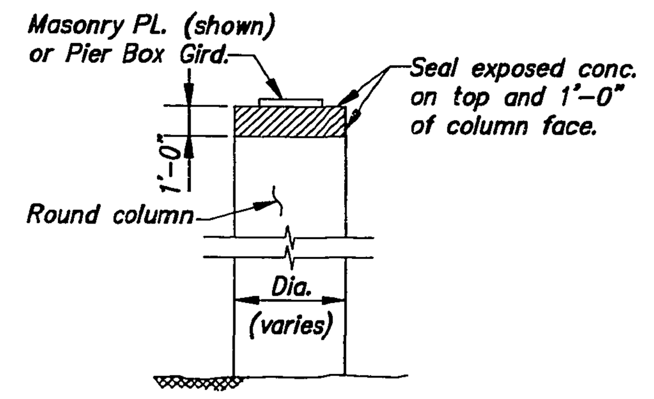
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I-64)
ROAD

STATION	P.E. PROJECT NO.	
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO. 2243

SUBSTRUCTURE REPAIRS

UPDATE DATE
LETTING DATE

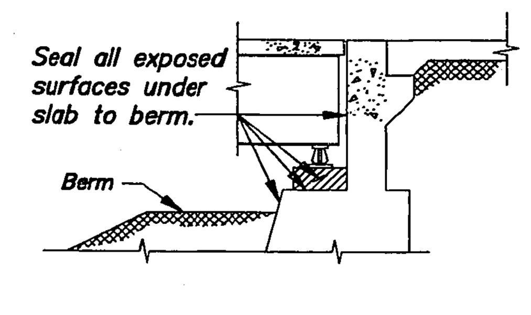
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS



TYPICAL PIER COLUMN

CONCRETE SEALING AT ROUND COLUMNS		
COLUMN DIAMETER	TOTAL NUMBER OF COLUMNS	TOTAL SQ. YDS.*
6'-6"	12	47
6'-0"	12	42**
5'-6"	28	87
5'-0"	43	117
4'-6"	171	405
4'-0"	146	296
3'-6"	23	39

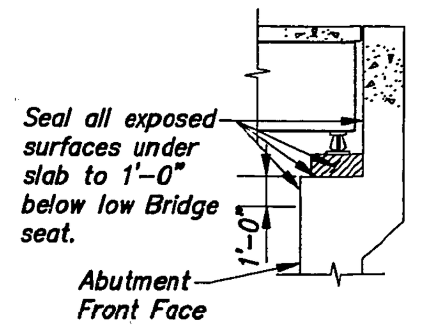
** Include center column at Pier 56.



TYPICAL END BENT

CONCRETE SEALING AT END BENTS		
END BENT	LENGTH	SQ. YDS.*
1 (@ 18TH. ST.)	203.5'	315
R1 (Ramp 1)	46.8'	53
R2 (Ramp 2)	25.3'	29
R3 (Ramp 3)	33.3'	37
R4 (Ramp 4)	33.3'	37
101E (@ Preston)	83.3'	89
101W (@ Preston)	70.4'	82

* Areas for sealing are approximate



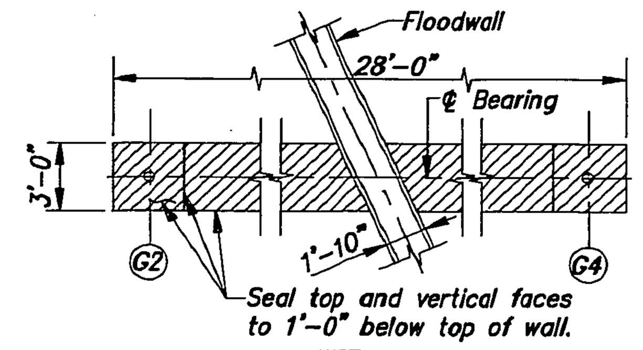
TYPICAL ABUTMENT

CONCRETE SEALING AT ABUTMENTS		
ABUTMENT	LENGTH	SQ. YDS.*
RA (Ramp A)	23.8'	27
RB (Ramp B)	31.8'	37

NOTE: All new substructure patch concrete in areas to receive "Concrete Sealing" must cure at least 14 days before being sealed.

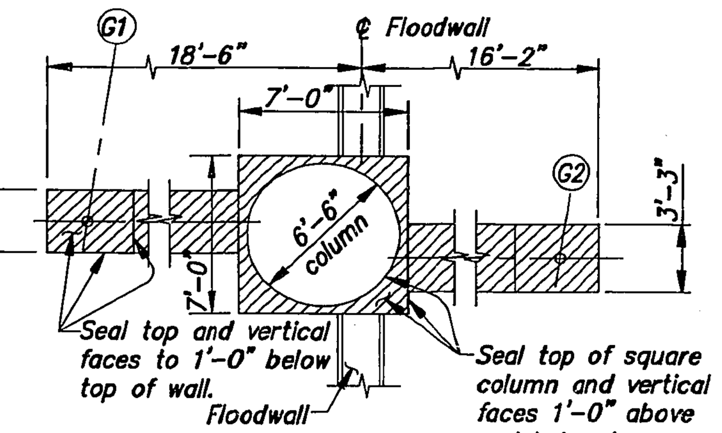
CONCRETE SEALING

All substructure items which support these bridges are to receive Concrete Sealing on the tops and vertical surfaces as shown. This work shall be in accordance with Section 731 of the Standard Specs. except payment will be made for the lump sum bid for "Concrete Sealing".



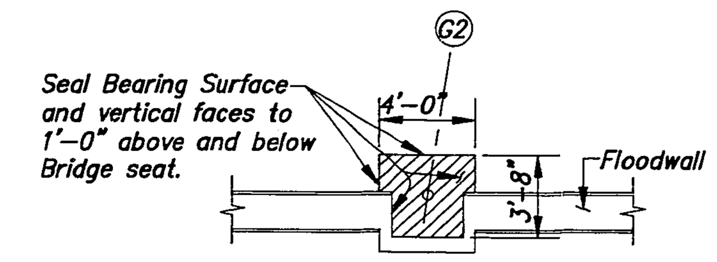
PIER 41E

Concrete Sealing = 17± Sq. Yds.



PIER 41W & 43E

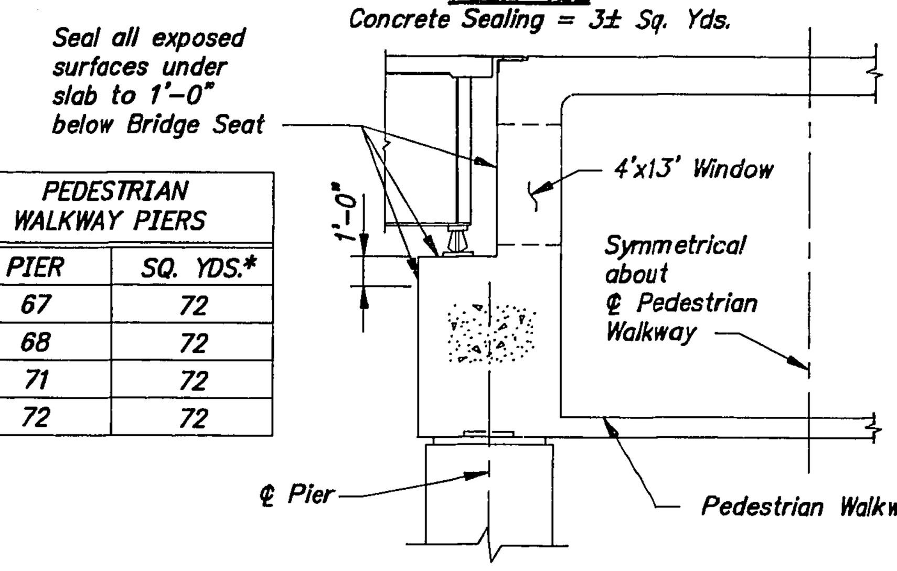
Concrete Sealing = 22± Sq. Yds.



PIER 42E

Concrete Sealing = 3± Sq. Yds.

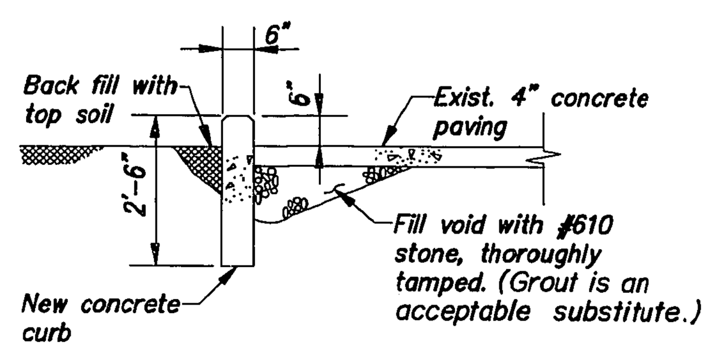
PEDESTRIAN WALKWAY PIERS	
PIER	SQ. YDS.*
67	72
68	72
71	72
72	72



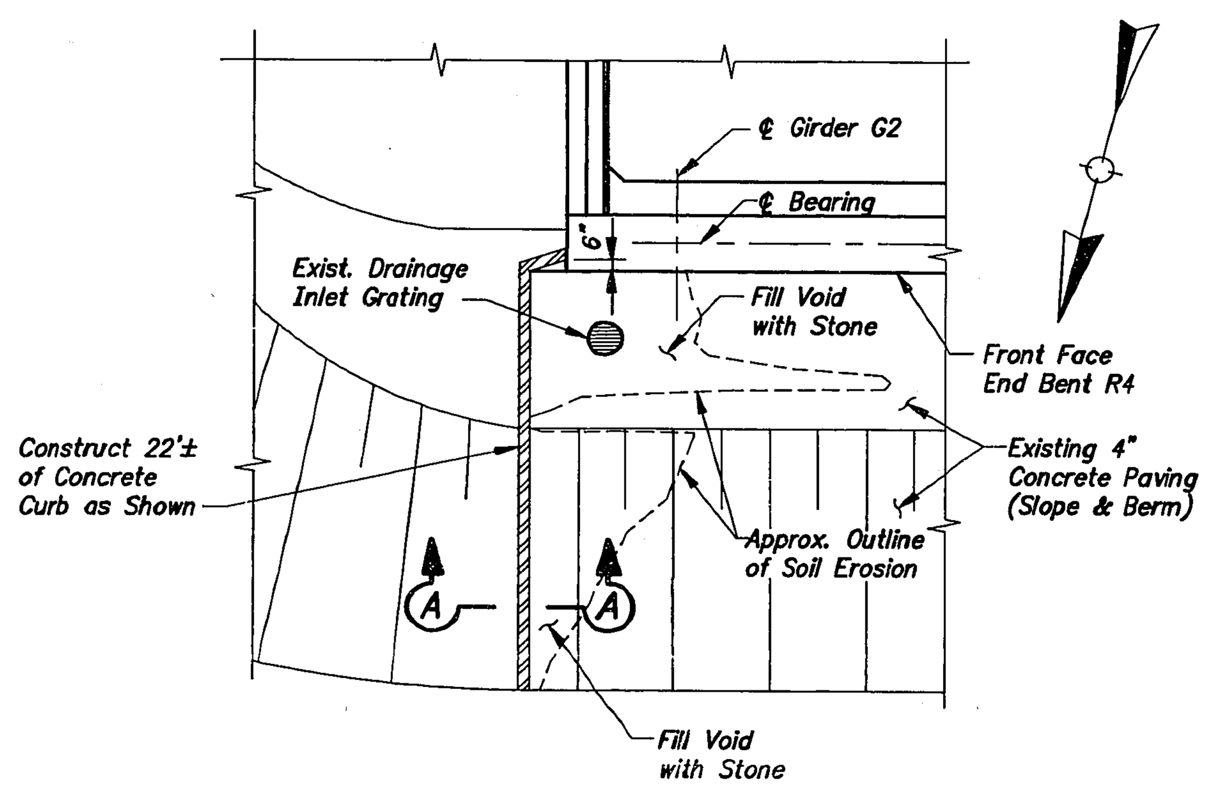
SECTION AT PIERS 67 & 71 (shown), 68 & 72 (opp. hand)

NOTE: Piers are 92'-9" in length with 4 windows. Four girder ends are adjacent to windows.

SPECIAL DETAILS

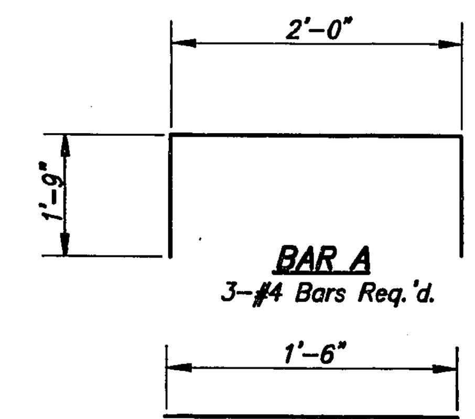


SECTION A–A



EROSION REPAIR AT END BENT R4

(One Location)



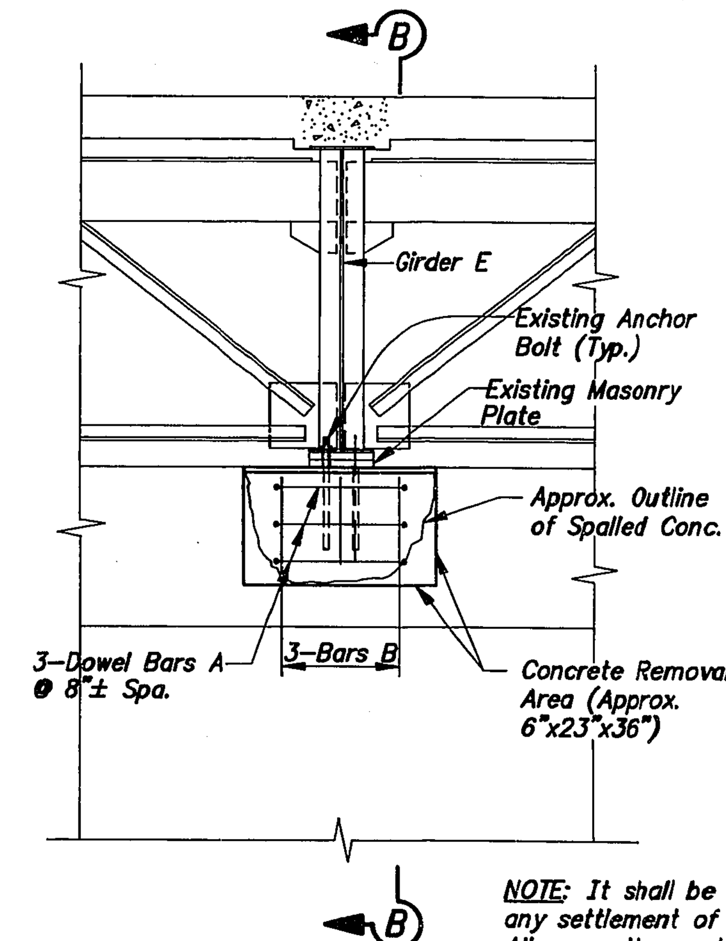
BAR A

3-#4 Bars Req.'d.

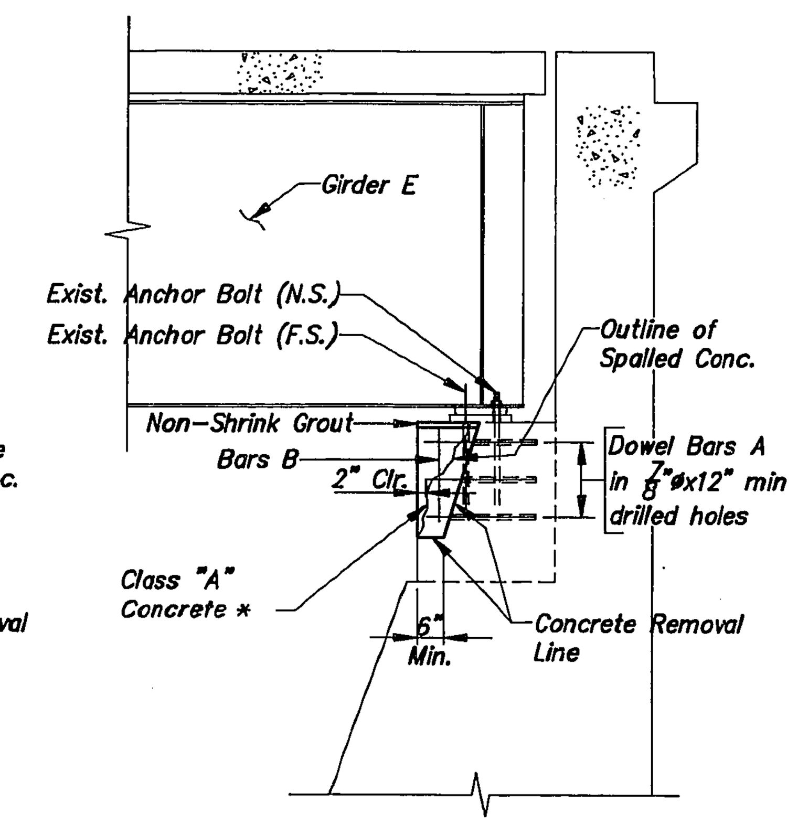
BAR B

3-#4 Bars Req.'d.

NOTE: The Cost of furnishing and placing all Bars is to be included in Lump Sum bid. Est. Wgt. of Bars = 14 Lbs.



END BENT ELEVATION



SECTION B–B

NOTE: It shall be the Contractors responsibility and expense for preventing any settlement of Girder E while removing concrete and completing the repair. All supporting and/or jacking necessary shall be included in the lump sum bid for End Bent 101W Repair.

END BENT 101W REPAIR DETAIL

END BENT 101W REPAIR NOTE

Remove unsound concrete, then remove additional concrete to a neat box like outline, as shown. When exposing the steel reinforcing bars, exercise care to prevent damaging them. Existing bars and the masonry plate shall be blast cleaned to remove corrosion and foreign material. Any damaged bars shall be replaced or supplemented as directed by the Engineer. Dowel Bars A shall be installed in accordance with Section 736 of the Standard Specs.. After placing all bars the End Bent face shall be formed to give a smooth appearance to the finished work. Class "A" * concrete shall be placed to approx. one half inch below the bottom of the masonry plate. See General Notes for bonding new concrete to old concrete. After the concrete has cured, flowable non-shrink grout in accordance with Section 601 of the Standard Specs. shall be placed to provide full bearing of the masonry plate. After the grout has cured, the bearing and anchor bolts shall be cleaned and painted with epoxy mastic.

* Class "M" concrete or Pyrament 505 Repair Material may be used in lieu of Class "A" concrete.

SHEET 9

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I 64)
ROAD
STATION | P.E. PROJECT NO.
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22413

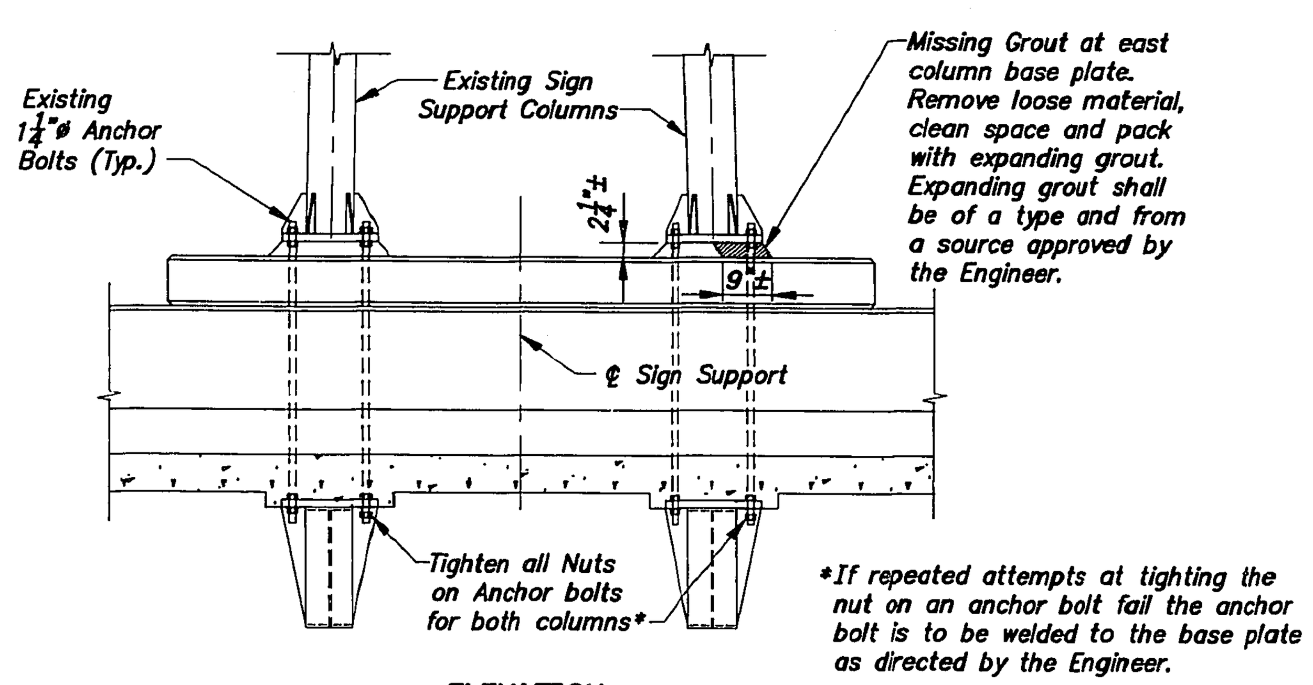
SUBSTRUCTURE REPAIRS

DESIGNED BY DRH | CHECKED BY P.N.P./T.L.G. | DATE 11-90

UPDATE DATE ________
LETTING DATE ________

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY PNP/DRH
CHECKED BY P.N.P./TKG DATE 11-90

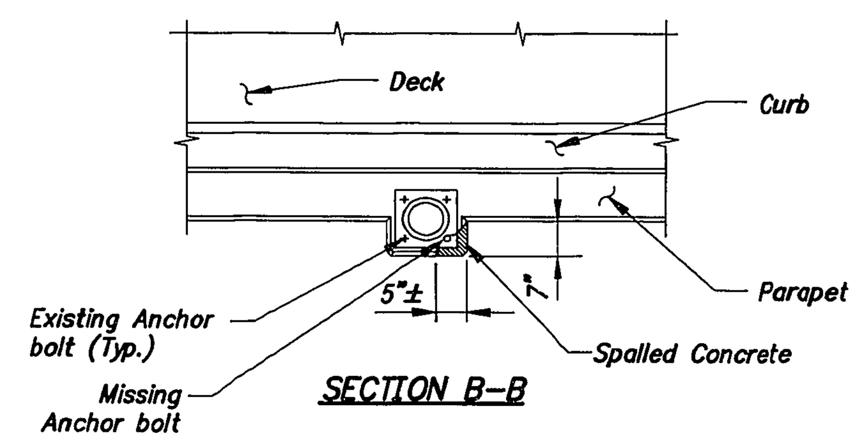


*If repeated attempts at tighting the nut on an anchor bolt fail the anchor bolt is to be welded to the base plate as directed by the Engineer.

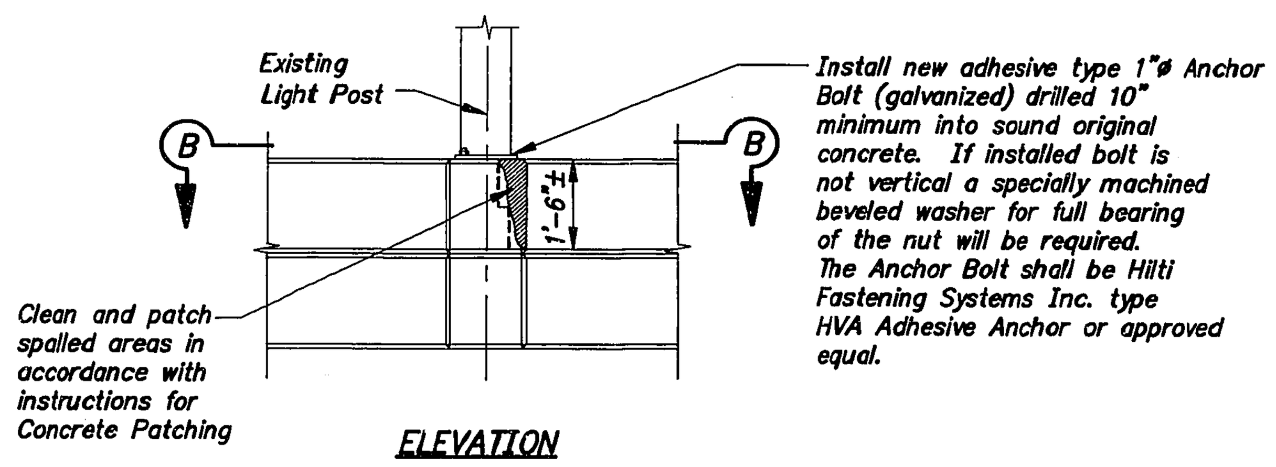
ELEVATION
(Looking North)

SIGN SUPPORT REPAIR

This detail is for the repair of the median side base of the Eastbound Sign Support Structure near Pier 37 EB. Payment for all tighting of anchor bolt nuts and grouting will be the amount bid for "Sign Support Repair".



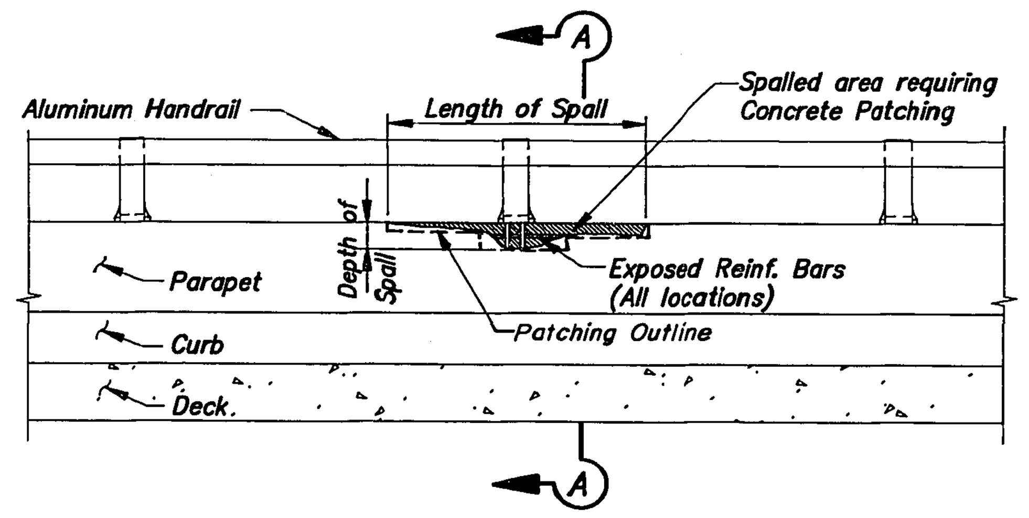
SECTION B–B



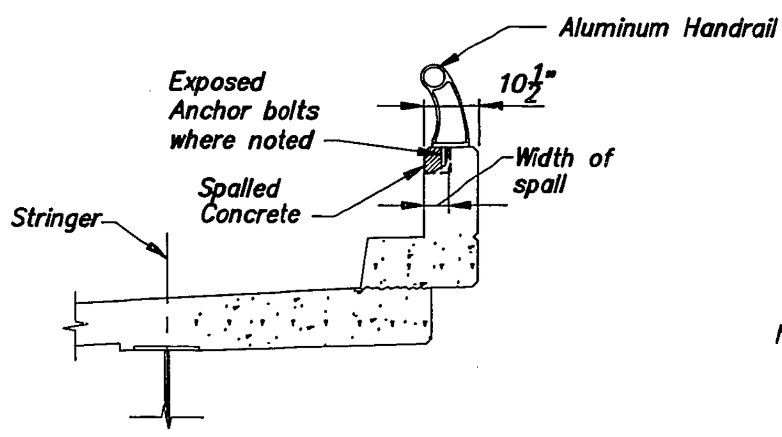
ELEVATION

LIGHT STANDARD SUPPORT REPAIR

This detail is for the repair of One Light Standard Support Bracket located on the west parapet of Ramp 4 near Pier R4–7. Payment for installing anchor bolt and concrete patching will be the amount bid for "Light Standard Support Repair".

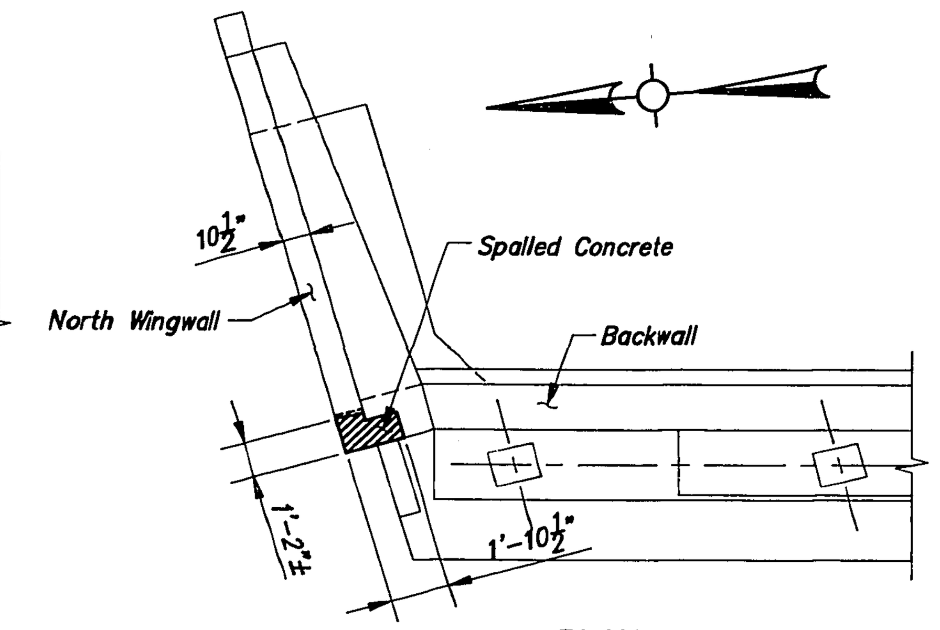


ELEVATION

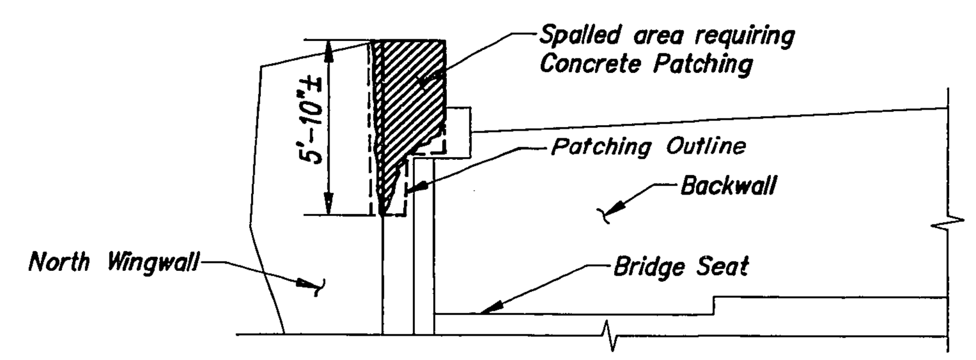


SECTION A–A

PATCHING OF CONCRETE PARAPET



PLAN



ELEVATION

PATCHING ON NORTH WINGWALL OF END BENT 101W

CONCRETE PATCHING

Patching of the parapet spalls listed in the table and the spall on the wingwall of End Bent 101W are included in this item. Payment for all patching in the item will be the lump sum amount bid for "Concrete Patching".

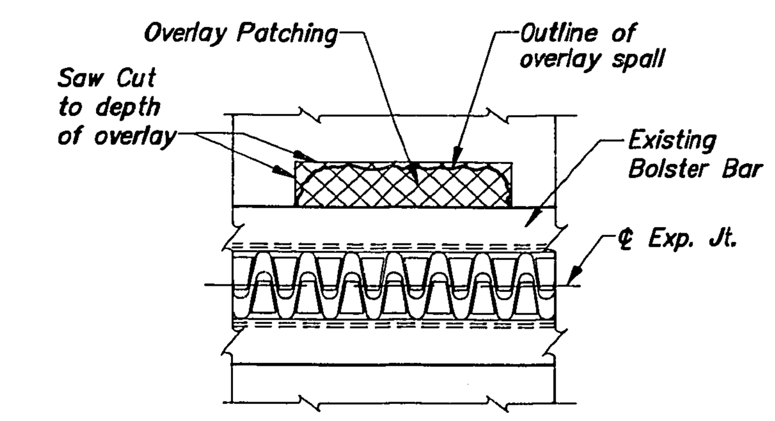
PARAPET SPALLS FOR CONCRETE PATCHING

BRIDGE NO.	LOCATION (Approx.)	PARAPET	SPALL SIZE (Approx.) Length x Width x Depth
B302	40' North of Pier R3–3	East	*48" x 10½" x 6" max.
B293	13' West of Pier 37 WB	North	60" x 10½" x 12" max.
B293	20' West of Pier 37 WB	North	30" x 10½" x 10" max.
B293	56' West of Pier 37 WB	North	18" x 4" x 12" max.
B293	64' West of Pier 37 WB	North	18" x 4" x 12" max.
B285	25' East of Pier 11 (WB Lane)	North	48" x 10½" x 9" max.

* Exposed anchor bolts for handrail post at this location.

NOTE FOR CONCRETE PATCHING

Prepare the spall areas for patching by making 1" deep saw cuts to outline rectangular patch areas. Remove loose pieces and chip away sound concrete to 1" minimum patching depths. Exposed reinforcing bars shall be blast cleaned to remove rust and foreign materials. Blow the areas free of dust and grit and place forms so that original dimensions and appearance will be maintained. Place patch concrete using an epoxy bonding system (see General Notes).



DECK OVERLAY PATCHING

Prepare the spall areas for patching by making saw cuts through the overlay to outline a rectangular patch area. Remove foreign material and chip away sound overlay within this outline. Blast clean and blow the area free of dust and grit. Patch with Class "M" Concrete or Pyrament 505 Repair Material. An epoxy bonding system is not required for overlay patching. Payment will be the amount bid per square yard for "Deck Overlay Patching", in place and accepted.

DECK SPALLS FOR OVERLAY PATCHING AT EXPANSION DAMS

OVERLAY SPALL AT PIER	PATCH AREA (S.Y.)*	OVERLAY SPALL AT PIER	PATCH AREA (S.Y.)*
10 WB	1.0	10 EB	1.0
14 WB	0.5	14 EB	0.5
17 WB	0.5	17 EB	0.5
21 WB	0.5	61 EB	0.5
61 WB	1.0	64 EB	0.5
64 WB	1.0	76 EB	0.5
76 WB	1.0	109 EB	0.5
115 WB	0.5	119 EB	0.5
119 WB	0.5		
127 WB	0.5		
130 WB	0.5		

* Patch areas are approximate

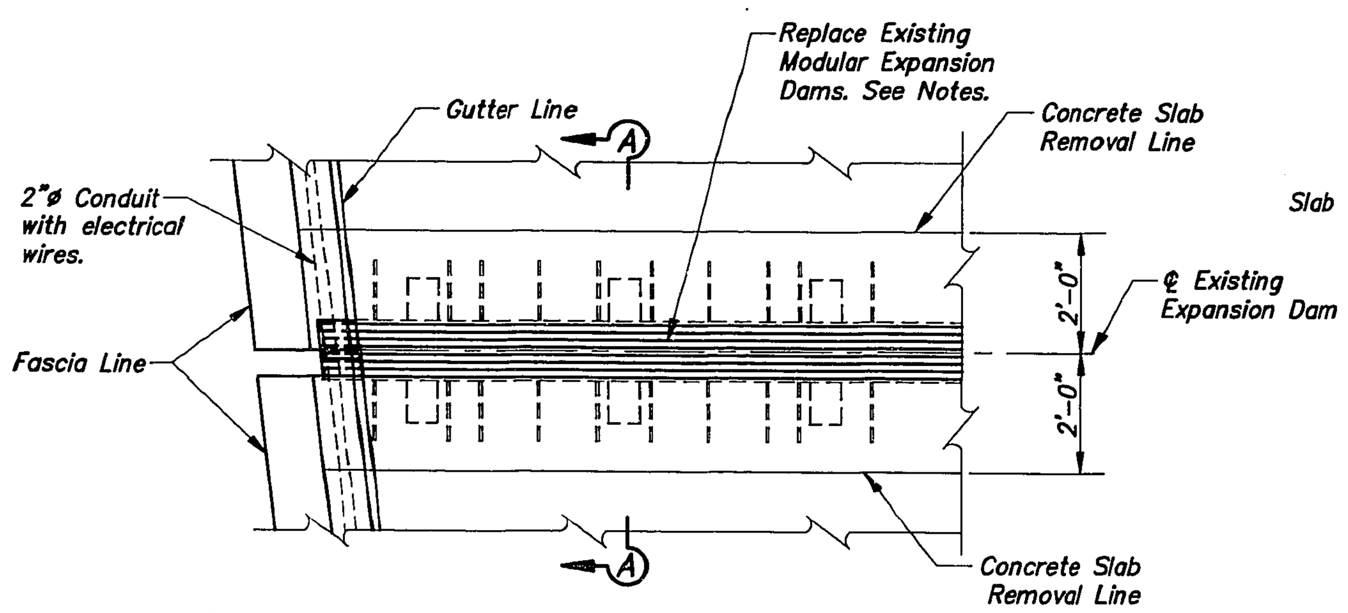
SUPERSTRUCTURE
CONCRETE REPAIRS

SHEET 10

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I 64)
ROAD
STATION | P.E. PROJECT NO.
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22413

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS



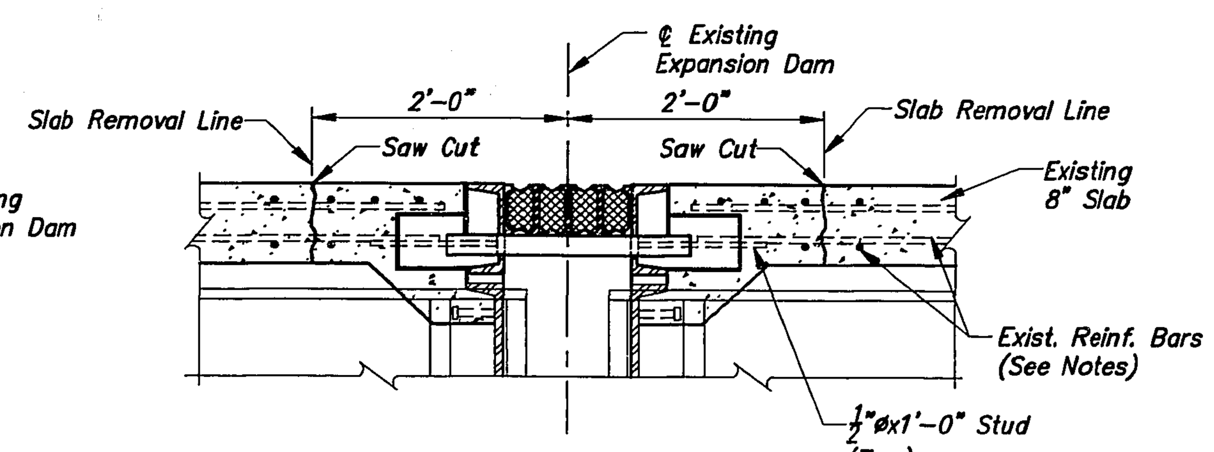
PART PLAN – TYPICAL EXISTING MODULAR EXPANSION DAM

4 Seal Exp. Dam Shown (@ Pier 37 WB). 2 and 3 Seal Exp. Dams similar.

MODULAR EXPANSION DAM REPLACEMENT

Remove and replace the modular expansion dam at Pier 37 WB with a new four (4) seal modular expansion dam. The replacement dam is to be attached to, and supported by, the existing steel diaphragms in a manner similar to the existing dam. See Special Notes For Modular Expansion Devices.

Remove and replace each of the modular expansion dams at Pier 25 EB and Pier R1–9 with a new Neoprene Expansion Dam (4"). See Sheet 24 for details of replacement dams. Payment will be the amount bid per linear foot for "Expansion Dam – 4" Neoprene (Replace)" as measured along the centerline of dam between gutter lines.
See Note for Expansion Dam Replacement and Note for Joint Seals.



SECTION A–A

MODULAR EXPANSION DAM REPLACEMENT			
PIER LOCATION	EXISTING SEAL STRIPS	EXPANSION DAM REPLACEMENT TYPE	LENGTH **
37 WB	4	4 SEAL MODULAR EXPANSION DAM	44'–4"
25 EB	3	NEOPRENE EXPANSION DAM (4")	44'–4"
R1–9	2	NEOPRENE EXPANSION DAM (4")	30'–0"

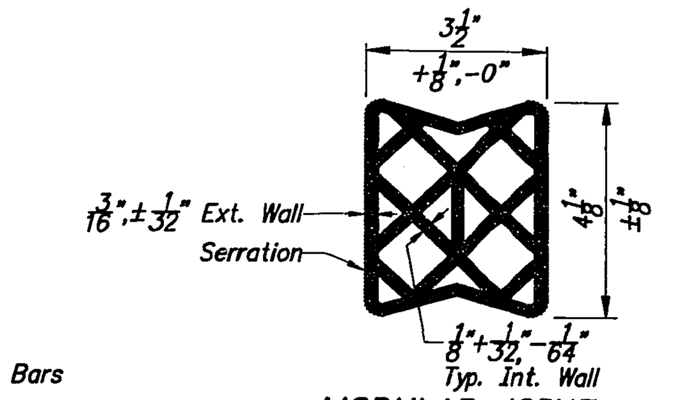
** Gutter line to gutter line length

NOTE FOR JOINT SEALS

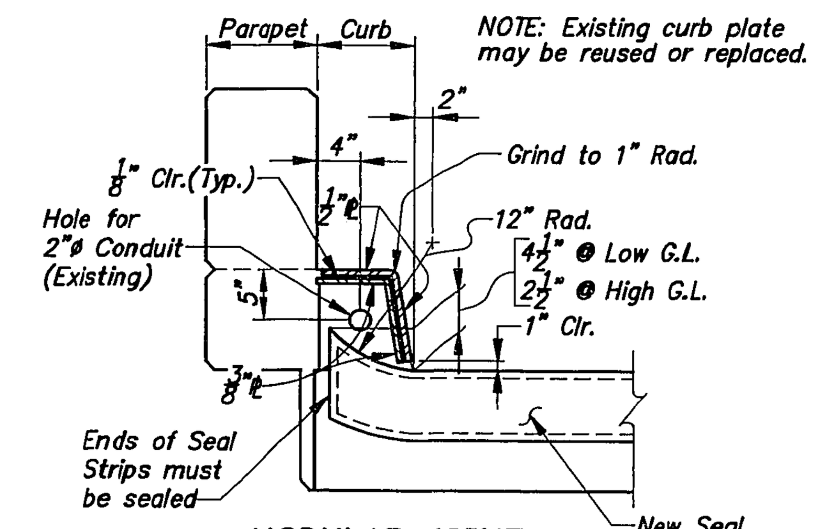
All new joint seals, whether replacements in existing devices or used in new replacement dams, shall be in accordance with the requirements of Subsection 807.02.03 and Section 609.06 of the Standard Specifications. Ends of the seal strips shall be sealed to exclude water and shall be installed with ends turned up to contain running water on the deck. Each seal strip shall be one continuous unbroken length. Pay limits for replacement seals shall be gutter line to gutter line.

NOTE FOR EXPANSION DAM REPLACEMENT

Stage construction for maintaining two lanes of traffic is required (see sheet 2). Saw cut slab removal lines to prevent feather edges and protect existing reinforcing bars when removing concrete. Clean and straighten all bars for reuse. Any damaged bars shall be replaced or supplemented, using epoxy coated bars, as directed by the Engineer. The Contractor shall be responsible for damage to the 2"ø conduit with electrical wires and for protecting personnel against electrical hazards. Class "M" concrete or Pyrament 505 Repair Material shall be used for slab replacement. An epoxy bonding system is required (See General Notes). Pay limits for replacement expansion dams shall be gutter line to gutter line.



MODULAR JOINT SEAL STRIP EXTRUSION



MODULAR JOINT SEAL STRIP END DETAIL

MODULAR JOINT SEAL REPLACEMENT

Remove and replace all neoprene seals in the modular expansion joints listed in the table. The new seal extrusions shall be in accordance with the details or be an approved similar extrusion. Installation, including cleaning of metal contact surfaces, shall be in accordance with the manufacturers instructions. See Note for Joint Seals for additional requirements. Payment for each seal strip will be the amount bid per linear foot "Modular Joint Seal Replacement" as measured along the centerline of joint between gutter lines.

MODULAR JOINT SEAL REPLACEMENT					
PIER LOCATION	NUMBER OF SEAL STRIPS	NEOPRENE SEAL * (L.F.)	PIER LOCATION	NUMBER OF SEAL STRIPS	NEOPRENE SEAL * (L.F.)
36 EB	3	215	R1–3	2	60
R3–1	3	90	R1–6	2	60
39 EB	3	138	R1–12	2	60
42 EB	2	89	R1–15	2	60
45 EB	3	133	End Bent R2	1	22
48 EB	3	198	R2–3, Rt. (Ramp 2)	2	44
25 WB	3	139			
28 WB	3	156	R2A–1	2	44
31 WB	3	174	R2A–4	2	44
34 WB	2	89	R3–3	2	60
R1–17	3	90	End Bent R3	1	30
44 WB	2	89	R4–3	2	60
End Bent R1	1	44	R4–8	2	60
			End Bent R4	1	30

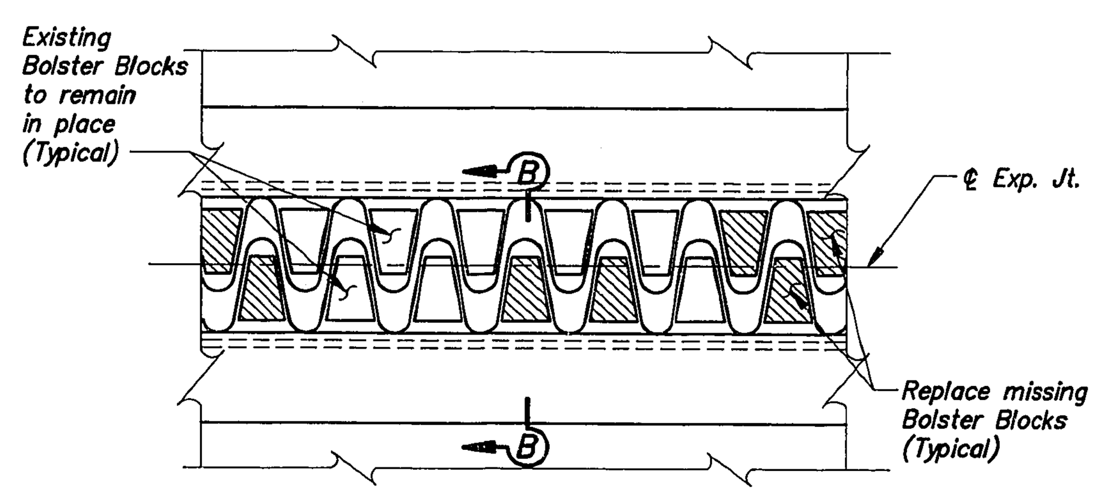
*Total of gutter line to gutter line lengths for all seal strips.

COMPRESSION JOINT SEAL REPLACEMENT

Remove and replace all neoprene seals in the compression joints listed in the table. See Standard Drawing BJJ–003 and Note for Joint Seals for details of replacing seals. Payment for each seal strip will be the amount bid per linear foot for "Compression Joint Seal Replacement" as measured along centerline of joint between gutter lines.

COMPRESSION JOINT SEAL REPLACEMENT		
LOCATION	SIZE	LENGTH (L.F.) **
End Bent 101W	$1\frac{5}{8}$" x $1\frac{5}{16}$"	67
Interior Joint Ramp B Slab Bridge (@ Frame 3)	$1\frac{5}{8}$" x $1\frac{5}{16}$"	30
Joint @ W. End of Ramp B Slab Bridge (@ Rdwy.)	$1\frac{5}{8}$" x $1\frac{5}{16}$"	30
End Bent 101E	$1\frac{5}{8}$" x $1\frac{5}{16}$"	81
E. Int. Joint Ramp A Slab Bridge (@ Frame 8)	$1\frac{5}{8}$" x $1\frac{5}{16}$"	22
W. Int. Joint Ramp A Slab Bridge (@ Frame 4)	$1\frac{5}{8}$" x $1\frac{5}{16}$"	22
Joint @ W. End of Ramp A Slab Bridge (@ Rdwy.)	$1\frac{5}{8}$" x $1\frac{5}{16}$"	22

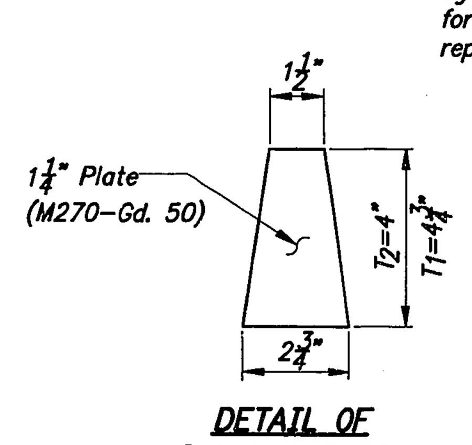
**Gutter line to gutter line



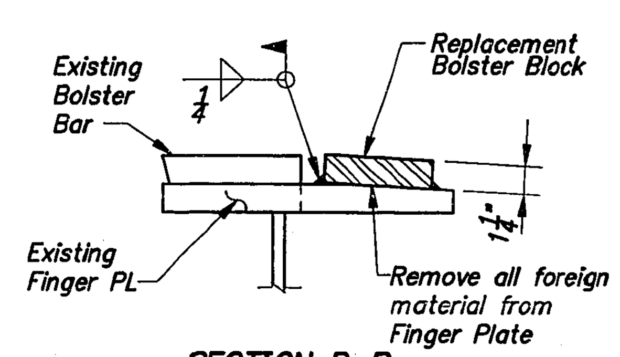
PART PLAN – TYPICAL EXISTING FINGER PLATE EXPANSION DAM

FINGER PLATE BOLSTER BLOCK REPLACEMENT

Replace all missing finger plate bolster blocks at expansion dams listed in the table. Material for bolster blocks shall be M223 Grade 50. Grinding old weld metal from the existing finger plates may be required for full contact of new bolster plates. A minimum preheat and interpass temperature of 70°F is required for welding. Payment for each Bolster Block will be the amount bid for "Finger Dam Bolster Block".



DETAIL OF BOLSTER BLOCK



SECTION B–B

FINGER DAM BOLSTER BLOCK REPLACEMENT					
PIER LOCATION	BOLSTER TYPE	NUMBER ‡ TO BE REPLACED	PIER LOCATION	BOLSTER TYPE	NUMBER ‡ TO BE REPLACED
10 WB	T1	30	10 EB	T1	30
14 WB	T1	50	14 EB	T1	20
17 WB	T1	40	17 EB	T1	40
21 WB	T1	40	21 EB	T1	20
58 WB	T2	95	58 EB	T2	10
61 WB	T2	95	61 EB	T2	50
64 WB	T2	20	64 EB	T2	10
76 WB	T2	50	76 EB	T2	5
80 WB	T2	60	80 EB	T2	10
109 WB	T2	10	109 EB	T2	30
112 WB	T2	20	112 EB	T2	10
115 WB	T2	10	115 EB	T2	10
119 WB	T2	10	119 EB	T2	5
123 WB	T2	10	124 EB	T2	5
127 WB	T2	10	128 EB	T2	15
130 WB	T2	5			
RB–2	T2	5			
RB–7	T2	5			

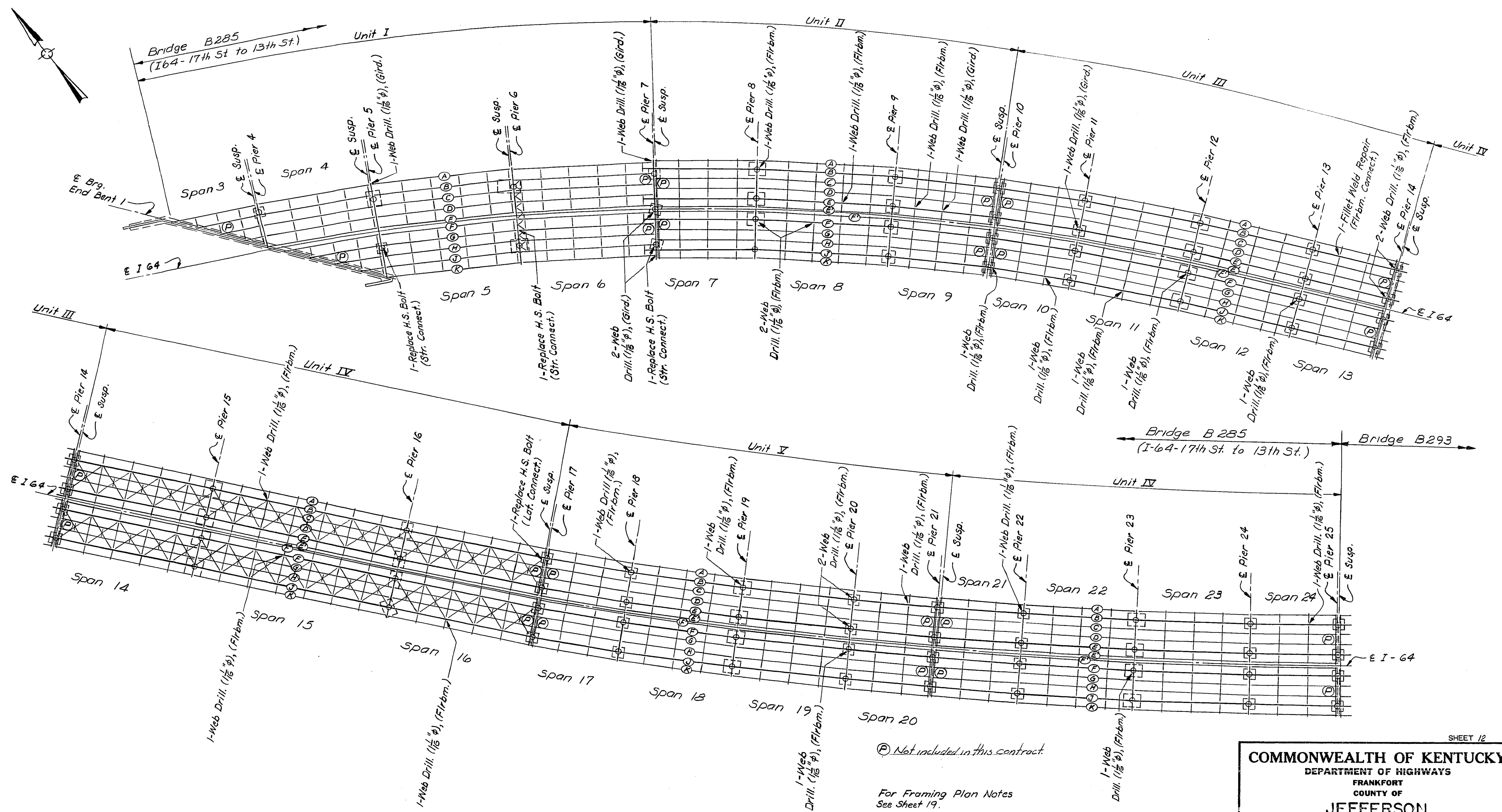
‡ Number of replacement blocks is approximate

EXPANSION DEVICE
REPAIR AND REPLACEMENT

SHEET 11

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I 64)
STATION | ROAD P.E. PROJECT NO.
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22413

11/20/1990 DRH D:\DWGFILES\1150\05\EXPDAM



Ⓟ Not included in this contract.

For Framing Plan Notes See Sheet 19.

FRAMING PLAN
(I64-17TH St. to 13TH St.)

SHEET 12

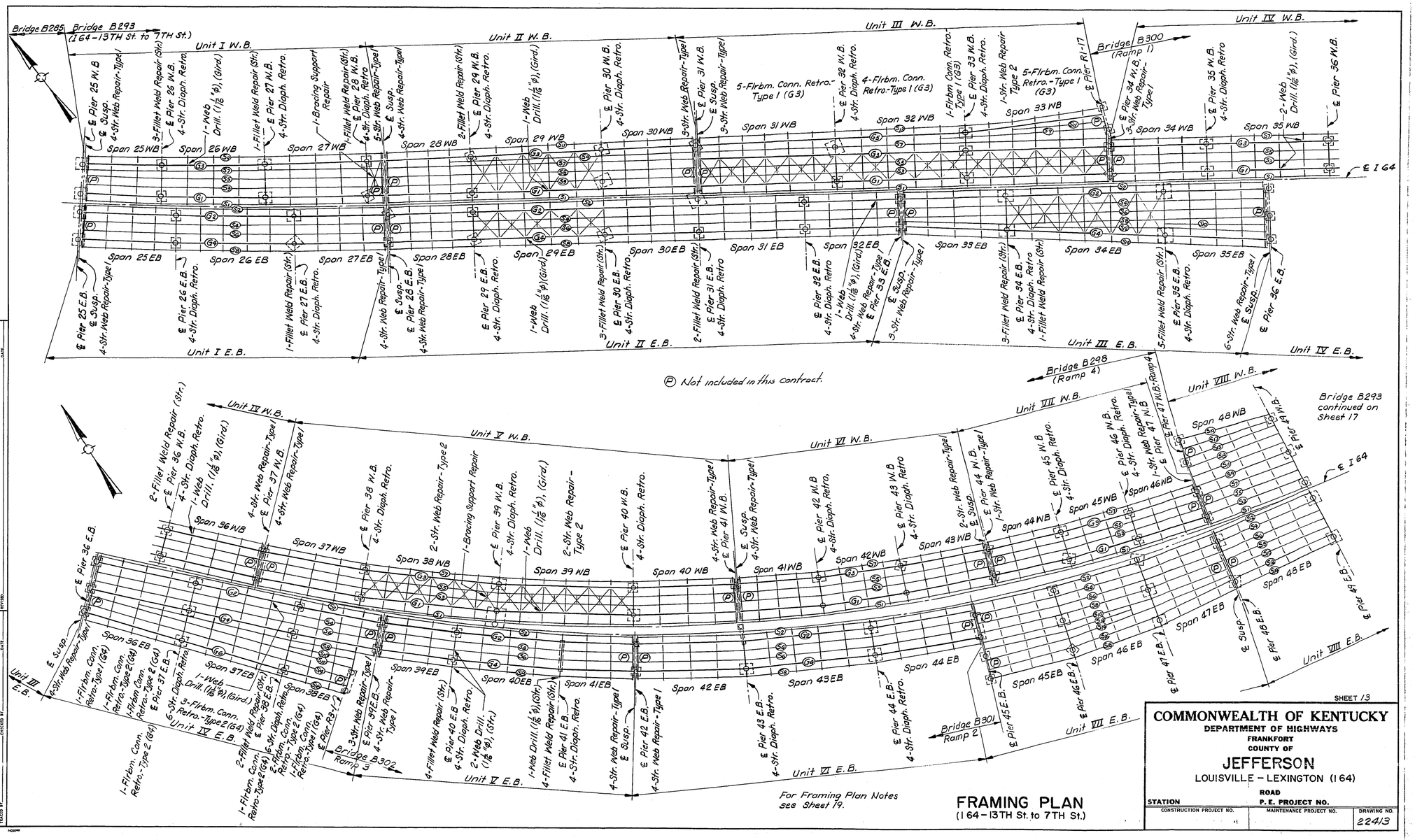
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I64)
ROAD

STATION	P.E. PROJECT NO.		
CONSTRUCTION PROJECT NO.		MAINTENANCE PROJECT NO.	DRAWING NO. 22413

UPDATE DATE
LETTING DATE

DESIGNED BY A.R. CHECKED BY P.N.P./T.H.G. DATE 11-90

UPDATE DATE
LETTING DATE



For Framing Plan Notes see Sheet 19.

FRAMING PLAN
(164 – 13TH St. to 7TH St.)

SHEET 13

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (164)
ROAD

STATION	P. E. PROJECT NO.	
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		224/3

DESIGNED BY
DETAILED BY
TRACED BY
CHECKED BY
CHECKED BY
CHECKED BY
DATE
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DATE
REVISED
REVISED
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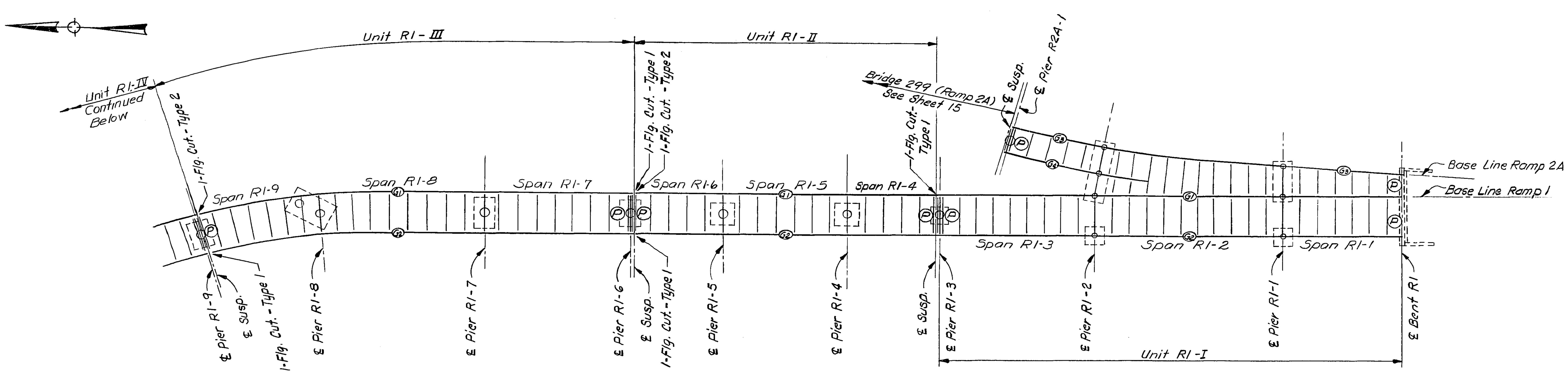
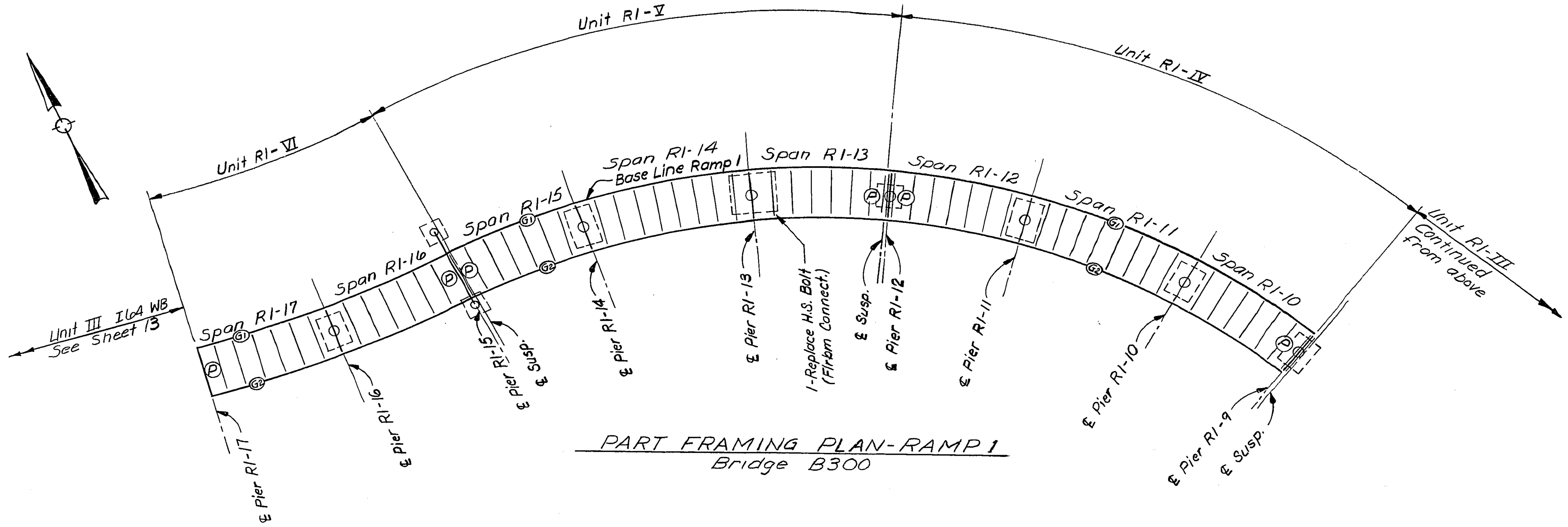


PART FRAMING PLAN - RAMP 1
Bridge B300



PART FRAMING PLAN - RAMP 1
Bridge B300

Ⓟ Not included in this contract

For Framing Plan Notes See Sheet 19.

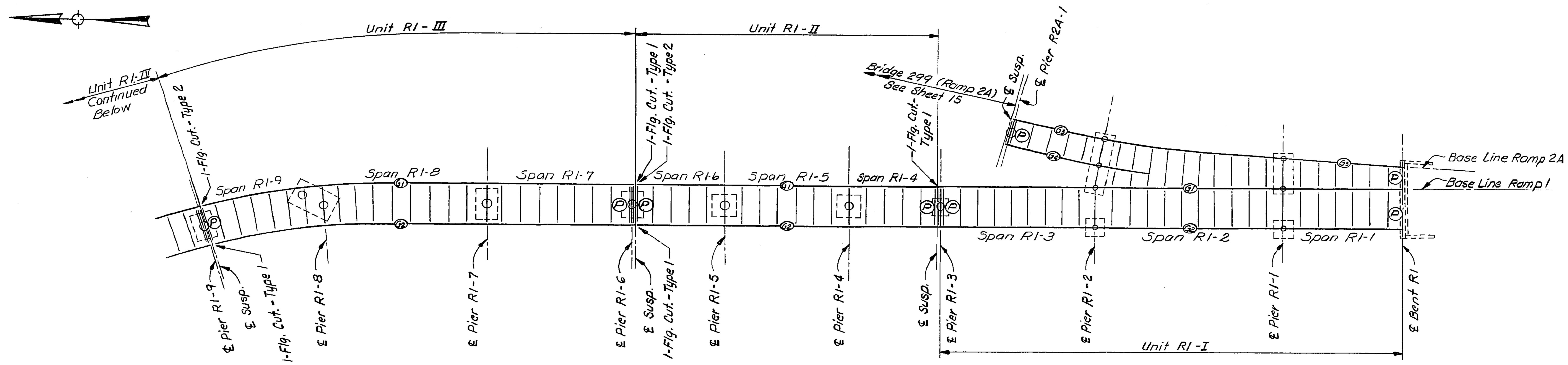
UPDATE DATE
LETTING DATE

DESIGNED BY A.R. CHECKED BY D.N.P./ J.G. DATE 11-90

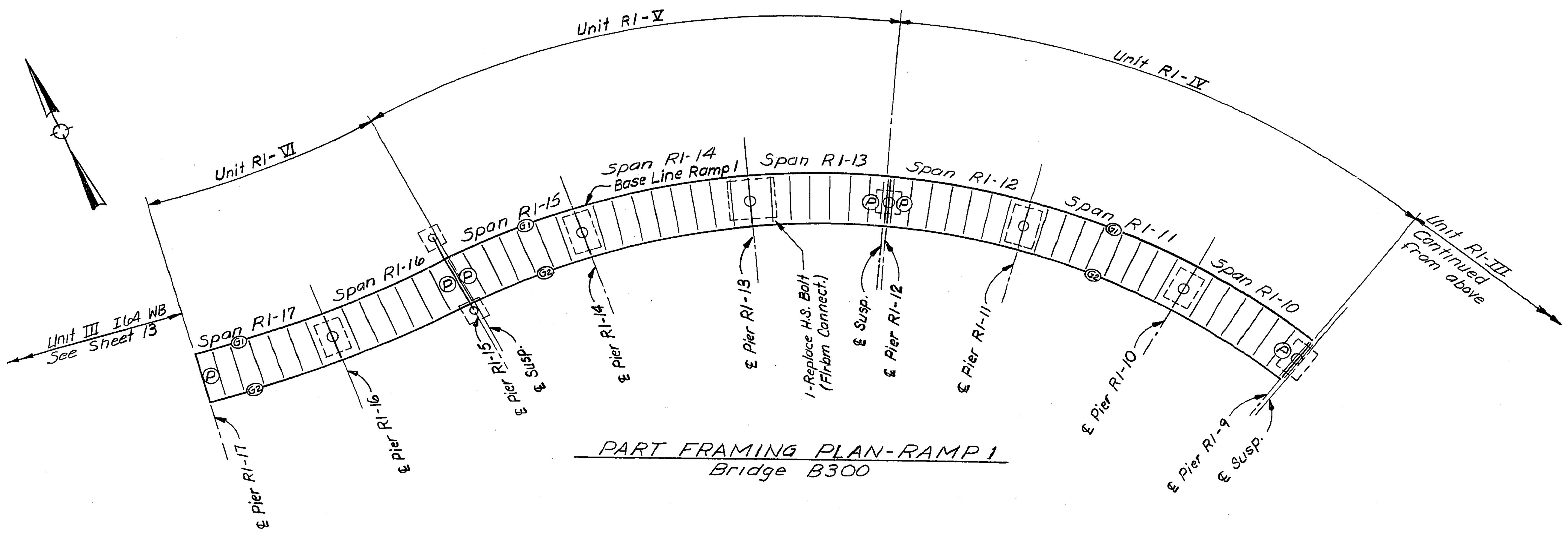
FRAMING PLAN
(I 64 - 13TH St. to 7TH St.)
Ramp 1

SHEET 14

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I 64)
ROAD
STATION | P. E. PROJECT NO.
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22413



PART FRAMING PLAN- RAMP 1
Bridge B300



PART FRAMING PLAN-RAMP 1
Bridge B300

Ⓟ Not included in this contract.

For Framing Plan Notes See Sheet 19.

UPDATE DATE
LETTING DATE

DESIGNED BY A.R. DATE 11-90
CHECKED BY D.N.P./LLG

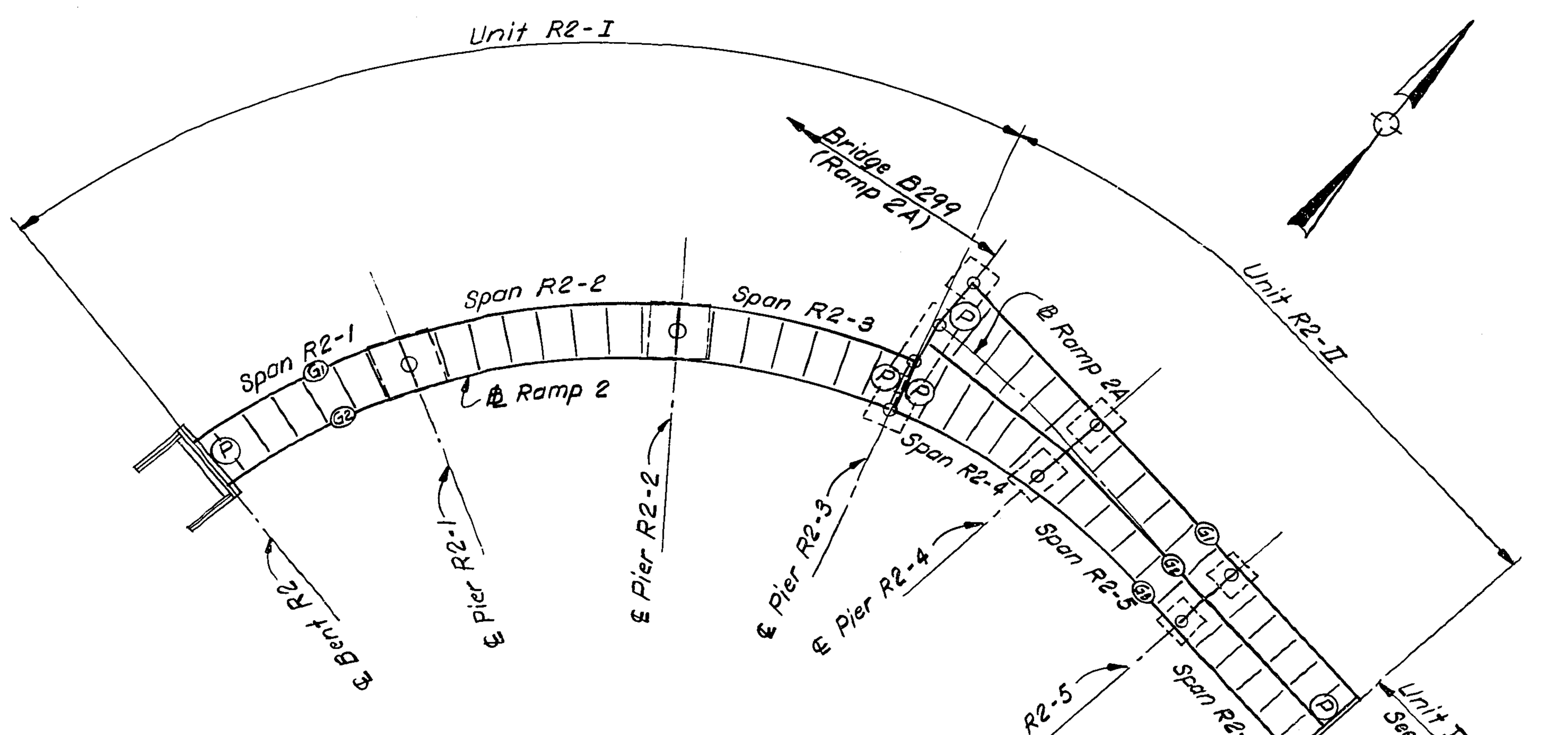
SHEET 14

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I 64)
ROAD
STATION
P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413

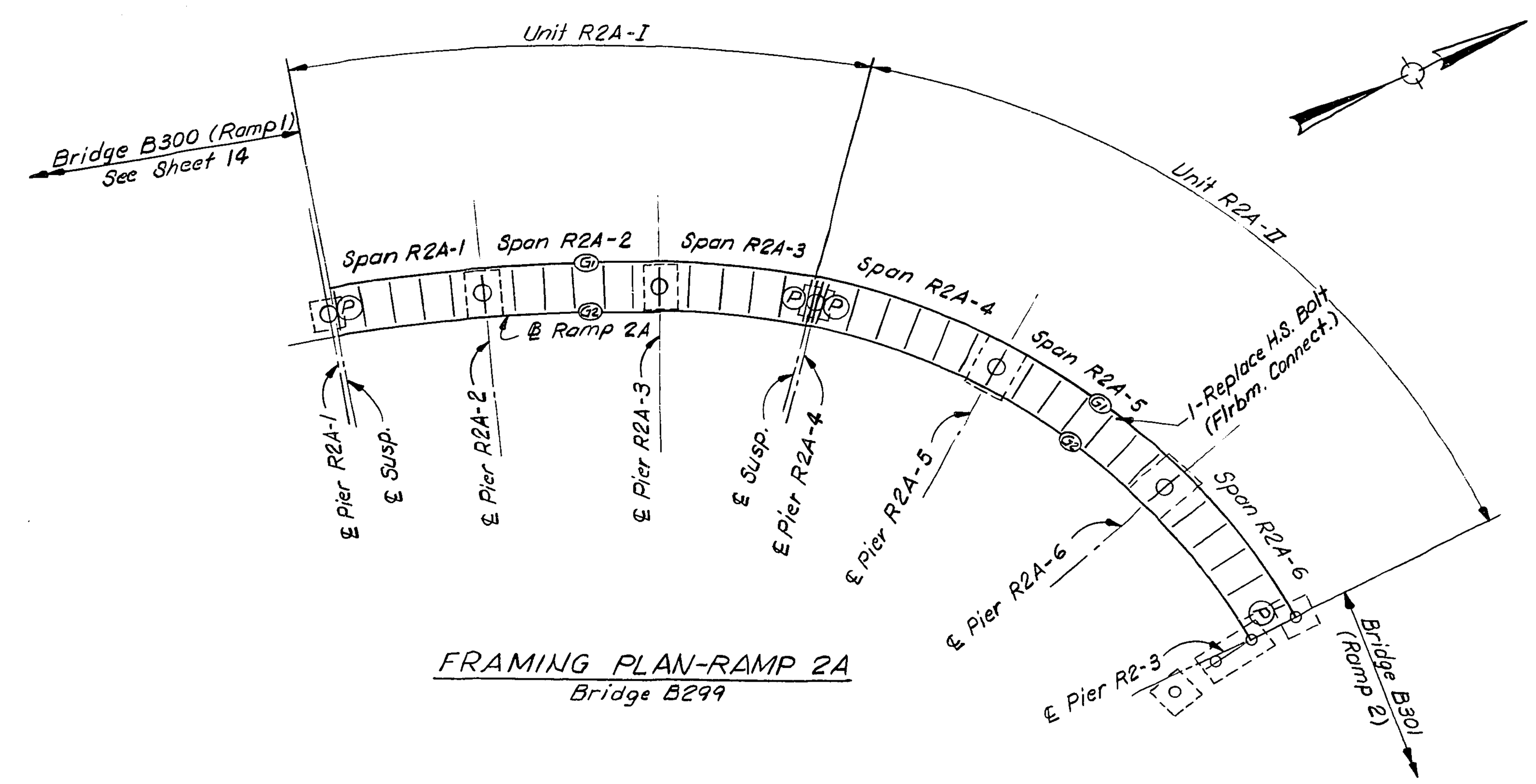
FRAMING PLAN
(I 64-13TH St. to 7TH St.)
Ramp 1

UPDATE DATE
LETTING DATE

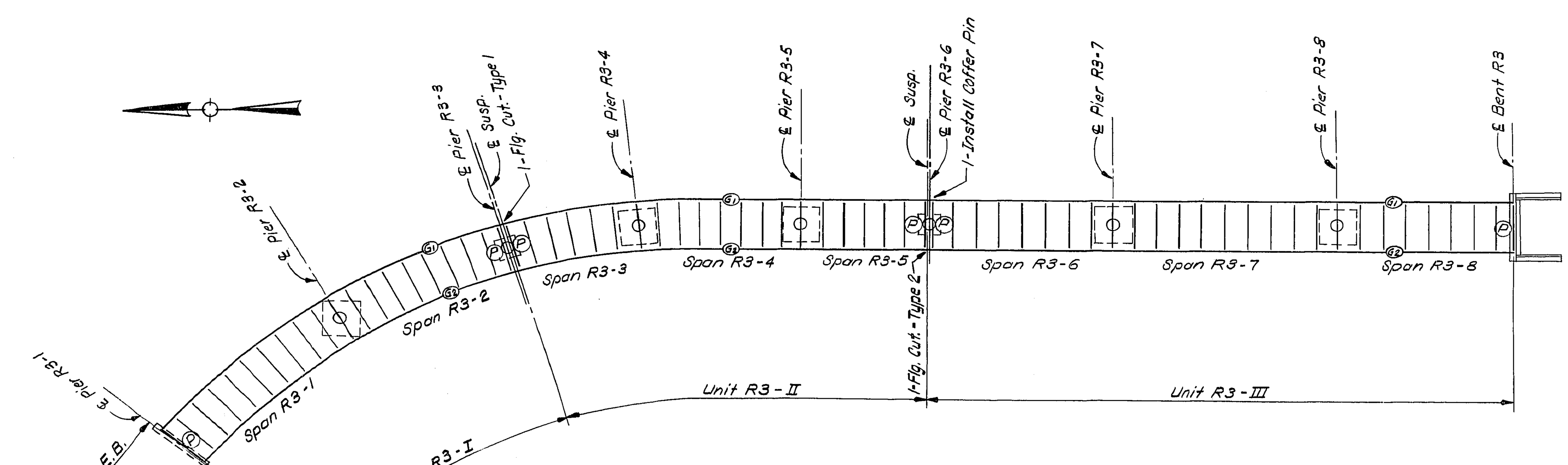


FRAMING PLAN - RAMP 2
Bridge B301

NOTE: This Framing Plan is shown for information only. No defects requiring repair were noted in 1989 inspection.



FRAMING PLAN - RAMP 2A
Bridge B299



FRAMING PLAN - RAMP 3
Bridge B302

Ⓟ Not included in this contract.

For Framing Plan Notes see Sheet 19.

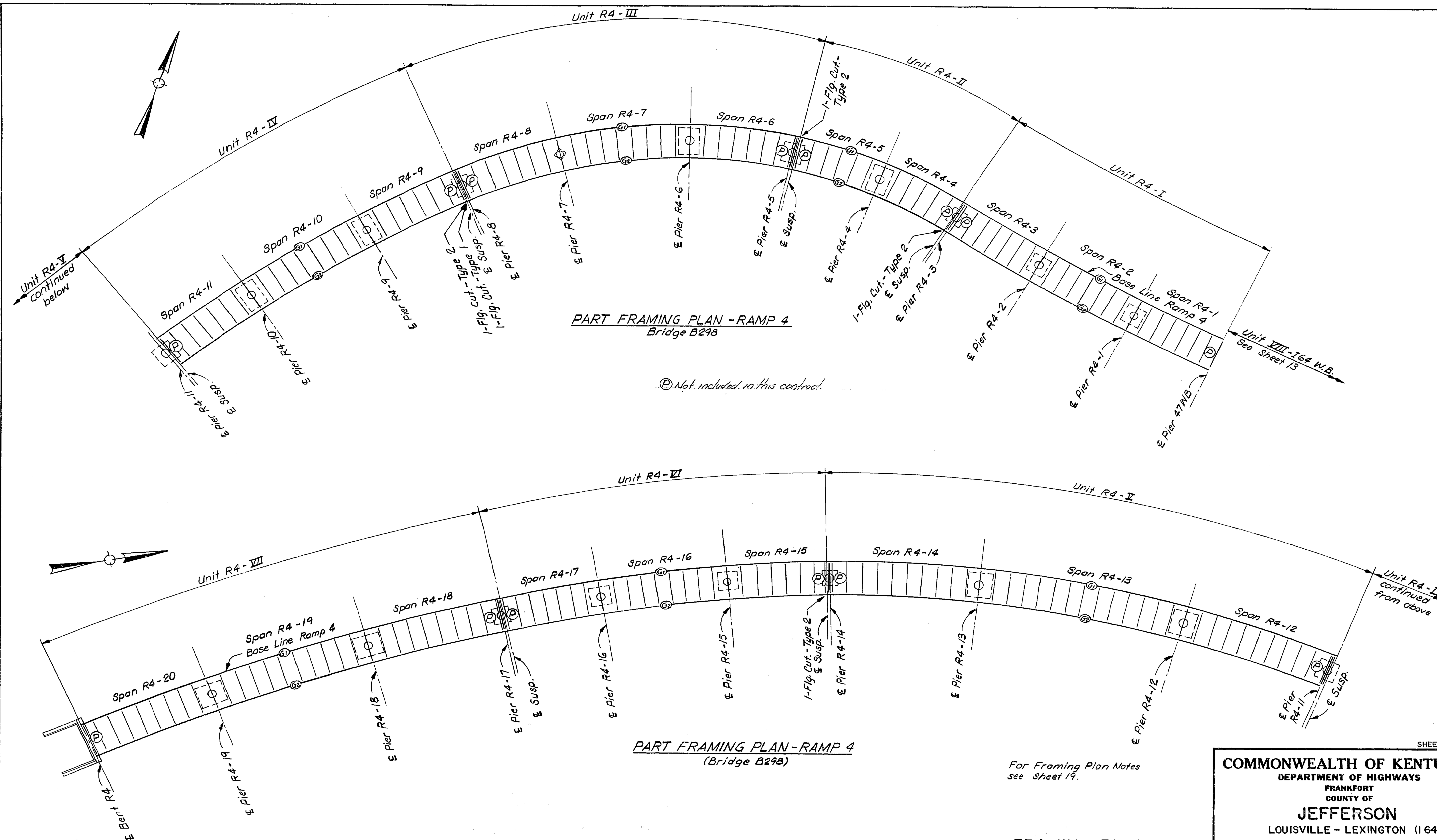
FRAMING PLAN
(I 64 - 13TH St. to 7TH St.)
Ramps 2, 2A & 3

SHEET 15

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I 64)
ROAD
STATION
P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413

DESIGNED BY A.R. CHECKED BY RN.P./JTS DATE 11-90



For Framing Plan Notes see Sheet 19.

UPDATE DATE
LETTING DATE

DESIGNED BY
DETAILED BY A.R.
TRACED BY
CHECKED BY P.H.P./ZJG
DATE 11-90

SHEET 16

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I 64)
ROAD
STATION
P. E. PROJECT NO.
CONSTRUCTION PROJECT NO.
MAINTENANCE PROJECT NO.
DRAWING NO. 22413

FRAMING PLAN
(I 64 - 13TH St. to 7TH St.)
Ramp 4

TELEDYNE POST

UPDATE DATE
LETTING DATE

For Framing Plan Notes see Sheet 19.

FRAMING PLAN
(I 64-13TH St. to 7TH St.)
(I 64-7TH St. to 2ND St.)

SHEET 17

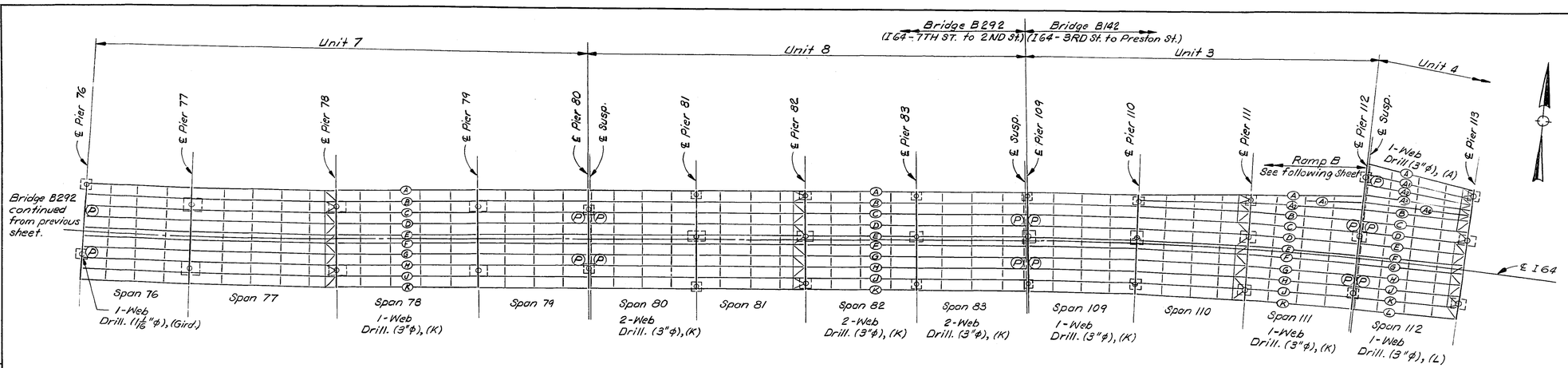
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE-LEXINGTON (I 64)
ROAD

STATION | P.E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413

DESIGNED BY A.R. CHECKED BY
DETAILED BY P.H.P./T.K.G. DATE 11-90 CHECKED BY
TRACED BY CHECKED BY

UPDATE DATE _____
LETTING DATE _____



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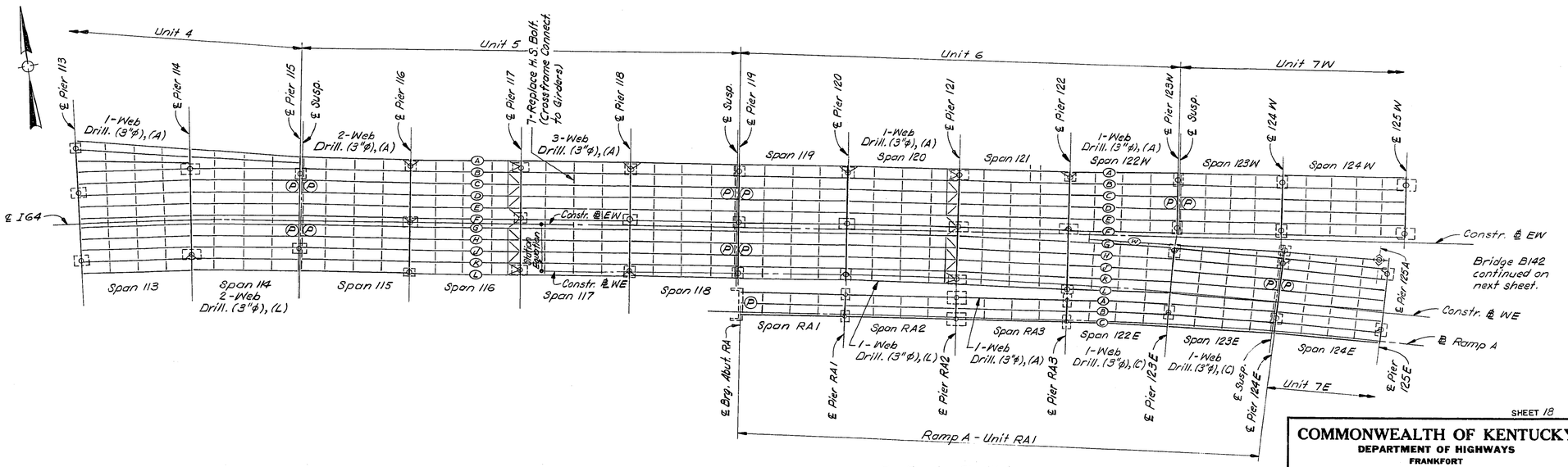


For Framing Plan Notes See Sheet 19.

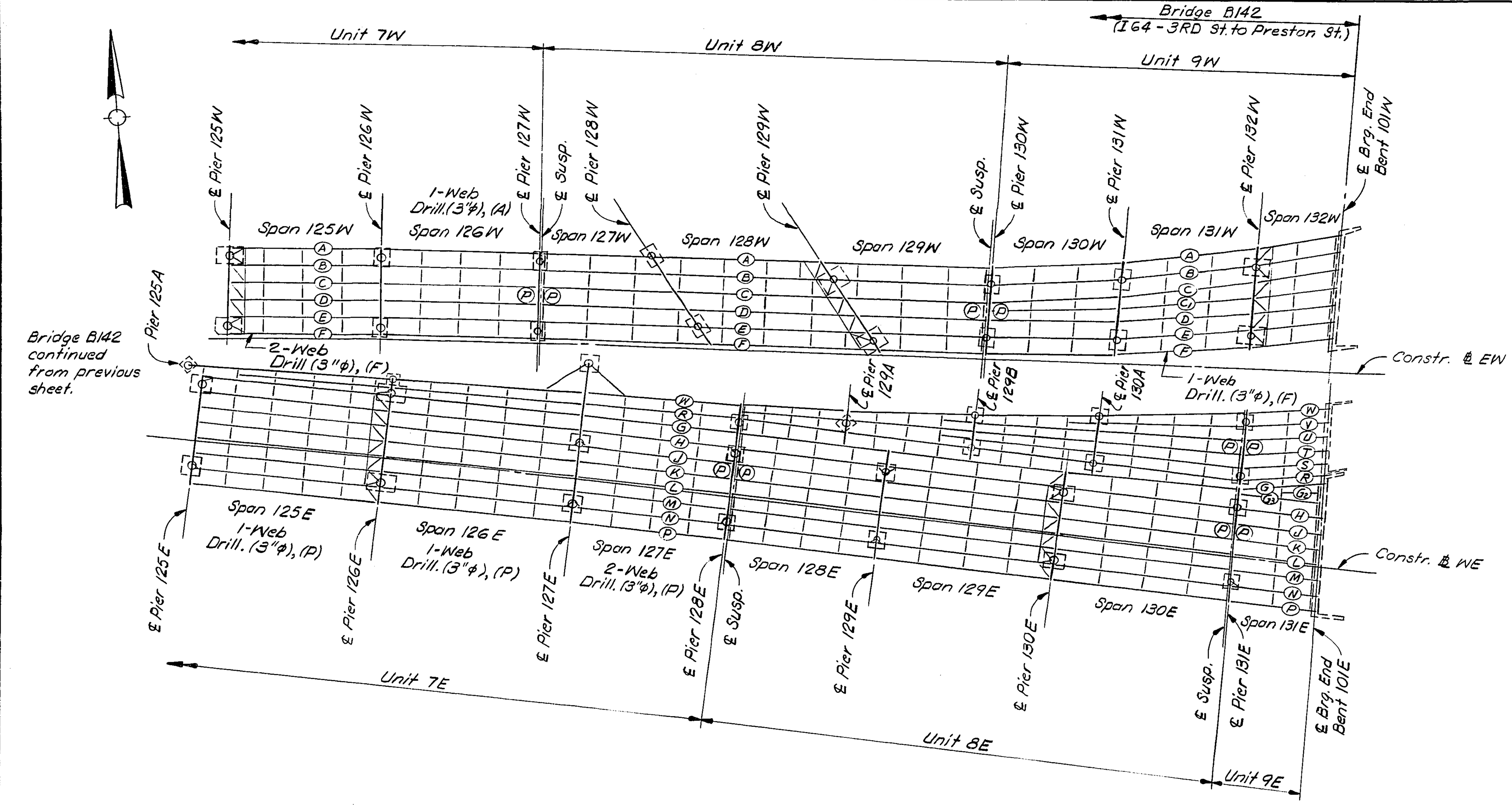
FRAMING PLAN
(I64-7TH St. to 2ND St.)
(I64-3RD St. to Preston St.)

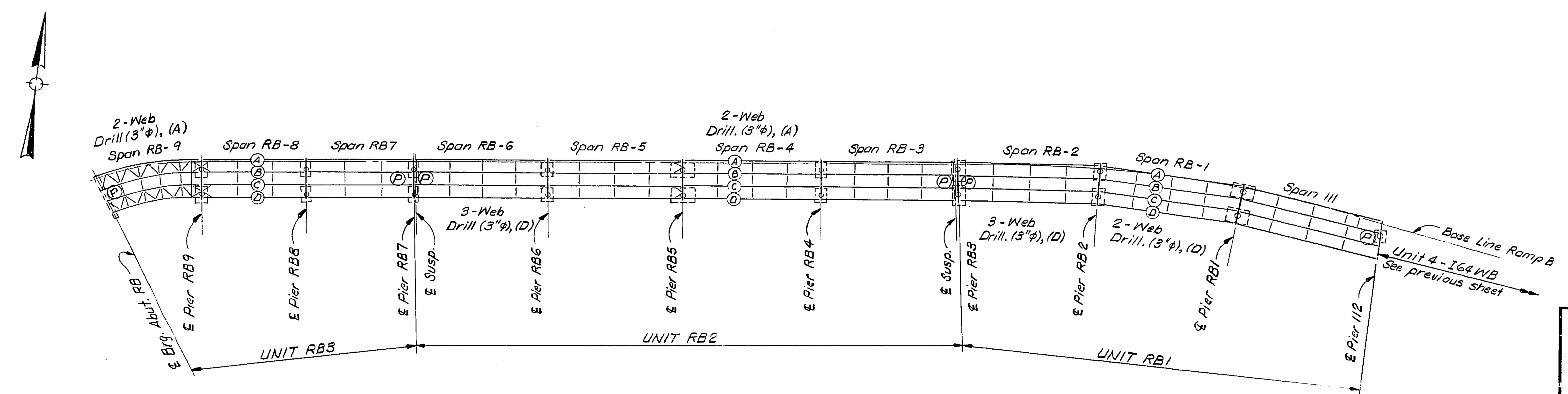
SHEET 18

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I64)
ROAD

STATION	P. E. PROJECT NO.	
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO. 22413

DESIGNED BY _____ CHECKED BY _____ DATE _____ REVISED _____
DETAILED BY A.P. CHECKED BY P.N.P. 2006 DATE JULY '06 REVISED _____
TRACED BY _____ CHECKED BY _____ DATE _____ REVISED _____





FRAMING PLAN NOTES

Framing Plans are shown for the Contractor's information. Original construction Contract Plans are available. (See General Notes).

The general locations of structural steel repairs are noted on these sheets. For repair details and specific locations see Sheets 20 thru 23.

Repairs for substructure and deck are shown in other parts of these plans.

(P) Not included in this contract.

FRAMING PLAN

(I 64 - 3RD St. to Preston St.)

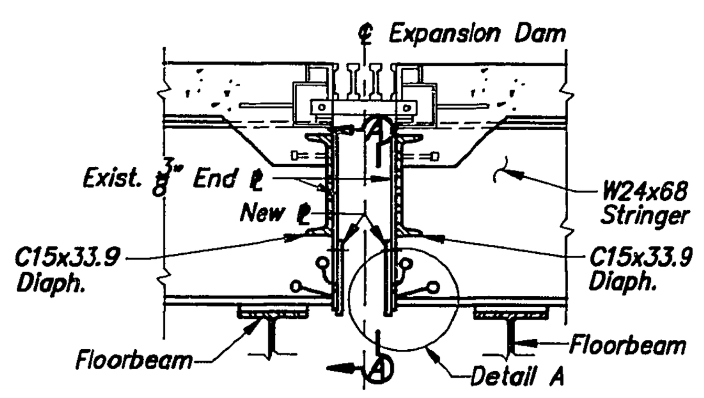
UPDATE DATE ________
LETTING DATE ________

DESIGNED BY ________ CHECKED BY ________
DETAILED BY A.R. CHECKED BY P.H.P./TIG DATE 11-90
TRACED BY ________ CHECKED BY ________

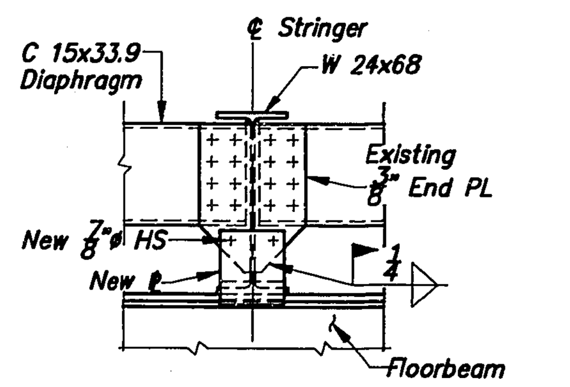
SHEET 19

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE - LEXINGTON (I 64)
ROAD
STATION
P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413



SECTION AT STRINGER



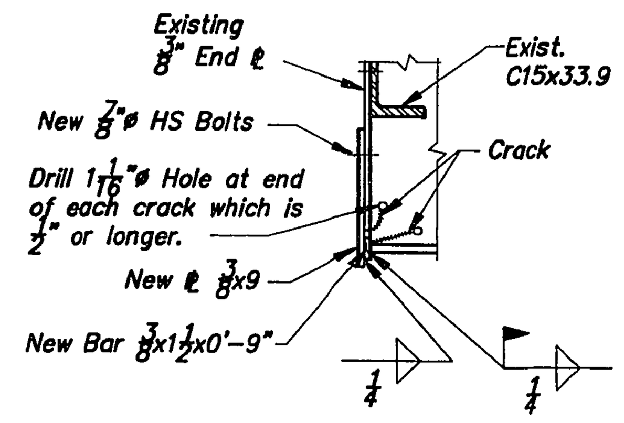
VIEW A–A

STRINGER WEB REPAIR – TYPE 1

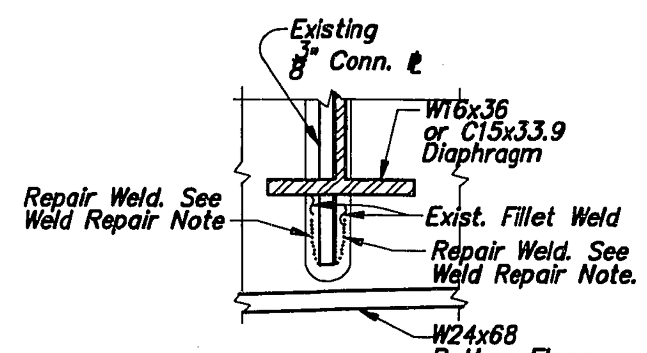
This detail to be used for repair of stringer web cracks at ends of stringers supporting expansion dams in "Girder, Floorbeam and Stringer" type units. See Table A for location of Type 1 repairs. Payment for repair of each beam end will be the amount bid for "Stringer Web Repair–Type 1."

TABLE A – TYPE 1 REPAIR LOCATION		
SPAN	AT PIER	STRINGER
25 WB	25W	S1,S3,S5,S7
27 WB	*	S1,S3,S5,S7,S9
28 WB	*	S1,S3,S5,S7
30 WB	31W	S1,S3,S9
31 WB	31W	S3,S5,S7
34 WB	34W	S3,S5,S7
36 WB	37W	S1,S3,S5,S7
37 WB	37W	S1,S3,S5,S7
40 WB	41W	S1,S3,S5,S7
41 WB	41W	S1,S3,S5,S7
43 WB	44W	S3,S5
44 WB	44W	S5
46 WB	47W	S3
25 EB	25E	S2,S4,S6,S8
27 EB	28E	S2,S4,S6,S8
28 EB	28E	S2,S4,S6,S8
32 EB	33E	S2,S4,S6,S8
33 EB	33E	S2,S4,S6
35 EB	36E	S2,S4,S6,S8,S10,S12
36 EB	36E	S2,S4,S6,S8
38 EB	39E	S4,S6,S8
39 EB	39E	S2,S4,S6,S8
41 EB	42E	S2,S4,S6,S8
42 EB	42E	S2,S4,S6,S8

* At Expansion Dam near Pier 28W



DETAIL A

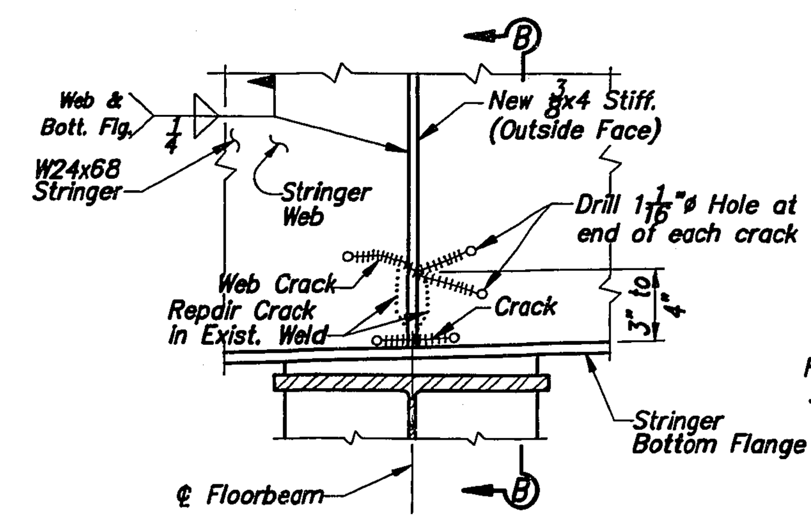


DETAIL C

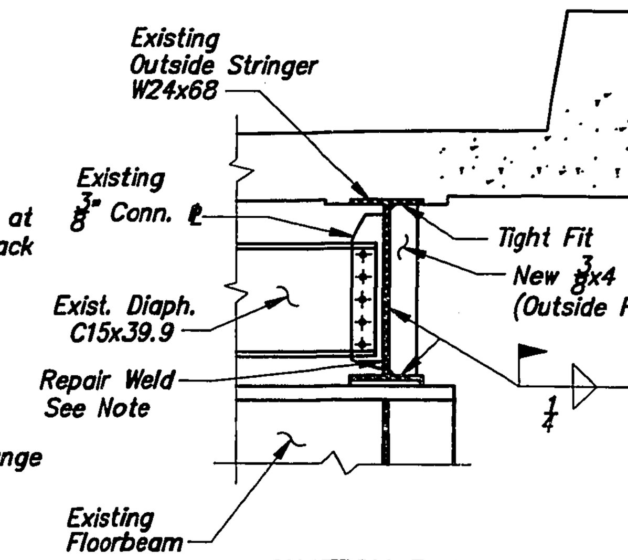
TABLE C – WELD REPAIR LOCATIONS **			
AT PIER	STRINGER	AT PIER	STRINGER
26W	S3,S5,S7	27E	S4
27W	S3	30E	S2,S4,S6
28W	S3	31E	S2,S4
29W	S3,S7	34E	S4,S6,S8
36W	S1,S3	35E	S4,S6,S8,S10,S12
		38E	S4,S6
		40E	S2,S4,S6,* S8*
		41E	S2,S4,S6,S8 *
SPAN	FLOORBEAM LOCATION		STRINGER
34 EB	1st Flrbm East of Pier 34E		S8

* Web Cracks were recorded also during the Inspection. See Web Crack Drilling details for crack arresting.

** Weld Cracks at connection plates recorded during the 1989 Inspection were less than 2" in length.



OUTSIDE VIEW OF STRINGER



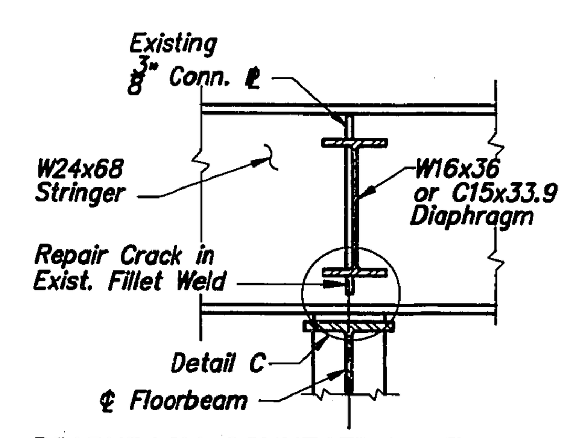
SECTION B–B

STRINGER WEB REPAIR – TYPE 2

This detail to be used for repair of stringer web and weld cracks at diaphragm connections over floorbeams between piers in "Girder, Floorbeam and Stringer" type units. See Table B for location of Type 2 repairs. Payment for all work at each location will be the amount bid for "Stringer Web Repair–Type 2."

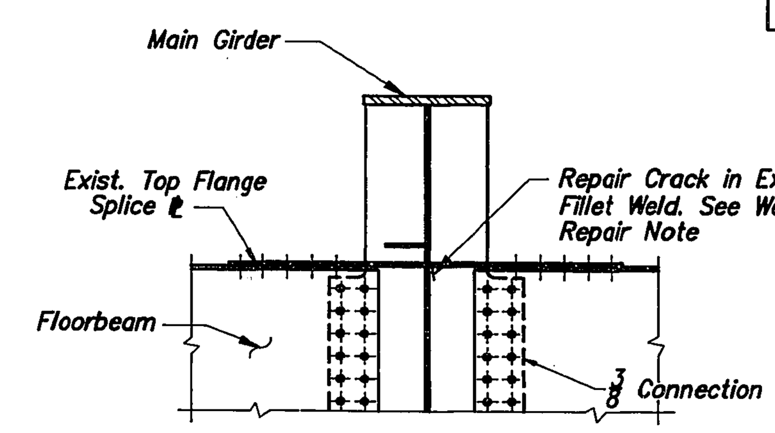
TABLE B – TYPE 2 REPAIR LOCATION		
SPAN	FLOORBEAM LOCATION	STRINGER
33 WB	2nd Floorbeam East of Pier 33W	S13
38 WB	3rd Floorbeam East of Pier 38W (Center of Span)	S1,* S7 *
39 WB	3rd Floorbeam East of Pier 39W (Center of Span)	S1,* S7

* Web Cracks were found during 1989 Inspection



DIAPHRAGM CONNECTION AT STRINGER

This detail to be used for repair of cracks in fillet welds of diaphragm connection plates. See Table C for locations.



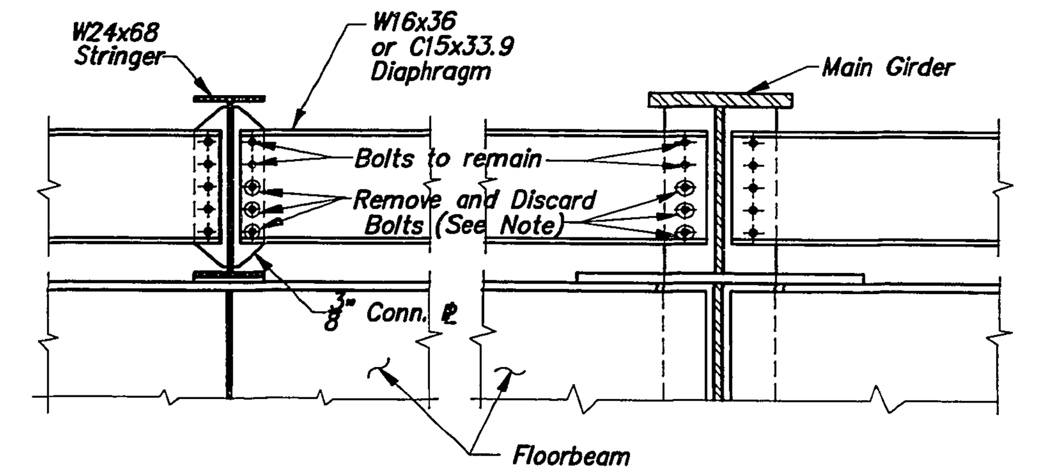
FLOORBEAM CONNECTION AT MAIN GIRDER

This detail to be used for repair of cracks in fillet welds of floorbeam connection plates.
Location: Girder B at 1st Floorbeam East of Pier 13.

FILLET WELD REPAIR

Payment for repairing welds on both sides of the joint at each location will be the amount bid for "Fillet Weld Repairs". This bid item shall also apply to other fillet weld crack repairs of 8" in length or less where designated by the Engineer.

NOTE: Cleaning and painting is to be included in the price bid for all structural steel repair and retrofit items



ELEVATION

STRINGER DIAPHRAGM RETROFIT

Remove and discard all Bolts below the top two in both end connections of each diaphragm listed in Table D. The top two bolts in each end are to remain. This is intended to change the connections allowing small rotations (Pinned Connections). Payment for the work at each diaphragm will be the amount bid for "Stringer Diaphragm Retrofit".

TABLE D – STRINGER DIAPHRAGM RETROFIT LOCATION			
AT PIER	DIAPHRAGM #	AT PIER	DIAPHRAGM
26W	S1–G1,G1–S3,S7–G3,G3–S9	26E	S2–G2,G2–S4,S6–G4,G4–S8
27W	S1–G1,G1–S3,S7–G3,G3–S9	27E	S2–G2,G2–S4,S6–G4,G4–S8
28W	S1–G1,G1–S3,S7–G3,G3–S9	29E	S2–G2,G2–S4,S6–G4,G4–S8
29W	S1–G1,G1–S3,S9–G3,G3–S11	30E	S2–G2,G2–S4,S6–G4,G4–S8
30W	S1–G1,G1–S3,S9–G3,G3–S11	31E	S2–G2,G2–S4,S6–G4,G4–S8
32W	S1–G1,G1–S3,S7–G5,G5–S13	32E	S2–G2,G2–S4,S6–G4,G4–S8
33W	S1–G1,G1–S3,S9–G5,G5–S13	34E	S2–G2,G2–S4,S8–G4,G4–S14
35W	S1–G1,G1–S3,S5–G3,G3–S7	35E	S2–G2,G2–S4,S12–G4,G4–S14
36W	S1–G1,G1–S3,S5–G3,G3–S7	37E	S2–G2,G2–S4,S6–G4 G4–S8,S14–G6,G6–S16
38W	S1–G1,G1–S3,S5–G3,G3–S7		
39W	S1–G1,G1–S3,S5–G3,G3–S7	38E	S2–G2,G2–S4,S6–G4 G4–S8,S14–G6,G6–S16
40W	S1–G1,G1–S3,S5–G3,G3–S7		
42W	S1–G1,G1–S3,S5–G3,G3–S7	40E	S2–G2,G2–S4,S6–G4,G4–S8
43W	S1–G1,G1–S3,S5–G3,G3–S7	41E	S2–G2,G2–S4,S6–G4,G4–S8
45W	S1–G1,G1–S3,S5–G3,G3–S7	43E	S2–G2,G2–S4,S6–G4,G4–S8
46W	S1–G1,G1–S3,S5–G3,G3–S7	44E	S2–G2,G2–S4,S6–G4,G4–S8

S1–G1 designates one W or C shaped diaphragm between Stringer S1 and Main Girder G1 at the pier location listed

WELD REPAIR NOTE: Existing cracks in fillet welds joining connection plates or stiffeners to stringer and girder webs are to be repaired in accordance with Section 3.7 of AWS D1.5–88. Both sides of joints are to be rewelded even though cracking may be detectable on only one side. The length of repair on each side of a joint shall be the length of the longest crack plus 2" but not less than 3".

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

STRUCTURAL STEEL REPAIRS

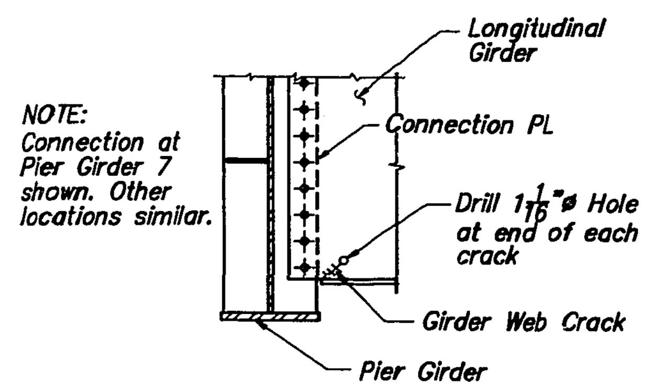
SHEET 20

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I 64)

STATION
ROAD
P.E. PROJECT NO.

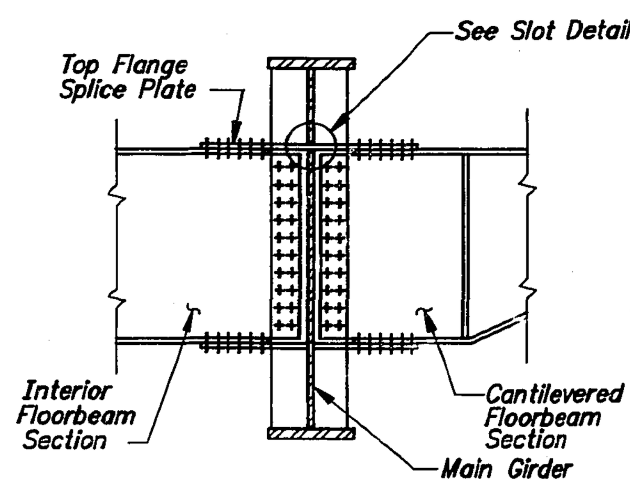
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413

UPDATE DATE ________
LETTING DATE ________
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

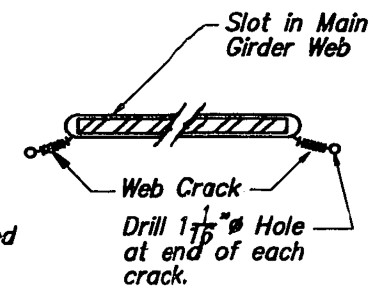


LONGITUDINAL WELDED GIRDER AT PIER GIRDER CONNECTION

This detail to be used for arresting girder web cracks which originate at flange terminations for end connections. See Table E1 for locations.

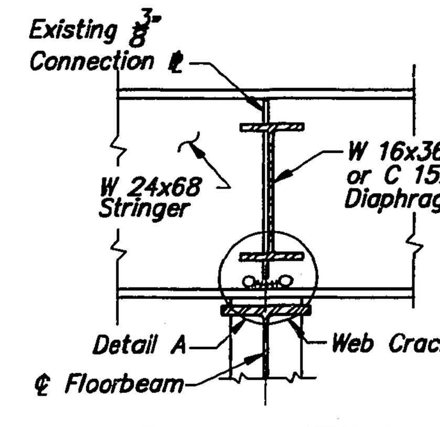


MAIN GIRDER AT FLOORBEAM CONNECTION

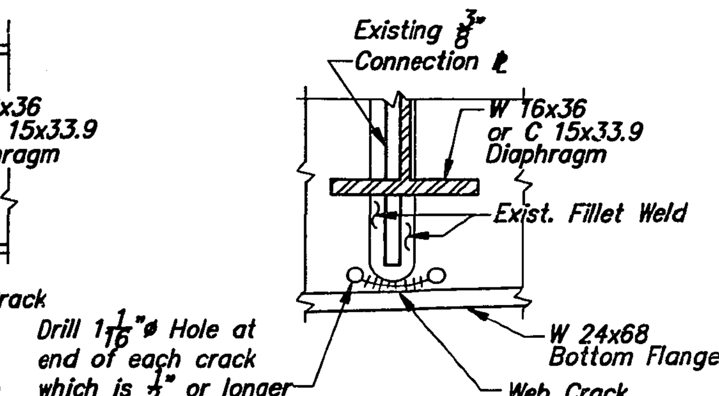


SLOT DETAIL

This detail to be used for arresting main girder web cracks at slotted holes for floorbeam top flange splice plates (Outside Girders). See Table E2 for locations.

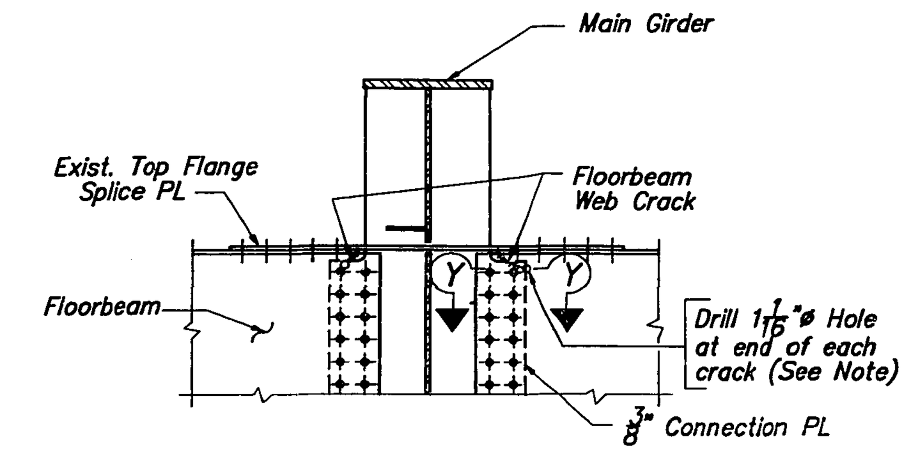


ROLLED BEAM STRINGER AT DIAPHRAGM CONNECTION



DETAIL A

This detail to be used for arresting stringer web cracks at diaphragm connections. See Table E3 for locations.



FLOORBEAM AT MAIN GIRDER CONNECTION

This detail to be used for arresting floorbeam web cracks which originate at flange terminations for the connections at main girders. See Table E4 for locations.

WEB DRILLING ($1\frac{1}{16}$"ø HOLE)

Payment for drilling all cracks at each location, whether on one or both sides of the Main Girder, Pier Girder, or Floorbeam will be the amount bid for "Web Drilling ($1\frac{1}{16}$"ø Hole)".

TABLE E1 – WEB DRILLING LOCATIONS

SPAN	GIRDER	LOCATION
Span 5	A	Pier Gird. 5
Span 6	A	Pier Gird. 7
Span 6	F	Pier Gird. 7
Span 6	K	Pier Gird. 7
Span 57	D	Pier Gird. 58
Span 57	J	Pier Gird. 58
Span 76	H	Pier Gird. 76

TABLE E2 – WEB DRILLING LOCATIONS *

GIRDER	LOCATION
E	2nd Flrbm. East of Pier 9
E	At Pier 11
G3	1st Flrbm. East of Pier 26W
G1	3rd Flrbm. East of Pier 29W
G1	3rd Flrbm. East of Pier 35W (2)
G3	4th Flrbm. East of Pier 35W
G3	1st Flrbm. East of Pier 36W
G1	2nd Flrbm. East of Pier 39W
G4	2nd Flrbm. East of Pier 29E
G2	3rd Flrbm. East of Pier 32E
G2	3rd Flrbm. East of Pier 37E

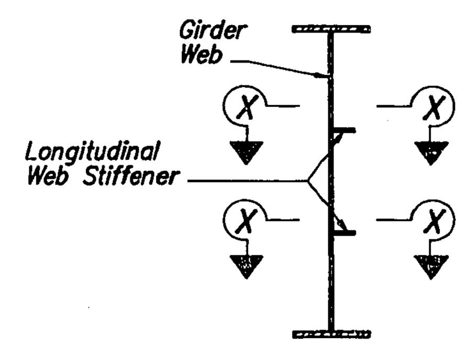
TABLE E3 – WEB DRILLING LOCATIONS

STRINGER	DIAPHRAGM LOCATION
S6 & S8	Diaph. at Pier 40E
S8	Diaph. at Pier 41E

TABLE E4 – WEB DRILLING LOCATIONS *

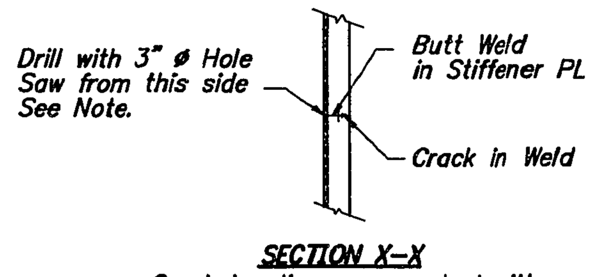
GIRDER	FLOORBEAM LOCATION
B & F	Flrbm. at Pier 8
F	2nd Flrbm. East of Pier 8
E	3rd Flrbm. East of Pier 8
E	1st Flrbm. East of Pier 9
J	Flrbm. at Pier 10
J	2nd Flrbm. East of Pier 10
J	2nd Flrbm. East of Pier 11
F	Flrbm. at Pier 12
F	Flrbm. at Pier 13 (2)
B & E	Flrbm. at Pier 14
B	2nd Flrbm. East of Pier 15
F	3rd Flrbm. East of Pier 15
J	2nd Flrbm. East of Pier 16
B	Flrbm. at Pier 18
B	Flrbm. at Pier 19
B, E & F	Flrbm. at Pier 20
B	2nd Flrbm. East of Pier 20
B	Flrbm. at Pier 22
F	Flrbm. at Pier 23
B	2nd Flrbm. East of Pier 24

* During the 1989 Inspection one crack was recorded at each location except where (2) indicates two cracks.



LONGITUDINAL WEB STIFFENER

This detail to be used for arresting cracks in longitudinal web stiffeners at butt welds. See Table F for locations.



SECTION X–X

Crack locations are marked with an ORANGE paint spot on the web.

WEB DRILLING (3"ø HOLE SAW)

Payment for drilling at each location will be the amount bid for "Web Drilling (3"ø Hole Saw)".

TABLE F – NUMBER OF 3"ø HOLE SAW LOCATIONS (X)

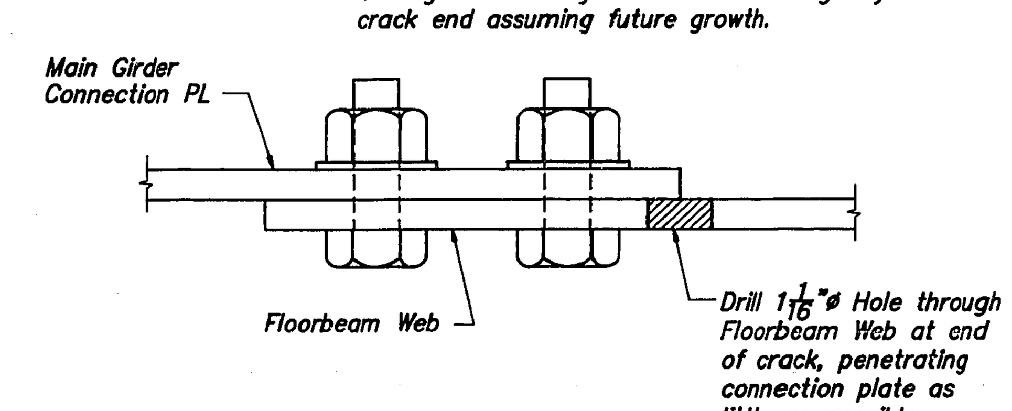
SPAN	GIRDER	NUMBER OF HOLES		SPAN	GIRDER	NUMBER OF HOLES		SPAN	GIRDER	NUMBER OF HOLES	
		TOP STIFF.	BOTT. STIFF.			TOP STIFF.	BOTT. STIFF.			TOP STIFF.	BOTT. STIFF.
56	A	1	2	109	K	0	1	122W	A	0	1
56	K	1	2	111	K	0	1	125W	F	1	1
58	A	1	2	112	A	0	1	126W	A	0	1
59	A	1	0	112	L	0	1	131W	F	1	0
59	K	0	1	113	A	1	0	RA3	A	0	1
60	A	2	3	114	L	1	1	RB1	D	1	1
60	K	3	2	115	A	1	1	RB2	D	1	2
63	K	3	3	117	A	2	1	RB4	A	2	0
66	A	0	1	120	A	1	0	RB6	D	2	1
70	K	0	1	120	L	0	1	RB9	A	1	1
72	A	1	4	122E	C	0	1				
78	K	0	1	123E	C	0	1				
80	K	1	1	125E	P	0	1				
82	K	0	2	126E	P	0	1				
83	K	1	1	127E	P	0	2				

(X) Locations of stiffener butt welds requiring drilling are marked with a 2"ø ORANGE spray paint spot on the web.

NOTE FOR DRILLING AT LONGITUDINAL STIFFENER CRACKS: Accurately locate and mark the girder web at the point directly opposite the longitudinal stiffener butt weld. Drill through the web using a 3"ø hole saw penetrating the stiffener as little as possible. The inside disc attached to the stiffener is to remain in place.

NOTE FOR DRILLING FLOOREAM WEB HOLES:
At most locations the ends of the floorbeam web cracks are opposite girder connection plates. It is intended that the holes drilled through the web penetrate the connection plate as little as possible.
Some crack ends may be near an eisting bolt making it necessary to drill at an imaginary crack end assuming future growth.

NOTE: Cleaning and painting is to be included in the price bid for all structural steel repair and retrofit items



SECTION Y–Y

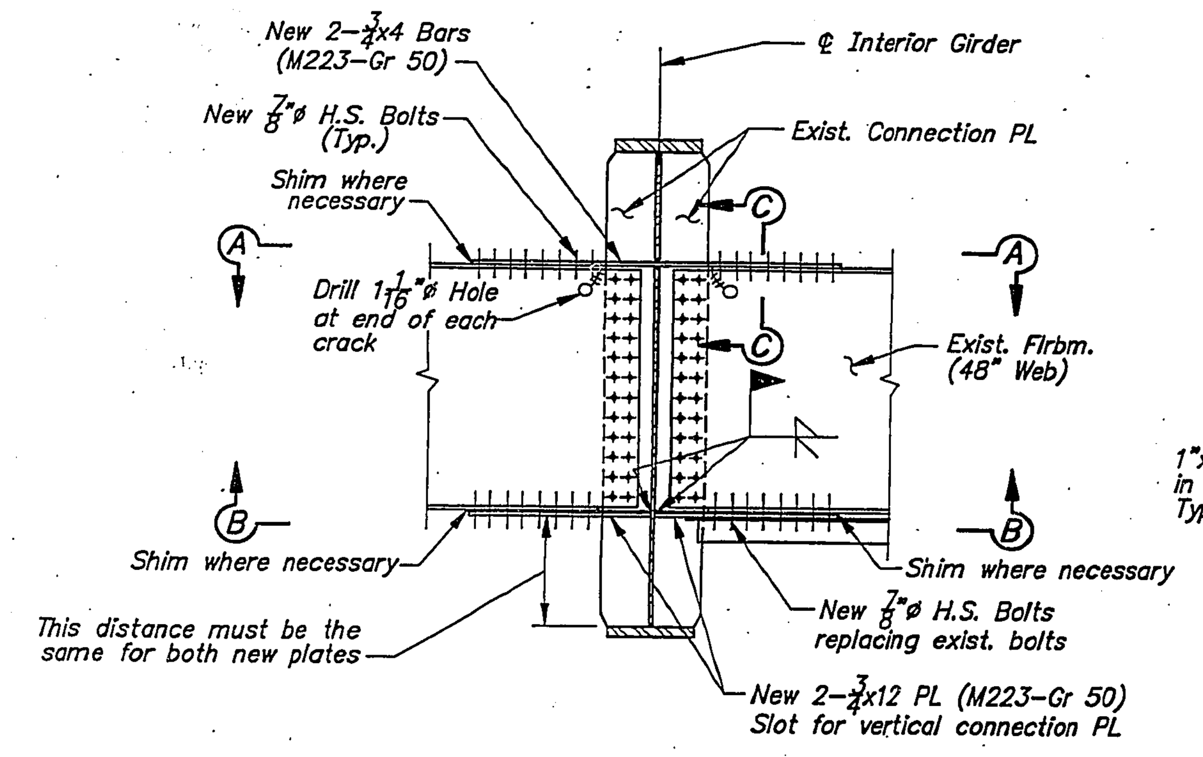
STRUCTURAL STEEL REPAIRS

SHEET 21

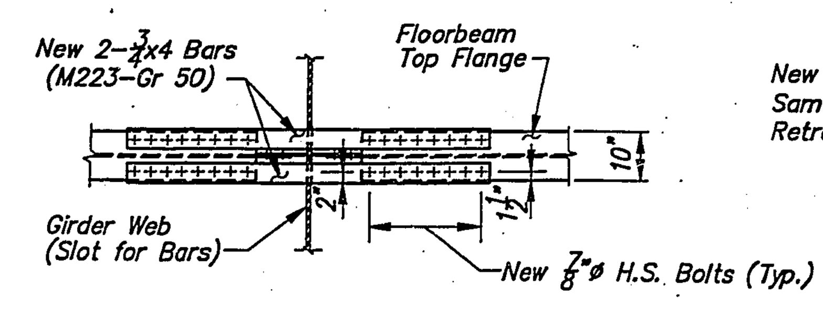
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I 64)

STATION	ROAD P.E. PROJECT NO.	
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

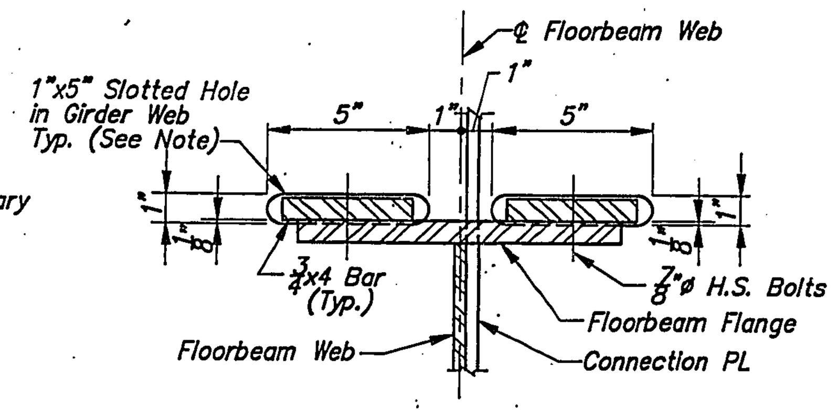
12/21/1990 AR O:\DWGFILES\1150\05\I64SH4



FLOORBEAM CONNECTION AT MAIN GIRDER

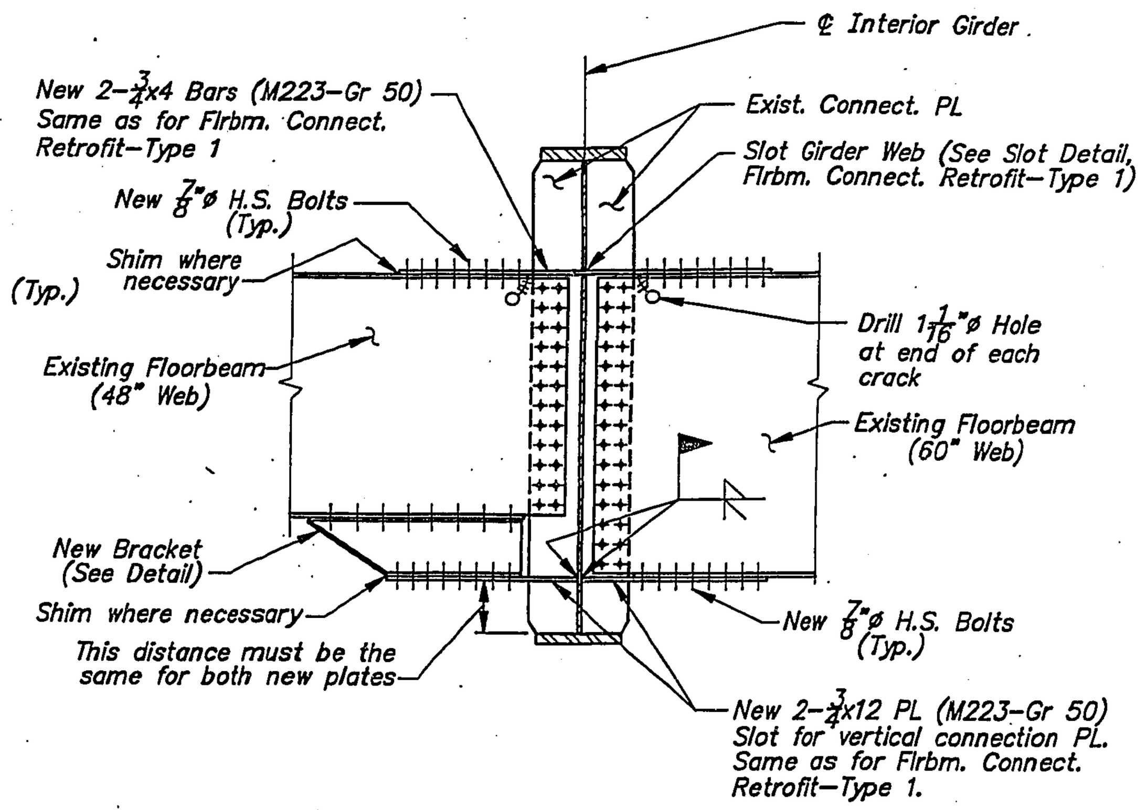


SECTION A–A

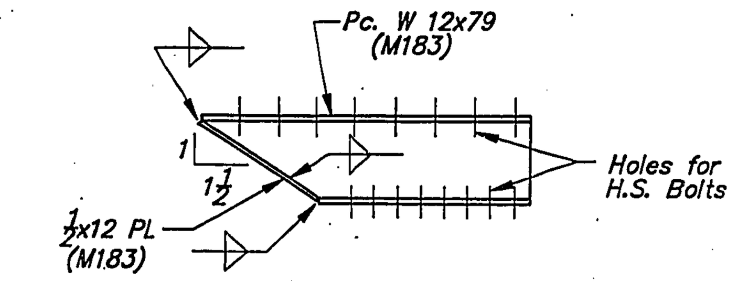


SECTION C–C

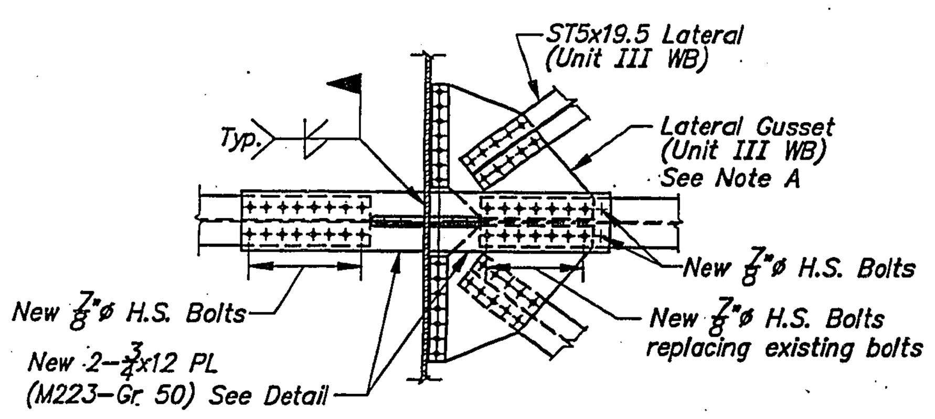
SLOTTED HOLE NOTE: A written description of the proposed method and equipment to be used for cutting slotted holes in girder webs shall be submitted to the Engineer for approval. Methods other than drilling and sawing may require grinding of the edges of the slots.



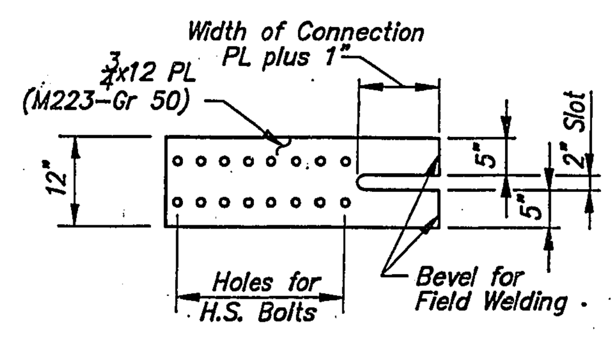
FLOORBEAM CONNECTION AT MAIN GIRDER



NEW BRACKET DETAIL



SECTION B–B



BOTTOM PLATE DETAIL

FLOORBEAM CONNECTION RETROFIT – TYPE 1

See Table G for locations of Type 1 retrofits. Payment for retrofitting each location will be the amount bid for "Floorbeam Connection Retrofit – Type 1".

NOTE A: The Lateral Gusset may be tack welded to the floorbeam bottom flange prior to removing H.S. Bolts to prevent slippage.

TABLE G – TYPE 1 RETROFIT LOCATIONS

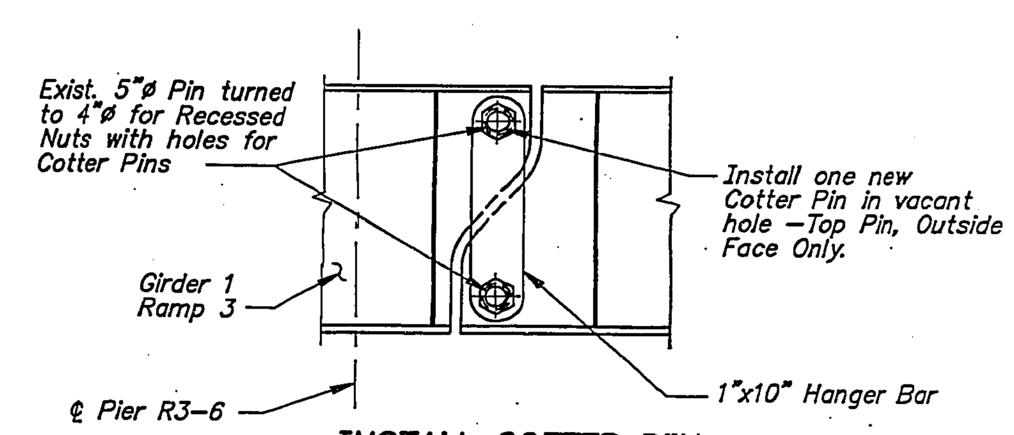
GIRDER	LOCATION	NUMBER OF FLOORBEAMS
G3	All Interior Flrbms. in Span 31WB	5
G3	All Interior Flrbms. in Span 32WB	4
G3	Flrbm. at Pier 33W	1
G3	All Interior Flrbms. in Span 33WB	5
G4	1st Flrbm. East of Pier 36E	1
G4	1st Flrbm. West of Pier 39E	1

FLOORBEAM CONNECTION RETROFIT – TYPE 2

See Table H for locations of Type 2 retrofits. Payment for retrofitting each location will be the amount bid for "Floorbeam Connection Retrofit – Type 2".

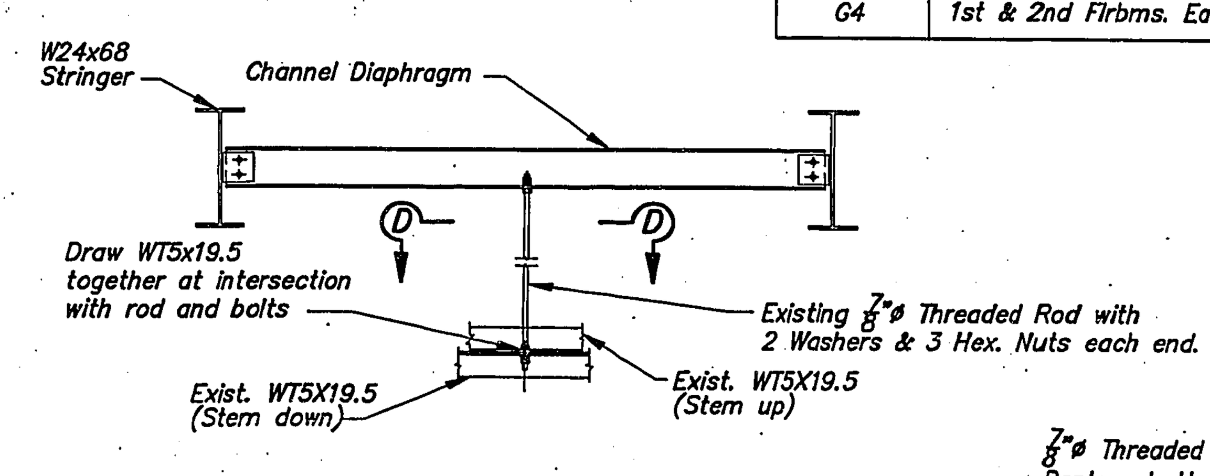
TABLE H – TYPE 2 RETROFIT LOCATIONS

GIRDER	LOCATION	NUMBER OF FLOORBEAMS
G4	2nd & 3rd Flrbms. East of Pier 36E	2
G4	Flrbm. at Pier 37E	1
G4	All Interior Flrbms. in Span 37EB	3
G4	Flrbm. at Pier 38E	1
G4	1st & 2nd Flrbms. East of Pier 38E	2



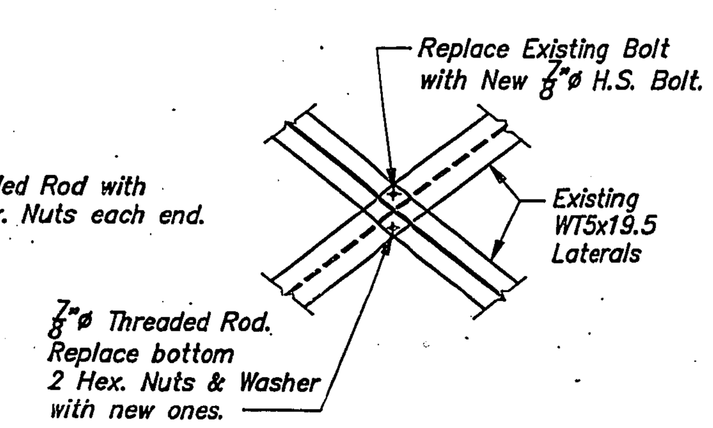
INSTALL COTTER PIN

Location: Girder G1 at Pier R3–6
Payment for installing the cotter pin will be the amount bid for "Install Cotter Pin".



BRACING SUPPORT REPAIR

Locations: 1st Panel West of Pier 28W
1st Panel West of Pier 39W
Payment for these repairs at each location will be the amount bid for "Bracing Support Repair".



SECTION D–D

NOTE: Cleaning and painting is to be included in the price bid for all structural steel repair and retrofit items.

STRUCTURAL STEEL REPAIRS

SHEET 22

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I-64)
ROAD
STATION
P.E. PROJECT NO.
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22413

UPDATE DATE
LETTING DATE
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS
DESIGNED BY ARJ/DRH
DETAILED BY P.N.P./JTG DATE 11-90
11/20/1990

UPDATE DATE
LETTING DATE

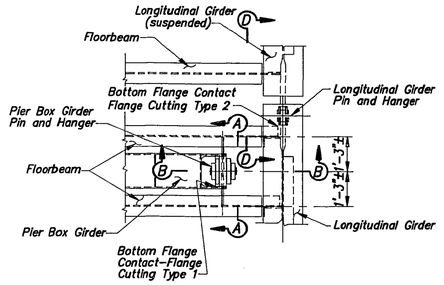
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DATE
DATE
DATE

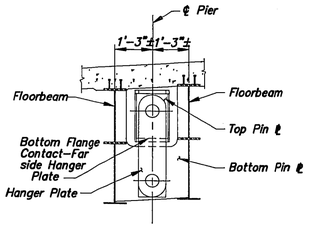
REVISED	DATE
REVISED	
REVISED	

DESIGNED BY: ARDRH CHECKED BY: V.N.P. DATE 11-90
DETAILED BY: CHECKED BY: DATE
TRACED BY: CHECKED BY: DATE

11/20/1990 DGN: D:\EVGF\LEES\1159\DS\1643H7



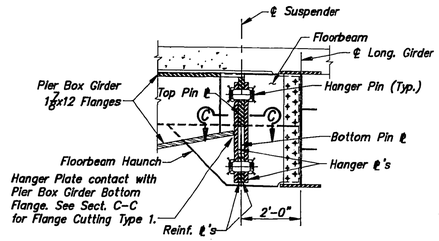
PLAN – RAMP DOUBLE EXPANSION ASSEMBLY (SLAB REMOVED)



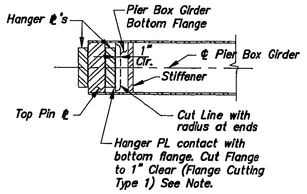
SECTION A–A

NOTE FOR FLAME CUTTING: Cut flanges to provide 1" minimum clear for hanger plates shown for Flange Cutting Type 1 and 2. Cutting shall be flame cutting in accordance with Article 607.11 of the Standard Specifications. The Contractor shall use metal shields to protect the hanger bar and be responsible for all damage during his operations. See Contractor's Responsibility note.

CONTRACTOR'S RESPONSIBILITY: All girder hanger plates are fracture critical tension members. Any cut, score, gouge or indentation to these hangers, regardless of how small, shall be considered damage requiring repair. The Contractor shall be responsible for any and all damage to the hangers during his operations whether intentional or not, including supporting the girders and replacing the hangers at the Contractor's expense.



SECTION B–B



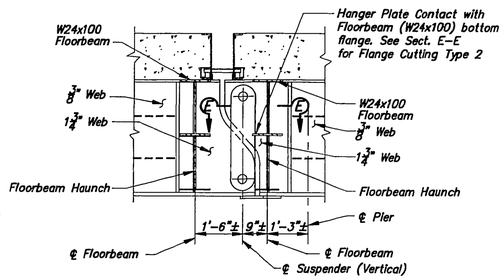
SECTION C–C

FLANGE CUTTING TYPE 1

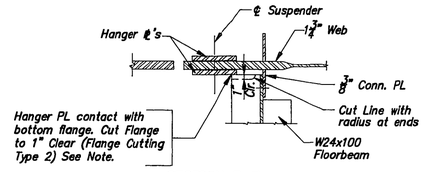
See Table J for locations of Type 1 Flange Cutting. Payment for flange cutting at each location will be the amount bid for "Flange Cutting Type 1"

TABLE J – FLANGE CUTTING LOCATIONS

PIER BOX GIRDER	RIGHT OR LEFT END *
Pier R1–3	Right (near Girder G1)
Pier R1–6	Right (near Girder G1)
Pier R1–6	Left (near Girder G2)
Pier R1–9	Left (near Girder G2)
Pier R3–3	Left (near Girder G1)
Pier R4–8	Left (near Girder G2)



SECTION D–D



SECTION E–E

FLANGE CUTTING TYPE 2

See Table K for locations of Type 2 Flange Cutting. Payment for flange cutting at each location will be the amount bid for "Flange Cutting Type 2".

TABLE K – FLANGE CUTTING LOCATIONS

GIRDER	LOCATION
G1	Pier R1–6 (Right *)
G1	Pier R1–9 (Right)
G2	Pier R3–6 (Right)
G2	Pier R4–3 (Left)
G1	Pier R4–5 (Right)
G2	Pier R4–8 (Left)
G2	Pier R4–14 (Left)

* Looking in the direction of Traffic (up station)

REPLACE H.S. BOLTS

Replace each missing and improperly tightened (loose) bolt listed in Table 2 with a new M164 Bolt and one Washer. The replacement bolts, at widely scattered locations, are to be of the size and length originally intended. Removing "loose" bolts and/or reaming of holes, where necessary, is included in the work. Payment for each bolt will be the amount bid for "Replace H.S. Bolt".

TABLE L – REPLACEMENT BOLT LOCATIONS

LOCATION	** BOLT CONDITION	NUMBER OF BOLTS
Span 5, Str. G connect. to Pier Gird. 5	Loose	1
Span 6, Str. G connect. to Pier Gird. 6	Missing	1
Span 6, Str. J connect. to Pier Gird. 7	Loose	1
Lateral (WT5x16.5) connect. to gusset at Girder B and Flrb. – Pier 17	Missing	1
Ramp 1, Span R1–13: connec. of 1st Flrbm. East of Pier R1–13 to Gird. G2	Missing	1
Ramp 2A, Span R2A–5: connect. of 3rd Flrbm. West of Pier R2A–6 to Gird. G1	≠ Loose	1
Span 57, Gird. G Bott. Flange connect. of splice plate at Pier Girder 57.	Loose	7
Span 117, midspan crossframe connect. to Girders B and C	Missing	7

** Reported to be ⅞"ø H.S. Bolts unless noted otherwise.
≠ Nut missing

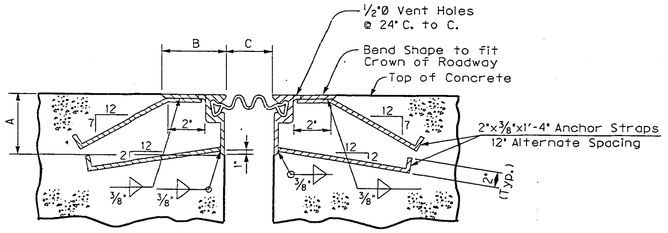
NOTE: Cleaning and painting is to be included in the price bid for all structural steel repair and retrofit items

STRUCTURAL STEEL REPAIRS

SHEET 23

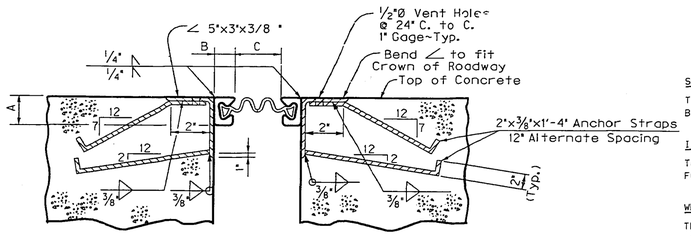
COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (I–64)
ROAD
STATION P.E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413



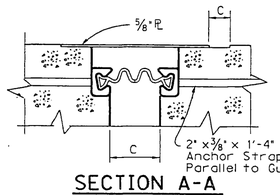
CROSS SECTION ~ TYPE "A"

Field Spice is Permissible in Steel Using Continious Groove welds.



CROSS SECTION ~ TYPE "B"

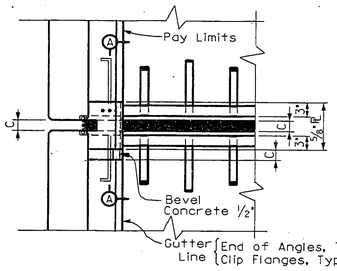
Field Spice is Permissible in Steel Using Continious Groove welds.

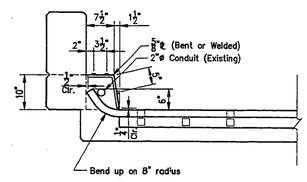


SECTION A-A

Note:
Joint Openings Shall Be Adjusted For Each 10° Above or Below 60° F, Decrease or Increase Respectively by Increment Shown.

INCREMENT FOR 10° TEMPERATURE CHANGE				
— STEEL SPAN —				
180'-240'	241'-320'	321'-365'		
3/16"	1/4"	5/16"		





TYPICAL END TREATMENT
0° SKEWED BRIDGE

GENERAL NOTES

SPECIFICATIONS

THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION SHALL APPLY TO THIS PROJECT.

INSTALLATION PROCEDURE

THE ENDS OF THE JOINT SEAL SHALL BE SEALED TO PREVENT THE ENTRANCE OF WATER AND FOREIGN MATERIAL.

WELDING SPECIFICATIONS

TECHNIQUES AND WELDING PROCEDURE SHALL COMPLY WITH JOINT SPECIFICATION ANSI/ AASHTO/AWS D1.5-88 BRIDGE WELDING CODE WITH REVISIONS.

BASIS OF PAYMENT

THE ACCEPTED QUANTITIES OF EXPANSION DAM WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR EACH SIZE, MEASURED ALONG THE CENTERLINE OF JOINT. THIS PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS (INCLUDING JOINT SEAL, ARMORED EDGES, ANCHOR STRAPS, 1" X 3/16" BARS, WELDING AND WELDING MATERIALS AND INSTALLING HARDWARE) AND INSTALLATION. PAYMENT WILL BE MADE UNDER:

PAY ITEM	PAY UNIT
EXPANSION DAM - 4" NEOPRENE (REPLACE.)	LINEAR FOOT

MATERIAL SPECIFICATIONS

STEEL MATERIAL SHALL CONFORM TO ASTM DESIGNATION A36.
JOINT SEALING MATERIAL ONLY SHALL BE IN ACCORDANCE WITH SECTION 807.02.03 OF THE SPECIFICATIONS.

LOCATION

THE LOCATION OF EXPANSION DAMS SHALL BE IN ACCORDANCE WITH THE DETAIL PLANS.

PAINT

ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS. EXCEPT THAT AREA IN CONTACT WITH CONCRETE SHALL NOT BE PAINTED.

PAY LIMITS

THE PAY LIMITS SHALL BE GUTTER LINE TO GUTTER LINE.

SHOP PLANS

CONTRARY TO THE SPECIFICATIONS, SHOP PLANS WILL NOT BE REQUIRED.

ALTERNATE NEOPRENE EXPANSION DAMS

TYPE	MODEL	SUPPLIER	A	B	C*
A	WABO STRIP SEAL Type C Extrusion With S-400 Seal	Watson Bowman Associates Inc.	4 1/4"	3 3/4"	2"
A	ONFLEX Type C-C Extrusion With 40SS Seal	Structral Accessories Inc.	4 1/4"	3 3/4"	2"
A	STEEL FLEX Type SSTN With 400 Seal	D. S. Brown Co.	4 1/4"	3 3/4"	2"
B	WABO STRIP SEAL Type A Extrusion With S-400 Seal	Watson Bowman Associates Inc.	2"	1 1/2"	2"
B	STEEL FLEX Type RS3 With 400 Seal	D. S. Brown Co.	3"	1 1/4"	2 1/2"
B	GEN STRIP CD Profile A Steel Extrusion With Gen Strip CD Seal	General Tire Co.	2"	1 3/8"	2 1/4"
B	ONFLEX Type AM2 Extrusion With 40SEQ Seal	Structral Accessories Inc.	2"	1 1/4"	2"

*Joint Opening At 60° F.

SHEET 24

UPDATE DATE
LETTING DATE
March 14, 1990
DATE REVISED
DATE REVISED
DATE REVISED
DESIGNED BY
DETAILED BY
CHECKED BY
CHECKED BY
PREPARED BY DRAWING SECTION
CHECKED BY
DATE 12-10
DATE
DATE

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
JEFFERSON
LOUISVILLE – LEXINGTON (164)
ROAD
STATION P.E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22413

NEOPRENE EXPANSION DAM (4")