UPDATE DATE
LETTING DATE 11/13/81

DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MONROE COUNTY
GAMALIEL-BUGTUSSLE
BRIDGE OVER LINE CREEK

REFERENCE AND ESTIMATE OF QUANTITIES

LOCATION \ ITEM	SHEET NO	CONCRETE CU YDS CL "A"	CONCRETE CU YDS CL "AA"	STR EXCAV. CU YDS COM	STR EXCAV. CU YDS S.R.	REINF STEEL LBS.	EPOXY COATED STEEL REINF LBS.		CYCLOPEAN STONE SLOPE PROT. TONS	STRUCTURAL STEEL LUMP SUM ①	PC I B TYPE ✱ LIN FT	REMOVE CONC. MASONRY CU. YDS.			
QUANTITIES	1														
NOTES	2														
LAYOUT	3														
SOUNDINGS	4-5														
ABUTMENT 1	6-7 8	680	260	40	155	8690									
PIER 1	8-8	867		75	5	7093									
ABUTMENT 2	8-9	520	157	120	5	5744			194			●			
SUPERSTRUCTURE	13-16		1716			3614	22,407			①	601.3				
ELEVATIONS	15-16														
SUPERSTRUCTURE TOTALS			1716			3614	22,407			①	601.3				
SUBSTRUCTURE TOTALS		1407	417	305	165	21687			194			●			
TOTALS		1407	2133	305	165	25301	22,407		194	①	601.3	●			

① Approximate weigth of Structural Steel is 2120 Lbs.

● Incidental to Class "AA" Concrete
✱ Incidental to Prestressed Concrete Beams
○ Incidental to Class "A" Concrete

BILL OF INCIDENTAL MATERIAL

ITEM	NO	SIZE AND LOCATION
Plastic Pipe Ⓐ	16	4"ID x 1'-4" Long @ Wings (4 Ea Wing)
Elastomeric Bearing Pads ✱	8	7.5" x 9" x 1-0" @ Abut. 1 & 2
" " " ✱	4	14" x 1'-0" x 1'-0" @ Pier 1
Threaded Anchor Bars ✱	56	3/4" Ø x 2'-0" Long @ Diaphragms
Styrofoam Ⓐ	4	3" x 1.5" x 4'-0" @ Shear Keys, Abut. 1 & 2
Dowels ○	12	1" Ø x 2'-0" Long @ Piers (See sh. 10)
Dowel Sleeves Ⓐ	12	7" ID x 5" Long Std Wt Pipe Closed @ One End
Pref. Cork Exp. Jt Matl Ⓐ	8	1" x 6" x 1'-3" @ Shear Keys Abut 1 & 2
2" Ø Perforated Drain Pipe ○	1	2" Ø x 56'-0" Long @ Abut. 1
Cable Clamps ✱	32	Between Beams @ Pier 1
Preformed Joint Seal Ⓐ	2	1 1/2" x 3" x 28'-2" @ Abut. 1 & 2
Preformed Joint Seal ○	4	1 1/2" x 3" x 1'-10" @ Abut. 1 & 2
Preformed Cork Exp. Jt. Matl Ⓐ	2	1 1/8" x 3'-9" x 24'-4" @ Abut. 1 & 2
Preformed Cork Exp. Jt. Matl ○	4	1 1/8" x 5 1/4" x 2'-6" @ Abut. 1 & 2

SPECIAL PROVISIONS

Special Provisions listed below are the Current Edition and are to be used with these Plans.

50(79) Epoxy Coated Steel Reinforcement

STANDARD DRAWINGS

Standard Drawings listed below are the Current Edition and are to be used with these Plans.

BJE-001-03 RBC-001-03
BJE-002-03 BGX-006-02
BJJ-003-04 BBP-001-04
BJJ-004-05

KY 87 OVER LINE CREEK SHEET 1 OF 16

STATE OF KENTUCKY — BERT L. COMBS — GOVERNOR

Betty Crimbody
June 6, 1981

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL-BUGTUSSLE
ROAD FSP 088 0087 003-004 0080
STATION 20+76.29
P. S. PROJECT NO. 00892 0030 00

CONSTRUCTION PROJECT NO: BRZ 0802 (37)
MAINTENANCE PROJECT NO:
DRAWING NO: 20309

PLANS BY: WRIGHT, MORGAN & BROWN, INC.

UPDATE DATE

LETTING DATE

GENERAL NOTES

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

DESIGN LOAD: THIS BRIDGE IS DESIGNED FOR HS20-44 LIVE LOAD AS SPECIFIED IN CURRENT AASHTO SPECIFICATIONS OR ALTERNATE LOADING OF TWO 24-KIP AXLES SPACED FOUR FEET APART, WHICHEVER PRODUCES THE GREATER STRESS. THIS BRIDGE IS DESIGNED FOR A WIND LOAD BASED ON A WIND VELOCITY OF 84 M.P.H.

MATERIALS DESIGN SPECIFICATIONS:

FOR REINFORCED CONCRETE:

CLASS "A" CONCRETE

f'_c = 3000 PSI

CLASS "AA" CONCRETE

f'_c = 4000 PSI

STEEL REINFORCEMENT

f_y = 60000 PSI

FOR PRESTRESSED GIRDER CONCRETE:

f'_c = 20000 PSI

f'_c = 27000 PSI FOR PRESTRESSING STRAND

f_c = 3000 PSI

f'_c = 5000 PSI

u = 180 PSI FOR EXPOSURE

u = 300 PSI FOR SUM OF PERIMETERS

n = 6

FOR STRUCTURAL STEEL

f_a = 20000 PSI FOR A36 STEEL

DESIGN METHOD: ALL REINFORCED CONCRETE MEMBERS ARE DESIGNED BY THE LOAD FACTOR METHOD AS SPECIFIED IN THE CURRENT AASHTO SPECIFICATIONS.

FOUNDATION PRESSURE: FOOTINGS ARE DESIGNED FOR MAXIMUM PRESSURE OF 5000 PSF FOR ABUTMENT 1, 6000 PSF FOR ABUTMENT 2 AND 17720 PSF FOR PIER 1.

CONCRETE: CLASS "AA" CONCRETE IS TO BE USED THROUGHOUT THE SUPERSTRUCTURE AND IN THE FOOTINGS OF THE SUBSTRUCTURE ABOVE THE TOP OF THE CAPS EXCEPT IN THE PEDESTALS. CLASS "A" CONCRETE IS TO BE USED IN THE PEDESTALS AND IN THE SUBSTRUCTURE BELOW THE TOP OF THE CAPS.

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 BARS.

BEVELED EDGES: ALL EXPOSED EDGES SHALL BE BEVELED 7/8" UNLESS OTHERWISE SHOWN.

BILL OF INCIDENTAL MATERIAL: THE QUANTITIES SHOWN IN THE BILL OF INCIDENTAL MATERIAL ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ENOUGH MATERIAL TO COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE COST OF THESE ITEMS IS TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE, CLASS "AA" CONCRETE, OR PRECAST CONCRETE I-BEAMS.

PAYMENT FOR STRUCTURAL STEEL: THE LUMP SUM BID FOR STRUCTURAL STEEL SHALL BE FULL PAYMENT FOR ALL STRUCTURAL STEEL, PAINT AND ALL LABOR AND MATERIALS NECESSARY TO ERECT THE STEEL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE APPROXIMATE WEIGHT OF STRUCTURAL STEEL SHOWN IN THE ESTIMATE OF QUANTITIES DOES NOT INCLUDE OVERRUN OR WELD MATERIAL.

PAINT: ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH SECTION 607.26 OF THE KENTUCKY BUREAU OF HIGHWAYS SPECIFICATIONS.

TEXTURING: THE BRIDGE DECK SHALL BE TEXTURED IN ACCORDANCE WITH SUB-SECTION 660.13 OF THE STANDARD SPECIFICATIONS.

SPIRAL COLUMN TIES: SPLICES FOR SPIRALS 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, AND THE COST WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE DEVELOPED LENGTH OF SPIRAL SHOWN ON THE PLANS. SPIRAL REINFORCEMENT SHALL MEET THE REQUIREMENTS OF SUB-SECTION 811.02.01 OF THE SPECIFICATIONS.

CONSTRUCTION IDENTIFICATION: THE NAMES OF THE PRIME CONTRACTOR AND THE SUB-CONTRACTOR 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.

MATERIALS: AISC AND ASTM SPECIFICATIONS, CURRENT EDITION, AS DESIGNATED BELOW, SHALL GOVERN THE MATERIALS FURNISHED.

MATERIALS	DESIGNATION
STRUCTURAL STEEL, 36,000 P.S.I., MINIMUM YIELD	A36-77a
UNCOATED SEVEN-WIRE STRESS-RELIEVED STRAND FOR PRESTRESSED CONCRETE, GRADE 270	A416-74
PREMOLDED COAL FILLER, TYPE II	D1752-67 (1973)

MEMBRANE CURING COMPOUND: WHITE PIGMENTED CURING COMPOUND SHALL BE APPLIED TO THE BRIDGE DECK IN ACCORDANCE WITH SECTION 660.15 OF THE KENTUCKY BUREAU OF HIGHWAYS SPECIFICATIONS.

EPOXY COATED REINFORCING STEEL: ALL REINFORCING BARS DESIGNATED BY SUFFIX (E) IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPECIAL PROVISION 50(79).

STYROFOAM FORM FOR DIAPHRAGM KEYS: A STYROFOAM PAD SHALL BE USED, IN FORMING THE DIAPHRAGM KEY, THAT IS SUFFICIENTLY BRITTLE TO BE REMOVED AFTER THE CONCRETE IN THE DAIPHRAGM HAS SET. THE STYROFOAM PAD SHALL BE OF SUFFICIENT STRENGTH TO WITHSTAND THE WEIGHT OF THE WET CONCRETE WITHOUT DEFLECTION IN EXCESS OF 25%. TO WITHSTAND SUCH FORCE, THE STYROFOAM SHOULD EXERT A FORCE OF 3 PSI AT 25% DEFLECTION. A STYROFOAM SAMPLE ACCOMPANIED BY A STATEMENT GIVING THE WEIGHT OF THE WET CONCRETE THAT IS TO BE PLACED ON TOP OF THE STYROFOAM, SHALL BE SUBMITTED TO THE DIRECTOR OF MATERIALS DIVISION BUREAU OF HIGHWAYS, FRANKFORT, KENTUCKY, FOR TESTING AND APPROVAL. THE STYROFOAM SHALL NOT BE PLACED UNTIL IT HAS BEEN APPROVED BY THE DIVISION OF MATERIALS' TESTING LABORATORY. WHEN THE CONCRETE IN THE DIAPHRAGM HAS SET, THE STYROFOAM FORM SHALL BE REMOVED.

PRESTRESSING REINFORCEMENT: PRESTRESSING REINFORCEMENT SHALL BE 1/2 INCH NOMINAL DIAMETER UNCOATED SEVEN-WIRE STRESS-RELIEVED STRAND CONFORMING TO THE REQUIREMENTS OF GRADE 270, AASHTO DESIGNATION, [M203], CURRENT EDITION.

TENSIONING METHOD: BEAMS SHALL BE PRETENSIONED.

CONSTRUCTION METHOD: NO BOND STRESS SHALL BE TRANSFERRED TO THE CONCRETE, NOR SHALL END ANCHORS BE RELEASED, UNTIL THE CONCRETE HAS ATTAINED A COMPRESSIVE STRENGTH AS SHOWN BY STANDARD CYLINDERS MADE AND CURED IDENTICALLY WITH THE GIRDERS, OF AT LEAST A MINIMUM STRENGTH OF 4,000 PSI, CYLINDER STRENGTH SHALL BE 5,000 PSI BEFORE BRIDGE IS OPEN TO TRAFFIC. AN INITIAL FORCE SHALL BE APPLIED TO EACH STRAND SUCH AS TO DEVELOP A STRESS OF 189,000 PSI. BEAMS WITH HONEYCOMB OF SUCH EXTENT AS TO EFFECT THE STRENGTH OR RESISTANCE TO DETERIORATION WILL NOT BE ACCEPTED. AN ALLOWANCE OF .00004 SHALL BE MADE FOR SHORTENING OF BEAMS DUE TO SHRINKAGE AND ELASTIC CHANGE.

SUPERSTRUCTURE SLAB: THE SUPERSTRUCTURE SLAB SHALL BE POURED CONTINUOUSLY FROM OUT TO OUT BEFORE THE CONCRETE IS ALLOWED TO SET.

SHOP PLANS: SHOP PLANS SHALL BE IN ACCORDANCE WITH SUB-SECTION 605.06 PART A OF THE SPECIFICATIONS.

ELASTOMERIC BEARING PADS: ELASTOMERIC BEARING PADS SHALL MEET THE REQUIREMENTS OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, INCLUDING CURRENT INTERIM SPECIFICATIONS, EXCEPT AS MODIFIED ON STANDARD DRAWING BRP-001, CURRENT EDITION. THE COST OF THIS ITEM IS TO BE INCLUDED IN THE PRICE PER LINEAR FOOT FOR PRECAST PRESTRESSED CONCRETE BEAMS.

PAYMENT FOR PRECAST CONCRETE BEAMS: THE BASIS OF PAYMENT FOR THE PRESTRESSED CONCRETE BEAMS SHALL BE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF BEAM, IN ACCORDANCE WITH THE SPECIFICATIONS.

TEMPORARY SUPPORTS: TEMPORARY SUPPORTS OR SHORING WILL NOT BE PERMITTED UNDER THE GIRDERS WHEN POURING THE CONCRETE FLOOR SLAB OR WHEN TAKING "TOP OF BEAM" ELEVATIONS.

REMOVE EXISTING STRUCTURE: SEE ROADWAY PLANS FOR REMOVAL OF EXISTING STRUCTURE, WITH THE EXCEPTION OF PARTS OF ABUTMENT 2, WHICH WILL BE UTILIZED IN THE FINAL PLANS, REFER TO THE BRIDGE PLANS.

BONDING NEW CONCRETE TO OLD CONCRETE: ALL NEW CONCRETE SHALL BE BONDED TO THE OLD CONCRETE WITH A TWO-COMPONENT EPOXY RESIGN SYSTEM CONFORMING TO (SECTION 833 OF THE SPECIFICATIONS). THE COST OF THIS WORK, INCLUDING ALL LABOR, TOOLS AND MATERIALS, IS TO BE INCIDENTAL TO THE UNIT PRICE BID FOR CLASS "A " CONCRETE.

SAW CUTTING EXISTING CONCRETE: PRIOR TO REMOVAL OF EXISTING CONCRETE MASONRY, CUT SURFACE WITH A CONCRETE SAW TO A DEPTH OF 1" TO FACILITATE A NEAT LINE. COST OF CUTTING CONCRETE SHALL BE INCLUDED IN THE LUMP SUM BID FOR REMOVING EXISTING STRUCTURE.

KY 87 OVER LINE CREEK

SHEET 2

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
TRANSPORT

COUNTY OF
MONROE

ROAD
GAMALIEL - BUGTUSSLE

STATION 20 + 76.29

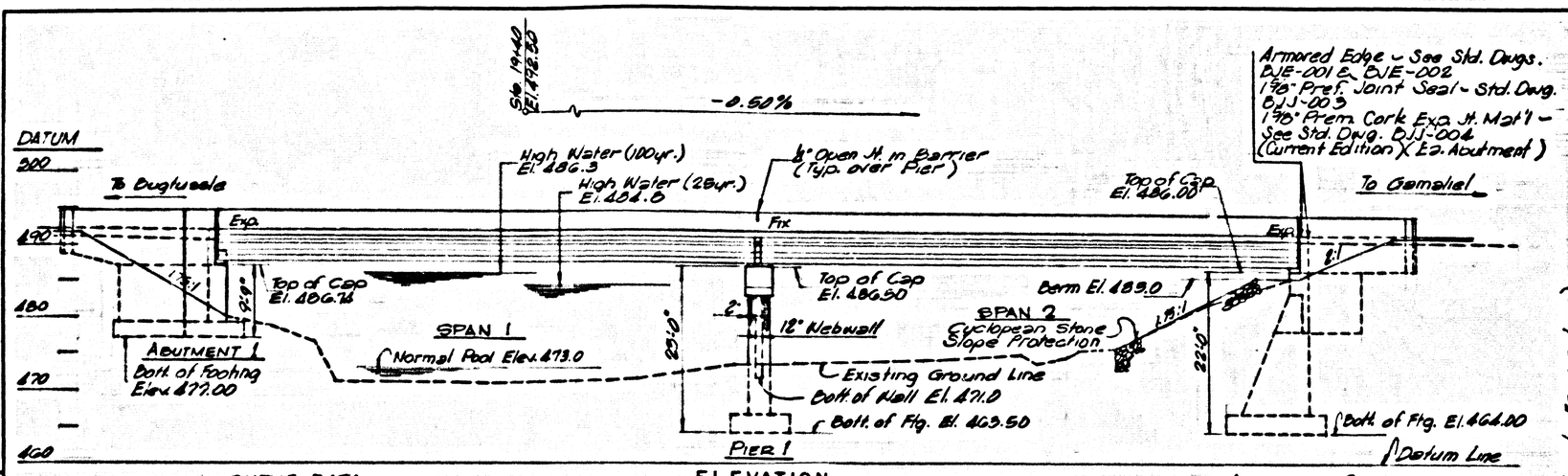
P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.

MAINTENANCE PROJECT NO.

DRAWING NO.
20309

NOTES

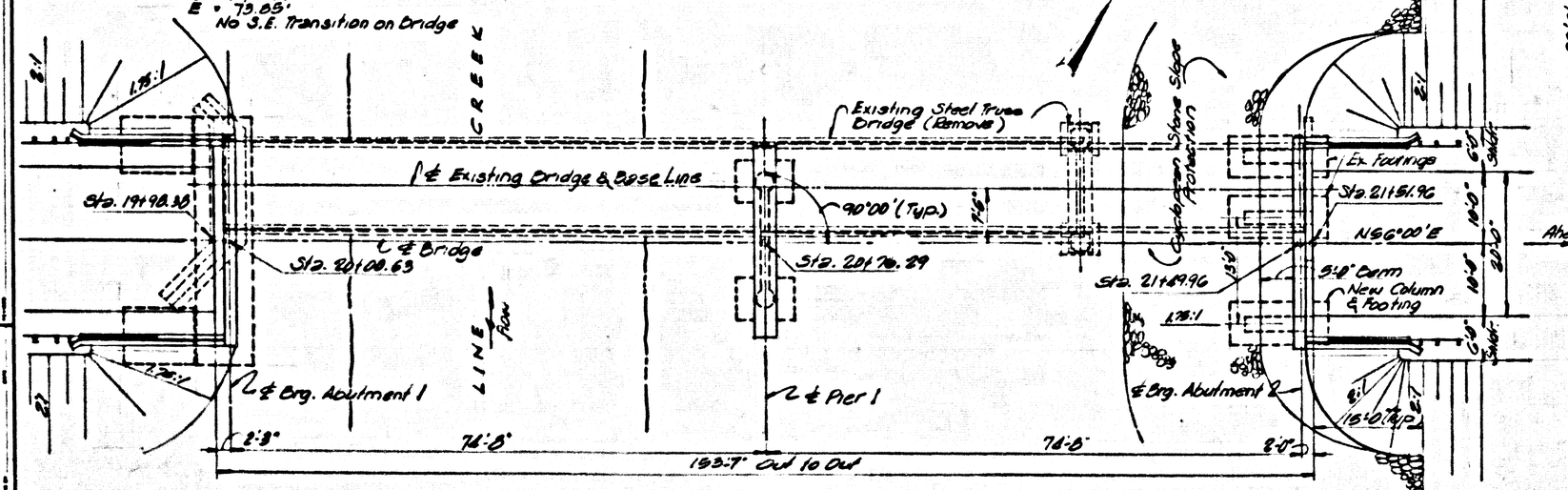


ELEVATION

74'-8" - 74'-8" Type III Prestressed Concrete I-Beams - Simple Spans, Continuous for Live Load only - HS20-44 Live Load - 26'-0" Roadway - 32'-0" Shoulders - 1¾:1 Slopes or Varies - 0°00' Skew.

CURVE DATA

P.I. Sta. 23+62.73
Δ = 87°42'07" Rt.
C = 30°00'
T = 183.18'
L = 292.34'
R = 190.99'
E = 79.85'
No S.E. Transition on Bridge



PLAN
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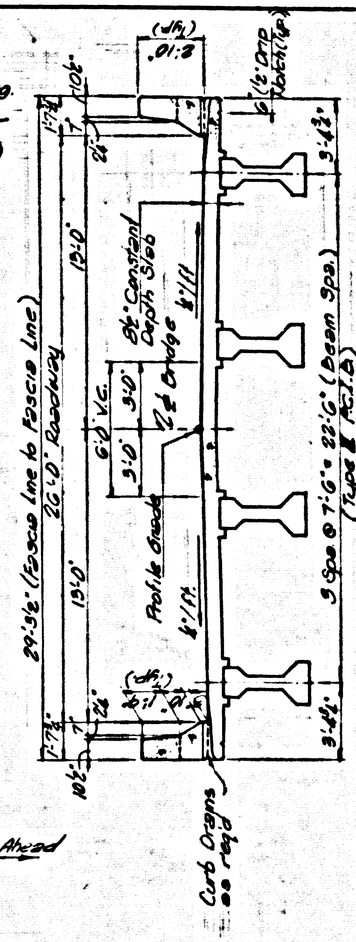
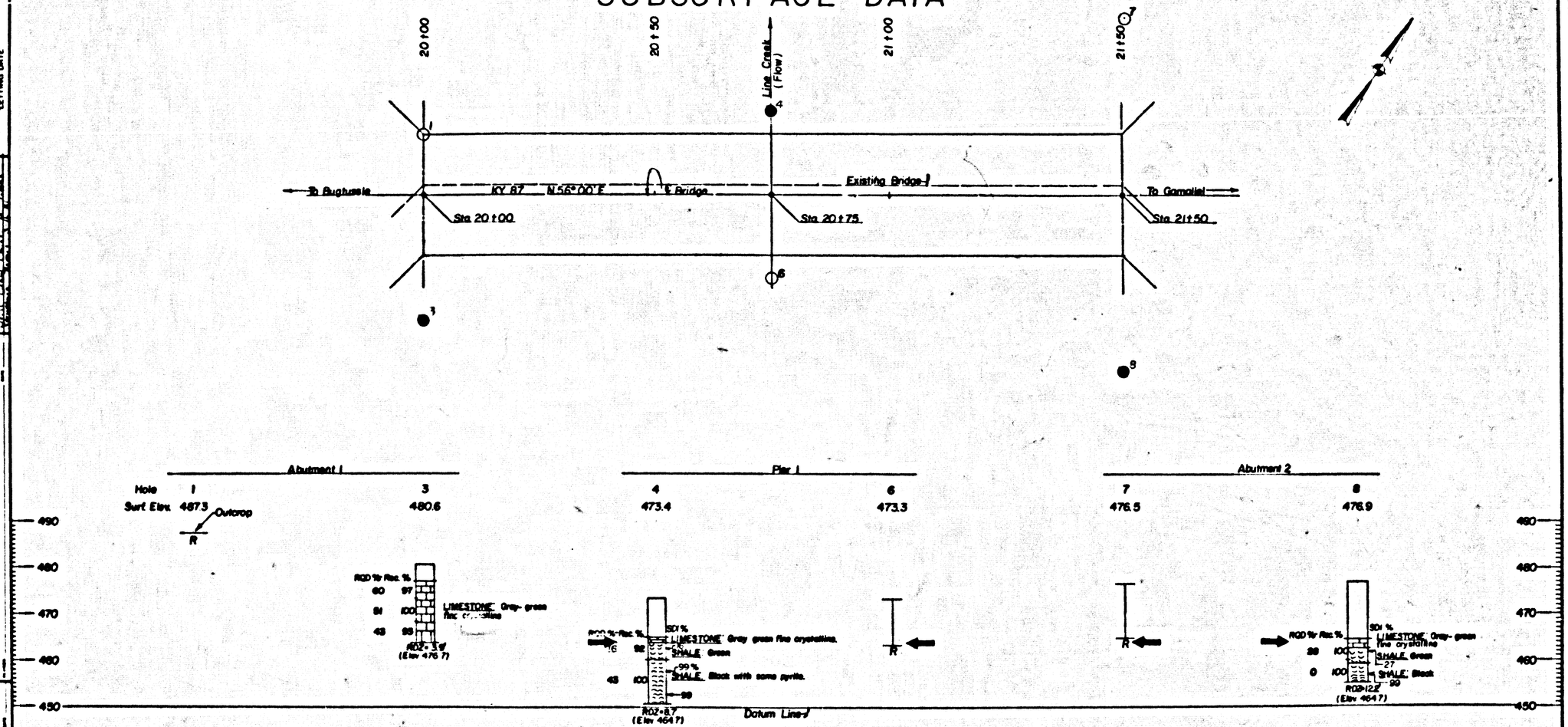


LAYOUT

KY 87 OVER LINE CREEK — SHEET 3

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL - BUGTUSSLE
ROAD
STATION 20+76.29
P. E. PROJECT NO.
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | Sheet No. 20309

SUBSURFACE DATA



The allowable bearing capacity is estimated to be 20 TSF on Abut 1
15 TSF on Pier 1 & Abut. 2

KY 87 OVER LINE CREEK SHEET 4

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL-BUGTUSSLE
ROAD
STATION 20+76.29 P. E. PROJECT NO.

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 20309

UPDATE DATE
LETTING DATE

Description of Soil Compactness or Consistency

SOIL TYPE	COMPACTNESS OF CONSISTENCY	RANGE OF PENETRATION RESISTANCE	RANGE OF UNCONFINED COMPRESSIVE STRENGTH
Coarse grained soils (More than half of material is larger than No. 200 sieve size)	Very loose Loose Medium compact Compact Very compact	Less than 4 blows per foot 4 to 10 10 to 30 30 to 50 Greater than 50	Not applicable
Fine grained soils (More than half of material is smaller than No. 200 sieve size)	Very soft Soft Medium stiff Stiff Very stiff Hard	Not applicable	Less than 0.25 tsf 0.25 to 0.5 0.5 to 1.0 1.0 to 2.0 2.0 to 4.0 Greater than 4.0

Unified Soil Classifications

MAJOR DIVISIONS		SYMBOL	NAME
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	Well-graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	SAND AND SANDY SOILS	SW	Well-graded sands or gravelly sands, little or no fines
		SP	Poorly graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixture
		SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS	SILTS AND CLAYS LL IS LESS THAN 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	SILTS AND CLAYS LL IS GREATER THAN 50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
		CH	Inorganic clays of high plasticity, fat clays
UNCLASSIFIED MATERIAL		NONE	Non-classified material (i.e. overburden, pavement, coal mine waste, slag, rubble, talus, etc.) Include visual description

AI	Activity Index
LI	Liquidity Index
N	Penetration Resistance
S+C(%)	Material finer than No. 200 seive
	Rockline Sounding
	Disturbed Sample Boring
	Undisturbed Sample Boring
	Undisturbed Sample Boring and Rock Core
	Rock Core
	Slope Inclinometer Installation
	(typical applications)
	Approximate Footing Elevation
	Water Elevation
	Thin-walled Tube Sample
	Standard Penetration Test Sample
Q_u	Unconfined Compressive Strength
w(%)	Moisture Content
RQD(%)	Rock Quality Designation
SDI(%)	Slake Durability Index
Rec.(%)	Core Recovery
Φ	Angle of Internal Friction
$\bar{\Phi}$	Effective Angle of Internal Friction
c	Cohesion
$\bar{c}$	Effective Cohesion
γ	Total Unit Weight
RDZ	Rock Disintegration Zone
OB	Overburden Bench
IB	Intermediate Bench
R	Refusal
NR	Refusal Not Encountered

LIMESTONE

SANDSTONE

COAL

SHALE, SOIL-LIKE (SDI ≤ 50)

SHALE, INTERMEDIATE (50 < SDI < 95)

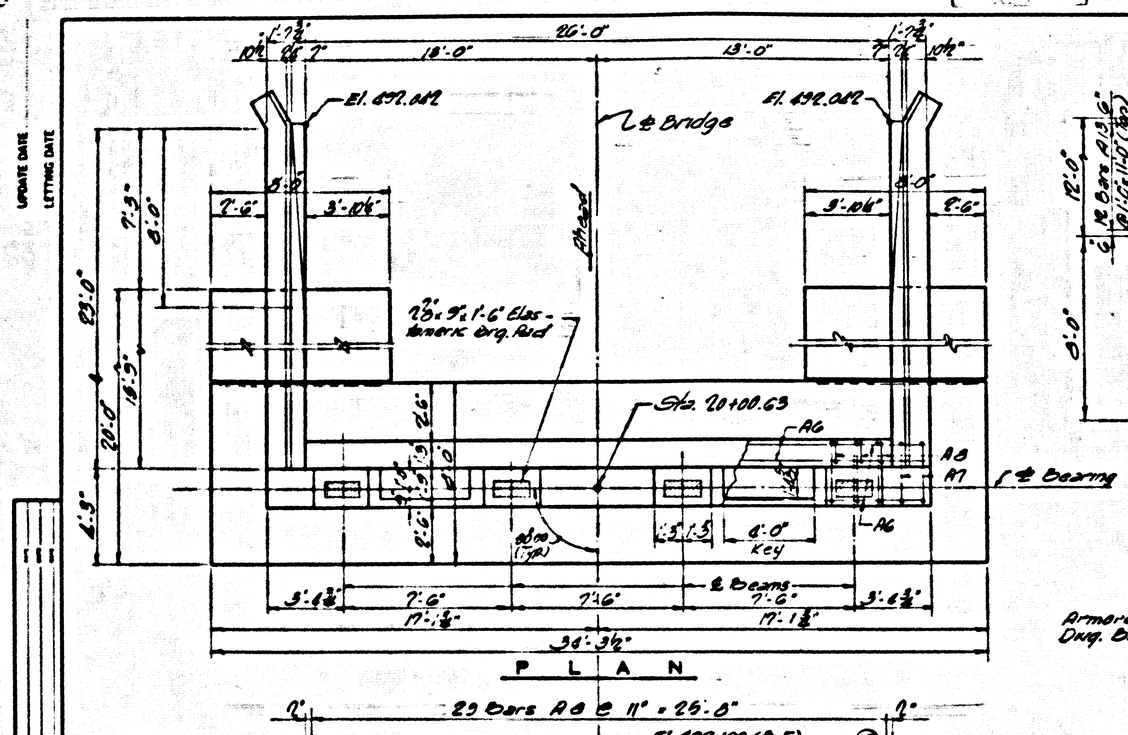
SHALE, ROCK-LIKE (SDI ≥ 95)

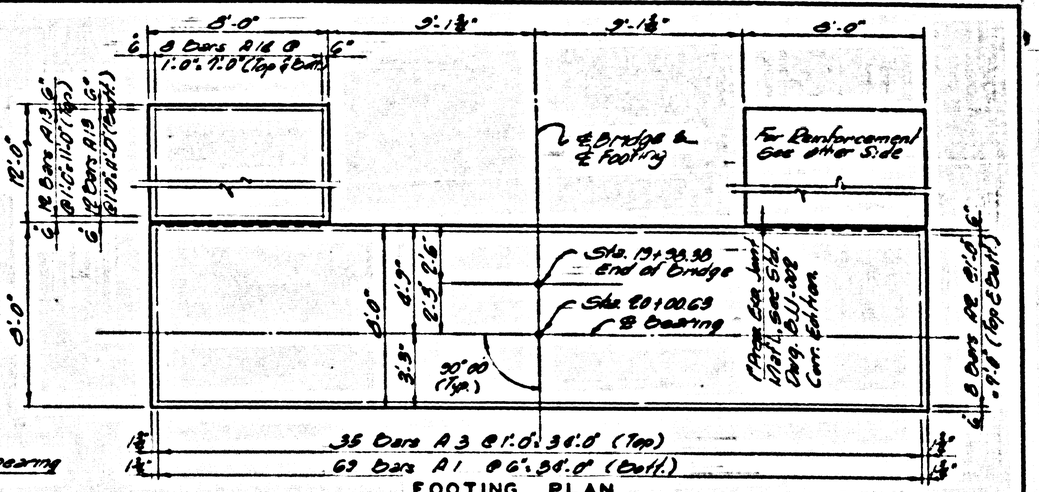
Relation of RQD and in situ Rock Quality

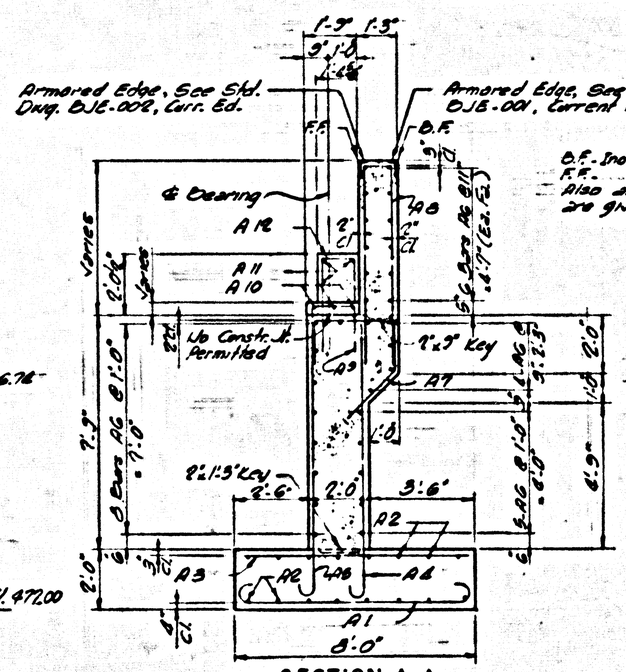
RQD(%)	Rock Quality
90-100	Excellent
75-90	Good
50-75	Fair
25-50	Poor
0-25	Very Poor

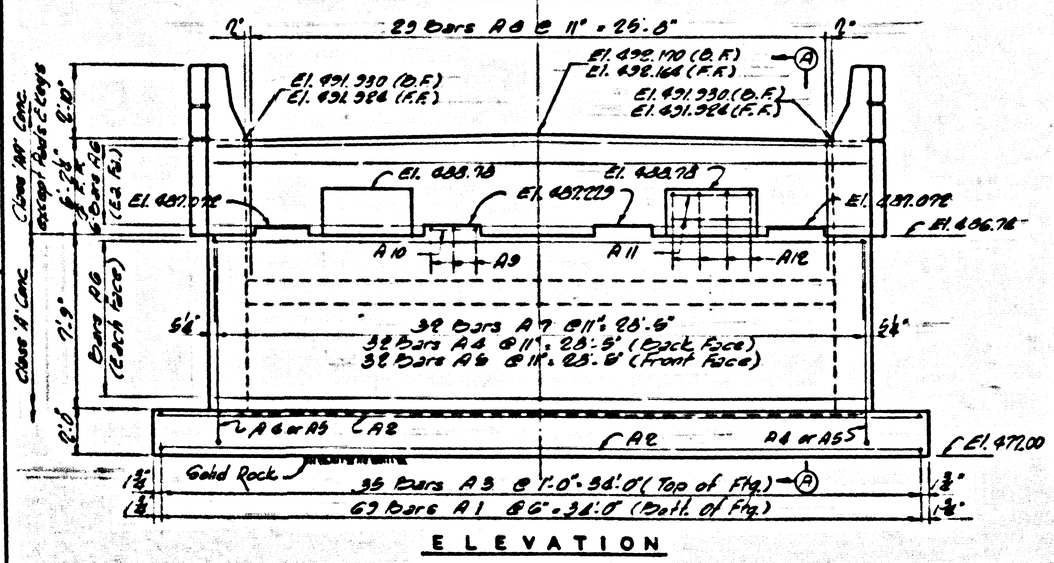
KY 63 OVER LICK CREEK — SHEET 3

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
DIVISION OF TRANSPORTATION
COUNTY OF
MONROE
SAMALIEL-BUGTUSSLE
ROAD
WATERSHED NO. 15-08
F.E. PROJECT NO.
DRAWING NO. 20309









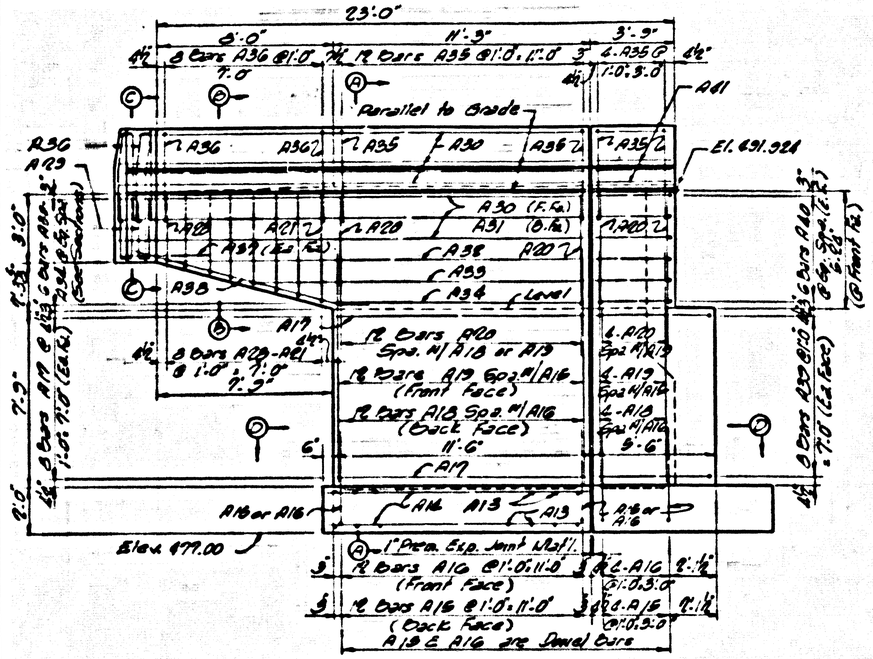
ESTIMATE OF QUANTITIES

Concrete, Class 'AA'	26.0	Cu.Yd.
Concrete, Class 'A'	69.0	Cu.Yd.
Reinforcement	8690	Lb.

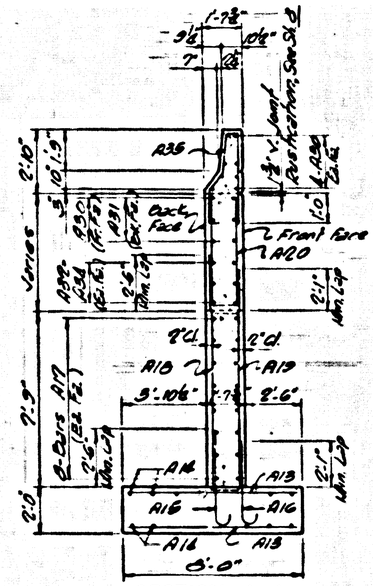
KY 87 OVER LINE CREEK — SHEET 6

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL - BUGTUSSLE
ROAD
STATION 20 + 78.29 — P. E. PROJECT NO.
CONSTRUCTION PROJECT NO. — MAINTENANCE PROJECT NO. — DRAWING NO. 20309

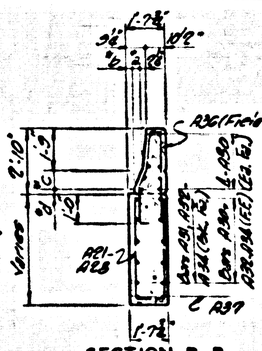
ABUTMENT 1



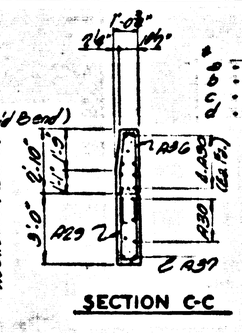
TYPICAL WING ELEVATION



SECTION A-A

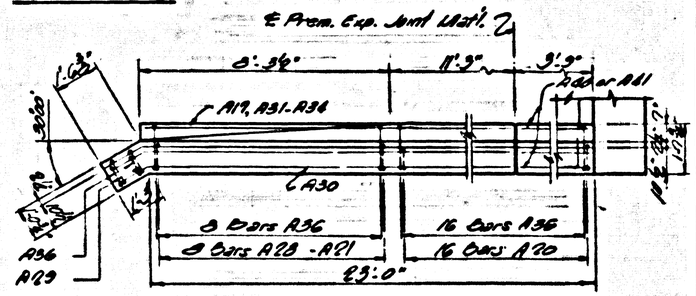


SECTION B-B

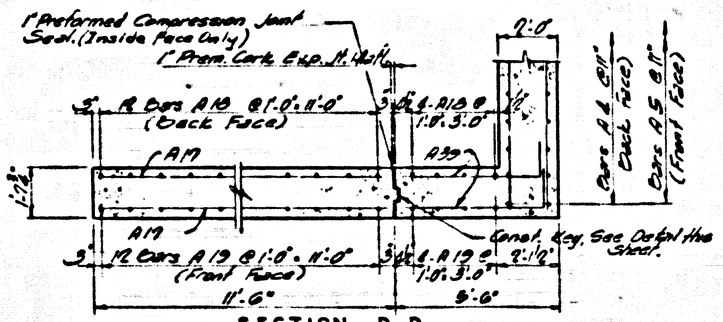


SECTION C-C

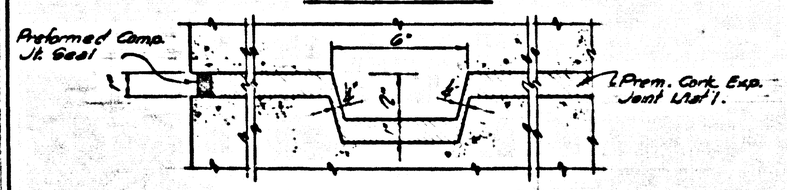
a : Varies From 9" to 0
b : Varies From 0 to 7"
c : Varies From 10" to 1'-1"
d : Varies From 3" to 0



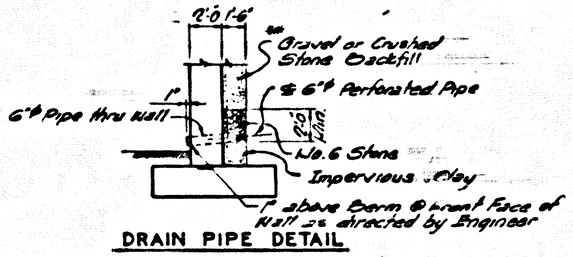
PLAN OF WING



SECTION D-D



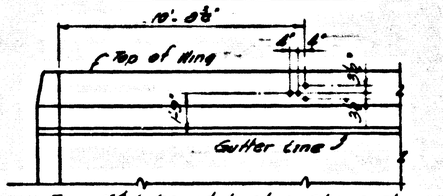
KEY DETAIL AT EXP. JOINT



DRAIN PIPE DETAIL

NOTE - 6" Pipe thru wall shall be the same type as the perforated pipe, except without perforations. Perforated drain pipe and pipe thru wall shall be included in the unit price bid for Class A Concrete

Gravel or Crushed Stone backfill to be placed in uniformed layers and thoroughly tamped to conform to layers of earth backfill and shall extend out a distance of 1'-6" from the face of wall. Payment for this item shall be included in the unit price bid for Class A Conc.



Form 1" ϕ holes at location shown above through wings, using 1" I.D. Plastic Pipe for Guardrail attachment.

GUARDRAIL ATTACHMENT DETAIL

ABUTMENT 1

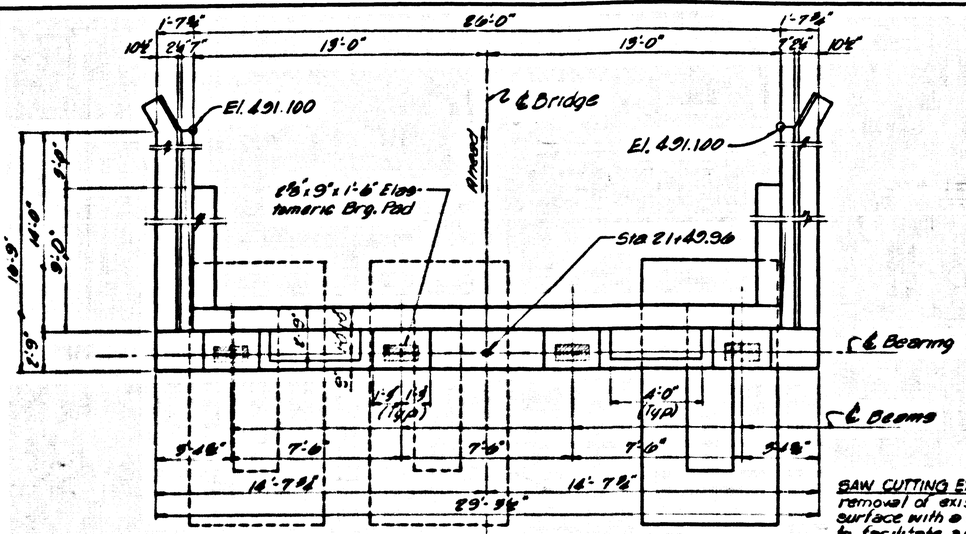
KY. 87 OVER LINE CREEK — SHEET 7

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL - BUGTUSSLE
ROAD

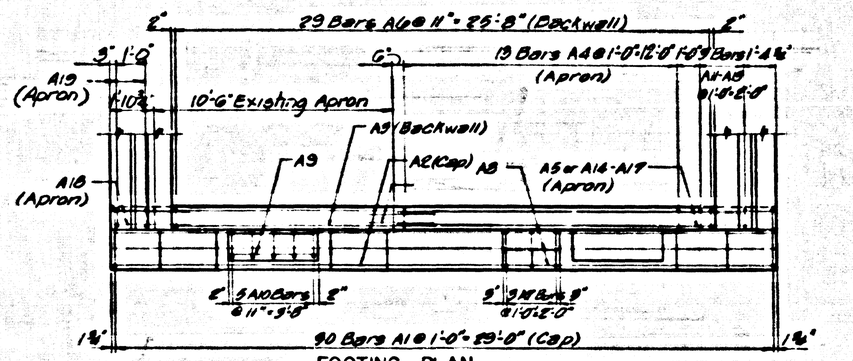
STATION 20+78.29 — P. E. PROJECT NO.

CONSTRUCTION PROJECT NO. — MAINTENANCE PROJECT NO. — DRAWING NO. 20309

UPDATE DATE — LETTING DATE

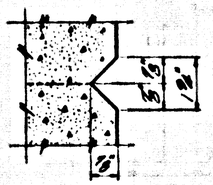


PLAN

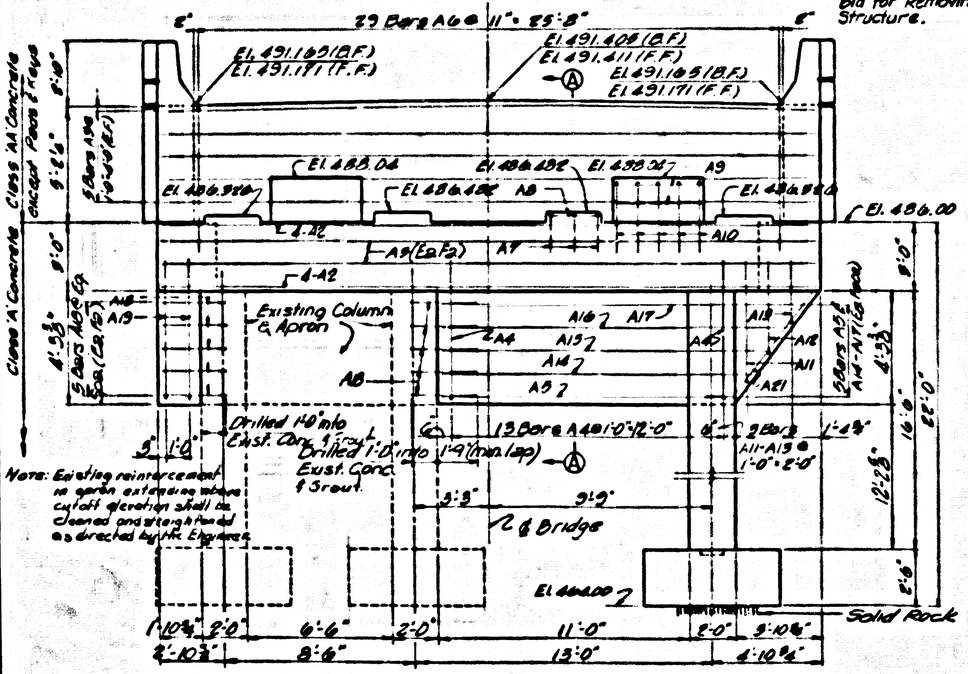


FOOTING PLAN

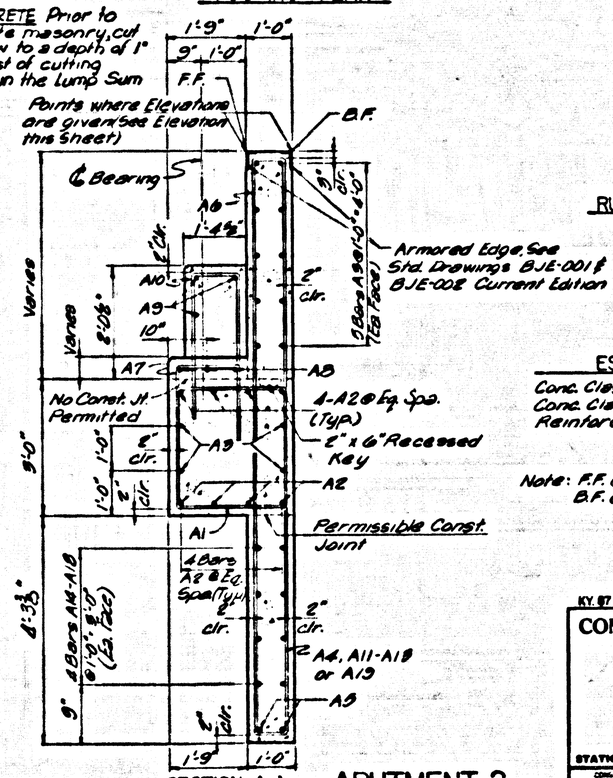
SAW CUTTING EXISTING CONCRETE Prior to removal of existing concrete masonry, cut surface with a concrete saw to a depth of 1" to facilitate a neat line. Cost of cutting concrete shall be included in the Lump Sum Bid for Removing Existing Structure.



RUSTICATION DETAIL



ELEVATION



SECTION A-A

ABUTMENT 2

ESTIMATE OF QUANTITIES

Conc. Class 'A'	35.0	Cu. Yds.
Conc. Class 'AA'	15.7	Cu. Yds.
Reinforcement	5066	Lbs.

Note: F.F. denotes Front Face
B.F. denotes Back Face

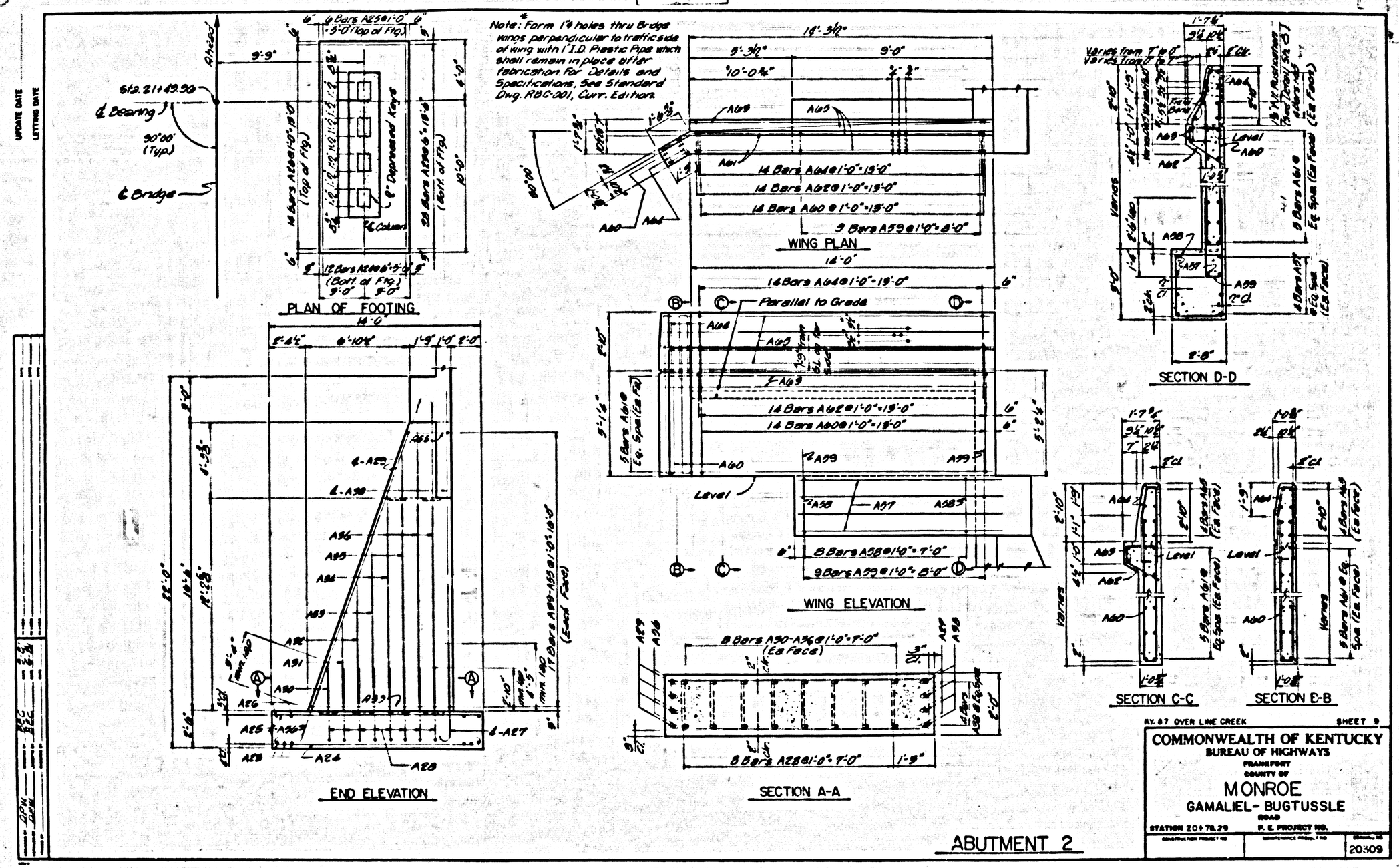
KY. 87 OVER LINE CREEK — SHEET 8

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL-BUGTUSSLE
ROAD

STATION 20+76.29 — P. E. PROJECT NO.

CONSTRUCTION PROJECT NO. — MAINTENANCE PROJECT NO. — DRAWING NO. 20309

UPDATE DATE
LETTING DATE

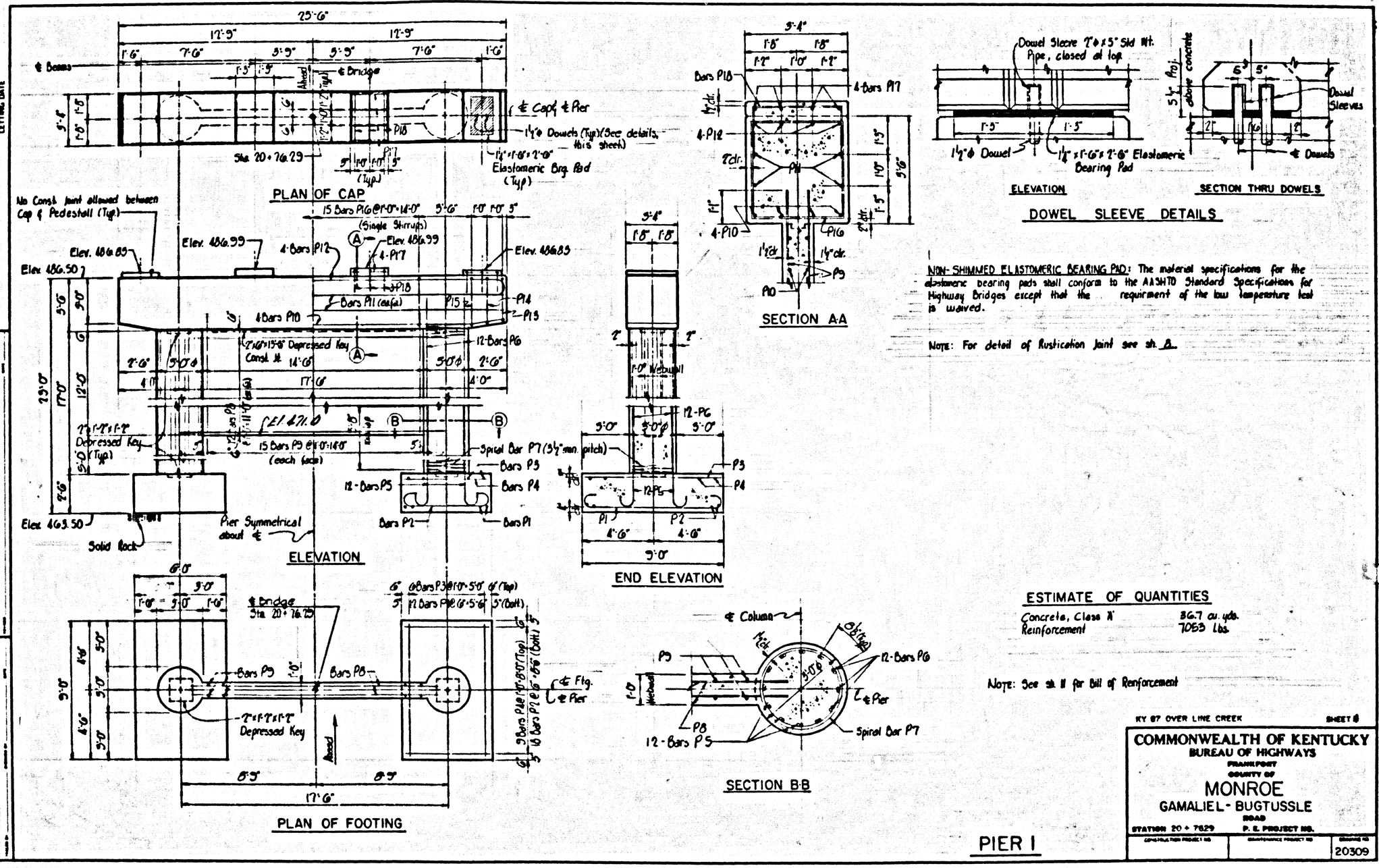


ABUTMENT 2

RY. 87 OVER LINE CREEK SHEET 9

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL- BUGTUSSLE
ROAD
STATION 20+78.29 P. E. PROJECT NO.

20309


PLAN OF CAP
ELEVATION
END ELEVATION
SECTION A-A
SECTION B-B
PLAN OF FOOTING
ELEVATION
SECTION THRU DOWELS
DOWEL SLEEVE DETAILS
NON-SHIMMED ELASTOMERIC BEARING PAD: The material specifications for the elastomeric bearing pads shall conform to the AASHTO Standard Specifications for Highway Bridges except that the requirement of the low temperature test is waived.
Note: For detail of Rustication Joint see sh. 8.
ESTIMATE OF QUANTITIES
Concrete, Class "A" 86.7 cu. yds.
Reinforcement 7053 Lbs.
Note: See sh. 11 for Bill of Reinforcement
PIER I
KY 87 OVER LINE CREEK
SHEET 8
COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL - BUGTUSSLE
ROAD
STATION 20 + 76.29
P. E. PROJECT NO.
20309

BILL OF REINFORCEMENT

PIER 1

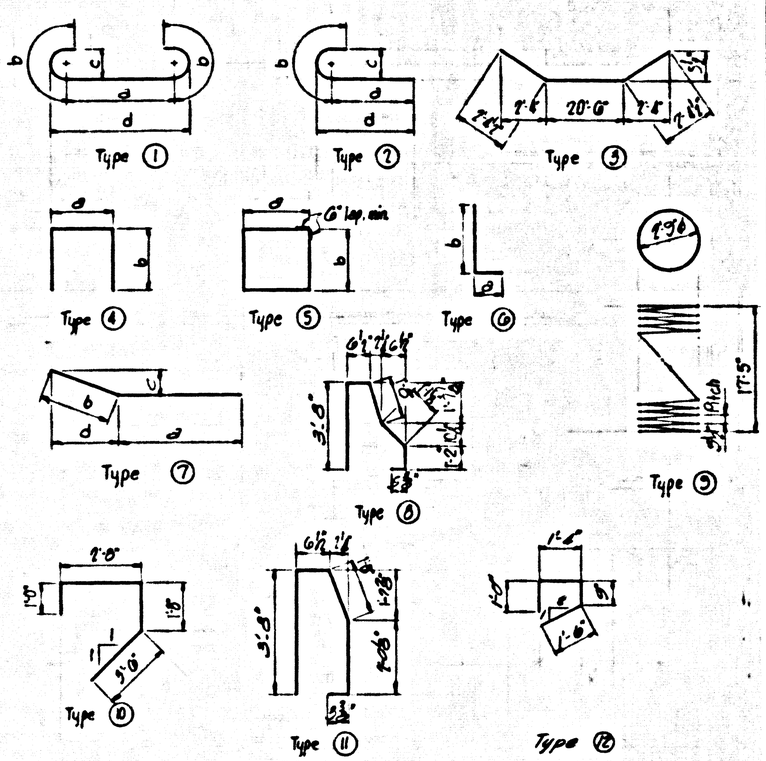
Mark	Type	No. of Bars	Size	Length Ft	Length in	Location	a Ft	a in	b Ft	b in	c Ft	c in	d Ft	d in
P1	⌒	24	7	0	5	Footing	3	1	1	2	0	7	3	3
P2	"	36	"	7	3	"	5	1	1	2	0	7	5	8
P3	Str	12	5	8	8	"								
P4	"	10	"	5	8	"								
P5	⌒	24	10	9	4	"	7	4	2	0	1	0¾	7	10
P6	⌒	24	"	19	8	Column								
P7	⌒	7	4	633	8	"								
P8	Str	24	"	17	0	Wing wall								
P9	"	30	"	13	0	"								
P10	⌒	4	10	25	3	Cap								
P11	Str	4	6	15	2	"								
P12	⌒	4	10	28	1	"	24	1	2	0	1	0¾	29	2
P13	⌒	7	5	12	2	" (Stirrup)	3	0	2	0½				
P14	"	7	"	12	7	" "	3	0	2	11				
P15	"	7	"	13	0	" "	3	0	3	1½				
P16	"	15	"	13	1	" "	3	0	3	2				
P17	Str	10	"	7	2	Brg. Pads								
P18	⌒	12	"	6	7	" "	3	0	1	10				

ABUTMENT 1

Mark	Type	No. of Bars	Size	Length Ft	Length in	Location	a Ft	a in	b Ft	b in	c Ft	c in	d Ft	d in
A1	"	63	5	8	11	Footing	7	3	0	10	0	5	7	6
A2	Str	16	5	34	0	"								
A3	"	36	5	7	8	"								
A4	⌒	32	6	10	0	Wall	3	0	1	0	0	6	3	3
A5	"	32	5	9	11	"	3	1	0	10	0	3	3	3½
A6	Str	31	5	29	0	"								
A7	⌒	36	5	9	10	"								
A8	⌒	63	5	14	4	"	0	11	6	8				
A9	"	12	5	6	0	Brg. Pad	1	6	1	10				
A10	Str	12	5	2	2	" "								
A11	"	6	5	3	8	Shear Key								
A12	⌒	8	5	7	4	" "	1	1	3	4				
A13	Str	48	5	7	4	Wing Footing								
A14	"	36	5	11	4	" "								
A15	⌒	34	6	4	1	Wing Dowels	3	11	1	0	0	4	4	2
A16	"	32	6	4	5	Wing Wall Dowels	3	7	0	10	0	6	3	3½
A17	Str	32	6	11	2	" Wall								
A18	"	36	6	10	3	" "								
A19	"	34	6	3	10	" "								
A20	⌒	32	6	11	3	" "	1	4	5	0				
A21	"	7	6	11	0	" "	1	8	4	10½				
A22	"	7	6	10	8	" "	1	4	4	7				
A23	"	7	6	3	10	" "	1	4	4	3½				
A24	"	7	6	9	3	" "	1	4	4	0				
A25	"	7	6	8	4	" "	1	4	3	0½				
A26	"	7	6	8	1	" "	1	4	3	5				
A27	"	7	6	7	6	" "	1	4	3	1½				
A28	"	7	6	6	1	" "	1	4	2	8½				
A29	"	4	5	6	3	" "	1	4	4	3				
A30	⌒	22	6	20	7	Wing Barrier	13	0	1	2				
A31	Str	6	6	13	0	" Wall								
A32	"	4	6	12	0	Wing Wall								
A33	"	4	6	16	5	" "								
A34	"	4	6	18	3	" "								
A35	⌒	32	6	0	6	" "								
A36	⌒	20	6	8	0	" "								
A37	Str	4	6	4	0	" "								
A38	⌒	4	5	3	11	" "	7	11	1	0	0	3¾	0	11½
A39	⌒	32	6	6	0	" "	1	0	5	0				
A40	"	24	6	4	3	" "	1	0	3	3				
A41	Str	16	6	3	6	Wing Barrier								

ABUTMENT 2

Mark	Type	No. of Bars	Size	Length Ft	Length in	Location	a Ft	a in	b Ft	b in	c Ft	c in	d Ft	d in
A1	⌒	90	5	10	11	Cap	2	2	2	8				
A2	Str.	8	7	28	11	"								
A3	"	14	5	28	11	Cap & Wall								
A4	⌒	13	5	11	7	Apron	0	8	6	6				
A5	Str	2	7	12	8	"								
A6	⌒	29	5	13	9	Back Wall	0	8	6	7				
A7	"	12	5	4	8	Brg. Pad	1	5	1	8				
A8	Str.	12	5	2	2	" "								
A9	"	6	5	3	8	Shear Key								
A10	⌒	10	5	7	3	" "	1	0	3	3				
A11	"	1	5	10	1	Apron	0	8						
A12	"	1	5	7	7	"	0	8						
A13	"	1	5	5	1	"	0	8						
A14	Str.	8	5	13	6	"								
A15	"	8	5	14	5	"								
A16	"	8	5	15	1	"								
A17	"	8	5	13	10	"								
A18	Str.	20	5	7	3	"								
A19	⌒	2	5	11	8	"	0	8	6	7				
		NOT USED												
A21	⌒	8	5	7	2		6	1	1	4	1	0¾	0	9¾
		NOT USED												
A23	⌒	28	6	7	2	Footing	3	2	1	0	0	6	3	8
A24	"	12	6	18	2	"	13	2	1	0	0	6	13	8
A25	Str.	6	5	13	8	"								
A26	"	14	5	6	8	"								
A27	⌒	4	8	8	4	Column Dowels	6	10	1	6	0	8	7	2
A28	⌒	8	5	11	7	" "	1	8	6	0				
A29	Str.	4	6	19	6	Column								
A30	"	2	5	2	6	"								
A31	"	2	5	4	11	"								
A32	"	2	5	7	5	"								
A33	"	2	5	9	10	"								
A34	"	2	5	12	3	"								
A35	"	2	5	14	8	"								
A36	"	4	5	17	10	"								
A37	–					Not Used								
A38	Str	4	8	18	7	Column								
A39	⌒	1	5	88	1	Column Ties	1	8	3	0				
A40	⌒	1	5	81	3	" "	1	8	8	7				
A41	⌒	1	5	80	3	" "	1	8	8	2				
A42	⌒	1	5	19	6	" "	1	8	7	8½				
A43	⌒	1	5	18	8	" "	1	8	7	3½				
A44	⌒	1	5	17	10	" "	1	8	6	10½				
A45	⌒	1	5	17	0	" "	1	8	6	3½				
A46	⌒	1	5	16	1	" "	1	8	6	0				
A47	⌒	1	5	15	3	" "	1	8	5	7				
A48	⌒	1	5	14	3	" "	1	8	5	2				
A49	⌒	1	5	13	7	" "	1	8	4	9				
A50	⌒	1	5	12	3	" "	1	8	4	4				
A51	⌒	1	5	11	10	" "	1	8	3	10½				
A52	⌒	1	5	10	11	" "	1	8	3	5				
A53	⌒	1	5	10	1	" "	1	8	3	0				
A54	⌒	1	5	9	3	" "	1	8	2	7				
A55	⌒	1	5	8	6	Column Ties	1	8	2	2				
A56	Str.	4	6	5	6	Column Dowels								
A57	"	18	5	9	10	Wing Footing								
A58	⌒	10	5	10	3	" "	2	4	2	8				
A59	⌒	18	5	8	4	Wing Walls	0	8¾	3	10				
A60	⌒	92	5	12	10	" "	0	8¾	6	1				
A61	⌒	20	5	16	0	" "	13	10	1	2	0	6¾	0	11½
A62	⌒	88	5	4	6	" "								
A63	Str.	4	6	12	0	" "								
A64	⌒	82	5	8	7	Barrier								
A65	⌒	10	4	13	0	Barrier	13	10	1	2	0	6¾	0	11½



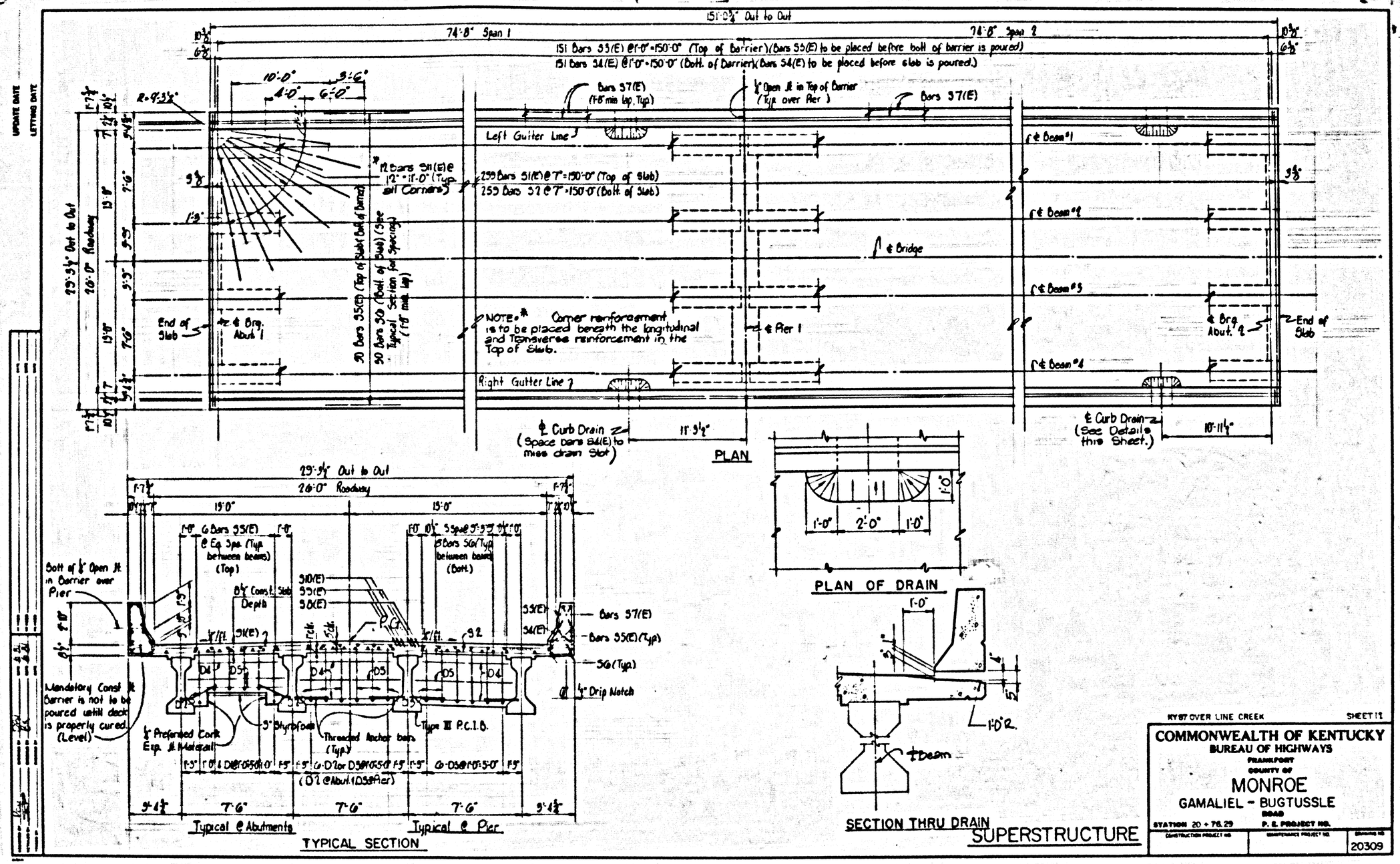
KY. 87 OVER LINE CREEK

SHEET 11

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL - BUGTUSSLE
ROAD
STATION 20 + 78.29
P. E. PROJECT NO.

CONSTRUCTION PROJECT NO | MAINTENANCE PROJECT NO | DRAWING NO 20309

SUBSTRUCTURE REINFORCEMENT



UPDATE DATE

LETTING DATE

KY 87 OVER LINE CREEK

SHEET 12

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL - BUGTUSSLE
ROAD

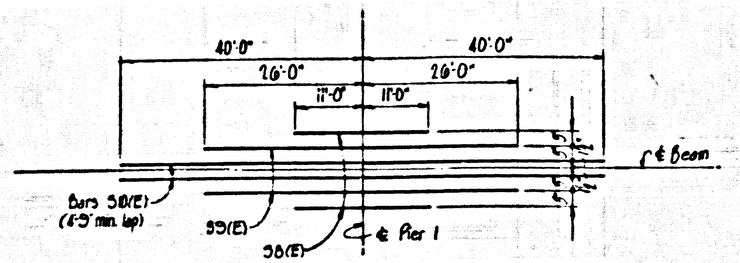
STATION 20 + 76.29

P. E. PROJECT NO.

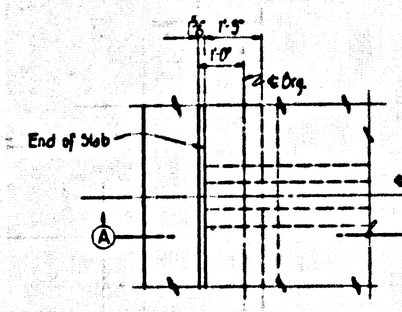
CONSTRUCTION PROJECT NO

MAINTENANCE PROJECT NO

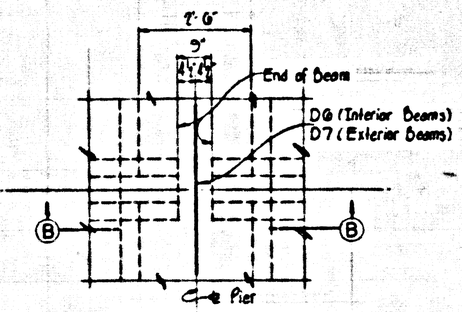
DRAWING NO 20309



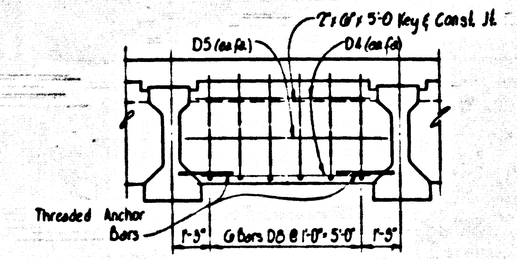
SCHEMATIC PLAN OF NEGATIVE REINFORCEMENT



PART PLAN AT ABUT.



PART PLAN AT PIER

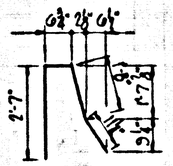


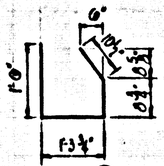
ELEVATION OF INTERMEDIATE DIAPHRAGM

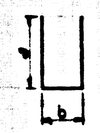
BILL OF REINFORCEMENT

Mark	Type	No	Size	Length Ft.	Length in.	Location	d Ft.	d in.	b Ft.	b in.
S1(E)	Str.	255	5	19	0	Slab (Transv.) (Top)				
S1	"	255	4	19	0	" " (Bott.)				
S3(E)	①	302	5	5	0	Barrier (Top)				
S4(E)	②	302	5	4	4	" (Bott.)				
S5(E)	Str.	120	4	55	0	Slab (Longit.) (Top)				
S6	"	120	4	55	0	" " (Bott.)				
S7(E)	"	32	4	30	7	Barrier (Longit.)				
S8(E)	"	8	11	22	0	Neg. Reinforcement over Bent #1				
S9(E)	"	8	11	52	0	" " " "				
S10(E)	"	16	11	42	5	" " " "				
S11(E)	"	48	6	10	0	Slab (Corner Reinf.)				
D1	③	10	5	5	9	Diaphragms @ Abut.	2	5	1	0
D2	"	20	5	7	5	" "	2	5	1	0
D3	"	10	5	9	0	" " Pier	3	5	2	3
D4	Str.	52	5	5	6	"				
D5	"	38	5	9	8	"				
D6	"	6	6	5	0	" @ Pier				
D7	"	6	6	9	0	" "				
D8	③	56	5	7	6	" (Inter.)	2	5	0	7

NOTE: Reinforcing Bars designated with suffix (E) in plans to be Epoxy coated in accordance with Special Provision #50(73).

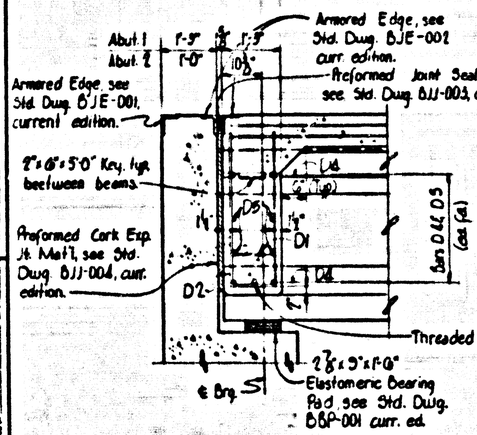




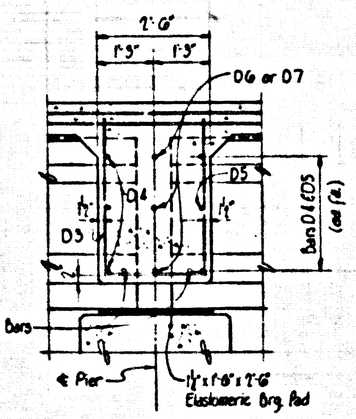


ESTIMATE OF QUANTITIES

Concrete, Class AA	171.6	Cu. Yds.
Steel Reinforcement	9614	Lbs.
Epoxy Coated Steel Reinforcement	22,407	Lbs.

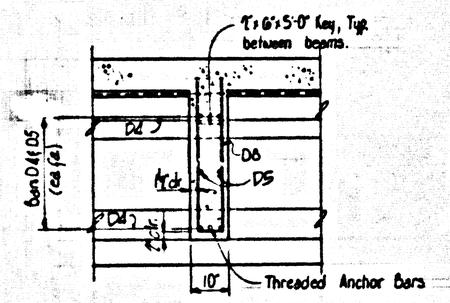


SECTION A-A



NOTE: Diaphragm at piers to be poured monolithic with slab.

SECTION B-B

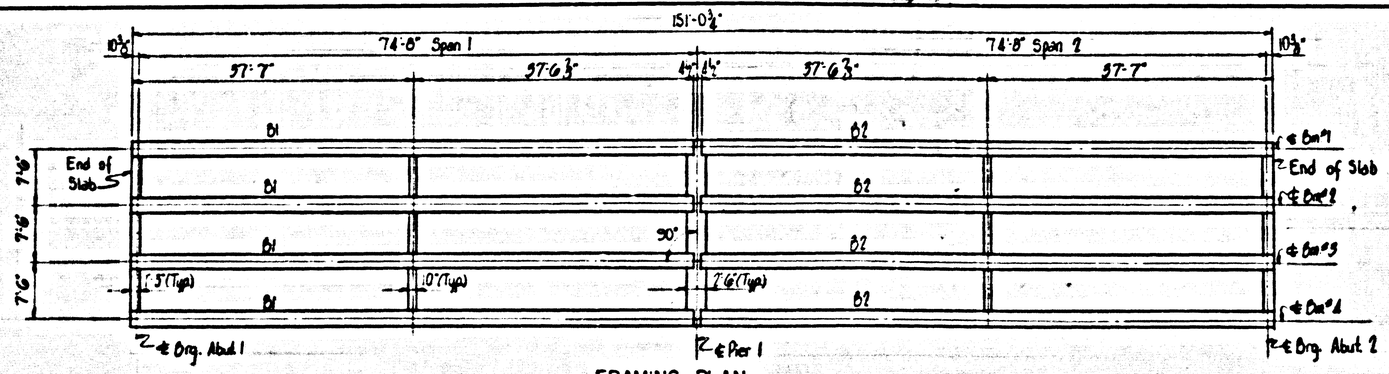


TYPICAL SECTION THRU INTERMEDIATE DIAPHRAGM

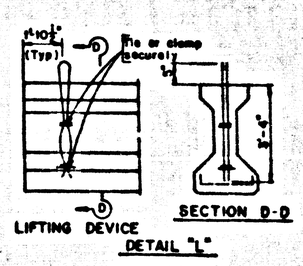
SUPERSTRUCTURE

KY 87 OVER LINE CREEK — SHEET 19

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL - BUGTUSSLE
ROAD
STATION 20 + 76.29
R. E. PROJECT NO.
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 20309

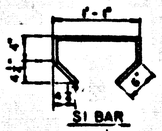


FRAMING PLAN

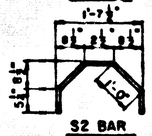


DETAIL "L"

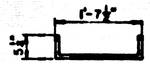
NOTE: Lifting shall be by equal loads to each pair of loops



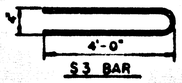
S1 BAR



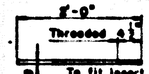
S2 BAR



S2A BAR

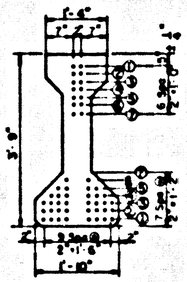


S3 BAR



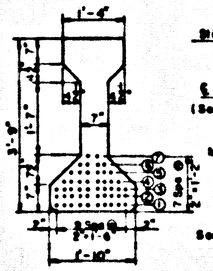
Incidental to Prestressed Concrete I Beams

THREADED ANCHOR BAR DETAIL



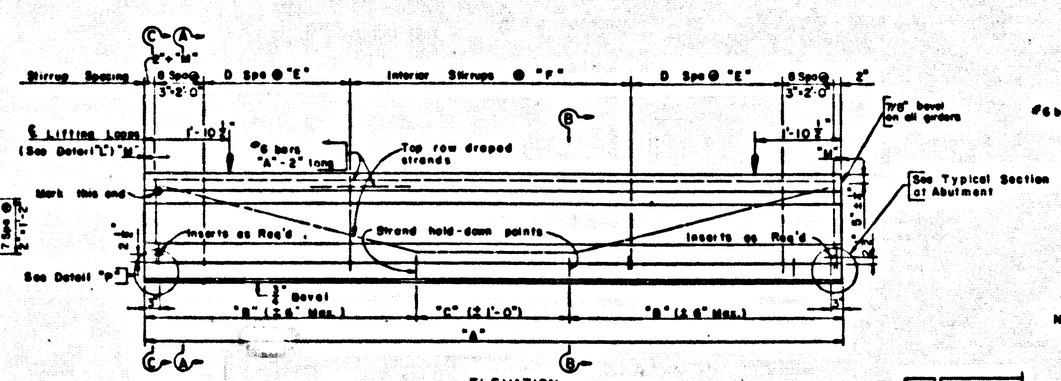
TYPE IV 45" BEAM

SECTION A-A

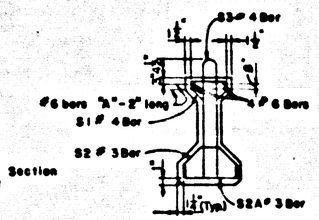


TYPE III 45" BEAM

SECTION B-B



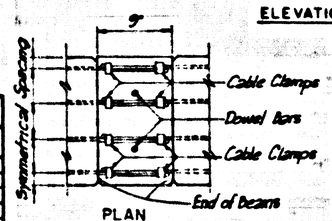
ELEVATION



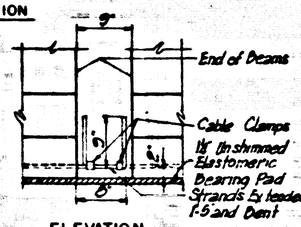
SECTION C-C

Typical Section showing Steel Reinforcement

NOTE: Wire mesh may be substituted for stirrups shown, provided that an equivalent area of steel is furnished.



PLAN

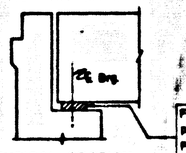


ELEVATION

(Strand Splice Detail)

DETAIL "P"

(Typical at Piers)



TYPICAL SECTION OF ABUTMENT

(Showing Elastomeric Brg. Pad)

For details and specifications pertaining to Elastomeric Bearing Pads, see Standard Drawing BBP-001, current edition.

NOTE: Elastomeric Bearing Pads are incidental to Prestressed Beams.

* These Dimensions Given on ℄ of Beams

BEAM DIMENSIONS *

MARK	NO REQD	DIMENSIONS A	B	C	D	E	F			M		APPROX WEIGHT EACH
B1	4	72 1/8"	15 0 3/4"	15 0 3/4"	5	11"	15"			11"		4,520 #
B2	7	72 1/8"	15 0 3/4"	15 0 3/4"	5	11"	15"			11"		4,520 #

NUMBER OF 1/2 Ø-7 WIRE STRANDS IN INDICATED ROW

MARK	MIDSPAN (SECTION B-B) BOTTOM (1)	(2)	(3)	(4)	(5)	(6)	(7)	END (SECTION A-A) BOTTOM (1)	(2)	(3)	(4)	(5)	(6)	(7)	TOP (1)	(2)	(3)	(4)	(5)	TOTAL NO	INITIAL PRESTRESS FORCE / STRAND (lbs)
B1	10	10	4	2	2			8	8	2					2	2	2	2	2	78	26,235
B2	10	10	4	2	2			8	8	2					2	2	2	2	2	78	26,235

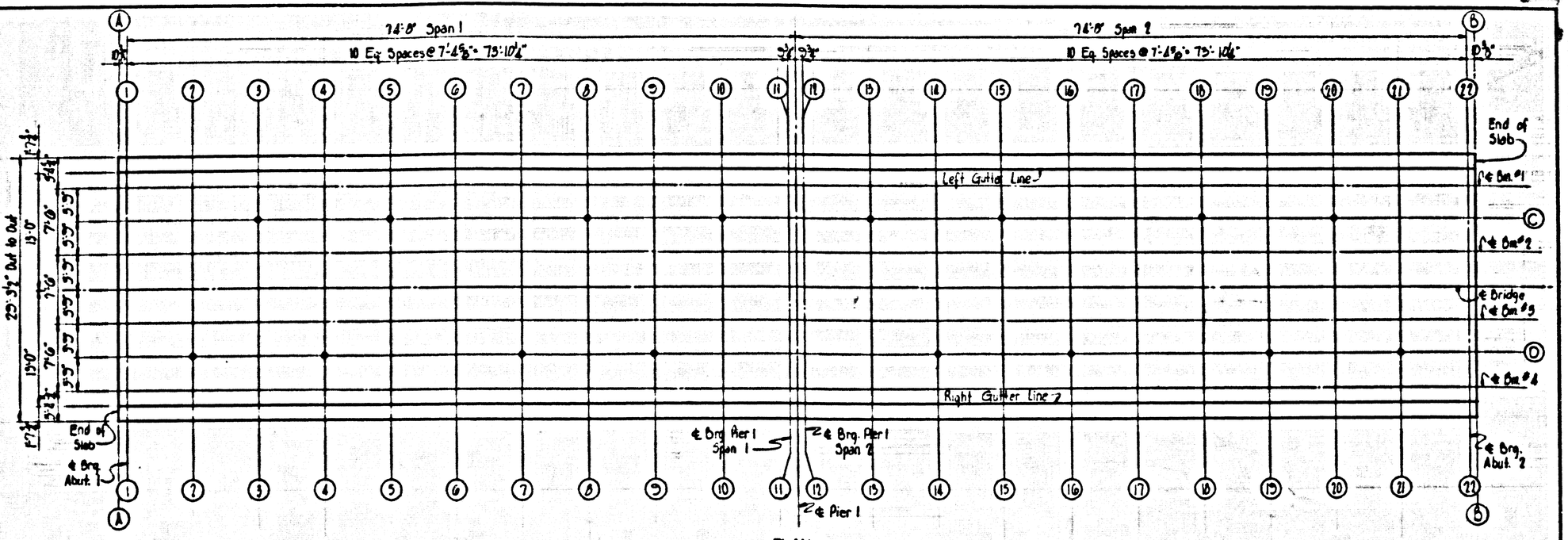
PRESTRESSED-CONCRETE I BEAM
TYPE III DETAILS
SUPERSTRUCTURE

KY 87 OVER LINE CREEK

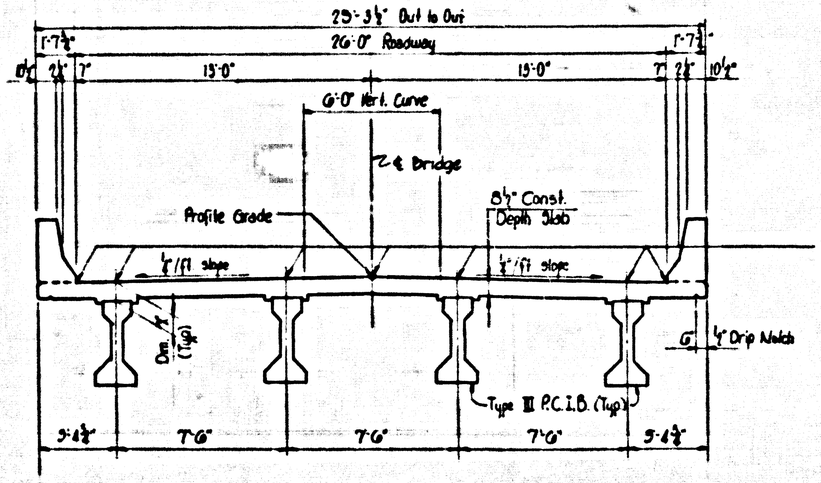
SHEET 18

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL - BUGTUSSLE
ROAD
STATION 20 + 76.29
P. E. PROJECT NO.
CONSTRUCTION PROJECT NO.
MAINTENANCE PROJECT NO.
DRAWING NO. 20309

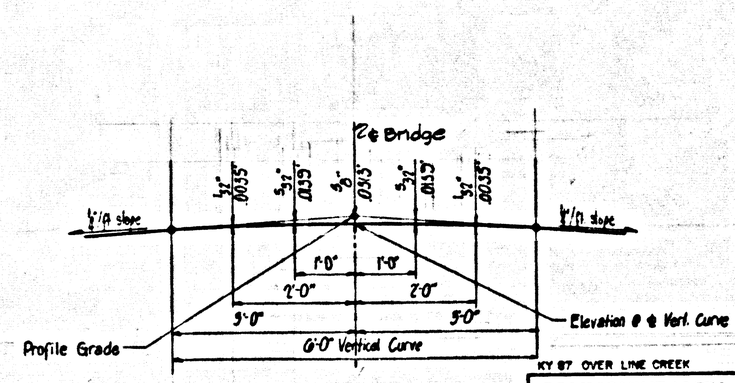
UPDATE DATE
LETTING DATE



PLAN



TYPICAL SECTION



PARABOLIC CROWN

ELEVATIONS

KY 87 OVER LINE CREEK

SHEET 15

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL - BUGTUSSLE
ROAD
STATION 20 + 76.29
P. E. PROJECT NO.
CONSTRUCTION PROJECT NO.
MAINTENANCE PROJECT NO.
DRAWING NO. 20309

UPDATE DATE
LETTING DATE

TABLE OF ELEVATION

Line	Left Gutter Line	Beam #1 Constr. Elev.	Beam #1 Top of Beam	Beam #1 Dim. 'X'	Beam #2 Constr. Elev.	Beam #2 Top of Beam	Beam #2 Dim. 'X'	℄ V.C. & ℄ New Survey	Beam #3 Constr. Elev.	Beam #3 Top of Beam	Beam #3 Dim. 'X'	Beam #4 Const. Elev.	Beam #4 Top of Beam	Beam #4 Dim. 'X'	Right Gutter Line
A-A	491.923	491.960			492.116			492.163	492.116			491.960			491.923
B-B	.172	.208			491.365			491.412	491.365			.208			.172
1-1	491.921	491.957			492.114			492.161	492.114			491.957			491.921
2-2	.916	.953			.109			.156	.109			.953			.916
3-3	.903	.940			.096			.143	.096			.940			.903
4-4	.884	.921			.077			.124	.077			.921			.884
5-5	.857	.894			.050			.097	.050			.894			.857
6-6	.824	.861			.017			.064	.017			.861			.824
7-7	.783	.820			491.976			.023	491.976			.820			.783
8-8	.737	.773			.929			491.976	.929			.773			.737
9-9	.682	.718			.874			.921	.874			.718			.682
10-10	.621	.657			.813			.860	.813			.657			.621
11-11	.552	.588			.744			.791	.744			.588			.552
12-12	.544	.580			.736			.783	.736			.580			.544
13-13	.539	.575			.731			.778	.731			.575			.539
14-14	.526	.562			.719			.765	.719			.562			.526
15-15	.507	.543			.700			.746	.700			.543			.507
16-16	.480	.516			.673			.720	.673			.516			.480
17-17	.447	.483			.640			.687	.640			.483			.447
18-18	.406	.443			.599			.646	.599			.443			.406
19-19	.359	.396			.552			.599	.552			.396			.359
20-20	.304	.341			.497			.544	.497			.341			.304
21-21	.243	.280			.436			.483	.436			.280			.243
22-22	.174	.211			.367			.414	.367			.211			.174

NOTES

ELEVATIONS FOR PRESTRESSED SPANS: Take elevations on top of beams at points indicated after the diaphragms are in place and after all falsework has been removed, but before forms for concrete slab has been put in place. Read elevations to three decimals using a target rod and enter readings in tables under Top of Beam Elevations.

COMPUTE DIMENSION 'X' AS FOLLOWS: Construction Elevation minus Top of Beam Elevation equals Dimension 'X'. Construction Elevation includes camber due to weight of concrete slab, barrier and future surfacing. Measuring of Dimension 'X' gives the final check on beam tolerances for camber, beam damage and errors in erection. For setting templates, measure Dimension 'X' above top of beam for top of template. Do not set templates by elevations. Construct barrier to gutter line grade. Do not add camber to barrier.

SLAB THICKNESS CONTROL: After the slab forms are erected and before the slab reinforcement is placed, the Resident Engineer shall take field elevations at the slab thickness check points and enter them in the table in the space provided. If the slab thickness varies more than ¼" from the plan thickness, allowing 1/360 of the slab span for deflection of the form work, the form shall be adjusted untill the computed slab thickness is within the tolerances allowed.

TABLE OF ELEVATIONS FOR CONTROL OF SLAB THICKNESS

Slab Check Point	Top of Slab Elev.	Bottom of Slab Elev.	Comp. Slab Thickness
D-2	492.031		
C-3	.018		
D-4	491.999		
C-5	.972		
D-7	.898		
C-8	.851		
D-9	.796		
C-10	.735		
C-13	.653		
D-14	.640		
C-15	.621		
D-16	.594		
C-18	.521		
D-19	.474		
C-20	.419		
D-21	.358		

UPDATE DATE

LETTING DATE

ELEVATIONS

KY 87 OVER LINE CREEK SHEET 16

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
MONROE
GAMALIEL- BUGTUSSLE
ROAD
STATION 20 + 76.29 P. E. PROJECT NO.

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 20309