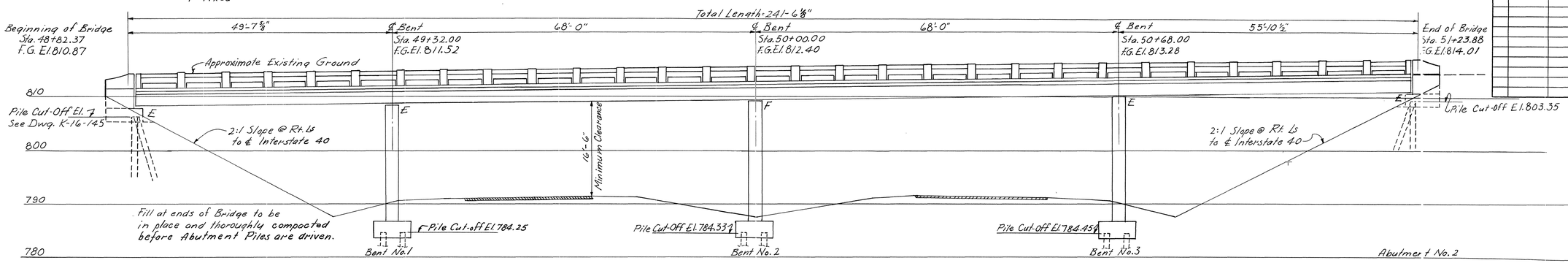
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-40-3(21)161	19	45	304

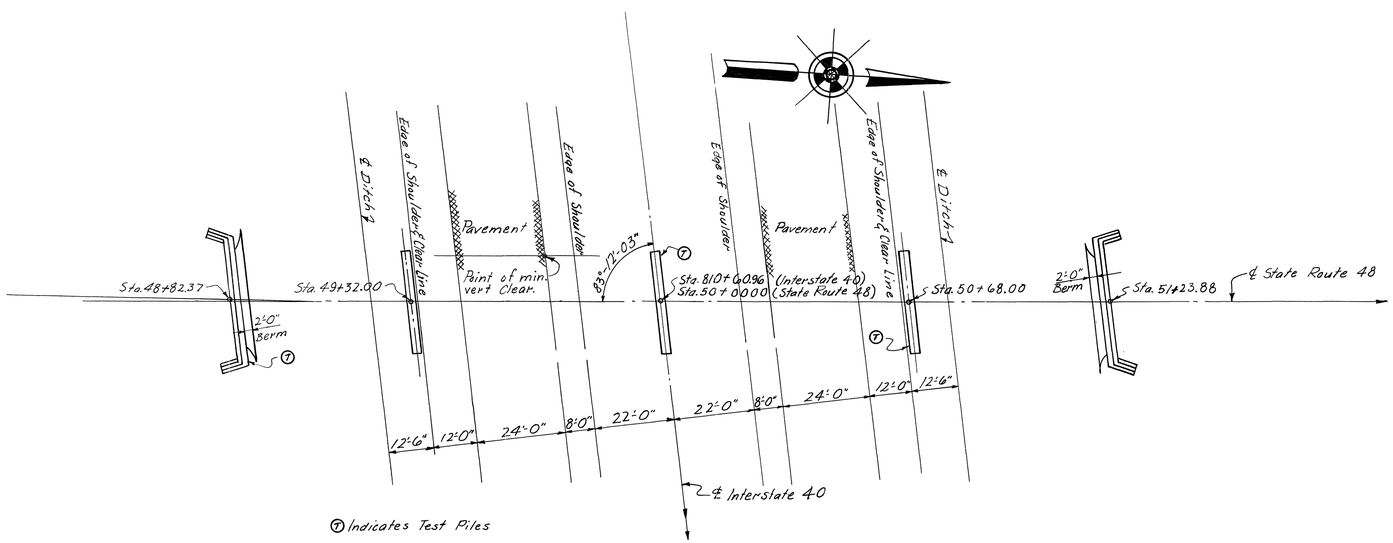
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

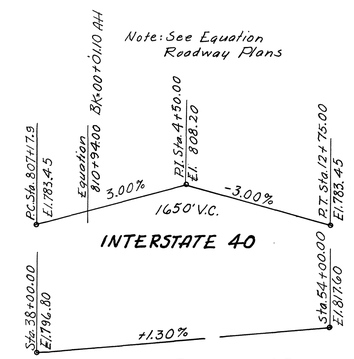
Note: E=Expansion
F=Fixed



ELEVATION AT RIGHT ANGLE TO ℄ STATE ROUTE 48



PLAN



SKETCH SHOWING GRADES

Note: Elevations shown are based on finished Grade.

GENERAL NOTES:

SPECIFICATIONS: Standard Road & Bridge Specifications of the Tennessee Department of Highways.
LOADING: H20-S16-44.
CONCRETE: To be Class "A".
REINFORCING STEEL: To be intermediate or hard grade. Standard hook details as recommended by C.R.S.I. shall apply.
STRUCTURAL STEEL: See notes on Dwg. No. K-16-143.
PILES: To be Size 1 Precast Concrete.
HIGH TENSILE BOLTS: See Notes on Dwg. No. K-16-143.
STUD WELDING: See Special Provisions.
PAINT: Basic Lead Silico Chromate: See Special Provision regarding Section 132 Steel Structures. (Painting).
SELF LUBRICATING PLATES: See Special Provisions.

SPECIAL NOTE-TEST PILES:

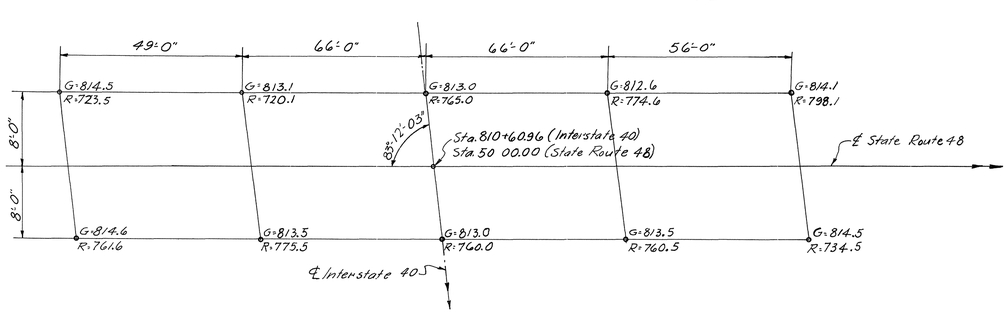
Before any piles are ordered a Precast Concrete Test Pile 40' long shall be driven in its final location in the footing of the Bents and Abutment designated on the Plan this sheet. From the results obtained Precast Concrete Piles shall be ordered of such lengths as to provide a minimum bearing of 30 tons.

HANDRAIL NOTE:

Build Handrail according to Std. Dwg. No. H-5-110 except use End Post as shown on Dwgs. K-16-145 & K-16-147. Dimensions X=0; L=6'-8⅜; Dimension "Q"=238'-11½" (+). (29 spaces).

LIST OF DRAWINGS	DWG. NO.
HANDRAIL	H-5-110
LAYOUT	K-16-141
BRIDGE GEOMETRY	K-16-142
STRUCTURAL STEEL DETAILS	K-16-143 & K-16-144
ABUTMENT NO. 1	K-16-145
ABUTMENT NO. 2	K-16-147
BENTS NO. 1, 2 & 3	K-16-146
BILL OF STEEL	K-16-148
PILES	H-5-111
BEARING DEVICES & ROADWAY EXPANSION	H-5-146

28'-0" ROADWAY WITH SAFETY CURBS



SOUNDING SKETCH

ESTIMATED QUANTITIES

Item	Dry Excavation Cu. Yds.	Concrete Class "A" Cu. Yds.	Steel – Lbs. Reinf.	Steel – Lbs. Struct.*	Concrete Handrail Lin. Ft.	Conc. Piles Size 1 Lin. Ft.	Concrete Piles Lin. Ft.
Superstructure		198.1	58 297				
Abutment No. 1		19.8	2199				
Abutment No. 2		19.8	2199				
Bent No. 1	51	21.6	3986				
Bent No. 2	35	22.0	4038				
Bent No. 3	51	22.3	4087				
Total:	137	303.6	74,806	Lump Sum	478	1100	20

*Lump Sum total estimated weight Structural Steel 143,548 Lbs. including Roadway Expansion Devices, Shear Connections and Bearing Devices.

Note: Contractor may substitute Prestressed Concrete Piles for Precast Concrete Piles.
Note: Excavation based on lower road profile.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

LAYOUT OF BRIDGE
STATE RTE. 48 over INTERSTATE 40
STA 810+60.96
DICKSON COUNTY
1962

DESIGNED BY D. Fortner DATE 2-28-62
DRAWN BY JW Sutherland DATE 3-12-62
Re TRACED BY A. Kelley DATE 5-20-69
CHECKED BY DATE

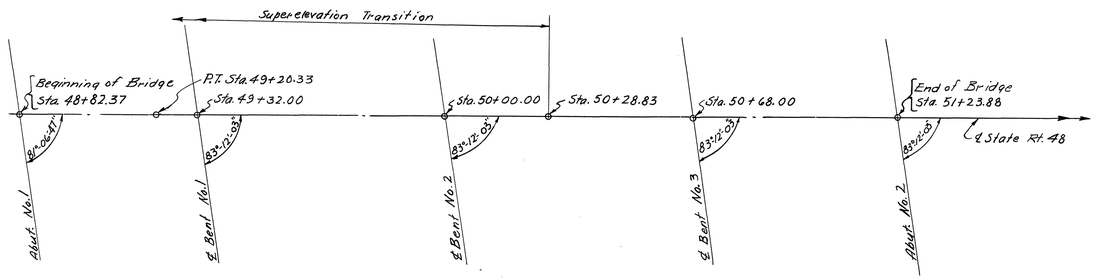
CORRECT Fred Greene BRIDGE ENGINEER
APPROVED Lee D. Long STATE HIGHWAY ENGINEER

K-16-141

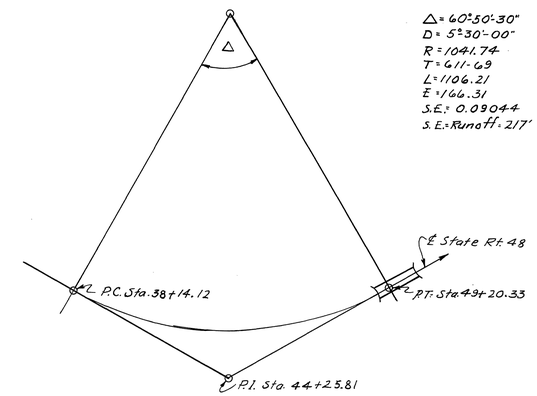
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

REVISIONS

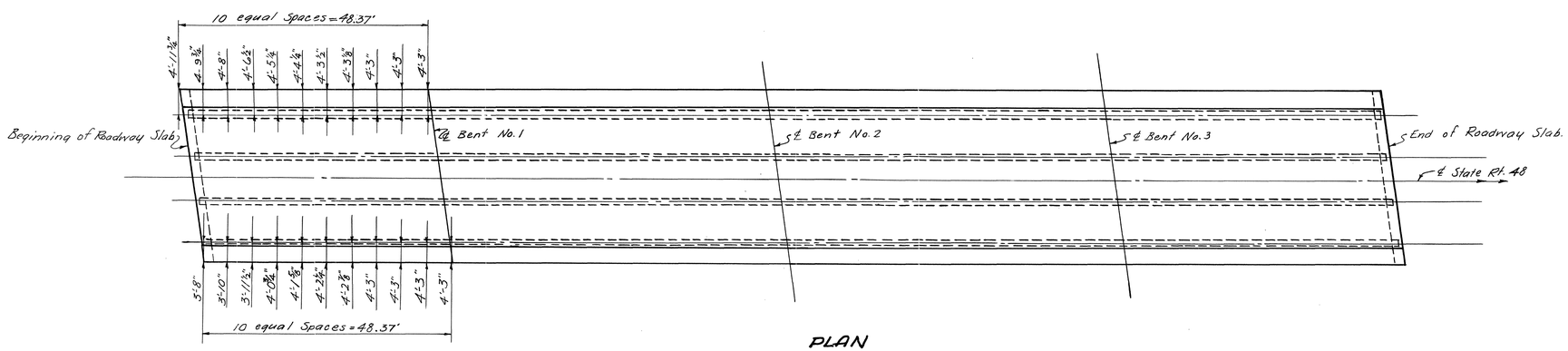
NO.	DATE	BY	BRIEF DESCRIPTION



BRIDGE LAYOUT DATA



HORIZONTAL CONTROL DATA



PLAN

Note: Beams to be built straight and curb offsets vary as shown. Curb offsets measured from ℄ exterior beam at right angles.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BRIDGE GEOMETRY
STATE RT. OVER INTERSTATE 40
STA. 810+60.96
DICKSON COUNTY
1961

CORRECT Fred Greve
BRIDGE ENGINEER

APPROVED Earl Long
STATE HIGHWAY ENGINEER

K-16-142

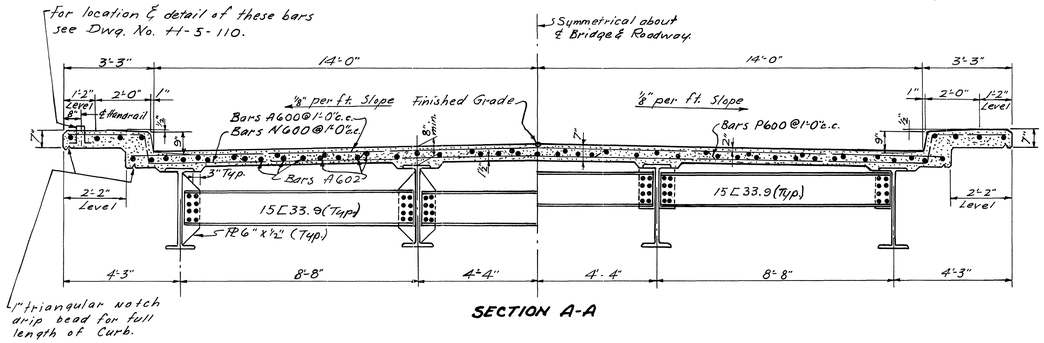
DESIGNED BY Don Fortner DATE 3-2-62
DRAWN BY Don Fortner DATE 3-20-62
RE-TRACED BY A. Kelley DATE 4-27-70
CHECKED BY DATE

MICROFILMED

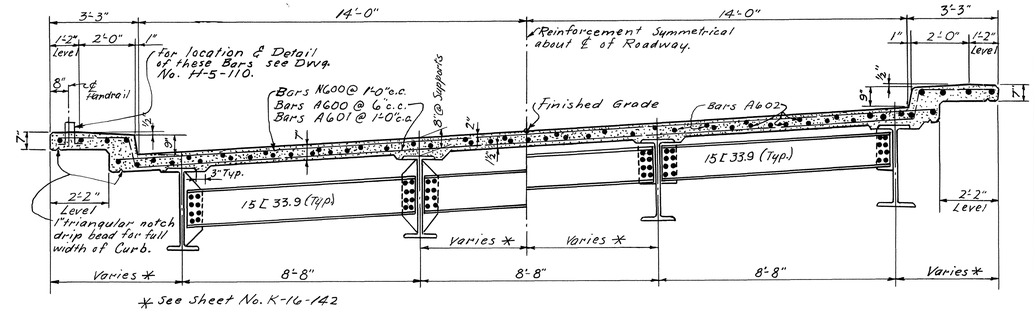
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

REVISIONS

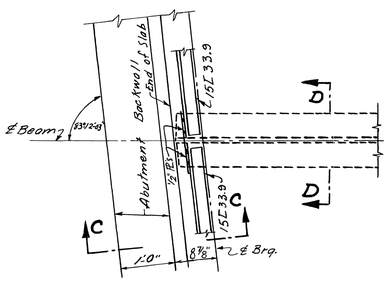
NO.	DATE	BY	BRIEF DESCRIPTION



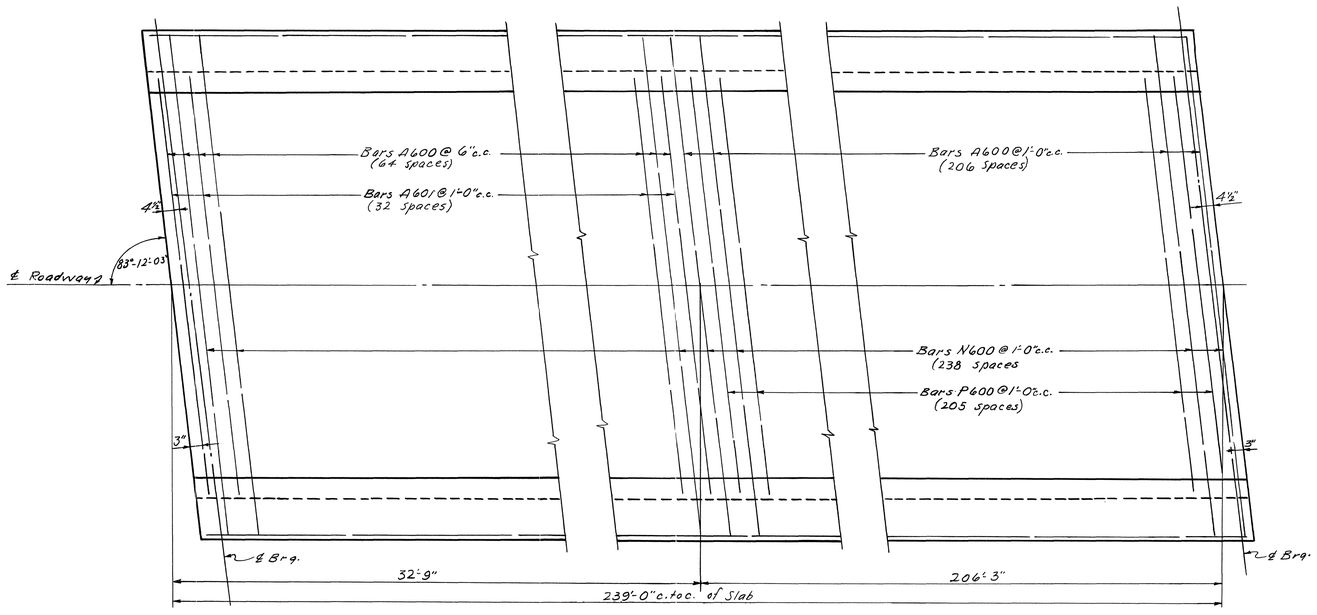
SECTION A-A



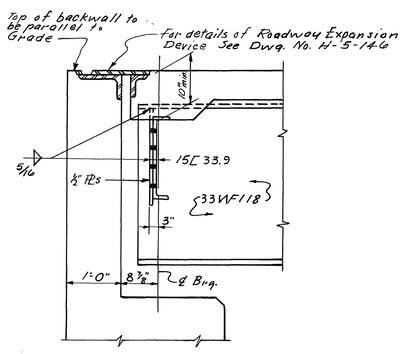
SECTION B-B



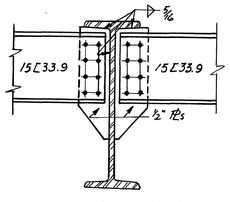
PLAN END DIAPHRAGM



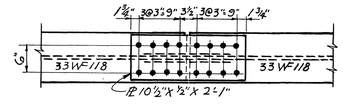
SLAB PLAN

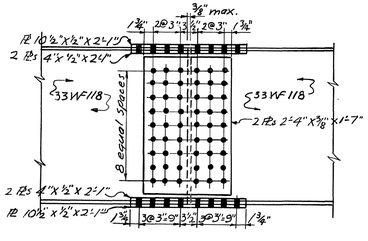


SECTION C-C
END DIAPHRAGM



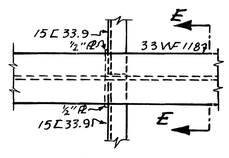
SECTION D-D
END DIAPHRAGM



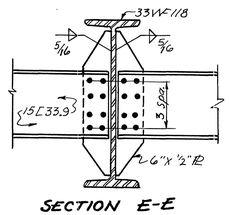


SPLICE DETAIL

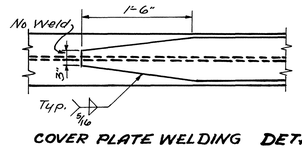
Note: Splices to be sub-punched 1/4" smaller and reamed to size and matched marked while assembled in the shop.
Note: Use fill plates as required.



PLAN INTERMEDIATE DIAPHRAGM



SECTION E-E
INTERMEDIATE DIAPHRAGM



COVER PLATE WELDING DETAIL

NOTES:

STRUCTURAL STEEL for Bearing Devices, Beams, Cover Plates & Connection Plates shall conform to A.S.T.M. A36. Structural Steel for Diaphragms and Roadway Expansion Devices shall conform to A.S.T.M. A7 unless otherwise designated.

FIELD CONNECTIONS to be made with 7/8" High Strength Bolts. See AASHO Specifications Article 2.10.20.

PAINT: Basic Lead Silico Chromate - See Special Provisions regarding Section 132 Steel Structures (painting). No paint shall be applied to the top surfaces of the top flanges.

ALL WELDING shall be in conformance with the current edition of the American Welding Society Specifications for Welded Highway and Railroad Bridges.

COVER PLATE: Lengths shown include length required to develop the full stress value.

BEARING: See Dwg. No. H-5-146. Expansion @ Abutments & Bents No. 1 & 3 use EL2, Fixed Bent No. 2 use FL2.

ROADWAY EXPANSION DEVICES: See Dwg. No. H-5-146.

CAMBER: Girders shall be cambered to compensate for dead load deflection. See Drawing No. K-16-144 for Dead Load correction diagram.

FOR GENERAL NOTES: see Dwg. No. K-16-141.

For other STRUCTURAL STEEL DETAILS, see Dwg. No. K-16-144 and H-5-146.

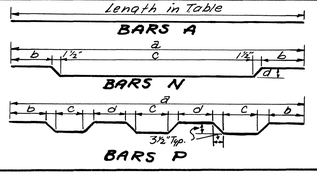
ESTIMATED QUANTITIES

Concrete - Class "A" Cu. Yds.	Reinforcing Steel Lbs.
198.1	58297

BILL OF STEEL

Bar	Location	Size	No. Req'd.	Bending Dimensions a	b	c	d	Length
A600	Slab	6	272					29'-11"
A601	Slab	6	33					28'-3"
A602	Slab & Curbs	6	472					31'-5"
N600	Slab	6	239	34'-3"	2'-9"	28'-4"	1'-1"	36'-2"
P600	Slab	6	206	29'-10 1/2"	3'-9"	4'-4"	3'-9"	30'-6"

Length in Table



STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STRUCTURAL STEEL DETAILS
STATE ROUTE 48 OVER INTERSTATE 40
STATION 810 + 60.96
DICKSON COUNTY
1962

DESIGNED BY	D.W. Fortner	DATE	3-6-62
DRAWN BY	R. B. Gentry	DATE	3-9-62
TRACED BY	A. Kelley	DATE	5-23-70
CHECKED BY		DATE	

CORRECT Fred Greve — BRIDGE ENGINEER

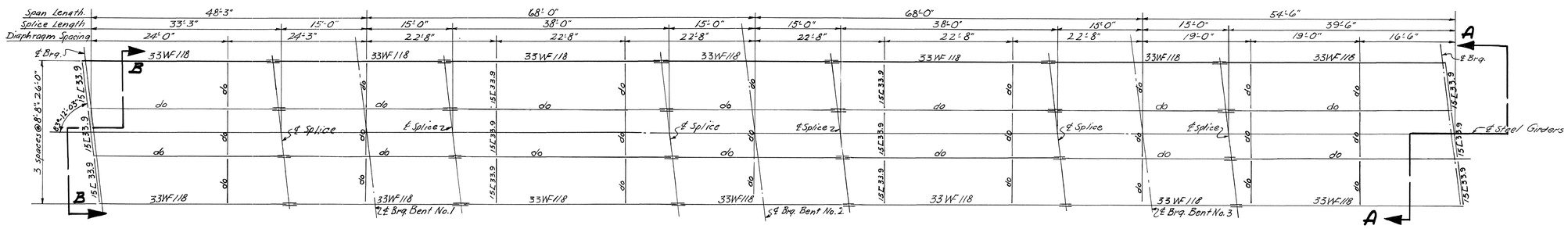
APPROVED Lee E. Long — STATE HIGHWAY ENGINEER

K-16-143

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

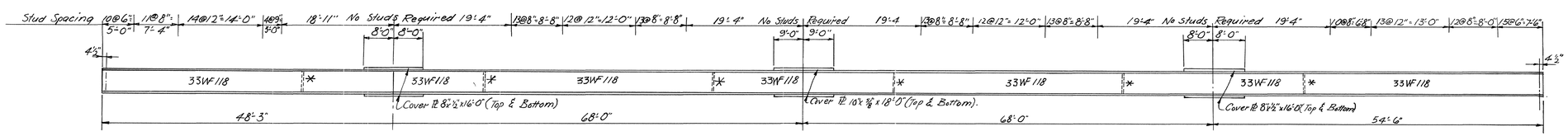
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



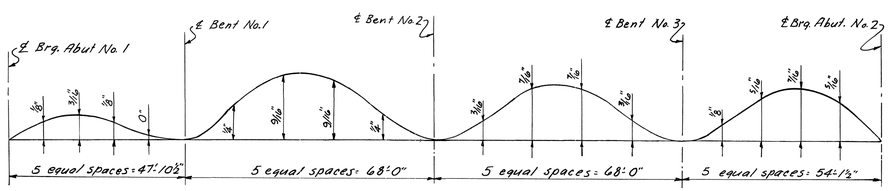
FRAMING PLAN

For Section A-A and B-B see Dwg. No. K-16-143.



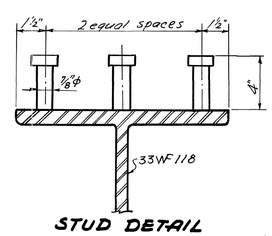
BEAM ELEVATION

✳ Note: These field Splices are optional.



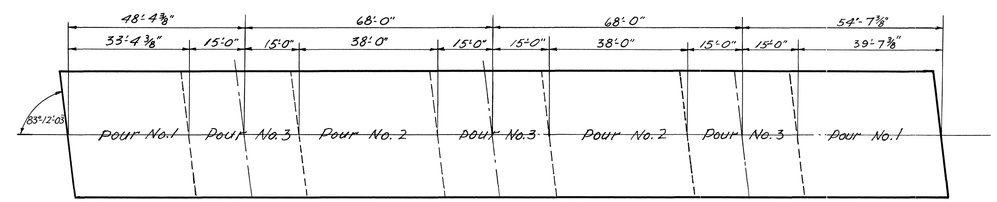
DEAD LOAD CORRECTION DIAGRAM

Note: Same for all Beams.
Note: See Camber Note on Dwg. No. K-16-143.



STUD DETAIL

Note: Studs shall be placed in sets of 3 and spaced as shown on this sheet. Studs shall be solid or granular fluxed and automatically end welded to the Beams. See Special Provision regarding Stud Welding.



POURING SCHEDULE

Note: All pours to be made in numerical sequence. All pours with the same number designation may be made simultaneously.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STRUCTURAL STEEL DETAILS

STATE ROUTE 48 OVER I-40
STA. 810+60.96
DICKSON COUNTY

1962

DESIGNED BY Don Fortner DATE 4-8-62
DRAWN BY G. Mullican DATE 4-8-62
TRACED BY A. Kelley DATE 5-25-70
CHECKED BY DATE

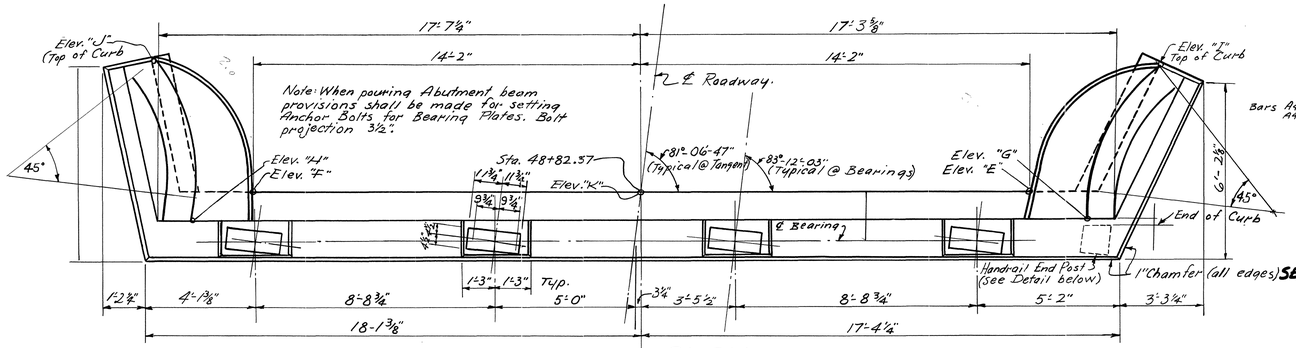
CORRECT Fred Grove BRIDGE ENGINEER
APPROVED Earl Long STATE HIGHWAY ENGINEER

K-16-144

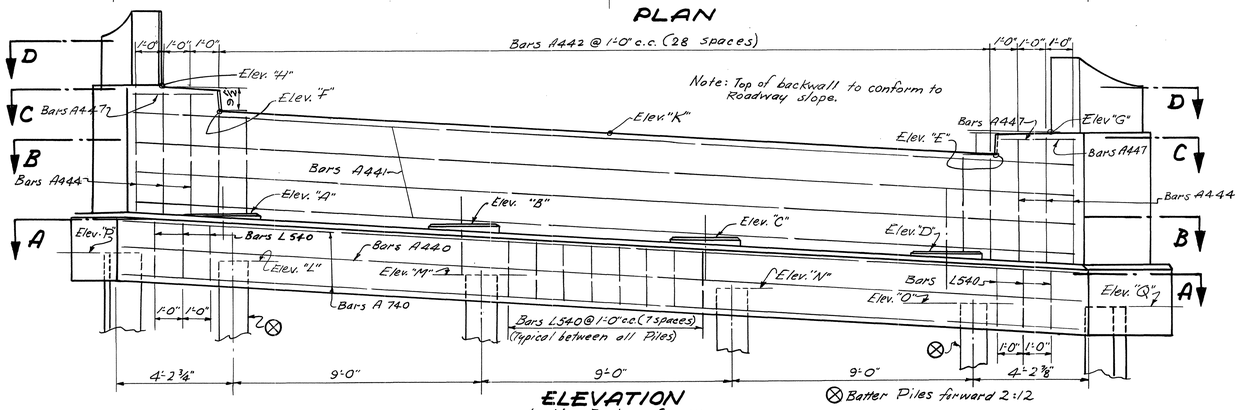
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

REVISIONS

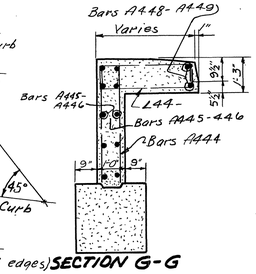
NO.	DATE	BY	BRIEF DESCRIPTION
	5-3-62		Revised.



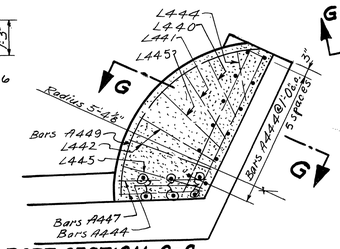
PLAN



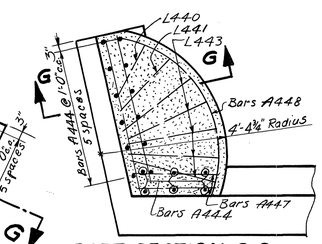
ELEVATION
Looking Back on Survey



SECTION G-G

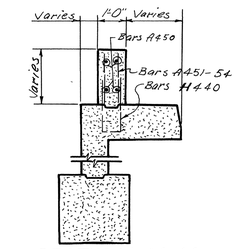


PART SECTION C-C
Showing Reinforcement in curb.

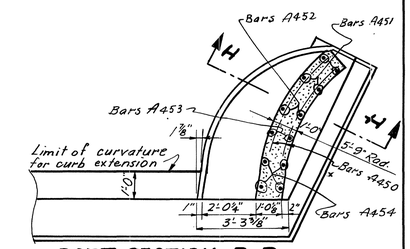


PART SECTION C-C
Showing Reinforcement in curb.

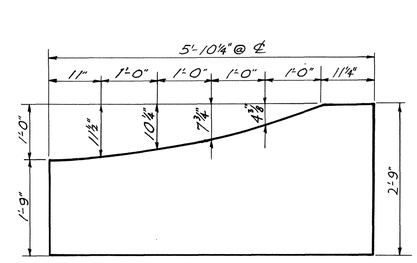
PART SECTION D-D
Showing Reinforcement in Wingpost



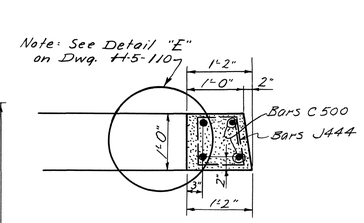
SECTION H-H



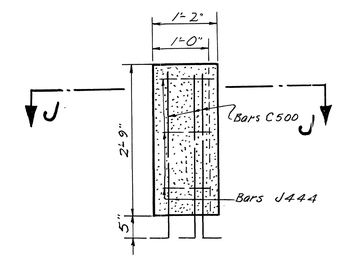
PART SECTION D-D
Showing Reinforcement in Wingpost.



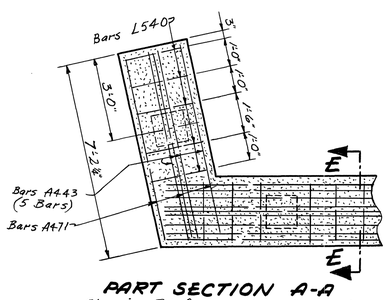
WINGPOST DEVELOPED



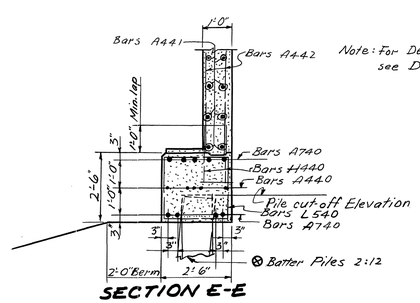
SECTION J-J



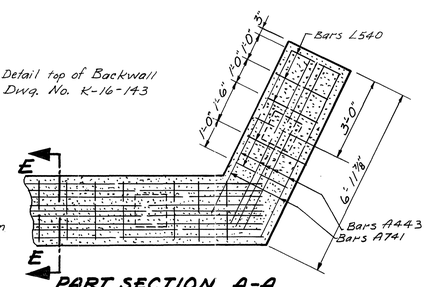
ELEVATION HANDRAIL END POST



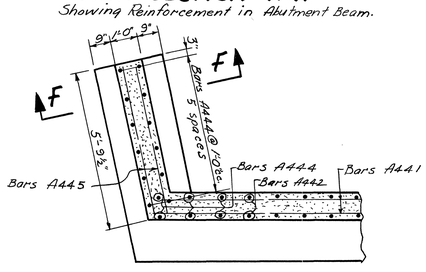
PART SECTION A-A
Showing Reinforcement in Abutment Beam.



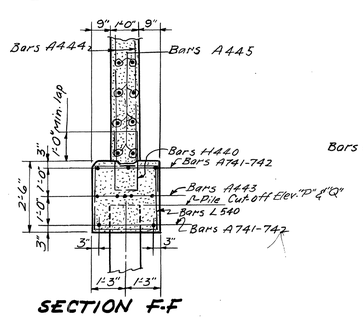
SECTION E-E



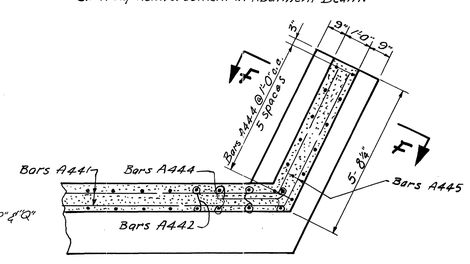
PART SECTION A-A
Showing Reinforcement in Abutment Beam.



PART SECTION B-B
Showing Reinforcement in Wingwall.



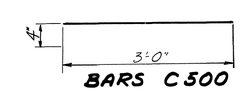
SECTION F-F



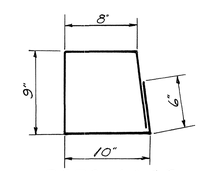
PART SECTION B-B
Showing Reinforcement in Wingwall.

ELEVATIONS

A	B	C	D	E	F	G	H
807.96	807.48	806.96	806.44	810.02	811.68	810.82	812.50
I	J	K	L	M	N	O	P	Q
810.71	812.46	810.87	806.29	805.78	805.29	804.77	806.53	804.53



BARS C500



BARS J445

ENDPOST-LIST OF MATERIALS-EACH

Bar	Size	No.	Length	QUANTITIES CONCRETE Class "A" Cu. Yds.	QUANTITIES Reinforcing Steel Lbs.
C500	5	4	3'-4"	.12	21
J444	4	3	3'-6"		

ESTIMATED QUANTITIES *

Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs.
19.8	2199

* Includes End Post Quantities.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ABUTMENT NO. 1
STATE ROUTE 48 OVER INTERSTATE 40
STATION 810+60.96
DICKSON COUNTY
1962

CORRECT: Fred Greve — BRIDGE ENGINEER
APPROVED: [illegible] — STATE HIGHWAY ENGINEER

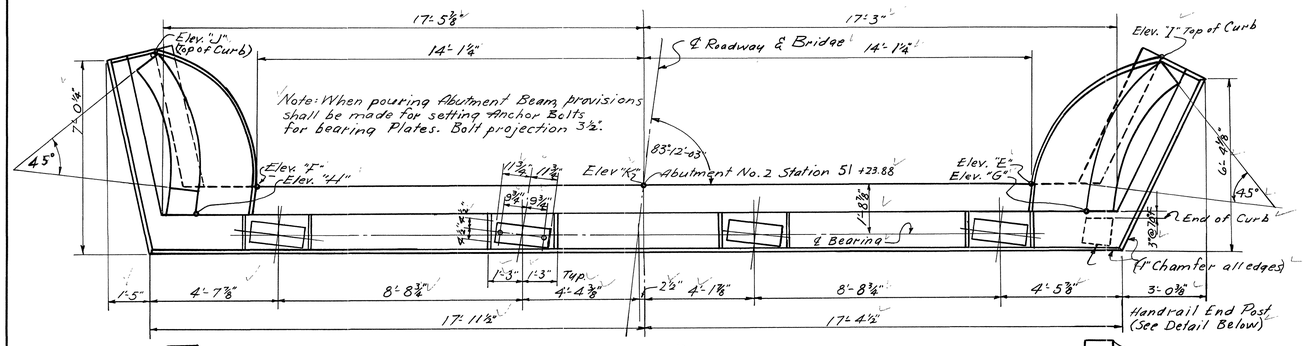
DESIGNED BY: Don Fortner — DATE: — 62
DRAWN BY: Kenneth Litton — DATE: 3-14-63
TRACED BY: A. Kelley — DATE: 6-3-70
CHECKED BY: — DATE:

K-16-145

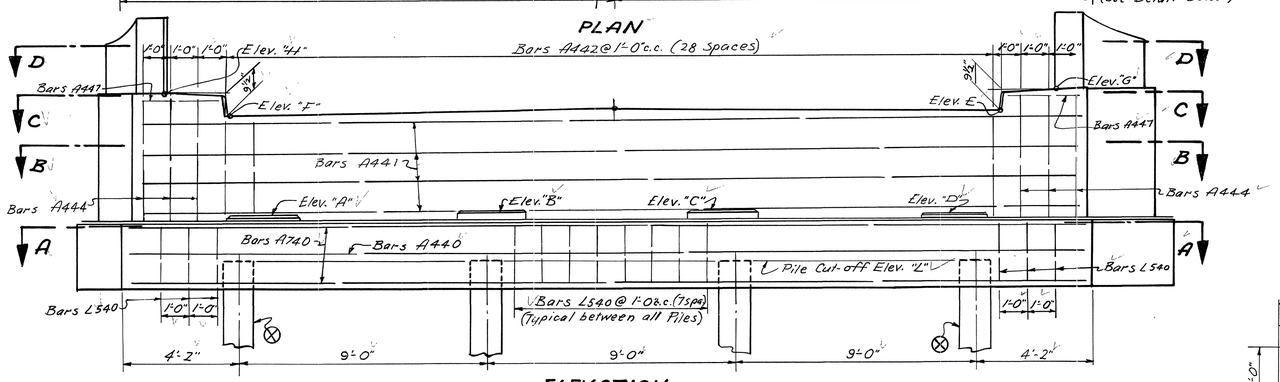
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
	5-3-62	—	Revised.



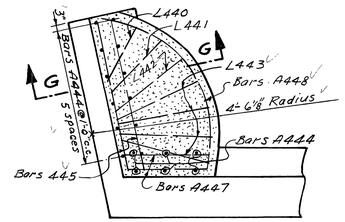
PLAN



ELEVATION

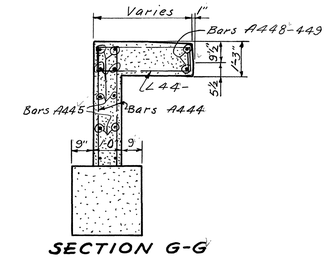
Note: Looking forward on Survey.

⊗ Batter forward 2:12

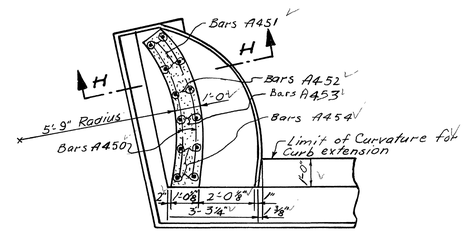


PART SECTION C-C

Showing Reinforcement in Curb

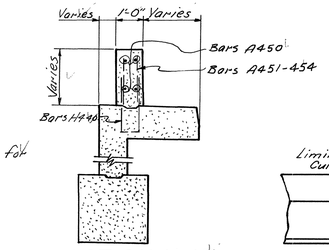


SECTION G-G

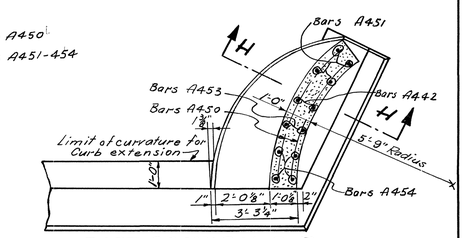


PART SECTION D-D

Showing Reinforcement in Wingpost

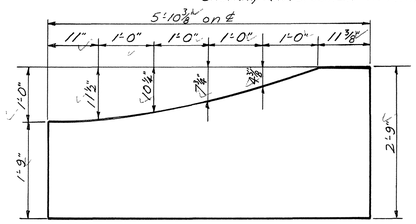


SECTION H-H

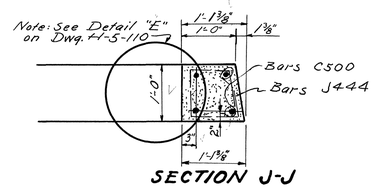


PART SECTION D-D

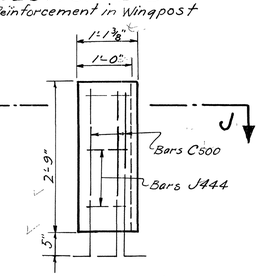
Showing Reinforcement in Wingpost



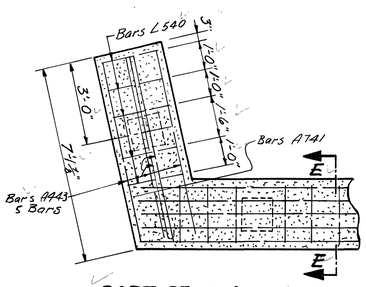
WINGPOST DEVELOPED



SECTION J-J

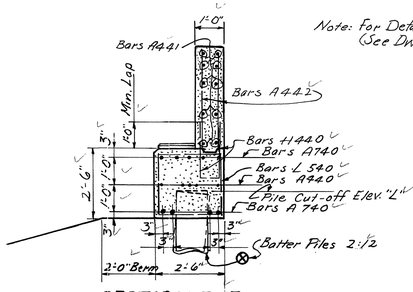


ELEVATION HANDRAIL ENDPOST



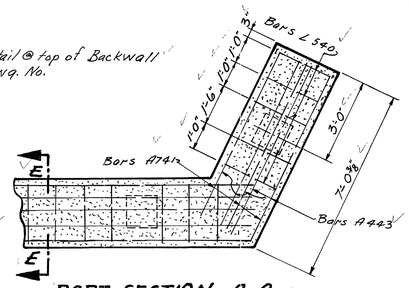
PART SECTION A-A

Section Showing Reinforcement in Abutment Beam.



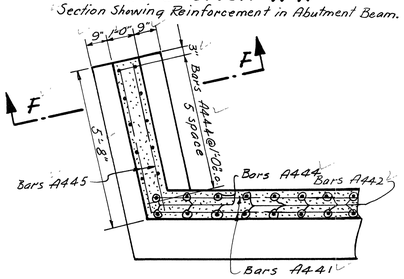
SECTION E-E

Note: For Detail @ top of Backwall (See Dwg. No.



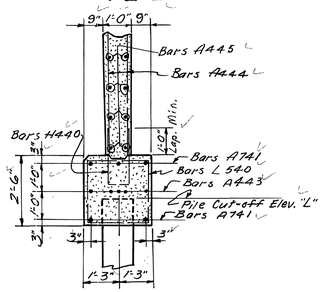
PART SECTION A-A

Showing Reinforcement in Abutment Beam.

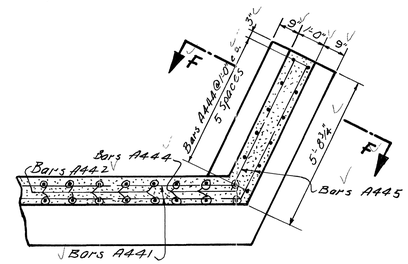


PART SECTION B-B

Showing Reinforcement in Wingwall.



SECTION F-F

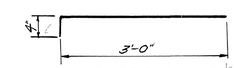


PART SECTION B-B

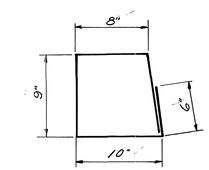
Showing Reinforcement in Wingwall.

ENDPOST-LIST OF MATERIALS-EACH

BAR	SIZE	NO.	LENGTH	QUANTITIES Concrete Class "A" Cu. Yds.	QUANTITIES Reinforcing Steel Lbs.
C500	5	4	3'-4"	.11	21
J444	4	3	3'-6"		



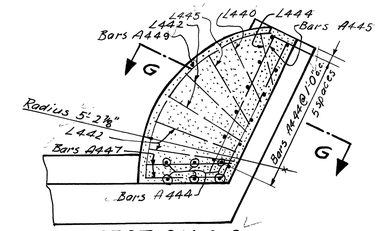
BARS C500



BAR J444

ESTIMATED QUANTITIES

Concrete Class "A" Cu.Yds.	Reinforcing Steel Lbs.
19.8	2199



PART SECTION C-C

Showing Reinforcement in Curbs.

ELEVATIONS

A	B	C	D	E	F	G	H	I	J	K	L
810.12	810.22	810.23	810.16	813.88	813.84	814.66	814.61	814.75	814.69	814.01	808.35

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ABUTMENT NO. 2
STATE ROUTE 48 OVER INTERSTATE 40
STATION 810+60.96
DICKSON COUNTY
1962

DESIGNED BY	Don Fortner	DATE	3-4-62
DRAWN BY	Kenneth Litton	DATE	3-7-62
TRACED BY	A. Kelsey	DATE	7-21-70
CHECKED BY	Don Fortner	DATE	3-21-62

CORRECT: Fred Greene — BRIDGE ENGINEER

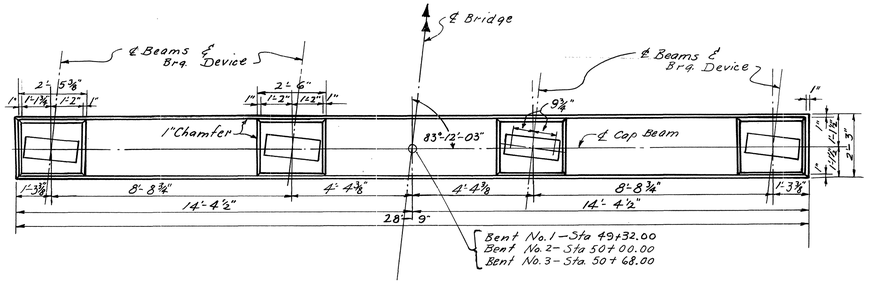
APPROVED: [signature] — STATE HIGHWAY ENGINEER

K-16-147

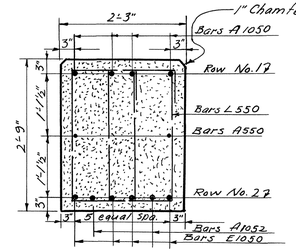
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

REVISIONS

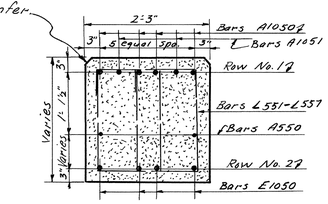
NO.	DATE	BY	BRIEF DESCRIPTION



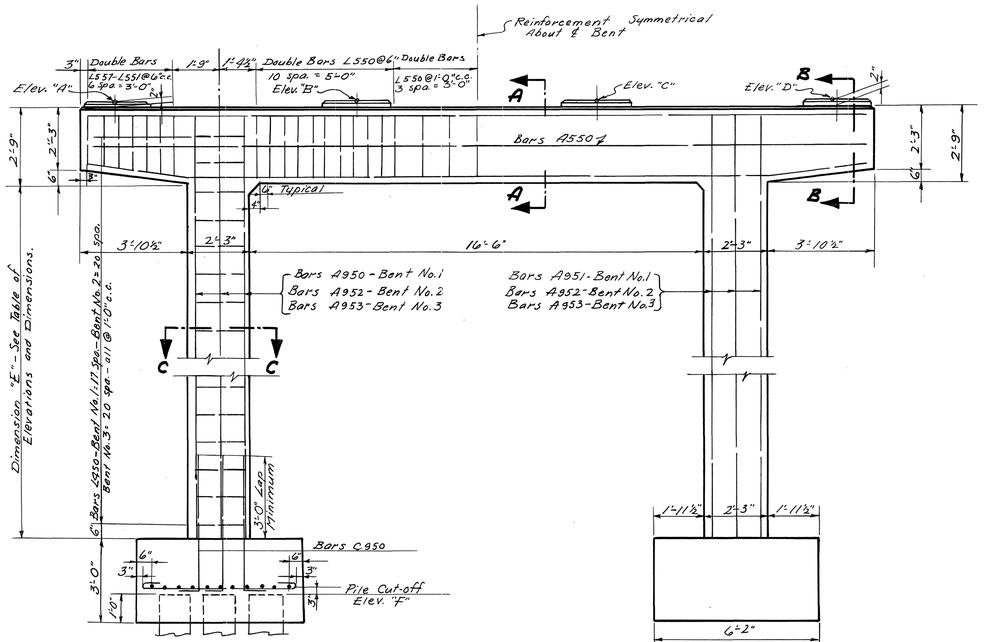
PLAN



SECTION A-A

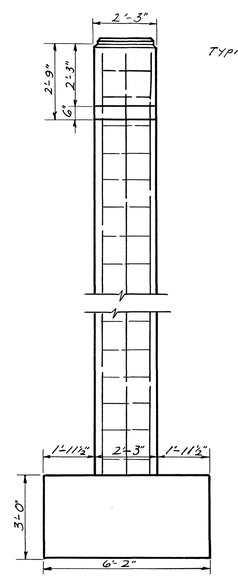


SECTION B-B

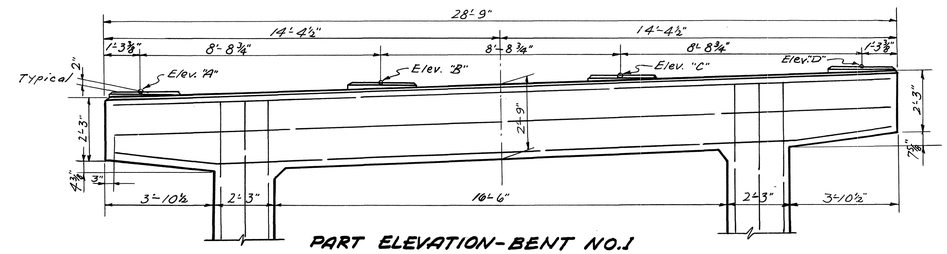


ELEVATION - BENTS NO. 2 & 3

Looking Forward on Survey.



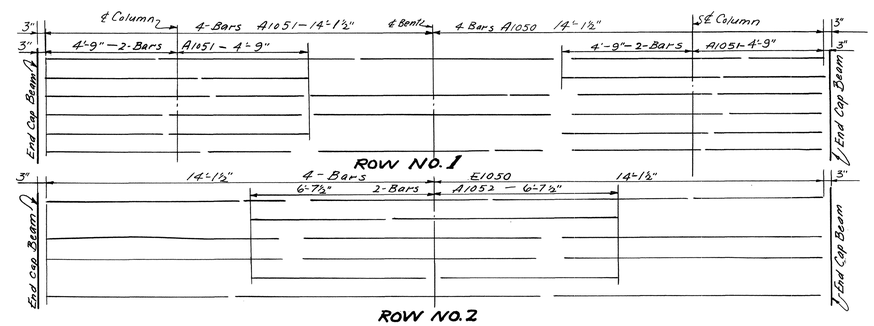
END ELEVATION



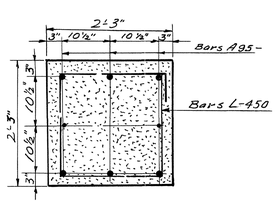
PART ELEVATION - BENT NO. 1

Looking Forward on Survey.

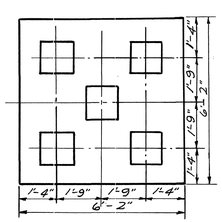
Note: Refer to Bent Elev. 2 & 3 for steel and other Details.



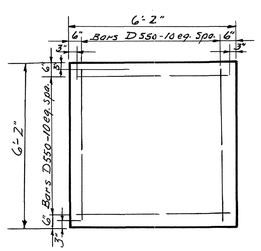
PLAN OF MAIN REINFORCING - CAP BEAM



SECTION C-C



LOCATION OF PILES IN FOOTING



PLAN SHOWING FOOTING REINFORCEMENT

TABLE OF DIMENSIONS & ELEVATIONS

ITEM	ELEVATIONS "A"	"B"	"C"	"D"	DIMENSION "E"	Pile Cut-off Elev. "F"
Bent 1	807.29	807.40	807.91	808.22	18'-3"	784.25
Bent 2	808.50	808.60	808.68	808.70	19'-3"	784.33
Bent 3	809.37	809.48	809.49	809.41	20'-0"	784.45

ESTIMATED QUANTITIES

ITEM	CU. YD. CONCRETE	Ref. Steel
Bent 1	21.6	3986
Bent 2	22.0	4038
Bent 3	22.3	4087

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BENTS NO. 1, 2 & 3
STATE ROUTE 48 OVER INTERSTATE 40
STATION 810+60.96
DICKSON COUNTY
1962

DESIGNED BY Charles Hunter DATE 1962
DRAWN BY John E. Gant DATE 1962
RE-TRACED BY Al Kulig DATE 6-5-70
CHECKED BY DATE

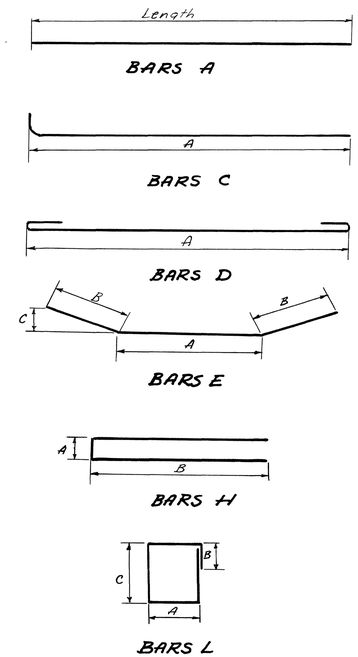
CORRECT Fred Greve — BRIDGE ENGINEER
APPROVED Edward Long — STATE HIGHWAY ENGINEER

K-16-146

BILL OF STEEL

Abutments No. 1 & 2								
Bar	Location	Size	No. Req'd	Bending Dimensions a	b	c	d	Length
A440	Beam	4	10					35'-1"
A441	Backwall	4	16					34'-6"
A442	Backwall	4	116					3'-9"
A443	Beam	4	20					6'-9"
A444	Wingwall	4	72					4'-6"
A445	Wingwall	4	40					5'-5"
A447	Curb	4	8					2'-11"
A448	Curb	4	4					7'-4"
A449	Curb	4	4					7'-9"
A450	Wingpost	4	16					5'-6"
A451	"	4	16					1'-6"
A452	"	4	8					1'-9"
A453	"	4	8					2'-0"
A454	"	4	16					2'-3"
A740	Beam	7	18					35'-1"
A741	"	7	20					6'-9"
H440	Backwall & Wingpost	4	118	8"	2'-0"			4'-8"
L440	Curb	4	4	2'-4"	6"	11"		7'-0"
L441	"	4	3	2'-9"	6"	11"		7'-10"
L442	"	4	7	3'-2"	6"	11"		8'-8"
L443	"	4	9	3'-5"	6"	11"		9'-2"
L444	"	4	2	1'-9"	6"	11"		5'-10"
L445	"	4	3	3'-0"	6"	11"		8'-4"
L540	Beam	5	80	2'-2"	1'-0"	2'-2"		9'-8"

Bents 1, 2 & 3								
Bar	Location	Size	No. Req'd	Bending Dimensions a	b	c	d	Length
A550	Cap Beam	5	6					28'-3"
A1052	" "	10	6					13'-3"
A1050	" "	10	12					28'-3"
A1051	" "	10	12					9'-6"
A950	Col. Bent No. 1	9	8					20'-9"
A951	" " "	9	8					21'-6"
A952	Col. Bent No. 2	9	16					21'-9"
A953	Col. Bent No. 3	9	16					22'-6"
C950	Col. Bents No. 1, 2 & 3	9	48	4'-10"				
D650	Footing	6	132	5'-8"				7'-0"
E1050	Cap Beam	10	12	21'-0"	3'-8"	6"		28'-4"
L550	Cap Beam	5	126	1'-5"	6"	2'-5"		9'-2"
L551	Cap Beam	5	12	1'-5"	6"	2'-2"		7'-8"
L552	Cap Beam	5	12	1'-5"	6"	2'-1"		7'-6"
L553	Cap Beam	5	12	1'-5"	6"	2'-0"		7'-4"
L554	Cap Beam	5	12	1'-5"	6"	1'-11"		7'-2"
L450	Columns	4	121	1'-11"	6"	1'-11"		8'-2"
L555	Cap Beam	5	12	1'-5"	6"	1'-10"		7'-0"
L556	Cap Beam	5	12	1'-5"	6"	1'-9"		6'-10"
L557	Cap Beam	5	12	1'-5"	6"	1'-8"		6'-8"



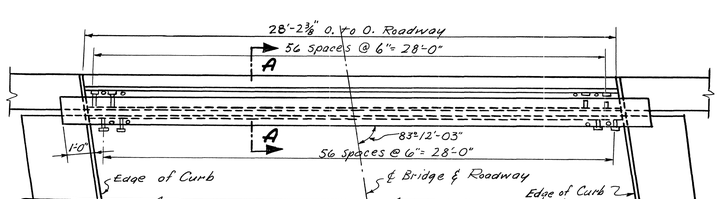
REINFORCING STEEL CODE

Type	Size	Series
A	5	06

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

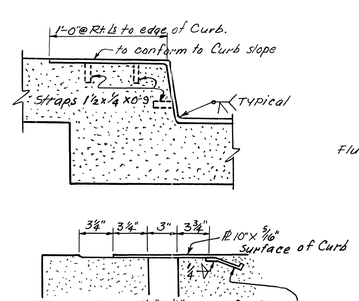
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



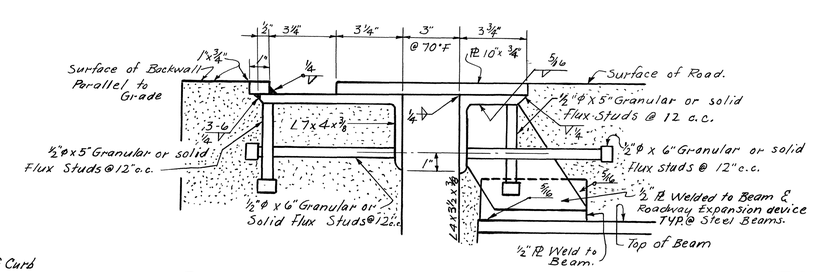
PLAN OF ROADWAY & CURB EXPANSION DEVICES

Plan above shows one set. Two sets required.



DETAIL OF CURB EXPANSION DEVICES

Required: One at each end of Roadway Expansion Device.



ROADWAY EXPANSION DEVICE TYPE A SECTION AT RT. ANGLE TO JOINT

Note: Fabricate to fit slope of Roadway and skew of Bridge as required.
Note: See also Abutment Drawing.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BILL OF STEEL
STATE ROUTE 48 over INTERSTATE 40
STATION 810+60.96
DICKSON COUNTY
1962

DESIGNED BY	Dan Fortner	DATE	3- -62
DRAWN BY	Litton & Gant	DATE	3-20-62
RETRACED BY	A. Kelley	DATE	6-10-70
CHECKED BY		DATE	

CORRECT Fred Greve
BRIDGE ENGINEER

APPROVED Reed Long
STATE HIGHWAY ENGINEER

K-16-148

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19	52	304

I-40-3(21)161

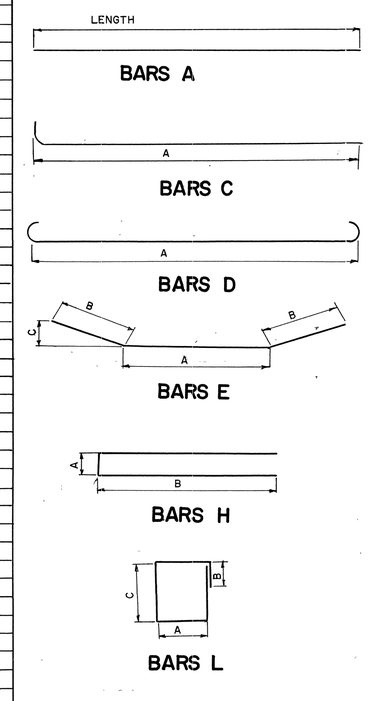
BILL OF STEEL

ABUTMENT NO. 1 & 2

BAR	LOCATION	SIZE	NO. REQ.D	BENDING DIMENSIONS a	b	c	d	LENGTH
A440	Beam	4	10					35'-1"
A441	Backwall	4	16					34'-6"
A442	Backwall	4	116					3'-9"
A443	Beam	4	20					6'-9"
A444	Wingwall	4	72					4'-6"
A445	"	4	40					5'-5"
A447	Curb	4	8					2'-11"
A448	"	4	4					7'-4"
A449	"	4	4					7'-9"
A450	Wing Post	4	16					5'-6"
A451	"	4	16					1'-6"
A452	"	4	8					1'-9"
A453	"	4	8					2'-0"
A454	"	4	16					2'-3"
A740	Beam	7	18					35'-1"
A741	"	7	20					6'-9"
H440	Backwall & Wing Post	4	118	8"	2'-0"			4'-8"
L440	Curb	4	4	2'-4"	6"	11"		7'-0"
L441	"	4	3	2'-9"	6"	11"		7'-10"
L442	"	4	7	3'-2"	6"	11"		8'-8"
L443	"	4	9	3'-5"	6"	11"		9'-2"
L444	"	4	2	1'-9"	6"	11"		5'-10"
L445	"	4	3	3'-0"	6"	11"		8'-4"
L540	Beam	5	80	2'-2"	1'-0"	2'-2"		9'-8"

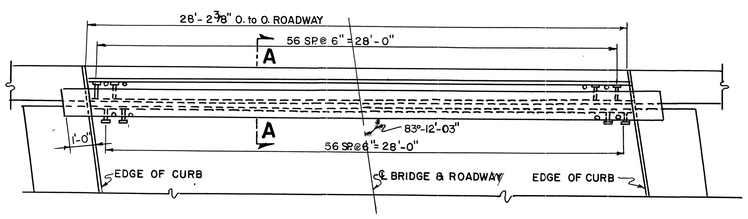
BENTS 1, 2, & 3

BAR	LOCATION	SIZE	NO. REQ.D	BENDING DIMENSIONS a	b	c	d	LENGTH
A550	Cap Beam	5	6					28'-3"
A1052	"	10	6					13'-3"
A1050	"	10	12					28'-3"
A1051	"	10	12					9'-6"
A950	Col. Bent No. 1	9	8					20'-9"
A951	" " "	9	8					21'-6"
A952	" " " 2	9	16					21'-9"
A953	" " " 3	9	16					22'-6"
C950	Col. Bent No. 1,2,3	9	48	4'-10"				'- "
D650	Footing	6	132	5'-8				7'-0"
E1050	Cap Beam	10	12	21'-0"	3'-8"	6"		28'-4"
L550	Cap Beam	5	126	1'-5"	6"	2'-5"		9'-2"
L551	"	5	12	1'-5"	6"	2'-2"		7'-8"
L552	"	5	12	1'-5"	6"	2'-1"		7'-6"
L553	"	5	12	1'-5"	6"	2'-0"		7'-4"
L554	Cap Beam	5	12	1'-5"	6"	1'-11"		7'-2"
L450	Columns	4	121	1'-11"	6"	1'-11"		8'-2"
L555	Cap Beam	5	12	1'-5"	6"	1'-10"		7'-0"
L556	" "	5	12	1'-5"	6"	1'-9"		6'-10"
L557	Cap Beam	5	12	1'-5"	6"	1'-8"		6'-8"



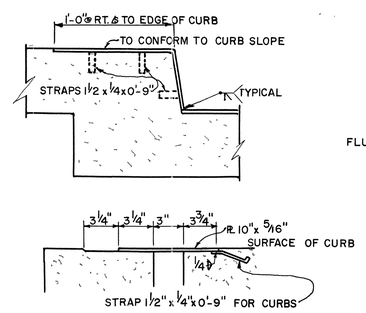
REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06



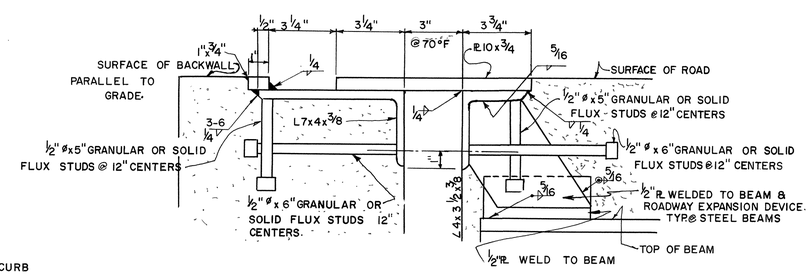
PLAN OF ROADWAY & CURB EXPANSION DEVICES

PLAN ABOVE SHOWS ONE SET. TWO SETS REQUIRED



DETAIL OF CURB EXPANSION DEVICES

REQUIRED ONE AT EACH END OF ROADWAY EXPANSION DEVICE.



ROADWAY EXPANSION DEVICE TYPE A

SECTION AT RT. ANGLE TO JOINT

NOTE: FABRICATE TO FIT SLOPE OF ROADWAY AND SKEW OF BRIDGE AS REQUIRED.

NOTE: SEE ALSO ABUTMENT DRAWING.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

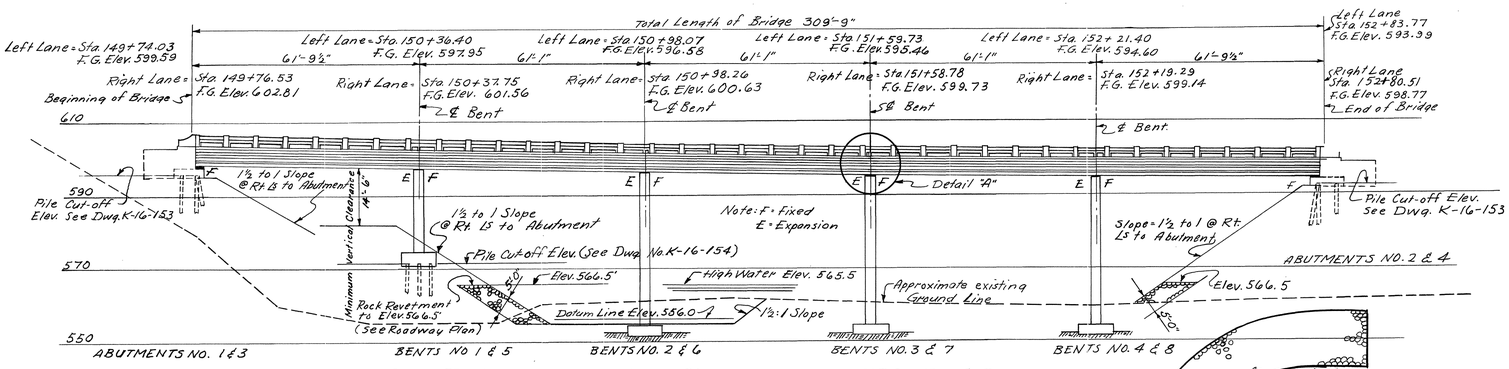
BILL OF STEEL
STATE ROUTE 48 OVER INTERSTATE 40
STATION 810+60.96
DICKSON COUNTY
1962

DESIGNED BY Don Fortner DATE March 1962
DRAWN BY Litton & Gant DATE 3-20-62
TRACED BY F. Skaggs DATE 3-26-62
CHECKED BY DWE DATE 3-26-62

CORRECT Fred Greene
BRIDGE ENGINEER

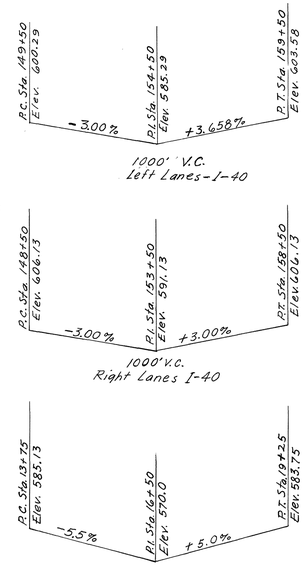
APPROVED ccc Long
STATE HIGHWAY ENGINEER

K-16-148



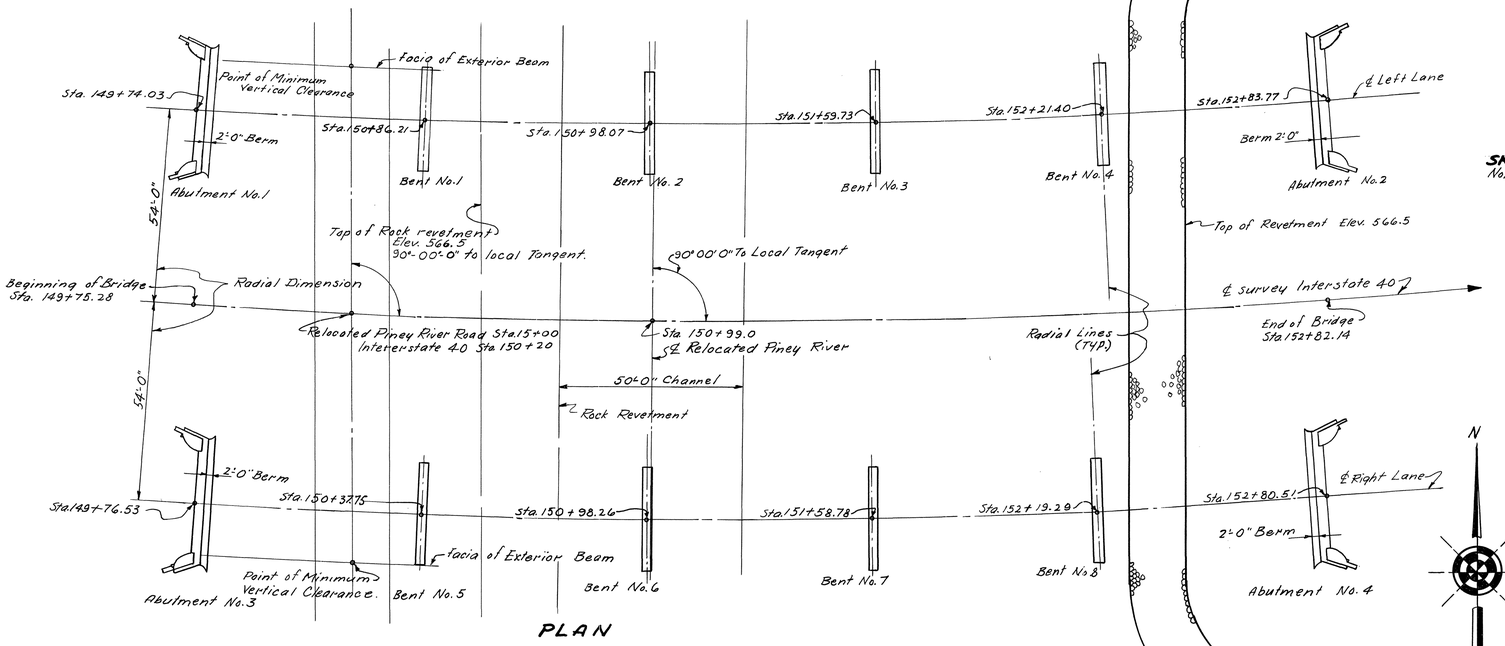
ELEVATION AT RIGHT ANGLES TO INTERSTATE 40

Note: All Fills to be in place and thoroughly compacted before Abutment Piles are driven. No rock fills allowed in region where Piles are to be driven.

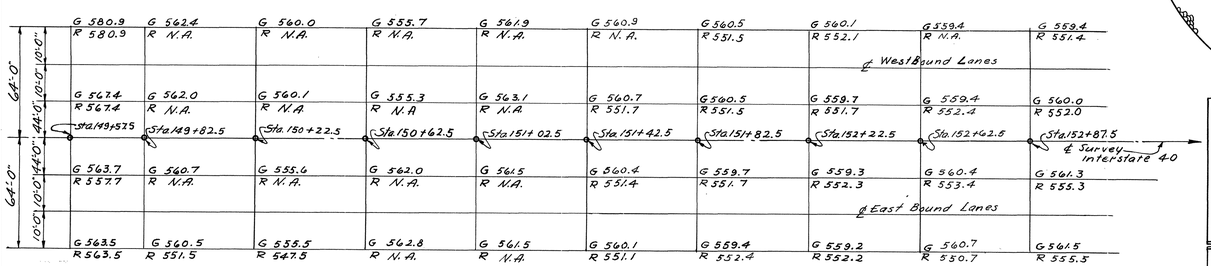


SKETCH SHOWING GRADES

Note: Elevations based on finished Grade.



PLAN



SOUNDING SKETCH

G = Ground Elevation
R = Rock Elevation
N.A. Not Available.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

DESIGN DATA:

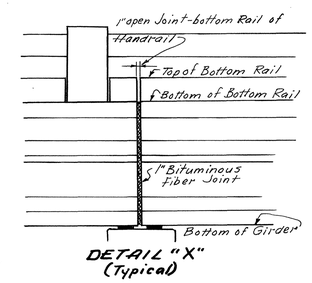
Drainage Area = 45.9 Sq. Miles or 29,440 Acres C-Factor = 0.6 (Low hilly-wooded Terrain). Waterway Opening 1348.7 Sq. Ft. Channel Slope = 0.2%

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Highways.
LOADING: H20-S16-44 and alternate Military Loading.
CONCRETE (Cast-in-Place): To be Class "A"
REINFORCING STEEL: To be Intermediate or Hard Grade Standard Hook Detail as recommended by C.R.S.I. Shall apply.
NEOPRENE BEARING PADS: See Special Provision.
JOINT SEALER: See Special Provision. (Class "A").
PILES: To be No. 12 BP 53# on Bents No. 1 & 3, and on all Abutments.

SPECIAL FOUNDATION NOTE:

When foundation for Bents No. 2, 3, 4, 5, 6, 7 and 8 have been uncovered, holes 6' deep shall be drilled into rock at points designated by the Engineer. Foundations for Bents No. 1 and 5 shall be excavated to the Pile Cut-off elevation shown. Rod soundings shall then be made as directed by the Engineer. From the results obtained the Engineer will decide if Piles are to be used, or the footing carried to rock. Piles shall be driven to rock or minimum bearing of 45 tons for Bents and 45 tons for Abutments. No Reinforcing Steel for Columns shall be ordered until footing Elevations are established. Cost of Rod soundings shall be included in the cost of items bid on.



DETAIL "X" (Typical)

HANDRAIL NOTE:

Build Handrail according to Standard Drawing H-5-110 except use Endpost as shown on Drawing No. K-16-153.
Looking forward on Survey

Right Lane	Right Rail	X = 1"	Q = 305'-6½"	L = 6'-8⅜"+	37 spaces
Right Lane	Left Rail	X = 1"	Q = 303'-9¾"	L = 6'-8⅜"(-)	37 spaces
Left Lane	Right Rail	X = 1"	Q = 305'-6½"	L = 6'-8⅜"+	37 spaces
Left Lane	Left Rail	X = 1"	Q = 303'-9¾"	L = 6'-8⅜"(-)	37 spaces.

LIST OF DRAWINGS

	DWG. NO.
HANDRAIL (See Note this Sheet)	H-5-110
BRIDGE GEOMETRY	K-16-150
BEAM DETAILS	K-16-151
SUPERSTRUCTURE	K-16-152
ABUTMENTS No. 1, 2, 3 & 4	K-16-153
BENTS NO. 1, 2, 3, 4, 5, 6, 7 & 8	K-16-154
BILL OF STEEL	K-16-155
PILE SPLICE DETAIL	G-10-42

Note: Rock Revetment Quantities are included in Roadway Quantities.

ESTIMATED QUANTITIES

	ITEM	Excavation Cu. Yds. Rock	Wet	Dry	Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs.	Prestressed Beams * ASTM Type III	Concrete Handrail Lin. Ft.	Steel Piles 12 BP 53# Lin. Ft.	Rock Drilling Lin. Ft.
LEFT LANE	Superstructure				296.6	71,250				
	Abutment No. 1				19.1	1,995			162	
	Bent No. 1			62	38.1	8,276			180	
	Bent No. 2	5	21		45.0	10,856				
	Bent No. 3	5	32	42	43.9	10,623				
	Bent No. 4	5	33	31	42.9	10,199				
	Abutment No. 2				19.0	1,995			204	
	Totals	15	86	135	504.5	115,194	20	610	546	18
RIGHT LANE	Superstructure				296.6	71,250				
	Abutment No. 3				19.1	1,995			180	
	Bent No. 5			62	39.4	8,455			180	
	Bent No. 6	5	21		47.9	11,373				
	Bent No. 7	5	32	42	47.1	11,202				
	Bent No. 8	5	33	31	46.0	10,948				
	Abutment No. 4				19.0	1,995			234	
	Totals	15	86	135	515.1	117,218	20	610	594	18
	Totals-Both Lanes	30	172	270	1,019.6	232,412	40	1,220	1,140	36

* Note: Average Length of Beam = 61'-0"

2-28'-0" ROADWAYS WITH SAFETY CURBS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

LAYOUT OF BRIDGES
INTERSTATE 40 OVER PINEY RIVER
STATION 149+75.28
DICKSON COUNTY
1962

DESIGNED BY Robert M. Dishner DATE
DRAWN BY Kenneth Litton DATE 2-16-62
TRACED BY A. Kelley DATE 4-16-70
CHECKED BY DATE

CORRECT Fred Graves BRIDGE ENGINEER
APPROVED Geo. D. Long STATE HIGHWAY ENGINEER

K-16-149