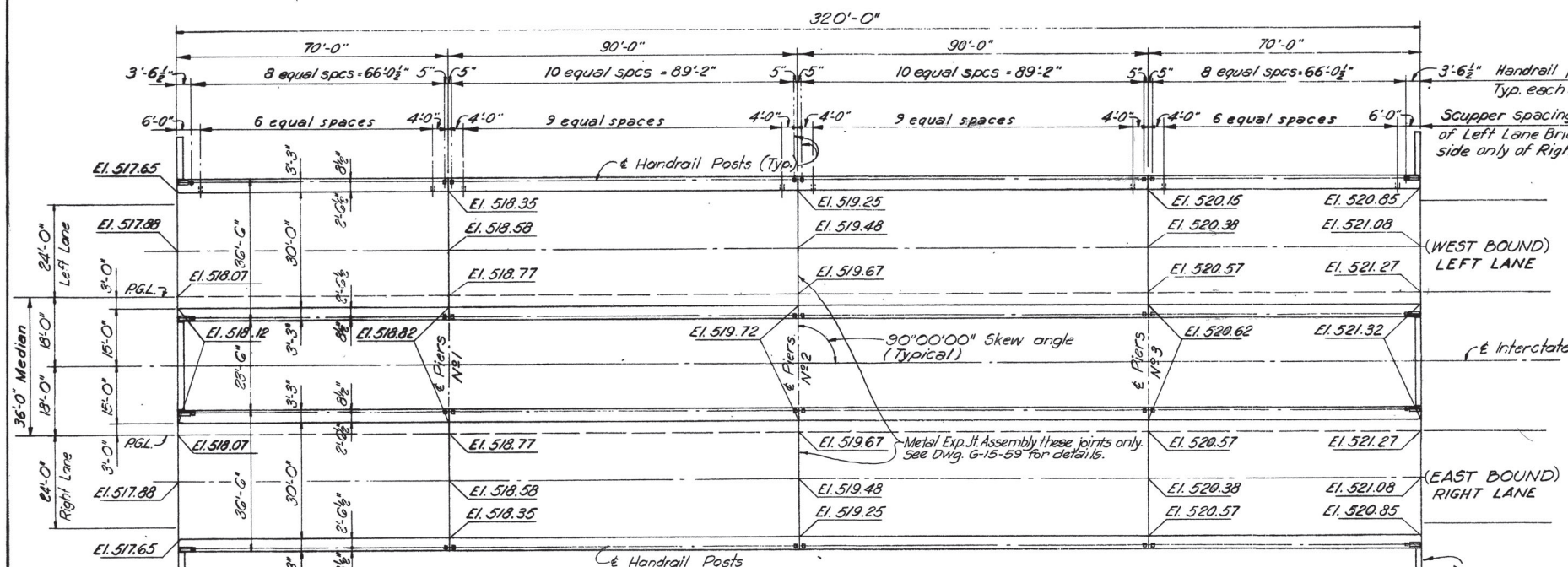




PLAN-RIGHT(6A) & LEFT(6B) LANE BRIDGES - RIVER MILE 20.7

NOTE: A SUFFICIENT EARTH FILL SHALL BE MADE TO ALLOW THE DRIVING OF THE PILES; THE REMAINDER OF FILL SHALL BE A ROCK FILL WITH A MINIMUM THICKNESS OF 5'-0" UP TO 1'-0" ABOVE HIGHWATER.

Back of Abutments No. 1 Bridges begin

Bridge and Left Lane

Interstate

Bridge and Right Lane

90°00'00" (Typ.)

Sta. 518+50.00

Sta. 519+20.00

Sta. 520+10.00

Sta. 521+00.00

Sta. 521+70.00

Back of Abutments No. 2 Bridges end

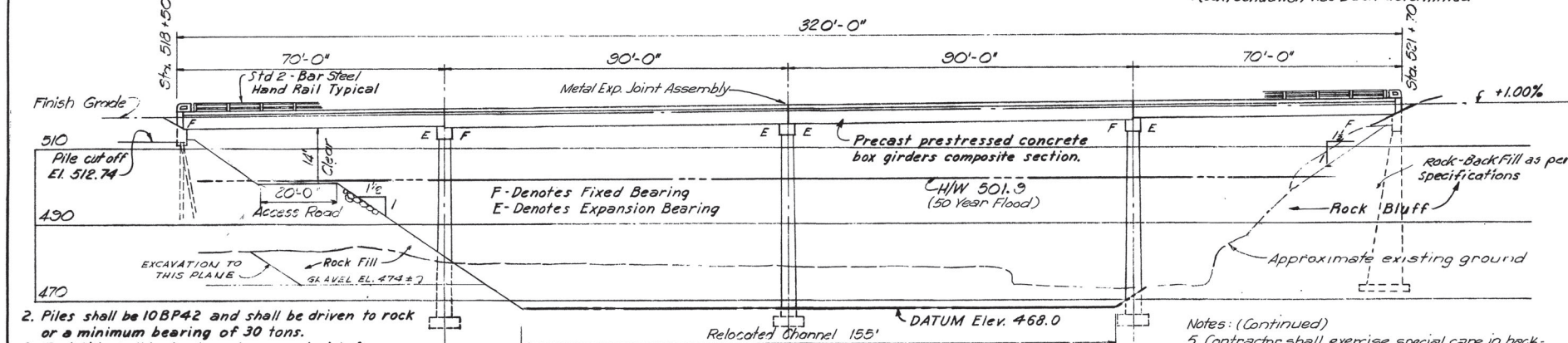
90°00'00"

SPECIAL NOTE: The concrete for prestressed concrete box girders on the 90' spans shall be manufactured with 6000 psi conc. (Ultimate comp. strength @ 28 days.)

NOTE: 1. Refer to Abutment Detail Drawings for layout of piles.

NOTE: No reinforcing steel shall be ordered for the Abutments No. 2 until the Rock foundation has been determined.

FOUNDATION PLAN-RIGHT & LEFT LANE BRIDGES



ELEVATION - RIGHT & LEFT LANE BRIDGES

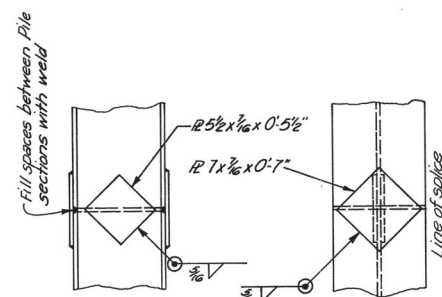
2. Piles shall be 10BP42 and shall be driven to rock or a minimum bearing of 30 tons.

3. End fill shall be in place & compacted before driving piles for Abutments.

4. Pier footings shall set a minimum of 1'-0" into sound rock.

Notes: (Continued)

5. Contractor shall exercise special care in back-filling to prevent overturning.



DETAIL OF PILE SPLICE

GENERAL NOTES:

GENERAL SPECIFICATIONS: Standard Road and Bridge Specification of the Tennessee Department of Highways and Public Works.

DESIGN SPECIFICATIONS: Standard Specifications for Highway Bridges AASHTO 1957 and tentative AASHTO Specifications covering prestressed concrete design and construction (with subsequent revisions.)

DESIGN LOADING: H20-51G-44 and for alternate loading as per Section 4C of PPM 20-4.

CONCRETE: All concrete shall be Class A and shall be air entrained.

REINFORCING STEEL: See Specifications.

FORMS and FINISH: See Specifications.

HAND RAILS: Standard 2-bar Steel Hand-railing, Tennessee Highway Department Standard.

PRECAST PRESTRESSED CONCRETE GIRDERS: See special provisions.

BEARING PADS: See special provisions.

ESTIMATED QUANTITIES

ITEM NO.	17-3	17-2	17-4	135-4	135-12	702	137-3	154-1H	154-1J	132-1	
ITEMS	EXCAVATION	WET DRY ROCK	CONC.	REINF. CLASS A	STEEL	2-BAR STEEL HANDRAIL	10BP42 BEARING PILES	PRECAST PRESTRESSED BOX GIRDERS 48" WIDE 48" DEEP	STRUCT. STEEL		
RIGHT LANE BRIDGE 6A	Cu. Yds.		Cu. Yds.	' Lbs.	Lin. Ft.	Lin. Ft.	Each	Each	Each	Lbs.	
SUPERSTRUCTURE			193.1	37,495	626					14,70	
GIRDERS								16	16		
ABUTMENT#1			19.5	2,672		570					
ABUTMENT#2	126	299	72.0	16,246							
PIER NO. 1	114	200	23	173.1	14,303						
PIER NO. 2	129		16	174.8	14,308						
PIER NO. 3	93		31	174.8	14,399						
TOTALS	336	326	369	807.3	99,423	626	570	16	16	14,70	
LEFT LANE BRIDGE 6B											
SUPERSTRUCTURE			193.1	37,495	626					14,70	
GIRDERS								16	16		
ABUTMENT#1			19.5	2,672		570					
ABUTMENT#2		75	198	50.3	11,059						
PIER NO. 1	114	200	23	173.1	14,303						
PIER NO. 2	129		16	174.8	14,308						
PIER NO. 3	93		31	174.8	14,399						
TOTALS	336	275	268	785.6	94,235	626	570	16	16	14,70	

All expansion joint material shall be included in the unit price bid for Class 'A' conc.

HYDRAULIC DESIGN DATA

High Water Elevation, 501.9

Design Discharge, Q = 39,200 cfs

Design Velocity, V = 6 fps

Opening Required, Ar = 6,550 sq. ft.

Opening Furnished, Af = 7,000 sq. ft.

LIST OF DRAWINGS

	DWG. NO.
LAYOUT OF BRIDGES	G-15-127
LAYOUT AND LOG OF CORE BORINGS	G-15-128
ABUTMENT NO. 1 RIGHT & LEFT LANES	G-15-129
ABUTMENT NO. 2 RIGHT LANE	G-15-130
ABUTMENT NO. 2 LEFT LANE	G-15-131
PIERS NO. 1 & 3	G-15-132
PIER NO. 2	G-15-133
BOX GIRDER LAYOUT & DETAIL	G-15-134
SLAB AND SAFETY CURBS	G-15-135
REINFORCING STEEL SCHEDULE NO. 1	G-15-136
REINFORCING STEEL SCHEDULE NO. 2	G-15-137
STEEL HANDRAILING	G-10-99

2-30' Roadways with Safety curbs

SMITH COUNTY

Scale: 1" = 20'

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

BRIDGES OVER CANEY FORK RIVER - RIVER MILE 20.7
STA 518+50 RIGHT (6A) AND LEFT (6B) LANES

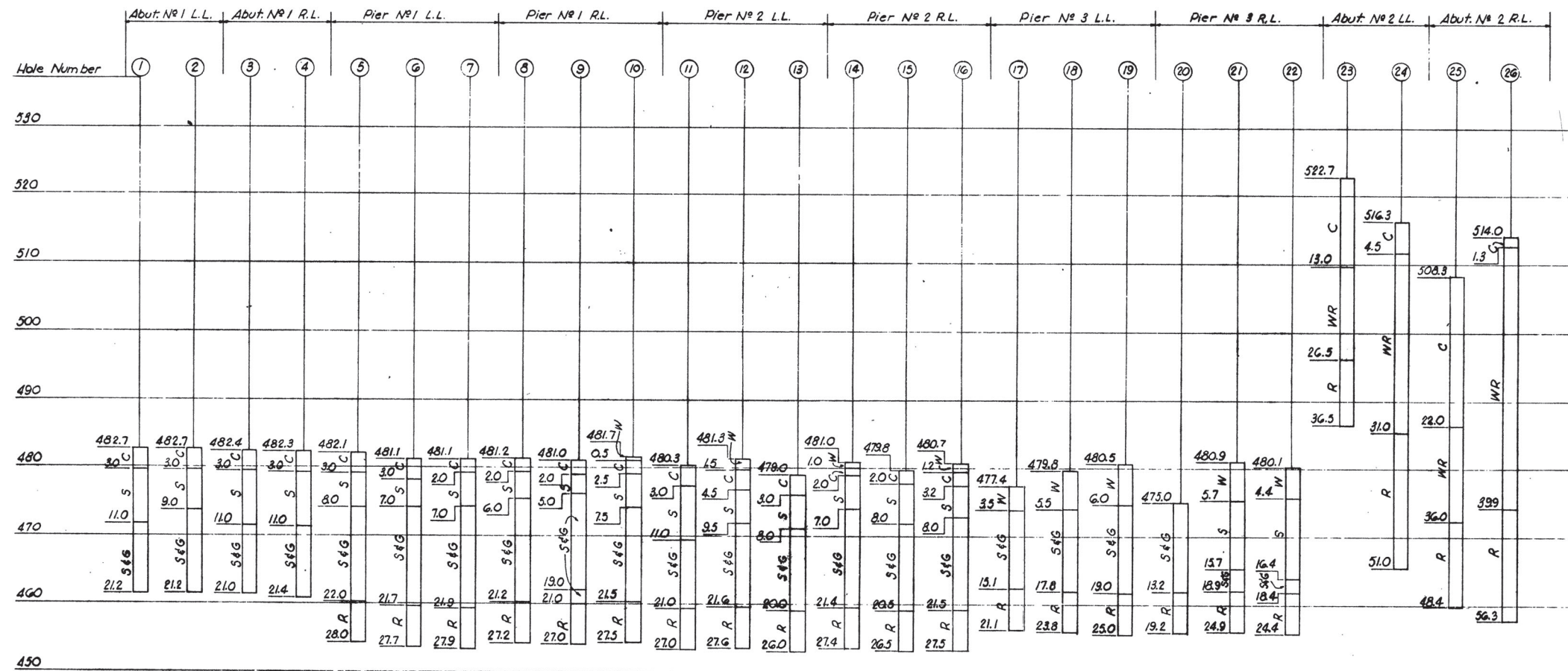
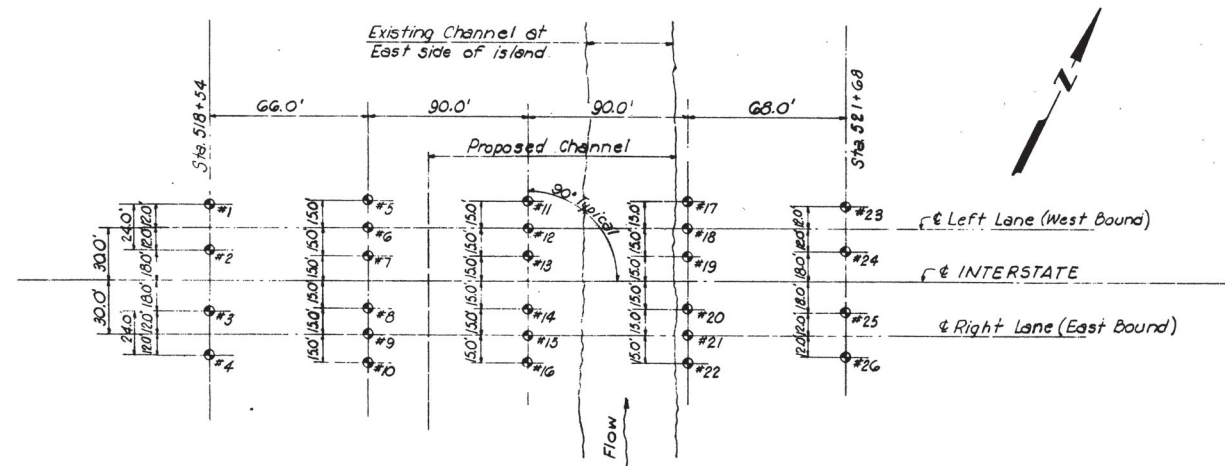
LAYOUT OF BRIDGES

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

DR. K.G.
CHK'D. H.R.
APP'D. H.P.

DATE
11-16-59

G-15-127



LEGEND

W---Water

C---Clay and Silt

S---Sand

S&G---Sand and Gravel

WR---Weathered Rock

R---Rock (Limestone)

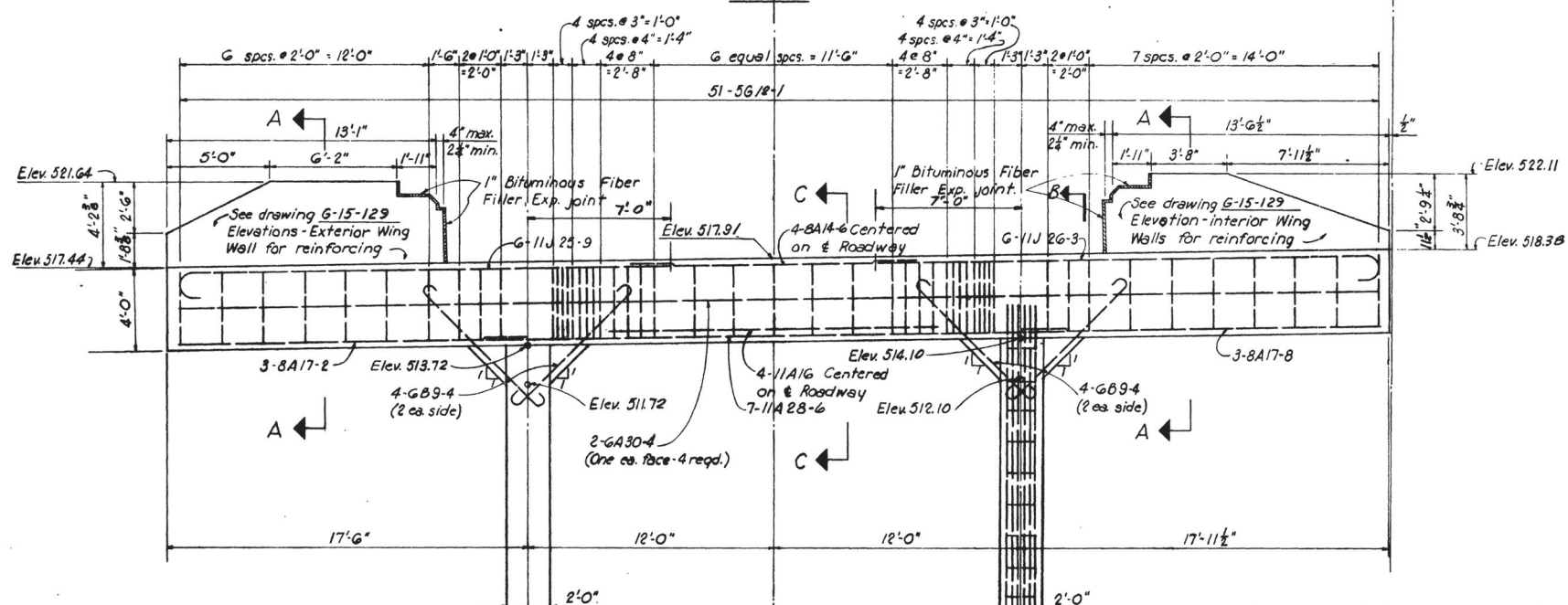
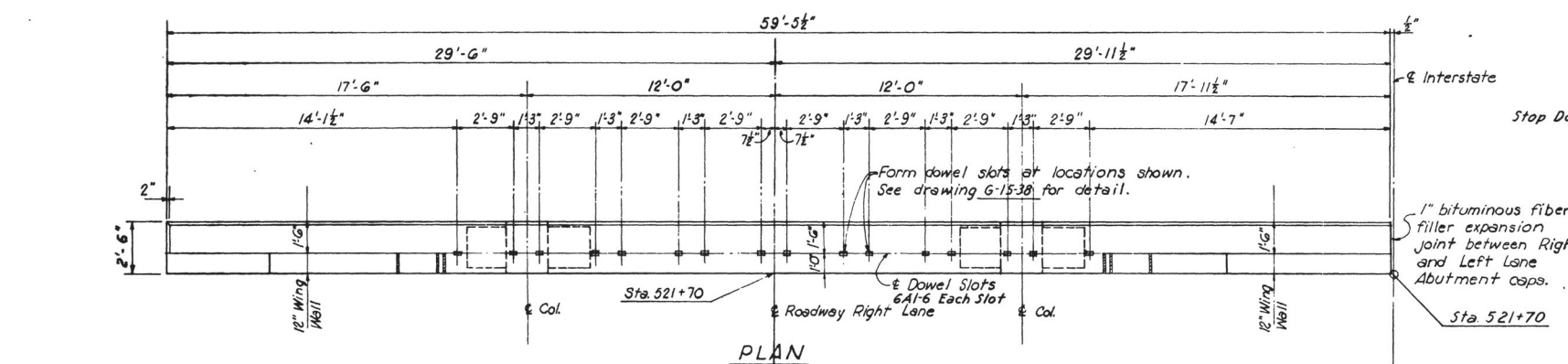
B---Boulders

LOG OF CORE BORINGS

NOTE: Water elevation in Caney Fork River fluctuates depending on discharge at Center Hill Dam.

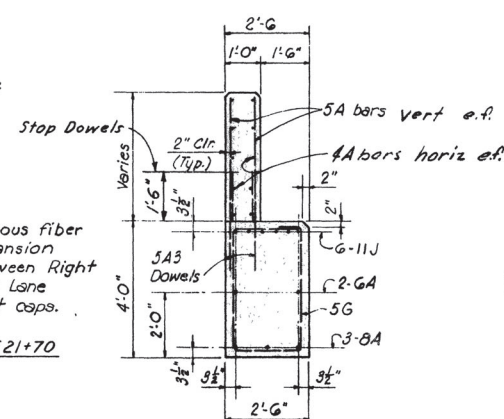
MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGES OVER CANEY FORK RIVER-RIVER MILE 20.7 STA 518+50 RIGHT (6A) AND LEFT (6B) LANES	
LAYOUT & LOG OF CORE BORINGS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. W.R.S. CHK'D. W.R. APP'D. W.R.	DATE 11-16-59 G-15-128

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		138	372

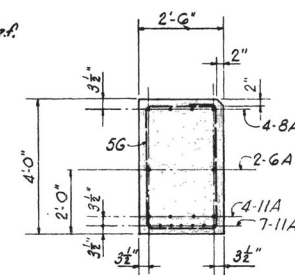


- Note:
1. Wing walls shall be cast on cap after girders and safety curbs are in place.
 2. All exposed edges shall have a $\frac{3}{8} \times \frac{3}{8}$ chamfer unless otherwise shown.
 3. Slope top of Abutment cap to conform to slope of Girders. Elevations noted are at back of Abutments.

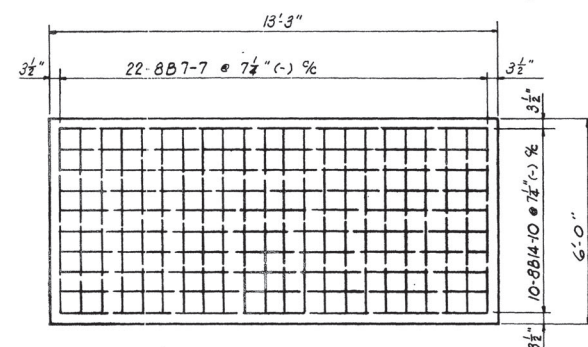
ELEVATION
LOOKING BACK ON SURVEY



SECTION A-A
Scale: $\frac{1}{8}'' = 1'-0''$



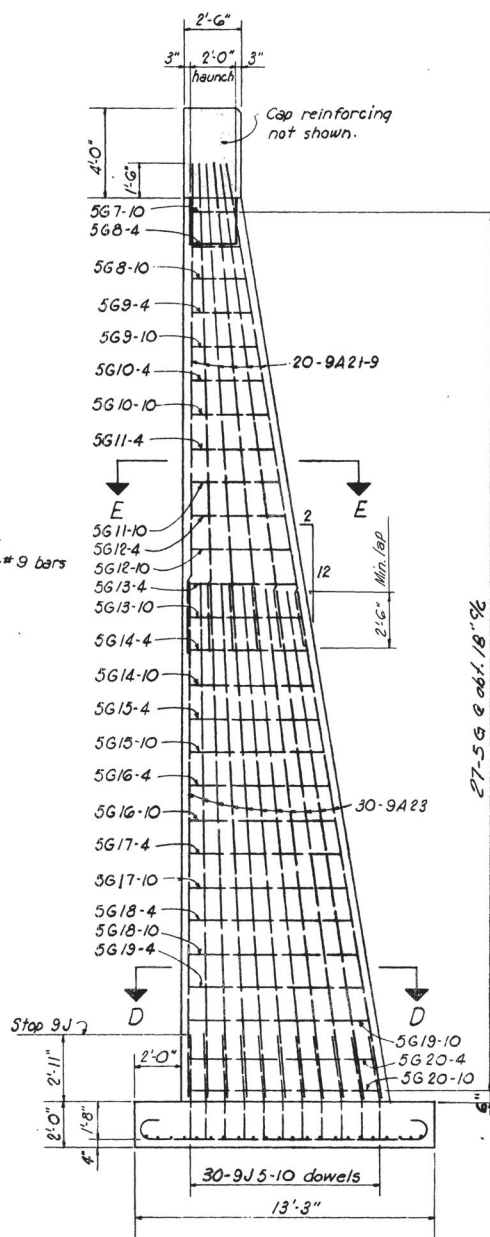
SECTION C-C
Scale: $\frac{1}{8}'' = 1'-0''$



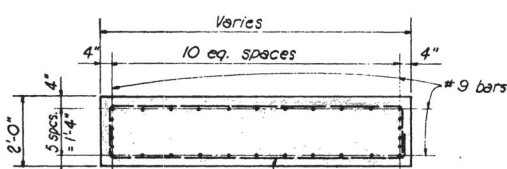
FOOTING REINFORCING PLAN
Scale: $\frac{1}{8}'' = 1'-0''$

ESTIMATED QUANTITIES

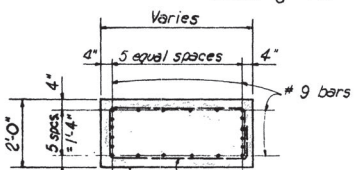
Class "A" Concrete - Cu. Yds.	72.0
Reinforcing Steel - Lbs.	16,246



SECTION B-B



SECTION D-D
Scale: $\frac{1}{8}'' = 1'-0''$



SECTION E-E
Scale: $\frac{1}{8}'' = 1'-0''$

Scale: $\frac{1}{8}'' = 1'-0''$ Unless otherwise shown

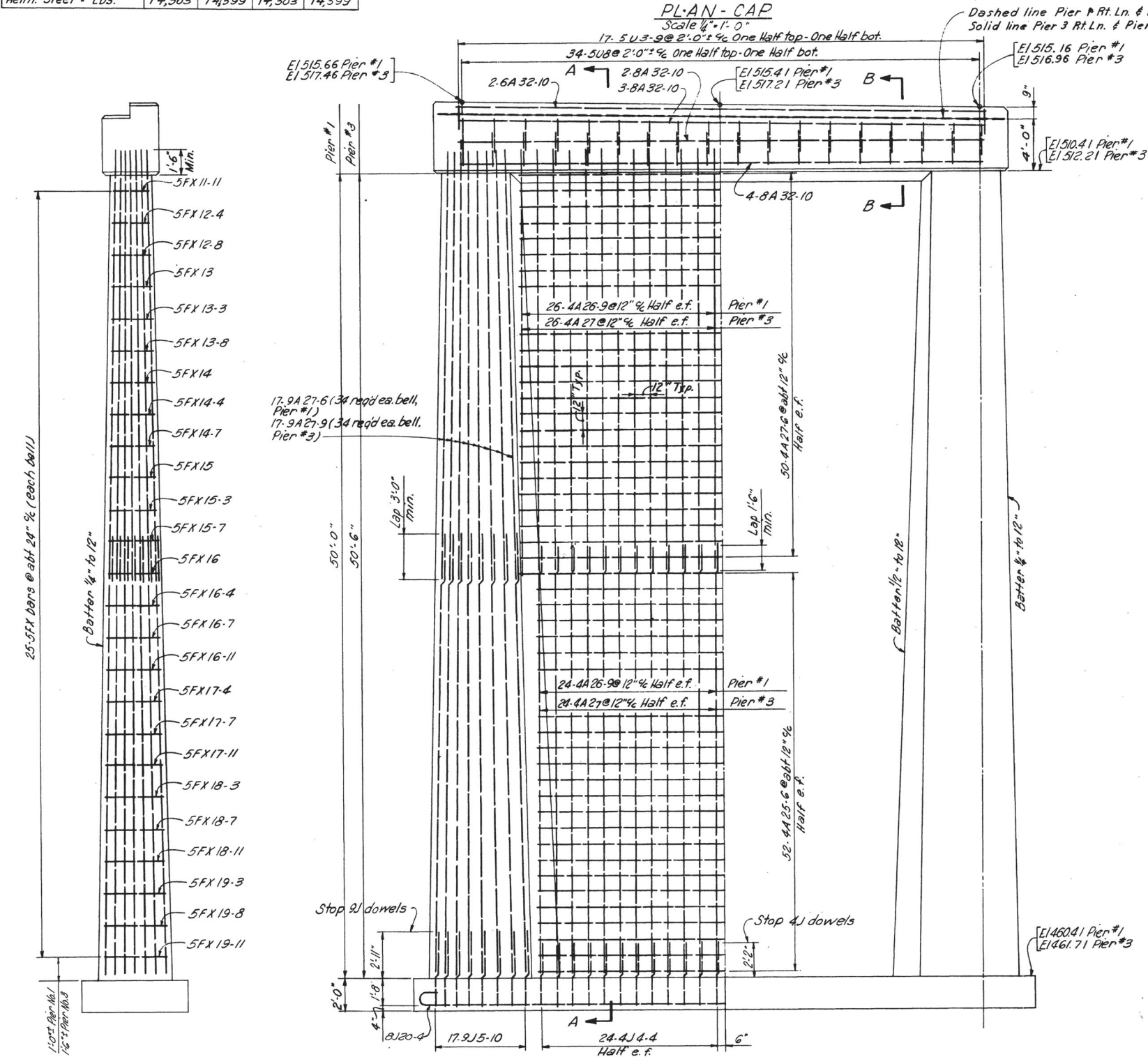
MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGES OVER CANEY FORK RIVER - RIVER MILE 20.7 STA. 518+50 RIGHT (6A) AND LEFT (6B) LANES	
ABUTMENT NO. 2 RIGHT LANE	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. W.R.S. CHK'D. R.A.H. APP'D. W.R.	DATE 11-16-59

G-15-130

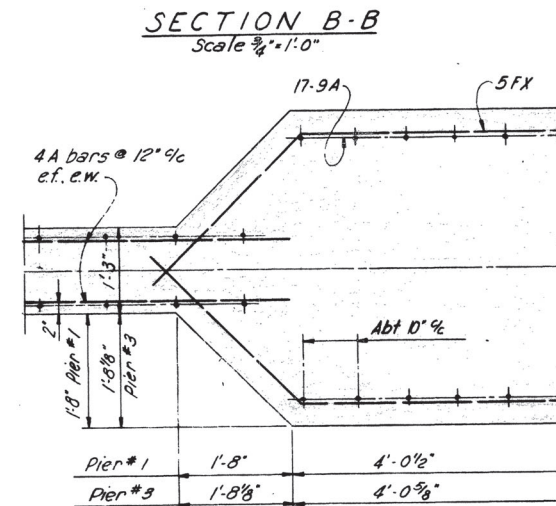
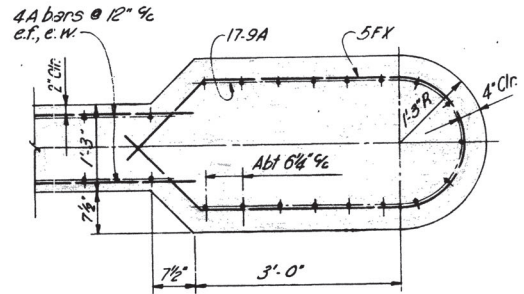
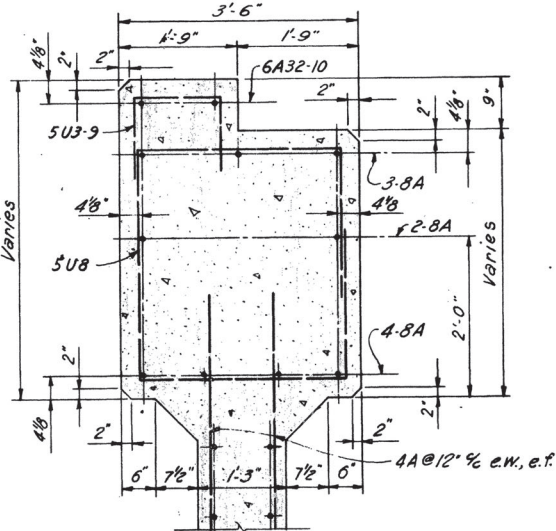
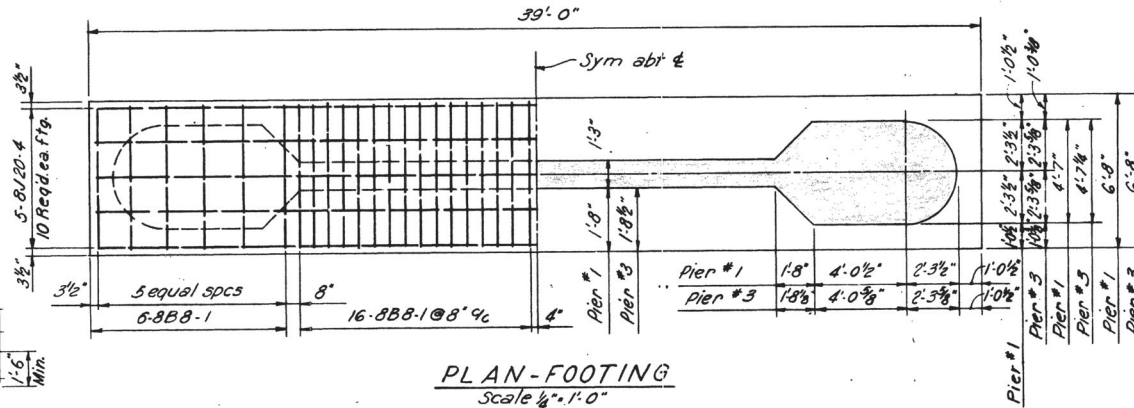
FED. ROAD DIST. No.	T E N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		140	372

ESTIMATED QUANTITIES

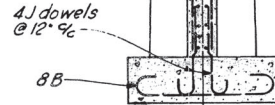
	Rt. Lane Pier #1	Rt. Lane Pier #3	Lt. Lane Pier #1	Lt. Lane Pier #3
Class "A" Conc. - Cu. Yds.	173.1	174.8	173.1	174.8
Reinf. Steel - Lbs.	14,303	14,399	14,303	14,399



Note: Top of Piers shall slope to conform to slope of girders. Elevations noted are at E of piers.



SECTION A-A THRU PIER



Note: Placing designation as follows:
e.f. - each face
e.w. - each way

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

BRIDGES OVER CANEY FORK RIVER-RIVER MILE 207
STA. 518+50 RIGHT (6A) & LEFT (6B) LANES

PIERS NOS 1 & 3
LT. & RT. LANES

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

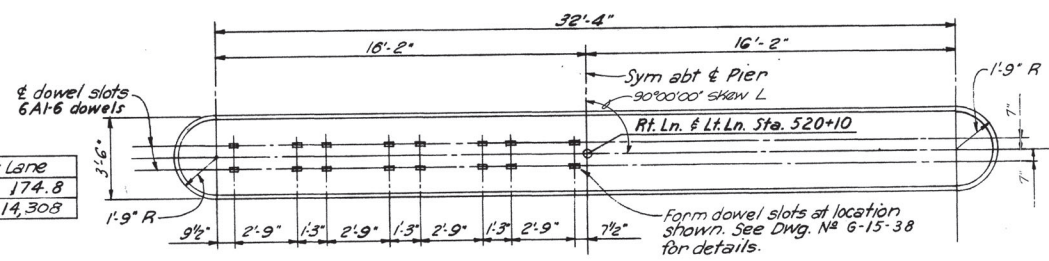
DR. R.W.R.
CHK'D R.A.H.
APP'D W.R.

DATE
11-16-59

G-15-132

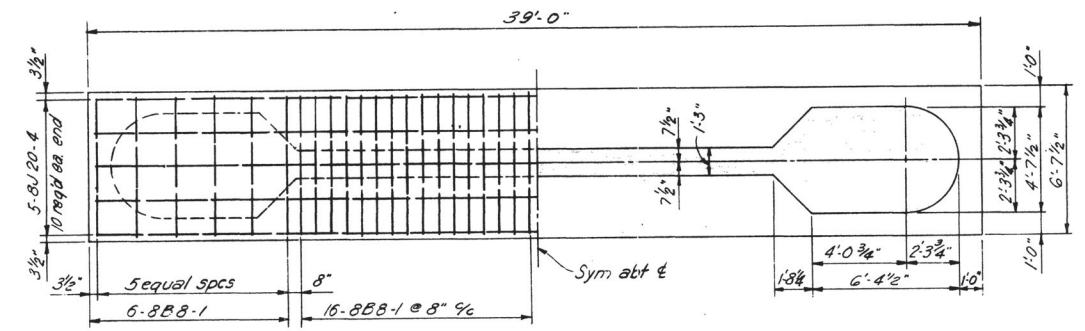
ESTIMATED QUANTITIES

	Lt. Lane	Rt. Lane
Class 'A' concrete Cu. Yds.	174.8	174.8
Reinforcing Steel Lbs.	14,308	14,308

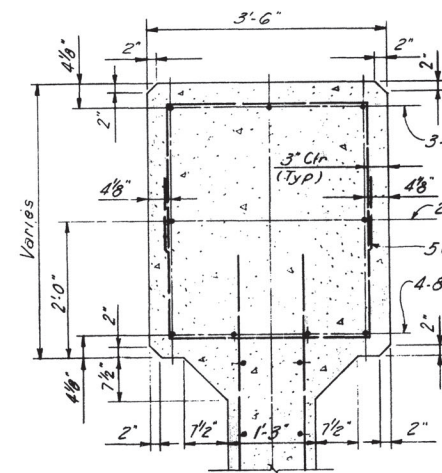


PLAN - CAP
Scale 1/4" = 1'-0"

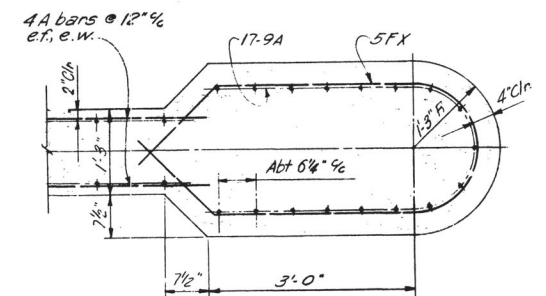
Note: Top of piers shall slope to conform to slope of girders.
Elevations noted are at E of piers.



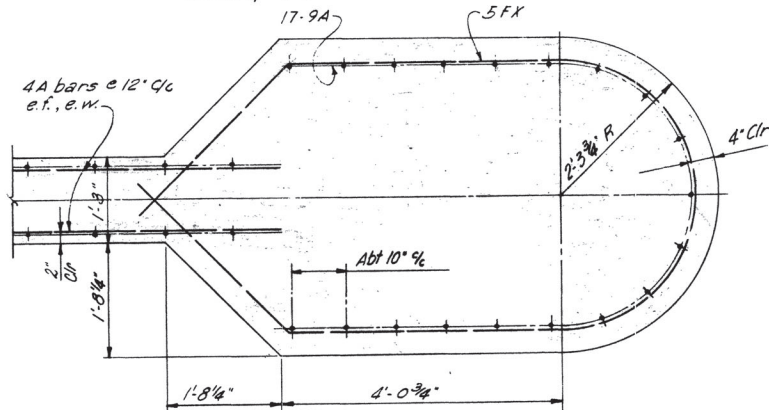
PLAN - FOOTING
Scale 1/4" = 1'-0"



SECTION THRU CAP
Scale 3/4" = 1'-0"

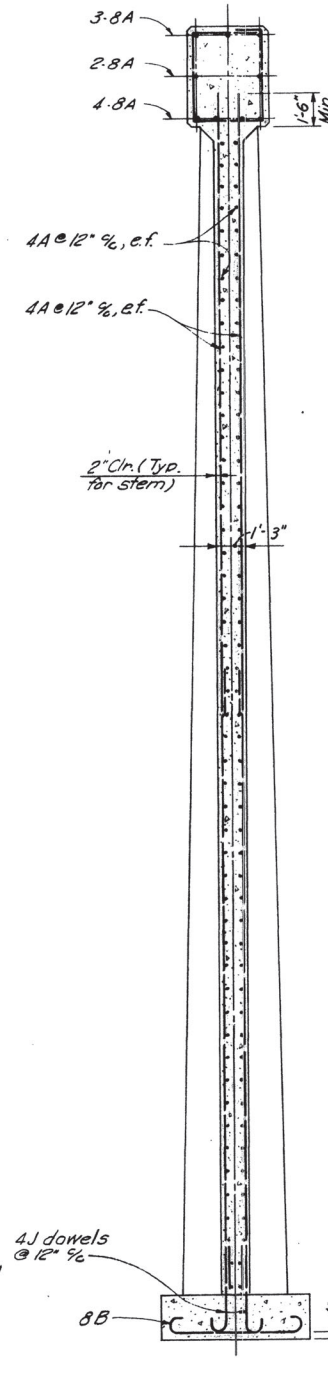


PLAN - BELL BELOW CAP
Scale 3/4" = 1'-0"

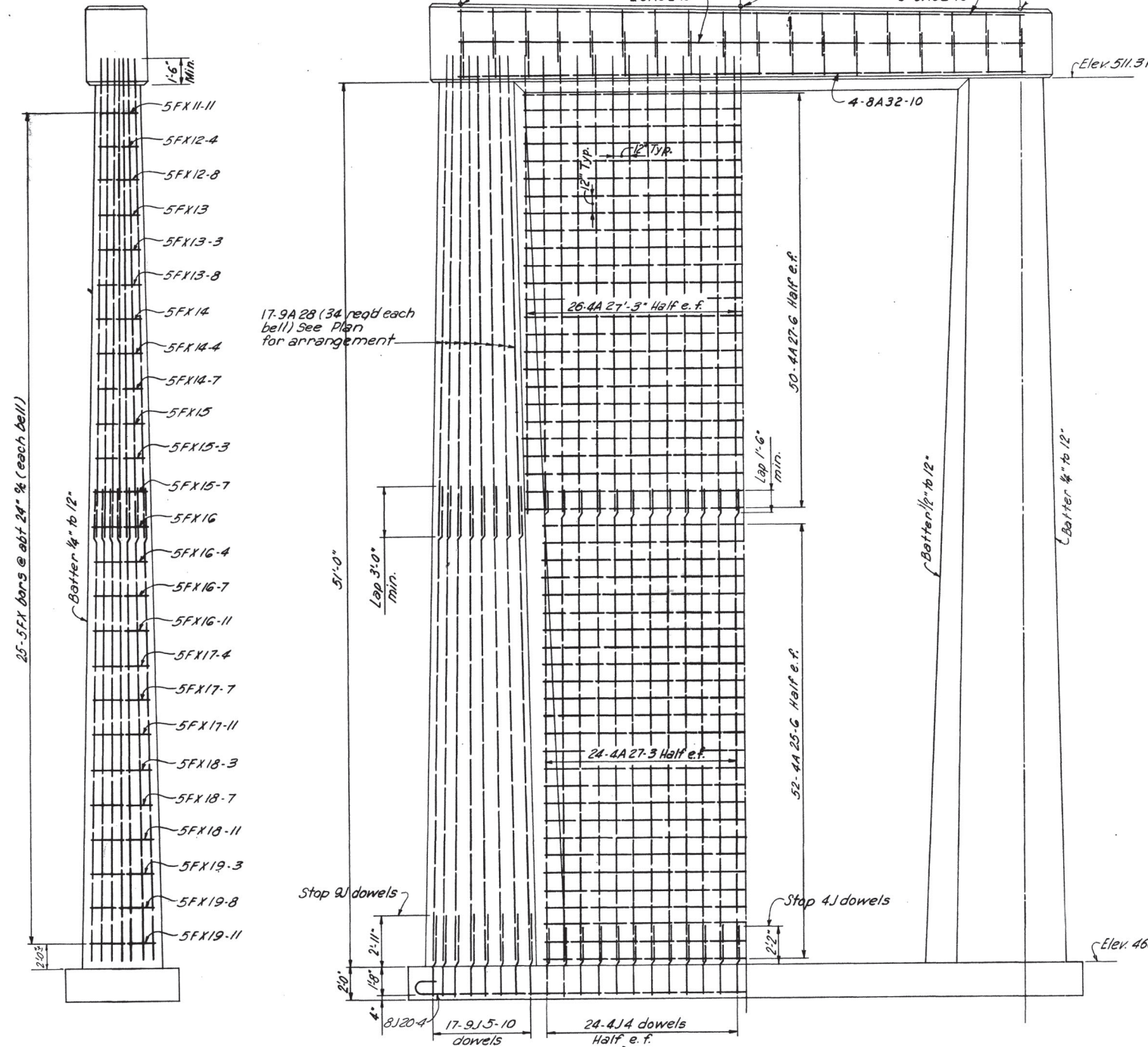


PLAN - BELL AT FOOTING
Scale 3/4" = 1'-0"

Note: Placing designation as follows:
e.f. - each face
e.w. - each way



SECTION A-A THRU PIER
Scale 1/4" = 1'-0"



END ELEVATION
Scale 1/4" = 1'-0"

SIDE ELEVATION
PIER No 2 - RT. LANE - LOOKING FORWARD ON SURVEY
PIER No 2 - LT. LANE - LOOKING BACK ON SURVEY
Scale 1/4" = 1'-0"

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

BRIDGES OVER CANEY FORK RIVER - RIVER MILE 207
STA. 518+50 RIGHT (6A) & LEFT (6B) LANES

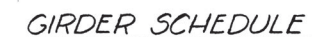
PIER No 2
LT. & RT. LANES

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

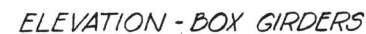
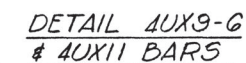
DR. R.W.P.
CHK'D. R.A.H.
APP'D. W.R.

DATE
11-16-59

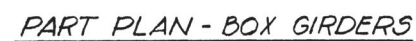
G-15-133



* Concrete for girders for spans Nos 2 & 3 (90') shall have $f'_c = 6000 \text{ psi}$
 $f'_c = 4800 \text{ psi}$ } minimum
 Pretensioning Steel: An initial force of 14000 Lbs shall be
 applied to each strand in all girders.
 Totals: 32 - 69'-11 1/4" Girders
 32 - 89'-10 1/2" Girders



SHOWING MILD STEEL REINFORCING: SEE SCHEDULE
AND SECTIONS THIS DRAWING FOR NUMBER, SIZE,
AND LOCATION OF HIGH TENSILE PRESTRESSING
STEEL CABLES.



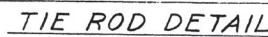
Scale $\frac{1}{2}" = 1'-0"$



Scale: $\frac{3}{4}" = 1'-0"$



NOTE: Locate strands symmetrically about vertical $\bar{z}$.



8 Req'd ea. bridge (Total 16)
Scale $\frac{1}{2}" = 1' - 0"$

ESTIMATED QUANTITIES
BOX GIRDERS

5000 psi Concrete	Cu. Yds.	369.3
6000 psi Concrete	Cu. Yds.	537.3
Hi. tensile reinforcing strands	Lbs.	79,043
Reinforcing Steel	Lbs.	115,856

Quantities for both bridges (6A) & (6B)

Scale: As Noted.

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

BRIDGES OVER CANEY FORK RIVER - RIVER MILE 20.7
STA. 518+50 RIGHT (6A) & LEFT (6B) LANES

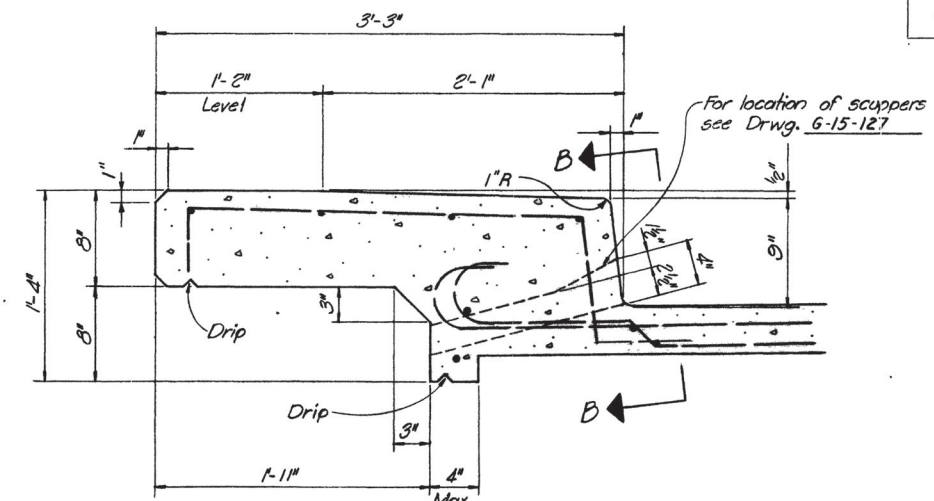
BOX GIRDERS LAYOUT AND DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

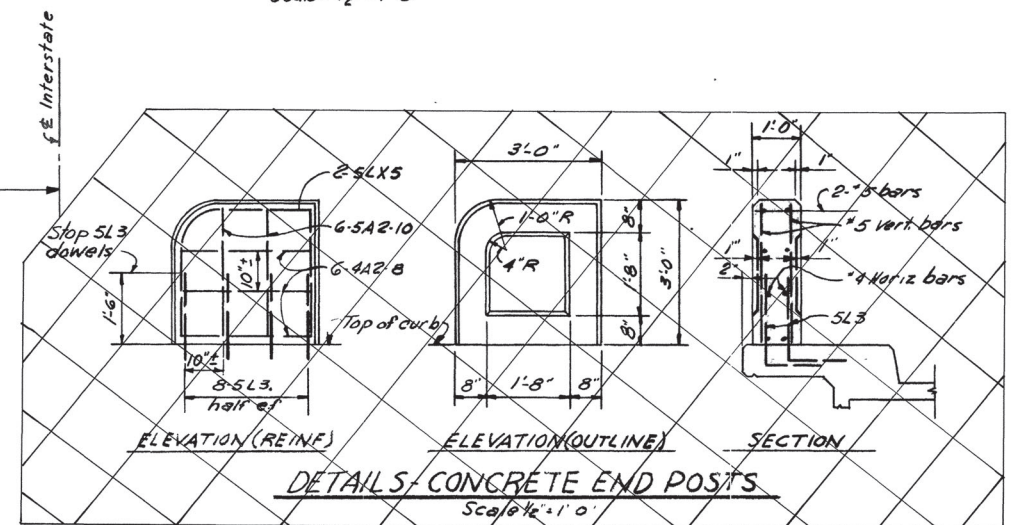
DR. : K. G.
CHK'D R. A. H.
APP'D W. B.

DATE
11-16-59

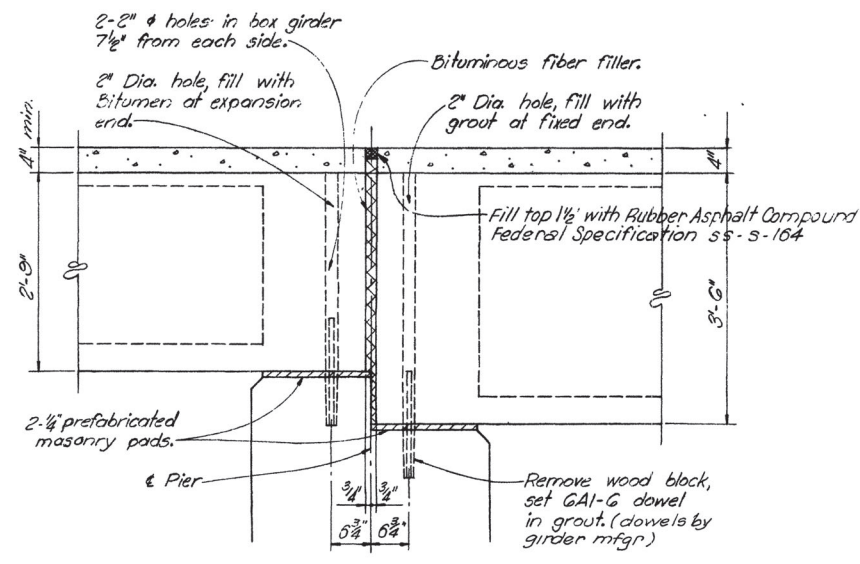
G-15-134



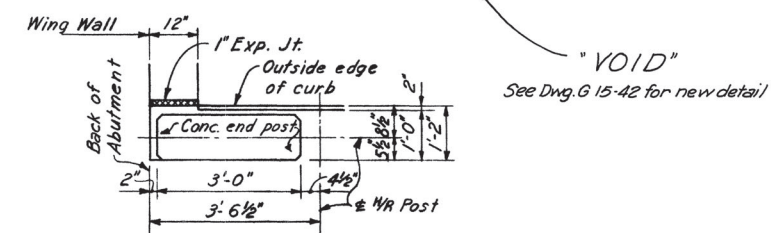
SECTION B-B
Showing scupper inlet opening
Scale 1/2" = 1'-0"



DETAILS - CONCRETE END POSTS
Scale 1/2" = 1' 0"



SECTION AT PIER #1 - AS SHOWN
SECTION AT PIER #3 - OPPOSITE
Scale: $\frac{3}{4}" = 1'-0"$



LOCATION PLAN
CONCRETE END POST
Scale 1/8" = 1'-0"

Scale: As Noted.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

DR. <u>K. G.</u>	DATE	G-15-13
CHK'D <u>R. A. H</u>		
APP'D <u>W. R.</u>	<u>11-16-59</u>	

PROJECT : PAGE OF													
ITEM:	LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES									
				a	b	c	e	f	g	h	o	r	WEIGHT
	ABUTMENT NO 1 RIGHT LANES												
	(2 bars for each abutment)												
	7A30-B	52											3260
	SA3-10	12											48
	SA3-9	12											47
	SA3-7	12											45
	SA3-5	8											29
	SA3-1	4											13
	SA3	112											350
	SA2-11	12											37
	SA2-10	8											24
	SA2-8	4											11
	SA2-5	4											10
	SA2-2	4											18
	SA2-2	3											16
	SA1-11	8											7
	SA1-7	4											
	SUS-11	96	20	1-11 1/2									593
	SUS-6	96	20	1-9									551
	4A13-5	4											36
	4A13-1	6											35
	4A12-9	4											34
	4A11-11	4											32
	4A10-5	4											28
	4A9-8	4											26
	4A8-3	4											22
	4A7-7	4											20
	4A6	4											16
	4A5-6	4											15
	4A3-7	4											10
	Total Abut. #1 Right Lane 2672												
	Total Abut. #1 Left Lane 2672												
	ABUTMENT NO 2 RIGHT LANE												
	11A28-6	7											1060
	11A16	4											340
	11J26-3	6											248 837
	11J25-9	6											242 821
	9A23	60											4692
	9A21-9	40											2958
	9J5-10	60											4-7 1159
	BA17-8	3											142
	BA17-8	3											138
	BA14-6	4											155
	BB14-10	20											128 792
	BB7-7	44											5-5 890
	GA30-2	4											182
	GB9-4	8											8-0 112
Girders Ties	SG12-1	51	2-1/2	3-7 1/2									643
	SG20-10	2	1-6 1/2	8-10 1/2									43
	SG20-4	2	1-6 1/2	8-4 1/2									43
	SG19-10	2	1-6 1/2	8-1 1/2									42
	SG19-4	2	1-6 1/2	7-10 1/2									40
	SG18-10	2	1-6 1/2	7-7 1/2									39
	SG18-4	2	1-6 1/2	7-4 1/2									38
	SG17-10	2	1-6 1/2	7-1 1/2									37
	SG17-4	2	1-6 1/2	6-10 1/2									36
	SG16-10	2	1-6 1/2	6-7 1/2									35
	SG16-4	2	1-6 1/2	6-8 1/2									34
	SG15-10	2	1-6 1/2	6-1 1/2									33
	SG15-4	2	1-6 1/2	5-10 1/2									32
	SG14-10	2	1-6 1/2	5-7 1/2									31
	SG14-4	2	1-6 1/2	5-4 1/2									30
	SG13-10	2	1-6 1/2	5-1 1/2									29
	SG13-4	2	1-6 1/2	4-10 1/2									28
	SG12-10	2	1-6 1/2	4-7 1/2									27
	Cont. in next column.												

PROJECT : PAGE OF													
ITEM:	LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES									
				a	b	c	e	f	g	h	o	r	WEIGHT
	Abutment	SG12-4	2	1-6 1/2	4-4 1/2								26
	#2 Right Lane Cont.	SG11-10	2	1-6 1/2	4-1 1/2								25
		SG11-4	2	1-6 1/2	3-10 1/2								24
		SG10-10	2	1-6 1/2	3-7 1/2								23
		SG10-4	2	1-6 1/2	3-4 1/2								22
		SG9-10	2	1-6 1/2	3-1 1/2								21
		SG9-4	2	1-6 1/2	2-10 1/2								20
		SG8-10	2	1-6 1/2	2-7 1/2								18
		SG8-4	2	1-6 1/2	2-4 1/2								17
		SG7-10	2	1-6 1/2	2-1 1/2								16
	Wing Walls	SA3-10	6										24
		SA3-9	6										24
		SA3-7	6										23
		SA3-5	4										14
		SA3-1	2										6
		SA3	56										175
		SA2-11	6										18
		SA2-10	4										12
		SA2-8	2										6
		SA2-5	2										5
		SA2-2	4										9
		SA1-11	4										8
		SA1-7	2										3
		4A13-5	2										18
		4A13-1	4										35
		4A12-9	2										17
		4A11-11	2										16
		4A10-5	2										14
		4A9-8	2										13
		4A8-3	2										11
		4A7-7	2										10
		4A6	2										8
		4A5-6	2										7
		4A3-7	2										5
	Total Abut. #2 Right Lane 16,240												
	ABUTMENT NO 2 LEFT LANE												
	11A28-6	7											
	11A16	4											
	11J26-3	6											248 837
	11J25-9	6											242 821
	9A30-1	22											2250
	9A19-7	20											1331
	9J5-10	42											4-7 833
	BA17-8	3											142
	BA17-8	3											138
	BA14-6	4											155
	BB12-10	10											108 243
	BB11-1	10											8-11 296
	BB7-7	35											5-5 708
	GA30-4	4											182
	GB9-4	8											8-0 112
Girders Ties	SG12-1	51	2-1/2	3-7 1/2									643
	SG16-10	1	1-6 1/2	6-7 1/2									18
	SG16-4	1	1-6 1/2	6-4 1/2									17
	SG15-10	1	1-6 1/2	6-1 1/2									17
	SG15-4	1	1-6 1/2	5-10 1/2									16
	SG14-10	1	1-6 1/2	5-7 1/2									16
	SG14-4	1	1-6 1/2	5-4 1/2									15
	SG13-10	1	1-6 1/2	5-1 1/2									15
	SG13-4	2	1-6 1/2	4-10 1/2									28
	SG12-10	2	1-6 1/2	4-7 1/2									27
	SG12-4	2	1-6 1/2	4-4 1/2									26
	SG11-10	2	1-6 1/2	4-1 1/2									25
	SG11-4	2	1-6 1/2	3-10 1/2									24
	SG10-10	2	1-6 1/2	3-7 1/2									23
	SG10-4	2	1-6 1/2	3-4 1/2									22
	Cont. on next column.												

PROJECT : PAGE OF														
ITEM:	LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES										WEIGHT
				a	b	c	e	f	g	h	o	r		
	Abutment #2	SG 9-10	2	1-6 1/2	3-1 1/2								21	
	Left Lane	SG 9-4	2	1-6 1/2	2-10 1/2								20	
	Cont.	SG 8-10	2	1-6 1/2	2-7 1/2								18	
		SG 8-4	2	1-6 1/2	2-4 1/2								17	
		SG 7-10	2	1-6 1/2	2-1 1/2								16	
	Wing Walls	SA3-10	6										28	
		SA3-9	6										24	
		SA3-7	6										23	
		SA3-5	4										14	
		SA3-1	2										6	
		SA3	56										175	
		SA2-11	6										18	
		SA2-10	4										12	
		SA2-8	2										6	
		SA2-5	2										5	
		SA2-4	2										5	
		SA2-2	4										9	
		SA1-11	4										8	
		SA1-7	2										3	
		4A 13-5	2										18	
		4A 13-1	4										35	
		4A 12-9	2										17	
		4A 11-11	2										16	
		4A 10-5	2										14	
		4A 9-8	2										13	
		4A 8-3	2										11	
		4A 7-7	2										10	
		4A 6	2										8	
		4A 5-6	2										7	
		4A 3-7	2										5	

