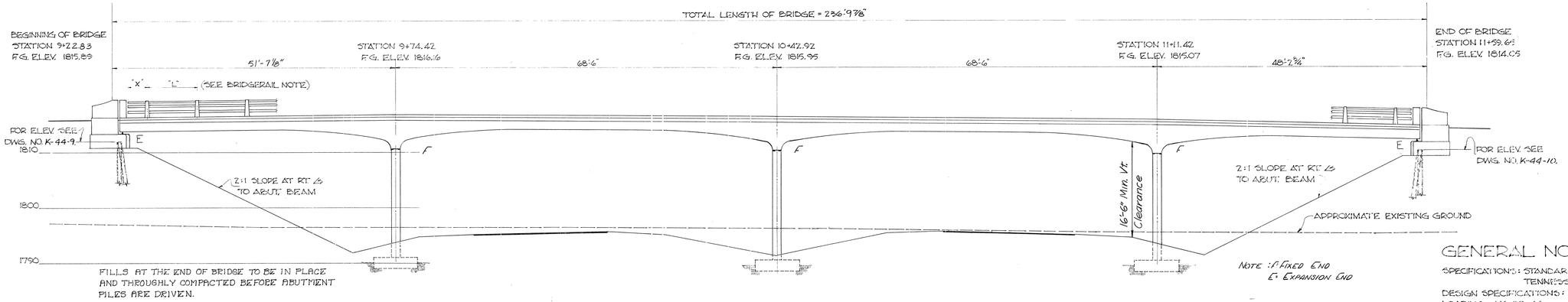
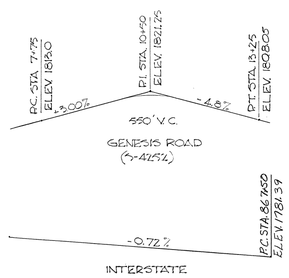
	TENN.	240-6(5) 317	19		

REVISED 6-4-64 - BRIDGE CHANGED FROM 24'-0" TO 30'-0" ROADWAY.

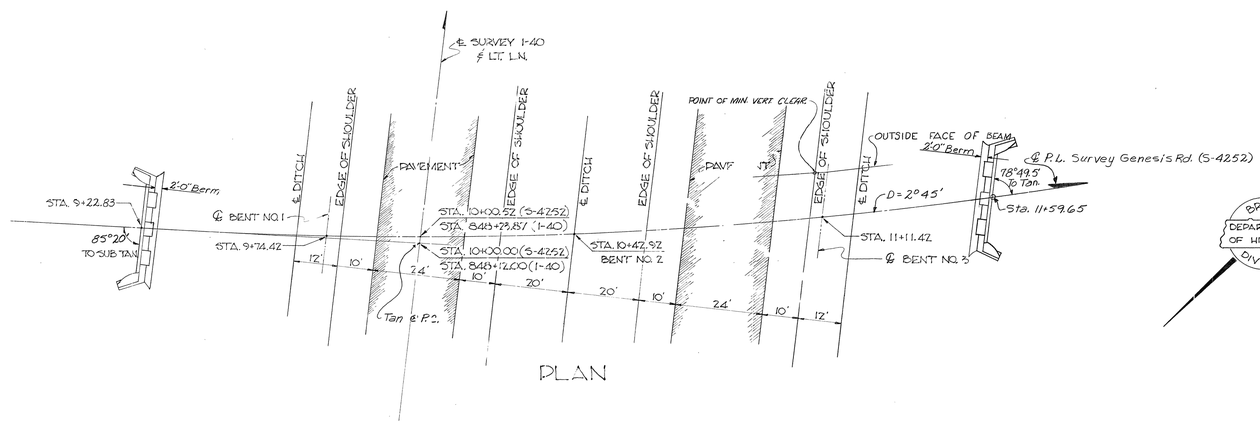


ELEVATION AT RIGHT ANGLES TO GENESIS ROAD

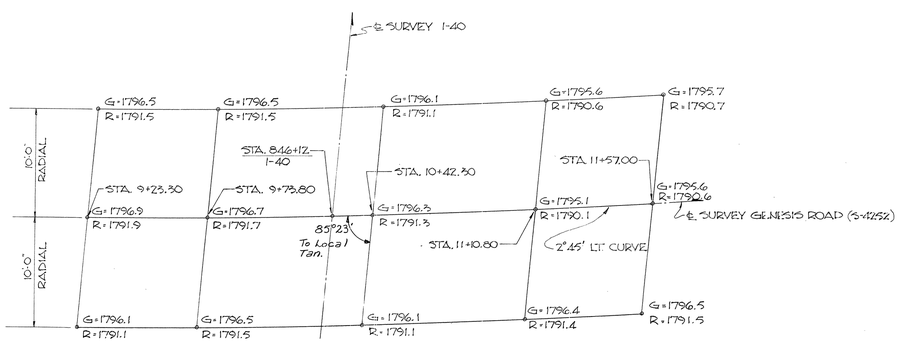


SKETCH OF GRADES

NOTE: ELEVATIONS SHOWN ARE BASED ON FINISHED GRADE.



PLAN



SOUNDING SKETCH

NOTE: G = GROUND ELEV.
R = REFUSAL ON ROCK

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS.
DESIGN SPECIFICATIONS: SEE 1961 A.A.S.H.O. SPECIFICATIONS.
LOADING: HS-20-44
CONCRETE: TO BE CLASS "A" CAST IN PLACE
REINFORCING STEEL: TO BE INTERMEDIATE OR HARD GRADE. STANDARD HOOK DETAILS AS RECOMMENDED BY C.R.S.I. SHALL APPLY.
STRUCTURAL STEEL: SEE DETAILS, DWG. NO. K-15-40.
SELF-LUBERICATING PLATES: SEE SPECIAL PROVISIONS.
NEOPRENE BEARING PADS: SEE SPECIAL PROVISIONS

FOUNDATION NOTE

ALL ABUTMENT PILES ARE TO BE DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING OF 35 TONS. WHEN FOUNDATIONS FOR BENTS HAVE BEEN UNCOVERED, HOLES 6 FEET DEEP SHALL BE DRILLED INTO THE ROCK AT POINTS DESIGNATED BY THE ENGINEER. NO REINFORCING STEEL FOR COLUMNS SHALL BE ORDERED UNTIL FINAL FOOTING ELEVATIONS ARE ESTABLISHED.

BRIDGERAIL NOTE

FOR ALUMINUM BRIDGERAIL DETAILS SEE DWG. NO. K-38-149.
FOR STEEL BRIDGERAIL DETAILS SEE DWG. NO. K-38-150.

DIMENSION	ALUMINUM BRIDGERAIL	STEEL BRIDGERAIL
"X"	LT. RAIL 1'-3"; RT. RAIL 1'-3"	LT. RAIL 1'-3"; RT. RAIL 1'-2 1/2"
"L"	7'-11" (19 SPACES)	8'-1" (20 SPACES)

LIST OF DWGS.

	DWG. NO.
LAYOUT OF BRIDGE	K-44-6
SUPERSTRUCTURE	K-44-7 & K-44-7A
BRIDGE GEOMETRY	K-44-8
ABUTMENT NO. 1	K-44-9
ABUTMENT NO. 2	K-44-10
BENTS NO. 1, 2 & 3	K-44-11 & K-44-7A
BILL OF STEEL	K-44-12
BRIDGERAIL DETAILS	K-38-149 & K-38-150
BEARING DEVICE DETAILS	K-15-60
ROADWAY EXPANSION DEVICES	K-15-60
PILE SPLICE DETAILS	K-15-60

BEARING DEVICE NOTE

USE STANDARD EXPANSION BRG. DEVICE, TYPE E-5, AS SHOW. ON DWG. K-15-60. REQ'D: 6 EXPANSION DEVICES. USE 7'-2"x5"x1" NEOPRENE BEARING PADS AS SHOWN ON DWG. K-44-11. REQ'D: 18 NEOPRENE PADS.

ESTIMATED QUANTITIES

ITEM	EXC.-CU. YDS. DRY	EXC.-CU. YDS. ROCK	CONCRETE CLASS "A" CU. YDS.	STEEL - LBS. REINF.	STEEL - LBS. STRUCT.	METAL BRIDGE-RAIL - LIN. FT.	STEEL PILES 10 BP 42 LIN. FT.	ROCK DRILLING LIN. FT.	BRONZE* LBS.	LINSEED OIL TREAT. SQ. YDS.
SUPERSTRUCTURE			321.4	150,601						
ABUTMENT NO. 1			19.1	2151						
BENT NO. 1	30	36	21.7	7714						
BENT NO. 2	10	34	21.7	7714						
BENT NO. 3	45	15	21.2	7443						
ABUTMENT NO. 2			19.2	2182						
TOTAL	105	85	424.3	177,605	5742	464	389	54	660	1020

(5742 Δ)

* SELF-LUBRICATING PLATES

NOTE: COST OF RUBBER BONDING CEMENT AND NEOPRENE PADS TO BE INCLUDED IN UNIT PRICE BID FOR CLASS "A" CONCRETE.

30'-0" ROADWAY WITH 2'-0" SAFETY CURBS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

LAYOUT OF BRIDGE

GENESIS ROAD OVER INTERSTATE 40
STATION 848+20.55
CUMBERLAND COUNTY
1964

DESIGNED BY GLEN SMITH DATE
DRAWN BY ROGER BYBEE DATE
TRACED BY DATE
CHECKED BY Glen Smith DATE

K-44-6 K-44-6 K-44 Revised

PRINTED 4 PM 3-31-65

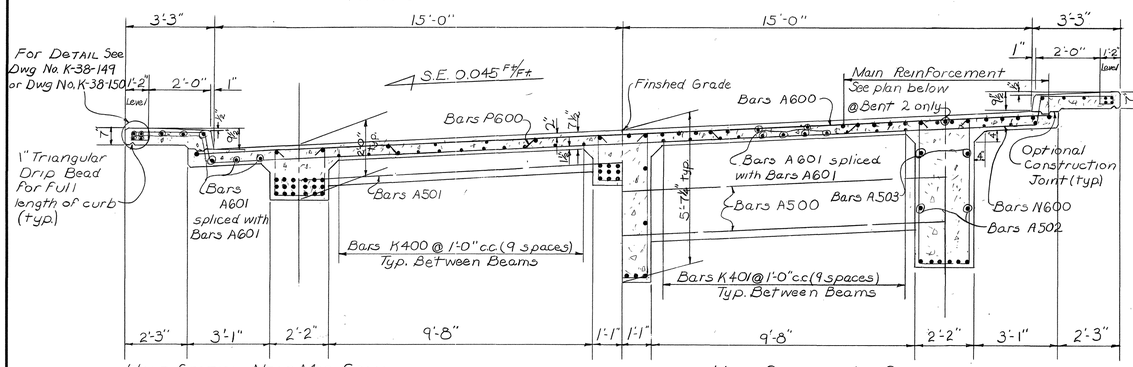
Δ Revised 2nd Mar. 65 Structural Steel qty. Changed

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I 40-3(31)317	19		

Revised 6-4-60 - Bridge changed from 24'-0" Roadway to 30'-0" Roadway.

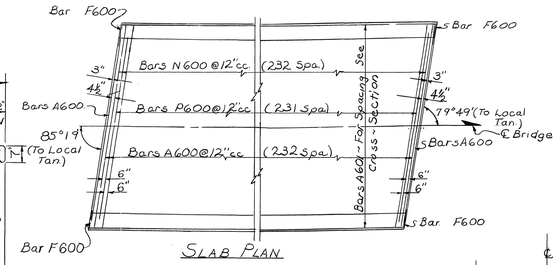
△ Revised 2 July 1965

NOTE: When pouring Curbs provisions shall be made for setting Bridgerail Anchor Bolts. For details see Dwg. No. K-38-149 or Dwg. No. K-38-150 & K-44-6

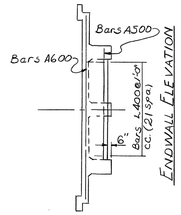


HALF SECTION NEAR MID SPAN

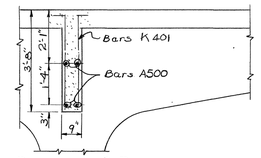
HALF SECTION AT SUPPORT



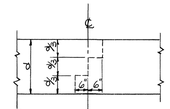
SLAB PLAN



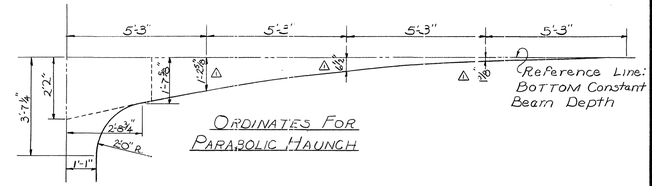
ENDWALL ELEVATION



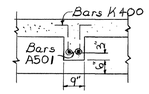
SECTION B-B



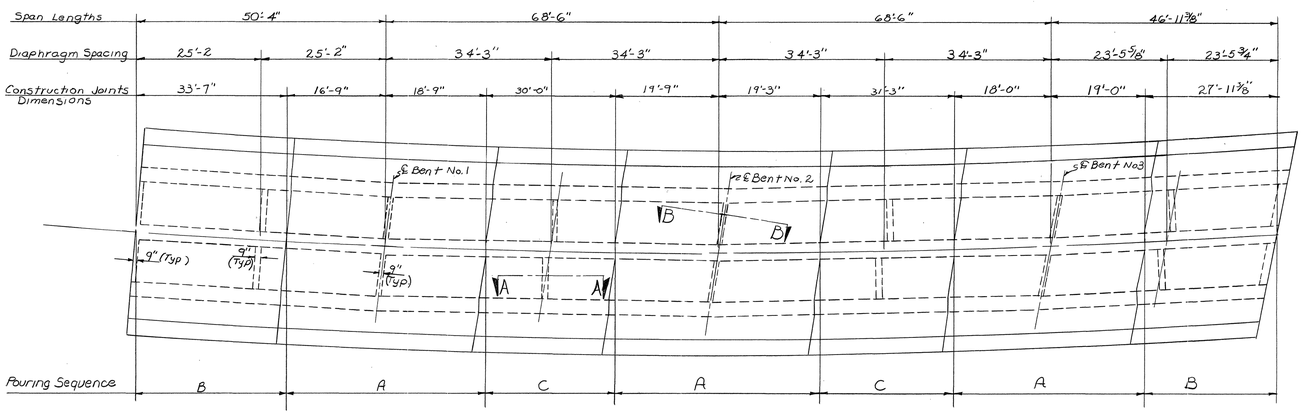
CONSTRUCTION JOINT FOR BEAMS



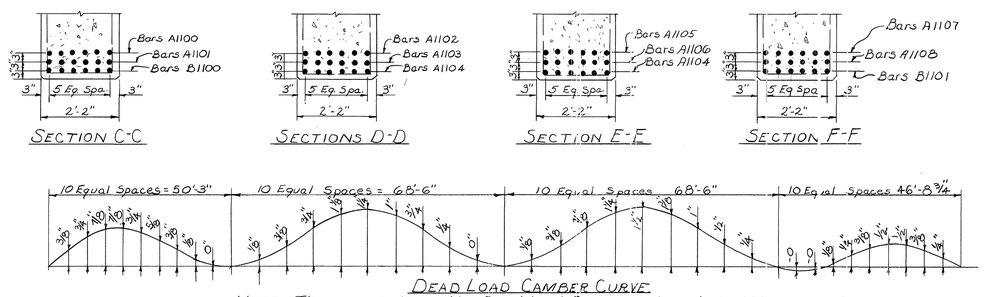
ORDINATES FOR PARABOLIC HAUNCH



SECTION A-A



PLAN OF SUPERSTRUCTURE



DEAD LOAD CAMBER CURVE

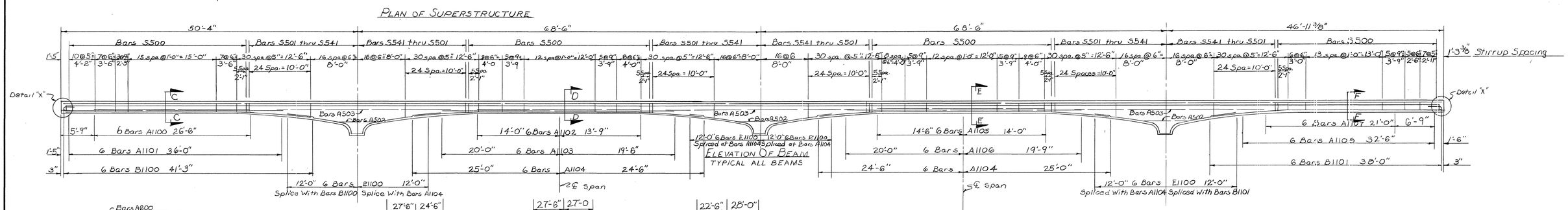
NOTE: This curve shows the Dead Load Camber only and should be increased by the amount of anticipated take-up in false work.

SECTION C-C

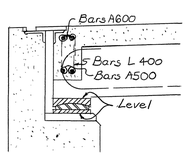
SECTIONS D-D

SECTION E-E

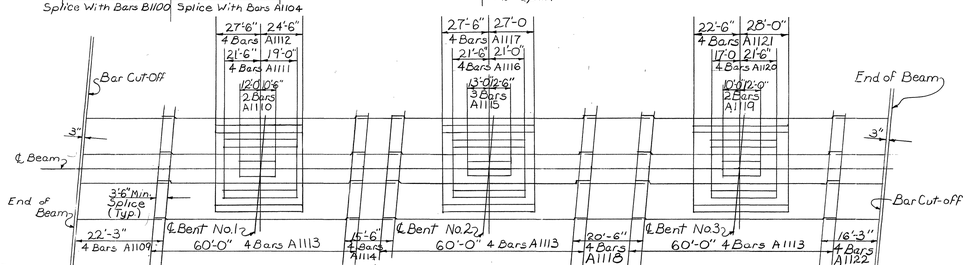
SECTION F-F



ELEVATION OF BEAM
TYPICAL ALL BEAMS



DETAIL "X"
Typical at ends of bridge



PLAN OF MAIN REINFORCING STEEL ~ TOP OF SLAB
TYPICAL FOR ALL BEAMS

ESTIMATED QUANTITIES
Concrete Class "A" ~ 321.4 Cu. Yds.
Reinforcing Steel ~ 150,401 Lbs.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

SUPERSTRUCTURE
GENESIS ROAD OVER I ~ 40
STATION 848 + 20.55
CUMBERLAND COUNTY
1965

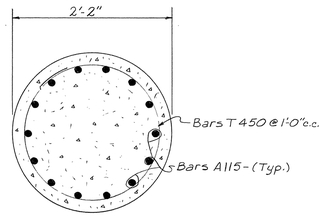
DESIGNED BY Rm D
DRAWN BY D. R. LAMBERT
TRACED BY
CHECKED BY Rm D

DATE APRIL 1965
DATE MAY 1965
DATE
DATE JUNE 1965

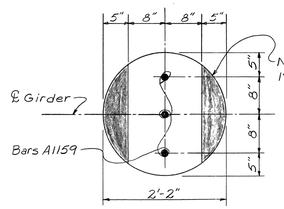
CORRECT Fred Green BRIDGE ENGINEER
APPROVED H. H. Dunlap STATE HIGHWAY ENGINEER

K-44-7
Revised

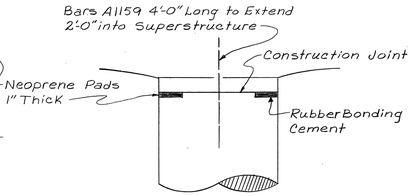
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-40-6(31) 117	19		



SECTION A-A

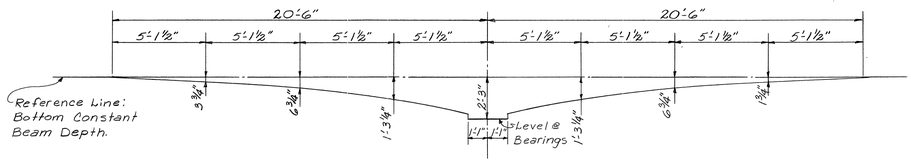


PLAN

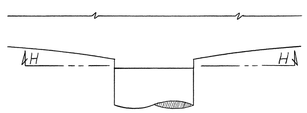


ELEVATION

Note: Neoprene Pads shall be in place a minimum of Two days before being disturbed by placing superstructure forms or concrete. Place rubber bonding cement in such a way that Column surfaces will not be stained.



ORDINATES FOR PARABOLIC HAUNCH

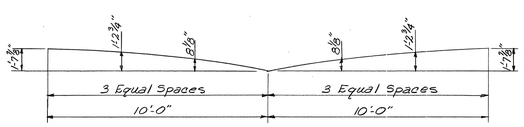


PART ELEVATION AT COLUMN CONNECTION

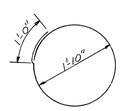
SECTION H-H

REVISED TABLE OF ELEVATIONS & DIMENSIONS

Item	Elevations						Dimensions		
	A	B	C	D	E	F	A	B	C
Bent #1	1872.67	1851.00	1872.78	1851.11	1872.66	1851.24	19'-8"	19'-8"	19'-5"
Bent #2	1872.55	1850.63	1872.67	1850.75	1872.57	1850.90	19'-11"	19'-11"	19'-8"
Bent #3	1871.86	1850.69	1872.00	1850.83	1871.91	1850.99	19'-2"	19'-2"	18'-11"



BARS E1100



BARS L450

REVISED BILL OF STEEL

Bars Changed		Original		New			
Bar	Location	No.	Length	No.	A	B	Length
A1150	Bent #1-Col. #1	12	18'-0"	12			19'-5"
A1151	Bent #2-Col. #1	12	18'-3"	12			19'-8"
A1152	Bent #3-Col. #1	12	17'-6"	12			18'-11"
A1153	Bent #1-Col. #2	12	18'-0"	12			19'-5"
A1154	Bent #2-Col. #2	12	18'-3"	12			19'-8"
A1155	Bent #3-Col #2	12	17'-6"	12			18'-11"
A1156	Bent #1-Col. #1	12	17'-9"	12			19'-2"
A1157	Bent #2-Col. #2	12	18'-0"	12			19'-5"
A1158	Bent #3-Col. #3	12	17'-3"	12			18'-8"
E1100	S. S. Beam	54	22'-8"	54			20'-3"
L450	Bent-Column	164	8'-4"	176			6'-9"
S626	S.S. Beam	18	9'-8"	18	1'-10"	3'-4"	9'-5"
S627	S.S. Beam	18	11'-0"	18	1'-10"	3'-6"	9'-9"
S628	S.S. Beam	18	13'-4"	18	1'-10"	3'-8"	10'-1"

Bars Added			
Bars	Location	No.	Length
A1150	Bent #1-Col. #1	2	19'-5"
A1151	Bent #2-Col #1	2	19'-8"
A1152	Bent #3-Col. #1	2	18'-11"
A1153	Bent #1-Col. #2	2	19'-5"
A1154	Bent #2-Col. #2	2	19'-8"
A1155	Bent #3-Col. #2	2	18'-11"
A1156	Bent #1-Col. #3	2	19'-2"
A1157	Bent #2-Col. #3	2	19'-5"
A1158	Bent #3-Col. #3	2	18'-8"
C1150	Footings	18	5'-3"

Note: Contractor will be paid for reinforcing steel on basis of original quantities for square column. For concrete quantities, for basis of payment, deduct 2.9 cu. yds. from original design.

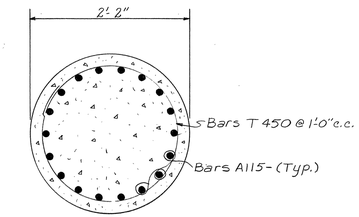
Note: For Details and Reinforcing Steel not shown see Dwgs. No. K-44-14, K-44-16 & K-44-17.

PEAVINE ROAD

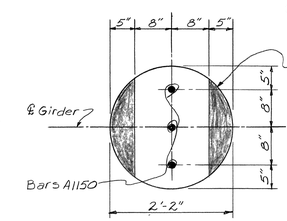
STATION 965+60.90

DESIGNED BY
DRAWN BY C.E.C.
TRACED BY
CHECKED BY

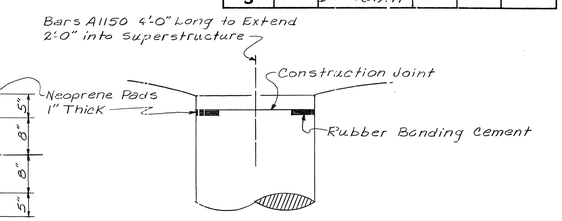
DATE
DATE Aug.-1965
DATE
DATE



SECTION A-A

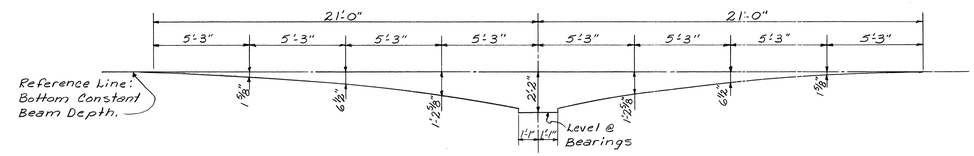


PLAN

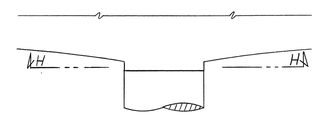


ELEVATION

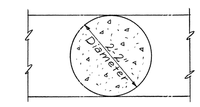
Note: Neoprene Pads shall be in place a minimum of Two days before being disturbed by placing superstructure forms or concrete. Place rubber bonding cement in such a way that column surfaces will not be stained.



ORDINATES FOR PARABOLIC HAUNCH



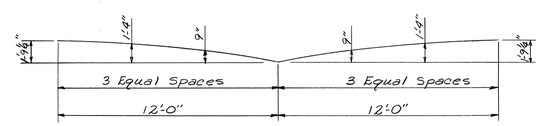
PART ELEVATION AT COLUMN CONNECTION



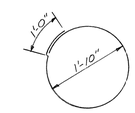
SECTION H-H

REVISED TABLE OF ELEVATIONS & DIM.

Item	Elevations			Dimensions		
	A	B	C	H	J	K
Bent #1	1811.47	1812.00	1812.53	20'-3"	20'-9"	21'-3"
Bent #2	1811.24	1811.79	1812.33	20'-3"	20'-9"	21'-3"
Bent #3	1810.34	1811.47	1811.47	19'-3"	19'-9"	20'-3"



BARS E1100



BARS L450

REVISED BILL OF STEEL

Bars Changed		Original		New			
Bar	Location	No.	Length	No.	A	B	Length
A1151	Bent #1-Col. #1	16	18'-6"	16			20'-0"
A1152	Bent #1-Col. #2	16	19'-0"	16			20'-6"
A1153	Bent #1-Col. #3	16	19'-6"	16			21'-0"
A1154	Bent #2-Col. #1	16	18'-6"	16			20'-0"
A1155	Bent #2-Col. #2	16	19'-0"	16			20'-6"
A1156	Bent #2-Col #3	16	19'-6"	16			21'-0"
A1157	Bent #3-Col. #1	16	17'-6"	16			19'-0"
A1158	Bent #3-Col. #2	16	18'-0"	16			19'-6"
A1159	Bent #3-Col. #3	16	18'-6	16			20'-0"
E1100	S.S. Beam	54	27'-5	54			24'-3"
L455	Bent-Column	171	8'-9"	183			6'-9"
S536	S.S. Beam	18	9'-6"	18	1'-10"	3'-4"	9'-4"
S537	"	18	9'-10"	18	1'-10"	3'-5"	9'-6"
S538	"	18	10'-10"	18	1'-10"	3'-6"	9'-8"
S539	"	18	11'-8"	18	1'-10"	3'-8"	10'-0"
S540	"	18	13'-2"	18	1'-10"	3'-9"	10'-2"
S541	S.S. Beam	9	13'-2	9	1'-10"	3'-10"	10'-4"

Bars Added			
Bars	Location	No.	Length
A1151	Bent #1-Col. #1	2	20'-0"
A1152	Bent #1-Col. #2	2	20'-6"
A1153	Bent #1-Col. #3	2	21'-0"
A1154	Bent #2-Col. #1	2	20'-0"
A1155	Bent #2-Col. #2	2	20'-6"
A1156	Bent #2-Col. #3	2	21'-0"
A1157	Bent #3-Col. #1	2	19'-0"
A1158	Bent #3-Col. #2	2	19'-6"
A1159	Bent #3-Col. #3	2	20'-0"
C1150	Footings	18	5'-3"

Note: Contractor will be paid for reinforcing steel on basis of original quantities for square column. For concrete quantities, for basis of payment, deduct 2.8 cu. yds. from original design.

Note: For Details and Reinforcing Steel not shown see Dwgs. No. K-44-7, K-44-11 & K-44-12.

GENESIS ROAD

STATION 848+20.55

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ALTERNATE DETAILS
FOR CIRCULAR COLUMN
CUMBERLAND COUNTY
1965

CORRECT Fred Gowe
BRIDGE ENGINEER
APPROVED H. Dunlap
STATE HIGHWAY ENGINEER

K-44-7A

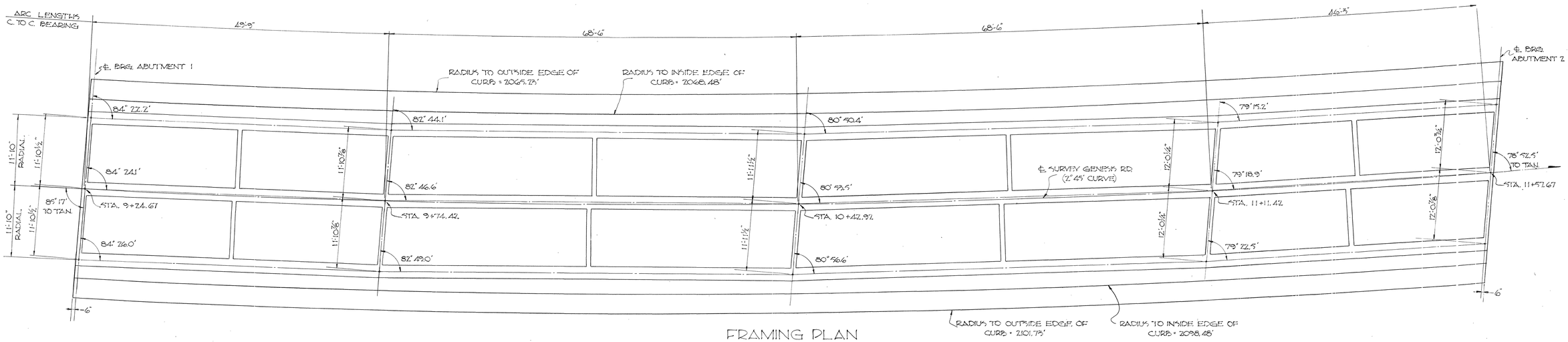
MICROFILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-40-6(31)317	15		

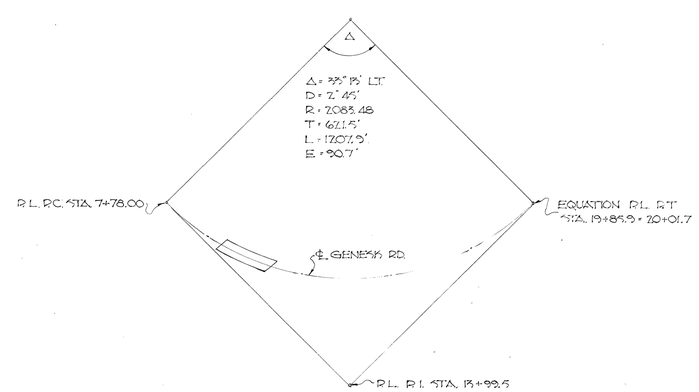
Revised 6-4-65 - Bridge changed from 24'0 Roadway to 30'0" Roadway.

GENERAL NOTES

1. ℄ BEAMS ARE CHORDS OF CONCENTRIC ARCS.
2. ALL STATIONS ARE BASED ON ℄ SURVEY GENESIS RD.
3. ALL BENTS AND ABUTMENTS ARE PARALLEL TO INTERSTATE 40. ℄ I-40 AND ℄ GENESIS RD INTERSECT AT STA. 848+23.87 (I-40) WHICH CORRESPONDS TO STA. 10+00.52 (GENESIS RD)
4. ALL ANGLES ARE TO ℄ BEAMS UNLESS OTHERWISE NOTED.



FRAMING PLAN



HORIZONTAL CONTROL DATA

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BRIDGE GEOMETRY
GENESIS ROAD OVER
INTERSTATE 40
STATION 848+20.55
CUMBERLAND COUNTY
1965

DESIGNED BY D.G. SMITH JR. DATE
DRAWN BY R.D.B. DATE
TRACED BY DATE
CHECKED BY DATE

CORRECT Fred Greve
BRIDGE ENGINEER
APPROVED W.E. Dunlap
STATE HIGHWAY ENGINEER

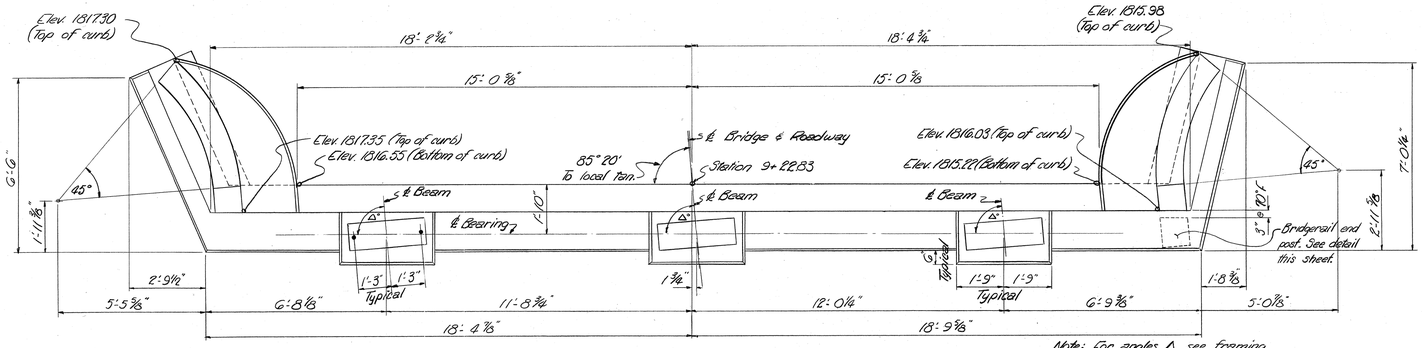
K-44-8

Revised

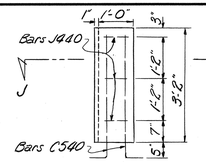
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I40-G(31)317	19		

Revised - 4 June - 1965 - Bridge changed from 24'-0 Roadway to 30'-0 Roadway.

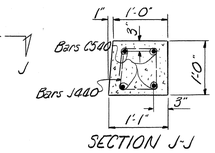
NOTE: When pouring Abutment Beam provisions shall be made for setting Anchor Bolts for Bearing Pl's. Bolt projection 3½".



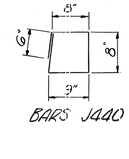
PLAN



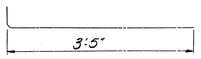
ELEVATION OF BRIDGERAIL END POST



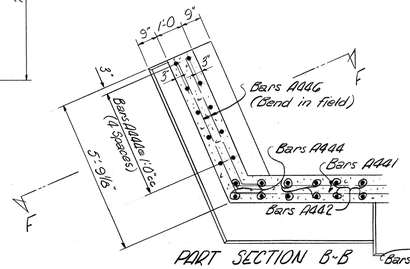
SECTION J-J



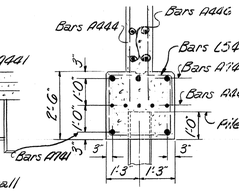
BARS J440



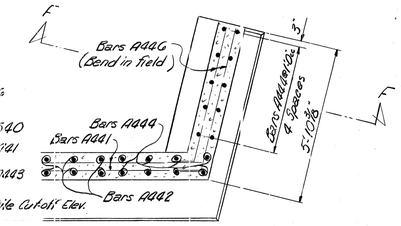
BARS C540



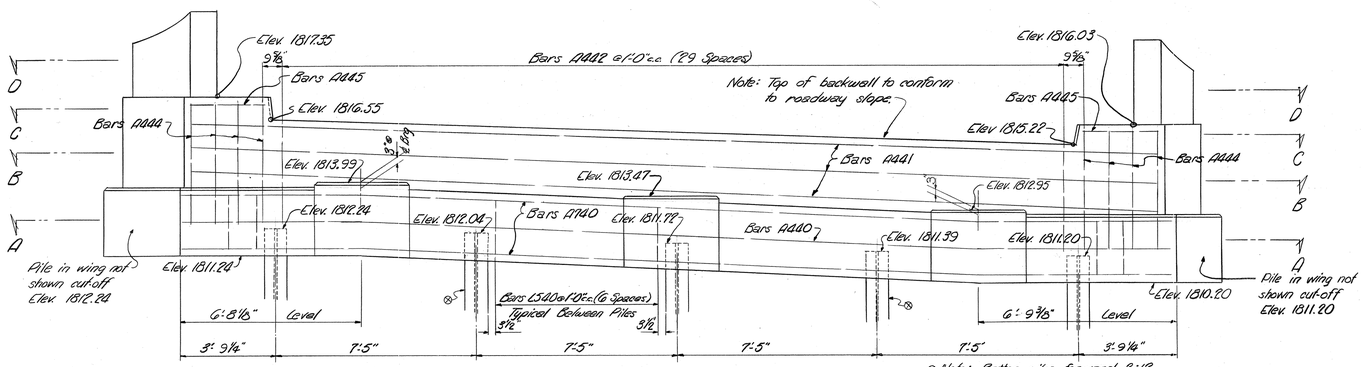
PART SECTION B-B
Showing Reinforcement In Wingwall



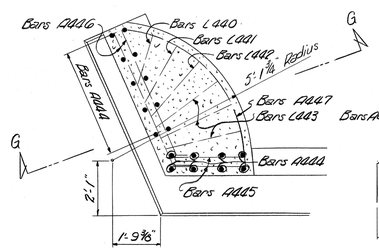
SECTION F-F



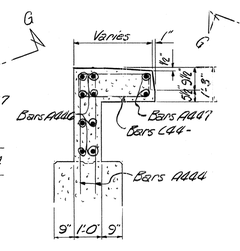
PART SECTION B-B
Showing Reinforcement In Wingwall



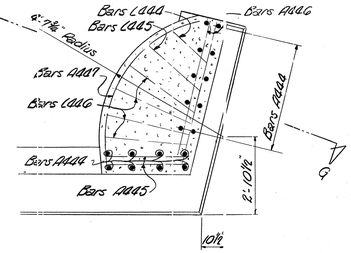
ELEVATION - ABUTMENT NO. 1
Looking back on Survey



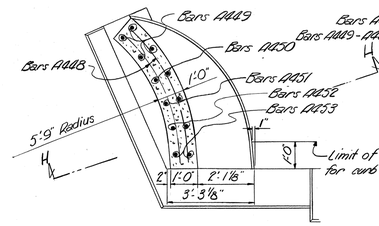
PART SECTION C-C
Showing Reinforcement In Curb



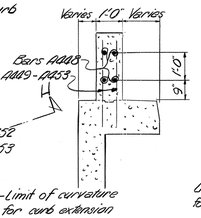
SECTION G-G



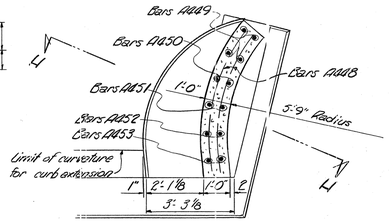
PART SECTION GC
Showing Reinforcement In Curb



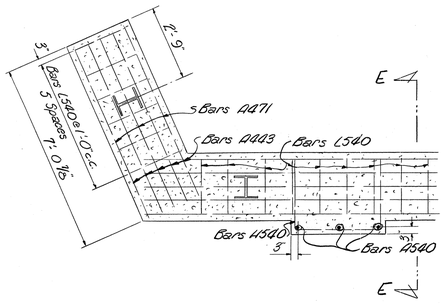
PART SECTION D-D
Showing Reinforcement In Wing Post



SECTION H-H

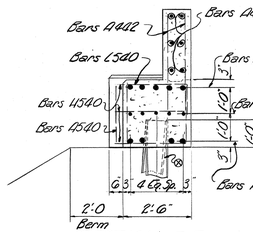


PART SECTION D-D
Showing Reinforcement In Wing Post

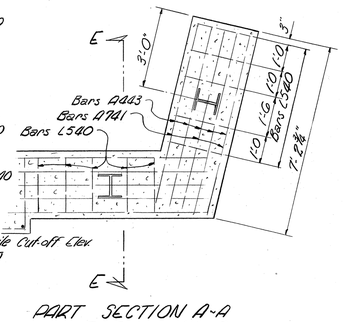


PART SECTION A-A
Showing Reinforcement In Beam

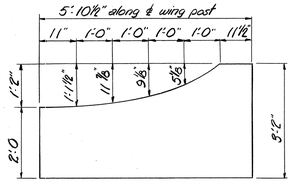
Note: For top of backwall see drawing number K-15-60



SECTION E-E
⊗ Batter 2:12



PART SECTION A-A
Showing Reinforcement In Beam



WING POST DEVELOPED

END POST - LIST OF MATERIALS - EACH

Bar	Size	No.	Length	Quantities: Concrete Class "A"	Quantities: Reinforcing Steel
C540	5	4	3'-9"	0.12 Cu. Yds.	22 Lbs.
J440	4	3	3'-3"		

Note: Cost of end post to be included in cost of bridge rail.

ESTIMATED QUANTITIES

Concrete Class "A"	19.1	Cu. Yds.
Reinforcing Steel	2151	Lbs

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ABUTMENT NO. 1
GENESIS ROAD over INTERSTATE 40
STATION 848+20.55
CUMBERLAND COUNTY
1965

DESIGNED BY Robert W. Dishner DATE April-65
DRAWN BY RMD DATE May-65
TRACED BY DATE
CHECKED BY DEP & RMD DATE May-65

CORRECT Fred Grove
BRIDGE ENGINEER
APPROVED M. Dunlap
STATE HIGHWAY ENGINEER

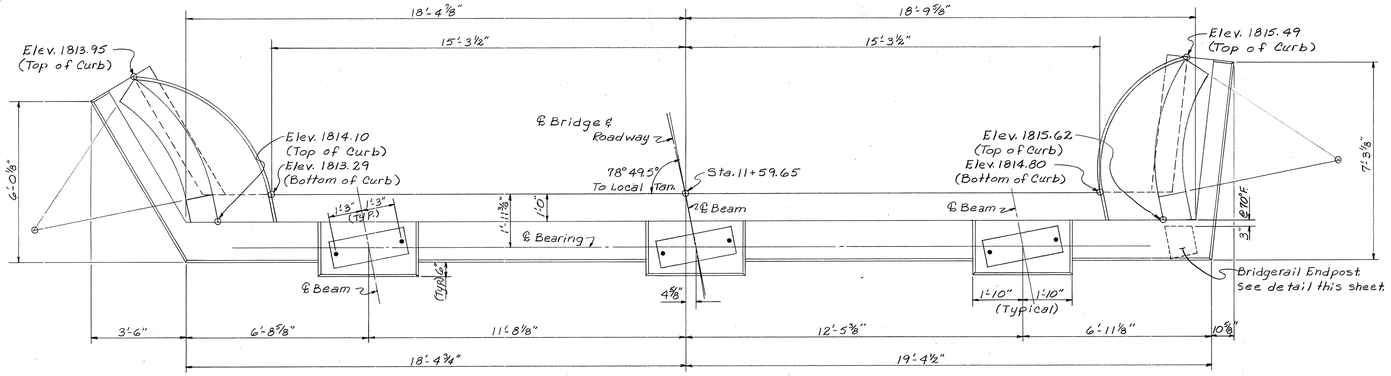
K-44-9
Revised

MICROFILMED

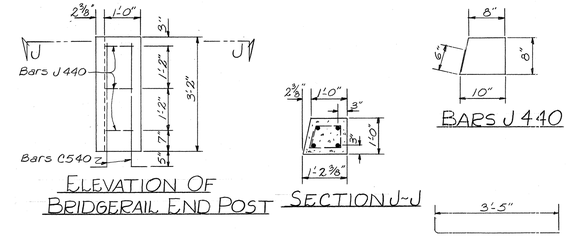
Note: When pouring Abutment Beam, provisions shall be made for setting Anchor Bolts for Bearing Plates. Bolt Projection = 3½".

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-40-6(31) 317	19		

Revised 4-June-65 - Bridge changed from 28'-0 Roadway to 30'-0 Roadway.



PLAN

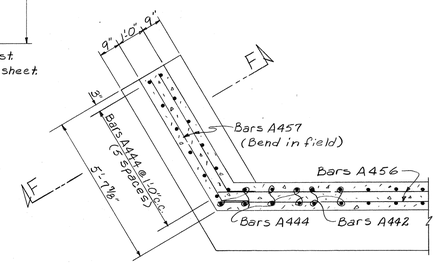


ELEVATION OF BRIDGERAIL END POST

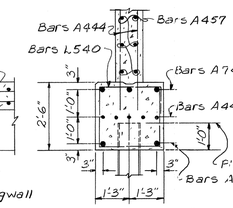
SECTION J-J

BARS J440

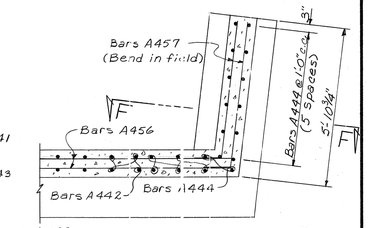
BARS C540



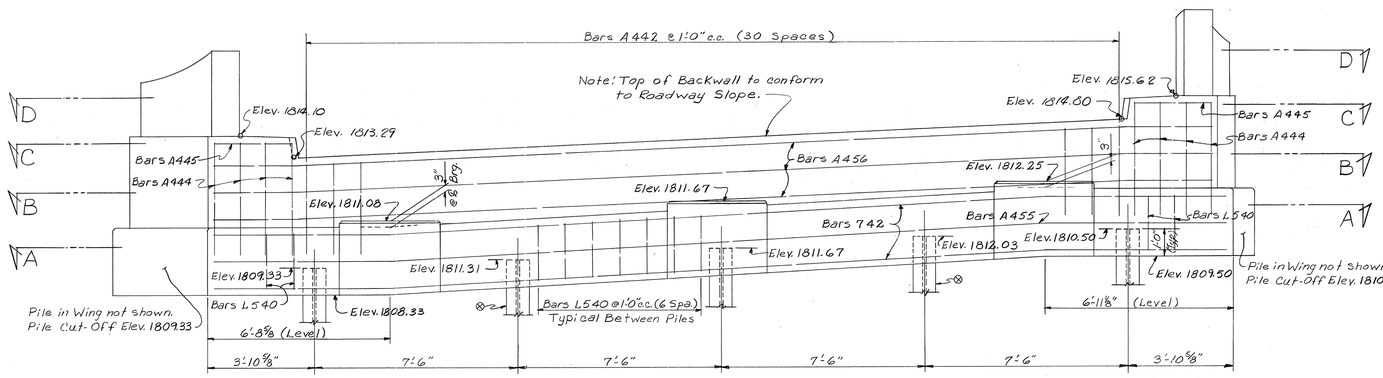
SECTION B-B
Showing Reinforcement In Wingwall



SECTION F-F

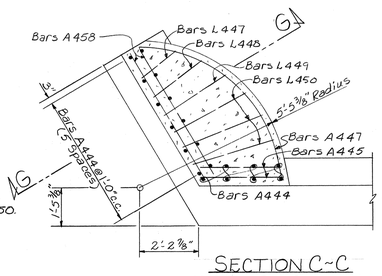


SECTION B-B
Showing Reinforcement In Wingwall

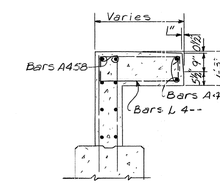


ELEVATION - ABUTMENT NO. 2
Looking Forward On Survey

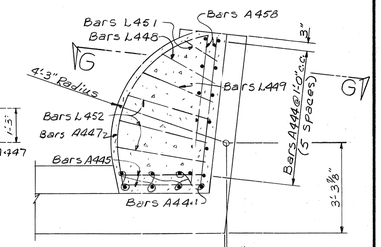
⊗ Batter Piles Forward 2:12



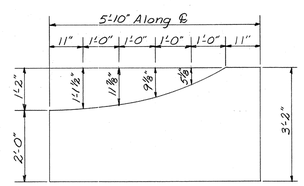
SECTION C-C
Showing Reinforcement In Curb



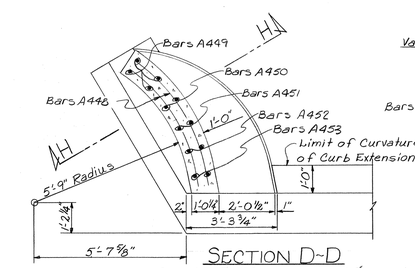
SECTION G-G



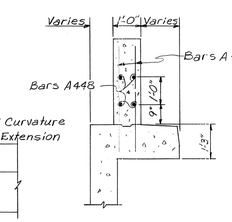
SECTION C-C
Showing Reinforcement In Curb



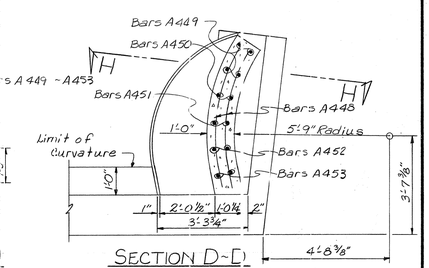
WINGPOST DEVELOPED



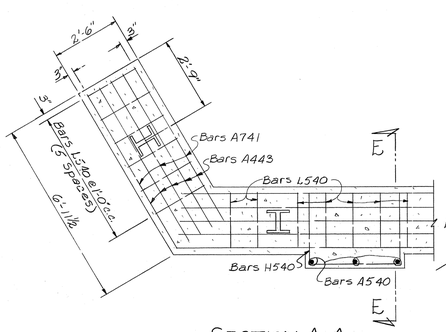
SECTION D-D
Showing Reinforcement In Wingpost



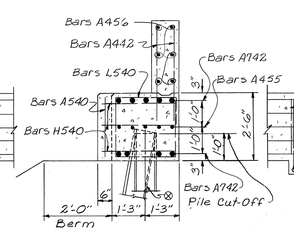
SECTION H-H



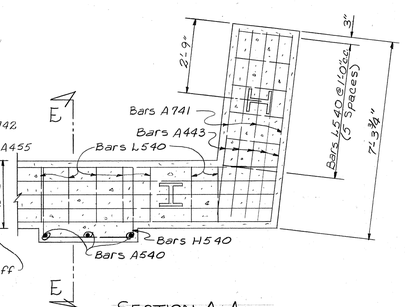
SECTION D-D
Showing Reinforcement In Wingpost



SECTION A-A
Showing Reinforcement In Beam



SECTION E-E
⊗ Batter 2:12



SECTION A-A
Showing Reinforcement In Beam

ENDPOST LIST OF MATERIALS-EACH

BAR	SIZE	NO.	LENGTH	QUANTITIES CONCRETE CLASS "A"	QUANTITIES REINFORCING STEEL
C540	5	4	3'-9"	0.13 CU.YDS	23 LBS.
J440	4	3	3'-6"		

Note: Cost of Endpost to be included in the cost of Bridgerail.

ESTIMATED QUANTITIES

CONCRETE-CLASS "A" 19.2 CU.YDS.

REINFORCING STEEL 2182 LBS.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ABUTMENT NO. 2
GENESIS ROAD OVER I-40
STATION 848+2055
CUMBERLAND COUNTY
1965

DESIGNED BY R. M. D. DATE April-1965
DRAWN BY C. E. C. DATE May-1965
TRACED BY DATE
CHECKED BY RMD DATE

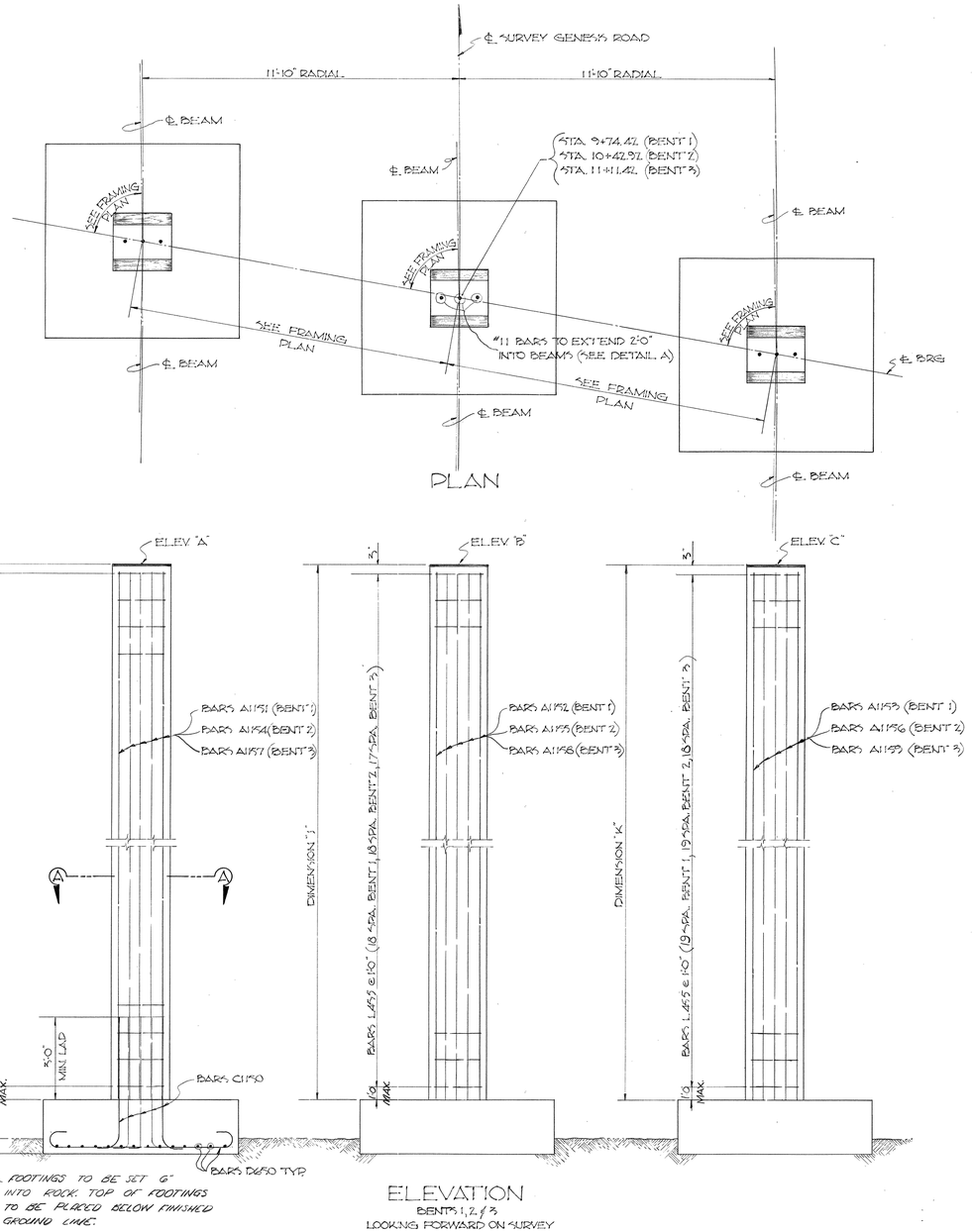
CORRECT Fred Grove
BRIDGE ENGINEER
APPROVED J. A. Dunlap
STATE HIGHWAY ENGINEER

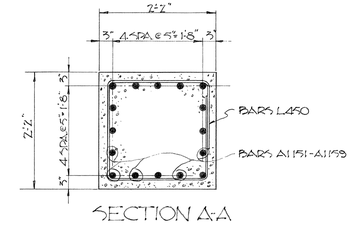
K-44-10

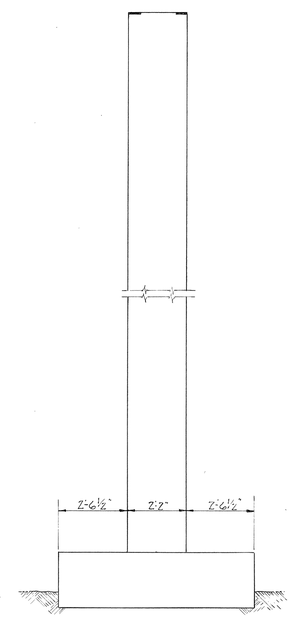
Revised

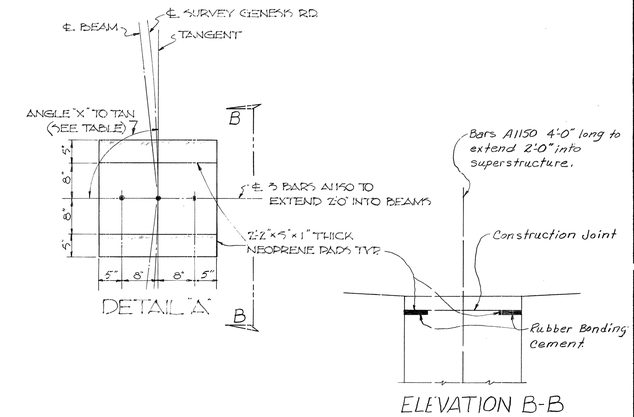
MICROFILMED

FED. ROAD DIST. NO.	STATE	FED AID PRO. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-40-6(51)317	19		

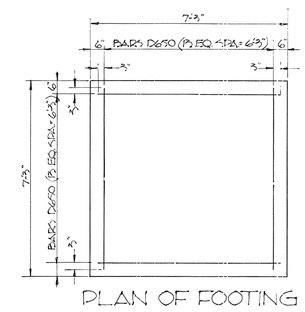








Note: Neoprene pads shall be in place a minimum of two days before being disturbed by placing superstructure forms or concrete. Place Rubber Bonding Cement in such a way that Column surfaces will not be stained.



ITEM	DIMENSIONS			ELEVATIONS			ANGLE
	"H"	"J"	"K"	"A"	"B"	"C"	"X"
BENT NO. 1	18'-9"	19'-3"	19'-9"	1810.03	1810.56	1811.09	83°55'
BENT NO. 2	18'-9"	19'-3"	19'-9"	1809.80	1810.35	1810.89	82°02'
BENT NO. 3	17'-9"	18'-3"	18'-9"	1808.90	1809.47	1810.03	80°09'

ESTIMATED QUANTITIES

ITEM	CONCRETE CLASS "A" CU. YDS.	REINFORCING STEEL LBS.
BENT 1	21.7	7714
BENT 2	21.7	7714
BENT 3	21.2	7443

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

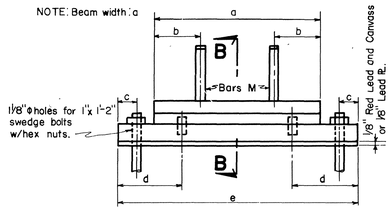
BENT DETAILS
GENESIS ROAD OVER INTERSTATE 40
STATION 848+70.55
CUMBERLAND COUNTY
1965

DESIGNED BY Rm D DATE
DRAWN BY RDB DATE MAY-14-'65
TRACED BY DATE
CHECKED BY Rm D DATE

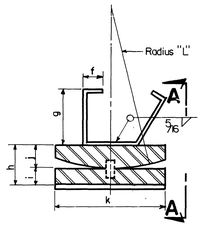
CORRECT Fred Greve
BRIDGE ENGINEER
APPROVED W E Dunlap
STATE HIGHWAY ENGINEER

K-44-11
Revised

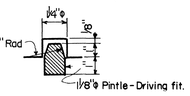
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.
3	TENN.			100 333



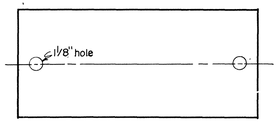
ELEVATION A-A



SECTION B-B



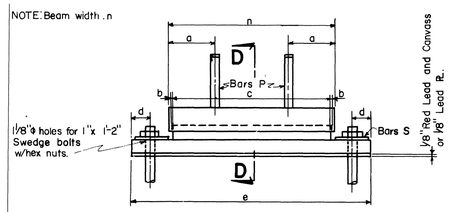
PINTLE DETAIL



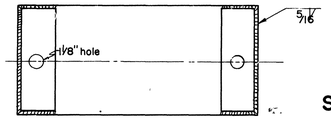
STANDARD FIXED BEARINGS

TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES

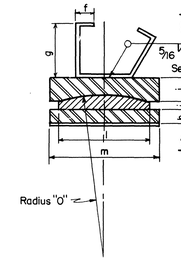
TYPE	DIMENSIONS													STRUCTURAL STEEL
	a	b	c	d	e	f	g	h	i	j	k	L	Bars M	Lbs.
Type F1	1'-6"	5"	2"	7"	2'-2"	2"	6"	4½"	2"	2½"	1'-0"	1'-6"	1"x ⅜"x 2'-0"	322
Type F2	1'-2"	4"	2"	7"	1'-10"	2"	6"	4½"	2"	2½"	1'-0"	1'-6"	1"x ⅜"x 2'-0"	265
Type F3	1'-6"	5"	1½"	6"	2'-0"	2"	6"	4½"	2"	2½"	1'-0"	1'-6"	1"x ⅜"x 2'-0"	308
Type F4	2'-2"	5"	2"	7"	2'-10"	2"	6"	4½"	2	2½"	1'-0"	1'-6"	1"x ⅜"x 2'-0"	451
Type F5	2'-0"	5"	2"	7"	2'-8"	2"	6"	4½"	2"	2½"	1'-2"	1'-6"	1"x ⅜"x 2'-0"	482



ELEVATION C-C



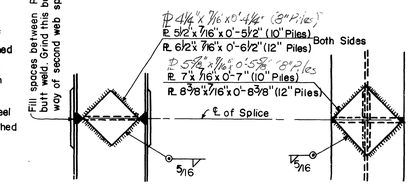
STANDARD EXPANSION BEARINGS



SECTION D-D

NOTE: Surfaces of Steel Pls opposing Self Lubricating Pls to be given a plain machined finish, approx. 125° microinch rms. No paint or grease shall be on these surfaces or on the surfaces of the Expansion Pl. At the time of assembly these surfaces of the steel Pls shall be coated with a lubricant furnished by the manufactuer of the Expansion Pl.

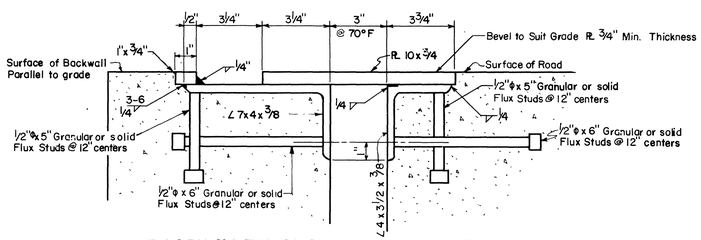
NOTE: STRUCTURAL STEEL CONFORMING TO ASTM A-7 OR ASTM A-36-62T WILL BE ACCEPTABLE.



STANDARD PILE SPLICE DETAIL

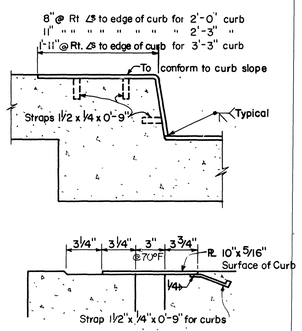
TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES

TYPE	DIMENSIONS																	STRUCTURAL STEEL	BRONZE
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	Bars P	Bars S	Lbs.	Lbs.
Type E1	5"	7/16"	17	2"	2'-2"	2"	6"	1½"	1"	2½"	5"	10"	1'-0"	1'-6"	1'-6"	1"x ⅜"x 2'-0"	½"x 4"x 0'-11"	286	83
Type E2	4"	7/16"	13	2"	1'-10"	2"	6"	1½"	1"	2½"	5"	10"	1'-0"	1'-2"	1'-6"	1"x ⅜"x 2'-0"	½"x 4"x 0'-11"	238	62
Type E3	5"	7/16"	23"	2"	2'-8"	2"	6"	1½"	1"	2½"	5"	10"	1'-2"	2'-0"	1'-6"	1"x ⅜"x 2'-0"	½"x 4"x 0'-11"	425	110
Type E4	5"	7/16"	21"	2"	2'-6"	2"	6"	1½"	1"	2½"	5"	10"	1'-0"	1'-10"	1'-6"	1"x ⅜"x 2'-0"	½"x 4"x 0'-11"	347	104
Type E5	5"	7/16"	25"	2"	2'-10"	2"	6"	1½"	1"	2½"	5"	10"	1'-0"	2'-2"	1'-6"	1"x ⅜"x 2'-0"	½"x 4"x 0'-11"	400	110
Type E6	5"	7/16"	29"	2"	3'-2"	2"	6"	1½"	1"	2½"	5"	10"	1'-0"	2'-6"	1'-6"	1"x ⅜"x 2'-0"	½"x 4"x 0'-11"	432	126
Type E7	5"	7/16"	19"	2"	2'-4"	2"	6"	1½"	1"	2½"	5"	10"	1'-0"	1'-8"	1'-6"	1"x ⅜"x 2'-0"	½"x 4"x 0'-11"	313	94



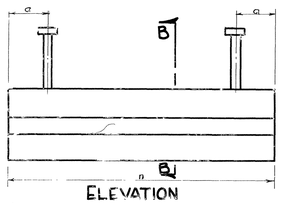
ROADWAY EXPANSION DEVICE TYPE A
SECTION AT RT. ANGLE TO JOINT

NOTE: Fabricate to fit slope of Roadway and Skew of Bridge as required.
NOTE: See also Abutment Drawings.

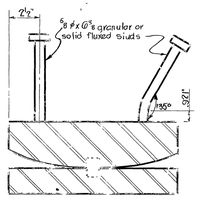


DETAIL OF CURB EXPANSION DEVICES

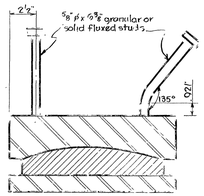
Required one at each end of roadway expansion device



ELEVATION



SECTION B-B



SECTION B-B

Note All studs shall be granular or solid fluted studs

STANDARD FIXED BEARINGS

STANDARD EXPANSION BEARINGS

ALTERNATE
BEARING ANCHORAGE DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STANDARD BRIDGE DETAILS
EXPANSION DEVICES
BEARING DEVICES
PILE SPLICE
1962

CORRECT: Fred Gurni — BRIDGE ENGINEER
APPROVED: Chas D. Long — STATE HIGHWAY ENGINEER

K-15-60

DESIGNED BY _____ DATE _____
DRAWN BY _____ DATE _____
TRACED BY Moosley DATE 6-13-62
CHECKED BY _____ DATE _____

Revised Type E7 added - 4-25-67
Revised Type F5 added - 11-9-66
Revised Type E5 added - 4-24-63
Revised Type E4 added - 3-26-63
Revised: Type E6 added-10-23-63
Revised: Curb Plates - 11-6-63
Revised: Added Alternate Bearing Anchorage Details - 2-28-63
Revised Type F1 - 1-16-63
Pl. 5" Pile Splice added 9-28-65
3 Copies

ESTIMATED BRIDGE QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	18-1174-1.24 OVER I-40 WESTBOUND	18-1174-1.30 OVER I-40 EASTBOUND	18-298-2.23 OVER I-40 EB & WB
1	604-03.09	CLASS "D" CONCRETE (BRIDGE DECK)	C.Y.	188			188
2	604-04.02	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	2091			2091
3	604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	816			816
4	604-10.13	CONCRETE SLAB REMOVAL	L.S.	1			1
5	604-10.18	REINFORCING STEEL (REPAIRS)	LBS.	36514			36514
6	604-10.30	BRIDGE DECK REPAIRS (FULL DEPTH OF SLAB)	S.Y.	40			40
7	604-10.44	EXPANSION JOINT REPAIRS	L.F.	74			74
6	604-10.50	BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB)	S.Y.	300			300
8	604-10.51	SCARIFYING	S.Y.	623			623
12	604-10.55	CONCRETE (FOUNDATION REPAIRS)	C.Y.	5			5
9	617-01	BRIDGE DECK SEALANT	S.Y.	1304	641	663	
10	617-02	BRIDGE DECK CRACK SEALING	L.F.	237			237
11	617-05	SEALANT (HMWM)	GAL.	4			4
13	620-10.01	CONCRETE PARAPET (BRIDGERAIL REPLACEMENT)	L.F.	514			514
14	604-10.26	BRACING	EA.	12			12

FOOTNOTES

(1) INCLUDES ALL LABOR AND MATERIALS NECESSARY TO CONSTRUCT 4½" NEW CONCRETE OVERLAY, CANTILEVERS, AND END DIAPHRAGMS. SEE DWG. BR-43-81, BR-43-82, BR-43-85, AND BR-43-86.

(2) INCLUDES COST OF ALL LABOR AND MATERIALS TO PROVIDE AN APPLIED TEXTURE FINISH TO THE EXISTING SUBSTRUCTURES, REMAINING BOTTOM OF EXISTING SUPERSTRUCTURE, NEW CANTILEVER AND PARAPET AS SHOWN BY DETAIL ON THIS DRAWING.

(3) INCLUDES COST OF ALL LABOR AND MATERIALS TO PROVIDE A MECHANICALLY GROVED BRIDGE DECK FINISH.

(4) INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR THE REMOVAL AND DISPOSAL OF SLAB CANTILEVERS, CURBS, BRIDGERAILS, AND END POSTS. SEE DWG. NO. BR-43-83 AND BR-43-87.

(5) INCLUDES COST OF ALL EPOXY COATED REINFORCING STEEL REQUIRED FOR THE NEW 4½" CONCRETE OVERLAY, SLAB CANTILEVERS, END POST MODIFICATIONS AND BARS B471E (PARAPETS).

(6) INCLUDES COST OF ALL LABOR & MATERIALS TO PERFORM FULL OR PARTIAL DEPTH DECK REPAIRS AS SHOWN IN DETAIL ON DWG. NO. BR-43-82. ITEM NO. 604-10.30 AND 604-10-50 ARE CONTINGENCY ITEMS THAT MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

(7) INCLUDES THE COST OF ALL LABOR AND MATERIALS NECESSARY TO PLACE AN EXPANSION JOINTS AT ABUTMENT NO. 1 AND NO. 2 AS SHOWN IN DETAILS AND NOTES ON DWG. NO. BR-43-84.

(8) INCLUDES ALL LABOR AND MATERIALS NECESSARY TO SCARIFY 1" OF CONCRETE FROM EXISTING BRIDGE DECK AFTER REMOVAL OF CANTILEVERS, CURBS, AND BRIDGERAILS.

(9) INCLUDES BRIDGE DECK SEALANT MEMBRANE TO BE PLACED IN NEW 3¼" ASPHALT OVERLAY. SEE BRIDGE DECK SEALANT DETAIL ON DWG. NO. BR-43-77, BR-43-79, AND PAVEMENT TRANSITION DETAIL ON APPROACH ROADWAY DETAIL DRAWING ON SHEET NO. 3.

(10) INCLUDES ALL COST FOR INSTALLING THE BRIDGE CRACK SEALER (HMWM) INCLUDING CRACK PREPARATION, CLEANING, LABOR, AND ALL MISCELLANEOUS MATERIALS REQUIRED TO SEAL THE LONGITUDIAL CONSTRUCTION JOINT ACCORDING TO SPECIAL PROVISION 604CR AND MANUFACURERS SPECIFICATIONS. THIS ITEM DOES NOT INCLUDE THE COST OF FURNISHING THE BRIDGE CRACK SEALANT ITSELF.

(11) INCLUDES ALL COST FOR FURNISHING THE SEALER MATERIAL (HMWM) FOR SEALING CRACKS. THE SEALER (HMWM) SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION 604CR.

(12) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY TO CONSTRUCT CONCRETE PAD AT ABUTMENTS. SEE DRAWINGS BR-43-87 FOR DETAILS. ITEM NO. 604-10.55 SHALL BE BID ON THE CONTINGENCY THAT THE QUANITITY MAY INCREASE OR DECREASE AT THE DISCRETION OF THE ENGINEER.

(13) INCLUDES COST OF ALL LABOR AND MATERIALS FOR CONSTRUCTING NEW JERSEY TYPE CONCRETE PARAPET AND ENDPOSTS. SEE STANDARD DWGS. NO. STD-1-1 FOR PARAPET, AND BR-2-125 AND BR-2-126 FOR END POST NOTES AND DETAILS.

(14) INCLUDES COST OF ALL LABOR AND MATERIALS FOR TEMPORARY SUPPORTS TO SHORE EXISTING EXTERIOR BEAMS DURING DECK REPARIS AND PHASE CONSTRUCTION. SEE NOTES AND DETAILS ON DWG. NO. BR-43-80.

GENERAL NOTES

1. SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (MARCH 1, 1995 EDITION).

2. DESIGN SPECIFICATIONS: AASHTO 1996 EDITION WITH ADDENDA.

3. REINFORCING STEEL: SEE THE STANDARD SPECIFICATIONS.

4. MECHANICAL BAR SPLICERS: MUST BE ON THE APPROVED LIST MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS. THE BAR SPLICER SHALL MEET AASHTO STANDARD SPECIFICATIONS FOR MECHANICAL CONNECTION. WHEN EPOXY COATING IS REQUIRED, THE EXPOSED THREADS SHALL BE REPAIRED AFTER SPLICING ACCORDING TO THE STANDARD SPECIFICATIONS, SECTION 907. THE COST OF FURNISHING THE BAR SPLICERS, (AND EPOXY COATING WHEN REQUIRED) INCLUDING ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 604-10.18, LBS.

5. SHOP DRAWING: SHALL BE SUBMITTED ACCORDING TO SPECIAL PROVISION NO. 105A, SHOP DRAWINGS SHALL BE SUBMITTED TO THE BRIDGE REPAIR OFFICE OF THE DIVISION OF STRUCTURES.

6. BRIDGE DECK CONCRETE: SHALL BE CLASS "D" CONCRETE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

7. BRIDGE DECK SURFACE FINISH: TO BE IN ACCORDANCE WITH METHOD (C) IN SUBSECTION 604.23 OF THE STANDARD SPECIFICATIONS.

8. CONCRETE CURING: ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE TDOT STANDARD SPECIFICAIONS.

9. SPECIAL NOTE TO CONTRACTOR: CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS IS DROPPED ONTO THE ROADWAY. FOR ANY DEBRIS WHICH IS ALLOWED TO DROP ON ROADWAY BELOWTHE BRIDGE, THE COST OF REMOVING AND DISPOSING OF DEBRIS SHALL BE INCLUDED IN ITEMS BID ON.

10. DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL. PNEUMATIC HAMMERS MAY BE USED TO REMOVE UNSOUND CONCRETE. FOR FULL DEPTH OF CONCRETE SLAB REMOVAL EXCEPT OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS. FOR PARTIAL DEPTH OF CONCRETE SLAB REMOVAL AND ANY WORK OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE SO LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.

11. GROUTED BARS IN DRILLED HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED 1/2" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND BAR ROTATED (NOT DRIVEN) TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED 1/4" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT AND BAR DRIVEN TO IT'S SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY T.D.O.T. MATERIALS AND TESTS.

12. BRIDGE DECK FORMS: BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING REMOVABLE FORMS. FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO SUPPORT MEMBERS. THE CONTRACTOR SHALL TAKE STEPS TO ASSURE THE STABILITY OF THE EXTERIOR GIRDER AGAINST TWISTING OR OVERTURNING DURING SLAB POURING OPERATIONS.

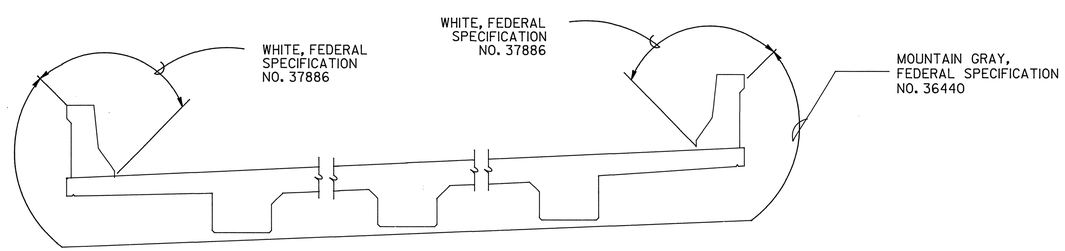
13. SHORING AND TEMPORARY SUPPORTS SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED TO ENSURE STABILITY OF THE STRUCTURE AND ROADWAY DURING REPAIRS.

14. APPLY HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM). CRACK SEAL IN LONGITUDINAL CONSTRUCTION JOINT. SEALER SHALL BE APPLIED AFTER ALL CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN DAYS.

PROJECT NO.	YEAR	SHEET NO.
18100-4102-04	2000	2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



TEXTURE COATING DETAIL

(TYPICAL FOR SR298)

NOTE: COST OF TEXTURE COATING OF THE PARAPET AND 10'-2" ENDPOST (SHOWN ON STANDARD DWG. NO. BR-2-125 AND BR-2-126) AND COST OF TEXTURE COATING OF THE SLAB CANTILEVER SHALL BE INCLUDED IN ITEM NO. 604-04.02.

STEPHEN S. PUTNEY REGISTERED ENGINEER TENNESSEE NO. 108021 STATE OF TENNESSEE 1/3/2000

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ESTIMATED QUANTITIES AND GENERAL NOTES

PLATEAU ROAD BRIDGES AND
GENESIS ROAD BRIDGE
OVER INTERSTATE 40
CUMBERLAND COUNTY
2000

DESIGNED BY	SSP	DATE	12-99
DRAWN BY	CADD	DATE	
SUPERVISED BY	SSP	DATE	
CHECKED BY	SSP	DATE	

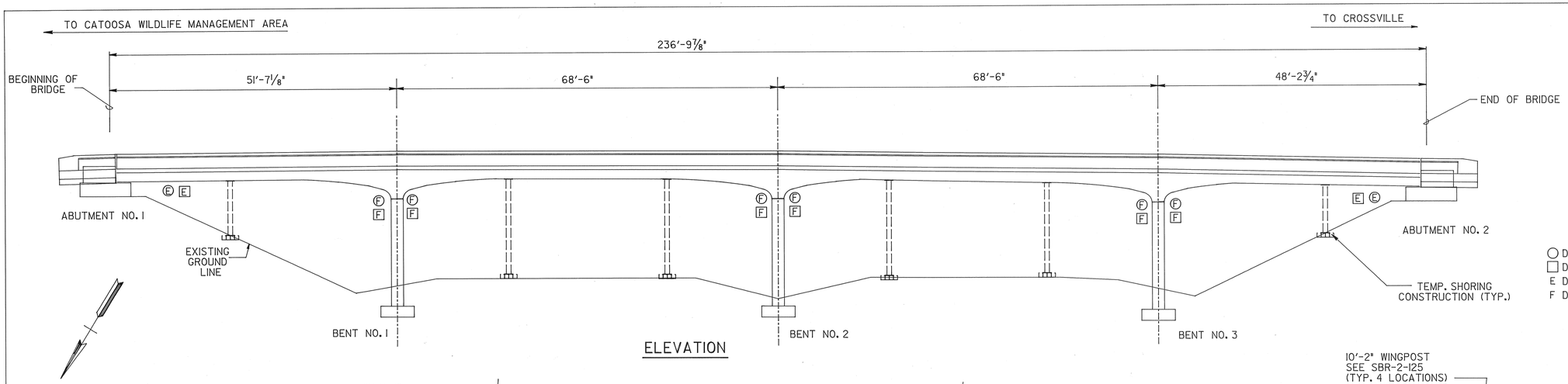
TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

BR-43-76

PROJECT NO.	YEAR	SHEET NO.
18100-4102-04	2000	

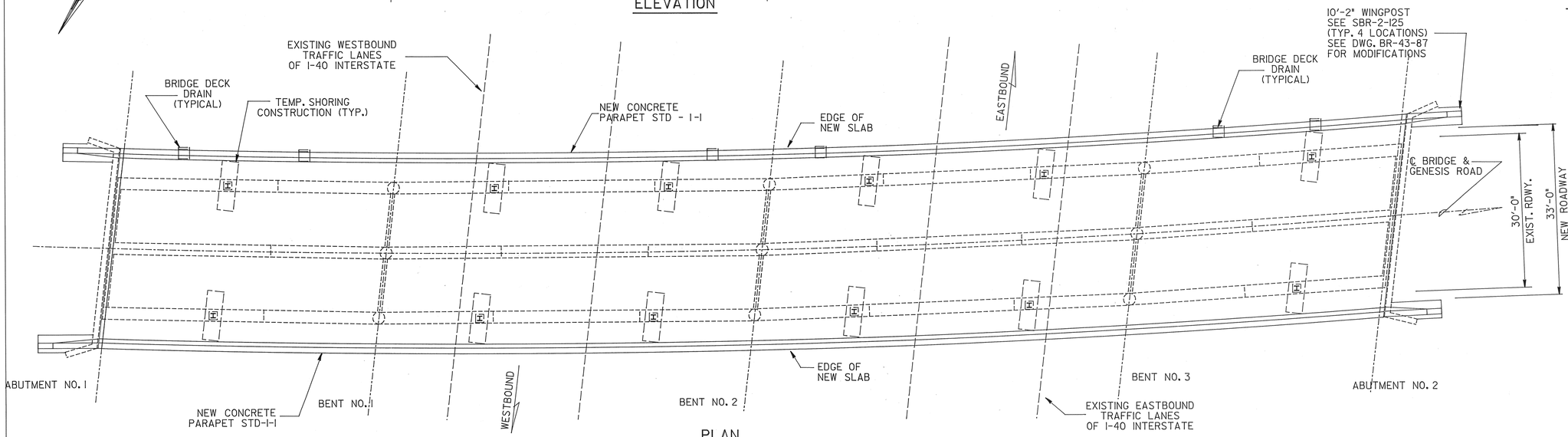
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	2/1/2000	BKE	REVISED LIST OF DRAWINGS



ELEVATION

○ DENOTES: EXISTING CONDITION
□ DENOTES: PROPOSED CONDITION
E DENOTES: EXPANSION
F DENOTES: FIXED



PLAN

SCOPE OF WORK

PERFORM FULL AND PARTIAL BRIDGE DECK REPAIRS.

SCARIFY TOP OF EXISTING CONCRETE DECK ONE INCH.

REMOVE SLAB CANTILEVER, CURB, ENDPOST AND THE EXISTING BRIDGE RAILS.

PROVIDE 4½ INCH MINIMUM REINFORCED CONCRETE OVERLAY WITHOUT JOINTS FROM END OF BRIDGE TO END OF BRIDGE. MATCH EXISTING OUT TO OUT BRIDGE WIDTH.

PROVIDE SHORING OF SUPERSTRUCTURE AS REQUIRED

PROVIDE NEW EXPANSION JOINTS AT ABUTMENTS NO. 1 AND NO. 2.

PLACE HIGH MOLECULAR WEIGHT METHACRYLATE(HMWM) CONSTRUCTION JOINT

PROVIDE NEW STD-I-I PARAPET ON EACH SIDE OF BRIDGE.

PROVIDE NEW , BR-2-124 AND BR-2-125, 10'-2" ENDPOSTS FOR STD-I-I PARAPET ON EACH SIDE OF BRIDGE AT EACH END OF BRIDGE.

MODIFY EXISTING WINGWALLS.

PROVIDE BRIDGE DECK DRAINAGE.

MECHANICALLY GROOVE THE NEW CONCRETE OVERLAY.

PROVIDE TEXTURED COATING FOR NEW PARAPET AND WINGPOSTS, NEW SLAB CANTILEVERS AND SUBSTRUCTURES.

PROVIDE BRIDGE DECK DRAINAGE.

MAINTAIN ONE OPEN LANE OF TRAFFIC ON THE BRIDGE.

LIST OF SPECIAL PROVISIONS

** DENOTES CURRENT REVISION DATE AS PER CONTRACT DOCUMENTS

NO.	LAST REV. DATE	REGARDING
105A	**	APPROVAL OF SHOP DRAWINGS
604CR	**	REPAIR OF BRIDGE DECK CRACKS

REFERENCE DRAWINGS

DRAWING NO.	LAST REV. DATE	DESCRIPTION
K-44-6		LAYOUT OF BRIDGE
K-44-7 & 7A		SUPERSTRUCTURE
K-44-8		BRIDGE GEOMETRY
K-44-9		ABUTMENT NO. 1
K-44-10		ABUTMENT NO. 2
K-44-11		BENTS NO. 1, 2, & 3
K-15-60		ROADWAY EXPANSION DEVICE

STANDARD DRAWINGS

DRAWING NO.	LAST REV. DATE	DESCRIPTION
SBR-2-125	1-4-96	REPLACEMENT OF EXISTING BRIDGERAIL SYSTEM WITH NEW JERSEY SHAPE CONC. PARAPET AND 10'-2 ENDPOST - 1988
SBR-2-126	1-4-96	REPLACEMENT OF EXISTING BRIDGERAIL SYSTEM WITH NEW JERSEY SHAPE CONC. PARAPET AND 10'-2 ENDPOST - 1988
STD-I-I	4-28-97	BRIDGE RAILING CONCRETE PARAPET -1990
STD-I-2	9-11-95	STEEL SLIDER PLATE ASSEMBLIES FOR CONCRETE PARAPET AND BRIDGE DECK DRAIN DETAILS -1993
STD-9-I	12-19-94	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLAB

⚠ BRIDGE DRAWINGS

DRAWING NO.	LAST REV. DATE	DESCRIPTION
BR-43-80	2-1-2000	LAYOUT OF BRIDGE TO BE REPAIRED
BR-43-76		GENERAL NOTES AND ESTIMATED QUANTITIES
BR-43-81		PHASING PLAN AND STAGE CONSTRUCTION
BR-43-82		BILL OF STEEL AND DECK DETAILS
BR-43-83		SLAB REPAIR AND DEMOLITION PLANS
BR-83-84	2-1-2000	EXPANSION JOINT DETAILS
BR-83-85		SUPERSTRUCTURE DETAILS
BR-83-86		SUPERSTRUCTURE DETAILS
BR-83-87		SUBSTRUCTURE DETAILS

STEPHEN S. PUTNEY — REGISTERED ENGINEER — NO. 10802 — STATE OF TENNESSEE — 1/3/2000

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE TO BE REPAIRED

GENESIS ROAD
OVER INTERSTATE 40
BRIDGE NO. 18-SR298-2.23
CUMBERLAND COUNTY
2000

DESIGNED BY	SSP	DATE	12-99
DRAWN BY	CADD	DATE	
SUPERVISED BY	SSP	DATE	
CHECKED BY	SSP	DATE	

TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

BR-43-80

SCANNED

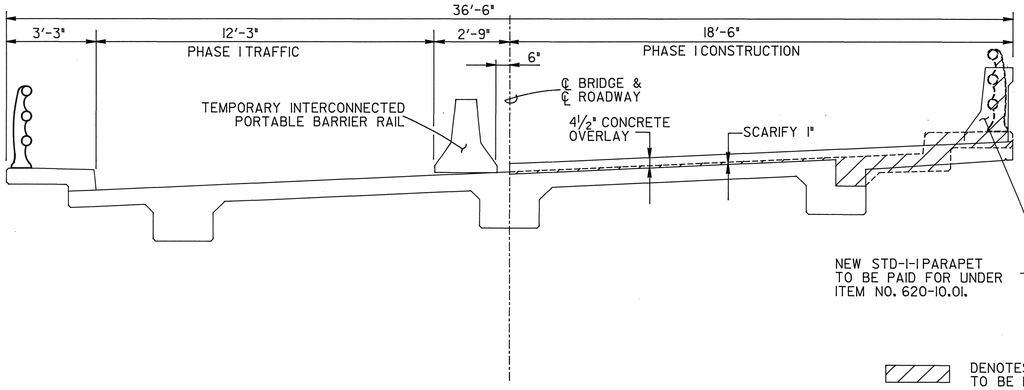
PROJECT NO.	YEAR	SHEET NO.
18100-4102-04	2000	

REVISIONS

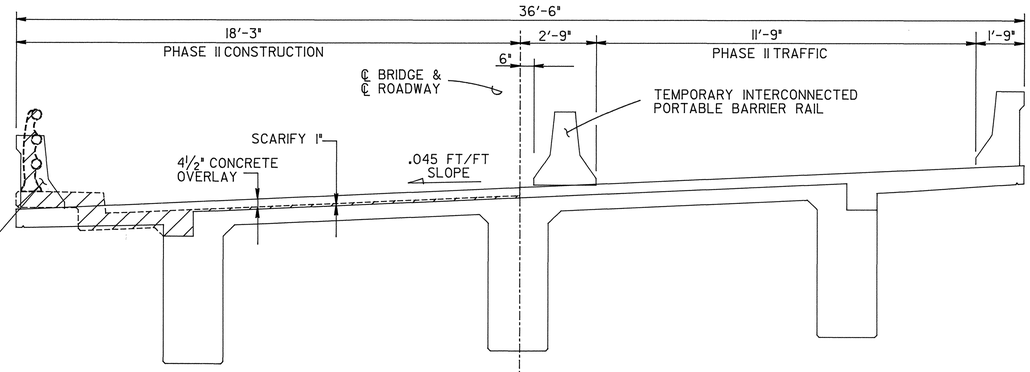
NO.	DATE	BY	BRIEF DESCRIPTION

CONSTRUCTION SEQUENCE

1. STAGE A CONSTRUCTION - FULL AND PARTIAL DEPTH REPAIRS SHALL BE COMPLETED BEFORE ANY EXISTING DECK REMOVAL OR NEW CONCRETE OVERLAY, NEW CANTILEVERS, AND PARAPET CONSTRUCTION.
2. STAGE B CONSTRUCTION - FOR EACH PHASE SCARIFY ONE INCH EXIST. CONCRETE DECK, REMOVE EXISTING CONCRETE CANTILEVERS AND EXIST. BRIDGE RAIL SYSTEMS.REMOVE DETERIORATED CONCRETE FOR PARTIAL DEPTH REPAIRS.
3. STAGE C CONSTRUCTION - FOR EACH PHASE MODIFY EXISTING WINGWALLS. CONSTRUCT NEW REINFORCED CONCRETE DECK AND NEW PARAPETS.



PHASE I CONSTRUCTION
LOOKING FORWARD

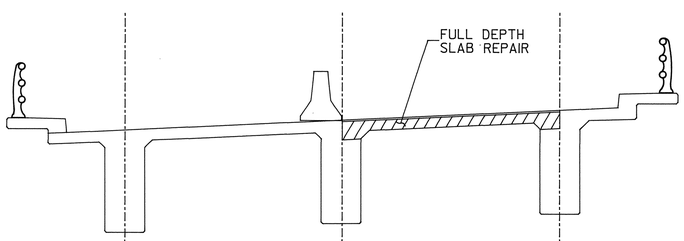


NEW STD-1-1 PARAPET
TO BE PAID FOR UNDER
ITEM NO. 620-10.01.

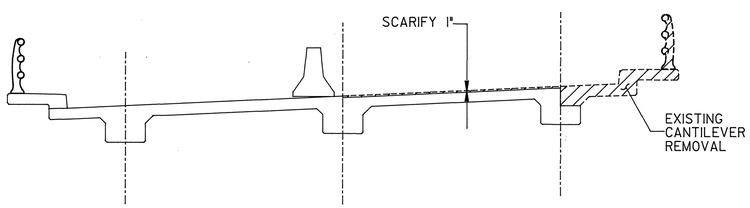
DENOTES EXISTING STRUCTURE
TO BE REMOVED

PHASE II CONSTRUCTION
LOOKING FORWARD

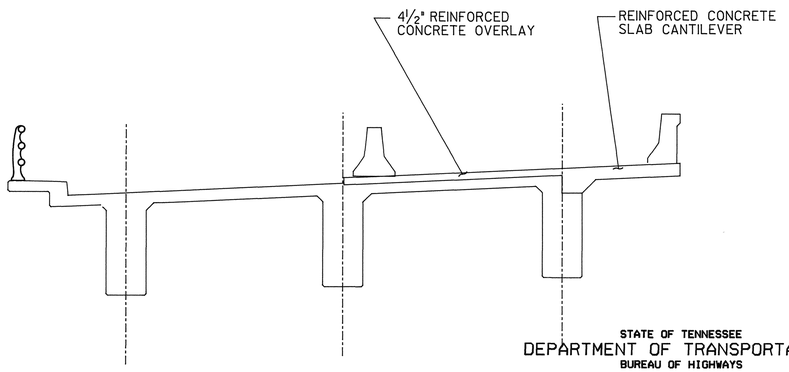
STEPHEN S. PUTNAM
REGISTERED ENGINEER
NO. 10802
STATE OF TENNESSEE
1/3/2000



STAGE A CONSTRUCTION FOR PHASE I OR PHASE II
LOOKING FORWARD



STAGE B CONSTRUCTION FOR PHASE I OR PHASE II
LOOKING FORWARD



STAGE C CONSTRUCTION FOR PHASE I OR PHASE II
LOOKING FORWARD

NOTE: INTERVALS OF 10'-0" MAXIUM FULL DEPTH SLAB REPAIR LENGTHS ALONG LONGITUDINAL AXIS.

NOTE: SHORING REQUIRED FOR PHASE I AND PHASE II CONSTRUCTION

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PHASING PLAN AND
STAGE CONSTRUCTION

GENESIS ROAD
OVER INTERSTATE 40
BRIDGE NO. 18-SR298-2.23
CUMBERLAND COUNTY
2000

DESIGNED BY	SSP	DATE	12-99
DRAWN BY	CADD	DATE	
SUPERVISED BY	SSP	DATE	
CHECKED BY	SSP	DATE	

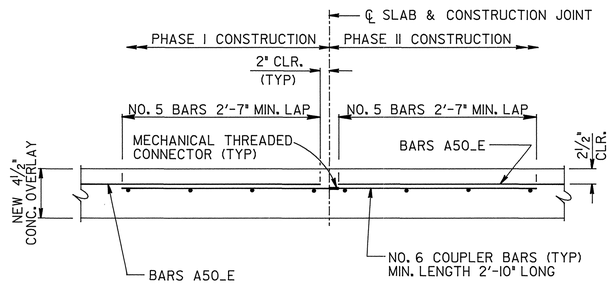
TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

BR-43-81

PROJECT NO.	YEAR	SHEET NO.
18100-4102-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

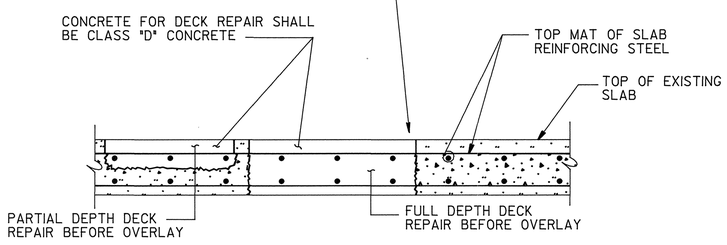


DETAIL "C"

NOTE: THE COST OF MECHANICAL THREADED CONNECTORS AND THE COST OF THREADING THE COUPLER BARS SHALL BE INCLUDED IN THE BID PRICE OF ITEM NO. 604-10.18, REINFORCING STEEL (REPAIRS), LBS.

FULL DEPTH REPAIR SHALL BE PERFORMED WITH CONCRETE POURED TO SCARIFY ELEVATION BEFORE ANY EXISTING DECK REMOVAL OR NEW 4½" CONCRETE OVERLAY CONSTRUCTION. PARTIAL DEPTH REPAIR SHALL BE PERFORMED AFTER EXISTING DECK REMOVAL. THE COST OF THE CONCRETE BELOW THE SCARIFICATION LEVEL TO BE INCLUDED UNDER ITEM NO. 604-10.30 OR 604-10.50.

NOTE: DECK AND PARAPET REMOVAL, FULL AND PARTIAL DEPTH REPAIR SHALL NOT BE ALLOWED OVER OPEN LANES OF INTERSTATE 40.



DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

NOTE: REMOVE CONCRETE IN ALL DELAMINATED AREAS TO A DEPTH OF ¾" BELOW THE TOP BAR OF THE TOP MAT OF REINFORCING STEEL. ALL REINFORCING STEEL IN AREAS OF DECK REPAIR SHALL BE COMPLETELY CLEANED. AREAS OF CONCRETE REMOVAL SHALL BE DESIGNATED BY PERSONNEL FROM THE BRIDGE REPAIR OFFICE. INSPECTIONS TO DETERMINE AREAS OF DECK REPAIR SHALL BE SCHEDULED WITH THE BRIDGE REPAIR OFFICE AT LEAST THREE (3) DAYS IN ADVANCE. DECK REPAIR WILL BE PAID FOR UNDER ITEM NO. 604-10.50, BRIDGE DECK REPAIR (PARTIAL DEPTH OF SLAB), AND ITEM NO. 604-10.30, BRIDGE DECK REPAIR (FULL DEPTH OF SLAB). DURING PARTIAL DEPTH REPAIRS, SHOULD DETERIORATED CONCRETE BE ENCOUNTERED WHICH APPEARS TO RUN FULL DEPTH IN THE SLAB, THE ENGINEER MAY DESIGNATE THESE AREAS TO BE REPAIRED UNDER ITEM NO. 604-10.30. POWER DRIVEN HAND TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE IN MAKING PARTIAL AND FULL DEPTH REPAIRS ARE SUBJECT TO THE FOLLOWING RESTRICTIONS: 1) PARTIAL DEPTH REPAIRS) PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 60 POUND CLASS SHALL NOT BE USED. 2) (FULL DEPTH REPAIRS) PNEUNATIC HAMMERS HEAVIER THAN NOMINAL 90 POUND CLASS SHALL NOT BE USED. ALSO ALL DECK REPAIR OVER BEAMS WILL BE RESTRICTED TO 60 POUND PNEUMATIC HAMMERS. 3) CHIPPING HAMMERS OF THE 15 POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL.

NOTE: ITEM NO. 604-10.30 AND 604-10.50 SHALL BE BID WITH THE CONTINGENCY THAT THESE ITEMS MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.

DESIGNED BY	SSP	DATE	12-99
DRAWN BY	CADD	DATE	
SUPERVISED BY	SSP	DATE	
CHECKED BY	SSP	DATE	

TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

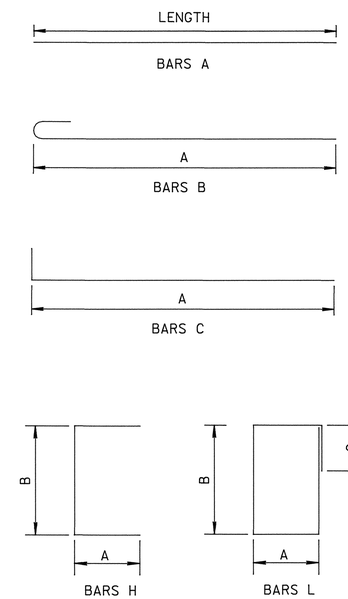
E DENOTES EPOXY BARS

BILL OF STEEL

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A500E	SLAB	5	352					30'-0"
A501E	SLAB	5	46					10'-2"
A502E	SLAB	5	468					17'-11"
A503E	SLAB	5	468					6'-1"
A540E	WINGWALL	5	48					2'-2"
A541E	ABUTMENT	5	8					38'-4"
A600E	SLAB	5	466					7'-2"
A700E	SLAB	7	99					20'-0"
B471E	PARAPET	4	948	2'-0"				2'-6"
C440E	ABUTMENT	4	74	2'-3"				2'-9"
L360E	ABUTMENT	3	74	8"	9"	6"		3'-4"

NOTE:

ALL REINFORCING STEEL SHALL BE EPOXY COATED. THE COST OF EPOXY COATED REINFORCING STEEL TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-10.18, REIFORCING STEEL (REPAIRS), LBS.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL AND DECK DETAILS

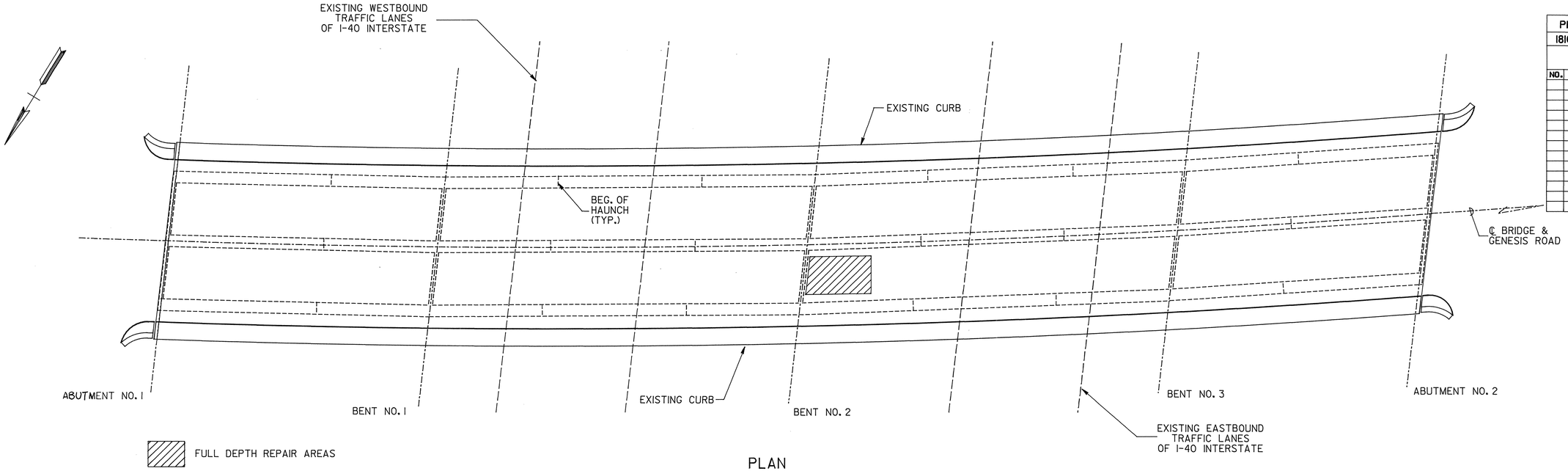
GENESIS ROAD
OVER INTERSTATE 40
BRIDGE NO. 18-SR298-2.23
CUMBERLAND COUNTY
2000

BR-43-82

PROJECT NO.	YEAR	SHEET NO.
18100-4102-04	2000	

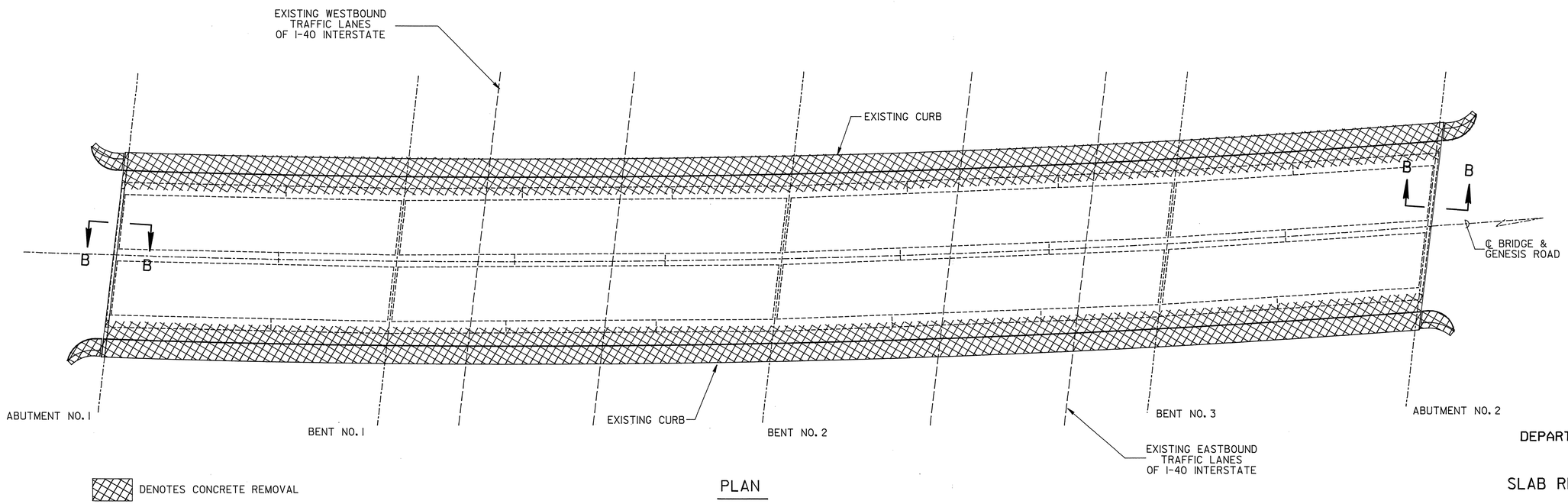
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



PLAN

(SHOWING ESTIMATED FULL DEPTH REPAIR LOCATIONS)



PLAN

FOR SECTION B-B SEE DWG. NO. BR-43-84

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SLAB REPAIR & DEMOLITION PLANS

GENESIS ROAD
OVER INTERSTATE 40
BRIDGE NO. 18-SR298-2.23
CUMBERLAND COUNTY
2000

DESIGNED BY	SSP	DATE	12-99
DRAWN BY	CADD	DATE	
SUPERVISED BY	SSP	DATE	
CHECKED BY	SSP	DATE	

TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

BR-43-83

PROJECT NO.	YEAR	SHEET NO.
18100-4102-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	2/1/2000	SSP	REVISED BACKWALL DETAIL AT JOINT TO REINFORCED CONCRETE

EXPANSION JOINT REPAIR NOTES

DOW CORNING 902 JOINT SYSTEM INCLUDES FURNISHING ALL MATERIALS AND EQUIPMENT, COMPLETE INSTALLATION AND IN ACCORDANCE WITH THE MANUFACURER'S RECOMMENDATIONS. THE JOINT SEALANT SYSTEM CONSISTS OF A SURFACE PRIMER: A SELF-LEVELING OR NON-SAG SEALANT AND BACKER MATERIAL. DETAILED SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL BE SUBMITTED TO THE PROJECT ENGINEER PRIOR TO CONSTRUCTION. THE MANUFACTURER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE WORKMANSHIP AND PERFORMANCE OF THE INSTALLED JOINT.

JOINT SEALANT NOTES

THE JOINT SEALANT WILL BE A POURABLE COLD APPLIED (TWO COMPONENT) RAPID- CURING SELF LEVELING MATERIAL WHEN INSTALLED ON GRADES LESS THAN OR EQUAL TO 3% ALONG THE CENTERLINE OF THE JOINT. JOINT SEALANTS USED IN CONJUCTION WITH OTHER MANUFACTURER APPROVED COMPONENTS COMPRISEING ANOTHER MANUFACTURER'S JOINT SEALANT SYSTEM WILL MEET THE REQUIREMENTS OF THESE SPECIFICATIONS. PRIOR TO PREPARING THE JOINT SEALANT THE MANUFACTURER'S REPRESENTATIVE WILL CONSULTED TO ESTABLISH THE USABLE POT LIFE OF THE MATERIAL TO BE TIMED AND THE MATERIAL WILL BE DISCARDED WHEN THE MANUFACTURER'S REPRESENTATIVE DETERMINES THAT THE MIXED JOINT SEALANT HAS CURED TO A POINT WHERE IT CAN NOT BE PROPERLY INSTALLED IT WILL DISCARDED.

SURFACE PRIMER NOTES

THE JOINT SEALANT MUST BE APPLIED TO CONCRETE SURFACES WITH THE USE OF A SPECIAL PRIMER FOR EACH APPLICATION. THE VERTICAL FACES OF THE JOINT RECEIVING SURFACE PRIMER ARE TO BE FREE OF DUST PARTICLES, MOISTURE, OILS AND LAITANCE AT THE TIME THE SURFACE PRIMER IS APPLIED PER THE MANUFACTURER'S REQUIREMENTS. THE SURFACE PRIMER WILL BE FULLY CURED BEFORE THE JOINT SEALANT IS INSTALLED. THE MANUFACTURER'S APPROVAL AND INSTALLATION PROCEDURES FOR A SPECIAL PRIMER MUST BE GIVEN TO THE PROJECT ENGINEER IN WRITING BEFORE THE PRIMER IS INSTALLED.

BACKER ROD NOTES

THE BACKER ROD SHALL BE A CLOSED CELL, NON-GASSING FOAM MATERIAL CAPABLE OF WITHSTANDING ELEVATED TEMPERATURES RESULTING FROM THE REACITON OF THE TWO COMPONENT SEALANT THAT MAY OCCUR. THE MATERIAL TYPE IS TO BE APPROVED BY THE JOINT SEALANT SYSTEM MANUFACTURER AND TESTED IN ACCORDANCE WITH ASTM D545. A LETTER OF CERTIFICATION SHALL BE ISSUED TO TDOT MATERIALS AND TESTS DIVISIONS BY THE MANUFACTURER WITH EACH DELIVERY OF MATERIALS ON THE SITE. FIRST SHIPMENT SHALL INCLUDE A COPY OF THE MANUFACTURER'S QUALITY ASSURANCE PROGRAM LISTING ALL TESTING CRITERIA.

MISCELLANEOUS NOTES

ALL EXISTING JOINT OPENINGS SHALL BE THOROUGHLY CLEANED OF FOREIGN MATERIAL AND EXISTING JOINT MATERIAL BEFORE PLACING THE NEW EXPANSION JOINTS.

COST OF INSTALLING NEW EXPANSION JOINT, SAW CUTTING, BACKER ROD, NEW ELASTOMERIC CONCRETE, NEW JOINT SEALER, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO INSTALL THE NEW EXPANSION JOINT TO BE INCLUDED UNDER ITEM NO. 604-10.44 EXPANSION JOINT REPAIRS, L.F.

TOP 3" OF JOINT SHALL BE BLASTED CLEANED TO REMOVE LAITANCE AND OTHER DELETERIOUS MATERIAL BEFORE INSTALLATION OF BACKER ROD OR SEALANT.

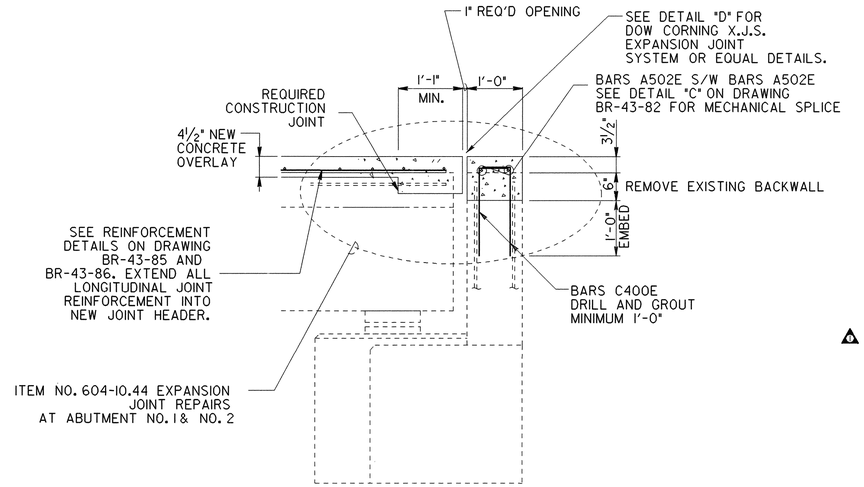
ALL DEBRIS AND EXISTING JOINT MATERIAL SHALL BE REMOVED FOR THE FULL DEPTH OF THE EXISTING JOINT OPENING.

EXPANSION GAP WILL CHANGE AT OTHER TEMPERATURES AND THE CONTRACTOR SHALL COMPENSATE FOR JOINT MATERIAL IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. NO INCREASE IN THE UNIT BID PRICE SHALL BE ALLOWED.

THE DEPTH OF THE JOINT POURED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICAITONS FOR PROPER INSTALLATION. THE PAVEMENT AND AIR TEMPERATURE SHALL BE 40 F AND RISING AND SHALL NOT FALL BELOW 40 F PRIOR TO COMPLETE CURE OF THE SEALANT.

THE SEALANT THICKNESS PLACED SHALL BE CHECKED PRIOR TO CURING AT A MINIMUM OF THREE (3) LOCATIONS ACROSS A TWELVE (12) FOOT LENGTH OF JOINT TO ASSURE PROPER THICKNESS.

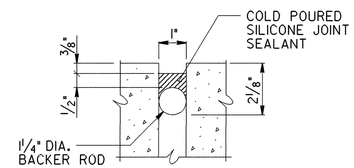
THE MOVEMENT GAP SHALL BE CAULKED WITH A BACKER ROD OF SUITABLE DIAMETER. THE ROD SHALL BE PLACED AT A DEPTH TO ENSURE THE CORRECT WIDTH/DEPTH RATIO OF THE NEW BRIDGE JOINT SEALANT. BACKER ROD AND CAULK SHALL BE AS PER THE SEALANT MANUFACTURER.



△1 SECTION B-B

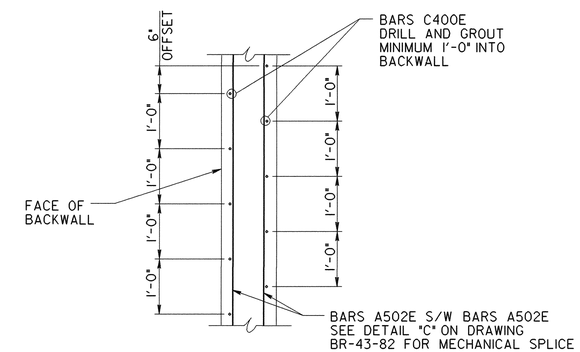
FOR LOCATION SEE DEMOLITON PLAN ON DWG. NO. BR-43-83

△1 NOTE:
THE COST OF 8 BARS A502E, FOUR MECHANICAL THREADED CONNECTORS AND THE COST OF THREADING THE COUPLER BARS, AND 146 C400E BARS SHALL BE INCLUDED IN THE BID PRICE OF ITEM NO. 604-10.44 EXPANSION JOINT REPAIRS (L.F.)



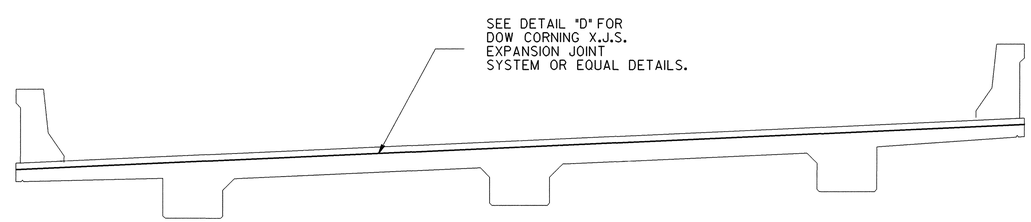
DETAIL "D"

(SHOWING JOINT SEALANT DETAIL)



△1 PARTIAL PLAN OF BACKWALL

SHOWING SPACING OF C400E BARS



JOINT DETAIL

(SHOWING LIMIT OF XJS MATERIAL)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL AND DETAILS

GENESIS ROAD
OVER INTERSTATE 40
BRIDGE NO. 18-SR298-2.23
CUMBERLAND COUNTY
2000

DESIGNED BY	SSP	DATE	12-99
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TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

PROJECT NO.	YEAR	SHEET NO.
18100-4102-04	2000	

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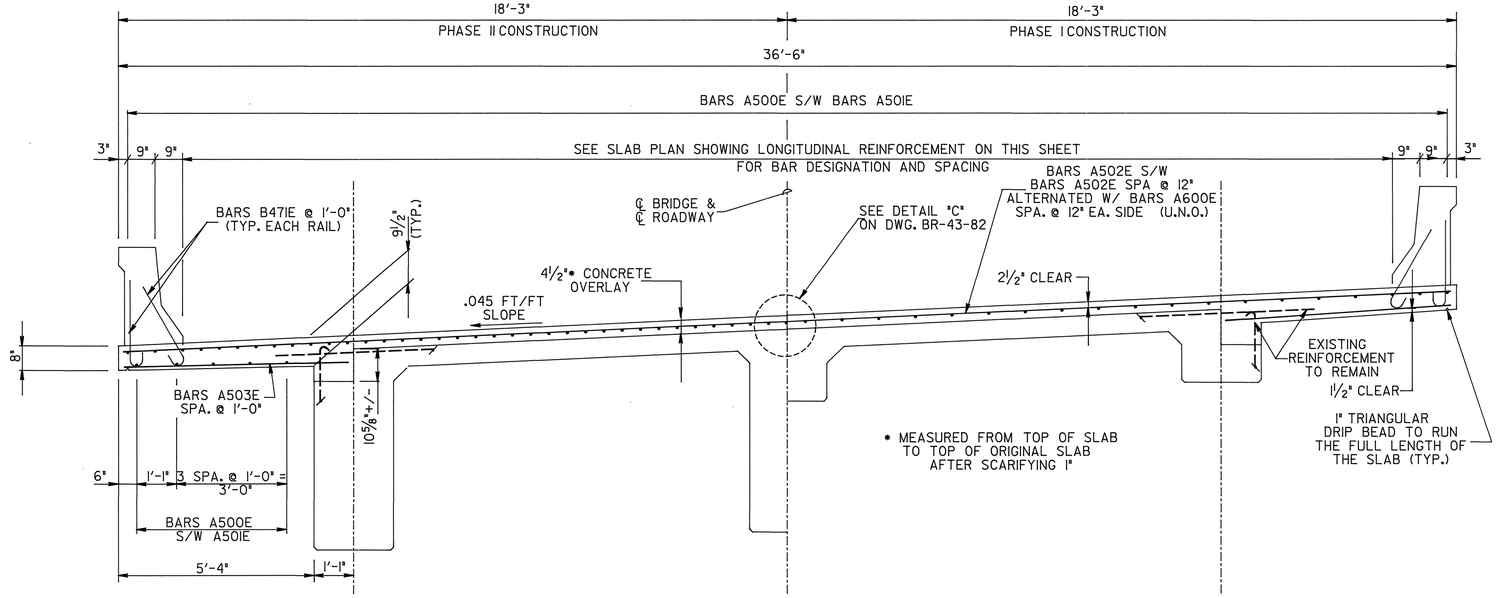
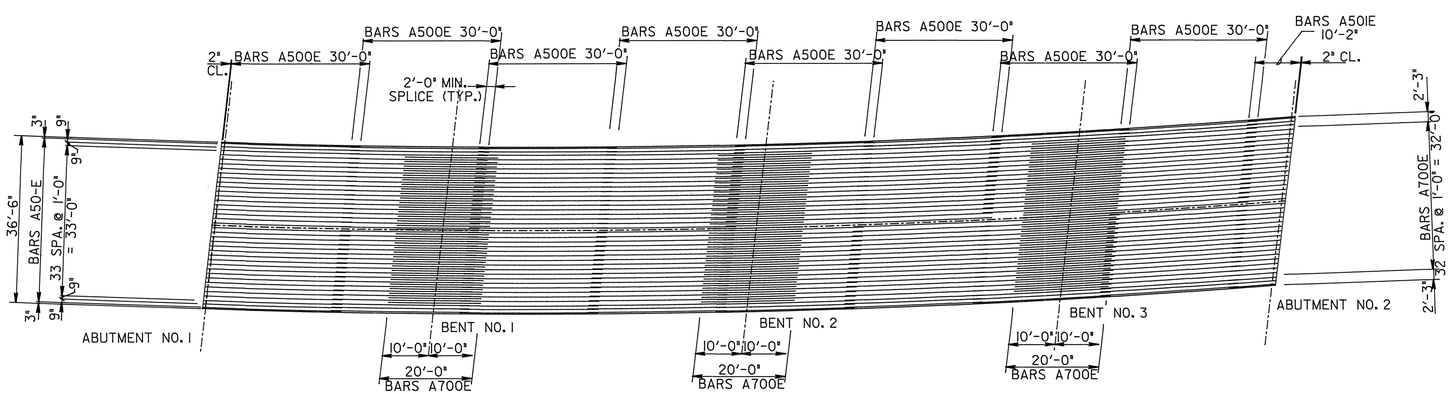


TYPICAL HALF SECTION AT BENTS
SHOWING REINFORCING STEEL IN SLAB

TYPICAL HALF SECTION AT MID-SPANS
SHOWING REINFORCING STEEL IN SLAB



SLAB PLAN
(SHOWING LONGITUDINAL SLAB STEEL)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS

GENESIS ROAD
OVER INTERSTATE 40
BRIDGE NO. 18-SR298-2.23
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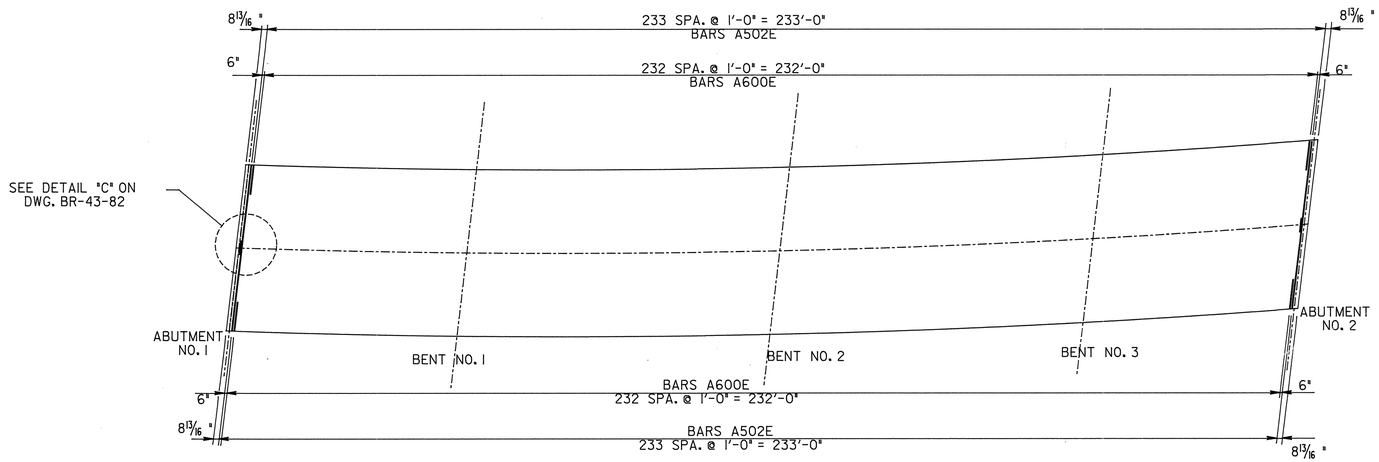
TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

BR-43-85

PROJECT NO.	YEAR	SHEET NO.
18100-4102-04	2000	

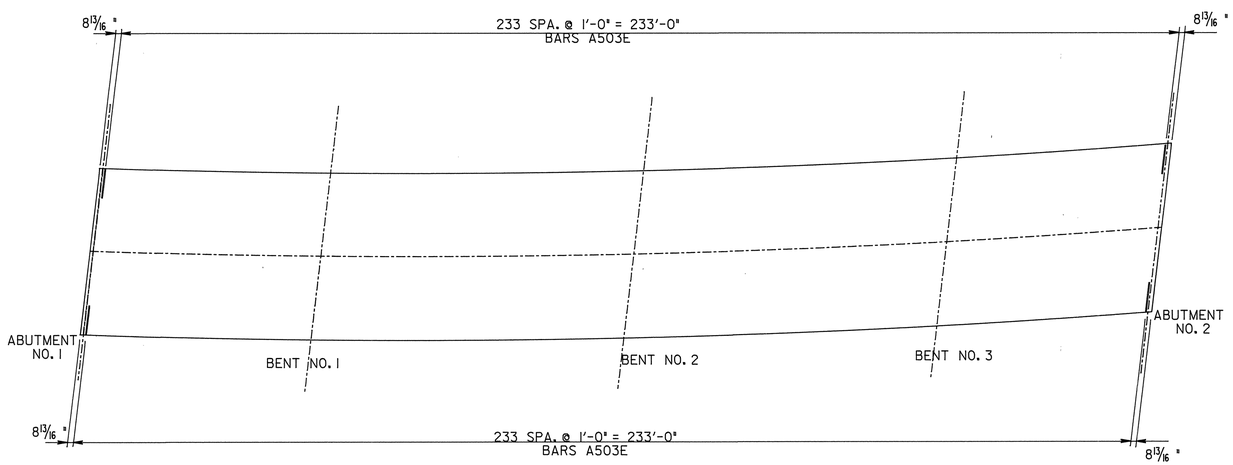
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



SLAB PLAN

(SHOWING TRANSVERSE TOP SLAB STEEL)
NOT TO SCALE



SLAB PLAN

(SHOWING TRANSVERSE BOTTOM SLAB STEEL)
NOT TO SCALE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS

GENESIS ROAD
OVER INTERSTATE 40
BRIDGE NO. 18-SR298-2.23
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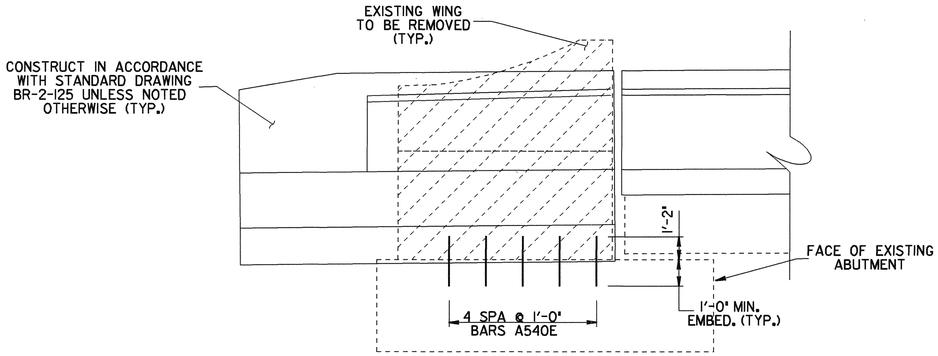
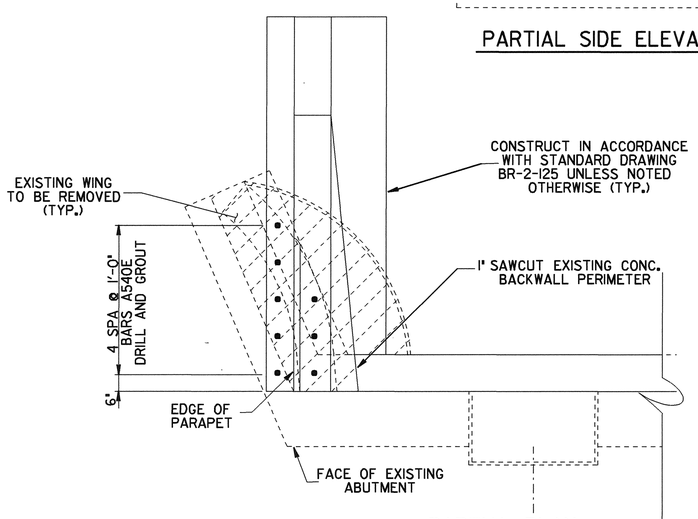
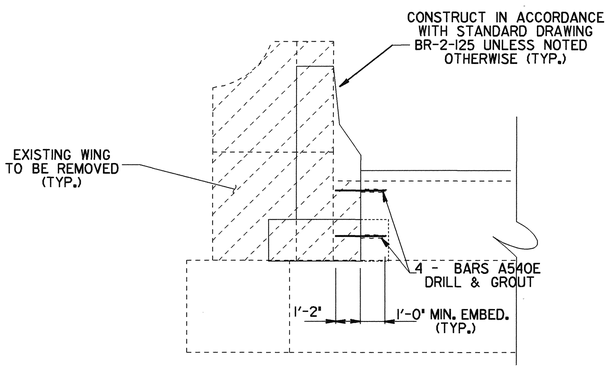
BR-43-86



PARTIAL SIDE ELEVATION



PARTIAL PLAN



PARTIAL END ELEVATION

NOTE: A HOLE RAM MAY BE USED TO REMOVE THE WING ONLY AND SHALL NOT BE USED FOR THE CURB REMOVAL.

NOTE: ALL COSTS FOR EXCAVATION AND MODIFICATION OF NEW WINGPOST SHALL BE INCLUDED UNDER ITEM NO. 620-10.01

TYPICAL WING MODIFICATION DETAIL

DENOTES EXISTING CONCRETE TO BE REMOVED (TYP.)

DESIGNED BY	SSP	DATE	12-99
DRAWN BY	CADD	DATE	
SUPERVISED BY	SSP	DATE	
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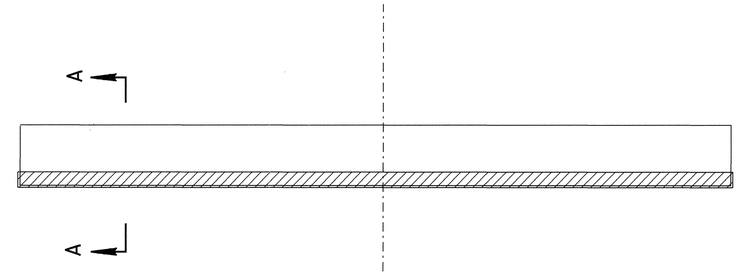
TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON



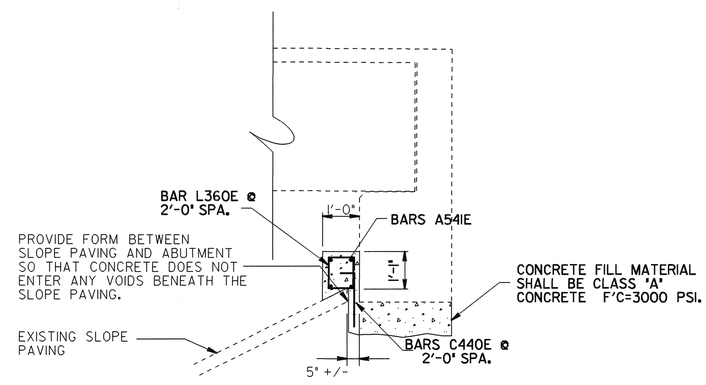
TYPICAL ABUTMENT ELEVATION

DENOTES: LOCATION OF CONCRETE TO BE PLACED IN AREAS WHERE THE APPROACH EMBANKMENT FILL HAS BEEN ERODED AT ABUTMENT 1. REPAIR AS SHOWN IN SECTION A-A. THE ENGINEER SHALL BE RESPONSIBLE FOR FIELD DESIGNATING ALL AREAS OF EXISTING EARTH TO BE REMOVED AND CONCRETE TO BE PLACED.

CONCRETE FILL MATERIAL SHALL BE CLASS 'A' CONCRETE F'C=3000 PSI

COST OF FORMING, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS TO ABUTMENTS TO BE PAID FOR UNDER ITEM NO. 604-10.55, CONCRETE (FOUNDATION REPAIRS), C.Y.

ITEM NO. 604-10.55, CONCRETE (FOUNDATION REPAIRS), C.Y. SHALL BE BID WITH THE CONTIGENCY THAT IT MAY BE INCREASED OR DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.



SECTION A-A

(SHOWING FOUNDATION REPAIR DETAIL AT ABUTMENTS)

PROJECT NO.	YEAR	SHEET NO.
18100-4102-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

ESTIMATED FOUNDATION REPAIRS

LOCATION OF REPAIR	ITEM NO. 604-10.55 C.Y.
ABUT NO. 1	2.3
ABUT NO. 2	2.7
TOTAL	5.0

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUBSTRUCTURE DETAILS

GENESIS ROAD
OVER INTERSTATE 40
BRIDGE NO. 18-SR298-2.23
CUMBERLAND COUNTY
2000

BR-43-87