

DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK			
				JOB NO.		10734	22	49
				5728	LAYOUT		21339	

GENERAL NOTES

BRIDGE MARK CUT TOP WHEEL CHARD - 22 FT. LT. STA. 224+95, ELEV. 265.52

ALL CONCRETE SHALL BE POURED IN THE DRY

ALL PILING SHALL BE 16" OCTAGONAL OR 16" SQUARE PRECAST CONCRETE AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM OR DIESEL HAMMER TO A MINIMUM BEARING CAPACITY OF 40 TONS PER PILE, AND TO A MINIMUM PENETRATION OF 20 FT. BELOW THE GROUND LINE. LENGTHS OF PILING SHOWN ARE ASSUMED FOR ESTIMATING QUANTITIES ONLY. ACTUAL LENGTHS TO BE DETERMINED IN THE FIELD. DRIVE ONE 40 FT. TEST PILE IN BENTS 2 AND 3. PILE SHAPES SHALL NOT BE MIXED ON ANY BRIDGE.

PILES IN END BENT TO BE DRIVEN AFTER SETBACKMENT TO BOTTOM OF BENT CAP IS IN PLACE.

FOR DETAILS OF BENTS, SEE DWG. NO. 21340

FOR DETAILS OF 35'-0" P.C. SLAB SPANS, SEE DWG. NO. 21341

FOR DETAILS OF PRECAST CONCRETE PILING, SEE DWG. NO. 21339

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1972 AND APPLICABLE SPECIAL PROVISIONS

DESIGN SPECIFICATIONS: AASHTO 1973 WITH 1974, 1975 AND 1977 INTERIMS

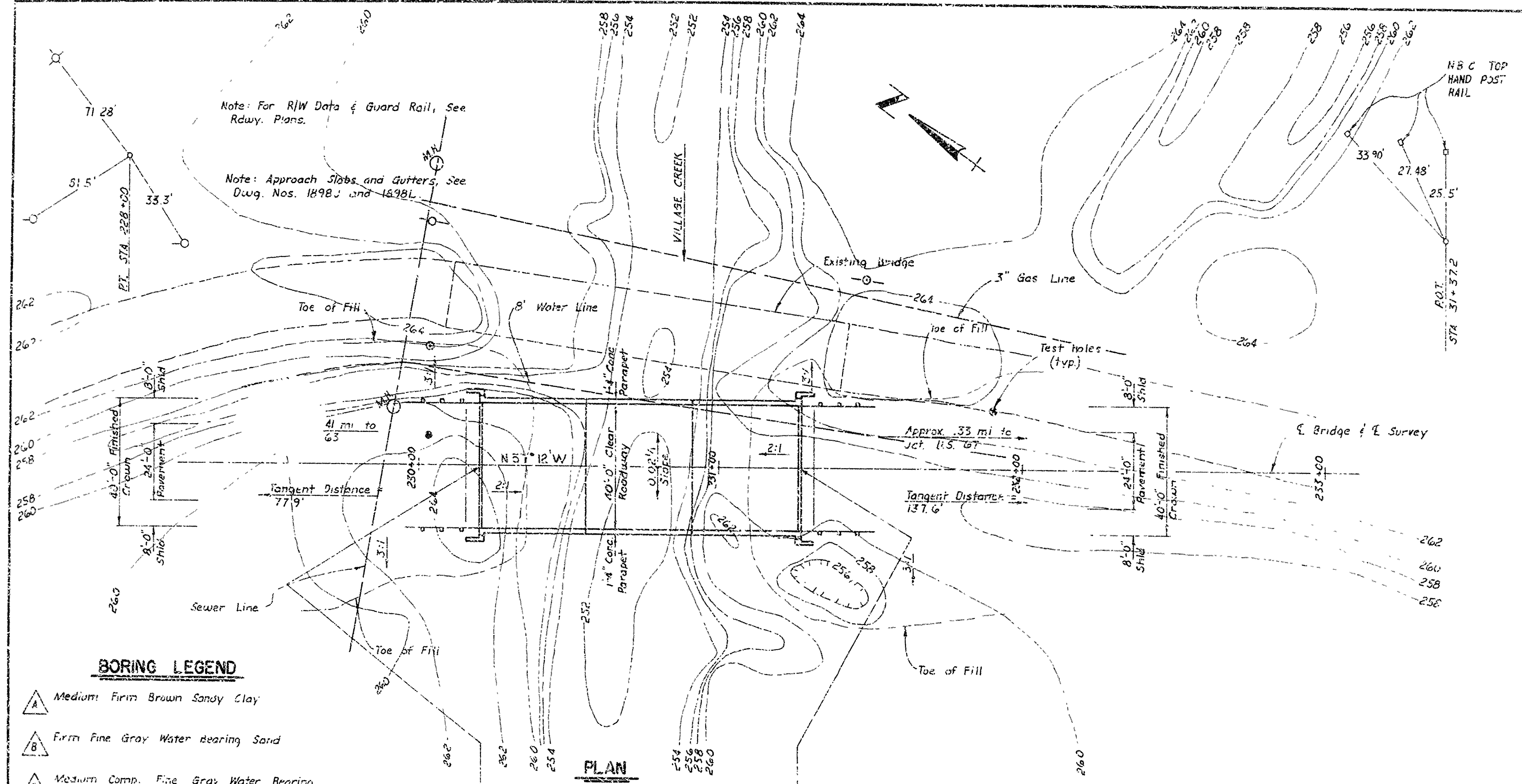
LIVE LOADING: HS20

METHOD OF DESIGN: LOAD FACTOR

UNIT STRESSES:  $f_c$  = COMPRESSIVE STRENGTH OF CLASS 5 OR 5040 CONCRETE = 3500 PSI. CONCRETE USED IN SUPERSTRUCTURE SHALL BE CLASS 5040 CONCRETE USED IN SUBSTRUCTURE SHALL BE CLASS 5

$f_y$  = YIELD STRENGTH OF REINFORCING STEEL = 50,000 PSI

REMOVAL OF EXISTING BRIDGE: THE CONTRACTOR SHALL REMOVE THE EXISTING 132 FT. BRIDGE IN ACCORDANCE WITH SECTION 215 OF THE STANDARD SPECIFICATIONS. THE BRIDGE CONSISTS OF NINE SPANS OF TREATED TIMBER STRINGERS AND JOISTING WITH A CONCRETE DECK. ONE HUNDRED SIXTEEN 4" X 12" X 15' AND ONE HUNDRED FIFTY-FOUR 4" X 10" X 22' TIMBER STRINGERS SHALL REMAIN THE PROPERTY OF THE STATE. ALL OTHER MATERIAL FROM THE EXISTING BRIDGE SHALL BECOME THE PROPERTY OF THE CONTRACTOR.



BORING LEGEND

- A Medium Firm Brown Sandy Clay
- B Firm Fine Gray Water Bearing Sand
- C Medium Comp. Fine Gray Water Bearing Sand Trace of Lignite
- D Comp. Medium Coarse Gray Water Bearing Sand Some Lignite

DESIGN FLOOD

GSO = 1972 cfs  
Normal W.S. = Elev 264.33  
H.S. with Backwater = Elev 264.78

ELEVATION

D.A. = 35.0 sq mi

BASIC FLOOD

Q<sub>100</sub> = 2288 cfs  
Normal W.S. = Elev 264.70  
H.S. with Backwater = Elev 265.34

LAYOUT OF BRIDGE OVER  
VILLAGE CREEK  
WALNUT RIDGE - WEST BRIDGES & APPRS.  
LAWRENCE COUNTY  
ROUTE 25 SEC. 7  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY JEB DATE 5-5-77  
CHECKED BY JEB DATE 5-5-77  
DESIGNED BY B.D. DATE Apr. 77  
BRIDGE NO. 5728 DRAWING NO. 21339



NAME	NAME	NAME	NAME	POST. OFFICE NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	DATE
				6	ARK.			
				FORM NO.	10734	23	45	
				5728	STD. BENTS	21340		

### BAR LIST - PER CENT

MARK	NO. REQ'D.		LENGTH	A	B	PIN DIA.
	END BT.	INT. BT.				
B401	4 1/2	4 1/2	7'-2"	8'-0"	2'-2"	3"
B402	1 1/2	2 1/2	6'-2"	2'-0"	2'-2"	2"
B403	4	—	22'-8"	—	—	Str.
B404	4	—	5'-3"	4'-6"	1'-4"	2"
B405	4	—	6'-0"	5'-5"	—	2"
B406	3 1/2	—	3'-10"	—	—	Str.
B407	6	—	7'-8"	4'-6"	3'-3"	2"
B408	6	—	7'-11"	5'-3"	2'-7"	2"
B409	10	—	2'-9"	1'-6"	1'-4"	2"
B412	—	4	22'-2"	—	—	Str.
B413	—	*	2'-6"	—	—	Str.
B601	5	—	45'-0"	43'-8"	6"	4 1/2"
B602	6	—	43'-8"	—	—	Str.
B603	—	5	44'-0"	42'-8"	6"	4 1/2"
B604	—	6	42'-8"	—	—	Str.

\* 29 REQ'D. at Fix - Exp. Bent  
58 REQ'D. at Fix - Fix. Bent

BENDINGS DIAGRAMS

B401

B402

B404, B405, B407, B408 & B409

B601 & B603

Dimensions are out to out of Bars

\* 29 REQ'D. of Fix - Exp. Bernt  
55 REQ'D. of Fix - Exp. Bernt

SS REC'D at FIVE - FIVE BOULE

## GENERAL NOTES

ALL CONCRETE TO BE CLASS "S" AND SHALL BE POURED IN THE DRY. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERW. IS NOTED.

REINFORCING STEEL TO BE ASTM A615 OR A617, GRADE 60

ALL PILING SHALL BE 16" OCTAGONAL OR 16" SQUARE PRECAST CONCRETE AND SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 44 TONS PER PILE.

PILES IN END BENTS SHALL BE DRIVEN AFTER EMBANKMENT TO BOTTOM OF BENT CAP IS IN PLACE

LIVE LOADING: HS20

UNIT STRESSES:  $f_c$  = COMPRESSIVE STRENGTH OF CLASS "S" CONCRETE = 3500 PSI.  
 $f_y$  = YIELD STRENGTH OF REINFORCING STEEL = 60,000 PSI.

METHOD OF DESIGN: LOAD FACTOR

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1972, AND APPLICABLE SPECIAL PROVISIONS.  
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1971 EDITION, AND INTERIM SPECIFICATIONS (1974 thru 1977).

QUANTITIES

Bent Type	Class 5 Concrete	Reinforcing Steel
End Bent	11.24 yd <sup>3</sup>	134.2 lb
Int. Bent (Fix-Exp)	8.89 yd <sup>3</sup>	120.3 lb
Int. Bent (Fix-Fix)	8.98 yd <sup>3</sup>	125.2 lb

## DETAILS OF STANDARD ELEMENTS

35'-0" R.C. SLAB SPANS

40'-0" CLEAR ROADWAY

CONCRETE PARAPET RAIL

ROUTE 25 SEC. 7

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY JEB DATE 7-18-77  
 CHECKED BY BJM DATE 7-22-77 SCALE 38:1 or as noted  
 COMPILED BY BJM DATE Aug 77

DRAWN BY: SLM DATE: 7-22-11  
CHECKED BY: SLM DATE: 7-22-11 SCALE: 3/8" = 1'-0" or as noted  
APPROVED BY: SLM DATE: Aug 17

BRIDGE NO. 5728 DRAWING NO. 21340



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	PROJ. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				5728	SPAN DTLS		24	49

Note: Drain shall taper from 3'-8" 0" at curb to 3'-1/2" 8" 0" at back face of concrete Parapet Rail.

## BAR LIST PER SPAN

BK	No. Rebar		Length	Pin Dia.	Bending Diagrams
	End	Int.			
S401	29	29	34'-8"	5/16"	
S402	50	50	22'-6"	5/16"	
S403	20	30	11'-4"	5/16"	
S404	2	-	10'-10"	5/16"	
S405	8	-	11'-10"	5/16"	
S406	44	48	7'-1"	2"	
S407	44	48	7'-9"	2"	
S408	110	110	22'-0"	5/16"	
S409	8	-	12'-0"	5/16"	
S410	54	54	6'-4"	2"	
S411	54	54	3'-6"	2"	
S501	24	24	5'-0"	5/16"	
S601	12	12	5'-8"	4/16"	
S602	12	18	11'-4"	5/16"	
S603	4	-	11'-10"	5/16"	
S604	4	-	8'-7"	3/8"	
S605	6	-	4'-9"	3/8"	
S901	8	89	34'-8"	5/16"	
S902	8	-	35'-2"	5/16"	
S606	2	-	10'-10"	5/16"	

## GENERAL NOTES

ALL CONCRETE TO BE CLASS S OR S(AE) AS SHOWN ON THE LAYOUT. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

REINFORCING STEEL TO BE ASTM A615 OR A617, GRADE 60

BAR SUPPORTS FOR REINFORCING BARS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO THE ITEM "REINFORCING STEEL".

ROOFING FELT, BITUMINOUS FELT, PREFORMED JOINT, STRUCTURAL STEEL JOINT, POLYMER JOINT, SYNTHETIC POLYMER JOINTS SHALL BE MEASURED AND PAID FOR AS CLASS S OR S(AE) CONCRETE.

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1972, AND APPLICABLE SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO 1973 AND INTERIM 1974 THRU 1977

DESIGN LIVE LOADING: HS20

LOAD DISTRIBUTION TO SLAB: DEAD LOAD = 283 PSF; LIVE LOAD = 0.166 WHEELS/FT. OF WIDTH PLUS 90% IMPACT.

UNIT STRESSES: COMPRESSIVE STRENGTH OF CLASS S OR S(AE) CONCRETE  $f_c = 3,500$  PSI  
YIELD STRENGTH OF REINFORCEMENT  $f_y = 60,900$  PSI

LOAD FACTOR USED FOR DESIGN OF SLAB.

## QUANTITIES (PER SPAN)

	Concrete	Reinforcing Steel	Structural Steel
End Span	7702 cu yd	15198 Lbs	323 Lbs
Int Span	4641 cu yd	10,121 Lbs	323 Lbs

\* For information only: Structural Steel to be measured and paid for as Class S or S(AE) concrete.

\*\* Concrete Quantities calculated for 2'-4" Caps

DETAILS OF STANDARD  
35'-0" R.C. SLAB SPAN40' CL. RDWY CONCRETE PARAPET RAIL  
ROUTE 25 SEC. 1

## ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DESIGNED BY: B.J.M. DATE: 7-29-77  
CHECKED BY: A.R.W. DATE: 9-2-77  
DESIGNED BY: A.R.W. DATE: 10-10-77

BRIDGE NO. 5728

DRAWING NO. 21341

