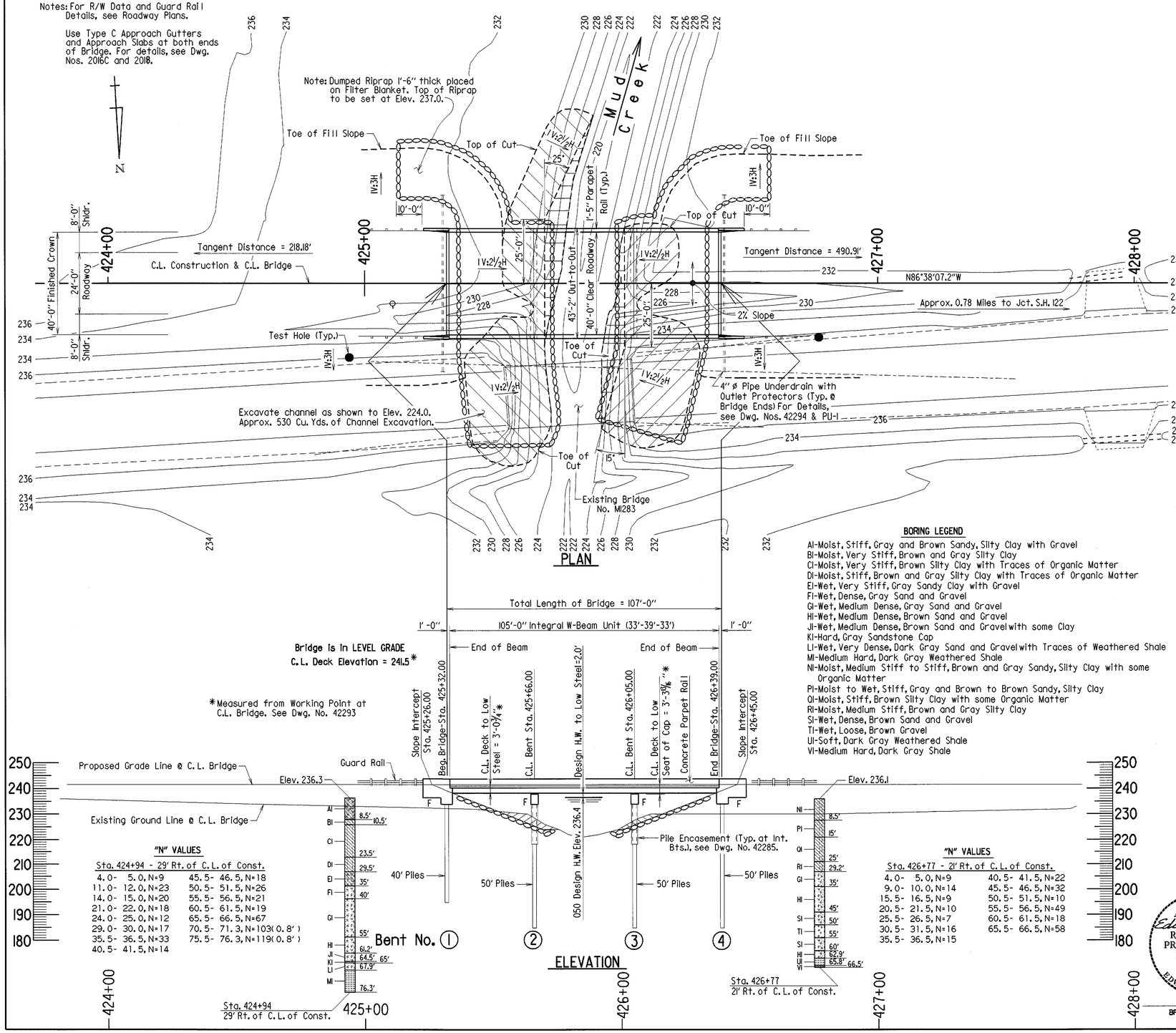
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		R50064	74	244
06839		LAYOUT	42291	

Notes: For R/W Data and Guard Rail Details, see Roadway Plans.

Use Type C Approach Gutters and Approach Slabs at both ends of Bridge. For details, see Dwg. Nos. 2016C and 2018.

Note: Dumped Riprap 1'-6" thick placed on Filter Blanket. Top of Riprap to be set at Elev. 237.0.



BORING LEGEND

- Al-Moist, Stiff, Gray and Brown Sandy, Silty Clay with Gravel
- Bl-Moist, Very Stiff, Brown and Gray Silty Clay
- Cl-Moist, Very Stiff, Brown Silty Clay with Traces of Organic Matter
- Dl-Moist, Stiff, Brown and Gray Silty Clay with Traces of Organic Matter
- El-Wet, Very Stiff, Gray Sandy Clay with Gravel
- Fl-Wet, Dense, Gray Sand and Gravel
- Gl-Wet, Medium Dense, Gray Sand and Gravel
- Hl-Wet, Medium Dense, Brown Sand and Gravel
- Jl-Wet, Medium Dense, Brown Sand and Gravel with some Clay
- Kl-Hard, Gray Sandstone Cap
- Ll-Wet, Very Dense, Dark Gray Sand and Gravel with Traces of Weathered Shale
- Ml-Medium Hard, Dark Gray Weathered Shale
- Nl-Moist, Medium Stiff to Stiff, Brown and Gray Sandy, Silty Clay with some Organic Matter
- Pl-Moist to Wet, Stiff, Gray and Brown to Brown Sandy, Silty Clay
- Ql-Moist, Stiff, Brown Silty Clay with some Organic Matter
- Rl-Moist, Medium Stiff, Brown and Gray Silty Clay
- Sl-Wet, Dense, Brown Sand and Gravel
- Tl-Wet, Loose, Brown Gravel
- Ul-Soft, Dark Gray Weathered Shale
- Vl-Medium Hard, Dark Gray Shale

Total Length of Bridge = 107'-0"

1'-0" | 105'-0" Integral W-Beam Unit (33'-39'-33') | 1'-0"

End of Beam — End of Beam

Bridge is in LEVEL GRADE
C.L. Deck Elevation = 241.5*

*Measured from Working Point at C.L. Bridge. See Dwg. No. 42293

Slope Intercept Sta. 425+26.00 Beg. Bridge-Sta. 425+32.00 | C.L. Deck to Low Steel = 3'-0¾"* | C.L. Bent Sta. 425+66.00 | Design H.W. to Low Steel=2.0' | C.L. Bent Sta. 426+05.00 | C.L. Deck to Low Seat of Cap = 3'-3⅝"* | Concrete Parpet Rail | End Bridge-Sta. 426+39.00 | Slope Intercept Sta. 426+45.00

"N" VALUES

Sta. 424+94 - 29' Rt. of C.L. of Const.

4.0- 5.0, N=9		45.5- 46.5, N=18	
11.0- 12.0, N=23		50.5- 51.5, N=26	
14.0- 15.0, N=20		55.5- 56.5, N=21	
21.0- 22.0, N=18		60.5- 61.5, N=19	
24.0- 25.0, N=12		65.5- 66.5, N=67	
29.0- 30.0, N=17		70.5- 71.3, N=103(0.8')	
35.5- 36.5, N=33		75.5- 76.3, N=119(0.8')	
40.5- 41.5, N=14			

"N" VALUES

Sta. 426+77 - 21' Rt. of C.L. of Const.

4.0- 5.0, N=9		40.5- 41.5, N=22	
9.0- 10.0, N=14		45.5- 46.5, N=32	
15.5- 16.5, N=9		50.5- 51.5, N=10	
20.5- 21.5, N=10		55.5- 56.5, N=49	
25.5- 26.5, N=7		60.5- 61.5, N=18	
30.5- 31.5, N=16		65.5- 66.5, N=58	
35.5- 36.5, N=15			

GENERAL NOTES

BENCH MARK: Sq. in NE Bridge End 58.88' Right of C.L. Const. Sta. 425+55.76, Elev. 237.66l.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (1996 edition) with applicable supplemental specifications and special provisions. Unless otherwise noted, section and subsection numbers in the plans refer to the Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (1996 edition) with current interim specifications.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor

SEISMIC PERFORMANCE CATEGORY: B

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M53, GR. 60)	Fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

STEEL SHELL PILING: Piling in Bents 1 & 4 shall be 14" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 124 tons per pile. Piling in Bents 2 and 3 shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 140 tons per pile. All piling shall be driven with an approved air, steam, or diesel hammer. Piling in end bents shall be driven after embankment to bottom of the cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No additional payment will be made for cut-off or build-up. Test piles are not required, but may be driven for the Contractor's information in accordance with subsection 805.08 (g).

DRIVING SYSTEM: The driving system approval and ultimate bearing capacity determination for piling shall be based on the requirements of subsection 805.09(b) "Method B - Wave Equation Analysis (WEAP)". At all bents it is estimated that a minimum rated hammer energy of 18,000 foot pounds per blow will be required to obtain the ultimate bearing capacity.

PREBORING: Preboring is required for all piling at Bents 1 and 4 to a depth of 10' below bottom of cap. Prebored holes shall be 6" greater than the diagonal of the pile cross-section and shall be backfilled in accordance with subsection 805.08(a) after piles are in place. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling, which may require the use of temporary casings or other methods.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

PIPE UNDERDRAIN: One Pipe Underdrain with Outlet Protectors shall be installed behind each Bridge End in accordance with Section 611. Pipe Underdrains will not be paid for directly but shall be considered subsidiary to "Approach Slabs".

DETAIL DRAWINGS:

	DRAWING NO.
Bents	42292
Concrete Filled Steel Shell Piles	42285
105' Integral W-Beam Unit	42293 - 42297
Type C Approach Gutters & Slabs	2016C & 2018

EXISTING BRIDGE: Existing Bridge No. M1283 (Log Mile 0.78) is 25.2' wide and 50' long and consists of precast concrete spans supported by concrete piling.

REMOVAL AND SALVAGE: After the new bridge is open to traffic, Existing Bridge No. M1283 shall be removed in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor.

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	**NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	50	3910	236.4	236.9
Base	100	4540	236.6	237.3
Extreme	500	6100	236.9	238.1
Overtopping	150	5580	236.8	237.9

** Unconstricted water surface without structure or roadway approaches
Drainage area = 11.3 square miles
Historical H.W. Elev. = 237.3 ft.

STATE OF ARKANSAS
Edward T. Fain
REGISTERED PROFESSIONAL ENGINEER
No. 3915
5-3-01
EDWARD T. FAIN
BRIDGE ENGINEER

LAYOUT OF BRIDGE OVER MUD CREEK HWY. 122 - EAST (S) INDEPENDENCE COUNTY

ROUTE 69 SEC. 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 11/17/2000 FILENAME: BR50064XLL1
CHECKED BY: AMS DATE: 12-7-00 SCALE: 1" = 20'-0"
DESIGNED BY: JAC DATE: 11/5/2000

BRIDGE NO. 06839 DRAWING NO. 42291