REVISIONS	
DESCRIPTION	DATE

FOUNDATION CAPACITIES

ABUTMENTS (HP 12x53 PILING)

	Abut. 1	Abut. 2	
Maximum Factored Pile Reaction =	99.7	65.3	tons per pile

All Abutment Piling shall be driven through compacted fill. Piling shall be driven to Point Bearing on Solid Foundation Material at the approximate elevation shown on the Plans. If the Axial Load Resistance is not obtained at this elevation, driving shall continue until the Axial Load Resistance is obtained. The length of the Steel Piling shown on the Plans is for Estimating Purposes Only.

PIERS	Nos 1 & 2	No 3	Nos 4 & 5
Drilled Shaft Diameter =	72"	60"	48"
Drilled Shaft Minimum Depth into Shale =	15'-0"	12'-0"	12'-0"
Factored Reaction =	859.0 tons	654.0 tons	515.0 tons
Nominal Unit Bearing Resistance =	49.0 tsf	49.0 tsf	49.0 tsf
Bearing Resistance Factor =	0.70	0.70	0.70
Factored Bearing Resistance =	970.0 tons	673.0 tons	431.0 tons
Nominal Unit Friction Resistance =	5.0 tsf	5.0 tsf	5.0 tsf
Friction Resistance Factor =	0.45	0.45	0.45
Factored Friction Resistance =	382.0 tons	247.0 tons	226.0 tons
Depth of Shale Neglected for Friction =	6 ft.	5 ft.	4 ft.
Total Factored Resistance =	1352.0 tons	920.0 tons	657.0 tons

DESIGN DATA

DESIGN SPECIFICATIONS - ABUTMENTS & SUPERSTRUCTURE:

AASHTO LRFD Bridge Design Specifications, 4th Edition with 2009 Interims.
ANSI/AASHTO/AWS D1.5 Bridge Welding Code
ANSI/AWS D1.6 Structural Welding Code - Stainless Steel

DESIGN SPECIFICATIONS - PIERS:

AASHTO LRFD Bridge Design Specifications, 2010 5th Edition.

DESIGN LOADING:

HL-93
Oklahoma Overload (Strength-II Load Combination)
Operating Rating (LFD) HS-35.8
Design Dead Load includes an allowance of 20 psf for a future wearing surface and 5 psf for stay-in-place forms.

UNIT STRESSES:

Class AA Concrete	f'c = 4,000 psi
Class A Concrete	f'c = 3,000 psi
Reinforcing Steel (Grade 60)	Fy = 60,000 psi
Structural Steel M270 Grade 50W	Fy = 50,000 psi
Piling Structural Steel M270 Grade 50	Fy = 50,000 psi

SUMMARY OF QUANTITIES

	ITEM NO.	ITEM	UNIT	ABUTS.	PIERS	SUPERSTR.	APPR. SLABS	TOTAL
501(B)	1307	SUBSTRUCTURE EXCAVATION COMMON	C.Y.	180	---	---	---	180
501(G)	6309	CLSM BACKFILL	C.Y.	220	---	---	---	220
503(A)	1311	PRESTRESSED CONCRETE BEAMS (TYPE II)	L.F.	---	---	398	---	398
503(A)	1313	PRESTRESSED CONCRETE BEAMS (TYPE IV)	L.F.	---	---	798	---	798
503(A)	6290	PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	---	---	1038	---	1038
504(A)	1304	APPROACH SLAB	S.Y.	---	---	---	281.2	281.2
504(B)	1305	SAW-CUT GROOVING	S.Y.	---	---	2496.2	266.6	2762.8
504(C)	6250	SEALED EXPANSION JOINT	L.F.	---	---	129.6	---	129.6
504(D)	6245	CONCRETE RAIL (TR4)	L.F.	---	---	1123.4	120.0	1243.4
506(A)	1322	STRUCTURAL STEEL	LB.	---	---	4200	---	4200
507(A)	6170	STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	---	---	24	---	24
507(B)	6174	STAINLESS STEEL EXP. BEARING ASSEMBLY	EA.	---	---	24	---	24
509(A)	1326	CLASS AA CONCRETE	C.Y.	---	---	682.4	---	682.4
509(B)	1328	CLASS A CONCRETE	C.Y.	94.5	281.7	---	---	376.2
511(A)	1332	REINFORCING STEEL	LB.	---	2460	---	---	2460
511(B)	6010	EPOXY COATED REINFORCING STEEL	LB.	12,810	37,700	145,130	---	195,640
514(A)	6010	PILES, FURNISHED (HP 10x42)	L.F.	162	---	---	---	162
514(A)	6011	PILES, FURNISHED (HP 12x53)	L.F.	559	---	---	---	559
514(B)	6292	PILES, DRIVEN (HP 10x42)	L.F.	162	---	---	---	162
514(B)	6294	PILES, DRIVEN (HP 12x53)	L.F.	559	---	---	---	559
514(K)	6260	(PL) PILOT HOLES	L.F.	186	---	---	---	186
514(L)	6220	PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	1	---	---	---	1
515(A)	6013	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	97	435	2070	56	2658
516(A)	6094	DRILLED SHAFTS 48" DIAMETER	L.F.	---	220	---	---	220
516(A)	6096	DRILLED SHAFTS 60" DIAMETER	L.F.	---	80	---	---	80
516(A)	6098	DRILLED SHAFTS 72" DIAMETER	L.F.	---	108	---	---	108
516(C)	6200	CROSSHOLE SONIC LOGGING	EA.	---	3	---	---	3
523(A)	6550	SEALER CRACK PREPARATION	L.F.	---	---	81.6	---	81.6
523(B)	6560	SEALER RESIN	GAL.	---	---	1.0	---	1.0
① 601(B)	1353	TYPE I-A PLAIN RIPRAP	TON	---	---	---	---	2130
① 601(C)	1355	TYPE I-A FILTER BLANKET	TON	---	---	---	---	535
613(H)	6204	6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	84	---	---	---	84
613(I)	6207	6" NON-PERFORATED PIPE UNDERDRAIN ROUND	L.F.	40	---	---	---	40
619(D)	1397	REMOVAL OF EXISTING BRIDGE STRUCTURE	L.SUM	---	---	---	---	1

① QUANTITIES SHOWN ARE BASED ON A WEIGHT OF 1.5 TONS PER CUBIC YARD.

PUSHMATAHA COUNTY

Design	ML	6-12
Drawn	DAC	6-12
Checked		
Approved		
Squad	POE	

BRIDGE "A" U.S. 271 OVER KIAMICHI RIVER

DESIGN DATA AND SUMMARY OF QUANTITIES

State Job No. 26346(04) Sheet No. 37

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