SUMMARY OF QUANTITIES

Item / Location	Excavation Class I (C.Y.)	Excavation Class II (C.Y.)	Concrete (Grade 4.0) (AE) (C.Y.)	Concrete (Grade 4.0) (AE)(SA) (C.Y.)	Reinforcing Steel Grade 60 Lbs.	Reinforcing Steel Grade 60 (Epoxy Coated) Lbs.	Piles (Steel) (HP12x53) ✱(L.F.)	Test Piles (Steel) (HP12x53) ✱(L.F.)	Cast Steel Pile Points (Each)	Abutment Aggregate Drain (C.Y.)	Bridge Backwall Prot. System (S.Y.)	Prestressed Concrete Beam (NU35*1) (L.F.)	Falsework Inspection (L.S.)	Bridge Deck Grooving (S.Y.)	Bridge Handrail (Metal)(1'-10") (L.F.)	Bridge Handrail (Metal)(3'-6") (L.F.)	Bridge Handrail (Metal)(4'-6") (L.F.)	Bridge Drainage System (L.S.)	Electrical Lighting System (L.S.)	Concrete Sidewalk 6" (Reinforced) (S.F.)	Aesthetic Metal Tower (Each)
Abutment #1	253	-	86.8	✱✱	-	7,612	741	62	14	574.7	174.5	-	-	-	-	-	-	-	-	-	-
Pier #1	-	208	162.2	✱✱	27,125	1,215	935	60	18	-	-	-	-	-	-	-	-	-	-	-	1
Pier #2	-	303	202.2	✱✱	37,809	1,215	765	50	18	-	-	-	-	-	-	-	-	-	-	-	2
Pier #3	-	303	202.2	✱✱	37,809	1,215	680	45	18	-	-	-	-	-	-	-	-	-	-	-	2
Pier #4	-	209	162.2	✱✱	27,125	1,215	850	55	18	-	-	-	-	-	-	-	-	-	-	-	1
Abutment #2	202	-	93.6	✱✱	-	8,116	793	66	14	495.7	192.6	-	-	-	-	-	-	-	-	-	-
Substr. Total	455	1,023	909.2	-	129,868	20,588	4,764	338	100	1,070.4	367.1	-	-	-	-	-	-	-	-	-	-
Superstr. Total	-	-	-	818.2	-	239,225	-	-	-	-	-	2,469	1	1,710	358.0	353.2	353.2	1	1	607.2	6
Total	455	1,023	909.2	818.2	129,870	259,810	† 4,764	† 338	100	1,070	367	2,469	1	1,710	358	353	353	1	1	607.2	6

✱ NOTE: Use only HP12x53 driven steel piles in the abutments and piers. The lengths shown are for bidding purposes only. Actual lengths shall be determined by the Engineer based on Test Pile Driving results.

✱✱ Quantities are included in the Superstructure Total quantity.

CONSTRUCTION STAKING: Construction Staking for clear span bridges requires two independent surveys. See KDOT Specifications.

† SUMMARY OF PILING	
Abutment #1	1 @ 62 ft (Test)(Vert.) 13 @ 57 ft (Vert.)
Pier #1	1 @ 60 ft (Test)(Vert.) 17 @ 55 ft (Vert.)
Pier #2	1 @ 50 ft (Test)(Vert.) 5 @ 45 ft (Vert.) 12 @ 45 ft (Batt.)
Pier #3	1 @ 45 ft (Test)(Vert.) 5 @ 40 ft (Vert.) 12 @ 40 ft (Batt.)
Pier #4	1 @ 55 ft (Test)(Vert.) 17 @ 50 ft (Vert.)
Abutment #2	1 @ 66 ft (Test)(Vert.) 13 @ 61 ft (Vert.)

LRFR RATING FACTORS		
Truck / Rating Level	Inventory	Operating
HL-93 Loading	1.19	1.78
2018 Manual for Bridge Evaluation		

LFD RATING FACTORS		
Truck / Rating Level	Inventory	Operating
HS-20 (36T)	1.16	2.36
Type HET (110T)	-	1.37
2002 LFD Rating, 17th Edition AASHTO		

DESIGN DATA

DESIGN SPECIFICATIONS:
AASHTO Specifications, 8th Edition
Load and Resistance Factor Design

DESIGN LOADING:
HL-93
Design Dead Load includes an allowance of 15 psf for a future wearing surface.

UNIT STRESSES:

Concrete (Grade 4.0)	f'c = 4.0 ksi
Concrete (Grade 4.0)(AE)	f'c = 4.0 ksi
Concrete (Grade 4.0)(AE)(SA)	f'c = 4.0 ksi
Prestressed Beam Concrete	f'c = 6.0 ksi
Reinforcing Steel (Grade 60)	fy = 60 ksi
Prestressed Strand	1/2" Ø Grade 270 uncoated 7-wire low-relaxation strand

LRFD DESIGN PILE LOAD:

Design Loading (Tons/Pile)		Strength I	Service I	Phi
Abutments	-	65	49	0.45
Piers	-	90	67	0.45

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CITY OF WICHITA

wsp

HARRY STREET BRIDGE
OVER ARKANSAS RIVER

QUANTITIES & INDEX OF SHEETS

STRUCTURE NO. 430400876 30AR40

REVISIONS			
NO.	DATE	DESCRIPTION	

PROJ NO:	35838B
SCALE:	AS NOTED
DATE:	.
DESIGNED BY:	--
DRAWN BY:	--
CHECKED BY:	-
YEAR:	2019

SHEET NO
43
SHEET 43 OF 135

Plotted : 10/3/2019 2:13:20 PM File : T:\35838A-COW_HarryStBridge\Cadd\Sheets\Structures\838BRGNO01.dgn