

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 9 WRINGE RD	98-00070-00-BR	CLINTON	6	6

CONTRACT NO. 97330

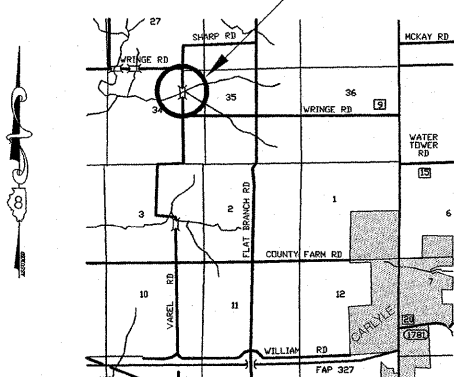
BENCHMARKS: TOP OF BOLT IN S.E. CORNER OF EXISTING BRIDGE, PAINTED WHITE. STA. 132+61 RT., ELEV. 450.89

EXISTING STRUCTURE: S.N. 014-3020

THE EXISTING STRUCTURE IS A SINGLE SPAN STEEL STRINGER BRIDGE WITH PRECAST CONCRETE DECK PLANKS SUPPORTED ON CLOSED TIMBER ABUTMENTS WITH TIMBER PILES. THE EXISTING STRUCTURE MEASURES 32' BACK TO BACK OF ABUTMENTS AND PROVIDES A 20' CLEAR ROADWAY WIDTH.

THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING STRUCTURE IN ACCORDANCE WITH SECTION 501 OF THE STANDARD SPECIFICATIONS.

STRUCTURE LOCATION



LOCATION SKETCH

TRIB. TO BEAVER CREEK
BUILT 2008 BY
CLINTON COUNTY
SECTION 98-00070-00-BR
STATION 132+75
STR.NO.014-5113 LOADING HS-20

NAME PLATE

LOCATE NAME PLATE AS SHOWN IN PLAN VIEW. (SEE STD. CN)

PILE DATA

SOUTH ABUTMENT

PILE TYPE: STEEL HP 8X36 WITH PILE SHOES
NOMINAL REQUIRED BEARING: 186 KIPS
ALLOWABLE RESISTANCE AVAILABLE: 62 KIPS
ESTIMATED LENGTH: 30 FT.
NUMBER OF PRODUCTION PILE: 5

NORTH ABUTMENT

PILE TYPE: STEEL HP 8X36 WITH PILE SHOES
NOMINAL REQUIRED BEARING: 186 KIPS
ALLOWABLE RESISTANCE AVAILABLE: 62 KIPS
ESTIMATED LENGTH: 30 FT.
NUMBER OF TEST PILES: 1
NUMBER OF PRODUCTION PILE: 4

DESIGN STRESSES

PRECAST PRESTRESSED UNITS

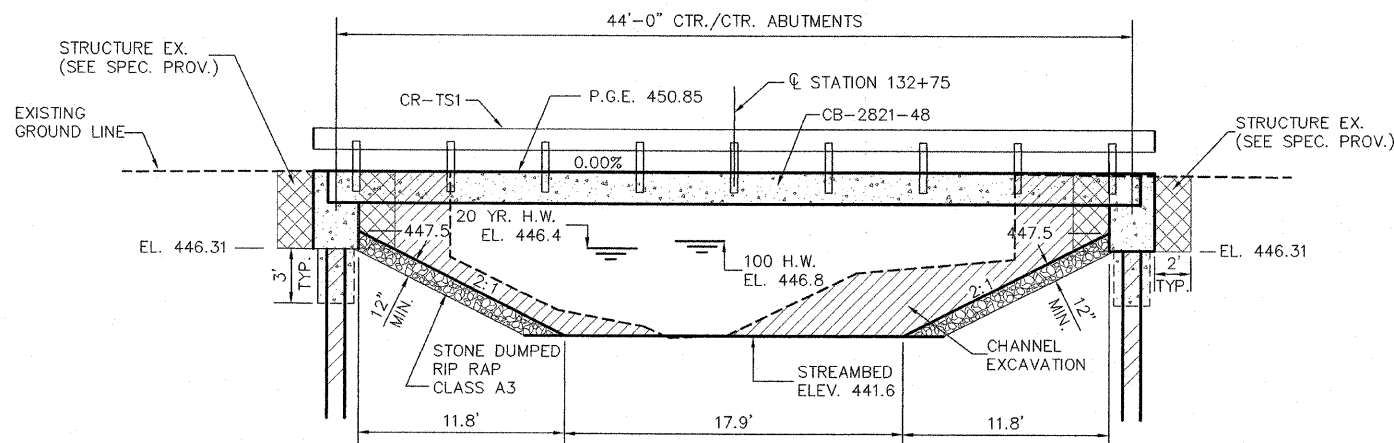
$f'_c = 5,000$ p.s.i.
 $f'_{ci} = 4,000$ p.s.i.
 $f'_s = 270,000$ p.s.i. (1/2" Ø STRAND)
 $f'_{si} = 201,960$ p.s.i. (1/2" Ø STRAND)
 $f_y = 60,000$ p.s.i.

CAST IN PLACE CONCRETE

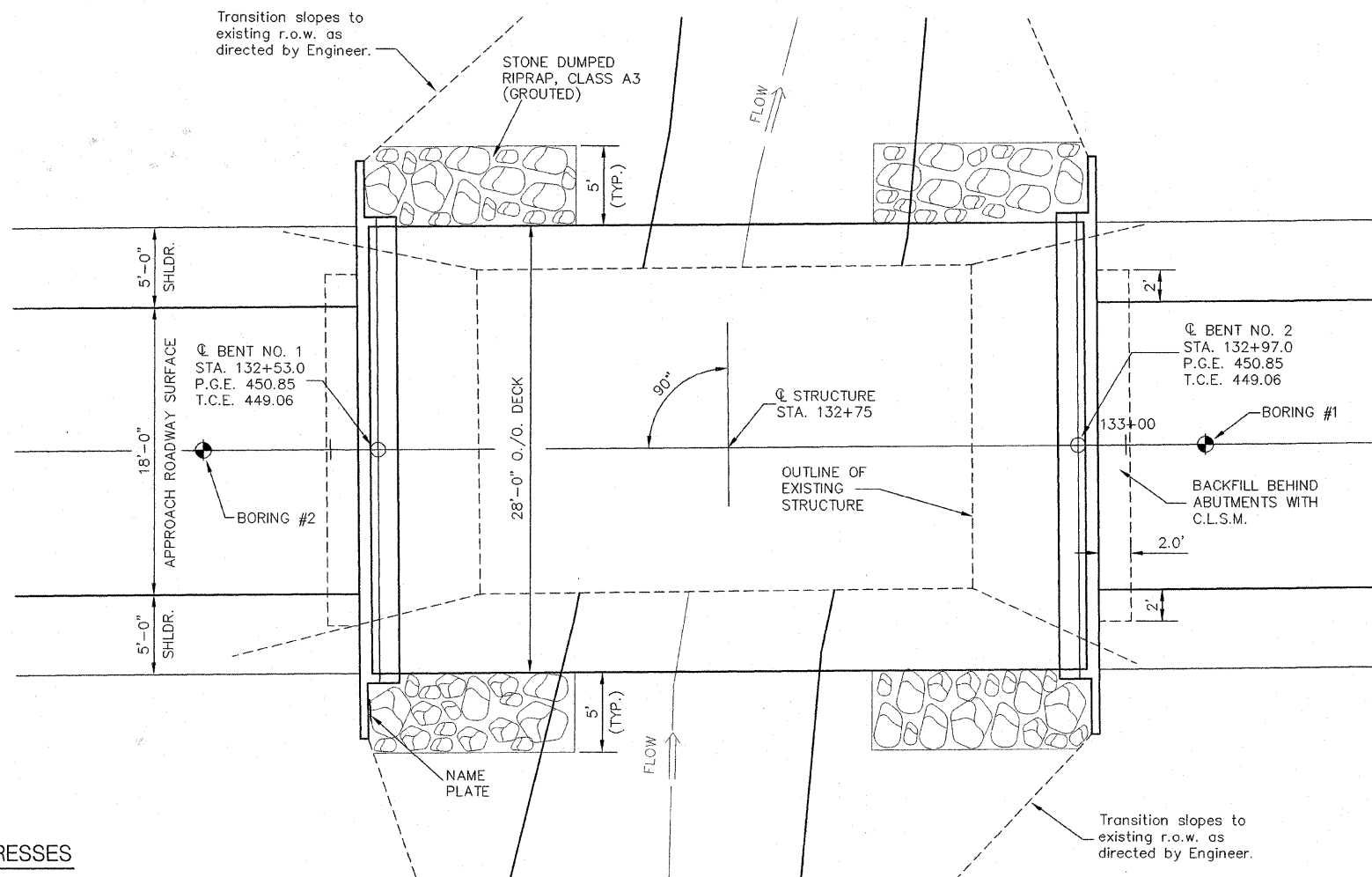
$f'_c = 3,500$ p.s.i.
 $f_y = 60,000$ p.s.i. (REINF.)

LOADING HS 20-44 LOAD FACTOR DESIGN

ALLOW 25 P.S.F. FOR FUTURE WEARING SURFACE
A.A.S.H.T.O. SEISMIC HORIZ. ACCELERATION COEFFICIENT: 9.5% OF GRAVITY
DESIGN SPECIFICATION: 2002 A.A.S.H.T.O.
S.P.C. = B, SOIL PROFILE COEFF. S = 1.0



ELEVATION



PLAN

GENERAL NOTES

- THE CONTRACTOR SHALL DRIVE ONE (1) STEEL HP 18X36 TEST PILE, AT BENT #2, IN A PERMANENT LOCATION AS DIRECTED BY THE ENGINEER BEFORE ORDERING REMAINING PILES.
- IN ADDITION TO ALL OTHER REQUIREMENTS OF SECTION 512 OF THE STANDARD SPECIFICATION, SPLICES FOR STEEL HP 8X36 PILES SHALL DEVELOP THE FULL CAPACITY OF THE STEEL'S CROSS SECTIONAL AREA OF THE PILE FOR TENSION, SHEAR AND BENDING FORCES. ONE APPROVED METHOD OF ACHIEVING THIS REQUIREMENT IS FULL PENETRATION BUTT WELDING OF THE ENTIRE CROSS SECTION. OTHER TYPES OF SPLICES MEETING THE FULL CAPACITY REQUIREMENT MAY BE ALLOWED SUBJECT TO THE APPROVAL OF THE ENGINEER. ANY PROPOSAL BY THE CONTRACTOR TO USE AN ALTERNATIVE SPLICE METHOD MUST INCLUDE ADEQUATE DOCUMENTATION DEMONSTRATING THAT THE FULL TENSION, SHEAR AND BENDING CAPACITIES WILL BE MET. APPROPRIATE WELDER QUALIFICATIONS WILL BE REQUIRED FOR THE POSITIONS AND PROCESSES USED IN SPLICING ALL PILES. NONDESTRUCTIVE TESTING OF COMPLETED WELDS WILL BE LIMITED TO VISUAL INSPECTION.
- KEYWAY SURFACES SHALL BE CLEANED TO REMOVE FORM OIL OR OTHER BOND BREAKING MATERIALS PRIOR TO SHIPMENT OF BEAMS. CLEANING SHALL BE DONE BY SANDBLASTING THE KEYWAY AREAS BETWEEN THE TOP OF THE BEAM AND THE BOTTOM EDGE OF THE KEY.
- CLASS SI CONCRETE SHALL BE USED THROUGHOUT EXCEPT IN THE DECK BEAMS.
- A CALCIUM NITRATE CORROSION INHIBITOR, PER ARTICLE 1020.05(b)(12) OF THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SHALL BE USED IN THE CONCRETE FOR PRECAST PRESTRESSED CONCRETE DECK BEAMS.
- SEE SPECIAL PROVISIONS FOR BORING LOGS.

WATERWAY INFORMATION TABLE

Flood	Freq. Yr.	Q CFS	Opening Sq. ft.		Head - Ft.		Headwater Elevation		
			Exist.	Prop	Exist.	Prop	Exist.	Prop	
			Low Grade Elev. = 447.9		© STA 135+00				
Design	20	556	82	123	446.4	0.7	0.1	447.1	446.5
Base	100	881	134*	135	446.8	1.6***	0.6	448.40	447.4
Overtopping	±400	1,072	134*	144	447.2	1.4***	0.8	448.6	448.0
Max Calc.	N/A								

* AREA BELOW LOW BEAM OF BRIDGE
** COMPARED AT PROPOSED STRUCTURES APPROACH SECTION
*** INCLUDES OVER-THE-ROAD FLOW

TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER	SUB.	Total
Removal of Existing Structures	EACH	---	---	1
Concrete Structure	Cu. Yd.	---	19.8	19.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,260	---	1,260
Steel Railing, Type S-1	Foot	90	---	90
Reinforcement Bars, Epoxy Coated	Pound	---	2,520	2,520
Furnishing Steel Piles HP 8X36	Foot	---	270	270
Driving Steel Piles	Foot	---	270	270
Test Piles, Steel HP 8X36	Each	---	1	1
Name Plates	Each	---	1	1
Concrete Encasement	Cu. Yd.	---	1.9	1.9
Channel Excavation	Cu. Yd.	---	---	272
Stone Dumped Riprap, Class A3	Ton	---	---	60
Grouting, Stone Riprap	CU. YD.	---	17.0	17.0

INDEX OF BRIDGE SHEETS

- GENERAL PLAN AND ELEVATION
- BRIDGE STANDARD CS-2821-45
- BRIDGE STANDARD CB-2821-48
- BRIDGE STANDARD CA-2821-10
- BRIDGE STANDARD CR-TS1
- BRIDGE STANDARD CN
- BRIDGE STANDARD CX-1

GENERAL PLAN & ELEVATION

C.H. 9 (WRINGE ROAD)
OVER TRIB. TO BEAVER CREEK
SECTION 98-00070-00-BR
CLINTON COUNTY
STATION 132+75
STRUCTURE NO. 014-5113