

Bench Mark: #10B - chiseled "□" on the S.W. wingwall of existing S.N. 068-0023. Elevation 564.12

Existing Structure:
S.N. 068-0023 built in 1928 as SBI Rte. 127, Section 106-B. Superstructure and substructure widened in 1959 as SBI Rte. 127, Section 106BY. Superstructure replaced in 1976 as FA Rte. 42, Section 106BR-2. Existing structure is a three span PPC deck beam bridge with closed abutments and solid wall piers. 136'-3" bk. to bk. abutments, 46'-0" out to out and a skew of 56°-30'. The Contractor shall remove and replace the existing structure. Staged Construction shall be utilized to maintain one lane of traffic during construction.

No Salvage

ROUTE NO. FAP 42 (IL 127)	SECTION 106 (B-1)	COUNTY Montgomery	SHEET 61	SHEET NO. 1 20 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

Contract #72150

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LOADING HS20-44

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO

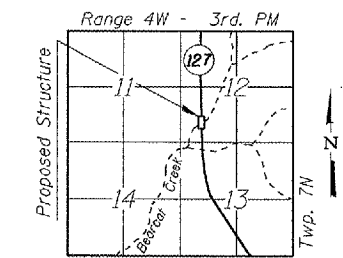
DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (structural steel, M270 Gr. 50W)

SEISMIC DATA

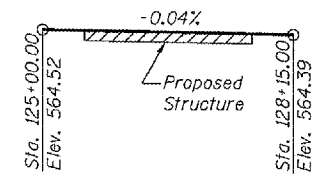
Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.075g
 Site Coefficient (S) = 1.5



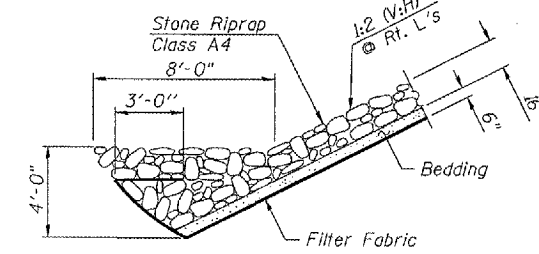
LOCATION SKETCH

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506



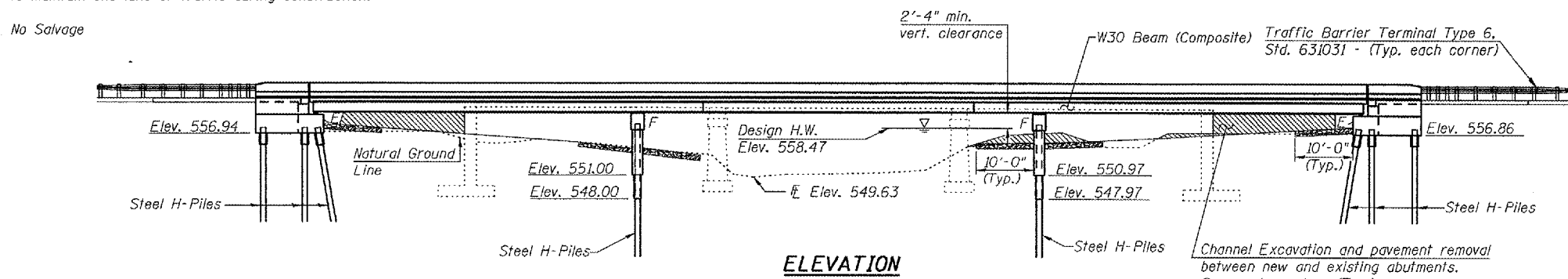
PROFILE GRADE
(Along C/L 127)



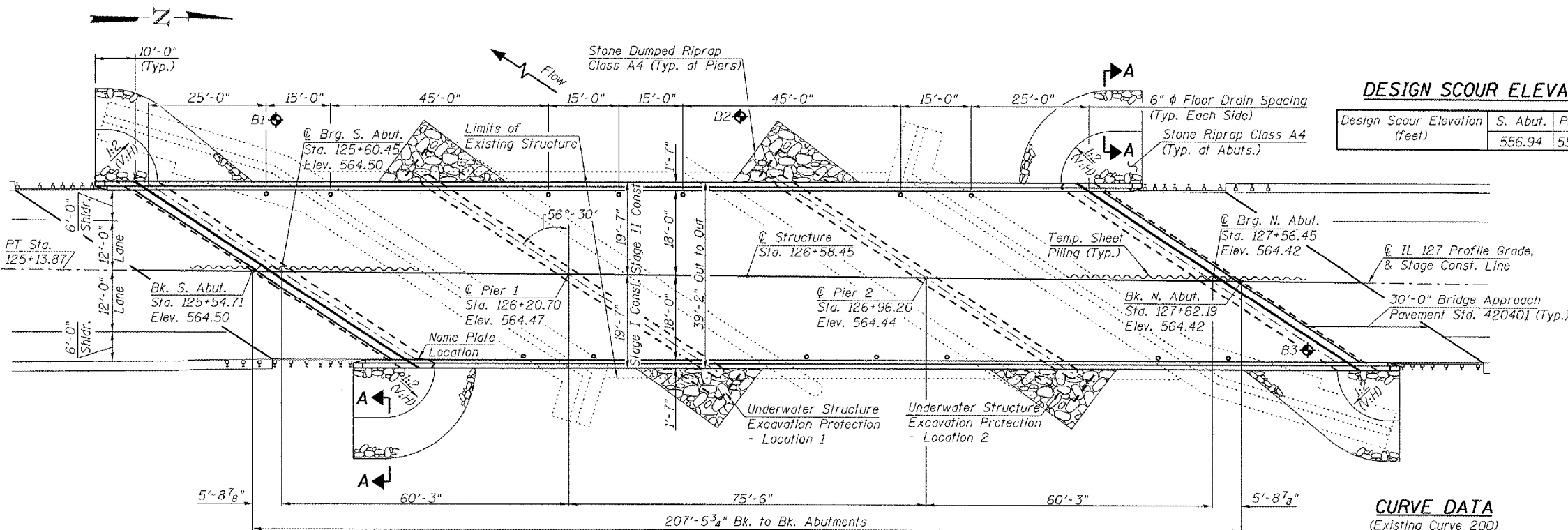
SECTION A-A

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (feet)	S. Abut.	Pier 1	Pier 2	N. Abut.
	556.94	551.00	550.97	556.86



ELEVATION



PLAN

CURVE DATA

(Existing Curve 200)

$\Delta = 7^\circ 39' 05''$ Rt.
 $D = 0^\circ 44' 31''$
 $T = 516.44'$
 $L = 1,031.35'$
 $E = 17.25'$
 $R = 7,722.91'$
 $S.E. = 0.025''$

P.C. = Sta. 114+82.52
 P.T. = Sta. 125+13.87
 P.I. = Sta. 119+98.96
 SE Attained - Match Existing
 SE Removed Sta. 124+24.53 to Sta. 125+27.53

WATERWAY INFORMATION

Drainage Area = 7.74 mi ²		Exist. Low Grade Elev. 564.25 @ Sta. 129+00					
Flood Yr.	Q	Opening Sq. Ft.		Head - Ft.		Headwater El.	
		Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist. Prop.
10	1637	284	396	557.78	0.86	0.86	558.64 558.64
Design	50	2536	327	463	558.47	0.37	0.22 558.84 558.69
Base	100	2920	342	486	558.71	0.41	0.19 559.12 558.90
Overlapping							
Max. Calc.	500	3841	375	539	559.25	0.65	0.36 559.90 559.61

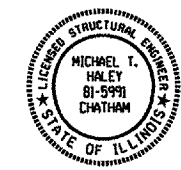
10 Year Velocity through Exist. Bridge = 3.26 fps 10 Year Velocity through Prop. Bridge = 2.95 fps

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY

Ralph W. Anderson
 ENGINEER OF BRIDGES AND STRUCTURES

Michael J. Haley 8-9-07
 Date

Michael T. Haley
 Licensed Structural Engineer
 State of Illinois No. 81-5991
 Expires 11/30/2008



LIN ENGINEERING, LTD.
 Consulting Engineers
 Chatham, Illinois

REVISIONS	
NAME	DATE

10/03/02 AM
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 8/9/2007