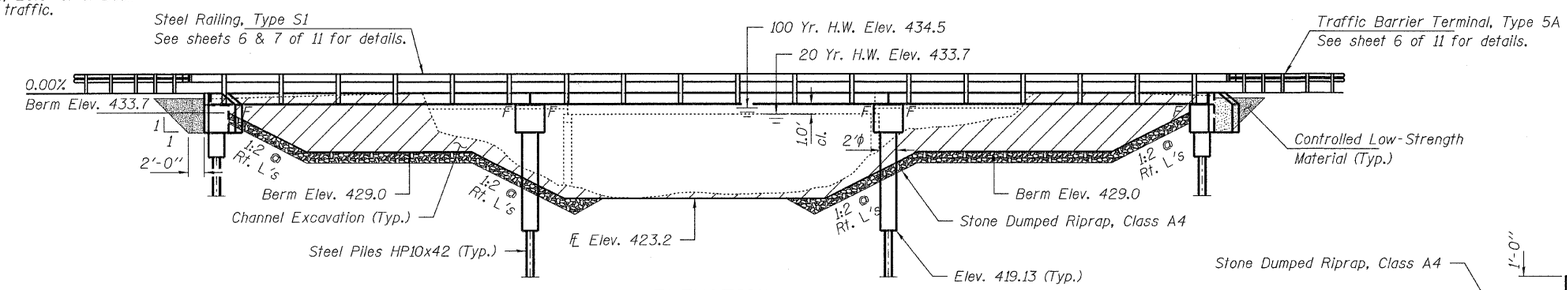
BENCHMARK: Mag Nail in Power Pole; 35' Rt. Sta. 11+10; Elev. 433.43

EXISTING STRUCTURE NO. 041-3053: Sta. 10+00 - Three span I-beam bridge with timber deck on closed timber abutments and piles with fiber pile piers. 73.7' fc.-fc. Abuts.; 20.0' o.-o. Deck
Structure closed to traffic.

No Salvage



ELEVATION

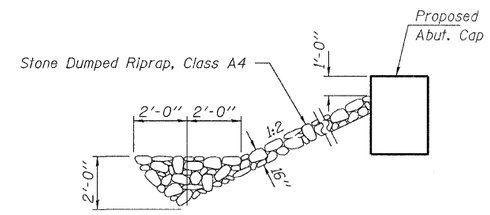
GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Excavation required to construct the Abutments & Piers shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.

All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has Issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

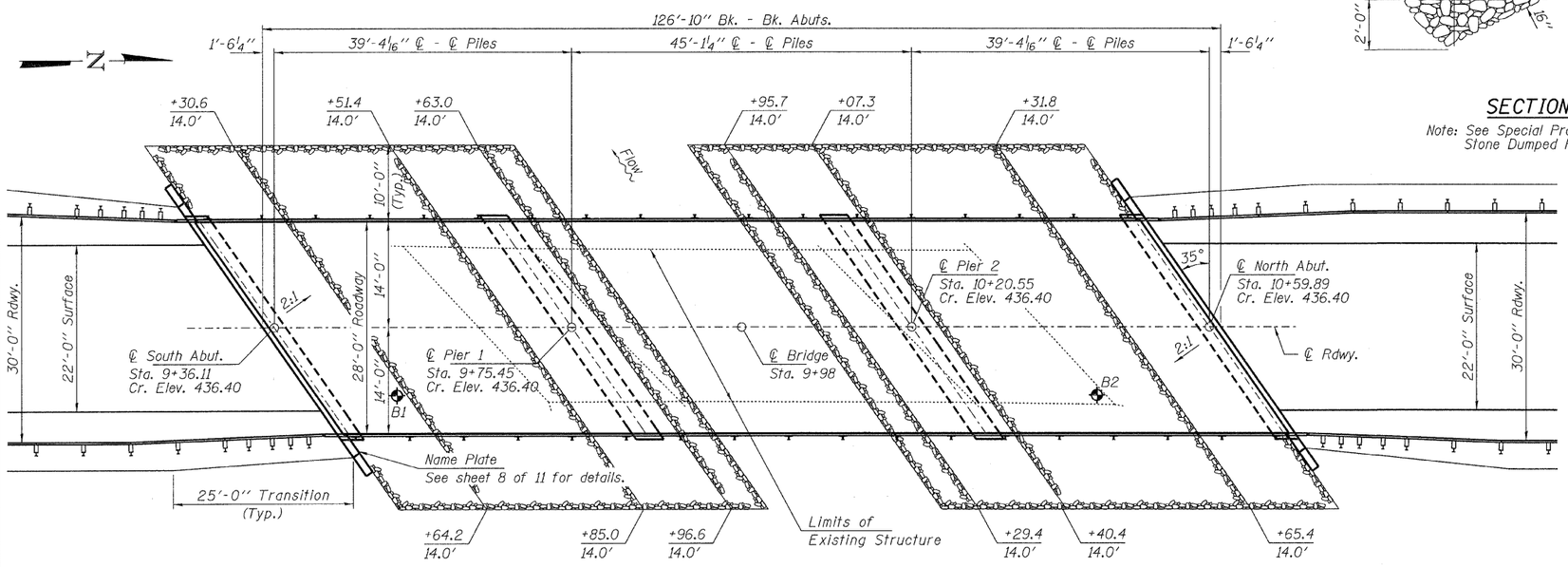


SECTION A-A

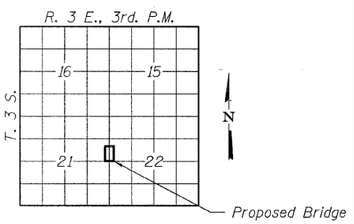
Note: See Special Provisions for Stone Dumped Riprap, Class A4.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 17" x 48" PPC Deck Beam - Span 1 & 3
3. 17" x 48" PPC Deck Beam Details - Span 1 & 3
4. 17" x 48" PPC Deck Beam - Span 2
5. 17" x 48" PPC Deck Beam Details - Span 2
6. Superstructure Details
7. Steel Railing, Type 1
8. Abutments
9. Piers
10. HP Pile Details
11. Borings



PLAN



LOCATION SKETCH

DODDS CREEK
BUILT 201_ BY
JEFFERSON COUNTY
SEC. 10-04106-00-BR
DODDS ROAD DISTRICT
STR. NO. 041-3750
LOADING HL-93

NAME PLATE

See Std. 515001

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	432.1	417.4	417.4	432.1

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½"ϕ low lax. strands)
fpbt = 201,960 psi (½"ϕ low lax. strands)
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2010 AASHTO LRFD with all applicable interims.
50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.301g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.714g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 8.3 Sq. Mi.
Existing Low Grade Elev. 434.8 @ Sta. 8+50
Proposed Low Grade Elev. 435.5 @ Sta. 12+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Exist. Overtop	10	2000	330	450	433.36	1.54	0.95	434.90	434.31
Design	20	2510	340	490	433.72	1.49	1.20	435.21	434.92
Base	100	3790	340	560	434.47	1.40	1.01	435.87	435.48
Max. Calc.	500	5220	340	580	435.19	1.34	1.17	436.53	436.36

10 Year Velocity through Existing Bridge = 6.1 fps
10 Year Velocity through Proposed Bridge = 4.4 fps

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Specifications."

Steven W. Meggenson 3/2/2012
ILLINOIS STRUCTURAL NO. 081-6064

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGENSON
081-6064
SPRINGFIELD, IL
STATE OF ILLINOIS

Expires 11-30-2012

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			420
Stone Dumped Riprap, Class A4	Ton			470
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		59.8	59.8
Concrete Encasement	Cu. Yd.		17.0	17.0
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	3,500		3,500
Reinforcement Bars	Pound		5,860	5,860
Steel Railing, Type S1	Foot	260		260
Furnishing Steel Piles HP10x42	Foot		800	800
Driving Piles	Foot		800	800
Name Plates	Each		1	1
Controlled Low Strength Material	Cu. Yd.		54	54