

BENCH MARK: #406, TOP OF R.O.W. MARKER . STATION 126+82.18, 37.68' LT. ELEV. 800.975

EXISTING STRUCTURE: S.N. 071-0013
 ORIGINALLY CONSTRUCTED IN 1935 AS F.A.P. 17, SECTION 101B. THE STRUCTURE WAS RECONSTRUCTED IN 1972 (SUPERSTRUCTURE REPLACEMENT) AND REHABILITATED IN 1989 (NEW CONCRETE OVERLAY). THE EXISTING STRUCTURE IS A SINGLE SPAN 27" DEEP x 36" WIDE PPC DECK BEAM SUPERSTRUCTURE (11 BEAM LINES) WITH A 5" CONCRETE OVERLAY SET ON THE ORIGINAL REINFORCED CONCRETE FULL HEIGHT ABUTMENTS FOUNDED ON SPREAD FOOTINGS KEYED INTO ROCK WITH A 20 DEGREE SKEW LEFT. BACK-TO-BACK ABUTMENT LENGTH IS 62'-10". THE OUT-TO-OUT DECK IS 33'-0". EXISTING STRUCTURE IS TO BE REMOVED AND REPLACED USING A DETOUR.

NO SALVAGE

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
F.A.P. 17	101BR-4	OGLE	60	18	SHEETS 19
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT-			

Contract # 64D11

STATION 124+91.00
 BUILT BY
 STATE OF ILLINOIS
 F.A.P. RT. 17 SECTION 101BR-4
 LOADING HL-93
 STRUCTURE NO. 071-0095

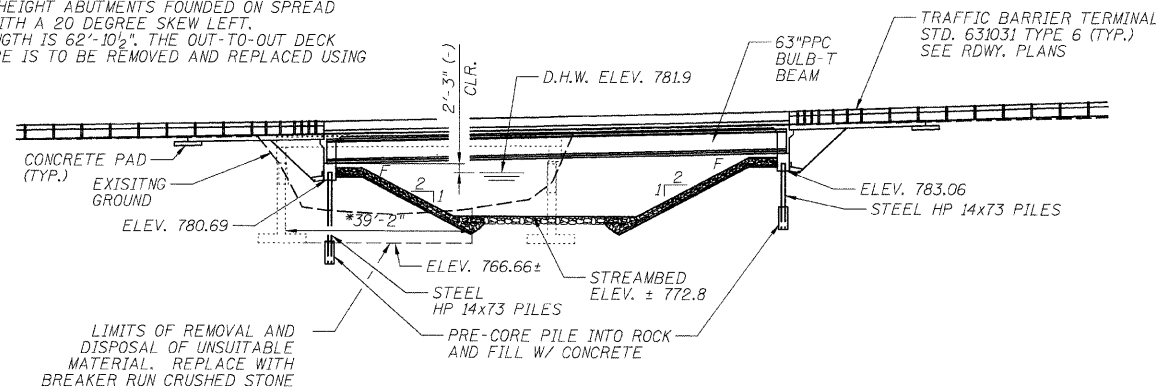
NAME PLATE
 See Std. 515001

INDEX OF SHEETS

GENERAL PLAN AND ELEVATION	1
TOP OF SLAB ELEVATIONS	2-4
SUPERSTRUCTURE PLAN	5
SUPERSTRUCTURE CROSS SECTIONS	6
SUPERSTRUCTURE DETAILS	7
ABUTMENT DIAPHRAGM DETAILS	8
FRAMING PLAN	9
PPC BULB T-BEAM DETAILS	10-12
WEST ABUTMENT	13
EAST ABUTMENT	14
PILE BASE SHEET	15
CONCRETE PARAPET SLIPFORMING OPTION	16
BAR SPLICER BASESHEET	17
BORING LOGS	18-19

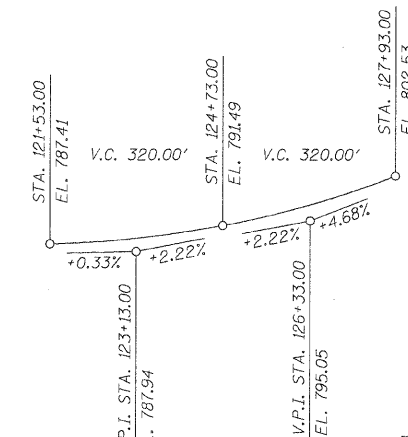
APPROVED
 FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson (TS)
 ENGINEER OF BRIDGES AND STRUCTURES

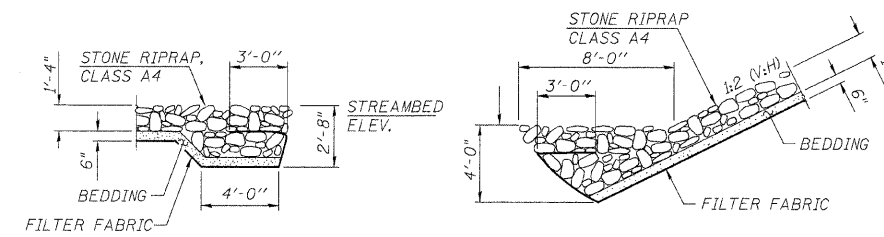


ELEVATION

*MEASURED ALONG SKEW

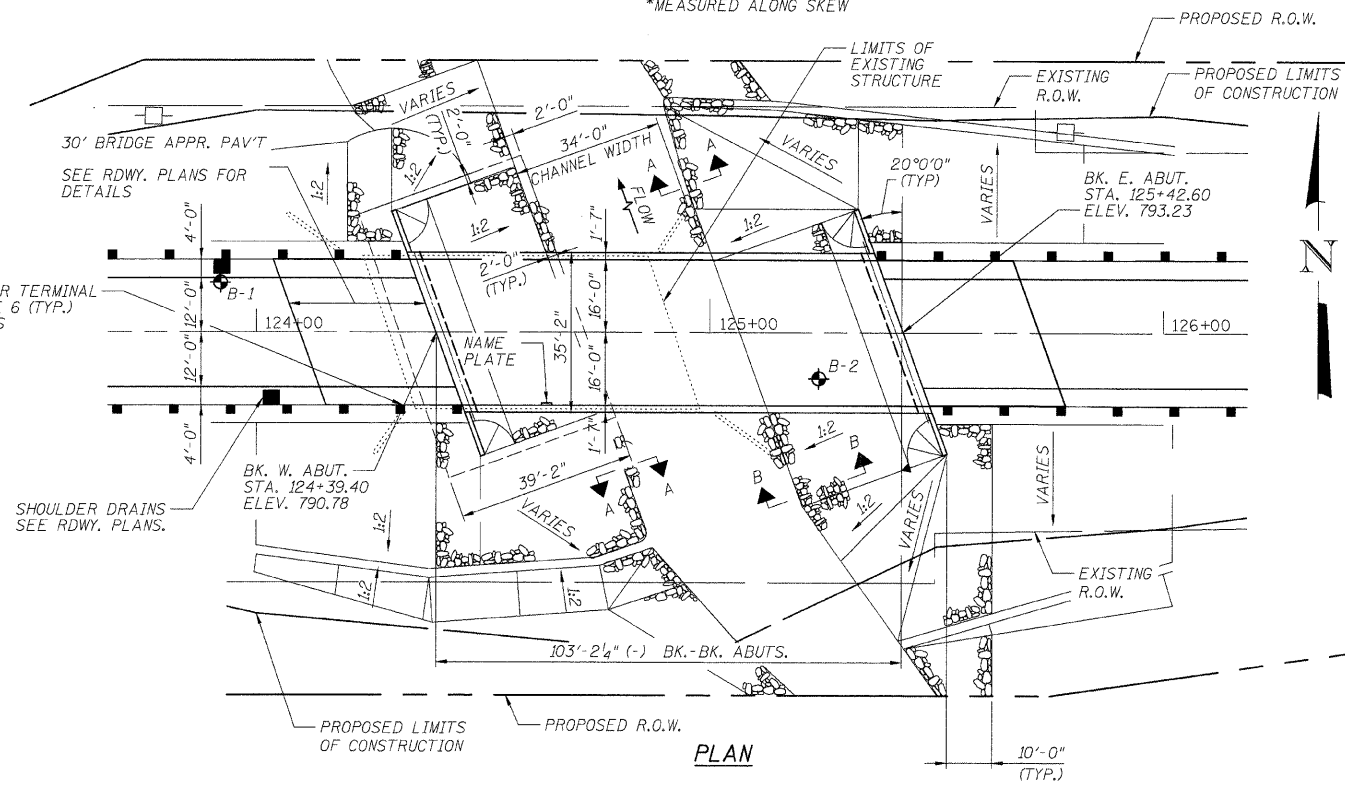


PROFILE GRADE
 (ALONG & ROADWAY)



SECTION A-A

SECTION B-B



PLAN

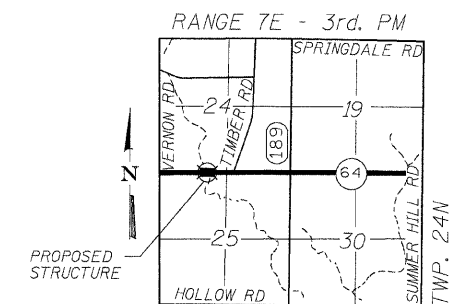
ITEM	UNIT	SUPER	SUB	TOTAL
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	0	750	750
STONE RIP RAP, CLASS A4	SQ YD	0	1,490	1,490
FILTER FABRIC	SQ YD	0	1,490	1,490
REMOVAL OF EXISTING STRUCTURES NO.1	EACH	1	0	1
STRUCTURE EXCAVATION	CU YD	0	260	260
CONCRETE STRUCTURES	CU YD	0	44.3	44.3
CONCRETE SUPERSTRUCTURE	CU YD	167.9	0	167.9
BRIDGE DECK GROOVING	SQ YD	344	0	344
CONCRETE ENCASUREMENT	CU YD	0	6.6	6.6
PROTECTIVE COAT	SQ YD	464	0	464
FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE BULB T-BEAMS 63"	FOOT	608	0	608
REINFORCEMENT BARS, EPOXY COATED	POUND	27,904	5,989	33,893
BAR SPLICERS	EACH	62	0	62
FURNISHING STEEL PILES HP 14 x 73	FOOT	0	259	259
NAME PLATES	EACH	1	0	1
GEOCOMPOSITE WALL DRAIN	SQ YD	0	120	120
PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	0	115	115
ASBESTOS BEARING PAD REMOVAL	EACH	44	0	44
BREAKER RUN CRUSHED STONE	TON	0	1,220	1,220
SETTING PILES IN ROCK	EACH	0	14	14
POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	0	240	240
UNDERWATER STRUCTURE EXCAVATION PROTECTION	EACH	0	1	1

BILL OF MATERIALS

WATERWAY INFORMATION

DRAINAGE AREA = 13.1 SQ. MI.		EXIST. LOW GRADE ELEV. 793.2 @ STA. 151+75.4		PROP. LOW GRADE ELEV. 793.4 @ STA. 151+00	
FLOOD YR.	FREQ. Q	OPENING SQ. FT.	NAT. H.W.E.	EXIST. H.W.E.	HEAD - FT. HEADWATER EL.
TEN-YEAR	10	1607	417	426	0.3
DESIGN	50	2579	457	475	0.8
BASE	100	3018	471	493	0.8
MAX. CALC.	500	4110	502	536	1.6

10-YEAR VELOCITY THROUGH EXISTING STRUCTURE = 3.9 fps
 10-YEAR VELOCITY THROUGH PROPOSED STRUCTURE = 3.8 fps



LOCATION SKETCH

GENERAL NOTES

- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 706 GR 60. SEE SPECIAL PROVISIONS.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
- LAYOUT OF SLOPE PROTECTION SYSTEM MAY BE VARIED TO SUIT GROUND CONDITIONS IN THE FIELD AS DIRECTED BY THE ENGINEER.
- THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM THAT MUST BE PLACED AND COMPACTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.
- THE CONTRACTOR IS ADVISED THAT THE EXISTING PPC DECK BEAMS ARE IN A DETERIORATED CONDITION WITH REDUCED LOAD CARRYING CAPACITY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOUNT FOR THE CONDITION OF THE BEAMS WHEN DEVELOPING CONSTRUCTION PROCEDURES FOR REMOVAL OF THE SUPERSTRUCTURE.
- ALL EMBEDDED AND SEPARATE BEARING PLATES, SIDE RETAINERS, ANCHOR BOLTS, NUTS, WASHERS, AND PINTLES SHALL BE GALVANIZED ACCORDING TO AASHTO M111 OR M232 (AS APPLICABLE).
- THE PRECURED HOLES FOR PILES, FROM 6 INCHES ABOVE THE TOP OF BEDROCK TO THE BOTTOM OF THE ABUTMENTS, SHALL BE FILLED WITH DRY LOOSE POROUS GRANULAR EMBANKMENT MATERIAL MEETING THE REQUIREMENTS OF FA-1 OR FA-2 GRADATION.

DESIGNED	ASP
CHECKED	WSP
DRAWN	BEW
CHECKED	ASP

SEISMIC DATA

SEISMIC PERFORMANCE ZONE (SPZ)=1
 BEDROCK ACCELERATION COEFFICIENT (A) = 0.03g
 SITE COEFFICIENT (S) = 1.0

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (REINFORCEMENT)
 PRECAST PRESTRESSED UNITS
 $f'_c = 6,000$ psi
 $f'_{cl} = 5,000$ psi
 $f_{pu} = 270,000$ psi ($1/2$ " \emptyset LOW LAX. STRANDS)
 $f_{pbt} = 201,960$ psi ($1/2$ " \emptyset LOW LAX. STRANDS)

DESIGN SCOUR ELEVATION TABLE

DESIGN SCOUR ELEVATION (FT.)	W. ABUT. E. ABUT.
	780.69 783.06

DESIGN SPECIFICATIONS

2007 AASHTO LRFD SPECIFICATIONS,
 4TH EDITION, WITH INTERIMS.

LOADING HL-93

ALLOW 50#/sq. ft. FOR FUTURE WEARING SURFACE.

GENERAL PLAN AND ELEVATION

IL 64 OVER FIVE MILE CREEK

F.A.P. RT. 17 SECTION 101BR-4

OGLE COUNTY

STATION 124+91.00

STRUCTURE NO. 071-0095

DLZ 85 W. Algonquin Rd. Ste. 220
 Arlington Heights IL 60005