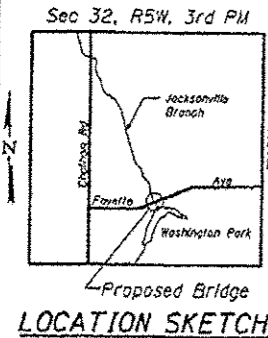


BM #2 Chiseled Square on bridge walk SN 084-8000, 16.0' Rt Sta 10+00, Elev. 562.85

Existing Structure: The existing structure is a double 12'x11.5' concrete box culvert with concrete deck & handrail. The overall length is 28'-10" Bk-Bk. The bridge width is 36'-3" out to out and 33'-0" Fc-Fc roll. The roadway width is 24'-0" Fc-Fc curbs. The contractor will remove and replace the existing structure with a new single span PCC deck beam bridge on closed abutments.

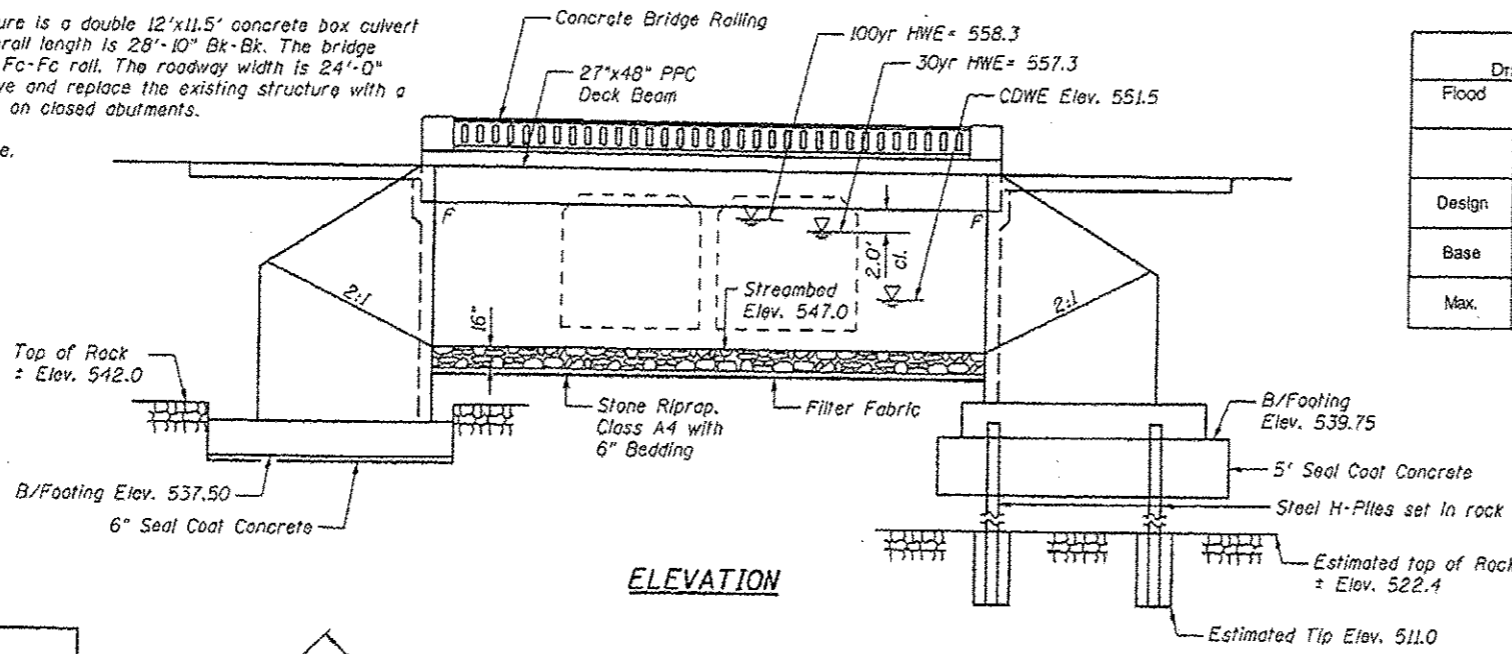
Structure to be built under road closure.

No Salvage.

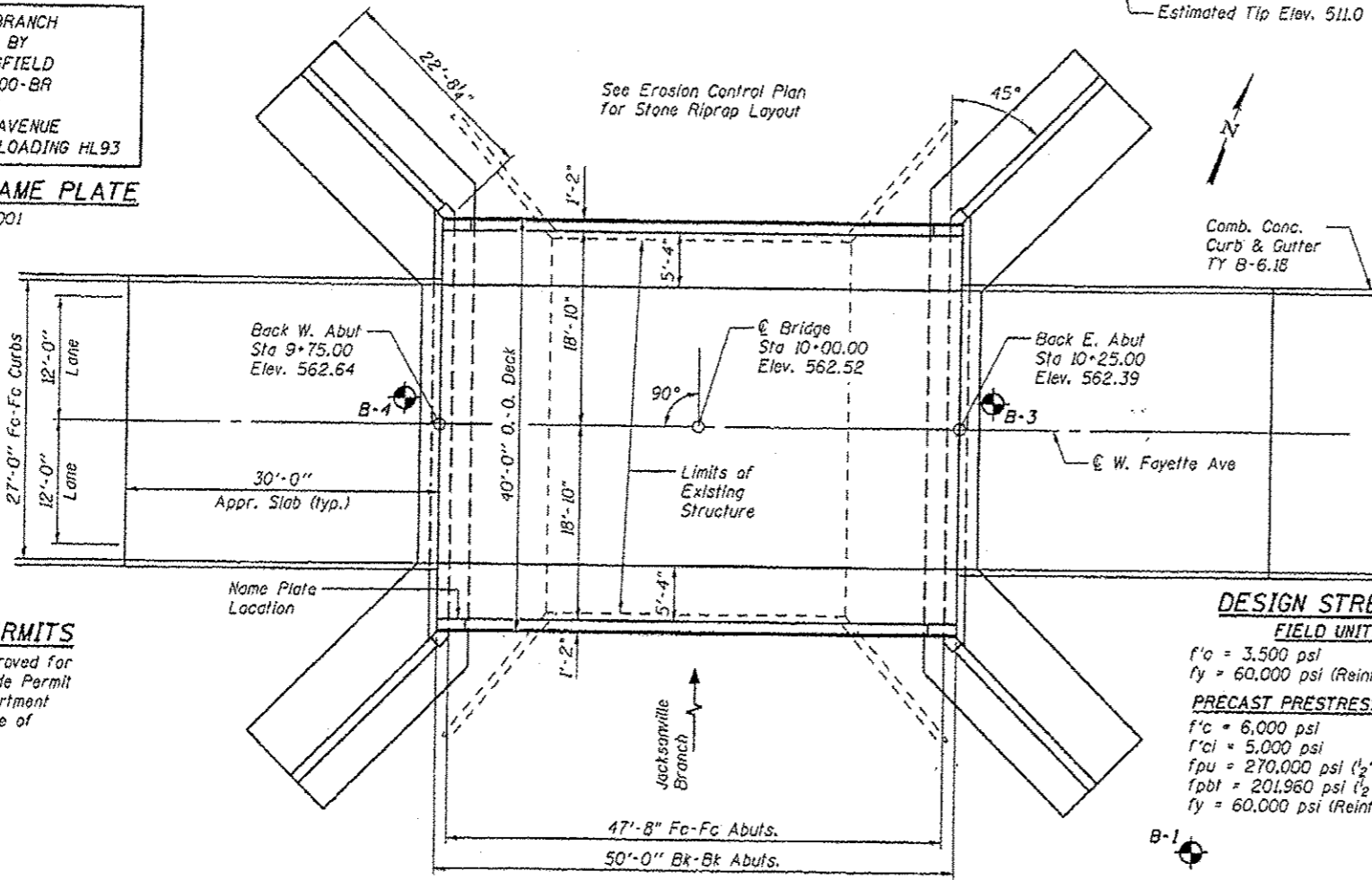


JACKSONVILLE BRANCH
BUILT 20... BY
CITY OF SPRINGFIELD
SEC. 11-00472-00-BR
FAU 7987
WEST FAYETTE AVENUE
STR. NO. 084-6020 LOADING HL93

LETTERING FOR NAME PLATE
See Std. 515001



ELEVATION



PLAN

WATERWAY INFORMATION TABLE

Flood Year	Frequency Year	Discharge C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater Elev.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
			178	438	556.2	1.1	0.1	557.3	556.3
Design	30	2,032	205	490	557.3	2.2	0.1	559.5	557.4
Base	100	2,689	229	538	558.3	3.3	0.3	561.6	558.6
Max.	500	3,682	258	590	559.5	3.9	0.6	563.4	560.1

10 yr velocity through existing = 7.8 fps 10 yr velocity through proposed = 3.2 fps

GENERAL NOTES

- See Special Provisions for Boring Data.
- Layout of the Stone Riprap may be varied to suit ground condition in the field as directed by the Engineer.
- The back of the abutments and wingwalls shall be waterproofed in accordance with Article 503.18 of the Standard Specifications.
- Type 2 Cofferdams are required at abutments. The Cofferdam Design Water Elevation (CDWE) for the design of the Cofferdam and the seal coat that are included in these plans is Elev. 551.50. Due to scour concerns, the seal coat concrete shall not be eliminated under any circumstances.
- Reinforcement bars designated (E) shall be epoxy coated.

Backfill shall not be placed behind the abutments, above Elevation 547.0, until the PPC Deck Beams are in place and dowel rods are grouted.

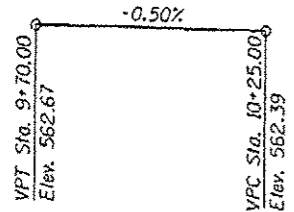
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Ton	-	972	972
Filter Fabric	Sq. Yd.	-	1404	1404
Removal of Existing Structures	L. Sum	-	-	-
Cofferdam Excavation	Cu. Yd.	-	1610	1610
Rock Excavation for Structures	Cu. Yd.	-	270	270
Cofferdam (Type 2)(Location 1) W. Abut.	Each	-	1	1
Cofferdam (Type 2)(Location 2) E. Abut.	Each	-	1	1
Floor Drains	Each	4	-	4
Concrete Structures	Cu. Yd.	-	411.6	411.6
Concrete Superstructure	Cu. Yd.	111.3	-	111.3
Bridge Deck Grooving	Sq. Yd.	312	-	312
Seal Coat Concrete	Cu. Yd.	-	287	287
Protective Coat	Sq. Yd.	453	-	453
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	2000	-	2000
Reinforcement Bars	Pound	-	31,820	31,820
Reinforcement Bars, Epoxy Coated	Pound	21,185	10,195	31,380
Furnishing Steel Piles HP 12x53	Foot	-	812	812
Name Plates	Each	1	-	1
Geocomposite Wall Drain	Sq. Yd.	-	150	150
Concrete Bridge Railing	Foot	100	-	100
Concrete Wearing Surface, 5"	Sq. Yd.	150	-	150
Granular Backfill for Structures	Cu. Yd.	-	200	200
Setting Piles in Rock	Each	-	28	28

See Special Provisions

CONSTRUCTION PERMITS

This project has been approved for construction under Statewide Permit No. 12, issued by the Department of Natural Resources/Office of Water Resources.



PROFILE GRADE
Along E W Fayette Ave

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut	E. Abut
	537.50	539.75

LOADING HL-93

Design Specifications: 2010 AASHTO LRFD with 2010 Interims
Allow 50#/#Sq. Ft. for future wearing surface.

DESIGN STRESSES

- FIELD UNITS
- $f'_c = 3,500$ psi
- $f_y = 60,000$ psi (Reinforcement)
- PRECAST PRESTRESSED UNITS
- $f'_c = 6,000$ psi
- $f'_ci = 5,000$ psi
- $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
- $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
- $f_y = 60,000$ psi (Reinforcement)

"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 Standard Specifications for Highway Bridges'."

Michael D. Cain (2-27-14)
ILLINOIS STRUCTURAL NO. 4822 (Expires 11/30/14)



GENERAL PLAN & ELEVATION
W FAYETTE AVE OVER JACKSONVILLE BR.
SECTION 11-00472-00-BR
SANGAMON COUNTY
STA. 10+00
STRUCTURE NO. 084-6020



JOB	DESIGNED	CHECKED	DRAWN	DATE
2284	AAN	MOC	SJS	2/26/2014

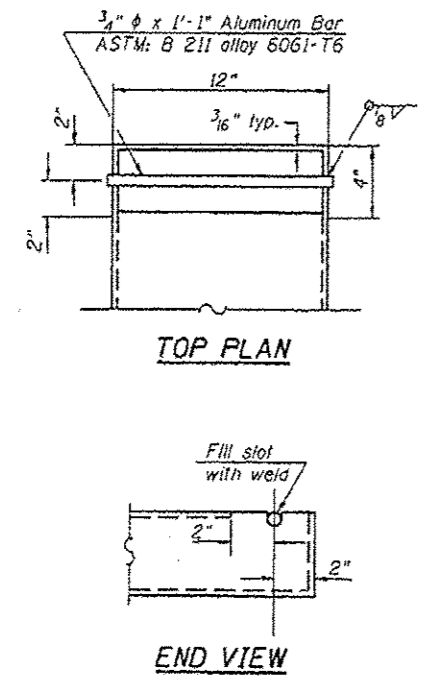
CITY OF SPRINGFIELD
FAYETTE AVE IMPROVEMENTS

GENERAL PLAN & ELEVATION
STRUCTURE NO. 084-6020

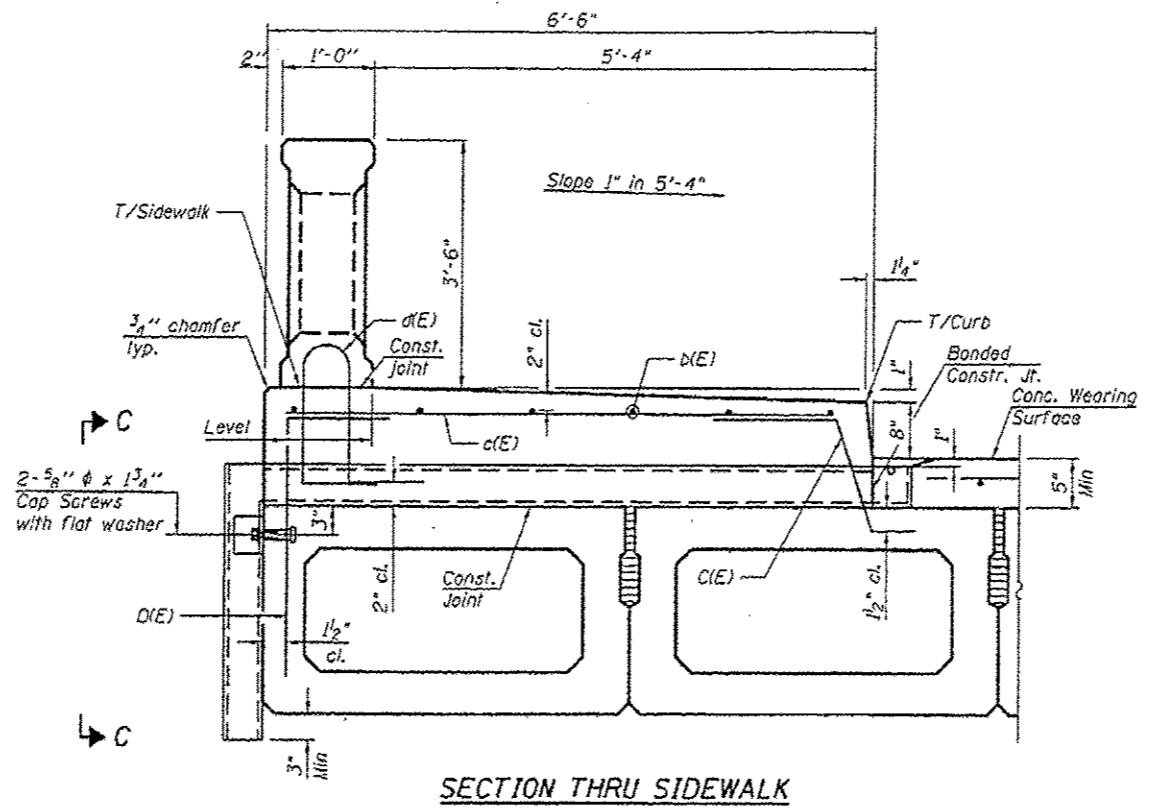
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7987	11-00472-00-BR	SANGAMON	51	31

SHEET NO. 1 OF 12 SHEETS

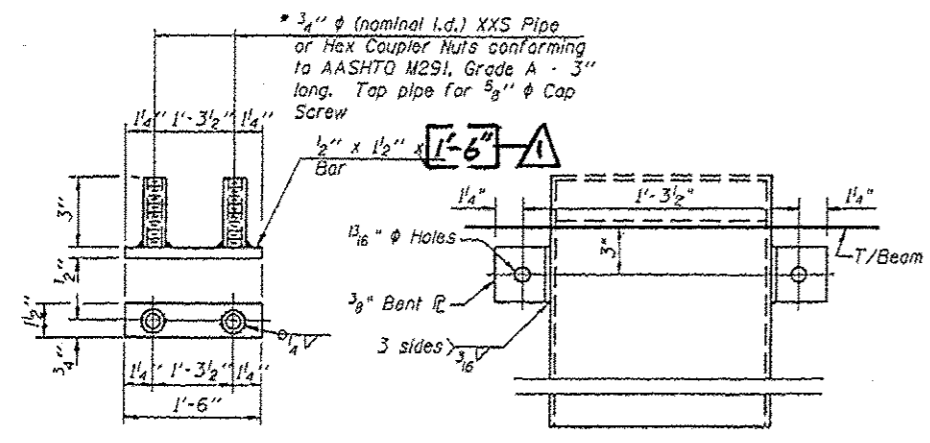
CONTRACT: 73618



FLOOR DRAIN INLET DETAILS



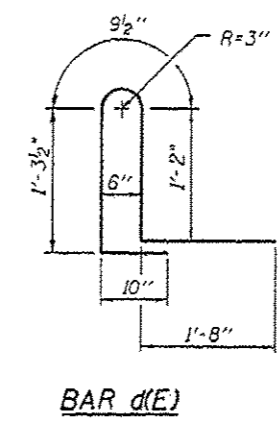
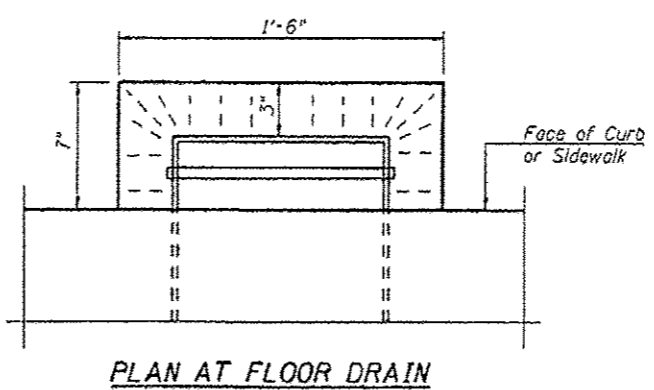
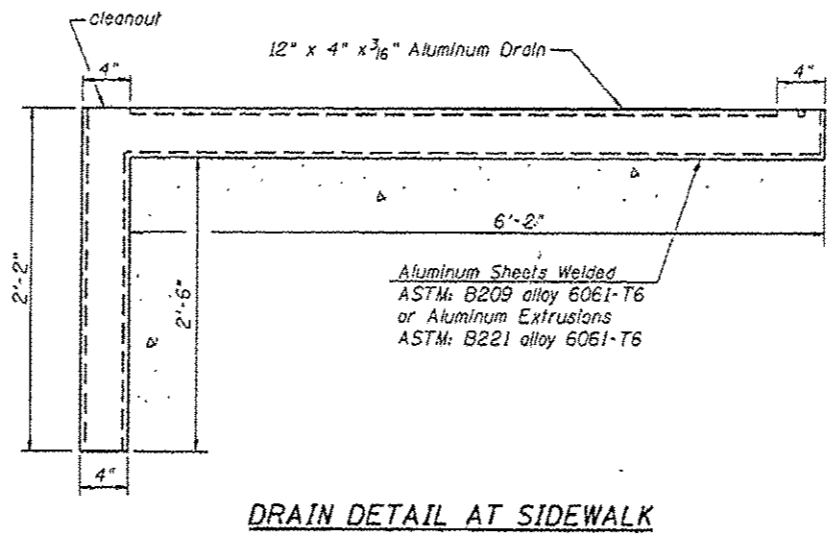
MIN. BAR LAP
#5 bars = 2'-6"



* Threaded areas shall be plugged or blocked off during casting of beam.

FLOOR DRAIN ANCHOR DETAILS

Notes:
The exterior surfaces of the floor drains shall be coated by the manufacturer with a color that matches the concrete.
All cap screws and washers shall be galvanized according to AASHTO M 232.
Anchor devices shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385.



CONCRETE WEARING SURFACE AND SIDEWALK BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	50	#4	26'-3"	—
b(E)	82	#4	25'-8"	—
c(E)	100	#5	6'-0"	—
d(E)	100	#5	5'-9"	⊏
Reinforcement Bars, Epoxy Coated			Pound	3530
Concrete Superstructure			Cu. Yds.	27.8
Concrete Wearing Surface, 5"			Sq. Yds.	150
Floor Drains			Each	4
Concrete Bridge Rolling			Foot	100

Bars indicated thus 2B x 2-#5 etc. Indicates 2B lines of bars with 2 lengths per line.
Reinforcement bars designated (E) shall be Epoxy Coated.

*** 93618**



JOB # 2284	DESIGNED - AAN	REVISOR - <i>ADH/MDC</i>
FILE # 2284rolling.dgn	CHECKED - MDC	REVISOR -
DATE # 2/20/2014	DRAWN - SJS	REVISOR -
	CHECKED - MDC	REVISOR -

**CITY OF SPRINGFIELD
FAYETTE AVE IMPROVEMENTS**

**CONCRETE WEARING SURFACE AND SIDEWALK
STRUCTURE NO. 084-6020**

SHEET NO. 3 OF 12 SHEETS

F.A.U. RTE. 7987	SECTION 11-00472-00-6R	COUNTY SANGAMON	TOTAL SHEETS 51	SHEET NO. 33
CONTRACT NO. *				

ILLINOIS FED. AID PROJECT