BENCH MARK

BM #22 - Chiseled "□" on north side of west abutment seat.
Sta. 379+96.4, 17.2' Lt., Elev. = 461.48

EXISTING STRUCTURES

SN 003-0034 Originally built as SBI 127A, Section 112B in 1934. It was rebuilt and widened in 1972 as FAP 793, Section 112BR. The existing structure consists of 21 spans with 20 simple span RC deck on steel W-beam units (18 west, 2 east of main span) and a single span steel thru plate girder with steel floor beams and RC deck superstructure. The existing substructure consists of concrete stub abutments on concrete piles, concrete pile bent piers on concrete piles (19) and two solid wall concrete piers on concrete pile supported footings. The structure is 1129'-9" bk. to bk. of abutments and 32'-6" out to out of deck with no skew. The existing structure is to be removed and replaced.

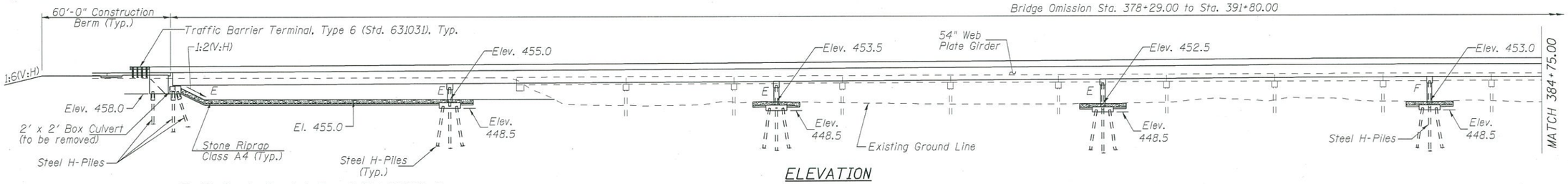
The roadway will be closed during construction. Traffic will be detoured during construction.

Salvage: None.

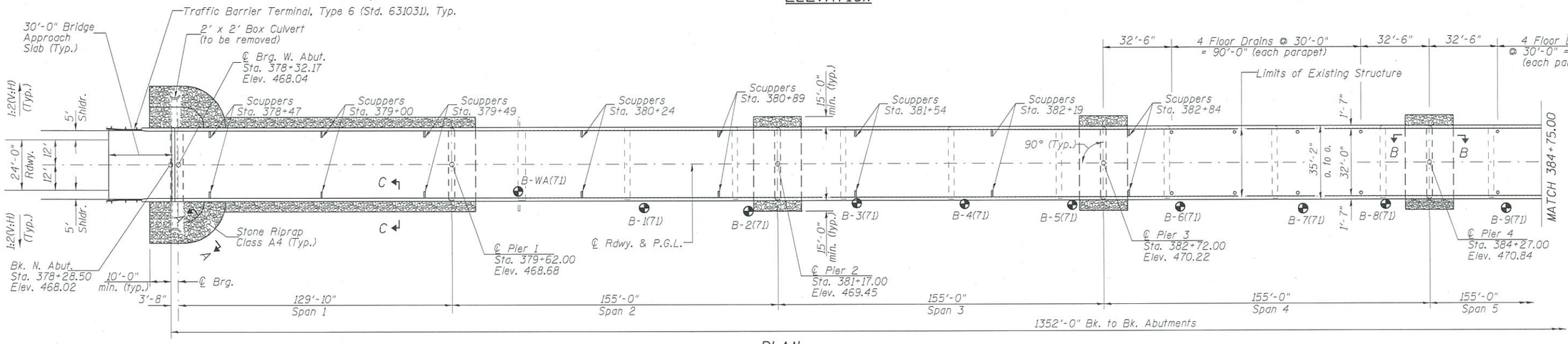
APPROVED

AUG 0 5 2015

AS A BASIS FOR
PREPARATION OF DETAILED PLANS



ELEVATION



PLAN

● Boring Locations

WATERWAY INFORMATION

Drainage Area = 679 Sq. Miles Low Grade Elev. 465.00 @ Sta. 354+49.60

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	21,100	6,007	7,458	458.92	1.81	1.49	460.74	460.41
Design	50	30,500	7,369	8,911	459.86	2.20	1.80	462.06	461.66
Base	100	34,300	7,711	9,428	460.20	2.33	1.91	462.53	462.11
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	43,200	8,054	10,441	460.93	2.67	2.13	463.60	463.06

DESIGN SCOUR ELEVATION TABLE

	Design Scour Elevations (ft.)										Item 113
	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	Pier 8	S. Abut.	
0.100	458.0	447.5	443.5	442.5	443.0	446.7	446.8	445.0	449.0	457.4	5
0500	458.0	443.5	439.5	438.5	439.0	444.7	442.5	441.0	451.0	457.4	
Design	458.0	447.5	443.5	442.5	443.0	446.7	446.8	445.0	445.0	457.4	
Check	458.0	443.5	439.5	438.5	439.0	444.7	442.5	441.0	445.0	457.4	

HIGHWAY CLASSIFICATION

F.A.P. Rte. 793 - (IL Rte. 143)
Functional Class: Minor Arterial
ADT: 1,700 (2017); 2,200 (2037)
DHV: 220 (2037)
ADTT: 187(2017), 242(2037)
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.
2-Way Traffic
Directional Distribution: 50:50

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)
fy = 50,000 psi (M270 Grade 50)

DESIGN SPECIFICATIONS

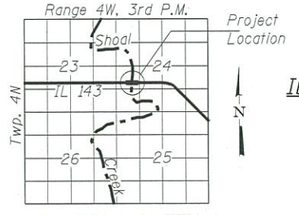
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.24g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.55g
Soil Site Class = D



LOCATION SKETCH

GENERAL PLAN
ILL. RTE. 143 OVER SHOAL CREEK
F.A.P. ROUTE 793
SECTION (40, 112) BR-1
BOND COUNTY
STATION 385+04.50
STR. NO. 003-0062

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME =	DESIGNED - BAN	REVISED -
PLOT SCALE = NONE	CHECKED - JOH	REVISED -
PLOT DATE =	DRAWN - TAC	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
793	(40,112) BR-1	Bond	-	-
		CONTRACT NO. 76967		
		ILLINOIS FED. AID PROJECT		

V:\Bridge\3515-Bond\3515 TS&L.dgn

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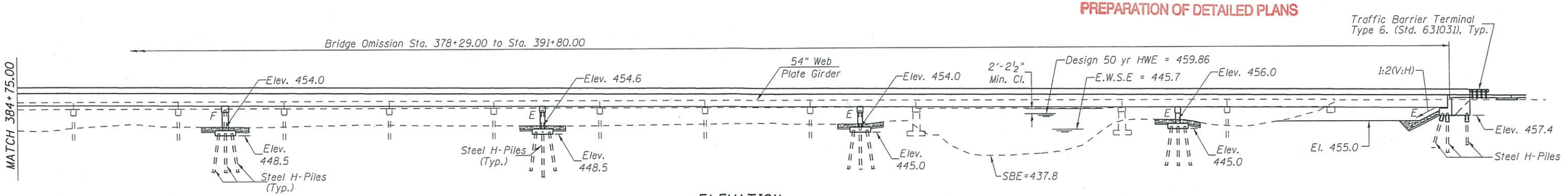
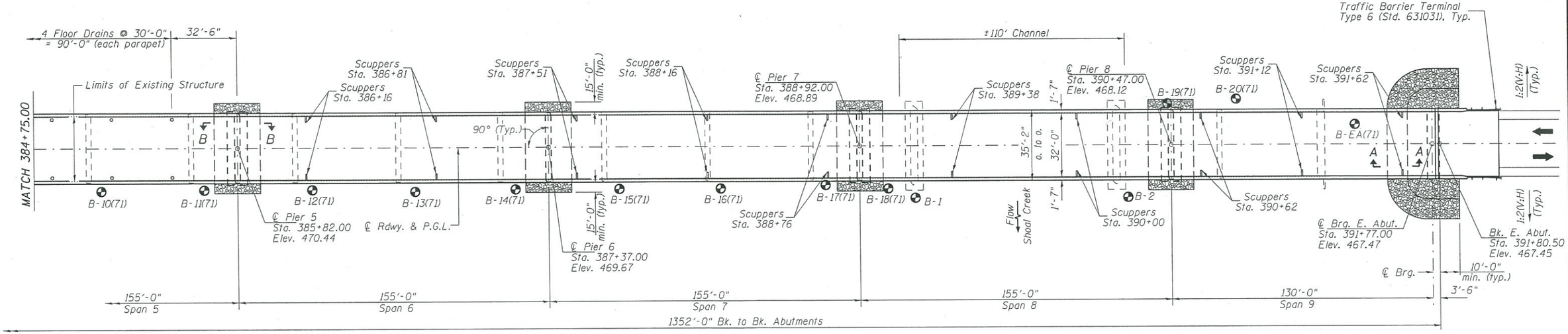
AUG 0 5 2015

AS A BASIS FOR
PREPARATION OF DETAILED PLANS

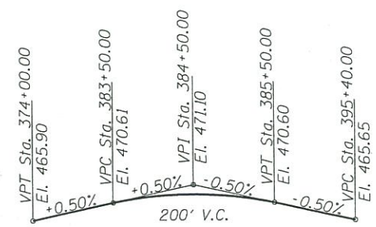


ELEVATION



PLAN

Boring Locations



PROFILE GRADE
(Along ℄ FAP 793)

N

GENERAL PLAN 2
ILL. RTE. 143 OVER SHOAL CREEK
F.A.P. ROUTE 793
SECTION (40, 112) BR-1
BOND COUNTY
STATION 385+04.50
STR. NO. 003-0062

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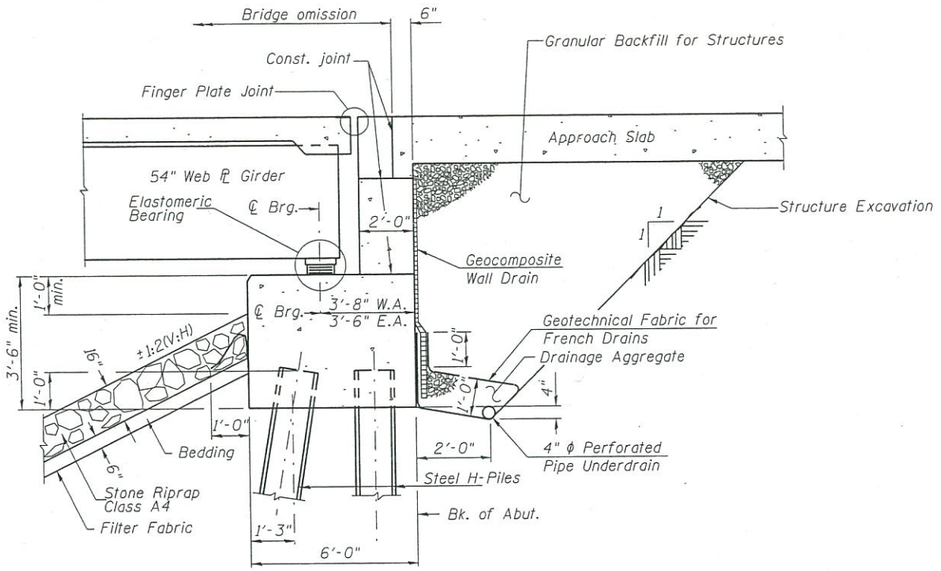
	CHECKED - BAN	REVISED -

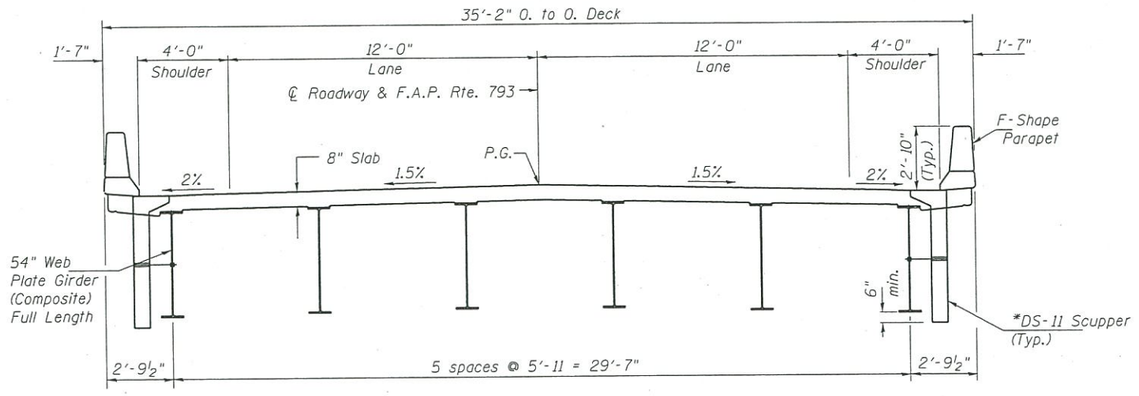
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 2 OF 3 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
-	(40,112) BR-1	Bond	-	-
		CONTRACT NO. 76967		
	ILLINOIS FED. AID PROJECT			



SECTION THRU ABUTMENTS



PROPOSED CROSS SECTION
(Looking East)

*Embed max. 4" into parapet as req'd to maintain clearance between Scupper & Beam.

APPROVED
AUG 0 5 2015
AS A BASIS FOR
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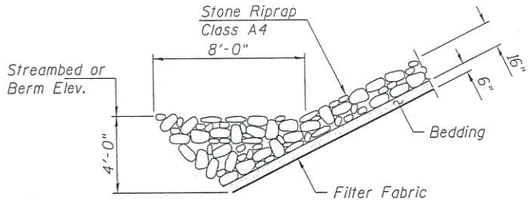
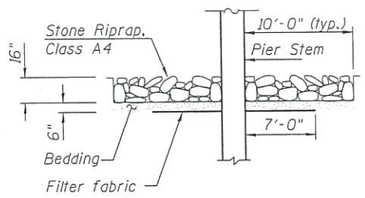
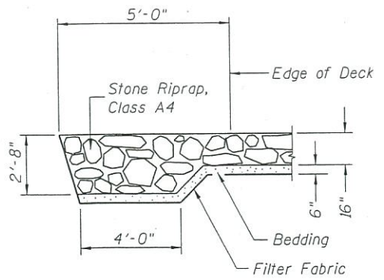


SECTION A-A

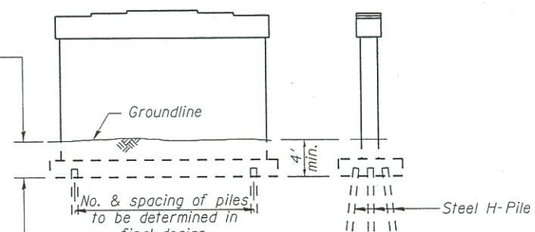


SECTION B-B



SECTION C-C

Pier 1 Elev. 455.0
Pier 2 Elev. 453.5
Pier 3 Elev. 452.5
Pier 4 Elev. 453.0
Pier 5 Elev. 454.0
Pier 6 Elev. 454.6
Pier 7 Elev. 454.0
Pier 8 Elev. 456.0



Pier 1 Elev. 448.5
Pier 2 Elev. 448.5
Pier 3 Elev. 448.5
Pier 4 Elev. 448.5
Pier 5 Elev. 448.5
Pier 6 Elev. 448.5
Pier 7 Elev. 445.0
Pier 8 Elev. 445.0

PIER SKETCH
(HLMR bearings will be used at each pier)

GENERAL DETAILS
ILL. RTE. 143 OVER SHOAL CREEK
F.A.P. ROUTE 793
SECTION (40, 112) BR-1
BOND COUNTY
STATION 385+04.50
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	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 3 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
-	(40,112) BR-1	Bond	-	-
		CONTRACT NO. 76967		
	ILLINOIS FED. AID PROJECT			