

# SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	STRUCTURE 80% FEDERAL 20% STATE X081-2A														
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1	1														
63200310	GUARDRAIL REMOVAL	FOOT	511	511														
63300725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	50.0	50.0														
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	4	4														
67100100	MOBILIZATION	L SUM	1	1														
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1														
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1														
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1														
70106700	TEMPORARY RUMBLE STRIP	EACH	6	6														
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	136	136														
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	45	45														
70400100	TEMPORARY CONCRETE BARRIER	FOOT	425	425														
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	400	400														
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,543	1,543														
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	9	9														
78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	2	2														
78200410	GUARDRAIL MARKERS, TYPE A	EACH	14	14														
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	3	3														
78300100	PAVEMENT MARKING REMOVAL	SQ FT	515	515														
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	11	11														
50900905	REMOVING AND RE-ERECTING EXISTING RAILING	FOOT	299	299														
X0324865	DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	782	782														
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	172.0	172.0														
X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	531	531														
X6330103	REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL, TANGENT	EACH	3	3														
X7200201	WIDTH RESTRICTION SIGNING	L SUM	1	1														
XX005496	TRAFFIC BARRIER TERMINAL TYPE 6A (SPECIAL)	EACH	1	1														
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	52	52														
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2														
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2														

⚠ 50900905 REMOVING AND RE-ERECTING EXISTING RAILING

LEGEND:  
\* SPECIALTY ITEMS

⚠ REVISED 9/2/08

FILE NAME = ...110149\Quantities\SUMMGT.DGN	USER NAME = SJS	DESIGNED -	REVISED -
Johnson, Depp & Quisenberry CONSULTING ENGINEERS Springfield, Illinois	PLOT SCALE = 28.0000' / IN.	DRAWN -	REVISED -
	PLOT DATE = 06/17/2008 16:11:50	CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES			
SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.

F.A.P. RTE. 721	SECTION 015BR-1JBR	COUNTY PIATT	TOTAL SHEETS 32	SHEET NO. 4	CONTRACT NO. 70433
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

B.M. 4750-1: Chiseled square on the northeast corner of the southwest wingwall of S.N. 074-0005, Sta. 1210+13.6, 23.7' Rt., Elev. 660.10.

EXISTING STRUCTURE: S.N. 074-0005, originally constructed in 1931 as SBI 120 Sec. 115B at Station 1210+52, reconstructed with longer superstructure and new substructures (existing west abut widened) in 1977 as SBI 120 Sec. 115BR-1 at Station 1210+89.58, using 21" PPC Deck Beams with 3/4" bituminous overlay, 3 spans, 151'-5 1/4" back-back abutments, 41'-0" out-out width, (W. Abut.) closed abutment on timber pile footings, (Pier 1) wall pier on concrete piles, (Pier 2) wall pier with footing on concrete piles, (E. Abut.) open abutment cap on concrete piles. In 2000, bituminous overlay was removed and replaced with 5" concrete wearing surface, and steel railing was replaced with Type SM railing.

Existing superstructure shall be removed and replaced using staged construction to maintain one lane of traffic.

Existing Steel Bridge Railing shall be salvaged and reused on the new superstructure.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET 1  
OF 10

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
721	(115BR-1)BR	PIATT	32	12
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 70433	

INDEX OF SHEETS

Sheet No.	Description
1	General Plan, General Notes & Bill of Material
2	Stage Construction and Strip Seal Joint Details
3	Temporary Concrete Barrier for Stage Construction
4	Superstructure Details
5	Steel Bridge Rail, Type SM
6-7	PPC Deck Beam Details
8	West & East Abutments
9	Piers 1 & 2
10	Bar Splicer Assembly Details

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

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

Reinforcement bars designated (E) shall be epoxy coated.

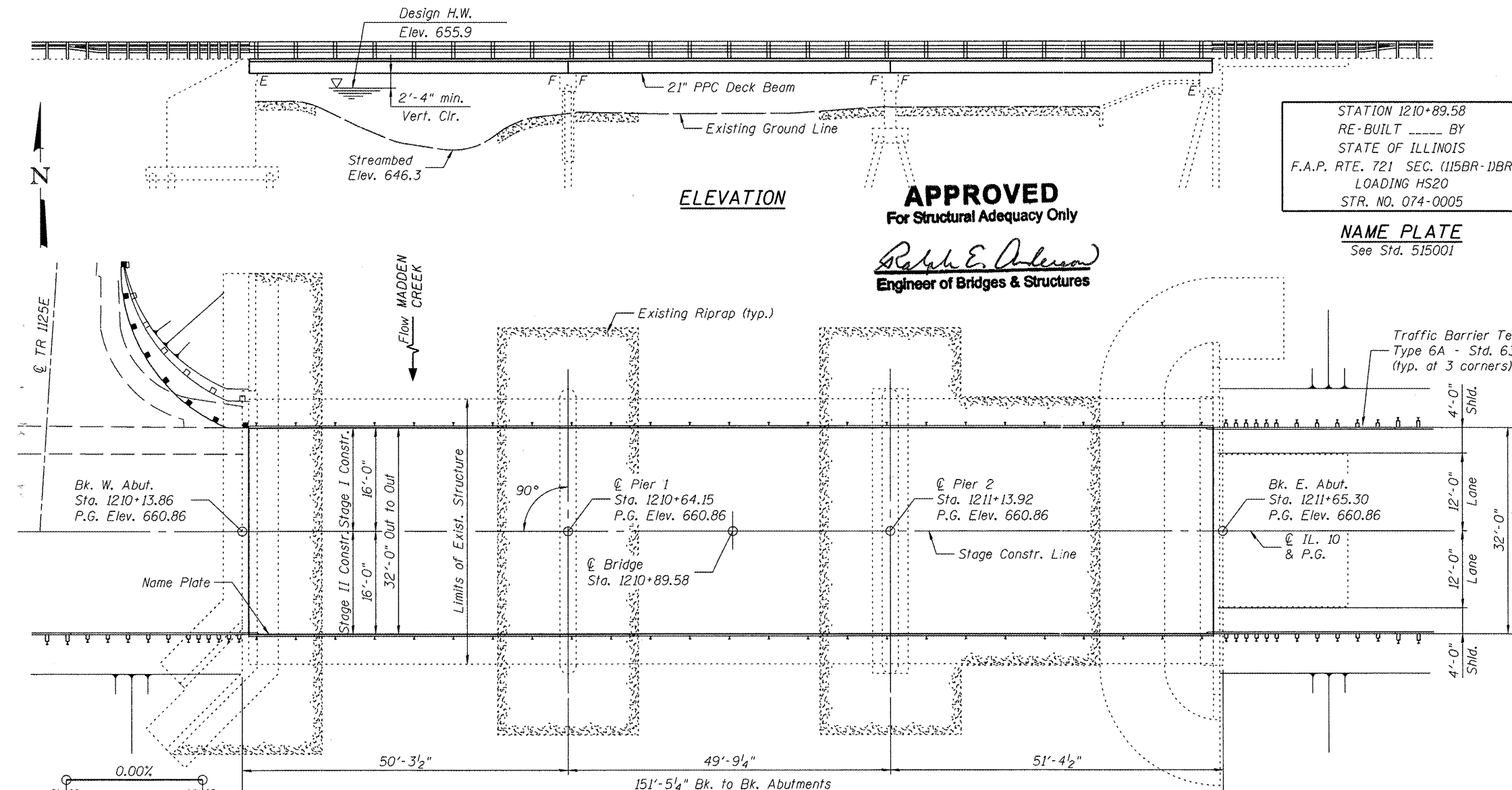
The existing bearing pads at the West and East Abutments contain asbestos. The Contractor shall take appropriate precautions to deal with the presence and disposal of asbestos on this project. See Special Provisions.

The minimum thickness of the concrete wearing surface shall be 5" and varies as required to adjust for the profile grade and beam camber.

Repair of the pier caps shall be completed prior to placement of the new deck beams.

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 and replacement of the superstructure.

If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new or existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads.



STATION 1210+89.58  
RE-BUILT BY  
STATE OF ILLINOIS  
F.A.P. RTE. 721 SEC. (115BR-1)BR  
LOADING HS20  
STR. NO. 074-0005

NAME PLATE  
See Std. 515001

APPROVED  
For Structural Adequacy Only  
*Ralph E. Anderson*  
Engineer of Bridges & Structures

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal Of Existing Superstructures	Each	1	--	1
Concrete Removal	Cu Yd	--	2.0	2.0
Concrete Structures	Cu Yd	--	2.0	2.0
Bridge Deck Grooving	Sq Yd	497	--	497
Protective Coat	Sq Yd	531	--	531
Precast Prest. Conc. Deck Beams (21" Depth)	Sq Ft	4770	--	4770
Reinforcement Bars, Epoxy Coated	Pound	6530	260	6790
Bar Splicers	Each	149	4	153
Name Plates	Each	1	--	1
Preformed Joint Strip Seal	Foot	64	--	64
Epoxy Crack Injection	Foot	--	40	40
Removing and Re-Erecting Existing Railing	Foot	299	--	299
Diamond Grinding (Bridge Section)	Sq Yd	782	--	782
Structural Repair Of Concrete (Depth < 5")	Sq Ft	--	172.0	172.0
Concrete Wearing Surface, 5"	Sq Yd	531	--	531
Asbestos Bearing Pad Removal	Each	--	52	52

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	643.0	645.0	648.0	655.5

LOADING HS20-44  
Allow 50#/sq. ft. for future wearing surface.  
DESIGN SPECIFICATIONS  
2002 AASHTO

WATERWAY INFORMATION

Existing Low Grade Elevation: 660.7 @ Sta. 1210+18.4  
Drainage Area = 25.4 sq. mi. Prop. Low Grade Elevation: 660.7 @ Sta. 1210+18.4

Flood	Freq. Yr.	Q C.F.S.	Opening	Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
			Exist.	Prop.	Exist.	Prop.	Exist.
Design	10	1896	515	515	655.0	0.7	655.7
Base	50	3012	658	658	655.9	1.1	657.0
Overtopping	100	3503	712	712	656.2	1.2	657.4
Max. Calc.	500	4693	790	790	656.8	1.5	658.3

DESIGN STRESSES

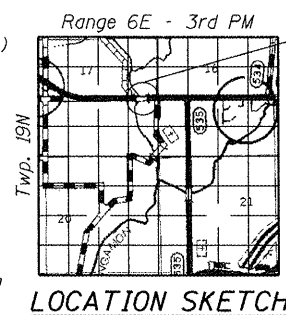
FIELD UNITS  
f'c = 3,500 psi  
f'c = 5,000 psi (Concrete Wearing Surface)  
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi  
f'ci = 5,000 psi  
f's = 270,000 psi (1/2" low lax strands)  
f'si = 201,960 psi (1/2" low lax strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 0.050g  
Site Coefficient (S) = 1.0



REVISOR 9/2/08

GENERAL PLAN  
ILLINOIS 10 OVER  
MADDEN CREEK  
FAP ROUTE 721 SECTION (115BR-1)BR  
PIATT COUNTY  
STATION 1210+89.58  
STRUCTURE NO. 074-0005

FILE: J:\JDO\10049 IL-05V\4 IL 10 Madden Creek\1-MaddenCreek\06plan.dgn  
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DATE: 06/13/2008 10:38:20

PROFILE GRADE  
The profile grade shows the final elevations after grinding. Up to 1/4" will be ground off the bridge slab.

**JD Johnson, Depp & Quisenberry**  
CONSULTING ENGINEERS  
Springfield, Illinois

DESIGNED: JDO	DRAWN: SJS
CHECKED: DCD	CHECKED: DCD

STATE OF ILLINOIS  
DAVID C. DEPP  
081-005117  
LICENSED STRUCTURAL ENGINEER

Signed: *David Depp*  
Date: *6-16-08*  
Lic. Expires: 11-30-2008