APPROVED

MAY 2 4 2005

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3578		COOK		
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

Sheet 1 of 4

Bench Mark:
E. Flange Bolt of F.H. at S.W. corner Ridgeland & SW Highway - El. 181.825

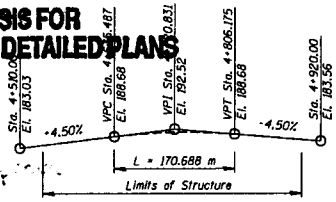
Existing Structure:
S.N. 016-0463 was originally constructed in 1934. The overall length of the existing bridge is 386.[illegible] was reconstructed in 1959 and the bridge was partially reconstructed in 1999. The portion of the existing bridge remaining from the 1959 reconstruction consists of 18 simple spans comprised of pretensioned concrete deck beams, with an out-to-out width of 15.7 m. The portion of the existing bridge reconstructed in 1999 consists of five new rolled continuous wide flange beam spans to form a unit of 96.971 m. The out-to-out width of the concrete deck is 18.50 m. Two 7.70 m reinforced concrete slab spans were also constructed in 1999 to transition the new structure to the original.

Proposed Improvements:
The Contractor shall remove the existing structure as required to construct new spans 1-6 and 12-18. These thirteen new spans will consist of rolled continuous wide flange beams. Spans 7-11 will be raised by 330± mm, to provide 7.0 m of vertical clearance over the railroad.

Temporary roadway lighting shall be mounted on poles set in the existing groundline along the west parapet of the existing bridge. Temporary lighting locations are shown as

Notes:
1. Road shall be kept open to one lane of traffic in each direction at all times by utilizing stage construction.
2. All dimensions are in millimeters (mm), except as noted.
3. No salvage.
4. Offsets are measured from ℄ SW Highway to edge of deck.

AS A BASIS FOR PREPARATION OF DETAILED PLANS



PROFILE GRADE SOUTHWEST HIGHWAY
(Along PGL Roadway)

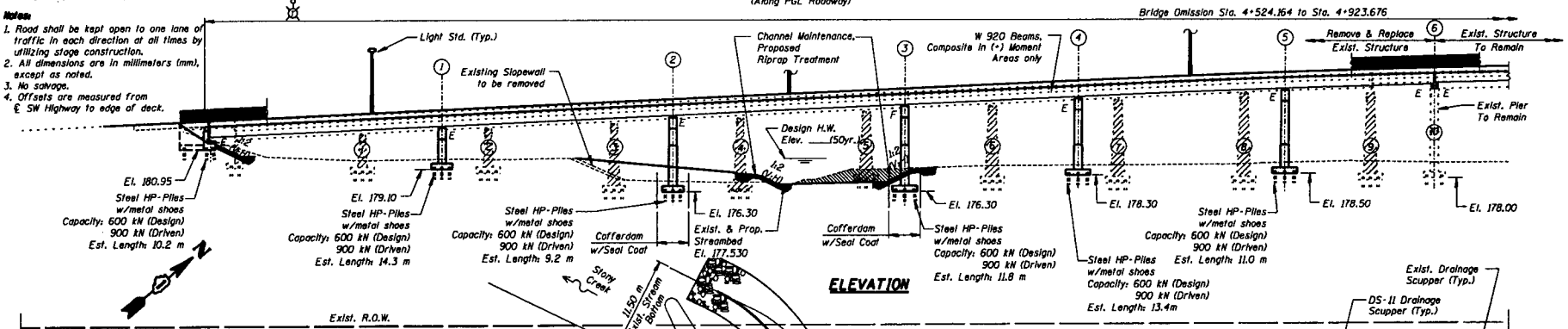
WATERWAY INFORMATION (STONY CREEK)

Max Recorded H.W.E. = 180.90 m (7/ 18- 20 /96)

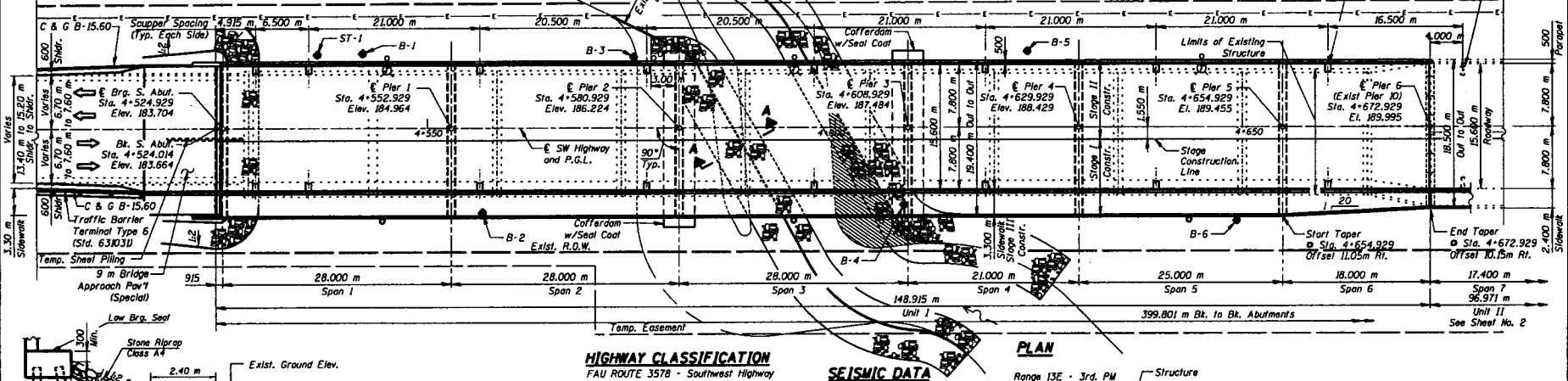
Drainage Area = 47.37 sq.km Low Grade Elev. 183.6 @ Sta. 4+525

Flood	Freq. (Yr.)	Q (cms)	Opening (Sq. m) Exist.	Opening (Sq. m) Prop.	Natural H.W.E. (m)	Head (m) Exist.	Head (m) Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	35.11	163.4	167.2	180.62	0.00	0.00	180.62	180.62
Design	50	47.57	230.6	234.2	180.99	0.00	0.00	180.99	181.00
Base	100	52.87	259.1	262.9	181.17	0.00	0.00	181.17	181.16
Overtopping	>500								
Max. Calc.	500	57.48	306.0	309.5	181.42	0.00	0.00	181.42	181.43

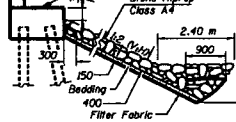
All elevations are in Highway Datum
IDOT Datum = FIS Datum + 0.789 m



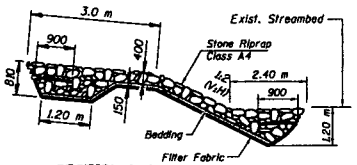
ELEVATION



PLAN



STONE RIPRAP ANCHOR DETAIL



SECTION A-A

HIGHWAY CLASSIFICATION
FAU ROUTE 3578 - Southwest Highway
ADT: 30,000 (1993)
34,000 (2020)
DHV: 2,988 (1993)
3,360 (2020)
Functional Class: Minor Arterial
Design Speed: 56 km/h (35 mph)
Posted Speed: 50 km/h (30 mph)

DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications for Highway Bridges

LOADING MS18
Allowance for Future Wearing Surface = 2.4 kN/m²

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.038g
Site Coefficient (S) = 1.0

DESIGN STRESSES

EXISTING CONSTRUCTION
f'c = 24 MPa
fy = 400 MPa (Reinf.)
fy = 345 MPa (M270M Grade 345)

NEW CONSTRUCTION
f'c = 24 MPa
fy = 400 MPa (Reinf.)
fy = 345 MPa (M270M Grade 345)

LOCATION SKETCH

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN I
SOUTHWEST HIGHWAY OVER B&O RAILROAD AND STONY CREEK
FAU 3578 SECTION 15W D-1-0-1
STRUCTURE NUMBER 016-2771
COOK COUNTY STATION 4+715.487
SCALE: NONE DRAWN BY: E. Mrozek
DATE: April 20, 2005 CHECKED BY: G. Hatherley

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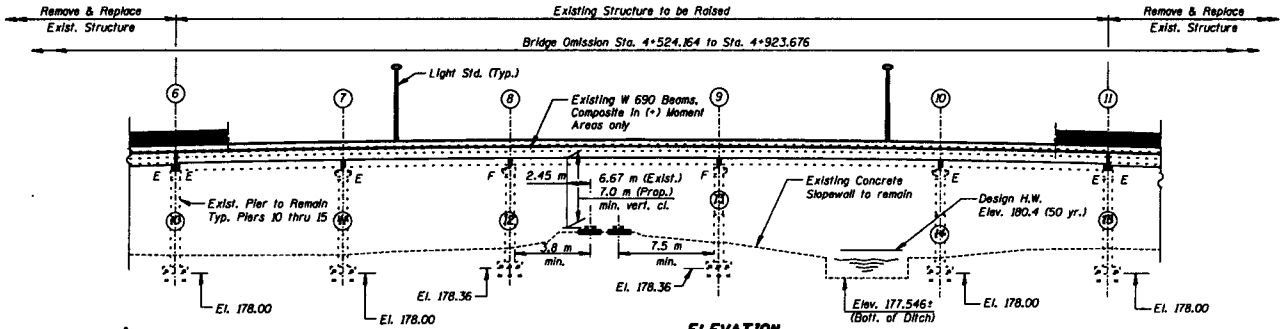
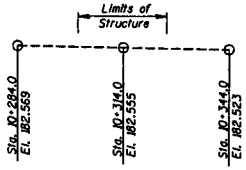
Sheet 2 of 4

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3578		COOK		
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

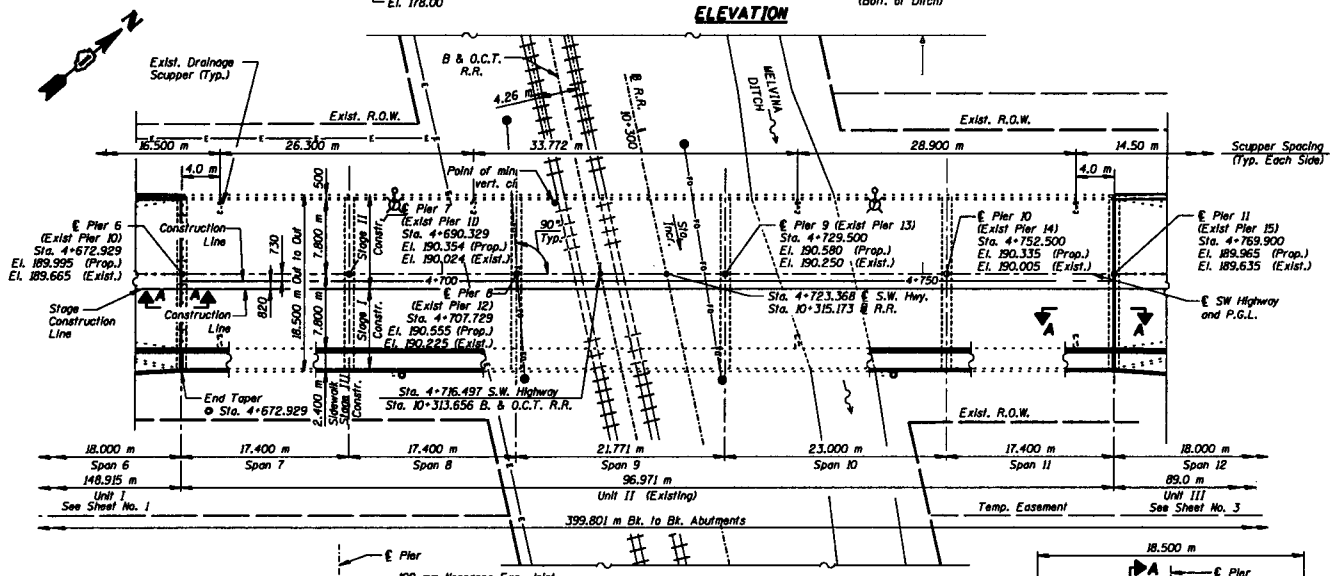


ELEVATION

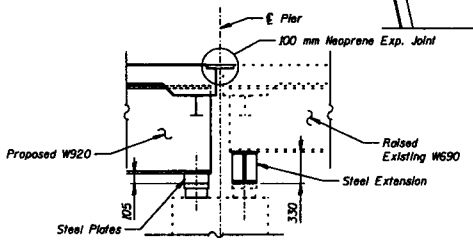


PROFILE GRADE B&O RAILROAD

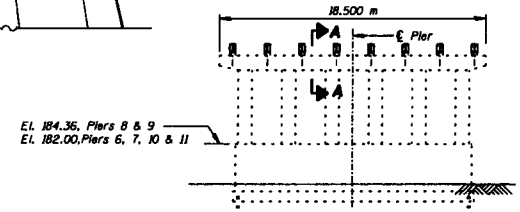
(Top of S. Rail - Existing)



PLAN



SECTION A-A



EXISTING PIER SKETCH

Piers 6 thru 11
(Exist. Piers 10 thru 15)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN II

SOUTHWEST HIGHWAY OVER B&O RAILROAD AND STONY CREEK

FAU 3578 SECTION 1BV 0-1-0-1

STRUCTURE NUMBER 016-2771

COOK COUNTY STATION 4+716.497

SCALE: NONE DRAWN BY: E. Mroczek

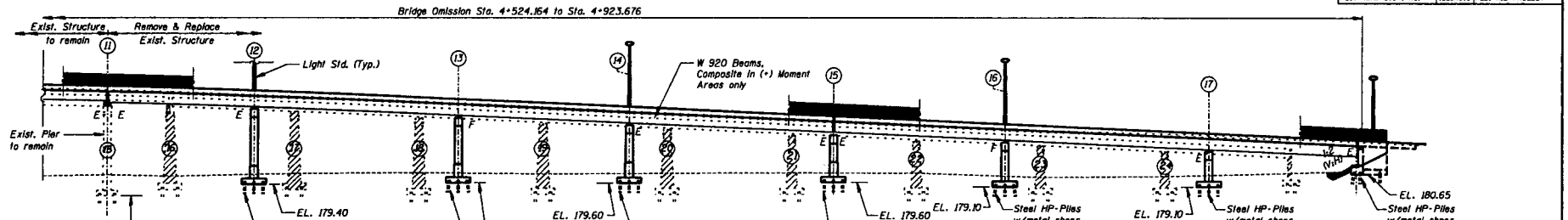
DATE: April 20, 2005 CHECKED BY: E. Hofmeister

g:hofmeistadStruct) 04/20/2005 05:09:43 PM G:\DOT\3556_AD\Drawings\STRUCT\TSL\02 TSL.dgn

Sheet 3 of 4

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3578		COOK		
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

Bridge Omission Sta. 4+524.164 to Sta. 4+923.676



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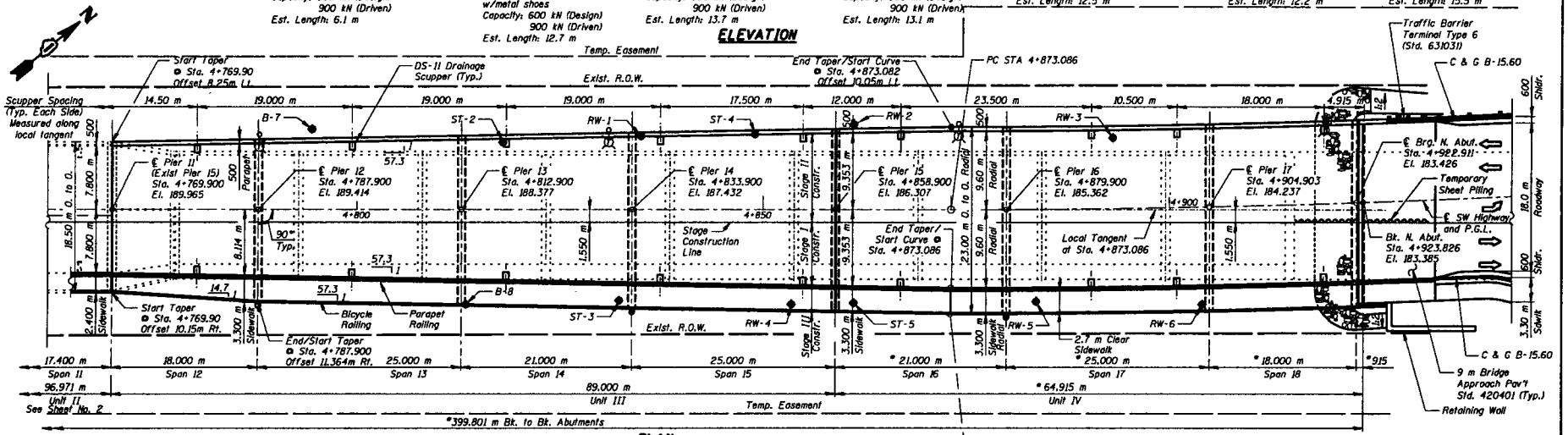

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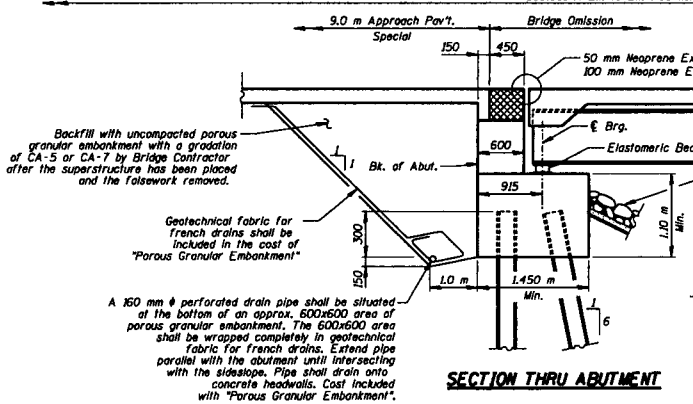
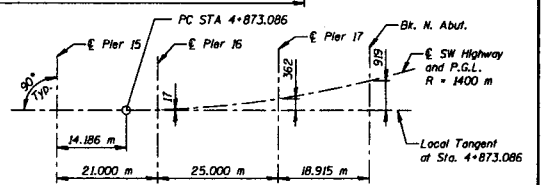


SECTION THRU ABUTMENT

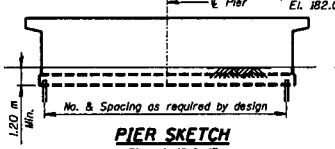
PROP. CURVE P-SW

PI STA = 4+981.784
Δ = 8° 52' 45" (LT)
R = 1,400.000 m
T = 108.697 m
L = 216.960 m
E = 4.213 m
e = Normal Crown
P.C. STA = 4+873.086
P.T. STA = 5+090.046

* Measured along local tangent

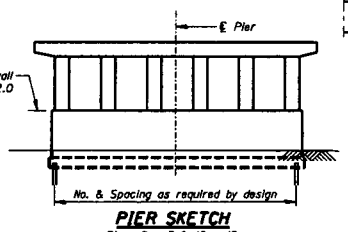


OFFSET SKETCH



PIER SKETCH

Piers 1, 16 & 17



PIER SKETCH

Piers 2 - 5 & 12 - 15

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN III

SOUTHWEST HIGHWAY OVER B&O RAILROAD AND STONY CREEK

FAU 3578 SECTION 15W 8-1-11-1

STRUCTURE NUMBER 016-2777

COOK COUNTY STATION 4+716.487

SCALE: NONE DRAWN BY: E. Mrozek

DATE: April 20, 2005 CHECKED BY: G. Hernandez

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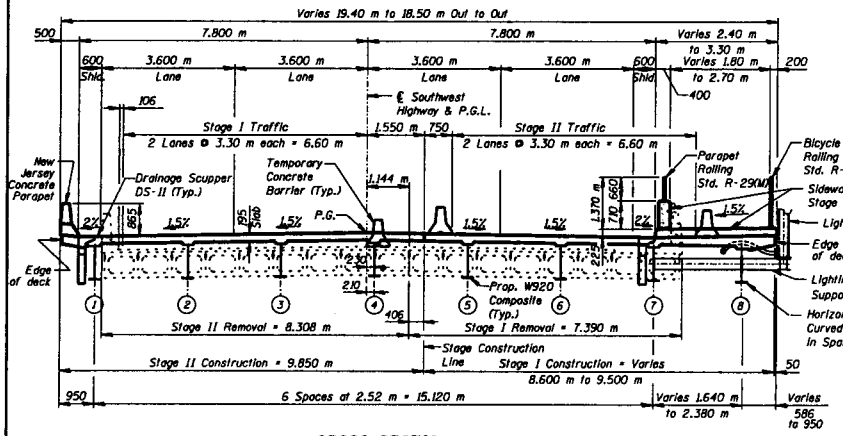
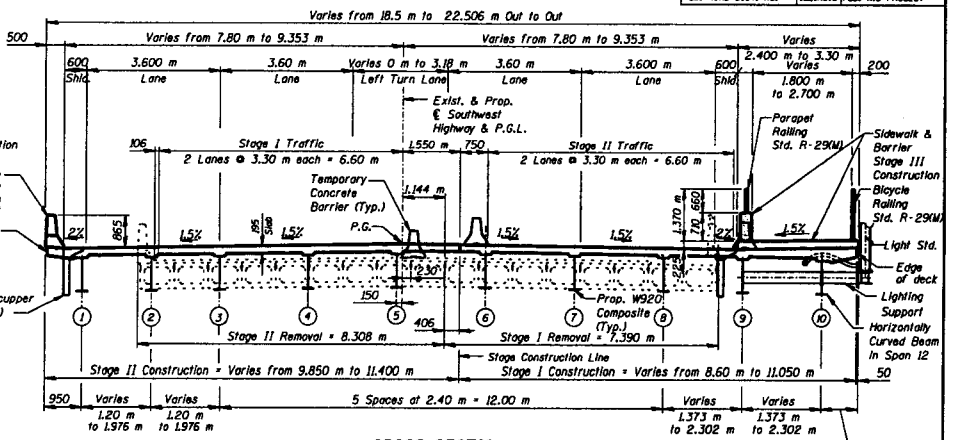
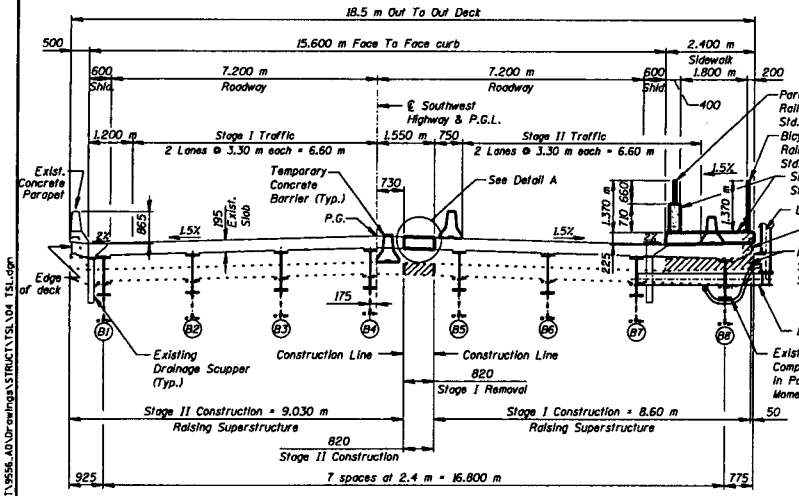
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3578		COOK		
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



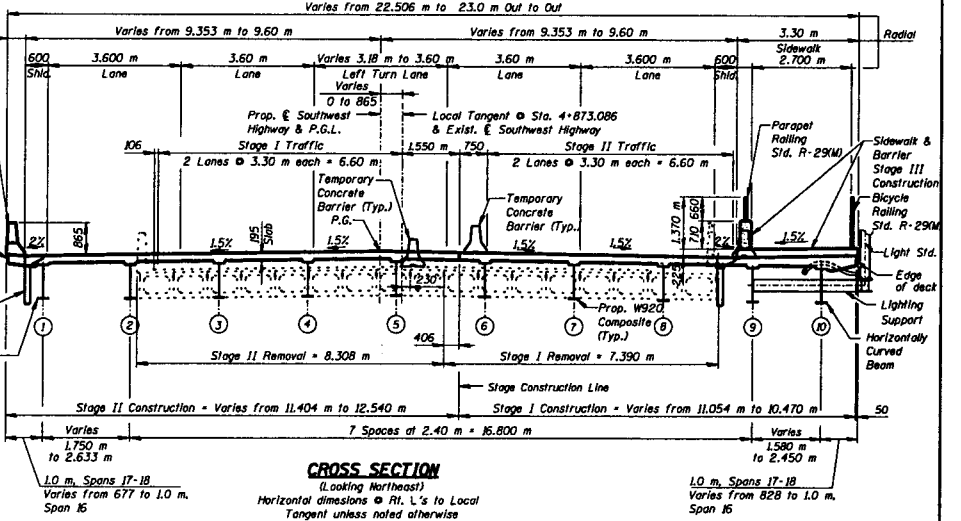
CROSS SECTION
(Looking Northeast)
Sta.4+524.929 to Sta. 4+672.929
(Unit I - Spans 1 thru 6)



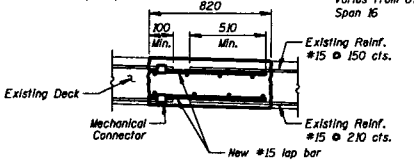
CROSS SECTION
(Looking Northeast)
Sta.4+769.900 to Sta. 4+858.900
(Unit III - Spans 12 thru 15)



CROSS SECTION
(Looking Northeast)
Sta.4+672.929 to Sta. 4+769.900
(Unit II - Spans 7 thru 11)



CROSS SECTION
(Looking Northeast)
Horizontal dimesions @ Rt. L's to Local Tangent unless noted otherwise
Sta.4+858.900 to Sta. 4+922.911
(Unit IV - Spans 16 thru 18)



DETAIL A

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DETAILS

SOUTHWEST HIGHWAY OVER B&O RAILROAD AND STONY CREEK

FAU 3578 SECTION 15W B-1-R-1
STRUCTURE NUMBER 016-2771
COOK COUNTY STATION 4+716.497

SCALE: NONE DRAWN BY: E. Brosnan
DATE: April 20, 2005 CHECKED BY: E. Hartwestad

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