

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	1453	2005-005BR	COOK/DUPAGE	14	1

+1  
= 15 Total Sheets

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

LOCATION 1: FAP 343: IL 68 (DUNDEE RD.)  
OVER WHEELING DRAINAGE DITCH (SN 016-0525)  
LOCATION 2: FAU 1453: 22ND STREET  
OVER SALT CREEK (SN 022-0084)  
SECTION 2005-005BR  
PCC DECK BEAM REPLACEMENT  
COOK AND DUPAGE COUNTIES  
C-91-119-05

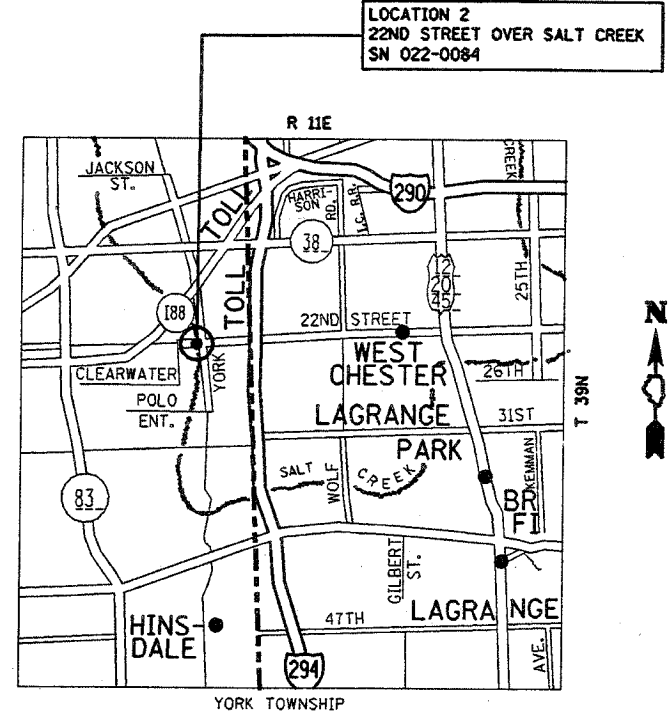
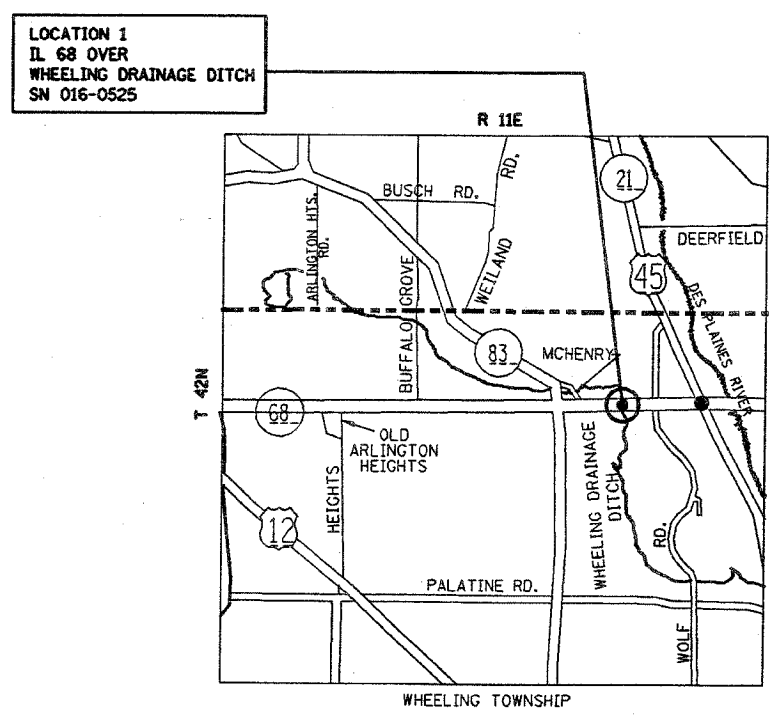
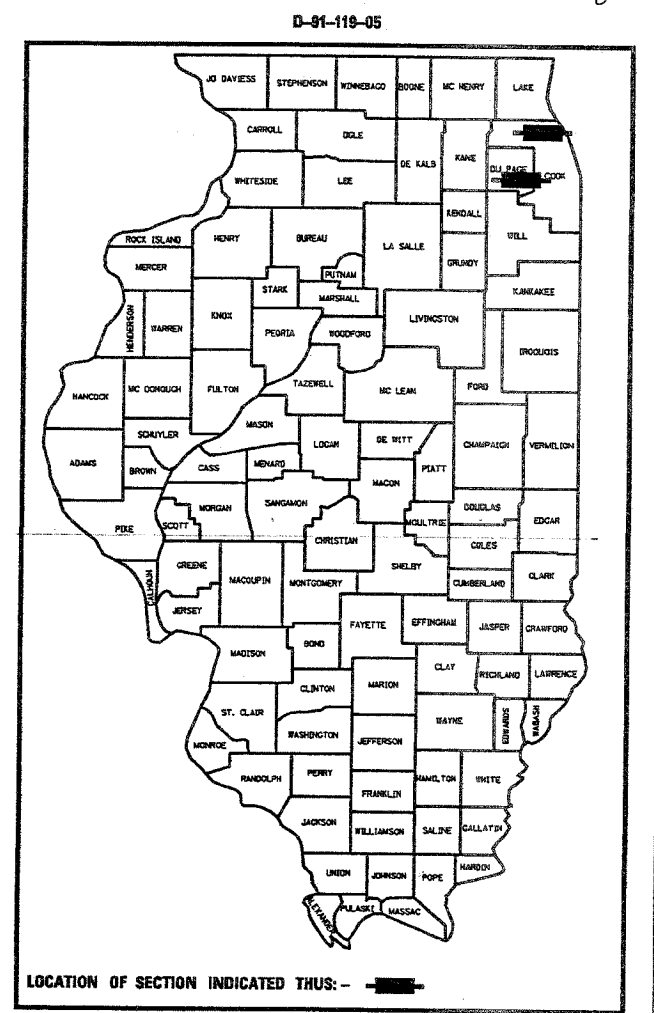
FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA

LOCATION 1:  
ADT (2004) = 30400  
SPEED LIMIT = 35 MPH

LOCATION 2:  
ADT (2001) = 32200  
SPEED LIMIT = 25 MPH

IMPROVEMENTS LOCATED IN THE  
VILLAGES OF WHEELING AND OAK BROOK



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED APRIL 18 20 05  
Diane Okel  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 13 20 05  
Mike Hene  
ENGINEER OF DESIGN AND ENVIRONMENT

May 13 20 05  
Victor Maden  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123

CONTRACT NO. 62912

DISTRICT ONE DESIGN PLAN PREPARATION  
KEN ENG/ROBERT BORO (847) 705-4178

F.A.P. RTE.	F.A.II RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	1453	2005-0058R	COOK/DUPAGE	14	2
STA. _____		TO STA. _____			
FED. ROAD DIST. NO. _____		ILLINOIS		FED. AID PROJECT	

INDEX OF SHEETS

1. COVER PAGE
2. INDEX OF SHEETS, GENERAL NOTES, STATE STANDARDS
3. SUMMARY OF QUANTITIES
- 4-6. STAGING PLANS
- 7-10. BRIDGE PLANS (LOC. 1: SN 016-0525)
- 11-14. BRIDGE PLANS (LOC. 2: SN 022-0084)
- 14A. TRAFFIC CONTROL DETAIL

LIST OF STATE STANDARDS

- |           |   |
|-----------|---|
| 701301-02 | LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS                         |
| 701601-04 | URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN  |
| 701602-02 | URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE |
| 701801-03 | LANE CLOSURE, MULTILANE, 1W OR 2W CORSSWALK OR SIDEWALK CLOSURE     |
| 704001-02 | TEMPORARY CONCRETE BARRIER  |
| 702001-05 |   |

BITUMINOUS MIXTURE REQUIREMENTS

MIXTURE USE	AC/PG	AIR VOIDS	RAP % (MAX.)
BIT. CONC. SURFACE COURSE, SUPERPAVE MIX "D", N50	PG 64-22	4.0% @ 50 GYR.	15

NOTE: THE UNIT WEIGHT USED FOR ALL BITUMINOUS SURFACE MIXTURES IS 112 LBS./SQ.YD./IN.

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE (OR TOLLWAY) PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT (OR ISTHA).

ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES AND RAISED REFLECTIVE PAVEMENT MARKERS IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.

IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

THE CONTRATOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

THE CONTRACTOR SHALL CONTACT MR. WALTER CZARNY AT (773) 685-8386 FOR WORK ON IL 68, AND MR. DON CHIARUGI AT (847) 741-9857 FOR WORK ON 22ND STREET, TWO (2) WEEKS PRIOR TO THE START OF THIS PROJECT SO THAT THE EXACT STATIONING OF NO PASSING ZONES AND OTHER PERMANENT PAVEMENT MARKINGS MAY BE ESTABLISHED.

THESE PLANS HAVE BEEN PREPARED FROM NOTES RECIEVED FROM BRIDGE INSPECTORS

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

DOUBLE LANE MARKERS ARE TO BE USED AS SHOWN ON THE DISTRICT ONE DETAIL FOR TYPICAL APPLICATION OF RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-FLOW RESISTANT) SHOWN IN THE PLANS.

THE THICKNESS OF BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

CONCRETE SUPERSTRUCTURES SHALL HAVE A SEVEN DAY MINIMUM CURE.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		INDEX OF SHEETS GENERAL NOTES MIX. REQUIREMENT CHART STATE STADARDS  SCALE: VERT. HORIZ. DATE  DRAWN BY CHECKED BY

62912

F.A.P. RTE.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	1453	2005-0058	COOK/DUPAGE	14	3
FED. ROAD DIST. NO. 1		ILLINOIS	HIGHWAY PROJECT		

SUMMARY OF QUANTITIES			URBAN X080-2A		CONSTRUCTION TYPE CODE SFTY-2A			
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	LOC. 1 COOK 016-0525	LOC. 2 DUPAGE 022-0084			
44001000	BITUMINOUS CONCRETE SURFACE REMOVAL	SQ YD	110.6	10.6	100			
50102400	CONCRETE REMOVAL	CY YD	22.7	5.9	16.8			
50300255	CONCRETE SUPERSTRUCTURE	CY YD	32.2	13.5	18.7			
50300300	PROTECTIVE COAT	SQ YD	117.3	44.7	72.6			
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	569	569				
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	2169		2169			
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	1260		1260			
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3560	1410	2150			
50900905	REMOVING AND RE-ERECTING EXISTING RAILING	FOOT	78	78				
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	356.8	51.8	305			
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	1487	268	1219			
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1	0.5	0.5			
67100100	MOBILIZATION	L SUM	1	0.5	0.5			
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1		1			
70102632	TRAFFIC CONTROL AND PROTECTION, STANDARD 701602	L SUM	1	1				
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	0.5	0.5			
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	80		80			
70400100	TEMPORARY CONCRETE BARRIER	FOOT	760	120	640			
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	760	120	640			
* 78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	100	100				
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	1640	200	1440			
X0320047	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SQ FT	2796	575	2221			
X0322467	TEMPORARY INFORMATION SIGNING FOR LANE CLOSURE	SQ FT	96	48	48			
X4066424	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "D", NSO	TON	41.8	7.5	34.3			
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	30	2	28			

SUMMARY OF QUANTITIES			URBAN X080-2A		CONSTRUCTION TYPE CODE SFTY-2A			
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	LOC. 1 COOK 016-0525	LOC. 2 DUPAGE 022-0084			
Δ Z0030240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	4	2	2			
Δ Z0030340	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	1	1			

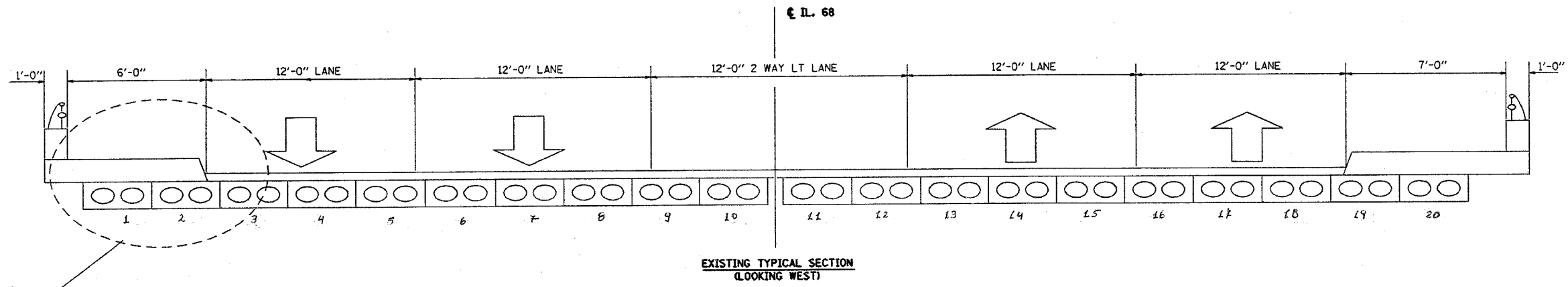
Δ SFTY-3N  
\* SPECIALTY ITEMS

REVISIONS	
NAME	DATE

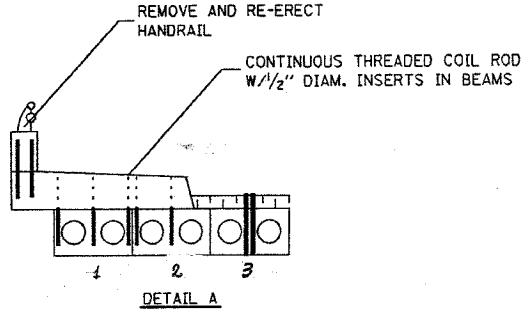
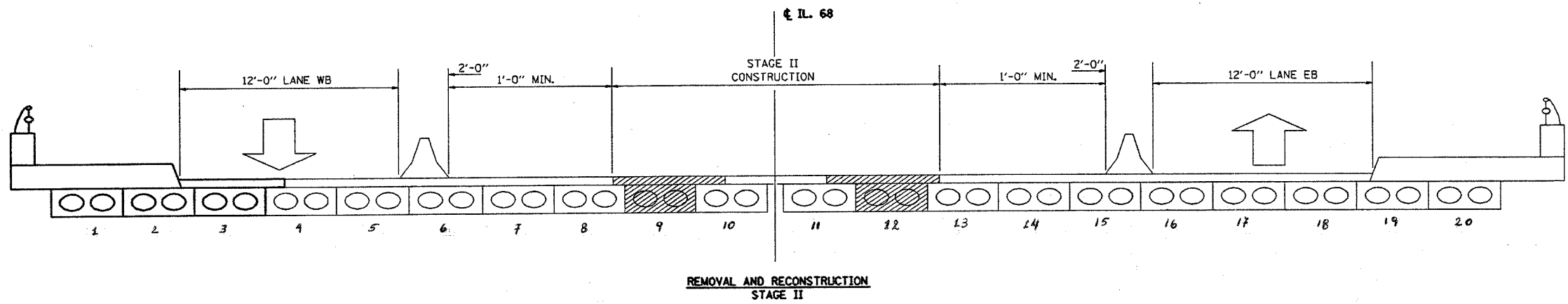
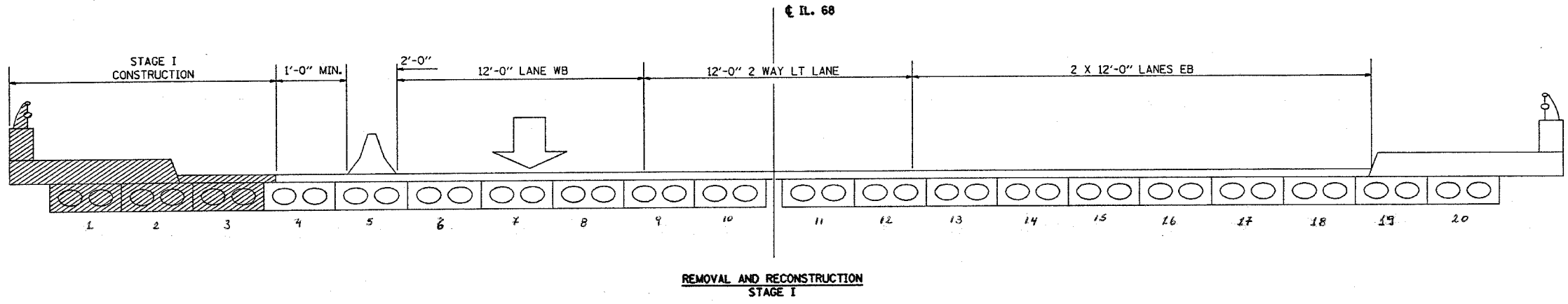
ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUMMARY OF QUANTITIES

4/15/2005 11:00:00 AM

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	1453	2005-0058R	COOK/DUPAGE	4
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



SEE DETAIL A



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

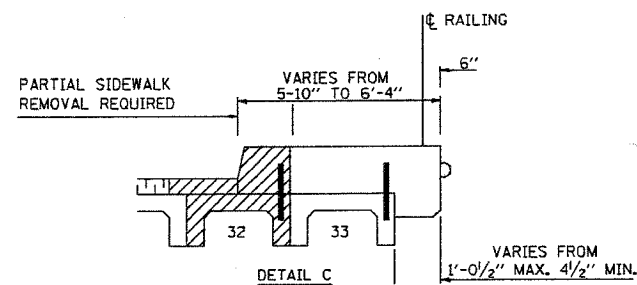
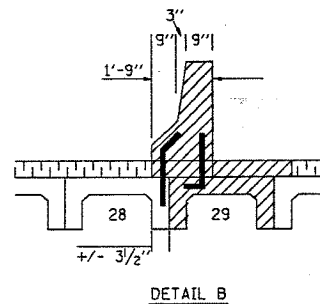
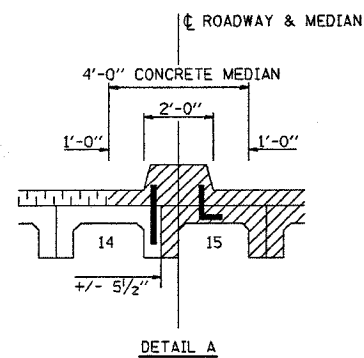
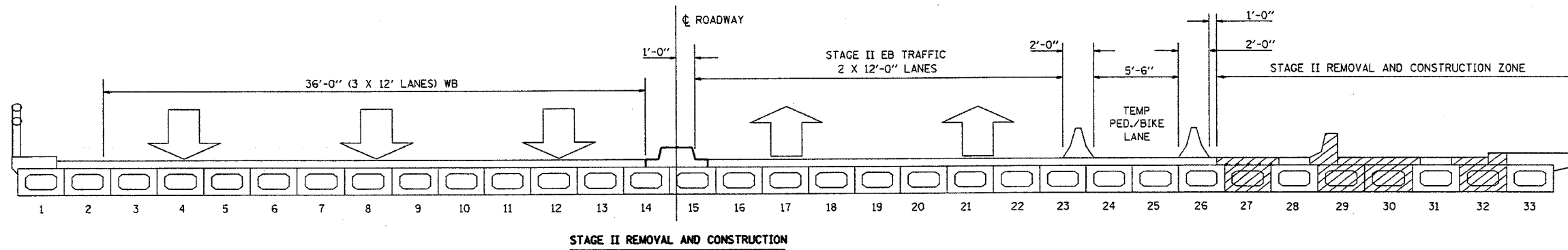
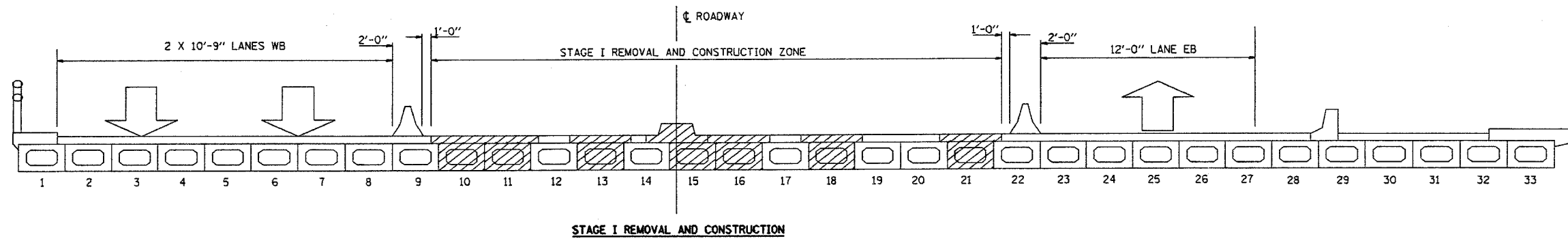
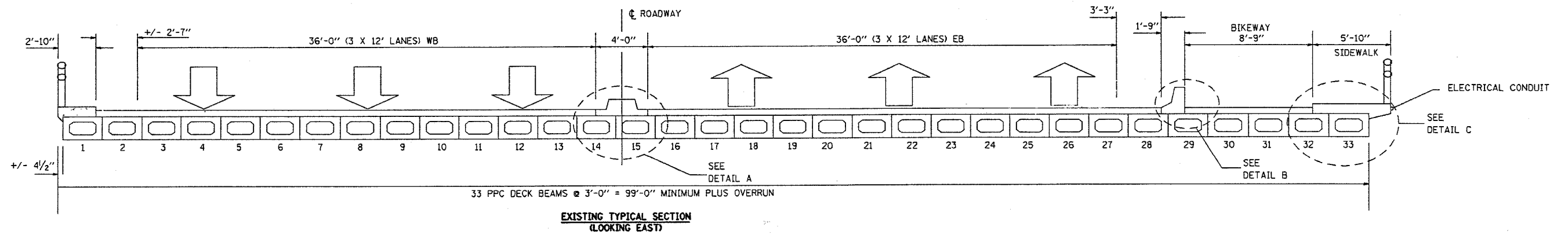
STAGING LAYOUT  
LOCATION 1  
SN: 016-0525

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_  
DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
CHECKED BY \_\_\_\_\_

PLOT DATE = 3/23/2005  
FILE NAME = s:\projects\11700\11700aa.m32  
PLOT SCALE = 0.5" = 1' - 0"  
REFERENCE = 0899

F.A.P. RTE.	F.A.P. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	1453	2005-0058R	COOK/DUPAGE	14
STA.		TO STA.		
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				



PLOT DATE = 3/21/05  
 PLOT SCALE = 1/8" = 1'-0"  
 PLOT SHEET = 14 OF 14  
 PLOT BY = JLN

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		STAGING LAYOUT LOCATION 2 SN: 022-0084  SCALE: VERT.     DRAWN BY HORIZ.             CHECKED BY DATE



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
		Cook	14	7
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 1  
4 SHEETS

Contract Number: 62912

**GENERAL NOTES**

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of "Removal of Existing P.P.C. Deck Beams".

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

The top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 1/4".

Temporary concrete barrier shall only be anchored into the overlay and not the PPC Deck Beams.

Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.

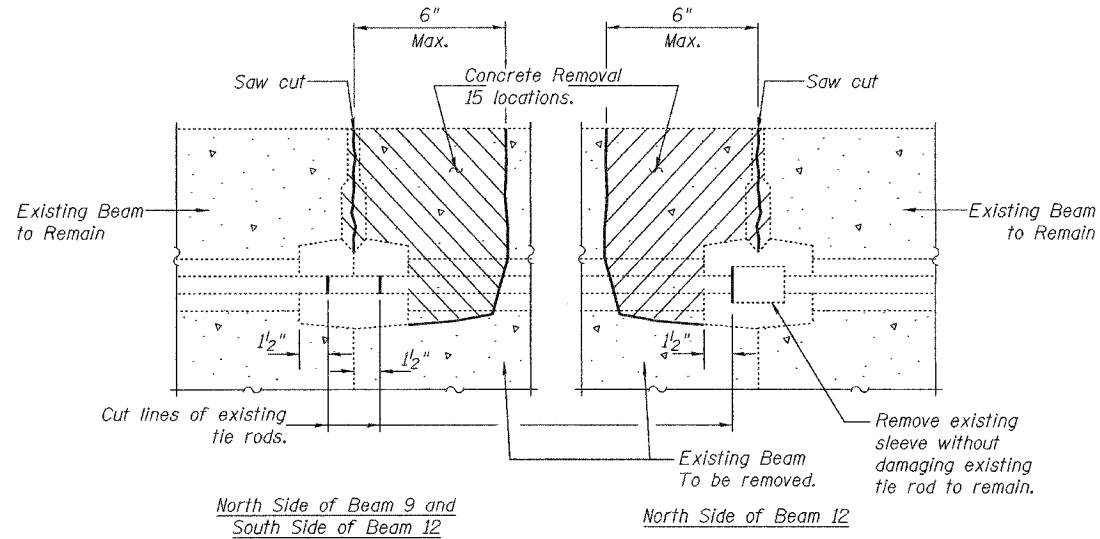
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Bituminous Concrete Surface Removal	Sq. Yd.	10.6
Waterproofing Membrane System	Sq. Yd.	51.8
Removal of Existing PPC Deck Beams	Sq. Ft.	575
Bituminous Concrete Surface Course, Superpave, Mix "D", N 50	Tons	7.5
PC Mortar Fairing Course	Foot	268
PPC Deck Beams (21" Depth)	Sq. Ft.	569
Concrete Superstructure	Cu. Yd.	13.5
Protective Coat	Sq. Yd.	44.7
Concrete Removal	Cu. Yd.	5.9
Reinforcement Bars, Epoxy Coated	Pound	1410
Asbestos Bearing Pad Removal	Each	2
Removing and Re-Erecting Existing Railing	Foot	78

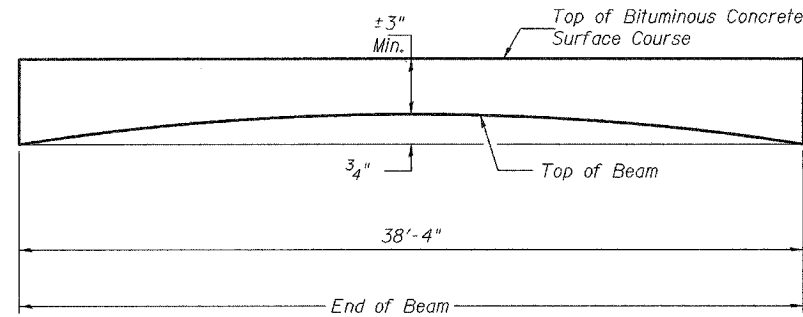
**DESIGN STRESSES  
PRESTRESS UNITS**

$f'_c = 5000$  psi  
 $f'_{ci} = 4000$  psi  
 $f'_s = 270000$  psi (1/2" low lax strands)  
 $f'_{si} = 201960$  psi (1/2" low lax strands)

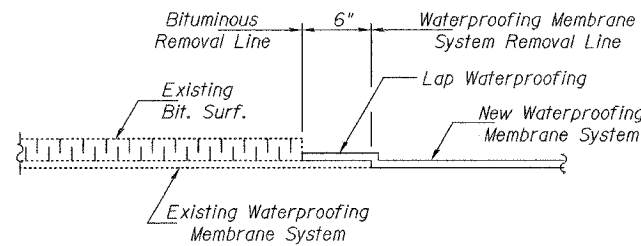
**PLAN AND ELEVATION**  
**F.A.P. RT. 343**  
**COOK COUNTY**  
**SN 016-0525**



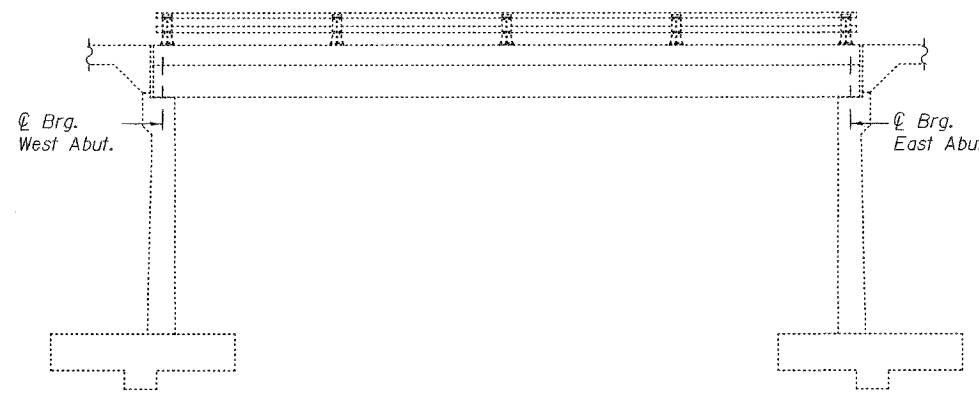
**BEAM REMOVAL DETAIL  
AT TRANSVERSE TIES**



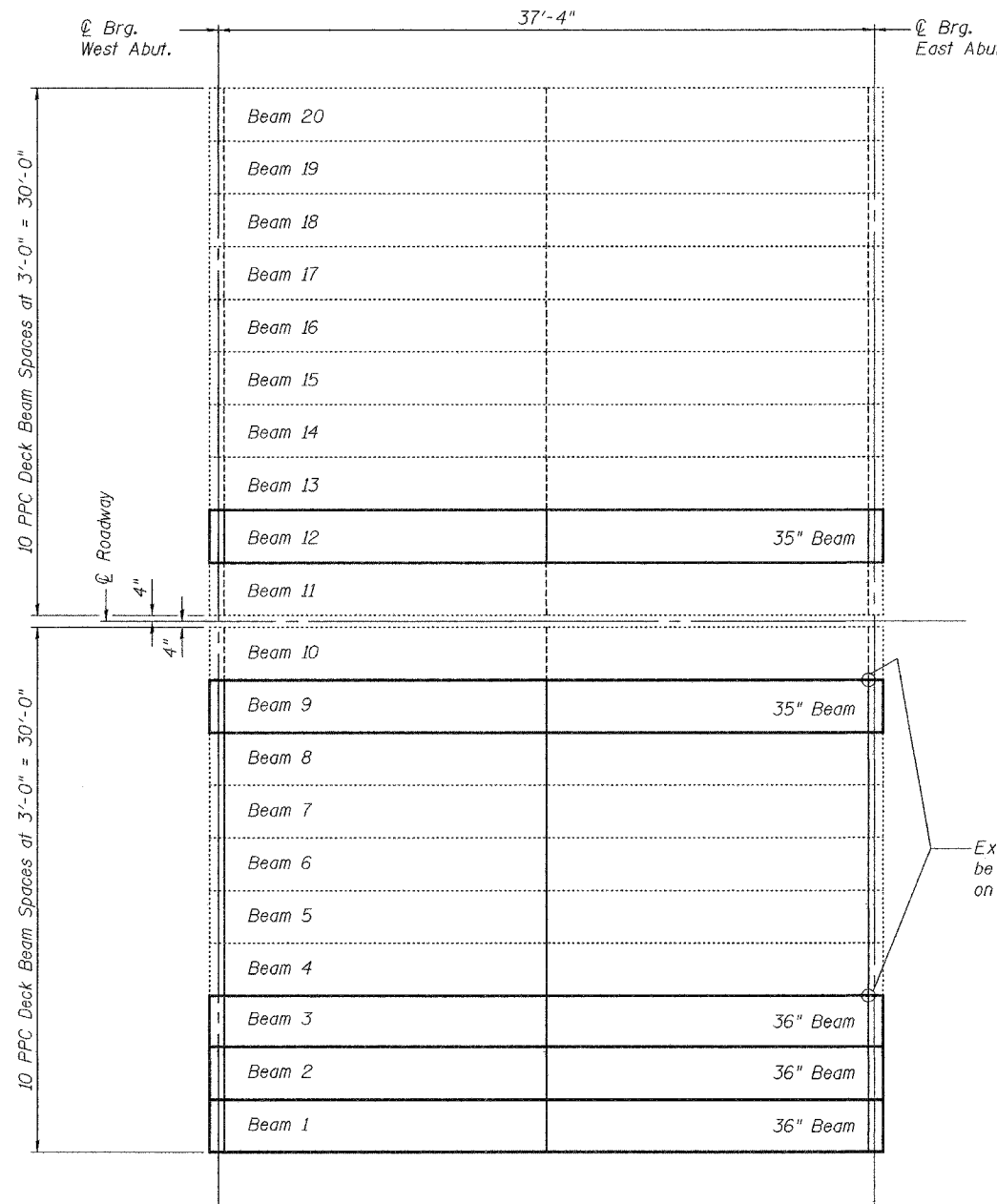
**ANTICIPATED INITIAL CAMBER DIAGRAM**



**WATERPROOFING TREATMENT**



**ELEVATION**



**PLAN**

DESIGNED	Victor H. Velit
CHECKED	John A. Morris
DRAWN	Ralph E. Adams
CHECKED	VHV / S.J.B.

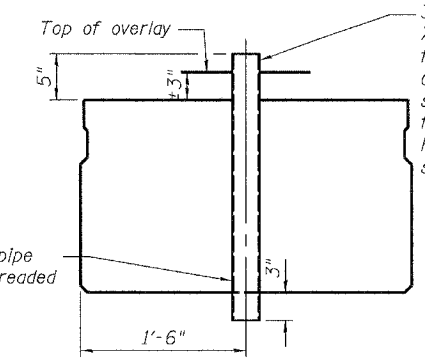
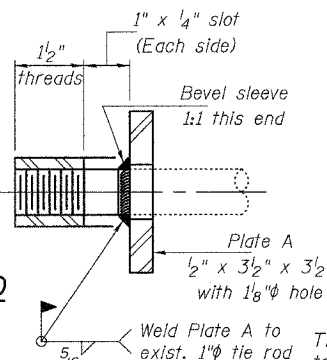
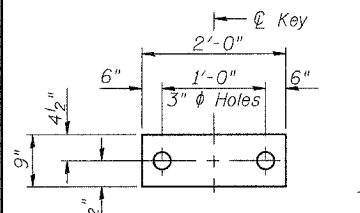
EXAMINED	May 3, 2005
PASSED	John A. Morris
	Ralph E. Adams



Expires: November 30, 2006

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

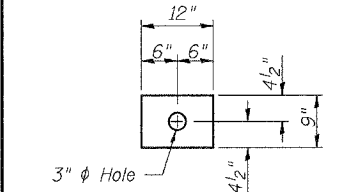
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO. 2
		Cook	14	8
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
Contract Number: 62912				



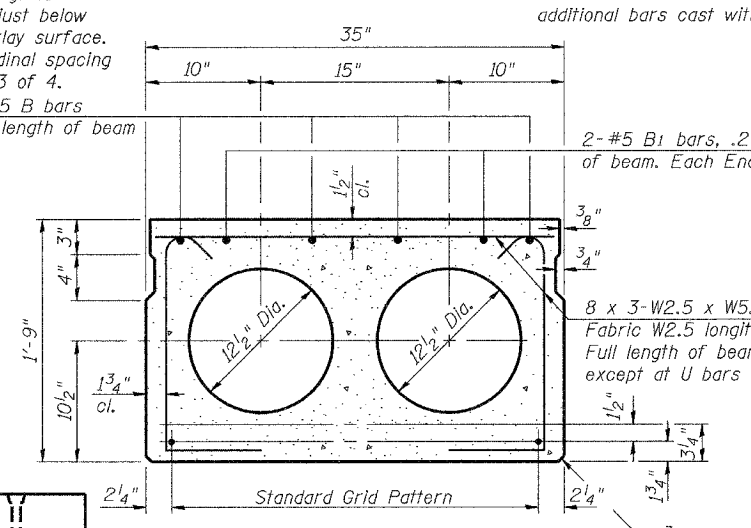
**FABRIC BEARING PAD**  
(Interior)  
**FIXED**

**SECTION A-A**  
(9 Required)

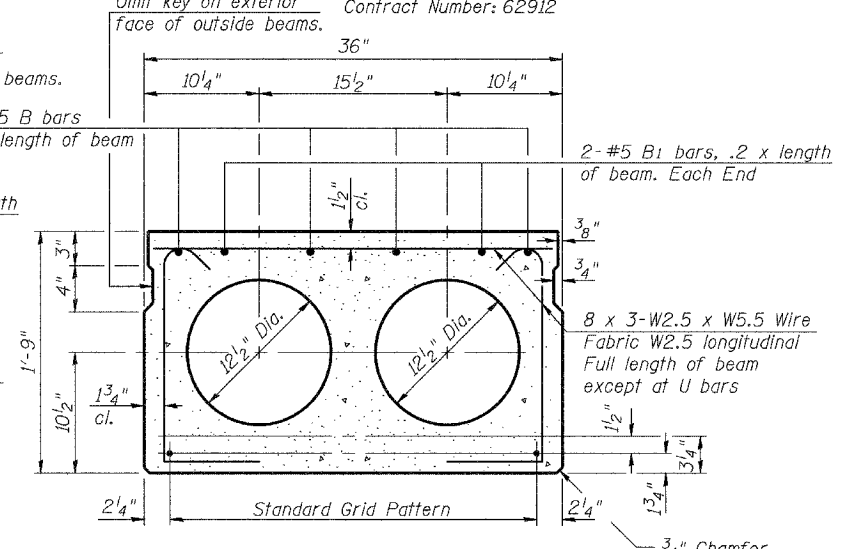
**TYPICAL DRAIN SECTION**  
(Beam 3)



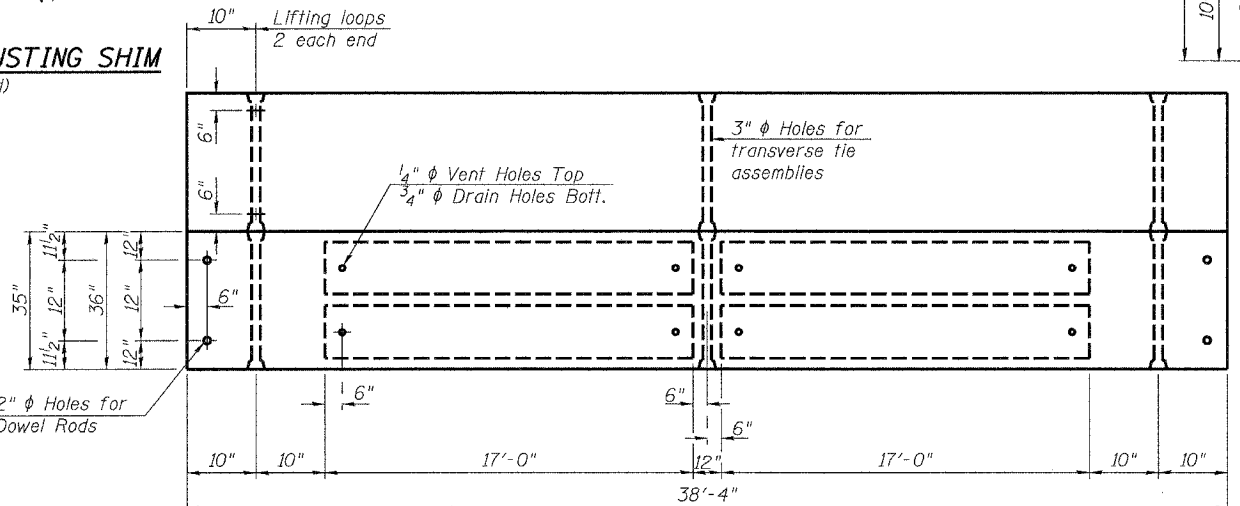
**FABRIC ADJUSTING SHIM**  
(Fixed)



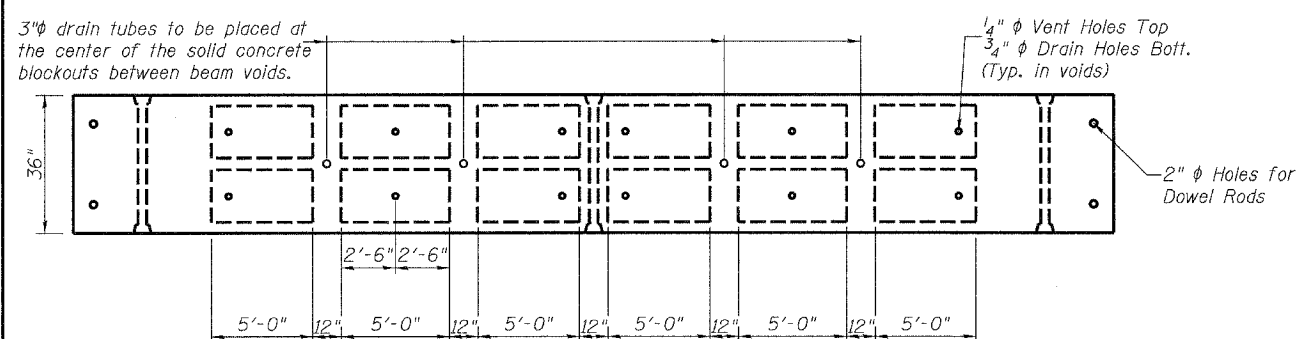
**TYPICAL 35" SECTION**  
1/2" Strands, Each Strand Stressed to 30,900 Lbs.  
6-Strands 1 3/4" up, 4-Strands 3/4" up  
(2 Required)



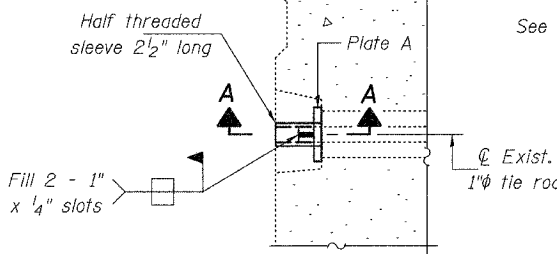
**TYPICAL 36" SECTION**  
1/2" Strands, Each Strand Stressed to 30,900 Lbs.  
6-Strands 1 3/4" up, 4-Strands 3/4" up  
(3 Required)



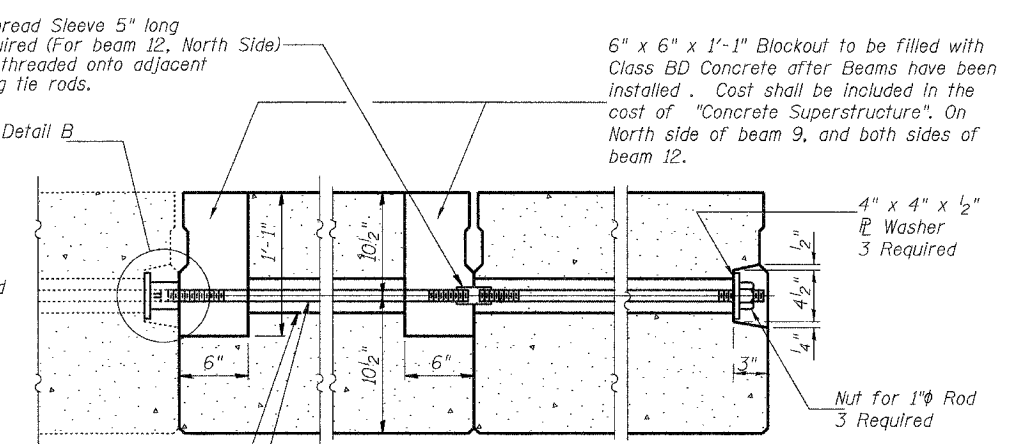
**PLAN BEAMS 1, 2, 9 OR 12**



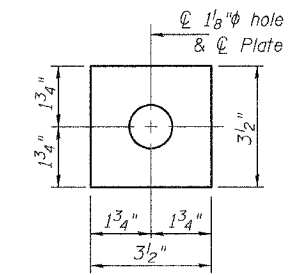
**PLAN BEAM 3**



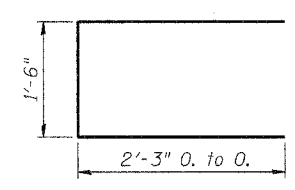
**DETAIL B**



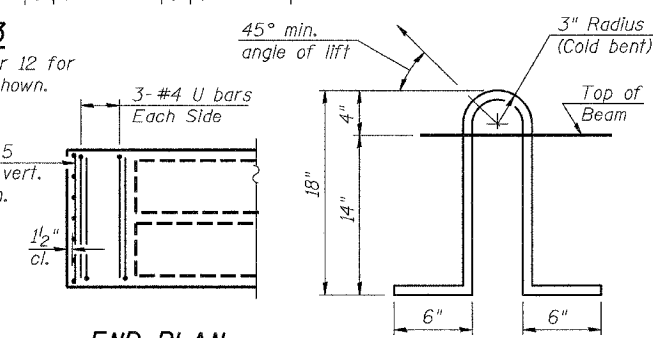
**TYPICAL TRANSVERSE TIE ASSEMBLY**



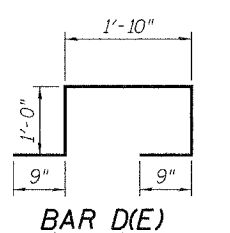
**PLATE A**  
(9 Required)



**BAR U**



**LIFTING LOOP DETAIL**



**BAR (D/E)**

**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2" phi-270 ksi strands, as shown. The 1" phi rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non prestressing steel shall conform to AASHTO M-31 or M322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions shown shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4000 p.s.i.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
PPC Deck Beams (21" Depth)			Sq. Ft.	569

**BEAM DETAILS**  
**F.A.P. RT. 343**  
**COOK COUNTY**  
**SN 016-0525**

DESIGNED	V.H.V.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	V.H.V. S.J.B.

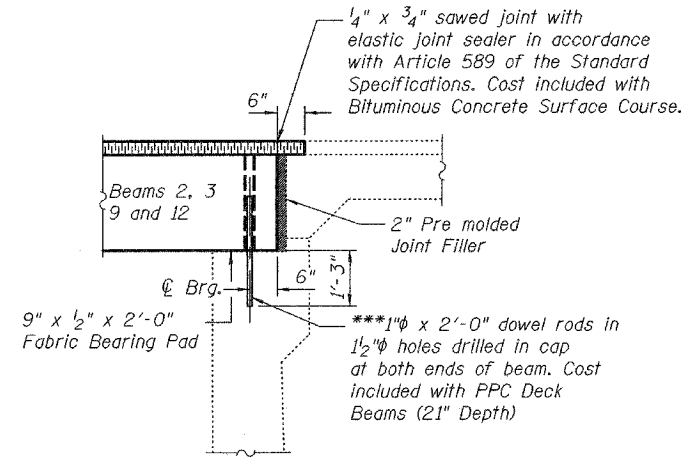
May 3, 2005  
EXAMINED *John A. Morris*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

PD-3-S 10-22-04

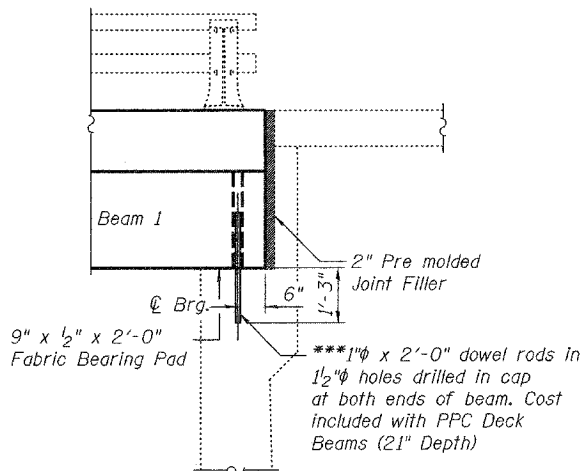


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
		Cook	14	9
SHEET NO. 3 4 SHEETS				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
Contract Number: 62912				



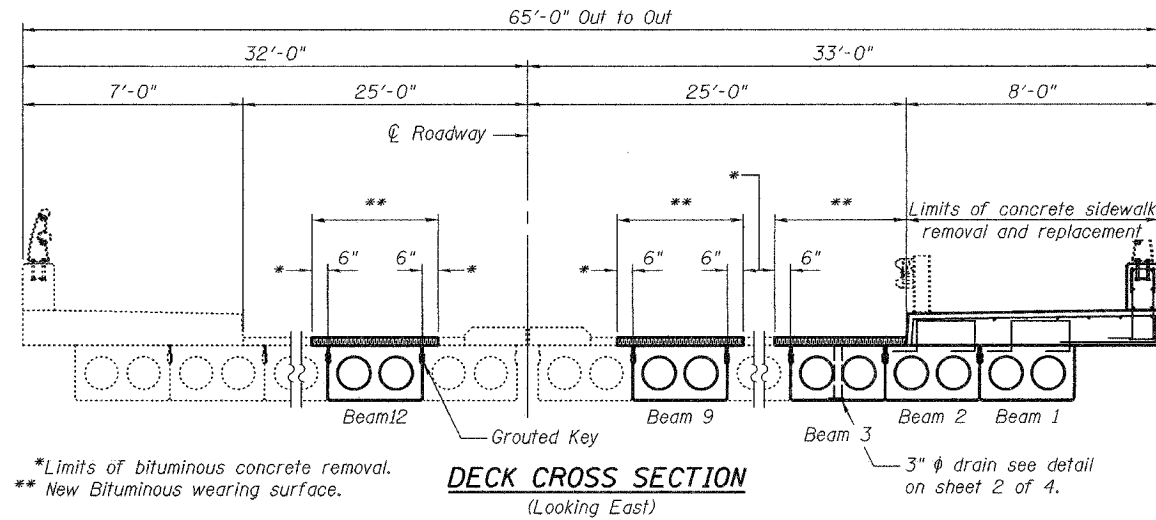
TYPICAL ABUTMENT SECTION



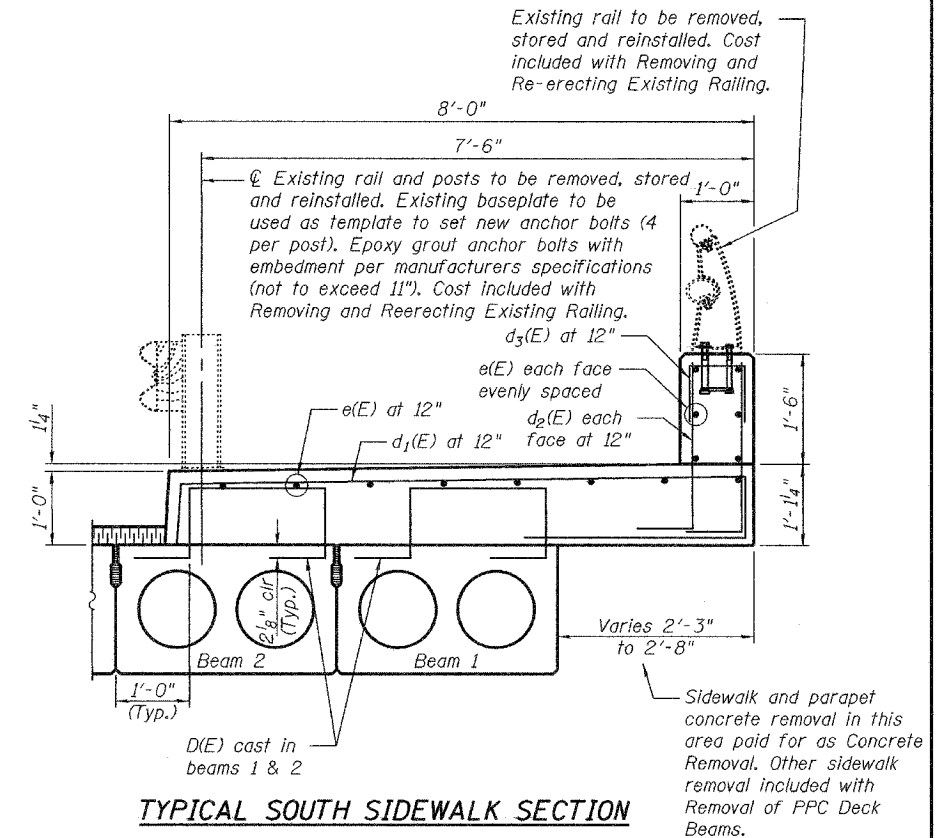
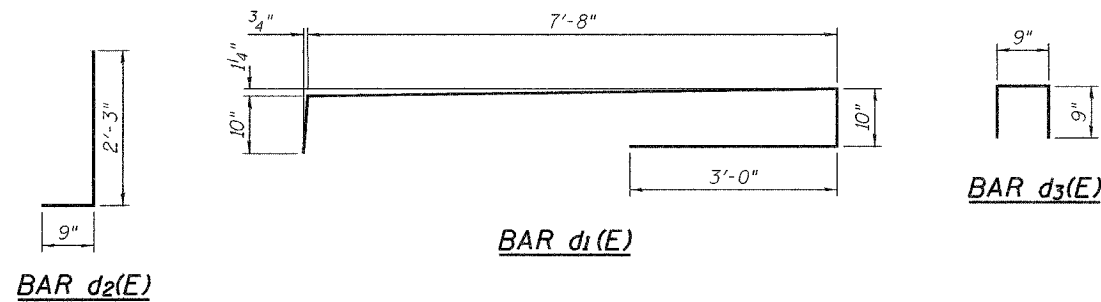
ABUTMENT SECTION AT SOUTH SIDEWALK

Notes:  
Cut existing dowel rods at Beam 1 flush with the abutment cap.

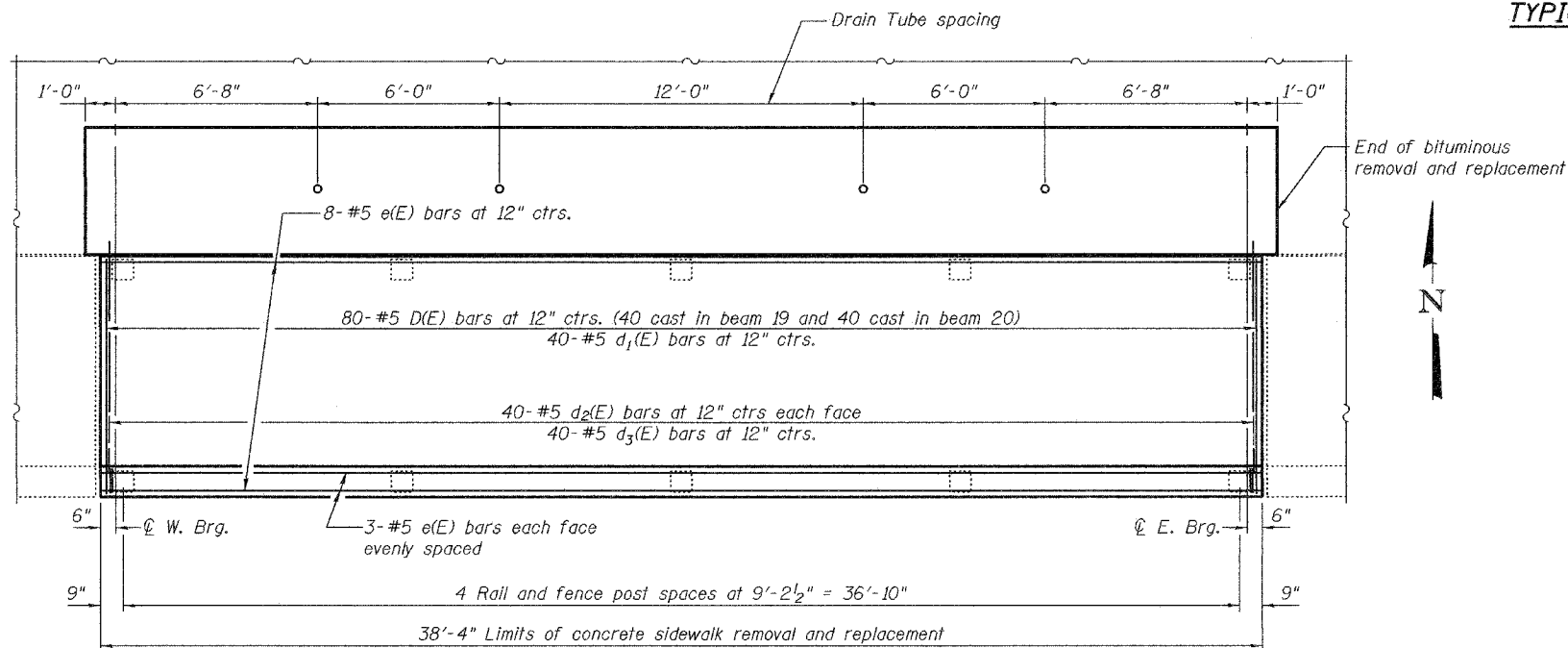
\*\*\*Dowel rods to be grouted after beams are in place and allowed to cure for a minimum of 24 hours prior to grouting shear keys.



DECK CROSS SECTION  
(Looking East)



TYPICAL SOUTH SIDEWALK SECTION



PARTIAL DECK AND SIDEWALK PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d <sub>1</sub> (E)	40	#5	12'-4"	
d <sub>2</sub> (E)	80	#5	3'-0"	
d <sub>3</sub> (E)	40	#5	2'-3"	
e(E)	14	#5	38'-0"	
Concrete Removal			Cu. Yd.	5.9
Concrete Superstructure			Cu. Yd.	13.5
Reinforcement Bars, Epoxy Coated			Lbs.	1410

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	V.H.V.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	V.H.V. S.J.B.

EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

May 3, 2005

DECK DETAILS  
F.A.P. RT. 343  
COOK COUNTY  
SN 016-0525



**GENERAL NOTES**

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of "Removal of Existing P.P.C. Deck Beams".

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

The top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 1/4".

Temporary concrete barrier shall only be anchored into the overlay and not the PPC Deck Beams.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel.

Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.

For stage construction details see Roadway Plans.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Bituminous Concrete Surface Removal	Sq. Yd.	100
Waterproofing Membrane System	Sq. Yd.	305
Removal of Existing PPC Deck Beams	Sq. Ft.	2221
Bituminous Concrete Surface Course, Superpave Mix "D", N 50	Tons	34.3
PC Mortar Fairing Course	Foot	1219
PPC Deck Beams (27" Depth)	Sq. Ft.	2169
Concrete Removal	Cu. Yd.	16.8
Concrete Superstructure	Cu. Yd.	18.7
Protective Coat	Sq. Yd.	72.6
Furnishing and Erecting Structural Steel	Pound	1260
Asbestos Bearing Pad Removal	Each	28
Reinforcement Bars, Epoxy Coated	Pound	2150

**DESIGN STRESSES  
PRESTRESS UNITS**

(New Construction)

f'c=5000 psi

f'ci=4000 psi

f's=270,000 (1/2" low relaxation strands)

f'si=201,960 (1/2" low relaxation strands)



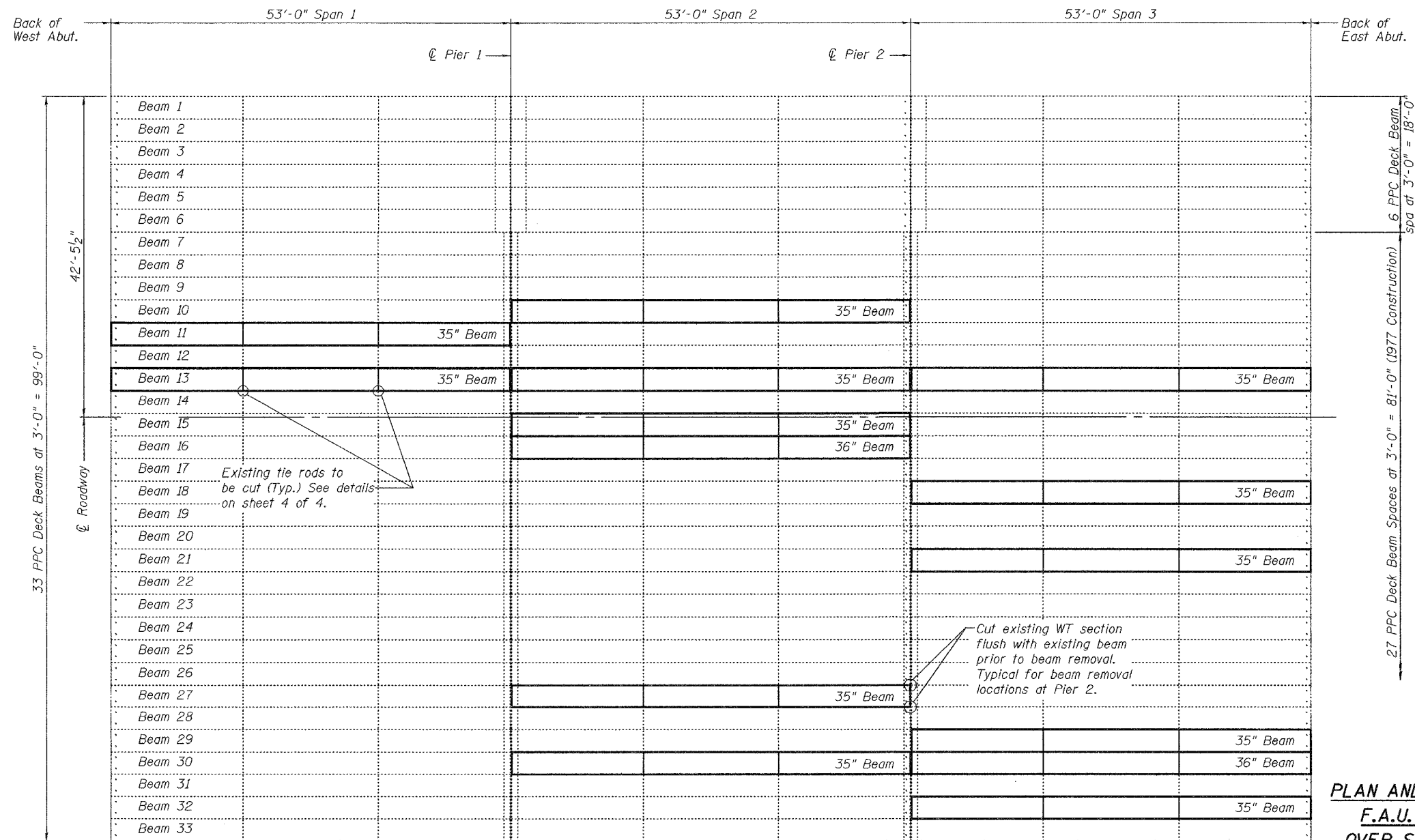
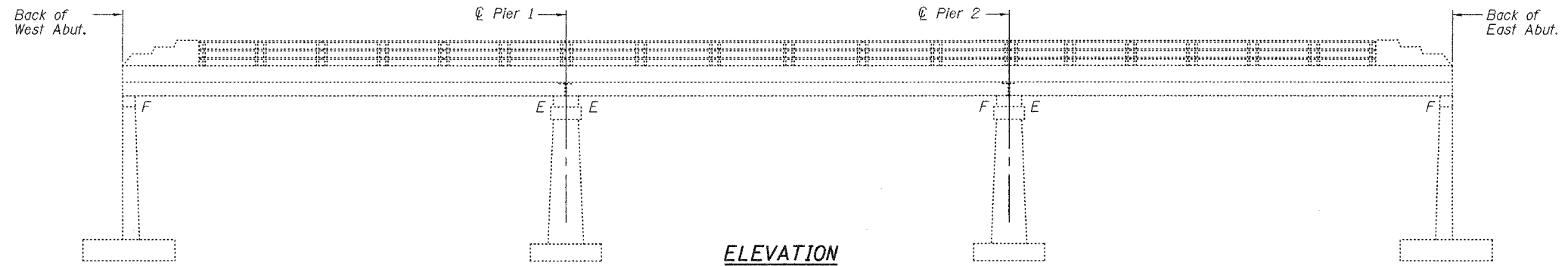
Expires: November 30, 2006

DESIGNED	VICTOR H. VEJSE
CHECKED	ALVIN T. HALLGREN
DRAWN	[Signature]
CHECKED	VHV A.T.H.

EXAMINED	May 3, 2005 John A. Morris
PASSED	Ralph E. Anderson

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DuPage	//	1
Contract Number: 62912				



**PLAN**

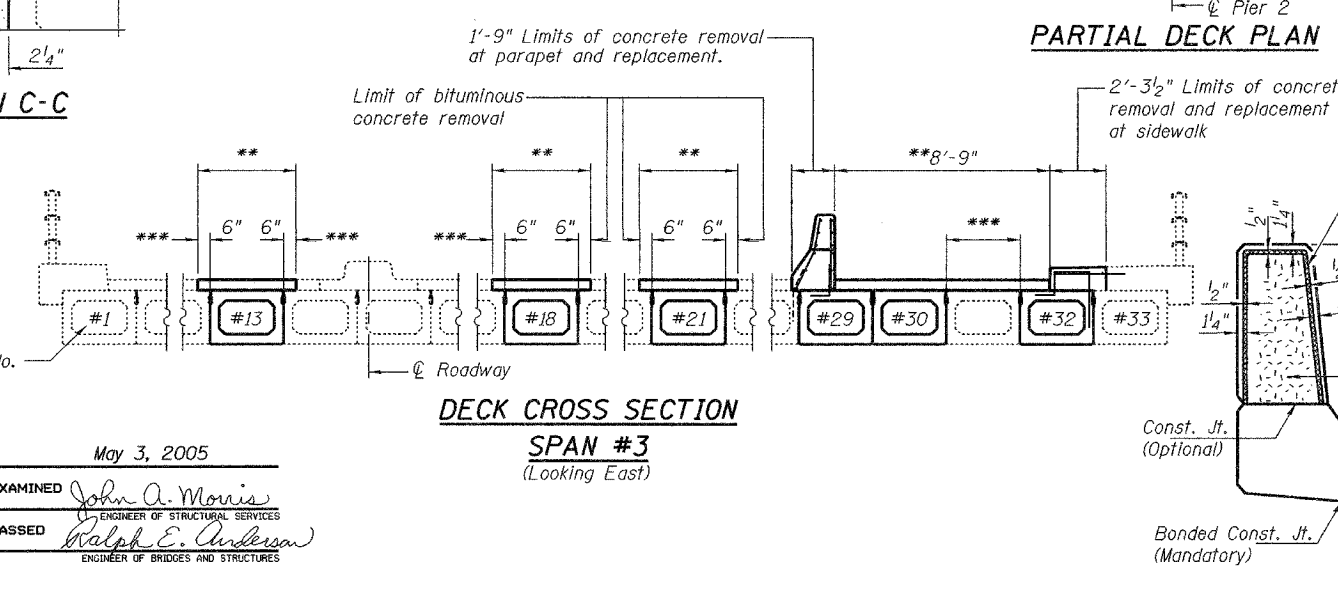
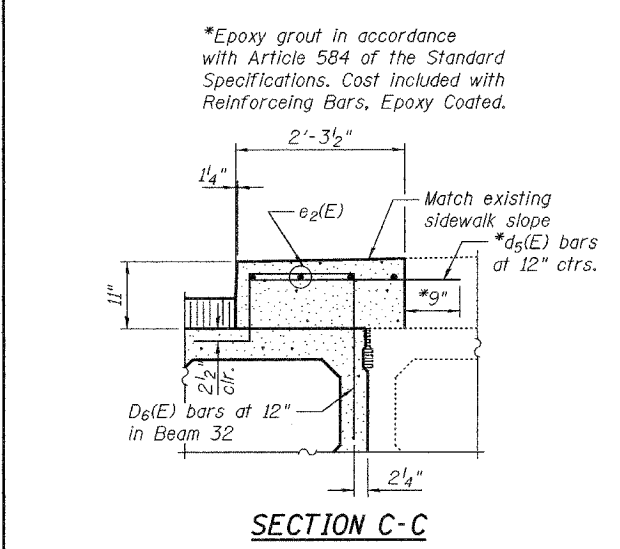
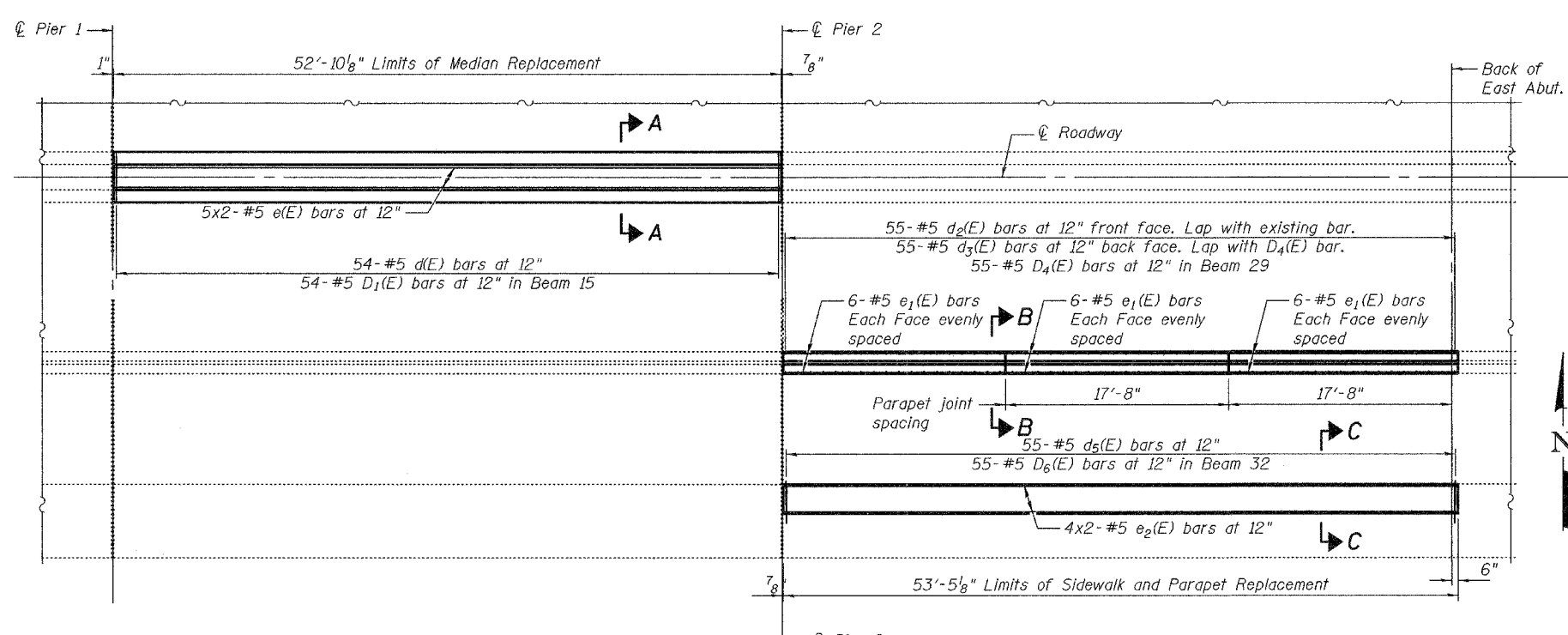
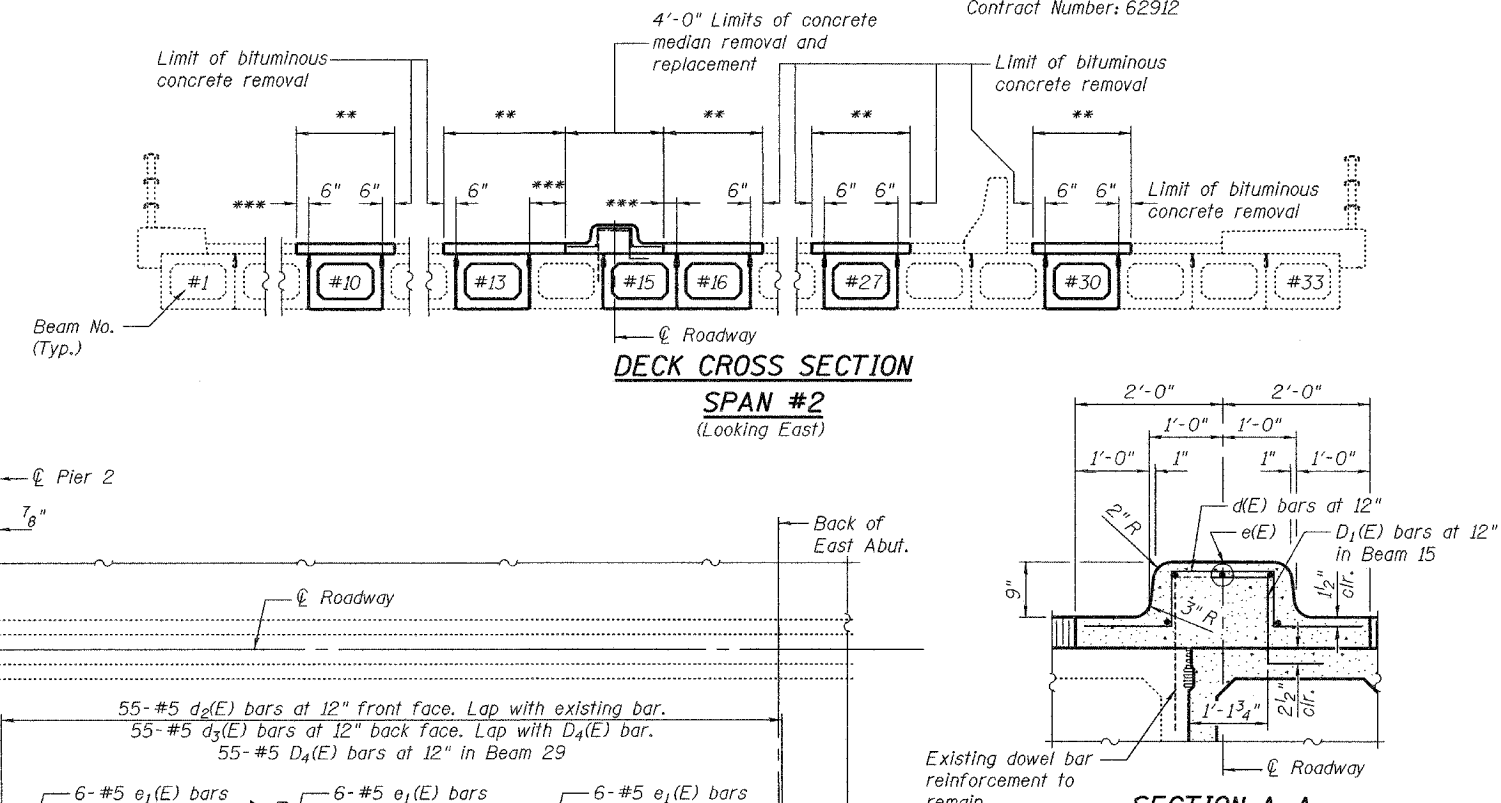
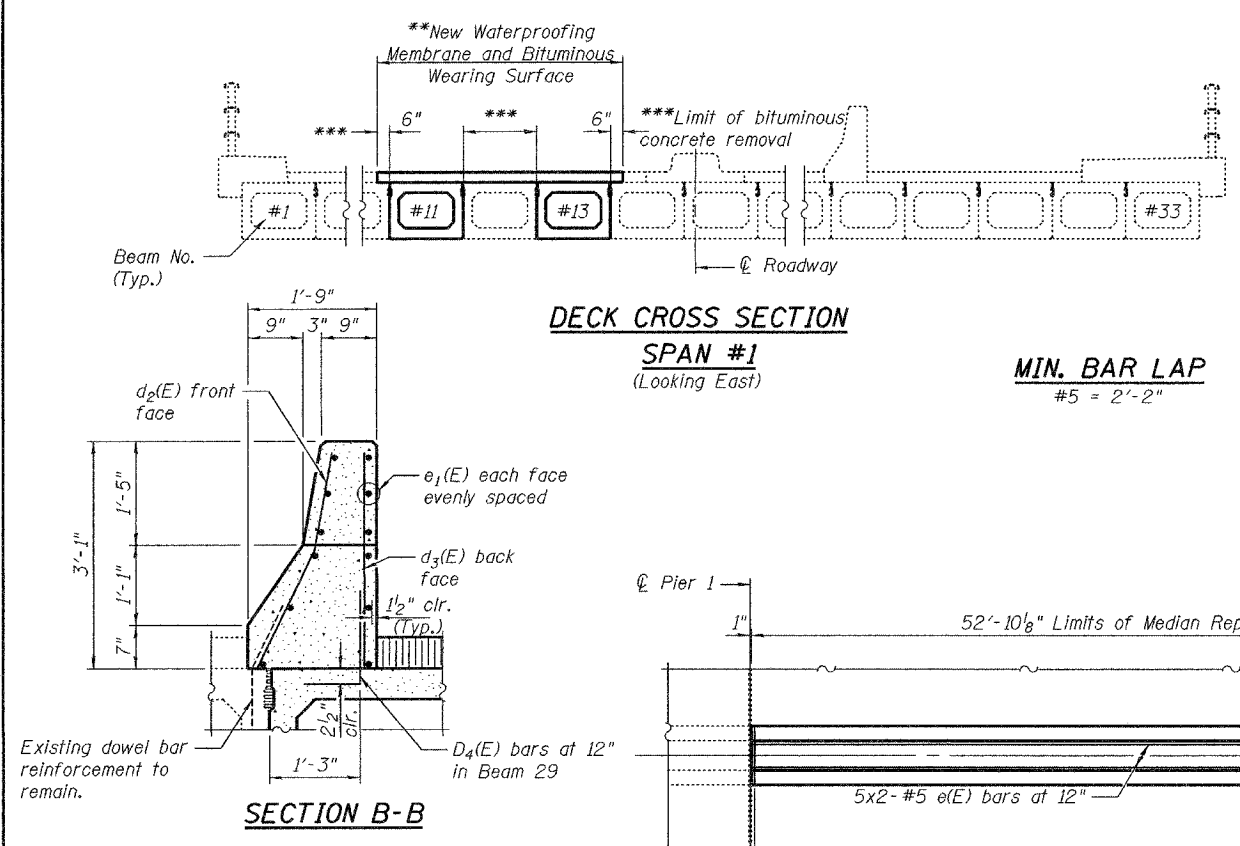
**PLAN AND ELEVATION  
F.A.U. RT. 9877  
OVER SALT CREEK  
DUPAGE COUNTY  
SN 022-0084**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
		DuPage	14	12
Contract Number: 62912				

SHEET NO. 2  
4 SHEETS



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	54	#5	5'-2"	
d2(E)	55	#5	3'-1"	
d3(E)	55	#5	2'-11"	
d5(E)	55	#5	2'-10"	
e(E)	10	#5	27'-6"	
e1(E)	36	#5	17'-5"	
e2(E)	8	#5	27'-10"	
Concrete Removal			Cu. Yd.	16.8
Concrete Superstructure			Cu. Yd.	18.7
Reinforcement Bars, Epoxy Coated			Lbs.	1970

Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

DESIGNED	V.H.V.	EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
CHECKED	A.T.H.	PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	Drew Christopher		
CHECKED	V.H.V. A.T.H.		

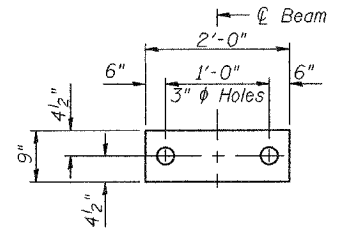
May 3, 2005

**DECK CROSS SECTIONS AND DECK DETAILS**  
F.A.U. RT. 9877  
OVER SALT CREEK  
DUPAGE COUNTY  
SN 022-0084

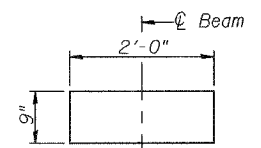
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DuPage	14	13
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT
Contract Number: 62912				

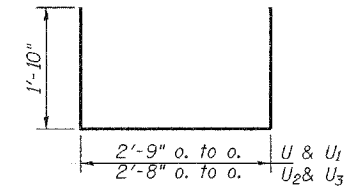
SHEET NO. 3  
4 SHEETS



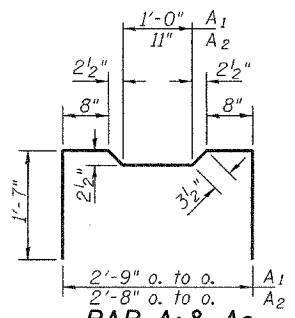
**FABRIC BEARING PAD**  
(Interior)  
**FIXED**



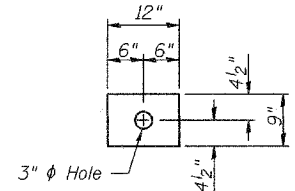
**FABRIC BEARING PAD**  
(Interior)  
**EXPANSION**



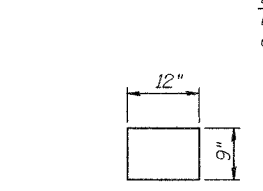
**BARS U, U<sub>1</sub>, U<sub>2</sub> & U<sub>3</sub>**



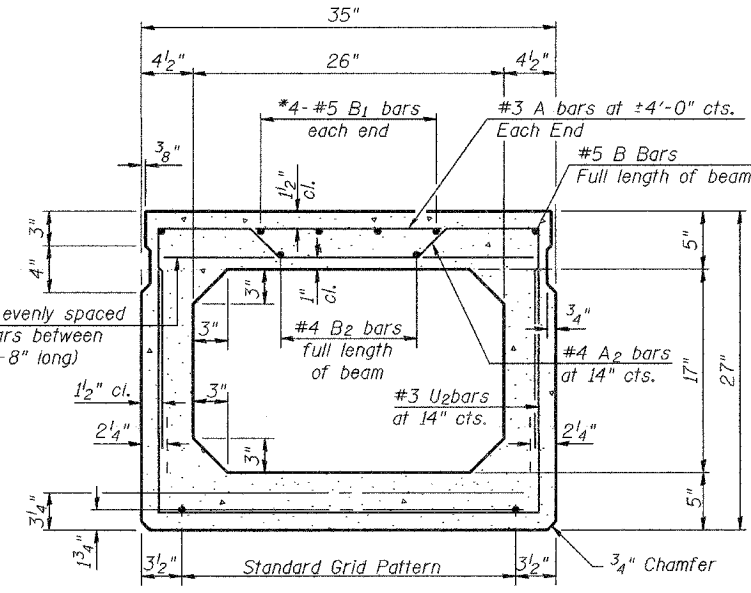
**BAR A<sub>1</sub> & A<sub>2</sub>**



**FABRIC ADJUSTING SHIM**  
(Fixed)

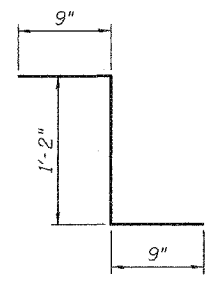


**FABRIC ADJUSTING SHIM**  
(Expansion)



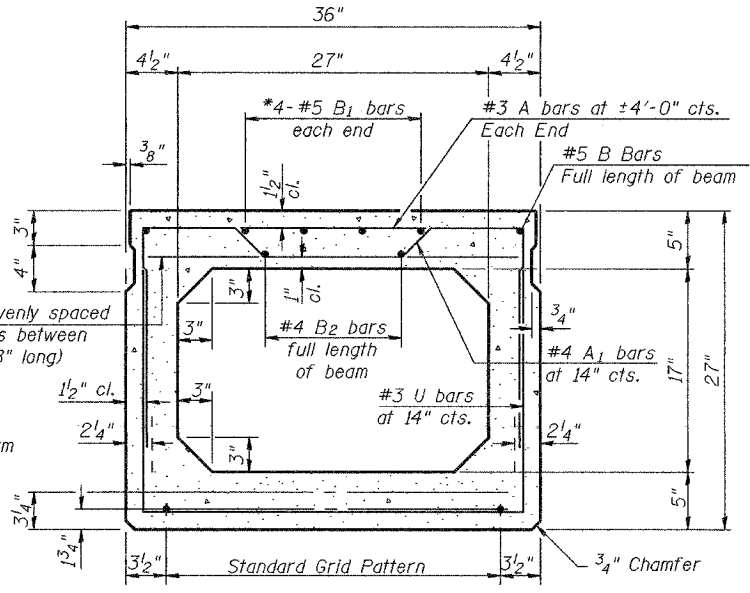
**TYPICAL 35" SECTION**

1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
8-Strands 1 3/4" up, 4-Strands 3/4" up  
(12 Required)



**BAR D<sub>1</sub>(E)**

2-#3 A bars evenly spaced between A<sub>1</sub> bars between end blocks (2'-8" long)  
\*0.2 x Length of beam



**TYPICAL 36" SECTION**

1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
8-Strands 1 3/4" up, 4-Strands 3/4" up  
(2 Required)

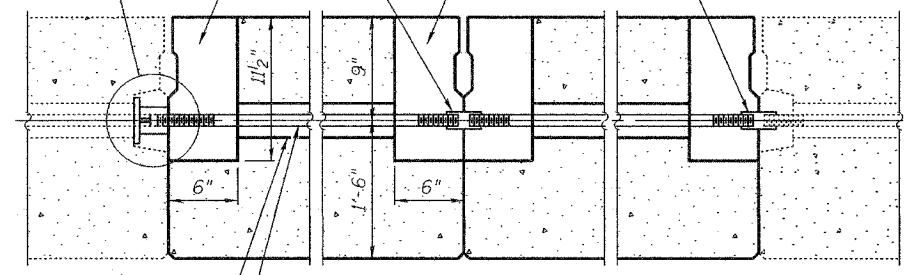
Note:  
Place strands symmetrically about  $\phi$  of beam.

Expansion joint notch at Piers only. See typical Pier sections.

Full Thread Sleeve 5" long  
28 Required

6" x 6" x 1 1/2" Blockout to be filled with Class BD Concrete after Beams have been installed. Quantity included with "Concrete Superstructure". (56 Required)

See Detail B on Sheet 4 of 4.

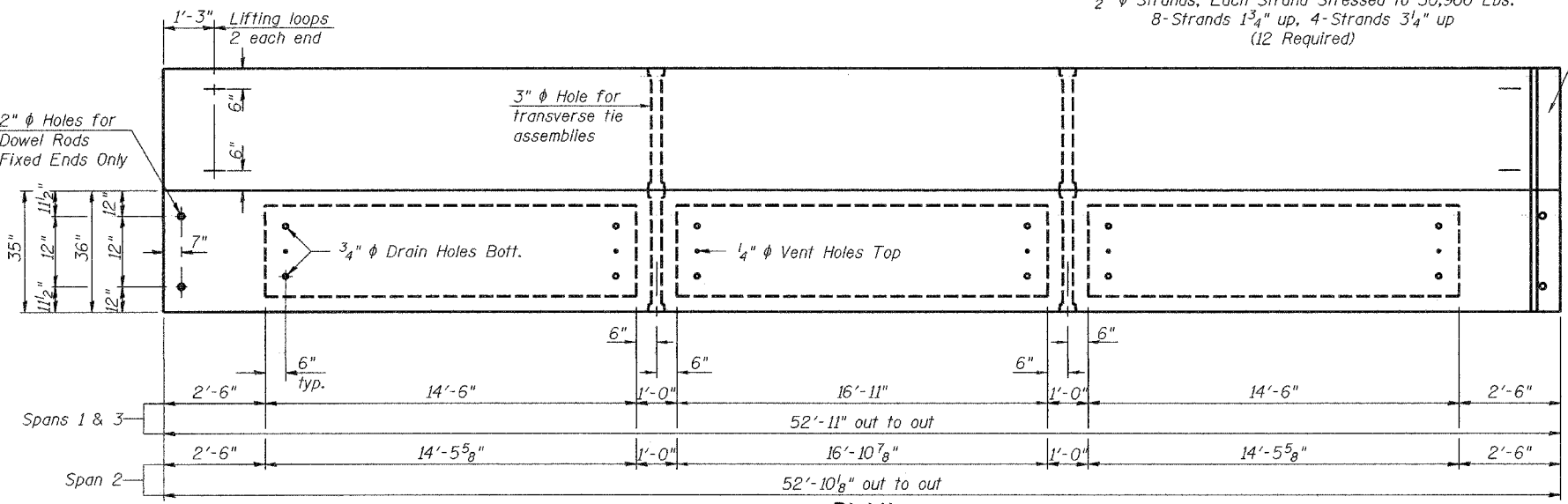


**TYPICAL TRANSVERSE TIE ASSEMBLY**

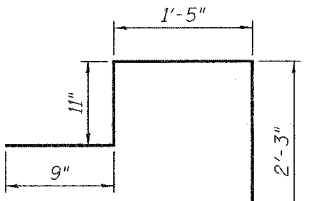
**BAR D<sub>4</sub>(E)**

**NOTES**

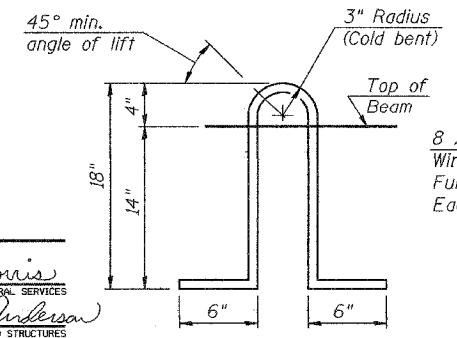
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2"  $\phi$ -270 ksi strands, as shown. The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.  
Non prestressing steel shall conform to AASHTO M-31 or M322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions shown shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.  
Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4000 p.s.i.



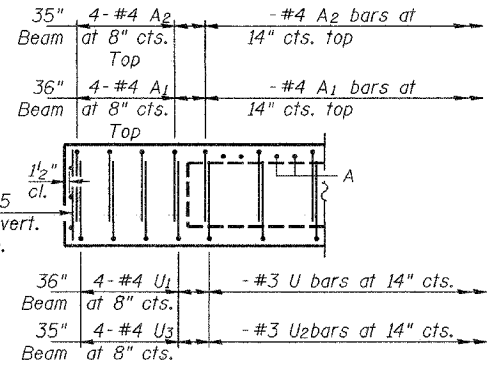
**PLAN**



**BAR D<sub>6</sub>(E)**



**LIFTING LOOP DETAIL**



**END ELEVATION  
FIXED END**

DESIGNED	V.H.V.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	V.H.V. A.T.H.

EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

PD-5-S 10-22-04

**BILL OF MATERIAL**

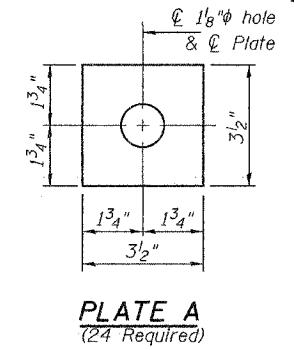
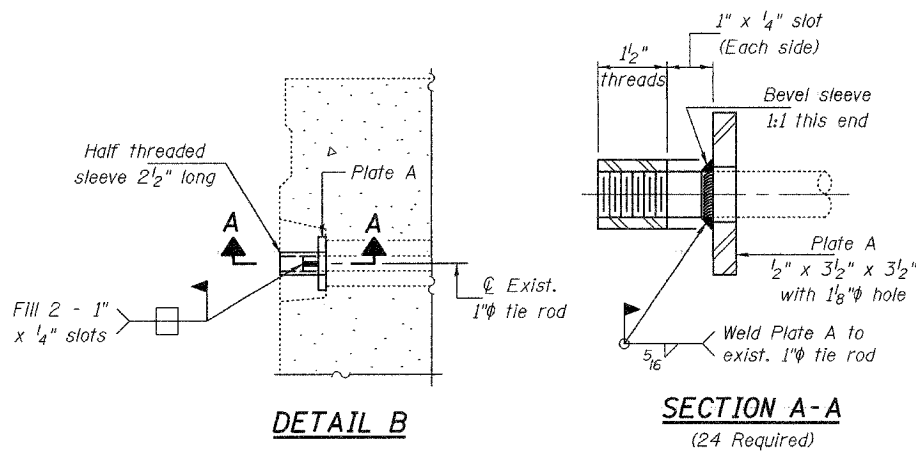
Bar	No.	Size	Length	Shape
a(E)	42	#5	2'-11"	—
a <sub>1</sub> (E)	9	#5	5'-11"	—
Precast Prestressed Conc. Deck Bms.	Sq. Ft.		2169	
Reinforcing Bars, Epoxy Coated	Pound		180	

**BEAM DETAILS  
F.A.U. RT. 9877  
DUPAGE COUNTY  
SN 022-0084**

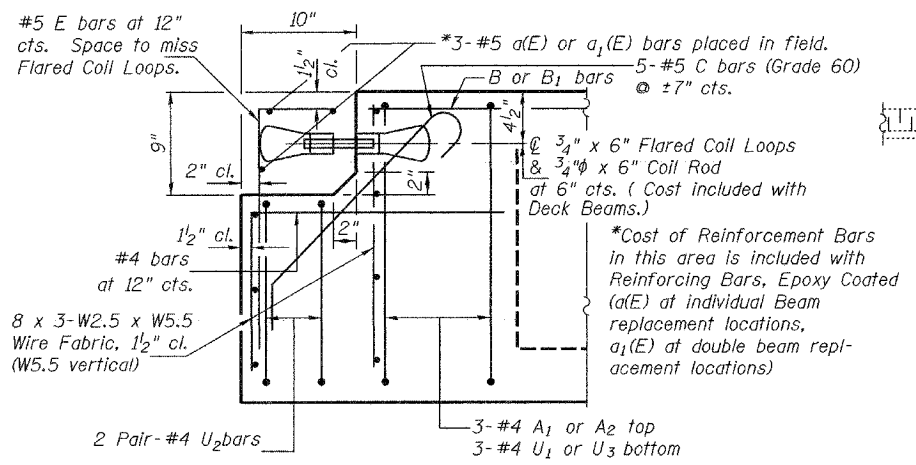
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET
		DuPage	14	14
Contract Number: 62912				

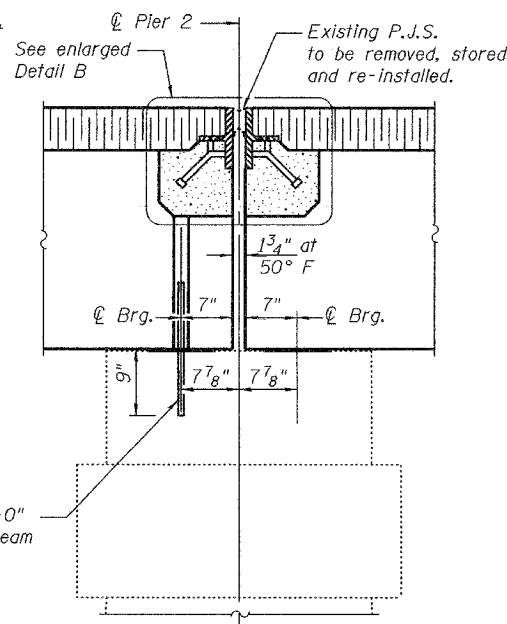
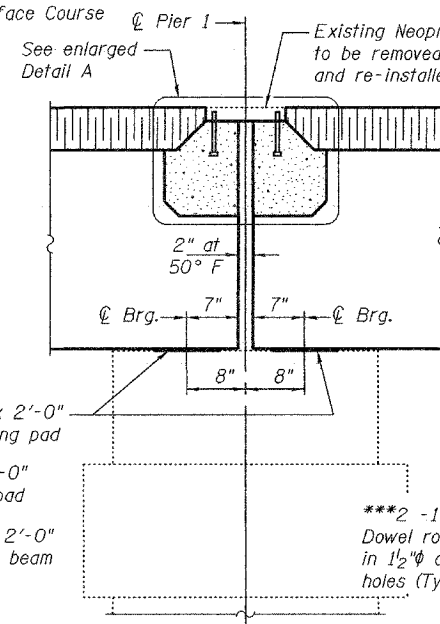
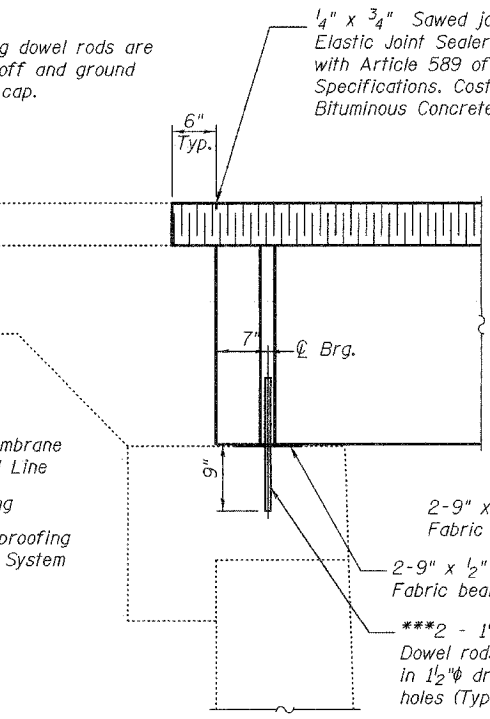
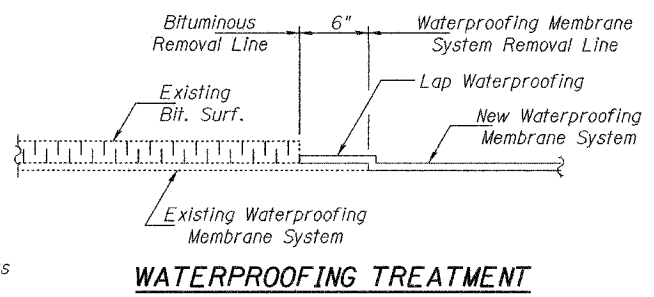
SHEET NO. 4  
4 SHEETS



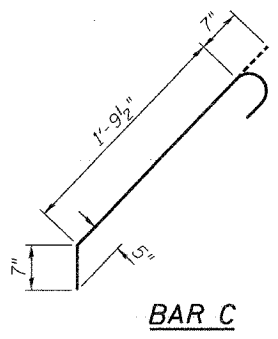
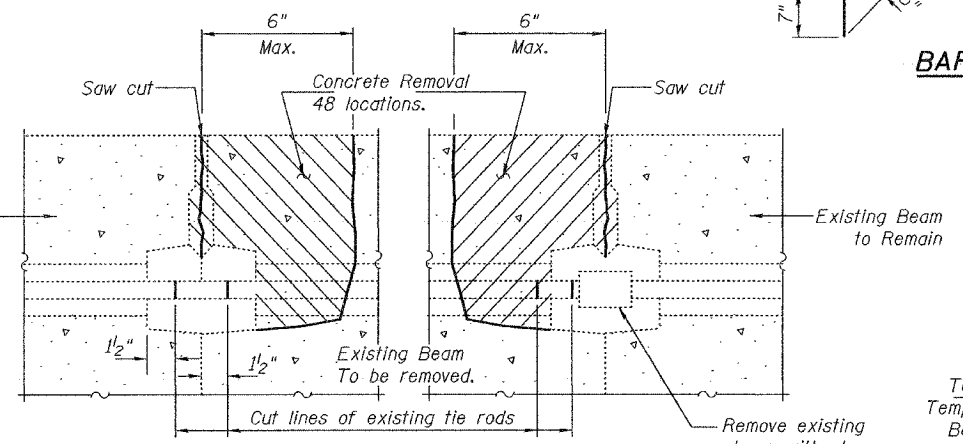
\*\*\*Existing dowel rods are to be cut off and ground flush with cap.



\*Cost of Reinforcement Bars in this area is included with Reinforcing Bars, Epoxy Coated (a(E) at individual beam replacement locations, a1(E) at double beam replacement locations)



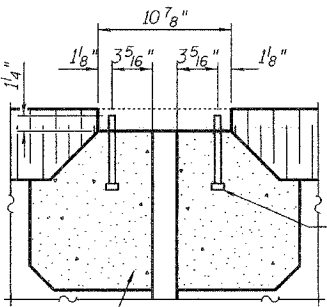
END OF BEAM (EXP. END)



TYPICAL SECTION AT ABUTMENTS

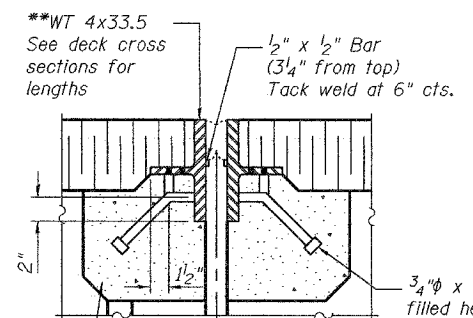
TYPICAL SECTION AT PIER 1

TYPICAL SECTION AT PIER 2



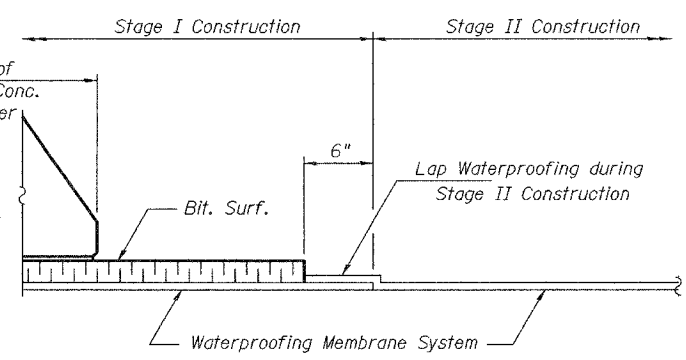
ENLARGED DETAIL A

Existing 2" Neoprene expansion joint to be removed, stored, and re-installed

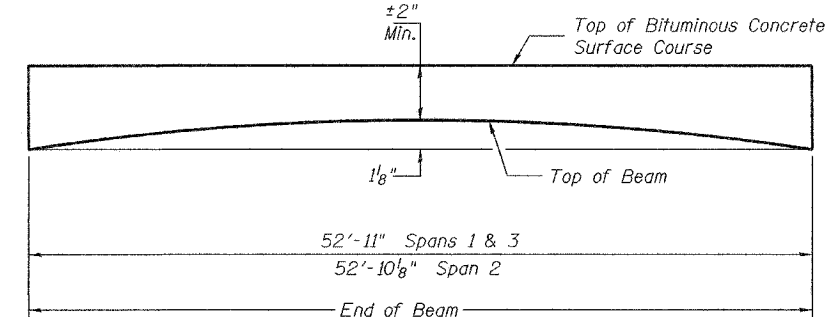


ENLARGED DETAIL B

Existing 2 1/2" P.J.S. to be removed, stored and re-installed.  
\*\* Seal space between existing and new WT 5 x 44.5 with silicone sealant suitable for Structural Steel. Cost of silicone sealant is included with Furnishing and Erecting Structural Steel.



WATERPROOFING TREATMENT AT STAGE CONSTRUCTION



ANTICIPATED INITIAL CAMBER DIAGRAM

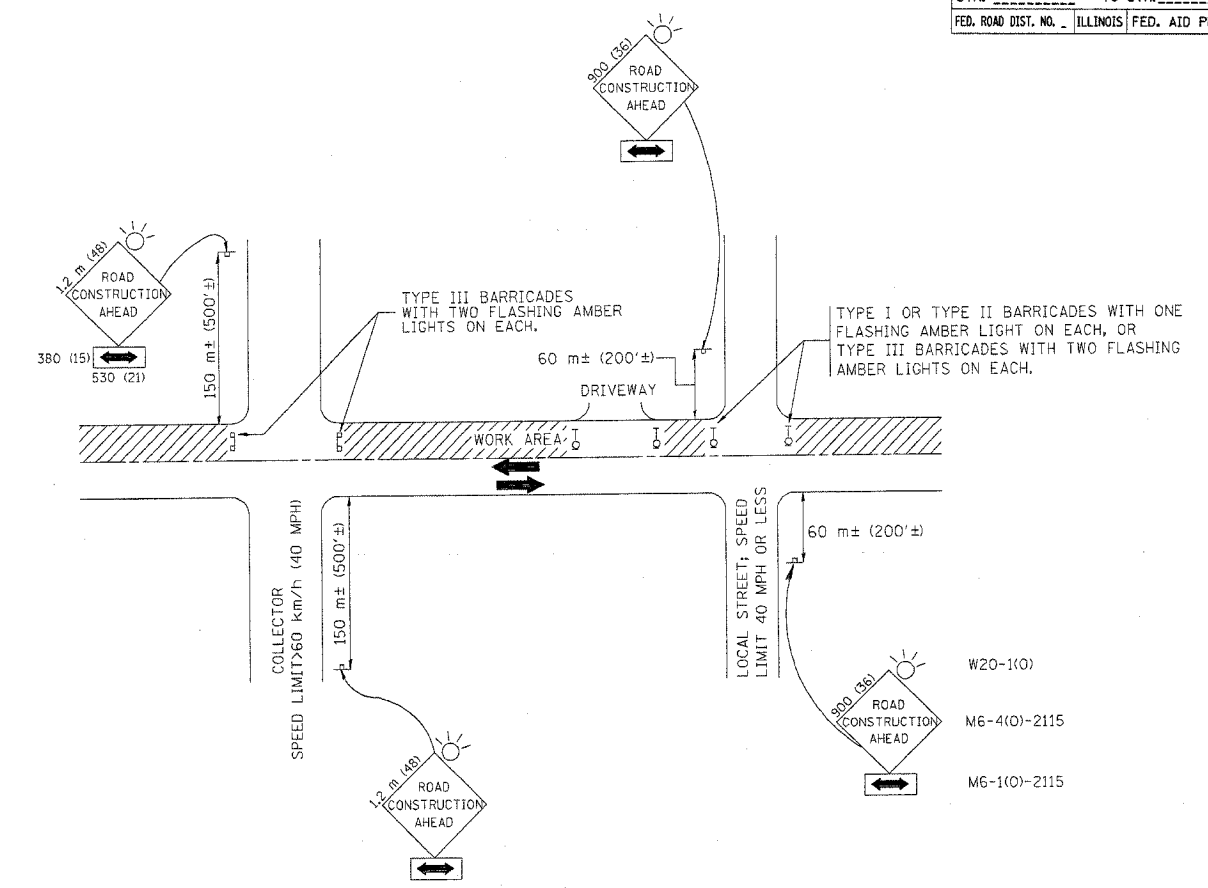
BEAM DETAILS  
F.A.U. RT. 9877  
DUPAGE COUNTY  
SN 022-0084

DESIGNED	V.H.V.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	V.H.V. A.T.H.

EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
PASSED	Walsh E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

May 3, 2005

F.A.P. RTE.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	1453	2005-005BR	COOK/DUPAGE	14	14A
STA.		TO STA.			
FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT	



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS
    1. SIDE ROAD WITH A SPEED LIMIT OF 60 km/h (40 MPH) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
      - a) ONE ROAD CONSTRUCTION AHEAD SIGN 900x900 (36x36) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 60 m (200') IN ADVANCE OF THE MAIN ROUTE.
      - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
    2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
      - a) ONE ROAD CONSTRUCTION AHEAD SIGN 1.2 m x 1.2 m (48x48) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 150 m (500') IN ADVANCE OF THE MAIN ROUTE.
      - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
  - 3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:
 

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
  - C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
  - D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

REVISIONS	
NAME	DATE
LHA	6/89
T. RAMMACHER	09/08/94
J. OBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 TRAFFIC CONTROL AND PROTECTION  
 FOR  
 SIDE ROADS, INTERSECTIONS, AND  
 DRIVEWAYS

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE 10/18/2002

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 TC-10