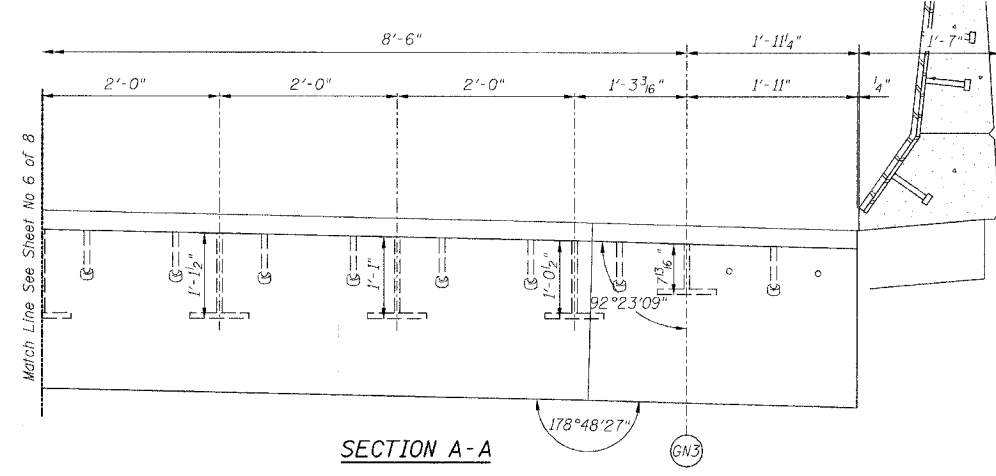


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

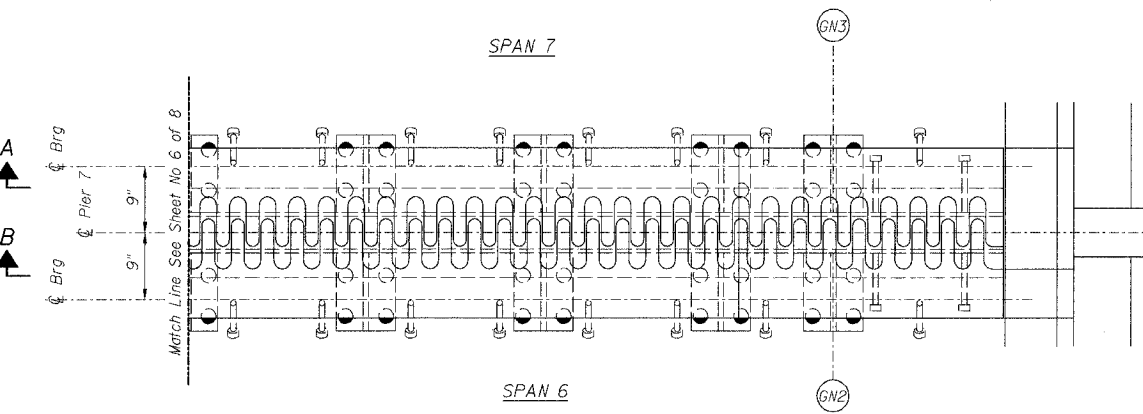
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	419	201
FEDERAL DIST. NO.	ILLINOIS	PROJECT		

Sheet No 7
of 8 Sheets

* 2005-008F
CONTRACT #62580

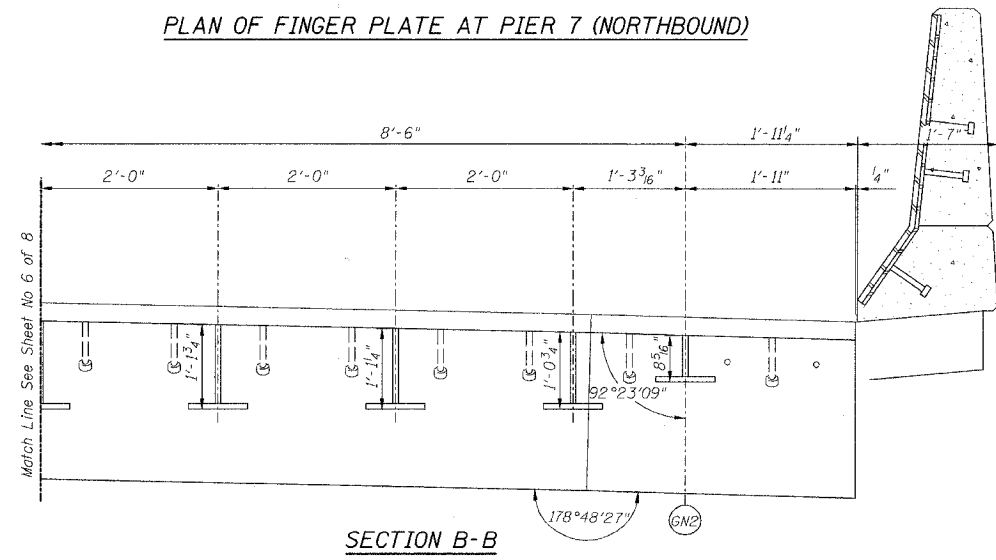


SECTION A-A



PLAN OF FINGER PLATE AT PIER 7 (NORTHBOUND)

For location of splice with respect to fingers see Flame Cutting Diagram.



SECTION B-B

Note:
For optional splice detail see
Flame cutting diagram on Sheet No. 4

PIER NO. 7

REVISIONS			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		DRAWN BY RLK 5/03
No.	DATE	INITIALS	FAI RTE 90/94 DAN RYAN EXPRESSWAY		CHECKED BY SDS 5/03
1			SN 016-1111 (NORTHBOUND)		BOOK NUMBER
2			SEC 2005-008F COOK COUNTY		4222-3
3			PROJECT NO.		
4			SHEET NO.		
5			HOMER L. CHASTAIN & ASSOCIATES CONSULTING ENGINEERS		
6			9600 W. BIRN MAWR AVENUE SUITE 204 CHICAGO, ILLINOIS 60681 312-714-9050 FAX 312-714-9056		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	419	202
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	

Sheet No 8
of 8 Sheets

* 2005-008F
CONTRACT #62580

NOTES

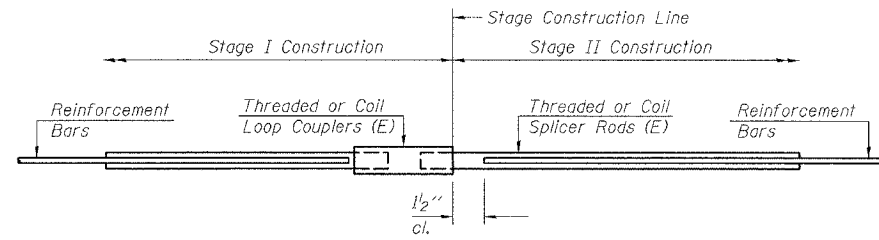
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
- ② Minimum *Pull-out Strength = $1.25 \times f_{s,allow} \times A_t$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s,allow}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



SPLICER DETAIL

Bar Size	No. Assemblies Required	Location
#5	24	At Stage Construction Line in N.B. Deck

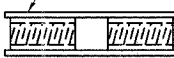
The diameter of this part is equal or larger than the diameter of bar spliced.
The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



** ONE PIECE

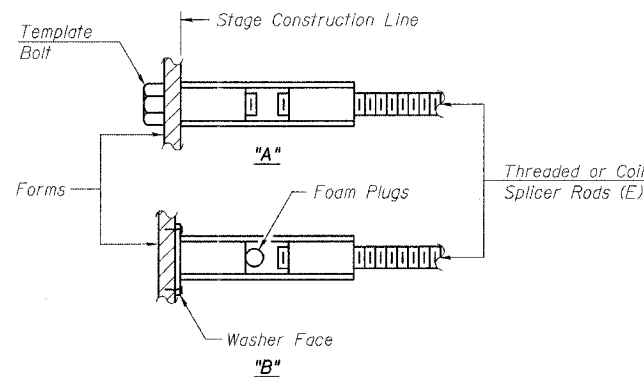
Wire Connector



WELDED SECTIONS

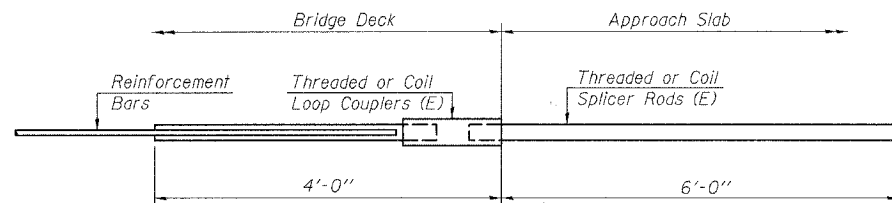
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



**INTEGRAL ABUTMENT
BAR SPLICER ASSEMBLY DETAIL
FOR #5 BAR**

Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =

BSD-1 4-30-99

PIER NO. 7

REVISIONS			DRAWN BY DATE	
No.	DATE	INITIALS	RLK	5/03
1				
2				
3				
4				
5				
6				
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8				
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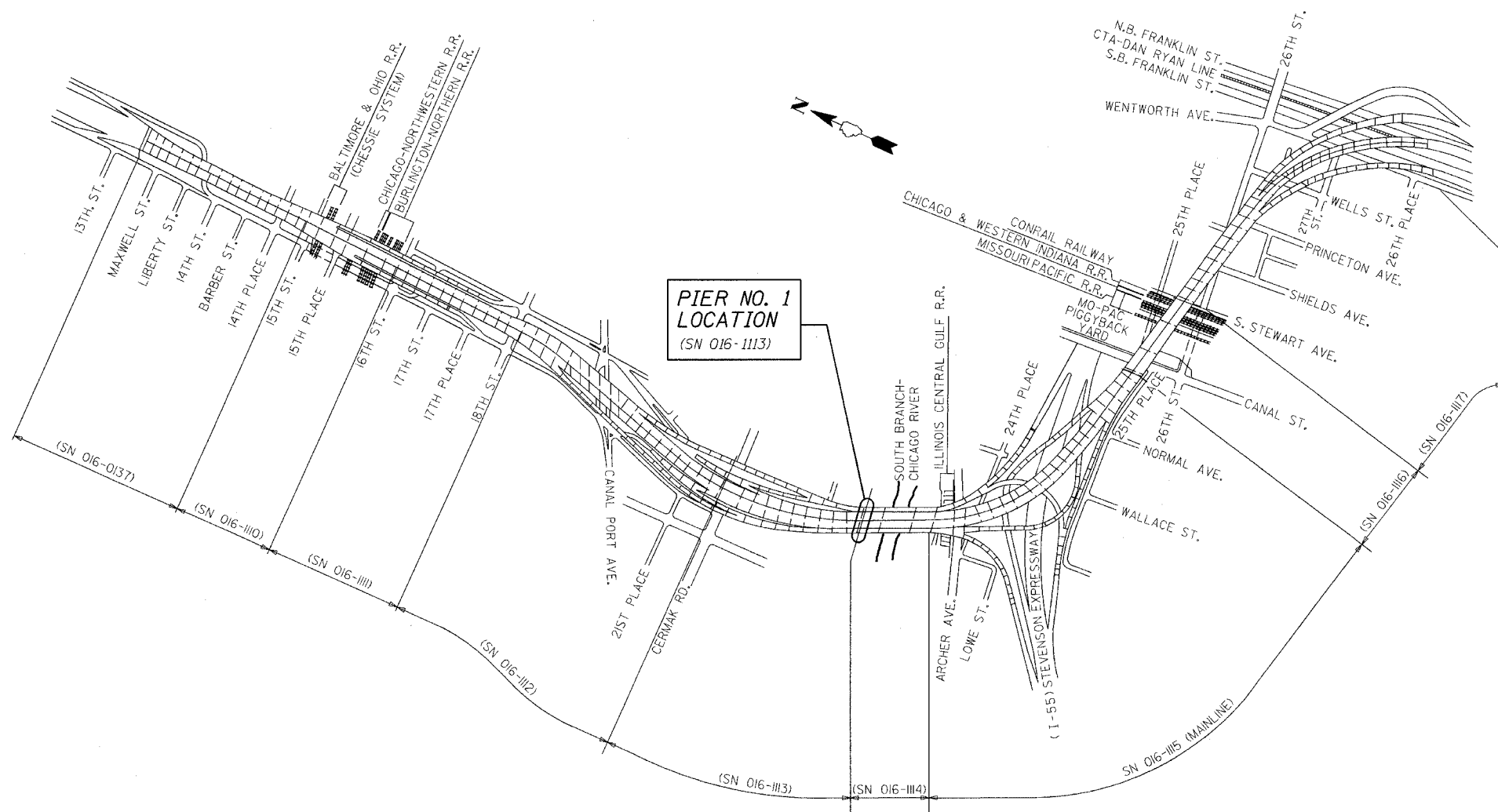
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FAI RTE 90/94	DAN RYAN EXPRESSWAY	
SN 016-1111 (NORTHBOUND)		
SEC 2005-008F	COOK COUNTY	
CHASTAIN & ASSOCIATES CONSULTING ENGINEERS 9600 W. BRYN MAWR AVENUE SUITE 204 CHICAGO, ILLINOIS 60611 312-744-0000 FAX 312-744-0005		SHEET NO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
FAI 90/94	*	COOK	4/19	203
FED. ROAD DIST. NO.	ILL. ROAD	FED. AID PROJECT		

SHEET NO. 1
9 SHEETS

* 2005-008F
Contract #62580

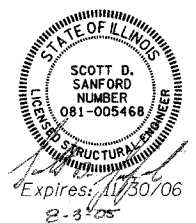


**PIER NO. 1
LOCATION**
(SN 016-1113)

KEY PLAN
DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{1}{16}$ " ϕ , unless otherwise noted.
Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.
The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.
Field welding of construction accessories will not be permitted to beams or girders.
Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.
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 for the work.
Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
All Construction joints shall be bonded.
Existing design and fabrication plans are available upon request.
All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 48,120 lbs.
Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint.
Joint openings shall be adjusted according to Article 503.10(c) of the standard specifications when the deck is poured at an ambient temperature other than 50°F.
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.



DESIGN STRESSES

$f'_c = 3500$ psi
 $f_y = 60,000$ psi (Reinf)
 $f_y = 50,000$ psi (M270 Grade 50)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	22.1
Concrete Superstructure	Cu Yd	25.1
Erecting Structural Steel	L.S.	0.18
Reinforcement Bars, Epoxy Coated	Pound	3490
Mechanical Splice	Each	174
Bar Splicers	Each	48
Erecting Fabric Reinforced Elastomeric Trough	Foot	94

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
KEY PLAN
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT. _____
HORIZ. _____
DATE: 3/22/05
DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: _____
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PROJECT 04286-W01
8/3/05-MML

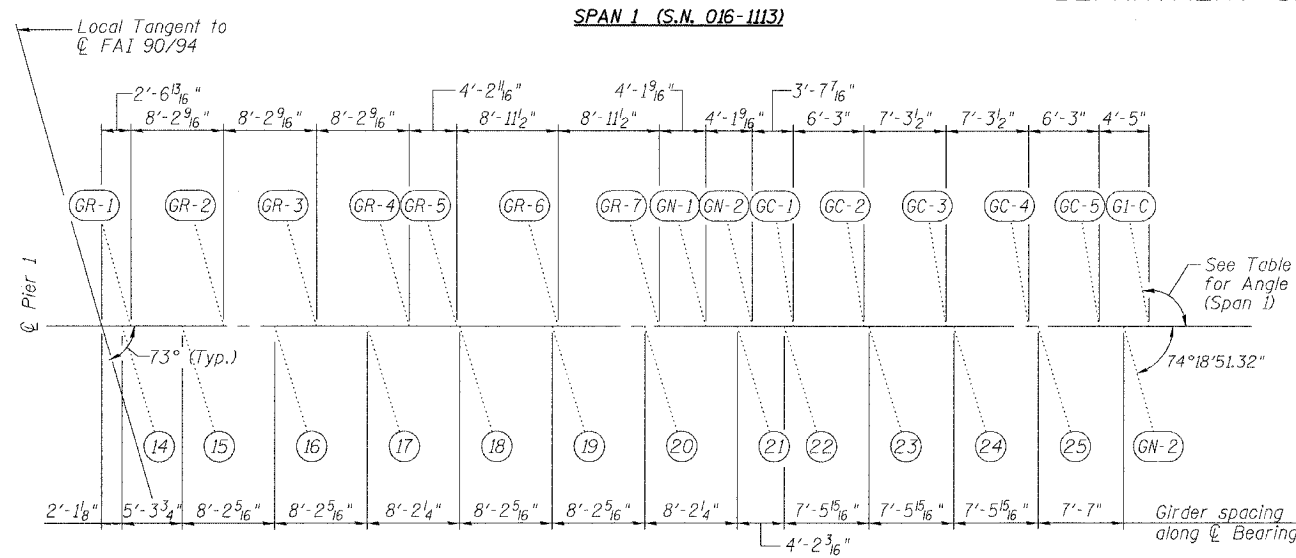


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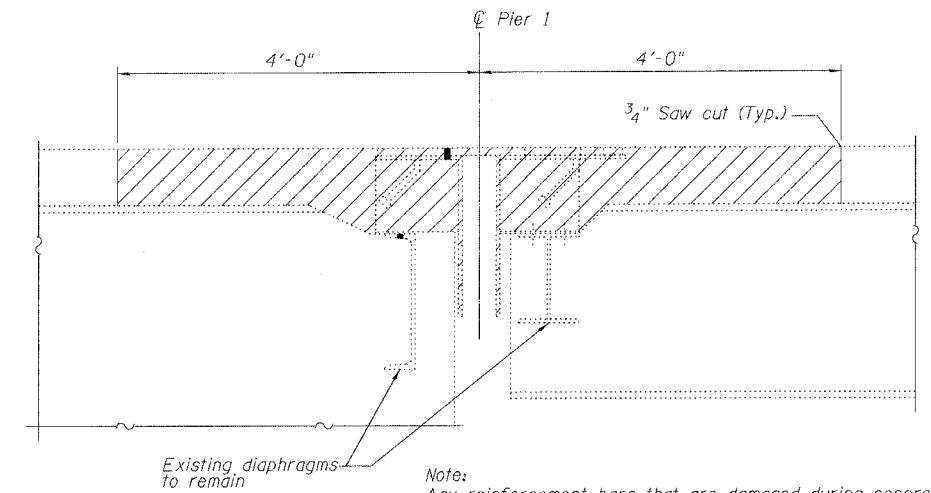
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	419	204
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62580				

SHEET NO. 2
9 SHEETS

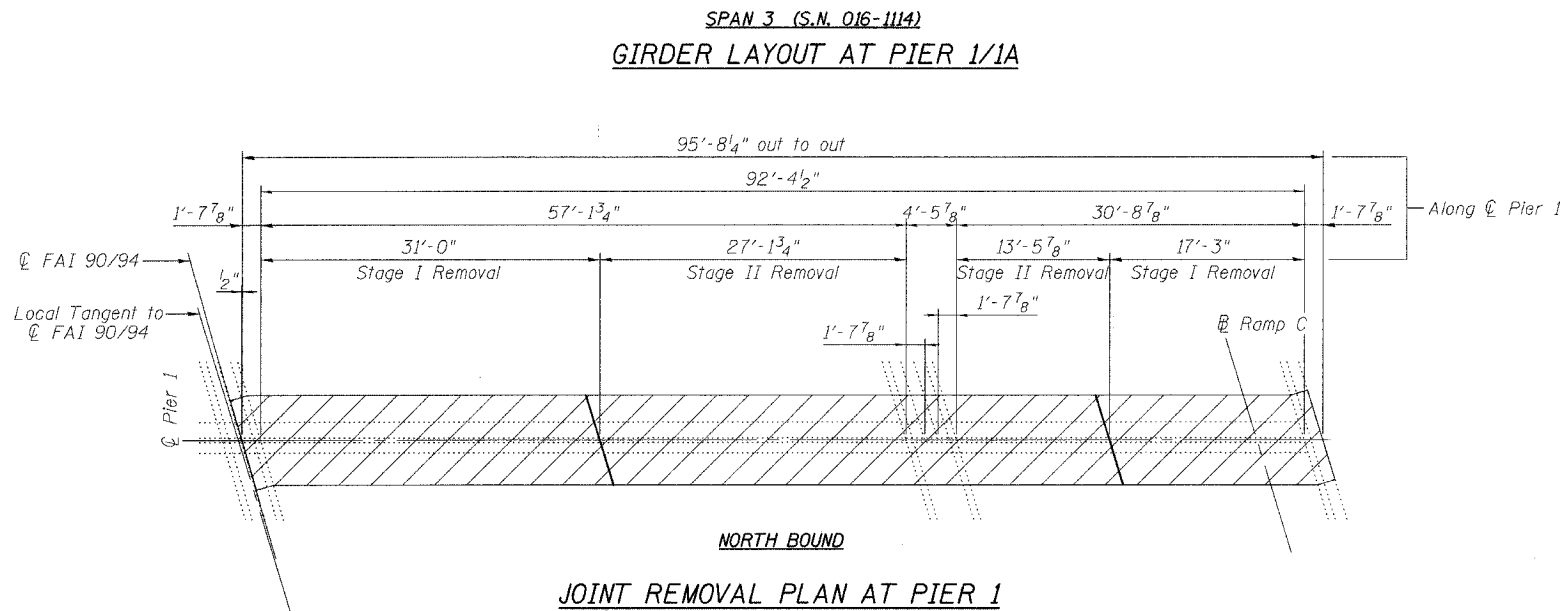


Girder	Angle
GR-1	105°33'08"
GR-2	105°33'09"
GR-3	105°33'09"
GR-4	105°33'09"
GR-5	105°35'13"
GR-6	105°39'27"
GR-7	105°43'31"
GN-1	104°31'37"
GN-2	103°26'38"
GC-1	98°54'18"
GC-2	98°58'51"
GC-3	99°04'13"
GC-4	99°09'41"
GC-5	99°14'25"
GI-C	100°11'18"

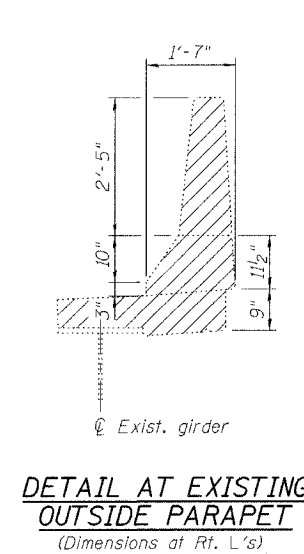
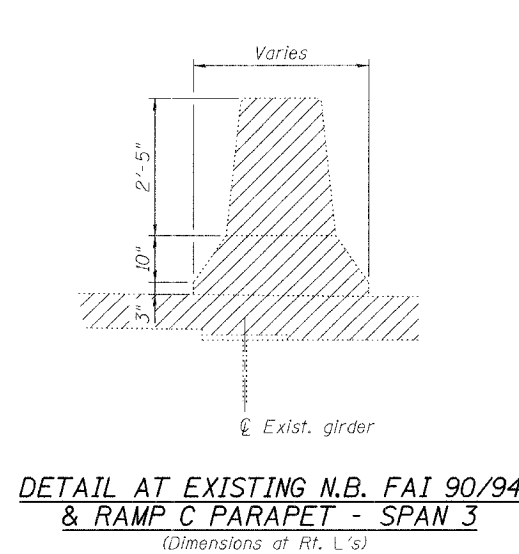
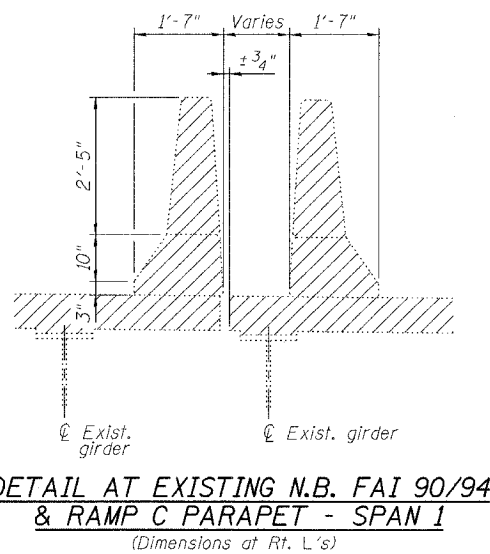
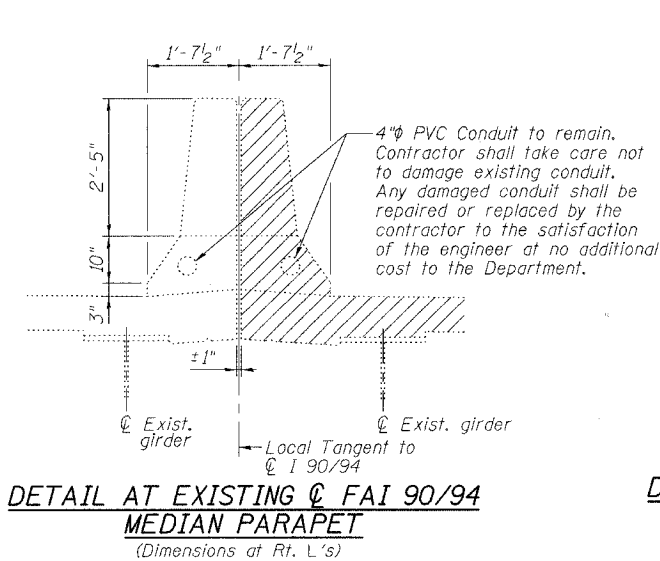


Note:
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".
Existing finger plates, stools, drainage trough and hardware shall be removed. Cost included with "Concrete Removal".

SECTION AT EXISTING FINGER PLATE
(Dimensions at Rt. L's)



Notes:
Hatched Area indicates "Concrete Removal".
Existing transverse bars in the deck are placed at right angles to \perp Roadway. Existing transverse bars extending into removal areas shall be cut to miss the new finger joint, cleaned and incorporated into the new construction.
Longitudinal reinforcement extending into removal areas shall be cleaned, straightened and incorporated into the new construction except as noted on Section A-A on Sheet 4.



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE EXPANSION JOINT REMOVAL DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT. _____
HORIZ. _____
DATE: 3/22/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: _____

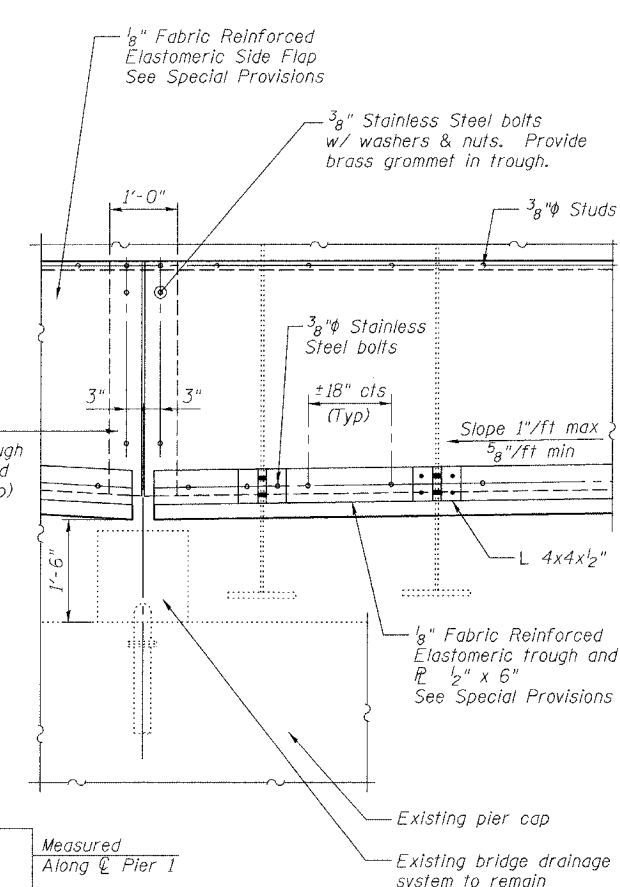
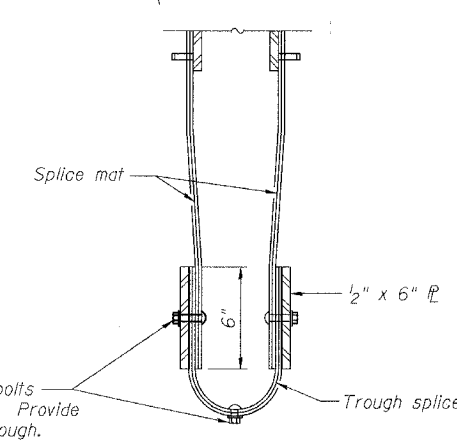
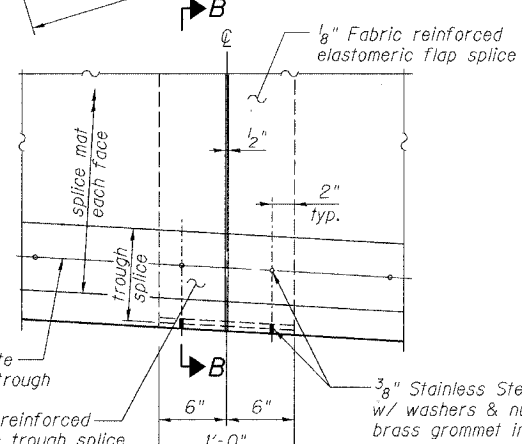
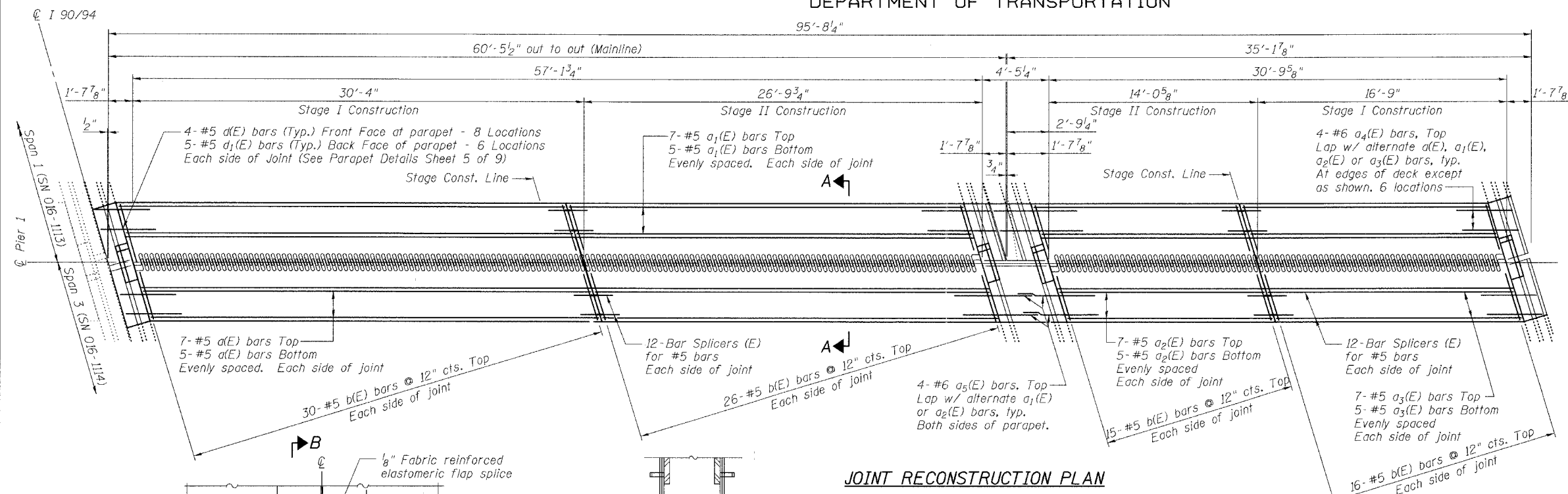
GREENE & BRADFORD, INC.
OF SPRINGFIELD
REGISTERED PROFESSIONAL ENGINEERS
PROFESSIONAL SEAL NO. 06-000000
MEMBER I.P.E.S. (INTERNATIONAL PROFESSIONAL ENGINEERS SOCIETY)
CORP. 1944, 820 N. 2ND ST., ST. LOUIS, MO 63102-1000

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PROJECT 04286-W01
8/3/05-MML

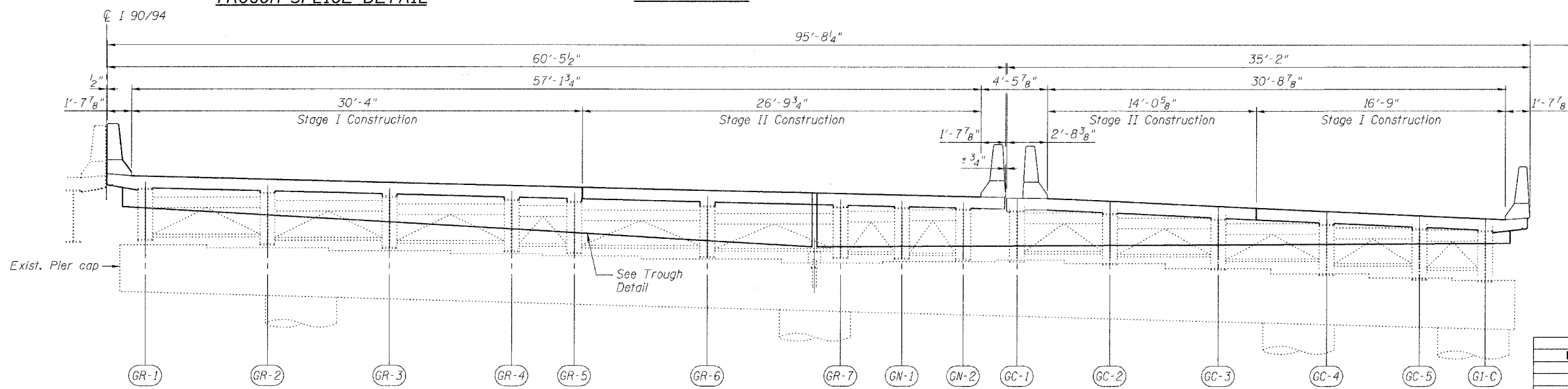
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	SHEET NO. 419	SHEET 205	SHEET NO. 3 9 SHEETS
FED. ROAD DIST. NO. * 2005-008F Contract #62580		ILLINOIS	FED. AID PROJECT		



- Notes:
- For Parapet Details and Superstructure Bill of Material, see Sheet 5 of 9.
 - For Section A-A, see Sheet 4 of 9.



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 1 JOINT DETAILS

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

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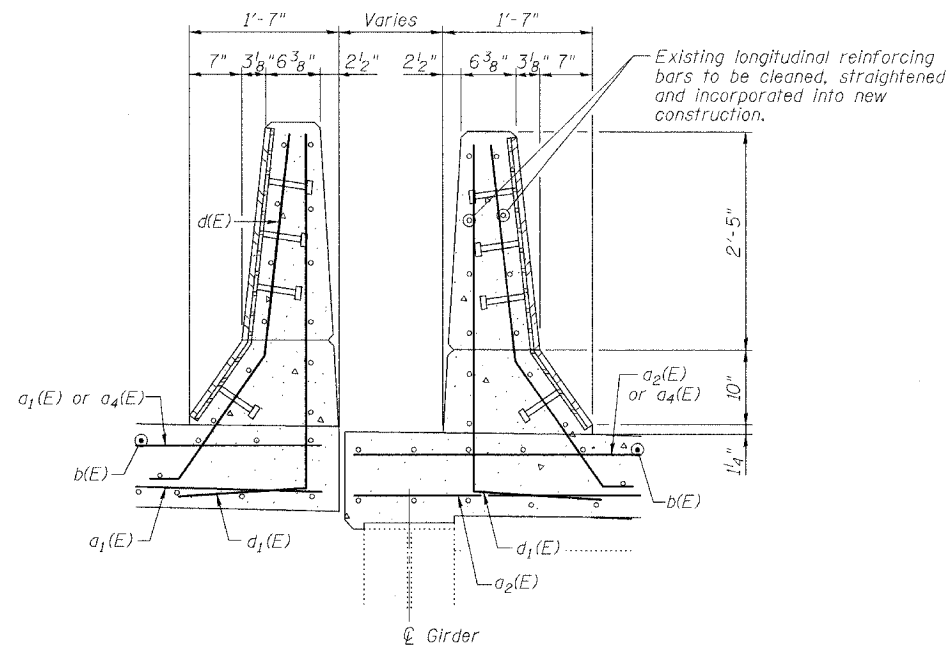
GREENE & BRADFORD, INC.
OF SPRINGFIELD

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PROJECT 04286-W01
8/3/05-MML

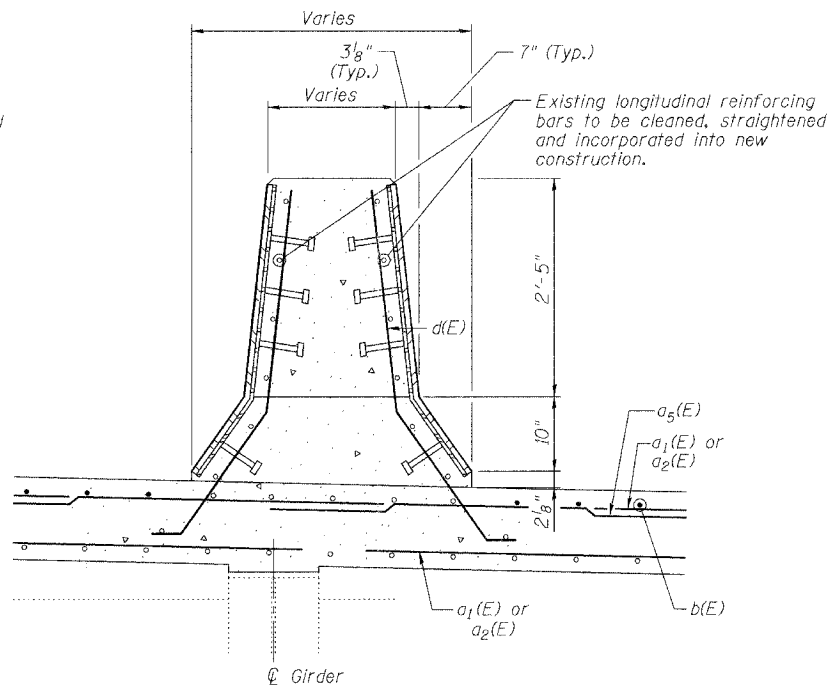
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

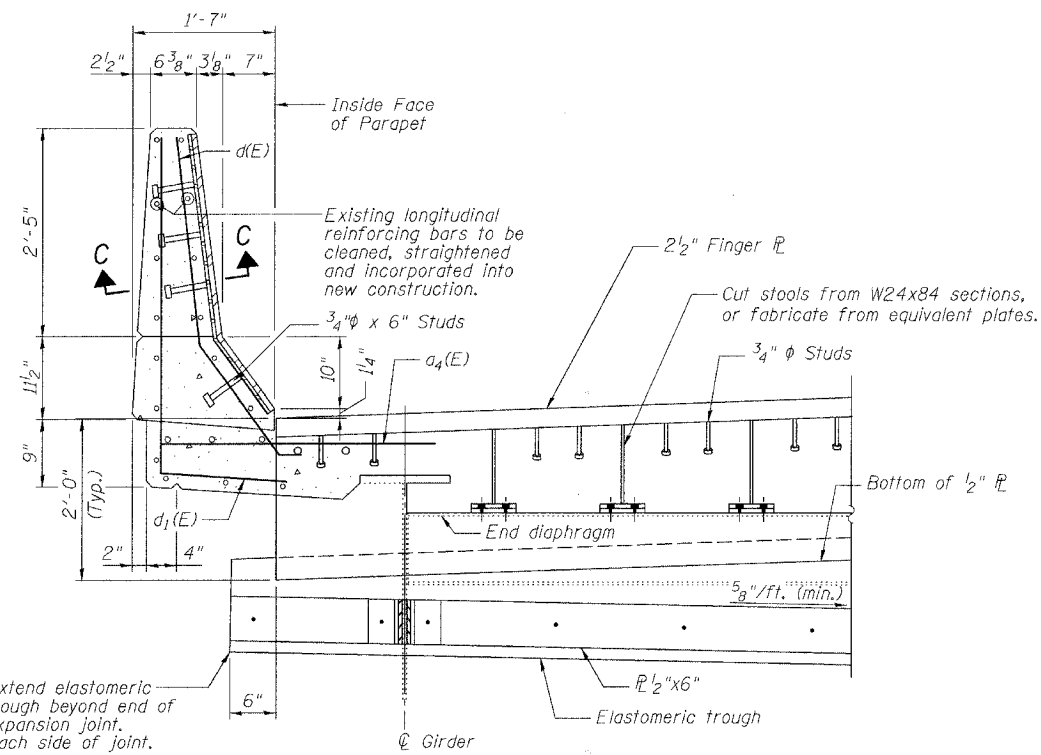
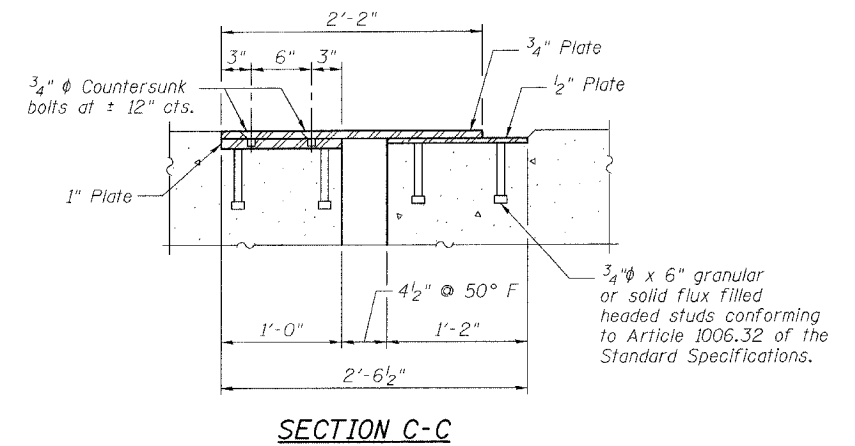
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FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62580					



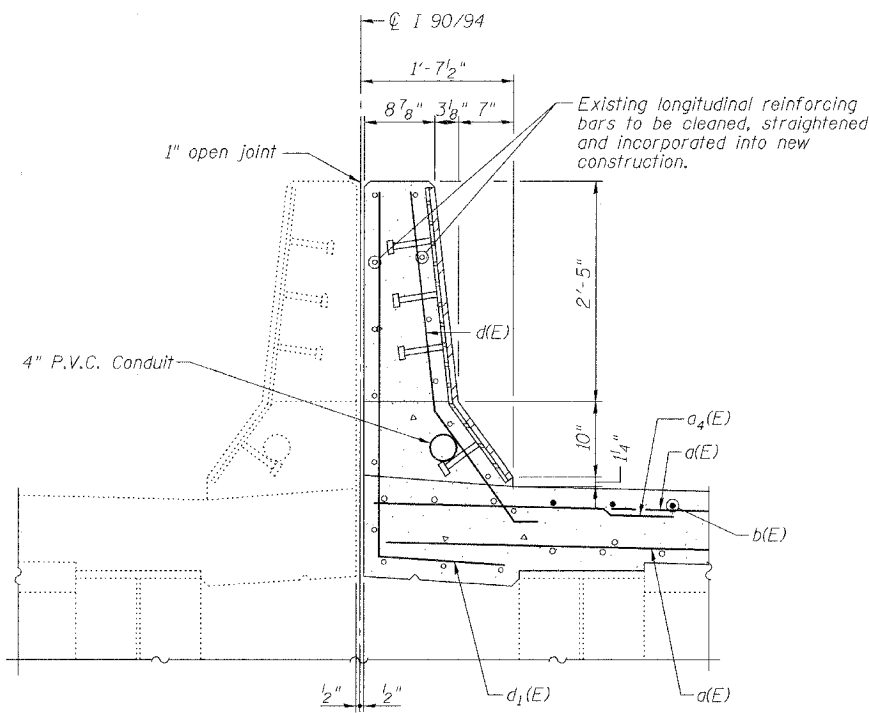
DETAIL AT N.B. FAI 90/94 &
RAMP C PARAPET - SPAN 1
(Dimensions at Rt. L's)



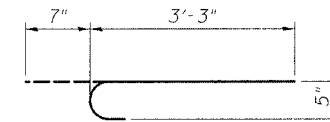
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(Dimensions at Rt. L's)



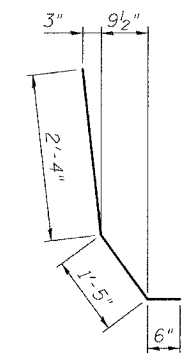
SECTION B-B
(For location of Section B-B, See Sheet 4 of 9)



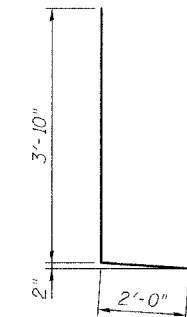
DETAIL AT MEDIAN PARAPET
(Looking North)



BAR b(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	24	#5	30'-9"	—
a1(E)	24	#5	27'-3"	—
a2(E)	24	#5	14'-6"	—
a3(E)	24	#5	17'-3"	—
a4(E)	24	#6	4'-6"	—
a5(E)	8	#6	5'-6"	—
b(E)	174	#5	3'-10"	⌋
d(E)	32	#5	4'-3"	⌋
d1(E)	30	#5	5'-10"	⌋
Reinforcement Bars, Epoxy Coated			Pound	3490
Concrete Superstructure			Cu. Yd.	25.1
Concrete Removal			Cu. Yd.	22.1
Bar Splicers			Each	48
Mechanical Splice			Each	174

Reinforcing bars designated (E) shall be epoxy coated.

ILLINOIS DEPARTMENT OF TRANSPORTATION
PARAPET DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

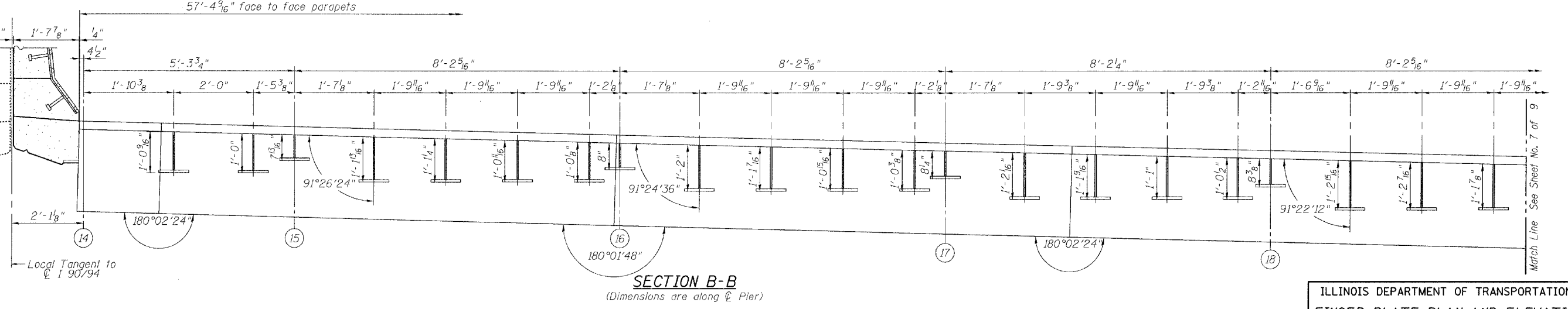
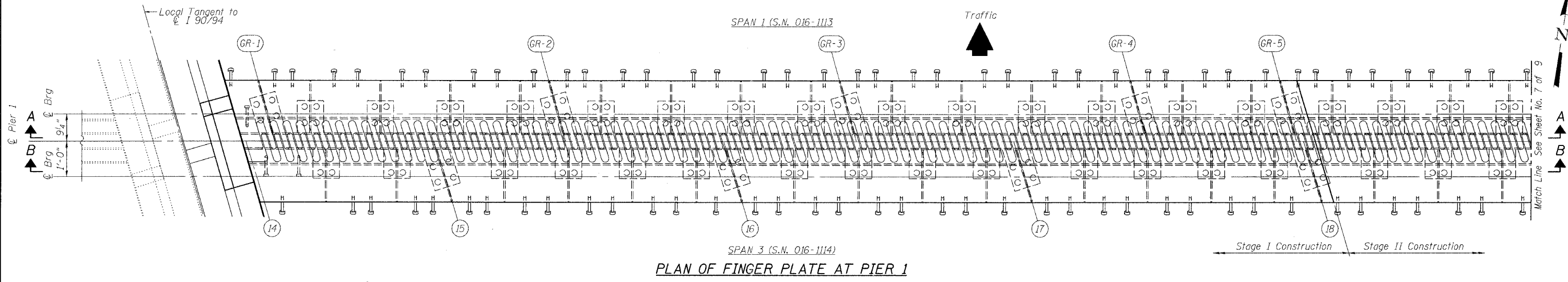
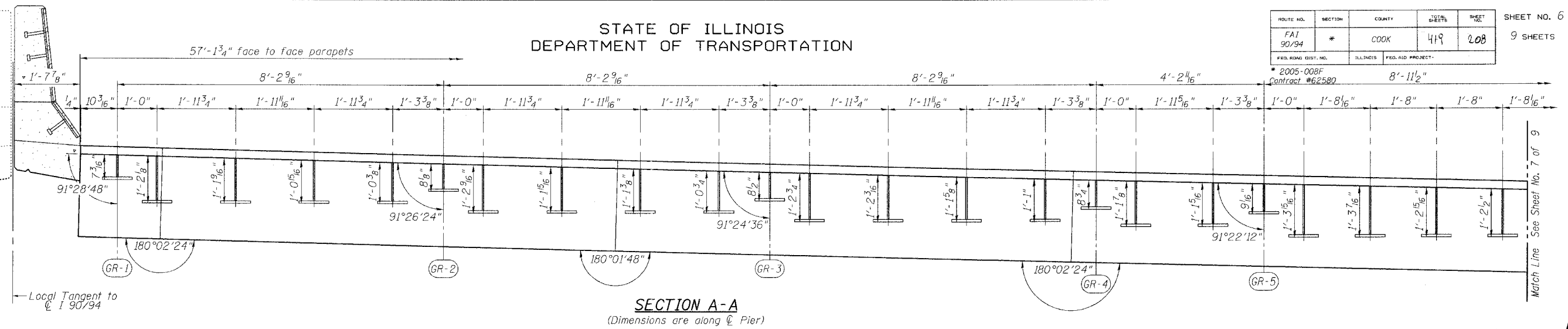
REVISIONS	
NAME	DATE

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DESIGNED BY: SANFORD
CHECKED BY: -
GREENE & BRADFORD, INC.
OF SPRINGFIELD
COMPUTER FILE NO.
04286-W01-NB-PD
PROJECT 04286-W01
8/3/05-MML

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	TOTAL SHEETS 419	SHEET NO. 208	SHEET NO. 6 9 SHEETS
FED. ROAD DIST. NO. 2005-008F Contract #62580		ILLINOIS FED. AID PROJECT 8'-11 1/2"			



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT. _____
HORIZ. _____
DATE: 3/22/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: _____

GREENE & BRADFORD, INC.
OF SPRINGFIELD

COMPUTER FILE NO.
04286-W01-NB-PE1

PROJECT 04286-W01
8/3/05-MML

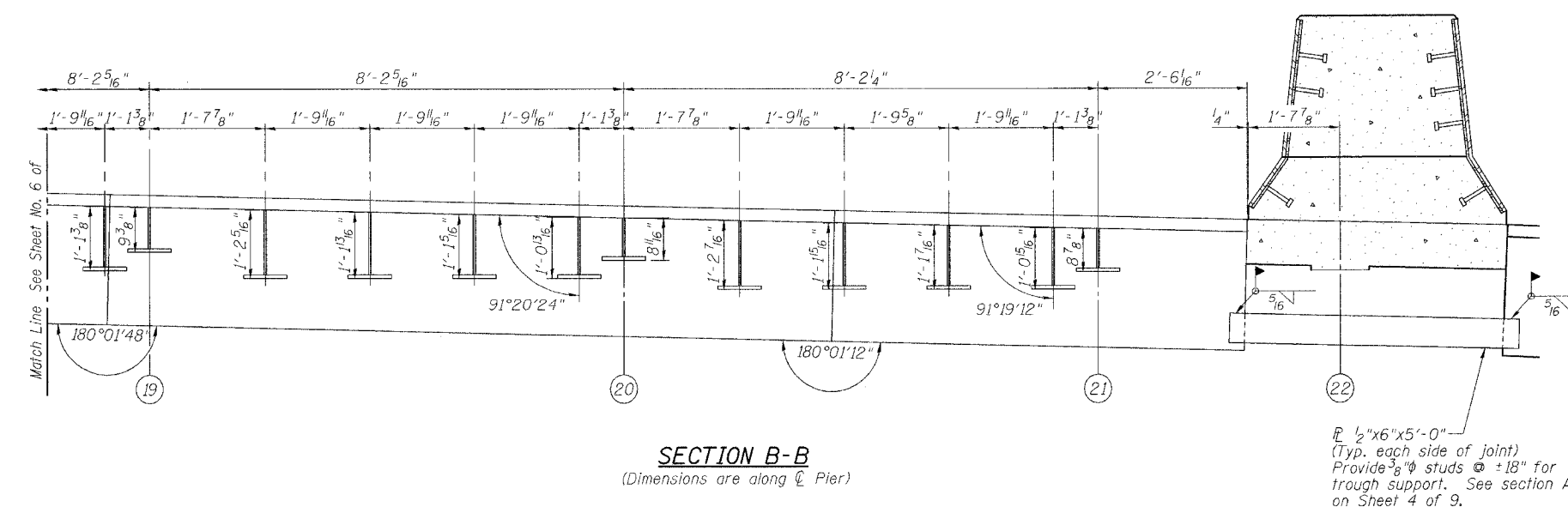
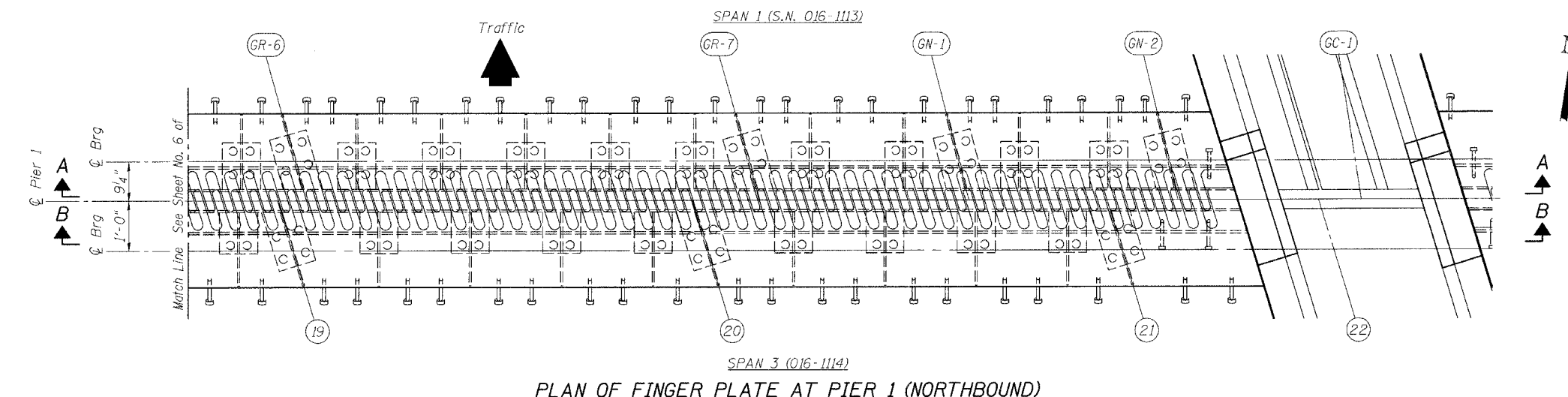
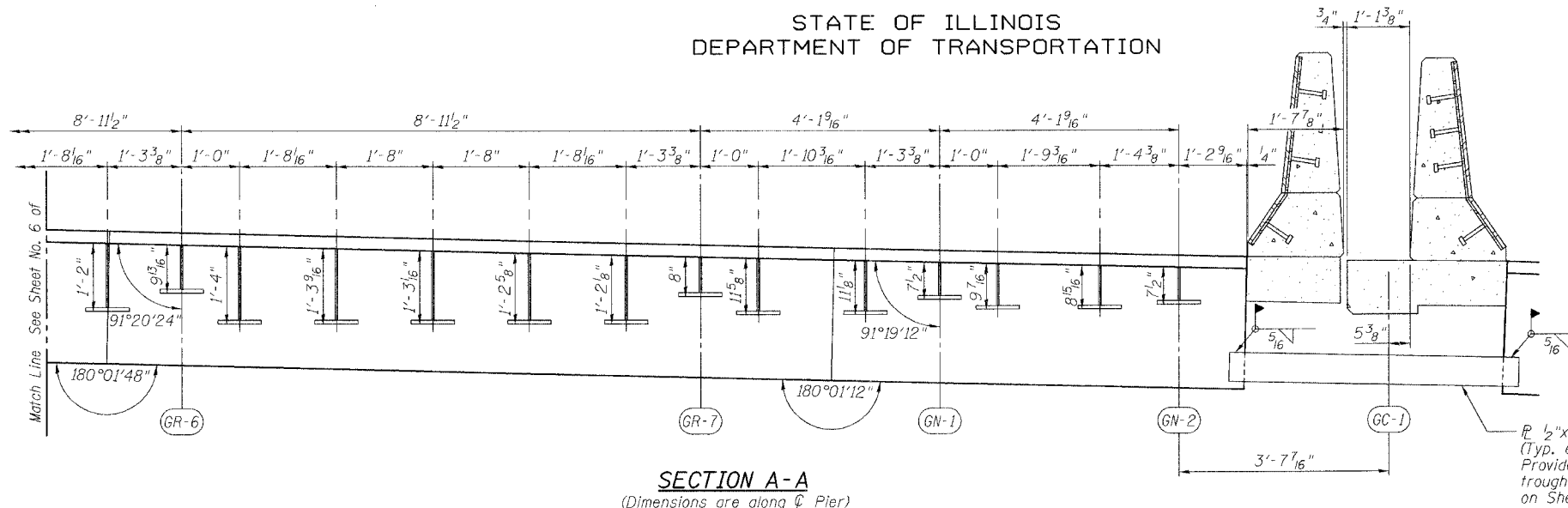
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	419	209
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
9 SHEETS

* 2005-008F
Contract #62580



Note: Any structural steel prime coat removed for, or damaged by field welding shall be replaced in accordance with Section 506.05 of the Standard Specifications. Cost included with "Erecting Structural Steel".

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT. _____
HORIZ. _____
DATE: 3/22/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: _____

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
STRUCTURAL DIVISION
PROFESSIONAL ENGINEERS
REGISTERED IN ILLINOIS
NO. 04286-W01-PE-2

COMPUTER FILE NO.
04286-W01-NB-PE2
PROJECT 04286-W01
8/3/05-MML

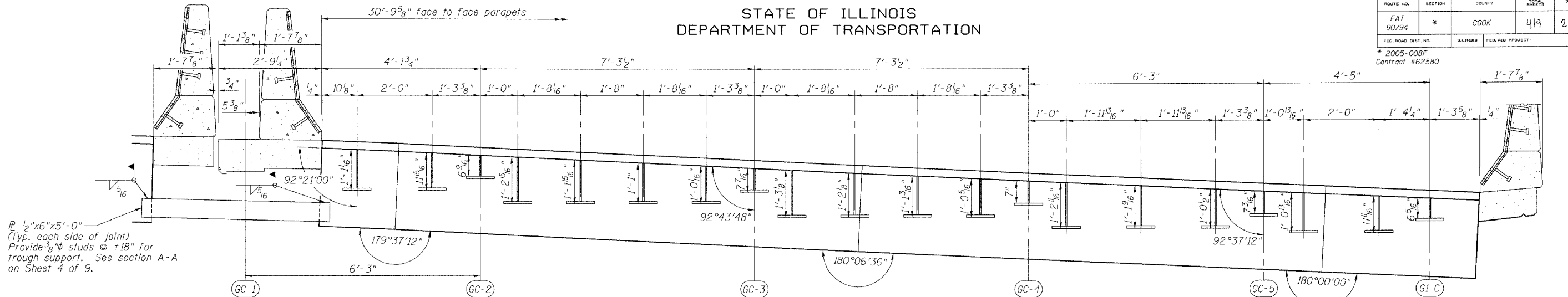
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	419	210
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

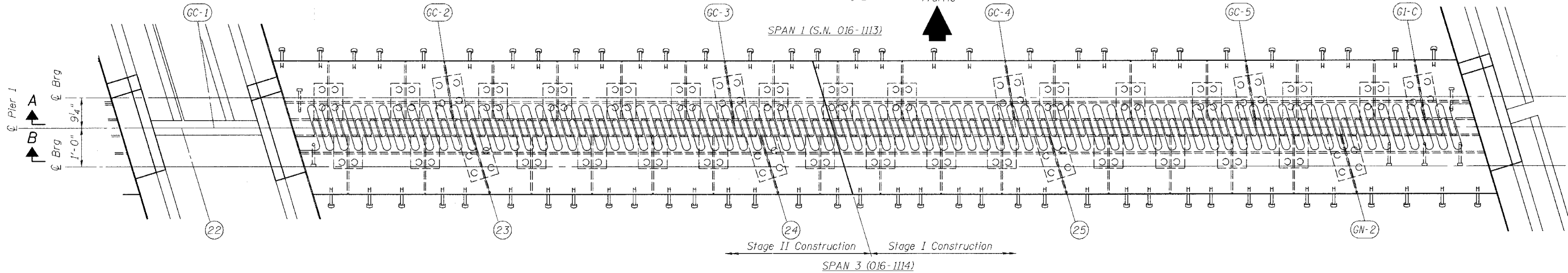
SHEET NO. 8
9 SHEETS

* 2005-008F
Contract #62580

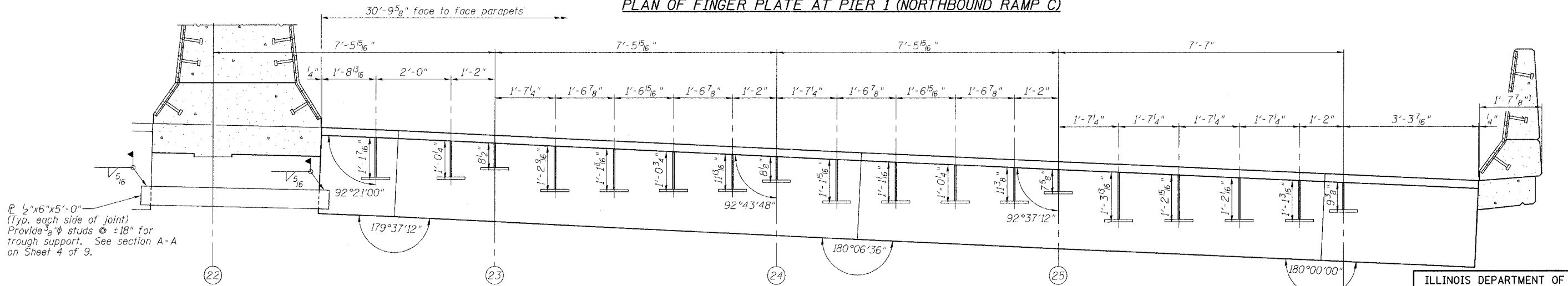


1/2"x6"x5'-0"
(Typ. each side of joint)
Provide 3/8" studs @ ±18" for
trough support. See section A-A
on Sheet 4 of 9.

SECTION A-A
(Dimensions are along C/Pier)



PLAN OF FINGER PLATE AT PIER 1 (NORTHBOUND RAMP C)



1/2"x6"x5'-0"
(Typ. each side of joint)
Provide 3/8" studs @ ±18" for
trough support. See section A-A
on Sheet 4 of 9.

SECTION B-B
(Dimensions are along C/Pier)

Note: Any structural steel prime coat removed for, or damaged by field welding shall be replaced in accordance with Section 506.05 of the Standard Specifications. Cost included with "Erecting Structural Steel".

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT. DRAWN BY: LANDREY
SCALE: HORIZ. DESIGNED BY: SANFORD
DATE: 3/22/05 CHECKED BY: -

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
REGISTERED PROFESSIONAL ENGINEERS
ILLINOIS LICENSE NO. 021-00000000
PROFESSIONAL SEALING CORPORATION
021-793-8841, 021-793-8877, F.L.C. No. 021-000000000000

COMPUTER FILE NO.
04286-W01-NB-PE3
PROJECT 04286-W01
8/3/05-MML

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PLOT DATE = 8/3/22005
PLOT TIME = 9:46:11 AM
OPERATOR = mitchell

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	49	211
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	
* 2005-008F Contract #62580				

SHEET NO. 9
9 SHEETS

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_1$
(Tension in kips)
 - ② Minimum *Pull-out Strength = $1.25 \times f_{s_{allow}} \times A_1$
(Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_1 = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

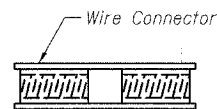
Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



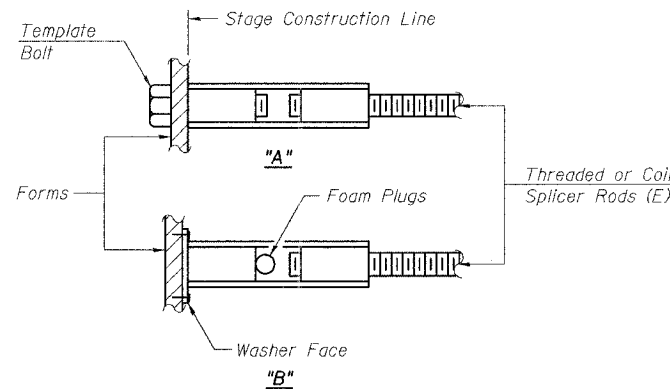
** ONE PIECE



WELDED SECTIONS

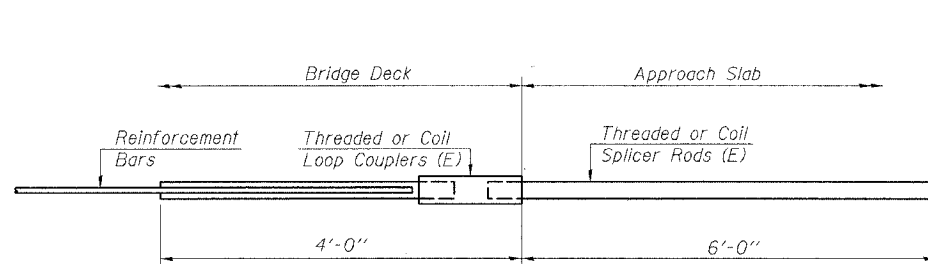
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



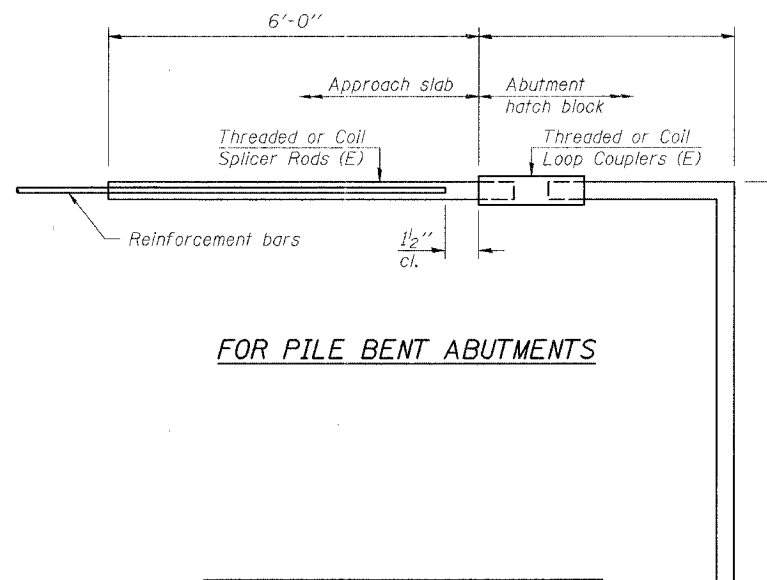
INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E): Indicates epoxy coating.



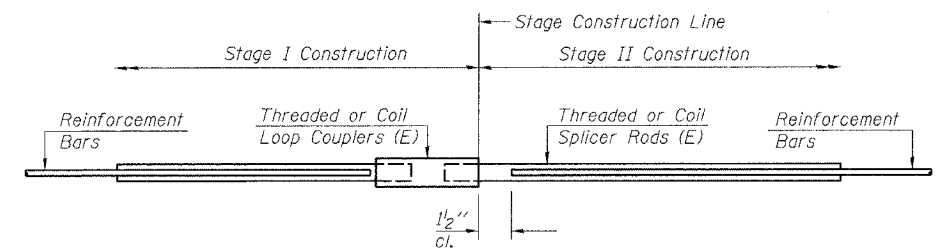
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	48	Deck

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER 1

SCALE: VERT. _____
HORIZ. _____
DATE: 3/22/05
DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: _____
COMPUTER FILE NO.
04286-W01-NB-BS0
PROJECT 04286-W01
8/3/05-MML

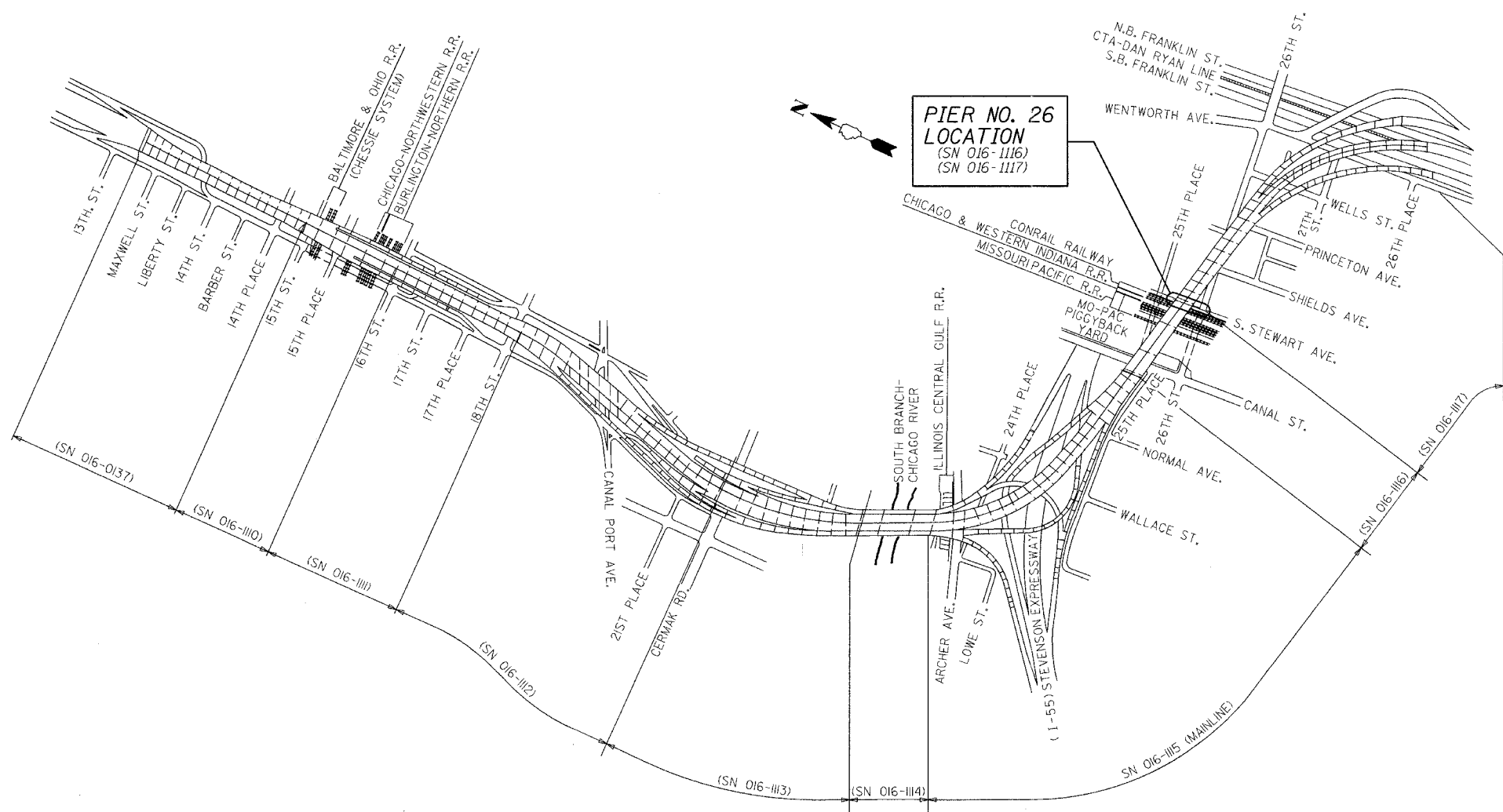


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OPERATOR = mitchell

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FA1 90/94	SECTION #	COUNTY COOK	SHEETS 419	POST 212	SHEET NO. 1 8 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

* 2005 - 008F
Contract #62580



GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{13}{16}$ " ϕ , unless otherwise noted.

Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.

The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.

Field welding of construction accessories will not be permitted to beams or girders.

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

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 for the work.

Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

All Construction joints shall be bonded.

Existing design and fabrication plans are available upon request.

All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 32,260 lbs.

Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint.

Joint openings shall be adjusted according to Article 503.10(c) of the standard specifications when the deck is poured at an ambient temperature other than 50°F.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.

KEY PLAN
DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

DESIGN STRESSES

f'_c = 3500 psi
 f_y = 60,000 psi (Reinf)
 f_y = 50,000 psi (M270 Grade 50)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	15.3
Concrete Superstructure	Cu Yd	18.3
Erecting Structural Steel	L.S.	0.12
Reinforcement Bars, Epoxy Coated	Pound	2500
Mechanical Splice	Each	130
Bar Splicers	Each	24
Erecting Fabric Reinforced Elastomeric Trough	Foot	68



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PLOT DATE = 8/3/2005
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OPERATOR = michelel

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
KEY PLAN
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. _____
HORIZ. _____
DATE: 2/17/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: _____

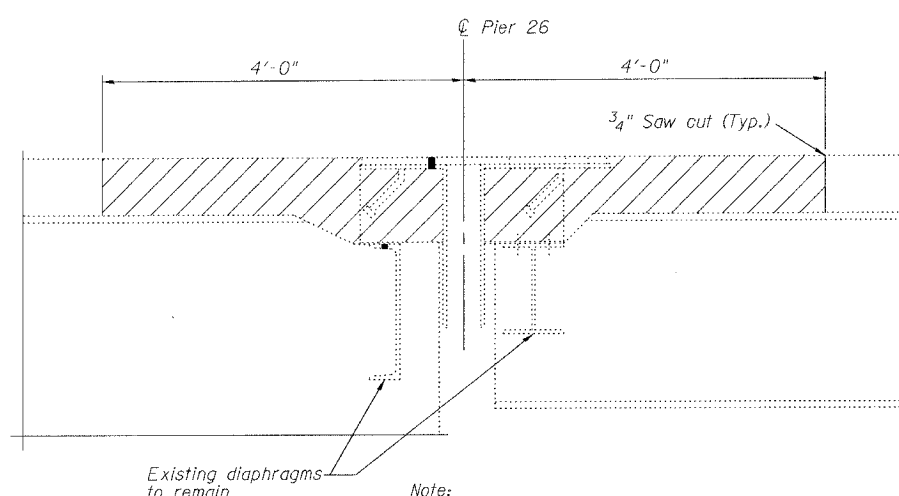
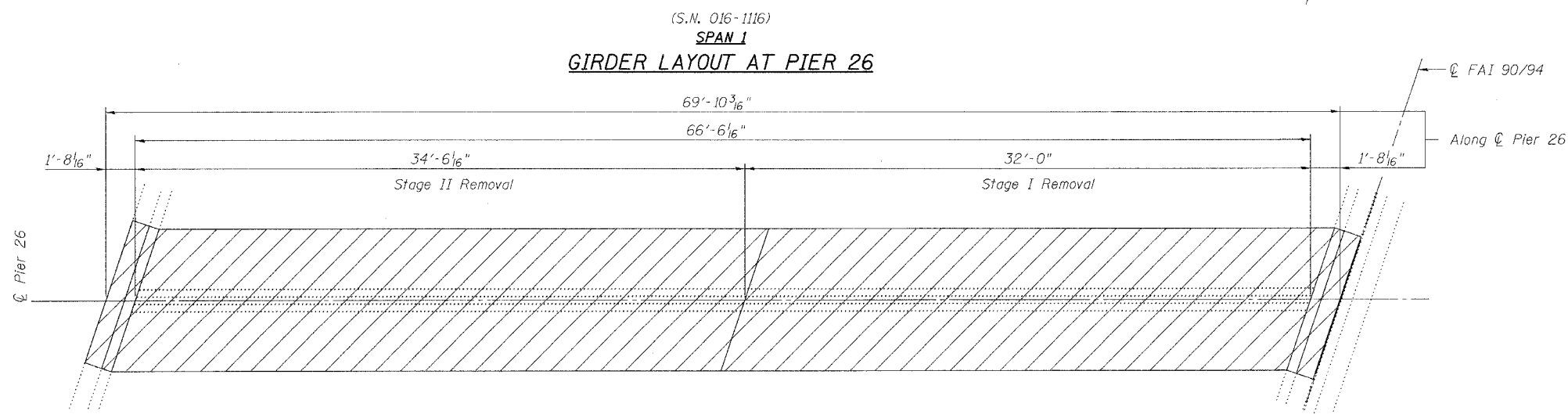
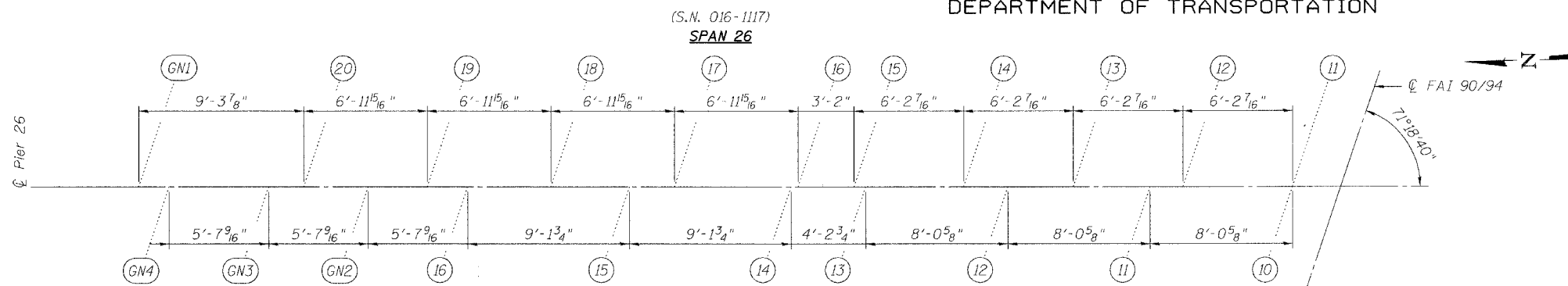
GREENE & BRADFORD, INC.
OF SPRINGFIELD
PROFESSIONAL ENGINEERS AND ARCHITECTS
CORPORATION
1100 N. WASHINGTON ST., SUITE 200
SPRINGFIELD, ILLINOIS 62761
TEL: 217-223-4327 FAX: 217-223-4328

COMPUTER FILE NO.
04286-W03-KEY
PROJECT 04286-W03
8/3/05-MML

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
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FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 2005 - 008F Contract #62580				

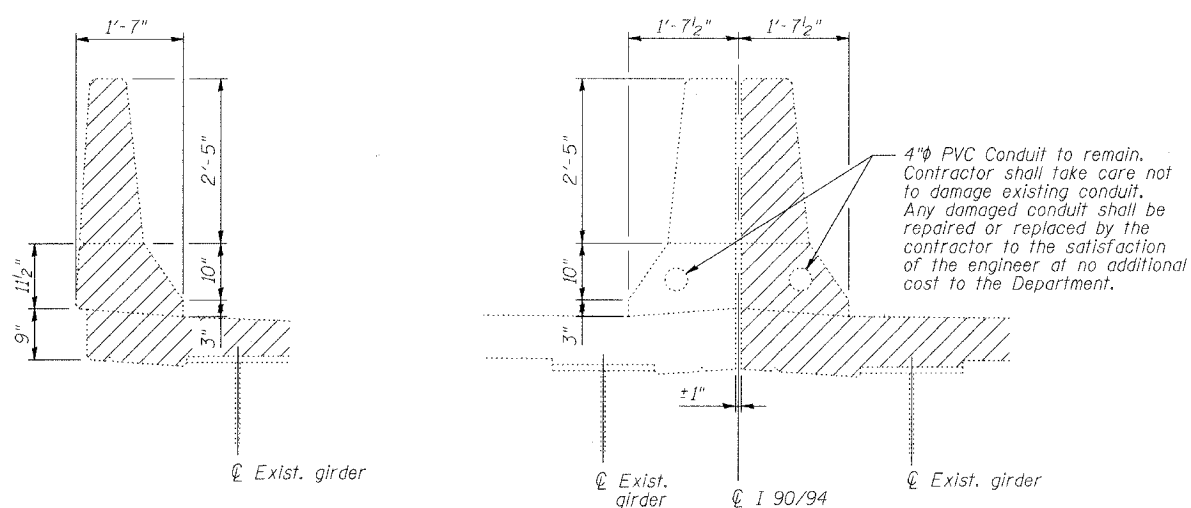
SHEET NO. 2
8 SHEETS



Note:
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".
Existing finger plates, stools, drainage trough and hardware shall be removed. Cost included with "Concrete Removal".

SECTION AT EXISTING FINGER PLATE
(Dimensions at Rt. L's)

JOINT REMOVAL PLAN AT PIER 26



DETAIL AT EXISTING OUTSIDE PARAPET
(Dimensions at Rt. L's)

DETAIL AT EXISTING C FAI 90/94 MEDIAN PARAPET
(Dimensions at Rt. L's)

Notes:
Hatched Area indicates "Concrete Removal".
Existing transverse bars in the deck are placed at right angles to C Roadway. Existing transverse bars extending into removal areas shall be cut to miss the new finger joint, cleaned and incorporated into the new construction.
Longitudinal reinforcement extending into removal areas shall be cleaned, straightened and incorporated into the new construction except as noted on Section A-A on Sheet 5.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE EXPANSION JOINT REMOVAL DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. _____
DATE: 2/17/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: _____

COMPUTER FILE NO.
04286-W03-REM
PROJECT 04286-W03
8/3/05-MML

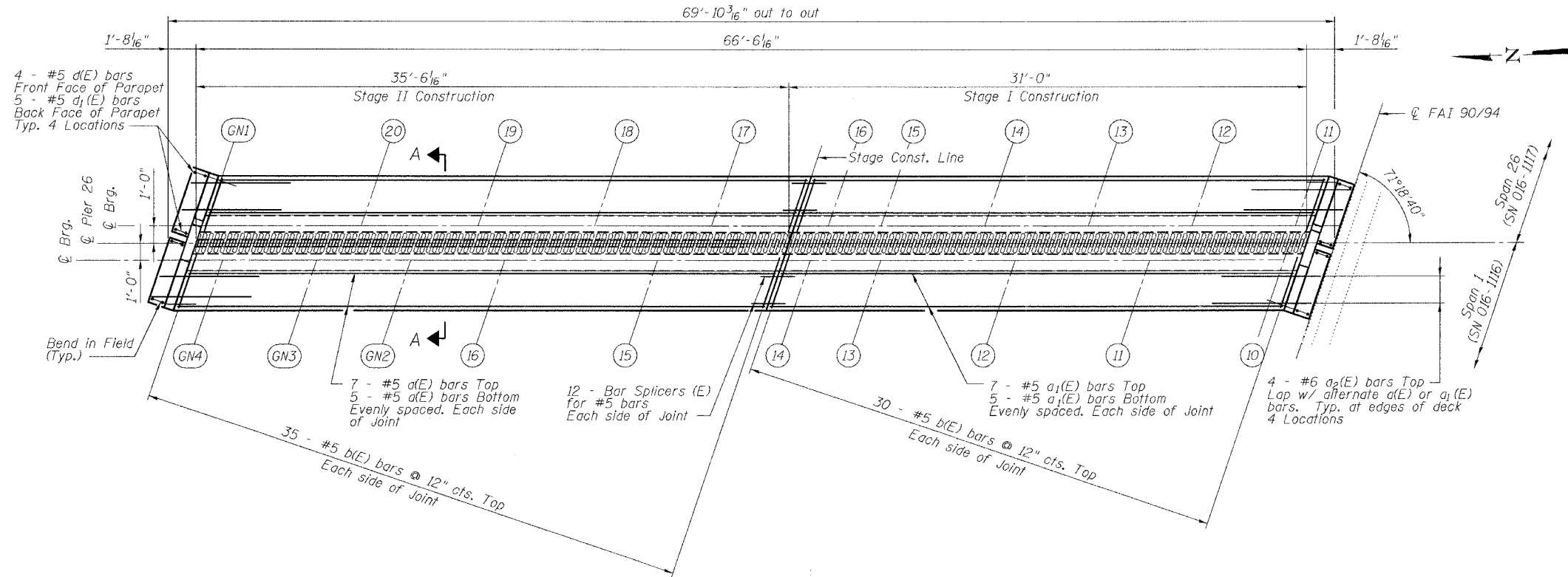
GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONCRETE REPAIRS
CONCRETE REPAIRS
PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER

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OPERATOR = michelle

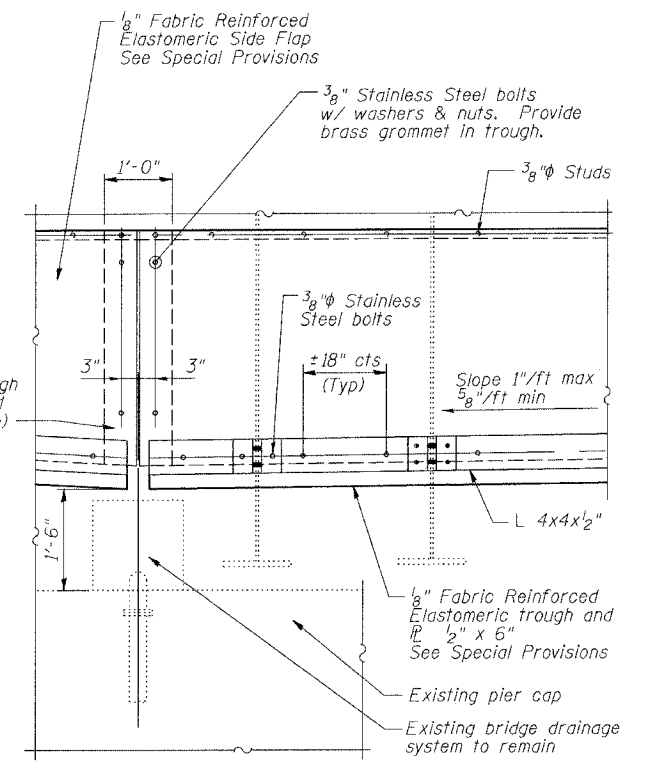
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
FAI 90/94	*	COOK	419	214	8 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

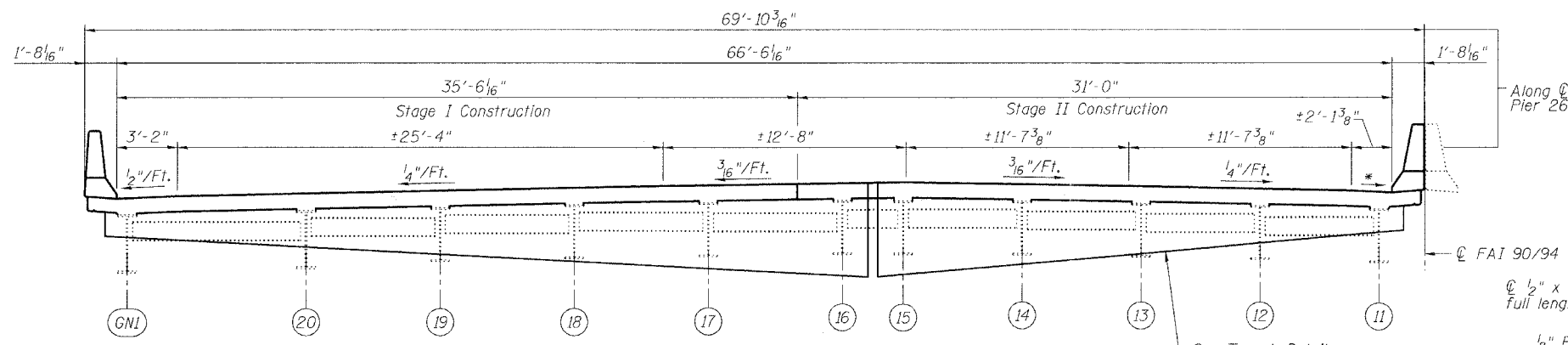
* 2005 - 008F
Contract #62580



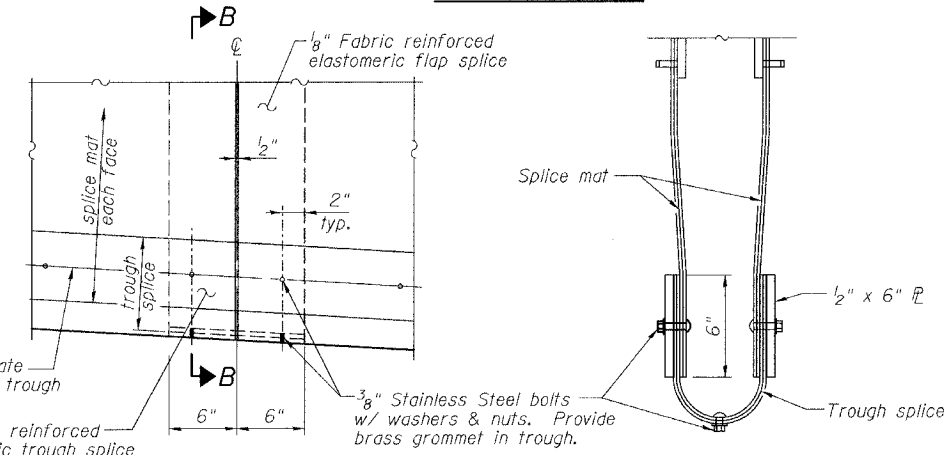
JOINT RECONSTRUCTION PLAN



TROUGH DETAIL



ELEVATION (LOOKING EAST)
(Showing Span 26 Configuration)



TROUGH SPLICE DETAIL

SECTION B-B

Notes:

1. For Parapet Details and Superstructure Bill of Material, see Sheet 5 of 8.
2. For Section A-A, see Sheet 4 of 8.
3. Deck cross slopes shown are at right angles to CL Rdwy.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 26 JOINT DETAILS

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. _____
HORIZ. _____
DATE: 2/17/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: _____

GREENE & BRADFORD, INC.
CONSULTING ENGINEERS
OF SPRINGFIELD

COMPUTER FILE NO.
04286-W03-PJ1

PROJECT 04286-W03
8/3/05-MML

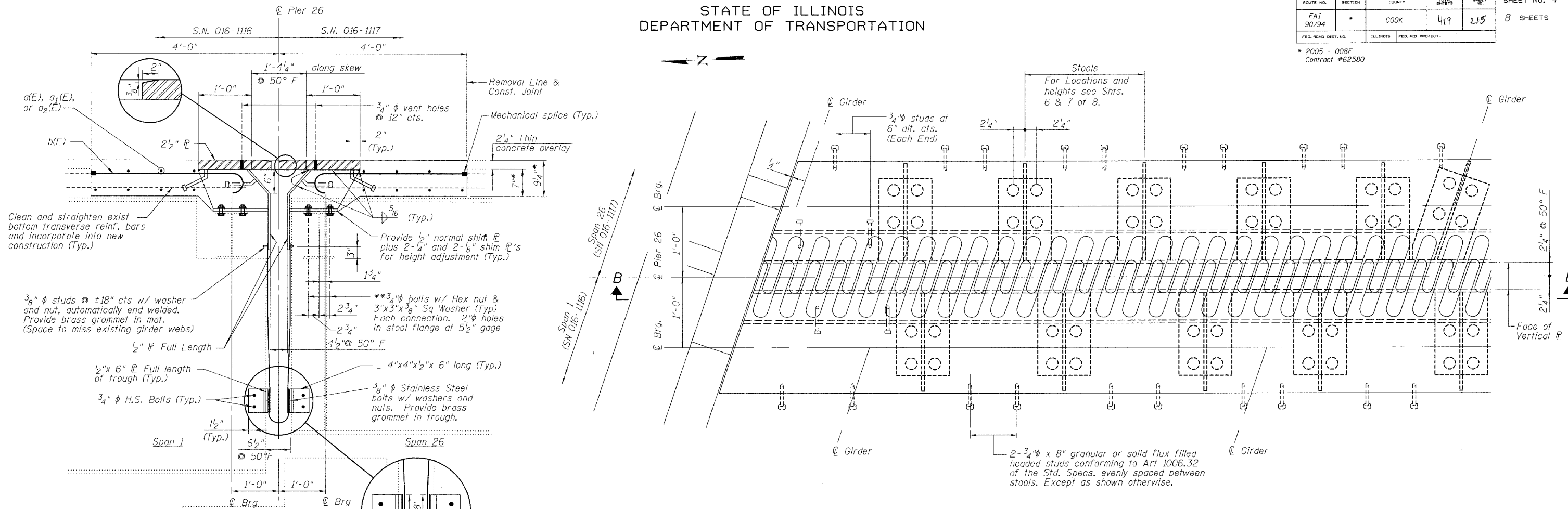
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OPERATOR = michellel

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	ISIRI SHEETS	SHEET NO.
FA1 90/94	*	COOK	419	215
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 2005 - 008F
Contract #62580

SHEET NO. 4
8 SHEETS



Clean and straighten exist bottom transverse reinf. bars and incorporate into new construction (Typ.)

3/8" φ studs @ ±18" cts w/ washer and nut, automatically end welded. Provide brass grommet in mat. (Space to miss existing girder webs)

1/2" x 6" R Full length of trough (Typ.)

3/4" φ H.S. Bolts (Typ.)

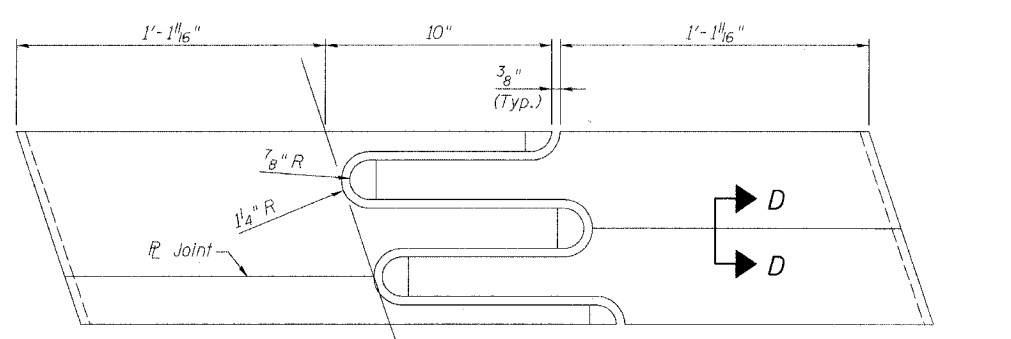
* Includes 1/2" deck scarification
** Field drill 13/16" φ holes in existing girder top flanges using holes in new stools as a template. (Span 26 - S.N. 016-1117 Only) Cost included in "Erecting Structural Steel."

SECTION A-A

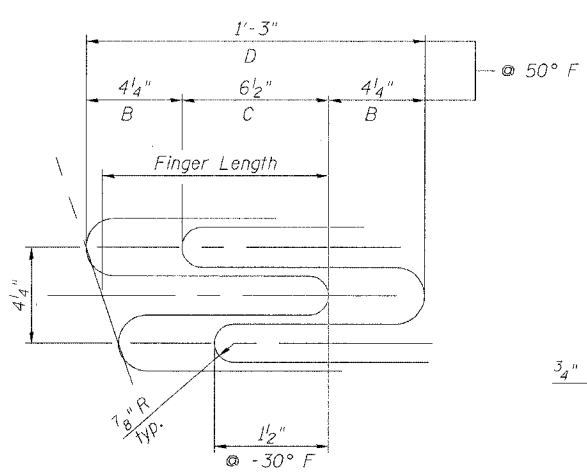
PLAN

NOTES

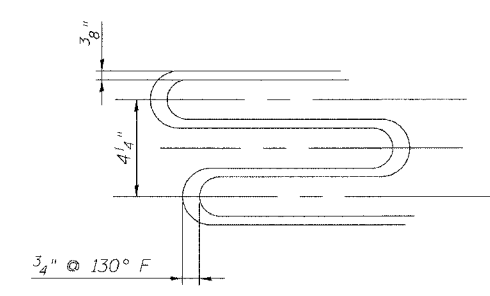
1. The Contractor shall bolt the Stools of the Fingerplate Joint Assembly to the top of existing girders on the Span 26 side only, as shown.
2. Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
3. The installation of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Erecting Structural Steel."
4. For Section B-B, see Sheet 5 of 8.



FLAME CUTTING DIAGRAM
(Proposed Finger R - Cut from 2 1/2" x 2'-11 3/4" R)



FINGER DETAIL
Finger Length = 10"
Weld Length = 12"
Weld Size = 5/16"
Expansion Length = 567.1"



SECTION D-D

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 26 JOINT DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. _____
HORIZ. _____
DATE: 2/17/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: _____

COMPUTER FILE NO.
04286-W03-FPJ

PROJECT 04286-W03
8/3/05-MML

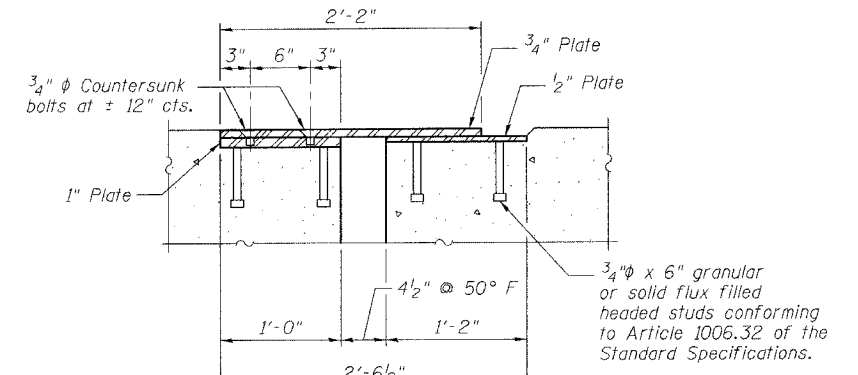
GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
PROFESSIONAL DESIGN FIRM NO. 04-00000
REGISTERED IN ILLINOIS PROFESSIONAL CORPORATION
CIR. 190-8844, 1200 W. 192nd St., C. 800-450-0000

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PLOT DATE = 8/21/2005
PLOT TIME = 9:46:20 AM
OPERATOR = michellel

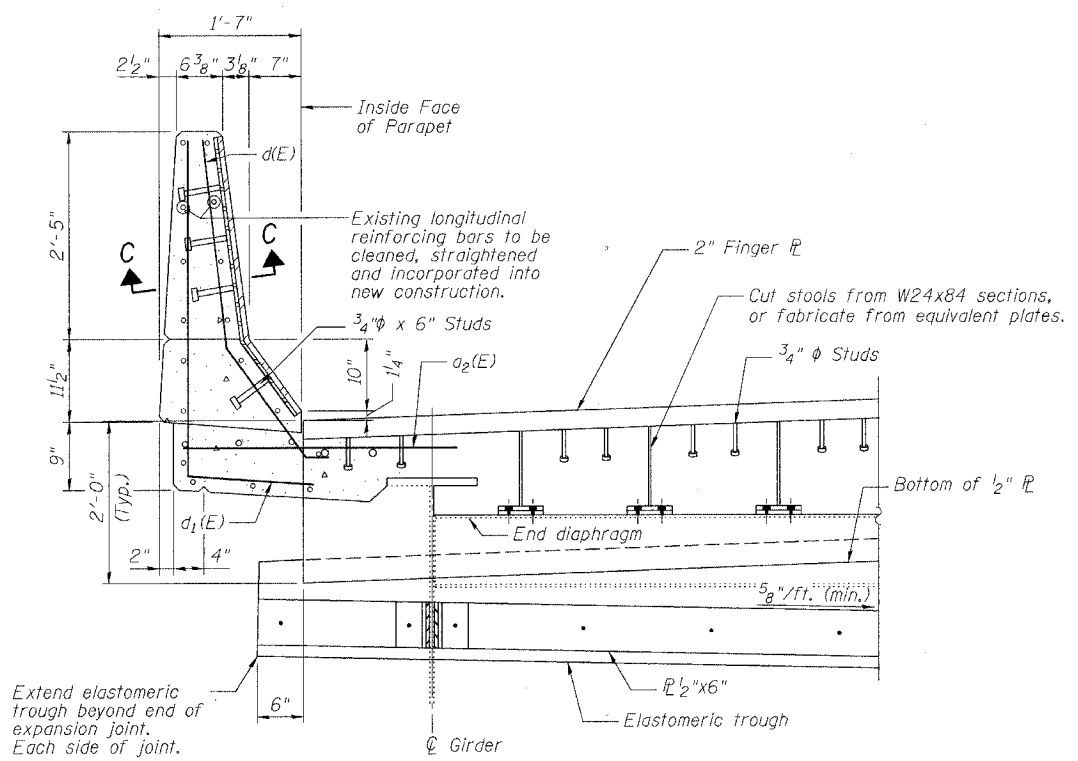
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION #	COUNTY COOK	SHEET NO. 419	SHEET NO. 216	SHEET NO. 5 8 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

* 2005 - 008F
Contract #62580

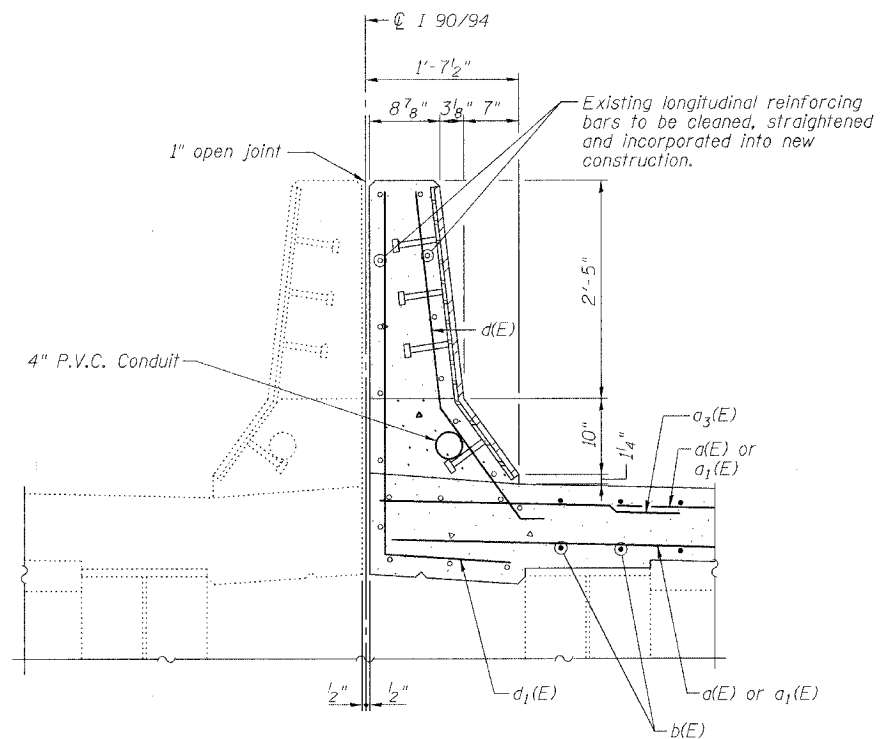


SECTION C-C



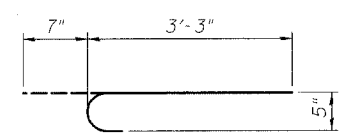
SECTION B-B

(For location of Section B-B, See Sheet 4 of 8)

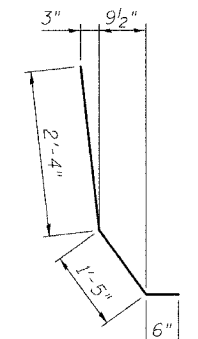


DETAIL AT MEDIAN PARAPET

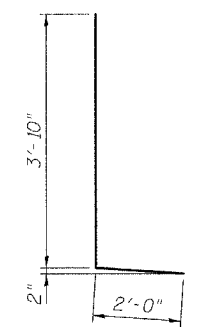
(Looking East)



BAR b(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	24	#5	34'-10"	—
a1(E)	24	#5	32'-4"	—
a2(E)	16	#6	4'-6"	—
b(E)	130	#5	3'-10"	┌
d1(E)	16	#5	4'-3"	┌
d1(E)	20	#5	5'-10"	┌
Reinforcement Bars, Epoxy Coated			Pound	2500
Concrete Superstructure			Cu. Yd.	18.3
Concrete Removal			Cu. Yd.	15.3
Bar Splicers			Each	24
Mechanical Splice			Each	130

Reinforcing bars designated (E) shall be epoxy coated.
Bars indicated thus 1x2- #5 etc. indicates 1 line of bars with 2 lengths per line.

ILLINOIS DEPARTMENT OF TRANSPORTATION
PARAPET DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

REVISIONS	
NAME	DATE

SCALE: VERT. DRAWN BY: HEBERLING
HORIZ. DESIGNED BY: SANFORD
DATE: 2/17/05 CHECKED BY: -
COMPUTER FILE NO. 04286-W03-PD
PROJECT 04286-W03
8/3/05-MML



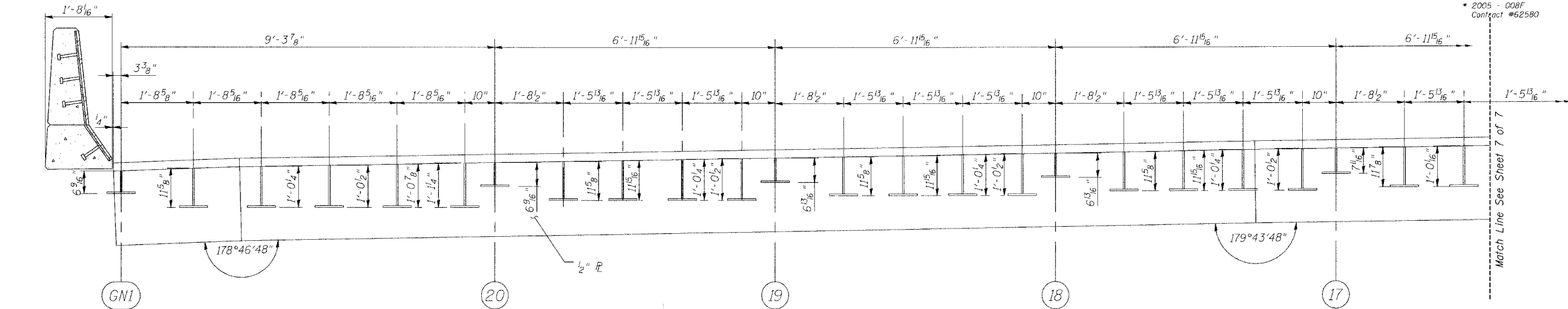
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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FAI 90/94	*	COOK	419	217
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

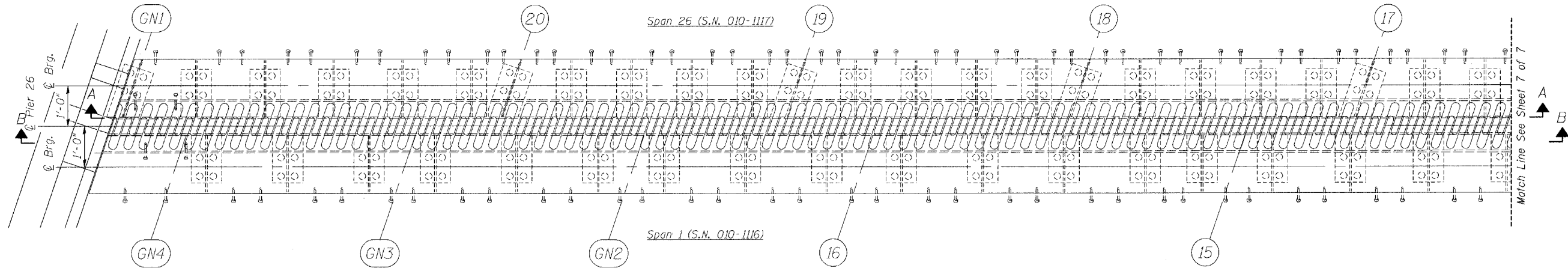
SHEET NO. 6
8 SHEETS

* 2005 - 008F
Contract #62580

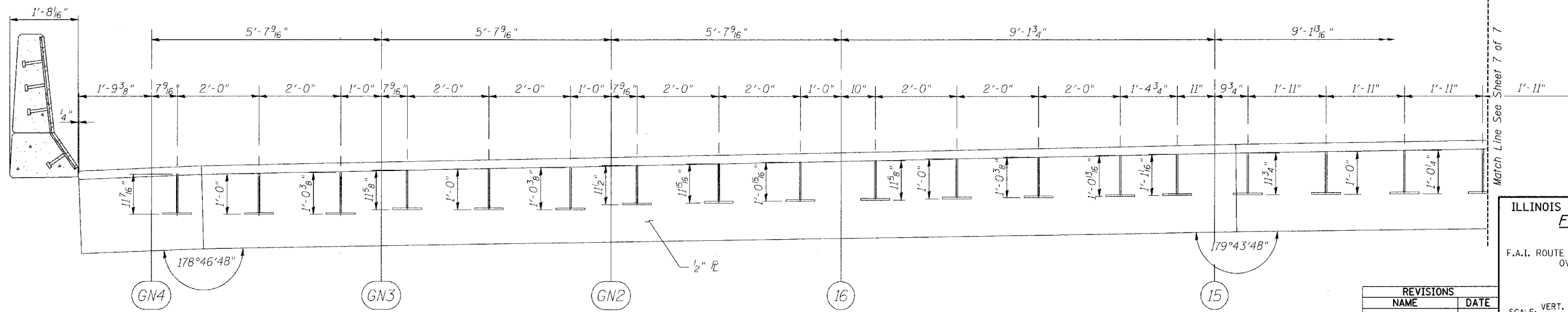


SECTION A-A

(Spacing along Face of 1/2" Vert. R)



PLAN OF FINGER R AT PIER 26 (NORTHBOUND)



SECTION B-B

(Spacing along Face of 1/2" Vert. R)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**FINGER PLATE PLAN
AND ELEVATION**
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. DRAWN BY: HEBERLING
HORIZ. DESIGNED BY: SANFORD
DATE: 2/17/05 CHECKED BY: -

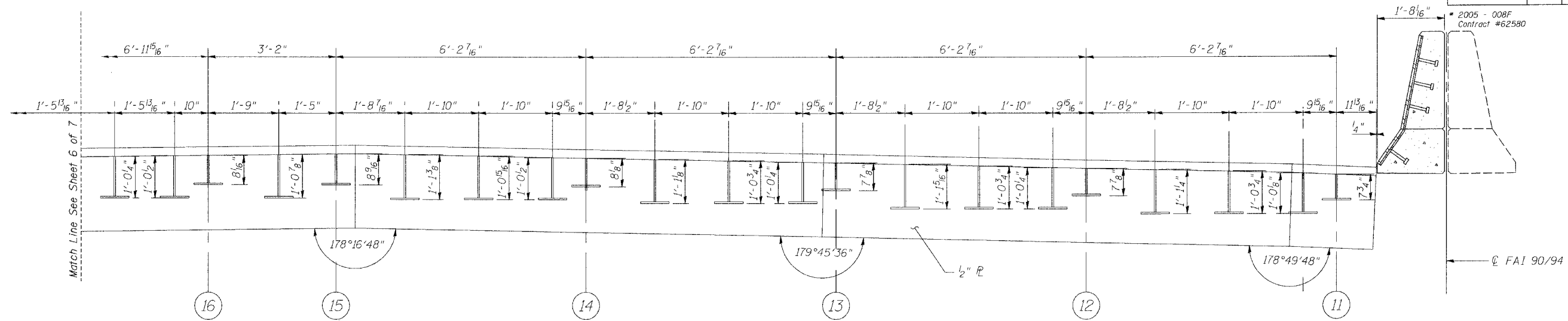
GREENE & BRADFORD, INC.
CONSULTING ENGINEERS
AND ARCHITECTS
PROFESSIONAL ENGINEERING CORPORATION
201 110 844, 100 7th St. St. Louis, MO 63102-1100
COMPUTER FILE NO. 04286-W03-PE1
PROJECT 04286-W03
8/3/05-MML

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

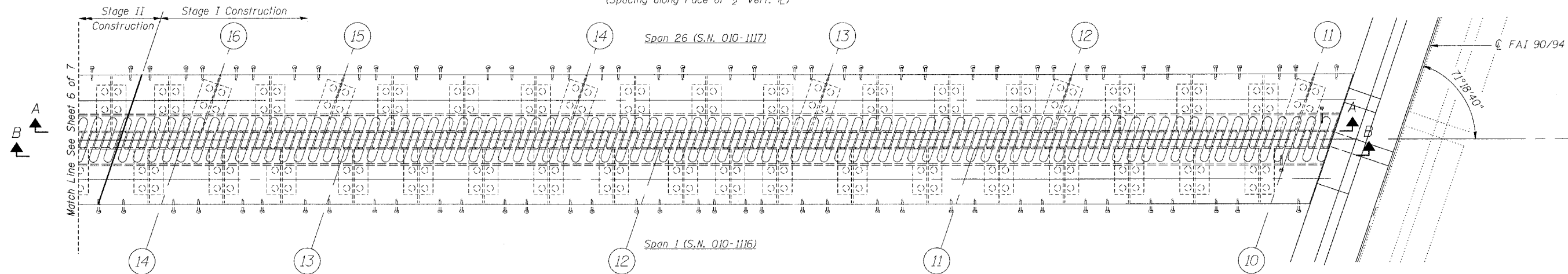
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FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 7
8 SHEETS

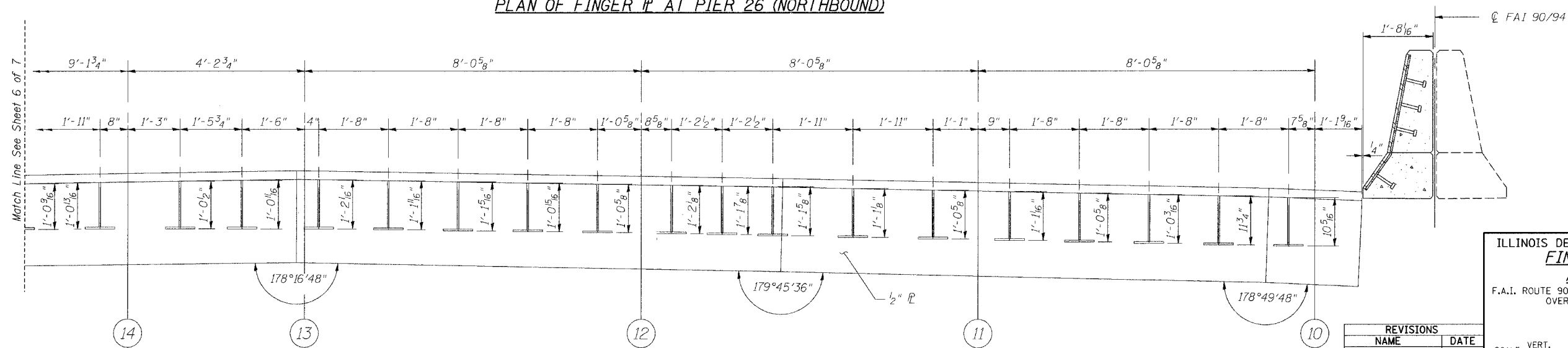


SECTION A-A

(Spacing along Face of 1/2" Vert. R)



PLAN OF FINGER P AT PIER 26 (NORTHBOUND)



SECTION B-B

(Spacing along Face of 1/2" Vert. R)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT.
HORIZ.
DATE: 2/17/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY:

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
INCORPORATED
1100 SOUTH STATE STREET
SPRINGFIELD, ILLINOIS 62761
TEL: 217-223-1100 FAX: 217-223-1101
WWW.GREENE-AND-BRADFORD.COM

COMPUTER FILE NO.
04286-W03-PE1
PROJECT 04286-W03
8/3/05-MML

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FA1 90/94	SECTION *	COUNTY COOK	SHEET NO. 219	SHEET NO. 8
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

* 2005 - 008F
Contract #62580

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_s$
(Tension in kips)
- ② Minimum *Pull-out Strength = $1.25 \times f_{sallow} \times A_s$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 f_{sallow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_s = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



** ONE PIECE

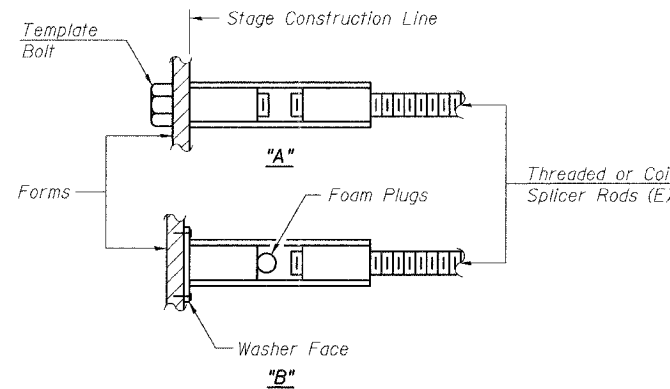
Wire Connector



WELDED SECTIONS

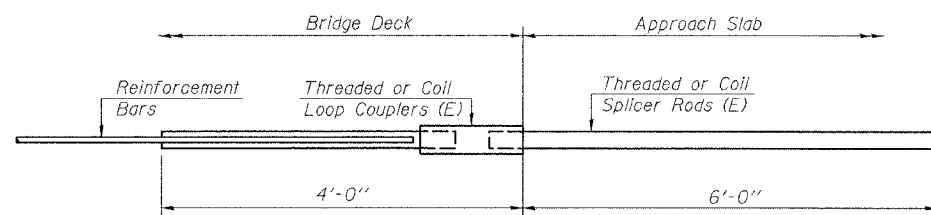
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



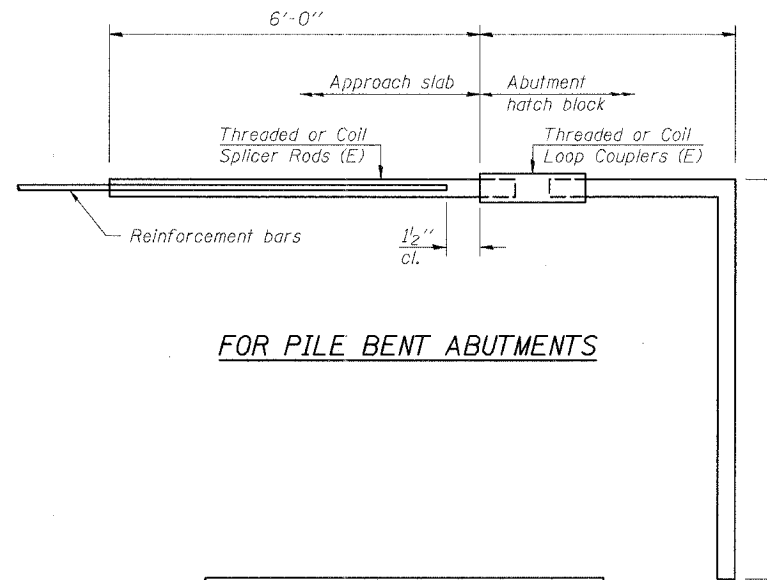
INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E): Indicates epoxy coating.



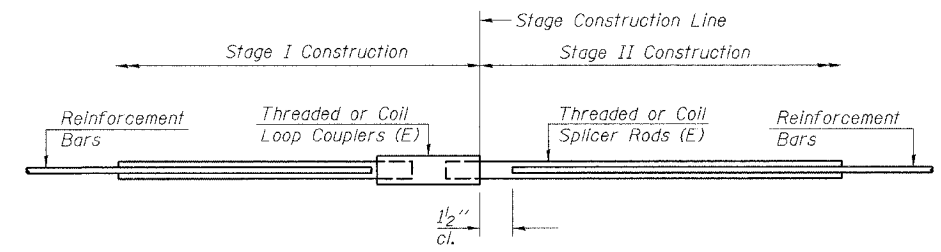
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	24	Deck

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER 28th ST. TO S. STEWART ST.
COOK COUNTY
S.N. 016-1117 - PIER 26

SCALE: VERT. _____
HORIZ. _____
DATE: 2/17/05
DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: _____

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
PROFESSIONAL ENGINEER NO. 042866
REGISTERED PROFESSIONAL ENGINEER
1001 N. WASHINGTON ST., SUITE 200, SPRINGFIELD, ILL. 62762
TEL: 217-223-1111 FAX: 217-223-1112 WWW.GRENE-AND-BRADFORD.COM

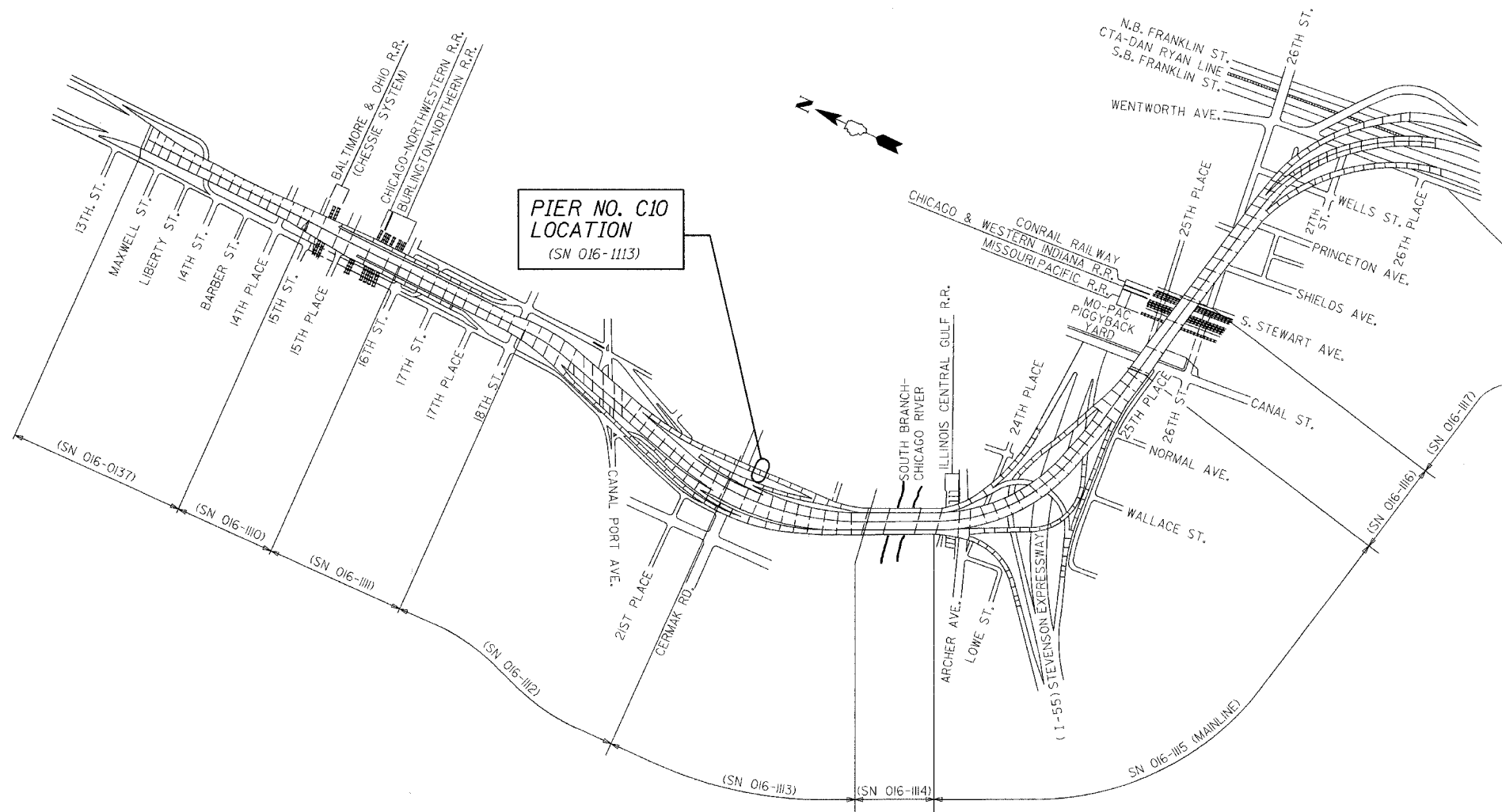
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04286-W03-BSD
PROJECT 04286-W03
8/3/05-MML

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FA1 90/94	4	COOK	419	226
FED. ROAD DIST. NO.	ILLINOIS		FED. AID PROJECT	

SHEET NO. 1
8 SHEETS

* 2005 - 008F
Contract #62580



PIER NO. C10
LOCATION
(SN 016-1113)

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{13}{16}$ " ϕ , unless otherwise noted.
Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.
The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.
Field welding of construction accessories will not be permitted to beams or girders.
Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.
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 for the work.
Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
All Construction joints shall be bonded.
Existing design and fabrication plans are available upon request.
All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 14,440 lbs.
Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint.
Joint openings shall be adjusted according to Article 503.10(c) of the standard specifications when the deck is poured at an ambient temperature other than 50°F.
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.

KEY PLAN
DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

DESIGN STRESSES

f'_c = 3500 psi
 f_y = 60,000 psi (Reinf)
 f_y = 50,000 psi (M270 Grade 50)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	9.4
Concrete Superstructure	Cu Yd	11.2
Erecting Structural Steel	L.S.	0.05
Reinforcement Bars, Epoxy Coated	Pound	1600
Mechanical Splice	Each	80
Bar Splicers	Each	24
Erecting Fabric Reinforced Elastomeric Trough	Foot	39



Expires: 11/30/06

8-3-05

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
KEY PLAN
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER C10

SCALE: VERT.
HORIZ.
DATE: 2/17/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: -

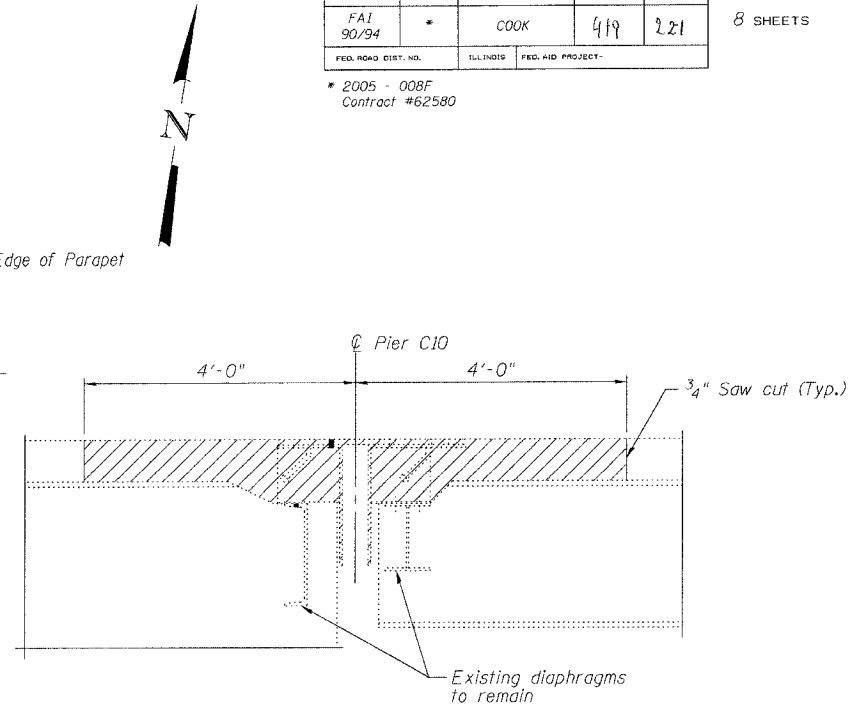
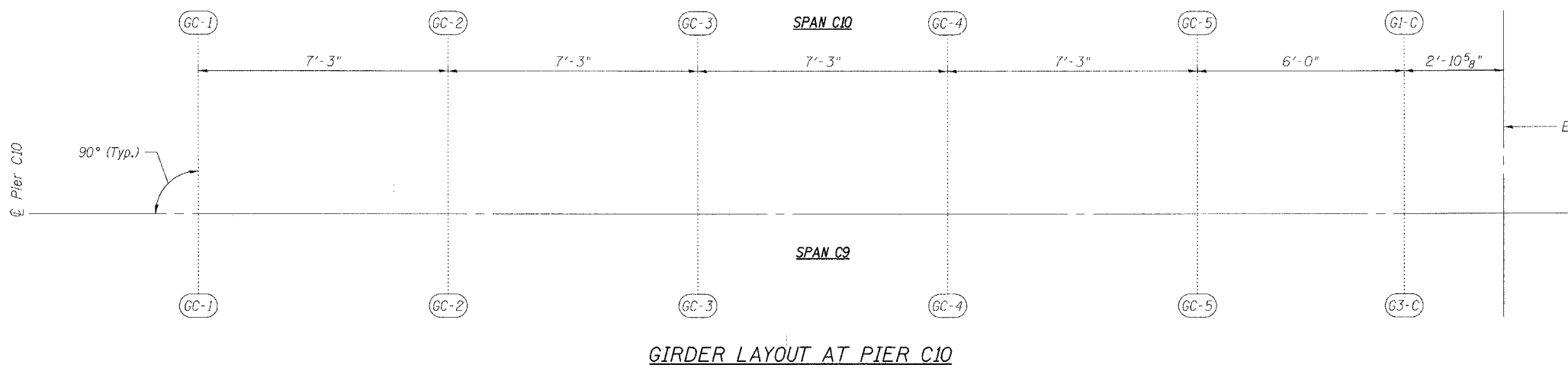
GREENE & BRADFORD, INC.
OF SPRINGFIELD
REGISTERED PROFESSIONAL ENGINEERS
ILLINOIS LICENSE NO. 081-005468
PROFESSIONAL & STRUCTURAL DESIGN CORPORATION
1001 E. MAIN ST. SUITE 1000, SPRINGFIELD, ILLINOIS 62761-1000

COMPUTER FILE NO.
04286-W04-KEY
PROJECT 04286-W04
8/3/05-MML

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

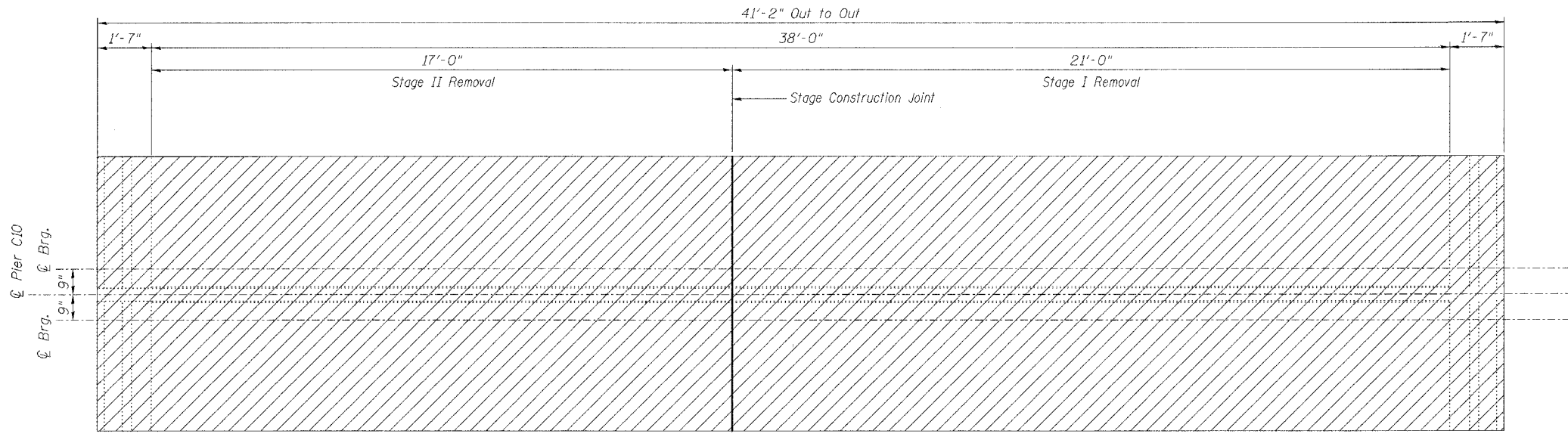
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FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

* 2005 - 008F
Contract #62580

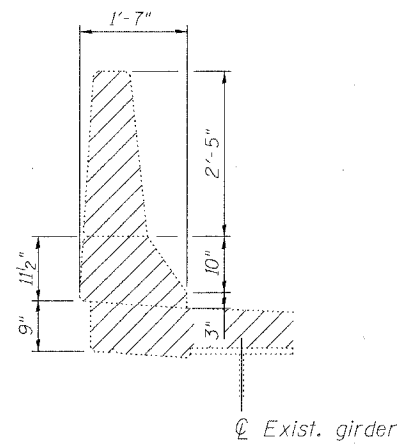


Note:
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".
Existing finger plates, stools, drainage trough and hardware shall be removed. Cost included with "Concrete Removal".

SECTION AT EXISTING FINGER PLATE



JOINT REMOVAL PLAN AT PIER C10



DETAIL AT EXISTING OUTSIDE PARAPET

Notes:
Hatched Area indicates "Concrete Removal".
Longitudinal reinforcement extending into removal areas shall be cleaned, straightened and incorporated into the new construction except as noted on Section A-A on Sheet 4.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE EXPANSION JOINT REMOVAL DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER C10

SCALE: VERT. _____
HORIZ. _____
DATE: 2/17/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: _____

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PROJECT 04286-W04
8/3/05-MML

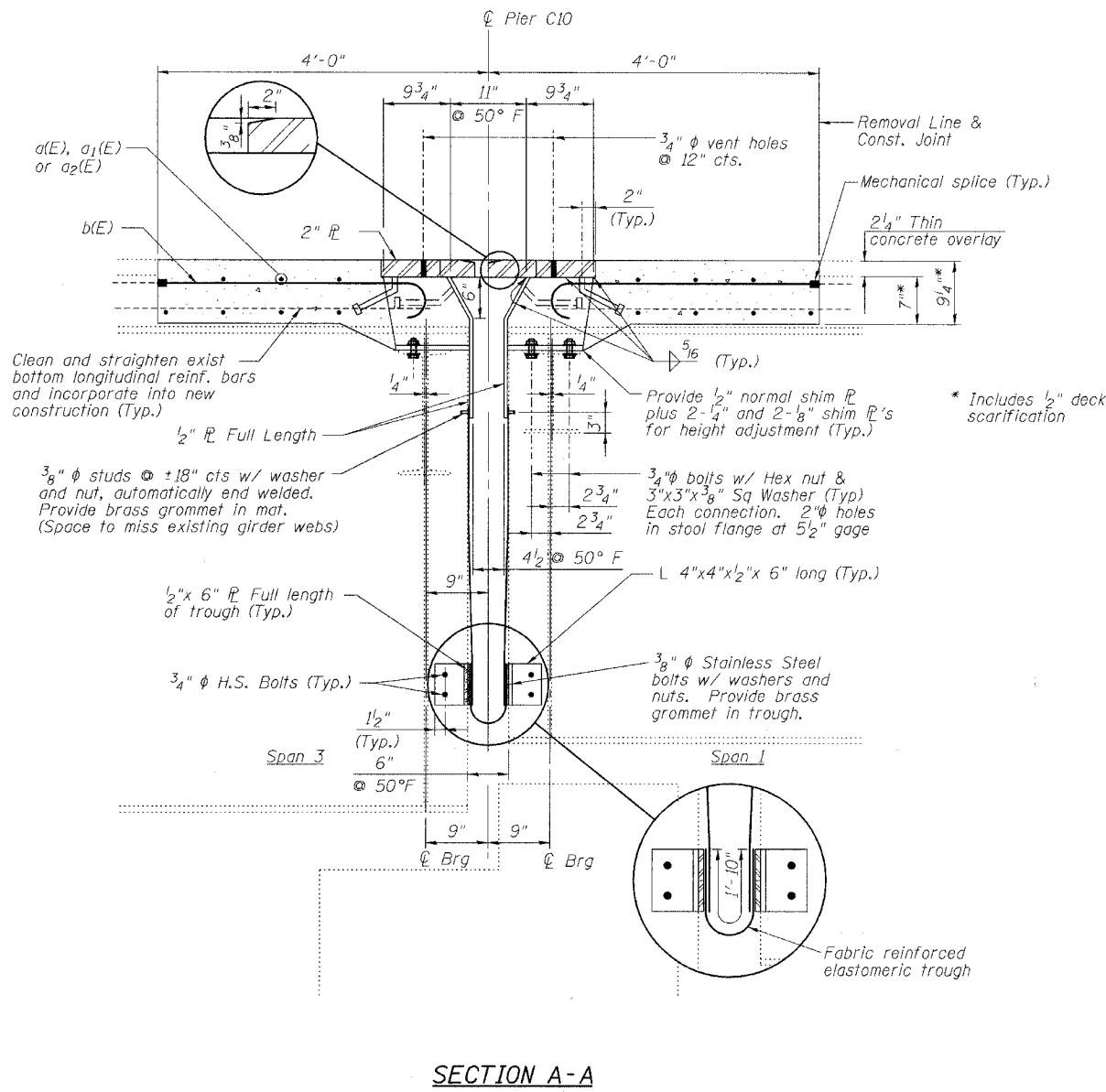
GREENE & BRADFORD, INC.
CONSULTING ENGINEERS
OF SPRINGFIELD
PROFESSIONAL ENGINEER
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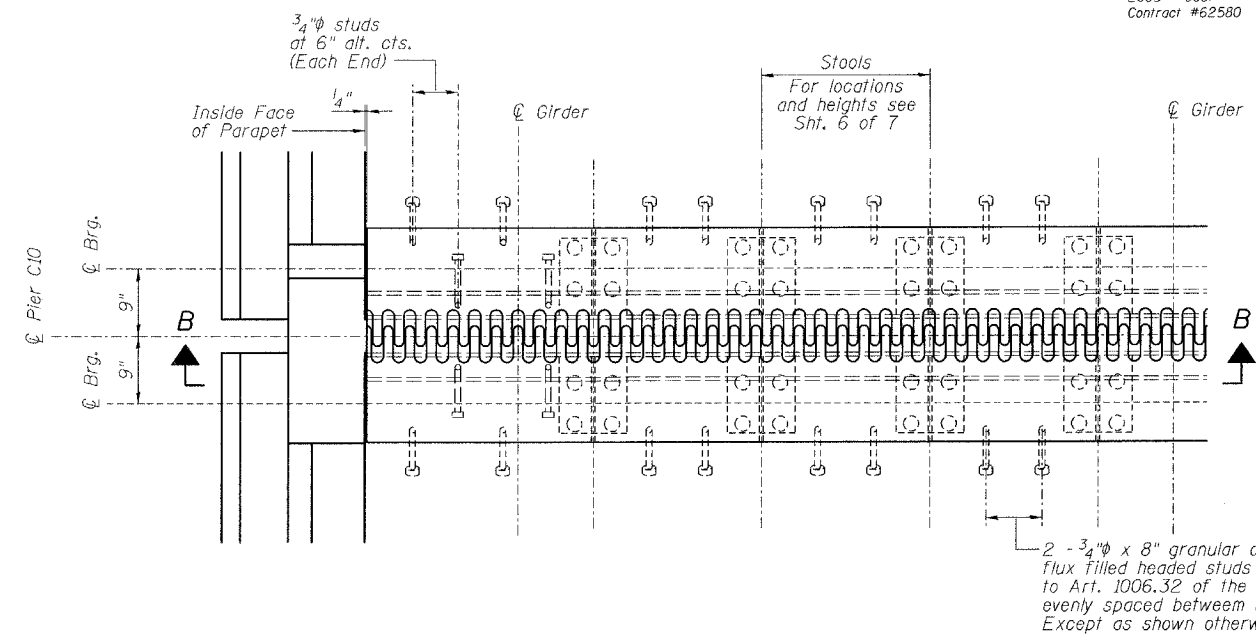
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

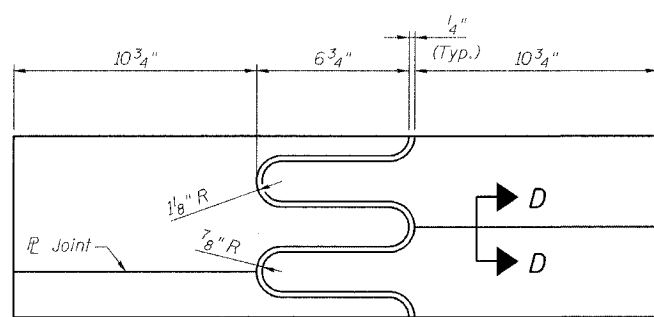
* 2005 - 008F
Contract #62580



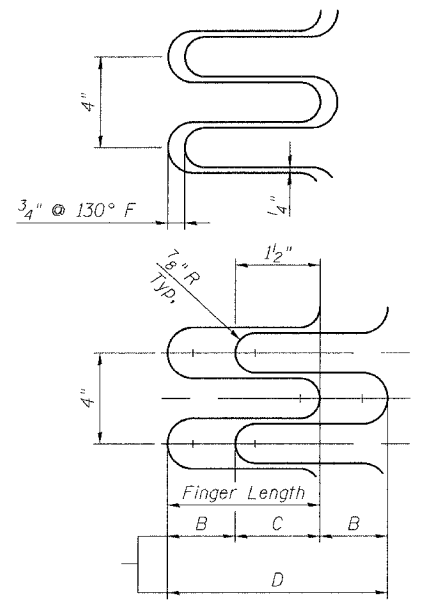
SECTION A-A



PLAN

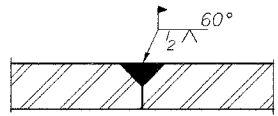


FLAME CUTTING DIAGRAM
(Proposed Finger \bar{r} - Cut from 2" x 2'-4 1/2" \bar{r})



FINGER DETAIL

Finger Length = 6 3/4"
Weld Length = 9 3/4"
Weld Size = 5/16"
Expansion length = 333.5'



SECTION D-D

NOTES

1. Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
2. The installation of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Erecting Structural Steel".
3. For Section B-B, see Sheet 5 of 9.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER C10 JOINT DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER C10

SCALE: VERT. _____
HORIZ. _____
DATE: 2/17/05

DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: _____

COMPUTER FILE NO.
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PROJECT 04286-W04
8/3/05-MML

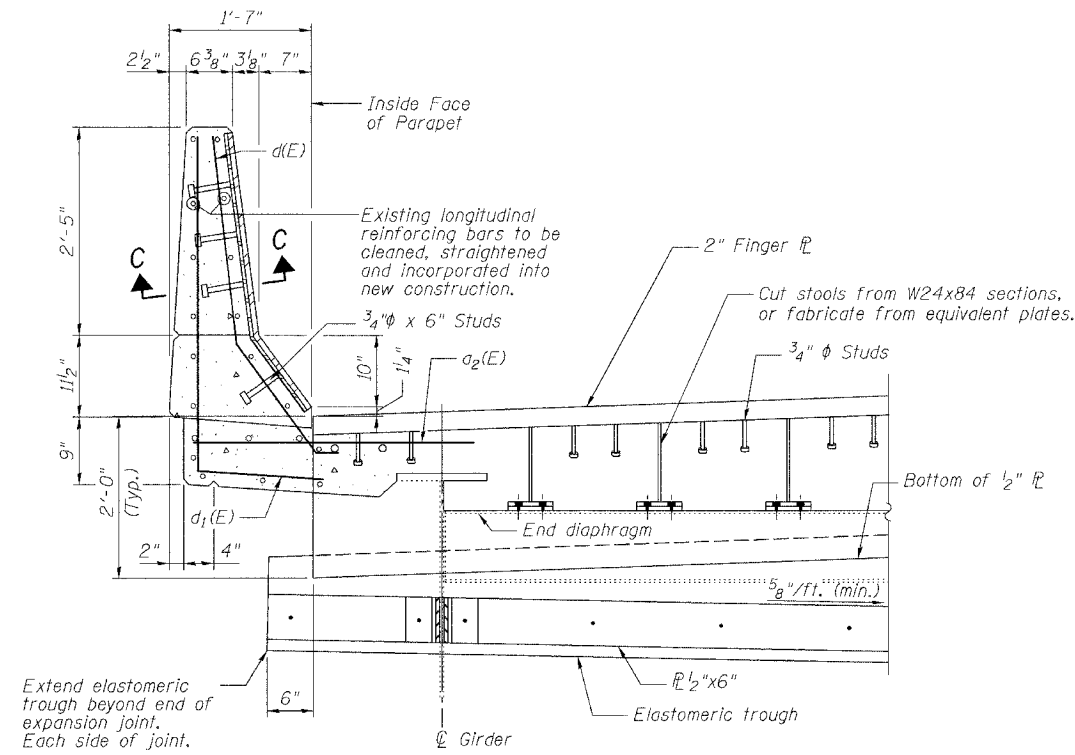
GREENE & BRADFORD, INC.
OF SPRINGFIELD
PROFESSIONAL ENGINEER
ILLINOIS LICENSE NO. 04286-0018
REGISTERED PROFESSIONAL ENGINEER
CORPORATION
200 N. 1ST ST., 12TH FLOOR, CHICAGO, IL 60601
TEL: 312.467.1200 FAX: 312.467.1201 WWW: www.greenegb.com

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OPERATOR = michellel

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

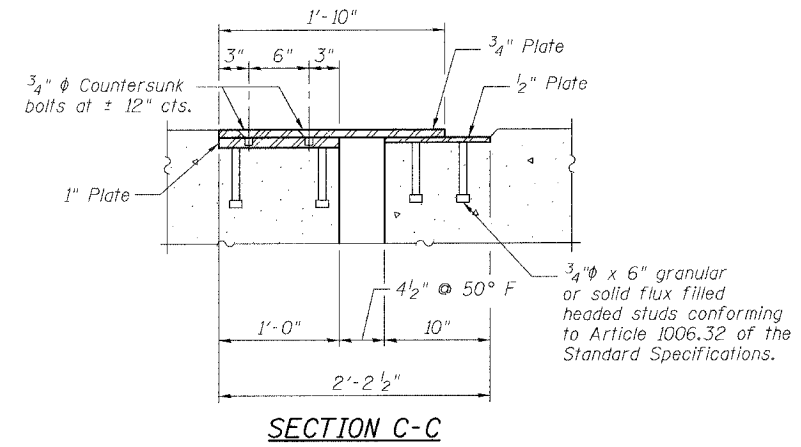
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FAI 90/94		COOK	419	224
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 2005 - 008F
Contract #62580

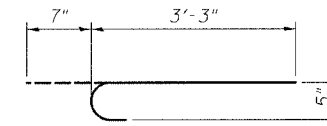


SECTION B-B

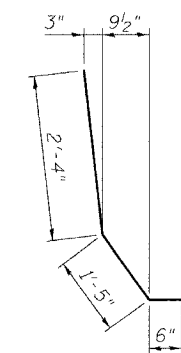
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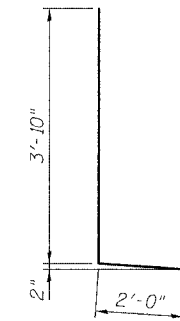
SECTION C-C



BAR b(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	24	#5	18'-6"	—
a1(E)	24	#5	20'-6"	—
a2(E)	16	#6	4'-6"	—
b(E)	80	#5	3'-10"	┌
d(E)	16	#5	4'-3"	└
d1(E)	20	#5	5'-10"	└
Reinforcement Bars, Epoxy Coated			Pound	1600
Concrete Superstructure			Cu. Yd.	11.2
Concrete Removal			Cu. Yd.	9.4
Bar Splicers			Each	24
Mechanical Splice			Each	80

Reinforcing bars designated (E) shall be epoxy coated.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PARAPET DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER C10

SCALE: VERT. DRAWN BY: HEBERLING
HORIZ. DESIGNED BY: SANFORD
DATE: 2/17/05 CHECKED BY:

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
AND ARCHITECTS
PROFESSIONAL ENGINEERS AND ARCHITECTS
1201 1/2 48th St., Springfield, IL 62761
TEL: 217-484-1200 FAX: 217-484-1201

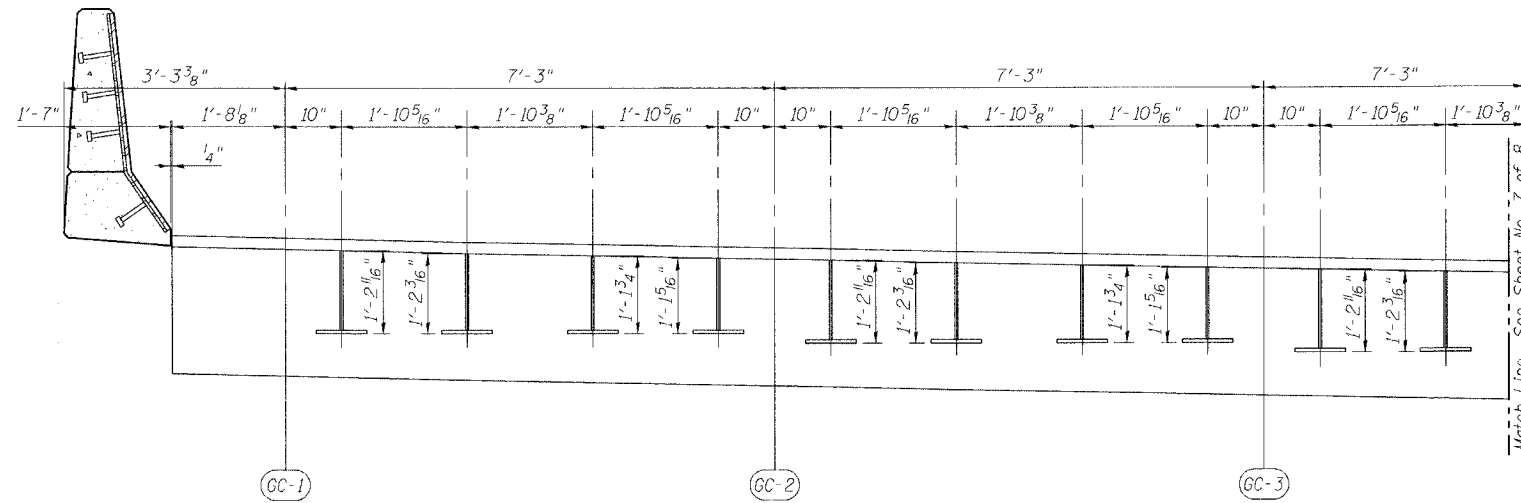
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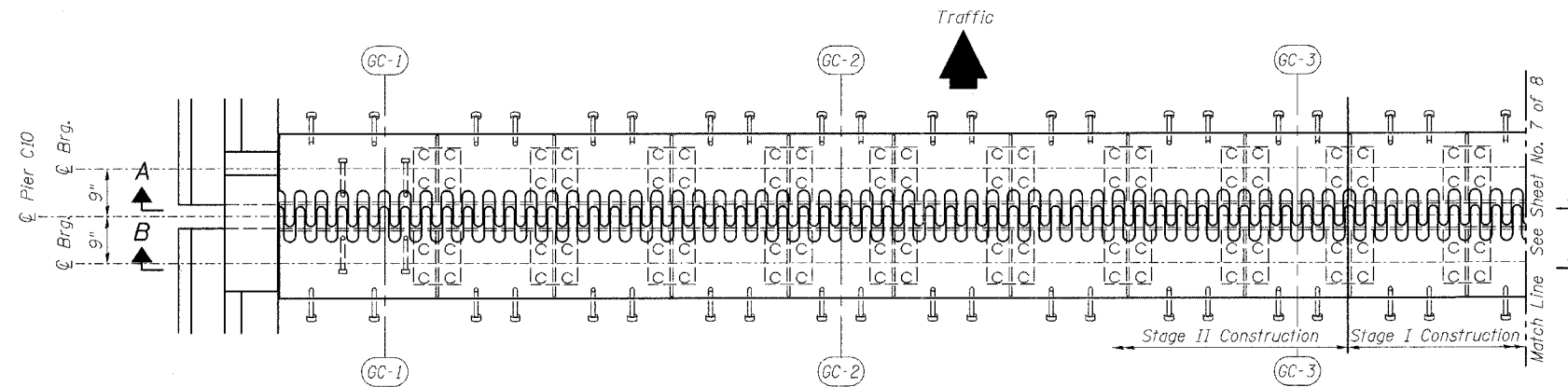
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION #	COUNTY COOK	SHEET NO. 419 225	SHEET NO. 6 8 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

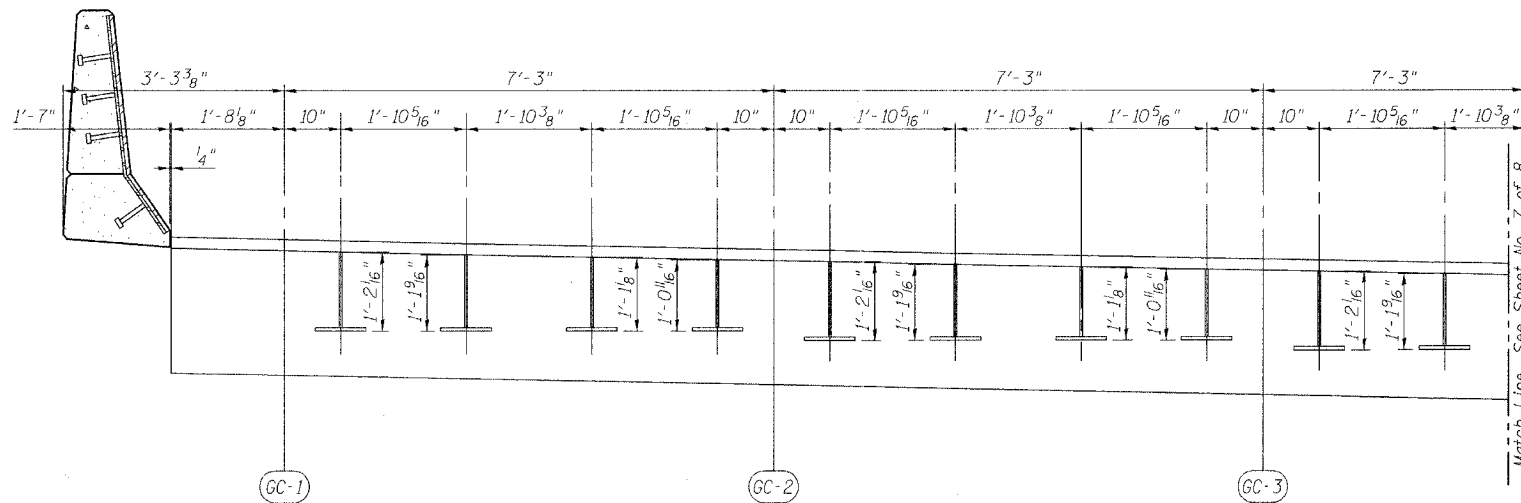
* 2005 - 008F
Contract #62580



SECTION A-A
(Dimensions are along \bar{C} Pier)



PLAN OF FINGER PLATE AT PIER 2



SECTION B-B
(Dimensions are along \bar{C} Pier)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER C10

SCALE: VERT. _____
HORIZ. _____
DATE: 2/17/05
DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY: _____
COMPUTER FILE NO. 04286-W04-PE1
PROJECT 04286-W04
8/3/05-MML

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
PROFESSIONAL ENGINEERS
REGISTERED IN ILLINOIS
1001 1/2 REAL GUY TOLSON BLDG. - CHICAGO, ILLINOIS 60604
TEL: 312.329.1100 FAX: 312.329.1101 WWW.GREENE-AND-BRADFORD.COM

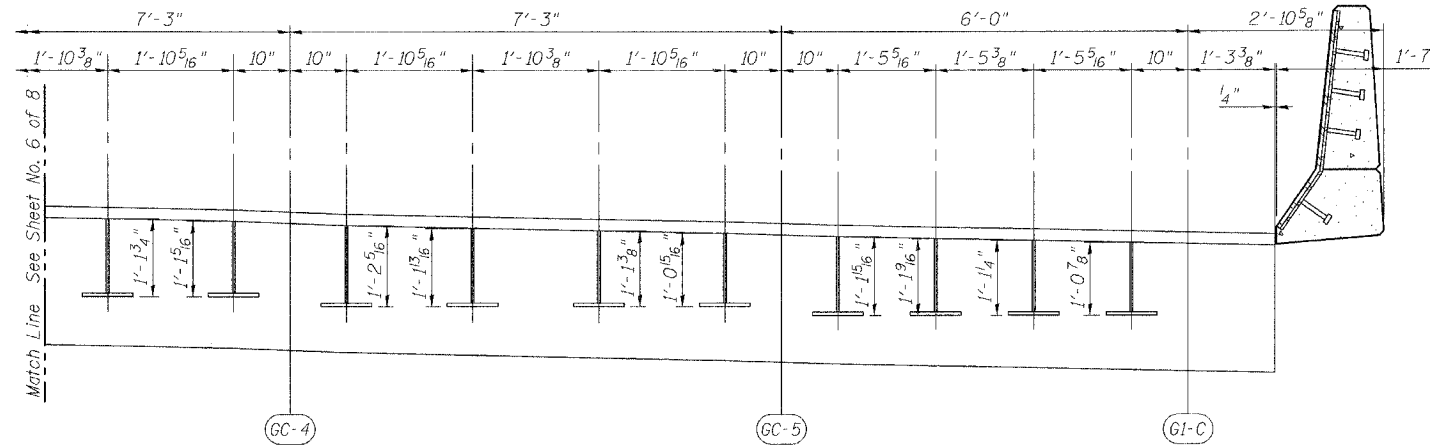
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

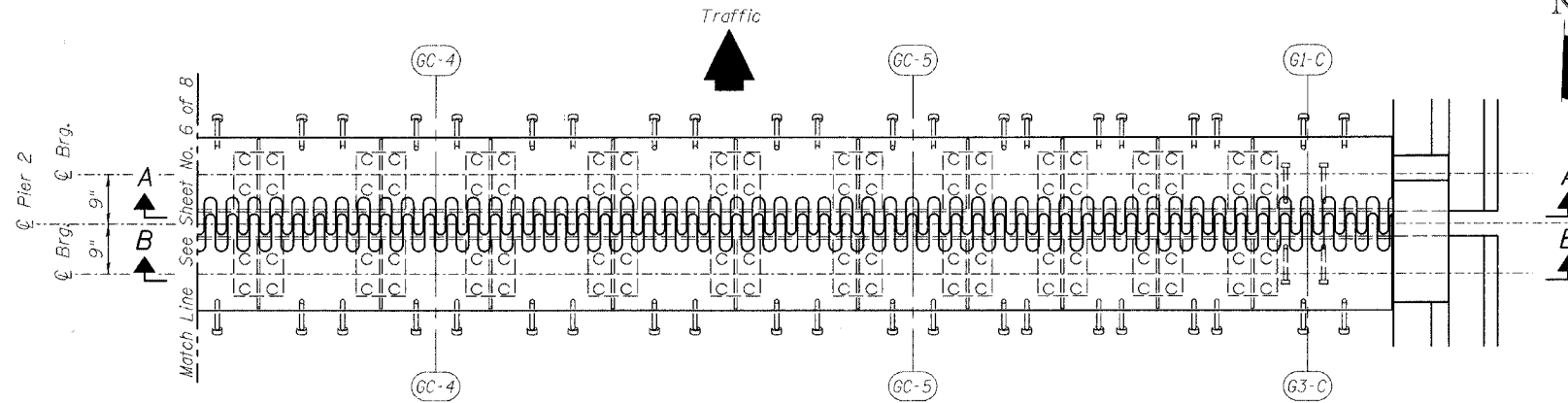
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FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 7
8 SHEETS

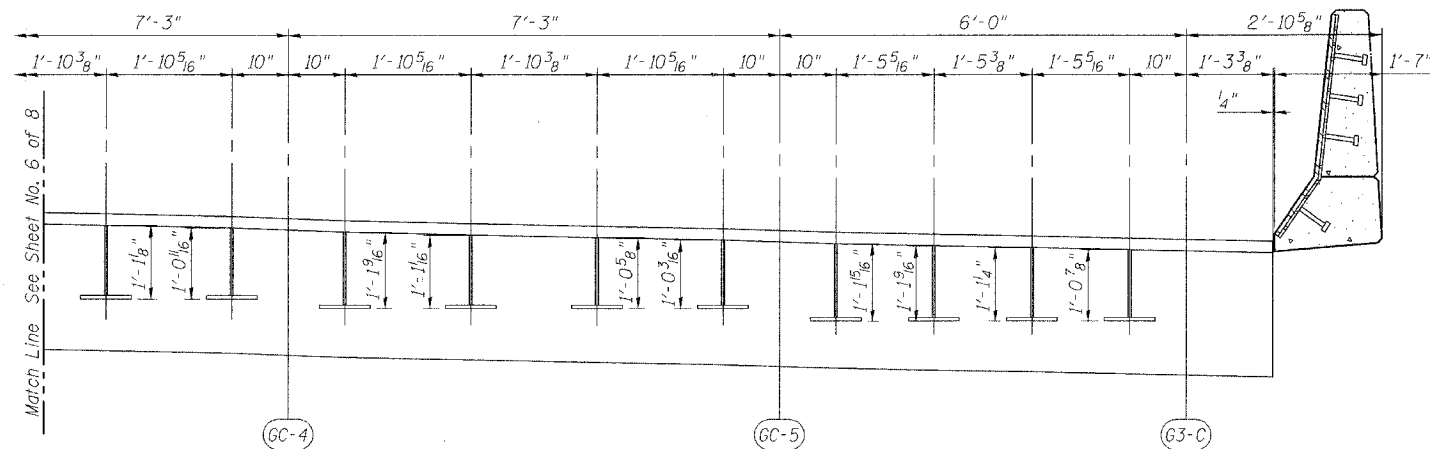
* 2005 - 008F
Contract #62580



SECTION A-A
(Dimensions are along \varnothing Pier)



PLAN OF FINGER PLATE AT PIER 2



SECTION B-B
(Dimensions are along \varnothing Pier)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER C10

SCALE: VERT. _____
HORIZ. _____

DATE: 2/17/05

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COMPUTER FILE NO.
04286-W04-PE2

PROJECT 04286-W04
8/3/05-MML

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
PROFESSIONAL DESIGN FIRM NO. 02181
REGISTERED PROFESSIONAL ENGINEERS
ILLINOIS LICENSE NO. 02181-0001

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO.
FAI 90/94	*	COOK	419	227	8
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

* 2005 - 008F
Contract #62580

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
- ② Minimum *Pull-out Strength = $1.25 \times f_{s_{allow}} \times A_t$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

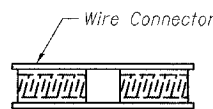
Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



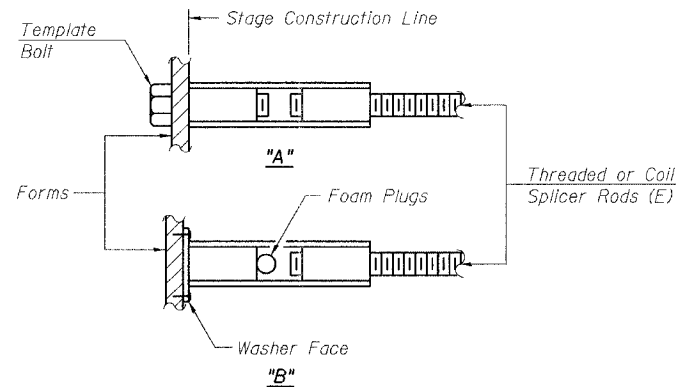
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WELDED SECTIONS

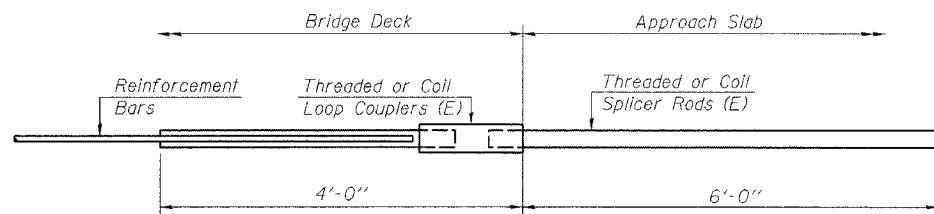
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



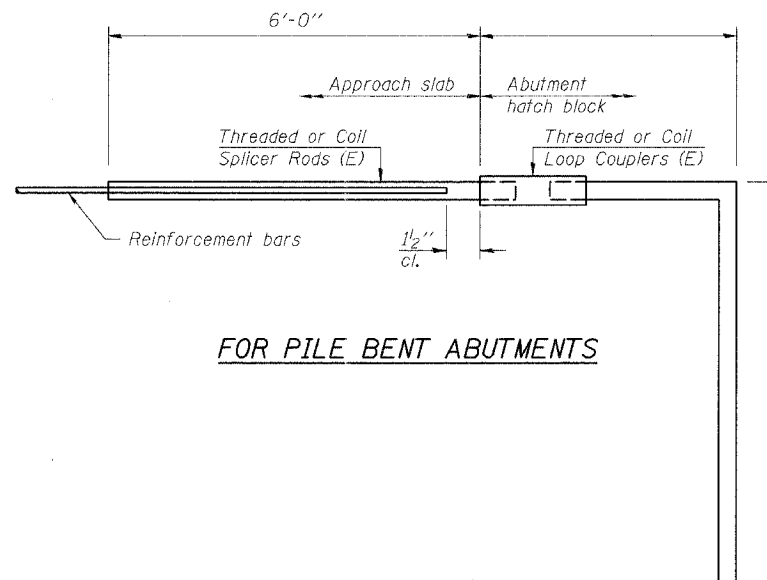
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



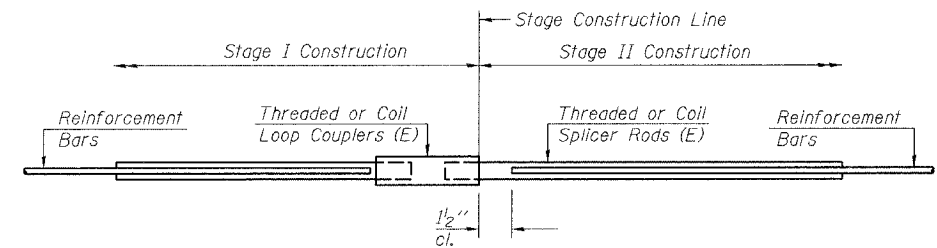
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	24	Deck

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS
F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
OVER SOUTH BRANCH - CHICAGO RIVER
COOK COUNTY
S.N. 016-1113 - PIER C10

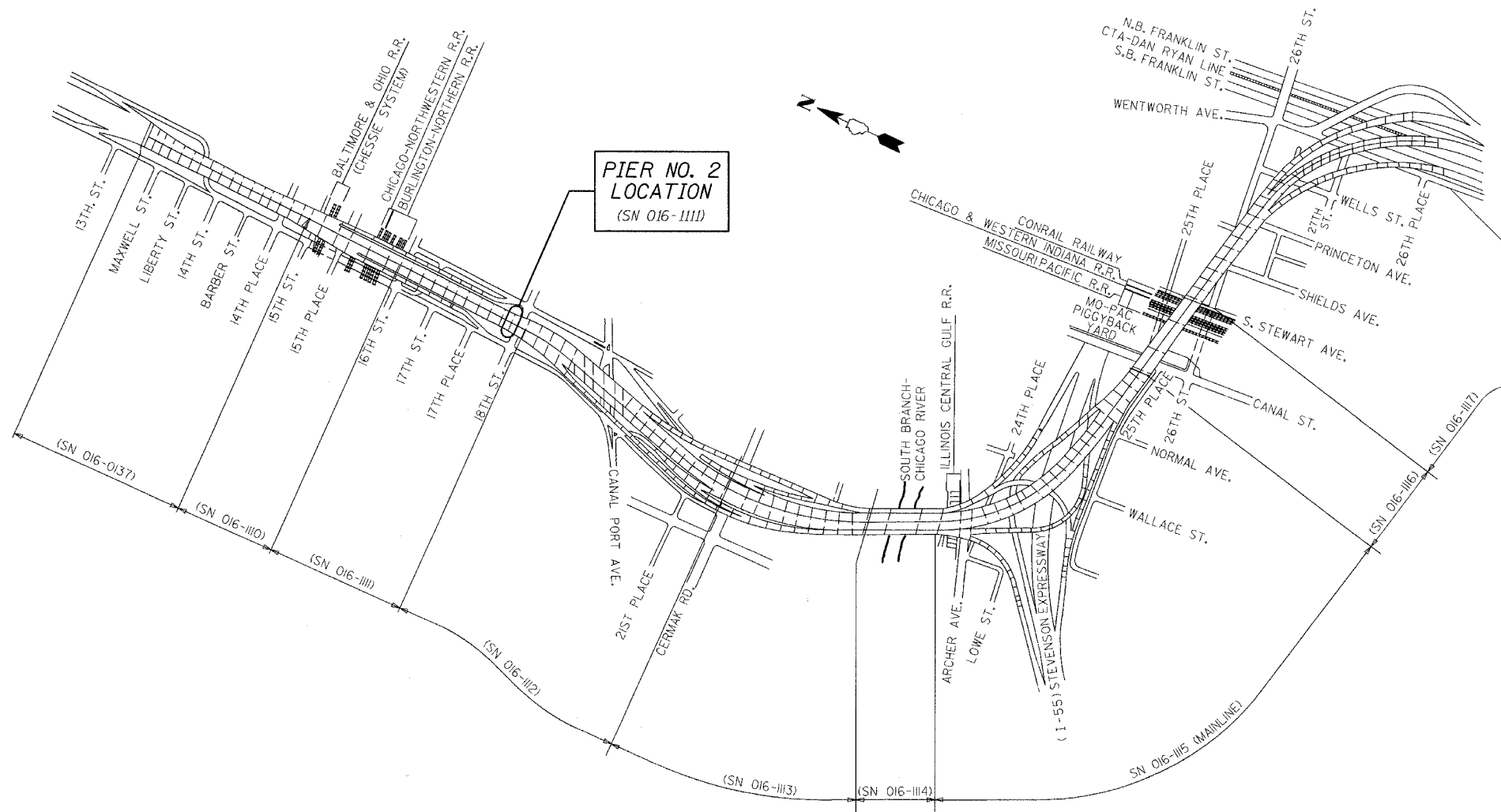
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CHECKED BY: _____
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PROJECT 04286-W04
8/3/05-MML



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAI 90/94	SECTION *	COUNTY COOK	DIST. SHEETS 419	SHEET NO. 238	SHEET NO. 1 8 SHEETS
FED. ROAD DIST. NO. * 2005-008F Contract #62580		ILLINOIS	FED. AID PROJECT-		



KEY PLAN
DAN RYAN EXPRESSWAY (I-90/I-94) VIADUCT
COOK COUNTY, ILLINOIS

GENERAL NOTES

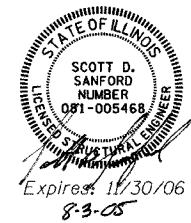
Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{1}{16}$ " ϕ , unless otherwise noted.
 Finger Plate Expansion Joints shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.
 The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.
 Field welding of construction accessories will not be permitted to beams or girders.
 Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.
 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 for the work.
 Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
 All Construction joints shall be bonded.
 Existing design and fabrication plans are available upon request.
 All structural steel shall be AASHTO M270 Grade 50 unless noted otherwise. Calculated weight = 25,537 lbs.
 Tapered shims shall be added under the stools as required by the Engineer to make a smooth finger joint.
 Joint openings shall be adjusted according to Article 503.10(c) of the standard specifications when the deck is poured at an ambient temperature other than 50°F.
 Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
 Traffic to be maintained during construction, see Roadway Plans for Stage Construction Details.

DESIGN STRESSES

f'_c = 3500 psi
 f_y = 60,000 psi (Reinf)
 f_y = 50,000 psi (M270 Grade 50)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu Yd	14.7
Concrete Superstructure	Cu Yd	17.6
Erecting Structural Steel	L.S.	0.09
Reinforcement Bars, Epoxy Coated	Pound	2490
Mechanical Splice	Each	134
Bar Splicers	Each	24
Erecting Fabric Reinforced Elastomeric Trough	Foot	66



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
KEY PLAN
 F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
 16TH STREET TO 18TH STREET
 COOK COUNTY
 S.N. 016-1111 - PIER 2

SCALE: VERT.
 HORIZ.
 DATE: 3/28/05

DRAWN BY: LANDREY
 DESIGNED BY: SANFORD
 CHECKED BY: -

COMPUTER FILE NO.
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 PROJECT 04286-W05
 8/3/05-MML

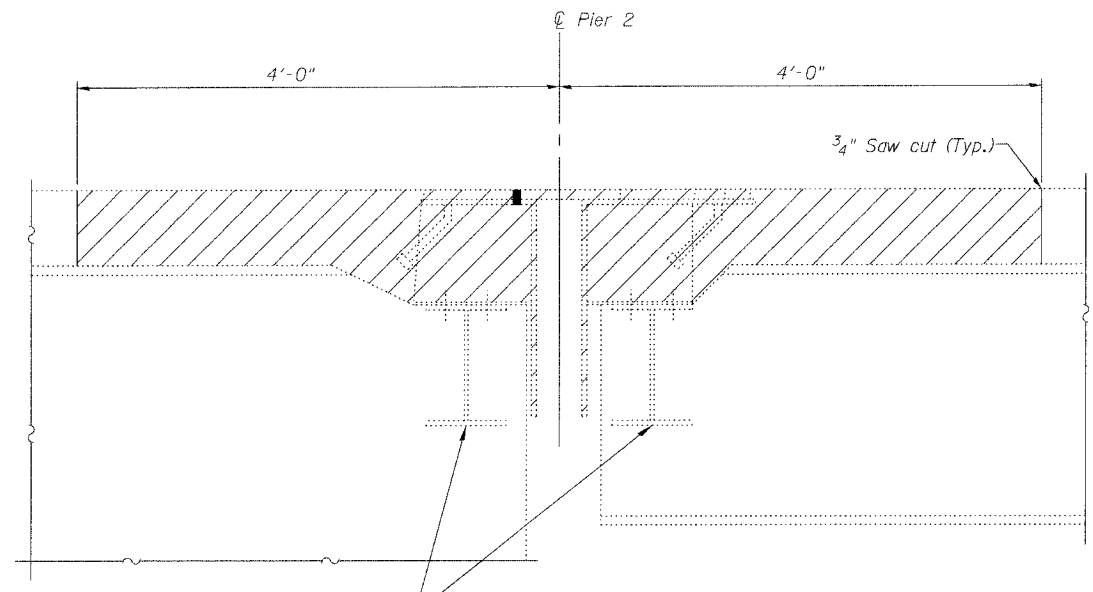
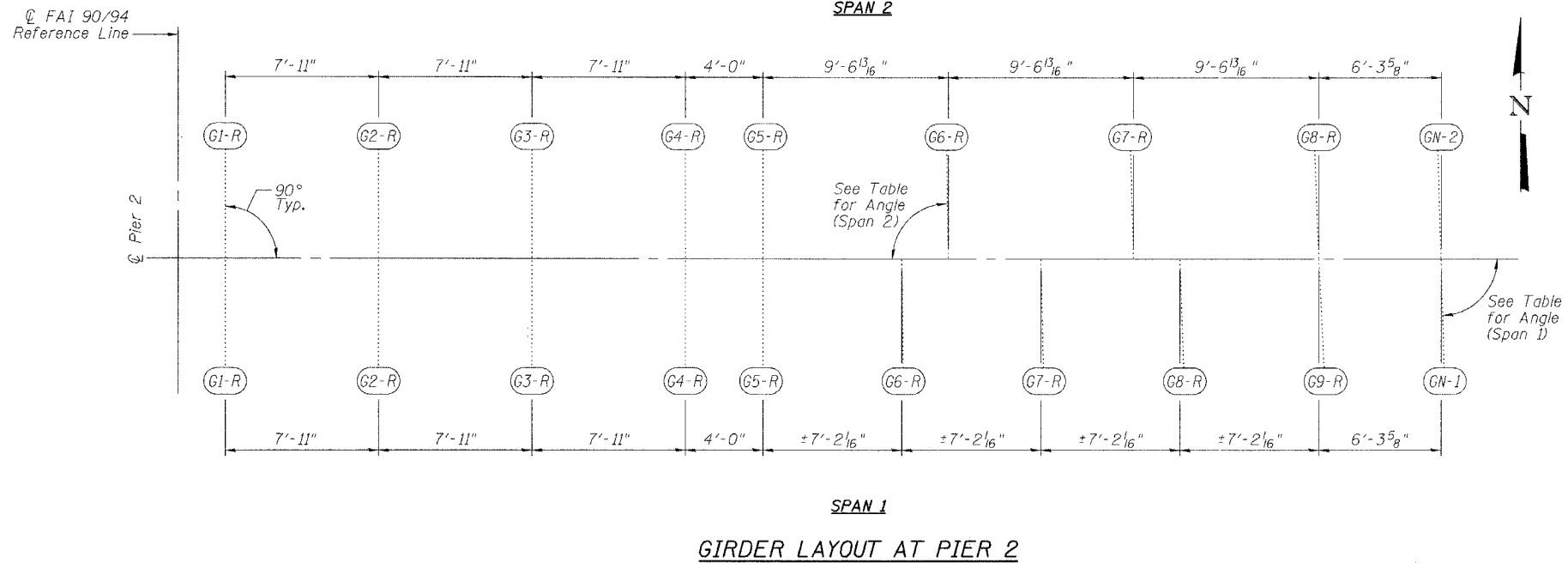
GREENE & BRADFORD, INC.
 OF SPRINGFIELD
 CIVIL ENGINEERS
 PROFESSIONAL DESIGN FIRM
 1001 W. 89th St., Springfield, IL 62761
 (618) 221-8941, (618) 798-8237 FAX (618) 221-8942

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 8 SHEETS
FAJ 90/94	*	COOK	419	229	
FED. ROAD DIST. NO.		ILL. PROJ. NO.	FED. AID PROJECT NO.		
* 2005-008F		Contract #62580			

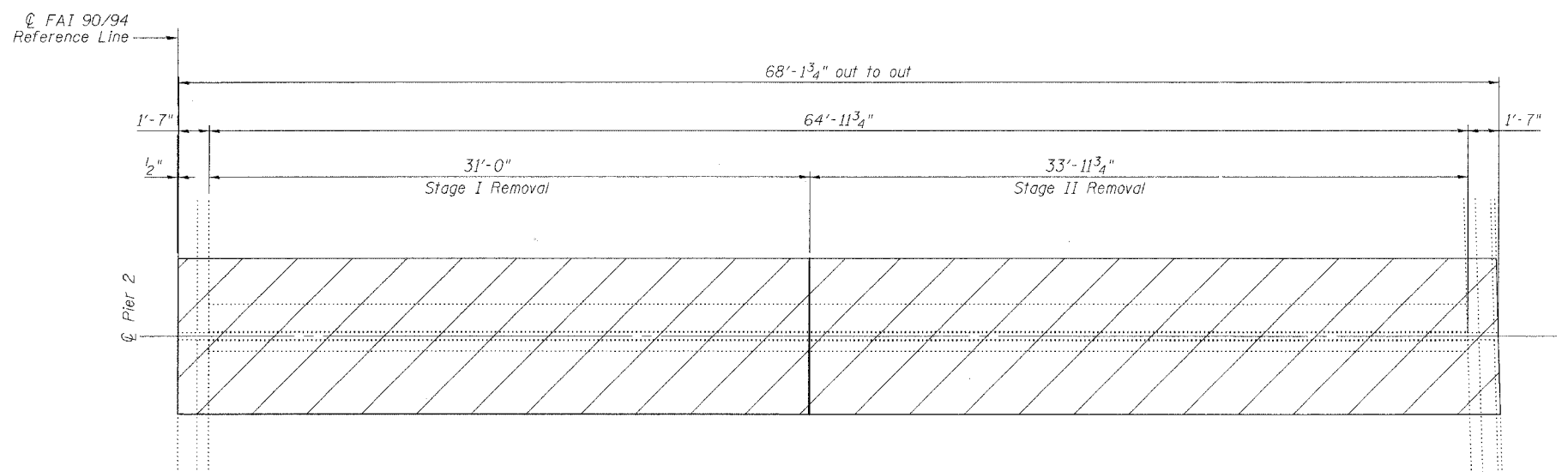
Girder	Angle	
	Span 1	Span 2
G6-R	89°17'55"	89°15'01"
G7-R	88°35'50"	88°30'03"
G8-R	87°53'47"	87°45'07"
G9-R	87°11'47"	-
GN-1	88°20'15"	-
GN-2	-	88°19'38"



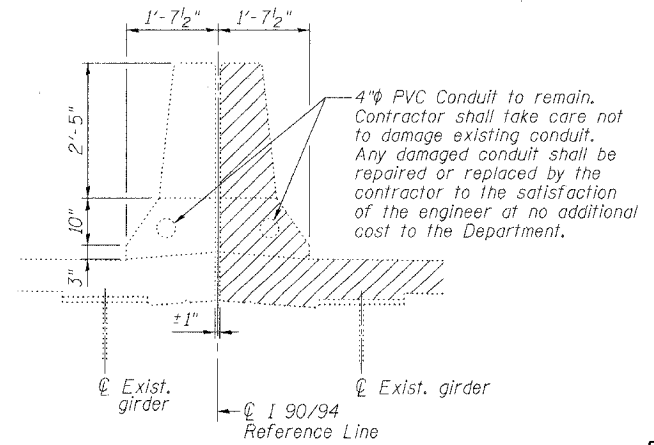
Note:
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".

Existing finger plates, stools, drainage trough and hardware shall be removed. Cost included with "Concrete Removal".

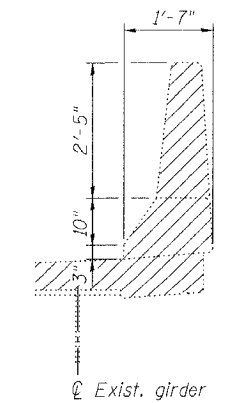
SECTION AT
EXISTING FINGER PLATE



JOINT REMOVAL PLAN AT PIER 2



DETAIL AT EXISTING
MEDIAN PARAPET



DETAIL AT EXISTING
OUTSIDE PARAPET

Notes:
Hatched Area indicates "Concrete Removal".
Longitudinal reinforcement extending into removal areas shall be cleaned, straightened and incorporated into the new construction except as noted on Section A-A on Sheet 5.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**FINGER PLATE EXPANSION JOINT
REMOVAL DETAILS**

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. _____
HORIZ. _____
DATE: 3/28/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: _____

GREENE & BRADFORD, INC.
CONSULTING ENGINEERS
OF SPRINGFIELD

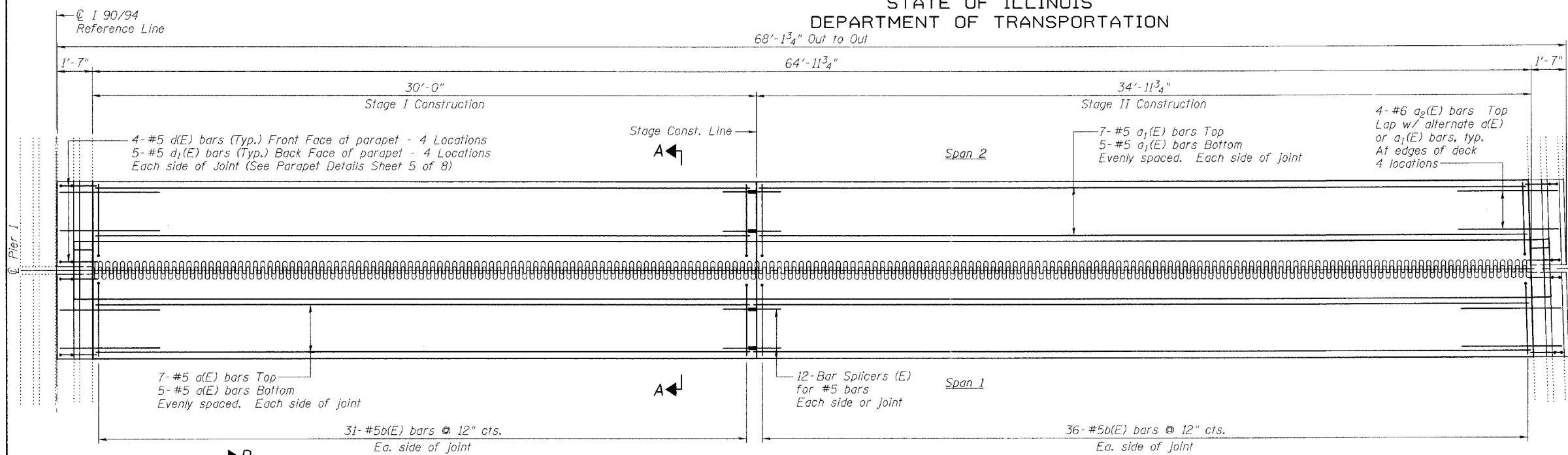
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6/28/05-MML

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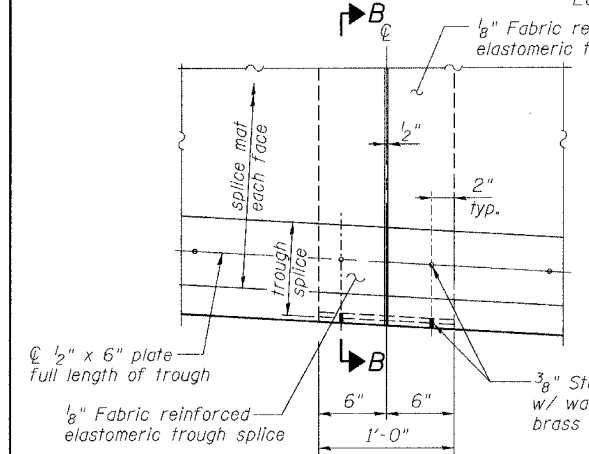
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.	SHEET NO. 3 8 SHEETS
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FED. ROAD DIST. NO.	ILLINOIS	FED. PROJ. NO.			

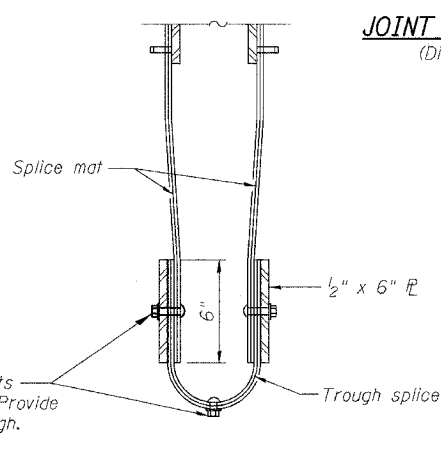
* 2005-008F
Contract #62580



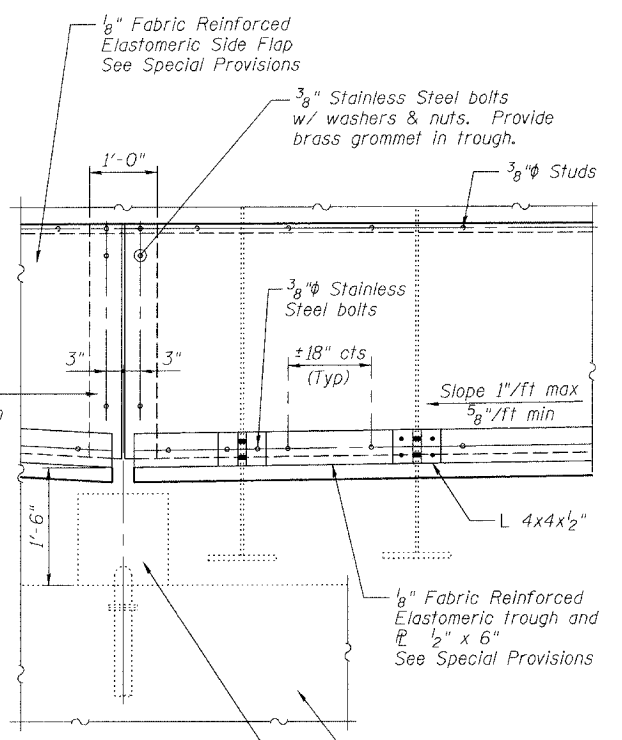
JOINT RECONSTRUCTION PLAN
(Dimensions are along C Pier)



TROUGH SPLICE DETAIL

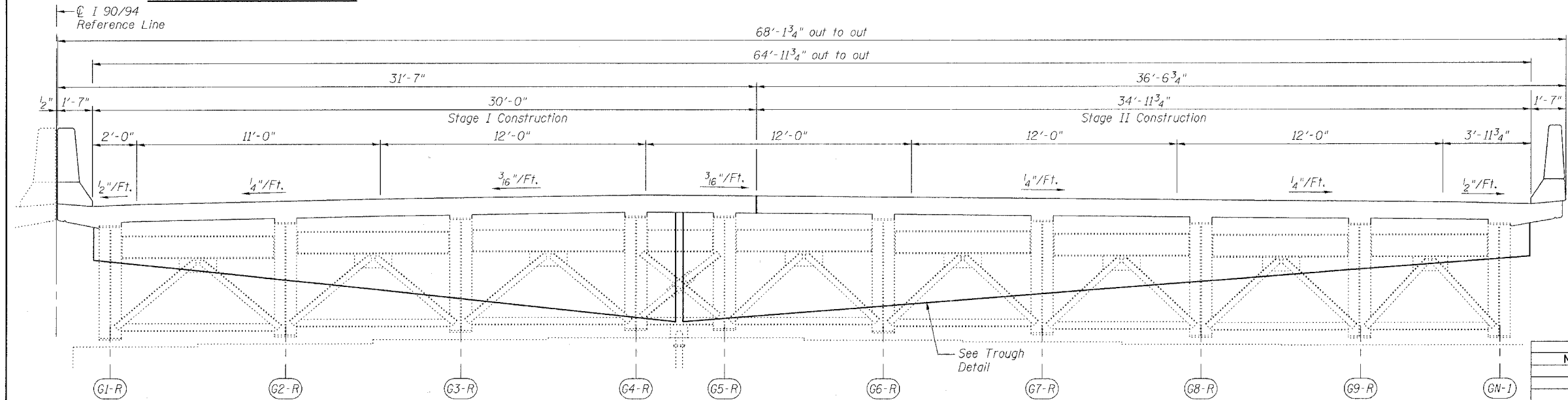


SECTION B-B



TROUGH DETAIL

- Notes:
- For Parapet Details and Superstructure Bill of Material, see Sheet 5 of 8.
 - For Section A-A, see Sheet 4 of 8.



ELEVATION (LOOKING NORTH)
(Dimensions are along C Pier)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 2 JOINT DETAILS

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. _____
HORIZ. _____
DATE: 3/28/05

DRAWN BY: LANDREY
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OF SPRINGFIELD

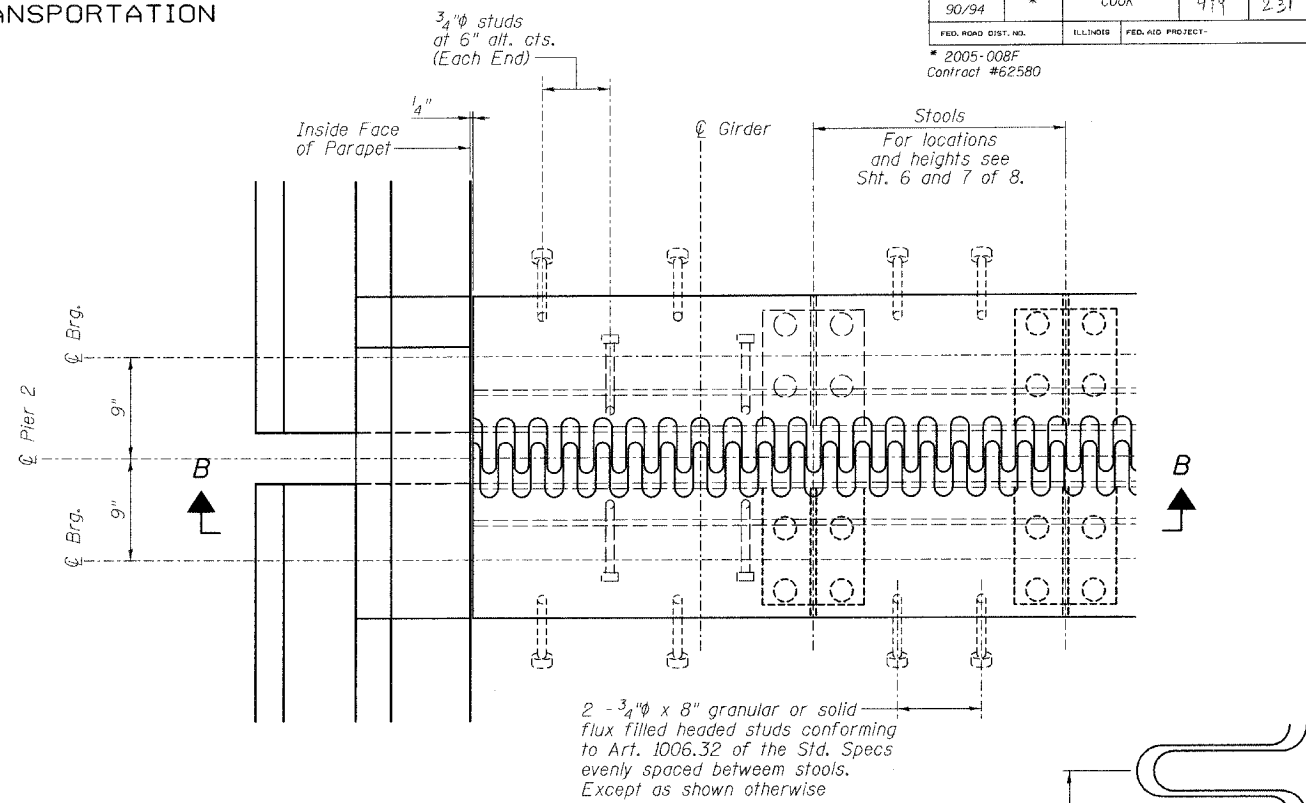
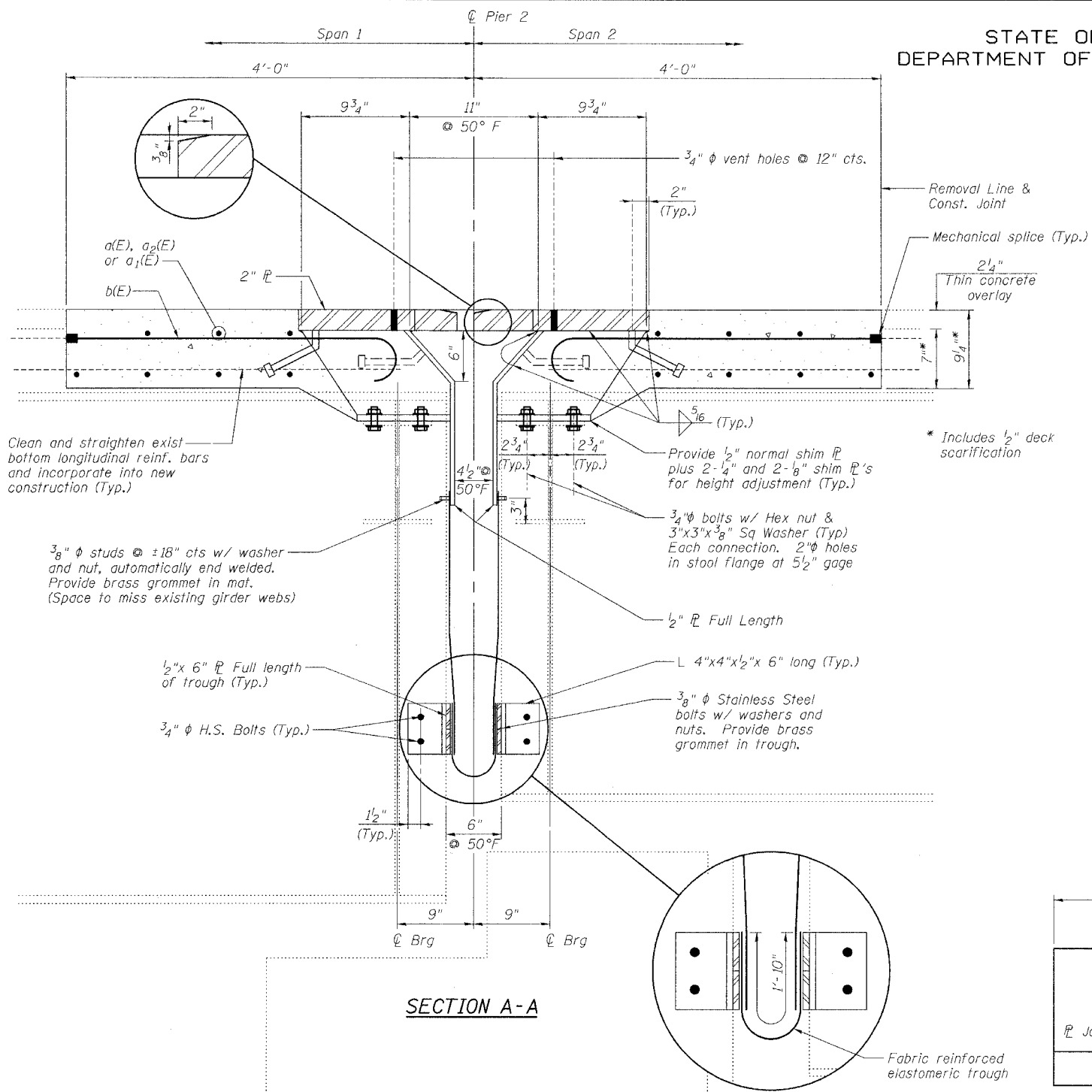
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6/28/05-MML

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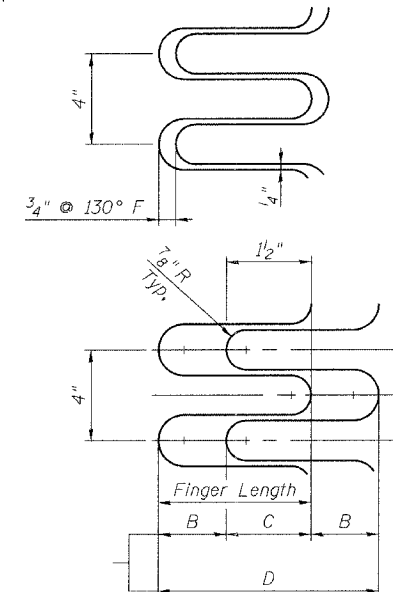
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 90/94	*	COOK	419	231
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62580				

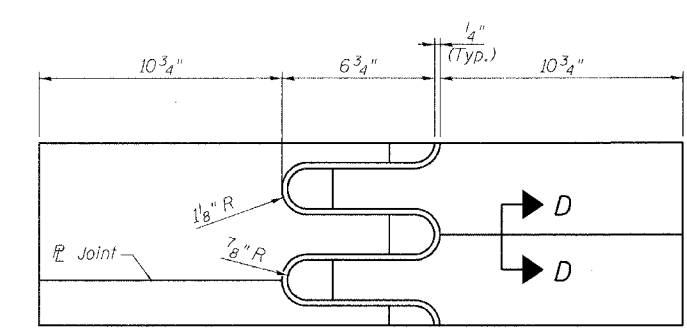
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8 SHEETS



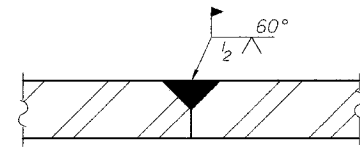
PLAN



FINGER DETAIL
Finger Length = 6 3/4"
Weld Length = 9 3/4"
Weld Size = 5/16"
Expansion Length = 359.4"



FLAME CUTTING DIAGRAM
(Proposed Finger φ - Cut from 2" x 2'-4 1/2" φ)



SECTION D-D

NOTES

1. Stainless steel bolts, washers and nuts shall meet the requirements of ASTM A193.
2. The installation of all necessary hardware, stainless steel bolts, studs and washers, plates and angles shall be included with "Erecting Structural Steel".
3. For Section B-B, see Sheet 5 of 8.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 2 JOINT DETAILS

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. HORIZ. DATE: 3/28/05

DRAWN BY: LANDREY
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8/3/05-MML

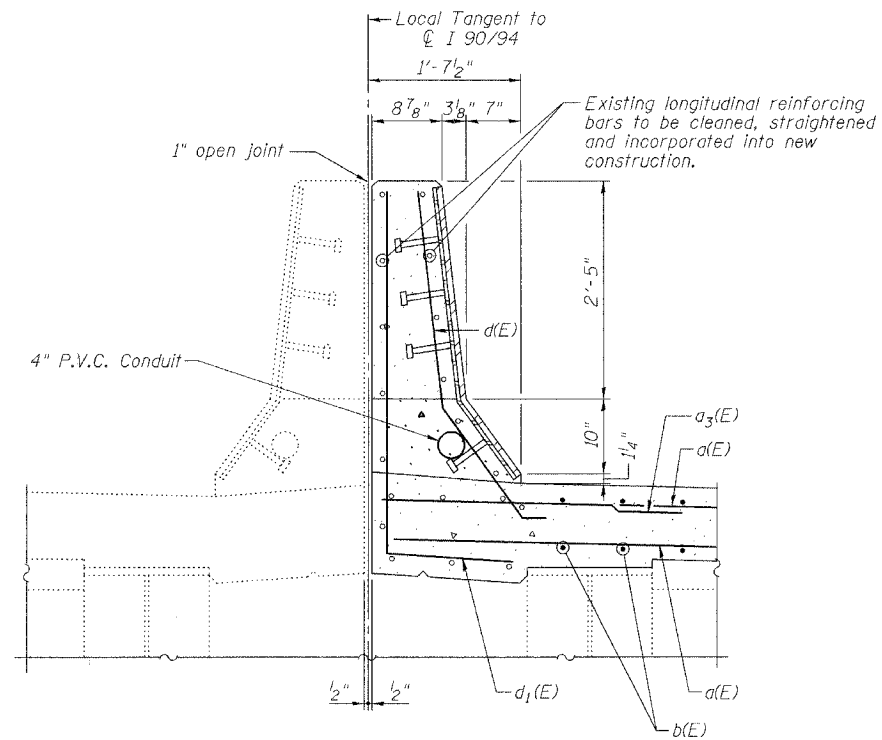
GREENE & BRADFORD, INC.
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CONSULTING ENGINEERS
PROFESSIONAL ENGINEERS
PROFESSIONAL ARCHITECTS
PROFESSIONAL LANDSCAPE ARCHITECTS
PROFESSIONAL SURVEYORS
PROFESSIONAL CIVIL ENGINEERS
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PROFESSIONAL MECHANICAL ENGINEERS
PROFESSIONAL CHEMICAL ENGINEERS
PROFESSIONAL INDUSTRIAL ENGINEERS
PROFESSIONAL AERONAUTICAL ENGINEERS
PROFESSIONAL METALLURGICAL ENGINEERS
PROFESSIONAL NUCLEAR ENGINEERS
PROFESSIONAL PETROLEUM ENGINEERS
PROFESSIONAL THERMAL ENGINEERS
PROFESSIONAL WIND ENGINEERS
PROFESSIONAL POLYMER ENGINEERS
PROFESSIONAL SOIL ENGINEERS
PROFESSIONAL WATER ENGINEERS
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PROFESSIONAL AEROSPACE ENGINEERS
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PROFESSIONAL BIOMEDICAL SYSTEMS ENGINEERS
PROFESSIONAL BIOMEDICAL TISSUE ENGINEERS
PROFESSIONAL BIOMEDICAL ULTRASOUND ENGINEERS
PROFESSIONAL BIOMEDICAL VIBRATION ENGINEERS
PROFESSIONAL BIOMEDICAL X-RAY ENGINEERS
PROFESSIONAL BIOMEDICAL YACHT ENGINEERS
PROFESSIONAL BIOMEDICAL ZOOLOGICAL ENGINEERS
PROFESSIONAL BIOMEDICAL BOTANICAL ENGINEERS
PROFESSIONAL BIOMEDICAL MINERAL ENGINEERS
PROFESSIONAL BIOMEDICAL METEOROLOGICAL ENGINEERS
PROFESSIONAL BIOMEDICAL OCEANOGRAPHICAL ENGINEERS
PROFESSIONAL BIOMEDICAL POLYMER ENGINEERS
PROFESSIONAL BIOMEDICAL THERMAL ENGINEERS
PROFESSIONAL BIOMEDICAL WIND ENGINEERS
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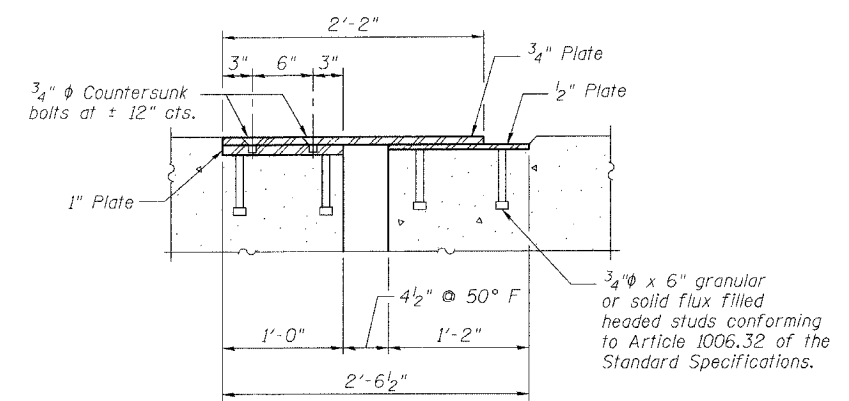
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5 8 SHEETS
FAI 90/94	*	COOK	48	232	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

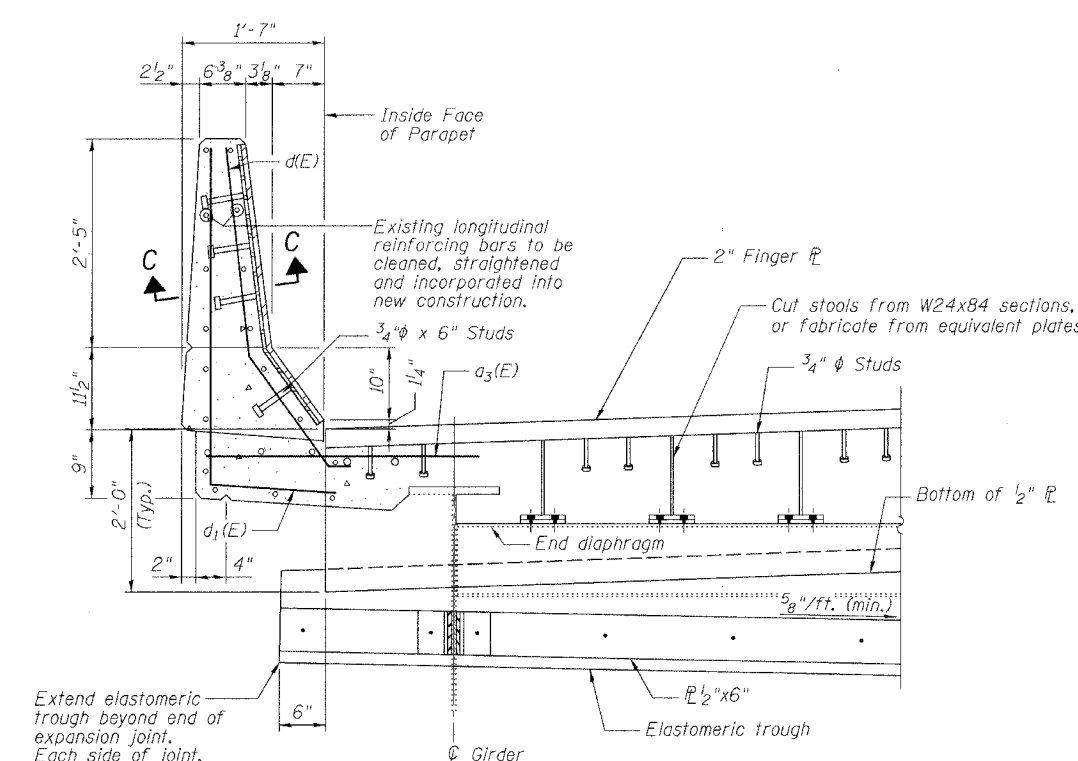
* 2005-008F
Contract #62580



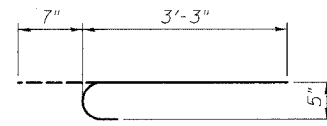
DETAIL AT MEDIAN PARAPET
(Looking North)



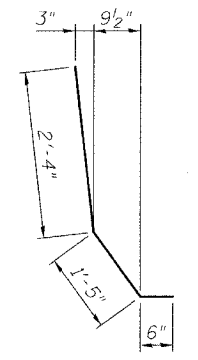
SECTION C-C



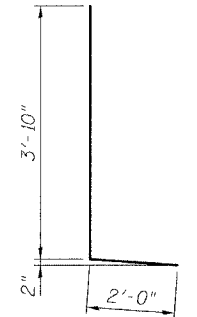
SECTION B-B
(For location of Section B-B, See Sheet 4 of 8)



BAR b(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	24	#5	30'-6"	—
a1(E)	24	#5	35'-6"	—
a2(E)	16	#6	4'-6"	—
b(E)	134	#5	3'-10"	⌋
d(E)	16	#5	4'-3"	⌋
d1(E)	20	#5	5'-10"	⌋
Reinforcement Bars, Epoxy Coated			Pound	2490
Concrete Superstructure			Cu. Yd.	17.6
Concrete Removal			Cu. Yd.	14.7
Bar Splicers			Each	24
Mechanical Splice			Each	134

Reinforcing bars designated (E) shall be epoxy coated.

ILLINOIS DEPARTMENT OF TRANSPORTATION
PARAPET DETAILS

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. _____
HORIZ. _____
DATE: 3/28/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: _____

COMPUTER FILE NO.
04286-W05-NB-PD

PROJECT 04286-W05
6/28/05-MML

REVISIONS

NO.	NAME	DATE

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
REGISTERED PROFESSIONAL ENGINEERS
PROFESSIONAL DESIGN FIRM NO. 044-0028
PROFESSIONAL & CONSULTING ENGINEERING CORPORATION
901 191 4844, 215 783-2227, 411 E. Main, Springfield, Illinois 62761

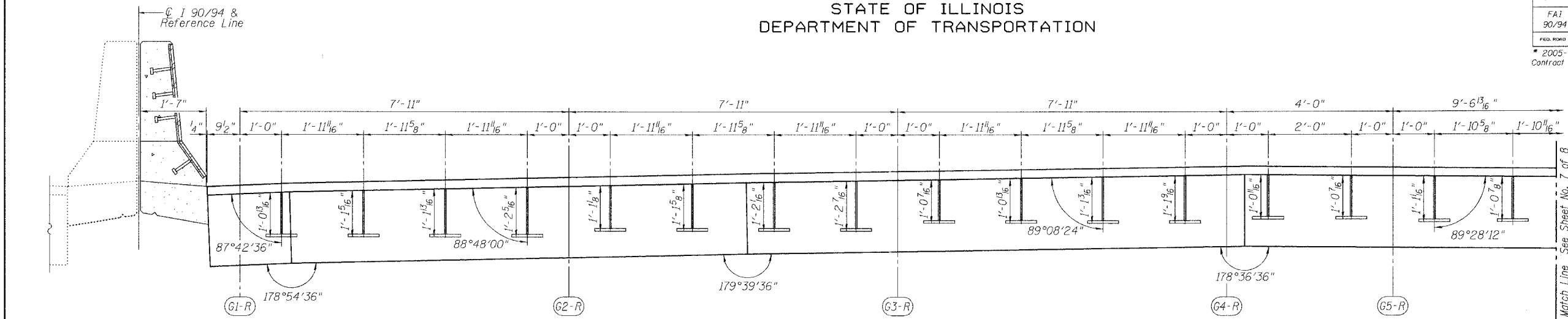
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PLOT SCALE = splotter
PLOT DATE = 8/3/2005
PLOT TIME = 10:55:41 AM
OPERATOR = mchris@ibm

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

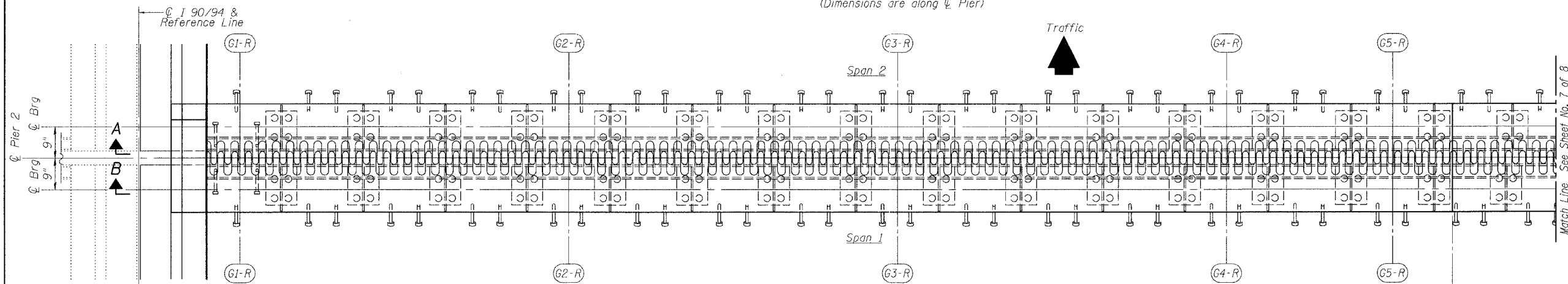
ROUTE NO. FA1 90/94	SECTION *	COUNTY COOK	TOTAL SHEETS 419	SHEET NO. 233
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

SHEET NO. 6
8 SHEETS

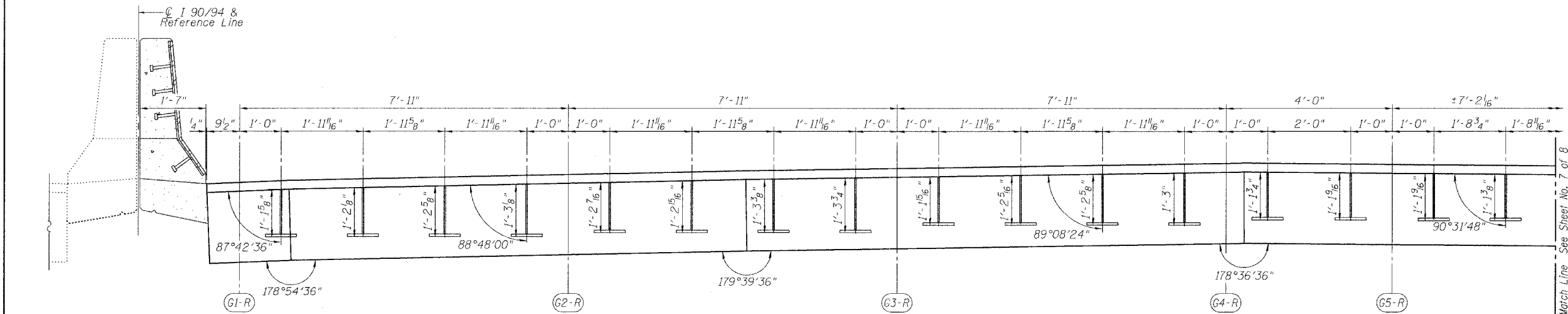
* 2005-008F
Contract #62580



SECTION A-A
(Dimensions are along Q Pier)



PLAN OF FINGER PLATE AT PIER 2



SECTION B-B
(Dimensions are along Q Pier)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT.
HORIZ.
DATE: 3/28/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY:

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
REGISTERED PROFESSIONAL ENGINEERS
PROFESSIONAL ENGINEER REG. NO. 044-0219
PROFESSIONAL ARCHITECT REG. NO. 044-0219
021-133-8841, 021-723-8227, FAX: 021-723-8227

COMPUTER FILE NO.
04286-W05-NB-PE1
PROJECT 04286-W05
6/28/05-MML

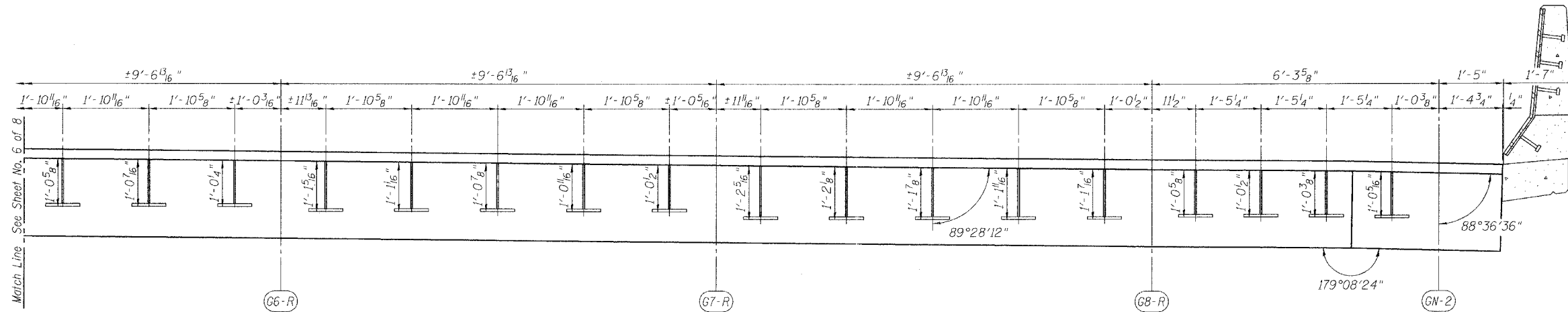
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PLOT DATE = 8/3/2005
OPERATOR = MICHAEL

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

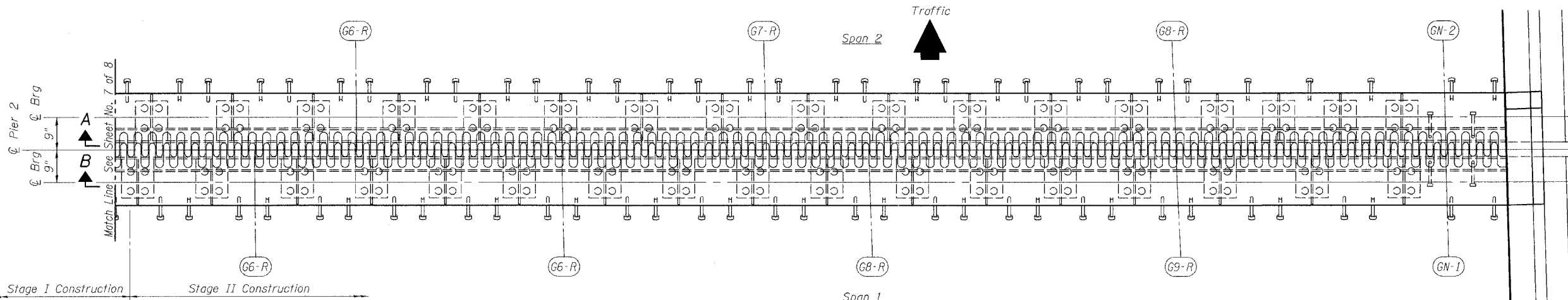
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA1 90/94	*	COOK	419	234
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 7
8 SHEETS

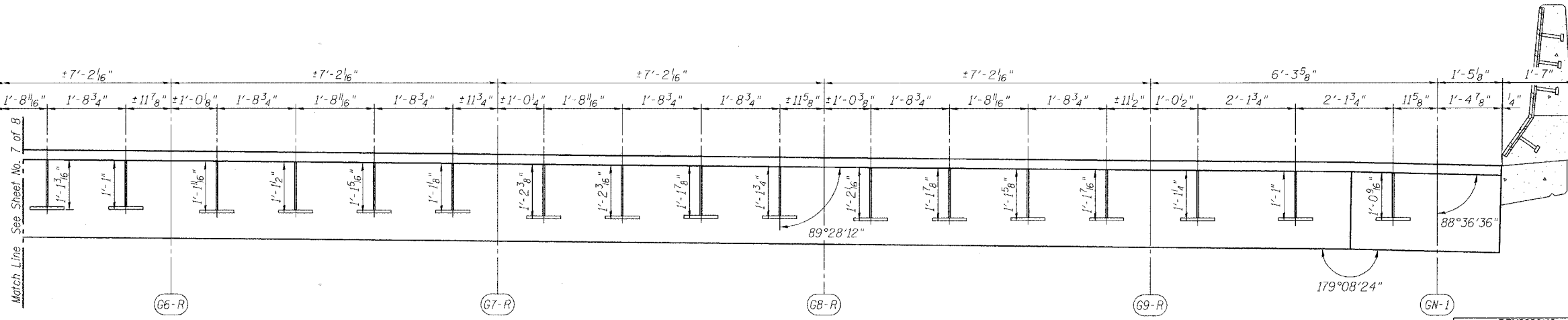
* 2005-008F
Contract #62580



SECTION A-A
(Dimensions are along \hat{Q} Pier)



PLAN OF FINGER PLATE AT PIER 2



SECTION B-B
(Dimensions are along \hat{Q} Pier)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FINGER PLATE PLAN AND ELEVATION

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

SCALE: VERT. _____
HORIZ. _____
DATE: 3/28/05

DRAWN BY: LANDREY
DESIGNED BY: SANFORD
CHECKED BY: _____

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
REGISTERED PROFESSIONAL ENGINEERS
PROFESSIONAL ENGINEER LICENSE NO. 04286-W05
PROFESSIONAL & SURVEYING ENGINEERING CORPORATION
6715 88th St., Suite 200, Skokie, IL 60077-4071, U.S.A. (630) 420-8800

COMPUTER FILE NO.
04286-W05-NB-PE2
PROJECT 04286-W05
6/28/05-MML

FILE NAME = \$FILES\$
PLOT SCALE = \$PLOTSCALE\$
PLOT DATE = 8/3/2005
PLOT TIME = 10:46:00 AM
OPERATOR = mchen@idb

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAI 90/94	*	COOK	419	235
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* 2005-008F Contract #62580				

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

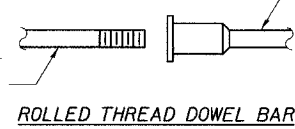
- Minimum Capacity = $1.25 \times f_y \times A_1$
(Tension in kips)
- Minimum *Pull-out Strength = $1.25 \times f_{s,allow} \times A_1$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s,allow}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_1 = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

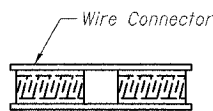
The diameter of this part is equal or larger than the diameter of bar spliced.



ROLLED THREAD DOWEL BAR



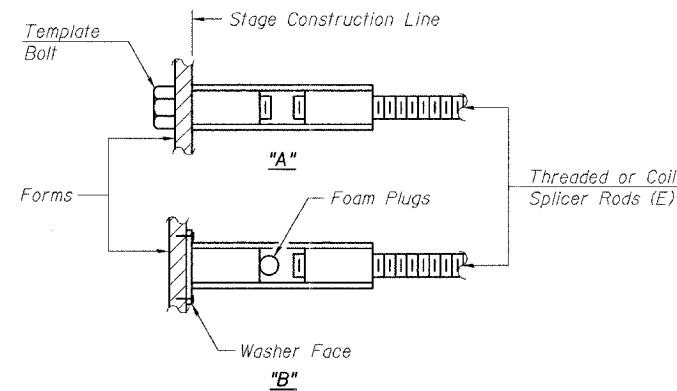
** ONE PIECE



WELDED SECTIONS

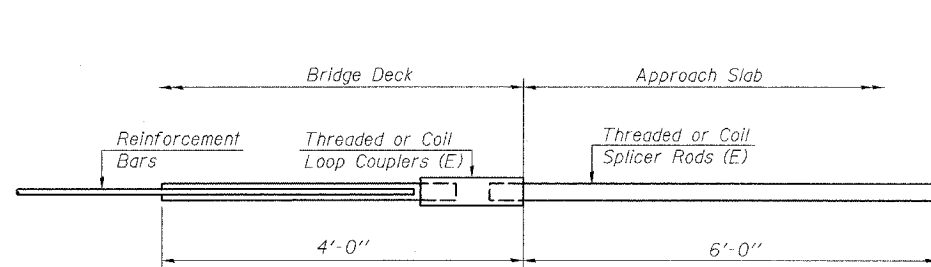
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



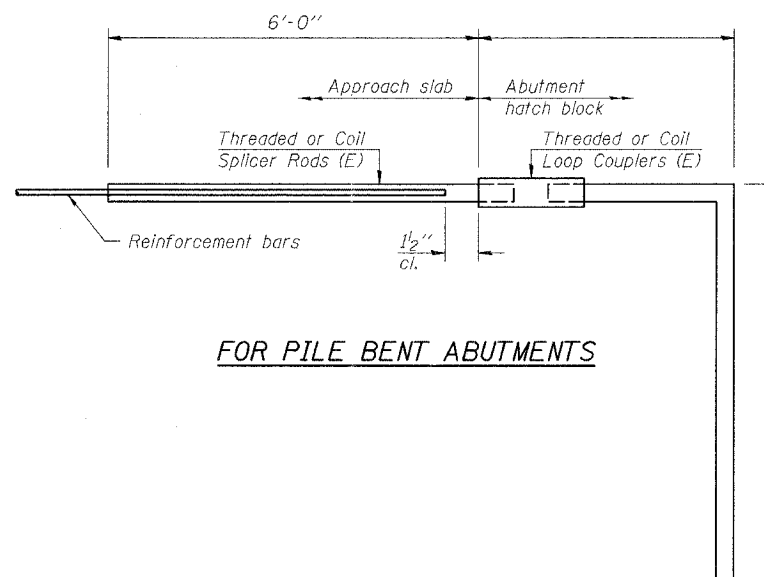
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



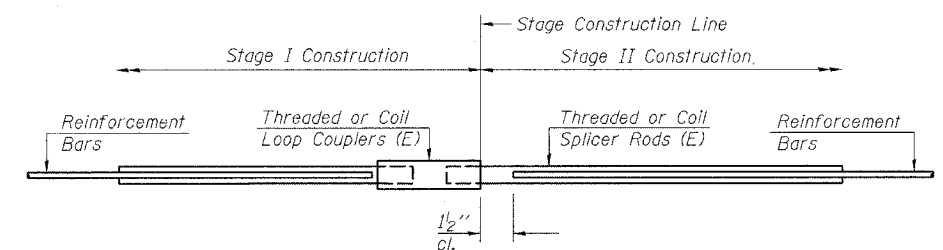
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = N/A



STANDARD

Bar Size	No. Assemblies Required	Location
#5	24	Deck

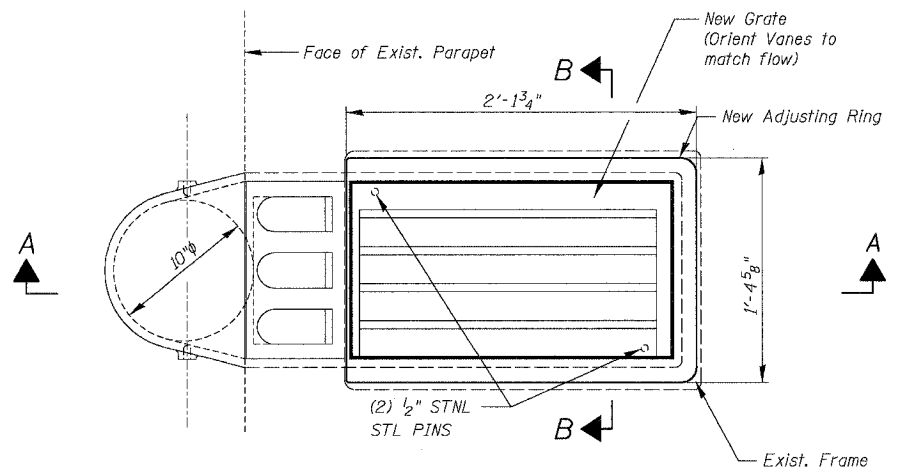
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS

F.A.I. ROUTE 90/94 NORTHBOUND (DAN RYAN EXPRESSWAY)
16TH STREET TO 18TH STREET
COOK COUNTY
S.N. 016-1111 - PIER 2

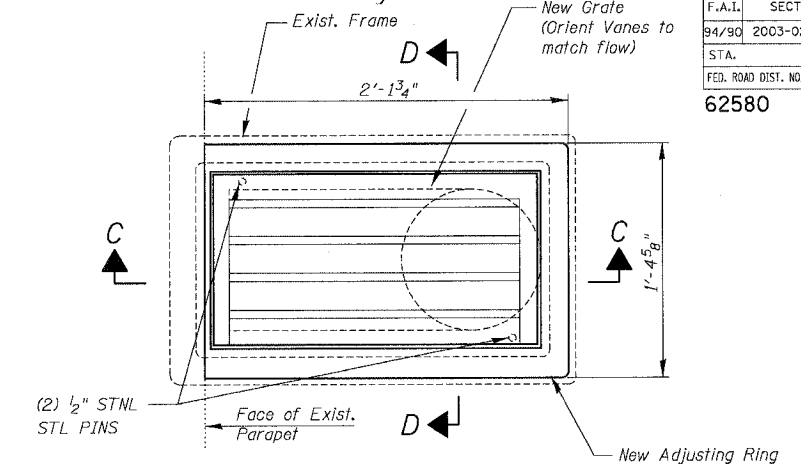
SCALE: VERT. HORIZ. DATE: 3/28/05	DRAWN BY: LANDREY DESIGNED BY: SANFORD CHECKED BY: -
GREENE & BRADFORD, INC. OF SPRINGFIELD	COMPUTER FILE NO. 04286-W05-NB-BSD
PROJECT 04286-W05	6/28/05-MML

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62580				

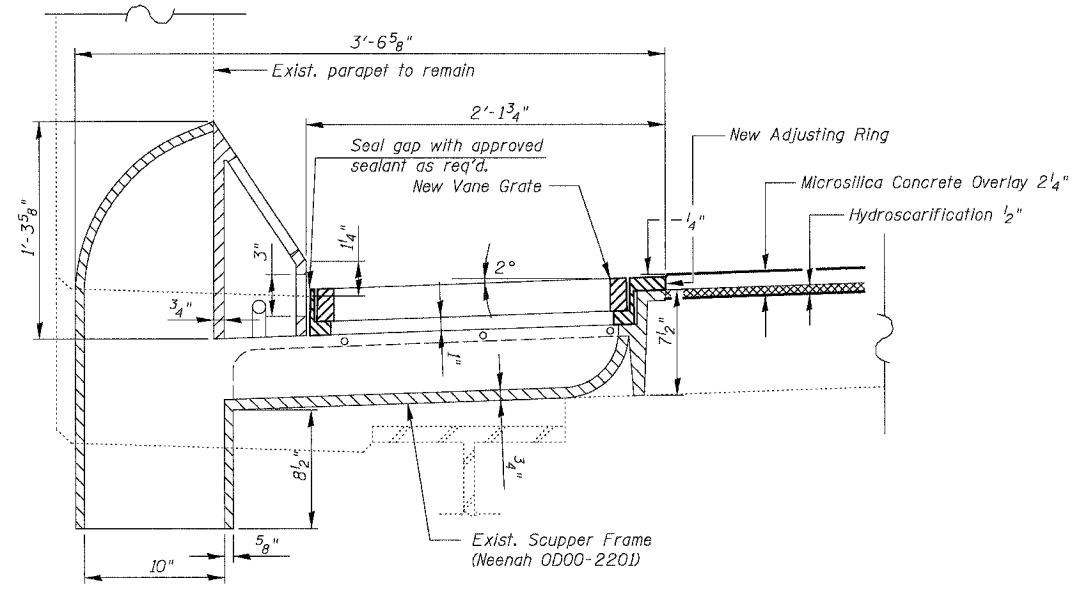


PLAN TYPE A SCUPPER

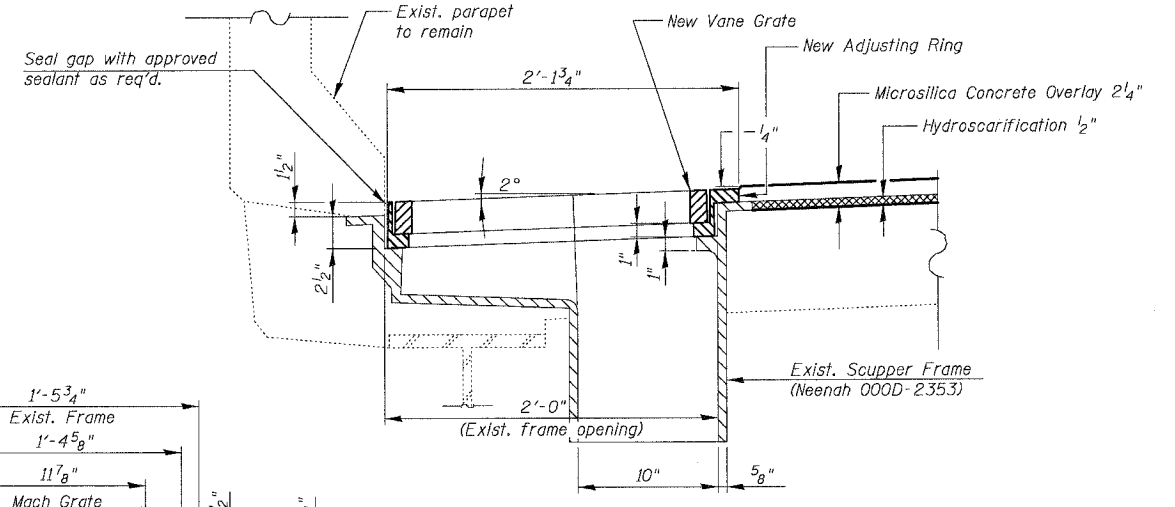
Notes:
 For additional notes and Bill of Material, see Sheet 308.
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
 Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
 Cast iron parts shall be unfinished.
 The Contractor Shall take appropriate measures to assure that Protective Coat is not applied to the scuppers.
 For scupper locations, see Partial Deck Plans.
 Adjusting ring and grates shall be from Neenah or approved equal. Structural steel weldments or equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
 Provide a/8" fillet weld around perimeter of new adjusting ring to secure to existing scupper. Electrode shall be compatible with cast iron.



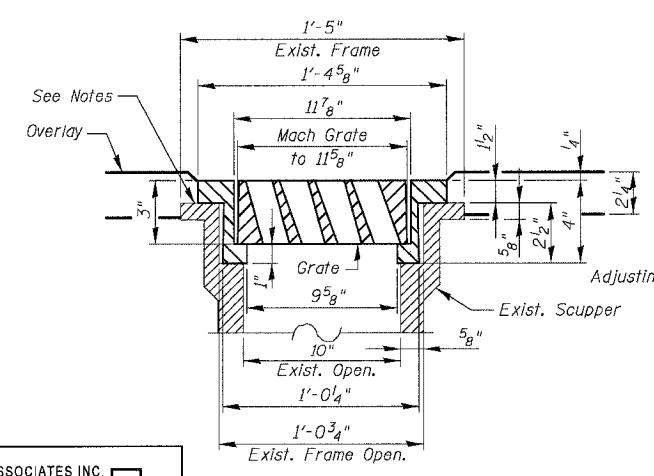
PLAN TYPE B SCUPPER



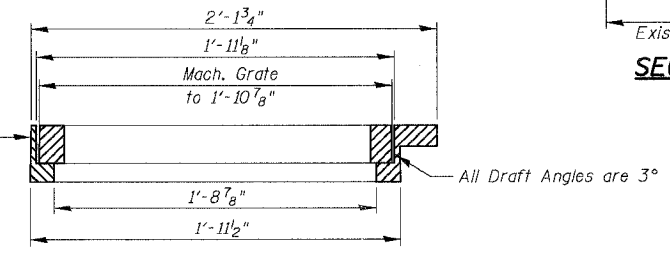
SECTION THRU TYPE A SCUPPER



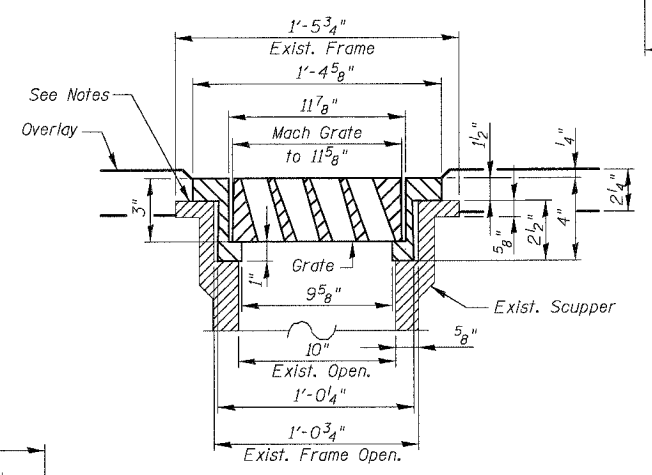
SECTION THRU TYPE B SCUPPER



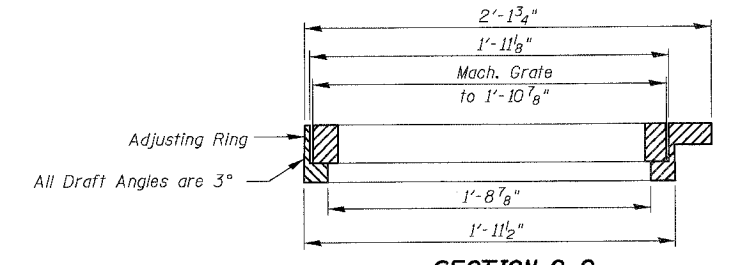
SECTION B-B



SECTION A-A



SECTION D-D



SECTION C-C

All Draft Angles are 3°

BOWMAN, BARRETT & ASSOCIATES INC.
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 Chicago, Illinois
 312.228.0100
 www.bbainc.com

DRAINAGE SCUPPER DETAILS - TYPE A
 Vane Grate 3922-0006 machined to fit

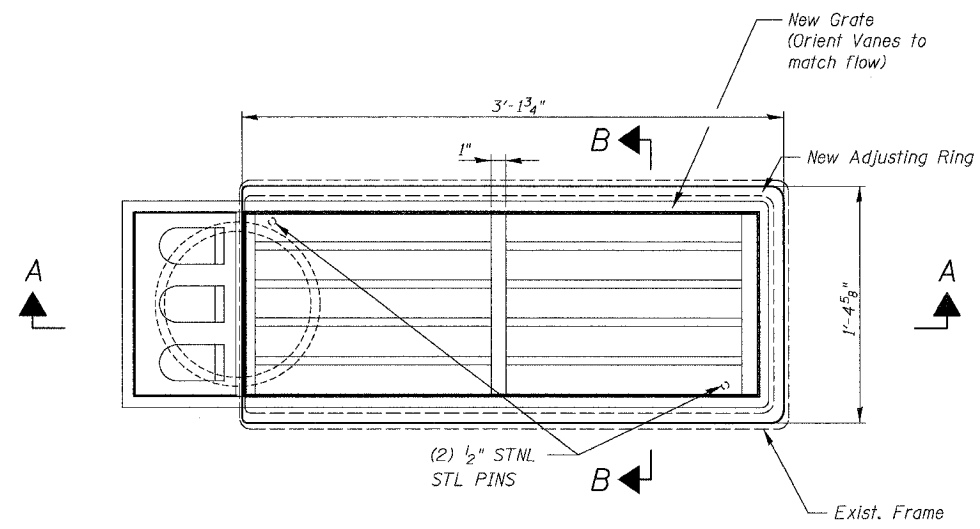
REVISIONS		DATE	ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) NB DAN RYAN ELEVATED BRIDGE REPAIR FROM 15TH TO 28TH STREETS ADJUSTING DRAINAGE SCUPPER DETAILS
NAME			

SCALE: NTS
 DATE: 7/22/2005
 DRAWN BY: BDC
 CHECKED BY: BLU

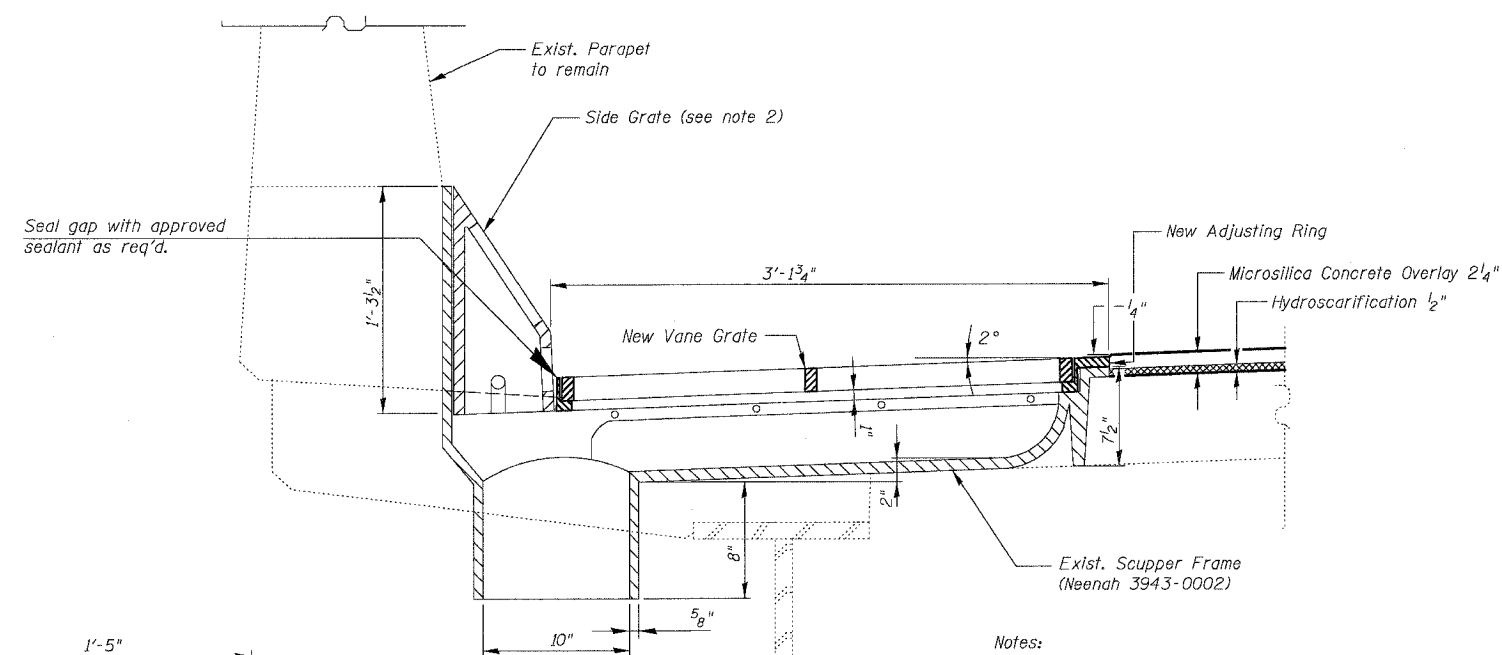
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	308
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				

BILL OF MATERIAL

ITEM DESCRIPTION	UNIT	TOTAL	SN 016-0137	SN 016-1110	SN 016-1111	SN 016-1112	SN 016-1113	SN 016-1114	SN 016-1115	SN 016-1116	SN 016-1117	SN 016-1118	SN 016-1047	SN 016-1059	SN 016-1070	SN 016-1140
ADJUSTING DRAINAGE SCUPPERS, TYPE A	EACH	107	10	8	11	26	3	-	8	8	27	2	2	-	-	2
ADJUSTING DRAINAGE SCUPPERS, TYPE B	EACH	26	-	-	-	1	2	10	3	-	7	3	-	-	-	-
ADJUSTING DRAINAGE SCUPPERS, TYPE C	EACH	109	11	11	12	12	12	-	20	8	-	16	1	-	4	2

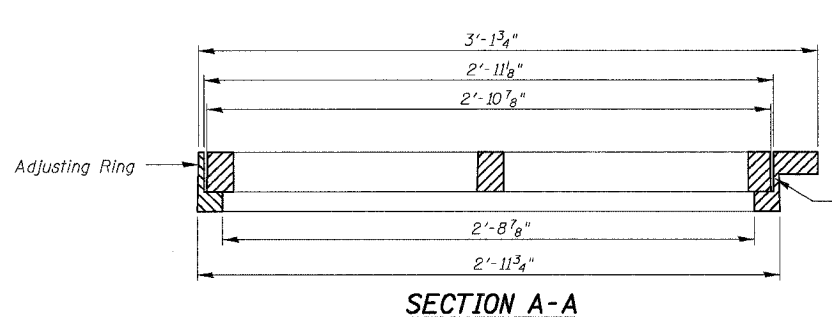


PLAN • TYPE C SCUPPER

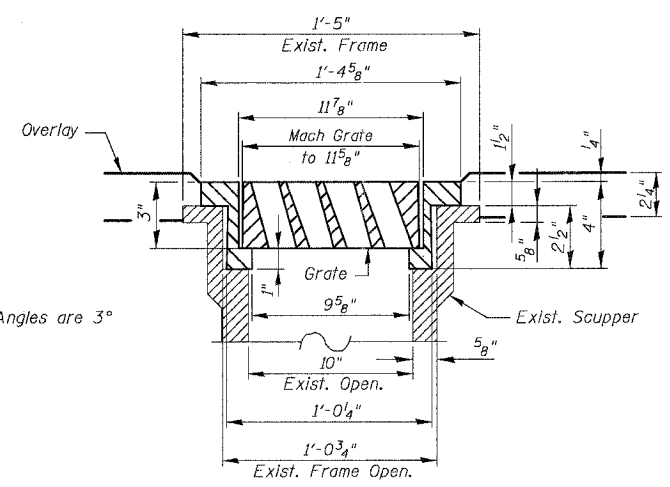


SECTION THRU TYPE C SCUPPER

- Notes:**
- For the scuppers marked on plan sheets SN 016-1111 (3 Req'd) as , the contractor shall verify the exact location, type and dimensions before he orders the material. The quantity and pay item is included in "Adjust Drainage Scuppers, Type A".
 - At SN 016-1070 (Ramp D), scupper plates (side gates) at the side of the parapet are missing. The contractor shall verify location, type and dimensions for these side plates before ordering the material. The cost for furnishing and installing these gates shall be included in "Adjusting Drainage Scuppers" of the type specified. [Estimated No. Required: Three (3) Type C].
 - For scupper locations, see Partial Deck Plan Sheets.
 - A paint stripe shall be applied over the existing stripe to the face of the Concrete Barrier Wall at all drainage scupper locations. The stripe shall be 4" wide x 12" long and extend vertically at 90 degrees from the top edge of the barrier. The paint color shall be specified by the Engineer. Cost of the stripe is to be included in "Adjusting Drainage Scuppers" of the type specified.



SECTION A-A



SECTION B-B

DRAINAGE SCUPPER DETAILS - TYPE C

Vane Gate 3943-0002 machined to fit

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 ADJUSTING DRAINAGE SCUPPER
 DETAILS

SCALE: N/A
 DATE: 8/12/2005

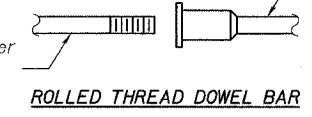
DRAWN BY: BDC
 CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
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11/5/05 AN 8/11/2005

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	310
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				

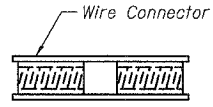
The diameter of this part is the same as the diameter of the bar spliced.



ROLLED THREAD DOWEL BAR



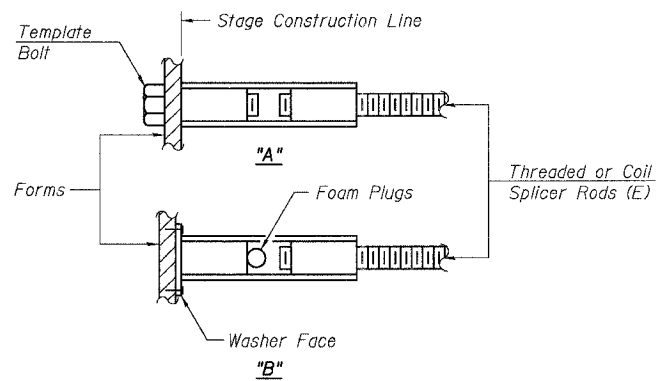
**** ONE PIECE**



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.

NOTES

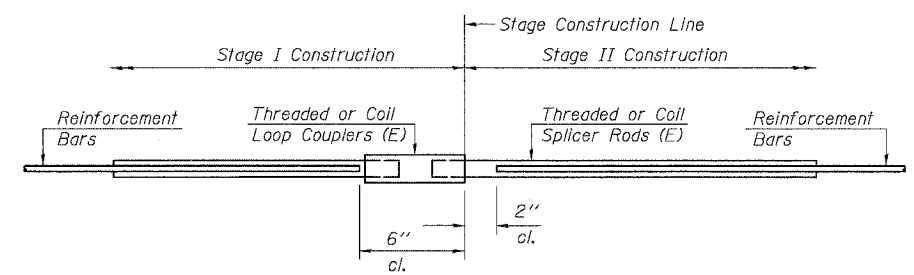
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_t$
 (Tension in kips)
- ② Minimum *Pull-out Strength = $1.25 \times f_{s_{allow}} \times A_t$
 (Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



STANDARD

Bar Size	No. Assemblies Required	Location
#5	962	*
#6	200	SN 016-1112
Total	1162	

* See Table "TOTAL BILL OF MATERIAL" SHEET 131

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 BAR SPLICER ASSEMBLY DETAILS

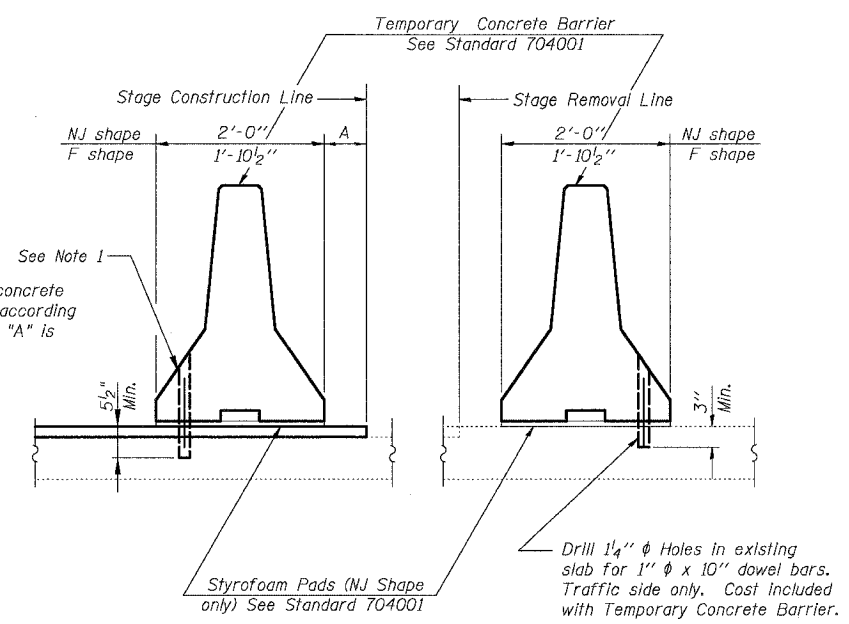
SCALE: NTS
 DATE: 8/12/2005

DRAWN BY: LM
 CHECKED BY: BLU

11/5/05 AN 8/11/2005

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	311
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62580



When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according as shown. No anchorage is required when "A" is greater than 3'-6".

NOTE:

1. Drill 1 1/4" ϕ Holes through new overlay into slab for 1" ϕ x 12" dowel bars. Traffic side only as directed by Engineer. Repair hole with non-shrink epoxy grout as directed by the Engineer. Cost of anchorage and repair included with Temporary Concrete Barrier.

NEW OVERLAYED SLAB

EXISTING SLAB

SECTIONS THRU SLAB

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

REVISIONS	
NAME	DATE

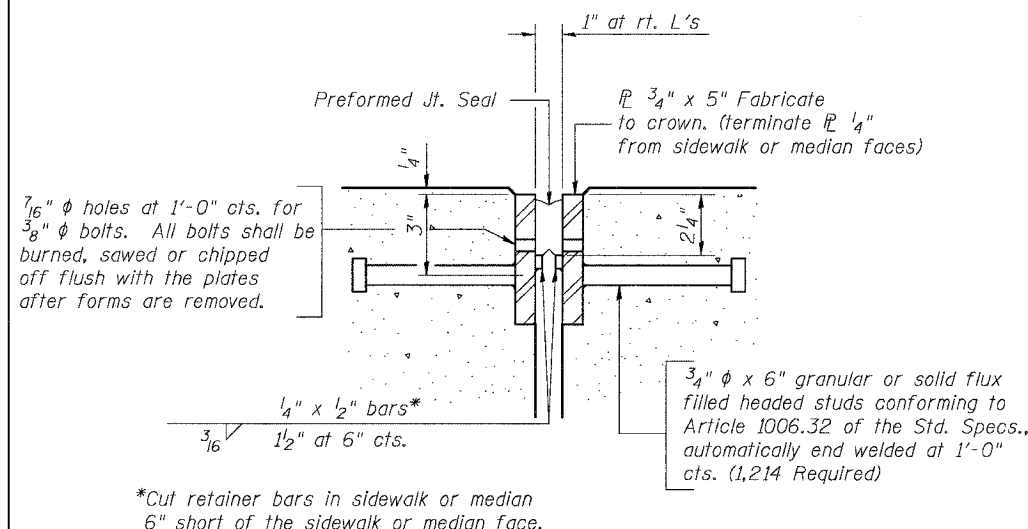
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION

SCALE: NTS
DATE: 7/22/2005

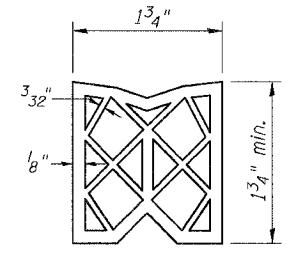
DRAWN BY: LM
CHECKED BY: BLU

7/20/2005 5:06:36 PM

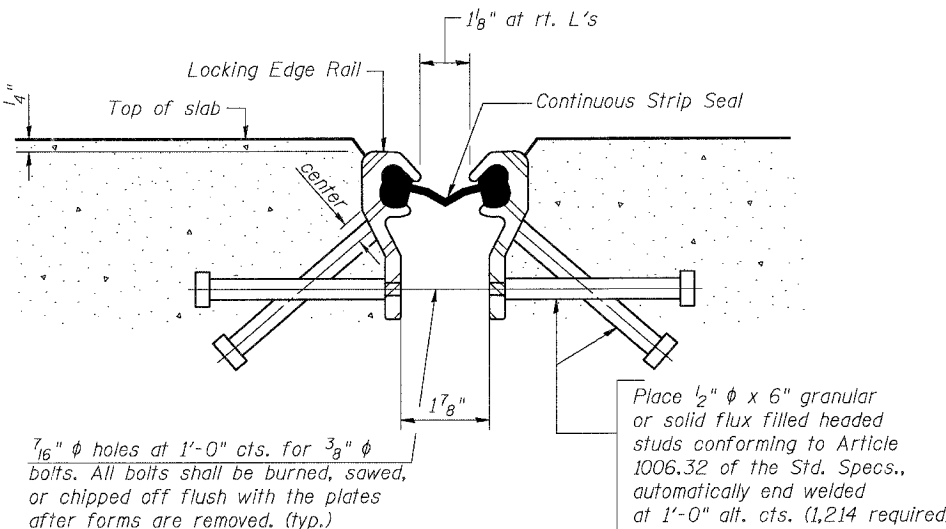
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	312
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



SECTION THRU FIXED PREFORMED JOINT SEAL



PREFORMED JOINT SEAL



SECTION THRU FIXED STRIP SEAL JOINT

GENERAL NOTES

Furnish PJS steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16 inch. Seal space with silicone sealant suitable for structural steel.

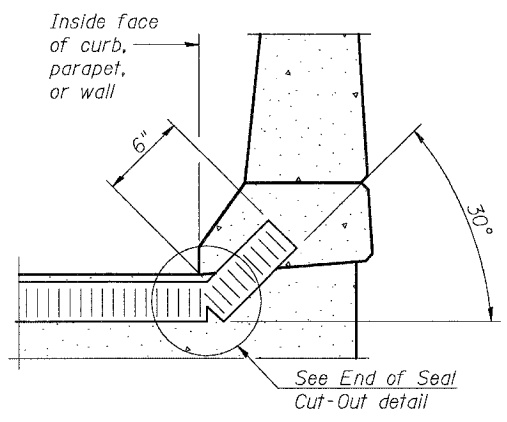
The strip seal shall be made continuous and shall have a minimum thickness of 1/4 inch. The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

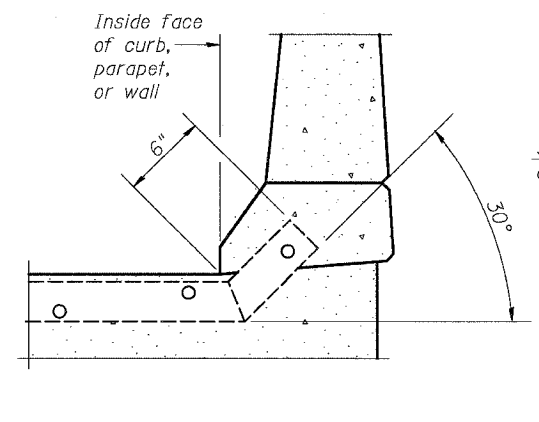
Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

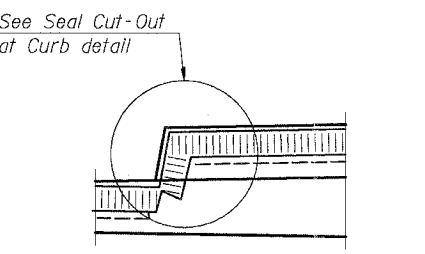
The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor elects to use the alternate strip seal joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.



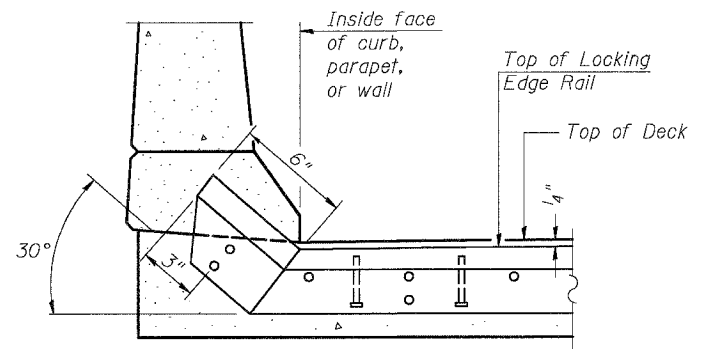
AT CURB, PARAPET, OR WALL (Showing seal)



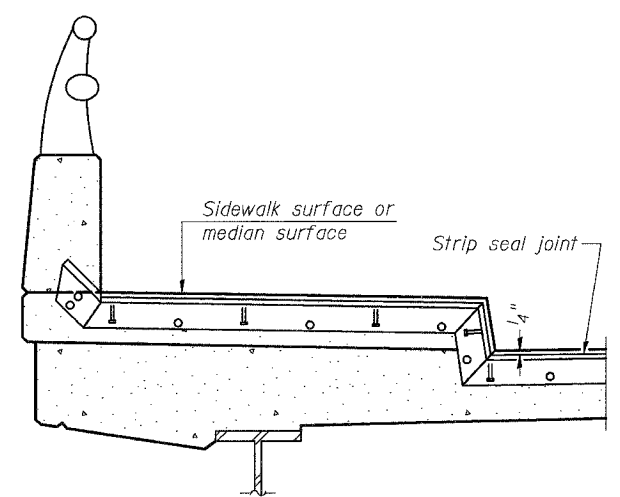
AT CURB, PARAPET, OR WALL (Showing plate)



AT SIDEWALK OR MEDIAN

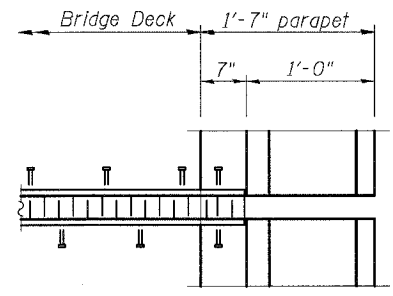


AT CURB, PARAPET, OR WALL

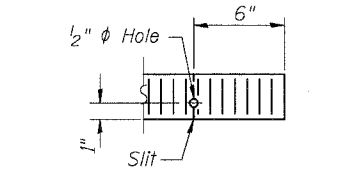


AT SIDEWALK OR MEDIAN

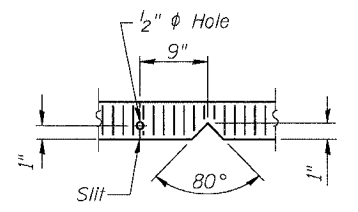
TYPICAL END TREATMENTS FOR PREFORMED JOINT SEAL



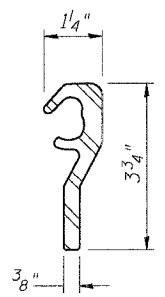
PLAN AT PARAPET



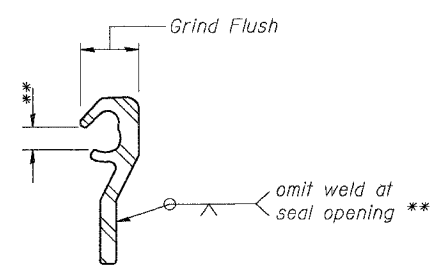
END OF SEAL CUT-OUT



SEAL CUT-OUT AT CURB



LOCKING EDGE RAIL



LOCKING EDGE RAIL SPLICE

The inside of the Locking Edge Rail groove shall be free of weld residue.

TYPICAL END TREATMENTS FOR STRIP SEAL

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 BRIDGE JOINT SYSTEM - FIXED

SCALE: NTS
 DATE: 8/12/2005
 DRAWN BY: BDC
 CHECKED BY: BLU

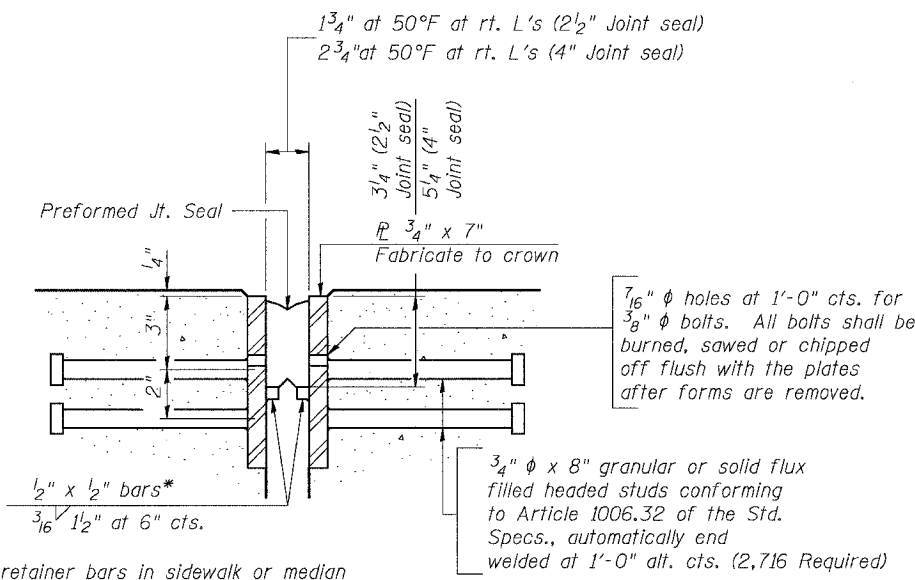
BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
 www.bbainc.com

FJ-BJS 9-01-03

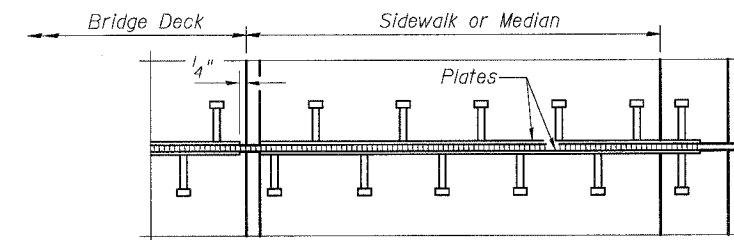
6/17/2005 11:54:53 AM

GENERAL NOTES

Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.



Bridge Joint System (Expansion)		
Design Movement	Required Preformed Joint Seal Size	Required Strip Seal Rated movement
1"	2 1/2"	1"
1 5/8"	4"	2"

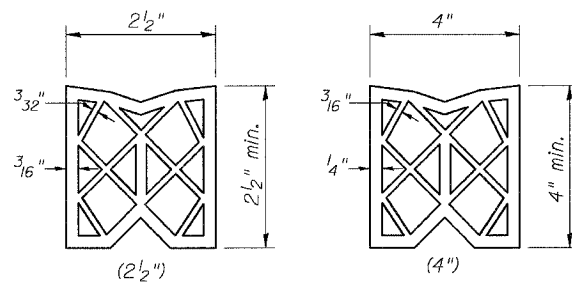


PLAN AT SIDEWALK OR MEDIAN

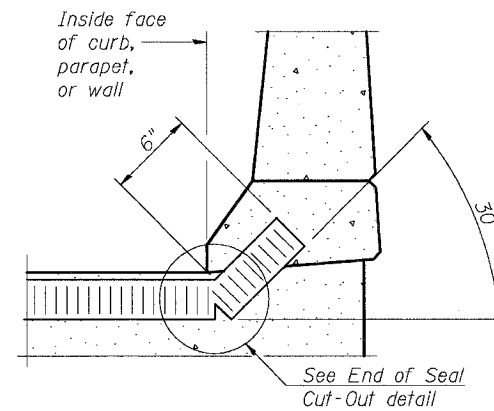
*Cut retainer bars in sidewalk or median 6" short of the sidewalk or median face.

SECTION THRU EXPANSION JOINT

(2 1/2" and 4" joint seals)

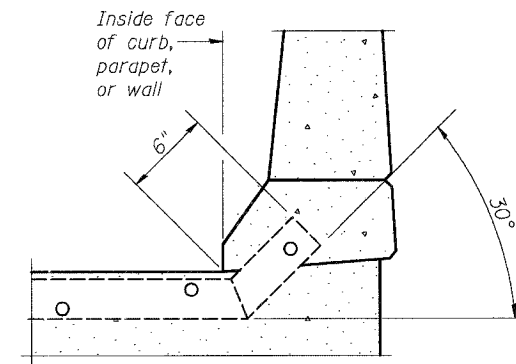


PREFORMED JOINT SEAL



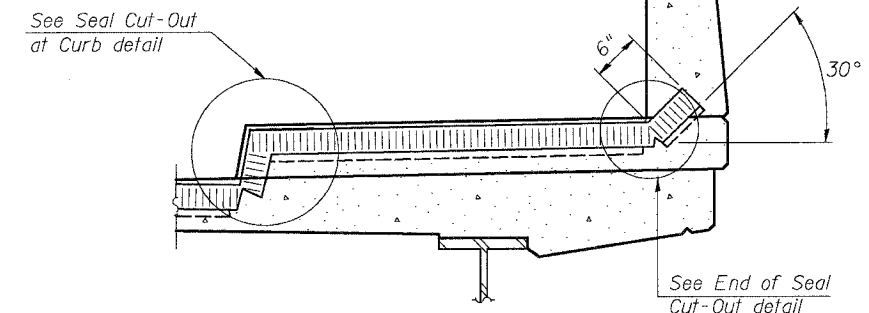
AT CURB, PARAPET, OR WALL

(Showing seal)



AT CURB, PARAPET, OR WALL

(Showing plate)

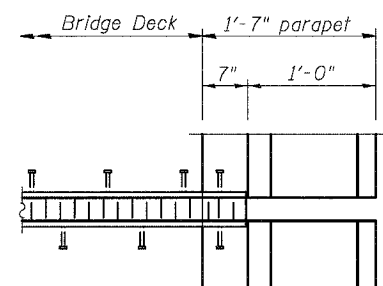


AT SIDEWALK OR MEDIAN**

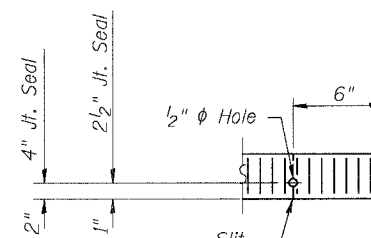
(Showing plate and seal)

** Shorter plates with a single row of studs at 12" centers may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

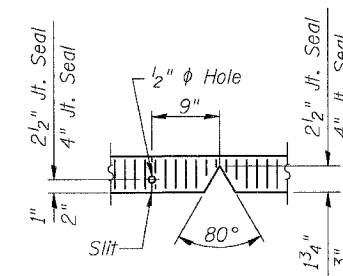
TYPICAL END TREATMENTS



PLAN AT PARAPET



END OF SEAL CUT-OUT

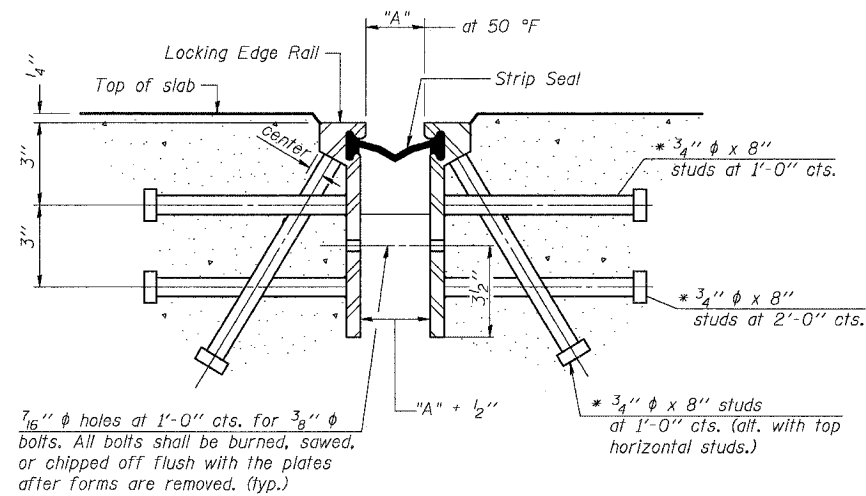


SEAL CUT-OUT AT CURB

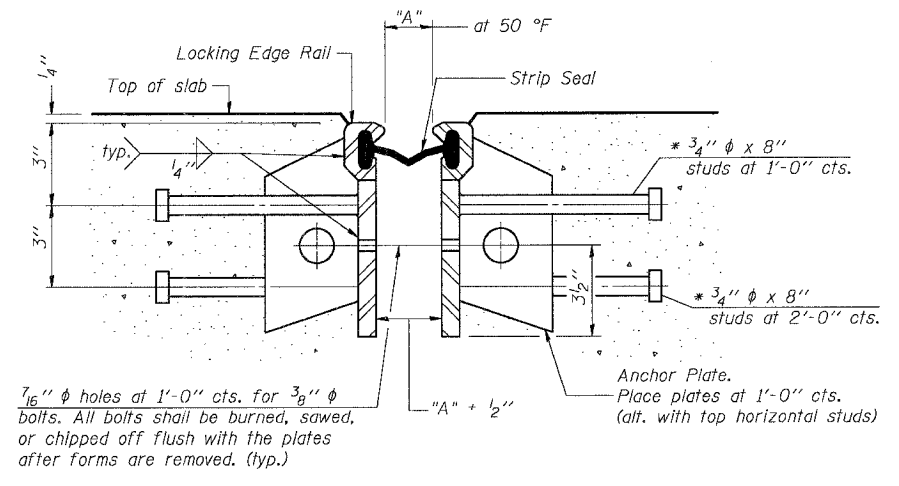
REVISIONS	
NAME	DATE

9.35825 AM 8/17/2005

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	314
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



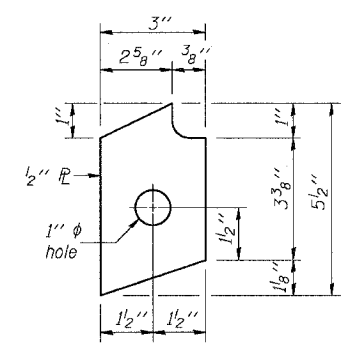
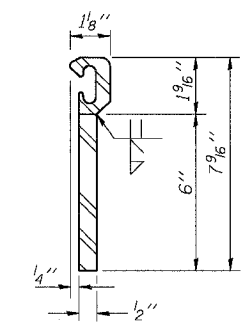
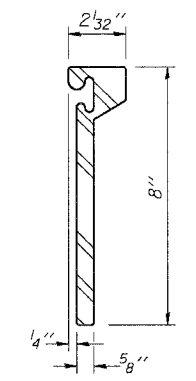
Required Strip Seal rated movement	"A"
1"	1 1/8"
2"	1 3/4"



SECTION THRU ROLLED RAIL EXP. JOINT
(11,198 Studs Required)

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

SECTION THRU WELDED RAIL EXP. JOINT
(7,514 Studs Required)
(3,684 Anchor Plates Required)

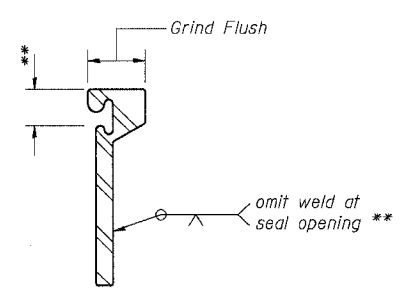


ROLLED (EXTRUDED) RAIL

WELDED RAIL

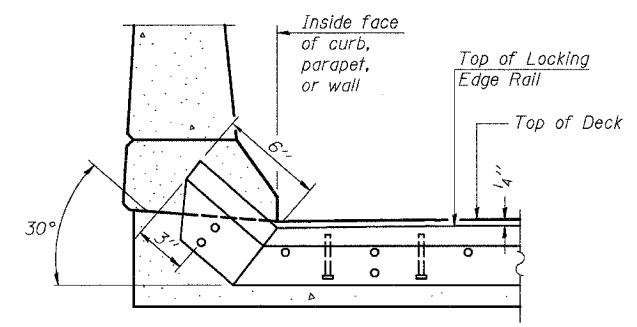
ANCHOR PLATE
(for welded rail)

LOCKING EDGE RAILS

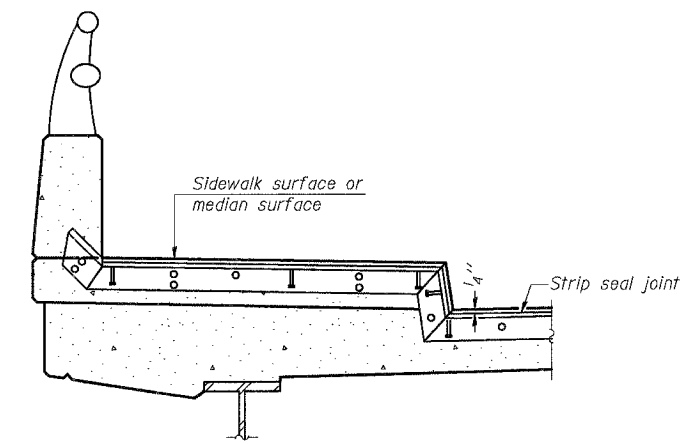


LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.



AT CURB, PARAPET, OR WALL



AT SIDEWALK OR MEDIAN***

*** Shorter plates with a single row of studs at 12" centers may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

GENERAL NOTES

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.
Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.
The manufacturer's recommended installation methods shall be followed.
The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor elects to use the alternate strip seal joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

BOWMAN, BARRETT & ASSOCIATES INC.
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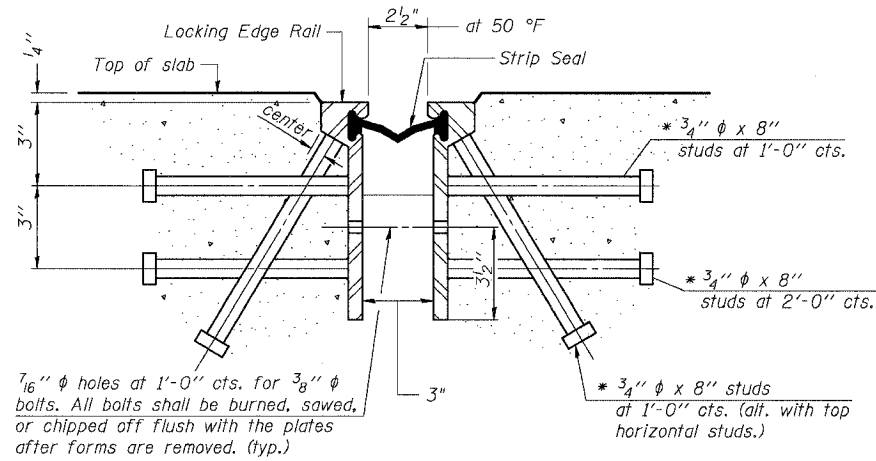
EJ-BJS 9-01-03

REVISIONS	NAME	DATE

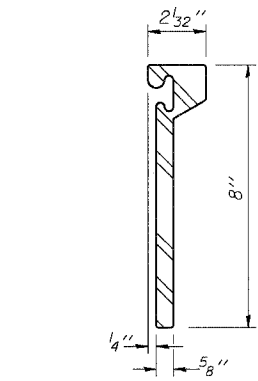
(Sheet 2 of 2)
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
BRIDGE JOINT SYSTEM - EXPANSION
(ALTERNATE - STRIP SEAL)
SCALE: NTS DRAWN BY: BDC
DATE: 8/12/2005 CHECKED BY: BLU

9-30-25 AM 8/11/2005

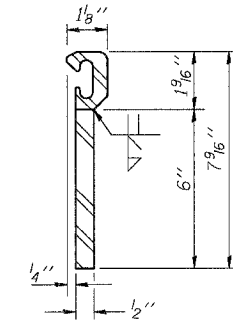
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



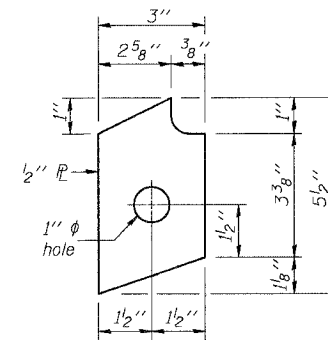
SECTION THRU ROLLED RAIL EXP. JOINT
(11,198 Studs Required)



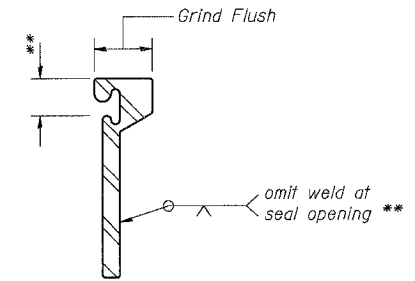
ROLLED (EXTRUDED) RAIL



WELDED RAIL



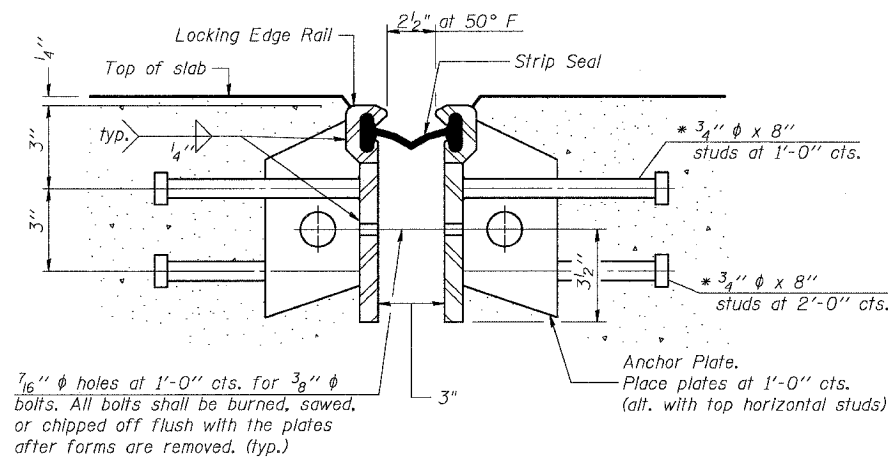
ANCHOR PL
(for welded rail)



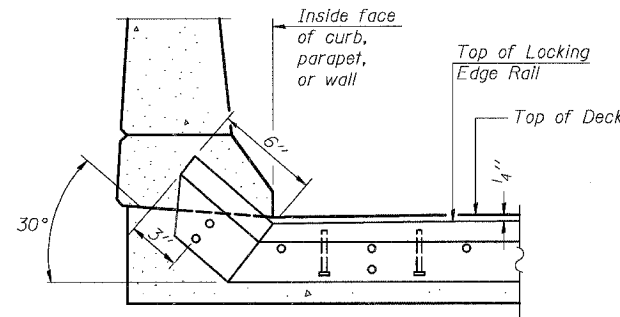
LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

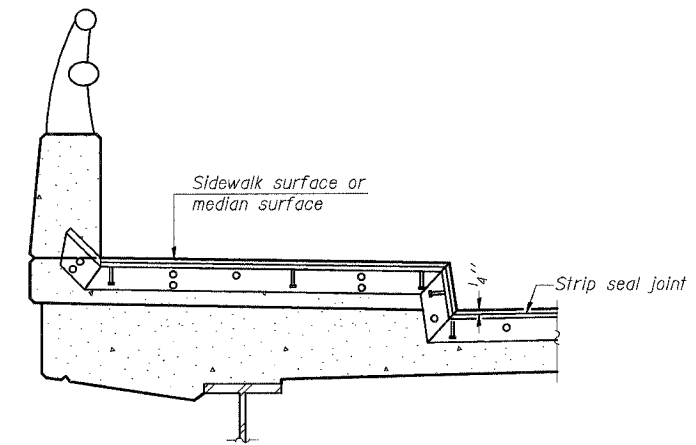
EXPANSION JOINT LOCKING EDGE RAIL DETAILS



SECTION THRU WELDED RAIL EXP. JOINT
(7,514 Studs Required)
(3,684 Anchor Plates Required)



AT CURB, PARAPET, OR WALL



AT SIDEWALK OR MEDIAN*

* Shorter plates with a single row of studs at 12 inch centers may be necessary on medians which are shallower than 9 inch. See manufacturer's recommendation.

TYPICAL END TREATMENTS

GENERAL NOTES

The strip seal shall be made continuous and shall have a minimum thickness of 1/4 inch. The configuration of the strip seal shall match the configuration of the Locking Edge Rails.
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.
Locking Edge Rails may be spliced at slope discontinuities and stage construction joints. The manufacturer's recommended installation methods shall be followed.

REVISIONS	DATE
NAME	

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
STRIP SEAL EXPANSION JOINT
ASSEMBLY DETAILS

SCALE: NTS
DATE: 8/12/2005

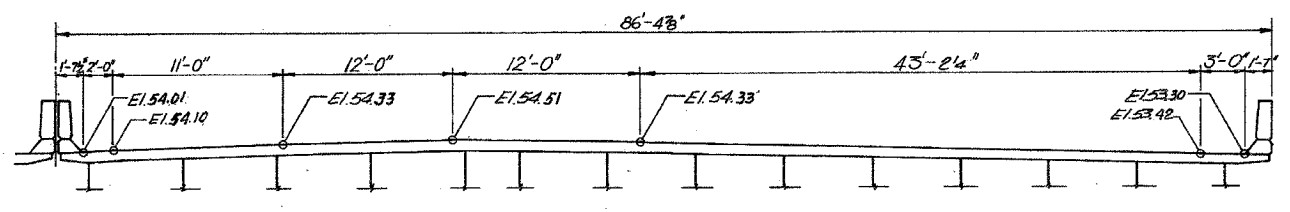
DRAWN BY: BDC
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

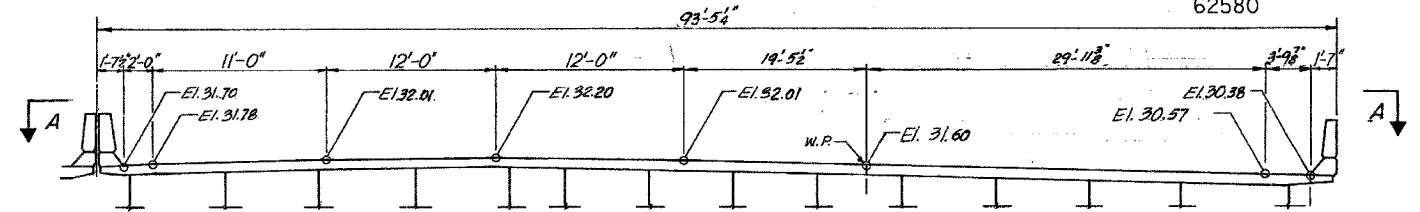
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

943625 AM 8/11/2005

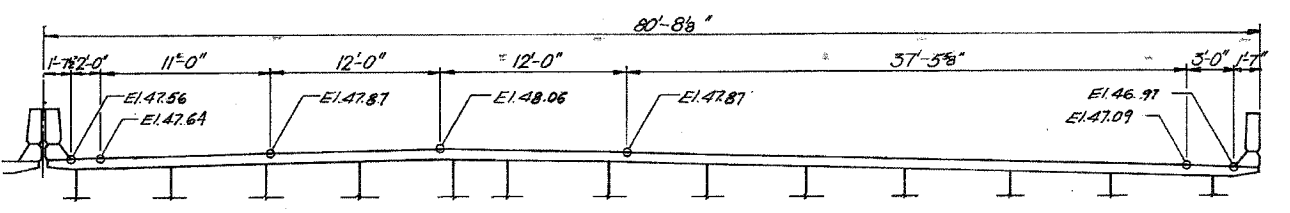
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	315
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62580				



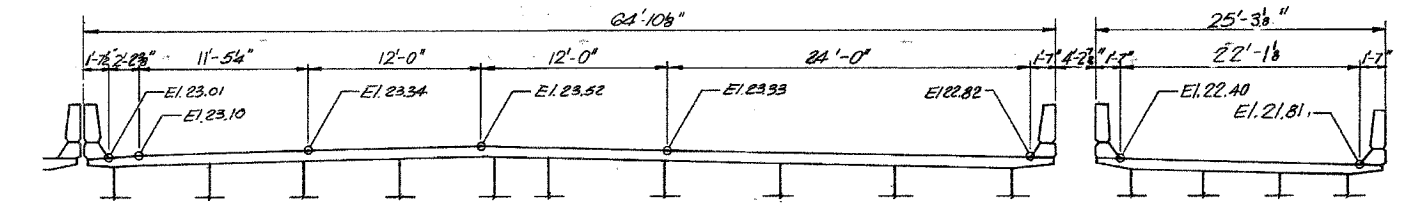
EXPANSION JOINT AT PIER No. 7
4 in. NEOPRENE



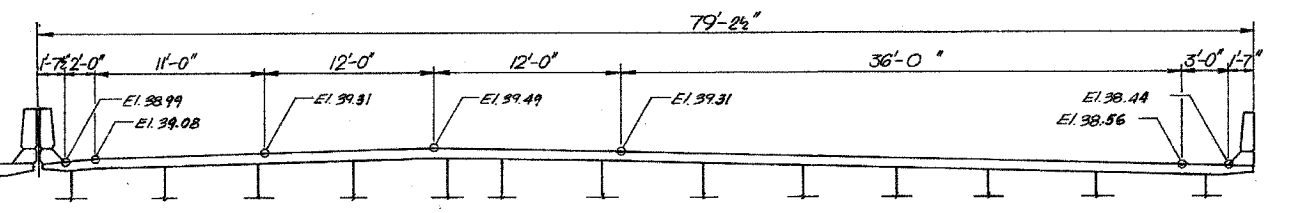
EXPANSION JOINT AT PIER No. 19
4 in. NEOPRENE



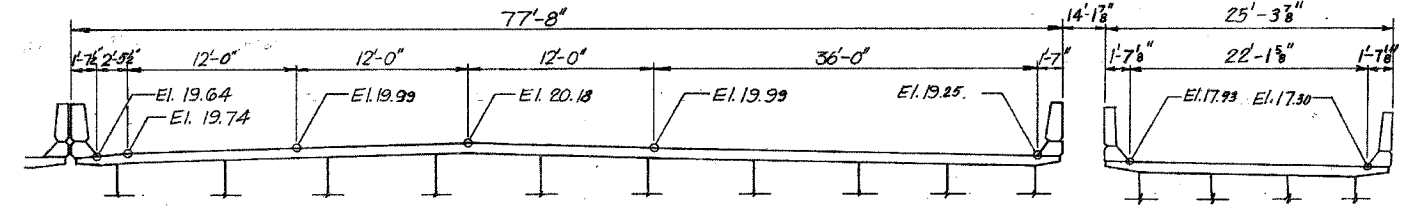
EXPANSION JOINT AT PIER No. 11
4 in. NEOPRENE



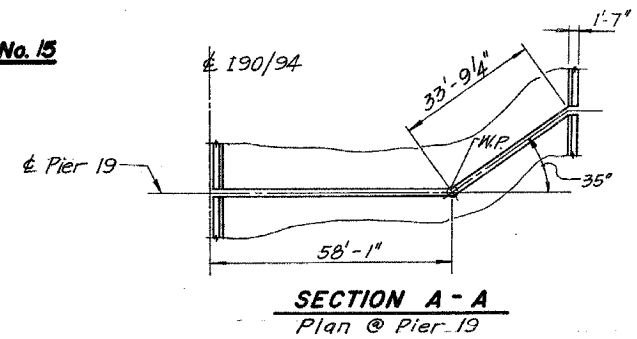
EXPANSION JOINT AT PIER No. 23
2 1/2 in. NEOPRENE



EXPANSION JOINT AT PIER No. 15
4 in. NEOPRENE



EXPANSION JOINT AT NORTH ABUTMENT
2 1/2 in. PREFORMED JOINT SEAL



SECTION A - A
Plan @ Pier 19

- Notes:
1. All dimensions are along Centerline of Joint.
 2. For details see sheets T-J1, T-J2 & T-J3.
 3. All Sections looking up-station.

12-1-88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985 - 077BR - COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-0137
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUG. 1988
Drawn By: CAD
Checked By: MEM
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

REVISIONS	NAME	DATE

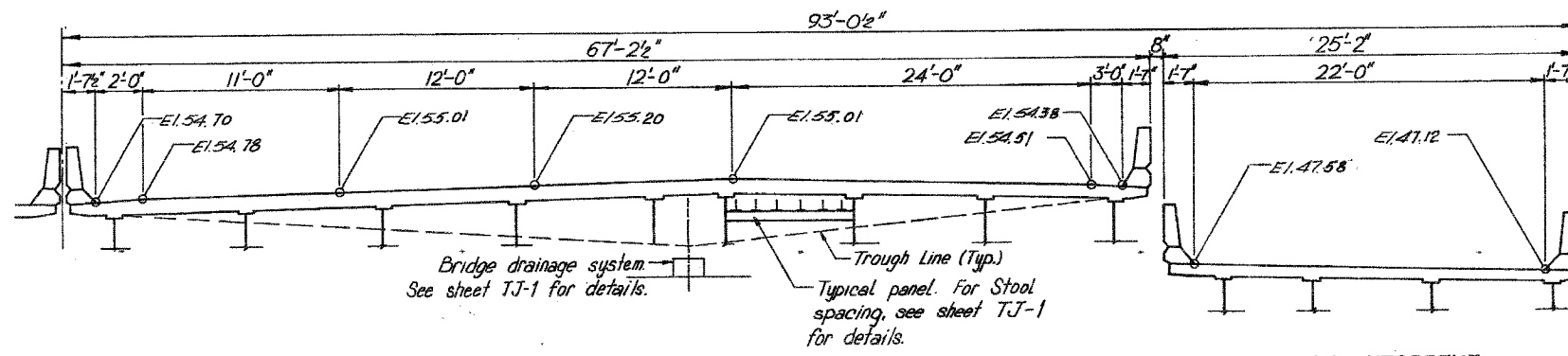
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-0137
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

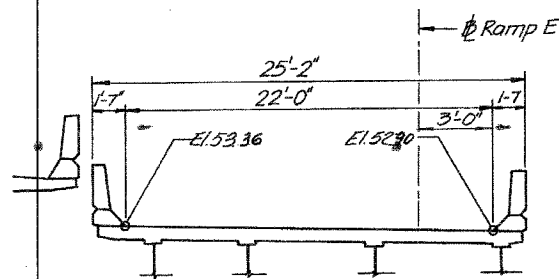
FOR INFORMATION ONLY

11/15/2005 1:54:25 PM

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				

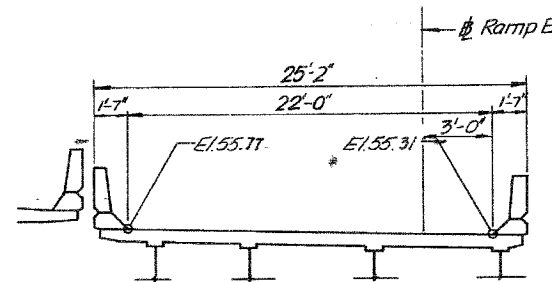


EXPANSION JOINTS AT PIER No. 1



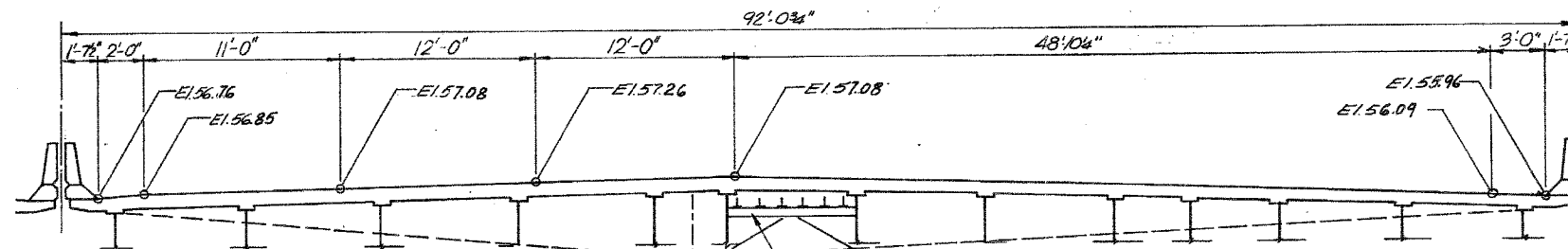
EXPANSION JOINT 'A' SPAN 2

2 1/2 in. PREFORMED JOINT SEAL



EXPANSION JOINT 'B' SPAN 2

2 in. NEOPRENE



EXPANSION JOINT AT PIER No. 4

4 1/2 in. FINGER PLATE

SHEET 018 OF 033

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-077-BR-COOK COUNTY
N.B. MAIN LINE RECONSTRUCTION
STRUCTURE 016-1110
TRANSVERSE DECK JT. ELEVATION
Scale: NONE
Date: AUG., 1988
Drawn By: J.G.
Checked By: M.E.M.
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

- Notes:
1. All Dimensions are along Centerline of Joint.
 2. For details see sheets TJ1, TJ2 & TJ3.
 3. All Sections looking up-station.

12-1-88

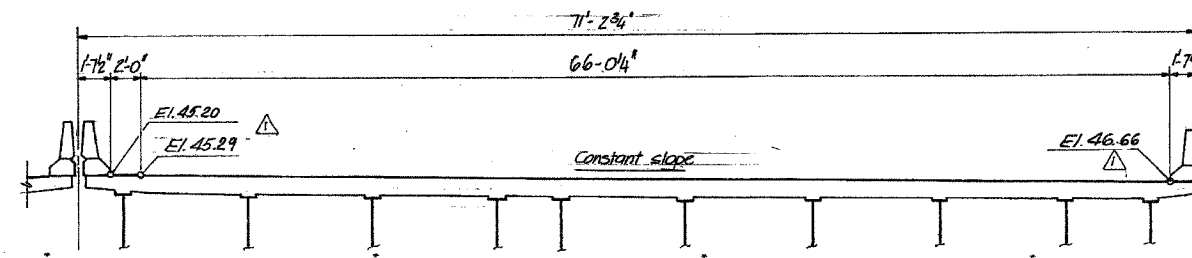
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbadainc.com

FOR INFORMATION ONLY

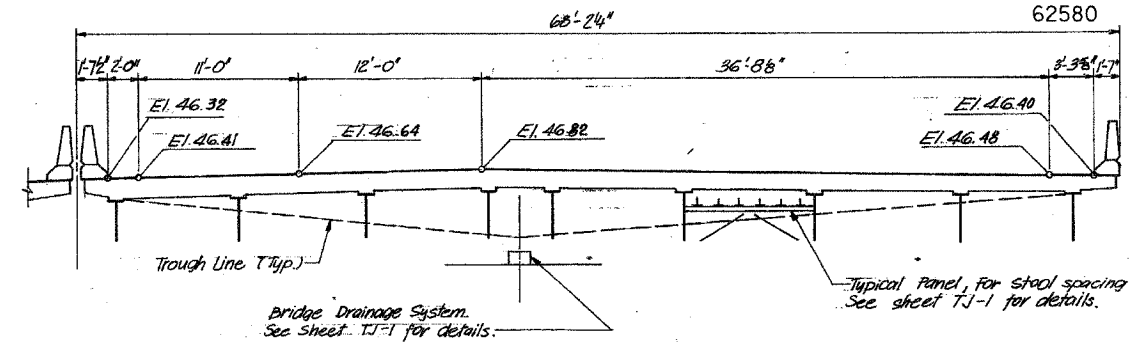
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1110
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

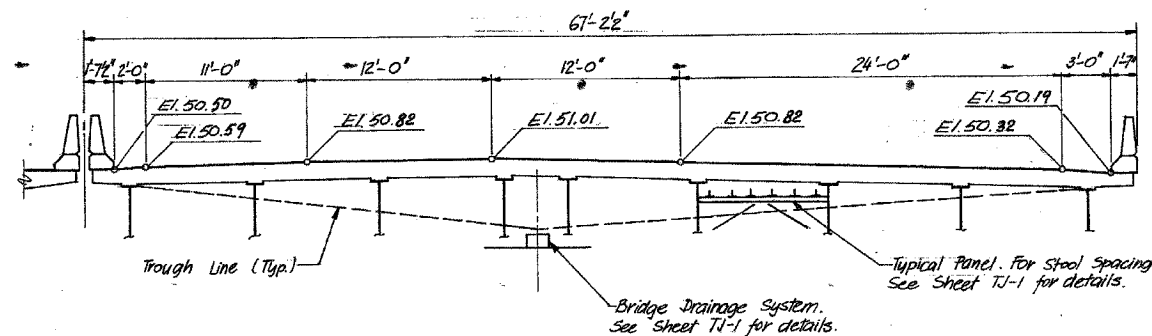
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	317
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



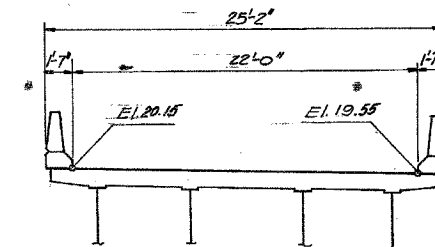
EXPANSION JOINT AT PIER No. 1
2 1/2 in. PREFORMED JOINT SEAL



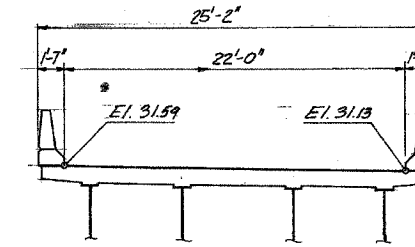
EXPANSION JOINT AT PIER No. 2
4 1/2 in. FINGER PLATE



EXPANSION JOINT AT PIER No. 7
4 1/2 in. FINGER PLATE



EXPANSION JOINT AT PIER No. E5
2 in. NEOPRENE EXP. JOINT



EXPANSION JOINT AT PIER No. E8
2 1/2 in. NEOPRENE EXP. JOINT

- Notes:
1. All dimensions are along Centerline of Joint.
 2. For details see sheets TJ1, TJ2 & TJ3.
 3. All Sections looking up-station.

SHEET C 28 OF C 51

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1905 - OTTUM - COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1111
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUG., 1988
Drawn By: [Signature]
Checked By: [Signature]
ENVIRONMENTAL ENGINEERS INC.
Chicago, Illinois

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1111
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

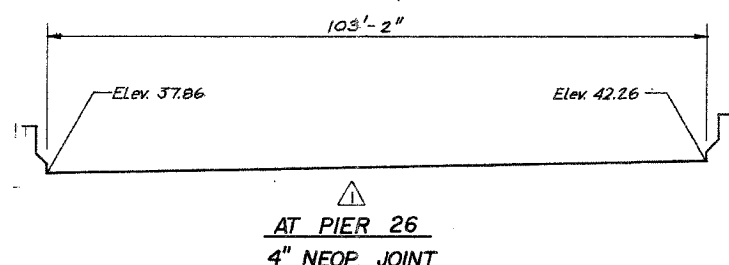
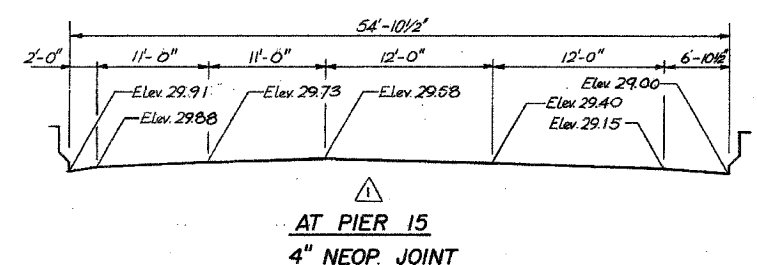
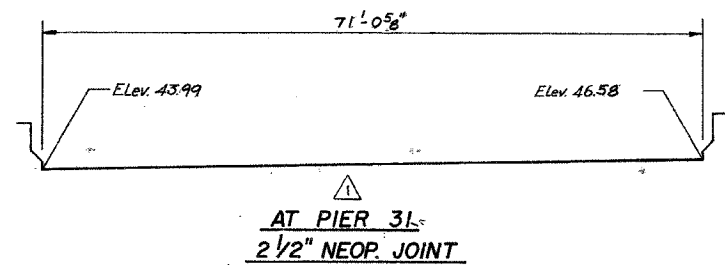
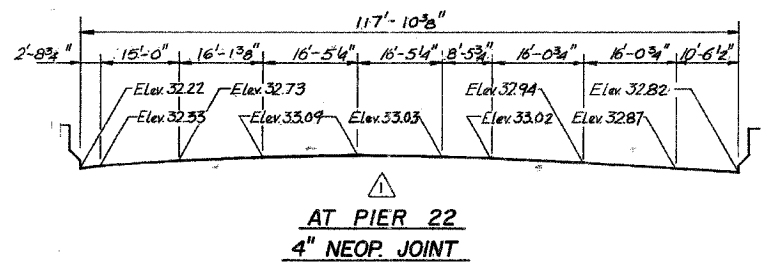
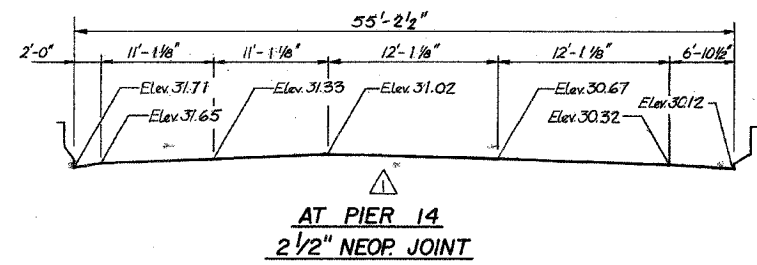
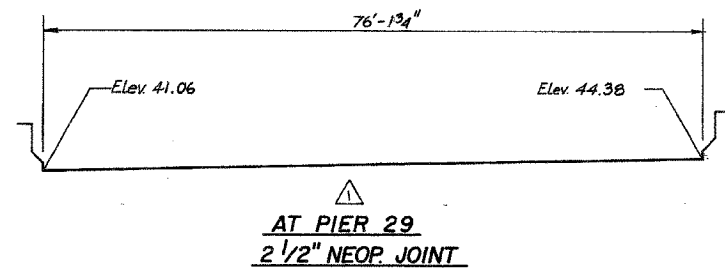
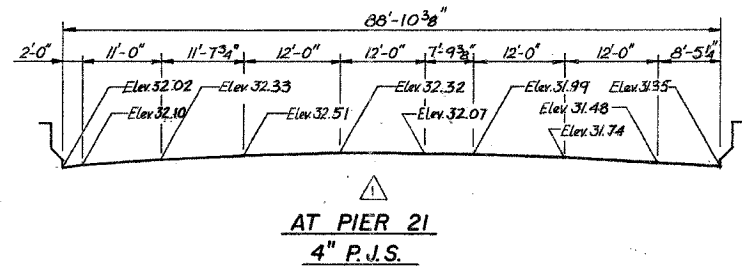
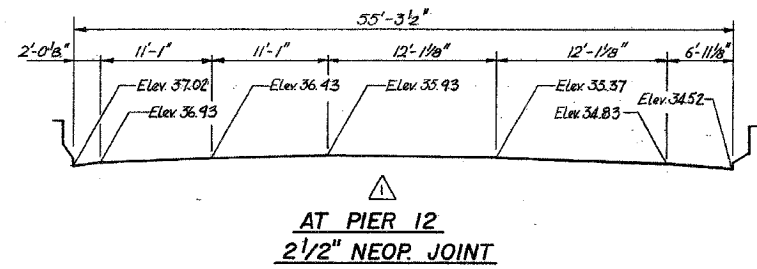
FOR INFORMATION ONLY

12-1-88

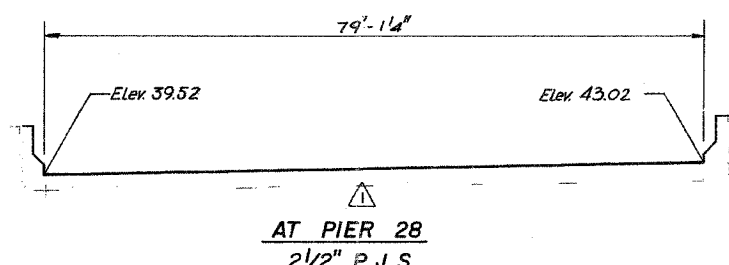
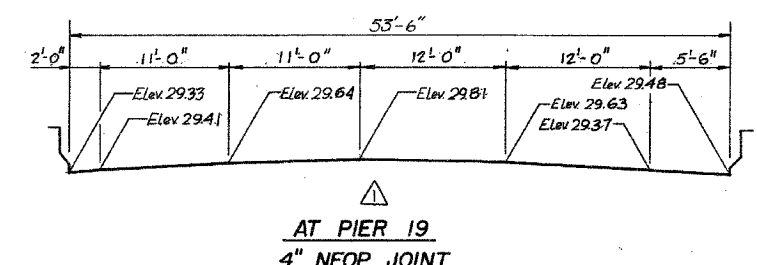
MAINLINE NO 1112

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	318
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

62580



Notes:
All X-Sections are looking North.
All joints are looking north.



SHEET D 39 OF 91

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-077 B-R-COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1112
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUGUST, 1988
Drawn By: O.O.
Checked By: T.V.
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

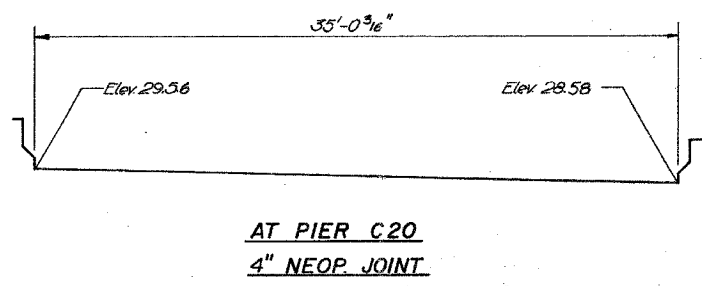
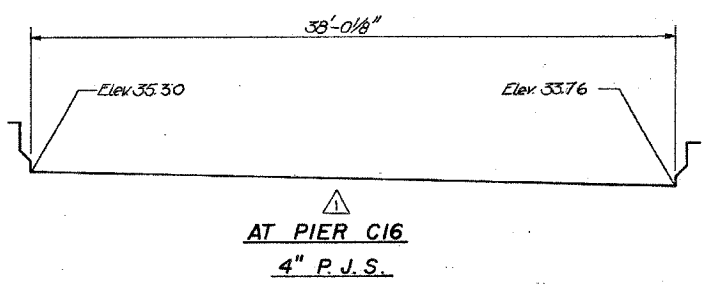
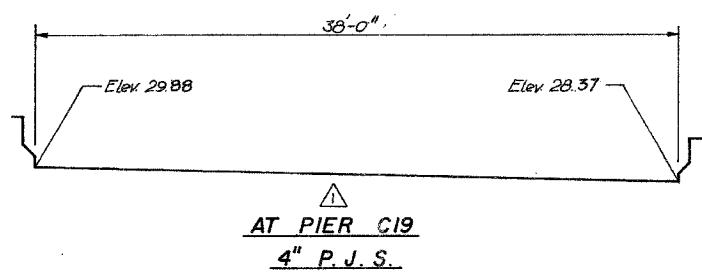
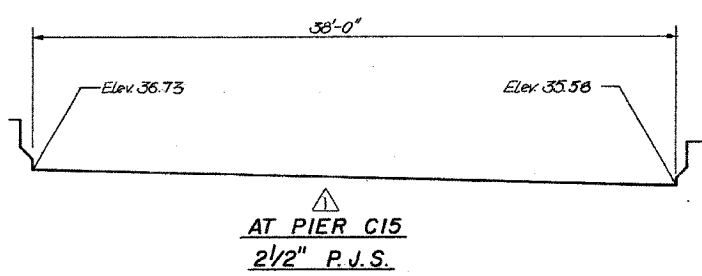
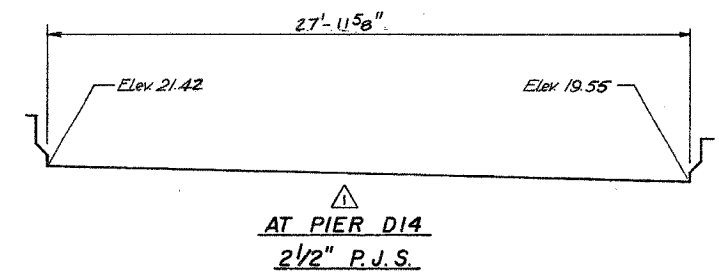
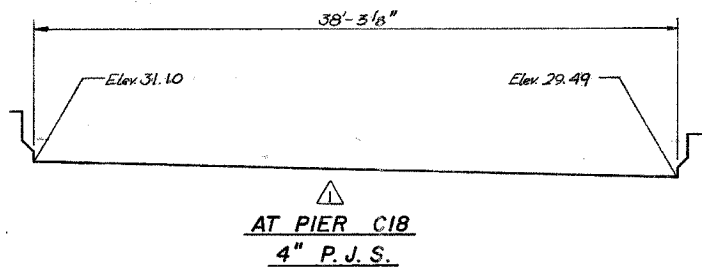
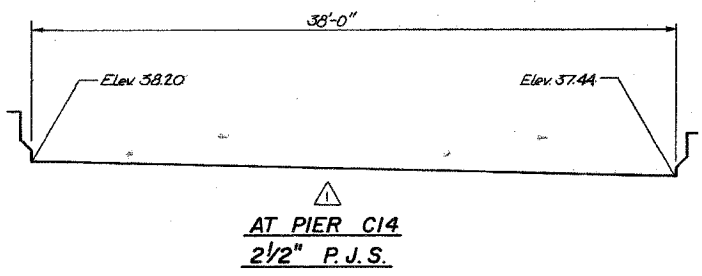
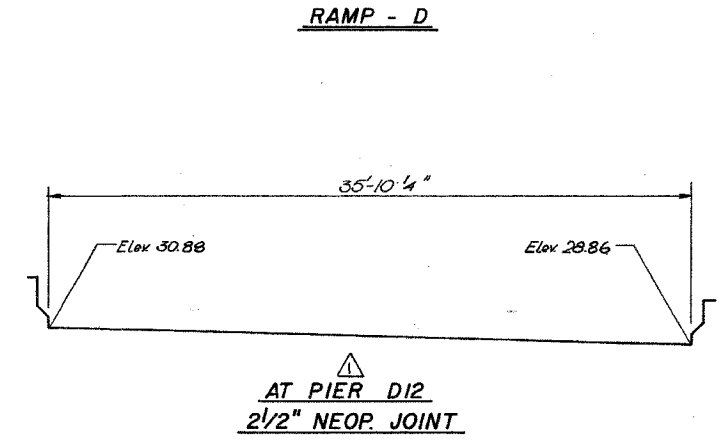
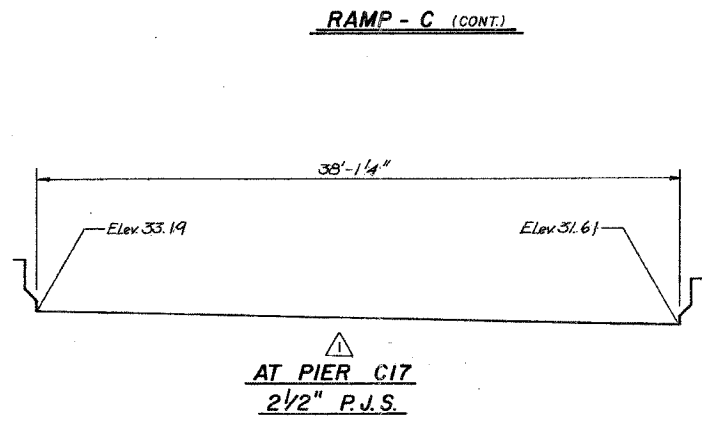
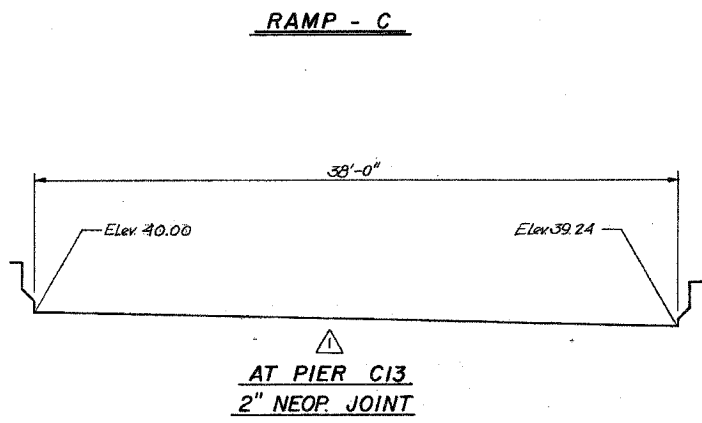
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1112
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	319
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



Notes:
All X-Sections are looking north.
All joints are looking north.

SHEET D40 OF 91

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-077 B-COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1112
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUGUST, 1988
Drawn By: O.O.
Checked By: T.V.
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1112
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

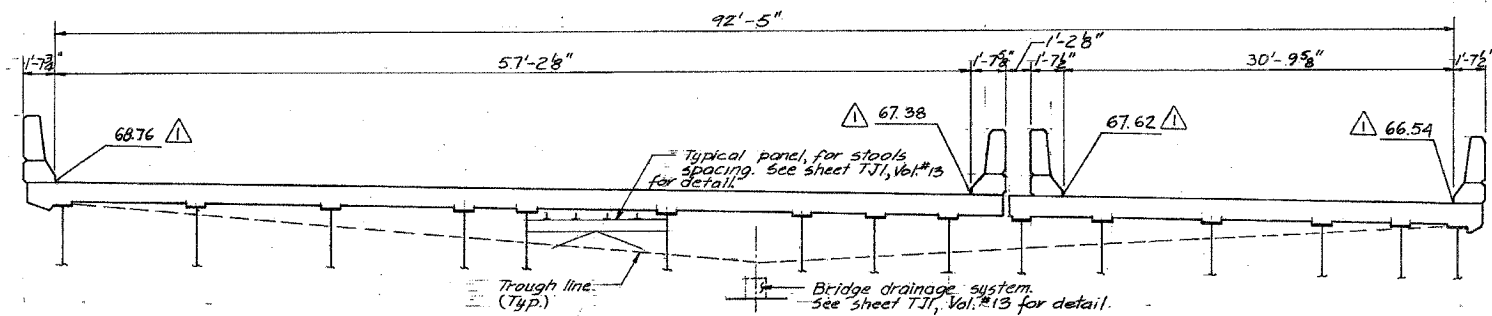
12-1-88

FOR INFORMATION ONLY

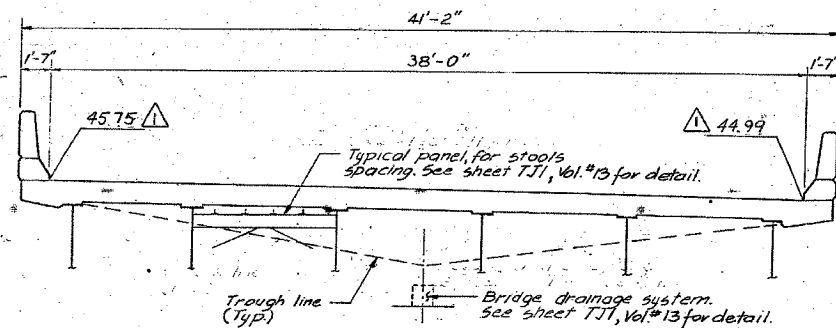
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

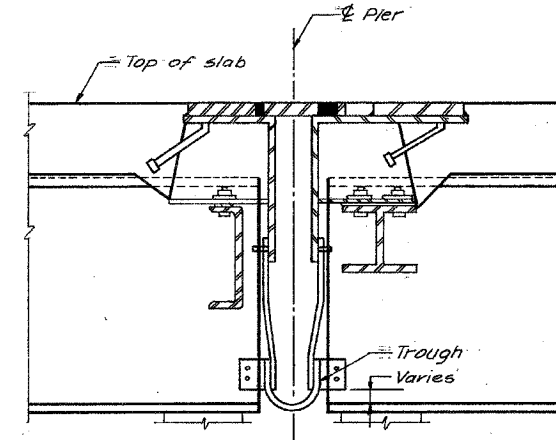
62580



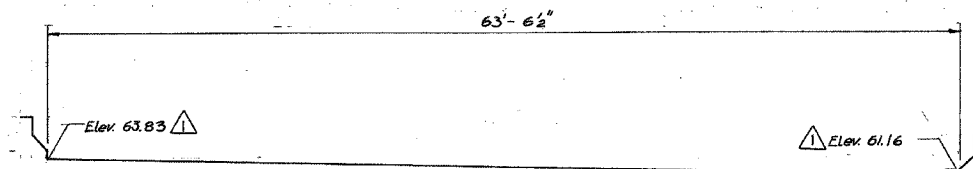
EXPANSION JOINT AT PIER No.1
4 1/2" FINGER PLATE WITH TROUGH



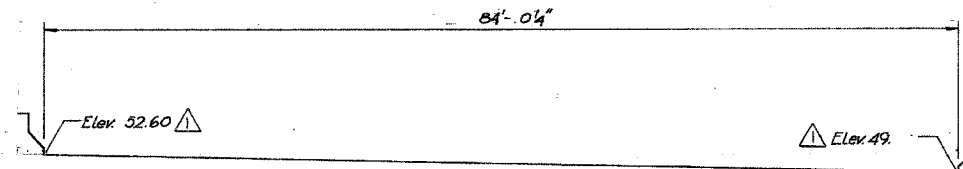
PIER No. C10
EXPANSION JOINT AT PIER No.1 & No. C10
4 1/2" FINGER PLATE WITH TROUGH



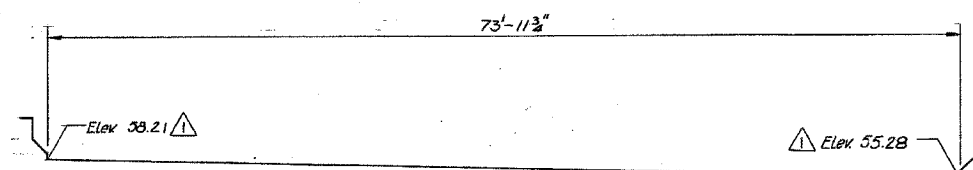
FINGER PLATE EXPANSION JOINT
(TYPICAL CROSS-SECTION)
See TJ1, Vol. # 13 for Detail



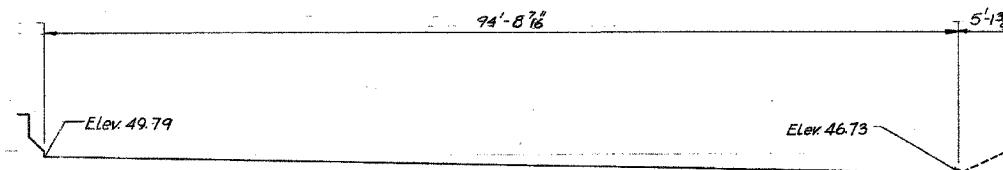
AT PIER No.3
2 1/2" NEOPRENE JOINT



AT PIER No.7
2 1/2" NEOPRENE JOINT



AT PIER No.5
2 1/2" NEOPRENE JOINT



AT PIER No.8
4" PREFORMED JOINT SEAL

Note:
All Joints are looking North.

12-1-88

SHEET E 37 OF 88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-077 B-R COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1113
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUGUST, 1988
Drawn By: O.O.
Checked By: T.V.
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

REVISIONS	
Name	Date

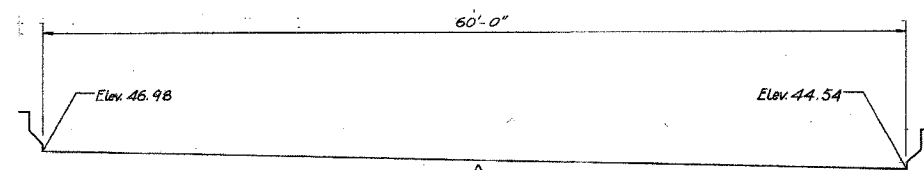
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1113
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

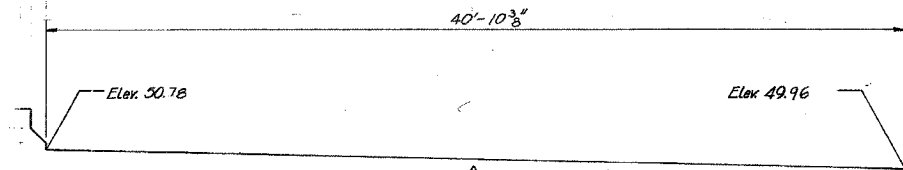
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

FOR INFORMATION ONLY

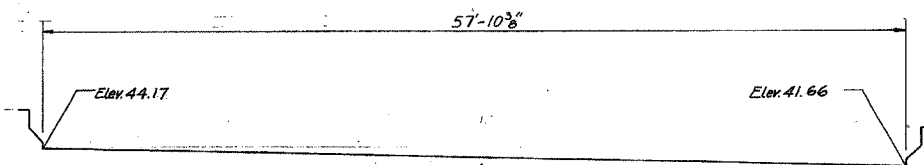
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	321
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62580				



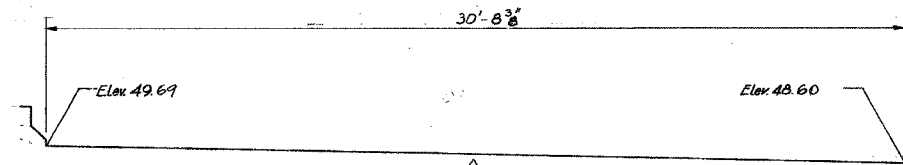
AT PIER No. 9
2 1/2" PREFORMED JOINT SEAL



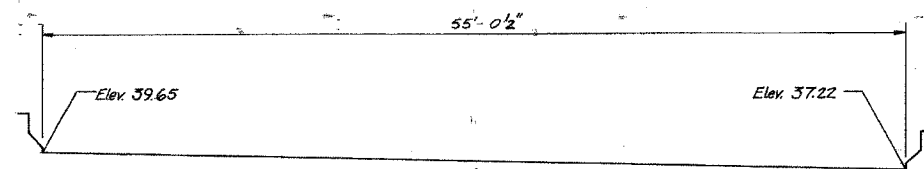
AT PIER No. C7
2" NEOPRENE JOINT



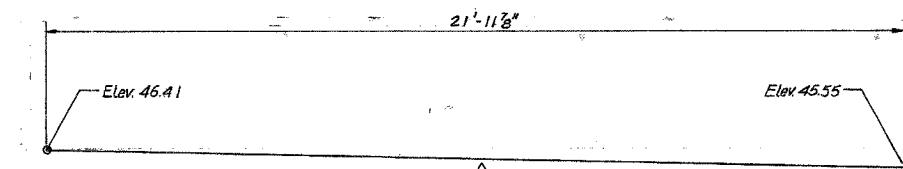
AT PIER No. 10
4" NEOPRENE JOINT



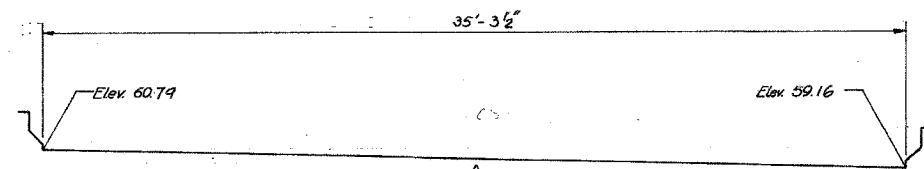
AT PIER No. D7
2 1/2" NEOPRENE JOINT



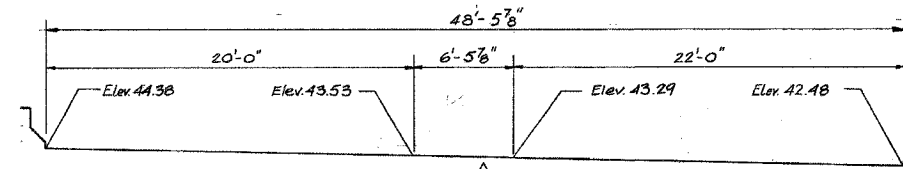
AT PIER No. 11
2 1/2" PREFORMED JOINT SEAL



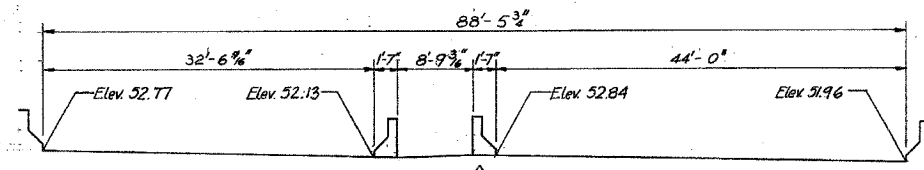
AT PIER No. D8
4" PREFORMED JOINT SEAL



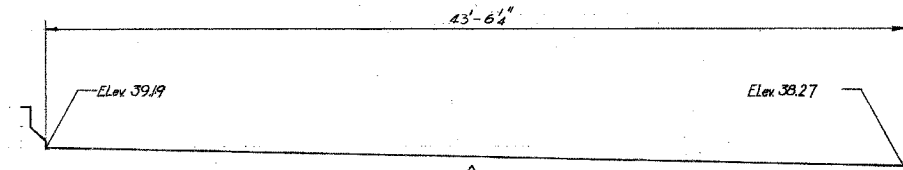
AT PIER No. C3
2 1/2" NEOPRENE JOINT



AT PIER No. D9
2 1/2" PREFORMED JOINT SEAL



AT PIER No. C6
2 1/2" PREFORMED JOINT SEAL



AT PIER No. D10
4" NEOPRENE JOINT

Note:
All Joints are looking North.

12-1-88

SHEET E38 OF 88

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-077 R - COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1113
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUGUST 1988
Checked By: T.V.
DRAWN BY: O.O.
ENVIRONMENTAL ENGINEERS INC.
Chicago, Illinois

REVISIONS	NAME	DATE

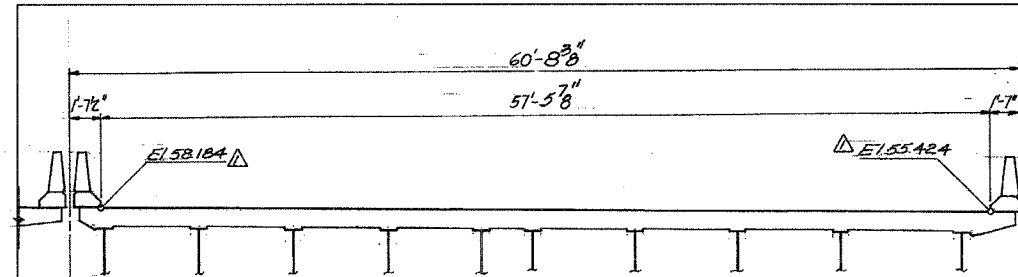
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1113

SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

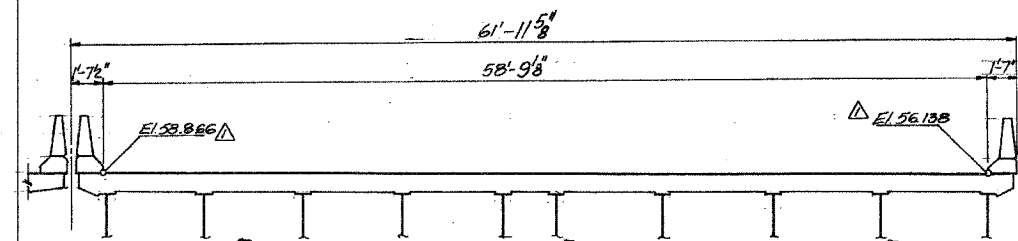
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

FOR INFORMATION ONLY

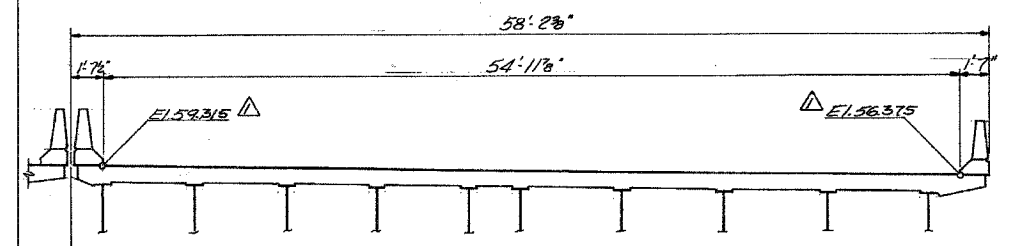
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	322
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62580				



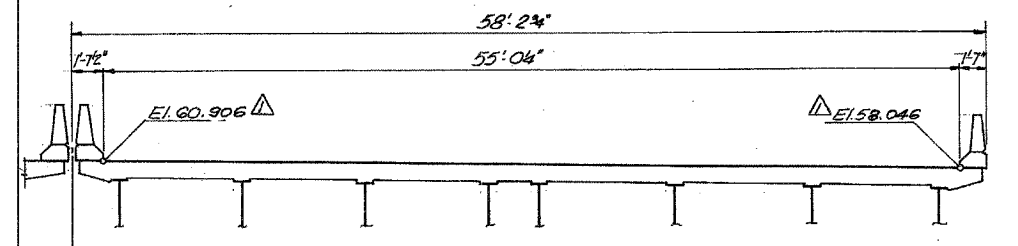
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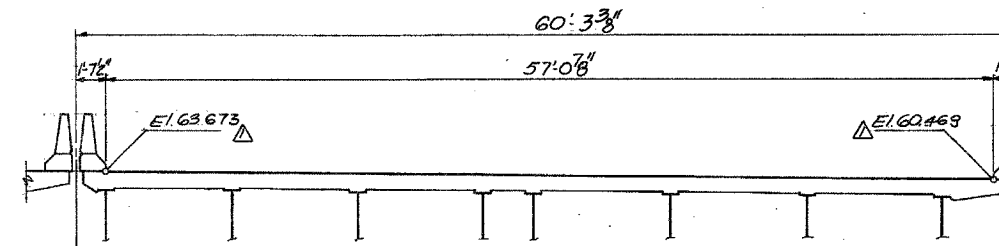
EXPANSION JOINT AT PIER No. 15
2 in. NEOPRENE



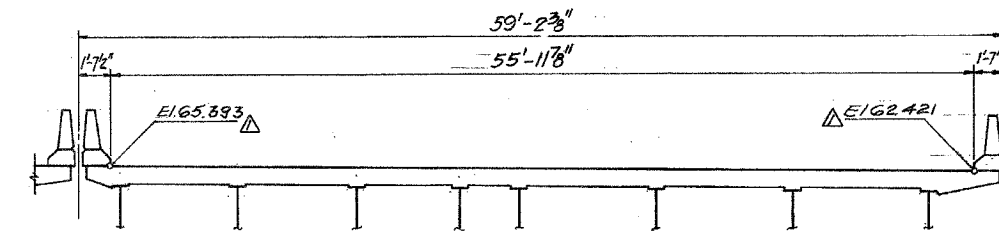
EXPANSION JOINT AT PIER No. 16
2 1/2 in. NEOPRENE



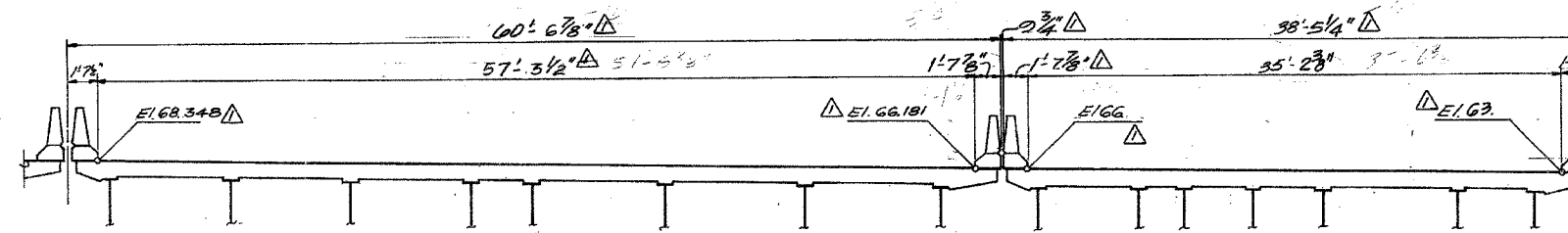
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2 1/2 in. NEOPRENE



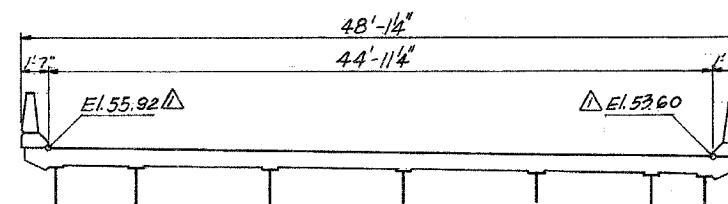
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2 1/2 in. NEOPRENE



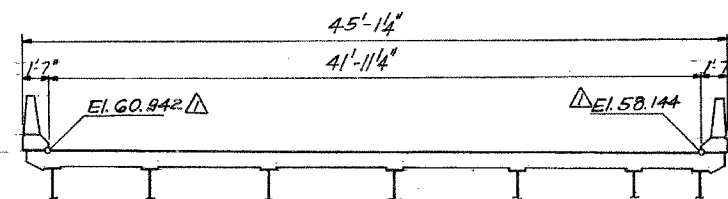
EXPANSION JOINT AT PIER No. 21
2 1/2 in. PREFORMED JOINT SEAL



EXPANSION JOINT AT PIER No. 22
4 in. NEOPRENE



EXPANSION JOINT AT PIER No. E1
4 in. PREFORMED JOINT SEAL



EXPANSION JOINT AT PIER No. E2
2 1/2 in. PREFORMED JOINT SEAL

- Notes:
1. All dimensions are along Center line of Joint.
 2. For details see sheet T.J2 & T.J3.
 3. All Sections looking up-station.

SHEET 645 OF 6101

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-077BR-COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1115
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUG., 1988
Drawn By:
Checked By:
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

REVISIONS	DATE
NAME	DATE

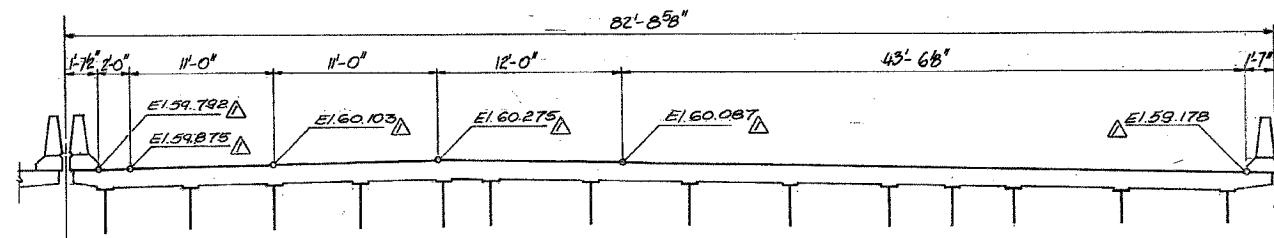
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1115
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

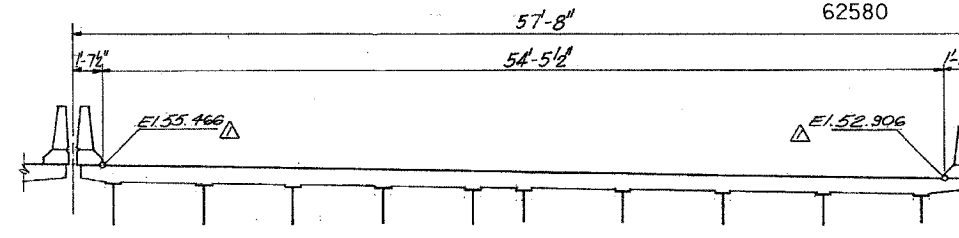
FOR INFORMATION ONLY

12-1-1988

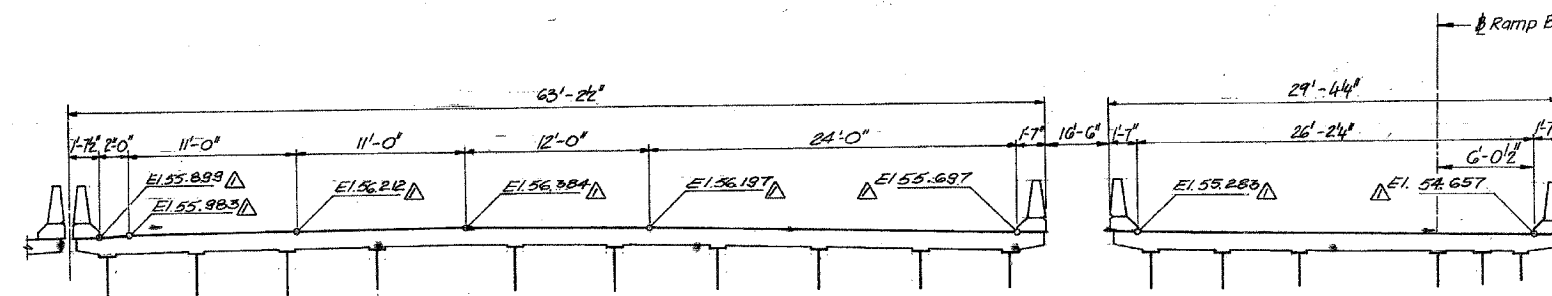
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	323
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	62580	



EXPANSION JOINT AT PIER No. 1
4 in. NEOPRENE

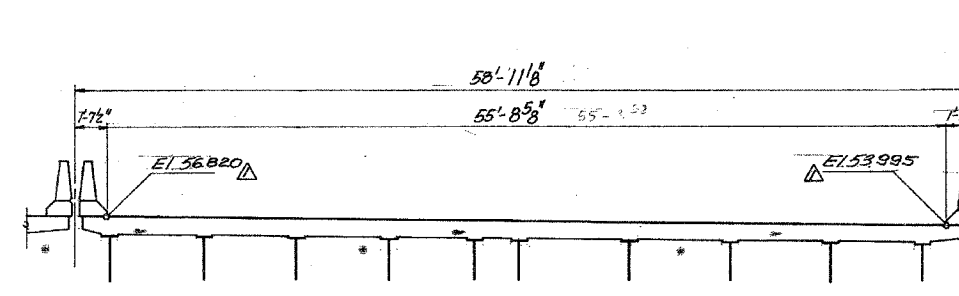


EXPANSION JOINT AT PIER No. 10
4 in. PREFORMED JOINT SEAL

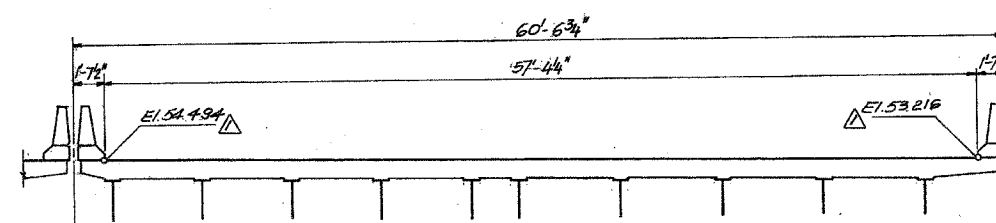


EXPANSION JOINT AT PIER No. 5
4 in. NEOPRENE

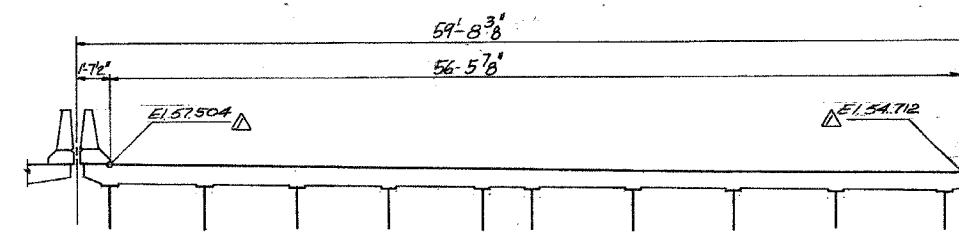
EXPANSION JOINT AT PIER No. 5 (RAMP-B)
4 in. NEOPRENE



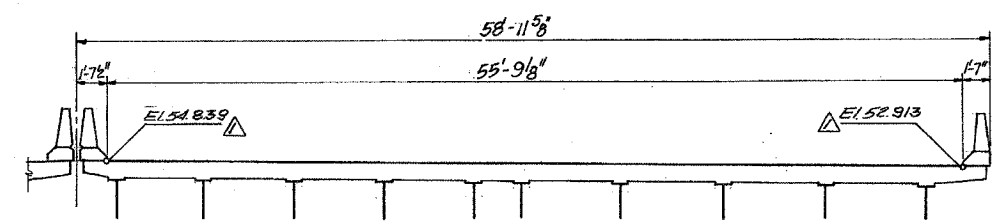
EXPANSION JOINT AT PIER No. 12
4 in. PREFORMED JOINT SEAL



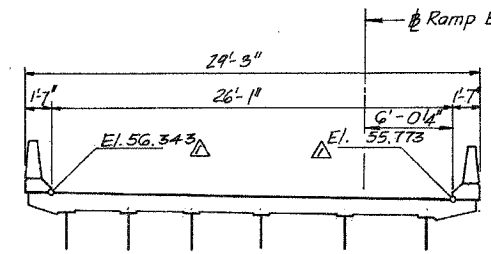
EXPANSION JOINT AT PIER No. 8
2 1/2 in. PREFORMED JOINT SEAL



EXPANSION JOINT AT PIER No. 13
2 in. NEOPRENE



EXPANSION JOINT AT PIER No. 9
2 in. NEOPRENE



EXPANSION JOINT AT PIER No. 4 (RAMP-B)
2 1/2 in. PREFORMED JOINT SEAL

- Notes:
1. All dimensions are along Center line of Joint.
 2. For details see sheet TJ2 & TJ3.
 3. All Sections looking up-station.

DEC-1-1988

SHEET 044 OF 610

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-0778K COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1115
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUG., 1988
Drawn By:
Checked By:
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

REVISIONS	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1115
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

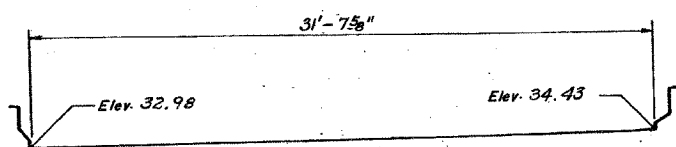
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

FOR INFORMATION ONLY

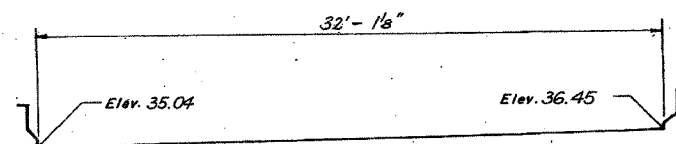
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	324
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

62580

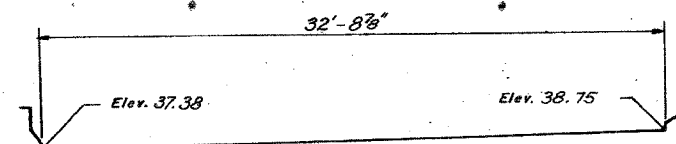
MAIN LINE (CONT.)



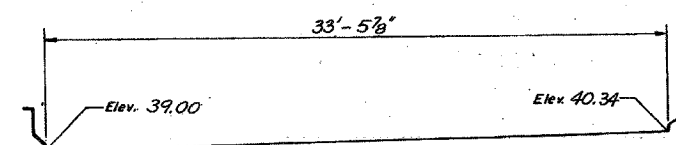
AT PIER 5
P.J.S. 4"



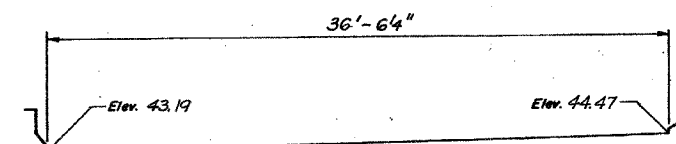
AT PIER 6
N.E.J. 2"



AT PIER 7
N.E.J. 2"

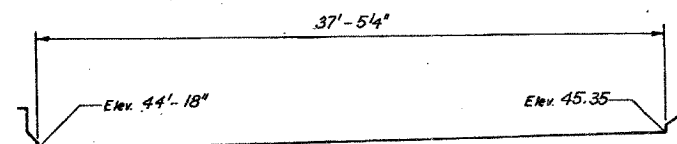


AT PIER 8
N.E.J. 2 1/2"

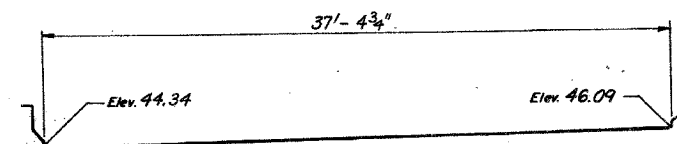


AT PIER 11
N.E.J. 2"

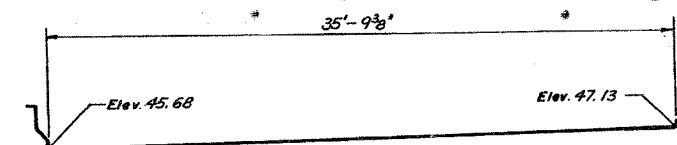
MAIN LINE (CONT.)



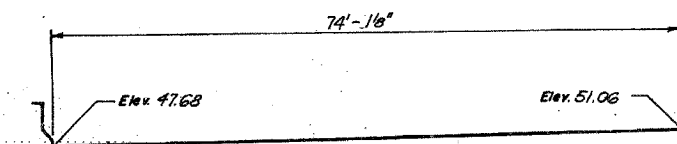
AT PIER 12
N.E.J. 2"



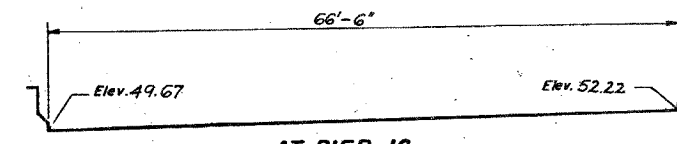
AT PIER 13
N.E.J. 2"



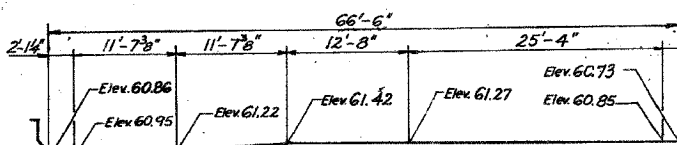
AT PIER 14
N.E.J. 2 1/2"



AT PIER 16
N.E.J. 2"

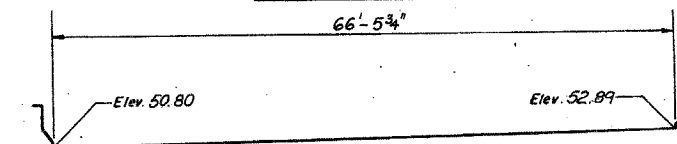


AT PIER 18
N.E.J. 2"

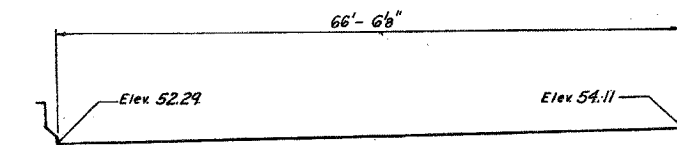


AT PIER 26 (FINGER PLATE JOINT)

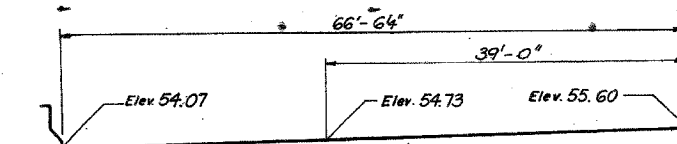
MAIN LINE (CONT.)



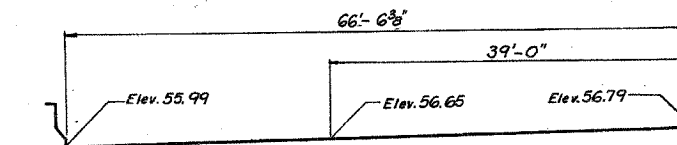
AT PIER 19
N.E.J. 2"



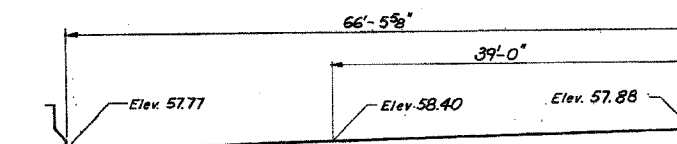
AT PIER 20
N.E.J. 2"



AT PIER 21
N.E.J. 2"



AT PIER 22
N.E.J. 2"



AT PIER 23
N.E.J. 2"

ALL PROFILES DRAWN
LOOKING UPSTATION

NOTES:

- For Steel Finger Plate Jt. See Sheet TJ1, Vol. 13.
- For P.J.S. Detail See Sheet TJ3, Vol. 13.
- For N.E.J. Detail See Sheet TJ2, Vol. 13.

SHEET J36 OF 98

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1986-0778-R-COOK COUNTY
NB MAINLINE RECONSTRUCTION
STRUCTURE 016-1117 & 1118 MAINLINE & RAMP 141
TRANSVERSE DECK JOINT ELEVATIONS
Scale: NONE
Date: AUGUST 1998
Drawn By: SR
Checked By: SK
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

SHEET J36 OF 98

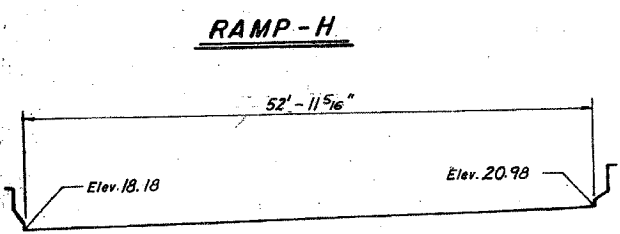
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1117 & 016-1118
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

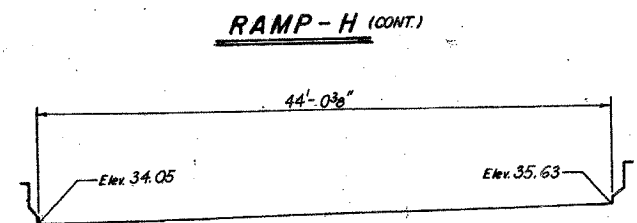
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

FOR INFORMATION ONLY

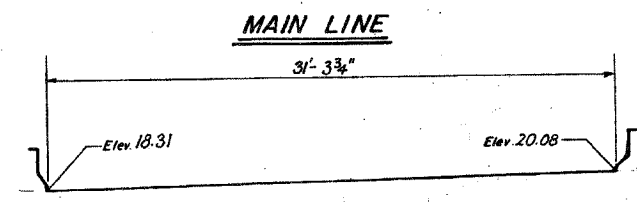
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	325
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



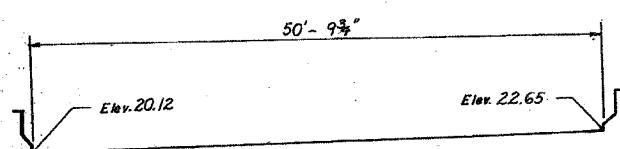
AT SOUTH ABUTMENT
P.J.S. 2 1/2"



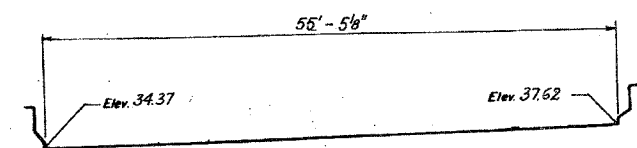
AT PIER H5
N.E.J. 2 1/2"



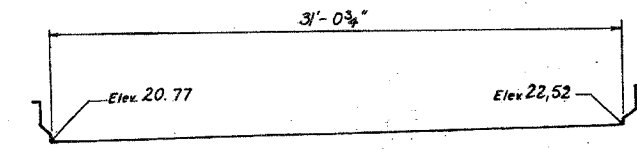
AT SOUTH ABUTMENT
P.J.S. 4"



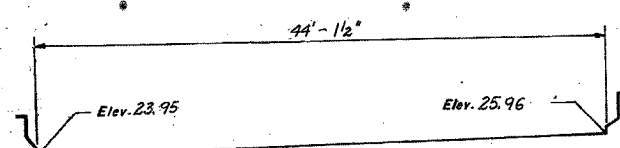
AT PIER H1
P.J.S. 2 1/2"



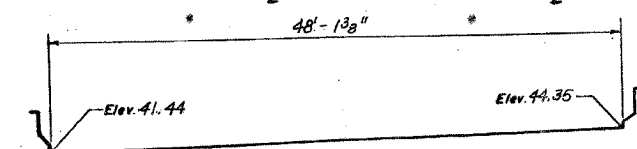
AT PIER H6
N.E.J. 2"



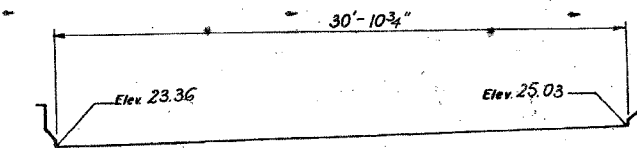
AT PIER 1
P.J.S. 2 1/2"



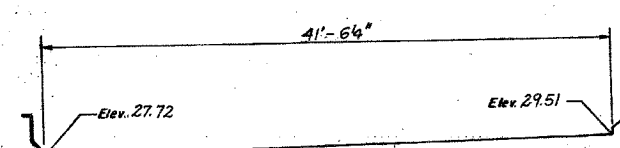
AT PIER H2
P.J.S. 4"



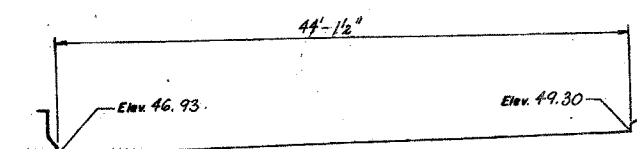
AT PIER H9
N.E.J. 4"



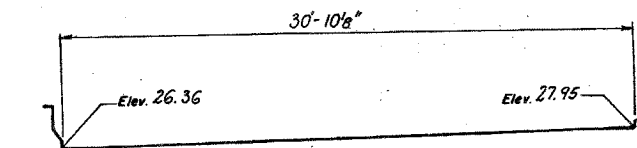
AT PIER 2
P.J.S. 4"



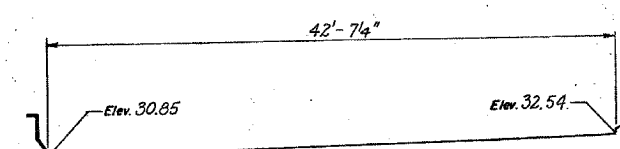
AT PIER H3
P.J.S. 4"



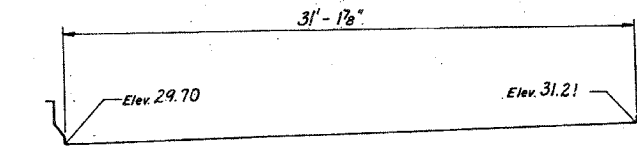
AT PIER H12
N.E.J. 2 1/2"



AT PIER 3
P.J.S. 4"



AT PIER H4
N.E.J. 2"



AT PIER 4
P.J.S. 4"

ALL PROFILES DRAWN
LOOKING UPSTATION.

DIMENSIONS ARE ALONG
JOINT PROFILES.

NOTES :

- For Steel Finger Plate Jt. See Sheet TJ1, Vol. 13.
- For PJS Detail See Sheet TJ3, Vol. 13.
- For NEJ Detail See Sheet TJ2, Vol. 13.

SHEET J35 OF 98

SHEET J35 OF 98

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 DAN RYAN EXPRESSWAY
SECTION 1985-077B-COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1117 & 1118 (MAINLINE & RAMP 'H')
TRANSVERSE DECK JOINT ELEVATIONS

Scale: NONE
Date: AUGUST 1988
Drawn By: S.R.
Checked By: S.K.

EWIRODYNE ENGINEERS INC.
Chicago, Illinois

REVISIONS	
Name	Date

REVISIONS	DATE
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
TRANSVERSE DECK JOINT ELEVATION
SN 016-1117 & 016-1118

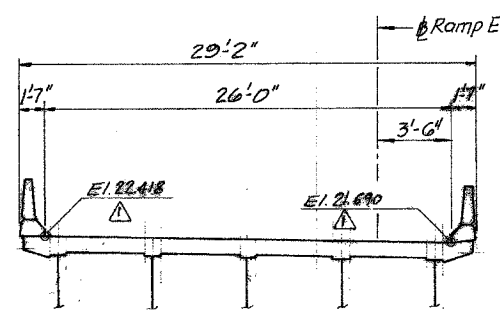
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

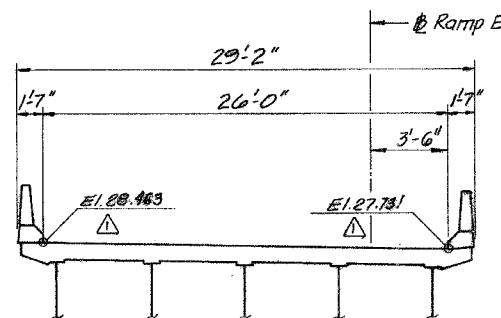
FOR INFORMATION ONLY

10/14/2005 10:20:49 AM

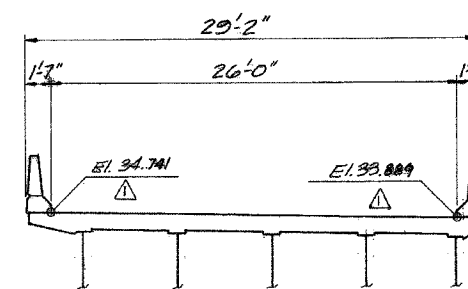
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	326
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



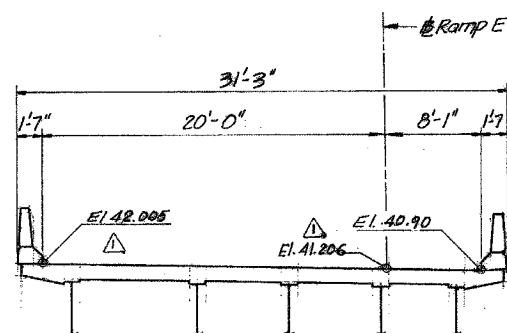
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2 1/2 in. PREFORMED JOINT SEAL



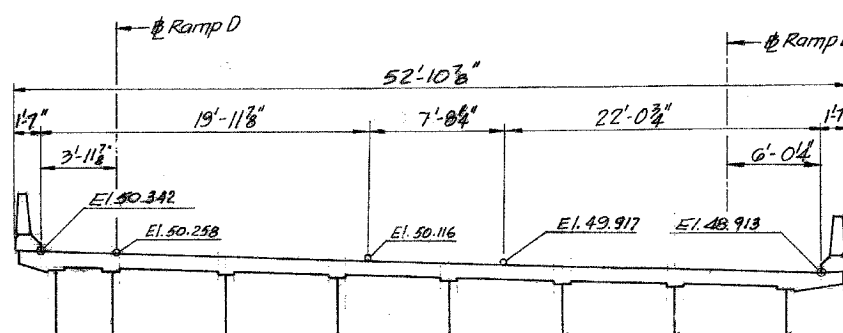
EXPANSION JOINT AT PIER No. E28
2 1/2 in. PREFORMED JOINT SEAL



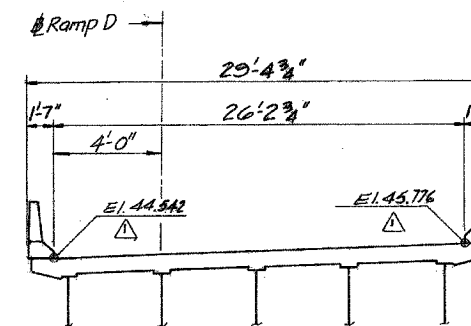
EXPANSION JOINT AT PIER No. E26
2 1/2 in. PREFORMED JOINT SEAL



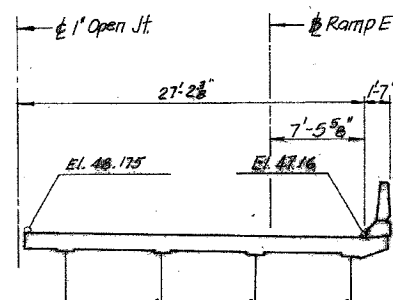
EXPANSION JOINT AT PIER No. E24
2 in. NEOPRENE EXP. JOINT



EXPANSION JOINT AT PIER No. E22
4 in. PREFORMED JOINT SEAL



EXPANSION JOINT AT PIER No. D33
2 1/2 in. NEOPRENE EXP. JOINT



EXPANSION JOINT AT PIER No. E23
2 1/2 in. PREFORMED JOINT SEAL

- Notes:
1. All Dimensions are along Centerline of Joint.
 2. For Details see sheet T J2 & T J3.
 3. All sections looking up-station.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-077 BR- COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1047 (RAMP E)
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUG., 1998
DRAWN BY: K.W.T.
CHECKED BY: M.E.M.
ENVIRODYNE ENGINEERS INC.
Chicago, Illinois

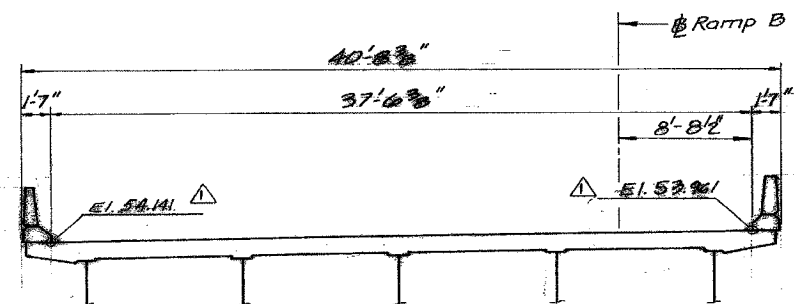
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1047 (RAMP E)
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

REVISIONS	NAME	DATE

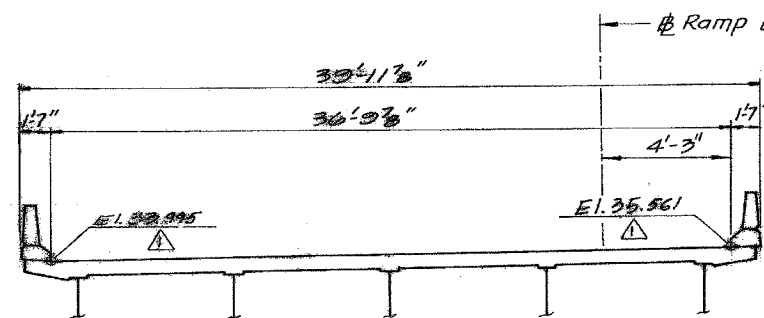
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

FOR INFORMATION ONLY

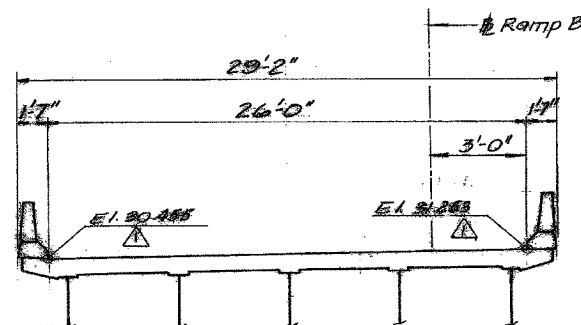
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	327
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



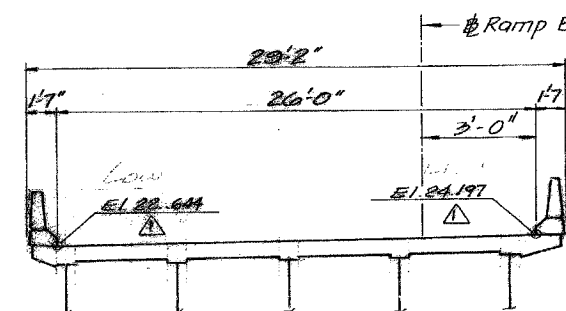
EXPANSION JOINT AT PIER No. B11
4 in. NEOPRENE EXP. JOINT



EXPANSION JOINT AT PIER No. B15
4 in. NEOPRENE EXP. JOINT



EXPANSION JOINT AT PIER No. B16
4 in. PREFORMED JOINT SEAL



EXPANSION JOINT AT ABUTMENT No. B18
2 1/2 in. PREFORMED JOINT SEAL

- Notes:
1. All Dimensions are along Centerline of Joint.
 2. For Details see sheet TJ2 & TJ3.
 3. All Sections looking up-station.

FOR INFORMATION ONLY

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

SHEET H26 OF H53

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 94/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-077 BR- COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
STRUCTURE 016-1140 (RAMP B)
TRANSVERSE DECK JOINT ELEVATION
Scale: NONE
Date: AUG. 1999
Drawn By: K.W.T.
Checked By: M.E.M.
ENGINEERING ENGINEERS INC.
Chicago, Illinois

REVISIONS
NAME DATE

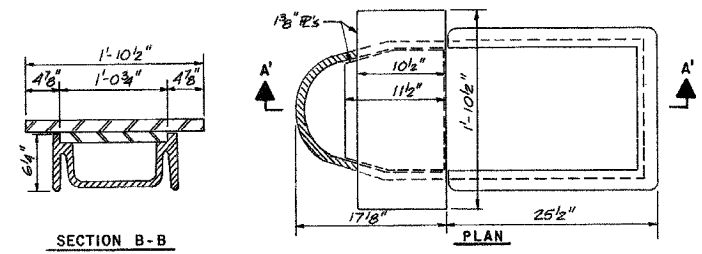
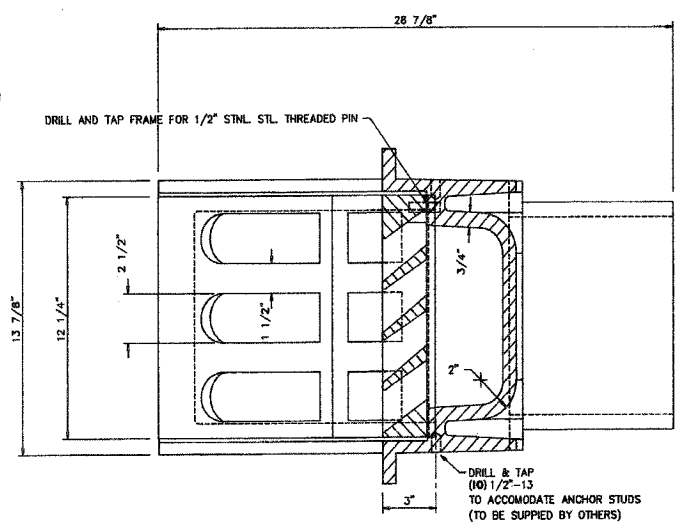
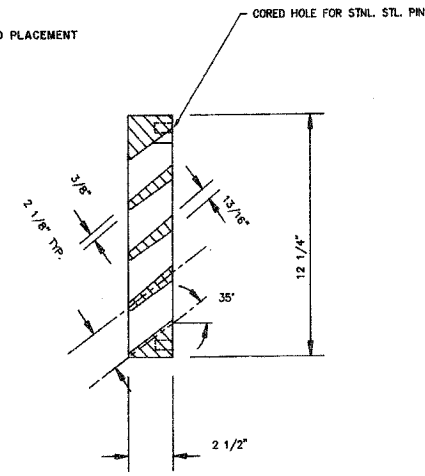
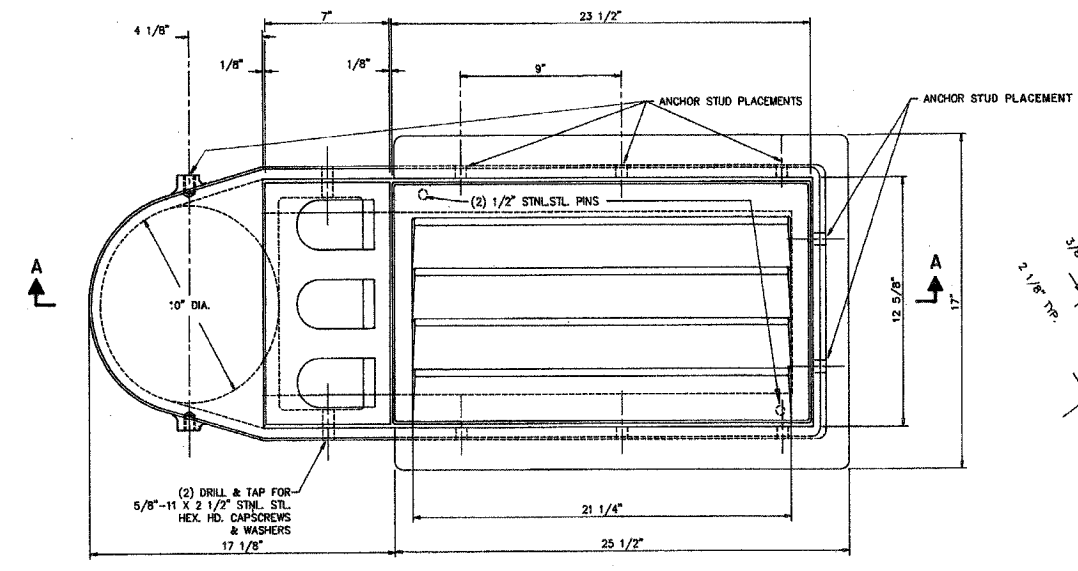
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SN 016-1140

SCALE: NTS
DATE: 10/14/2005

DRAWN BY: BDC
CHECKED BY: BLU

F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	328
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



BRIDGE SCUPPER - TYPE "A"

NF - 0332 445
ESTIMATED WEIGHT 512 #

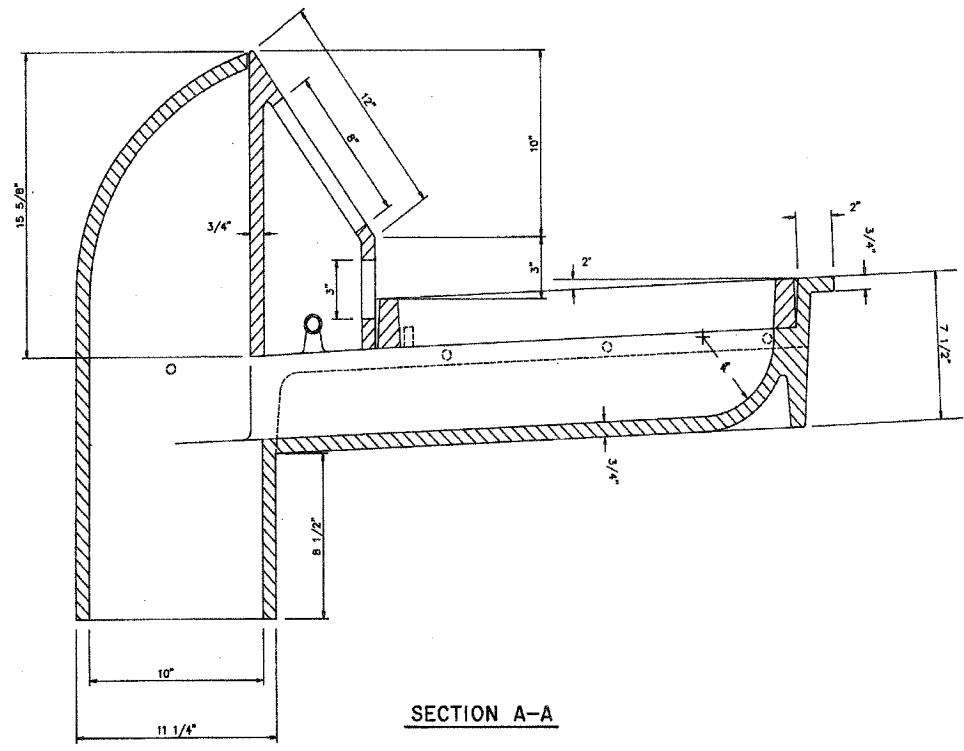
SCHEDULE OF QUANTITIES	
STRUCTURE	No. REQUIRED
016 - 0137	10
016 - 1110	8
016 - 1111	11
016 - 1112	26
016 - 1113	3
016 - 1114	0
016 - 1070	0
016 - 1115	8
016 - 1140	2
016 - 1047	2
016 - 1116	8
016 - 1117	27
016 - 1118	2
TOTAL	107

BRIDGE SCUPPER - SPECIAL

ALL MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE SUPPLY CONTRACT (SECTION 1988-004 I), UNLESS NOTED OTHERWISE.

MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 30B
FINISH: NONE

SHEET BS 4 OF BS 6



SECTION A-A

STATE OF ILLINOIS	
DEPARTMENT OF TRANSPORTATION	
F.A.I. ROUTE 94/94 (DAN RYAN EXPRESSWAY)	
SECTION 1988-077 B-R - COOK COUNTY	
N.B. MAINLINE RECONSTRUCTION	
SCUPPERS - ALL STRUCTURES	
BRIDGE SCUPPER TYPE A	
Scale: NONE	Drawn By: R.E.P.
Date: AUGUST, 1988	Checked By: W.R.K.
BROADWAY ENGINEERS INC.	
Chicago, Illinois	

SHEET BS 4 OF BS 6

REVISIONS	
Name	Date

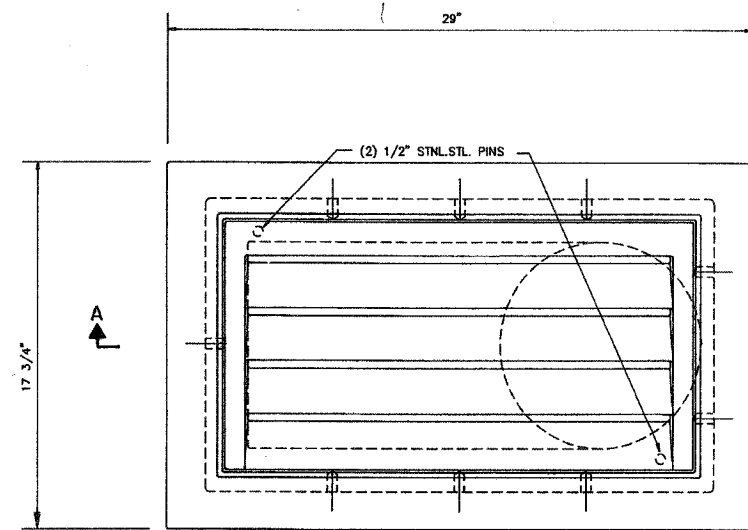
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SCUPPER DETAILS - TYPE A
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

FOR INFORMATION ONLY

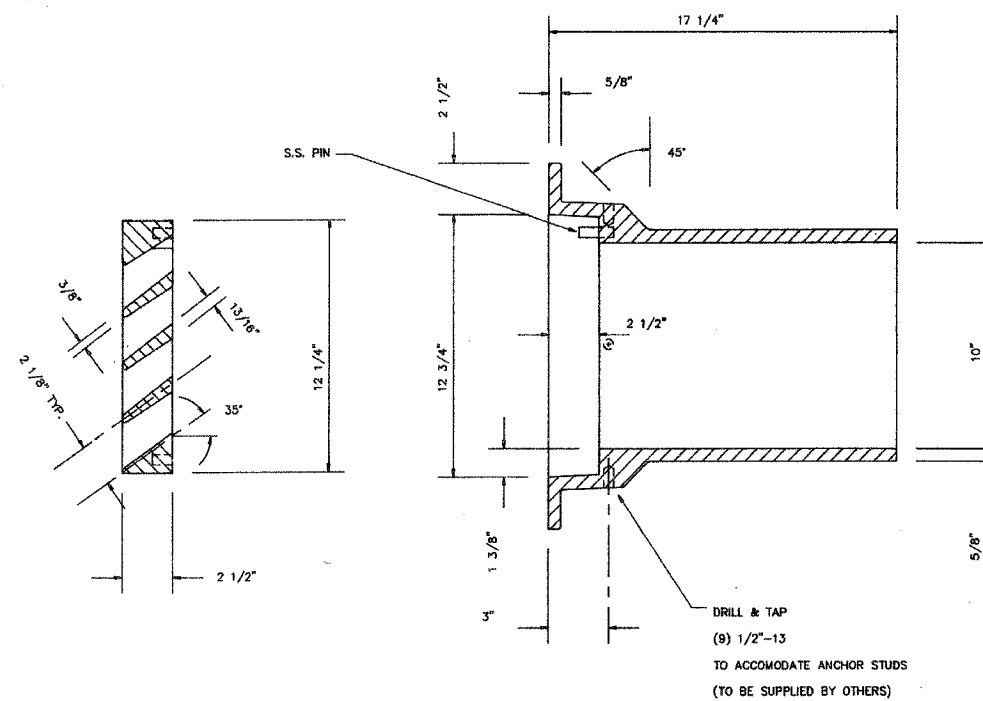
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

12-1-88

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	329
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62580				

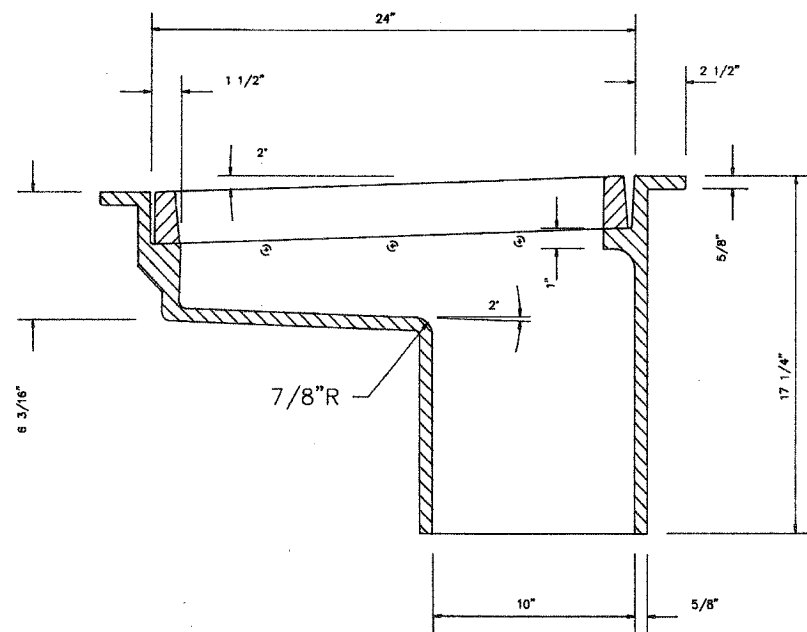


PLAN



BRIDGE SCUPPER - TYPE "B"

NF-0332 435
ESTIMATED WEIGHT 235 #



SECTION A-A

SCHEDULE OF QUANTITIES	
STRUCTURE	No. REQUIRED
016-0137	0
016-1110	0
016-1111	0
016-1112	1
016-1113	2
016-1114	10
016-1070	0
016-1115	3
016-1140	0
016-1047	0
016-1116	0
016-1117	7
016-1118	3
TOTAL	26

ALL MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE SUPPLY CONTRACT (SECTION 1988-004 I), UNLESS NOTED OTHERWISE.

MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35 B
FINISH: NONE

SHEET 855 OF 856

REVISIONS	
Name	Date

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
SECTION 1985-077B2 - COOK COUNTY
N.B. MAINLINE RECONSTRUCTION
SCUPPERS - ALL STRUCTURES
BRIDGE SCUPPER TYPE B
Scale: NONE
Date: AUGUST, 1988
Checked By: W.R.K.
ENVIROTECH ENGINEERS INC.
Chicago, Illinois

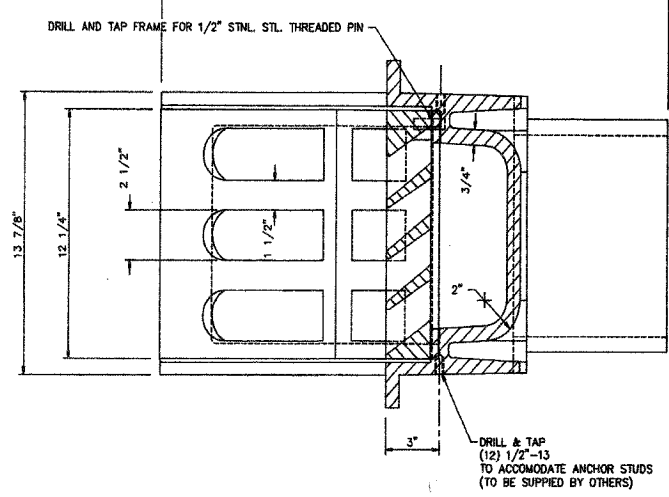
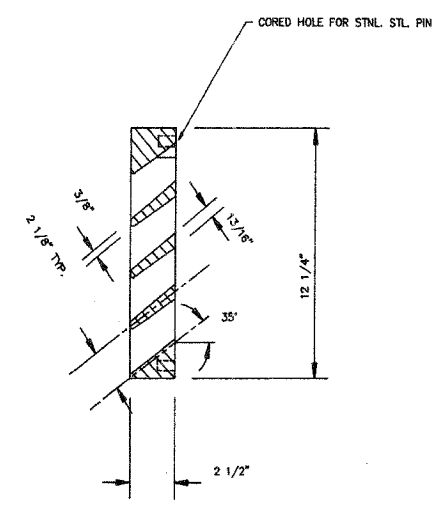
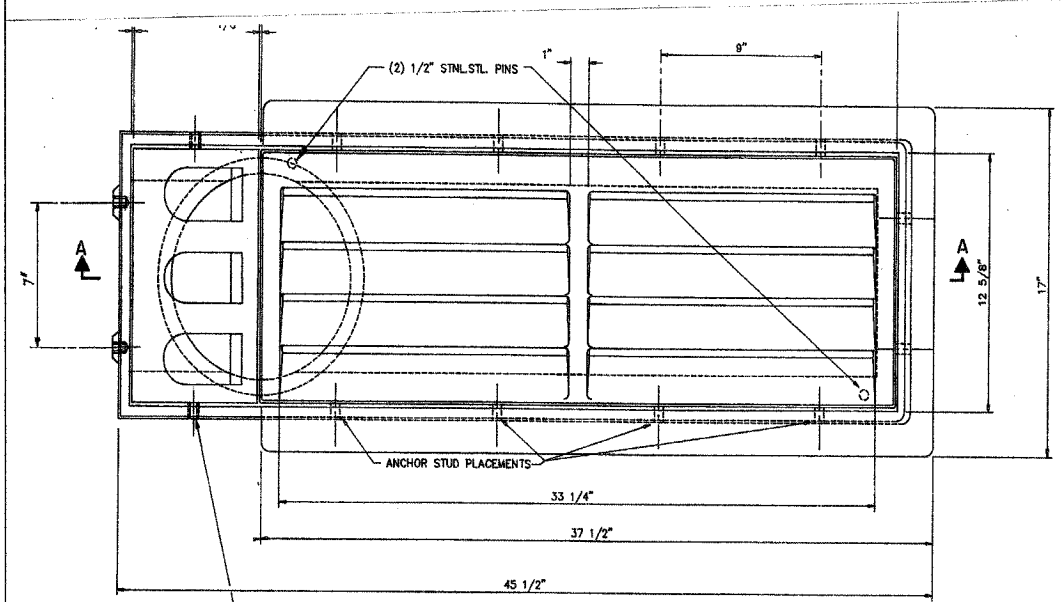
REVISIONS	DATE
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
EXISTING PLAN INFORMATION
SCUPPER DETAILS - TYPE B
SCALE: NTS
DATE: 10/14/2005
DRAWN BY: BDC
CHECKED BY: BLU

FOR INFORMATION ONLY

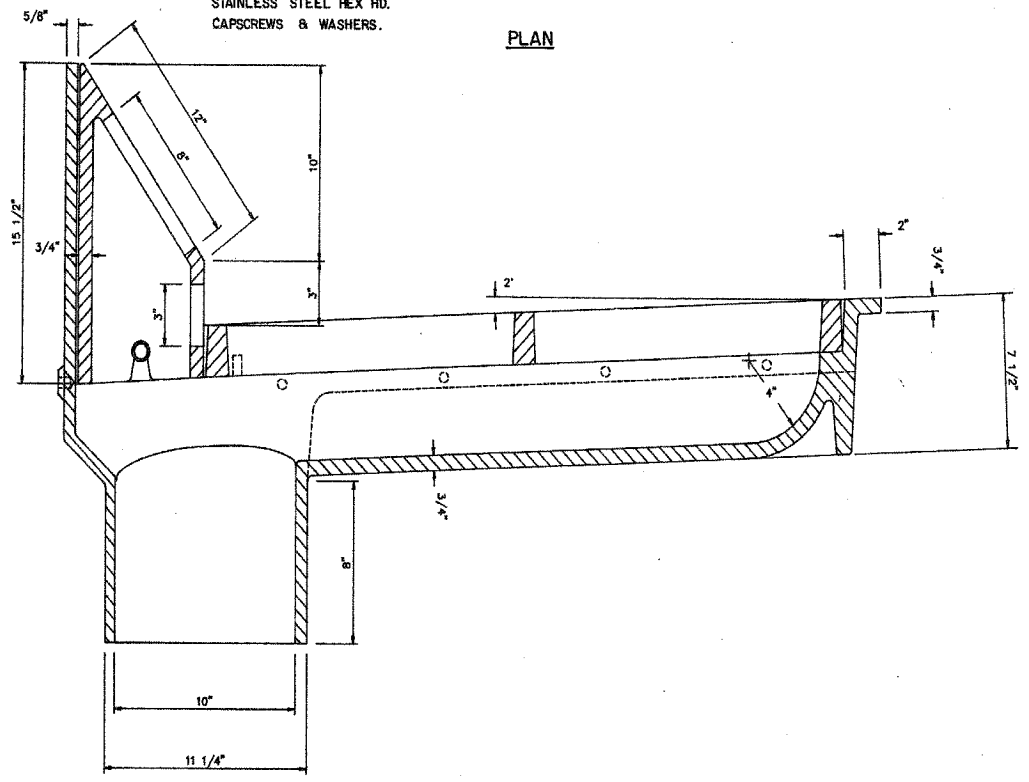
BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	330
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62580				



(2) DRILL & TAP FOR 5/8"-11x2 1/2" STAINLESS STEEL HEX HD. CAPSCREWS & WASHERS.

PLAN



SECTION A-A

BRIDGE SCUPPER - TYPE "C"
 NF-0332 440
 ESTIMATED WEIGHT 623#

SCHEDULE OF QUANTITIES	
STRUCTURE	No. REQUIRED
016-0137	11
016-1110	11
016-1111	12
016-1112	12
016-1113	12
016-1114	0
016-1070	4
016-1115	20
016-1140	2
016-1047	1
016-1116	8
016-1117	0
016-1118	16
TOTAL	109

ALL MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE SUPPLY CONTRACT (SECTION 1988-004 I), UNLESS NOTED OTHERWISE.

MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
 FINISH: NONE

SHEET BS6 OF BS6

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 F.A.I. ROUTE 90/94 (DAN RYAN EXPRESSWAY)
 SECTION 1985-077 B-R - COOK COUNTY
 N.B. MAINLINE RECONSTRUCTION
 SCUPPERS - ALL STRUCTURES
 BRIDGE SCUPPER TYPE C
 Scale: NONE Drawn By: R.E.P.
 Date: AUGUST 1988 Checked By: W.P.K.
 ENVIRODYNE ENGINEERS INC.
 Chicago, Illinois

REVISIONS	
Name	Date

REVISIONS	
NAME	DATE

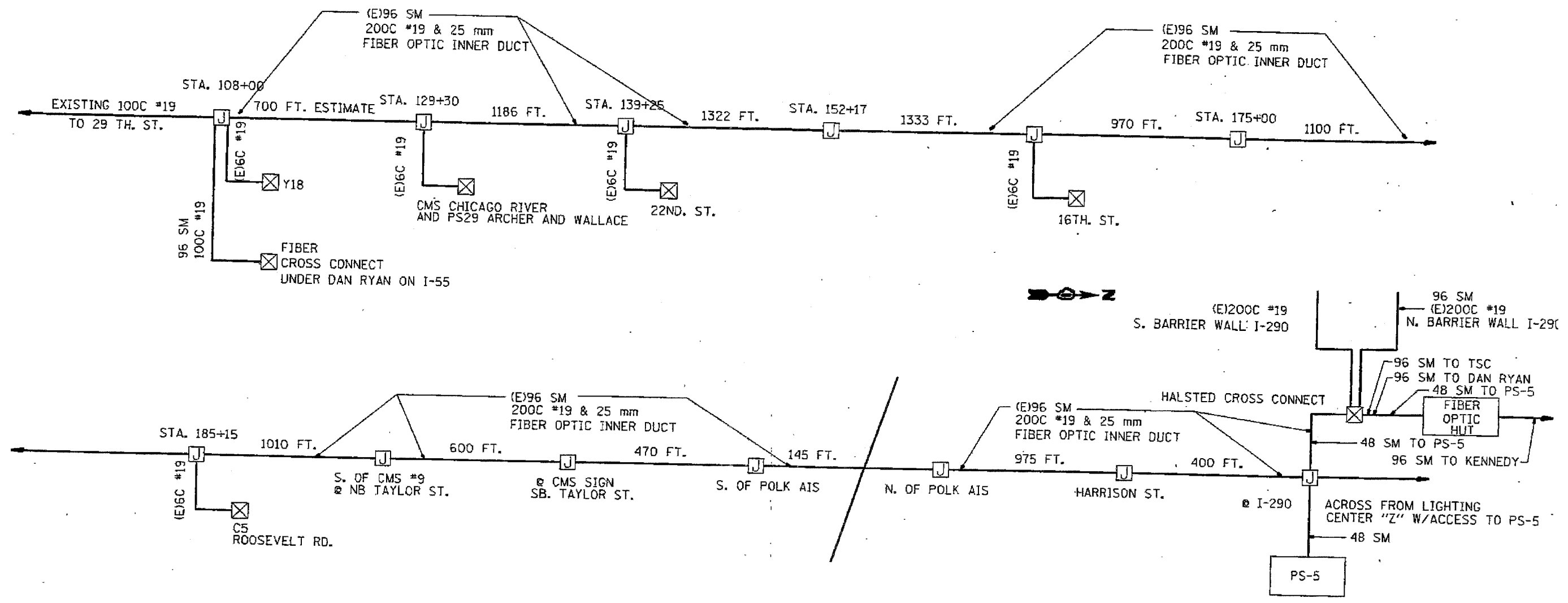
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 EXISTING PLAN INFORMATION
 SCUPPER DETAILS - TYPE C
 SCALE: NTS DRAWN BY: BDC
 DATE: 10/14/2005 CHECKED BY: BLU

FOR INFORMATION ONLY

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 CONSULTING ENGINEERS
 Chicago, Illinois
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Pages 331-383 NOT USED

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	384
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



NOTES:

- 1.- DIMENSIONS TAKEN W/WHEEL IN LANE CLOSURE W/CITY LIGHTS FOR I-55 4P CONTRACT.
- 2.- 4" PVC WILL BE POPULATED W/200C #19 AND 1-EMPTY 1" FIBER INNERDUCTS AND 96 SM FIBER TO I-55.

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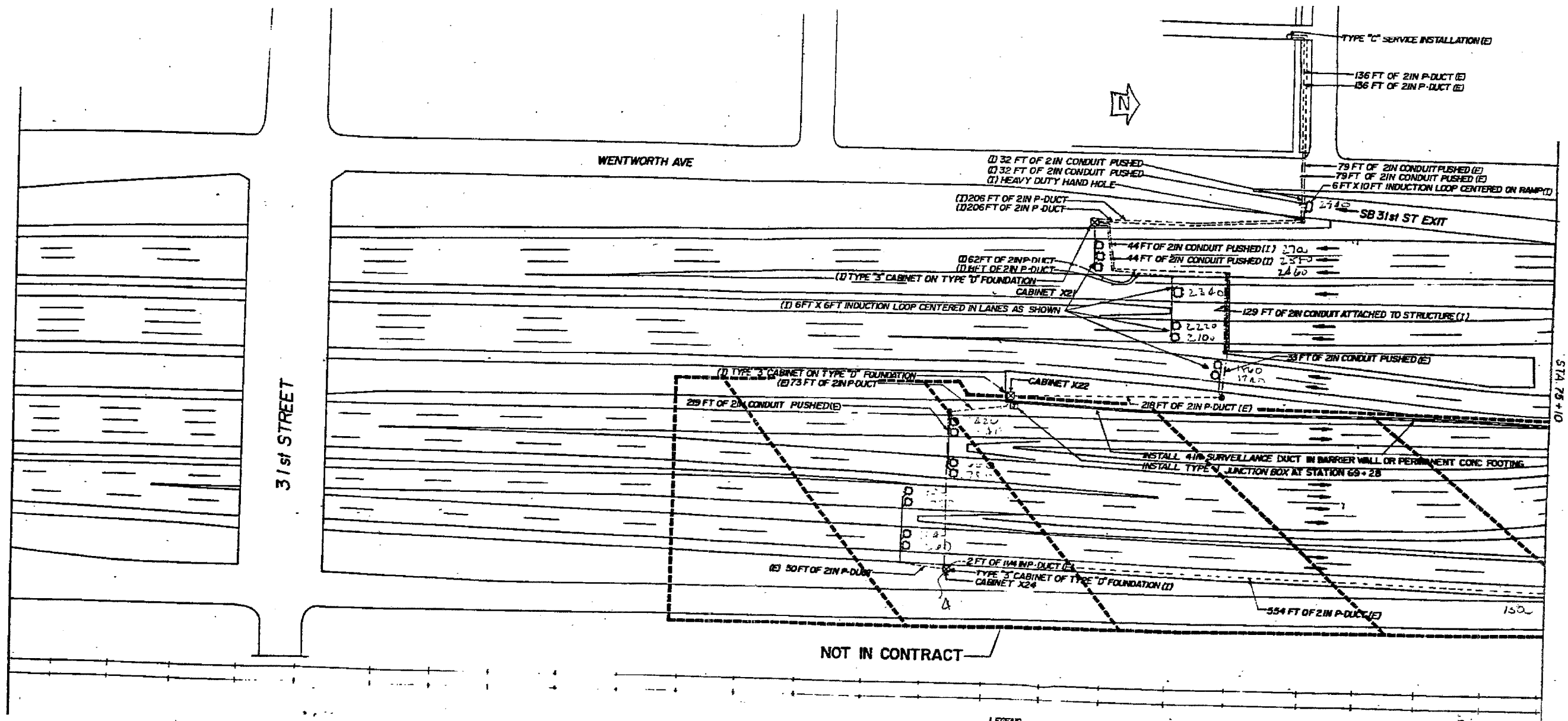
FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

TSC1
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
TRAFFIC SURVEILLANCE
LINE DIAGRAM
SCALE: NTS
DATE: 7/22/2005
DRAWN BY: MR
CHECKED BY: BLU

TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	385
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



PLAN

- LEGEND**
- ☒ TSC CABINET
 - INDUCTION LOOP
 - POLYETHYLENE DUCT
 - G S CONDUIT
 - HANDHOLE
 - HEAVY DUTY HANDHOLE
 - PULL POINT
 - (E) EXISTING
 - (I) INSTALL

FOR INFORMATION ONLY

REVISIONS		NAME	DATE
NO.	DESCRIPTION		

TSC2

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 29TH STREET
 INSTALLATION

SCALE: NTS
 DATE: 7/22/2005

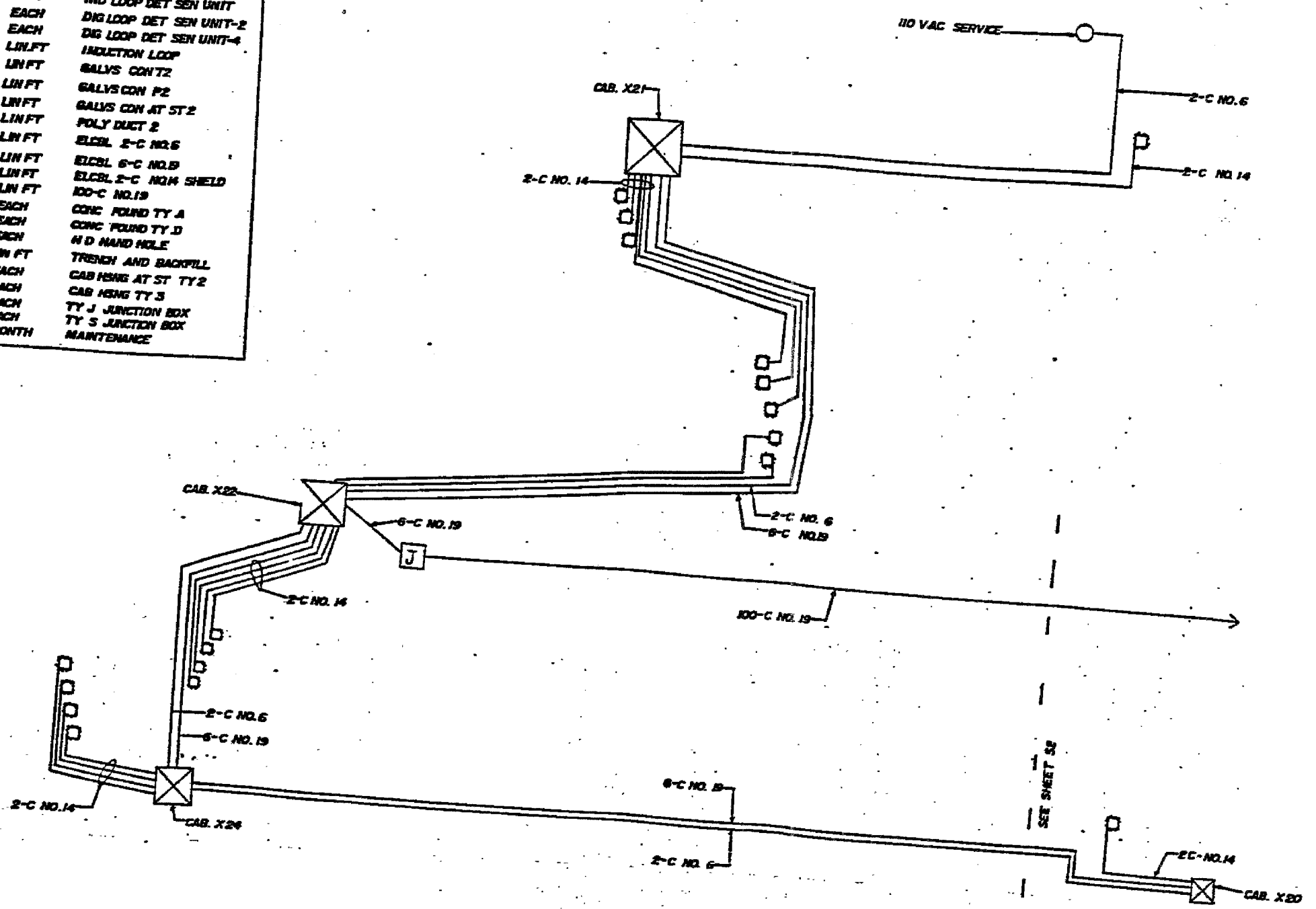
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 CHECKED BY: BLU

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TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	386
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				

- EACH TONE EQ 3 FREQ MIN TRANS
- EACH TONE EQ 3 FREQ TRANS
- EACH TONE EQ 3 FREQ REC
- EACH TONE EQ 3 POWER SUPPLY
- EACH TONE EQ MOUNT FRAME
- EACH IND LOOP DET SEN UNIT
- EACH DIG LOOP DET SEN UNIT-2
- EACH DIG LOOP DET SEN UNIT-4
- LN FT INDUCTION LOOP
- LN FT GALVS CON T2
- LN FT GALVS CON P2
- LN FT GALVS CON AT ST 2
- LN FT POLY DUCT 2
- LN FT ELCBL 2-C NO.6
- LN FT ELCBL 6-C NO.19
- LN FT ELCBL 2-C NOM SHIELD
- LN FT 100-C NO.19
- EACH CONC FOUND TY A
- EACH CONC FOUND TY D
- EACH HD HAND HOLE
- LN FT TRENCH AND BACKFILL
- EACH CAB HUNG AT ST TY 2
- EACH CAB HUNG TY 3
- EACH TY J JUNCTION BOX
- EACH TY S JUNCTION BOX
- 24 MONTH MAINTENANCE



FOR INFORMATION ONLY

REVISIONS		DATE
NAME		

TSC3

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 29TH STREET INSTALLATION
 WIRE DIAGRAM

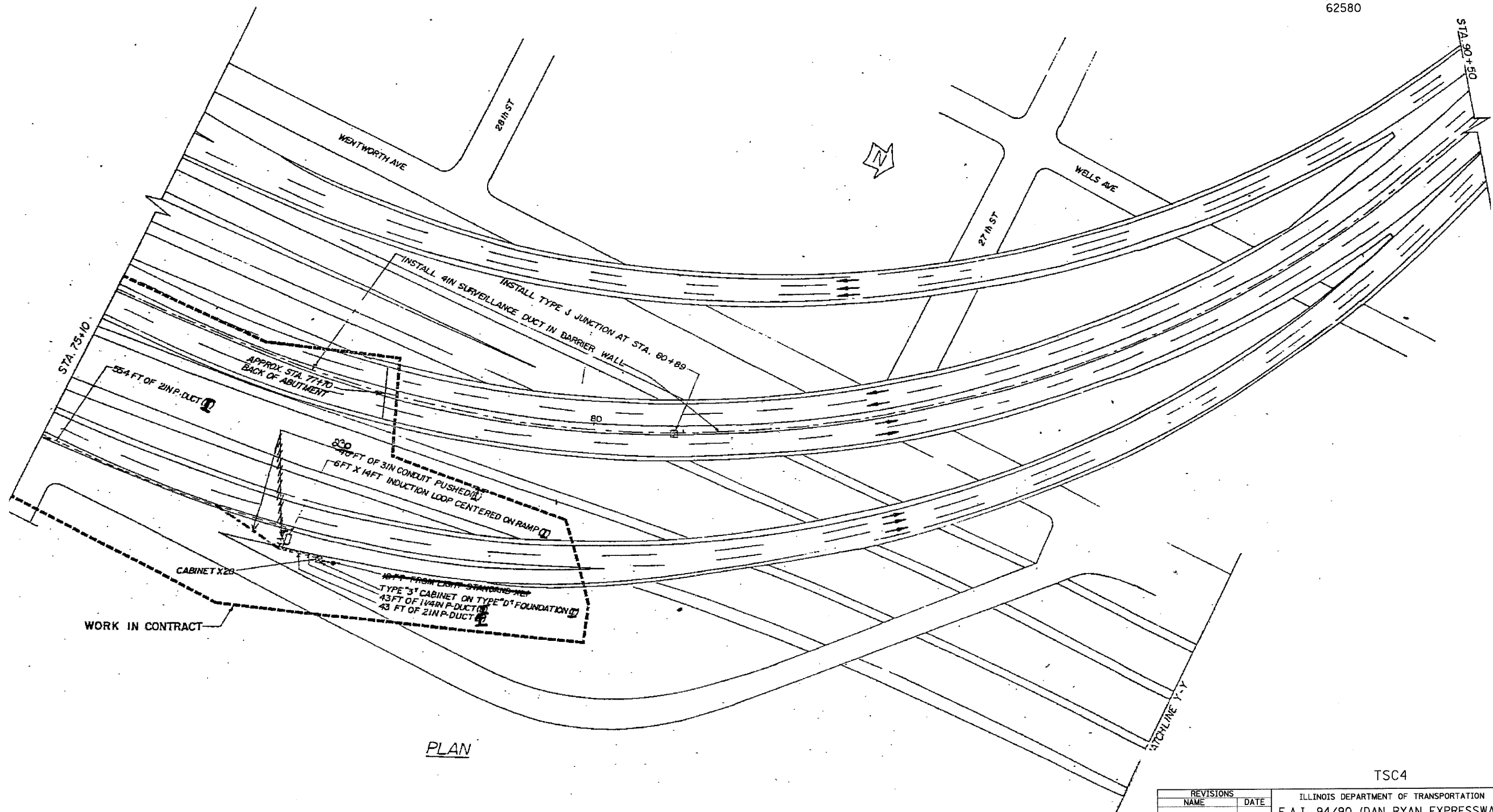
SCALE: NTS DRAWN BY: MR
 DATE: 7/22/2005 CHECKED BY: BLU

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TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	387
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	62580	

n:\650\2003\028F\94\90\387.dwg



PLAN

FOR INFORMATION ONLY

TSC4

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
27th STREET
INSTALLATION

SCALE: NTS
DATE: 7/22/2005

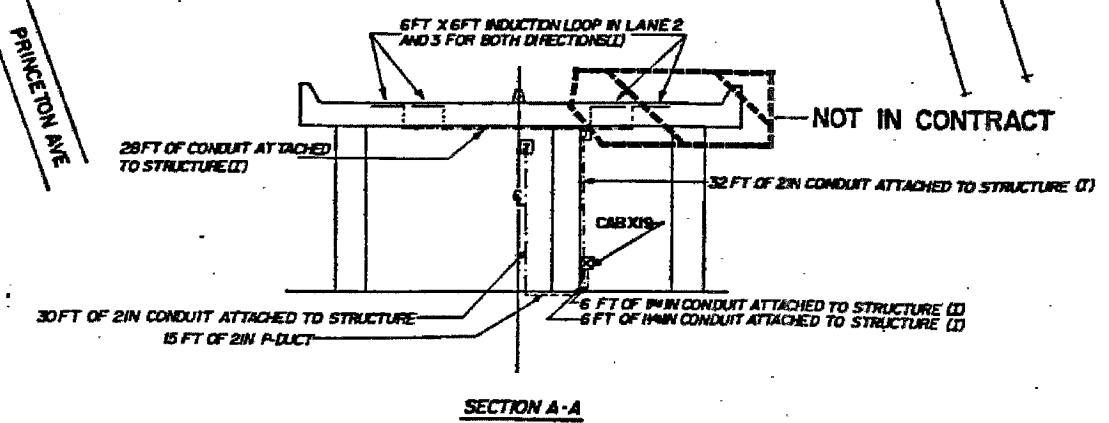
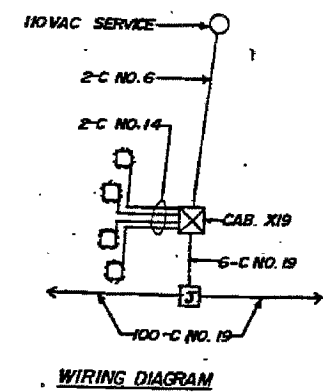
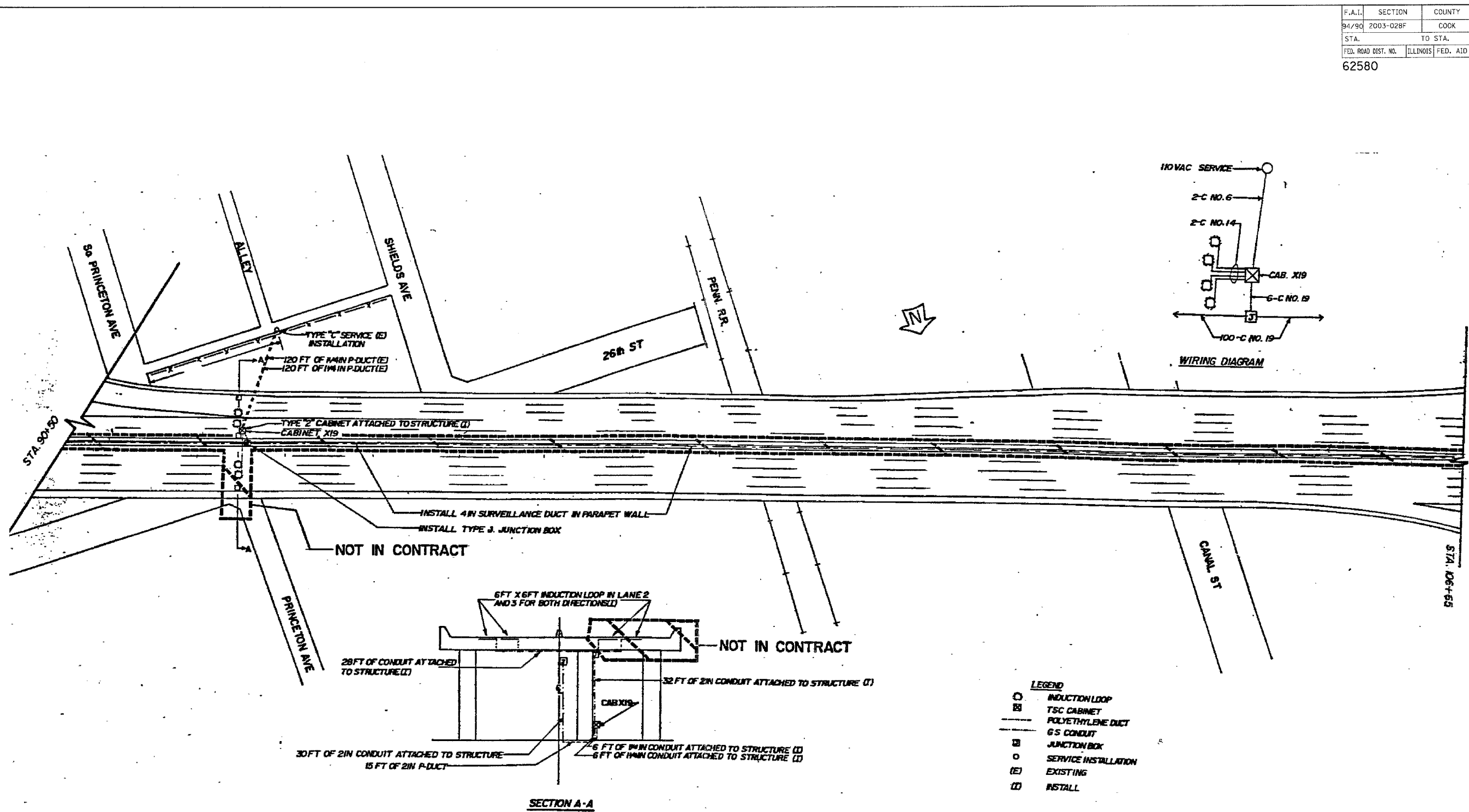
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TRAFFIC SYSTEMS CENTER

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	388
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				

62580.dwg 11/13/05 11:05 AM



- LEGEND**
- INDUCTION LOOP
 - ⊠ TSC CABINET
 - POLYETHYLENE DUCT
 - G S CONDUIT
 - ⊞ JUNCTION BOX
 - SERVICE INSTALLATION
 - (E) EXISTING
 - (I) INSTALL

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FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

TSC5

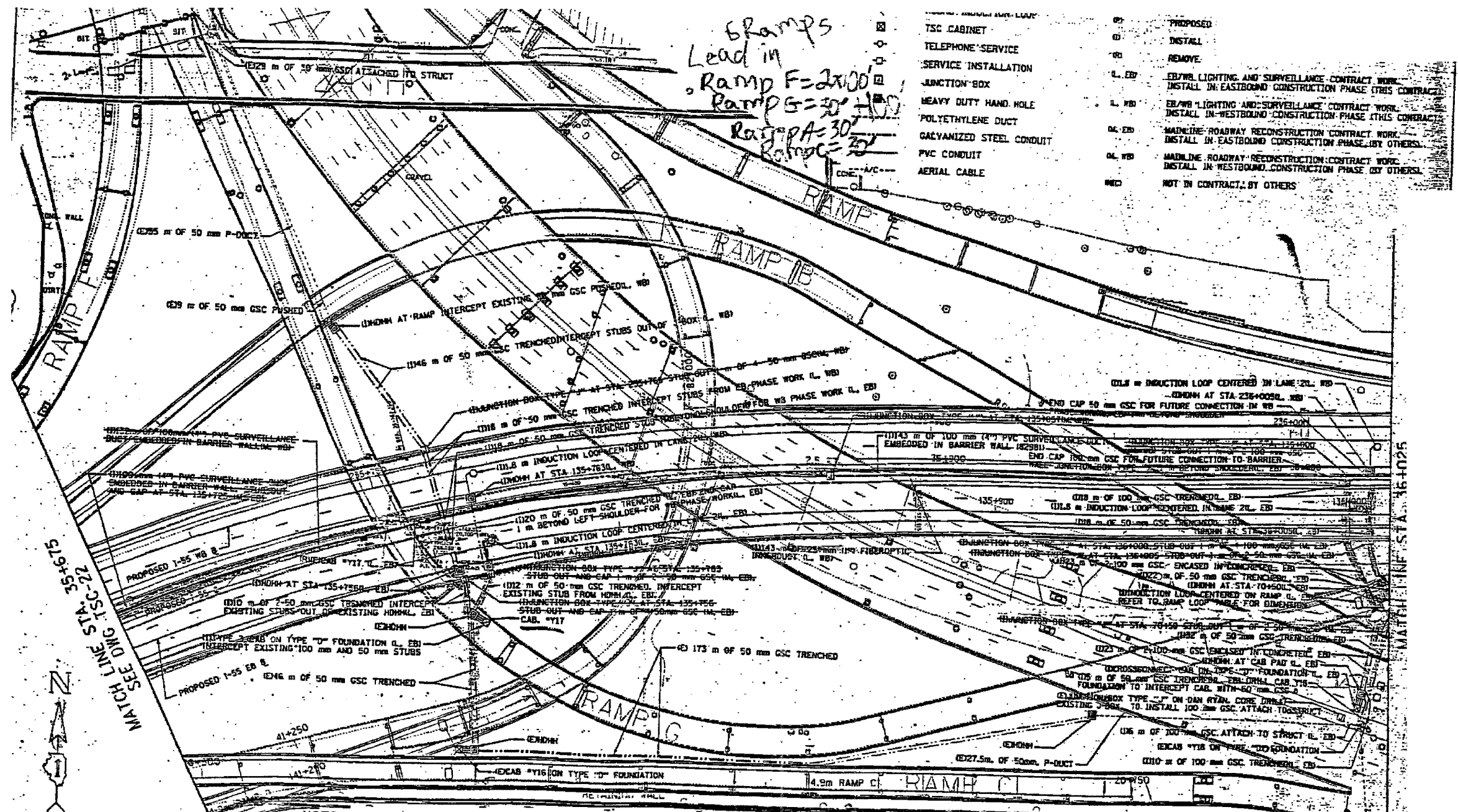
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
26th STREET
INSTALLATION

SCALE: NTS
DATE: 7/22/2005

DRAWN BY: MR
CHECKED BY: BLU

TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	389
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62580				



- NOTES:**
1. ALL DAN RYAN BARRIER WALL JUNCTION BOXES HAVE ACCESS FROM NB LANES.
 2. REMOVE DAN RYAN 100C *19 TELE COM CABLE FROM JUNCTION BOX AT CAB Y18 TO CROSSCONNECT AT HALSTED AND I-290 (L, EB).
 3. REMOVE TYPE 66 CONNECTION BLOCKS FROM DAN RYAN J-BOXES FROM J-BOX AT Y18 TO LAST J-BOX AT I-290 AND RYAN INTERCHANGE (L, EB).
 4. REMOVE EXISTING CAB. Y17 AND RETURN TO STATE ELECTRICAL MAINTENANCE CONTRACTOR (L, EB).
 5. INSTALL 200C *19 TELECOM CABLE FROM J-BOX AT Y18 TO CROSSCONNECT AT HALSTED AND I-290 (L, EB). MAKE CONNECTIONS ON TYPE 66 CONNECTION BLOCKS IN CROSSCONNECT AT HALSTED AND I-290 (L, EB).
 6. SPLICE 200C *19 TO 6C *19'S AT EXISTING DAN RYAN J-BOXES W/LIB AND ULY SCOTH LOK CONNECTORS (L, EB).
 7. 50 mm AND 100 mm GSS STUBS OUT OF J-BOXES SHALL BE INCLUDED IN UNIT PRICE FOR JUNCTION BOX TYPE (L, EB).
 8. REFER TO NOTES 1 THROUGH 8 ON DRAWING TSC-21.

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

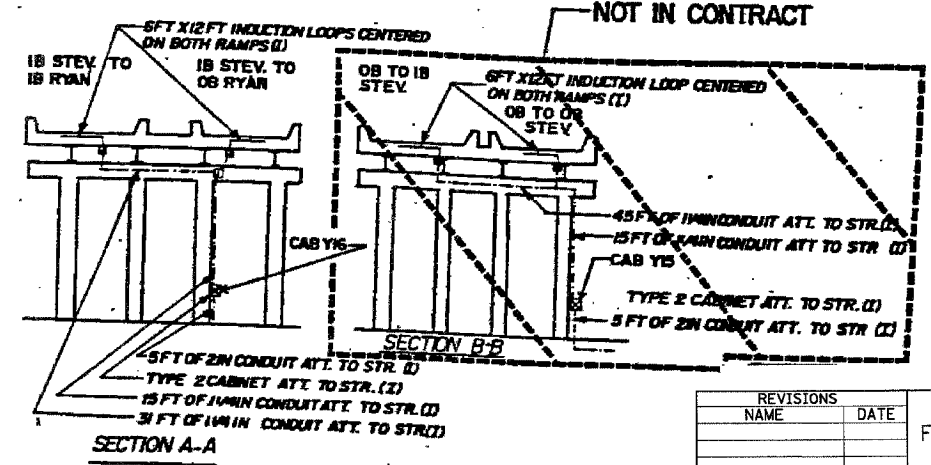
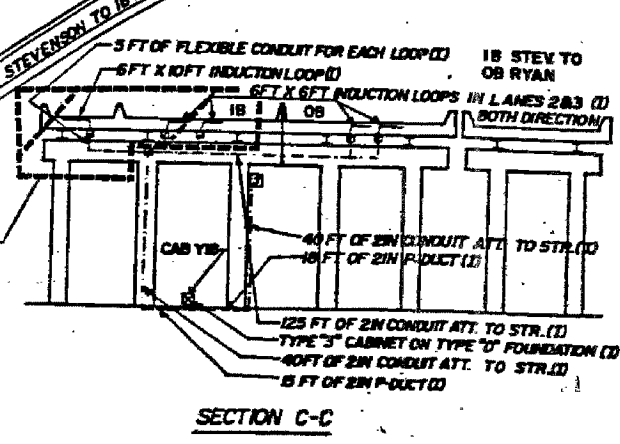
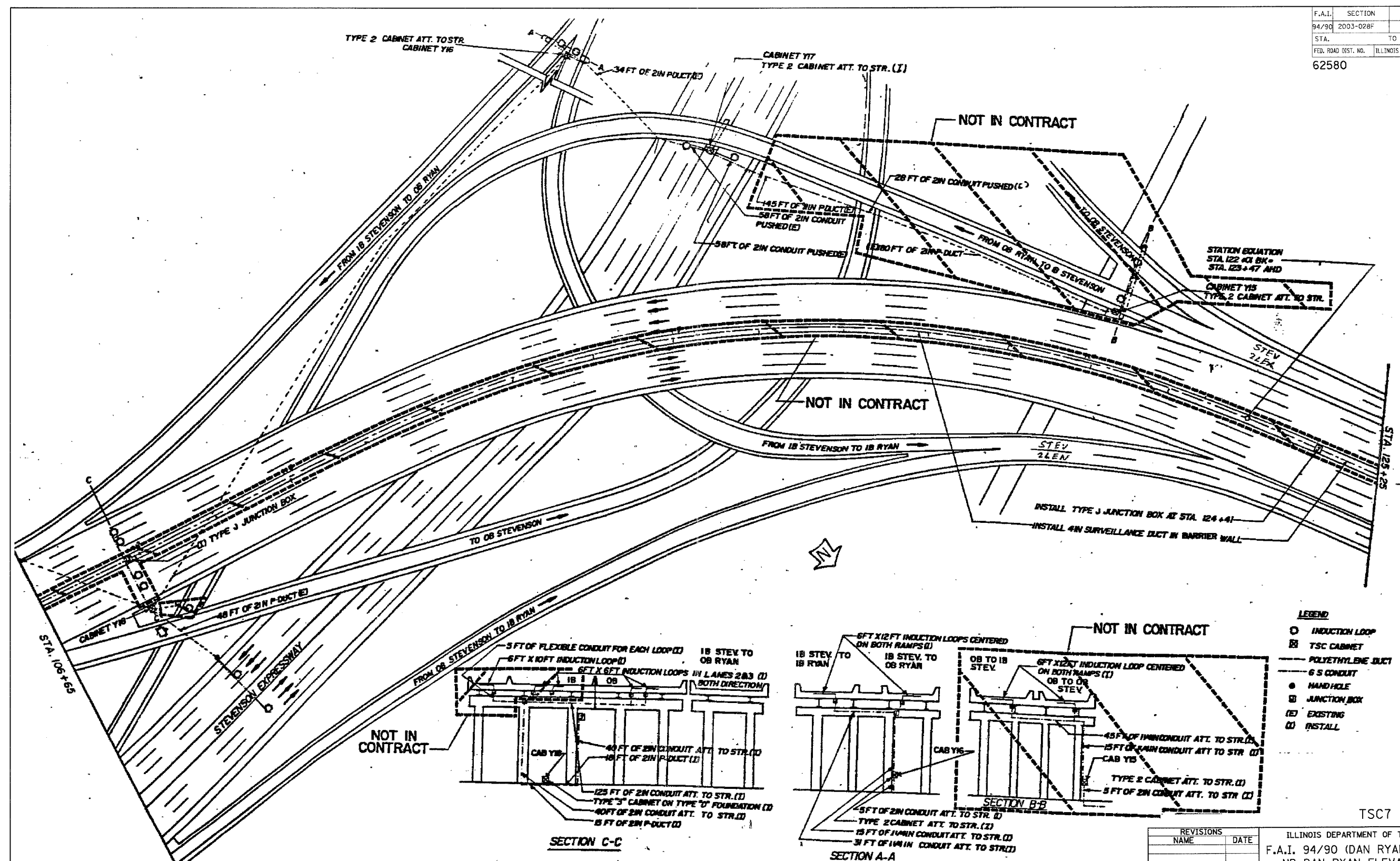
TSC6

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 STA. 35+675 TO 35+025
 TRAFFIC SURVEILLANCE PLAN
 SCALE: NTS DRAWN BY: MR
 DATE: 7/22/2005 CHECKED BY: BLU

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TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	390
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



- LEGEND**
- INDUCTION LOOP
 - ⊠ TSC CABINET
 - POLYETHYLENE DUCT
 - 6 S CONDUIT
 - HAND HOLE
 - ⊠ JUNCTION BOX
 - (E) EXISTING
 - (I) INSTALL

TSC7

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 STEVENSON-RYAN INTERCHANGE

SCALE: NTS
 DATE: 7/22/2005

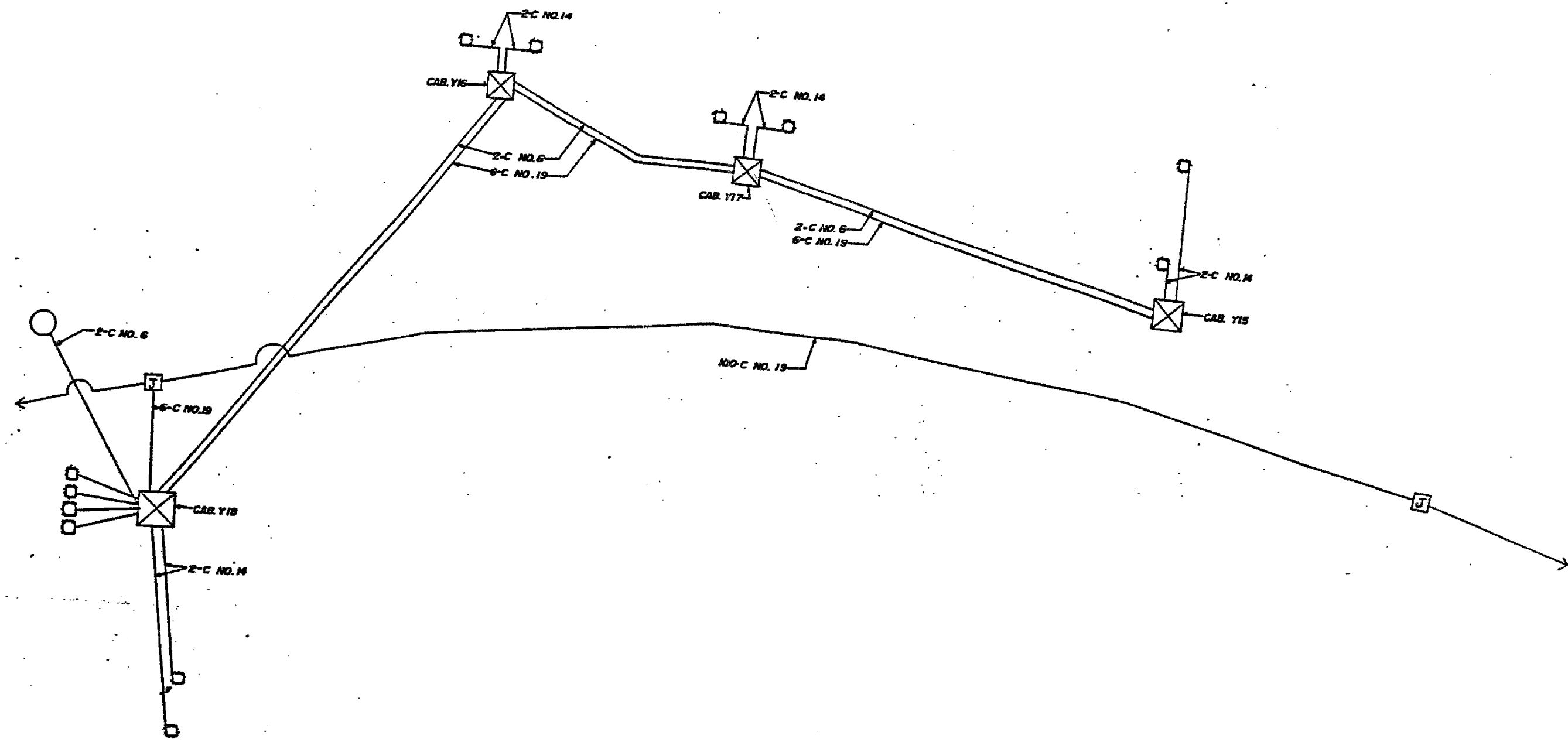
DRAWN BY: MR
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FOR INFORMATION ONLY

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TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	391
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



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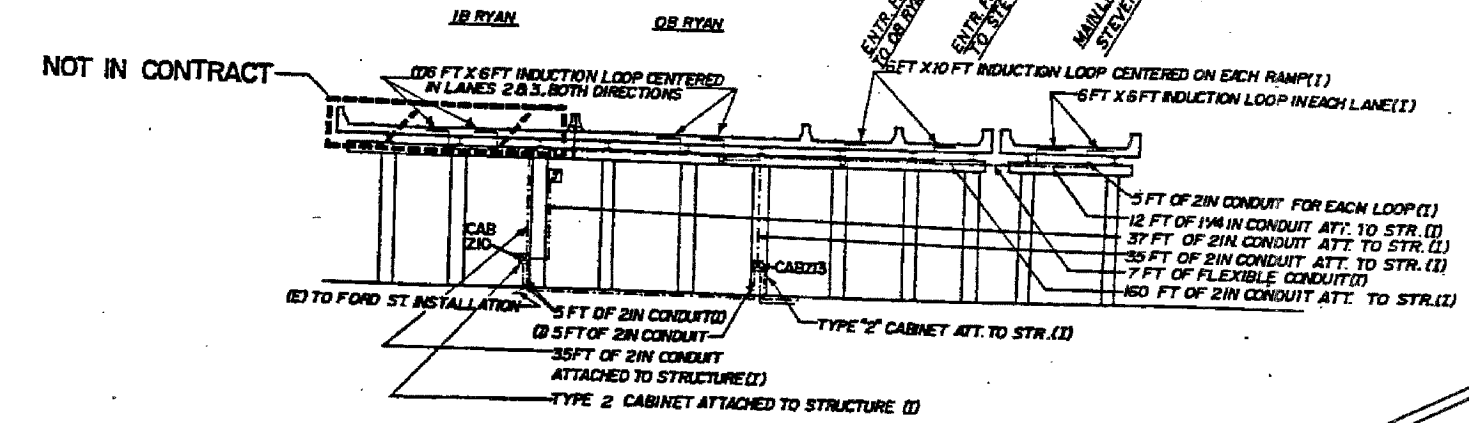
FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

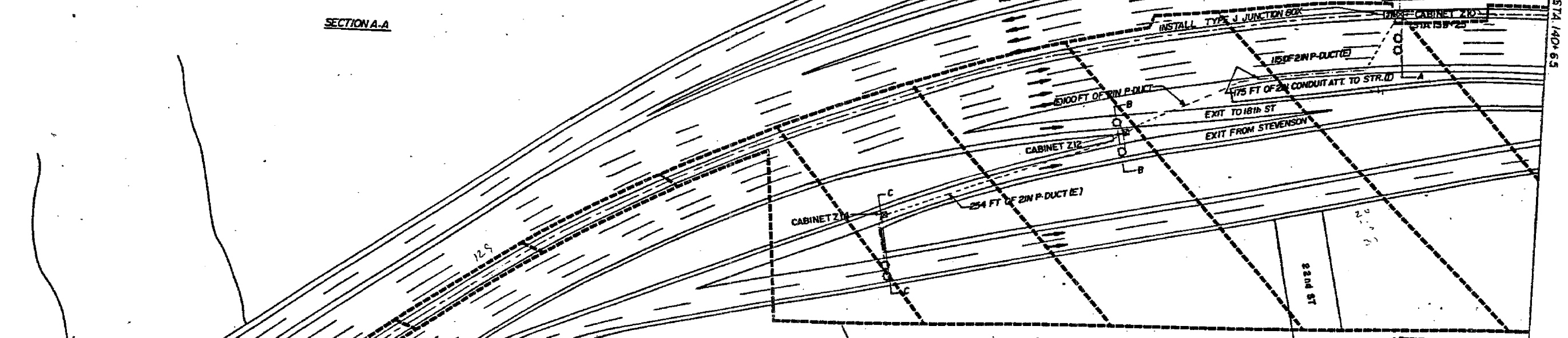
TSC8
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
STEVENSÓN-RYAN
INTERCHANGE WIRE DIAGRAM
SCALE: NTS
DATE: 7/22/2005
DRAWN BY: MR
CHECKED BY: BLU

TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	392
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				

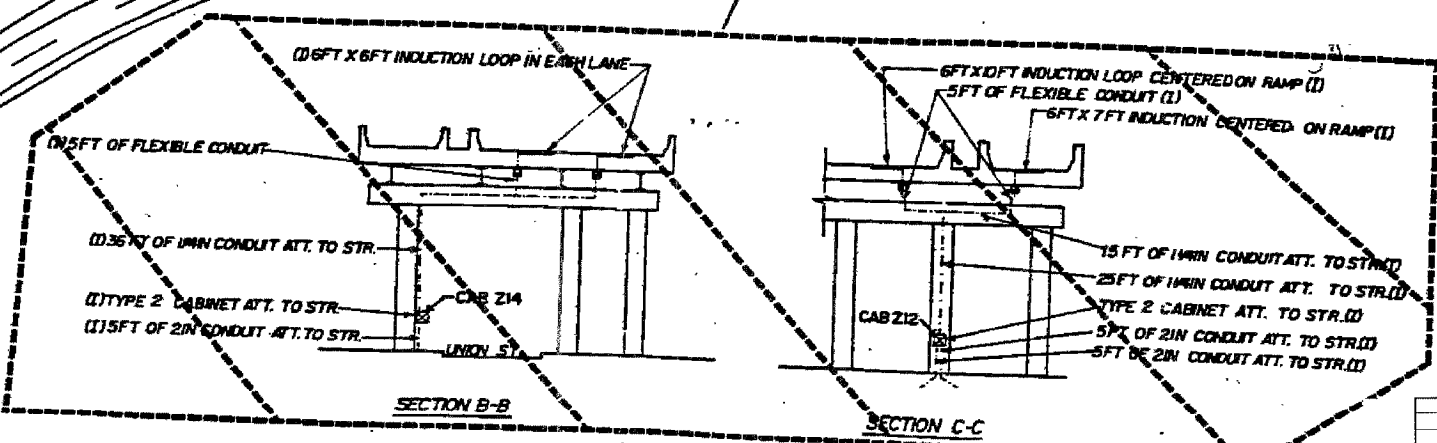


SECTION A-A



LEGEND

- TSC CABINET
- INDUCTION LOOP
- POLYETHYLENE DUCT
- G S CONDUIT
- JUNCTION BOX
- (I) INSTALL
- (E) EXISTING



SECTION B-B

SECTION C-C

FOR INFORMATION ONLY

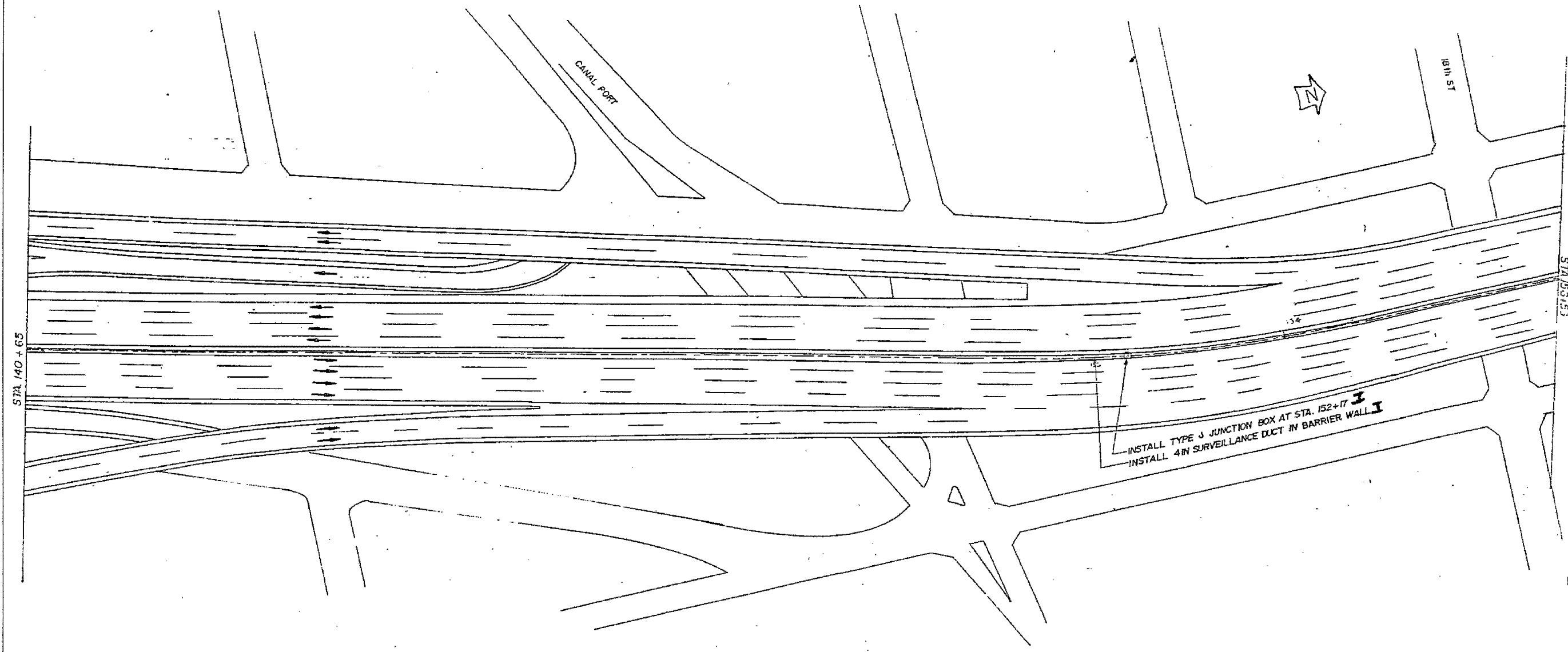
REVISIONS	
NAME	DATE

TSC9
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 22nd STREET
 INSTALLATION
 SCALE: NTS
 DATE: 7/22/2005
 DRAWN BY: MR
 CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
 312 228 0100
 www.bbainc.com

TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	393
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



STA. 140 + 65

STA. 153 + 53

INSTALL TYPE J JUNCTION BOX AT STA. 152+17
 INSTALL 4IN SURVEILLANCE DUCT IN BARRIER WALL

TSC10

BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
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FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

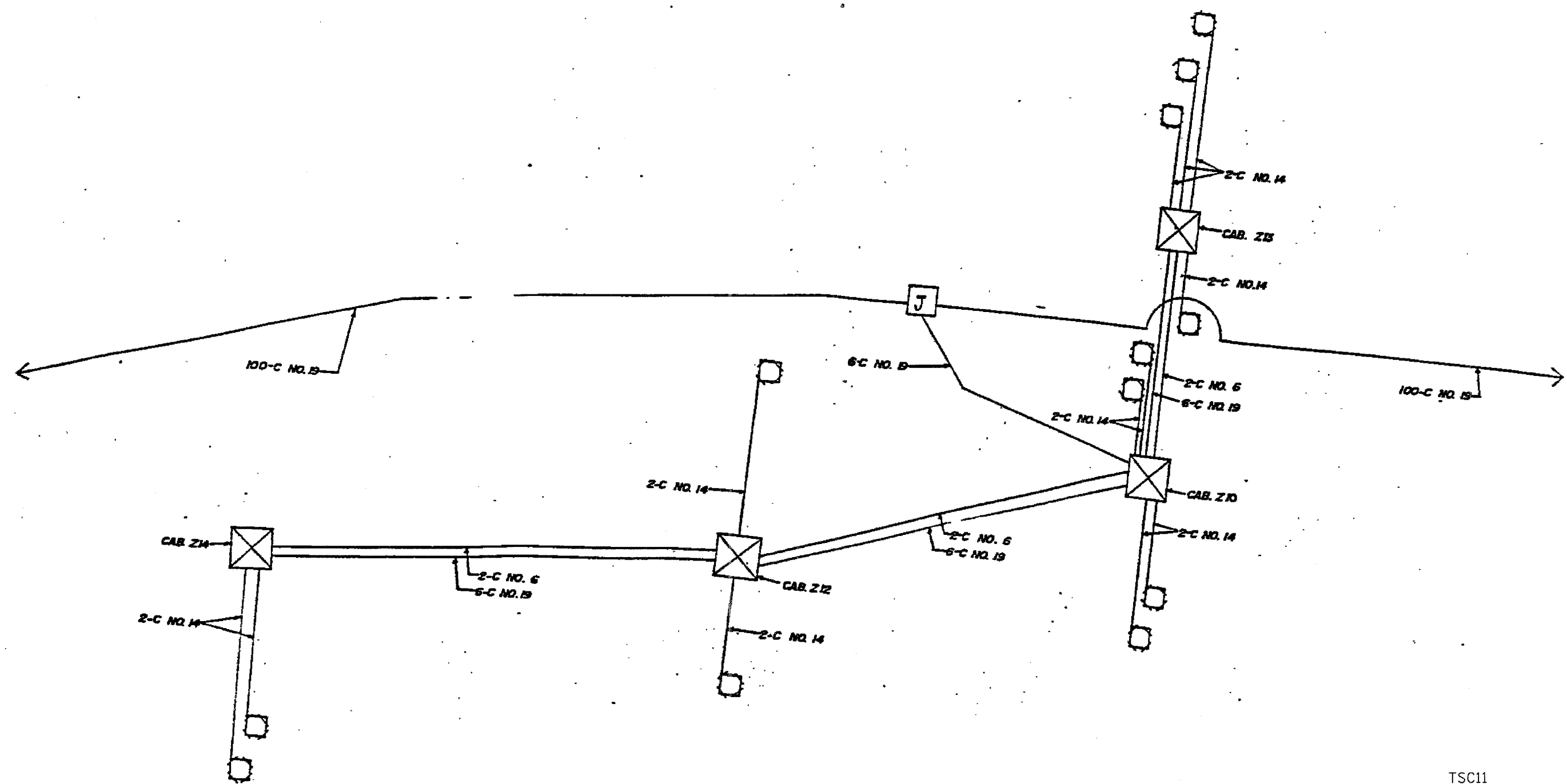
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 CANAL PORT

SCALE: NTS
 DATE: 7/22/2005

DRAWN BY: MR
 CHECKED BY: BLU

TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	394
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



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CONSULTING ENGINEERS
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FOR INFORMATION ONLY

REVISIONS		NAME	DATE
NO.	DESCRIPTION		

TSC11

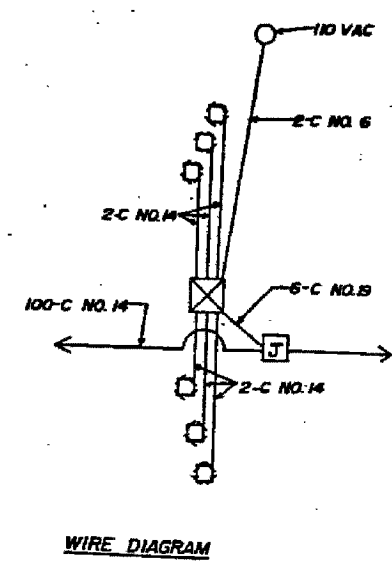
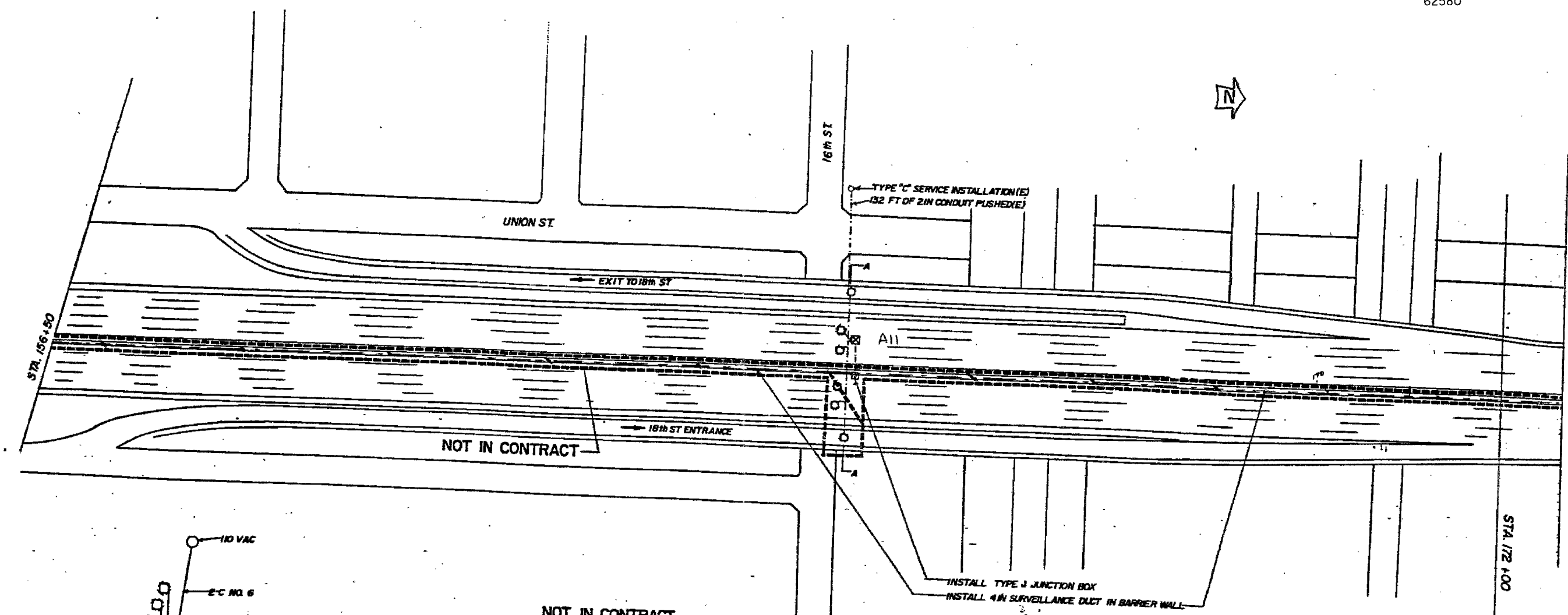
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
22nd ST. INSTALLATION
WIRE DIAGRAM

SCALE: NTS
DATE: 7/22/2005

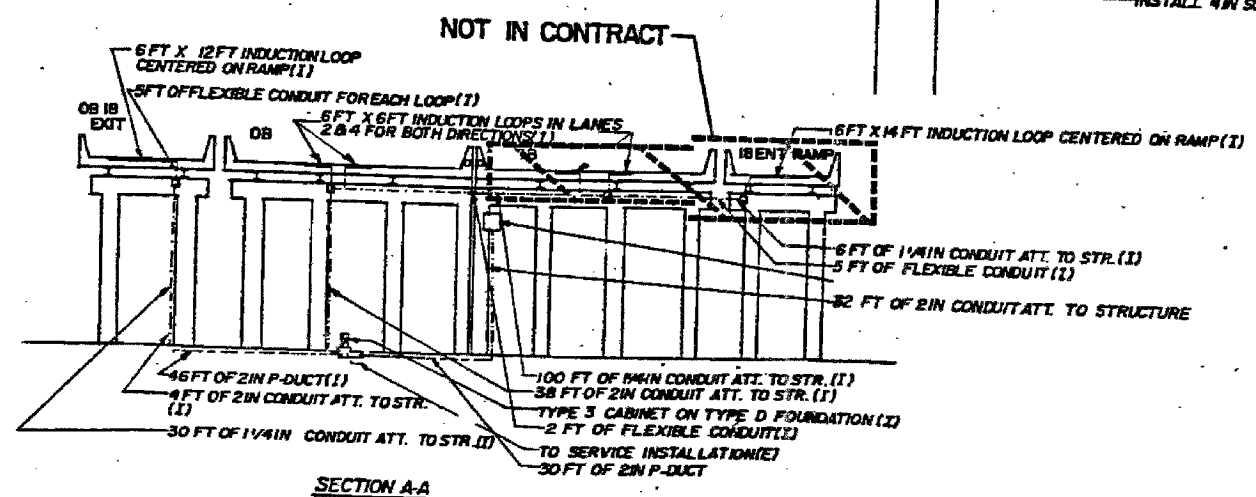
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TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	395
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62580				



WIRE DIAGRAM



SECTION A-A

LEGEND

- INDUCTION LOOP
- ⊠ T SC CABINET
- POLYETHYLENE DUCT
- G S CONDUIT
- ⊞ JUNCTION BOX
- SERVICE INSTALLATION
- (1) INSTALL
- (E) EXISTING

TSC12

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 16th STREET
 INSTALLATION

SCALE: NTS
 DATE: 7/22/2005

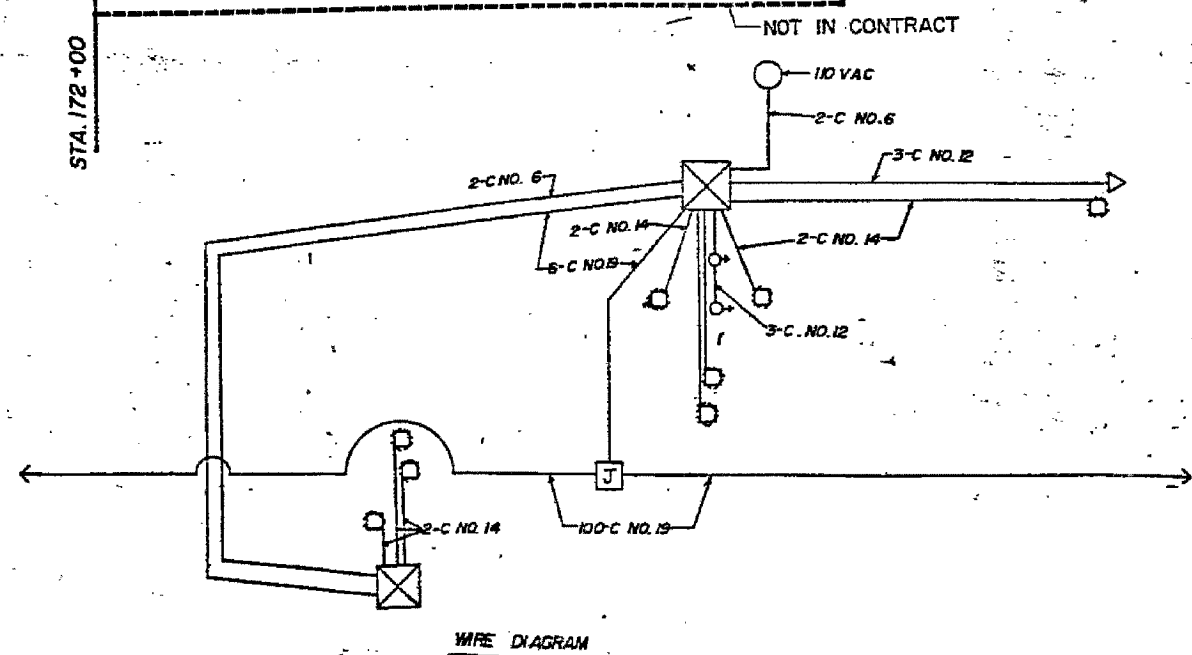
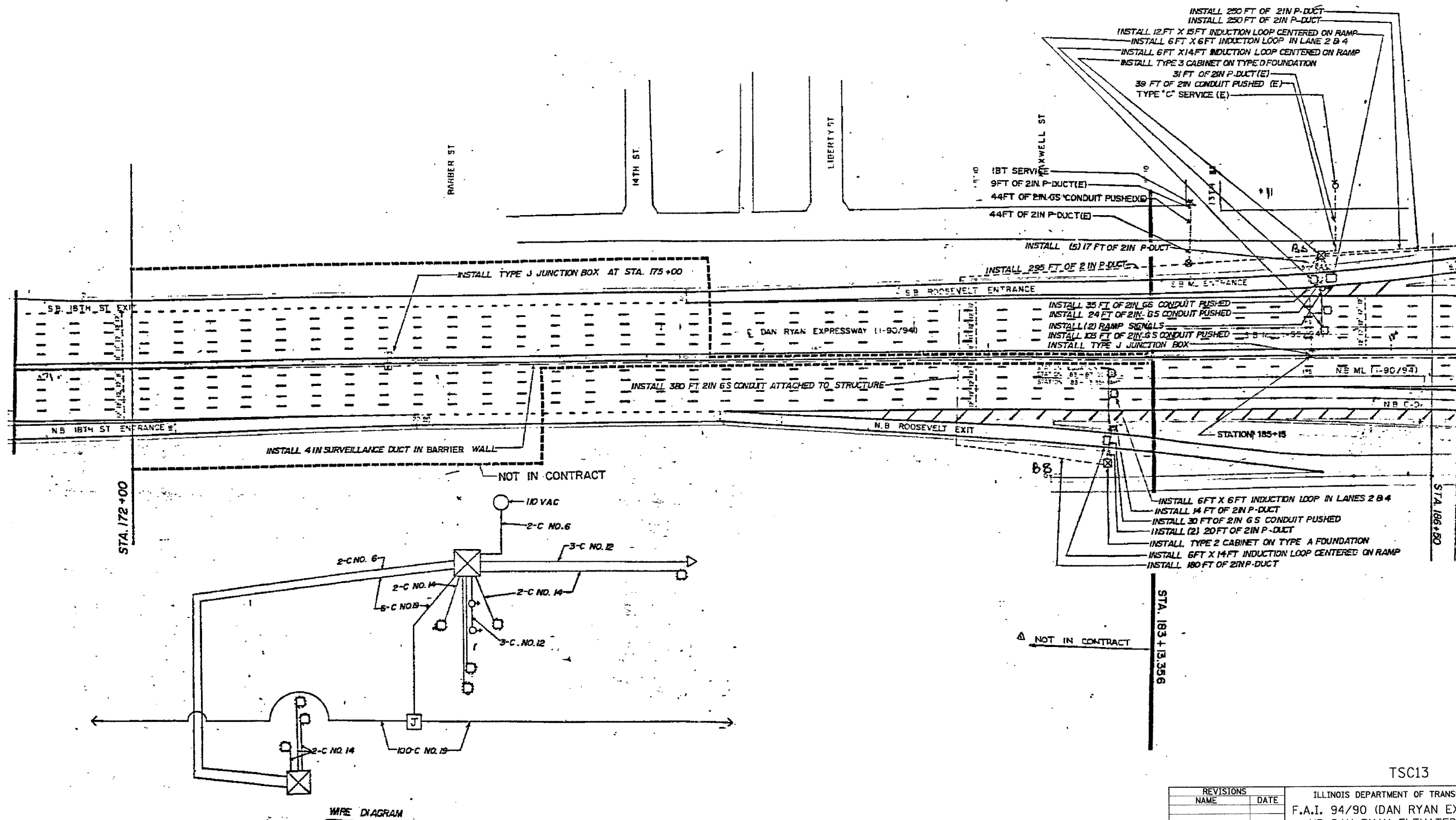
DRAWN BY: MR
 CHECKED BY: BLU

TRAFFIC SYSTEMS CENTER

BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
 www.bbainc.com

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	396
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62580



WIRE DIAGRAM

FOR INFORMATION ONLY

TSC13

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 ROOSEVELT ROAD
 INSTALLATION

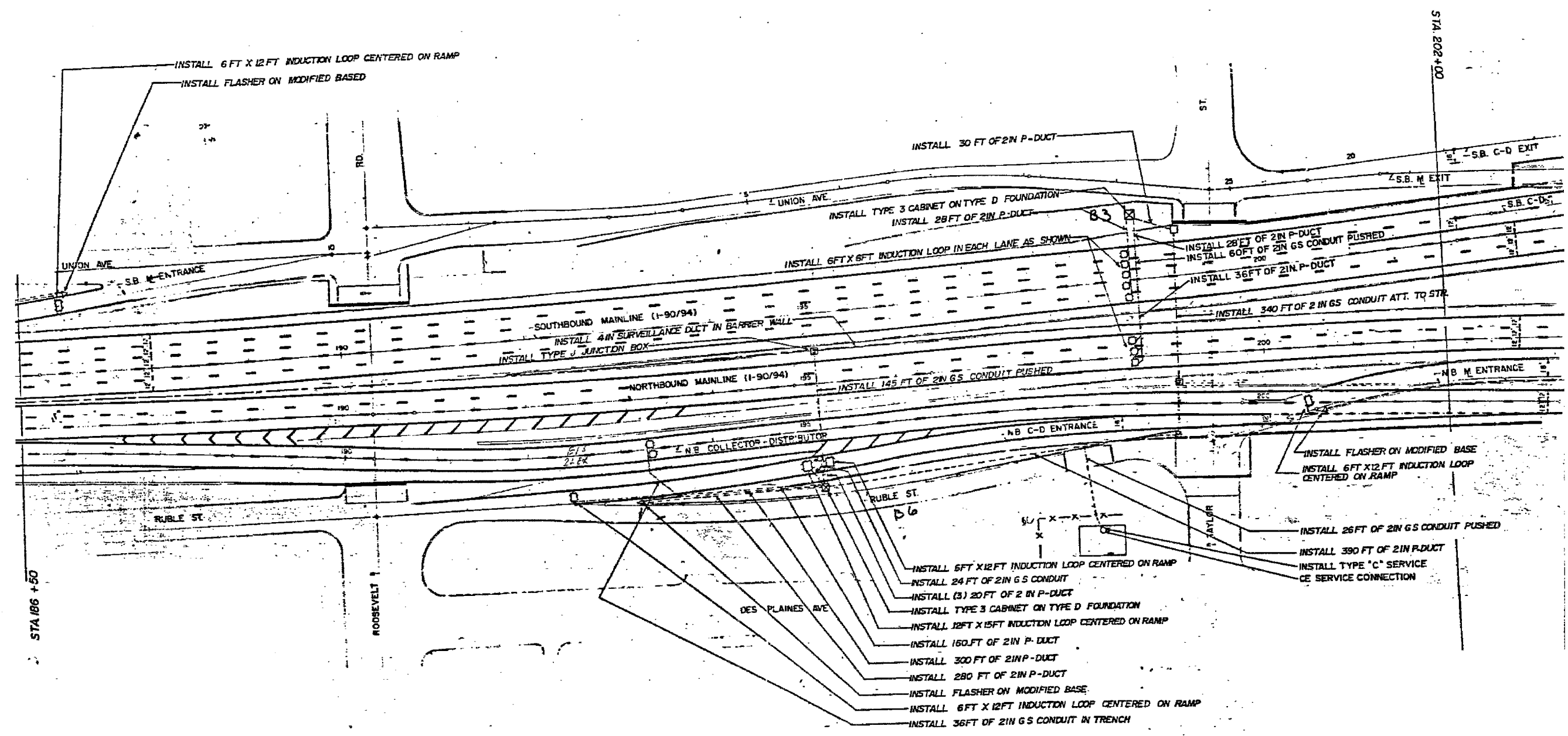
SCALE: NTS
 DATE: 7/22/2005

DRAWN BY: MR
 CHECKED BY: BLU

TRAFFIC SYSTEMS CENTER

BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	397
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



TSC14

BOWMAN, BARRETT & ASSOCIATES INC.
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FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 ROOSEVELT AND TAYLOR ST
 INSTALLATION

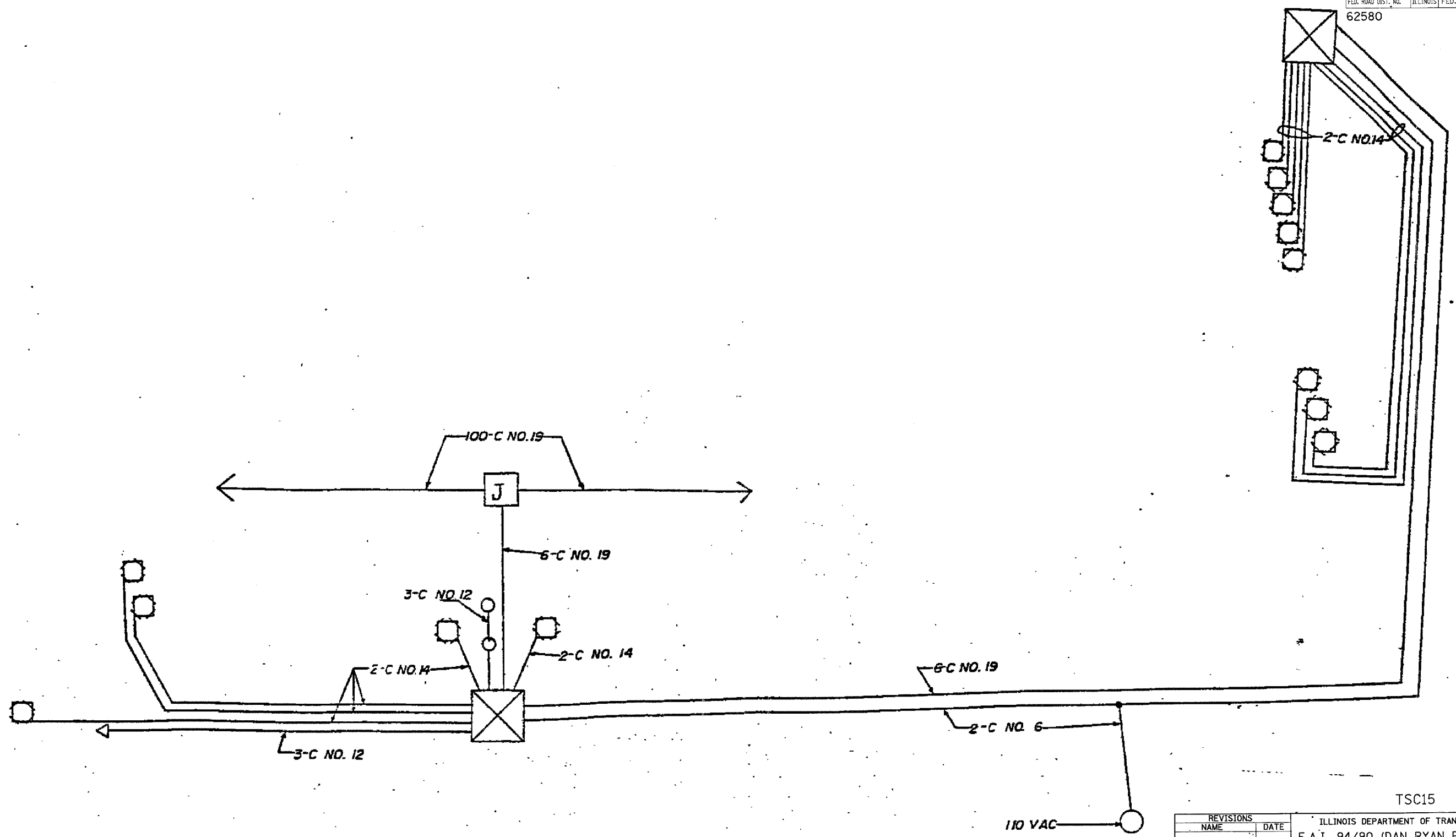
SCALE: NTS
 DATE: 7/22/2005

DRAWN BY: MR
 CHECKED BY: BLU

TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	398
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62580



TSC15

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

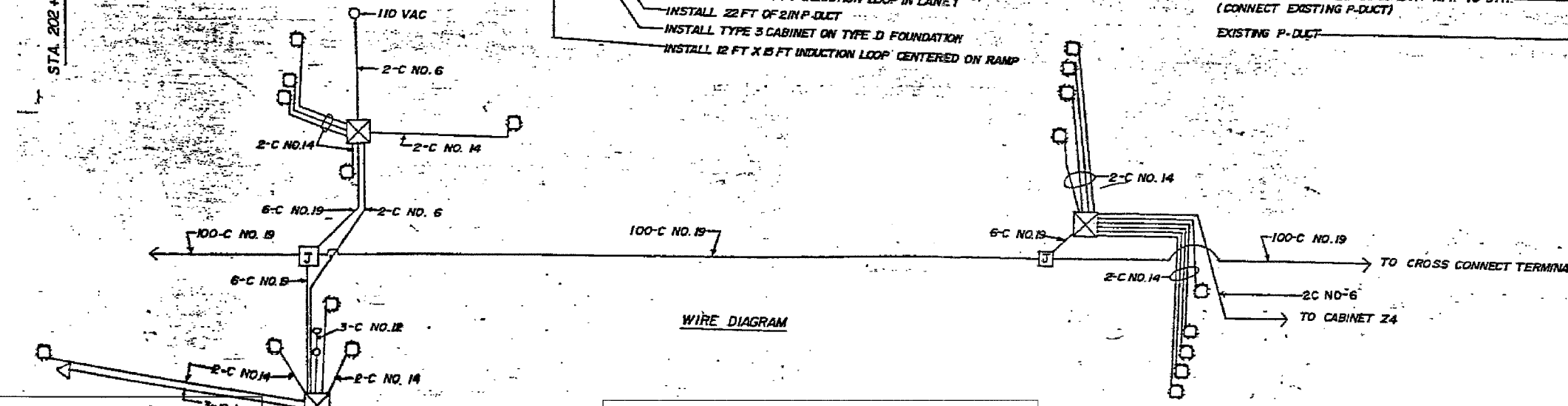
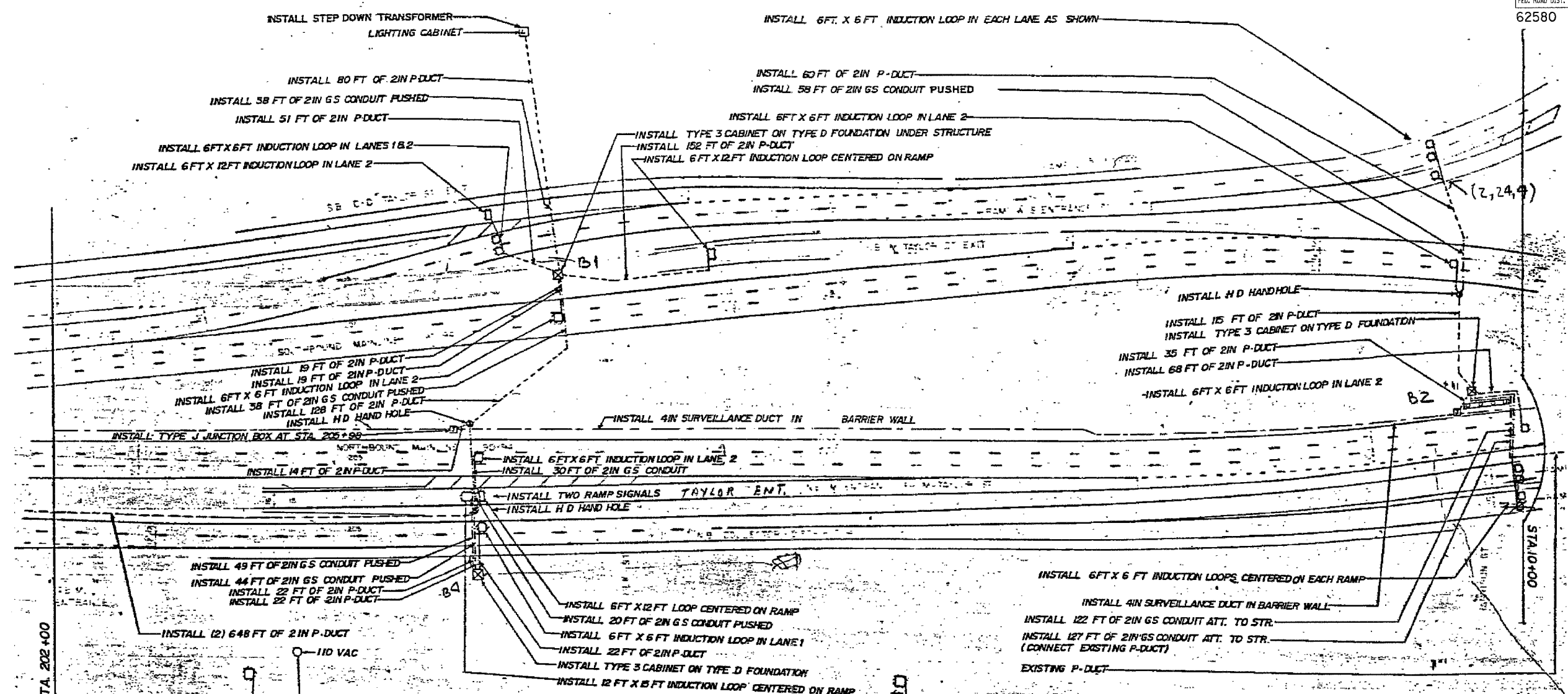
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 ROOSEVELT RD. AND TAYLOR ST.
 WIRE DIAGRAM
 SCALE: NTS
 DATE: 7/22/2005
 DRAWN BY: MR
 CHECKED BY: BLU

BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
 www.bbainc.com

TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	399
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

62580



FOR INFORMATION ONLY

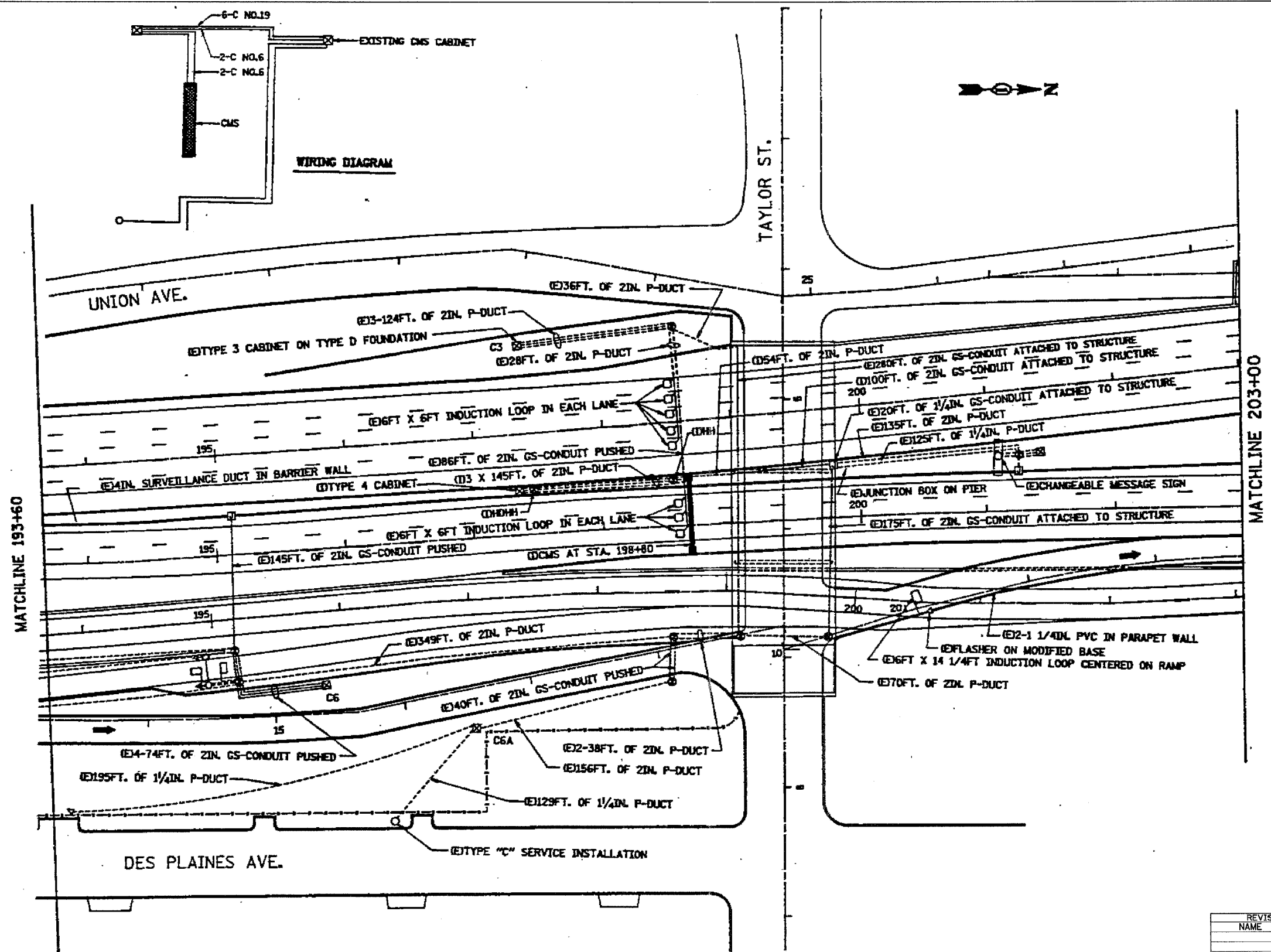
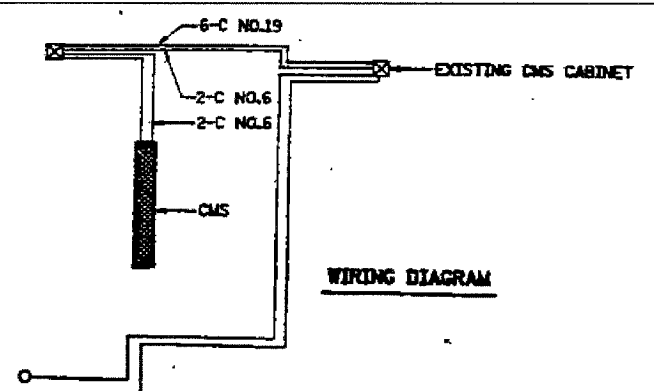
REVISIONS	
NAME	DATE

TSC16
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 SURVEILLANCE INSTALLATION
 AT POLK STREET
 SCALE: NTS
 DATE: 7/22/2005
 DRAWN BY: MR
 CHECKED BY: BLU

TRAFFIC SYSTEMS CENTER

BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	400
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62580				



FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

TSC17

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 IB TAYLOR ST. CMS
 CMS-5

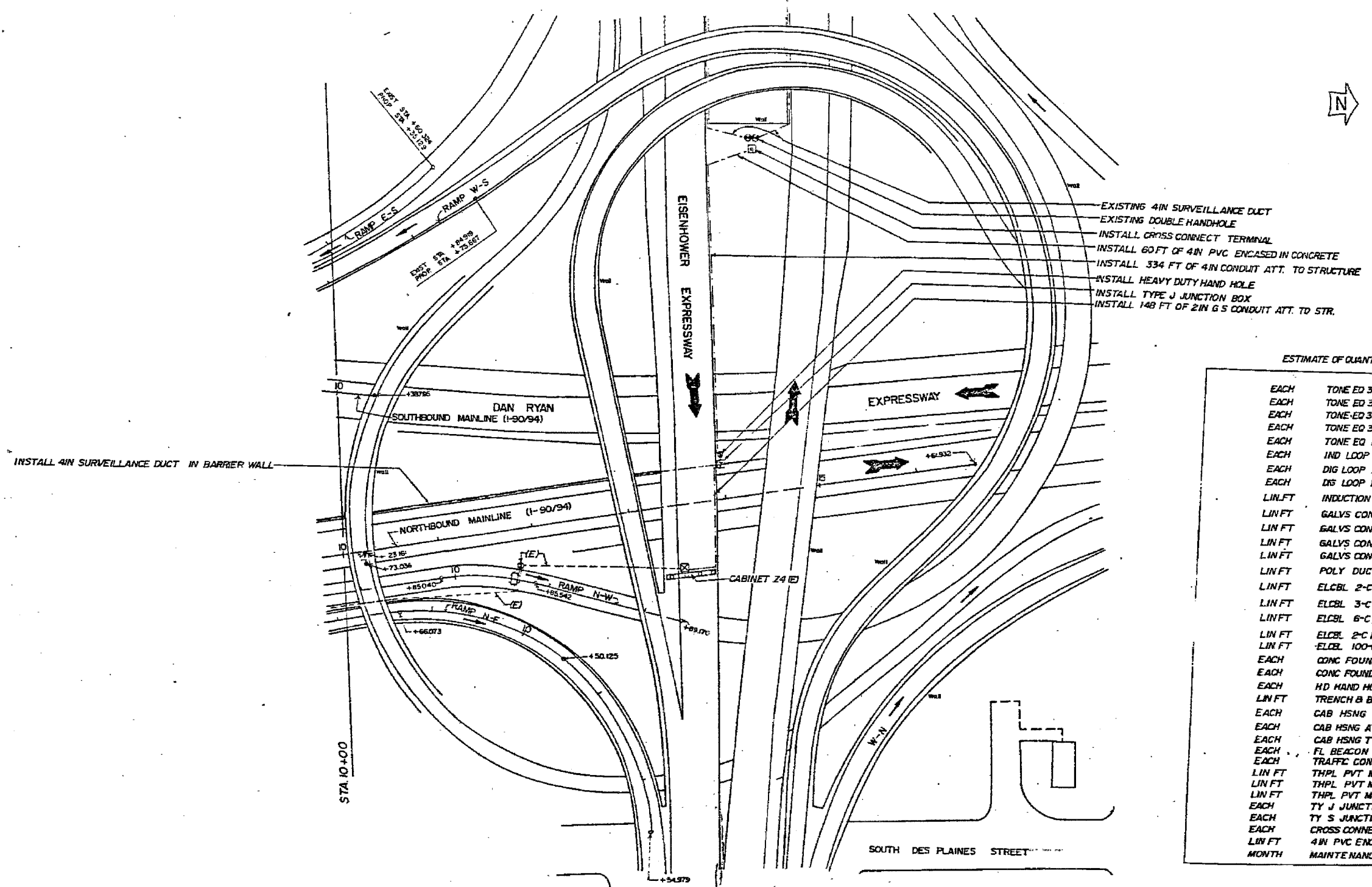
SCALE: NTS
 DATE: 7/22/2005

DRAWN BY: MR
 CHECKED BY: BLU

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TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	401
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



- EXISTING 4IN SURVEILLANCE DUCT
- EXISTING DOUBLE HANDHOLE
- INSTALL CROSS CONNECT TERMINAL
- INSTALL 60 FT OF 4IN PVC ENCASED IN CONCRETE
- INSTALL 334 FT OF 4IN CONDUIT ATT. TO STRUCTURE
- INSTALL HEAVY DUTY HAND HOLE
- INSTALL TYPE J JUNCTION BOX
- INSTALL 148 FT OF 2IN G S CONDUIT ATT. TO STR.

ESTIMATE OF QUANTITIES

EACH	TONE EQ 3 FREQ MIN TRANS
EACH	TONE EQ 3 FREQ TRANS
EACH	TONE EQ 3 FREQ REC
EACH	TONE EQ 3 POWER SUPPLY
EACH	TONE EQ MOUNT FRAME
EACH	IND LOOP DET SEN UNIT
EACH	DIG LOOP DET SEN UNIT-2
EACH	DS LOOP DET SEN UNIT-4
LINEAR FT	INDUCTION LOOP
LINEAR FT	GALVS CON T2
LINEAR FT	GALVS CON P2
LINEAR FT	GALVS CON AT ST 2
LINEAR FT	GALVS CON AT ST 4
LINEAR FT	POLY DUCT 2
LINEAR FT	ELCBL 2-C NO. 6
LINEAR FT	ELCBL 3-C NO. 12
LINEAR FT	ELCBL 6-C NO. 19
LINEAR FT	ELCBL 2-C NO. 14 SHIELD
LINEAR FT	ELCBL 100-C NO. 19
EACH	CONC FOUND TY A
EACH	CONC FOUND TY D
EACH	HD HAND HOLE
LINEAR FT	TRENCH & BACKFILL
EACH	CAB HSG PED MT TY 2
EACH	CAB HSG AT ST TY 2
EACH	CAB HSG TY 3
EACH	FL BEACON & FL CONTR
EACH	TRAFFIC CONT SIGN HDB PED
LINEAR FT	THPL PVT MK LINE 8
LINEAR FT	THPL PVT MK LINE 12
LINEAR FT	THPL PVT MK LINE 18
EACH	TY J JUNCTION BOX
EACH	TY S JUNCTION BOX
EACH	CROSS CONNECT TERMINAL
LINEAR FT	4IN PVC ENCASED
MONTH	MAINTENANCE

INSTALL 4IN SURVEILLANCE DUCT IN BARRIER WALL

FOR INFORMATION ONLY

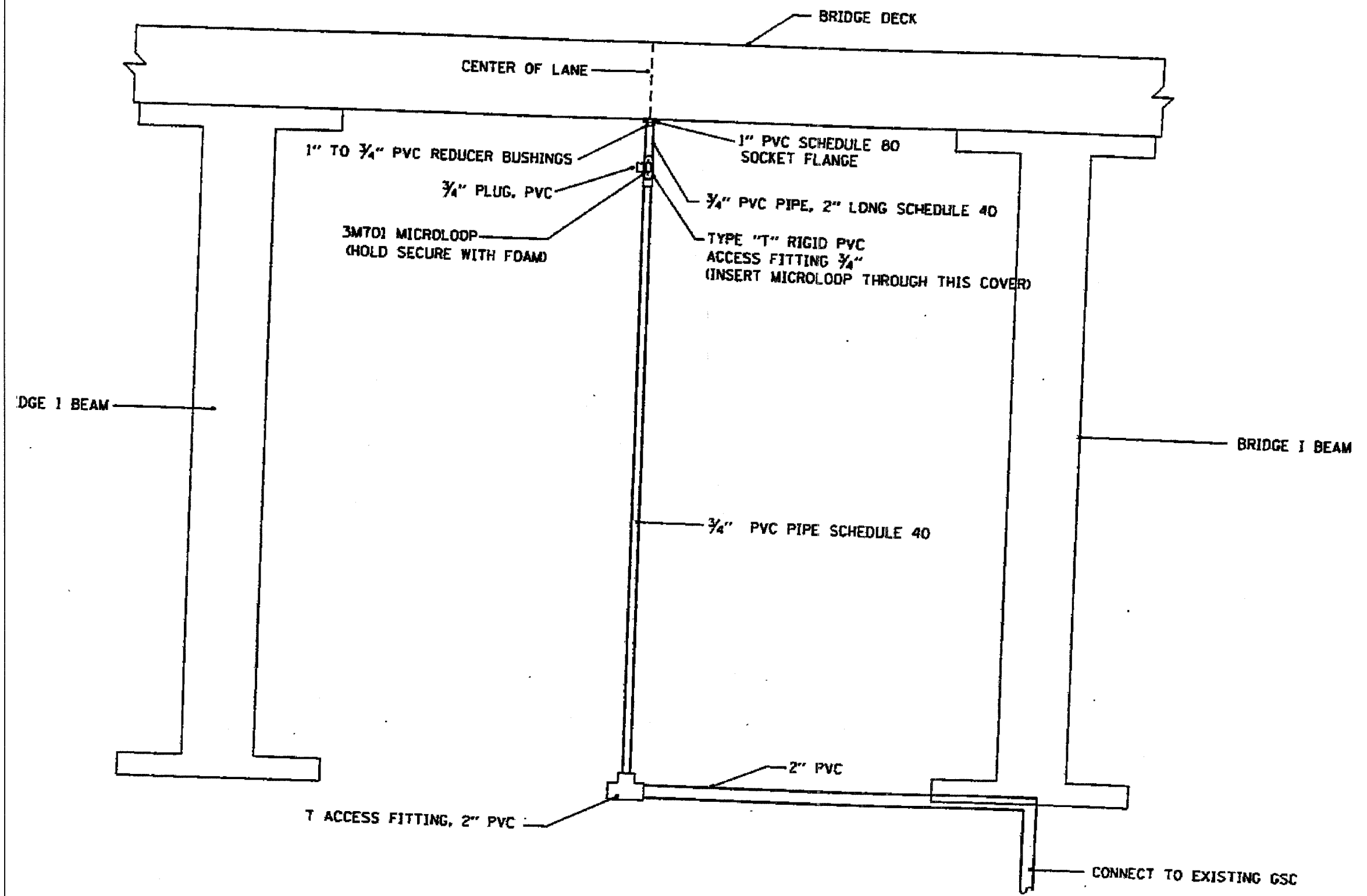
TSC18

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CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbainc.com

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) NB DAN RYAN ELEVATED BRIDGE REPAIR FROM 15TH TO 28TH STREETS CIRCLE INTERCHANGE
NAME	DATE	
		SCALE: NTS
		DATE: 7/22/2005
		DRAWN BY: MR
		CHECKED BY: BLU

TRAFFIC SYSTEMS CENTER

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	402
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62580				



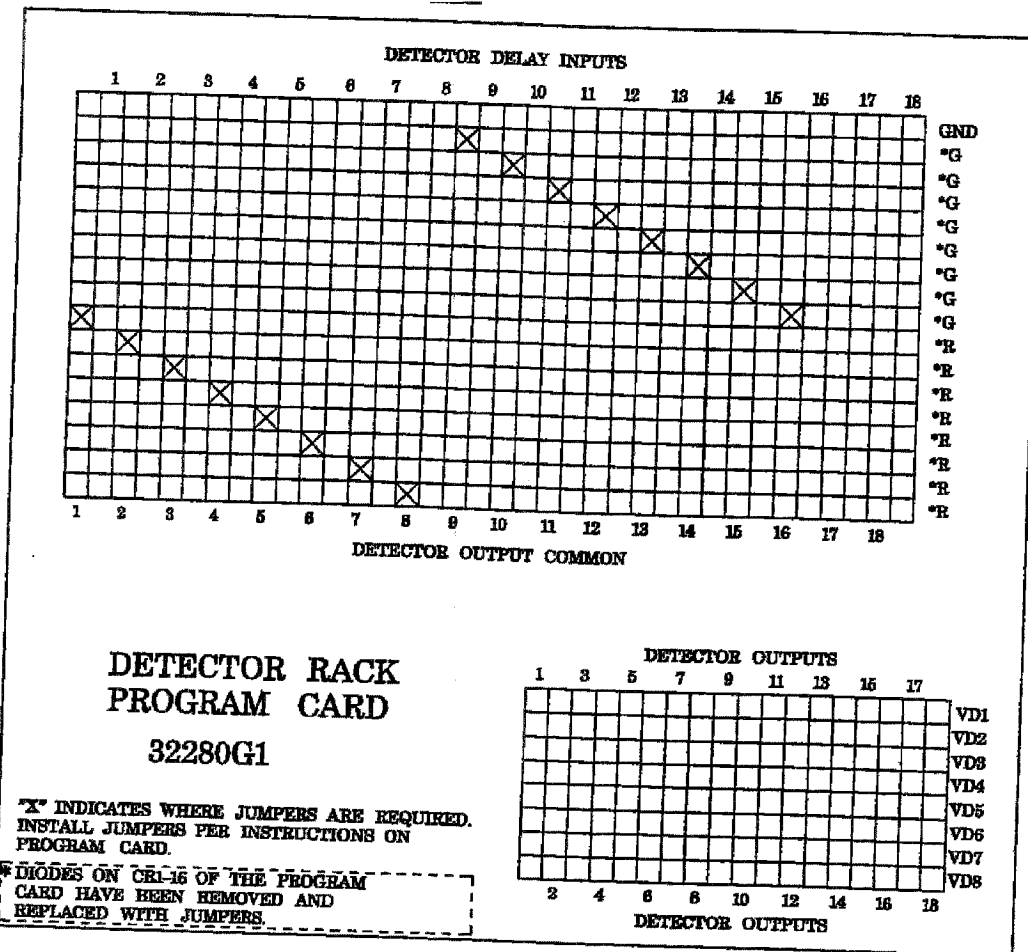
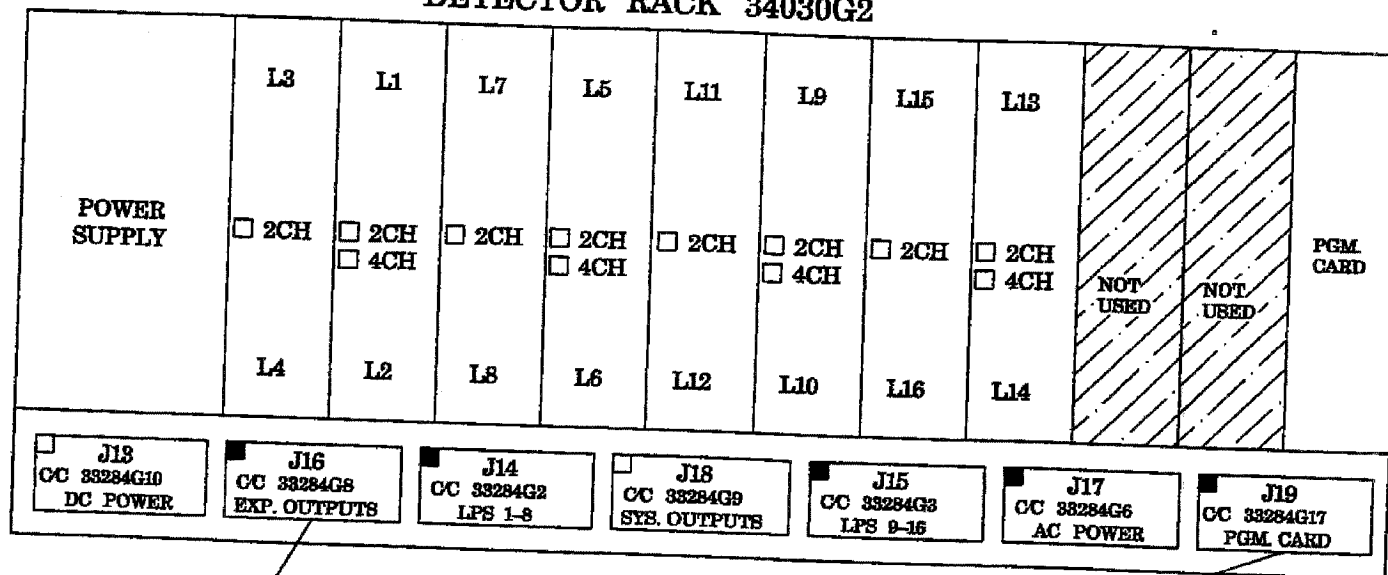
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 MICRO LOOP UNDER BRIDGE
 DECK APPLICATION (TYPICAL)
 SCALE: NTS
 DATE: 8/12/2005

TSC19

8/17/2005 9:38:28 AM

DETECTOR RACK 34030G2



WIRING ASSIGNMENTS

LOOP POS.	COLLECTOR WIRE
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

WIRING ASSIGNMENTS

LOOP POS.	EMITTER WIRE
1	9
2	10
3	11
4	12
5	13
6	14
7	15
8	16
9	18
10	19
11	20
12	21
13	22
14	23
15	24
16	25

DETECTOR RACK PROGRAMMING JUMPERS

DET. TYPE	SLOT 12 (1)		SLOT 34 (1)								SLOT 56 (1)								SLOT 78 (1)											
	JP1	JP2	JP3	JP4	JP5	JP6	JP7	JP8	JP9	JP10	JP11	JP12	JP13	JP14	JP15	JP16	JP17	JP18	JP19	JP20	JP21	JP22	JP23	JP24	JP25	JP26	JP27	JP28	JP29	JP30
① TS-1	NO	NO	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
② TS-2	YES	YES	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
③ LM-632T 262-FC	NO	NO	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
④ MAG.	NO	NO	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

① DENOTES DETECTOR RACK CONFIGURATION BY SLOT PAIR.
 ② INSTALL JUMPERS ON TP1, TP2 AND JP31 THRU JP34 FOR TS-2 CONFIGURATION.

TSC20
 DETECTOR RACK SHEET 1 OF 2

REVISIONS	NAME	DATE

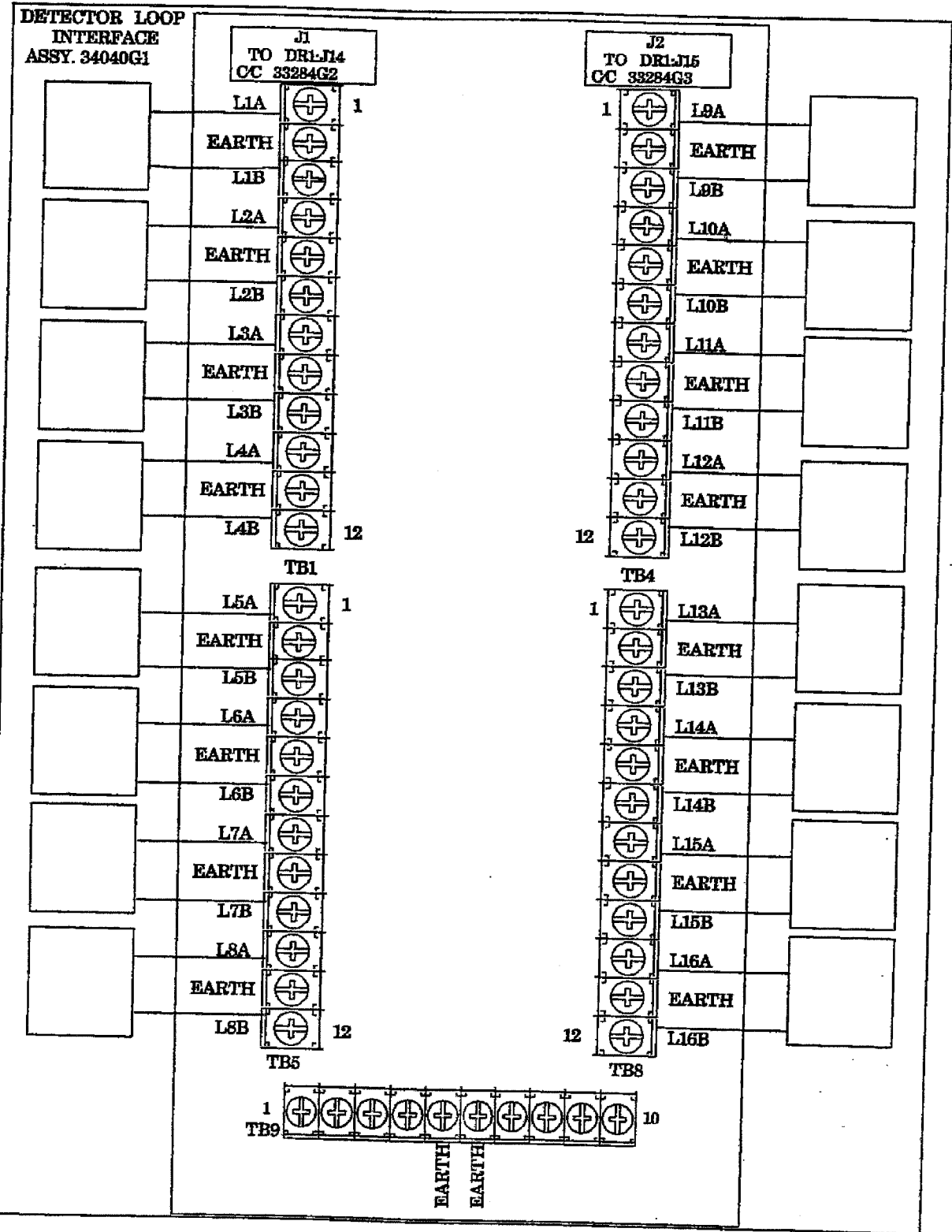
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 TRAFFIC SYSTEMS CENTER
 DETAILS

SCALE: NTS
 DATE: 8/12/2005

DRAWN BY:
 CHECKED BY:

9/30/2005 9:36:32 AM

62580



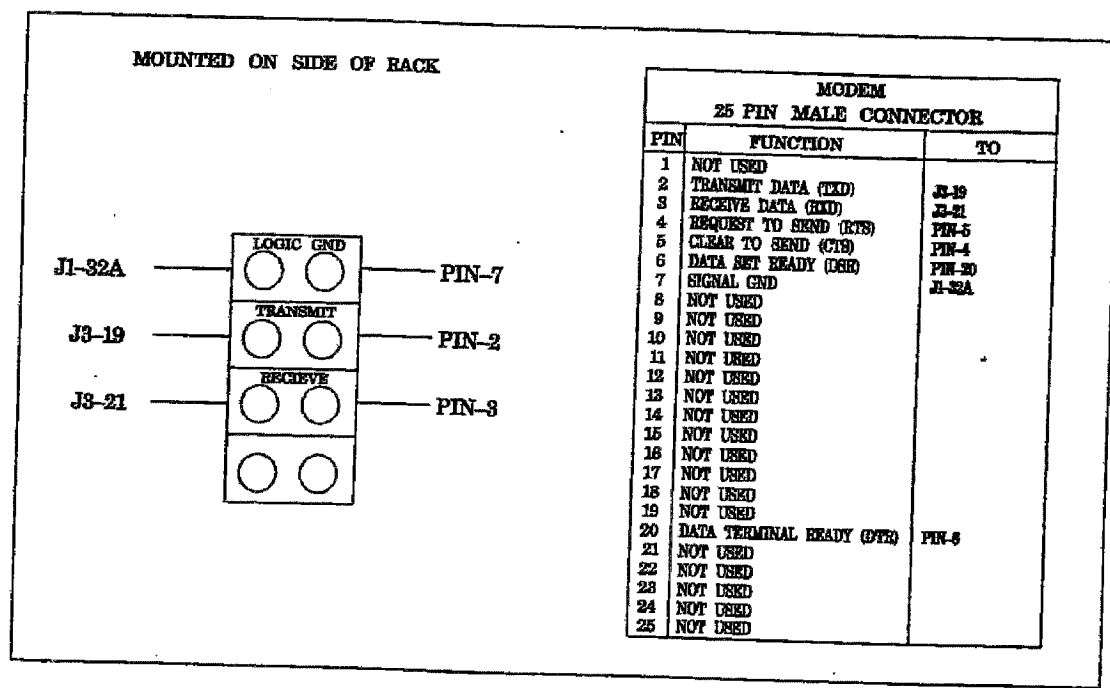
PIN	FUNCTION	TO
1	LOOP 1+	LPI1:TB1-1
2	LOOP 1-	LPI1:TB1-3
3	LOOP 2+	LPI1:TB1-4
4	LOOP 2-	LPI1:TB1-6
5	LOOP 3+	LPI1:TB1-7
6	LOOP 3-	LPI1:TB1-9
7	LOOP 4+	LPI1:TB1-10
8	LOOP 4-	LPI1:TB1-12
9	LOOP 5+	LPI1:TB5-1
10	LOOP 5-	LPI1:TB5-3
11	LOOP 6+	LPI1:TB5-4
12	LOOP 6-	LPI1:TB5-6
13	LOOP 7+	LPI1:TB5-7
14	LOOP 7-	LPI1:TB5-9
15	LOOP 8+	LPI1:TB5-10
16	LOOP 8-	LPI1:TB5-12
17	NOT USED	
18	NOT USED	
19	NOT USED	
20	NOT USED	
21	NOT USED	
22	NOT USED	
23	NOT USED	
24	NOT USED	
25	NOT USED	
26	NOT USED	

PIN	FUNCTION	TO
1	LOOP 9+	LPI2:TB4-1
2	LOOP 9-	LPI2:TB4-3
3	LOOP 10+	LPI2:TB4-4
4	LOOP 10-	LPI2:TB4-6
5	LOOP 11+	LPI2:TB4-7
6	LOOP 11-	LPI2:TB4-9
7	LOOP 12+	LPI2:TB4-10
8	LOOP 12-	LPI2:TB4-12
9	LOOP 13+	LPI2:TB8-1
10	LOOP 13-	LPI2:TB8-3
11	LOOP 14+	LPI2:TB8-4
12	LOOP 14-	LPI2:TB8-6
13	LOOP 15+	LPI2:TB8-7
14	LOOP 15-	LPI2:TB8-9
15	LOOP 16+	LPI2:TB8-10
16	LOOP 16-	LPI2:TB8-12
17	NOT USED	
18	NOT USED	
19	NOT USED	
20	NOT USED	

PIN	FUNCTION	TO
1	DET.1+ OUT	
2	DET.2+ OUT	
3	DET.3+ OUT	
4	DET.4+ OUT	
5	DET.5+ OUT	
6	DET.6+ OUT	
7	DET.7+ OUT	
8	DET.8+ OUT	
9	DET.9+ OUT	
10	DET.10+ OUT	
11	DET.11+ OUT	
12	DET.12+ OUT	
13	DET.13+ OUT	
14	DET.14+ OUT	
15	DET.15+ OUT	
16	DET.16+ OUT	
17	NOT USED	
18	NOT USED	
19	NOT USED	
20	NOT USED	
21	NOT USED	
22	NOT USED	
23	NOT USED	
24	NOT USED	
25	NOT USED	
26	NOT USED	

PIN	FUNCTION	TO
1	NOT USED	
2	NOT USED	
3	NOT USED	
4	NOT USED	
5	NOT USED	
6	NOT USED	
7	NOT USED	
8	NOT USED	
9	DET.1- OUT	
10	DET.2- OUT	
11	DET.3- OUT	
12	DET.4- OUT	
13	DET.5- OUT	
14	DET.6- OUT	
15	DET.7- OUT	
16	DET.8- OUT	
17	NOT USED	
18	DET.9- OUT	
19	DET.10- OUT	
20	DET.11- OUT	
21	DET.12- OUT	
22	DET.13- OUT	
23	DET.14- OUT	
24	DET.15- OUT	
25	DET.16- OUT	
26	NOT USED	

PIN	FUNCTION	TO
1	EARTH GND.(GREEN)	
2	AC LINE(BLACK)	
3	AC NEUTRAL(WHITE)	
4	LOGIC GND.(GREY)	



TSC21
DETECTOR RACK SHEET 2 OF 2

NAME	DATE

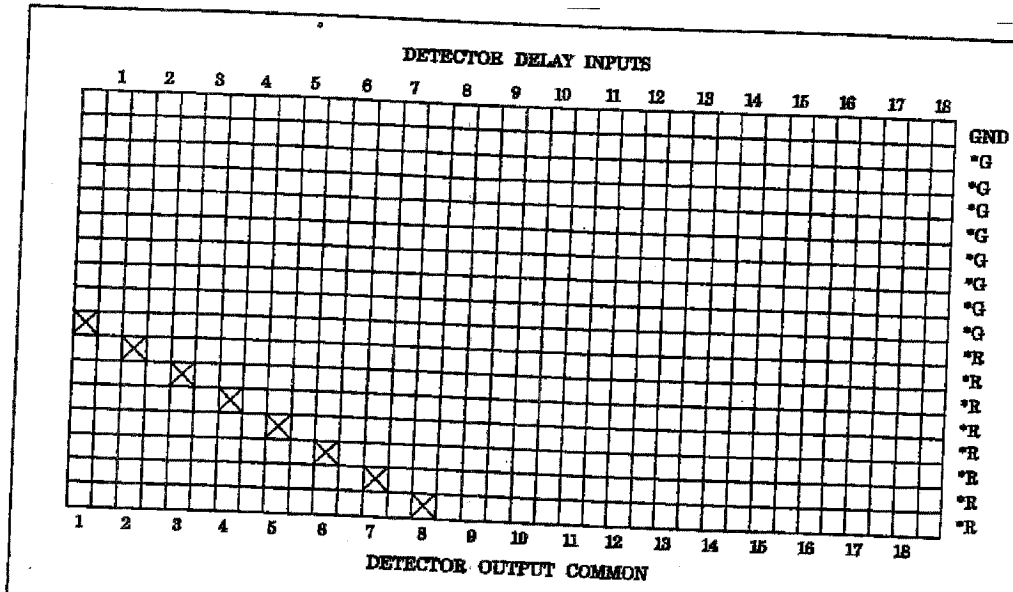
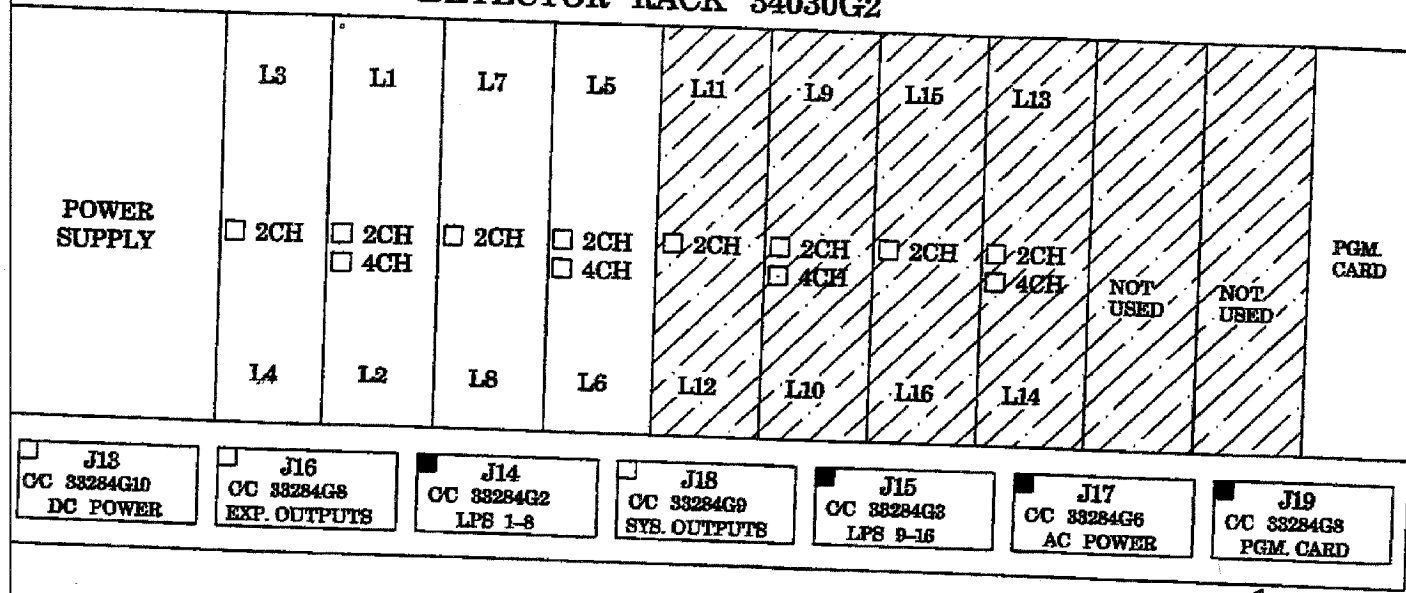
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
TRAFFIC SYSTEMS CENTER
DETAILS

SCALE: NTS
DATE: 8/12/2005

DRAWN BY:
CHECKED BY:

8/11/2005 9:36:37 AM

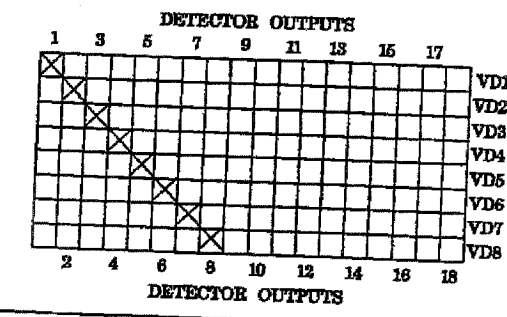
DETECTOR RACK 34030G2



DETECTOR RACK PROGRAM CARD 32280G1

*X INDICATES WHERE JUMPERS ARE REQUIRED. INSTALL JUMPERS PER INSTRUCTIONS ON PROGRAM CARD.

*DIODES ON CR8, 10-16, 22-25, AND 31-34 OF THE PROGRAM CARD HAVE BEEN REMOVED AND REPLACED WITH JUMPERS.



WIRING ASSIGNMENTS

LOOP POS.	COLLECTOR WIRE	EMITTER WIRE
1	1	9
2	2	10
3	3	11
4	4	12
5	5	13
6	6	14
7	7	15
8	8	16

DETECTOR RACK PROGRAMMING JUMPERS

DET. TYPE	JP1	JP2	SLOT 12 (1)							SLOT 34 (1)							SLOT 56 (1)							SLOT 78 (1)						
			JP3	JP4	JP5	JP6	JP7	JP8	JP9	JP10	JP11	JP12	JP13	JP14	JP15	JP16	JP17	JP18	JP19	JP20	JP21	JP22	JP23	JP24	JP25	JP26	JP27	JP28	JP29	JP30
① TS-1	NO	NO	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
② TS-2	YES	YES	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
③ LM-632T 262-PC	NO	NO	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
④ MAG.	NO	NO	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

① DENOTES DETECTOR RACK CONFIGURATION BY SLOT PAIR.

② INSTALL JUMPERS ON TP1, TP2 AND JP31 THRU JP34 FOR TS-2 CONFIGURATION.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
TRAFFIC SYSTEMS CENTER
DETAILS

SCALE: NTS
DATE: 8/12/2005

DRAWN BY:
CHECKED BY:

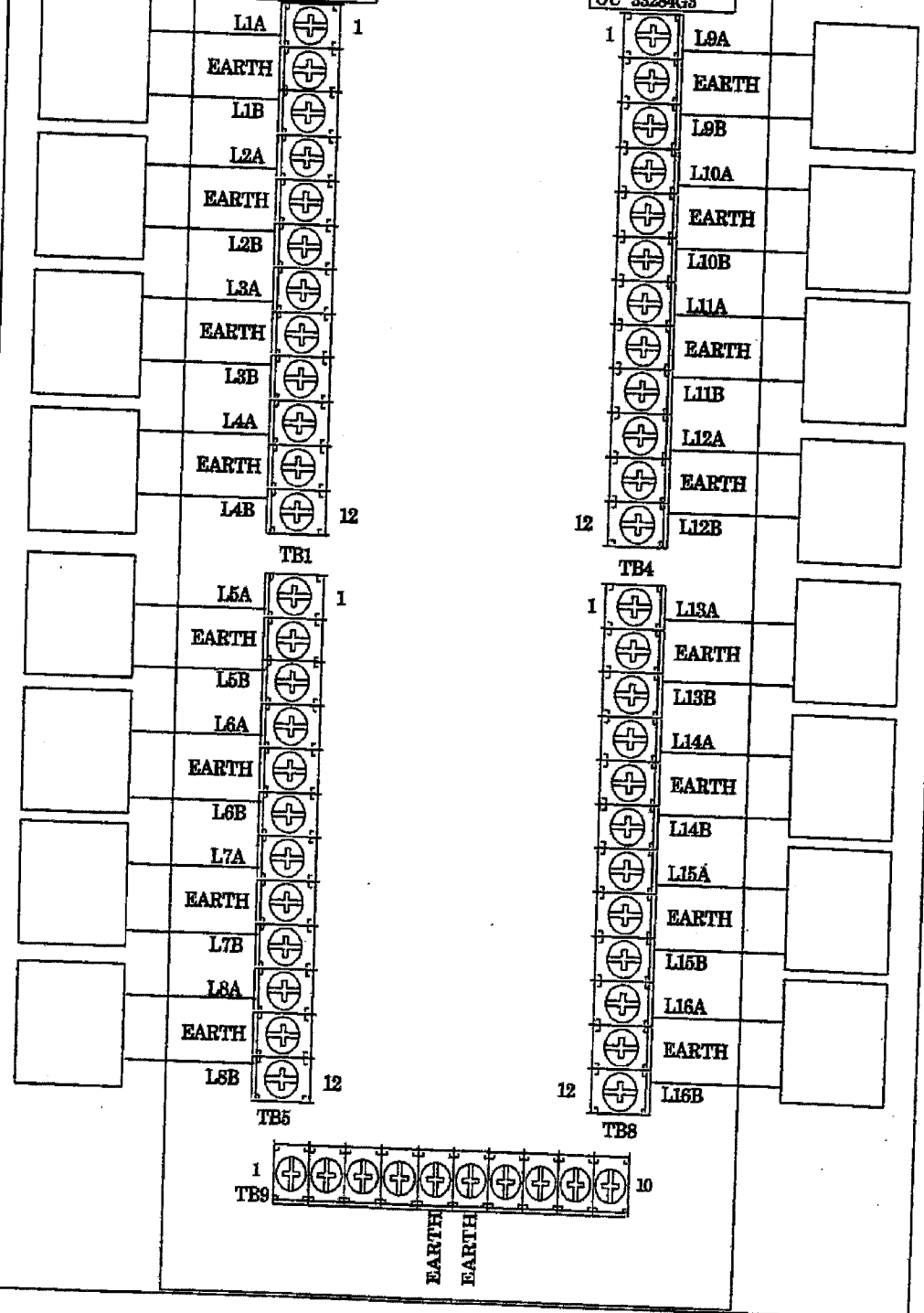
9-3641 AM 3/17/2005

62580

DETECTOR LOOP INTERFACE ASSY. 34040G1

J1 TO DRLJ14 CC 33284G2

J2 TO DRLJ15 CC 33284G3



DET. LOOPS 1-8, 17-18 (J14) CC 33284G2

PIN	FUNCTION	TO
1	LOOP 1+	LPI1: TB1-1
2	LOOP 1-	LPI1: TB1-3
3	LOOP 2+	LPI1: TB1-4
4	LOOP 2-	LPI1: TB1-6
5	LOOP 3+	LPI1: TB1-7
6	LOOP 3-	LPI1: TB1-9
7	LOOP 4+	LPI1: TB1-10
8	LOOP 4-	LPI1: TB1-12
9	LOOP 5+	LPI1: TB1-1
10	LOOP 5-	LPI1: TB1-3
11	LOOP 6+	LPI1: TB1-4
12	LOOP 6-	LPI1: TB1-6
13	LOOP 7+	LPI1: TB1-7
14	LOOP 7-	LPI1: TB1-9
15	LOOP 8+	LPI1: TB1-10
16	LOOP 8-	LPI1: TB1-12
17	NOT USED	
18	NOT USED	
19	NOT USED	
20	NOT USED	
21	NOT USED	
22	NOT USED	
23	NOT USED	
24	NOT USED	
25	NOT USED	
26	NOT USED	

DET. LOOPS 9-16 (J15) CC 33284G3

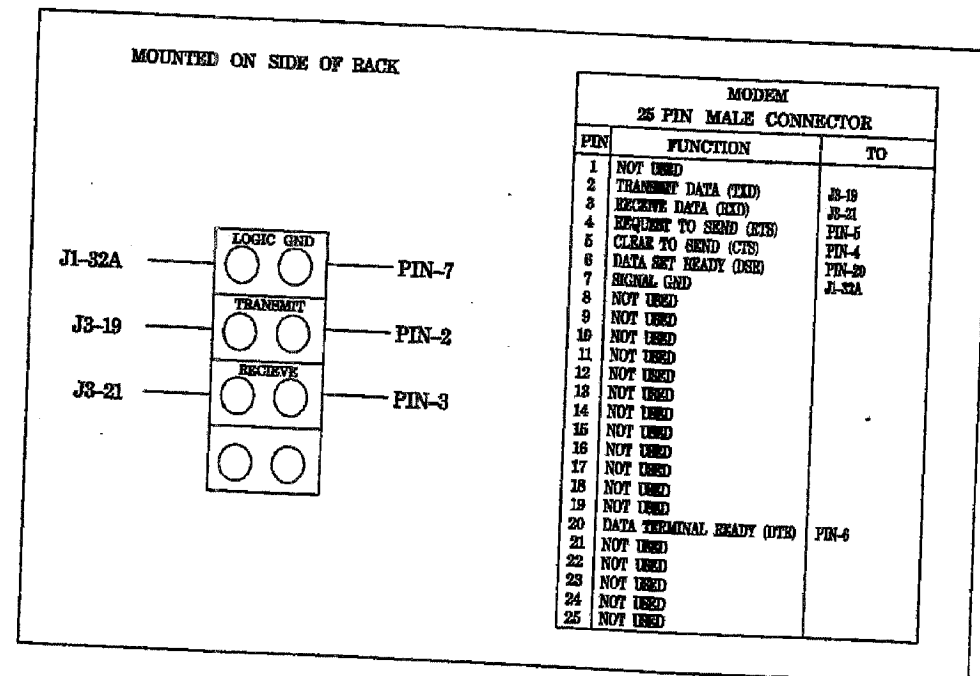
PIN	FUNCTION	TO
1	LOOP 9+	LPI2: TB4-1
2	LOOP 9-	LPI2: TB4-3
3	LOOP 10+	LPI2: TB4-4
4	LOOP 10-	LPI2: TB4-6
5	LOOP 11+	LPI2: TB4-7
6	LOOP 11-	LPI2: TB4-9
7	LOOP 12+	LPI2: TB4-10
8	LOOP 12-	LPI2: TB4-12
9	LOOP 13+	LPI2: TB4-1
10	LOOP 13-	LPI2: TB4-3
11	LOOP 14+	LPI2: TB4-4
12	LOOP 14-	LPI2: TB4-6
13	LOOP 15+	LPI2: TB4-7
14	LOOP 15-	LPI2: TB4-9
15	LOOP 16+	LPI2: TB4-10
16	LOOP 16-	LPI2: TB4-12
17	NOT USED	
18	NOT USED	
19	NOT USED	
20	NOT USED	

PROGRAM CARD (J16) CC 33284G8

PIN	FUNCTION	TO
1	DET. 1+ OUT	
2	DET. 1- OUT	
3	DET. 2+ OUT	
4	DET. 2- OUT	
5	DET. 3+ OUT	
6	DET. 3- OUT	
7	DET. 4+ OUT	
8	DET. 4- OUT	
9	DET. 1- OUT	
10	DET. 2- OUT	
11	DET. 3- OUT	
12	DET. 4- OUT	
13	DET. 5- OUT	
14	DET. 6- OUT	
15	DET. 7- OUT	
16	DET. 8- OUT	
17	NOT USED	
18	NOT USED	
19	NOT USED	
20	NOT USED	
21	NOT USED	
22	NOT USED	
23	NOT USED	
24	NOT USED	
25	NOT USED	
26	NOT USED	

AC POWER (J17) CC 33284G6

PIN	FUNCTION	TO
1	EARTH GND.(GREEN)	
2	AC LINE(BLACK)	
3	AC NEUTRAL(WHITE)	
4	LOGIC GND.(GRAY)	



TSC23
DETECTOR PANEL SHEET 2 OF 2

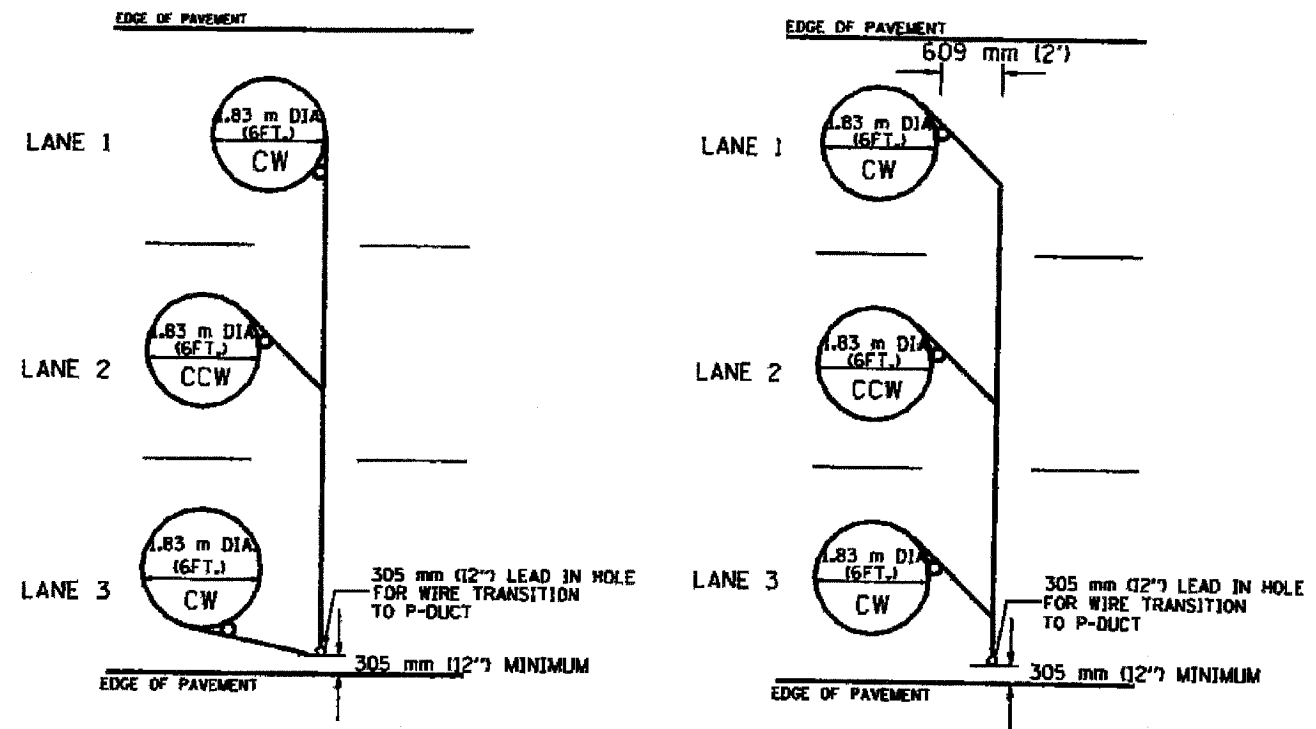
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
NB DAN RYAN ELEVATED BRIDGE
REPAIR FROM 15TH TO 28TH STREETS
TRAFFIC SYSTEMS CENTER
DETAILS

SCALE: NTS
DATE: 8/12/2005

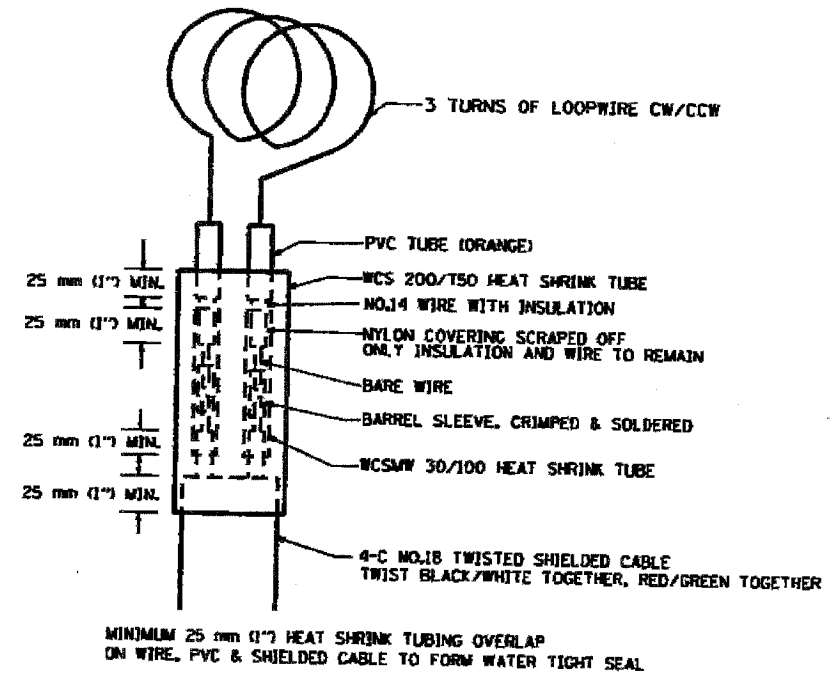
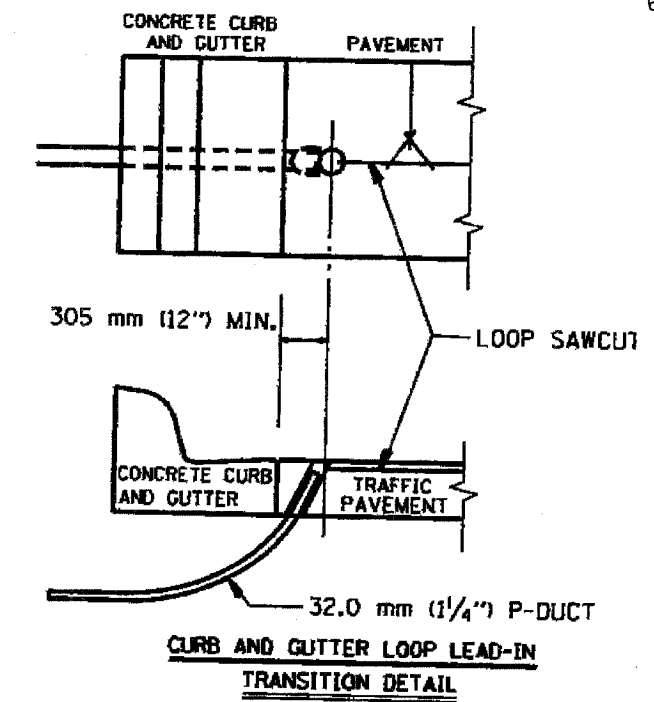
DRAWN BY:
CHECKED BY:

9:38:45 AM 8/17/2005



TYPICAL 1.83 m (6FT.) DIA. INDUCTION LOOP CORE DRILL LAYOUT FOR MULTIPLE LANE ROADWAY

TYPICAL 1.83 m (6') DIA. INDUCTION LOOP CORE DRILL LAYOUT FOR MULTIPLE LANE ROADWAY



LOOP SPLICING REQUIREMENTS

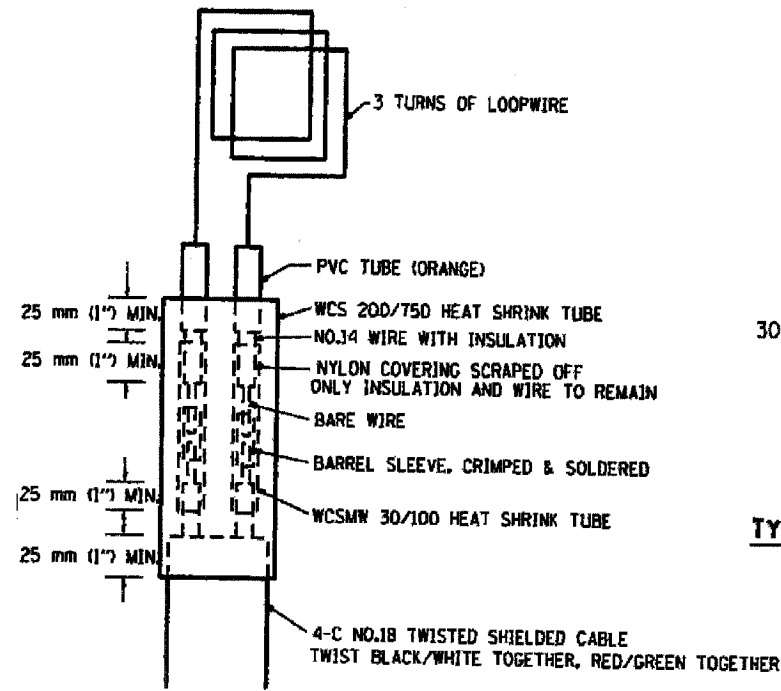
- NOTES**
1. EACH LOOP SHALL BE SPLICED TO A 4-C NO.18 TWISTED SHIELDED LEAD IN WHEN 45 m (150FT.) OR MORE FROM CABINET.
 2. LOOPS SHALL BE SPLICED IN HANDHOLES ONLY, OTHERWISE WRITTEN PERMISSION SHALL BE OBTAINED FROM TSC ENGINEER.
 3. LOOPS SHALL NOT BE SPLICED IN SERIES.
 4. EACH LOOP LEAD IN SHALL BE IDENTIFIED AND PERMANENTLY COLOR CODED IN THE COREHOLE, HANDHOLE & CABINETS THRU WHICH THEY ENTER OR PASS AND TAGGED WITH THE CORRECT NOMENCLATURES.

TSC24

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) NB DAN RYAN ELEVATED BRIDGE REPAIR FROM 15TH TO 28TH STREETS EXISTING ROUND INDUCTION LOOP TYPICALS
NAME	DATE	

SCALE: NTS
DATE: 8/12/2005

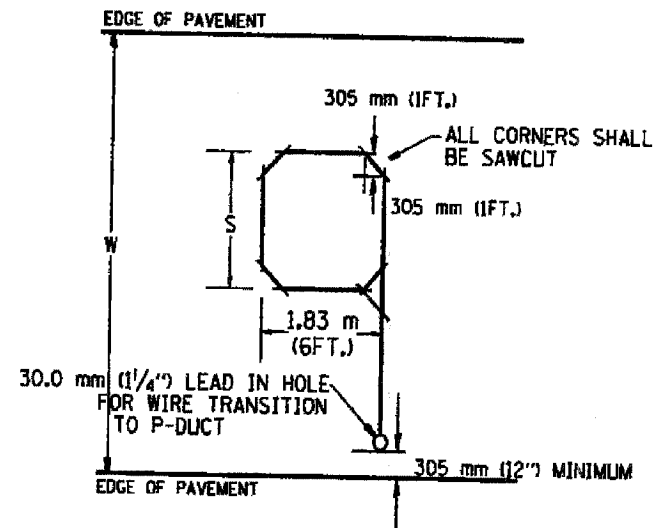
DRAWN BY:
CHECKED BY:



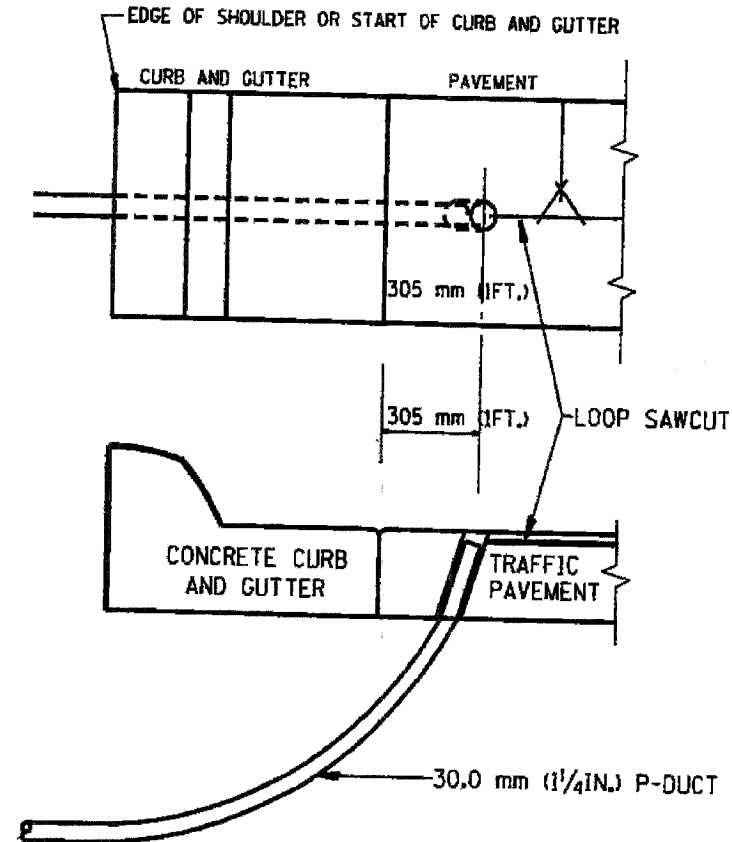
MINIMUM 25 mm (1") HEAT SHRINK TUBING OVERLAP ON WIRE, PVC & SHIELDED CABLE TO FORM WATER TIGHT SEAL

LOOP SPLICING REQUIREMENTS

WIDTH (W)	WIDTH (S)
3.7 m (12')	2.5 m (8')
4.0 m (13')	2.8 m (9')
4.3 m (14')	3.1 m (10')
4.6 m (15')	3.4 m (11')
4.9 m (16')	3.7 m (12')
5.2 m (17')	4.0 m (13')
5.5 m (18')	4.3 m (14')
5.8 m (19')	4.6 m (15')
6.1 m (20')	4.9 m (16')
6.4 m (21')	5.2 m (17')
6.7 m (22')	5.5 m (18')
7.0 m (23')	5.8 m (19')
7.3 m (24')	6.1 m (20')
7.6 m (25')	6.4 m (21')



TYPICAL "S" FT. BY 1.83 m (6 FT.) INDUCTION LOOP SAWCUT LAYOUT FOR RAMP



CURB AND GUTTER LOOP LEAD-IN TRANSITION DETAIL

NOTES

1. EACH LOOP SHALL BE SPLICED TO A 4-C NO.18 TWISTED SHIELDED LEAD IN WHEN 45 m (150 FT.) OR MORE FROM CABINET.
2. LOOPS SHALL BE SPLICED IN HANDHOLES ONLY, OTHERWISE WRITTEN PERMISSION SHALL BE OBTAINED FROM TSC ENGINEER.
3. LOOPS SHALL NOT BE SPLICED IN SERIES.
4. EACH LOOP LEAD IN SHALL BE IDENTIFIED AND PERMANENTLY COLOR CODED IN THE COREHOLE, HANDHOLE & CABINETS THRU WHICH THEY ENTER OR PASS AND TAGGED WITH THE CORRECT NOMENCLATURES.

TSC25

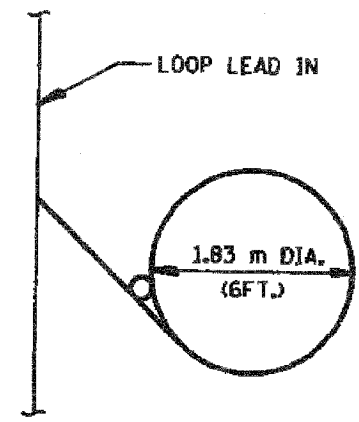
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 RECTANGULAR INDUCTION LOOP (TYPICAL)

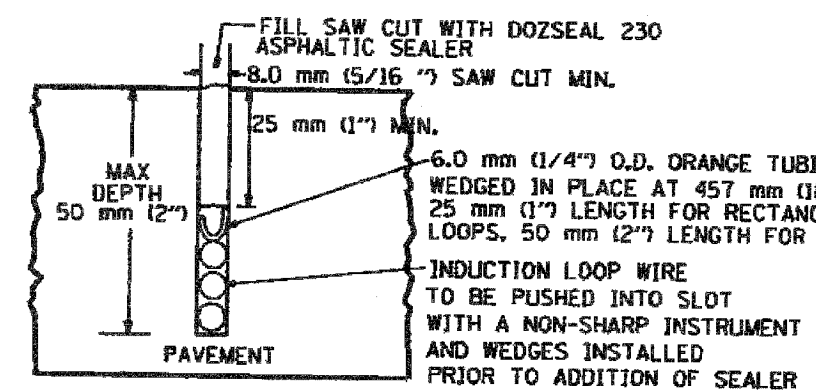
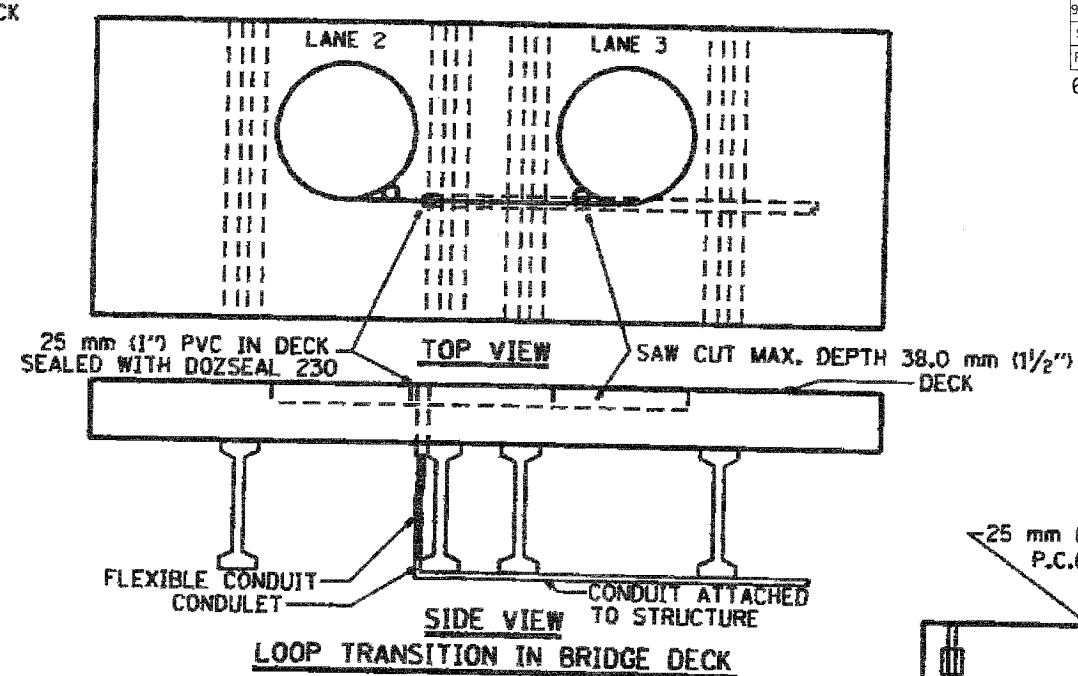
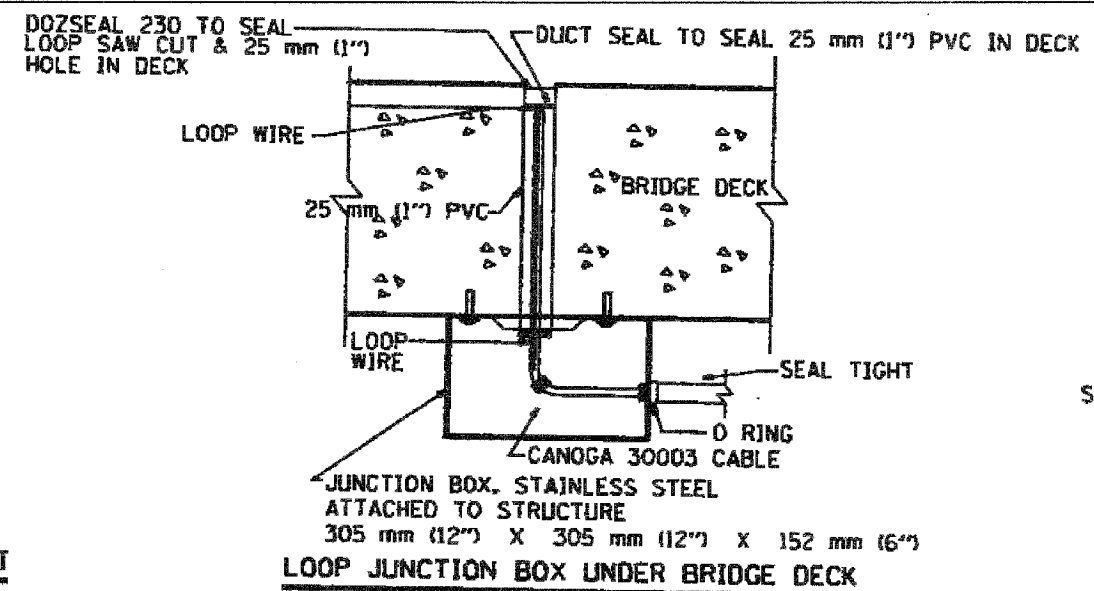
SCALE: NTS
 DATE: 8/12/2005
 DRAWN BY:
 CHECKED BY:

8/17/2005 9:36:51 AM n:\660\road\for\figs\US\shel\660_13_1125.dgn

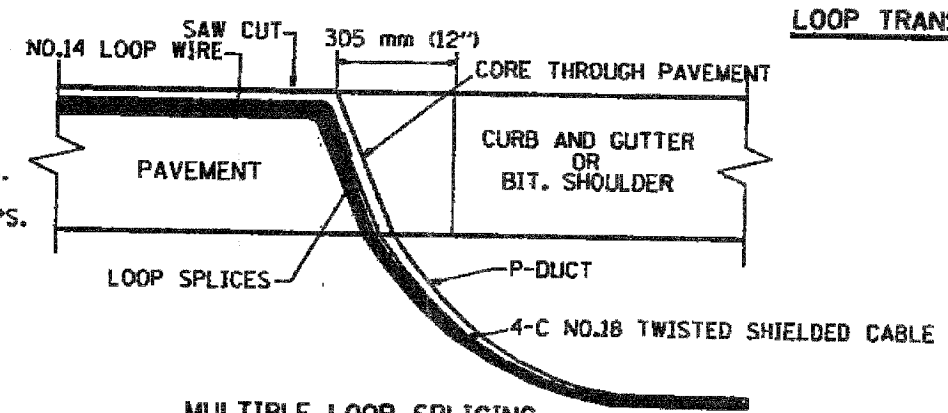
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-028F	COOK	419	409
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62580				



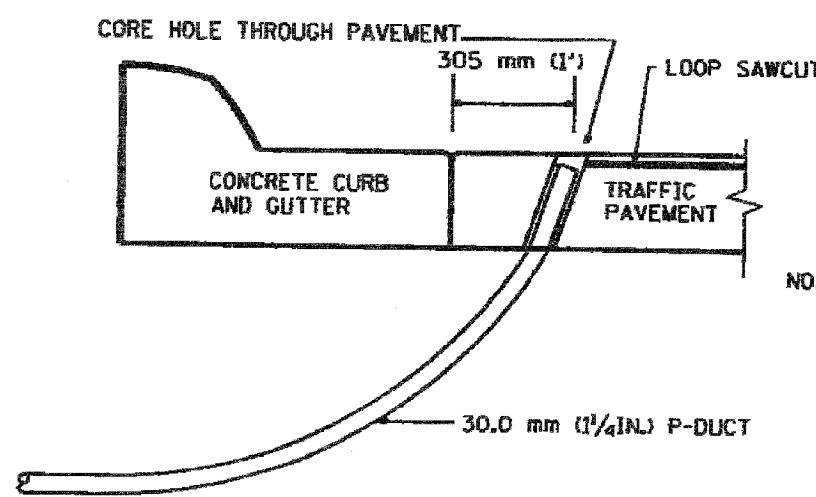
TYPICAL LOOP SAWCUT LAYOUT



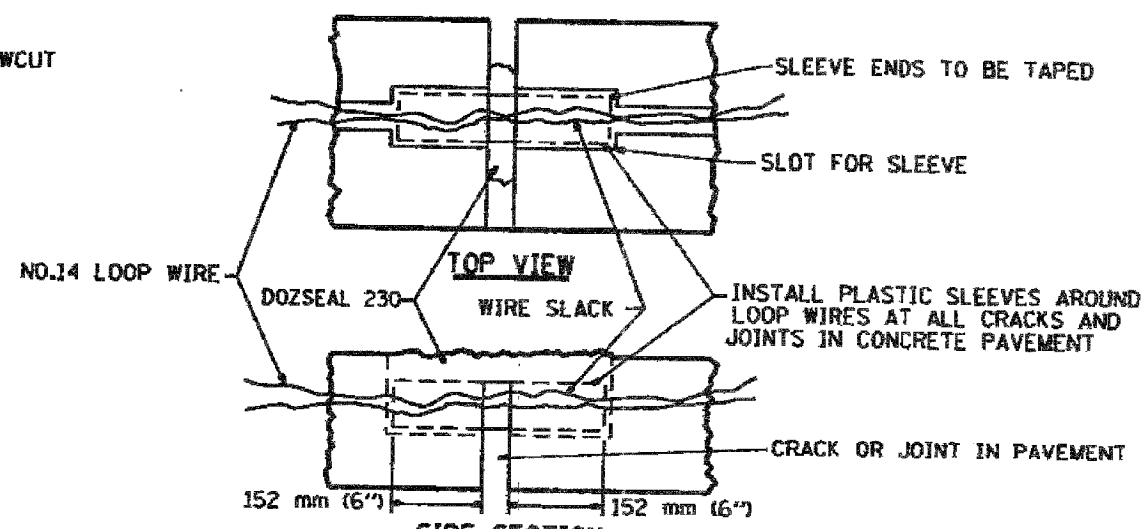
LOOP CROSS SECTION IN PAVEMENT



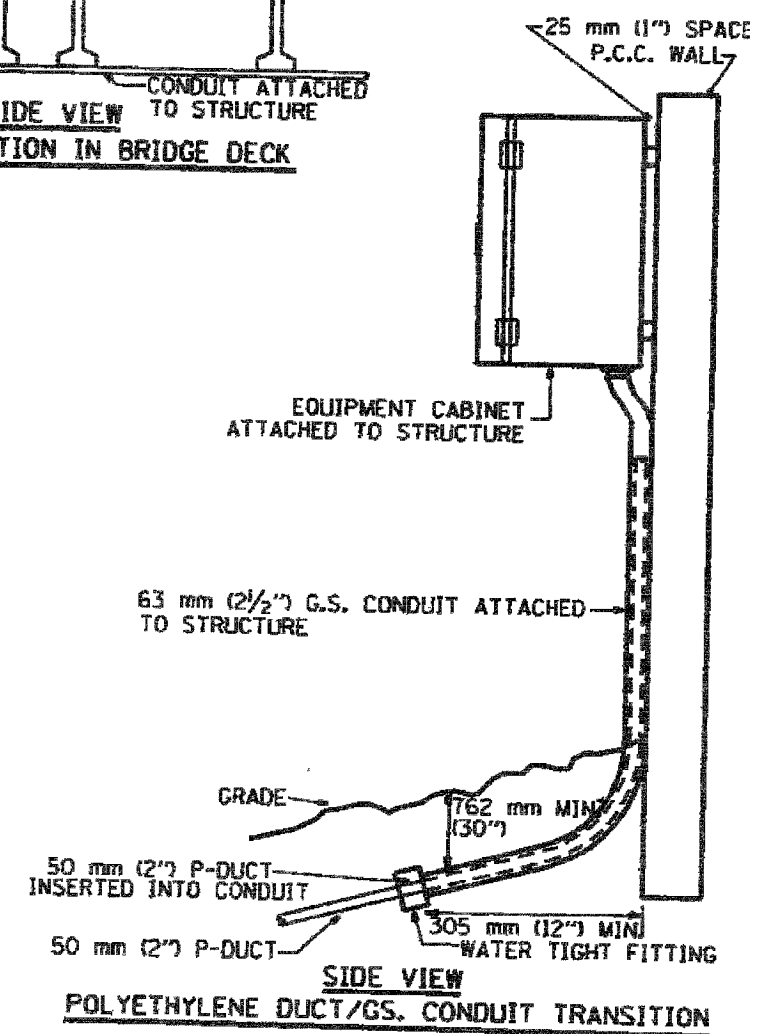
MULTIPLE LOOP SPLICING



SIDE SECTION LOOP LEAD-IN TRANSITION DETAIL



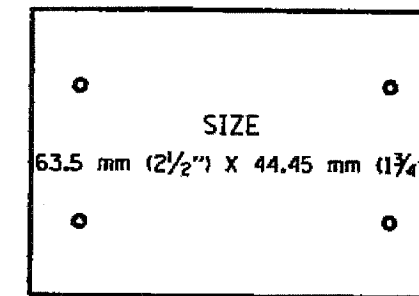
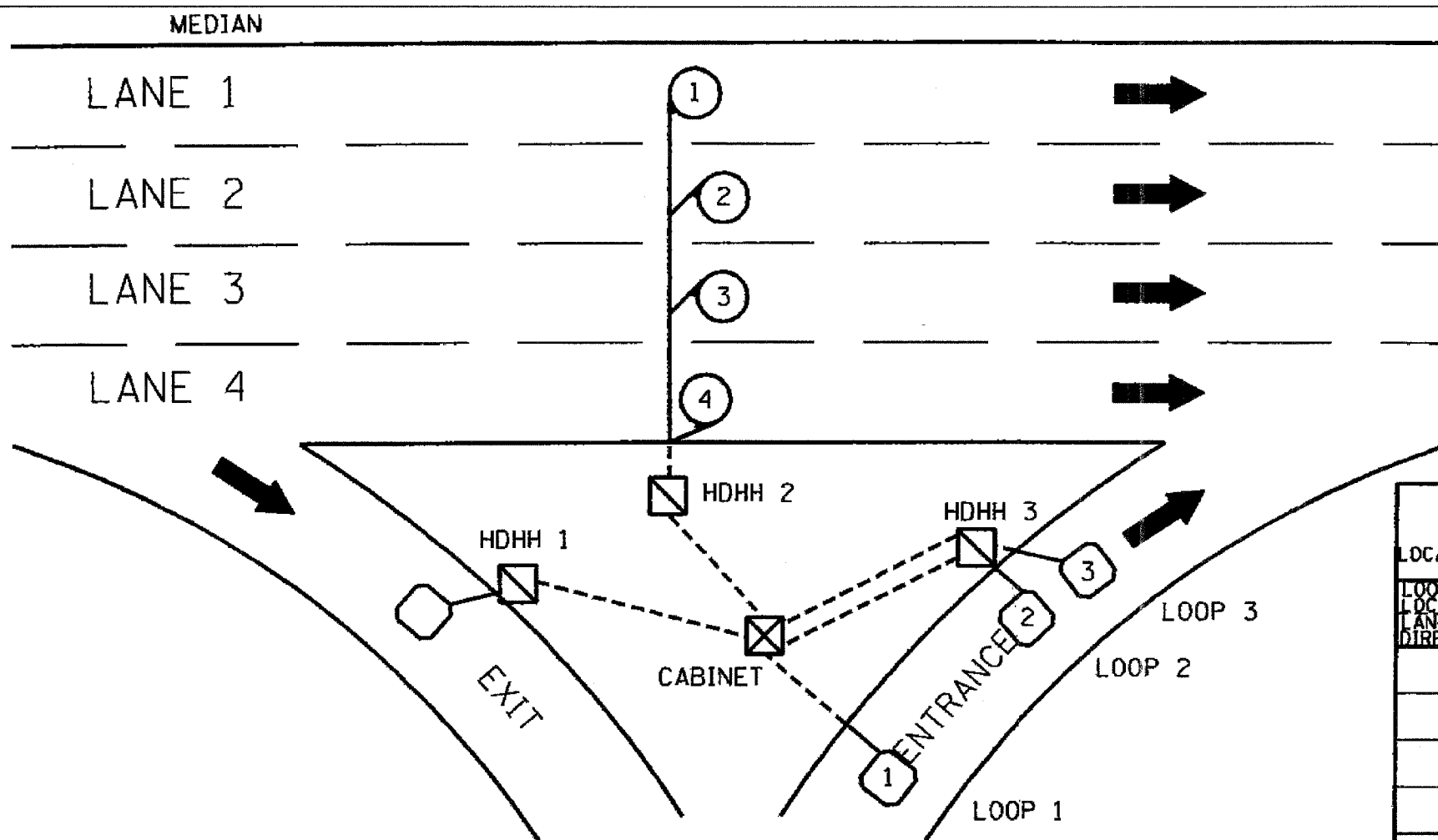
SIDE SECTION PAVEMENT CRACK TRANSVERSE SLEEVE



POLYETHYLENE DUCT/GS. CONDUIT TRANSITION

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 LOOP, CONDUIT & DUCT
 INSTALLATION DETAILS
 SCALE: NTS
 DATE: 8/12/2005
 DRAWN BY:
 CHECKED BY:



SUGGESTED TAG
 PANDUIT
 *MP250W175-C
 OR EQUIVALENT

LOOP ANALYZER					
LOCATION _____				DATE _____	
LOOP LOCATION LANE DIRECTION	LOOP WIRE MARKED AND CODED	LOOP SIZE	FREQ. INDUCTANCE	INSULATION	LOOP RESISTANCE

HDHH 1 EXAMPLE

IB-EB EXIT
 CCW IN/
 TO CABINET # _____

HDHH 2 EXAMPLE

IB (OB) LANE # ____
 CCW /OUT
 TO CABINET # _____

HDHH 3 EXAMPLE

IB-EB ENT.
 LOOP #2
 CW IN/

NOTE:
 EACH LOOP WIRE SHALL BE TAGGED
 AS "IN" OR "OUT" AND "CW" OR "CCW".
 SHIELDED CABLE WILL BE TAGGED IN
 EACH HANDHOLE AND CABINET TO
 MATCH THE CABLE LOG.

TSC27

REVISIONS	
NAME	DATE

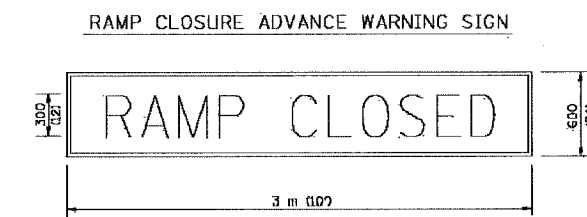
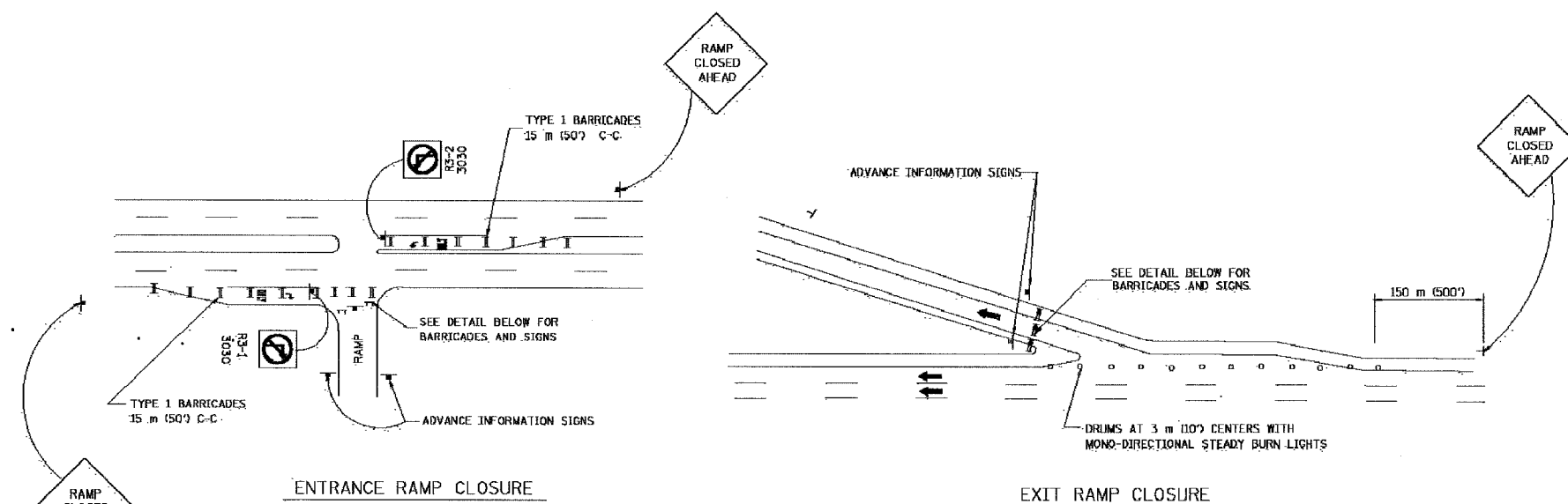
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 NB DAN RYAN ELEVATED BRIDGE
 REPAIR FROM 15TH TO 28TH STREETS
 LOOP STATUS REPORT

SCALE: NTS
 DATE: 8/12/2005

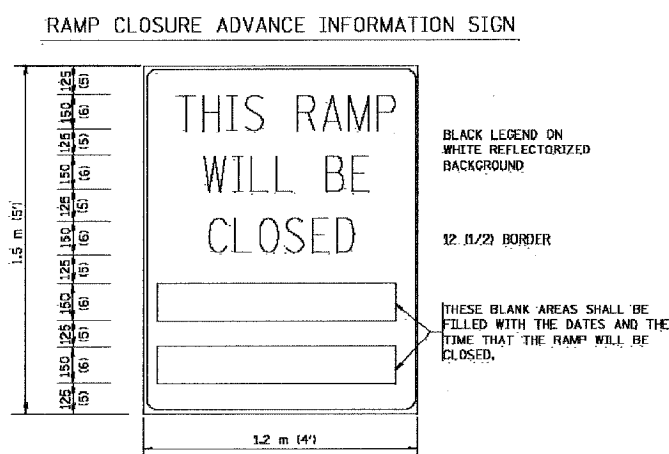
DRAWN BY:
 CHECKED BY:

62580

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			419	411
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

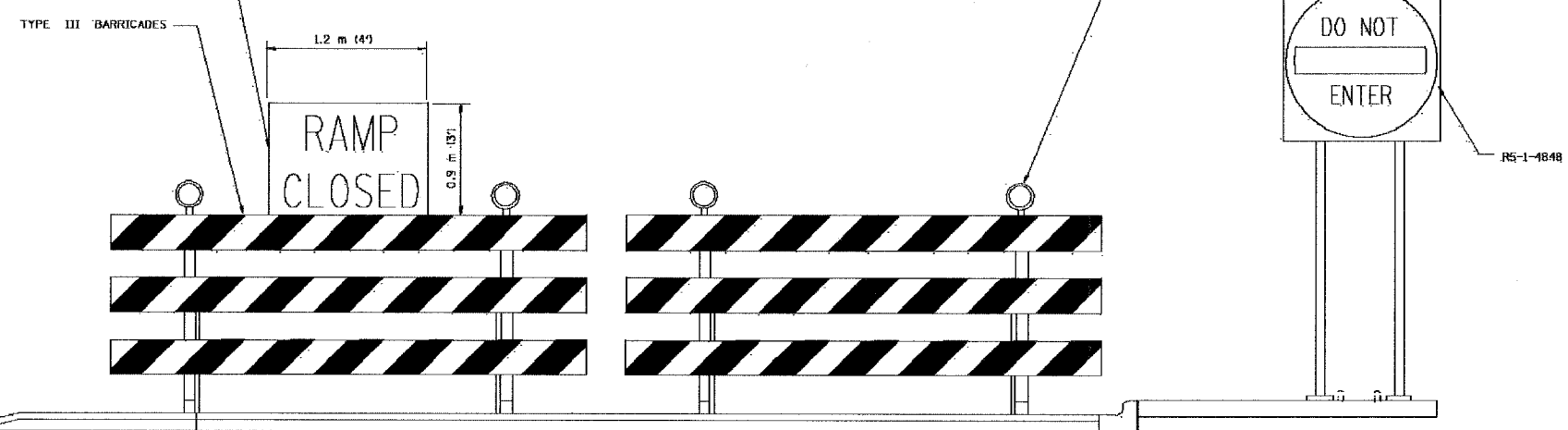


BLACK LEGEND ON ORANGE REFLECTORIZED BACKGROUND
25 (1) BORDER
THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR THE CLOSED EXIT RAMP.



THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, A MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THE "RAMP CLOSED" SIGN SHALL BE R/W WITH 200 (8) CAPS. IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS DIRECTLY IN FRONT OF THE BARRICADE.



DETAIL FOR REQUIRED BARRICADES & SIGNS

- GENERAL NOTES:
- CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 700 (28) HIGH.
 - STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
 - A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES.
 - FOR DAYTIME RAMP CLOSURES, LASTING 6 HOURS OR LESS, THE CONTRACTOR MAY ELIMINATE THE ADVANCE WARNING SIGNS ON THE EXIT GUIDE SIGNS.
 - ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED.
 - THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC CONTROL AND PROTECTION.
 - AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.

- NOTES:
- CONES MAY BE SUBSTITUTED FOR TYPE I AND TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28" IN HEIGHT.
 - STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
 - THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS.
 - ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED TWENTY FOUR (24) HOURS IN LENGTH.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

ILLINOIS DEPARTMENT OF TRANSPORTATION

FREEWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS

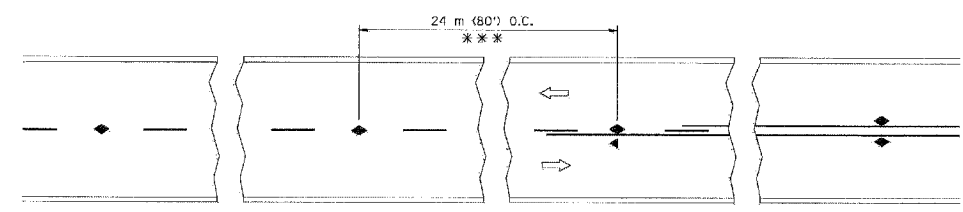
REVISIONS	
NAME	DATE
DWS	2-83
DWS	1/90
DWS	9/94
DWS	12/94
DWS/JAF	12/02
Revised devices to meet NCHRP 350	4/03

SCALE: NONE
DATE 05/06/2003

DRAWN BY
CHECKED BY
1.C.B

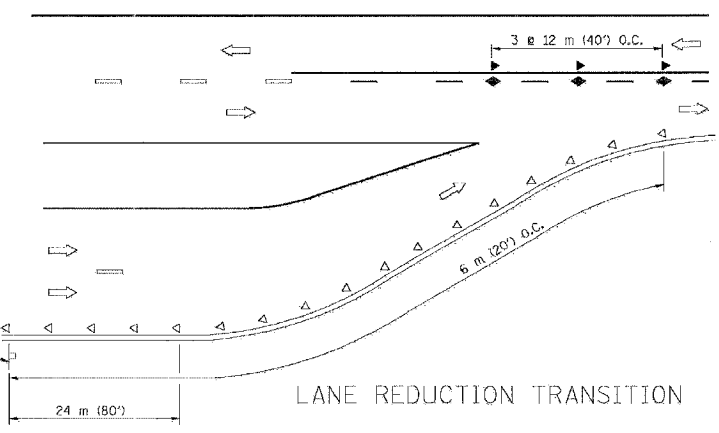
62580

F.A. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			419	412
STA.	TO STA.			
FED. ROAD DIST. NO.	ROUTE	FED. AID PROJECT		

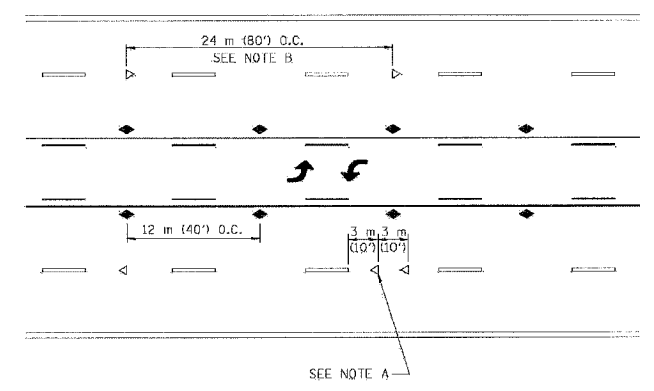


*** REDUCE TO 12 m (40') O.C. ON CURVES WITH POSTED OR ADVISORY SPEED TO km/h (45 M.P.H.) OR LESS.

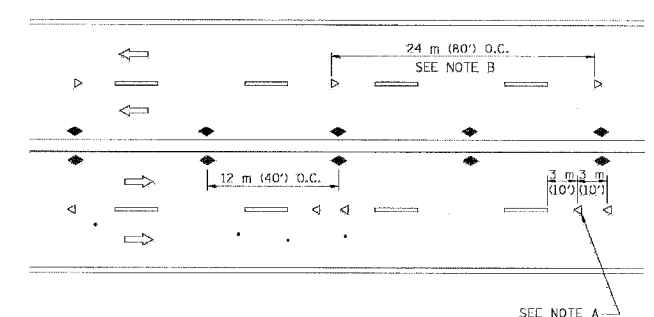
TWO-LANE/TWO-WAY



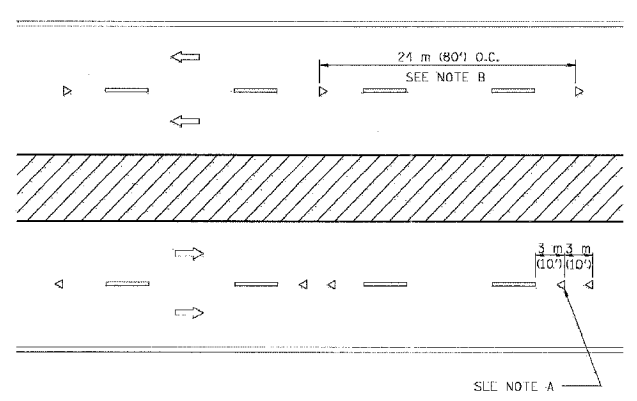
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

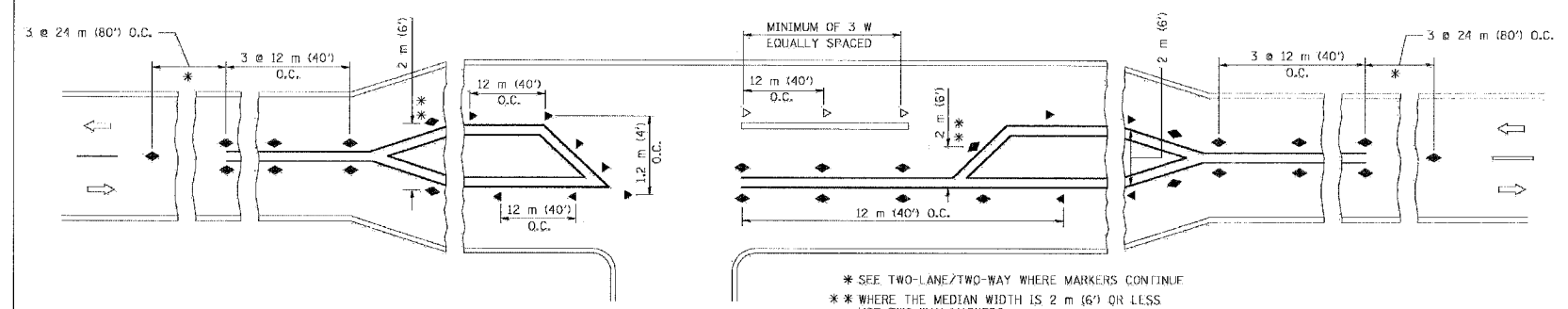
1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 50 TO 75 (2 TO 3) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 150 m (500') IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ◄ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/D)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- B. REDUCE TO 12 m (40') O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 20 km/h (10 M.P.H.) LOWER THAN POSTED SPEEDS.
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.



LEFT TURN

* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 2 m (6') OR LESS USE TWO-WAY MARKERS.

All dimensions are in millimeters (inches) unless otherwise shown.

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TYPICAL APPLICATIONS
 RAISED REFLECTIVE PAVEMENT MARKERS
 (SNOW-PLOW RESISTANT)

REVISIONS	
NAME	DATE
T. RAMMACHER	09-19-94
T. RAMMACHER	03-12-99
T. RAMMACHER	01-06-00

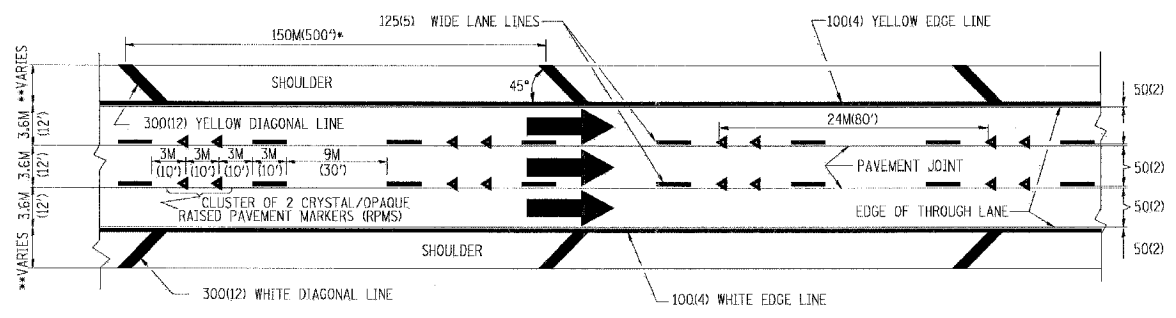
SCALE: NONE
 DATE: 10/18/2002
 DRAWN BY CADD
 CHECKED BY TC-11
 REVISION DATE: 01/06/00

DATE-TIME
 OGN-SPEC
 VHTCH

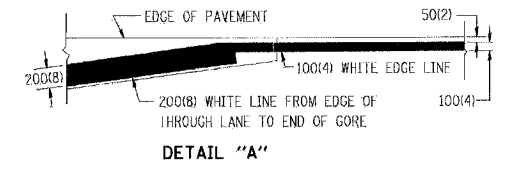
62580

P.A. NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
			419	413
STA.		TO STA.		
P.L.R. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT

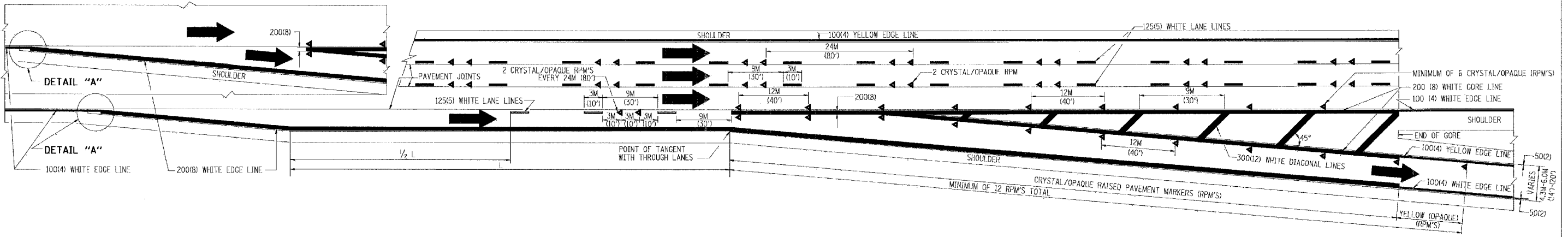
- * THE DIAGONAL LINES SHALL BE SPACED AT 12M (40') C-C ACROSS ALL STRUCTURES WHICH ARE 150M (500') OR LESS IN LENGTH
- **THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 1.8M (6') OR LESS IN WIDTH



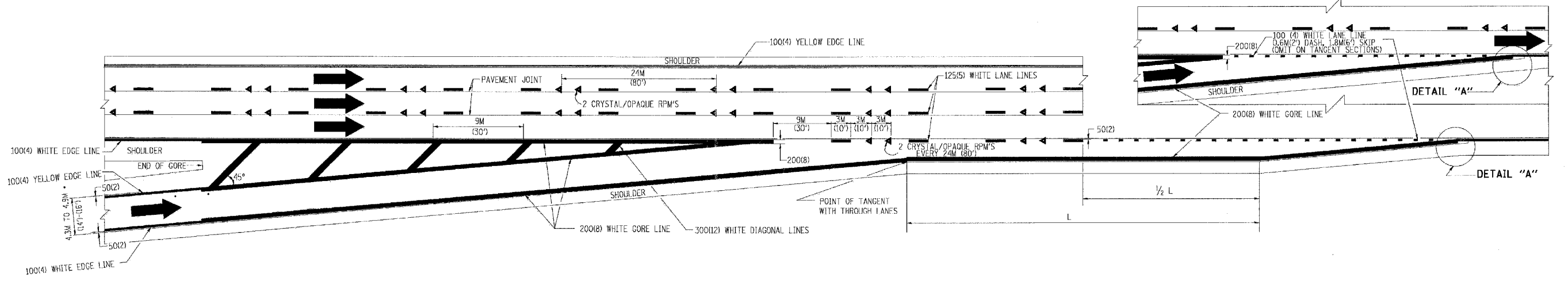
- NOTES:
1. THERMO PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR THE EDGE LINES, CORE LINES, AND DIAGONAL LINES ON BITUMINOUS PAVEMENT ONLY.
 2. PREFORMED PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR ALL LANE LINES
 3. PREFORMED PLASTIC PAVEMENT MARKING LINE SHALL BE USED ON PCC PAVEMENT.



TYPICAL EDGE LINES & LANE LINES



TYPICAL EXIT RAMP PAVEMENT MARKINGS



TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS

REVISIONS	
NAME	DATE
DWS	1/90
DWS	5/91
AH	3/96
DWS	7/96

ILLINOIS DEPARTMENT OF TRANSPORTATION

MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS

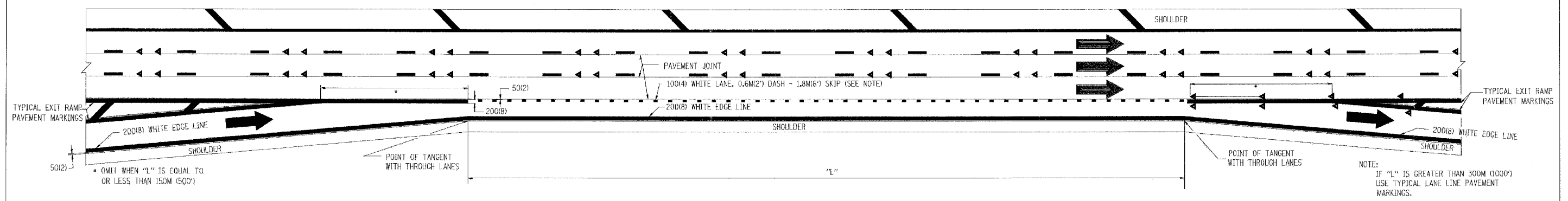
SCALE: NONE
DATE: 10/18/2002

DRAWN BY C.A.D.D.
CHECKED BY
TC12 SHEET 1 OF 2
REVISION DATE: 01/01/96

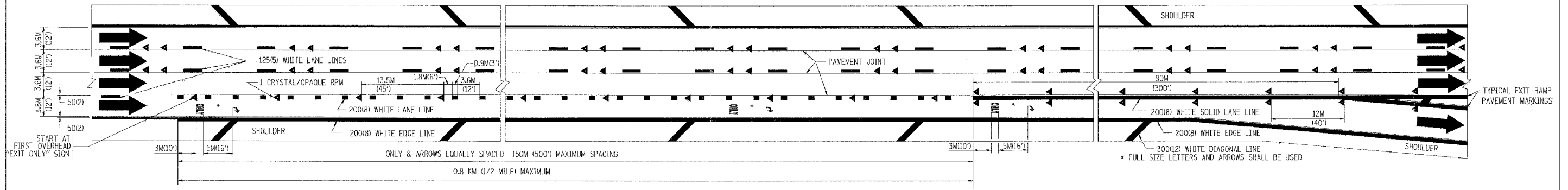
DATE-TIME
DGM-SPEC
VTC2

62580

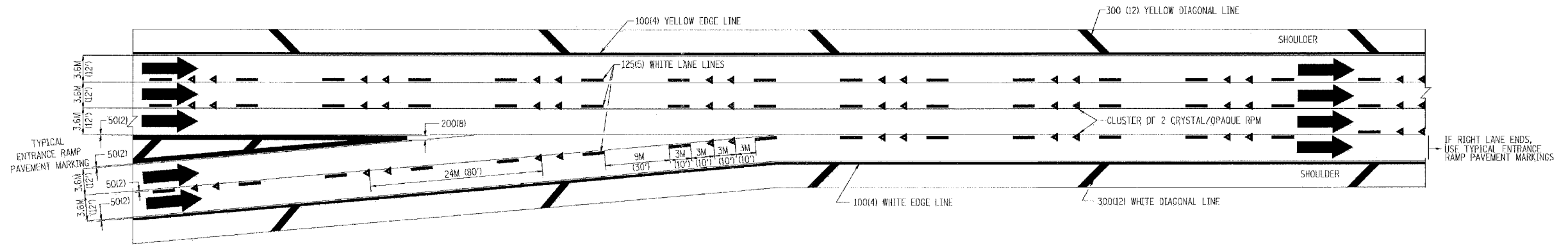
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		419	414
STA. TO STA.		FED. AID PROJECT	
FED. ROAD DIST. NO. 7		ILLINOIS	



TYPICAL ENTRANCE/EXIT RAMP COMBINATION PAVEMENT MARKINGS



TYPICAL EXIT ONLY LANE PAVEMENT MARKINGS



TYPICAL TWO LANE ENTRANCE RAMP PAVEMENT MARKINGS

ILLINOIS DEPARTMENT OF TRANSPORTATION

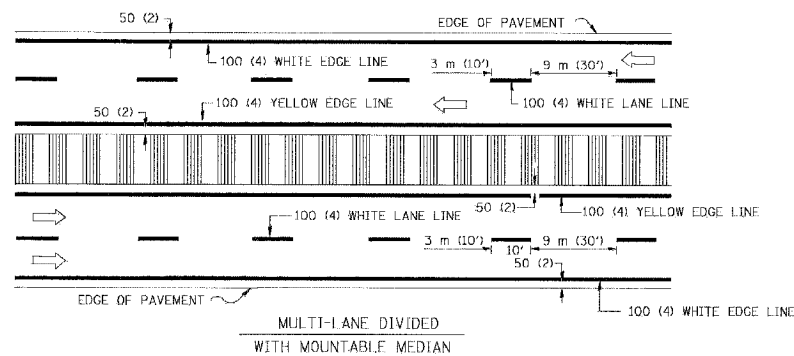
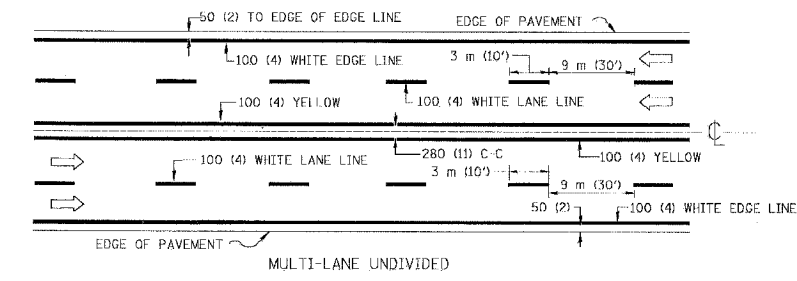
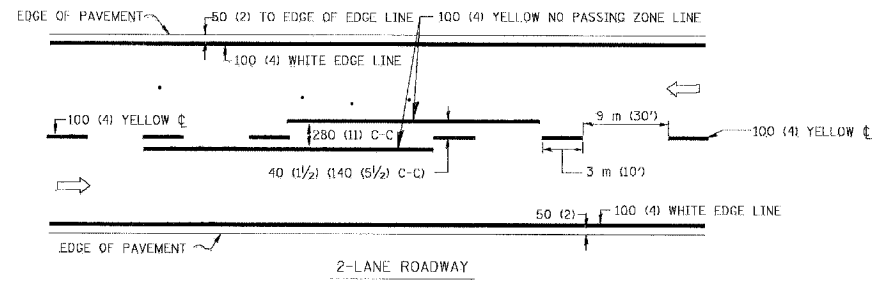
MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS

REVISIONS	
NAME	DATE
DWS	1/90
DWS	5/91

SCALE: NONE
 DATE: 10/18/2002
 DRAWN BY C.A.D.D.
 CHECKED BY TC12 SHEET 2 OF 2
 REVISION DATE: 01/01/96

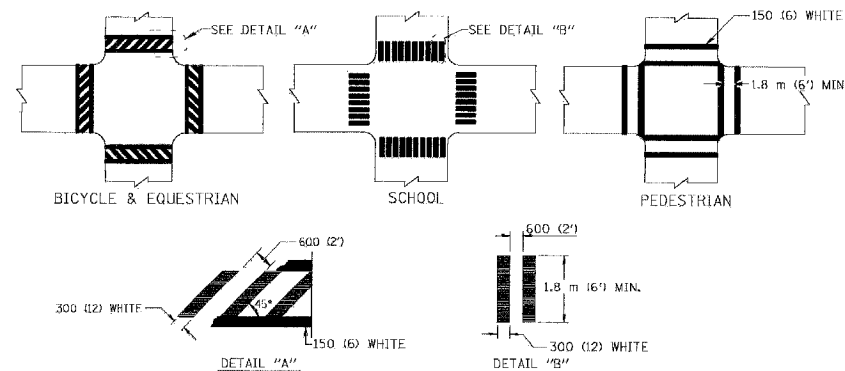
DATE-TIME
 DOW-SPEC
 VHTC12

F.A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			419	415
STA.	TO STA.			
FED. ROAD DIST. NO.	BLKMS	FED. AID PROJECT		

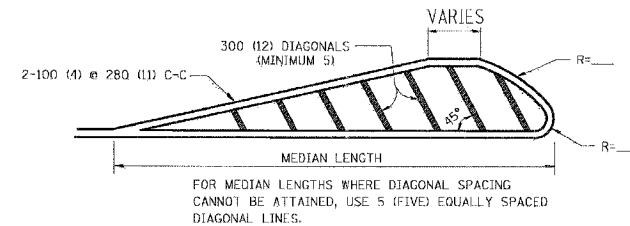
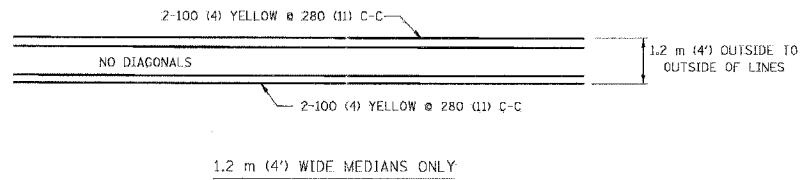


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

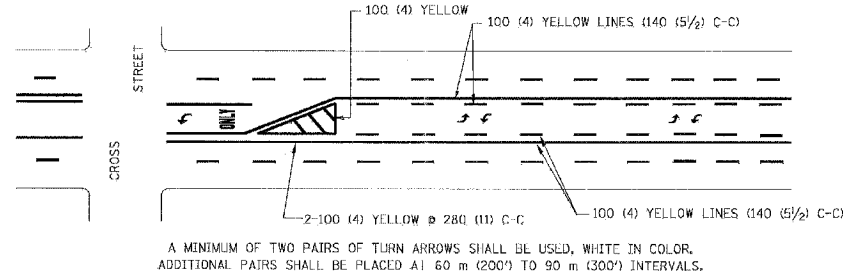


TYPICAL CROSSWALK MARKING

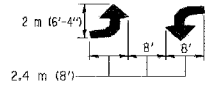


DIAGONAL LINE SPACING: 15 m (50') C-C (LESS THAN 50 km/h (30 MPH))
25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH))
45 m (150') C-C (MORE THAN 70 km/h (45 MPH))

MEDIANS OVER 1.2 m (4') WIDE

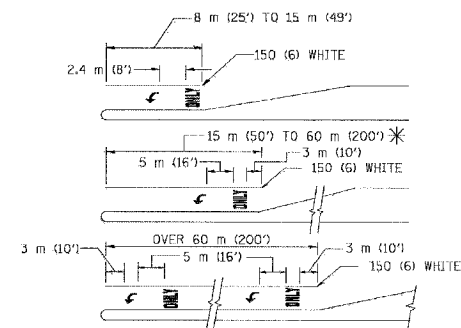


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 60 m (200') TO 90 m (300') INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

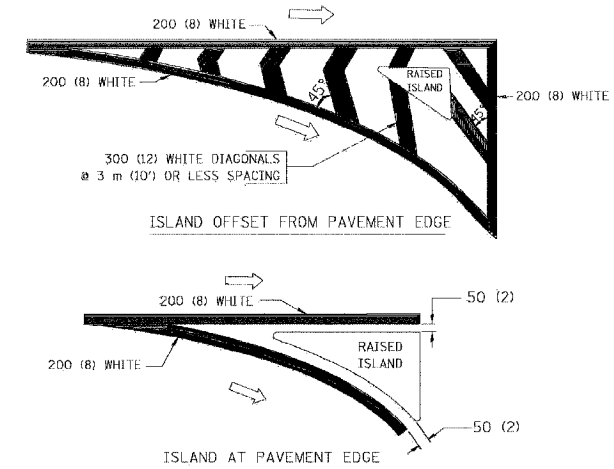


FULL SIZE LETTERS 2.4 m (8') AND ARROWS SHALL BE USED.
* AREA = 1.5 m² (15.6 SQ. FT.) ONLY AREA = 1.9 m² (20.8 SQ. FT.)

* TURN LANES IN EXCESS OF 120 m (400') IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	100 (4)	SKIP-DASH	YELLOW	3 m (10') LINE WITH 9 m (30') SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 100 (4)	SOLID	YELLOW	280 (11) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	100 (4) 2 @ 100 (4)	SOLID SOLID	YELLOW YELLOW	140 (5 1/2) C-C FROM SKIP-DASH CENTERLINE 280 (11) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	100 (4) 125 (5) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	3 m (10') LINE WITH 9 m (30') SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	600 (2') LINE WITH 1.8 m (6') SPACE
EDGE LINES	100 (4)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	150 (6) LINE; FULL SIZE LETTERS & SYMBOLS (2.4 m (8'))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 100 (4) EACH DIRECTION	SKIP-DASH AND SOLID	YELLOW	3 m (10') LINE WITH 9 m (30') SPACE FOR SKIP-DASH; 140 (5 1/2) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
	2.4 m (8') LEFT ARROW	IN PAIRS	WHITE	SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 150 (6) 300 (12) @ 45° 300 (12) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 1.8 m (6') APART 600 (2') APART 600 (2') APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	600 (24)	SOLID	WHITE	PLACE 1.2 m (4') IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 100 (4) WITH 300 (12) DIAGONALS @ 45° NO DIAGONALS USED FOR 1.2 m (4') WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	280 (11) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	200 (8) WITH 300 (12) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 4.5 m (15') C-C (LESS THAN 50 km/h (30 MPH)) 6 m (20') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 9 m (30') C-C (OVER 70 km/h (45 MPH))
RAILROAD CROSSING	600 (24) TRANSVERSE LINES; "RR" IS 1.8 m (6') LETTERS; 400 (16) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=0.33m ² (3.6 SQ. FT.) EACH "X"=5.0 m ² (54.0 SQ. FT.)
SHOULDER DIAGONALS	300 (12) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	15 m (50') C-C (LESS THAN 50 km/h (30 MPH)) 25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 45 m (150') C-C (OVER 70 km/h (45 MPH))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in millimeters (inches) unless otherwise shown.

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT
MARKINGS

REVISIONS	
NAME	DATE
EVERS	03-19-90
T. RAMMACHER	10-27-94
ALEX HOUSEH	10-09-96
ALEX HOUSEH	10-17-96
T. RAMMACHER	01-06-00

SCALE: NONE
DATE: 10/18/2002

DRAWN BY: CADD

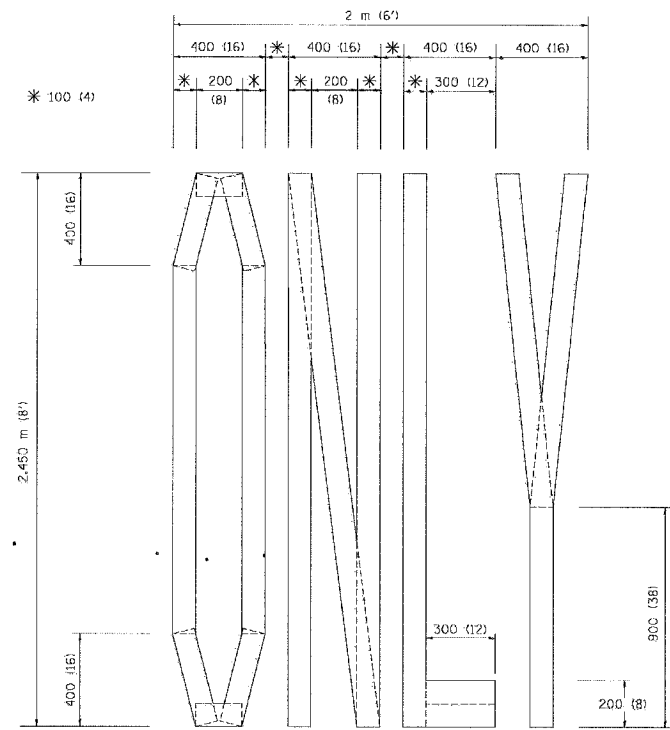
CHECKED BY:

TC-13

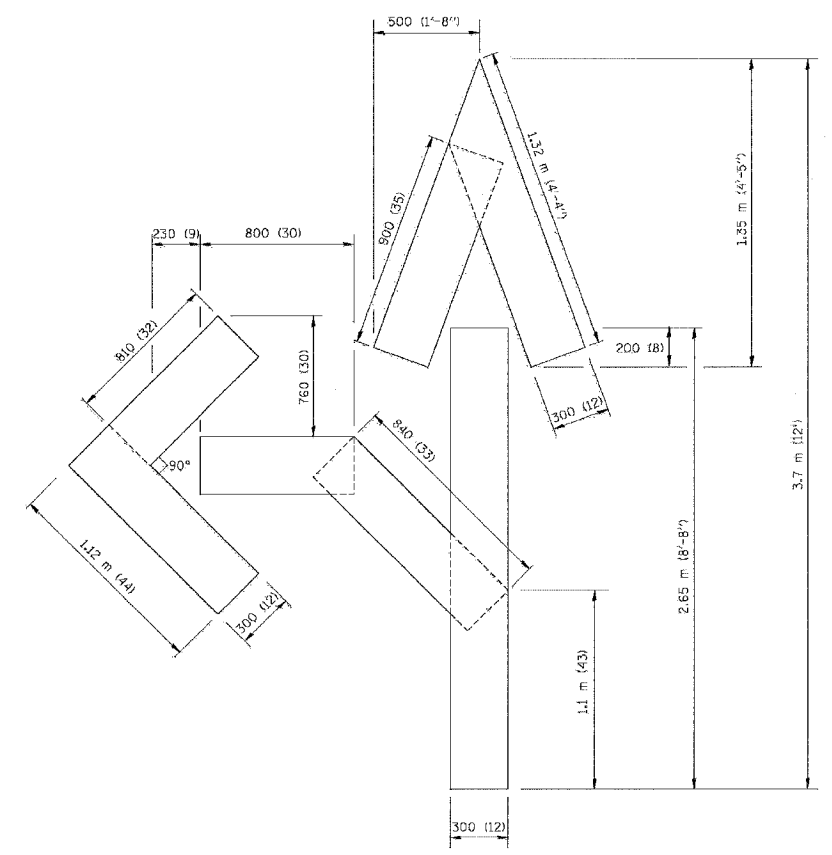
REVISION DATE: 01/05/00

62580

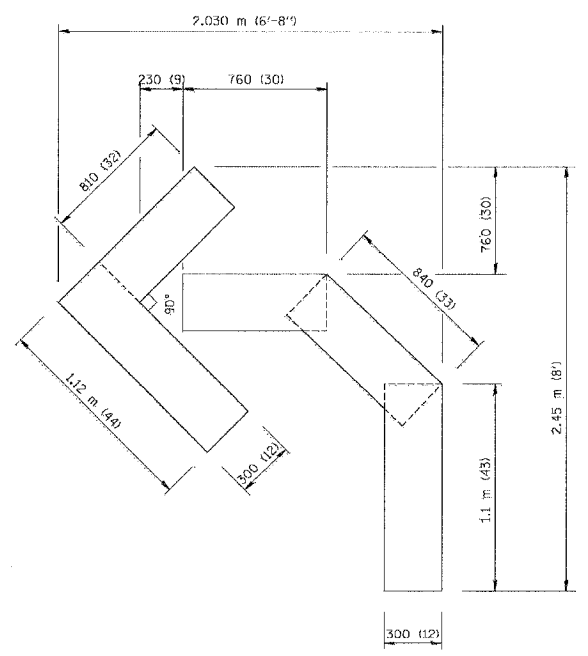
F. A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			419	416
STA.	TO STA.			
FED. AID DIST. NO.	ILLINOIS	FED. AID PROJECT		



QUANTITY
 100 (4) LINE = 19.7 m (64.1 ft.)
 1.97 sq. m (21.1 sq. ft.)



QUANTITY
 100 (4) LINE = 25.3 m (82.5 ft.)
 2.53 sq. m (27.5 sq. ft.)



QUANTITY
 100 (4) LINE = 13.9 m (45.5 ft.)
 1.39 sq. m (15.2 sq. ft.)

All dimensions are in millimeters (inches) unless otherwise shown.

ILLINOIS DEPARTMENT OF TRANSPORTATION

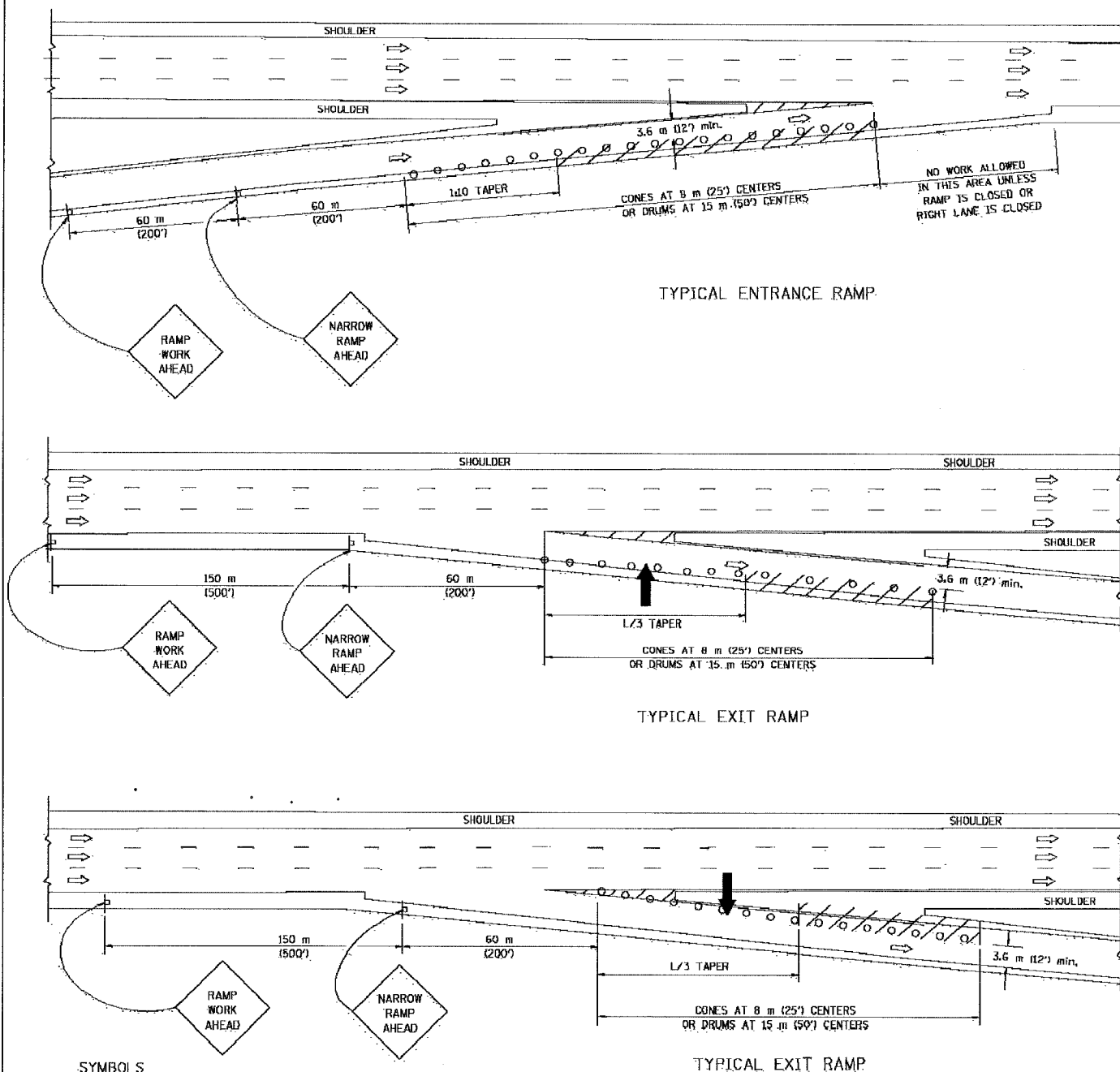
PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING

SCALE: NONE
 DATE 10/18/2002

DRAWN BY CADD
 CHECKED BY TC-16
 REVISION DATE: 08/28/00

REVISIONS	
NAME	DATE
T. RAMMACHER	09/18/94
J. OBERIE	06/01/96
T. RAMMACHER	06/05/96
T. RAMMACHER	11/04/97
T. RAMMACHER	03/02/98
E. GOMEZ	08/28/00

PARTIAL RAMP CLOSURE DETAILS



SYMBOLS

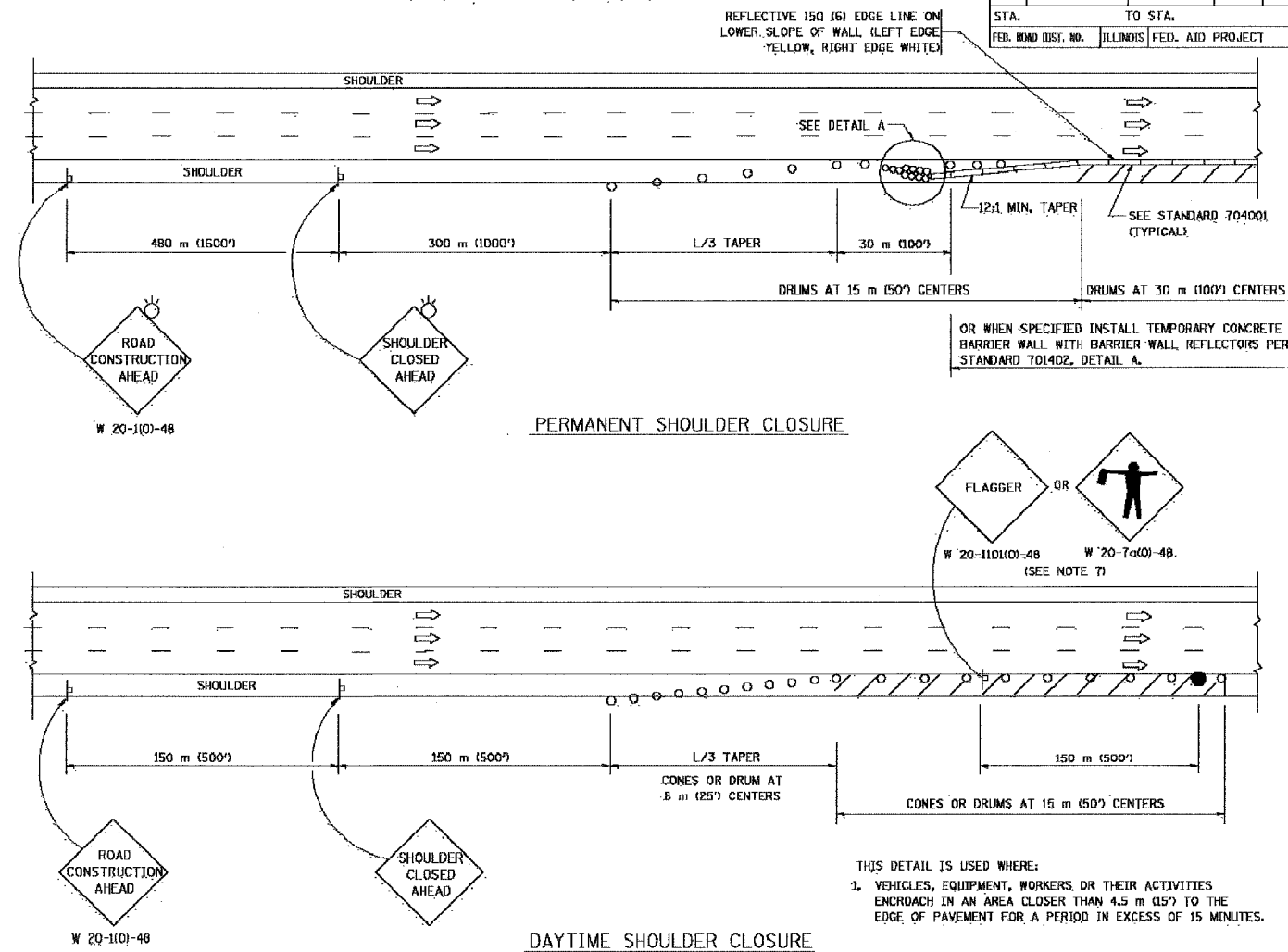
- ARROWBOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- CONES - 700 (28) IN HEIGHT

GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
80 km/h (45 mph) OR GREATER:	METRIC $L=0.65(W+S)$ ENGLISH $L=(W+S)$
	W = WIDTH OF OFFSET IN METERS (FEET)
	S = NORMAL POSTED SPEED KM/H (MPH)
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.
5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS OUTSIDE THE CLEAR ZONE OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE "TRAFFIC BARRIER TERMINAL, TYPE III, TEMPORARY" DEVICE TO MEET NCHRP350 FOR POSTED SPEED.
6. AUTHORIZATION FROM THE DISTRICT'S (BUREAU) OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
 - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
 - b. THE WORK ACTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 30 m (100') TO 60 m (200') IN ADVANCE OF THE WORKERS.

SHOULDER CLOSURE DETAILS

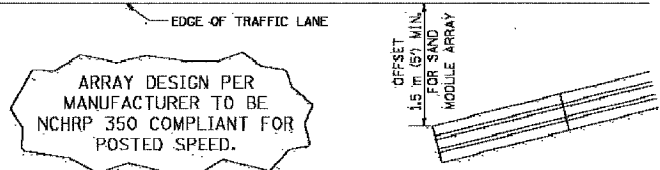


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			419	417
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PERMANENT SHOULDER CLOSURE

DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCRDACH IN AN AREA CLOSER THAN 4.5 m (15') TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



DETAIL "A"
 IMPACT ATTENUATOR, TEMPORARY
 (SEE NOTE 5)

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS
 FOR FREEWAY
 SHOULDER CLOSURES
 PARTIAL RAMP CLOSURES

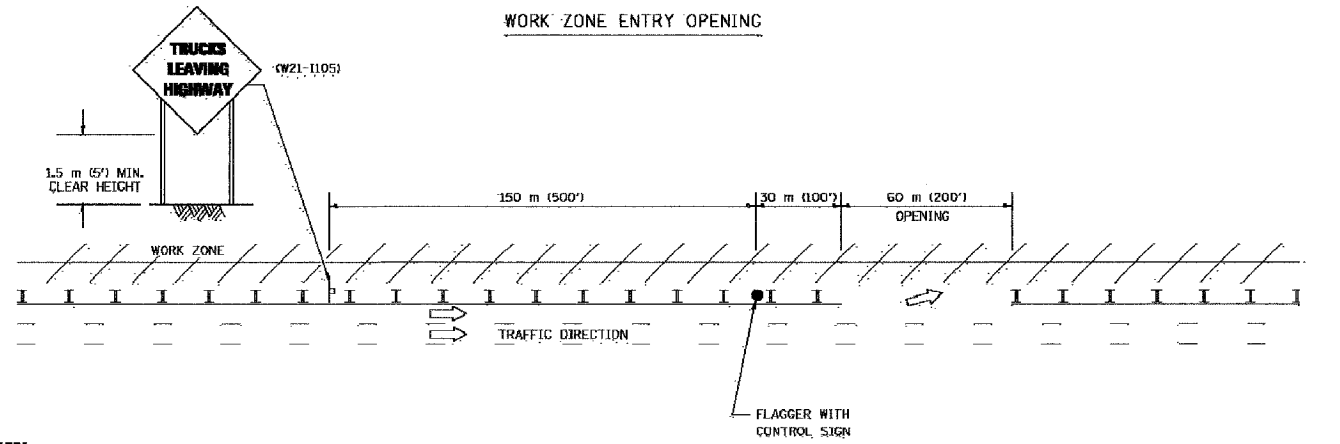
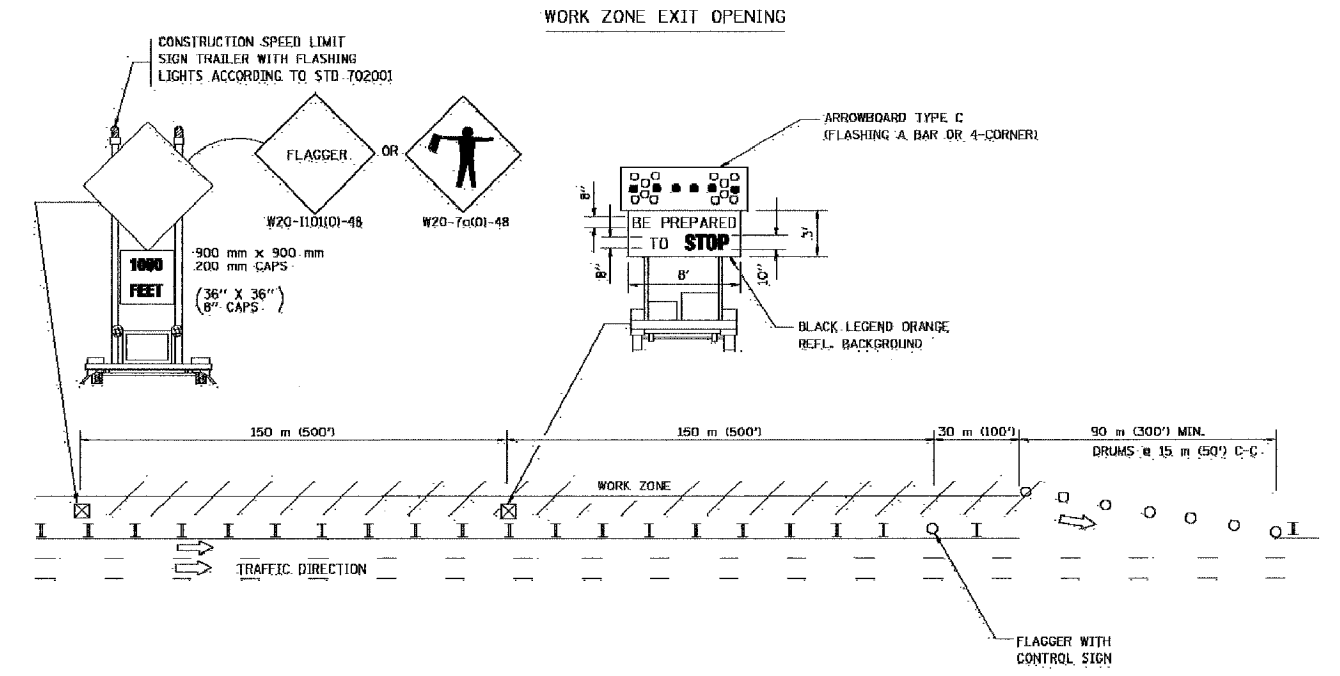
REVISIONS	
NAME	DATE
DWS	11/96
JAF	12/02
NCHRP 350	04/03

SCALE: NONE
 DATE: 05/06/2003
 DRAWN BY: DWS
 DESIGNED BY: DWS
 CHECKED BY: TC-17

62580

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			419	418
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS



NOTES:

1. The Arrowboard, the flagger Ahead trailer mounted sign, and the Trucks Leaving Highway sign shall be removed or turned away from traffic and the exit and entry openings shall be closed when the flagging operation ceases.
2. Work Zone Exit Openings should be a minimum of one half mile apart.
3. Exiting the work zone at any place other than at a Work Zone Exit Opening will be prohibited.
4. All vehicles shall enter the work zone at entry openings, using their turn signals to warn motorists.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN

ILLINOIS DEPARTMENT OF TRANSPORTATION

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

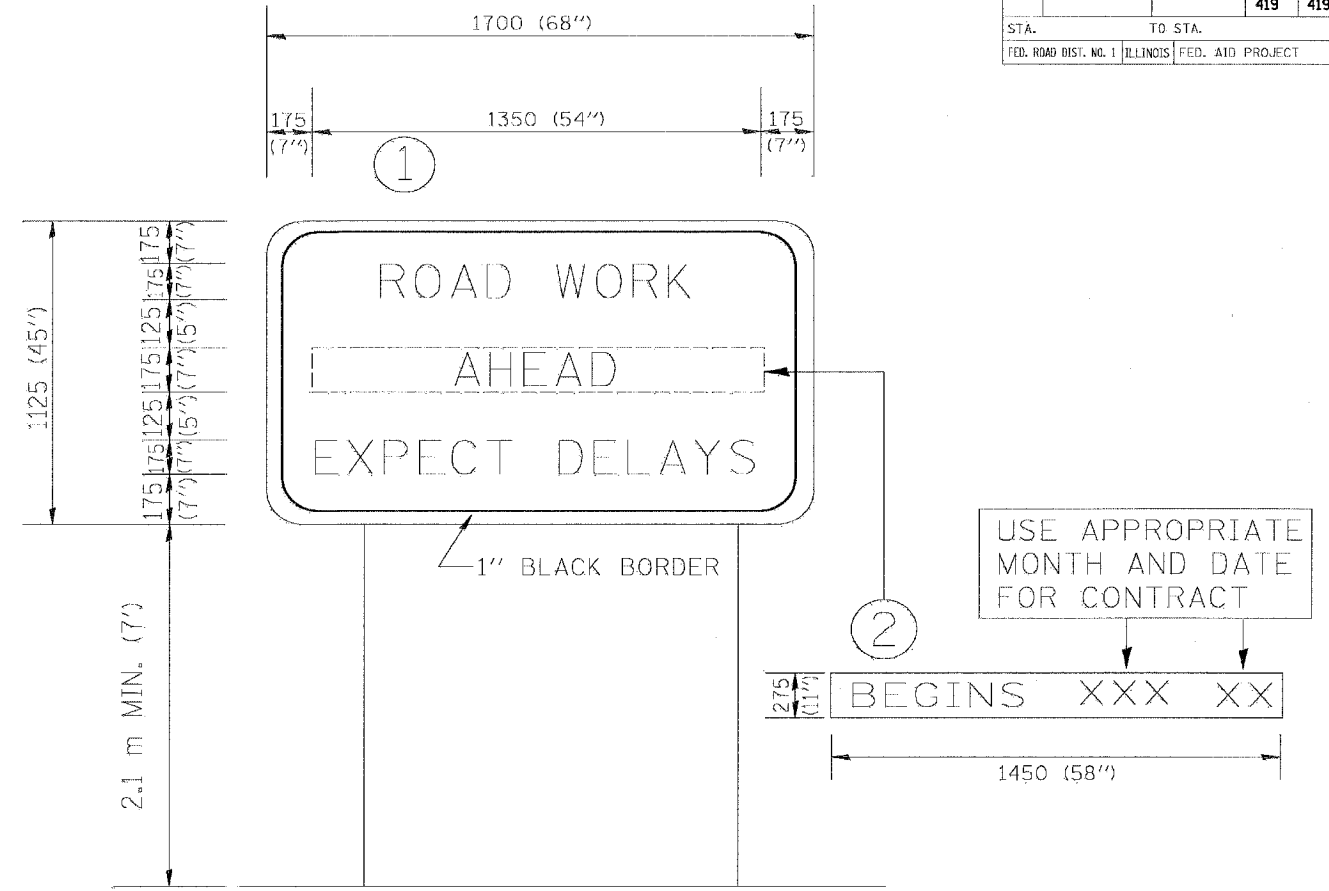
REVISIONS	
NAME	DATE
DWS	8/98
JAF	4/03

SCALE: NONE
DATE: 05/06/2003
DRAWN BY: CADD
CHECKED BY: TC-18

REVISION DATE: 04/24/03

62580

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			419	419
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 2.3 SQ. M. (25.70 SQ. FT.)

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
R. MIRS	9-15-97	TEMPORARY INFORMATION SIGNING
R. MIRS	12-11-97	
T. RAMMACHER	2-2-99	
SCALE:	DATE 10/18/2002	DRAWN BY: BUR. OF DESIGN
		CHECKED BY: