

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

VARIOUS ROUTES
SECTION: 2011-093-GRR
VARIOUS LOCATIONS IN CENTRAL COOK COUNTY
GUARDRAIL IMPROVEMENTS
PROJECT: HSIP-0005(876)
COOK COUNTY
C-91-048-12

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	2011-093-GRR	COOK	26	1
		ILLINOIS	CONTRACT NO. 60R21	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA

31st STREET OVER THE DES PLAINES RIVER
EXISTING ADT = 11,600 (2010)
SPEED LIMIT = 35 MPH

87th STREET BETWEEN IL ROUTE 50 AND PULASKI ROAD
EXISTING ADT = 20,000 (2010)
SPEED LIMIT = 35 MPH

87th STREET BETWEEN WESTERN AVENUE AND DAMEN AVENUE
EXISTING ADT = 31,800 (2010)
SPEED LIMIT = 35 MPH

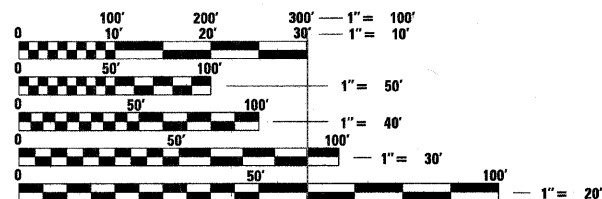
ARCHER AVENUE AT IL ROUTE 171
EXISTING ADT = 14,200 - 17,700 (2010)
SPEED LIMIT = 45 MPH

IL ROUTE 171 AT I-55
EXISTING ADT = 36,300 (2010)
SPEED LIMIT = 50 MPH

43rd STREET (JOLIET ROAD) OVER THE DES PLAINES RIVER
EXISTING ADT = 12,700 (2010)
SPEED LIMIT = 40 MPH

WILLOW SPRINGS ROAD / GILBERT AVENUE OVER THE
SANITARY AND SHIP CANAL
EXISTING ADT = 12,900 (2010)
SPEED LIMIT = 40 MPH

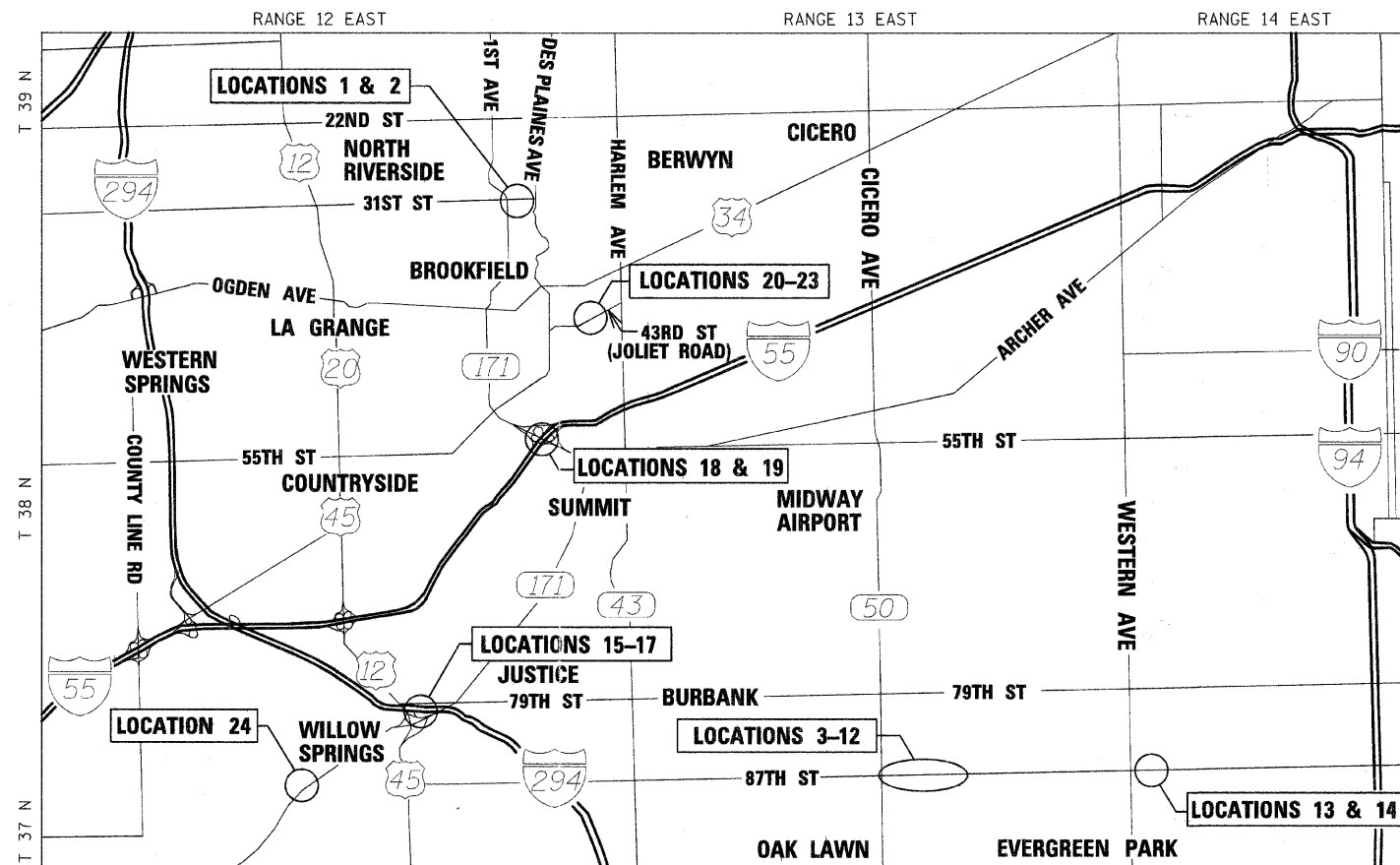
**THIS PROJECT IS LOCATED IN THE
CITIES OF CHICAGO AND HOMETOWN
AND IN THE VILLAGES OF JUSTICE,
LYONS, RIVERSIDE, SUMMIT, AND WILLOW
SPRINGS**



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811
C.U.A.N.
CHICAGO UTILITY ALERT NETWORK
(312) 744-7000

PROJECT ENGINEER: SHIRAZ TARIQUE (LIN) 630-323-5168
PROJECT MANAGER: KEN ENG (IDOT) 847-705-4247
CONTRACT NO. 60R21



CALUMET, LYONS, PALOS, RIVERSIDE, WORTH TOWNSHIPS

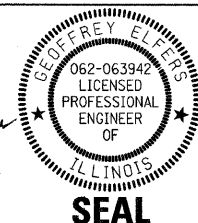


LOCATION OF SECTION INDICATED THUS: - [Symbol] -



PREPARED BY:
LIN ENGINEERING, LTD.
WESTMONT, ILLINOIS
(630) 323-5168

Jeffrey Elfers
Expires 11-30-13



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED December 15, 2011

Diane M. O'Malley DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

February 3, 2012

John D. Baranowski, P.E. acting ENGINEER OF DESIGN AND ENVIRONMENT

February 3, 2012

William R. Frey, Jr. acting DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX, HIGHWAY STANDARDS, AND GENERAL NOTES
3	SUMMARY OF QUANTITIES
4	LOCATION MAP
5-15	ROADWAY PLANS
16-23	END PARAPET RECONSTRUCTION DETAILS
24	DETAILS FOR DEPRESSED CURB AND GUTTER AND SHOULDER TREATMENT AT TBT TY 1 SPL (BD34)
25	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES (TC17)
26	ARTERIAL ROAD INFORMATION SIGNING (TC22)

HIGHWAY STANDARDS

STD. NO.	TITLE
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
606001-04	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
630001-10	STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-08	TRAFFIC BARRIER TERMINAL, TYPE 2
631031-10	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR AND MARKER MOUNTING DETAILS
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 m) AWAY
701006-03	OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701011-02	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701101-02	OFF-ROAD OPERATIONS, MULTI LANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 m) AWAY
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701411-08	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS ≥ 45 MPH
701422-04	LANE CLOSURE, MULTILANE, FOR SPEEDS ≥ 45 MPH TO 55 MPH
701426-04	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≥ 45 MPH
701427	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≤ 40 MPH
701456-02	PARTIAL EXIT RAMP CLOSURE FREEWAY / EXPRESSWAY
701606-08	URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701901-02	TRAFFIC CONTROL DEVICES

GENERAL NOTES

- BEFORE STARTING ANY EXCAVATIONS, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT 800-892-0123 OR "CUAN" (CHICAGO UTILITY ALERT NETWORK), 312-744-7000 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES (48 HOUR NOTIFICATION IS REQUIRED).
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND LOCAL AGENCIES.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.
- IMPROVEMENTS ARE NOT PLANNED AT LOCATION 17. SHEETS FOR THIS LOCATION ARE NOT INCLUDED.
- FOR WORK OUTSIDE THE LIMITS OF BRIDGE APPROACH PAVEMENT, ALL REFERENCES IN THE HIGHWAY STANDARDS AND STANDARD SPECIFICATIONS FOR REINFORCEMENT, DOWEL BARS AND TIE BARS IN PAVEMENT, SHOULDERS, CURB, GUTTER, COMBINATION CURB AND GUTTER AND MEDIAN, AND CHAIR SUPPORTS FOR CRC PAVEMENT, SHALL BE EPOXY COATED, UNLESS NOTED ON THE PLAN.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

MIXTURE TYPE	AIR VOIDS
SHOULDER, 6"	4% @ 50 Gyr.
HMA SHOULDER (HMA BINDER IL-19mm) (2 LIFTS)	4% @ 50 Gyr.

THE AC TYPE FOR POLYMERIZED HMA MIXTURES SHALL BE "SBS/SBR PG 76-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.

FOR PERCENT OF RAP SEE DISTRICT ONE SPECIAL PROVISIONS.

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN.



USER NAME = #USER#	DESIGNED - GRE	REVISED -
	DRAWN - GRE	REVISED -
PLOT SCALE = #SCALE#	CHECKED - ST	REVISED -
PLOT DATE = #DATE#	DATE - 12/20/11	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL IMPROVEMENTS - COOK COUNTY
INDEX OF SHEETS, HIGHWAY STANDARDS, AND GENERAL NOTES**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	2011-093-GRR	COOK	26	2
CONTRACT NO.			60R21	

FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT
*VARIOUS

CODE	ITEM	UNIT	URBAN	90% FED. / 10% STATE
			QTY.	0021 SAFETY
20200600	EXCAVATING AND GRADING EXISTING SHOULDER	UNIT	37	37
20400800	FURNISHED EXCAVATION	CU YD	182	182
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	1236	1236
25000210	SEEDING, CLASS 2A	ACRE	0.3	0.3
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	27	27
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	27	27
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	27	27
25100630	EROSION CONTROL BLANKET	SQ YD	1236	1236
44000300	CURB REMOVAL	FOOT	39	39
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	1514	1514
48101620	AGGREGATE SHOULDERS, TYPE B 10"	SQ YD	1113	1113
48203021	HOT-MIX ASPHALT SHOULDERS, 6"	SQ YD	250	250
50102400	CONCRETE REMOVAL	CU YD	25	25
50104000	BRIDGE RAIL REMOVAL	FOOT	129	129
50300255	CONCRETE SUPERSTRUCTURE	CU YD	56	56
50300300	PROTECTIVE COAT	SQ YD	230	230
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	10440	10440
60600605	CONCRETE CURB, TYPE B	FOOT	77	77
60603500	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.06	FOOT	389	389
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	212	212
60604400	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18	FOOT	361	361
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	553	553
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	612.5	612.5
63000017	STEEL PLATE BEAM GUARDRAIL, TYPE D, 6 FOOT POSTS	FOOT	250	250
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3	3
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	27	27
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	13	13
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	2	2
63200310	GUARDRAIL REMOVAL	FOOT	2935	2935
63301990	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 1	EACH	4	4
64300240	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EACH	10	10
64301090	ATTENUATOR BASE	SQ YD	108	108
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6
67100100	MOBILIZATION	L SUM	1	1
70100320	TRAFFIC CONTROL AND PROTECTION, STANDARD 701422	L SUM	1	1
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	3	3
70100825	TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	L SUM	1	1
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	1
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2	2
78200410	GUARDRAIL MARKERS, TYPE A	EACH	71	71
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	19	19
X0322194	POLYMER MODIFIED PORTLAND CEMENT MORTAR	SQ FT	27	27
X2503100	MOWING	UNIT	37	37
X6320100	GUARDRAIL REMOVAL SPECIAL	FOOT	500	500
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	360	360
Z0056220	SAND MODULE IMPACT ATTENUATOR TO BE REMOVED	EACH	1	1
Z0076600	TRAINEES	HOUR		

△ Non-participating - 100% State



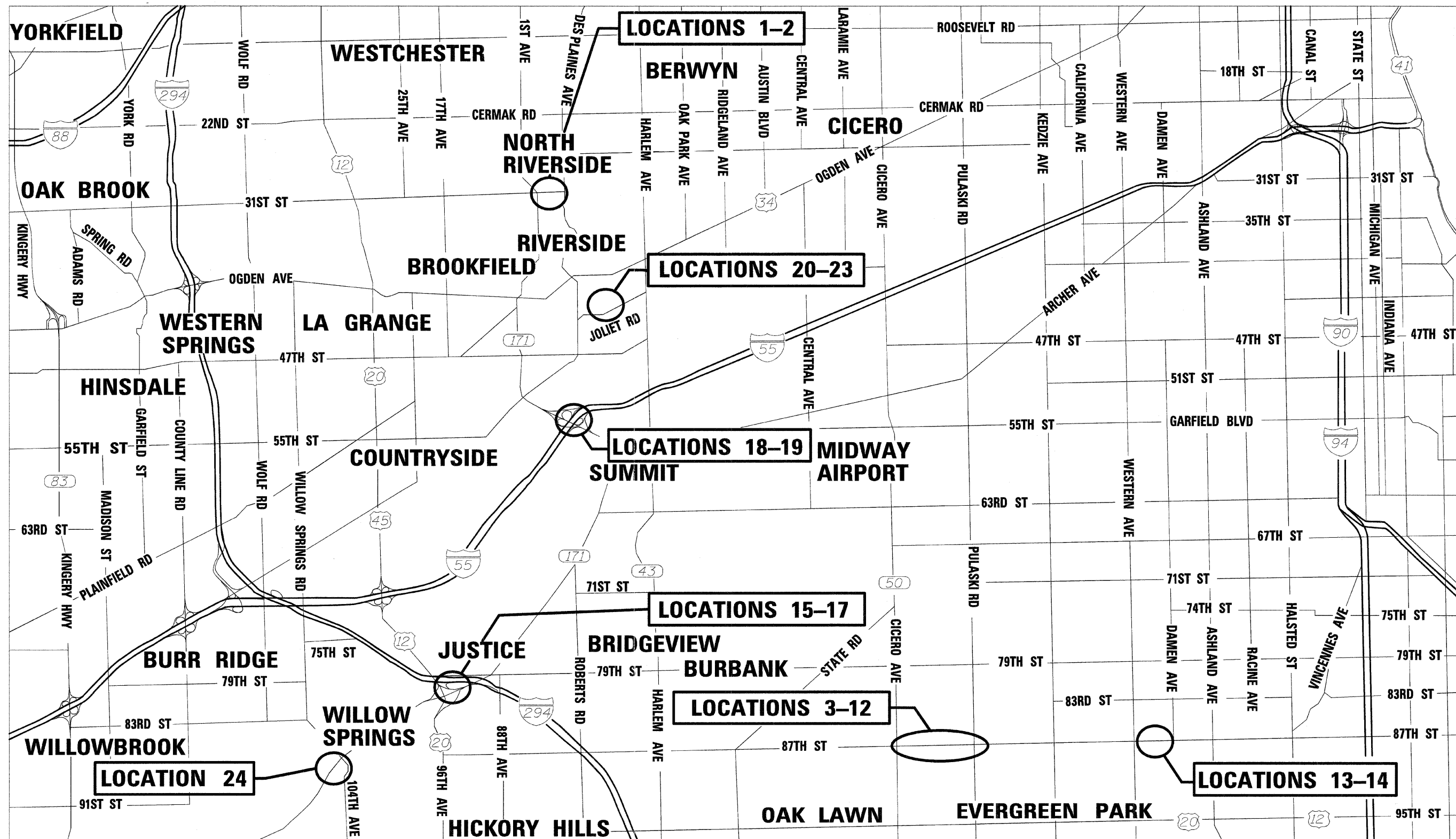
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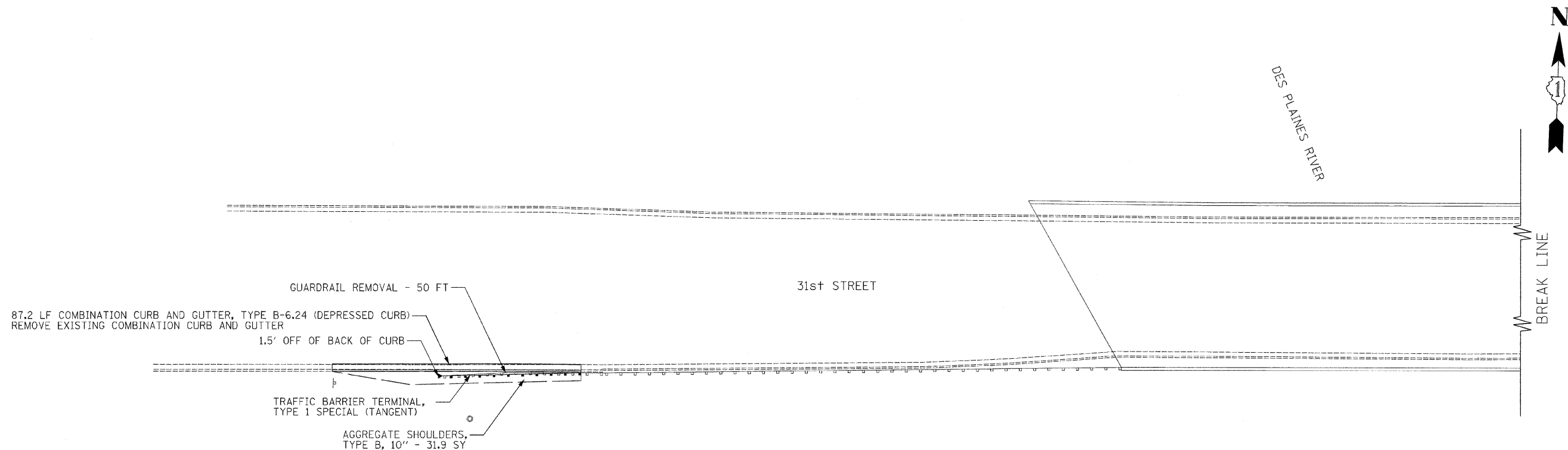
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

GUARDRAIL IMPROVEMENTS - COOK COUNTY	
SUMMARY OF QUANTITIES	
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS

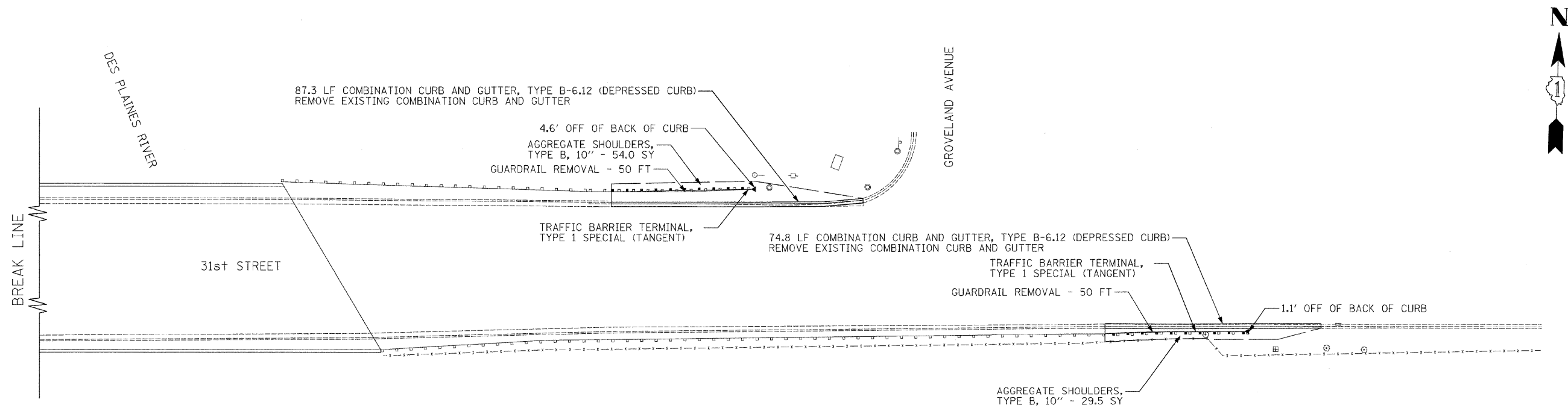
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*	2011-093-GRR	COOK	26	3
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60R21	

*VARIOUS





LOCATIONS 1-2



LOCATIONS 1-2



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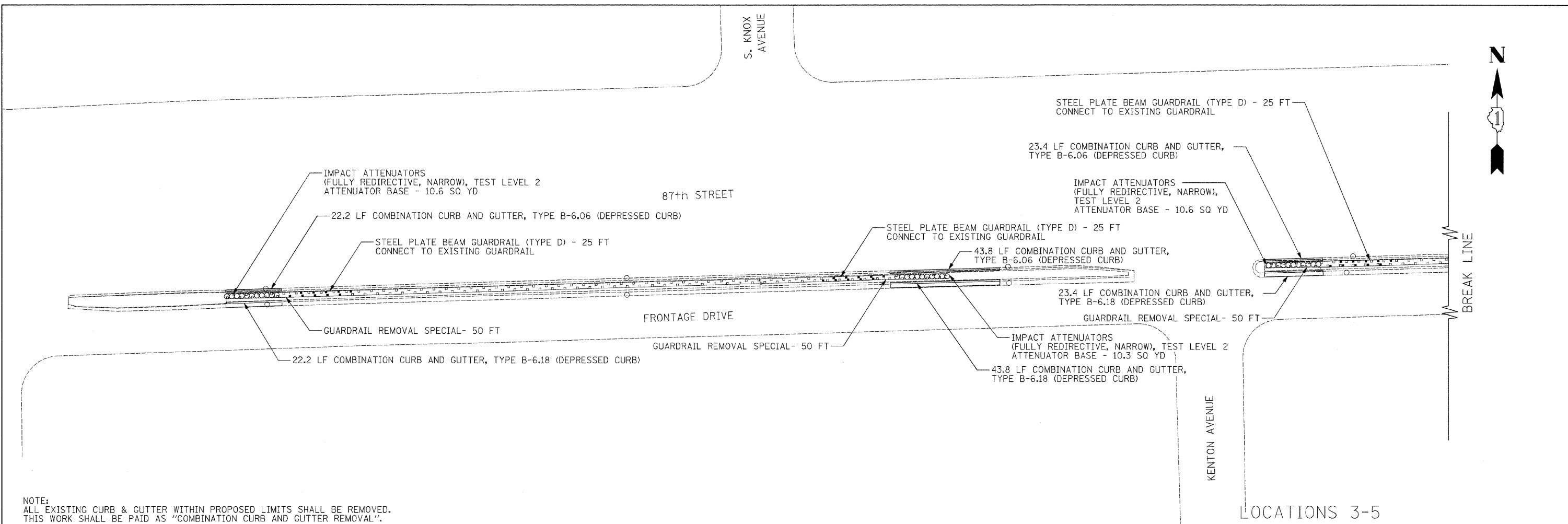
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GUARDRAIL IMPROVEMENTS - COOK COUNTY
ROADWAY PLANS

SCALE: 20 SHEET NO. 1 OF 11 SHEETS

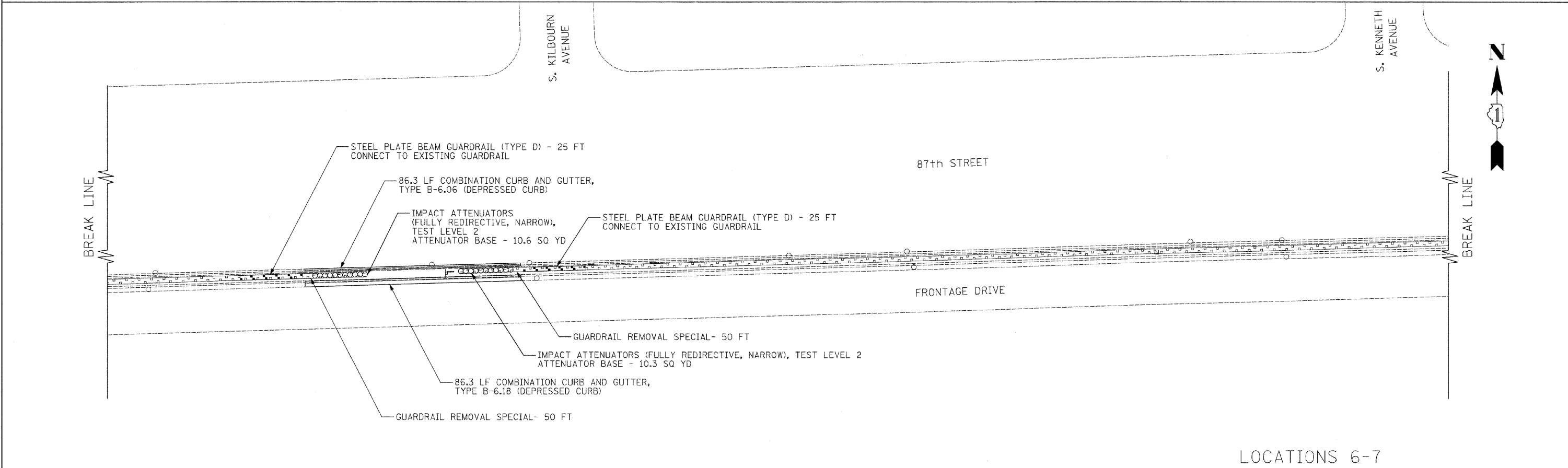
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		CONTRACT NO. 60R21		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

•VARIOUS

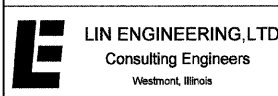


NOTE:
ALL EXISTING CURB & GUTTER WITHIN PROPOSED LIMITS SHALL BE REMOVED.
THIS WORK SHALL BE PAID AS "COMBINATION CURB AND GUTTER REMOVAL".

LOCATIONS 3-5



LOCATIONS 6-7



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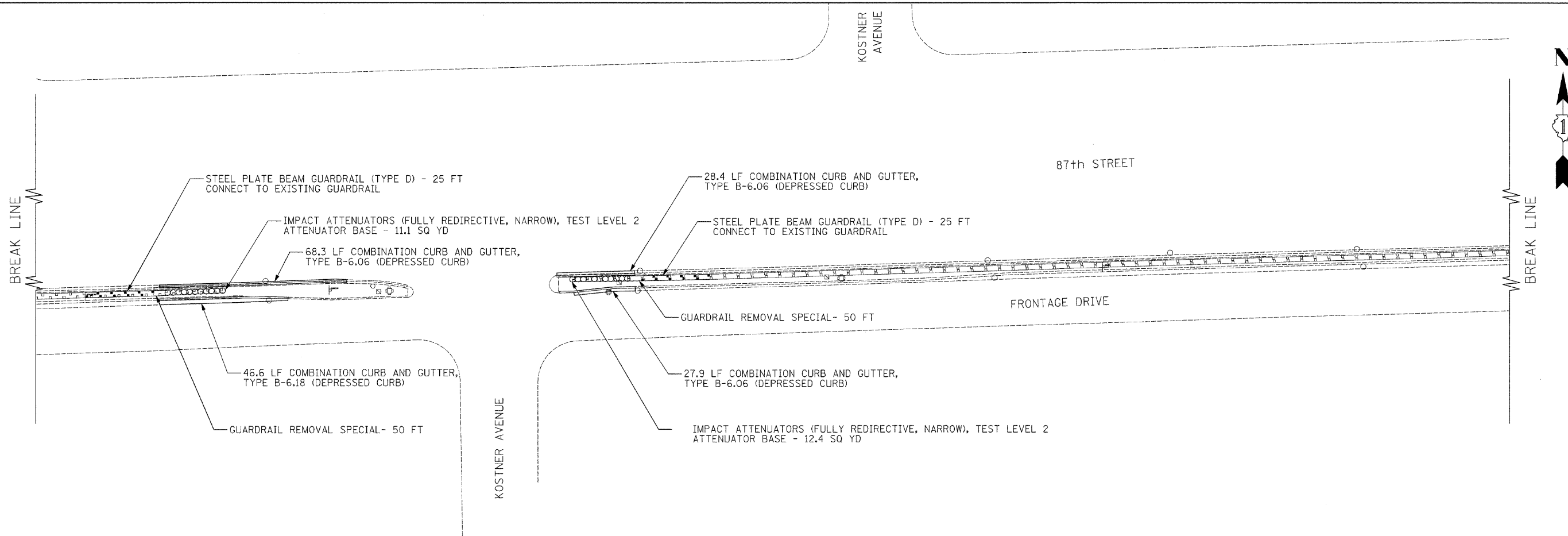
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DEPARTMENT OF TRANSPORTATION

GUARDRAIL IMPROVEMENTS - COOK COUNTY
ROADWAY PLANS

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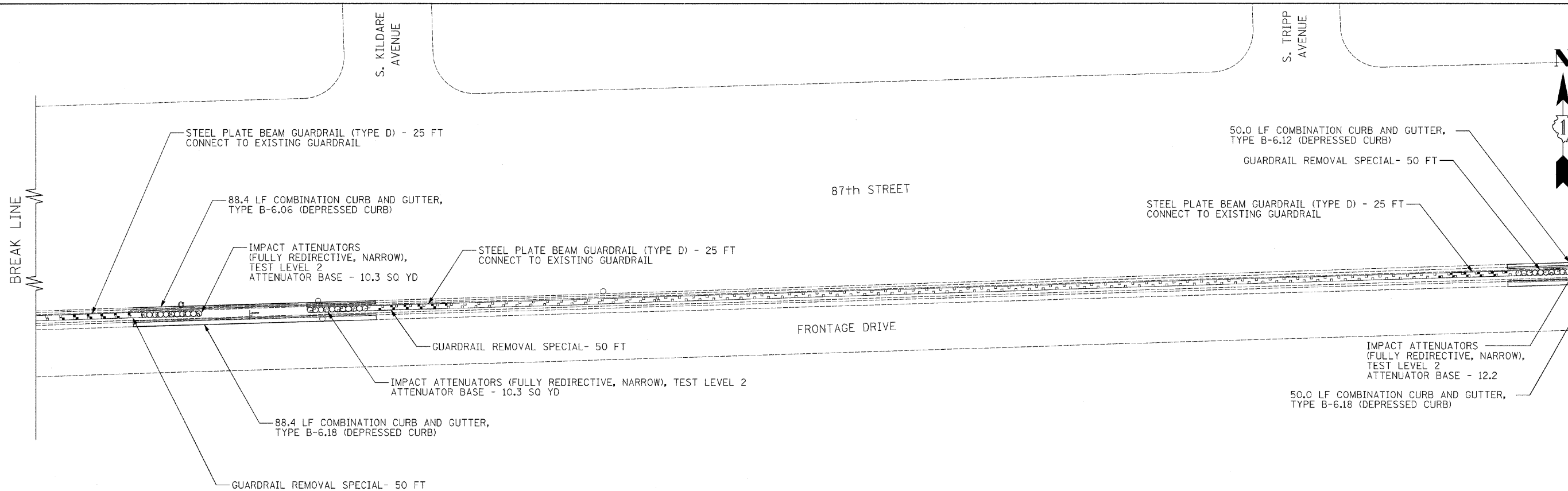
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60R21	

*VARIOUS



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LOCATIONS 8-9



LOCATIONS 10-12



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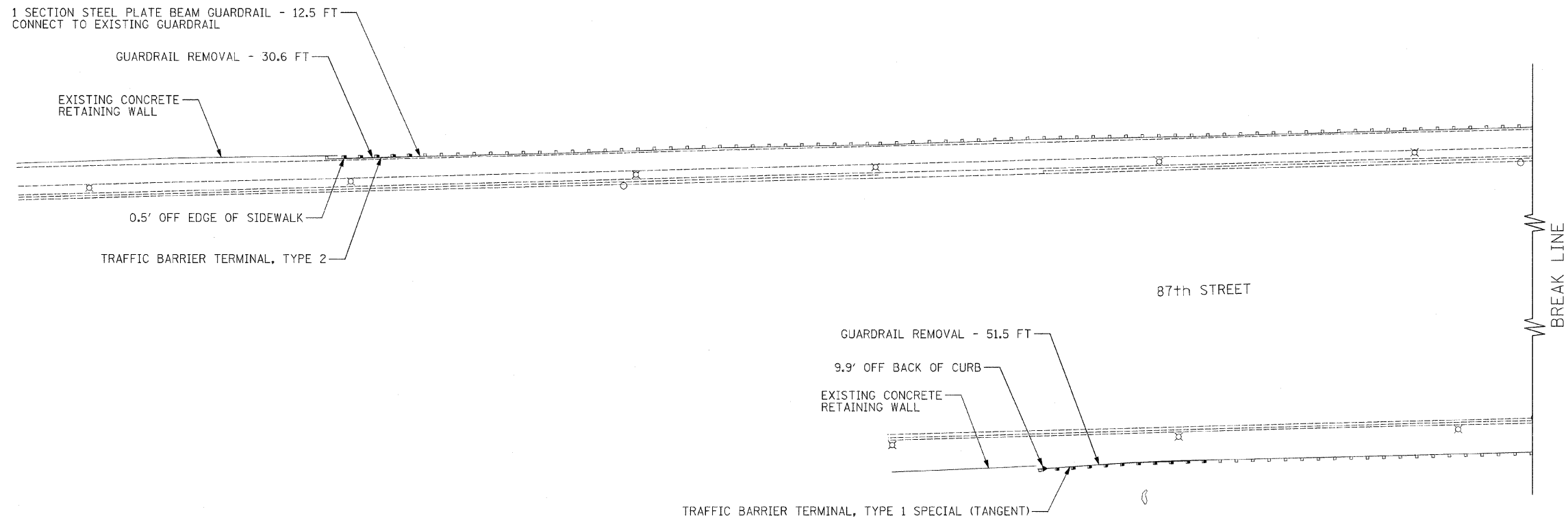
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GUARDRAIL IMPROVEMENTS - COOK COUNTY
ROADWAY PLANS

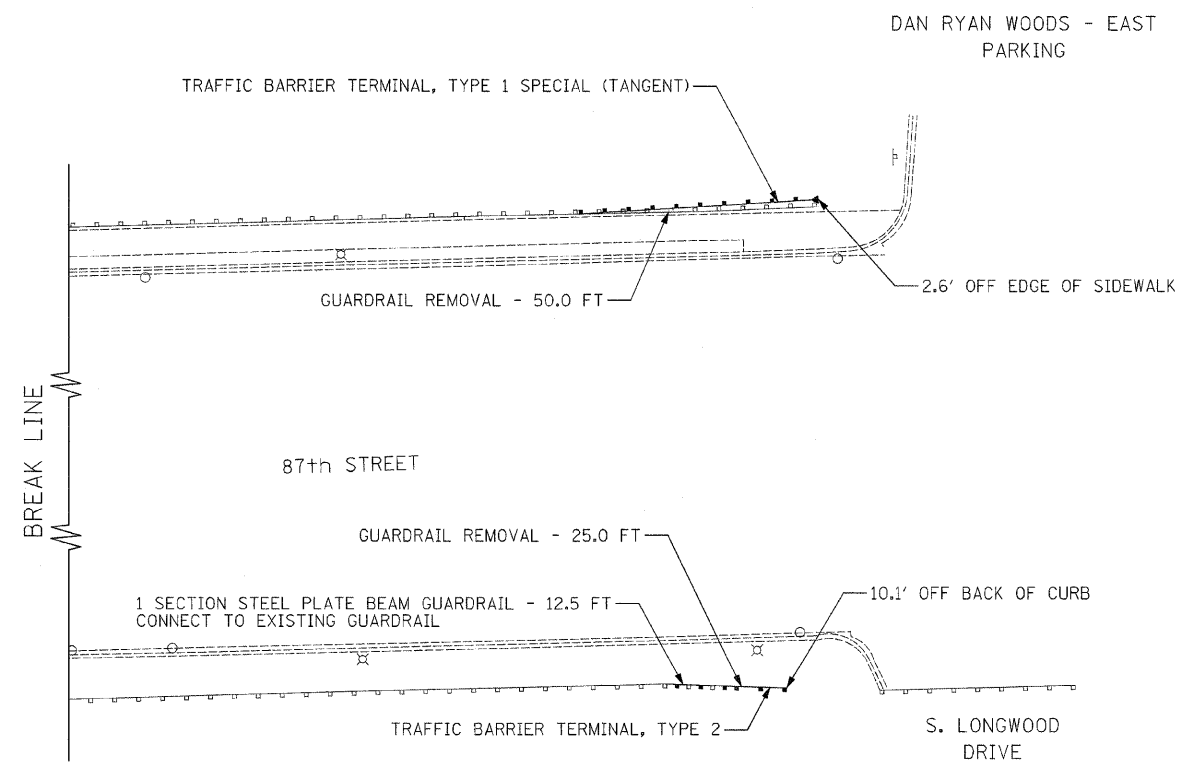
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60R21	

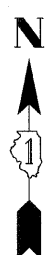
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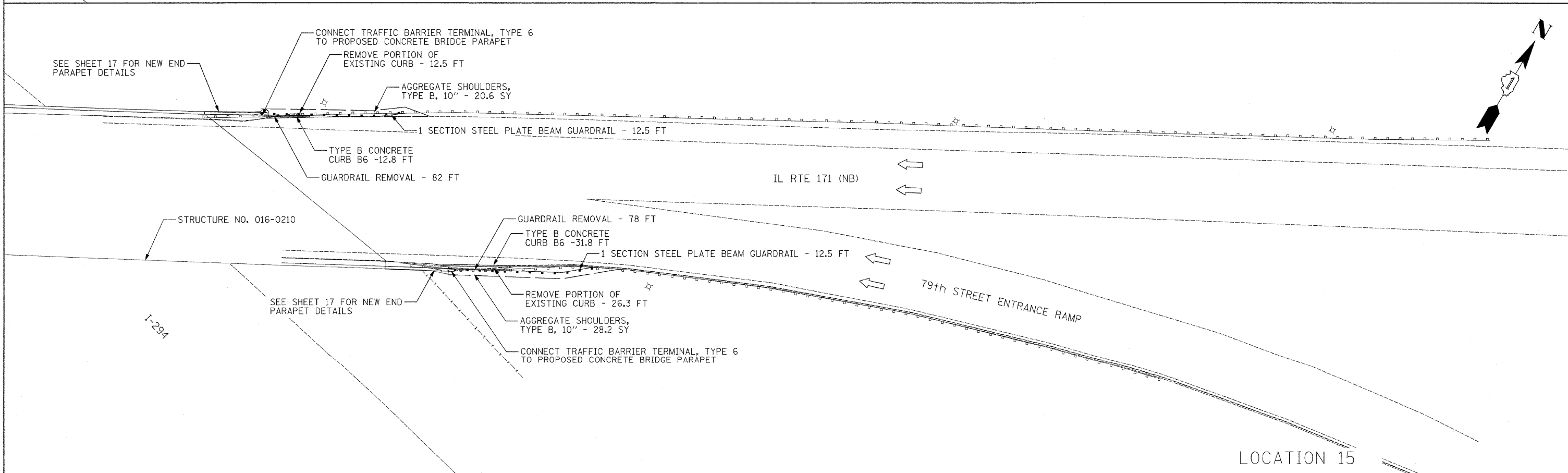
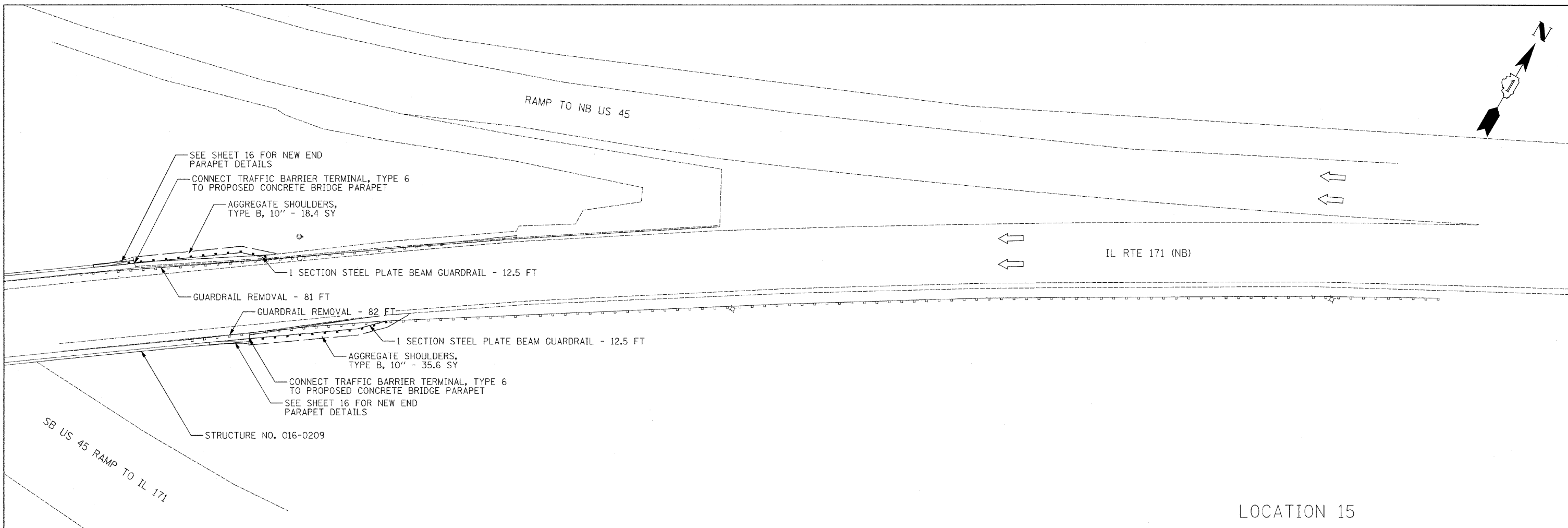


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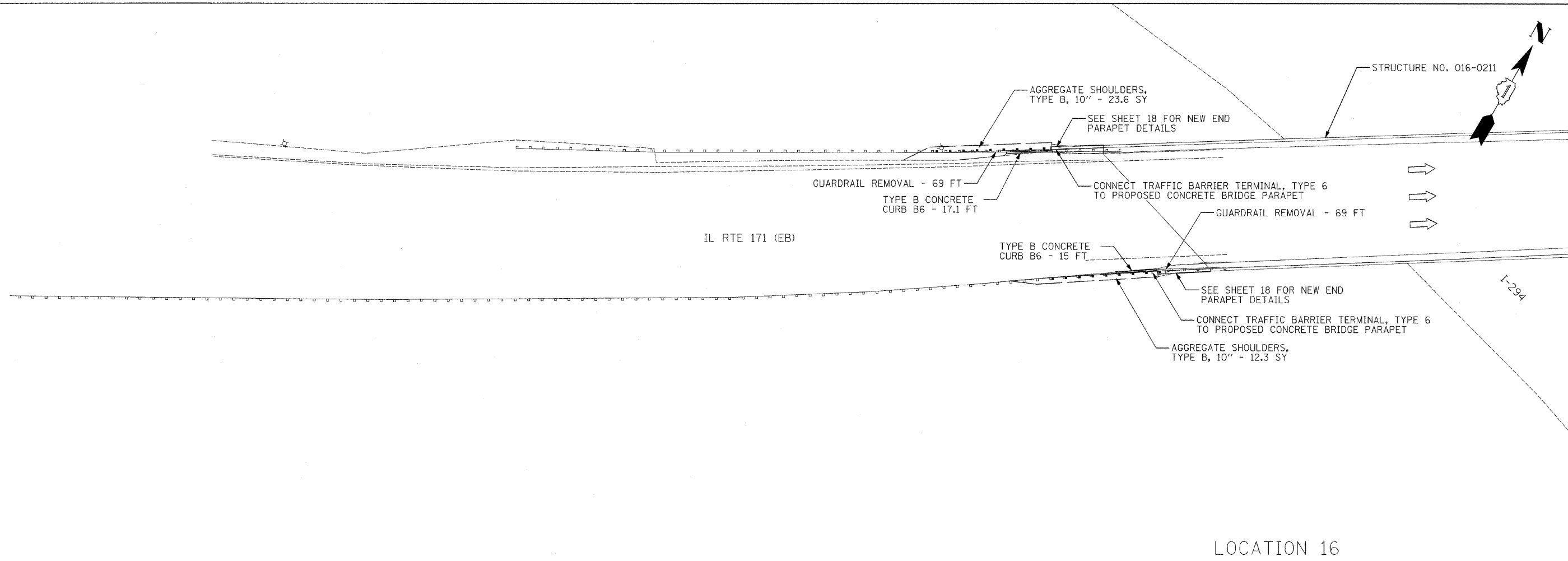


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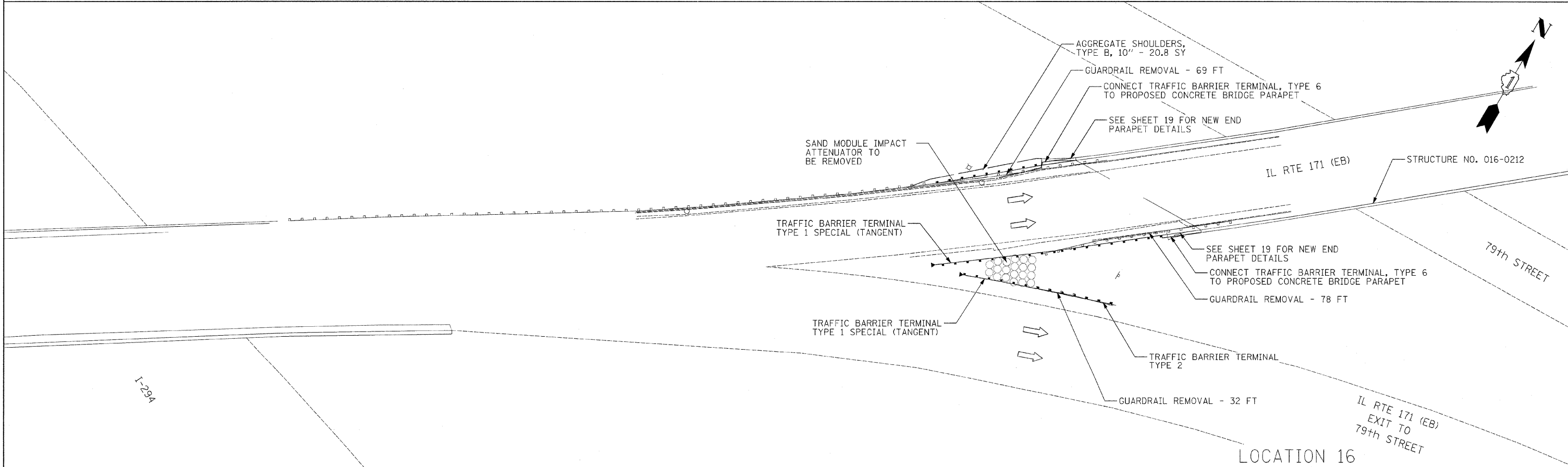




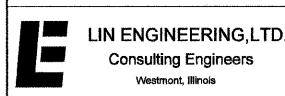
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LOCATION 16



LOCATION 16



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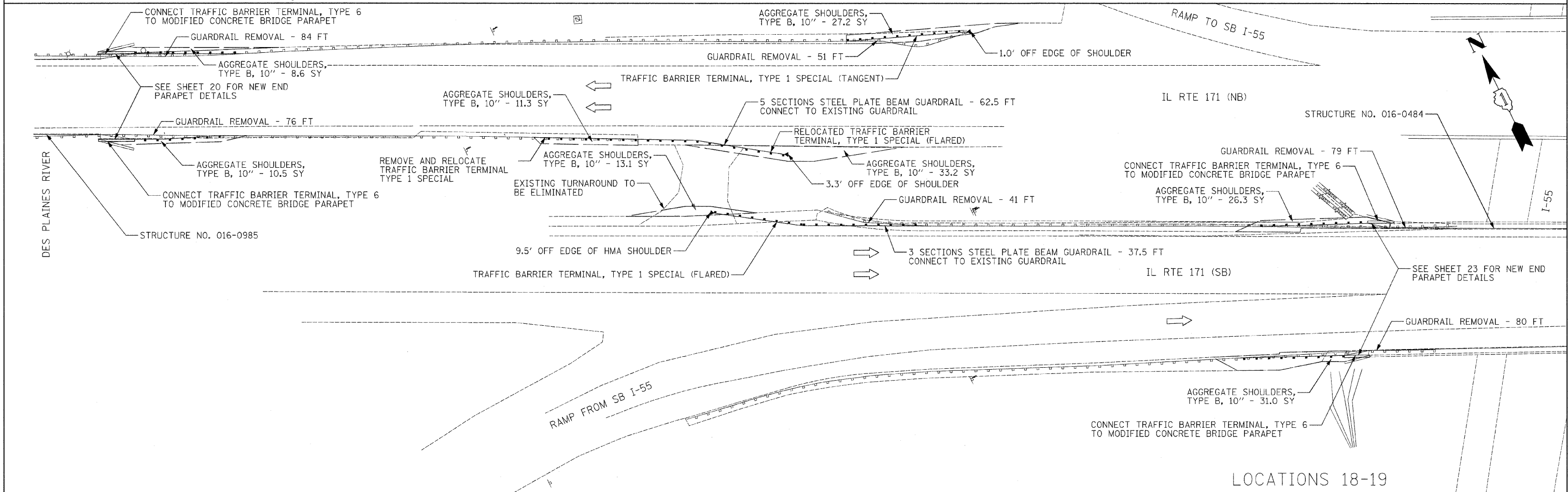
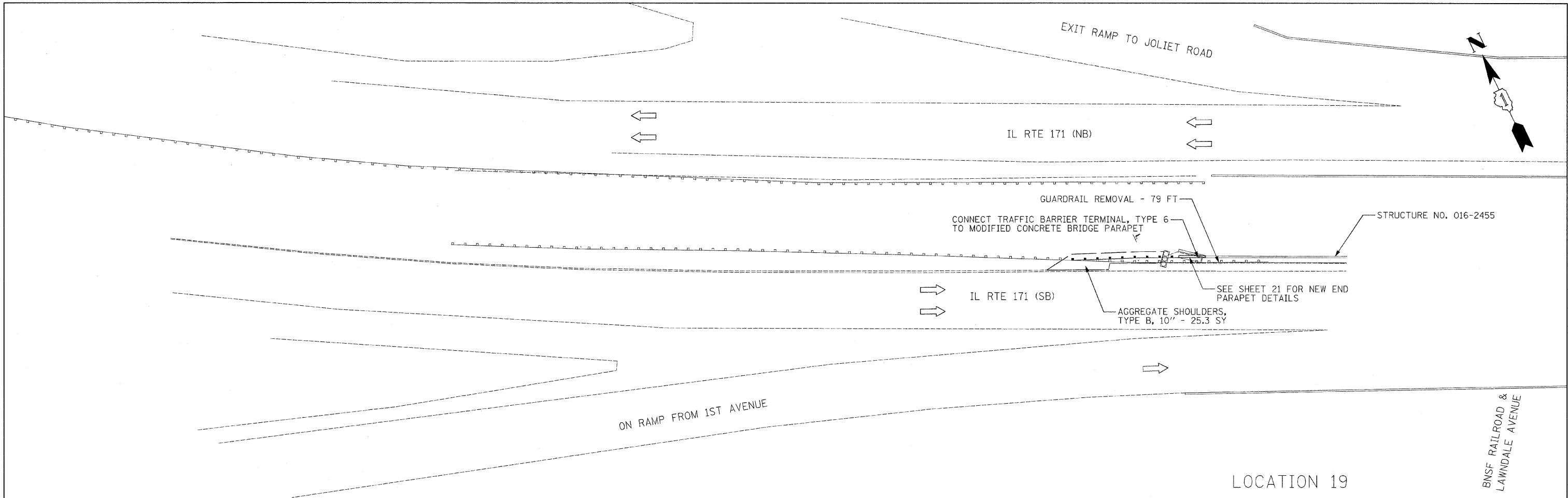
STATE OF ILLINOIS
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GUARDRAIL IMPROVEMENTS - COOK COUNTY
ROADWAY PLANS

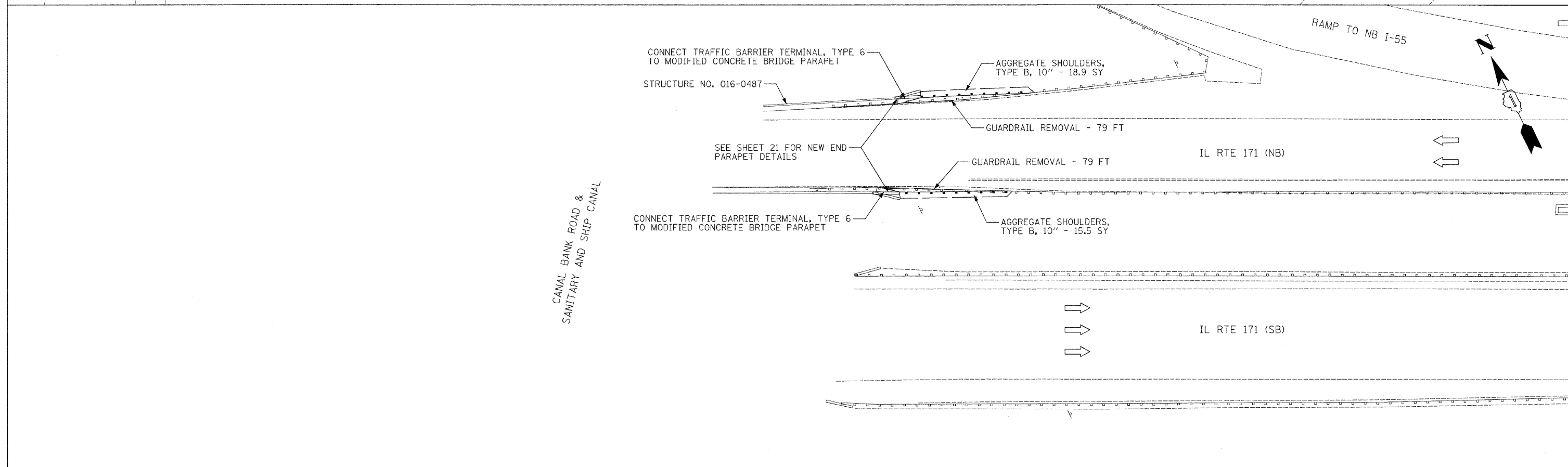
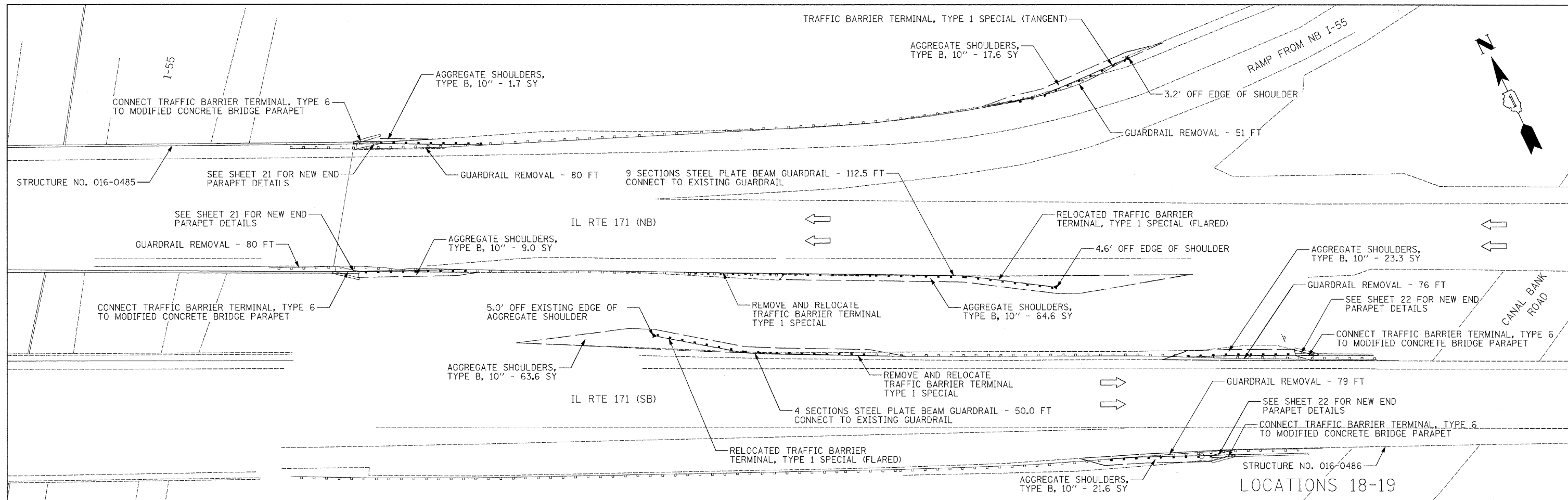
SCALE: 20 SHEET NO. 6 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			60R21	

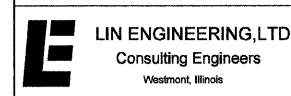
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT
*VARIOUS



<p>LIN ENGINEERING, LTD. Consulting Engineers Westmont, Illinois</p>	USER NAME = #USER#	DESIGNED - GRE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL IMPROVEMENTS - COOK COUNTY ROADWAY PLANS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - GRE	REVISOR -					*	2011-093-GRR	COOK	26	11
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				SCALE: 20		SHEET NO. 7 OF 11 SHEETS		*VARIOUS			



LOCATIONS 18-19



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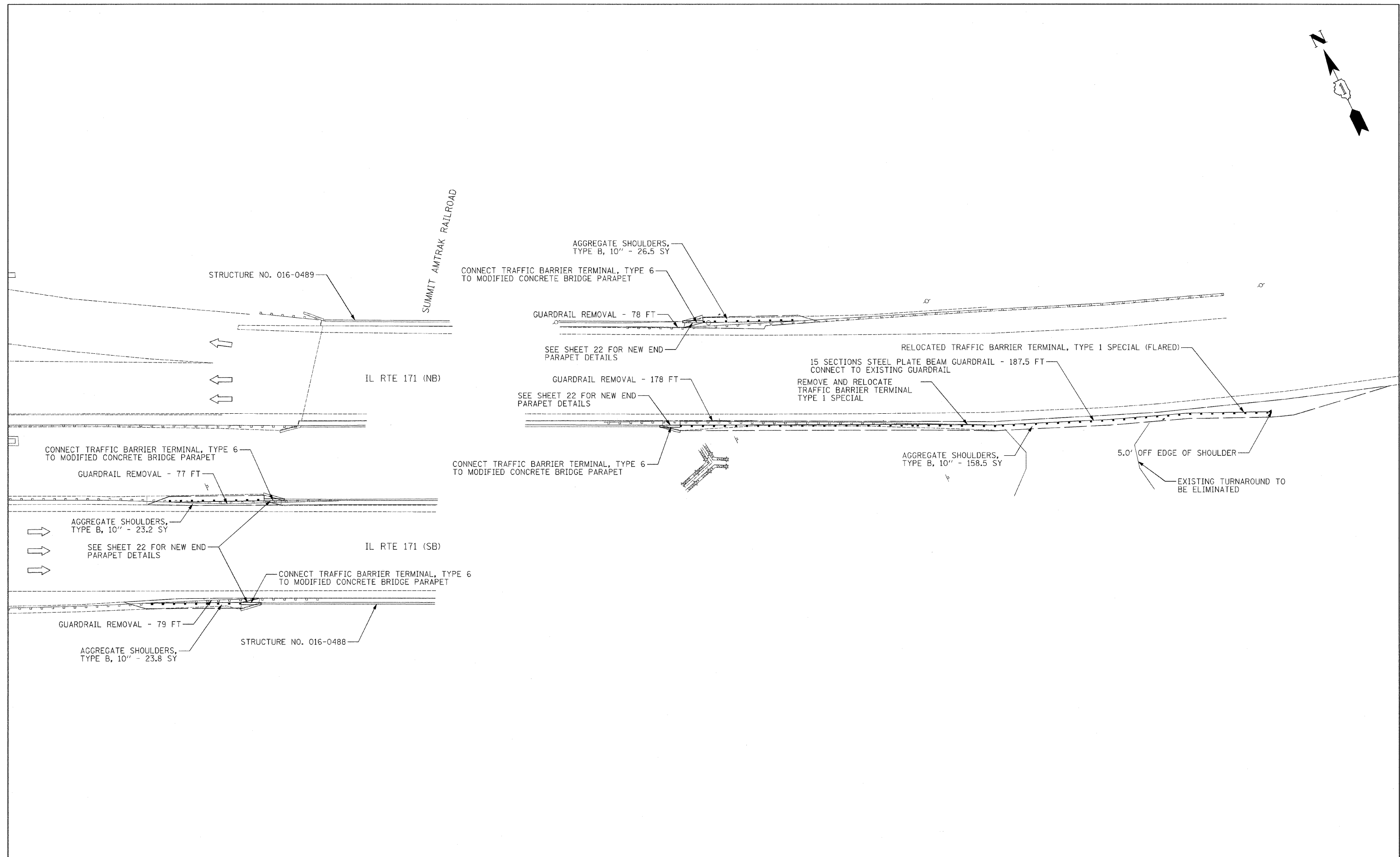
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL IMPROVEMENTS - COOK COUNTY
ROADWAY PLANS**

SCALE: 20 SHEET NO. 8 OF 11 SHEETS

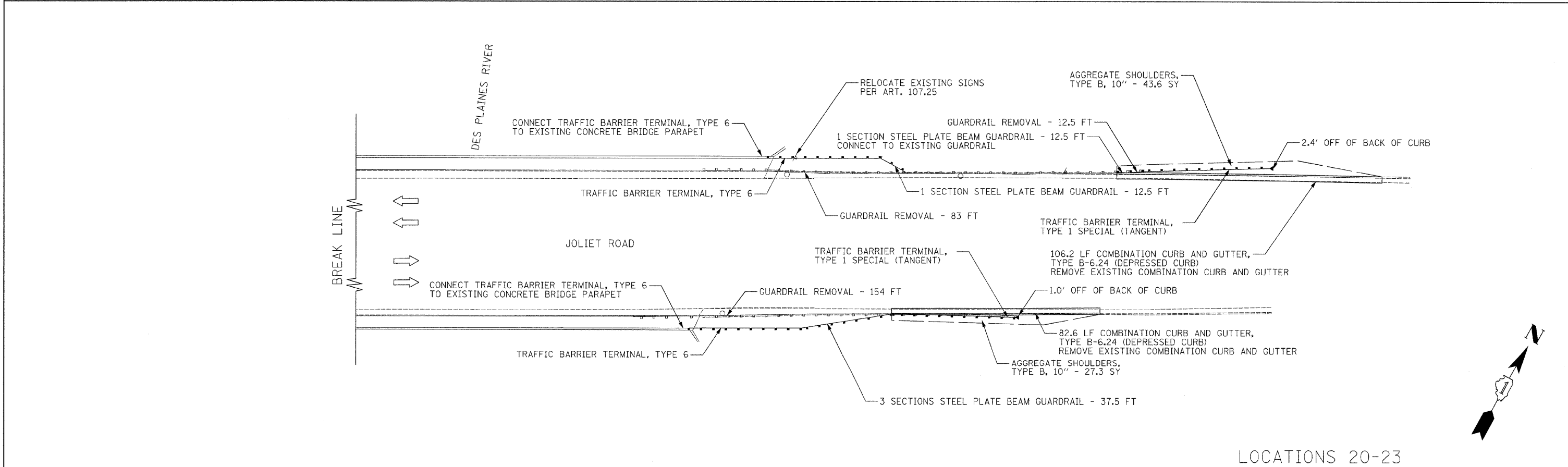
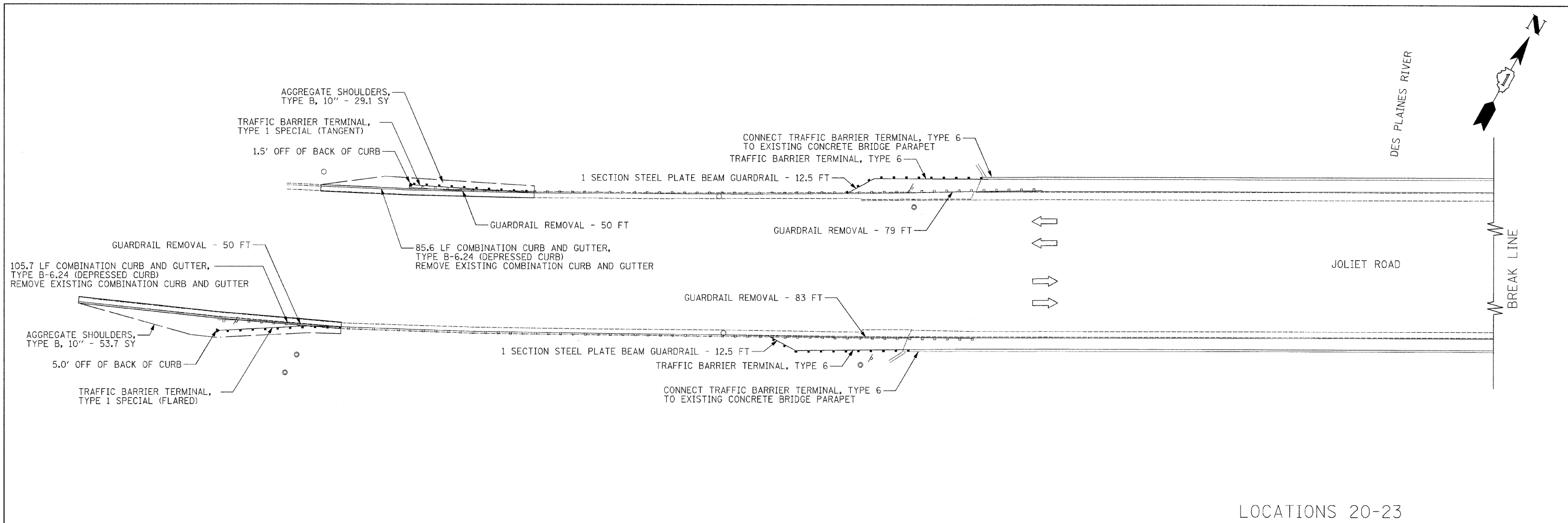
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*VARIOUS



LOCATIONS 18-19

<p>LIN ENGINEERING, LTD. Consulting Engineers Westmont, Illinois</p>	USER NAME = #USER*	DESIGNED - GRE	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL IMPROVEMENTS - COOK COUNTY ROADWAY PLANS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = #SCALE*	DRAWN - GRE	REVISED -				*	2011-093-GRR	COOK	26	13
	PLOT DATE = #DATE*	CHECKED - ST	REVISED -				CONTRACT NO. 60R21				
				SCALE: 20		SHEET NO. 9 OF 11 SHEETS		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			
								*VARIOUS			



USER NAME = #USER#	DESIGNED - GRE	REVISED -
PLOT SCALE = #SCALE#	DRAWN - GRE	REVISED -
PLOT DATE = #DATE#	CHECKED - ST	REVISED -
	DATE - 12/20/11	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	2011-093-GRR	COOK	26	14
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60R21	

*VARIOUS

HC METRA &
SANITARY AND SHIP CANAL



WILLOW SPRINGS ROAD / GILBERT AVENUE

ARCHER AVENUE

- GUARDRAIL REMOVAL - 50 FT
- TRAFFIC BARRIER TERMINAL,
TYPE 1 SPECIAL (TANGENT)
- 1.5' OFF OF BACK OF CURB
- 85.5 LF COMBINATION CURB AND GUTTER,
TYPE B-6.24 (DEPRESSED CURB)
REMOVE EXISTING COMBINATION CURB AND GUTTER
- AGGREGATE SHOULDERS,
TYPE B, 10" - 29.9 SY

LOCATION 24



USER NAME = #USER#	DESIGNED - GRE	REVISED -
	DRAWN - GRE	REVISED -
PLOT SCALE = #SCALE#	CHECKED - ST	REVISED -
PLOT DATE = #DATE#	DATE - 12/20/11	REVISED -

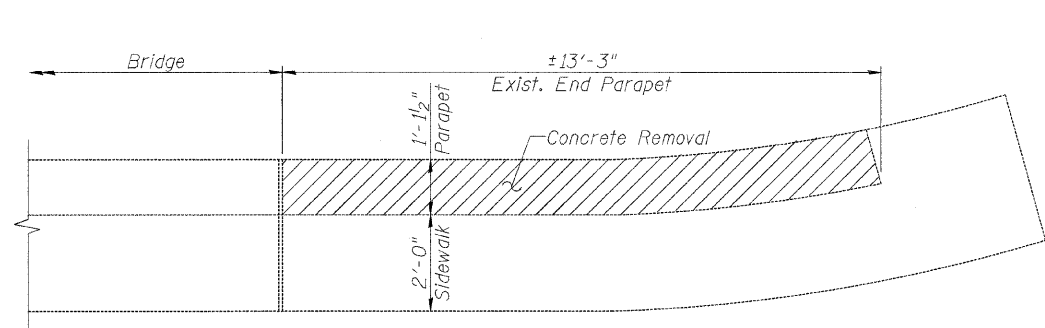
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GUARDRAIL IMPROVEMENTS - COOK COUNTY
ROADWAY PLANS

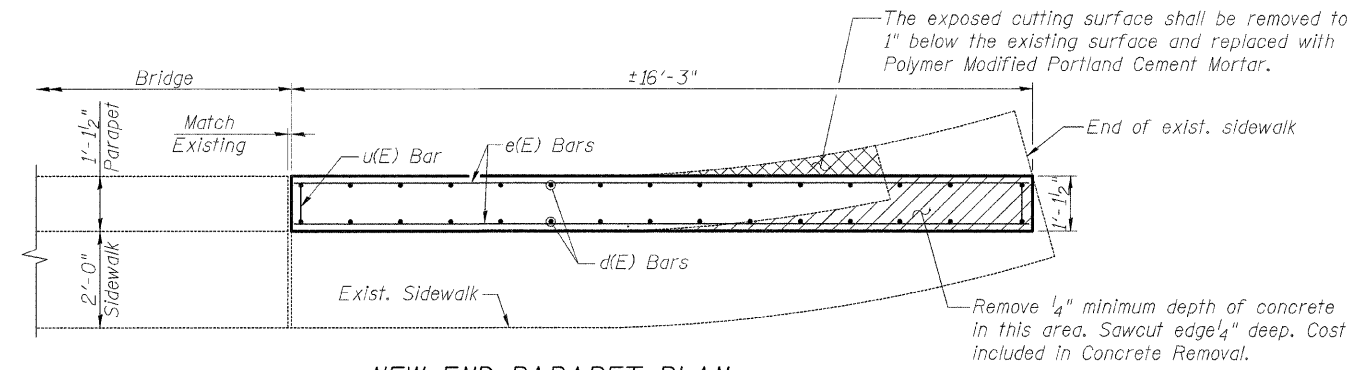
SCALE: 20 SHEET NO. 11 OF 11 SHEETS

F.A.P. RTE.*	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	2011-093-GRR	COOK	26	15
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60R21	

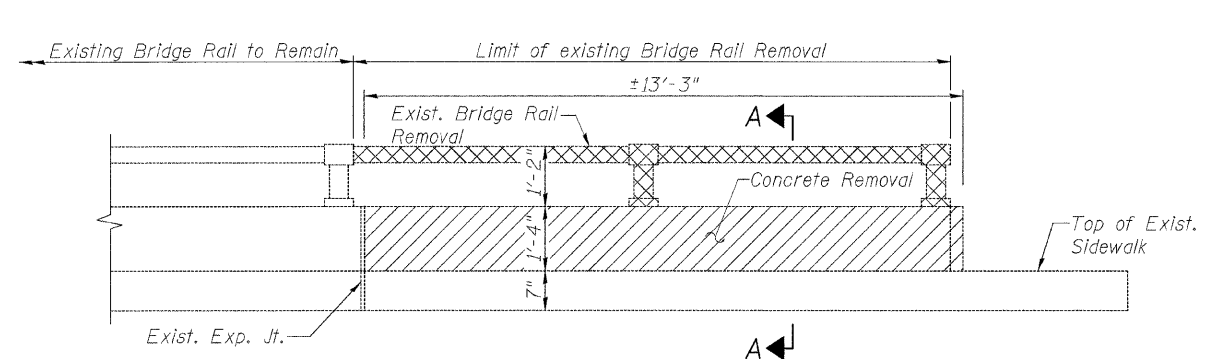
*VARIOUS



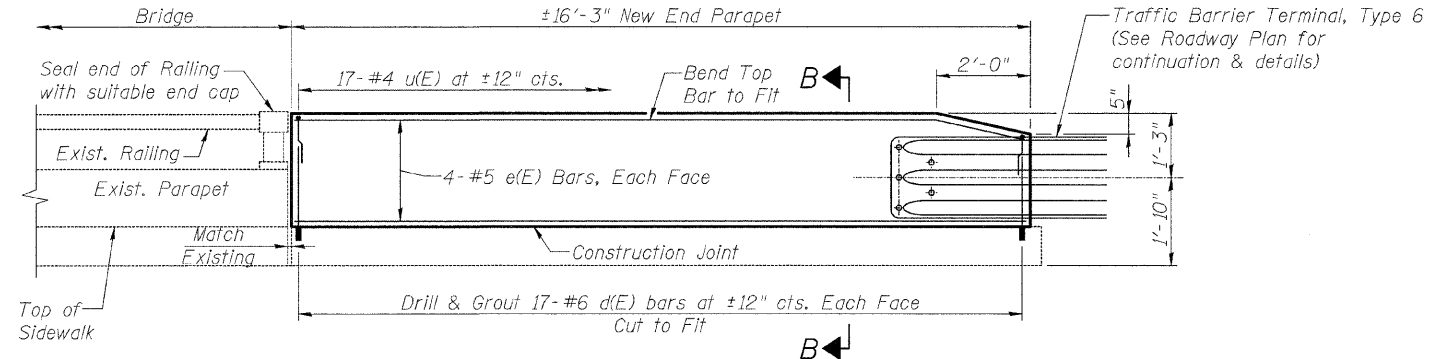
CONCRETE REMOVAL PLAN



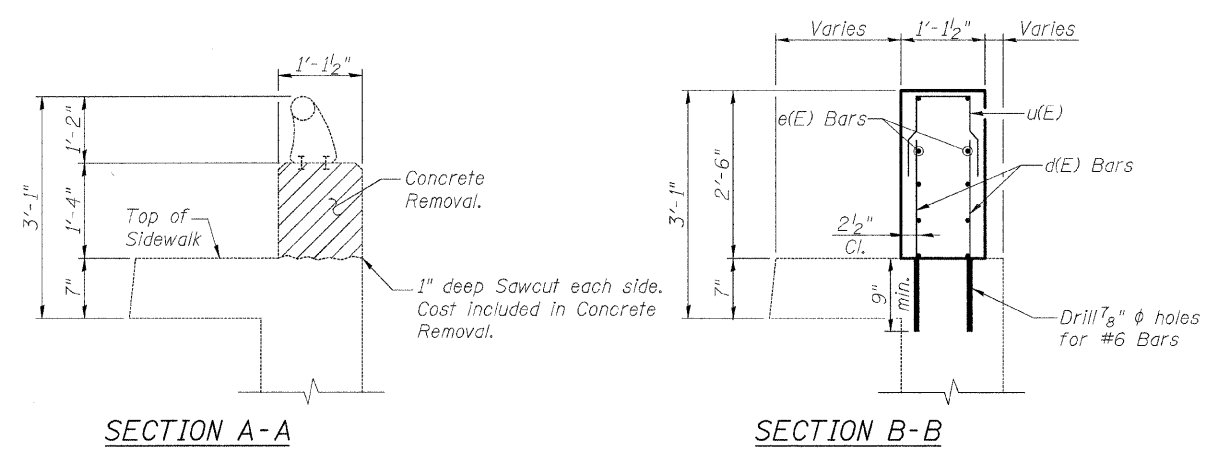
NEW END PARAPET PLAN



REMOVAL ELEVATION

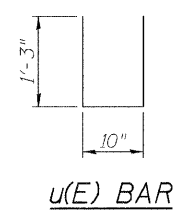


NEW END PARAPET ELEVATION (FRONT VIEW)



SECTION A-A

SECTION B-B



u(E) BAR

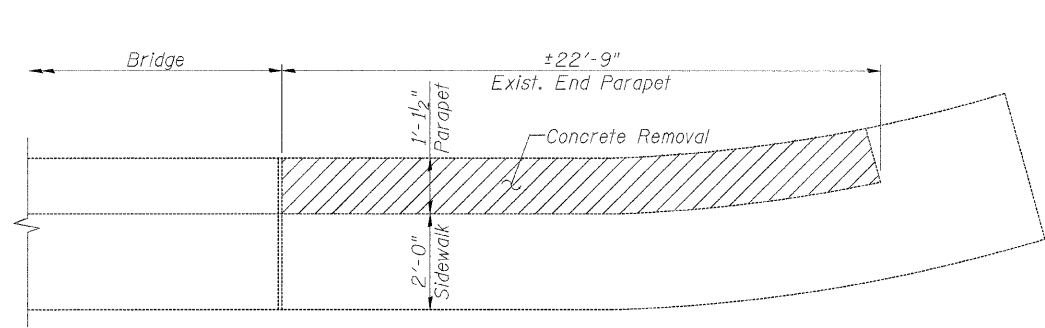
NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60. See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Plan dimensions and details are developed from survey data. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
4. Drilling and grouting bars shall be in accordance with Section 584 of the Standard Specifications.

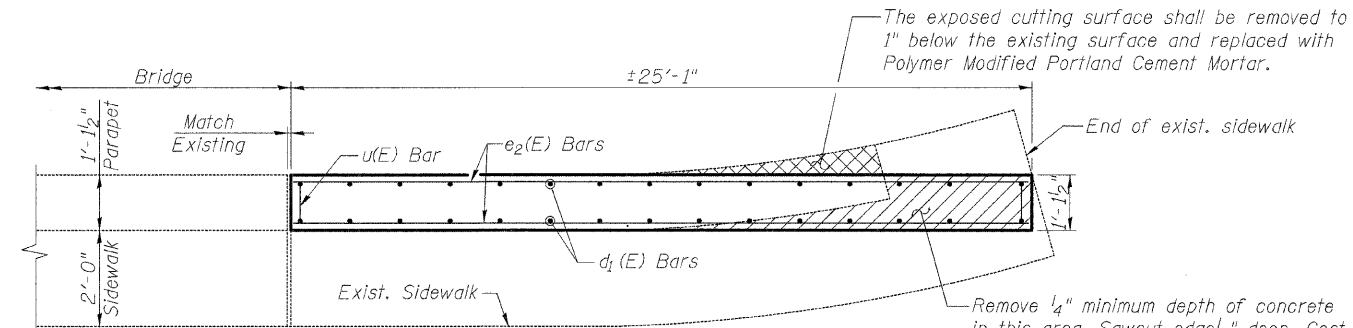
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e(E)	16	#5	15'-9"	—
d(E)	68	#6	2'-11"	—
u(E)	34	#4	3'-4"	⊓
Concrete Removal			Cu. Yd.	1.5
Bridge Rail Removal			LF	27
Concrete Superstructure			Cu. Yd.	3.4
Reinforcement Bars, Epoxy Coated			Pound	640
Polymer Modified Portland Cement Mortar			Sq. Ft.	7
Protective Coat			Sq. Yd.	13.0

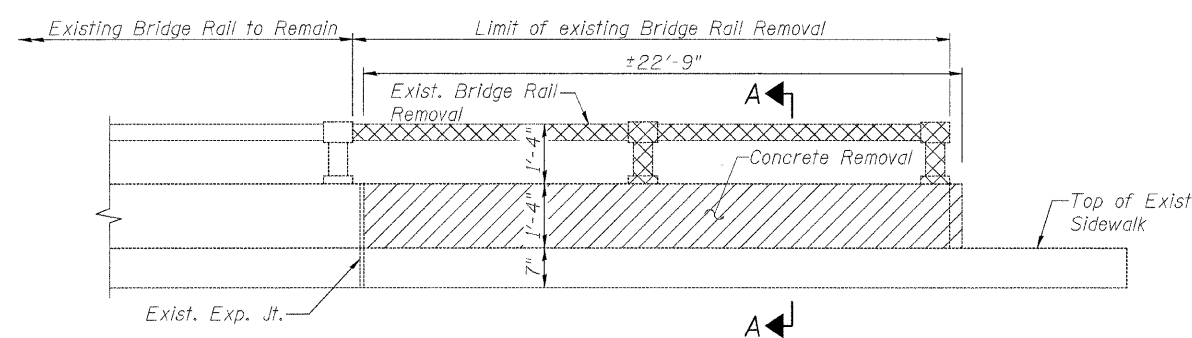
The quantities above include 2 new end parapets (Northeast and Northwest Parapets).



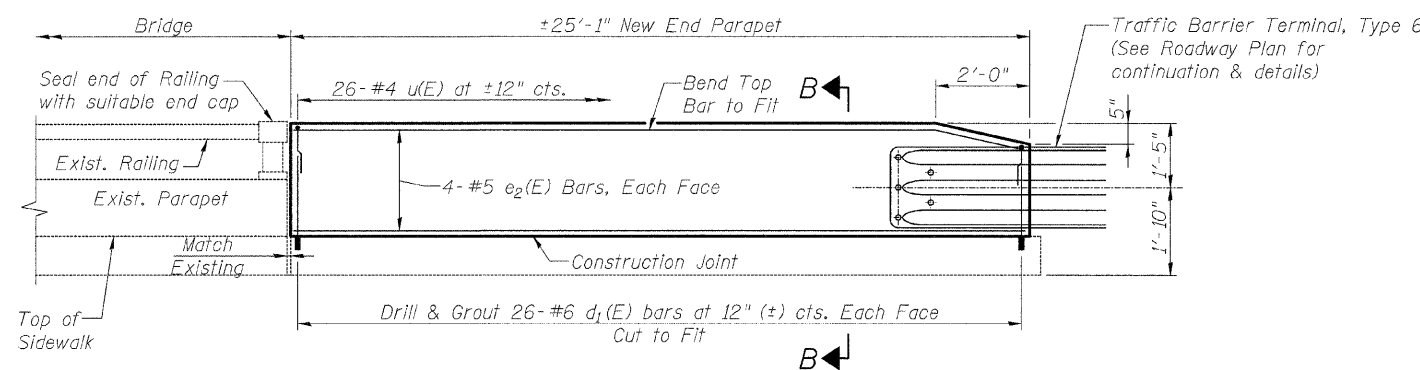
CONCRETE REMOVAL PLAN



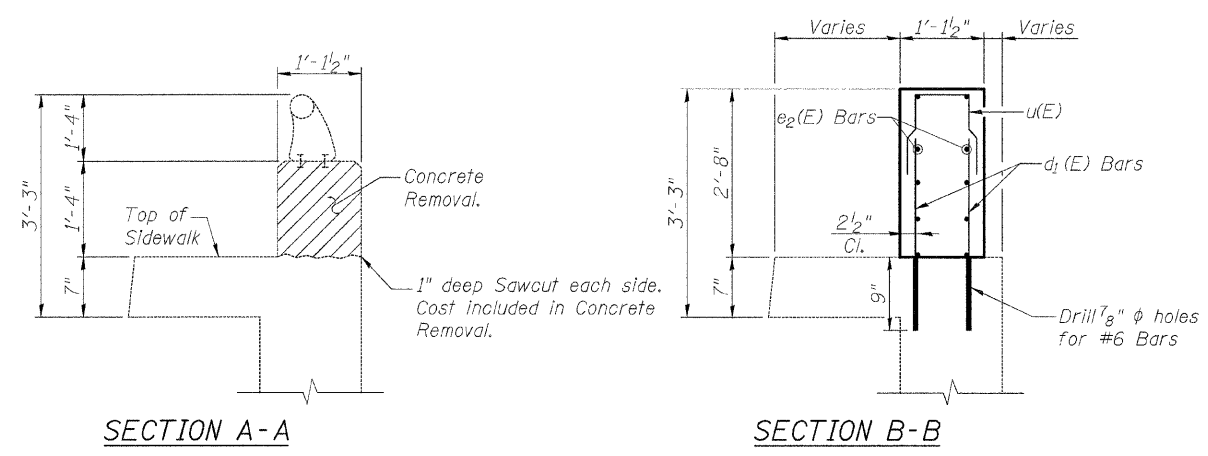
NEW END PARAPET PLAN



REMOVAL ELEVATION

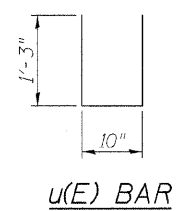


NEW END PARAPET ELEVATION (FRONT VIEW)



SECTION A-A

SECTION B-B



u(E) BAR

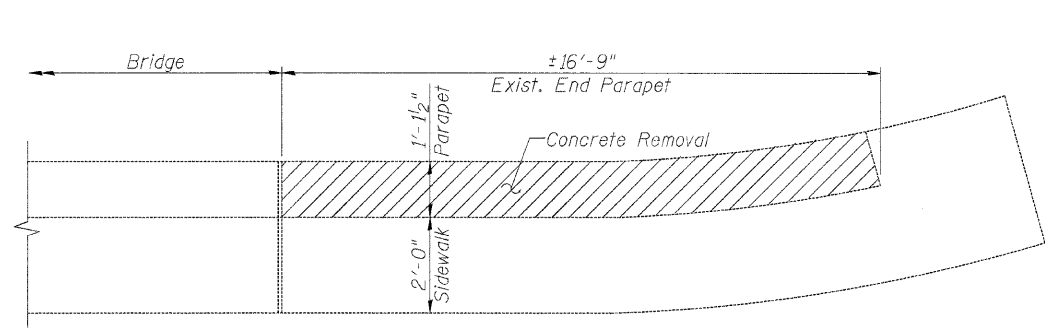
NOTES

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2. Reinforcement bars designated (E) shall be epoxy coated.
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4. Drilling and grouting bars shall be in accordance with Section 584 of the Standard Specifications.

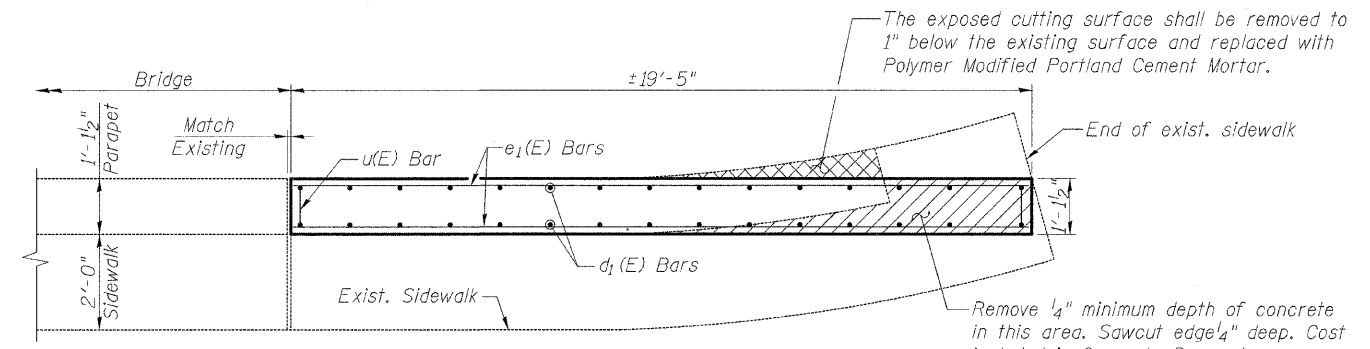
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e ₂ (E)	16	#5	24'-9"	—
d ₁ (E)	104	#6	3'-1"	—
u(E)	52	#4	3'-4"	U
Concrete Removal			Cu. Yd.	2.6
Bridge Rail Removal			LF	46
Concrete Superstructure Reinforcement Bars, Epoxy Coated			Pound	1020
Polymer Modified Portland Cement Mortar			Sq. Ft.	5
Protective Coat			Sq. Yd.	21.0

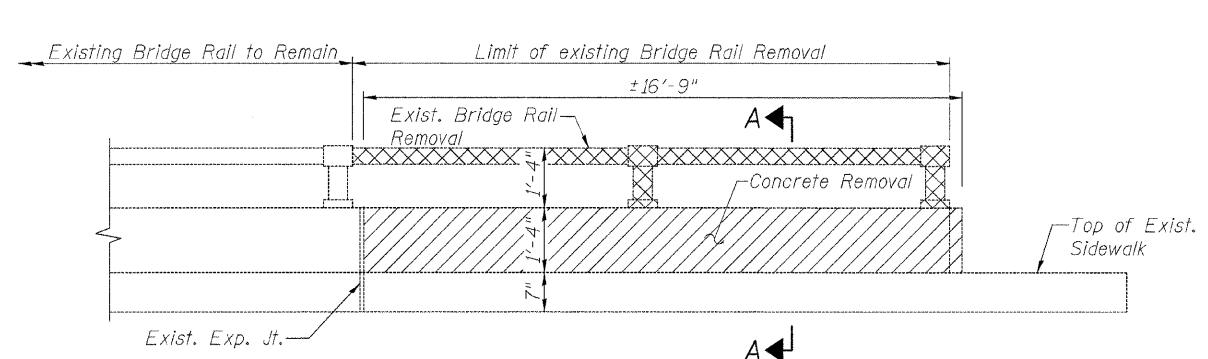
The quantities above include 2 new end parapets (Northeast and Northwest Parapets).



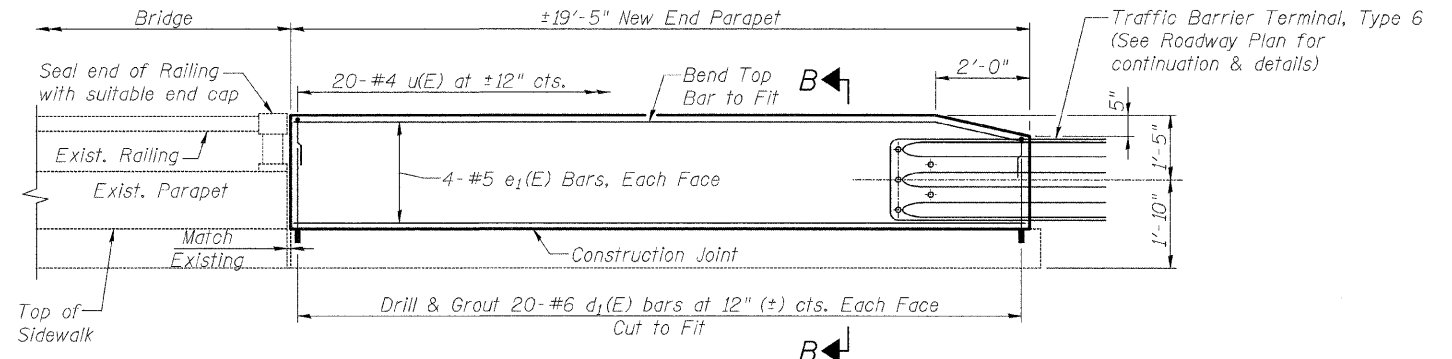
CONCRETE REMOVAL PLAN



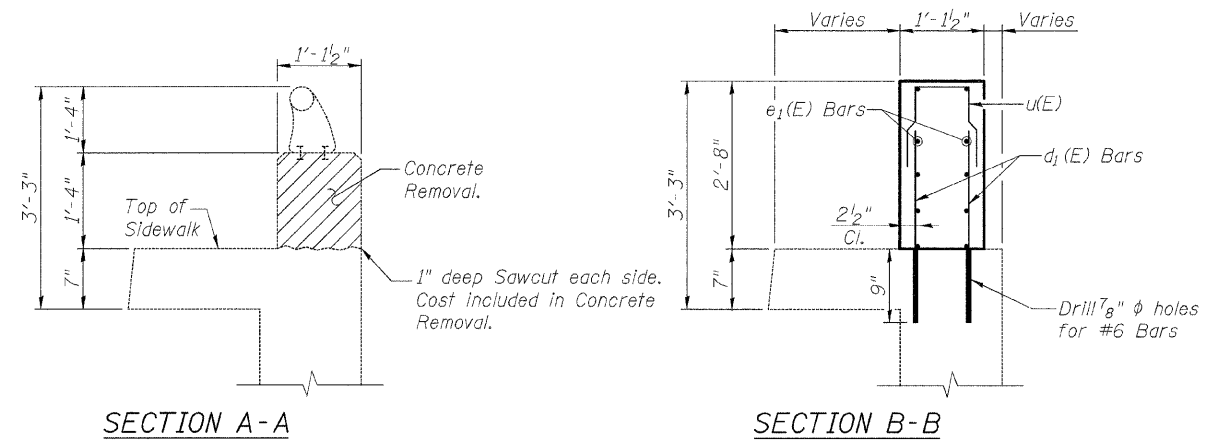
NEW END PARAPET PLAN



REMOVAL ELEVATION



NEW END PARAPET ELEVATION (FRONT VIEW)



SECTION A-A

SECTION B-B

U(E) BAR

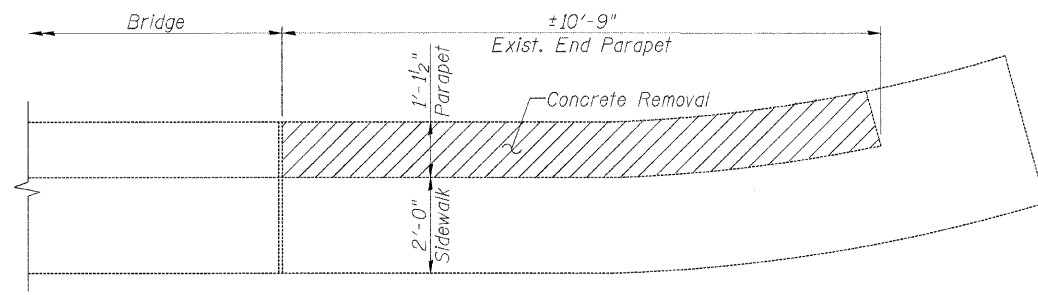
NOTES

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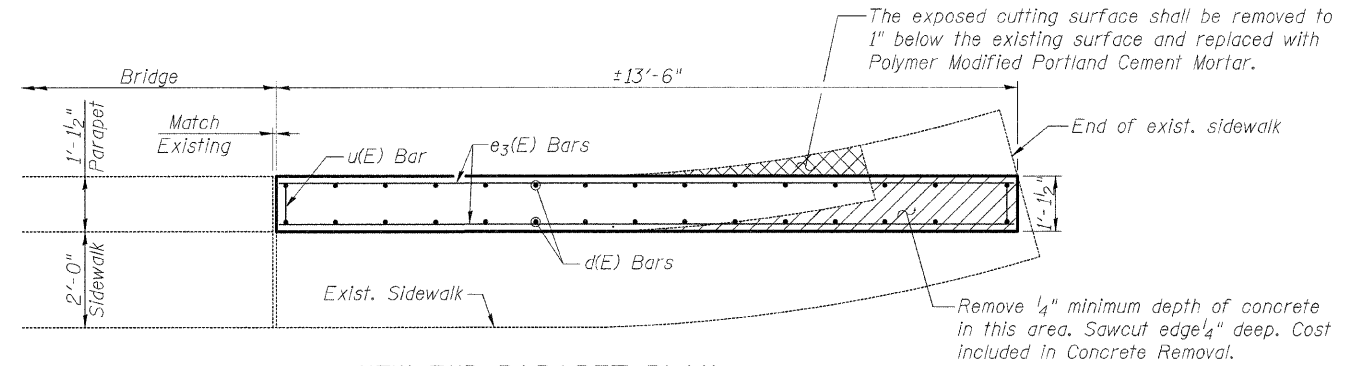
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e ₁ (E)	16	#5	19'-1"	—
d ₁ (E)	80	#6	3'-1"	—
u(E)	40	#4	3'-4"	⊔
Concrete Removal			Cu. Yd.	1.9
Bridge Rail Removal			LF	34
Concrete Superstructure			Cu. Yd.	4.3
Reinforcement Bars, Epoxy Coated			Pound	780
Polymer Modified Portland Cement Mortar			Sq. Ft.	4
Protective Coat			Sq. Yd.	16.3

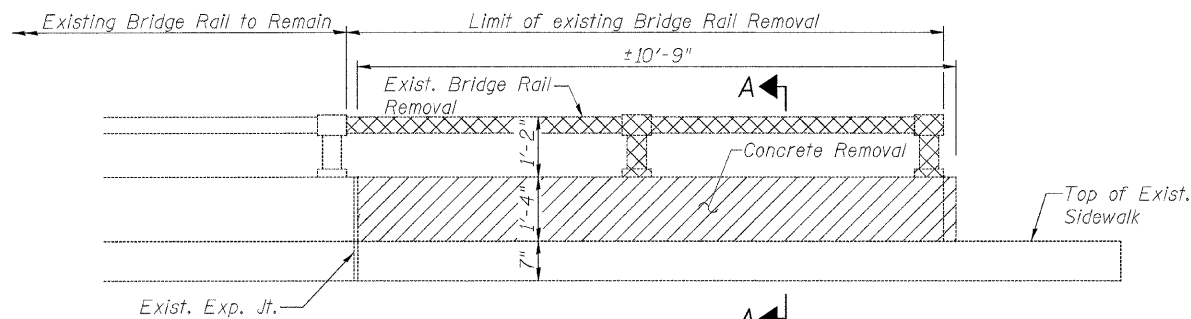
The quantities above include 2 new end parapets (Southeast and Southwest Parapets).



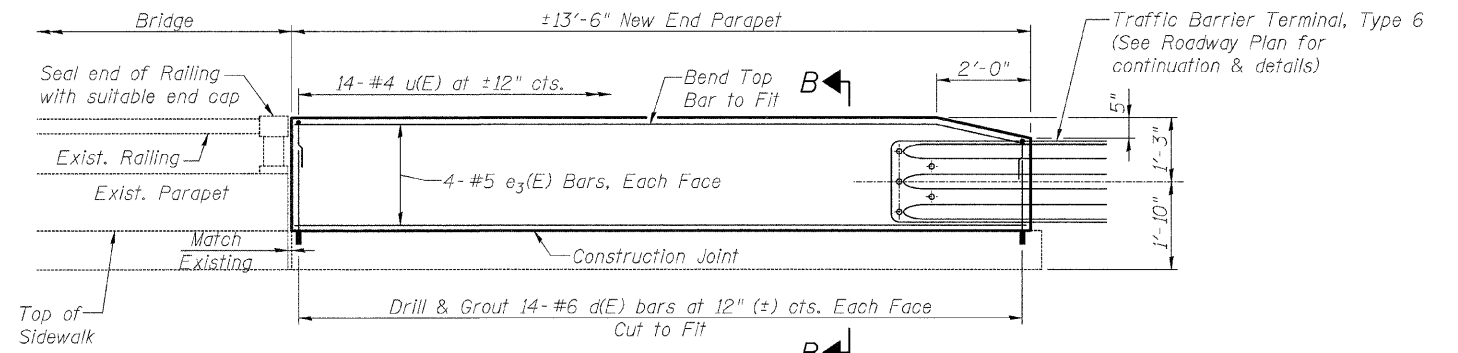
CONCRETE REMOVAL PLAN



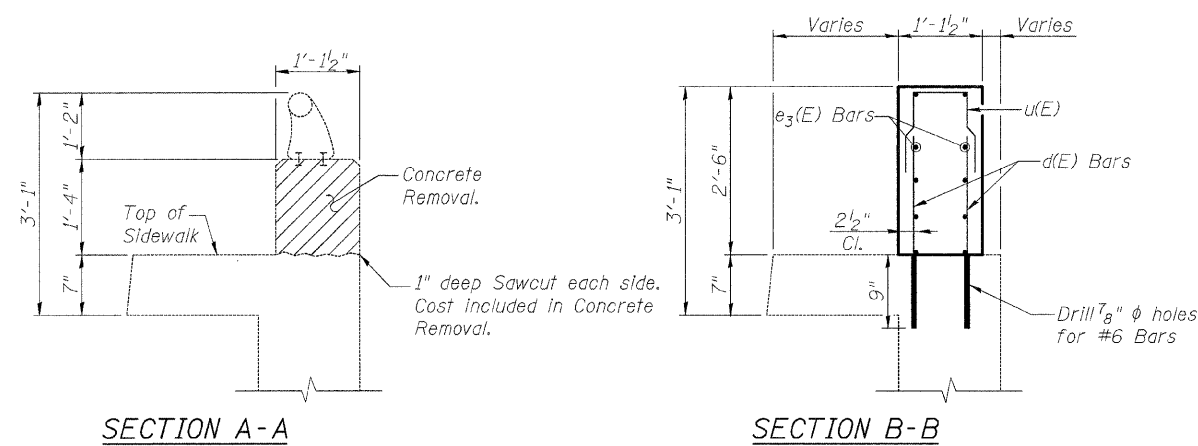
NEW END PARAPET PLAN



REMOVAL ELEVATION

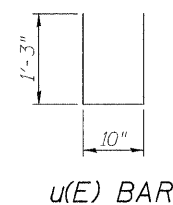


NEW END PARAPET ELEVATION (FRONT VIEW)



SECTION A-A

SECTION B-B



u(E) BAR

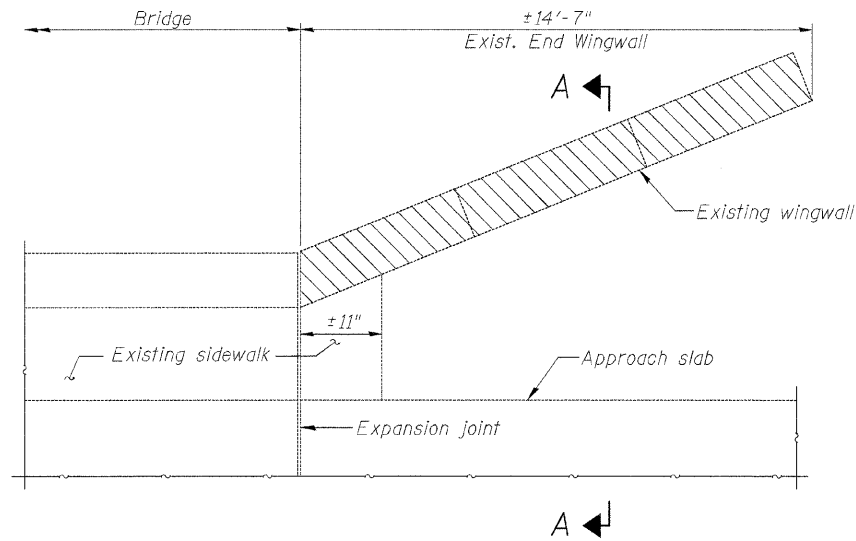
NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60. See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Plan dimensions and details are developed from survey data. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
4. Drilling and grouting bars shall be in accordance with Section 584 of the Standard Specifications.

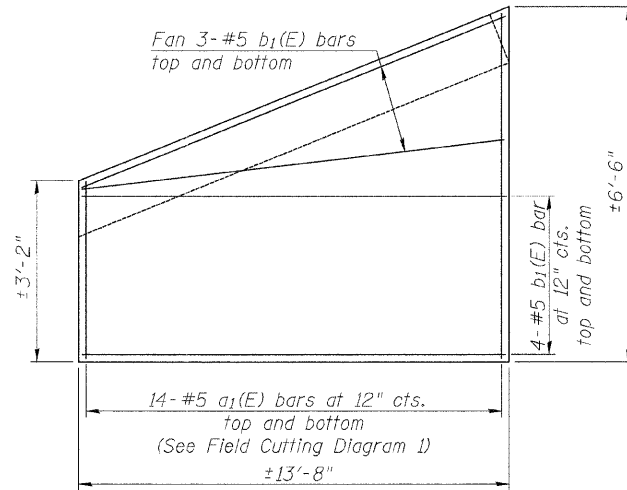
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e ₃ (E)	16	#5	13'-2"	—
d(E)	56	#6	2'-11"	—
u(E)	28	#4	3'-4"	U
Concrete Removal			Cu. Yd.	1.2
Bridge Rail Removal			LF	22
Concrete Superstructure			Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated			Pound	530
Polymer Modified Portland Cement Mortar			Sq. Ft.	3
Protective Coat			Sq. Yd.	10.8

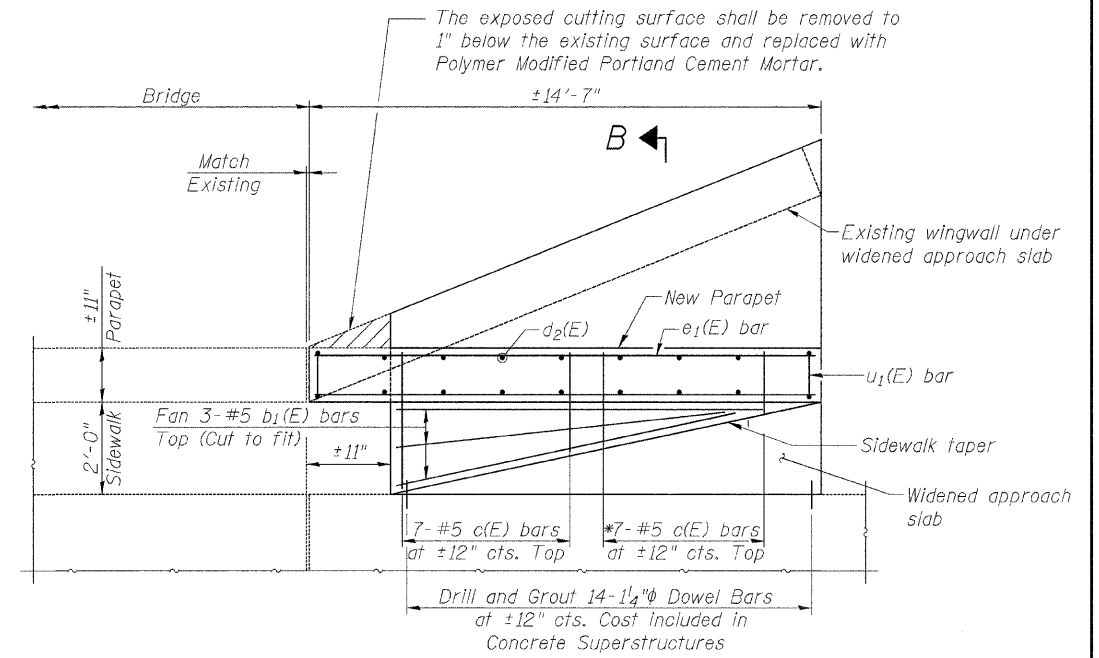
The quantities above include 2 new end parapets (Southeast and Southwest Parapets).



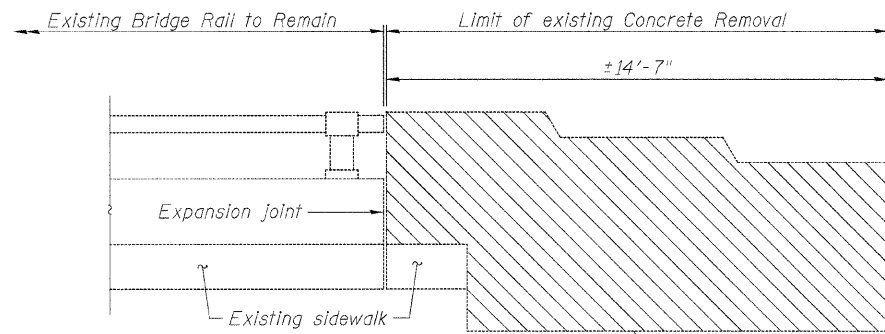
CONCRETE REMOVAL PLAN



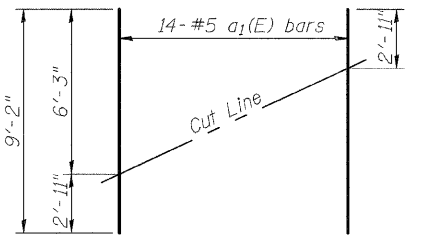
WIDENED APPROACH SLAB DETAIL



NEW END PARAPET PLAN

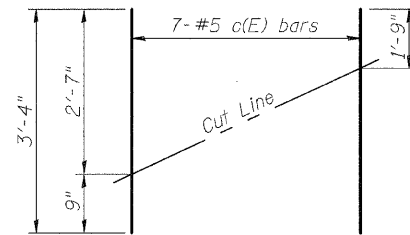


REMOVAL ELEVATION



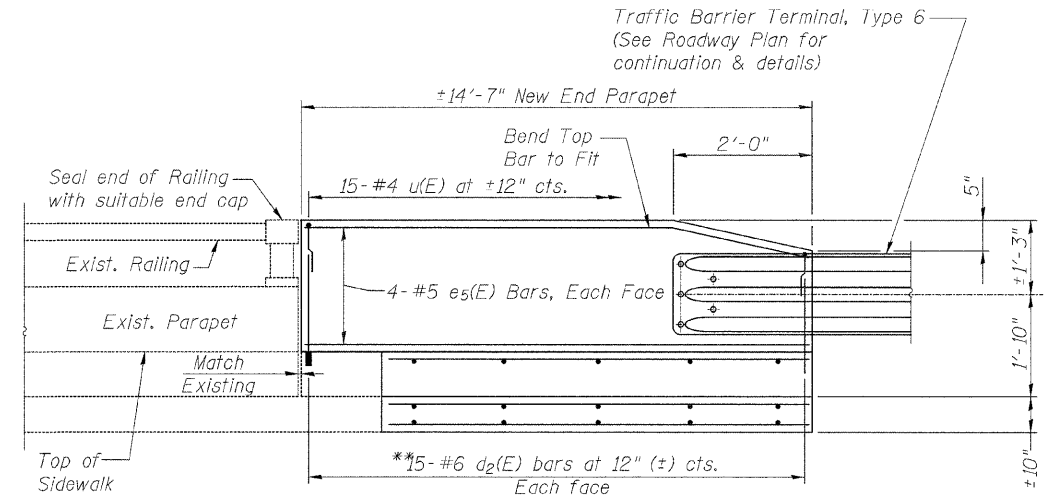
FIELD CUTTING DIAGRAM 1

Order a1(E) full length. Cut as shown and use remainder of bars in bottom.

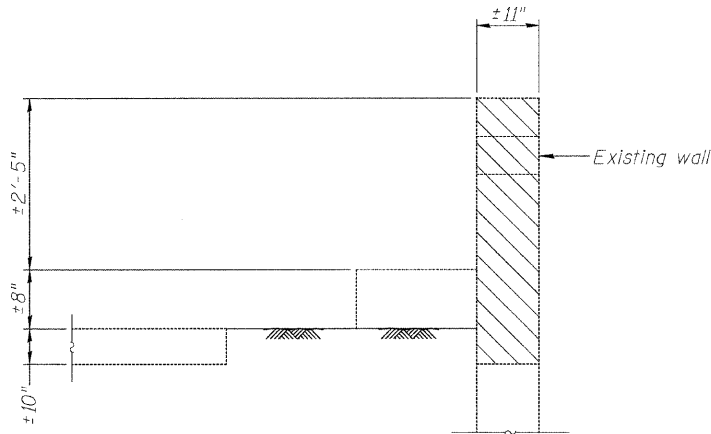


FIELD CUTTING DIAGRAM 2

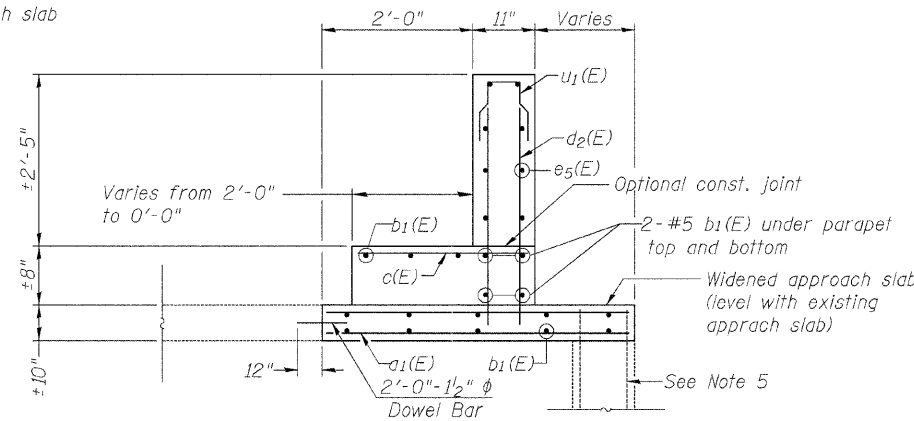
Order c(E) full length. Cut as shown and use remainder of bars in other end.



NEW END PARAPET ELEVATION



SECTION A-A



SECTION B-B

NOTES

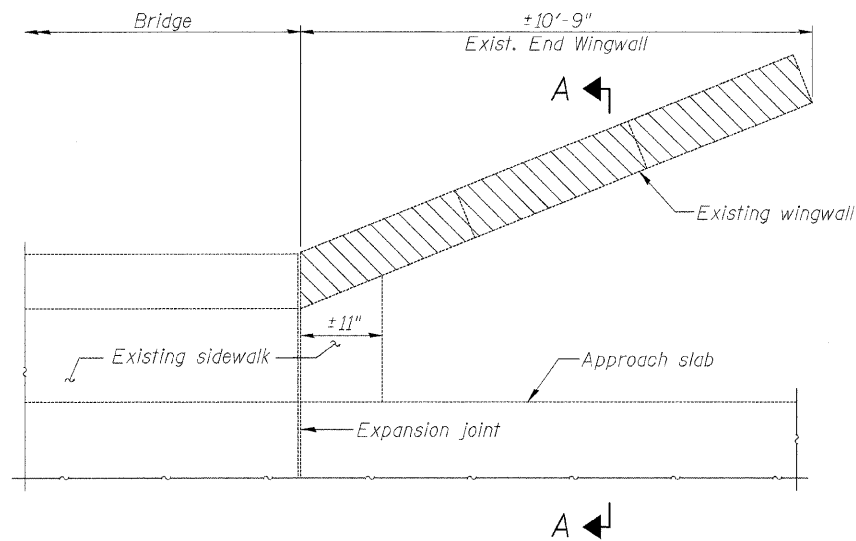
1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60. See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Plan dimensions and details are developed from survey data. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
4. Drilling and grouting bars shall be in accordance with Section 584 of the Standard Specifications.
5. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

BILL OF MATERIAL

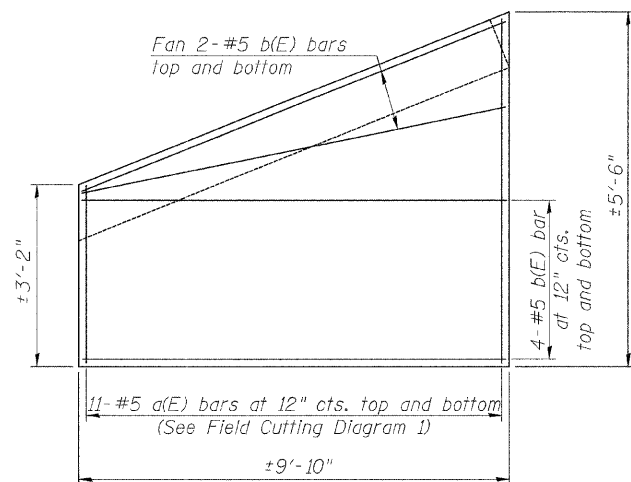
Bar	No.	Size	Length	Shape
a1(E)	28	#5	9'-2"	—
b1(E)	42	#5	13'-5"	—
c(E)	14	#5	3'-4"	—
d2(E)	60	#6	3'-0"	—
e5(E)	16	#5	14'-4"	—
u1(E)	30	#4	3'-2"	□
Concrete Removal			Cu. Yd.	3.2
Concrete Superstructure			Cu. Yd.	7.8
Reinforcement Bars, Epoxy Coated			Pound	1480
Polymer Modified Portland Cement Mortar			Sq. Ft.	1
Protective Coat			Sq. Yd.	32.5

The quantities above include 2 new end parapets (Southeast and Southwest Parapets).

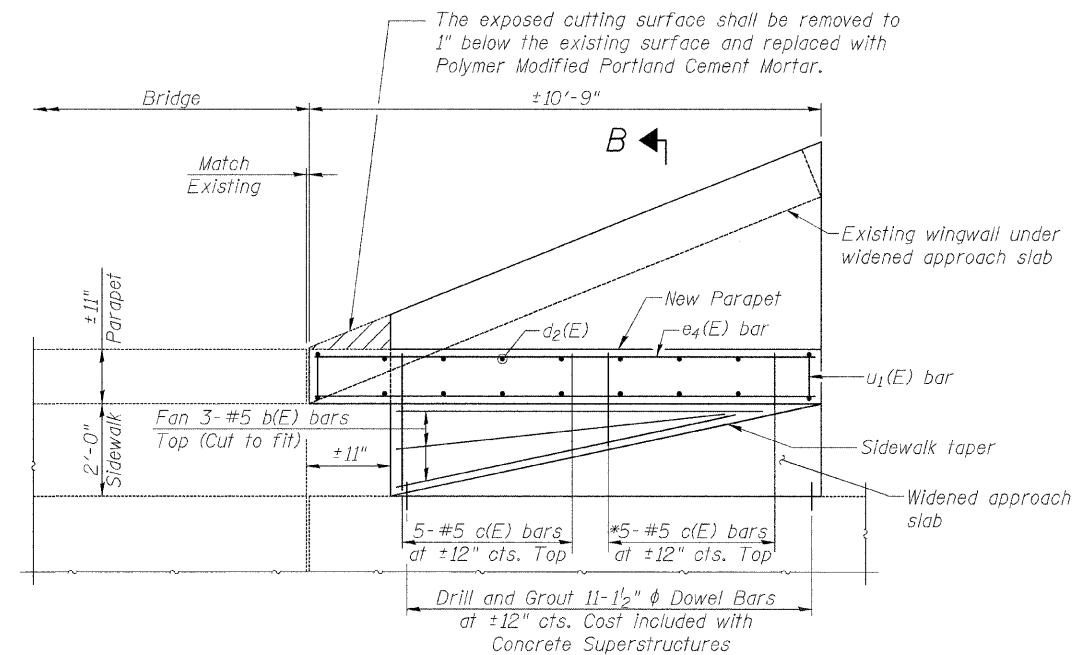
* See Field Cutting Diagram 2
 ** Drill and grout d2(E) bars into the portion of the existing sidewalk to remain in place.



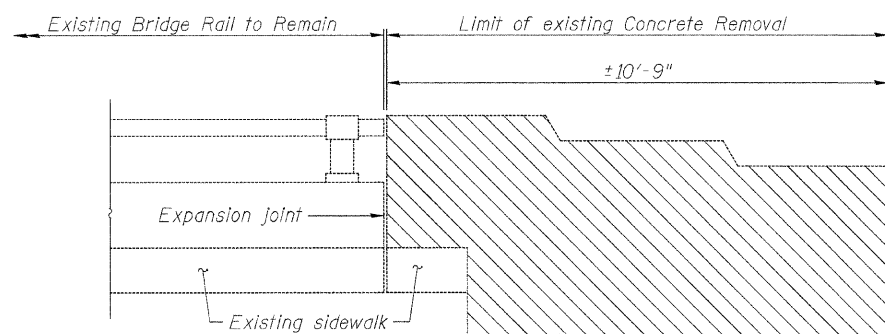
CONCRETE REMOVAL PLAN



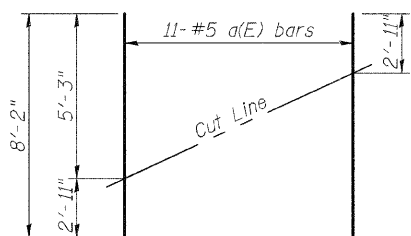
WIDENED APPROACH SLAB DETAIL



NEW END PARAPET PLAN

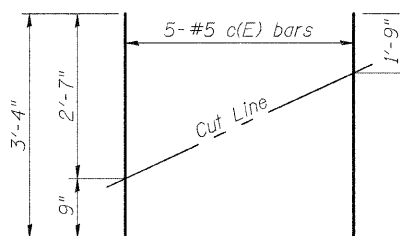


REMOVAL ELEVATION



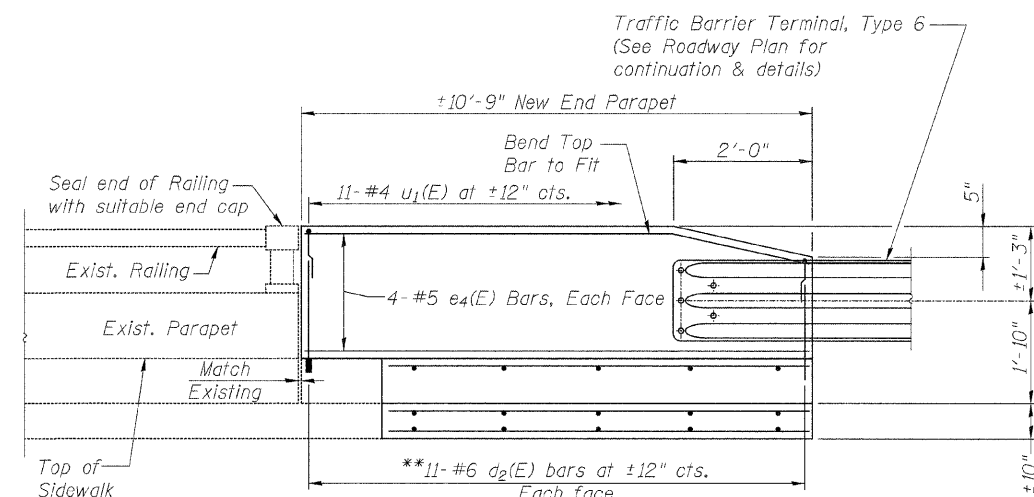
FIELD CUTTING DIAGRAM 1

Order a(E) full length. Cut as shown and use remainder of bars in bottom.

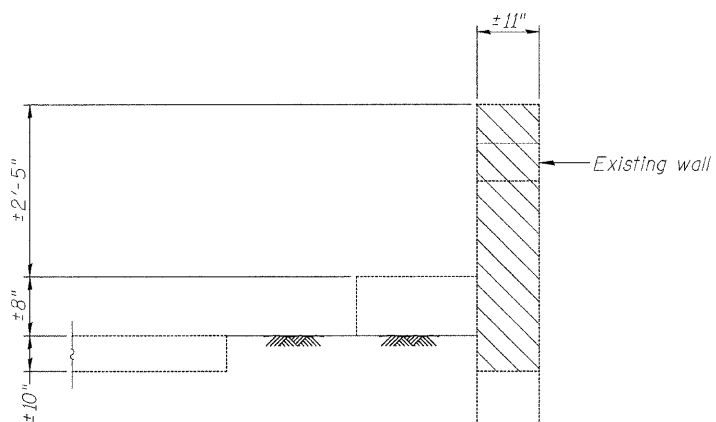


FIELD CUTTING DIAGRAM 2

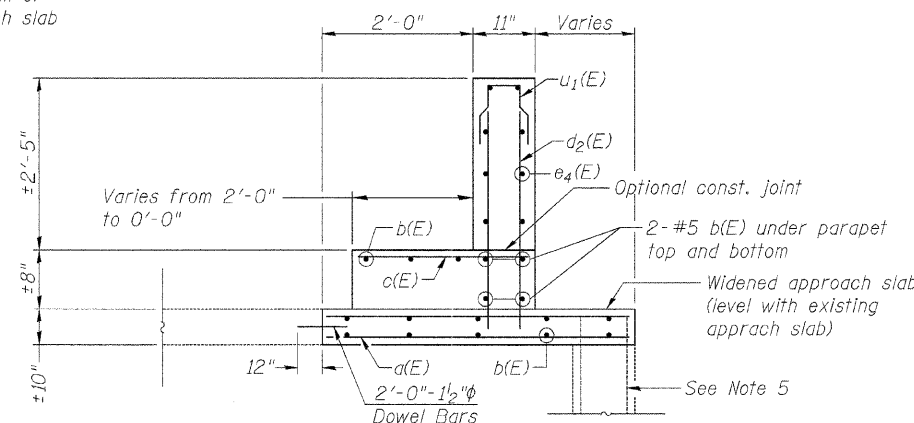
Order c(E) full length. Cut as shown and use remainder of bars in other end.



NEW END PARAPET ELEVATION



SECTION A-A



SECTION B-B

NOTES

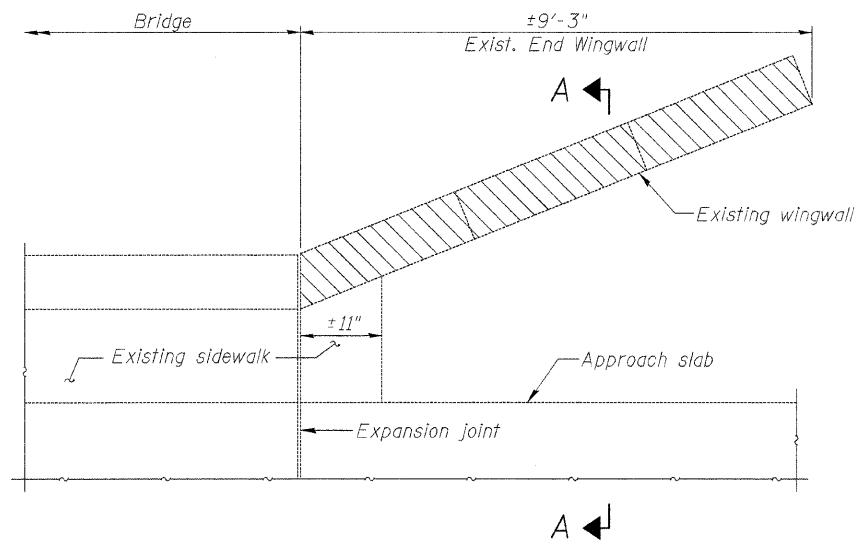
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4. Drilling and grouting bars shall be in accordance with Section 584 of the Standard Specifications.
5. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

BILL OF MATERIAL

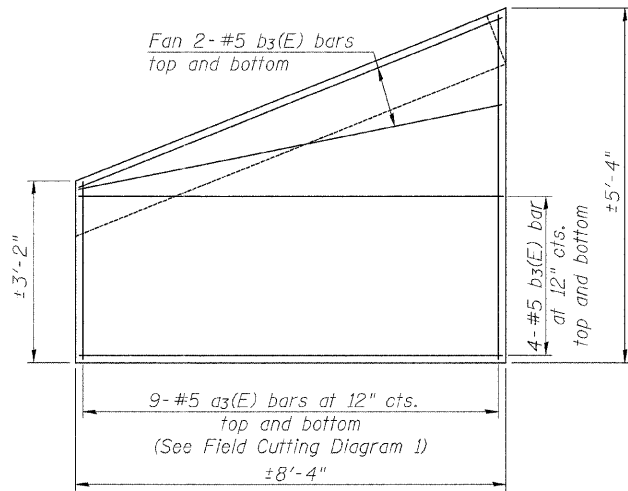
Bar	No.	Size	Length	Shape
a(E)	55	#5	8'-2"	—
b(E)	95	#5	9'-7"	—
c(E)	25	#5	3'-4"	—
d2(E)	110	#6	3'-0"	—
e4(E)	40	#5	10'-6"	—
u1(E)	55	#4	3'-2"	⊔
Concrete Removal			Cu. Yd.	5.8
Concrete Superstructure			Cu. Yd.	13.2
Reinforcement Bars, Epoxy Coated			Pound	2560
Polymer Modified Portland Cement Mortar			Sq. Ft.	3
Protective Coat			Sq. Yd.	56.7

The quantities above include 5 new end parapets.
 S.N. 016-2455 Northeast Parapet
 S.N. 016-0485 Southeast and Southwest Parapets
 S.N. 016-0487 Southeast and Southwest Parapets

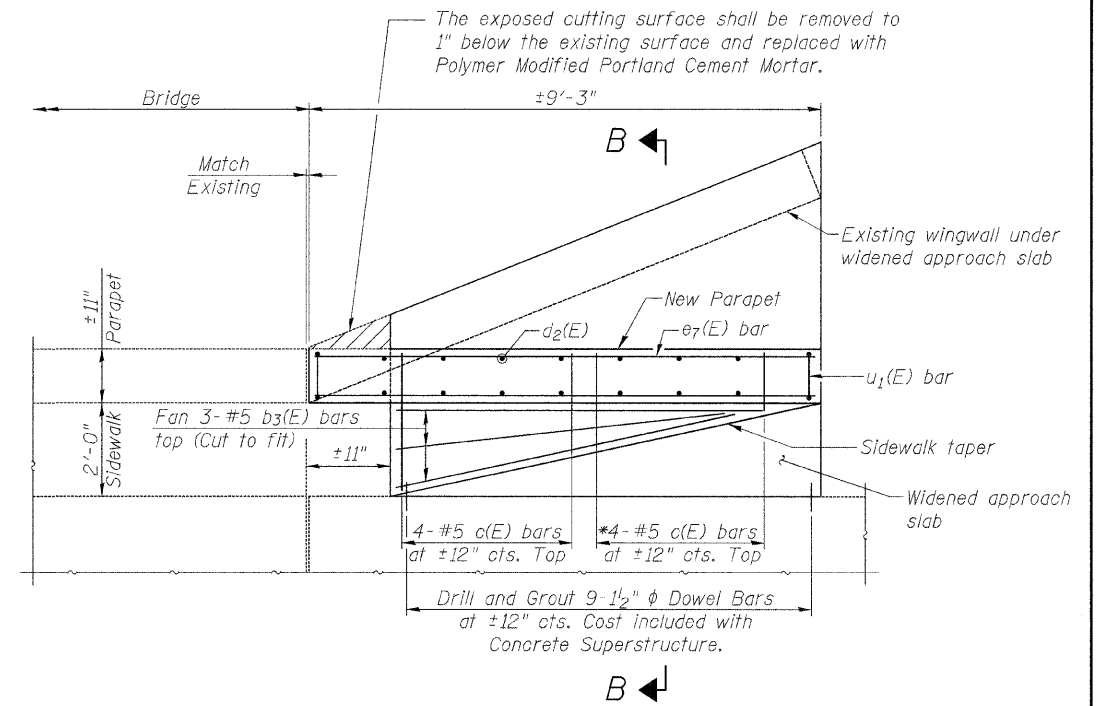
* See Field Cutting Diagram 2
 ** Drill and grout d2(E) bars into the portion of the existing sidewalk to remain in place.



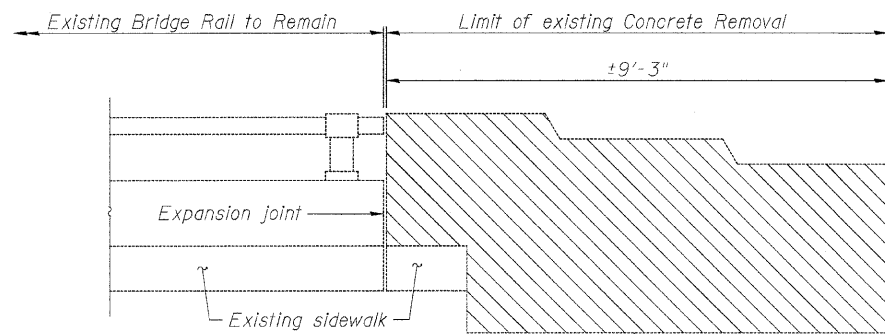
CONCRETE REMOVAL PLAN



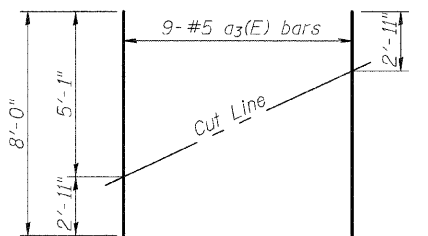
WIDENED APPROACH SLAB DETAIL



NEW END PARAPET PLAN

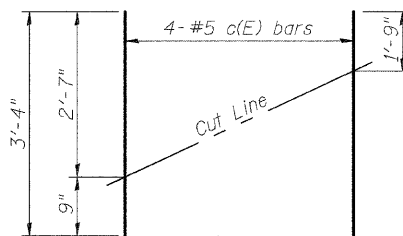


REMOVAL ELEVATION



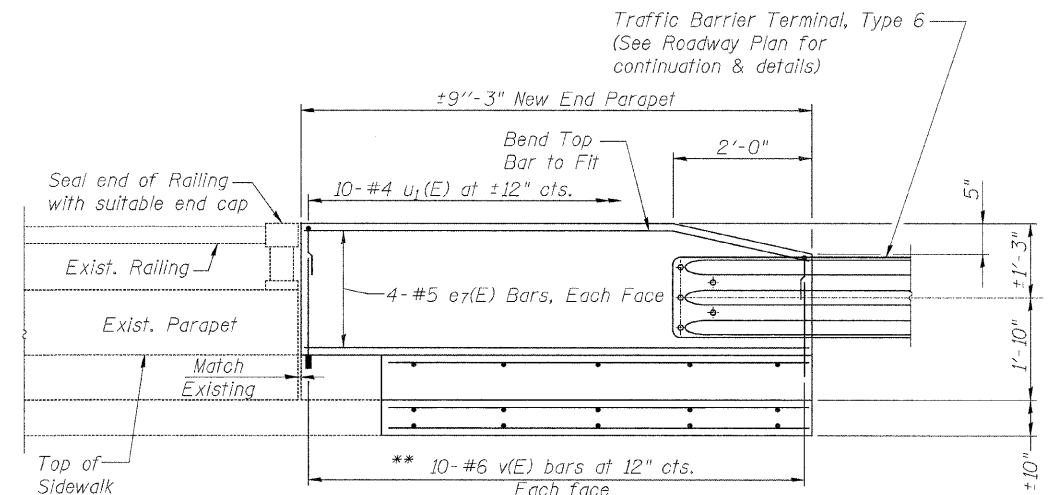
FIELD CUTTING DIAGRAM 1

Order a3(E) full length. Cut as shown and use remainder of bars in bottom.

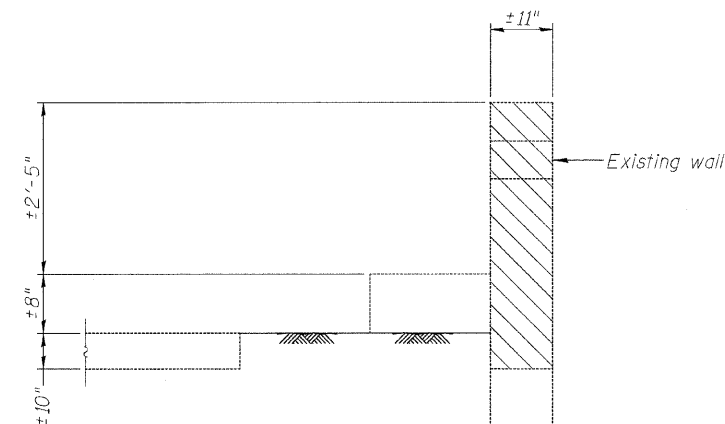


FIELD CUTTING DIAGRAM 2

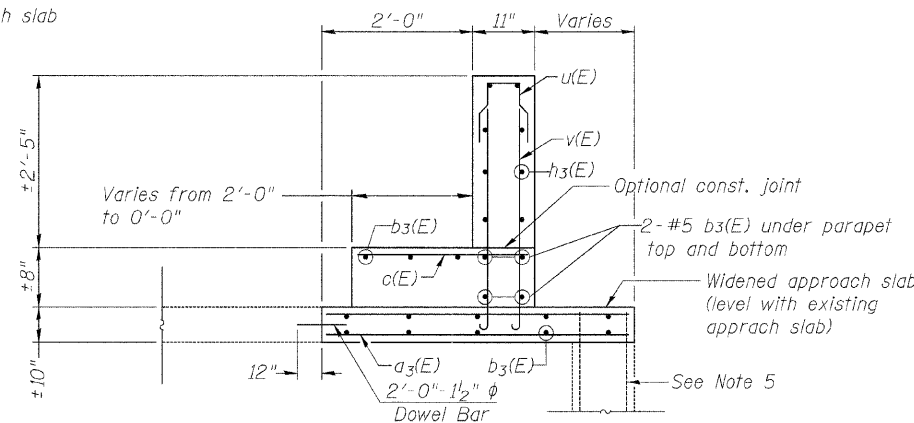
Order c(E) full length. Cut as shown and use remainder of bars in other end.



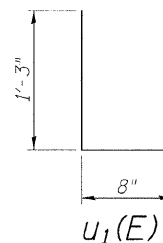
NEW END PARAPET ELEVATION



SECTION A-A



SECTION B-B



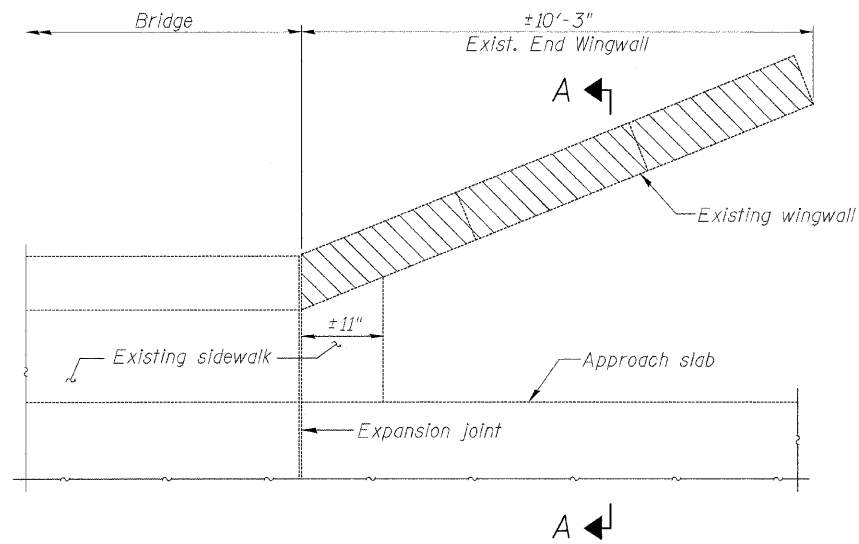
NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60. See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Plan dimensions and details are developed from survey data. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
4. Drilling and grouting bars shall be in accordance with Section 584 of the Standard Specifications.
5. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

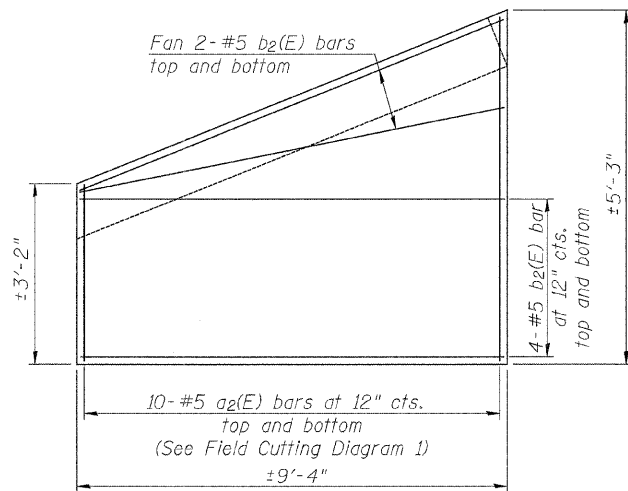
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a3(E)	54	#5	8'-3"	—
b3(E)	114	#5	8'-1"	—
c(E)	24	#5	3'-4"	—
d2(E)	120	#6	3'-0"	—
e7(E)	48	#5	9'-0"	—
u1(E)	60	#4	3'-2"	U
Concrete Removal			Cu. Yd.	6.0
Concrete Superstructure			Cu. Yd.	13.5
Reinforcement Bars, Epoxy Coated			Pound	2630
Polymer Modified Portland Cement Mortar			Sq. Ft.	3
Protective Coat			Sq. Yd.	57.8

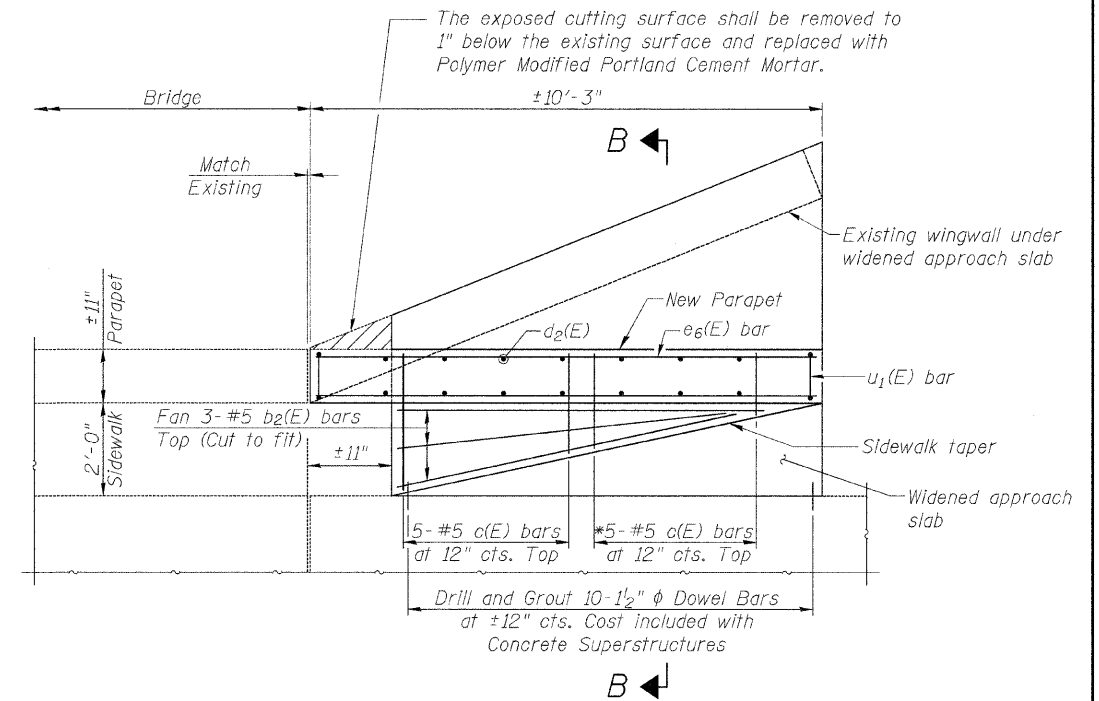
The quantities above include 6 new end parapets. SN 016-0486 Northeast and Northwest Parapets SN 016-0488 Northeast and Northwest Parapets SN 016-0489 Southeast and Southwest Parapets



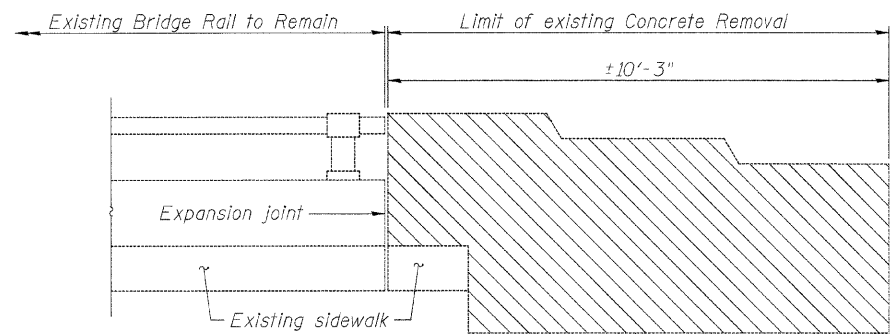
CONCRETE REMOVAL PLAN



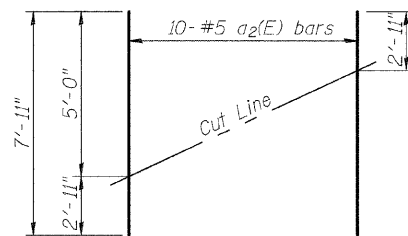
WIDENED APPROACH SLAB DETAIL



NEW END PARAPET PLAN

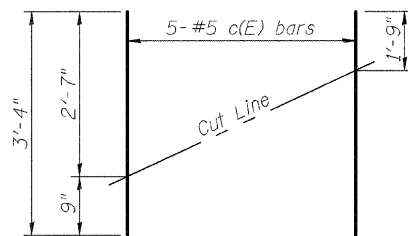


REMOVAL ELEVATION



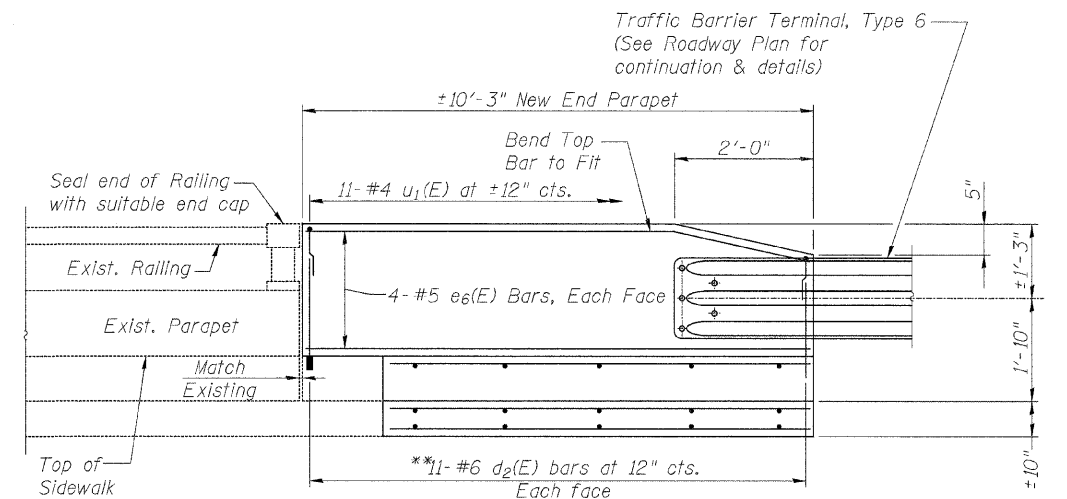
FIELD CUTTING DIAGRAM 1

Order a2(E) full length. Cut as shown and use remainder of bars in bottom.

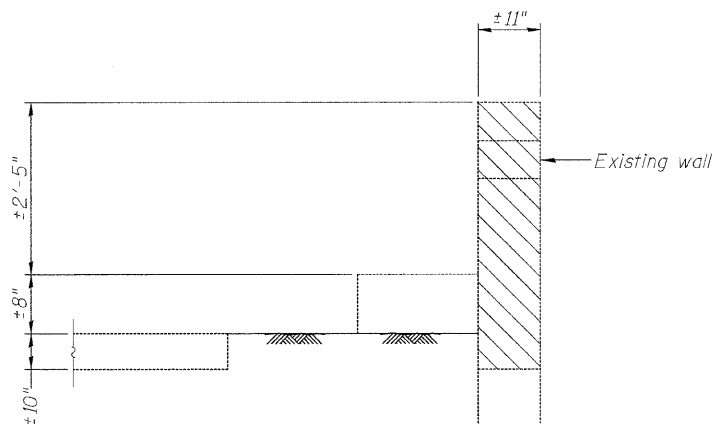


FIELD CUTTING DIAGRAM 2

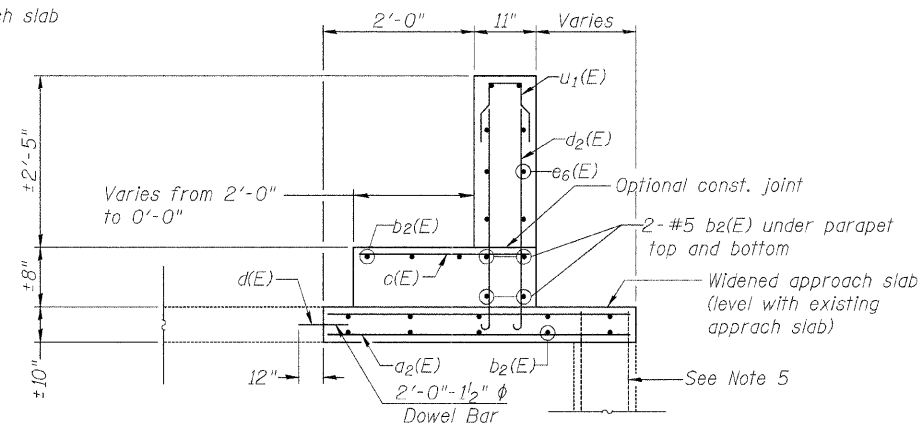
Order c(E) full length. Cut as shown and use remainder of bars in other end.



NEW END PARAPET ELEVATION



SECTION A-A



SECTION B-B

NOTES

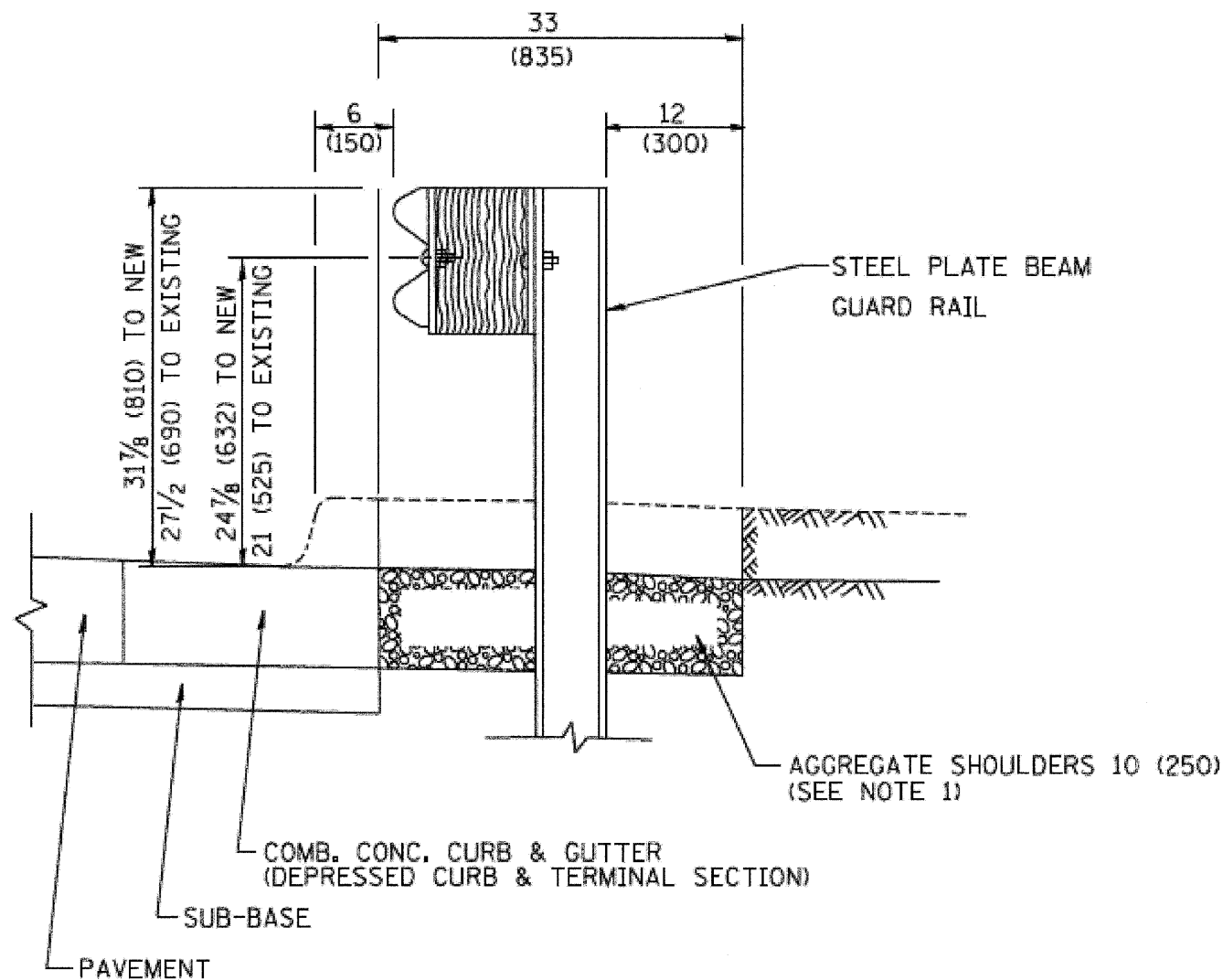
1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60. See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Plan dimensions and details are developed from survey data. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
4. Drilling and grouting bars shall be in accordance with Section 584 of the Standard Specifications.
5. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	20	#5	7'-11"	—
b2(E)	19	#5	9'-1"	—
c(E)	10	#5	3'-4"	—
d2(E)	44	#6	3'-0"	—
e6(E)	16	#5	10'-0"	—
u1(E)	22	#4	3'-2"	⊏
Concrete Removal			Cu. Yd.	2.3
Concrete Superstructure			Cu. Yd.	5.0
Reinforcement Bars, Epoxy Coated			Pound	800
Polymer Modified Portland Cement Mortar			Sq. Ft.	1
Protective Coat			Sq. Yd.	21.3

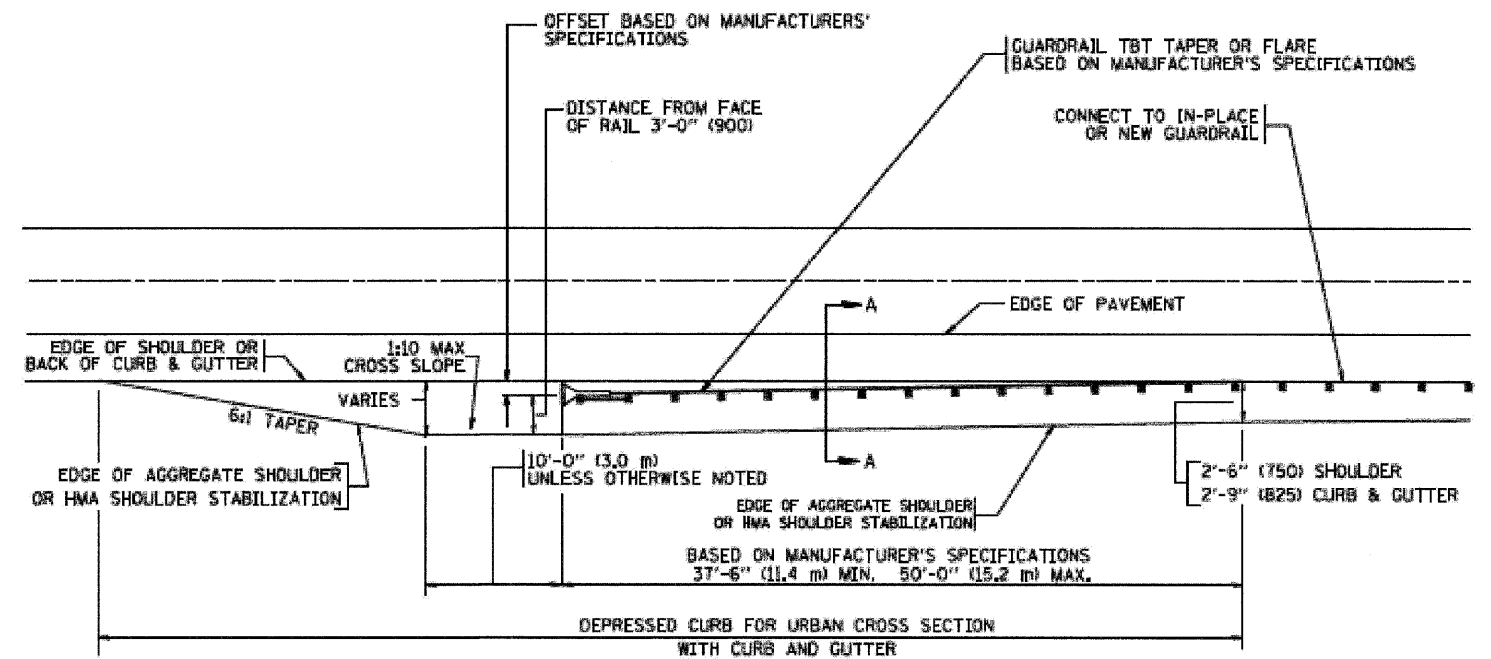
The quantities above include 2 new end parapets (Northeast and Northwest Parapets).

* See Field Cutting Diagram 2
 ** Drill and grout d2(E) bars into the portion of the existing sidewalk to remain in place.



SECTION A-A

- NOTES:
1. THE AGGREGATE SHOULDER, 10" OR HMA SHOULDER, 6" (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
 2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
 3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.



DEPRESSED CURB AND GUTTER AND SHOULDER TREATMENT AT TBT TY. 1 SPL.

BASIS OF PAYMENT: HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDERS 6" (150 mm)".

STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

DETAILS FOR STEEL PLATE BEAM

GUARD RAIL ADJACENT TO CURB AND GUTTER

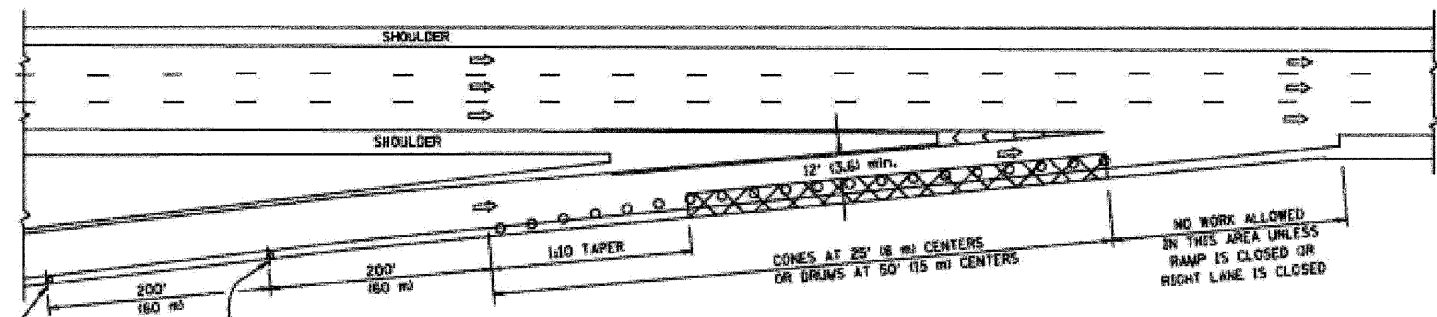
[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]

TBT = TRAFFIC BARRIER TERMINAL

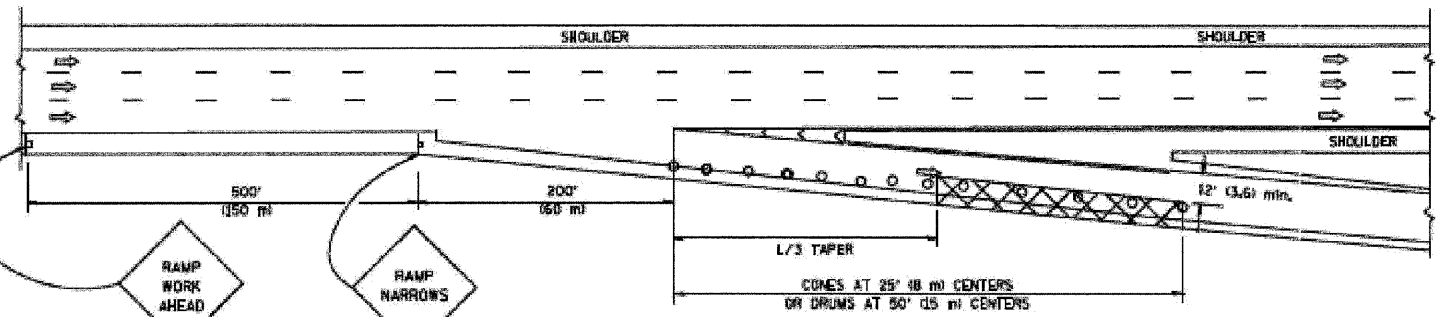
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

PARTIAL RAMP CLOSURE DETAILS

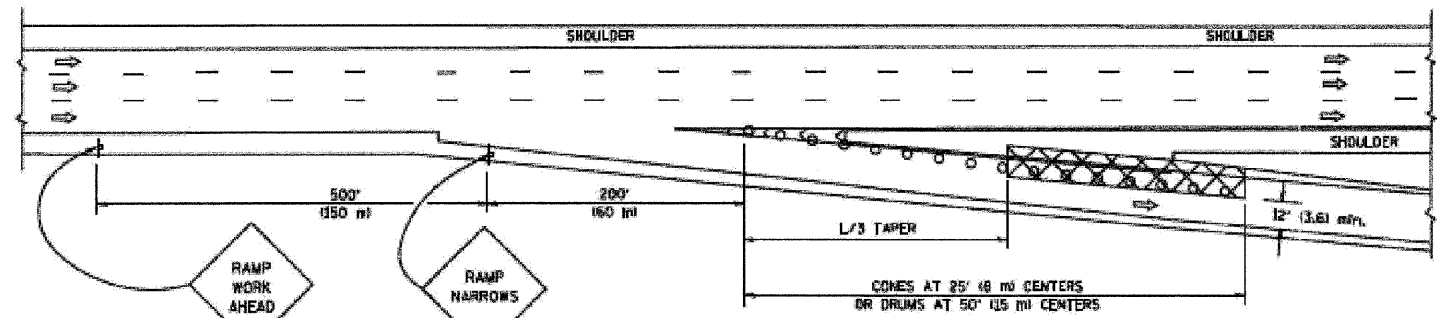
SHOULDER CLOSURE DETAILS



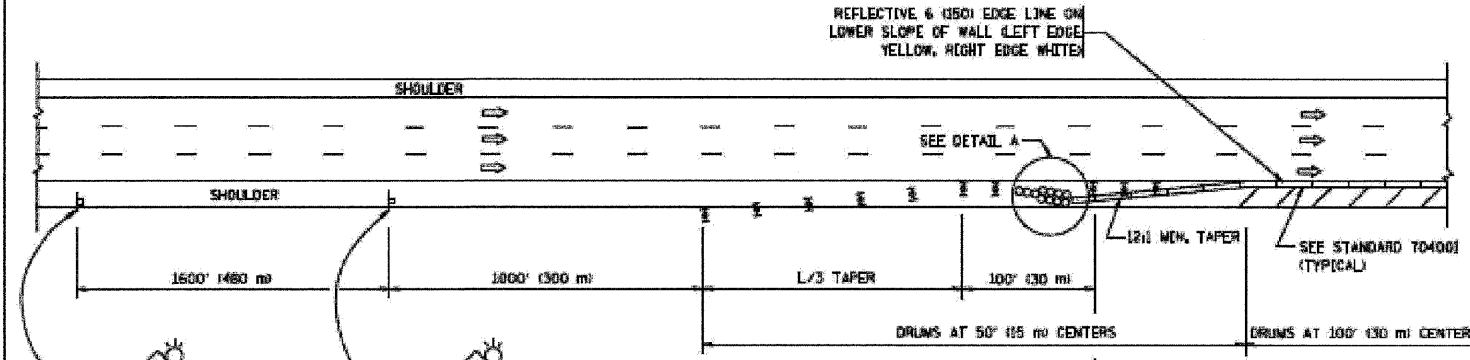
TYPICAL ENTRANCE RAMP



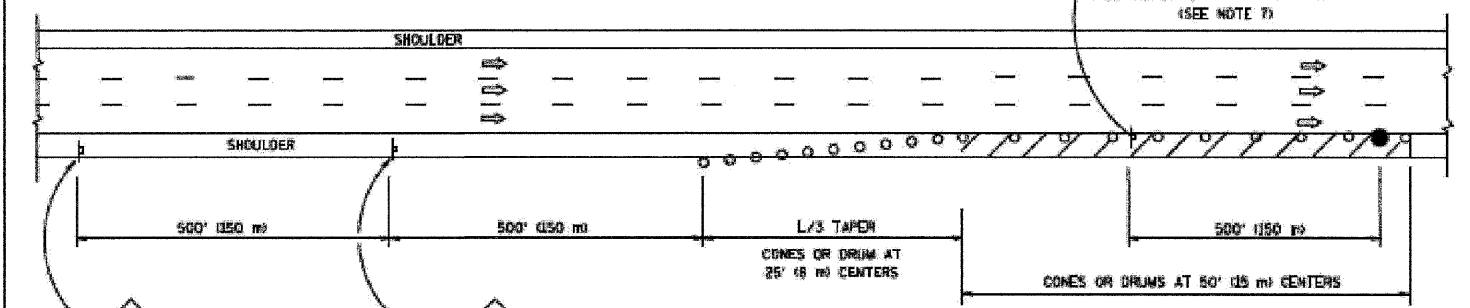
TYPICAL EXIT RAMP



TYPICAL EXIT RAMP



PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

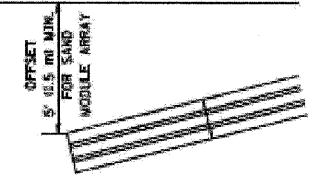
GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC: $L = 0.65(W)(S)$
	ENGLISH: $L = (WS)$
	W = WIDTH OF OFFSET IN FEET (METERS)
	S = NORMAL POSTED SPEED MPH (KM/H)
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.

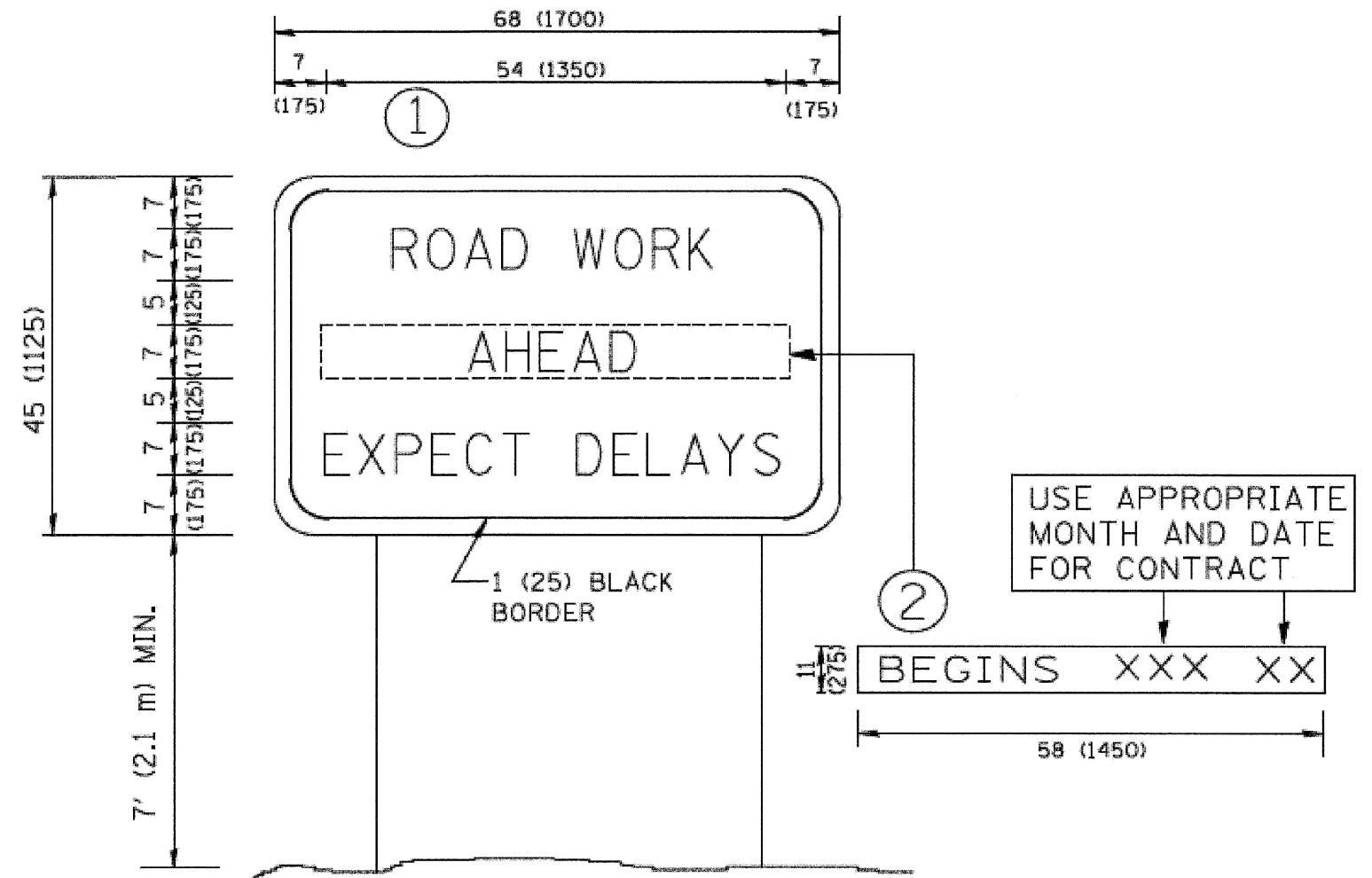
5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP 350.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY 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 ENCRDACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.

ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350 COMPLIANT.



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

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN



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 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

USER NAME = #USER#	DESIGNED - GRE	REVISED -
	DRAWN - GRE	REVISED -
PLOT SCALE = #SCALE#	CHECKED - ST	REVISED -
PLOT DATE = #DATE#	DATE - 12/20/11	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	2011-093-GRR	COOK	26	26
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 60R21	