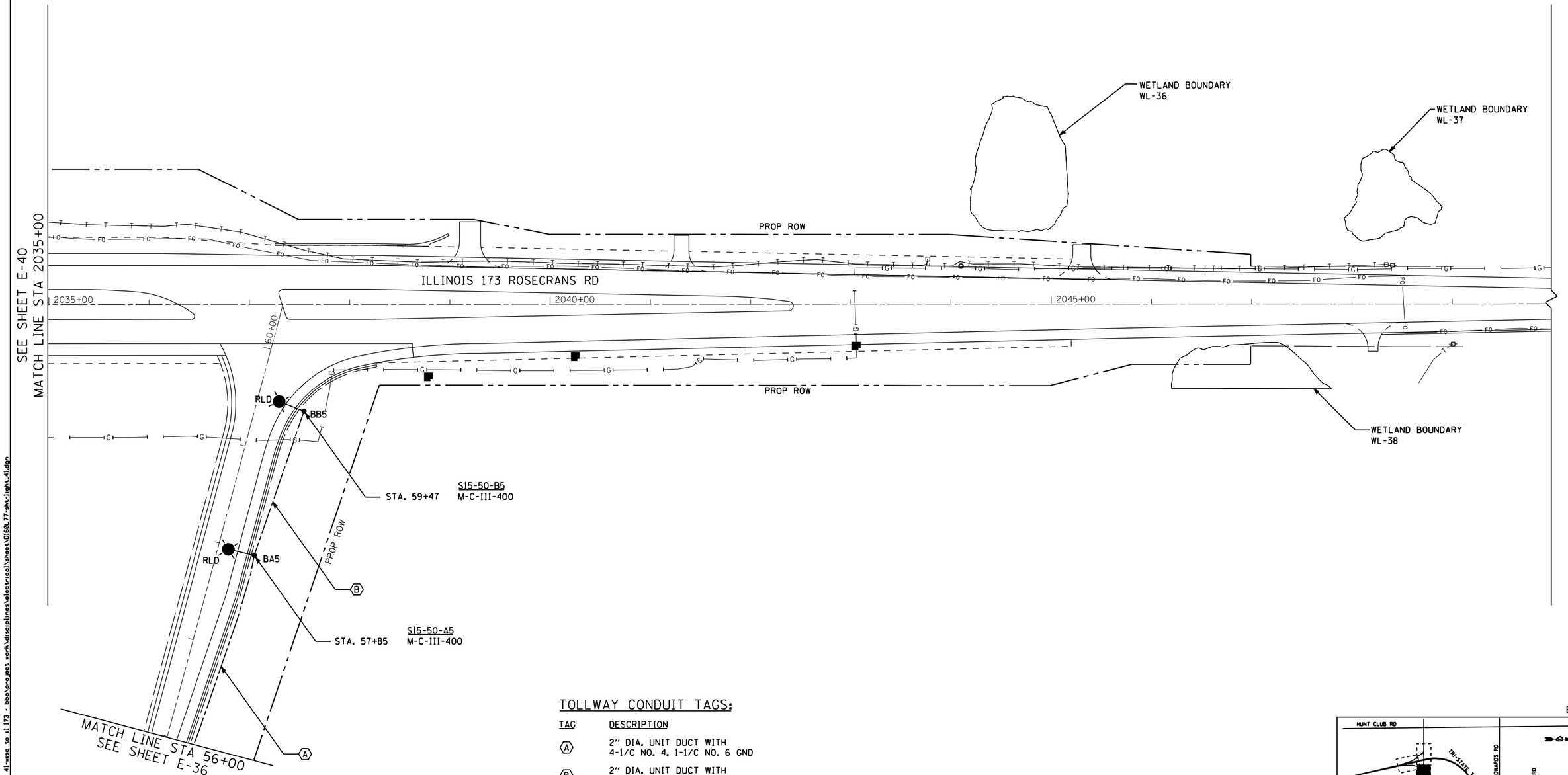
NOTES:
1. ALL OFFSETS AND LIGHT STANDARD FOUNDATIONS FOR GROUND MOUNTED POLES ARE PER TOLLWAY STANDARD DETAIL H1-01, UNLESS NOTED OTHERWISE.

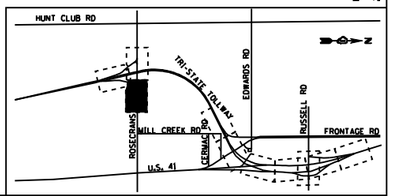


TOLLWAY CONDUIT TAGS:

TAG	DESCRIPTION
(A)	2" DIA. UNIT DUCT WITH 4-1/C NO. 4, 1-1/C NO. 6 GND
(B)	2" DIA. UNIT DUCT WITH 2-1/C NO. 4, 1-1/C NO. 6 GND
(C)	2" DIA. UNIT DUCT WITH 4-1/C NO. 2, 1-1/C NO. 4 GND

0' 50' 100'
SCALE: 1" = 50'

E-41



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411 South Wells Street Suite 1000
Chicago, Illinois 60607

FILE NAME	USER NAME = rswanson	DESIGNED - RAS	REVISED -
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	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED TOLLWAY LIGHTING PLAN
ILLINOIS 173 ROSECRANS RD

SCALE: 1"=50' | SHEET NO. 41 OF 53 SHEETS | STA. 2035+00 TO STA. 2050+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	401
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		

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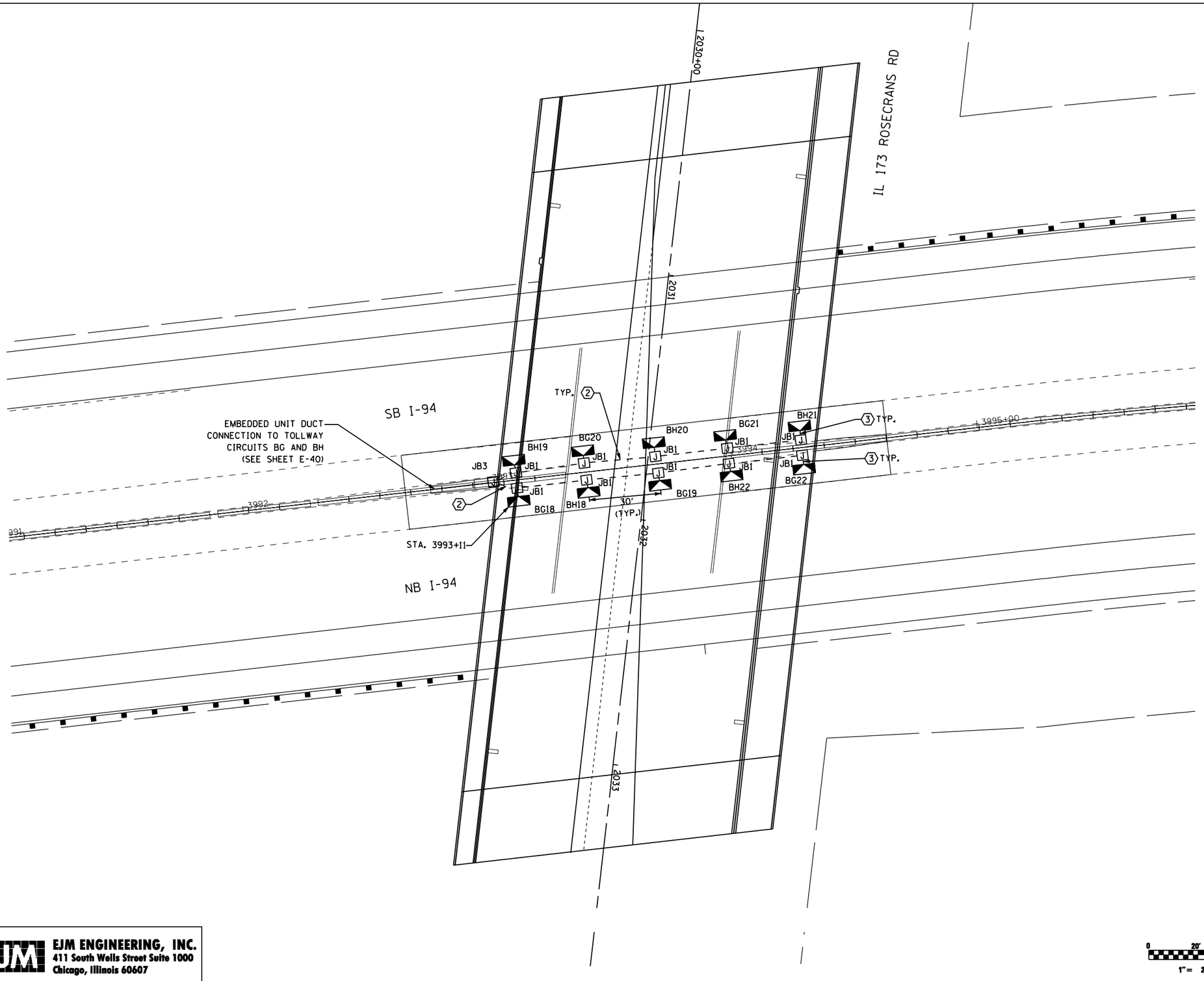


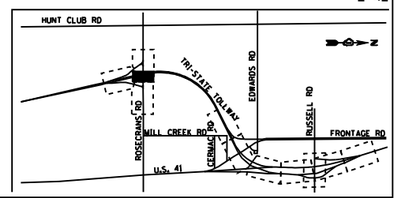
NOTES;

1. SEE DRAWING E-30 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. ALL PROPOSED UNDERPASS LIGHTING UNITS SHOWN ON THIS DRAWING WILL BE FED FROM TOLLWAY LIGHTING CONTROLLER "B." SEE DRAWING E-44 FOR SINGLE LINE DIAGRAM OF LIGHTING CONTROLLER "B."
3. THE COST OF ALL LIQUID TIGHT FLEXIBLE CONDUIT IS INCLUDED IN THE PRICE OF THE UNDERPASS LUMINAIRE IT CONNECTS TO.
4. EXISTING UNDERPASS LUMINAIRES SHALL BE SALVAGED TO THE TOLLWAY.

JUNCTION BOX SCHEDULE		
NO.	SIZE	DESCRIPTION
JB1	6"X6"X4"	STAINLESS STEEL, ATTACHED TO STRUCTURE, UNDERPASS LIGHTING
JB2	12"X10"X6"	STAINLESS STEEL, ATTACHED TO STRUCTURE, UNDERPASS LIGHTING
JB3	16"X14"X6"	STAINLESS STEEL, ATTACHED TO STRUCTURE, UNDERPASS LIGHTING

CABLE/CONDUIT SCHEDULE	
1	2-1/C#10, 1-1/C#10 GND IN 1" DIA PVCC RGC ATTACHED TO STRUCTURE (CKTS AS INDICATED ON THIS DRAWING)
2	4-1/C#10, 1-1/C#10 GND IN 1" DIA PVCC RGC ATTACHED TO STRUCTURE (CKTS AS INDICATED ON THIS DRAWING)
3	2-1/C#10, 1-1/C#10 GND IN 3/4" DIA LIQUID TIGHT FLEXIBLE CONDUIT (CKTS AS INDICATED ON THIS DRAWING)

E-42



0 20' 40'
1" = 20'

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-94 AT ROSECRANS ROAD
TOLLWAY UNDERPASS LIGHTING PLAN

SCALE: 1"=20' | SHEET NO. 42 OF 53 SHEETS | STA. 3991+04 TO STA. 3995+89

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	402
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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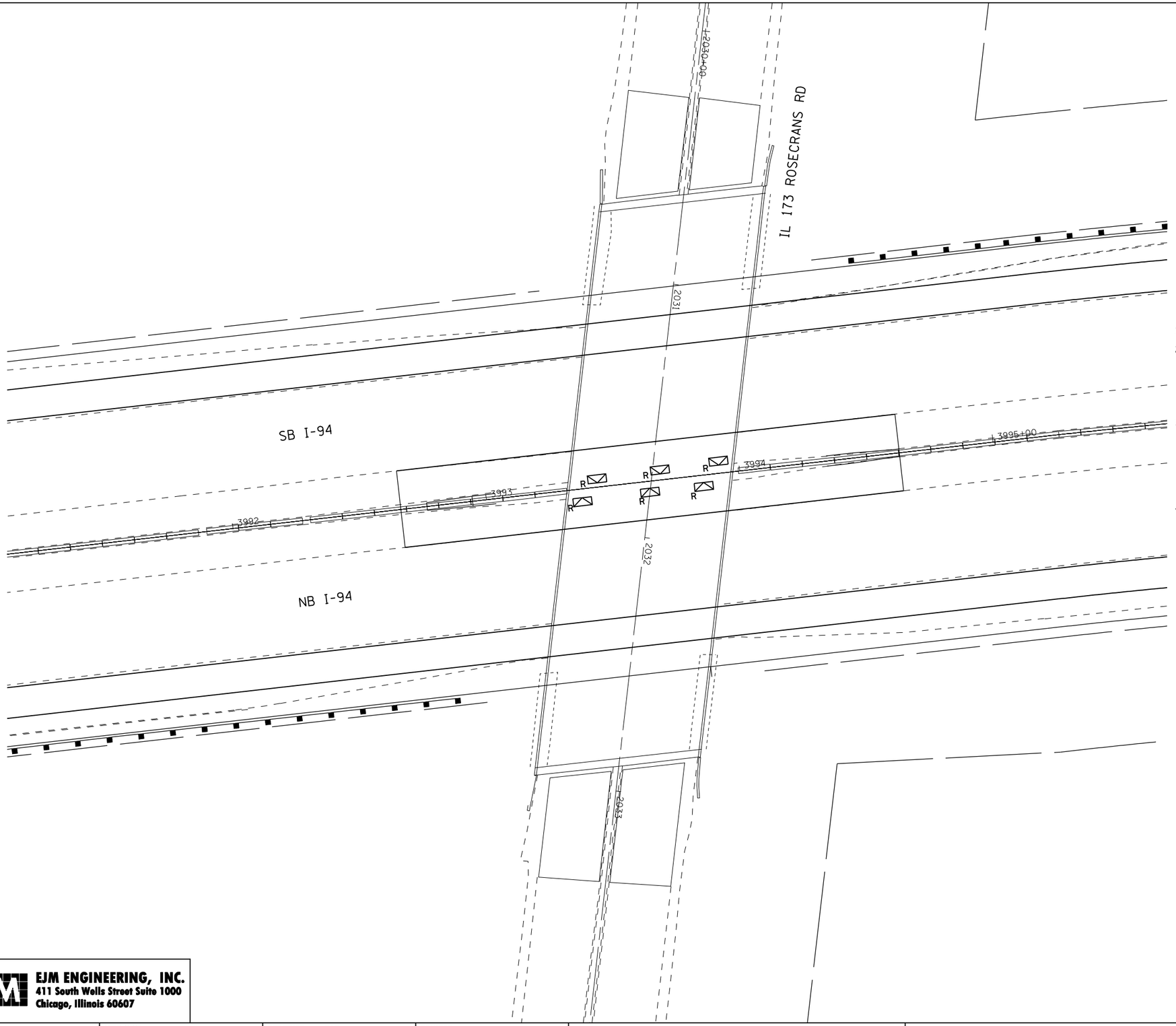
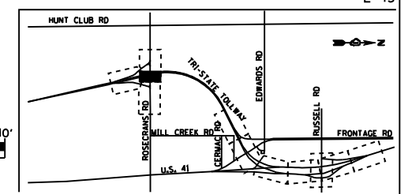


NOTES:

1. SEE DRAWING E-30 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. THE REMOVAL OF EXISTING UNDERPASS LUMINAIRES MUST INCLUDE THE REMOVAL OF ALL CABLES, CONDUIT, AND HARDWARE ASSOCIATED WITH THE EXISTING UNDERPASS LIGHTING. THE COST OF THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED AS PART OF THE "REMOVAL OF UNDERPASS LUMINAIRE" PAY ITEM.
3. THE CONTRACTOR SHALL COORDINATE REMOVAL OF THE EXISTING UNDERPASS LUMINAIRES WITH THE STAGED BRIDGE CONSTRUCTION. EXISTING UNDERPASS LUMINAIRES SHALL REMAIN IN OPERATION UNTIL THEY MUST BE REMOVED FOR BRIDGE CONSTRUCTION. THE COST OF ANY TEMPORARY CABLING REQUIRED TO COMPLY WITH THIS REQUIREMENT IS INCLUDED IN THE COST OF THE ITEM "MAINTAIN LIGHTING SYSTEM."
4. PROPOSED UNDERPASS LUMINAIRES LOCATED ON AREAS OF THE BRIDGE CONSTRUCTED IN STAGE I SHALL BE ACTIVATED DURING STAGE II. THE COST OF ANY TEMPORARY CABLING REQUIRED TO COMPLY WITH THIS REQUIREMENT IS INCLUDED IN THE COST OF THE ITEM "MAINTAIN LIGHTING SYSTEM."

E-43



0' 20' 40'
SCALE: 1" = 20'

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Chicago, Illinois 60607

FILE NAME	USER NAME = rswanson	DESIGNED - RAS	REVISED -
		DRAWN - BHH	REVISED -
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	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-94 AT ROSECRANS ROAD
TOLLWAY UNDERPASS LIGHTING REMOVAL PLAN

SCALE: 1"=20' | SHEET NO. 43 OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	403
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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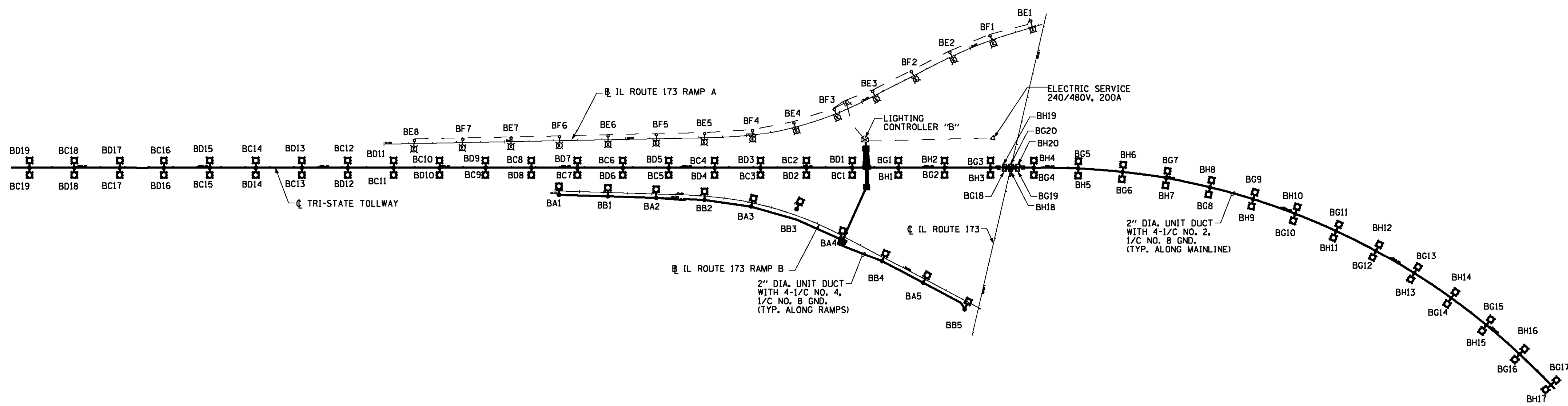

LOAD TABULATION FOR LIGHTING CONTROLLER "B"
SYSTEM VOLTAGE 240/480V, SINGLE PHASE, 3-WIRE

CKTS *	DESCRIPTION	PHASE A (RED) AMPS	PHASE B (BLACK) AMPS
A	5-400W HPS LUM.	5	5
B	5-400W HPS LUM.	5	5
C	19-400W HPS LUM.	19	19
D	19-400W HPS LUM.	19	19
E	8-400W HPS LUM.	8	8
F	7-400W HPS LUM.	7 25	7
G	17-400W HPS LUM., 3-150W HPS LUM.	18.2	18.2
H	17-400W HPS LUM., 3-150W HPS LUM.	18.2	18.2
	TOTAL	99.4	99.4

NOTE:
LUMINAIRES ARE WIRED FOR 480V OPERATION.

LEGEND:

LIGHT POLE, ALUMINUM, 50' MOUNTING HEIGHT, 15' MAST ARM, WITH 400W, MC-II DISTRIBUTION LUMINAIRE, UNLESS NOTED OTHERWISE.

LIGHT POLE, ALUMINUM, 50' MOUNTING HEIGHT, TWO - 6' MAST ARMS, WITH 400W, MC-III DISTRIBUTION LUMINAIRES

EXISTING LIGHT POLE, ALUMINUM, 50' MOUNTING HEIGHT, 15' MAST ARM, WITH 400W, MC-III DISTRIBUTION LUMINAIRE, UNLESS NOTED OTHERWISE.

UNDERPASS LUMINAIRE, 150W HIGH PRESSURE SODIUM

RDL-19 OF 32

DRAWN BY MLB DATE 10/6/2008
CHECKED BY MJL SCALE NONE

ENGINEERING CONSULTANT
Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE, ILLINOIS 60515

REVISIONS

NO.	DATE	DESCRIPTION
1	6/12/08	MAINLINE LIGHTING

CONTRACT NO. I-07-5237

LIGHTING CONTROLLER "B" SINGLE LINE DIAGRAM

DRAWING NO. 221 OF 402

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

E-44

FILE NAME	USER NAME = rswanson	DESIGNED - RAS	REVISED -
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	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

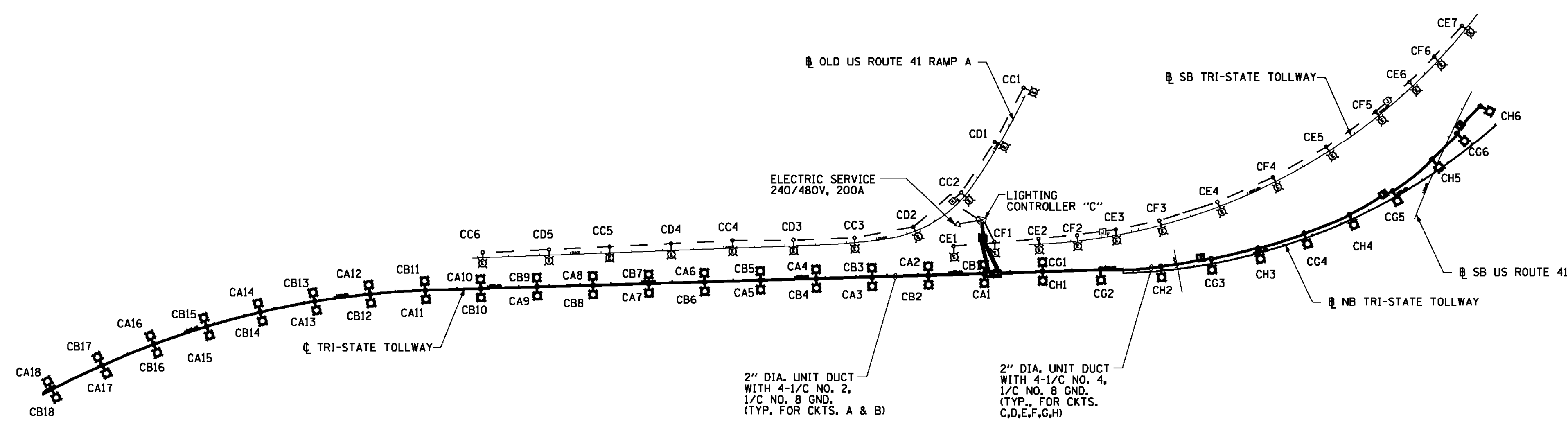
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY CONTROLLER "B"
SINGLE LINE DIAGRAM

SCALE: NONE | SHEET NO. 44 OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	404

CONTRACT NO. 60L77
ILLINOIS FED. AID PROJECT



LOAD TABULATION FOR LIGHTING CONTROLLER "C"
SYSTEM VOLTAGE 240/480V, SINGLE PHASE, 3-WIRE

CKTS #	DESCRIPTION	PHASE A (RED) AMPS	PHASE B (BLACK) AMPS
A	18-400W HPS LUM.	18	18
B	18-400W HPS LUM.	18	18
C	4-400W HPS LUM.	4	4
D	5-400W HPS LUM.	5	5
E	7-400W HPS LUM.	7	7
F	7-400W HPS LUM.	7	7
G	6-400W HPS LUM.	6	6
H	6-400W HPS LUM.	6	6
	TOTAL	71	71

NOTE:
LUMINAIRES ARE WIRED FOR 480V OPERATION.

NOTE:
1. POLES CE3 THROUGH CF5 HAVE 12' MAST ARM.

LEGEND:

LIGHT POLE, ALUMINUM, 50' MOUNTING HEIGHT, 15' MAST ARM, WITH 400W, MC-III DISTRIBUTION LUMINAIRE, UNLESS NOTED OTHERWISE.

LIGHT POLE, ALUMINUM, 50' MOUNTING HEIGHT, TWO - 6' MAST ARMS, WITH 400W, MC-III DISTRIBUTION LUMINAIRES

EXISTING LIGHT POLE, ALUMINUM, 50' MOUNTING HEIGHT, 15' MAST ARM, WITH 400W, MC-III DISTRIBUTION LUMINAIRE, UNLESS NOTED OTHERWISE.

RDL-20 OF 32

DRAWN BY MLB DATE 10/6/2008
CHECKED BY MJL SCALE NONE

ENGINEERING CONSULTANT
Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60656
Tel. 773.775.4009 Fax 773.775.4014 Email chicago@ciorba.com

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE, ILLINOIS 60515

REVISIONS

NO.	DATE	DESCRIPTION
1	6/12/08	MAINLINE LIGHTING

CONTRACT NO. I-07-5237
LIGHTING CONTROLLER "C" SINGLE LINE DIAGRAM
DRAWING NO. 222 OF 402

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

FOR REFERENCE ONLY

E-45

FILE NAME	USER NAME = rswanson	DESIGNED - RAS	REVISED -
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	PLOT SCALE = NONE '/ IN.	CHECKED - MKR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY CONTROLLER "C"
SINGLE LINE DIAGRAM

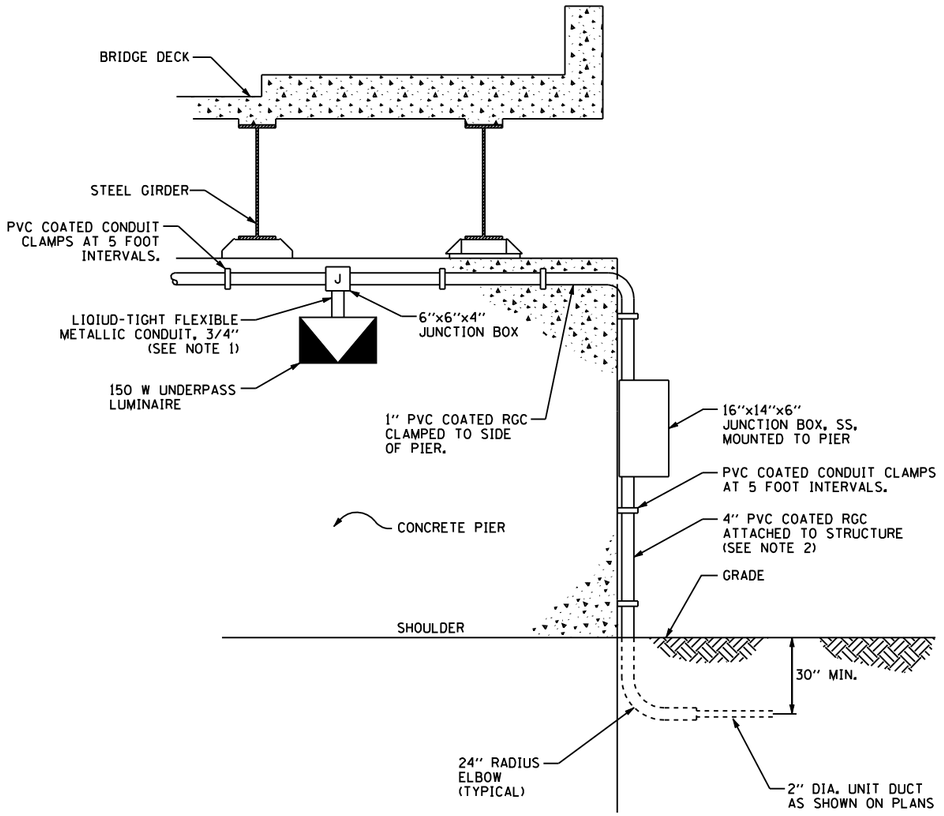
SCALE: NONE | SHEET NO. 45 OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-I-R-1	LAKE	677	405

CONTRACT NO. 60L77
ILLINOIS FED. AID PROJECT

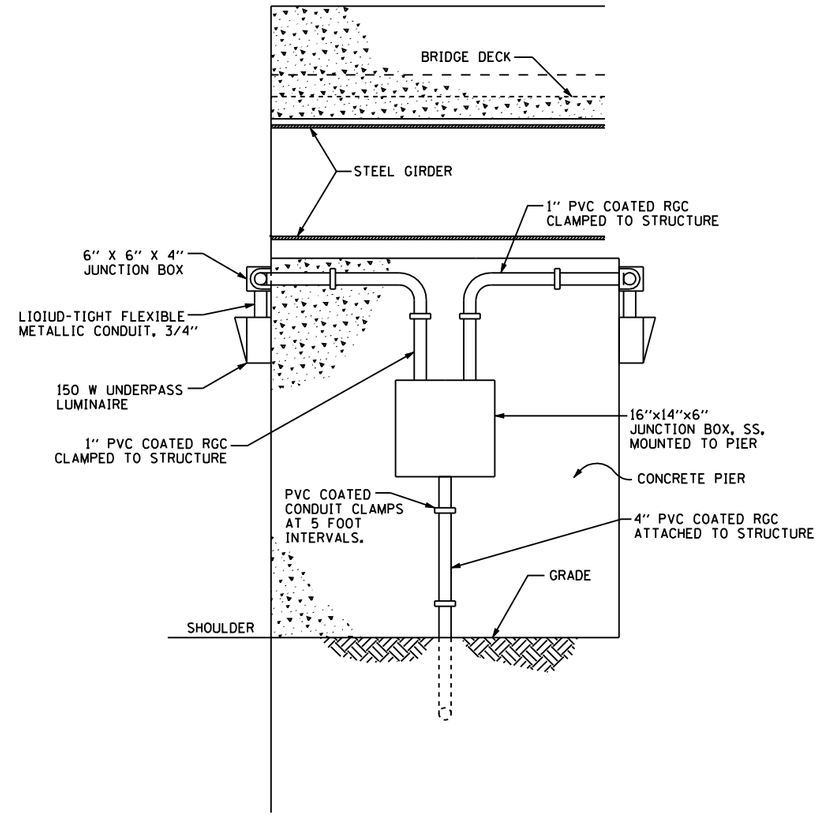
NOTES:

1. LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN, PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE UNDERPASS LUMINAIRE IT CONNECTS TO.
2. THE 4" PVC COATED RGC ATTACHED TO STRUCTURE AND ASSOCIATED UNDERGROUND ELBOW ARE INCLUDED IN THE COST OF THE 16" X 14" X 6" JUNCTION BOX ATTACHED TO STRUCTURE.



ELEVATION - LOOKING EAST (AT IL 173)

NOT TO SCALE



ELEVATION - LOOKING NORTH (AT IL 173)

NOT TO SCALE

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411 South Wells Street Suite 1000
Chicago, Illinois 60607

E-45A

FILE NAME	USER NAME = rseanson	DESIGNED - RAS	REVISED -
		DRAWN - BHH	REVISED -
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	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY UNDERPASS LIGHTING DETAILS

SCALE: NONE | SHEET NO. 45A OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	405A
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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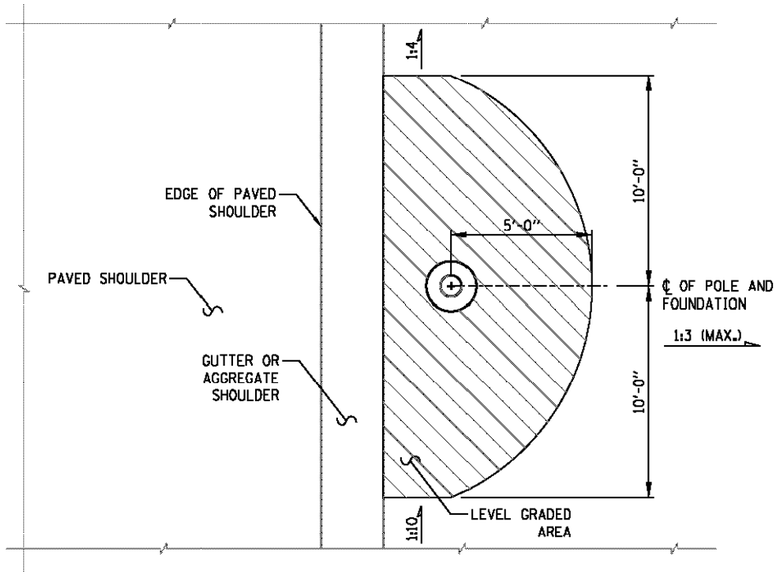
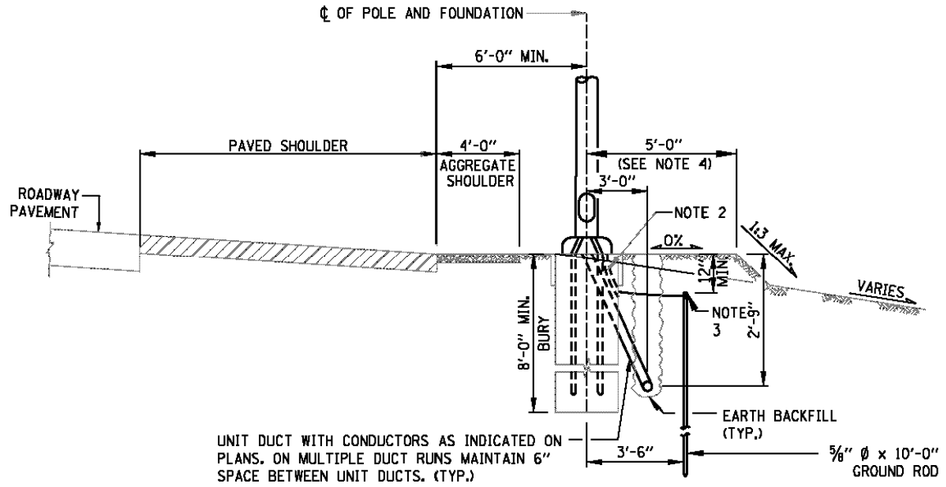


PLAN

CONCRETE FOUNDATION GRADING PLAN WITH FRONT SLOPES



CONCRETE FOUNDATION ADJACENT TO AGGREGATE SHOULDER WITH FORESLOPE

CONCRETE FOUNDATION ADJACENT TO GUTTER WITH FORESLOPE

NOTES:

1. AT LOCATIONS NOT SHIELDED BY GUARDRAIL, THE SLOPE ADJACENT TO EACH FOUNDATION SHALL BE GRADED LEVEL SO THAT THE LIGHT POLE FOUNDATION IS FLUSH WITH GRADE ON ANY FACE. THE TOP OF THE FOUNDATION SHALL BE AT THE SAME ELEVATION AS THE TOP OF GUTTER OR AGGREGATE SHOULDER.
2. ¾" PVC CONDUIT IN CONCRETE FOUNDATION FOR NO. 6 BARE COPPER GROUND WIRE.
3. CADWELD NO. 6 BARE COPPER GROUND CABLE TO GROUND ROD.
4. WHERE THE GRADING SLOPES DOWNWARD THE AREA BEHIND EACH LIGHT POLE FOUNDATION SHALL BE GRADED LEVEL FOR 5' BEFORE SLOPING DOWN.
5. THE LEVEL AREA SHALL EXTEND PARALLEL TO THE ROADWAY 10' ON EITHER SIDE OF THE LIGHT POLE FOUNDATION.
6. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
7. ALL GROUND MOUNTED LIGHT POLES SHALL BE PROVIDED WITH AN ACCEPTED FHWA BREAKAWAY BASE OR DEVICE.
8. THE MINIMUM LIGHT POLE SETBACK DISTANCE FROM EDGE OF ROADWAY TO ℄ OF POLE AND FOUNDATION SHALL BE 11'-0" WHEN THE PAVED SHOULDER WIDTH IS LESS THAN 10'-0".

Paul Kovacs
APPROVED..... CHIEF ENGINEER DATE 2-7-2012

SHEET 1 OF 6

Illinois Tollway
Open Roads for a Growing Future

DATE	REVISIONS
2-7-2012	MODIFIED FOUNDATION DETAILS. REVISED NOTES

LIGHT STANDARD FOUNDATION

STANDARD H1-01

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

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FILE NAME	USER NAME = rswenson	DESIGNED - RAS	REVISED -
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	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

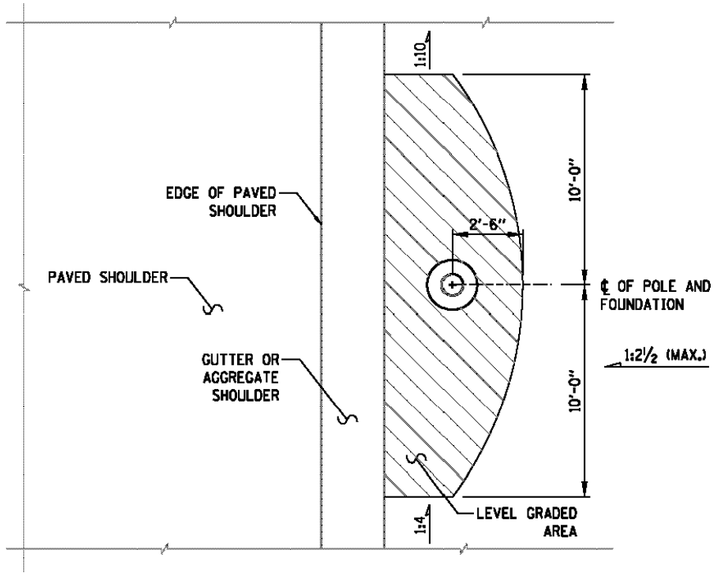
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWINGS

SCALE: NONE | SHEET NO. 46 OF 53 SHEETS | STA. | TO STA.

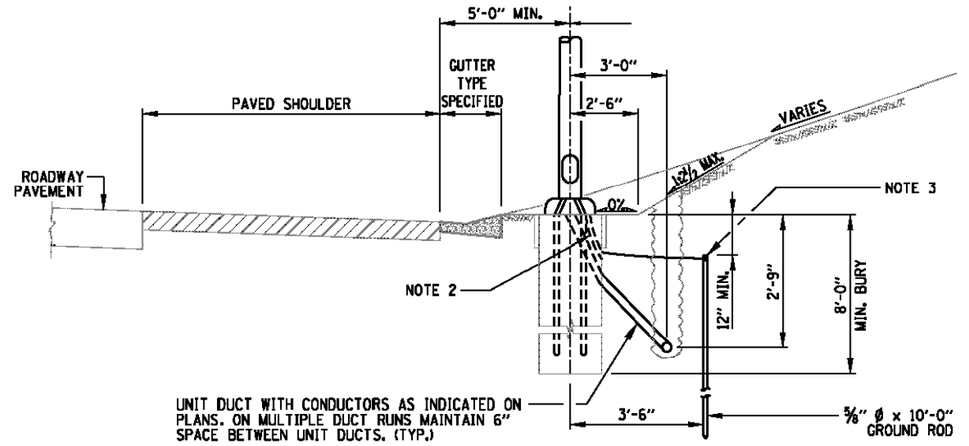
E-46

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	406
		CONTRACT NO. 60L77		
	ILLINOIS	FED. AID PROJECT		

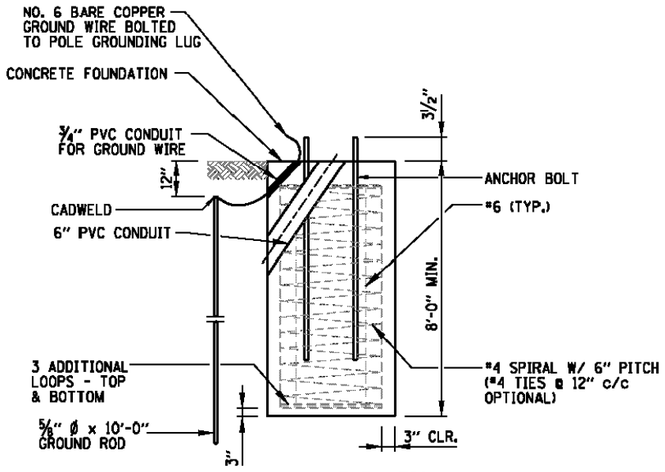


PLAN

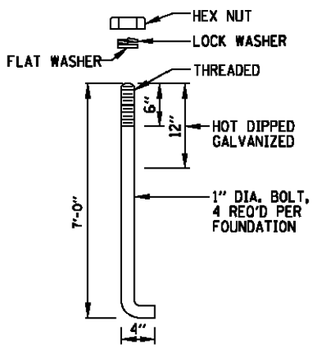
CONCRETE FOUNDATION GRADING PLAN WITH BACKSLOPE



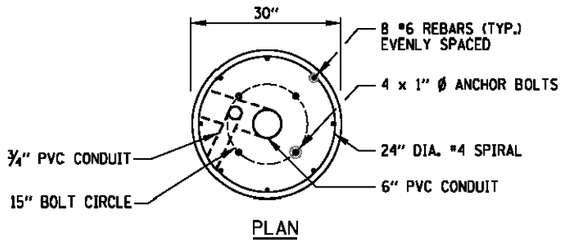
CONCRETE FOUNDATION ADJACENT TO GUTTER WITH BACKSLOPE



ELEVATION



ANCHOR BOLT DETAIL



PLAN

CONCRETE FOUNDATION DETAILS

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 2 OF 6

APPROVED Paul Kovacs CHIEF ENGINEER DATE 2-7-2012

Illinois Tollway
Open Roads for a Better Future

LIGHT STANDARD FOUNDATION

STANDARD H1-01

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

FILE NAME	USER NAME = rswanson	DESIGNED - RAS	REVISED -
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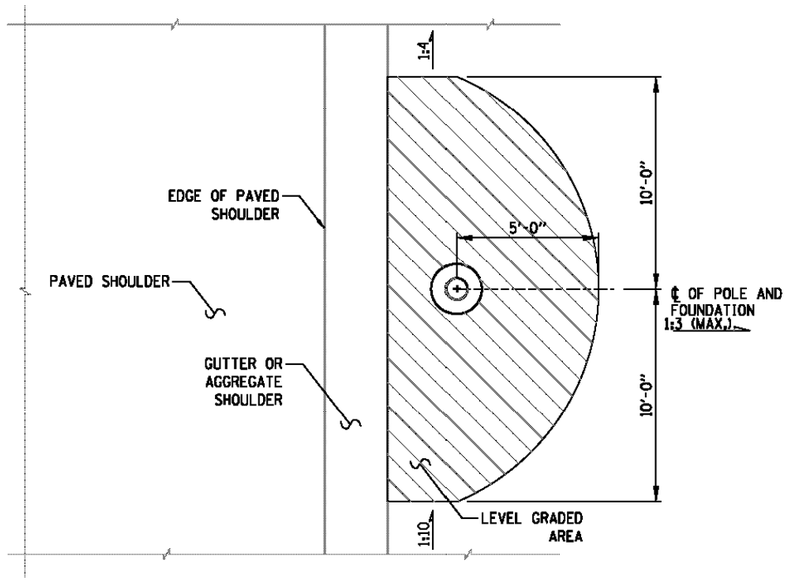
	PLOT SCALE = NONE ' / IN.	CHECKED - MKR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWINGS

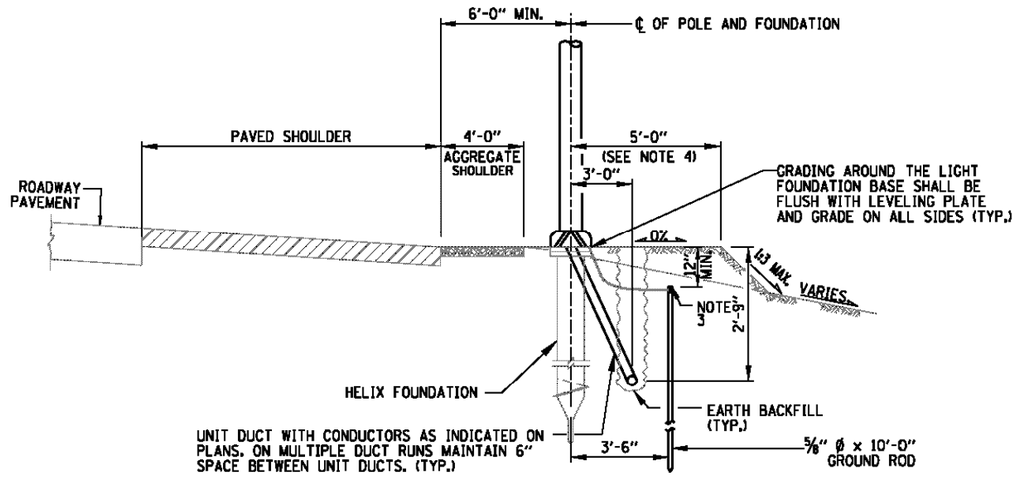
SCALE: NONE | SHEET NO. 47 OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	407
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

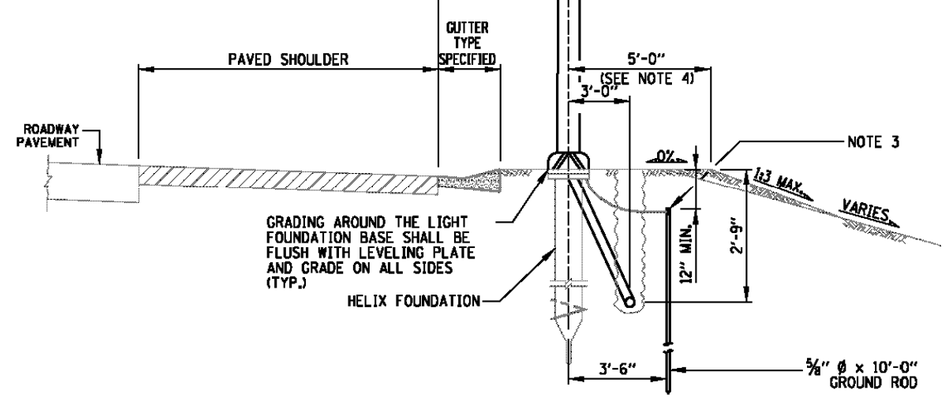


PLAN

HELIX FOUNDATION GRADING PLAN WITH FRONT SLOPES



HELIX FOUNDATION ADJACENT TO AGGREGATE SHOULDER WITH FORESLOPE



HELIX FOUNDATION ADJACENT TO GUTTER WITH FORESLOPE

Paul Kovacs
APPROVED ..... CHIEF ENGINEER ..... DATE 2-7-2012

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

Illinois Tollway
Open Roads for a Growing Future

LIGHT STANDARD FOUNDATION

STANDARD H1-01

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

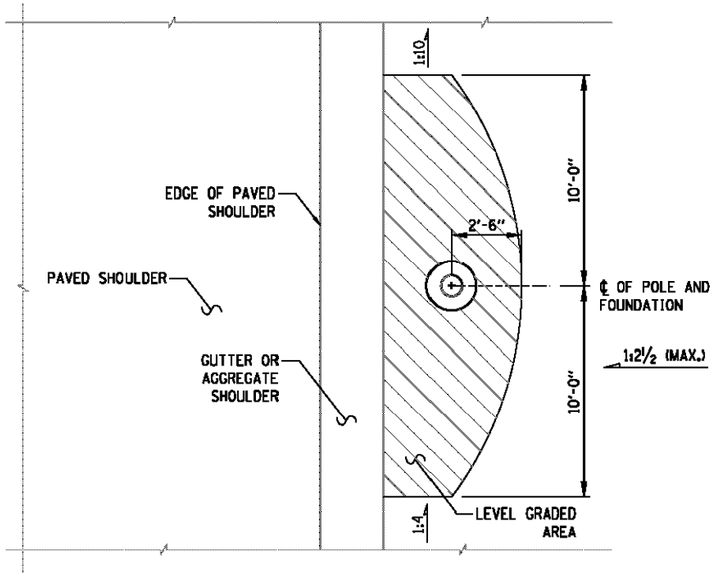
FILE NAME	USER NAME = rswenson	DESIGNED - RAS	REVISED -
		DRAWN - BHH	REVISED -
	PLOT SCALE = NONE ' / IN.	CHECKED - MKR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWINGS

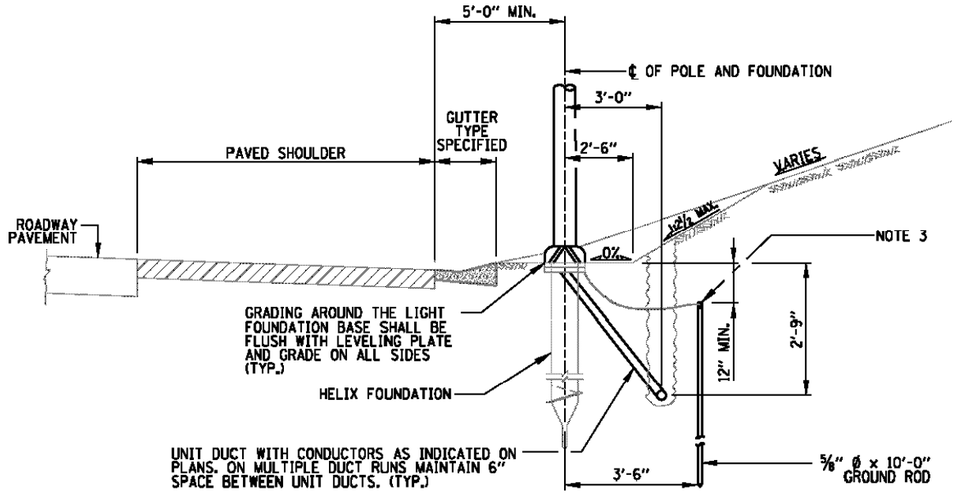
SCALE: NONE | SHEET NO. 48 OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	408
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

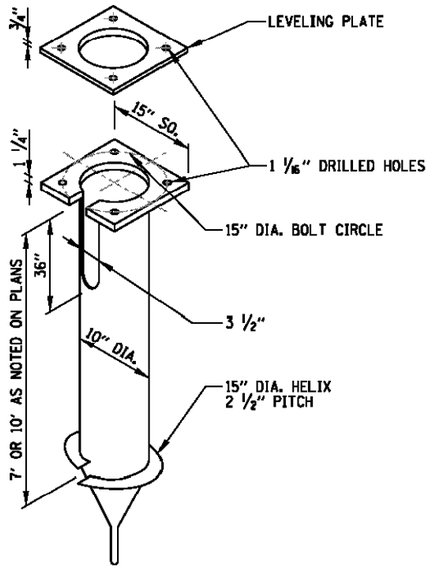


PLAN

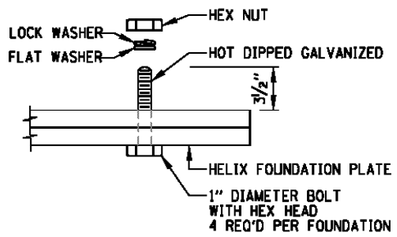
HELIX FOUNDATION GRADING PLAN WITH BACKSLOPE



HELIX FOUNDATION ADJACENT TO GUTTER WITH BACKSLOPE



HELIX FOUNDATION



HELIX FOUNDATION BASE ATTACHMENT DETAIL

NOTE:

SEE SHEET 1 OF THIS SERIES FOR NOTES.

Paul Kovacs
APPROVED ..... CHIEF ENGINEER ..... DATE 2-7-2012

SHEET 4 OF 6

Illinois Tollway
Open Roads for a Growing Future

LIGHT STANDARD FOUNDATION

STANDARD H1-01

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

FILE NAME	USER NAME = rswanson	DESIGNED - RAS	REVISED -
		DRAWN - BHH	REVISED -
	PLOT SCALE = NONE '/ IN.	CHECKED - MKR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWINGS

SCALE: NONE | SHEET NO. 49 OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	409
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

E-49

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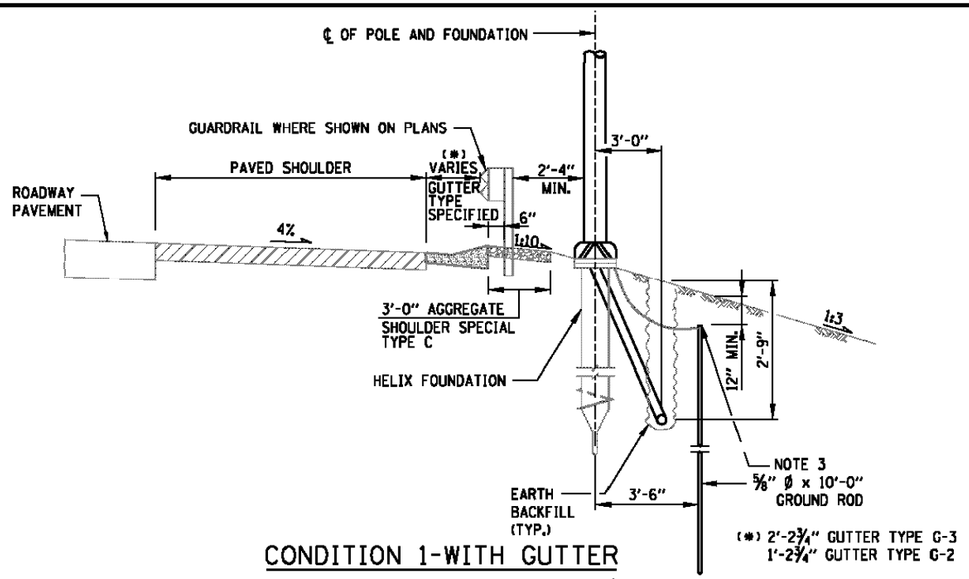
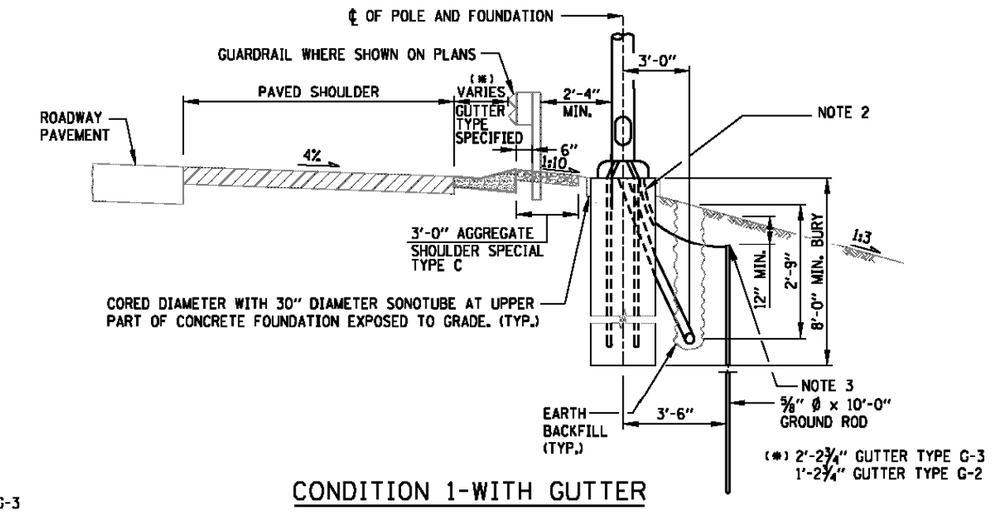
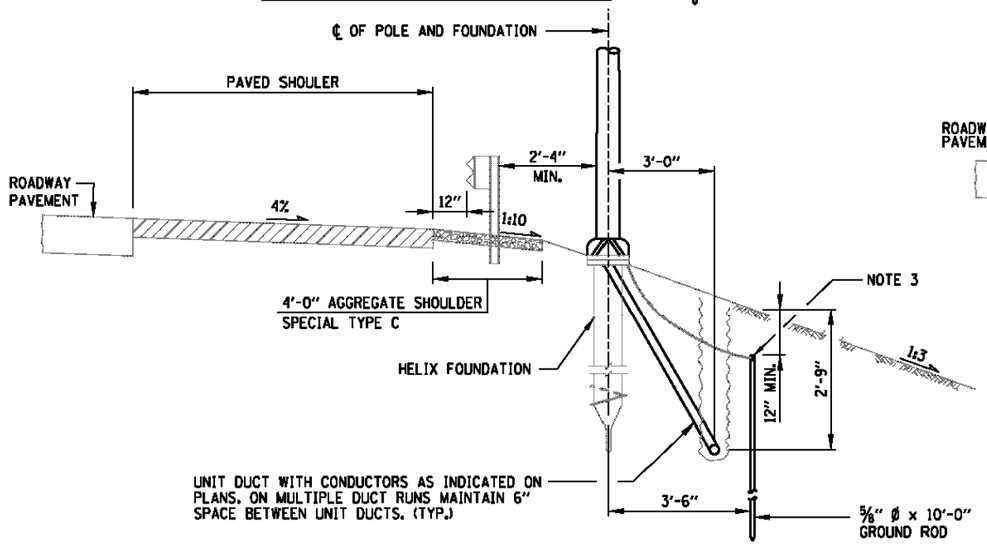


CONDITION 1-WITH GUTTER

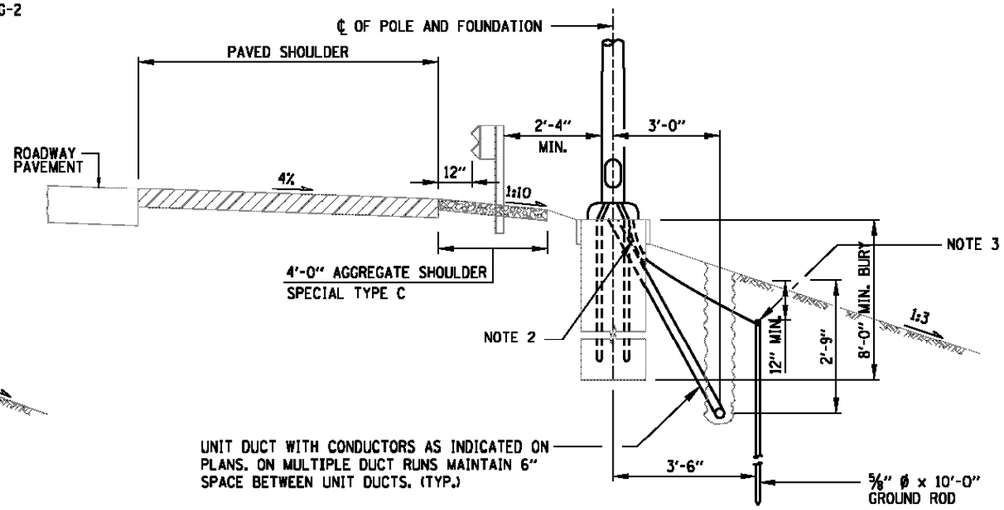


CONDITION 1-WITH GUTTER



CONDITION 2-WITHOUT GUTTER

HELIX FOUNDATION



CONDITION 2-WITHOUT GUTTER

CONCRETE FOUNDATION

SHEET 5 OF 6

Paul Kovacs
APPROVED ..... CHIEF ENGINEER ..... DATE 2-7-2012 ..

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

Illinois Tollway
Open Roads for a Faster Future

LIGHT STANDARD FOUNDATION

STANDARD H1-01

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

E-50

FILE NAME	USER NAME = rswanson	DESIGNED - RAS	REVISED -
		DRAWN - BHH	REVISED -
	PLOT SCALE = NONE '/ IN.	CHECKED - MKR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWINGS

SCALE: NONE | SHEET NO. 50 OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	410
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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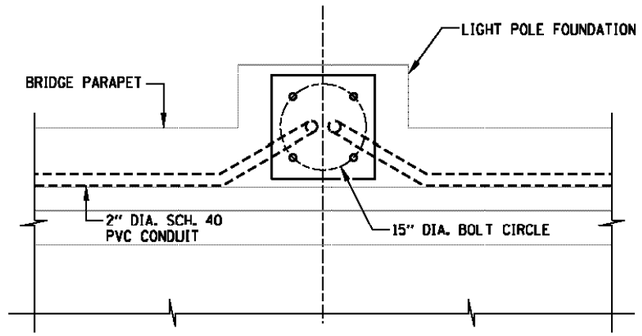
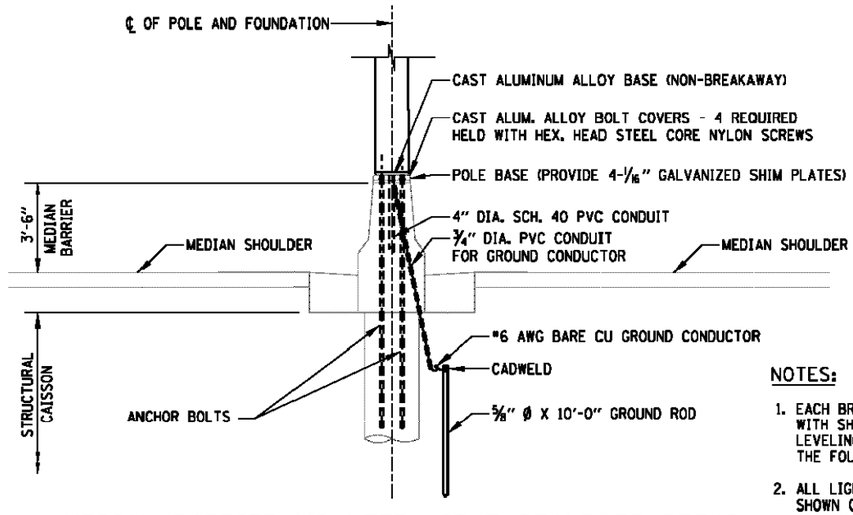


PLAN VIEW

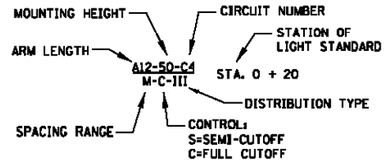


MEDIAN BARRIER MOUNTED LIGHT STANDARD DETAIL

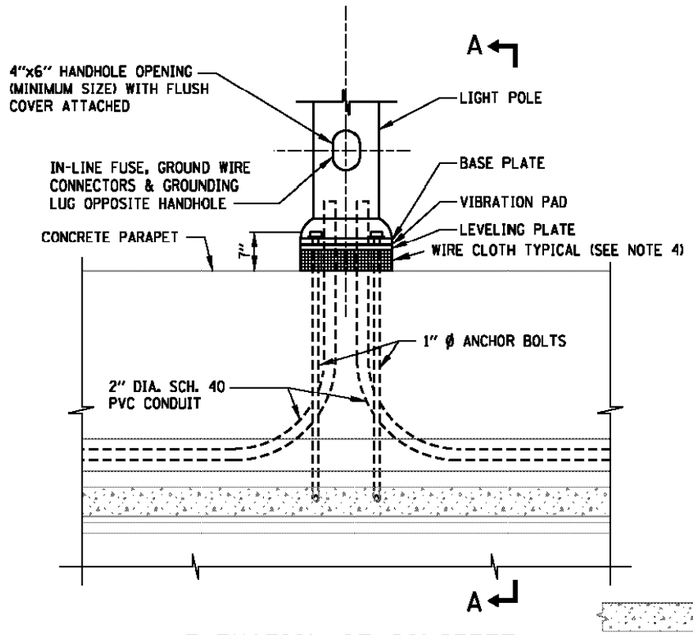
(SEE STANDARDS H8 AND H9)

NOTES:

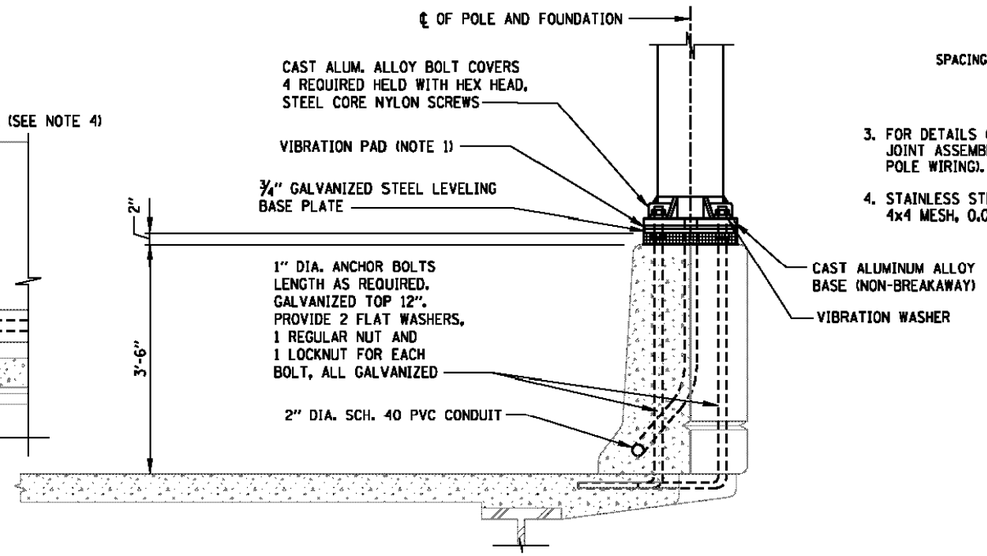
1. EACH BRIDGE MOUNTED STANDARD SHALL BE PROVIDED WITH SHOCK ABSORBING VIBRATION PADS, NUTS, WASHERS, LEVELING PLATE AND WIRE MESH FOR ITS ERECTION ON THE FOUNDATION AS SHOWN ON THE PLANS.
2. ALL LIGHT STANDARDS, BOTH NEW AND EXISTING, ARE SHOWN ON PLANS WITH THE FOLLOWING SAMPLE DESCRIPTION:



3. FOR DETAILS OF FUSE HOLDER, POLE BASE WIRING, AND JOINT ASSEMBLY, SEE STANDARD H2 (LIGHT STANDARD POLE WIRING).
4. STAINLESS STEEL STANDARD GRADE WIRE CLOTH-TYPE 304, 4x4 MESH, 0.047" WIRE DIAMETER.



ELEVATION OF CONCRETE
PARAPET AND LIGHT STANDARD



BRIDGE PARAPET MOUNTED LIGHT STANDARD DETAIL
SECTION A-A

SHEET 6 OF 6

Illinois Tollway
Open Roads for a Faster Future

LIGHT STANDARD
FOUNDATION

STANDARD H1-01

APPROVED Paul Kovacs CHIEF ENGINEER DATE 2-7-2012

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

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E-51

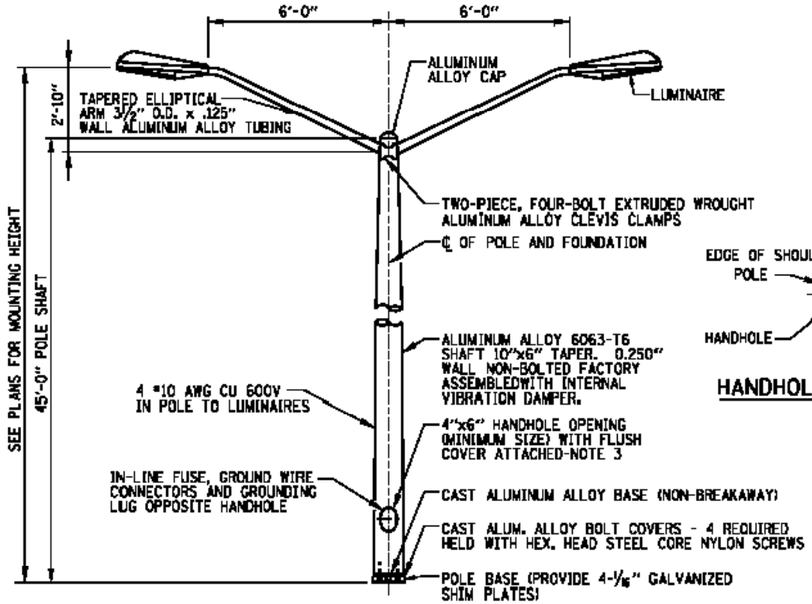
FILE NAME	USER NAME = rswenson	DESIGNED - RAS	REVISED -
		DRAWN - BHH	REVISED -
	PLOT SCALE = NONE ' / IN.	CHECKED - MKR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

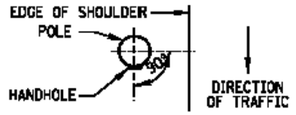
TOLLWAY STANDARD DRAWINGS

SCALE: NONE | SHEET NO. 51 OF 53 SHEETS | STA. | TO STA.

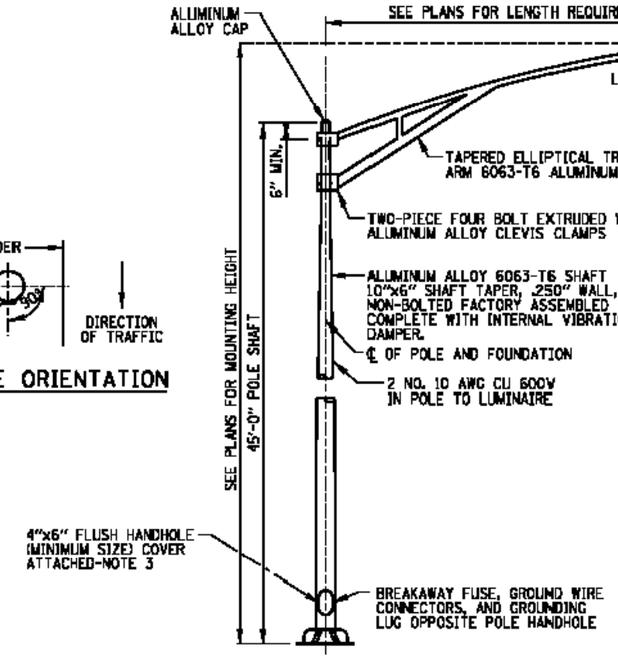
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	411
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		



TWIN MAST LIGHT STANDARD DETAIL



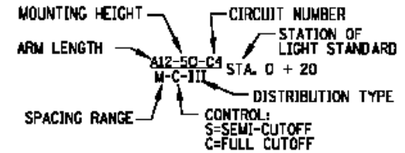
HANDHOLE ORIENTATION



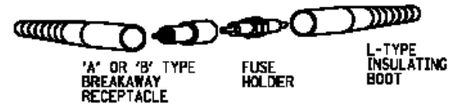
SINGLE MAST LIGHT STANDARD DETAIL

NOTES:

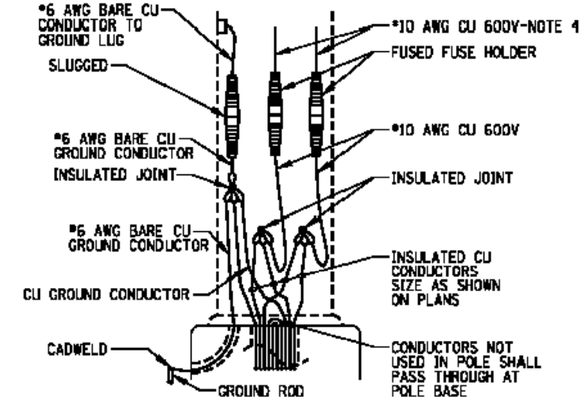
1. ALL LIGHT STANDARDS, BOTH NEW AND EXISTING, ARE SHOWN ON PLANS WITH THE FOLLOWING SAMPLE DESCRIPTION:



2. FOR STRUCTURAL DETAILS OF MEDIAN BARRIER AND CAISSON, SEE STANDARD H8 (MEDIAN BARRIER LIGHT POLE FOUNDATION DETAILS), STANDARD H9 (MEDIAN BARRIER LIGHT POLE FOUNDATION DETAILS - TYPE 4 RETROFIT, 32" BARRIER OR STRUCTURAL PLANS.
3. HANDHOLE COVERS SHALL BE FASTENED USING TWO STAINLESS STEEL SCREWS WITH CAPTIVE STAINLESS STEEL NUTS OR INSERTS, PER THE SUPPLEMENTAL SPECIFICATIONS.
4. PROVIDE A 24" LONG POLYETHYLENE TUBE TO PROTECT CABLES WHERE THEY PASS THROUGH THE GROMMETED OPENING AT THE POLE/MAST ARM JUNCTION.

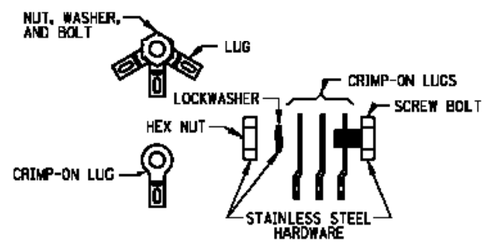


IN-THE-LINE FUSE HOLDER DETAIL WITH BREAKAWAY FEATURE



TWIN MAST POLE BASE WIRING DIAGRAM

SINGLE MAST POLE BASE WIRING DIAGRAM



JOINT ASSEMBLY DETAILS

Paul Kovacs
APPROVED ..... DATE 2-7-2012

DATE	REVISIONS
2-7-2012	REVISED LIGHT POLE HANDHOLE NOTES, REMOVED CABLE VOLTAGE, AND REVISED NOTES

Illinois Tollway
Open Roads for a Future

LIGHT STANDARD POLE WIRING

STANDARD H2-01

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

E-52

FILE NAME	USER NAME = rseanson	DESIGNED - RAS	REVISED -
		DRAWN - BHH	REVISED -
	PLOT SCALE = NONE '/ IN.	CHECKED - MKR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWINGS

SCALE: NONE | SHEET NO. 52 OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	412
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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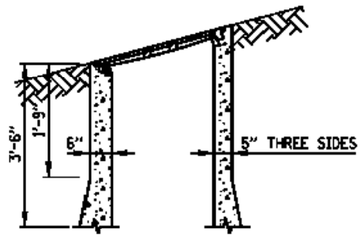
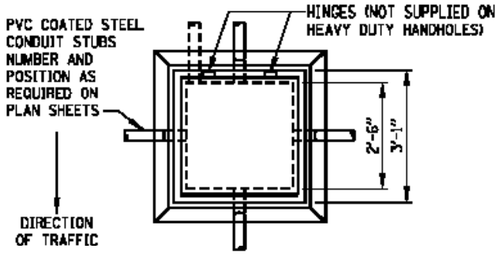
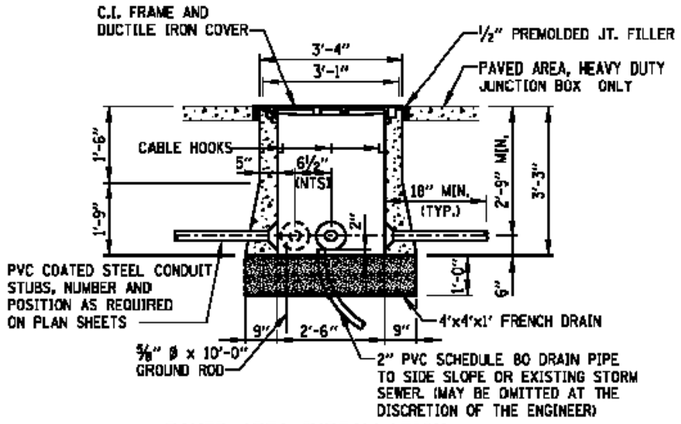


SLOPE INSTALLATION



PLAN



PAVED AREA INSTALLATION

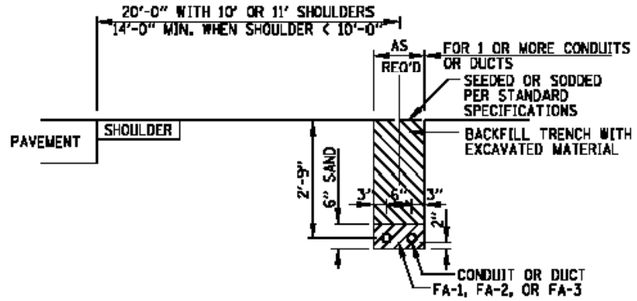
HANDHOLE AND HEAVY DUTY HANDHOLE

SEE NOTES

NOTES:

1. HANDHOLES LOCATED IN UNPAVED AREAS AND NOT SHIELDED BY GUARDRAIL SHALL BE CONSTRUCTED WITH THE TOP FLUSH WITH THE ADJACENT SLOPE.
2. HEAVY DUTY HANDHOLE - THIS TYPE SHALL BE CONSTRUCTED IN PAVED AREAS AND ITS FRAME AND COVER SHALL BE EITHER NEENAH FOUNDRY R-6662-PP WITH TYPE C LIFTING HANDLE OR EAST JORDAN IRON WORKS NO. 8213 WITH LIFTING RING, OR APPROVED EQUAL.
3. HANDHOLE - THIS TYPE SHALL BE CONSTRUCTED ONLY IN NON-PAVED AREAS AND ITS FRAME AND COVER SHALL BE NEENAH FOUNDRY R-6660-NH OR APPROVED EQUAL. THE FRAME AND COVER SHALL BE INSTALLED WITH THE HINGES AT THE SIDE FACING APPROACHING TRAFFIC.
4. AGGREGATE FOR FRENCH DRAIN SHALL BE PER ARTICLE 1003.04 OF THE STANDARD SPECIFICATIONS.
5. 10 FEET OF EXTRA CABLE SHALL BE COILED IN EACH HANDHOLE.
6. TRENCH AND BACKFILL FOR ELECTRICAL WORK SHALL BE INCLUDED IN THE COST OF THE UNDERGROUND RACEWAY AND WILL NOT BE MEASURED FOR PAYMENT.

APPROVED ..... CHIEF ENGINEER DATE 2-7-2012

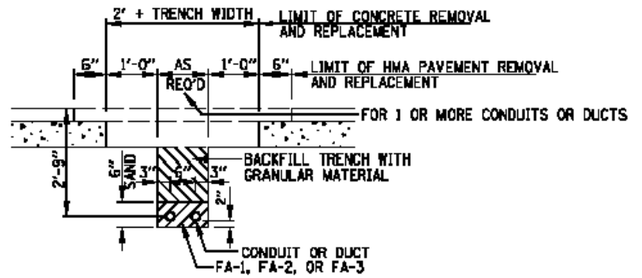


TRENCHING FOR CONDUIT IN NON-PAVED AREAS

(NOTE 6)

NOTE:

SAW-CUT HMA AND CONCRETE PAVEMENTS PRIOR TO REMOVAL



TRENCHING FOR CONDUIT IN PAVED AREAS

(NOTE 6)

Illinois Tollway
Open Roads for a Changing Future

DATE	REVISIONS
2-7-2012	MODIFY TRENCH DETAIL, NEW HANDHOLE DETAILS AND REVISED NOTES

HANDHOLES AND BURIED WIRING DETAILS

STANDARD H4-01

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

E-53

FILE NAME	USER NAME = rswanson	DESIGNED - RAS	REVISED -
		DRAWN - BHH	REVISED -
	PLOT SCALE = NONE '/ IN.	CHECKED - MKR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWINGS

SCALE: NONE | SHEET NO. 53 OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	413
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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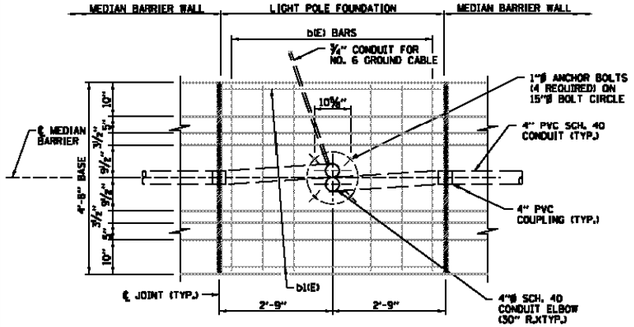
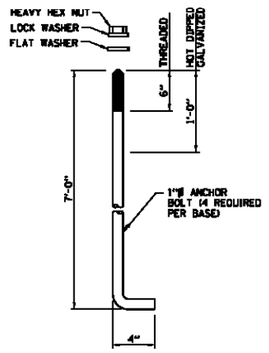
NOTE:
ALL BARS SHALL BE EPOXY COATED.

REINFORCING BAR SCHEDULE					
BAR	NO.	SIZE	LENGTH	WT. LBS.	SHAPE
a1(E)	12	#4	5'-0"	40	
b(E)	6	#4	4'-2"	17	
b1(E)	2	#4	5'-2"	7	
d1(E)	12	#4	5'-9"	46	
sp1(E)	•	#4	•		
v1(E)	8	#6	11'-9"	142	

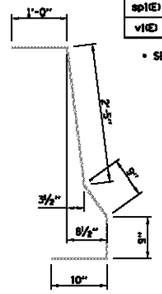
• SEE SECT. A-A



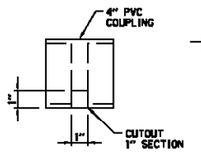
PLAN VIEW



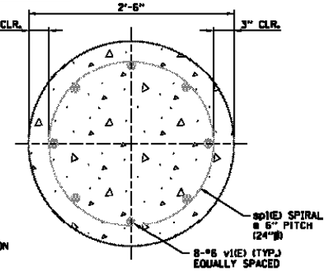
ANCHOR BOLT DETAIL



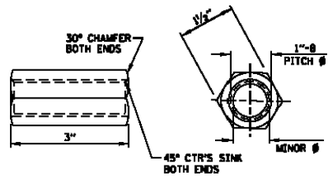
d1(E) BAR



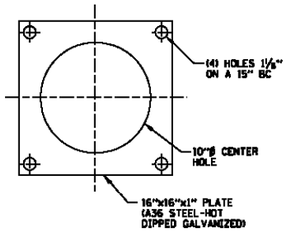
DETAIL A



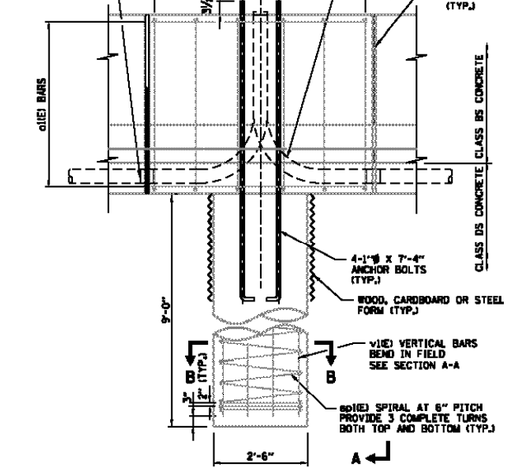
SECTION B-B



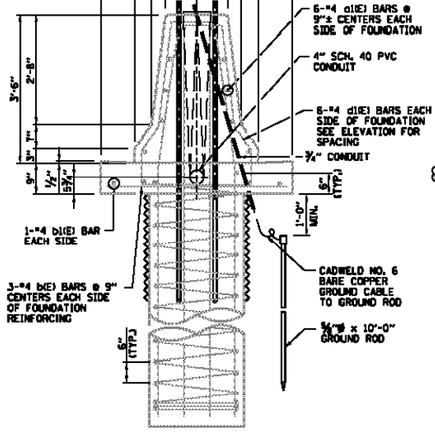
COUPLING NUT



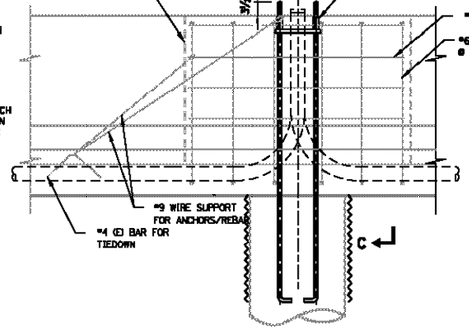
SETTING PLATE



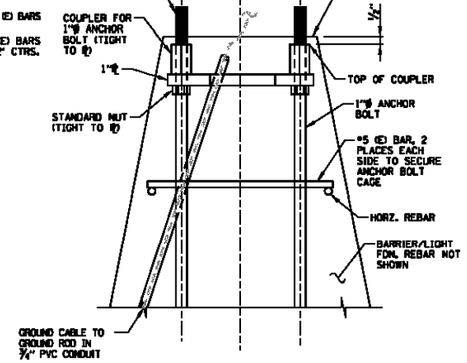
ELEVATION



SECTION A-A



ELEVATION



SECTION C-C

NOTE:
PLUG TOP OF COUPLER WITH PLASTIC PLUG OR COVER WHILE PLACING CONCRETE. PROTECT GROUND WIRE WHILE PLACING CONCRETE.

MODIFIED LIGHT POLE FOUNDATION
(SLIPFORM POUR)

TYPE 1 CENTERED CAISSON, 42" BARRIER

APPROVED Paul Kovacs, CHIEF ENGINEER DATE 2-7-2012

Illinois Tollway — Open Roads for a Better Future

DATE	REVISIONS
2-7-2012	CHANGED ANCHOR BOLT DIMENSION, MODIFIED LIGHT POLE FOUNDATION, CHANGED FOUNDATION CONCRETE, MODIFIED REINFORCEMENT BARS

MEDIAN BARRIER LIGHT POLE FOUNDATION DETAILS

STANDARD H8-01

EJM ENGINEERING, INC.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

E-53A

FILE NAME	USER NAME = rswanson	DESIGNED - RAS	REVISED -
		DRAWN - BHH	REVISED -
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	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWINGS

SCALE: NONE | SHEET NO. 53A OF 53 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	413A
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		

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SHEET NOT USED

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FILE NAME = $FILES$	USER NAME = default	DESIGNED -	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS GENERAL NOTES AND SCHEDULE

SCALE: NA | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	414
		CONTRACT NO. 60L77		
	ILLINOIS	FED. AID PROJECT		

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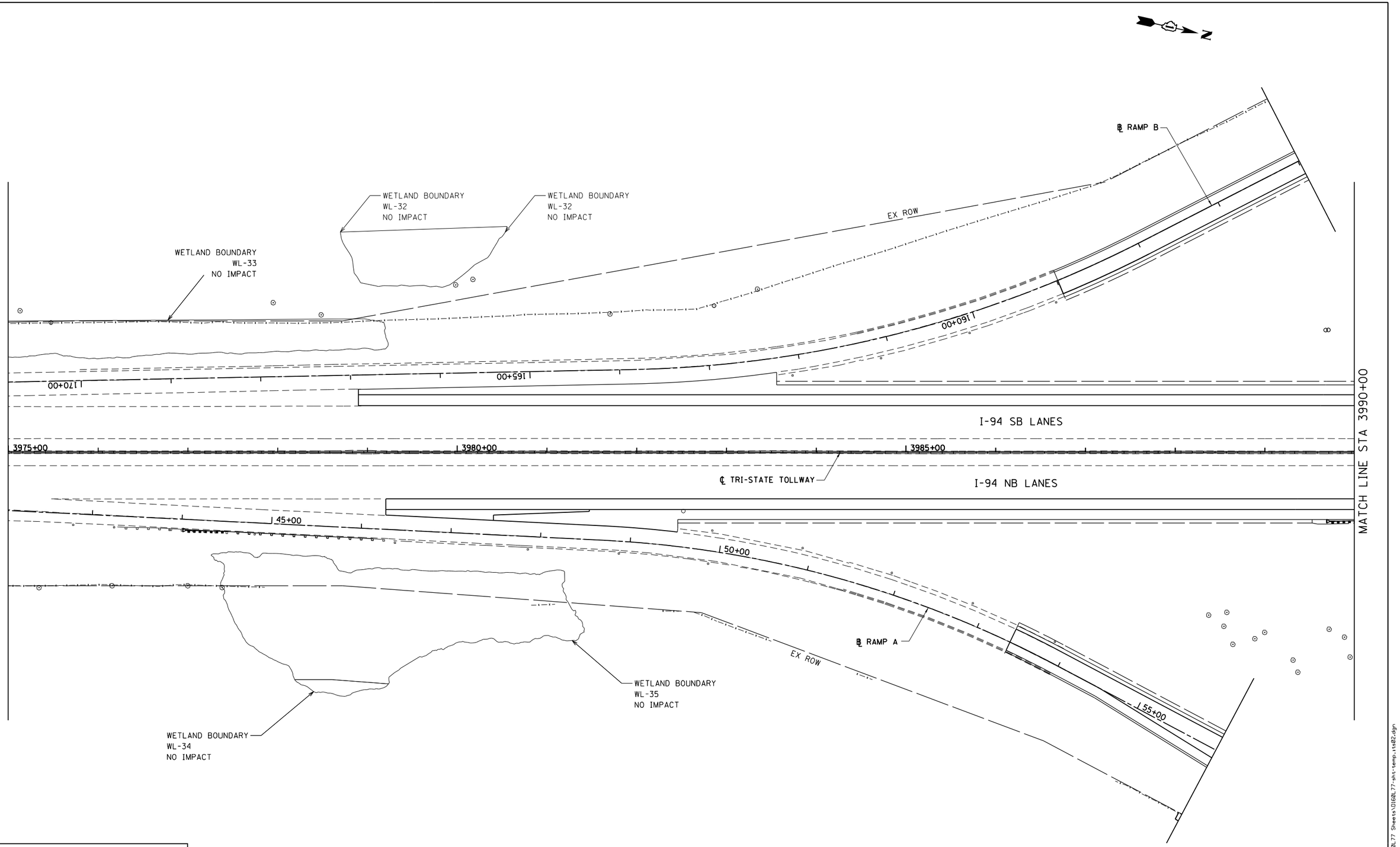

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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 1 OF 8 SHEETS | STA. 3975+00 TO STA. 3990+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	415
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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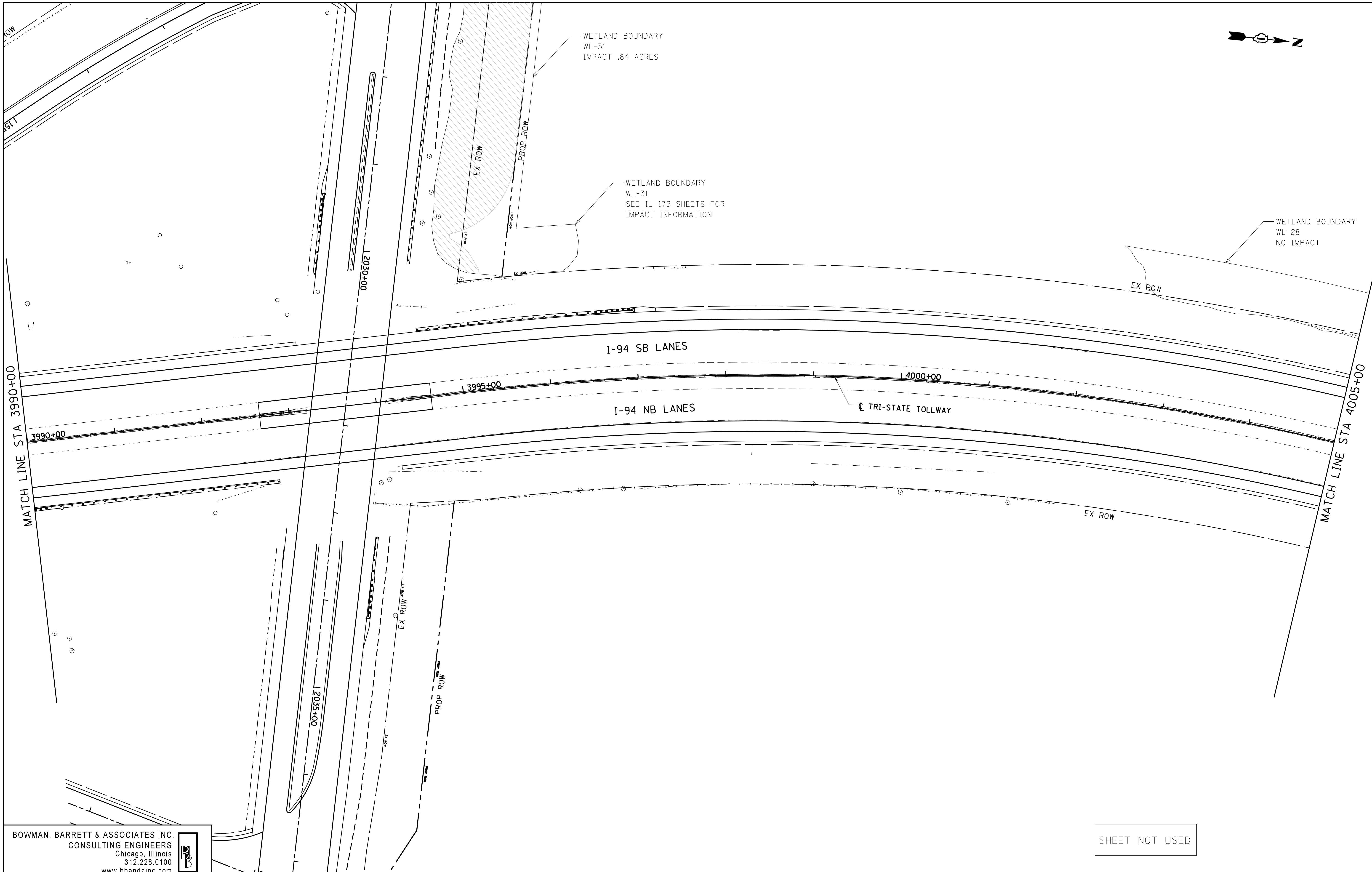

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FILE NAME = $FILES$	USER NAME = default	DESIGNED - MAB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY ITS PLAN NB I-94 AND SB I-94
		DRAWN - MAB	REVISED -		
	PLOT SCALE = H:1"=10' V:1"=5'	CHECKED - RGR	REVISED -		
	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -		SCALE: 1"=50' SHEET NO. 2 OF 8 SHEETS STA. 3990+00 TO STA. 4005+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	416
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		

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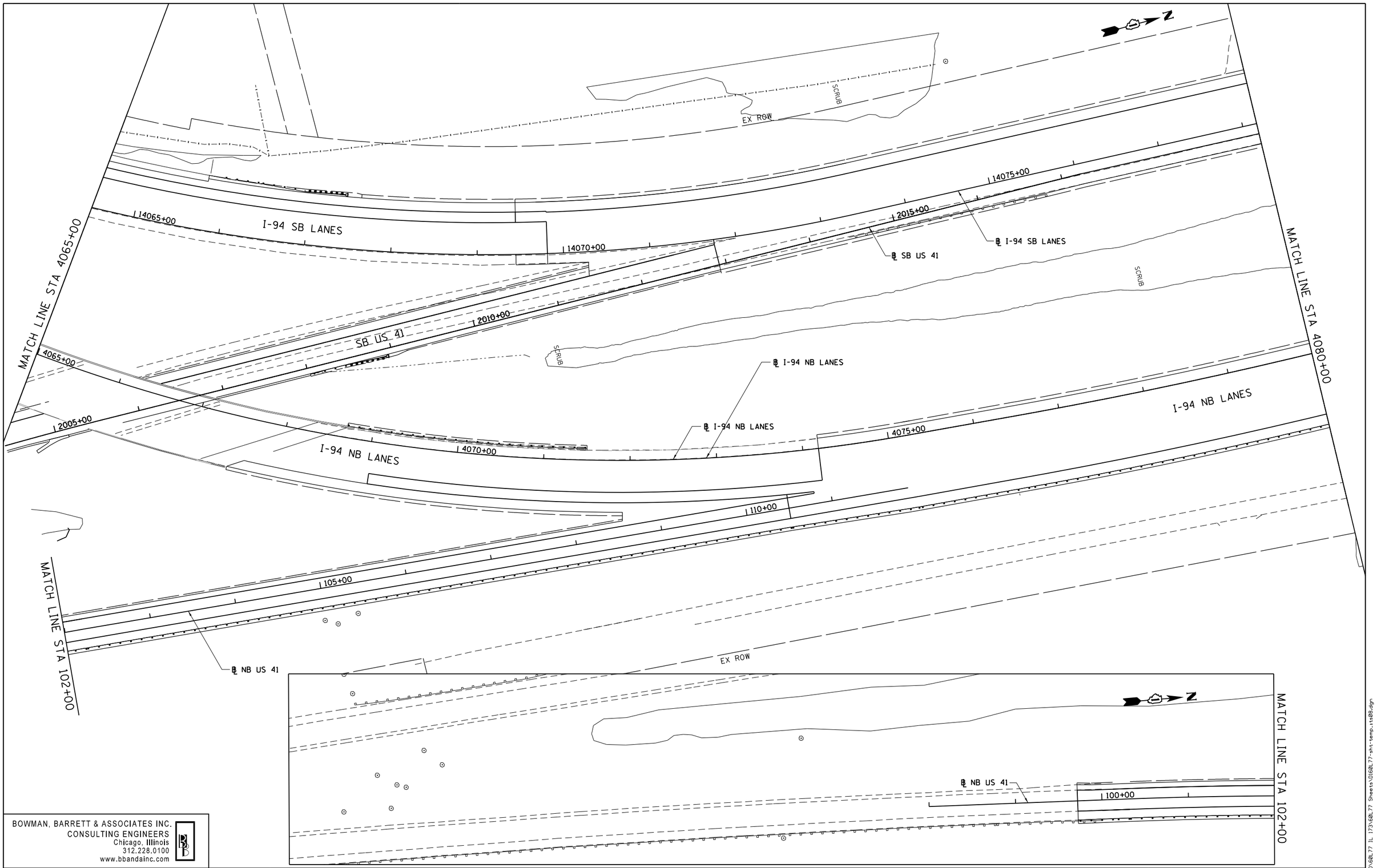

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FILE NAME = $FILES$	USER NAME = default	DESIGNED - MAB	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 7 OF 8 SHEETS | STA. 4065+00 TO STA. 4080+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	417
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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N

EX ROW

EX ROW

SCRUB

SCRUB

WETLAND BOUNDARY
WL-12
NO IMPACT

WETLAND BOUNDARY
WL-11
WETLAND BOUNDARY
WL-11
IMPACT .05 ACRES

SCRUB

WETLAND IMPACT
0.05 ACRE

SCRUB

14080+00

WETLAND BOUNDARY
WL-10
ARTIFICIAL WETLAND (DETERMINED)

14085+00

I-94 SB LANES

14090+00

WETLAND BOUNDARY
WL-10
ARTIFICIAL WETLAND (DETERMINED)

℄ I-94 SB LANES

℄ I-94 NB LANES

SCRUB

MATCH LINE STA 4080+00

4080+00

4085+00

4090+00

I-94 NB LANES

50+00

55+00

PT STA 57+37.20

SCRUB

WETLAND BOUNDARY
WL-10
ARTIFICIAL WETLAND (DETERMINED

℄ RAMP A

WETLAND BOUNDARY
WL-10
ARTIFICIAL WETLAND (DETERMINED)

SCRUB

PT STA 59+75.08

PT STA 60+83.60

60+00

WETLAND BOUNDARY
WL-9
NO IMPACT

WETLAND BOUNDARY
WL-9
NO IMPACT

EX ROW

WETLAND BOUNDARY
WL-8
NO IMPACT

WETLAND BOUNDARY
WL-8
NO IMPACT

℄ RUSSELL ROAD

SHEET NOT USED

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FILE NAME = $FILES$	USER NAME = default	DESIGNED - MAB	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 8 OF 8 SHEETS | STA. 4080+00 TO STA. 4095+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	418
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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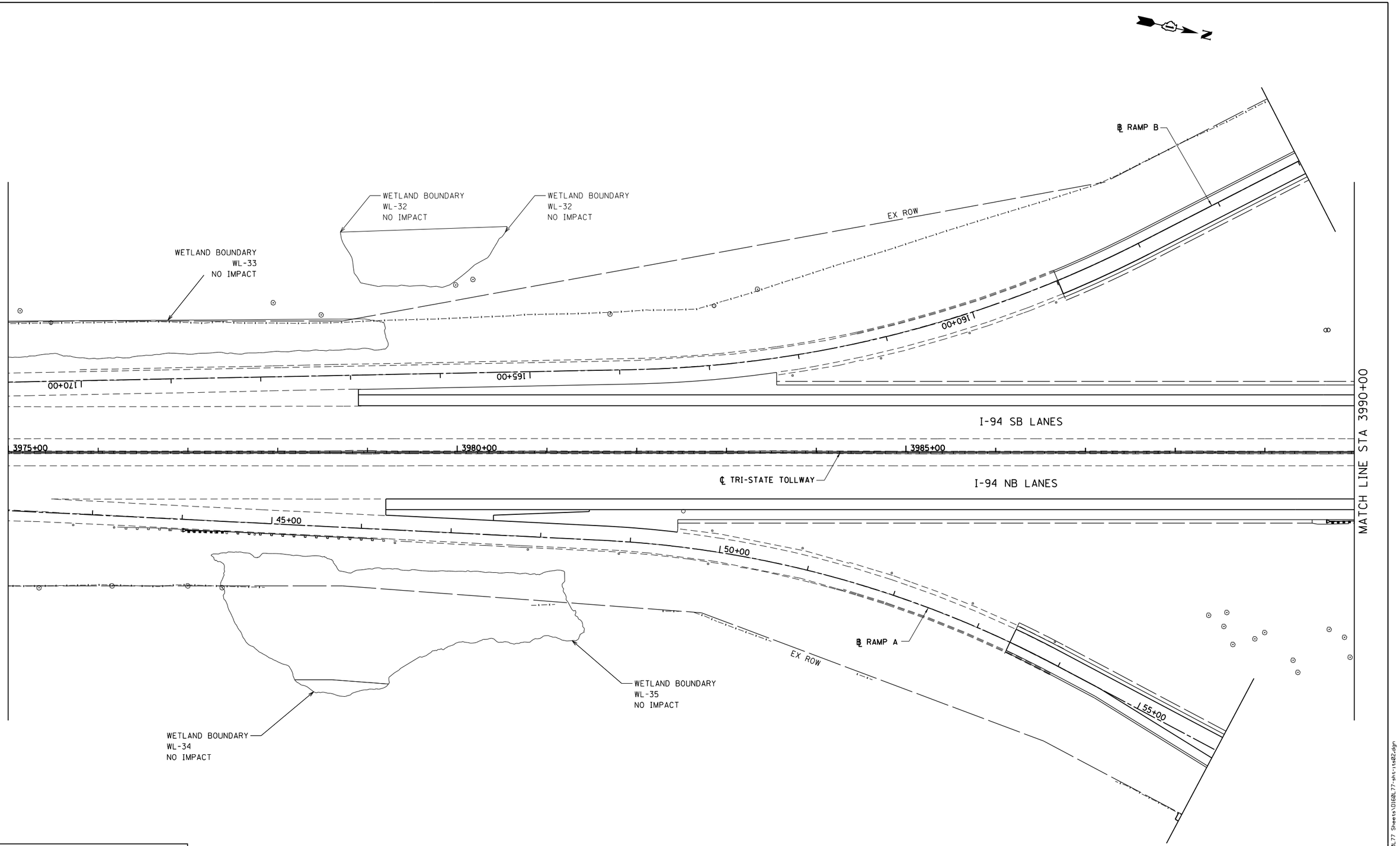

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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 1 OF 8 SHEETS | STA. 3975+00 TO STA. 3990+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	419
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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WETLAND BOUNDARY
WL-31
IMPACT .84 ACRES

WETLAND BOUNDARY
WL-31
SEE IL 173 SHEETS FOR
IMPACT INFORMATION

WETLAND BOUNDARY
WL-28
NO IMPACT

N

EX ROW

PROP ROW

I-94 SB LANES

I-94 NB LANES

℄ TRI-STATE TOLLWAY

EX ROW

EX ROW

PROP ROW

I 2030+00

I 2035+00

I 3990+00

I 3995+00

I 4000+00

MATCH LINE STA 3990+00

MATCH LINE STA 4005+00

SHEET NOT USED

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FILE NAME = $FILES$	USER NAME = default	DESIGNED - MAB	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 2 OF 8 SHEETS | STA. 3990+00 TO STA. 4005+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	420
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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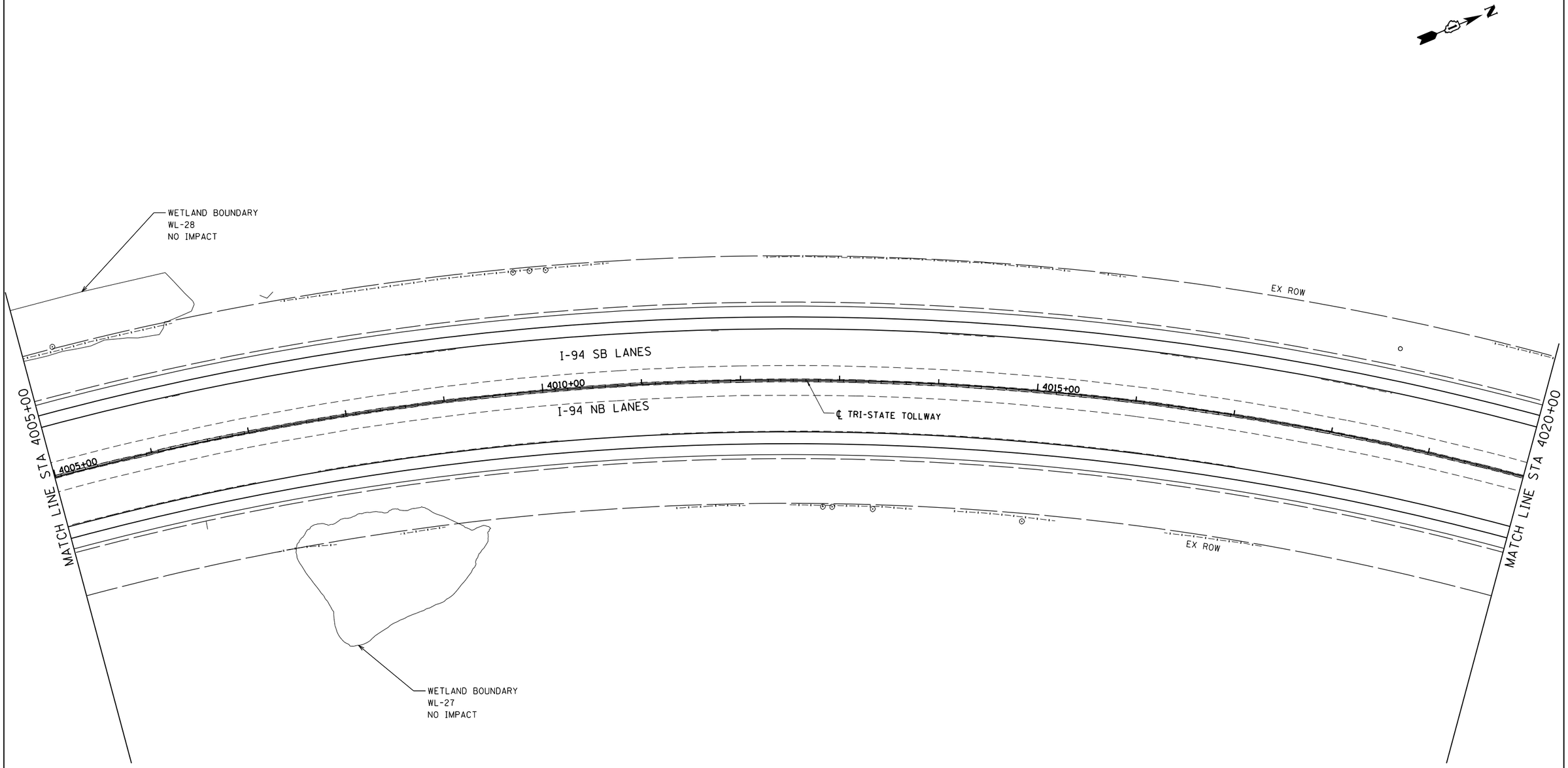

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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 3 OF 8 SHEETS | STA. 4005+00 TO STA. 4020+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	421
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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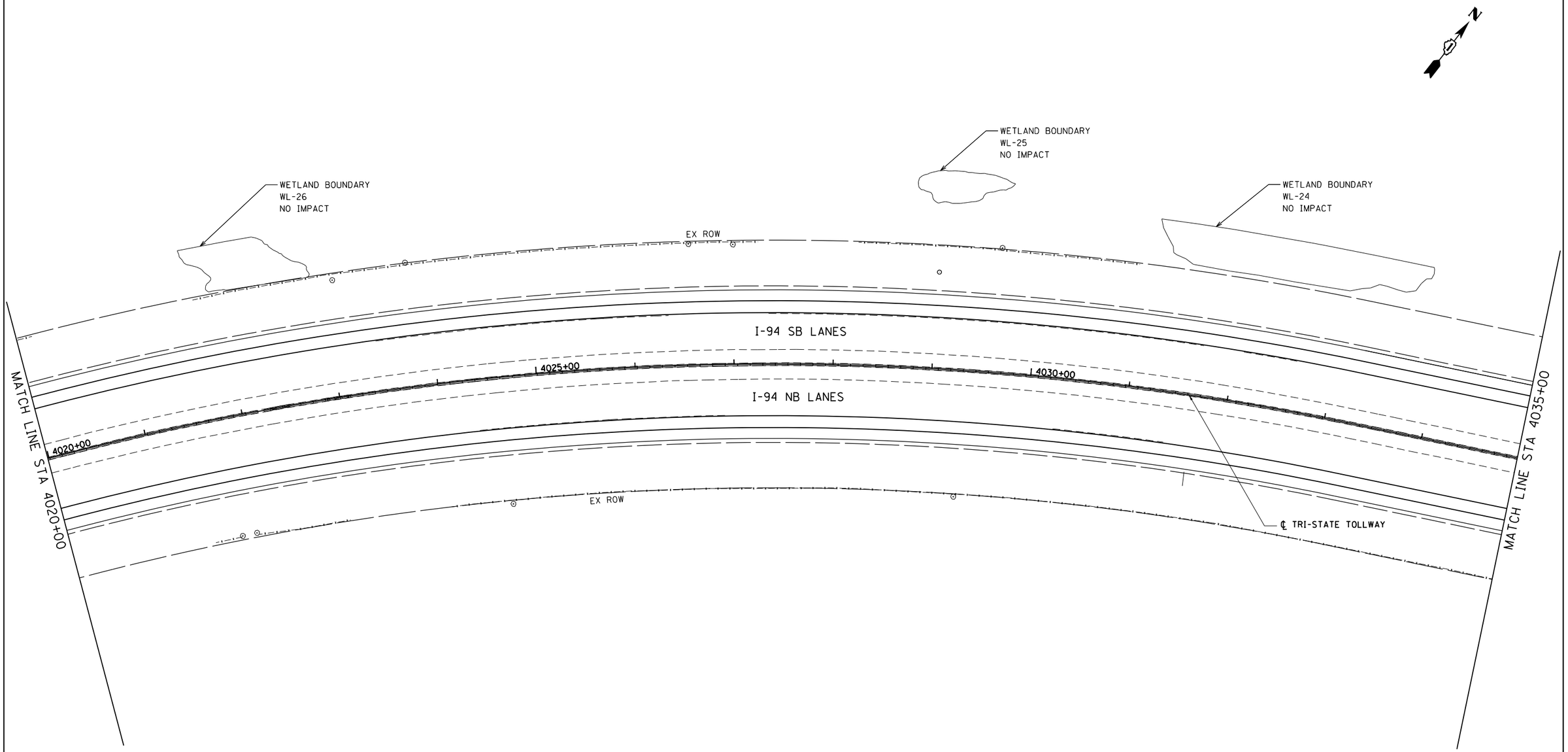

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FILE NAME = $FILES$	USER NAME = default	DESIGNED - MAB	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 4 OF 8 SHEETS | STA. 4020+00 TO STA. 4035+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	422
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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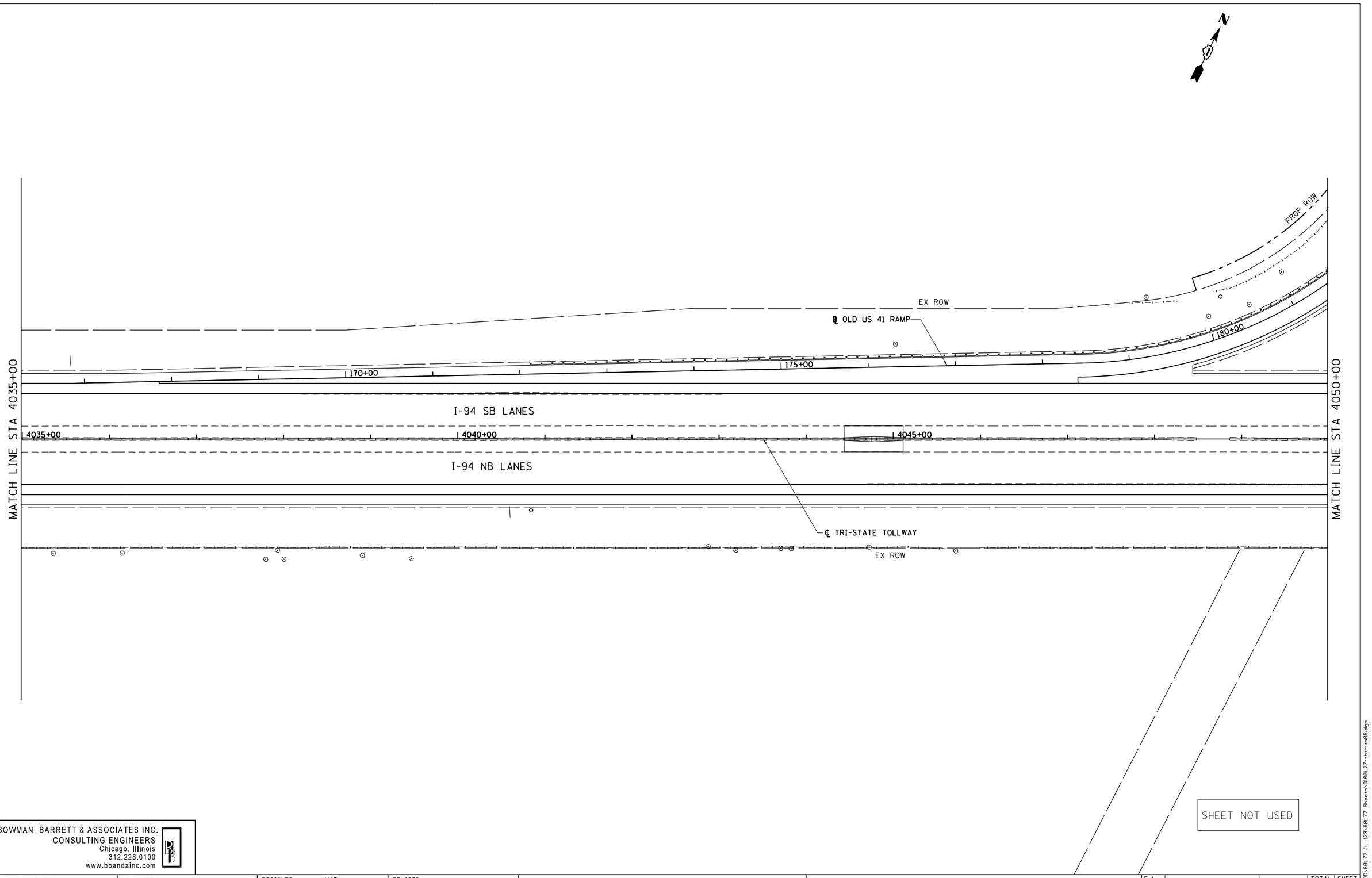

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FILE NAME = $FILES$	USER NAME = default	DESIGNED - MAB	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 5 OF 8 SHEETS | STA. 4035+00 TO STA. 4050+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	423
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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℄ OLD US 41 RAMP

MATCH LINE STA 185+00

EX ROW

PROP ROW

EX ROW

WOUS-1
0.05 ACRES
NO IMPACT

WOUS-1
0.05 ACRES
NO IMPACT

WETLAND BOUNDARY
WL-16
NO IMPACT

WETLAND BOUNDARY
WL-16
NO IMPACT

WOUS-2
0.02
ACRES
NO IMPACT

WOUS-2
0.04
ACRES
NO IMPACT

EX ROW

℄ I-94 SB LANES

I-94 SB LANES

14060+00

MATCH LINE STA 4065+00

℄ I-94 NB LANES

I-94 NB LANES

14055+00

4060+00

4050+00

4055+00

MATCH LINE STA 4050+00

EX ROW

℄ TRI-STATE TOLLWAY

WOUS-2
0.02
ACRES
NO IMPACT

EX ROW

12000+00

℄ SB US 41

MATCH LINE STA 185+00

℄ OLD US 41 RAMP

(C)

(B)

185+00

CONTINUE EDGE LINES (B) (C)
500' NORTH OF 185+00 TO EXISTING

SHEET NOT USED

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FILE NAME = $FILES$	USER NAME = default	DESIGNED - MAB	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING & SIGNING PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 6 OF 8 SHEETS | STA. 4050+00 TO STA. 4065+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	424
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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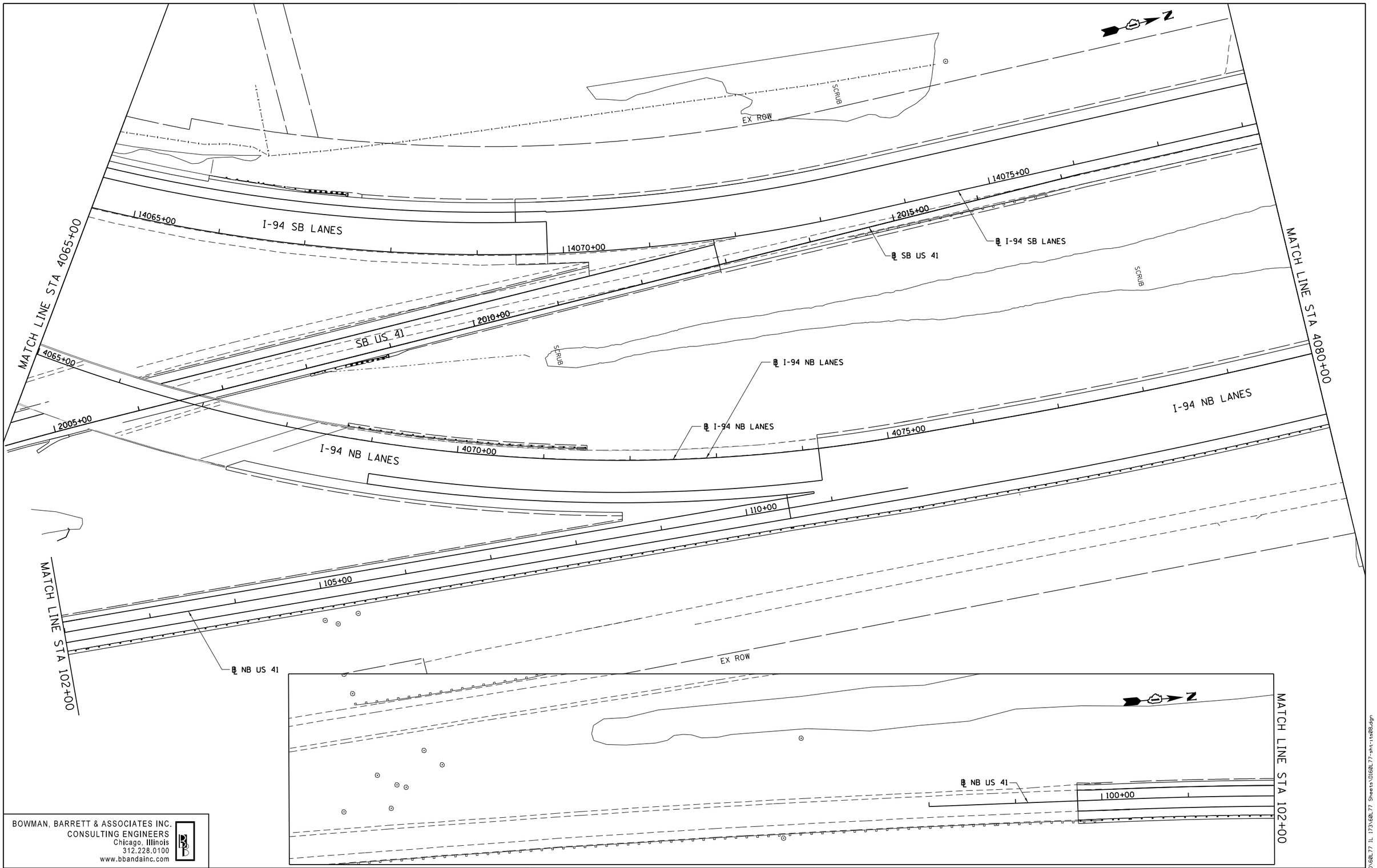

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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 7 OF 8 SHEETS | STA. 4065+00 TO STA. 4080+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	425
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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N

EX ROW

EX ROW

SCRUB

SCRUB

WETLAND BOUNDARY
WL-12
NO IMPACT

WETLAND BOUNDARY
WL-11
WETLAND BOUNDARY
WL-11
IMPACT .05 ACRES

SCRUB

WETLAND IMPACT
0.05 ACRE

SCRUB

14080+00

WETLAND BOUNDARY
WL-10
ARTIFICIAL WETLAND (DETERMINED)

14085+00

I-94 SB LANES

14090+00

WETLAND BOUNDARY
WL-10
ARTIFICIAL WETLAND (DETERMINED)

℄ I-94 SB LANES

℄ I-94 NB LANES

SCRUB

MATCH LINE STA 4080+00

4080+00

4085+00

4090+00

I-94 NB LANES

50+00

55+00

PT STA 57+37.20

SCRUB

WETLAND BOUNDARY
WL-10
ARTIFICIAL WETLAND (DETERMINED

℄ RAMP A

WETLAND BOUNDARY
WL-10
ARTIFICIAL WETLAND (DETERMINED)

POWLSTA 59+75.08

SCRUB

PT STA 60+83.60

60+00

WETLAND BOUNDARY
WL-9
NO IMPACT

WETLAND BOUNDARY
WL-9
NO IMPACT

EX ROW

WETLAND BOUNDARY
WL-8
NO IMPACT

WETLAND BOUNDARY
WL-8
NO IMPACT

℄ RUSSELL ROAD

SHEET NOT USED

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FILE NAME = $FILES$	USER NAME = default	DESIGNED - MAB	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS PLAN NB I-94 AND SB I-94

SCALE: 1"=50' | SHEET NO. 8 OF 8 SHEETS | STA. 4080+00 TO STA. 4095+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	426
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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SHEET NOT USED

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FILE NAME = $FILES$	USER NAME = default	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ITS DETAILS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -			94	49-1-R-1	LAKE	677	427
	PLOT SCALE = H:1"=10' V:1"=5'	CHECKED - RGR	REVISED -					CONTRACT NO. 60L77		
	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -		SCALE: SHEET NO. N/A OF N/A SHEETS STA. TO STA.	NA	NA	ILLINOIS FED. AID PROJECT		

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SHEET NOT USED

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FILE NAME = $FILES$	USER NAME = default	DESIGNED -	REVISED -
		DRAWN -	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	428
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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SHEET NOT USED

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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	429
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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SHEET NOT USED

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FILE NAME = $FILES$	USER NAME = default	DESIGNED -	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	430
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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SHEET NOT USED

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

FILE NAME = $FILES$	USER NAME = default	DESIGNED -	REVISED -
		DRAWN -	REVISED -
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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	431
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	432
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	433
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	434
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	ILLINOIS FED. AID PROJECT			

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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	435
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	436
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	437
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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	PLOT DATE = 6/20/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	438
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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Bench Mark: Chiseled square on top of crashwall at south end of east-most pier. Elevation 742.33.

Existing Structure: S.N. 049-0058 was built in 1958 by the Illinois State Toll Highway Commission. The existing structure has four spans, with a length of 229'-10¼" from back-to-back of abutments, and a constant out-to-out width of 64'-4". The superstructure consists of a 7½" thick reinforced concrete deck built composite with 48" deep PPC I-beams. The substructure consists of two stub abutments on reinforced concrete piles and three multi-column piers on prestressed concrete piles. The bridge will be replaced utilizing staged construction, maintaining one lane of traffic in each direction throughout the project duration. The replacement bridge will be assigned SN 049-0535.

No Salvage.

See Special Provisions for Status of Utilities to be Adjusted.

LEGEND

SB-XX = Soil Boring Location/Identifier

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications with 2012 Interims
Design Manual for Tollway Transportation Structures and Facilities, March 2012
Illinois Department of Transportation Bridge Manual, March 2012

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (Permanent Bracing)
fy = 50,000 psi (Steel H-Piles)

PRECAST PRESTRESSED UNITS

f'c = 7,000 psi
f'ci = 6,000 psi
fpu = 270,000 psi (½" ϕ low-lax strands)
fpbt = 201,960 psi (½" ϕ low-lax strands)

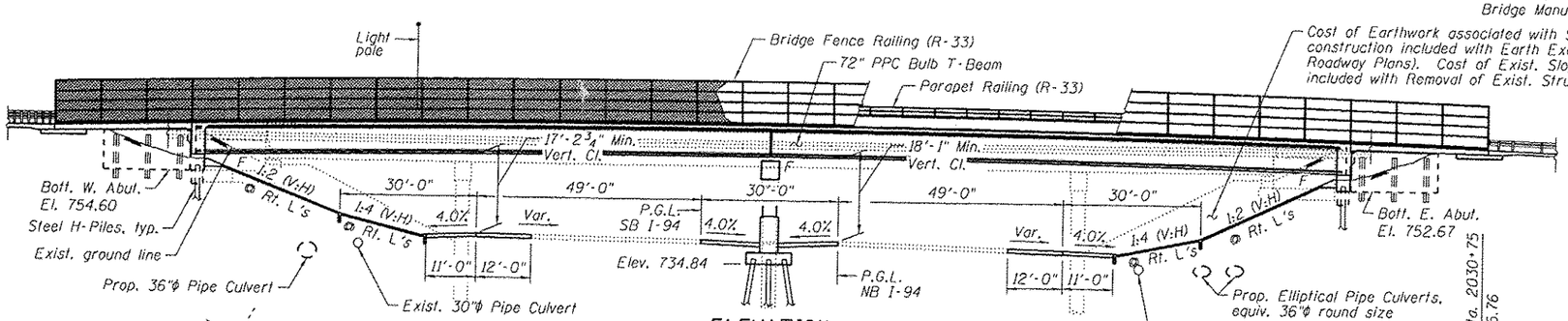
LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

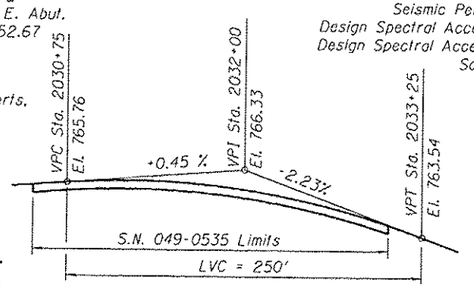
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.053g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.090g
Soil Site Class = C

Cost of Earthwork associated with Slopewall construction included with Earth Excavation (See Roadway Plans). Cost of Exist. Slopewall Removal included with Removal of Exist. Structures



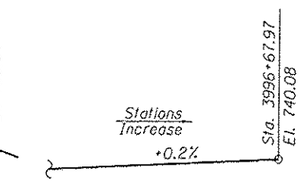
ELEVATION

(Horizontal Dimensions at Rt. L's.)



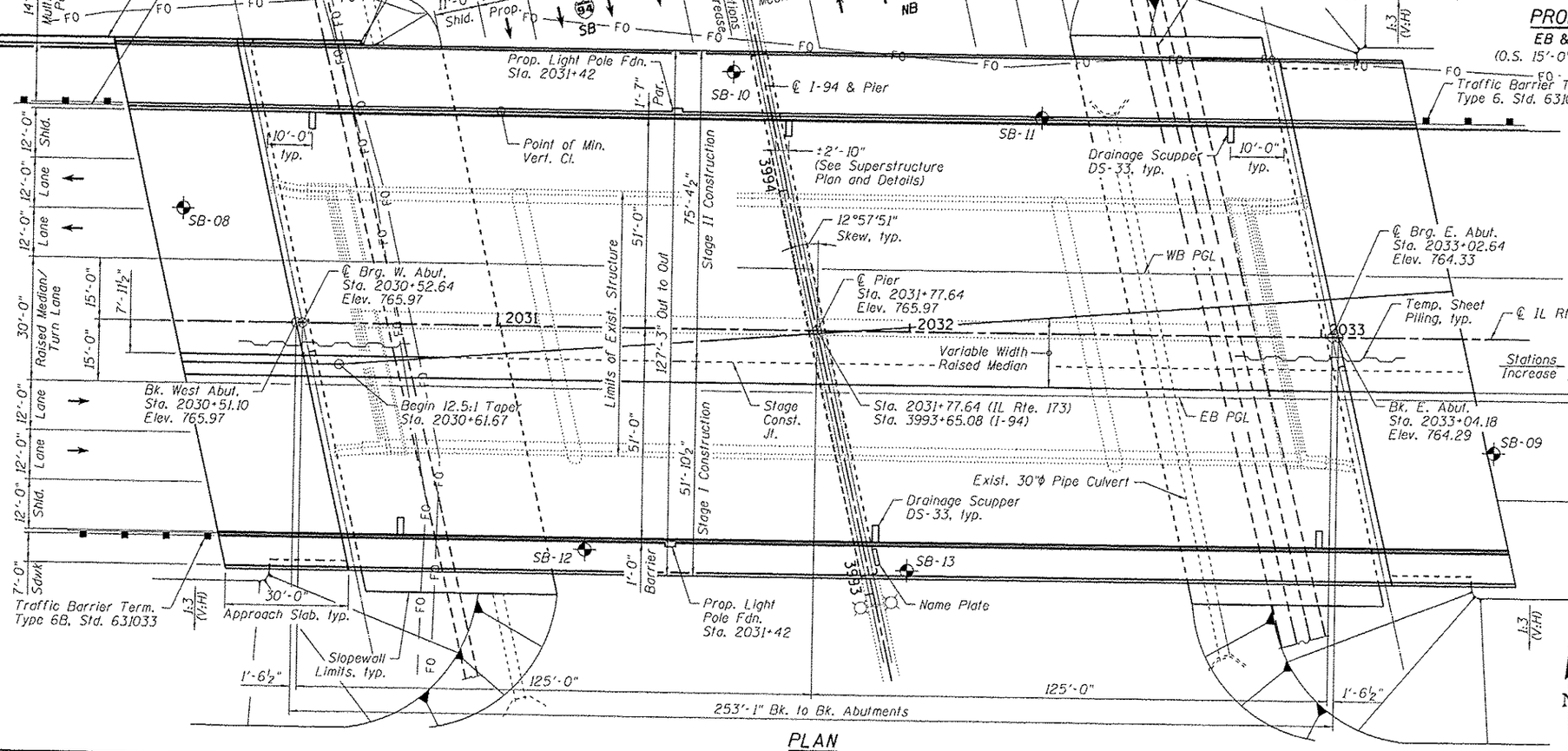
PROFILE GRADE

EB & WB IL RTE. 173
(O.S. 15'-0" Rt./Lt. from ℄ Rdwy.)



PROFILE GRADE

NB & SB I-94
(O.S. 15'-0" Rt./Lt. from ℄ Rdwy.)



PLAN

Range 11E - 3rd PM
Twp. 46N
IL 173
Proposed Structure

LOCATION SKETCH

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

STATE OF ILLINOIS
BRIAN L. UMBRIGHT
081-005584
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

SIGNED:
DATE: June 19, 2012
EXPIRES: November 30, 2012

GENERAL PLAN & ELEVATION
IL RTE. 173 (ROSECRANS ROAD) OVER I-94
F.A.P. RTE. 0303 - SEC. 49-1-R-1
LAKE COUNTY
STATION 2031+77.64
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
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PLOT DATE =	DRAWN - MTR	REVISED -	
	CHECKED - MRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-1 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	439
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

The manufacturer, contractor, and beam transportation company shall provide adequate bracing and support for the PPC beams during handling, transporting, storing and erecting to ensure the safety of the personnel associated with construction of the project.

All exposed concrete edges shall have a $\frac{3}{4}$" x 45° chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.

Reinforcement bar bending details shall be in accordance with the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315.

Reinforcment bar bending dimensions are out to out.

Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

Cover from the face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.

Bridge seat reinforcement shall be carefully placed to avoid interference with drilling holes for anchor rods. The beams shall be erected in final position prior to drilling holes for and placing anchor rods.

Contractor shall not scale dimensions from the Contract Plans for construction purposes. Scales shown are for information only.

No construction joints except those shown on the plans will be allowed unless approved by the Engineer.

The Contractor may request copies of existing construction plans that are currently on file with the Tollway. The request shall be in writing with the understanding that any reproduction cost will be at the Contractor's expense.

It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123

It shall be the Contractor's responsibility to verify the location of all fiber optic utilities prior to starting construction. The Contractor shall initiate the location process for the fiber optic cable by completing a "Request Tollway Utilities Locate" form filled in online at the Tollway website under "Doing Business" at least four (4) business days prior to starting any underground operations, excavations or digging of any type in the general area of the fiber optic cable."

Temporary soil retention systems, sheeting, bracing or cofferdams shall be constructed at the locations shown on the plans and/or as required for the excavation to protect the adjacent areas from settling or falling into the excavated areas.

Concrete sealant shall be applied to the surfaces of all pier and abutment seats, including backwalls located below roadway expansion joints. Sealant shall also be applied to all exposed surfaces of piers in the median or piers, abutments and wingwalls that are adjacent to the roadway. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the latest IDOT Standard Specifications for Road and Bridge Construction.

After the beams (girders) are set, all elevations for determining fillet heights shall be taken at one time.

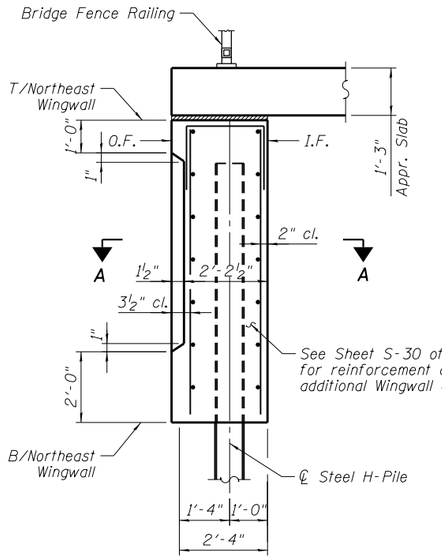
Upon completion of the structure, the Contractor shall measure the resulting horizontal and vertical clearances and submit them to the Engineer for review and inclusion in the As Built plans (Record Drawings).

The soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.

Protective Shield limits are out-to-out of existing bridge deck and 5'-0" beyond ℄ of existing shoulder piers (into end spans).

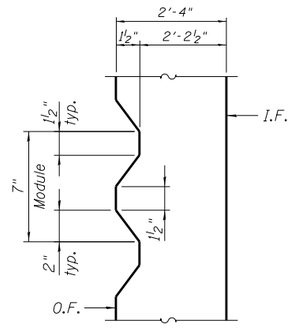
INDEX OF SHEETS

S-1	General Plan & Elevation	S-17	Diaphragm Details
S-2	General Data	S-18	Bridge Approach Slab Plan
S-3	Construction Staging & Details	S-19	Bridge Approach Slab Details
S-3A	Substructure Layout	S-20	Bridge Fence Railing, Sidewalk Mounted
S-3B	Pile Driving Record I	S-21	Drainage Scupper, DS-33
S-3C	Pile Driving Record II	S-22	Drainage System
S-3D	Pier Removal Details	S-23	Framing Plan
S-4	Temporary Concrete Barrier	S-24	72" PPC Bulb T-Beam Details I
S-5	Top of Slab Elevations I	S-25	72" PPC Bulb T-Beam Details II
S-6	Top of Slab Elevations II	S-26	West Abutment I
S-7	Top of Slab Elevations III	S-27	West Abutment II
S-8	Top of Slab Elevations IV	S-28	East Abutment I
S-9	Top of Slab Elevations V	S-29	East Abutment II
S-10	Top of Slab Elevations VI	S-30	Abutment Details
S-11	Top of West Approach Slab Elevations	S-31	Pier Details I
S-12	Top of East Approach Slab Elevations	S-32	Pier Details II
S-13	Superstructure Plan & Cross Section	S-33	HP Pile Details
S-14	Superstructure Details I	S-34	Bar Splicer Details
S-15	Superstructure Details II	S-35	Soil Boring Logs I
S-16	Superstructure Details III	S-36	Soil Boring Logs II



SECTION THRU NORTHEAST WINGWALL

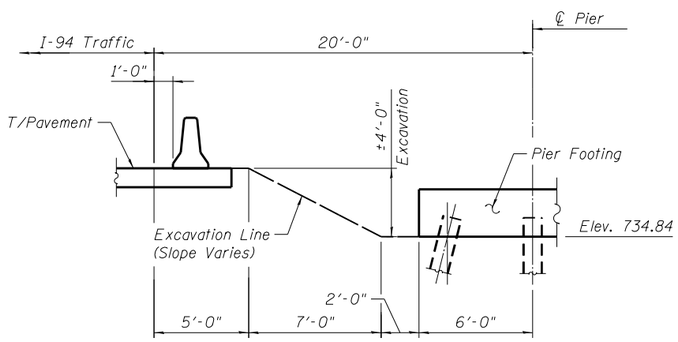
(Looking East)



SECTION A-A

(Reinf. not shown for clarity)

RUSTICATION DETAILS



MEDIAN PIER CONSTRUCTION DETAIL

(Symmetrical about ℄ Pier)

TOTAL BILL OF MATERIAL - IDOT

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	0.55	-	0.55
Protective Shield	Sq. Yd.	1,033	-	1,033
Concrete Structures	Cu. Yd.	80.8	-	80.8
Concrete Superstructure	Cu. Yd.	1,735.6	-	1,735.6
Bridge Deck Grooving	Sq. Yd.	2,960	-	2,960
Protective Coat	Sq. Yd.	4,825	-	4,825
Reinforcement Bars, Epoxy Coated	Pound	416,220	-	416,220
Bar Splicers	Each	1,220	-	1,220
Bridge Fence Railing (Sidewalk)	Foot	626	-	626
Parapet Railing	Foot	618	-	618
Drainage Scuppers, DS-33	Each	6	-	6
Name Plates	Each	-	1	1

TOTAL BILL OF MATERIAL - TOLLWAY

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Backfill	Cu. Yd.	-	638	638
Removal of Existing Structures	Each	0.10	0.35	0.45
Structure Excavation	Cu. Yd.	-	648	648
Concrete Structures	Cu. Yd.	-	564.5	564.5
Concrete Encasement	Cu. Yd.	-	29.6	29.6
Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams 72"	Foot	4,757	-	4,757
Reinforcement Bars, Epoxy Coated	Pound	-	64,120	64,120
Bar Splicers	Each	-	102	102
Slope Wall 4 Inch	Sq. Yd.	-	1,479	1,479
Furnishing Steel Piles HP 14x73	Foot	-	7,302	7,302
Driving Piles	Foot	-	7,302	7,302
Test Pile Steel HP 14x73	Each	-	3	3
Concrete Sealer	Sq. Ft.	-	5,084	5,084
Geocomposite Wall Drain	Sq. Yd.	-	280	280
Drainage System	L. Sum	-	1	1
Temporary Sheet Piling	Sq. Ft.	-	1,330	1,330
Pipe Underdrains for Structures 4"	Foot	-	287	287

CONSTRUCTION SPECIFICATIONS PERTAINING TO TOLLWAY PAY ITEMS

Illinois Department of Transportation Guide Bridge Special Provisions (GBSP's)

Tollway Supplemental Specifications to the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction Issued January 1, 2012

Illinois Department of Transportation Supplemental Specifications and Recurring Special Provisions Adopted January 1, 2012

Illinois Department of Transportation Standard Specifications for Road and Bridge Construction Adopted January 1, 2012

STATION 2031+77.64
BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RTE. 0303 SEC. 49-1-R-1
LOADING HL-93
STRUCTURE NO. 049-0535

NAME PLATE

See Std. 515001

BOWMAN, BARRETT & ASSOCIATES INC.
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PLOT DATE =	CHECKED - MRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-2 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	440
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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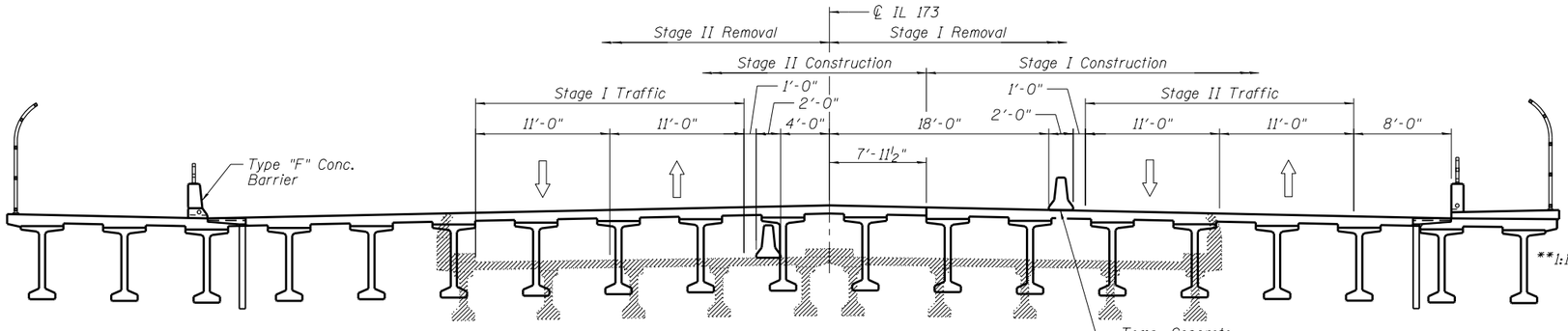
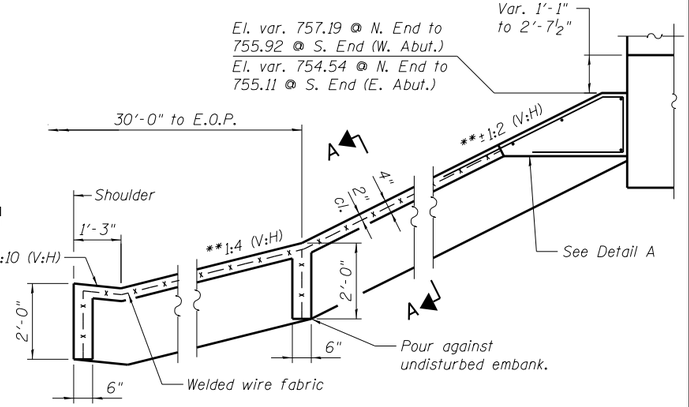


STAGE I & II CONSTRUCTION

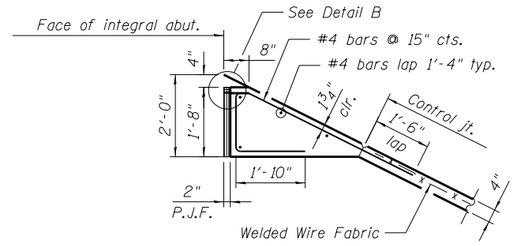
(Looking East)



Slope wall shall be reinforced with welded wire fabric, 6 in x 6 in - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft. Cost of welded wire fabric included with Slope Wall 4"

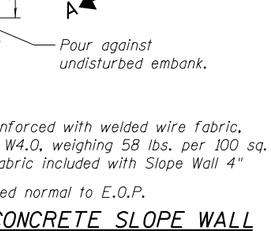
**Measured normal to E.O.P.

SECTION THRU CONCRETE SLOPE WALL



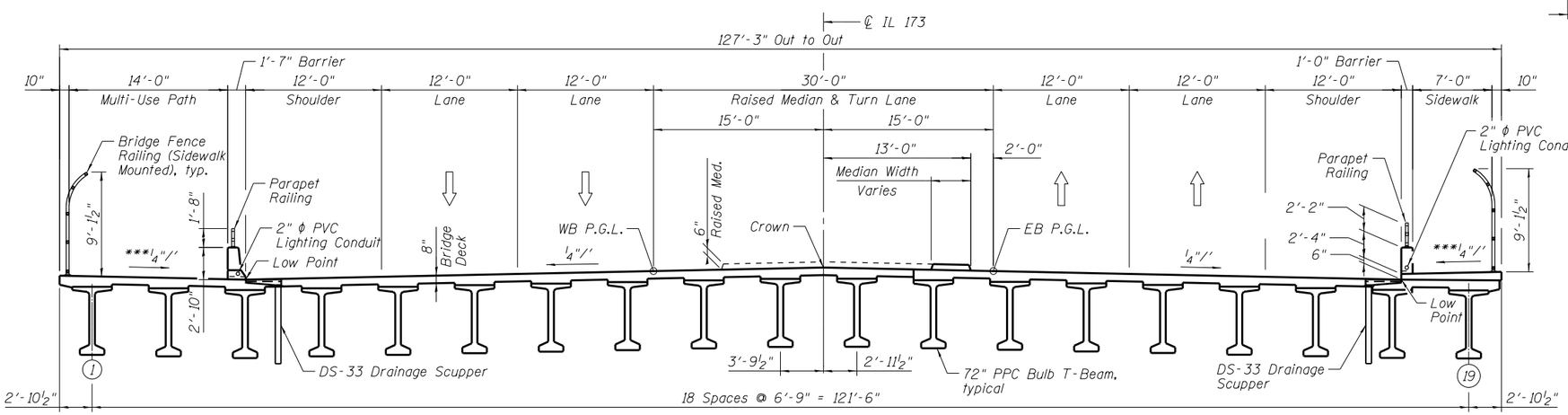
DETAIL A

DETAIL B



SECTION A-A

* 0'-0" at N. edge of W. Slopewall, to accommodate Retaining Wall (S.N. 049-W045)



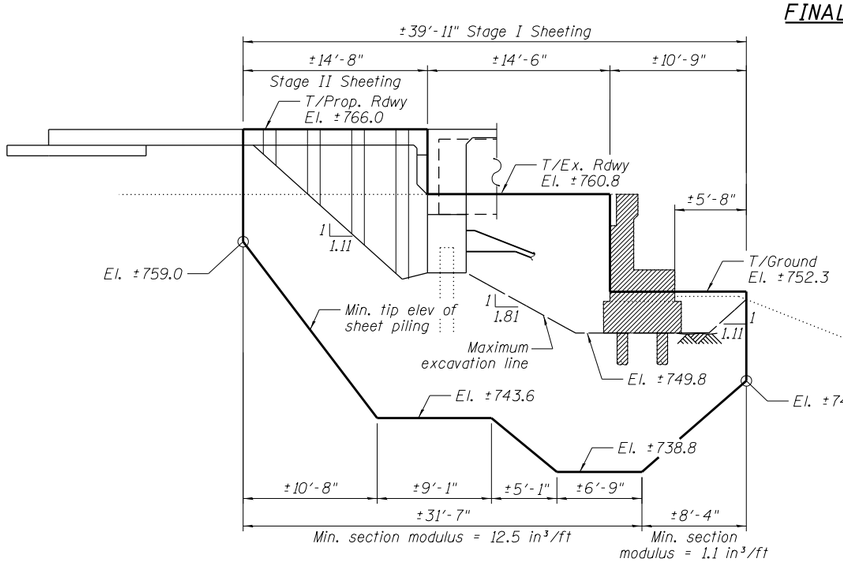
FINAL CONFIGURATION

(Looking East)

***Provide formed openings at base of barrier to allow drainage to reach scuppers (See Superstructure Details)

LEGEND

- Structure Removal Limits

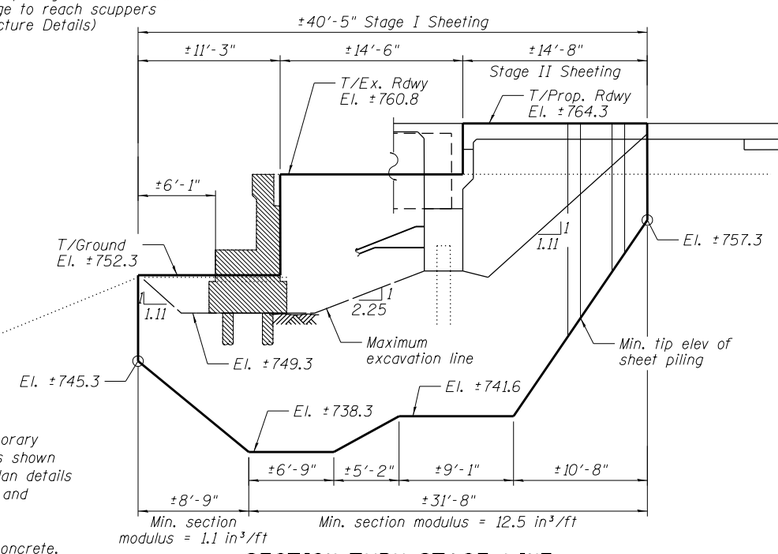


SECTION THRU STAGE LINE WEST ABUTMENT

Notes:

If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

Remove all existing abutment and wingwall concrete. Remove all abutment and wingwall piles to minimum depth of 2'-0" beneath proposed subgrade elevation.



SECTION THRU STAGE LINE EAST ABUTMENT

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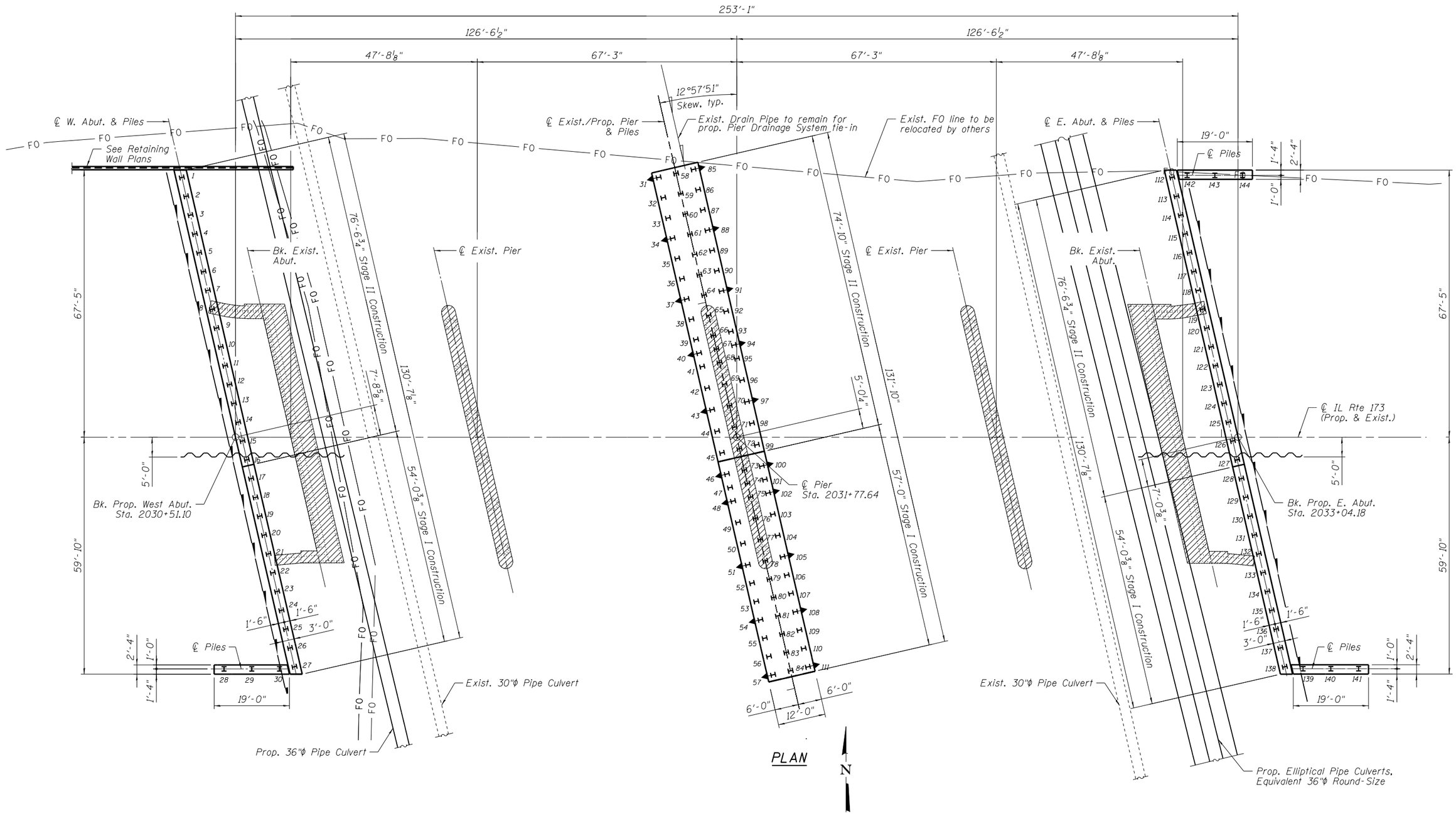
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING & DETAILS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-3 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	441
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			



Notes:

See Sheets S-27 thru S-31 for pile spacings at Prop. Abutments and Wingwalls.

See Sheets S-32 thru S-33 for pile spacings at Prop. Pier.

See Sheet S-3D for Pier Removal Details.

See Sheet S-3 for note regarding Abutment and Wingwall removal.

LEGEND

- H - H-Piles
- H▶ - Battered H-Piles
- ~~~ - Temporary Sheet Piling
- —— - Pipe Underdrains for Structures, 4"
- ▨ - Substructure Removal

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SUBSTRUCTURE LAYOUT
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-3A OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	441A
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

PILE DRIVING RECORD

Date Piles Driven: _____
(Month Year)

Type & Size of Pile Used: _____

Pile Driving Equipment Used: _____ Energy Rating: _____

Hammer Used: Type _____ Stroke _____ Weight _____

Formula Used to Calculate Capacity: _____

Pile Driving Contractor: _____ Engineer: _____

* For piles driven to refusal, blow count for the last foot shall be recorded in 6-inch increments. Pile damage, obstruction, pile rejection, test piles etc. shall be recorded in remarks column.

Pile Location	Pile No.	Ground Surface Elevation	Cut-off Elevation	Penetrated Length, Ft.	Driving Data For The Final 5 Ft. - Blows							Capacity Tons	Remarks
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"*	6" to 0"*		
W. Abut.	1												
	2												
	3												
	4												
	5												
	6												
	7												
	8												
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	10												
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Pier	31												
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Pile Location	Pile No.	Ground Surface Elevation	Cut-off Elevation	Penetrated Length, Ft.	Driving Data For The Final 5 Ft. - Blows							Capacity Tons	Remarks
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"*	6" to 0"*		
Pier	55												
	56												
	57												
	58												
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DEPARTMENT OF TRANSPORTATION

PILE DRIVING RECORD I
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-3B OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	441B
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

PILE DRIVING RECORD

Date Piles Driven: _____
(Month Year)

Type & Size of Pile Used: _____

Pile Driving Equipment Used: _____ Energy Rating: _____

Hammer Used: Type _____ Stroke _____ Weight _____

Formula Used to Calculate Capacity: _____

Pile Driving Contractor: _____ Engineer: _____

* For piles driven to refusal, blow count for the last foot shall be recorded in 6-inch increments. Pile damage, obstruction, pile rejection, test piles etc. shall be recorded in remarks column.

Pile Location	Pile No.	Ground Surface Elevation	Cut-off Elevation	Penetrated Length, Ft.	Driving Data For The Final 5 Ft. - Blows							Capacity Tons	Remarks
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"*	6" to 0"*		
Pier	109												
	110												
	111												
E. Abut.	112												
	113												
	114												
	115												
	116												
	117												
	118												
	119												
	120												
	121												
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Pile Location	Pile No.	Ground Surface Elevation	Cut-off Elevation	Penetrated Length, Ft.	Driving Data For The Final 5 Ft. - Blows							Capacity Tons	Remarks
					5' to 4'	4' to 3'	3' to 2'	2' to 1'	1' to 0'	12" to 6"*	6" to 0"*		

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PILE DRIVING RECORD II
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-3C OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	441C
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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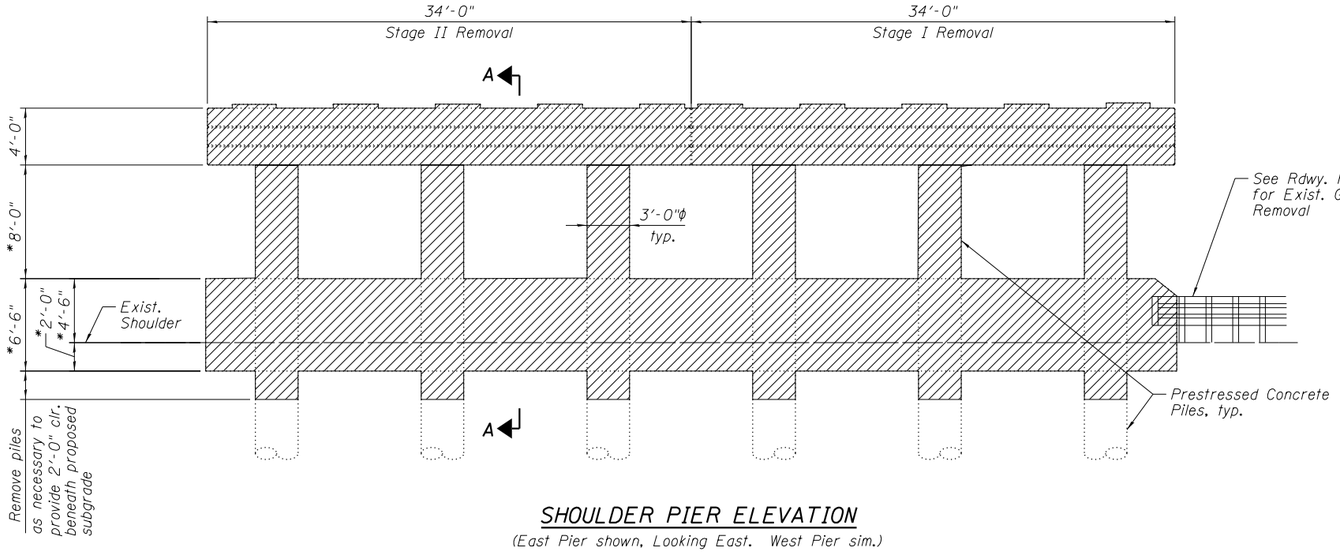
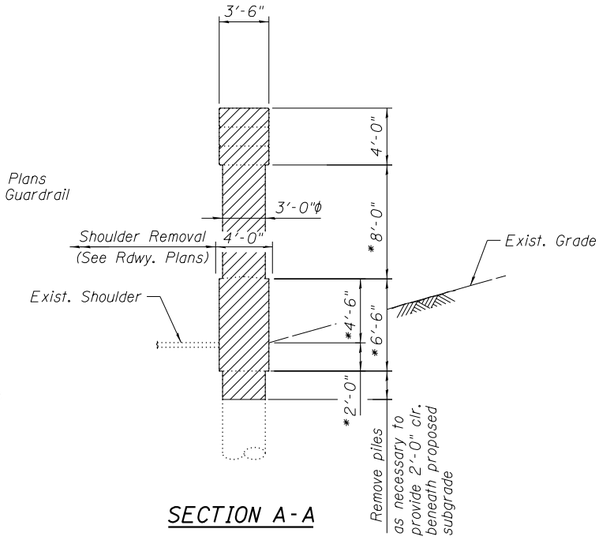
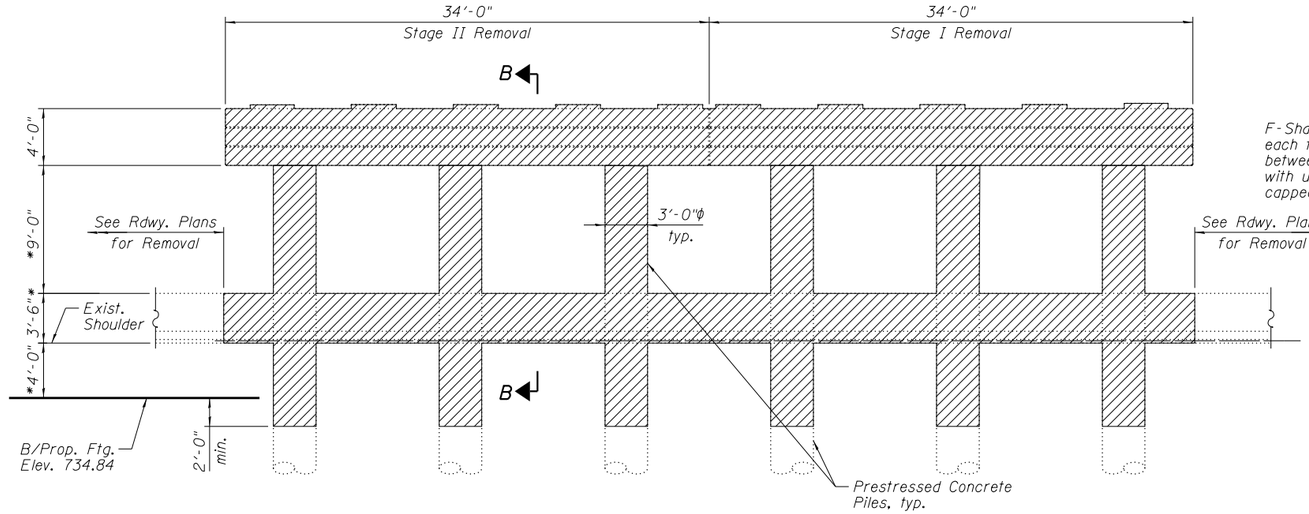


SHOULDER PIER ELEVATION

(East Pier shown, Looking East. West Pier sim.)

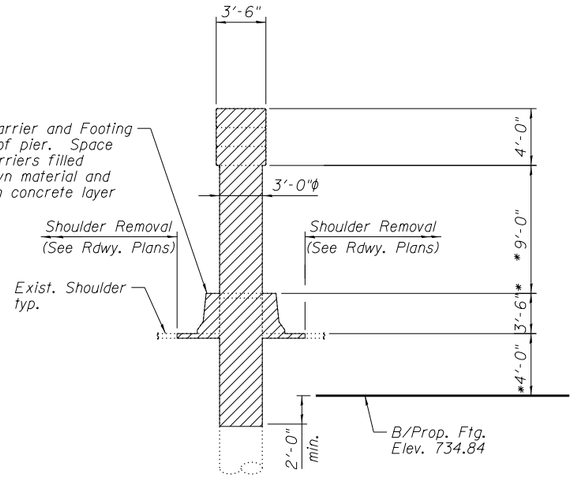


SECTION A-A



MEDIAN PIER ELEVATION

(Looking East)



SECTION B-B

* Dimension estimated based on best available information. Verify dimension in field.

LEGEND:

- Structure Removal Limits

Notes:

1. If hollow, fill prestressed concrete piles with granular material. Cost included with Removal of Existing Structures.
2. Contractor shall keep disturbance of in-situ soil to a minimum when removing piles below proposed footings. Any void under proposed footings resulting from removal of existing piles shall be backfilled with granular material at the direction of the Engineer. Cost of backfill included with Removal of Existing Structures.
3. See Electrical Drawings for removal of conduits, lighting units, etc. attached to existing pier.

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DEPARTMENT OF TRANSPORTATION

PIER REMOVAL DETAILS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-3D OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	441D
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		

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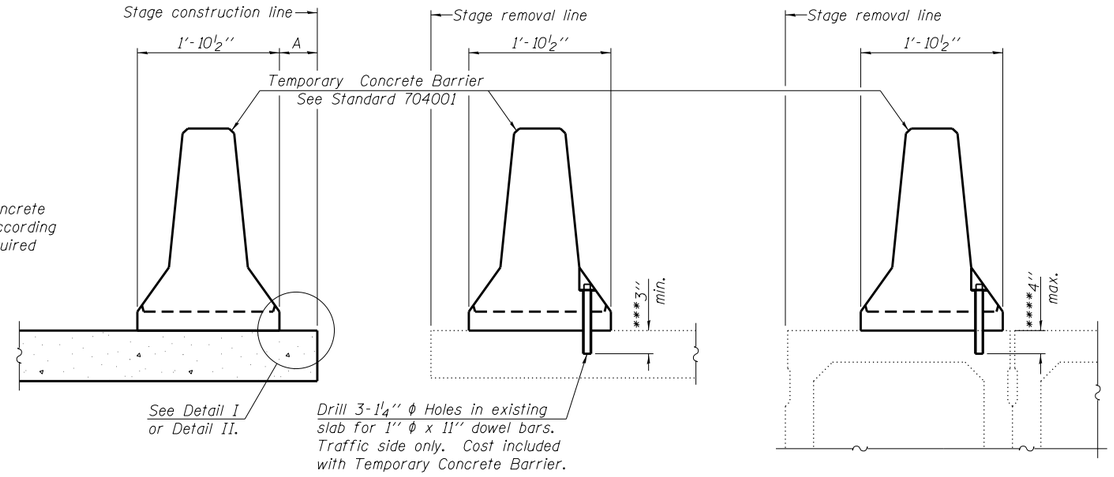
When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB

EXISTING SLAB

EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7' 'x "W" steel ℙ to the top layer of couplers with 2-$\frac{5}{8}$" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel ℙ to the concrete slab or concrete wearing surface with 2-$\frac{5}{8}$" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

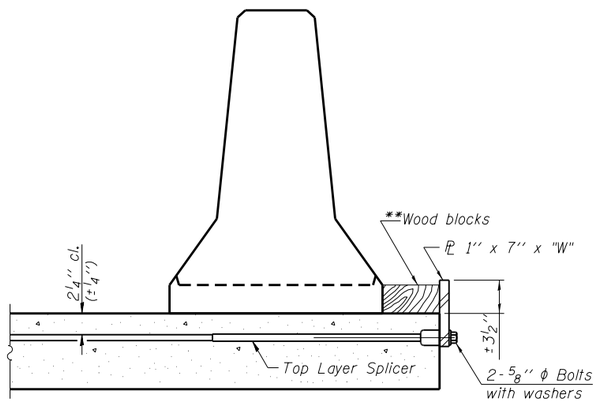
Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

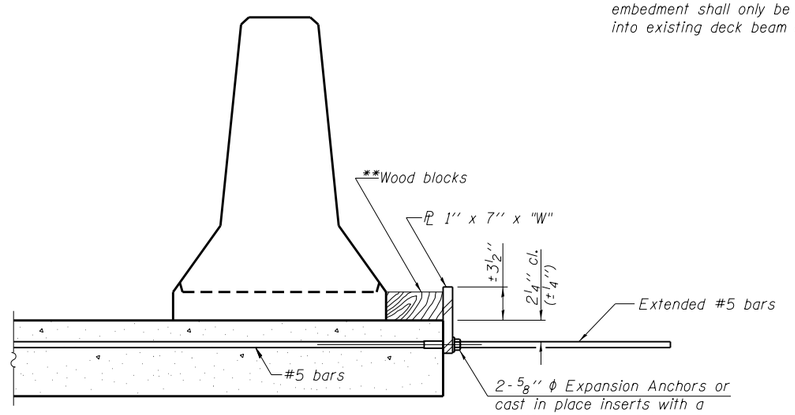
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



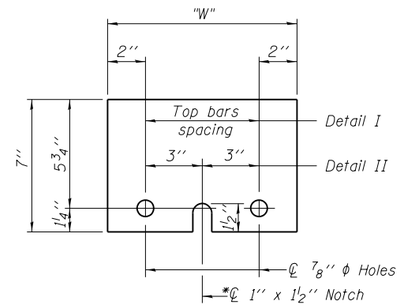
DETAIL I



DETAIL II

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"



STEEL RETAINER ℙ 1" x 7" x "W"

* Required only with Detail II

R-27

7-1-10

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TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-4 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	442
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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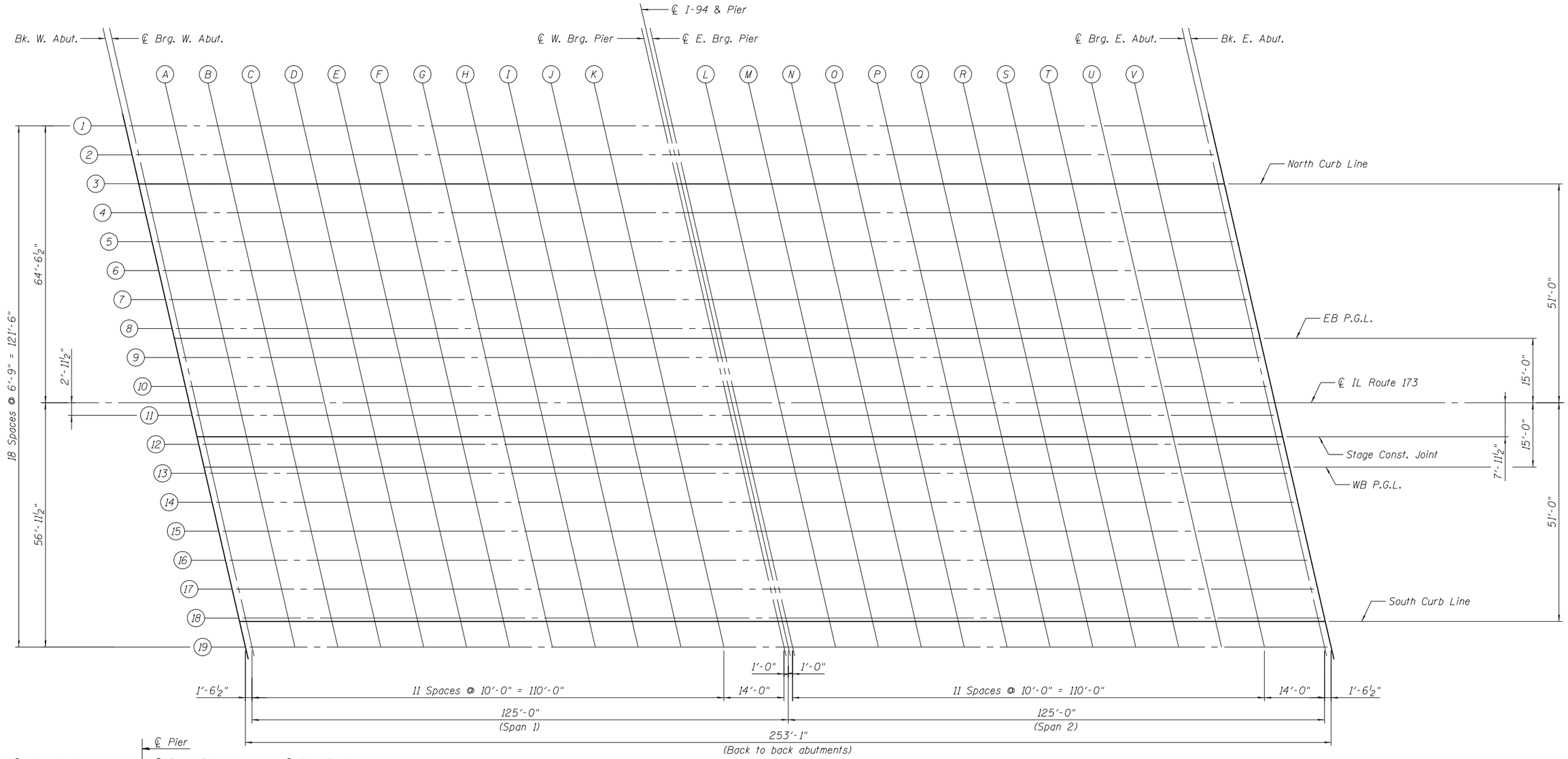
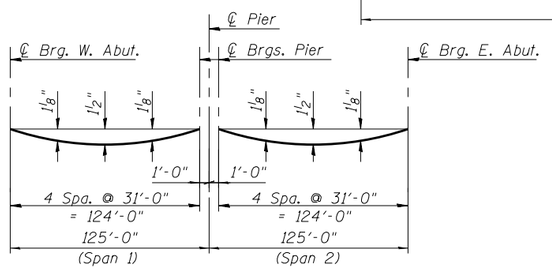




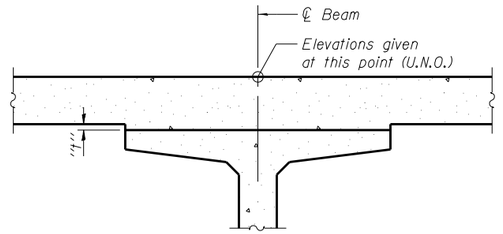
DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on the following sheets.

PLAN - SLAB ELEVATION LAYOUT

N



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on the following pages, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS

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TOP OF SLAB ELEVATIONS I
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-5 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	443
		CONTRACT NO. 60L77		
	ILLINOIS	FED. AID PROJECT		

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+36.24	-64.54	765.12	765.12
℄ Brg. W. Abut.	2030+37.78	-64.54	765.12	765.12
A	2030+47.78	-64.54	765.17	765.20
B	2030+57.78	-64.54	765.21	765.28
C	2030+67.78	-64.54	765.26	765.35
D	2030+77.78	-64.54	765.30	765.41
E	2030+87.78	-64.54	765.34	765.46
F	2030+97.78	-64.54	765.37	765.50
G	2031+07.78	-64.54	765.38	765.51
H	2031+17.78	-64.54	765.39	765.50
I	2031+27.78	-64.54	765.38	765.48
J	2031+37.78	-64.54	765.37	765.44
K	2031+47.78	-64.54	765.34	765.38
℄ W. Brg. Pier	2031+61.78	-64.54	765.28	765.28
℄ Pier	2031+62.78	-64.54	765.28	765.28
℄ E. Brg. Pier	2031+63.78	-64.54	765.27	765.27
L	2031+73.78	-64.54	765.22	765.25
M	2031+83.78	-64.54	765.15	765.21
N	2031+93.78	-64.54	765.08	765.16
O	2032+03.78	-64.54	764.99	765.09
P	2032+13.78	-64.54	764.89	765.01
Q	2032+23.78	-64.54	764.78	764.91
R	2032+33.78	-64.54	764.66	764.79
S	2032+43.78	-64.54	764.53	764.64
T	2032+53.78	-64.54	764.39	764.49
U	2032+63.78	-64.54	764.24	764.31
V	2032+73.78	-64.54	764.07	764.12
℄ Brg. E. Abut.	2032+87.78	-64.54	763.83	763.83
Bk E. Abut.	2032+89.32	-64.54	763.80	763.80

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+37.80	-57.79	764.98	764.98
℄ Brg. W. Abut.	2030+39.34	-57.79	764.99	764.99
A	2030+49.34	-57.79	765.04	765.07
B	2030+59.34	-57.79	765.08	765.14
C	2030+69.34	-57.79	765.13	765.21
D	2030+79.34	-57.79	765.17	765.28
E	2030+89.34	-57.79	765.21	765.33
F	2030+99.34	-57.79	765.23	765.36
G	2031+09.34	-57.79	765.25	765.37
H	2031+19.34	-57.79	765.25	765.36
I	2031+29.34	-57.79	765.24	765.34
J	2031+39.34	-57.79	765.22	765.29
K	2031+49.34	-57.79	765.19	765.24
℄ W. Brg. Pier	2031+63.34	-57.79	765.14	765.14
℄ Pier	2031+64.34	-57.79	765.13	765.13
℄ E. Brg. Pier	2031+65.34	-57.79	765.13	765.13
L	2031+75.34	-57.79	765.07	765.10
M	2031+85.34	-57.79	765.00	765.06
N	2031+95.34	-57.79	764.92	765.01
O	2032+05.34	-57.79	764.83	764.94
P	2032+15.34	-57.79	764.73	764.85
Q	2032+25.34	-57.79	764.62	764.75
R	2032+35.34	-57.79	764.50	764.62
S	2032+45.34	-57.79	764.37	764.48
T	2032+55.34	-57.79	764.23	764.32
U	2032+65.34	-57.79	764.07	764.15
V	2032+75.34	-57.79	763.91	763.95
℄ Brg. E. Abut.	2032+89.34	-57.79	763.66	763.66
Bk E. Abut.	2032+90.88	-57.79	763.63	763.63

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+39.35	-51.04	764.85	764.85
℄ Brg. W. Abut.	2030+40.89	-51.04	764.86	764.86
A	2030+50.89	-51.04	764.90	764.94
B	2030+60.89	-51.04	764.95	765.01
C	2030+70.89	-51.04	764.99	765.08
D	2030+80.89	-51.04	765.04	765.14
E	2030+90.89	-51.04	765.07	765.19
F	2031+00.89	-51.04	765.09	765.22
G	2031+10.89	-51.04	765.11	765.23
H	2031+20.89	-51.04	765.11	765.22
I	2031+30.89	-51.04	765.10	765.19
J	2031+40.89	-51.04	765.08	765.15
K	2031+50.89	-51.04	765.05	765.09
℄ W. Brg. Pier	2031+64.89	-51.04	764.99	764.99
℄ Pier	2031+65.89	-51.04	764.98	764.98
℄ E. Brg. Pier	2031+66.89	-51.04	764.98	764.98
L	2031+76.89	-51.04	764.92	764.95
M	2031+86.89	-51.04	764.85	764.91
N	2031+96.89	-51.04	764.77	764.85
O	2032+06.89	-51.04	764.68	764.78
P	2032+16.89	-51.04	764.58	764.70
Q	2032+26.89	-51.04	764.46	764.59
R	2032+36.89	-51.04	764.34	764.46
S	2032+46.89	-51.04	764.21	764.32
T	2032+56.89	-51.04	764.06	764.16
U	2032+66.89	-51.04	763.91	763.98
V	2032+76.89	-51.04	763.74	763.79
℄ Brg. E. Abut.	2032+90.89	-51.04	763.49	763.49
Bk E. Abut.	2032+92.43	-51.04	763.46	763.46

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+39.36	-51.00	764.85	764.85
℄ Brg. W. Abut.	2030+40.90	-51.00	764.86	764.86
A	2030+50.90	-51.00	764.90	764.93
B	2030+60.90	-51.00	764.95	765.01
C	2030+70.90	-51.00	764.99	765.08
D	2030+80.90	-51.00	765.04	765.14
E	2030+90.90	-51.00	765.07	765.19
F	2031+00.90	-51.00	765.09	765.22
G	2031+10.90	-51.00	765.10	765.23
H	2031+20.90	-51.00	765.11	765.22
I	2031+30.90	-51.00	765.10	765.19
J	2031+40.90	-51.00	765.08	765.15
K	2031+50.90	-51.00	765.05	765.09
℄ W. Brg. Pier	2031+64.90	-51.00	764.99	764.99
℄ Pier	2031+65.90	-51.00	764.98	764.98
℄ E. Brg. Pier	2031+66.90	-51.00	764.98	764.98
L	2031+76.90	-51.00	764.92	764.95
M	2031+86.90	-51.00	764.85	764.91
N	2031+96.90	-51.00	764.77	764.85
O	2032+06.90	-51.00	764.68	764.78
P	2032+16.90	-51.00	764.58	764.70
Q	2032+26.90	-51.00	764.46	764.59
R	2032+36.90	-51.00	764.34	764.46
S	2032+46.90	-51.00	764.21	764.32
T	2032+56.90	-51.00	764.06	764.16
U	2032+66.90	-51.00	763.91	763.98
V	2032+76.90	-51.00	763.74	763.78
℄ Brg. E. Abut.	2032+90.90	-51.00	763.49	763.49
Bk E. Abut.	2032+92.44	-51.00	763.46	763.46

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+40.90	-44.29	765.00	765.00
℄ Brg. W. Abut.	2030+42.44	-44.29	765.00	765.00
A	2030+52.44	-44.29	765.05	765.08
B	2030+62.44	-44.29	765.09	765.16
C	2030+72.44	-44.29	765.14	765.23
D	2030+82.44	-44.29	765.18	765.29
E	2030+92.44	-44.29	765.21	765.34
F	2031+02.44	-44.29	765.23	765.36
G	2031+12.44	-44.29	765.25	765.37
H	2031+22.44	-44.29	765.25	765.36
I	2031+32.44	-44.29	765.23	765.33
J	2031+42.44	-44.29	765.21	765.29
K	2031+52.44	-44.29	765.18	765.22
℄ W. Brg. Pier	2031+66.44	-44.29	765.12	765.12
℄ Pier	2031+67.44	-44.29	765.11	765.11
℄ E. Brg. Pier	2031+68.44	-44.29	765.11	765.11
L	2031+78.44	-44.29	765.05	765.08
M	2031+88.44	-44.29	764.98	765.04
N	2031+98.44	-44.29	764.89	764.98
O	2032+08.44	-44.29	764.80	764.91
P	2032+18.44	-44.29	764.70	764.82
Q	2032+28.44	-44.29	764.58	764.71
R	2032+38.44	-44.29	764.46	764.58
S	2032+48.44	-44.29	764.32	764.44
T	2032+58.44	-44.29	764.18	764.27
U	2032+68.44	-44.29	764.02	764.09
V	2032+78.44	-44.29	763.85	763.90
℄ Brg. E. Abut.	2032+92.44	-44.29	763.60	763.60
Bk E. Abut.	2032+93.98	-44.29	763.57	763.57

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+42.46	-37.54	765.14	765.14
℄ Brg. W. Abut.	2030+44.00	-37.54	765.15	765.15
A	2030+54.00	-37.54	765.20	765.23
B	2030+64.00	-37.54	765.24	765.30
C	2030+74.00	-37.54	765.29	765.37
D	2030+84.00	-37.54	765.33	765.44
E	2030+94.00	-37.54	765.36	765.48
F	2031+04.00	-37.54	765.38	765.50
G	2031+14.00	-37.54	765.39	765.51
H	2031+24.00	-37.54	765.39	765.50
I	2031+34.00	-37.54	765.37	765.47
J	2031+44.00	-37.54	765.35	765.42
K	2031+54.00	-37.54	765.32	765.36
℄ W. Brg. Pier	2031+68.00	-37.54	765.25	765.25
℄ Pier	2031+69.00	-37.54	765.24	765.24
℄ E. Brg. Pier	2031+70.00	-37.54	765.24	765.24
L	2031+80.00	-37.54	765.18	765.21
M	2031+90.00	-37.54	765.10	765.16
N	2032+00.00	-37.54	765.02	765.11
O	2032+10.00	-37.54	764.93	765.03
P	2032+20.00	-37.54	764.82	764.94
Q	2032+30.00	-37.54	764.71	764.83
R	2032+40.00	-37.54	764.58	764.70
S	2032+50.00	-37.54	764.44	764.56
T	2032+60.00	-37.54	764.29	764.39
U	2032+70.00	-37.54	764.14	764.21
V	2032+80.00	-37.54	763.97	764.01
℄ Brg. E. Abut.	2032+94.00	-37.54	763.71	763.71
Bk E. Abut.	2032+95.54	-37.54	763.68	763.68

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	CHECKED - TL	REVISED -
PLOT SCALE =	DRAWN - MTR	REVISED -
PLOT DATE =	CHECKED - MRM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS II
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-6 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	444
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+44.01	-30.79	765.29	765.29
℄ Brg. W. Abut.	2030+45.55	-30.79	765.30	765.30
A	2030+55.55	-30.79	765.34	765.38
B	2030+65.55	-30.79	765.39	765.45
C	2030+75.55	-30.79	765.43	765.52
D	2030+85.55	-30.79	765.47	765.58
E	2030+95.55	-30.79	765.50	765.62
F	2031+05.55	-30.79	765.52	765.65
G	2031+15.55	-30.79	765.53	765.65
H	2031+25.55	-30.79	765.52	765.64
I	2031+35.55	-30.79	765.51	765.61
J	2031+45.55	-30.79	765.49	765.56
K	2031+55.55	-30.79	765.45	765.49
℄ W. Brg. Pier	2031+69.55	-30.79	765.38	765.38
℄ Pier	2031+70.55	-30.79	765.38	765.38
℄ E. Brg. Pier	2031+71.55	-30.79	765.37	765.37
L	2031+81.55	-30.79	765.31	765.34
M	2031+91.55	-30.79	765.23	765.29
N	2032+01.55	-30.79	765.15	765.23
O	2032+11.55	-30.79	765.05	765.16
P	2032+21.55	-30.79	764.95	765.07
Q	2032+31.55	-30.79	764.83	764.95
R	2032+41.55	-30.79	764.70	764.82
S	2032+51.55	-30.79	764.56	764.67
T	2032+61.55	-30.79	764.41	764.51
U	2032+71.55	-30.79	764.25	764.32
V	2032+81.55	-30.79	764.08	764.12
℄ Brg. E. Abut.	2032+95.55	-30.79	763.82	763.82
Bk E. Abut.	2032+97.09	-30.79	763.79	763.79

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+45.57	-24.04	765.44	765.44
℄ Brg. W. Abut.	2030+47.11	-24.04	765.45	765.45
A	2030+57.11	-24.04	765.49	765.52
B	2030+67.11	-24.04	765.54	765.60
C	2030+77.11	-24.04	765.58	765.67
D	2030+87.11	-24.04	765.62	765.73
E	2030+97.11	-24.04	765.65	765.77
F	2031+07.11	-24.04	765.66	765.79
G	2031+17.11	-24.04	765.67	765.79
H	2031+27.11	-24.04	765.66	765.78
I	2031+37.11	-24.04	765.65	765.74
J	2031+47.11	-24.04	765.62	765.69
K	2031+57.11	-24.04	765.58	765.63
℄ W. Brg. Pier	2031+71.11	-24.04	765.51	765.51
℄ Pier	2031+72.11	-24.04	765.51	765.51
℄ E. Brg. Pier	2031+73.11	-24.04	765.50	765.50
L	2031+83.11	-24.04	765.44	765.47
M	2031+93.11	-24.04	765.36	765.42
N	2032+03.11	-24.04	765.27	765.36
O	2032+13.11	-24.04	765.18	765.28
P	2032+23.11	-24.04	765.07	765.19
Q	2032+33.11	-24.04	764.95	765.08
R	2032+43.11	-24.04	764.82	764.94
S	2032+53.11	-24.04	764.68	764.79
T	2032+63.11	-24.04	764.53	764.62
U	2032+73.11	-24.04	764.37	764.44
V	2032+83.11	-24.04	764.19	764.24
℄ Brg. E. Abut.	2032+97.11	-24.04	763.93	763.93
Bk E. Abut.	2032+98.65	-24.04	763.90	763.90

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+47.12	-17.29	765.59	765.59
℄ Brg. W. Abut.	2030+48.66	-17.29	765.59	765.59
A	2030+58.66	-17.29	765.64	765.67
B	2030+68.66	-17.29	765.68	765.75
C	2030+78.66	-17.29	765.73	765.82
D	2030+88.66	-17.29	765.77	765.87
E	2030+98.66	-17.29	765.79	765.91
F	2031+08.66	-17.29	765.81	765.93
G	2031+18.66	-17.29	765.81	765.93
H	2031+28.66	-17.29	765.80	765.92
I	2031+38.66	-17.29	765.79	765.88
J	2031+48.66	-17.29	765.76	765.83
K	2031+58.66	-17.29	765.72	765.76
℄ W. Brg. Pier	2031+72.66	-17.29	765.65	765.65
℄ Pier	2031+73.66	-17.29	765.64	765.64
℄ E. Brg. Pier	2031+74.66	-17.29	765.63	765.63
L	2031+84.66	-17.29	765.57	765.60
M	2031+94.66	-17.29	765.49	765.55
N	2032+04.66	-17.29	765.40	765.49
O	2032+14.66	-17.29	765.30	765.41
P	2032+24.66	-17.29	765.19	765.31
Q	2032+34.66	-17.29	765.07	765.20
R	2032+44.66	-17.29	764.94	765.06
S	2032+54.66	-17.29	764.80	764.91
T	2032+64.66	-17.29	764.64	764.74
U	2032+74.66	-17.29	764.48	764.55
V	2032+84.66	-17.29	764.31	764.35
℄ Brg. E. Abut.	2032+98.66	-17.29	764.04	764.04
Bk E. Abut.	2033+00.20	-17.29	764.01	764.01

WESTBOUND PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+47.65	-15.00	765.64	765.64
℄ Brg. W. Abut.	2030+49.19	-15.00	765.64	765.64
A	2030+59.19	-15.00	765.69	765.72
B	2030+69.19	-15.00	765.73	765.80
C	2030+79.19	-15.00	765.78	765.87
D	2030+89.19	-15.00	765.81	765.92
E	2030+99.19	-15.00	765.84	765.96
F	2031+09.19	-15.00	765.85	765.98
G	2031+19.19	-15.00	765.86	765.98
H	2031+29.19	-15.00	765.85	765.96
I	2031+39.19	-15.00	765.83	765.93
J	2031+49.19	-15.00	765.80	765.87
K	2031+59.19	-15.00	765.76	765.81
℄ W. Brg. Pier	2031+73.19	-15.00	765.69	765.69
℄ Pier	2031+74.19	-15.00	765.68	765.68
℄ E. Brg. Pier	2031+75.19	-15.00	765.68	765.68
L	2031+85.19	-15.00	765.61	765.64
M	2031+95.19	-15.00	765.53	765.59
N	2032+05.19	-15.00	765.44	765.53
O	2032+15.19	-15.00	765.34	765.45
P	2032+25.19	-15.00	765.23	765.35
Q	2032+35.19	-15.00	765.11	765.24
R	2032+45.19	-15.00	764.98	765.10
S	2032+55.19	-15.00	764.84	764.95
T	2032+65.19	-15.00	764.68	764.78
U	2032+75.19	-15.00	764.52	764.59
V	2032+85.19	-15.00	764.34	764.39
℄ Brg. E. Abut.	2032+99.19	-15.00	764.08	764.08
Bk E. Abut.	2033+00.73	-15.00	764.05	764.05

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+48.67	-10.54	765.73	765.73
℄ Brg. W. Abut.	2030+50.21	-10.54	765.74	765.74
A	2030+60.21	-10.54	765.79	765.82
B	2030+70.21	-10.54	765.83	765.89
C	2030+80.21	-10.54	765.88	765.96
D	2030+90.21	-10.54	765.91	766.02
E	2031+00.21	-10.54	765.93	766.06
F	2031+10.21	-10.54	765.95	766.07
G	2031+20.21	-10.54	765.95	766.07
H	2031+30.21	-10.54	765.94	766.05
I	2031+40.21	-10.54	765.92	766.02
J	2031+50.21	-10.54	765.89	765.96
K	2031+60.21	-10.54	765.85	765.90
℄ W. Brg. Pier	2031+74.21	-10.54	765.78	765.78
℄ Pier	2031+75.21	-10.54	765.77	765.77
℄ E. Brg. Pier	2031+76.21	-10.54	765.76	765.76
L	2031+86.21	-10.54	765.70	765.73
M	2031+96.21	-10.54	765.62	765.68
N	2032+06.21	-10.54	765.53	765.61
O	2032+16.21	-10.54	765.43	765.53
P	2032+26.21	-10.54	765.31	765.43
Q	2032+36.21	-10.54	765.19	765.32
R	2032+46.21	-10.54	765.06	765.18
S	2032+56.21	-10.54	764.91	765.03
T	2032+66.21	-10.54	764.76	764.86
U	2032+76.21	-10.54	764.59	764.67
V	2032+86.21	-10.54	764.42	764.46
℄ Brg. E. Abut.	2033+00.21	-10.54	764.15	764.15
Bk E. Abut.	2033+01.75	-10.54	764.12	764.12

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+50.23	-3.79	765.88	765.88
℄ Brg. W. Abut.	2030+51.77	-3.79	765.89	765.89
A	2030+61.77	-3.79	765.93	765.97
B	2030+71.77	-3.79	765.98	766.04
C	2030+81.77	-3.79	766.02	766.11
D	2030+91.77	-3.79	766.06	766.16
E	2031+01.77	-3.79	766.08	766.20
F	2031+11.77	-3.79	766.09	766.22
G	2031+21.77	-3.79	766.09	766.21
H	2031+31.77	-3.79	766.08	766.19
I	2031+41.77	-3.79	766.06	766.15
J	2031+51.77	-3.79	766.03	766.10
K	2031+61.77	-3.79	765.98	766.03
℄ W. Brg. Pier	2031+75.77	-3.79	765.91	765.91
℄ Pier	2031+76.77	-3.79	765.90	765.90
℄ E. Brg. Pier	2031+77.77	-3.79	765.89	765.89
L	2031+87.77	-3.79	765.82	765.86
M	2031+97.77	-3.79	765.74	765.80
N	2032+07.77	-3.79	765.65	765.74
O	2032+17.77	-3.79	765.55	765.66
P	2032+27.77	-3.79	765.44	765.56
Q	2032+37.77	-3.79	765.31	765.44
R	2032+47.77	-3.79	765.18	765.30
S	2032+57.77	-3.79	765.03	765.15
T	2032+67.77	-3.79	764.88	764.97
U	2032+77.77	-3.79	764.71	764.78
V	2032+87.77	-3.79	764.53	764.58
℄ Brg. E. Abut.	2033+01.77	-3.79	764.26	764.26
Bk E. Abut.	2033+03.31	-3.79	764.23	764.23

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Chicago, Illinois
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PLOT DATE =	CHECKED - MRM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS III
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-7 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	445
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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℄ IL ROUTE 173

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+51.10	0.00	765.97	765.97
℄ Brg. W. Abut.	2030+52.64	0.00	765.97	765.97
A	2030+62.64	0.00	766.02	766.05
B	2030+72.64	0.00	766.06	766.12
C	2030+82.64	0.00	766.10	766.19
D	2030+92.64	0.00	766.14	766.24
E	2031+02.64	0.00	766.16	766.28
F	2031+12.64	0.00	766.17	766.29
G	2031+22.64	0.00	766.17	766.29
H	2031+32.64	0.00	766.16	766.27
I	2031+42.64	0.00	766.14	766.23
J	2031+52.64	0.00	766.10	766.18
K	2031+62.64	0.00	766.06	766.10
℄ W. Brg. Pier	2031+76.64	0.00	765.98	765.98
℄ Pier	2031+77.64	0.00	765.97	765.97
℄ E. Brg. Pier	2031+78.64	0.00	765.97	765.97
L	2031+88.64	0.00	765.90	765.93
M	2031+98.64	0.00	765.81	765.88
N	2032+08.64	0.00	765.72	765.81
O	2032+18.64	0.00	765.62	765.73
P	2032+28.64	0.00	765.50	765.63
Q	2032+38.64	0.00	765.38	765.51
R	2032+48.64	0.00	765.24	765.37
S	2032+58.64	0.00	765.10	765.21
T	2032+68.64	0.00	764.94	765.04
U	2032+78.64	0.00	764.77	764.85
V	2032+88.64	0.00	764.59	764.64
℄ Brg. E. Abut.	2033+02.64	0.00	764.33	764.33
Bk E. Abut.	2033+04.18	0.00	764.29	764.29

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+51.78	2.96	765.91	765.91
℄ Brg. W. Abut.	2030+53.32	2.96	765.91	765.91
A	2030+63.32	2.96	765.96	765.99
B	2030+73.32	2.96	766.00	766.07
C	2030+83.32	2.96	766.05	766.13
D	2030+93.32	2.96	766.08	766.19
E	2031+03.32	2.96	766.10	766.22
F	2031+13.32	2.96	766.11	766.23
G	2031+23.32	2.96	766.11	766.23
H	2031+33.32	2.96	766.09	766.21
I	2031+43.32	2.96	766.07	766.17
J	2031+53.32	2.96	766.04	766.11
K	2031+63.32	2.96	765.99	766.04
℄ W. Brg. Pier	2031+77.32	2.96	765.92	765.92
℄ Pier	2031+78.32	2.96	765.91	765.91
℄ E. Brg. Pier	2031+79.32	2.96	765.90	765.90
L	2031+89.32	2.96	765.83	765.86
M	2031+99.32	2.96	765.75	765.81
N	2032+09.32	2.96	765.65	765.74
O	2032+19.32	2.96	765.55	765.66
P	2032+29.32	2.96	765.43	765.56
Q	2032+39.32	2.96	765.31	765.44
R	2032+49.32	2.96	765.17	765.30
S	2032+59.32	2.96	765.03	765.14
T	2032+69.32	2.96	764.87	764.96
U	2032+79.32	2.96	764.70	764.77
V	2032+89.32	2.96	764.52	764.56
℄ Brg. E. Abut.	2033+03.32	2.96	764.25	764.25
Bk E. Abut.	2033+04.86	2.96	764.22	764.22

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+52.93	7.96	765.81	765.81
℄ Brg. W. Abut.	2030+54.47	7.96	765.81	765.81
A	2030+64.47	7.96	765.86	765.89
B	2030+74.47	7.96	765.90	765.97
C	2030+84.47	7.96	765.95	766.03
D	2030+94.47	7.96	765.98	766.08
E	2031+04.47	7.96	765.99	766.12
F	2031+14.47	7.96	766.00	766.13
G	2031+24.47	7.96	766.00	766.12
H	2031+34.47	7.96	765.99	766.10
I	2031+44.47	7.96	765.96	766.06
J	2031+54.47	7.96	765.93	766.00
K	2031+64.47	7.96	765.88	765.93
℄ W. Brg. Pier	2031+78.47	7.96	765.80	765.80
℄ Pier	2031+79.47	7.96	765.80	765.80
℄ E. Brg. Pier	2031+80.47	7.96	765.79	765.79
L	2031+90.47	7.96	765.72	765.75
M	2032+00.47	7.96	765.63	765.69
N	2032+10.47	7.96	765.54	765.62
O	2032+20.47	7.96	765.43	765.54
P	2032+30.47	7.96	765.32	765.44
Q	2032+40.47	7.96	765.19	765.32
R	2032+50.47	7.96	765.05	765.18
S	2032+60.47	7.96	764.90	765.02
T	2032+70.47	7.96	764.74	764.84
U	2032+80.47	7.96	764.57	764.65
V	2032+90.47	7.96	764.39	764.44
℄ Brg. E. Abut.	2033+04.47	7.96	764.12	764.12
Bk E. Abut.	2033+06.01	7.96	764.09	764.09

BEAM 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+53.33	9.71	765.77	765.77
℄ Brg. W. Abut.	2030+54.87	9.71	765.78	765.78
A	2030+64.87	9.71	765.82	765.86
B	2030+74.87	9.71	765.87	765.93
C	2030+84.87	9.71	765.91	766.00
D	2030+94.87	9.71	765.94	766.05
E	2031+04.87	9.71	765.96	766.08
F	2031+14.87	9.71	765.97	766.09
G	2031+24.87	9.71	765.96	766.09
H	2031+34.87	9.71	765.95	766.06
I	2031+44.87	9.71	765.93	766.02
J	2031+54.87	9.71	765.89	765.96
K	2031+64.87	9.71	765.85	765.89
℄ W. Brg. Pier	2031+78.87	9.71	765.76	765.76
℄ Pier	2031+79.87	9.71	765.76	765.76
℄ E. Brg. Pier	2031+80.87	9.71	765.75	765.75
L	2031+90.87	9.71	765.68	765.71
M	2032+00.87	9.71	765.59	765.65
N	2032+10.87	9.71	765.50	765.58
O	2032+20.87	9.71	765.39	765.50
P	2032+30.87	9.71	765.28	765.40
Q	2032+40.87	9.71	765.15	765.27
R	2032+50.87	9.71	765.01	765.13
S	2032+60.87	9.71	764.86	764.97
T	2032+70.87	9.71	764.70	764.80
U	2032+80.87	9.71	764.53	764.60
V	2032+90.87	9.71	764.35	764.39
℄ Brg. E. Abut.	2033+04.87	9.71	764.08	764.08
Bk E. Abut.	2033+06.41	9.71	764.05	764.05

EASTBOUND PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+54.55	15.00	765.67	765.67
℄ Brg. W. Abut.	2030+56.09	15.00	765.68	765.68
A	2030+66.09	15.00	765.72	765.75
B	2030+76.09	15.00	765.77	765.83
C	2030+86.09	15.00	765.80	765.89
D	2030+96.09	15.00	765.83	765.94
E	2031+06.09	15.00	765.85	765.97
F	2031+16.09	15.00	765.86	765.98
G	2031+26.09	15.00	765.85	765.98
H	2031+36.09	15.00	765.84	765.95
I	2031+46.09	15.00	765.81	765.91
J	2031+56.09	15.00	765.78	765.85
K	2031+66.09	15.00	765.73	765.77
℄ W. Brg. Pier	2031+80.09	15.00	765.65	765.65
℄ Pier	2031+81.09	15.00	765.64	765.64
℄ E. Brg. Pier	2031+82.09	15.00	765.63	765.63
L	2031+92.09	15.00	765.56	765.59
M	2032+02.09	15.00	765.47	765.53
N	2032+12.09	15.00	765.38	765.46
O	2032+22.09	15.00	765.27	765.37
P	2032+32.09	15.00	765.15	765.27
Q	2032+42.09	15.00	765.02	765.15
R	2032+52.09	15.00	764.88	765.01
S	2032+62.09	15.00	764.73	764.85
T	2032+72.09	15.00	764.57	764.67
U	2032+82.09	15.00	764.40	764.47
V	2032+92.09	15.00	764.22	764.26
℄ Brg. E. Abut.	2033+06.09	15.00	763.94	763.94
Bk E. Abut.	2033+07.63	15.00	763.91	763.91

BEAM 13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+54.89	16.46	765.64	765.64
℄ Brg. W. Abut.	2030+56.43	16.46	765.65	765.65
A	2030+66.43	16.46	765.69	765.72
B	2030+76.43	16.46	765.74	765.80
C	2030+86.43	16.46	765.78	765.86
D	2030+96.43	16.46	765.80	765.91
E	2031+06.43	16.46	765.82	765.94
F	2031+16.43	16.46	765.83	765.95
G	2031+26.43	16.46	765.82	765.95
H	2031+36.43	16.46	765.81	765.92
I	2031+46.43	16.46	765.78	765.88
J	2031+56.43	16.46	765.74	765.82
K	2031+66.43	16.46	765.70	765.74
℄ W. Brg. Pier	2031+80.43	16.46	765.61	765.61
℄ Pier	2031+81.43	16.46	765.61	765.61
℄ E. Brg. Pier	2031+82.43	16.46	765.60	765.60
L	2031+92.43	16.46	765.52	765.56
M	2032+02.43	16.46	765.44	765.50
N	2032+12.43	16.46	765.34	765.43
O	2032+22.43	16.46	765.23	765.34
P	2032+32.43	16.46	765.12	765.24
Q	2032+42.43	16.46	764.99	765.11
R	2032+52.43	16.46	764.85	764.97
S	2032+62.43	16.46	764.70	764.81
T	2032+72.43	16.46	764.53	764.63
U	2032+82.43	16.46	764.36	764.44
V	2032+92.43	16.46	764.18	764.23
℄ Brg. E. Abut.	2033+06.43	16.46	763.91	763.91
Bk E. Abut.	2033+07.97	16.46	763.87	763.87

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BEAM 14

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+56.44	23.21	765.51	765.51
℄ Brg. W. Abut.	2030+57.98	23.21	765.51	765.51
A	2030+67.98	23.21	765.56	765.59
B	2030+77.98	23.21	765.60	765.67
C	2030+87.98	23.21	765.64	765.73
D	2030+97.98	23.21	765.67	765.77
E	2031+07.98	23.21	765.68	765.80
F	2031+17.98	23.21	765.69	765.81
G	2031+27.98	23.21	765.68	765.80
H	2031+37.98	23.21	765.66	765.78
I	2031+47.98	23.21	765.64	765.73
J	2031+57.98	23.21	765.60	765.67
K	2031+67.98	23.21	765.55	765.59
℄ W. Brg. Pier	2031+81.98	23.21	765.46	765.46
℄ Pier	2031+82.98	23.21	765.46	765.46
℄ E. Brg. Pier	2031+83.98	23.21	765.45	765.45
L	2031+93.98	23.21	765.37	765.40
M	2032+03.98	23.21	765.28	765.34
N	2032+13.98	23.21	765.18	765.27
O	2032+23.98	23.21	765.08	765.18
P	2032+33.98	23.21	764.96	765.08
Q	2032+43.98	23.21	764.82	764.95
R	2032+53.98	23.21	764.68	764.81
S	2032+63.98	23.21	764.53	764.65
T	2032+73.98	23.21	764.37	764.47
U	2032+83.98	23.21	764.19	764.27
V	2032+93.98	23.21	764.01	764.06
℄ Brg. E. Abut.	2033+07.98	23.21	763.73	763.73
Bk E. Abut.	2033+09.52	23.21	763.70	763.70

BEAM 15

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+58.00	29.96	765.37	765.37
℄ Brg. W. Abut.	2030+59.54	29.96	765.38	765.38
A	2030+69.54	29.96	765.42	765.46
B	2030+79.54	29.96	765.47	765.53
C	2030+89.54	29.96	765.50	765.59
D	2030+99.54	29.96	765.53	765.64
E	2031+09.54	29.96	765.54	765.66
F	2031+19.54	29.96	765.55	765.67
G	2031+29.54	29.96	765.54	765.66
H	2031+39.54	29.96	765.52	765.63
I	2031+49.54	29.96	765.49	765.59
J	2031+59.54	29.96	765.45	765.52
K	2031+69.54	29.96	765.40	765.44
℄ W. Brg. Pier	2031+83.54	29.96	765.31	765.31
℄ Pier	2031+84.54	29.96	765.30	765.30
℄ E. Brg. Pier	2031+85.54	29.96	765.30	765.30
L	2031+95.54	29.96	765.22	765.25
M	2032+05.54	29.96	765.13	765.19
N	2032+15.54	29.96	765.03	765.11
O	2032+25.54	29.96	764.92	765.02
P	2032+35.54	29.96	764.80	764.92
Q	2032+45.54	29.96	764.66	764.79
R	2032+55.54	29.96	764.52	764.64
S	2032+65.54	29.96	764.37	764.48
T	2032+75.54	29.96	764.20	764.30
U	2032+85.54	29.96	764.03	764.10
V	2032+95.54	29.96	763.84	763.88
℄ Brg. E. Abut.	2033+09.54	29.96	763.56	763.56
Bk E. Abut.	2033+11.08	29.96	763.53	763.53

BEAM 16

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+59.55	36.71	765.24	765.24
℄ Brg. W. Abut.	2030+61.09	36.71	765.25	765.25
A	2030+71.09	36.71	765.29	765.32
B	2030+81.09	36.71	765.33	765.40
C	2030+91.09	36.71	765.37	765.46
D	2031+01.09	36.71	765.39	765.50
E	2031+11.09	36.71	765.40	765.52
F	2031+21.09	36.71	765.40	765.53
G	2031+31.09	36.71	765.39	765.52
H	2031+41.09	36.71	765.37	765.49
I	2031+51.09	36.71	765.34	765.44
J	2031+61.09	36.71	765.30	765.37
K	2031+71.09	36.71	765.25	765.29
℄ W. Brg. Pier	2031+85.09	36.71	765.16	765.16
℄ Pier	2031+86.09	36.71	765.15	765.15
℄ E. Brg. Pier	2031+87.09	36.71	765.14	765.14
L	2031+97.09	36.71	765.06	765.10
M	2032+07.09	36.71	764.97	765.03
N	2032+17.09	36.71	764.87	764.96
O	2032+27.09	36.71	764.76	764.86
P	2032+37.09	36.71	764.63	764.76
Q	2032+47.09	36.71	764.50	764.63
R	2032+57.09	36.71	764.36	764.48
S	2032+67.09	36.71	764.20	764.31
T	2032+77.09	36.71	764.03	764.13
U	2032+87.09	36.71	763.86	763.93
V	2032+97.09	36.71	763.67	763.71
℄ Brg. E. Abut.	2033+11.09	36.71	763.39	763.39
Bk E. Abut.	2033+12.63	36.71	763.36	763.36

BEAM 17

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+61.10	43.46	765.10	765.10
℄ Brg. W. Abut.	2030+62.64	43.46	765.11	765.11
A	2030+72.64	43.46	765.16	765.19
B	2030+82.64	43.46	765.20	765.26
C	2030+92.64	43.46	765.23	765.32
D	2031+02.64	43.46	765.25	765.36
E	2031+12.64	43.46	765.26	765.39
F	2031+22.64	43.46	765.26	765.39
G	2031+32.64	43.46	765.25	765.38
H	2031+42.64	43.46	765.23	765.34
I	2031+52.64	43.46	765.20	765.29
J	2031+62.64	43.46	765.15	765.23
K	2031+72.64	43.46	765.10	765.14
℄ W. Brg. Pier	2031+86.64	43.46	765.01	765.01
℄ Pier	2031+87.64	43.46	765.00	765.00
℄ E. Brg. Pier	2031+88.64	43.46	764.99	764.99
L	2031+98.64	43.46	764.91	764.94
M	2032+08.64	43.46	764.82	764.88
N	2032+18.64	43.46	764.71	764.80
O	2032+28.64	43.46	764.60	764.71
P	2032+38.64	43.46	764.47	764.60
Q	2032+48.64	43.46	764.34	764.46
R	2032+58.64	43.46	764.19	764.32
S	2032+68.64	43.46	764.03	764.15
T	2032+78.64	43.46	763.87	763.96
U	2032+88.64	43.46	763.69	763.76
V	2032+98.64	43.46	763.50	763.54
℄ Brg. E. Abut.	2033+12.64	43.46	763.22	763.22
Bk E. Abut.	2033+14.18	43.46	763.18	763.18

BEAM 18

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+62.66	50.21	764.97	764.97
℄ Brg. W. Abut.	2030+64.20	50.21	764.98	764.98
A	2030+74.20	50.21	765.02	765.06
B	2030+84.20	50.21	765.06	765.13
C	2030+94.20	50.21	765.09	765.18
D	2031+04.20	50.21	765.11	765.22
E	2031+14.20	50.21	765.12	765.25
F	2031+24.20	50.21	765.12	765.25
G	2031+34.20	50.21	765.11	765.23
H	2031+44.20	50.21	765.09	765.20
I	2031+54.20	50.21	765.05	765.15
J	2031+64.20	50.21	765.01	765.08
K	2031+74.20	50.21	764.95	764.99
℄ W. Brg. Pier	2031+88.20	50.21	764.85	764.85
℄ Pier	2031+89.20	50.21	764.85	764.85
℄ E. Brg. Pier	2031+90.20	50.21	764.84	764.84
L	2032+00.20	50.21	764.76	764.79
M	2032+10.20	50.21	764.66	764.72
N	2032+20.20	50.21	764.56	764.64
O	2032+30.20	50.21	764.44	764.55
P	2032+40.20	50.21	764.31	764.43
Q	2032+50.20	50.21	764.18	764.30
R	2032+60.20	50.21	764.03	764.15
S	2032+70.20	50.21	763.87	763.98
T	2032+80.20	50.21	763.70	763.80
U	2032+90.20	50.21	763.52	763.59
V	2033+00.20	50.21	763.33	763.37
℄ Brg. E. Abut.	2033+14.20	50.21	763.04	763.04
Bk E. Abut.	2033+15.74	50.21	763.01	763.01

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+62.84	51.00	764.96	764.96
℄ Brg. W. Abut.	2030+64.38	51.00	764.96	764.96
A	2030+74.38	51.00	765.01	765.04
B	2030+84.38	51.00	765.05	765.11
C	2030+94.38	51.00	765.08	765.17
D	2031+04.38	51.00	765.10	765.21
E	2031+14.38	51.00	765.11	765.23
F	2031+24.38	51.00	765.10	765.23
G	2031+34.38	51.00	765.09	765.21
H	2031+44.38	51.00	765.07	765.18
I	2031+54.38	51.00	765.03	765.13
J	2031+64.38	51.00	764.99	765.06
K	2031+74.38	51.00	764.93	764.98
℄ W. Brg. Pier	2031+88.38	51.00	764.84	764.84
℄ Pier	2031+89.38	51.00	764.83	764.83
℄ E. Brg. Pier	2031+90.38	51.00	764.82	764.82
L	2032+00.38	51.00	764.74	764.77
M	2032+10.38	51.00	764.64	764.70
N	2032+20.38	51.00	764.54	764.62
O	2032+30.38	51.00	764.42	764.53
P	2032+40.38	51.00	764.29	764.42
Q	2032+50.38	51.00	764.16	764.28
R	2032+60.38	51.00	764.01	764.13
S	2032+70.38	51.00	763.85	763.96
T	2032+80.38	51.00	763.68	763.78
U	2032+90.38	51.00	763.50	763.57
V	2033+00.38	51.00	763.31	763.35
℄ Brg. E. Abut.	2033+14.38	51.00	763.02	763.02
Bk E. Abut.	2033+15.92	51.00	762.99	762.99

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

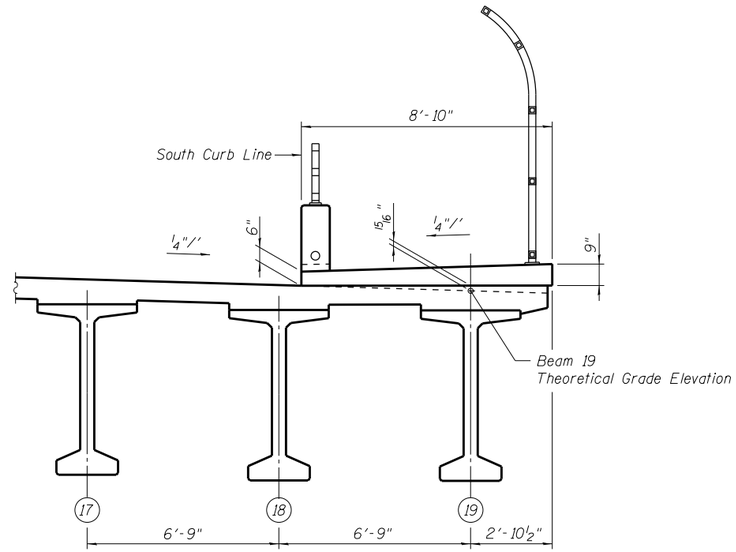
TOP OF SLAB ELEVATIONS V
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-9 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	447
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

BEAM 19*

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	2030+64.21	56.96	764.84	764.84
℄ Brg. W. Abut.	2030+65.75	56.96	764.84	764.84
A	2030+75.75	56.96	764.89	764.92
B	2030+85.75	56.96	764.93	764.99
C	2030+95.75	56.96	764.96	765.05
D	2031+05.75	56.96	764.98	765.08
E	2031+15.75	56.96	764.98	765.10
F	2031+25.75	56.96	764.98	765.11
G	2031+35.75	56.96	764.96	765.09
H	2031+45.75	56.96	764.94	765.05
I	2031+55.75	56.96	764.90	765.00
J	2031+65.75	56.96	764.86	764.93
K	2031+75.75	56.96	764.80	764.84
℄ W. Brg. Pier	2031+89.75	56.96	764.70	764.70
℄ Pier	2031+90.75	56.96	764.69	764.69
℄ E. Brg. Pier	2031+91.75	56.96	764.69	764.69
L	2032+01.75	56.96	764.60	764.63
M	2032+11.75	56.96	764.50	764.57
N	2032+21.75	56.96	764.40	764.48
O	2032+31.75	56.96	764.28	764.39
P	2032+41.75	56.96	764.15	764.27
Q	2032+51.75	56.96	764.01	764.14
R	2032+61.75	56.96	763.86	763.99
S	2032+71.75	56.96	763.70	763.82
T	2032+81.75	56.96	763.53	763.63
U	2032+91.75	56.96	763.35	763.42
V	2033+01.75	56.96	763.16	763.20
℄ Brg. E. Abut.	2033+15.75	56.96	762.87	762.87
Bk E. Abut.	2033+17.29	56.96	762.84	762.84

*See Section Thru Sidewalk (this sheet) for location of Beam 19 Theoretical Grade Elevation



SECTION THRU SIDEWALK
(Looking East)

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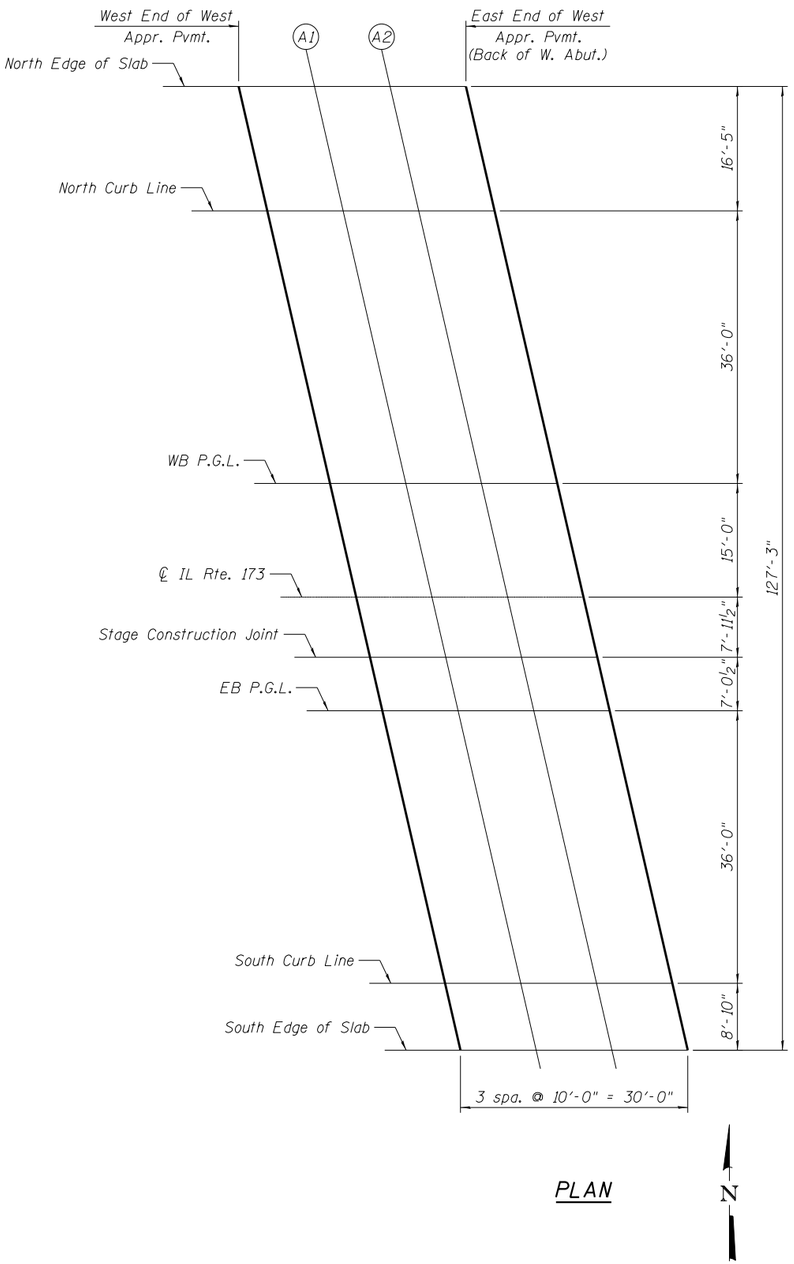
TOP OF SLAB ELEVATIONS VI
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-10 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	448
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			



PLAN

NORTH EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. end of West Appr. Pvmt.	2030+05.58	-67.42	765.04
A1	2030+15.58	-67.42	765.08
A2	2030+25.58	-67.42	765.13
E. end of West Appr. Pvmt.	2030+35.58	-67.42	765.17

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. end of West Appr. Pvmt.	2030+09.36	-51.00	764.71
A1	2030+19.36	-51.00	764.76
A2	2030+29.36	-51.00	764.80
E. end of West Appr. Pvmt.	2030+39.36	-51.00	764.85

WB P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
W. end of West Appr. Pvmt.	2030+17.65	-15.00	765.50
A1	2030+27.65	-15.00	765.55
A2	2030+37.65	-15.00	765.59
E. end of West Appr. Pvmt.	2030+47.65	-15.00	765.64

℄ IL RTE. 173

Location	Station	Offset	Theoretical Grade Elevations
W. end of West Appr. Pvmt.	2030+21.10	0.00	765.83
A1	2030+31.10	0.00	765.87
A2	2030+41.10	0.00	765.92
E. end of West Appr. Pvmt.	2030+51.10	0.00	765.97

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
W. end of West Appr. Pvmt.	2030+22.93	7.96	765.67
A1	2030+32.93	7.96	765.72
A2	2030+42.93	7.96	765.76
E. end of West Appr. Pvmt.	2030+52.93	7.96	765.81

EB P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
W. end of West Appr. Pvmt.	2030+24.55	15.00	765.53
A1	2030+34.55	15.00	765.58
A2	2030+44.55	15.00	765.62
E. end of West Appr. Pvmt.	2030+54.55	15.00	765.67

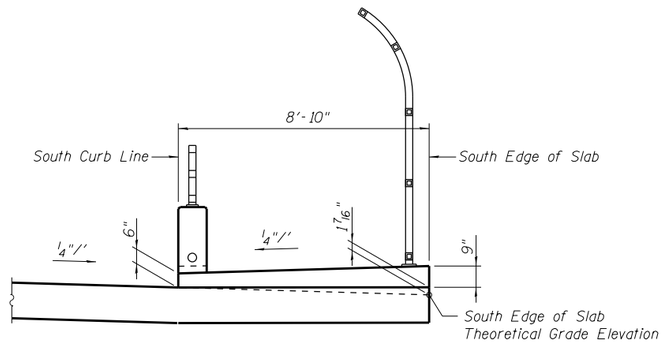
SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. end of West Appr. Pvmt.	2030+32.84	51.00	764.82
A1	2030+42.84	51.00	764.87
A2	2030+52.84	51.00	764.91
E. end of West Appr. Pvmt.	2030+62.84	51.00	764.96

SOUTH EDGE OF SLAB*

Location	Station	Offset	Theoretical Grade Elevations
W. end of West Appr. Pvmt.	2030+34.87	59.83	764.65
A1	2030+44.87	59.83	764.69
A2	2030+54.87	59.83	764.74
E. end of West Appr. Pvmt.	2030+64.87	59.83	764.78

*See Section Thru Sidewalk (this sheet) for location of South Edge of Slab Theoretical Grade Elevation



SECTION THRU SIDEWALK
(Looking East)

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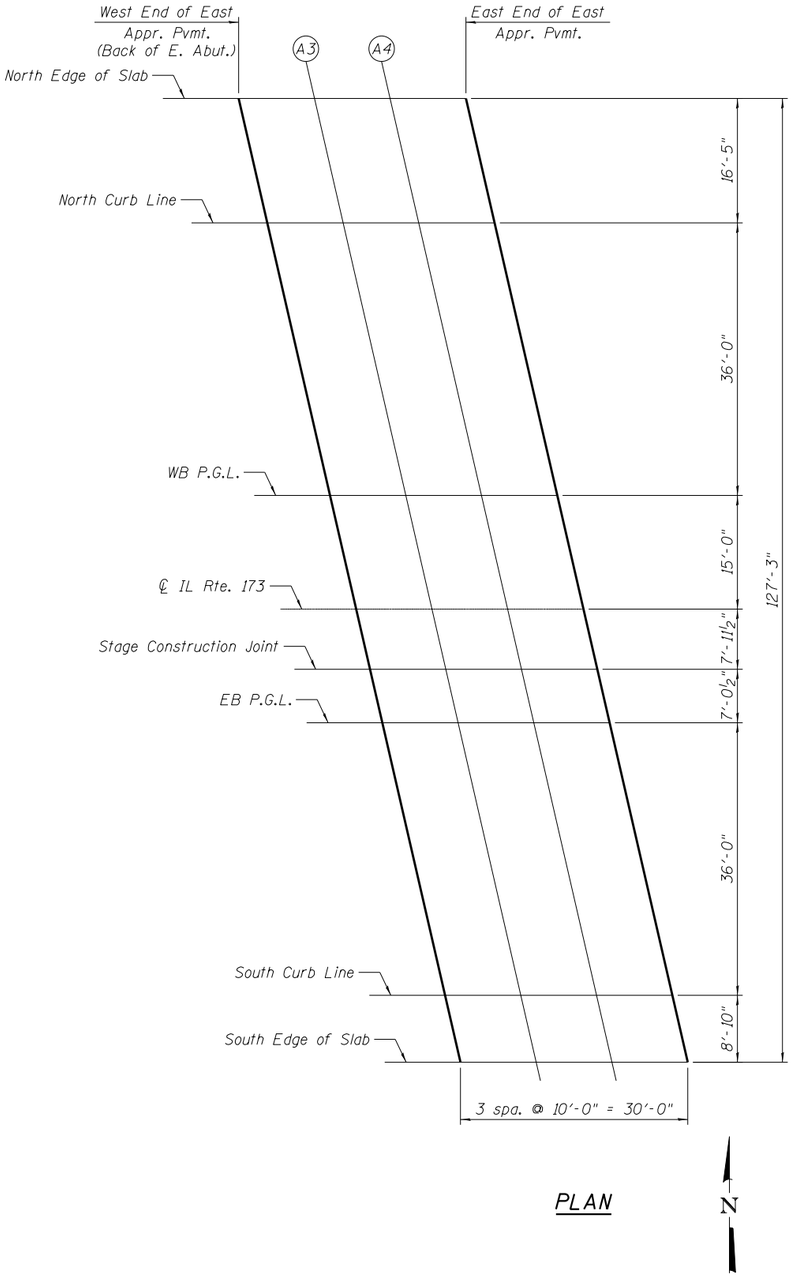
TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-11 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	449
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			



PLAN

NORTH EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. end of East Appr. Pvmt.	2032+88.66	-67.42	763.87
A3	2032+98.66	-67.42	763.68
A4	2033+08.66	-67.42	763.48
E. end of East Appr. Pvmt.	2033+18.66	-67.42	763.27

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. end of East Appr. Pvmt.	2032+92.44	-51.00	763.46
A3	2033+02.44	-51.00	763.27
A4	2033+12.44	-51.00	763.06
E. end of East Appr. Pvmt.	2033+22.44	-51.00	762.85

WB P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
W. end of East Appr. Pvmt.	2033+00.73	-15.00	764.05
A3	2033+10.73	-15.00	763.85
A4	2033+20.73	-15.00	763.63
E. end of East Appr. Pvmt.	2033+30.73	-15.00	763.41

℄ IL RTE. 173

Location	Station	Offset	Theoretical Grade Elevations
W. end of East Appr. Pvmt.	2033+04.18	0.00	764.29
A3	2033+14.18	0.00	764.09
A4	2033+24.18	0.00	763.87
E. end of East Appr. Pvmt.	2033+34.18	0.00	763.65

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
W. end of East Appr. Pvmt.	2033+06.01	7.96	764.09
A3	2033+16.01	7.96	763.88
A4	2033+26.01	7.96	763.66
E. end of East Appr. Pvmt.	2033+36.01	7.96	763.44

EB P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
W. end of East Appr. Pvmt.	2033+07.63	15.00	763.91
A3	2033+17.63	15.00	763.70
A4	2033+27.63	15.00	763.48
E. end of East Appr. Pvmt.	2033+37.63	15.00	763.26

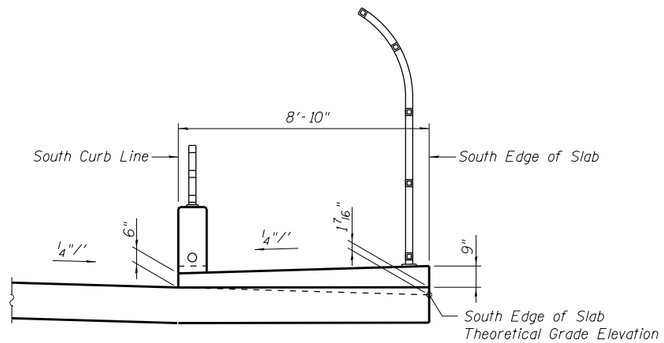
SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. end of East Appr. Pvmt.	2033+15.92	51.00	762.99
A3	2033+25.92	51.00	762.77
A4	2033+35.92	51.00	762.55
E. end of East Appr. Pvmt.	2033+45.92	51.00	762.32

SOUTH EDGE OF SLAB*

Location	Station	Offset	Theoretical Grade Elevations
W. end of East Appr. Pvmt.	2033+17.95	59.83	762.76
A3	2033+27.95	59.83	762.54
A4	2033+37.95	59.83	762.32
E. end of East Appr. Pvmt.	2033+47.95	59.83	762.09

*See Section Thru Sidewalk (this sheet) for location of South Edge of Slab Theoretical Grade Elevation



SECTION THRU SIDEWALK
(Looking East)

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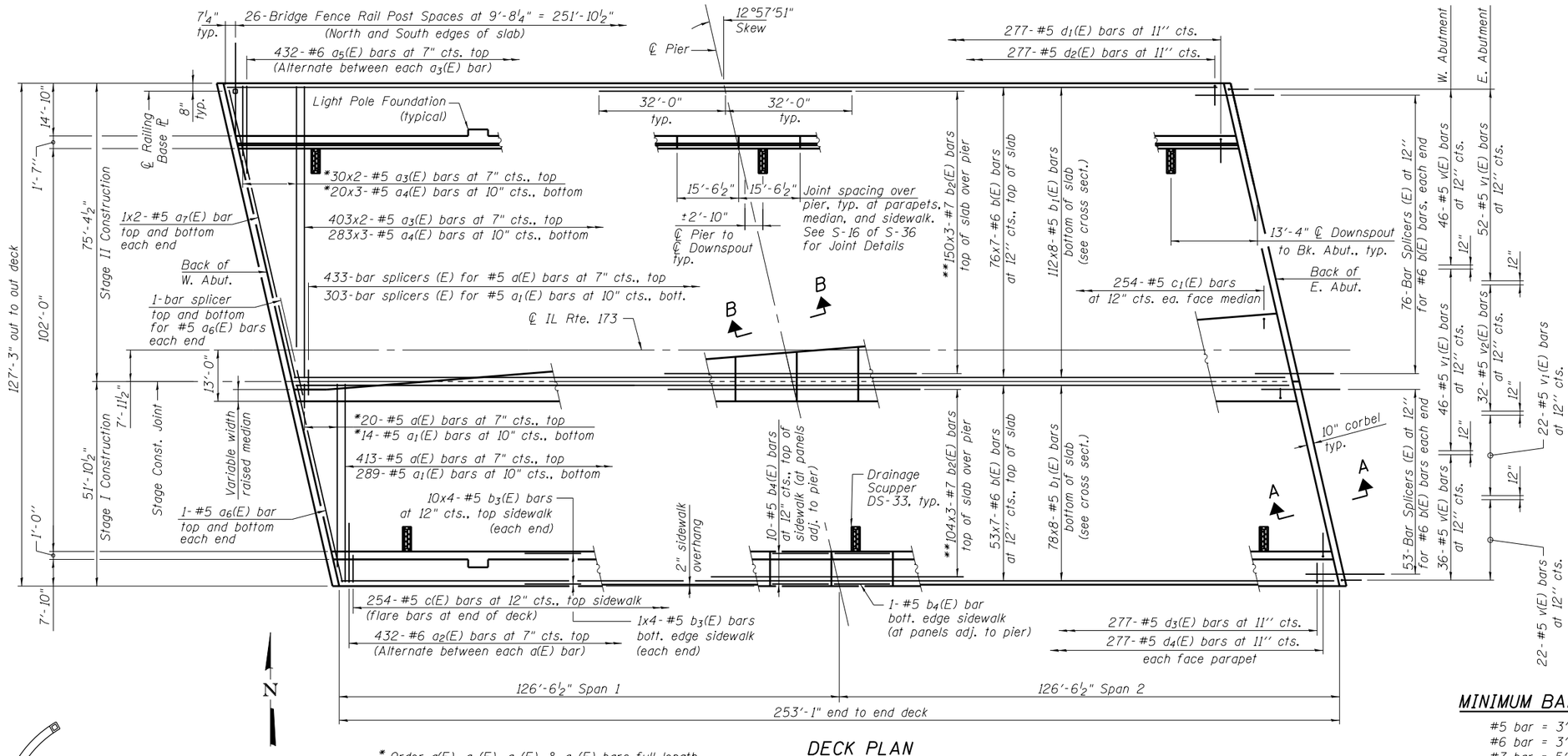
TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-12 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	450
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			



DECK PLAN

* Order d(E), a_1(E), a_3(E), & a_4(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

** Space b_2(E) bars at 4" cts. between b(E) bars at 12" cts. (see cross section).

Notes:

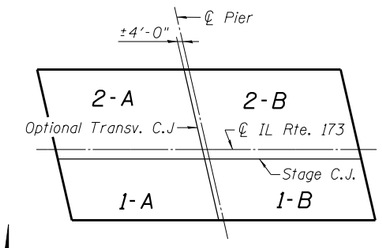
See sheet S-14 of S-36 for parapet reinforcement.

See sheet S-15 of S-36 for median and light pole foundation reinforcement.

See sheet S-16 of S-36 for drainage scupper reinforcement and Bill of Material.

For Sections A-A, B-B, and diaphragm details see sheet S-17 of S-36.

Bars indicated thus 21 x 3-#5 etc. indicates 21 lines of bars with 3 lengths per line.



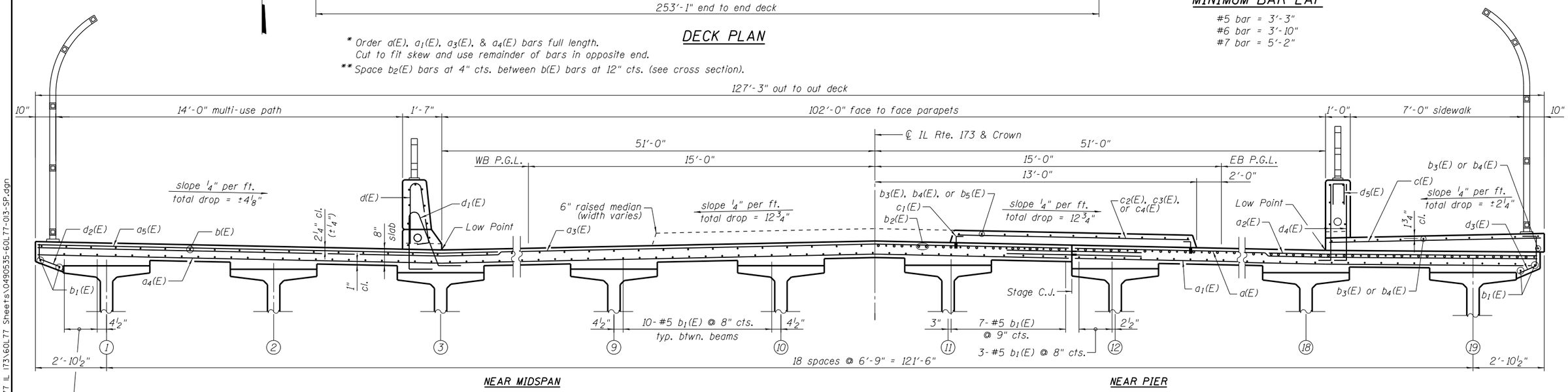
DECK POURING SEQUENCE

When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the Deck Pouring Sequence as shown, the next pour shall not be made until both of the following are met:

1. At least 72 hours shall have elapsed from the end of the previous pour.
2. The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

MINIMUM BAR LAP

#5 bar = 3'-3"
#6 bar = 3'-10"
#7 bar = 5'-2"



NEAR MIDSPAN — NEAR PIER

CROSS SECTION

(Looking East)

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SUPERSTRUCTURE PLAN & CROSS SECTION
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-13 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	451
		CONTRACT NO. 60L77		
	ILLINOIS	FED. AID PROJECT		

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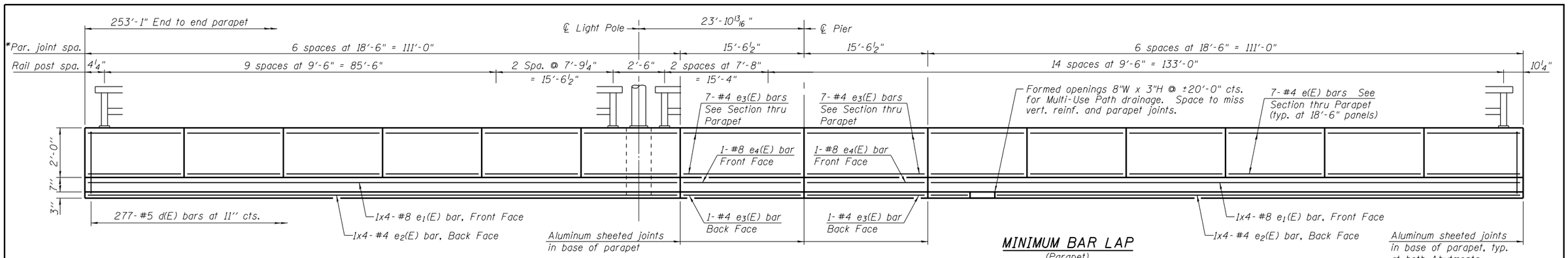
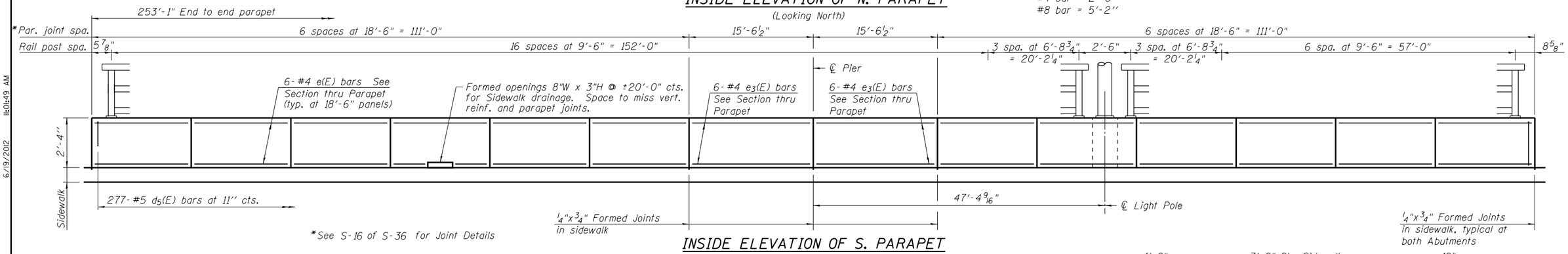


INSIDE ELEVATION OF N. PARAPET

(Looking North)

MINIMUM BAR LAP

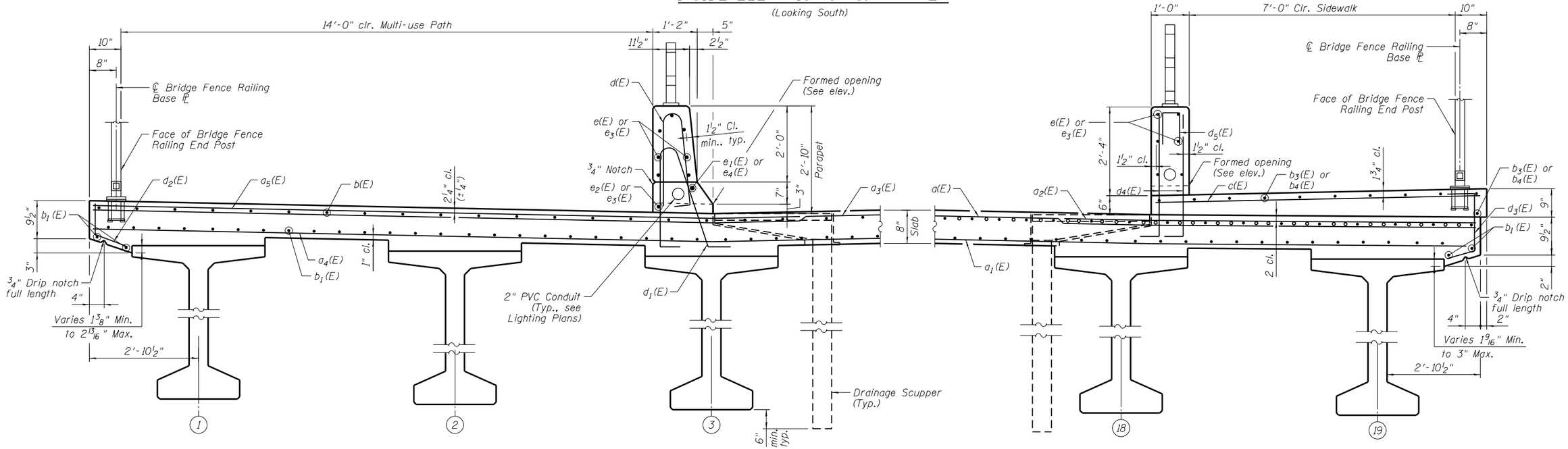
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



*See S-16 of S-36 for Joint Details

INSIDE ELEVATION OF S. PARAPET

(Looking South)



SECTION THRU N. PARAPET

(Looking East, near midspan)

SECTION THRU S. PARAPET

(Looking East, near pier)

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SUPERSTRUCTURE DETAILS I
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-14 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	452
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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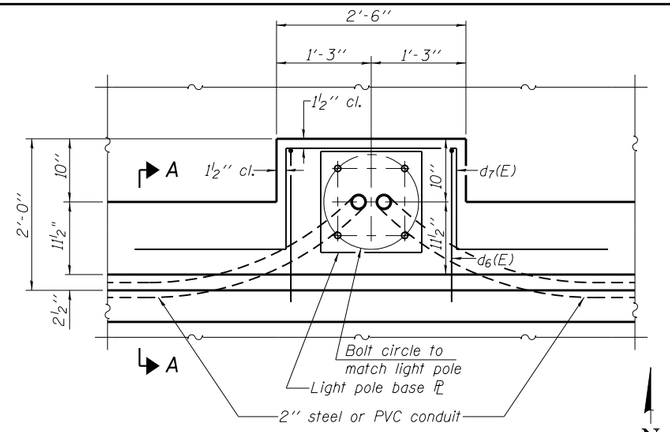
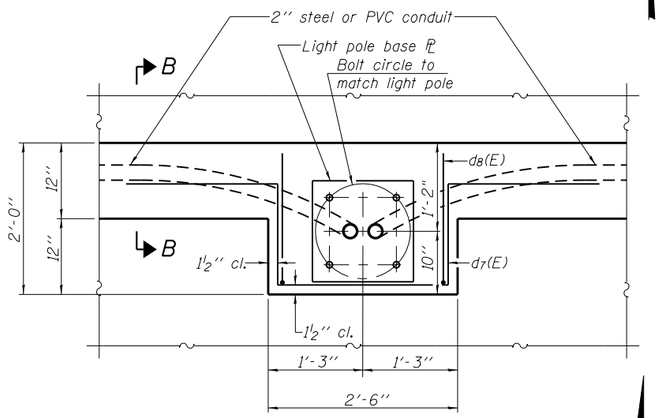
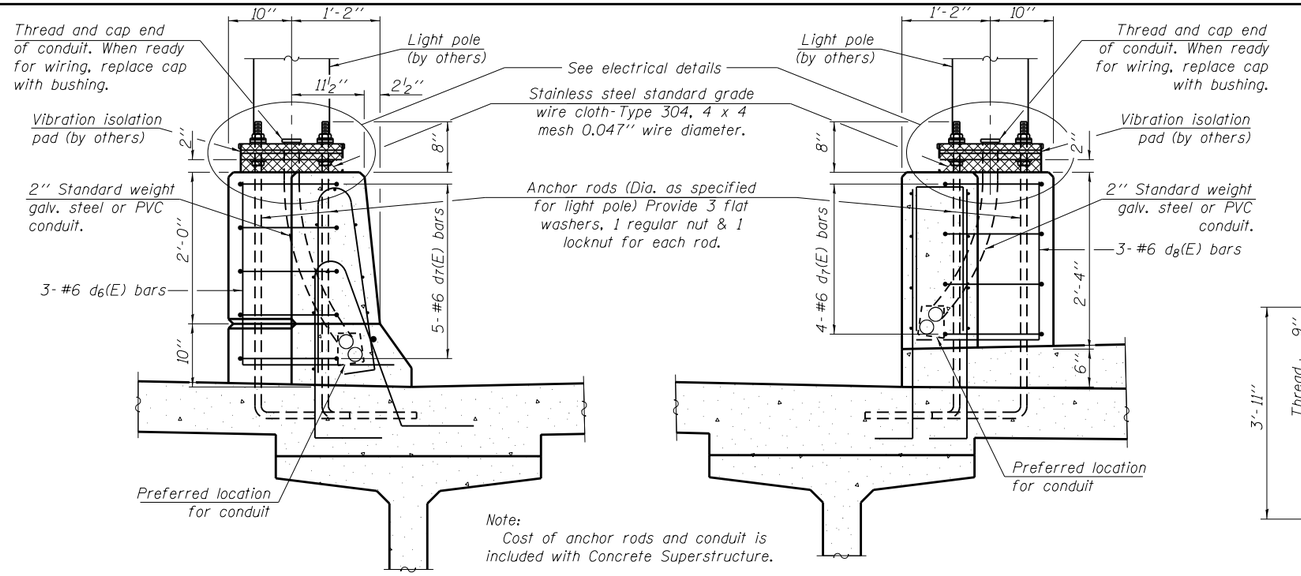


PLAN - N. PAR. LIGHT POLE FOUNDATION



PLAN - S. PAR. LIGHT POLE FOUNDATION

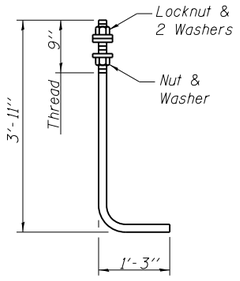


SECTION A-A

(N. Parapet, looking East)

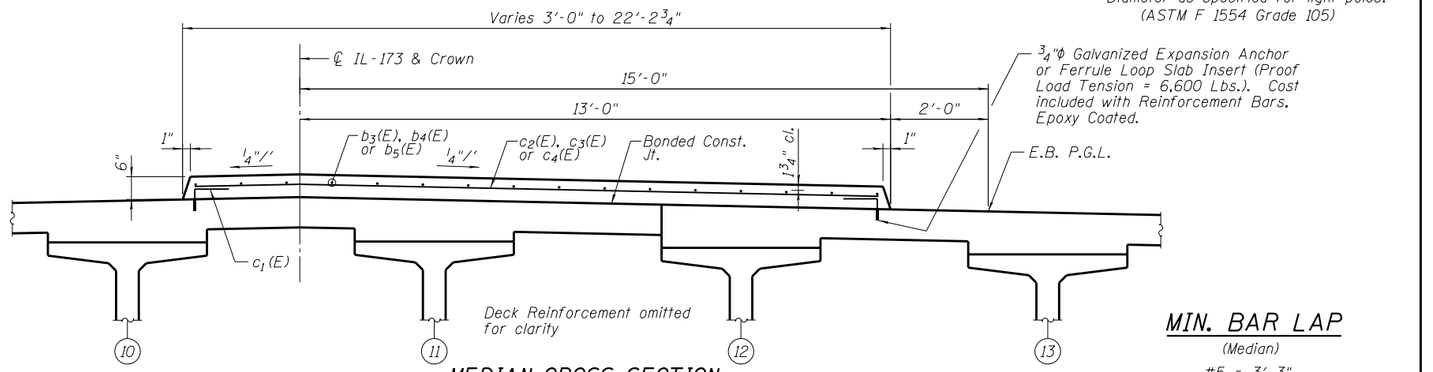
SECTION B-B

(S. Parapet, looking East)



ANCHOR ROD

Diameter as specified for light poles.
(ASTM F 1554 Grade 105)



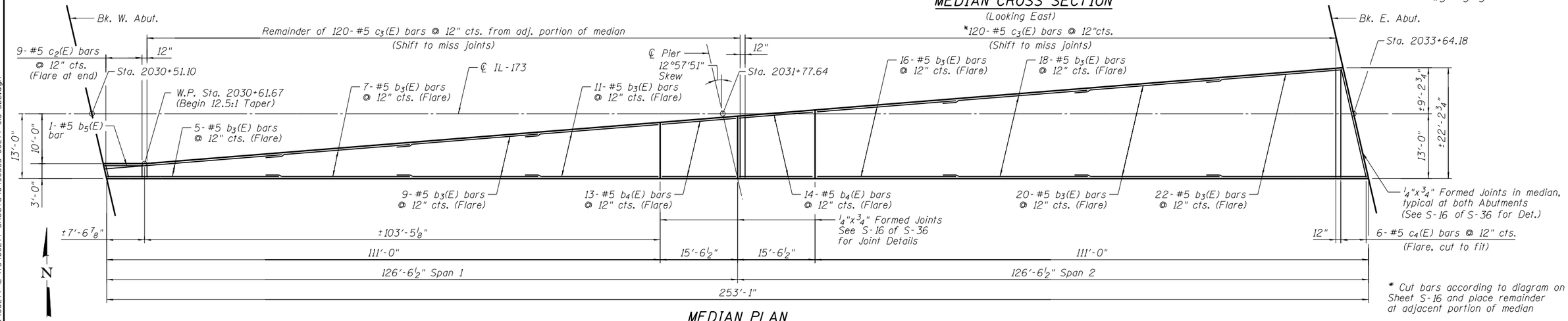
MEDIAN CROSS SECTION

(Looking East)

MIN. BAR LAP

(Median)

#5 = 3'-3"



MEDIAN PLAN

* Cut bars according to diagram on Sheet S-16 and place remainder at adjacent portion of median

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STATE OF ILLINOIS
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SUPERSTRUCTURE DETAILS II
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-15 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	453
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		

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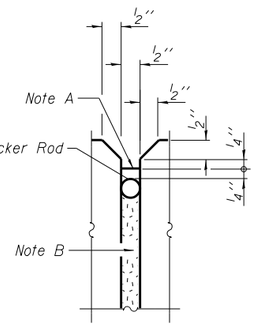
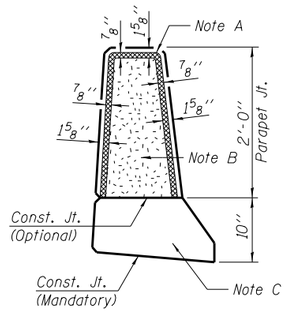
Note A:
Non-staining gray one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25, use T with a $\frac{5}{8}$'' backer rod.

Note B:
$\frac{1}{2}$'' Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

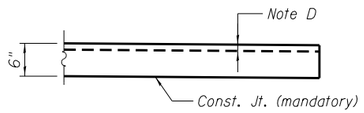
Note C:
Const. Jts. at Pier and Abutments $\frac{1}{8}$" Aluminum sheet ASTM B 209 alloy 3003-H14 coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

Note D:
$\frac{1}{4}$"x$\frac{3}{4}$" Formed Joint with Bridge Relief Joint Sealer (See Special Provisions) at Pier and Abutments, full width along joint. Cost included with Concrete Superstructure.

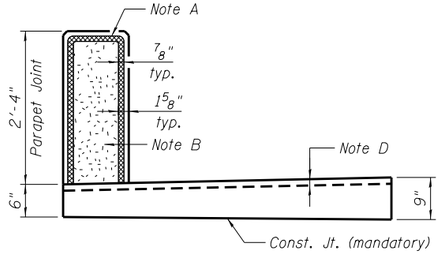




N. PARAPET

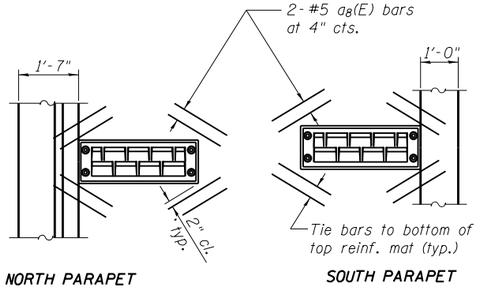


MEDIAN



S. PARAPET/SIDEWALK

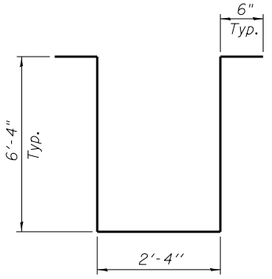
JOINT DETAILS



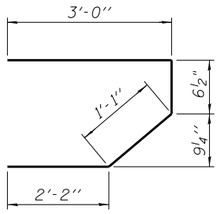
NORTH PARAPET SOUTH PARAPET

Note: Cut longitudinal reinforcement to clear drainage scuppers.

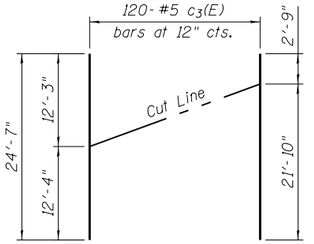
SCUPPER REINFORCEMENT DETAILS



BAR s2(E)

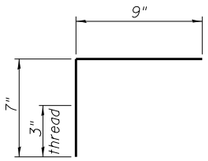


BAR s(E)

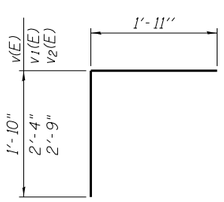


* CUTTING DIAGRAM

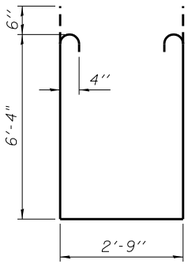
Order bars full length and cut as shown above. Place as indicated on plans.



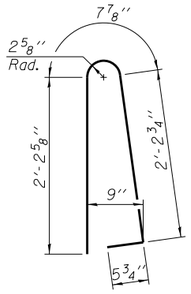
BAR c(E)



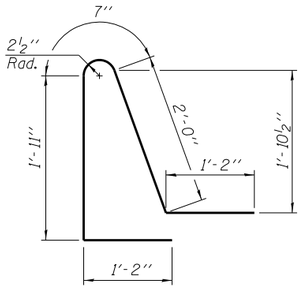
BARS v(E), v1(E), & v2(E)



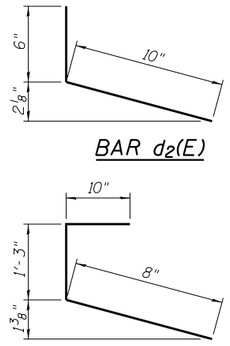
BAR s1(E)



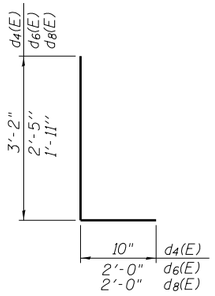
BAR d(E)



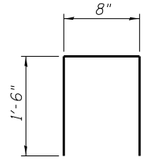
BAR d1(E)



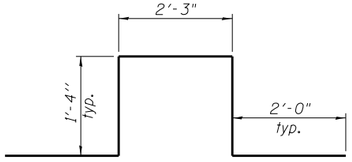
BAR d3(E)



BARS d4(E), d6(E), & d8(E)



BAR d5(E)



BAR d7(E)

SUPERSTRUCTURE BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	d(E)	433	#5	51'-6"	
	d1(E)	303	#5	51'-3"	
	d2(E)	432	#6	14'-0"	
	d3(E)	866	#5	39'-2"	
	d4(E)	909	#5	27'-3"	
	d5(E)	432	#6	21'-6"	
	d6(E)	4	#5	52'-10"	
	d7(E)	8	#5	40'-2"	
	d8(E)	48	#5	2'-0"	
	b(E)	903	#6	39'-6"	
	b1(E)	1520	#5	34'-6"	
	b2(E)	762	#7	24'-10"	
	b3(E)	196	#5	31'-0"	
	b4(E)	49	#5	15'-2"	
	b5(E)	1	#5	7'-6"	
	c(E)	254	#5	8'-6"	
	c1(E)	508	#5	1'-4"	
	c2(E)	9	#5	2'-8"	
*	c3(E)	120	#5	24'-7"	
	c4(E)	6	#5	22'-6"	
	d(E)	277	#5	5'-7"	
	d1(E)	277	#5	6'-10"	
	d2(E)	277	#5	1'-4"	
	d3(E)	277	#5	2'-9"	
	d4(E)	554	#5	4'-0"	
	d5(E)	277	#5	3'-8"	
	d6(E)	3	#6	4'-5"	
	d7(E)	9	#6	8'-11"	
	d8(E)	3	#6	3'-11"	
	e(E)	156	#4	18'-2"	
	e1(E)	8	#8	31'-8"	
	e2(E)	8	#4	29'-4"	
	e3(E)	28	#4	15'-2"	
	e4(E)	2	#8	15'-2"	
	m(E)	32	#6	30'-0"	
	m1(E)	32	#6	40'-3"	
	m2(E)	152	#6	10'-6"	
	m3(E)	36	#6	4'-4"	
	m4(E)	36	#6	6'-0"	
	m5(E)	8	#5	2'-4"	
	m6(E)	144	#4	6'-0"	
	m7(E)	36	#6	4'-4"	
	m8(E)	19	#8	6'-6"	
	s(E)	264	#5	6'-10"	
	s1(E)	152	#4	16'-5"	
	s2(E)	72	#4	16'-0"	
	v(E)	104	#5	3'-9"	
	v1(E)	120	#5	4'-3"	
	v2(E)	32	#5	4'-8"	
	Reinforcement Bars, Epoxy Coated		Pound	308,930	
	Concrete Superstructure		Cu. Yd.	1,336.9	
	Bridge Deck Grooving		Sq. Yd.	2,394	
	Protective Coat		Sq. Yd.	3,899	

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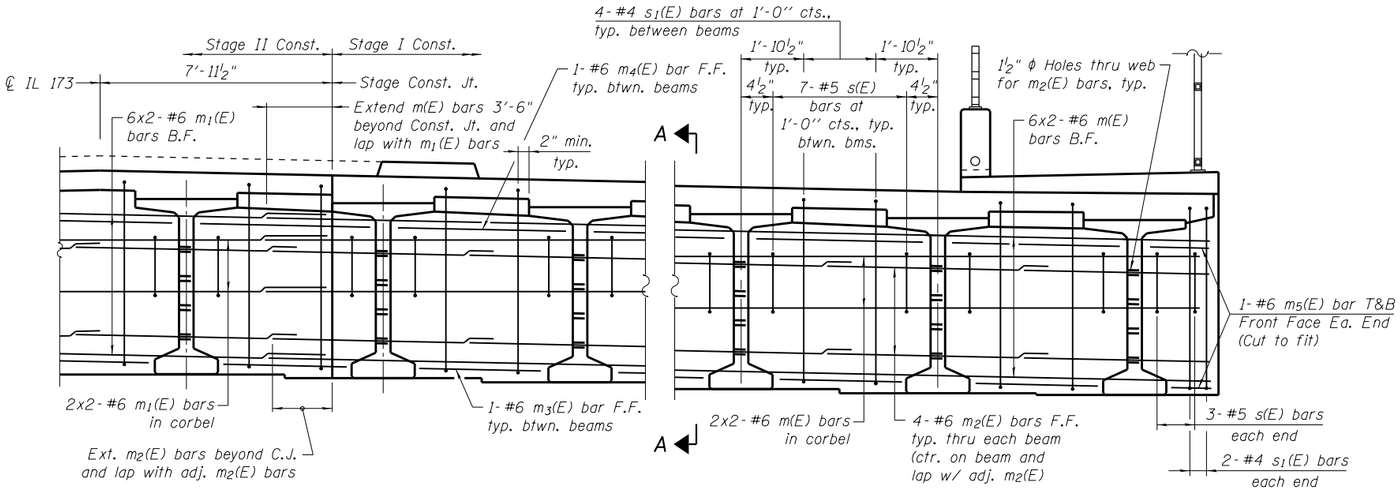
DEPARTMENT OF TRANSPORTATION

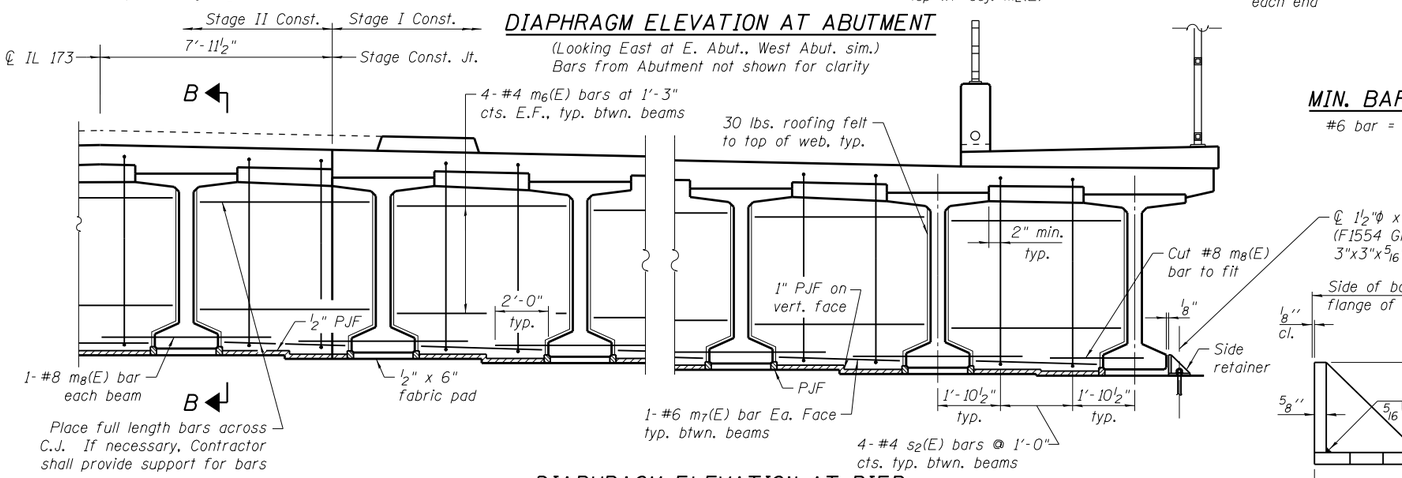
SUPERSTRUCTURE DETAILS III
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-16 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	454
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			



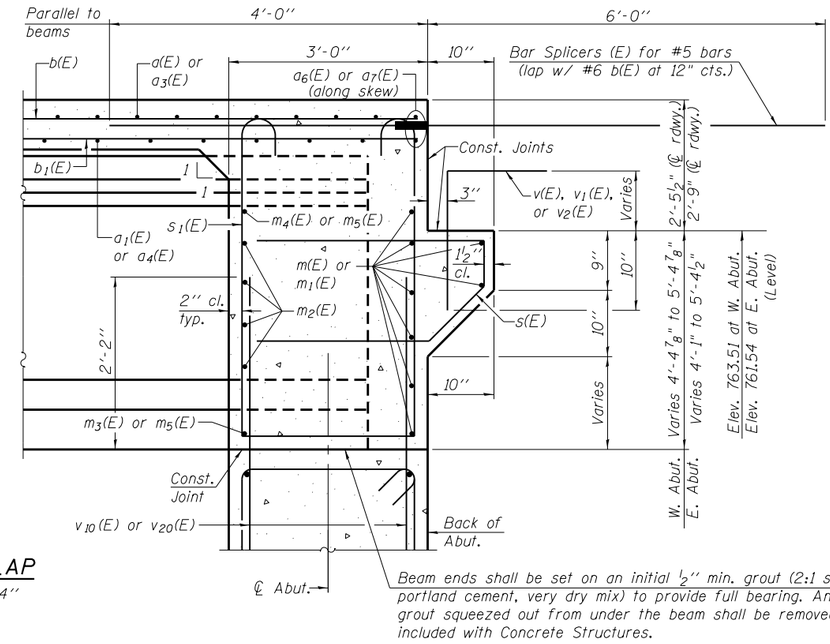
DIAPHRAGM ELEVATION AT ABUTMENT

(Looking East at E. Abut., West Abut. sim.)
Bars from Abutment not shown for clarity



DIAPHRAGM ELEVATION AT PIER

(Looking East)
Bars from Pier Cap not shown for clarity



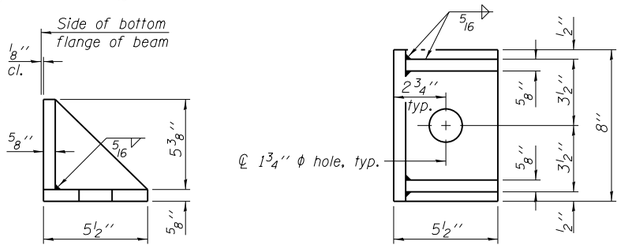
Beam ends shall be set on an initial ½" min. grout (2:1 sand and portland cement, very dry mix) to provide full bearing. Any excess grout squeezed out from under the beam shall be removed. Cost included with Concrete Structures.

MIN. BAR LAP

#6 bar = 3'-4"

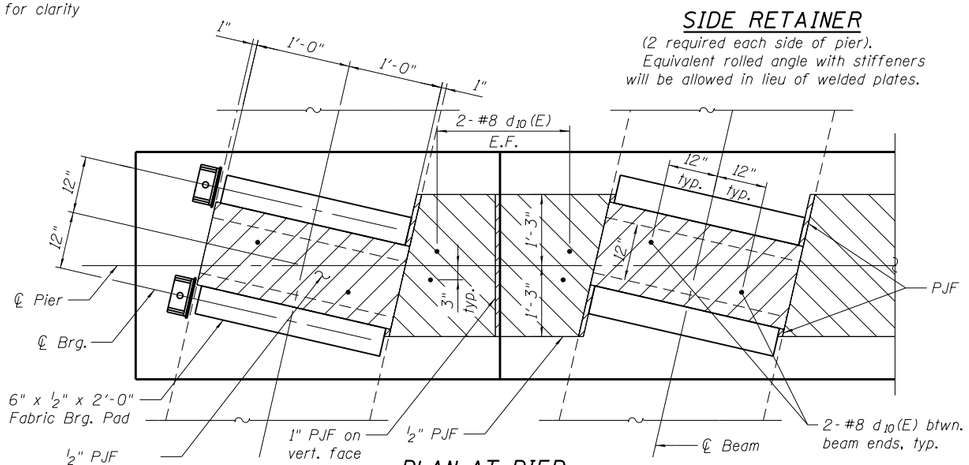
SECTION A-A

Dimensions at right angles to abutment, except as shown.



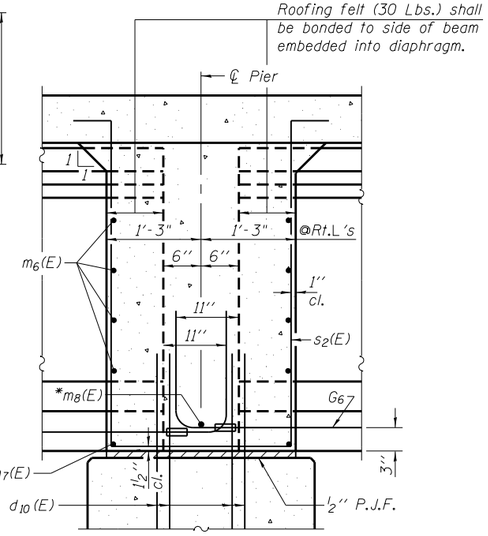
SIDE RETAINER

(2 required each side of pier).
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



PLAN AT PIER

(Showing bearing pad and PJF details)



SECTION B-B

Dimensions along ℄ of beam, except as shown.

* Tightly fasten the #8 bars together with No. 9 wire ties.

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet S-16 of S-36.

Concrete in diaphragm is included with Concrete Superstructure on sheet S-16 of S-36.

For details of bar $d_{10}(E)$ see sheet S-32 of S-36.

For details of bars s(E), $s_1(E)$ and $s_2(E)$ see sheet S-16 of S-36.

The s(E), $s_1(E)$ and $s_2(E)$ bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

For details of bars $v_{10}(E)$ and $v_{20}(E)$ see sheets S-26 thru S-30 of S-36.

For G_6 bars, see sheet S-25 of S-36.

Cost of 30 Lb. roofing felt is included with Concrete Superstructure.

The side retainer shall be galvanized after shop fabrication according to AASHTO M 111. Cost of side retainer and anchor bolts shall be included with Concrete Structures.

Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

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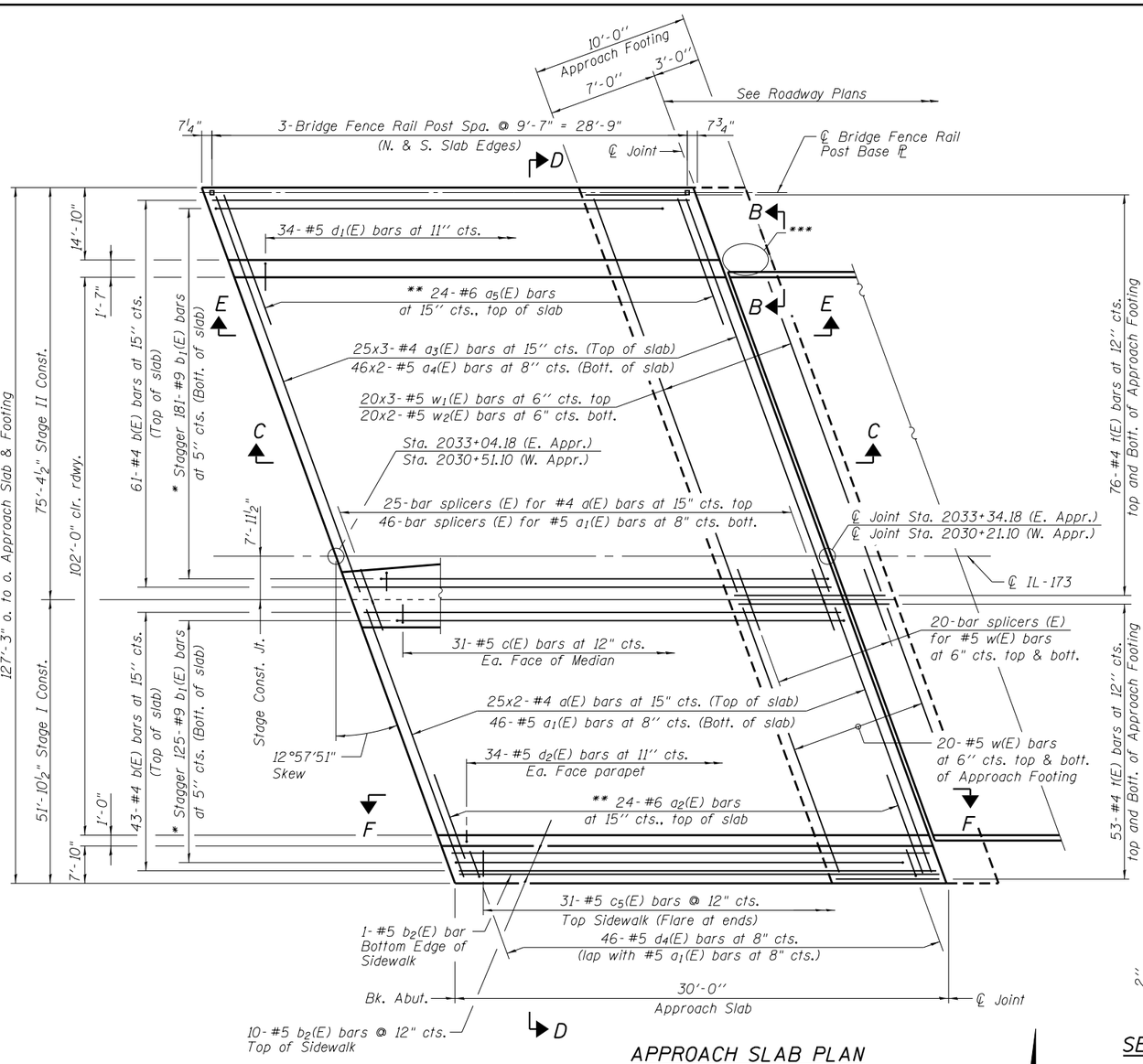
DIAPHRAGM DETAILS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-17 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	455
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			



APPROACH SLAB PLAN

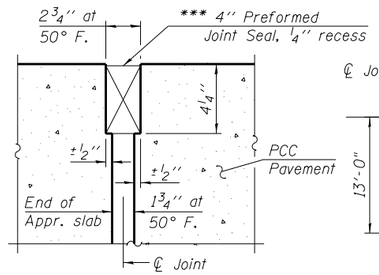
(East Approach Slab shown, West Approach sim. except as noted)

* Tilt #9 b_1(E) bars as required to maintain clearance.
** Space between d(E) bars (S. Par.) or a_3(E) bars (N. Par.).
*** Contractor to provide blockouts or cored holes through approach footing to accommodate guardrail posts. The void around each post shall be backfilled with earth or aggregate. Coordinate with Roadway Plans. Cost included with Steel Plate Beam Guardrail.

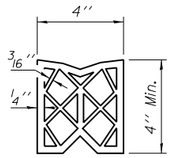
MINIMUM BAR LAP

#4 bar = 2'-7"
#5 bar = 3'-3"

*** Cost included with Concrete Superstructure.

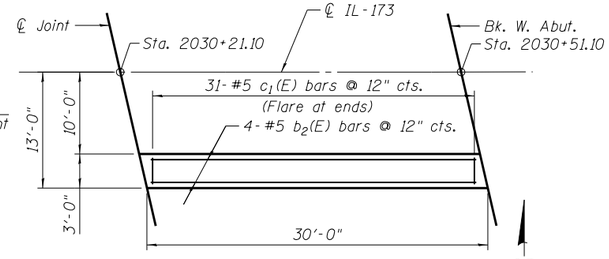


RIGID PAVEMENT DETAIL A

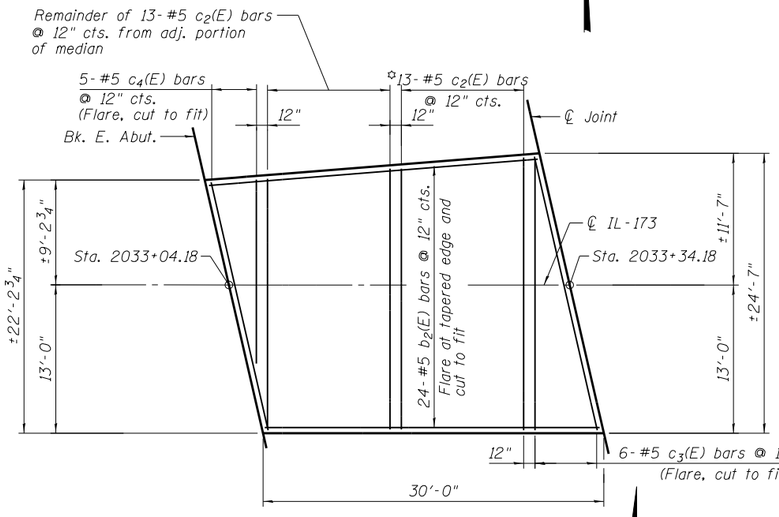


PREFORMED JOINT SEAL

Notes:
See sheet S-19 of S-36 for Sections C-C & D-D and Views E-E & F-F.
a(E) and a_1(E) bar spacings measured along ℄ Rdwy.

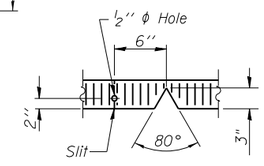


MEDIAN PLAN - W. APPROACH

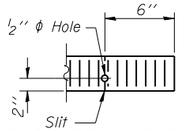


MEDIAN PLAN - E. APPROACH

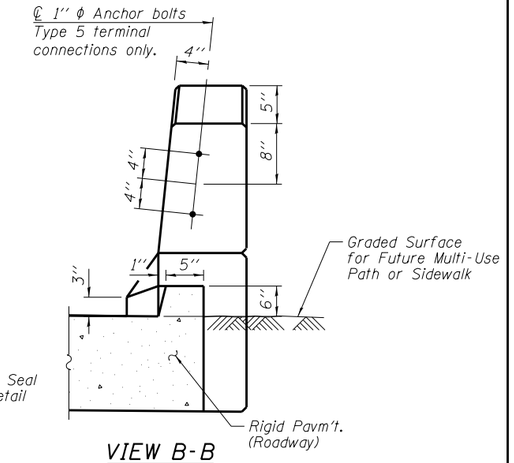
* Cut bars according to diagram on Sheet S-19 and place remainder at adjacent portion of median



SEAL CUT-OUT AT MEDIAN

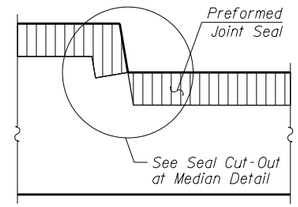


END OF SEAL CUT-OUT

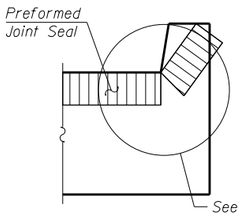


VIEW B-B

(N. Parapet shown, S. Parapet, sim.)



AT MEDIAN



AT CURB

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.

PREFORMED JOINT SEAL DETAILS

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BRIDGE APPROACH SLAB PLAN
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-18 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	456
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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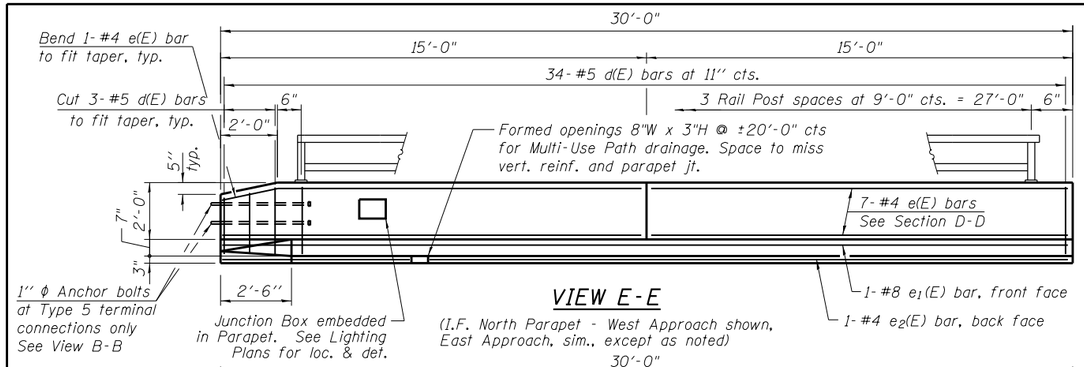
Notes:
See sheet S-18 of S-36 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E), v_1(E), and v_2(E) bar details, see sheets S-13, S-16, and S-17 of S-36.
The approdch footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet S-34 of S-36.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Backfill and drainage treatment details, see sheet S-30 of S-36.
For additional parapet details, see sheet S-16 of S-36.
Coordinate location of Junction Boxes with other elements embedded in parapet.
See Sheet S-16 of S-36 for Joint Details.

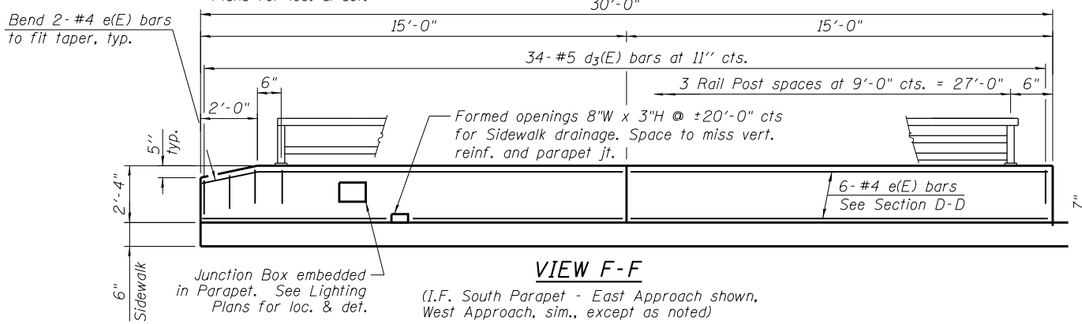
TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	100	#4	27'-9"	
a_1(E)	92	#5	52'-10"	
a_2(E)	48	#6	14'-4"	
a_3(E)	150	#4	27'-6"	
a_4(E)	184	#5	41'-2"	
a_5(E)	48	#6	22'-0"	
b(E)	208	#4	29'-8"	
b_1(E)	612	#9	29'-9"	
b_2(E)	50	#5	29'-8"	
c(E)	124	#5	1'-4"	
c_1(E)	31	#5	2'-8"	
c_2(E)	13	#5	47'-3"	
c_3(E)	6	#5	24'-10"	
c_4(E)	5	#5	22'-6"	
c_5(E)	62	#5	8'-6"	
d(E)	68	#5	5'-7"	
d_1(E)	68	#5	7'-11"	
d_2(E)	136	#5	4'-7"	
d_3(E)	68	#5	3'-8"	
d_4(E)	92	#5	5'-9"	
e(E)	52	#4	14'-8"	
e_1(E)	2	#8	29'-8"	
e_2(E)	2	#4	29'-8"	
t(E)	516	#4	9'-11"	
w(E)	80	#5	52'-10"	
w_1(E)	120	#5	27'-10"	
w_2(E)	80	#5	40'-2"	
Concrete Superstructure			Cu. Yd.	398.7
Concrete Structures			Cu. Yd.	80.8
Reinforcement Bars, Epoxy Coated			Pound	107,290
Bridge Deck Grooving			Sq. Yd.	566
Protective Coat			Sq. Yd.	926



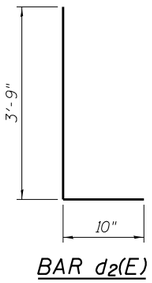
VIEW E-E

(I.F. North Parapet - West Approach shown, East Approach, sim., except as noted)



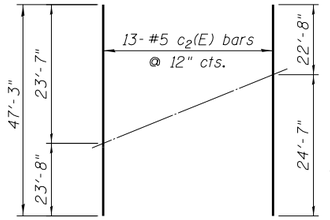
VIEW F-F

(I.F. South Parapet - East Approach shown, West Approach, sim., except as noted)

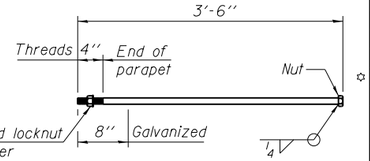


BAR d_2(E)

BAR c(E)



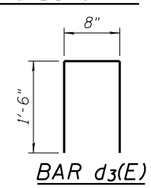
Order bars full length and cut as shown above. Place as indicated on Median Plan.



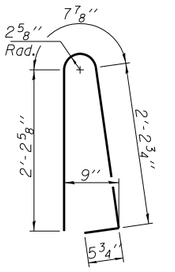
1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)

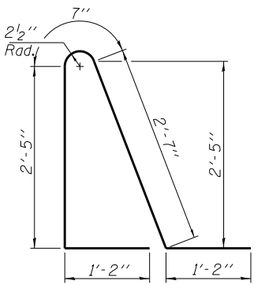
CUTTING DIAGRAM



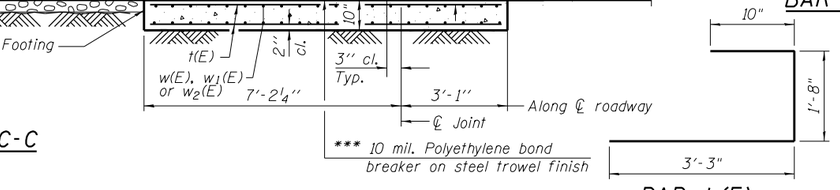
BAR d_3(E)



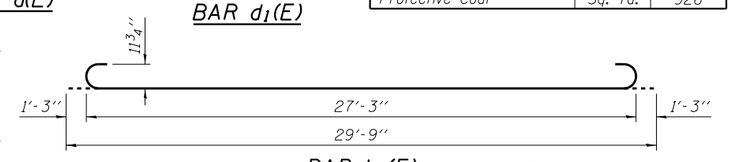
BAR d(E)



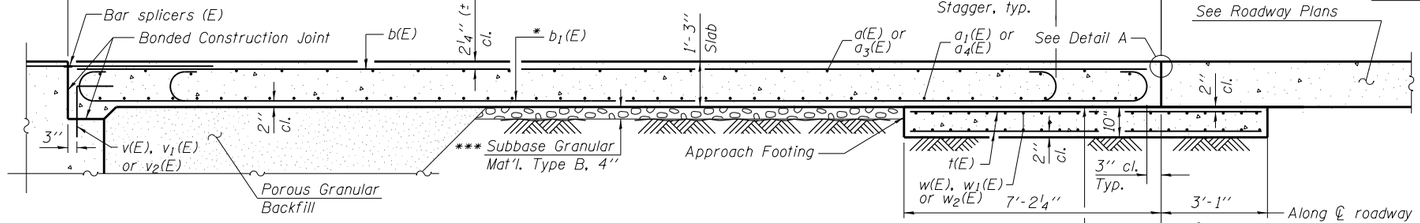
BAR d_1(E)



BAR d_4(E)



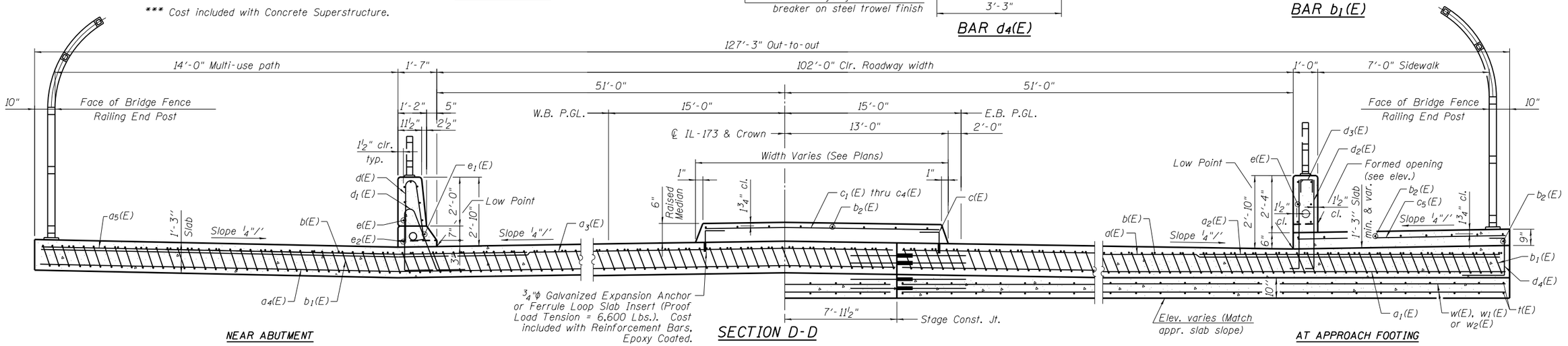
BAR b_1(E)



* Tilt #9 b_1(E) bars as required to maintain clearance.

SECTION C-C

*** Cost included with Concrete Superstructure.



NEAR ABUTMENT

SECTION D-D

AT APPROACH FOOTING

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-19 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	457
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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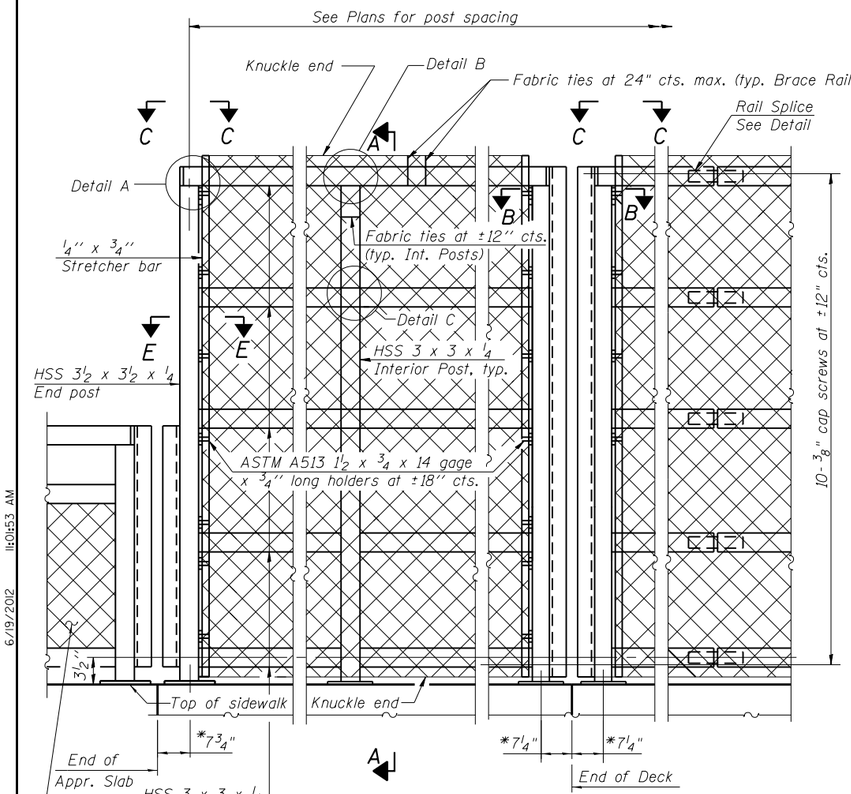
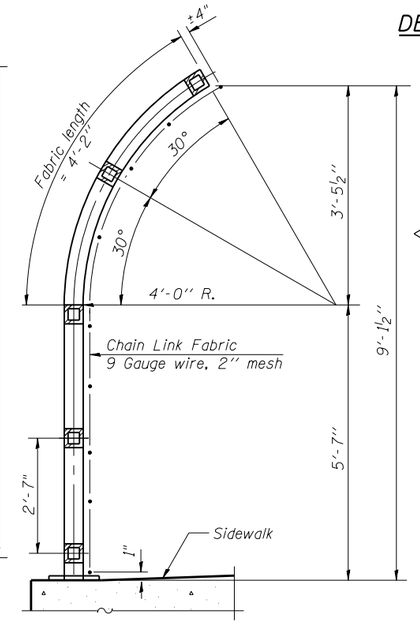
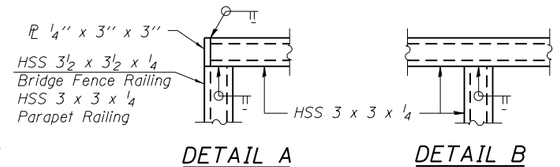


ELEVATION
(Inside Face)

* Along ℄ base Pl

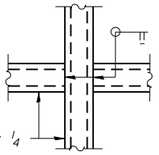


SECTION A-A



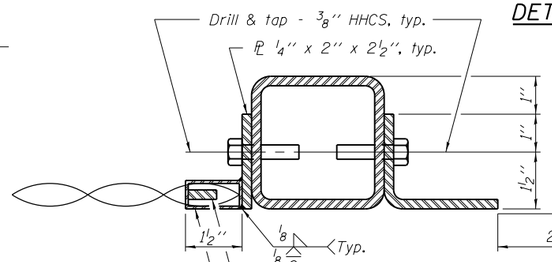
DETAIL A

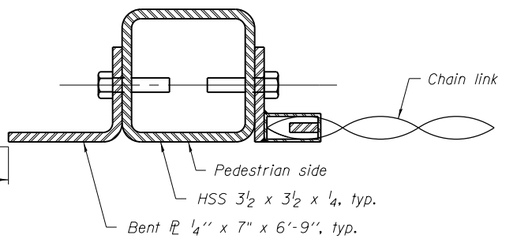
DETAIL B

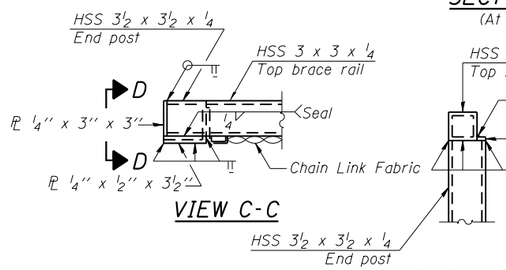


DETAIL C

Note: The color and finish of railing components shall be as outlined in the Special Provision for Bridge Fence Railing (Sidewalk) and Parapet Railing.



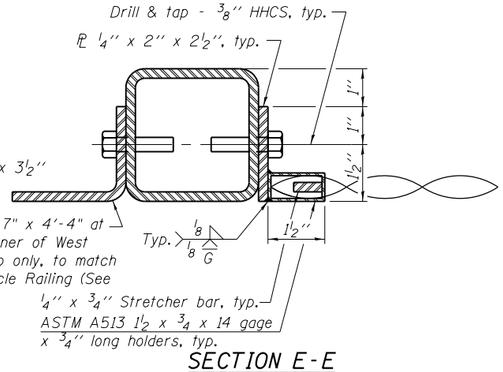


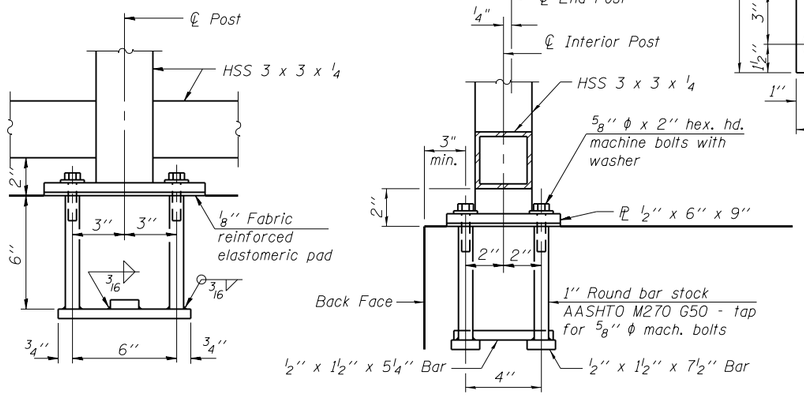


VIEW C-C

VIEW D-D

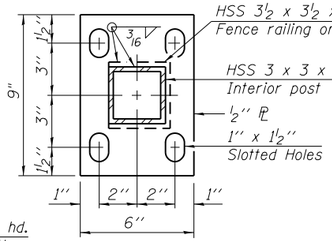
SECTION B-B
(At Joints)



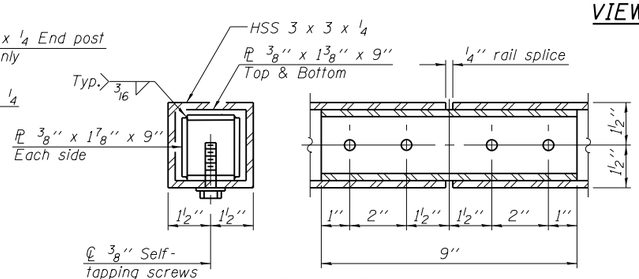


ANCHOR BOLT DETAILS

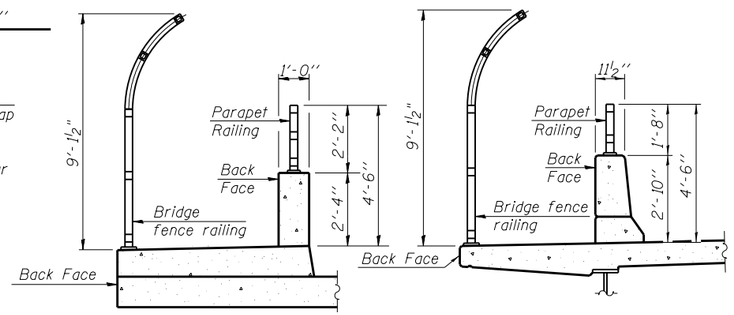
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



BASE Pl

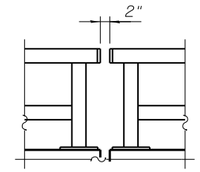


RAIL SPLICE



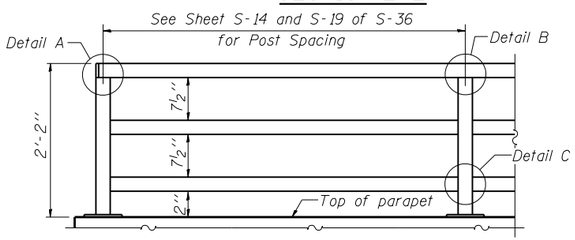
SECTION THRU SIDEWALK

SECTION THRU DECK

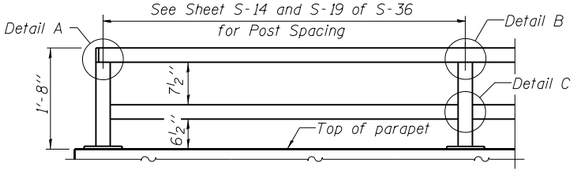


PARAPET RAILING ELEVATION AT JOINT
(Two element rail shown - Three element rail similar)

SECTION E-E



PARAPET RAILING ELEVATION
(Inside Face of Three Element Rail)



PARAPET RAILING ELEVATION
(Inside face of two element rail)

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Fence Railing (Sidewalk)	Foot	626
Parapet Railing	Foot	618

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PLOT DATE =	CHECKED - MRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE FENCE RAILING, SIDEWALK MOUNTED
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-20 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	458
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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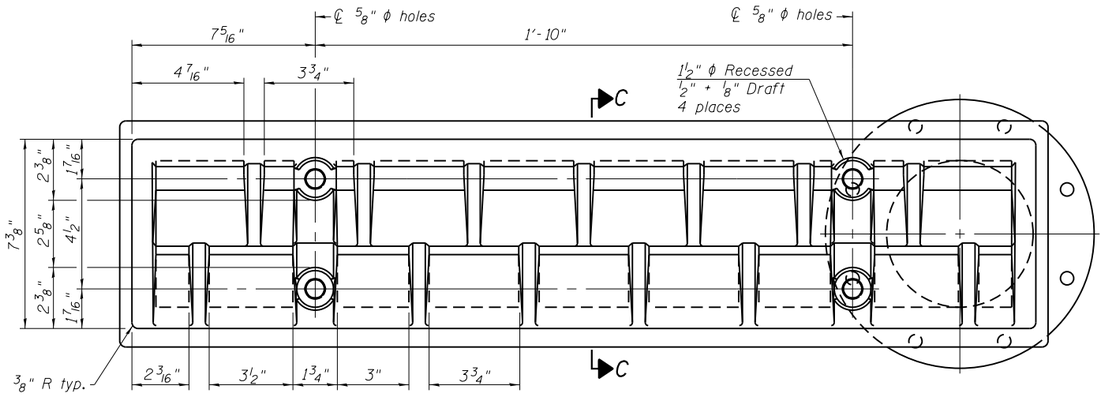
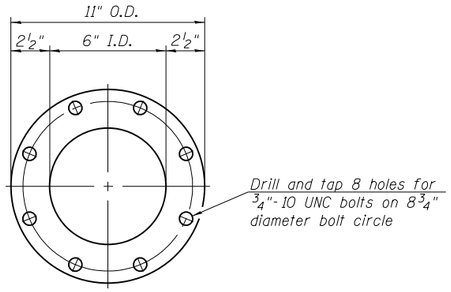


PLAN



VIEW B-B

Notes:

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.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

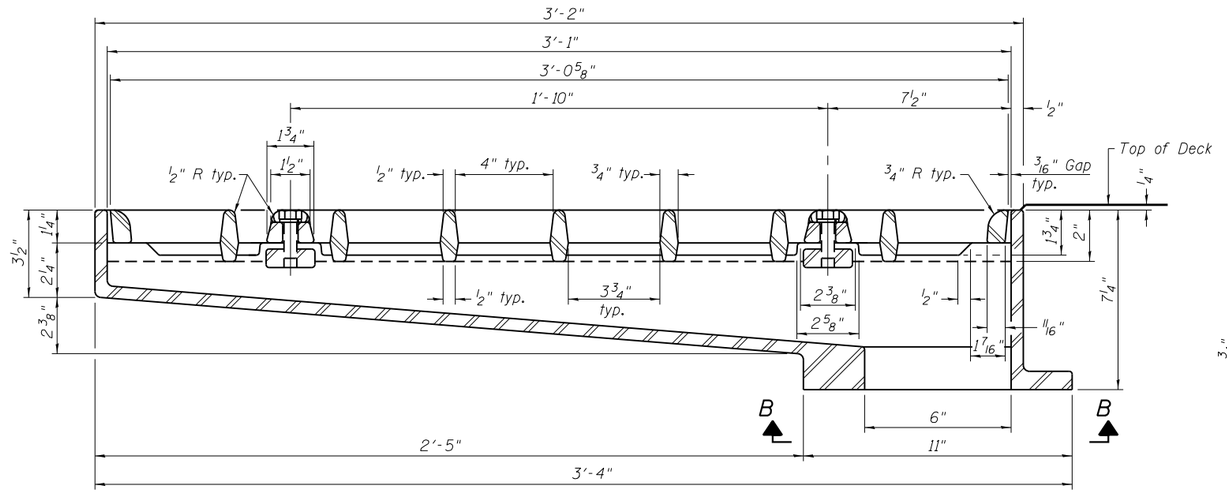
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

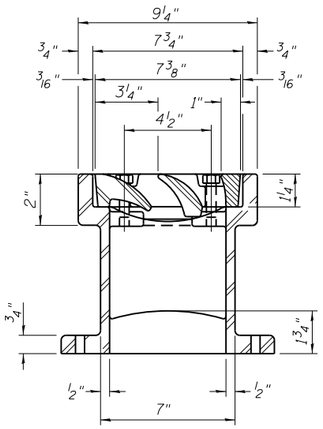
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-33.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

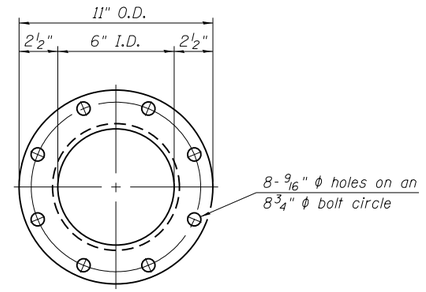


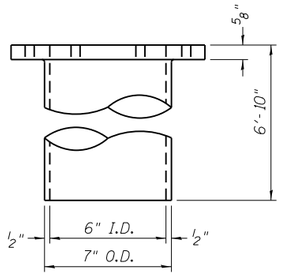
SECTION A-A

See sheet S-14 of S-36 for scupper location relative to parapet.

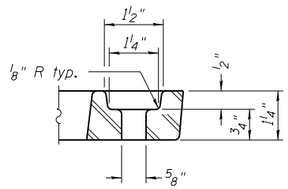


SECTION C-C

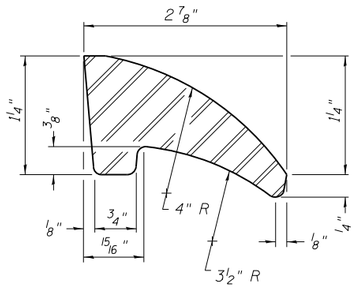




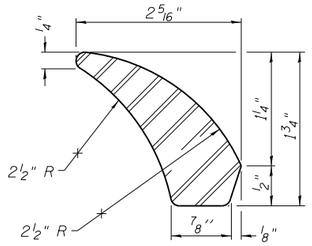
DOWNSPOUT



BOLT HOLE DETAIL



FIRST VANE DETAIL



SECOND VANE DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-33	Each	6

DS-33 7-1-10

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DRAINAGE SCUPPER, DS-33
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-21 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	459
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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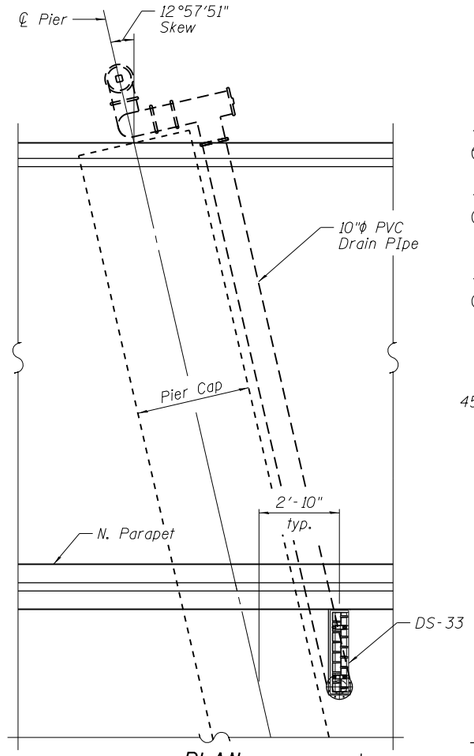
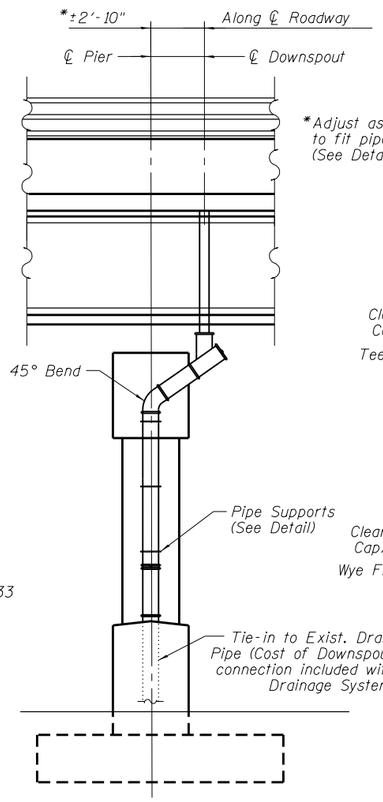
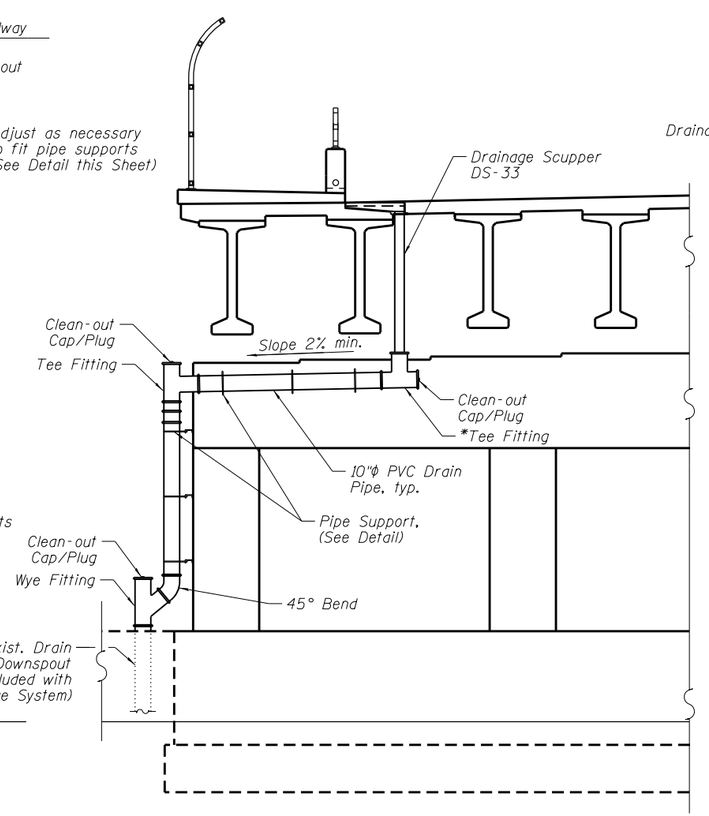


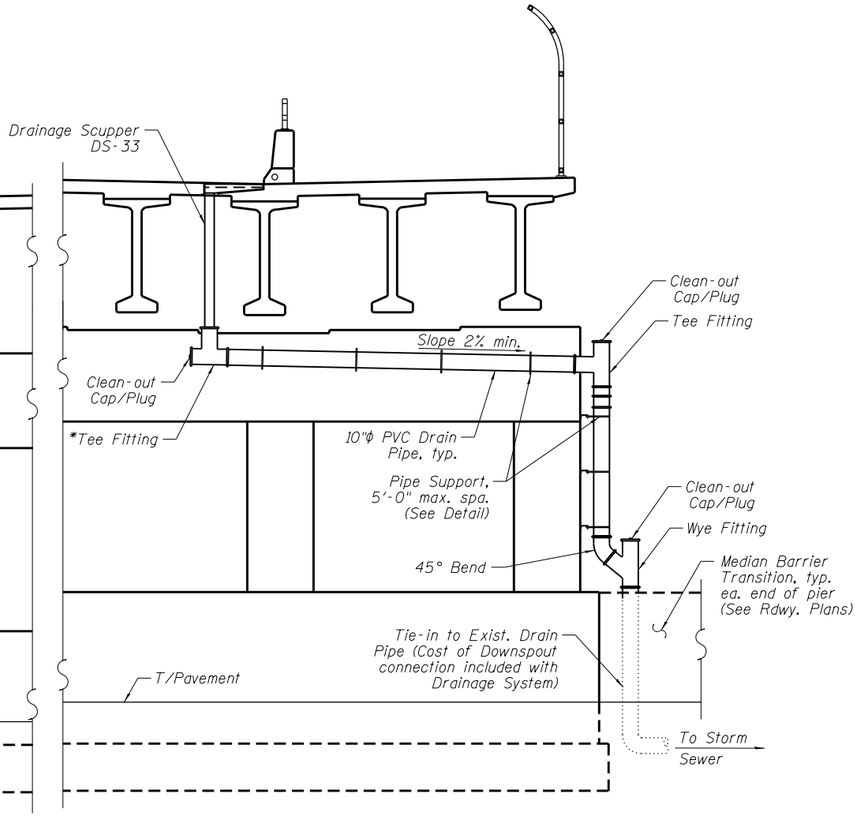
PLAN
(N. Parapet Scuppers)



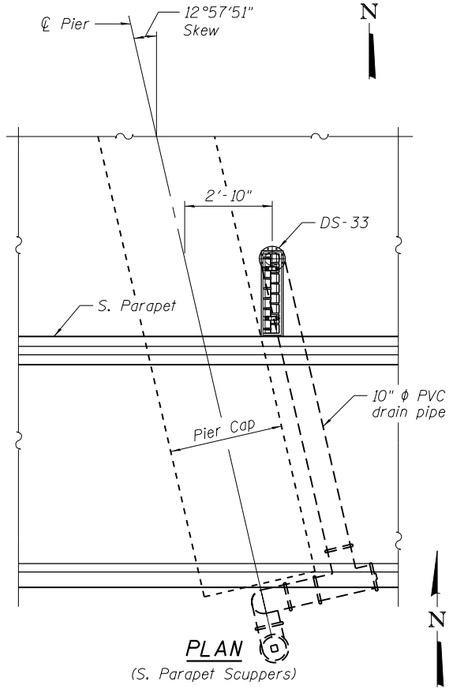
ELEVATION
(Looking North, at S. End, N. End, sim)



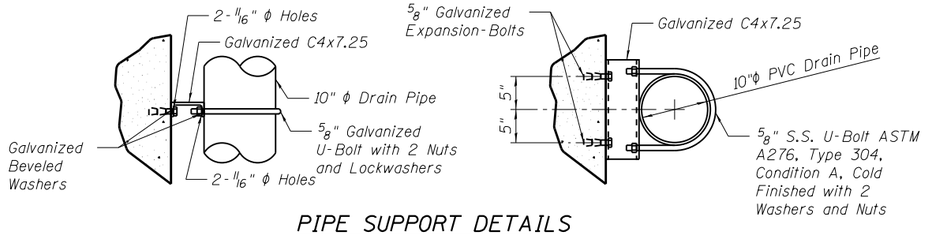
ELEVATION
(Looking West)



* Install such that scupper downspout extends a minimum of 1" into Tee Fitting.



PLAN
(S. Parapet Scuppers)



PIPE SUPPORT DETAILS

Notes:

1. Cost of Drain Pipe, Clean-out caps/plugs, pipe hangers, elbows, tees and other necessary connection pieces, including installation, shall be included with "Drainage System".
2. See Sheet S-21 of S-36 for Drainage Scupper details.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage System	L. Sum	1

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DEPARTMENT OF TRANSPORTATION

DRAINAGE SYSTEM
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-22 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	460
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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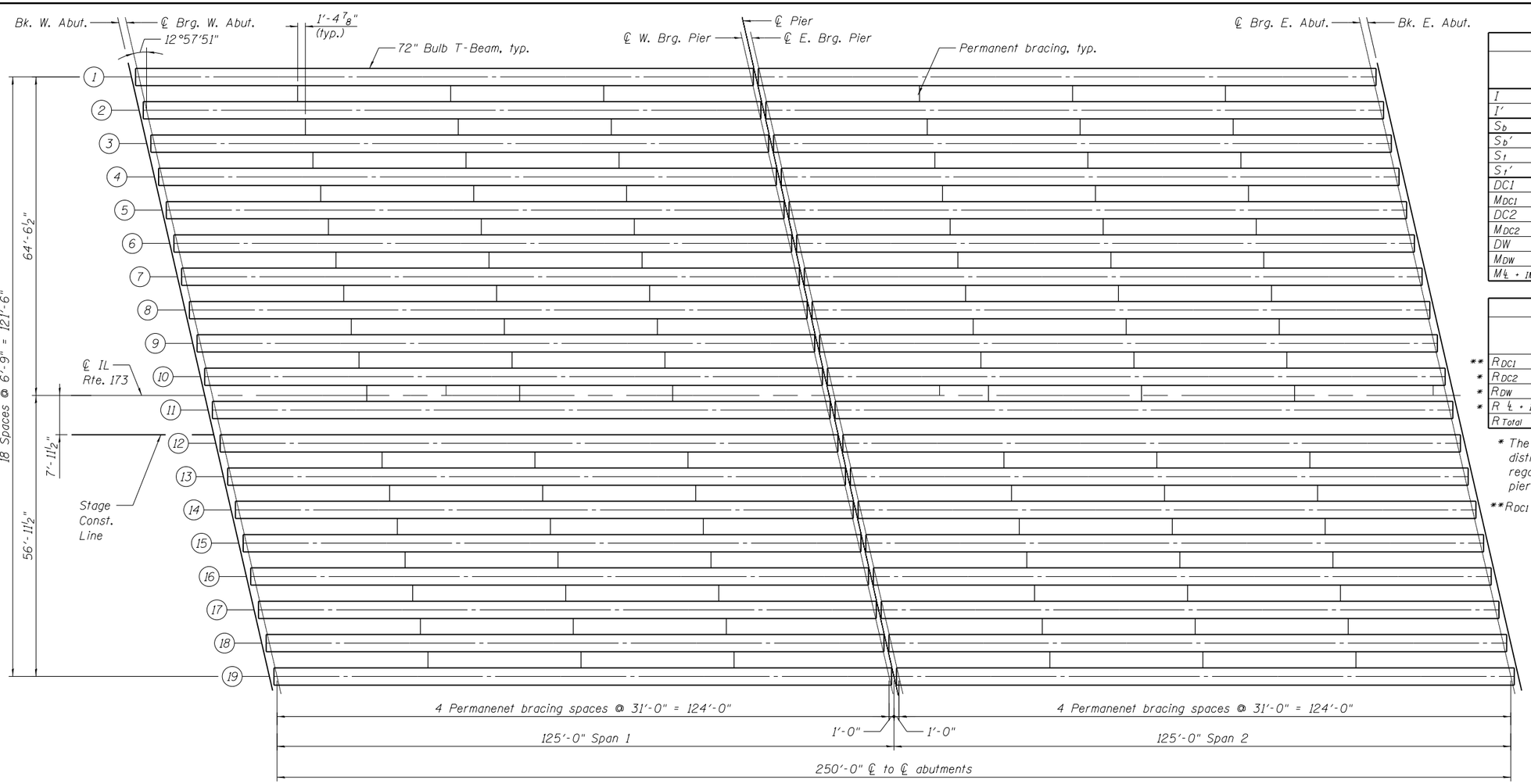


FRAMING PLAN

N

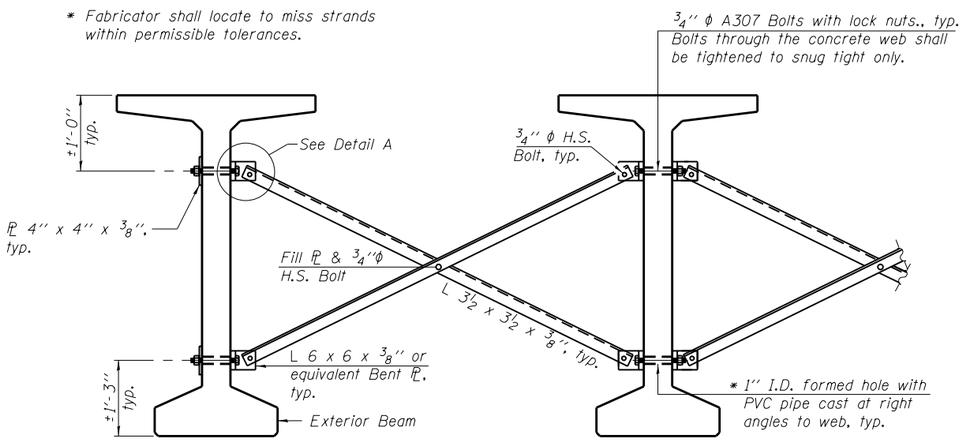
INTERIOR BEAM MOMENT TABLE			
		0.4 Sp. 1 0.6 Sp. 2	Pier
I	(in^4)	545,894	-
I'	(in^4)	1,020,166	1,020,166
S_b	(in^3)	14,915	-
S_b'	(in^3)	19,624	19,624
S_t	(in^3)	15,421	-
S_t'	(in^3)	50,973	50,973
DC1	(k/')	1.56	1.56
M_{DC1}	('k)	2,893	-
DC2	(k/')	0.25	0.25
M_{DC2}	('k)	273	-470
DW	(k/')	0.29	0.29
M_{DW}	('k)	317	-546
M_{L+IM}	('k)	1,803	-1,787

INTERIOR BEAM REACTION TABLE			
		W. Abut. E. Abut.	Pier
** R_{DC1}	(k)	117.3	207.8
* R_{DC2}	(k)	11.7	39.1
* R_{DW}	(k)	13.6	45.3
* R_{L+IM}	(k)	91.2	178.6
R_{Total}	(k)	233.8	470.8

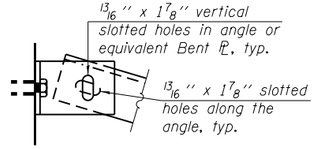
* The total R_{DC2}, R_{DW} and R_{L+IM} are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier is based on the maximum reactions of either span.

** R_{DC1} includes weight of concrete diaphragms.

* Fabricator shall locate to miss strands within permissible tolerances.



PERMANENT BRACING DETAILS FOR BULB-T BEAMS



DETAIL A

Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15/16"ϕ unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams.

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_b': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_t: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
S_t': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
DC1: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft).
M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

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DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-23 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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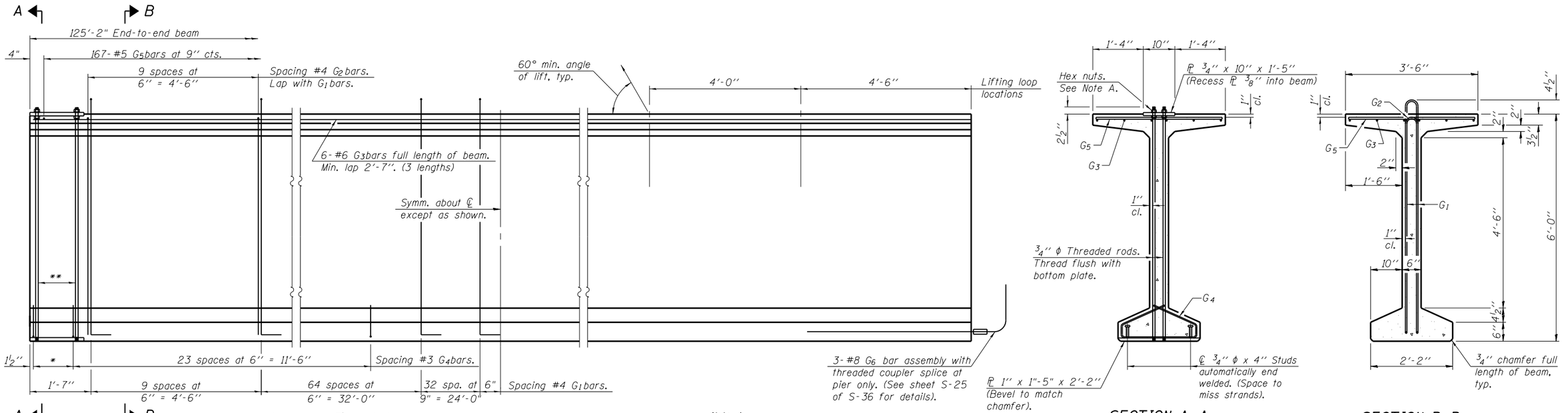
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			



SECTION A-A

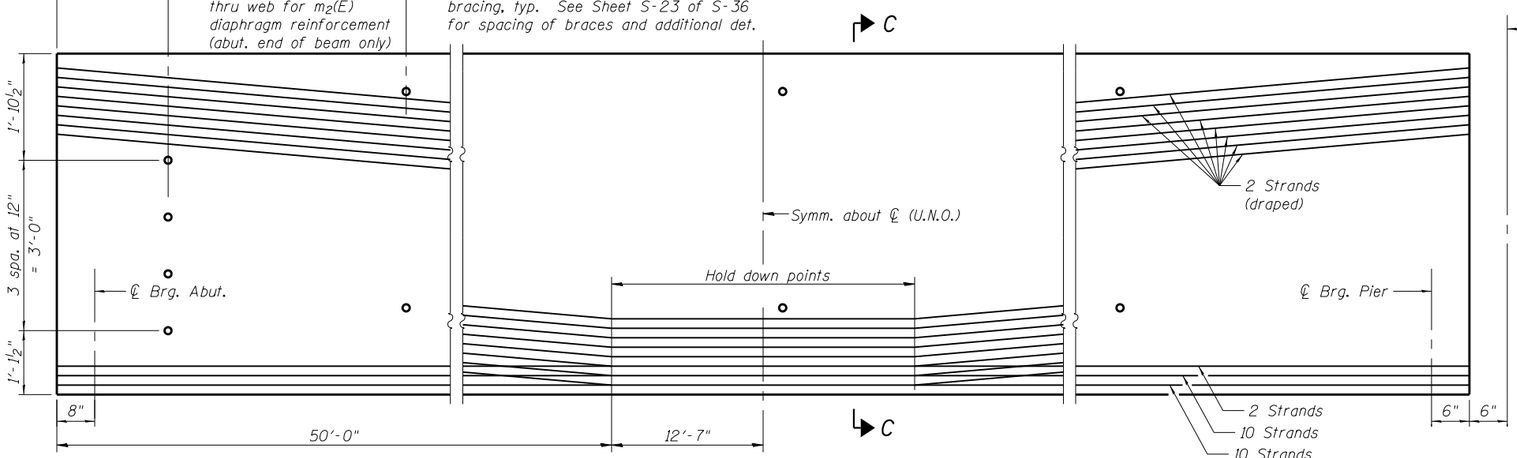
SECTION B-B

A B

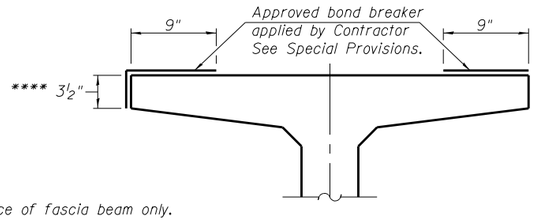
* 4 spaces at 3¼" = 1'-1".
** 5-¾" ϕ threaded dowel rods at 3¼" cts., each face.

ELEVATION OF BEAM
(Showing reinforcement & dimensions)

Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.

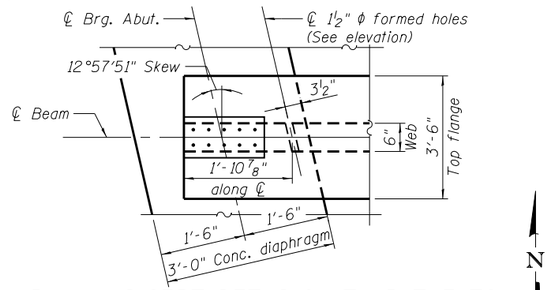


ELEVATION OF BEAM
(Showing prestressing steel)



**** Exterior face of fascia beam only.

SECTION THRU TOP FLANGE
(Showing limits of bond breaker)



PLAN - INSERT DETAILS AT ABUTMENTS
(W. Abut. shown, E. Abut. similar)

SECTION C-C

***BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	212	#4	13'-5"	
G_2	20	#4	11'-8"	
G_3	18	#6	43'-3"	
G_4	56	#3	4'-11"	
G_5	167	#5	3'-4"	
G_6	3	#8	6'-7"	

***For information only

Notes:
See sheet S-25 of S-36 for additional details and Bill of Material.
See sheets S-16 and S-17 of S-36 for m2(E) bar details.
Required release strength, f'ci, shall be 6,000 psi.
Apply approved bond breaker as shown in Section Thru Top Flange full length of beam. See Special Provisions.

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DEPARTMENT OF TRANSPORTATION

72" PPC BULB T-BEAM DETAILS I
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-24 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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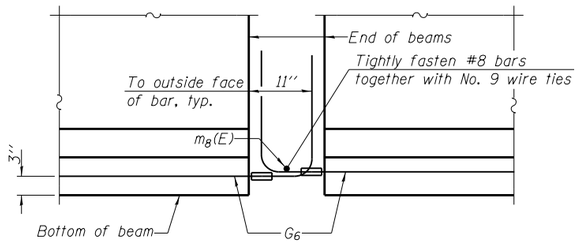
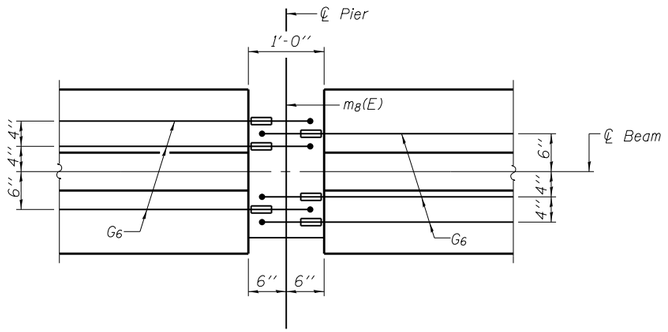
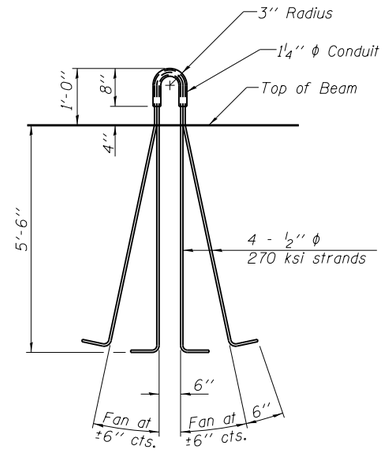
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			



ELEVATION OF BEAM AT PIER



PLAN OF BEAM AT PIER



LIFTING LOOP DETAIL

NOTES

Inserts for ¾'' ϕ threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½'' and the nominal cross-sectional area shall be 0.153 sq. in.

A minimum 2½'' ϕ lifting pin shall be used to engage the lifting loops during handling.

Tilt G_6 bars when necessary to maintain 1½'' clearance.

The top and bottom plates shall be AASHTO M270 Grade 50.

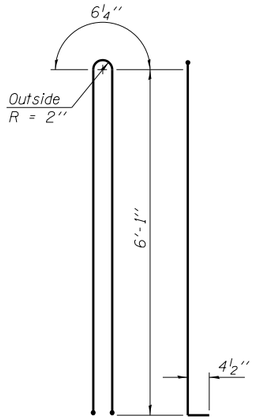
The bottom plates and studs shall be galvanized according to AASHTO M111. Top plates and threaded rods need not be galvanized.

Threaded rods shall be ASTM F 1554 Grade 55.

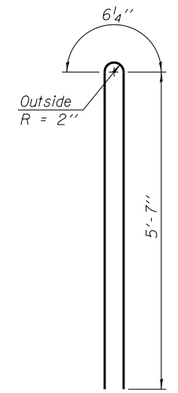
The G_6 bar assembly shall be capable of developing 125 percent of the yield strength of the grade 60 reinforcement bar components. The assembly shall allow completion of the splice without turning of the hook bar. The hook bar shall be threaded such that the entire coupler can be threaded onto the hook bar.

Beams requiring G_6 bar assemblies shall not be released from the fabricator until they have attained 45 days of age or older.

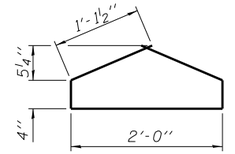
See sheets S-16 and S-17 of S-36 for m8(E) bar details.



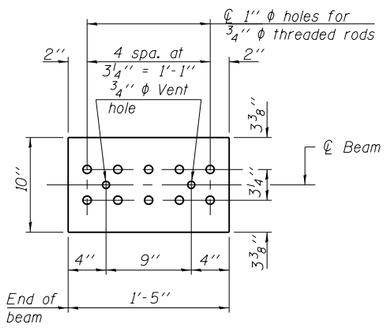
BAR G1



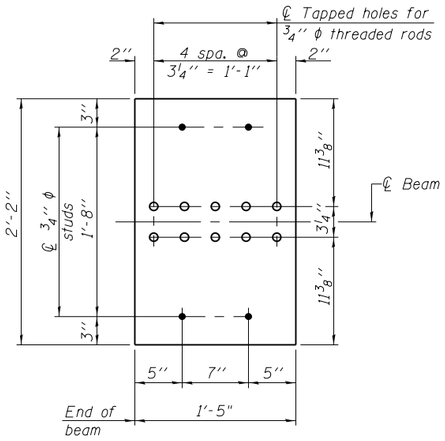
BAR G2



BAR G4

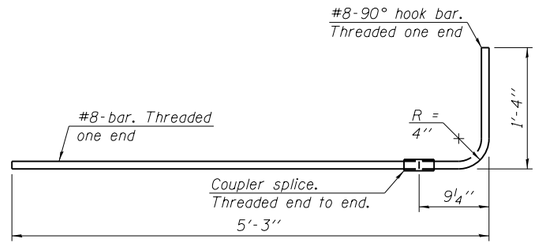


TOP PLATE



BOTTOM PLATE

See bearing details for pintle hole locations when required.



G6 BAR ASSEMBLY

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams, 72''	Foot	4,757

PBT-4-72D 1-28-11

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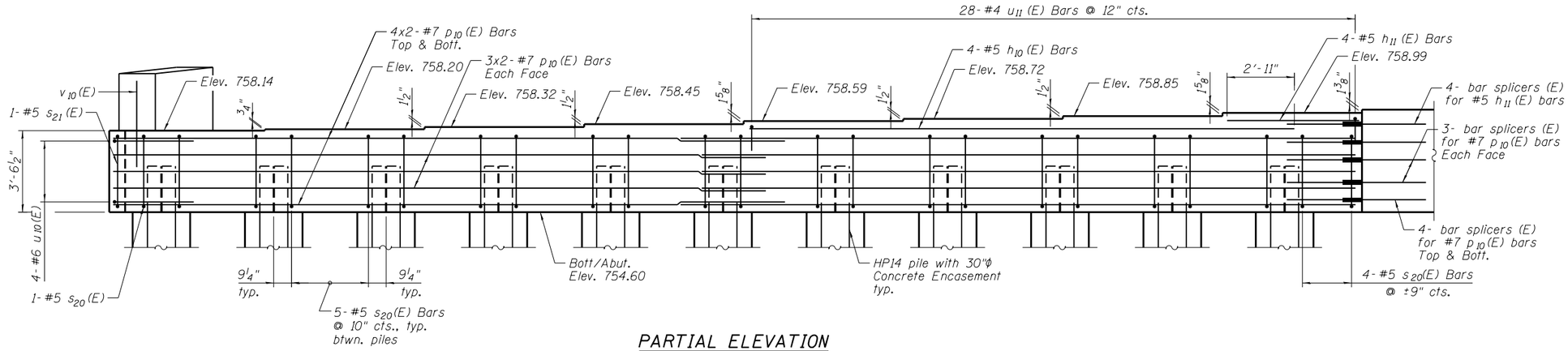
DEPARTMENT OF TRANSPORTATION

72'' PPC BULB T-BEAM DETAILS II
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-25 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	463
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

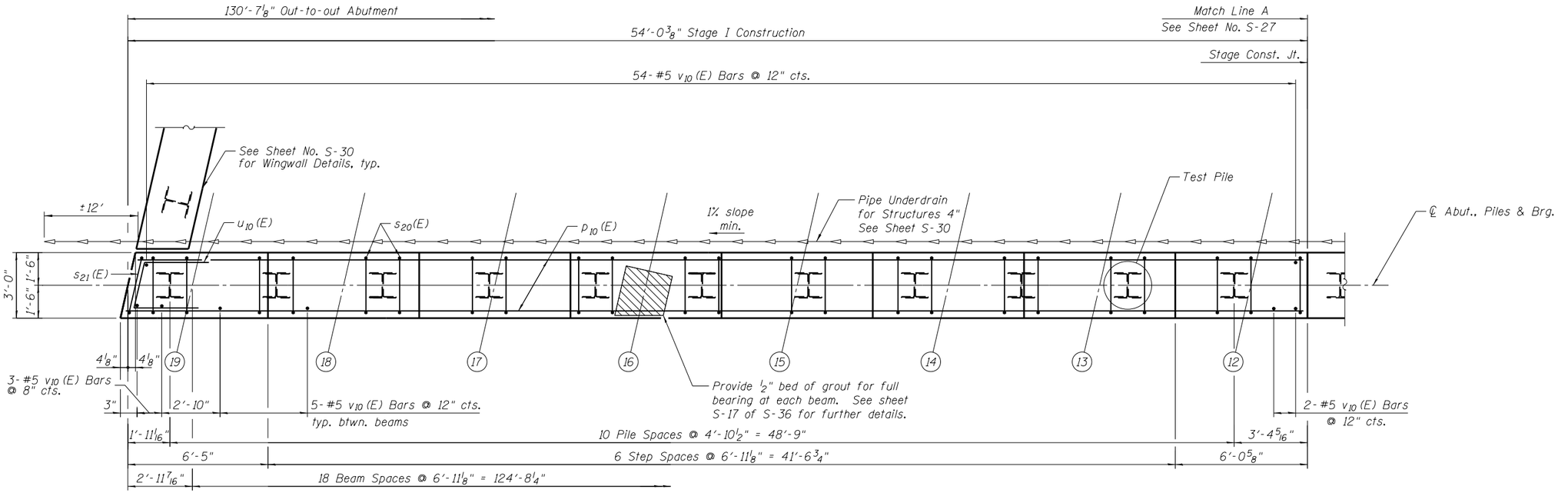


PARTIAL ELEVATION

(Looking West)

MIN. BAR LAP

#4 - 2'-4"
#5 - 2'-11"
#6 - 3'-6"
#7 - 4'-8"



PILE DATA

Type: Steel-HP14x73
Nominal Required Bearing: 406 Kips
Factored Resistance Available: 216 Kips
Est. Length: 66'
No. Production Piles: 26
No. Test Piles: 1

PARTIAL PLAN

Note: Pour steps monolithically with cap.

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PLOT DATE =	CHECKED - MRM	REVISED -

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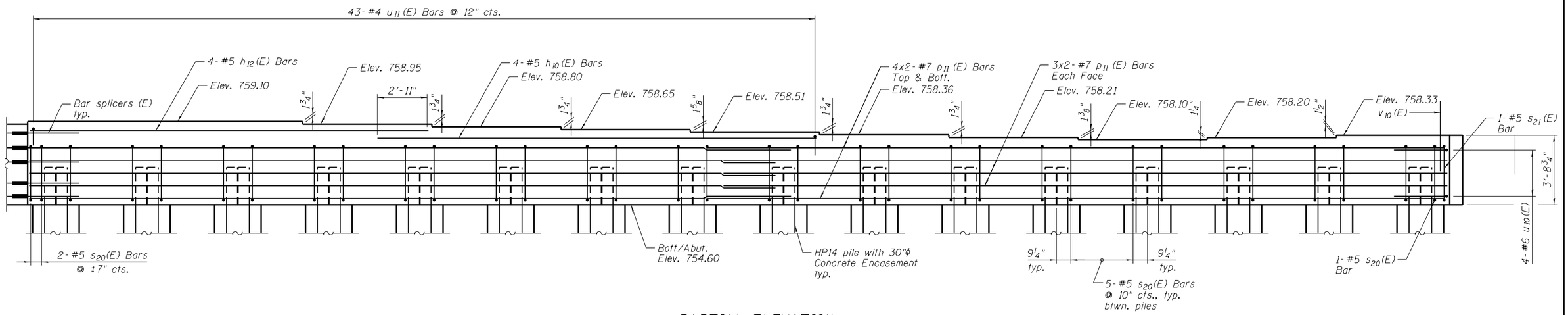
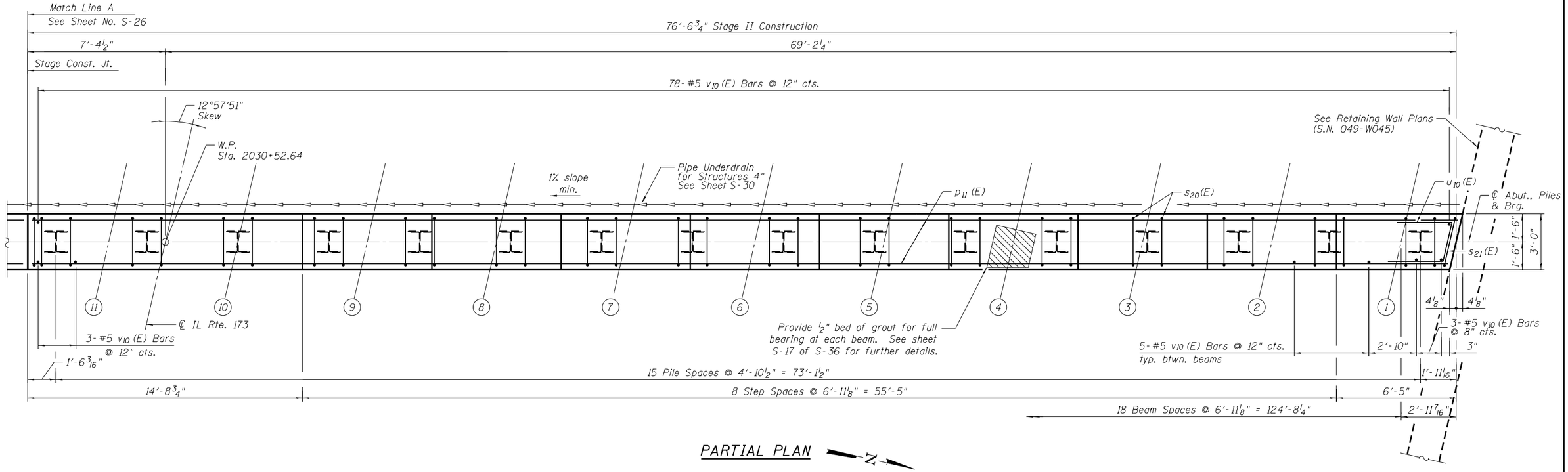
WEST ABUTMENT I
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-26 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	464
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			



PARTIAL ELEVATION

(Looking West)



PARTIAL PLAN

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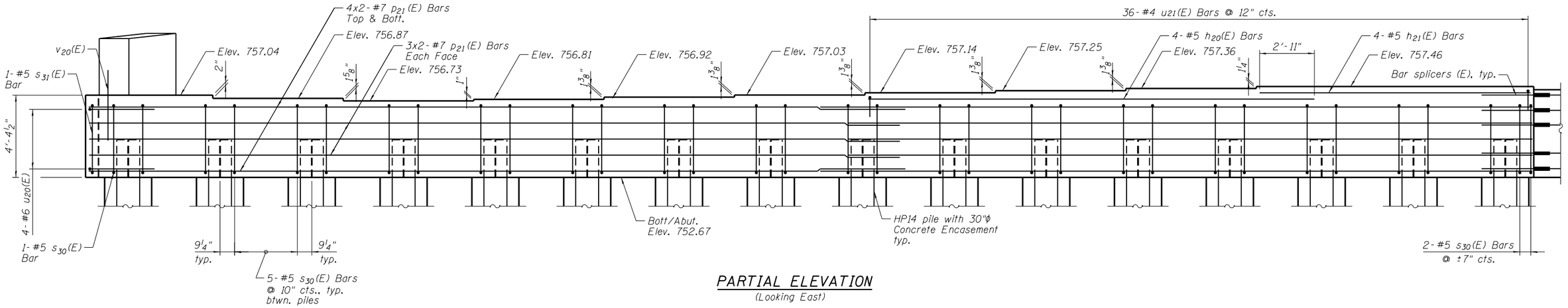
		CHECKED - TL	REVISED -		
	PLOT SCALE =	DRAWN - MTR	REVISED -		
	PLOT DATE =	CHECKED - MRM	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	465
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

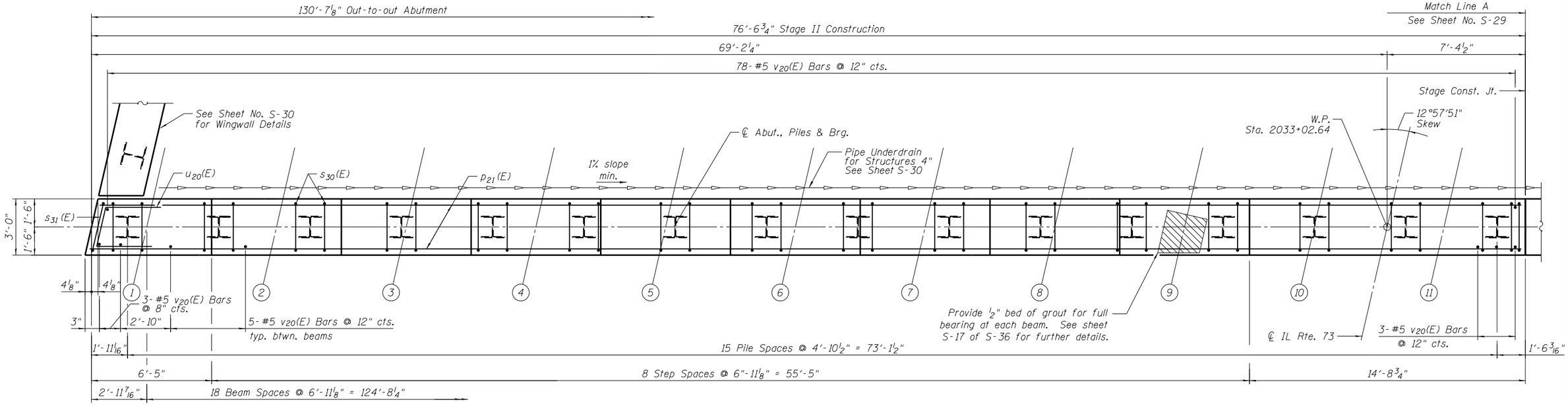


PARTIAL ELEVATION

(Looking East)

MIN. BAR LAP

#4 - 2'-4"
#5 - 2'-11"
#6 - 3'-6"
#7 - 4'-8"



PARTIAL PLAN

N

PILE DATA

Type: Steel-HP14x73
Nominal Required Bearing: 406 Kips
Factored Resistance Available: 216 Kips
Est. Length: 66'
No. Production Piles: 26
No. Test Piles: 1

Note: Pour steps monolithically with cap.

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EAST ABUTMENT I
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-28 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	466
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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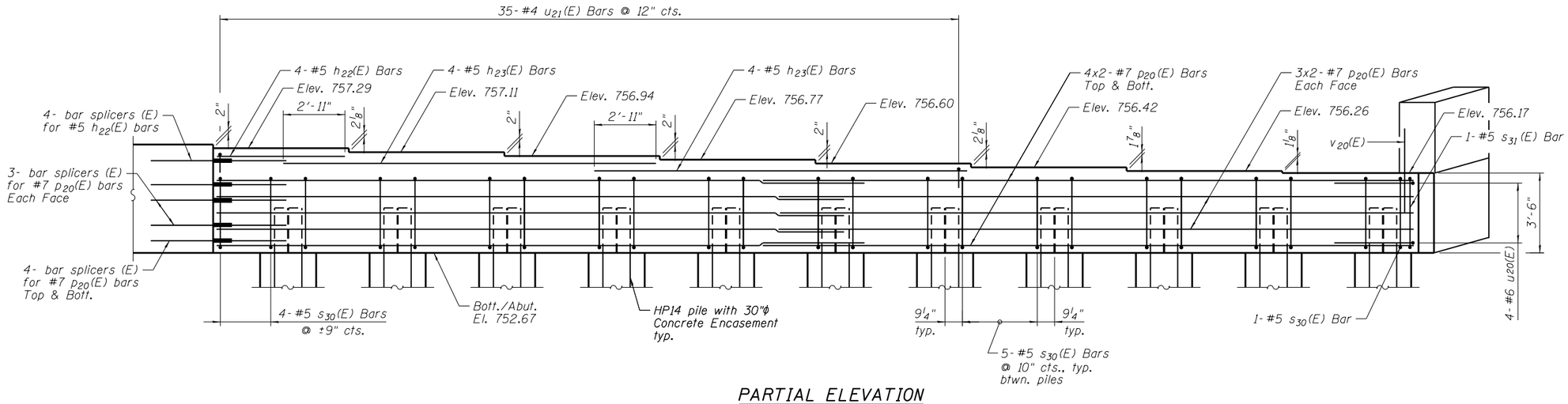
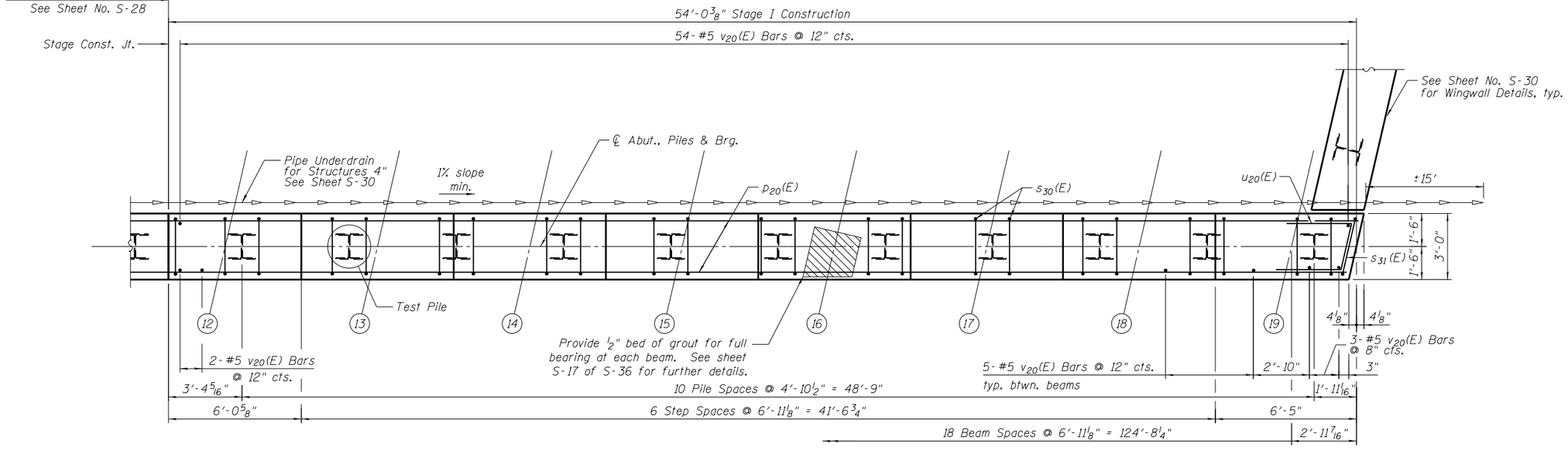


PARTIAL ELEVATION

(Looking East)



PARTIAL PLAN

N

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	PLOT DATE =	CHECKED - MRM	REVISED -

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DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT II
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-29 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	467
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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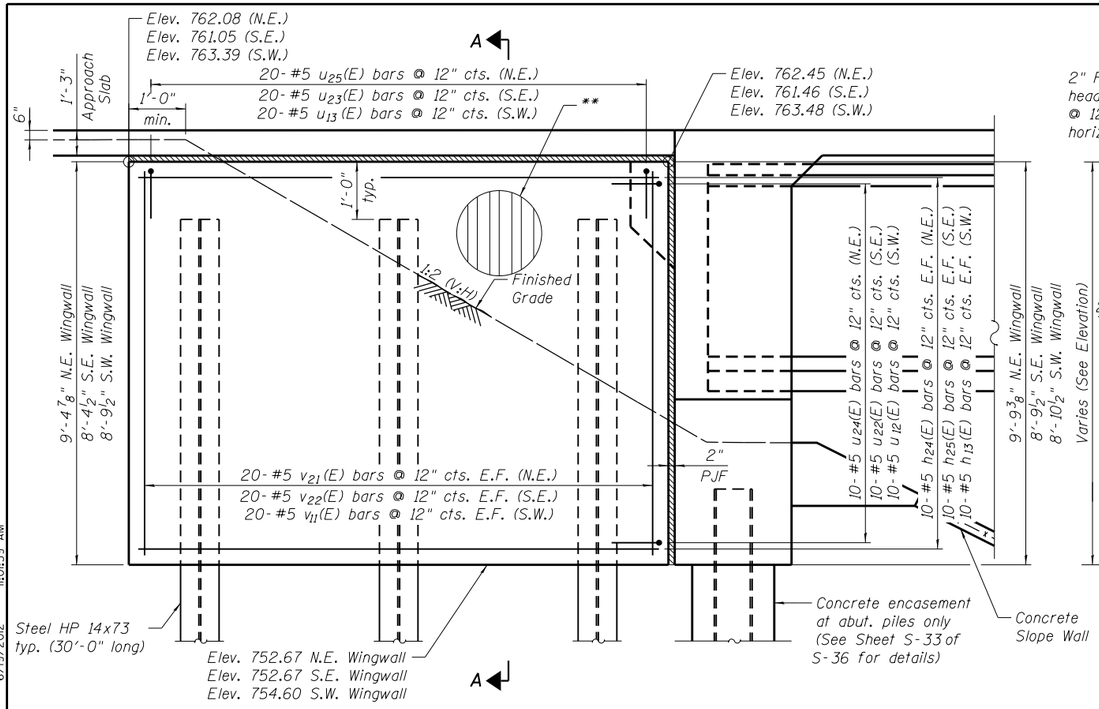
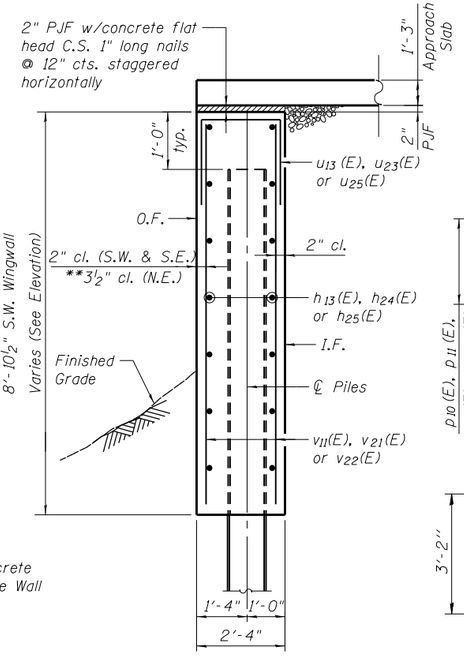


ELEVATION - WINGWALL

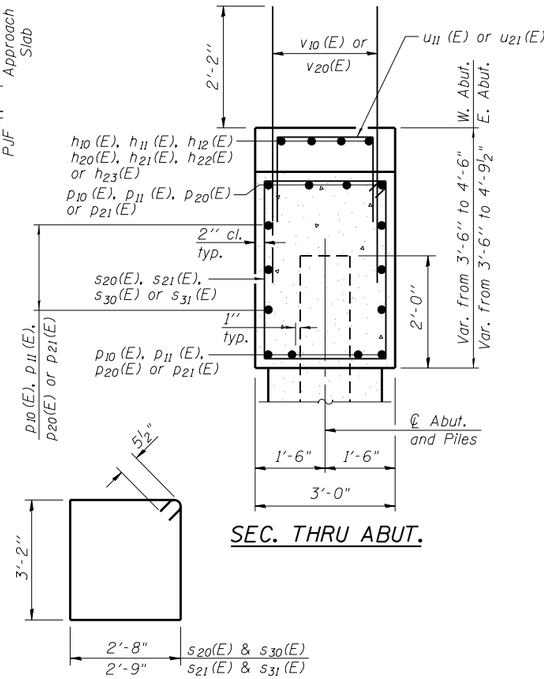
(S.W. wingwall shown, N.E. & S.E. similar)
Sidewalk and railing not shown for clarity.

** Provide Rustication finish at Northeast Wingwall. See Sheet S-2 of S-36 for Rustication Details. Cost included with Concrete Structures.



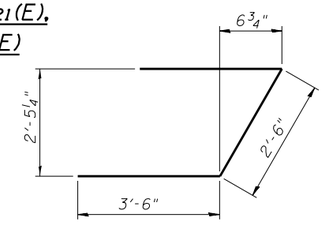
SECTION A-A

Sidewalk and railing not shown for clarity.

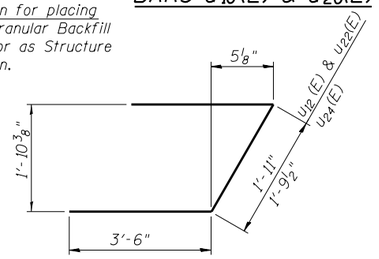


SEC. THRU ABUT.

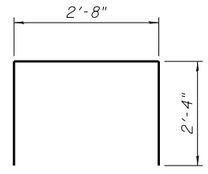
BARS s20(E), s21(E), s30(E) & s31(E)



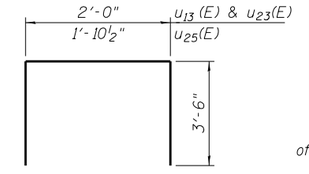
BARS u10(E) & u20(E)



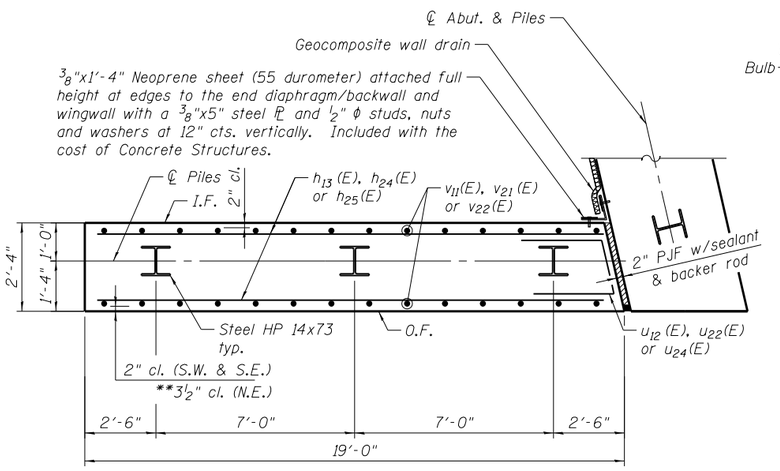
BARS u12(E), u22(E) & u24(E)



BARS u11(E) & u21(E)

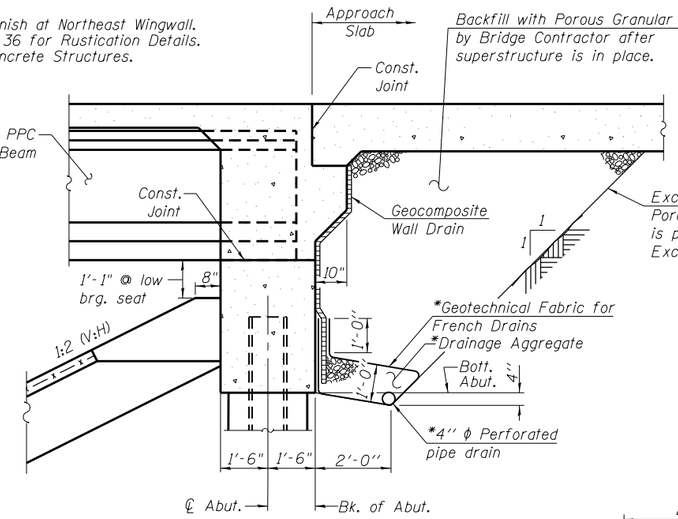


BARS u13(E), u23(E) & u25(E)



PLAN - WINGWALL

(S.W. wingwall shown, N.E. & S.E. similar)



SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures.

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

W. ABUT. BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10 (E)	8	#5	23'-9"	
h11 (E)	4	#5	5'-8""	
h12 (E)	4	#5	21'-3"	
h13 (E)	20	#5	18'-2"	
p10 (E)	28	#7	29'-4"	
p11 (E)	28	#7	40'-8"	
s20(E)	133	#5	12'-7"	
s21 (E)	2	#5	12'-9"	
u10(E)	8	#6	9'-6"	
u11 (E)	71	#4	7'-4"	
u12 (E)	10	#5	8'-11"	
u13 (E)	20	#5	9'-0"	
v10 (E)	228	#5	4'-4"	
v11 (E)	40	#5	8'-4"	
Structure Excavation		Cu. Yd.	129	
Concrete Structures		Cu. Yd.	72.1	
Reinforcement Bars, Epoxy Coated		Pound	8,590	
Furnishing Steel Piles HP14X73		Foot	1,806	
Driving Piles		Foot	1,806	
Test Pile HP14x73		Each	1	
Concrete Encasement		Cu. Yd.	14.8	
Porous Granular Backfill		Cu. Yd.	316	
Geocomposite Wall Drain		Sq. Yd.	140	
Pipe Underdrain for Structures, 4"		Foot	142	

E. ABUT. BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h20(E)	4	#5	23'-9"	
h21(E)	4	#5	14'-4"	
h22(E)	4	#5	5'-8"	
h23(E)	8	#5	16'-10"	
h24(E)	20	#5	18'-2"	
h25(E)	20	#5	18'-8"	
p20(E)	28	#7	29'-4"	
p21(E)	28	#7	40'-8"	
s30(E)	133	#5	12'-7"	
s31 (E)	2	#5	12'-9"	
u20(E)	8	#6	9'-6"	
u21(E)	71	#4	7'-4"	
u22(E)	10	#5	8'-11"	
u23(E)	20	#5	9'-0"	
u24(E)	10	#5	8'-10"	
u25(E)	20	#5	8'-11"	
v20(E)	228	#5	4'-4"	
v21 (E)	40	#5	9'-0"	
v22(E)	40	#5	8'-0"	
Structure Excavation		Cu. Yd.	169	
Concrete Structures		Cu. Yd.	91.8	
Reinforcement Bars, Epoxy Coated		Pound	9,640	
Furnishing Steel Piles HP14X73		Foot	1,896	
Driving Piles		Foot	1,896	
Test Pile HP14x73		Each	1	
Concrete Encasement		Cu. Yd.	14.8	
Porous Granular Backfill		Cu. Yd.	322	
Geocomposite Wall Drain		Sq. Yd.	140	
Pipe Underdrain for Structures, 4"		Foot	145	

For details of Bar Splicers, see sheet S-34 of S-36.
For details of piles and Concrete Encasement, see sheet S-33 of S-36.
Bars indicates thus 4x2-#7 etc. indicates 4 lines of bars with 2 lengths per line.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-30 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	468
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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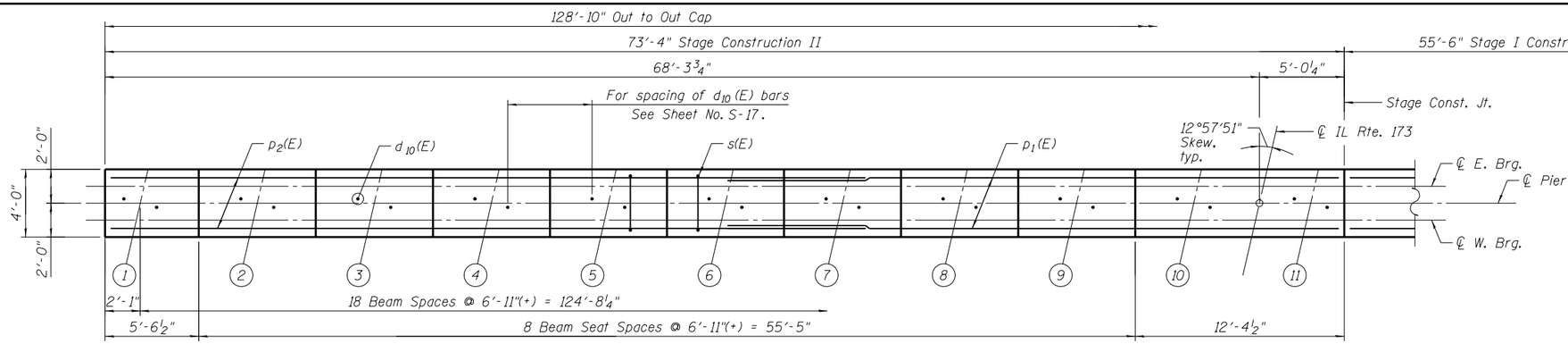
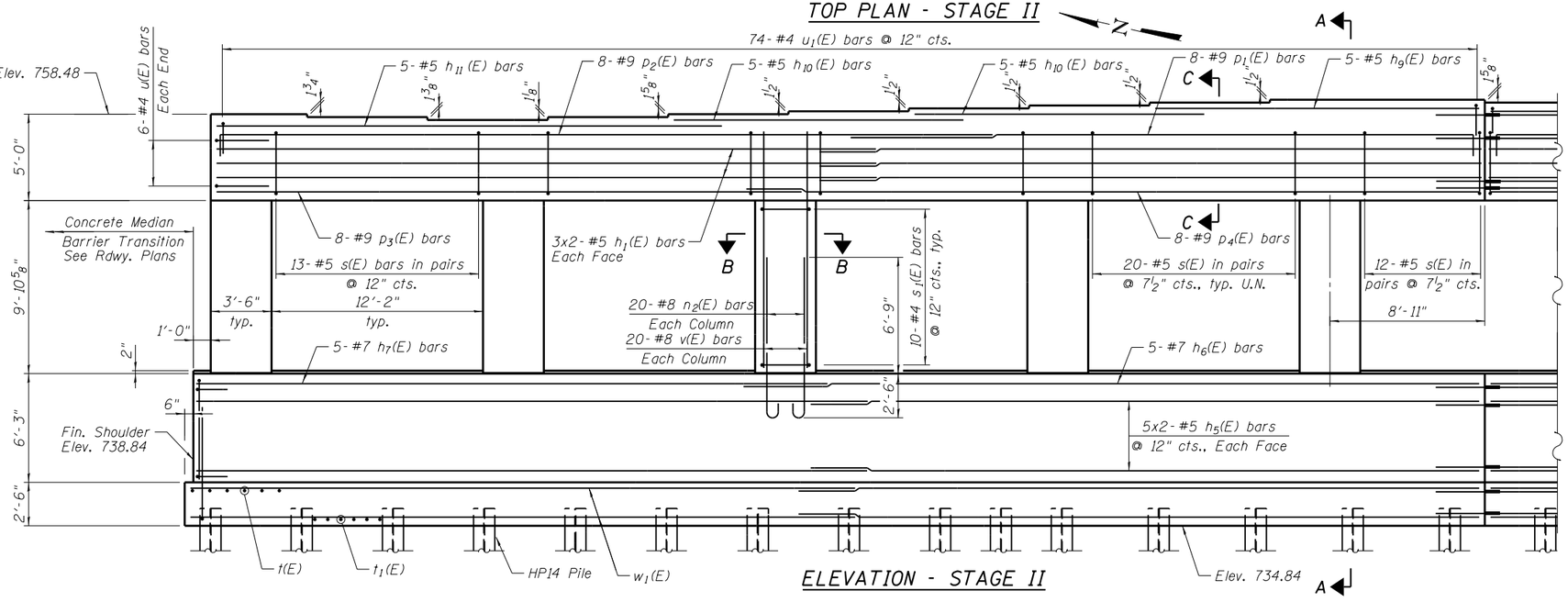
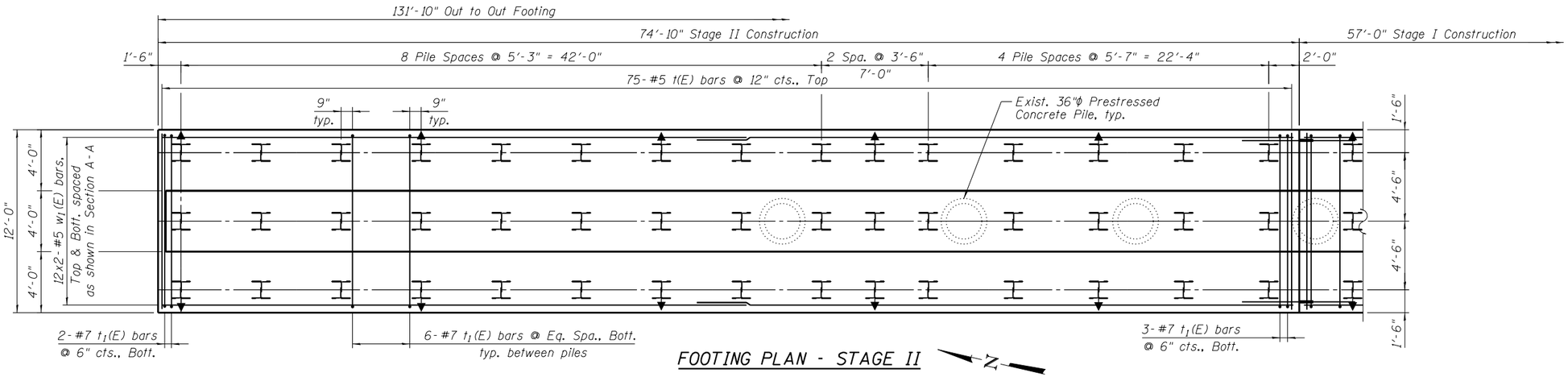


TOP PLAN - STAGE II



ELEVATION - STAGE II



FOOTING PLAN - STAGE II

MIN. BAR LAP

#4 - 2'-7"
#5 - 3'-3"
#7 - 5'-2"
#8 - 6'-9"
#9 - 8'-7"

BEARING SEAT ELEVATIONS

Beam	Brg. Seat Elevation
1	758.48
2	758.33
3	758.22
4	758.31
5	758.45
6	758.58
7	758.71
8	758.84
9	758.97
10	759.10
11	759.10
12	758.96
13	758.81
14	758.66
15	758.50
16	758.35
17	758.20
18	758.06
19	757.98

PILE DATA

Type: Steel-HP14x73
Nominal Required Bearing: 250 Kips
Factored Resistance Available: 140 Kips
Est. Length: 45 ft.
No. Production Piles: 80
No. Test Piles: 1

LEGEND

- Battered Pile
- Vertical Pile

Notes:

1. Pour steps monolithically with cap.
2. See Sheet No. S-32 for Sections A-A, B-B & C-C.
3. See Sheet No. S-32 for Bill of Material and Bar Bending Diagrams.
4. Bars indicated thus 3x2-#5 etc. indicates 3 lines of bars with 2 lengths per line.
5. For details of piles, see Sheet No. S-33.
6. U.N. denotes unless noted.
7. See Sheet S-2 of S-36 for Median Pier Construction Detail.

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PIER DETAILS I
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-31 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 60L77		
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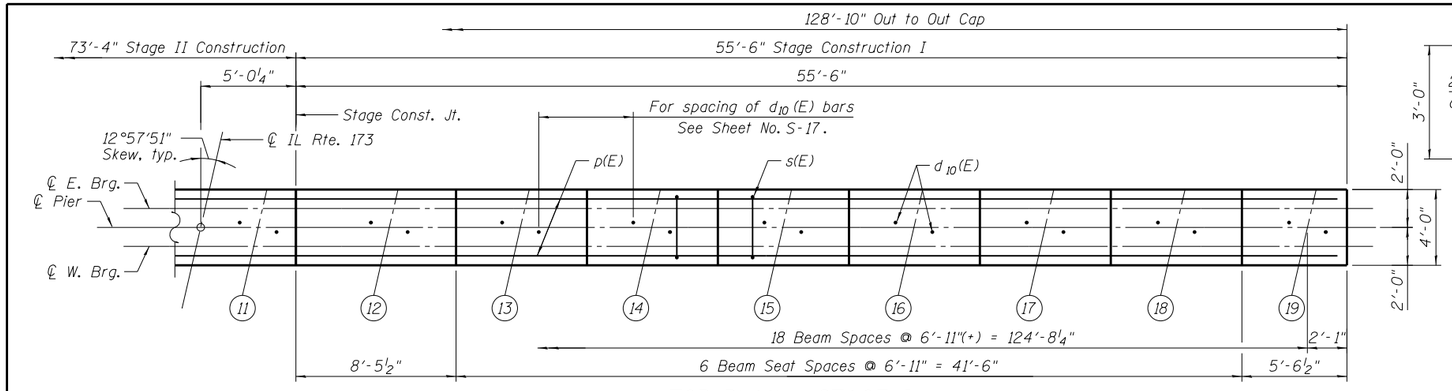
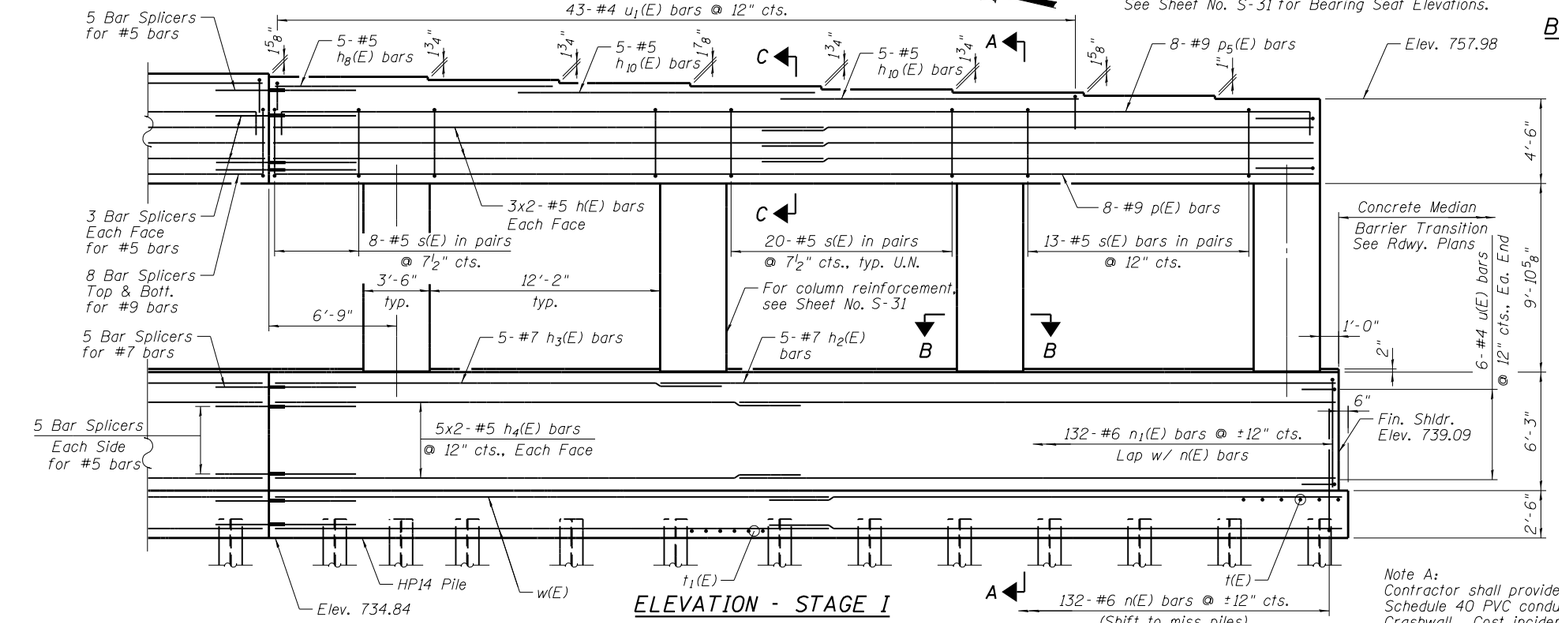


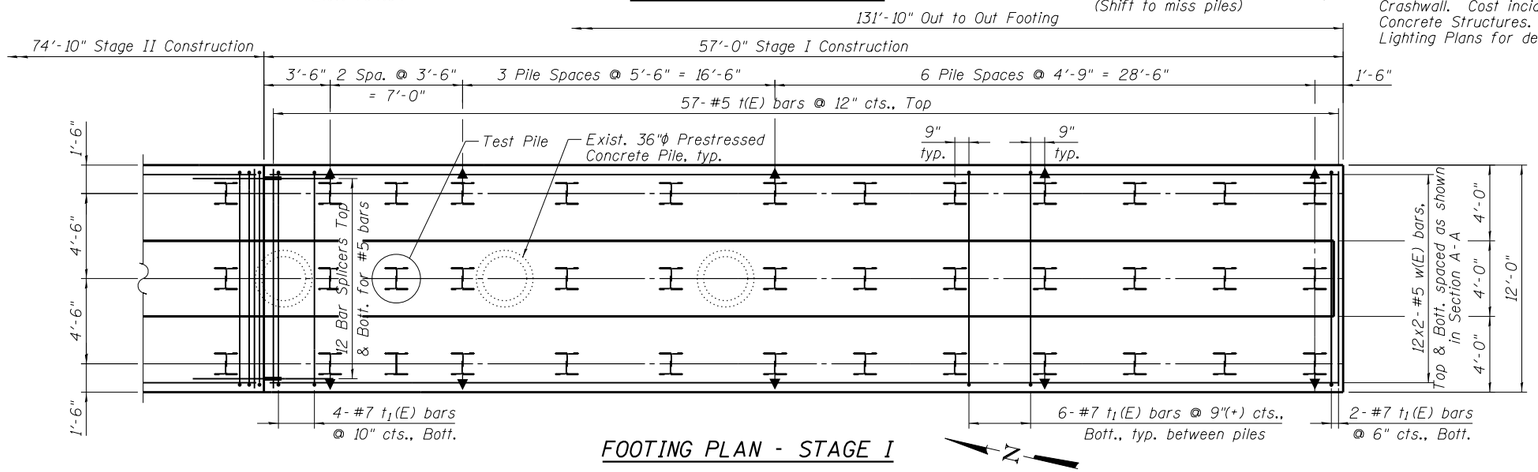
TOP PLAN - STAGE I



ELEVATION - STAGE I

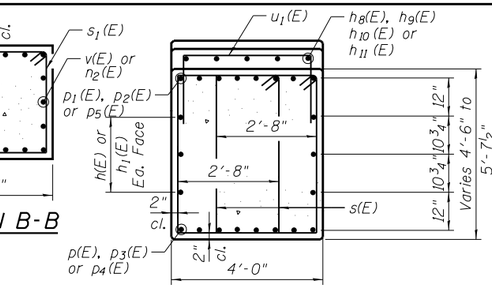
Notes:

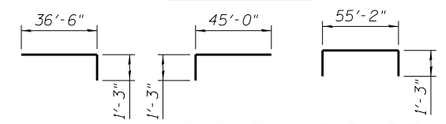
See Sheet No. S-31 for Bearing Seat Elevations.

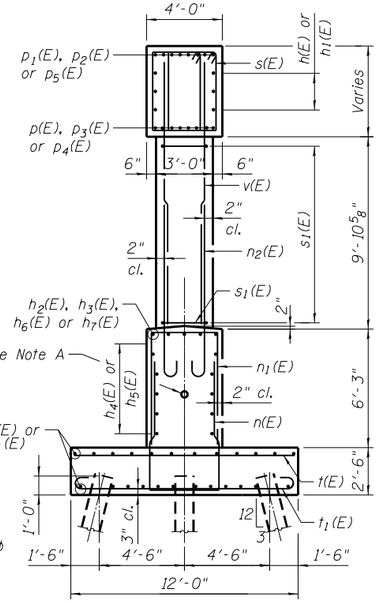


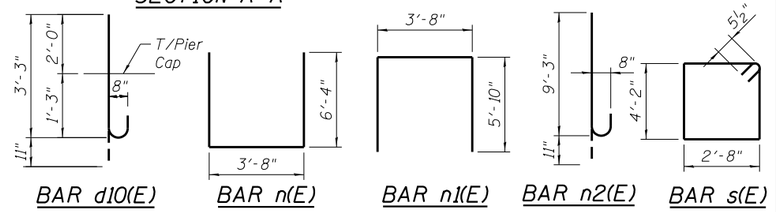
FOOTING PLAN - STAGE I

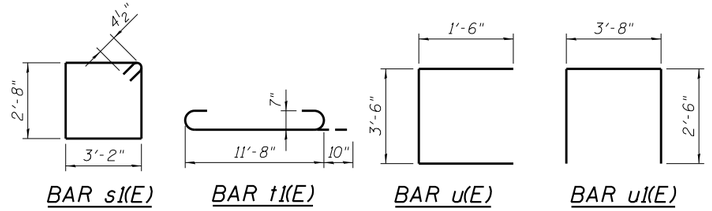
Note A:
Contractor shall provide a 4" ϕ Schedule 40 PVC conduit in Crashwall. Cost incidental to Concrete Structures. See Lighting Plans for details.











BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d_{10}(E)	110	#8	4'-2"	
h(E)	12	#5	29'-2"	
h_1(E)	12	#5	38'-1"	
h_2(E)	5	#7	36'-6"	
h_3(E)	5	#7	24'-9"	
h_4(E)	20	#5	29'-8"	
h_5(E)	20	#5	38'-8"	
h_6(E)	5	#7	42'-8"	
h_7(E)	5	#7	36'-6"	
h_8(E)	5	#5	15'-1"	
h_9(E)	5	#5	19'-0"	
h_{10}(E)	20	#5	17'-0"	
h_{11}(E)	5	#5	29'-5"	
n(E)	132	#6	16'-4"	
n_1(E)	132	#6	15'-4"	
n_2(E)	180	#8	10'-2"	
p(E)	8	#9	55'-2"	
p_1(E)	8	#9	37'-9"	
p_2(E)	8	#9	46'-3"	
p_3(E)	8	#9	37'-3"	
p_4(E)	8	#9	44'-4"	
p_5(E)	8	#9	57'-8"	
s(E)	292	#5	14'-7"	
s_1(E)	90	#4	12'-5"	
t(E)	132	#5	11'-8"	
t_1(E)	161	#7	13'-4"	
u(E)	24	#4	6'-6"	
u_1(E)	117	#4	8'-8"	
v(E)	180	#8	12'-9"	
w(E)	48	#5	29'-11"	
w_1(E)	48	#5	38'-10"	

Reinforcement Bars, Epoxy Coated	Pound	45,890
Concrete Structures	Cu. Yds.	400.6
Structure Excavation	Cu. Yds.	350
Furnishing Steel Piles HP14x73	Foot	3,600
Driving Piles	Foot	3,600
Test Pile Steel HP14x73	Each	1
Concrete Sealer	Sq. Ft.	5,084

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PIER DETAILS II
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-32 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	470
		CONTRACT NO. 60L77		
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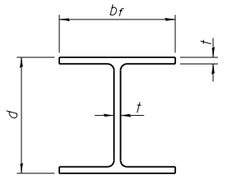
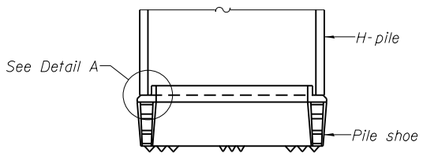


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4''	14 7/8''	13/16''	30''
x102	14''	14 3/4''	11/16''	30''
x89	13 7/8''	14 3/4''	5/8''	30''
x73	13 5/8''	14 5/8''	1/2''	30''
HP 12x84	12 1/4''	12 1/4''	11/16''	24''
x74	12 1/8''	12 1/4''	5/8''	24''
x63	12''	12 1/8''	1/2''	24''
x53	11 3/4''	12''	7/16''	24''
HP 10x57	10''	10 1/4''	9/16''	24''
x42	9 3/4''	10 1/8''	7/16''	24''
HP 8x36	8''	8 1/8''	7/16''	18''



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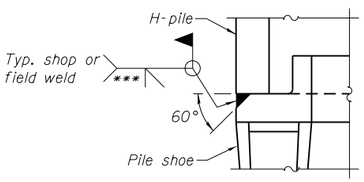
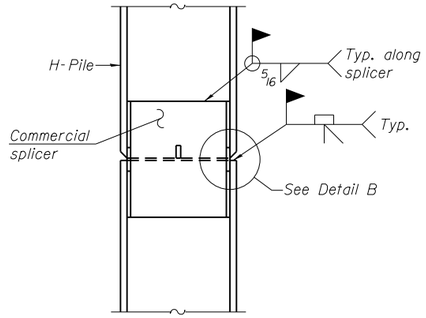
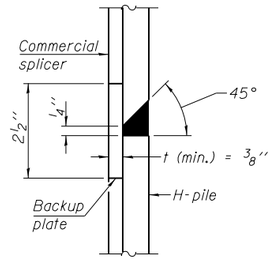


DETAIL A

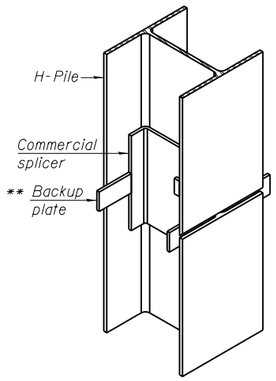
H-PILE SHOE ATTACHMENT



ELEVATION

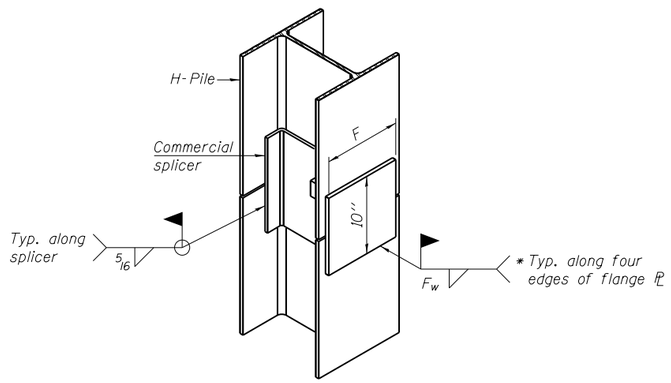


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



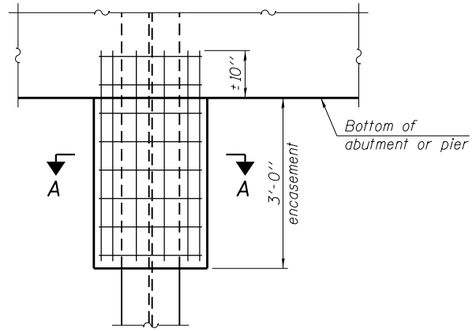
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4'' from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16'' min.).



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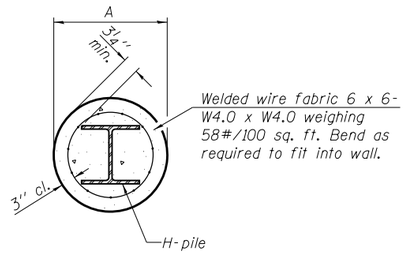
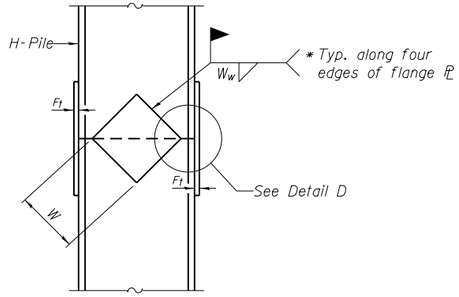


Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT



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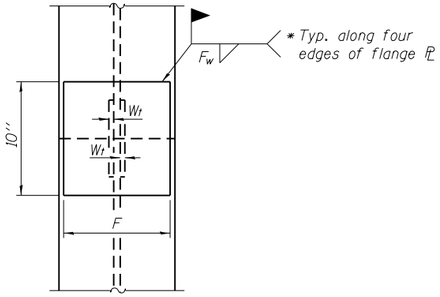
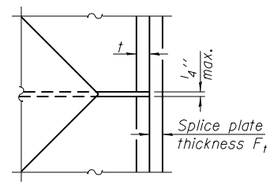


END VIEW



DETAIL D

Designation	F	F_f	F_w	W	W_f	W_w
HP 14x117	12 1/2''	1''	7/8''	7 3/4''	5/8''	1/2''
x102	12 1/2''	7/8''	3/4''	7 3/4''	5/8''	1/2''
x89	12 1/2''	3/4''	11/16''	7 3/4''	5/8''	1/2''
x73	12 1/2''	5/8''	9/16''	7 3/4''	5/8''	1/2''
HP 12x84	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x74	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x63	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
x53	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
HP 10x57	8''	3/4''	9/16''	5 1/4''	1/2''	3/8''
x42	8''	5/8''	9/16''	5 1/4''	1/2''	3/8''
HP 8x36	7''	5/8''	7/16''	4 1/4''	1/2''	3/8''

WELDED PLATE FIELD SPLICE

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 7-1-10

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-33 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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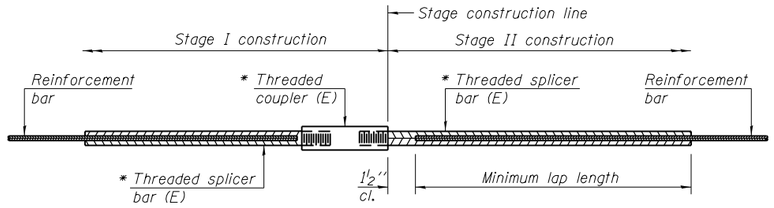


STANDARD BAR SPLICER ASSEMBLY

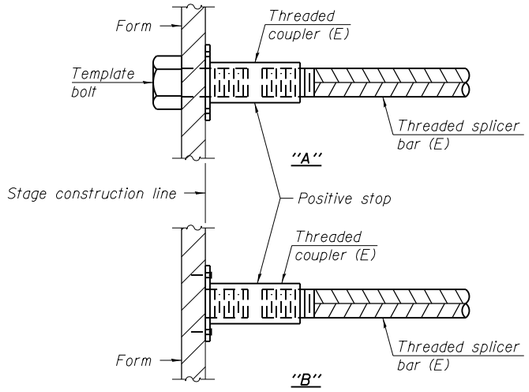
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

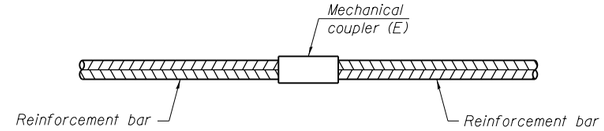
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Abumtments	#5	28	Table 4
	#7	8	Table 4
Deck	#5	740	Table 4
Approach Slabs	#4	50	Table 4
	#5	172	Table 4
Pier	#5	45	Table 4
	#7	5	Table 4
	#9	16	Table 4



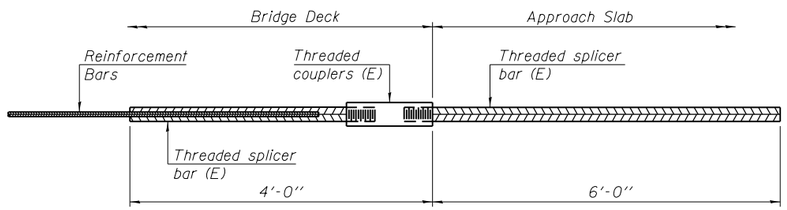
INSTALLATION AND SETTING METHODS

"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.



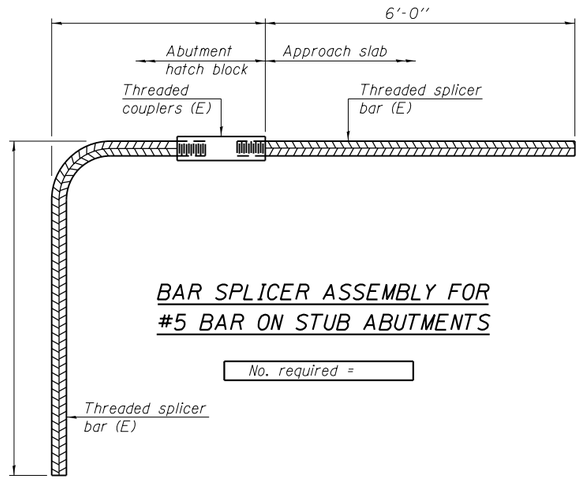
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 258



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See special provision for Mechanical Splicers.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 7-1-10

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

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PLOT SCALE =	DRAWN - MTR	REVISED -	
PLOT DATE =	CHECKED - MRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-34 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	472
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60563
(630) 355-2838

SOIL BORING LOG

PAGE 1 of 2
DATE 9/13/2011
LOGGED BY RJ
GSI JOB No. 10193

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-08
Station 2030+23 ll Route 173
Offset 26.4' Left
Ground Surface Elev. 760.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -5.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
759.4 10.0" ASPHALT, 2.0" CLAYEY SAND & STONE			
	5		
	5		
	5	3.25P	15
CLAY-brown & gray- very stiff (A-6)			
	2		
	3		
-5	4	2.25P	15
Bott. W. Abut. Elev. 754.60 754.9			
	2		97
	2		
	2	0.6B	23
CLAY-brown & gray- medium stiff to stiff (A-6)			
	1		105
	2	1.5S@	
-10	3	12.7%	22
749.9			
	5		114
	6		
	11	5.3B	16
CLAY-brown & gray- stiff to hard (A-6)			
	4		108
	7		
-15	10	2.3B	18
	3		109
	2		
	2	1.25B	18
	3		112
	5		
-20	9	4.0B	17

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	2		111
	3		
	4	2.0B	18
CLAY-brown & gray- stiff to hard (A-6)			
	7		112
	13		
-25	19	3.75B	17
732.4			
	6		108
	10		
-30	13	3.9B	20
	5		117
	6		
-35	5	1.0B	16
	2		
	3		
	4	2.5P	18
	3		
	4		
	4		116
	4		
-40	4	1.6B	17

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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SOIL BORING LOG

PAGE 2 of 2
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GSI JOB No. 10193

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-08
Station 2030+23 ll Route 173
Offset 26.4' Left
Ground Surface Elev. 760.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -5.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	3		111
	4		
-45	6	1.3B	18
CLAY-gray-stiff to hard (A-6)			
	3		114
	4		
-50	7	1.4B	16
	3		116
	5		
-55	8	1.9B	17
	7		108
	10		
-60	14	2.4B	20

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	5		105
	9		
-65	12	2.9B	21
CLAY-gray-stiff to hard (A-6)			
	7		115
	12		
-70	21	4.5B	16
	10		
	16		
-75	22	1.5P	20
End Of Boring @ -80.0 Hollow Stem Augers To -5.0' Rotary Drilling To Completion 5.0' Of 4.0"ø Casing Used CME Automatic Hammer 680.4	7		115
	10		
-80	13	1.3B	17

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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SOIL BORING LOG

PAGE 1 of 2
DATE 9/12/2011
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ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-09
Station 2033+42 ll Route 173
Offset 28.7' Right
Ground Surface Elev. 759.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
758.5 8.0" ASPHALT, 4.0" CLAYEY SAND & STONE			
	6		
	7		
	5	2.5P	15
	4		118
	4		
-5	3	2.2B	16
Bott. E. Abut. Elev. 752.67			
	2		106
	3		
	4	2.75B	22
CLAY LOAM-brown & gray- stiff to very stiff (A-6)			
	3		97
	3		
-10	3	1.5P	22
	5		120
	8		
	9	8.2B	14
	2		
	3		
-15	5	2.5P	18
	2		
	3		
	4	2.5P	18
741.5			
CLAY LOAM-brown & gray- medium stiff (A-6)	2		
	1		
-20	2	0.75P	19

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	2		
CLAY LOAM-brown & gray- medium stiff (A-6)	3		
	4	0.75P	24
736.5			
	4		112
	6		
-25	9	2.9B	17
CLAY LOAM-brown & gray- stiff to very stiff (A-6)			
	6		
	7		
	9	2.5P	14
731.5			
	6		115
	12		
-30	18	6.3B	17
CLAY-gray-very stiff to hard (A-6)			
	5		106
	6		
-35	11	3.0B	22
	7		
	8		
	8	2.7B	15
	7		121
	8		
-40	9	2.7B	15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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SOIL BORING LOG

PAGE 2 of 2
DATE 9/12/2011
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GSI JOB No. 10193

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-09
Station 2033+42 ll Route 173
Offset 28.7' Right
Ground Surface Elev. 759.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	6		121
	12		
-45	18	7.8B	12
CLAY-gray-very stiff to hard (A-6)			
	3		118
	6		
-50	9	2.25B	16
	10		116
	13		
-55	14	2.5B	15
	4		112
	8		
-60	12	2.9B	19

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	6		111
	10		
-65	12	2.5B	19
CLAY-gray-very stiff to hard (A-6)			
	7		111
	9		
-70	15	3.0B	18
	7		111
	9		
-75	12	3.9B	18
681.5			
CLAY-gray-stiff (A-6) Wet End Of Boring @ -80.0 Hollow Stem Augers To -10.0' Rotary Drilling To Completion CME Automatic Hammer 679.5	4		95
	6		
-80	8	1.6B	29

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
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NR-No Recovery

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SOIL BORING LOG

PAGE 1 of 2
DATE 10/25/2011
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ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-10
Station 2031+56 ll Route 173
Offset 61.4' Left
Ground Surface Elev. 739.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
738.3 8.0" ASPHALT			
	20		
CRUSHED ASPHALT-medium dense	10		
736.1	6	NP	6
	6		117
	8		
-5	11	8.0B	14
Bott. Pier Ftg. Elev. 735.35			
	6		111
CLAY to CLAY LOAM-brown & gray- hard (A-6)	9		
	11	6.0B	18
	6		107
	7	5.1S@	
-10	9	14.1%	21
728.1			
	5		119
	5		
	6	1.8B	15
CLAY-gray-stiff to very stiff (A-6)			
	4		118
	6		
-15	7	2.2B	16
	3		104
	6		
	8	1.4B	23
	3		116
	5		
-20	7	1.9B	17

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	4		119
	8		
	11	8.0B	14
CLAY-gray-stiff to very stiff (A-6)			
	3		116
	5		
-25	6	1.5B	17
	3		115
	6		
	7	1.9B	17
	4		118
	7		
-30	8	1.2B	17
	5		119
	5		
	6	1.8B	15
	3		116+
	6		
-35	9	2.1B	17
	3		104
	6		
	8	1.4B	23
	4		100
	5		
-40	6	1.3B	23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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SOIL BORING LOG

PAGE 2 of 2
DATE 10/25/2011
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ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-10
Station 2031+56 ll Route 173
Offset 61.4' Left
Ground Surface Elev. 739.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	4		110
	8		
-45	13	2.8B	19
CLAY-gray-stiff to very stiff (A-6)			
	5		104
	7		
-50	10	1.5B	19
	3		
	6		
-55	9	1.25P	20
	4		111
	6		
-60	8	1.4B	19

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	7		104
	10		
-65	13	1.7B	23
CLAY-gray-stiff to very stiff (A-6)			
	8		106
	10		
-70	14	1.9B	22
	3		108
	6		
-75	8	1.7B	21
End Of Boring @ -80.0 Hollow Stem Augers To -10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used CME Automatic Hammer 659.1	6		105
	8		
-80	10	1.7B	23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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PLOT SCALE =	DRAWN - LAM	REVISED -	
PLOT DATE =	CHECKED - MRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS I
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-35 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	473
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 2
DATE 10/21/2011
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GSI JOB No. 10193

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-11
Station 2032+31 ll Route 173
Offset 51.3' Left
Ground Surface Elev. 737.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
736.9 7.0" ASPHALT			
	4		116
	3		
	3	2.75B	17
CLAY LOAM-brown & gray- very stiff to hard (A-6)	7		101
	10		
-5	10	5.6B	20
	5		101
	8		
	9	3.4B	24
	5		115
	7		
-10	9	6.0B	16
727.1 CLAY-gray-stiff to very stiff (A-6)	4		118
	6		
	8	1.6B	16
	3		112
	5		
-15	7	2.1B	19
	3		122
	6		
	7	1.7B	14
700.6 CLAY-gray-medium stiff (A-6)	5		
	6		
-20	8	1.5P	16

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to very stiff (A-6)	5		114
	8		
	13	1.7B	17
	3		117
	6		
-25	8	1.3B	16
	3		116
	6		
	8	1.3B	17
	4		116
	6		
-30	8	1.0B	17
	6		
	9		
-40	11	0.5P	20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

SOIL BORING LOG

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DATE 10/24/2011
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ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-12
Station 2031+22 ll Route 173
Offset 54.9' Right
Ground Surface Elev. 738.8

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
737.9 11.0" Clayey SAND & GRAVEL-brown	AS	NP	10
	7		120
	5		
	6	4.8B	14
CLAY to CLAY LOAM-brown & gray- very stiff to hard (A-6)	4		121
	7		
-5	10	4.5B	15
	6		100
	10		
	11	3.6B	16
	3		104
	5		
-10	8	3.1B	18
728.3 CLAY-gray-stiff to very stiff (A-6)	3		120
	4		
	6	2.2B	15
	3		123
	5		
-15	5	1.6B	14
	3		108
	4		
	5	1.0B	21
	4		122
	6		
-20	6	1.3B	14

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to very stiff (A-6)	3		121
	4		
	6	1.3B	14
715.8 CLAY-gray-medium stiff (A-6)	3		111
	4		
-25	5	0.5B	18
713.3 CLAY-gray-stiff to very stiff (A-6)	3		122
	6		
	7	1.7B	14
	3		123
	5		
-30	7	1.2B	13
	5		
	6		
	9	1.6B	12
	6		111
	10		
-40	13	1.7B	18

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

SOIL BORING LOG

PAGE 1 of 2
DATE 10/18/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-13
Station 2032+00 ll Route 173
Offset 58.8' Right
Ground Surface Elev. 738.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
737.8 10.0" ASPHALT			
	14		
Silty SAND, GRAVEL & STONE- dense (Fill)	24		
	30	NP	5
735.7 Bott. Pier Ftg. Elev. 735.35	2		89
	2		
-5	3	1.1B	24
CLAY LOAM-brown & gray- stiff to hard (A-6)	3		119
	4		
	6	3.8B	16
	5		
	7		
-10	10	4.5+P	19
728.2 CLAY-gray-stiff to hard (A-6)	5		
	7		
	9	1.0P	23
	4		119
	5		
-15	8	2.0B	15
	3		119
	6		
	8	2.6B	15
	3		117
	4		
-20	7	1.2B	16

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to hard (A-6)	4		116
	5		
	8	1.4B	16
	3		117
	6		
-25	11	2.4B	16
	3		117
	6		
	9	2.9B	16
	4		116
	7		
-30	6	1.2B	17
	3		116
	5		
	6	1.6B	17
	3		119
	6		
	8	1.6B	15
	4		116
	7		
-40	10	1.8B	15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

SOIL BORING LOG

PAGE 2 of 2
DATE 10/21/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-11
Station 2032+31 ll Route 173
Offset 51.3' Left
Ground Surface Elev. 737.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
CLAY-gray-medium stiff (A-6)	6		
	9		
-45	12	0.75P	21
690.6 CLAY-gray-stiff (A-6)	3		110
	6		
-50	8	1.6B	20
	3		117
	6		
-55	8	1.6B	16
	3		98
	6		
-60	7	1.6B	26

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff (A-6)	5		
	7		
-65	7	-	23
670.6 SILTY LOAM-gray-medium stiff (A-4)	6		
	9		
-70	9	NP	21
665.6 CLAY-gray-stiff (A-6)	5		94
	6		
-75	7	1.4B	27
End Of Boring @ -80.0 Hollow Stem Augers To -10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used CME Automatic Hammer 657.6 - 80	3		93
	5		
	7	1.3B	30

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

SOIL BORING LOG

PAGE 2 of 2
DATE 10/24/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-12
Station 2031+22 ll Route 173
Offset 54.9' Right
Ground Surface Elev. 738.8

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	5		117
	10		
-45	14	3.5B	16
CLAY-gray-stiff to very stiff (A-6)	4		110
	6		
-50	8	1.6B	18
	4		114
	5		
-55	8	1.6B	15
	4		122
	7		
-60	10	1.8B	14

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	4		111
	6		
-65	9	1.9B	18
CLAY-gray-stiff to very stiff (A-6)	17		109
	12		
Silt seams from -68.5' to -70.0'.	20	2.75B	18
	8		104
	10	1.4B	22
	4		110
	6		
-80	9	1.4B	20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

SOIL BORING LOG

PAGE 2 of 2
DATE 10/18/2011
LOGGED BY DR
GSI JOB No. 10193

ROUTE FAI 94 DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-B-1 LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535
Station n/a
BORING NO. SB-13
Station 2032+00 ll Route 173
Offset 58.8' Right
Ground Surface Elev. 738.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to 10'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
	7		
	11		
-45	16	1.0P	17
CLAY-gray-stiff to hard (A-6)	3		113
	5		
-50	6	1.6B	18
	7		117
	14		
-55	22	4.7B	16
	7		116
	13		
-60	20	4.5B	17

DEPTH (ft)	BLOWS /6"	UCS Qu (tsf)	MOIST (%)
CLAY-gray-stiff to hard (A-6)	3		114
	5		
-65	7	1.25B	18
671.7 CLAY-gray-stiff to hard (A-6)	3		96
	5		
-70	5	1.3B	28
CLAY-gray-stiff (A-6) Wet	3		96
	5		
-75	5	1.4B	28
End Of Boring @ -80.0 Hollow Stem Augers To -10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used CME Automatic Hammer 658.7 - 80	3		95
	5		
	5	1.5B	29

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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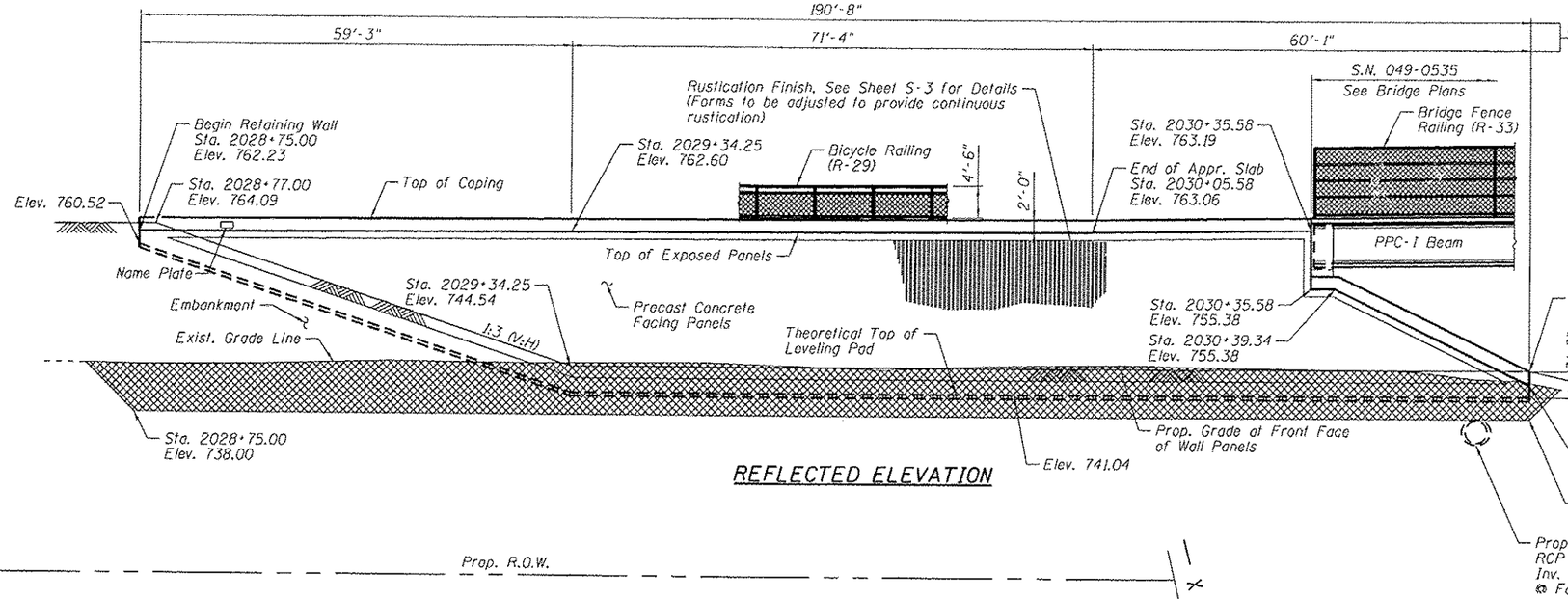
	CHECKED - TL	REVISED -	
PLOT SCALE =	DRAWN - LAM	REVISED -	
PLOT DATE =	CHECKED - MRM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

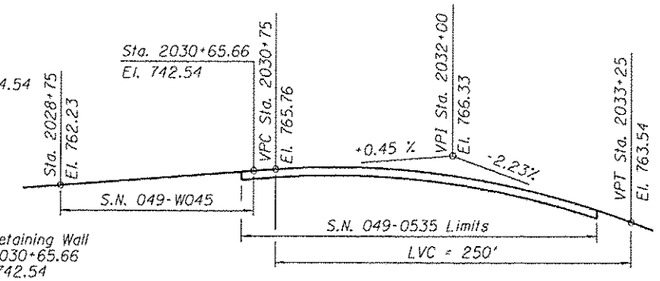
SOIL BORING LOGS II
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-36 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	474
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		

Bench Mark: Chiseled square on top of crashwall at south end of east-most pier of S.N. 049-0058. Elevation 742.33.
Existing Structure: None



REFLECTED ELEVATION



PROFILE GRADE
EB & WB IL RTE. 173
(O.S. 15'-0" Rt./Lt. from ℄ Rdwy.)

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications with 2012 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 4,500 psi (Precast Panels)
fy = 60,000 psi (Reinforcement)

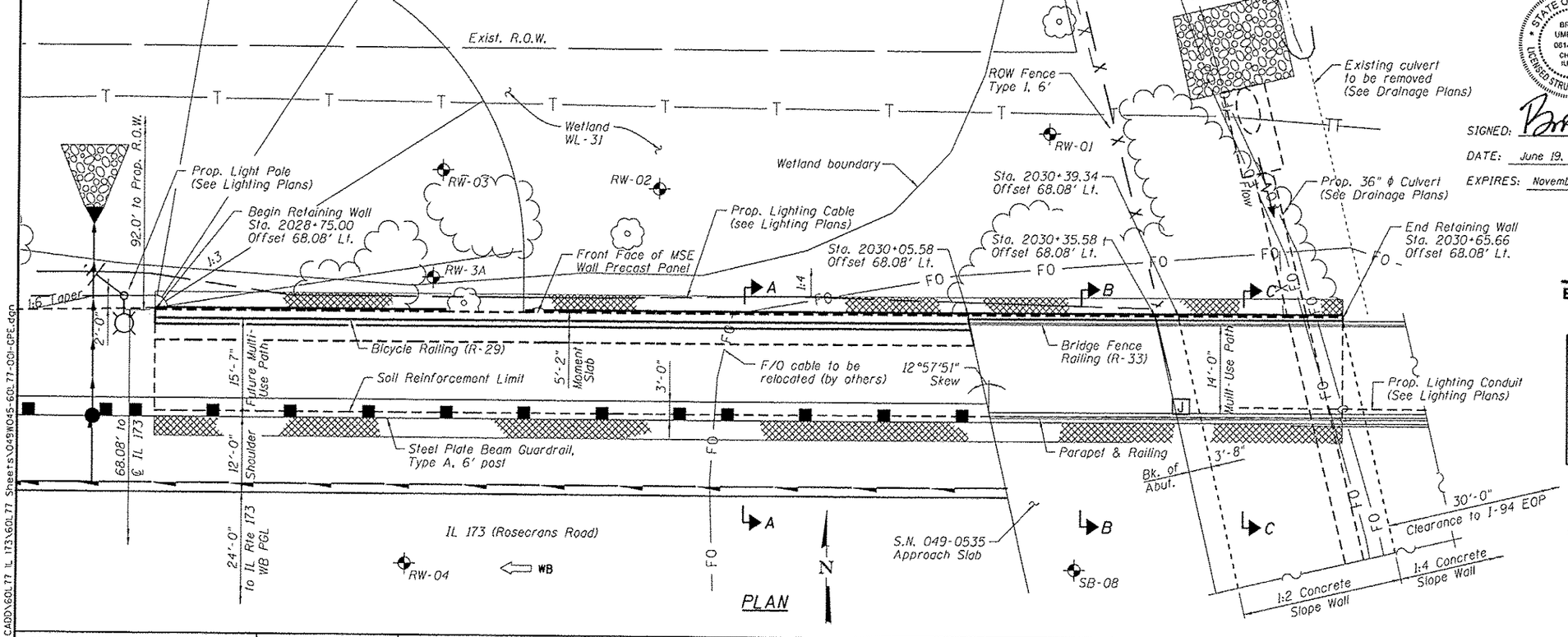
LEGEND:

Soil Boring

Removal & Disposal of Unsuitable Materials

NOTES:

1. Horizontal dimensions measured along front face of precast panels.
2. Stations & offsets are given to front face of precast panels relative to ℄ IL Rte 173.
3. See Sheet S-2 for Sections A-A, B-B & C-C.

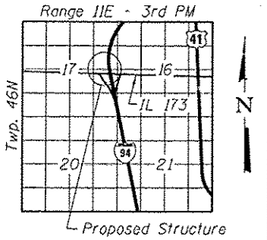


PLAN

STATE OF ILLINOIS
BRIAN L. UMBRIGHT
081-005594
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

SIGNED: Brian L. Umbright
DATE: June 19, 2012
EXPIRES: November 30, 2012

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



LOCATION SKETCH

TOTAL BILL OF MATERIAL

Item	Unit	Quantity
Removal and Disposal of Unsuitable Material	Cu. Yd.	1,200
Structure Excavation	Cu. Yd.	700
Concrete Superstructure	Cu. Yd.	41.0
Reinforcement Bars, Epoxy Coated	Pound	5,320
Bicycle Railing	Foot	132
Name Plates	Each	1
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	3,200

GENERAL PLAN & ELEVATION
IL RTE. 173 (ROSECRANS ROAD) OVER I-94
F.A.P. RTE. 0303 - SEC. 49-1-R-1
LAKE COUNTY
STATION 2028+75.00 TO STA. 2030+65.66
STRUCTURE NO. 049-W045

6/28/2012 4:04:52 PM
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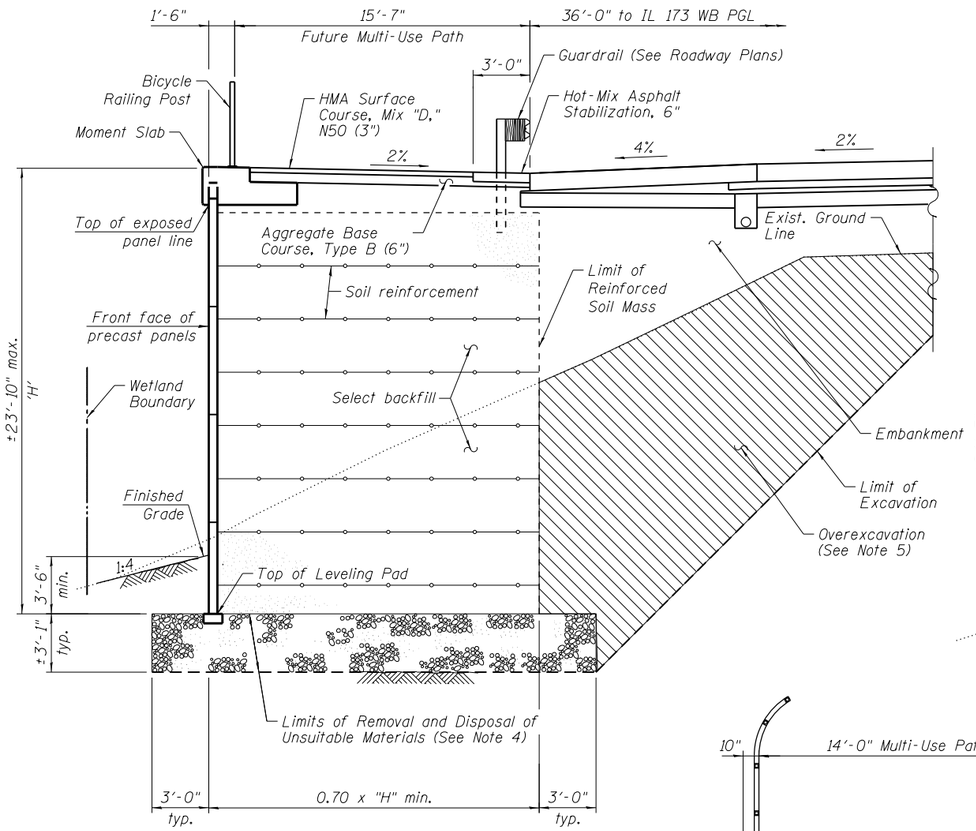
PLOT SCALE =	DRAWN - MTR	REVISED -	
PLOT DATE =	CHECKED - JYL	REVISED -	

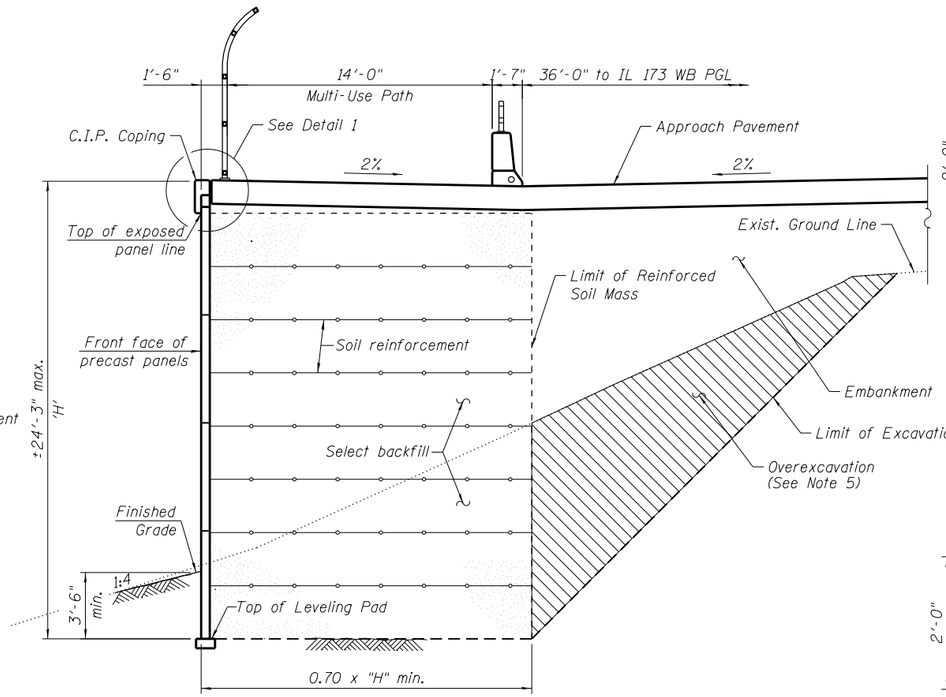
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-1 OF S-6 SHEETS

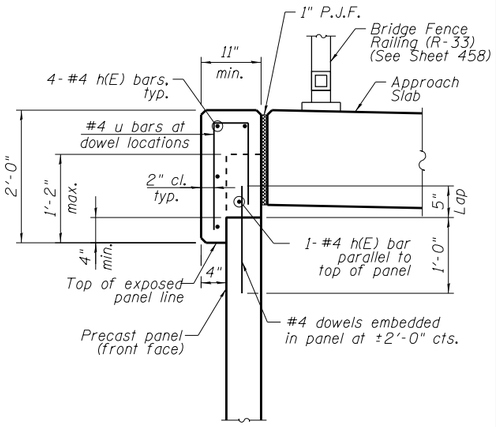
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	475
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		



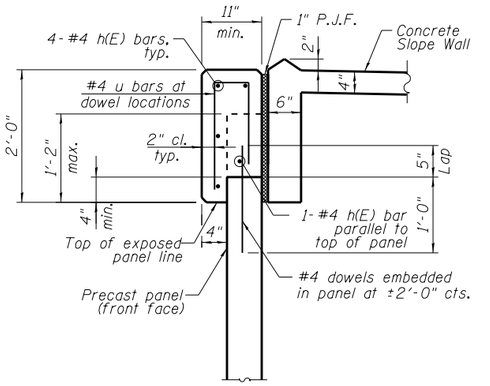
SECTION A-A



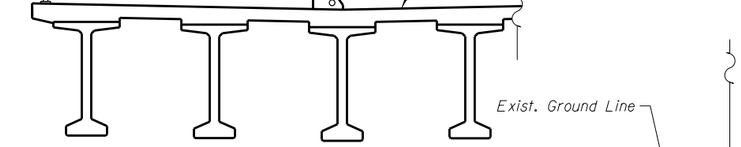
SECTION B-B

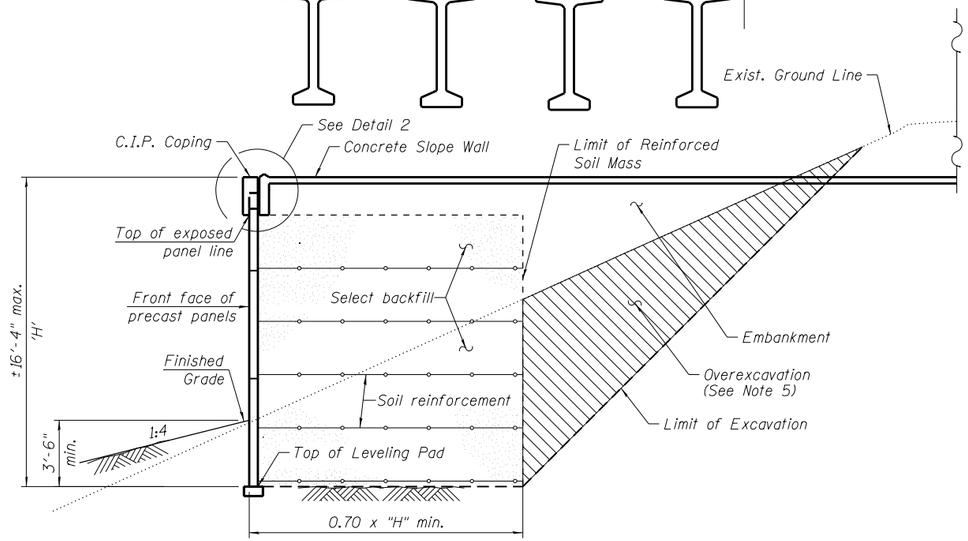


DETAIL 1



DETAIL 2





SECTION C-C

NOTES

1. Remove Unsuitable Materials as required and as directed by the Engineer.
2. MSE Wall supplier shall be responsible for design of precast wall panels & soil reinforcement.
3. Allowable Soil Bearing Capacity for the MSE Wall = 4 ksf. See MSE Wall Shop Drawings for equivalent uniform applied bearing pressure.
4. Backfill with select fill used in MSE Wall (cost included with MSE Retaining Wall).
5. Overexcavation beyond the limits of structure excavation. This area not measured for payment. Backfill overexcavation with same material as used for select fill.
6. Cost of furnishing and installing reinforcement bars in concrete coping and P.J.F.'s shall be included with "Mechanically Stabilized Earth Retaining Wall".

BILL OF MATERIAL

Item	Unit	Qty.
Removal and Disposal of Unsuitable Material	Cu. Yd.	1,200
Structure Excavation	Cu. Yd.	700
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	3,200

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL DETAILS I
STRUCTURE NO. 049-W045
SHEET NO. S-2 OF S-6 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	476
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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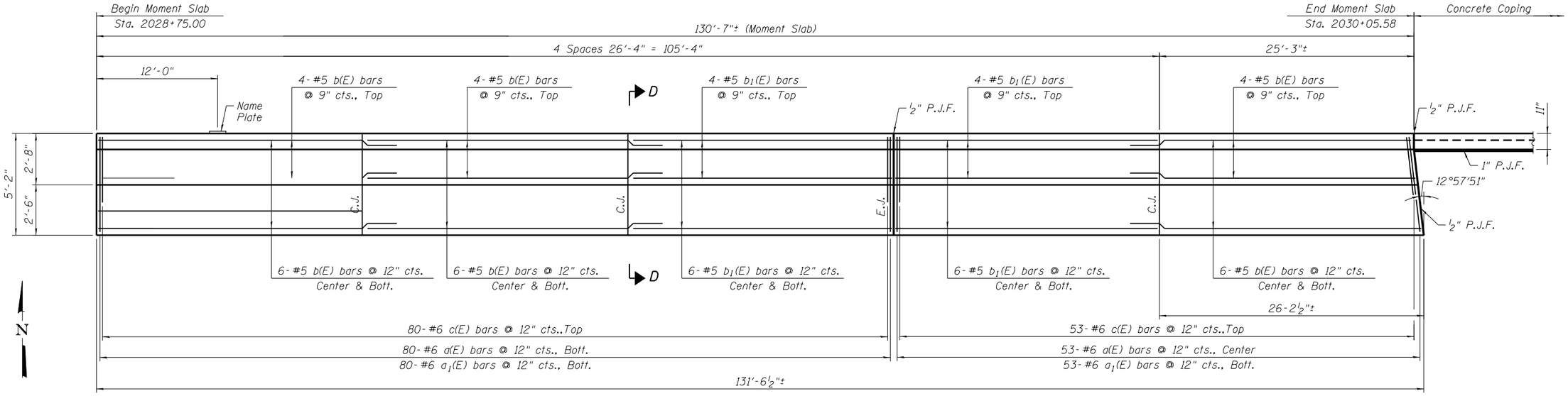
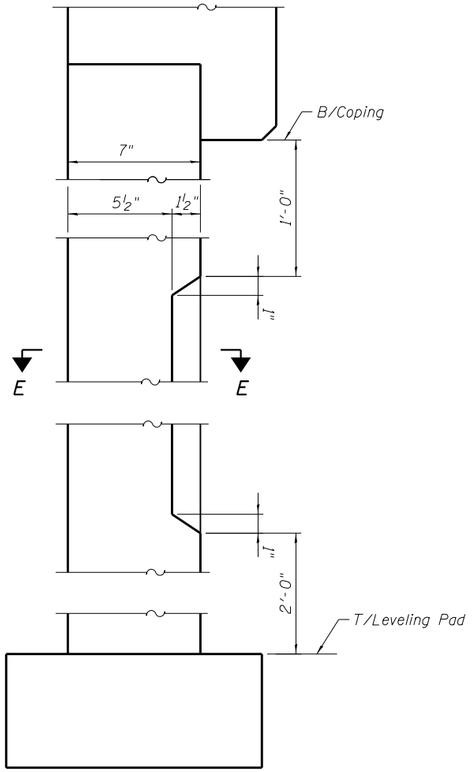


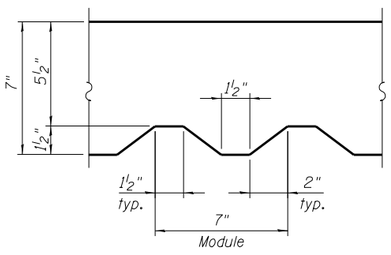
MOMENT SLAB PLAN

NOTES

1. Contractor to design MSE Wall panels with Rustication Details. Cost included with "Mechanical Stabilized Earth Retaining Wall".

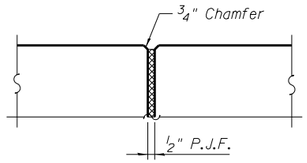


Elevation

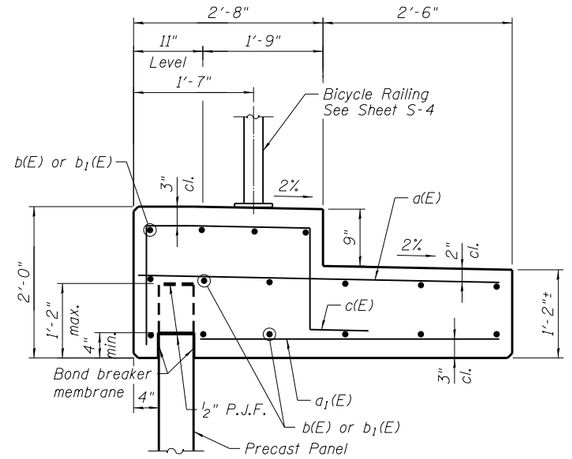


SECTION E-E

RUSTICATION DETAILS



EXPANSION JOINT DETAIL



SECTION D-D

STATION 2028+75 TO 2030+66
BUILT 201_ BY
STATE OF ILLINOIS
F.A.I. RTE. 94 SEC. 49-1-R-1
STR. NO. 049-W045

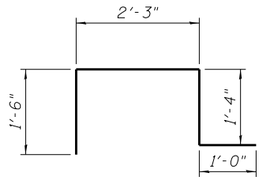
NAME PLATE
See Std. 515001

MIN. BAR LAP

#5 = 3'-3"

NOTES

1. All exposed concrete edges shall have a ¾" x 45 degree chamfer, except where shown otherwise.
2. Cost of furnishing and installing P.J.F.'s and bond breaker membranes shall be included with "Concrete Superstructure".



BAR c(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	133	#6	4'-10"	———
a1(E)	133	#6	3'-11"	———
b(E)	48	#5	29'-7"	———
b1(E)	32	#5	26'-0"	———
c(E)	133	#6	6'-1"	⌐¬
Reinforcement Bars, Epoxy Coated			Pound	5,320
Concrete Superstructure			Cu. Yd.	41.0
Name Plates			Each	1

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PLOT DATE =	CHECKED - IYL	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL DETAILS II
STRUCTURE NO. 049-W045
SHEET NO. S-3 OF S-6 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	477
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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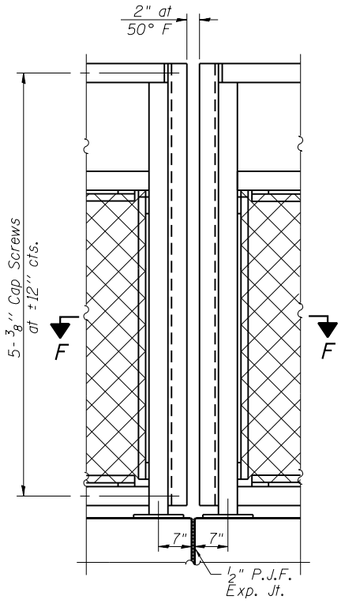
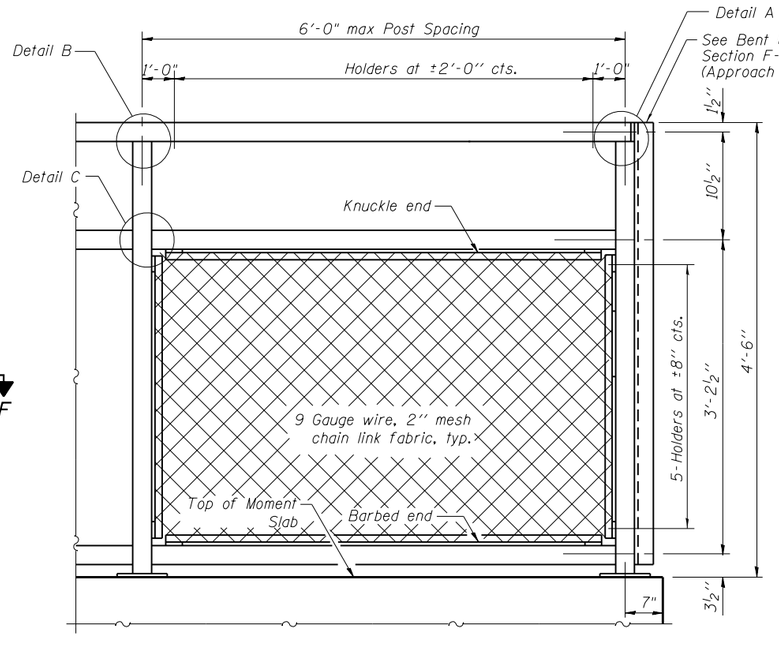
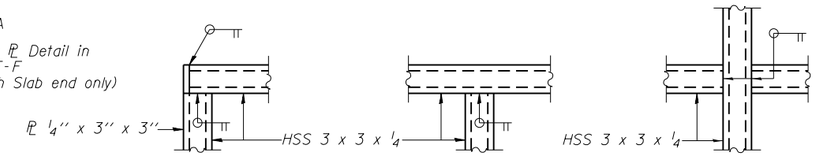


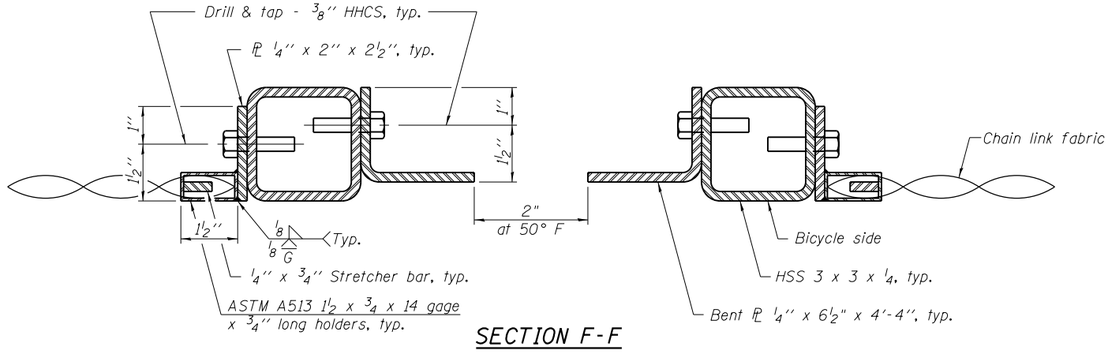
BICYCLE RAILING



BICYCLE RAILING



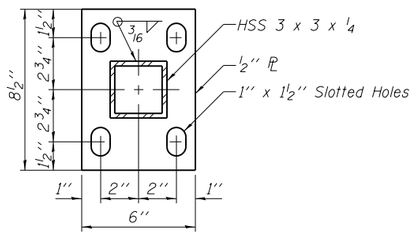
DETAIL A DETAIL B DETAIL C



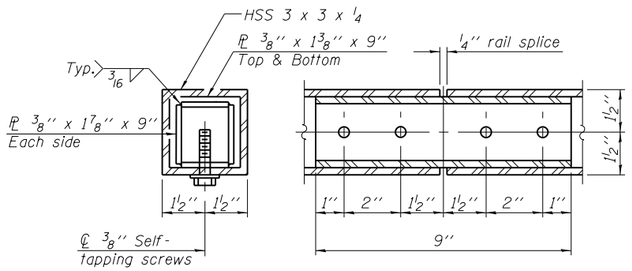
SECTION F-F

NOTES:

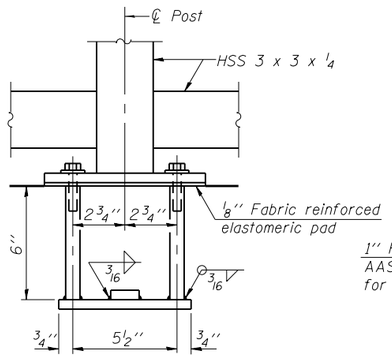
The color and finish of railing components shall match with the ones for Bridge Fence Railing on the adjacent bridge (see Sheet 458).

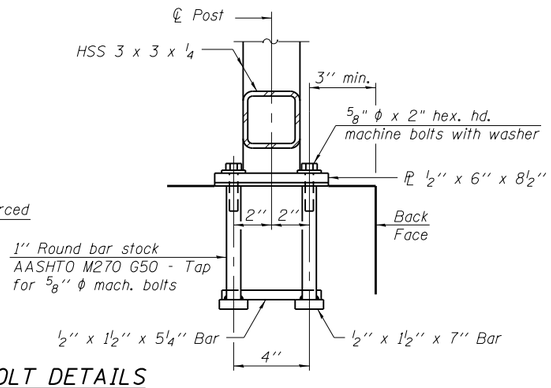


BASE PL



RAIL SPLICE





ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing	Foot	132

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL DETAILS III
STRUCTURE NO. 049-W045
SHEET NO. S-4 OF S-6 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	478
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG — BORING RW-01

Geo Services, Inc.
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805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

PAGE 1 of 1
DATE 2/16/2012
LOGGED BY RJ
GSI JOB No. 10193

ROUTE FAI 94 | DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R | LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake | DRILLING METHOD Hand Auger | HAMMER TYPE --

STRUCT. NO. --
Station --
BORING NO. RW-01
Station 2030+18.3
Offset 97.2' Left
Ground Surface Elev. 738.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After ____ Hrs. ____

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL-black		AS	-	43
CLAY-brown & gray-stiff to very stiff (A-6)		AS	3.0P	20
	-5	AS	2.0P	20
		AS	1.0P	18
	-10	AS	1.75P	20
End Of Boring @ -10.0' Hand Auger				

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)   ST Shelby Tube Sample   VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)   The Unit Dry Weight (pcf) is noted in italics above moist. (%)
NR No Recovery

BORING RW-01

SOIL BORING LOG — BORING RW-02

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Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

PAGE 1 of 1
DATE 2/16/2012
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GSI JOB No. 10193

ROUTE FAI 94 | DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R | LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake | DRILLING METHOD Hand Auger | HAMMER TYPE --

STRUCT. NO. --
Station --
BORING NO. RW-02
Station 2029+56
Offset 89.1' Left
Ground Surface Elev. 746.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry
Upon Completion Dry
After ____ Hrs. ____

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL-black		AS	0.5P	67
CLAY-brown & gray-medium stiff (A-6)		AS	1.0P	23
		AS	1.0P	24
Auger Refusal @ -4.0' End Of Boring Hand Auger	-5			

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)   ST Shelby Tube Sample   VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)   The Unit Dry Weight (pcf) is noted in italics above moist. (%)
NR No Recovery

BORING RW-02

SOIL BORING LOG — BORING RW-03

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Geotechnical, Environmental & Civil Engineering
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Naperville, Illinois 60565
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PAGE 1 of 1
DATE 2/16/2012
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GSI JOB No. 10193

ROUTE FAI 94 | DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R | LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake | DRILLING METHOD Hand Auger | HAMMER TYPE --

STRUCT. NO. --
Station --
BORING NO. RW-03
Station 2029+21
Offset 90.8' Left
Ground Surface Elev. 746.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 745.6
Upon Completion n/a
After ____ Hrs. ____

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
PEAT-black (A-8)		AS	-	243
		AS	0.5P	75
	-5	AS	-	260
		AS	-	393
	-10	AS	-	225
End Of Boring @ -10.0' Hand Auger				

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)   ST Shelby Tube Sample   VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)   The Unit Dry Weight (pcf) is noted in italics above moist. (%)
NR No Recovery

BORING RW-03

SOIL BORING LOG — BORING RW-04

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Naperville, Illinois 60565
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PAGE 1 of 1
DATE 3/16/2012
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GSI JOB No. 10193

ROUTE FAI 94 | DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&HB-1)R | LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake | DRILLING METHOD Hand Auger | HAMMER TYPE --

STRUCT. NO. --
Station --
BORING NO. RW-03A
Station 2029+19.7
Offset 73.4' Left
Ground Surface Elev. 741.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 738.5
Upon Completion Cave In
After ____ Hrs. ____

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6.0" TOPSOIL-black		AS	-	32
CLAY-brown-medium stiff to very stiff (A-6)		AS	0.5P	18
		AS	2.25P	21
	-5	AS	1.5P	20
		AS	3.0P	18
	-10	AS	2.75P	18
SAND with Gravel-brown & gray (A-1)		AS	NP	11
		AS	NP	11
End Of Boring @ -14.0' Hand Auger	-15			

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)   ST Shelby Tube Sample   VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)   The Unit Dry Weight (pcf) is noted in italics above moist. (%)
NR No Recovery

BORING RW-04

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		CHECKED - BLU	REVISED -			
	PLOT SCALE =	DRAWN - MTR	REVISED -			
	PLOT DATE =	CHECKED - IYL	REVISED -		SHEET NO. S-5 OF S-6 SHEETS	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	479
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG — Boring RW-04 (Page 1 of 2)

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Geotechnical, Environmental & Civil Engineering
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Naperville, Illinois 60565
(630) 355-2838

DATE 2/22/2012
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GSI JOB No. 10193

ROUTE FAI Rte. 1199 — DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&RB-1)R — LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake — DRILLING METHOD Hollow Stem Auger/Rotary — HAMMER TYPE CME Automatic

STRUCT. NO. --
Station --
BORING NO. **RW-04**
Station 2029+15.3
Offset 27.9' Left
Ground Surface Elev. 760.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0
Upon Completion Dry To -10.0
After ___ Hrs. ___

Strata:
- 12.0" ASPHALT — 759.1
- CLAY-brown & gray- medium stiff to very stiff (A-6) Fill — 728.1
- CLAY-gray- stiff to very stiff (A-6)

Depth (ft)	Blows (/6")	UCS Qu (tsf)	Moist (%)	Unit Dry Wt. (pcf)
	6, 8, 9	3.7B	17	113
-5	3, 5, 5	2.0P	16	
	5, 6, 8	1.7B	18	113
-10	5, 6, 6	3.9B	18	112
	3, 3, 5	1.0P	25	
-15	3, 3, 6	2.1B	18	114
	3, 4, 5	1.3B	20	110
-20	2, 2, 2	0.6B	18	112
	3, 3, 4	0.9B	18	114
-25	4, 9, 9	3.5B	20	108
	4, 5, 6	1.7B	20	110
-30	6, 5, 8	1.0B	24	108
-35	3, 5, 6	2.4B	19	104
-40	9, 11, 13	2.8B	19	109

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). SI- Shelby Tube Sample. VS-Vane Shear Test. The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206). The Unit Dry Weight (pcf) is noted in italics above moist (%). NR- No Recovery

SOIL BORING LOG — Boring RW-04 (Page 2 of 2)

Geo Services, Inc. — DATE 2/22/2012 — LOGGED BY RJ — GSI JOB No. 10193
ROUTE FAI Rte. 1199 — DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 49-1(HB&RB-1)R — LOCATION Newport Township, Sections 4 & 9, T 46 N, R 11 E, 3rd PM
COUNTY Lake — DRILLING METHOD Hollow Stem Auger/Rotary — HAMMER TYPE CME Automatic
STRUCT. NO. -- ; Station -- ; BORING NO. **RW-04** ; Station 2029+15.3 ; Offset 27.9' Left ; Ground Surface Elev. 760.1
Surface Water Elev. n/a ; Stream Bed Elev. n/a ; First Encounter Dry To -10.0 ; Upon Completion Dry To -10.0

Strata:
- CLAY-gray- stiff to very stiff (A-6) — 710.1
- End Of Boring @ -50.0
  Hollow Stem Augers To -10.0'
  Rotary Drilling To Completion
  10.0' Of 4.0"ø Casing Used
  CME Automatic Hammer

Depth (ft)	Blows (/6")	UCS Qu (tsf)	Moist (%)	Unit Dry Wt. (pcf)
-45	7, 10, 13	1.8B	18	114
-50	6, 11, 12	1.25B	15	120

SOIL BORING LOG — Boring SB-08 (Page 1 of 2)

Geo Services, Inc. — DATE 9/13/2011 — LOGGED BY RJ — GSI JOB No. 10193
ROUTE FAI 94 — DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-R-1 — LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake — DRILLING METHOD Hollow Stem Auger/Rotary — HAMMER TYPE CME Automatic

STRUCT. NO. 049-0535
Station n/a
BORING NO. **SB-08**
Station 2030+23 Il Route 173
Offset 26.4' Left
Ground Surface Elev. 760.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -5.0'
Upon Completion n/a
After ___ Hrs. ___

Strata:
- 10.0" ASPHALT, 2.0" CLAYEY SAND & STONE — 759.4
- CLAY-brown & gray- very stiff (A-6) — 754.9
- CLAY-brown & gray- medium stiff to stiff (A-6) — 749.9
- CLAY-brown & gray- stiff to hard (A-6)
- CLAY-brown & gray- stiff to hard (A-6) — 732.4
- CLAY-gray-stiff to hard (A-6)

Depth (ft)	Blows (/6")	UCS Qu (tsf)	Moist (%)	Unit Dry Wt. (pcf)
	5, 5, 5	3.25P	15	
-5	2, 3, 4	2.25P	15	
	2, 2, 2	0.6B	23	97
-10	1, 2, 3	1.55Q / 12.7%	22	105
	5, 6, 11	5.3B	19	114
-15	4, 7, 10	2.3B	18	108
	3, 2, 2	1.25B	18	109
-20	3, 5, 9	4.0B	17	118
	2, 3, 4	2.0B	18	111
-25	7, 13, 19	3.75B	17	112
	6, 11, 13	3.5P	17	
-30	8, 10, 13	3.8B	20	108
-35	7, 6, 5	1.0B	16	117
-40	3, 4, 6	1.6B	17	115

SOIL BORING LOG — Boring SB-08 (Page 2 of 2)

Geo Services, Inc. — DATE 9/13/2011 — LOGGED BY RJ — GSI JOB No. 10193
ROUTE FAI 94 — DESCRIPTION I-94 Interchange & Bridge Reconstruction, IDOT Job# D-91-019-11
SECTION 4-1-R-1 — LOCATION Newport Township, Sections 17, T 46 N, R 11 E, 3rd PM
COUNTY Lake — DRILLING METHOD Hollow Stem Auger/Rotary — HAMMER TYPE CME Automatic
STRUCT. NO. 049-0535 ; Station n/a ; BORING NO. **SB-08** ; Station 2030+23 Il Route 173 ; Offset 26.4' Left ; Ground Surface Elev. 760.4
Surface Water Elev. n/a ; Stream Bed Elev. n/a ; First Encounter Dry to -5.0' ; Upon Completion n/a

Strata:
- CLAY-gray-stiff to hard (A-6) — 680.4
- End Of Boring @ -80.0
  Hollow Stem Augers To -5.0'
  Rotary Drilling To Completion
  5.0' Of 4.0"ø Casing Used
  CME Automatic Hammer

Depth (ft)	Blows (/6")	UCS Qu (tsf)	Moist (%)	Unit Dry Wt. (pcf)
-45	3, 4, 6	1.3B	18	111
-50	3, 4, 7	1.4B	16	114
-55	3, 5, 8	1.9B	17	116
-60	7, 10, 14	2.4B	20	109
-65	5, 9, 12	2.9B	21	105
-70	7, 12, 21	4.5B	16	116
-75	10, 16, 22	1.5P	20	
-80	7, 10, 13	1.3B	12	115

BORING RW-04

BORING SB-08

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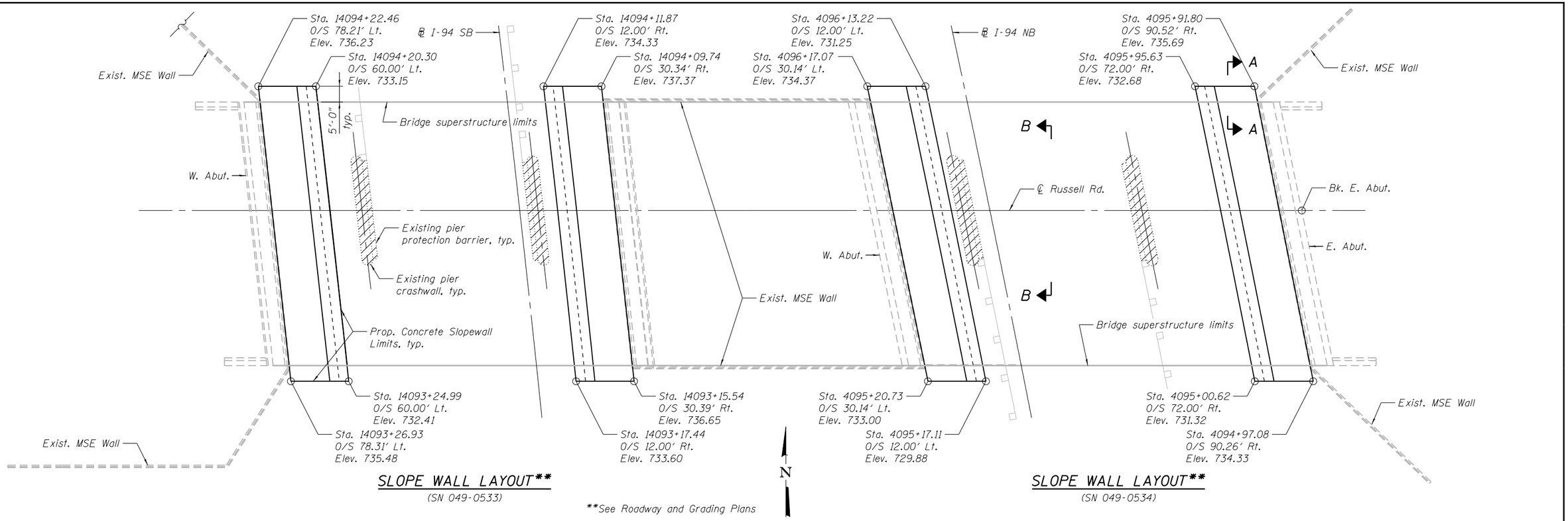
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING II
STRUCTURE NO. 049-W045
SHEET NO. S-6 OF S-6 SHEETS

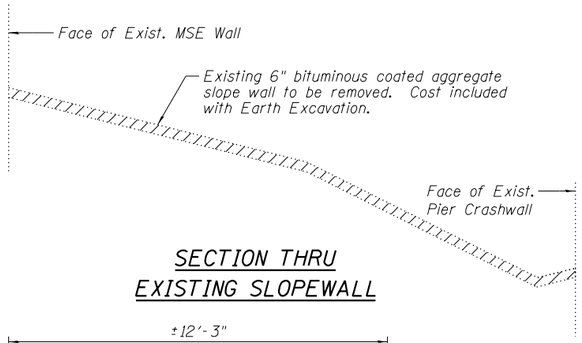
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	480
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		



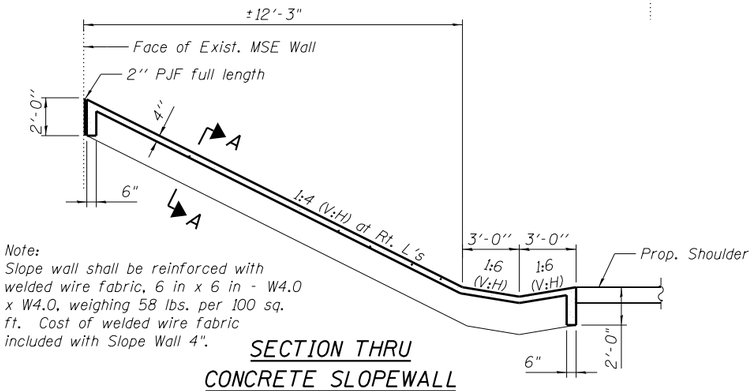
SLOPE WALL LAYOUT**
(SN 049-0533)

SLOPE WALL LAYOUT**
(SN 049-0534)

**See Roadway and Grading Plans

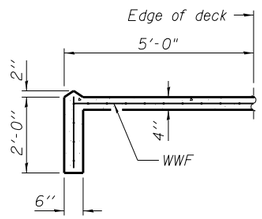


SECTION THRU EXISTING SLOPEWALL

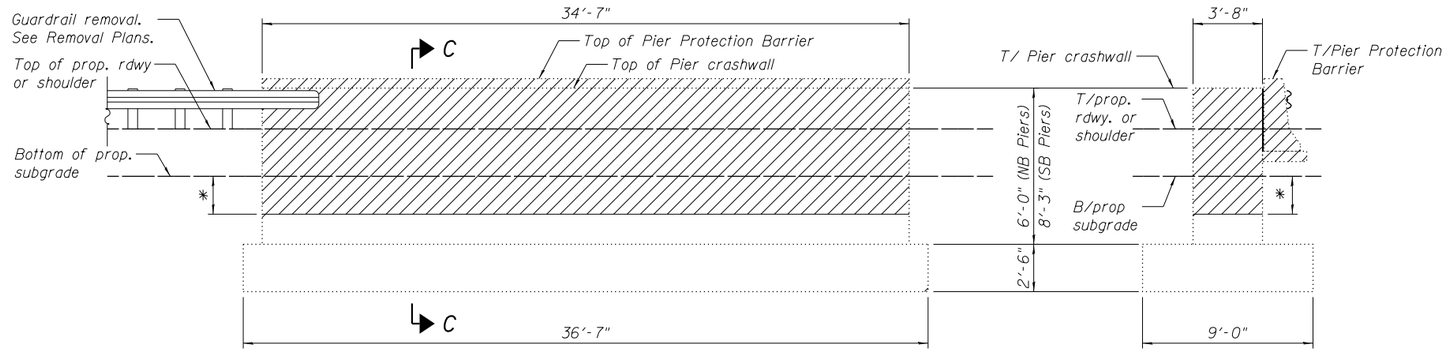


Note:
Slope wall shall be reinforced with welded wire fabric, 6 in x 6 in - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft. Cost of welded wire fabric included with Slope Wall 4".

SECTION THRU CONCRETE SLOPEWALL



SECTION A-A



VIEW B-B
(East & West, NB & SB Piers Similar)

SECTION C-C

*Limits of Exist. Pier Crashwall Removal to extend 2' below bottom of proposed subgrade.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Slopewall 4 Inch	Sq Yd	794
Concrete Removal	Cu Yd	149.4

LEGEND

- Removal Limits

NOTES:

1. Cost of Pier Crashwall and Pier Protection Barrier Removal included with Concrete Removal.
2. SN 049-0533 & SN 049-0534 existing elements constructed under Contract 60L76.

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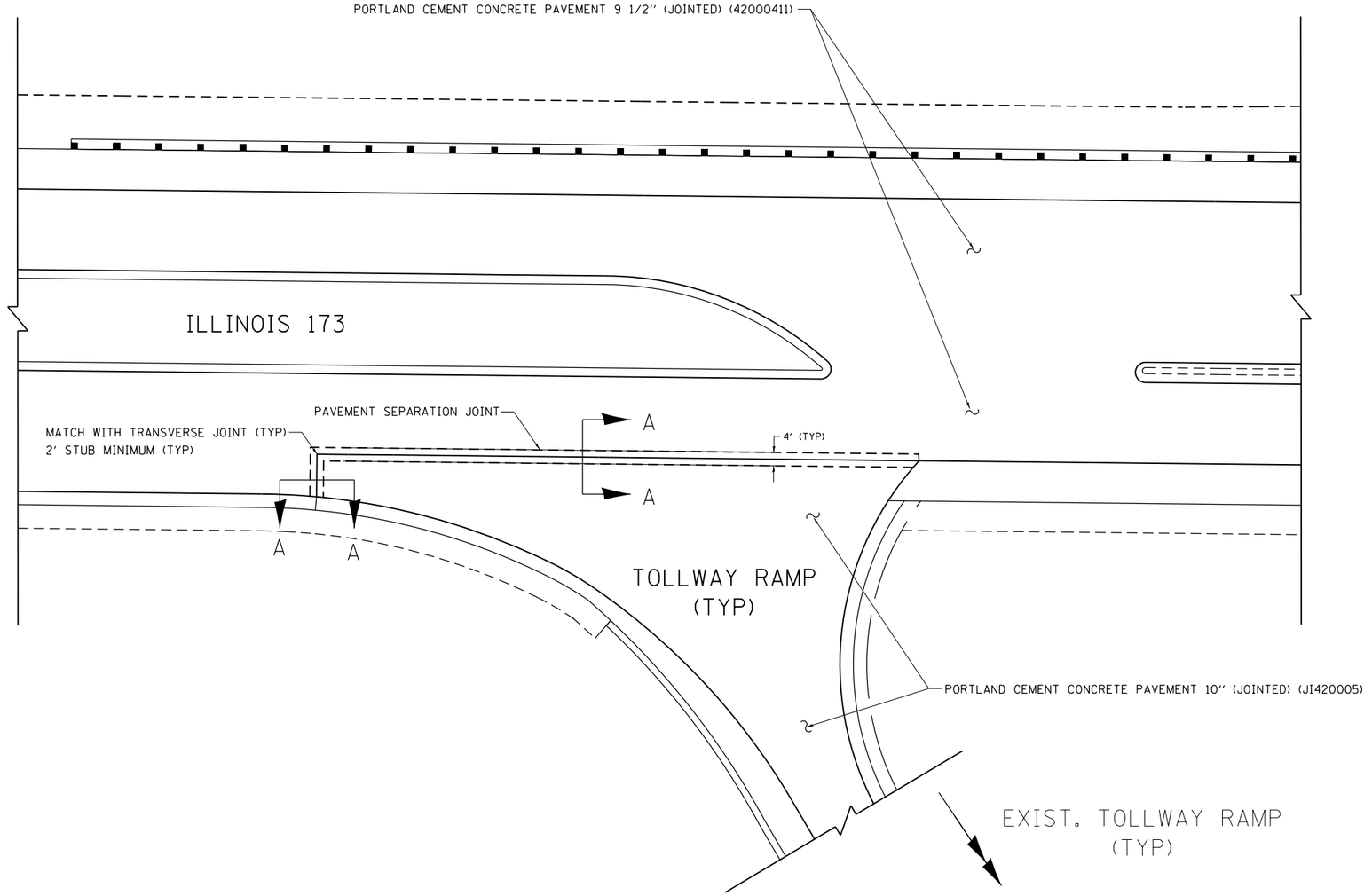
DRAWN - LAM
CHECKED - DF
DATE - 6/19/2012
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPE WALL DETAILS & EXISTING PIER REMOVAL AT RUSSELL ROAD
STRUCTURE NO. 049-0533 & 049-0534
SHEET NO. S-1 OF S-1 SHEETS

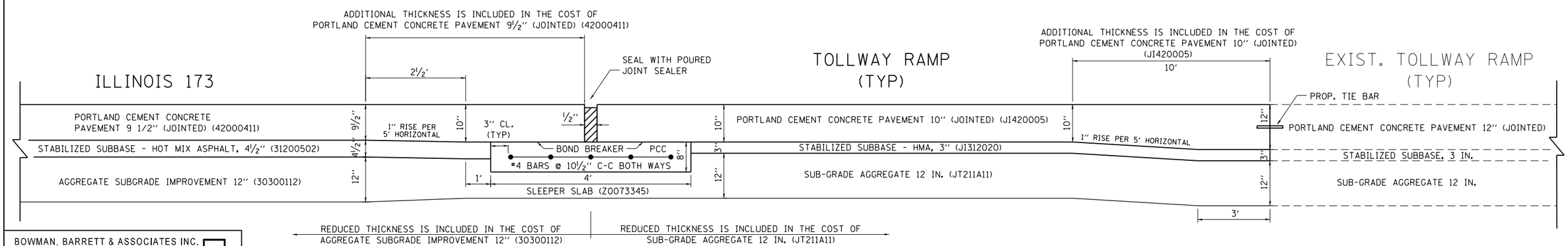
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	481
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

PLAN VIEW



NOTE:

1. JOINT FILLER SHALL CONSIST OF A SHEET OF ½" BITUMINOUS PREFORMED FIBER JOINT FILLER CONFORMING TO ARTICLE 1051.03 OF THE STANDARD SPECIFICATIONS.
2. THE JOINT SHALL BE SEALED WITH A HOT POUR JOINT SEALER CONFORMING TO ARTICLE 1050.02 OF THE STANDARD SPECIFICATIONS.
3. A SINGLE LAYER OF FELT ROOFING PAPER SHALL SERVE AS A BOND BREAKER.
4. JOINT SHALL CONTINUE THROUGH COMBINATION CURB AND GUTTER OR PCC SHOULDER.
5. PAVEMENT SEPARATION JOINT IS TO BE PAID FOR AS SLEEPER SLAB (Z0073345) AND IS TO BE MEASURED IN PLACE BY THE LINEAL FOOT.
6. BOND BREAKER AND ½" JOINT AND FILLER IS INCLUDED IN THE COST OF SLEEPER SLAB (Z0073345).
7. DRILLING AND GROUTING TIE BARS INTO EXISTING PAVEMENT IS INCLUDED IN THE COST OF POORTLAND CEMENT CONCRETE PAVEMENT 10" (JOINTED) (JI420005).



SECTION A-A

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		DRAWN - JDC	REVISED -
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	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

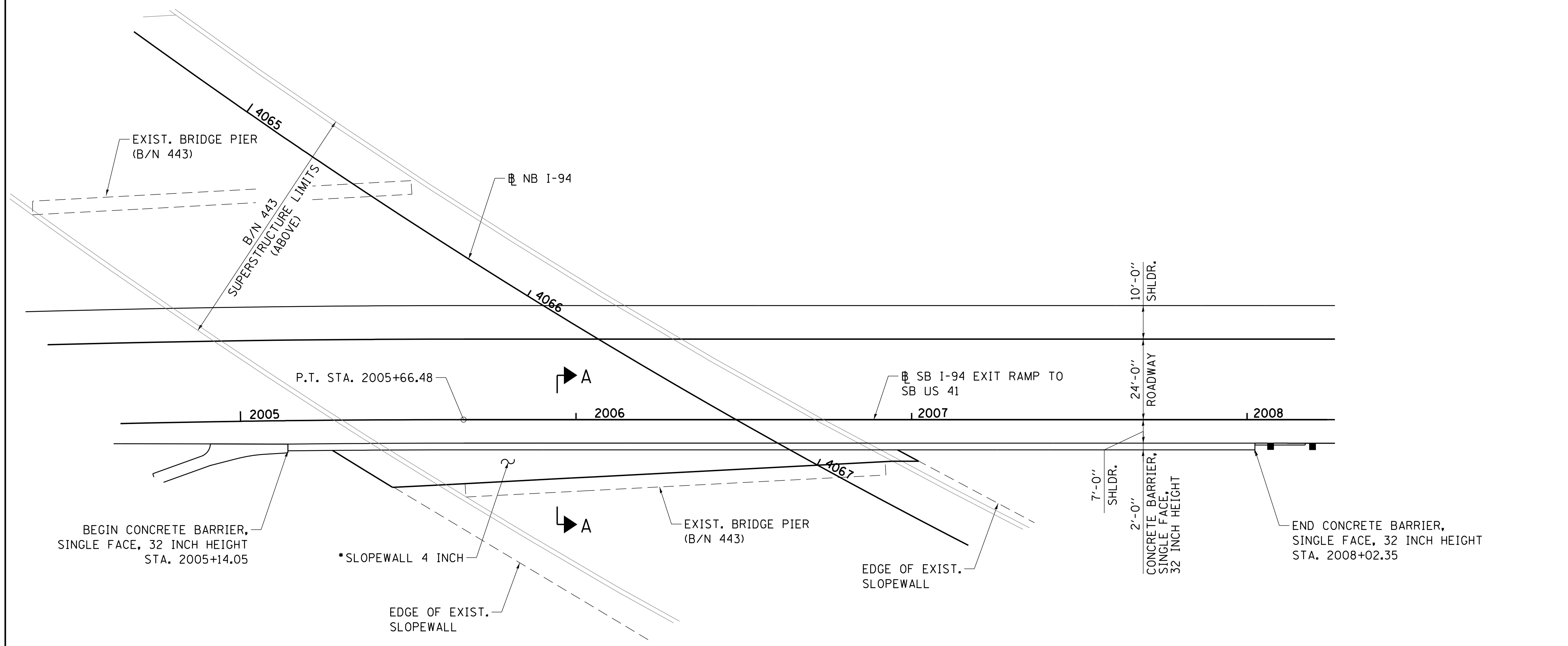
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CIVIL DETAILS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	482
		CONTRACT NO. 60L77		
		ILLINOIS FED. AID PROJECT		

S:\1101\05_CADD\60L77 IL 173\60L77 Sheets\D160L77-sht-civil details.dgn

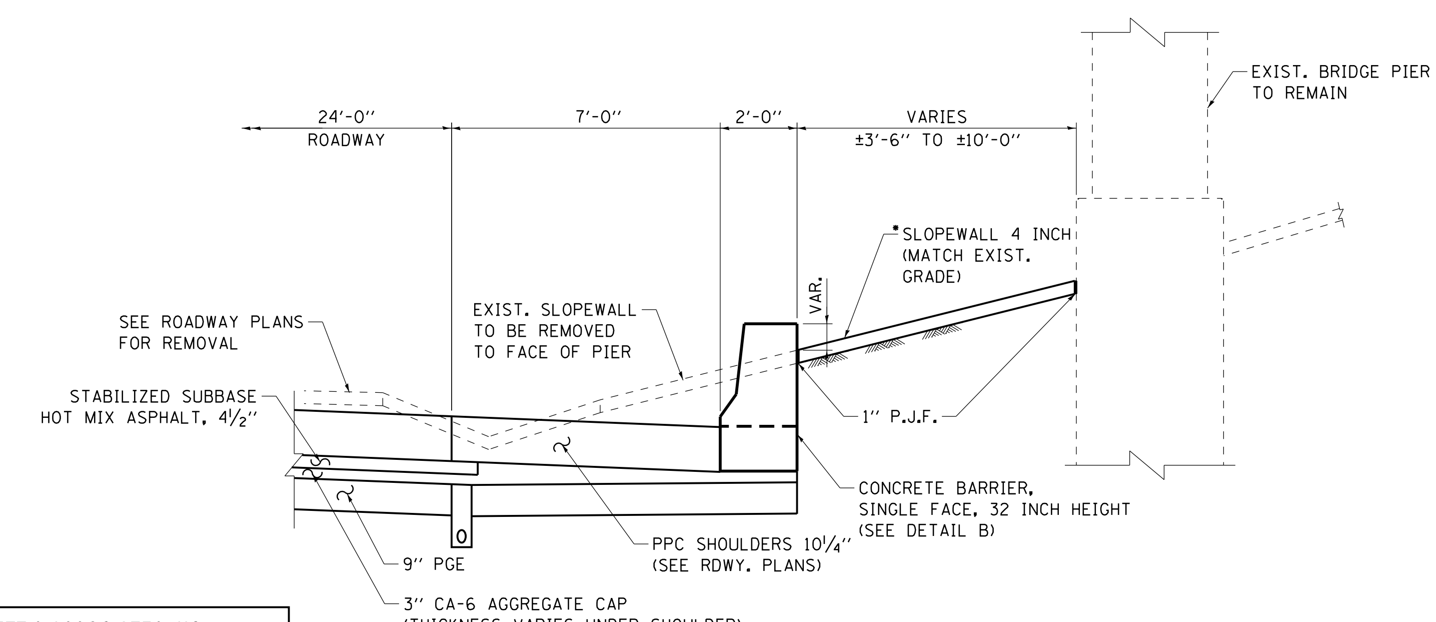


PARTIAL PLAN

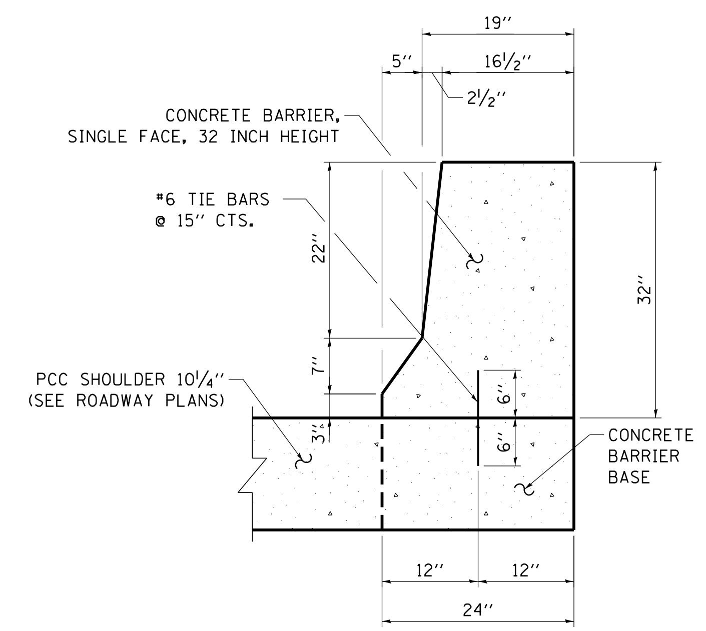
* EXISTING SLOPEWALL TO BE REMOVED TO THE FACE OF THE EXISTING BRIDGE PIER. THIS WORK TO BE PAID FOR AS 50104650 - SLOPEWALL REMOVAL

NOTES:

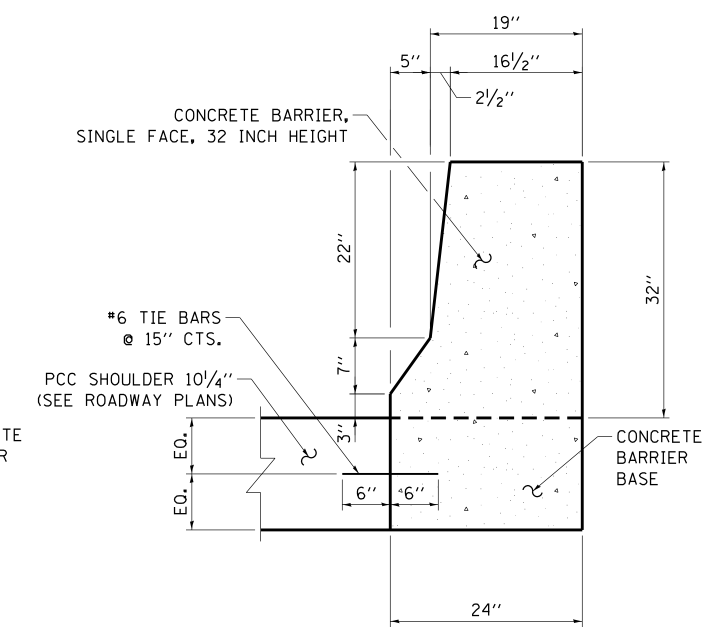
1. TIE BARS SHALL BE EPOXY COATED. COST OF TIE BARS INCLUDED IN THE COST OF CONCRETE BARRIER BASE. SEE STANDARD SPECIFICATIONS FOR DETAILS REGARDING PLACEMENT OF TIE BARS.
2. EARTHWORK ASSOCIATED WITH CONSTRUCTION OF BARRIER IS INCLUDED IN ROADWAY QUANTITY FOR EARTH EXCAVATION.
3. CONCRETE SLOPEWALL 4 INCH TO BE REINFORCED WITH 6"X6"-W4.0X4.0 W.W.F. WEIGHING 58 LBS. PER 100 SQ. FT. PLACE W.W.F. 2" CLR. FROM TOP OF CONCRETE.
4. APPLY PROTECTIVE COAT TO TOP OF BARRIER AND TO BARRIER FACE ADJACENT TO TRAFFIC.
5. SAW CUT EXIST. SLOPEWALL FULL DEPTH AT REMOVAL LIMITS. COST INCLUDED WITH SLOPEWALL REMOVAL.
6. SEE ROADWAY PLANS FOR ADDITIONAL DETAILS NOT SHOWN ON THIS SHEET.



SECTION A-A
(LOOKING NORTH)



ALTERNATE 1
BARRIER INDEPENDENT OF MONOLITHIC BASE AND SHOULDER



ALTERNATE 2
MONOLITHIC BARRIER AND BASE, INDEPENDENT OF SHOULDER. NOTE THAT PCC SHOULDER PAVEMENT MUST BE IN PLACE PRIOR TO PLACING BACKFILL BEHIND CONCRETE BARRIER

DETAIL B
THE CONTRACTOR HAS THE OPTION OF CHOOSING BETWEEN ALTERNATES 1 & 2, SHOWN ABOVE

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

FILE NAME = $FILES$	USER NAME = default	DESIGNED - MRM	REVISED -
		DRAWN - MTR	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CIVIL DETAILS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NONE TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	483

CONTRACT NO. 60L77
ILLINOIS FED. AID PROJECT

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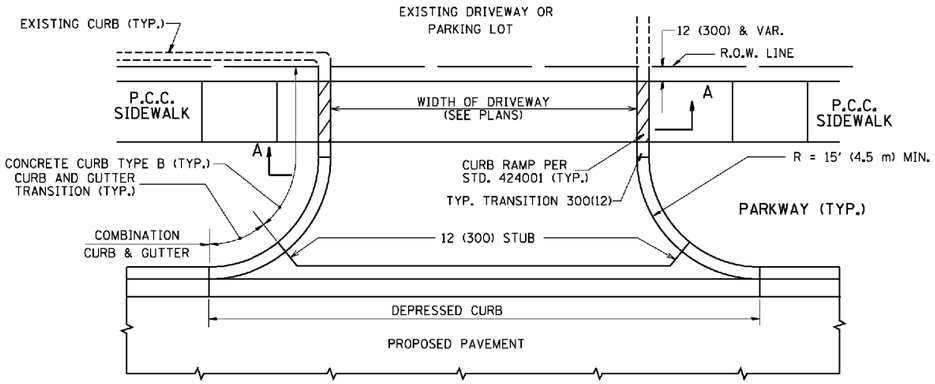
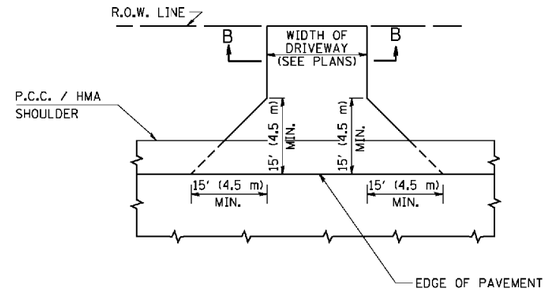
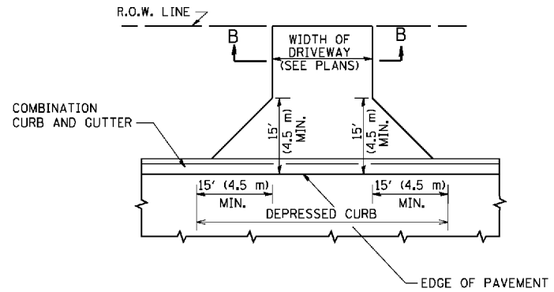


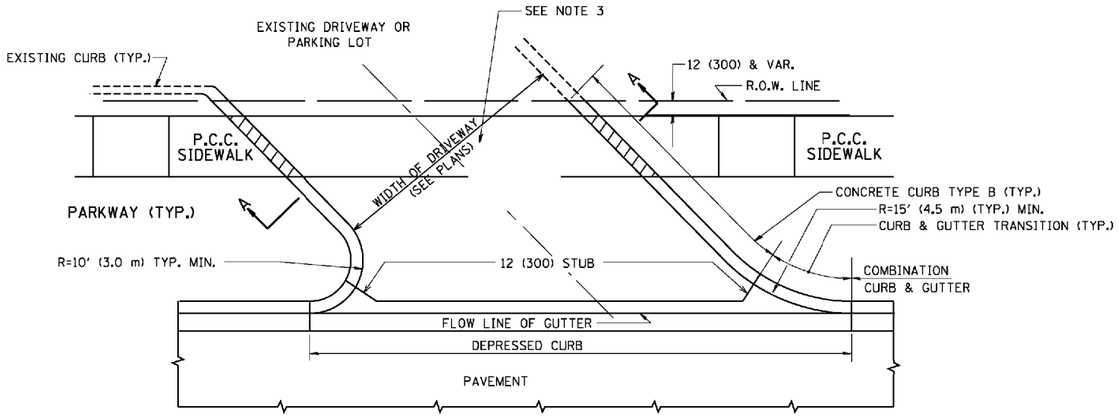
WITH CONCRETE CURB, TYPE B



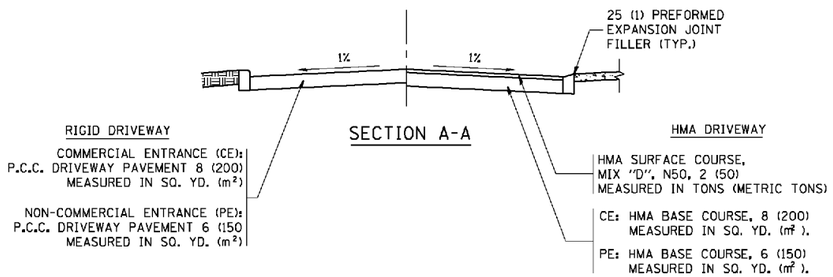
ADJACENT TO P.C.C. / HMA SHOULDER

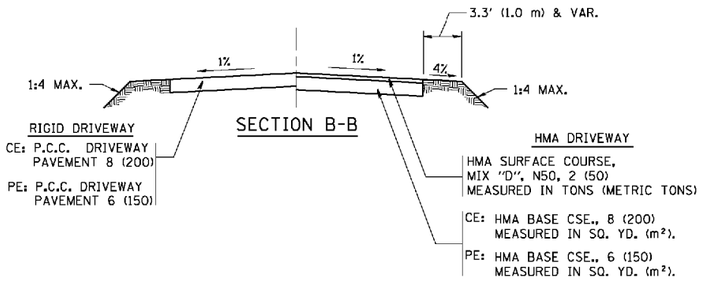


ADJACENT TO CURB AND GUTTER



WITH CONCRETE CURB, TYPE B





RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE, MIX "D", N50, 2 (50) MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE CSE., TYPE B, 8 (200) MEASURED IN SQ. YD. (m²).

GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHCUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

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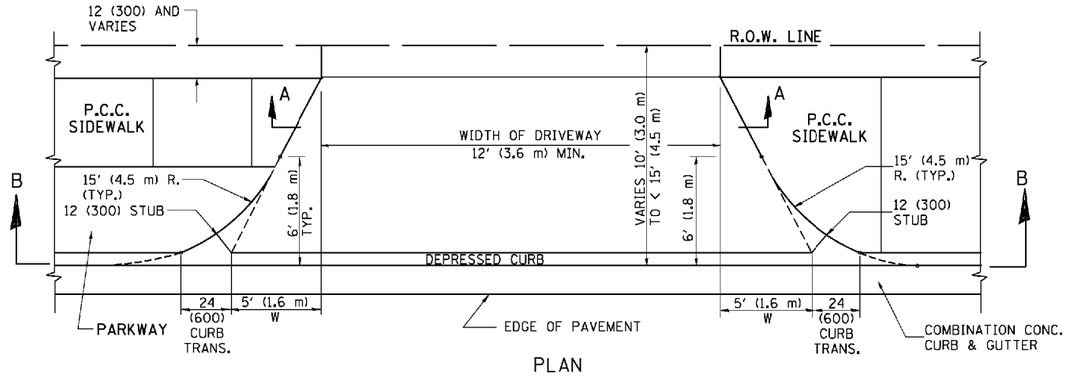
		DRAWN -	REVISED - R. BORO 01-01-07
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - R. BORO 06-11-08
	PLOT DATE = 9/6/2011	DATE - 11-04-95	REVISED - R. BORO 09-06-11

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

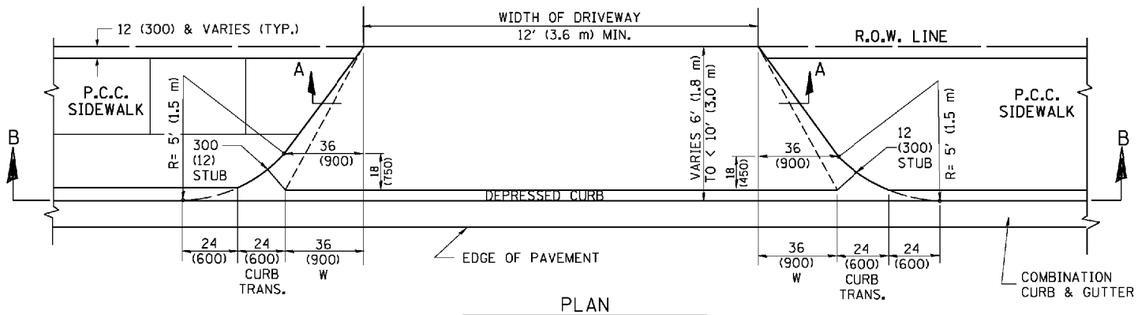
DRIVEWAY DETAILS – DISTANCE BETWEEN R.O.W. AND FACE OF CURB & EDGE OF SHOULDER > = 15' (4.5 m)

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

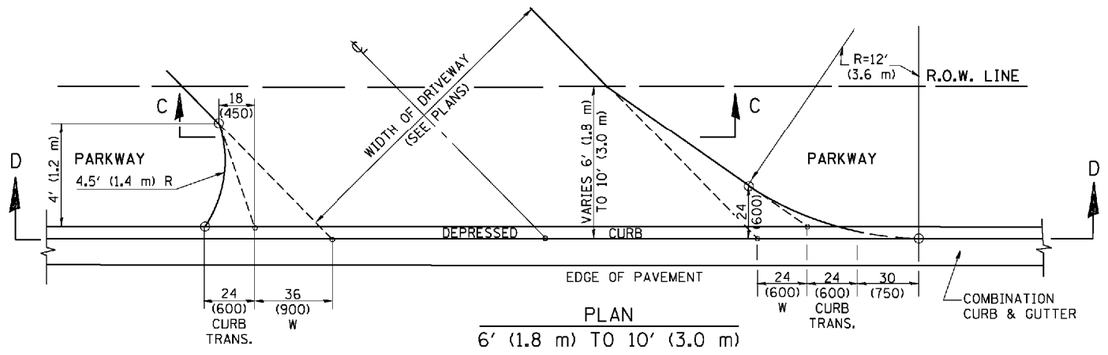
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	484
	BD0156-07 (BD-01)	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



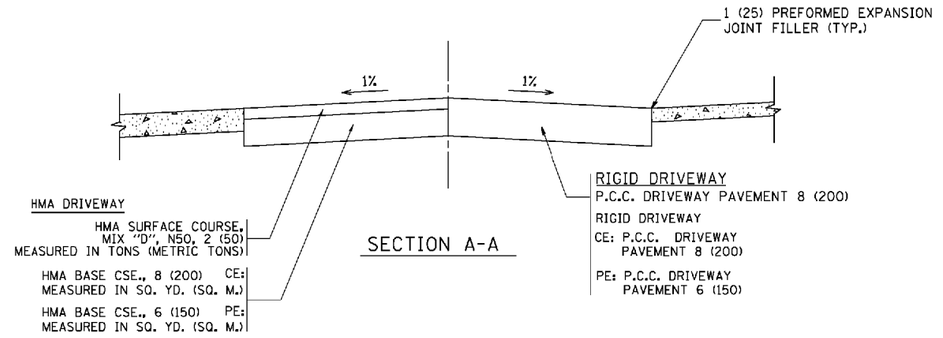
PLAN
10' (3.0 m) TO < 15' (4.5 m)



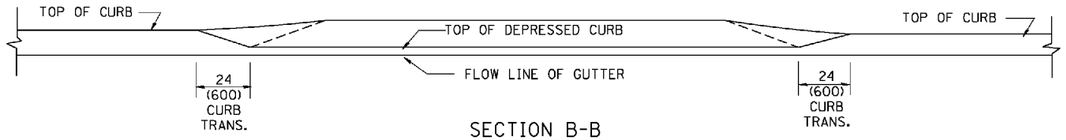
PLAN
6' (1.8 m) TO < 10' (3.0 m)



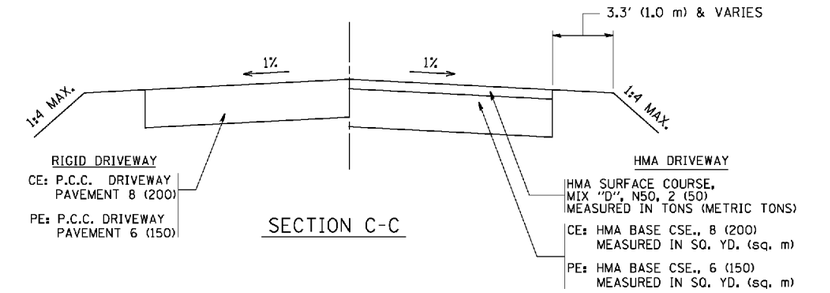
PLAN
6' (1.8 m) TO 10' (3.0 m)



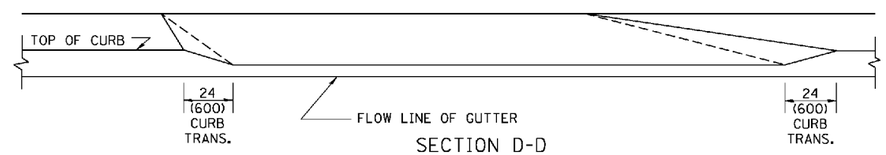
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

GENERAL NOTES

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATION 10 IN THE PERMIT HANDBOOK. WHERE SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED WITH RIGID PAVEMENT. WHERE NO SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED IN KIND. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

WHEN THE DISTANCE BETWEEN R.O.W. AND THE BACK OF CURB IS EQUAL TO OR LESS THAN 8' (2.4 m), THE P.C.C. SIDEWALK SHALL EXTEND TO THE BACK OF CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

THE 1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

"W" VARIES FROM 36 (900) TO 5' (1.5 m) PROPORTIONAL TO THE LENGTH (L), FROM 6' (1.8 m) TO 10' (3 m).

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

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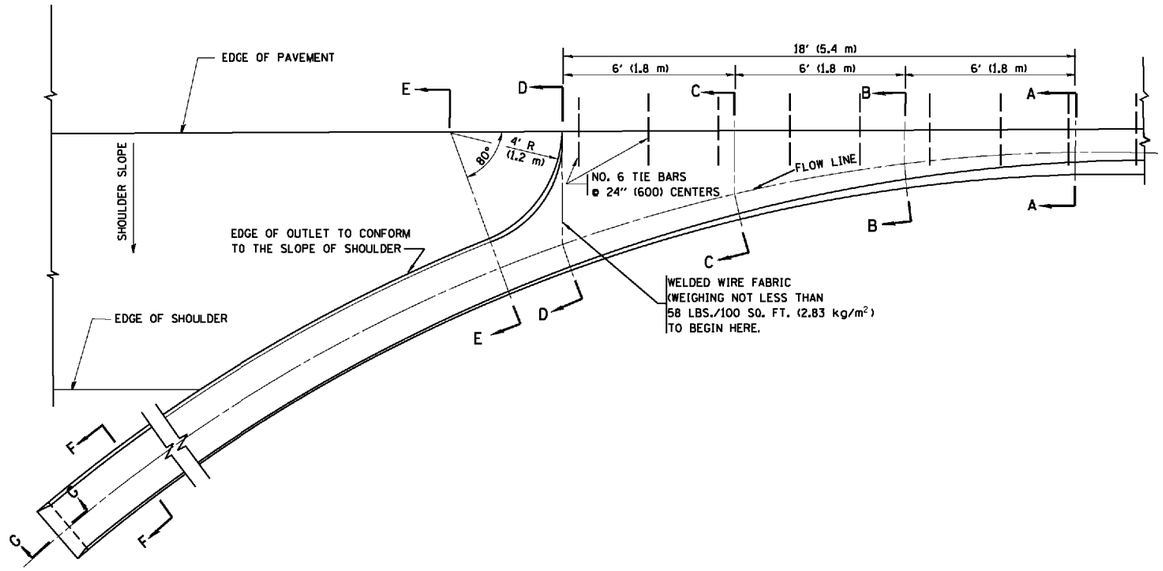
		DRAWN -	REVISED - P. LaFLEUR 04-15-03
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - R. BORO 01-01-07
	PLOT DATE = 10/28/2011	DATE - 11-06-95	REVISED - R. BORO 09-06-11

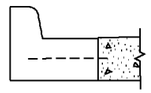
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS
DISTANCE BETWEEN ROW AND FACE OF CURB < 15' (4.5 m)

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

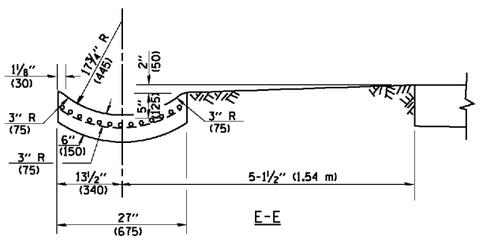
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	485
	BD400-02 (BD-02)	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



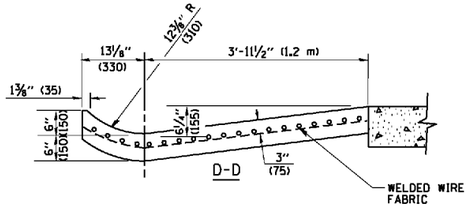


A-A *

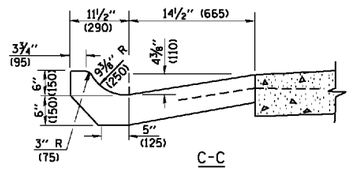
* DIMENSIONS OF THE CURB & GUTTER AT SECTION A-A ARE SHOWN ON STATE STANDARD 606001. FOR DETAILS OF OUTLET FOR CONCRETE CURB & GUTTER, TYPE B-6.24 (B-15.60) SEE STATE STANDARD 606006.



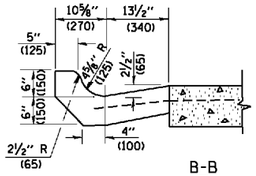
E-E



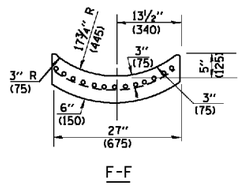
D-D



C-C



B-B



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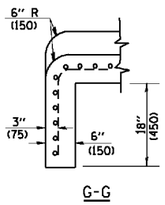


G-G

GENERAL NOTES

GUTTER OUTLET SHALL BE TIED TO THE PAVEMENT IN ACCORDANCE WITH DETAILS FOR LONGITUDINAL CONSTRUCTION JOINT SHOWN ON STANDARD 420001.

TIE BARS SHALL BE NO. 20 (NO.6) AT 24" (600) CENTERS UNLESS OTHERWISE SHOWN.

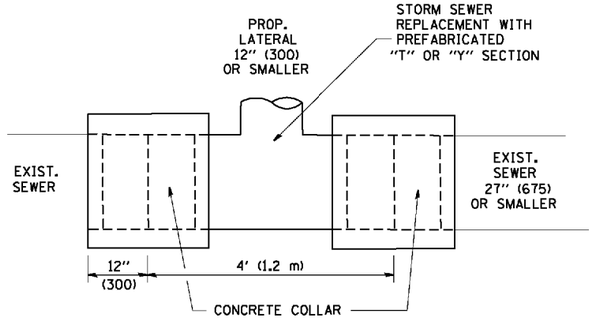
IF THE AVERAGE GRADE OF PAVEMENT FOR THE DISTANCE FROM SECTION A-A TO D-D EXCEEDS 2%, THIS DISTANCE SHALL BE INCREASED 6' (1.8 m) FOR EACH 1% INCREASE IN GRADE.

QUANTITIES

FOR SECTION A-A TO E-E AND CURTAIN WALL=
1.25 CU. YDS. (0.96 m^3) CLASS SI CONCRETE (OUTLET) FOR 9" (225) PAV'T.
1.27 CU. YDS. (0.96 m^3) CLASS SI CONCRETE (OUTLET) FOR 10" (250) PAV'T.
FOR SECTION F-F=
0.045 CU. YDS. (0.03 m^3) CLASS SI CONCRETE PER ft. (m).

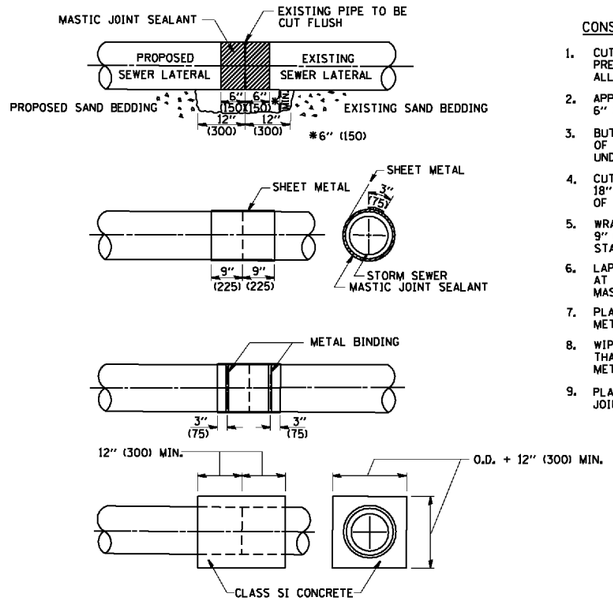
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diatstd\22x34\bd03.dgn	USER NAME = gaglianobt	DESIGNED - M. DE YONG	REVISED - R. SHAH 09-09-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OUTLET FOR CONCRETE CURB AND GUTER	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - R. SHAH 10-25-94			94	49-1-R-1	LAKE	677	486
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - E. GOMEZ 12-21-00			BD600-01 (BD-03)		CONTRACT NO. 60L77		
	PLOT DATE = 1/4/2008	DATE - 08-04-86	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. NA TO STA. NA	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



DETAIL "A"

LATERAL CONNECTION TO EXISTING SEWER
OF 27" (675) OR SMALLER

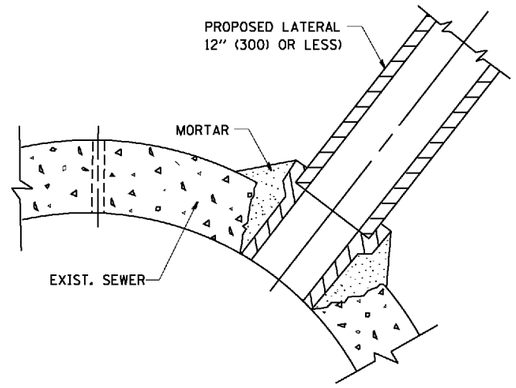


DETAIL "B"

CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12" x 6" (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERANCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



DETAIL "C"

PROPOSED LATERAL
CONNECTION TO EXISTING SEWER
OF 30" (750) OR LARGER

NOTES

MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

CONSTRUCTION METHODS

I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.

II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:

A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".

B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS, THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

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

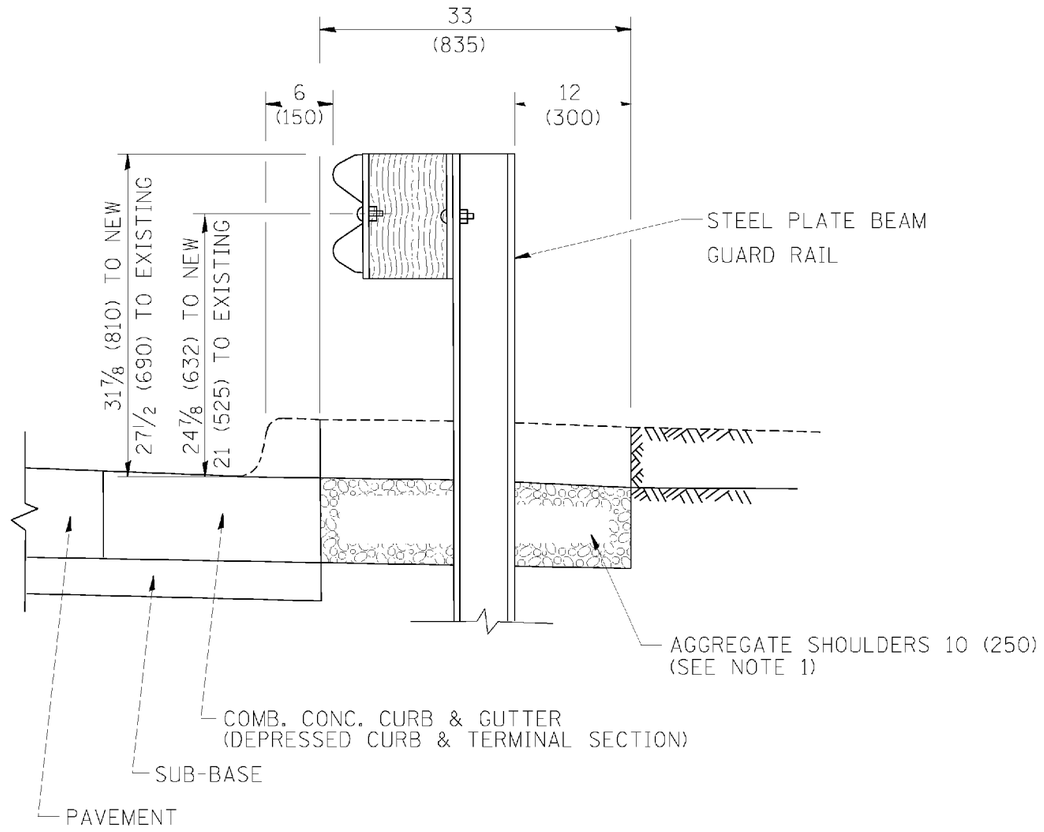
FILE NAME = W:\distatd\22x34\bd07.dgn	USER NAME = gaglionob	DESIGNED - M. DE YONG	REVISED - M. DE YONG 05-08-92
		DRAWN -	REVISED - R. SHAH 09-09-94
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - R. SHAH 10-25-94
	PLOT DATE = 1/4/2008	DATE - 07-25-90	REVISED - R. SHAH 06-12-96

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

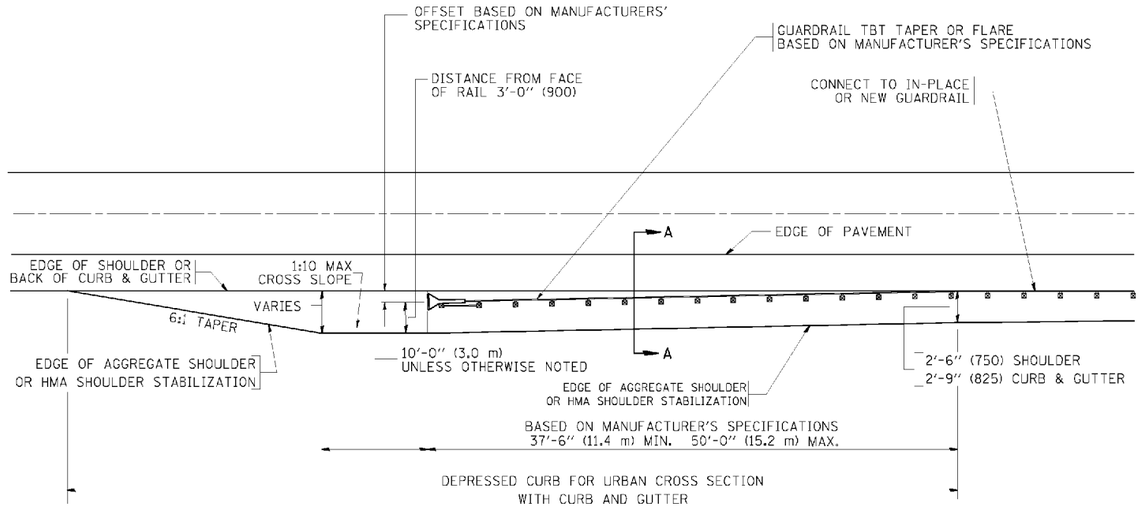
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	487
	BD500-01 (BD-7)	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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.

DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER [FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



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.

TBT = TRAFFIC BARRIER TERMINAL

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

FILE NAME =	USER NAME = dmvakosgn	DESIGNED - M. DE YONG	REVISED - E. GOMEZ 08-28-00
		DRAWN	REVISED - R. BORO 01-01-07
	PLOT SCALE = 49.9999 ' / IN.	CHECKED -	REVISED - R. BORO 12-08-2008
	PLOT DATE = 9/22/2009	DATE 09-22-90	REVISED - R. BORO 09-14-2009

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

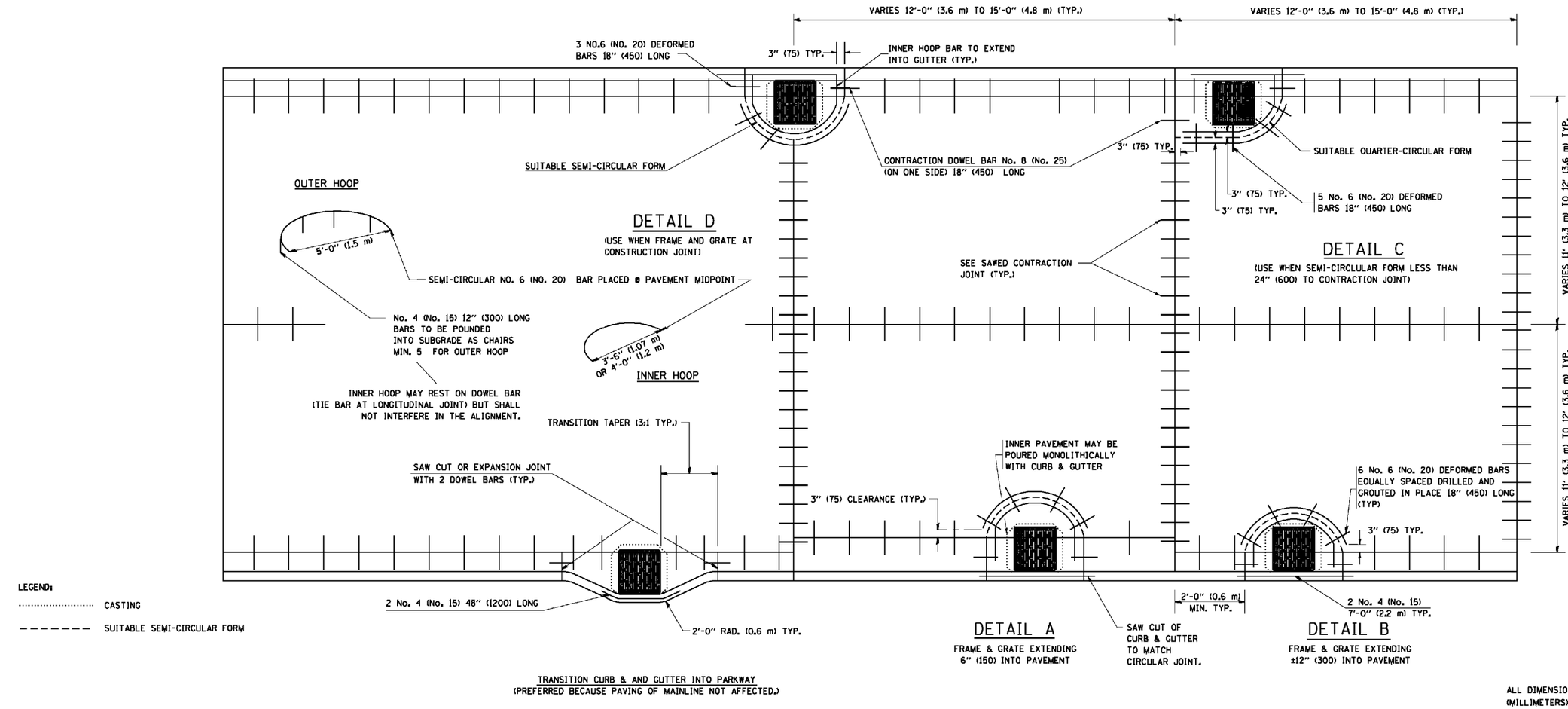
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	488
	BD600-10 (BD 34)	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

FRAME EXTENSION INTO PAVEMENT	INNER HOOP REINFORCEMENT DIAMETER	SEMI CIRCULAR FORM DIAMETER	OUTER HOOP REINFORCEMENT DIAMETER
UP TO 8" (200)	3'-6" (1.1 m)	4'-0" (1.2 m)	5'-0" (1.5 m)
> 8" (200) TO 14" (360)	4'-0" (1.2 m)	4'-6" (1.4 m)	5'-0" (1.5 m)

DESIGNER NOTE:
THIS DETAIL IS TO BE USED WHEN THE GUTTER FLAG IS LESS THAN 24"

NOTES :

1. THE ROUNDOUT AND ADDED REINFORCEMENT WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE PAVEMENT.
2. TRANSVERSE JOINTS MAY BE MOVED TO ACCOMMODATE ROUNDOUT, EDGE OF CIRCULAR JOINT SHALL BE MINIMUM 12" (300) FROM TRANSVERSE JOINT. RELOCATED TRANSVERSE JOINT SHALL BE CONTINUOUS FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.
3. SEMI-CIRCULAR FORM SHALL BE REMOVED PRIOR TO DRILL AND GROUT OF TIE BARS.
4. ALL REINFORCED BARS SHALL BE EPOXY COATED.
5. DRILL AND GROUT IS PREFERRED, HOWEVER TIE BARS CAN BE POURED IN PLACE IF CLEARANCE IS PROVIDED TO OUTER EDGE OF FRAME. MINIMUM 2" (50) CLEARANCE.
6. WOOD SHIMS SHALL BE USED TO ADJUST ALL FRAMES. AFTER ADJUSTING MORTAR HAS CURED, THE WOOD SHIMS SHALL BE REMOVED AND THE VOIDS UNDER THE FRAMES FILLED WITH NON SHRINK GROUT.
7. HOOP REINFORCEMENT SHALL BE ONE PIECE CONSTRUCTION.
8. CIRCULAR FRAMES AND GRATES MAY BE SUBSTITUTED.
9. CURB DOWELS MUST BE PLACED LEVEL & TRUE TO ALLOW CONTRACTION MOVEMENT.



TRANSITION CURB & AND GUTTER INTO PARKWAY
(PREFERRED BECAUSE PAVING OF MAINLINE NOT AFFECTED.)

ALL DIMENSIONS ARE IN INCHES
(MILLIMETERS) UNLESS OTHERWISE NOTED

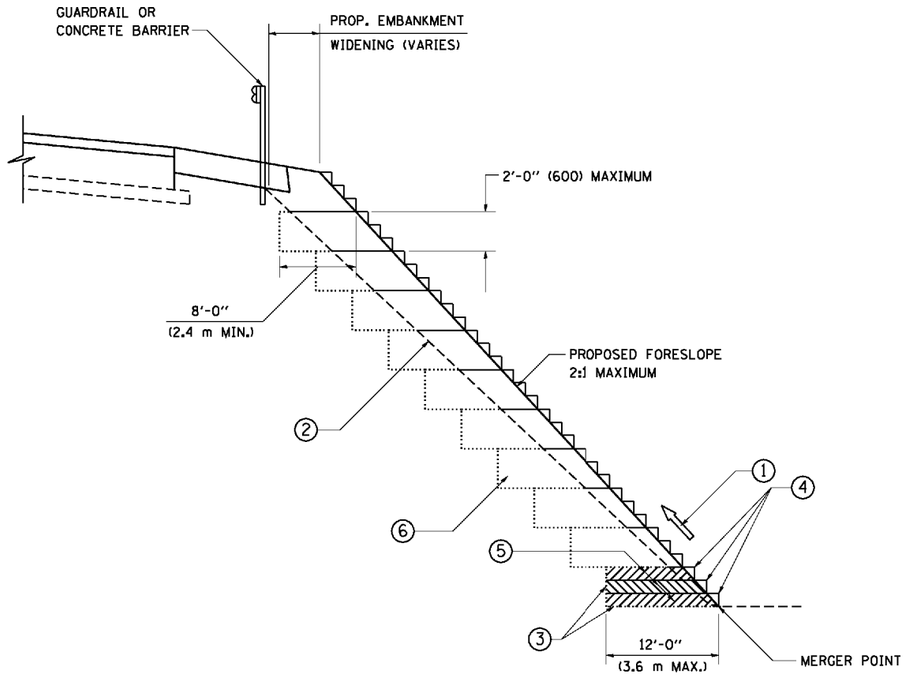
FILE NAME = W:\diststd\22x34\bd48.dgn	USER NAME = gaglionob	DESIGNED - A. ABBAS	REVISED - T. MATOUSEK 08-28-00
		DRAWN - TOM MATOUSEK	REVISED - T. MATOUSEK 10-02-00
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - A. ABBAS	REVISED - T. MATOUSEK 04-25-02
	PLOT DATE = 1/4/2008	DATE - 01-04-99	REVISED - P. LAFLEUR 08-27-02

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PCC PAVEMENT ROUNDOUTS AT CURB AND GUTTER

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	489
	BD-48	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
6. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

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

FILE NAME = W:\diststd\22x34\bd51.dgn	USER NAME = gaglionob	DESIGNED -	REVISED -
		DRAWN - CADD	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - S.E.B.	REVISED -
	PLOT DATE = 1/4/2008	DATE - 06-16-04	REVISED -

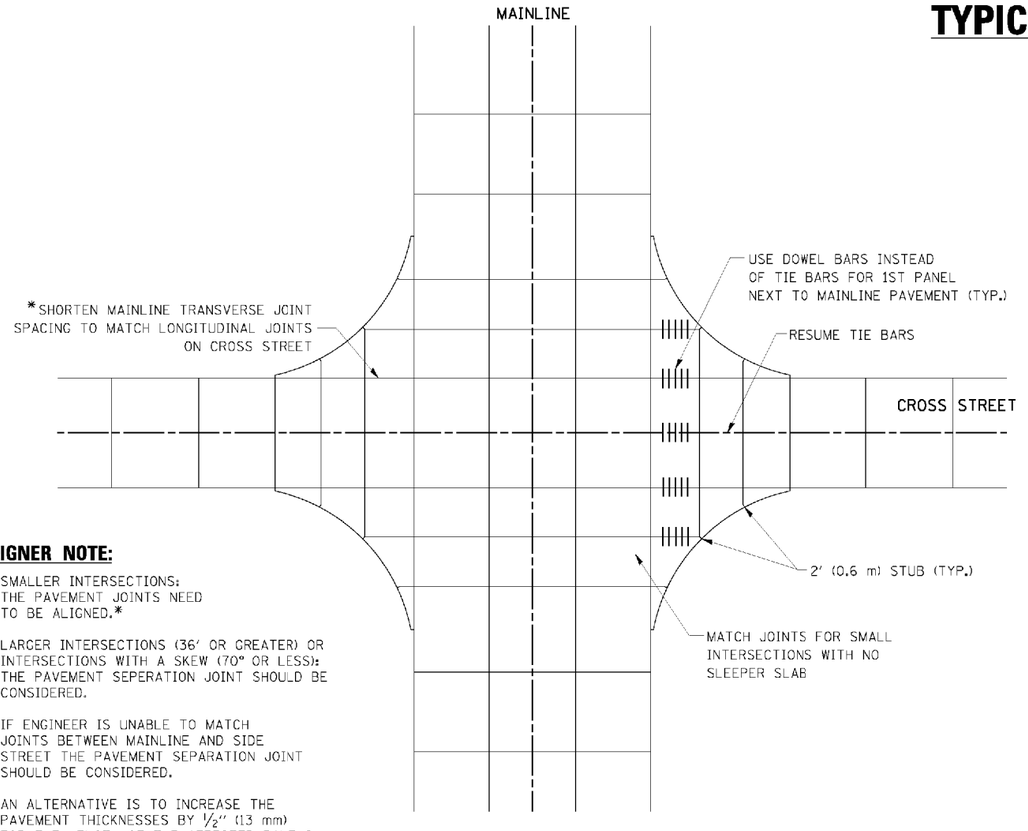
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL
FOR EMBANKMENT WIDENING

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	490
	BD-51	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TYPICAL APPLICATION

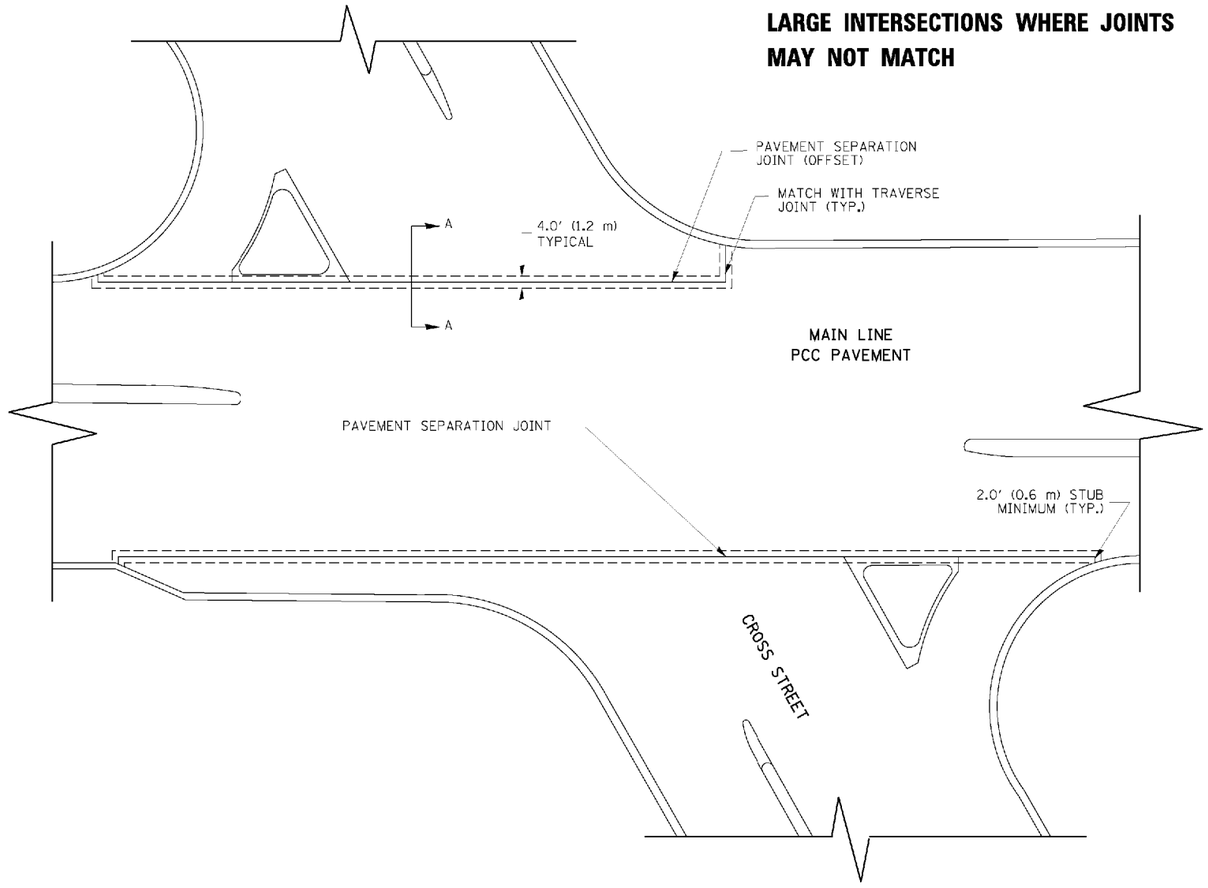


PLAN

DESIGNER NOTE:

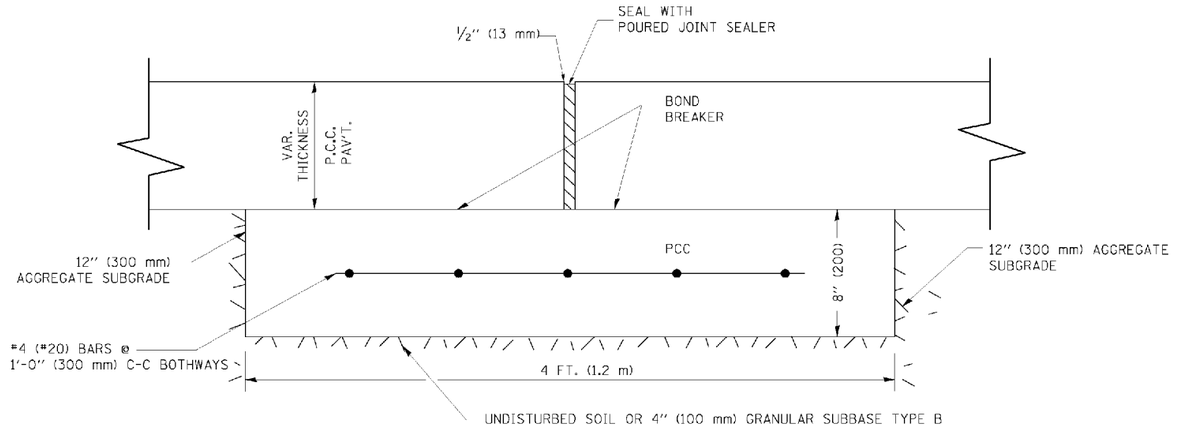
1. SMALLER INTERSECTIONS: THE PAVEMENT JOINTS NEED TO BE ALIGNED.*
2. LARGER INTERSECTIONS (36' OR GREATER) OR INTERSECTIONS WITH A SKEW (70° OR LESS): THE PAVEMENT SEPERATION JOINT SHOULD BE CONSIDERED.
3. IF ENGINEER IS UNABLE TO MATCH JOINTS BETWEEN MAINLINE AND SIDE STREET THE PAVEMENT SEPARATION JOINT SHOULD BE CONSIDERED.
4. AN ALTERNATIVE IS TO INCREASE THE PAVEMENT THICKNESSES BY ½" (13 mm) FOR THE LENGTH OF THE AFFECTED PANELS AT THE INTERSECTION. FOR LARGE INTERSECTIONS (6 LANES
5. OR MORE) WHERE JOINTS CAN BE MATCHED, USE #8 (25) DOWEL BARS INSTEAD OF #8 (25) TIE BARS AT EDGE OF MAINLINE PAVEMENT WHEN NO PAVEMENT SEPARATION JOINTS USED.

THE USE OF CROSS STREET PAVEMENT SEPARATION JOINTS FOR SKEWED OR LARGE INTERSECTIONS WHERE JOINTS MAY NOT MATCH



NOTE:

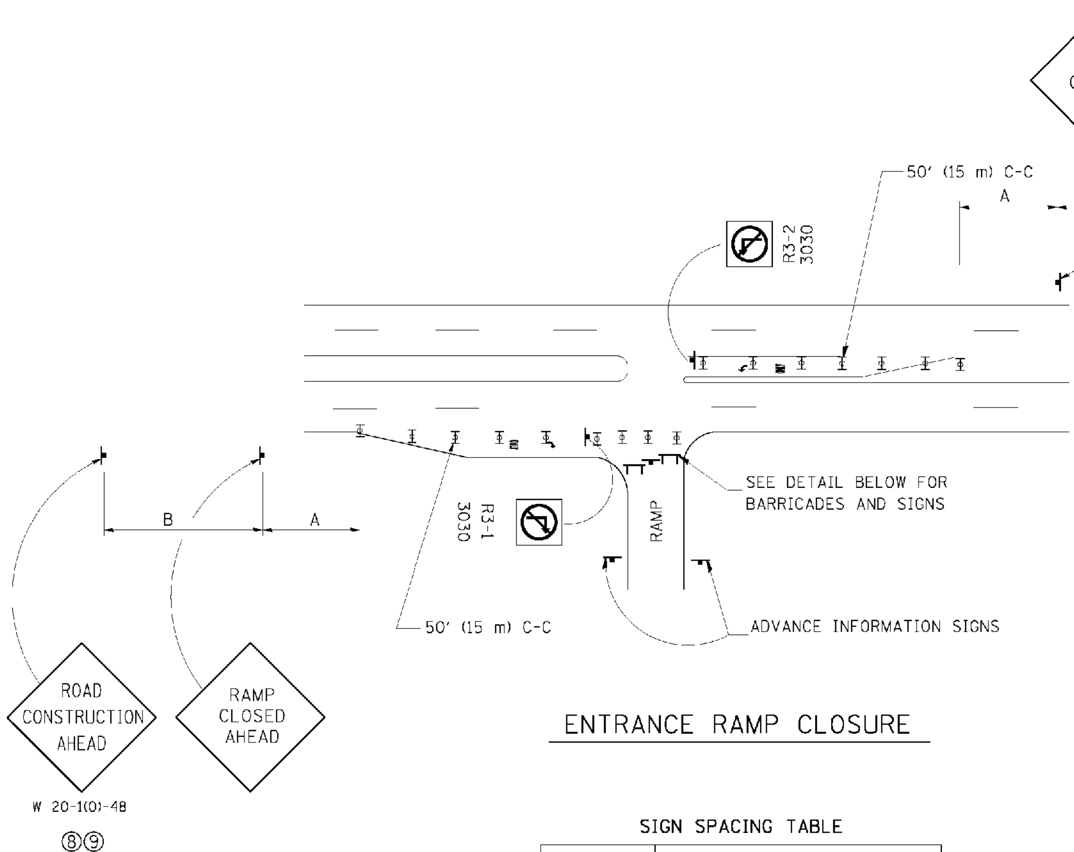
1. JOINT FILLER SHALL CONSIST OF A SHEET OF ½" (13 mm) BITUMINOUS PREFORMED FIBER JOINT FILLER CONFORMING TO ARTICLE 1051.03 OF THE STANDARD SPECIFICATIONS.
2. THE JOINT SHALL BE SEALED WITH A HOT POUR JOINT SEALER CONFORMING TO ARTICLE 1050.02 OF THE STANDARD SPECIFICATIONS.
3. A SINGLE LAYER OF FELT ROOFING PAPER SHALL SERVE AS A BOND BREAKER.
4. JOINT SHALL CONTINUE THROUGH COMBINATION CURB & GUTTER OR PCC SHOULDER.
5. PAVEMENT SEPARATION JOINT IS TO BE PAID FOR AS "SLEEPER SLAB" AND IS TO BE MEASURED IN PLACE BY THE LINEAL FOOT.
6. BOND BREAKER AND ½" (13 mm) JOINT AND FILLER SHALL BE INCIDENTAL TO THE PAY ITEM "SLEEPER SLAB".



PROPOSED SECTION A–A

FILE NAME = bd52dgn	USER NAME = leyes	DESIGNED -	REVISED - CADD 06-18-10	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**DETAIL OF PAVEMENT SEPARATION JOINT FOR JOINTED PCC PAVEMENTS AT INTERSECTIONS**
		DRAWN	REVISED		
	PLOT SCALE = 49.9999 '/ IN.	CHECKED -	REVISED -		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA TO STA. NA
	PLOT DATE = 2/26/2011	DATE	REVISED		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	491
	BD52	CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

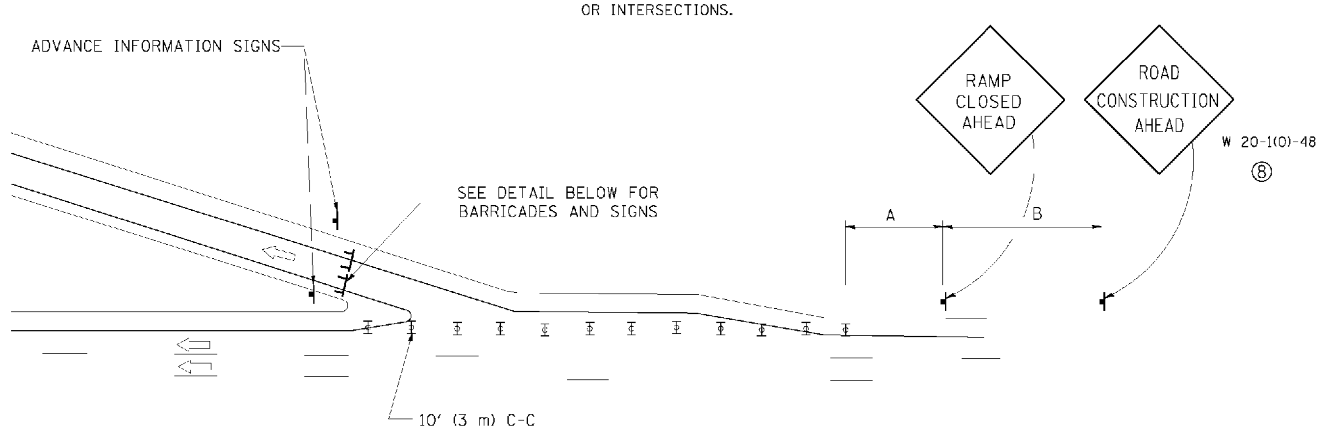


ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS A	DISTANCE BETWEEN SIGNS B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY <24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL >45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	150' (45 m)	150' (45 m)

DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.

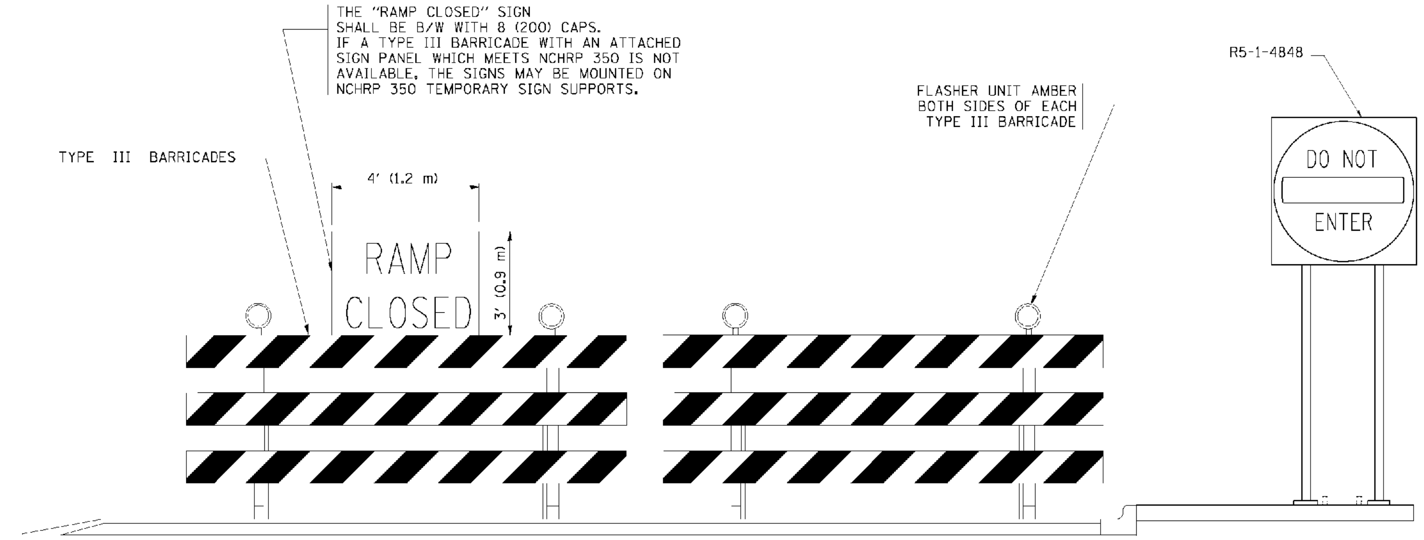


EXIT RAMP CLOSURE

SYMBOLS

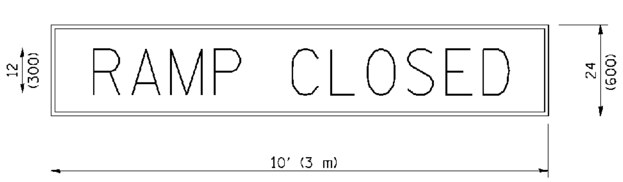
TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT

TYPE III BARRICADE WITH FLASHING LIGHT



DETAIL FOR REQUIRED BARRICADES & SIGNS

RAMP CLOSURE ADVANCE WARNING SIGN

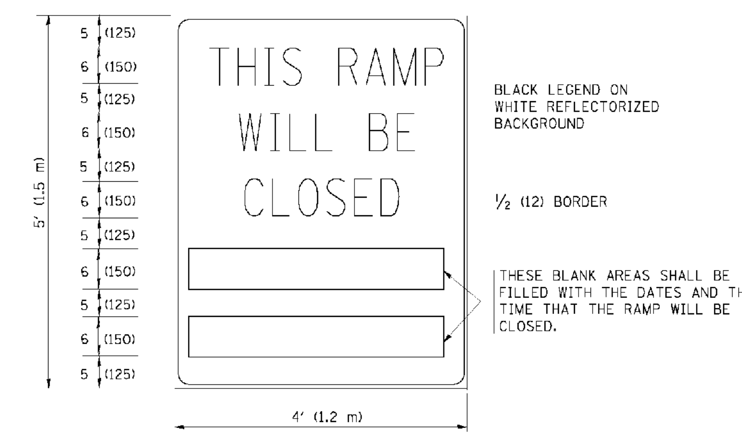


BLACK LEGEND ON ORANGE REFLECTORIZED BACKGROUND

1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR THE CLOSED EXIT RAMPS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



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

GENERAL NOTES:

① CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.

② STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.

③ A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES.

④ ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED.

⑤ THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).

⑥ AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.

⑦ 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.

⑧ ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.

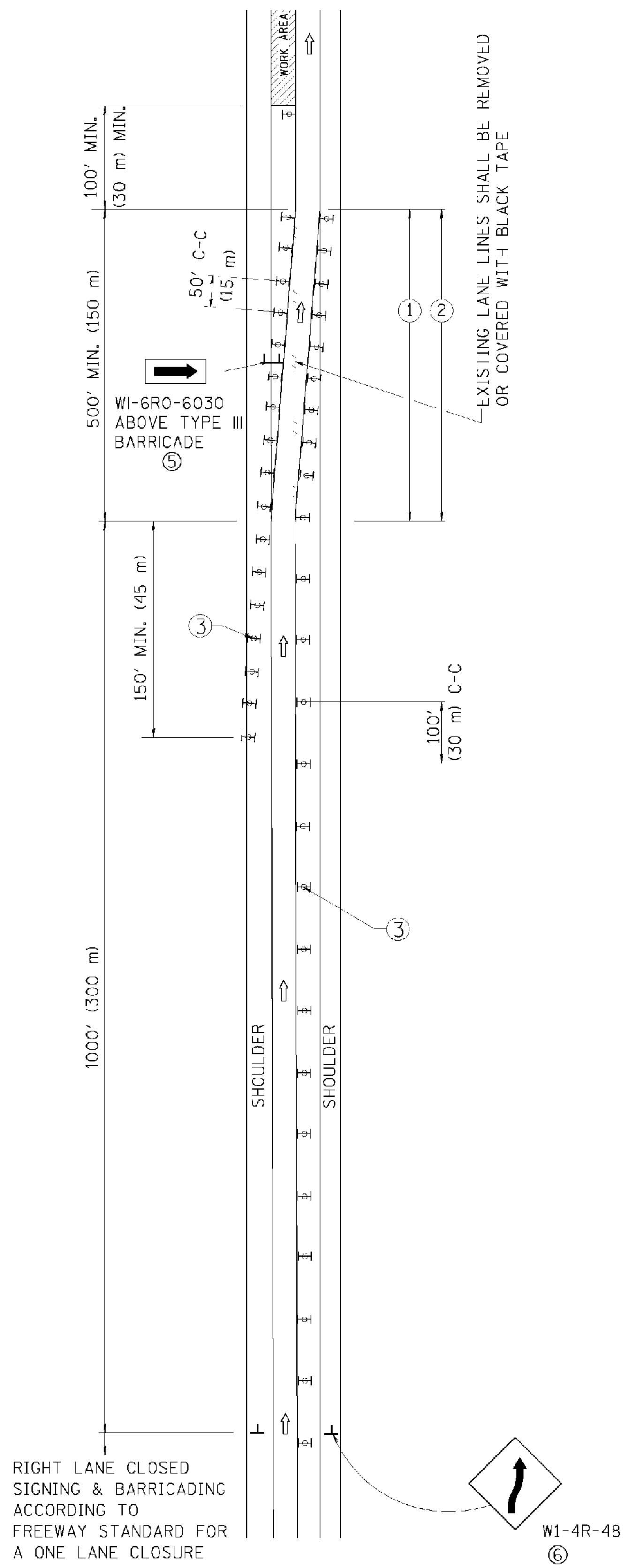
⑨ ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED ON CLOSURES LESS THAN 24 HOURS IN DURATION.

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

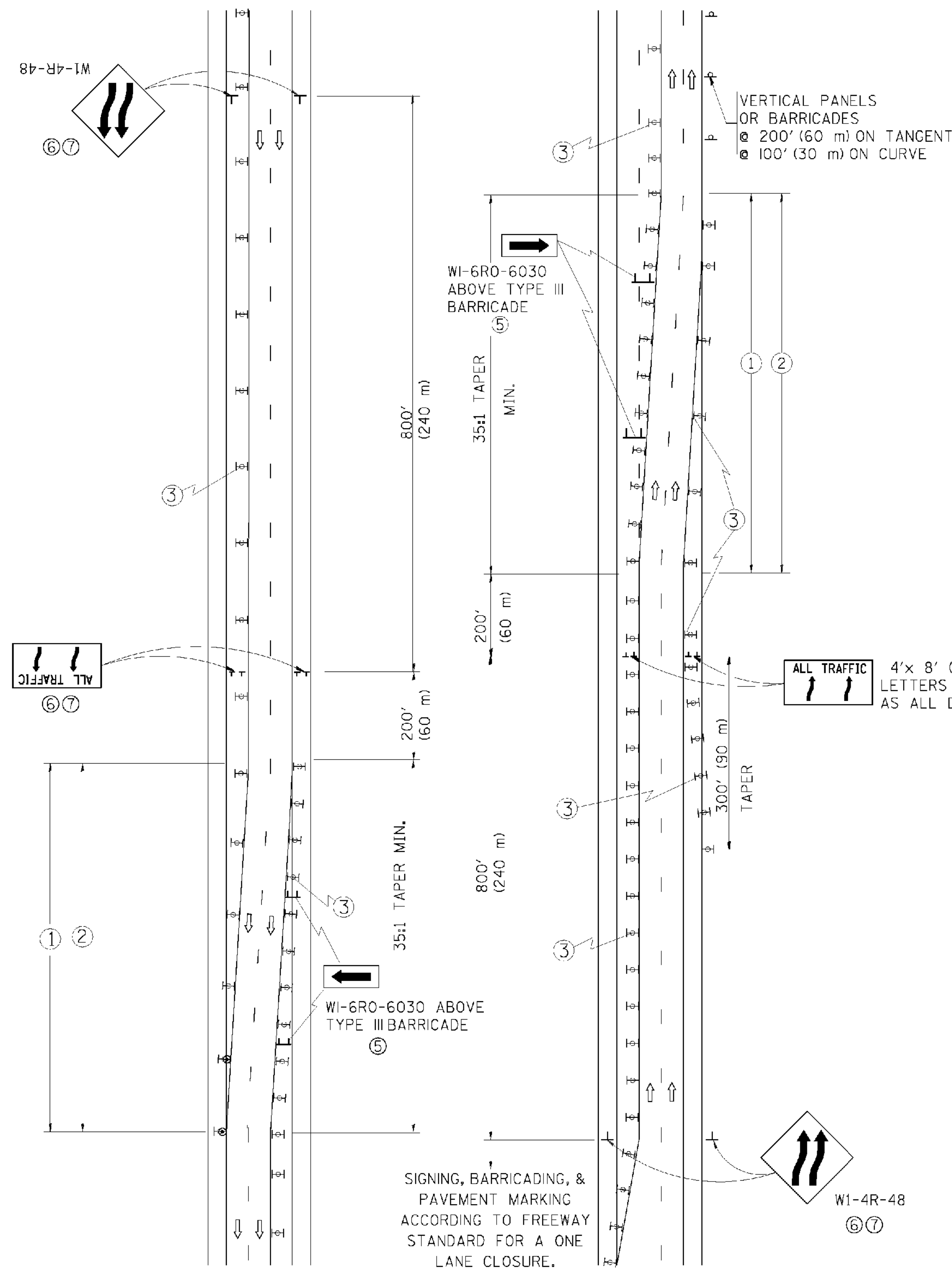
FILE NAME =	USER NAME = leyss	DESIGNED - DWS	REVISED - DWS/JAF 12-02	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FREEWAY ENTRANCE AND EXIST RAMP CLOSURE DETAILS
		DRAWN	REVISED JAF 02-06		
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED - SPB 01-07		
	PLOT DATE = 1/25/2010	DATE 02-83	REVISED SPB 12-09		SCALE: NONE · SHEET NO. 1 OF 1 SHEETS · STA. NA · TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	492
	TC-08	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

SINGLE LANE WEAVE



MULTI-LANE WEAVE



ALL TRAFFIC — 4'x 8' (1.2 m x 2.4 m); 1 (25) BORDER; 10 (250) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

GENERAL NOTES

① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 24 HOURS IN DURATION.

② CONTINOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.

③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.

④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.

⑤ 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. TYPE III BARRICADES MAY BE OMMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.

⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

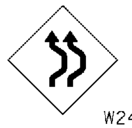
SYMBOLS

⇧ DIRECTION OF TRAFFIC

▨ WORK AREA

⊢ SIGN ON PORTABLE OR PERMANENT SUPPORT

⌶ TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT



W24-1-48
⑦

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME =	USER NAME = leyss	DESIGNED - DWS	REVISED - JAF 01-03
		DRAWN	REVISED - JAF 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - SPB 01-07
	PLOT DATE =	DATE 02-87	REVISED SPB 12-09

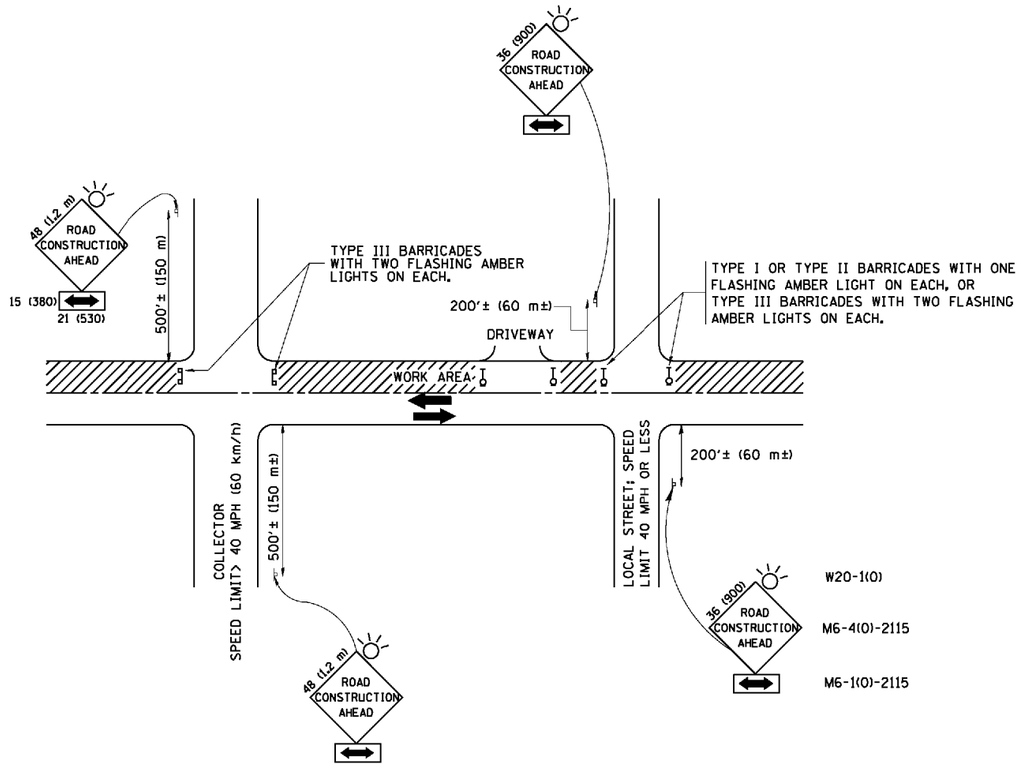
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	493
	TC-09	CONTRACT NO. 60L77		

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



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

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

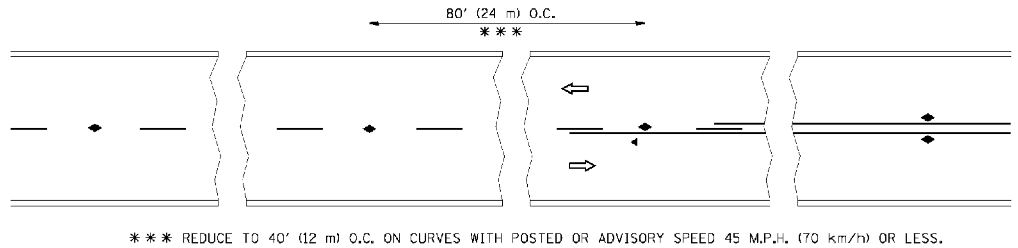
FILE NAME = W:\diastd\22x34\tc10.dgn	USER NAME = gaglionob	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

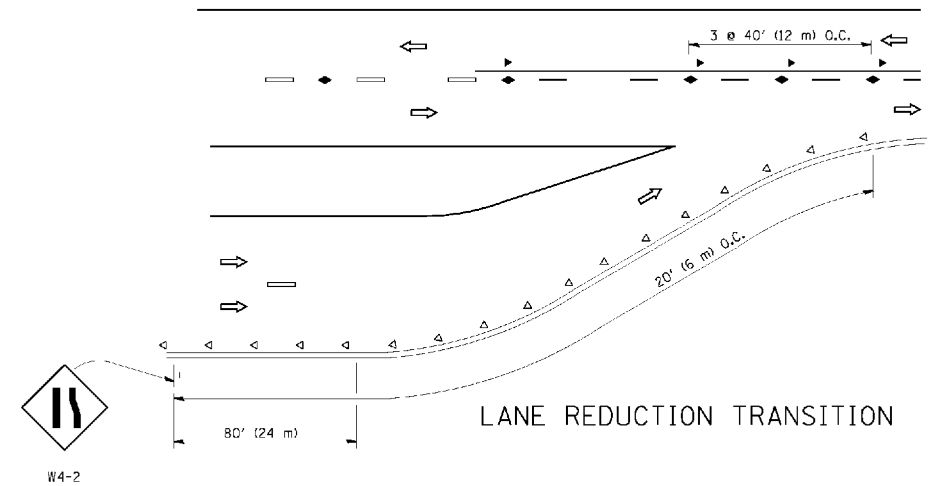
TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

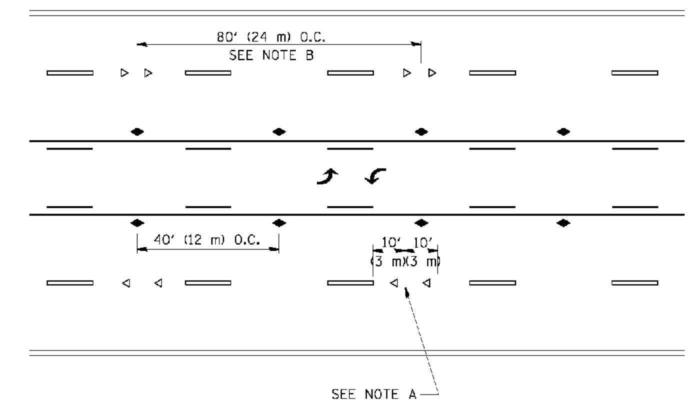
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	494
	TC-10	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



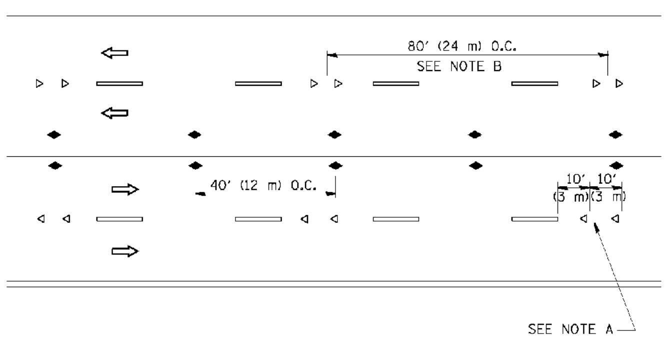
TWO-LANE/TWO-WAY



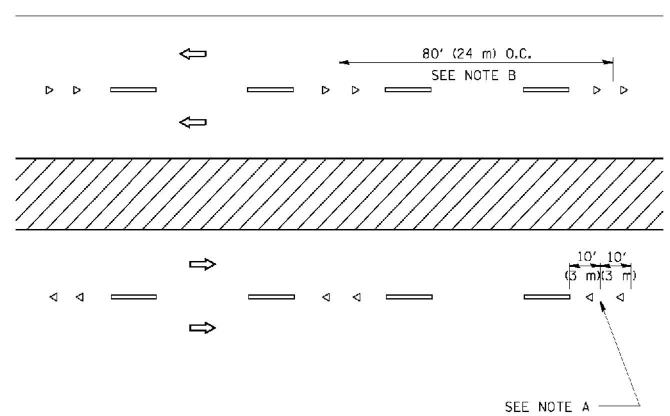
LANE REDUCTION TRANSITION



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 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) 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/O)
- TWO-WAY AMBER MARKER

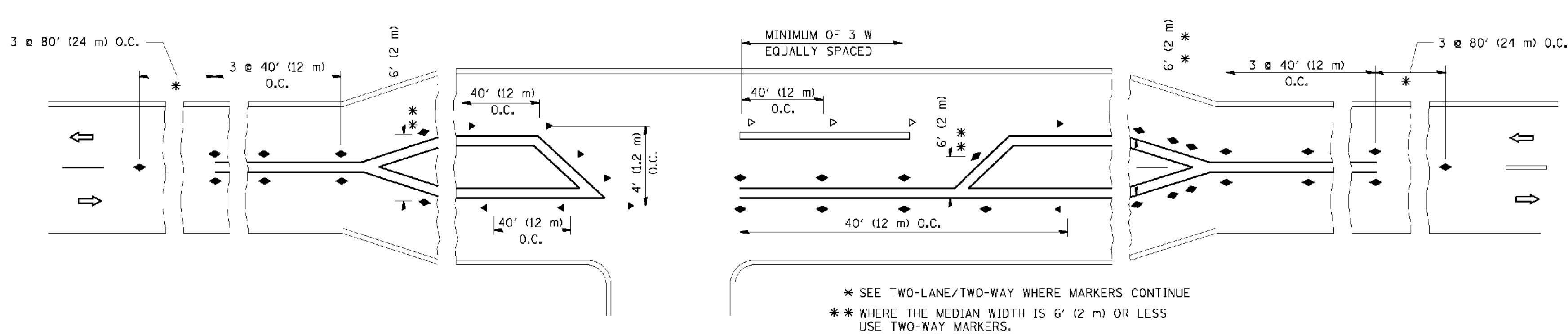
LANE MARKER NOTES

A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.

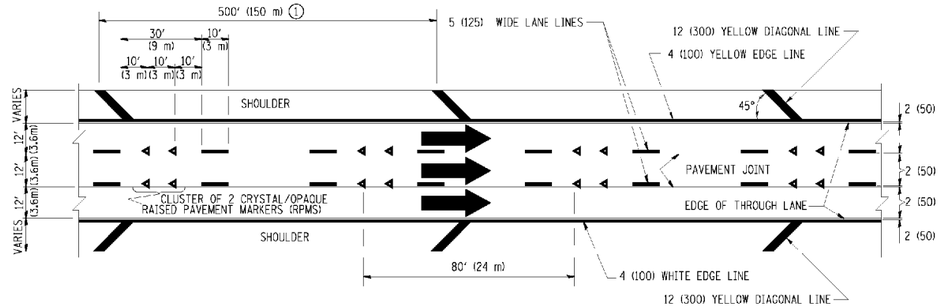


LEFT TURN

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

FILE NAME = c:\pw work\pwioos\drivakosgn\d0108315\tc11.dgn	USER NAME = drivakosgn	DESIGNED -	REVISED -T. RAMMACHER 09-19-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)
		DRAWN	REVISED T. RAMMACHER 03-12-99		
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED -T. RAMMACHER 01-06-00		
	PLOT DATE = 9/5/2009	DATE	REVISED C. JUCIUS 09-09-09		SCALE: NONE / SHEET NO. 1 OF 1 SHEETS / STA. NA / TO STA. NA

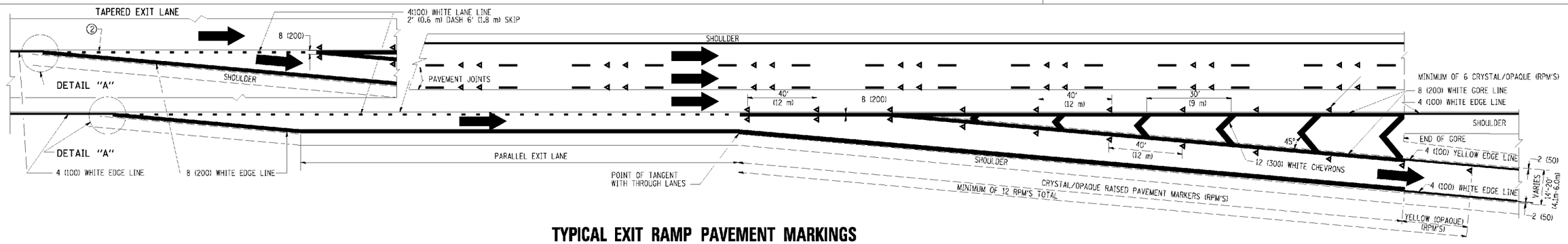
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	495
TC-11	CONTRACT NO. 60L77			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



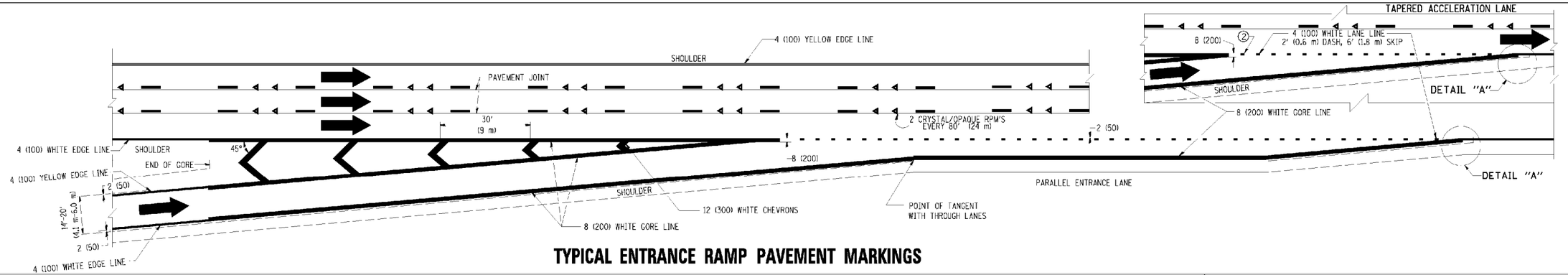
TYPICAL EDGE LINES & LANE LINES

PAVEMENT MARKING MATERIALS

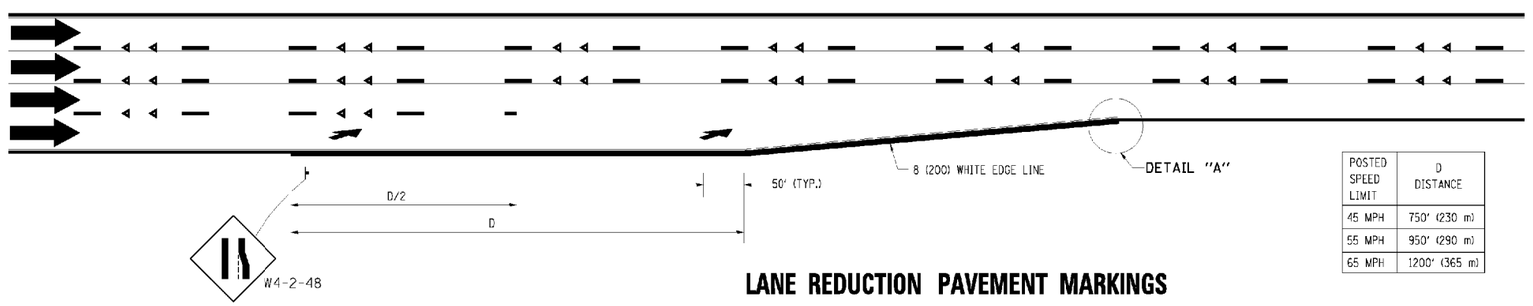
1. THERMO PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR THE EDGE LINES, GORE LINES, AND DIAGONAL LINES ON BITUMINOUS PAVEMENT ONLY.
2. PREFORMED PLASTIC TYPE B PAVEMENT MARKING LINE SHALL BE USED FOR ALL LANE LINES ON BITUMINOUS PAVEMENT.
3. POLYUREA PAVEMENT MARKING SHALL BE USED FOR ALL MARKINGS ON PCC.



TYPICAL EXIT RAMP PAVEMENT MARKINGS

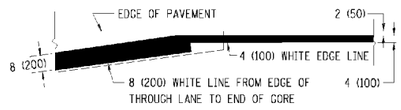


TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



POSTED SPEED LIMIT	D DISTANCE
45 MPH	750' (230 m)
55 MPH	950' (290 m)
65 MPH	1200' (365 m)

LANE REDUCTION PAVEMENT MARKINGS



DETAIL "A"

NOTES:

① THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.

② 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.

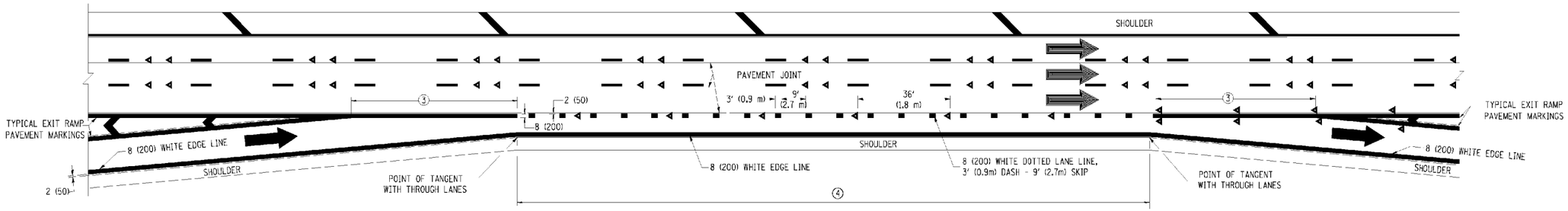
FILE NAME =	USER NAME = leyes	DESIGNED - D.W.S.	REVISED - D.W.S. 07-96
		DRAWN	REVISED J.A.F. 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07
	PLOT DATE = 1/22/2010	DATE 01-90	REVISED S.P.B. 01-10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

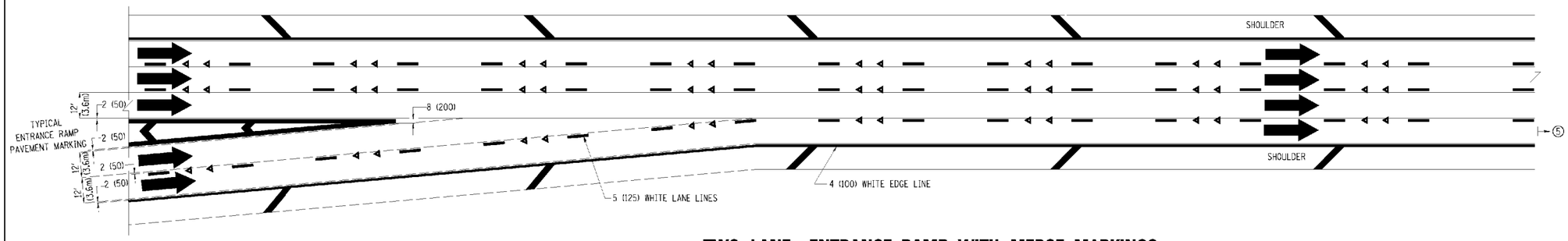
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

SCALE: NONE | SHEET NO. 1 OF 2 SHEETS | STA. NA | TO STA. NA

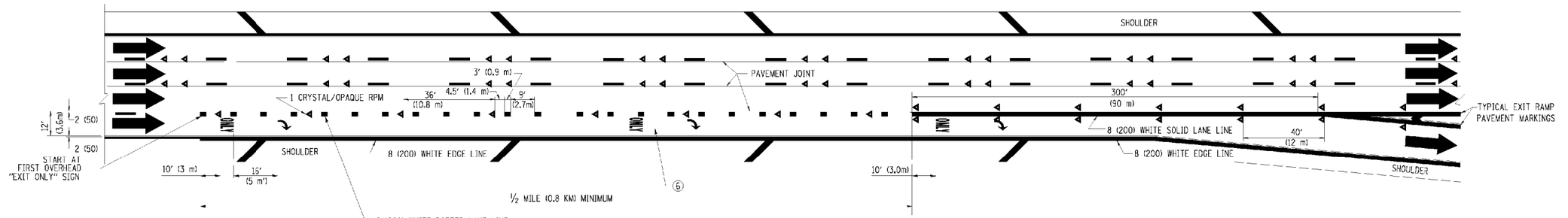
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	496
	TC-12	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



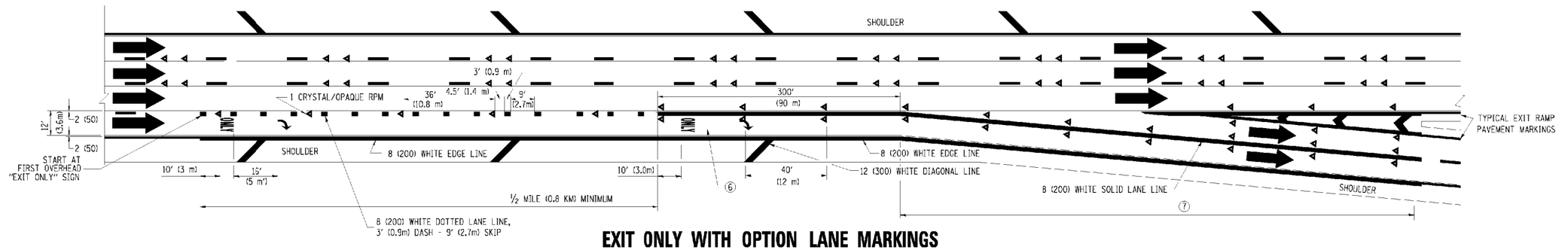
AUXILIARY LANE MARKINGS



TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS



EXIT ONLY LANE MARKINGS



EXIT ONLY WITH OPTION LANE MARKINGS

NOTES

(3) OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).

(4) 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.

(5) FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.

(6) ONLY AND ARROWS EQUALLY SPACED, 500' (150 m) MAXIMUM SPACING. FULL SIZE LETTERS AND ARROW SHALL BE USED.

(7) CONTINUE 8" SOLID LANE LINE THROUGH EXIT TO END OF PAVED CORE.

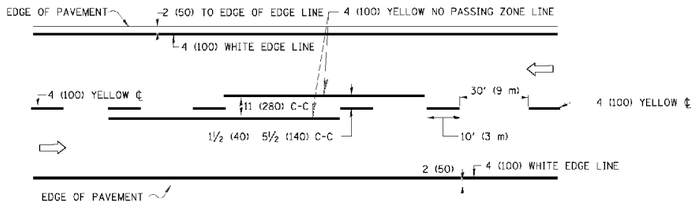
FILE NAME =	USER NAME = leyes	DESIGNED - D.W.S.	REVISED - D.W.S. 07-96
		DRAWN	REVISED - J.A.F. 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07
	PLOT DATE = 1/22/2010	DATE 01-90	REVISED - S.P.B. 01-10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

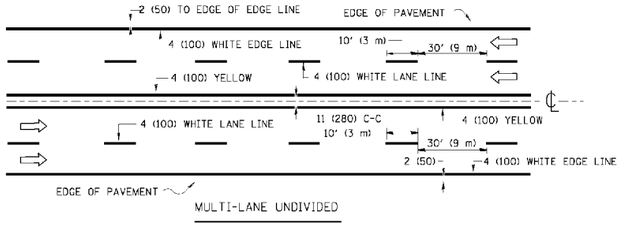
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. NA | TO STA. NA

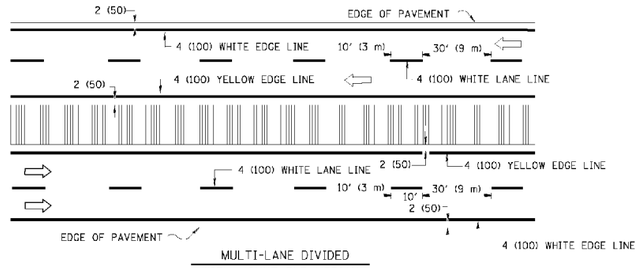
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	497
	TC-12	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



2-LANE ROADWAY



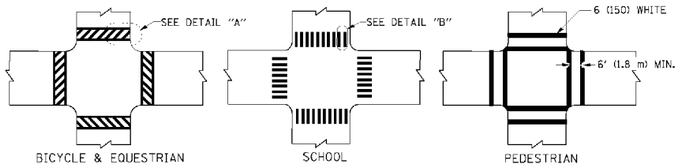
MULTI-LANE UNDIVIDED

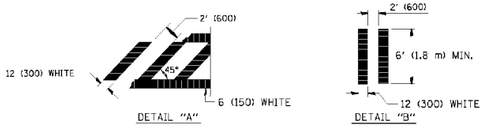


MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

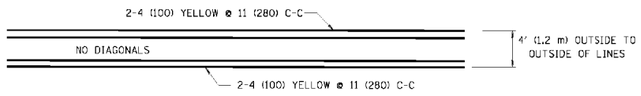
NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

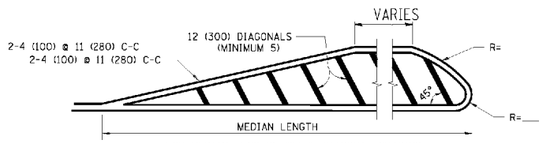




TYPICAL CROSSWALK MARKING



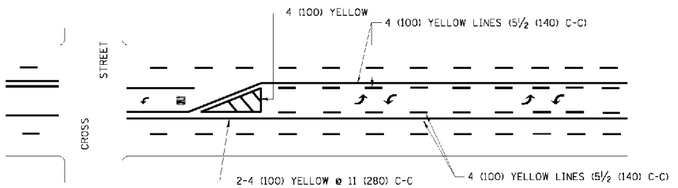
4' (1.2 m) WIDE MEDIANS ONLY



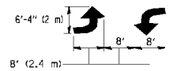
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

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

MEDIANS OVER 4' (1.2 m) WIDE

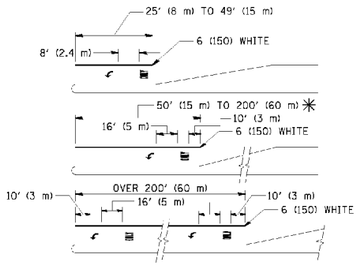


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

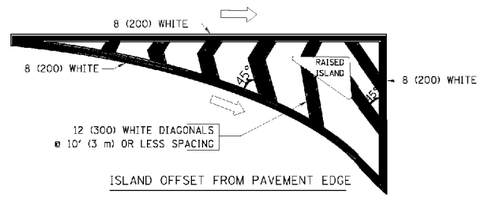


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m^2) ONLY AREA = 20.8 SQ. FT. (1.9 m^2)

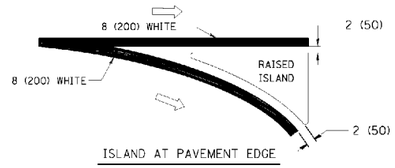
✳ TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 ø 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 ø 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 ø 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 ø 6 (150) 12 (300) ø 45° 12 (300) ø 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 ø 4 (100) WITH 12 (300) DIAGONALS ø 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS ø 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS	12 (300) ø 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

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

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

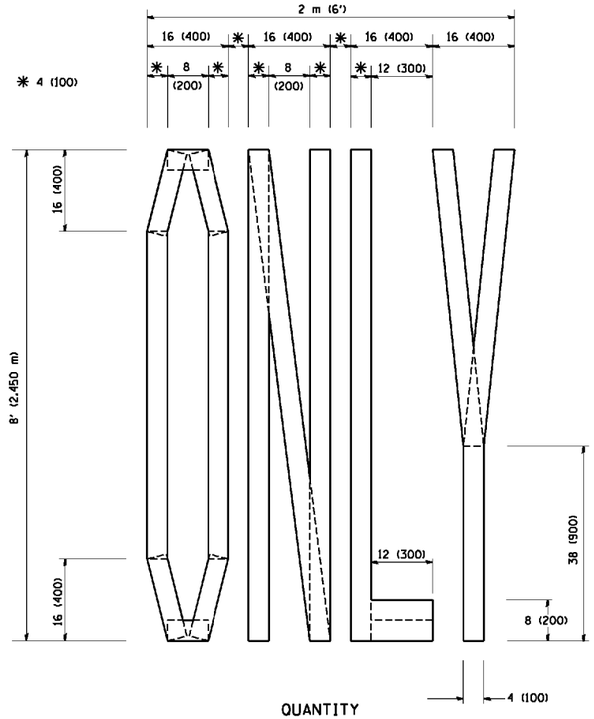
FILE NAME =	USER NAME = drivakosgn	DESIGNED - EVERS	REVISED -T. RAMMACHER 10-27-94
d:\pw_work\pwuser\drivakosgn\d0110\tc13.dgn		DRAWN	REVISED C. JUCIUS 09-09-09
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 9/5/2009	DATE 03-19-90	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

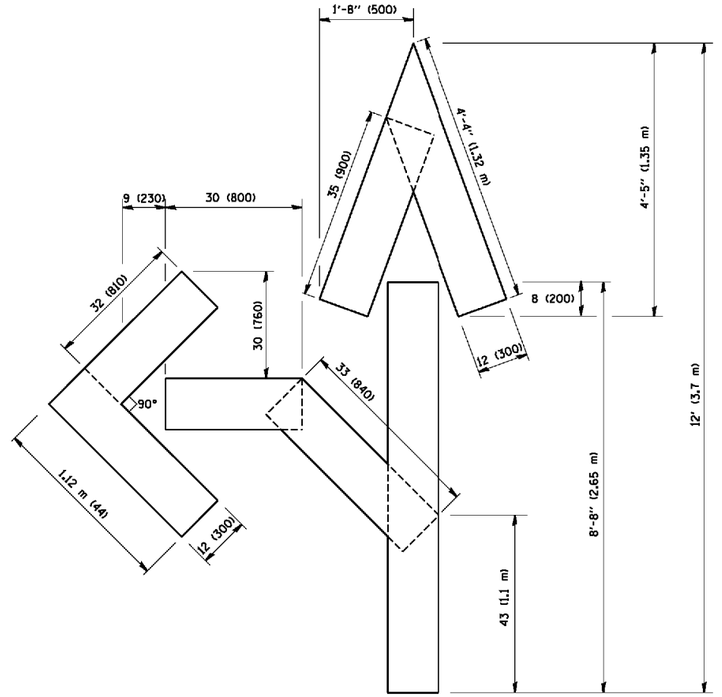
DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

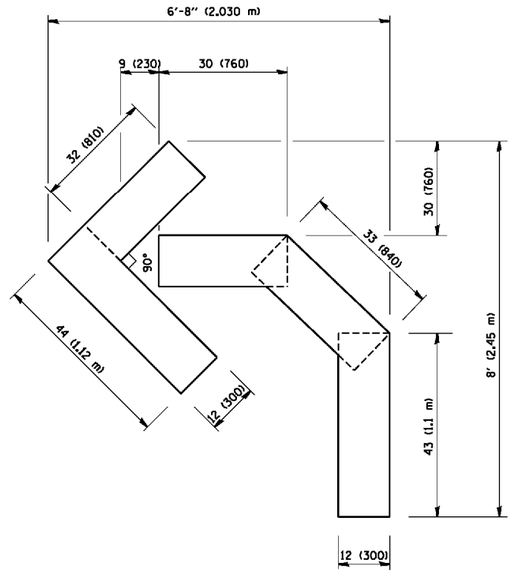
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	498
	TC-13	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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



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

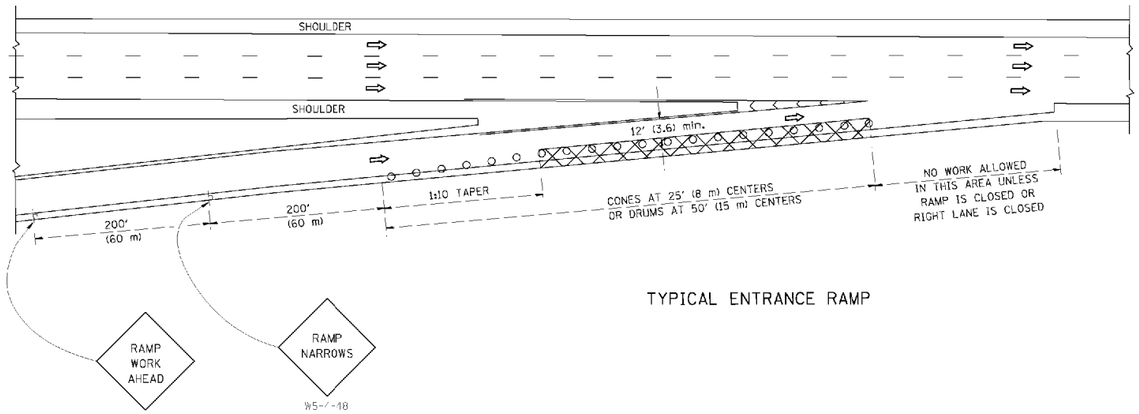


QUANTITY
4 (100) LINE = 45.5 ft. (13.9 m)
15.2 sq. ft. (1.39 sq. m)

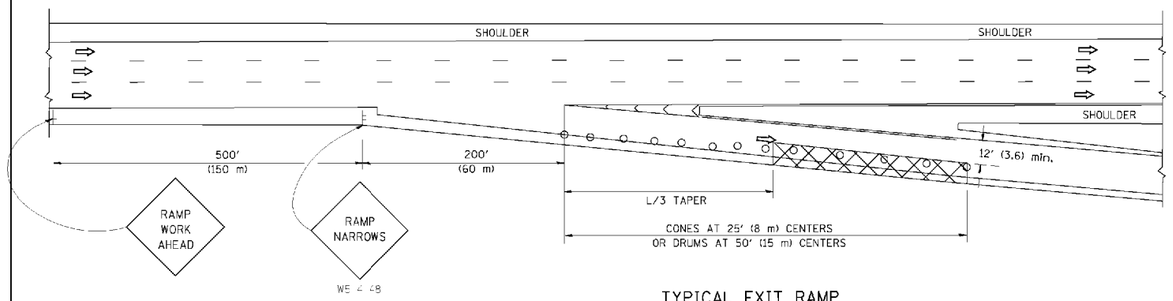
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME = W:\diatstd\22x34\tc16.dgn	USER NAME = geglienobt	DESIGNED -	REVISED -T. RAMMACHER 06-05-96	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -T. RAMMACHER 11-04-97						94	49-1-R-1	LAKE	677	499
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -T. RAMMACHER 03-02-98							TC-16		CONTRACT NO. 60L77	
	PLOT DATE = 1/4/2008	DATE - 09-18-94	REVISED -E. GOMEZ 08-28-00		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. NA	TO STA. NA	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

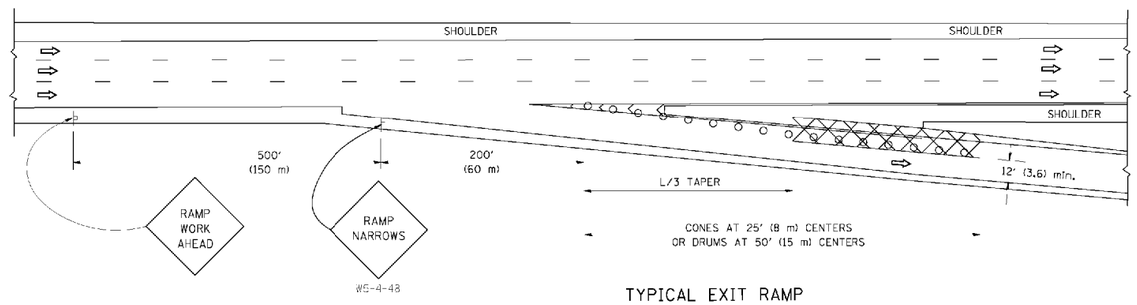
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

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

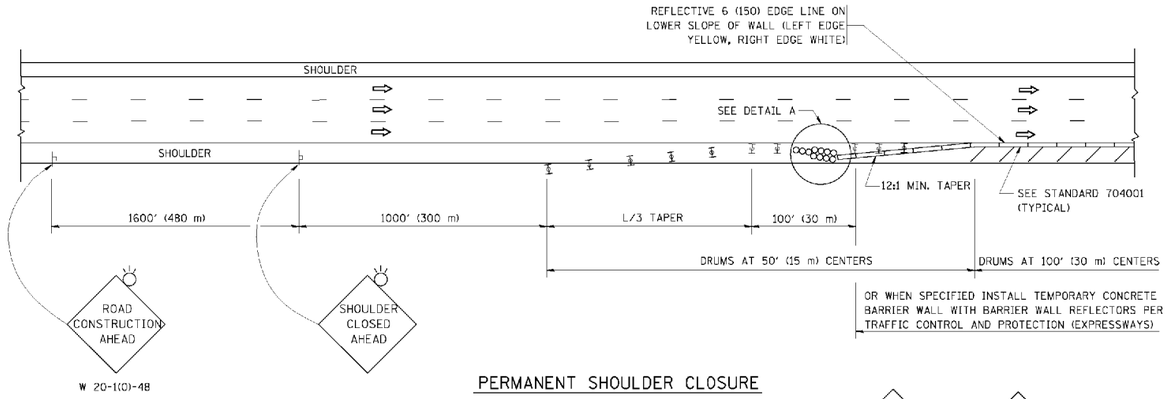
1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS	
	METRIC	ENGLISH
45 mph (80 Km/h) OR GREATER:	L=0.65(W)(S)	L=(W)(S)

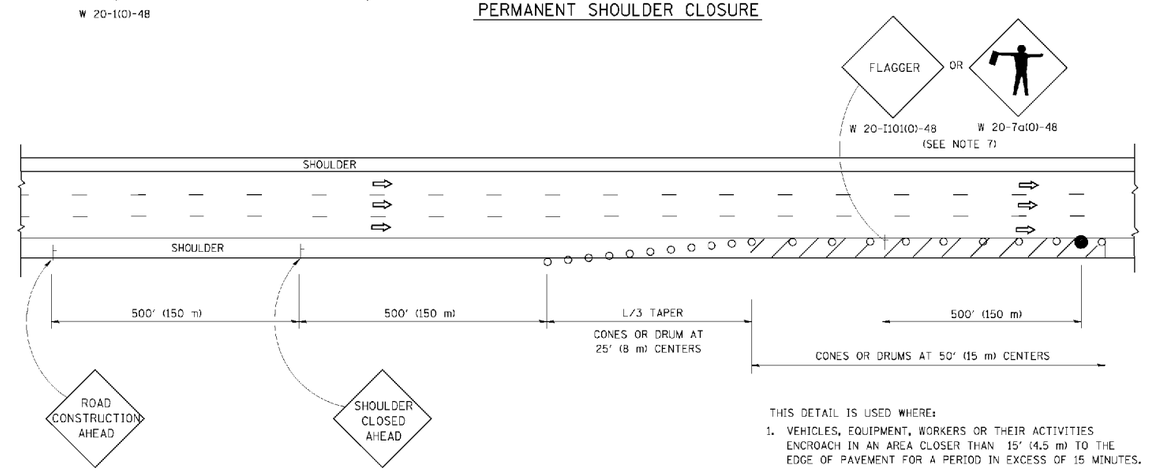
W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)

2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTIME 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.

SHOULDER CLOSURE DETAILS



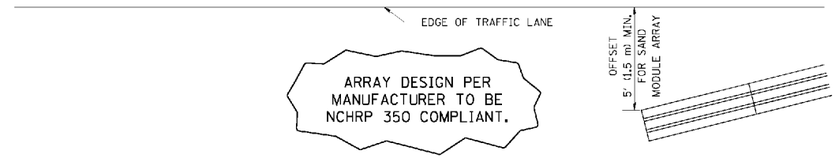
PERMANENT SHOULDER CLOSURE



THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

DAYTIME SHOULDER CLOSURE



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

5. THE IMPACT ATTENTUATOR, 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 NCHRP350.
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 AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.

THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.

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

FILE NAME = W:\district1\Projects\tc17.dgn	USER NAME = leyes	DESIGNED -		REVISED - 04-03	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
		DRAWN	D.W.S.	REVISED J.A.F. 12-06	
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -		REVISED - S.P.B. 01-07	
	PLOT DATE = 1/25/2010	DATE	11-96	REVISED S.P.B. 12-09	

TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. NA | TO STA. NA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	500
	TC-17	CONTRACT NO. 60L77		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		