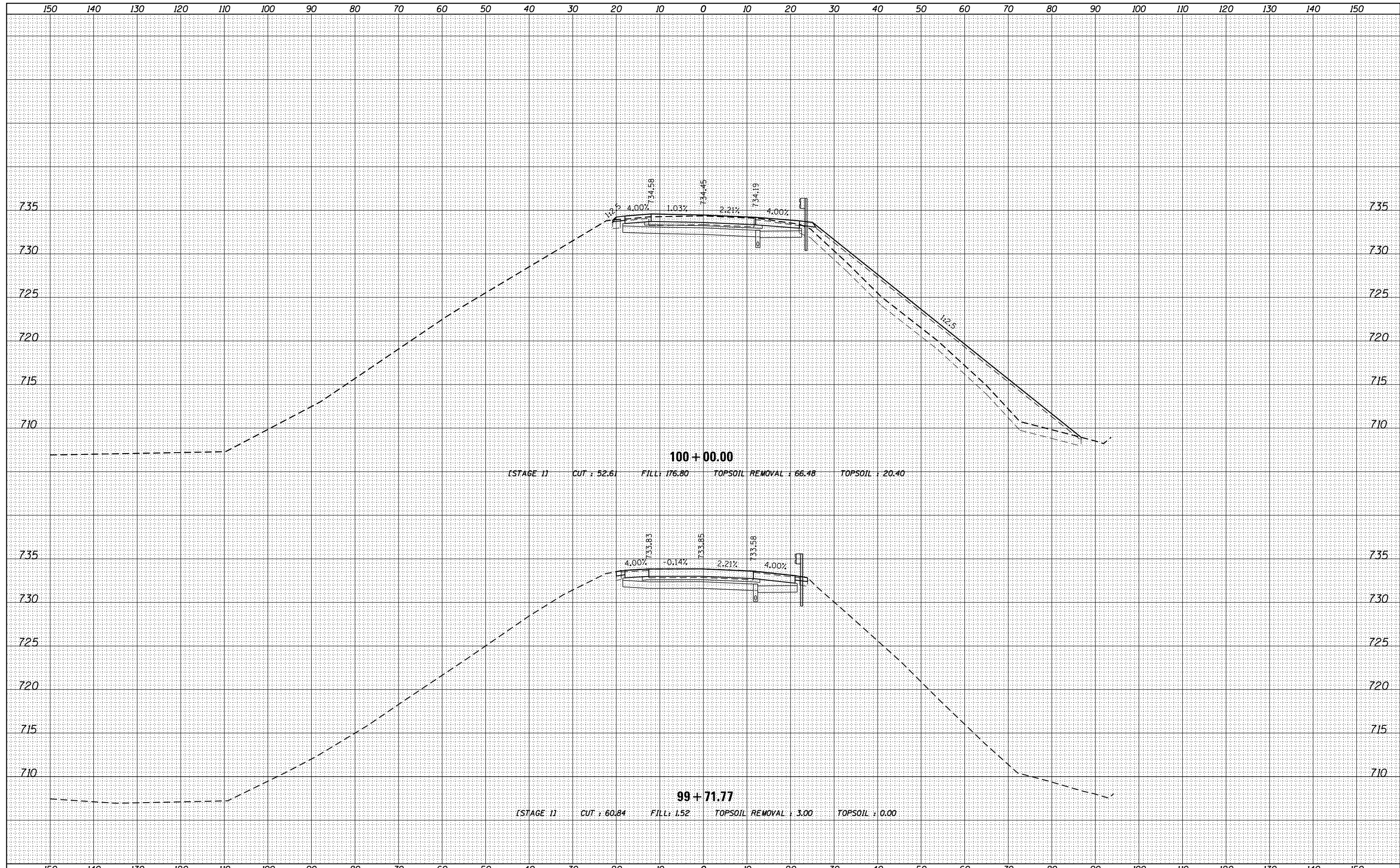






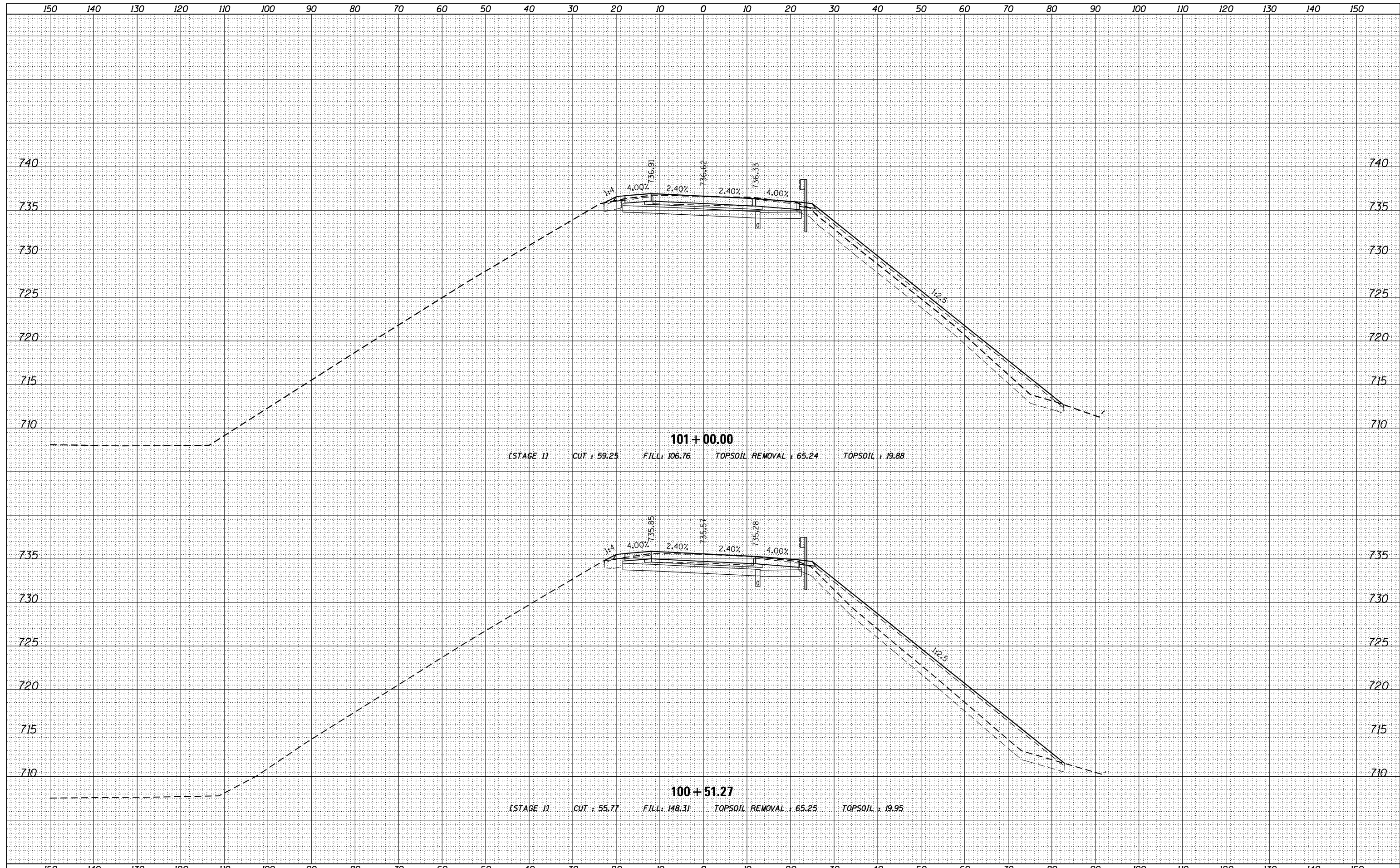
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ORIGINAL SURVEY	
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FINAL SURVEY	SURVEYED
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NOTE BOOK	PLOTTED
NO.	TEMPLATE
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

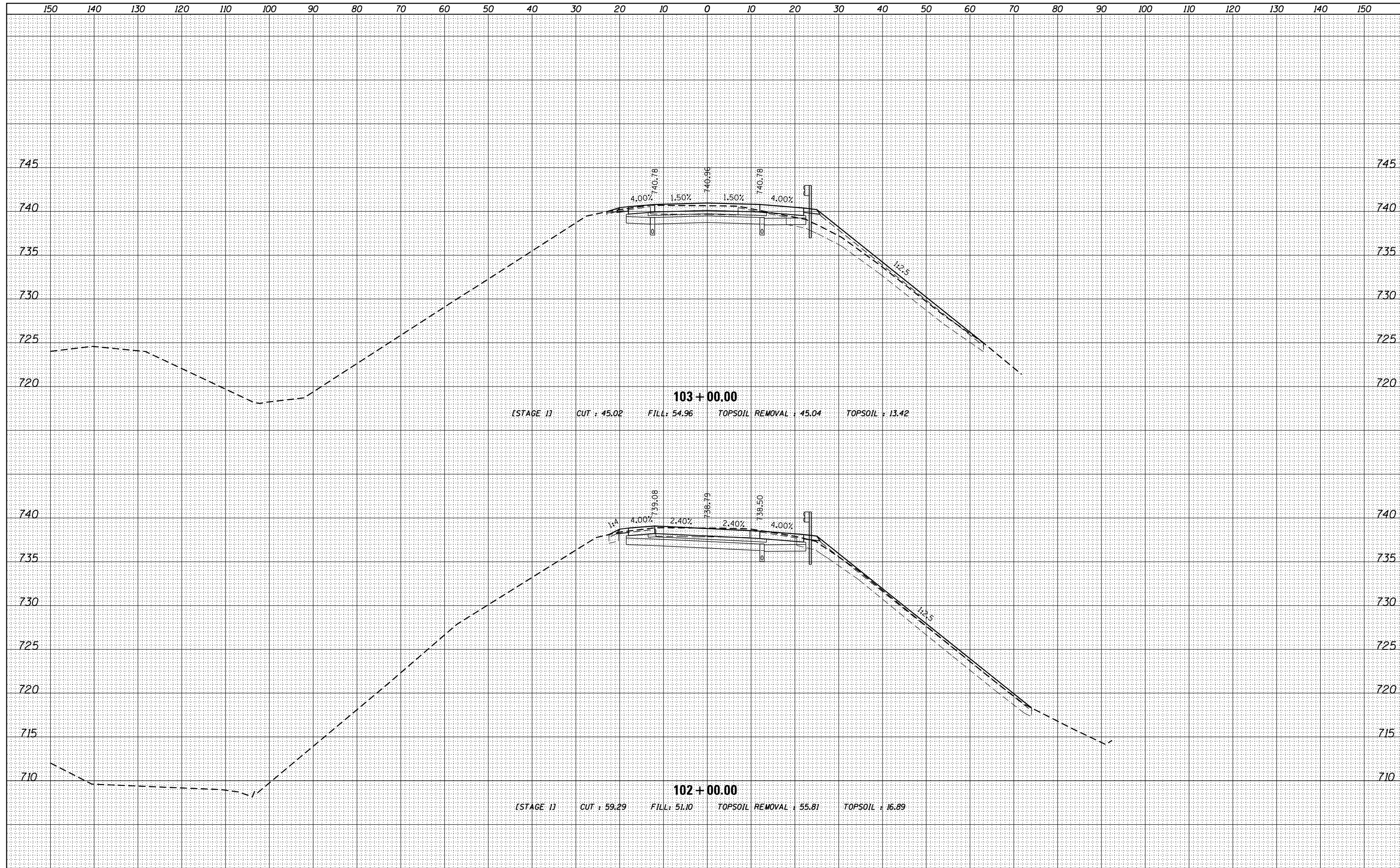
**CROSS SECTIONS  
NB US-41 TO NB I-94**

SCALE:  $\frac{1}{4}'' = 10'$  SHEET 99 OF 110 SHEETS STA. 100+51.27 TO STA. 101+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	603A
				CONTRACT NO. 60L77
ILLINOIS FED. AID PROJECT				

DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED

DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED



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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

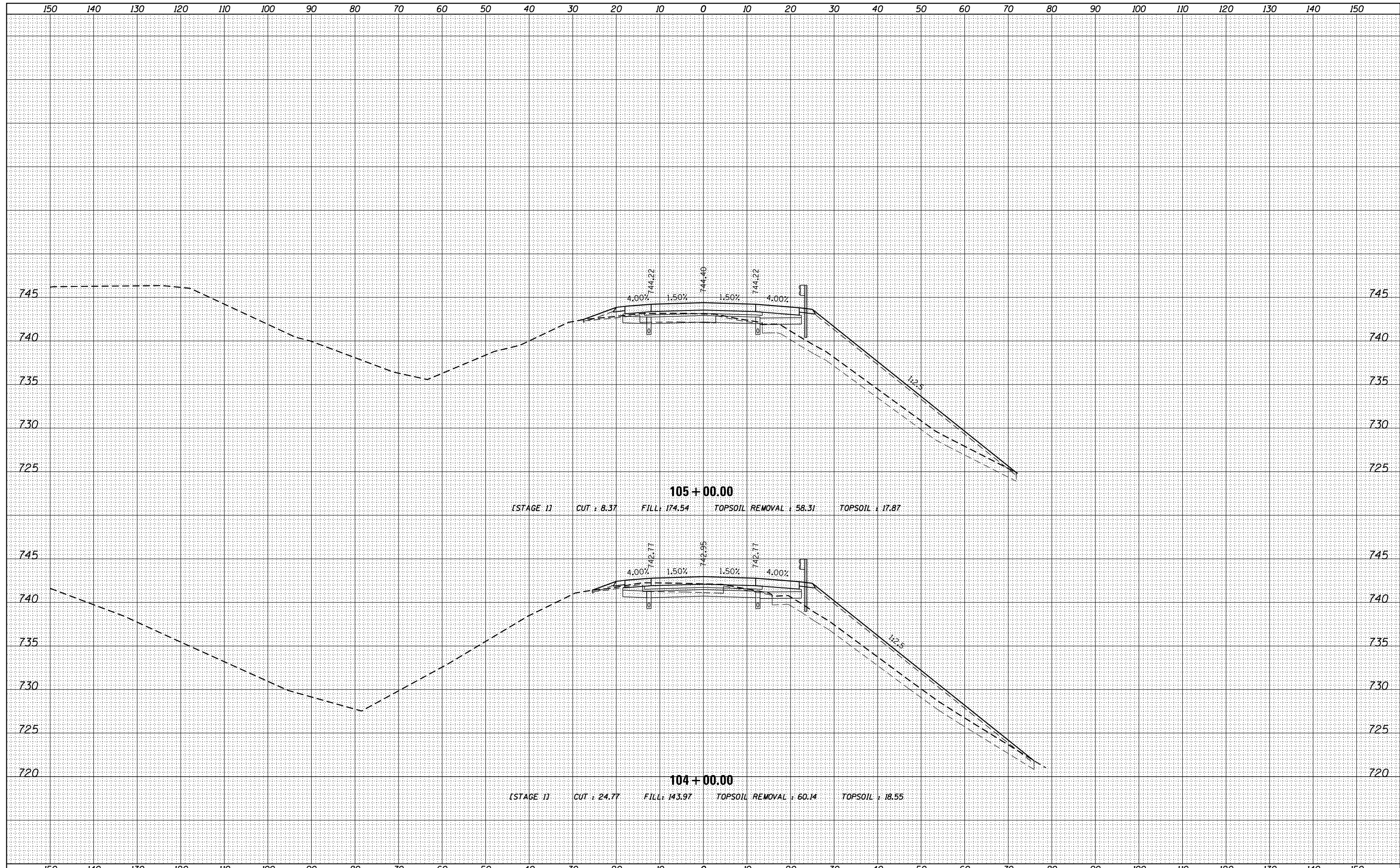
**CROSS SECTIONS  
NB US-41 TO NB I-94**

SCALE:  $\frac{H}{V} = \frac{1''}{10'}$  SHEET 100 OF 110 SHEETS STA. 102+00.00 TO STA. 103+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	603B
				CONTRACT NO. 60L77
ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
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DATE	
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SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	



**105 + 00.00**  
 [STAGE 1] CUT : 8.37 FILL : 174.54 TOPSOIL REMOVAL : 58.31 TOPSOIL : 17.87

**104 + 00.00**  
 [STAGE 1] CUT : 24.77 FILL : 143.97 TOPSOIL REMOVAL : 60.14 TOPSOIL : 18.55

FILE NAME =  
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

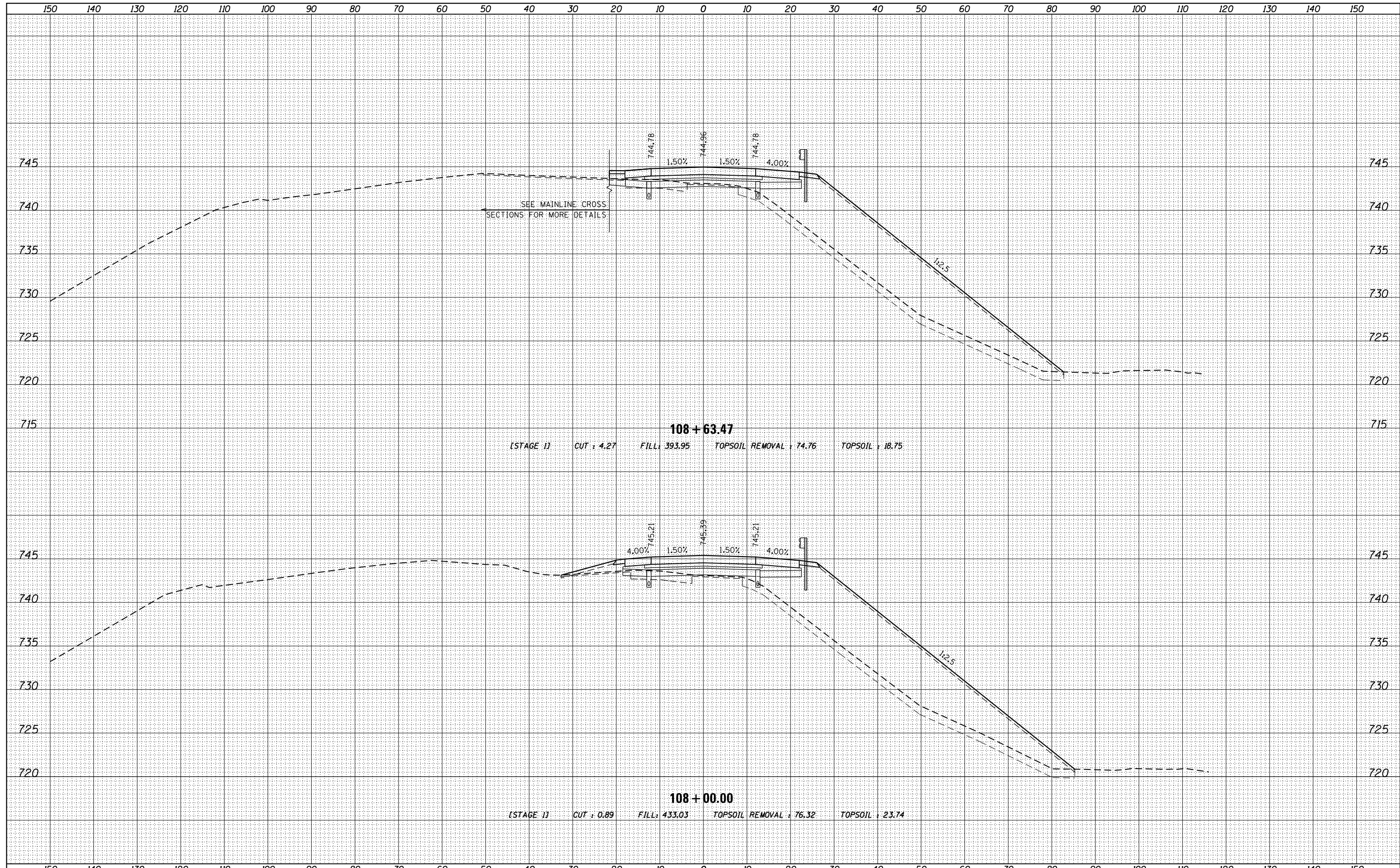
**CROSS SECTIONS  
 NB US-41 TO NB I-94**  
 SCALE:  $\frac{1}{4}'' = 10'$  SHEET 101 OF 110 SHEETS STA. 104+00.00 TO STA. 105+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	603C
CONTRACT NO. 60L77			ILLINOIS FED. AID PROJECT	



DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
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DATE	
BY	
SURVEYED	
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TEMPLATE	
AREAS	
CHECKED	
NO.	



**108 + 63.47**  
 [STAGE 1] CUT : 4.27 FILL : 393.95 TOPSOIL REMOVAL : 74.76 TOPSOIL : 18.75

**108 + 00.00**  
 [STAGE 1] CUT : 0.89 FILL : 433.03 TOPSOIL REMOVAL : 76.32 TOPSOIL : 23.74

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

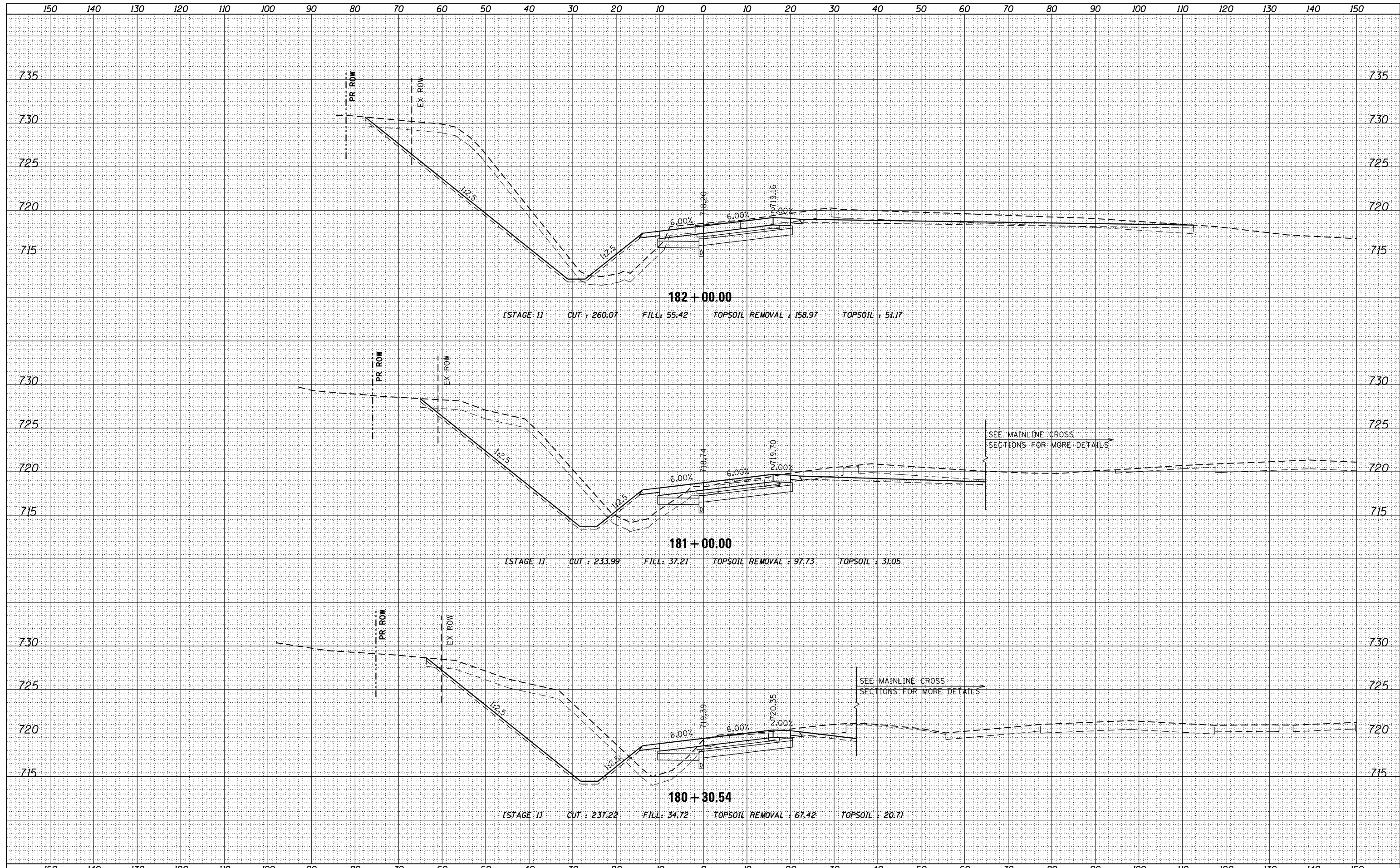
**CROSS SECTIONS  
 NB US-41 TO NB I-94**  
 SCALE:  $\frac{1}{4}'' = 10'$  SHEET 103 OF 110 SHEETS STA. 108+00.00 TO STA. 108+63.47

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	603E
CONTRACT NO. 60L77			ILLINOIS FED. AID PROJECT	



DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
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DATE	
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ORIGINAL SURVEY	
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PLOT DATE = 6/20/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS  
SB OLD US-41 TO SB I-94**

SCALE:  $\frac{H}{V} = \frac{1"}{10'} = \frac{1"}{5'}$  SHEET 104 OF 110 SHEETS STA. 180+30.54 TO STA. 182+00.00

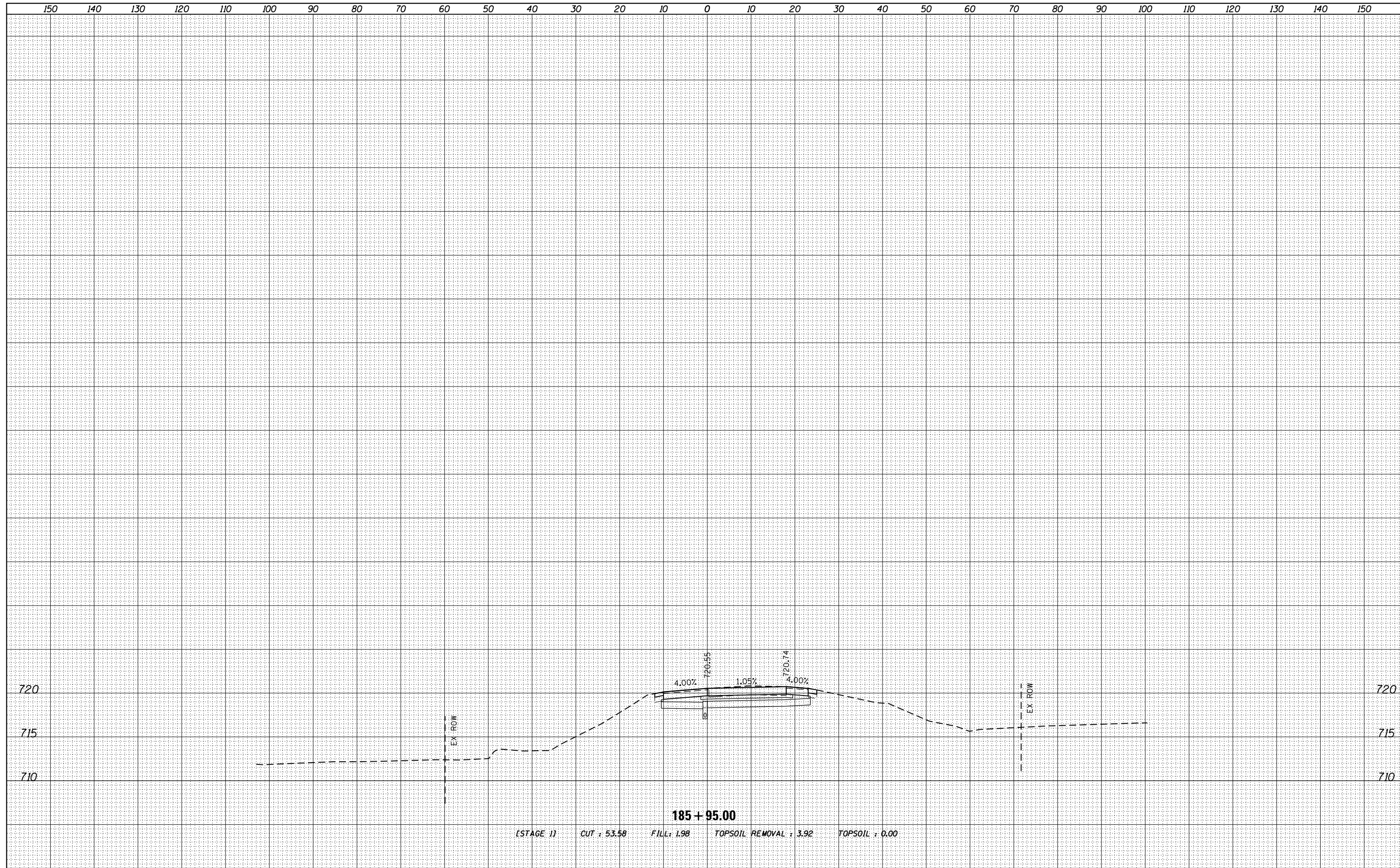
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94	49-1-R-1	LAKE	677	603F
				CONTRACT NO. 60L77

ILLINOIS FED. AID PROJECT



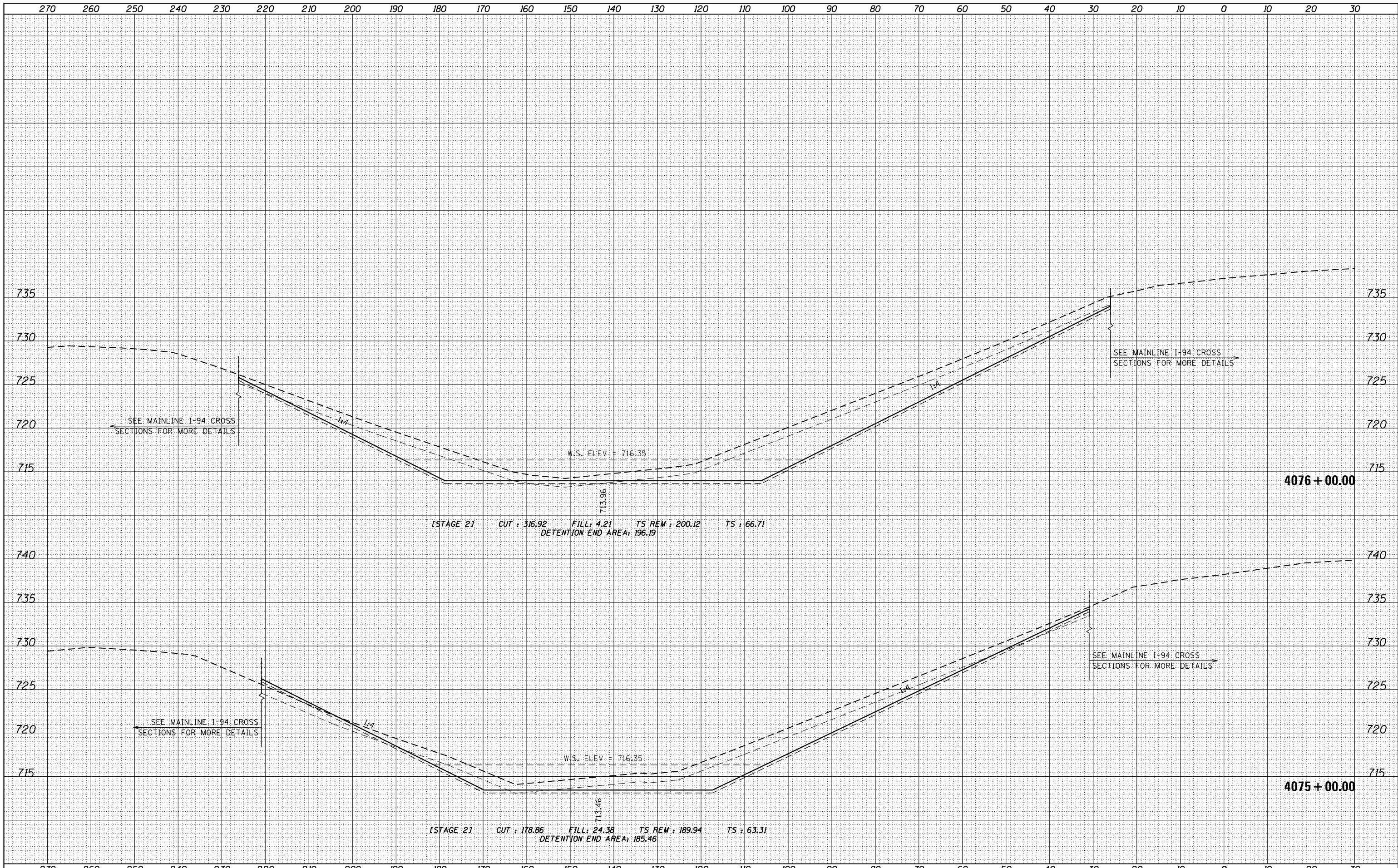
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NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED

DATE	
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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED



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	PLOT SCALE = H:1"=10' V:1"=5'	DRAWN -	REVISÉ -			94	49-1-R-1	LAKE	677	603H	
	PLOT DATE = 6/20/2012	CHECKED -	REVISÉ -			CONTRACT NO. 60L77					
		DATE -	REVISÉ -			SCALE: $\frac{H}{V} : 1'' = 10'$ $1'' = 5'$	SHEET 106 OF 110 SHEETS	STA. 185+95.00 TO STA. 185+95.00		ILLINOIS FED. AID PROJECT	





DATE	
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FINISHED SURVEY	
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TEMPLATE	
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DATE	
BY	
ORIGINAL SURVEY	
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

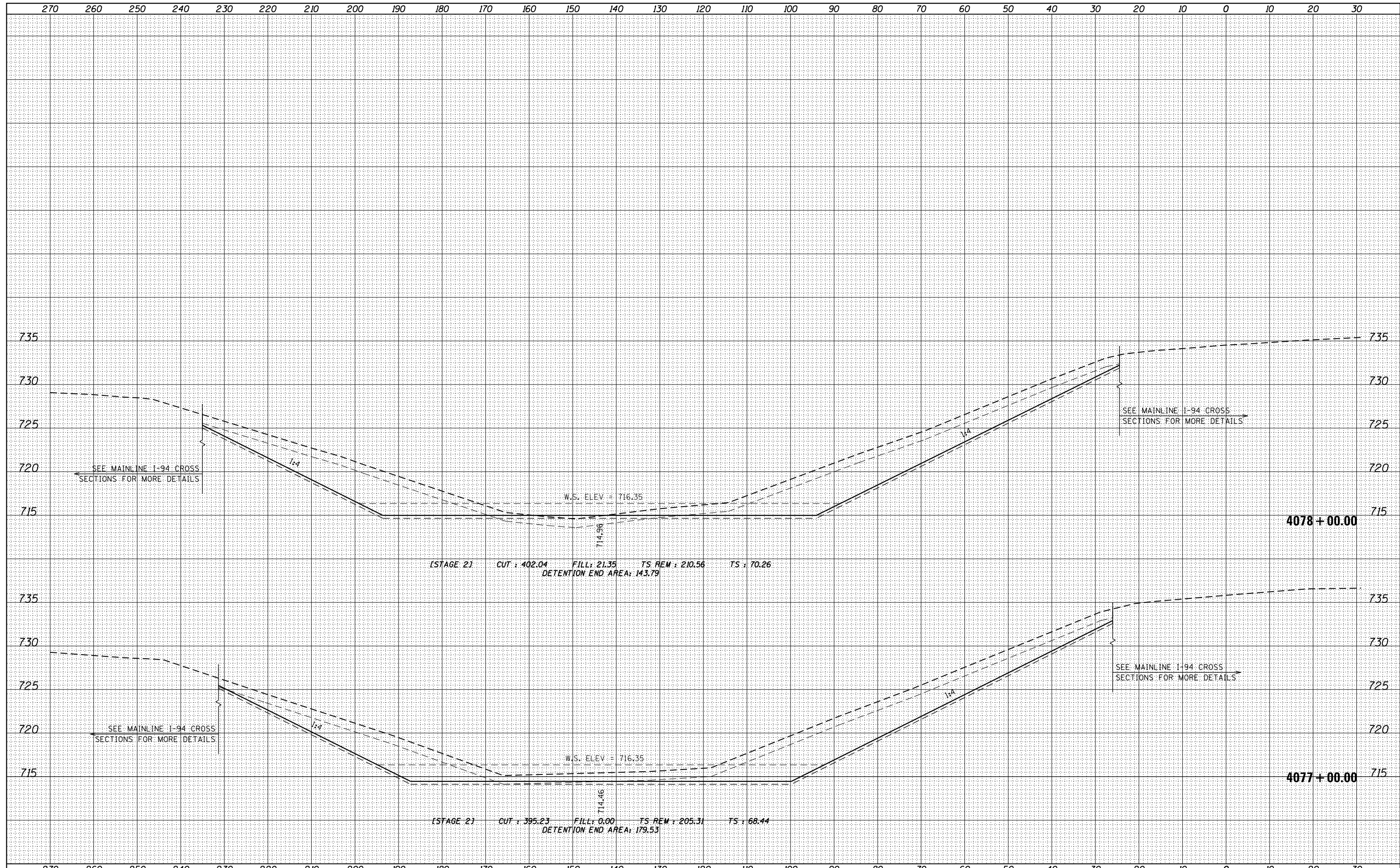
**CROSS SECTIONS  
DETENTION BASIN**

SCALE:  $\frac{1}{4}'' = 10'$  SHEET 108 OF 110 SHEETS STA. 4075+00.00 TO STA. 4076+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	603J
CONTRACT NO. 60L77			ILLINOIS FED. AID PROJECT	

DATE	
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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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	AREAS CHECKED

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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

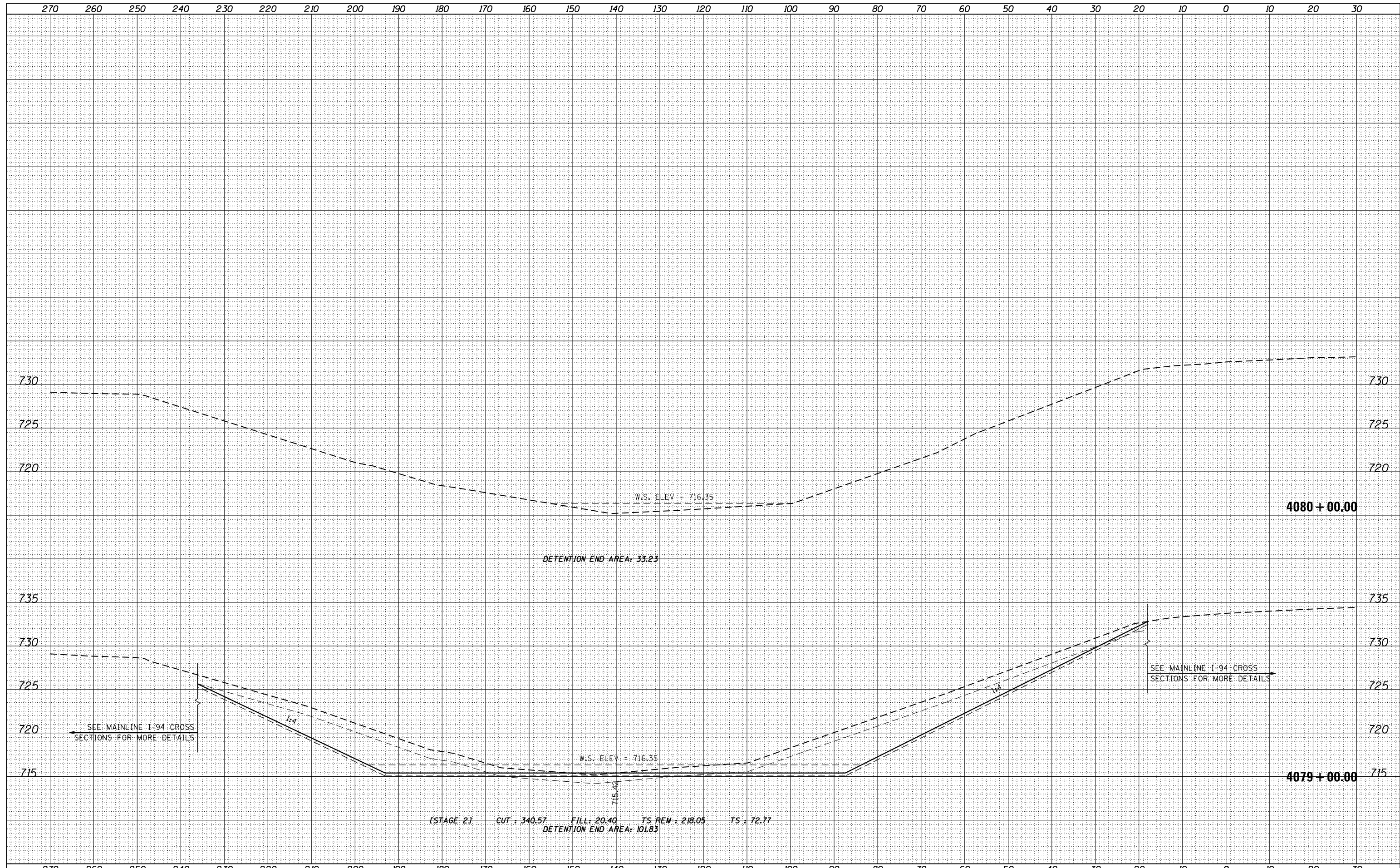
**CROSS SECTIONS  
DETENTION BASIN**

SCALE:  $\frac{1}{4}$ " = 1' =  $\frac{10}{1}$ "  
 SHEET 109 OF 110 SHEETS    STA. 4077+00.00 TO STA. 4078+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	603K
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

DATE	
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FINISHED SURVEY	
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TEMPLATE	
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CHECKED	
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DATE	
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ORIGINAL SURVEY	
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TEMPLATE	
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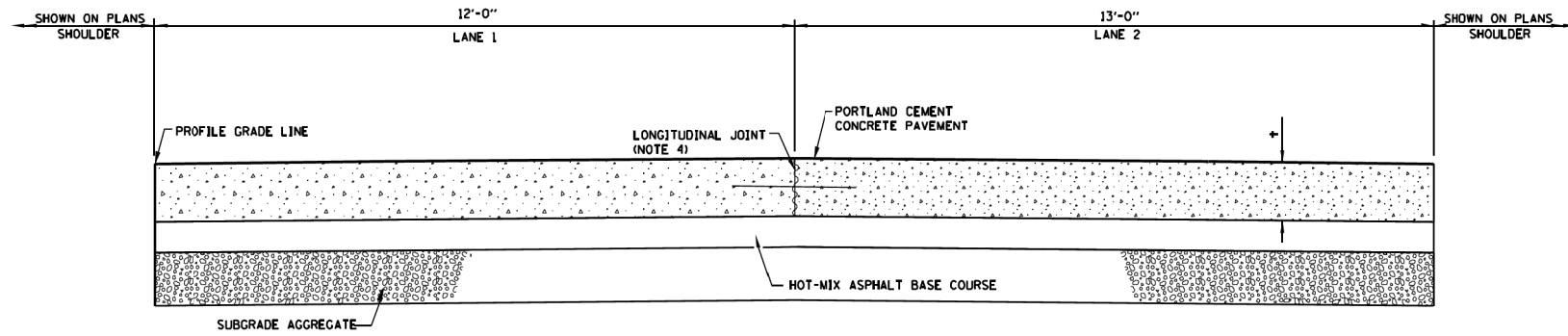
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS  
DETENTION BASIN

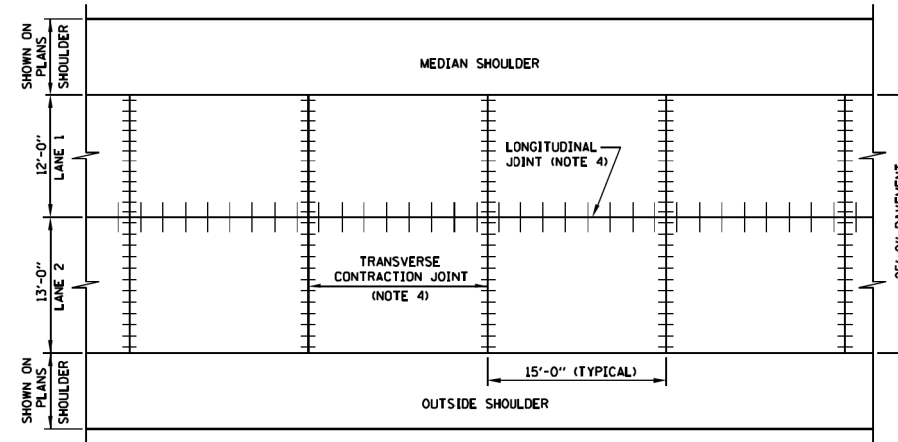
SCALE: H: 1" = 10' V: 1" = 5' SHEET 110 OF 110 SHEETS STA. 4079+00.00 TO STA. 4080+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	603L
				CONTRACT NO. 60L77

ILLINOIS FED. AID PROJECT



PAVEMENT CROSS - SECTION (2 LANES)



PAVEMENT PLAN  
2 - LANE SECTION

GENERAL NOTES:

1. DOWEL BASKET ASSEMBLIES, WHERE USED, SHALL BE SUPPORTED AND ANCHORED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
2. WHEN ADJACENT LANES ARE NOT BUILT IN ONE OPERATION, A LONGITUDINAL JOINT SHALL BE REPLACED WITH BULKHEAD LONGITUDINAL JOINT.
3. MATERIALS ARE PROJECT SPECIFIC. REFER TO PROJECT PLANS AND CONTRACT DOCUMENTS FOR DETAILS.
4. SEE STANDARD A7 (PAVEMENT JOINTS) AND IDOT STANDARD 420001 (PAVEMENT JOINTS) FOR DETAILS OF JOINTS AND TIE BARS NOT SHOWN.
5. PAVEMENT DESIGNS ARE PROJECT SPECIFIC. OTHER MATERIALS MAY BE SUBSTITUTED FOR HOT-MIX ASPHALT BASE COURSE AND SUBGRADE AGGREGATE. REFER TO PROJECTS PLANS FOR DETAILS AND MATERIAL THICKNESS.

SHEET 1 OF 2



DATE	REVISIONS
5-1-2009	DELETED BLOCK-OUTS DETAIL, REMOVED SHOULDER DIMENSIONS

J.P.C. PAVEMENT  
12" OR LESS

STANDARD A5-01

*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 5-1-2009 ...

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312.228.0100  
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FILE NAME = \$FILES\$	USER NAME = default	DESIGNED -	REVISED -
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

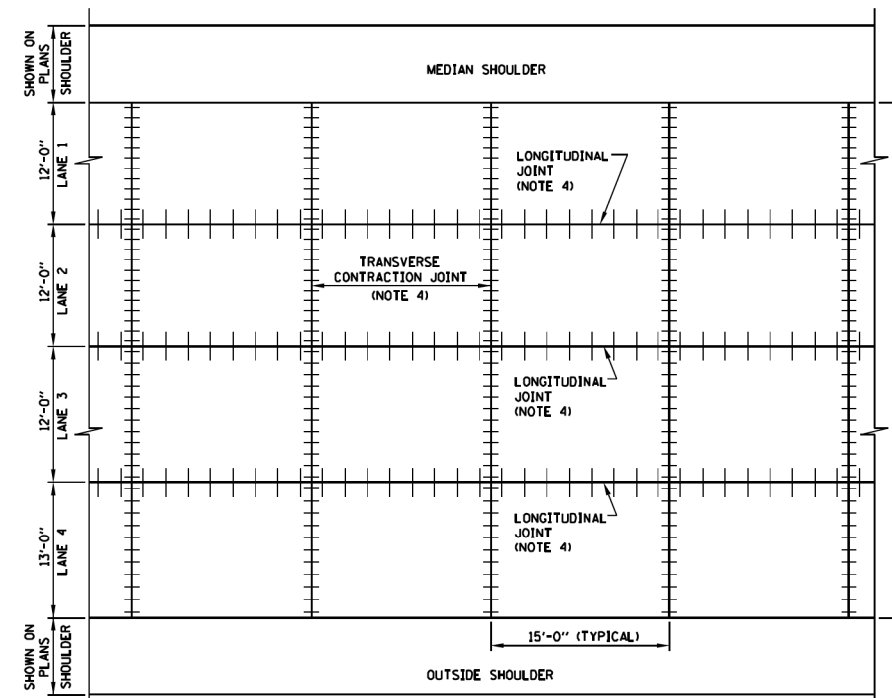
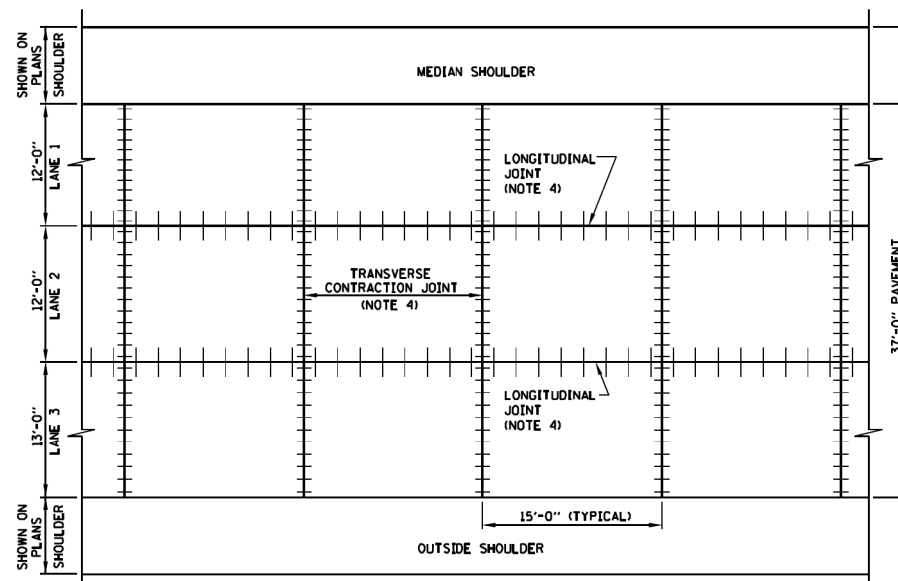
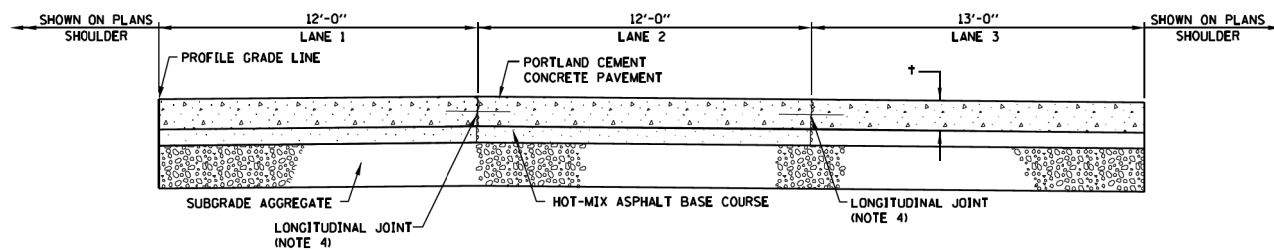
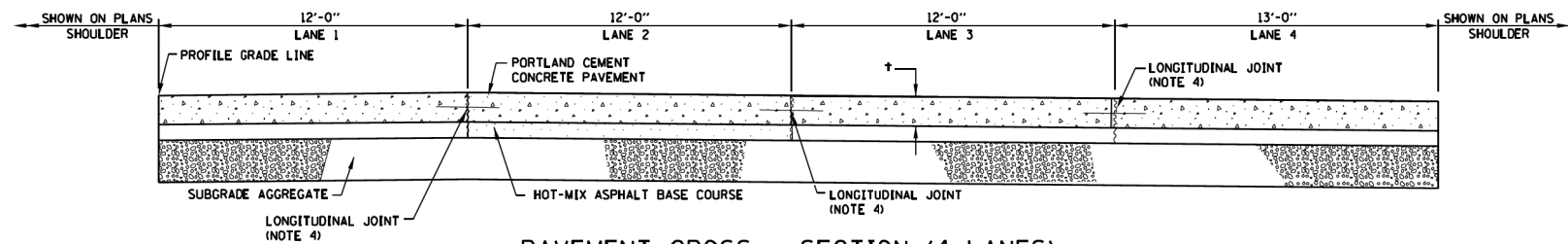
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	604
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009...

SEE SHEET 1 (OF 1) IN THIS SERIES FOR GENERAL NOTES.

SHEET 2 OF 2

**Illinois Tollway**  
Open Roads for a Faster Future

J.P.C. PAVEMENT  
12" OR LESS

STANDARD A5-01

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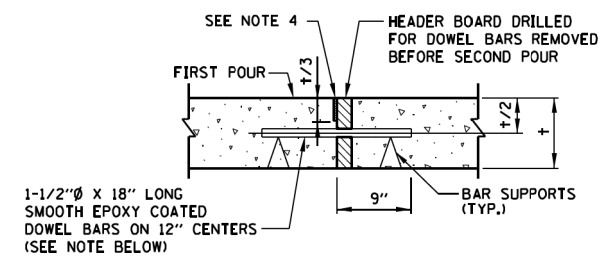
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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94	49-1-R-1	LAKE	677	605
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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NOTE: FOR 13" PAVEMENT USE THE FOLLOWING  
 1-1/2"Ø X 18" LONG ON 9" CENTERS OR  
 1-3/4"Ø X 18" LONG ON 12" CENTERS

**TRANSVERSE CONSTRUCTION JOINT  
 (JOINTED PLAIN CONCRETE PAVEMENT)**

**GENERAL NOTES**

1. DOWEL BAR CAPS SHALL BE PLACED ON OPPOSITE END OF ADJACENT DOWEL BARS.
2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.
3. + = PAVEMENT THICKNESS
4. A 3/8" SAW CUT SHALL BE PROVIDED FOR PAVEMENT CRACK CONTROL.

*Paul Kovacs*  
 APPROVED ..... CHIEF ENGINEER ..... DATE 5-1-2009 ...

DATE	REVISIONS
5-1-2009	MODIFIED JOINT DETAIL, REVISED NOTES

**Illinois Tollway**  
*Open Roads for a Faster Future*

PAVEMENT JOINTS

STANDARD A7-01

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FILE NAME = \$FILES\$	USER NAME = default	DESIGNED -	REVISED -
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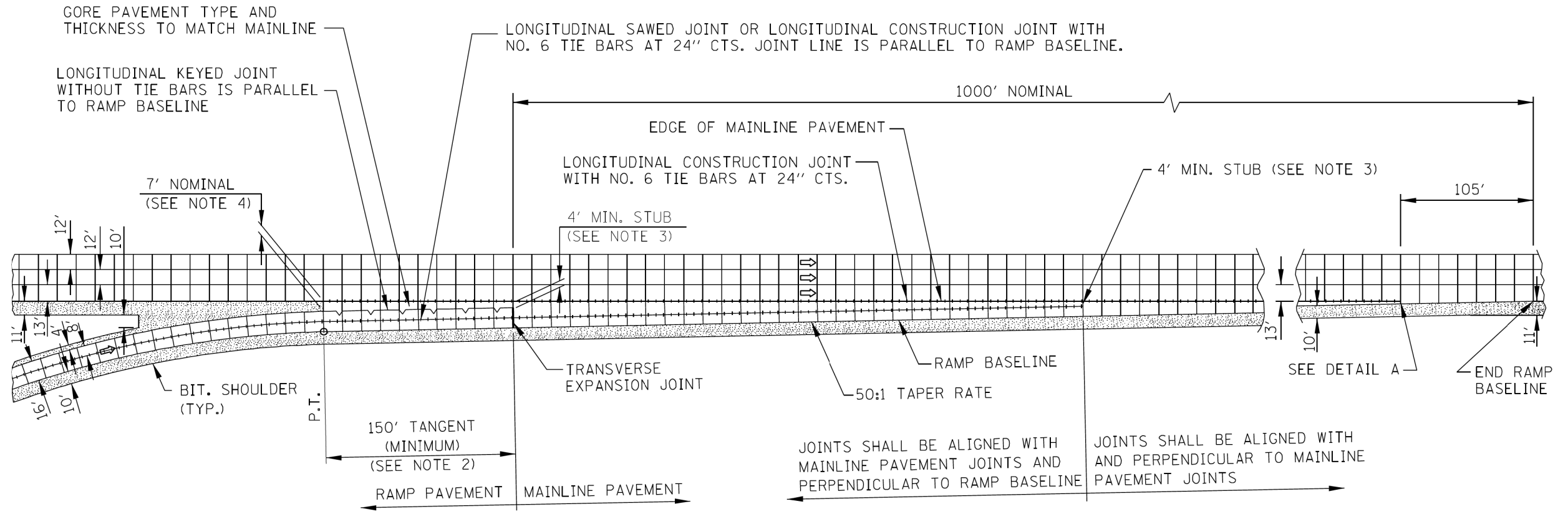
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 DEPARTMENT OF TRANSPORTATION**

**TOLLWAY STANDARD DRAWING**

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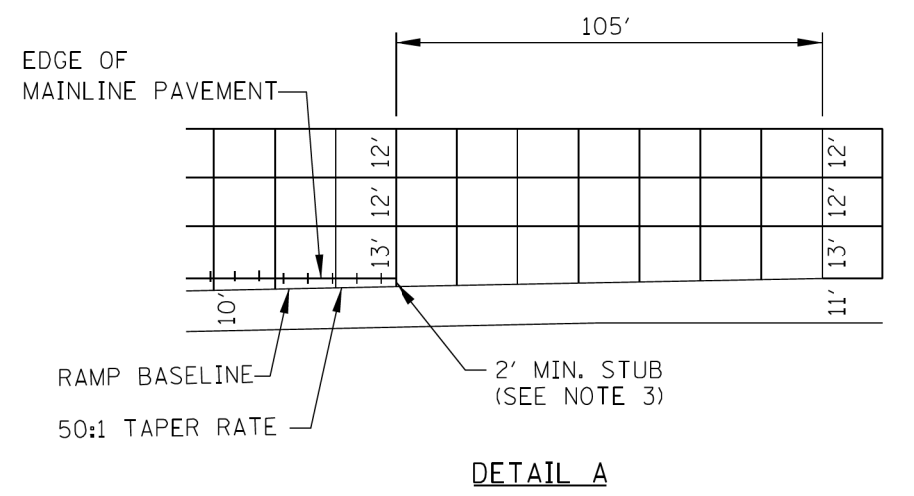
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94	49-1-R-1	LAKE	677	606
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**NOTES:**

1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON I.D.O.T. HWY. STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEALER.
2. THE THICKNESS OF THE JOINTED RAMP PAVEMENT IN THE TANGENT AREA SHALL MATCH THE MAINLINE PAVEMENT. THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
3. STUBS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
4. 7' NOSE LOCATION SHALL BE ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
5. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15'.
6. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATION IN THE WHEEL PATH SHALL BE MINIMIZED.



APPROVED *Jeff Haley* CHIEF ENGINEER DATE 10-15-2007

SHEET 1 OF 2

**Illinois Tollway**  
Open Roads for a Faster Future

DATE	REVISIONS

JOINTING PLAN  
ENTRANCE RAMP TERMINAL  
(JOINTED PCC RAMP PAVEMENT ADJACENT  
TO JOINTED PCC MAINLINE PAVEMENT)  
STANDARD A14-00

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FILE NAME = \$FILES\$	USER NAME = default	DESIGNED -	REVISED -
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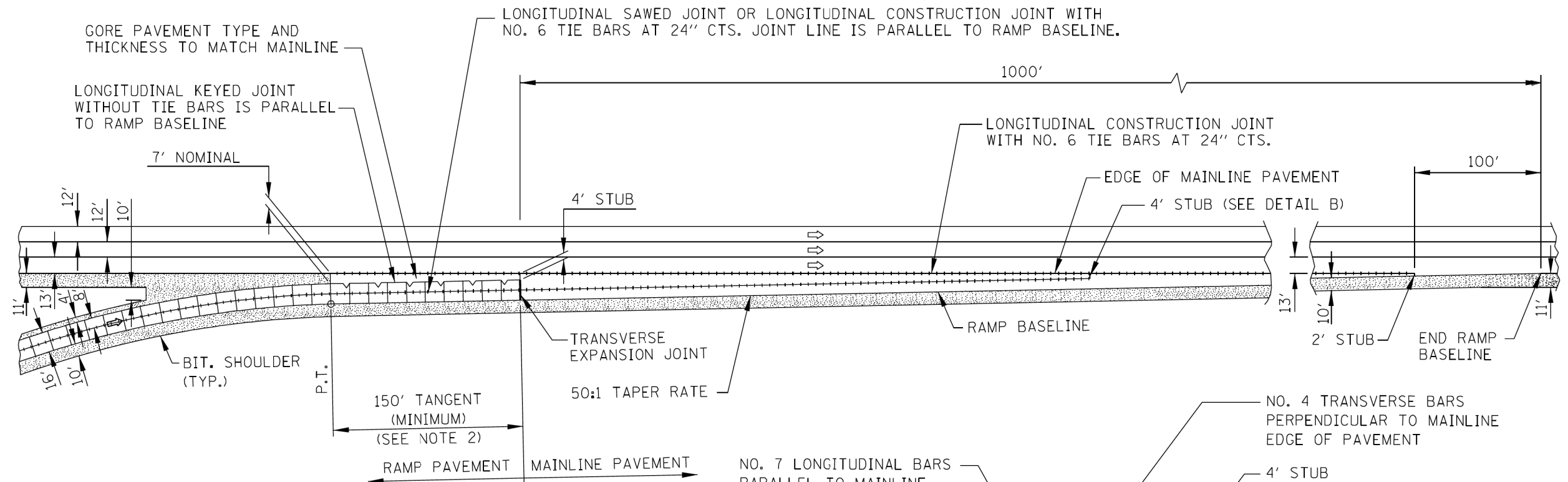
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DEPARTMENT OF TRANSPORTATION

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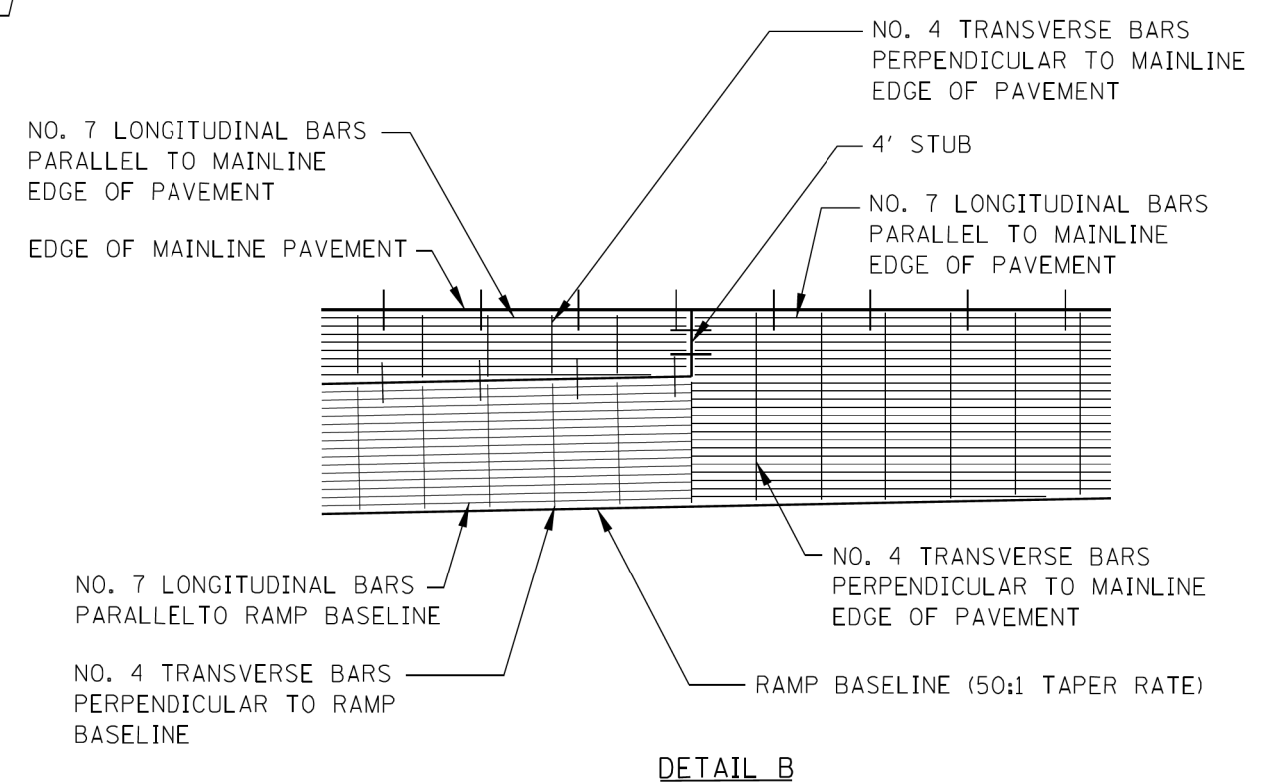
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94	49-1-R-1	LAKE	677	607
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**NOTES:**

1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON I.D.O.T. HWY. STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEALER.
2. THE THICKNESS OF THE JOINTED RAMP PAVEMENT IN THE TANGENT AREA SHALL MATCH THE MAINLINE PAVEMENT. THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
3. SEE STANDARD A12 (BAR REINFORCEMENT FOR CRC PAVEMENT) FOR DETAILS OF PAVEMENT REINFORCEMENT.
4. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15 FEET.
5. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL JOINT SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.



APPROVED *Jeff Daley* DATE 10-15-2007  
CHIEF ENGINEER

SHEET 2 OF 2

**Illinois Tollway**  
*Open Roads for a Faster Future*

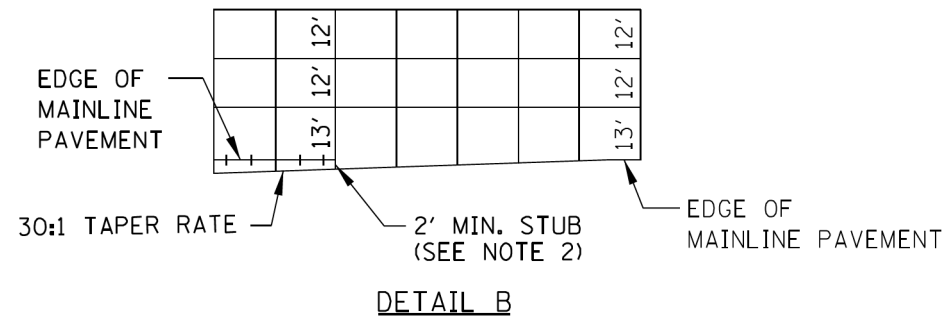
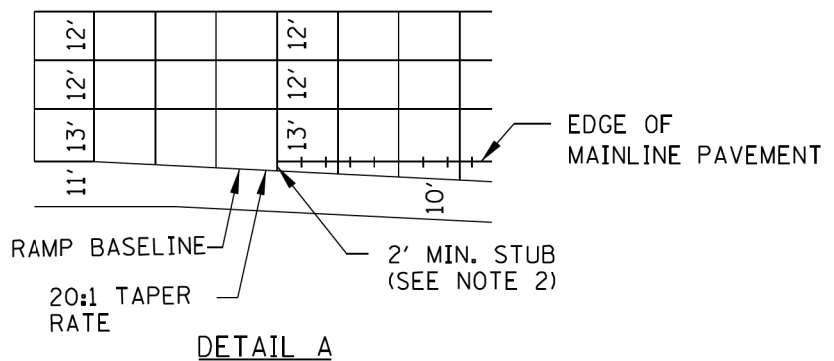
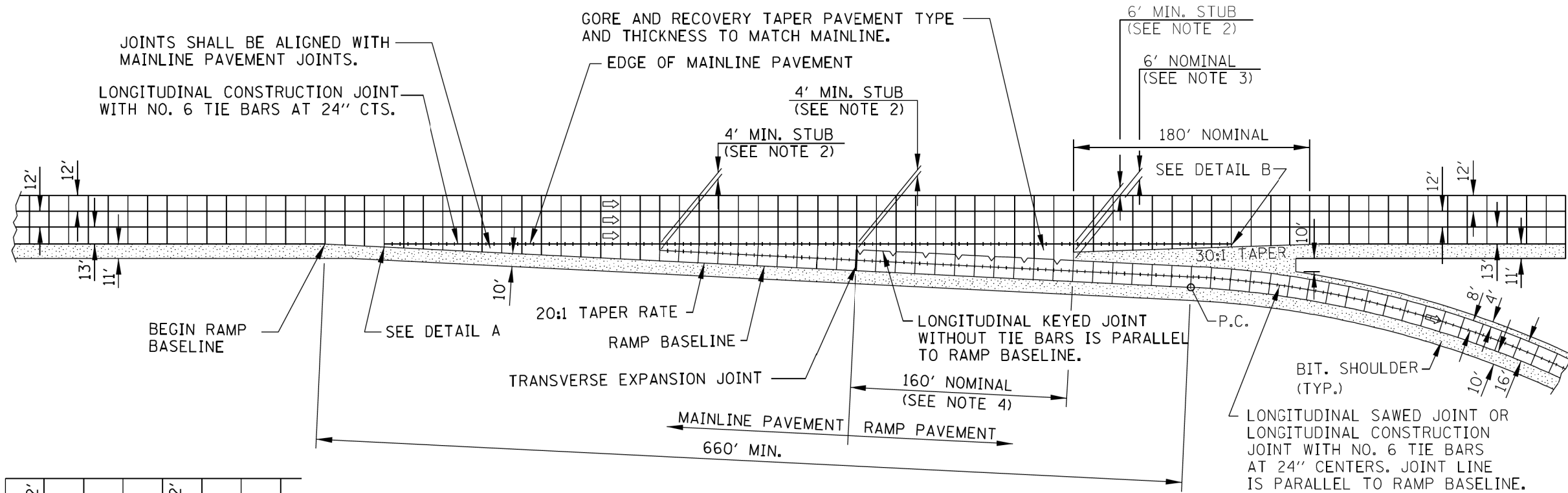
JOINTING PLAN  
 ENTRANCE RAMP TERMINAL  
 (JOINTED PCC RAMP PAVEMENT ADJACENT  
 TO JOINTED CRC MAINLINE PAVEMENT)

STANDARD A14-00

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		DRAWN -	REVISED -							
		CHECKED - RGR	REVISED -							
		DATE - 6/19/2012	REVISED -							
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**NOTES:**

1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON I.D.O.T. HWY. STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEALER.
2. STUBS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
3. 6-FOOT NOSE LOCATION SHALL BE ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
4. THE THICKNESS OF THE JOINTED RAMP PAVEMENT IN THE TANGENT AREA SHALL MATCH THE MAINLINE PAVEMENT. THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
5. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15 FEET.
6. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.

APPROVED *Jeff Daley* CHIEF ENGINEER DATE 10-15-2007

SHEET 1 OF 2



DATE	REVISIONS

JOINTING PLAN  
EXIT RAMP TERMINAL  
(JOINTED PCC RAMP PAVEMENT ADJACENT  
TO JOINTED PCC MAINLINE PAVEMENT)  
STANDARD A15-00

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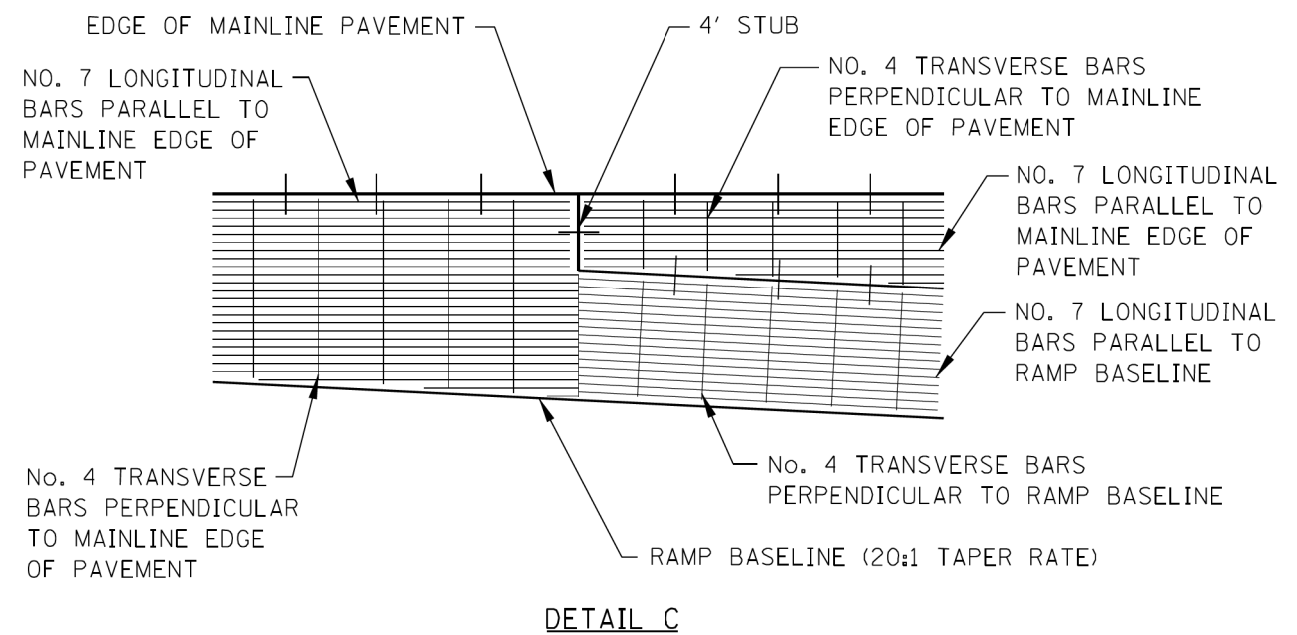
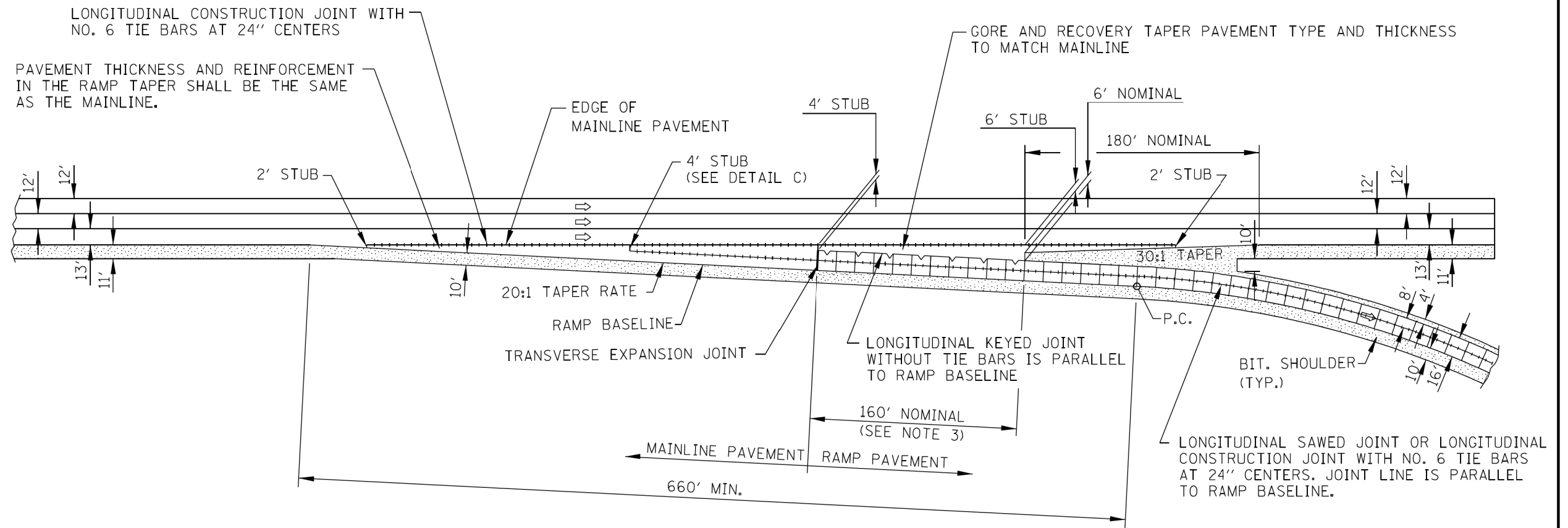
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DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

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	609
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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- NOTES:**
1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON I.D.O.T. HWY. STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEALER.
  2. SEE STANDARD A12 (BAR REINFORCEMENT FOR CRC PAVEMENT) FOR DETAILS OF PAVEMENT REINFORCEMENT.
  3. THE THICKNESS OF THE JOINTED RAMP PAVEMENT IN THE TANGENT AREA SHALL MATCH THE MAINLINE PAVEMENT. THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
  4. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15 FEET.
  5. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL JOINT SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.

APPROVED *Jeff Daley* CHIEF ENGINEER DATE 10-15-2007

SHEET 2 OF 2

JOINTING PLAN  
EXIT RAMP TERMINAL  
(JOINTED PCC RAMP PAVEMENT ADJACENT TO CRC MAINLINE PAVEMENT)

STANDARD A15-00

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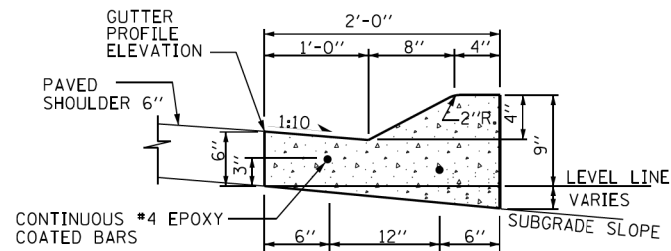
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DEPARTMENT OF TRANSPORTATION**

**TOLLWAY STANDARD DRAWING**

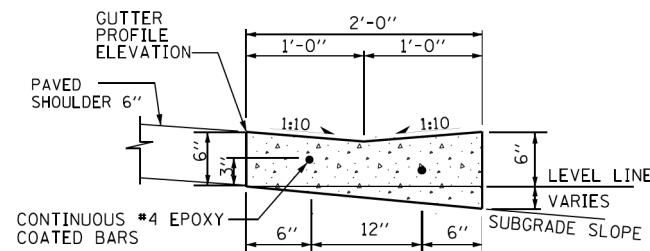
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

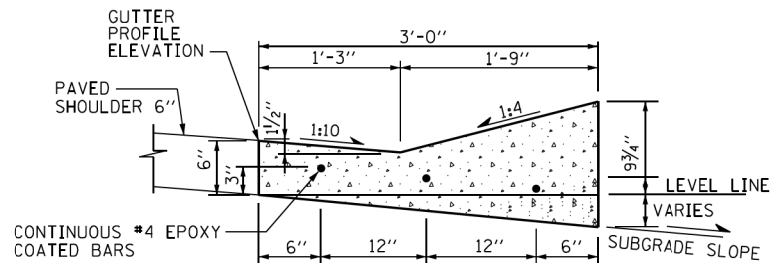
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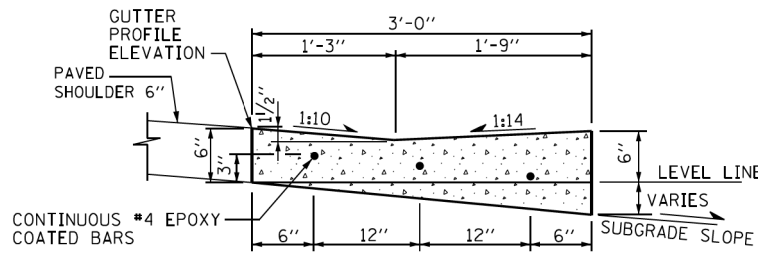
**TYPE G-2 GUTTER**



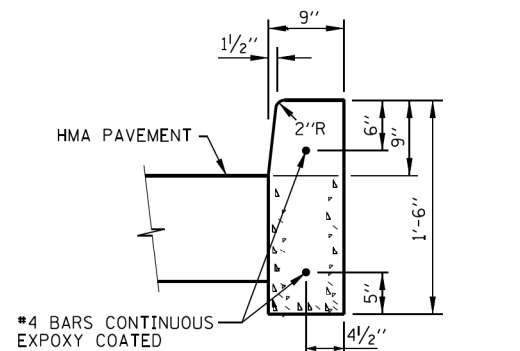
**TYPE G-2, MODIFIED GUTTER**



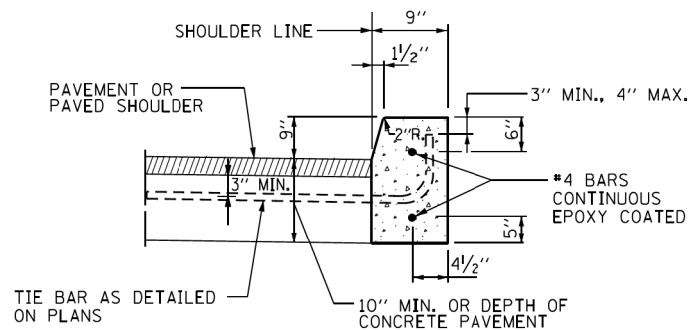
**TYPE G-3 GUTTER**



**TYPE G-3, MODIFIED GUTTER**



**ADJACENT TO FLEXIBLE PAVEMENT**



**ADJACENT TO PCC PAVEMENT**

**TYPE "C" CURB**  
(RAMP TOLL PLAZAS ONLY)

**NOTES:**

- FOR TYPE C CURB TRANSITIONS, THE LEADING ENDS OF CURB IN THE DIRECTION OF TRAFFIC SHALL BEGIN FLUSH WITH ADJACENT PAVEMENT OR SHOULDER SURFACE AND TRANSITION TO FULL HEIGHT AT THE RATE OF ONE INCH VERTICAL TO ONE FOOT HORIZONTAL.
- | GUTTER TRANSITION DETAILS                    | STANDARD DRAWING |
|--|------------------|
| TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)   | B-28             |
| TRAFFIC BARRIER TERMINAL TYPE T1-A (SPECIAL) | B-29             |
| TRAFFIC BARRIER TERMINAL TYPE T5 AND T10     | B-2              |
| TRAFFIC BARRIER TERMINAL TYPE T6             | B-3              |
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
- REINFORCEMENT STEEL SHALL BE ACCURATELY PLACED AND FIRMLY HELD IN THE POSITION SPECIFIED USING EPOXY COATED STEEL CHAIRS. CHAIR SPACING SHALL NOT EXCEED, 4'-0".
- GUTTER REINFORCEMENT SHALL BE PLACED 3" ABOVE BOTTOM OF GUTTER FOLLOWING THE SUBGRADE SLOPE.
- OTHER GUTTER AND CURB TRANSITION DETAILS WILL BE SHOWN ON THE PLANS.
- CONTINUOUS #4 BARS SHALL BE LAPPED A MINIMUM OF 2'-0" IN ACCORDANCE WITH THE LATEST IDOT-BRIDGE MANUAL.

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

SHEET 1 OF 2

**GUTTER AND CURB DETAILS**

STANDARD B1-04

DATE	REVISIONS
3-1-2010	ADDED G-2 MODIFIED GUTTER AND GUTTER TRANSITION TERMINATION
1-1-2011	ADDED TYPE "C" CURB ADJACENT TO FLEXIBLE PAVEMENT, ADDED GUTTER EXPANSION/CRACK CONTROL JOINT, REVISED NOTES.
2-7-2012	REVISED NOTES

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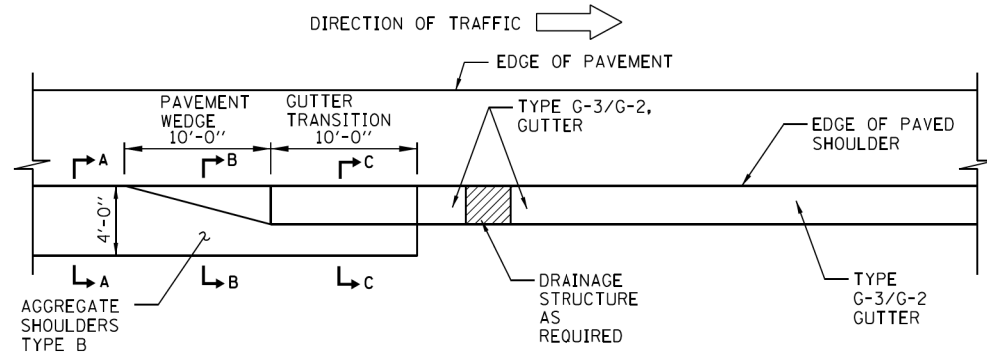
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**TOLLWAY STANDARD DRAWING**

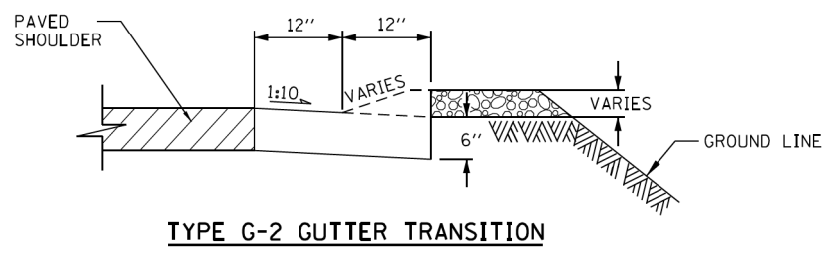
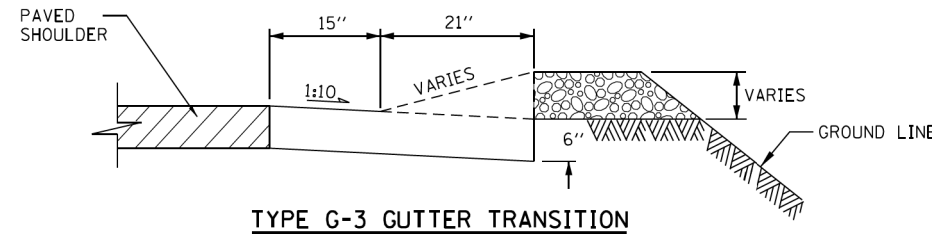
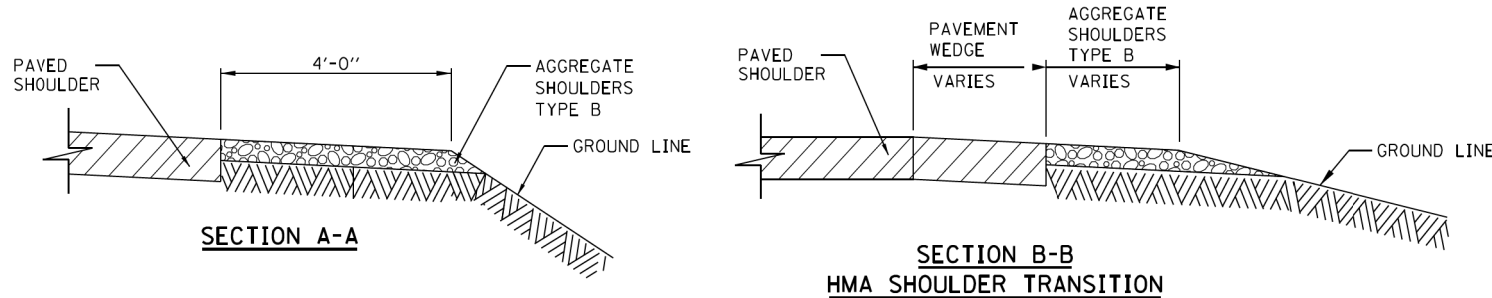
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

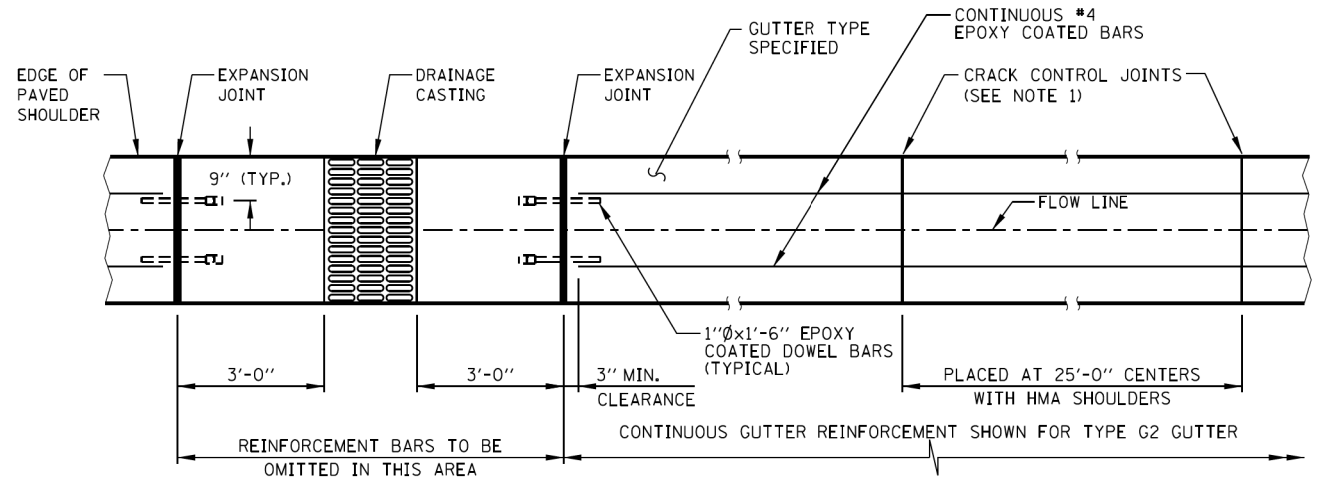
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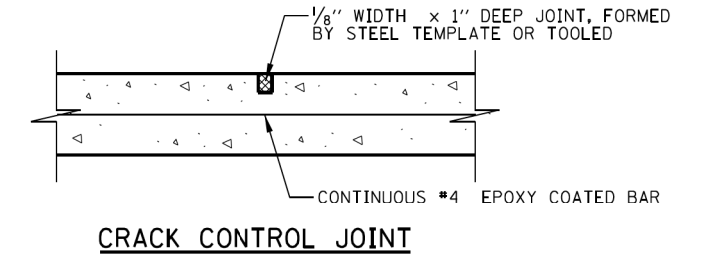
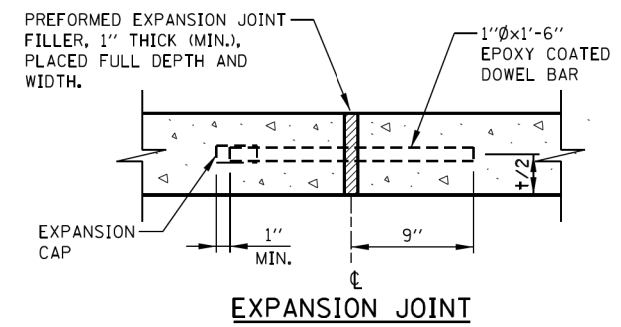
**GUTTER TRANSITION TERMINATION**



**SECTION C-C**



**GUTTER PLAN**



**EXPANSION-CRACK CONTROL JOINTS  
TYPE G-3/G-2 GUTTER**

**NOTES:**

- GUTTER CRACK CONTROL JOINTS TO ALIGN IN PROLONGATION WITH PCC SHOULDER JOINTS WHERE EXISTING.
- SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 2 OF 2

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

**Illinois Tollway**  
*Open Roads for a Faster Future*

GUTTER AND CURB DETAILS

STANDARD B1-04

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DEPARTMENT OF TRANSPORTATION**

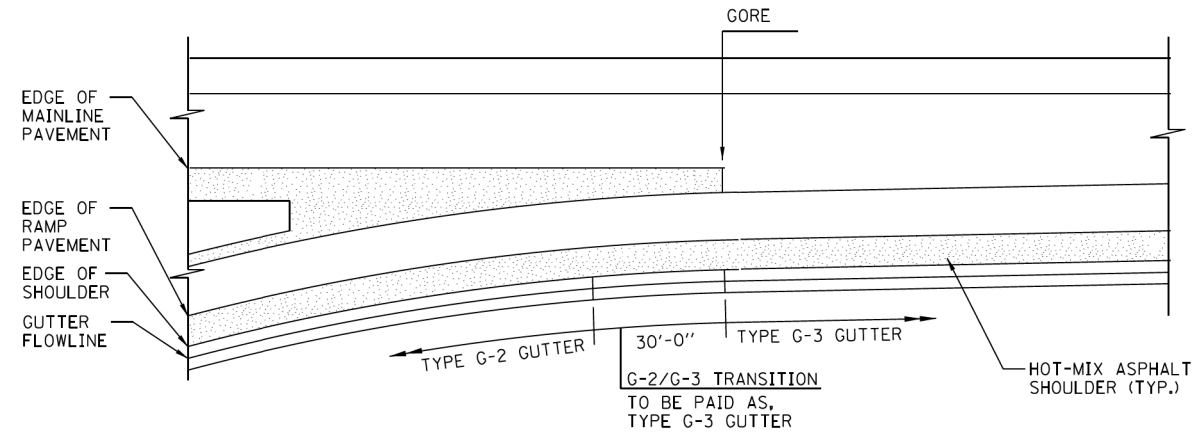
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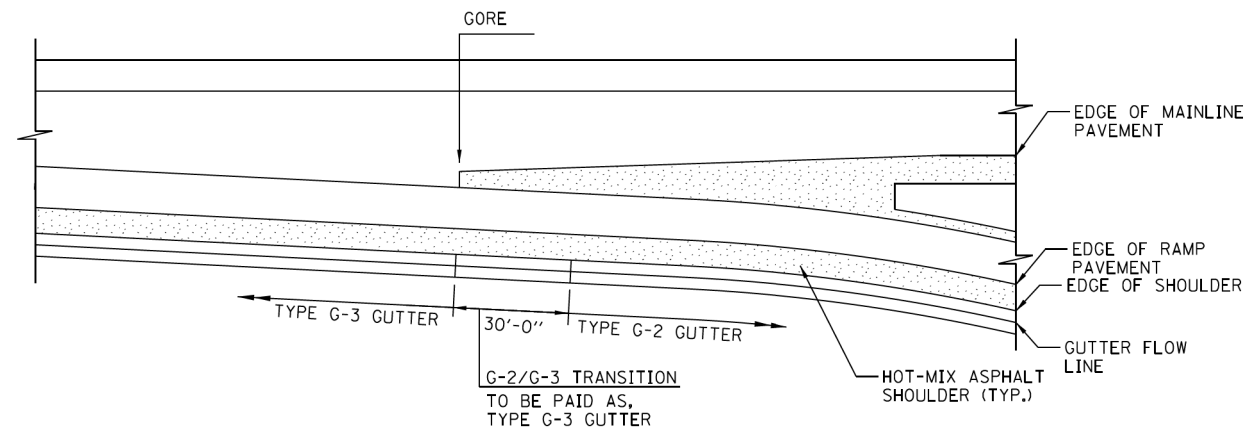
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94	49-1-R-1	LAKE	677	612
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**GUTTER TRANSITION AT ENTRANCE RAMP TERMINALS**




**GUTTER TRANSITION AT EXIT RAMP TERMINALS**

**GUTTER TRANSITION NOTES:**

1. PROVIDE 1" EXPANSION JOINT WITH PREFORMED JOINT FILLER BETWEEN TRANSITION SECTION AND WINGWALL.
2. SEE STANDARD B3 FOR GUTTER TRANSITIONS AT BRIDGE APPROACH.
3. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
4. REINFORCEMENT STEEL SHALL BE ACCURATELY PLACED AND FIRMLY HELD AT THE POSITION USING EPOXY COATED CHAIRS. CHAIR SPACING SHALL NOT EXCEED 4'-0".
5. GUTTER REINFORCEMENT SHALL BE PLACED 3" ABOVE BOTTOM OF GUTTER FOLLOWING SUBGRADE SLOPE.
6. CONTINUOUS #4 BARS SHALL BE LAPPED A MINIMUM OF 2'-0" IN ACCORDANCE WITH THE LATEST IDOT MANUAL.

SHEET 1 OF 2

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

DATE	REVISIONS	 <b>Illinois Tollway</b> <i>Open Roads for a Faster Future</i>
6-1-2009	REVISED NOTES, MODIFIED G2/G3 GUTTER TRANSITIONS	
9-1-2009	ADDED GUTTER TRANSITION TERMINAL DETAIL	
3-1-2010	RELOCATED GUTTER TRANSITION DETAIL TO STANDARD B28, REVISED NOTES	
	REVISED TYPE G-3, G-2 GUTTER AT BRIDGE APPROACH	
2-7-2012	REVISED NOTES	

**TYPE G-2 AND G-3 GUTTER TRANSITIONS**

**STANDARD B2-04**

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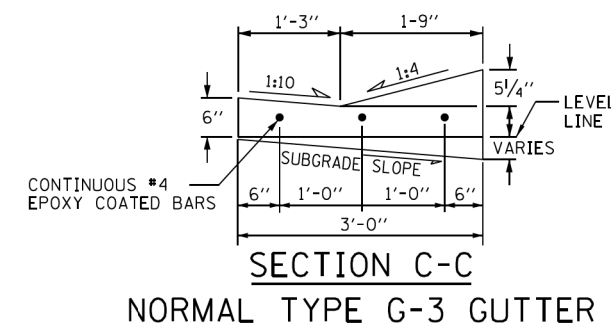
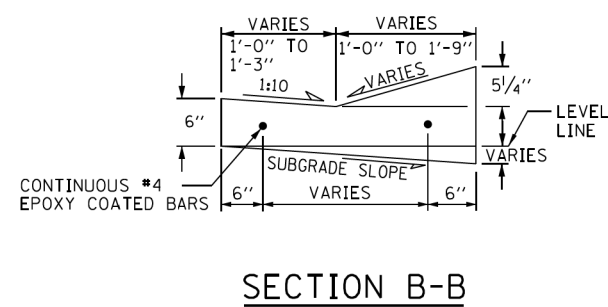
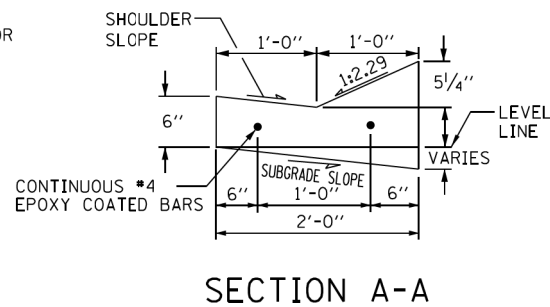
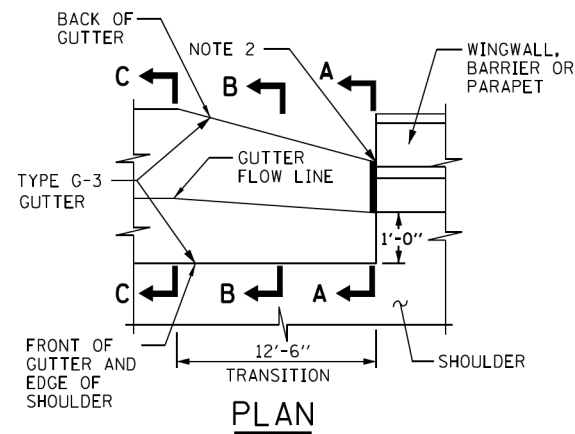
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 DEPARTMENT OF TRANSPORTATION**

**TOLLWAY STANDARD DRAWING**

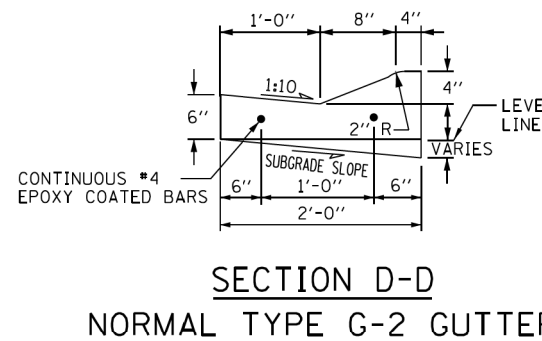
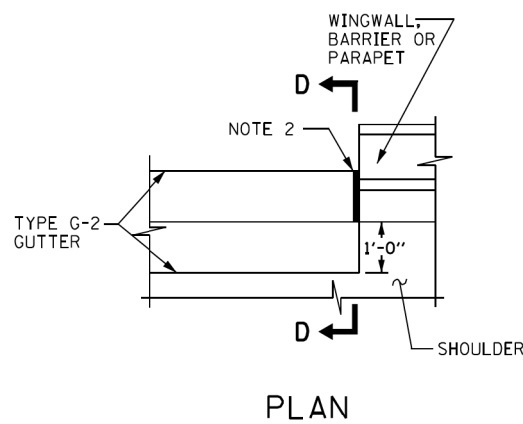
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	613
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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TYPE G-3 GUTTER TRANSITION AT BRIDGE DEPARTURE



TYPE G-2 GUTTER AT BRIDGE DEPARTURE

**NOTE:**  
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 2 OF 2

**Illinois Tollway**  
*Open Roads for a Faster Future*

TYPE G-2 AND G-3  
GUTTER TRANSITIONS

STANDARD B2-04

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

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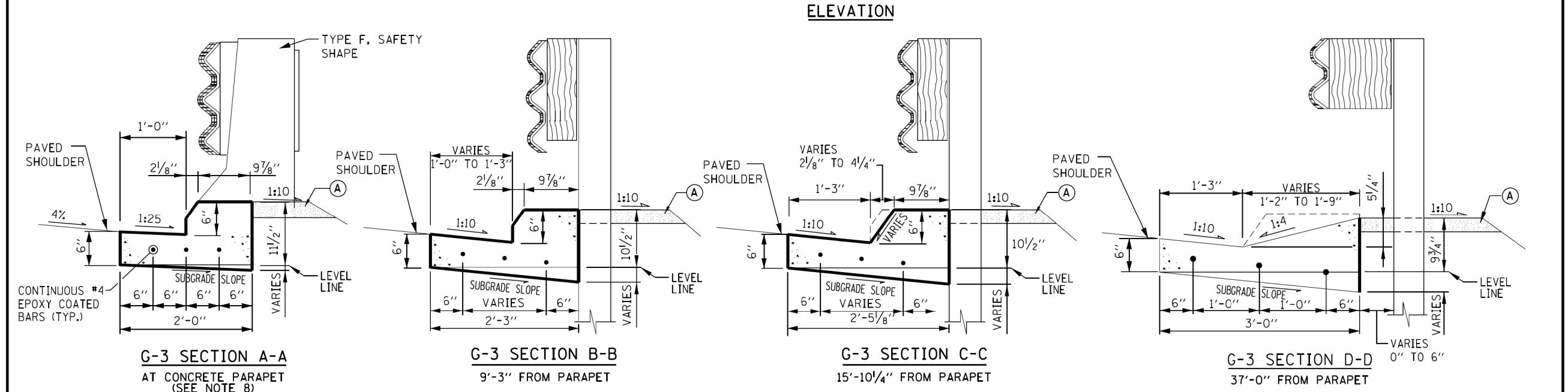
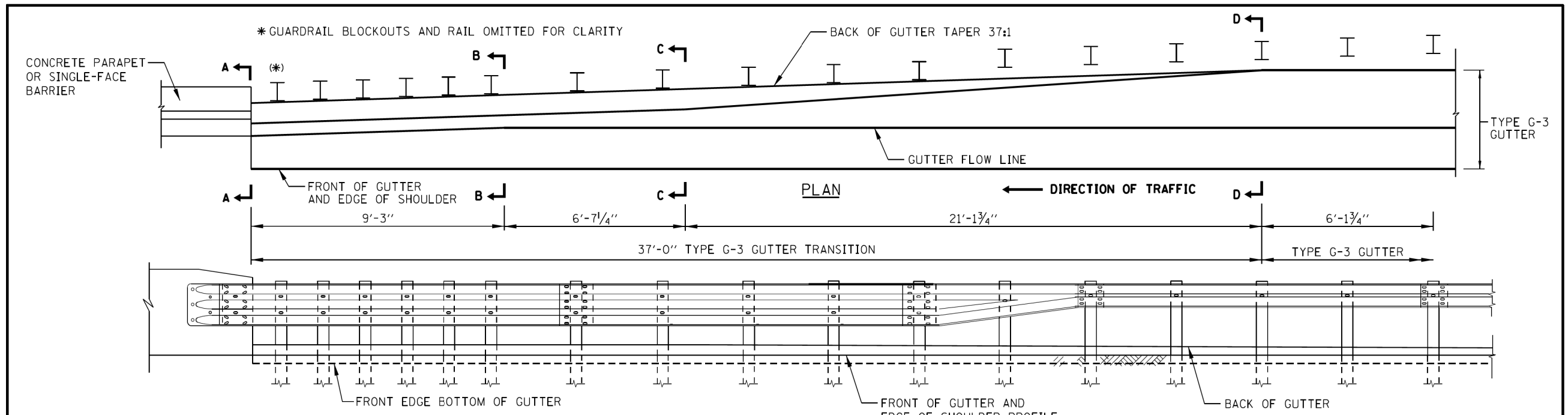
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DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

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94	49-1-R-1	LAKE	677	614
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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- GUTTER TRANSITION NOTES:**
1. SLOPE TO MATCH ADJACENT SHOULDER SLOPE (TYPICALLY 4%).
  2. THE TYPE G-3 GUTTER TRANSITION SHALL BE PAID FOR PER FOOT FOR CONCRETE GUTTER TYPE G-3.
  3. PROVIDE 1" EXPANSION JOINT WITH PREFORMED JOINT FILLER BETWEEN TRANSITION SECTION AND WINGWALL OR BARRIER WALL.
  4. INSTALLATION ON CURVED WINGWALLS SIMILAR.
  5. FOR DETAILS OF ANCHOR INSTALLATION TYPE T6 SEE TOLLWAY STANDARD C9 (TRAFFIC BARRIER TERMINAL, TYPE T6).
  6. GUTTER TRANSITIONS SHALL BE CONSTRUCTED TO FIT THE STANDARD LOCATION OF THE ANCHOR INSTALLATION TYPE T6.
  7. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
  8. GUTTER SECTION SHOWN AT BARRIER WALL TO MATCH VERTICAL PROFILE OF TYPE F SAFETY SHAPE. MODIFY GUTTER FACE TO MATCH OTHER PARAPET PROFILES.
  9. CONTINUOUS #4 BARS SHALL BE LAPPED A MINIMUM OF 2'-0" IN ACCORDANCE WITH THE LATEST IDOT BRIDGE MANUAL.

**LEGEND**

- (A) AGGREGATE SHOULDERS SPECIAL, TYPE C

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

**TYPE G-3 GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T6**

DATE	REVISIONS
6-1-2009	MODIFIED BARRIER TERMINAL DETAILS
	REVISED NOTES
3-1-2010	REVISED G-2/G-3 GUTTER TRANSITION DETAILS, REVISED NOTES
1-1-2011	REVISED NOTE 8
2-7-2012	REVISED GUTTER

SHEET 1 OF 2

TYPE G-2/G-3 GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T6  
STANDARD B3-04

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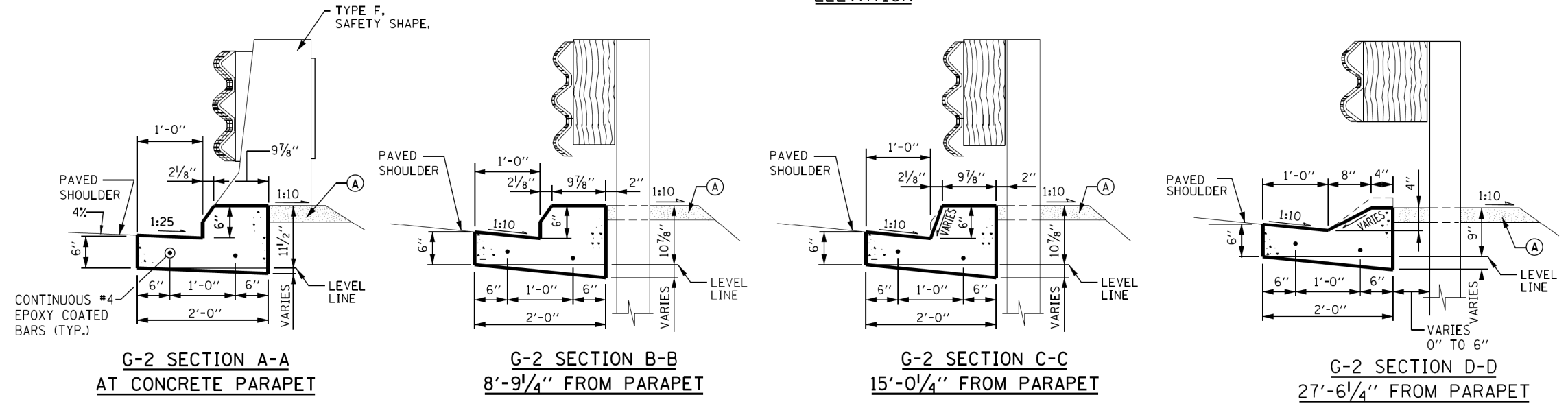
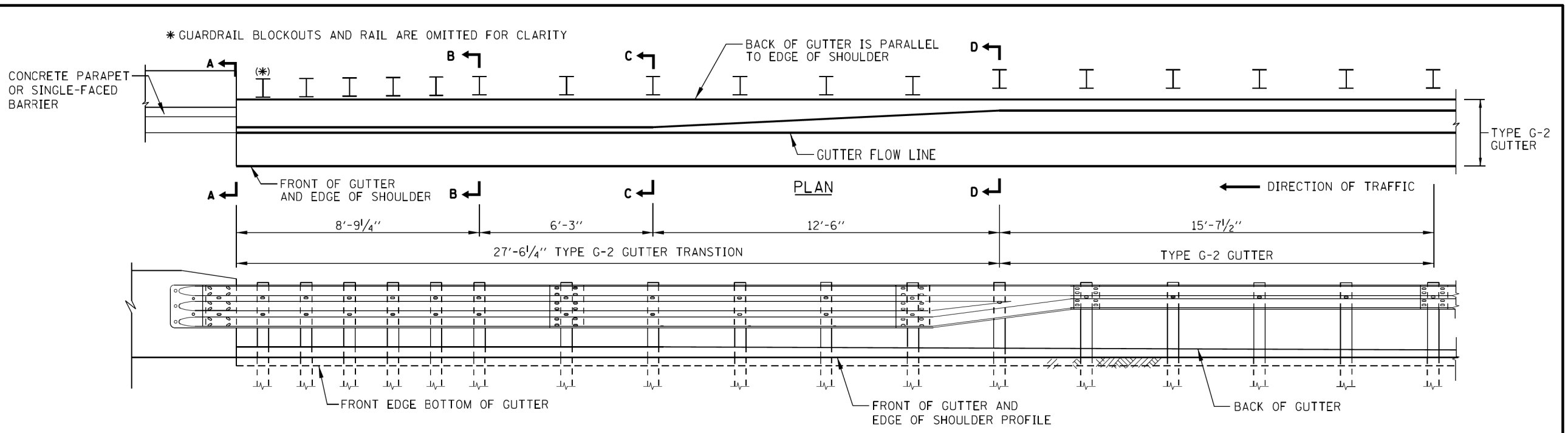
**STATE OF ILLINOIS  
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**TOLLWAY STANDARD DRAWING**

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	615
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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- NOTES:**
- SEE SHEET 1 OF THIS SERIES FOR GUTTER TRANSITION NOTES.
  - THE TYPE G-2 GUTTER TRANSITION SHALL BE PAID PER FOOT FOR CONCRETE GUTTER TYPE G-2.

SHEET 2 OF 2

**LEGEND**  
 (A) AGGREGATE SHOULDERS SPECIAL, TYPE C

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

**TYPE G-2 GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T6**

**Illinois Tollway**  
*Open Roads for a Faster Future*

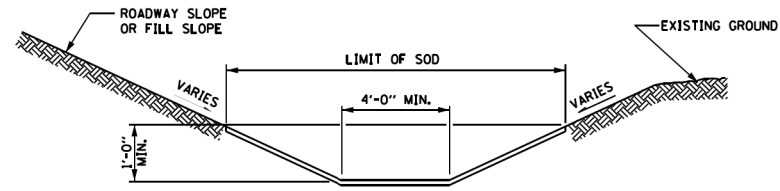
TYPE G-2/G-3 GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T6

STANDARD B3-04

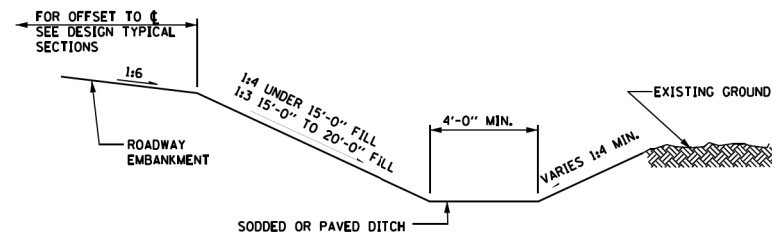
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	PLOT DATE = 6/18/2012	CHECKED - RGR	REVISED -			CONTRACT NO. 60L77					
		DATE - 6/19/2012	REVISED -			ILLINOIS FED. AID PROJECT					

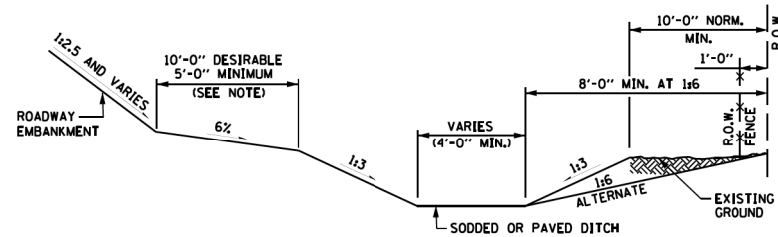
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**SODDED DITCH**



**EMBANKMENT UNDER 20 FEET IN HEIGHT  
TOE OF EMBANKMENT DITCHES**

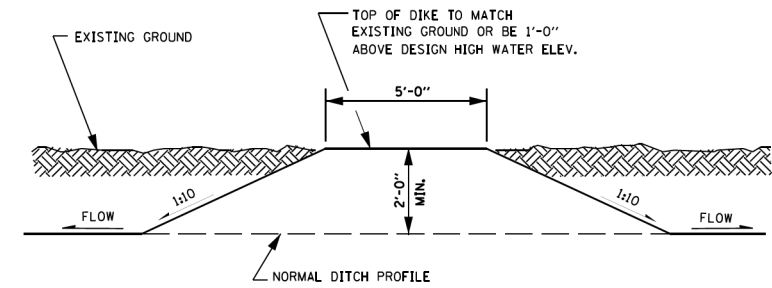


**EMBANKMENT  
OVER 20 FEET IN HEIGHT**

**NOTES FOR EMBANKMENT DITCHES:**

1. WIDTH AND SLOPE MAY VARY DEPENDING ON SOIL CONDITION OR R.O.W. REQUIREMENTS.
2. THESE SECTIONS APPLY TO A DESIRABLE SECTION FOR NEW CONSTRUCTION. HOWEVER, THE WIDTH AND SLOPES MAY VARY DEPENDING ON SOIL CONDITIONS OR R.O.W. CONSTRAINTS.
3. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).

*Paul Kovacs*  
APPROVED..... CHIEF ENGINEER..... DATE 6-1-2009...



**SIDE DITCH DIKE**



DATE	REVISIONS
6-1-2009	REVISED NOTES

DITCHES AND DITCH DIKE

STANDARD B4-01

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FILE NAME = \$FILES\$
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PLOT DATE = 6/18/2012

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED - RGR	REVISED -
DATE - 6/19/2012	REVISED -

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED - RGR	REVISED -
DATE - 6/19/2012	REVISED -

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED - RGR	REVISED -
DATE - 6/19/2012	REVISED -

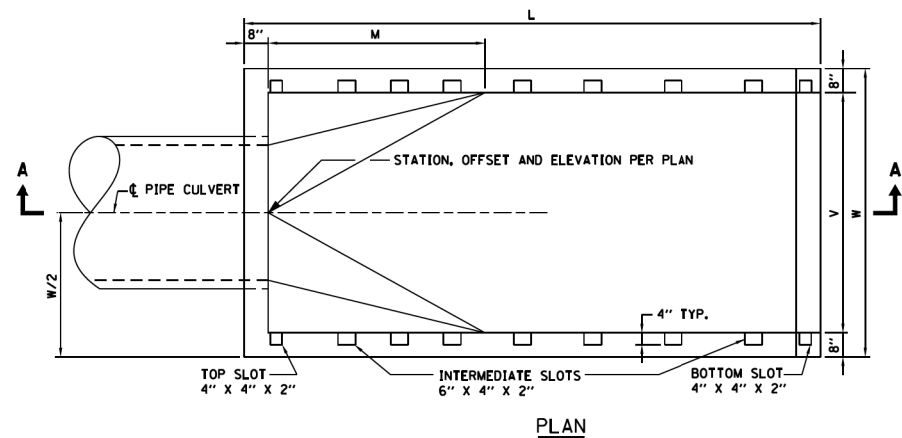
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

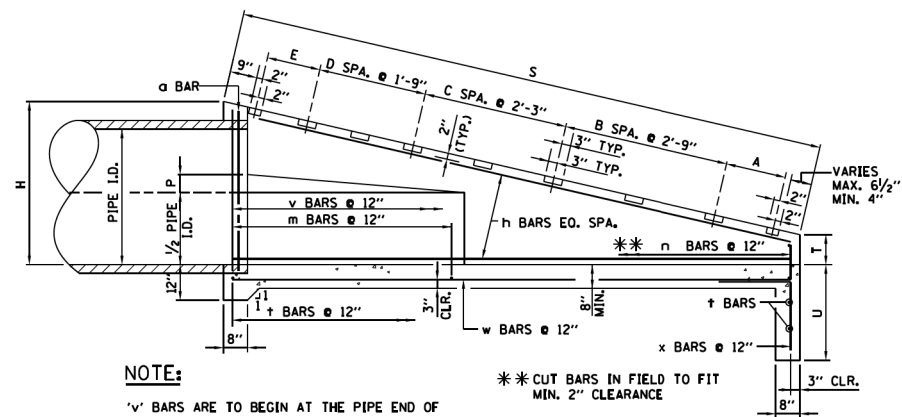
SCALE: SHEET NO. N/A OF N/A SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	617
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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PLAN

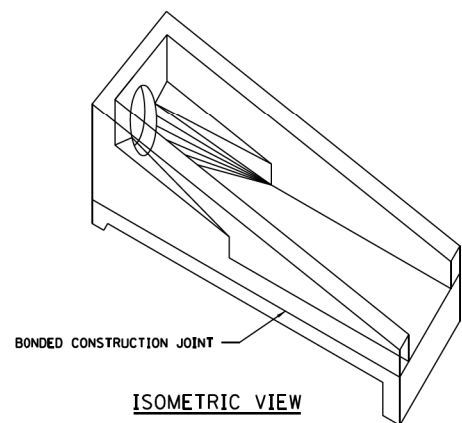


SECTION A-A

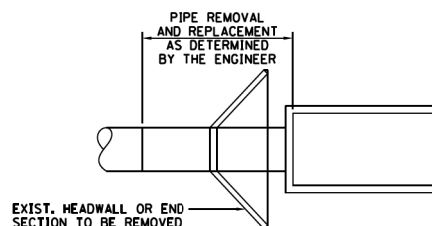
**NOTE:**

'v' BARS ARE TO BEGIN AT THE PIPE END OF THE SLOPED EXTERIOR HEADWALLS. 'm' BARS ARE TO BEGIN AT THE PIPE END OF THE SLOPED INTERIOR HEADWALLS.

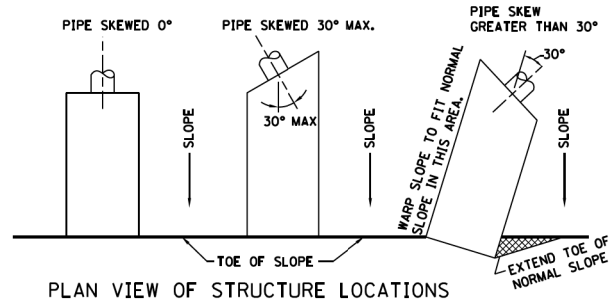
\*\* CUT BARS IN FIELD TO FIT MIN. 2" CLEARANCE



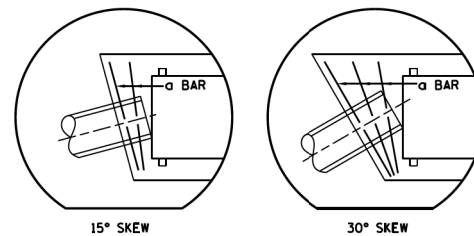
ISOMETRIC VIEW



INSTALLATION DETAIL



PLAN VIEW OF STRUCTURE LOCATIONS



15° SKEW

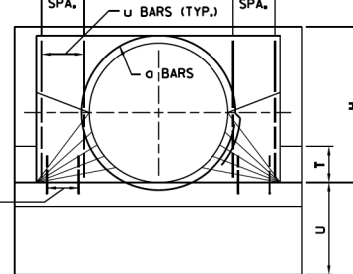
30° SKEW

**NOTES:**

ADDITIONAL 'A' BARS SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR. THE ADDITIONAL BARS ARE NOT INCLUDED IN THE LISTED QUANTITIES BUT WILL BE PAID FOR AS REINFORCING STEEL. (EPOXY COATED)

1 ADDITIONAL BAR REQUIRED FOR EACH 15° SKEW OR FRACTION THEREOF.

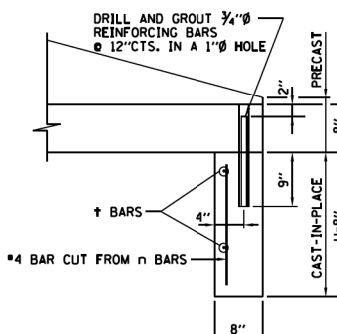
PIPE DIA'S 18", 24", & 30" 1 SPA.  
PIPE DIA'S 36", 42", & 48" 2 EQ. SPA.



FRONT ELEVATION

**NOTES:**

1. SLOPED HEADWALL TYPE III SHALL BE CONSTRUCTED FLUSH WITH EXISTING OR PROPOSED SLOPE.
2. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
3. ALL REINFORCEMENT BARS SHOWN SHALL BE EPOXY COATED.
4. BAR BENDING DETAILS ARE DIMENSIONED OUT TO OUT OF BARS.
5. ALL EXPOSED EDGES SHALL HAVE A 3/4" - 45° CHAMFER. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW THE FINISHED GROUND LINE.
6. COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BAR SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.
7. CARE SHALL BE EXERCISED IN REMOVING ANY LENGTH OF EXISTING PIPE SO THE REMAINING PIPE IS UNDAMAGED AND FULLY FUNCTIONING.
8. FOR DIMENSIONS AND QUANTITIES FOR ONE HEADWALL SEE SHEET 2 (OF 3) IN THIS SERIES.
9. FOR STEEL GRATING DETAILS SEE SHEET 3 (OF 3) IN THIS SERIES.
10. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT.



PRECAST CONNECTION DETAIL

SHEET 1 OF 3



DATE	REVISIONS
1-1-2011	REVISED NOTES
2-7-2012	DELETED TWIN PIPE DETAILS, DELETED PIPE DIA. 18", 24", 30" FOR 1:4 AND 1:6 SLOPES, DELETED SIDE PIPE DESIGN

HEADWALL TYPE III  
18"-24"-30"-36"-42"-48"  
FOR 1:4, 1:6, AND 1:10 SLOPES  
STANDARD B6-03

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

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FILE NAME = \$FILES\$

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PLOT SCALE = H=1"=10' V=1"=5'  
PLOT DATE = 6/18/2012

DESIGNED -  
DRAWN -  
CHECKED - RGR  
DATE - 6/19/2012

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

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	618

CONTRACT NO. 60L77  
ILLINOIS FED. AID PROJECT

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DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:4 SLOPE

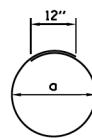
PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. STEEL LBS.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
36"	3'-10"	14'-8"	4'-3"	4"	15'-1 1/2"	2"	2'-8"	6'-0"	7'-4"	2'-2"	2'-0"	-	3	1	5.9	360
42"	4'-5"	17'-0"	4'-8"	6"	17'-6 1/4"	2"	3'-2"	6'-6"	7'-10"	2'-6"	2'-6"	4	-	-	7.6	450
48"	5'-0"	19'-4"	5'-0"	6"	19'-11"	2"	3'-2"	7'-0"	8'-4"	2'-6"	2'-6"	-	6	-	9.3	450

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:6 SLOPE

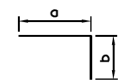
PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. STEEL LBS.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
36"	3'-10"	22'-0"	4'-3"	4"	22'-3 1/2"	2"	2'-8"	6'-0"	7'-4"	2'-8"	2'-4"	-	7	-	7.9	510
42"	4'-5"	25'-6"	4'-8"	6"	25'-10"	2"	3'-2"	6'-6"	7'-10"	2'-8"	2'-2"	5	-	4	10.2	640
48"	5'-0"	29'-0"	5'-0"	6"	29'-4 3/4"	2"	3'-2"	7'-0"	8'-4"	2'-8"	2'-2"	7	1	-	12.6	760

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:10 SLOPE

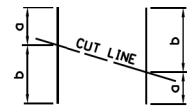
PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. STEEL LBS.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
18"	2'-3"	20'-10"	2'-3"	2"	20'-11"	2"	2'-8"	3'-0"	4'-4"	2'-2"	2'-0"	-	6	1	4.0	310
24"	2'-9"	25'-10"	3'-0"	3"	25'-11 1/2"	2"	2'-8"	4'-0"	5'-4"	2'-4"	2'-4"	-	8	1	6.1	440
30"	3'-4"	31'-8"	3'-6"	4"	31'-10"	2"	2'-8"	5'-0"	6'-4"	2'-2"	1'-8"	-	11	1	8.9	640
36"	3'-10"	36'-8"	4'-3"	4"	36'-10 1/4"	2"	2'-8"	6'-0"	7'-4"	2'-2"	2'-2"	-	13	1	12.1	810
42"	4'-5"	42'-6"	4'-8"	6"	42'-8 1/2"	2"	3'-2"	6'-6"	7'-10"	2'-2"	1'-8"	-	12	6	15.4	1010
48"	5'-0"	48'-4"	5'-0"	6"	48'-7"	2"	3'-2"	7'-0"	8'-4"	2'-4"	2'-4"	-	15	4	19.0	1220



TYPE 1



TYPE 2



TYPE 3

REINFORCING BAR SCHEDULE FOR ONE HEADWALL

TYPE III 1:4 SLOPE

PIPE DIA	NO. 4 REINFORCING BARS					
	MARK	TYPE	NO. REQ'D.	LENGTH	a	b
36"	o36	1	1	13'-10"	4'-1"	-
	n36	2	36	2'-3"	1'-6"	9"
	h36	STR.	8	14'-6"	-	-
	x36	2	8	3'-0"	2'-0"	1'-0"
	+36	STR.	17	7'-0"	-	-
	u36	STR.	6	3'-8"	-	-
	v36	3	10	4'-9"	1'-3"	3'-6"
	w36	STR.	8	14'-2"	-	-
42"	o42	1	1	15'-11"	4'-9"	-
	n42	2	40	2'-3"	1'-6"	9"
	h42	STR.	10	17'-0"	-	-
	x42	2	8	3'-6"	2'-6"	1'-0"
	+42	STR.	19	7'-6"	-	-
	u42	STR.	6	4'-2"	-	-
	v42	3	12	5'-4"	1'-3"	4'-1"
	w42	STR.	8	16'-6"	-	-
48"	o48	1	1	17'-9"	5'-4"	-
	n48	2	66	2'-3"	1'-6"	9"
	h48	STR.	10	19'-4"	-	-
	x48	2	9	3'-6"	2'-6"	1'-0"
	+48	STR.	22	8'-0"	-	-
	u48	STR.	6	4'-9"	-	-
	v48	3	14	5'-10"	1'-3"	4'-7"
	w48	STR.	9	18'-10"	-	-

REINFORCING BAR SCHEDULE FOR ONE HEADWALL

TYPE III 1:6 SLOPE

PIPE DIA	NO. 4 REINFORCING BARS					
	MARK	TYPE	NO. REQ'D.	LENGTH	a	b
36"	o36	1	1	13'-10"	4'-1"	-
	n36	2	50	2'-3"	1'-6"	9"
	h36	STR.	8	21'-8"	-	-
	x36	2	8	3'-0"	2'-0"	1'-0"
	+36	STR.	24	7'-0"	-	-
	u36	STR.	6	3'-8"	-	-
	v36	3	14	4'-9"	1'-3"	3'-6"
	w36	STR.	8	21'-6"	-	-
42"	o42	1	1	15'-11"	4'-9"	-
	n42	2	58	2'-3"	1'-6"	9"
	h42	STR.	10	25'-4"	-	-
	x42	2	8	3'-6"	2'-6"	1'-0"
	+42	STR.	28	7'-6"	-	-
	u42	STR.	6	4'-2"	-	-
	v42	3	17	5'-4"	1'-3"	4'-1"
	w42	STR.	8	25'-0"	-	-
48"	o48	1	1	17'-9"	5'-4"	-
	n48	2	68	2'-3"	1'-6"	9"
	h48	STR.	10	28'-8"	-	-
	x48	2	9	3'-6"	2'-6"	1'-0"
	+48	STR.	31	8'-0"	-	-
	u48	STR.	6	4'-9"	-	-
	v48	3	20	5'-10"	1'-3"	4'-7"
	w48	STR.	9	28'-6"	-	-

REINFORCING BAR SCHEDULE FOR ONE HEADWALL

TYPE III 1:10 SLOPE

PIPE DIA	NO. 4 REINFORCING BARS					
	MARK	TYPE	NO. REQ'D.	LENGTH	a	b
18"	o18	1	1	8'-7"	2'-5"	-
	n18	2	46	2'-6"	1'-9"	9"
	h18	STR.	6	20'-4"	-	-
	x18	2	5	3'-0"	2'-0"	1'-0"
	+18	STR.	23	4'-0"	-	-
	u18	STR.	4	2'-0"	-	-
	v18	3	5	20'-4"	-	-
	w18	STR.	5	20'-4"	-	-
24"	o24	1	1	10'-5"	3'-0"	-
	n24	2	56	2'-3"	1'-6"	9"
	h24	STR.	6	25'-4"	-	-
	x24	2	6	3'-0"	2'-0"	1'-0"
	+24	STR.	28	5'-0"	-	-
	u24	STR.	4	2'-6"	-	-
	v24	3	13	3'-9"	1'-3"	2'-6"
	w24	STR.	6	25'-4"	-	-
30"	o30	1	1	12'-3"	3'-7"	-
	n30	2	68	2'-3"	1'-6"	9"
	h30	STR.	8	31'-2"	-	-
	x30	2	7	3'-0"	2'-0"	1'-0"
	+30	STR.	34	6'-0"	-	-
	u30	STR.	4	3'-0"	-	-
	v30	3	18	4'-3"	1'-3"	3'-0"
	w30	STR.	7	31'-2"	-	-
36"	o36	1	1	13'-10"	4'-1"	-
	n36	2	80	2'-3"	1'-6"	9"
	h36	STR.	8	36'-2"	-	-
	x36	2	8	3'-0"	2'-0"	1'-0"
	+36	STR.	39	7'-0"	-	-
	u36	STR.	6	3'-8"	-	-
	v36	3	23	4'-9"	1'-3"	3'-6"
	w36	STR.	8	36'-2"	-	-
42"	o42	1	1	15'-11"	4'-9"	-
	n42	2	92	2'-3"	1'-6"	9"
	h42	STR.	10	42'-0"	-	-
	x42	2	8	3'-6"	2'-6"	1'-0"
	+42	STR.	45	7'-6"	-	-
	u42	STR.	6	4'-2"	-	-
	v42	3	27	5'-4"	1'-3"	4'-1"
	w42	STR.	8	42'-0"	-	-
48"	o48	1	1	17'-9"	5'-4"	-
	n48	2	104	2'-3"	1'-6"	9"
	h48	STR.	10	48'-0"	-	-
	x48	2	9	3'-6"	2'-6"	1'-0"
	+48	STR.	52	8'-0"	-	-
	u48	STR.	6	4'-9"	-	-
	v48	3	32	5'-10"	1'-3"	4'-7"
	w48	STR.	9	47'-10"	-	-

NOTES:

- THE 'v' BARS, TYPE 3, SHALL BE ORDERED FULL LENGTH AND CUT IN THE FIELD. THE REMAINING PORTION OF THE 'v' BARS SHALL BE USED IN THE OTHER WALL.
- THE LONG LEG OF THE 'd' AND 'n' BARS SHALL BE VERTICAL.
- QUANTITIES ON THIS DRAWING ARE BASED ON THE CAST-IN-PLACE DESIGN.
- "STR." = STRAIGHT BAR.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).

SHEET 2 OF 3

**Illinois Tollway**  
Open Roads for a Faster Future

HEADWALL TYPE III  
18"-24"-30"-42"-48"  
FOR 1:4, 1:6, AND 1:10 SLOPES

STANDARD B6-03

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

BOWMAN, BARRETT & ASSOCIATES INC.  
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FILE NAME = \$FILES\$	USER NAME = default	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = H=1"=10' V=1"=5'	CHECKED - RGR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

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	619
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:4 SLOPE

INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (LBS.)	
	NUMBER REQUIRED	TYPE REQ'D.	BAR NO. 1		BAR NO. 2		EACH GRATE	TOTAL
			BARS REQ'D.	LENGTH	BARS REQ'D.	LENGTH		
36"	6	B	2	6'-7"	11	1'-10 1/2"	103	608
	-	-	-	-	-	-	-	
42"	6	A	2	7'-1"	12	2'-4 1/2"	121	705
	-	-	-	-	-	-	-	
48"	2	A	2	7'-7"	13	2'-4 1/2"	119	941
	6	B	2	7'-7"	13	1'-10 1/2"	108	

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:6 SLOPE

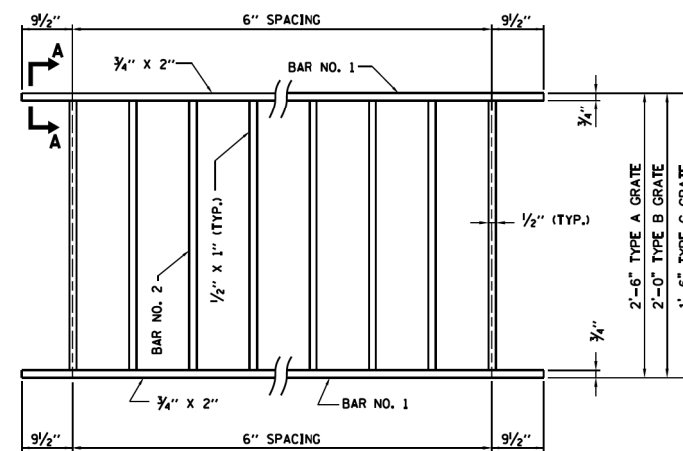
INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (LBS.)	
	NUMBER REQUIRED	TYPE REQ'D.	BAR NO. 1		BAR NO. 2		EACH GRATE	TOTAL
			BARS REQ'D.	LENGTH	BARS REQ'D.	LENGTH		
36"	2	A	2	6'-7"	11	2'-4 1/2"	112	860
	7	B	2	6'-7"	11	1'-10 1/2"	103	
42"	6	A	2	7'-1"	12	2'-4 1/2"	121	1126
	5	B	2	7'-1"	12	1'-10 1/2"	100	
48"	8	A	2	7'-7"	13	2'-4 1/2"	130	1278
	2	B	2	7'-7"	13	1'-10 1/2"	119	

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:10 SLOPE

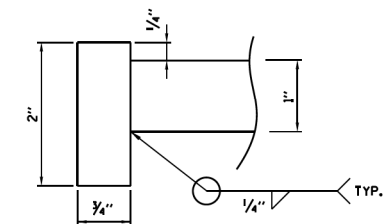
INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (LBS.)	
	NUMBER REQUIRED	TYPE REQ'D.	BAR NO. 1		BAR NO. 2		EACH GRATE	TOTAL
			BARS REQ'D.	LENGTH	BARS REQ'D.	LENGTH		
18"	8	B	2	3'-7"	5	1'-10 1/2"	53	414
	1	C	2	3'-7"	5	1'-4 1/2"	48	
24"	9	B	2	4'-7"	7	1'-10 1/2"	69	747
	2	A	2	4'-7"	7	2'-4 1/2"	63	
30"	12	B	2	5'-7"	9	1'-10 1/2"	86	1110
	2	C	2	5'-7"	9	1'-4 1/2"	78	
36"	16	B	2	6'-7"	11	1'-10 1/2"	103	1535
	-	-	-	-	-	-	-	
42"	13	B	2	7'-1"	12	1'-10 1/2"	111	2043
	7	C	2	7'-1"	12	1'-4 1/2"	100	
48"	19	B	2	7'-7"	13	1'-10 1/2"	119	2443
	2	A	2	7'-7"	13	2'-4 1/2"	108	

NOTES:

- ALL STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 36.
- GALVANIZING SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- FOR PLACEMENT OF GRATES, SEE SHEET 1 (OF 3) IN THIS SERIES.
- ALL TABLE DIMENSIONS AND QUANTITIES ARE FOR SINGLE PIPE CULVERT HEADWALLS.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).



TYPICAL GRATE



SECTION A-A

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

SHEET 3 OF 3

**Illinois Tollway**  
Open Roads for a Faster Future

HEADWALL TYPE III  
18"-24"-30"-36"-42"-48"  
FOR 1:4, 1:6, AND 1:10 SLOPES

STANDARD B6-03

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

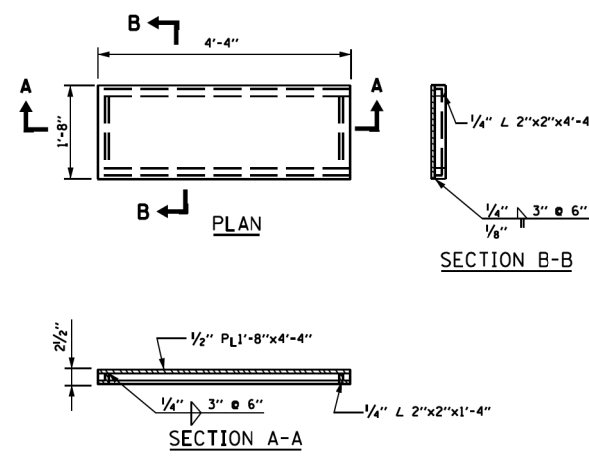
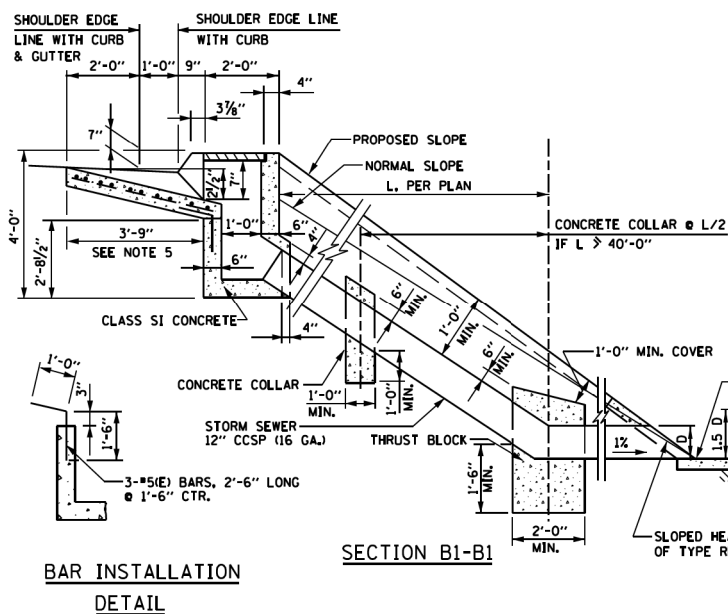
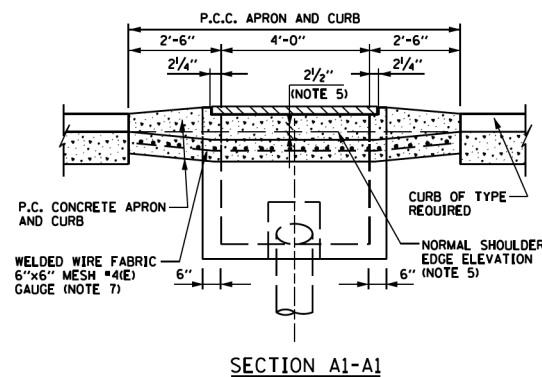
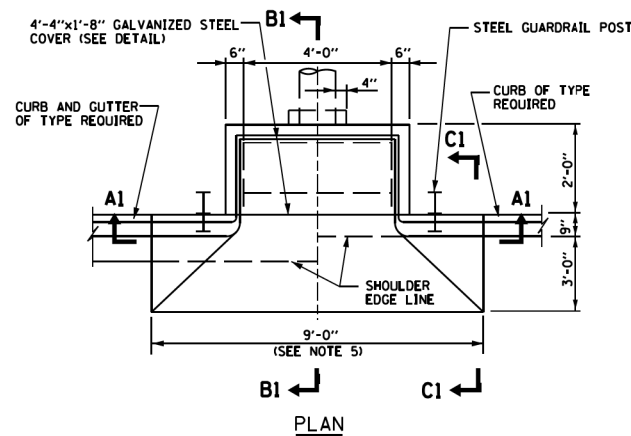
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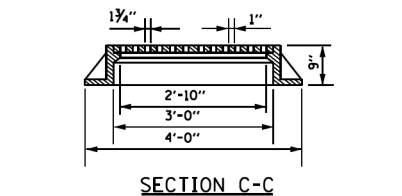
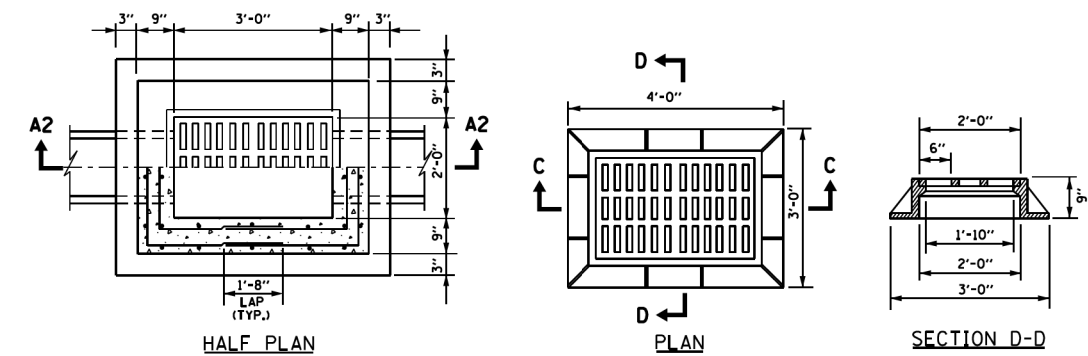
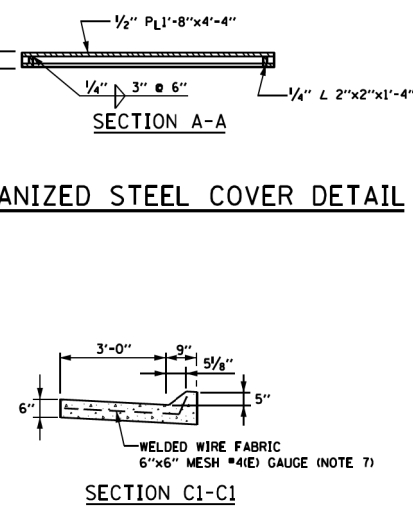
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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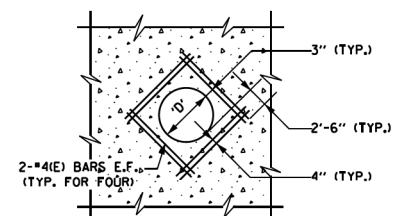




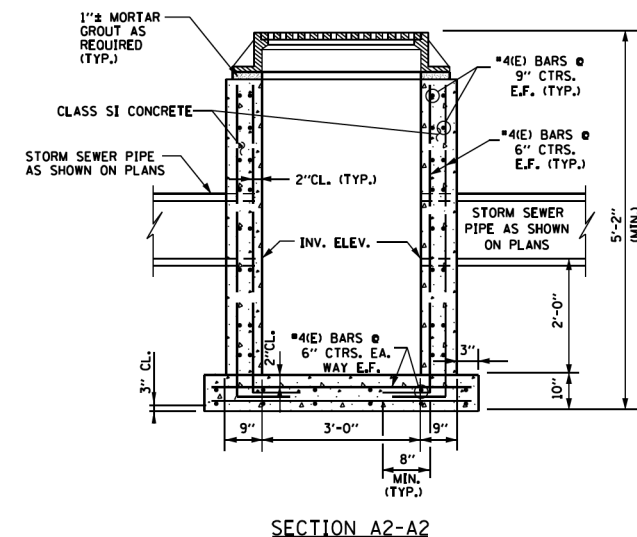
**GALVANIZED STEEL COVER DETAIL**



**FRAME AND GRATE DETAIL**



**TYPICAL REINFORCEMENT AROUND STORM SEWER PIPE**



**SECTION A2-A2**

**CATCH BASIN TYPE B**

**NOTES FOR SLOPE DRAIN INLET:**

1. THE LOCATION OF THE SLOPE DRAIN INLET SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE INLET MUST BE LOCATED IN THE FIELD TO CLEAR THE POST SPACING OF EXISTING OR PROPOSED GUARDRAIL. WHERE CONDITIONS REQUIRE THAT THE SLOPE DRAIN INLET BE LOCATED ADJACENT TO A GUARDRAIL ANCHOR INSTALLATION, THE SLOPED DRAIN INLET MUST BE CONSTRUCTED OUTSIDE THE LIMIT OF THE ANCHOR INSTALLATION.
2. INLET CONSTRUCTION EXCLUSIVE OF P.C.C. APRON SHALL BE COMPLETED PRIOR TO SHOULDER OVERLAY. CONSTRUCTION OF P.C.C. APRON SHALL FOLLOW SHOULDER OVERLAY.
3. THE MATERIALS AND CONSTRUCTION OF THE INLET SHALL CONFORM TO THE APPLICABLE PORTIONS OF THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.
4. THE CONCRETE CURB WITHIN THE P.C.C. APRON WILL TRANSITION TO MATCH THE SHAPE OF ABUTTING CURBS.
5. INCREASE NORMAL SHOULDER SLOPE WITHIN LIMITS OF P.C.C. APRON AND SHAPE TO DRAIN INTO INLET OPENING. THE INLET OPENING SHALL BE 2 1/2" BELOW THE NORMAL SHOULDER EDGE ELEVATION.
6. GALVANIZED STEEL COVER PLATE SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. GALVANIZING SHALL BE IN ACCORDANCE WITH ASTM A123 (AASHTO M111).
7. EXPANDED METAL FABRIC OF EQUAL STRENGTH MAY BE USED IN LIEU OF WELDED WIRE FABRIC SUBJECT TO ENGINEER'S APPROVAL.
8. PRECAST CONCRETE UNITS FOR SLOPE DRAIN INLET WILL BE ACCEPTABLE PROVIDED THEY MEET ALL THE REQUIREMENTS SHOWN ON THIS DRAWING. FABRICATION DRAWINGS SHOWING PIPE OPENINGS, REINFORCEMENT AND OTHER PERTINENT DIMENSIONS WILL BE REQUIRED FOR EACH UNIT, FOR APPROVAL BY THE ENGINEER PRIOR TO FABRICATION.
9. REINFORCEMENT BARS AND WELDED WIRE FABRIC DESIGNATED (E) SHALL BE EPOXY COATED.

**NOTES FOR CATCH BASIN TYPE B:**

1. THE LOCATION OF THE CATCH BASIN SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. FOR MATERIALS AND CONSTRUCTION REQUIREMENTS OF THE CATCH BASIN, REFER TO THE STANDARD SPECIFICATIONS.
3. FRAME AND GRATE FOR CATCH BASIN TYPE B SHALL BE NEENAH FOUNDRY COMPANY TYPE R-3455C OR APPROVED EQUAL.
4. AT LOCATIONS WHERE EXISTING UNDERDRAINS AND/OR STORM SEWER PIPES ARE TO BE CONNECTED TO THE NEW CATCH BASIN, THE REMOVAL OF EXISTING PIPES, FURNISHING OF NEW PIPE SECTIONS OF THE SAME SIZE AND OTHER MATERIALS NECESSARY FOR THE CONNECTIONS SHALL BE INCIDENTAL TO THE COST OF CATCH BASIN TYPE B.
5. PRECAST CONCRETE UNITS FOR CATCH BASIN WILL BE ACCEPTABLE PROVIDED THEY MEET ALL THE REQUIREMENTS AS SHOWN ON THIS DRAWING. BASE EXTENSION OF 3" NOT REQUIRED FOR PRECAST UNITS. FABRICATION DRAWINGS SHOWING PIPE OPENINGS, REINFORCEMENT AND OTHER PERTINENT DIMENSIONS WILL BE REQUIRED FOR EACH UNIT, FOR APPROVAL BY THE ENGINEER PRIOR TO FABRICATION.
6. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

**Illinois Tollway**  
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DATE	REVISIONS	CATCH BASIN TYPE B AND SLOPE DRAIN INLET
2-7-2012	REVISED REINFORCEMENT BARS	
		STANDARD B7-01

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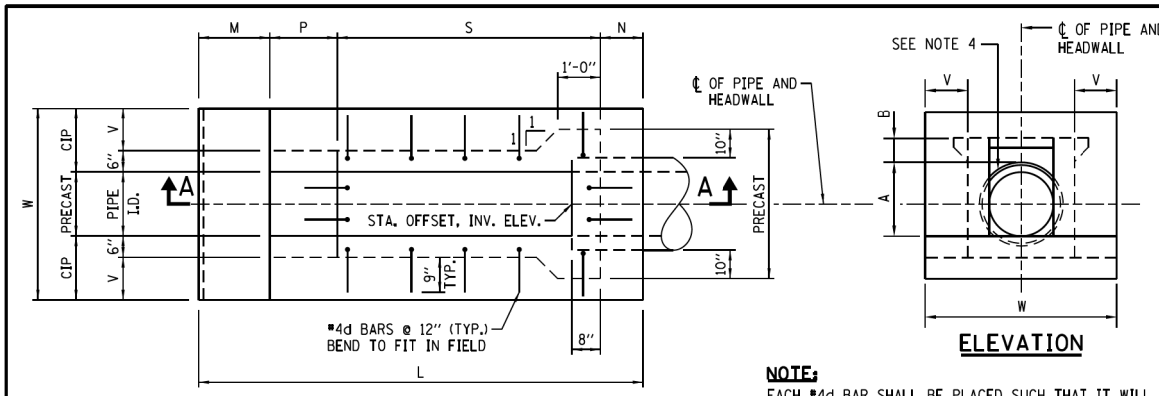
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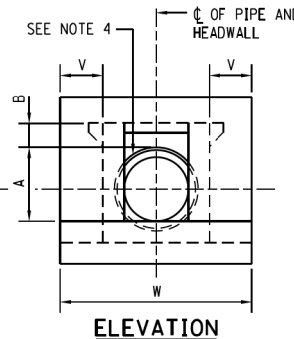
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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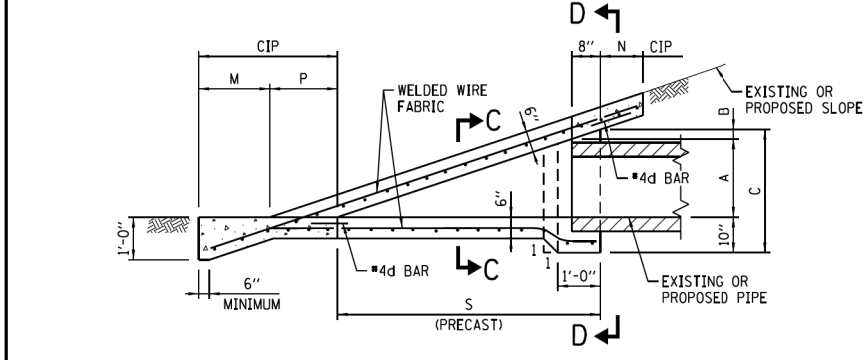


PLAN - SLOPED HEADWALL

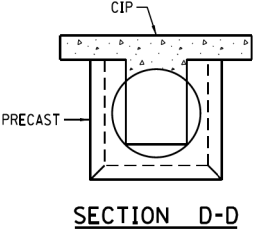


ELEVATION

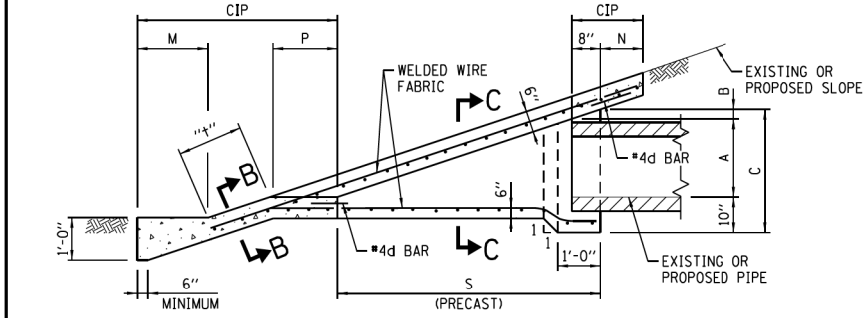
**NOTE:**  
EACH #4d BAR SHALL BE PLACED SUCH THAT IT WILL PROJECT 9" INTO THE CAST IN PLACE (CIP) CONCRETE AND IT SHALL BE 3" BELOW THE TOP SURFACE. HOOKS IN THE PRECAST SECTION SHALL BE TIPPED TO CLEAR ALL CONCRETE SURFACES A MIN. OF 2".



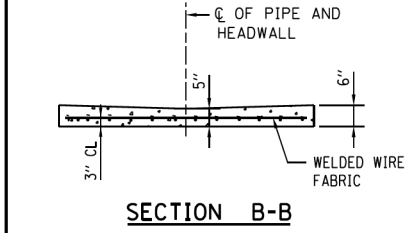
SECTION A-A  
(FOR PIPE AT DITCH FLOW LINE)



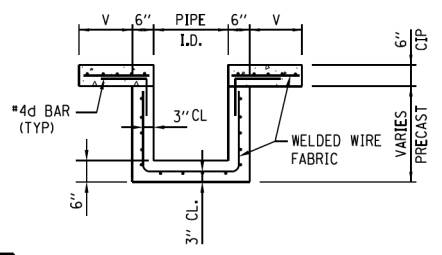
SECTION D-D



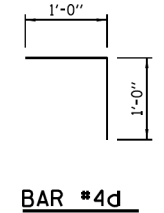
SECTION A-A  
(FOR PIPE ABOVE DITCH FLOW LINE)



SECTION B-B



SECTION C-C



BAR #4d

APPROVED: *Paul Kovacs* DATE 2-7-2012  
CHIEF ENGINEER

**DIMENSIONS AND QUANTITIES  
FOR ONE SLOPED HEADWALL TYPE III**

PIPE I.D.	DIMENSIONS										PRE CAST CONC. CU. YD.	CAST-IN-PLACE CU. YD.	WELDED WIRE FABRIC SQ. YD.	REINF. STEEL				
	A	B	C	N	M	P	S	L	V	W				MARK	SIZE	NO.	LENGTH	LBS.
6"	9"	2 3/4"	1'-9 3/4"	1'-0"	1'-8"	1'-6 3/4"	2'-11 1/4"	7'-2"	1'-0"	3'-6"	.19	.51	2.67	d6	#4	12	2'-0"	16
12"	1'-3 1/2"	2 3/4"	2'-4 1/4"	1'-0"	1'-8"	1'-6 3/4"	4'-6 3/4"	8'-9 1/2"	1'-0"	4'-0"	.36	.65	3.80	d12	#4	14	2'-0"	19
15"	1'-6 1/2"	2 3/4"	2'-7 1/4"	1'-0"	1'-8"	1'-6 3/4"	5'-3 3/4"	9'-6 1/2"	1'-0"	4'-3"	.47	.73	5.13	d15	#4	16	2'-0"	21
18"	1'-10"	2 3/4"	2'-10 3/4"	1'-0"	1'-8"	1'-6 3/4"	6'-2 1/4"	10'-5"	1'-0"	4'-6"	.61	.80	5.65	d18	#4	18	2'-0"	24
21"	2'-1"	2 3/4"	3'-1 3/4"	1'-0"	1'-9"	1'-6 3/4"	6'-11 1/4"	11'-3"	1'-3"	5'-3"	.74	1.0	7.42	d21	#4	22	2'-0"	29
24"	2'-4 1/2"	2 3/4"	3'-5 1/4"	1'-0"	2'-0"	1'-6 3/4"	7'-9 3/4"	12'-4 1/2"	1'-6"	6'-0"	.86	1.24	8.80	d24	#4	24	2'-0"	32
27"	2'-7 1/2"	2 3/4"	3'-8 1/4"	1'-1 1/2"	2'-3"	1'-6 3/4"	8'-6 3/4"	13'-6"	1'-9"	6'-9"	1.03	1.53	12.35	d27	#4	24	2'-0"	32
30"	2'-11"	2 3/4"	3'-11 3/4"	1'-3"	2'-6"	1'-6 3/4"	9'-5 1/4"	14'-9"	2'-0"	7'-6"	1.22	2.00	15.08	d30	#4	26	2'-0"	35

PIPE I.D.	DIMENSIONS										PRE CAST CONC. CU. YD.	CAST-IN-PLACE CU. YD.	WELDED WIRE FABRIC SQ. YD.	REINF. STEEL				
	A	B	C	N	M	P	S	L	V	W				MARK	SIZE	NO.	LENGTH	LBS.
6"	9"	2"	1'-9"	1'-0"	1'-8"	2'-1"	3'-8"	8'-5"	1'-0"	3'-6"	.21	.57	3.27	d6	#4	12	2'-0"	16
12"	1'-3 1/2"	2"	2'-3 1/2"	1'-0"	1'-8"	2'-1"	5'-10"	10'-7"	1'-0"	4'-0"	.44	.75	4.58	d12	#4	16	2'-0"	21
15"	1'-6 1/2"	2"	2'-6 1/2"	1'-0"	1'-8"	2'-1"	6'-10"	11'-7"	1'-0"	4'-3"	.57	.83	5.66	d15	#4	18	2'-0"	24
18"	1'-10"	2"	2'-10"	1'-0"	1'-8"	2'-1"	8'-0"	12'-11"	1'-0"	4'-6"	.73	.93	7.57	d18	#4	22	2'-0"	29
21"	2'-1"	2"	3'-1"	1'-0"	1'-9"	2'-1"	9'-0"	13'-10"	1'-3"	5'-3"	.89	1.16	9.83	d21	#4	24	2'-0"	32
24"	2'-4 1/2"	2"	3'-4 1/2"	1'-0"	2'-0"	2'-1"	10'-2"	15'-3"	1'-6"	6'-0"	1.12	1.45	12.51	d24	#4	28	2'-0"	37
27"	2'-7 1/2"	2"	3'-7 1/2"	1'-1 1/2"	2'-3"	2'-1"	11'-2"	16'-7"	1'-9"	6'-9"	1.32	1.77	13.28	d27	#4	30	2'-0"	40
30"	2'-11"	2"	3'-11"	1'-3"	2'-6"	2'-1"	12'-4"	18'-2"	2'-0"	7'-6"	1.58	2.14	18.77	d30	#4	32	2'-0"	43

PIPE I.D.	DIMENSIONS										PRE CAST CONC. CU. YD.	CAST-IN-PLACE CU. YD.	WELDED WIRE FABRIC SQ. YD.	REINF. STEEL				
	A	B	C	N	M	P	S	L	V	W				MARK	SIZE	NO.	LENGTH	LBS.
6"	9"	1 1/2"	1'-8 1/2"	1'-0"	1'-8"	3'-0"	5'-3"	10'-11"	1'-0"	3'-6"	.29	.71	4.11	d6	#4	16	2'-0"	21
12"	1'-3 1/2"	1 1/2"	2'-3"	1'-0"	1'-8"	3'-0"	8'-6"	14'-2"	1'-0"	4'-0"	.60	.96	7.27	d12	#4	22	2'-0"	29
15"	1'-6 1/2"	1 1/2"	2'-6"	1'-0"	1'-8"	3'-0"	10'-0"	15'-8"	1'-0"	4'-3"	.79	1.07	8.91	d15	#4	26	2'-0"	35
18"	1'-10"	1 1/2"	2'-9 1/2"	1'-0"	1'-8"	3'-0"	11'-9"	17'-5"	1'-0"	4'-6"	1.03	1.20	10.95	d18	#4	28	2'-0"	37
21"	2'-1"	1 1/2"	3'-0 1/2"	1'-0"	1'-9"	3'-0"	13'-3"	19'-0"	1'-3"	5'-3"	1.29	1.51	14.00	d21	#4	34	2'-0"	45
24"	2'-4 1/2"	1 1/2"	3'-4"	1'-0"	2'-0"	3'-0"	15'-0"	21'-0"	1'-6"	6'-0"	1.59	1.89	15.49	d24	#4	38	2'-0"	51
27"	2'-7 1/2"	1 1/2"	3'-7"	1'-1 1/2"	2'-3"	3'-0"	16'-6"	22'-10 1/2"	1'-9"	6'-9"	1.90	2.30	21.82	d27	#4	40	2'-0"	53
30"	2'-11"	1 1/2"	3'-10 1/2"	1'-3"	2'-6"	3'-0"	18'-3"	25'-0"	2'-0"	7'-6"	2.27	2.79	26.60	d30	#4	44	2'-0"	59

**NOTES:**

- THE CAST IN PLACE (CIP) SLOPED HEADWALL SHALL BE CONSTRUCTED FLUSH WITH EXISTING OR PROPOSED SLOPE.
- CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
- WELDED WIRE FABRIC SHALL BE EPOXY COATED 6x6-W4xW4, 58 LBS. PER 100 SQ.FT.
- ALL REINFORCEMENT BARS SHOWN SHALL BE EPOXY COATED.
- BAR BENDING DETAILS ARE DIMENSIONED OUT TO OUT OF BARS.
- COVER FROM FACE OF CONCRETE TO FACE OF REINFORCEMENT BAR SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.
- PRECAST UNIT USE IS OPTIONAL. THE ENTIRE STRUCTURE MAY BE CAST IN PLACE.
- AFTER THE PRECAST SLOPED HEADWALL HAS BEEN PLACED, THE SPACE BETWEEN THE HEADWALL AND PIPE SHALL BE COMPLETELY FILLED WITH AN APPROVED NON-SHRINK GROUT WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI. THE COST FOR FURNISHING AND PLACING THE GROUT SHALL BE INCIDENTAL TO SLOPED HEADWALLS.
- THE SLOPED HEADWALL DETAILS SHOWN ON THIS DRAWING ARE FOR USE ONLY WITH PIPES HAVING DIAMETER OR SPAN OF 30" OR LESS.
- QUANTITIES FOR CONCRETE, WELDED WIRE FABRIC, AND REINFORCING STEEL SHOWN IN THE SCHEDULES OF QUANTITIES ARE BASED ON A "4" DIMENSION OF 0'-0" AND A 1:2 SLOPE.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
- I.D. DENOTES INSIDE DIAMETER OF PIPE. O.D. DENOTES OUTSIDE DIAMETER OF PIPE.

DATE	REVISIONS
6-1-2009	ADDED TABLE INFORMATION
	ADDED DIMENSION NOTATIONS TO SLOPED HEADWALL
3-1-2010	REVISED NOTES
1-1-2011	REVISED NOTES
2-7-2012	REVISED NOTES

**Illinois Tollway**  
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**SLOPED HEADWALLS  
TYPE III DETAILS**

STANDARD B10-05

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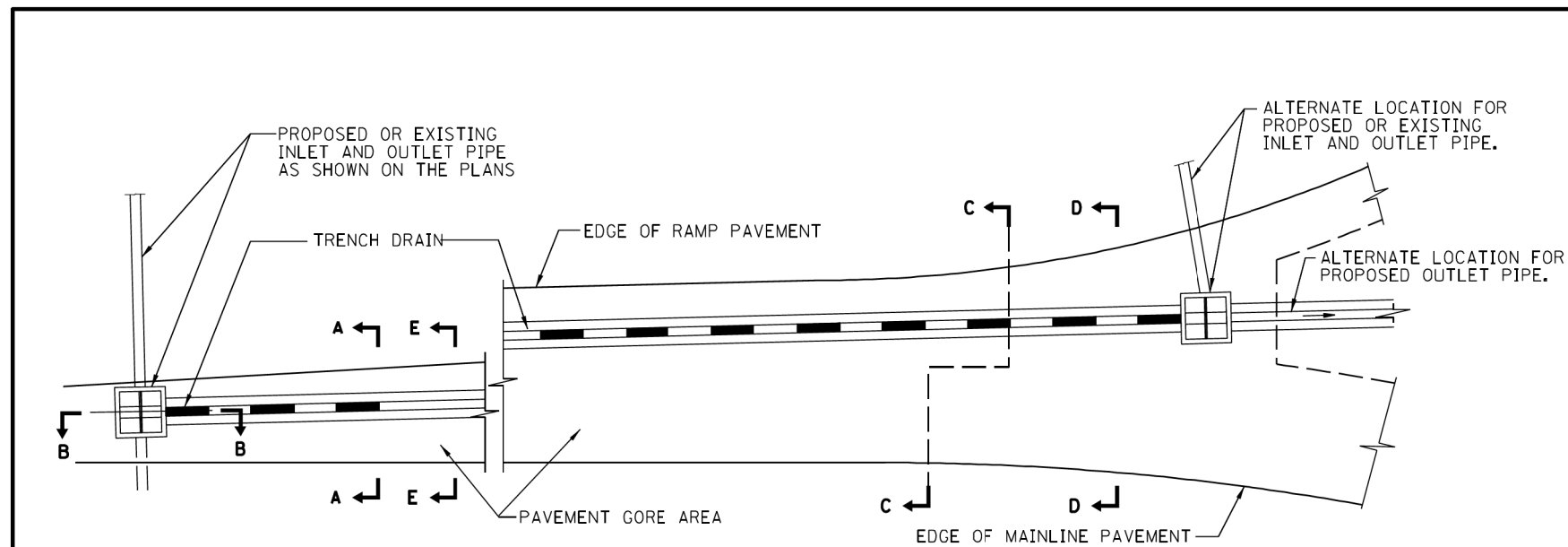
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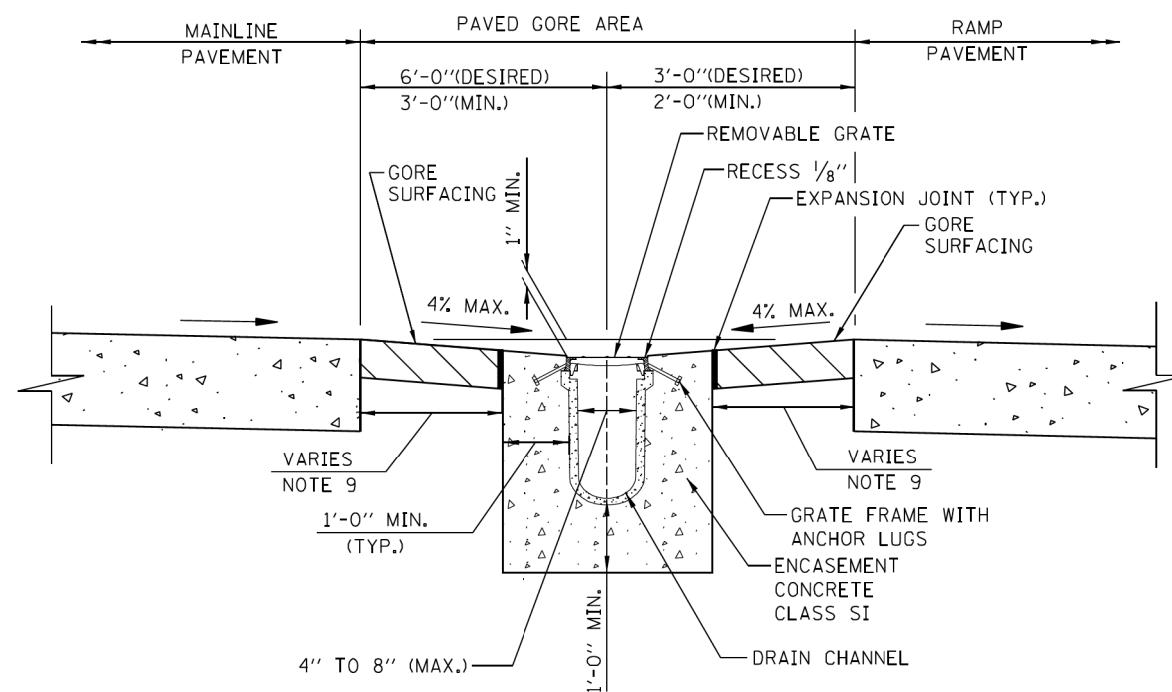
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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PLAN



SECTION A-A  
DRAIN CHANNEL INSTALLATION

NOTES:

1. OUTLET PIPES AND PREFORMED CHANNEL INVERTS SHALL BE SLOPED AT 0.6% OR STEEPER TOWARD OUTLET REGARDLESS OF THE SURFACE SLOPE.
2. TRENCH DRAIN MAY BE STUBBED DIRECTLY INTO DRAINAGE STRUCTURES OR OUTLET PIPES MAY BE USED TO CONNECT TRENCH DRAIN TO DRAINAGE STRUCTURES.
3. A CLEAN-OUT PORT COMPATIBLE WITH THE MANUFACTURED SYSTEM SHALL BE PROVIDED FOR TRENCH DRAINS AT THE UPSTREAM END AND AT INTERVALS NOT TO EXCEED 100 FEET. THE CLEAN-OUT SHALL HAVE A REMOVABLE LOAD RESISTANT COVER OR GRATE.
4. TRENCH EXCAVATION MUST ALLOW FOR A MINIMUM OF 12 INCHES OF CONCRETE TO BE PLACED UNDER AND ALONGSIDE THE TRENCH DRAIN CHANNEL SYSTEM.
5. THE FINISHED LEVEL OF CONCRETE MUST BE APPROXIMATELY 1/8" ABOVE THE TOP OF THE DRAIN CHANNEL.
6. TRENCH DRAINS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS DETAILS AND SPECIFICATIONS.
7. PROVIDE 1" EXPANSION JOINT WITH PREFORMED JOINT FILLER BETWEEN PAVED SHOULDER AND TRENCH DRAIN ENCASEMENT.
8. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL PLACEMENT (V:H).
9. WHEN THE CONCRETE ENCASEMENT FOR TRENCH DRAIN IS WITHIN 6' OF THE PAVEMENT, REPLACE THE GORE SURFACING WITH CLASS SI CONCRETE 9" DEPTH; PAY ITEM: PORTLAND CEMENT CONCRETE SHOULDER (9").

SHEET 1 OF 2



DATE	REVISIONS
1-1-2011	DELETED SLOTTED DRAIN ADDED TRENCH DRAIN

TRENCH DRAIN DETAIL

STANDARD B12-02

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 1-1-2011

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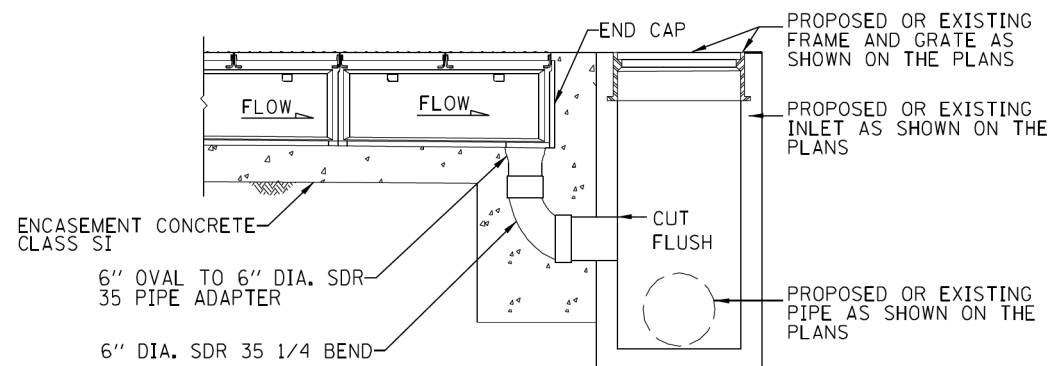
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DEPARTMENT OF TRANSPORTATION

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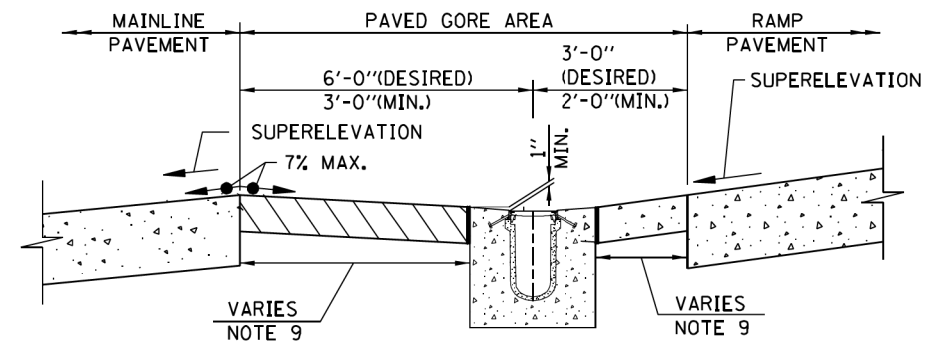
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	624
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

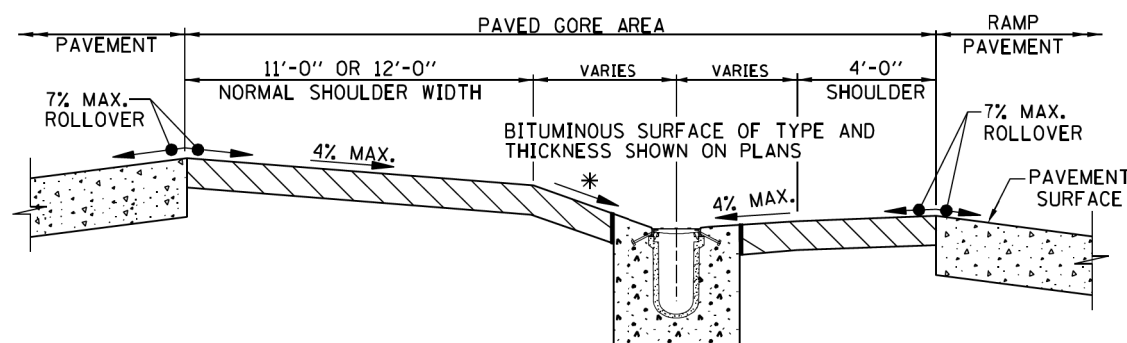
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**SECTION B-B**  
PIPE OUTLET TO DRAINAGE STRUCTURE

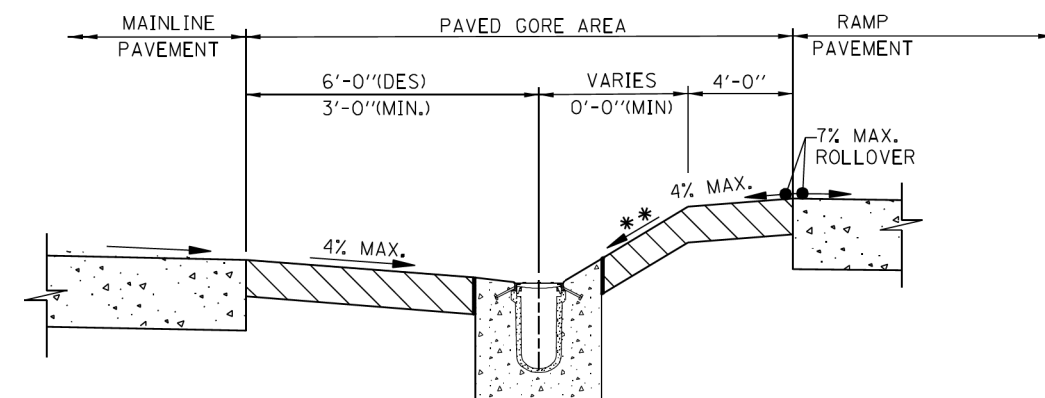


**SECTION E-E**  
RAMP ON OUTSIDE OF  
SUPERELEVATED MAINLINE SECTION



**SECTION D-D**

\* 1:10 MAXIMUM FOR NEW CONSTRUCTION  
1:4 MAXIMUM FOR REHABILITATION



**SECTION C-C**

\*\* 4% DESIRABLE FOR NEW CONSTRUCTION  
1:10 MAXIMUM FOR NEW CONSTRUCTION  
1:4 MAXIMUM FOR REHABILITATION

*Paul Kovacs*  
APPROVED..... CHIEF ENGINEER..... DATE 1-1-2011..

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TRENCH DRAIN DETAIL

STANDARD B12-02

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

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

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

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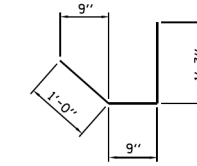


CULVERT SIZE	TABLE OF DIMENSIONS							TOTAL QUANTITIES ONE END			PIPE RUNNERS FOR ONE END - SIZE 3" O.D.			
	S x H	L	N	V	W	TA	X	Y	CONC. CU. YD.	RE-BAR LBS.	PIPE RUNNER FT.	HEADWALL PIPE NO.	L <sub>0</sub>	WINGWALL PIPE NO.
3 x 2	10'-10"	11'-2"	7"	8'-5"	6"	0'-3"	--	3.0	346	22.16	2	11'-1"	0	--
3 x 3	14'-10"	15'-3/2"	7"	10'-5"	6"	1'-6"	10'-10"	4.6	489	37.50	1	15'-2"	2	11'-2"
4 x 2	10'-10"	11'-2"	7"	9'-5"	6"	0'-9"	--	3.4	372	22.16	2	11'-1"	0	--
4 x 3	14'-10"	15'-3/2"	7"	11'-5"	6"	2'-0"	12'-10"	5.0	521	41.50	1	15'-2"	2	13'-2"
4 x 4	18'-10"	19'-5"	7"	13'-5"	6"	0'-9"	11'-10"	7.0	727	63.00	2	19'-4"	2	12'-2"
5 x 2	10'-10"	11'-2"	7"	10'-5"	6"	1'-3"	5'-10"	3.7	397	34.16	2	11'-1"	2	6'-0"
5 x 3	14'-10"	15'-3/2"	7"	12'-5"	6"	1'-3"	9'-10"	5.4	554	50.50	2	15'-2"	2	10'-1"
5 x 4	18'-10"	19'-5"	7"	14'-5"	6"	1'-3"	13'-10"	7.4	765	67.17	2	19'-4"	2	14'-3"
6 x 3	14'-10"	15'-3/2"	7"	13'-5"	6"	1'-9"	11'-10"	5.8	583	54.67	2	15'-2"	2	12'-2"
6 x 4	18'-10"	19'-5"	7"	15'-5"	6"	0'-6"	10'-10"	8.0	800	80.33	3	19'-4"	2	11'-2"
7 x 3	14'-10"	15'-3/2"	7"	14'-5"	6 1/2"	2'-3"	13'-10"	6.5	614	58.83	2	15'-2"	2	14'-3"
7 x 4	18'-10"	19'-5"	7"	16'-5"	6 1/2"	1'-0"	12'-10"	8.8	635	84.33	3	19'-4"	2	13'-2"
8 x 4	18'-10"	19'-5"	7"	17'-5"	7"	0'-3"	9'-10"	9.6	871	97.50	4	19'-4"	2	10'-1"

**PIPE ARCH AND ELLIPTICAL PIPE CULVERTS**

FOR PIPE ARCH OR ELLIPTICAL PIPE CULVERTS SELECT APPROPRIATE "S" & "H" FROM SIZES SHOWN. ADD THE FOLLOWING ADDITIONAL BARS:

- (a) 1 ADDITIONAL Y BAR
- (b) #4 - T1 BARS @ APPROX. 12" CTS. (NO. = S + 2)



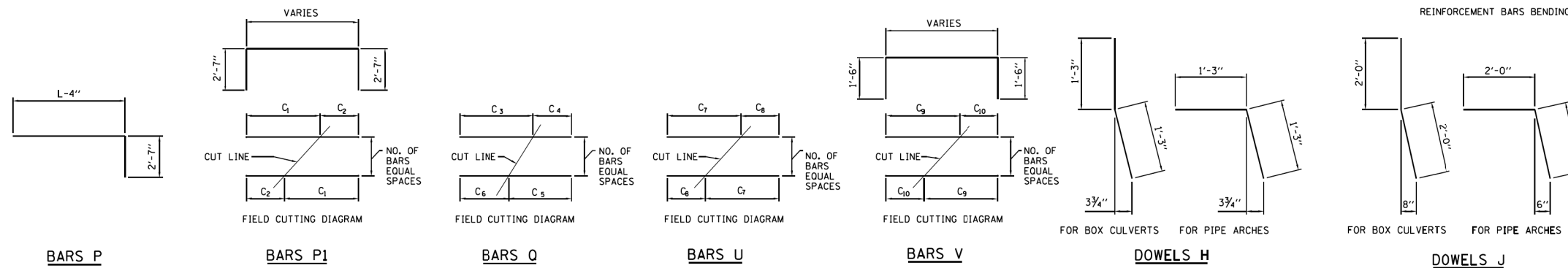
**T1 BARS**

THE WEIGHT OF THE ADDITIONAL BARS AND THE ADDITIONAL QUANTITY OF CONCRETE IN THE HEADWALL SHALL BE ADDED TO THE QUANTITIES SHOWN.

CULVERT SIZE	TABLE OF REINFORCING STEEL FOR ONE END																														
	DOWEL H #4 @ 12"		DOWEL J #6		BARS P #4 @ 12"		BARS P1 #4 @ 12"			BARS Q #4 @ 12"					BARS R 3-#4	BARS S 4-#4	BARS U #4 @ 12"			BARS V #4 @ 12"			4 BARS W	BARS Y 8-#5	BARS T 8-#5 BOX CULVERT	BARS T 8-#5 PIPE ARCH					
S x H	NO.	LENGTH.	NO.	LENGTH.	NO.	LENGTH.	NO.	C <sub>1</sub>	C <sub>2</sub>	LENGTH.	NO.	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	LENGTH.	LENGTH.	LENGTH.	NO.	C <sub>7</sub>	C <sub>8</sub>	LENGTH.	NO.	C <sub>9</sub>	C <sub>10</sub>	LENGTH.	SIZE	LENGTH.	LENGTH.	LENGTH.	LENGTH.
3 x 2	6	2'-6"	4	4'-0"	4	13'-1"	2	8'-4"	4'-4"	17'-10"	5	8'-8"	4'-2"	6'-2"	6'-8"	12'-10"	8'-9"	10'-10"	2	8'-7"	4'-5"	13'-0"	10	2'-9"	6"	6'-3"	#5	10'-4"	3'-8"	3'-2"	3'-8"
3 x 3	8	2'-6"	4	4'-0"	4	17'-1"	3	12'-4"	4'-4"	21'-10"	7	10'-8"	4'-2"	7'-2"	7'-8"	14'-10"	10'-9"	15'-0"	3	12'-8"	4'-5"	17'-1"	14	3'-9"	6"	7'-3"	#5	14'-6"	3'-8"	4'-2"	4'-8"
4 x 2	6	2'-6"	4	4'-0"	5	13'-1"	2	8'-4"	4'-4"	17'-10"	5	9'-8"	5'-2"	7'-2"	7'-8"	14'-10"	9'-9"	10'-10"	2	8'-7"	4'-5"	13'-0"	10	2'-9"	6"	6'-3"	#5	10'-4"	3'-8"	3'-2"	3'-8"
4 x 3	8	2'-6"	4	4'-0"	5	17'-1"	3	12'-4"	4'-4"	21'-10"	7	11'-8"	5'-2"	8'-2"	8'-8"	16'-10"	11'-9"	15'-0"	3	12'-8"	4'-5"	17'-1"	14	3'-9"	6"	7'-3"	#5	14'-6"	4'-8"	4'-2"	4'-8"
4 x 4	10	2'-6"	4	4'-0"	5	21'-1"	4	16'-4"	4'-4"	25'-10"	9	13'-8"	5'-2"	9'-2"	9'-8"	18'-10"	13'-9"	19'-1"	4	16'-9"	4'-5"	21'-2"	18	4'-9"	6"	8'-3"	#6	18'-7"	4'-8"	5'-2"	5'-8"
5 x 2	6	2'-6"	4	4'-0"	6	13'-1"	2	8'-4"	4'-4"	17'-10"	5	10'-8"	6'-2"	8'-2"	8'-8"	16'-10"	10'-9"	10'-10"	2	8'-7"	4'-5"	13'-0"	10	2'-9"	6"	6'-3"	#5	10'-4"	3'-2"	3'-8"	
5 x 3	8	2'-6"	4	4'-0"	6	17'-1"	3	12'-4"	4'-4"	21'-10"	7	12'-8"	6'-2"	9'-2"	9'-8"	18'-10"	12'-9"	15'-0"	3	12'-8"	4'-5"	17'-1"	14	3'-9"	6"	7'-3"	#5	14'-6"	5'-8"	4'-2"	4'-8"
5 x 4	10	2'-6"	4	4'-0"	6	21'-1"	4	16'-4"	4'-4"	25'-10"	9	14'-8"	6'-2"	10'-2"	10'-8"	20'-10"	14'-9"	19'-1"	4	16'-9"	4'-5"	21'-2"	18	4'-9"	6"	8'-3"	#6	18'-7"	5'-8"	5'-2"	5'-8"
6 x 3	8	2'-6"	4	4'-0"	7	17'-1"	3	12'-4"	4'-4"	21'-10"	7	13'-8"	7'-2"	10'-2"	10'-8"	20'-10"	13'-9"	15'-0"	3	12'-8"	4'-5"	17'-1"	14	3'-9"	6"	7'-3"	#5	14'-6"	6'-8"	4'-2"	4'-8"
6 x 4	10	2'-6"	4	4'-0"	7	21'-1"	4	16'-4"	4'-4"	25'-10"	9	15'-8"	7'-2"	11'-2"	11'-8"	22'-10"	15'-9"	19'-1"	4	16'-9"	4'-5"	21'-2"	18	4'-9"	6"	8'-3"	#6	18'-7"	6'-8"	5'-2"	5'-8"
7 x 3	8	2'-6"	4	4'-0"	8	17'-1"	3	12'-4"	4'-4"	21'-10"	7	14'-8"	8'-2"	11'-2"	11'-8"	22'-10"	14'-9"	15'-0"	3	12'-8"	4'-5"	17'-1"	14	3'-9"	6"	7'-3"	#5	14'-6"	7'-8"	4'-2"	4'-8"
7 x 4	10	2'-6"	4	4'-0"	8	21'-1"	4	16'-4"	4'-4"	25'-10"	9	16'-8"	8'-2"	12'-2"	12'-8"	24'-10"	16'-9"	19'-1"	4	16'-9"	4'-5"	21'-2"	18	4'-9"	6"	8'-3"	#6	18'-7"	7'-8"	5'-2"	5'-8"
8 x 4	10	2'-6"	4	4'-0"	9	21'-1"	4	16'-4"	4'-4"	25'-10"	9	17'-8"	9'-2"	13'-2"	13'-8"	26'-10"	17'-9"	19'-1"	4	16'-9"	4'-5"	21'-2"	18	4'-9"	6"	8'-3"	#6	18'-7"	8'-8"	5'-3"	5'-8"

**NOTE:**

REINFORCEMENT BARS BENDING DIMENSIONS ARE OUT TO OUT.



SAFETY END TREATMENT FOR SINGLE CULVERTS  
0° SKEW 1:4 SLOPE H ≤ 4'

STANDARD B13-03

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 6-1-2009

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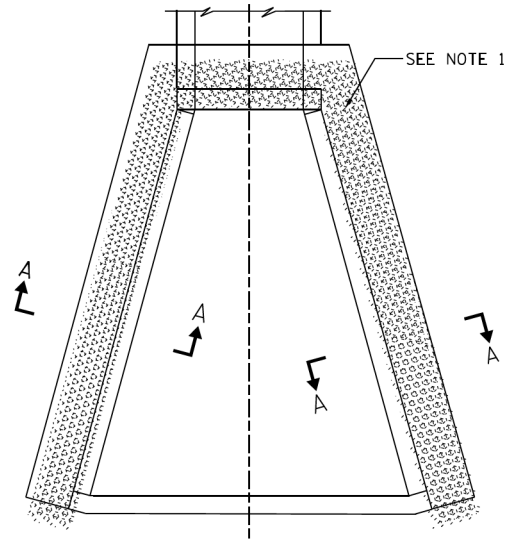
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

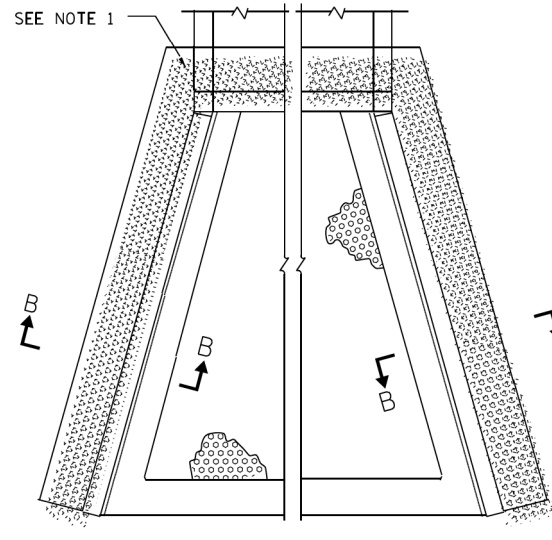
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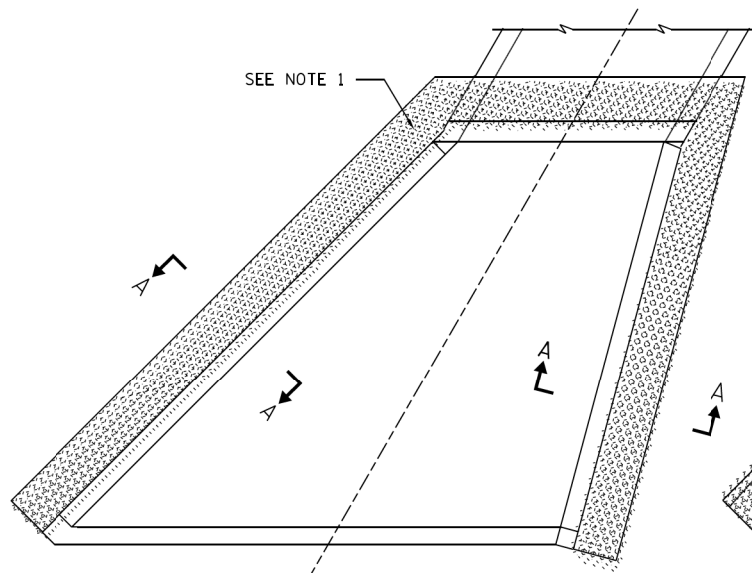
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CONTRACT NO. 60L77  
ILLINOIS FED. AID PROJECT



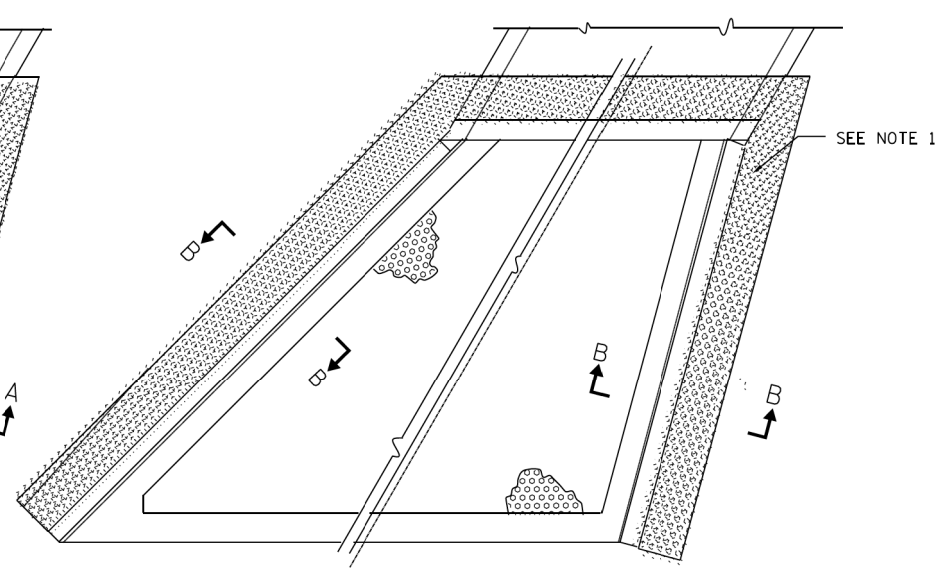
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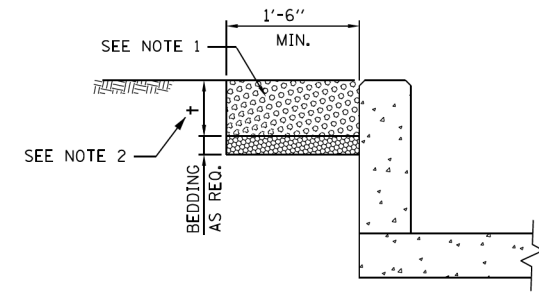
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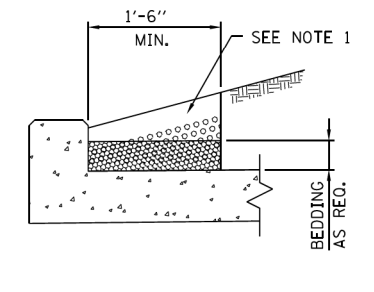
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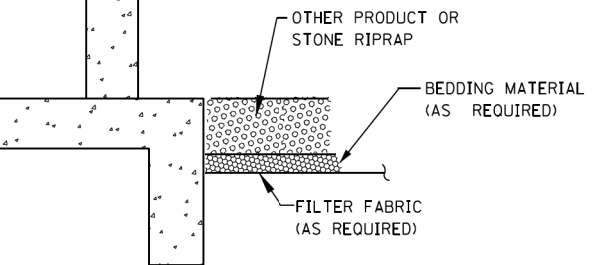
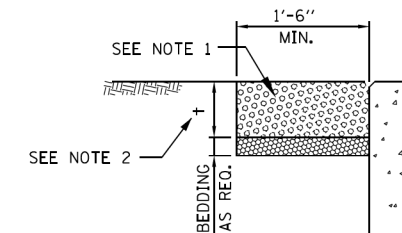
PLAN-SKEW, H ≤ 8'



SECTION A-A



SECTION AT HEADWALL



SECTION B-B

**NOTES:**

1. THE PREFERRED METHOD FOR ACHIEVING EROSION PROTECTION AT END SECTIONS SHOULD BE THROUGH THE USE OF PRODUCTS THAT PROMOTE REVEGETATION WITHIN THE AREA OF CONCERN.
2. THICKNESS "t" WILL BE DETERMINED BY THE MANUFACTURE'S RECOMMENDATION FOR THE PRODUCT USED. STONE RIPRAP SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
3. EROSION PROTECTION PLACEMENT SHALL BE INSTALLED FLUSH WITH ADJACENT GRADE.
4. FOR USE WITH STANDARDS B10 TO B18.

*Paul Kovacs*  
APPROVED..... DATE 3-1-2010...  
CHIEF ENGINEER

DATE	REVISIONS
3-1-2010	REVISED EROSION PROTECTION AND NOTES

**Illinois Tollway**  
*Open Roads for a Faster Future*

EROSION PROTECTION

STANDARD B19-01

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

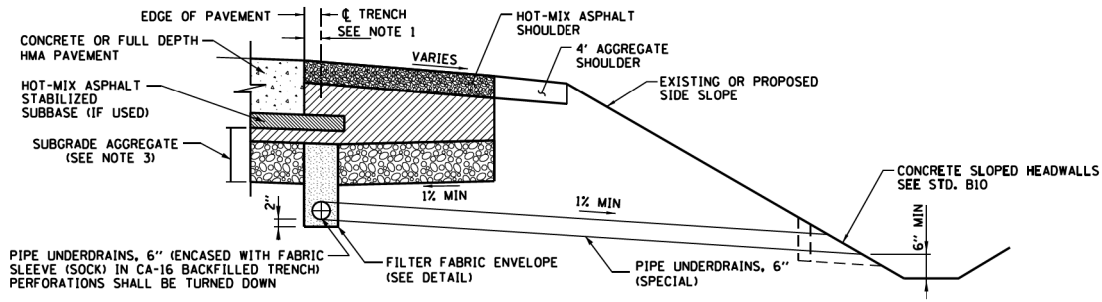
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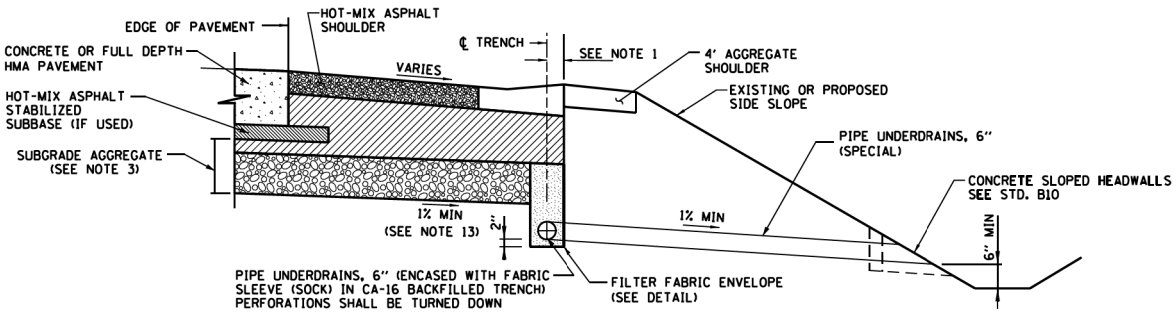
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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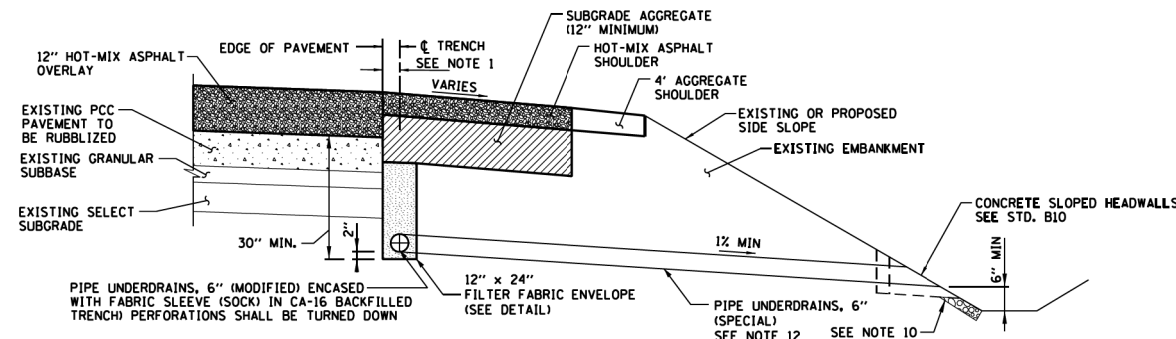




**DETAIL OF PIPE UNDERDRAIN, 6"**  
(NEW CONSTRUCTION OR WIDENING WITHOUT GUTTER)

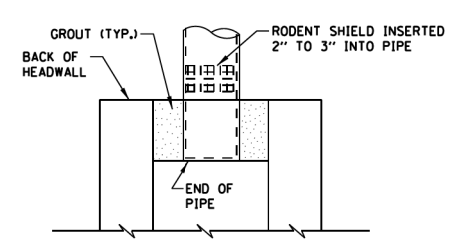


**DETAIL OF PIPE UNDERDRAIN, 6"**  
(NEW CONSTRUCTION OR WIDENING WITH GUTTER)

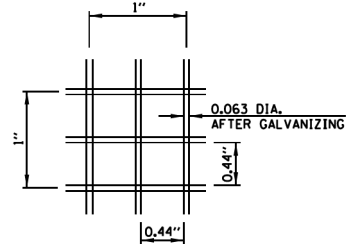


**DETAIL OF PIPE UNDERDRAIN, 6" (MODIFIED)**  
(RUBBLIZED CONCRETE PAVEMENT)

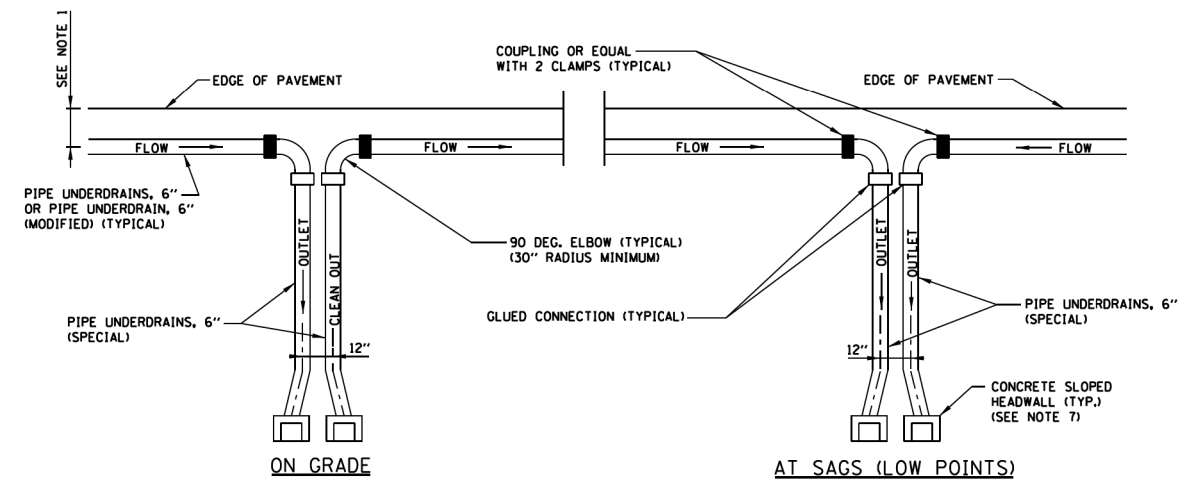
MAXIMUM ALLOWABLE DRAINAGE DISTANCE TO OUTLET OR SEPARATION DISTANCE BETWEEN OUTLETS (SEE NOTE 11)	
ROADWAY PROFILE GRADE (%)	DISTANCE
≤ 1	250 FT.
BETWEEN 1 AND 2	375 FT.
≥ 2	500 FT. (NOTE 6)



**RODENT SHIELD PLACEMENT**



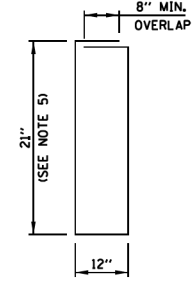
**SECTION A-A**



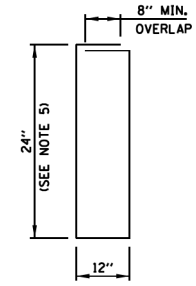
**ON GRADE**

**AT SAGS (LOW POINTS)**

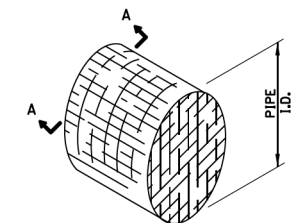
**DETAIL OF PIPE UNDERDRAIN OUTLETS**  
(SEE NOTE 8)



**FILTER FABRIC ENVELOPE**  
(NEW CONSTRUCTION OR WIDENING)



**FILTER FABRIC ENVELOPE**  
(RUBBLIZED CONCRETE PAVEMENT)



**DETAIL OF RODENT SHIELD**

**NOTES FOR PIPE UNDERDRAIN**

- FOR NEW CONSTRUCTION WITH A GUTTER AT THE EDGE OF SHOULDER THE PROPOSED PIPE UNDERDRAIN SHALL BE LOCATED UNDER THE GUTTER AS SHOWN. FOR NEW CONSTRUCTION WITHOUT A GUTTER THE PROPOSED PIPE UNDERDRAIN SHALL BE AT THE EDGE OF PAVEMENT WITH A DIMENSION OF 6". FOR RUBBLIZED PAVEMENT THE DISTANCE SHALL BE 6".
- FOR NEW CONSTRUCTION OR WIDENING PROJECTS, THE PIPE UNDERDRAIN INSTALLATION SHALL OCCUR AFTER SUBGRADE HAS BEEN PREPARED AND AFTER LIFT OF PGE BASE IS PLACED AND BEFORE 3" AND VARIES CA-6 CAPPING STONE IS PLACED. FOR PAVEMENT RUBBLIZATION PROJECTS, THE PIPE UNDERDRAIN SHALL BE INSTALLED PRIOR TO RUBBLIZATION.
- SUBGRADE AGGREGATE SHALL CONSIST OF A 3" AND VARIES CA-6 CAP ABOVE A PGE BASE, THICKNESS AS NOTED IN THE PLANS.
- ON SUPERELEVATED CURVES PLACE LONGITUDINAL UNDERDRAIN ON LOW SIDE ONLY.
- IN AREAS WHERE ROADWAY LONGITUDINAL GRADE IS LESS THAN 0.3%, DIMENSION WILL INCREASE AS NECESSARY TO MAINTAIN MINIMUM 0.3% SLOPE IN PIPE UNDERDRAIN.
- IF 500' MAXIMUM DISTANCE IS EXCEEDED, PIPE UNDERDRAIN SHALL BE INCREASED TO 8" DIAMETER AND TRENCH WIDTH INCREASED TO 16".
- AT OUTLET LOCATIONS, PIPE UNDERDRAINS SHALL SEPARATE SUFFICIENTLY TO PROVIDE SPACE FOR TWO END SECTIONS, OR TWO PIPES CAN RUN PARALLEL INTO A LARGER HEADWALL.
- IN AREAS WHERE A CLOSED DRAINAGE SYSTEM EXISTS, THE PIPE UNDERDRAIN, 6" (SPECIAL) SHALL DRAIN TO THE NEAREST CATCH BASIN. THE UPPER END OF A RUN ON GRADE SHALL ALSO BE CONNECTED TO A CATCH BASIN TO BE USED AS A CLEANOUT.
- THE OUTLET END OF THE SUBDRAIN SHALL BE PROTECTED BY A PERMANENT RODENT SHIELD. THE RODENT SHIELD SHALL HAVE THE CONFIGURATION SHOWN AND BE CONSTRUCTED FROM HOT DIP GALVANIZED STEEL INDUSTRIAL WIRE CLOTH 3x3 MESH, 0.063"x0.063" WIRE SIZE IN ACCORDANCE WITH AASHTO M232 (ASTM A153). THE COST OF THE RODENT SHIELD IS INCLUDED IN CLASS 51 CONCRETE.
- FOR RUBBLIZATION PROJECTS, ADDITIONAL EROSION CONTROL MEASURES MAY BE NECESSARY AT THE BASE OF THE HEADWALL.
- FOR RUBBLIZATION PROJECTS, MAXIMUM DISTANCE SHALL BE 250 FT. REGARDLESS OF ROADWAY PROFILE.
- TRENCH FOR PIPE UNDERDRAIN 6" (SPECIAL) FOR RUBBLIZATION PROJECTS SHALL BE BACKFILLED WITH CA-6.
- BOTTOM OF SUBGRADE SLOPE SHALL MATCH PAVEMENT SLOPE OF OUTSIDE LANE, BUT SHALL NOT BE LESS THAN 1%.



DATE	REVISIONS
6-1-09	CHANGES TO PIPE UNDERDRAIN, 6" (MODIFIED) DETAIL

PIPE UNDERDRAINS	
STANDARD B24-01	

*Paul Kovacs*  
APPROVED..... CHIEF ENGINEER..... DATE 6-1-2009...

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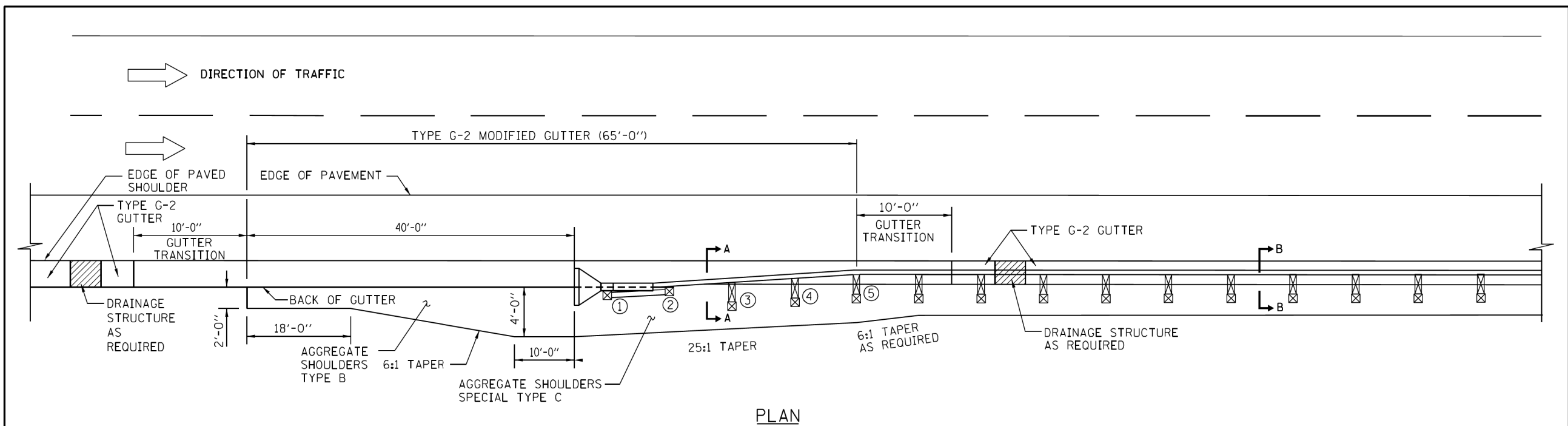
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

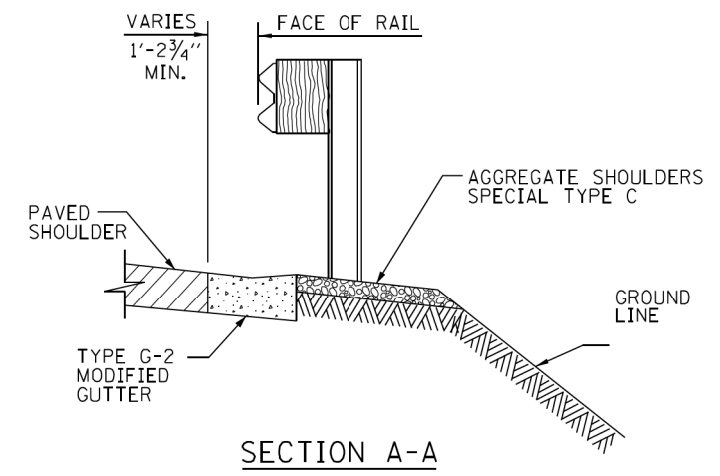
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	629
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

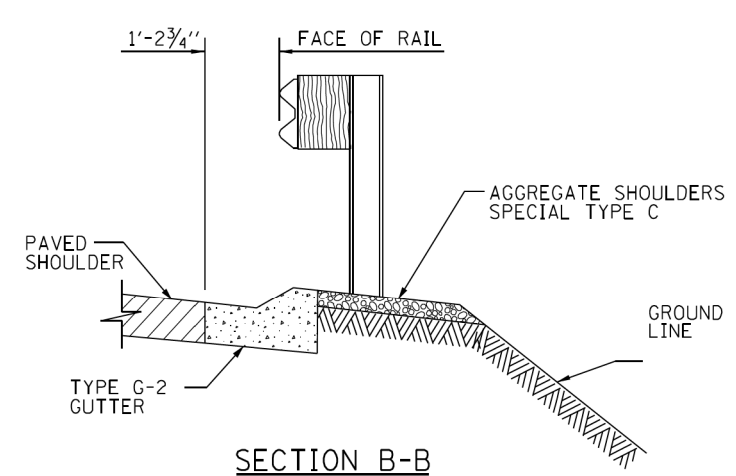
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PLAN



SECTION A-A



SECTION B-B

**NOTE:**  
GUTTER TRANSITIONS WILL BE PAID FOR PER FOOT AS TYPE G-2 GUTTER.

TYPE G-2 GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T1-A (SPECIAL)

*Paul Kovacs*  
APPROVED..... DATE: 1-1-2011.....  
CHIEF ENGINEER

<b>REVISIONS</b>		
GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL, TYPE T1-A (SPECIAL)		STANDARD B29-00

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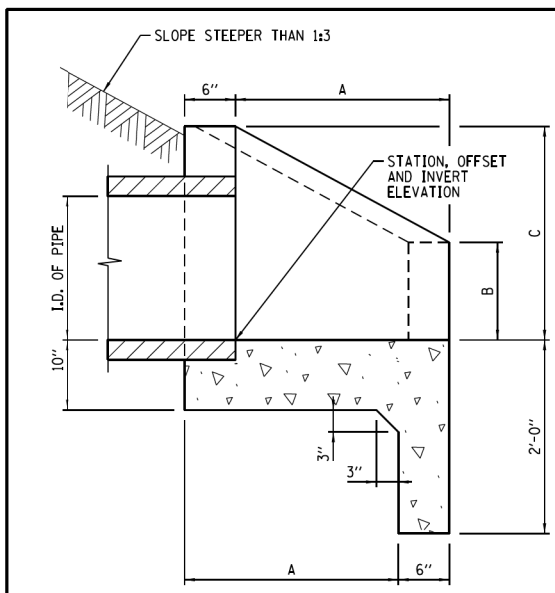
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOLLWAY STANDARD DRAWING**

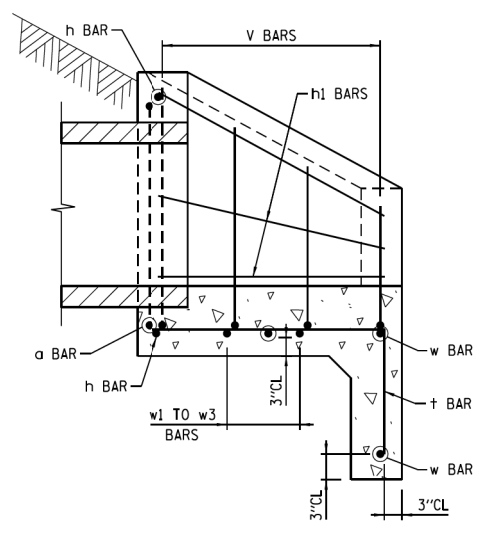
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

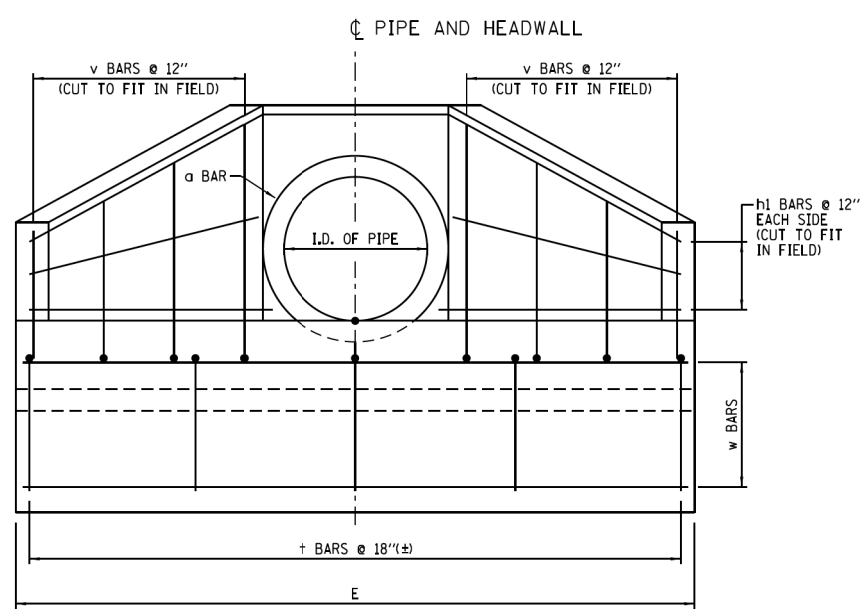
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**SECTION A-A**  
(DIMENSIONS)

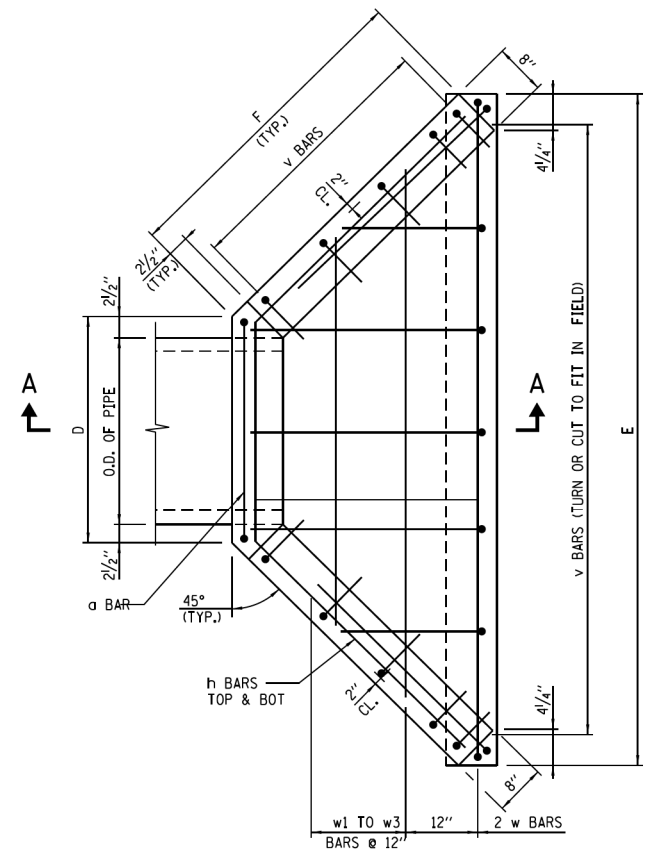


**SECTION A-A**  
(REINFORCEMENT)

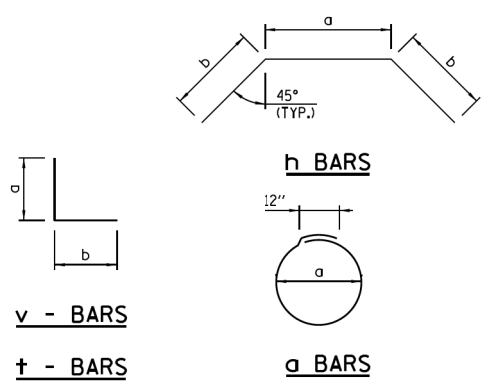


**FRONT ELEVATION**

- NOTES:**
- SLOPED HEADWALL TYPES I AND II SHALL BE CONSTRUCTED FLUSH WITH EXISTING OR PROPOSED SLOPE.
  - CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
  - ALL REINFORCEMENT BARS SHOWN SHALL BE EPOXY COATED.
  - BAR BENDING DETAILS ARE DIMENSIONED OUT TO OUT OF BARS.
  - ALL EXPOSED EDGES SHALL HAVE A 3/4"-45° CHAMFER. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW THE FINISHED GROUND LINE.
  - COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BAR SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.
  - CARE SHALL BE EXERCISED IN REMOVING ANY LENGTH OF EXISTING PIPE SO THE REMAINING PIPE IS UNDAMAGED AND FULLY FUNCTIONING.
  - ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT.
  - TYPES I AND II HEADWALLS TO BE USED ONLY FOR SLOPES STEEPER THAN 1:3. DIMENSIONS AND QUANTITIES ARE BASES ON A SLOPE 1:2.
  - I.D. DENOTES INSIDE DIAMETER OF PIPE.  
O.D. DENOTES OUTSIDE DIAMETER OF PIPE.



**PLAN**



v - BARS  
t - BARS

**TABLE OF DIMENSIONS AND QUANTITIES FOR ONE HEADWALL**

INSIDE DIA. OF PIPE	SLOPE OF FILL	DIMENSIONS						CL. SI CONC.	REINF. BARS.
		A	B	C	D	E	F		
21"	1:3	2'-6"	1'-2"	2'-6"	2'-8"	7'-11 1/2"	3'-6 1/2"	1.6 C.Y.	75 *
24"	1:3	2'-10"	1'-4"	2'-9"	2'-11"	8'-10 1/2"	4'-2 1/2"	2.1 C.Y.	80 *
27"	1:3	3'-2"	1'-8"	3'-0"	3'-3"	9'-7"	4'-5 3/4"	2.0 C.Y.	100 *
30"	1:3	3'-4"	1'-7"	3'-3"	3'-6"	10'-5 1/2"	4'-11"	2.7 C.Y.	120 *
36"	1:3	4'-0"	1'-10"	3'-10"	4'-1"	12'-4 1/2"	5'-10 1/2"	3.6 C.Y.	145 *

**TABLE OF REINFORCING STEEL FOR ONE HEADWALL**

BAR	21" I.D. PIPE				24" I.D. PIPE				27" I.D. PIPE				30" I.D. PIPE				36" I.D. PIPE				
	MARK	SIZE	NO.	LENGTH	a	b	NO.	LENGTH	a	b	NO.	LENGTH	a	b	NO.	LENGTH	a	b			
a	#4	1	9'-3"	3 1/2"	-	1	10'-2"	35"	-	1	11'-1"	38 1/2"	-	1	12'-0"	42"	-	1	13'-10"	49"	-
h	#4	2	8'-7"	2'-3"	3'-2"	2	10'-2"	2'-6"	3'-10"	2	11'-0"	2'-10"	4'-1"	2	9'-5"	3'-1"	3'-2"	2	11'-0"	3'-8"	4'-1"
h1	#4	4	3'-2"	-	-	4	3'-10"	-	-	4	4'-2"	-	-	5	4'-7"	-	-	6	5'-6"	-	-
v	#4	8	4'-0"	1'-0"	3'-0"	8	4'-3"	1'-0"	3'-3"	8	4'-6"	1'-0"	3'-6"	10	4'-9"	1'-0"	3'-9"	10	5'-4"	1'-0"	4'-4"
t	#4	6	4'-0"	1'-6"	2'-6"	6	4'-3"	1'-6"	2'-9"	6	4'-8"	1'-6"	3'-1"	7	4'-10"	1'-6"	3'-4"	8	5'-4"	1'-6"	3'-10"
w	#4	2	7'-7"	-	-	2	8'-6"	-	-	2	10'-1"	-	-	2	10'-0"	-	-	2	12'-0"	-	-
w1	#4	1	6'-0"	-	-	1	6'-11"	-	-	1	7'-11"	-	-	1	8'-7"	-	-	1	10'-6"	-	-
w2	#4	1	4'-0"	-	-	1	4'-11"	-	-	1	5'-11"	-	-	1	6'-7"	-	-	1	8'-6"	-	-
w3	#4	-	-	-	-	-	-	-	-	-	-	-	-	1	4'-7"	-	-	1	7'-6"	-	-

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

**HEADWALL - TYPE I**  
(PIPE DIAMETER ≤ 36")

DATE	REVISIONS
2-7-2012	ADDED 21" AND 27" DIA. PIPE AND REVISED TABLE QUANTITIES

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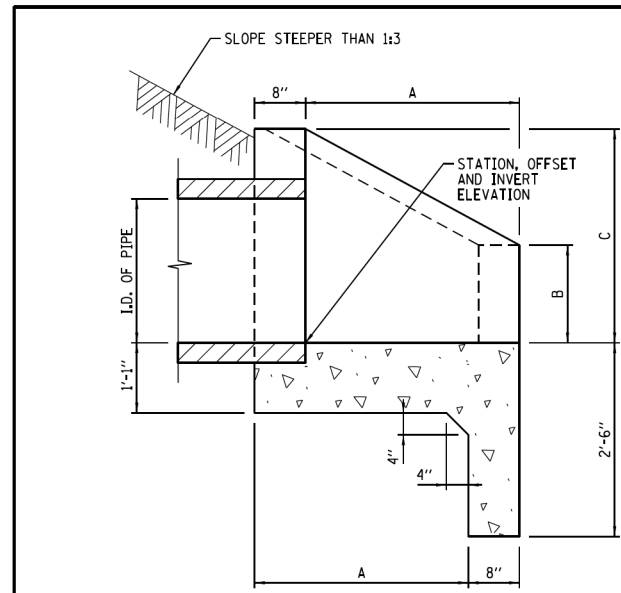
HEADWALLS  
TYPE I AND II

STANDARD B30-01

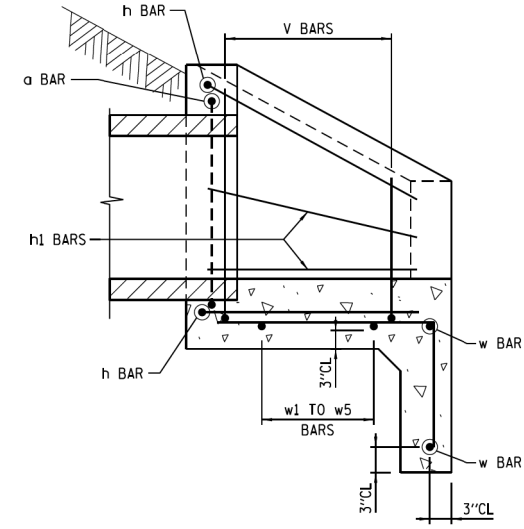
SHEET 1 OF 2

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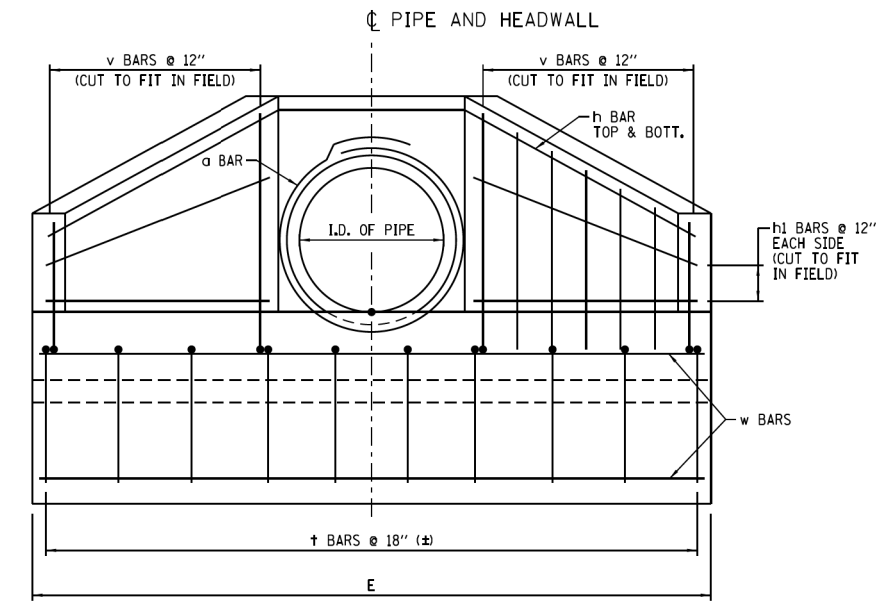
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		DATE - 6/19/2012	REVISED -			ILLINOIS FED. AID PROJECT					



**SECTION A-A**  
(DIMENSIONS)

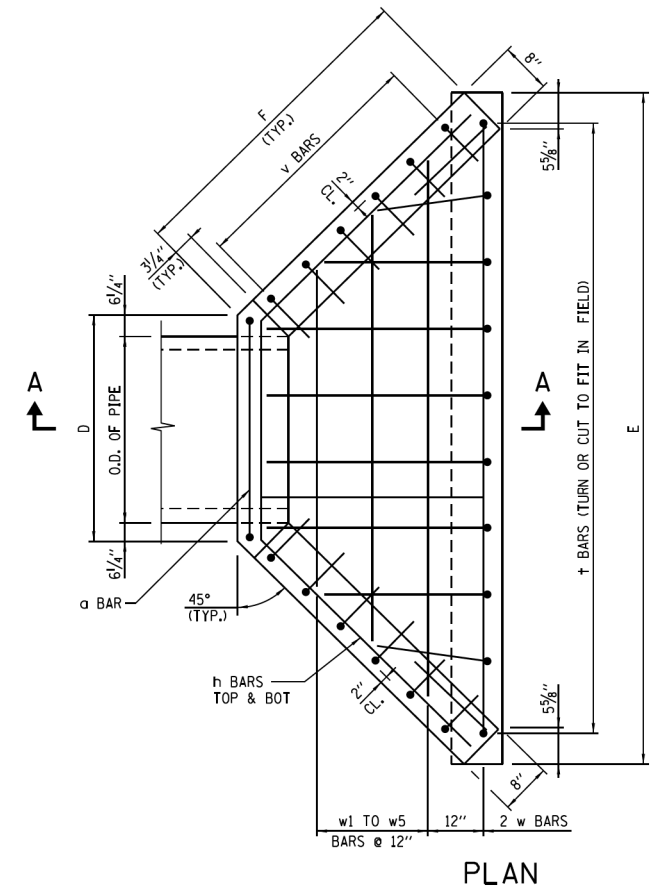


**SECTION A-A**  
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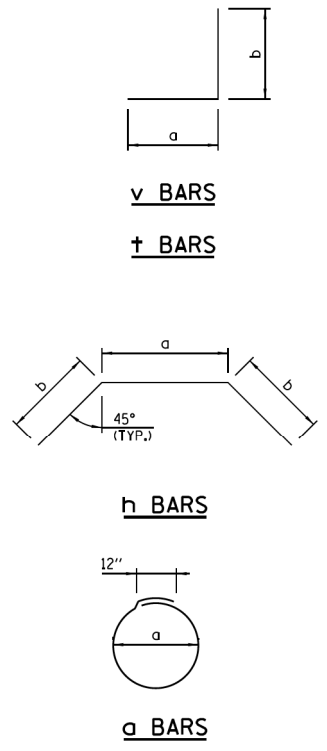


**FRONT ELEVATION**

**NOTE:**  
1. FOR ADDITIONAL NOTES SEE SHEET 1 OF 2 IN THIS SERIES.



**PLAN**



**HEADWALL - TYPE II**  
(PIPE DIAMETER ≥ 36")

**TABLE OF BARS FOR ONE HEADWALL**

BAR MARK	SIZE	NO.	42" PIPE		48" PIPE		54" I.D. PIPE		60" I.D. PIPE								
			LENGTH	a	b	NO.	LENGTH	a	b	NO.	LENGTH	a	b				
a	#5	2	15'-11"	4'-9"	-	2	17'-9"	5'-4"	-	2	19'-7"	5'-11"	-	2	21'-5"	6'-6"	-
h	#5	2	17'-7"	5'-3"	6'-2"	2	19'-9"	5'-9"	7'-0"	2	22'-0"	6'-4"	7'-10"	2	24'-1"	6'-9"	8'-8"
h1	#5	8	6'-6"	-	-	10	7'-4"	-	-	10	8'-2"	-	-	12	9'-0"	-	-
t	#5	10	6'-1"	1'-6"	4'-7"	11	6'-8"	1'-6"	5'-2"	13	7'-3"	1'-6"	5'-9"	15	7'-10"	1'-6"	6'-4"
v	#5	14	5'-10"	1'-0"	4'-10"	16	6'-6"	1'-0"	5'-6"	16	7'-1"	1'-0"	6'-1"	18	7'-8"	1'-0"	6'-8"
w	#5	2	14'-3"	-	-	2	15'-10"	-	-	2	17'-8"	-	-	2	18'-10"	-	-
w1	#5	1	12'-0"	-	-	1	13'-8"	-	-	1	15'-2"	-	-	1	16'-10"	-	-
w2	#5	1	10'-0"	-	-	1	11'-8"	-	-	1	13'-4"	-	-	1	15'-0"	-	-
w3	#5	1	8'-0"	-	-	1	9'-8"	-	-	1	11'-6"	-	-	1	13'-2"	-	-
w4	#5	-	-	-	-	1	8'-0"	-	-	1	9'-8"	-	-	1	11'-4"	-	-
w5	#5	-	-	-	-	-	-	-	-	-	7'-8"	-	-	1	9'-6"	-	-

**TABLE OF DIMENSIONS AND QUANTITIES FOR ONE HEADWALL**

INSIDE DIA. OF PIPE	SLOPE OF FILL	DIMENSIONS						CL. SP CONC.	REINF. BARS.
		A	B	C	D	E	F		
42"	1:3	4'-5"	2'-2"	4'-4 1/2"	5'-6"	14'-9"	6'-6 1/4"	3.8 C.Y.	400 #
48"	1:3	5'-0"	2'-5"	4'-11"	6'-0"	16'-4 3/4"	7'-4 1/4"	4.1 C.Y.	450 #
54"	1:3	5'-7"	2'-8"	5'-5 1/2"	6'-7"	18'-1 3/4"	8'-2"	5.6 C.Y.	500 #
60"	1:3	6'-2"	2'-11"	6'-0"	7'-0"	19'-2 3/4"	9'-0"	6.5 C.Y.	600 #

SHEET 2 OF 2



**HEADWALLS**  
TYPE I AND II  
STANDARD B30-01

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

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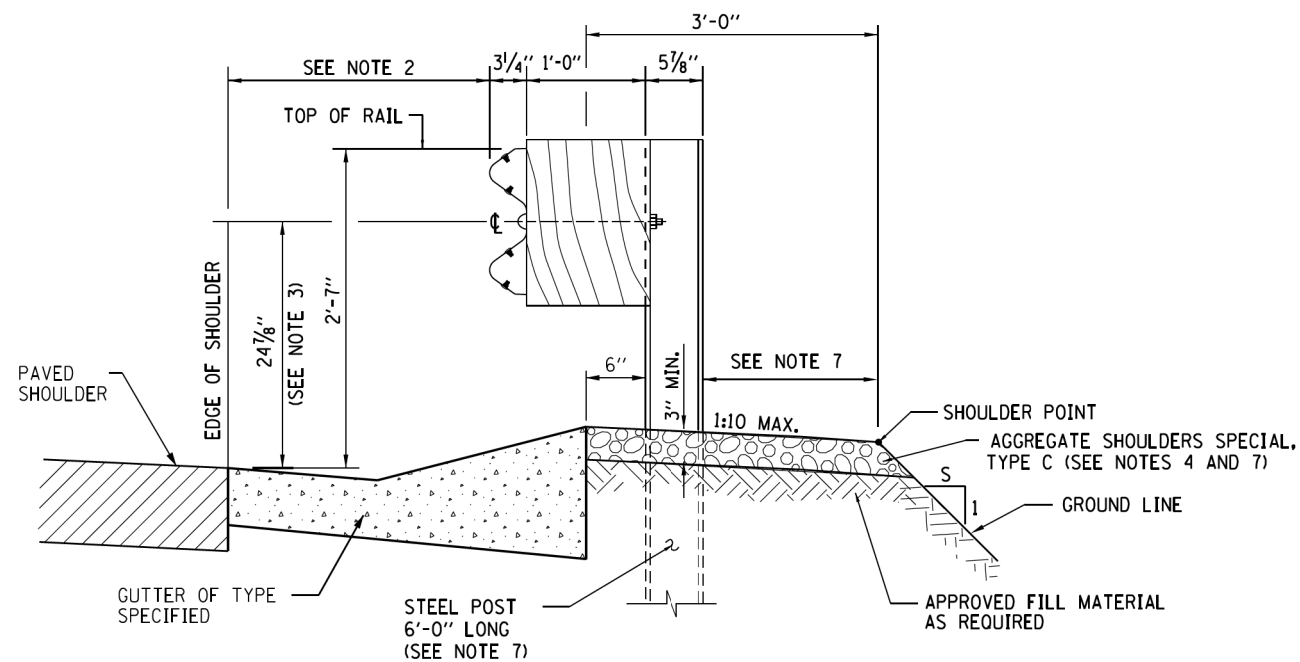
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**DEPARTMENT OF TRANSPORTATION**

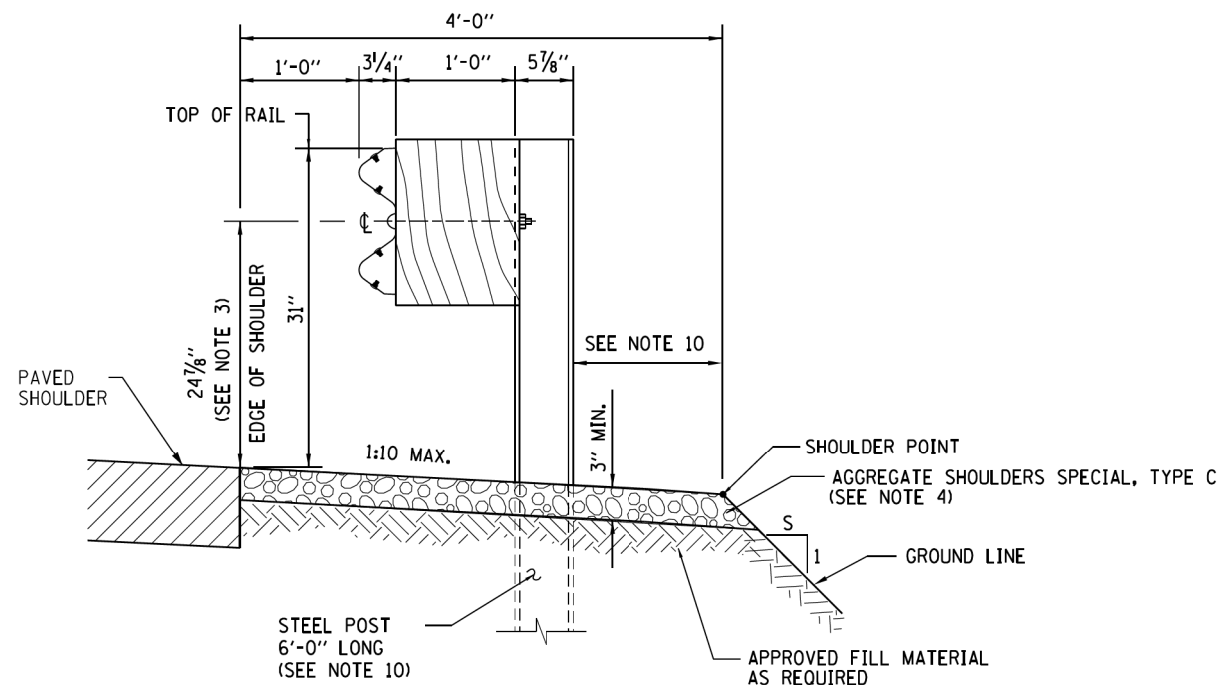
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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SECTION WITH GUTTER



SECTION WITHOUT GUTTER

GUARDRAIL INSTALLATION DETAILS

NOTES:

- 1' OFFSET FROM EDGE OF PAVED SHOULDER TO FACE OF RAIL IS TYPICAL FOR ALL INSTALLATIONS EXCEPT AS OTHERWISE DETAILED IN THE PLAN DRAWINGS.
- WHERE GUTTERS SUCH AS TYPE G-2, G-3 ARE REQUIRED IN FRONT OF THE GUARDRAIL, THE POSTS SHALL BE LOCATED 6" BEHIND THE GUTTER, OR AS OTHERWISE DETAILED IN THE PLANS. THE OFFSET FROM THE EDGE OF SHOULDER TO THE FACE OF THE GUARDRAIL SHALL BE AS SHOWN ON STANDARD B28.
- THE 24 7/8" TYPICAL RAIL HEIGHT IS MEASURED FROM EXISTING SURFACE 1' IN FRONT OF RAIL, OR FROM EDGE OF SHOULDER/EDGE OF GUTTER WHEN EDGE IS MORE THAN 1' IN FRONT OF RAIL TO CENTER OF RAIL.
- AGGREGATE SHOULDERS SPECIAL, TYPE C SHALL COMPLY WITH THE REQUIREMENTS OF THE TOLLWAY RECURRING SPECIAL PROVISION. WHERE GUTTER IS PROPOSED WITH GUARDRAIL, A 3" MINIMUM THICKNESS OF AGGREGATE SHOULDERS SPECIAL, TYPE C SHALL BE PLACED BEHIND CURB. FOR GUARDRAIL WITHOUT CURB & GUTTER, AGGREGATE SHOULDER, OF THE SAME THICKNESS SHALL BE PLACED FROM THE EDGE OF PAVED SHOULDER SLOPING AWAY TO A 3" MIN. THICKNESS.
- AGGREGATE SHOULDERS SPECIAL, TYPE C SHALL EXTEND A MINIMUM OF 1' BEHIND POST OR GUARDRAIL, WHICHEVER IS FURTHER, EXCEPT AS DETAILED ELSEWHERE IN THE PLANS.
- PLASTIC BLOCK-OUTS SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR WOOD BLOCK-OUTS ON NEW INSTALLATIONS.
- WHEN S ≤ 3 AND 3'-0" MIN. AGGREGATE SHOULDER CANNOT BE MET, THE POST LENGTH SHALL BE 9'-0" AND THE MIN. AGGREGATE SHOULDER SHALL BE 1'-0" MEASURED DISTANCE BEHIND POST TO THE SHOULDER POINT.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENTS (V:H).
- UNDER NO CIRCUMSTANCES SHALL AN EXISTING GUARDRAIL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE EXTENDED, ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
- WHEN S ≤ 3, THE POST LENGTH SHALL BE 9'-0" AND 4' AGGREGATE SHOULDER WIDTH MAINTAINED.
- THE GUARDRAIL SYSTEM HAS BEEN PERFORMANCE-TESTED FOR CRASHWORTHINESS UNDER PROCEDURES DEFINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350. NO MODIFICATION TO THIS STANDARD DRAWING SHALL BE PERMITTED.
- GUARDRAIL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR HMA PAVEMENT. WHEN NECESSARY USE LEAVE-OUT DETAIL ON SHEET 4 OF 4 OF THIS SERIES.
- GUARDRAIL POSTS SHALL NOT BE ATTACHED TO ANY STRUCTURE.

SHEET 1 OF 4



GALVANIZED STEEL PLATE BEAM GUARDRAIL  
STANDARD C1-05

REVISIONS	
7-1-2009	REVISED DIMENSIONS, NOTES AND ADDED DETAILS
3-1-2010	REVISED AGGREGATE SHOULDER DIMENSIONS AND NOTES ADDED GUARDRAIL POST LEAVE-OUTS
1-1-2011	SHEET LAYOUT REVISIONS AND CLARIFICATIONS.
2-7-2012	ADDED TYPE C GUARDRAIL, MODIFIED LEAVE-OUT CAP MATERIAL AND REVISED NOTES

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009

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DATE - 6/19/2012	REVISION -

DESIGNED -	REVISOR -
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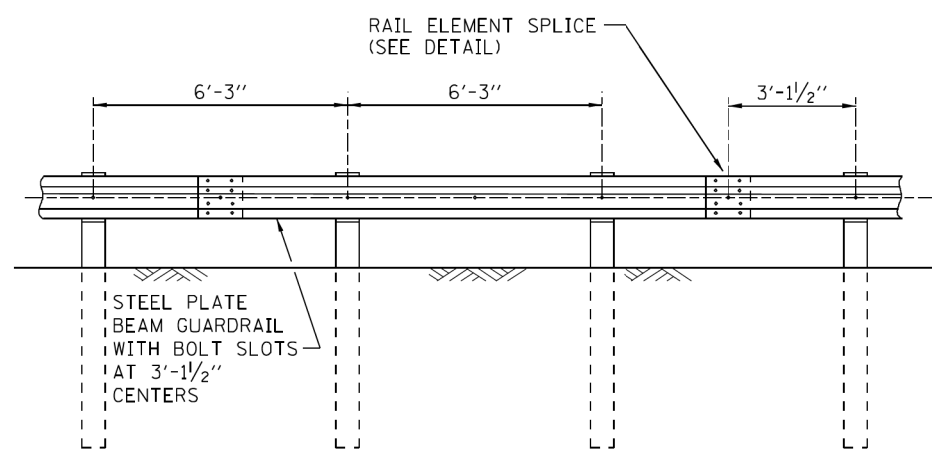
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

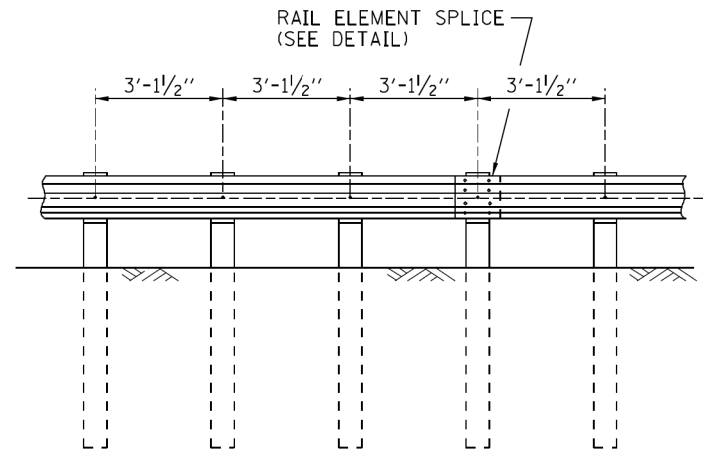
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

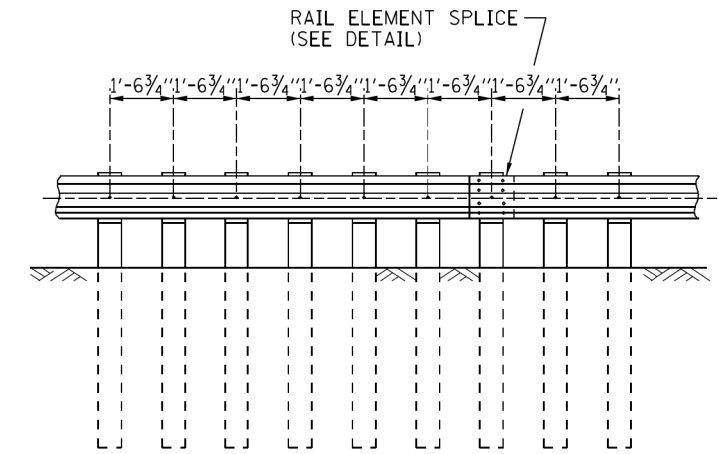
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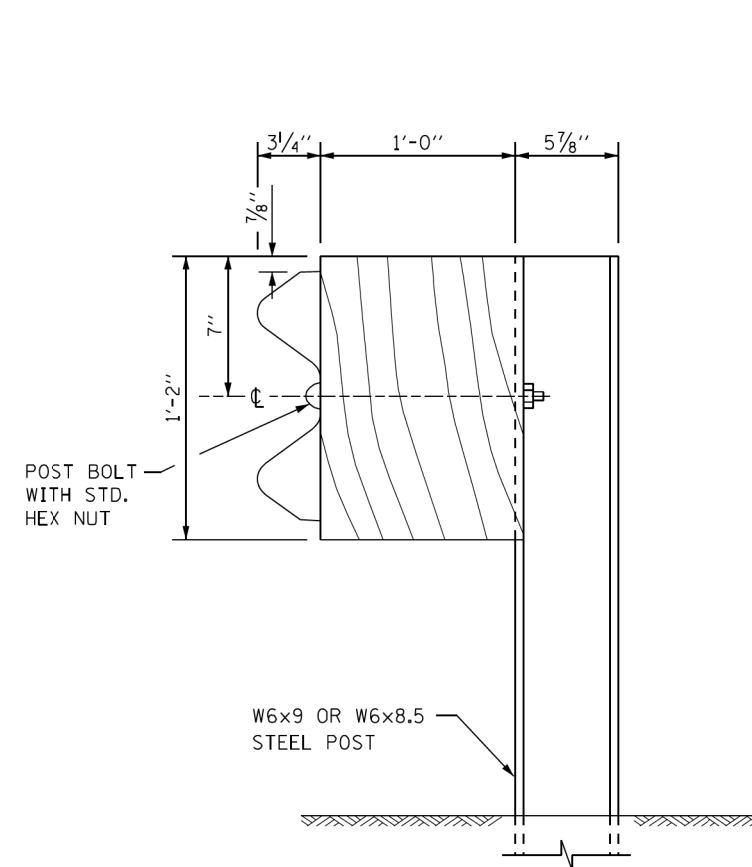
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**TYPE A**  
 6'-3" TYPICAL POST SPACING



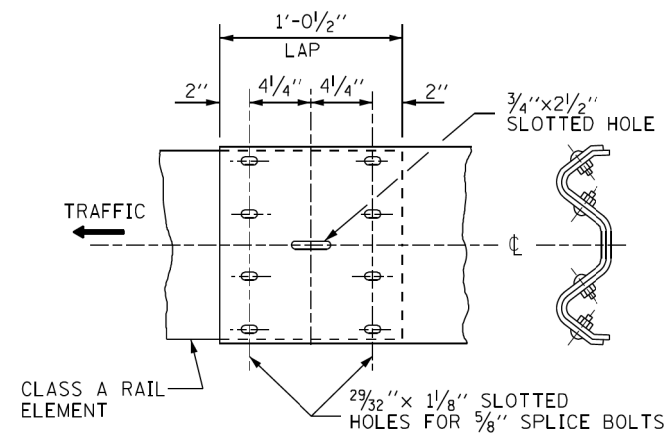
**ELEVATION**  
**TYPE B**  
 3'-1 1/2" 1/2 POST SPACING



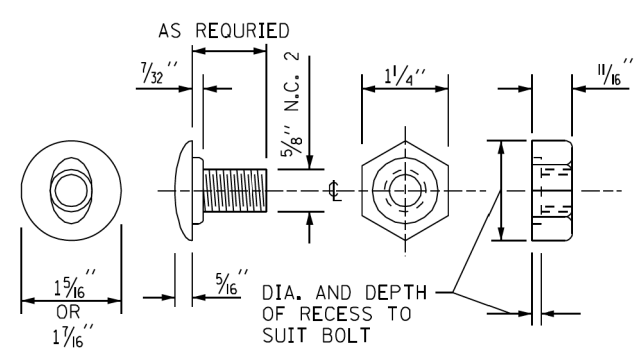
**ELEVATION**  
**TYPE C**  
 1'-6 3/4" 1/4 POST SPACING



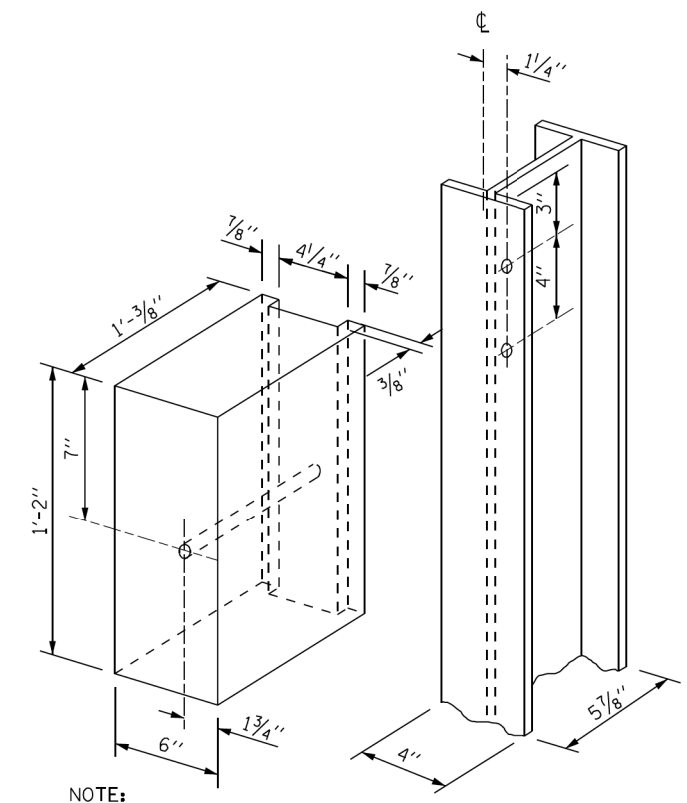
**STEEL POST CONSTRUCTION**



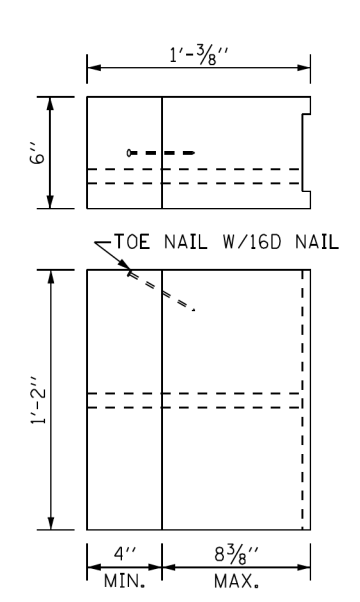
**RAIL ELEMENT SPLICE**



**POST OR SPLICE BOLT & NUT**



**WOOD BLOCK-OUT AND STEEL POST DETAILS**



**TWO-PIECE WOOD BLOCKOUT OPTION**

*Paul Kovacs*  
 APPROVED CHIEF ENGINEER DATE 7-1-2009

SHEET 2 OF 4

**Illinois Tollway**  
*Open Roads for a Faster Future*

**GALVANIZED STEEL PLATE BEAM GUARDRAIL**

**STANDARD C1-05**

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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**TOLLWAY STANDARD DRAWING**

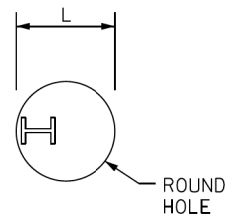
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

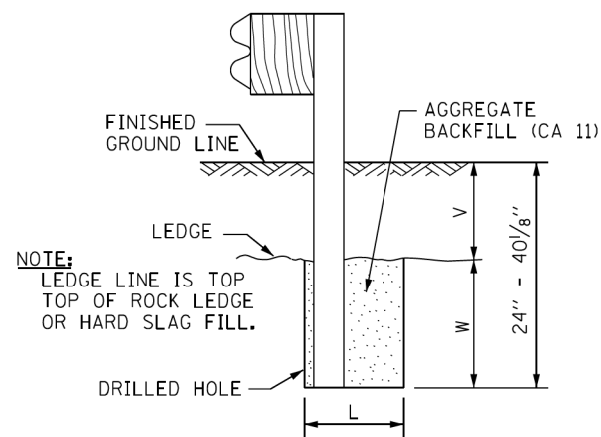
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TABLE 1			
V	W	L	
		STEEL POST	WOOD POST
0 - 16 1/8"	24"	21"	23"
> 16 1/8" - 28 1/8"	12"	8"	10"
> 28 1/8" - 40 1/8"	12" - 0 (*)	8"	10"

\* V+W=40 1/8"



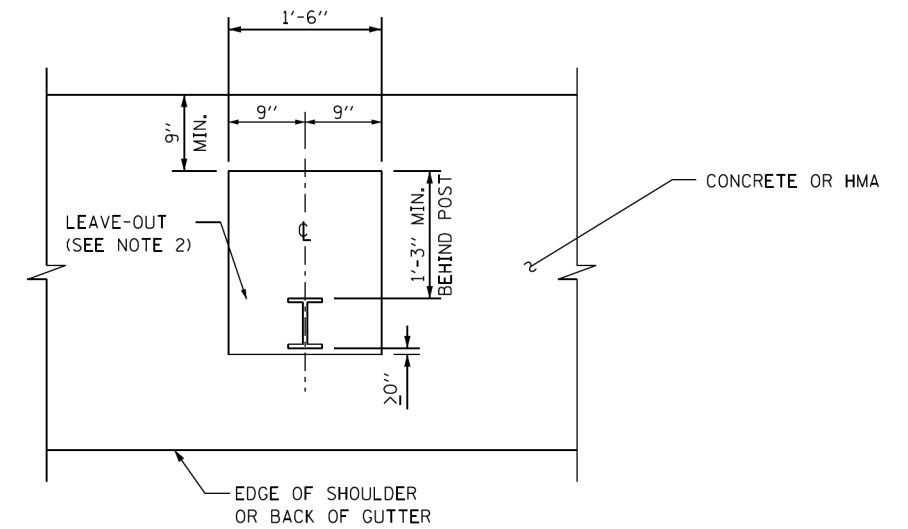
PLAN



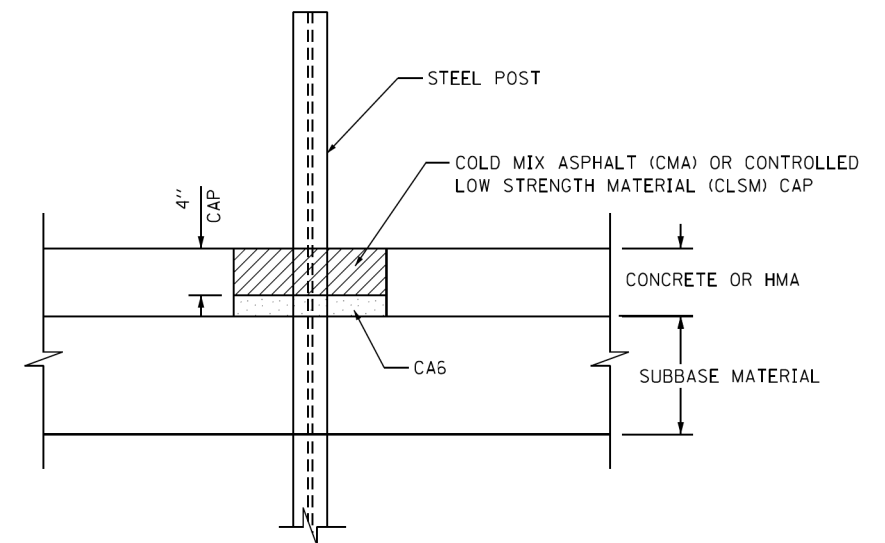
ELEVATION

**FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED**

*Paul Kovacs*  
APPROVED..... CHIEF ENGINEER..... DATE 7-1-2009..



PLAN



ELEVATION

**LEAVE-OUTS**

**NOTES:**

- CAP SHALL BE INSTALLED TO MATCH THE EXISTING CROSS SLOPE.
- THE LEAVE-OUT SHALL BE DEFINED AS THE AREA AROUND THE POST THAT IS EITHER OMITTED FROM THE NEW CONSTRUCTION OR REMOVED FROM THE EXISTING CONCRETE OR HMA.

SHEET 3 OF 4

**Illinois Tollway**  
*Open Roads for a Faster Future*

GALVANIZED STEEL PLATE  
BEAM GUARDRAIL

STANDARD C1-05

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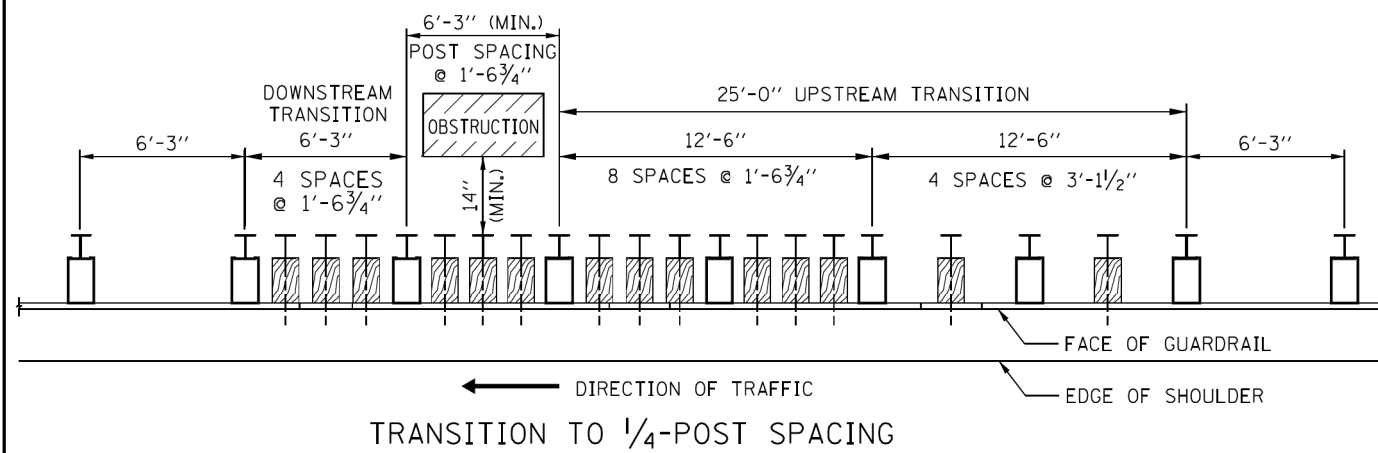
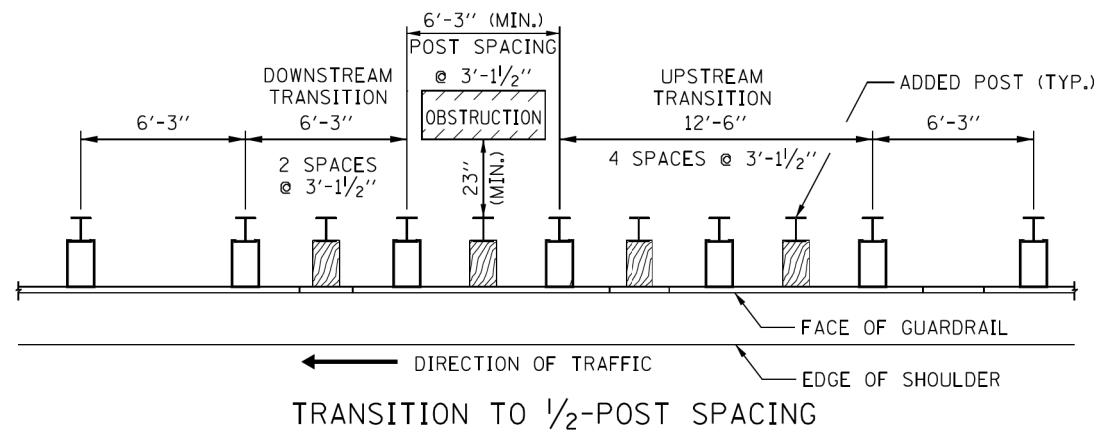
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SCALE: SHEET NO. N/A OF N/A SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	635
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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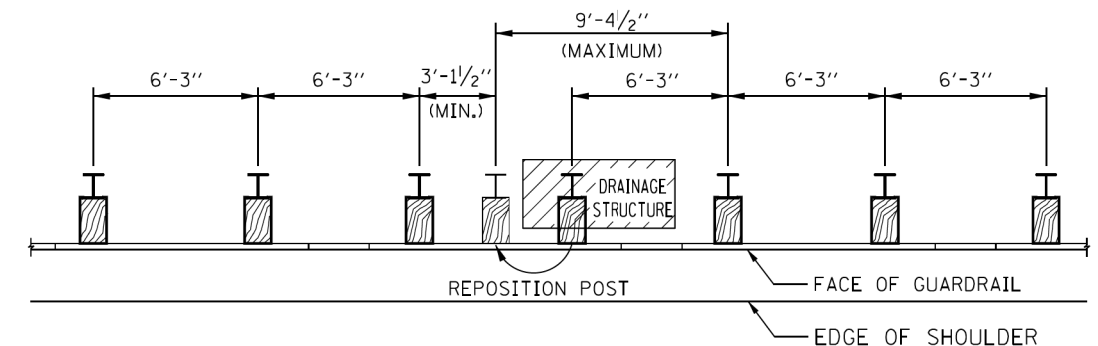
TABLE 2			
BARRIER CLEARANCE DISTANCE			
GUARDRAIL SYSTEM	POST SPACING	DESIRABLE BARRIER CLEARANCE DISTANCE	MINIMUM BARRIER CLEARANCE DISTANCE
TYPE A	6'-3"	42"	28"
TYPE B 1/2 POST SPACING	3'-1 1/2"	30"	23"
TYPE C 1/4 POST SPACING	1'-6 3/4"	24"	14"



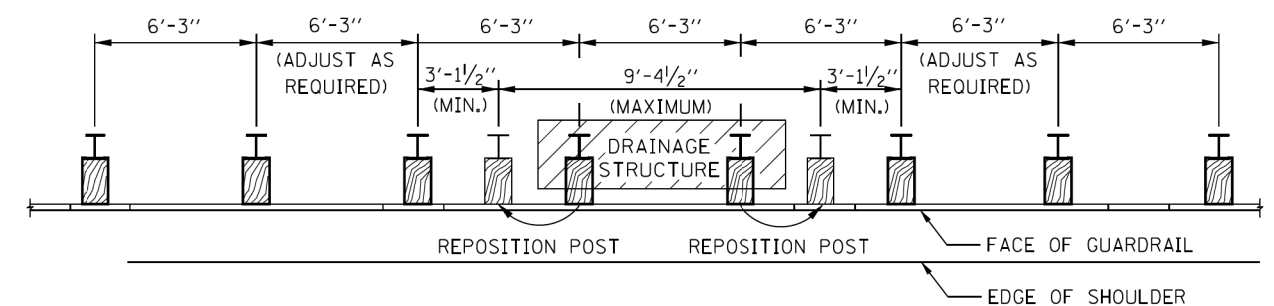
**NOTES:**

- DESIRABLE BARRIER CLEARANCE DISTANCES SHALL BE USED FOR ALL NEW INSTALLATIONS.
- MINIMUM BARRIER CLEARANCE DISTANCES ARE ONLY TO BE USED FOR EXISTING OBSTRUCTIONS.
- WHEN LENGTH OF OBSTRUCTION IS 1'-3" OR LESS, THE DOWNSTREAM TRANSITION SHALL BE OMITTED.

*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009



**TYPE A GUARDRAIL-DRAINAGE STRUCTURE CONFLICT  
ONE POST**



**TYPE A GUARDRAIL - DRAINAGE STRUCTURE CONFLICT  
TWO POSTS**

**NOTES:**

- GUARDRAIL POSTS SHALL NOT BE ELIMINATED; ALL POSTS MUST BE USED.
- GUARDRAIL POSTS SHALL NOT BE SET BACK TO AVOID CONFLICTS WITH A DRAINAGE STRUCTURE.
- NO MODIFICATIONS OF ANY KIND TO THE TRANSITION POST SPACING ARE ALLOWED.

SHEET 4 OF 4

**Illinois Tollway**  
*Open Roads for a Faster Future*

GALVANIZED STEEL PLATE  
BEAM GUARDRAIL

STANDARD C1-05

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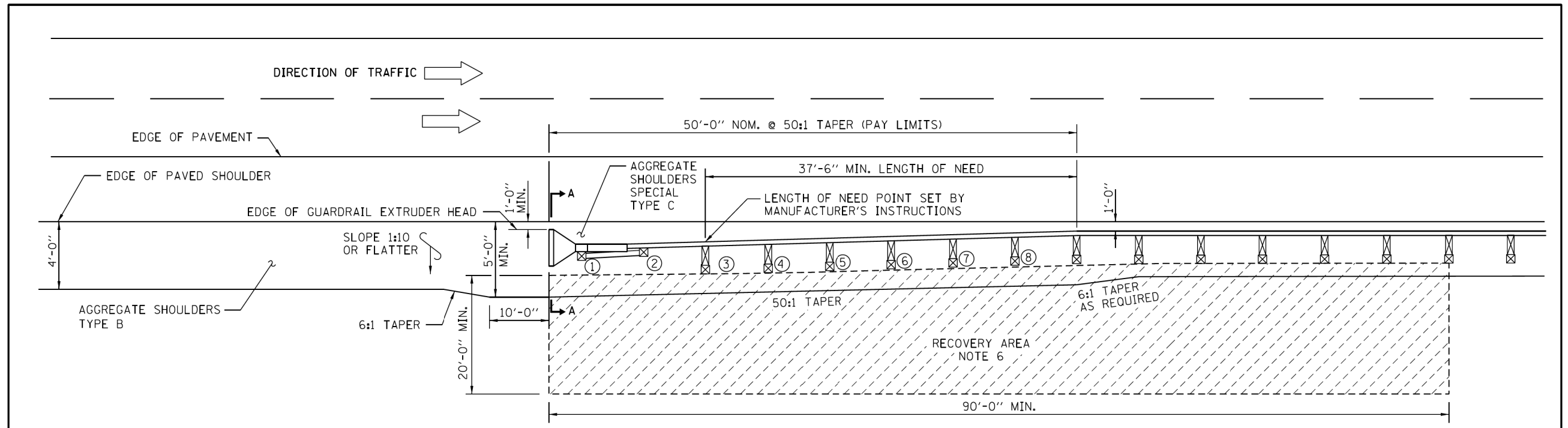
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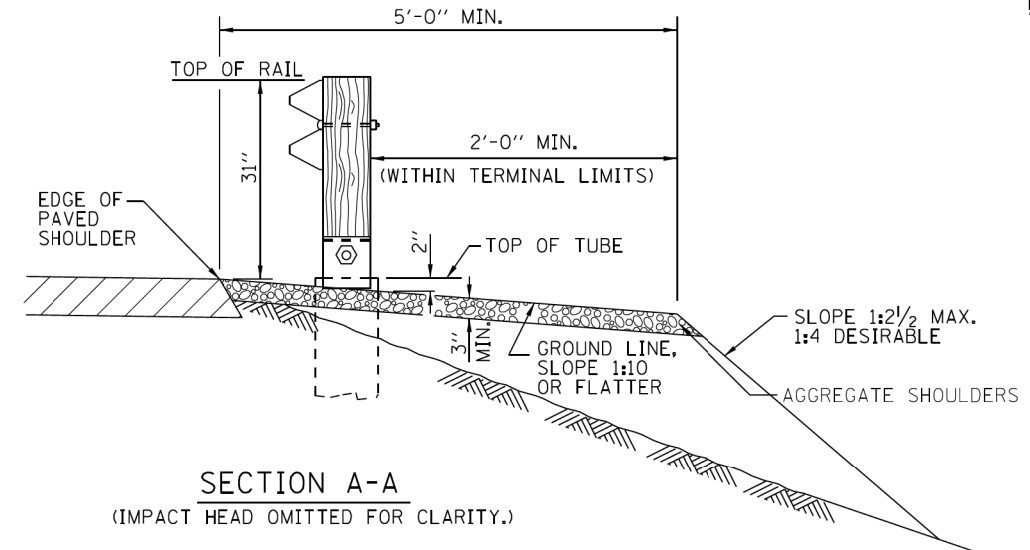
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	636
CONTRACT NO. 60L77				
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**SHOULDER WIDENING TRANSITION-WITHOUT GUTTER  
FOR TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)**



**SECTION A-A**  
(IMPACT HEAD OMITTED FOR CLARITY.)

**NOTE FOR INSTALLATION ON TANGENT ROADWAY:**  
TRAFFIC BARRIER TERMINAL SHALL BE INSTALLED AT A 50:1 TAPER MEASURED FROM EDGE OF TRAVELED WAY.

**NOTE FOR INSTALLATION ON CURVED ROADWAY:**  
THE EDGE OF THE TERMINAL EXTRUDER HEAD SHALL BE OFFSET A DISTANCE FROM A POINT ON THE BACK OF THE CURVED EDGE OF PAVED SHOULDER AS SHOWN IN TABLE 1.

**GENERAL NOTES:**

1. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
2. THE TYPE T1 (SPECIAL) TERMINAL IS THE UPSTREAM END SECTION OF A GALVANIZED STEEL PLATE BEAM GUARDRAIL BARRIER SYSTEM.
3. REFERENCE STANDARD B28 FOR GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL).
4. UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
5. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.
6. NO ROADSIDE OBSTRUCTION OF ANY TYPE-FIXED OR BREAKAWAY, EITHER TEMPORARY OR PERMANENT SHALL BE ALLOWED WITHIN THIS RECOVERY AREA.
7. NO CURVED W-BEAM SECTIONS ARE PERMITTED WITHIN THE TERMINAL PAY LIMITS. THE TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL) SHALL BE LAID OUT IN A STRAIGHT LINE.
8. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR HMA. WHEN NECESSARY USE LEAVE-OUT DETAIL SHOWN ON STANDARD C1.
9. THE TERMINAL SYSTEM HAS BEEN PERFORMANCE-TESTED FOR CRASHWORTHINESS UNDER PROCEDURES DEFINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH REPORT (NCHRP) REPORT 350. NO MODIFICATION TO THIS STANDARD DRAWING SHALL BE PERMITTED.

SHEET 1 OF 3

**Illinois Tollway**  
*Open Roads for a Faster Future*

**SHOULDER WIDENING FOR TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)**

**STANDARD C6-03**

REVISIONS	
3-1-2010	ADDED OBSTRUCTION FREE ZONES, REVISED NOTES.
1-1-2011	ADDED NEW SHEET, SHOULDER WIDENING WITH GUTTER. REVISED NOTES, ADDED CURVED ROADWAY TERMINAL PLACEMENT.
2-7-2012	REVISED SLOPE NOTE.

*Paul Kovacs*  
APPROVED ..... DATE 7-1-2009 .....  
CHIEF ENGINEER

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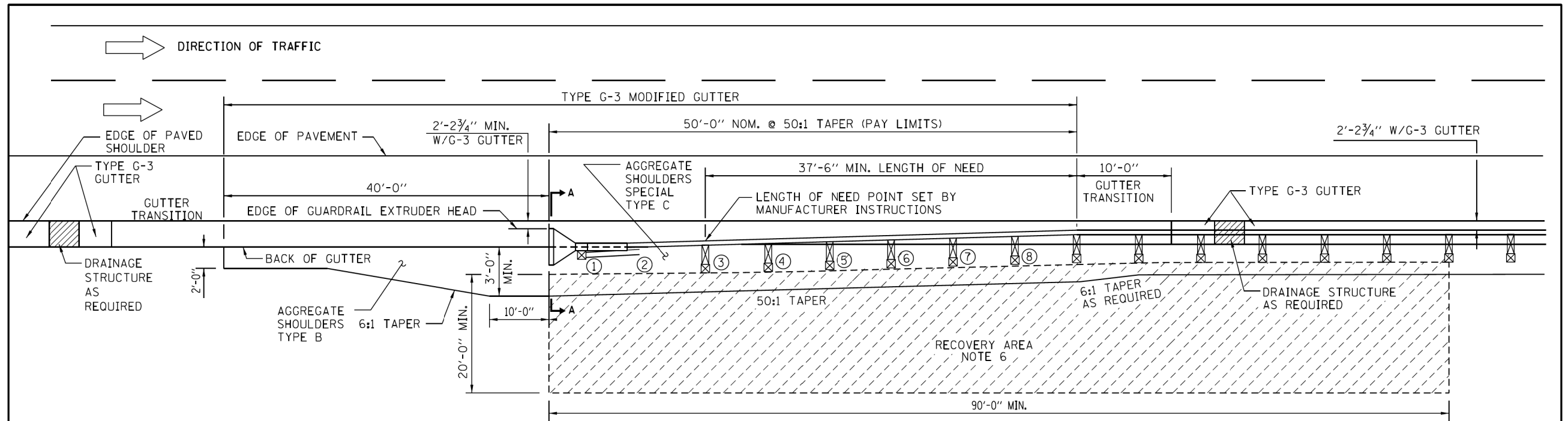
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**TOLLWAY STANDARD DRAWING**

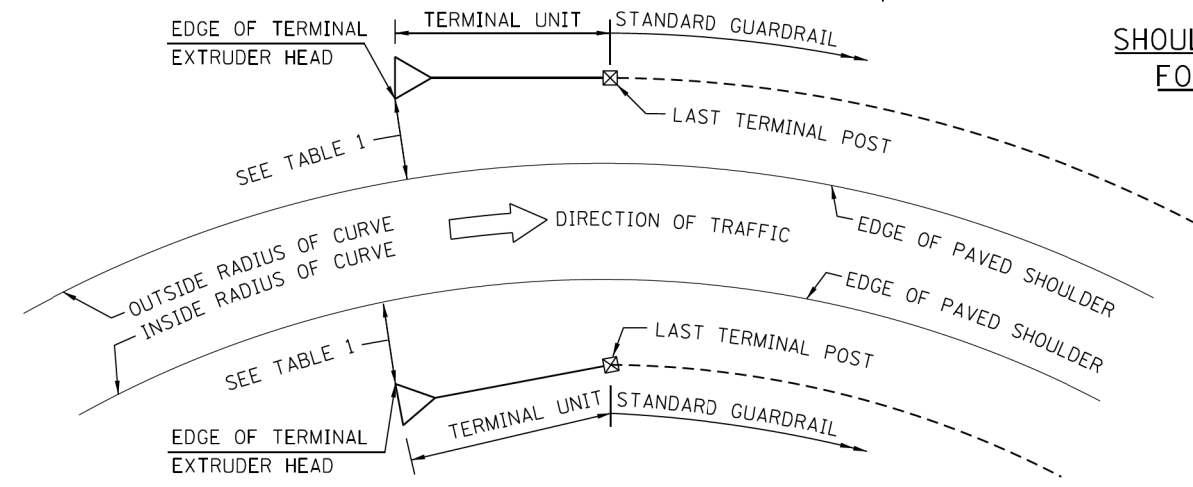
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT				

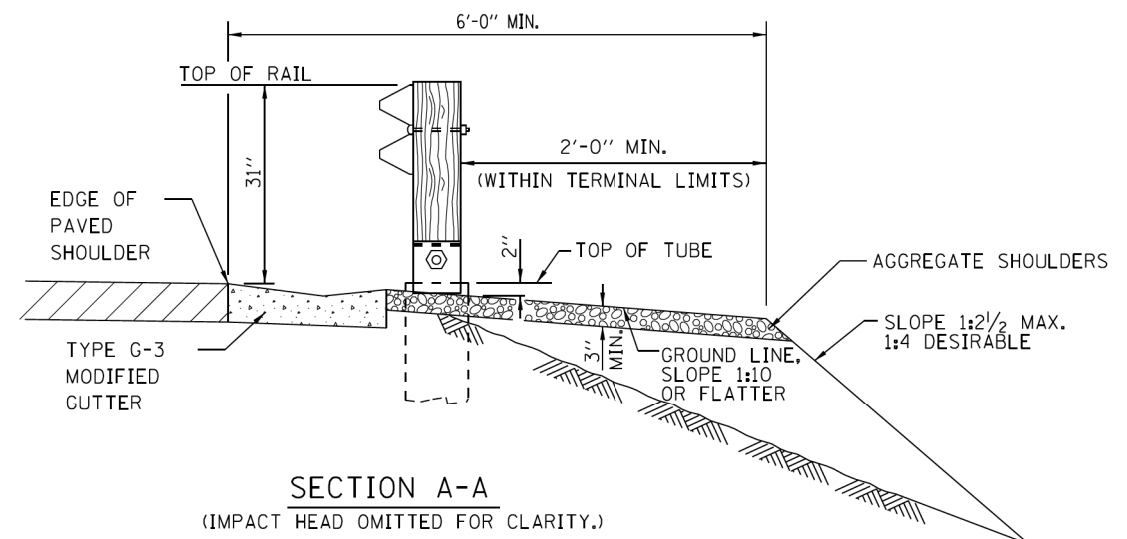
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SHOULDER WIDENING TRANSITION-WITH GUTTER, TYPE G-3 FOR TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)



CURVED ROADWAY TRAFFIC BARRIER TERMINAL PLACEMENT



SECTION A-A (IMPACT HEAD OMITTED FOR CLARITY.)

NOTE: SEE SHEET 1 OF THIS SERIES FOR NOTES.

	INSIDE RADIUS OF CURVE	OUTSIDE RADIUS OF CURVE
NO GUTTER	1'-0"	1'-0" MIN. *
TYPE G-2 GUTTER	1'-2 3/4"	1'-2 3/4" MIN. *
TYPE G-3 GUTTER	2'-2 3/4"	2'-2 3/4" MIN. *

(\*) OFFSET DISTANCE WILL VARY BASED ON RADIUS OF HORIZONTAL CURVE AND THE TERMINAL BEING INSTALLED IN A STRAIGHT LINE.

*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009 .....

SHEET 2 OF 3

**Illinois Tollway**  
*Open Roads for a Faster Future*

SHOULDER WIDENING FOR TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)

STANDARD C6-03

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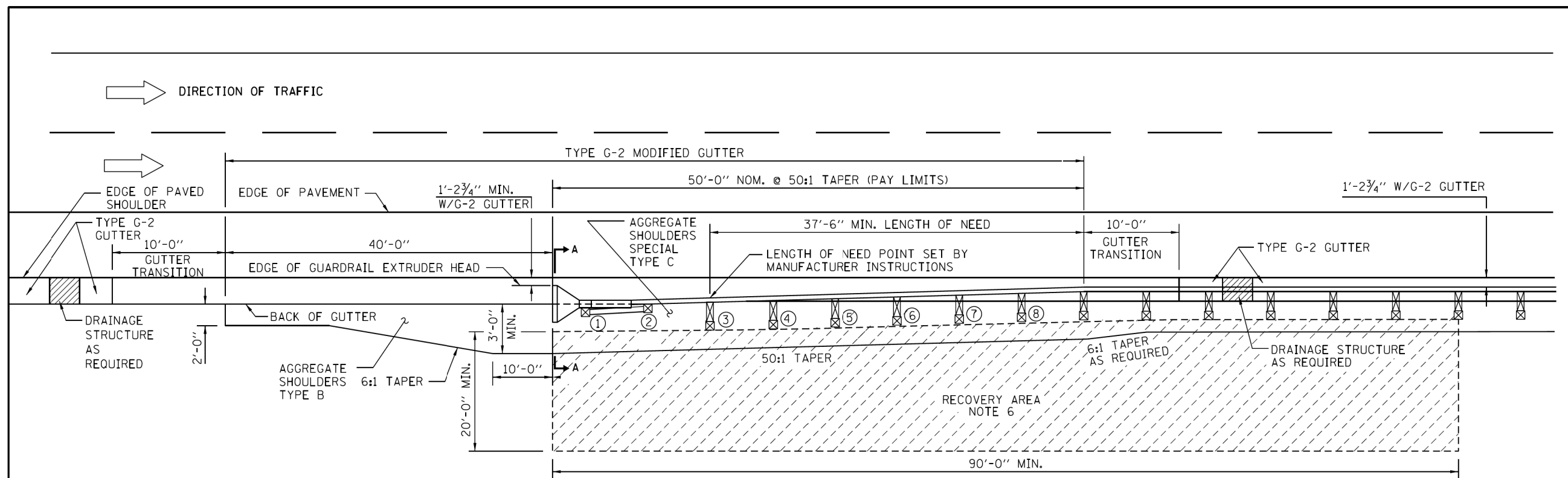
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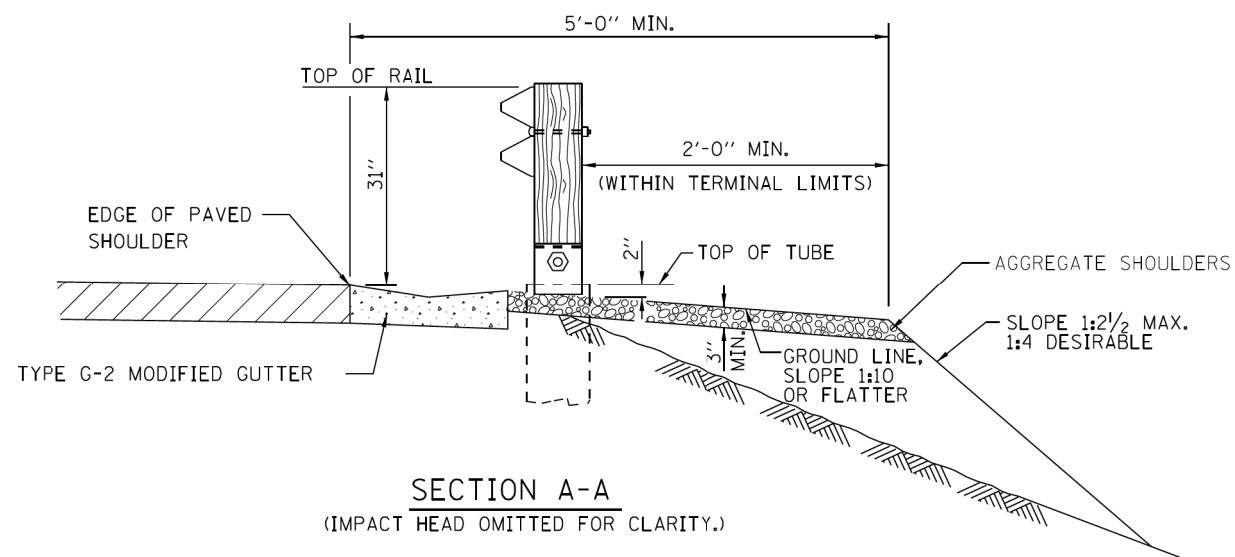
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SHOULDER WIDENING TRANSITION-WITH GUTTER, TYPE G-2  
FOR TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)



SECTION A-A  
(IMPACT HEAD OMITTED FOR CLARITY.)

NOTE:  
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 3 OF 3

**Illinois Tollway**  
*Open Roads for a Faster Future*

SHOULDER WIDENING FOR  
TRAFFIC BARRIER TERMINAL  
TYPE T1 (SPECIAL)

STANDARD C6-03

*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009 .....

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SECTION

49-1-R-1

COUNTY

LAKE

TOTAL  
SHEETS

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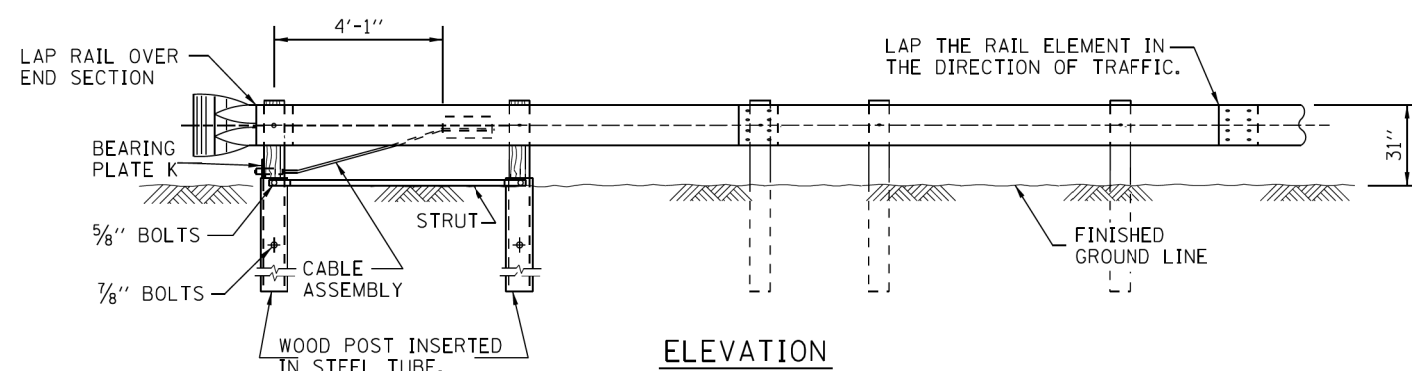
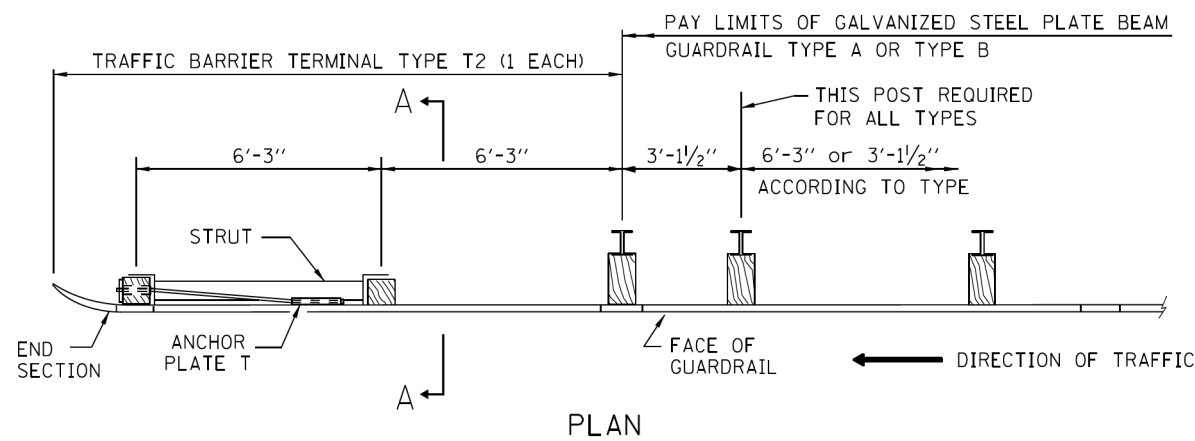
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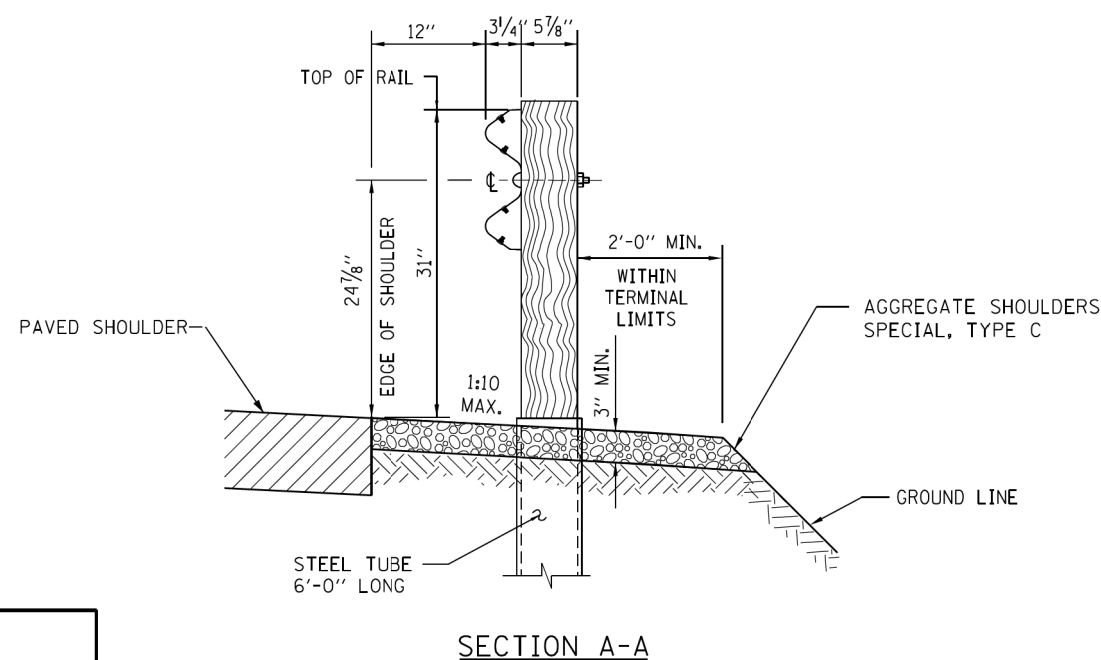
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TRAFFIC BARRIER TERMINAL TYPE T2-WITHOUT GUTTER



SECTION A-A

**NOTES:**

1. SEE STANDARD C1 FOR DETAILS OF GUARDRAIL NOT SHOWN.
2. THE BEARING PLATE K SHALL BE HELD IN POSITION BY TWO 8D NAILS DRIVEN INTO THE POST AND BENT OVER THE TOP OF THE PLATE.
3. THE TYPE T2 TERMINAL IS TYPICALLY UTILIZED FOR THE DEPARTING END SECTION OF A GALVANIZED STEEL PLATE BEAM GUARDRAIL BARRIER SYSTEM.
4. UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
5. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.
6. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR HMA PAVEMENT. WHEN NECESSARY USE LEAVE-OUT DETAIL PER STANDARD C1.
7. WHERE GUTTERS SUCH AS TYPE G-2 ,G-3 ARE REQUIRED IN FRONT OF THE GUARDRAIL, THE POSTS SHALL BE LOCATED 6" BEHIND THE GUTTER, OR AS OTHERWISE DETAILED IN THE PLANS. THE OFFSET FROM THE EDGE OF SHOULDER TO THE FACE OF THE GUARDRAIL SHALL BE AS SHOWN ON STANDARD B28.

SHEET 1 OF 3



REVISIONS	
3-1-2010	MODIFIED STEEL TUBE HOLE LOCATIONS, SECTION A-A, REVISED NOTES
1-1-2011	REMOVED WOOD BLOCKOUT, SECTION A-A, SHEET 1, REVISED STEEL TUBE LENGTH
2-7-2012	REVISED DIMENSIONS OF BEARING PLATE, POST, CABLE STRUT AND TUBE, AND NOTES

TRAFFIC BARRIER  
TERMINAL, TYPE T2  
  
STANDARD C7-03

*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009

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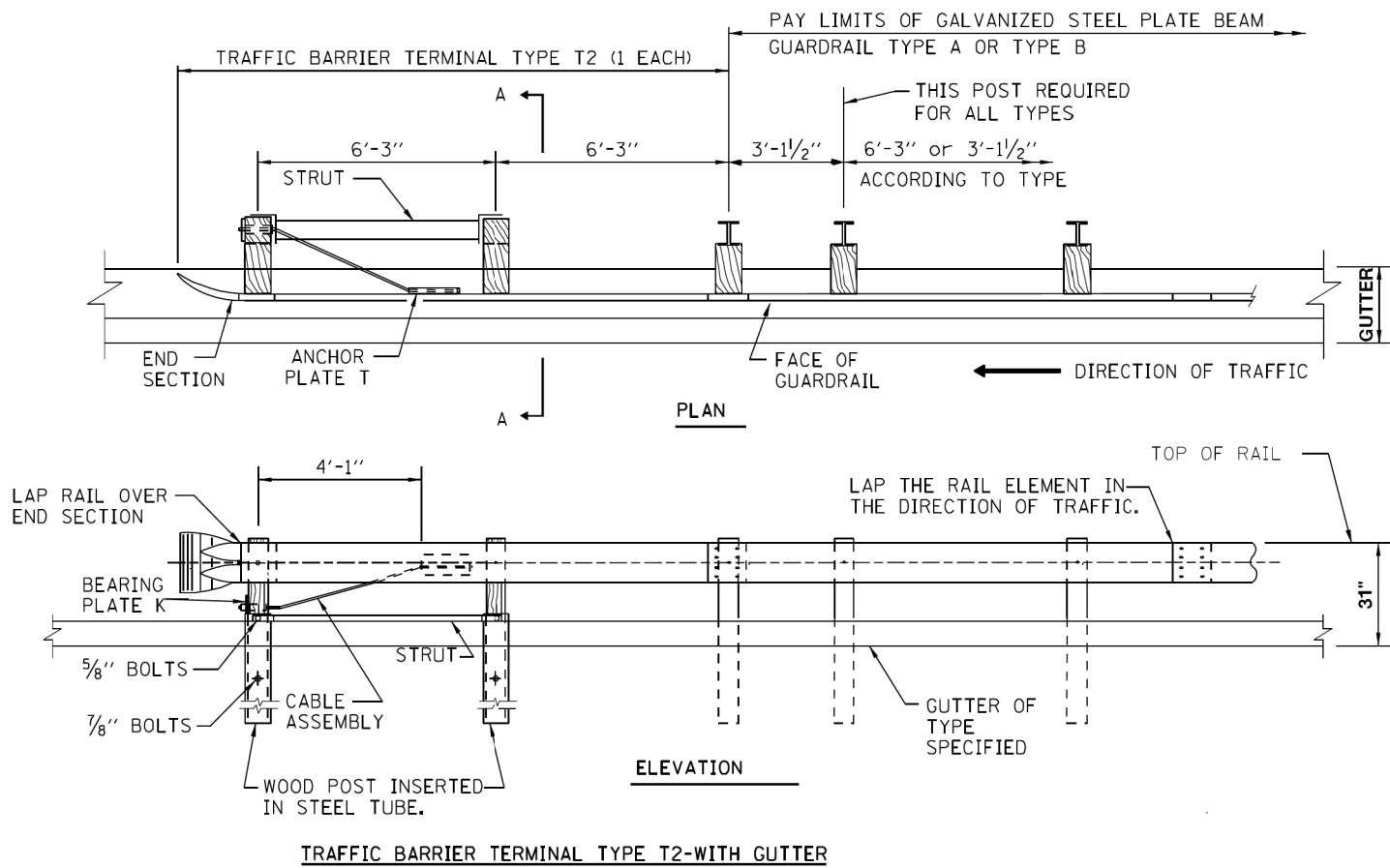
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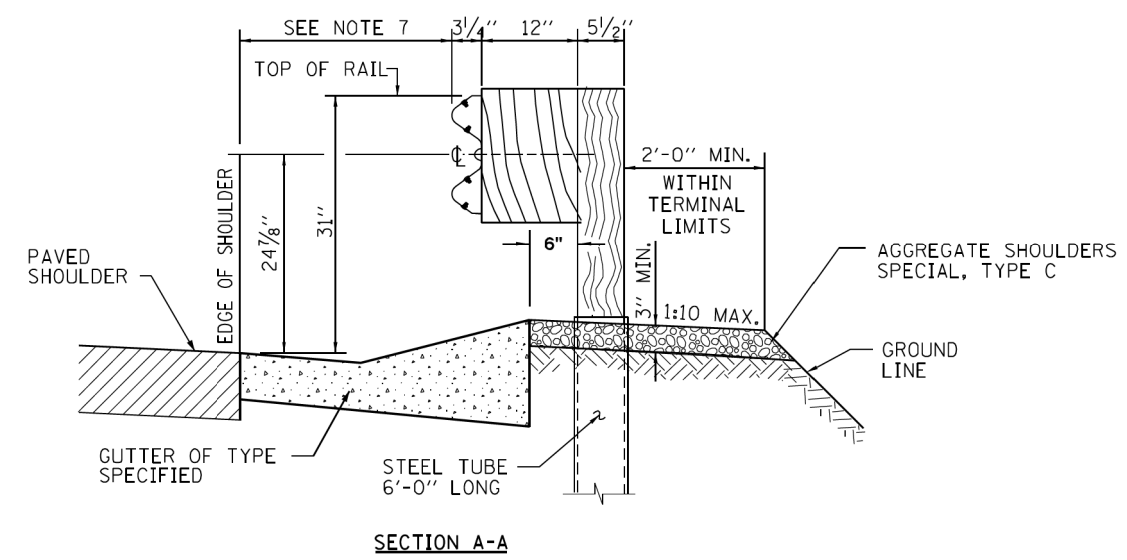
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TRAFFIC BARRIER TERMINAL TYPE T2-WITH GUTTER



SECTION A-A

**NOTE:**  
SEE SHEET 1 OF THIS SERIES FOR NOTES.

**Illinois Tollway**  
*Open Roads for a Faster Future*

TRAFFIC BARRIER  
TERMINAL, TYPE T2

STANDARD C7-03

*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009

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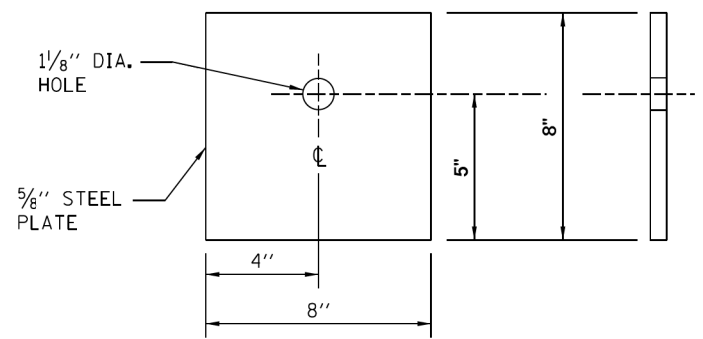
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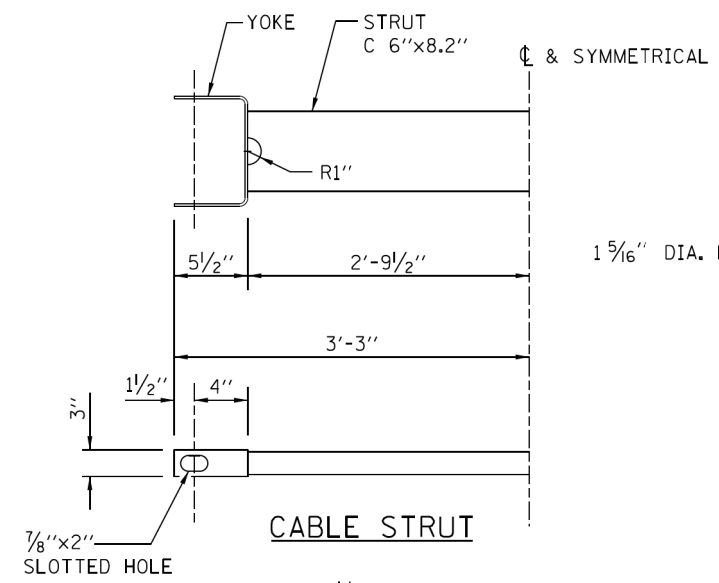
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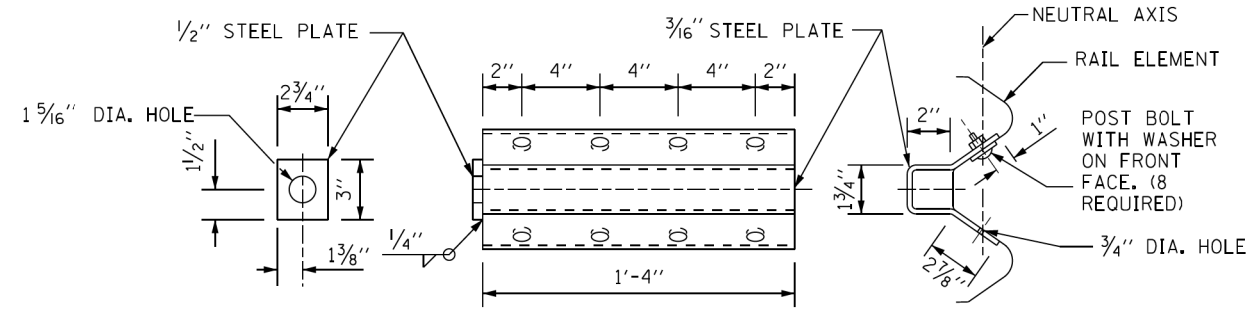
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**BEARING PLATE K**

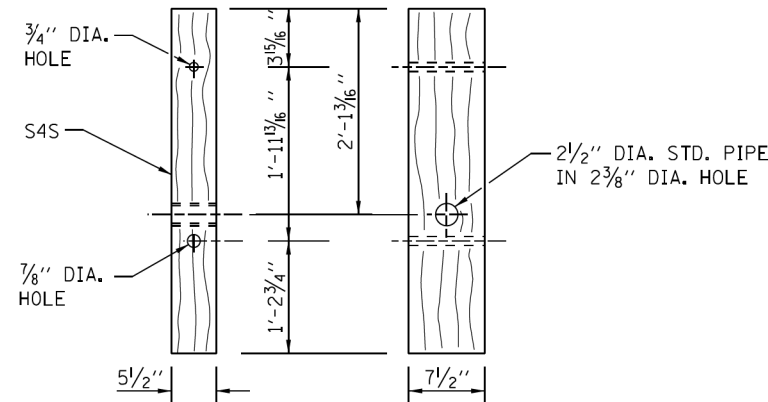


**CABLE STRUT**

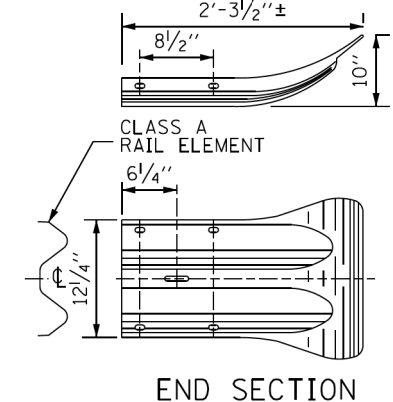


**NOTE:**  
ANCHOR PLATE T SHALL BE USED TO ATTACH CABLE ASSEMBLY TO GUARDRAIL WHEN REQUIRED ON TRAFFIC BARRIER TERMINALS.

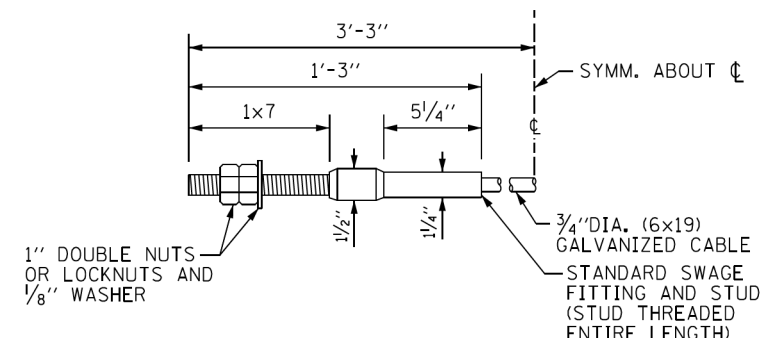
**ANCHOR PLATE T DETAILS**



**WOOD POST**

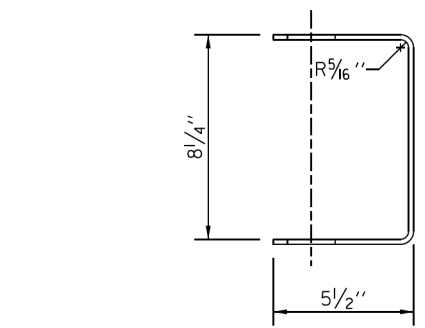


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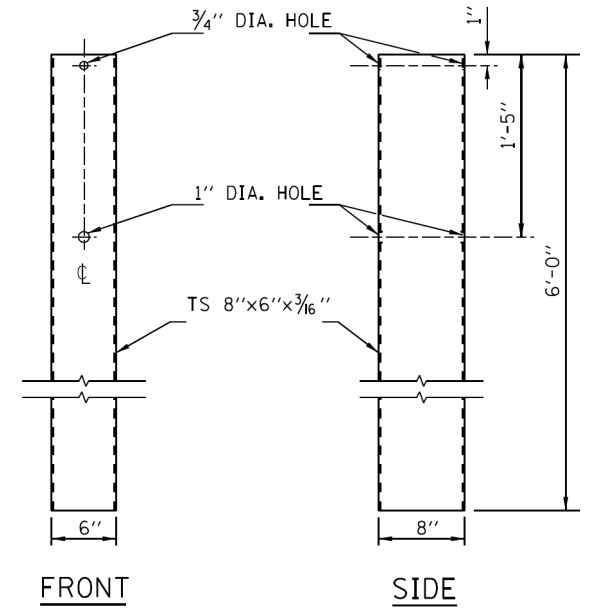


**CABLE ASSEMBLY**  
(40,000 LBS.) MIN. BREAKING STRENGTH  
TIGHTEN TO TAUT TENSION.

**NOTE:**  
SEE SHEET 1 OF THIS SERIES FOR NOTES.



**YOKE**  
3/16" THICK STEEL



**STEEL TUBE**

*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009

**Illinois Tollway**  
*Open Roads for a Faster Future*

TRAFFIC BARRIER  
TERMINAL, TYPE T2

STANDARD C7-03

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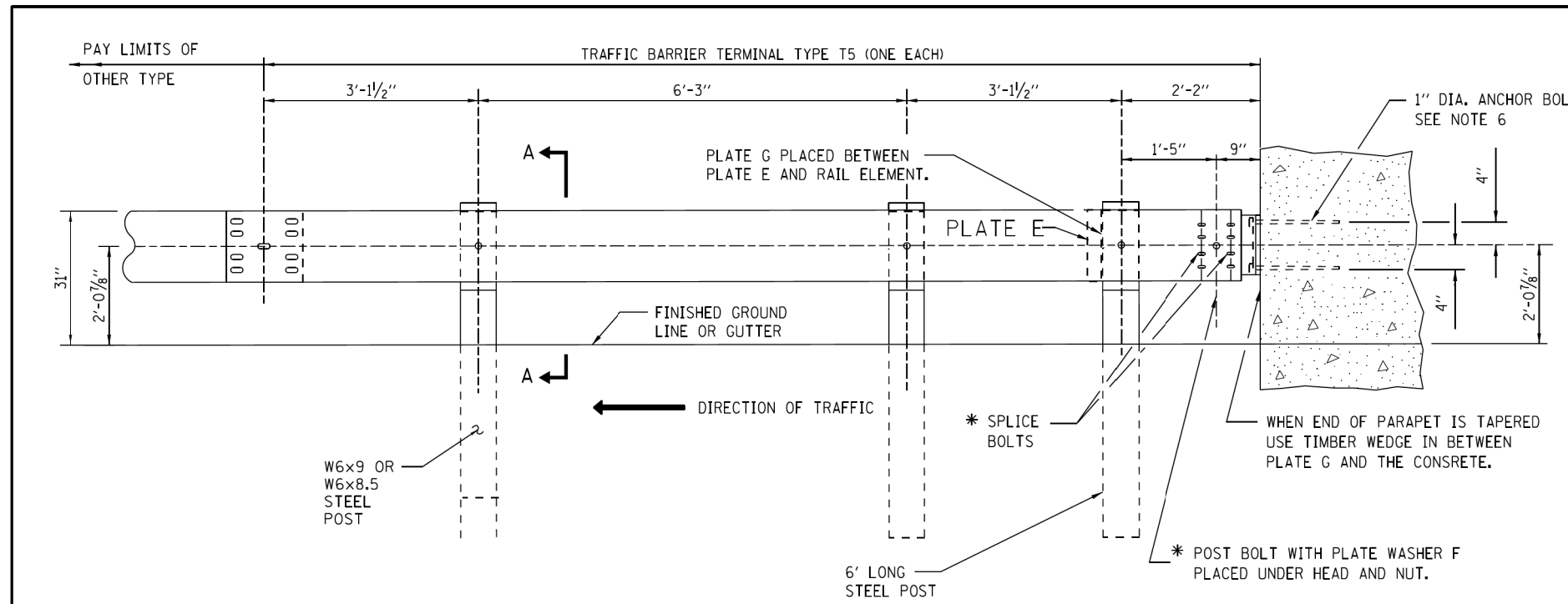
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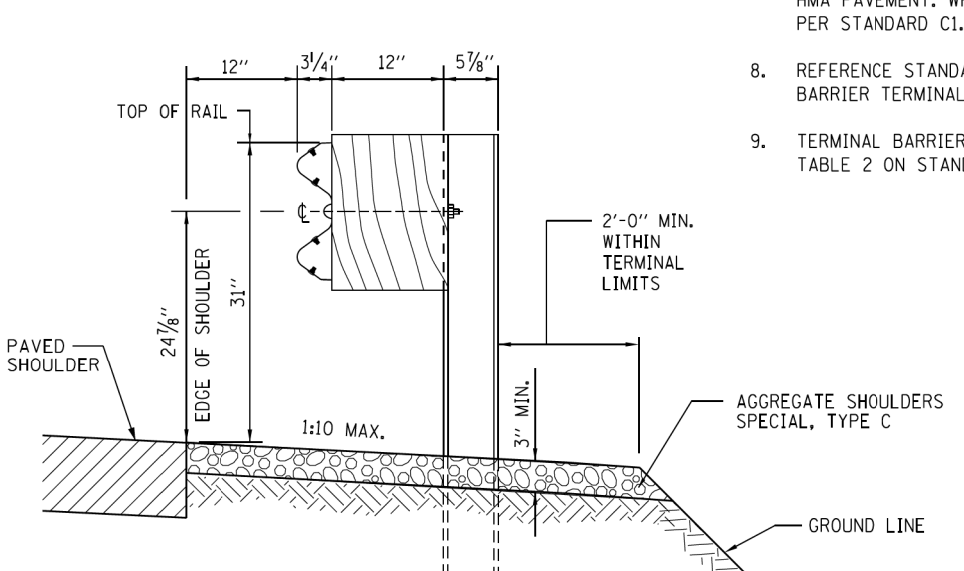
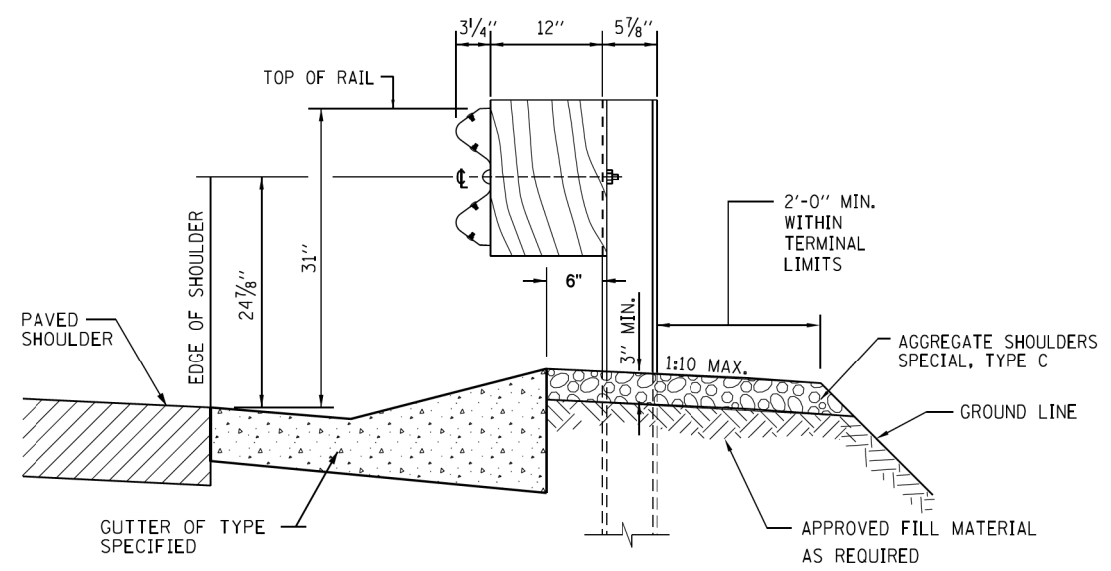


\* WHEN AN EXPANSION JOINT EXISTS BELOW THE CONNECTOR, BOLTS SHALL BE PROVIDED WITH A LOCKNUT OR DOUBLE NUTS AND SHALL BE TIGHTENED ONLY TO A POINT THAT WILL ALLOW PLATE G TO BE FREE TO MOVE.

**NOTES:**

1. INSTALL PLATE WASHER D SO THE 1" PROJECTION FILLS THE REMAINDER OF THE SLOTTED HOLES IN THE 1" END PLATE ON PLATE G AFTER THE 1" DIA BOLTS ARE IN PLACE.
2. SEE STANDARD C1 FOR DETAILS OF GUARDRAIL NOT SHOWN.
3. THE TYPE T5 TERMINAL IS TYPICALLY UTILIZED TO CONNECT GALVANIZED STEEL PLATE BEAM GUARDRAIL TO THE CONCRETE BRIDGE PARAPET AT THE DEPARTING END OF A NEW BRIDGE.
4. UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
5. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.
6. 1" DIA. ANCHOR BOLT, 3'-6" LENGTH, SHALL BE CAST IN PLACE AN EMBEDDED LENGTH 3'-2" IN THE CONCRETE PARAPET. DRILLING FOR PLACEMENT OF THIS ANCHORAGE IS NOT PERMITTED.
7. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR HMA PAVEMENT. WHEN NECESSARY, USE LEAVE-OUT DETAIL PER STANDARD C1.
8. REFERENCE STANDARD B2 FOR GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE T5.
9. TERMINAL BARRIER CLEARANCE DISTANCE SHALL CONFORM WITH TABLE 2 ON STANDARD C1.

**TYPE T5 - CONCRETE BRIDGE PARAPET**



SECTION WITH GUTTER

SECTION WITHOUT GUTTER

**SECTION A-A**

*Paul Kovacs*  
 APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009 .....



REVISIONS	
3-1-2010	ADDED SECTION A-A, ADDED NOTES
1-1-2011	REVISED NOTES
2-7-2012	REVISED NOTES

TRAFFIC BARRIER TERMINAL, TYPE T5
STANDARD C8-03

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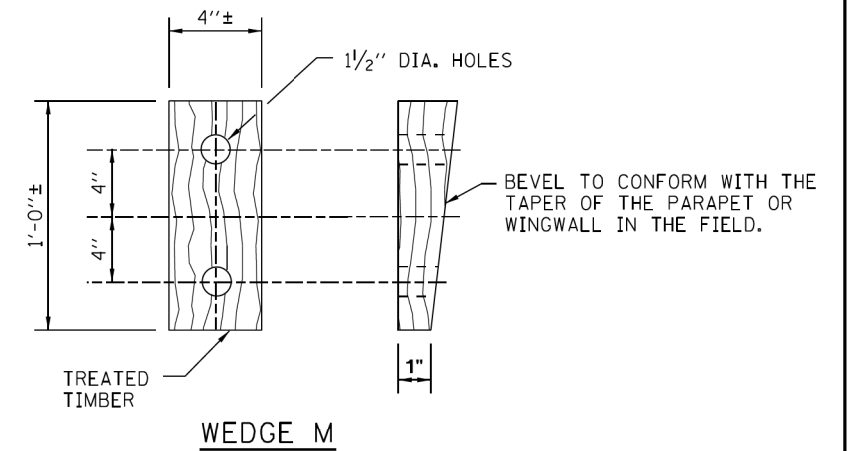
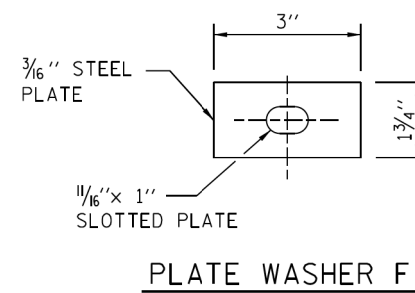
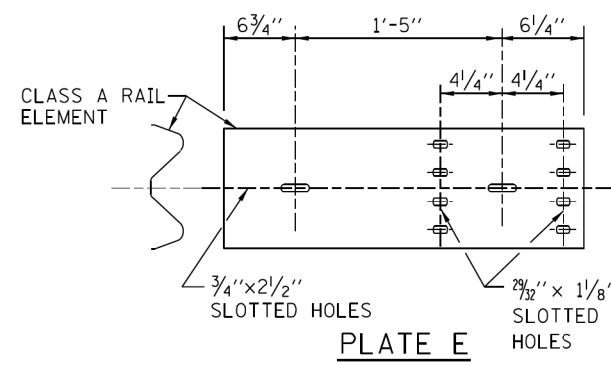
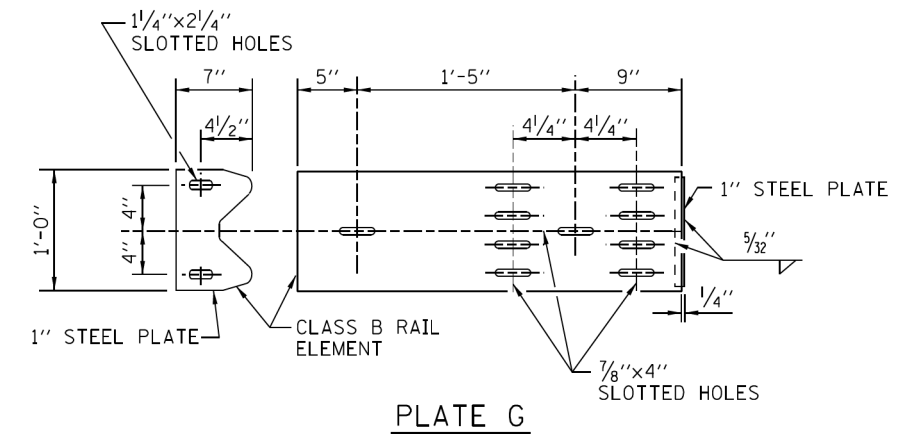
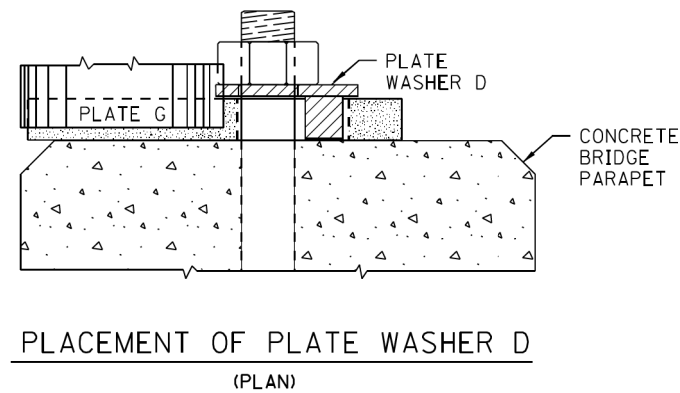
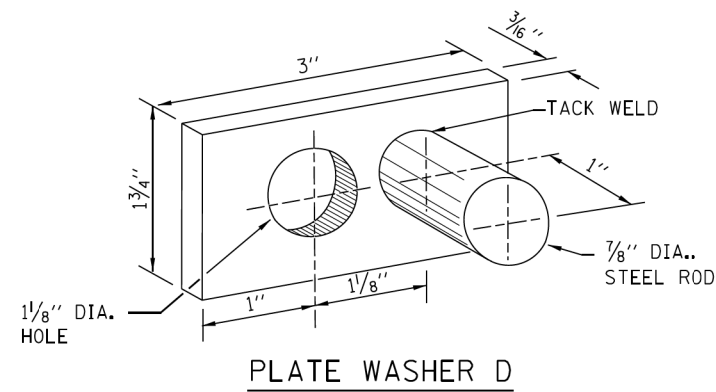
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

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94	49-1-R-1	LAKE	677	643
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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NOTE:  
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 2 OF 2

**Illinois Tollway**  
Open Roads for a Faster Future

TRAFFIC BARRIER  
TERMINAL, TYPE T5

STANDARD C8-03

*Paul Kovacs*  
APPROVED ..... DATE 7-1-2009  
CHIEF ENGINEER

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DATE - 6/19/2012

REVISOR -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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F.A. RTE.

94

SECTION

49-1-R-1

COUNTY

LAKE

TOTAL SHEETS

677

SHEET NO.

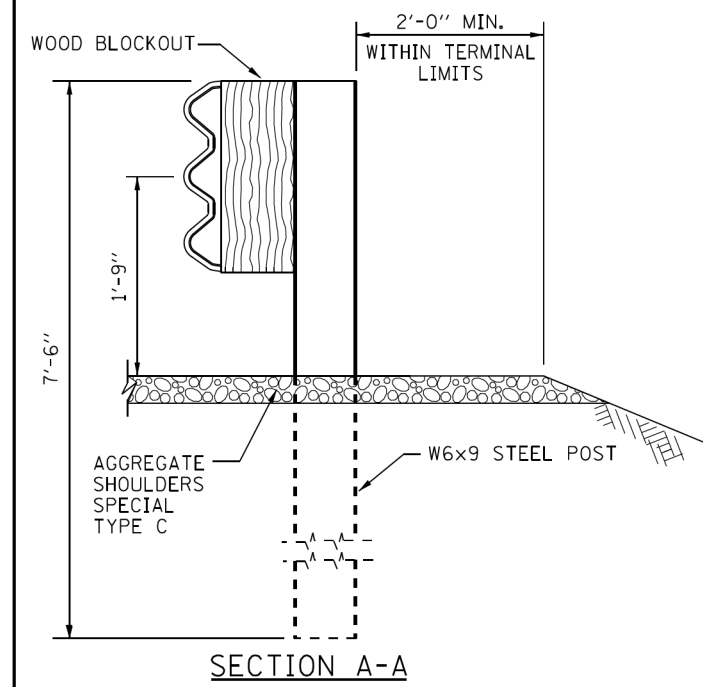
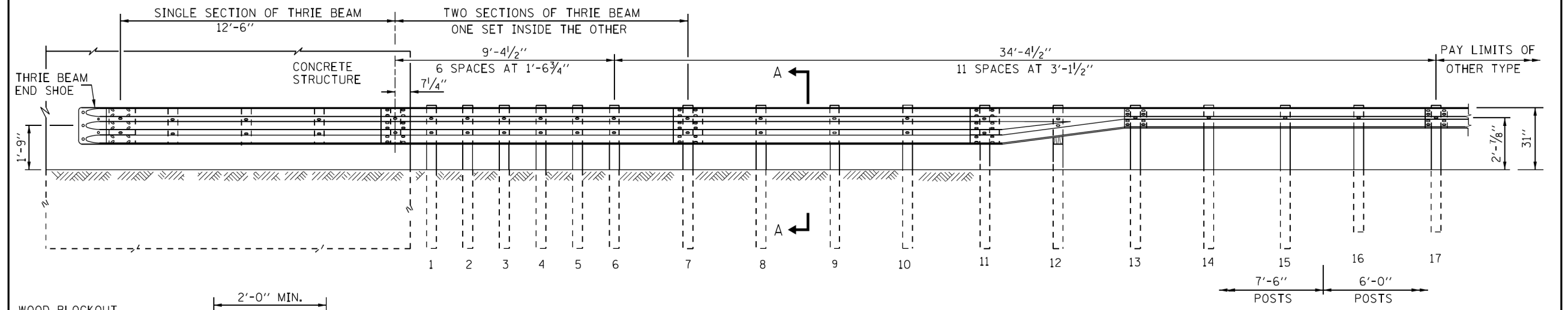
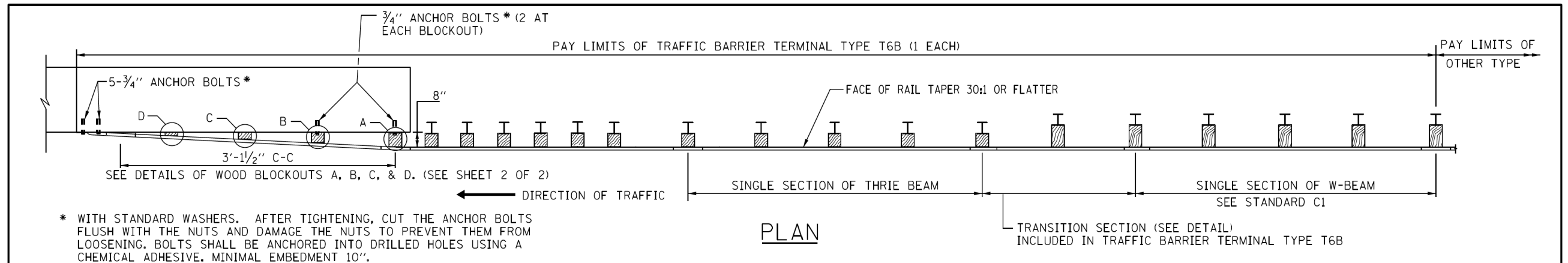
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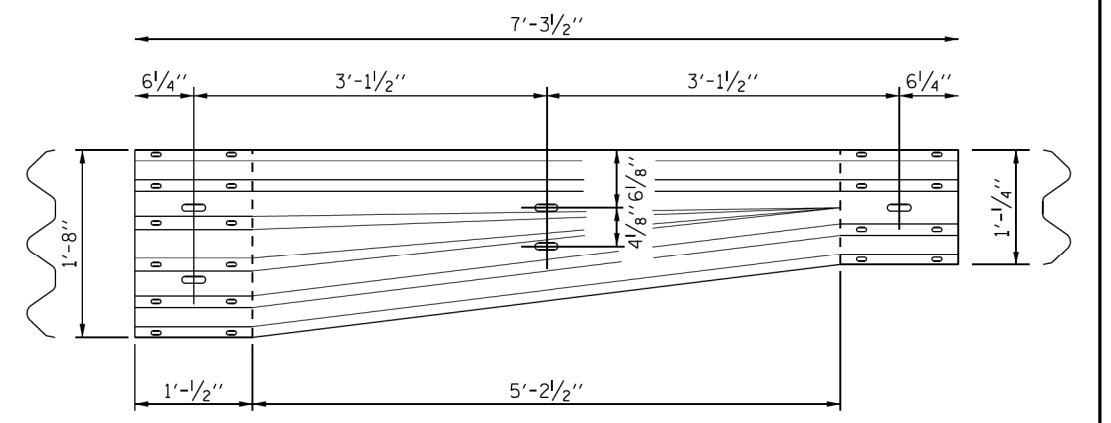
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- NOTES:**
- SEE STANDARD C1 FOR DETAILS OF GUARDRAIL NOT SHOWN.
  - THRIE BEAM RAIL SHALL BE BOLTED TO BLOCK-OUT AT ALL POSTS.
  - ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
  - THE TYPE T6B TERMINAL IS TYPICALLY UTILIZED TO ATTACH GALVANIZED STEEL PLATE BEAM GUARDRAIL AT THE UPSTREAM END OF THE BRIDGE CONCRETE PARAPET, WHERE A ROADSIDE GUTTER IS NOT TO BE INSTALLED.
  - UNDER NO CIRCUMSTANCES SHALL EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
  - TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURE'S DETAILS AND SPECIFICATIONS.
  - TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR HMA PAVEMENTS. WHEN NECESSARY USE LEAVE-OUT DETAIL PER STANDARD C1, SHEET 4 OF 4.
  - TERMINAL BARRIER CLEARANCE DISTANCE SHALL CONFORM WITH TABLE 2 ON STANDARD C1.



*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009

REVISIONS	
3-1-2010	REVISED NOTES
1-1-2011	REMOVED EMBANKMENT SLOPE, REVISED WOOD BLOCKOUT DIMENSION
2-7-2012	REVISED BOLT NOTES, ANCHORAGE ADHESIVE AND REVISED NOTES.

SHEET 1 OF 2

**Illinois Tollway**  
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TRAFFIC BARRIER TERMINAL, TYPE T6B

STANDARD C10-03

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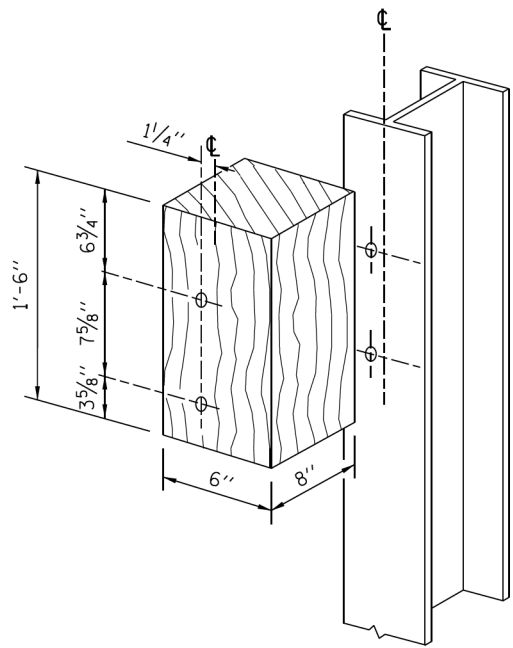
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**STATE OF ILLINOIS**  
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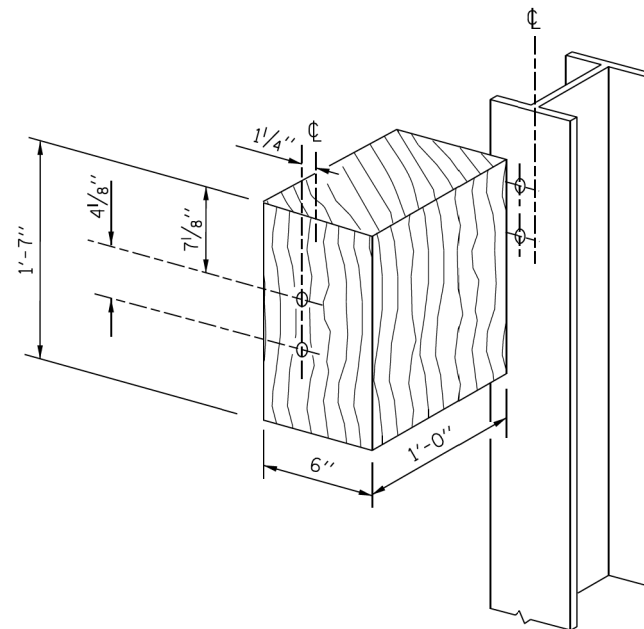
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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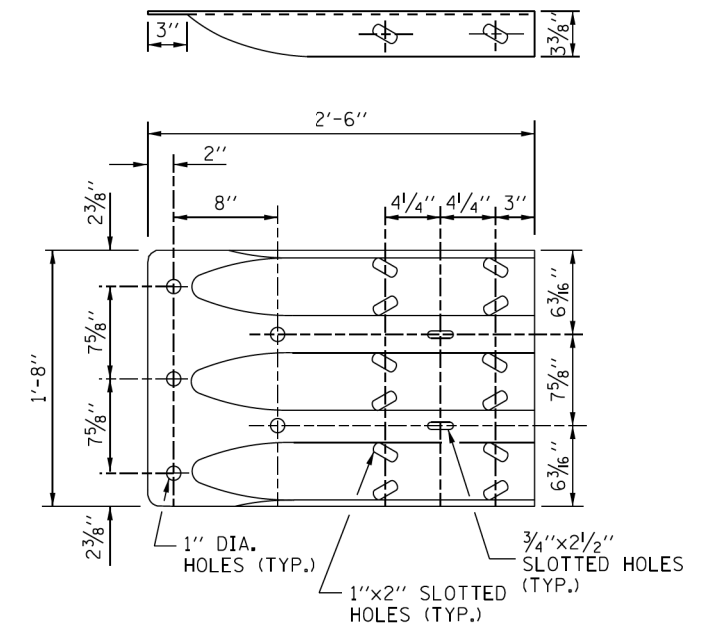


POSTS 1-11 WOOD BLOCKOUT DETAIL

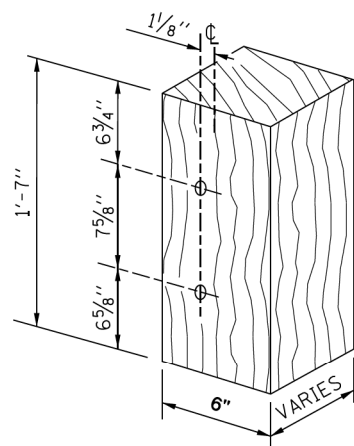


POST 12 WOOD BLOCKOUT DETAIL

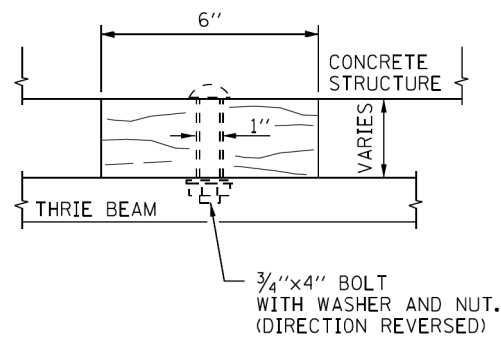
(SEE STANDARD C1 FOR POST 13-17 BLOCKOUTS)



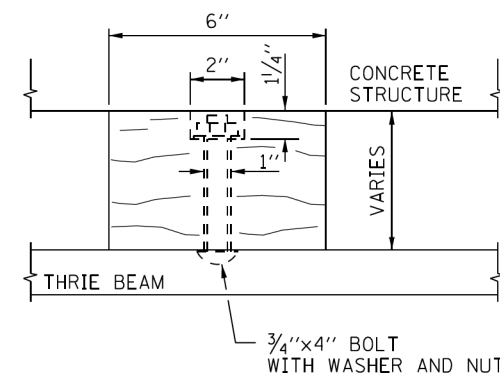
THRIE BEAM END SHOE DETAIL



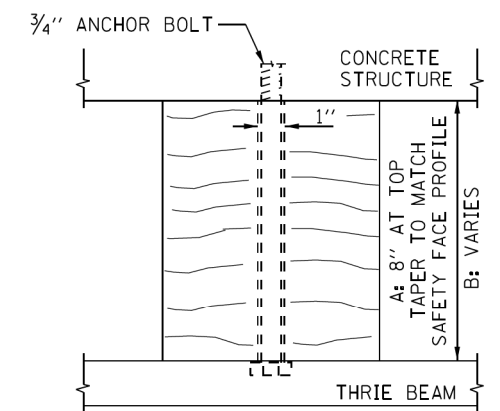
MODIFIED THICKNESS DETAIL  
WOOD BLOCKOUTS A, B, C, & D



WOOD BLOCKOUT D



WOOD BLOCKOUT C



WOOD BLOCKOUT A & B

*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009 .....

**NOTE:**  
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 2 OF 2

**Illinois Tollway**  
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TRAFFIC BARRIER  
TERMINAL, TYPE T6B

STANDARD C10-03

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**TOLLWAY STANDARD DRAWING**

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F.A. RTE.

94

SECTION

49-1-R-1

COUNTY

LAKE

TOTAL SHEETS

677

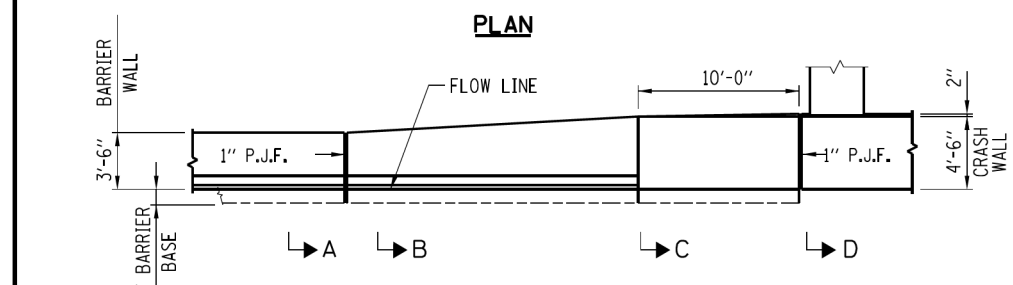
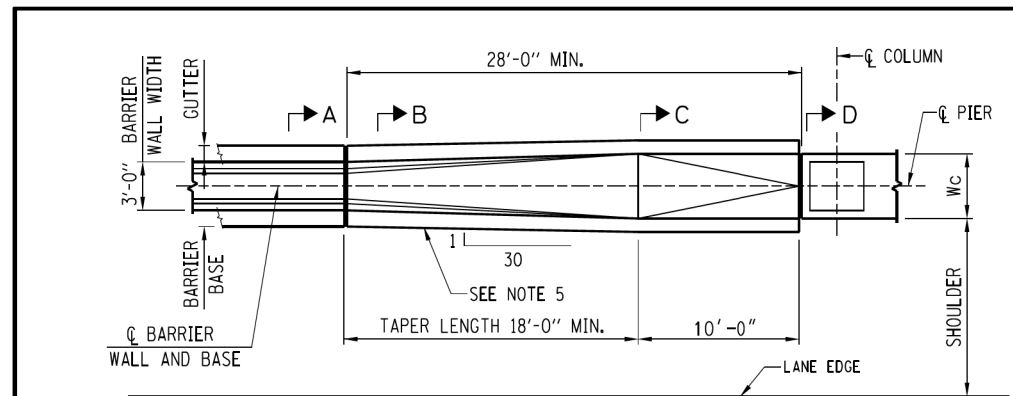
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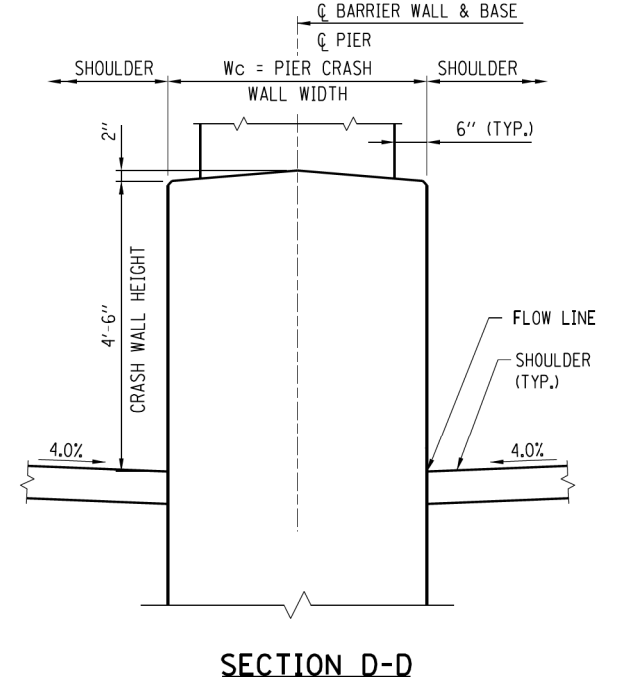
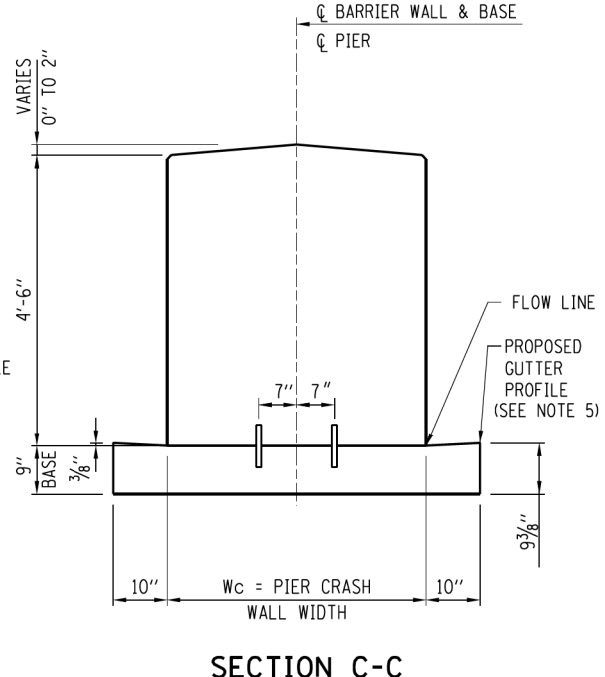
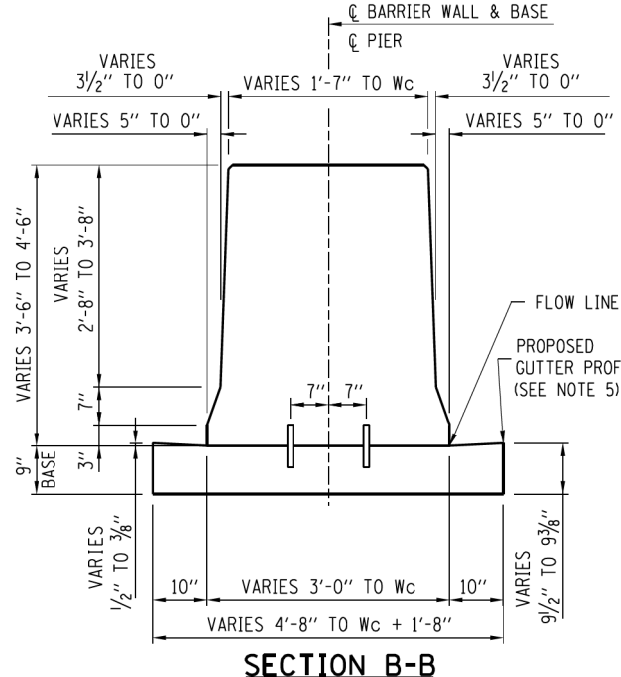
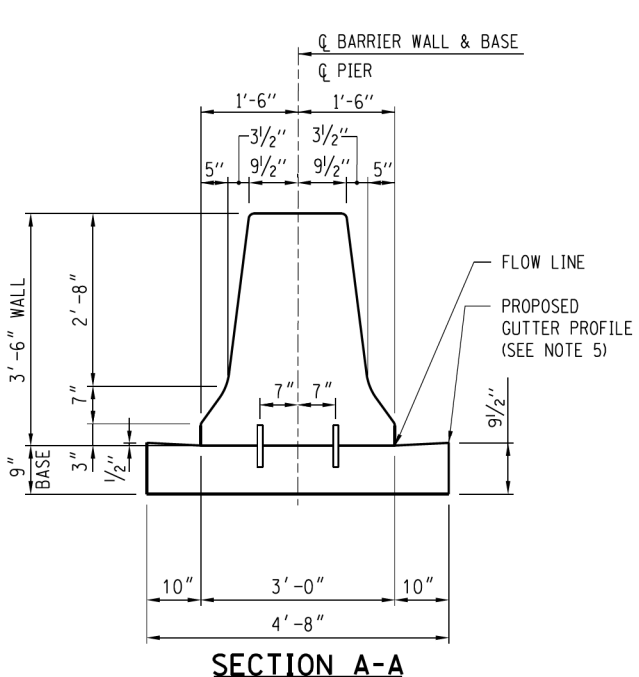
CONTRACT NO. 60L77

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**CONCRETE MEDIAN BARRIER TRANSITION, TYPE V-F AT BRIDGE PIERS**



**NOTES:**

1. 1" DEEP CONTRACTION JOINTS SHALL BE CONSTRUCTED IN THE CONCRETE BARRIER WALL AND IN THE CONCRETE BARRIER BASE. CONTRACTION JOINTS SHALL ALSO BE CONSTRUCTED AT BOTH SIDES OF ALL DRAINAGE STRUCTURES. MAXIMUM JOINT SPACING SHALL BE 30'
2. THE FORMING OF CONTRACTION JOINTS SHALL BE DONE WITH AN APPROVED FINISHING TOOL AT THE DISCRETION OF THE ENGINEER SUBJECT TO THE SATISFACTORY CONTROL OF CRACKING. THE SAWING OF CONTRACTION JOINTS IN THE BARRIER WALL SHALL NOT BE PERMITTED.
3. TAPER LENGTH REQUIRED FOR THE WIDTH TRANSITION WILL BE 18'-0" MINIMUM.
4. TOP SHOULDER EDGE OF GUTTER SLAB SHALL MATCH THE TOP OF SHOULDER ELEVATION.
5. GUTTER PROFILE IN THE VICINITY OF SAG VERTICAL CURVES, ALONG FLAT GRADES AND AT THE MEETING OF PROPOSED AND EXISTING GUTTER, SHALL BE CAREFULLY CONTROLLED AND FIELD ADJUSTED IF NECESSARY TO ENSURE POSITIVE DRAINAGE AND AVOID PONDING.

APPROVED: *Paul Kovacs*  
 CHIEF ENGINEER DATE: 2-7-2012

**Illinois Tollway**  
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CONCRETE MEDIAN BARRIER TRANSITION, TYPE V-F AT BRIDGE PIERS  
 STANDARD C13-00

DATE	REVISIONS

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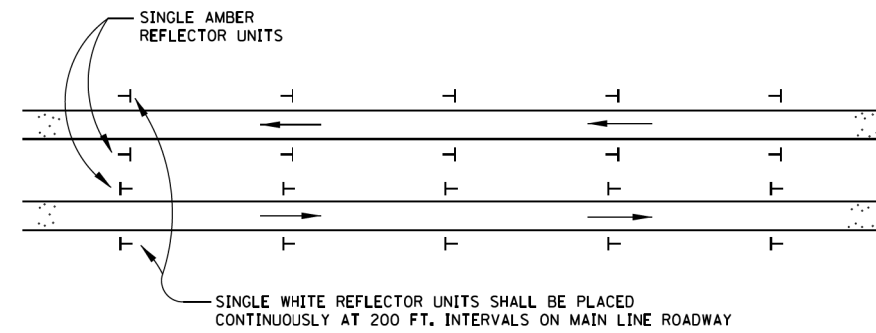
STATE OF ILLINOIS  
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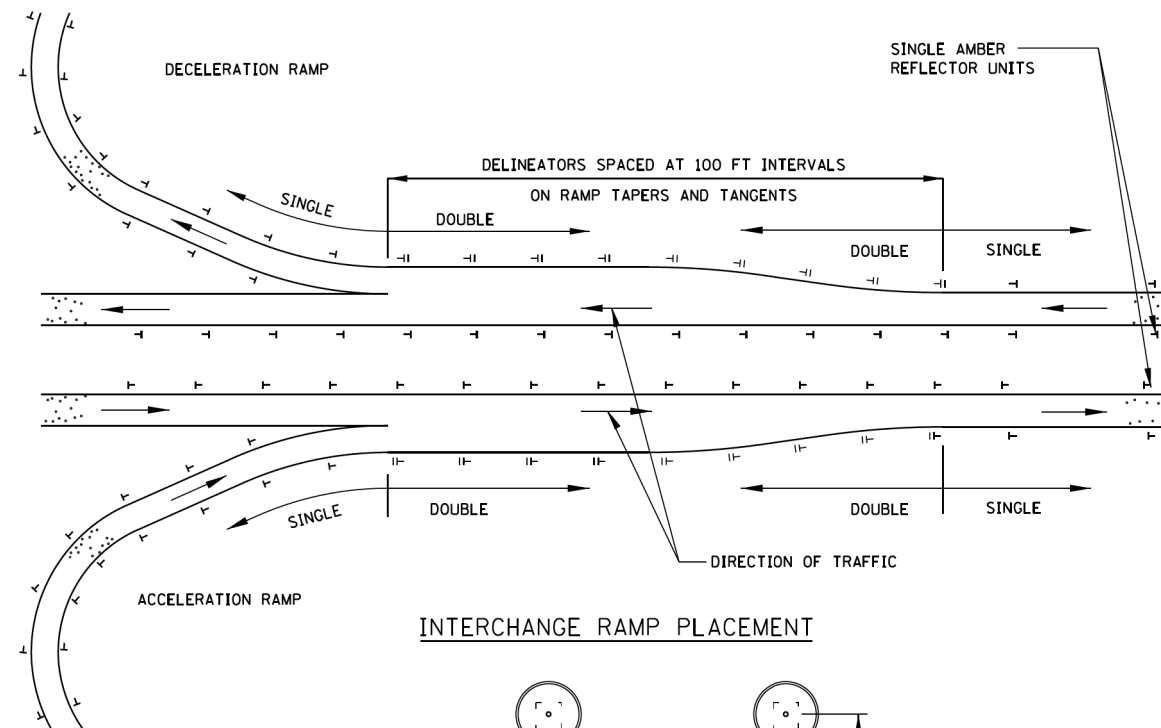
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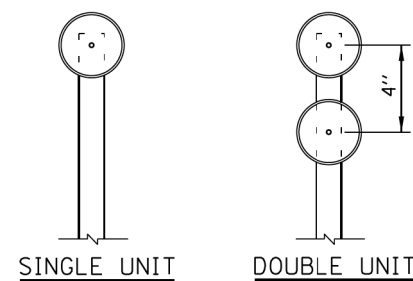
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TANGENT PLACEMENT



INTERCHANGE RAMP PLACEMENT



TYPICAL DELINEATORS

*Paul Kovacs*  
APPROVED... CHIEF ENGINEER... DATE 7-1-2009...

GENERAL NOTES:

EMERGENCY CROSSOVERS/MEDIAN OPENINGS DELINEATION-THE FOLLOWING DELINEATION SHOULD BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT APPROACHING EMERGENCY CROSSOVER/MEDIAN OPENINGS.

- A. ONE-HALF OF A MILE IN ADVANCE OF THE EMERGENCY CROSSOVER/MEDIAN OPENINGS ONE WHITE REFLECTOR UNIT OVER THREE AMBER REFLECTOR UNITS.
- B. ONE-FOURTH OF A MILE IN ADVANCE OF THE EMERGENCY CROSSOVER/MEDIAN OPENINGS ONE WHITE REFLECTOR UNIT OVER TWO AMBER REFLECTOR UNITS.
- C. AT A POINT NEAR THE INTERSECTION OF THE EDGE OF THE LEFT SHOULDER AND NEAR EDGE OF THE EMERGENCY CROSSOVER/MEDIAN OPENINGS ONE WHITE REFLECTOR UNIT OVER ONE AMBER REFLECTOR UNIT.

NOTES FOR POST MOUNTED DELINEATOR INSTALLATION:

- 1. DELINEATORS ON TANGENT SECTIONS OF MAIN LINE SHALL BE PLACED AT 200 FOOT SPACING. DELINEATORS ON RAMP AND ACCELERATION AND DECELERATION LANES SHALL BE PLACED AT MAXIMUM SPACING OF 100 FEET.
- 2. A. MAIN LINE-SINGLE WHITE REFLECTOR UNITS SHALL BE PLACED CONTINUOUSLY ON THE RIGHT AND SINGLE AMBER REFLECTOR UNITS SHALL BE PLACED ON THE LEFT ON MAIN LINE SECTIONS WITHOUT BARRIER WALL.  
B. RAMP-SINGLE REFLECTOR UNITS SHALL BE PLACED ON THE OUTSIDE OF ALL CURVED SECTIONS OF RAMP, SINGLE WHITE SHALL BE PLACED ON THE RIGHT SIDE AND AMBER ON THE LEFT SIDE. THE DELINEATORS SHALL BE OVERLAPPED FOR A SHORT DISTANCE TO CLEARLY INDICATE WHERE DELINEATION ON ONE SIDE OF THE RAMP ENDS AND DELINEATION ON THE OTHER SIDE APPEARS.  
C. DOUBLE WHITE REFLECTOR UNITS SHALL BE PLACED ON THE RIGHT AT ALL ACCELERATION AND DECELERATION LANES.
- 3. DELINEATORS SHALL BE MOUNTED ON SUPPORTS SUCH THAT THE TOP OF REFLECTORS IS FOUR FEET ABOVE THE ROADWAY EDGE AND TWO FEET OUTSIDE THE OUTER EDGE OF THE PAVED SHOULDER OR TWO FEET MINIMUM AND SIX FEET MAXIMUM OUTSIDE THE BACKS OF CURBS OR GUTTERS.
- 4. IN ALL CASES, THE COLOR OF THE REFLECTORS SHALL BE THE SAME AS THE ADJACENT EDGE LINE EXCEPT AS SPECIFIED IN GENERAL NOTES.
- 5. POST MOUNTED DELINEATORS SHALL BE PLACED CONTINUOUSLY AS NOTED ABOVE IN CONJUNCTION WITH GUARDRAIL INSTALLED.

NOTES FOR BARRIER DELINEATOR:

- 1. THE DELINEATORS SHALL BE PLACED AT 100 FOOT SPACINGS ALONG ROADWAY AND 50 FOOT ON BRIDGES AND THREE DELINEATORS AT 15 FOOT SPACINGS ON BRIDGE APPROACHES. THE SPACINGS ARE THE SAME FOR TANGENT AND CURVE ALIGNMENTS. WHITE DELINEATOR SHALL BE PLACED ON THE RIGHT SIDE AND AMBER ON THE LEFT SIDE.
- 2. REFLECTOR MARKERS TYPE B AND TYPE C SHALL HAVE REFLECTIVE SURFACE ON ONE SIDE ONLY.

SHEET 1 OF 3



DATE	REVISIONS
7-1-2009	CHANGED BARRIER TO F-SHAPE CONFIG.
	ADDED SECTION C-C
	NEW BARRIER DELINEATORS
2-7-2012	REVISED REFLECTOR MARKER TYPE C DIMENSION

DELINEATORS
STANDARD D4-02

D4-02.DGN 2/9/2012 8:04:33 AM

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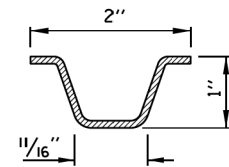
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CONTRACT NO. 60L77				
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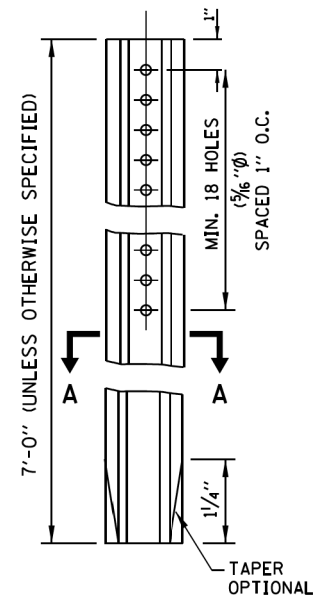
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POST MOUNTED DELINEATOR SPACING ON CURVES

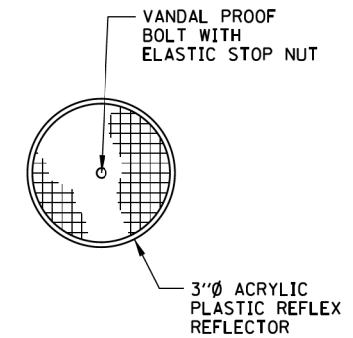
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		1ST	2ND	3RD
LESS THAN 100	20	40	65	125
100 - 174	30	60	90	180
175 - 224	35	70	110	200
225 - 274	40	85	125	200
275 - 349	50	95	145	200
350 - 449	55	110	170	200
450 - 549	65	125	190	200
550 - 649	70	140	200	200
650 - 749	75	150	200	200
750 - 849	80	165	200	200
850 - 949	85	175	200	200
950 - 1049	90	185	200	200
1050 - 1299	100	200	200	200
1300 - 1999	125	200	200	200
2000 - 2999	150	200	200	200
3000 - 3999	175	200	300	200
MORE THAN 3999	200	200	200	200



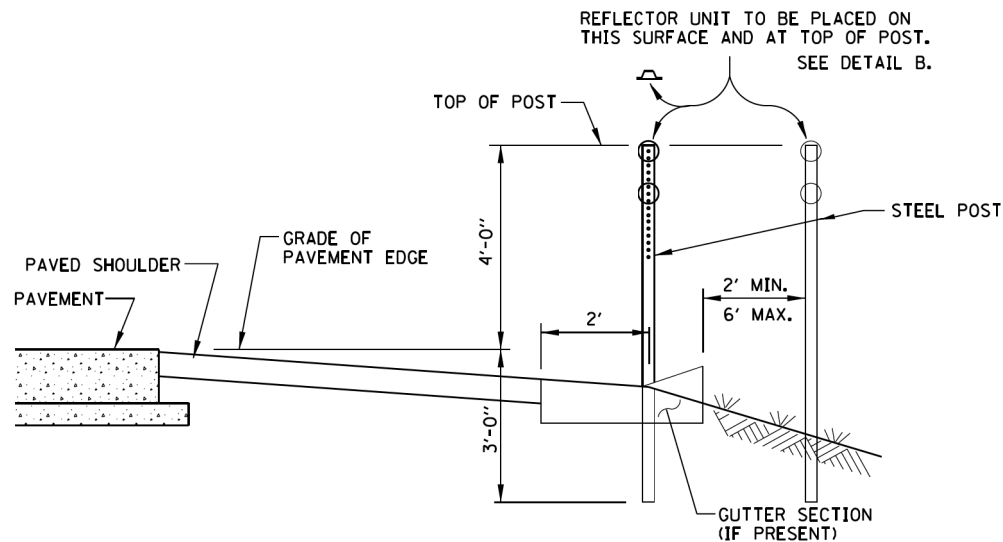
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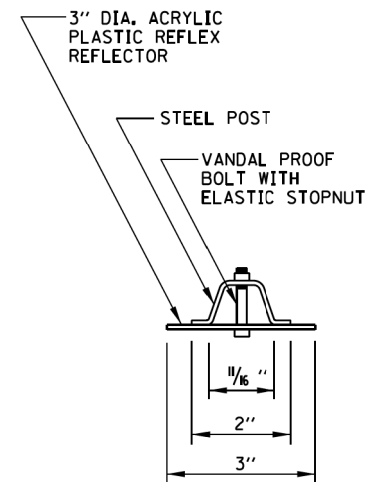
STEEL POST



DELINEATORS



DELINEATOR INSTALLATION



DETAIL B

*Paul Kovacs*  
APPROVED..... CHIEF ENGINEER..... DATE 7-1-2009...

SHEET 2 OF 3

**Illinois Tollway**  
Open Roads for a Faster Future

DELINEATORS

STANDARD D4-02

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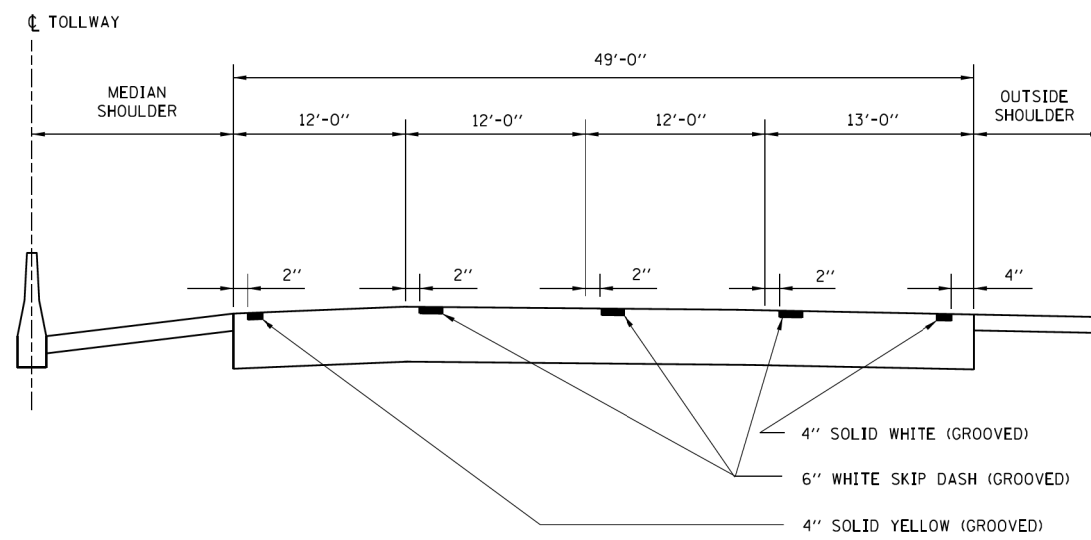
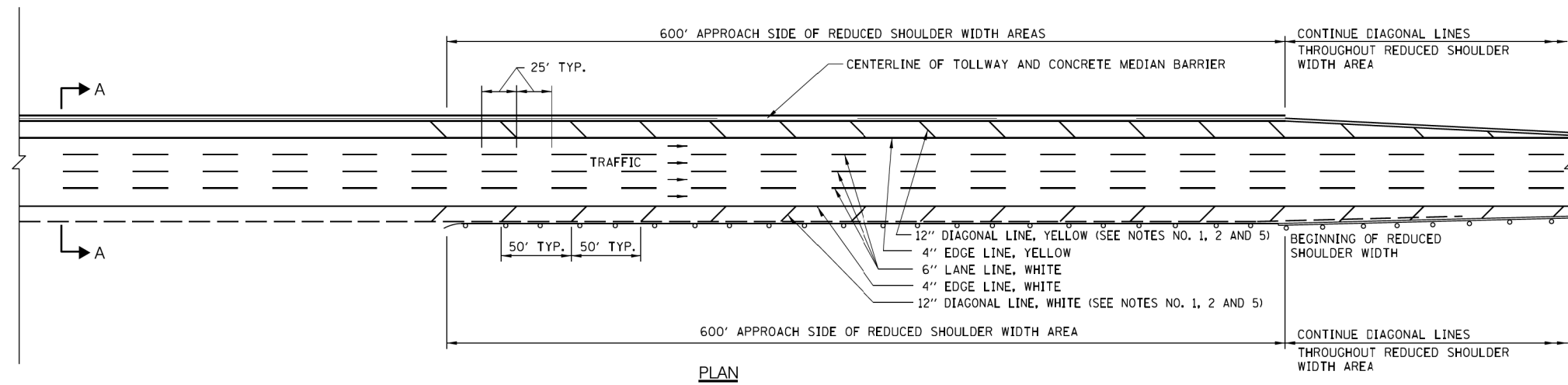
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

S:\1101\95-CADD\60L77-IL-173\60L77-Sheets\160L77-sh2-15114-dsntla.dgn





**SECTION A-A**

**ROADWAY AND SHOULDER STRIPING - NEW CONSTRUCTION**

**GENERAL NOTES:**

1. DIAGONAL SHOULDER STRIPING REQUIRED WHERE HMA SHOULDER WIDTH IS LESS THAN STANDARD.
2. ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND HOT-MIX ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
3. WHERE THE GUARDRAIL ENCLOSES ON THE SHOULDER THE DIAGONAL MARKINGS SHALL EXTEND AS CLOSE TO THE FACE OF THE RAIL AS POSSIBLE.
4. ALL LANE LINES AND EDGE LINES SHALL BE GROOVED.
5. DIAGONAL STRIPING SHALL BE SURFACE APPLIED.
6. GORE STRIPING (CHEVRON) SHALL BE SURFACED APPLIED.

*Paul Kovacs*  
 APPROVED..... CHIEF ENGINEER..... DATE 7-1-2009...



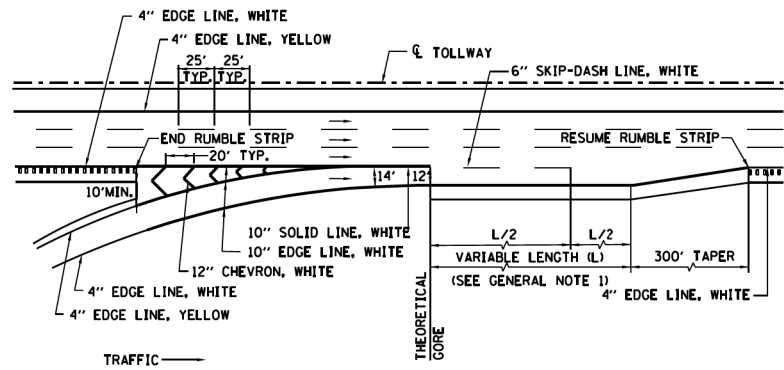
DATE	REVISIONS	PERMANENT PAVEMENT MARKINGS STANDARD D5-03
9-19-2007	STRIPE LOCATION @ OUTSIDE LANE	
7-1-2009	ADDED LINE GROOVING NOTES	
2-7-2012	REVISED NOTES	

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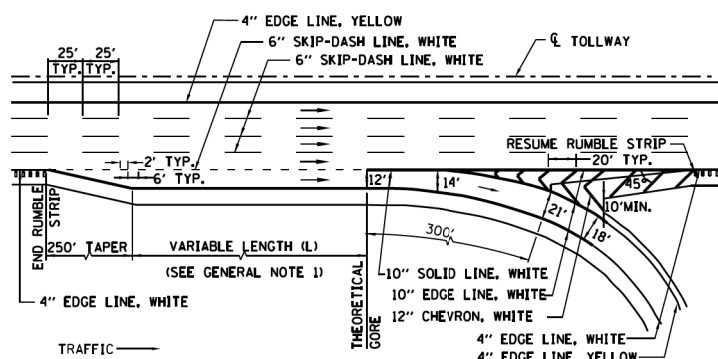


FILE NAME = \$FILES\$	USER NAME = default	DESIGNED -	REVISIED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TOLLWAY STANDARD DRAWING</b>		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISIED -		94	49-1-R-1	LAKE	677	651		
	PLOT SCALE = H=1"=10' V=1"=5'	CHECKED - RGR	REVISIED -		CONTRACT NO. 60L77			ILLINOIS FED. AID PROJECT			
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISIED -		SCALE:	SHEET NO. N/A OF N/A SHEETS	STA.	TO STA.			

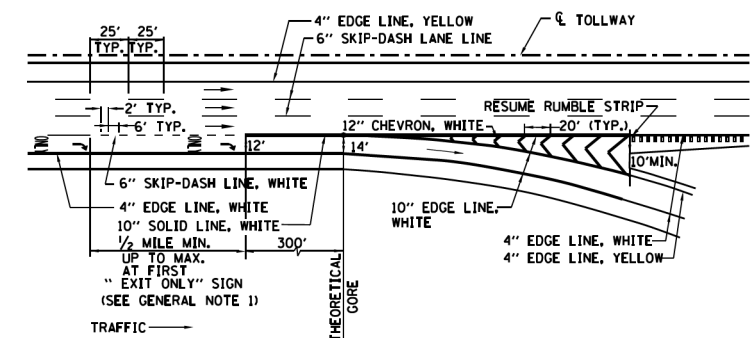
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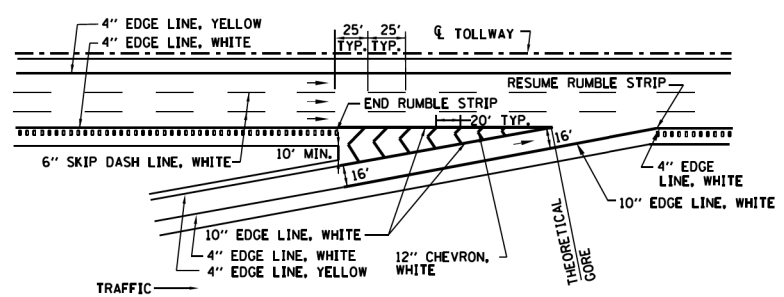
ENTRANCE - SINGLE LANE RAMP - PARALLEL TYPE



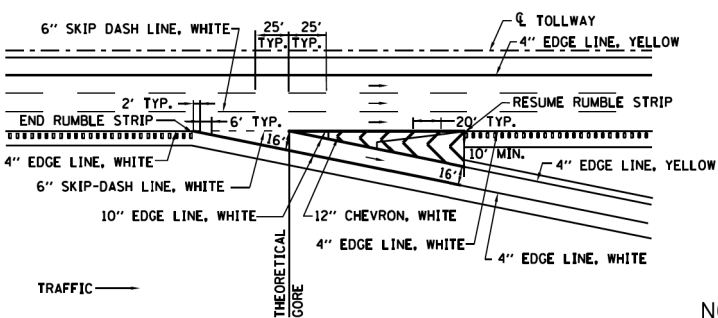
EXIT - SINGLE LANE RAMP - PARALLEL TYPE



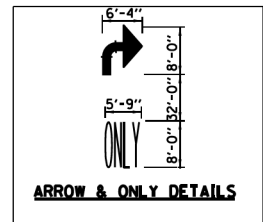
EXIT - SINGLE LANE RAMP - WITH AUXILIARY LANE



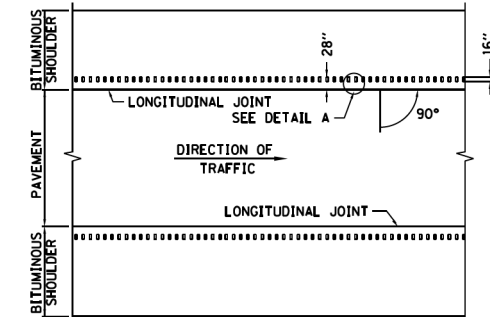
ENTRANCE - SINGLE LANE RAMP - TAPER TYPE



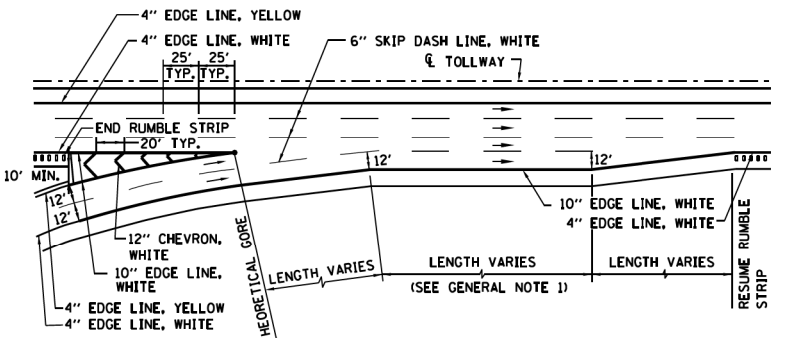
EXIT - SINGLE LANE RAMP - TAPER TYPE



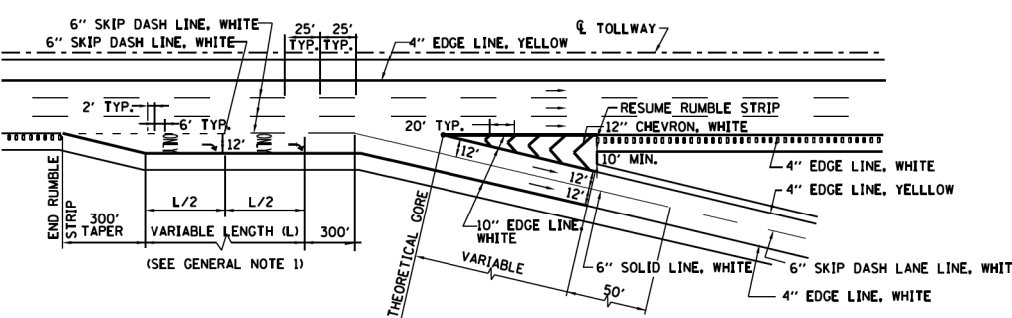
**NOTE:**  
PAVEMENT MARKING LETTERS AND SYMBOLS- ONLY AND ARROW ARE TO BE TYPICALLY PLACED AT 1/2 MILE EXIT ONLY GUIDE SIGN, AT GORE EXIT GUIDE SIGN AND APPROXIMATELY HALF WAY BETWEEN THE TWO.



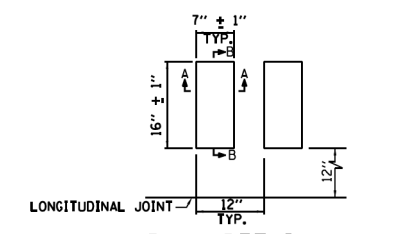
TYPICAL PLAN VIEW MAINLINE



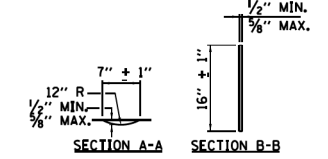
ENTRANCE - TWO LANE RAMP



EXIT - TWO LANE RAMP



PLAN DETAIL A



SHOULDER RUMBLE STRIP DETAILS

**GENERAL NOTES:**

1. RUMBLE STRIPS SHALL BE INSTALLED UP TO THE GORE WHEN AUXILIARY LANES, ACCELERATION LANES AND DECELERATION LANES, LENGTHS ARE GREATER THAN 1000 FT.
2. ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND HOT-MIX ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
3. ALL LANE LINES AND EDGE LINES SHALL BE GROOVED.
4. GORE STRIPING (CHEVRON) SHALL BE SURFACED APPLIED.
5. LETTERS AND SYMBOL MARKING SHALL BE SURFACED APPLIED.

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009...



DATE	REVISIONS	PAVEMENT MARKING AND SHOULDER RUMBLE STRIP DETAILS
7-1-2009	ADDED LINE GROOVING NOTES	
		STANDARD D6-01

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		DRAWN -	REVISED -
		CHECKED - RGR	REVISED -
		DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

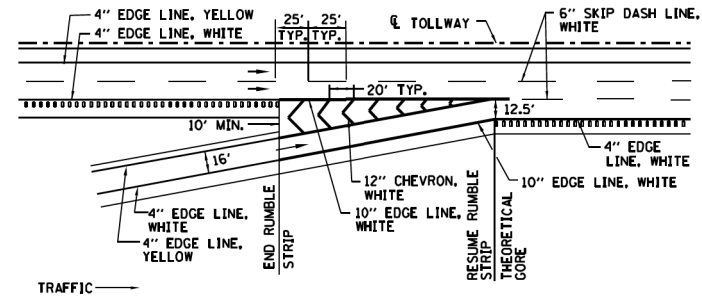
TOLLWAY STANDARD DRAWING

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

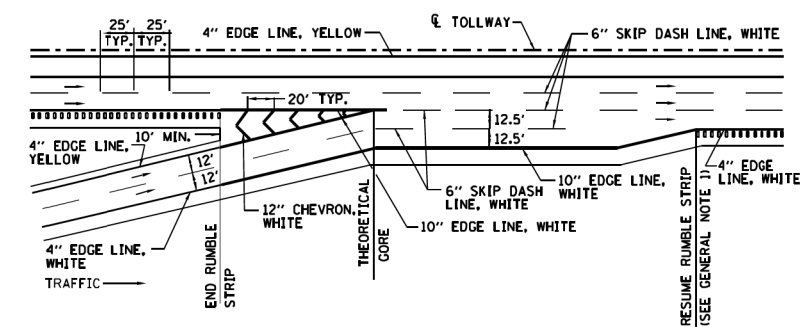
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	652
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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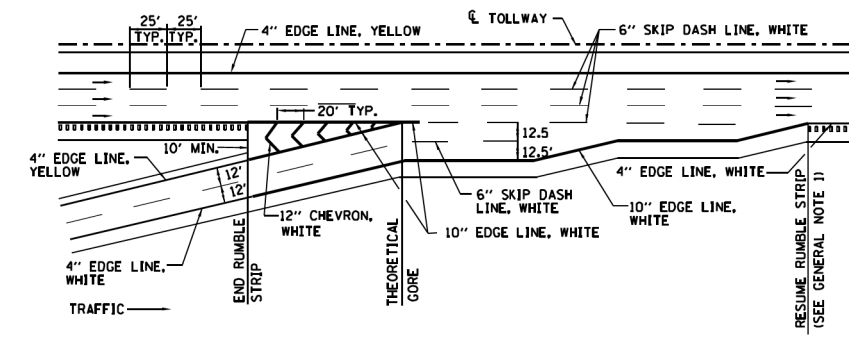




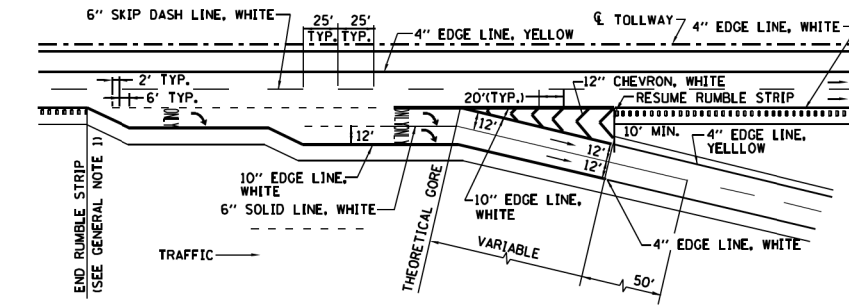
ENTRANCE - SINGLE LANE RAMP WITH  
BEGINNING OF LANE 3



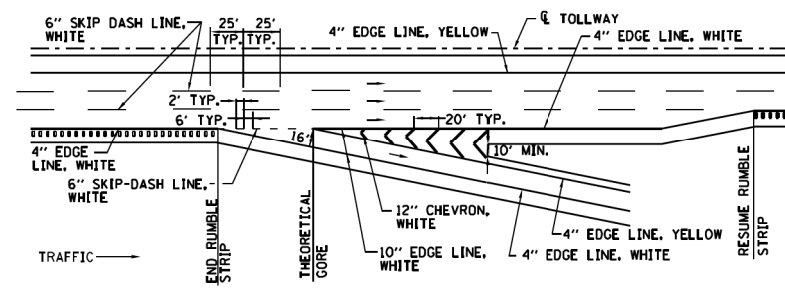
ENTRANCE - TWO LANE RAMP  
WITH BEGINNING OF LANE 3



ENTRANCE - TWO LANE PARALLEL RAMP



EXIT - TWO LANE PARALLEL RAMP



EXIT - SINGLE LANE RAMP  
LANE THREE TERMINATION

*Paul Kovacs*  
APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009.

SEE SHEET 1 OF 2,  
IN THIS SERIES FOR  
GENERAL NOTES.

SHEET 2 OF 2

PAVEMENT MARKING  
AND SHOULDER  
RUMBLE STRIP DETAILS

STANDARD D6-01

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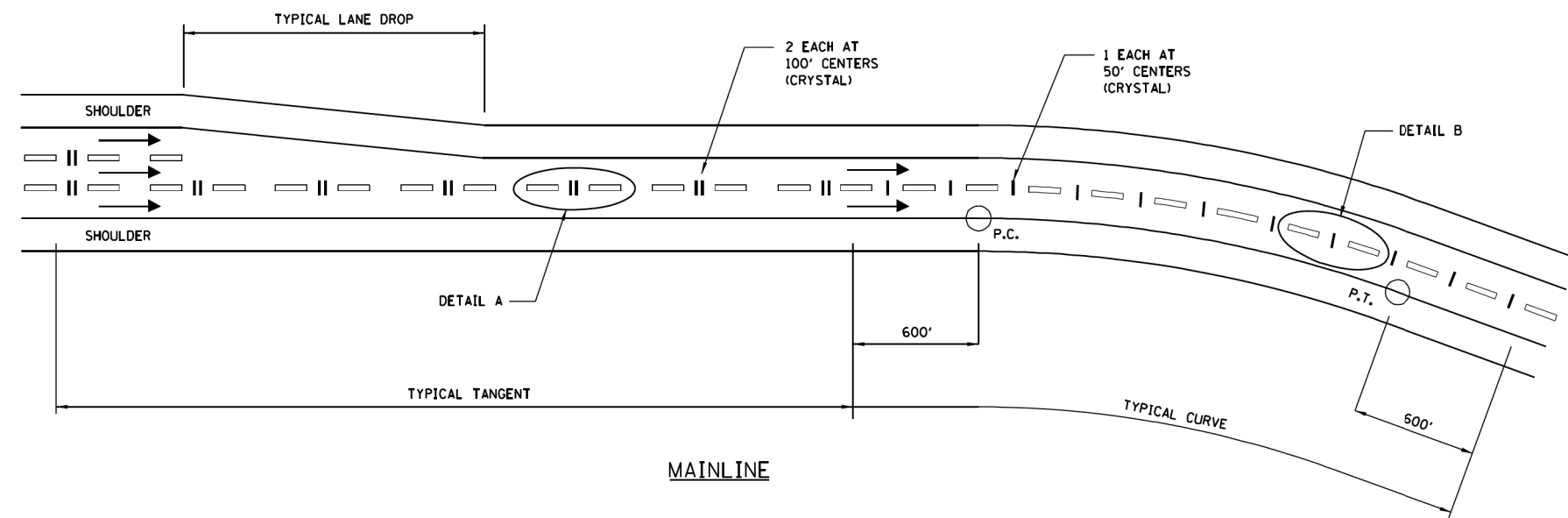
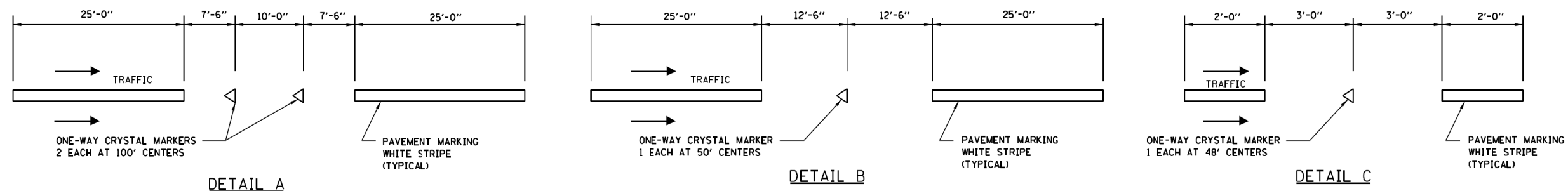
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOLLWAY STANDARD DRAWING**

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	653
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**NOTES:**

1. FOR COLLECTOR DISTRIBUTOR, PLACE ONE-WAY CRYSTAL MARKER, 2 EACH AT 100' CENTERS. USE DETAIL A.
2. FOR MULTI LANE DIRECTIONAL RAMPS, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 50' CENTERS. USE DETAIL B.
3. FOR AUXILIARY LANES, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 48' CENTERS. USE DETAIL C.

**RAISED PAVEMENT LANE MARKER DETAILS**

  
 APPROVED ..... CHIEF ENGINEER ..... DATE 7-1-2009...

DATE	REVISIONS

  
**RAISED PAVEMENT LANE MARKER**  
 STANDARD D8-00

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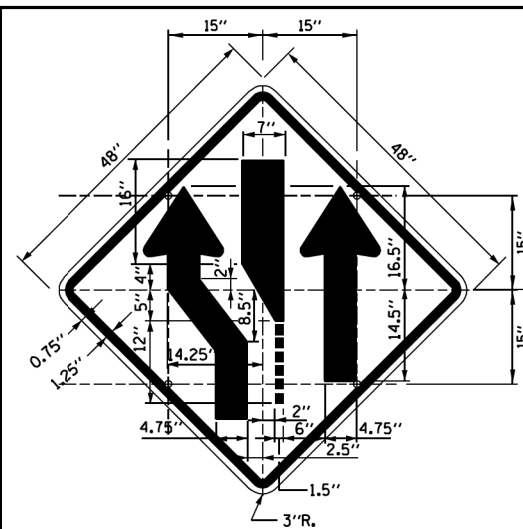
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		DRAWN -	REVISED -
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	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**TOLLWAY STANDARD DRAWING**  
 SCALE: SHEET NO. N/A OF N/A SHEETS STA. TO STA.

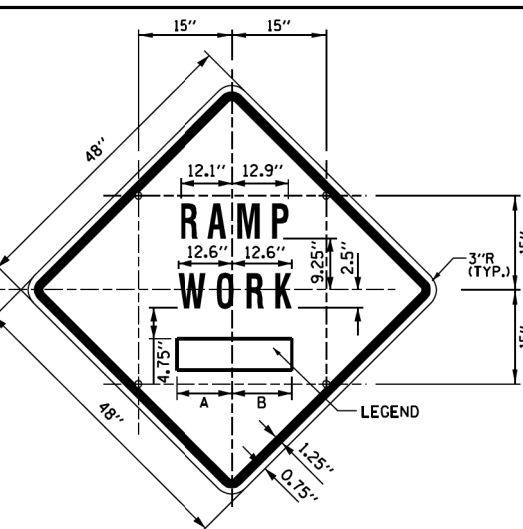
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	654
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**SIGN TS-1 (0)**

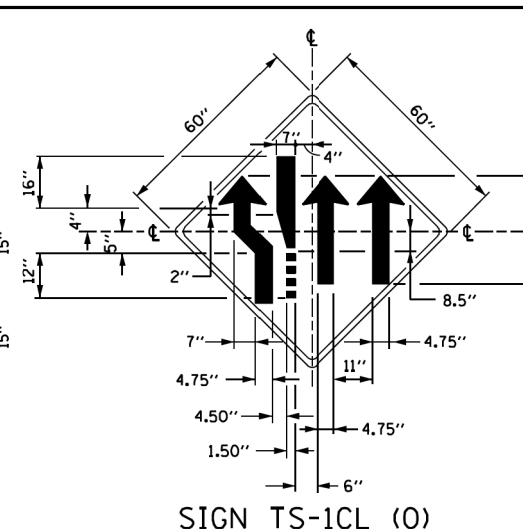
COLOR: BACKGROUND - FLUORESCENT ORANGE (0)  
 BORDER AND SYMBOL - BLACK  
 SIZE: 48"x48"  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN  
 NOTE: SIGN TS-1L IS SHOWN; REVERSE SYMBOL FOR SIGN TS-1R



**SIGN TS-2 (0)**

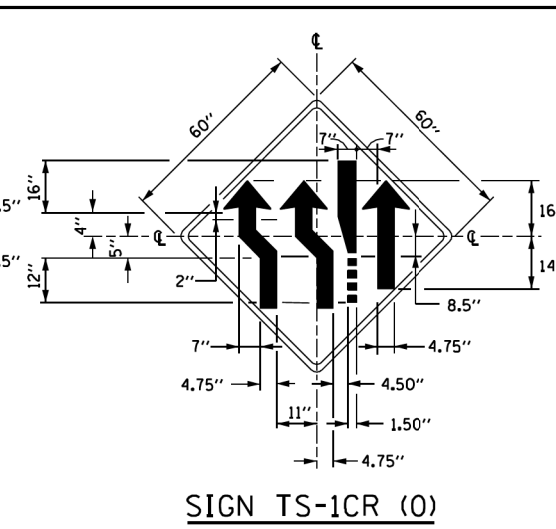
COLOR: BACKGROUND - FLUORESCENT ORANGE (0)  
 BORDER AND SYMBOL - BLACK  
 SIZE: 48"x48"  
 LETTERING: 7" FEDERAL SERIES D  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN

SIGN NO.	LEGEND	A	B
TS-2A	AHEAD	15.50"	15.50"
TS-2B	500 FT	14.25"	15.13"
TS-2C	1000 FT	14.88" L2	15.75" L2
TS-2D	1500 FT	14.88" L2	15.75" L2
TS-2E	1/2 MILE	15.75" L3	15.75" L3
TS-2F	1 MILE	13.06"	13.06"



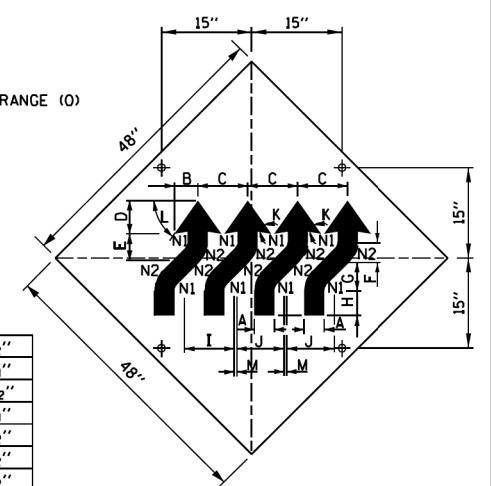
**SIGN TS-1CL (0)**

COLOR: BACKGROUND - FLUORESCENT ORANGE (0)  
 BORDER AND SYMBOL-BLACK  
 (NON-REFLECTORIZED)



**SIGN TS-1CR (0)**

COLOR: BACKGROUND - FLUORESCENT ORANGE (0)  
 BORDER AND SYMBOL-BLACK  
 (NON-REFLECTORIZED)



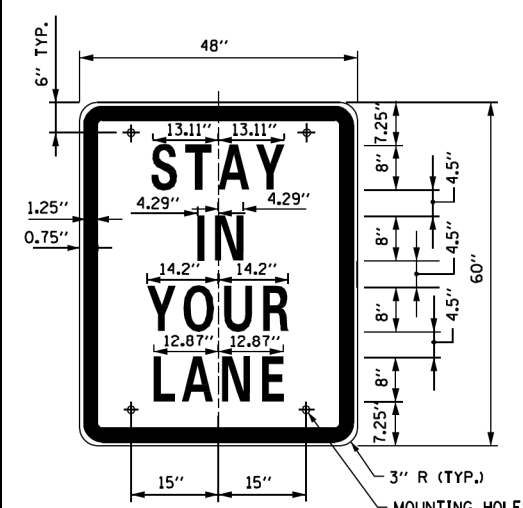
**SIGN WI-4dR (0)**

COLOR: BACKGROUND, FLUORESCENT ORANGE (0)  
 TYPE A REFLECTIVE SHEETING PER STANDARD SPECIFICATIONS (\*A)  
 BORDER AND LETTERS-BLACK  
 SIZE: 48"x48"  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN.

A	4 1/2"
B	5 3/4"
C	12 1/2"
D	7 3/4"
E	6 1/2"
F	4 1/2"
G	6 1/2"
H	6"
I	12 3/4"
J	12"
K	45°
L	55°
M	0 3/4"
N1	2"
N2	6 1/2"

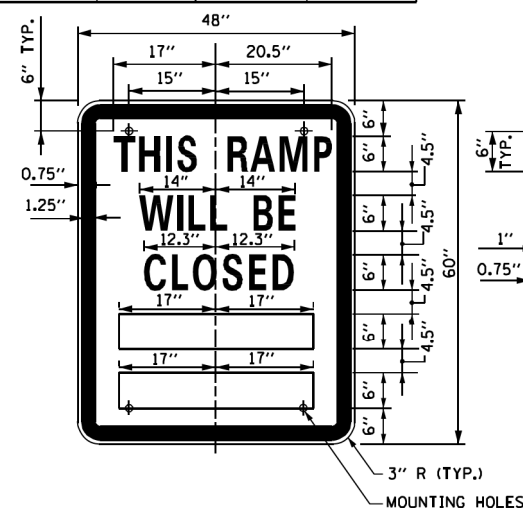
**NOTES:**

- ALL LETTERING IS DESIGNATED BY SIZE AND SERIES IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. LETTERING SPACING SHALL BE IN ACCORDANCE WITH THIS GUIDE EXCEPT WHERE NOTED.
- SYMBOLS AND ARROWS SHALL CONFORM TO THE DETAILS SHOWN IN THE LATEST EDITION OF "STANDARD HIGHWAY SIGNS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION.
- SEE THE CONTRACT REQUIREMENTS FOR ADDITIONAL NOTES AND SPECIFICATIONS.  
 (0) FLUORESCENT ORANGE REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.  
 (\*A) - REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.
- DIMENSIONS INDICATED THUS L ARE BASED ON A REDUCTION IN STANDARD LETTERING SPACING AS SHOWN BELOW:  
 L1 SPACING REDUCED BY 25%  
 L2 SPACING REDUCED BY 40%  
 L3 SPACING REDUCED BY 50%



**SIGN TS-3**

COLOR: BACKGROUND - WHITE (REFLECTORIZED)(\*A)  
 BORDER AND LETTERS - BLACK  
 SIZE: 48"x60"  
 LETTERING: LEGEND - 8" FEDERAL SERIES D  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES, SPACED AS SHOWN

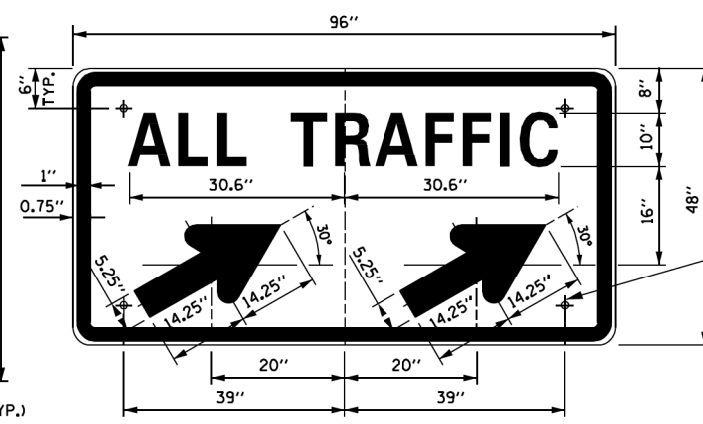


**SIGN TS-4**

COLOR: BACKGROUND - WHITE (REFLECTORIZED)(\*A)  
 BORDER AND LETTERS - BLACK  
 SIZE: 48"x60"  
 LETTERING: LEGEND - 6" FEDERAL SERIES C  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES, SPACED AS SHOWN

**RAMP CLOSURE ADVANCE INFORMATION SIGN**

THE VARIABLE MESSAGE WITH DATES FOR THE BOTTOM TWO LINES SHALL BE DETERMINED BY THE ENGINEER AND GIVEN TO THE CONTRACTOR BEFORE THE REQUIRED FIELD ERECTION DATE.



**SIGN TS-5a & TS-5b**

COLOR: BACKGROUND - WHITE (REFLECTORIZED)(\*A)  
 BORDER AND LETTERS - BLACK  
 ARROW - BLACK  
 SIZE: 96"x48"  
 LETTERING: 10" FEDERAL SERIES D  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES, SPACED AS SHOWN  
 NOTE: SIGN TS-5a IS SHOWN, SUBSTITUTE LEGEND " " FOR " " FOR SIGN TS-5b

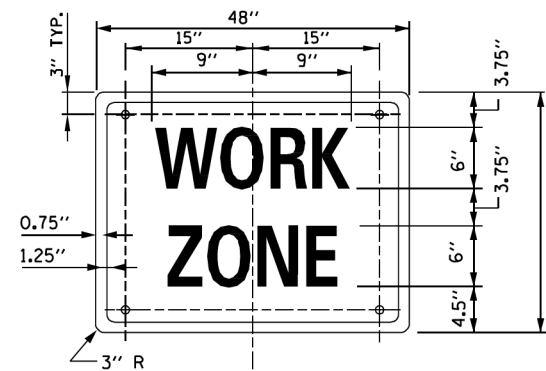
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009...



DATE	REVISIONS	CONSTRUCTION SIGNS
5-1-2009	DELETED FLASHING ARROW BOARDS	
1-1-2011	ADDED SIGN COLOR DESIGNATION	
		STANDARD E1-02

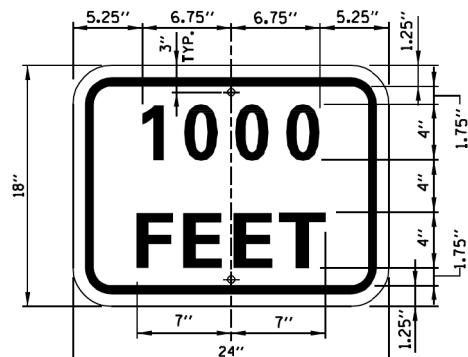
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FILE NAME	USER NAME	DESIGNED	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOLLWAY STANDARD DRAWING	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
\$FILES\$	default	-	-			94	49-1-R-1	LAKE	677	655
		CHECKED - RGR	REVISIONS -			CONTRACT NO. 60L77		ILLINOIS FED. AID PROJECT		
		DATE - 6/19/2012	REVISIONS -			SCALE:	SHEET NO. N/A OF N/A SHEETS	STA.	TO STA.	



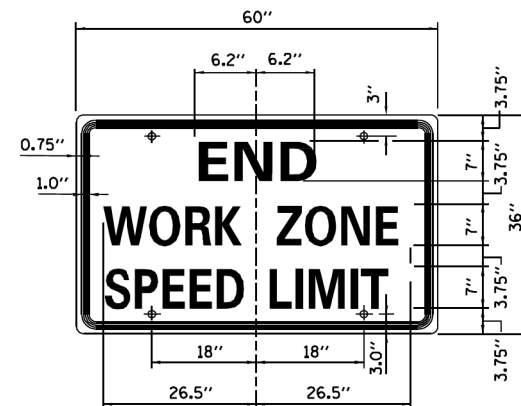
SIGN G20-I102 (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)  
 BORDER AND LETTERS - BLACK  
 SIZE: 48"x24"  
 LETTERING: 6" FEDERAL SERIES C,  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN  
 ON SIGN G20-2A



SUPPLEMENTAL PLATE (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)  
 BORDER AND LETTERS - BLACK  
 SIZE: 24"x18"  
 LETTERING: 4" FEDERAL SERIES D  
 MOUNTING HOLES: 7/16" DIA.



SIGN G20-I103 (O)

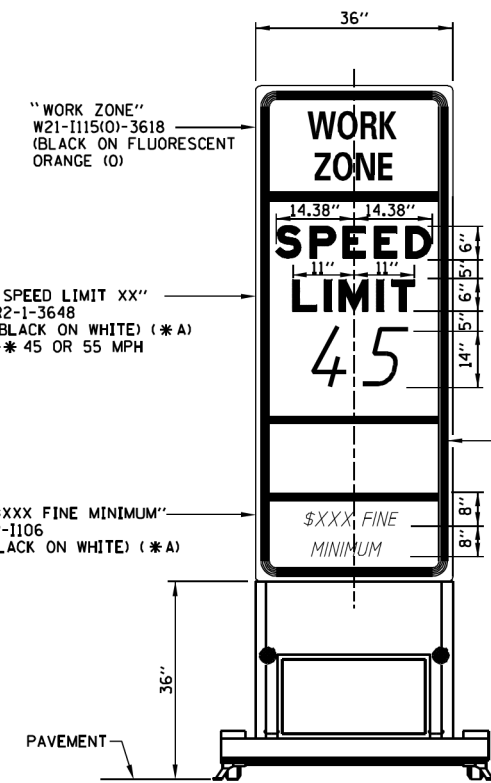
COLOR: BACKGROUND - FLUORESCENT ORANGE (O)  
 BORDER AND LETTERS - BLACK  
 SIZE: 60"x36"  
 LETTERING: 6" FEDERAL SERIES C,  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN

"WORK\_ZONE"  
 W21-I115(O)-3618  
 (BLACK ON FLUORESCENT  
 ORANGE (O))

"SPEED LIMIT XX"  
 R2-1-3648  
 (BLACK ON WHITE) (\*A)  
 \*\* 45 OR 55 MPH

"\*XXX FINE MINIMUM"  
 R2-1106  
 (BLACK ON WHITE) (\*A)

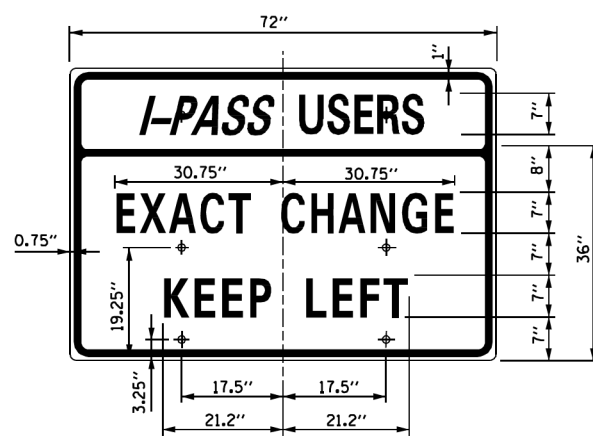
"BEGINS" (W21-I113), OR  
 "RESUMES" (W21-I114)  
 (O) 3612.  
 (BLACK ON  
 FLUORESCENT  
 ORANGE (O))



WORK\_ZONE SPEED LIMIT  
 SIGN ASSEMBLY

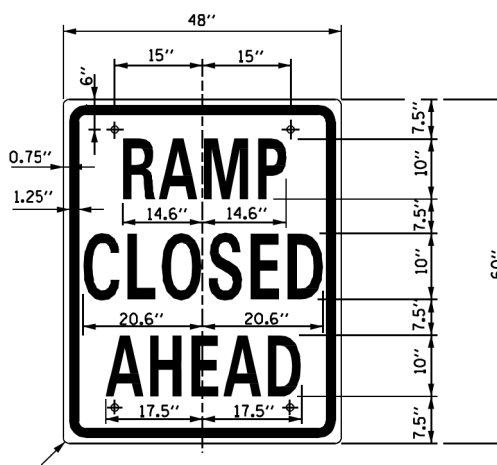
GENERAL NOTES:

- ALL LETTERING IS DESIGNATED BY SIZE AND SERIES IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. LETTERING SPACING SHALL BE IN ACCORDANCE WITH THE GUIDE EXCEPT WHERE NOTED.
- SYMBOLS AND ARROWS SHALL CONFORM TO THE DETAILS SHOWN IN THE LATEST EDITION OF "STANDARD HIGHWAY SIGNS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION.
- SEE THE CONTRACT REQUIREMENTS FOR ADDITIONAL NOTES AND SPECIFICATIONS.  
 (O) FLUORESCENT ORANGE REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.  
 (\*A)-REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.



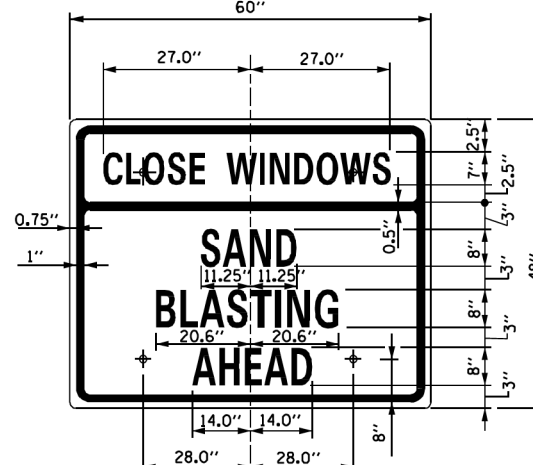
SIGN TS-7

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (\*A)  
 BORDER AND LETTERS - BLACK  
 SIZE: 72"x36"  
 LETTERING: 7" FEDERAL SERIES C  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN



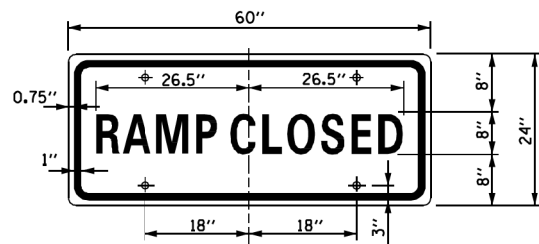
SIGN TS-9

COLOR: BACKGROUND - WHITE (REFLECTORIZED)  
 BORDER AND LETTERS - BLACK  
 SIZE: 48"x60"  
 LETTERING: 10" FEDERAL SERIES C  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN



SIGN TS-10 (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)  
 BORDER AND LETTERS - BLACK  
 SIZE: 60"x48"  
 LETTERING: 8" FEDERAL SERIES C, 7" FEDERAL SERIES B  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN



SIGN TS-6

COLOR: BACKGROUND - WHITE (REFLECTORIZED)  
 BORDER AND LETTERS - BLACK  
 SIZE: 60"x24"  
 LETTERING: 8" FEDERAL SERIES C  
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN

Paul Kovacs  
 APPROVED ..... CHIEF ENGINEER ..... DATE 5-1-2009 ...

**Illinois Tollway**  
*Open Roads for a Faster Future*

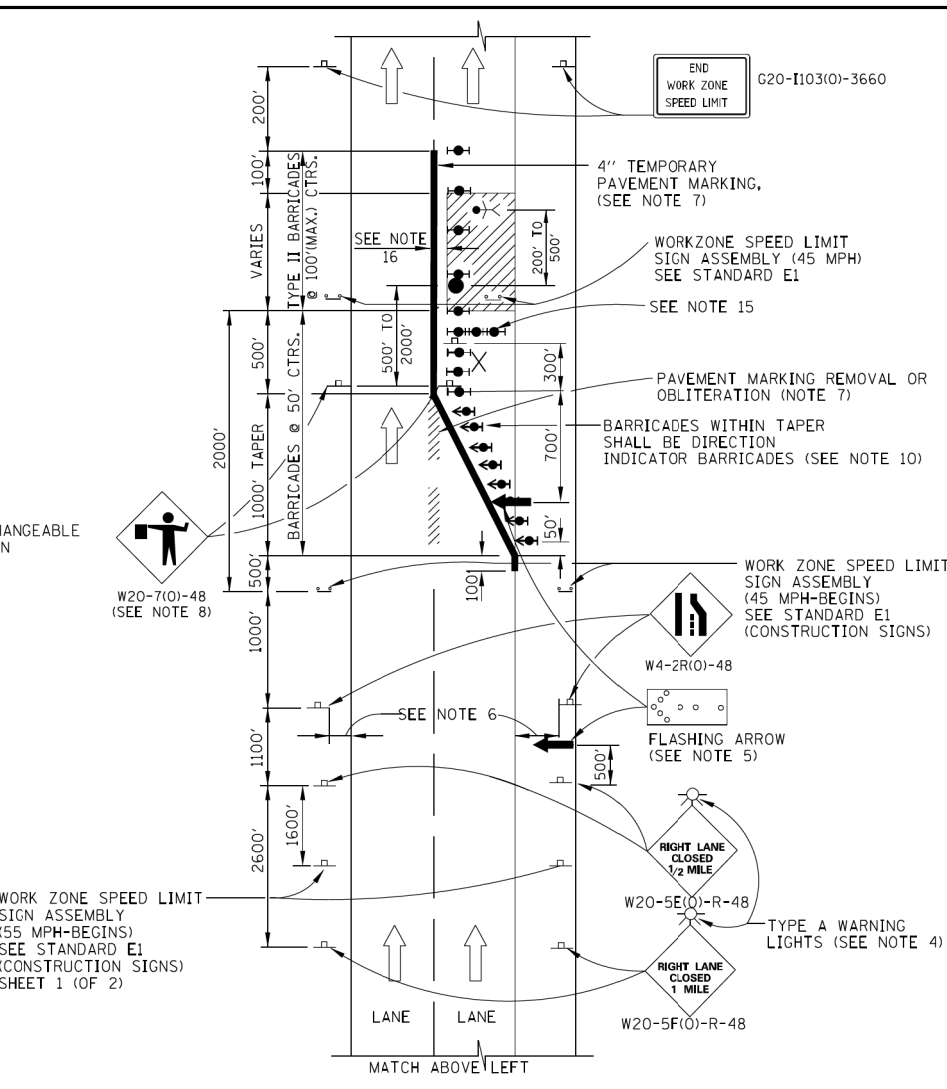
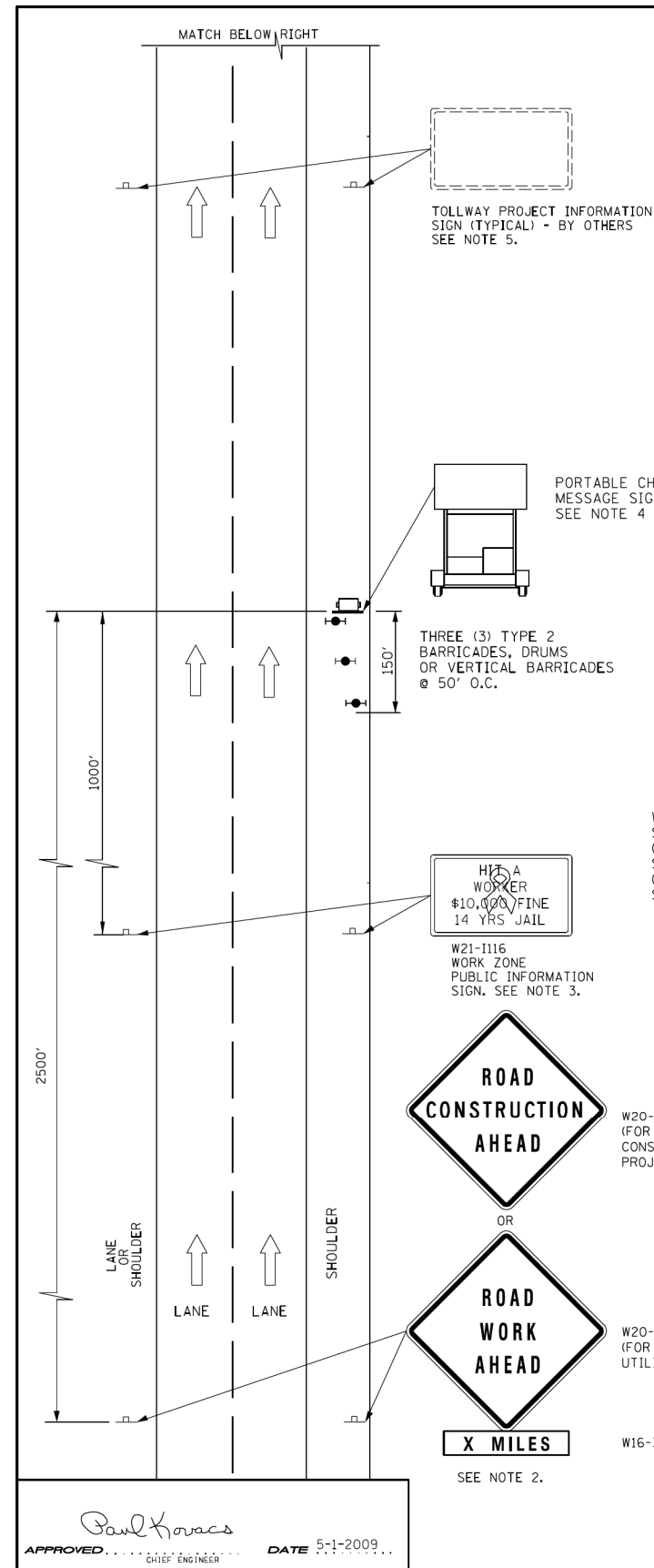
CONSTRUCTION SIGNS

STANDARD E1-02

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FILE NAME = #FILES#	USER NAME = default	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TOLLWAY STANDARD DRAWING</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			94	49-1-R-1	LAKE	677	656	
		CHECKED - RGR	REVISED -			CONTRACT NO. 60L77					
		DATE - 6/19/2012	REVISED -			ILLINOIS FED. AID PROJECT					
		SCALE:	SHEET NO. N/A OF N/A SHEETS	STA.	TO STA.						

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**LANE CLOSURE NOTES:**

- IF CLOSURES ARE EXPECTED TO PRODUCE TRAFFIC BACKUPS EXTENDING BEYOND THE FIRST WARNING SIGN SHOWN ON THE DETAILS, ADDITIONAL UPSTREAM SIGNS SHALL BE PLACED SO THAT THE TRAFFIC CONTROL ZONE ENCOMPASSES THE ANTICIPATED BACKUP ZONE.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
- THESE DETAILS ALSO APPLY TO OPPOSITE HAND LANE CLOSURES BY CHANGING SIGN LEGENDS AND ARROW DIRECTIONS TO INDICATE THE APPROPRIATE CLOSURE.
- FOR NIGHT TIME CLOSURES, ONE TYPE A WARNING LIGHT SHALL BE INSTALLED ABOVE EACH OF THE 1 MILE AND 1/2 MILE ADVANCE WARNING SIGNS. FOR DAYLIGHT-ONLY CLOSURES, THE LIGHTS MAY BE OMITTED.
- FOR ANY LANE CLOSURE, FLASHING ARROW BOARDS SHALL BE REQUIRED AND IN OPERATION AT ALL TIMES. THE FLASHING ARROW BOARD IN ADVANCE OF THE TAPER SHALL BE PROTECTED WITH THREE TYPE II BARRICADES AT 50' O.C.
- CONSTRUCTION SIGNS SHALL GENERALLY BE POST-MOUNTED OR ATTACHED TO PORTABLE SUPPORTS AND SHALL BE INSTALLED 8' TO 12' FROM ADJACENT TRAVEL LANE WHEREVER POSSIBLE. IN NO CASE SHALL SIGNS BE LOCATED TO PROVIDE LESS THAN 2' CLEARANCE BETWEEN EDGE OF SIGN AND ADJACENT TRAVEL LANE.
- PAVEMENT MARKING TAPE AND REMOVAL OR OBLITERATION OF EXISTING MARKINGS SHALL BE REQUIRED WHEN THE CLOSURE TIME EXCEEDS FOUR DAYS. THIS WORK SHALL BE MEASURED AND PAID FOR SEPARATELY.
- WHEN A FLAGGER IS NOT ON STATION, THE FLAGGER SIGN SHALL BE PROMPTLY REMOVED, COVERED OR TURNED TO FACE AWAY FROM TRAFFIC. FLAGGER SIGNS SHALL BE MOVED AS NECESSARY TO MAINTAIN THE REQUIRED SPACING BETWEEN THE SIGNS AND THE WORKERS IN EACH SEPARATE WORK ACTIVITY, PER THE TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
- WHENEVER WORKERS ARE PRESENT AND WITHIN 12' OR LESS TO MOVING TRAFFIC, WORK ZONE SPEED LIMIT SIGN ASSEMBLIES, SHALL BE PLACED ADJACENT TO THE OPEN TRAFFIC LANE(S). WORK ZONE SPEED SIGNS SHALL BE MOVED AS NECESSARY TO MAINTAIN THE REQUIRED SPACING BETWEEN SIGNS AND THE WORKERS IN EACH SEPARATE WORK ACTIVITY PER THE TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
- DIRECTION INDICATOR BARRICADES SHALL BE USED IN LANE TAPERS.
- FOR CLOSURES OTHER THAN SHORT TERM (SUNRISE TO ONE HOUR BEFORE SUNSET), THE MINIMUM HEIGHT OF THE SIGN FROM SHOULDER ELEVATION SHALL BE 7'-0".
- CONES MAY BE USED IN LIEU OF BARRICADES IN THE BUFFER AND WORK AREAS, WHEN THE CLOSURE IS FOR MAINTENANCE OPERATIONS.
- BARRICADES ARE TO BE LOCATED AT JOINT LINE WHEN WORK AREA EXTENDS UP TO JOINT UNLESS OTHERWISE SHOWN ON THE PLANS.
- SEE MAINTENANCE OF TRAFFIC DRAWINGS FOR ADDITIONAL SIGNING IN THIS AREA.
- CHECK BARRICADES SHALL BE PLACED IN THE MIDDLE OF THE CLOSED LANE AND AT THE SHOULDER AT 1000 FOOT CENTERS.
- A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICE.

**ONE-LANE CLOSURE**

**ADVANCE SIGNAGE NOTES:**

- THE ADVANCE SIGNAGE SHOWN ON THIS STANDARD SHALL APPLY ANY TIME THE CONTRACTOR CLOSES ONE OR MORE LANES, OR IS REQUIRED TO SHIFT THE LANE ALIGNMENT. THE "ROAD WORK AHEAD" OR "ROAD CONSTRUCTION AHEAD" SIGNS, WORK ZONE PUBLIC INFORMATION SIGNS AND PORTABLE CHANGEABLE MESSAGE ARE STATIONARY.
- THE ROAD CONSTRUCTION AHEAD SIGN (W20-1A, WITH W16-3a SUPPLEMENTAL PLATE) OR ROAD WORK AHEAD SIGN (W20-1, WITH WITH W16-3A SUPPLEMENTAL PLATE) SHALL BE LOCATED UP TO 5 MILES IN ADVANCE OF THE PROJECT LIMITS, WITH THE LOCATION BEING DETERMINED BY THE ENGINEER.
- THE WORK ZONE INFORMATION SIGN IS 60" WIDE BY 48" HIGH. THE CONTRACTOR SHALL OBTAIN THE CAMERA-READY ARTWORK REQUIRED FOR THE SIGN MESSAGE BY CONTACTING IDOT'S CENTRAL BUREAU OF OPERATIONS.
- THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE USED TO DISPLAY THE STATUS OF LANE WITHIN THE CONTRACT LIMITS. THE PRIMARY MESSAGES SHALL BE: "RIGHT LANE(S) CLOSED" / "X MILES AHEAD", "LEFT LANE(S) CLOSED" / "X MILES AHEAD", "LANE(S) SHIFT" / "X MILES AHEAD", "ALL LANES OPEN". THE PORTABLE CHANGEABLE MESSAGE SIGN MAY BE MOVED TO THE MEDIAN SHOULDER WHEN THE LANE CLOSURES ARE ON THE LEFT, PROVIDED THE EXISTING SHOULDER WIDTH IS ADEQUATE.
- THE TOLLWAY WILL FURNISH AND INSTALL STATIC PROJECT INFORMATION SIGNS IN ADVANCE, THROUGH AND AT THE END OF THE WORK ZONE. THESE SIGNS WILL BE INSTALLED ALONG THE OUTSIDE SHOULDER WITH THE ADVANCE SIGNS LOCATED BEYOND THE PORTABLE CHANGEABLE MESSAGE SIGN. THE ENGINEER AND CONTRACTOR SHALL COORDINATE WITH THE TOLLWAY REGARDING THE LOCATION OF THESE SIGNS AND NOTIFY THE TOLLWAY OF ANY DAMAGE TO THE SIGNS OR SUPPORTS.

**SYMBOLS**

- ARROW BOARD
- WORK AREA
- SIGN
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- WORKER
- LANE CLOSED

SHEET 1 OF 2

**Illinois Tollway**  
Open Roads for a Faster Future

LANE CLOSURE DETAILS

STANDARD E2-02

DATE	REVISIONS
5-1-2009	CHANGED TRAFFIC CONTROL DIMENSIONS
	UPDATED ROADWAY SIGNAGE
1-1-2011	CHANGED SYMBOL DESIGNATION, REVISED NOTES

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*Paul Kovacs*  
APPROVED CHIEF ENGINEER DATE 5-1-2009...

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		CHECKED - RGR	REVISED -
		DATE - 6/19/2012	REVISED -

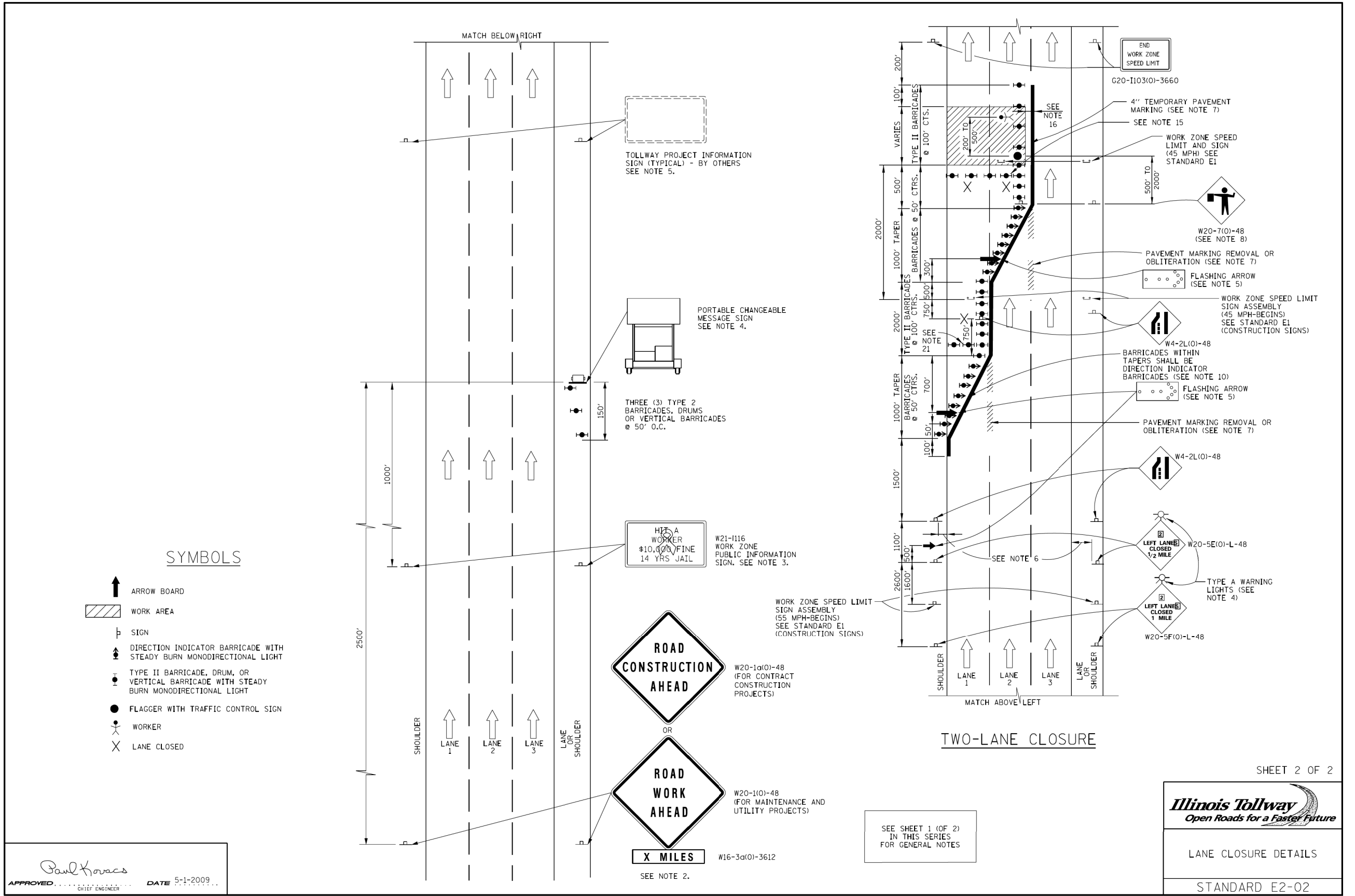
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DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

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	657
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**Illinois Tollway**  
*Open Roads for a Faster Future*

LANE CLOSURE DETAILS

STANDARD E2-02

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*Paul Kovacs*  
 APPROVED CHIEF ENGINEER DATE 5-1-2009...

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		DATE - 6/19/2012	REVISED -

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

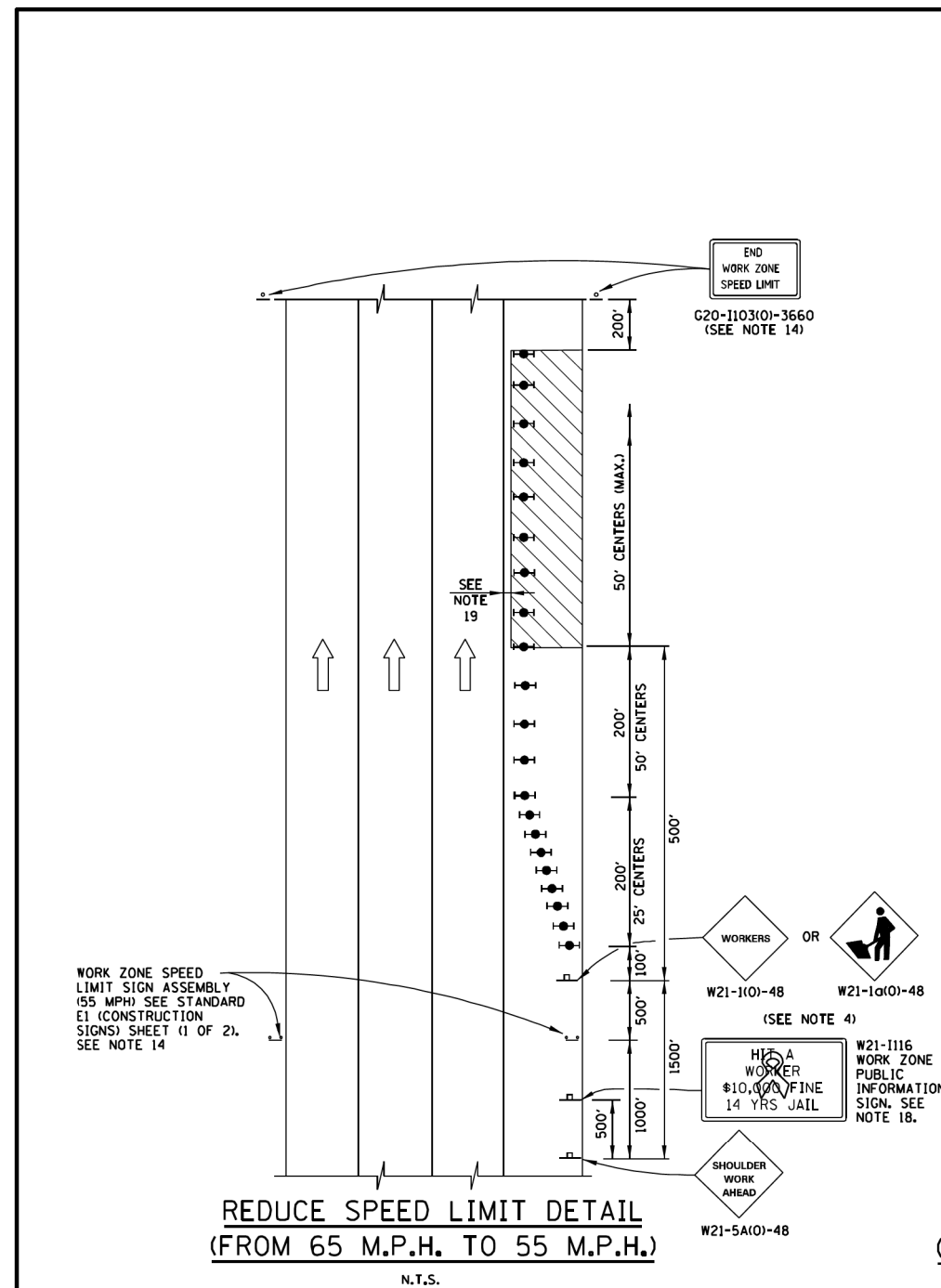
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TOLLWAY STANDARD DRAWING

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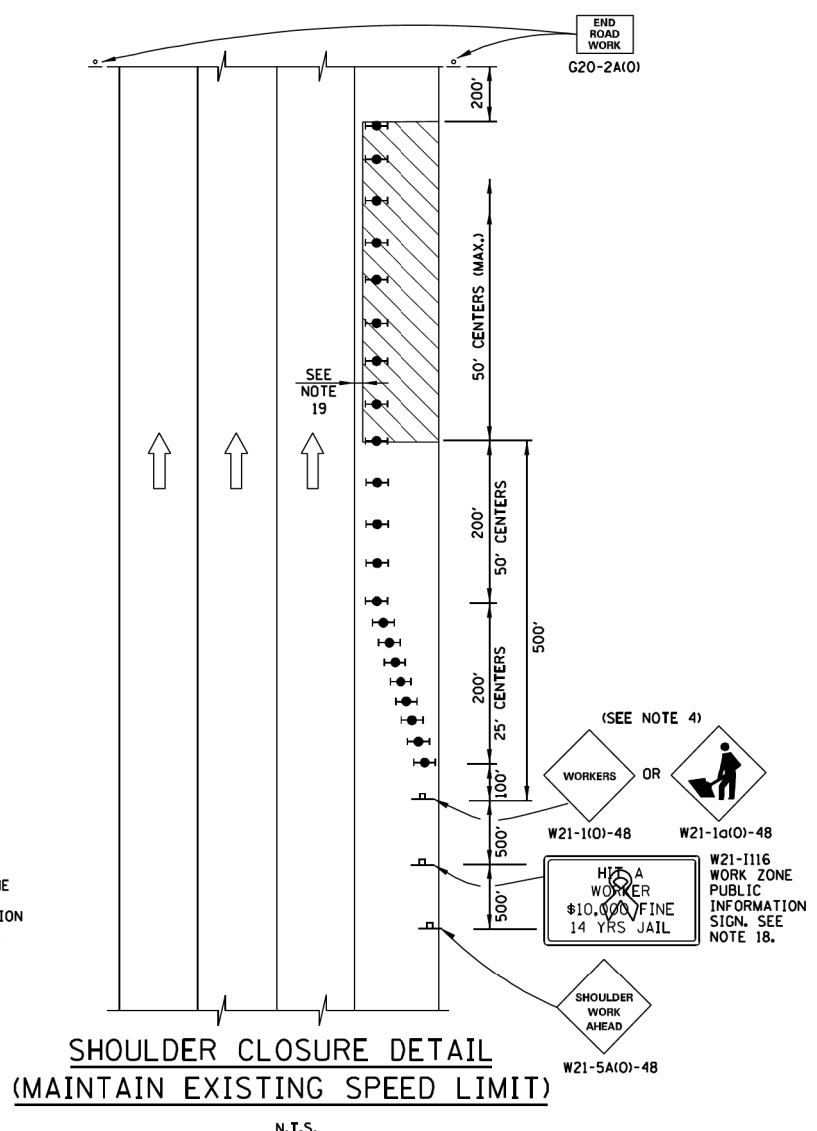
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94	49-1-R-1	LAKE	677	658
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**REDUCE SPEED LIMIT DETAIL**  
(FROM 65 M.P.H. TO 55 M.P.H.)

N.T.S.



**SHOULDER CLOSURE DETAIL**  
(MAINTAIN EXISTING SPEED LIMIT)

N.T.S.

**GENERAL NOTES:**

1. THE SHOULDER SHALL BE CLOSED WHEN A WORK ACTIVITY REQUIRING 15 OR MORE MINUTES IS PERFORMED AT A DISTANCE WHICH IS LESS THAN 15 FEET BUT NO CLOSER THAN 2 FEET THE EDGE OF PAVEMENT.
2. THE ADJACENT EXTERIOR LANE SHALL BE CLOSED WHEN WORK IS PERFORMED WITHIN 2 FEET FROM THE EDGE OF PAVEMENT.
3. THE CHANNELIZING DEVICES WHICH SEPARATE THE WORK SPACE FROM THE ADJACENT TRAVEL LANE SHALL BE SPACED AT 25' FOR (200 FEET) AND AT A MAXIMUM OF 50' FOR ALL ADDITIONAL DEVICES.
4. WHEN THE WORKSITE IS UNATTENDED, SUBSTITUTE - "SHOULDER WORK AHEAD" SIGN FOR THE SECOND SIGN.
5. WORKER SIGNS OR SHOULDER WORK SIGNS AND CHANNELIZATION DEVICES ARE PLACED ONLY ON THE SIDE OF THE ROADWAY ON WHICH THE ACTIVITY IS PERFORMED.
6. FOR SHOULDER CLOSURE EXTENDING OVERNIGHT, BARRICADE TYPE II WITH STEADY BURNING LIGHT, TYPE C SHALL BE USED.
7. FOR SHORT TERM CLOSURE (SUNRISE TO ONE HOUR BEFORE SUNSET) NOT EXTENDING INTO DARKNESS, CONES MAY BE USED.
8. ONE WORK ZONE SPEED LIMIT SIGN ASSEMBLY (55 MPH - BEGINS) SHALL BE PLACED AT A DISTANCE OF 500' TO 2,500' MAXIMUM IN ADVANCE OF WORKERS THROUGHOUT THE SHOULDER CLOSURE. MOVING OPERATIONS MAY REQUIRE CONTINUOUS ADJUSTMENT OF THE SIGN ASSEMBLY LOCATION TO MAINTAIN THE ABOVE INTERVAL.
9. AN ADDITIONAL SIGN ASSEMBLY SHALL BE PLACED 500' BEYOND THE LAST ENTRANCE RAMP FOR EACH INTERCHANGE THAT FALLS WITHIN THE 2,500'.
10. THE SIGN ASSEMBLY SHALL BE PLACED NO CLOSER THAN 500' TO ANY OTHER SIGN.
11. THE SIGN ASSEMBLY SHALL NOT BE UTILIZED WHEN WORKERS ARE BEHIND A TEMPORARY (MOVABLE BARRIER) WALL.
12. THE WORK ZONE SPEED LIMIT SIGNS AND SIGN ASSEMBLY SHALL BE PROMPTLY REMOVED OR COVERED WHEN WORKERS ARE NOT PRESENT OR CLOSE TO MOVING TRAFFIC.
13. ALL CONFLICTING SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED.
14. "END WORK ZONE SPEED LIMIT" SIGNS SHALL BE IN PLACE ONLY WHEN THE EXISTING POSTED SPEED > 55MPH.
15. FOR SHOULDER REPAIRS OR REPLACEMENT THE CHANNELIZING DEVICES SHALL BE PLACED AT THE EDGE OF PAVEMENT WHENEVER THE WORK ACTIVITIES RESULT IN A DROPOFF AT THE EDGE OF PAVEMENT.
16. "WORK ZONE SPEED LIMIT" SIGNS SHALL BE IN PLACE ONLY WHEN THE EXISTING POSTED SPEED > 55MPH.
17. ANY UNATTENDED OBSTACLE OR EXCAVATION LEFT ON THE SHOULDER OVERNIGHT SHALL BE PROTECTED BY TEMPORARY CONCRETE BARRIER.
18. THE WORK ZONE INFORMATION SIGN IS 60" WIDE BY 48" HIGH. THE CONTRACTOR SHALL OBTAIN THE CAMERA-READY ARTWORK REQUIRED FOR THE SIGN MESSAGE BY CONTACTING IDOT'S CENTRAL BUREAU OF OPERATIONS.
19. A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICE.

**SYMBOLS**

- WORK AREA
- SIGN
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT



DATE	REVISIONS
5-1-2009	MODIFIED SHOULDER CLOSURE DETAILS
	-MAINTAIN EXISTING SPEED LIMIT
	-SPEED REDUCTION
	-MOVED "TEMPORARY CORE DETAILS" TO E5
1-1-2011	CHANGED SYMBOL DESIGNATION
	REVISED NOTES

SHOULDER CLOSURE DETAILS	
STANDARD E3-02	

APPROVED ..... CHIEF ENGINEER ..... DATE 5-1-2009...

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		DATE - 6/19/2012	REVISED -

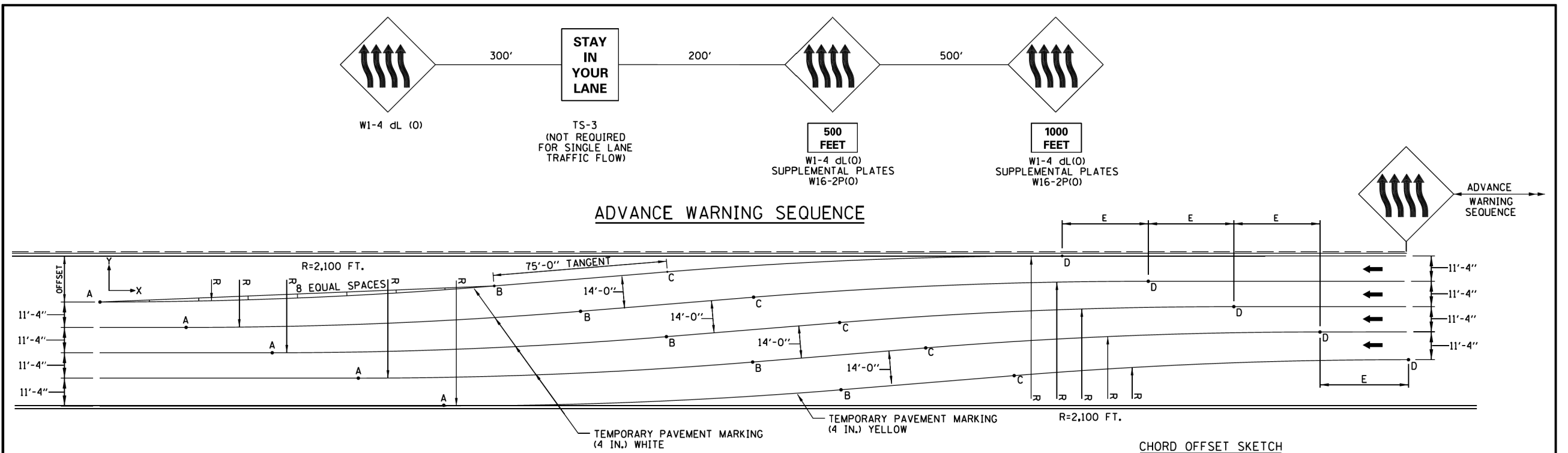
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**TOLLWAY STANDARD DRAWING**

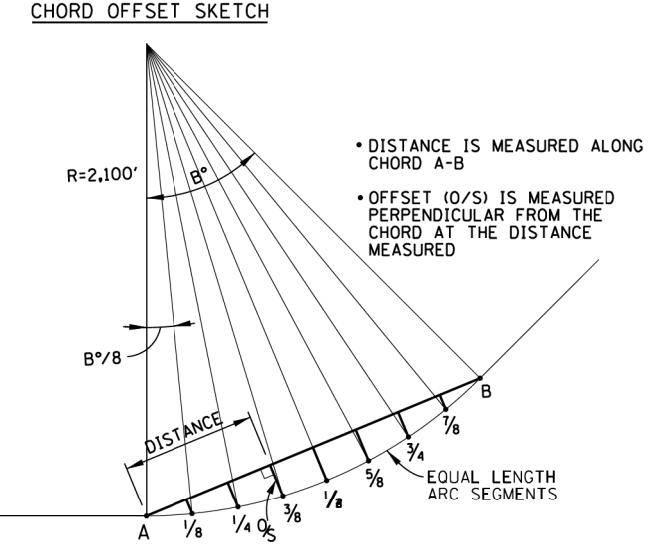
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

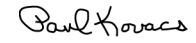
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OFFSET	POINT LAY-OUT										CHORD OFFSET DATA					
	E	B°	A		B		C		D		1/8 & 7/8	1/4 & 3/4	3/8 & 5/8	1/2		
			X	Y	X	Y	X	Y	X	Y	O/S	DIST	O/S	DIST	O/S	DIST
10	50.23	3.06	0	0	112.2	3.0	187.1	7.0	299.2	10.0	0.3	14.0	0.6	28.0	0.7	56.1
12	44.94	3.43	0	0	125.6	3.8	200.4	8.2	326.0	12.0	0.4	15.7	0.7	31.4	0.9	62.8
14	40.96	3.77	0	0	138.0	4.5	212.8	9.5	350.8	14.0	0.5	17.3	0.9	34.5	1.1	69.0
16	37.86	4.08	0	0	149.5	5.3	224.3	10.7	373.9	16.0	0.6	18.7	1.0	37.4	1.2	74.8
18	35.34	4.38	0	0	160.4	6.1	235.2	11.9	395.6	18.0	0.7	20.1	1.2	40.1	1.4	80.3
20	33.26	4.66	0	0	170.7	7.0	245.5	13.0	416.2	20.0	0.8	21.4	1.3	42.7	1.6	85.4
22	31.50	4.93	0	0	180.5	7.8	255.3	14.2	435.8	22.0	0.9	22.6	1.5	45.2	1.8	90.4
24	30.00	5.19	0	0	189.9	8.6	264.6	15.4	454.6	24.0	0.9	23.8	1.6	47.5	2.0	95.1
26	28.68	5.44	0	0	199.0	9.4	273.6	16.6	472.6	26.0	1.0	24.9	1.8	49.8	2.2	99.6
28	27.53	5.67	0	0	207.7	10.3	282.3	17.7	489.9	28.0	1.1	26.0	1.9	52.0	2.4	104.0
30	26.51	5.90	0	0	216.0	11.1	290.6	18.9	506.7	30.0	1.2	27.0	2.1	54.1	2.6	108.2
32	25.59	6.13	0	0	224.2	12.0	298.7	20.0	522.9	32.0	1.3	28.0	2.3	56.1	2.8	112.2
34	24.76	6.34	0	0	232.0	12.9	306.6	21.1	538.6	34.0	1.4	29.0	2.4	58.1	3.0	116.2
36	24.02	6.55	0	0	239.7	13.7	314.2	22.3	553.8	36.0	1.5	30.0	2.6	60.0	3.2	120.0
38	23.33	6.76	0	0	247.1	14.6	321.6	23.4	568.7	38.0	1.6	30.9	2.7	61.9	3.4	123.8
40	22.71	6.96	0	0	254.3	15.5	328.8	24.5	583.1	40.0	1.7	31.8	2.9	63.7	3.6	127.4
42	22.13	7.15	0	0	261.4	16.3	335.8	25.7	597.2	42.0	1.8	32.7	3.1	65.4	3.8	131.0
44	21.60	7.34	0	0	268.3	17.2	342.7	26.8	611.0	44.0	1.9	33.6	3.2	67.2	4.0	134.4
46	21.11	7.53	0	0	275.0	18.1	349.4	27.9	624.4	46.0	2.0	34.4	3.4	68.9	4.2	137.8
48	20.65	7.71	0	0	281.6	19.0	356.0	29.0	637.6	48.0	2.1	35.2	3.6	70.5	4.5	141.1
50	20.22	7.89	0	0	288.1	19.9	362.4	30.1	650.5	50.0	2.2	36.1	3.7	72.2	4.7	144.4
52	19.82	8.06	0	0	294.4	20.7	368.7	31.3	663.1	52.0	2.3	36.9	3.9	73.7	4.9	147.6
54	19.44	8.23	0	0	300.6	21.6	374.9	32.4	675.5	54.0	2.4	37.6	4.1	75.3	5.1	150.7
56	19.09	8.40	0	0	306.7	22.5	380.9	33.5	687.7	56.0	2.5	38.4	4.2	76.8	5.3	153.8
58	18.76	8.56	0	0	312.7	23.4	386.9	34.6	699.6	58.0	2.6	39.2	4.4	78.3	5.5	156.8
60	18.44	8.73	0	0	318.6	24.3	392.7	35.7	711.4	60.0	2.7	39.9	4.6	79.8	5.7	159.8



- GENERAL NOTES:**
1. REVERSE CURVE INFORMATION CAN BE USED FOR SINGLE LANE OR MULTILANE TRAFFIC FLOWS, SHIFTING RIGHT TO LEFT (AS SHOWN) OR LEFT TO RIGHT BY CHANGING TO THE APPROPRIATE ADVANCE WARNING SEQUENCE.
  2. THE REVERSE CURVE SHALL NOT BE USED OUTSIDE THE ACTIVITY AREA. LANE SHIFTS IN ADVANCE OF OR ON THE APPROACH TO THE ACTIVITY AREA SHALL BE IMPLEMENTED WITH A SHIFT RATE OF 83:1.
  3. LANE SHIFTS FOR DEPARTURES OUT OF THE ACTIVITY AREA SHALL BE IMPLEMENTED WITH A SHIFT RATE OF 75:1.

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

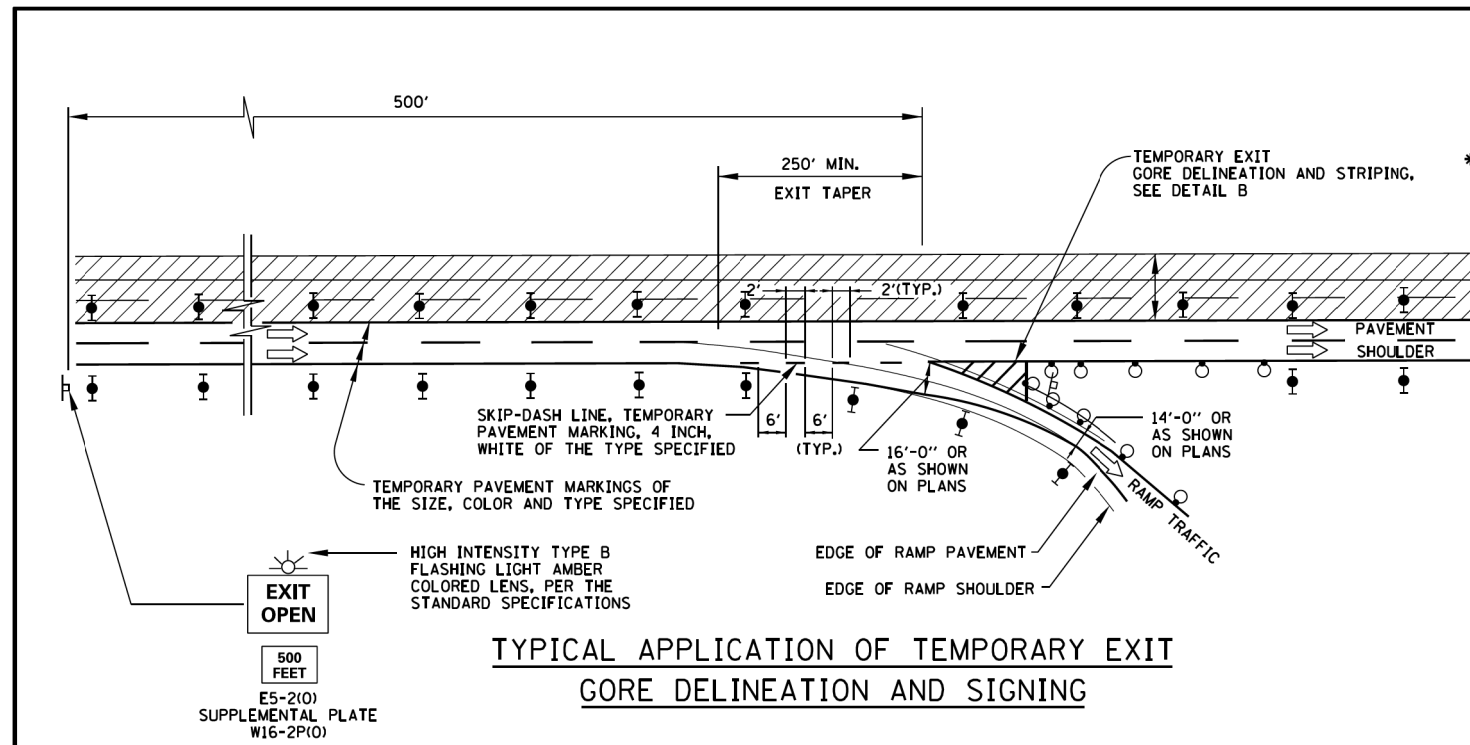
DATE	REVISIONS	 <b>MAINTENANCE OF TRAFFIC REVERSE CURVE</b> <b>STANDARD E4-02</b>
1-1-2011	ADDED SIGN COLOR DESIGNATION AND REVISED NOTES, MODIFIED LANE WIDTH DIMENSION/TABLE DATA.	
2-7-2012	REVISED NOTES	

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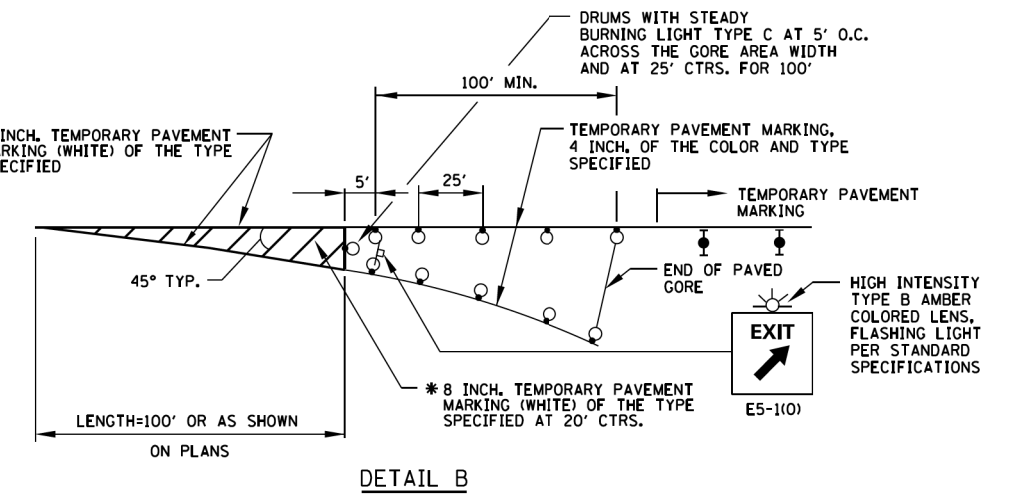
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	PLOT SCALE = H=1"=10' V=1"=5'	DRAWN -	REVISED -		SCALE:	SHEET NO. N/A OF N/A SHEETS	STA.	94	49-1-R-1	LAKE	677	660
	PLOT DATE = 6/18/2012	CHECKED - RGR	REVISED -		TO STA.			<b>CONTRACT NO. 60L77</b>				
		DATE - 6/19/2012	REVISED -		ILLINOIS FED. AID PROJECT							

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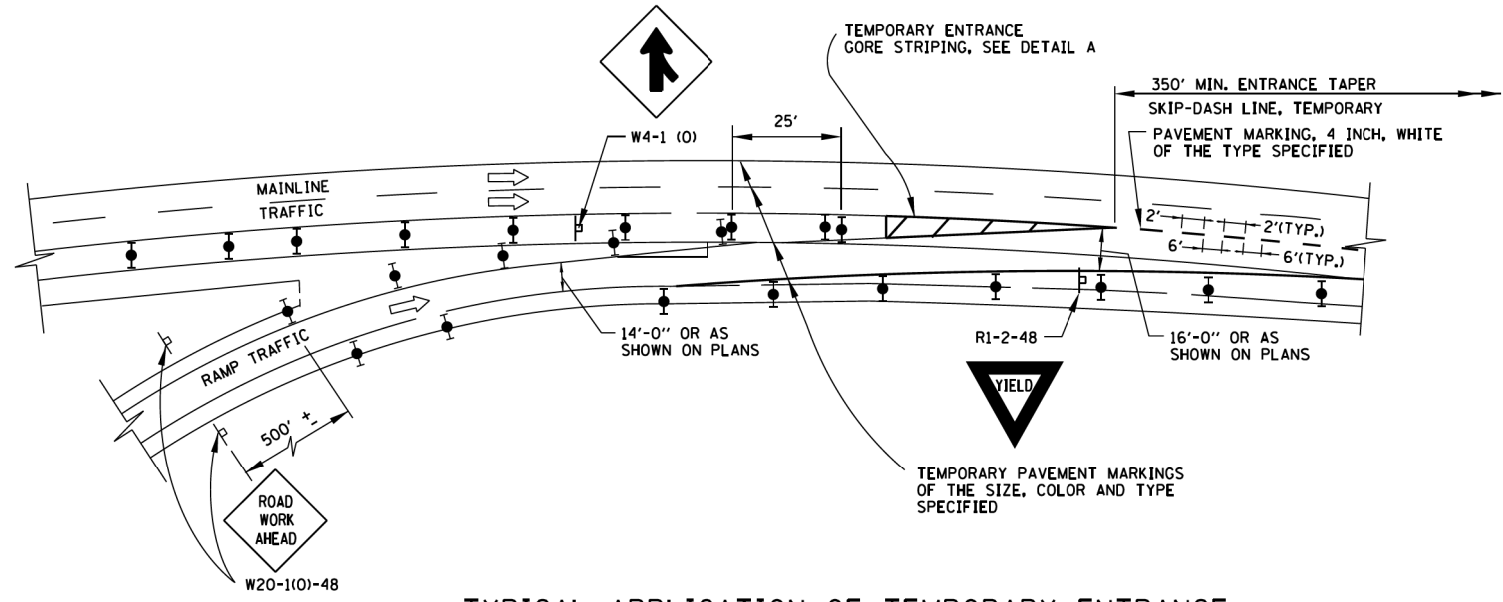




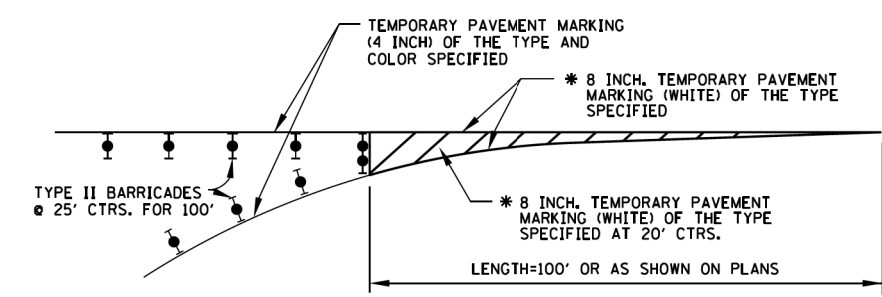
TYPICAL APPLICATION OF TEMPORARY EXIT GORE DELINEATION AND SIGNING



TEMPORARY EXIT GORE DELINEATION AND SIGNING



TYPICAL APPLICATION OF TEMPORARY ENTRANCE GORE DELINEATION AND SIGNING



TEMPORARY ENTRANCE GORE STRIPING

SYMBOLS

- WORK AREA
- SIGN
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- DRUM WITH STEADY BURNING LIGHT



DATE	REVISIONS
1-1-2011	CHANGED SYMBOL DESIGNATION
2-7-2012	REVISED MERGE SIGN

TEMPORARY GORE DETAILS	
STANDARD E5-02	

\* 8 INCH TEMPORARY PAVEMENT MARKING IS TO BE MADE OF 2-TEMPORARY PAVEMENT MARKING 4 INCH, WHITE OF THE TYPE SPECIFIED.

*Paul Kovacs*  
 APPROVED..... CHIEF ENGINEER..... DATE 5-1-2009...

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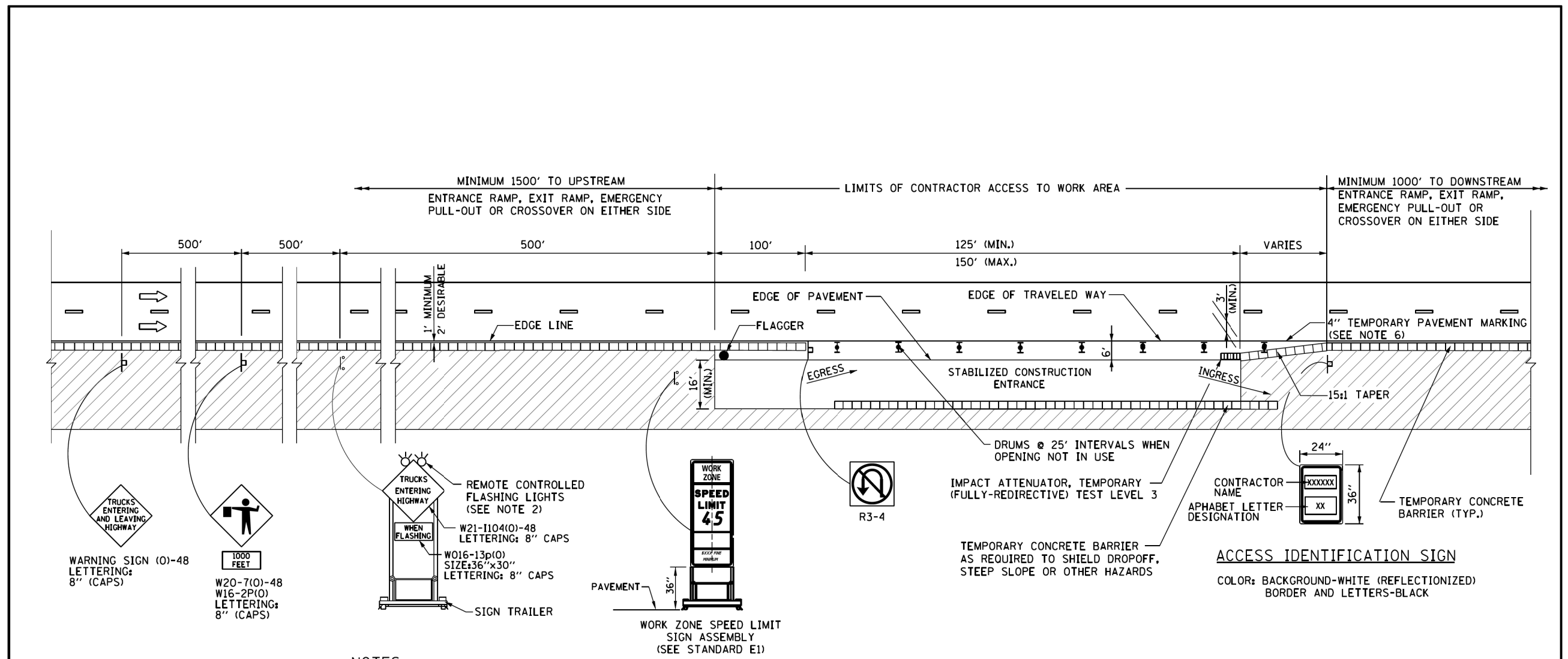
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		CHECKED - RGR	REVISED -
		DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING	
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	661
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**NOTES:**

- SIGNS DESIGNATED FOR THIS ACCESS TO WORK AREA SHALL BE COVERED OR TURNED AWAY FROM THE TRAFFIC WHEN THE FLAGGER IS NOT ON STATION AND THE ACCESS OPENINGS ARE NOT IN USE.
- THE FLASHING WARNING LIGHT SHALL MEET THE REQUIREMENTS OF TOLLWAY SUPPLEMENTAL SPECIFICATIONS AND BE OPERATED BY THE FLAGGER REMOTELY. THE LIGHTS SHALL BE FLASHING ONLY WHEN A VEHICLE IS ENTERING THE TOLLWAY.
- WHEN THREE LANES OR MORE ARE OPENED TO TRAFFIC, ADVANCE WARNING SIGNS AND ASSEMBLIES SHALL BE PROVIDED ON BOTH SIDES OF TRAVELED WAY.
- WHEN CONTRACTOR ACCESS TO WORK AREA IS ON OPPOSITE SIDE FROM SHOWN, ALL INSTALLATIONS ARE MIRROR IMAGE.
- FOR NIGHTTIME OPERATIONS, TEMPORARY LIGHTING OF CONSTRUCTION ACCESS TO WORK AREA SHALL BE PROVIDED.
- TEMPORARY PAVEMENT MARKINGS SHALL BE REPLACED AS OFTEN AS NECESSARY TO DELINEATE OPENINGS.
- IF POSSIBLE, LANE CLOSURES SHALL BE UTILIZED TO ELIMINATE THE MERGING OF CONSTRUCTION TRAFFIC INTO THROUGH TRAFFIC LANES.
- A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICES.

**LEGEND**

- FLAGGER
- ▬ CONSTRUCTION SIGN ON SUPPORT PER TOLLWAY STANDARD UNLESS NOTED
- ➔ DIRECTION OF TRAFFIC FLOW
- ▨ WORK AREA
- ⊕ DRUM WITH STEADY BURNING MONODIRECTIONAL LIGHT

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

**CONTRACTOR ACCESS TO WORK AREA**

DATE	REVISIONS

**Illinois Tollway**  
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CONTRACTOR ACCESS TO WORK AREA

STANDARD E6-00

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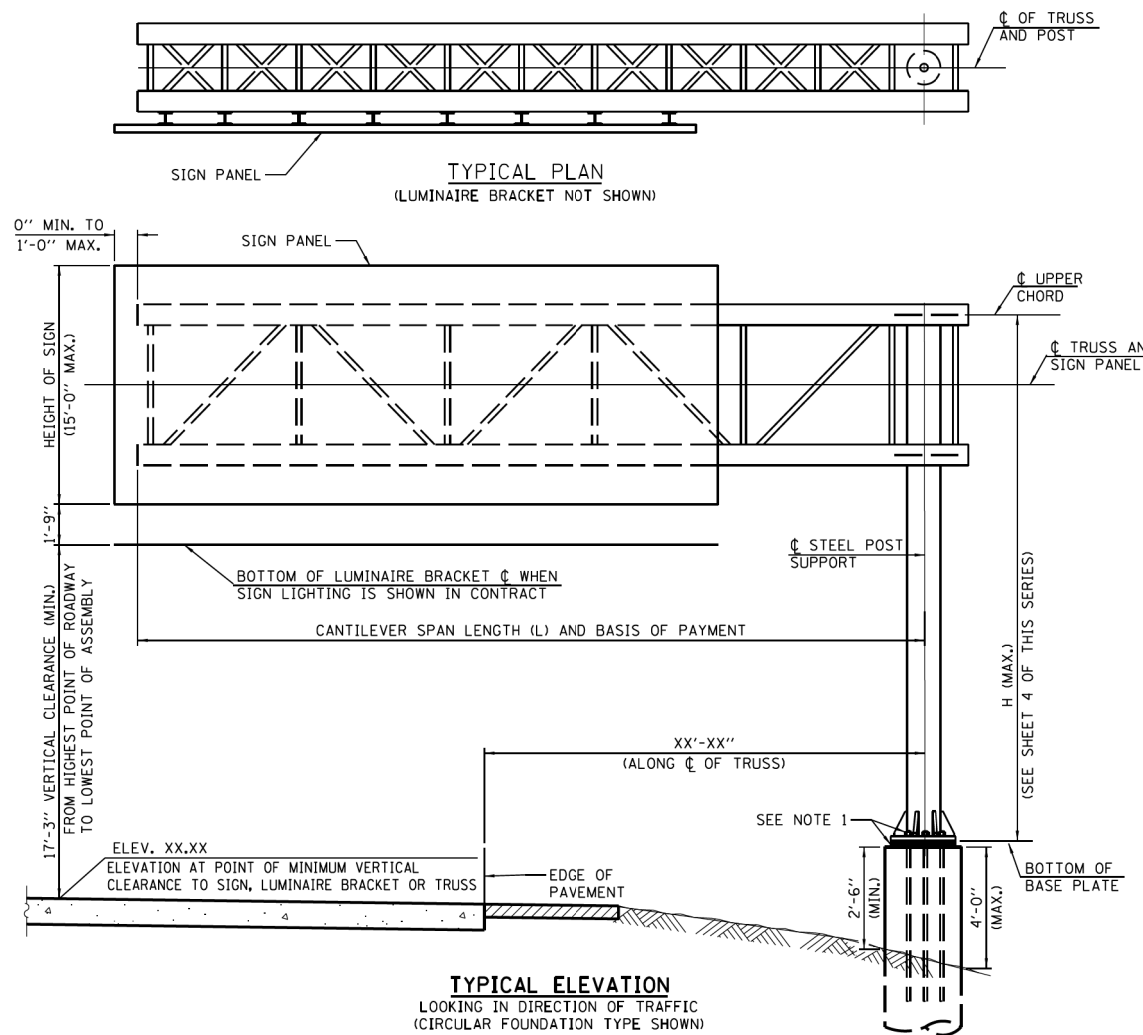
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TOLLWAY STANDARD DRAWING

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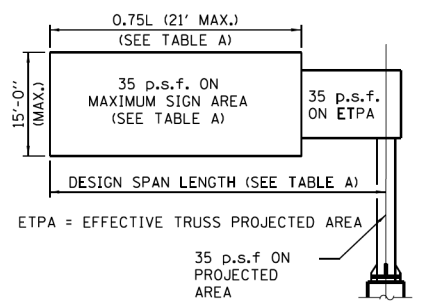
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94	49-1-R-1	LAKE	677	662
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**TABLE A: MAXIMUM LIMITS FOR SIGNS**

TRUSS TYPE	DESIGN SPAN LENGTH (FT.)	MAXIMUM SIGN AREA (SQ. FT.)	MAXIMUM SIGN LENGTH (FT.)
15-D	15	170	11.25
20-D	20	225	15
25-D	25	282	18.75
30-D	30	315	21
35-D	35	315	21
40-D	40	315	21
45-D	45	315	21
50-D	50	315	21



**DESIGN WIND LOADING DIAGRAM**

INSTALLATIONS NOT WITHIN DIMENSIONAL LIMITS SHOWN REQUIRE SPECIAL ANALYSIS FOR ALL COMPONENTS.

**TABLE B: MATERIAL SPECIFICATIONS**

ELEMENT OF STRUCTURE	SPECIFICATION	MINIMUM YIELD STRENGTH (k.s.i.)	MINIMUM ULTIMATE STRENGTH (k.s.i.)
STRUCTURAL STEEL PIPE	ASTM A53, TYPE E OR S, GRADE B	35	60
STRUCTURAL STEEL TUBE	ASTM A500 GRADE B	46	58
STEEL BAR AND STEEL PLATES	ASTM A36	36	58
STAINLESS STEEL BOLTS	ASTM A193, CLASS 1, GRADE BB	30	75
STAINLESS STEEL LOCKNUTS	ASTM A194, GRADE 8F	60	100
STAINLESS STEEL WASHERS	ASTM A240, TYPE 302	60	100
STEEL ANCHOR BOLTS	AASHTO M314 OR ASTM F 1554	55	75

**GENERAL NOTES:**

- AFTER ADJUSTMENTS TO LEVEL TRUSS AND ENSURE ADEQUATE VERTICAL CLEARANCE, ALL TOP AND LEVELING NUTS SHALL BE TIGHTENED AGAINST THE BASE PLATE WITH A MINIMUM TORQUE OF 200 LB.-FT. STAINLESS STEEL MESH SHALL THEN BE PLACED AROUND THE PERIMETER OF THE BASE PLATE. SECURE TO BASE PLATE WITH STAINLESS STEEL BANDING.
- SIGN SUPPORT STRUCTURES MAY BE SUBJECT TO DAMAGING VIBRATIONS AND OSCILLATIONS WHEN SIGN PANELS ARE NOT IN PLACE DURING ERECTION OR MAINTENANCE OF THE STRUCTURE. TO AVOID THESE, ATTACH TEMPORARY BLANK SIGN PANELS OR OTHER BRACING TO THE STRUCTURE UNTIL PERMANENT SIGNS ARE INSTALLED.
- TRUSSES SHALL BE SHIPPED INDIVIDUALLY WITH ADEQUATE PROVISION TO PREVENT DETRIMENTAL MOTION DURING TRANSPORT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE CONFIGURATION AND PROTECTION OF THE TRUSSES.
- ALL CANTILEVER TRUSSES ARE DESIGNED FOR 35 PSF WIND PRESURE ON TRUSS MEMBERS AND SIGN PANEL.
- FOR MATERIAL SPECIFICATIONS FOR CANTILEVER SIGN STRUCTURES, SEE TABLE B.
- ALL WELDS SHALL BE CONTINUOUS UNLESS OTHERWISE SHOWN. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH CURRENT AWS D1.1 STRUCTURE WELDING CODE AND THE STANDARD SPECIFICATIONS.
- ALL STEEL PLATES, SHAPES AND PIPE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111.
- ALL CONCRETE SURFACES ABOVE AN ELEVATION 6" BELOW THE LOWEST FINAL GROUND LINE AT EACH FOUNDATION SHALL BE CLEANED AND COATED BRIDGE SEAT SEALER IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

**DESIGN SPECIFICATIONS:**

THESE STRUCTURES ARE DESIGNED TO SATISFY THE 2009 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 5th EDITION. TRUSSES ARE DESIGNED FOR A SIGN PANEL HEIGHT OF 15'-0" OVER A LENGTH OF 75% OF THE DESIGN SPAN LENGTH NOT TO EXCEED 21'-0".

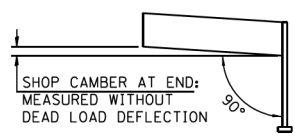
**ALLOWABLE UNIT STRESSES:**

STRUCTURAL STEEL - 20,000 p.s.i. (SEE TABLE B)  
 REINFORCING STEEL - 20,000 p.s.i. (fy = 60,000 p.s.i.)  
 CLASS DS CONCRETE - 1,600 p.s.i. (fc = 4,000 p.s.i.)

ALLOWABLE UNIT STRESSES DUE TO WIND LOAD IN COMBINATION WITH OTHER FORCES, ARE INCREASED 33%.

**SHOP CAMBER TABLE**

CANTILEVER LENGTH (L)	SHOP CAMBER AT END
15'	1"
20'	1 1/2"
25'	1 1/2"
30'	2"
35'	2 1/2"
40'	2 1/2"
45'	3"
50'	3 1/2"



**CAMBER DIAGRAM**  
(FOR FABRICATION ONLY)

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



DATE	REVISIONS
2-7-2012	REDESIGNED TO 2009 AASHTO

OVERHEAD SIGN STRUCTURE  
 CANTILEVER TYPE, STEEL

STANDARD F4-01

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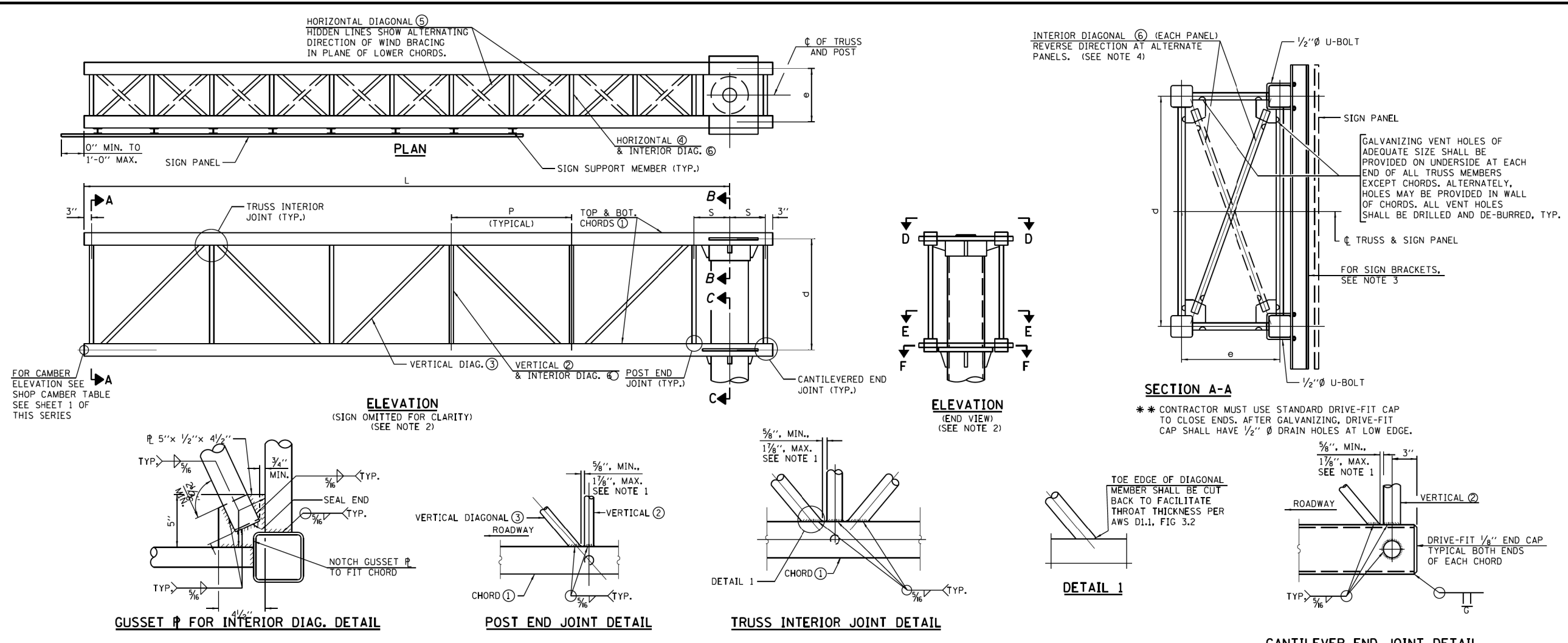
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	662A

CONTRACT NO. 60L77

ILLINOIS FED. AID PROJECT

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**TABLE C: TRUSS AND POST DETAILS FOR 15'-0" (MAX.) SIGN HEIGHT**

DESIGN SPAN LENGTH (L)	TRUSS TYPE	TRUSS SIZE		ACTUAL SPAN LENGTH	MAXIMUM SIGN LENGTH	STEEL SUPPORT POST (COLUMN)				TRUSS MEMBERS AND DETAILS												FOUNDATION TYPE			
		e	d			DIAMETER	WEIGHT	WALL THICKNESS	H (MAX.)	TOP & BOTTOM CHORD ①		VERTICAL ②		VERTICAL DIAG. ③		HORIZONTAL DIAG. ⑤		INTERIOR DIAG. ⑥		PANELS		CIRCULAR	BARRIER		
		PIPE	WALL							PIPE	WALL	PIPE	WALL	PIPE	WALL	PIPE	WALL	NO.	P	S					
15'	15-D	2'-0"	5'-6"	15'-1"	11'-3"	16"	160.35 (#/FT)	1"	28'-6"	HSS 4x4x1/4	2"Ø X.S	0.204"	2 1/2"Ø X.X.S	0.514"	1 1/4"Ø X.S	0.178"	1 1/2"Ø X.S	0.186"	1 1/4"Ø X.S	0.178"	3	4'-6"	1'-4"	I-C	I-BW
20'	20-D	2'-6"	5'-6"	20'-1"	15'-0"	20"	203.11 (#/FT)	1"	28'-6"	HSS 5x5x1/4	2 1/2"Ø X.S	0.257"	3"Ø X.X.S	0.559"	1 1/2"Ø X.S	0.186"	2 1/2"Ø X.S	0.257"	1 1/2"Ø X.S	0.186"	4	4'-7"	1'-6"	II-C	II-BW
25'	25-D	3'-0"	5'-6"	24'-11"	18'-9"	24"	245.87 (#/FT)	1"	28'-6"	HSS 5x5x1/4	2 1/2"Ø X.S	0.257"	3"Ø X.X.S	0.559"	2"Ø X.S	0.204"	2 1/2"Ø X.S	0.257"	2"Ø X.S	0.204"	5	4'-7"	1'-9"	III-C	III-BW
30'	30-D	3'-6"	7'-0"	30'-2"	21'-0"	28"	288.63 (#/FT)	1"	30'-0"	HSS 6x6x1/4	3"Ø X.S	0.280"	4"Ø X.X.S	0.628"	2"Ø X.S	0.204"	2 1/2"Ø X.S	0.257"	2"Ø X.S	0.204"	5	5'-7"	2'-0"	IV-C	IV-BW
35'	35-D	4'-0"	7'-0"	35'-0"	21'-0"	32"	331.39 (#/FT)	1"	30'-0"	HSS 6x6x1/4	3"Ø X.S	0.280"	4"Ø X.X.S	0.628"	2"Ø X.S	0.204"	2 1/2"Ø X.S	0.257"	2"Ø X.S	0.204"	5	6'-6"	2'-3"	V-C	V-BW
40'	40-D	4'-0"	7'-0"	40'-0"	21'-0"	36"	374.15 (#/FT)	1"	30'-0"	HSS 6x6x1/4	3"Ø X.S	0.280"	4"Ø X.X.S	0.628"	2"Ø X.S	0.204"	2 1/2"Ø X.S	0.257"	2"Ø X.S	0.204"	6	6'-3"	2'-3"	VI-C	VI-BW
45'	45-D	4'-6"	7'-0"	45'-0 1/2"	21'-0"	38"	395.53 (#/FT)	1"	30'-0"	HSS 6x6x1/4	3"Ø X.S	0.280"	4"Ø X.X.S	0.628"	2"Ø X.S	0.204"	2 1/2"Ø X.S	0.257"	2"Ø X.S	0.204"	7	6'-0 1/2"	2'-6"	VII-C	VII-BW
50'	50-D	4'-6"	7'-0"	50'-1"	21'-0"	40"	416.91 (#/FT)	1"	30'-0"	HSS 6x6x1/4	3"Ø X.S	0.280"	4"Ø X.X.S	0.628"	2"Ø X.S	0.204"	2 1/2"Ø X.S	0.257"	2"Ø X.S	0.204"	8	5'-11"	2'-6"	VIII-C	VIII-BW

- NOTES:**
- SPACE TRUSS MEMBERS SHALL BE SPACED A MINIMUM OF 3 TIMES THE WALL THICKNESS OF THE LARGEST CONNECTING MEMBERS TO ENSURE PROPER WELD SPACING
  - FOR SECTIONS B-B, C-C, D-D, E-E AND F-F SEE SHEET 3 OF THIS SERIES.
  - FOR SIGN AND LUMINAIRE SUPPORT DETAILS, SEE STANDARD FB.
  - DIRECTION OF INTERIOR DIAGONALS SHOWN IN SECTION A-A CORRECTLY DEPICTS TRUSSES HAVING AN ODD NUMBER OF PANELS. TRUSSES WITH AN EVEN NUMBER OF PANELS WILL HAVE DIAGONALS IN A REVERSED DIRECTION THAN AS SHOWN.
  - FOR ANY DESIGN SPAN LENGTH THAT FALL BETWEEN TWO CONSECUTIVE SPANS, PROVIDED IN COLUMN 1 OF TABLE C, THE LARGER DESIGN SPAN LENGTH SHALL BE USED (I.E. FOR A 32' SPAN LENGTH FALLING BETWEEN 30' AND 35' DESIGN SPAN LENGTHS IN TABLE C, THE 35' DESIGN SPAN LENGTH TRUSS AND POST DETAILS SHALL BE USED).

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

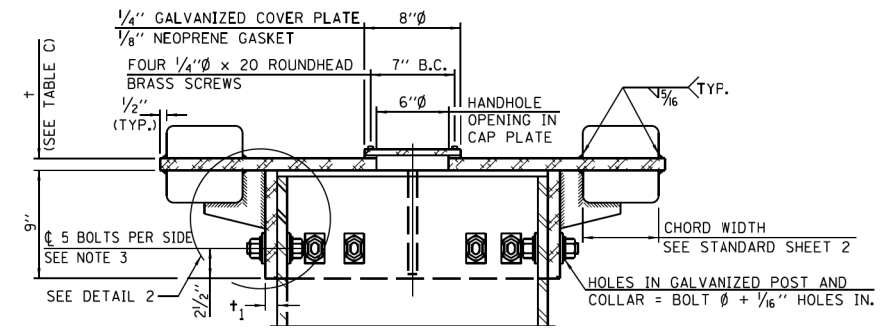
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OVERHEAD SIGN STRUCTURE  
 CANTILEVER TYPE, STEEL

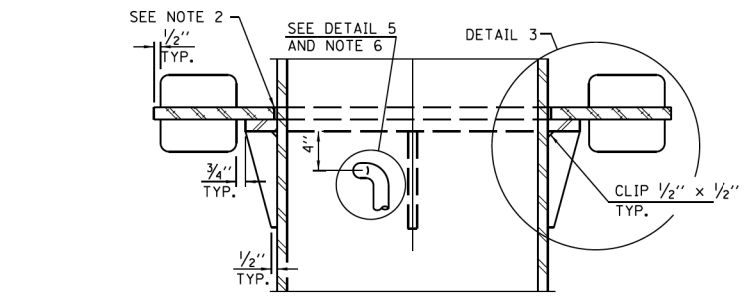
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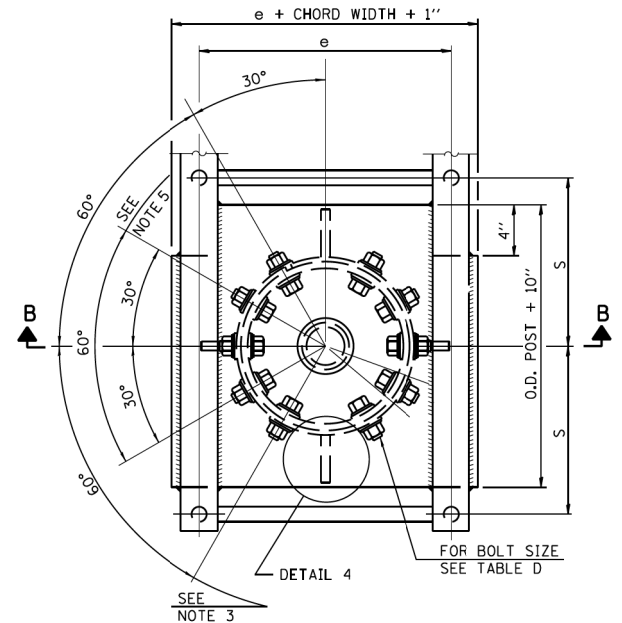
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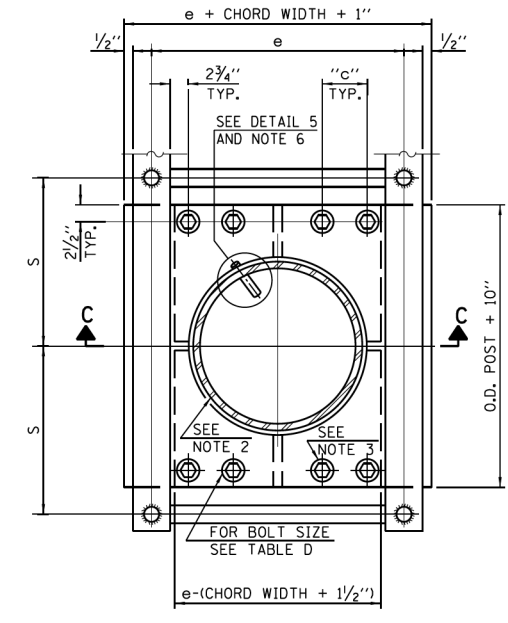
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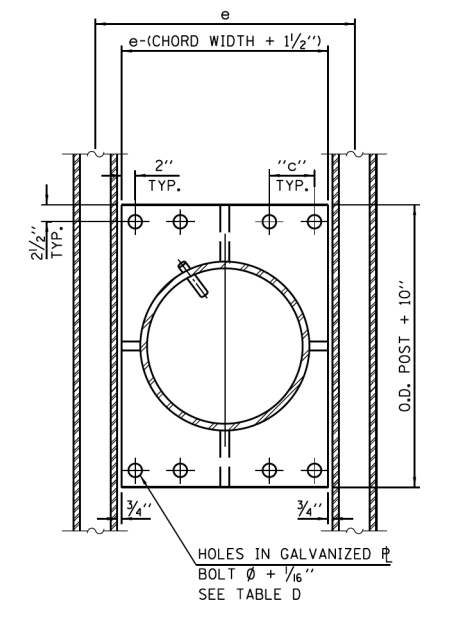
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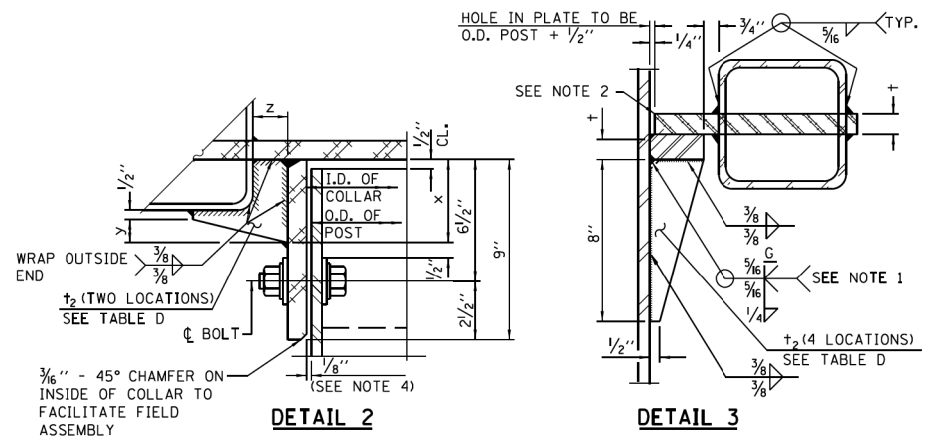
**VIEW D-D**  
(Cap Plate)



**SECTION E-E**  
(Juncture Plate)

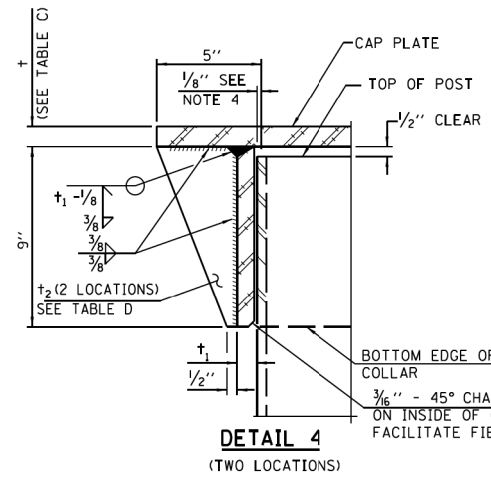


**SECTION F-F**  
(SETTING PLATE)

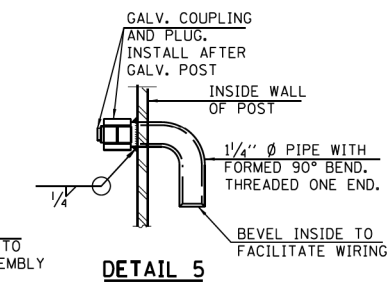


**DETAIL 2**

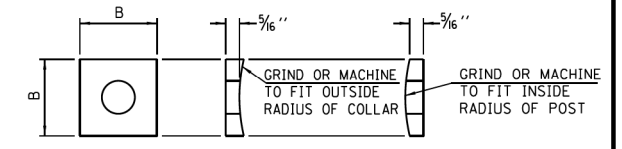
**DETAIL 3**



**DETAIL 4**  
(TWO LOCATIONS)



**DETAIL 5**



BOLT SIZE	CONTOURED WASHERS HOLE DIA.	B
1/8"Ø	1/4"Ø	2/4"
1/4"Ø	1 3/8"Ø	2/4"
1/2"Ø	1 5/8"Ø	2/4"

**CONTOURED WASHERS**

**NOTES:**

1. GRIND TOP IF REQUIRED TO FULLY SEAT PLATE. REPAIR DAMAGED GALVANIZING BEFORE ASSEMBLY.
2. AFTER TIGHTENING LOWER CONNECTION BOLTS, FILL GAP WITH NON-HARDENING SILICONE CAULK SUITABLE FOR EXTERIOR EXPOSURE AND ACCEPTABLE TO THE ENGINEER. COST IS INCLUDED IN OVERHEAD SIGN STRUCTURE CANTILEVER.
3. CONNECTION BOLTS IN COLLAR AND BOLTS AT LOWER CHORD CONNECTION MUST BE HIGH STRENGTH WITH MATCHING LOCK NUTS. LOWER CONNECTION BOLTS MUST HAVE 2 FLATWASHERS EACH.
4. AFTER GALVANIZING, COLLAR I.D. SHALL EQUAL O.D. OF GALVANIZED POST PLUS 1/8" (±1/16") MAXIMUM GAP BETWEEN POST AND COLLAR AT ANY LOCATION SHALL BE 1/8" BEFORE TIGHTENING BOLTS.
5. OPTIONAL FULL PENETRATION WELD IN COLLAR. (TWO LOCATIONS MAXIMUM (180° APART) X-RAY OR UT 100%) ALL BOLTS SHOWN ARE HIGH STRENGTH.
6. ORIENT PIPE TOWARD SIGN PANEL SIDE. HOLE IN POST = O.D. PIPE + 1/8".

B.C. = BOLT CIRCLE

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

**TABLE D: BOLT SCHEDULE**

TRUSS TYPE	POST OUTSIDE DIAMETER	JUNCTURE & COLLAR CONNECTION BOLT DIAMETER	LOWER JUNCTURE BOLT SPACING DIMENSION "c"	PLATE THICKNESS		STIFFENER THICKNESS	SIDE RIBS		
				(t)	(t <sub>1</sub> )		(t <sub>2</sub> )	x	y
15-D	16"	1/8"	3 1/8"	3/4"	1/2"	1/2"	4 7/8"	2 5/8"	1 1/2"
20-D	20"	1/8"	3 1/8"	1"	3/4"	1/2"	4 7/8"	2 1/4"	1 5/8"
25-D	24"	1/4"	3 3/4"	1"	3/4"	1/2"	4 7/8"	2 1/4"	2 5/8"
30-D	28"	1/4"	3 3/4"	1 1/8"	7/8"	3/4"	4 7/8"	1 9/8"	3"
35-D	32"	1/4"	3 3/4"	1 1/8"	7/8"	3/4"	4 7/8"	1 9/8"	4"
40-D	36"	1/2"	4 1/2"	1 1/4"	1"	3/4"	4 9/8"	1 1/8"	1 7/8"
45-D	38"	1/2"	4 1/2"	1 1/4"	1"	3/4"	4 9/8"	1 1/8"	3 3/8"
50-D	40"	1/2"	4 1/2"	1 1/4"	1"	3/4"	4 9/8"	1 1/8"	2 7/8"

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OVERHEAD SIGN STRUCTURE  
CANTILEVER TYPE, STEEL

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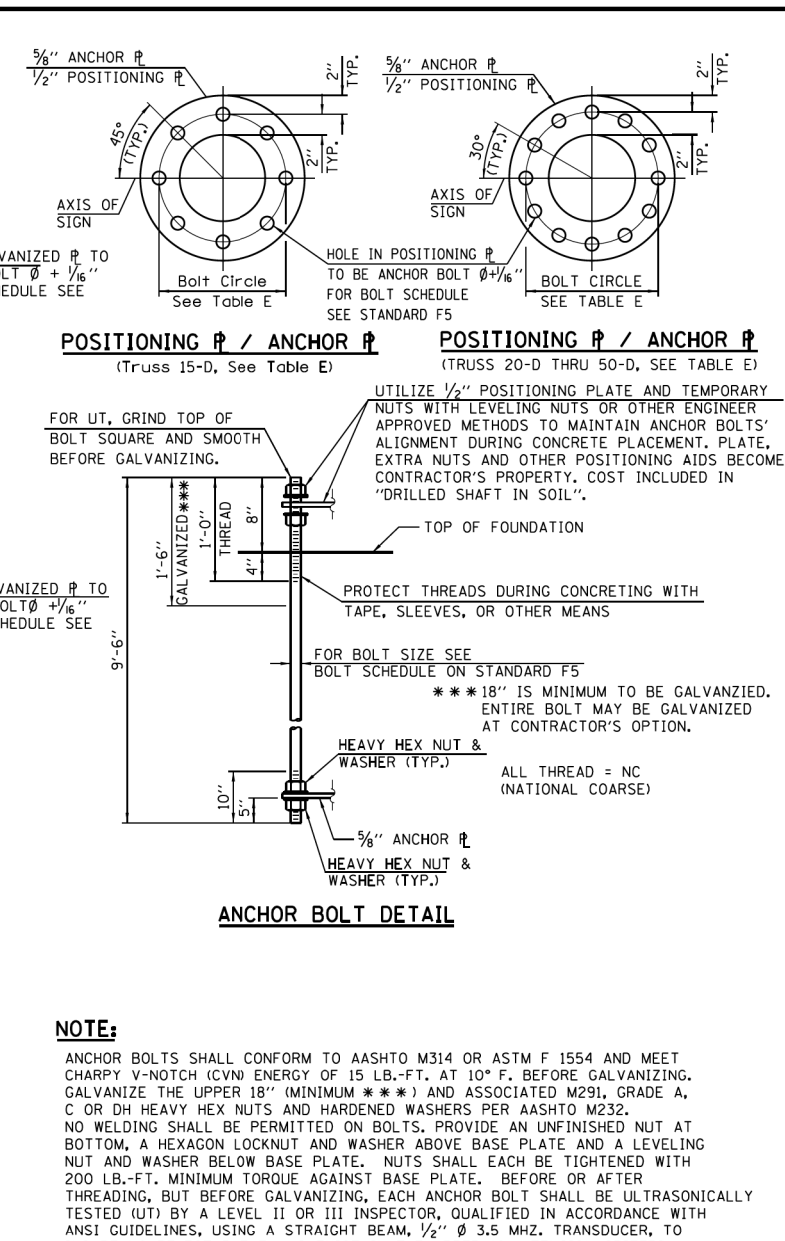
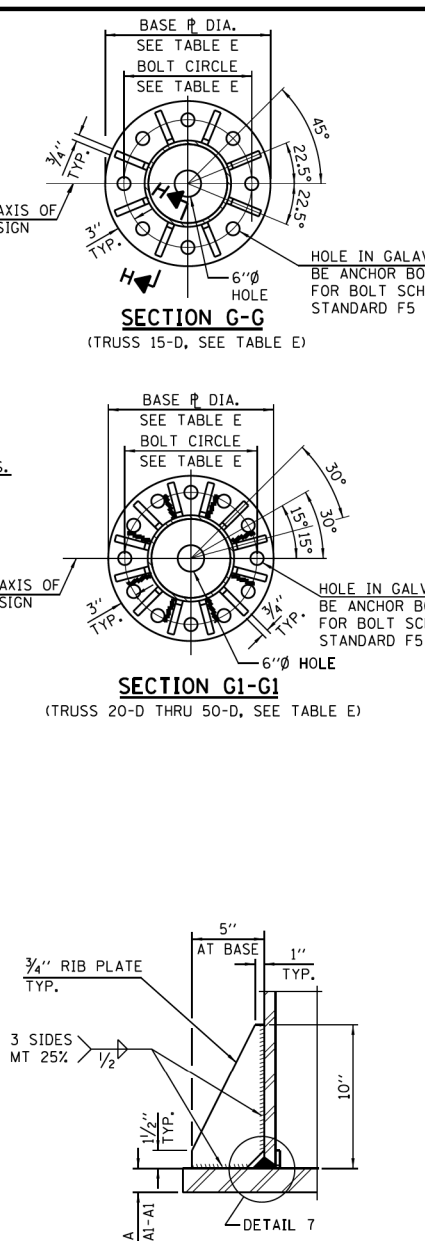
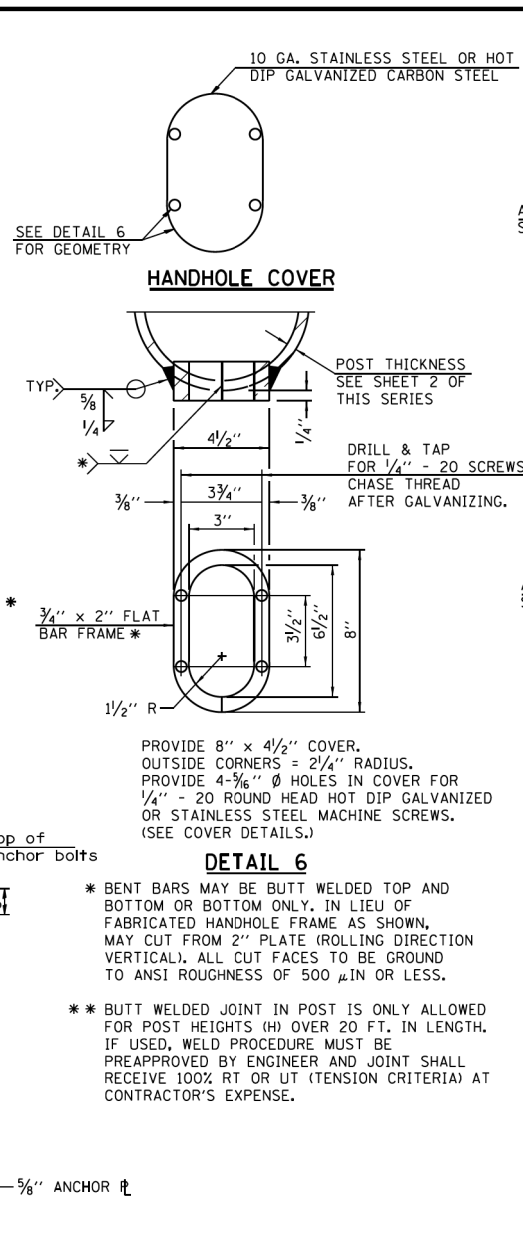
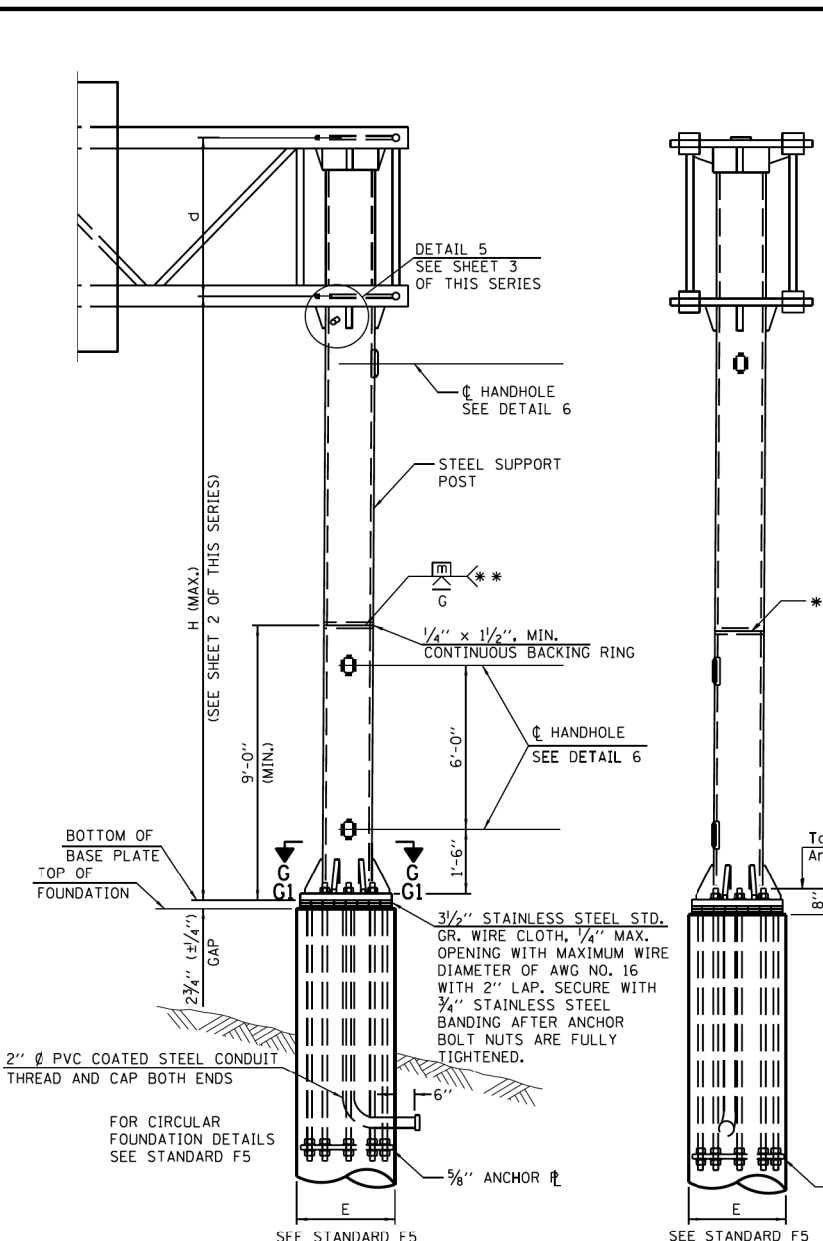
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**FRONT ELEVATION**  
(BOLT CONFIGURATION FOR 15-D IS SHOWN IN ELEVATION)

**SIDE ELEVATION**  
(BOLT CONFIGURATION FOR 15-D IS SHOWN IN ELEVATION)

**TABLE E: BASE PLATE DETAIL**

TRUSS TYPE	POST OUTSIDE DIAMETER	BASE PLATE		BOLT CIRCLE
		DIAMETER	SECTION	
15-D	16"	28"	A-A	22"
20-D	20"	32"	A1-A1	26"
25-D	24"	36"	A1-A1	30"
30-D	28"	40"	A1-A1	34"
35-D	32"	44"	A1-A1	38"
40-D	36"	48"	A1-A1	42"
45-D	38"	50"	A1-A1	44"
50-D	40"	52"	A1-A1	46"

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

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OVERHEAD SIGN STRUCTURE  
CANTILEVER TYPE, STEEL

STANDARD F4-01

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	DATE - 6/19/2012	REVISED -

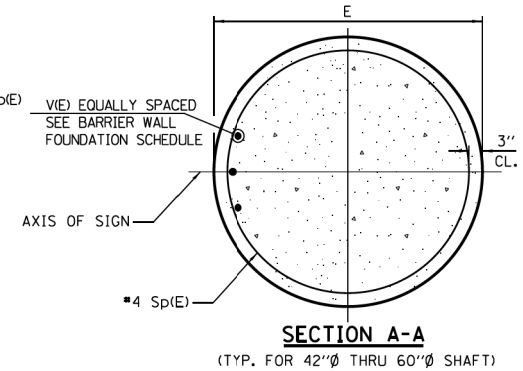
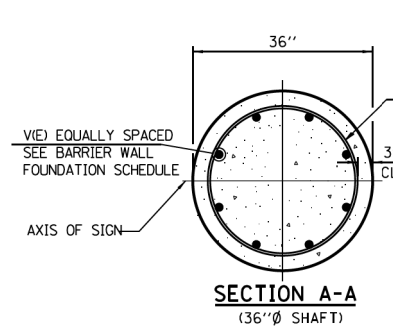
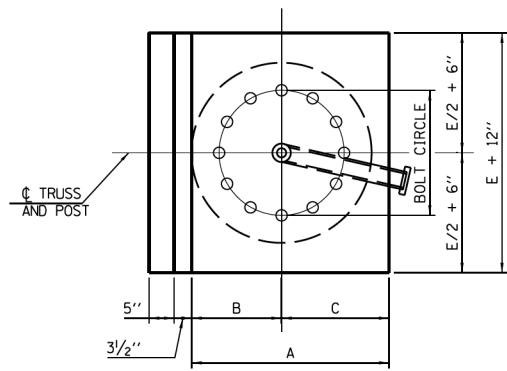
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DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

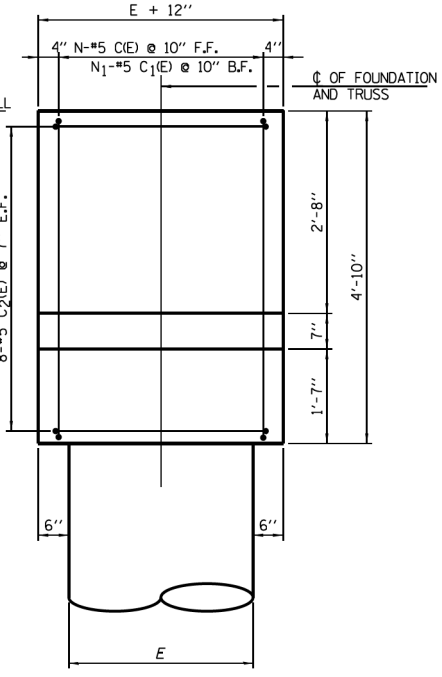
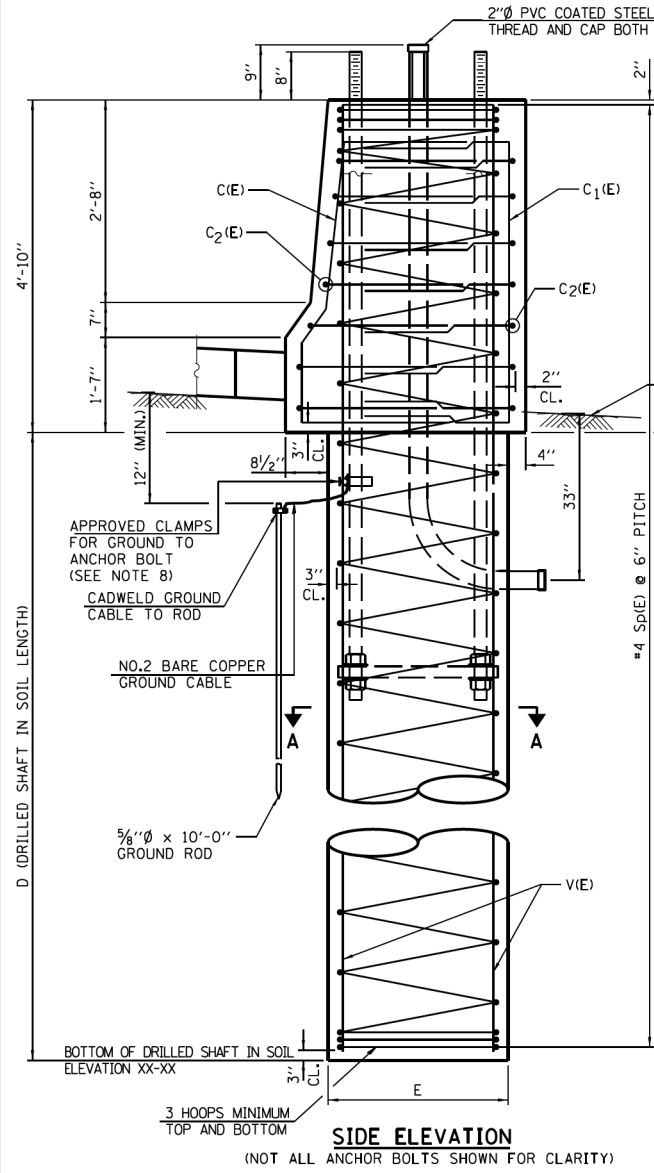
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	662D
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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\*GRIND ANCHOR BOLT TO BRIGHT FINISH AT GROUND CLAMP LOCATION BEFORE INSTALLING CLAMPS



**MARK TABLE BAR C(E)**

FOUNDATION TYPE	F	G	LENGTH	N	POUNDS
I - BW	2'-5"	2'-9"	9'-9"	5	51
II - BW	2'-8"	3'-0"	10'-3"	6	65
III - BW	2'-11"	3'-3"	10'-9"	7	79
IV - BW	2'-11"	3'-3"	10'-9"	7	79
V - BW	3'-2"	3'-6"	11'-3"	7	83
VI - BW	3'-5"	3'-9"	11'-9"	8	98
VII - BW	3'-5"	3'-9"	11'-9"	8	98
VIII - BW	3'-5"	3'-9"	11'-9"	8	98

**MARK TABLE BAR C1(E)**

FOUNDATION TYPE	H	I	LENGTH	N1	POUNDS
I - BW	2'-9"	2'-5"	9'-7"	5	50
II - BW	3'-0"	2'-8"	10'-1"	6	64
III - BW	3'-3"	2'-11"	10'-7"	7	78
IV - BW	3'-3"	2'-11"	10'-7"	7	78
V - BW	3'-6"	3'-2"	11'-1"	7	81
VI - BW	3'-9"	3'-5"	11'-7"	8	97
VII - BW	3'-9"	3'-5"	11'-7"	8	97
VIII - BW	3'-9"	3'-5"	11'-7"	8	97

**MARK TABLE BAR C2(E)**

FOUNDATION TYPE	J	K	LENGTH	N	POUNDS
I - BW	2'-9"	3'-4"	8'-10"	16	148
II - BW	3'-0"	3'-10"	9'-10"	16	165
III - BW	3'-3"	4'-4"	10'-10"	16	181
IV - BW	3'-3"	4'-4"	10'-10"	16	181
V - BW	3'-6"	4'-10"	11'-10"	16	198
VI - BW	3'-9"	5'-4"	12'-10"	16	215
VII - BW	3'-9"	5'-4"	12'-10"	16	215
VIII - BW	3'-9"	5'-4"	12'-10"	16	215

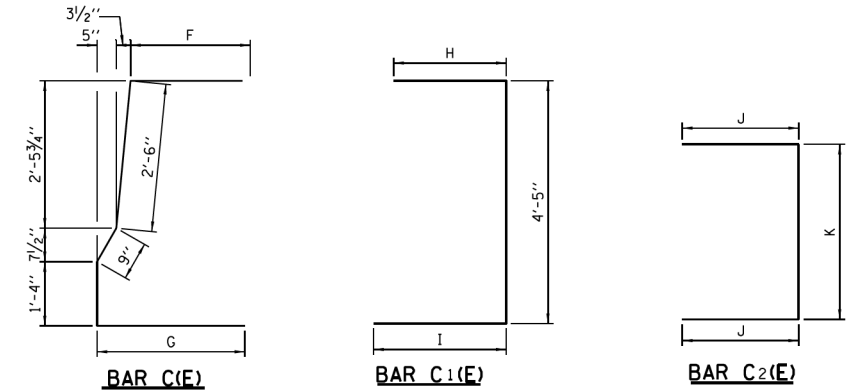
**BARRIER WALL FOUNDATION SCHEDULE**

FOUNDATION TYPE	POST OUTSIDE DIAMETER	DRILLED SHAFT IN SOIL			ANCHOR BOLTS			VERTICAL REINFORCEMENT VIE			SPIRAL REINFORCEMENT Sp(E)		BARRIER DIMENSIONS					
		E	D	CONC. CY.	DIA.	NO.	BOLT CIRCLE	NO.	BAR SIZE	LENGTH	POUNDS	LENGTH	POUNDS	A	B	C	CONC. CY.	* STRUCTURE EXCAVATION C.
I-BW	16"	36"	19'-6"	5.1	2 1/2"	8	22"	8	#11	23'-11"	1020	377'	252	3'-4"	1'-6"	1'-10"	2.6	2.4
II-BW	20"	42"	21'-6"	7.7	2"	12	26"	10	#11	25'-11"	1377	491'	328	3'-10"	1'-9"	2'-1"	3.4	2.7
III-BW	24"	48"	23'-6"	10.9	2 1/4"	12	30"	12	#11	27'-11"	1780	616'	411	4'-4"	2'-0"	2'-4"	4.2	3.0
IV-BW	28"	48"	26'-0"	12.1	2 1/4"	12	34"	12	#11	30'-5"	1938	671'	448	4'-4"	2'-0"	2'-4"	4.2	3.0
V-BW	32"	54"	27'-0"	15.9	2 1/4"	12	38"	16	#11	31'-5"	2671	792'	529	4'-10"	2'-3"	2'-7"	5.1	3.4
VI-BW	36"	60"	27'-6"	20.0	2 1/4"	12	42"	20	#11	32'-11"	3498	903'	604	5'-4"	2'-6"	2'-10"	6.1	3.8
VII-BW	38"	60"	29'-6"	21.5	2 1/2"	12	44"	20	#11	33'-11"	3604	961'	642	5'-4"	2'-6"	2'-10"	6.1	3.8
VIII-BW	40"	60"	31'-0"	22.5	2 1/2"	12	46"	20	#11	35'-5"	3763	1004'	671	5'-4"	2'-6"	2'-10"	6.1	3.8

\* QUANTITY FOR STRUCTURE EXCAVATION IS CALCULATED ASSUMING A 1'-0" BURIED DEPTH OF BARRIER.

**NOTES:**

- THE FOUNDATION DETAILS SHOWN ARE BASED ON COMMON COHESIVE SOIL CONDITIONS (SILTY OR SANDY CLAY), WITH AN AVERAGE QU > 1.25 TON/SQ. FT. AND GRANULAR SOIL CONDITIONS WITH MINIMUM STANDARD PENETRATION TEST VALUE, N > 10 BLOWS PER FOOT, FOR ALL STRATA WITHIN THE "B" PORTION OF THE FOUNDATION. THE SOILS DATA SHALL BE DETERMINED BY THE ENGINEER BY FIELD TESTING DURING CONSTRUCTION OR FROM PREVIOUS SOIL INVESTIGATIONS AT THE SITE. FOR LOWER SOIL STRENGTHS OR DIFFERENT SOIL TYPES, THE ENGINEER SHALL REVIEW PERTINENT DATA AND DETERMINE ANY REQUIRED REVISIONS TO THE DIAMETER, DEPTH, REINFORCEMENT OR CONFIGURATION OF THE FOUNDATION. IF CHANGES ARE REQUIRED BY THE ENGINEER, OR IF DIMENSIONS "B" AND "D" ARE INCREASED MORE THAN 12" BY THE CONTRACTOR, "AS-BUILT" PLANS SHALL BE PREPARED AND SUBMITTED TO THE TOLLWAY FOR FUTURE REFERENCE. ACTUAL "D", "ELEVATION BOTTOM", and "QU" OR "N" VALUES SHALL ALSO BE ENTERED ON THIS SHEET FOR PERMANENT REFERENCE.
- FOR SIZE AND NUMBER OF PVC COATED STEEL CONDUITS, SEE ELECTRICAL CONSTRUCTION DRAWINGS.
- NO SONOTUBES OR DECOMPOSABLE FORMS SHALL BE USED BELOW THE LOWER CONDUIT ENTRANCE. PERMANENT METAL FORMS OF OTHER SHIELDING MAY NOT BE LEFT IN PLACE BELOW THAT ELEVATION WITHOUT THE ENGINEER'S WRITTEN PERMISSION. EXCAVATIONS SHALL BE DEWATERED BEFORE CONCRETE PLACEMENT IF DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.
- CONCRETE SHALL BE PLACED MONOLITHICALLY WITHOUT CONSTRUCTION JOINTS.
- BACKFILL SHALL BE PLACED PER ARTICLE 502 OF STANDARD SPECIFICATION AND PRIOR TO ERECTION OF SUPPORT COLUMN.
- A NORMAL SURFACE FINISH FOLLOWED BY A PROTECTIVE COAT APPLICATION SHALL BE REQUIRED ON CONCRETE SURFACES ABOVE THE LOWEST ELEVATION 6" BELOW FINISHED GROUND LINE. COST INCLUDED IN DRILLED SHAFT IN SOIL.
- REBAR CAGE SHALL BE POSITIONED SO THERE WILL BE NO INTERFERENCE BETWEEN VERTICAL REINFORCEMENT AND ANCHOR BOLTS.
- GRIND ANCHOR BOLT TO BRIGHT FINISH AT GROUND CLAMP LOCATION BEFORE INSTALLING CLAMP.



**LEGEND**

- E, F - EACH FACE
- F, F - FRONT FACE
- B, F - BACK FACE

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE: 2-7-2012

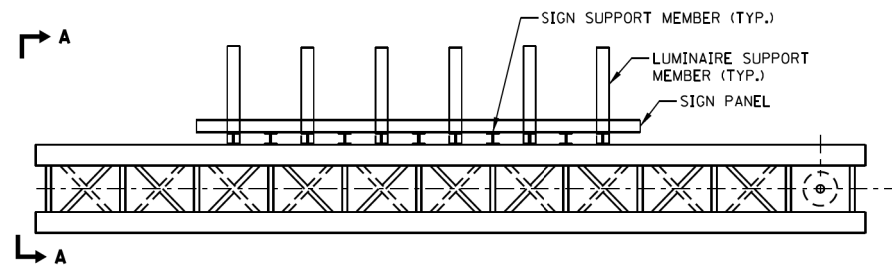
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OVERHEAD SIGN STRUCTURE  
CANTILEVER TYPE, STEEL  
DRILLED SHAFT IN SOIL,  
BARRIER WALL

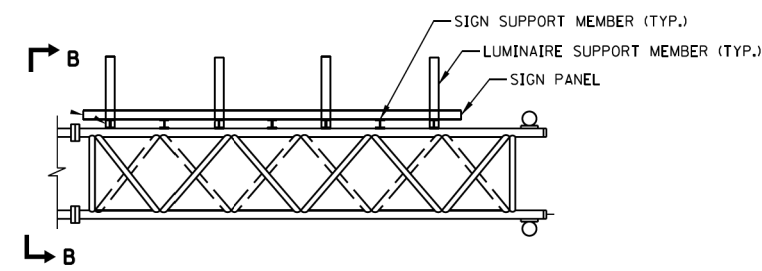
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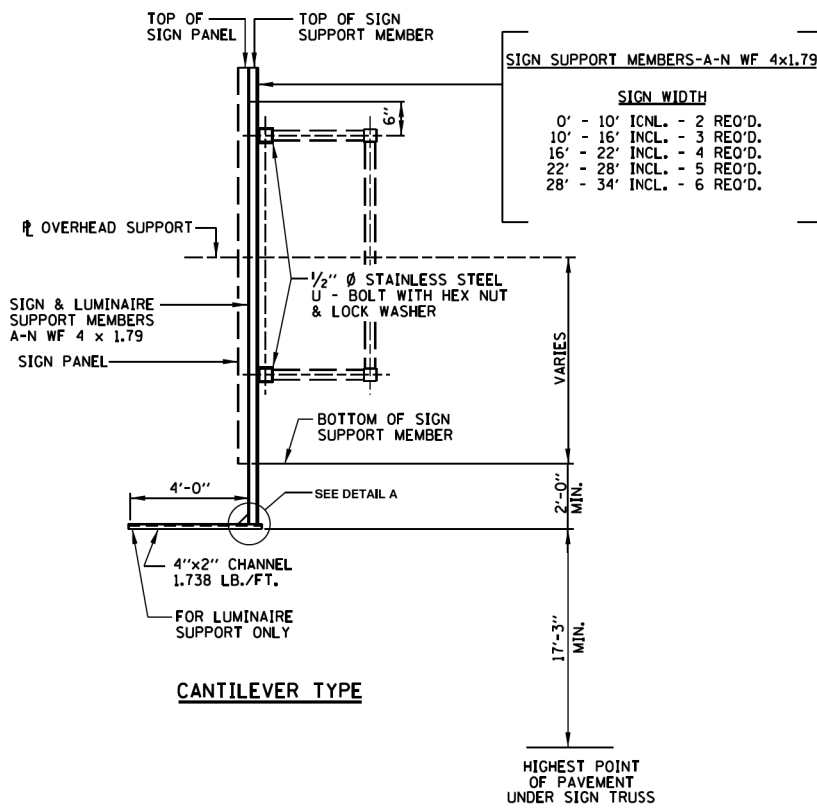
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						ILLINOIS FED. AID PROJECT					



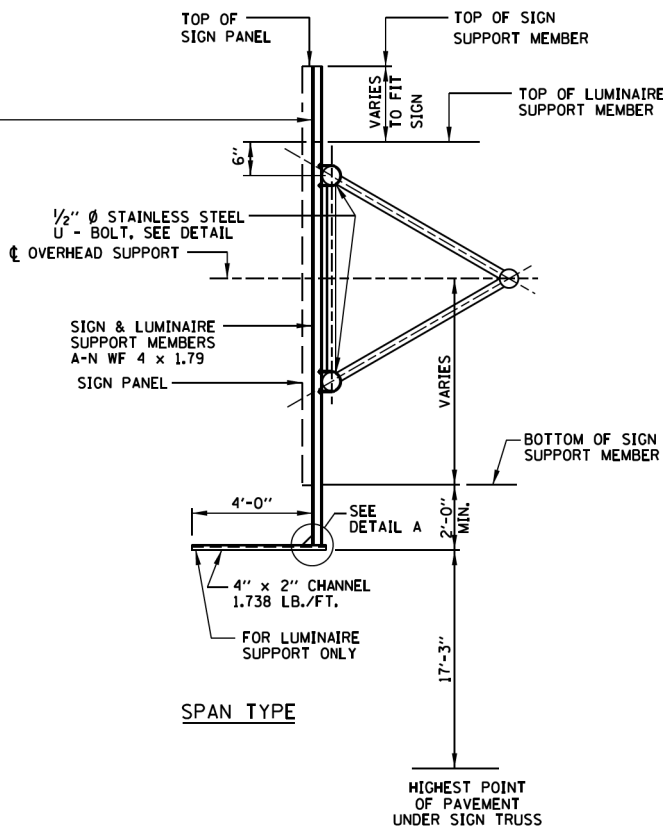
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PLAN



SECTION A-A

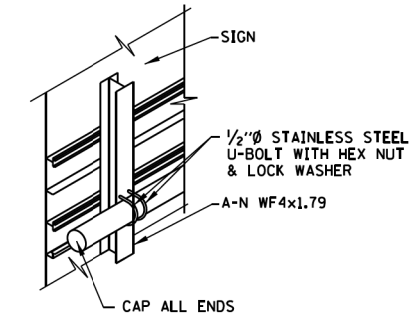


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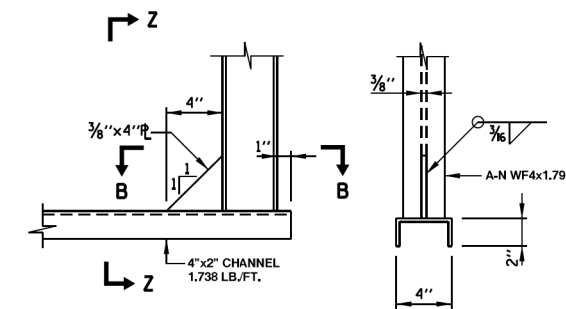
SIGN AND LUMINAIRE SUPPORT DETAIL

NOTE:

- SIGN PANEL SHALL BE ATTACHED TO TRUSS AS CLOSE TO PANEL JOINTS AS POSSIBLE.
- LUMINAIRE SUPPORT MEMBERS TO BE INSTALLED ONLY WHEN SIGN STRUCTURE IS TO BE ILLUMINATED. DESIGNER TO DETERMINE REQUIREMENTS BASED ON ROADWAY GEOMETRY.

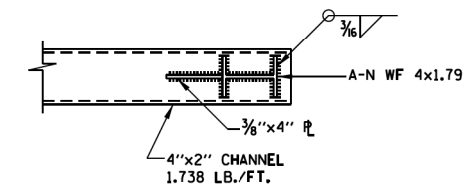


STAINLESS STEEL U-BOLT DETAIL



DETAIL A

SECTION Z-Z



SECTION B-B

NOTES:  
ALL MATERIAL IS ALUMINUM (UNLESS OTHERWISE NOTED).

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



DATE	REVISIONS
1-1-2009	ADDED PLAN VIEWS FOR SIGN STRUCTURES
2-7-2012	REVISED OVERHEAD SIGN STRUCTURE CANTILEVER DIAGONALS

OVERHEAD SIGN STRUCTURE  
SIGN AND LUMINAIRE  
SUPPORTS

STANDARD F8-02

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DRAWN -

REVISED -

PLOT DATE = 6/18/2012

CHECKED - RGR

REVISED -

DATE - 6/19/2012

REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

SCALE:

SHEET NO. N/A OF N/A SHEETS

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TO STA.

F.A. RTE.

94

SECTION

49-1-R-1

COUNTY

LAKE

TOTAL SHEETS

677

SHEET NO.

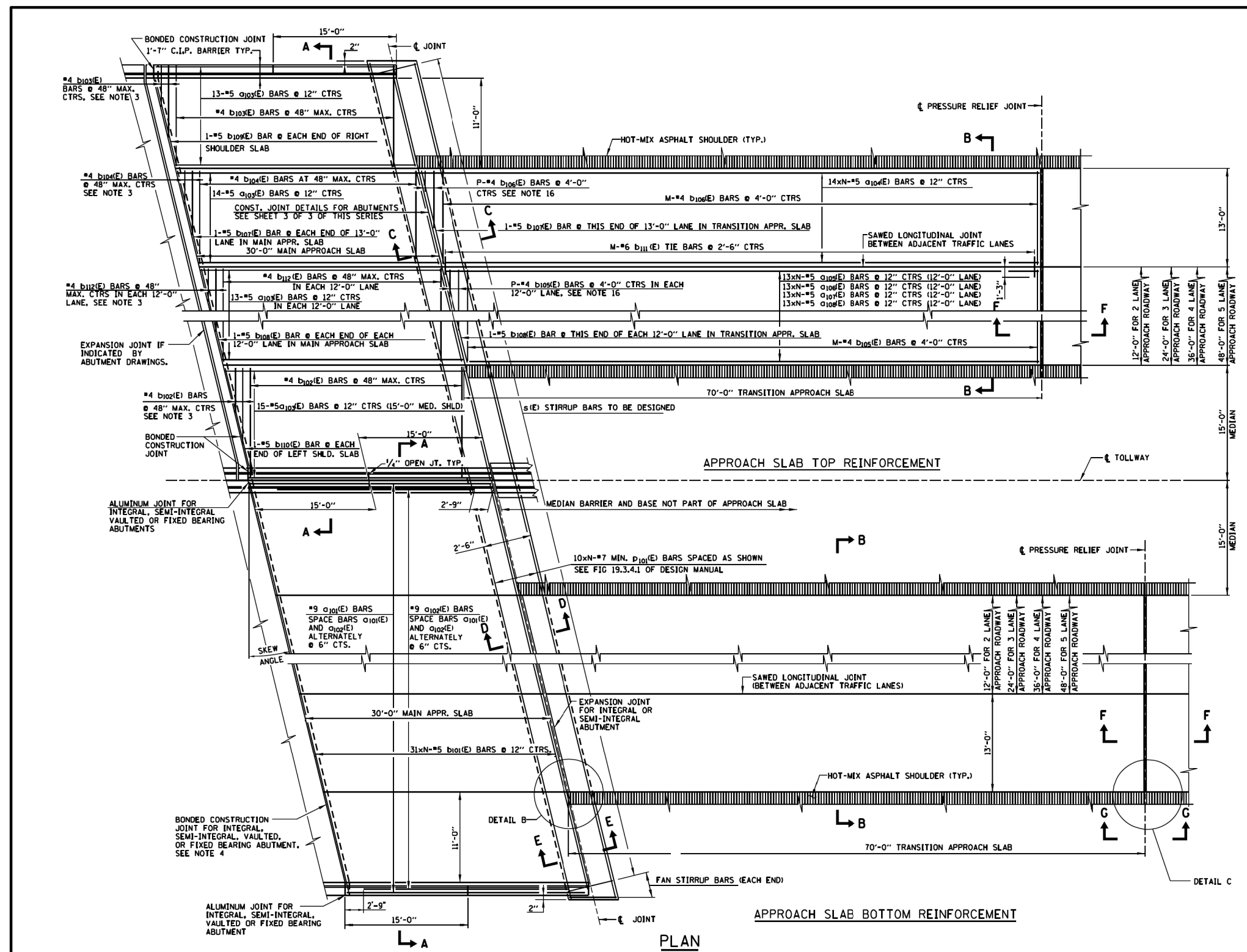
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CONTRACT NO. 60L77

ILLINOIS FED. AID PROJECT

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- NOTES:**
- TILT HOOK OF #9 BARS FOR MINIMUM 3/4" CLEARANCE.
  - USE 1'-4" MIN. LAP FOR #4 BARS. USE 1'-8" MIN. LAP FOR #5 BARS.
  - CUT REINFORCEMENT IN THE FIELD TO FIT THE SKEW AND USE REMAINDER IN OPPOSITE END.
  - SAW CUT 3/8" x 2" DEEP JOINT AND FILL WITH HOT POURED, LOW MODULUS, POLYMER SEALANT MEETING THE REQUIREMENTS OF ASTM D3405.
  - PROTECTIVE COAT SHALL BE APPLIED TO TOP AND TRAFFIC FACES OF MEDIAN AND OUTSIDE BARRIERS.
  - TOOL EDGES OF EXPANSION AND PRESSURE RELIEF JOINTS TO 1/4" RADIUS.
  - REINFORCING BARS SHALL MEET THE REQUIREMENTS OF AASHTO M31 (ASTM A615), GRADE 60, AND SHALL CONFORM TO SECTION 508 OF THE IDOT STANDARD SPECIFICATIONS.
  - REINFORCING BARS DESIGNATED "E" SHALL BE EPOXY COATED.
  - REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 315, LATEST EDITION.
  - REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
  - EXPOSED CONCRETE EDGES SHALL HAVE 3/4" x 45° CHAMFERS. CHAMFERS ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW GROUND LEVEL.
  - CONCRETE BARRIERS SHALL BE CONSTRUCTED & PAID FOR IN ACCORDANCE WITH SECTIONS 503, 508, AND 587 OF THE IDOT STANDARD SPECIFICATIONS.
  - WORK THIS STANDARD WITH STANDARD G4 (APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE, BAR SCHEDULE FOR 5 LANES) AND STANDARD G5 (APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE, BAR SCHEDULE FOR 4 LANES).
  - THE NOTATION MxN-#4 IS DEFINED AS M LINES OF BARS WITH N LENGTHS PER LINE. FOR SCHEDULE OF REINFORCING BAR VARIABLE BILLINGS, SEE STANDARD G4 (APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE, BAR SCHEDULE FOR 5 LANES) AND STANDARD G5 (APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE, BAR SCHEDULE FOR 4 LANES).
  - THE NUMBER OF BARS "P" IS GIVEN IN THE SCHEDULE OF REINFORCING BAR VARIABLE BILLINGS ON STANDARD G4 (APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE, BAR SCHEDULE FOR 5 LANES) AND STANDARD G5 (APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE, BAR SCHEDULE FOR 4 LANES).
  - CUT REINFORCEMENT IN THE FIELD TO FIT SKEW AND PLACE REMAINDER IN ADJACENT AREA OR DISCARD OFF SITE.
  - IN THE CORNERS OF THE PILE BENT, THE CONCRETE SHALL BE BLOCKED OUT AND THE REINFORCING STEEL SHALL BE RESPAVED (OR CUT) FOR GUARDRAIL POSTS, DRAINAGE STRUCTURES, NOISE ABATEMENT WALLS, ETC. AS NECESSARY AND AS APPROVED BY THE ENGINEER.
  - IN REFERENCE TO LONGITUDINAL CONSTRUCTION JOINTS ON SHEET 2 (OF 3) OF THIS SERIES; THESE BARS SHALL BE CUT TO FIT THE LENGTHS SHOWN IN THE REINFORCING BAR SCHEDULE FOR THE CONSTRUCTION JOINT. THESE BARS MAY BE REPLACED BY ALTERNATIVE BARS AND LENGTHS AS SHOWN IN THE DESIGN PLANS.
  - EXPANSION ANCHORS AND DRILLED AND GROUTED DOWELS SHALL CONFORM TO THE STANDARD SPECIFICATIONS.
  - AS APPROVED BY THE ENGINEER, THE CONTRACTOR MAY ELECT TO REDUCE THE WIDTHS OF THE POUR BY USE OF THE OPTIONAL LONGITUDINAL CONSTRUCTION JOINT SHOWN. JOINTS SHALL BE LOCATED AT THE EDGE OF A TRAFFIC LANE.

SHEET 1 OF 3

*Paul Kovacs*  
 APPROVED . . . . . CHIEF ENGINEER . . . . . DATE 2-28-2008

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APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE  
 STANDARD G3-02

DATE	REVISIONS
2-28-2008	PILE BENT
6-1-2009	REVISED MEDIAN DIMENSION, ADDED SUBBASE MATERIAL UNDER MAIN APPROACH SLAB
	ADDED BOND BREAKER NOTE SECTION A-A

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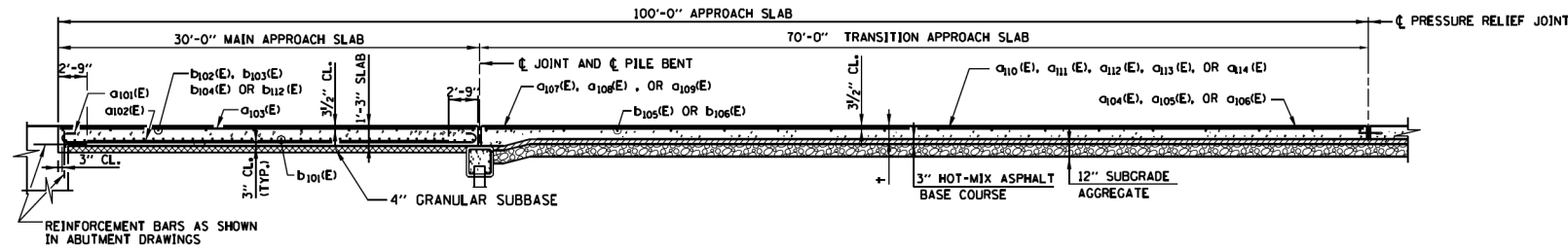
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 DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

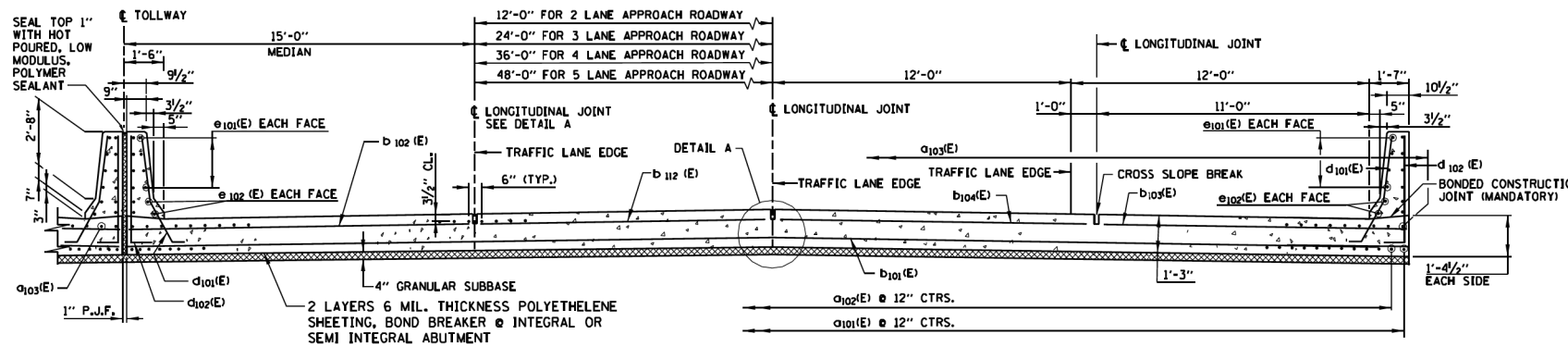
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

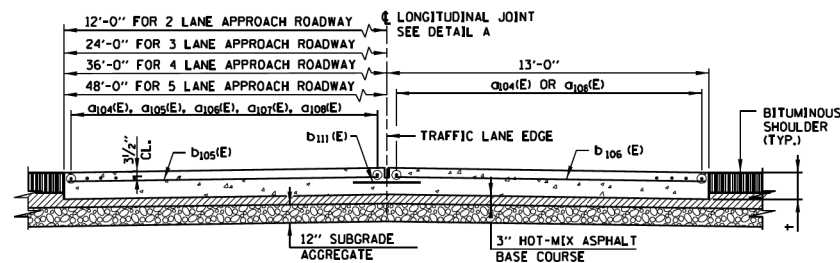
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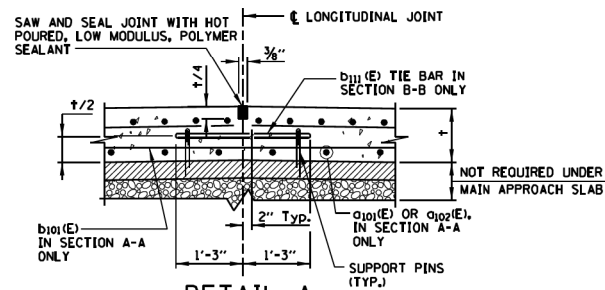
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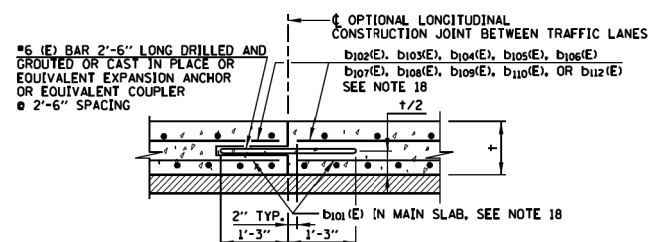
SECTION A-A



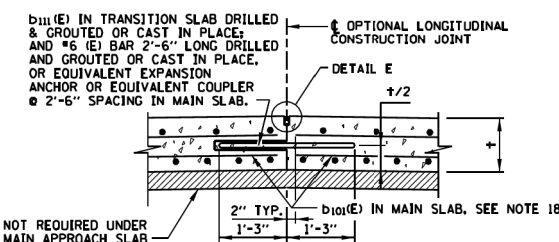
SECTION B-B



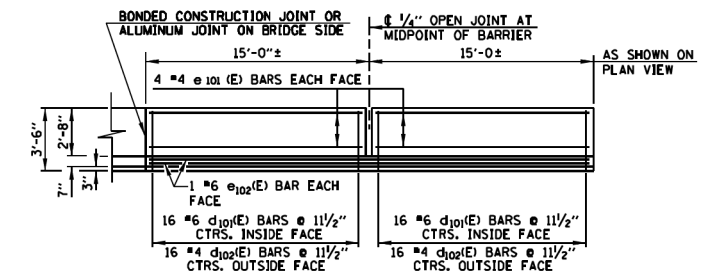
DETAIL A  
TYPICAL LONGITUDINAL JOINT



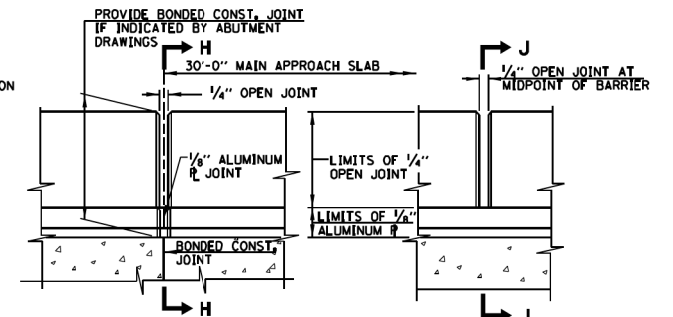
CROSS SECTION THRU OPTIONAL LONGITUDINAL CONSTRUCTION JOINT BETWEEN TRAFFIC LANES



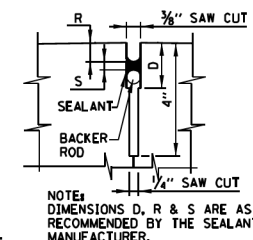
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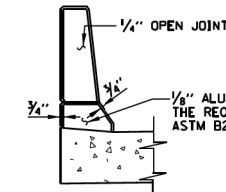
BARRIER ELEVATION



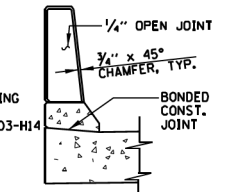
ELEVATION DETAIL OF BARRIER JOINTS



DETAIL E



SECTION H-H



SECTION J-J

NOTES:

- SEE SHEET 1 (OF 3) OF THIS SERIES FOR NOTES ON THIS SHEET.
- THE DIMENSION  $\pm$  IS THE THICKNESS OF THE MAIN APPROACH SLAB (1'-3") OR THE TRANSITION APPROACH SLAB AS DEFINED IN THE DESIGN PLANS.

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APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE

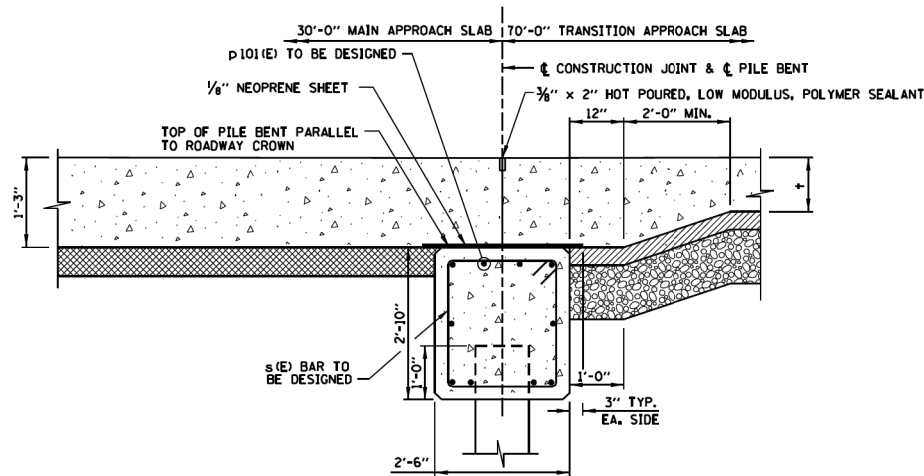
STANDARD G3-02

*Paul Kovacs*  
APPROVED CHIEF ENGINEER DATE 2-28-2008

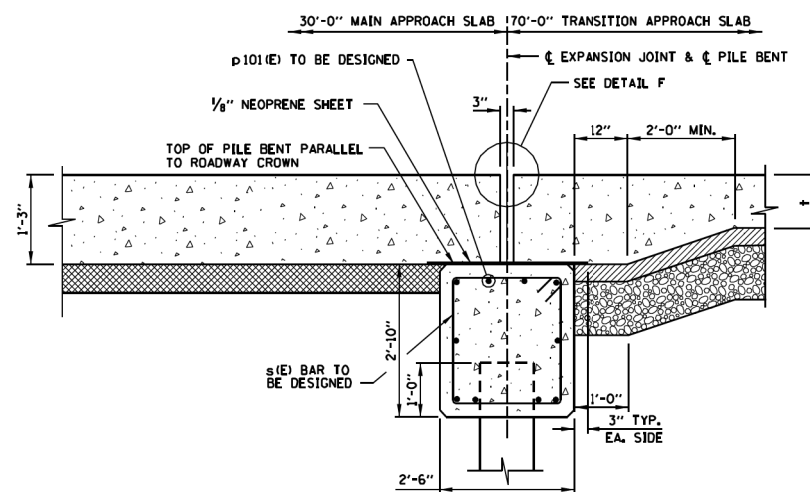
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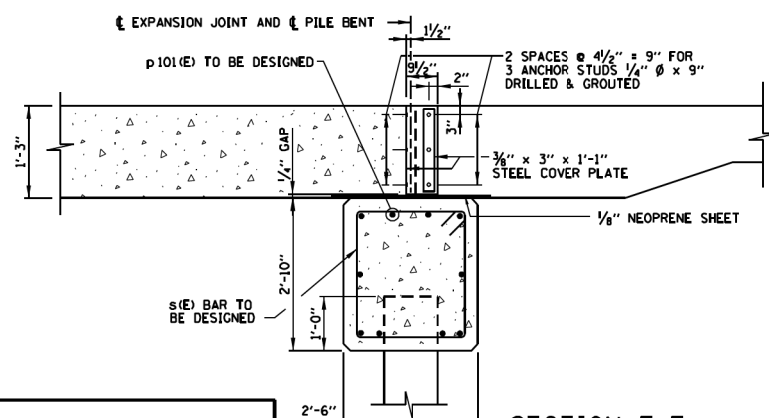
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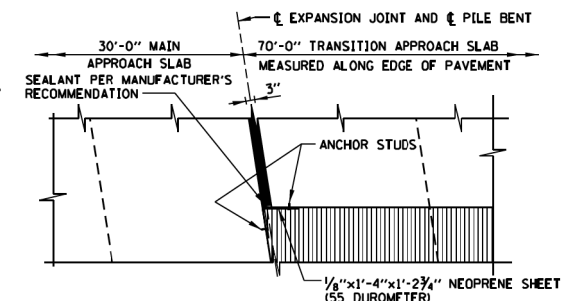
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FOR NON-INTEGRAL ABUTMENT



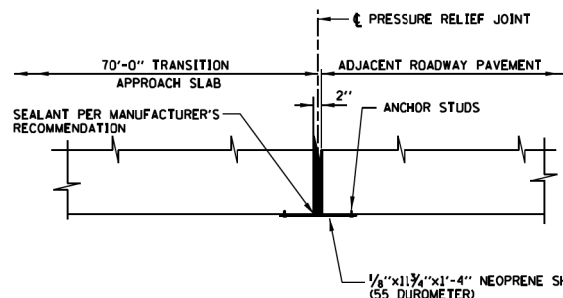
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FOR INTEGRAL & SEMI-INTEGRAL ABUTMENT



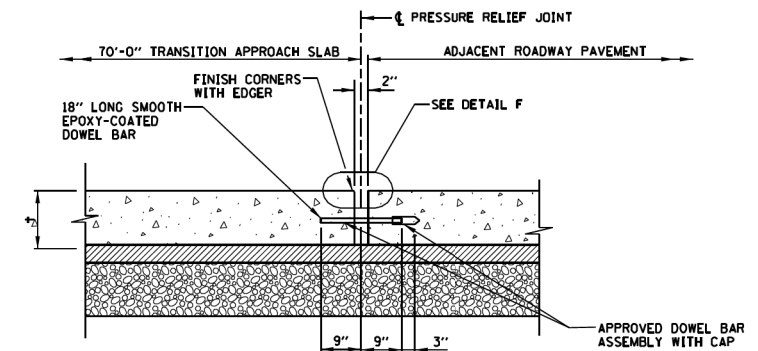
SECTION E-E  
END ELEVATION OF EXPANSION JOINT



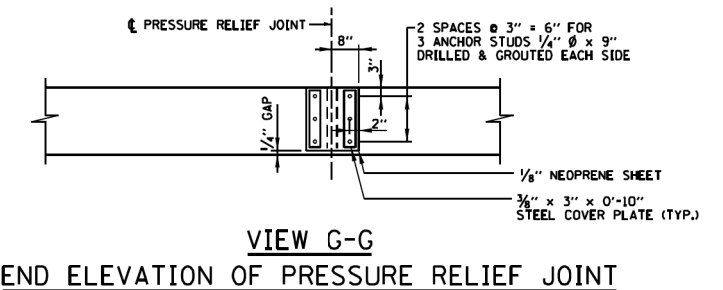
DETAIL B  
END PLAN OF EXPANSION JOINT



DETAIL C  
END PLAN OF PRESSURE RELIEF JOINT



SECTION F-F  
PRESSURE RELIEF JOINT



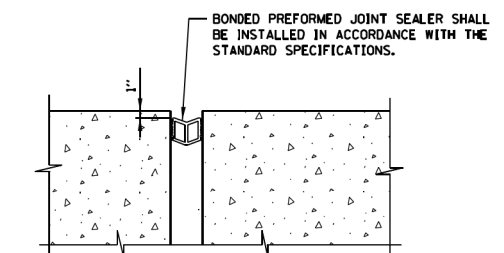
VIEW G-G  
END ELEVATION OF PRESSURE RELIEF JOINT

LEGEND

	CONCRETE		HOT-MIX ASPHALT SHOULDER
	HOT-MIX ASPHALT BASE COURSE		JOINT SEALANT
	SUBGRADE AGGREGATE		GRANULAR SUBBASE

NOTES:

- FOR REINFORCEMENT BARS IN APPROACH SLABS, SEE SHEETS 1 & 2 (OF 3) OF THIS SERIES, AND STANDARD G4 (APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE, BAR SCHEDULE FOR 5 LANES) AND STANDARD G5 (APPROACH SLAB TO J.P.C. PAVEMENT, MAINLINE, BAR SCHEDULE FOR 4 LANES).
- IN SECTION E-E AND VIEW G-G, ANCHOR STUDS SHALL BE INSTALLED IN ACCORDANCE WITH SUBSECTION 1006.09 OF THE IDOT STANDARD SPECIFICATIONS. STEEL PLATES, BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
- THE THICKNESSES OF HOT-MIX ASPHALT BASE COURSE AND SUBGRADE AGGREGATE SHALL BE THE SAME AS THEY ARE FOR THE ADJACENT PAVEMENT SECTIONS.
- THE DIMENSION  $\dagger$  IS THE THICKNESS OF THE TRANSITION APPROACH SLAB AS DEFINED IN THE DESIGN PLANS.



DETAIL F  
BONDED PREFORMED JOINT SEALER

Paul Kovacs  
APPROVED CHIEF ENGINEER DATE 2-28-2008

SHEET 3 OF 3

**Illinois Tollway**  
Open Roads for a Faster Future

APPROACH SLAB TO J.P.C.  
PAVEMENT, MAINLINE

STANDARD G3-02

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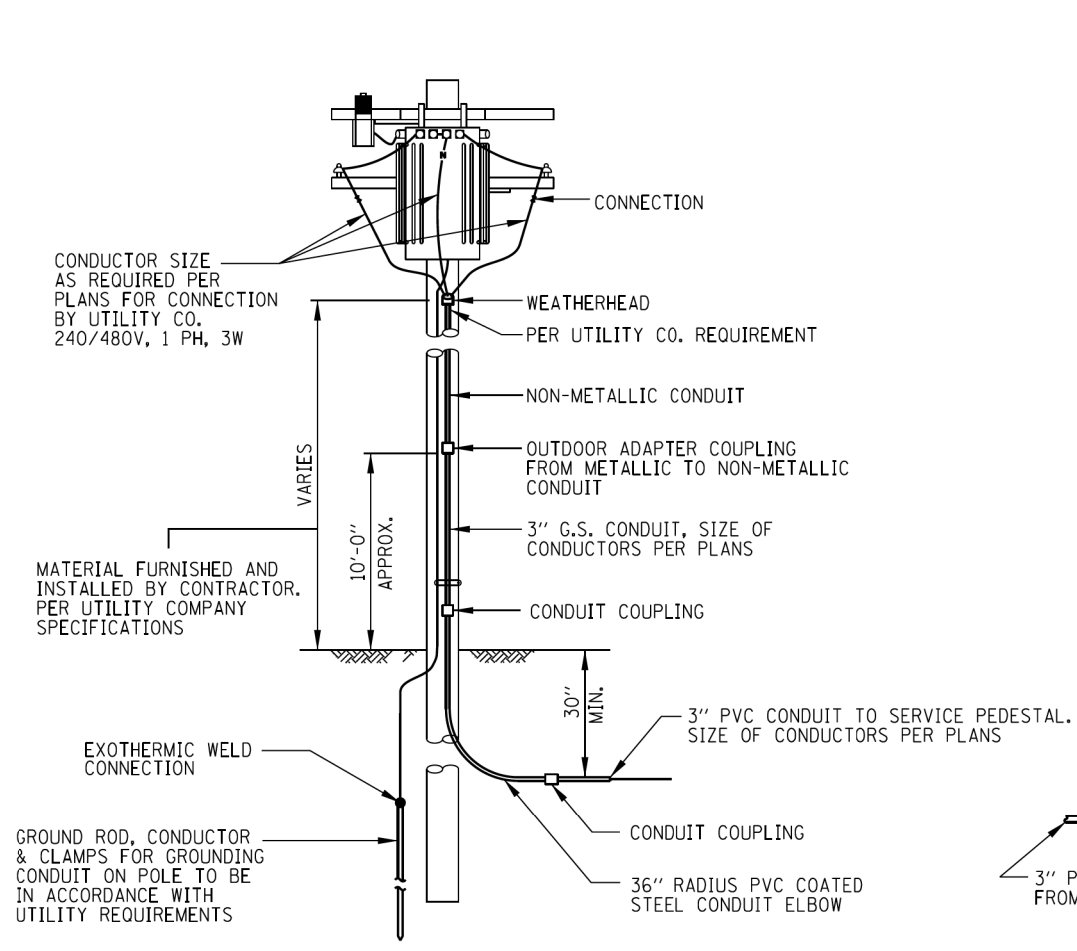
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DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

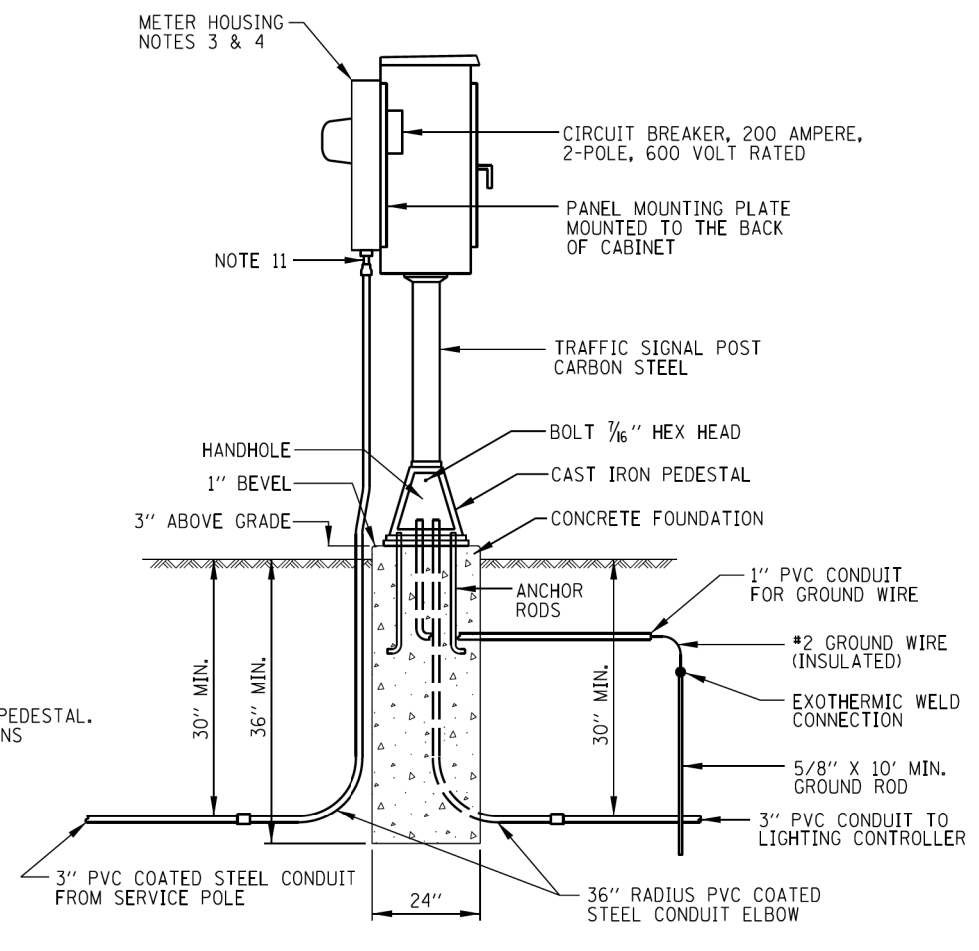
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

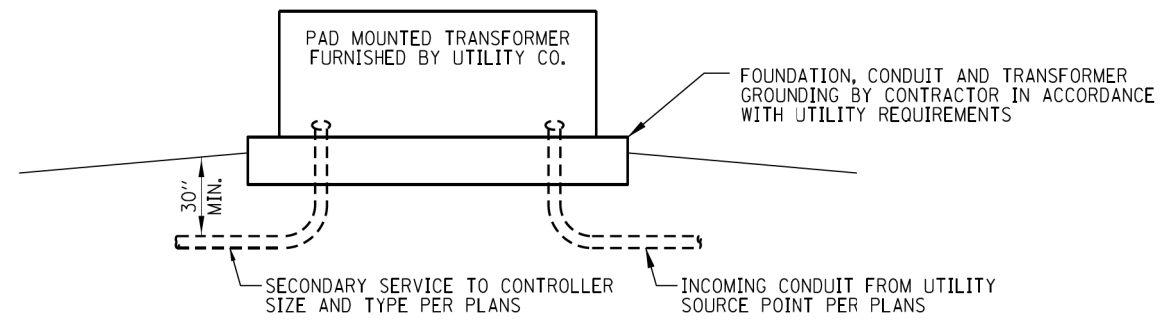
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**UTILITY SERVICE POLE**  
SUBJECT TO UTILITY COMPANY APPROVAL  
NO SCALE



**SERVICE PEDESTAL WITH METER DETAIL**  
NO SCALE (NOTE 9)



**PAD MOUNTED TRANSFORMER**  
SUBJECT TO UTILITY COMPANY APPROVAL  
NO SCALE

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

**NOTES:**

- CABINETS, CABINET POSTS AND CABINET PEDESTALS SHALL BE PRIMED AND PAINTED. THE EXTERIOR SHALL HAVE TWO EPOXY FINISH COATS OF ANSI-61 GRAY. THE INTERIOR SHALL BE PAINTED WHITE.
- METER HOUSING SHALL BE MOUNTED TO BACK WALL OF CONTROL CABINET. PROVIDE A GATE IN ROW FENCE TO ALLOW UTILITY ACCESS TO READ THE METER.
- CABLES FROM METER HOUSING SHALL PASS THROUGH BACK WALL OF CONTROL CABINET.
- METER HOUSING SHALL BE MILBANK CATALOG NUMBER U8949.
- THE CABINET SHALL BE 36"H x 20"W x 15"D, FABRICATED FROM ALUMINUM WITH A MINIMUM THICKNESS OF .125", RATED NEMA TYPE 3R AND HAVE A MOUNTING BACK PLATE.
- THE CABINET DOOR SHALL HAVE A CONTINUOUS HINGE THAT IS BOLTED TO THE CABINET AND DOOR WITH 1/4-20 STAINLESS STEEL CARRIAGE BOLTS AND NY-LOCK NUTS. THE HINGE SHALL BE INSTALLED ON THE RIGHT SIDE WHEN FACING THE CABINET AND BE MADE OF STAINLESS STEEL WITH A 0.25 INCH DIAMETER STAINLESS STEEL HINGE PIN. THE HINGE PIN SHALL BE CAPPED TOP AND BOTTOM BY WELD TO RENDER IT TAMPER-PROOF. THE CABINET SHALL HAVE A GASKET THAT FORMS A WEATHER-TIGHT SEAL BETWEEN THE CABINET AND DOOR. THE DOOR LATCHING MECHANISM SHALL BE THE 3-POINT DRAW ROLLER TYPE. WHEN THE DOOR IS CLOSED AND LATCHED, IT WILL BE LOCKED. THE LATCHING HANDLE SHALL BE FABRICATED FROM A 0.75" STAINLESS STEEL ROUND BAR AND SHALL HAVE A PROVISION FOR PADLOCKING IN THE CLOSED POSITION.
- THE ENCLOSURE SHALL BE EQUIPPED WITH TWO ADJUSTABLE "C" MOUNTING CHANNELS WELDED ON BOTH SIDE WALLS AND BACK WALL OF THE ENCLOSURE, ALLOWING VERSATILE POSITIONING OF SHELVES OR PANELS. MOUNTING CHANNELS SHALL BE FACTORY PAINTED SAME COLOR AS INTERIOR OF CABINET.
- CABINET DOOR SHALL NOT HAVE COMPARTMENT DOORS OR LOUVERS.
- THE CABINET, POST, PEDESTAL BASE, METER HOUSING, FOUNDATION, GROUND ROD, GROUND WIRE AND GROUND CONNECTIONS SHALL BE INCLUDED IN THE COST OF EACH ELECTRIC SERVICE INSTALLATION (PAY ITEM 80400100).
- CONTRACTOR MUST COORDINATE WITH PEDESTAL BASE SUPPLIER AND FURNISH THE NECESSARY ANCHOR RODS.
- PROVIDE A 2 1/2" CONDUIT HUB, 2 1/2" NIPPLE AND 2 1/2" TO 3" CONDUIT REDUCER FITTING.

SHEET 1 OF 2



DATE	REVISIONS	SERVICE POLE AND PEDESTAL DETAILS
2-7-2012	NEW SERVICE PEDESTAL DETAIL, MODIFIED UTILITY SERVICE POLE	
		STANDARD H5-01

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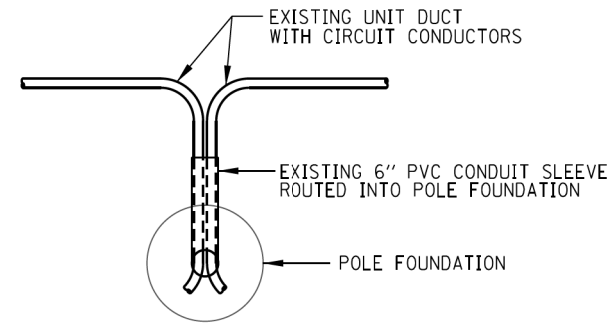
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DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

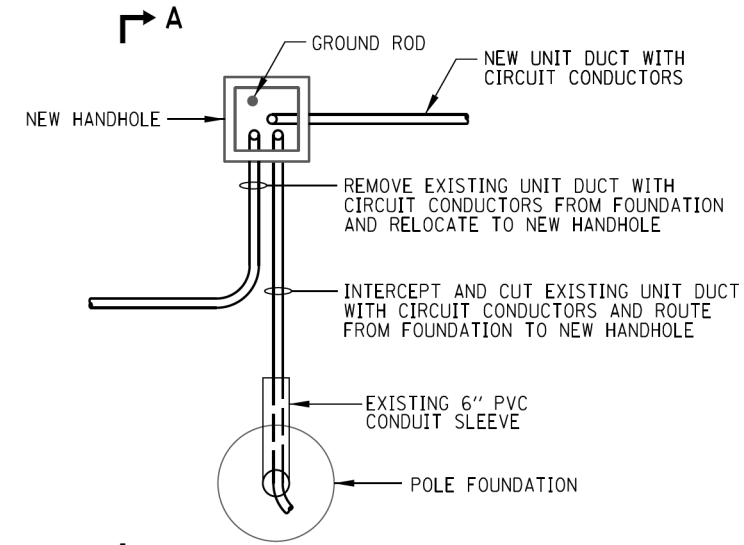
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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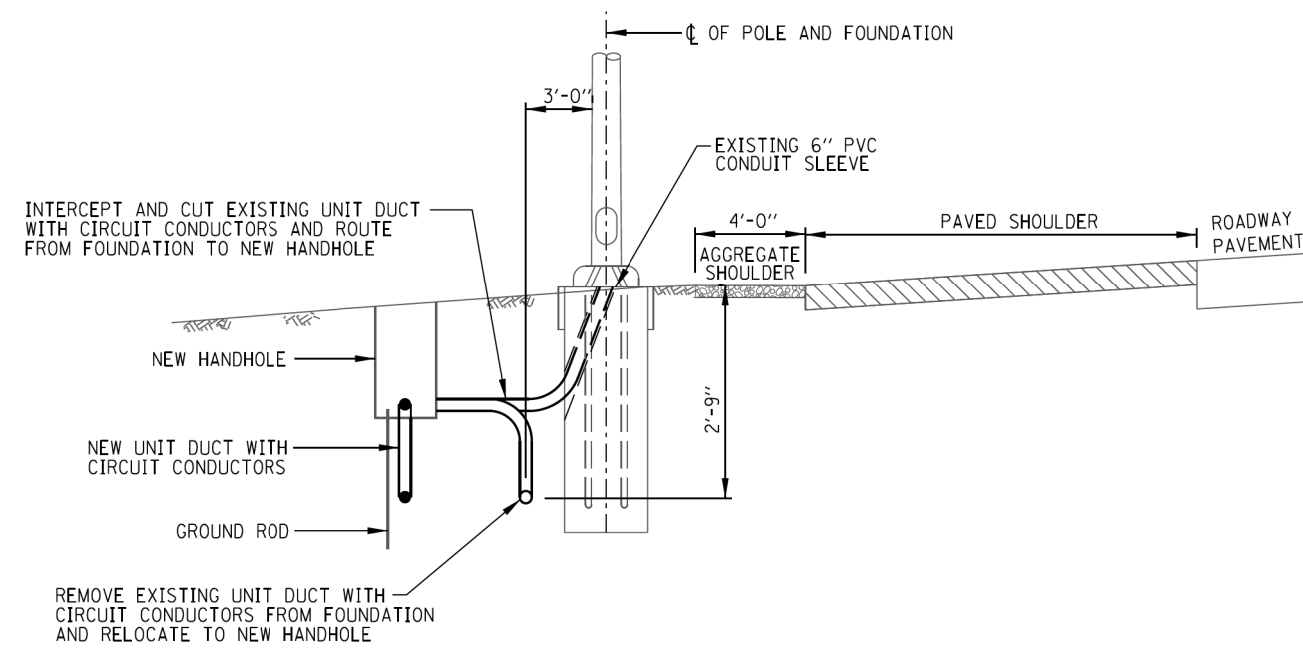


EXISTING WIRING



PROPOSED WIRING REVISION

POLE FOUNDATION WITH UNIT DUCT  
NO SCALE



SECTION A-A

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

SHEET 2 OF 2

**Illinois Tollway**  
*Open Roads for a Faster Future*

WIRING MODIFICATIONS AT EXISTING LIGHT STANDARDS

STANDARD H5-01

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DATE - 6/19/2012	REVISD -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

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	666
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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## GENERAL NOTES - EROSION AND SEDIMENT CONTROLS

1. THE WORK DESCRIBED ON THESE DRAWINGS IS AN INTEGRAL PART OF THE STORM WATER POLLUTION PREVENTION PLAN USED TO OBTAIN A NPDES PERMIT FROM IEPA FOR THE CONSTRUCTION OF THIS PROJECT.
2. THE PURPOSE OF THE EROSION AND SEDIMENT CONTROL MEASURES INCLUDED FOR THIS PROJECT IS TO LIMIT THE SEDIMENT POLLUTION IMPACT OF ANY STORM WATER DISCHARGES THAT ORIGINATE ON THIS SITE OR OFF-SITE FLOWS THAT FLOW OVER THE DISTURBED AREAS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SEDIMENT TRANSPORT OFF THE SITE IS REDUCED BY A COMBINATION OF MINIMIZATION OF EROSION AT THE SOURCE AND INSTALLATION OF SPECIFIC MEASURES TO CONTROL OR REDUCE THE TRANSPORT OF SEDIMENT. A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN BEING IMPLEMENTED BY THE CONTRACTOR SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES.
4. TO THE MAXIMUM EXTENT POSSIBLE, ALL FLOWS ORIGINATING OFF THE CONSTRUCTION SITE WILL BE DIVERTED AROUND DISTURBED AREAS OR WILL BE CONVEYED THROUGH THE SITE IN A MANNER THAT UNTREATED ON-SITE RUNOFF DOES NOT MIX WITH THE OFF-SITE RUNOFF.
5. ALL RUNOFF ORIGINATING ON DISTURBED AREAS ASSOCIATED WITH THIS PROJECT WILL PASS THROUGH ONE OR MORE MEASURES THAT WILL MINIMIZE THE OFF-SITE SEDIMENT IMPACTS OF THE CONSTRUCTION ACTIVITY.
6. ALL PERMANENT SEDIMENT BASINS, PERMANENT STORM WATER CONTROL MEASURES, AND RUNOFF CONTROL MEASURES REQUIRED TO KEEP OFF-SITE RUNOFF FROM FLOWING OVER THE CONSTRUCTION AREA WILL BE INSTALLED BEFORE CLEARING AND STRIPPING OF THE SITE PROCEEDS. PRIOR TO PROCEEDING WITH GENERAL EARTHWORK ON A PROJECT THE CONTRACTOR SHALL OBTAIN APPROVAL OF HIS PROPOSED EARTHWORK AND STABILIZATION SCHEDULE.
  - A. WHEN BALANCING EARTHWORK (BORROW FROM A CUT USED AS FILL AT A LOCATION DISTANT FROM THE CUT) THE CHIEF ENGINEER WILL CONSIDER ALLOWING MORE THAN 20 ACRES OF CONSTRUCTION WORK AREAS AND STORAGE AREAS.
  - B. WHERE NEW INTERCHANGES ARE BEING CONSTRUCTED THE ALLOWABLE AREA BEING GRADED MAY BE LARGER THAN 20 ACRES WHEN THE CONTRACT DRAWINGS DEFINE SUCH INCREASES.
  - C. VARIATIONS TO THE ABOVE MAY BE CONSIDERED BY THE CHIEF ENGINEER UNDER ALL THE FOLLOWING CONDITIONS:
    - IF THE CONTRACTOR FALLS BEHIND SCHEDULE THROUGH NO FAULT OF HIS OWN.
    - THE CONTRACTOR MUST PRESENT A SCHEDULE DEMONSTRATING THE NEED FOR SUCH VARIATION IN ORDER TO COMPLETE THE WORK ON TIME.
    - THE CONTRACTOR MUST COMPLY WITH ALL OTHER CONTRACT REQUIREMENTS.
7. A MAXIMUM OF 20 ACRES IS ALLOWED TO BE IN SOME STAGE OF GRADING AT A SINGLE TIME. ADDITIONAL AREAS (UP TO 20 ACRES) MAY BE CLEARED BUT WILL NOT BE STRIPPED OF VEGETATION UNTIL THE GRADED AREAS HAVE BEEN PROTECTED FROM EROSION THROUGH INSTALLATION OF EITHER TEMPORARY OR PERMANENT MEASURES. WHENEVER POSSIBLE, THE GRADING WILL BE COMPLETED TO THE DESIGN GRADE AND THE PERMANENT VEGETATION PLAN IMPLEMENTED PRIOR TO STARTING GRADING ACTIVITIES ON THE NEXT SITE.
8. DISTURBED AREAS ARE TO BE PROTECTED FROM EROSION IN A TIMELY MANNER. UPON COMPLETION OF GRADING OR CONSTRUCTION, THE AREA SHALL BE STABILIZED (USING PERMANENT MEASURES WHEN POSSIBLE) WITHIN 7 CALENDAR DAYS. TEMPORARY STABILIZATION THROUGH USE OF GROUND COVER, MULCHING, OR OTHER APPROVED MEASURES WILL BE INSTALLED WHENEVER SITE DEVELOPMENT WORK, GRADING OR OTHER EARTH DISTURBING ACTIVITIES CEASE TO BE CONTINUOUS FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE 7/14 DAY REQUIREMENT IS TAKEN TO MEAN THAT THE STABILIZATION OPERATION IS COMPLETE OR NEARING COMPLETION IN THE DEFINED TIME.
9. STABILIZATION OF CUT OR FILL SLOPES WITH TEMPORARY OR PERMANENT EROSION CONTROL MEASURES IS REQUIRED WHENEVER THE CUT OR FILL ACTIVITY REACHES 15 FEET VERTICALLY OR THE FINISHED SLOPE EQUALS 50 FEET, WHICHEVER IS MORE RESTRICTIVE. ONCE THE STABILIZATION MEASURES ARE INSTALLED, THE PLACEMENT OF FILL OR EXCAVATION ACTIVITIES ARE ALLOWED TO PROCEED.
10. THE CONTRACTOR SHALL DESIGNATE ONE OF HIS EMPLOYEES AS EROSION AND SEDIMENT CONTROL MANAGER. THIS PERSON WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN ON ALL DISTURBED AREAS. THIS PERSON SHALL POSSESS THE NECESSARY TRAINING AND CERTIFICATION ON EROSION AND SEDIMENT CONTROL MEASURES FOR ACCEPTANCE BY THE TOLLWAY. THIS EMPLOYEE IS TO HAVE THE AUTHORITY TO CARRY OUT THE IMPLEMENTATION OF ANY INSTRUCTIONS CONCERNING THE EROSION AND SEDIMENT CONTROL PLAN GIVEN BY THE ENGINEER. ALL MEASURES WILL BE INSPECTED BY THIS INDIVIDUAL AND THE ENGINEER ON A REGULAR BASIS (AT LEAST ONCE EVERY 7 DAYS) AND AFTER ANY RAINFALL EVENT GREATER THAN 0.5 INCHES, OR EQUIVALENT SNOWFALL (I.E. + 5").
11. SEDIMENT TRAPS, SEDIMENT BASINS, DITCHES, SILT FENCES, FENCES, STONE OUTLET STRUCTURES, EARTH BERMS, ETC. SHALL BE MAINTAINED DURING THE CONSTRUCTION SEASON AS WELL AS THE WINTER MONTHS AND OTHER TIMES WHEN THE PROJECT IS CLOSED DOWN. TRAPS WILL BE CLEANED WHEN THEY ARE 50% FILLED. SILT FENCE AND STONE OUTLET STRUCTURES SHALL HAVE SEDIMENT REMOVED WHEN IT REACHES 50% THE HEIGHT OF THE CONTROL DEVICE. THESE SPOILS WILL BE REMOVED TO AN APPROVED SITE.
12. SALVAGED TOPSOIL SHALL BE PLACED ON WELL DRAINED LAND AWAY FROM INTERMITTENT AND LIVE STREAMS OR WETLANDS WITH THE APPROPRIATE RUNOFF CONTROL AND SEDIMENT CONTROL MEASURES INSTALLED AROUND THE STORAGE SITE. SALVAGED TOPSOIL SHALL BE STABILIZED WITH STRAW MULCH IMMEDIATELY AFTER SHAPING OF THE PILE IN ACCORDANCE WITH THE TOLLWAY SUPPLEMENTAL SPECIFICATIONS. SILT FENCE SHALL BE PROVIDED AT THE PERIMETER OF THE STOCKPILE.
13. MATERIALS EXCAVATED FOR THE CONSTRUCTION OR CLEAN OUT OF SEDIMENT TRAPS SHALL NOT BE STOCKPILED IN THE VICINITY OF THE TRAP. IT SHALL BE PLACED IN AN EMBANKMENT OR WASTED AS DIRECTED BY THE ENGINEER.
14. EXCAVATION TO BE USED FOR EMBANKMENTS SHALL NOT BE STOCKPILED UNLESS PERIMETER CONTROLS ARE UTILIZED. WHEN THIS MATERIAL IS STOCKPILED FOR THE CONVENIENCE OF THE CONTRACTOR THE COST OF PROVIDING THE CONTROLS ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF THE MATERIAL IS STOCKPILED AT THE DIRECTION OF THE ENGINEER THE TOLLWAY WILL ASSUME THE COSTS OF THE CONTROLS.
15. SEDIMENT LADEN DEWATERING DISCHARGE MUST BE DIRECTED TO AN APPROVED SEDIMENT TRAPPING MEASURE PRIOR TO RELEASE FROM THE SITE.
16. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSIDERED TEMPORARY. THESE MEASURES WILL BE REMOVED BY THE CONTRACTOR AS DESIGNATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. DISTURBED AREAS ARE TO BE RESTORED UPON REMOVAL.
17. WHEN THE CONTRACTOR REQUESTS A CHANGE TO POSTPONE COMPLETION OF THE EXCAVATION OF A SPECIFIC AREA AS A CONTINUOUS OPERATION AND PLACING THE TOPSOIL AS DEFINED IN THE STANDARD SPECIFICATIONS, THE ENGINEER MAY ALLOW THE CONTRACTOR TO STABILIZE THE AREA USING TEMPORARY STABILIZATION WITH STRAW MULCH PROVIDING THE FOLLOWING CONDITIONS ARE MET:
  - A. ALL AREAS BEING STABILIZED ARE 1:3 (V:H) SLOPES OR FLATTER.
  - B. THE COST OF PREPARING THE SEED BED AND STABILIZING THE AREA WITH TEMPORARY STABILIZATION WITH STRAW MULCH IS THE RESPONSIBILITY OF THE CONTRACTOR.
  - C. ALL REQUIRED SEDIMENT CONTROL MEASURES FOR THE SECTION OF ROAD IN QUESTION HAVE BEEN INSTALLED AND ARE BEING MAINTAINED.
18. THE CONTRACTOR SHALL PREPARE A SKETCH SHOWING DIMENSIONS FROM TWO ADJACENT OBJECTS TO ALL DRAINAGE STRUCTURES THAT HAVE BEEN PROTECTED. THIS IS TO LOCATE THE STRUCTURE IN CASE OF HEAVY RAINFALL AND THE STRUCTURE IS BLOCKED OR FLOODED. THE CONSTRUCTION SECTION ENGINEER SHALL BE PROVIDED WITH A COPY OF THE SKETCH.
19. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN ACCORDANCE WITH THE STANDARD DRAWINGS AND SPECIAL PROVISION (S.P.) 111, STORM WATER POLLUTION PREVENTION PLAN INCLUDING CONTROLS AND SPILL PREVENTION-MATERIAL MANAGEMENT PRACTICES. THE CONTRACTOR AND ALL SUB-CONTRACTORS SHALL SIGN THE CONTRACTOR'S GENTRIFICATION STATEMENT. LIST THE MATERIALS OR SUBSTANCES EXPECTED TO BE PRESENT ON-SITE IN THE INVENTORY FOR POLLUTION PREVENTION PLAN AND SHALL NAME TWO ADDITIONAL INDIVIDUALS TO ASSIST IN SPILL PREVENTION AND CLEAN UP AT THE PRECONSTRUCTION CONFERENCE. SEE S.P. 111.
20. AT THE TIME OF THE PRECONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL THE PROPOSED CONCRETE TRUCK WASHOUT LOCATIONS AS REQUIRED IN SPECIAL PROVISION 111. RUNOFF FROM WASH AREAS SHALL BE CONTAINED IN DESIGNATED AREAS SO THAT RUNOFF DOES NOT REACH THE STORM SEWER OR DITCH SYSTEMS. WASHOUT WATER TO BE TAKEN TO AN APPROVED DISCHARGE LOCATION.
21. IF AN ALTERNATIVE SIZE DITCH CHECK IS PROPOSED BY THE CONTRACTOR FOR USE ON THE PROJECT, A CONTRACT DITCH CHECK SPACING WILL NEED TO BE RECALCULATED BY THE CONTRACTOR IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL, LANDSCAPE DESIGN CRITERIA MANUAL. ANY RESULTING QUANTITY CHANGES SHALL BE DISCUSSED WITH THE TOLLWAY PRIOR TO RECEIVING APPROVAL.
22. ALL RUNOFF, EROSION AND SEDIMENT CONTROL MEASURES MUST BE REVIEWED TO ENSURE ROADSIDE HAZARDS ARE NOT CREATED. IN NO INSTANCE SHALL CONTROL MEASURES BE LOCATED IN OR NEAR THE CLEAR ZONE. WHEN CONTROL STRUCTURE IS WITHIN THE CLEAR ZONE A BARRIER WARRANT SHALL BE PERFORMED.
23. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).

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

DATE	REVISIONS
2-7-2012	REVISED GENERAL NOTES
	REVISED GEOTEXTILE FILTER FABRIC USAGE DESCRIPTION
	REVISED SLOPE NOTATION
	ADDED SYNTHETIC POROUS RUNOFF CONTROL STRUCTURE
	REVISED CREEK BUFFER STRIP AND SILT FENCE DETAIL
	REVISED SUPER SILT FENCE DETAIL
	REVISED FLOTATION BOOM DETAIL

SHEET 1 OF 11



**TEMPORARY EROSION  
AND SEDIMENT CONTROLS**

STANDARD K1-02

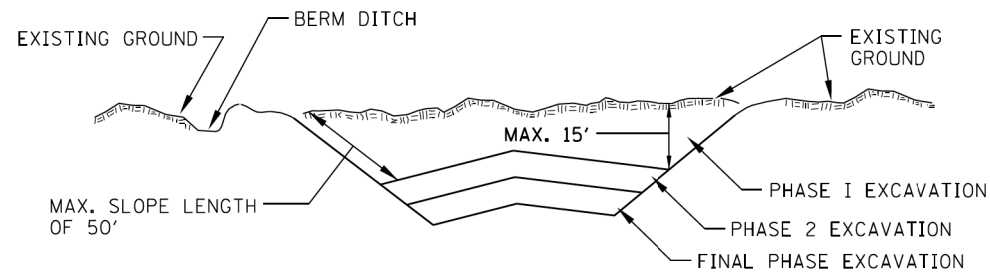
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	PLOT SCALE = H=1"=10' V=1"=5'	DRAWN -	REVISED -			94	49-1-R-1	LAKE	677	667	
	PLOT DATE = 6/28/2012	CHECKED - RGR	REVISED -			CONTRACT NO. 60L77					
		DATE - 6/28/2012	REVISED -			SCALE:	SHEET NO. N/A OF N/A SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT	

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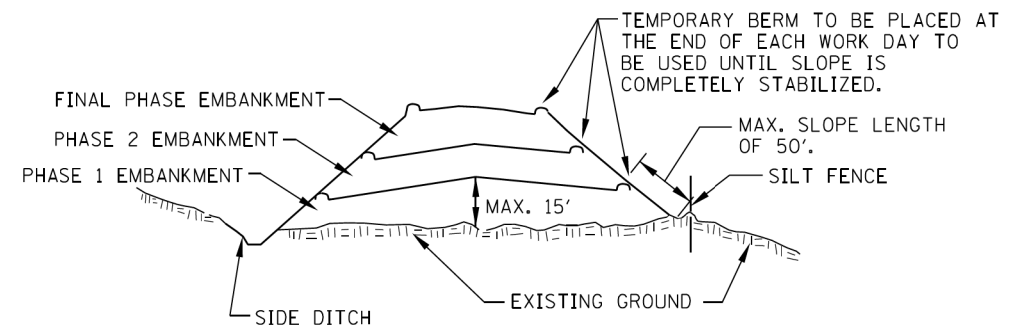


**NOTES:**

1. ALL CUT SLOPES SHALL BE EXCAVATED AND STABILIZED (PLACE TOPSOIL PREPARE SEEDBED, APPLY SEED, PROTECT SLOPE WITH MULCH OR EROSION BLANKET) AS THE WORK PROGRESSES.
2. CONSTRUCTION SEQUENCE:
  - A) EXCAVATE AND STABILIZE BERM, SIDE AND OUTLET DITCHES, PROVIDE SEDIMENT TRAPS FOR DITCHES.
  - B) PERFORM PHASE 1 EXCAVATION AND STABILIZE SLOPES WITH PERMANENT SEEDING.
  - C) PERFORM PHASE 2 EXCAVATION AND STABILIZE SLOPES WITH PERMANENT SEEDING. OVER SEED PHASE 1 SLOPES, IF REQUIRED.
  - D) PERFORM FINAL PHASE EXCAVATION, DRESS, SEED AND MULCH SLOPES WITH PERMANENT SEEDING. STABILIZE SURFACE DRAIN DITCHES. OVER SEED PHASE 1 & 2 SLOPES, IF REQUIRED, AS DETERMINED BY THE ENGINEER.
3. IF PERMANENT SEEDING CANNOT BE PLACED DUE TO CONTRACT REQUIREMENTS REGARDING PLANTING SEASONS, THE CUT SLOPE IS TO HAVE TOPSOIL PLACED AND SEEDING PREPARED PRIOR TO USING TEMPORARY STABILIZATION WITH STRAW MULCH OR TEMPORARY SEEDING WITH EROSION BLANKET.
4. THE CONTRACTOR HAS THE OPTION OF DELAYING TOPSOIL SEEDING BEYOND THE 15 FOOT LIMITATION. IF THIS OPTION IS CHOSEN, THE CUT SLOPE MUST BE "TEMPORARY STABILIZED" AT NO COST TO THE TOLLWAY.
5. ONCE THE EXCAVATION WITHIN A SPECIFIC AREA HAS BEGUN, THE OPERATION SHALL BE CONTINUOUS FROM STRIPPING THROUGH THE COMPLETION OF THE GRADING AND PLACEMENT OF SLOPE STABILIZATION MEASURES. ANY INTERRUPTIONS IN THE OPERATION OF 14 DAYS OR MORE MUST BE APPROVED BY THE ENGINEER. ANY VIOLATION OF THIS REQUIREMENT WILL RESULT IN THE CONTRACTOR ASSUMING THE RESPONSIBILITY OF PLACING TEMPORARY STABILIZATION AT HIS OWN COST AND EXPENSE.

**EXCAVATION PHASING PLAN - CUT SECTION**

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



**NOTES:**

1. THE EMBANKMENT WILL BE MADE IN STAGES NOT TO EXCEED 15' IN HEIGHT OR 50' IN SLOPE LENGTH. THE EMBANKMENT SLOPES WILL BE STABILIZED USING TEMPORARY MEASURES BEFORE BEGINNING NEXT STAGE.
- 2A. AT THE END OF EACH WORK DAY TEMPORARY BERMS (EARTH) AND TEMPORARY PIPE SLOPE DRAINS WILL BE CONSTRUCTED ALONG THE TOP EDGE(S) OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF.
- 2B. IN LIEU OF PERFORMING WORK DESCRIBED IN 2A AT THE END OF EACH WORK DAY, THE CONTRACTOR MAY EMPLOY A "CERTIFIED CONSULTANT METEOROLOGIST" TO PROVIDE A WRITTEN DAILY WEATHER FORECAST TO THE TOLLWAY'S CONSTRUCTION SECTION ENGINEER. SHOULD THE FORECAST PREDICT A 10% (OR LESS) CHANCE OF PRECIPITATION IN THE NEXT 36 HOUR TIME PERIOD, THE BERMS AND SLOPE DRAINS NEED NOT BE DONE THAT DAY. ON WORK DAYS PRECEDING NON-WORK DAYS, THE FORECAST MUST EXTEND TO THE SCHEDULED RESUMPTION OF WORK.
3. CONSTRUCTION SEQUENCE:
  - A) EXCAVATE AND STABILIZE SIDE DITCH AND/OR INSTALL PROPOSED PERIMETER CONTROLS AT THE TOE OF SLOPE.
  - B) PLACE PHASE 1 EMBANKMENT AND STABILIZE WITH TEMPORARY SEEDING AND MULCH.
  - C) PLACE PHASE 2 EMBANKMENT AND STABILIZE WITH TEMPORARY SEEDING AND MULCH.
  - D) PLACE FINAL PHASE EMBANKMENT AND STABILIZE WITH PERMANENT VEGETATIVE PLAN ON THE ENTIRE SLOPE.
4. ONCE THE PLACEMENT OF FILL WITHIN A SPECIFIC AREA HAS BEGUN, THE OPERATION SHALL BE CONTINUOUS FROM STRIPPING THROUGH THE COMPLETION OF THE GRADING AND PLACEMENT OF PERMANENT VEGETATIVE PLAN. ANY INTERRUPTIONS IN THE OPERATION OF 14 DAYS OR MORE MUST BE APPROVED BY THE ENGINEER. ANY VIOLATION OF THIS REQUIREMENT WILL RESULT IN THE CONTRACTOR ASSUMING THE RESPONSIBILITY OF PLACING TEMPORARY STABILIZATION AT HIS OWN COST AND EXPENSE.

**EMBANKMENT PHASING PLAN - FILL SECTION**

SHEET 3 OF 11

**Illinois Tollway**  
*Open Roads for a Faster Future*

TEMPORARY EROSION AND SEDIMENT CONTROLS

STANDARD K1-02

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

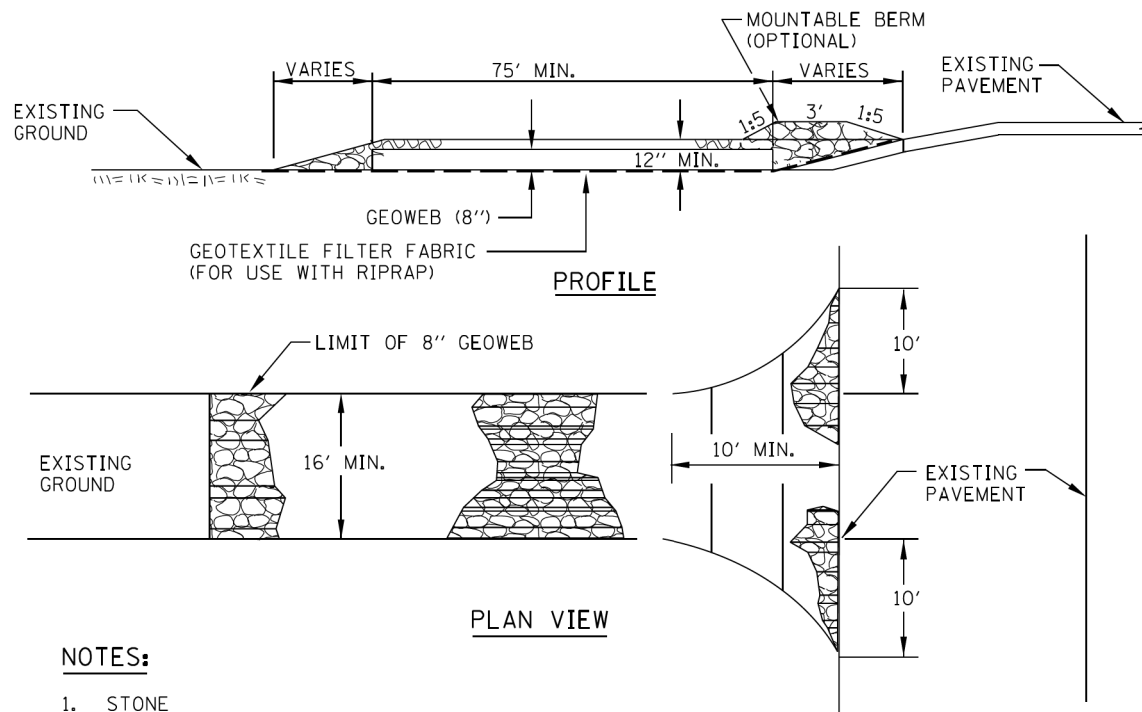
TOLLWAY STANDARD DRAWING

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	669
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**NOTES:**

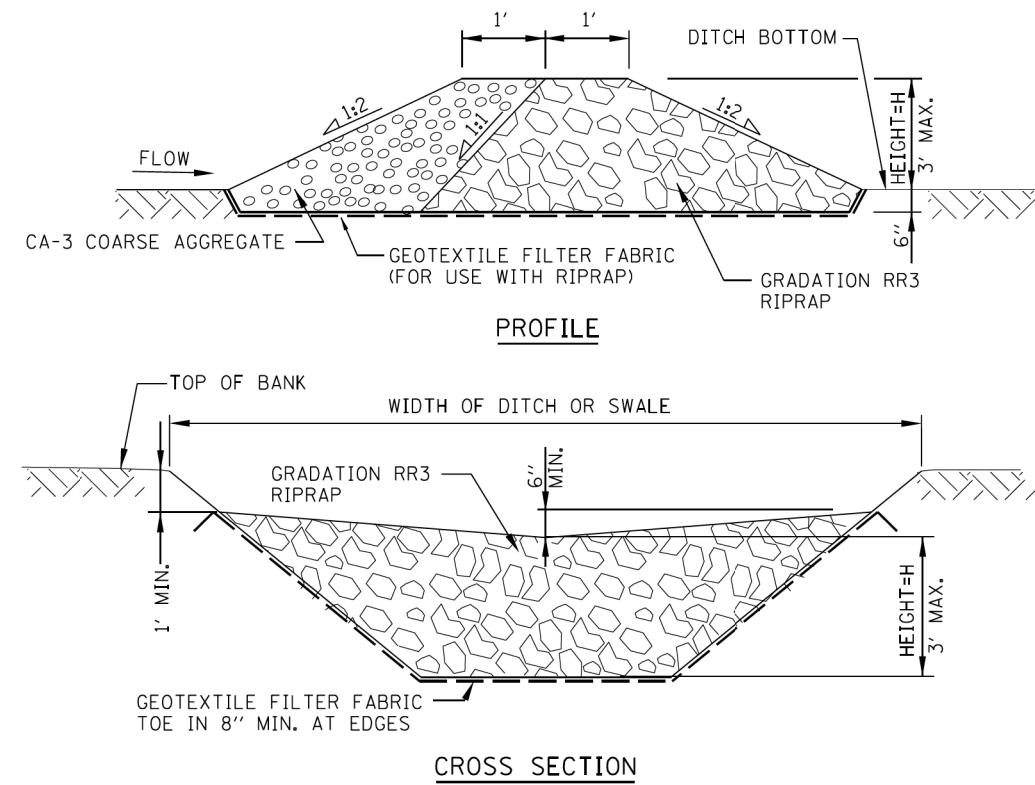
1. STONE
  - A. STONE SIZE - CA-3
  - B. LENGTH - AS REQUIRED, BUT NOT LESS THAN 75'.
  - C. THICKNESS - NOT LESS THAN 4" ABOVE TOP OF GEOWEB.
2. WIDTH - 16' MINIMUM FOR ONE WAY TRAFFIC; 24' MINIMUM FOR TWO WAY TRAFFIC; BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
3. GEOWEB NOT LESS THAN 8" IN DEPTH WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
4. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 1:5 SLOPES WILL BE PERMITTED.
5. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
6. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER HEAVY USE AND EACH RAINFALL EVENT.
7. TO BE USED TO REDUCE OR ELIMINATE TRACKING OF SEDIMENT ONTO PUBLIC STREETS. PLACE AT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS. DISTURBED AREAS TO BE RESTORED UPON REMOVAL.

**STABILIZED CONSTRUCTION ENTRANCE**

STANDARD SYMBOL



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



**NOTES:**

1. FOR LOCATIONS AND HEIGHTS OF ROCK CHECK DAMS REFER TO CONSTRUCTION DRAWINGS.
2. TEMPORARY ROCK CHECK DAMS SHALL BE REPLACED WHEN THEY CEASE TO FUNCTION AS INTENDED DUE TO WASHOUT OR CONSTRUCTION TRAFFIC DAMAGE.
3. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 50% OF DAM HEIGHT. THIS PRACTICE IS NOT A SUBSTITUTE FOR MAJOR PERIMETER TRAPPING SUCH AS A TEMPORARY SEDIMENT TRAP OR BASIN.
4. SPACING BETWEEN DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS TOP OF RIPRAP AT THE CENTER OF THE DOWNSTREAM DAM.

**TEMPORARY ROCK CHECK DAM**

STANDARD SYMBOL



SHEET 4 OF 11

**Illinois Tollway**  
*Open Roads for a Faster Future*

TEMPORARY EROSION  
 AND SEDIMENT CONTROLS

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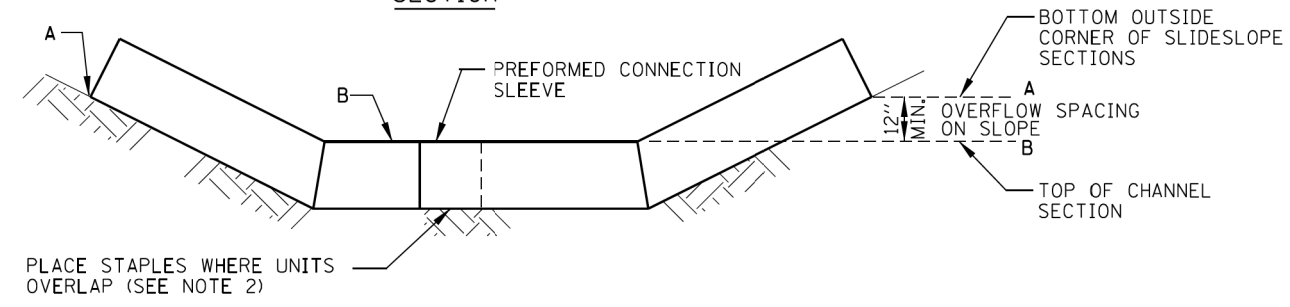
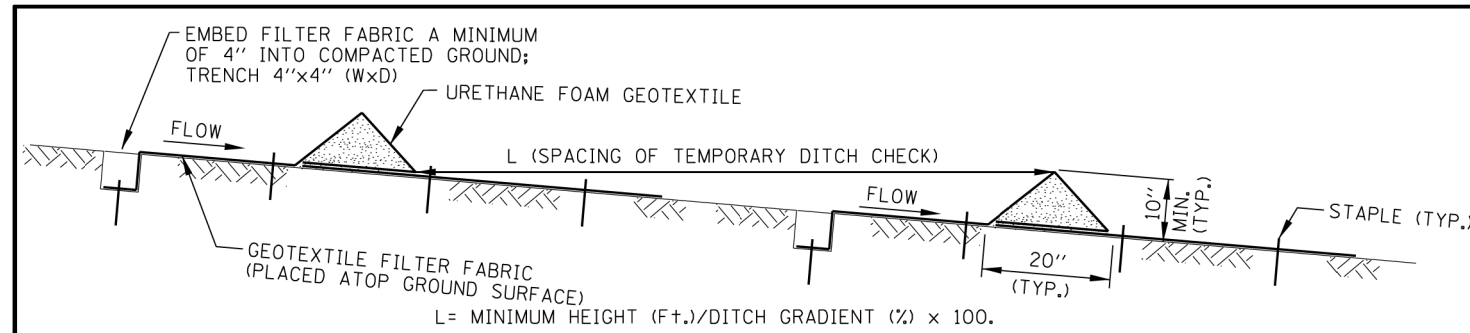
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STATE OF ILLINOIS  
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TOLLWAY STANDARD DRAWING			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	670
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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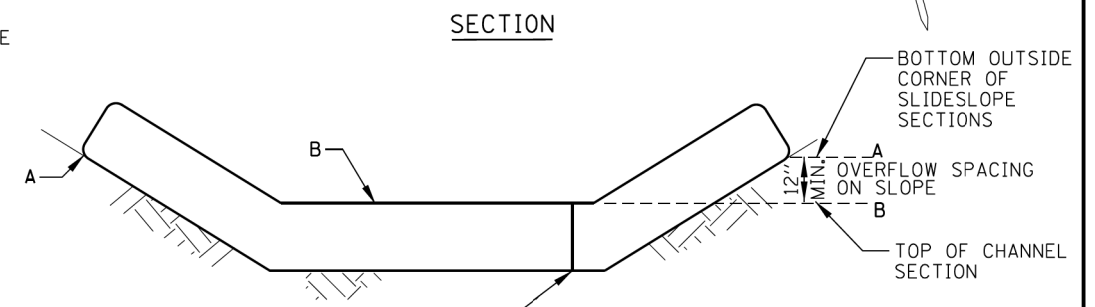
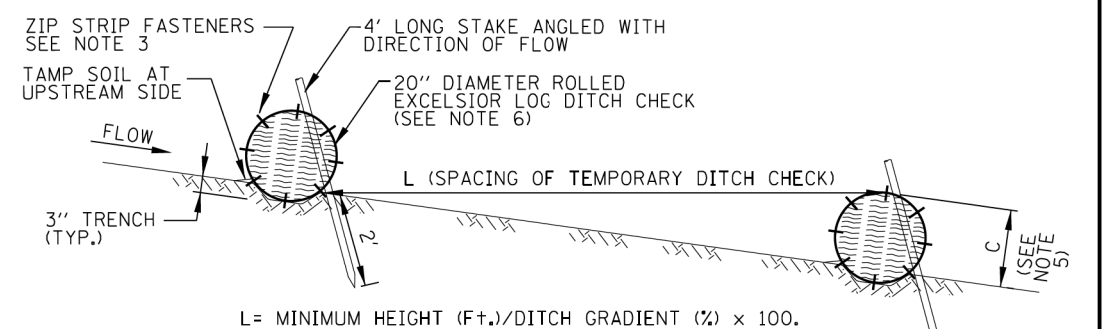


- NOTES:**
1. UPSTREAM EDGE OF DITCH CHECK APRON TO BE PLACED IN A 4"x4" TRENCH AND ANCHORED WITH A ROW OF WIRE STAPLES ON 18" CENTERS TO ASSURE THAT STORM WATER IS FORCED THROUGH THE DITCH CHECK RATHER THAN UNDER IT.
  2. BUTT ENDS OF DITCH CHECKS TOGETHER BY OVERLAP FABRIC AND STAPLE SEAM AT BASE.
  3. PLACE WIRE STAPLES IN PATTERN AS SPECIFIED BY THE MANUFACTURER WITH A MINIMUM OF 8 STAPLES PER SQUARE YARD OF APRON. WIRE STAPLES TO BE A MINIMUM OF NO. 11 GAUGE, 8" LONG.
  4. URETHANE FOAM/GEOTEXTILE DITCH CHECKS ARE SUPPLIED IN STANDARD 7 FOOT LENGTHS AND SHOULD NOT BE CUT.
  5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT SHALL BE REMOVED WHEN IT REACHES 50% OF DITCH CHECK HEIGHT.
  6. FOR ALTERNATE SIZE DITCH CHECK SEE GENERAL NOTE 21 ON SHEET 1 IN THIS SERIES.
  7. TEMPORARY DITCH CHECK TO BE USED TO CONTROL FLOW IN DITCHES. THE DITCH CHECK IS NOT A SUBSTITUTE FOR SEDIMENT TRAPS OR BASINS. PLACE UPSTREAM OF TRAPS OR BASINS AND MAINTAIN IN PLACE UNTIL SEEDING IS ESTABLISHED.

**TEMPORARY DITCH CHECK  
URETHANE FOAM/GEOTEXTILE**

STANDARD SYMBOL  
(UFDC)  
■■■■■■

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



- NOTES:**
1. ROLLED EXCELSIOR LOG SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 3" AND SOIL SHALL BE TAMPED AGAINST THE UPSTREAM SIDE TO ASSURE THAT STORM WATER IS FORCED THROUGH THE LOG, RATHER THAN UNDER IT.
  2. STAKES SHALL BE 4' LONG, DRIVEN AT A SPACING OF 2' ON CENTER, 2' INTO THE GROUND. STAKES SHALL BE ENTWINED WITH THE MESH COVERING OF THE ROLL ON THE DOWNSTREAM SIDE AND ANGLED WITH THE DIRECTION OF FLOW. WOOD STAKES TO BE A MINIMUM OF 1" SQUARE. METAL STAKES SHALL BE A MINIMUM OF 1" DIAMETER.
  3. WHEN MORE THAN ONE LOG IS REQUIRED TO SPAN THE DITCH, BUTT LOGS TIGHTLY TOGETHER END TO END AND FASTEN TOGETHER WITH A MINIMUM OF EIGHT EQUALLY SPACED ZIP STRIP NYLON FASTENERS.
  4. ROLLED EXCELSIOR LOG DITCH CHECKS ARE SUPPLIED IN STANDARD 10 FOOT LENGTHS AND SHOULD NOT BE CUT.
  5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT SHALL BE REMOVED WHEN IT REACHES 50% OF ROLL HEIGHT. WHEN EXCELSIOR LOG HEIGHT BECOMES LESS THAN 10", IT SHALL BE REPLACED.
  6. FOR ALTERNATE SIZE DITCH CHECK SEE GENERAL NOTE 21 ON SHEET 1 IN THIS SERIES.
  7. TEMPORARY DITCH CHECK TO BE USED TO CONTROL FLOW IN DITCHES. THE DITCH CHECK IS NOT A SUBSTITUTE FOR SEDIMENT TRAPS OR BASINS. PLACE UPSTREAM OF TRAPS OR BASINS AND MAINTAIN IN PLACE UNTIL SEEDING IS ESTABLISHED.
  8. SPACING OF TEMPORARY DITCH CHECK TO BE BASED ON 10" MINIMUM HEIGHT DIMENSION.

**TEMPORARY DITCH CHECK  
ROLLED EXCELSIOR LOG**

STANDARD SYMBOL  
(REDC)  
■■■■■■

SHEET 5 OF 11

**Illinois Tollway**  
*Open Roads for a Faster Future*

TEMPORARY EROSION  
AND SEDIMENT CONTROLS

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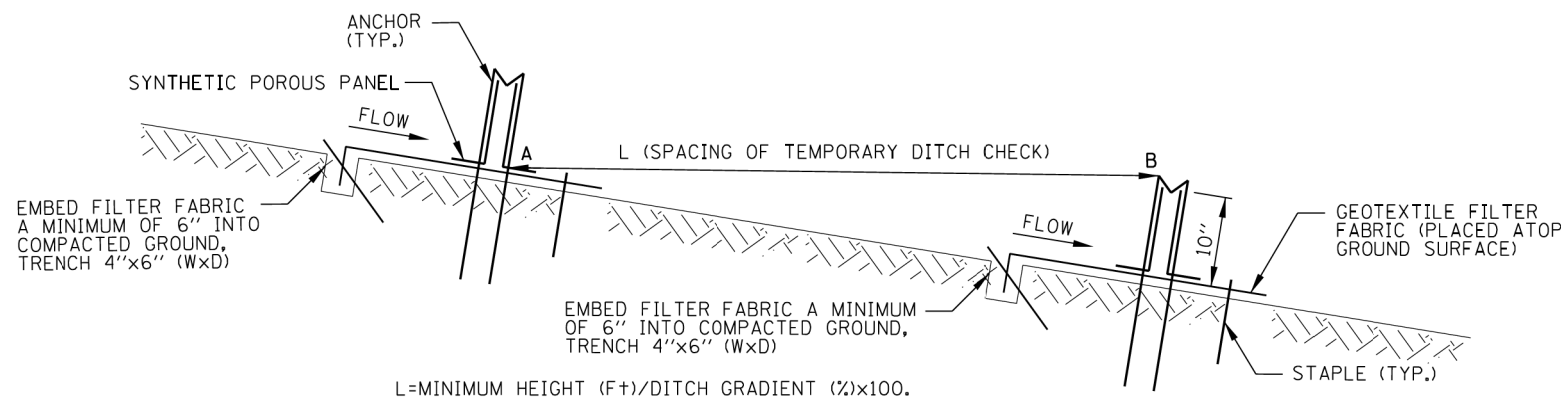
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DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

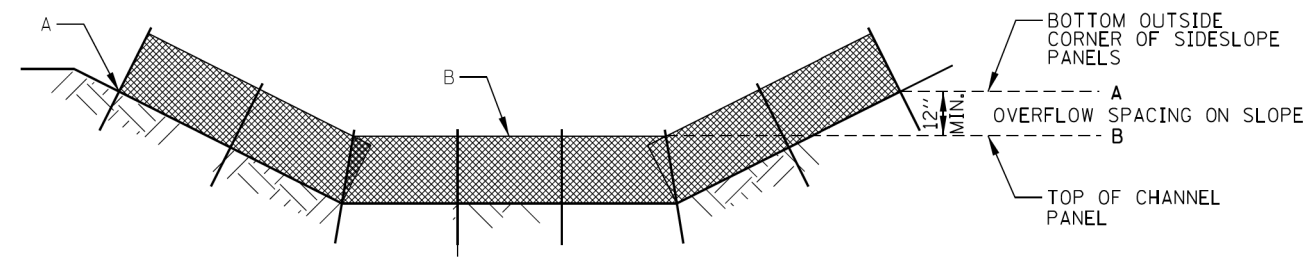
SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	671
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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SECTION

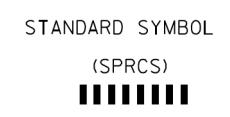


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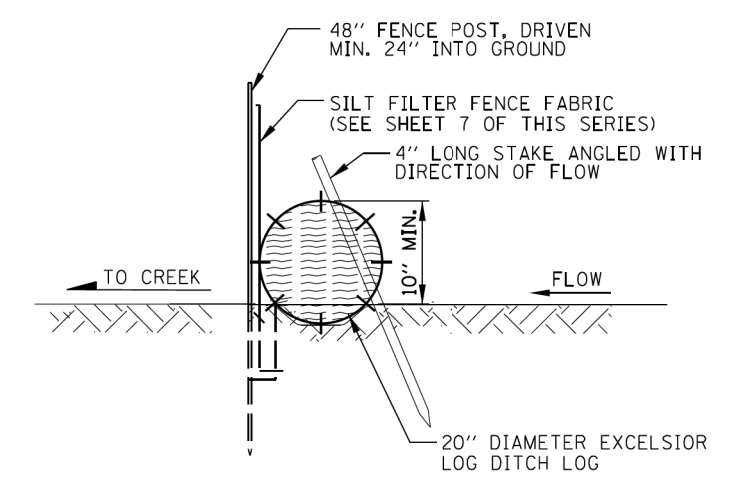
NOTES:

1. UPSTREAM EDGE OF THE POROUS RUNOFF CONTROL SYSTEM STRUCTURE FILTER FABRIC TO BE PLACED IN A 4"x6" TRENCH AND ANCHORED WITH A ROW OF STAPLES TO ASSURE THAT THE STORM WATER IS FORCED THROUGH THE POROUS PANELS RATHER UNDER IT.
2. THE RUNOFF CONTROL STRUCTURE SHALL BE PLACED PERPENDICULAR TO THE DIRECTION OF WATER FLOW. THE STRUCTURE COMPRISES OF A CENTRAL SECTION FORMING A HORIZONTAL POROUS WEIR AND TWO INCLINED SECTIONS EXTENDING UP THE SIDESLOPE AND BACKSLOPE.
3. THE POROUS RUNOFF CONTROL STRUCTURE SHALL BE INSTALLED IN ACCORDANCE TO THE MANUFACTURER'S REQUIREMENTS.
4. POROUS RUNOFF CONTROL STRUCTURE PANELS ARE SUPPLIED IN STANDARD 10" HEIGHT x 39" AND 43" LENGTHS. THE DSE SHALL LIST THE QUANTITIES IN MULTIPLES OF STRUCTURE LENGTH SELECTED.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT SHALL BE REMOVED WHEN IT REACHES 50% OF THE HEIGHT OF THE STRUCTURE.
6. THE SYNTHETIC POROUS RUNOFF CONTROL STRUCTURES TO BE USED TO CONTROL FLOW IN DITCHES. IT IS NOT A SUBSTITUTE FOR SEDIMENT TRAPS OR BASINS. PLACE UPSTREAM OF TRAPS OR BASINS AND MAINTAIN IN PLACE UNTIL SEEDING IS ESTABLISHED.

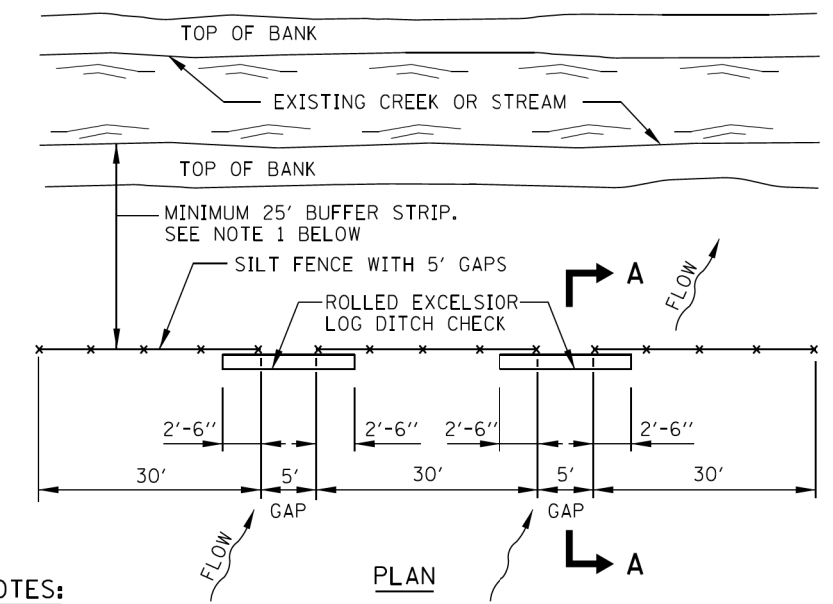
SYNTHETIC POROUS RUNOFF CONTROL STRUCTURE



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



SECTION A-A



NOTES:

1. A MINIMUM 25' WIDE VEGETATED BUFFER STRIP SHALL BE PRESERVED AND/OR RE-ESTABLISHED WHERE POSSIBLE ALONG EXISTING CHANNELS. THIS REQUIREMENT SHALL BE VERIFIED WITH THE LOCAL APPROVING AGENCY BY THE DSE AND THE PLANS ADJUSTED IF NECESSARY. ANY VARIATION IN THE 25' DIMENSION SHALL BE NOTED ON THE PLANS.
2. THE 5' GAPS IN THE SILT FENCE AND THE 20" DIAMETER TEMPORARY DITCH CHECKS ARE TO ALLOW FLOODWATER FLOW INTO THE CREEK FROM THE SITE WITHOUT DAMAGE TO THE SILT FENCE.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT SHALL BE REMOVED WHEN IT REACHES 50% OF ROLL HEIGHT. WHEN EXCELSIOR BECOMES LESS THAN 10" IT SHALL BE REPLACED.

CREEK BUFFER STRIP AND SILT FENCE

SHEET 6 OF 11

**Illinois Tollway**  
*Open Roads for a Faster Future*

TEMPORARY EROSION  
AND SEDIMENT CONTROLS

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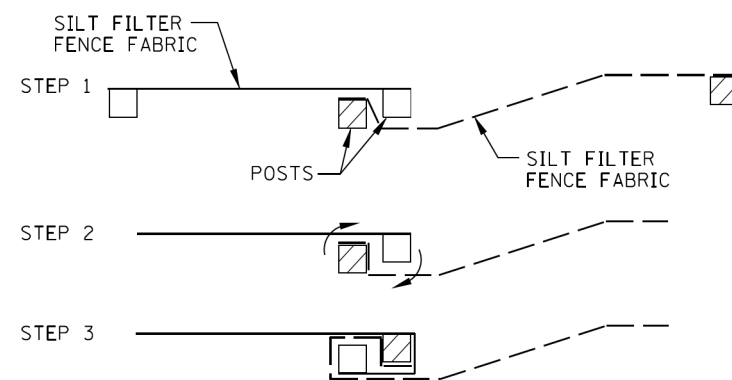
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

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

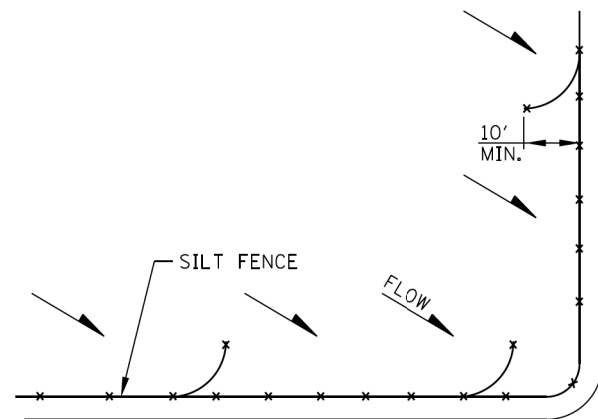
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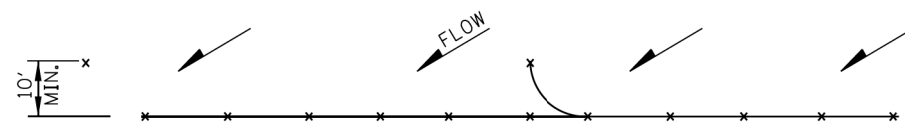
**NOTES:**

1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS A MINIMUM OF 24 INCHES INTO THE GROUND AND BURY THE FLAP.

**ATTACHING TWO SILT FENCES**



**"J" HOOKS AT CORNER**



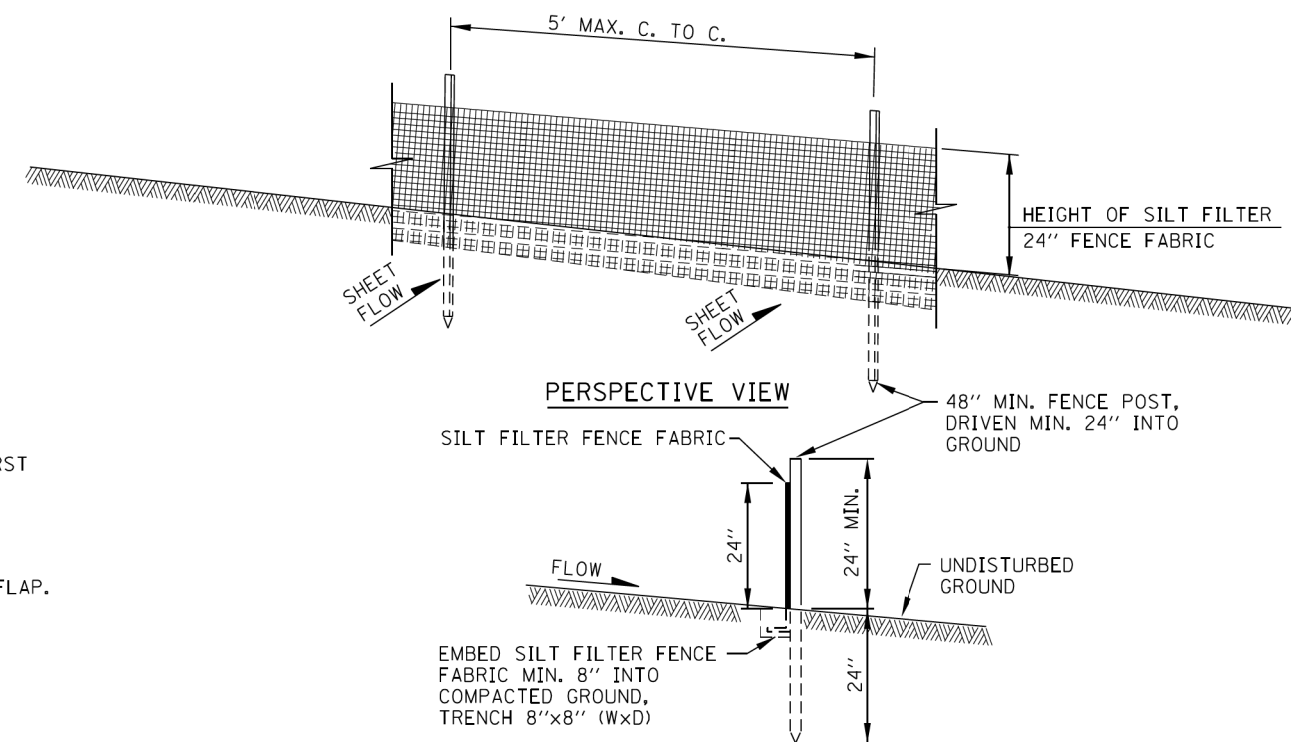
**"J" HOOKS AT PERIMETER CONTROL**

**NOTE:**

INSTALL SILT FENCE WITH "J" HOOKS AT APPROXIMATELY 200' INTERVALS TO INCREASE SILT FENCE EFFICIENCY.

**SILT FENCE PLACEMENT**

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



**PERSPECTIVE VIEW**

**SECTION**

**NOTES:**

1. SILT FILTER FENCE FABRIC TO BE FASTENED SECURELY TO FENCE POSTS.
2. WHEN TWO SECTIONS OF SILT FILTER FENCE FABRIC ADJOIN EACH OTHER THEY SHALL BE SECURELY FASTENED PER THE DETAIL AT LEFT.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SILT BUILD UP AGAINST FENCE SHALL BE INSPECTED AFTER EVERY STORM EVENT AND REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT.
4. FENCE POSTS: 2"x2" (NOMINAL) HARDWOOD OR SCHEDULE 40 METAL PIPE OR 1.33 LB/FT MIN. STANDARD T OR U SECTION STEEL.
5. SILT FILTER FENCE FABRIC SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR USE AS SILT FENCE.
6. THIS DEVICE IS TO CONTROL SHEET FLOW ONLY. DO NOT USE FOR CONCENTRATED FLOWS, DRAINAGE CHANNELS, ABOVE OR BELOW DRAINAGE PIPES.

**SILT FENCE (SF)**

STANDARD SYMBOL



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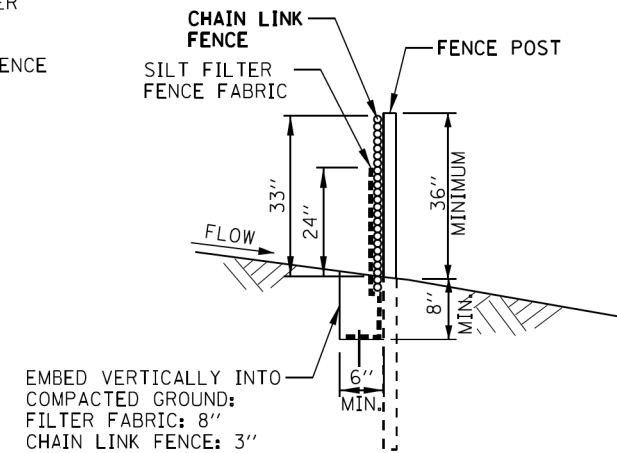
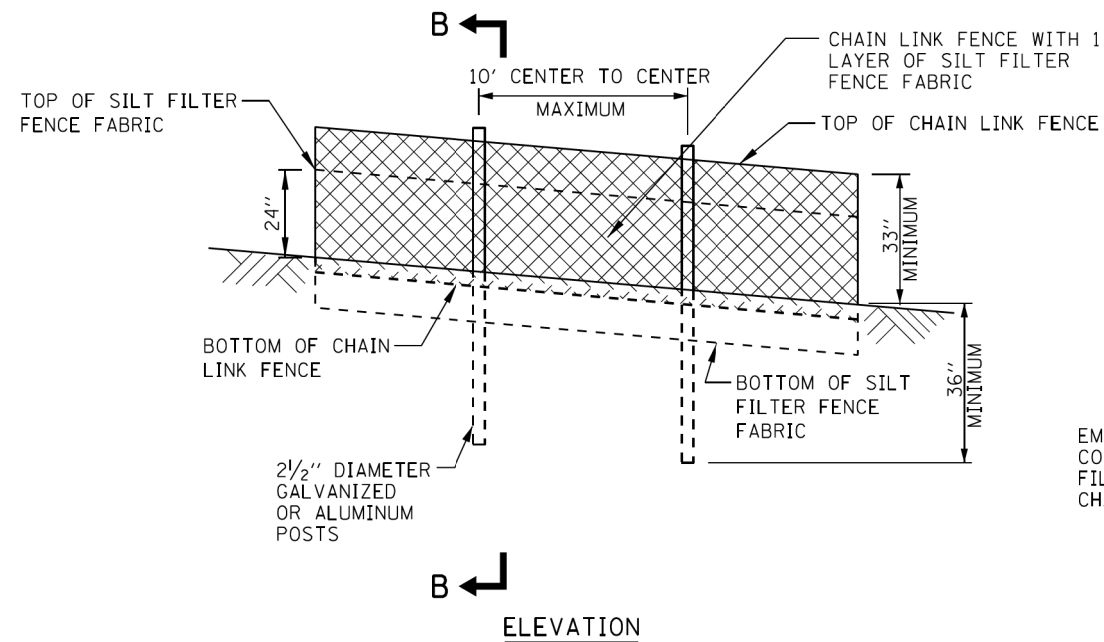
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TOLLWAY STANDARD DRAWING

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	673
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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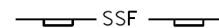


**NOTES:**

- FENCING SHALL BE 36" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH TOLLWAY STANDARD D1, RIGHT OF WAY FENCE, TYPE 1. THE STANDARD SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 36" FABRIC AND 6' LENGTH POSTS.
- CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED. ALL POSTS FOR SUPER SILT FENCE SHALL BE LINE POSTS. PULL POSTS, CORNER POSTS, HORIZONTAL BRACING AND TIE RODS ARE NOT REQUIRED.
- SILT FILTER FENCE FABRIC SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
- WHEN TWO SECTIONS OF SILT FILTER FENCE FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED 2' HORIZONTALLY.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED. SILT BUILD-UP AGAINST FENCE SHALL BE INSPECTED AFTER EVERY STORM EVENT AND REMOVED WHEN SILT REACHES 50% OF FENCE HEIGHT.
- SILT FILTER FENCE FABRIC SHALL CONFORM TO THE STANDARD SPECIFICATIONS.
- SUPER SILT FENCE IS TO BE USED TO PROTECT ENVIRONMENTALLY SENSITIVE AREAS, CONTROL SEDIMENT RUNOFF FROM CONSTRUCTION SITES WHEN ADDITIONAL REINFORCEMENT IS REQUIRED DUE TO SLOPE OF SITE OR VOLUME OF STORM WATER RUNOFF.

**SUPER SILT FENCE (SSF)**

STANDARD SYMBOL



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

SHEET 8 OF 11

**Illinois Tollway**  
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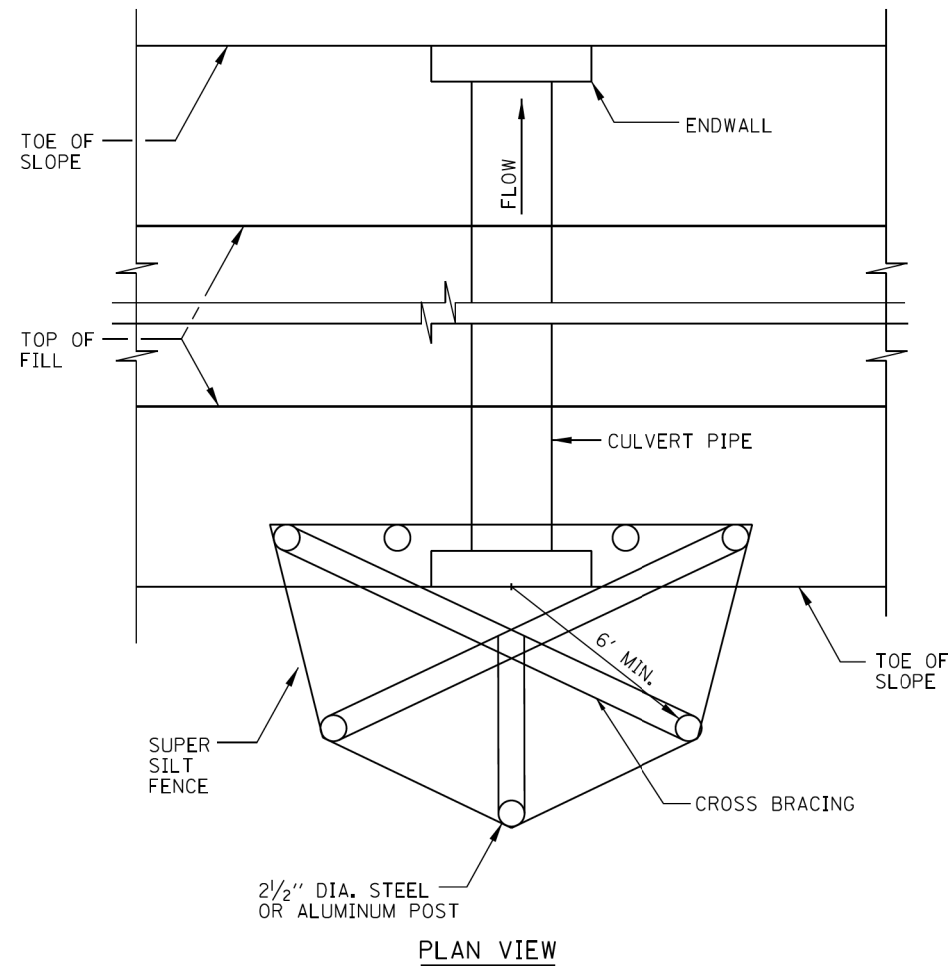
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TOLLWAY STANDARD DRAWING

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	674
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**NOTES:**

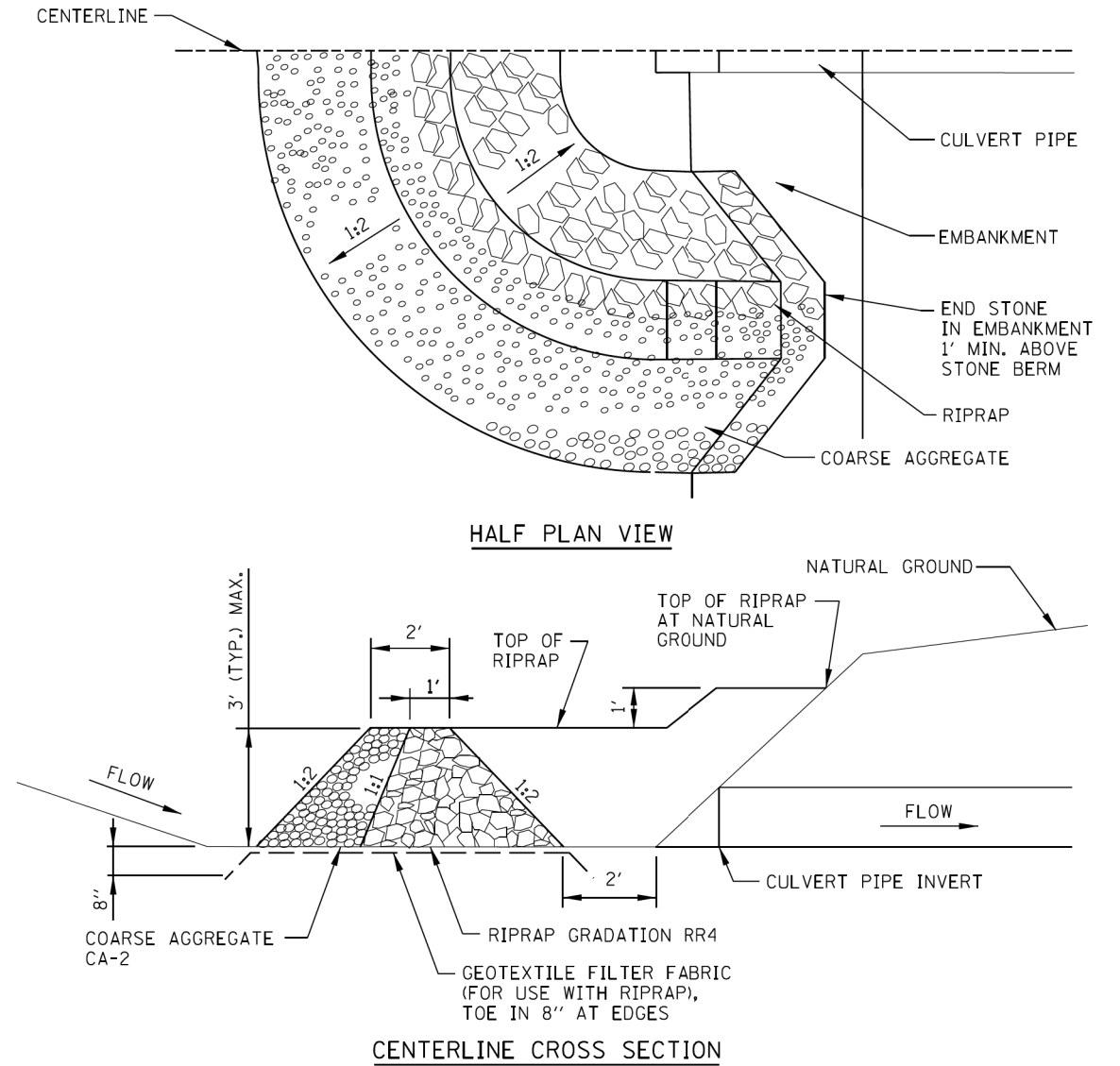
1. CONSTRUCT SUPER SILT FENCE PER SHEET 8 IN THIS SERIES, EXCEPT THE MAXIMUM POST SPACING SHALL BE 6 FEET.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 50% OF THE FENCE HEIGHT.
3. THE CULVERT INLET PROTECTION AND SEDIMENT SHALL BE REMOVED WHEN CONSTRUCTION IS COMPLETE.
4. THE CULVERT INLET PROTECTION - FENCE TO BE MEASURED AND PAID FOR AS SUPER SILT FENCE.

**CULVERT INLET PROTECTION - FENCE**

STANDARD SYMBOL



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



**NOTES:**

1. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 50% OF THE STONE HEIGHT.
2. THE CULVERT INLET PROTECTION AND SEDIMENT SHALL BE REMOVED WHEN CONSTRUCTION IS COMPLETE.
3. THE CULVERT INLET PROTECTION - STONE TO BE MEASURED AND PAID FOR AS TEMPORARY RIPRAP.

**CULVERT INLET PROTECTION - STONE**

STANDARD SYMBOL



SHEET 9 OF 11

**Illinois Tollway**  
*Open Roads for a Faster Future*

TEMPORARY EROSION  
 AND SEDIMENT CONTROLS

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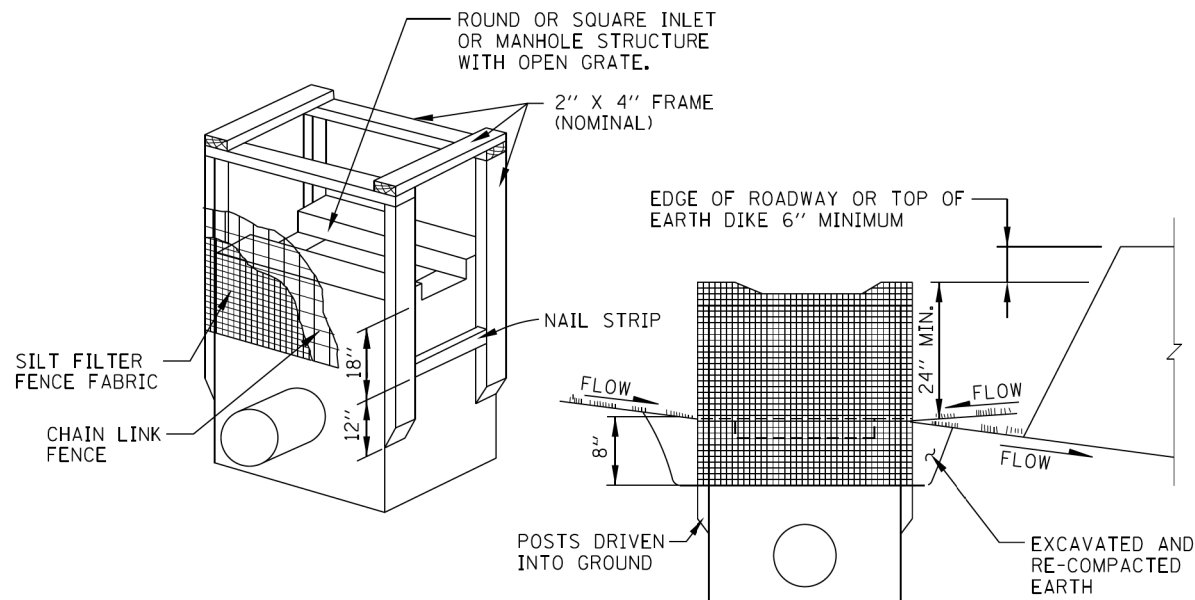
STATE OF ILLINOIS  
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TOLLWAY STANDARD DRAWING

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	675
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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**NOTES:**

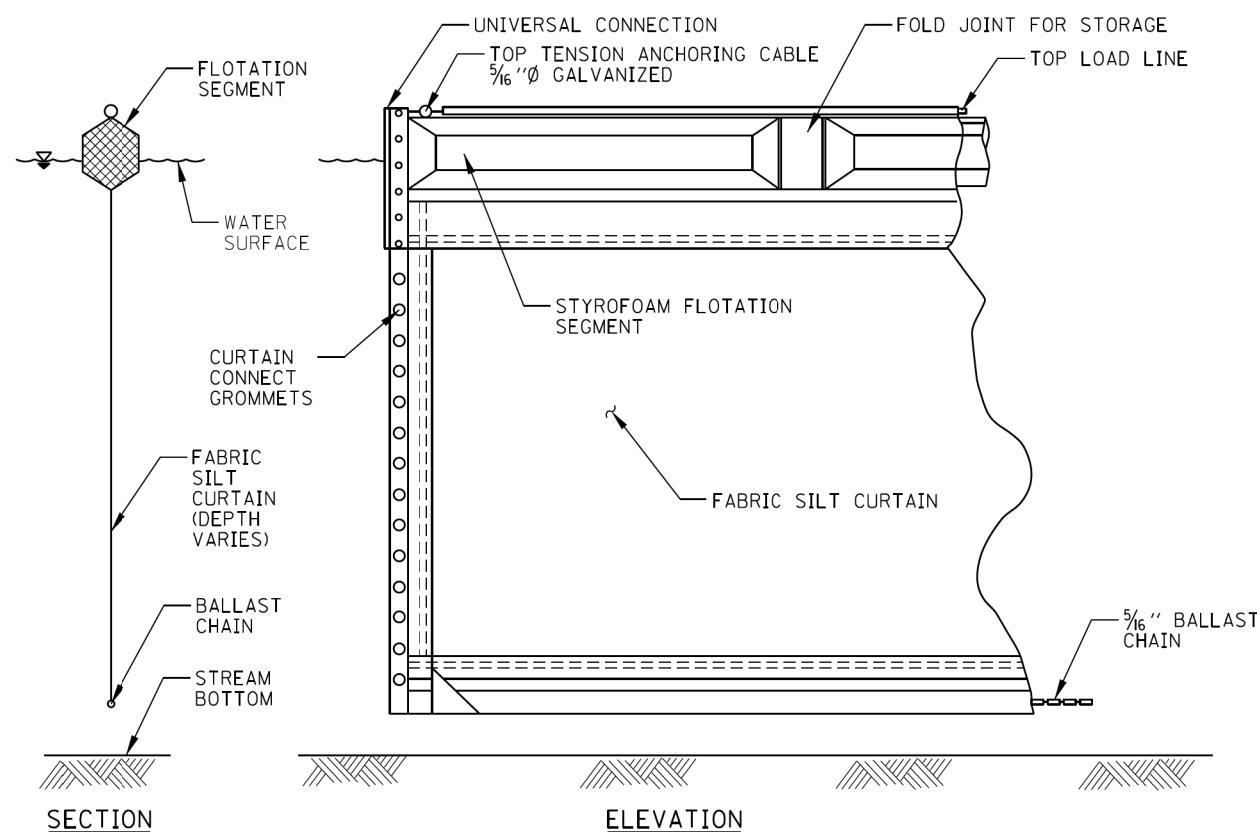
1. WOODEN FRAME IS TO BE CONSTRUCTED OF 2"x4" CONSTRUCTION GRADE LUMBER. IF CONTRACTOR PREFERENCES, SUPER SILT FENCE CAN BE CONSTRUCTED AROUND THE INLET PER SHEET 8 IN THIS SERIES.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT REMOVED WHEN IT REACHES 50% OF FENCE HEIGHT.
3. TO BE USED TO PROTECT EXISTING AND NEW INLETS, CATCH BASINS AND MANHOLES WITH OPEN LIDS IN NON PAVED AREAS.

**RECTANGULAR INLET PROTECTION**

STANDARD SYMBOL



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

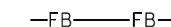


**NOTES:**

1. FLOTATION BOOM FOR USE IN MOVING WATER SHALL BE ANCHORED TO PREVENT DRIFT SHOREWARD OR DOWNSTREAM. ANCHORAGES SHALL BE INSTALLED ON BOTH SHORE AND STREAM SIDE. BOOMS ARE NOT TO BE INSTALLED ACROSS FLOWING BODY OF WATER.
2. SHORE ANCHORS SHALL CONSIST OF A POST WITH DEADMAN OR APPROVED EQUAL. STREAM ANCHORS SHALL BE OF SUFFICIENT SIZE TO STABILIZE THE BARRIER WITH NUMBER AND SPACING DEPENDENT ON WATERWAY VELOCITIES.
3. FABRIC SECTIONS SHALL BE CONNECTED END TO END WITH MINIMUM 5/8" DIAMETER POLYPROPYLENE ROPE.
4. DESIGN OF BOOM AND ANCHORAGE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BOTTOM OF BOOM SHALL REACH BOTTOM OF WATERWAY USING ONE VERTICAL SECTION AS REQUIRED.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED. CONTRACTOR SHALL REMOVE THE BOOM AT COMPLETION OF WORK IN A MANNER THAT WILL PREVENT SILTATION OF THE WATERWAY.
6. CONSTRUCTION DEBRIS/MATERIALS SHALL BE REMOVED IMMEDIATELY TO PREVENT DAMAGE TO THE CURTAIN AND ENTRY INTO THE WATERWAY.
7. FLOTATION BOOMS TO BE USED TO CONTROL TURBIDITY AND DEBRIS WHEN WORKING IN WATERWAYS.

**FLOTATION BOOM**

STANDARD SYMBOL



SHEET 10 OF 11

**Illinois Tollway**  
*Open Roads for a Faster Future*

TEMPORARY EROSION  
 AND SEDIMENT CONTROL

STANDARD K1-02

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



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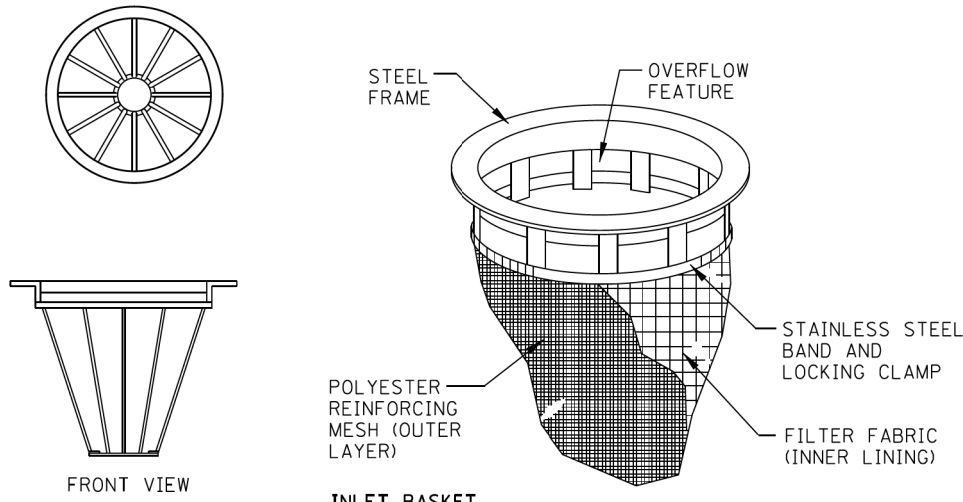
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

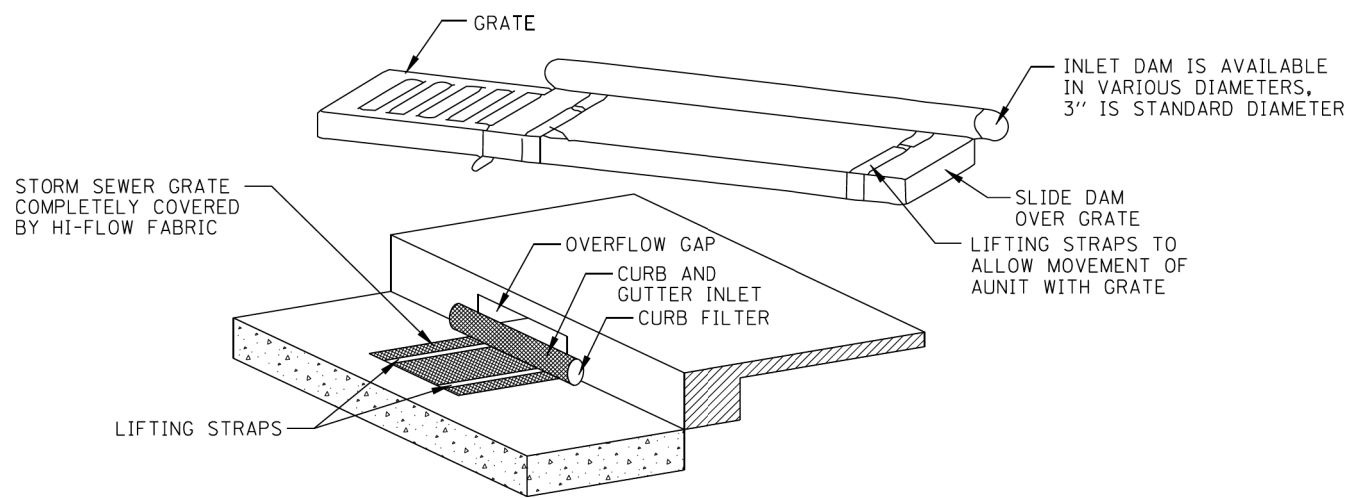
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	676
CONTRACT NO. 60L77				
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**INLET BASKET**  
(SEE NOTE 3 BELOW)



**INLET DAM**

**NOTES:**

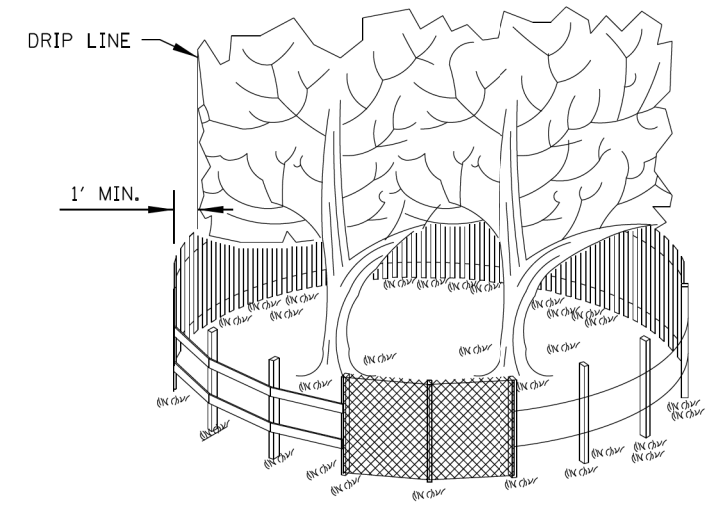
1. FILTER FABRIC INLET PROTECTION SHALL CONSIST OF INLET BASKET AND FABRIC INSERT, FABRIC INSERT, OR INLET DAM PLACED IN FRONT OF CURB INLET.
2. DEVICE SHALL BE EQUIPPED WITH AN OVERFLOW FEATURE SO DRAINAGE TO INLET IS NOT COMPLETELY BLOCKED IF DEVICE IS FULL OF SILT. DESIGNER SHALL VERIFY THAT OVERFLOW FEATURE HAS CAPACITY TO HANDLE RUNOFF REACHING STRUCTURES WITHIN SAGS. IF OVERFLOW FEATURE DOES NOT HAVE THE CAPACITY, DESIGNERS SHALL PROVIDE ALTERNATE TYPE OF CONTROL DEVICE TO INSURE AREA SURROUNDING THE STRUCTURE DOES NOT FLOOD.
3. INLET BASKET IS AVAILABLE TO FIT ROUND, RECTANGULAR, BEEHIVE OR CURB INLET CASTINGS.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED. REMOVE SILT FROM FABRIC INSERT WHEN 50% OF CAPACITY IS REACHED. REMOVE SILT FROM INTERIOR AND EXTERIOR OF INLET DAM WHEN 50% OF DAM HEIGHT IS REACHED.
5. TO BE USED TO ONLY WITHIN PAVED AREAS WHEN DISTURBED TURF AREAS DRAIN TO PAVED AREAS. USE IN CONJUNCTION WITH ADDITIONAL UPSTREAM PROTECTIVE MEASURES SUCH AS SILT FENCE. INLET DAM NOT TO BE USED AT PAVEMENT SAGS.

**FILTER FABRIC INLET PROTECTION**

STANDARD SYMBOL



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



**SIDE VIEW**

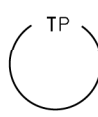
**POST AND FENCE DETAIL**

**NOTES:**

1. THE FENCE SHALL BE LOCATED 1 FOOT MINIMUM OUTSIDE THE DRIP LINE OF THE TREE TO BE SAVED AND IN NO CASE CLOSER THAN 5 FEET TO THE TRUNK OF ANY TREE.
2. CONTRACTOR SHALL USE SILT FENCE, PLASTIC FENCE, OR WOOD LATH SNOW FENCE TO PROTECT THE AREA.
3. TO BE USED TO PROTECT TREES FROM DISTURBANCE AND FROM EQUIPMENT TRAVELING OVER THE ROOT ZONE.

**TREE PROTECTION**

STANDARD SYMBOL



SHEET 11 OF 11

**Illinois Tollway**  
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TOLLWAY STANDARD DRAWING

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CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

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