







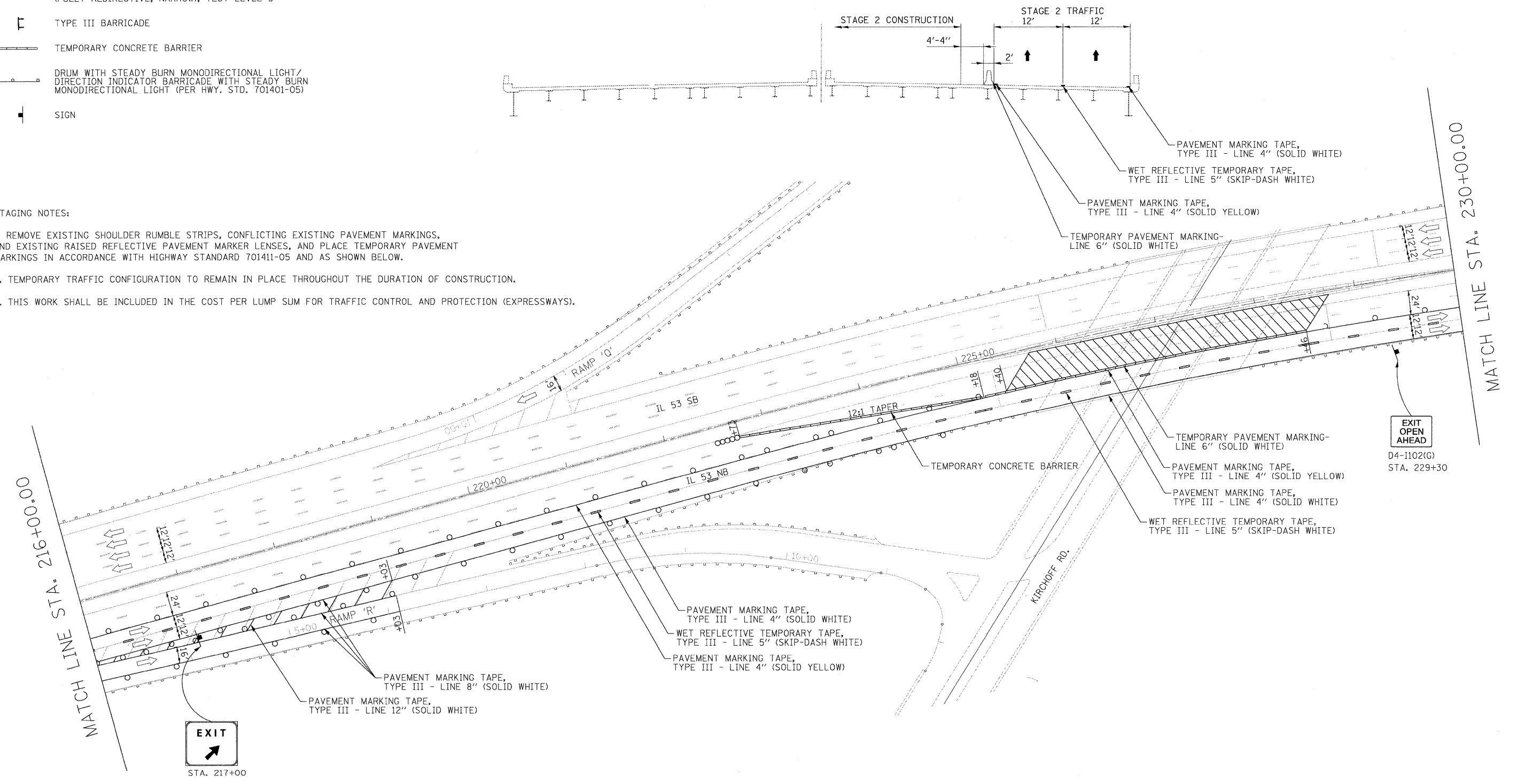
LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

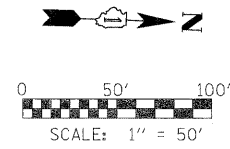
STAGING NOTES:

1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
2. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
3. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).

S.N. 016-1121 **STAGE II REMOVAL & CONSTRUCTION** S.N. 016-0376
(LOOKING NORTH)









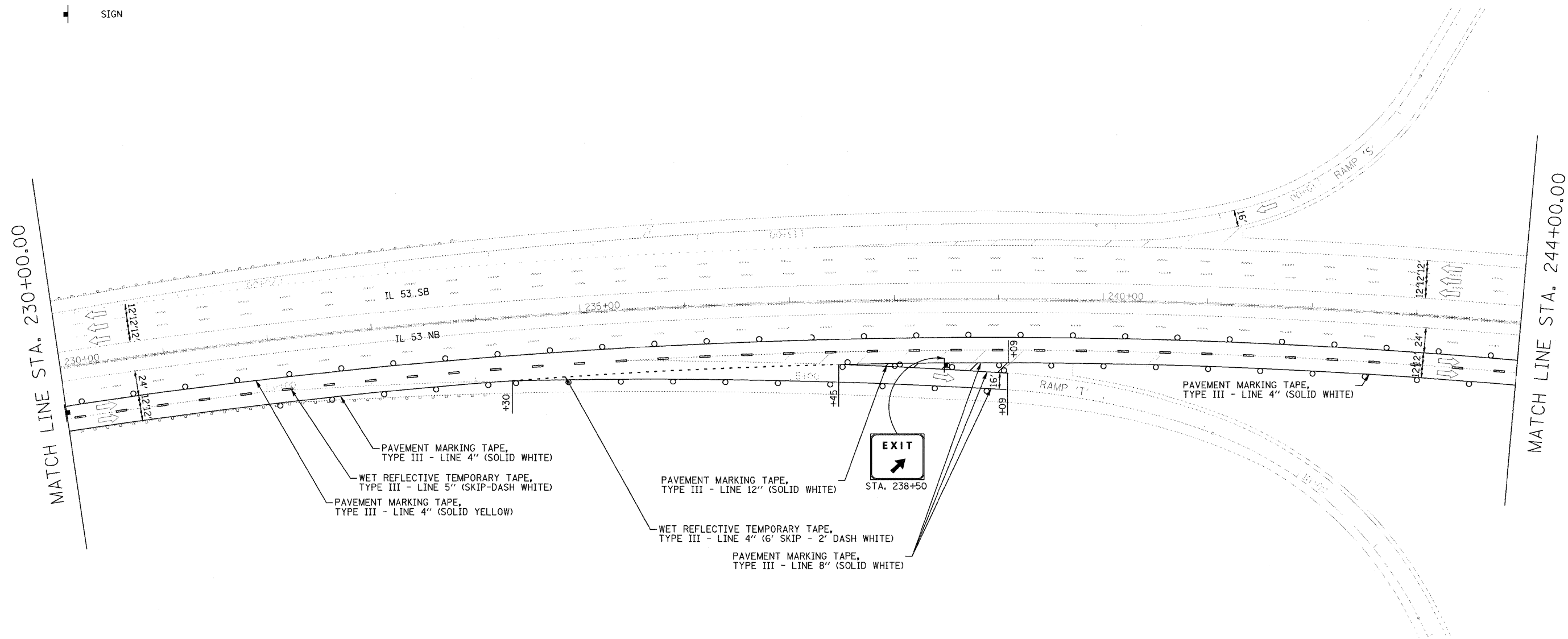
NOTE:
1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



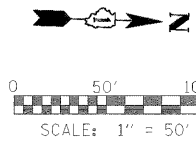
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●FILEL#		DRAWN - CRV	REVISED -			290	(531-3.1, 0305-302 K) RS-5	COOK	314	101	
PLOT SCALE = #SCALE#		CHECKED - FML	REVISED -			CONTRACT NO. 60138					
PLOT DATE = #DATE#		DATE - 12/2009	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









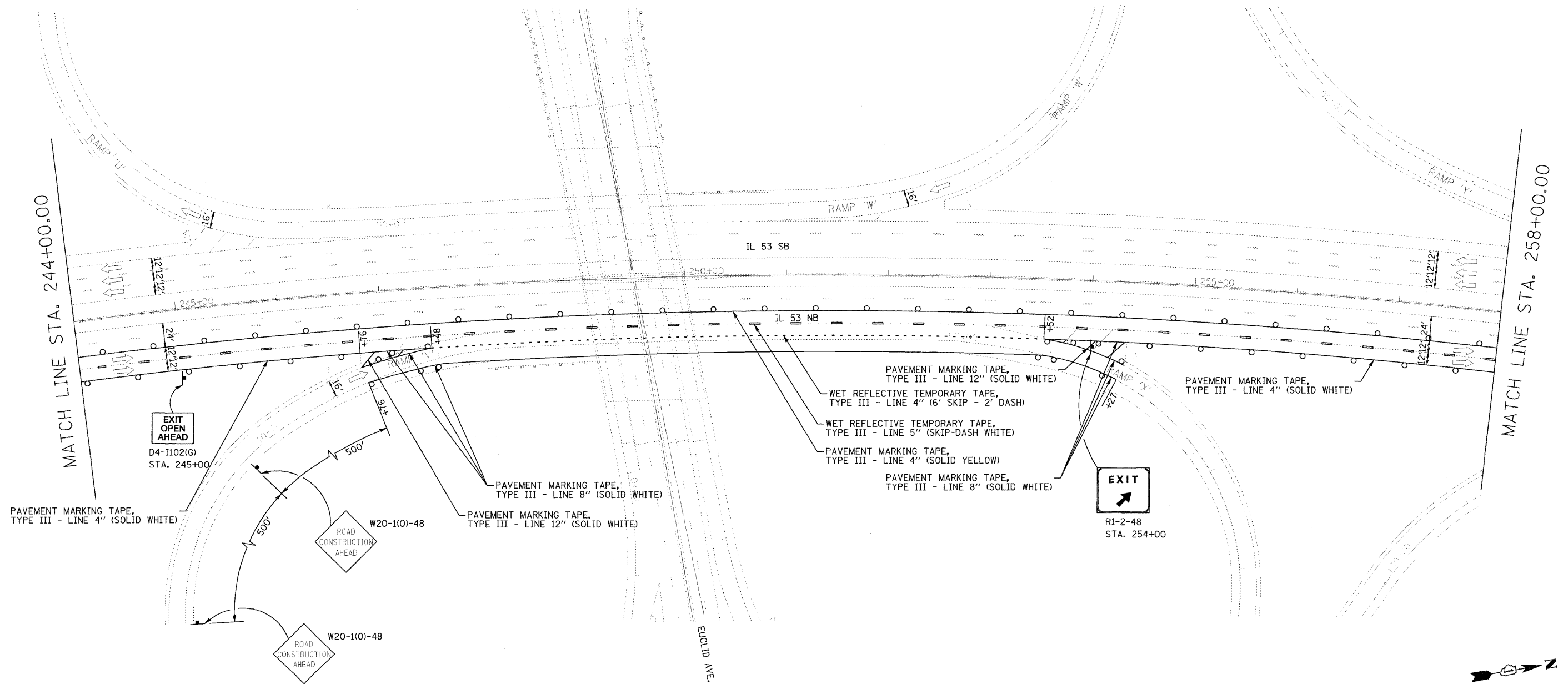
NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - NB			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = #SCALE#	DRAWN - CRV	REVISED -		290 (531-3.1, 0305-302 K) RS-5	COOK	314	102				
	PLOT DATE = #DATE#	CHECKED - FML	REVISED -		SCALE: 1"=50' SHEET NO. 10 OF 24 SHEETS STA. 230+00 TO STA. 244+00			CONTRACT NO. 60138				
	DATE - 12/2009	DATE - 12/2009	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









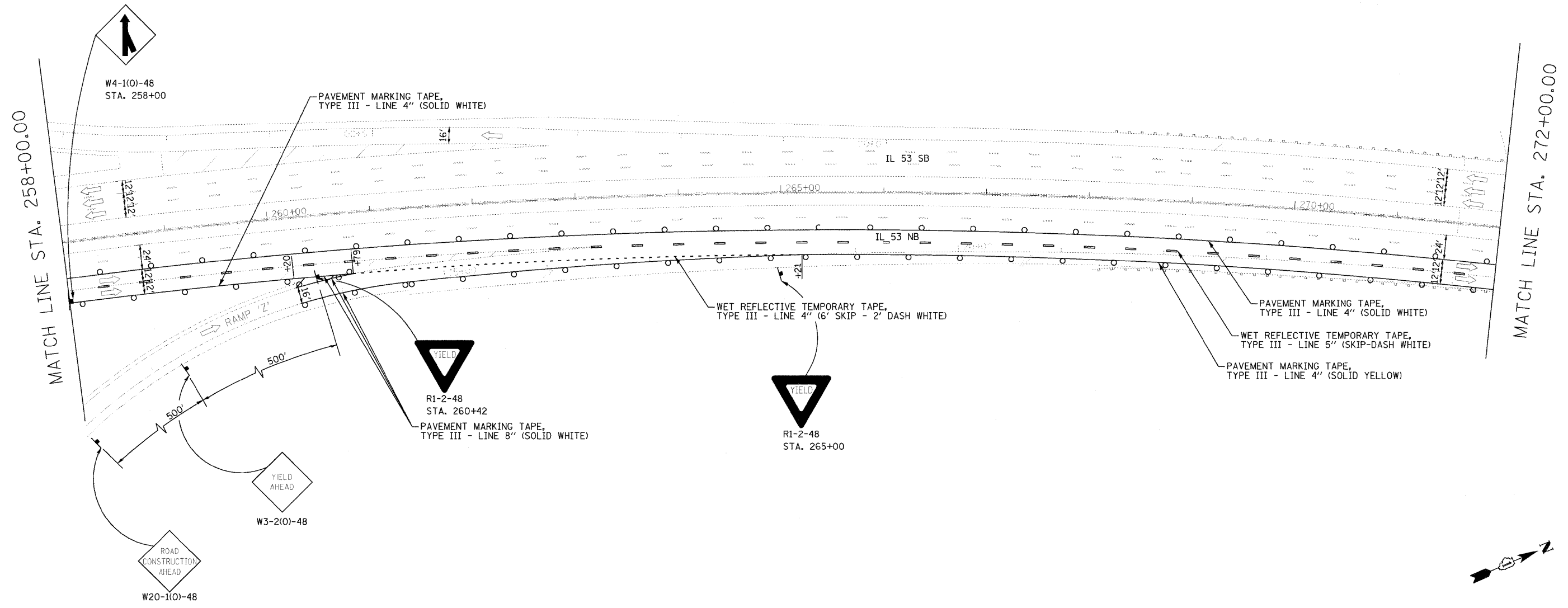
NOTE:

1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.

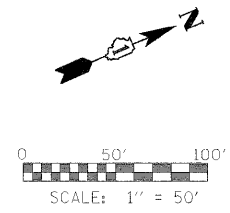
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#FILEL#		DRAWN - CRV	REVISED -		SCALE: 1"=50'	SHEET NO. 11 OF 24 SHEETS	STA. 244+00 TO STA. 258+00	CONTRACT NO. 60138				
		CHECKED - FML	REVISED -		FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT							
		DATE - 12/2009	REVISED -									

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.

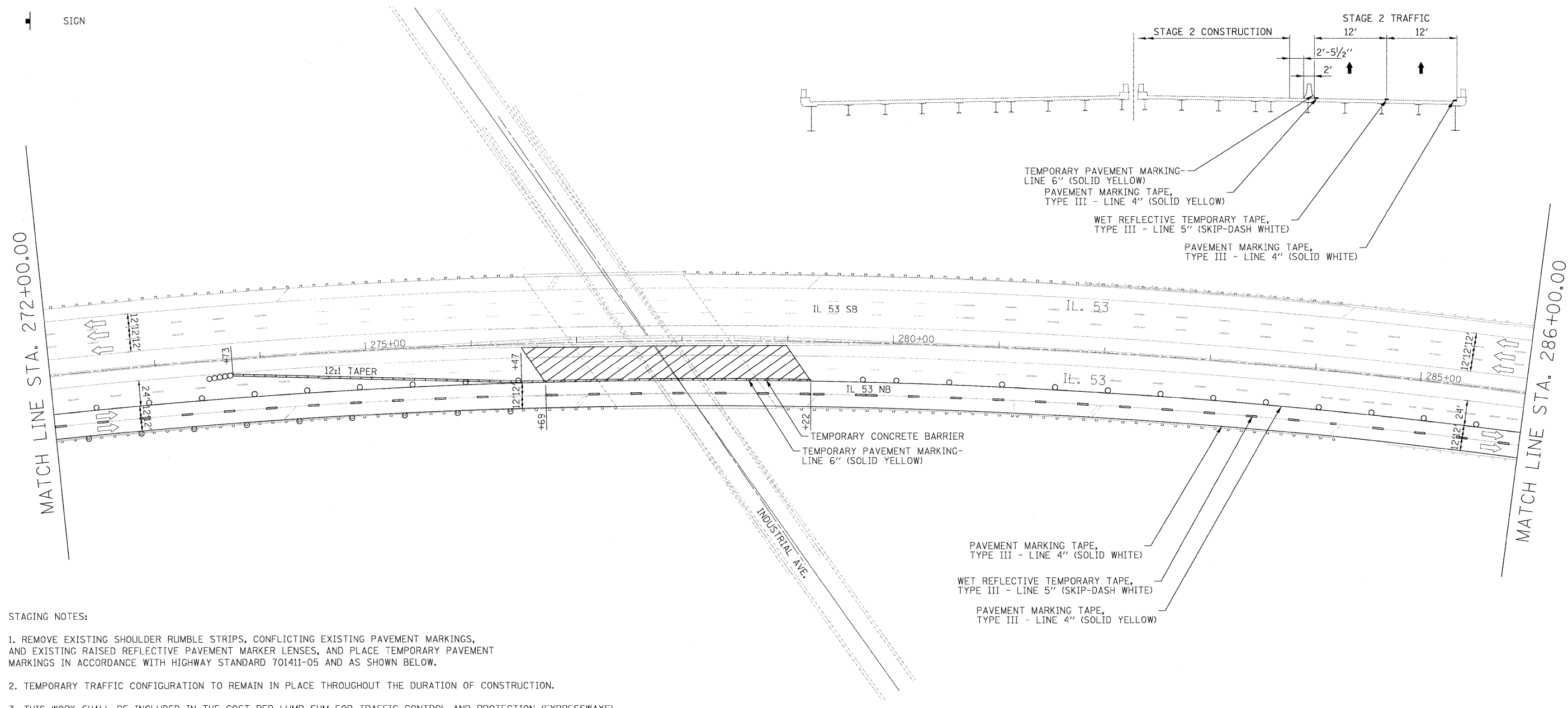


FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - NB	F.A.I. RTE. 290	SECTION (531-3.1, 0305-302 K) RS-5	COUNTY COOK	TOTAL SHEETS 314	SHEET NO. 104	
FILE#		DRAWN - CRV	REVISED -			SCALE: 1"=50'	SHEET NO. 12 OF 24 SHEETS	STA. 258+00 TO STA. 272+00	FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT	CONTRACT NO. 60138
		CHECKED - FML	REVISED -								
		DATE - 12/2009	REVISED -								

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

STAGE II REMOVAL & CONSTRUCTION
(LOOKING NORTH)
S.N. 016-1120 S.N. 016-0375

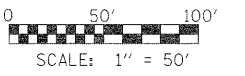
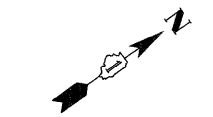


STAGING NOTES:

1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
2. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
3. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).

NOTE:

1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -
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		CHECKED - FML	REVISED -
		DATE - 12/2009	REVISED -







**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC PLAN
STAGE 2 - NB**

SCALE: 1"=50' SHEET NO. 13 OF 24 SHEETS STA. 272+00 TO STA. 286+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1, 0305-302 K) RS-5	COOK	314	105
CONTRACT NO. 60138				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

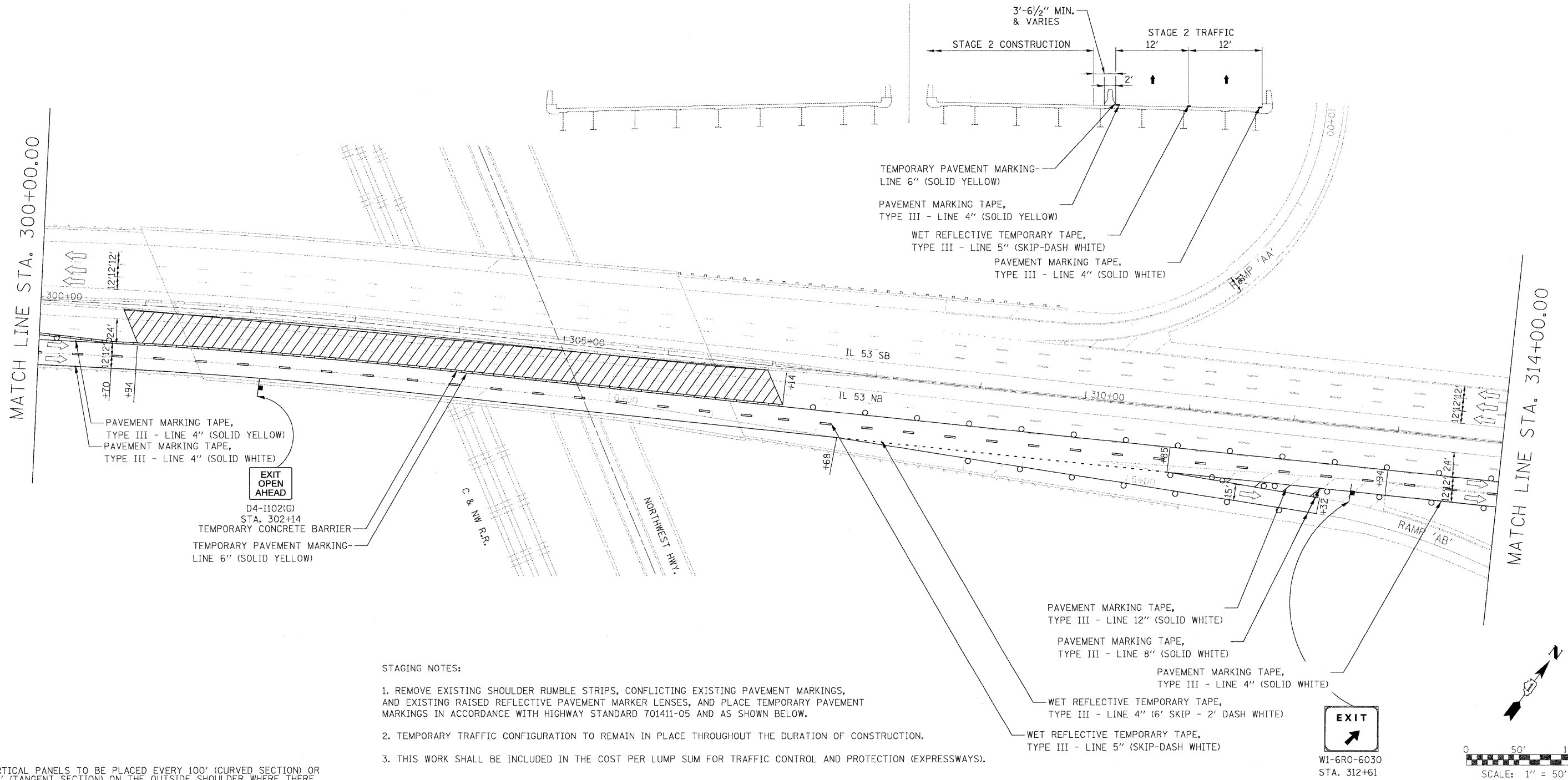
LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

STAGE II REMOVAL & CONSTRUCTION
(LOOKING NORTH)

S.N. 016-1119

S.N. 016-0374



FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -
#FILE#		DRAWN - CRV	REVISED -
		CHECKED - FML	REVISED -
		DATE - 12/2009	REVISED -







STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN
STAGE 2 - NB

SCALE: 1"=50' SHEET NO. 15 OF 24 SHEETS STA. 300+00 TO STA. 314+00

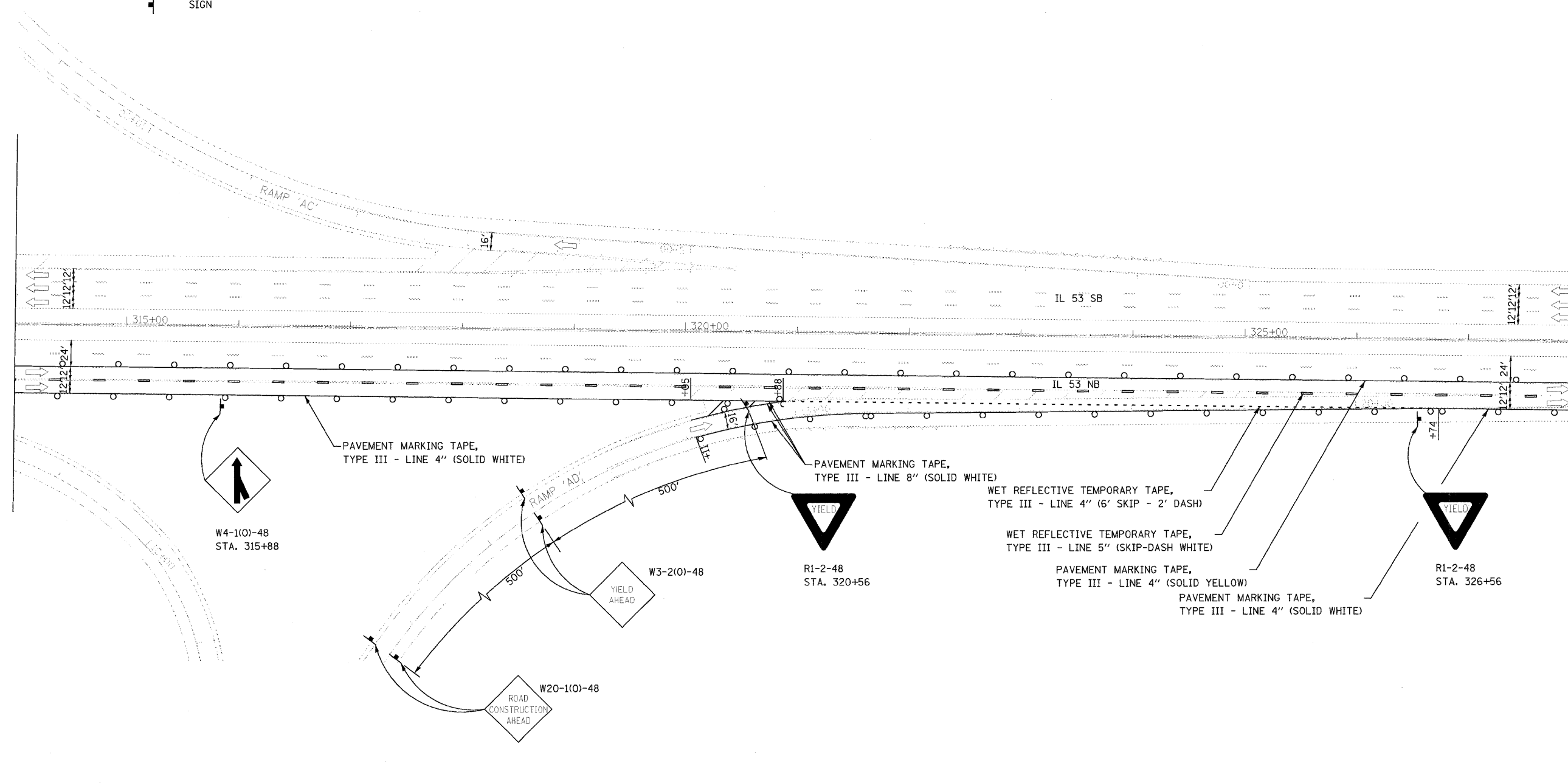
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1, 0305-302 K) RS-5	COOK	314	167
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 6013B	

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

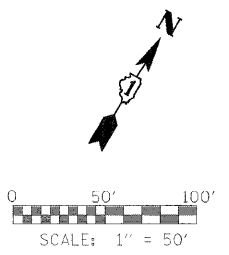
MATCH LINE STA. 314+00.00

MATCH LINE STA. 328+00.00







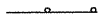

NOTE:

1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



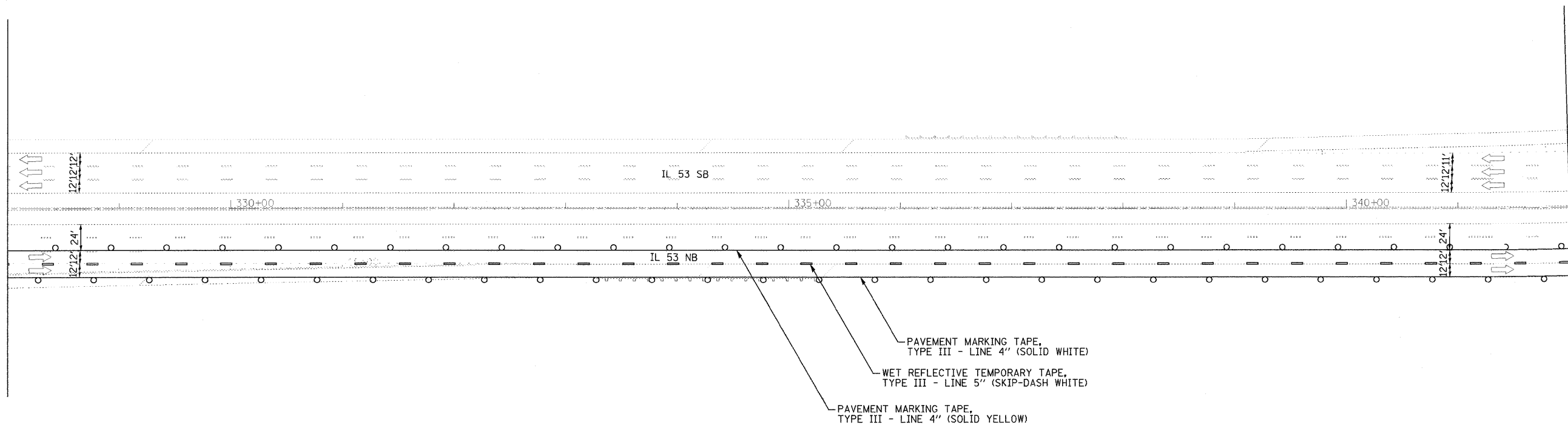
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#FILE#		DRAWN - CRV	REVISED -		SCALE: 1"=50'	SHEET NO. 16 OF 24 SHEETS	STA. 314+00 TO STA. 328+00	290	(531-3.1, 0305-302 K) RS-5	COOK	314	108
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -					CONTRACT NO. 60138				
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -					FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

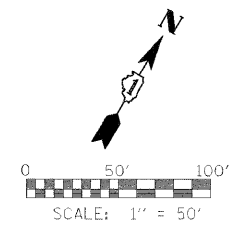
MATCH LINE STA. 328+00.00

MATCH LINE STA. 342+00.00









PAVEMENT MARKING TAPE, TYPE III - LINE 4" (SOLID WHITE)
 WET REFLECTIVE TEMPORARY TAPE, TYPE III - LINE 5" (SKIP-DASH WHITE)
 PAVEMENT MARKING TAPE, TYPE III - LINE 4" (SOLID YELLOW)

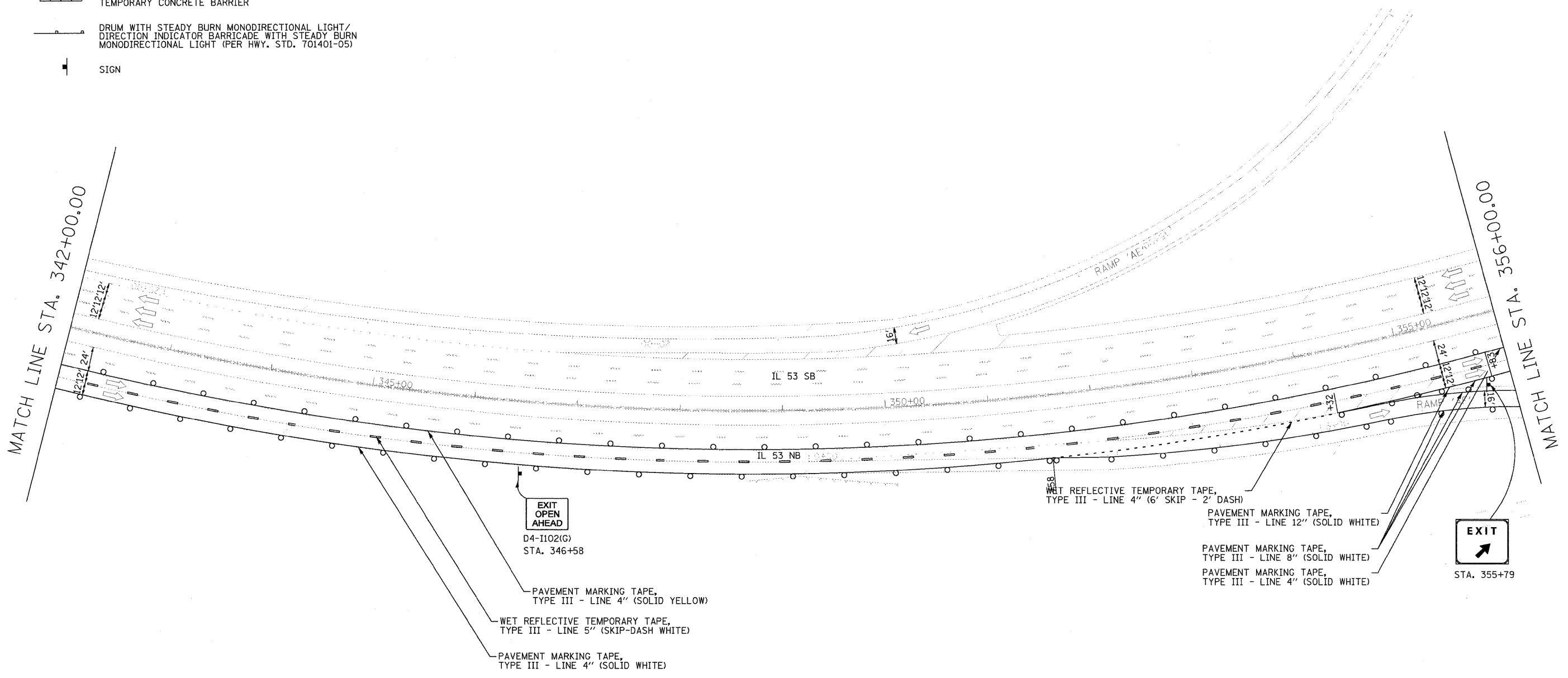
NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



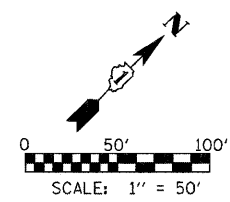
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#FILE#		DRAWN - CRV	REVISED -		SCALE: 1"=50'	SHEET NO. 17 OF 24 SHEETS	STA. 328+00 TO STA. 342+00	290	(531-3.1, 0305-302 KJ RS-5	COOK	314	109
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -					CONTRACT NO. 60138				
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT/DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









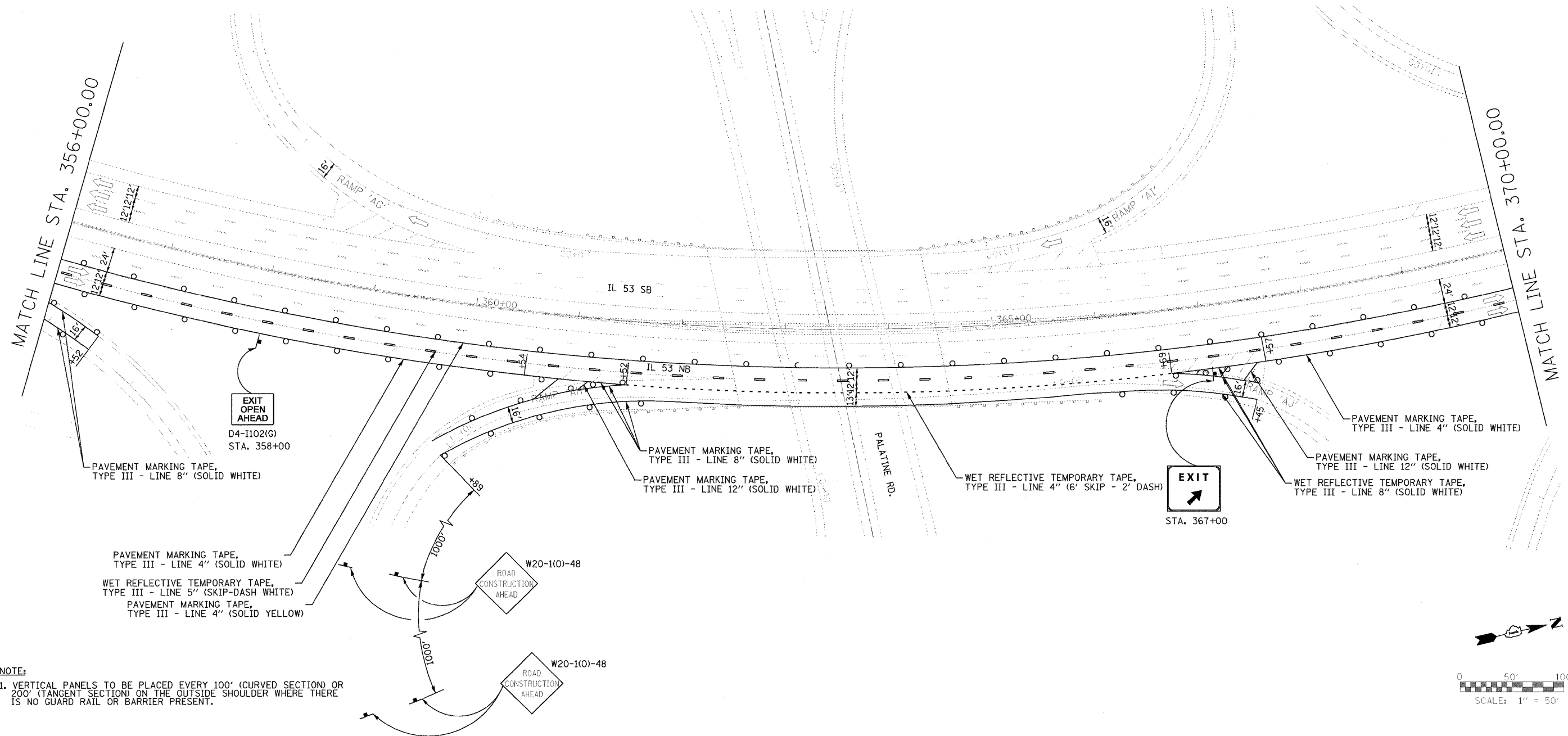
NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - NB	F.A.I. RTE. 290	SECTION (531-3.1, 0305-302 K) RS-5	COUNTY COOK	TOTAL SHEETS 314	SHEET NO. 110	
#FILE#		DRAWN - CRV	REVISED -			SCALE: 1"=50'	SHEET NO. 18 OF 24 SHEETS	CONTRACT NO. 60138			
		CHECKED - FML	REVISED -			STA. 342+00 TO STA. 356+00	FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT			
		DATE - 12/2009	REVISED -								

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT/DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN



NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.







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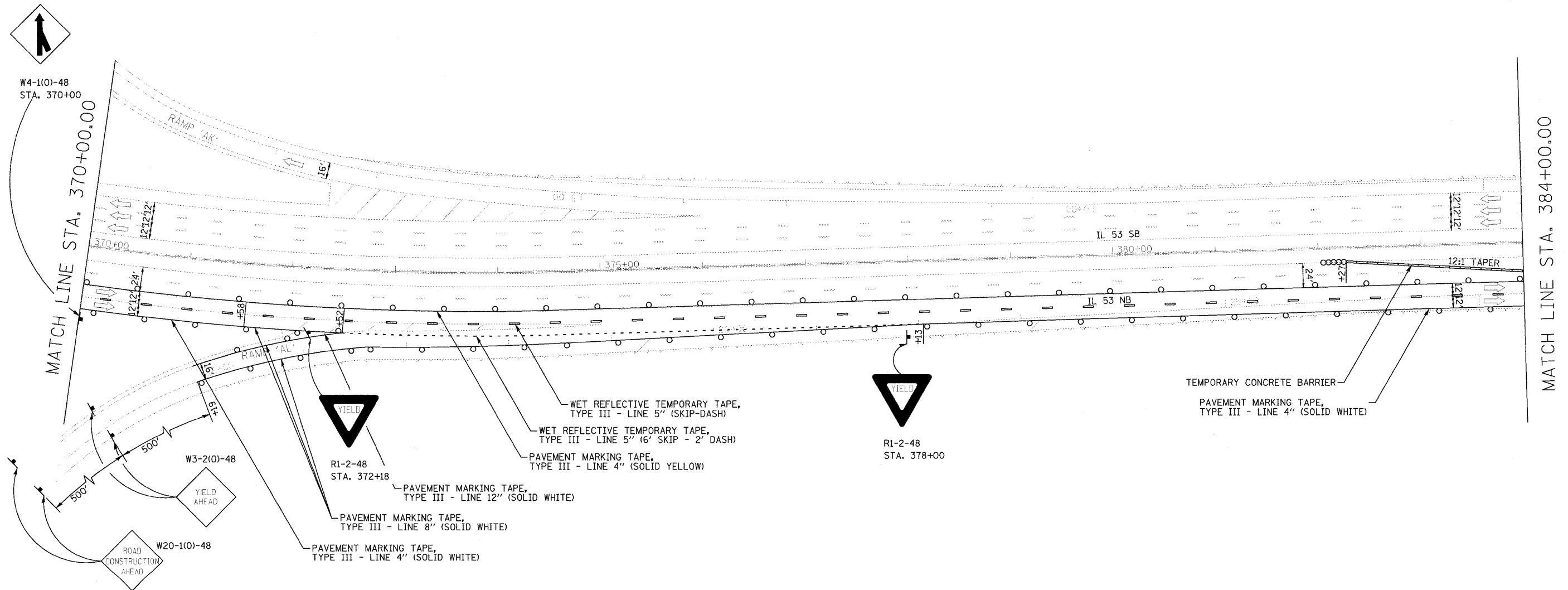
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

MAINTENANCE OF TRAFFIC PLAN STAGE 2 - NB		
SCALE: 1"=50'	SHEET NO. 19 OF 24 SHEETS	STA. 356+00 TO STA. 370+00

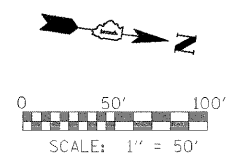
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1, 0305-302 K) RS-5	DUPAGE	314	///
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60138				

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



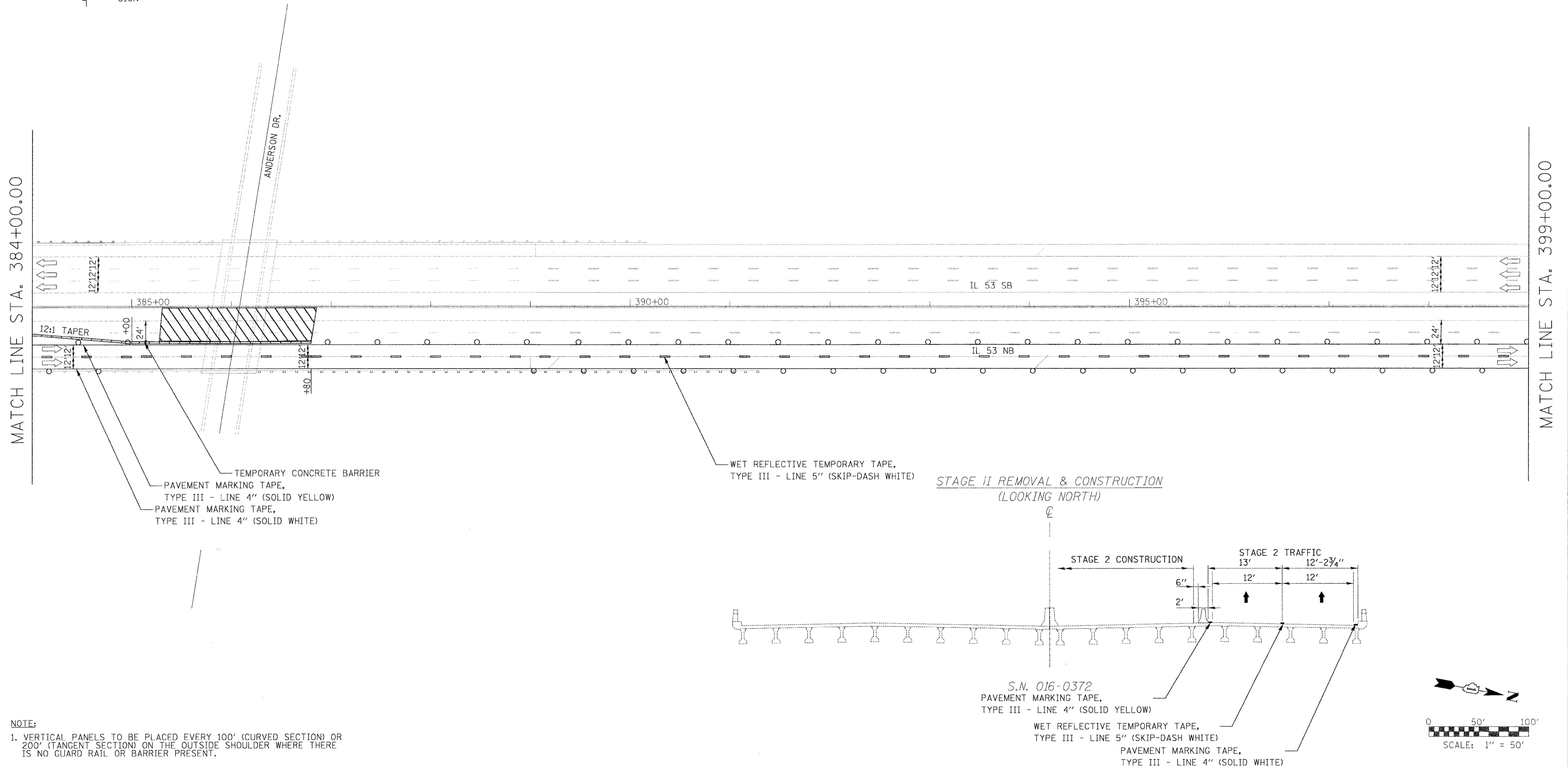
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	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -			SCALE: 1"=50'		SHEET NO. 20 OF 24 SHEETS		STA. 370+00 TO STA. 384+00		
						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT						

LEGEND

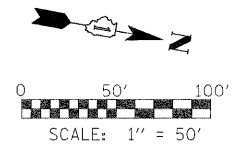
-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

STAGING NOTES:

1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
2. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
3. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).



NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -
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	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -







**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

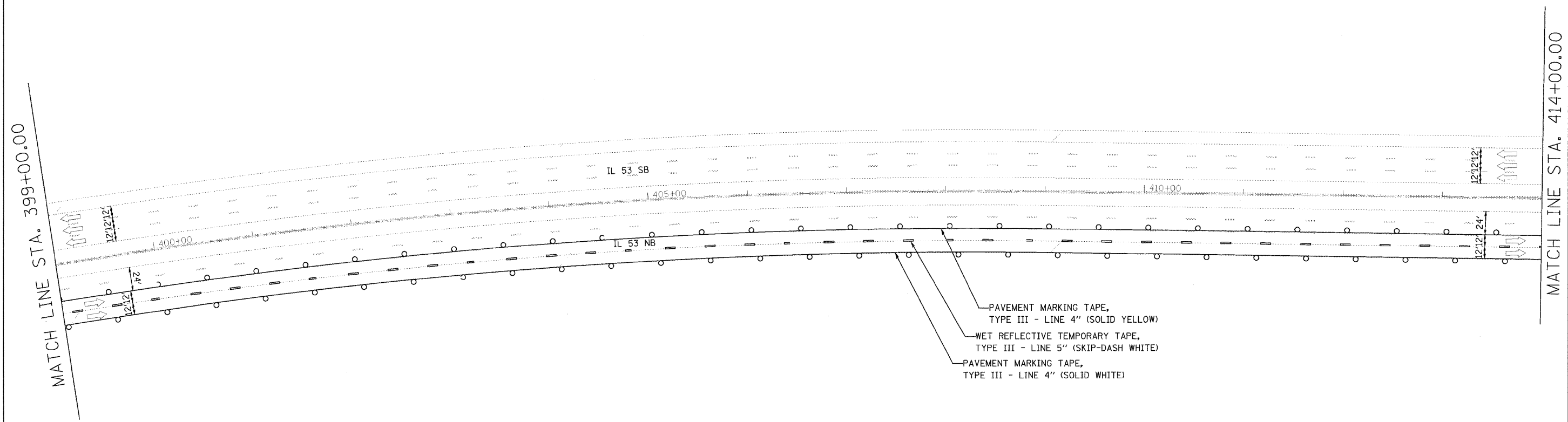
**MAINTENANCE OF TRAFFIC PLAN
 STAGE 2 - NB**

SCALE: 1"=50' SHEET NO. 21 OF 24 SHEETS STA. 384+00 TO STA. 399+00

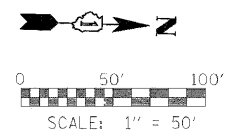
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1, 0305-302 K) RS-5	COOK	314	113
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60138	

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



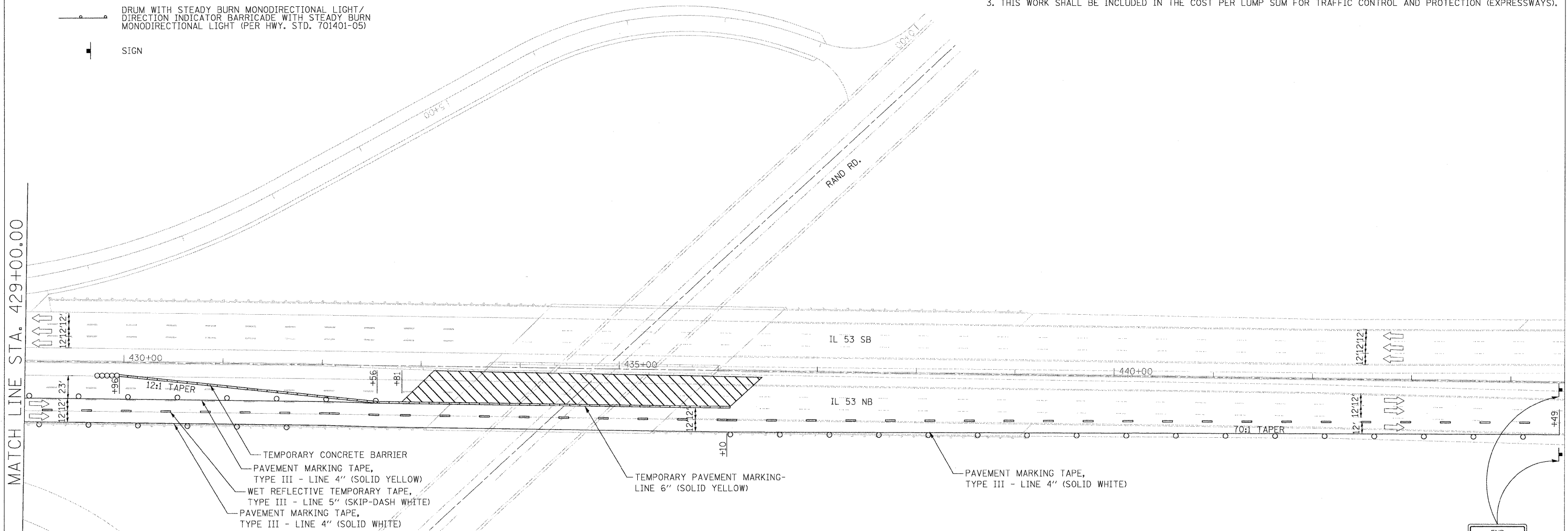
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#FILE#		DRAWN - CRV	REVISED -		SCALE: 1"=50'	SHEET NO. 22 OF 24 SHEETS	STA. 399+00 TO STA. 414+00	290	(531-3.1, 0305-302 K) RS-5	COOK	314	119
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	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

STAGING NOTES:

1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
2. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
3. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).

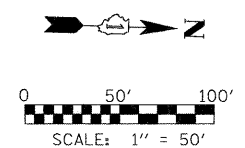
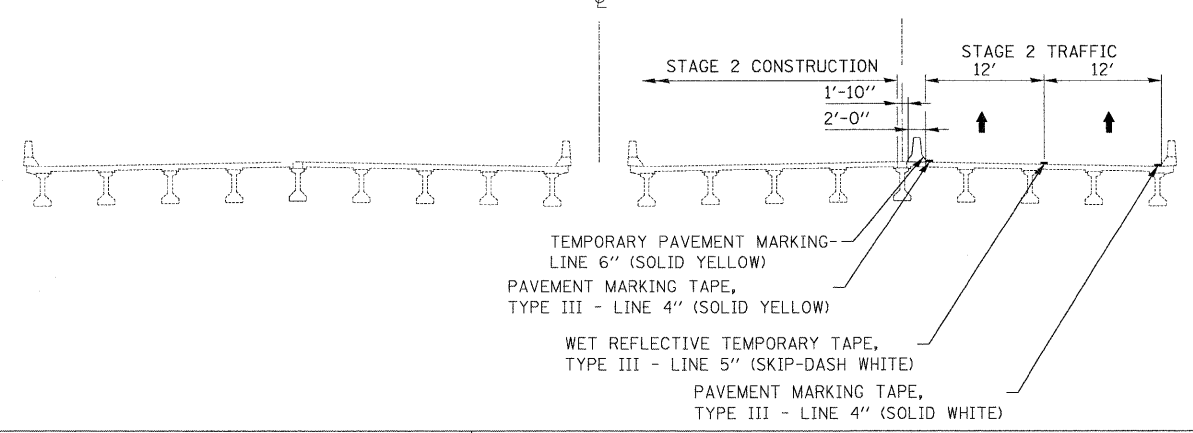


MATCH LINE STA. 429+00.00

END
WORK ZONE
SPEED LIMIT

G20-1103(0)-3660
STA. 444+49

STAGE II REMOVAL & CONSTRUCTION
(LOOKING NORTH)
S.N. 016-0371 S.N. 016-0973









NOTE:
1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.

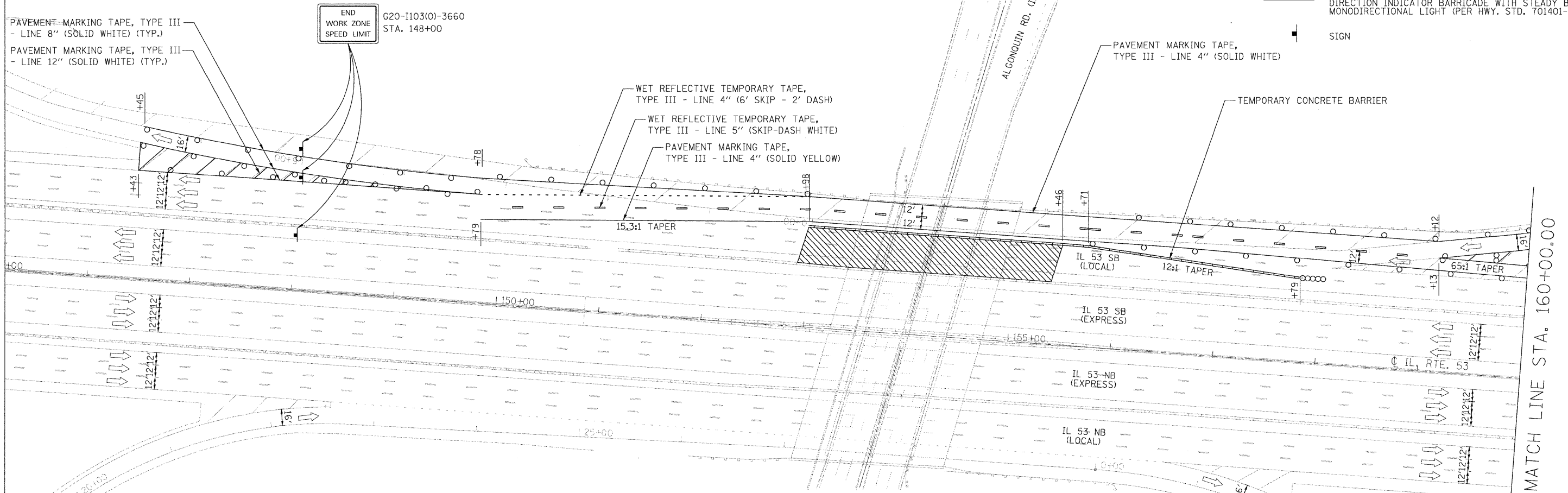
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#FILE#		DRAWN - CRV	REVISED -			290	(531-3.1, 0305-302 K) RS-5	COOK	34	116	
		CHECKED - FML	REVISED -			CONTRACT NO. 60138					
		DATE - 12/2009	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
					SCALE: 1"=50'	SHEET NO. 24 OF 24 SHEETS		STA. 429+00 TO STA. 444+49			

STAGING NOTES:

1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
2. PROVIDE LANE WEAVE IN ACCORDANCE WITH DISTRICT I STANDARD TC-09 AND AS SHOWN BELOW.
3. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
4. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN



END WORK ZONE SPEED LIMIT
G20-I103(0)-3660
STA. 148+00

PAVEMENT MARKING TAPE, TYPE III - LINE 8" (SOLID WHITE) (TYP.)
PAVEMENT MARKING TAPE, TYPE III - LINE 12" (SOLID WHITE) (TYP.)

WET REFLECTIVE TEMPORARY TAPE, TYPE III - LINE 4" (6' SKIP - 2' DASH)
WET REFLECTIVE TEMPORARY TAPE, TYPE III - LINE 5" (SKIP-DASH WHITE)
PAVEMENT MARKING TAPE, TYPE III - LINE 4" (SOLID YELLOW)

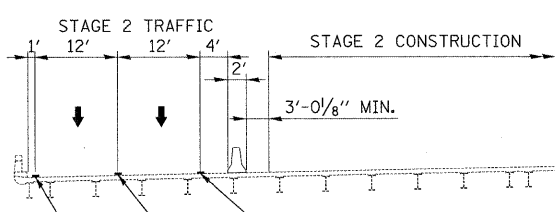
PAVEMENT MARKING TAPE, TYPE III - LINE 4" (SOLID WHITE)

TEMPORARY CONCRETE BARRIER

S.N. 016-2133

STAGE II REMOVAL & CONSTRUCTION (LOOKING NORTH)

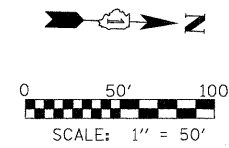
S.N. 016-0378



PAVEMENT MARKING TAPE, TYPE III - LINE 4" (SOLID YELLOW)
WET REFLECTIVE TEMPORARY TAPE, TYPE III - LINE 5" (SKIP-DASH WHITE)
PAVEMENT MARKING TAPE, TYPE III - LINE 4" (SOLID WHITE)

NOTE:

1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.









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		CHECKED - FML	REVISED -
		DATE - 12/2009	REVISED -

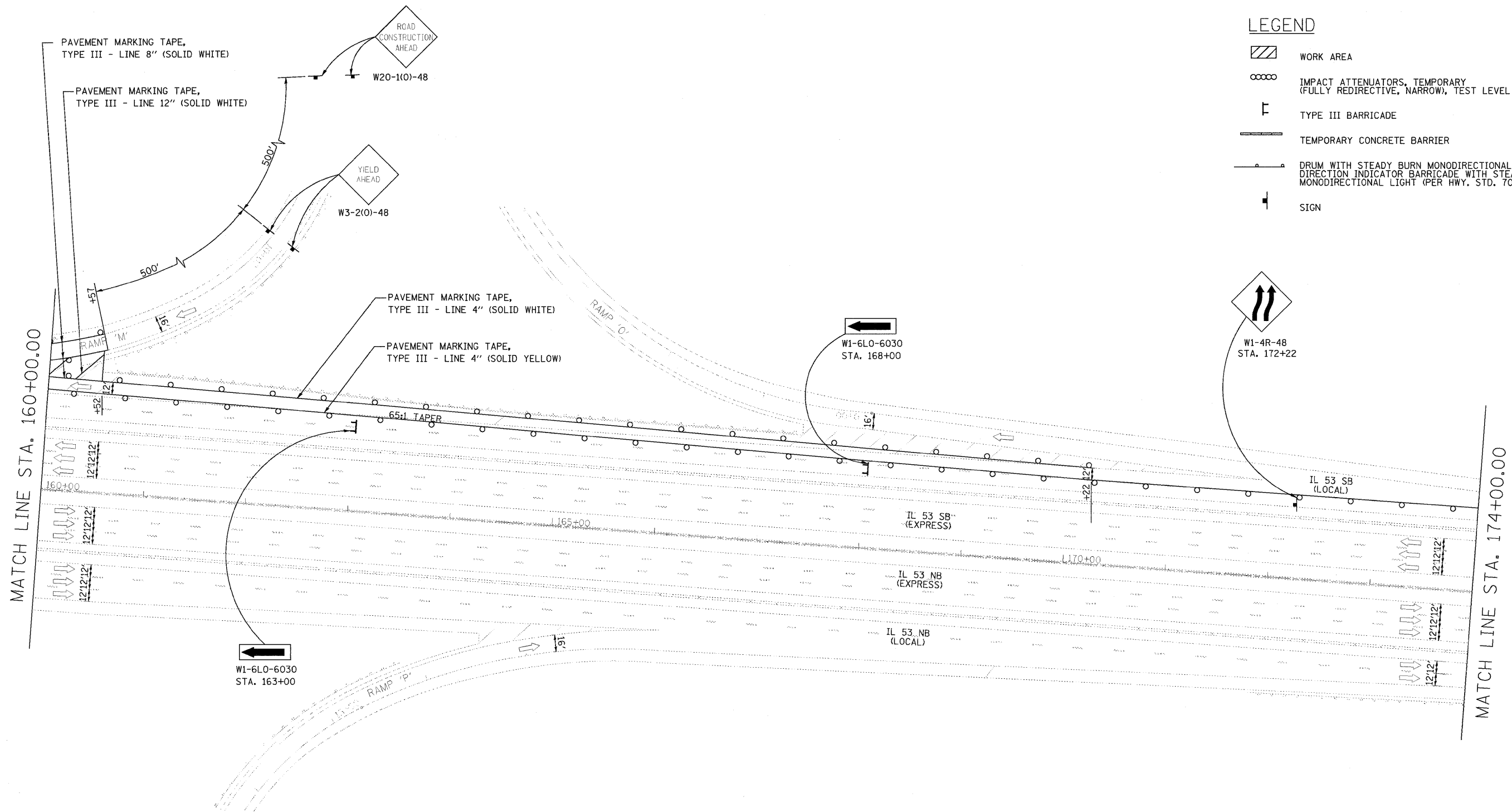
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB		
SCALE: 1"=50'	SHEET NO. 1 OF 21 SHEETS	STA. 146+00 TO STA. 160+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1, 0305-302 K) RS-5	COOK	314	117
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60138	

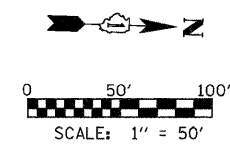
LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT/ DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









NOTE:

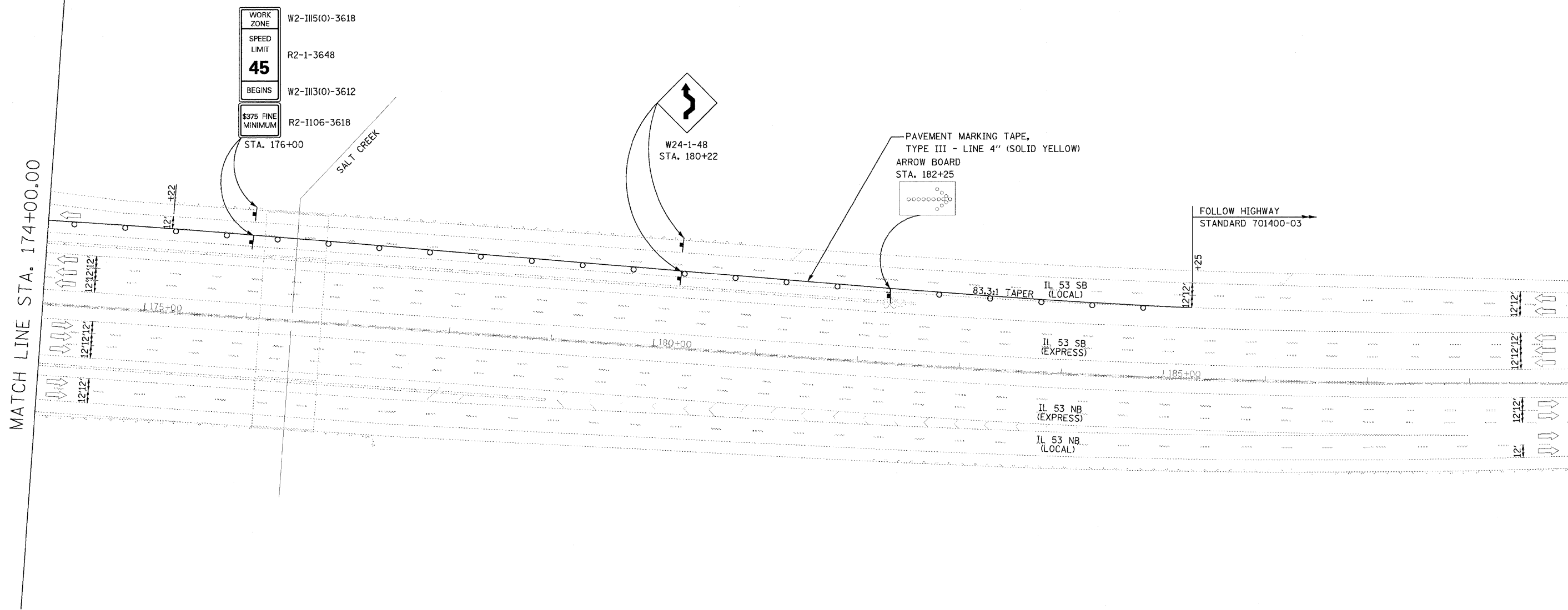
1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



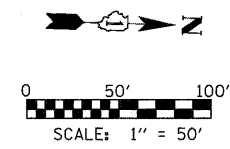
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	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB			F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - CRV	REVISED -		290	(531-3.1, 0305-302 K) RS-5	COOK	314	119			
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -		SCALE: 1"=50' SHEET NO. 3 OF 21 SHEETS STA. 174+00 TO STA. 189+00			CONTRACT NO. 60138				
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

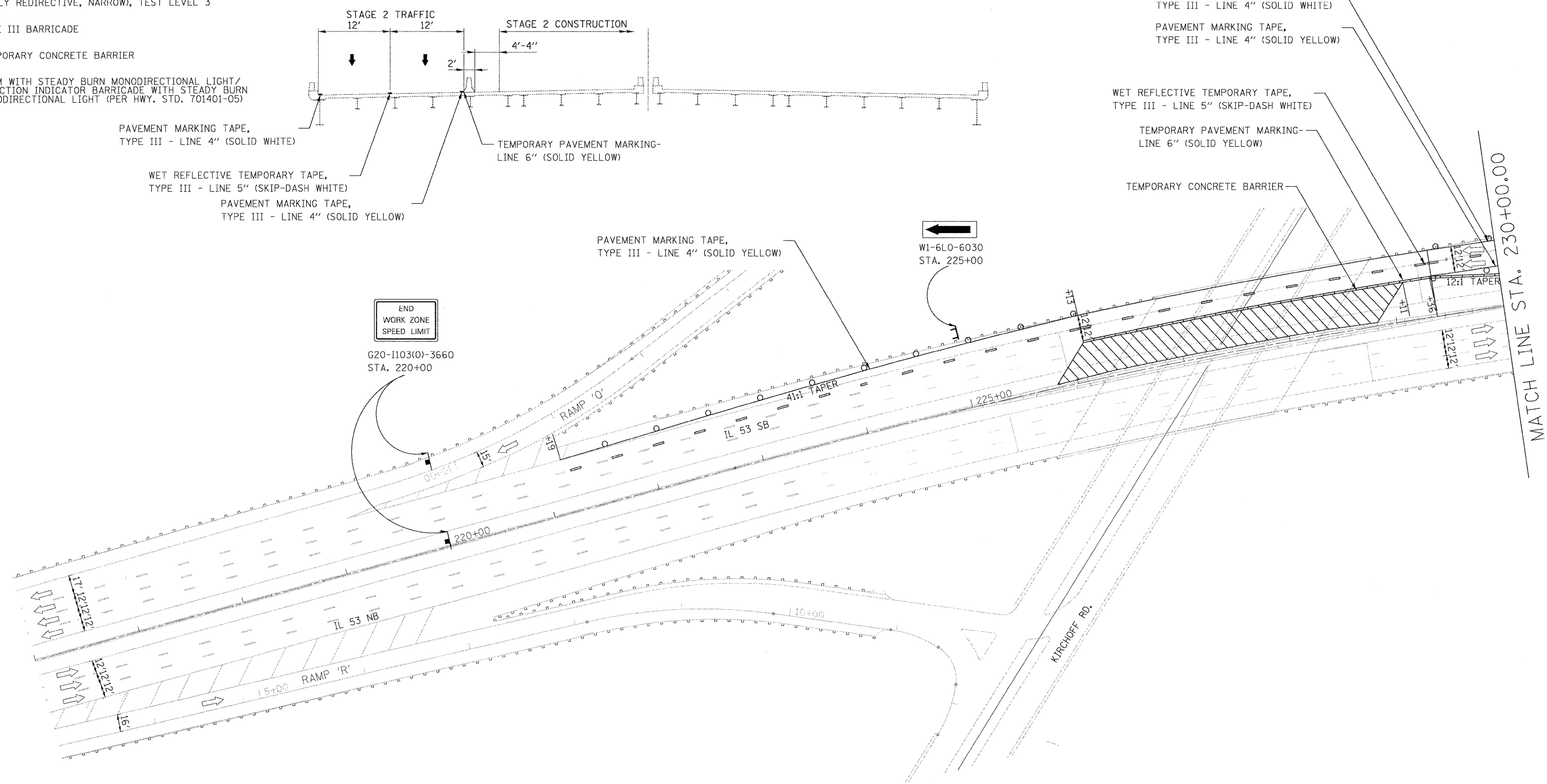
LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT/DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

**STAGE II REMOVAL & CONSTRUCTION
(LOOKING NORTH)**

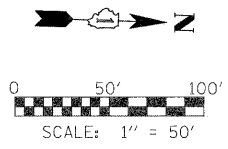
S.N. 016-1121

S.N. 016-0376









NOTE:
1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.

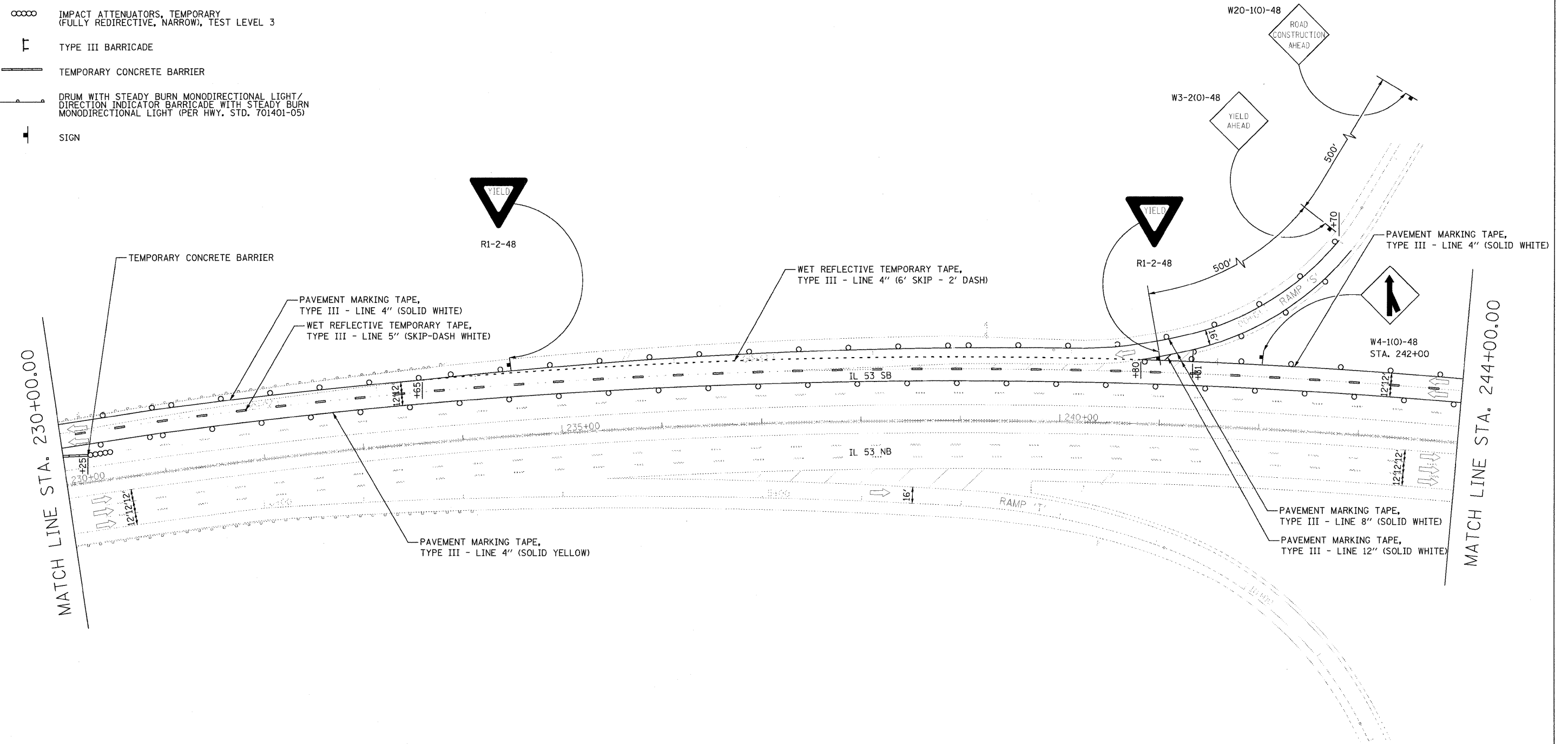
- STAGING NOTES:**
1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
 2. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
 3. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).



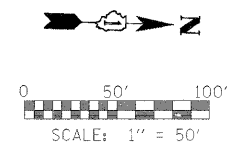
FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB			F.A.I. RTE. 290	SECTION (531-3.1, 0305-302 K) RS-5	COUNTY COOK	TOTAL SHEETS 314	SHEET NO. 120
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -		SCALE: 1"=50'	SHEET NO. 4 OF 21 SHEETS	STA. 216+00 TO STA. 230+00	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 60138	
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -									

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









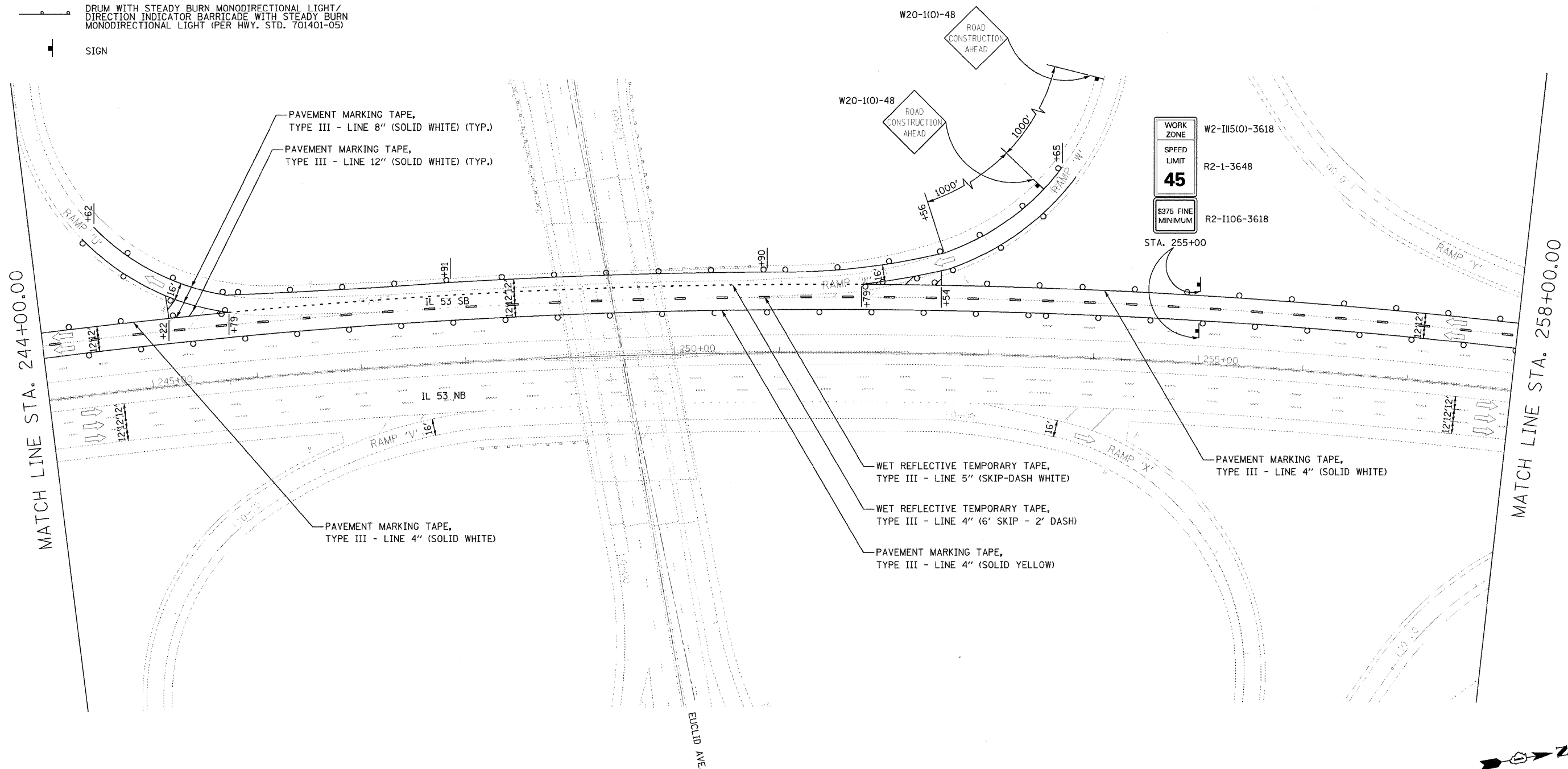
NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



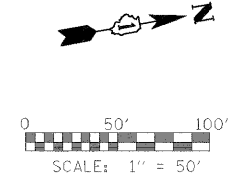
FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB			F.A.I. RTE. 290	SECTION (531-3.1, 0305-302 K) RS-5	COUNTY COOK	TOTAL SHEETS 314	SHEET NO. 121
#FILE#		DRAWN - CRV	REVISED -		SCALE: 1"=50'	SHEET NO. 5 OF 21 SHEETS	STA. 230+00 TO STA. 244+00	CONTRACT NO. 60138				
		CHECKED - FML	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							
		DATE - 12/2009	REVISED -									

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









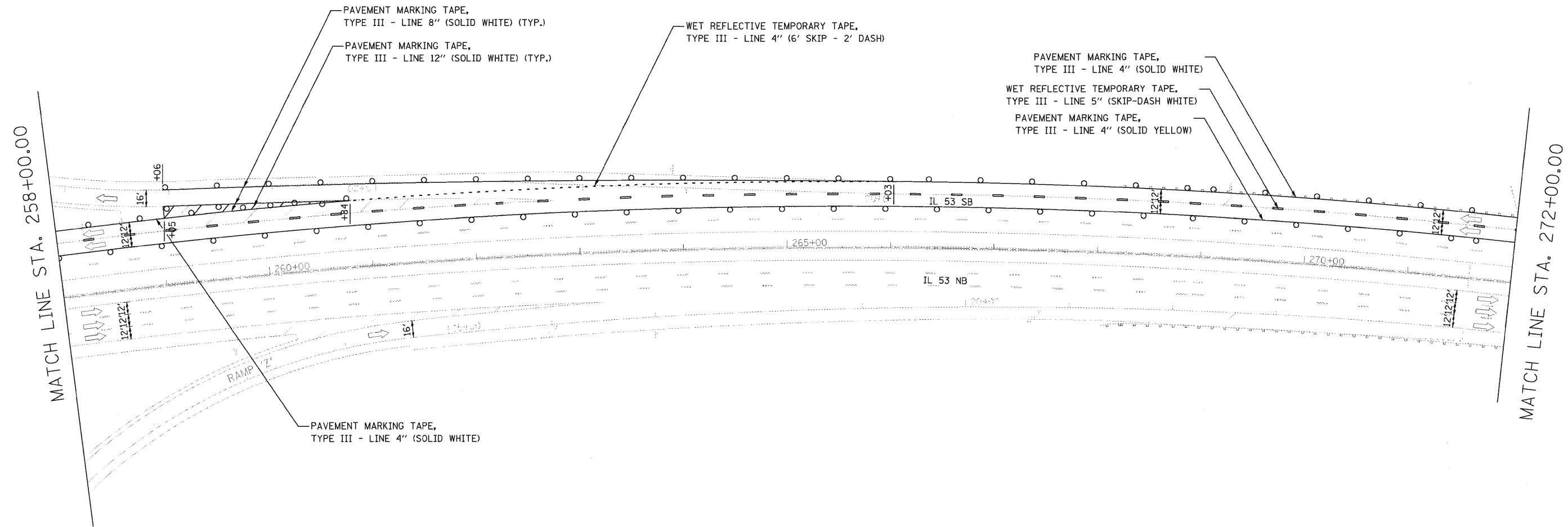
NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - CRV	REVISED -			290	(531-3.1, 0305-302 K) RS-5	COOK	314	122	
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -			CONTRACT NO. 60138					
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
					SCALE: 1"=50'	SHEET NO. 6 OF 21 SHEETS	STA. 244+00 TO STA. 258+00				

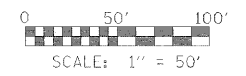
LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT/DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









NOTE:

1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.

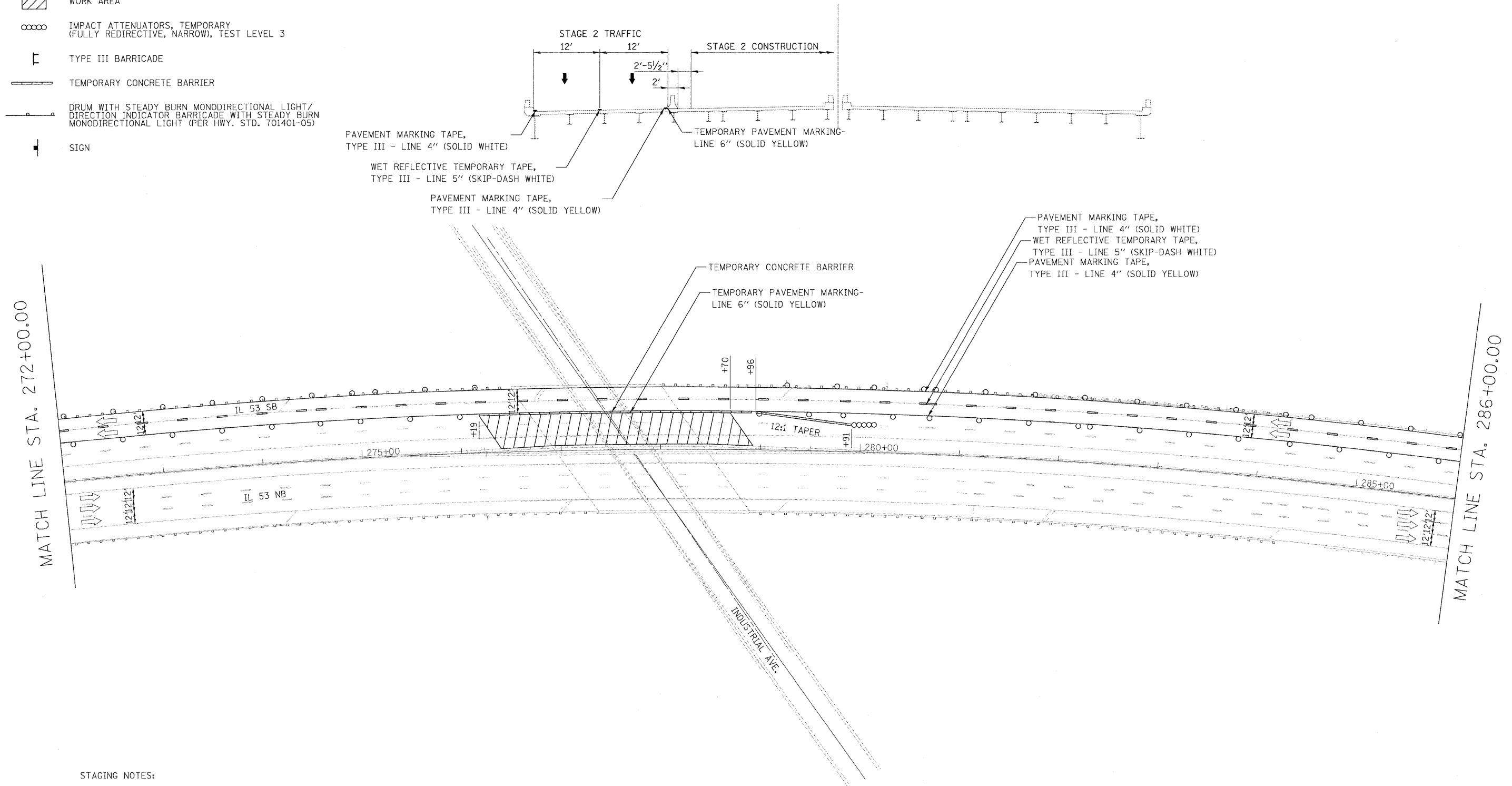


FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - CRV	REVISED -			290	(531-3.1, 0305-302 K) RS-5	COOK	314	123	
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	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -			SCALE: 1"=50'	SHEET NO. 7 OF 21 SHEETS	STA. 258+00 TO STA. 272+00	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT/DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

STAGE II REMOVAL & CONSTRUCTION
(LOOKING NORTH)
S.N. 016-1120 S.N. 016-0375

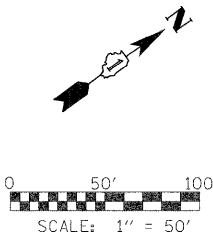


STAGING NOTES:

1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
2. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
3. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).







NOTE:

1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - CRV	REVISED -			290	(531-3.1, 0305-302 K) RS-5	COOK	314	124	
		CHECKED - FML	REVISED -			CONTRACT NO. 60138					
		DATE - 12/2009	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
					SCALE: 1"=50'		SHEET NO. 8 OF 21 SHEETS		STA. 272+00 TO STA. 286+00		

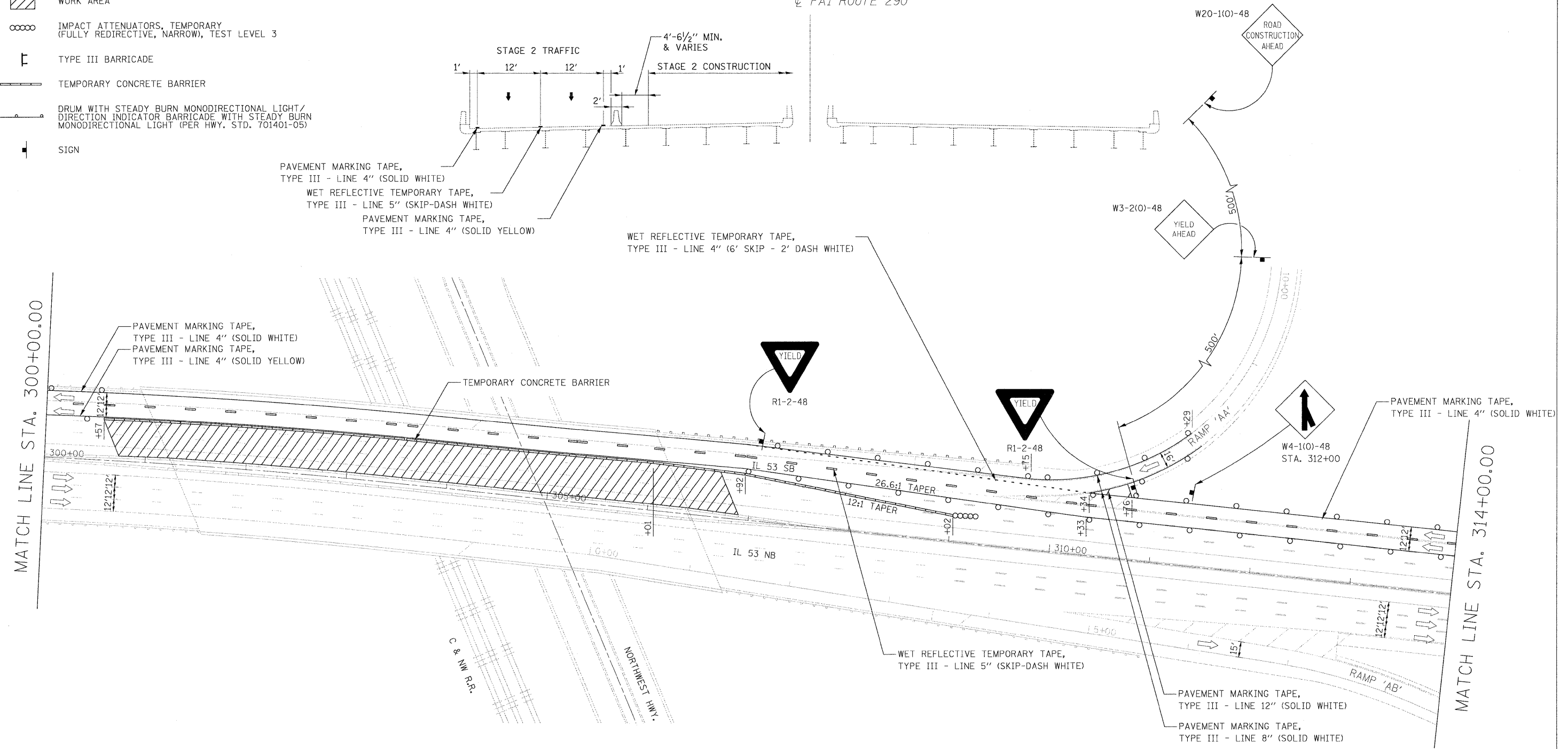
LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

STAGE II REMOVAL & CONSTRUCTION
(LOOKING NORTH)
@ FAI ROUTE 290

S.N. 016-1119

S.N. 016-0374

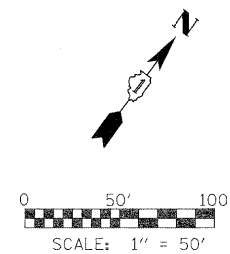


STAGING NOTES:

1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
2. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
3. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).







NOTE:

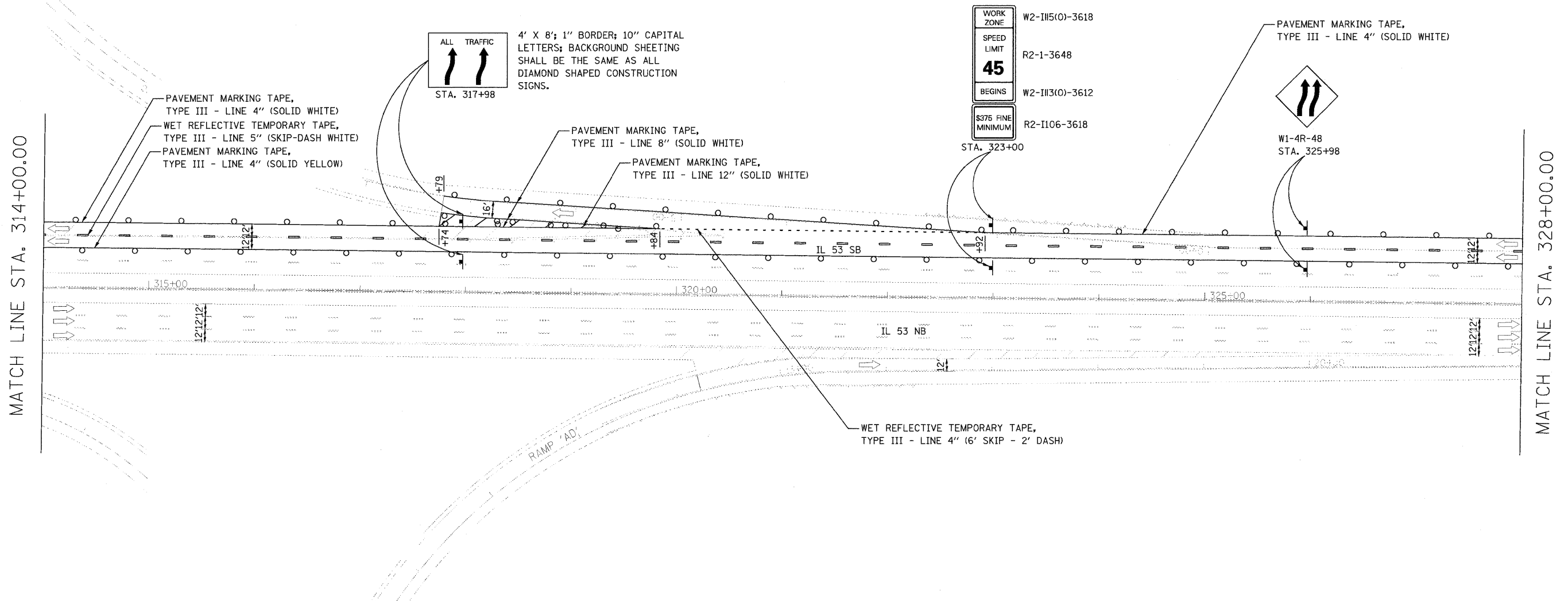
1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



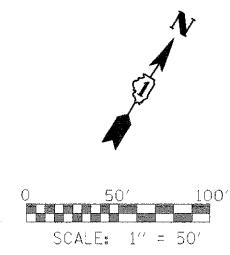
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#FILE#		DRAWN - CRV	REVISED -		SCALE: 1"=50'	SHEET NO. 10 OF 21 SHEETS	STA. 300+00 TO STA. 314+00	290	(531-3.1, 0305-302 K) RS-5	COOK	314	126
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	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



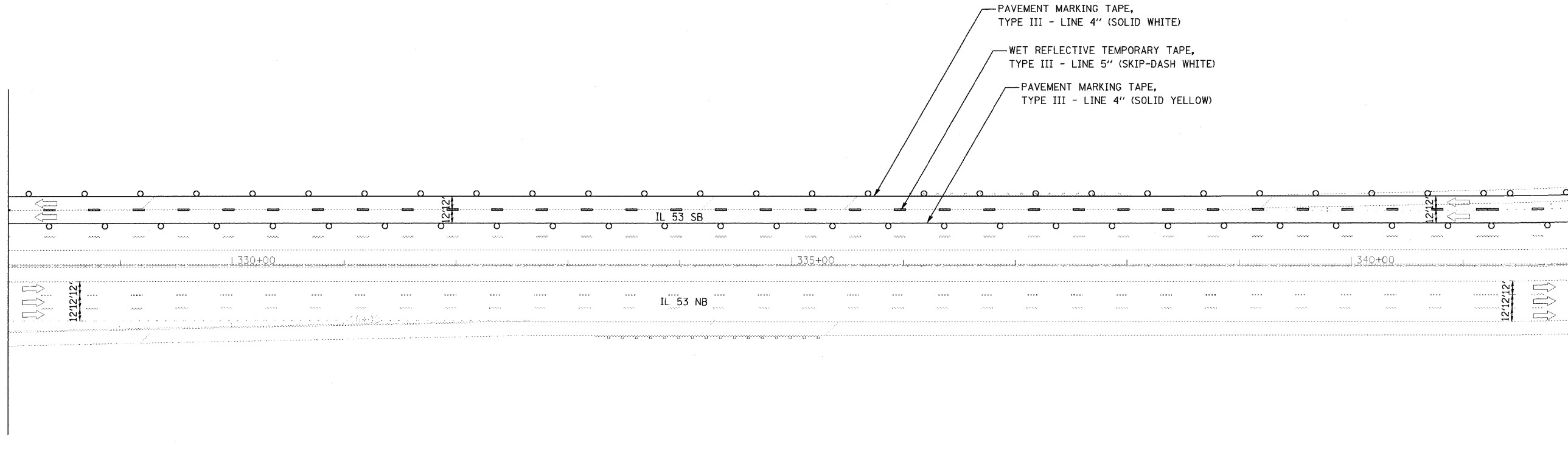
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#FILE#		DRAWN - CRV	REVISED -			SCALE: 1"=50'	SHEET NO. 11 OF 21 SHEETS	STA. 314+00 TO STA. 328+00	FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT	CONTRACT NO. 60138
		CHECKED - FML	REVISED -								
		DATE - 12/2009	REVISED -								

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

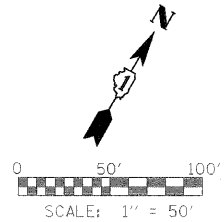
MATCH LINE STA. 328+00.00

MATCH LINE STA. 342+00.00









NOTE:

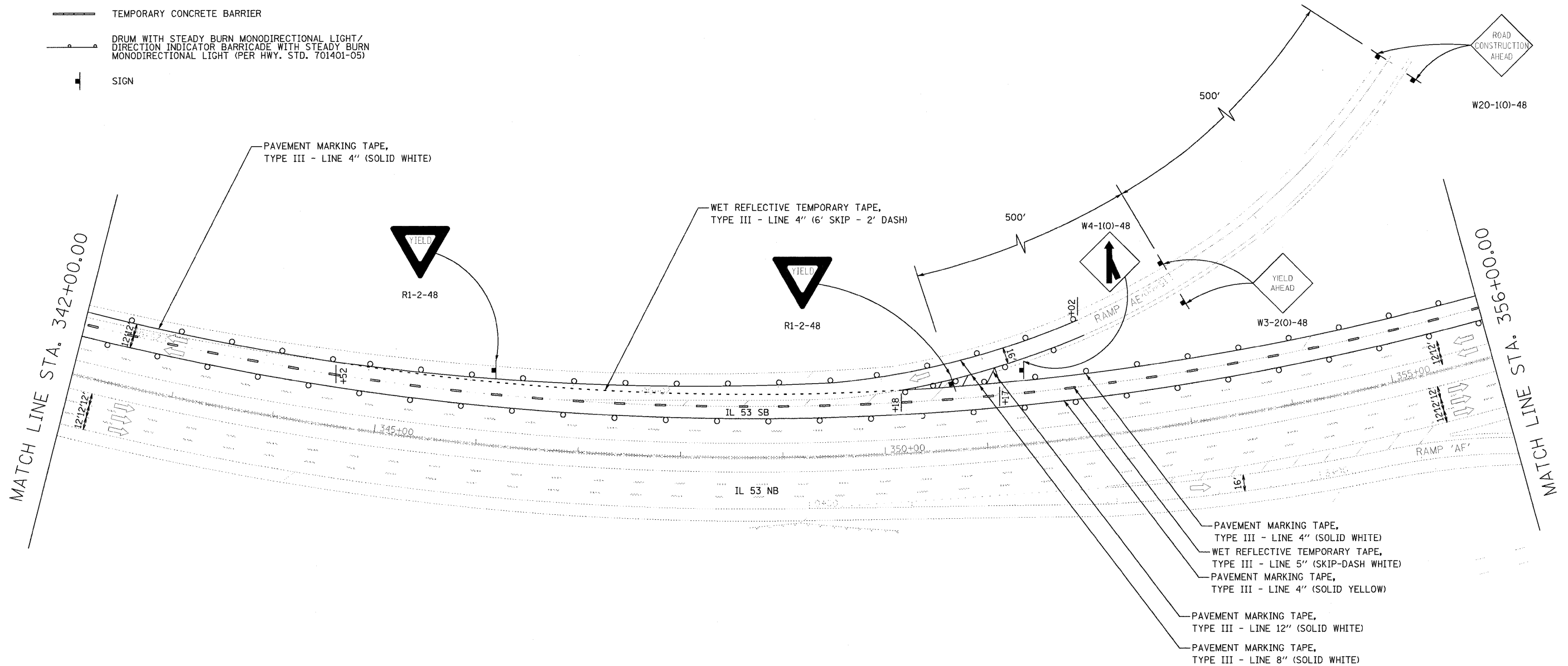
1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



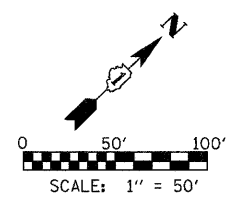
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	PLOT SCALE = #SCALE#	DRAWN - CRV	REVISED -		290	(531-3.1, 0305-302 K) RS-5	COOK	314	128			
PLOT DATE = #DATE#	CHECKED - FML	REVISED -	SCALE: 1"=50' SHEET NO. 12 OF 21 SHEETS STA. 328+00 TO STA. 342+00			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 6013B				
	DATE - 12/2009	REVISED -										

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









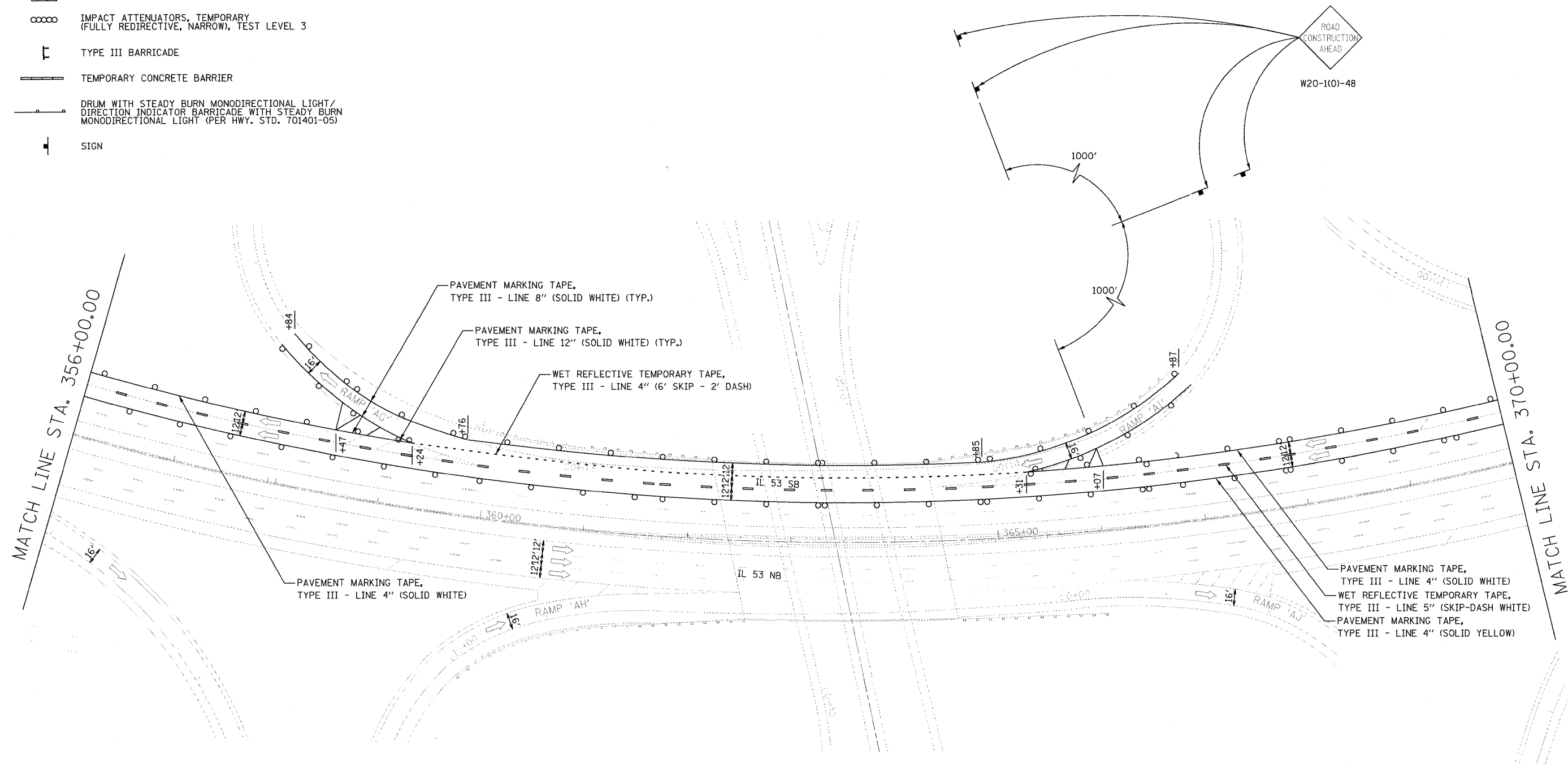
NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



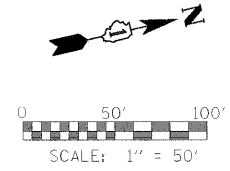
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	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -		SCALE: 1"=50'	SHEET NO. 13 OF 21 SHEETS	STA. 342+00 TO STA. 356+00	CONTRACT NO. 60138				
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT						

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









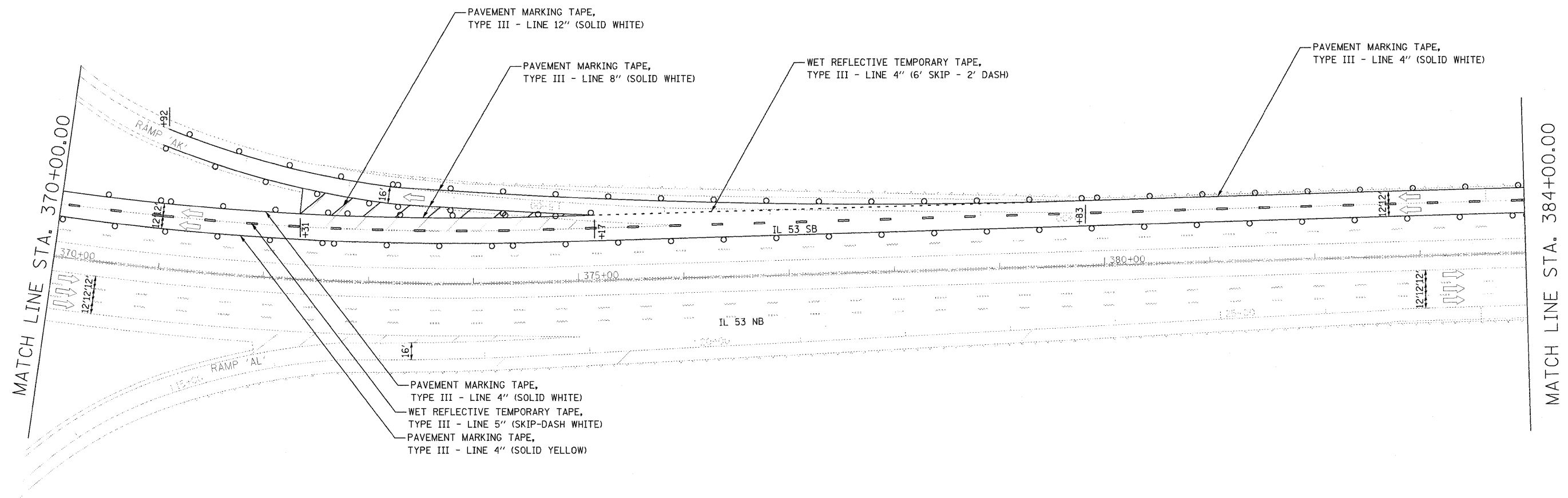
NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



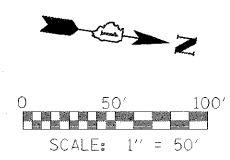
FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - CRV	REVISED -			290	(531-3.1, 0305-302 K) RS-5	DUPAGE	314	130	
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -			CONTRACT NO. 60138					
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
					SCALE: 1"=50'	SHEET NO. 14 OF 21 SHEETS	STA. 356+00 TO STA. 370+00				

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN









NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



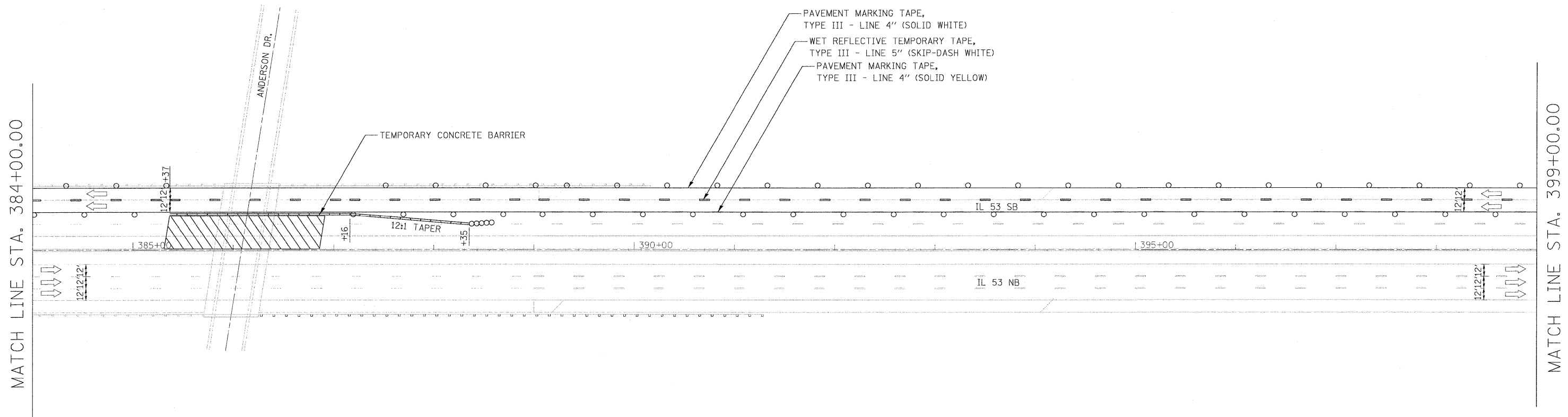
FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB			F.A.I. RTE. 290	SECTION (531-3.1, 0305-302 K) RS-5	COUNTY COOK	TOTAL SHEETS 314	SHEET NO. 131	
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -		SCALE: 1"=50'	SHEET NO. 15 OF 21 SHEETS	STA. 370+00 TO STA. 384+00	CONTRACT NO. 60I38					
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

LEGEND

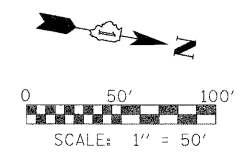
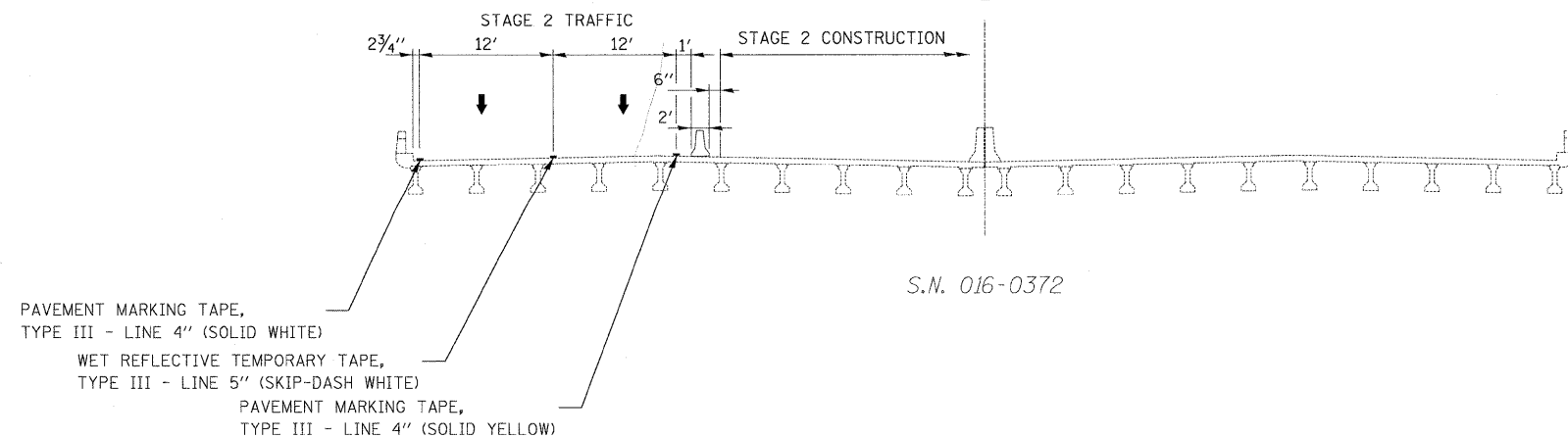
-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

STAGING NOTES:

1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
2. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
3. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).



STAGE II REMOVAL & CONSTRUCTION (LOOKING NORTH)



NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.

FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -
#FILE#		DRAWN - CRV	REVISED -
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	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -







**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC PLAN
 STAGE 2 - SB**

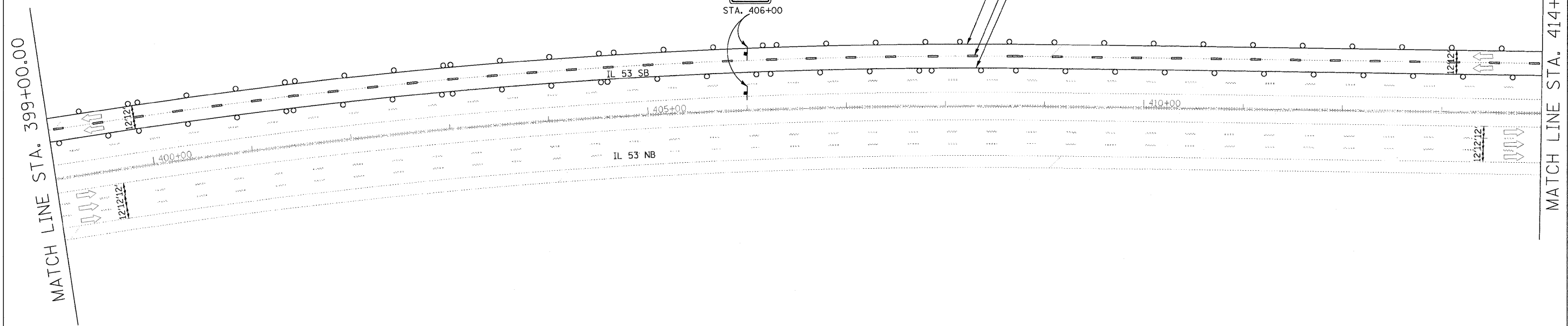
SCALE: 1"=50' SHEET NO. 16 OF 21 SHEETS STA. 384+00 TO STA. 399+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1, 0305-302 K) RS-5	COOK	314	132
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60138	

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

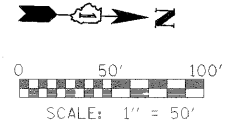
PAVEMENT MARKING TAPE,
TYPE III - LINE 4" (SOLID WHITE)
WET REFLECTIVE TEMPORARY TAPE,
TYPE III - LINE 5" (SKIP-DASH WHITE)
PAVEMENT MARKING TAPE,
TYPE III - LINE 4" (SOLID YELLOW)



WORK ZONE W2-III5(O)-3618
SPEED LIMIT R2-1-3648
45
\$375 FINE MINIMUM R2-II06-3618
STA. 406+00

MATCH LINE STA. 414+00.00







MATCH LINE STA. 399+00.00



NOTE:
1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.

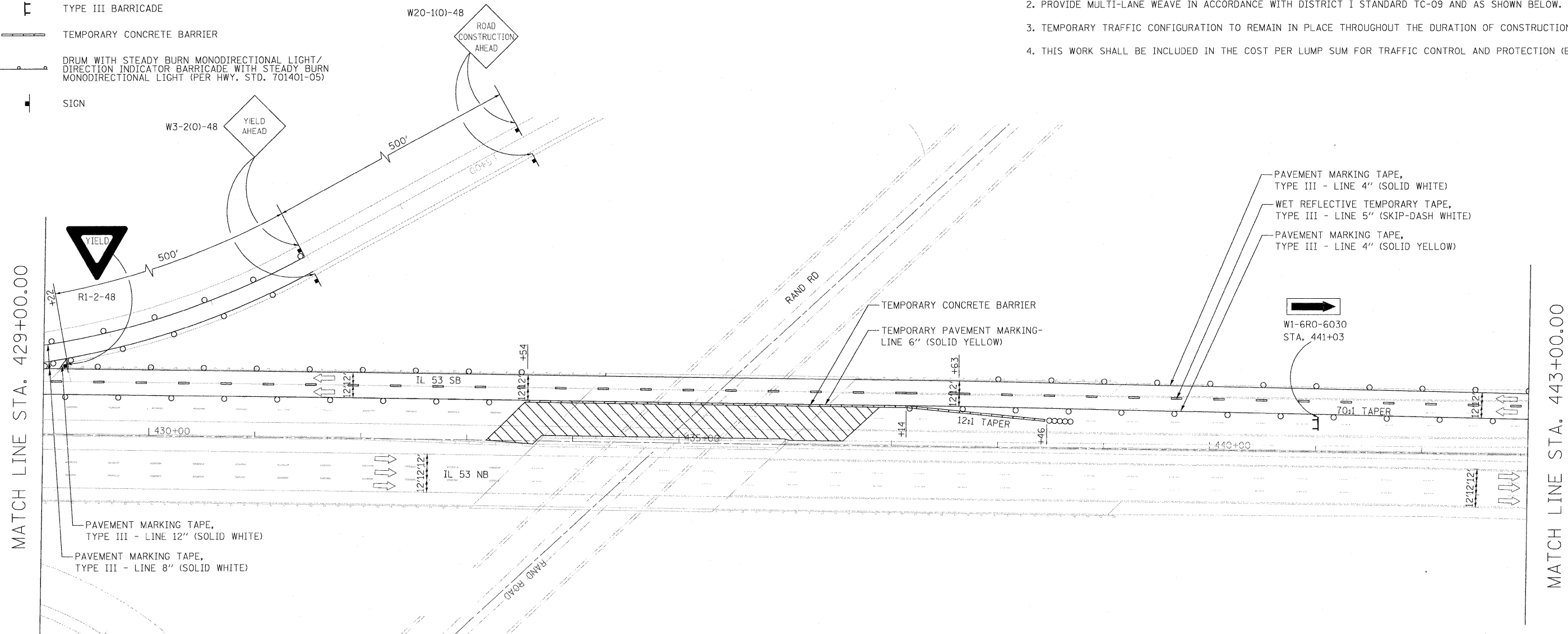
FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -		290	(531-3.1, 0305-302 K) RS-5	COOK	314	33			
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -		SCALE: 1"=50' SHEET NO. 17 OF 21 SHEETS STA. 399+00 TO STA. 414+00			CONTRACT NO. 60138				
						FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT				

LEGEND

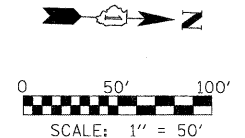
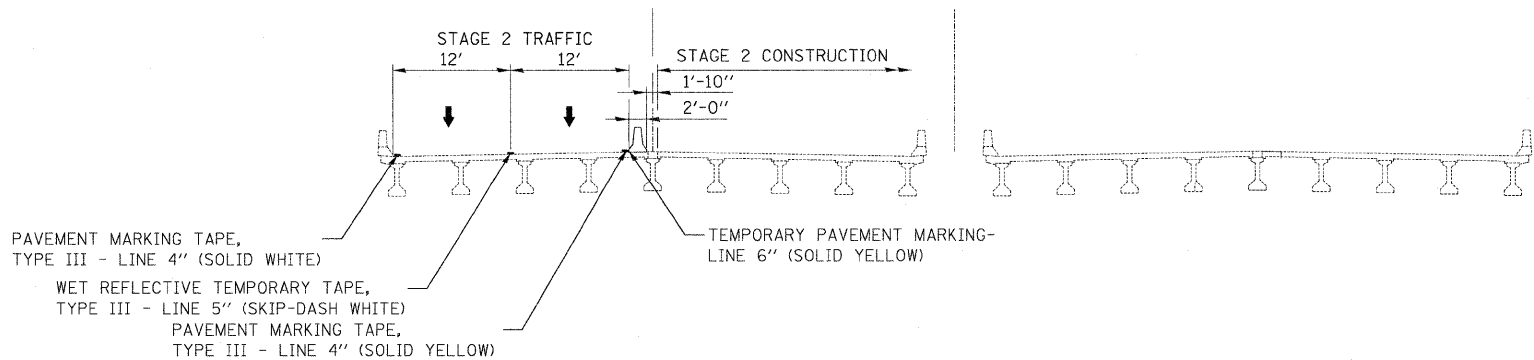
-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

STAGING NOTES:

1. REMOVE EXISTING SHOULDER RUMBLE STRIPS, CONFLICTING EXISTING PAVEMENT MARKINGS, AND EXISTING RAISED REFLECTIVE PAVEMENT MARKER LENSES, AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH HIGHWAY STANDARD 701411-05 AND AS SHOWN BELOW.
2. PROVIDE MULTI-LANE WEAVE IN ACCORDANCE WITH DISTRICT I STANDARD TC-09 AND AS SHOWN BELOW.
3. TEMPORARY TRAFFIC CONFIGURATION TO REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.
4. THIS WORK SHALL BE INCLUDED IN THE COST PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).









STAGE II REMOVAL & CONSTRUCTION (LOOKING NORTH)
S.N. 016-0371 S.N. 016-0973

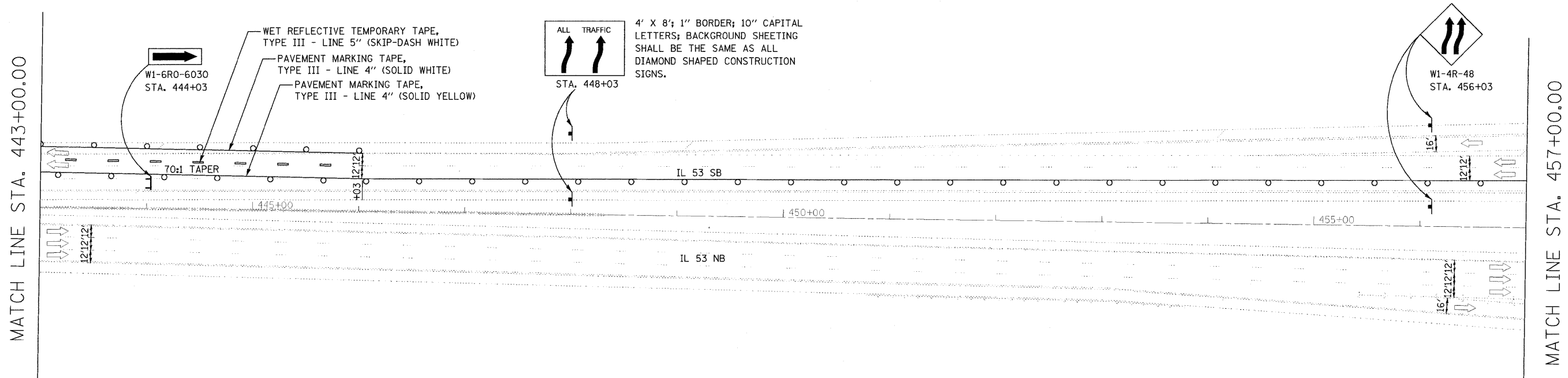


NOTE:
1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.

FILE NAME =	USER NAME = *USER*	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*FILE#		DRAWN - CRV	REVISED -			290	(531-3.1, 0305-302 K) RS-5	COOK	314	135
		CHECKED - FML	REVISED -			CONTRACT NO. 60138				
		PLOT DATE = *DATE*	DATE - 12/2009	REVISED -	SCALE: 1"=50'	SHEET NO. 19 OF 21 SHEETS		STA. 429+00 TO STA. 443+00		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN

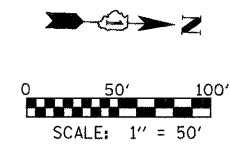


4' X 8'; 1" BORDER; 10" CAPITAL LETTERS; BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

MATCH LINE STA. 443+00.00







MATCH LINE STA. 457+00.00

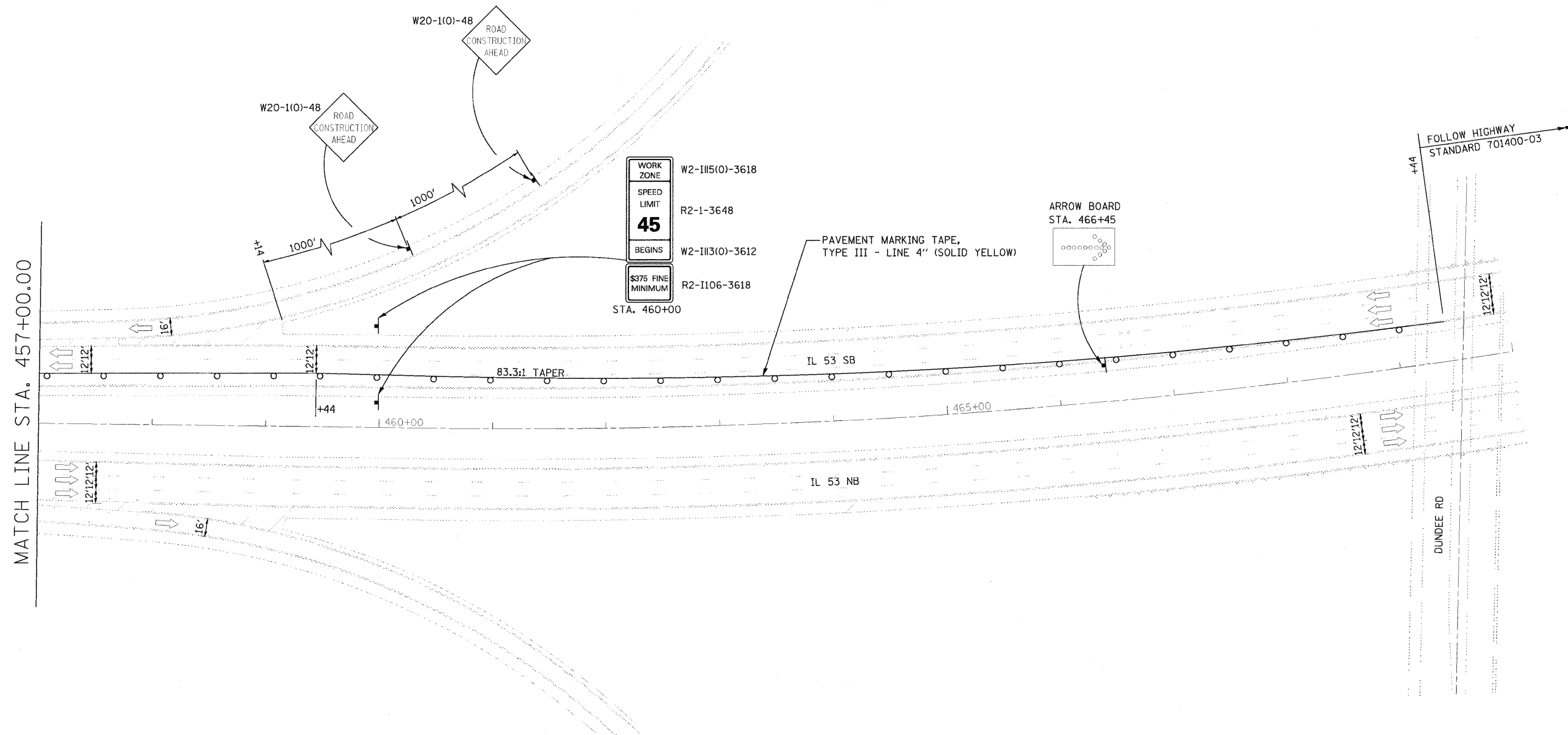
NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



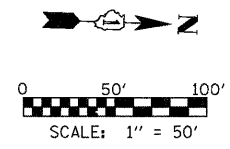
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#FILE#		DRAWN - CRV	REVISED -		SCALE: 1"=50'	SHEET NO. 20 OF 21 SHEETS	STA. 443+00 TO STA. 457+00	CONTRACT NO. 60138				
	PLOT SCALE = #SCALE#	CHECKED - FML	REVISED -		FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT							
	PLOT DATE = #DATE#	DATE - 12/2009	REVISED -									

LEGEND

-  WORK AREA
-  IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3
-  TYPE III BARRICADE
-  TEMPORARY CONCRETE BARRIER
-  DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT / DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT (PER HWY. STD. 701401-05)
-  SIGN



NOTE:
 1. VERTICAL PANELS TO BE PLACED EVERY 100' (CURVED SECTION) OR 200' (TANGENT SECTION) ON THE OUTSIDE SHOULDER WHERE THERE IS NO GUARD RAIL OR BARRIER PRESENT.



FILE NAME =	USER NAME = #USER#	DESIGNED - CRV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MAINTENANCE OF TRAFFIC PLAN STAGE 2 - SB			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - CRV	REVISED -		SCALE: 1"=50'	SHEET NO. 21 OF 21 SHEETS	STA. 457+00 TO STA. 470+00	290	(531-3.1, 0305-302 K) RS-5	COOK	31	737
		CHECKED - FML	REVISED -					CONTRACT NO. 60138				
		DATE - 12/2009	REVISED -					ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

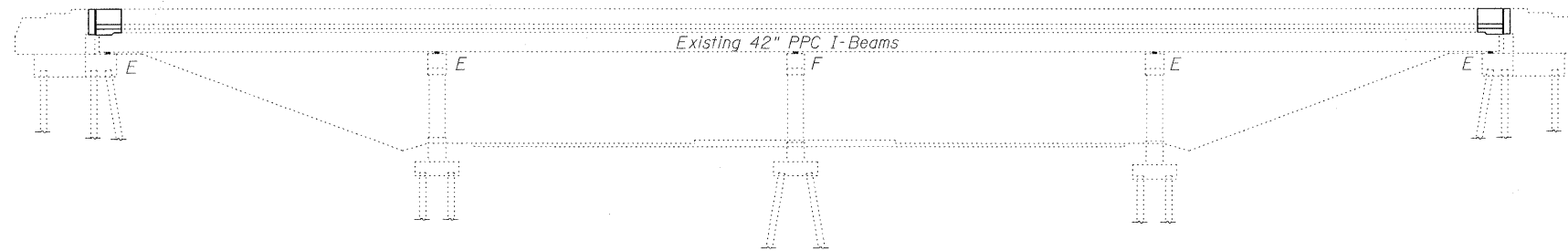
Existing Structure:
Structure No. 016-0973, constructed in 1965 as F.A. 61, Section 531-34B-2. In 1971, the deck was patched and overlay was provided. In 1987 under F.A. 432, existing bituminous surface was replaced with 2" concrete overlay and parapet was retrofit. Existing structure is a four span bridge utilizing PPC I-Beams, supported by multi-column concrete piers and pile bent abutments, 228'-3" bk. to bk. abutments, 58'-0" out to out deck with a left ahead skew angle of 46°05'30". Stage Construction shall be utilized to maintain traffic during construction.

SCOPE OF WORK

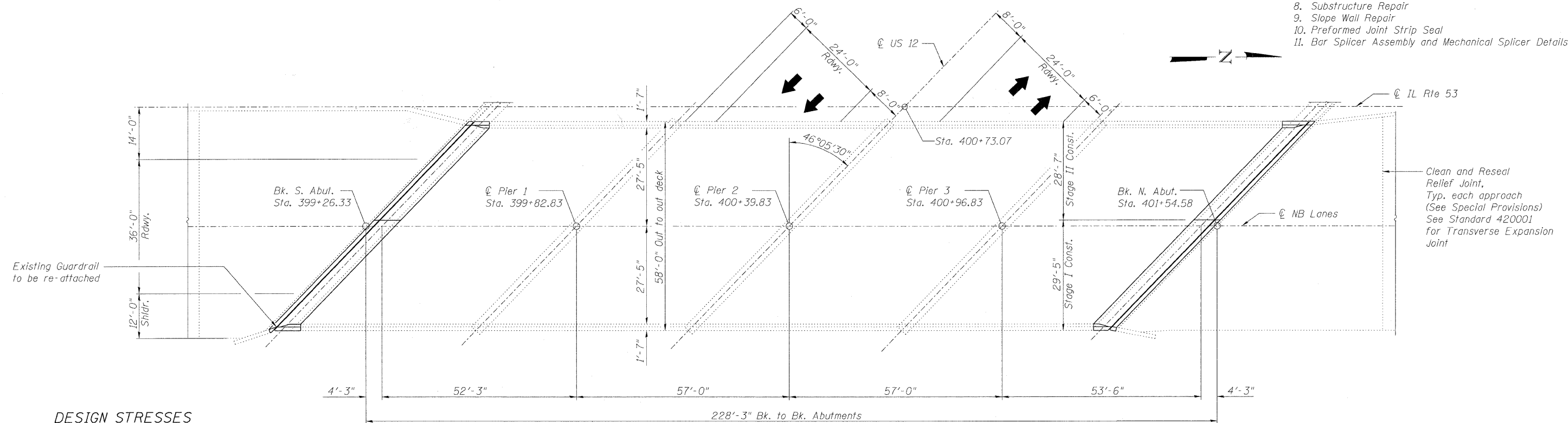
1. Remove and replace concrete deck adjacent to expansion joints.
2. Provide preformed joint strip seal expansion joints at abutments.
3. Apply Concrete Sealer to top of concrete deck and top and inside vertical face of parapets.
4. Repair deck slab.
5. Clean and Reseal Relief Joints.
6. Repair deteriorated concrete on abutments, piers and slope wall.
7. Jack and remove existing bearings and replace with elastomeric bearings.

INDEX OF SHEETS

1. General Plan and Elevation
2. General Notes and Details
3. Temporary Concrete Barrier for Stage Construction
4. Deck Slab Repair
5. Concrete Removal
6. Concrete Details
7. Bearing Details
8. Substructure Repair
9. Slope Wall Repair
10. Preformed Joint Strip Seal
11. Bar Splicer Assembly and Mechanical Splicer Details.



ELEVATION



DESIGN STRESSES

FIELD UNITS

Existing Construction
 $f_c = 1,400$ psi (Substructure & Superstructure)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 20,000$ psi (Structural Steel)

New Construction
 $f_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (Structural Steel) (M270 Gr. 36)

PRECAST PRESTRESSED UNITS

Existing Construction
 $f_c = 5,000$ psi
 $f_{ci} = 4,000$ psi
 $f_s = 248,000$ psi
 $f_{si} = 173,600$ psi

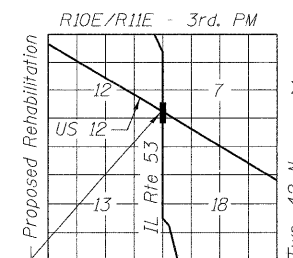
DESIGN SPECIFICATIONS

(New Construction)
 2002 AASHTO "Standard
 Specifications for Highway Bridges"

LOADING HS 20-44

(Original Construction)

PLAN



LOCATION SKETCH



Michael J. Haley 2/8/10
 Michael T. Haley
 Licensed Structural Engineer
 State of Illinois No. 81-5991
 Expires 11/30/2010

GENERAL PLAN AND ELEVATION
 NB IL RTE 53 OVER US 12 (RAND RD.)
 F.A.I. RTE 290
 SECTION (531-3.1,0305-302K)RS-5
 COOK COUNTY
 STATION 400+73.07
 STRUCTURE NO. 016-0973

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	138
Designed By: ESH Checked By: MTH Date: 12/2/09		Drawn By: TBP File: 016-0973.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

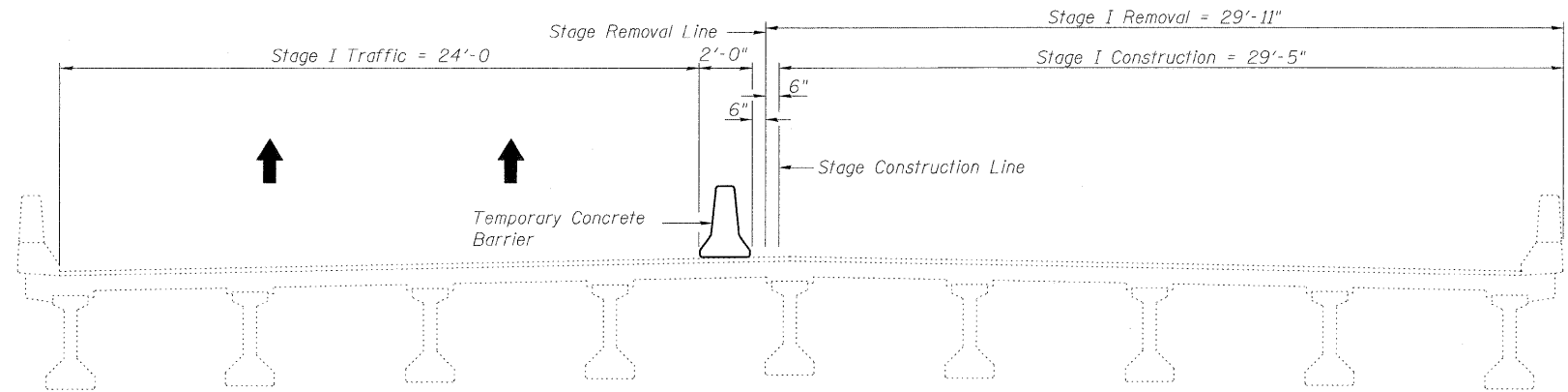
GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

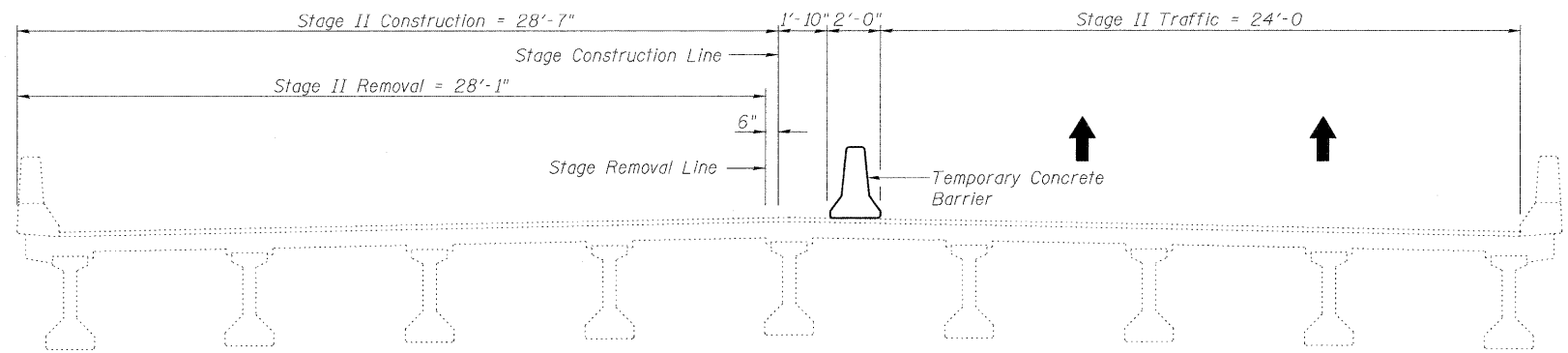
Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.



STAGE I REMOVAL & CONSTRUCTION
(Looking North)




STAGE II REMOVAL & CONSTRUCTION
(Looking North)

TOTAL BILL OF MATERIAL

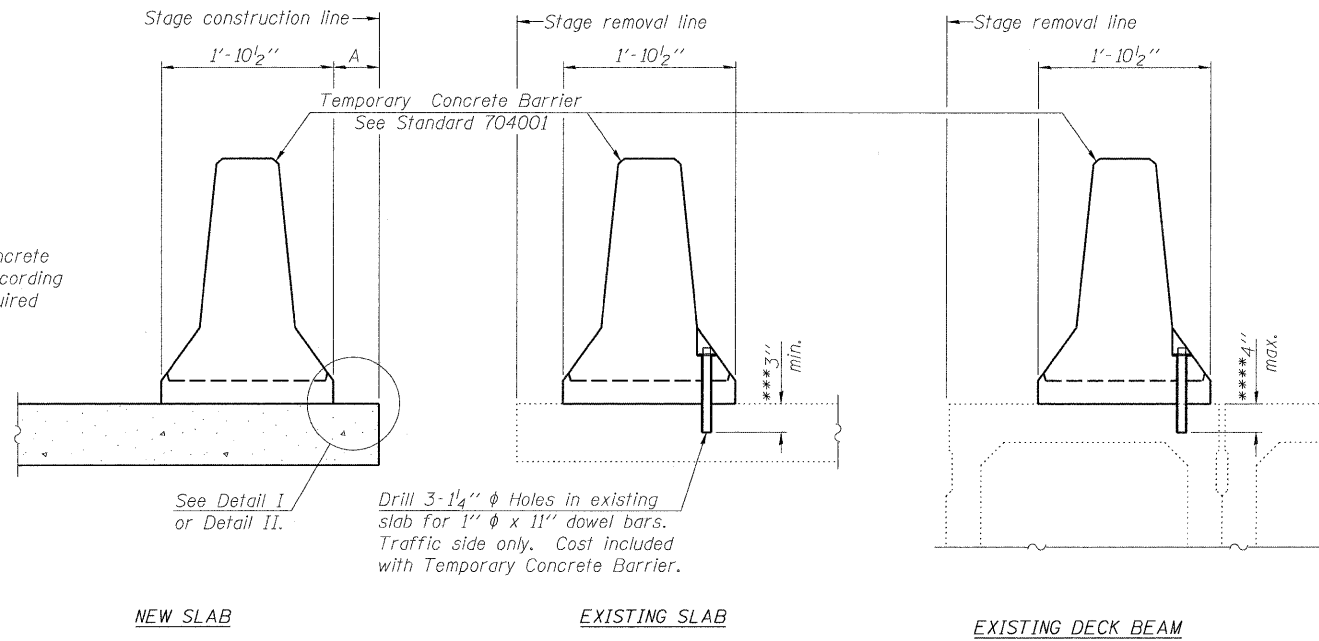
ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	51.1	-	51.1
Slope Wall Removal	Sq. Yd.	-	203	203
Protective Shield	Sq. Yd.	634	-	634
Concrete Superstructure	Cu. Yd.	51.1	-	51.1
Jack and Remove Existing Bearings	Each	-	18	18
Reinforcement Bars, Epoxy Coated	Pound	6,650	-	6,650
Bar Splicers	Each	24	-	24
Slope Wall 4 Inch	Sq. Yd.	-	203	203
Prefomed Joint Strip Seal	Foot	160	-	160
Elastomeric Bearing Assembly, Type II (Special)	Each	-	18	18
Anchor Bolts, 1"	Each	-	36	36
Concrete Sealer	Sq. Ft.	14177	-	14177
Structural Repair of Concrete (Depth Greater Than 5 in.)	Sq. Ft.	-	31	31
Structural Repair of Concrete (Depth Equal To or Less Than 5 in.)	Sq. Ft.	-	216	216
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1.0	-	1.0
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	21.6	-	21.6
Deck Slab Repair (Partial)	Sq. Yd.	2.0	-	2.0
Clean and Reseal Relief Joint	Foot	104	-	104

GENERAL NOTES AND DETAILS
STRUCTURE NO. 016-0973

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 2 11 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	139
Designed By: ESH Checked By: MTH Drawn By: TBP Date: 12/2009 File: 016-0973.dwg		CONTRACT NO. 60138 FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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



NEW SLAB

EXISTING SLAB

EXISTING DECK BEAM

Drill 3-1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

See Detail I or Detail II.

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

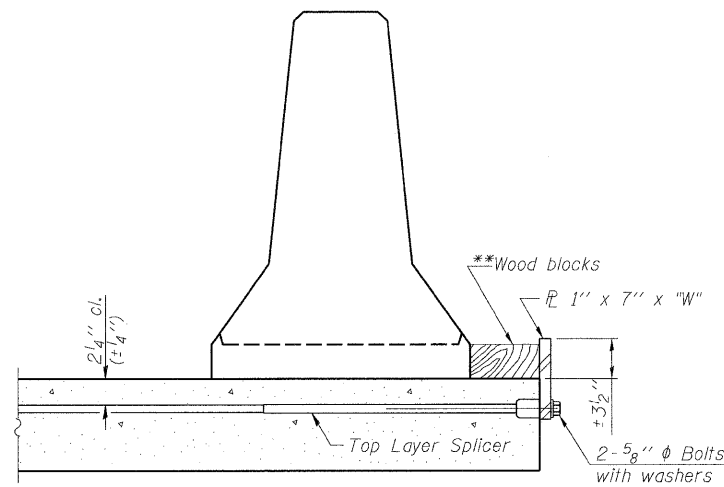
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

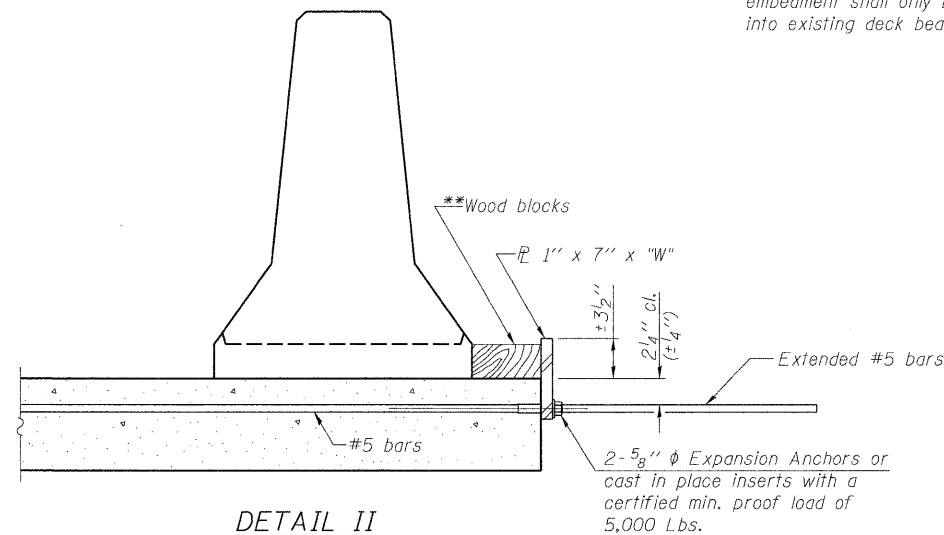
SECTIONS THRU SLAB OR DECK BEAM

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

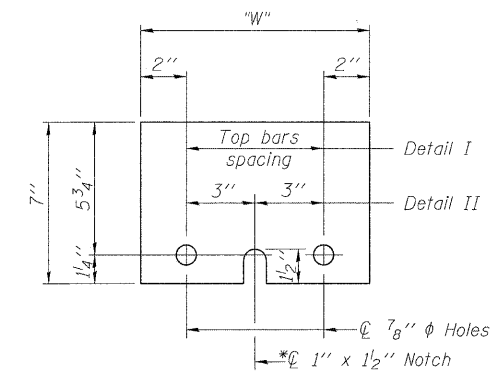
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{L} 1" x 7" x 10"

* Required only with Detail II

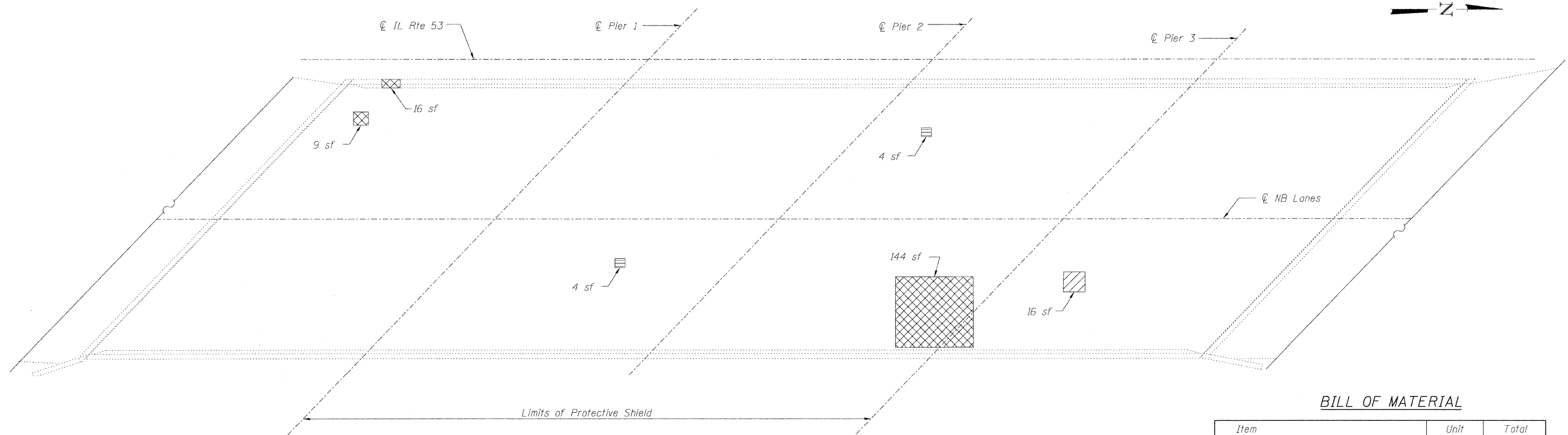
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-0973

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	190
<p>Designed By: ESH Checked By: MTH Drawn By: TBP Date: 12/2009 File: 016-0973.dgn</p>		<p>FED. ROAD DIST. NO. _ ILLINOIS</p>		<p>CONTRACT NO. 60I38 FED. AID PROJECT</p>		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1.0
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	21.6
Deck Slab Repair (Partial)	Sq. Yd.	2.0
Protective Shield	Sq. Yd.	6.34


Repair of the existing deck slab shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LEGEND

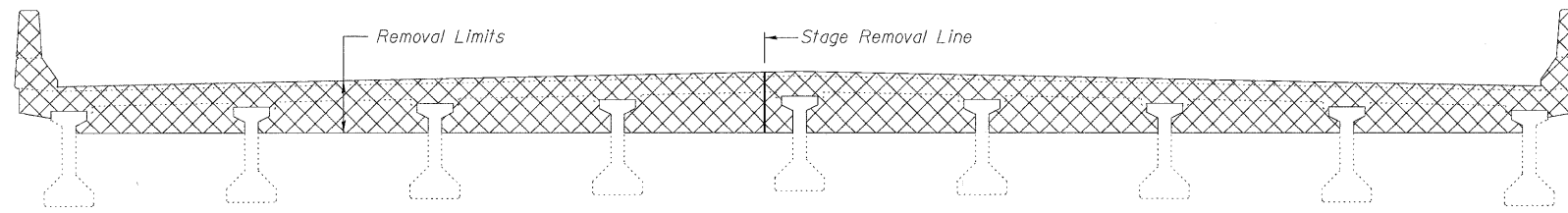
-  Indicates Deck Slab Repair (Partial)
-  Indicates Deck Slab Repair (Full Depth, Type I)
-  Indicates Deck Slab Repair (Full Depth, Type II)

sf Square Feet

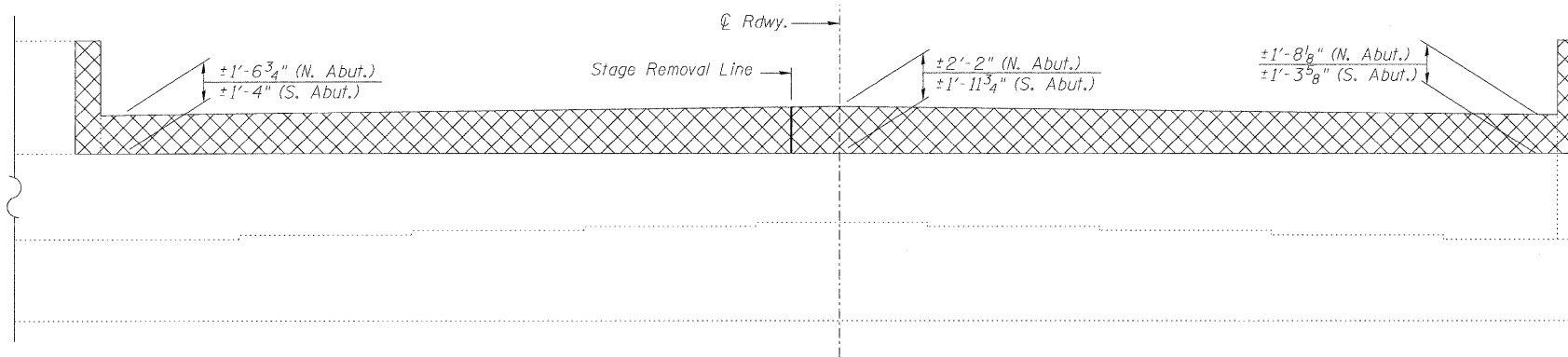
DECK SLAB REPAIR
STRUCTURE NO. 016-0973

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	141	
Designed By: ESH Checked By: MTH Drawn By: TBP Date: 12/2003 File: 016-0973.dwg		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				CONTRACT NO. 60138	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

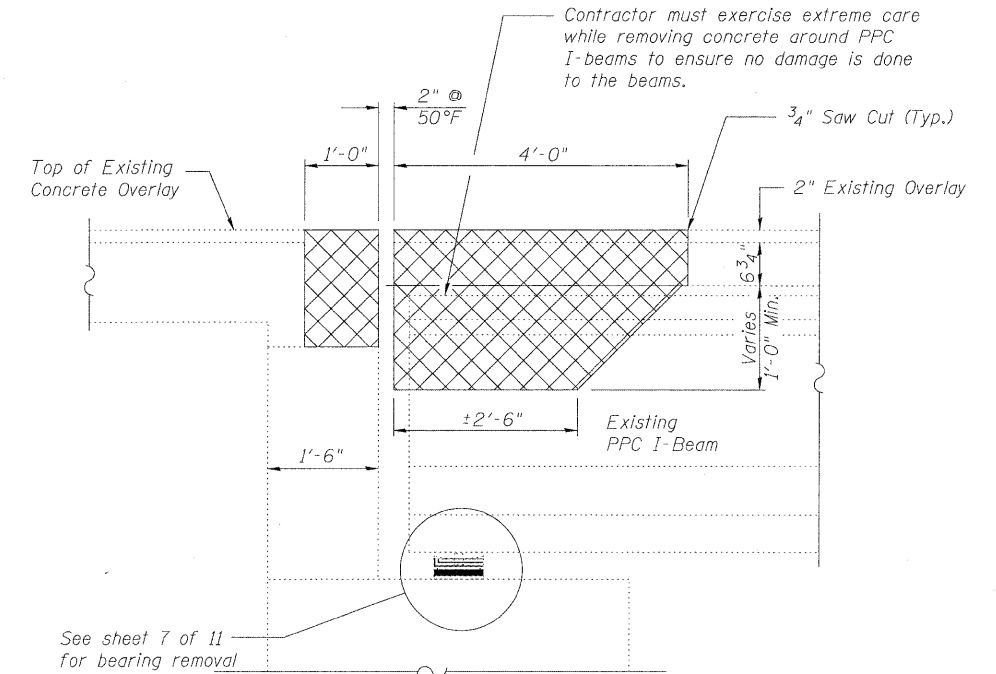


SECTION A-A

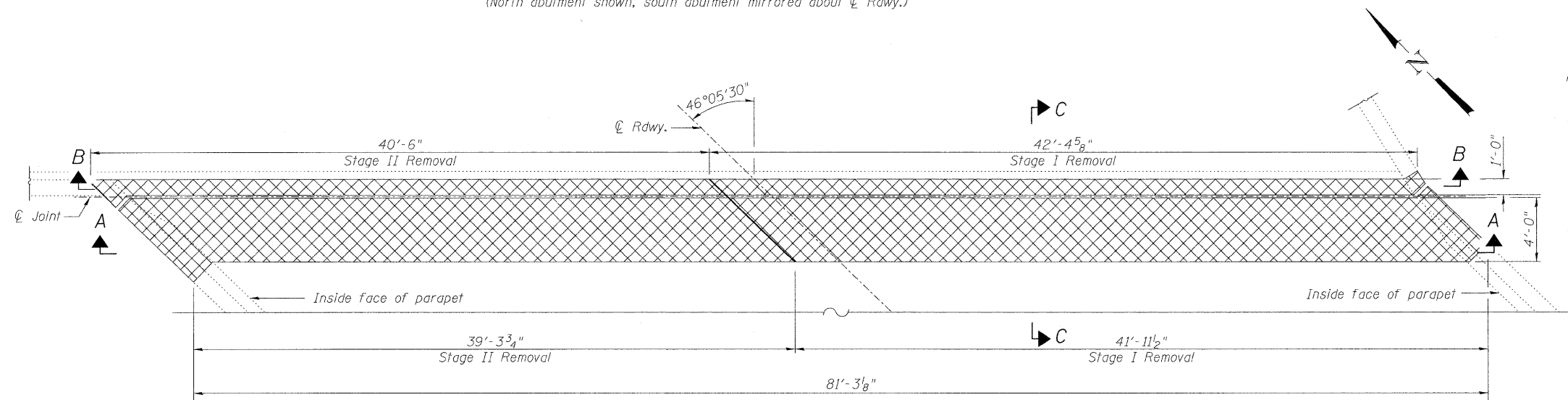


SECTION B-B

(North abutment shown, south abutment mirrored about \varnothing Rdwy.)



SECTION C-C
(Dimensions at Rt. L's)



PLAN

(North abutment shown, south abutment mirrored about \varnothing Rdwy.)

Notes:

1. Cross hatched area indicates concrete removal.
2. Existing reinforcement bars in the concrete removal area extending in new construction shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
3. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system, in accordance with IDOT Standard Specifications Article 501.03. Cost included in "Concrete Removal"
4. Overlay removal is included in pay item Concrete Removal.

BILL OF MATERIAL

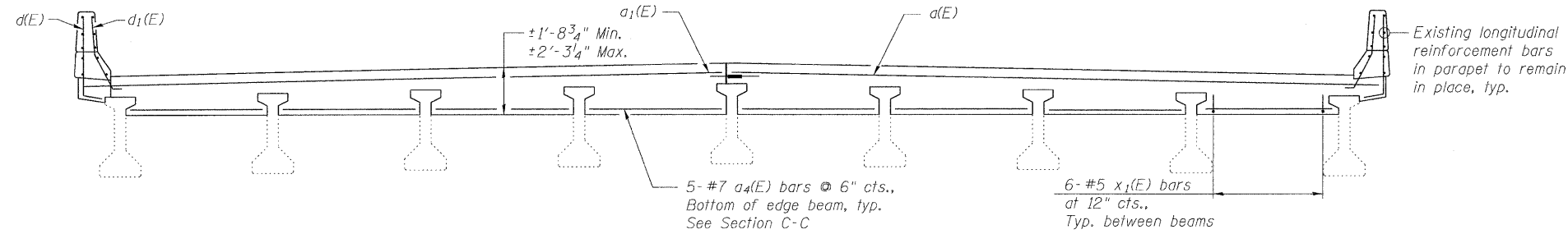
Item	Unit	Total
Concrete Removal	Cu. Yd.	51.1

CONCRETE REMOVAL
STRUCTURE NO. 016-0973

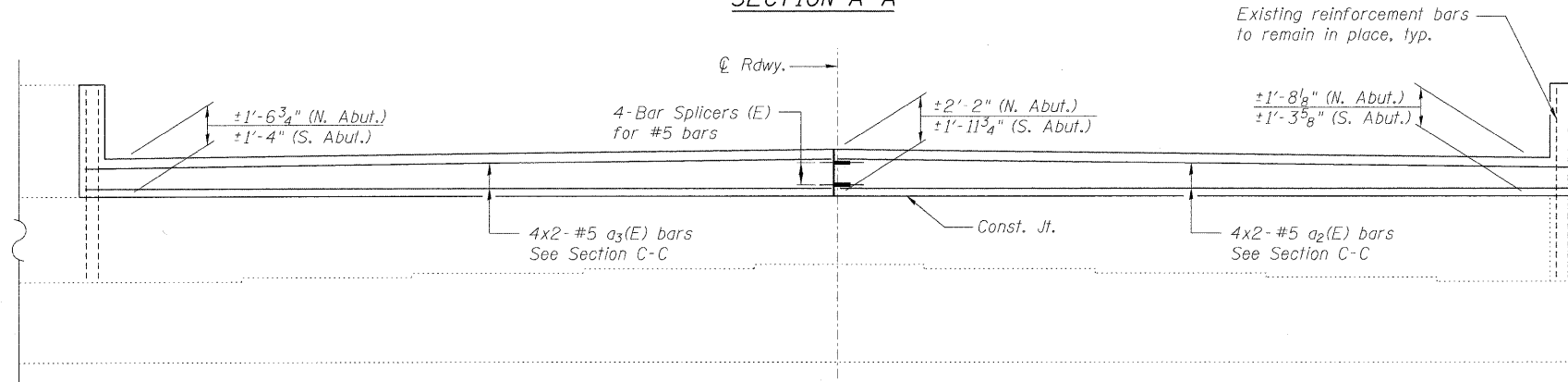
<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	142
<small>Designed By: ESH Checked By: WTH Drawn By: TBP Date: 12/2009 File: 016-0973.dgn</small>		FED. ROAD DIST. NO. _ ILLINOIS		FED. AID PROJECT		

CONTRACT NO. 60I38

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

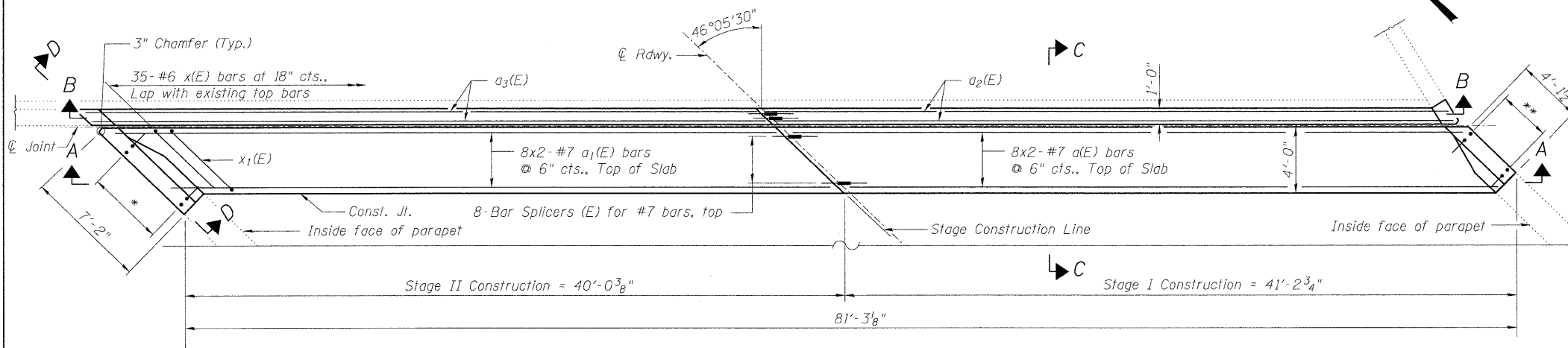


SECTION A-A



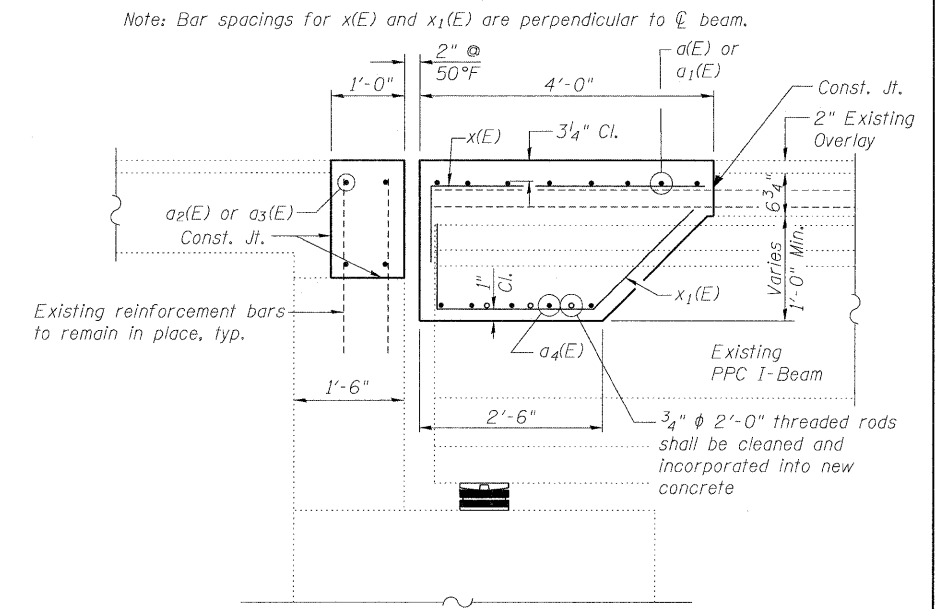
SECTION B-B

(North abutment shown, south abutment mirrored about \bar{C} Rdwy.)

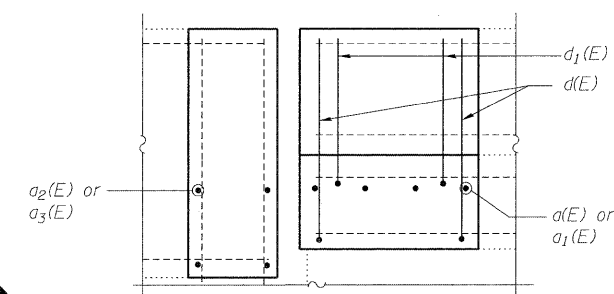


PLAN

(North abutment shown, south abutment mirrored about \bar{C} Rdwy.)



SECTION C-C

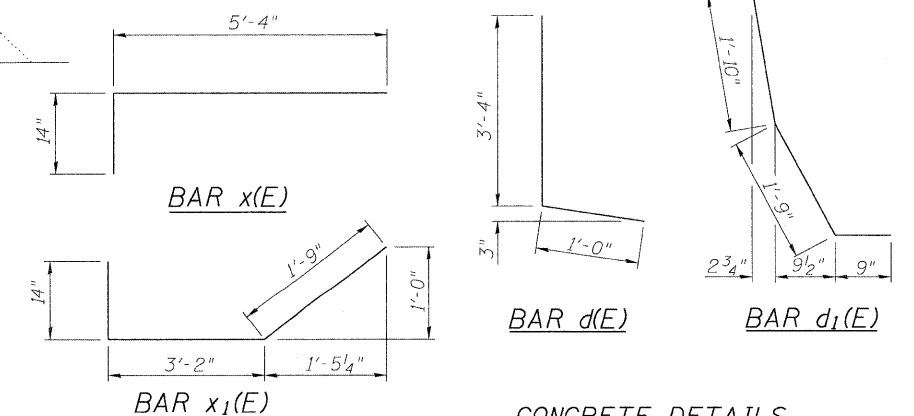


SECTION D-D

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	32	#7	23'-1"	—
a1(E)	32	#7	22'-6"	—
a2(E)	16	#5	22'-3"	—
a3(E)	16	#5	21'-8"	—
a4(E)	80	#7	8'-8"	—
d(E)	24	#5	4'-4"	L
d1(E)	24	#5	4'-4"	L
x(E)	70	#6	6'-6"	┌
x1(E)	96	#5	6'-1"	┌
Reinforcement Bars, Epoxy Coated		Pound	6650	
Concrete Superstructure		Cu. Yd.	51.1	

Bars indicated thus 8x2-#7 etc. indicates 8 lines of bars with 2 lengths per line.



CONCRETE DETAILS
STRUCTURE NO. 016-0973

* 7- #5 d(E) at 12" cts., 7- #5 d1(E) at 12" cts.
** 5- #5 d(E) at 12" cts., 5- #5 d1(E) at 12" cts.

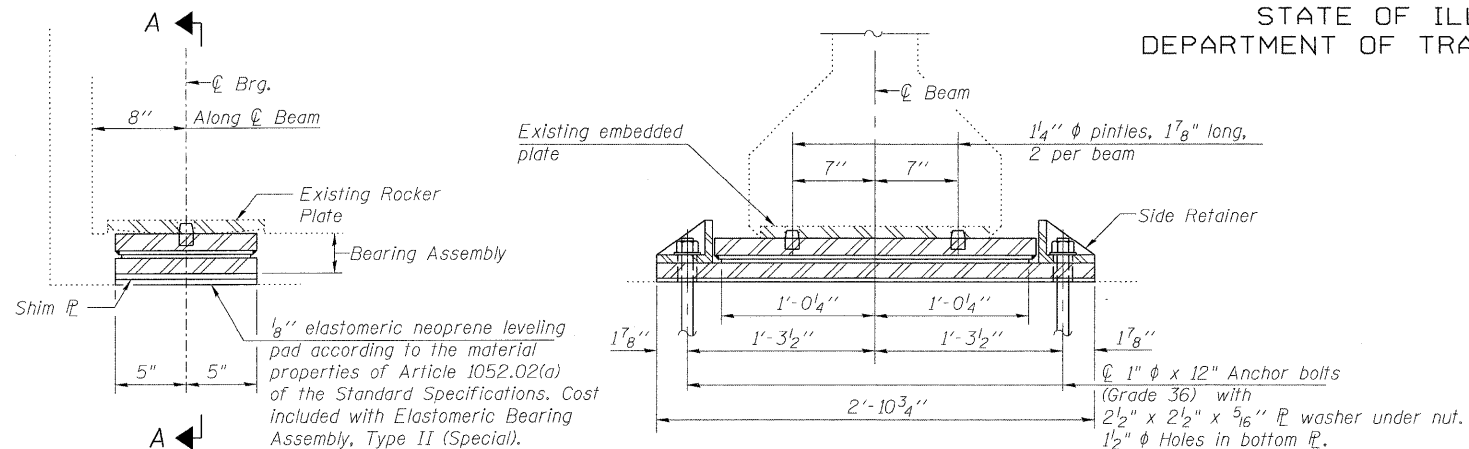
Note:
Bend d(E) and d1(E) bars in field as required.

MINIMUM BAR LAP

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

<p>LIN ENGINEERING, LTD. Consulting Engineers Channah, Illinois</p>	SHEET NO. 6	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	143
Designed By: ESH Checked By: MTH Date: 12/20/25		Drawn By: TBP File: 016-0973.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

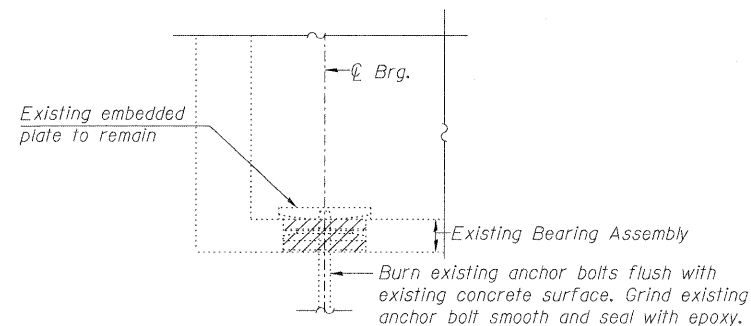


SECTION AT ABUT.

(Anchor bolt not shown)

SECTION A-A

TYPE II ELASTOMERIC EXP. BRG. AT ABUTMENTS

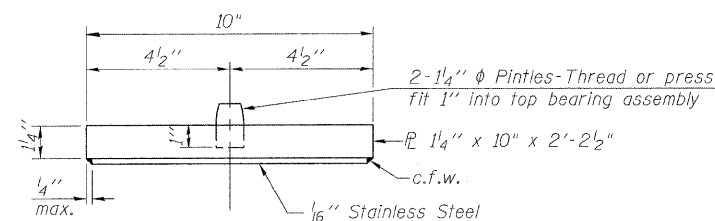


EXISTING BEARING REMOVAL DETAIL

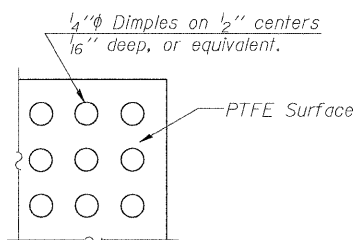
Cost included with Jack and Remove Existing Bearings.

REQUIRED SHIM PLATE TABLE		
Beam	Location	Size
1	South Abut.	9/16" x 10" x 2'-10 3/4"
1	North Abut.	9/16" x 10" x 2'-10 3/4"

Note: Beam 1 is the closest beam to CL RTE 53

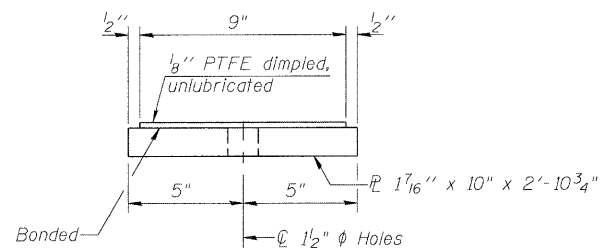


TOP BEARING ASSEMBLY

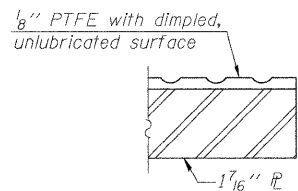


PLAN-PTFE SURFACE

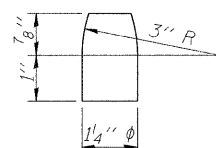
INTERIOR BEAM REACTION TABLE		
R ₁	(k)	35.0
R ₂	(k)	43.0
R ₃	(k)	12.0
R _{Total}	(k)	90.0



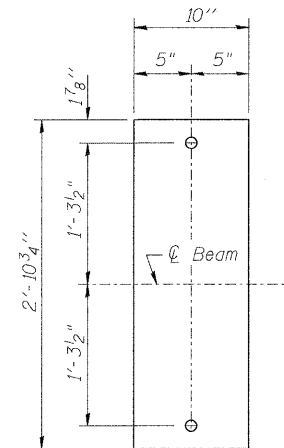
BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE



PINTLE



PLAN OF BOTTOM PLATE

Notes:

The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M270 Grade 50.

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

Anchor bolts for Type II bearings shall be placed in holes in the concrete drilled through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

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

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II (Special).

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

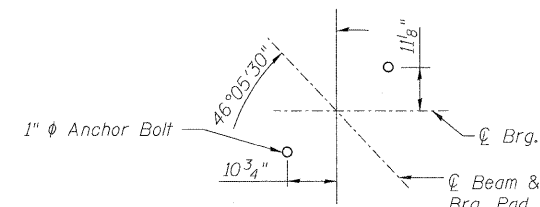
All bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

Minimum jack capacity = 50 Tons

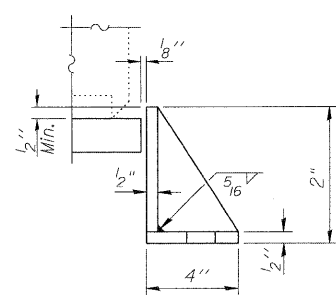
Cost of all bearing plates, side retainers and labor required to install them will be paid for at the contract unit price cost per each for Elastomeric Bearing Assembly, Type II (Special).

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II (Special)	Each	18
Anchor Bolts, 1"	Each	36
Jack and Remove Existing Bearings	Each	18

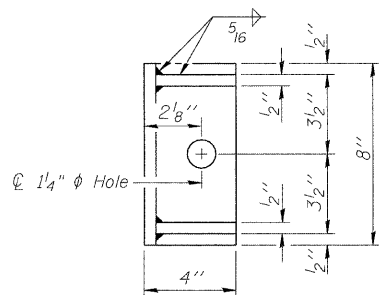


ANCHOR BOLT LOCATION



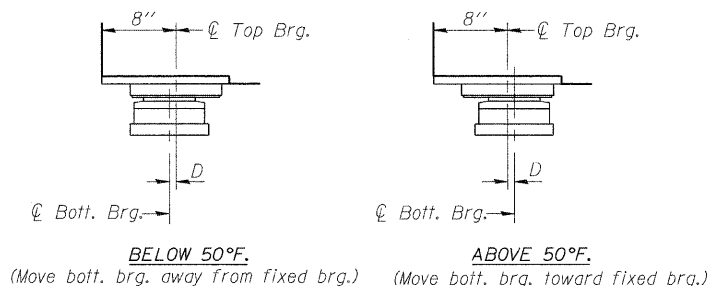
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

LIN ENGINEERING, LTD.
Consulting Engineers
Chatham, Illinois

SHEET NO. 7

11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1,0305-302K)RS-5	COOK	314	144
CONTRACT NO. 60138				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

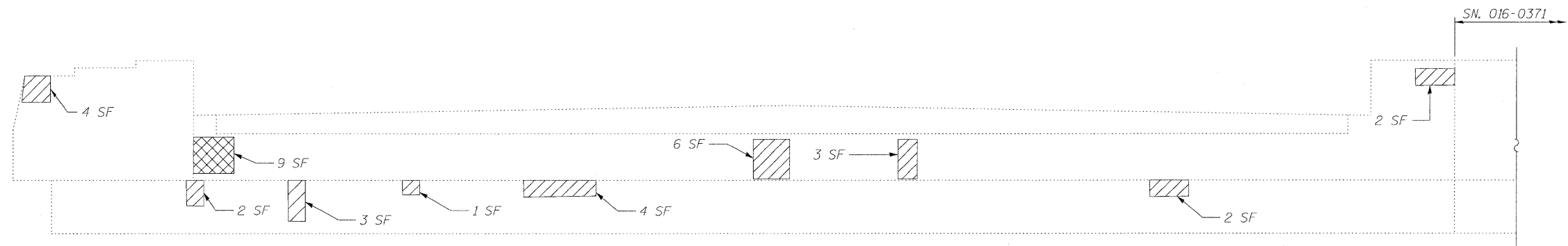
BEARING DETAILS
STRUCTURE NO. 016-0973

Designed By: ESH
Date: 12/2009

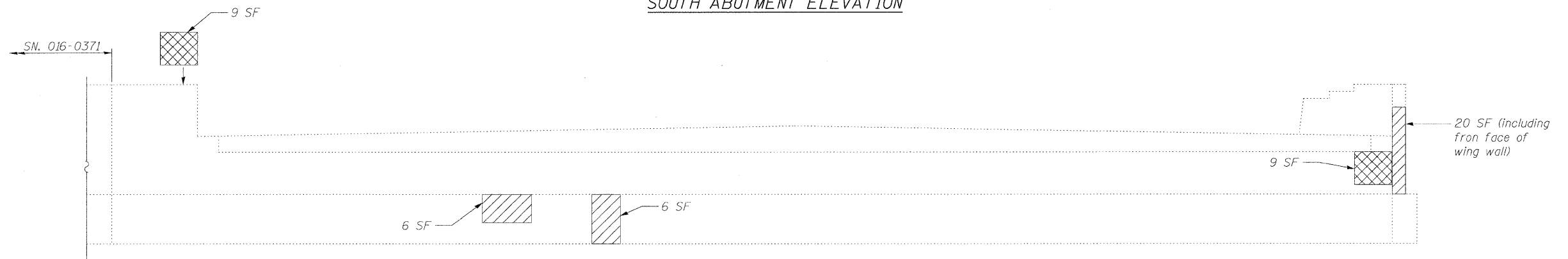
Checked By: MTH
File: 016-0973.dgn

Drawn By: TBP

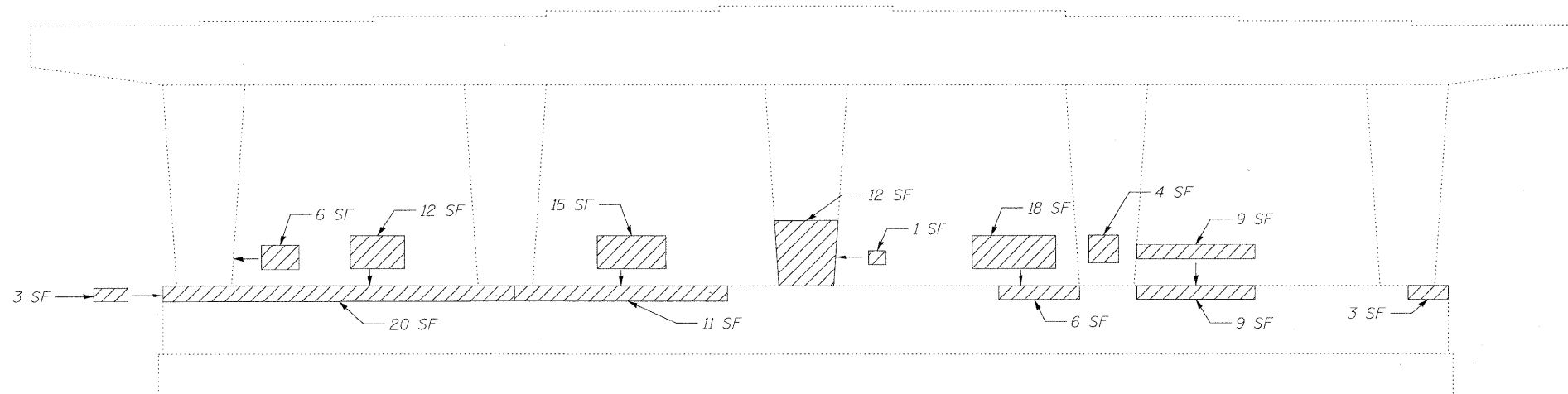
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SOUTH ABUTMENT ELEVATION



NORTH ABUTMENT ELEVATION



PIER 3 ELEVATION

(South Face)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 in.)	Sq. Ft.	216
Structural Repair of Concrete (Depth Greater Than 5 in.)	Sq. Ft.	31

Repair of the existing substructure shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LEGEND

Indicates Structural Repair of Concrete
(Depth Equal to or Less Than 5")

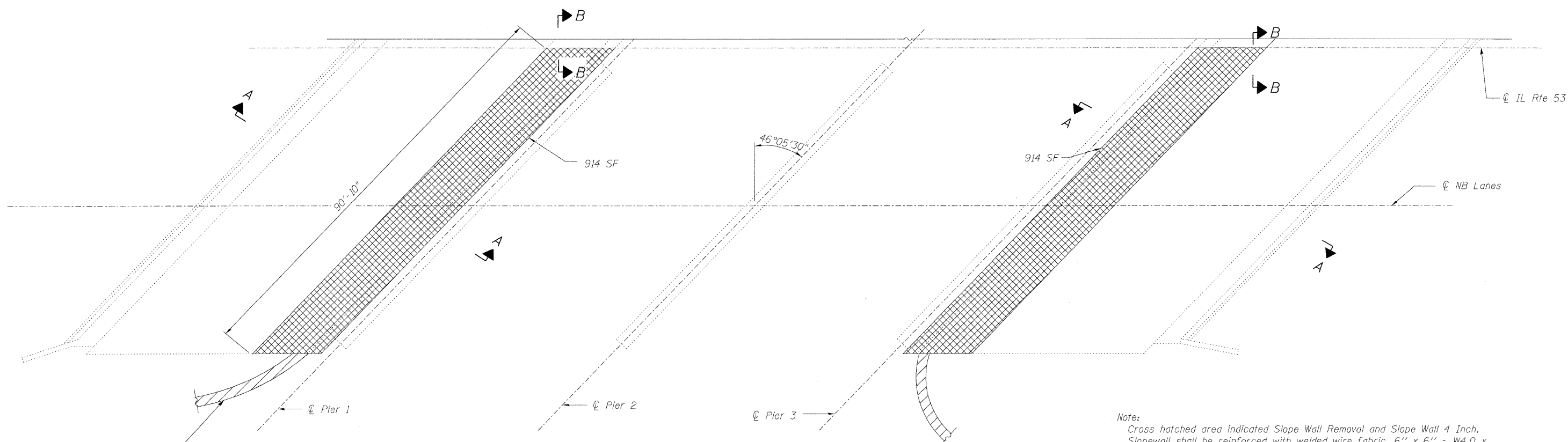
Indicates Structural Repair of Concrete
(Depth Greater Than 5")

SF Square Feet

SUBSTRUCTURE REPAIR
STRUCTURE NO. 016-0973

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: ESH Checked By: MTH Drawn By: TBP Date: 12/2009 File: 08-0973.dgn</small>	SHEET NO. 8 11 SHEETS	F.A.I. RTE. 290	SECTION (531-3.1,0305-302K)RS-5	COUNTY COOK	TOTAL SHEETS 314	SHEET NO. 145
	FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT		CONTRACT NO. 60138			

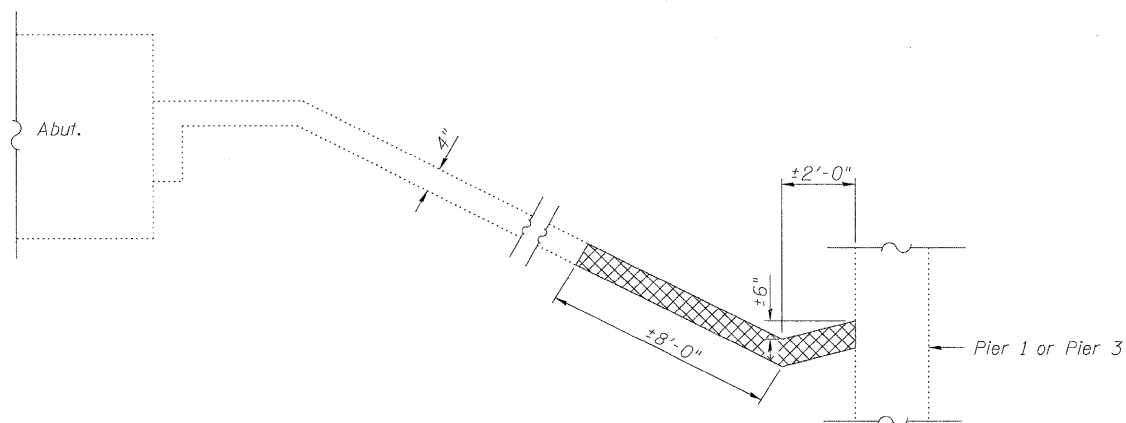
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



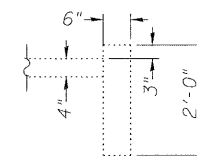
Grade ditch to drain, typ.
Cost included with "Slope Wall 4 inch"

PLAN

Note:
Cross hatched area indicated Slope Wall Removal and Slope Wall 4 Inch.
Slopewall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Slope Wall Removal.
Existing and new welded wire fabric must be lapped at least 6".
Repair of the existing slope walls shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.



SECTION A-A



SECTION B-B

LEGEND

SF Square Feet

BILL OF MATERIAL

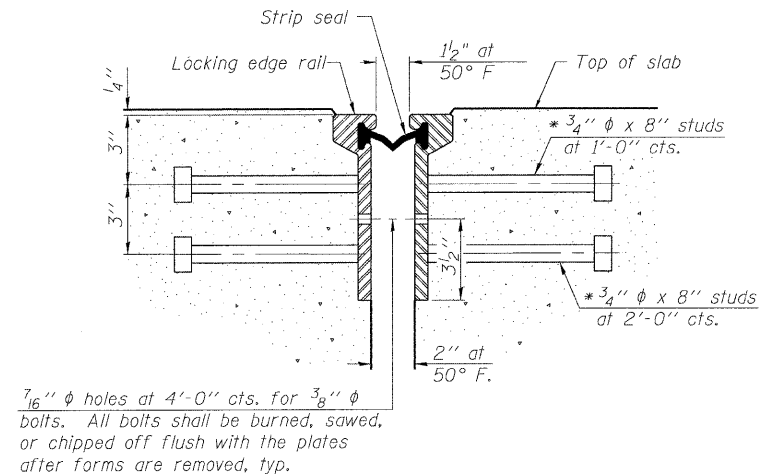
ITEM	UNIT	TOTAL
Slope Wall Removal	Sq. Yd.	203
Slope Wall 4 Inch	Sq. Yd.	203

SLOPE WALL REPAIR
STRUCTURE NO. 016-0973

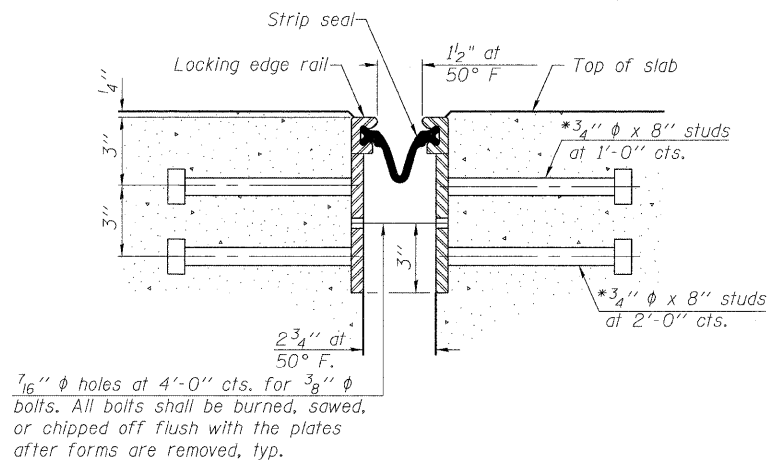
LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: ESH Checked By: MTH Drawn By: TBP Date: 12/2009 File: 016-0973.dgn</small>	SHEET NO. 9	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	146
				CONTRACT NO. 60138		
		FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

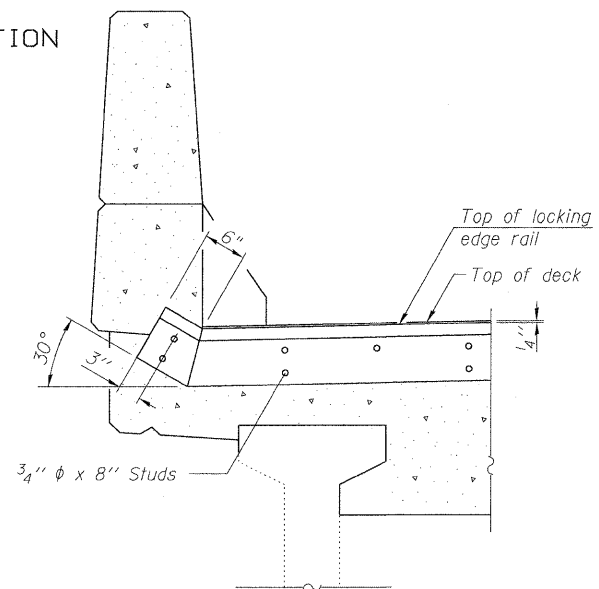
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



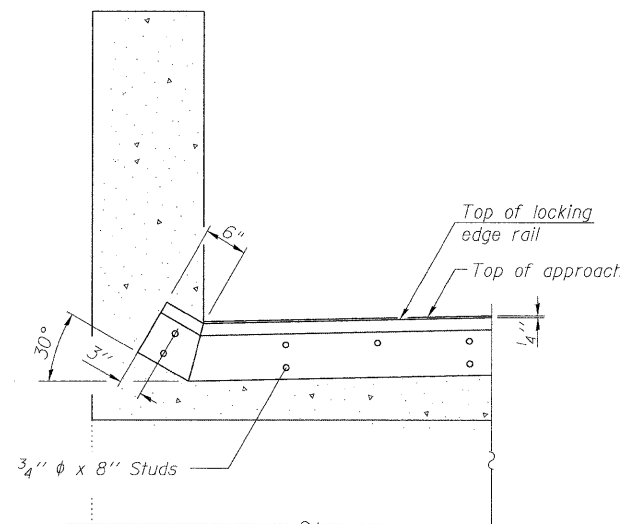
SECTION THRU
ROLLED RAIL JOINT



SECTION THRU
WELDED RAIL JOINT



AT PARAPET



AT WING WALL

TYPICAL END TREATMENTS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

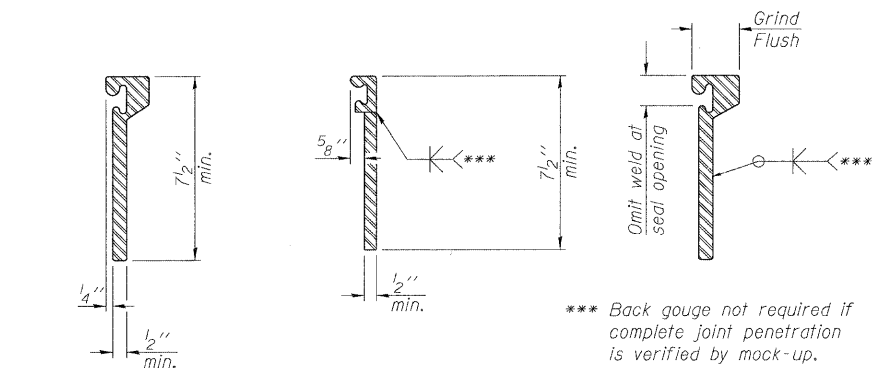
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

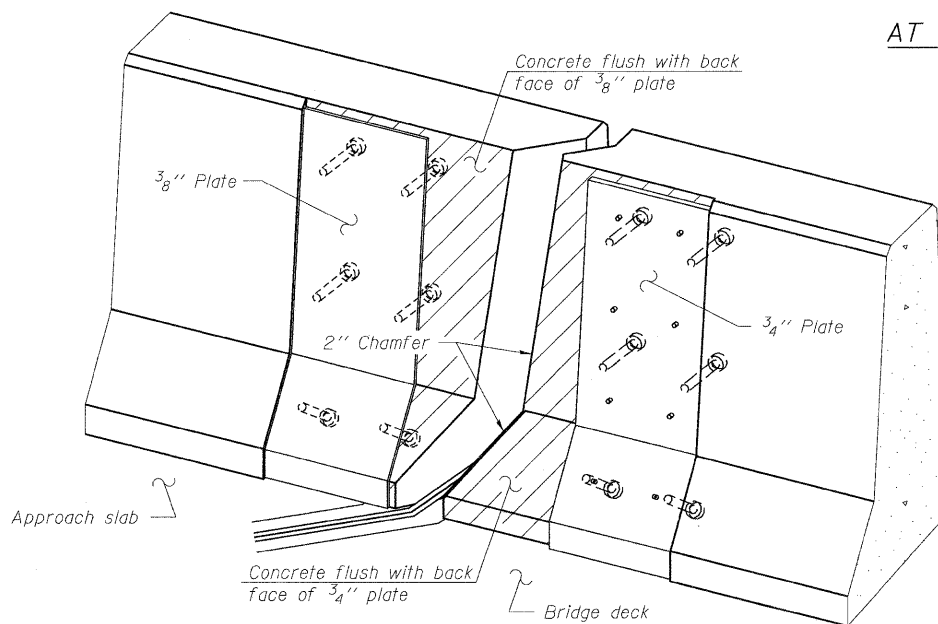


ROLLED
EXTRUDED RAIL

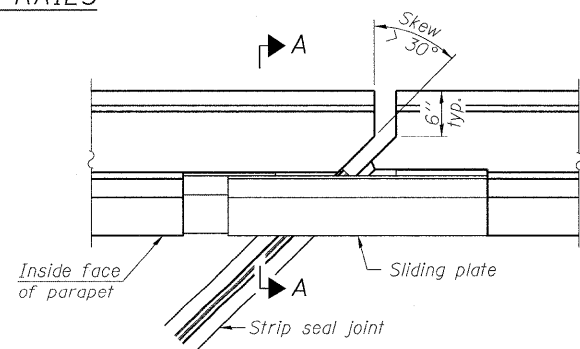
WELDED RAIL

LOCKING EDGE
RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
Rolled rail shown, welded rail similar.

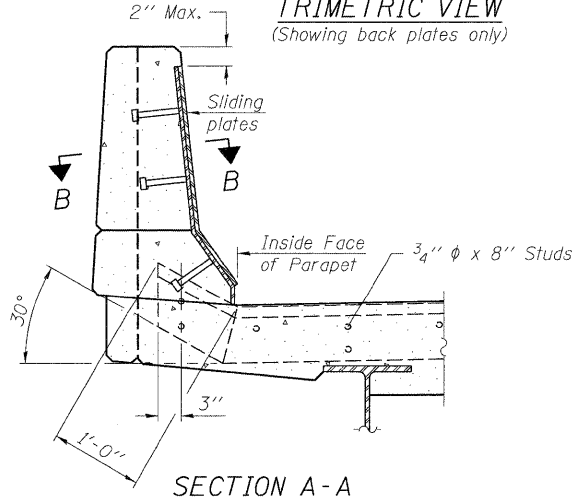


LOCKING EDGE RAILS



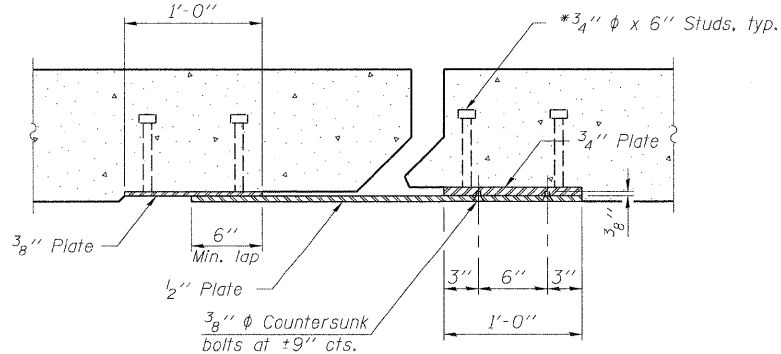
PLAN

TRIMETRIC VIEW
(Showing back plates only)



SECTION A-A

POINT BLOCK DETAILS
(for skews > 30°)



SECTION B-B

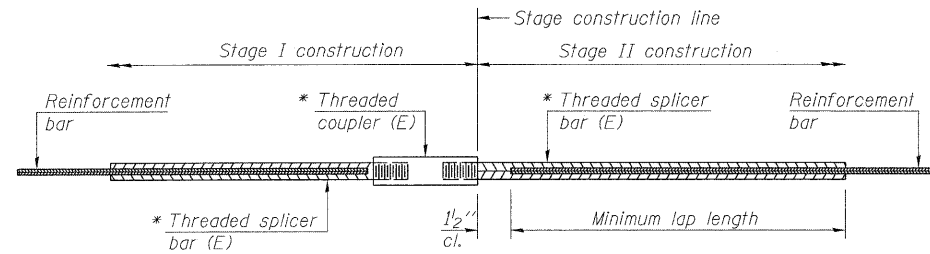
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	160

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-0973

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: ESH Checked By: MTH Date: 12/2005</small>	SHEET NO. 10	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-31,0305-302K)RS-5	COOK	314	1/77
		FED. ROAD DIST. NO. _ ILLINOIS		CONTRACT NO. 60138		
		FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

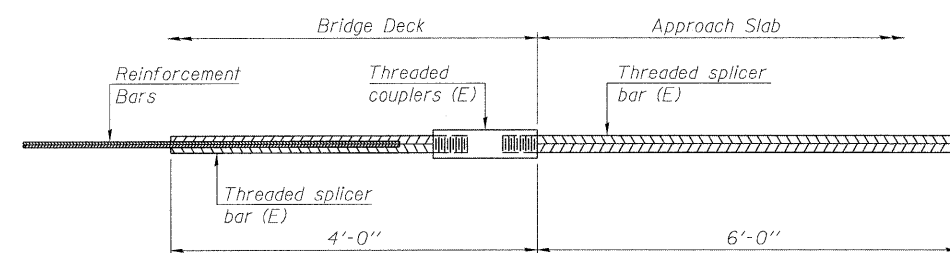
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

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

Threaded splicer bar length = min. lap length + 1/2" + thread length

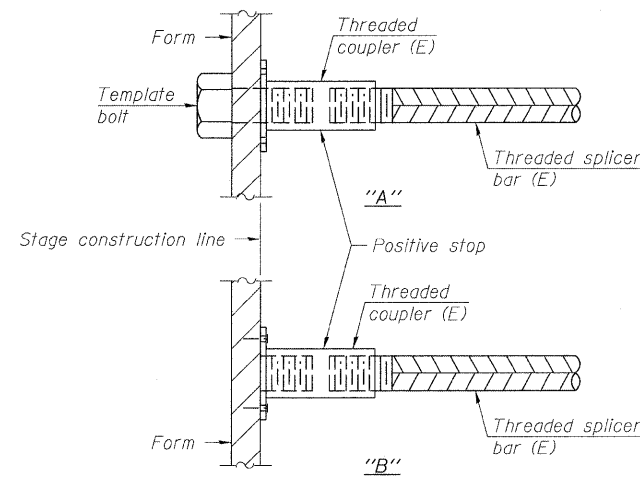
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#7	16	Table 4
Abutment	#5	8	Table 4



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

No. required =

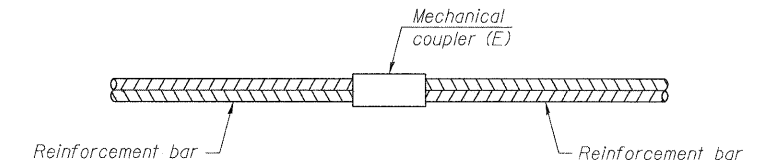


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

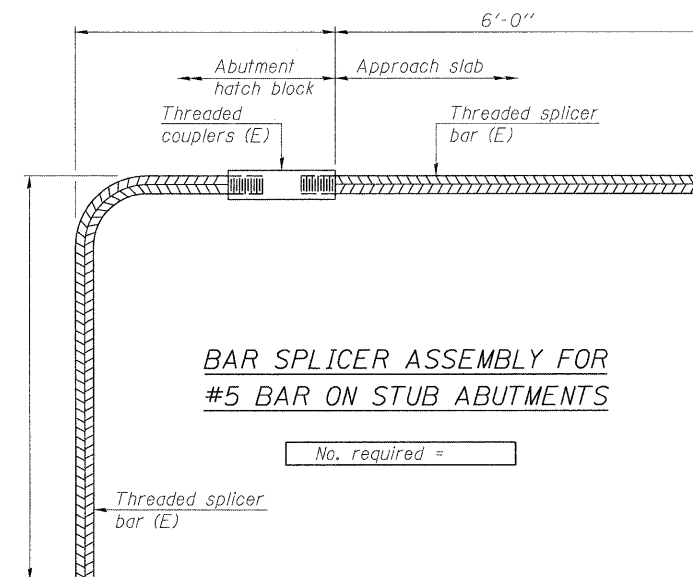
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

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

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-0973

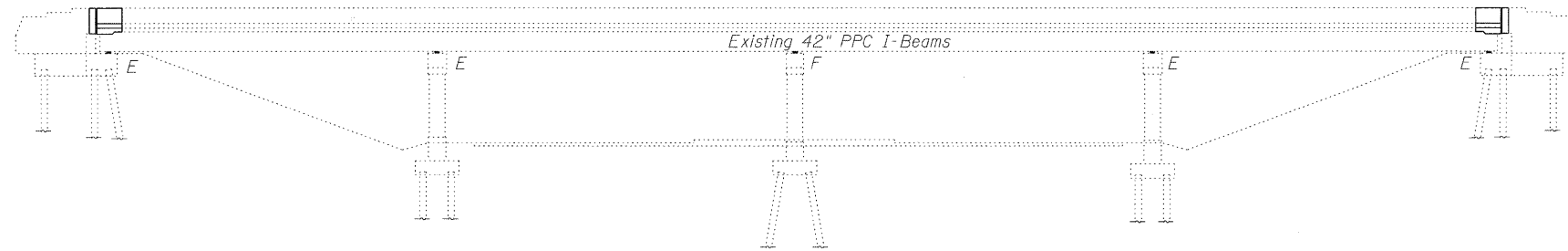
<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 11	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302)RS-5	COOK	314	148
Designed By: ESH Checked By: MTH Date: 12/2009		Drawn By: TBP File: 016-0973.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Existing Structure:
Structure No. 016-0371, constructed in 1965 as F.A. 61, Section 531-3HB-2. In 1971, the deck was patched and overlay was provided. In 1987 under F.A. 432, existing bituminous surface was replaced with 2" concrete overlay and parapet was retrofitted. Existing structure is a four span bridge utilizing PPC I-Beams, supported by multi-column concrete piers and pile bent abutments, 228'-3" bk. to bk. abutments, 58'-0" out to out deck with a left ahead skew angle of 46°05'30". Stage Construction shall be utilized to maintain traffic during construction.

SCOPE OF WORK

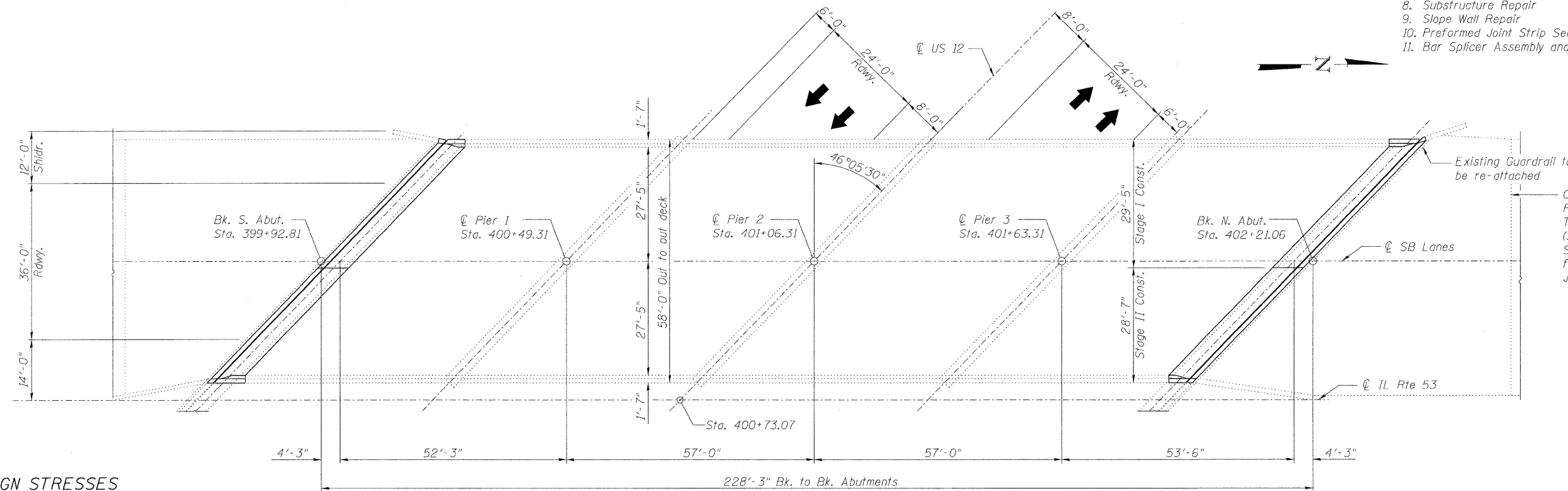
1. Remove and replace concrete deck adjacent to expansion joints.
2. Provide preformed joint strip seal expansion joints at abutments.
3. Apply Concrete Sealer to top of concrete deck and top and inside vertical face of parapets.
4. Repair deck slab.
5. Clean and Reseal Relief Joints.
6. Repair deteriorated concrete on abutments, piers and slope wall.
7. Jack and remove existing bearings and replace with elastomeric bearings.



ELEVATION

INDEX OF SHEETS

1. General Plan and Elevation
2. General Notes and Details
3. Temporary Concrete Barrier for Stage Construction
4. Deck Slab Repair
5. Concrete Removal
6. Concrete Details
7. Bearing Details
8. Substructure Repair
9. Slope Wall Repair
10. Preformed Joint Strip Seal
11. Bar Splicer Assembly and Mechanical Splicer Details.



DESIGN STRESSES

FIELD UNITS

Existing Construction

$f_c = 1,400$ psi (Substructure & Superstructure)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 20,000$ psi (Structural Steel)

New Construction

$f_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (Structural Steel) (M270 Gr. 36)

PRECAST PRESTRESSED UNITS

Existing Construction

$f_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f_s = 248,000$ psi
 $f_{si} = 173,600$ psi

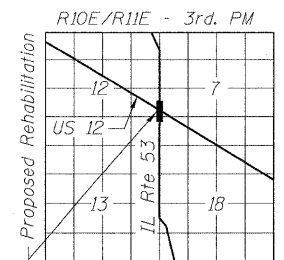
DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges"

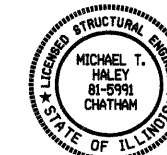
LOADING HS 20-44

(Original Construction)

PLAN



LOCATION SKETCH



Michael J. Haley 2/18/10
Date
Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2010

GENERAL PLAN AND ELEVATION
SB IL RTE 53 OVER US 12 (RAND RD.)
F.A.I. RTE 290
SECTION (531-3.1,0305-302K)RS-5
COOK COUNTY
STATION 400+73.07
STRUCTURE NO. 016-0371

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	149
Designed By: ESH Date: 12/2009	Checked By: MTH File: 016-0371.dgn	Drawn By: TBP	CONTRACT NO. 60138			
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

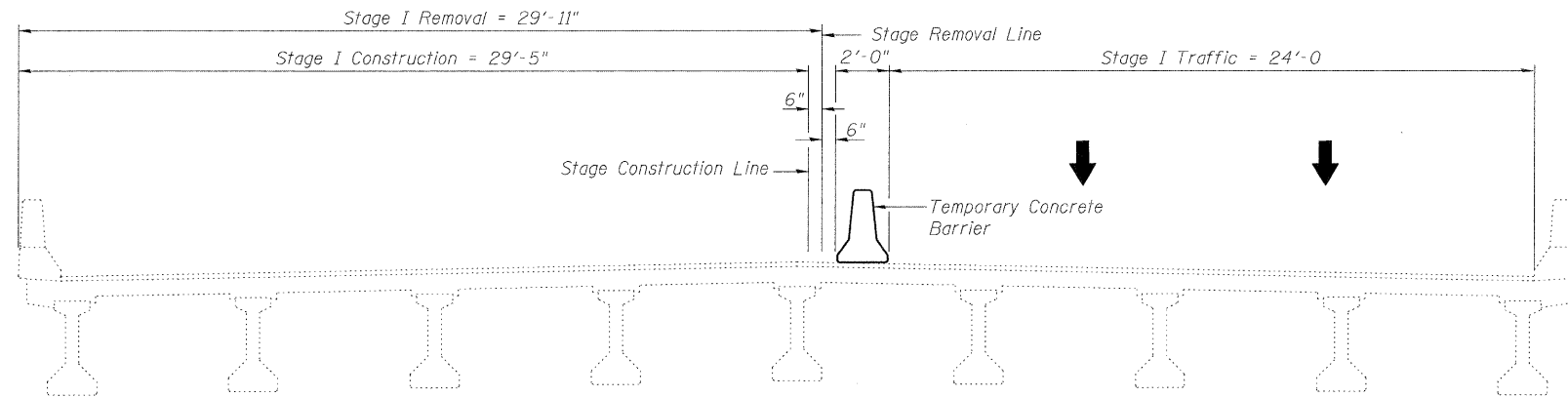
GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

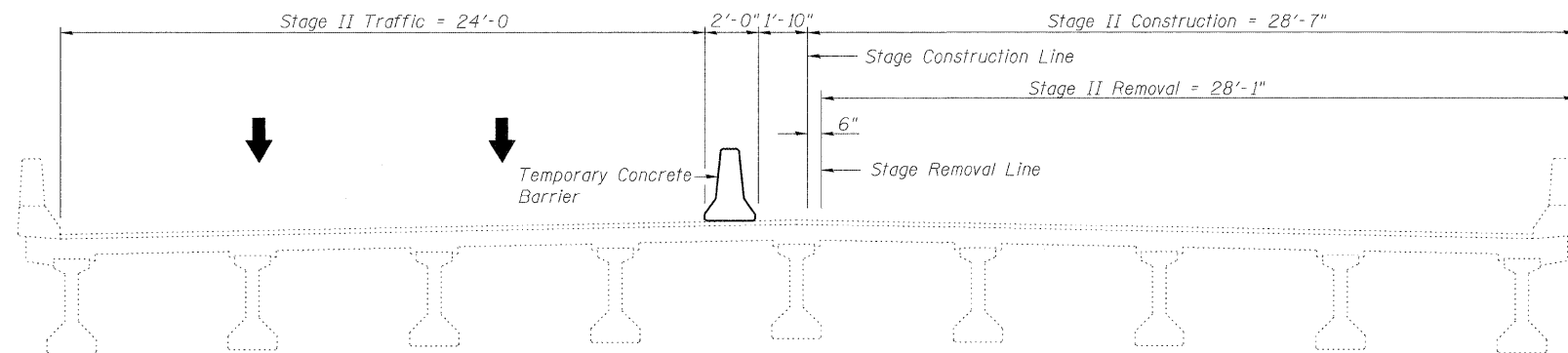
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.



STAGE I REMOVAL & CONSTRUCTION

(Looking North)



STAGE II REMOVAL & CONSTRUCTION

(Looking North)

TOTAL BILL OF MATERIAL

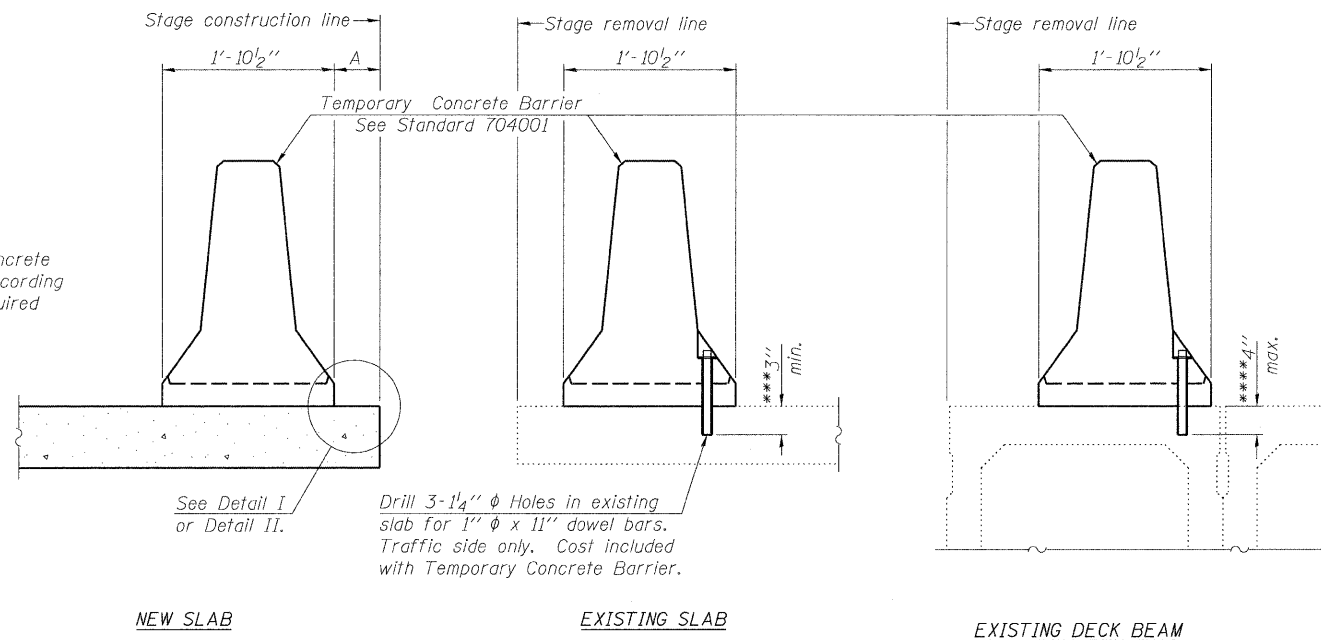
ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	51.1	-	51.1
Slope Wall Removal	Sq. Yd.	-	203	203
Protective Shield	Sq. Yd.	634	-	634
Concrete Superstructure	Cu. Yd.	51.1	-	51.1
Jack and Remove Existing Bearings	Each	-	18	18
Reinforcement Bars, Epoxy Coated	Pound	6650	-	6650
Bar Splicers	Each	24	-	24
Slope Wall 4 Inch	Sq. Yd.	-	203	203
Preformed Joint Strip Seal	Foot	160	-	160
Elastomeric Bearing Assembly, Type II (Special)	Each	-	18	18
Anchor Bolts, 1"	Each	-	36	36
Concrete Sealer	Sq. Ft.	14177	-	14177
Structural Repair of Concrete (Depth Greater Than 5 in.)	Sq. Ft.	-	106	106
Structural Repair of Concrete (Depth Equal To or Less Than 5 in.)	Sq. Ft.	-	175	175
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	76.3	-	76.3
Deck Slab Repair (Partial)	Sq. Yd.	31.7	-	31.7
Clean and Reseal Relief Joint	Foot	104	-	104

GENERAL NOTES AND DETAILS
STRUCTURE NO. 016-0371

	SHEET NO. 2 11 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	150
Designed By: ESH Checked By: MTH Drawn By: TBP Date: 12/2009 File: 016-0371.dgn		CONTRACT NO. 60138 FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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



NEW SLAB

EXISTING SLAB

EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

Drill 3-1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

See Detail I or Detail II.

NOTES

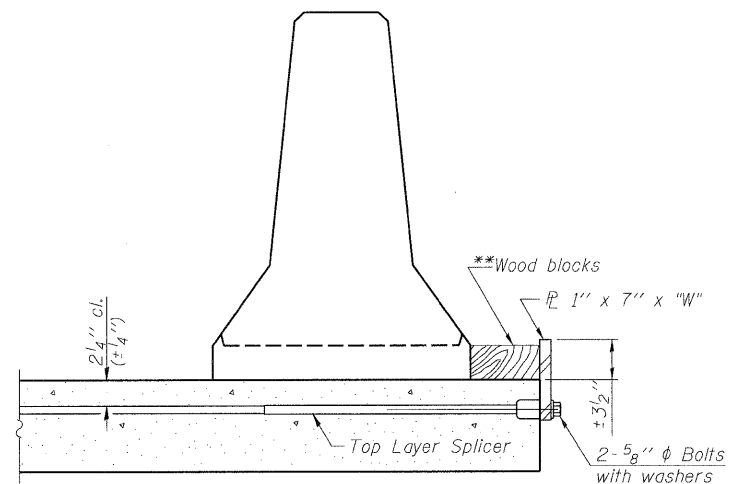
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{P} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{P} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

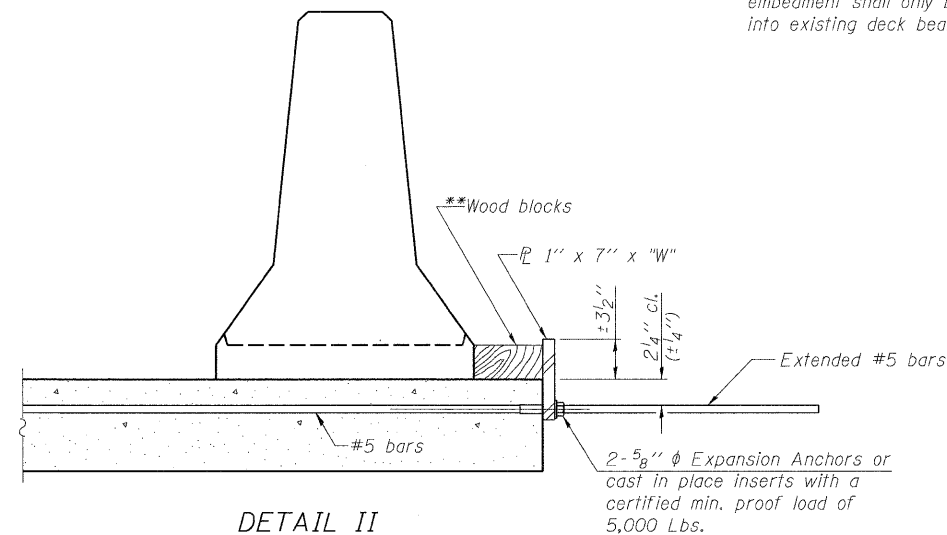
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

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

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



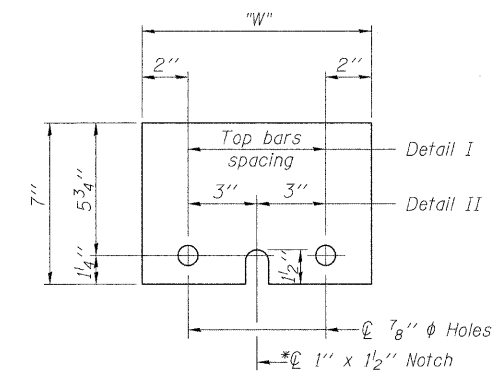
DETAIL I



DETAIL II

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

"W" = Top bars spacing + 4"



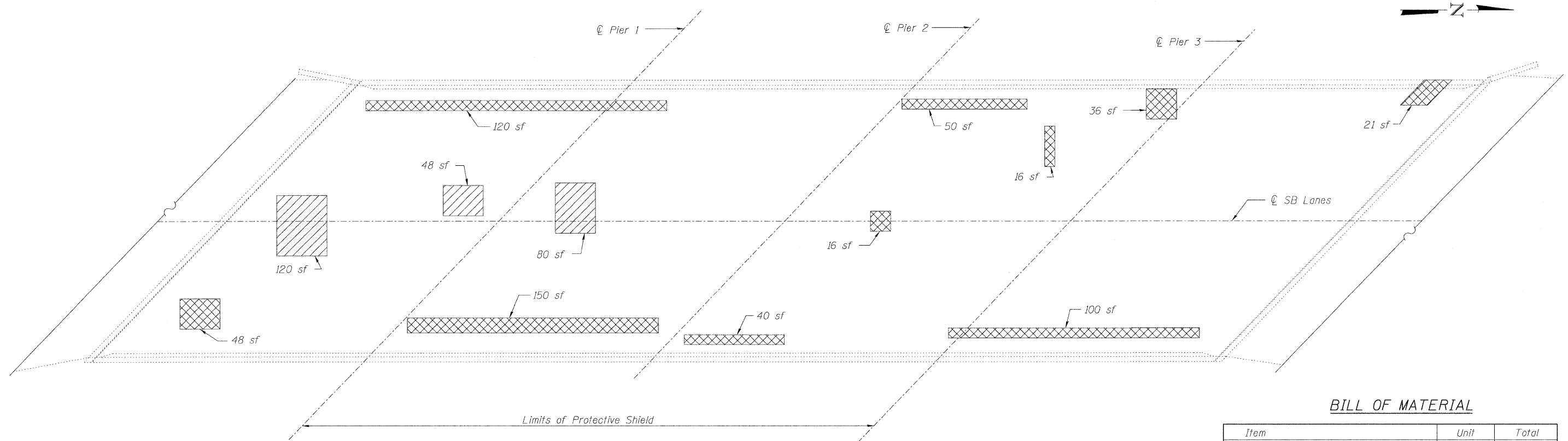
STEEL RETAINER \bar{P} 1" x 7" x 10"

* Required only with Detail II

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-0371

	SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	157
Designed By: ESH Checked By: WTH Date: 12/2009		Drawn By: TBP File: 016-0371.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	76.3
Deck Slab Repair (Partial)	Sq. Yd.	31.7
Protective Shield	Sq. Yd.	6.34

Repair of the existing deck slab shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LEGEND

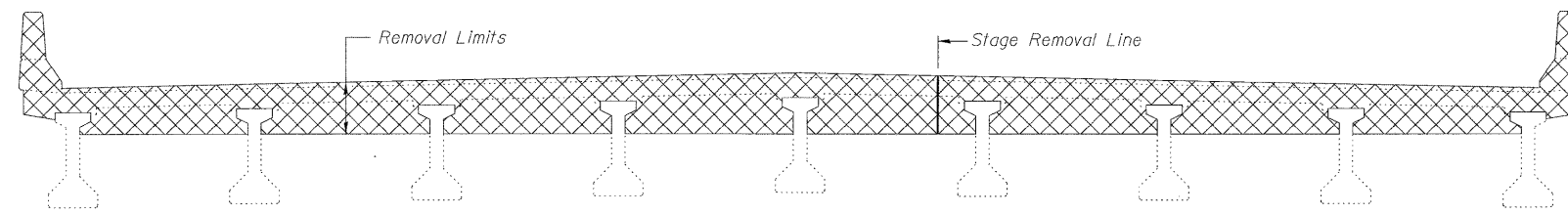
- Indicates Deck Slab Repair (Partial)
- Indicates Deck Slab Repair (Full Depth, Type II)

sf Square Feet

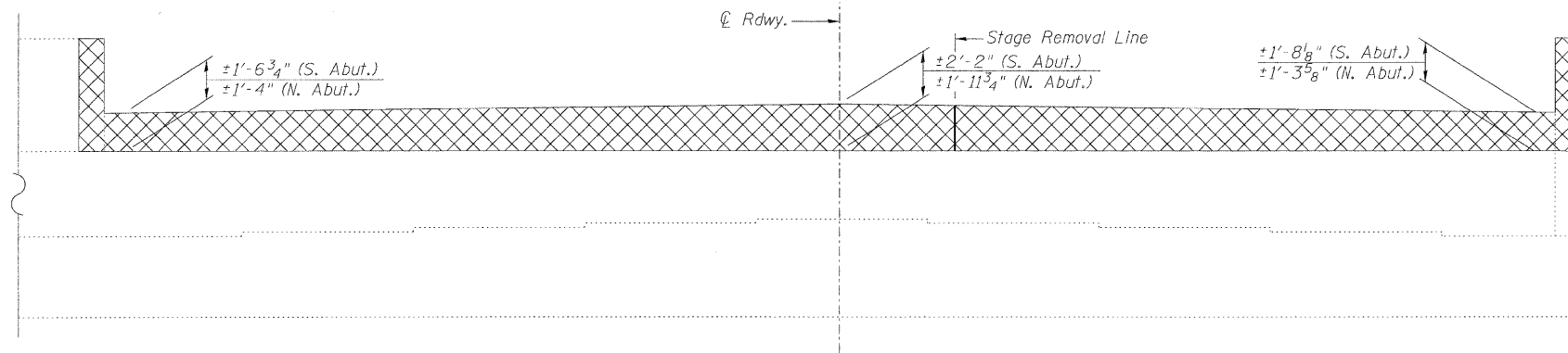
DECK SLAB REPAIR
STRUCTURE NO. 016-0371

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	152	
Designed By: ESH Checked By: MTH Drawn By: TBP Date: 12/2008 File: 016-0371.dgn		CONTRACT NO. 60138					
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

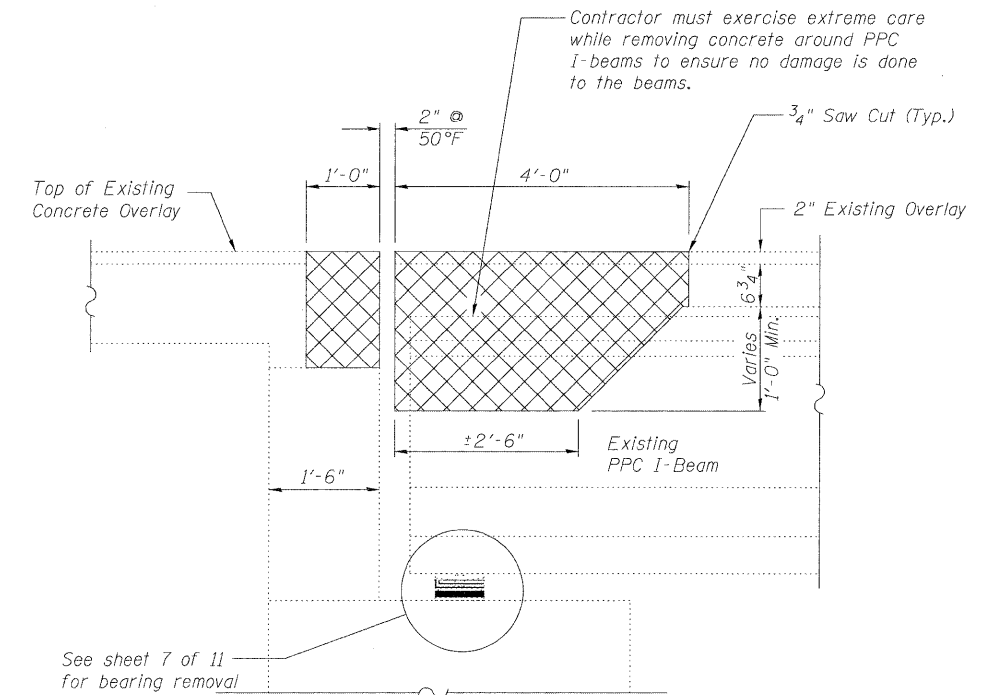


SECTION A-A



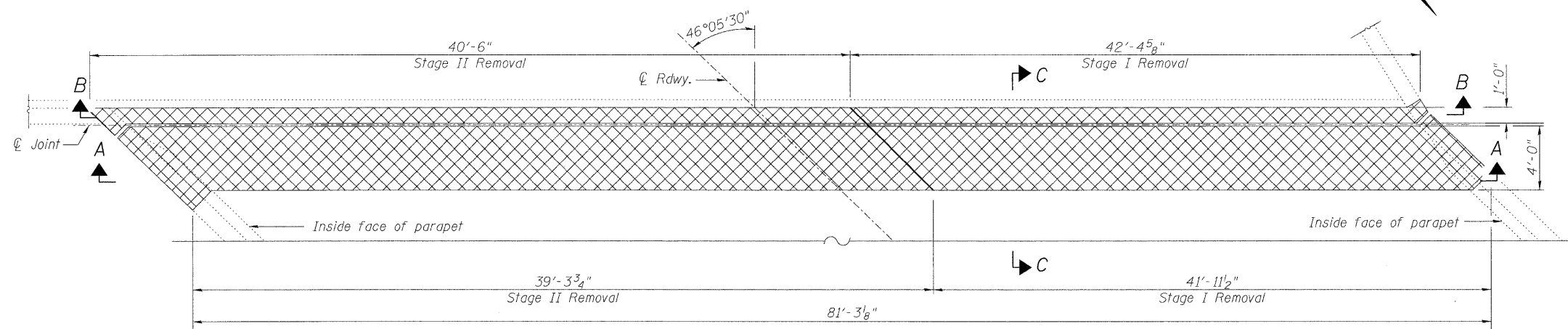
SECTION B-B

(South abutment shown, north abutment mirrored about C.Rdwy.)



SECTION C-C
(Dimensions at Rt. L's)

See sheet 7 of 11
for bearing removal



PLAN

(South abutment shown, north abutment mirrored about C.Rdwy.)

Notes:

1. Cross hatched area indicates concrete removal.
2. Existing reinforcement bars in the concrete removal area extending in new construction shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
3. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system, in accordance with IDOT Standard Specifications Article 501.03. Cost included in "Concrete Removal"
4. Overlay removal is included in pay item Concrete Removal.

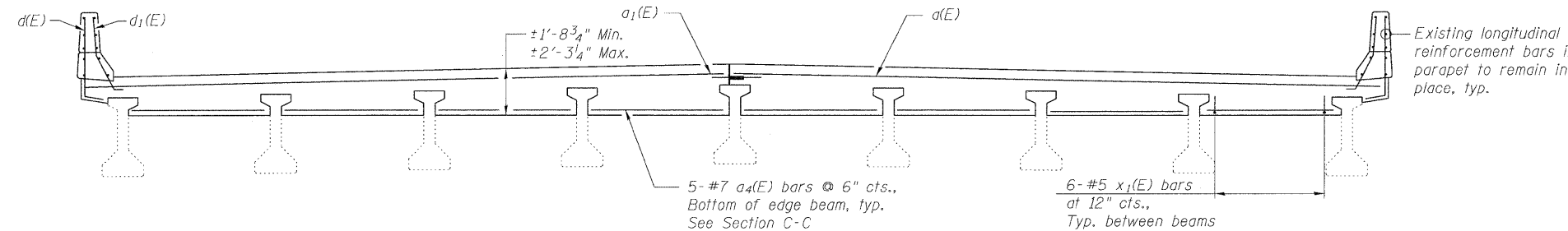
BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	51.1

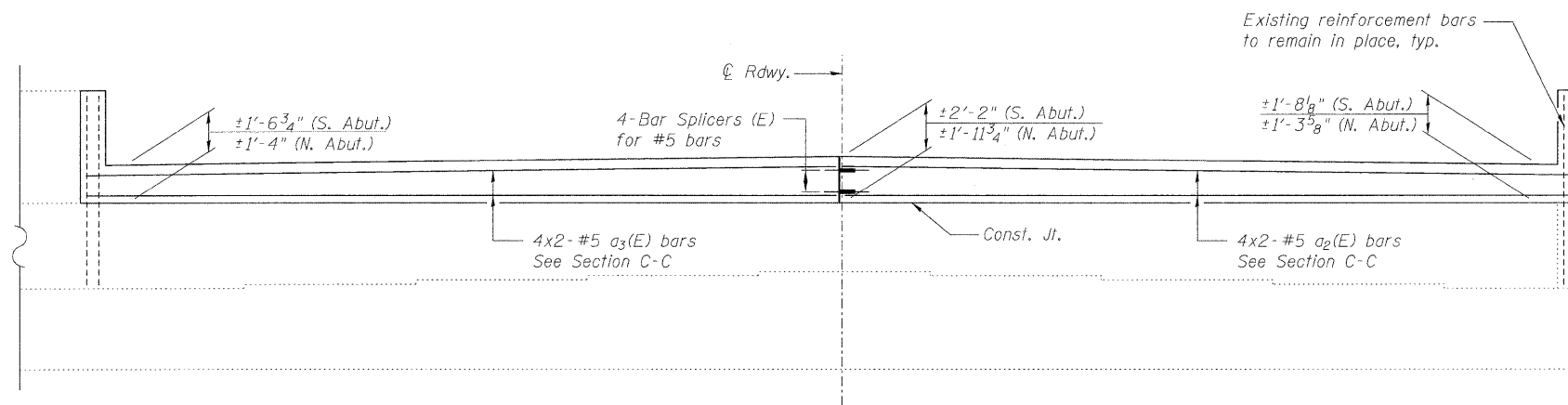
CONCRETE REMOVAL
STRUCTURE NO. 016-0371

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	153	
<p>Designed By: ESH Checked By: MFI Drawn By: TBP Date: 12/2009 File: 016-0371.dgn</p>		<p>FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT</p>				<p>CONTRACT NO. 60138</p>	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

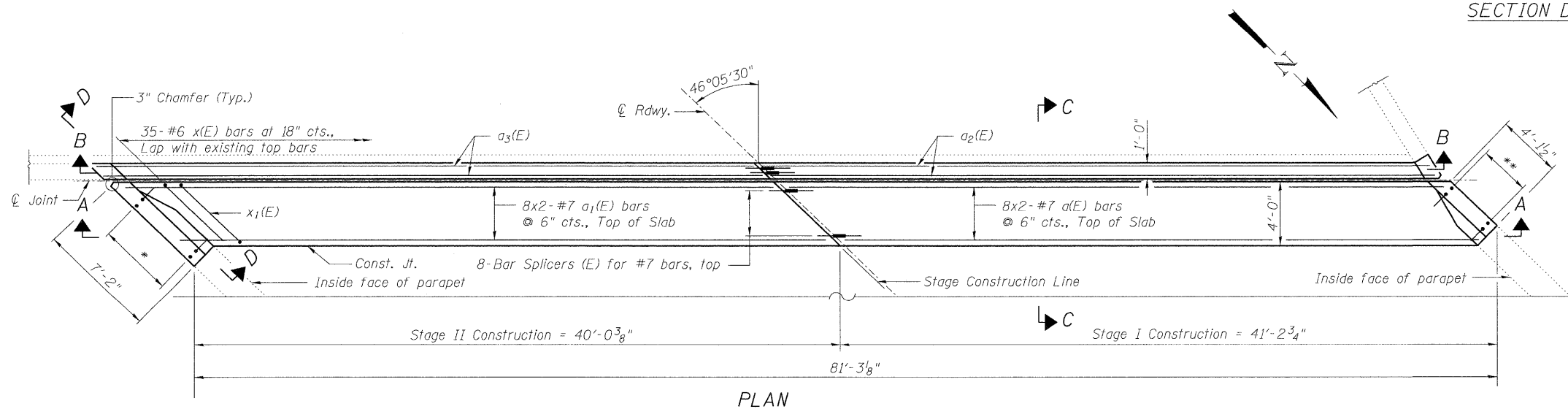


SECTION A-A



SECTION B-B

(South abutment shown, north abutment mirrored about \bar{C} Rdwy.)



PLAN

(South abutment shown, north abutment mirrored about \bar{C} Rdwy.)

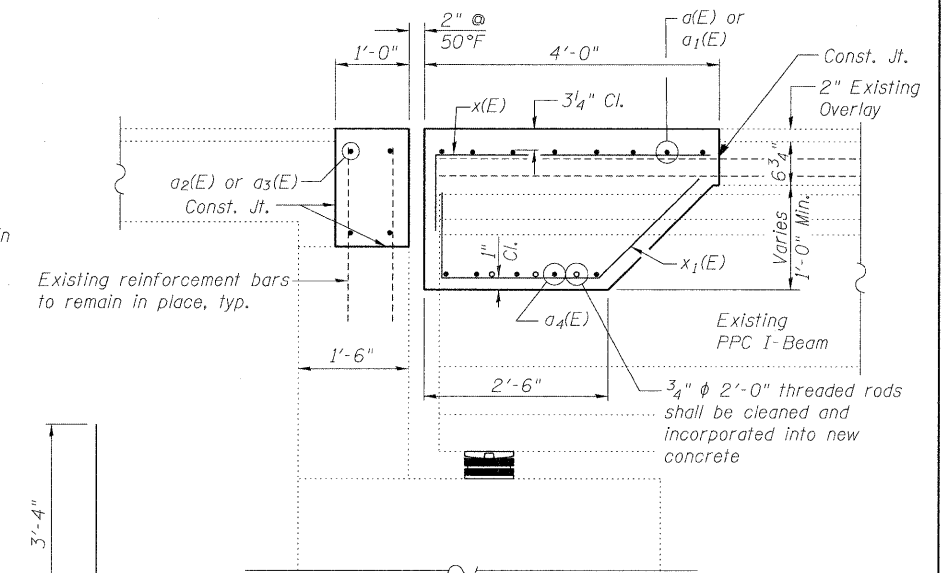
* 7-#5 d(E) at 12" cts., 7-#5 d1(E) at 12" cts.
** 5-#5 d(E) at 12" cts., 5-#5 d1(E) at 12" cts.

Note:
Bend d(E) and d1(E) bars in field as required.

MINIMUM BAR LAP

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

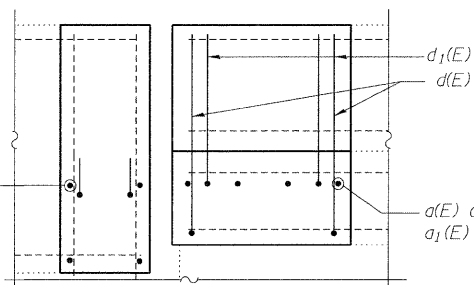
Note: Bar spacings for x(E) and x1(E) are perpendicular to \bar{C} beam.



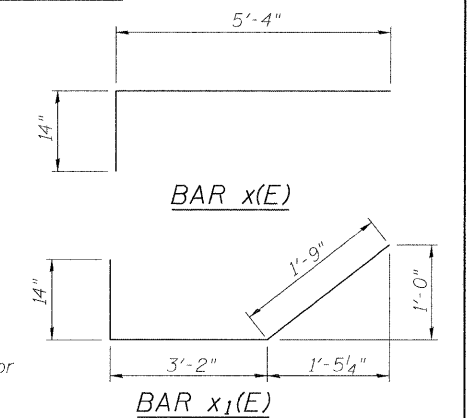
SECTION C-C



BAR d(E)



SECTION D-D



BAR x(E)

BAR x1(E)

BILL OF MATERIAL

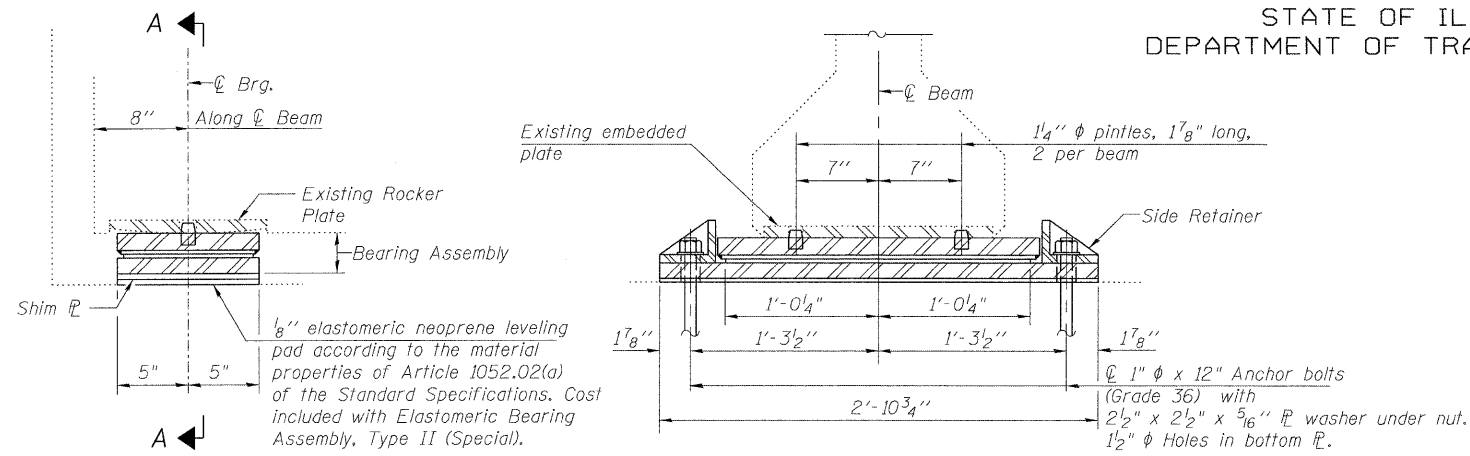
Bar	No.	Size	Length	Shape
a(E)	32	#7	23'-1"	—
a1(E)	32	#7	22'-6"	—
a2(E)	16	#5	22'-3"	—
a3(E)	16	#5	21'-8"	—
a4(E)	80	#7	8'-8"	—
d(E)	24	#5	4'-4"	L
d1(E)	24	#5	4'-4"	L
x(E)	70	#6	6'-6"	┘
x1(E)	96	#5	6'-1"	┘
Reinforcement Bars, Epoxy Coated		Pound	6650	
Concrete Superstructure		Cu. Yd.	51.1	

Bars indicated thus 8x2-#7 etc. indicates 8 lines of bars with 2 lengths per line.

CONCRETE DETAILS
STRUCTURE NO. 016-0371

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 6	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	34	154
Designed By: ESH Checked By: MTH Drawn By: TBP Date: 12/29/29 File: 016-0371.dgn		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT		CONTRACT NO. 60138		

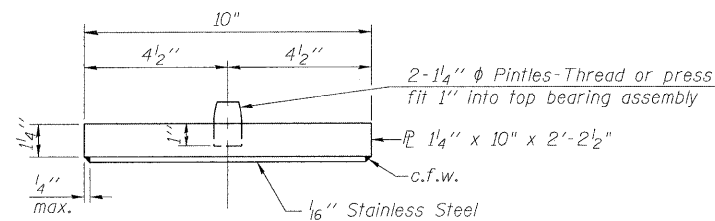
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



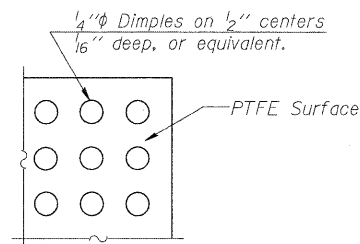
SECTION AT ABUT.
(Anchor bolt not shown)

SECTION A-A

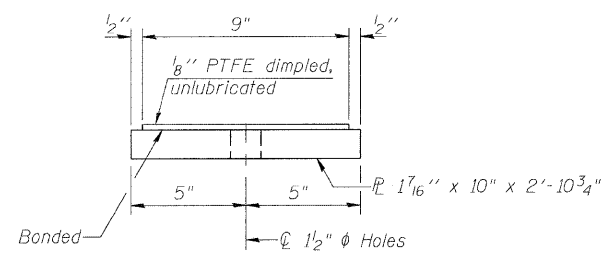
TYPE II ELASTOMERIC EXP. BRG. AT ABUTMENTS



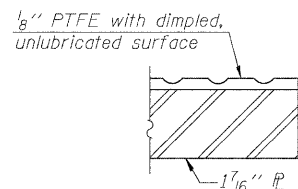
TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE



BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE

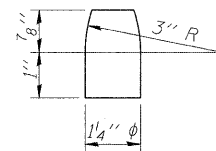
REQUIRED SHIM PLATE TABLE

Beam	Location	Size
9	South Abut.	9/16" x 10" x 2'-10 3/4"
9	North Abut.	9/16" x 10" x 2'-10 3/4"

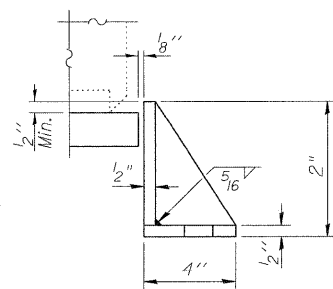
Note: Beam 9 is the closest beam to CL IL Rte 53

INTERIOR BEAM REACTION TABLE

R _{CL}	(k)	35.0
R _{1/4}	(k)	43.0
R ₁	(k)	12.0
R _{Total}	(k)	90.0

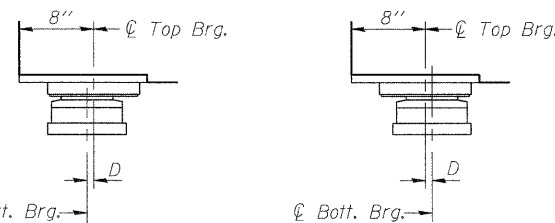
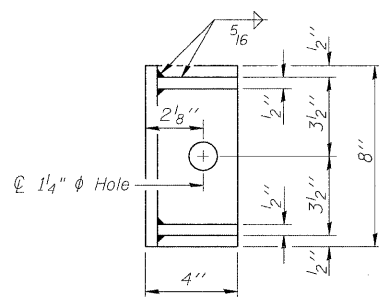


PINTLE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50°F.

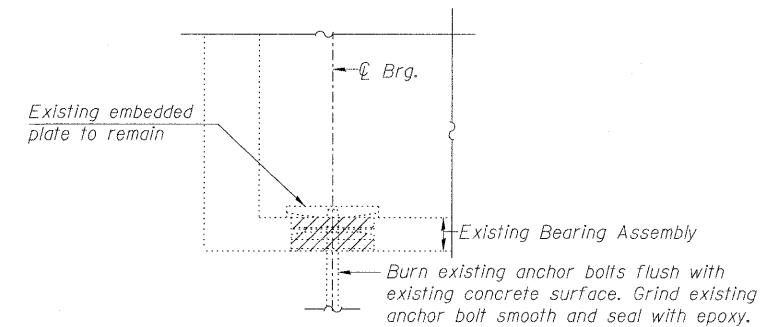
(Move bott. brg. away from fixed brg.)

ABOVE 50°F.

(Move bott. brg. toward fixed brg.)

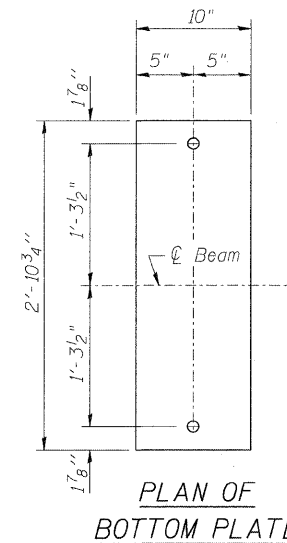
SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



PLAN OF BOTTOM PLATE

Notes:

The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M270 Grade 50.

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

Anchor bolts for Type II bearings shall be placed in holes in the concrete drilled through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

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

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II (Special).

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

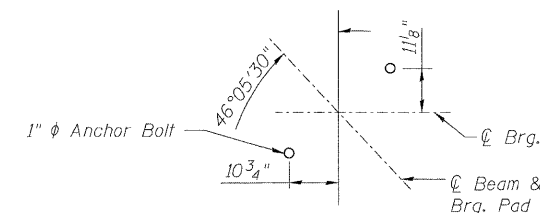
All bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

Minimum jack capacity = 50 Tons

Cost of all bearing plates, side retainers and labor required to install them will be paid for at the contract unit price cost per each for Elastomeric Bearing Assembly, Type II (Special).

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II (Special)	Each	18
Anchor Bolts, 1"	Each	36
Jack and Remove Existing Bearings	Each	18

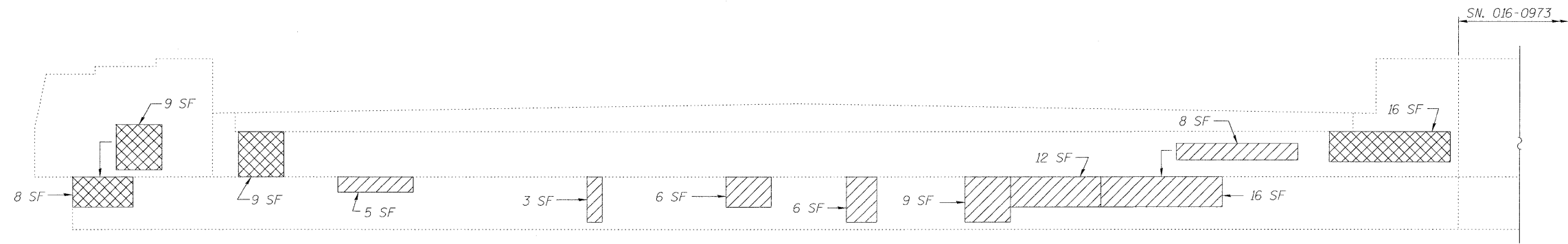


ANCHOR BOLT LOCATION

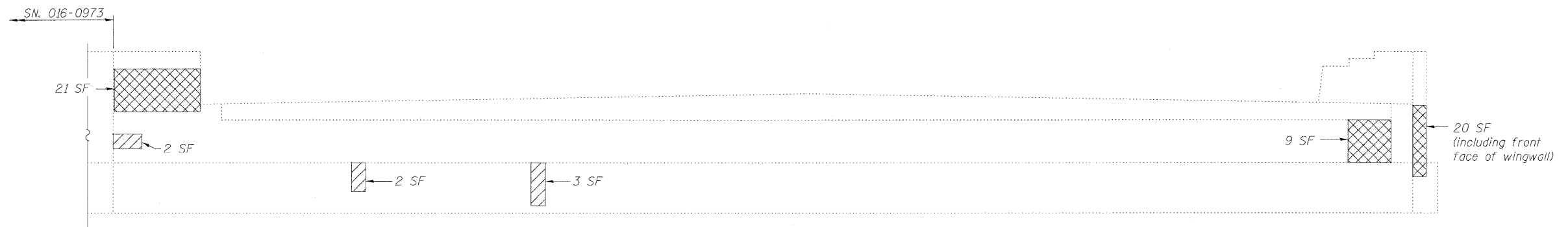
**BEARING DETAILS
STRUCTURE NO. 016-0371**

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	155
<p>Designed By: ESH Date: 12/2009</p>		<p>Checked By: MTH File: 016-0371.dgn</p>		<p>Drawn By: TBP</p>		<p>CONTRACT NO. 60138</p>
<p>FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT</p>						

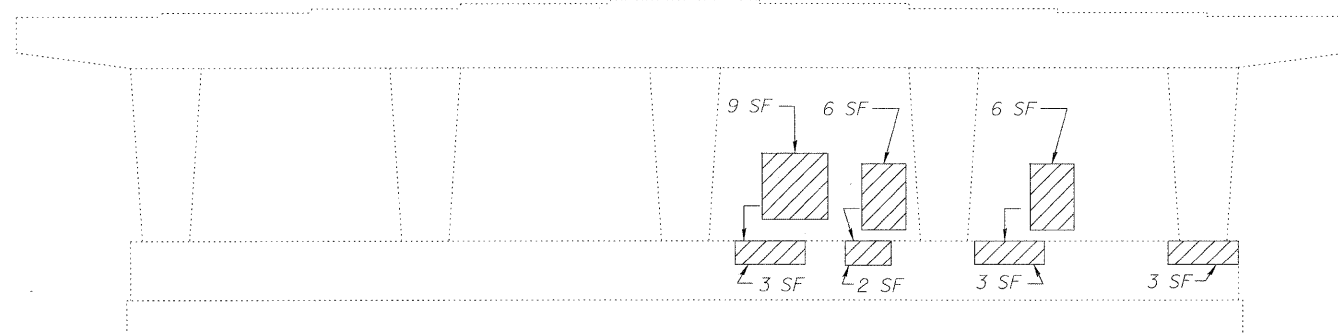
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



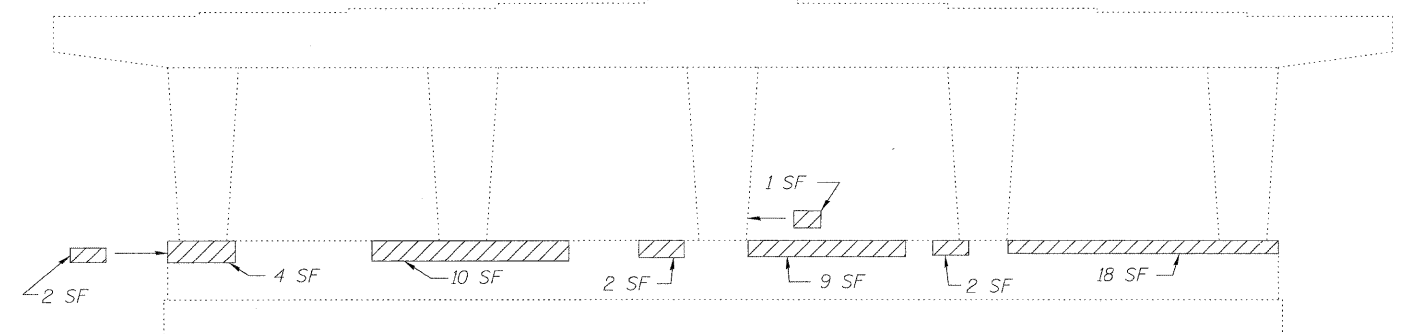
NORTH ABUTMENT ELEVATION



SOUTH ABUTMENT ELEVATION



PIER 1 ELEVATION
(North Face)



PIER 3 ELEVATION
(South Face)

LEGEND

- Indicates Structural Repair of Concrete (Depth Equal to or Less Than 5")
- Indicates Structural Repair of Concrete (Depth Greater Than 5")

SF Square Feet

BILL OF MATERIAL

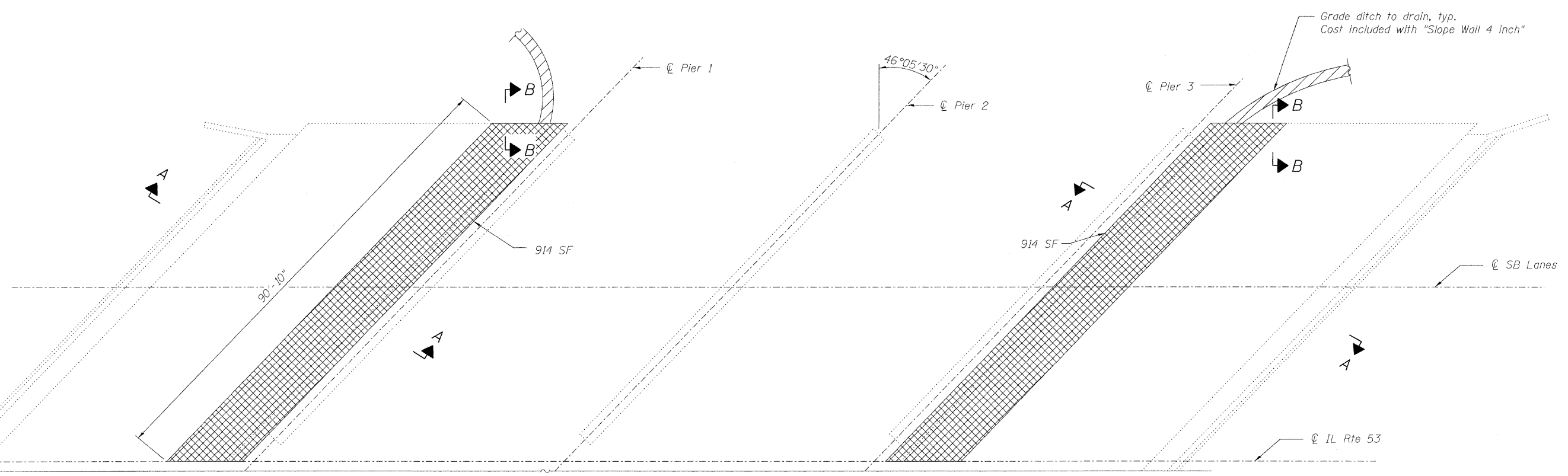
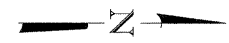
ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 in.)	Sq. Ft.	175
Structural Repair of Concrete (Depth Greater Than 5 in.)	Sq. Ft.	106

Repair of the existing substructure shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

SUBSTRUCTURE REPAIR
STRUCTURE NO. 016-0371

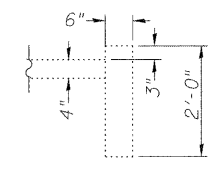
 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 8	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	156
Designed By: ESH Date: 12/2009		Checked By: MTH File: 016-0371.dgn		FED. ROAD DIST. NO. _		ILLINOIS FED. AID PROJECT
CONTRACT NO. 60138						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Note:
Cross hatched area indicated Slope Wall Removal and Slope Wall 4 Inch.
Slopewall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Slope Wall Removal.
Existing and new welded wire fabric must be lapped at least 6".
Repair of the existing slope walls shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.



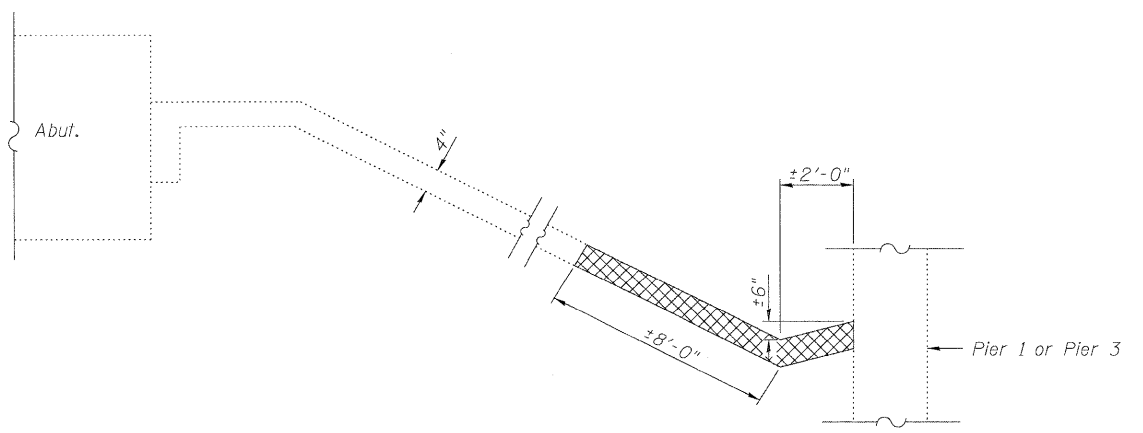
SECTION B-B

LEGEND

SF Square Feet

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Slope Wall Removal	Sq. Yd.	203
Slope Wall 4 Inch	Sq. Yd.	203



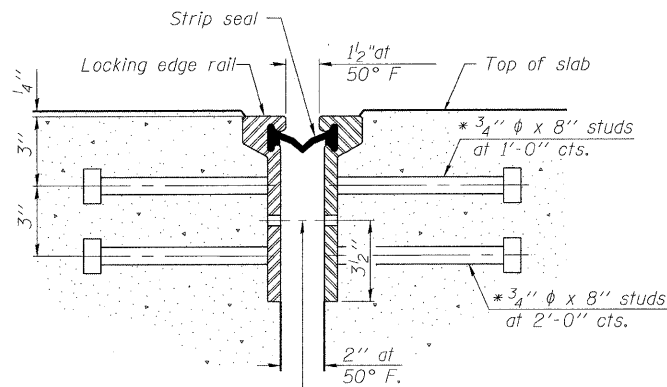
SECTION A-A

SLOPE WALL REPAIR
STRUCTURE NO. 016-0371

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 9	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	157
<small>Designed By: ESH Date: 12/2009</small>		<small>Checked By: MTH File: 016-0371.dgn</small>		<small>Drawn By: TBP</small>		CONTRACT NO. 60138
		FED. ROAD DIST. NO. _		ILLINOIS		FED. AID PROJECT

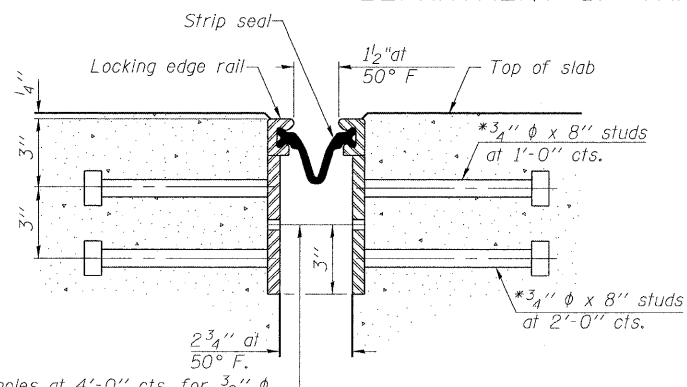
STATE OF ILLINOIS
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* Granular or solid Flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



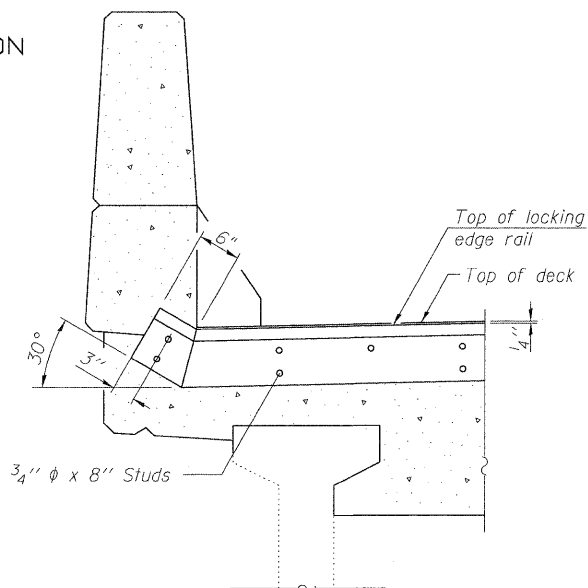
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU
ROLLED RAIL JOINT

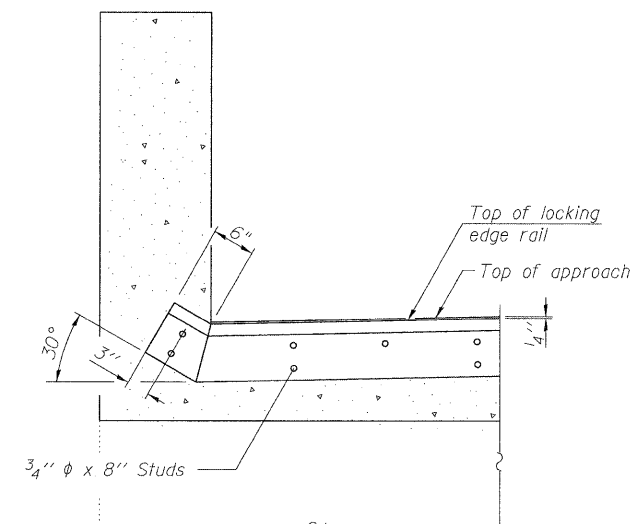


7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU
WELDED RAIL JOINT



AT PARAPET



AT WING WALL

TYPICAL END TREATMENTS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

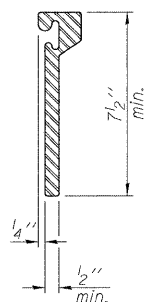
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

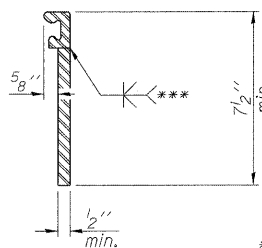
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

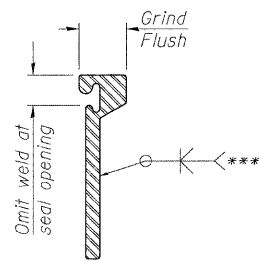
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.



ROLLED
EXTRUDED RAIL



WELDED RAIL



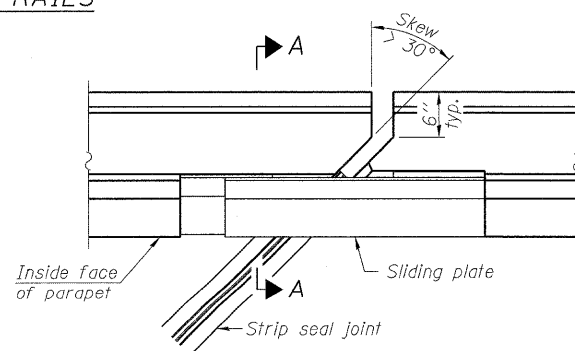
*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE
RAIL SPLICE

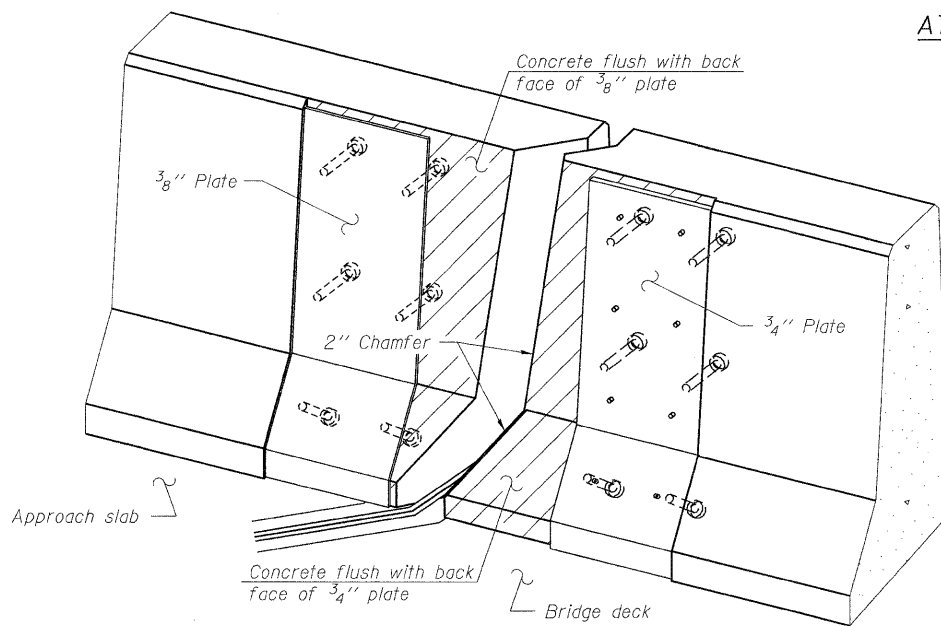
The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

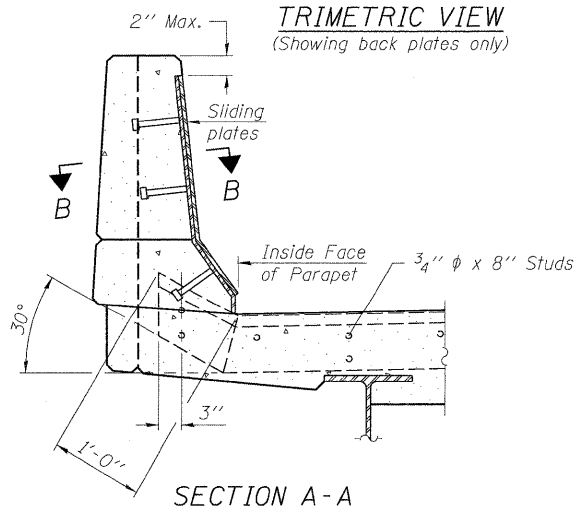
LOCKING EDGE RAILS



PLAN

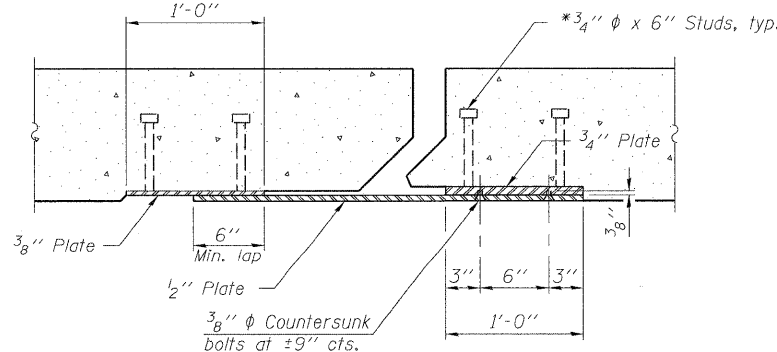


TRIMETRIC VIEW
(Showing back plates only)



SECTION A-A

POINT BLOCK DETAILS
(for skews > 30 degrees)



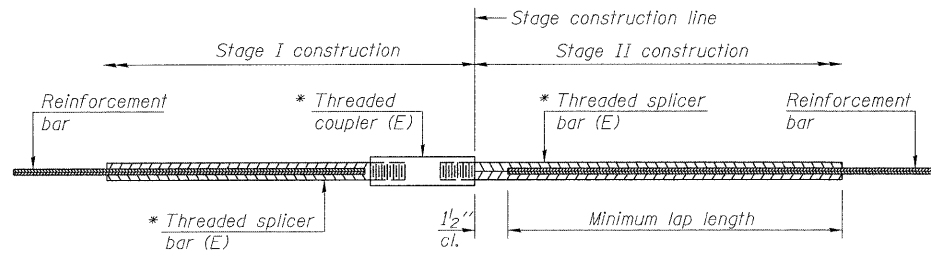
SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	160

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-0371

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

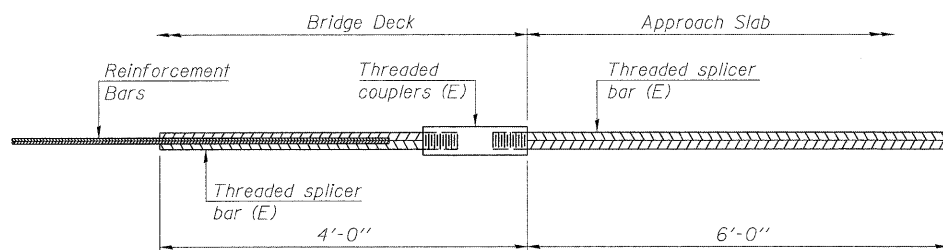
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

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

Threaded splicer bar length = min. lap length + 1/2" + thread length

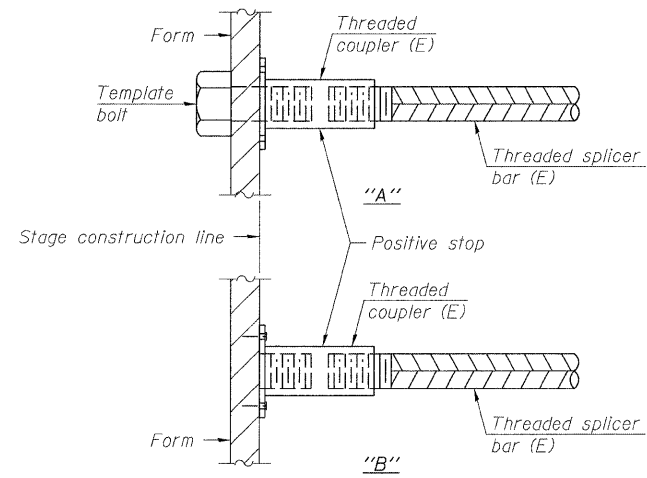
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#7	16	Table 4
Abutment	#5	8	Table 4



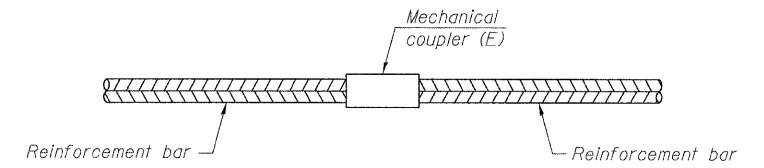
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



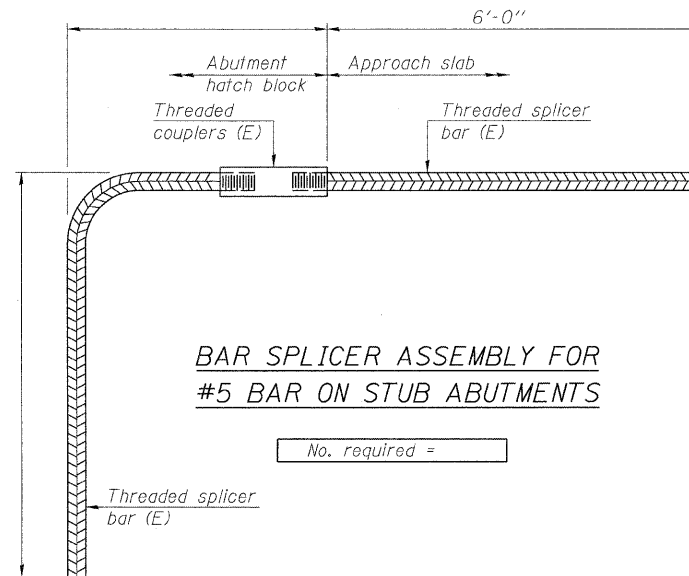
INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

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

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-0371

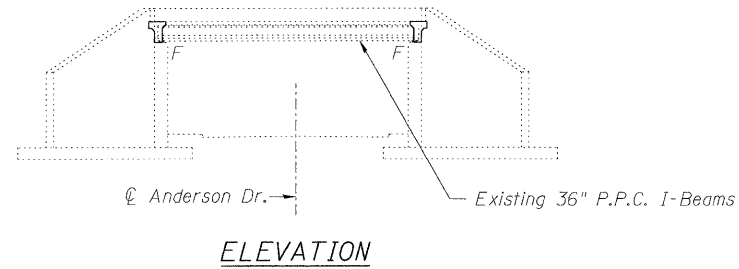
 LIN ENGINEERING, LTD. Consulting Engineers Channah, Illinois	SHEET NO. 11	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	159
Designed By: ESH Date: 12/2009		Checked By: MTH File: 016-0371.dgn		Drawn By: TBP		CONTRACT NO. 60138
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

Existing Structure: S.N. 016-0372 built in 1965 as F.A Route 61, Section 531-3HB-1 at Station 351+81.46. Structure consists of single span precast prestressed concrete beam bridge on closed abutments with 52'-2" back-to-back abutments, 122'-0" out-to-out deck width. In 1991 a new overlay was added, and expansion joints, longitudinal joint, and barriers were reconstructed. Traffic is to be maintained utilizing stage construction.

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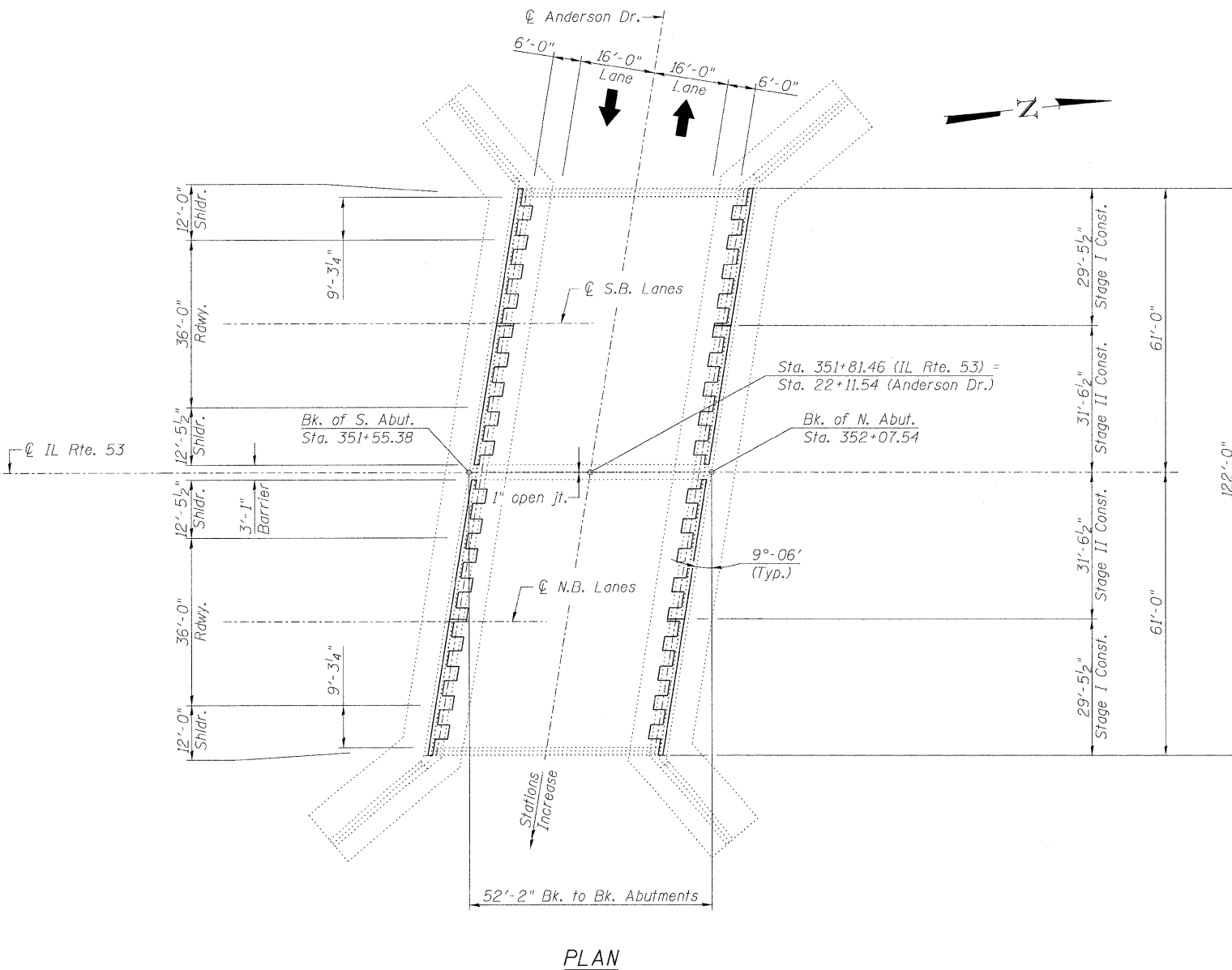
SCOPE OF WORK

1. Remove existing concrete slab at abutments.
2. Repair deck slab.
3. Repair substructure concrete.
4. Replace concrete slab and provide concrete end diaphragm at abutments.



INDEX OF SHEETS

1. General Plan and Elevation
2. General Notes and Total Bill of Material
3. Temporary Concrete Barrier for Stage Construction
4. Deck Slab Repair
5. Abutment Concrete Repair
6. Concrete Removal Details
7. Abutment Modifications - 1
8. Abutment Modifications - 2
9. Bar Splicer Assembly and Mechanical Splicer Details



DESIGN STRESSES

FIELD UNITS (New Const.)

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

FIELD UNITS (Existing)

$f_c = 1,400$ psi (Superstructure)
 $f_c = 1,000$ psi (Substructure)
 $f_s = 20,000$ psi (Reinforcement and Structural Steel)

PRECAST PRESTRESSED UNITS (Existing)

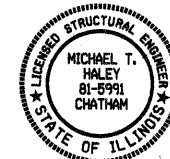
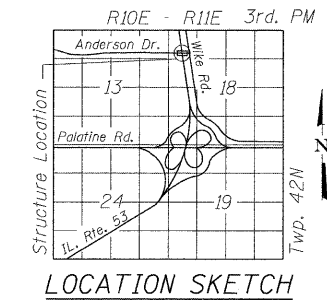
$f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 248,000$ psi (Strands)
 $f_{si} = 173,600$ psi (Strands)

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard
Specifications for Highway Bridges" 17th Edition

LOADING HS-20

(Existing Construction)



Michael J. Haley 2/8/10
Michael T. Haley Date
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2010

GENERAL PLAN AND ELEVATION
IL ROUTE 53 OVER ANDERSON DR.
F.A.I. 290-SEC (531-3.1,0305-302K)RS-5
COOK COUNTY
STATION 351+81.46
STRUCTURE NO. 016-0372

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	<p>SHEET NO. 1 9 SHEETS</p>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	100
		CONTRACT NO. 60138				
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

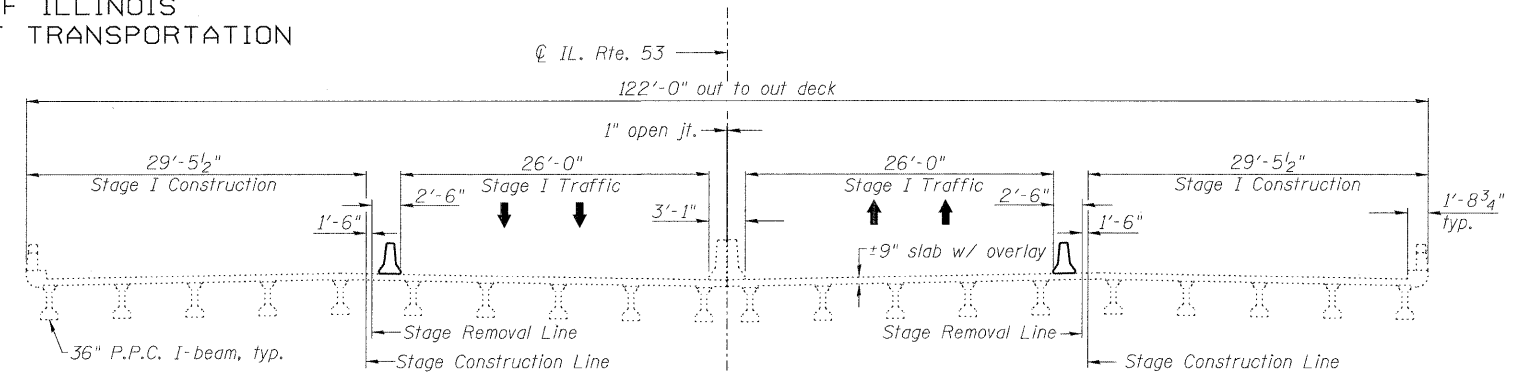
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

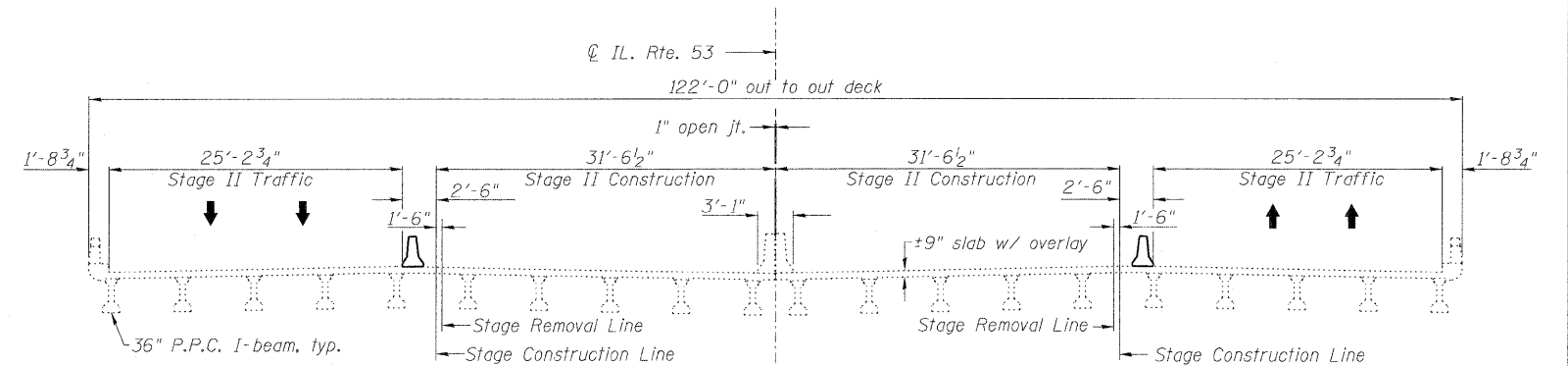
Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.



STAGE I REMOVAL & CONSTRUCTION

(Looking North)



STAGE II REMOVAL & CONSTRUCTION

(Looking North)

TOTAL BILL OF MATERIAL

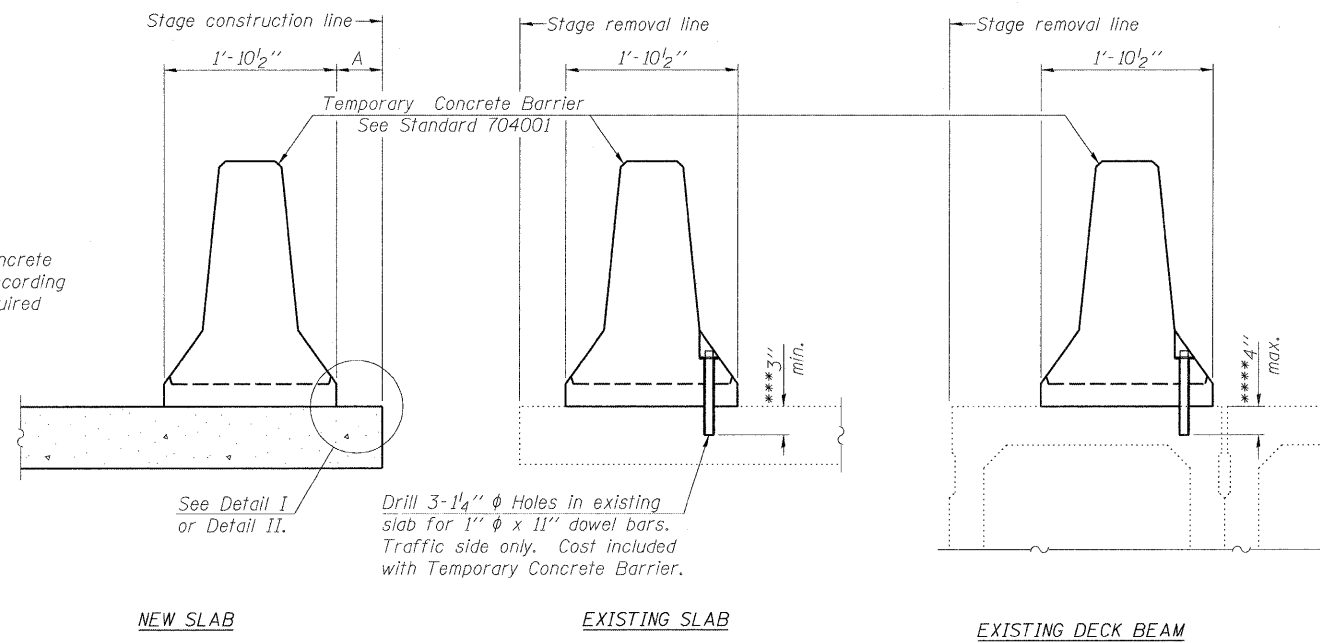
Item	Unit	Super	Sub	Total
Concrete Removal	Cu. Yd.	29.6	-	29.6
Protective Shield	Sq. Yd.	623	-	623
Concrete Superstructure	Cu. Yd.	54.4	-	54.4
Reinforcement Bars, Epoxy Coated	Pound	6720	-	6720
Bar Splicers	Each	40	-	40
Concrete Sealer	Sq. Ft.	6992	-	6992
Structural Repair of Concrete (Depth greater than 5 in.)	Sq. Ft.	-	58	58
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	-	365	365
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	62.7	-	62.7
Approach Slab Repair (Partial Depth)	Sq. Yd.	12.0	-	12.0

**GENERAL NOTES AND
TOTAL BILL OF MATERIAL
STRUCTURE NO. 016-0372**

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	161
Designed By: ADB Date: 12/2015		Checked By: MTH File: 016-0372.dgn		Drawn By: ADB		CONTRACT NO. 60138
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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



Drill 3-1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

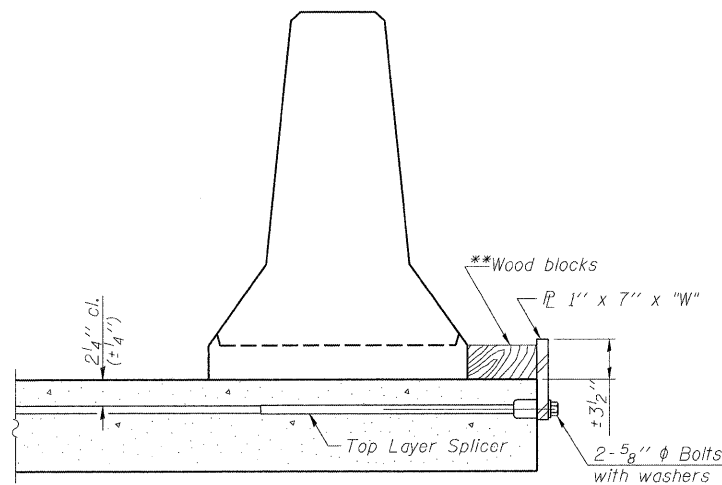
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

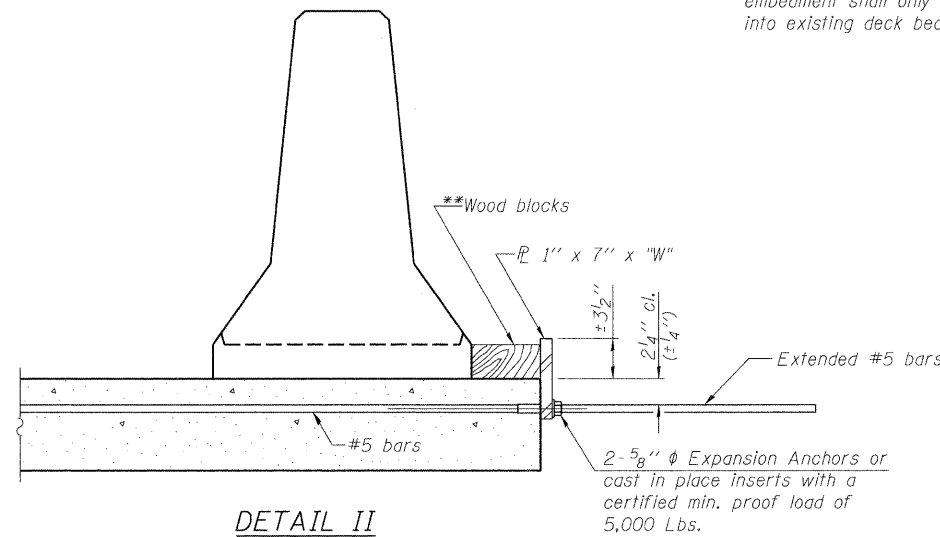
SECTIONS THRU SLAB OR DECK BEAM

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

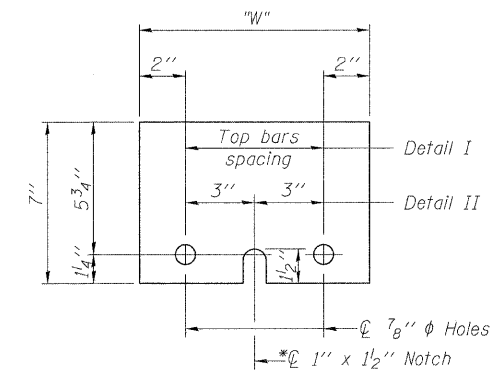
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{L} 1" x 7" x 10"

* Required only with Detail II

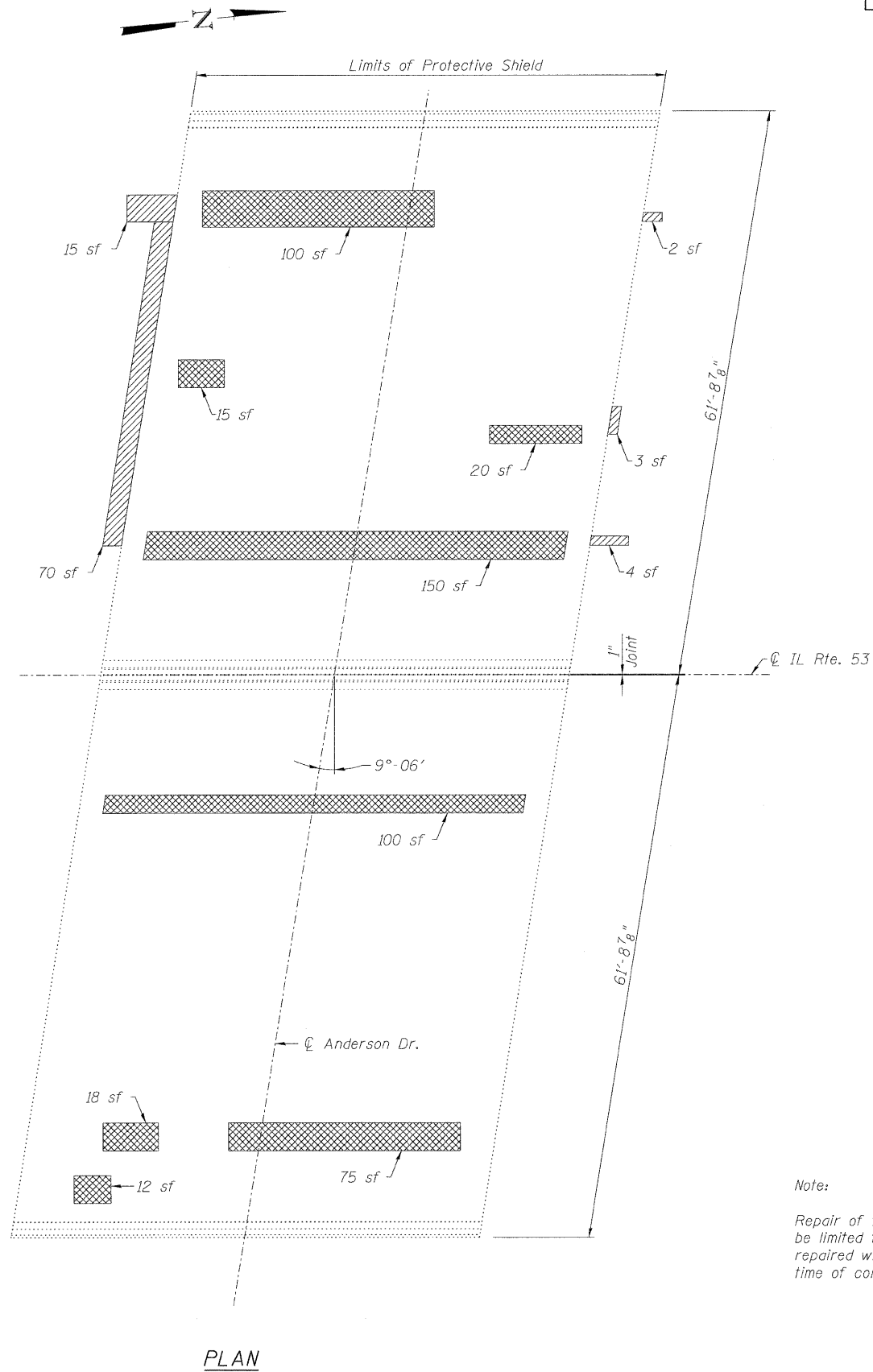
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-0372



<p>LIN ENGINEERING, LTD. Consulting Engineers Channah, Illinois</p>	SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	290	(531-3.1,0305-302)RS-5	COOK	314	162
<p>Designed By: ADB Date: 12/2009</p>		<p>Checked By: MTH File: 016-0372.dgn</p>		<p>CONTRACT NO. 60138</p>		
<p>FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT</p>						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

LEGEND

-  Deck Slab Repair (Full Depth, Type II)
-  Approach Slab Repair (Partial Depth)
- sf Square Feet

BILL OF MATERIAL


Item	Unit	Total
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	62.7
Approach Slab Repair (Partial Depth)	Sq. Yd.	12.0
Protective Shield	Sq. Yd.	623

See Sheet 6 of 9 for concrete removal quantity and details.

Note:

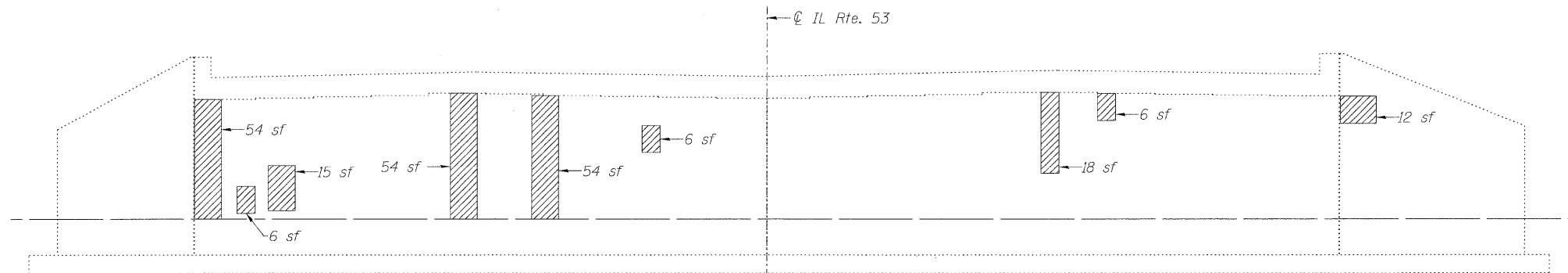
Repair of the existing deck shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

**DECK SLAB REPAIR
STRUCTURE NO. 016-0372**

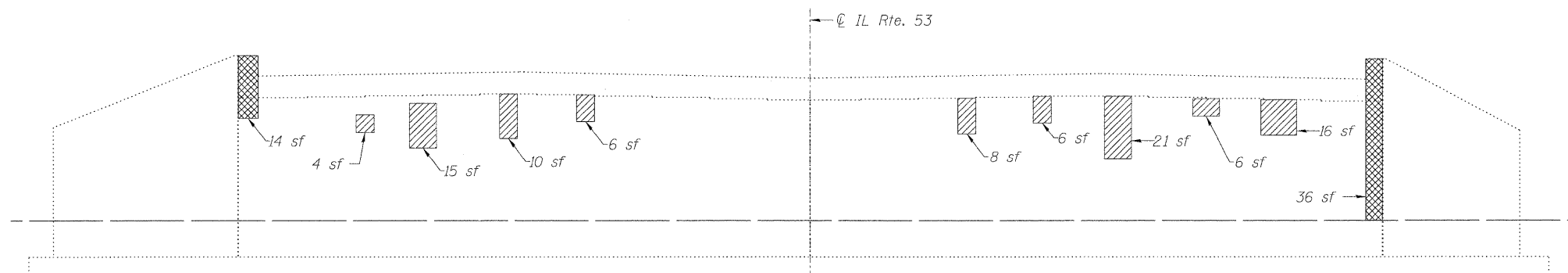
 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 4 9 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	163
		CONTRACT NO. 60138				
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

Designed By: ADB
Checked By: MTH
Date: 12/2005
File: 016-0372.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NORTH ABUTMENT ELEVATION
(Looking North)



SOUTH ABUTMENT ELEVATION
(Looking South)

Note:

Repair of the existing abutments shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth greater than 5 in.)
- Structural Repair of Concrete (Depth equal to or less than 5 in.)
- sf Square Feet

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth greater than 5 in.)	Sq. Ft.	58
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	365

ABUTMENT CONCRETE REPAIR
STRUCTURE NO. 016-0372

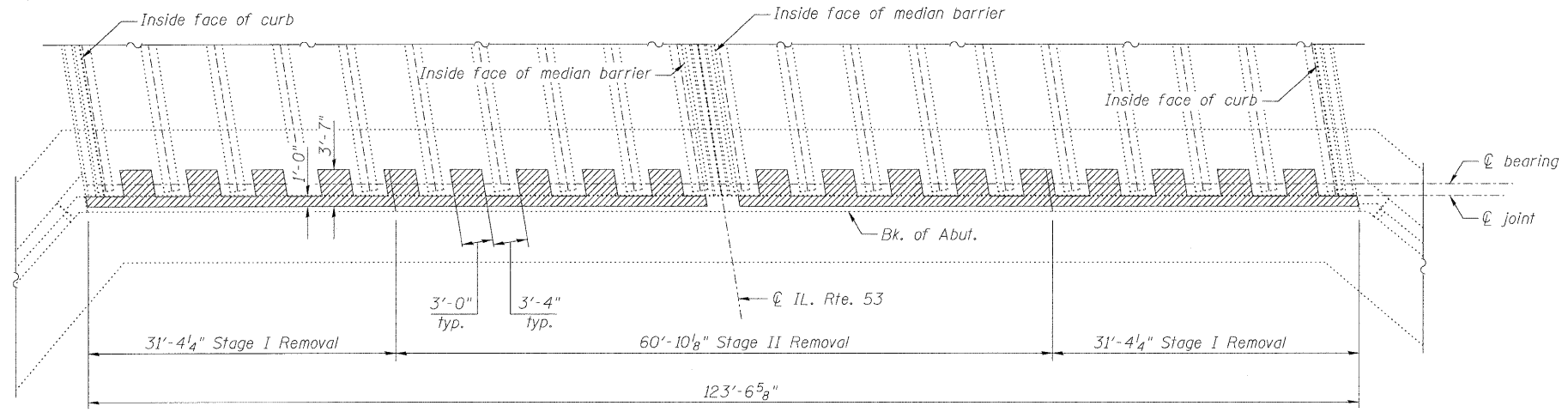
LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	164	
		CONTRACT NO. 60138					
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

Designed By: ADB
Date: 12/2009

Checked By: MTH
File: 016-0372.dgn

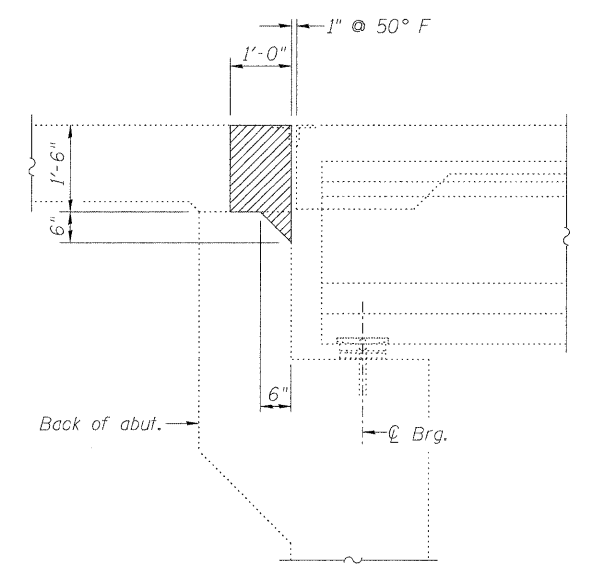
Drawn By: ADB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

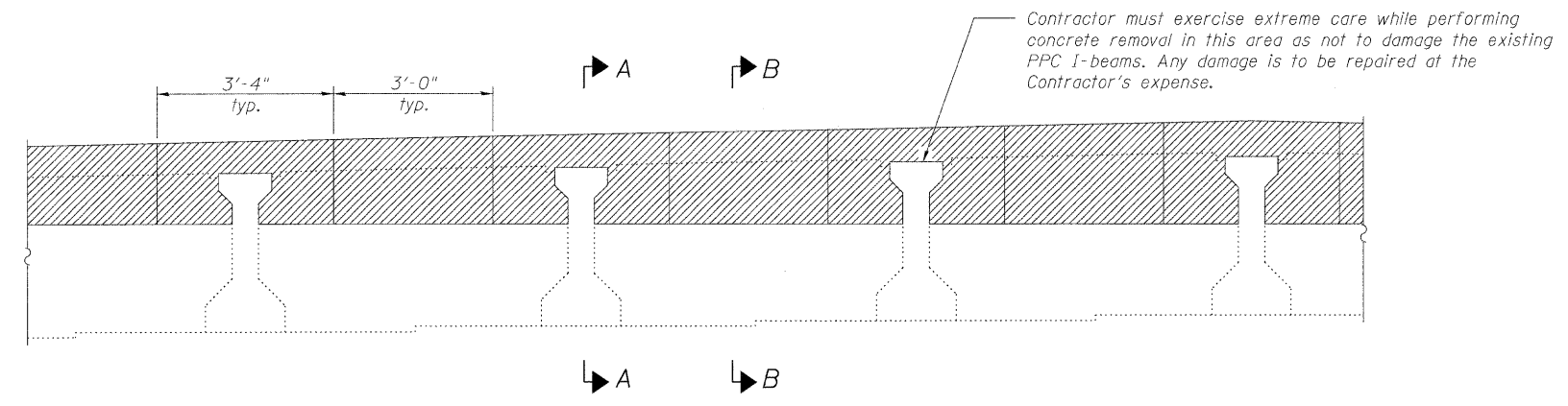
(South abutment shown, north abutment similar)



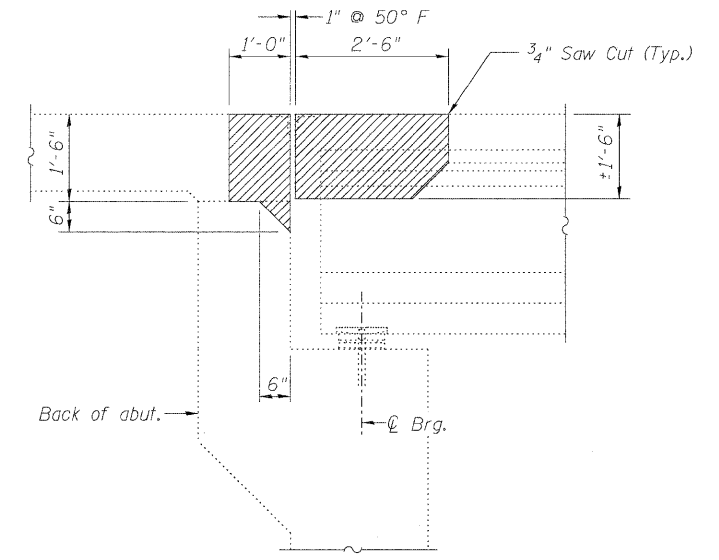
SECTION A-A

Dimensions at right angles to abutment.

Notes:
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
Hatched area indicates limits of concrete removal.



ELEVATION



SECTION B-B

Dimensions at right angles to abutment.

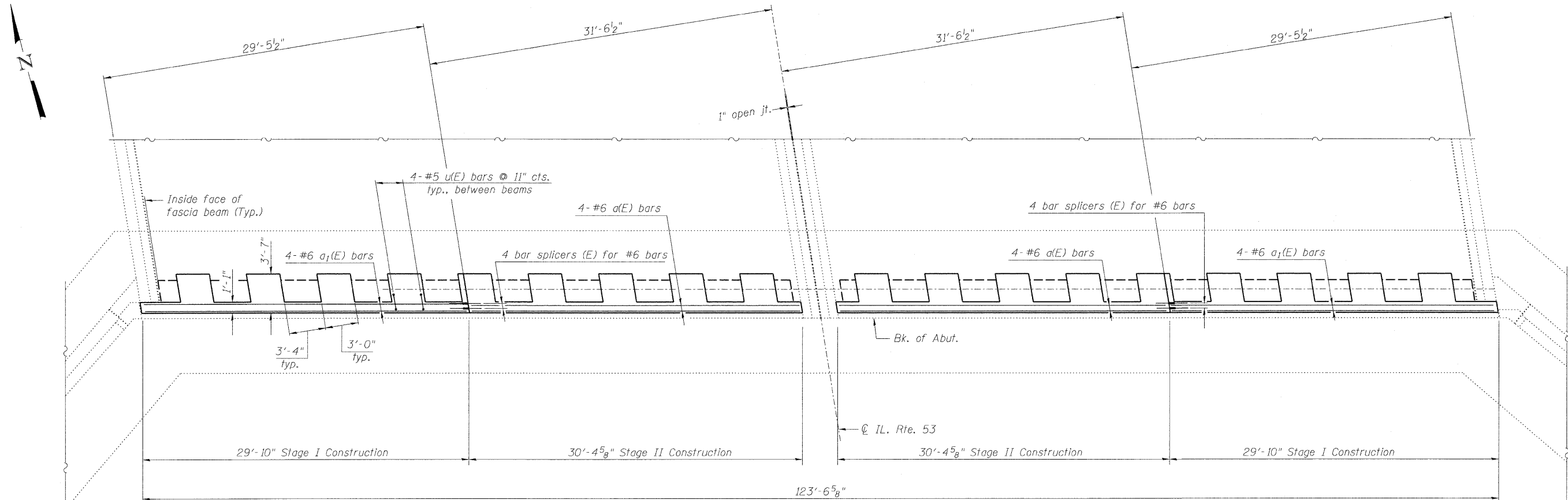
BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	29.6

CONCRETE REMOVAL DETAILS
STRUCTURE NO. 016-0372

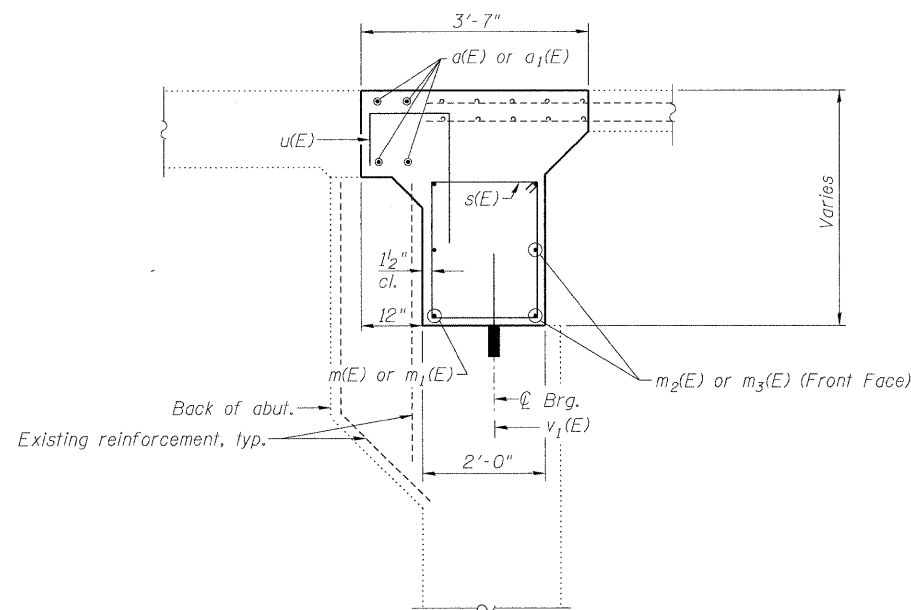
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	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	165
Designed By: ADB Date: 12/2003		Checked By: MTH File: 016-0372.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



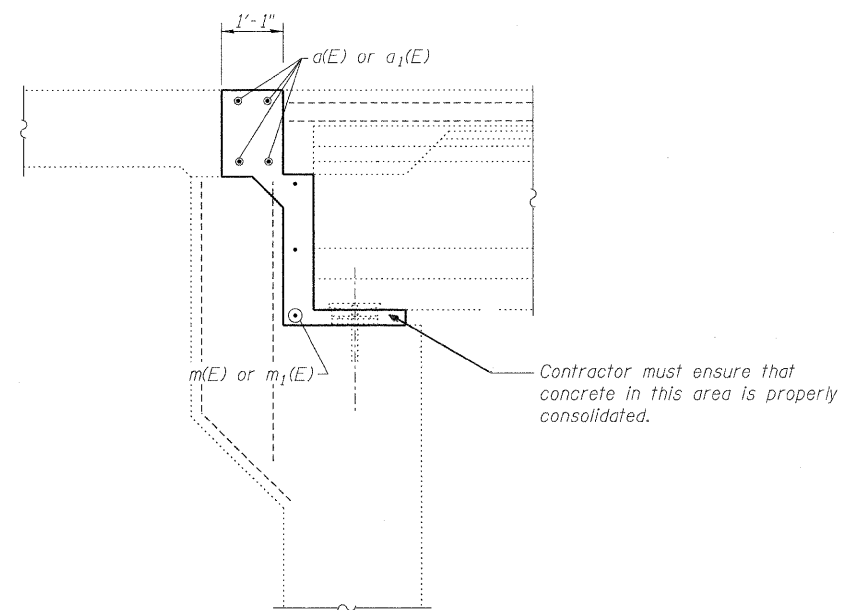
PLAN

(South abutment shown, north abutment similar)



SECTION BETWEEN BEAMS

Dimensions at right angles to abutment.



SECTION AT BEAMS

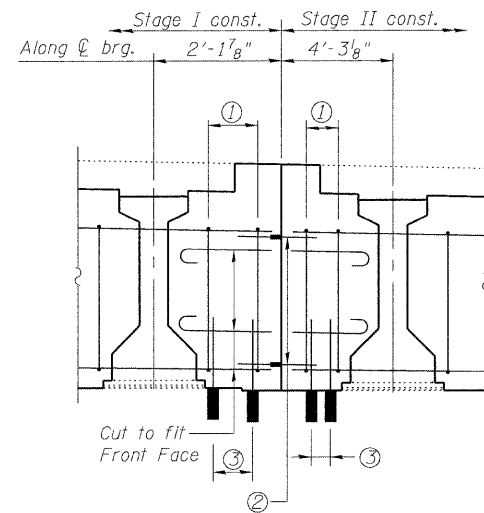
Dimensions at right angles to abutment.

Notes:
Existing reinforcement extending from concrete which is to remain in place shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
For Bar details, bill of material, and barrier details see Sheet 8 of 9.

ABUTMENT MODIFICATIONS - 1
STRUCTURE NO. 016-0372

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	166
Designed By: ADB Checked By: MTH Date: 12/2008		Crown By: ADB File: 016-0372.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

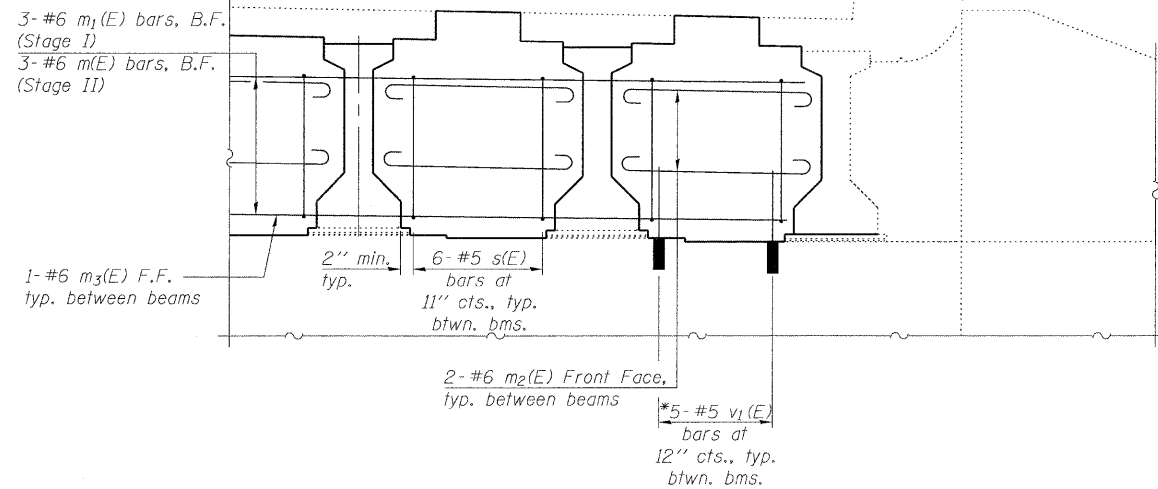
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DIAPHRAGM ELEVATION NEAR STAGE LINE

(NB South abutment shown, looking south, north abutment similar)

- ① 2-#5 s(E) bars Stage I, 4-#5 s(E) bars Stage II
- ② 6 Bar Splicers (E) for #6 bars
- ③ 2-#5 v₁(E) bars Stage I, 4-#5 v₁(E) bars Stage II



DIAPHRAGM ELEVATION AT ABUTMENT

*v₁(E) bars to be epoxy grouted in accordance with Article 584 of the Standard Specs.

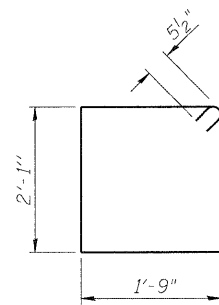
BILL OF MATERIAL

(2 Abutments)

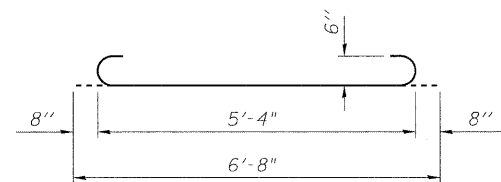
Bar	No.	Size	Length	Shape
a(E)	16	#6	30'-0"	—
a ₁ (E)	16	#6	29'-6"	—
m(E)	12	#6	29'-5"	—
m ₁ (E)	12	#6	27'-3"	—
m ₂ (E)	72	#6	6'-8"	U
m ₃ (E)	36	#6	4'-6"	—
s(E)	216	#5	8'-7"	□
u(E)	144	#5	5'-4"	∟
v ₁ (E)	184	#5	2'-11"	—
Reinforcement Bars, Epoxy Coated			Pound	6720
Concrete Superstructure			Cu. Yd.	54.4

Notes:

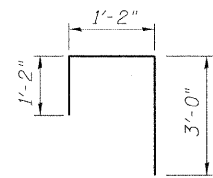
Concrete in diaphragm is included with Concrete Superstructure.
The s(E) bars shall be placed parallel to the beams.
Spacing for these bars shall be at right angles to the beams.
Drill and epoxy grout v₁(E) bars a minimum of 9" into existing concrete.
Cost included with Reinforcement Bars, Epoxy Coated.



BAR s(E)



BAR m₂(E)



BAR u(E)

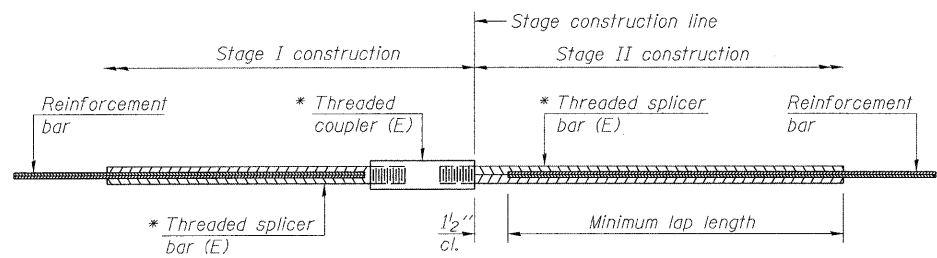
ABUTMENT MODIFICATIONS - 2
STRUCTURE NO. 016-0372

<p>LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 8	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	9 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	107	
		CONTRACT NO. 60I38					
		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

Designed By: ADB
Checked By: MTH
Date: 12/2009

Drawn By: ADB
File: 016-0372.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

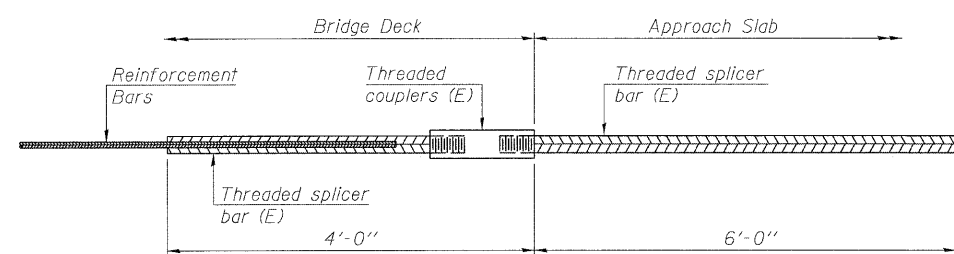
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

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

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

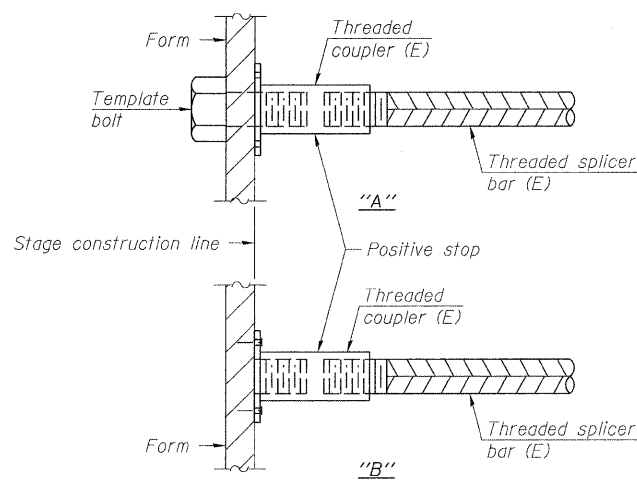
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Slab	#6	16	Table 3
Abutment diaphragm	#6	24	Table 3



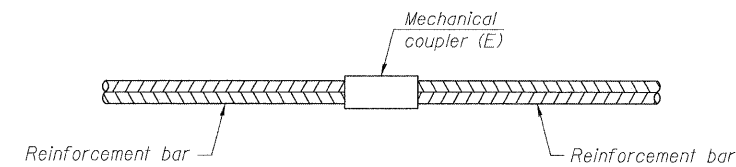
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



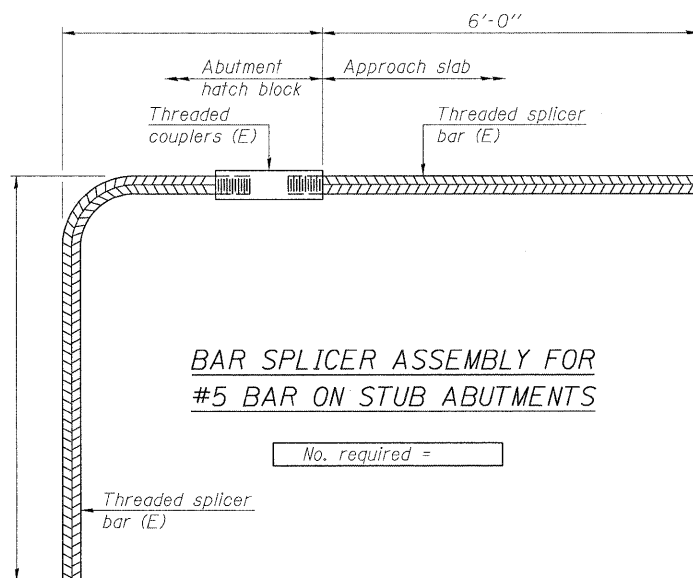
INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

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

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-0372

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 9 9 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	168
		CONTRACT NO. 60138				
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

Existing Structure: S.N. 016-0373 built in 1964 as F.A. Route 61, Section 531-3HB at Station 329+18.98. Structure consists of four span continuous wide flange beam bridge with a 13°24'15" right ahead skew, 205'-0" back-to-back abutments along local tangent, varying deck width of 70'-0 1/4" to 75'-0 3/8", multi-column piers, and pile bent abutments. In 1971, the deck was patched and a bituminous overlay was placed on the structure. In 1991, the expansion joints and parapets were reconstructed, along with deck patching and overlay replacement with microsilica concrete. In 2000, the abutment bearings were replaced with elastomeric.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Plan dimension and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

See Roadway plans for maintenance of traffic details.

INDEX OF SHEETS

1. General Plan and Elevation
2. Deck Slab Repair
3. Abutment Repair
4. Pier 1 Repair
5. Pier 2 Repair
6. Pier 3 Repair
7. Slopewall Repair

SCOPE OF WORK

1. Repair Deck Slab
2. Apply Concrete Sealer to top of deck surface and top and inside vertical face of parapets
3. Replace P.J.S. at Expansion Joint with Silicone Joint Sealer
4. Clean and Reseal Relief Joints
5. Repair Substructure Concrete
6. Repair Slopewall Concrete

DESIGN STRESSES

FIELD UNITS (New Const.)

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

FIELD UNITS (Existing)

$f_c = 1,400$ psi (Superstructure & Substructure)
 $f_s = 20,000$ psi (Reinforcement & Structural Steel)

LOADING HS 20-44

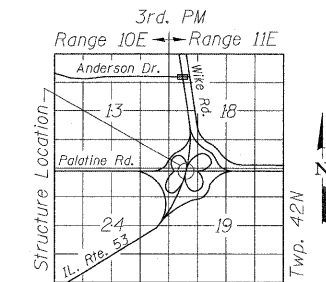
(Original Construction)

DESIGN SPECIFICATIONS

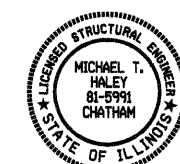
(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges"

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Slope Wall Removal	Sq. Yd.		179	179
Protective Shield	Sq. Yd.	927		927
Slope Wall 4 inch	Sq. Yd.		179	179
Concrete Sealer	Sq. Ft.	15880		15880
Silicone Joint Sealer, 3"	Foot	145		145
Structural Repair of Concrete (Depth greater than 5 in.)	Sq. Ft.		46	46
Structural Repair of Concrete (Depth less than or equal to 5 in.)	Sq. Ft.		322	322
Approach Slab Repair (Partial Depth)	Sq. Yd.	12.3		12.3
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	10.6		10.6
Temporary Shoring and Cribbing	Each		1	1
Clean and Reseal Relief Joint	Foot	168		168

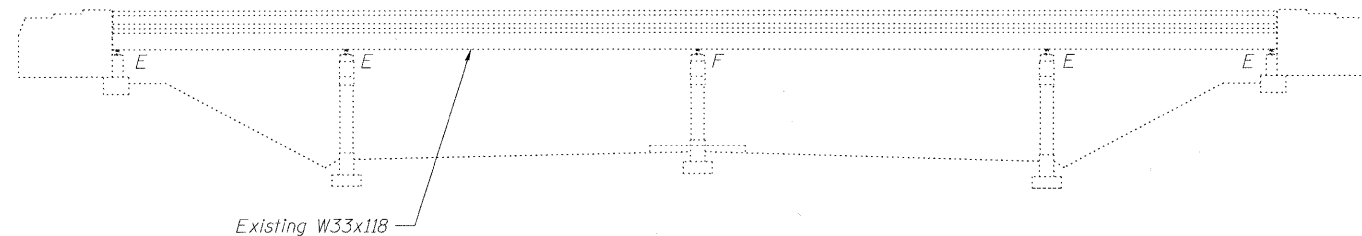


LOCATION SKETCH

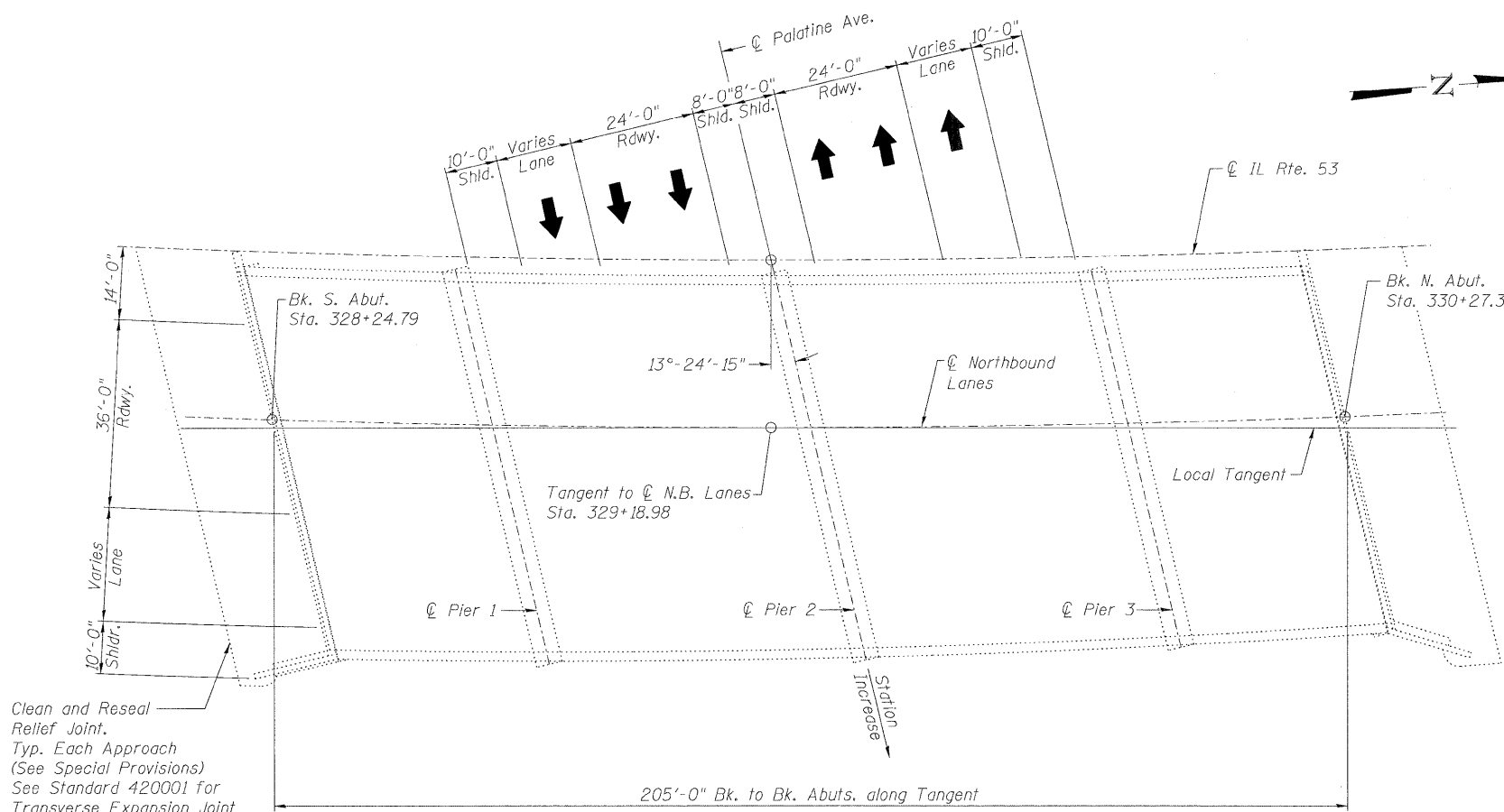


Michael J. Haley 2/8/10
Michael T. Haley Date
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2010

GENERAL PLAN AND ELEVATION
NB IL ROUTE 53 OVER PALATINE ROAD
F.A.P. 342 SEC (531-3.1,0305-302K)RS-5
COOK COUNTY
STATION 329+18.98
STRUCTURE NO. 016-0373



ELEVATION

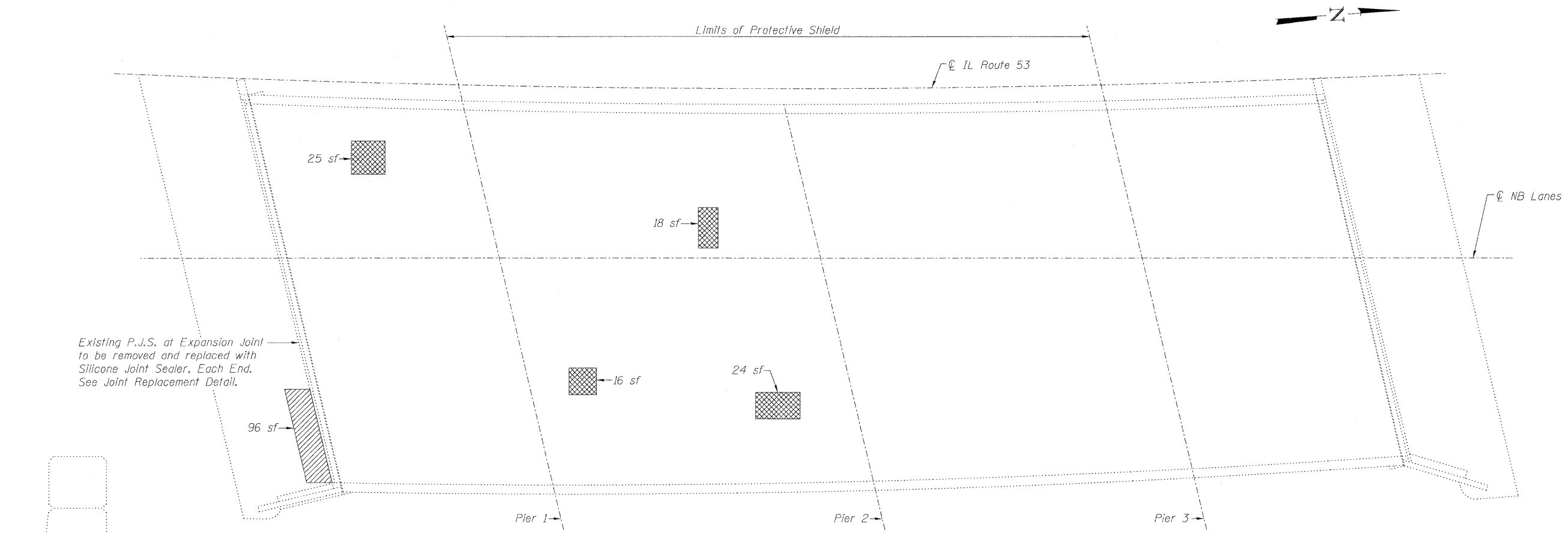


PLAN

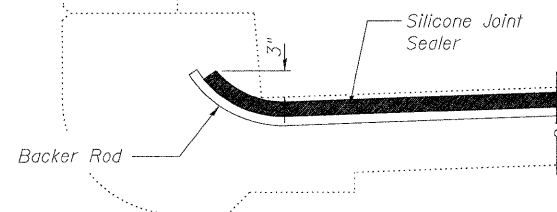
Clean and Reseal Relief Joint.
Typ. Each Approach
(See Special Provisions)
See Standard 420001 for Transverse Expansion Joint

	SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	7 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	169
Designed By: KHH Date: 12/2009		Checked By: MTH File: 016-0373.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT						

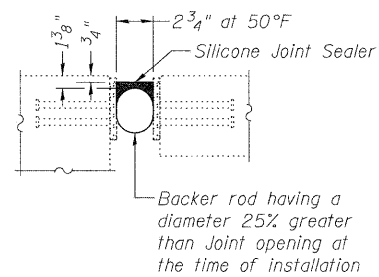
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



END OF SEAL TREATMENT



JOINT REPLACEMENT DETAIL
Dimensions at Rt L's to the Joint

BILL OF MATERIAL

Item	Unit	Total
Protective Shield	Sq. Yd.	927
Approach Slab Repair (Partial Depth)	Sq. Yd.	12.3
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	10.6
Silicone Joint Sealer, 3"	Foot	145

Note:
Contractor shall verify that the type of concrete selected shall achieve required strength within the time allotted for construction. See Special Provisions, Deck Slab Repair (Special).

DECK SLAB REPAIR
STRUCTURE NO. 016-0373

LEGEND

- Deck Slab Repair (Full Depth, Type II)
- Approach Slab Repair (Partial Depth)
- sf Square Feet

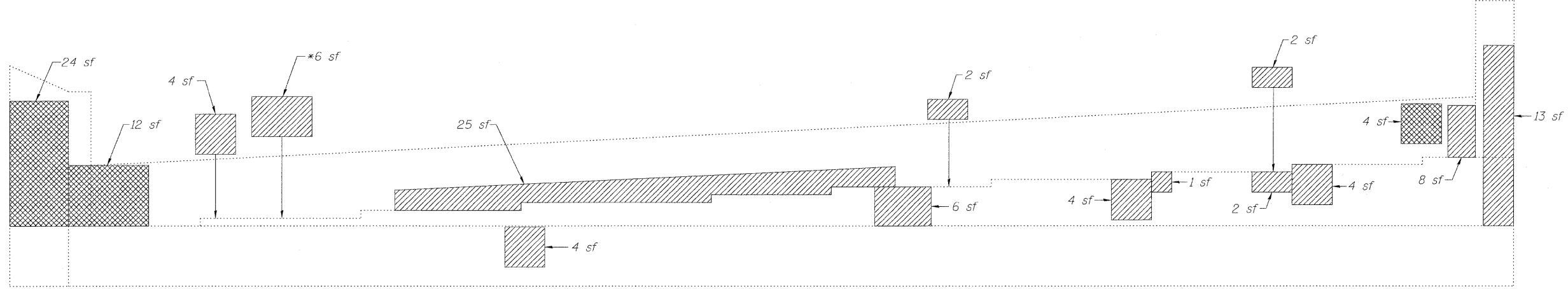
Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: KKH | Checked By: MTH | Drawn By: KKH
Date: 12/2/09 | File: 016-0373.dgn

SHEET NO. 2
7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1,0305-302)RS-5	COOK	314	170
FED. ROAD DIST. NO. - ILLINOIS			CONTRACT NO. 60138	
FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

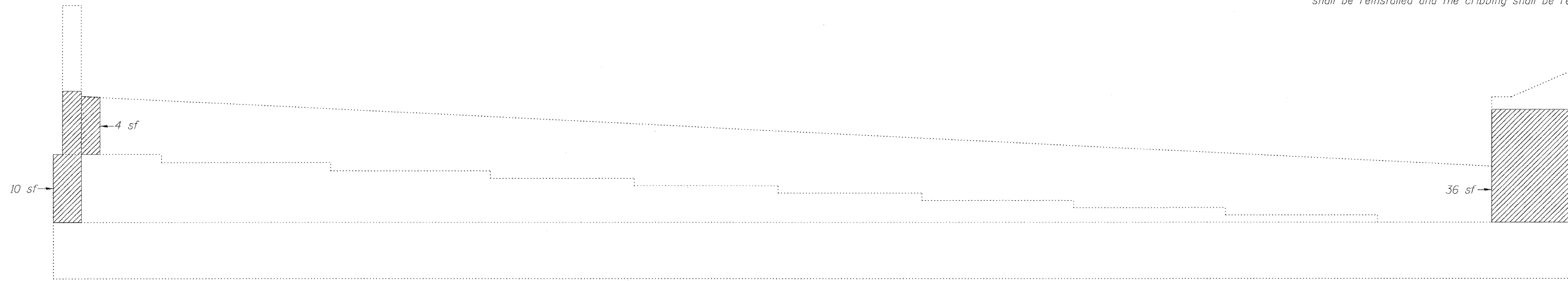


NORTH ABUTMENT
(Looking North)

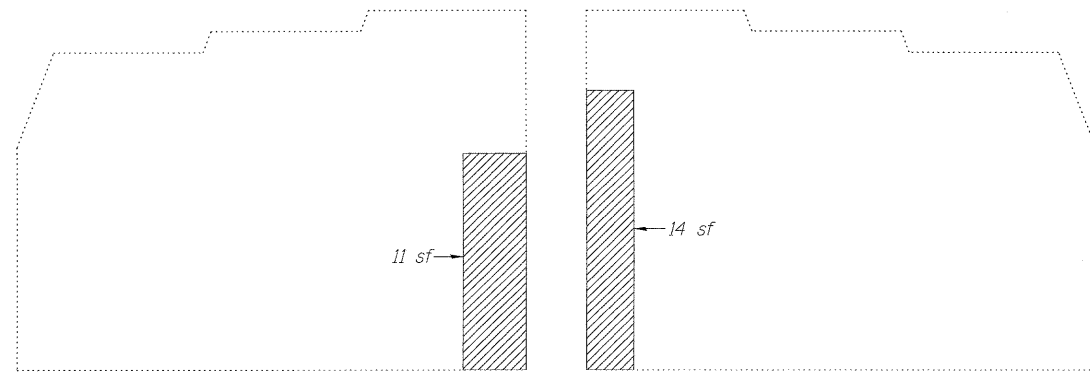
GIRDER REACTION
(from Existing Plans)

RQ	(k)	16.3
$R\frac{L}{2} + IM$	(k)	54.0
R_{Total}	(k)	70.3

* For spill under bearing, the beam shall be jacked and cribbed to remove bearing. The jack shall have a minimum capacity of $1.5 * (RQ + 0.5 * (R\frac{L}{2} + IM))$. See existing plans for bearing details. The concrete area shall be repaired as Structural Repair of Concrete (Depth Less Than or Equal to 5 inches). Care shall be taken not to damage anchor bolts. Once the concrete has attained the required strength and the curing period is complete, the bearing shall be reinstalled and the cribbing shall be removed.



SOUTH ABUTMENT
(Looking South)



SOUTHEAST WINGWALL

NORTHEAST WINGWALL

LEGEND

- Structural Repair of Concrete (Depth greater than 5")
- Structural Repair of Concrete (Depth equal to or less than 5")
- sf Square Feet

Note:
Repair of the existing abutments shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

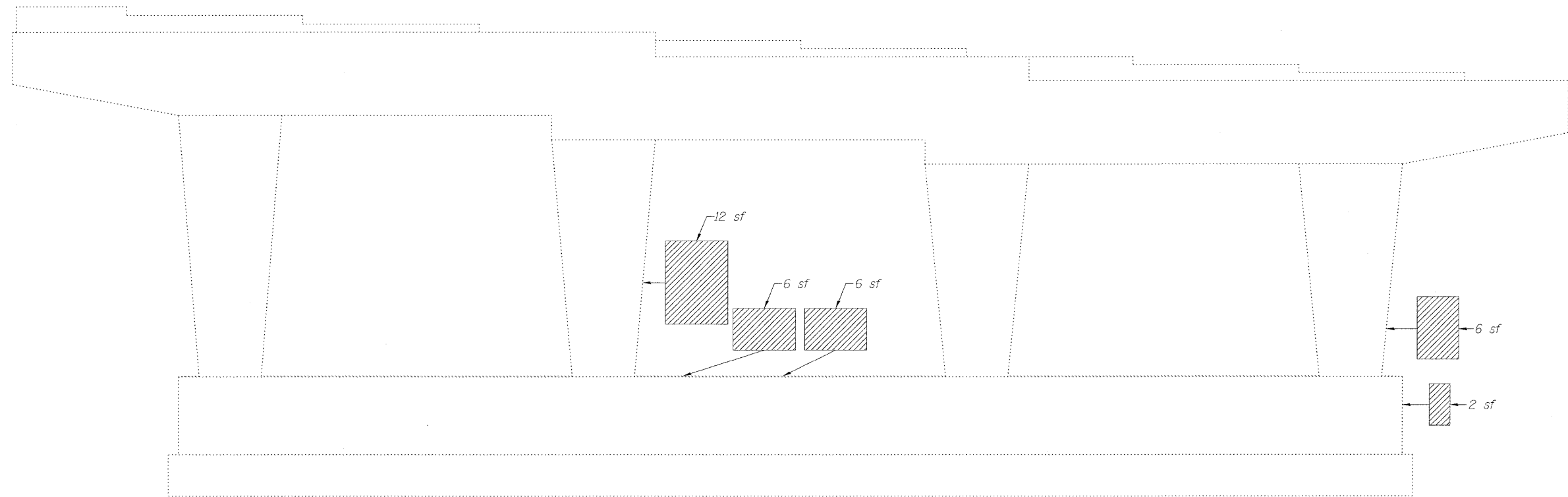
BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth greater than 5 in.)	Sq. Ft.	46
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	179
Temporary Shoring and Cribbing	Each	1

ABUTMENT REPAIR
STRUCTURE NO. 016-0373

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: KKH Checked By: MTH Drawn By: KKH Date: 12/2/03 File: 016-0373.dgn</small>	SHEET NO. 3	F.A.I. RTE. 290	SECTION (531-3.1,0305-302)RS-5	COUNTY COOK	TOTAL SHEETS 314	SHEET NO. 177
	7 SHEETS	CONTRACT NO. 60138		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PIER 1
(Looking South)


Note:
Repair of the existing pier shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.


BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	37

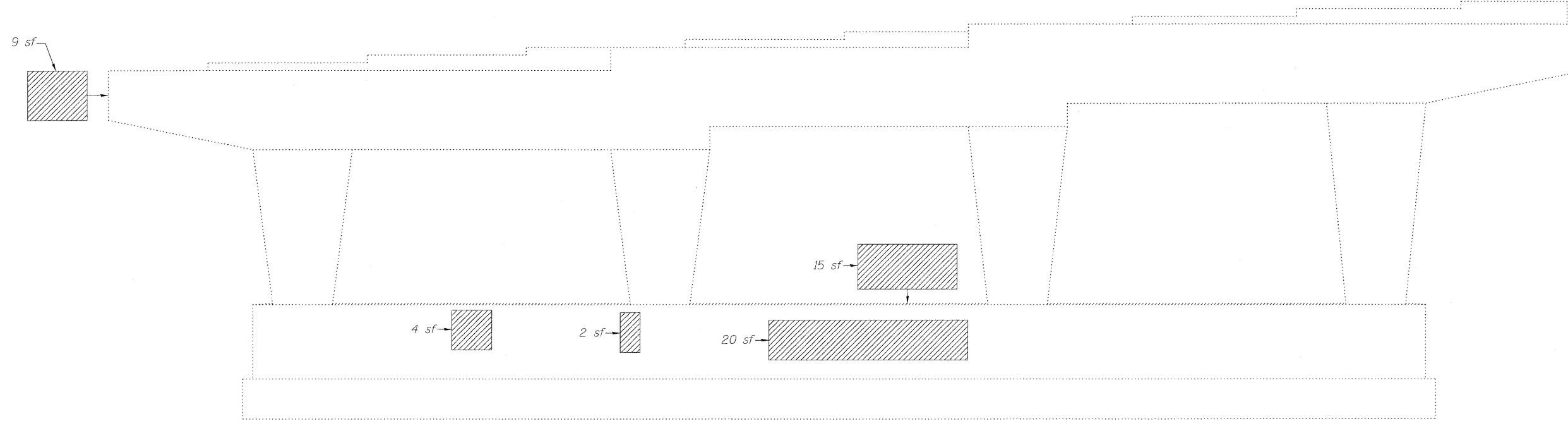
PIER 1 REPAIR
STRUCTURE NO. 016-0373

LEGEND

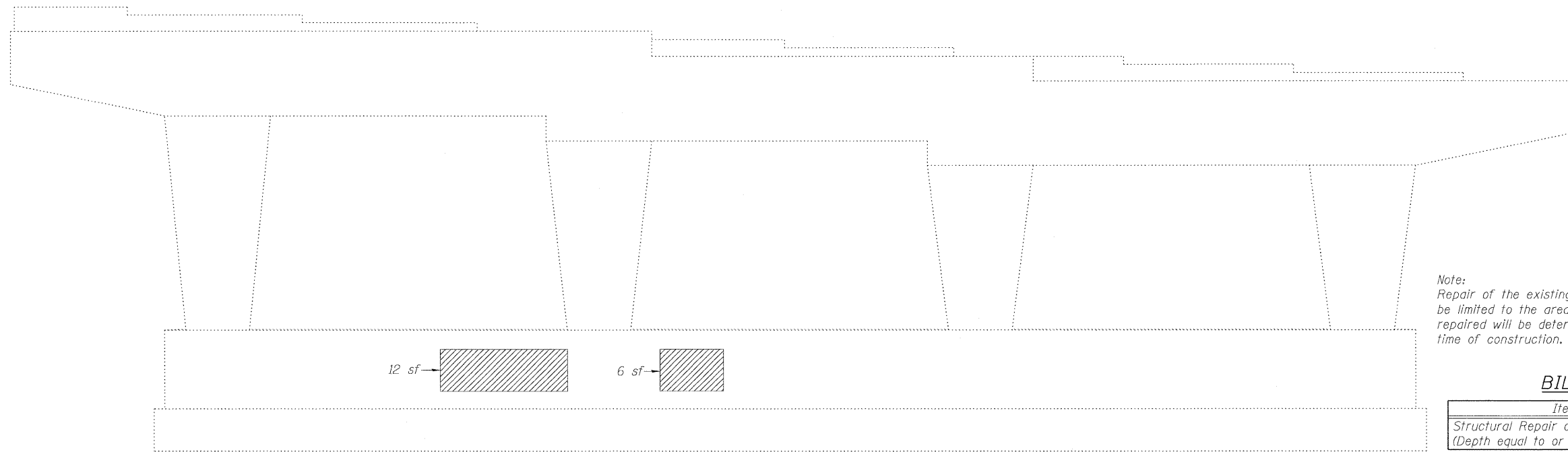
 Structural Repair of Concrete (Depth equal to or less than 5")
sf Square Feet

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	7 SHEETS	290	(531-3.1,0305-302)RS-5	COOK	314	172	
<small>Designed By: KHH Date: 12/2009</small>	<small>Checked By: MTH File: 016-0373.dgn</small>	<small>Drawn By: KHH</small>	FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				CONTRACT NO. 60138

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PIER 2
(Looking North)



PIER 2
(Looking South)

Note:
Repair of the existing pier shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	78

LEGEND

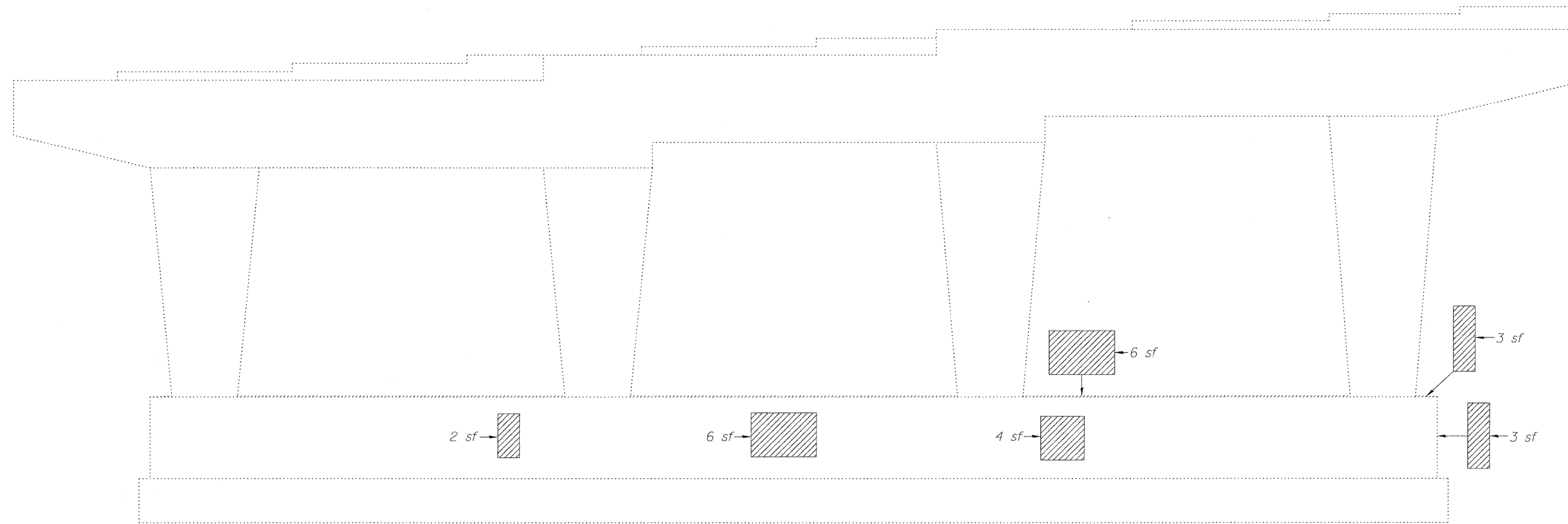
Structural Repair of Concrete (Depth equal to or less than 5")

sf Square Feet

PIER 2 REPAIR
STRUCTURE NO. 016-0373

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	7 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	173
Designed By: KHH Date: 12/20/09		Checked By: MTH File: 016-0373.dgn		FED. ROAD DIST. NO. _ ILLINOIS		FED. AID PROJECT
					CONTRACT NO. 60138	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PIER 3
(Looking North)

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	28

PIER 3 REPAIR
STRUCTURE NO. 016-0373

LEGEND

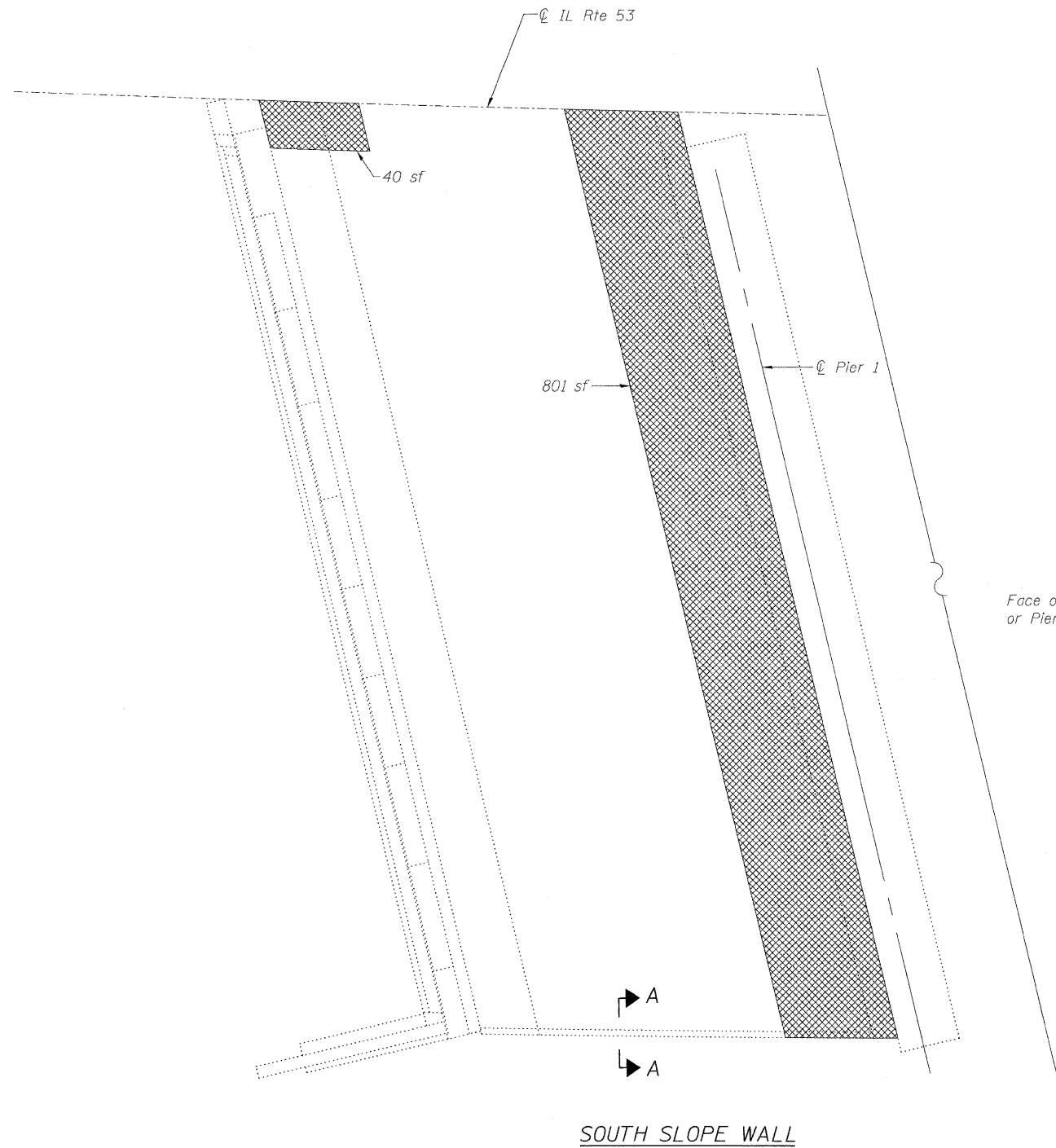
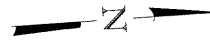
Structural Repair of Concrete (Depth equal to or less than 5")

sf Square Feet

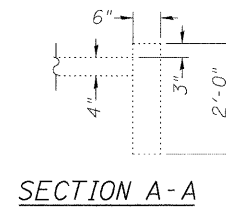
Note:
Repair of the existing pier shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 6	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	7 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	174
Designed By: KHH Date: 12/2009		Checked By: MTH File: 08-0373.dgn		CONTRACT NO. 60138		FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT

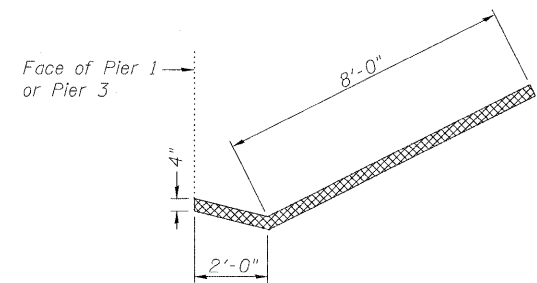
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



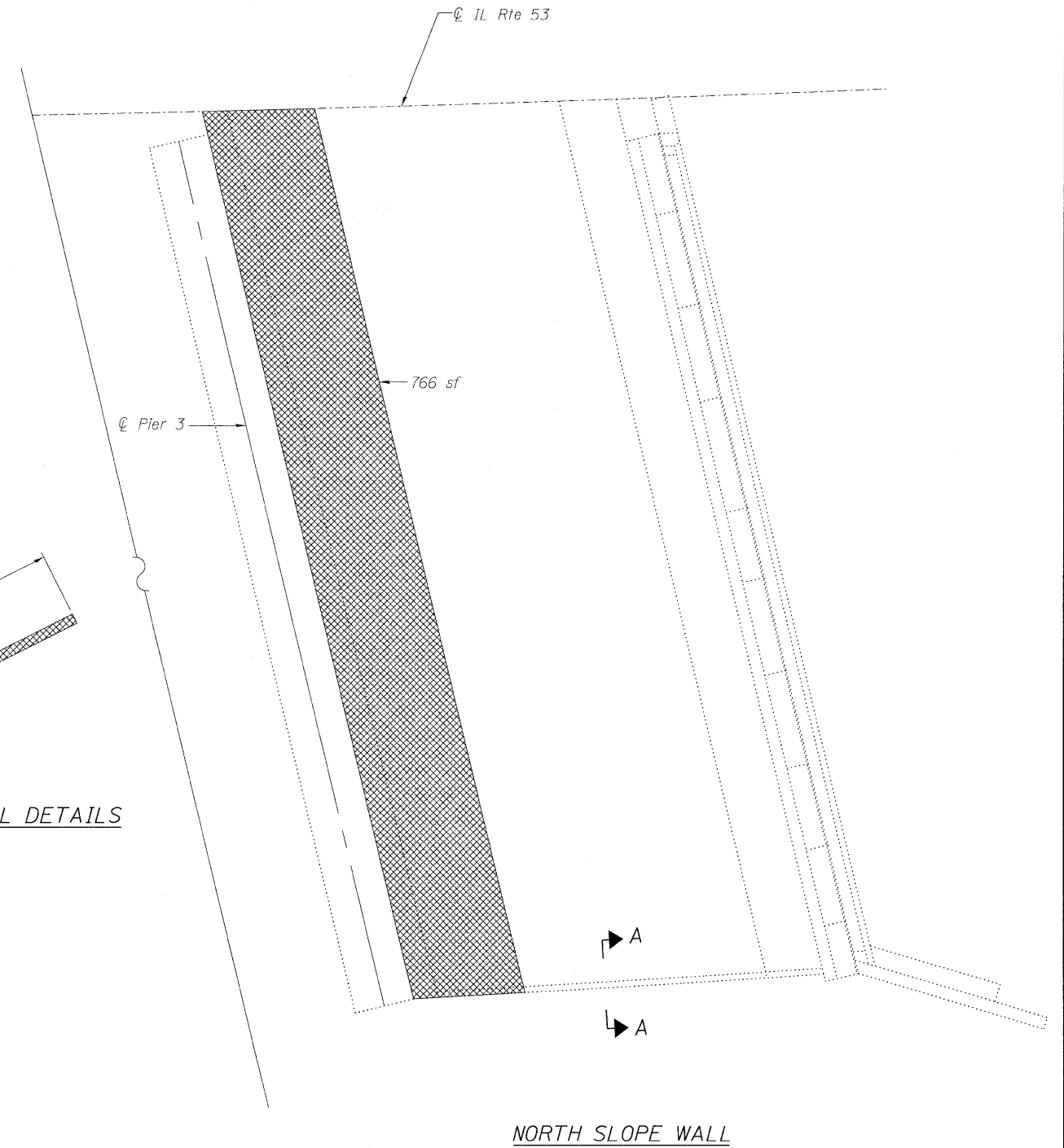
SOUTH SLOPE WALL



SECTION A-A



TOE OF SLOPE REMOVAL DETAILS



NORTH SLOPE WALL

LEGEND

Remove and Replace Slope Wall

sf Square Feet

Note:
Sloped wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Slope Wall Removal.
Existing and new welded wire fabric must be lapped at least 6".
Repair of the existing slope walls shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

BILL OF MATERIAL

Item	Unit	Total
Slope Wall Removal	Sq. Yd.	179
Slope Wall 4 inch	Sq. Yd.	179

SLOPE WALL REPAIR
STRUCTURE NO. 016-0373

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: KHH Checked By: MTH Drawn By: KHH Date: 12/2009 File: 016-0373.dgn</small>	SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	7 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	175
		FED. ROAD DIST. NO. _		ILLINOIS		FED. AID PROJECT
					CONTRACT NO. 60138	

Existing Structure: S.N. 016-0970 built in 1964 as F.A. Route 61, Section 531-3HB at Station 329+18.98. Structure consists of four span continuous wide flange beam bridge with a 13°24'15" right ahead skew, 205'-0" back-to-back abutments along local tangent, varying deck width of 69'-3³/₄" to 72'-11⁷/₈", multi-column piers, and pile bent abutments. In 1971, the deck was patched and a bituminous overlay was placed on the structure. In 1991, the expansion joints and parapets were reconstructed, along with deck patching and overlay replacement with microsilica concrete. In 2000, the abutment bearings were replaced with elastomeric.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Plan dimension and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

See roadway plans for maintenance of traffic details.

INDEX OF SHEETS

1. General Plan and Elevation
2. Deck Slab Repair
3. Parapet Repair
4. Abutment Repair
5. Pier 1 Repair
6. Pier 2 Repair
7. Pier 3 Repair
8. Slopewall Repair

SCOPE OF WORK

1. Repair Deck Slab
2. Apply Concrete Sealer to top of deck surface and top and inside vertical face of parapets
3. Replace P.J.S. at expansion joint with Silicone Joint Sealer
4. Clean and Reseal Pavement Relief Joints
5. Repair Parapet Concrete
6. Repair Substructure Concrete
7. Repair Slopewall Concrete

DESIGN STRESSES

FIELD UNITS (New Const.)

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

FIELD UNITS (Existing)

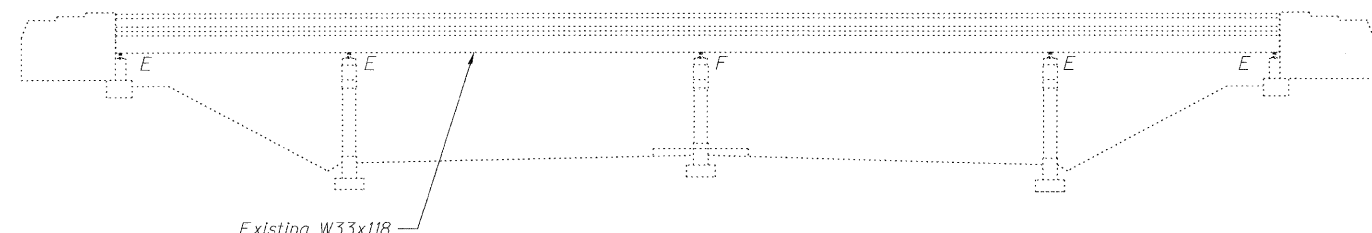
$f_c = 1,400$ psi (Superstructure & Substructure)
 $f_s = 20,000$ psi (Reinforcement & Structural Steel)

LOADING HS 20-44

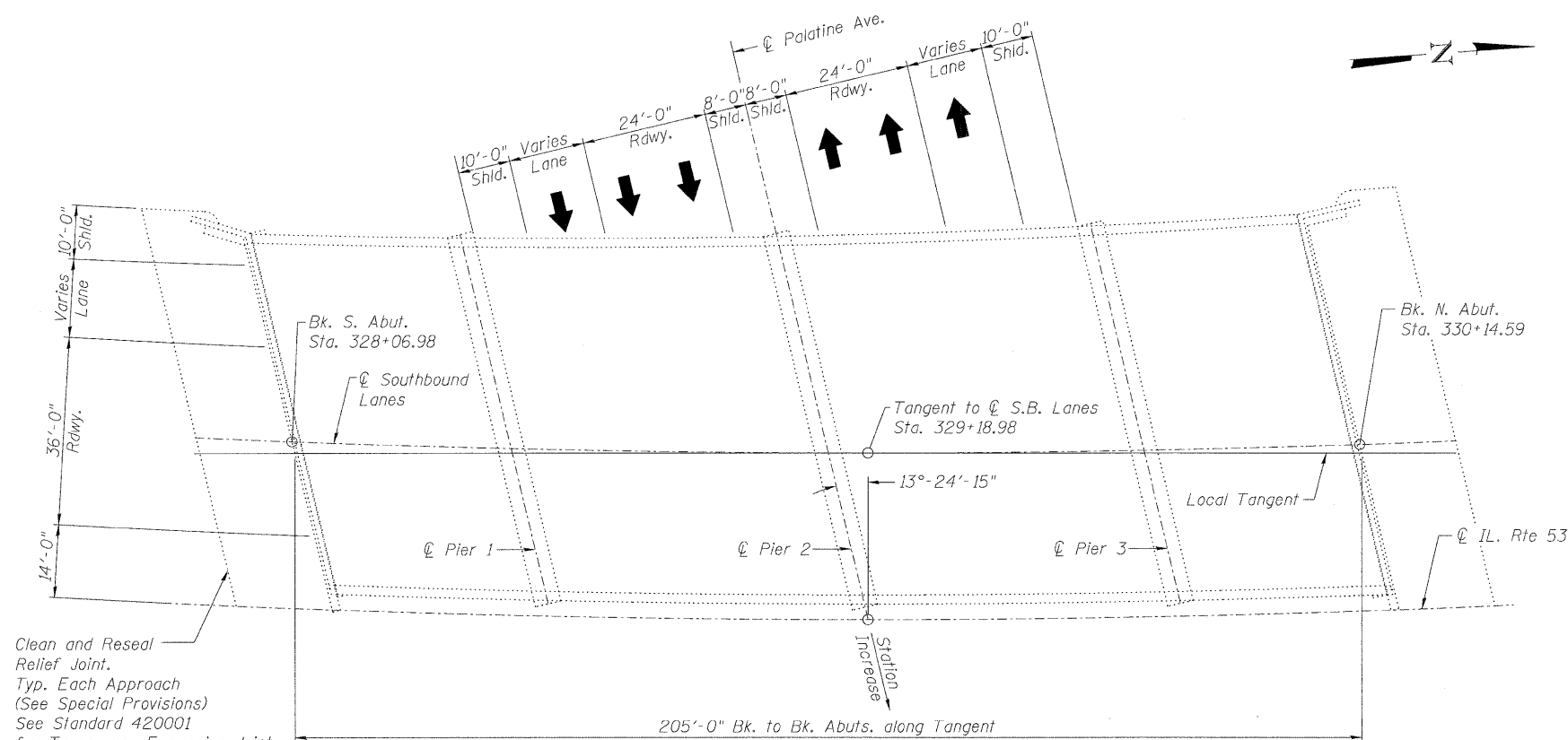
(Original Construction)

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges"



ELEVATION



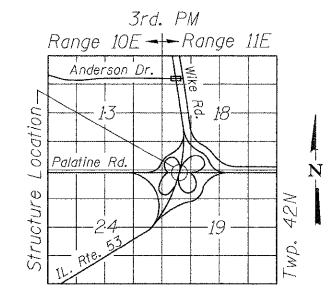
Clean and Reseal Relief Joint.
Typ. Each Approach
(See Special Provisions)
See Standard 420001
for Transverse Expansion Joint

205'-0" Bk. to Bk. Abuts. along Tangent

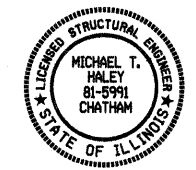
PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Slope Wall Removal	Sq. Yd.		233	233
Protective Shield	Sq. Yd.	905	4	909
Slope Wall 4 inch	Sq. Yd.		233	233
Concrete Sealer	Sq. Ft.	15491		15491
Silicone Joint Sealer, 3"	Foot	142		142
Structural Repair of Concrete (Depth Greater than 5 in.)	Sq. Ft.		112	112
Structural Repair of Concrete (Depth Equal to or Less than 5 in.)	Sq. Ft.	223	229	452
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	15.2		15.2
Clean and Reseal Relief Joint	Foot	162		162



LOCATION SKETCH

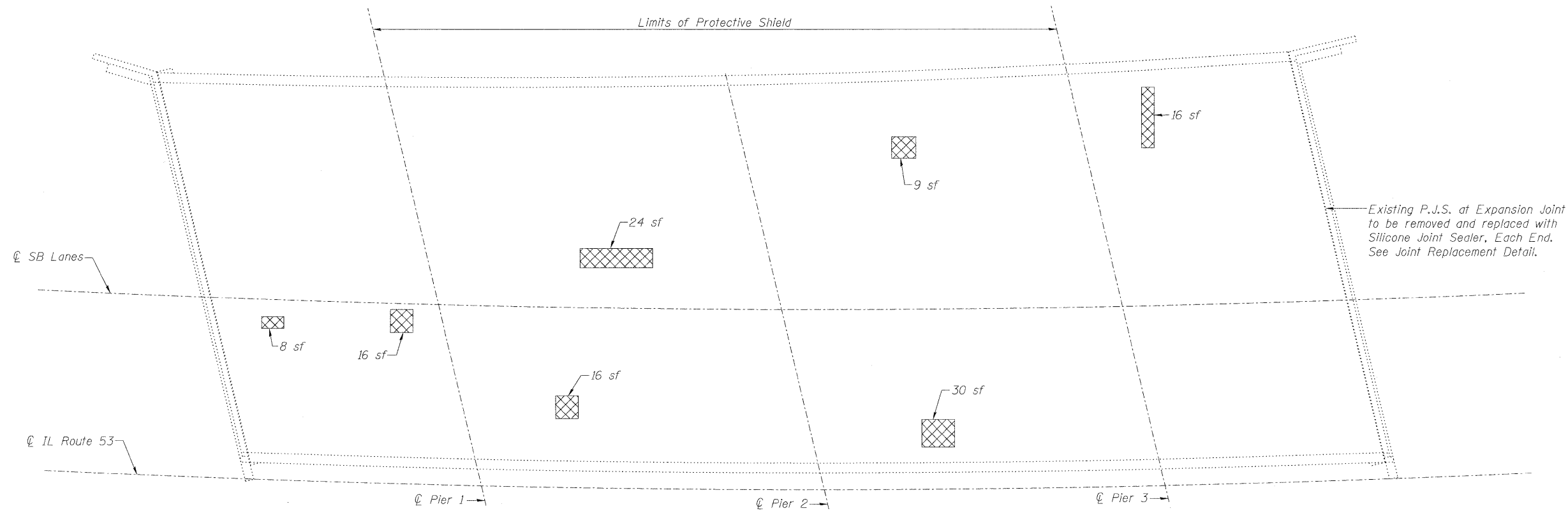


Michael J. Haley 2/8/10
Michael T. Haley Date
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2010

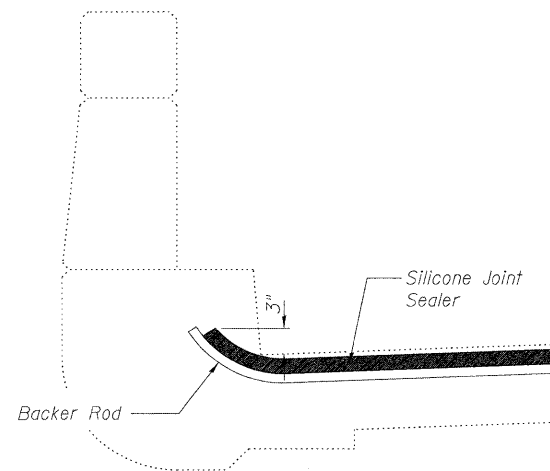
GENERAL PLAN AND ELEVATION
SB IL ROUTE 53 OVER PALATINE ROAD
F.A.P. 342 SEC (531-3.1,0305-302K)RS-5
COOK COUNTY
STATION 329+18.98
STRUCTURE NO. 016-0970

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	8 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	176
<p>Designed By: KHR Date: 12/2009</p> <p>Checked By: MTR File: 016-0970.dgn</p> <p>Drawn By: KHR</p>	FED. ROAD DIST. NO. _		ILLINOIS	FED. AID PROJECT	CONTRACT NO. 60138	

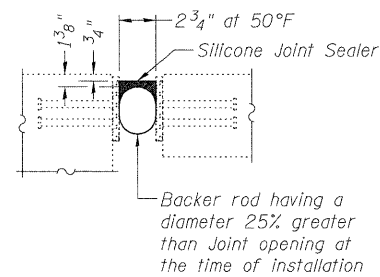
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



END OF SEAL TREATMENT



JOINT REPLACEMENT DETAIL
Dimensions at Rt L's to the Joint

BILL OF MATERIAL

Item	Unit	Total
Protective Shield	Sq. Yd.	905
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	15.2
Silicone Joint Sealer, 3"	Foot	142

Note:
Contractor shall verify that the type of concrete selected shall achieve required strength within the time allotted for construction. See Special Provisions, Deck Slab Repair (Special).

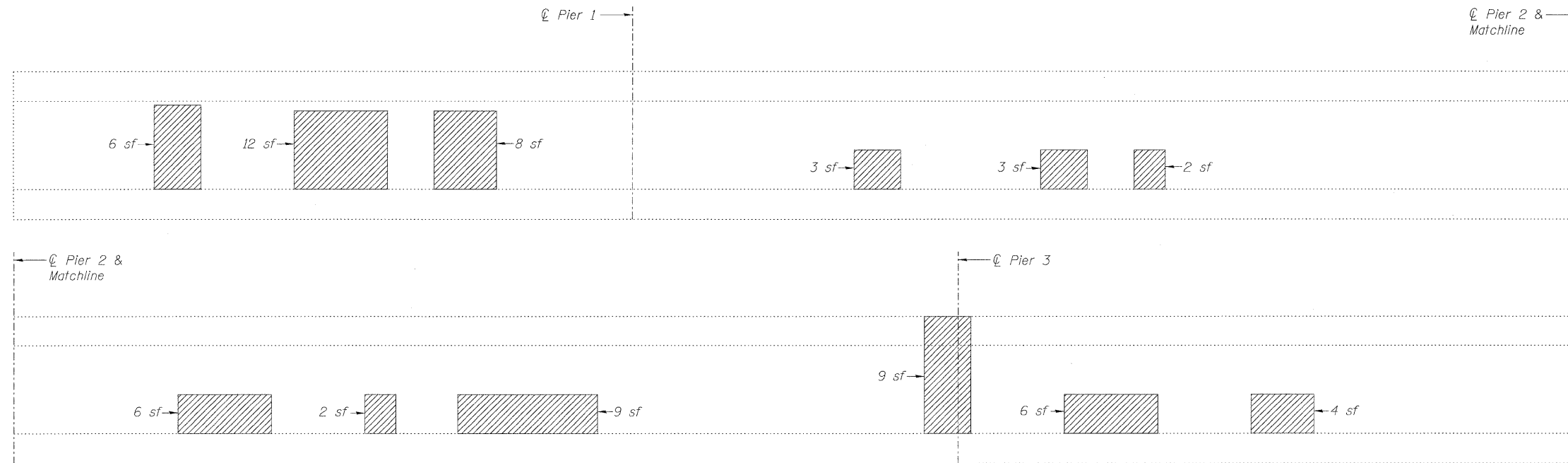
DECK SLAB REPAIR
STRUCTURE NO. 016-0970

LEGEND

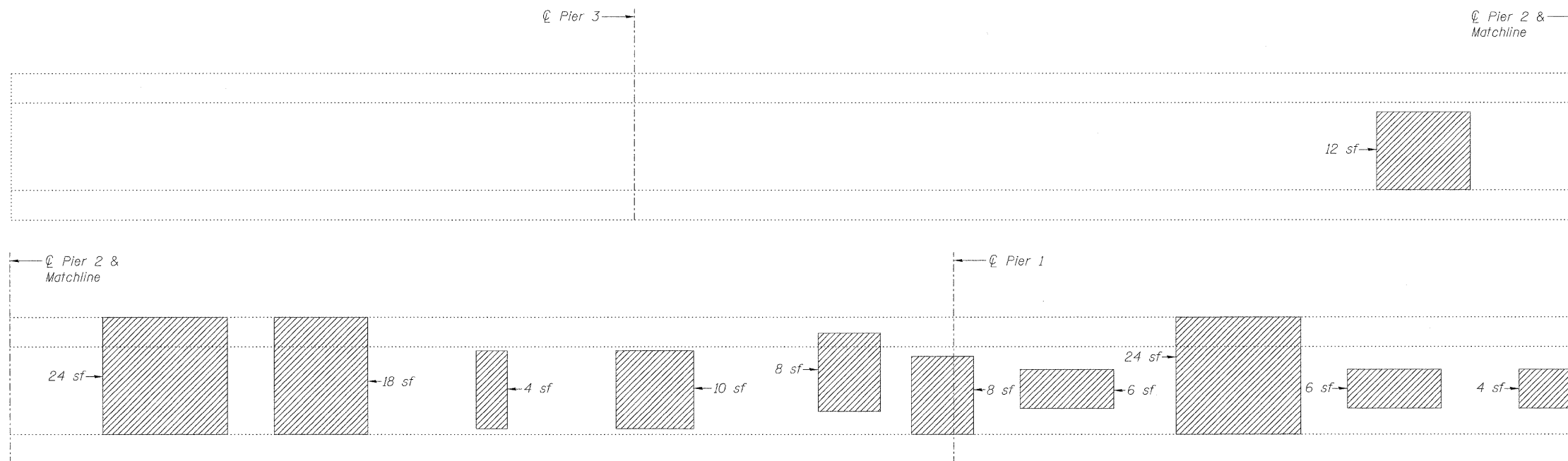
- Deck Slab Repair (Full Depth, Type II)
- sf Square Feet

Lin Engineering, Ltd. Consulting Engineers Chatham, Illinois	SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	8 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	177
		CONTRACT NO. 60138				
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



WEST PARAPET
(Inside Face Looking West)



EAST PARAPET
(Inside Face Looking East)

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5")
- sf Square Feet

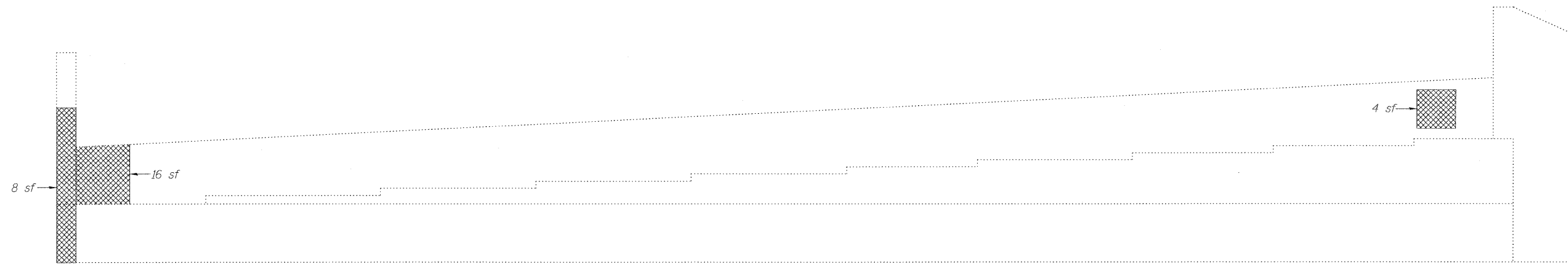
BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	223

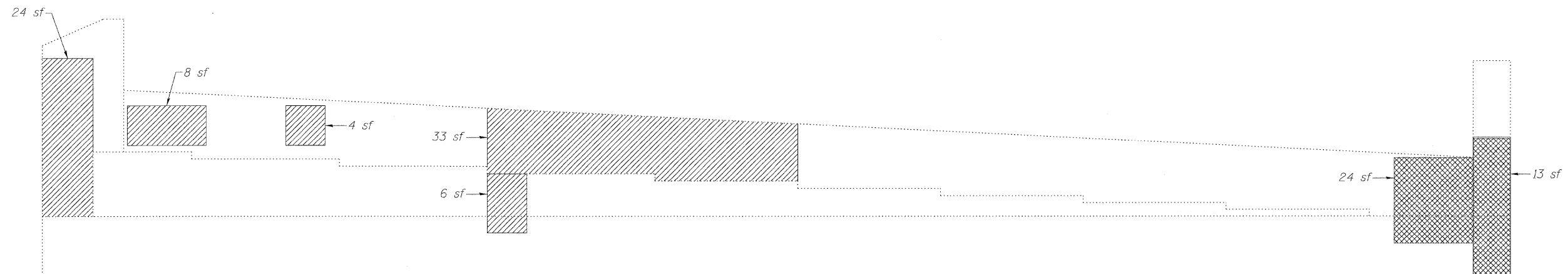
PARAPET REPAIR
STRUCTURE NO. 016-0970

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	8 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	178
Designed By: KHH Date: 12/2009		Checked By: MTH File: 016-0970.dgn		CONTRACT NO. 60138		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT

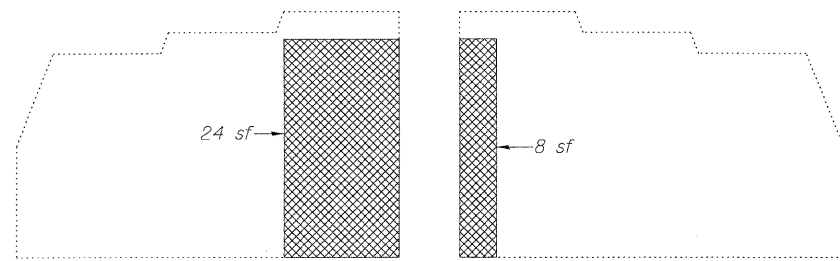
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NORTH ABUTMENT
(Looking North)



SOUTH ABUTMENT
(Looking South)



NORTHWEST WINGWALL

SOUTHWEST WINGWALL

LEGEND

- Structural Repair of Concrete (Depth greater than 5")
- Structural Repair of Concrete (Depth equal to or less than 5")
- sf Square Feet

Note:
Repair of the existing abutments shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

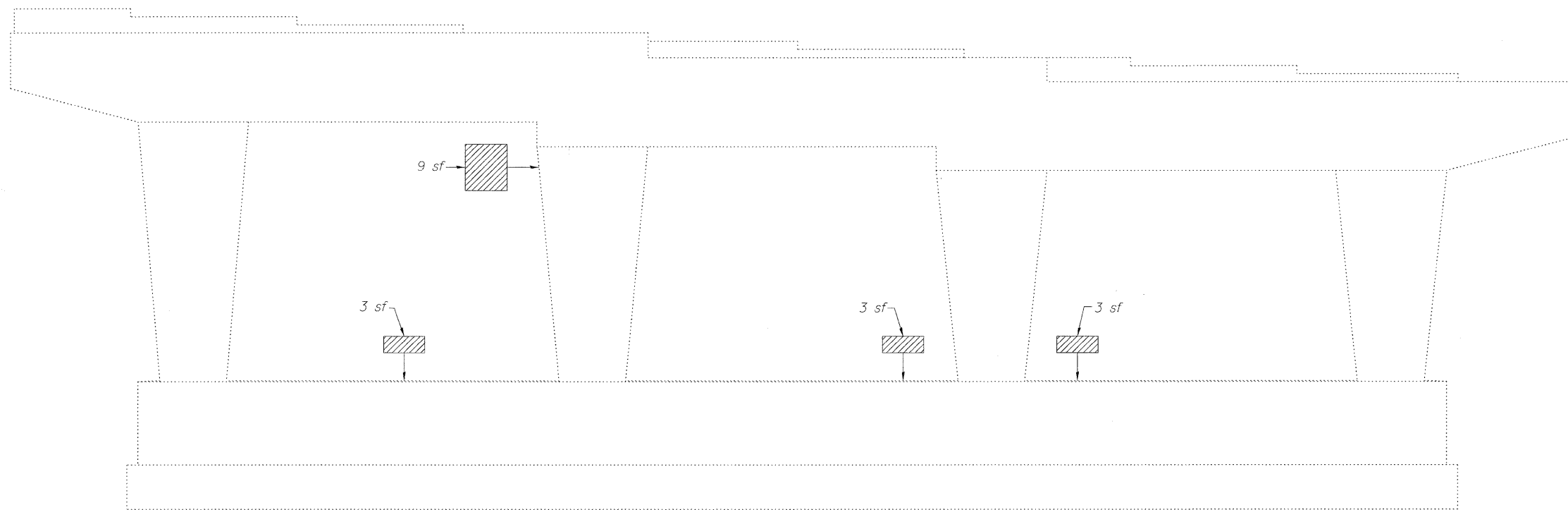
BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth greater than 5 in.)	Sq. Ft.	112
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	86

**ABUTMENT REPAIR
STRUCTURE NO. 016-0970**

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	8 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	174
		FED. ROAD DIST. NO. _		ILLINOIS	FED. AID PROJECT	
				CONTRACT NO. 60138		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PIER 1
(Looking South)


Note:
Repair of the existing pier shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

BILL OF MATERIAL


Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	21

PIER 1 REPAIR
STRUCTURE NO. 016-0970

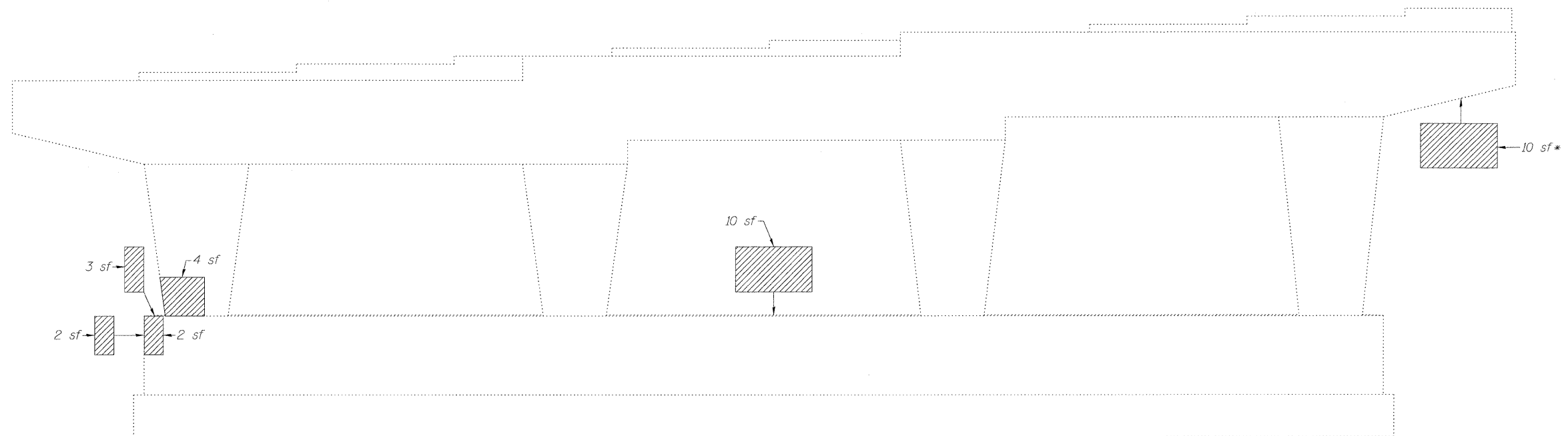
LEGEND

 Structural Repair of Concrete (Depth equal to or less than 5")

sf Square Feet

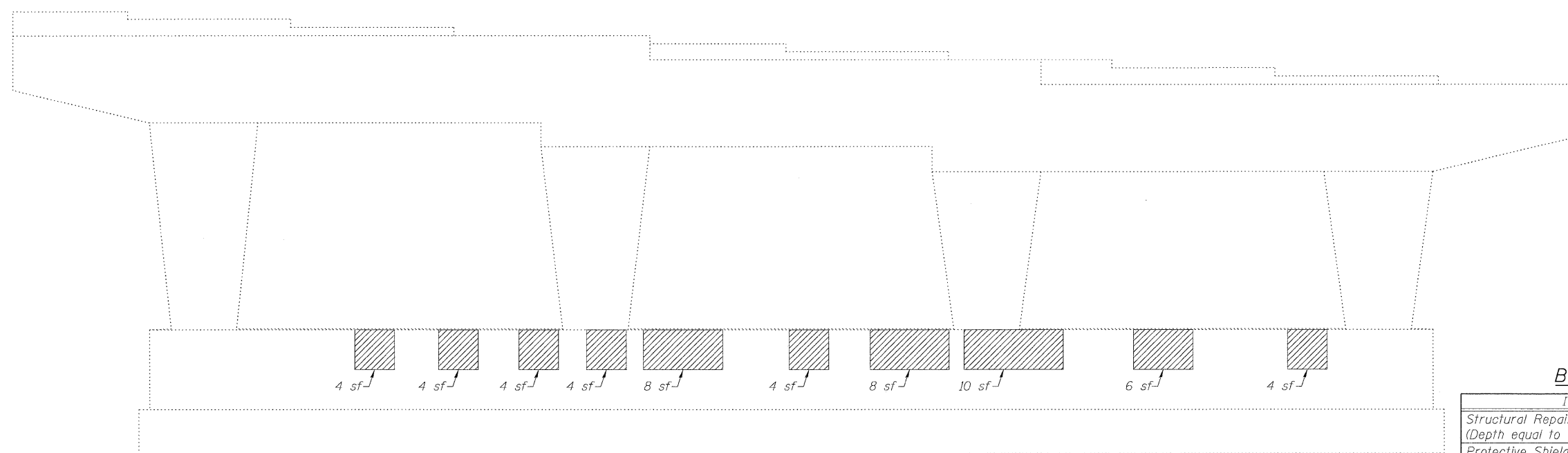
 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: KHH Checked By: MTH Drawn By: KHH Date: 12/2009 File: 016-0970.dgn</small>	SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	8 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	180
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						
					CONTRACT NO. 60138	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PIER 2
(Looking North)

*Requires Protective Shield




PIER 2
(Looking South)

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	100
Protective Shield	Sq. Yd.	2

LEGEND

 Structural Repair of Concrete (Depth equal to or less than 5")
sf Square Feet

Note:
Repair of the existing pier shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LIN ENGINEERING, LTD.
Consulting Engineers
Chatham, Illinois

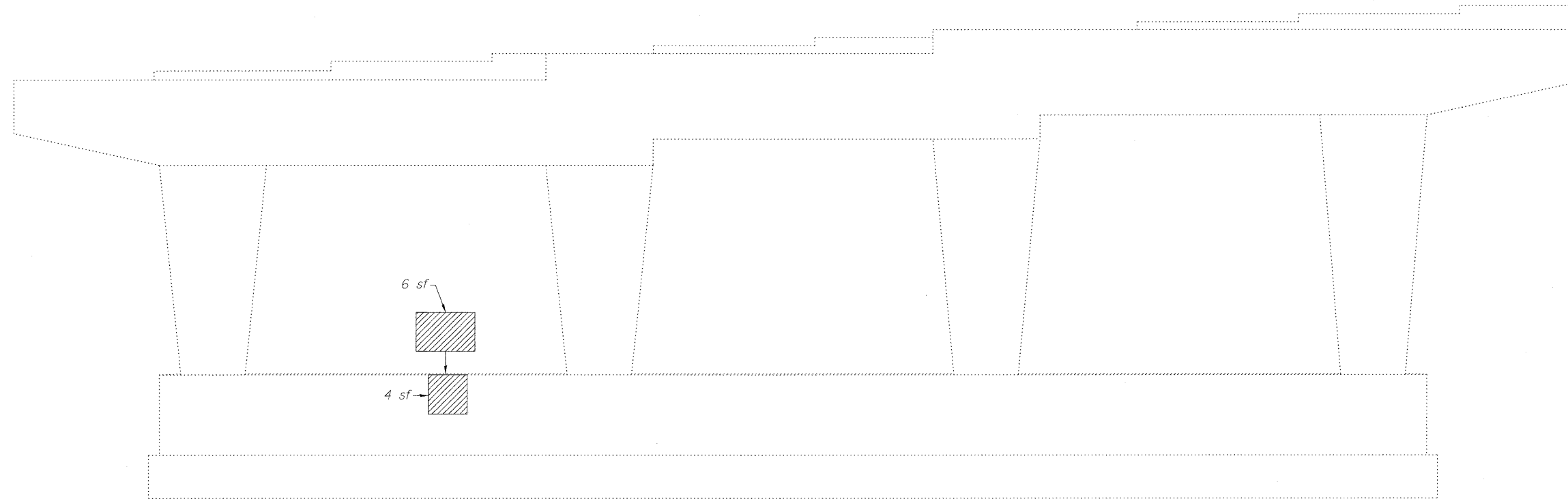
Designed By: KHH | Checked By: MTH | Drawn By: KHH
Date: 12/2009 | File: 016-0970.dgn

SHEET NO. 6
8 SHEETS

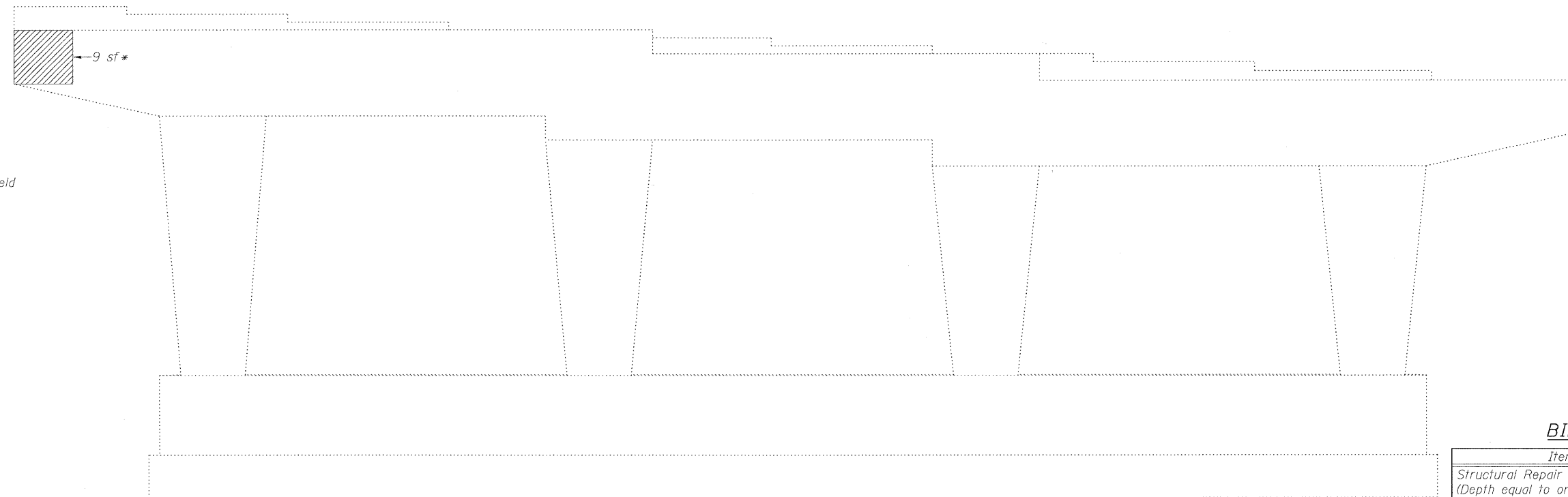
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1,0305-302K)RS-5	COOK	314	181
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT			CONTRACT NO. 60138	

PIER 2 REPAIR
STRUCTURE NO. 016-0970

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PIER 3
(Looking North)




*Requires Protective Shield

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	22
Protective Shield	Sq. Yd.	2

PIER 3 REPAIR
STRUCTURE NO. 016-0970


LEGEND

 Structural Repair of Concrete (Depth equal to or less than 5")

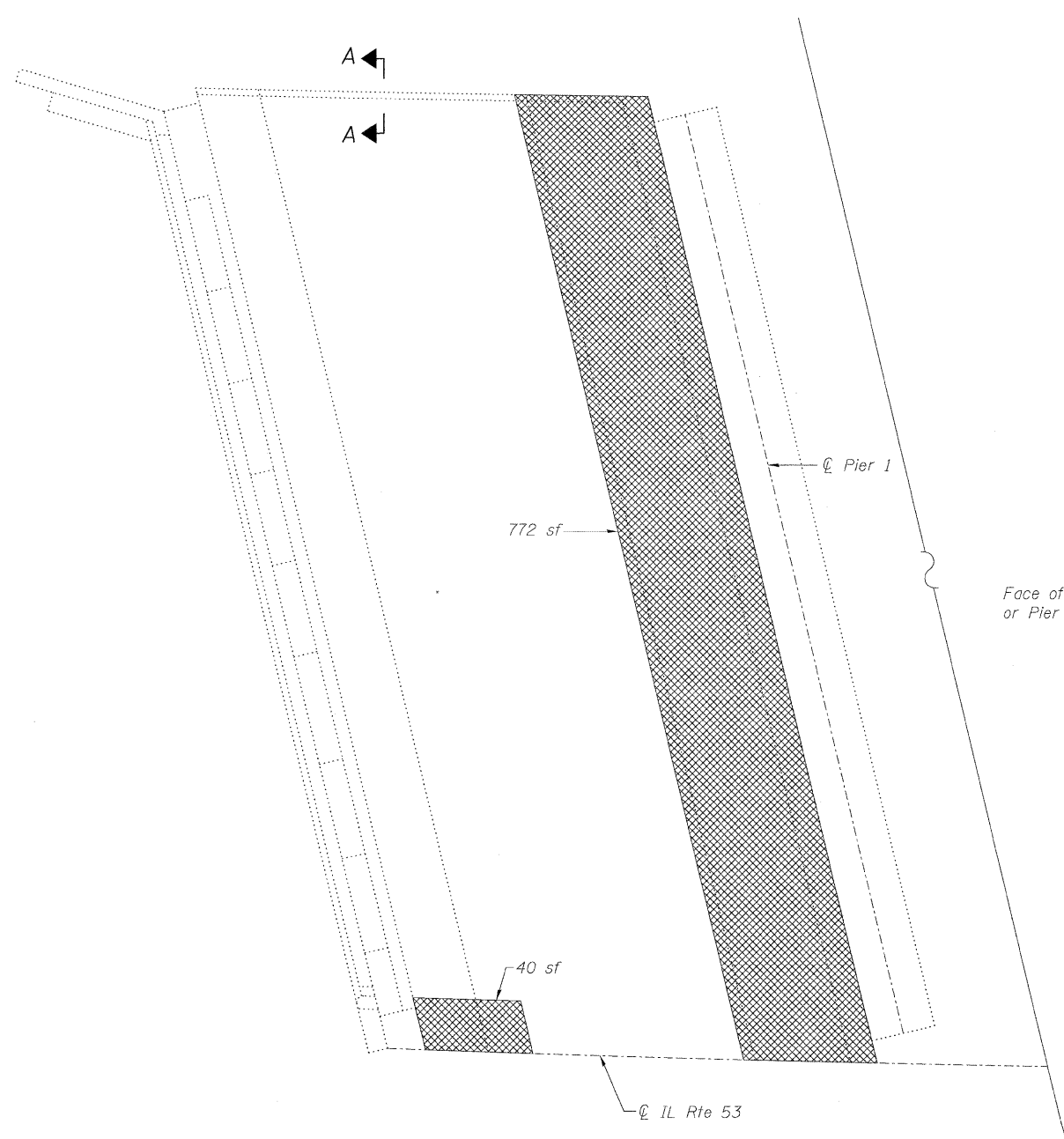
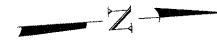
sf Square Feet

Note:
Repair of the existing pier shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

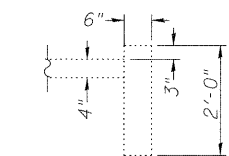
PIER 3
(Looking South)

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	8 SHEETS	290	(531-3.1,0305-302)RS-5	COOK	314	182
Designed By: KHH Checked By: MTH Drawn By: KHH Date: 12/2009 File: 016-0970.dgn		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				
						CONTRACT NO. 60138

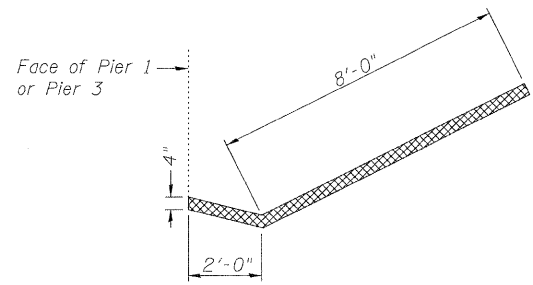
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



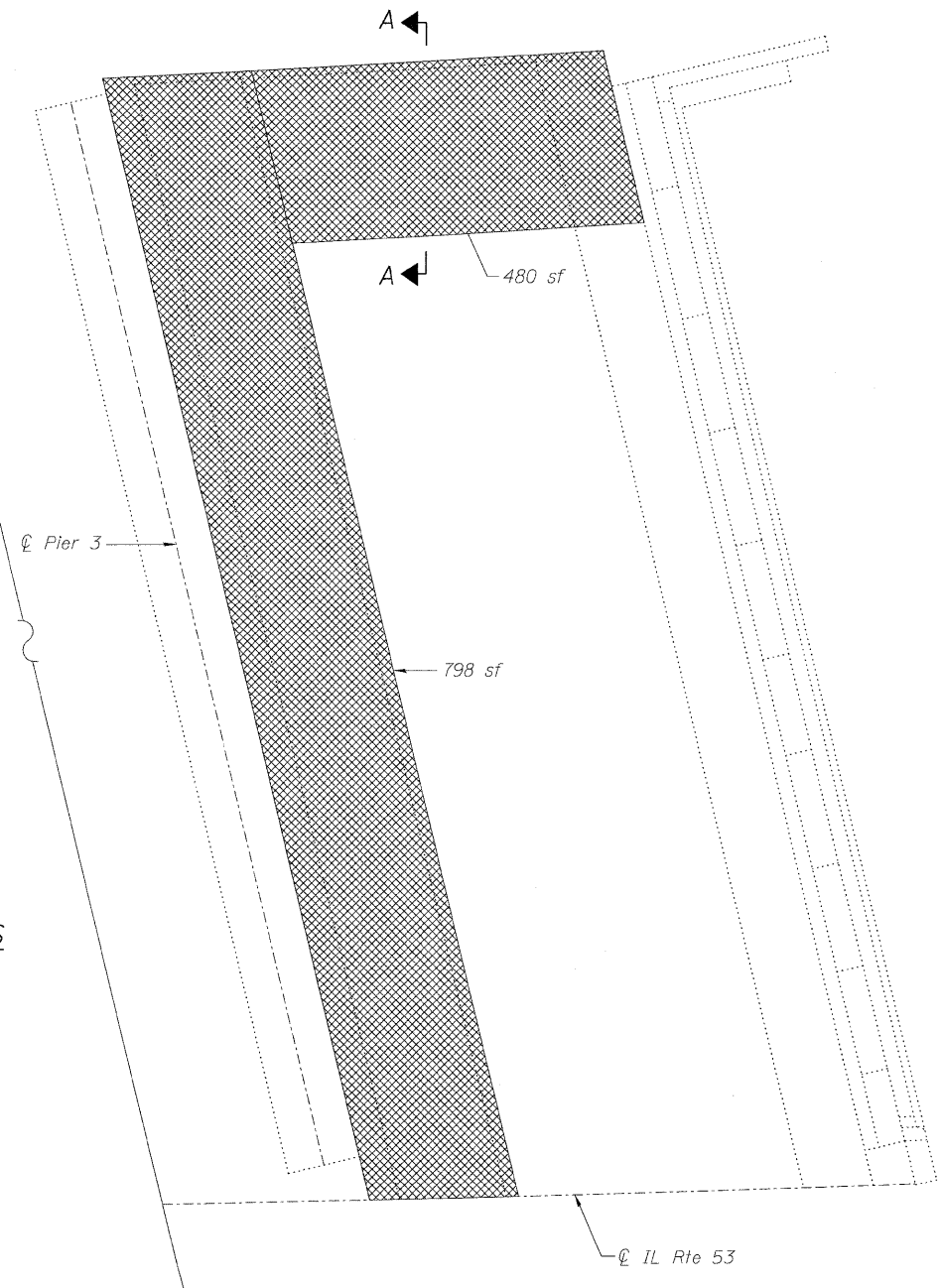
SOUTH SLOPE WALL



SECTION A-A



TOE OF SLOPE REMOVAL DETAILS



NORTH SLOPE WALL

Note:
Sloped wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Slope Wall Removal.
Existing and new welded wire fabric must be lapped at least 6".
Repair of the existing slope walls shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LEGEND

Remove and Replace Slope Wall

sf Square Feet

BILL OF MATERIAL

Item	Unit	Total
Slope Wall Removal	Sq. Yd.	233
Slope Wall 4 inch	Sq. Yd.	233

**SLOPE WALL REPAIR
STRUCTURE NO. 016-0970**

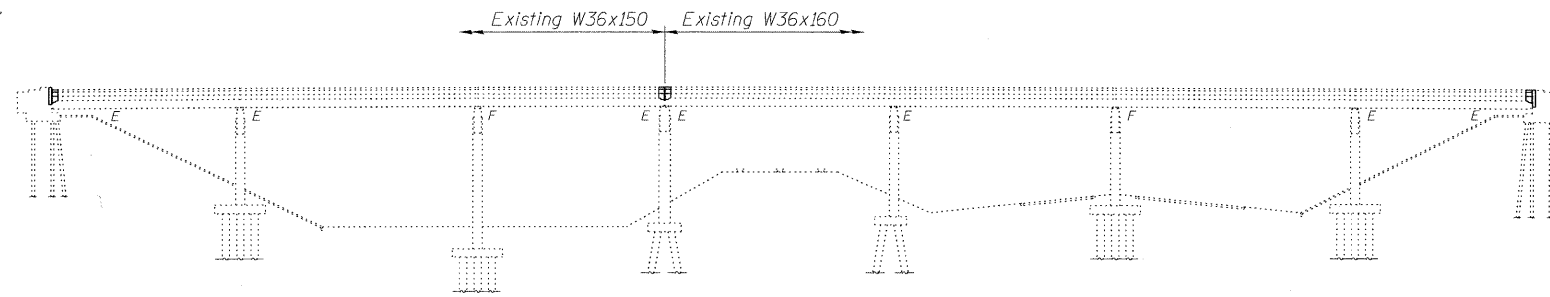
 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 8	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	8 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	183
Designed By: KMH Date: 12/2009		Checked By: MTH File: 016-0970.dgn		Drawn By: KMH		CONTRACT NO. 60138
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

Existing Structure: S.N. 016-0374 built in 1964 as F.A. 61, Section 531-2-VHB at Station 270+71.17. In 1991, the deck was repaired, neoprene expansion joints were provided and an overlay was replaced. In 2000, the rocker bearings were replaced with elastomeric bearings. Existing structure is a seven span continuous steel superstructure with a 7" reinforced concrete deck and 2" overlay, supported on two-column piers and stub abutments, measuring 519'-2" back to back abutments, varies 58'-0" to 64'-9³/₄" out to out deck, with a 29°24'20" right ahead skew. Traffic is to be maintained utilizing stage construction.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCOPE OF WORK

1. Remove and replace concrete deck adjacent to expansion joints at abutments and pier 3.
2. Provide preformed joint strip seal expansion joints at abutments and pier 3.
3. Apply Concrete Sealer to top of concrete deck and top and inside vertical face of parapets.
4. Repair deck slab.
5. Clean and Reseal Relief Joints.
6. Repair deteriorated concrete on parapets, abutments and piers.



ELEVATION

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

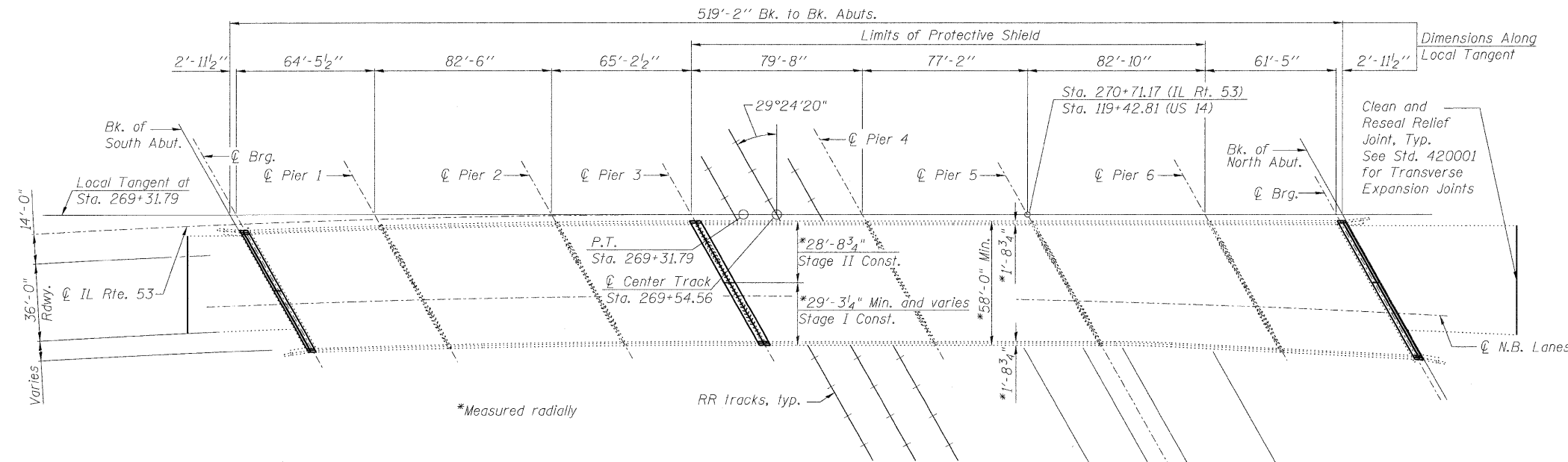
Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that can not be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

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

Joint opening shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.



PLAN

DESIGN STRESSES
FIELD UNITS

Existing Construction

- $f_c = 1,400$ psi (Substructure & Superstructure)
- $f_s = 20,000$ psi (Reinforcement)
- $f_s = 20,000$ psi (Structural Steel)

New Construction

- $f'_c = 3,500$ psi
- $f_y = 60,000$ psi (Reinforcement)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	30.9	-	30.9
Protective Shield	Sq. Yd.	1423	-	1423
Concrete Superstructure	Cu. Yd.	30.9	-	30.9
Reinforcement Bars, Epoxy Coated	Pound	3600	-	3600
Bar Splicers	Each	40	-	40
Preformed Joint Strip Seal	Foot	201	-	201
Concrete Sealer	Sq. Ft.	34165	-	34165
Structural Repair of Concrete (Depth Greater Than 5 in.)	Sq. Ft.	-	28	28
Structural Repair of Concrete (Depth Equal To or Less Than 5 in.)	Sq. Ft.	205	115	320
Approach Slab Repair (Partial Depth)	Sq. Yd.	2.3	-	2.3
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	37.3	-	37.3
Deck Slab Repair (Partial)	Sq. Yd.	56.4	-	56.4
Clean and Reseal Relief Joint	Foot	100	-	100

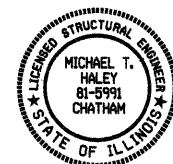
INDEX OF SHEETS

1. General Plan and Elevation
2. Stage Construction Details
3. Temporary Concrete Barrier for Stage Construction
4. Deck Slab Repair
5. Parapet Repair
6. Concrete Removal
7. Abutment Concrete Details
8. Pier 3 Concrete Details
9. Abutment Repair
10. Pier Repair
11. Preformed Joint Strip Seal
12. Bar Splicer Assembly and Mechanical Splicer Details

EXIST. CURVE DATA

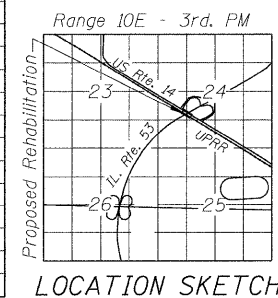
IL RTE 53

- $\Delta = 77^\circ 11' 38''$
- $D = 0^\circ 57' 17.8''$
- $T = 4789.21'$
- $L = 8083.72'$
- $E = 1677.02'$
- $R = 6000'$
- $S.E. = 0.02'/'$
- P.C. = Sta. 188+48.07
- P.T. = Sta. 269+31.79
- P.I. = Sta. 236+37.28



Michael T. Haley 2/8/10
Date
Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2010

GENERAL PLAN AND ELEVATION
NB IL RTE 53 OVER US 14 & UP R.R.
F.A.I. RTE 290
SECTION (531-3.1,0305-302K)RS-5
COOK COUNTY
STATION 270+71.17
STRUCTURE NO. 016-0374



LOCATION SKETCH

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges", 17th Edition

LOADING HS 20-44

(Original Construction)

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

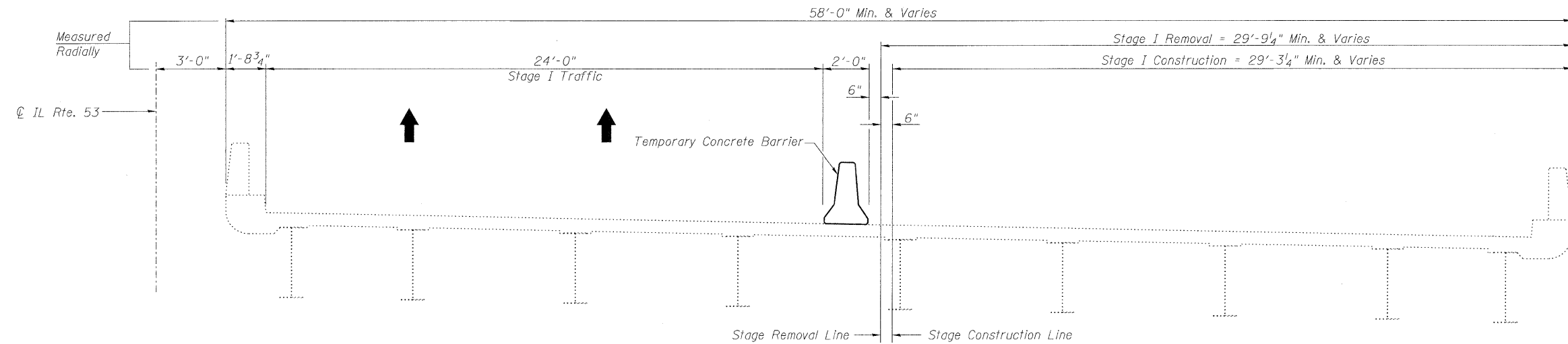
Designed By: RH
Checked By: MTH
Date: 12/2009

Drawn By: RH
File: 016-0374.dgn

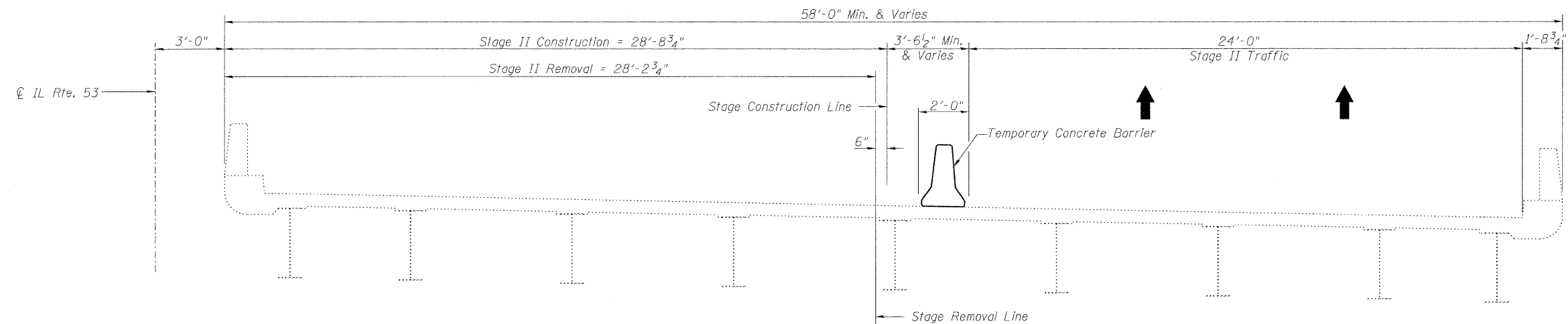
SHEET NO. 1
12 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	(531-3.1,0305-302K)RS-5	COOK	314	184
CONTRACT NO. 60138			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STAGE I REMOVAL & CONSTRUCTION
(Looking North)



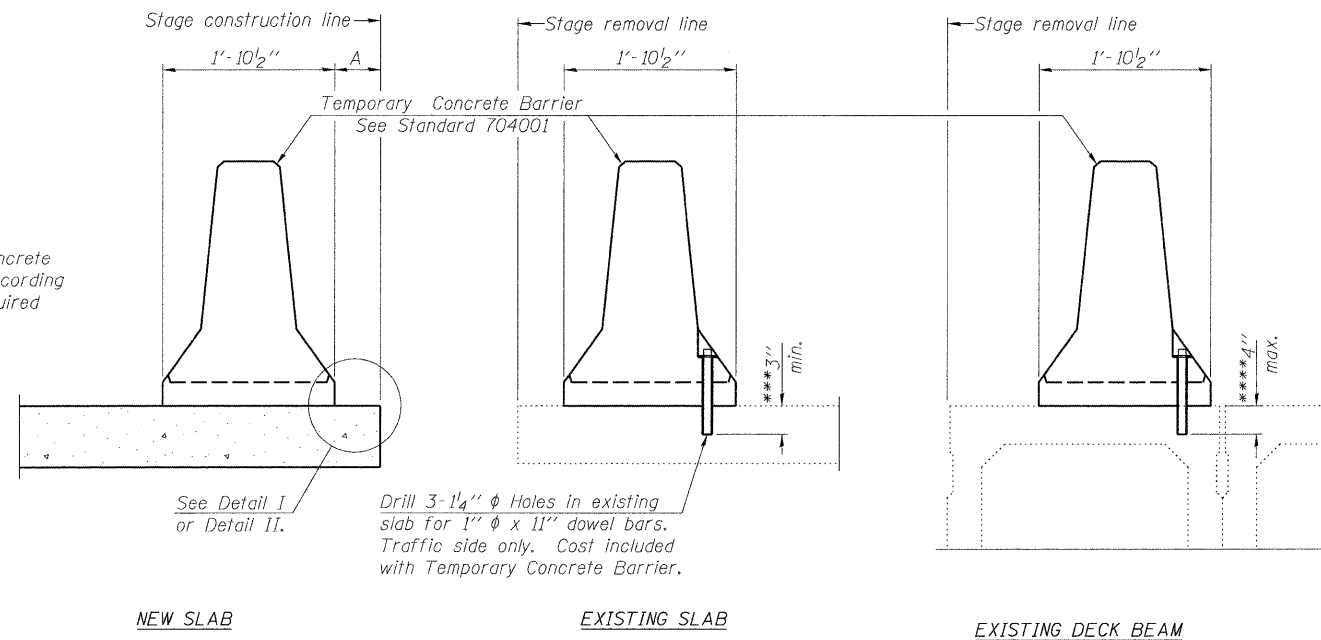
STAGE II REMOVAL & CONSTRUCTION
(Looking North)

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 016-0374

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 2 12 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	185
Designed By: RH Checked By: MTH Drawn By: RH Date: 12/2009 File: 016-0374.dgn		CONTRACT NO. 60138				
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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



Drill 3-1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

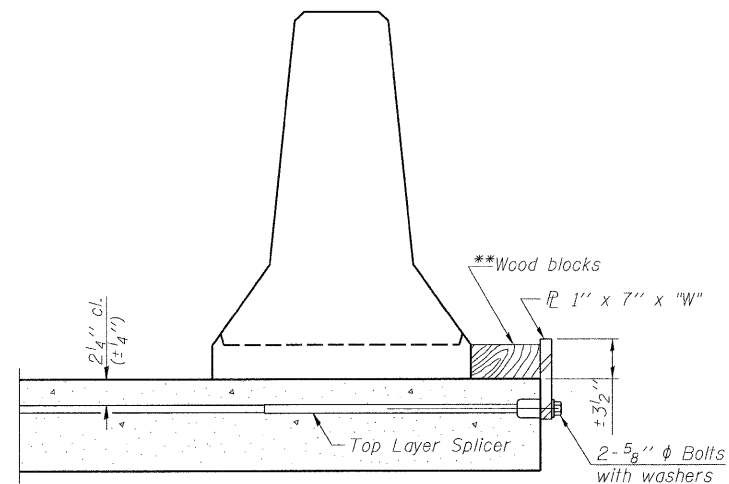
NOTES

- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{P} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate ϕ of each barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{P} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ϕ of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

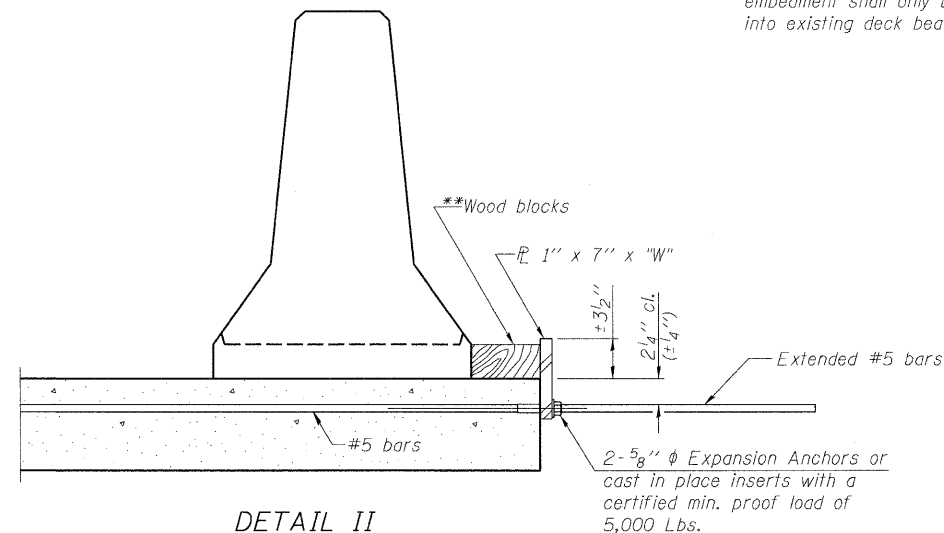
SECTIONS THRU SLAB OR DECK BEAM

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

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



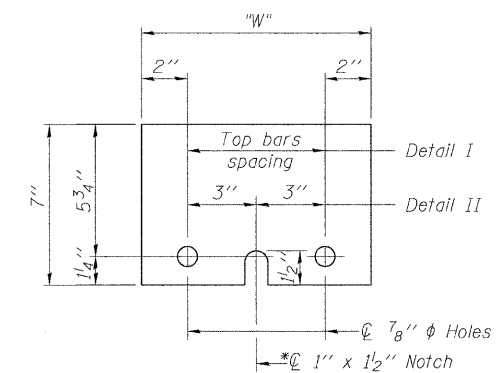
DETAIL I



DETAIL II

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

"W" = Top bars spacing + 4"



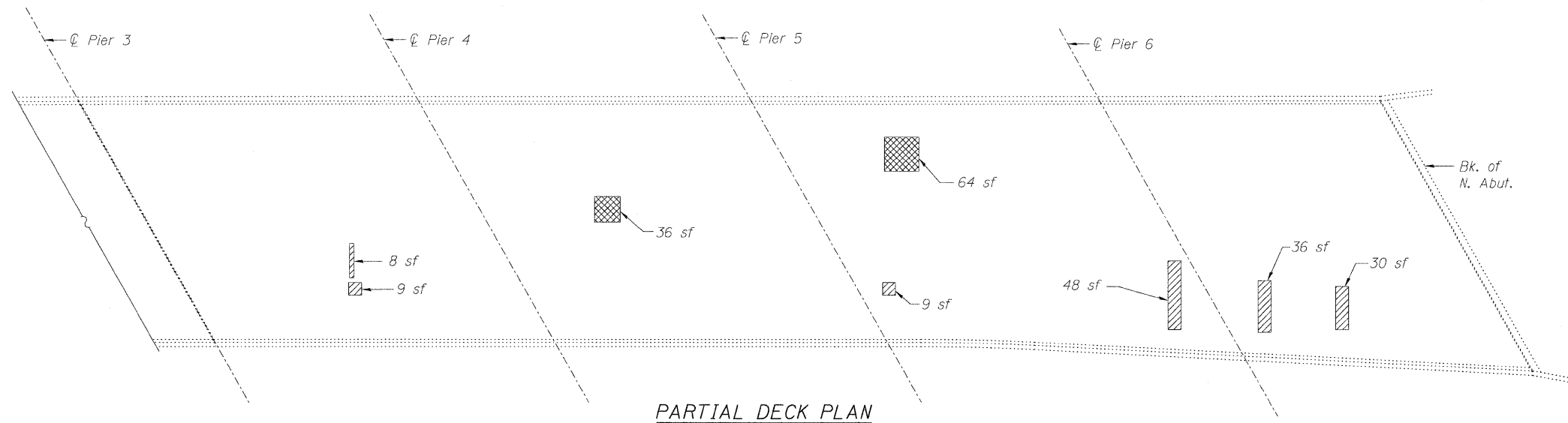
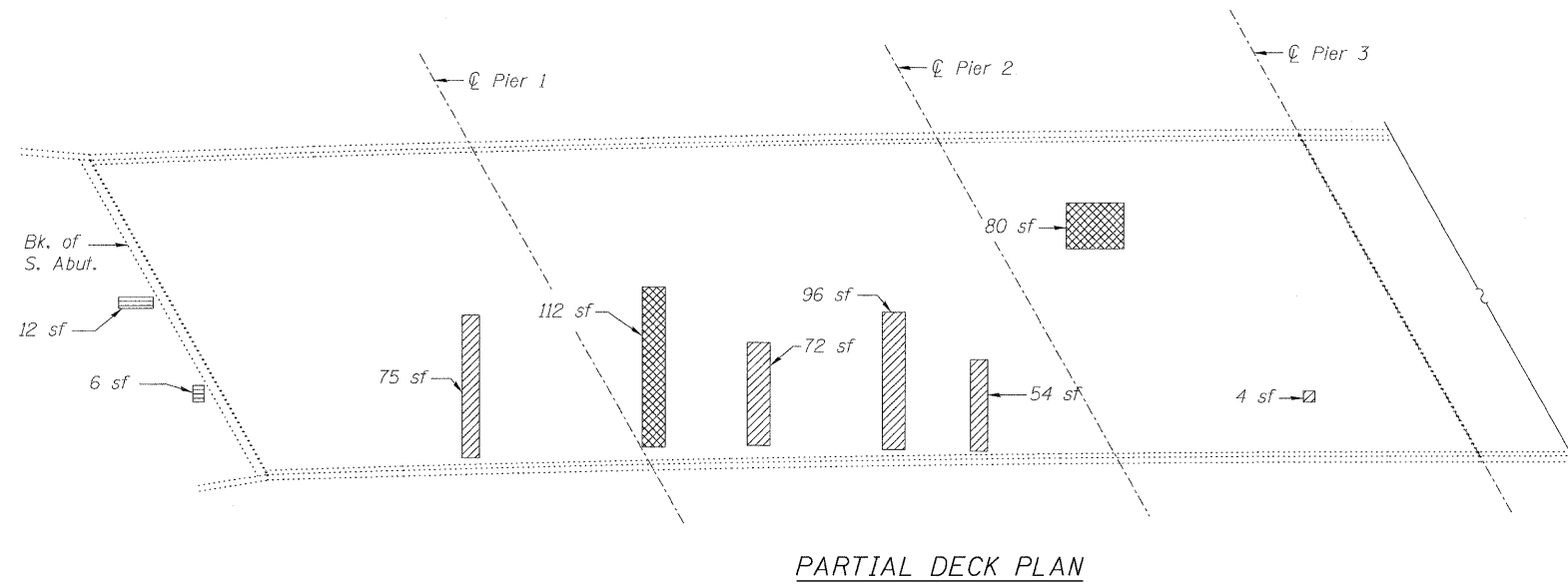
STEEL RETAINER \bar{P} 1" x 7" x 10"

* Required only with Detail II

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-0374

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 3 12 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	186
		CONTRACT NO. 60138				
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				




STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BILL OF MATERIAL


Item	Unit	Total
Deck Slab Repair (Partial)	Sq. Yd.	56.4
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	37.3
Approach Slab Repair (Partial Depth)	Sq. Yd.	2.3
Protective Shield	Sq. Yd.	1423

LEGEND

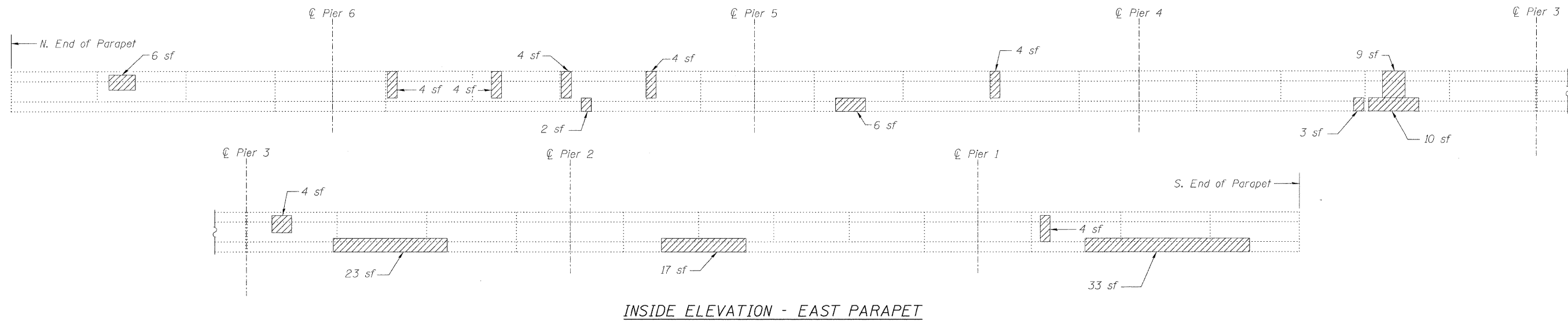
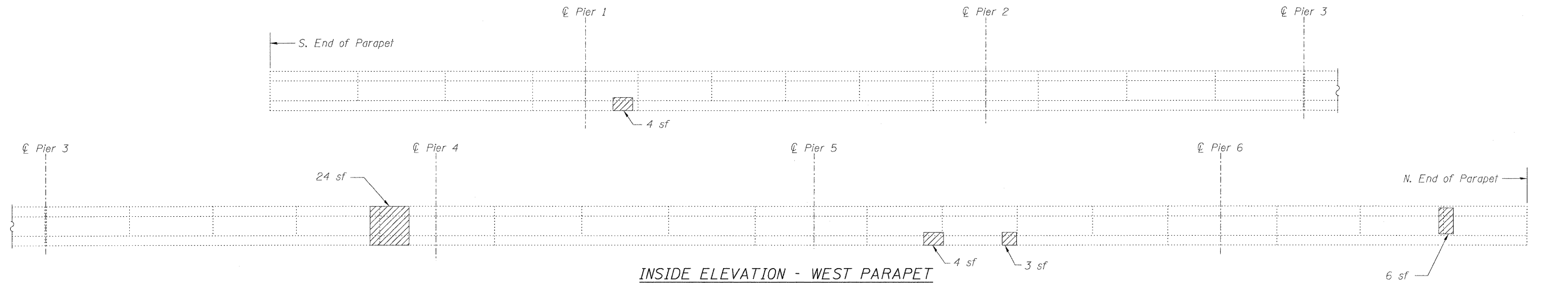
-  Deck Slab Repair (Full Depth, Type II)
-  Deck Slab Repair (Partial)
-  Approach Slab Repair (Partial Depth)
- sf Square Feet

Repair of the existing deck slab shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

**DECK SLAB REPAIR
STRUCTURE NO. 016-0374**

 LIN ENGINEERING LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	187
Designed By: RH Date: 12/2009		Checked By: MTH File: 016-0374.dgn		Drawn By: RH		CONTRACT NO. 60138
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	205

LEGEND

Structural Repair of Concrete
(Depth equal to or less than 5")

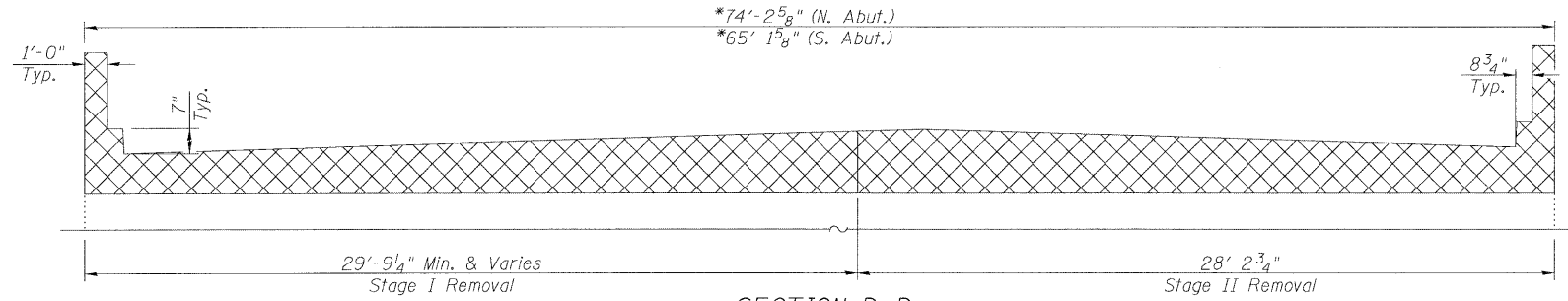
sf Square Feet

Repair of the existing parapets shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

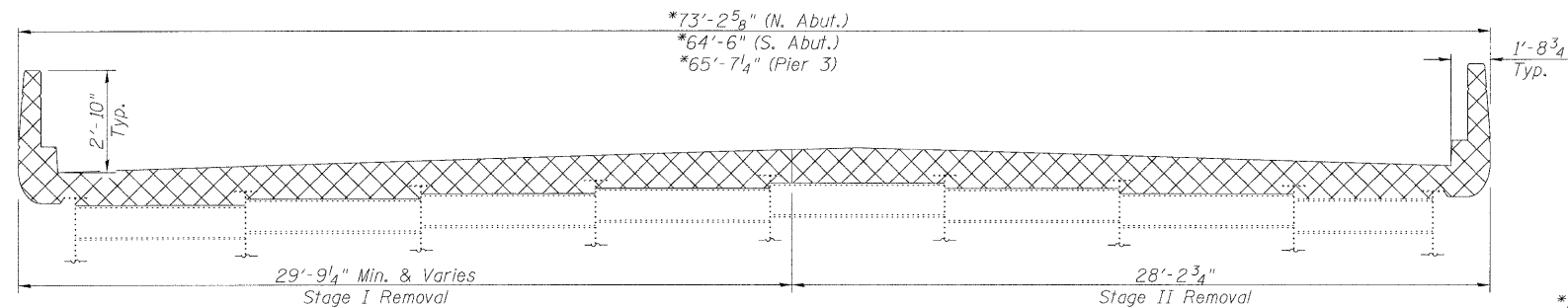
**PARAPET REPAIR
STRUCTURE NO. 016-0374**

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	12 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	188	
Designed By: RH Checked By: MTH Drawn By: RH Date: 12/2008 File: 016-0374.dgn		CONTRACT NO. 60138				FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT	

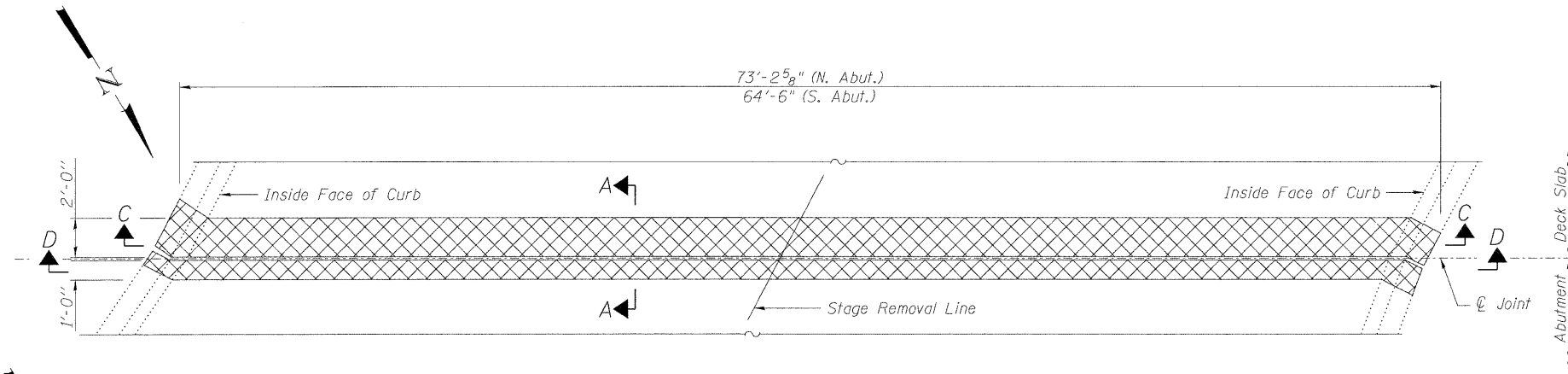
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



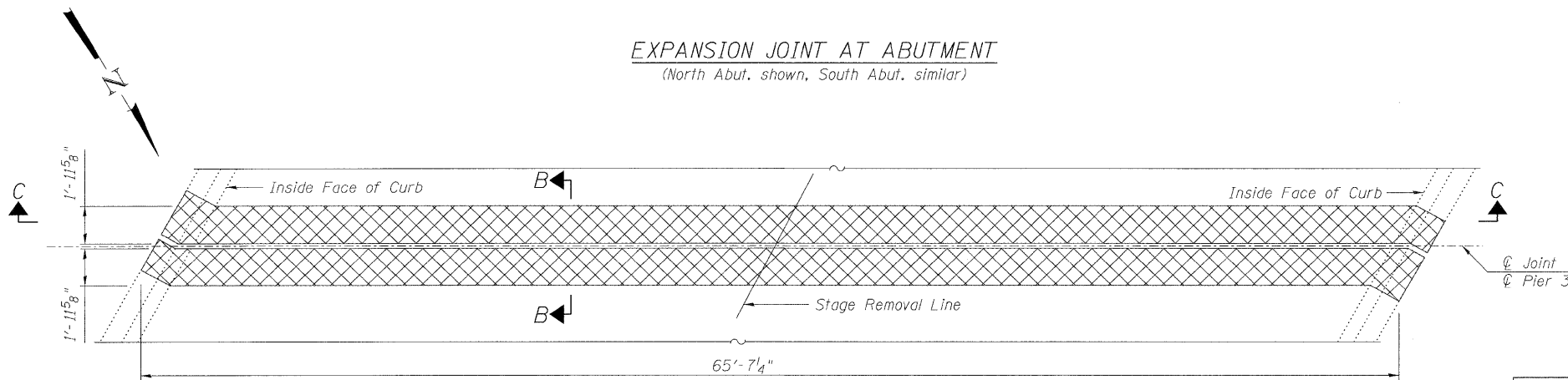
SECTION D-D
(North Abut. shown, South Abut. similar)
(Dimensions shown @ Rt. L's unless otherwise noted)



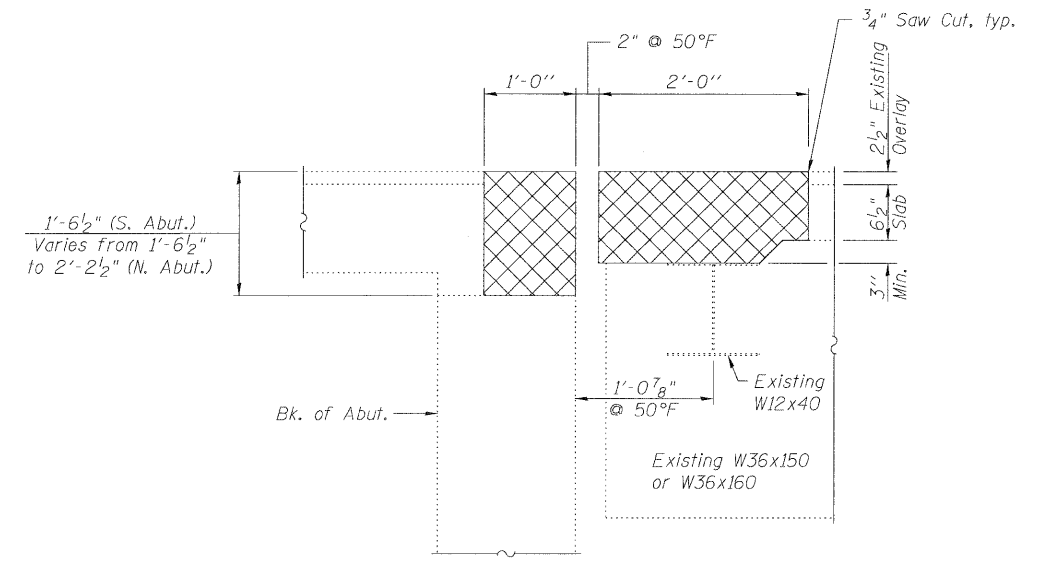
SECTION C-C
(North Abut. shown, Pier 3 and South Abut. similar)
(Dimensions shown @ Rt. L's unless otherwise noted)



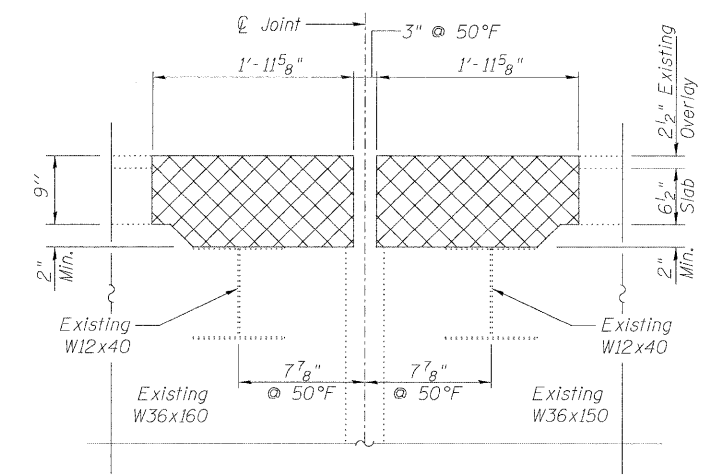
EXPANSION JOINT AT ABUTMENT
(North Abut. shown, South Abut. similar)



EXPANSION JOINT AT PIER 3



SECTION A-A
(Dimensions @ Rt. L's)



SECTION B-B
(Dimensions @ Rt. L's)

- Notes:
1. Cross hatched area indicates concrete removal.
 2. Existing reinforcement bars in the concrete removal area extending in new construction shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
 3. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system, in accordance with IDOT Standard Specifications Article 501.03. Cost included in "Concrete Removal"
 4. Overlay removal is included in pay item Concrete Removal.

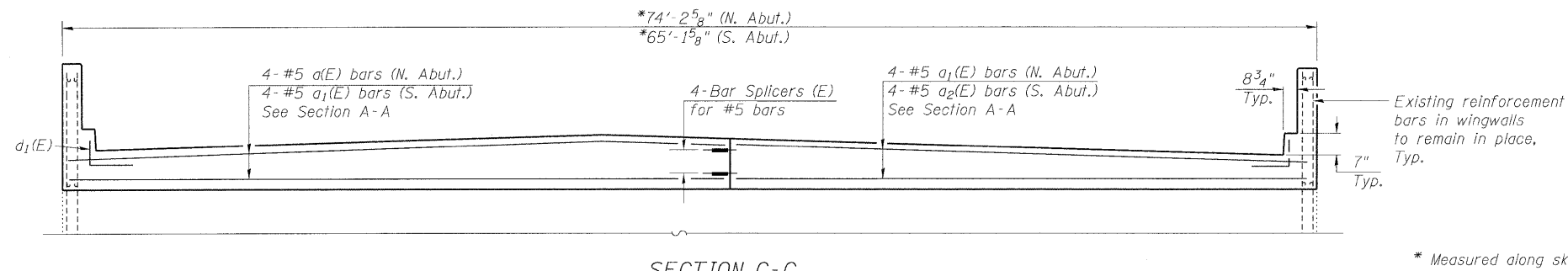
BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	30.9

**CONCRETE REMOVAL
STRUCTURE NO. 016-0374**

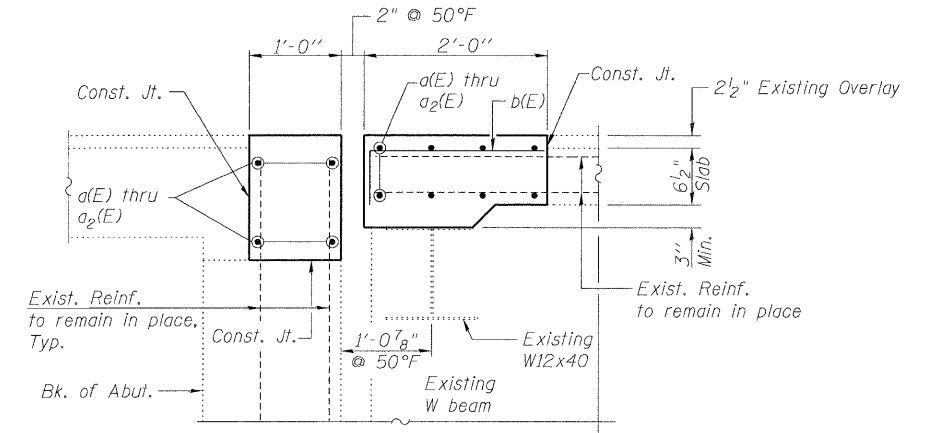
<p>LIN ENGINEERING, LTD. Consulting Engineers Chattanooga, Illinois</p>	SHEET NO. 6	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	189
<p>Designed By: RH Date: 12/2009</p> <p>Checked By: MTH File: 016-0374.dgn</p> <p>Drawn By: RH</p>	FED. ROAD DIST. NO. _		ILLINOIS FED. AID PROJECT		CONTRACT NO. 60138	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

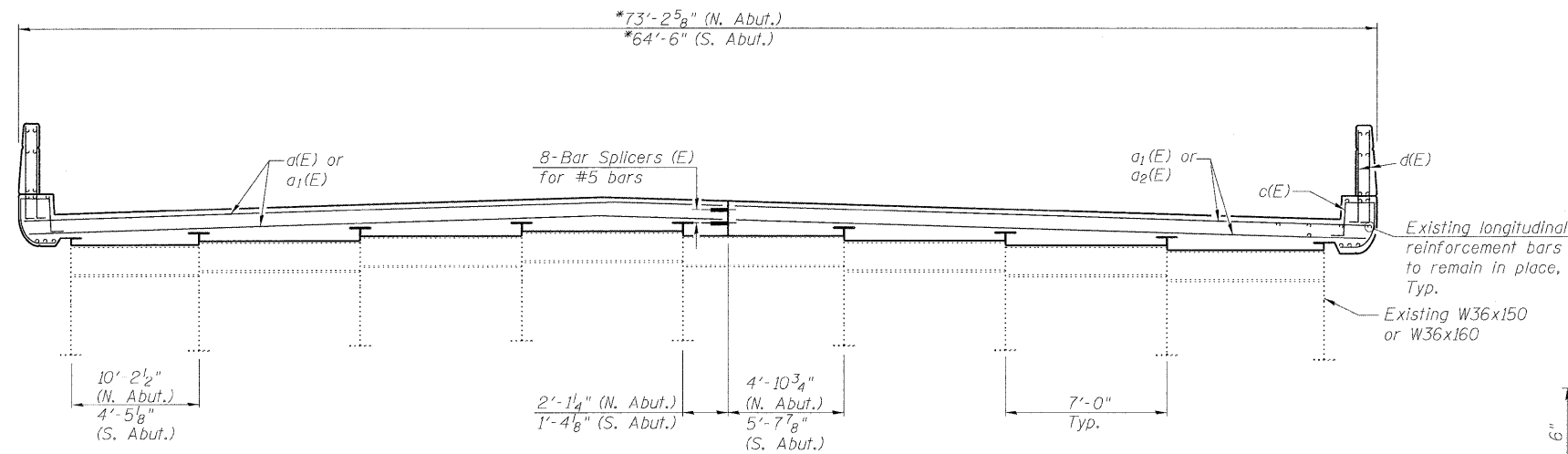


SECTION C-C

(Dimensions @ Rt. L's unless otherwise noted)
(North Abut. shown, South Abut. similar)

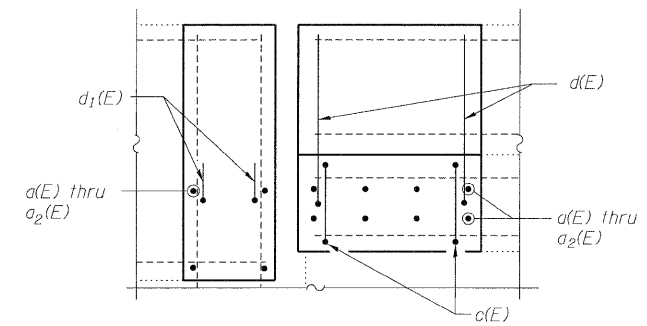


SECTION A-A
(Dimension @ Rt. L's)

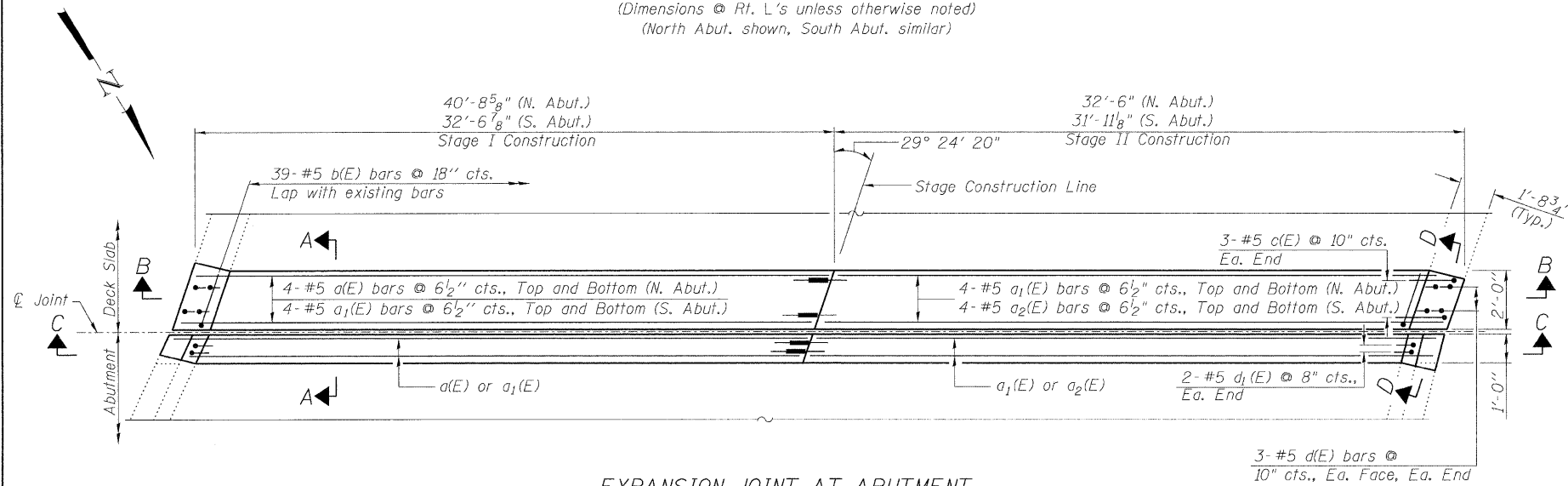


SECTION B-B

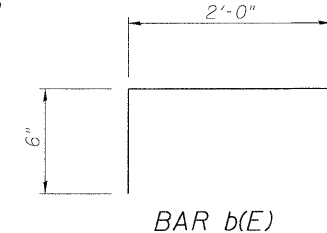
(Dimensions @ Rt. L's unless otherwise noted)
(North Abut. shown, South Abut. similar)



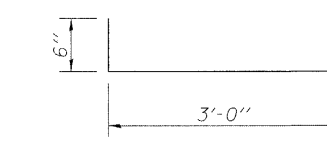
SECTION D-D



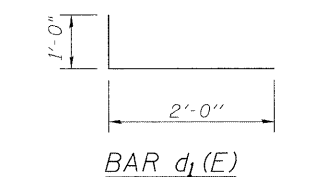
EXPANSION JOINT AT ABUTMENT
(North Abut. Shown, South Abut. Similar)



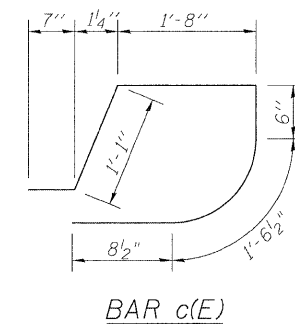
BAR b(E)



BAR d(E)



BAR d1(E)



BAR c(E)

BILL OF MATERIAL

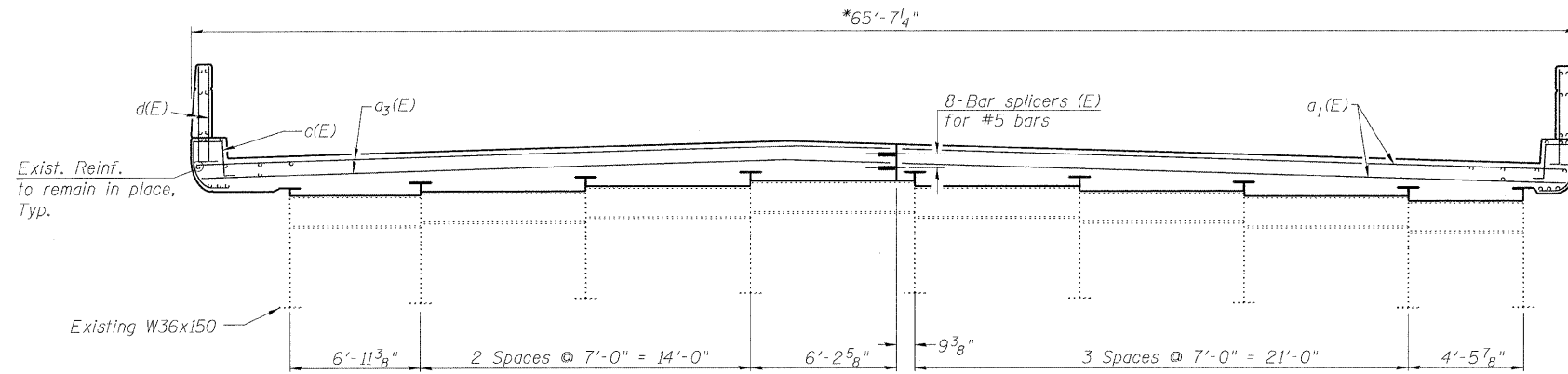
(Both Abutments)

Bar	No.	Size	Length	Shape
a(E)	12	#5	41'-2"	—
a1(E)	24	#5	32'-8"	—
a2(E)	12	#5	32'-1"	—
b(E)	78	#5	2'-6"	┌
c(E)	12	#5	6'-1"	┌
d(E)	24	#5	3'-6"	┌
d1(E)	8	#5	3'-0"	┌
Reinforcement Bars, Epoxy Coated		Pound	2130	
Concrete Superstructure		Cu. Yd.	20.3	

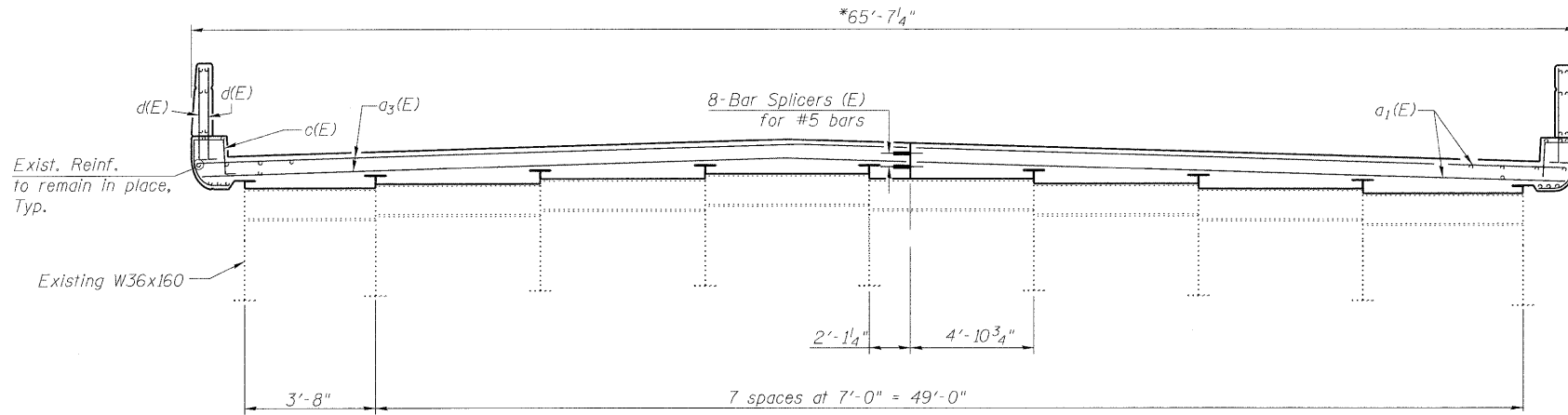
ABUTMENT CONCRETE DETAILS
STRUCTURE NO. 016-0374

	SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	190
Designed By: RH Date: 12/2009		Checked By: WTH File: 016-0374.rdp		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

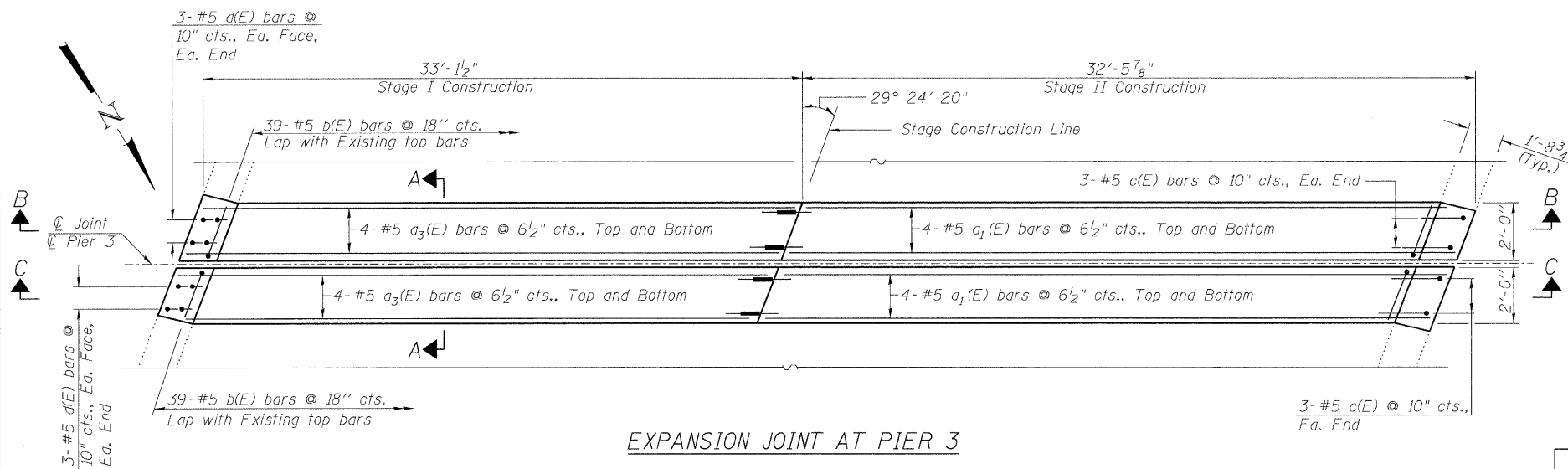
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



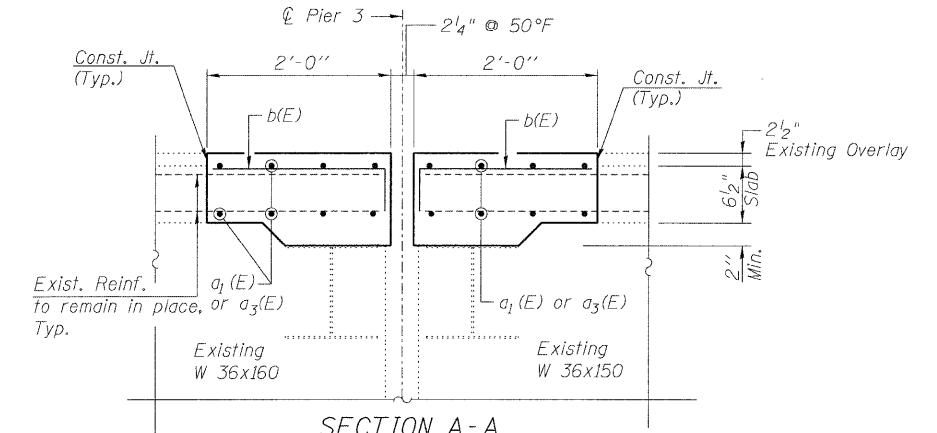
SECTION B-B
(Dimension @ Rt. L's unless otherwise noted)



SECTION C-C
(Dimension @ Rt. L's unless otherwise noted)

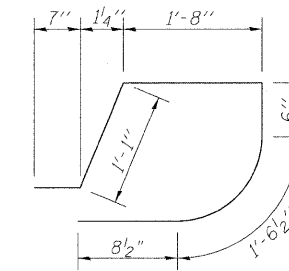


EXPANSION JOINT AT PIER 3

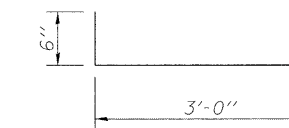


SECTION A-A
(Dimension @ Rt. L's)

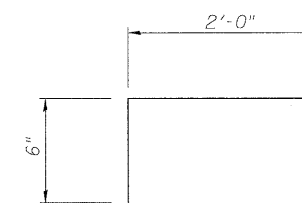
* Measured along skew



BAR c(E)



BAR d(E)



BAR b(E)

BILL OF MATERIAL

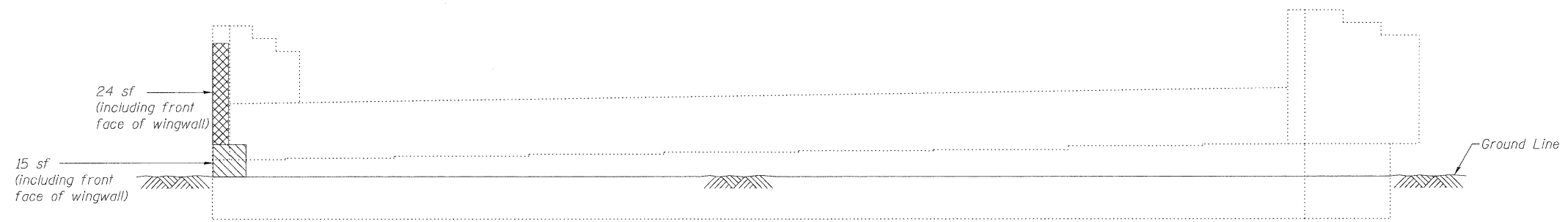
(Pier 3)

Bar	No.	Size	Length	Shape
a ₁ (E)	16	#5	32'-8"	—
a ₃ (E)	16	#5	33'-4"	—
b(E)	78	#5	2'-6"	┌
c(E)	12	#5	6'-1"	┌
d(E)	24	#5	3'-6"	┌
Reinforcement Bars, Epoxy Coated			Pound	1470
Concrete Superstructure			Cu. Yds.	10.6

PIER 3 CONCRETE DETAILS
STRUCTURE NO. 016-0374

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 8	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	191
Designed By: RH / Checked By: MTH / Drawn By: RH Date: 12/2009 / File: 016-0374.dgn			CONTRACT NO. 60138 FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SOUTH ABUTMENT
(Looking South)



NORTH ABUTMENT
(Looking North)


BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth greater than 5 in.)	Sq. Ft.	28
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	30

Repair of the existing abutments shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.


LEGEND

 Structure Repair of Concrete
(Depth greater than 5")

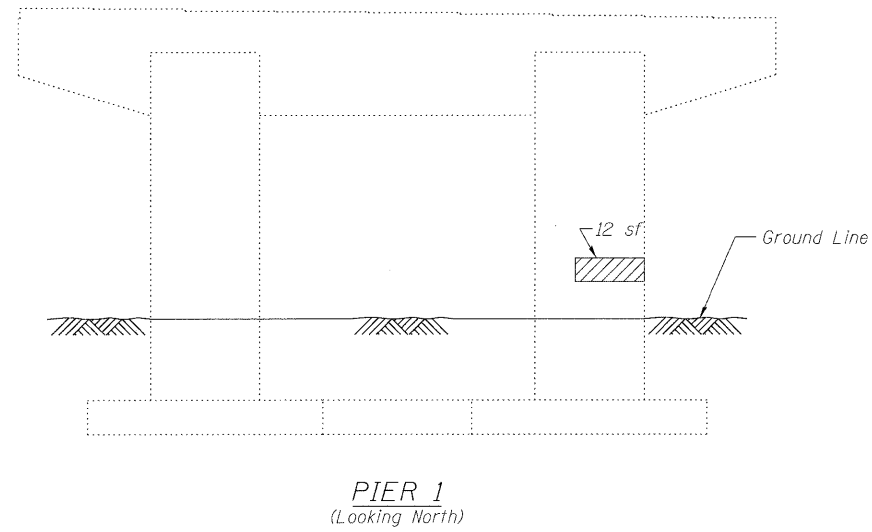
 Structure Repair of Concrete
(Depth equal to or less than 5")

sf Square Feet

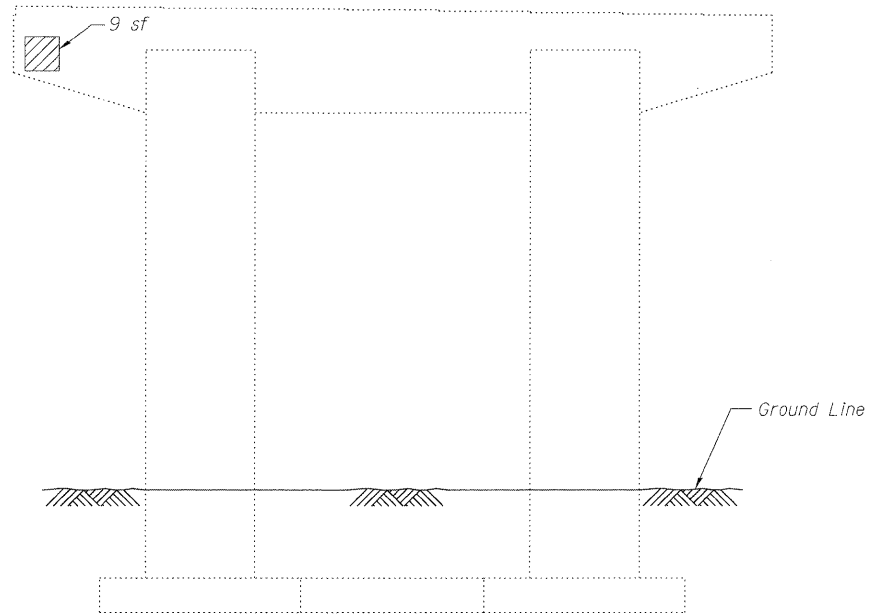
ABUTMENT REPAIR
STRUCTURE NO. 016-0374

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 9	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	12 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	192	
<small>Designed By: RH Checked By: MTH Drawn By: RH</small> <small>Date: 12/2/09 File: 016-0374.dwg</small>		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				CONTRACT NO. 60138	

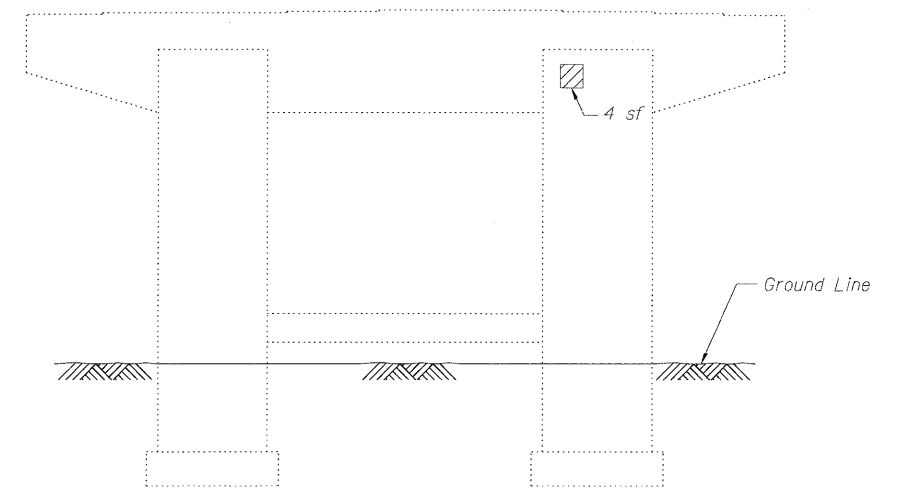
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



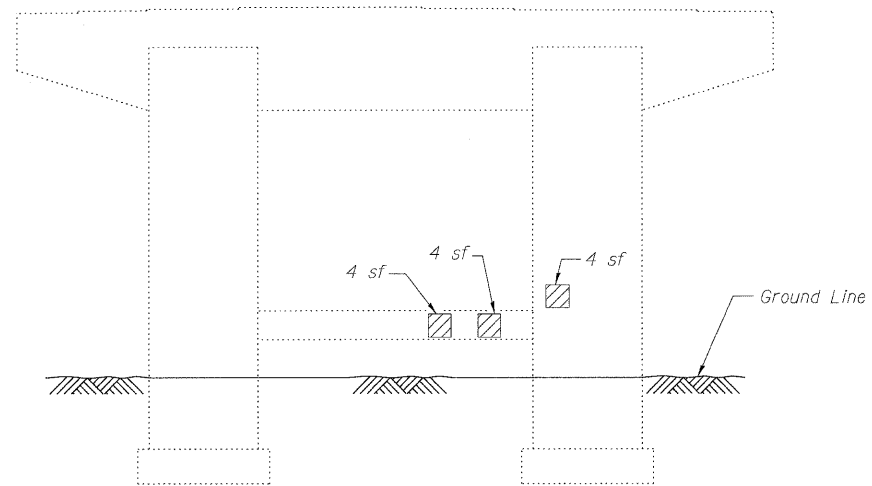
PIER 1
(Looking North)



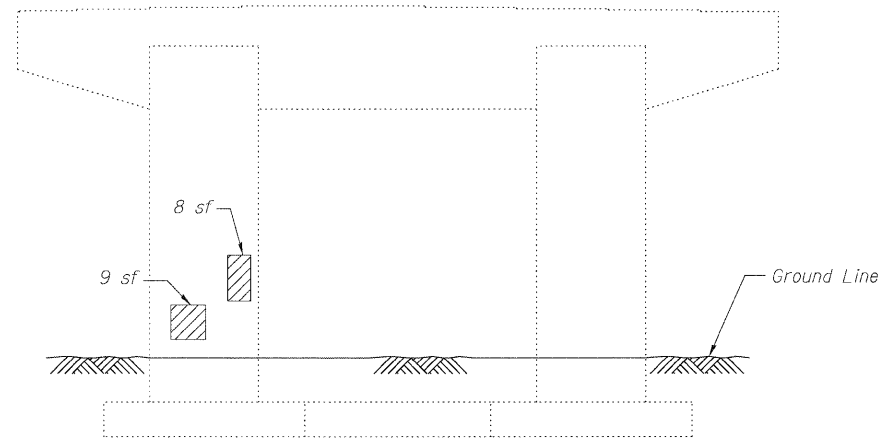
PIER 2
(Looking North)



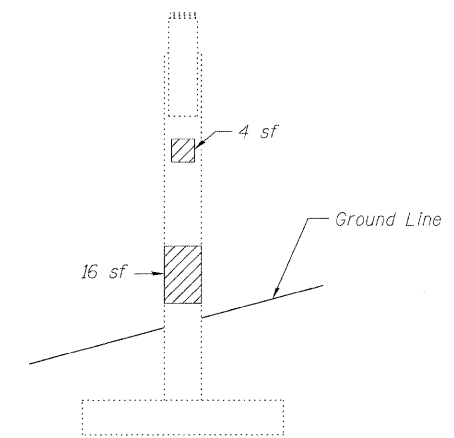
PIER 4
(Looking North)



PIER 4
(Looking South)



PIER 5
(Looking South)



END VIEW - PIER 6
(Looking West of East Column)

BILL OF MATERIAL

Item	Unit	Total
Structure Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	85

Repair of the existing piers shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LEGEND

Structure Repair of Concrete
(Depth equal to or less than 5")

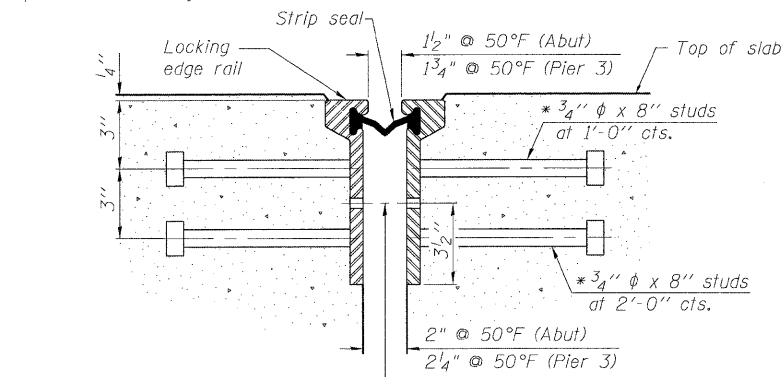
sf Square Feet

PIER REPAIR
STRUCTURE NO. 016-0374

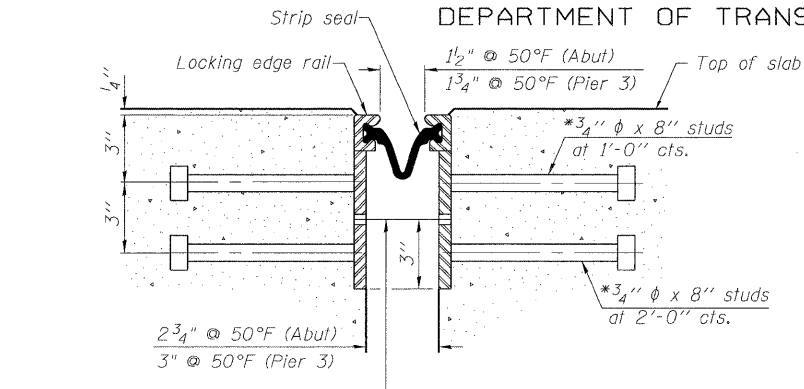
 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 10	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	193
Designed By: RH Date: 12/2009		Checked By: MTH File: 016-0374.dgn		CONTRACT NO. 60138		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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



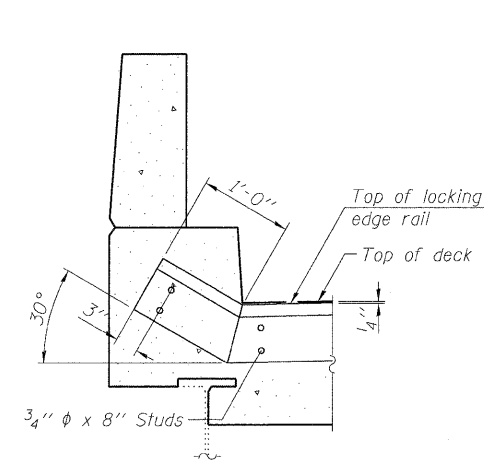
SECTION THRU
ROLLED RAIL JOINT



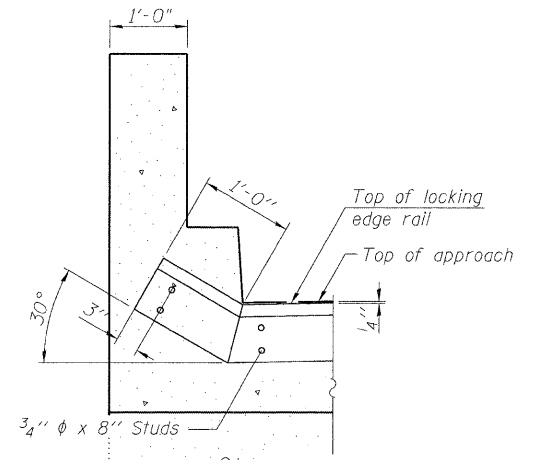
SECTION THRU
WELDED RAIL JOINT

7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

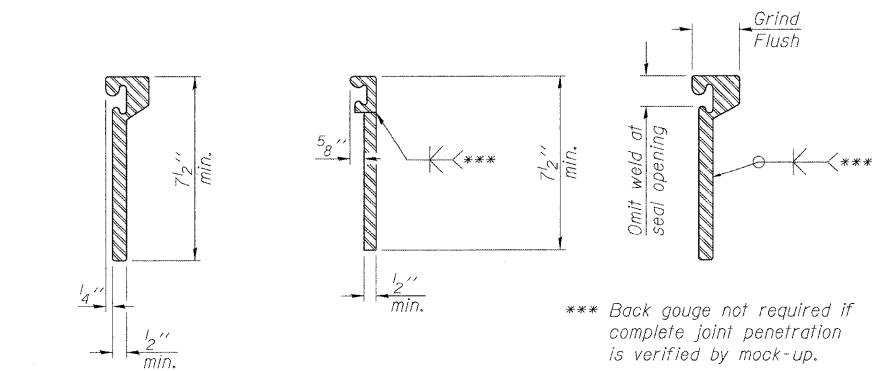


AT PARAPET



AT WING WALL

TYPICAL END TREATMENTS

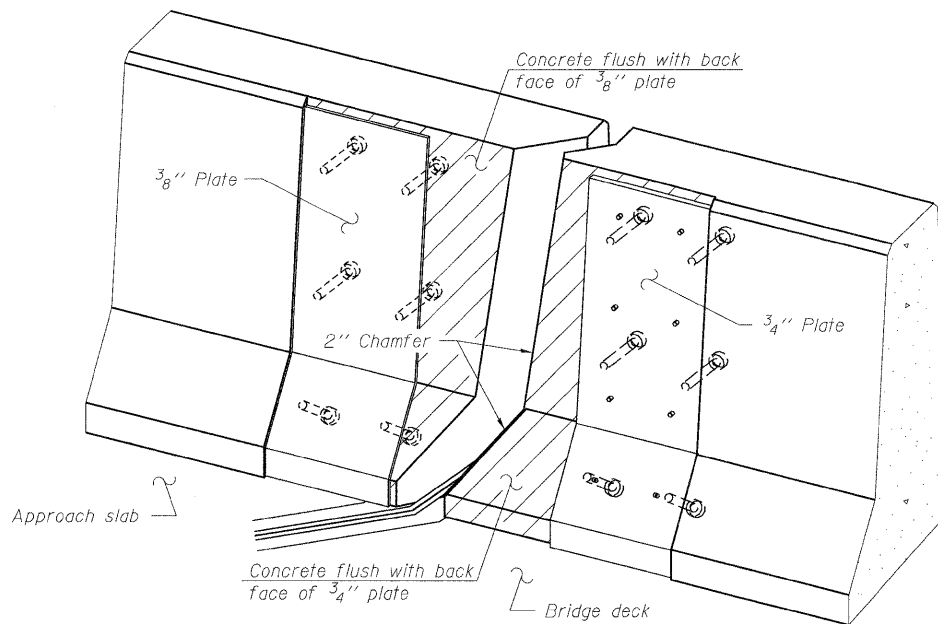


ROLLED
EXTRUDED RAIL

WELDED RAIL

LOCKING EDGE
RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
Rolled rail shown, welded rail similar.



Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

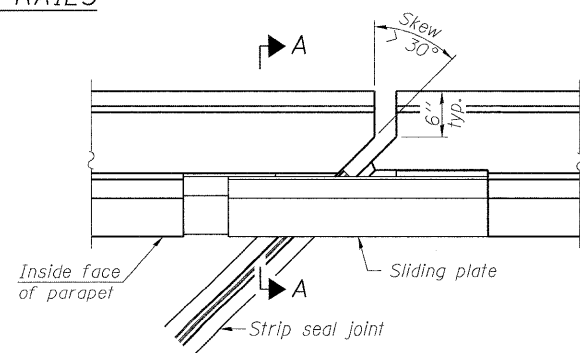
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

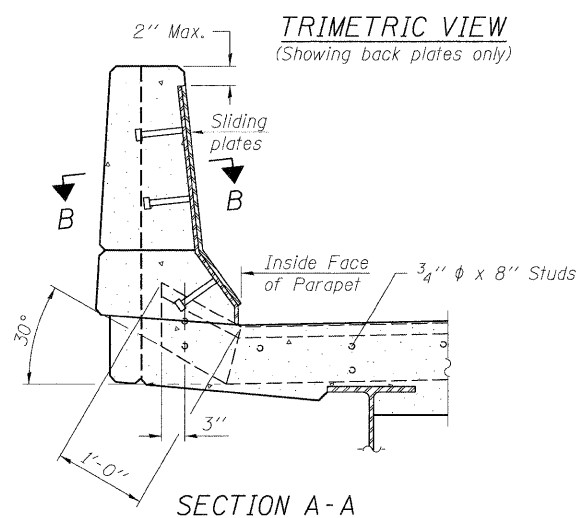
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

LOCKING EDGE RAILS

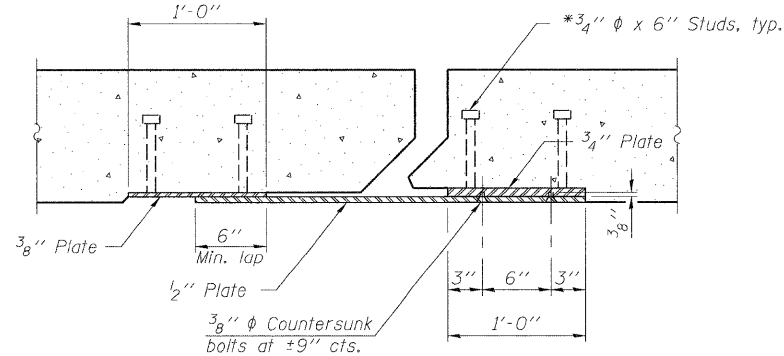


PLAN



SECTION A-A

POINT BLOCK DETAILS
(for skews > 30°)



SECTION B-B

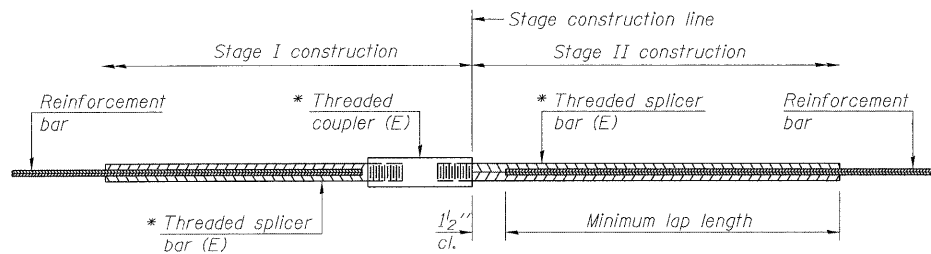
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	201

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-0374

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: RH Date: 12/2009</small>	SHEET NO. 11	F.A.I. RTE. 290	SECTION (531-3.1,0305-302)RS-5	COUNTY COOK	TOTAL SHEETS 314	SHEET NO. 191
	12 SHEETS	CONTRACT NO. 60138				
		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

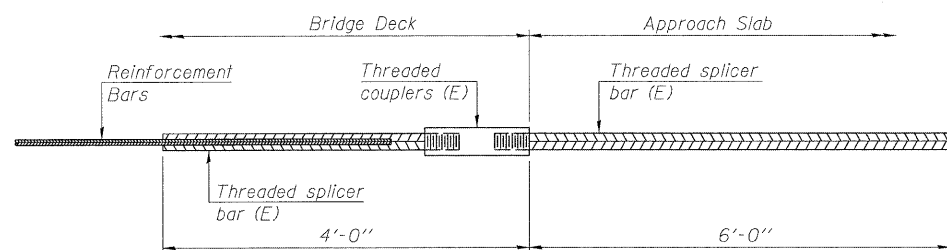
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

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

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

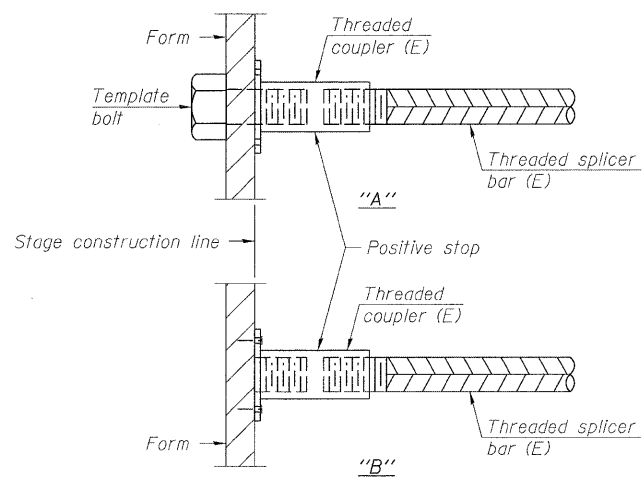
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	32	Table 3
Abutment	#5	8	Table 3



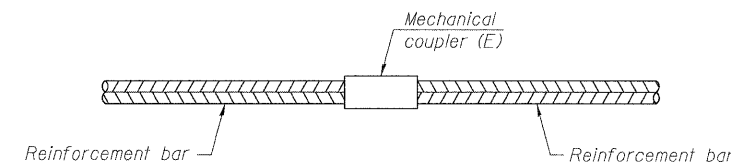
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



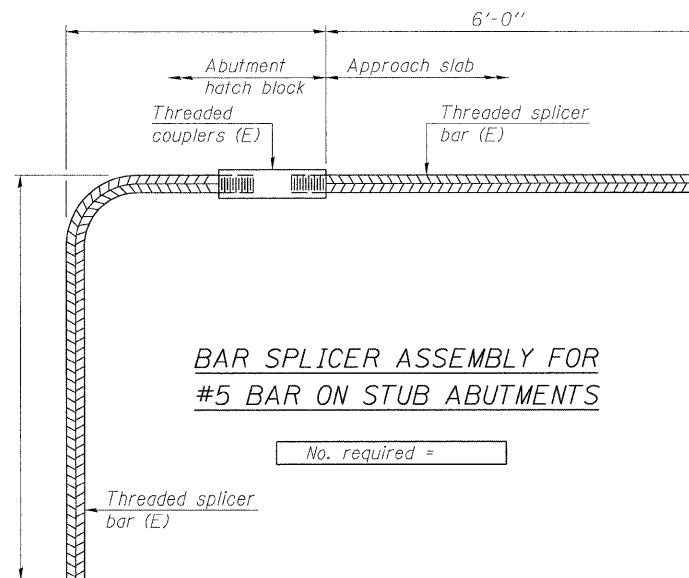
INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

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

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-0374

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 12	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12 SHEETS	290	(531-3.1,0305-302)RS-5	COOK	314	195
		FED. ROAD DIST. NO. _		ILLINOIS	FED. AID PROJECT	
				CONTRACT NO. 60138		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Existing Structure: S.N. 016-1119 built in 1964 as F.A. 61, Section 531-2-VHB at Station 270+71.17. In 1991, the deck was repaired, neoprene expansion joints were provided and an overlay was replaced. In 2000, the rocker bearings were replaced with elastomeric bearings. Existing structure is a seven span continuous steel superstructure with a 7" reinforced concrete deck and 2" overlay, supported on two-column piers and stub abutments, measuring 519'-2" back to back abutments, varies 65'-4³/₄" to 72'-5¹/₄" out to out deck, with a 29°24'20" right ahead skew. Traffic is to be maintained utilizing stage construction.

SCOPE OF WORK

1. Remove and replace concrete deck adjacent to expansion joints at abutments and pier 3.
2. Provide preformed joint strip seal expansion joints at abutments and pier 3.
3. Apply Concrete Sealer to top of concrete deck and top and inside vertical face of parapets.
4. Repair deck slab.
5. Clean and Reseal Relief Joints.
6. Repair deteriorated concrete on parapets, abutments and piers.

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

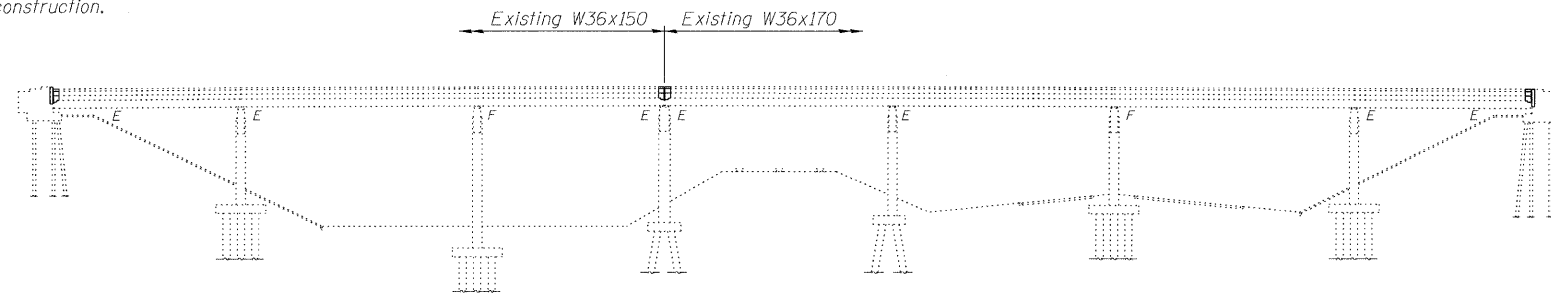
Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that can not be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

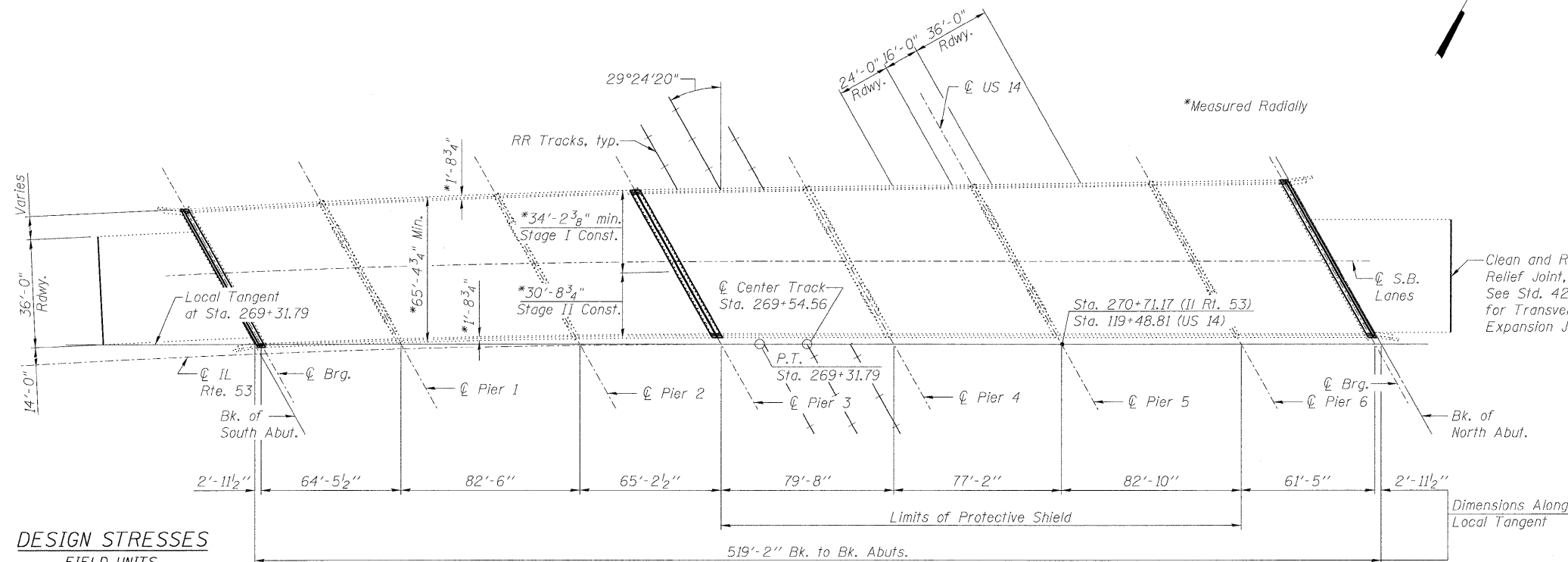
The existing structural steel coating contains lead. The contractor shall take appropriate precautions to deal with the presence of lead on this project.

Joint opening shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.



ELEVATION



PLAN

DESIGN STRESSES
FIELD UNITS

Existing Construction
 $f_c = 1,400$ psi (Substructure & Superstructure)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 20,000$ psi (Structural Steel)
 New Construction
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

DESIGN SPECIFICATIONS

(New Construction)
 2002 AASHTO "Standard Specifications for Highway Bridges", 17th Edition

LOADING HS 20-44

(Original Construction)

TOTAL BILL OF MATERIAL

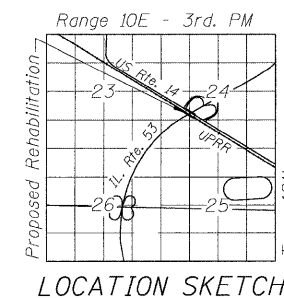
ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	34.7	-	34.7
Protective Shield	Sq. Yd.	1669	-	1669
Concrete Superstructure	Cu. Yd.	34.7	-	34.7
Reinforcement Bars, Epoxy Coated	Pound	4110	-	4110
Bar Splicers	Each	40	-	40
Preformed Joint Strip Seal	Foot	228	-	228
Concrete Sealer	Sq. Ft.	37764	-	37764
Structural Repair of Concrete (Depth Greater Than 5 in.)	Sq. Ft.	-	21	21
Structural Repair of Concrete (Depth Equal To or Less Than 5 in.)	Sq. Ft.	284	150	434
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	52.9	-	52.9
Deck Slab Repair (Partial)	Sq. Yd.	106.6	-	106.6
Clean and Reseal Relief Joint	Foot	100	-	100

INDEX OF SHEETS

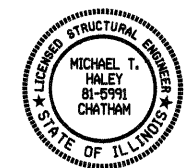
1. General Plan and Elevation
2. Stage Construction Details
3. Temporary Concrete Barrier for Stage Construction
4. Deck Slab Repair
5. Parapet Repair
6. Concrete Removal
7. Abutment Concrete Details
8. Pier 3 Concrete Details
9. Abutment Repair
10. Pier Repair
11. Preformed Joint Strip Seal
12. Bar Splicer Assembly and Mechanical Splicer Details

EXIST. CURVE DATA

IL RTE 53
 $\Delta = 77^\circ 11' 38''$
 $D = 0^\circ 57' 17.8''$
 $T = 4789.21'$
 $L = 8083.72'$
 $E = 1677.02'$
 $R = 6000'$
 $S.E. = 0.02'/'$
 $P.C. = Sta. 188+48.07$
 $P.T. = Sta. 269+31.79$
 $P.I. = Sta. 236+37.28$



LOCATION SKETCH

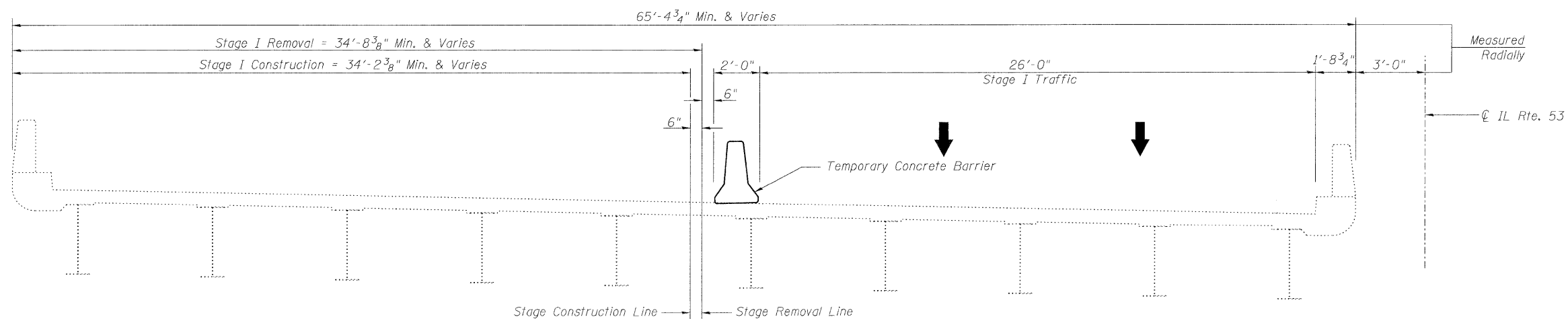


Michael T. Haley 2/8/10
 Michael T. Haley
 Licensed Structural Engineer
 State of Illinois No. 81-5991
 Expires 11/30/2010

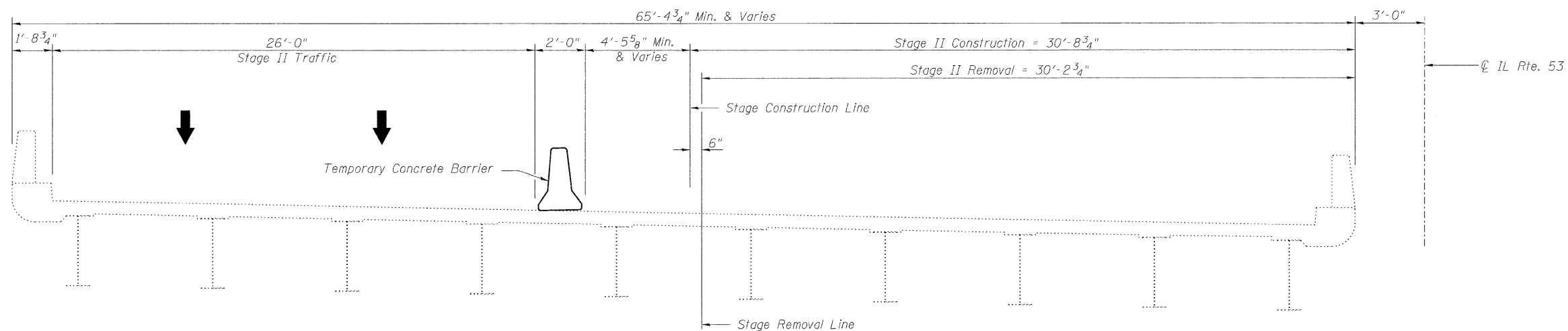
GENERAL PLAN AND ELEVATION
 SB IL RTE 53 OVER US 14 & UP R.R.
 F.A.I. RTE 290
 SECTION (531-3.1,0305-302K)RS-5
 COOK COUNTY
 STATION 270+71.17
 STRUCTURE NO. 016-1119

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	196
Designed By: RH Checked By: MTH Date: 12/2/09		Drawn By: RH File: 016-1119.dgn		CONTRACT NO. 60I38 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION




STAGE I REMOVAL & CONSTRUCTION
(Looking North)



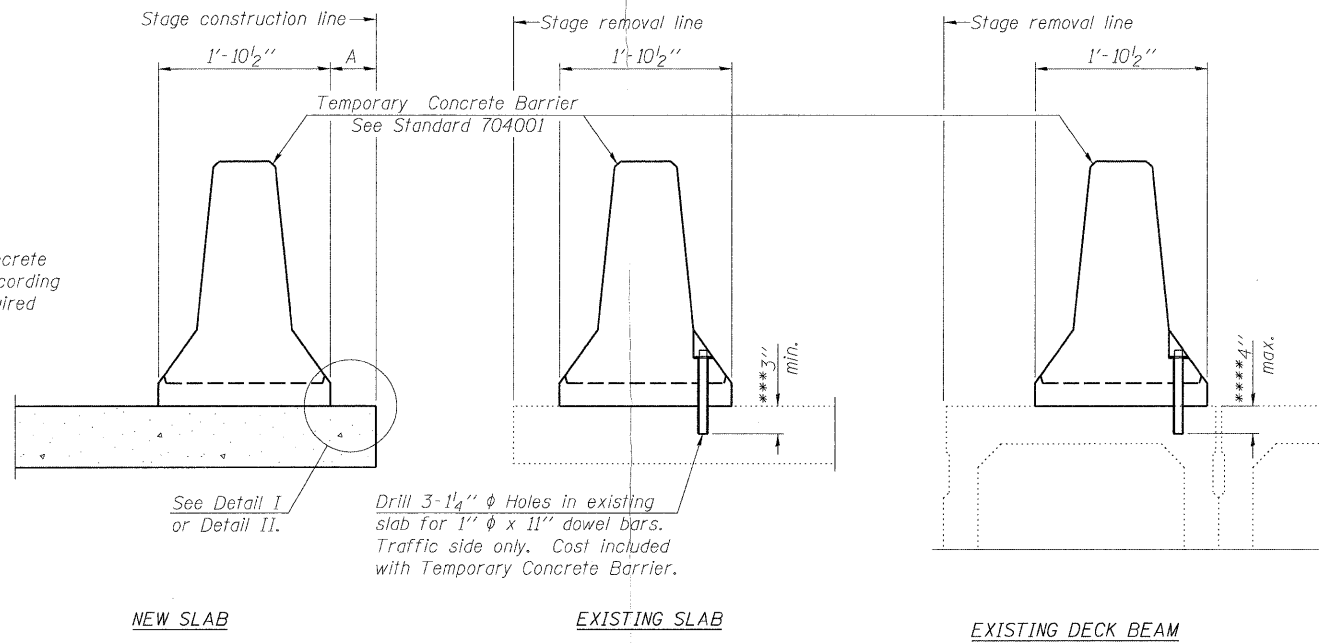
STAGE II REMOVAL & CONSTRUCTION
(Looking North)

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 016-1119

 LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois <small>Designed By: RH Checked By: MTH Drawn By: RH Date: 12/2009 File: 016-1119.dgn</small>	SHEET NO. 2 12 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	117
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					CONTRACT NO. 60138	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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



SECTIONS THRU SLAB OR DECK BEAM

NOTES

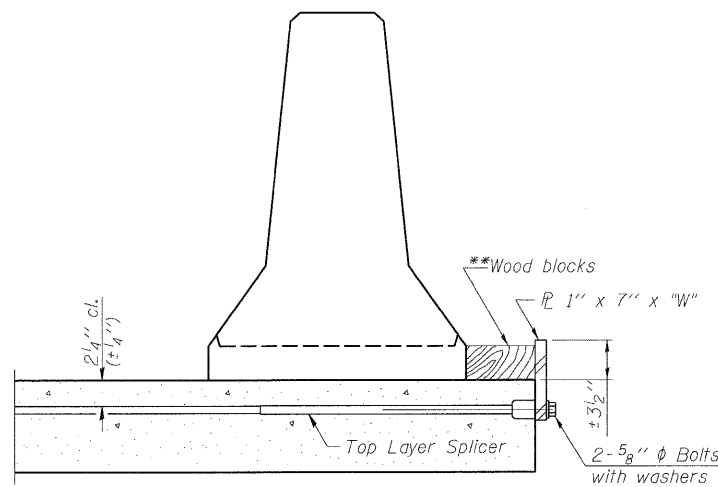
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

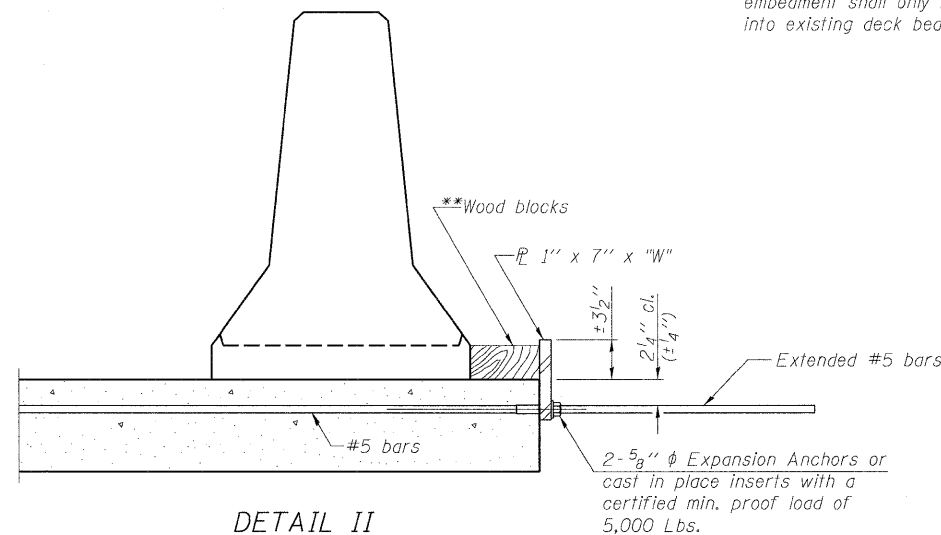
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

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

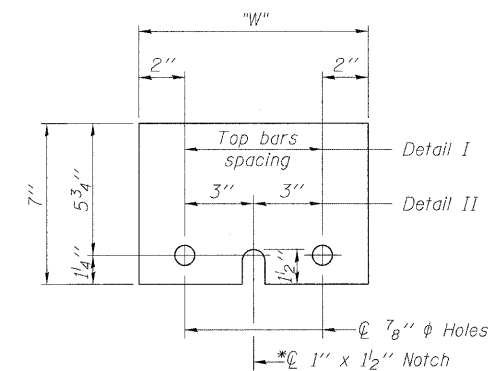
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{L} 1" x 7" x 10"
* Required only with Detail II

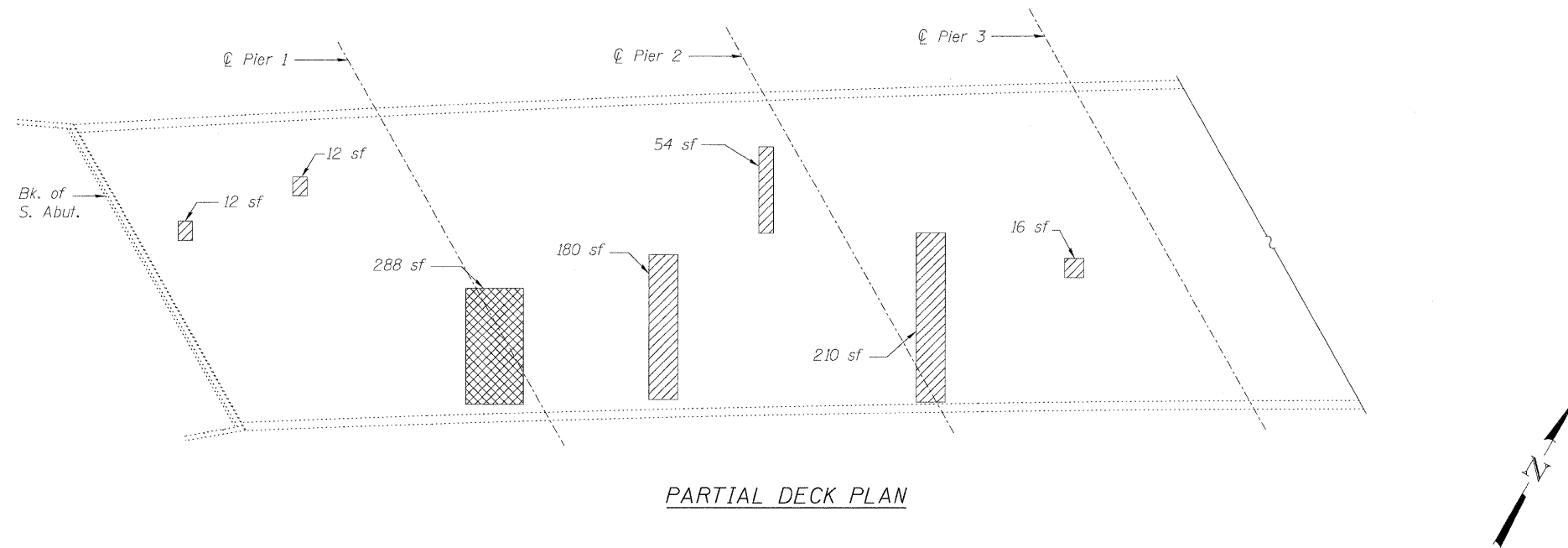
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

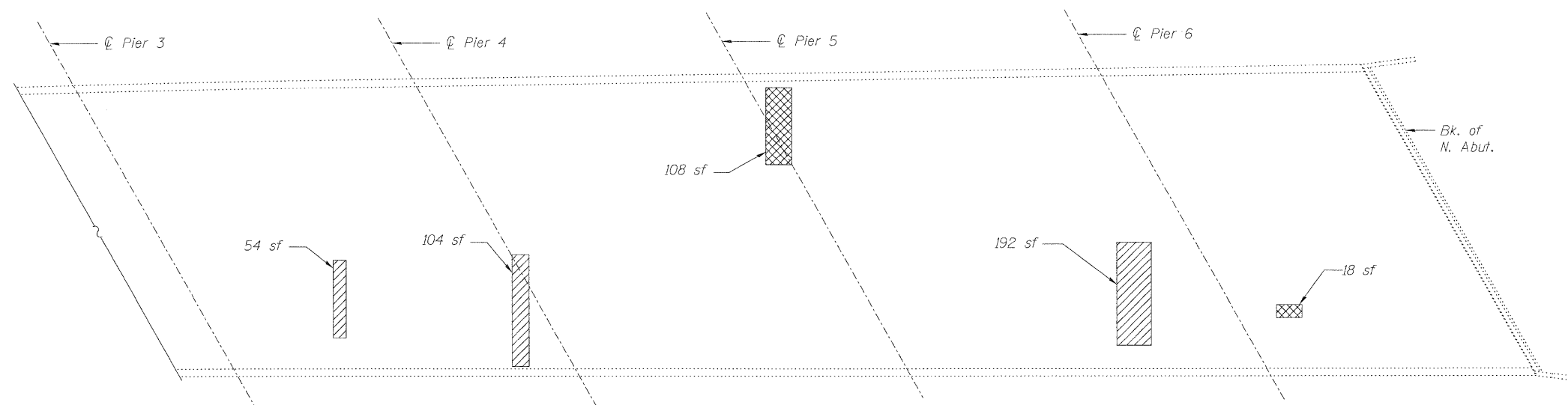
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-1119

<p>LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois</p>	SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12 SHEETS	290	(531-3.1,0305-302)RS-5	COOK	314	198
				CONTRACT NO. 60138		
<small>Designed By: RH Date: 12/2009</small>		<small>Checked By: MTH File: 016-1119.dgn</small>		<small>FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT</small>		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL DECK PLAN



PARTIAL DECK PLAN

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Partial)	Sq. Yd.	106.6
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	52.9
Protective Shield	Sq. Yd.	1669

Repair of the existing deck slab shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LEGEND

Deck Slab Repair (Full Depth, Type II)

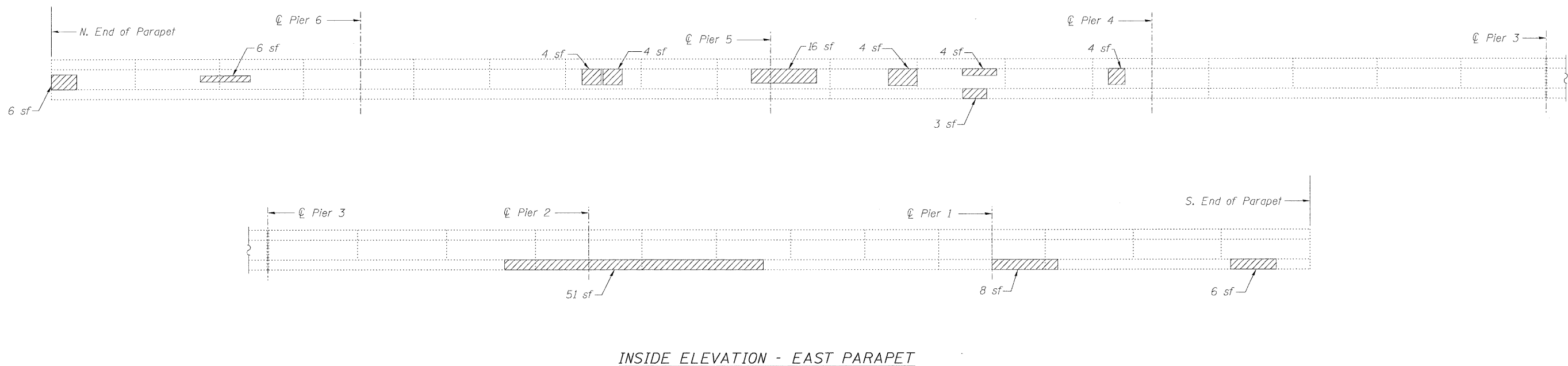
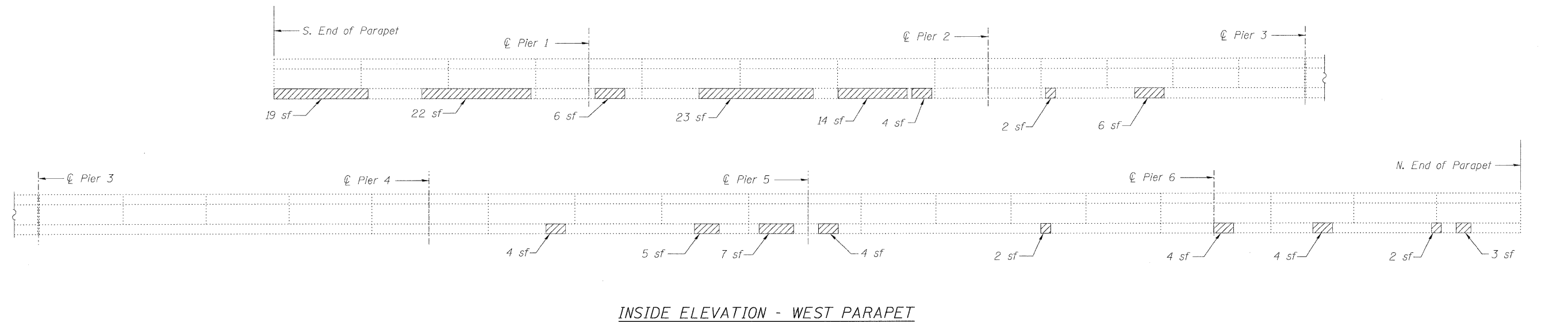
Deck Slab Repair (Partial)

sf Square Feet

DECK SLAB REPAIR
STRUCTURE NO. 016-1119

 LIN ENGINEERING, LTD. Consulting Engineers Channah, Illinois	SHEET NO. 4 12 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		290	(531-3.1,0305-302K)RS-5	COOK	314	199
		CONTRACT NO. 60138				
		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 in.)	Sq. Ft.	284

Repair of the existing parapets shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

LEGEND

Structural Repair of Concrete
(Depth equal to or less than 5")

sf Square Feet

PARAPET REPAIR
STRUCTURE NO. 016-1119

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois	SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12 SHEETS	290	(531-3.1,0305-302K)RS-5	COOK	314	200
Designed By: RH Date: 12/29/09		Checked By: MTH File: 016-1119.dgn		FED. ROAD DIST. NO. _ ILLINOIS		CONTRACT NO. 60138 FED. AID PROJECT