

1-17-14 LETTING ITEM 100

FOR INDEX OF SHEETS, SEE SHEET 2

FOR LIST OF HIGHWAY STANDARDS, SEE SHEET 2

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
**PROPOSED
 HIGHWAY PLANS**

FAP ROUTE 646 (IL 40)
 SECTION 5 BR-3
 PROJECT: ACF-0646(079)
 BRIDGE REPLACEMENT
 CARROLL COUNTY
 C-92-058-11

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	1
		ILLINOIS	CONTRACT NO. 64D84	

D92-009-08

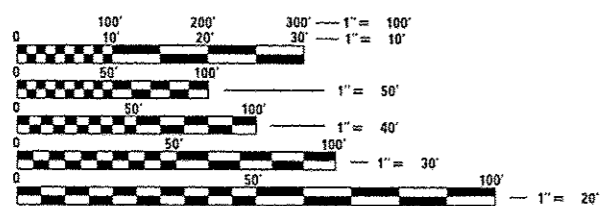


PREPARED BY:



ZROKA ENGINEERING, P.C.
 LICENSE NO. 184-004783
 4216 NORTH HERMITAGE
 CHICAGO, IL 60613
 TEL. 773-935-6376
 CONTACT: DEBORAH ZROKA

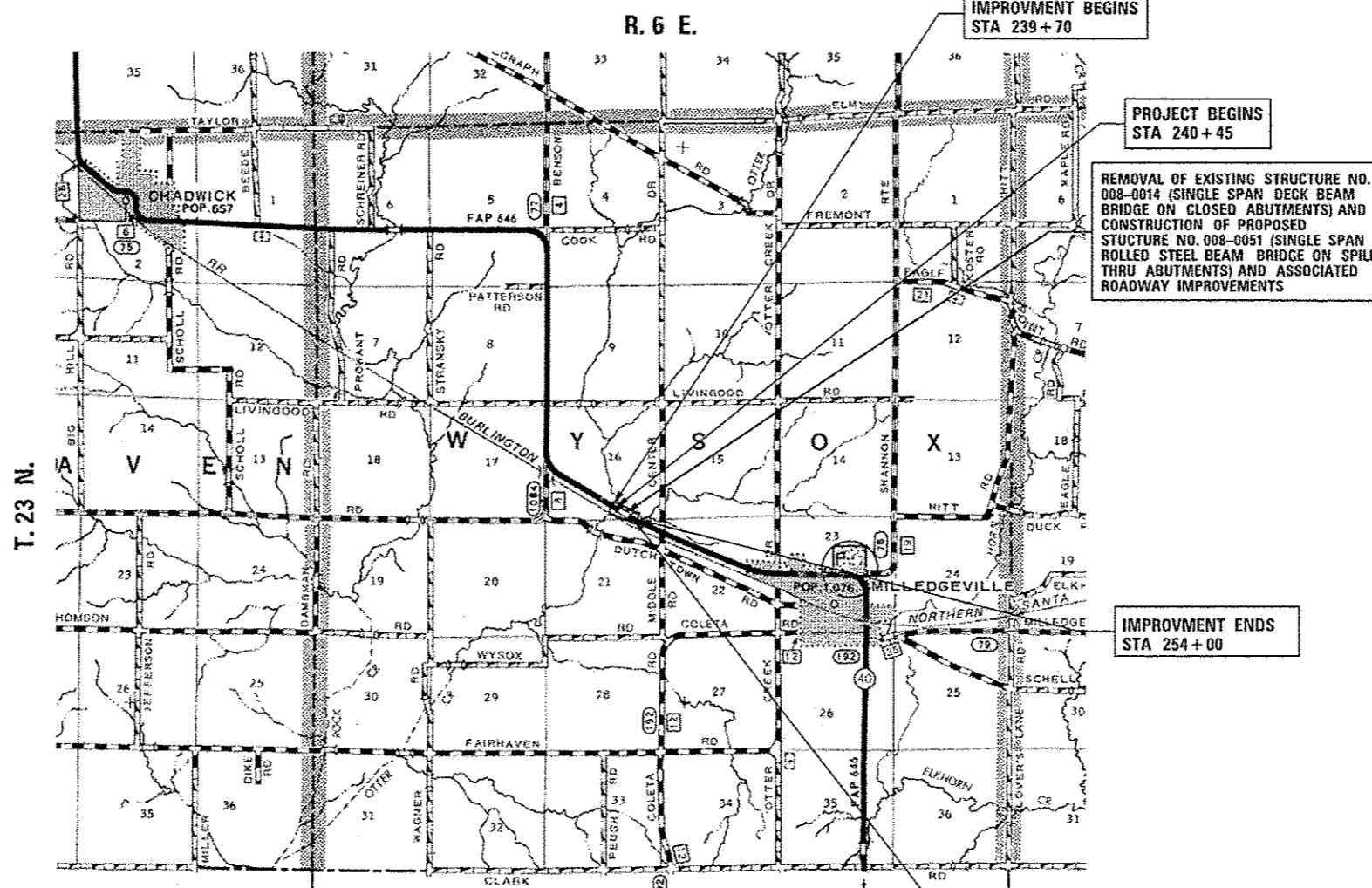
WYOSX TOWNSHIP: SECTION 16 & 21



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

J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
 1-800-892-0123
 OR 811

PROJECT ENGINEER JASON FORD (815) 284-5942
 PROJECT MANAGER BECKY MARRUFFO (815) 284-5902
 CONTRACT NO. 64D84



LOCATION MAP
 WYOSX TOWNSHIP
 SCALE 1" = 0.8 MILE
 GROSS LENGTH = 1430 FT. = 0.27 MILE
 NET LENGTH = 1175 FT. = 0.22 MILE

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED Oct. 16th 2013
Paul E. [Signature]
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Dec 6 2013
John D. Baranzelli, PE
 acting ENGINEER OF DESIGN AND ENVIRONMENT

Dec 6 2013
Omer Osman, PE
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

APPLIES TO SHEETS
 1-23 AND 43-84

Robert A. Crisley 10-11-13
 November 30, 2013
 CRISLEY


**PRINTED BY THE AUTHORITY
 OF THE STATE OF ILLINOIS**

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FILE NAME #	USER NAME : #USER#	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	 Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	INDEX OF SHEETS AND HIGHWAY STANDARDS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*FILE#		DRAWN - SAW	REVISED -				646	5 BR-3	CARROLL	84	2
		CHECKED - DAZ	REVISED -				CONTRACT NO. 64084		ILLINOIS FED. AID PROJECT		
		DATE - 10-11-13	REVISED -				SCALE:	SHEET 1 OF 1 SHEETS	STA. TO STA.		

GENERAL NOTES

SEE CROSS SECTIONS FOR SPECIAL DITCHES AND BACKSLOPES.

THE REMOVAL OF BITUMINOUS SURFACING LESS THAN 6 INCH THICKNESS NOT ON A RIGID TYPE BASE REMOVED IN CONJUNCTION WITH THE BASE SHALL BE REMOVED AS EARTH EXCAVATION. THE REMOVAL OF BITUMINOUS SURFACING ON A RIGID TYPE BASE OR A THICKNESS OF 6 INCHES OR MORE ON A FLEXIBLE BASE REMOVED IN CONJUNCTION WITH THE BASE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PAVEMENT REMOVAL OF THE TYPE SPECIFIED.

THE FINAL TOP FOUR INCHES OF SOIL IN ANY RIGHT-OF-WAY AREA DISTURBED BY THE CONTRACTOR MUST BE CAPABLE OF SUPPORTING VEGETATION. THE SOIL MUST BE FROM THE A HORIZON (ZERO TO 2' DEEP) OF SOIL PROFILES OF LOCAL SOILS.

IT IS ESTIMATED THAT 7,374 CUBIC YARDS OF EARTH WILL BE HAULED TO THE JOB FROM OUTSIDE THE PROJECT LIMITS. A SHRINKAGE FACTOR OF 25% HAS BEEN USED.

ALL BORROW/WASTE/USE SITES MUST BE APPROVED BY THE DEPARTMENT PRIOR TO REMOVING ANY MATERIAL FROM THE PROJECT OR INITIATING ANY EARTHMOVING ACTIVITIES, INCLUDING TEMPORARY STOCKPILING OUTSIDE THE LIMITS OF CONSTRUCTION.

THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS. SEEDING CLASS 4 OR 2A SHALL BE USED, EXCEPT IN FRONT OF PROPERTIES WHERE THE GRASS WILL BE MOWED, THEN USE SEEDING, CLASS 1. CLASS 2A SHALL BE USED ON FRONT SLOPES AND DITCH BOTTOMS. CLASS 4 SHALL BE USED BEHIND TYPE A CUTTER, ON ALL BACKSLOPES AND AREAS BEHIND THE BACKSLOPE, AND BEYOND THE TOE OF FRONT SLOPE ON FILL SECTIONS WITHOUT DITCHES.

FERTILIZER NUTRIENTS SHALL BE APPLIED AT THE RATE SPECIFIED IN SECTIONS 250 AND 252 OF THE STANDARD SPECIFICATIONS. THIS SHALL BE INCLUDED IN THE COST OF THE SEEDING OR SODDING.

ALL "AGGREGATE SUBGRADE IMPROVEMENT" (SECTION 303), SHALL BE COMPLETED IN ACCORDANCE WITH ARTICLES 311.04, 311.05, 311.05(A), 311.06 AND 311.07. ALL AGGREGATE SUBGRADE THICKNESSES LESS THAN 12 INCHES SHALL BE CONSTRUCTED OF AGGREGATE OF CA02 GRADATION. ALL AGGREGATE SUBGRADE THICKNESSES GREATER THAN 12 INCHES SHALL BE CONSTRUCTED OF CS02.

ALL EMBANKMENT CONSTRUCTED OF COHESIVE SOIL SHALL BE CONSTRUCTED WITH NOT MORE THAN 110% OF OPTIMUM MOISTURE CONTENT, DETERMINED BY THE STANDARD PROCTOR TEST. COHESIVE SOIL SHALL BE DEFINED AS ANY SOIL WHICH CONTAINS GREATER THAN 10% PARTICLES BY WEIGHT PASSING THE 75 μ M (#200 SIEVE). THE 110% OF OPTIMUM MOISTURE LIMIT MAY BE WAIVED IN FREE-DRAINING GRANULAR MATERIAL WHEN APPROVED BY THE ENGINEER.

RESURFACING

Mixture Uses(s):	Surface	Level Binder	Binder
PG:	PG 64-22	PG 64-22	PG 64-22
Design Air Voids	4.0 @ N50	4.0 @ N50	4.0 @ N50
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5	IL 9.5 or IL 9.5FG *	IL 19.0
Friction Aggregate	C	N/A	N/A
20 Year ESAL	0.9	0.9	0.9
Mix Unit Weight	112 lbs/sy/in		

* On projects with less than 2000 tons Level Binder, Growth Curve will be used for Density and IL 9.5 may be used

FULL DEPTH PAVEMENT

Mixture Uses(s):	Surface	Top Lift Binder	All Other Lifts
PG:	PG 64-22	PG 64-22	PG 64-22
Design Air Voids	4.0 @ N50	4.0 @ N50	4.0 @ N50
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5	IL 19.0	IL 19.0
Friction Aggregate	C	N/A	N/A
20 Year ESAL	0.9	0.9	0.9
Mix Unit Weight	112 lbs/sy/in		

SHOULDER

Mixture Uses(s):	Top Lift	All Lower Lifts
PG:	PG 64-22	PG 64-22
Design Air Voids	3 @ N50	2 @ N50
Mixture Composition (Gradation Mixture)	IL 9.5, 12.5, 9.5FG	BAM or IL 19.0
Friction Aggregate	C	N/A
20 Year ESAL	N/A	N/A
Mix Unit Weight	112 lbs/sy/in	

THE CONTRACTOR WILL BE REQUIRED TO FURNISH 5 1/2" HIGH BRASS STENCILS AS APPROVED BY THE ENGINEER AND INSTALL STATIONING AT 250' INTERVALS, STATIONING SHALL BE PLACED ON BOTH LANES OF 2 LANE HIGHWAYS AND ON THE OUTSIDE LANES IN BOTH DIRECTIONS ON 4-LANE HIGHWAYS. THE STATIONS SHALL BE PLACED 6" INSIDE THE PAVEMENT MARKING EDGE SO THEY CAN BE READ FROM THE SHOULDER. THIS WORK WILL BE INCLUDED IN THE COST OF THE FINAL PAVEMENT SURFACE.

ON FULL DEPTH PAVEMENT, SHOULDER WIDTHS OF 6 FT. OR LESS MAY BE PLACED, AT THE CONTRACTOR'S OPTION, SIMULTANEOUSLY WITH THE ADJACENT TRAFFIC LANE FOR BOTH THE BINDER AND SURFACE COURSES, PROVIDED THE CROSS SLOPE OF BOTH THE PAVEMENT AND SHOULDER CAN BE SATISFACTORILY OBTAINED. THE SHOULDER WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR HOT-MIX ASPHALT SHOULDERS OF THE THICKNESS SPECIFIED ON THE PLANS.

BITUMINOUS AND AGGREGATE PRIME COAT SHALL BE PLACED IN ACCORDANCE WITH SECTION 406 OF THE STANDARD SPECIFICATIONS. THE COST OF THE PRIME COATS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER TON FOR LEVELING BINDER (MACHINE METHOD) OF THE TYPE SPECIFIED.

A NATIONWIDE 404 PERMIT HAS BEEN ISSUED FOR THIS PROJECT AND THE CONDITIONS OF THAT PERMIT MUST BE ADHERED TO.

THE NEW NUMBER FOR THIS STRUCTURE WILL BE 008-0051.

THE ADDITIONAL THICKNESS OF PROPOSED PAVEMENT REQUIRED TO MATCH THE BRIDGE APPROACH PAVEMENT, SHOWN IN STANDARD 420401, SHALL BE INCLUDED IN THE COST OF THE PROPOSED PAVEMENT AND NOT PAID FOR SEPARATELY.

REFLECTOR MARKERS TYPE B SHALL BE INSTALLED ON THE TOP OF BRIDGE PARAPET WALLS. THE MARKERS SHALL BE ACCORDING TO STANDARD 635011 AND THE COLOR AND SPACING ACCORDING TO STANDARD 635006, EXCEPT THE MINIMUM IS 2 PER SIDE.

CULVERT & BRIDGE FLOWS MUST BE MAINTAINED THROUGHOUT THE PROJECT. NORMAL FLOW SHALL BE ALLOWED TO PASS AT THE RATE IT ENTERS THE JOBSITE. HIGH FLOWS SHALL BE ALLOWED TO PASS WITHOUT CAUSING DAMAGE TO UPSTREAM PROPERTIES.

THE CONTRACTOR SHALL REMOVE ALL ENTRANCE CULVERTS IN CONDITION FOR REUSE WHICH ARE NOT TO BE LEFT IN PLACE. THEY SHALL BE CLEANED AND STORED ALONG THE RIGHT OF WAY AS DIRECTED. IN NO CASE SHALL THEY BE ROUGHLY HANDLED OR SHOVED BY HEAVY MACHINERY. UNUSABLE MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE. COST OF THE WORK TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EARTH EXCAVATION.

THE PROPOSED PIPES FOR ENTRANCES AND SIDE ROADS SHALL BE PLACED IN LINE WITH THE EXISTING OR PROPOSED DITCH LINE.

CONNECTING BANDS FOR CORRUGATED METAL PIPES SHALL BE METAL AND SHALL BE COATED WITH THE SAME MATERIAL AS THE PIPE SECTIONS. THE CONNECTING BANDS SHALL BE A MINIMUM OF 18" WIDE.

EMBANKMENT QUANTITIES FOR THE CONSTRUCTION OF THE TRAFFIC BARRIER TERMINALS AS SHOWN IN THE PLANS ARE INCLUDED IN QUANTITIES FOR FURNISHED EXCAVATION.

THE CONTRACTOR SHALL SUPPLY THE RESIDENT ENGINEER WITH THE MANUFACTURER'S INSTALLATION REQUIREMENTS FOR THE TYPE OF STEEL PLATE BEAM GUARDRAIL TERMINAL TYPE 1 SPECIAL (TANGENT) OR STEEL PLATE BEAM GUARDRAIL TERMINAL TYPE 1 SPECIAL (FLARED).

ONE 16D GALVANIZED NAIL SHALL BE USED TO TOE NAIL THE WOOD BLOCK OUT TO THE WOOD POST ON ALL TRAFFIC BARRIER TERMINAL TYPE 1 SPECIALS.


DELINEATORS SHALL BE INSTALLED AS SHOWN IN STANDARD 635001, EXCEPT THAT THE POST SHALL BE ROTATED 180 DEGREES AND ONLY METAL-BACKED DELINEATORS SHALL BE PERMITTED. DELINEATORS SHALL BE PLACED AT THE ENDS OF APPROACH GUARDRAIL TERMINAL SECTIONS, AND AT EACH HEADWALL OR END SECTION OF AR CULVERTS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR DELINEATORS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTING AND MAINTAINING AN ELECTRONIC LOG OF ALL STAKEOUT SURVEY THAT IS PERFORMED ON THE JOB, EITHER BY HIM/HER OR ANY SUB-CONTRACTOR PERFORMING THE STAKEOUT UPON REQUEST. ALL LOGS SHALL BE SUBMITTED TO THE DEPARTMENT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THIS WORK, BUT SHALL BE CONSIDERED INCLUDED IN THE COST FOR CONSTRUCTION LAYOUT.

PAVEMENT MARKING SHALL BE DONE ACCORDING TO STANDARD 780001, EXCEPT AS FOLLOWS:

1. THE DISTANCE BETWEEN YELLOW NO-PASSING LINES SHALL BE 8 INCHES, NOT 7 INCHES, AS SHOWN IN THE DETAIL OF TYPICAL LANE AND EDGE LINES.
2. CENTERLINE SKIP DASH PAVEMENT MARKING ON MULTI-LANE DIVIDED, MULTI-LANE UNDIVIDED, AND ONE-WAY ROADWAY SHALL BE ACCORDING TO DISTRICT STANDARD 41.1.

GENERAL NOTES CONTINUED ON FOLLOWING SHEET

FILE NAME *	USER NAME * #USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	 Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	GENERAL NOTES AND COMMITMENTS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILEL*	PLOT SCALE * #SCALE*	DRAWN - SAW	REVISED -				646	5 BR-3	CARROLL	84	3
	PLOT DATE * #DATE*	CHECKED - DAZ	REVISED -				CONTRACT NO. 64084				
		DATE - 10-11-13	REVISED -				ILLINOIS FED. AID PROJECT				
				SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.							

GENERAL NOTES (CONTINUED)

THE CONTRACTOR SHALL BEGIN FENCE ERECTION AS SOON AS CLEARING OPERATIONS PERMIT. THE ENGINEER SHALL CONTACT THE LAND OWNERS THREE WEEKS PRIOR TO REMOVING THE EXISTING FENCE. PHONE NUMBERS FOR THE PROPERTY OWNERS CAN BE OBTAINED THROUGH THE IDOT LAND ACQUISITION DEPARTMENT. BEFORE REMOVING EXISTING FENCE FROM AN AREA THAT CONTAINS LIVESTOCK, THE CONTRACTOR SHALL ERECT WOVEN WIRE FENCE, 4', AT THE LOCATION SHOWN IN THE PLANS. THE CONTRACTOR SHALL CONCENTRATE HIS PERMANENT FENCING OPERATIONS AT THESE LOCATIONS AND AT OTHER SPECIFIC LOCATIONS AS DIRECTED BY THE ENGINEER. THE COST OF ARRANGING WORK AS HEREIN SPECIFIED WILL NOT BE PAID FOR AS A SEPARATE ITEM BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER FOOT FOR WOVEN WIRE FENCE, 4'.

TREE PLANTING LAYOUT SHALL BE PERFORMED BY THE DISTRICT LANDSCAPE ARCHITECT. MULCH SHALL BE PLACED 4" THICK AND TO THE DIAMETER AROUND THE TREE AS SHOWN ON DISTRICT STANDARD 92.1. THE MULCH SHALL BE HARDWOOD WOOD CHIPS PLACED ON WEED BARRIER FABRIC. THIS WORK SHALL BE INCLUDED IN THE COST OF THE TREE.

RIGHT-OF-WAY MARKERS WILL BE ERECTED PER HIGHWAY STANDARD 666001 WITH THE BACK FACE OF THE MARKER ON THE RIGHT-OF-WAY LINE, UNLESS THE NEW RIGHT-OF-WAY LINE HAS BEEN SURVEYED AND PINNED, IN WHICH INSTANCE THE RIGHT OF WAY MARKERS WILL BE ERECTED 12 INCHES INSIDE THE NEW RIGHT-OF-WAY LINE. THE METHOD OF INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY DURING CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED FOR NON- EMERGENCY WORK. THE JULIE NUMBER IS 800-892-0123. THE FOLLOWING LISTED UTILITIES LOCATED WITHIN THE PROJECT LIMITS OR IMMEDIATELY ADJACENT TO THE PROJECT CONSTRUCTION LIMITS ARE MEMBERS OF JULIE:

COMMONWEALTH EDISON, 123 ENERGY AVENUE, ROCKFORD, IL 61109
 NICOR GAS CO., 1844 FERRY ROAD, NAPERVILLE, IL 60563-9600
 FRONTIER LEGACY, 124 EAST LINCOLNWAY, MORRISON, IL 61270

IDOT IS NOT A MEMBER OF JULIE. IF YOU ARE NEAR ANY OVERHEAD LIGHTING, INTERSECTION LIGHTING OR TRAFFIC SIGNALS, CONTACT THE IDOT TRAFFIC OFFICE AT 815/284-5469 AT LEAST 48 HOURS PRIOR TO WORK.


THE APPLICABLE PORTIONS OF ARTICLE 105.07 OF THE STANDARD SPECIFICATION SHALL APPLY EXCEPT FOR THE FOLLOWING: THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE VERTICAL DEPTHS OF THE UNDERGROUND UTILITIES WHICH MAY INTERFERE WITH CONSTRUCTION OPERATIONS. THIS WORK WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICE FOR THE ITEM OF CONSTRUCTION INVOLVED.

PER SB 699 (90 DAY UTILITY RELOCATION LAW), ONCE RIGHT-OF-WAY IS CLEAR TO AWARD THE PROJECT, A NOTICE WILL BE SENT TO THE UTILITY COMPANIES INSTRUCTING THEM TO HAVE THEIR FACILITIES RELOCATED WITHIN 90 DAYS. ESTIMATED DATE RELOCATION COMPLETE = AWARD DATE + 100 DAYS.

CADD DATA WILL BE AVAILABLE TO CONTRACTORS AND CONSULTANTS WORKING ON THIS PROJECT. THIS INFORMATION WILL BE PROVIDED UPON REQUEST AS MICROSTATION CADD FILES AND GEOPAK COORDINATE GEOMETRY FILES ONLY. IF DATA IS REQUIRED IN OTHER FORMATS IT WILL BE YOUR RESPONSIBILITY TO MAKE THESE CONVERSIONS. IF ANY DISCREPANCY OR INCONSISTENCY ARISES BETWEEN THE ELECTRONIC DATA AND THE INFORMATION ON THE HARD COPY, THE INFORMATION ON THE HARD COPY SHOULD BE USED. CONTACT THE DISTRICT'S PROJECT ENGINEER TO REQUEST THESE FILES.

COMMITMENTS


1. TWO EXISTING FIELD ENTRANCES LOCATED APPROXIMATELY 4430 FEET AND 4950 FEET SOUTHEAST OF THE EXISTING BRIDGE PROJECT SITE ON THE NORTH SIDE OF THE ROADWAY, ARE TO BE REMOVED PER HIGHWAY PERMIT NO. A2-09-021, DATED APRIL 9, 2009. CULVERT REMOVAL, GRADING AND SEEDING FOR THE REMOVAL OF THESE TWO ENTRANCES ARE TO BE INCLUDED IN THE PROJECT WORK ACTIVITIES.
2. ANY DISTURBED AREA BETWEEN THE BOTTOM OF THE ROADWAY DITCH AND THE RAILROAD SHALL BE SEEDED WITH CLASS 4 AND CLASS 5 SEEDING MIX (AS SPECIFIED IN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, JAN. 1, 2012). THIS IS TO MITIGATE THE REMNANT RAILROAD PRAIRIE WHICH WILL BE IMPACTED IN THIS AREA.
3. MITIGATION TREES SHALL NOT BE PLANTED IN THE AREA WHICH IS SEEDED ACCORDING TO COMMITMENT #1.

FILE NAME * *FILE#	USER NAME * *USER#	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	 <small>Zroka Engineering, P.C. 4216 North Hamletta Chicago, IL 60613</small>	GENERAL NOTES AND COMMITMENTS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - SAW	REVISED -	646				5 BR-3	CARROLL	84	4	
PLOT SCALE * *SCALE#	CHECKED - DAZ	REVISED -	CONTRACT NO. 64084								
PLOT DATE * *DATE#	DATE - 10-11-13	REVISED -	ILLINOIS FED. AID PROJECT								
				SCALE:	SHEET 2 OF 2 SHEETS	STA. TO STA.					

SUMMARY OF QUANTITIES				FUNDING: 80% FED : 20% STATE	
CONSTRUCTION CODE TYPE:			TOTAL	0004	0011
CODE NO.	ITEM	UNIT	QUANTITY	ROADWAY	SN 008-0014 (EX) SN 008-0051 (PR)
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	78	78	
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	110	110	
20200100	EARTH EXCAVATION	CU YD	1465	1465	
20400800	FURNISHED EXCAVATION	CU YD	7330	7330	
* 25000210	SEEDING, CLASS 2A	ACRE	1.5	1.5	
* 25000310	SEEDING, CLASS 4	ACRE	0.5	0.5	
<input type="checkbox"/> 25000750	MOWING	ACRE	1.25	1.25	
* 25100125	MULCH, METHOD 3	ACRE	0.5	0.5	
* 25100630	EROSION CONTROL BLANKET	SQ YD	3284	3284	
25100900	TURF REINFORCEMENT MAT	SQ YD	342	342	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	336	336	
28000305	TEMPORARY DITCH CHECKS	FOOT	500	500	
28000400	PERIMETER EROSION BARRIER	FOOT	1361	1361	
28000500	INLET AND PIPE PROTECTION	EACH	2	2	

NP-100% STATE


SPECIALTY ITEMS

FILE NAME :	USER NAME : #USER#	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	 ZROKA Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	SUMMARY OF QUANTITIES		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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				SCALE:	SHEET 1 OF 6 SHEETS	STA.	TO STA.					

SUMMARY OF QUANTITIES


CONSTRUCTION CODE TYPE:				FUNDING: 80% FED : 20% STATE	
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0004 ROADWAY	0011 SN 008-0014 (EX) SN 008-0051 (PR)
28100105	STONE RIPRAP, CLASS A3	SQ YD	68	68	
28100109	STONE RIPRAP, CLASS A5	SQ YD	1168		1168
28200200	FILTER FABRIC	SQ YD	1236	68	1168
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	4888	4888	
35102000	AGGREGATE BASE COURSE, TYPE B 8"	SQ YD	292	292	
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	329	329	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	497	497	
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	322	322	
40701881	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 10"	SQ YD	2161	2161	
44000100	PAVEMENT REMOVAL	SQ YD	317	317	
44004250	PAVED SHOULDER REMOVAL	SQ YD	507	507	
48203021	HOT-MIX ASPHALT SHOULDERS, 6"	SQ YD	1393	1393	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
50200100	STRUCTURE EXCAVATION	CU YD	120		120

SPECIALTY ITEMS

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PLOT DATE		DATE - 10-11-13	REVISED -				SCALE:	SHEET 2 OF 6 SHEETS	STA. TO STA.		


SUMMARY OF QUANTITIES				FUNDING: 80% FED : 20% STATE	
CONSTRUCTION CODE TYPE:			TOTAL	0004	0011
CODE NO.	ITEM	UNIT	QUANTITY	ROADWAY	SN 008-0014 (EX) SN 008-0051 (PR)
50300225	CONCRETE STRUCTURES	CU YD	59.0		59.0
50300255	CONCRETE SUPERSTRUCTURE	CU YD	241.0		241.0
50300260	BRIDGE DECK GROOVING	SQ YD	505		505
50300280	CONCRETE ENCASEMENT	CU YD	4.0		4.0
50300300	PROTECTIVE COAT	SQ YD	645		645
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1		1
50500505	STUD SHEAR CONNECTORS	EACH	1206		1206
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	64,250		64,250
50800515	BAR SPLICERS	EACH	76		76
51201600	FURNISHING STEEL PILES HP12X53	FOOT	275		275
51202305	DRIVING PILES	FOOT	275		275
51203600	TEST PILE STEEL HP12X53	EACH	2		2
51204650	PILE SHOES	EACH	12		12
51500100	NAME PLATES	EACH	1		1

SPECIALTY ITEMS

FILE NAME *	USER NAME * USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	 Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60612	SUMMARY OF QUANTITIES		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FILE#		DRAWN - SAW	REVISED -			646	5 BR-3	CARROLL	84	7		
PLOT SCALE * SCALE*		CHECKED - DAZ	REVISED -			CONTRACT NO. 64084		ILLINOIS FED. AID PROJECT				
PLOT DATE * DATE*		DATE - 10-11-13	REVISED -			SCALE:	SHEET 3 OF 6 SHEETS	STA.	TO STA.			


SUMMARY OF QUANTITIES					
				FUNDING: 80% FED : 20% STATE	
			CONSTRUCTION CODE TYPE:	TOTAL	
CODE NO.	ITEM	UNIT	QUANTITY	0004 ROADWAY	0011 SN 008-0014 (EX) SN 008-0051 (PR)
52100520	ANCHOR BOLTS, 1"	EACH	24		24
54200229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	163	163	
54261624	CONCRETE END SECTION, STANDARD 542001, 24", 1:6	EACH	4	4	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	72		72
60100080	FRENCH DRAINS	CU YD	6.0	6.0	
*63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	200.0	200.0	
*63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4	
*63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2	2	
*63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	2	2	
63200310	GUARDRAIL REMOVAL	FOOT	1142	1142	
63500105	DELINEATORS	EACH	4	4	
66500105	WOVEN WIRE FENCE, 4'	FOOT	1019	1019	
66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	9	9	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8	8	

SPECIALTY ITEMS

FILE NAME :	USER NAME : *USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	 Zroka Engineering, P.C. 4216 North Hennings Chicago, IL 60613	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
*FILE#		DRAWN - SAW	REVISED -				646	5 BR-3	CARROLL	84	8		
PLOT SCALE : *SCALE*		CHECKED - DAZ	REVISED -				CONTRACT NO. 64D84						
PLOT DATE : *DATE*		DATE - 10-11-13	REVISED -				ILLINOIS FED. AID PROJECT						
				SCALE:	SHEET 4 OF 6 SHEETS		STA.	TO STA.					

SUMMARY OF QUANTITIES					FUNDING: 80% FED : 20% STATE	
CODE NO.	ITEM	CONSTRUCTION CODE TYPE:	UNIT	TOTAL QUANTITY	0004	0011
					ROADWAY	SN 008-0014 (EX) SN 008-0051 (PR)
67100100	MOBILIZATION		L SUM	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201		L SUM	1	1	
70103815	TRAFFIC CONTROL SURVEILLANCE		CAL DA	3	3	
* 78001110	PAINT PAVEMENT MARKING - LINE 4"		FOOT	6188	6188	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER		EACH	18	18	
* 78200410	GUARDRAIL MARKERS, TYPE A		EACH	4	4	
* 78200520	BARRIER WALL MARKERS, TYPE B		EACH	4	4	
* 78201000	TERMINAL MARKER - DIRECT APPLIED		EACH	4	4	
* A2006714	TREE, QUERCUS MACROCARPA (BUR OAK), 1-3/4" CALIPER, BALLED AND BURLAPPED		EACH	6	6	
* B2001114	TREE, CERCIS CANADENSIS (EASTERN REDBUD), 1-3/4" CALIPER, TREE FORM, BALLED AND BURLAPPED		EACH	6	6	
X5860110	GRANULAR BACKFILL FOR STRUCTURES		CU YD	156		156
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)		L SUM	1	1	
Z0001900	ASBESTOS BEARING PAD REMOVAL		EACH	10		10
Z0004552	APPROACH SLAB REMOVAL		SQ YD	166	166	

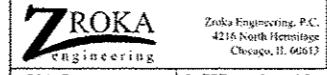
SPECIALTY ITEMS

FILE NAME *	USER NAME * *USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	 Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FILE#		DRAWN - SAW	REVISED -				646	S BR-3	CARROLL	84	9
PLOT SCALE * *SCALE*		CHECKED - DAZ	REVISED -				CONTRACT NO. 64D84				
PLOT DATE * *DATE*		DATE - 10-11-13	REVISED -				ILLINOIS FED. AID PROJECT				
				SCALE:	SHEET 5 OF 6 SHEETS	STA. TO STA.					

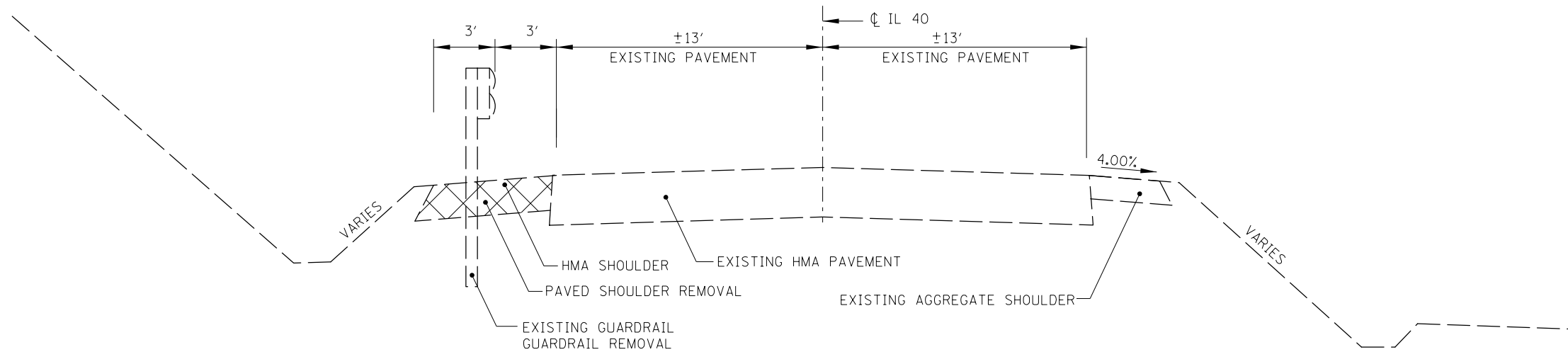
SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES				FUNDING: 80% FED : 20% STATE	
CODE NO.	ITEM	CONSTRUCTION CODE TYPE:	TOTAL	0004	0011
		UNIT	QUANTITY	ROADWAY	SN 008-0014 (EX) SN 008-0051 (PR)
Z0004638	PAVEMENT BREAKING	SO YD	1688	1688	
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1	
Z0018002	DRAINAGE SCUPPERS, DS-11	EACH	2		2
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	140		140
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1		1

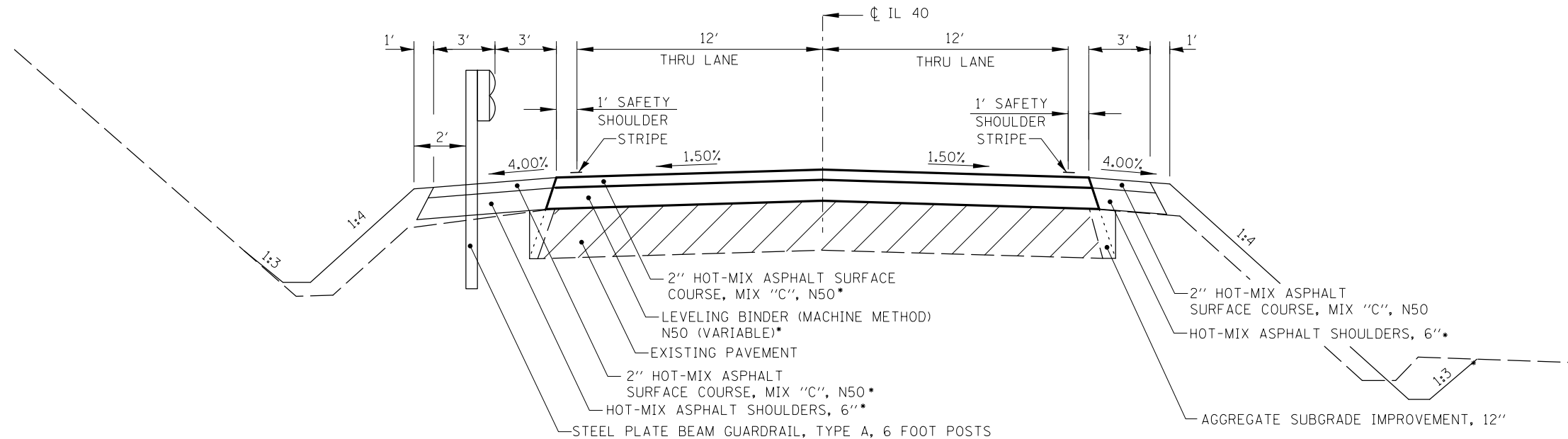
SPECIALTY ITEMS

FILE NAME *	USER NAME * USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILBL*	DRAWN - SAW	REVISED -	646				5 BR-3	CARROLL	84	10	
PLOT SCALE * SCALE*	CHECKED - DAZ	REVISED -	CONTRACT NO. 64084								
PLOT DATE * DATE*	DATE - 10-11-13	REVISED -	ILLINOIS FED. AID PROJECT								

Rev.



EXISTING TYPICAL SECTION
 NOTE: LEFT SIDE OF SECTION REFLECTS GEOMETRY AT GUARDRAIL LOCATIONS. RIGHT SIDE REFLECTS GEOMETRY WITHOUT GUARDRAIL. SEE PLANS AND SCHEDULES FOR LIMITS OF GUARDRAIL

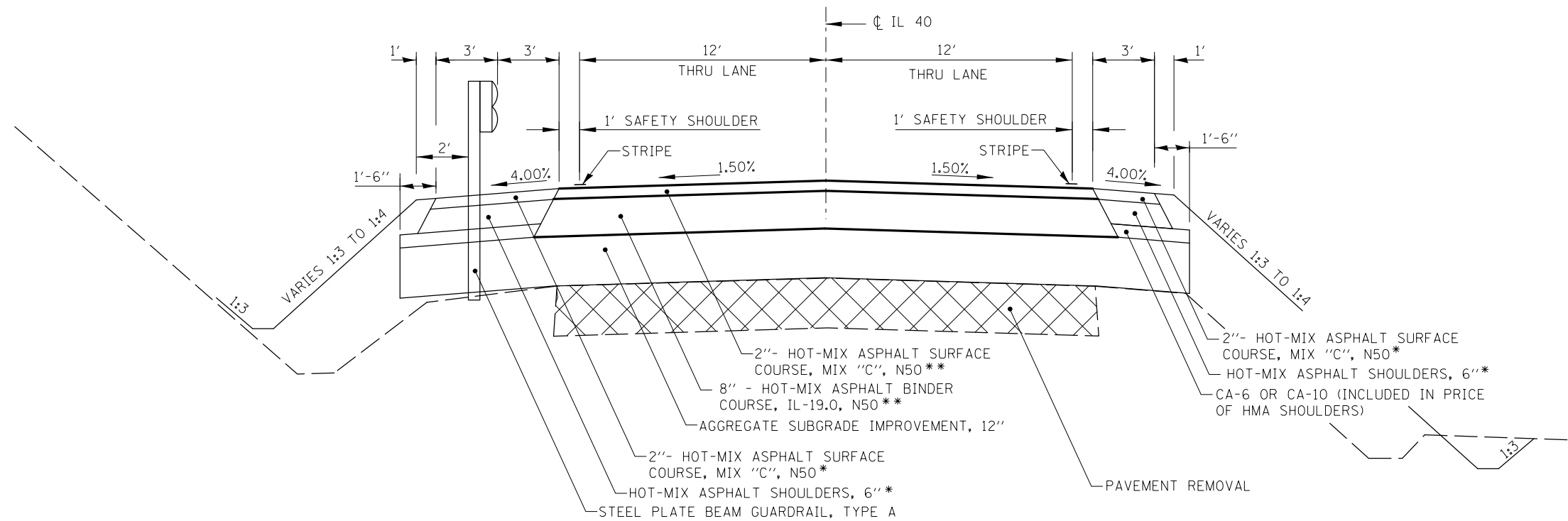


PROPOSED TYPICAL SECTION
 STATION 240+75 TO STATION 242+35
 STATION 250+80 TO STATION 252+05

NOTE: LEFT SIDE OF SECTION REFLECTS GEOMETRY AT GUARDRAIL LOCATIONS
 RIGHT SIDE REFLECTS GEOMETRY WITHOUT GUARDRAIL. SEE PLANS AND SCHEDULES FOR LIMITS OF GUARDRAIL

* ALL HMA MIXTURES HAVE A UNIT WEIGHT (MIX) = 112 LBS/SQ. YD./INCH

FILE NAME =	USER NAME = \$USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ZROKA engineering Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	TYPICAL SECTIONS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FILEL		DRAWN - SAW	REVISED -				646	5 BR-3	CARROLL	84	11
PLOT SCALE = \$SCALE*		CHECKED - DAZ	REVISED -				CONTRACT NO. 64D84			ILLINOIS FED. AID PROJECT	
PLOT DATE = \$DATE*		DATE - 10-11-13	REVISED -				SCALE:	SHEET 1 OF 3 SHEETS	STA. TO STA.		



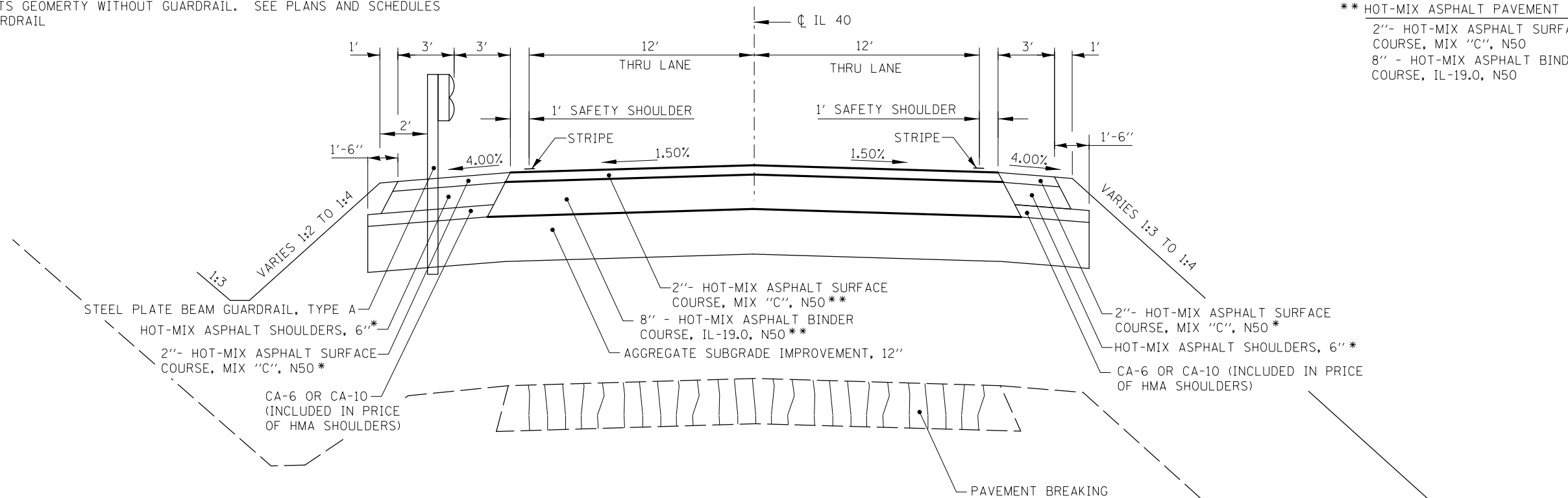
PROPOSED TYPICAL SECTION

STATION 242+35 TO STATION 242+95
 STATION 249+90 TO STATION 250+30

NOTE: LEFT SIDE OF SECTION REFLECTS GEOMETRY AT GUARDRAIL LOCATIONS
 RIGHT SIDE REFLECTS GEOMETRY WITHOUT GUARDRAIL. SEE PLANS AND SCHEDULES
 FOR LIMITS OF GUARDRAIL

* ALL HMA MIXTURES HAVE A UNIT WEIGHT
 (MIX) = 112 LBS/SQ. YD./INCH

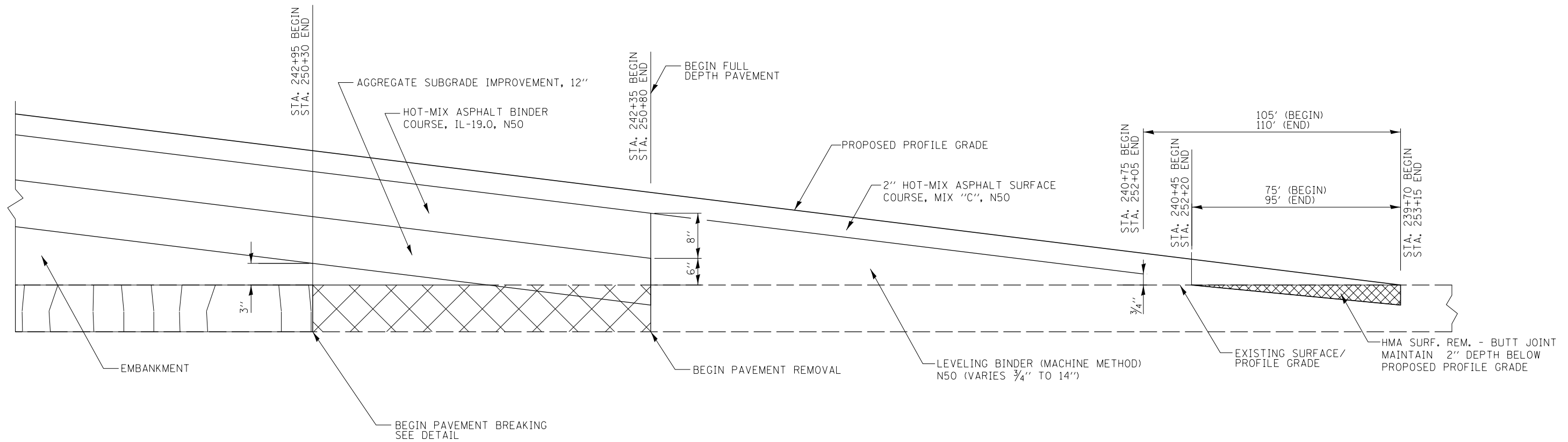
** HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 10" *
 2" - HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
 8" - HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50
 4" - BOTTOM LIFT
 4" - TOP LIFT



PROPOSED TYPICAL SECTION

STATION 242+95 TO STATION 246+95.25
 STATION 248+45.75 TO STATION 250+30

FILE NAME =	USER NAME = \$USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ZROKA engineering Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	TYPICAL SECTIONS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FILEL	DRAWN - SAW	REVISED -	646				5 BR-3	CARROLL	84	12	
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PLOT DATE = \$DATE*	DATE - 10-11-13	REVISED -	ILLINOIS FED. AID PROJECT								
					SCALE:	SHEET 2 OF 3 SHEETS	STA.	TO STA.			



HMA DETAIL AT BUTT JOINTS

FILE NAME =	USER NAME = \$USER*	DESIGNED - RAC	REVISED -
\$FILEL\$		DRAWN - SAW	REVISED -
	PLOT SCALE = \$SCALE*	CHECKED - DAZ	REVISED -
	PLOT DATE = \$DATE*	DATE - 10-11-13	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

TYPICAL SECTIONS

SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	13
CONTRACT NO. 64D84				
ILLINOIS FED. AID PROJECT				

HORIZONTAL CONTROL POINTS

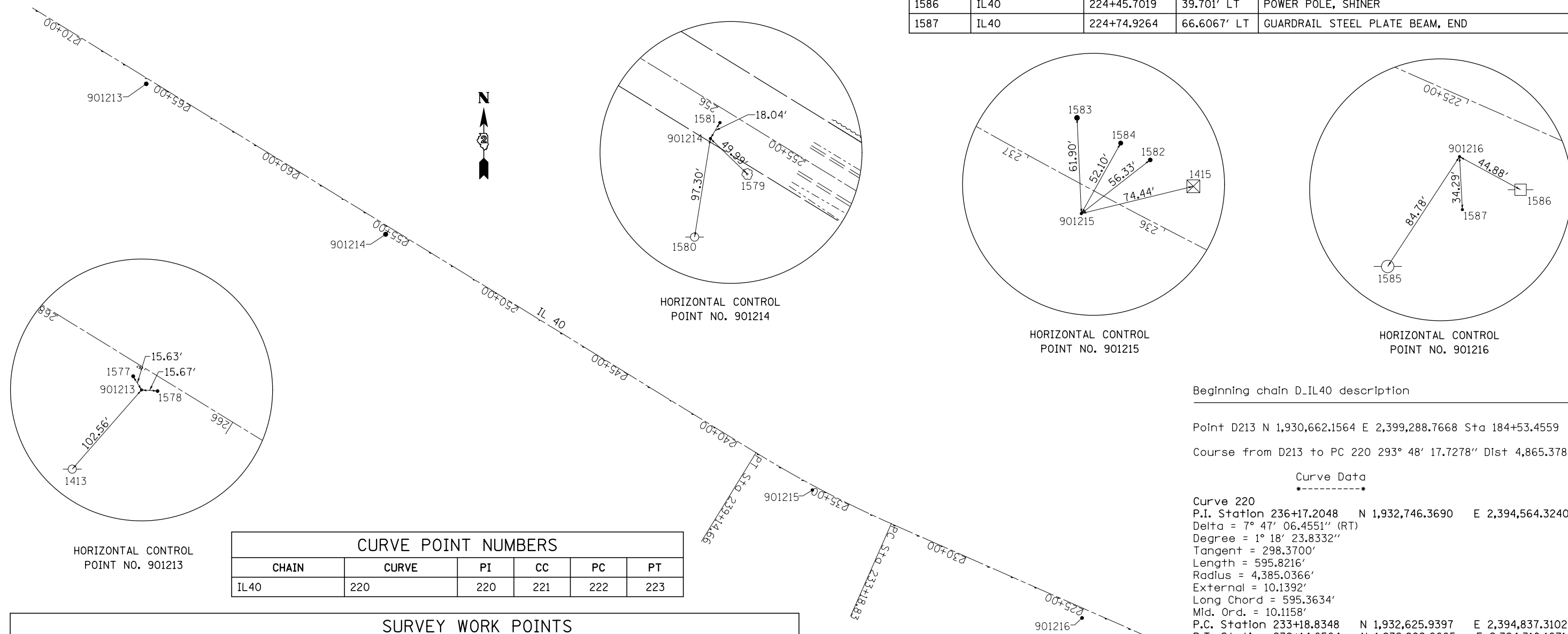
POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
901213	1934340.8550	2391933.7820	744.3090	IL40	266+92.2815	19.7661' LT	PHOTO CONTROL H. & V., PIN
901214	1933754.0160	2392866.8180	725.6780	IL40	255+90.0962	30.8864' LT	PHOTO CONTROL H. & V., PIN
901215	1932757.2300	2394529.7770	734.1020	IL40	236+52.2472	16.7246' LT	PHOTO CONTROL H. & V., PIN
901216	1932258.6220	2395580.6950	734.3790	IL40	224+90.4352	36.0203' LT	PHOTO CONTROL H. & V., PIN

BENCH MARKS

POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
1413	1934263.6210	2391866.2960	745.703	IL40	267+09.3092	120.9072' LT	TELEGRAPH POLE, 60D NAIL
1415	1932774.8240	2394602.1030	740.684	IL40	235+96.3701	32.5680' RT	R.O.W. MARKER, TOP

REFERENCE TIES

POINT	CHAIN	STATION	OFFSET	DESCRIPTION
1577	IL40	267+06.2031	12.6691' LT	PAVEMENT, SHINER
1578	IL40	266+78.3794	12.5293' LT	PAVEMENT, SHINER
1579	IL40	255+41.4521	41.7389' LT	TREE DECIDUOUS
1580	IL40	255+52.9161	120.7972' LT	TELEGRAPH POLE, SHINER
1581	IL40	255+90.2340	12.8476' LT	PAVEMENT - EDGE, BITUMINOUS
1582	IL40	236+29.2359	34.7085' RT	FENCE POST, SHINER
1583	IL40	236+84.1715	36.3464' RT	FENCE POST, SHINER
1584	IL40	236+51.3316	35.3698' RT	FENCE POST, SHINER
1585	IL40	225+04.2212	119.6745' LT	TELEGRAPH POLE, SHINER
1586	IL40	224+45.7019	39.701' LT	POWER POLE, SHINER
1587	IL40	224+74.9264	66.6067' LT	GUARDRAIL STEEL PLATE BEAM, END



HORIZONTAL CONTROL POINT NO. 901213

CURVE POINT NUMBERS

CHAIN	CURVE	PI	CC	PC	PT
IL40	220	220	221	222	223

SURVEY WORK POINTS

POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
1001	1933308.0073	2393624.5547	706.096	IL40	247+11.0062	13.8733' LT	TRAVERSE STATION, NAIL
1002	1933140.9619	2393974.5793	710.761	IL40	243+25.3443	27.1906' RT	TRAVERSE STATION, NAIL
1003	1933361.3894	2393627.5088	699.338	IL40	247+36.4534	33.1460' RT	BILL HOLT PIN AND CAP

Beginning chain D_IL40 description

Point D213 N 1,930,662.1564 E 2,399,288.7668 Sta 184+53.4559
 Course from D213 to PC 220 293° 48' 17.7278" Dist 4,865.3789'

Curve Data

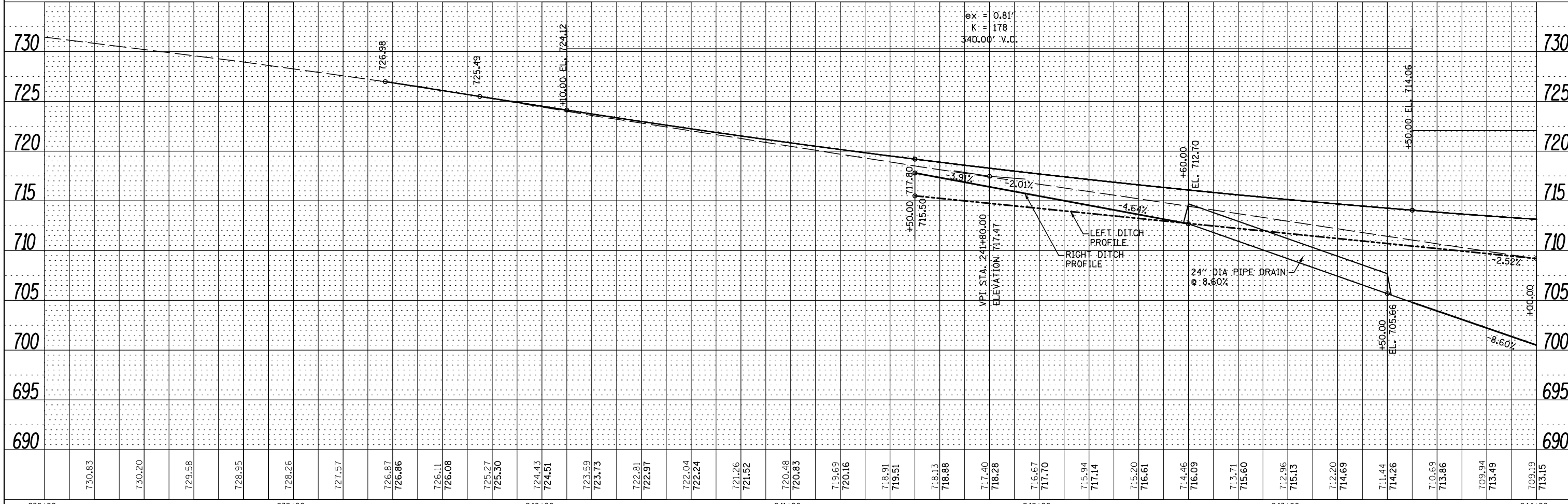
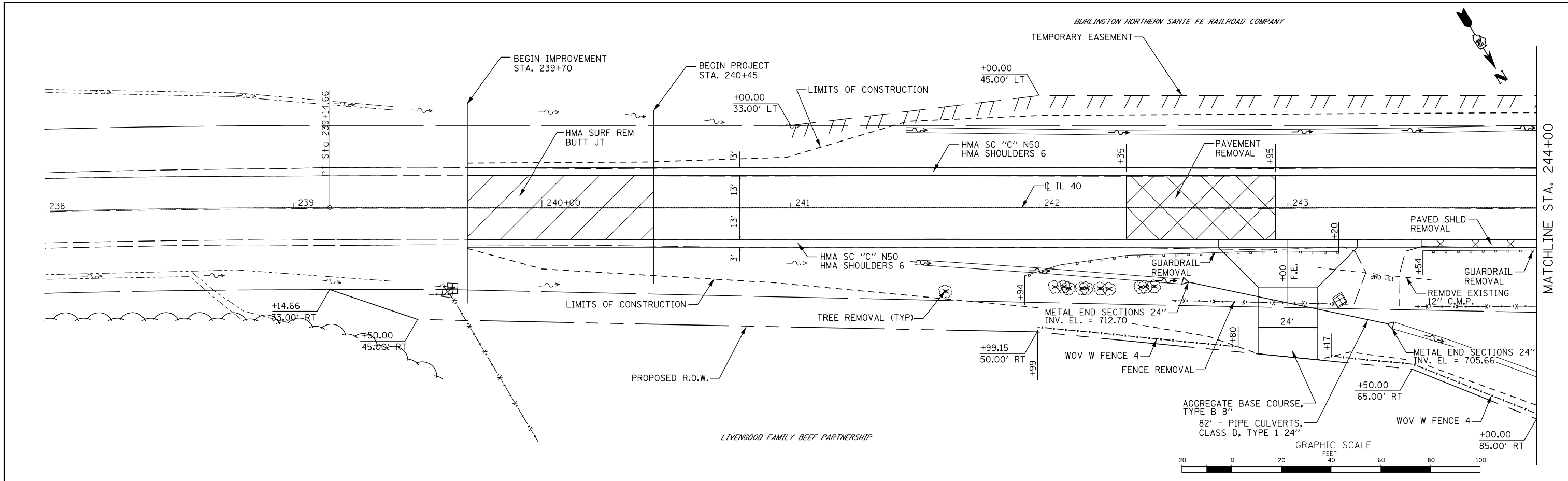
Curve 220
 P.I. Station 236+17.2048 N 1,932,746.3690 E 2,394,564.3240
 Delta = 7° 47' 06.4551" (RT)
 Degree = 1° 18' 23.8332"
 Tangent = 298.3700'
 Length = 595.8216'
 Radius = 4,385.0366'
 External = 10.1392'
 Long Chord = 595.3634'
 Mid. Ord. = 10.1158'
 P.C. Station 233+18.8348 N 1,932,625.9397 E 2,394,837.3102
 P.T. Station 239+14.6564 N 1,932,902.6665 E 2,394,310.1671
 C.C. N 1,936,637.9193 E 2,396,607.2159

Course from PT 220 to D232 301° 35' 24.1829" Dist 4,139.5166'

Point D232 N 1,935,071.1026 E 2,390,784.0527 Sta 280+54.1730

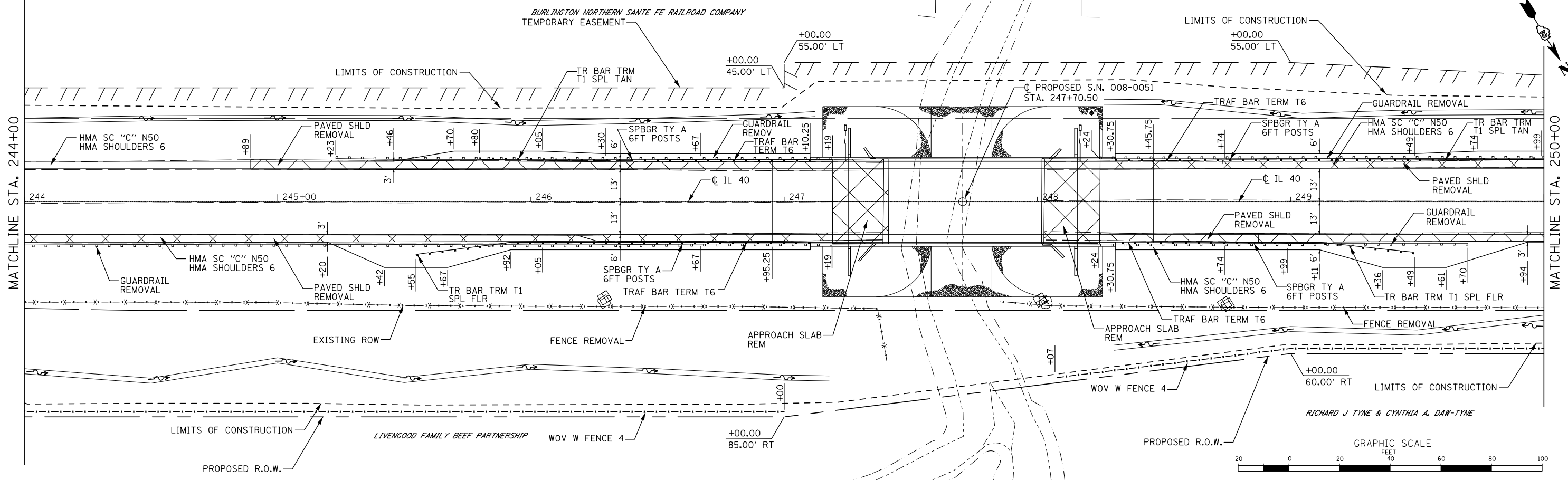
PLAN	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO.	

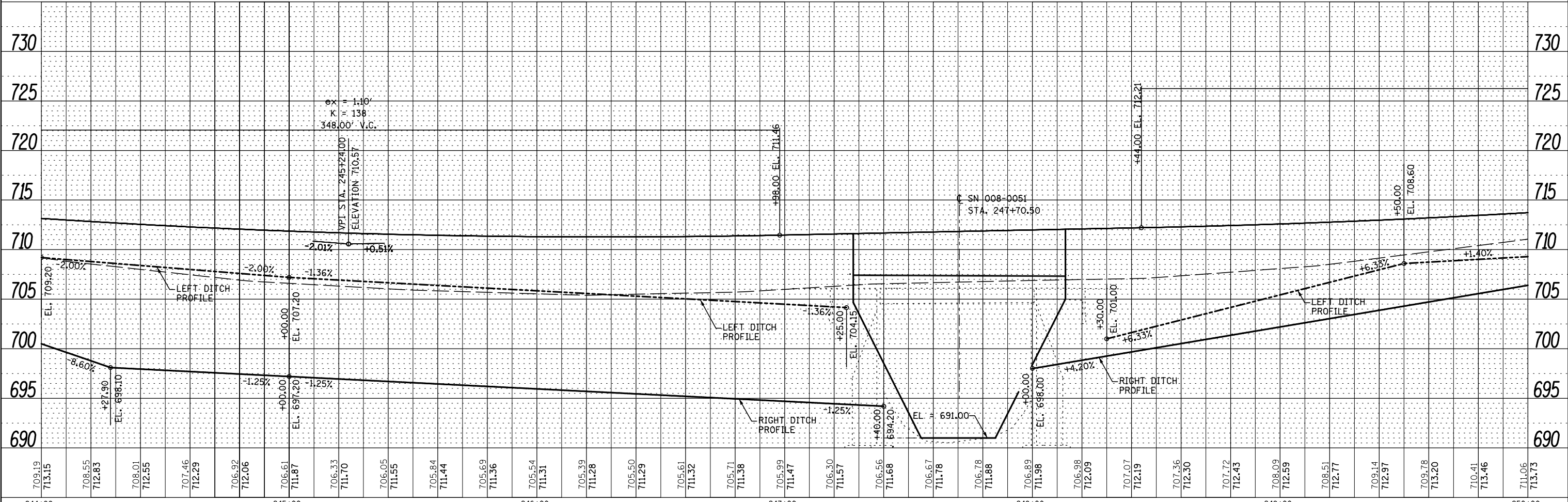


FILE NAME =	USER NAME = *USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		PLAN AND PROFILE	F.A.P. RT# 646	SECTION 5BR-3	COUNTY CARROLL	TOTAL SHEETS 84	SHEET NO. 16
FILEL	PLOT SCALE = *SCALE*	CHECKED - DAZ	REVISED -				CONTRACT NO. 64D84				
	PLOT DATE = *DATE*	DATE - 10-11-13	REVISED -				ILLINOIS FED. AID PROJECT				
							SHEET 1 OF 3 SHEETS STA. 239+70 TO STA. 244+00				

DATE	BY
PLAN	SURVEYED
NOTE BOOK NO.	PLOTTED
	CHECKED
	ALIGNED
	DESIGNED
	FILED
	DATE



DATE	BY
PROFILE	SURVEYED
NOTE BOOK NO.	PLOTTED
	CHECKED
	GRADES
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	DATE



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	PLOT SCALE = *SCALE*	CHECKED - DAZ	REVISED -
	PLOT DATE = *DATE*	DATE - 10-11-13	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

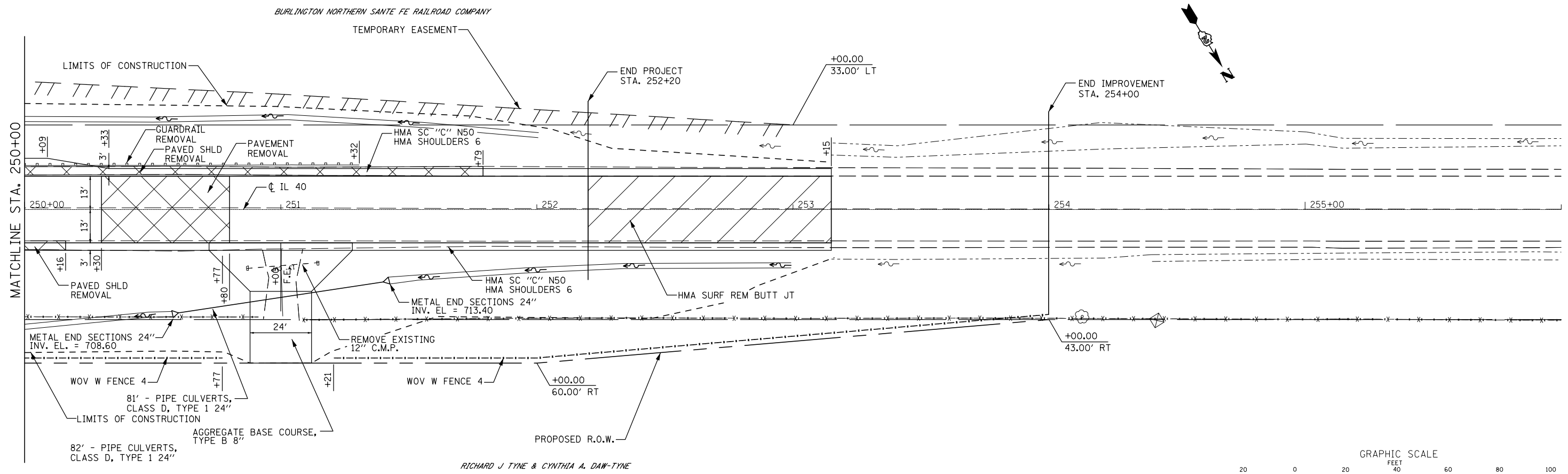
PLAN AND PROFILE

SHEET 2 OF 3 SHEETS STA. 244+00 TO STA. 250+00

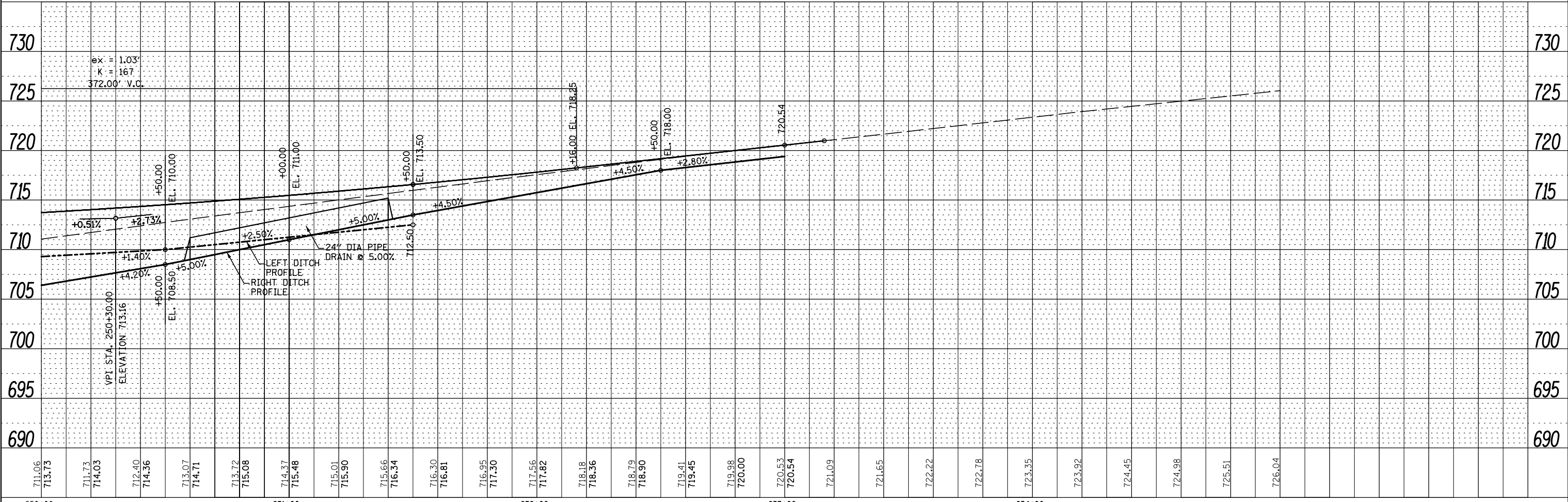
F.A.P. RFE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	17
CONTRACT NO. 64D84				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	BY
	ALIGNED	CHECKED
	FILED	NO.
	NOTE BOOK	NO.
	FILE NAME	

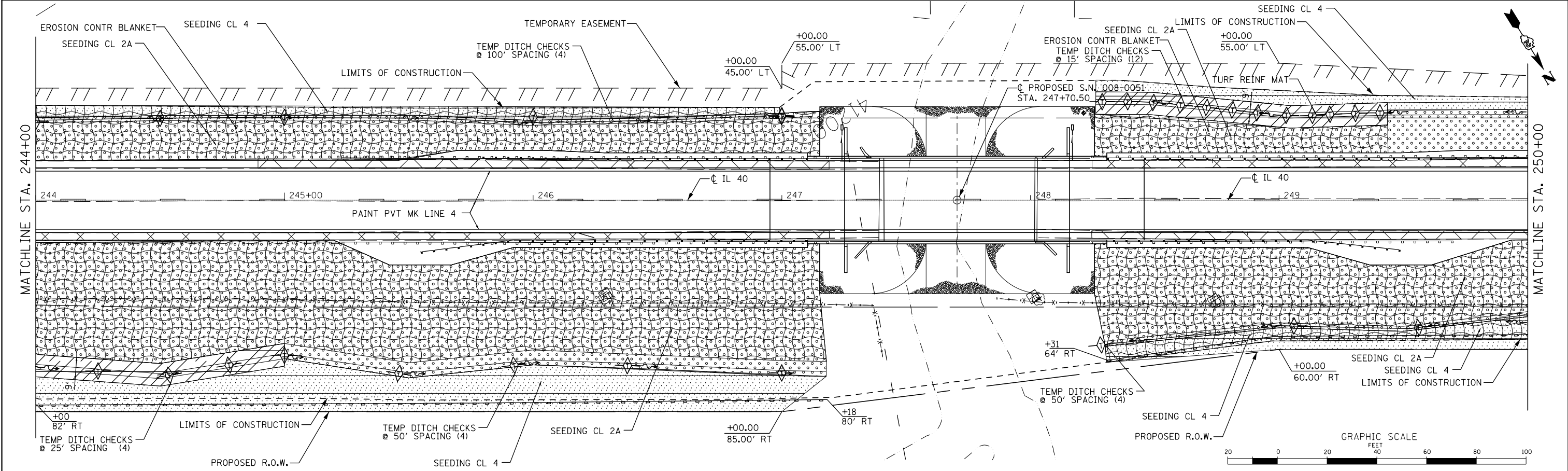
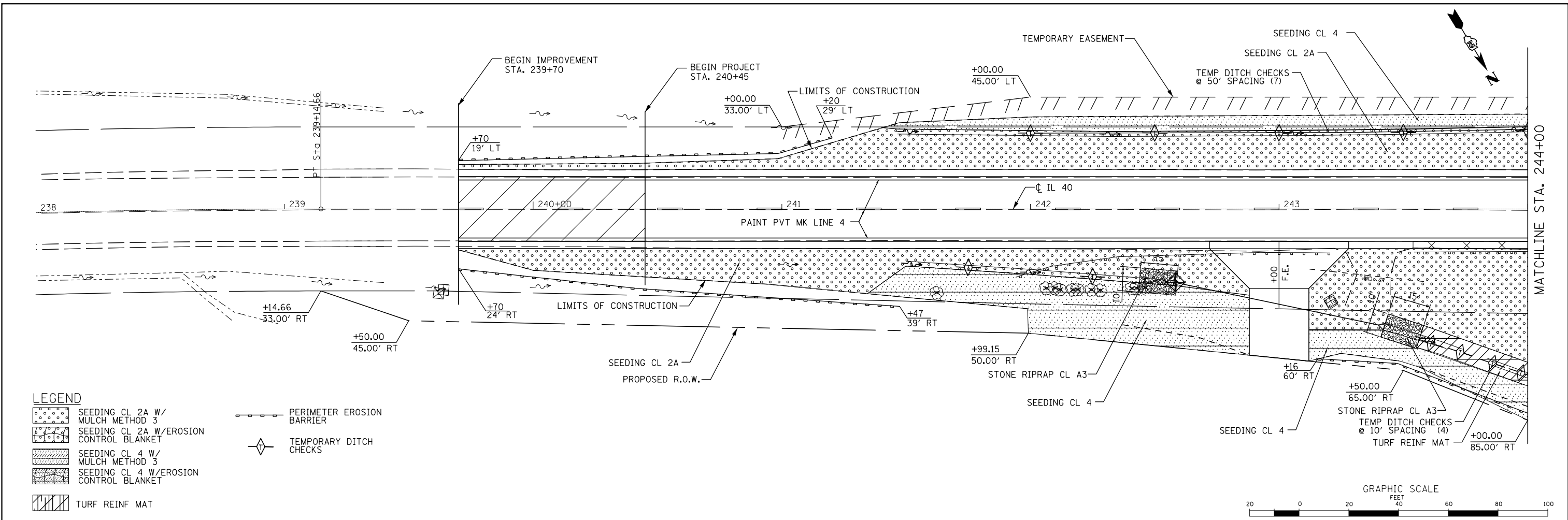
PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NOTE BOOK	NO.
	FILE NAME	



RICHARD J TYNE & CYNTHIA A. DAW-TYNE



FILE NAME =	USER NAME = *USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		PLAN AND PROFILE	F.A.P. RTE. 646	SECTION 5BR-3	COUNTY CARROLL	TOTAL SHEETS 84	SHEET NO. 18
FILEL	PLOT SCALE = *SCALE*	CHECKED - DAZ	REVISED -				CONTRACT NO. 64DB4				
	PLOT DATE = *DATE*	DATE - 10-11-13	REVISED -				ILLINOIS FED. AID PROJECT				
			SHEET 3 OF 3 SHEETS				STA. 250+00 TO STA. 253+00				



FILE NAME =	USER NAME = *USER*	DESIGNED - RAC	REVISED -
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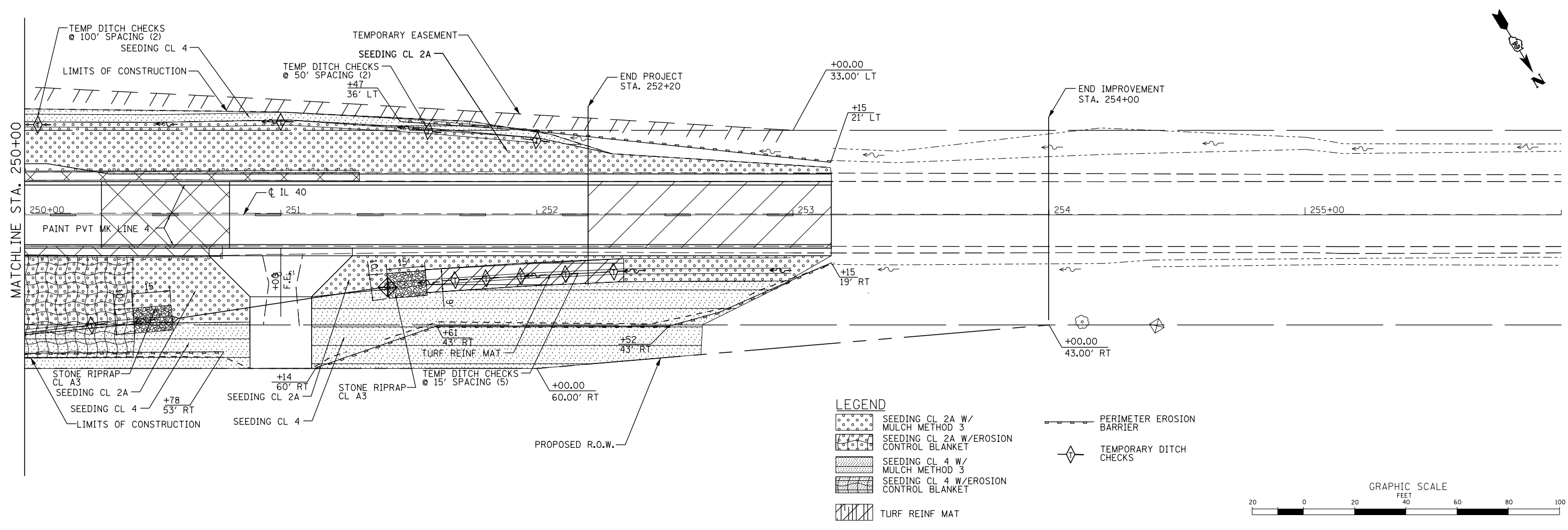
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

ZROKA
engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

**EROSION CONTROL,
PAVEMENT MARKING
AND LANDSCAPING**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	19
CONTRACT NO. 64DB4				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET 1 OF 2 SHEETS STA. 239+70 TO STA. 250+00



FILE NAME =	USER NAME = \$USER\$	DESIGNED - RAC	REVISED -
\$FILEL\$		DRAWN - SAW	REVISED -
	PLOT SCALE = \$SCALE\$	CHECKED - DAZ	REVISED -
	PLOT DATE = \$DATE\$	DATE - 10-11-13	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

ZROKA
engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

**EROSION CONTROL,
PAVEMENT MARKING
AND LANDSCAPING**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	20
CONTRACT NO. 64D84				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET 2 OF 2 SHEETS STA. 250+00 TO STA. 254+00



LEGEND

- 1 W20-3(0), 48 - 48" x 48" FLOURESCENT ORANGE
- 2 R-11-2-4830 WITH TYPE A LOW INTENSITY FLASHING LIGHTS
- 3 R-11-2-4830 WITH TYPE A LOW INTENSITY FLASHING LIGHTS
- 4 R-11-2-4830 WITH TYPE A LOW INTENSITY FLASHING LIGHTS
- 5 DISTRICT STANDARD 40.1 SIGNING
- 6 W20-3(0), 48 - 48" x 48" FLOURESCENT ORANGE
- ROAD CLOSED AHEAD
- ROAD CLOSED TO THRU TRAFFIC
- ROAD CLOSED
- NO ACCESS TO MILLEDGEVILLE
- ROAD CLOSED 112 MILES
- DETOUR ROUTE
- WORK ZONE
- TYPE A LOW INTENSITY FLASHING LIGHT
- TYPE III BARRICADES WITH TYPE A LOW INTENSITY FLASHING LIGHTS

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES.
 ALL TYPE III BARRICADES UTILIZED FOR ROAD CLOSURES SHALL HAVE TWO LOW INTENSITY FLASHING LIGHT MOUNTED ON TOP OF EACH BARRICADE.

FILE NAME -	USER NAME - *USER*	DESIGNED - RAC	REVISED -
*FILE#		DRAWN - SAW	REVISED -
	PLOT SCALE - *SCALE*	CHECKED - DAZ	REVISED -
	PLOT DATE - *DATE*	DATE - 10-11-13	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

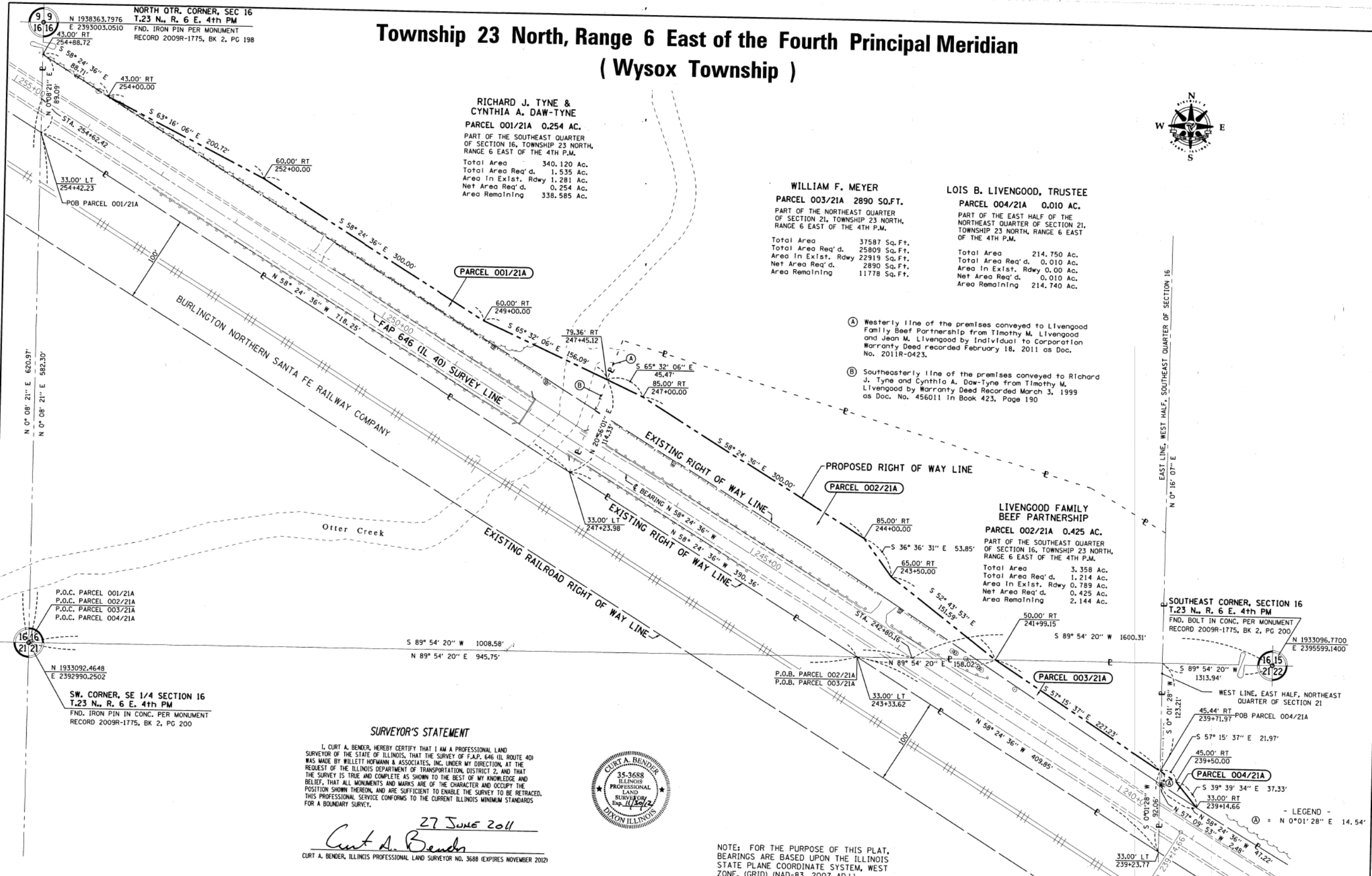
ZROKA
 engineering
 Zroka Engineering, P.C.
 4216 North Hermitage
 Chicago, IL 60613

DETOUR PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	21
CONTRACT NO. 64D84				
ILLINOIS FED. AID PROJECT				

Township 23 North, Range 6 East of the Fourth Principal Meridian (Wysox Township)



SW. CORNER, SE 1/4 SECTION 16
T.23 N., R. 6 E. 4th PM
FND. IRON PIN IN CONC. PER MONUMENT
RECORD 2009R-1775, BK 2, PG 200

SURVEYOR'S STATEMENT

I, CURT A. BENDER, HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR OF THE STATE OF ILLINOIS. THAT THE SURVEY OF F.A.P. 646 (IL ROUTE 40) WAS MADE BY WILLET HOFMANN & ASSOCIATES, INC. UNDER MY DIRECTION, AT THE REQUEST OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION, DISTRICT 2, AND THAT THE SURVEY IS TRUE AND COMPLETE AS SHOWN TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT ALL MONUMENTS AND MARKS ARE OF THE CHARACTER AND OCCUPY THE POSITION SHOWN THEREON, AND ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

27 June 2011
Curt A. Bender
CURT A. BENDER, ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3688 (EXPIRES NOVEMBER 2012)

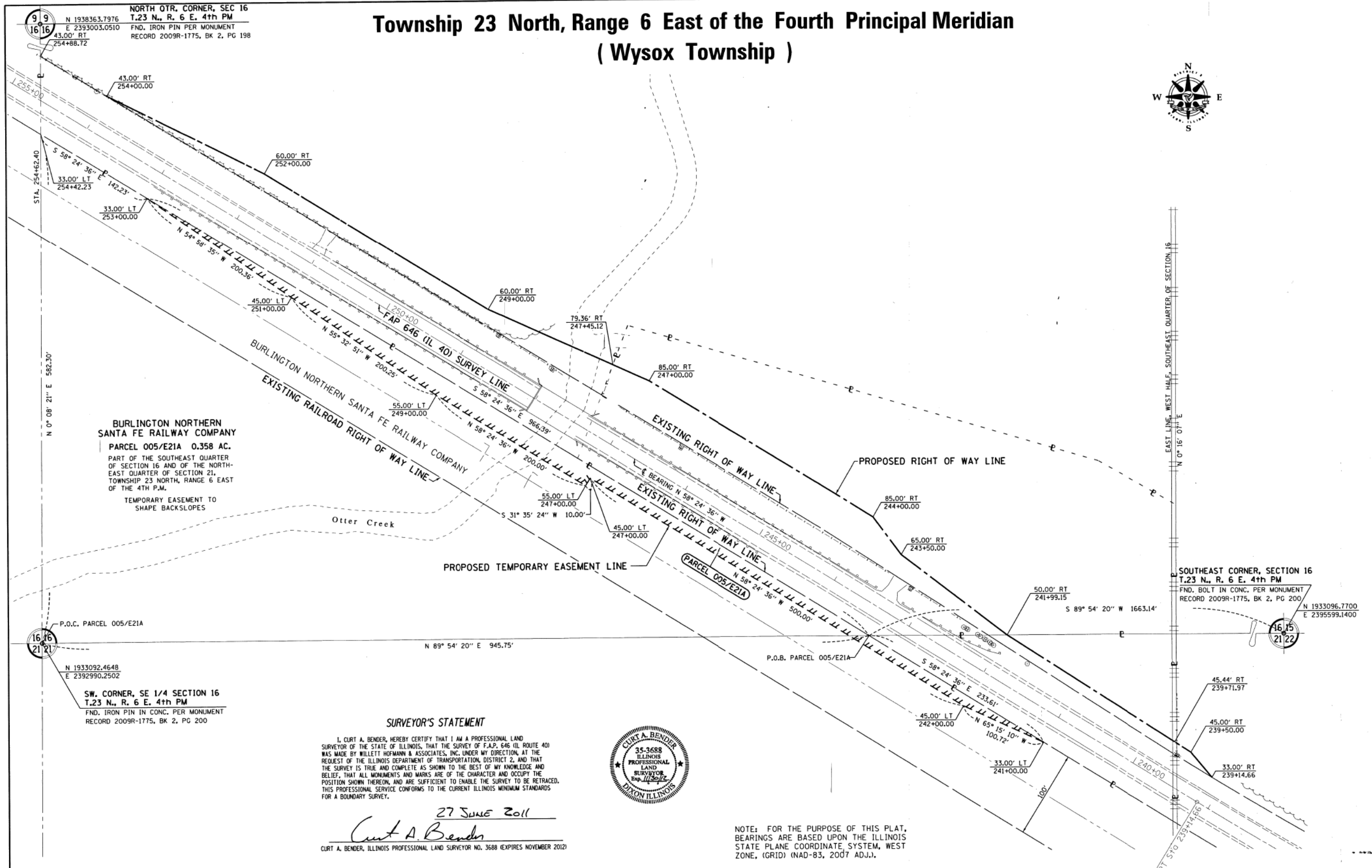


NOTE: FOR THE PURPOSE OF THIS PLAT, BEARINGS ARE BASED UPON THE ILLINOIS STATE PLANE COORDINATE SYSTEM, WEST ZONE, (GRID) (NAD-83, 2007 ADJ.).

DRAWER 45	FOLDER 2		ILLINOIS DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY PLAT	FAP ROUTE 646 (IL 40)	SECTION 16 & 21	COUNTY CARROLL	JOB# R-92-021-09
				SEC 5BR-3	T 23 N, R 6 E OF 4th P.M.	PROJECT# P-92-080-10	
				SCALE: 1" = 50'	SHEET NO. 21A	STA 239+00.00 TO STA 255+00.00	CONTRACT NO.

FILE NAME =	USER NAME = \$USER\$	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS		RIGHT-OF-WAY PLANS	F.A.P. R.T.E. 646	SECTION 5 BR-3	COUNTY CARROLL	TOTAL SHEETS 84	SHEET NO. 22
\$FILEL\$		DRAWN - SAW	REVISED -	DEPARTMENT OF TRANSPORTATION	Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613						
		CHECKED - DAZ	REVISED -		SCALE:	SHEET 1 OF 2 SHEETS	STA.	TO STA.			CONTRACT NO. 64DB4
		DATE - 10-11-13	REVISED -								ILLINOIS FED. AID PROJECT

Township 23 North, Range 6 East of the Fourth Principal Meridian (Wysox Township)



DRAWER 45 FOLDER 2		WILLETT HOFMANN & ASSOCIATES INC. ENGINEERING ARCHITECTURE LAND SURVEYING 809 EAST 2ND STREET, DIXON, IL 61021-0367 T: 815-294-3381 DESIGN FIRM: #184-000919	REVISED -	REVISED -	ILLINOIS DEPARTMENT OF TRANSPORTATION TEMPORARY EASEMENT PLAT	FAP ROUTE 646 (IL 40)	SECTION 16 & 21	COUNTY CARROLL	JOB# R-92-021-09
			REVISED -	REVISED -		SEC 5BR-3	T 23 N, R 6 E OF 4th P.M.	PROJECT# P-92-080-10	STA 241+00 TO STA 255+00

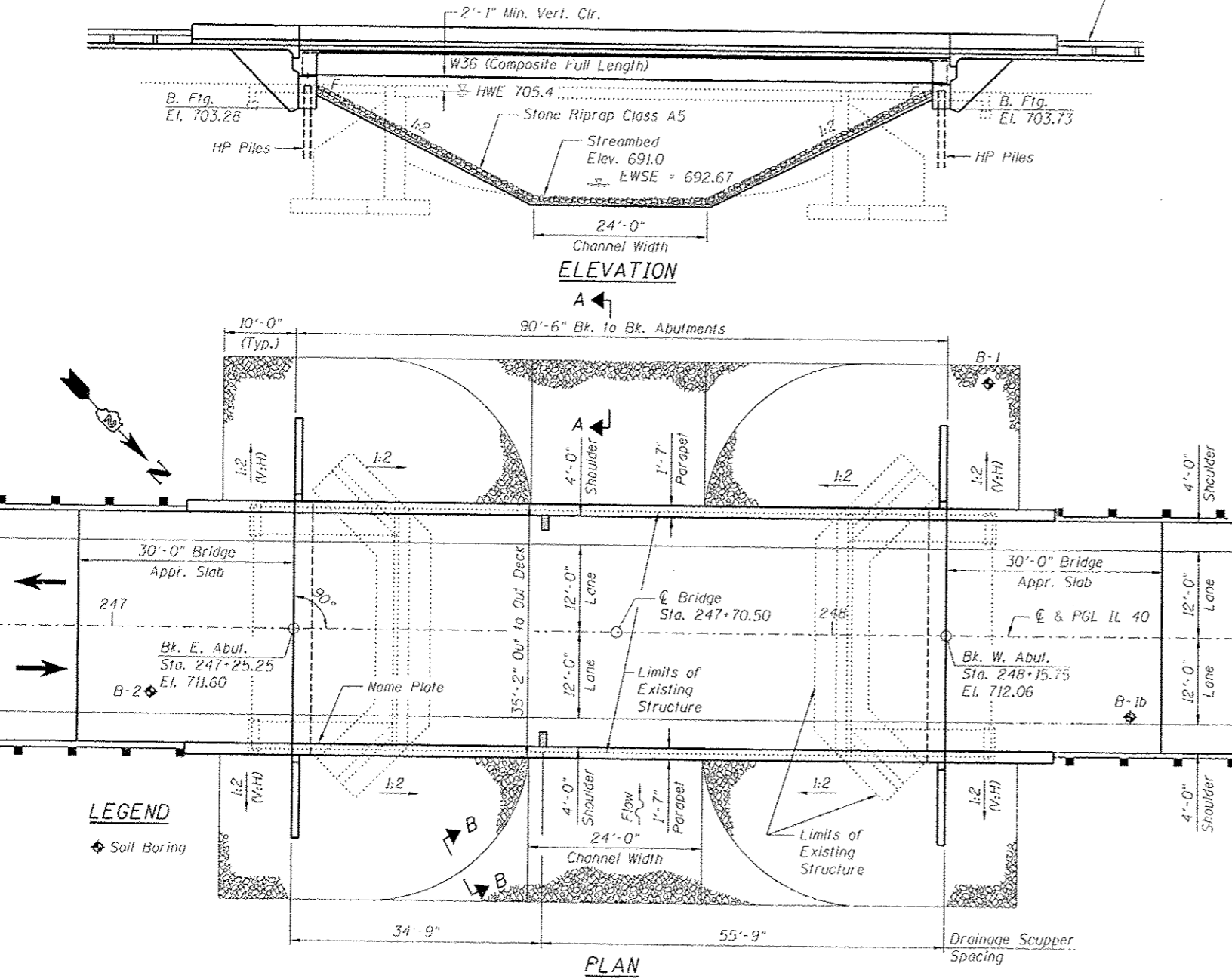
FILE NAME =	USER NAME = *USER*	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	RIGHT-OF-WAY PLANS	F.A.P. RTE. 646	SECTION 5 BR-3	COUNTY CARROLL	TOTAL SHEETS 84	SHEET NO. 23	
*FILE#	PLOT SCALE = *SCALE*	CHECKED - DAZ	REVISED -					SCALE:	SHEET 2 OF 2 SHEETS	STA. TO STA.	CONTRACT NO. 64DB4		ILLINOIS FED. AID PROJECT
	PLOT DATE = *DATE*	DATE - 10-11-13	REVISED -										

Bench Mark: Top of ROW marker, Sta. 235+96.37, 32.57' RI., Elev. 740.68

Existing Structure: S.N. 008-0014 originally constructed in 1926 as SBI Route 40 Section 5-B. It was originally a single span reinforced concrete deck girder superstructure built on closed abutments. In 1971 the superstructure was replaced with PPC deck beams built on reconstructed abutment caps as SBI 40, Section 5BR-1. In 1996, the HMA wearing surface was removed and replaced with a 5" concrete overlay. In 2009, bridge railings and six PPC deck beams were replaced as FAP Route 646, Section (5 BR-1)D. Bk. to Bk. abutments is 62'-9 3/4" and Out to Out of deck is 33'-0".

Existing structure shall be removed and replaced. Traffic shall be detoured during construction.

No Salvage.

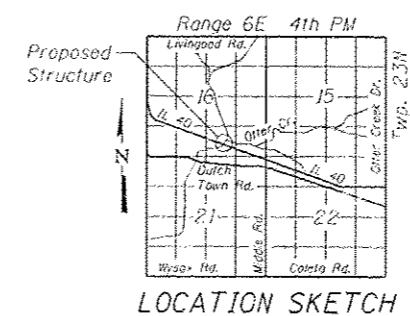


LEGEND
 ♦ Soil Boring

APPROVED
 For Structural Adequacy Only
Dr. Carl Ruyter
 Engineer of Bridges & Structures



Deborah A. Zolner 10-11-13
 Signature
 November 30, 2014
 Expires



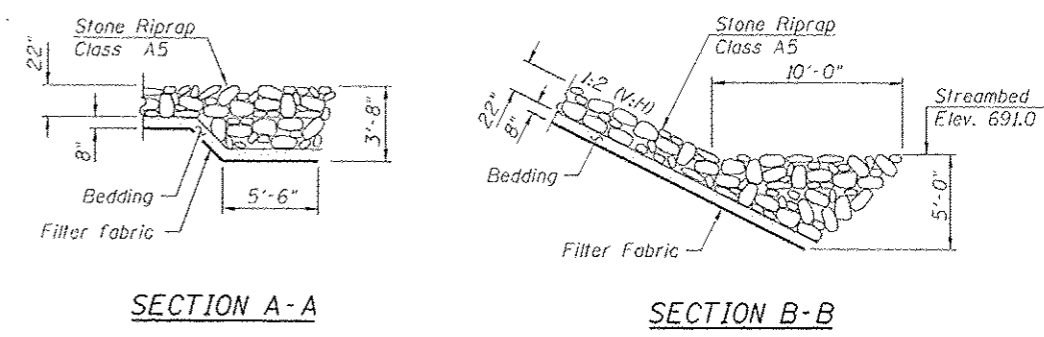
LOADING HL-93
 Allow 50#/sq. ft. for future wearing surface

DESIGN SPECIFICATIONS
 2010 AASHTO LRFD Bridge Design Specifications With 2010 Interims

DESIGN STRESSES

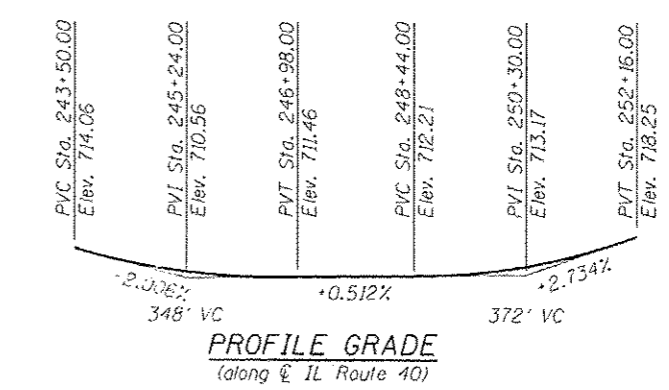
FIELD UNITS
 $f_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50W)

SEISMIC DATA
 Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration @ 1.0 sec $S_{d1} = 0.058$
 Design Spectral Acceleration @ 0.2 sec $S_{d5} = 0.097$
 Soil Site Class = C



SECTION A-A

SECTION B-B



PROFILE GRADE
 (along IL Route 40)

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 40 OVER OTTER CREEK
 FAP 646 - SEC. 5BR-3
 CARROLL COUNTY
 STA. 247+70.50
 STRUCTURE NO. 008-0051

ZROKA Engineering
 Zroka Engineering, P.C.
 4216 North Hermitage
 Chicago, IL 60613

USER NAME = SHW
 PLOT SCALE = 0:2.0000 1" = 10'
 PLOT DATE = 10/26/2013

DESIGNED - PMM
 CHECKED - DAZ
 DRAWN - SAW
 CHECKED - PMM

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
 S.N. 008-0051

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	24

CONTRACT NO. 64DB4
 ILLINOIS FED. AID PROJECT

SHEET NO. 1 OF 19 SHEETS

INDEX OF SHEETS

1. General Plan & Elevation
2. General Data
3. Top of Slab Elevations 1
4. Top of Slab Elevations 2
5. East Approach Top of Slab Elevations
6. West Approach Top of Slab Elevations
7. Superstructure Plan
8. Superstructure Details
9. Drainage Scupper, DS-11
10. Integral Abutment Diaphragm Details
11. Bridge Approach Slab Details 1
12. Bridge Approach Slab Details 2
13. Framing Plan
14. Structural Steel Details
15. East Abutment
16. West Abutment
17. Bar Splicer Assembly and Mechanical Splicer Details
18. HP Pile Details
19. Boring Logs

GENERAL NOTES

1. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts in painted areas and ASTM A325 Type 3 in unpainted areas. Bolts 3/4 in. dia., holes 15/16 in. dia., unless otherwise noted.
2. Calculated weight of structural steel = 105,530 pounds.
3. All structural steel shall be AASHTO M 270 Grade 50W.
4. No field welding is permitted except as specified in contract documents.
5. Reinforcement bars designated (E) shall be epoxy coated.
6. If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
7. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
8. Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 in. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.
9. Slipforming of the parapets is not allowed.
10. Foundation piles to be installed after a waiting period of at least 10 days in order to eliminate downdrag forces on the piles.
11. Current Ratings on File for Existing Structure
Inventory: HS 23.2
Operating: HS 38.8
Live Load Restrictions: No

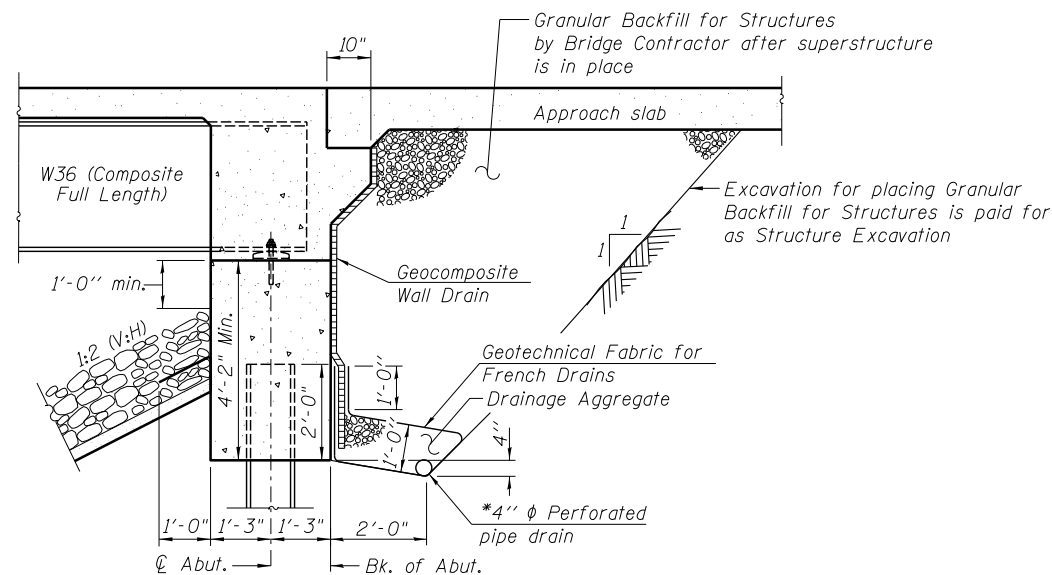
Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Filter Fabric	Sq. Yd.		1,168	1,168
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		120	120
Concrete Structures	Cu. Yd.		59.0	59.0
Concrete Superstructure	Cu. Yd.	241.0		241.0
Bridge Deck Grooving	Sq. Yd.	505		505
Concrete Encasement	Cu. Yd.		4.0	4.0
Protective Coat	Sq. Yd.	645		645
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1,206		1,206
Reinforcement Bars, Epoxy Coated	Pound	51,010	13,240	64,250
Bar Splicers	Each		76	76
Furnishing Steel Piles, HP 12x53	Foot		275	275
Driving Piles	Foot		275	275
Test Pile Steel HP 12x53	Each		2	2
Pile Shoes	Each		12	12
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	24		24
Geocomposite Wall Drain	Sq. Yd.		72	72
Granular Backfill for Structures	Cu. Yd.		156	156
Stone Riprap, Class A5	Sq. Yd.		1,168	1,168
Asbestos Bearing Pad Removal	Each		10	10
Drainage Scuppers, DS-11	Each	2		2
Pipe Underdrains for Structures 4"	Foot		140	140

STATION 247+70.50
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RTE. 646 SEC. 5BR-3
LOADING HL-93
STRUCTURE NO. 008-0051

NAME PLATE
See Std. 515001



SECTION THRU ABUTMENT

*Included in the cost of Pipe Underdrains for Structures.

Note:

All drainage system components shall extend to 2'-0" from the end of each wingwall except one end of the outlet pipe shall extend until intersecting with the side slope. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60110).

DESIGN SCOUR ELEVATION TABLE

E. Abut.	W. Abut.
703.28	703.73

WATERWAY INFORMATION

Drainage Area = 23.2 sq. mi. Exist. Low Grade Elev. = 705.15 @ Sta. 246+20
Prop. Low Grade Elev. = 711.53 @ Sta. 246+65

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Ten-Year	10	2150	550	620	703.6	0.1	0.1	703.8	703.7
OVR (E)	40	3280	556		705.2	0.5		705.8	
Design	50	3420	556	760	705.4	0.5	0.1	705.9	705.5
Base	100	3980	556	818	706.1	0.6	0.1	706.7	706.2
Max. Calc.	500	5380	556	945	707.6	0.5	0.1	708.1	707.8

10-Year Velocity through Existing Bridge = 3.9 fps
10-Year Velocity through Proposed Bridge = 3.5 fps

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Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

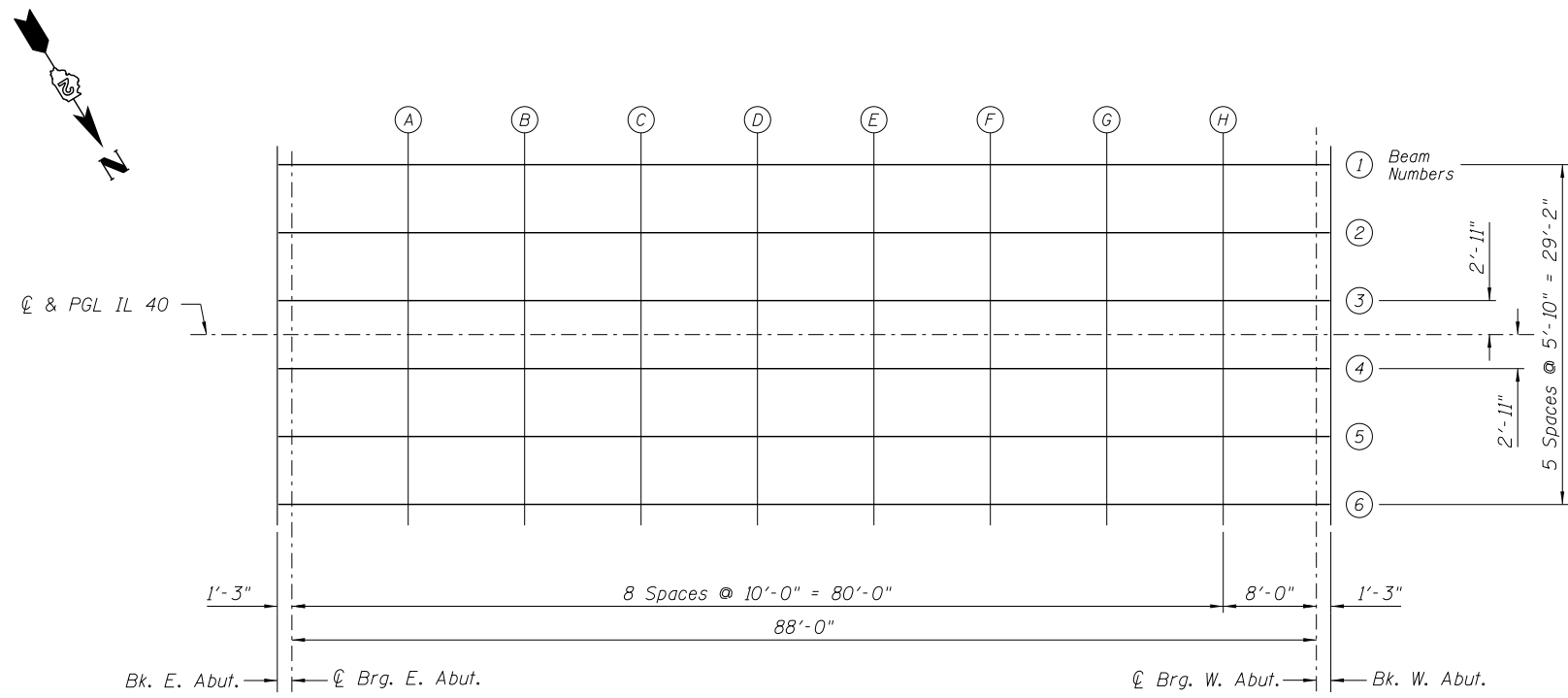
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

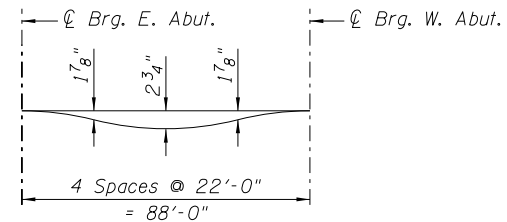
**GENERAL DATA
S.N. 008-0051**

SHEET NO. 2 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	25
CONTRACT NO. 64DB4				
ILLINOIS FED. AID PROJECT				



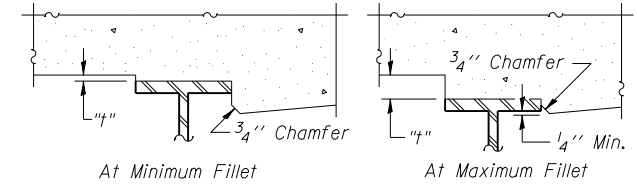
PLAN FOR TOP OF SLAB ELEVATIONS



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the Engineer is working from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" as shown on Sheet 4 of 19.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on this sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheet 4, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

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	CHECKED - DAZ	REVISED -
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PLOT DATE = 8/1/2013	CHECKED - PMM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS 1
S.N. 008-0051**

SHEET NO. 3 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	26
CONTRACT NO. 64DB4				

ILLINOIS FED. AID PROJECT

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	247+25.25	-14.58	711.36	711.36
☉ Brg. E. Abut.	247+26.50	-14.58	711.37	711.37
A	247+36.50	-14.58	711.42	711.50
B	247+46.50	-14.58	711.47	711.62
C	247+56.50	-14.58	711.52	711.72
D	247+66.50	-14.58	711.57	711.79
E	247+76.50	-14.58	711.62	711.84
F	247+86.50	-14.58	711.67	711.86
G	247+96.50	-14.58	711.72	711.86
H	248+06.50	-14.58	711.77	711.84
☉ Brg. W. Abut.	248+14.50	-14.58	711.82	711.82
Bk. W. Abut.	248+15.75	-14.58	711.82	711.82

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	247+25.25	-8.75	711.46	711.46
☉ Brg. E. Abut.	247+26.50	-8.75	711.47	711.47
A	247+36.50	-8.75	711.52	711.60
B	247+46.50	-8.75	711.57	711.72
C	247+56.50	-8.75	711.62	711.82
D	247+66.50	-8.75	711.67	711.90
E	247+76.50	-8.75	711.73	711.94
F	247+86.50	-8.75	711.78	711.97
G	247+96.50	-8.75	711.83	711.96
H	248+06.50	-8.75	711.88	711.94
☉ Brg. W. Abut.	248+14.50	-8.75	711.92	711.92
Bk. W. Abut.	248+15.75	-8.75	711.93	711.93

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	247+25.25	-2.92	711.55	711.55
☉ Brg. E. Abut.	247+26.50	-2.92	711.56	711.56
A	247+36.50	-2.92	711.61	711.69
B	247+46.50	-2.92	711.66	711.81
C	247+56.50	-2.92	711.71	711.91
D	247+66.50	-2.92	711.77	711.99
E	247+76.50	-2.92	711.82	712.04
F	247+86.50	-2.92	711.87	712.06
G	247+96.50	-2.92	711.92	712.06
H	248+06.50	-2.92	711.97	712.04
☉ Brg. W. Abut.	248+14.50	-2.92	712.01	712.01
Bk. W. Abut.	248+15.75	-2.92	712.02	712.02

☉ ROADWAY & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	247+25.25	0.00	711.60	711.60
☉ Brg. E. Abut.	247+26.50	0.00	711.61	711.61
A	247+36.50	0.00	711.66	711.74
B	247+46.50	0.00	711.71	711.86
C	247+56.50	0.00	711.76	711.96
D	247+66.50	0.00	711.81	712.03
E	247+76.50	0.00	711.86	712.08
F	247+86.50	0.00	711.91	712.10
G	247+96.50	0.00	711.96	712.10
H	248+06.50	0.00	712.02	712.08
☉ Brg. W. Abut.	248+14.50	0.00	712.06	712.06
Bk. W. Abut.	248+15.75	0.00	712.06	712.06

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	247+25.25	2.92	711.55	711.55
☉ Brg. E. Abut.	247+26.50	2.92	711.56	711.56
A	247+36.50	2.92	711.61	711.69
B	247+46.50	2.92	711.66	711.81
C	247+56.50	2.92	711.71	711.91
D	247+66.50	2.92	711.77	711.99
E	247+76.50	2.92	711.82	712.04
F	247+86.50	2.92	711.87	712.06
G	247+96.50	2.92	711.92	712.06
H	248+06.50	2.92	711.97	712.04
☉ Brg. W. Abut.	248+14.50	2.92	712.01	712.01
Bk. W. Abut.	248+15.75	2.92	712.02	712.02

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	247+25.25	8.75	711.46	711.46
☉ Brg. E. Abut.	247+26.50	8.75	711.47	711.47
A	247+36.50	8.75	711.52	711.60
B	247+46.50	8.75	711.57	711.72
C	247+56.50	8.75	711.62	711.82
D	247+66.50	8.75	711.67	711.90
E	247+76.50	8.75	711.73	711.94
F	247+86.50	8.75	711.78	711.97
G	247+96.50	8.75	711.83	711.96
H	248+06.50	8.75	711.88	711.94
☉ Brg. W. Abut.	248+14.50	8.75	711.92	711.92
Bk. W. Abut.	248+15.75	8.75	711.93	711.93

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	247+25.25	14.58	711.36	711.36
☉ Brg. E. Abut.	247+26.50	14.58	711.37	711.37
A	247+36.50	14.58	711.42	711.50
B	247+46.50	14.58	711.47	711.62
C	247+56.50	14.58	711.52	711.72
D	247+66.50	14.58	711.57	711.79
E	247+76.50	14.58	711.62	711.84
F	247+86.50	14.58	711.67	711.86
G	247+96.50	14.58	711.72	711.86
H	248+06.50	14.58	711.77	711.84
☉ Brg. W. Abut.	248+14.50	14.58	711.82	711.82
Bk. W. Abut.	248+15.75	14.58	711.82	711.82

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 REVISER -
 DRAWN - SAW
 CHECKED - PMM

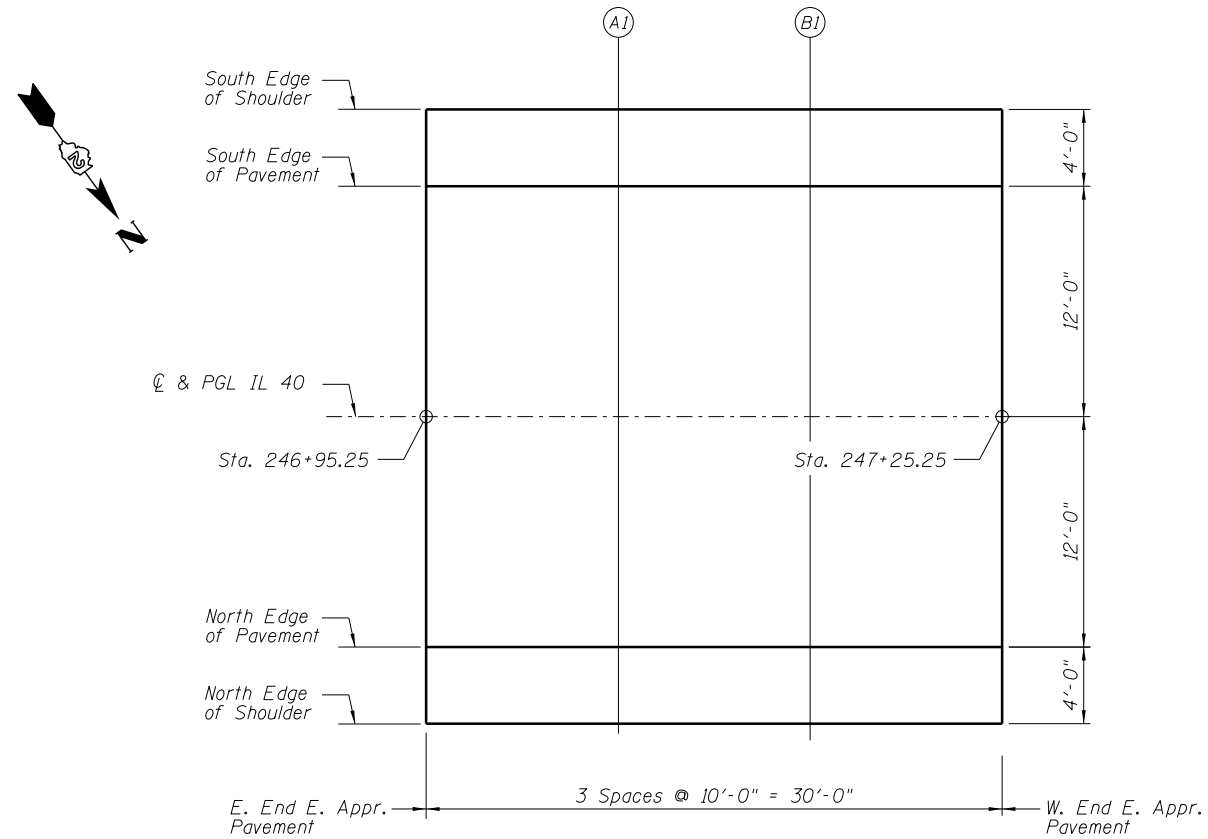
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS 2
 S.N. 008-0051**

SHEET NO. 4 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	27
CONTRACT NO. 64DB4				

ILLINOIS FED. AID PROJECT



PLAN FOR TOP OF SLAB ELEVATIONS

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End E. Appr. Pvmf.	246+95.25	-16.00	711.18
A1	247+05.25	-16.00	711.23
B1	247+15.25	-16.00	711.28
W. End E. Appr. Pvmf.	247+25.25	-16.00	711.33

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End E. Appr. Pvmf.	246+95.25	-12.00	711.26
A1	247+05.25	-12.00	711.31
B1	247+15.25	-12.00	711.36
W. End E. Appr. Pvmf.	247+25.25	-12.00	711.41

CL & PGL IL 40

Location	Station	Offset	Theoretical Grade Elevations
E. End E. Appr. Pvmf.	246+95.25	0.00	711.45
A1	247+05.25	0.00	711.50
B1	247+15.25	0.00	711.55
W. End E. Appr. Pvmf.	247+25.25	0.00	711.60

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End E. Appr. Pvmf.	246+95.25	12.00	711.26
A1	247+05.25	12.00	711.31
B1	247+15.25	12.00	711.36
W. End E. Appr. Pvmf.	247+25.25	12.00	711.41

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End E. Appr. Pvmf.	246+95.25	16.00	711.18
A1	247+05.25	16.00	711.23
B1	247+15.25	16.00	711.28
W. End E. Appr. Pvmf.	247+25.25	16.00	711.33

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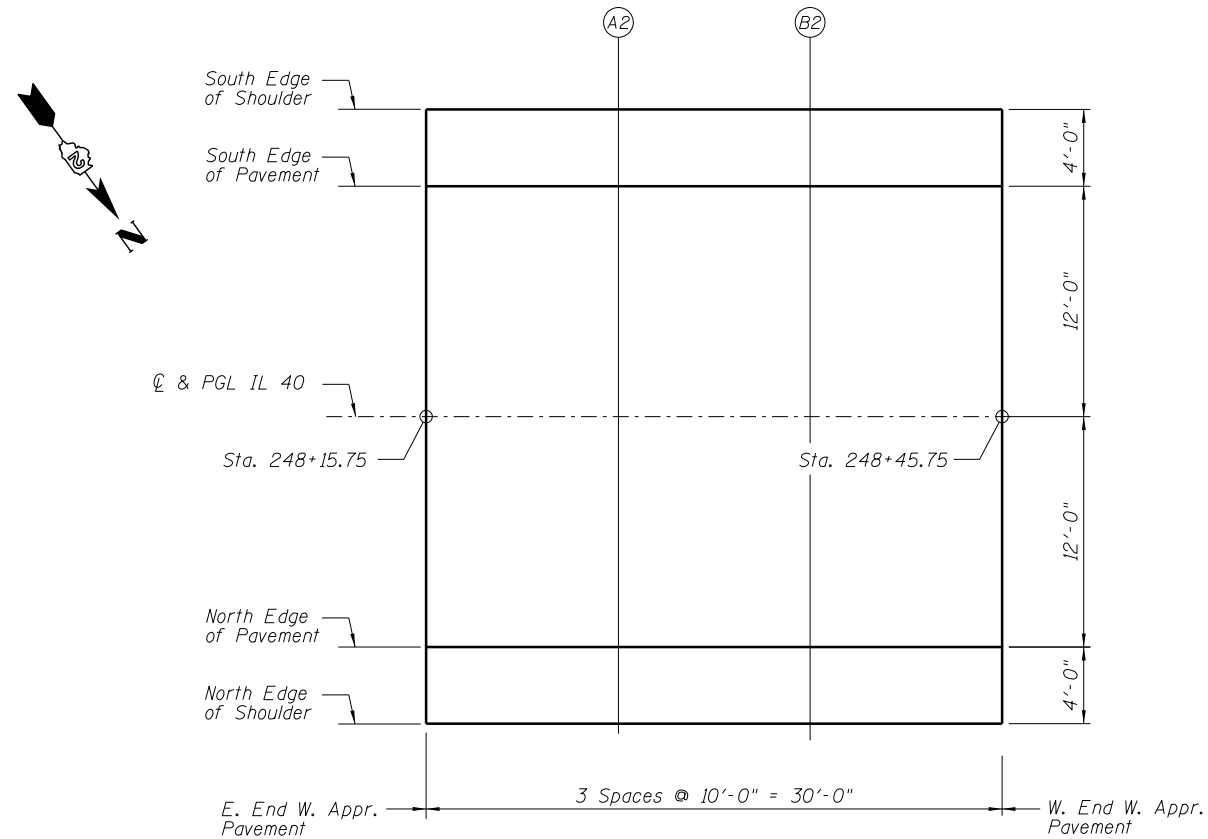
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PLOT DATE = 8/1/2013	CHECKED - PMM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST APPROACH TOP OF SLAB ELEVATIONS
S.N. 008-0051

SHEET NO. 5 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	28
CONTRACT NO. 64DB4				
ILLINOIS FED. AID PROJECT				



PLAN FOR TOP OF SLAB ELEVATIONS

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End W. Appr. Pvmt.	248+15.75	-16.00	711.79
A2	248+25.75	-16.00	711.84
B2	248+35.75	-16.00	711.90
W. End W. Appr. Pvmt.	248+45.75	-16.00	711.95

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End W. Appr. Pvmt.	248+15.75	-12.00	711.88
A2	248+25.75	-12.00	711.93
B2	248+35.75	-12.00	711.98
W. End W. Appr. Pvmt.	248+45.75	-12.00	712.03

CL & PGL IL 40

Location	Station	Offset	Theoretical Grade Elevations
E. End W. Appr. Pvmt.	248+15.75	0.00	712.06
A2	248+25.75	0.00	712.11
B2	248+35.75	0.00	712.17
W. End W. Appr. Pvmt.	248+45.75	0.00	712.22

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End W. Appr. Pvmt.	248+15.75	12.00	711.88
A2	248+25.75	12.00	711.93
B2	248+35.75	12.00	711.98
W. End W. Appr. Pvmt.	248+45.75	12.00	712.03

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End W. Appr. Pvmt.	248+15.75	16.00	711.79
A2	248+25.75	16.00	711.84
B2	248+35.75	16.00	711.90
W. End W. Appr. Pvmt.	248+45.75	16.00	711.95

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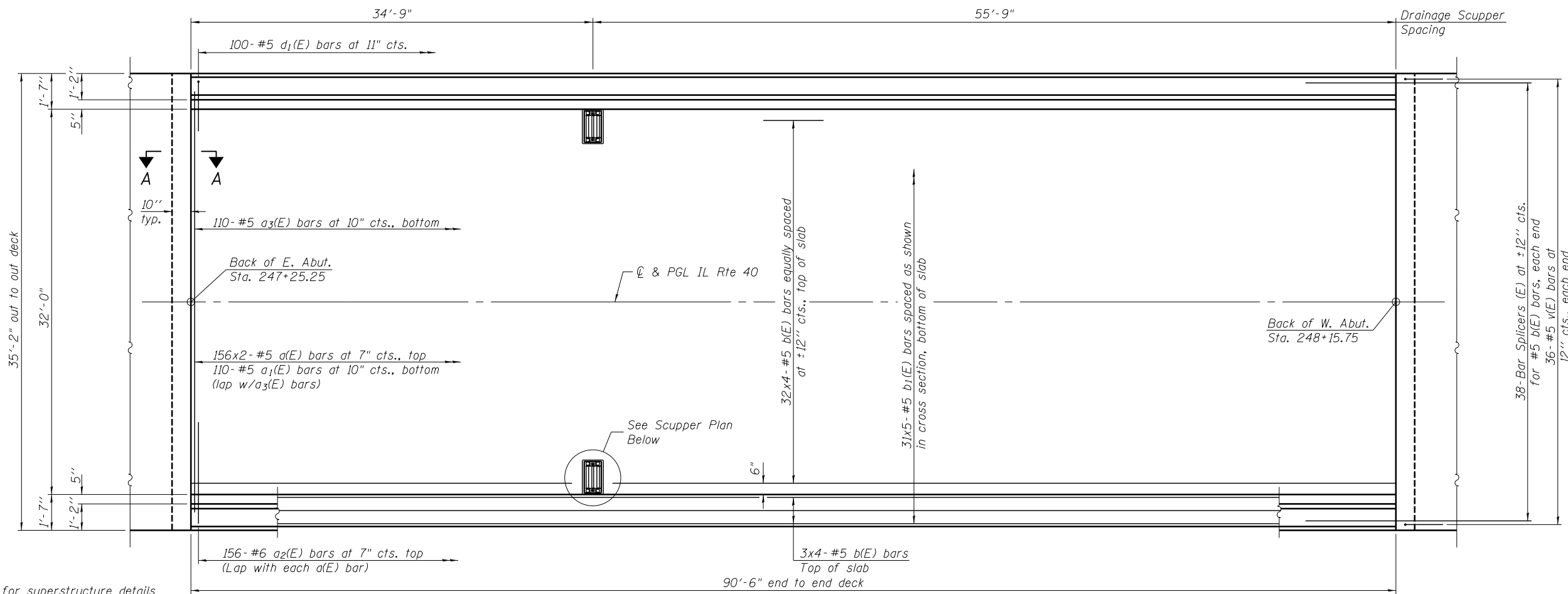
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PLOT DATE = 8/1/2013	CHECKED - PMM	REVISED -

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DEPARTMENT OF TRANSPORTATION

WEST APPROACH TOP OF SLAB ELEVATIONS
S.N. 008-0051

SHEET NO. 6 OF 19 SHEETS

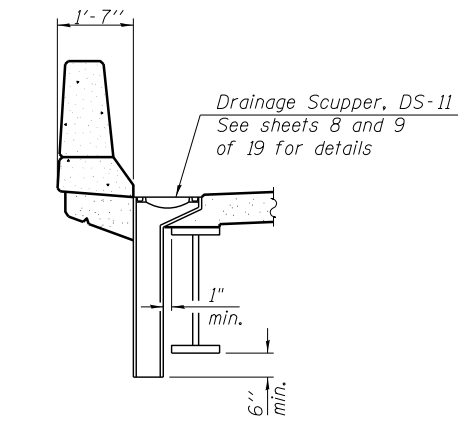
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	29
CONTRACT NO. 64DB4				
ILLINOIS FED. AID PROJECT				



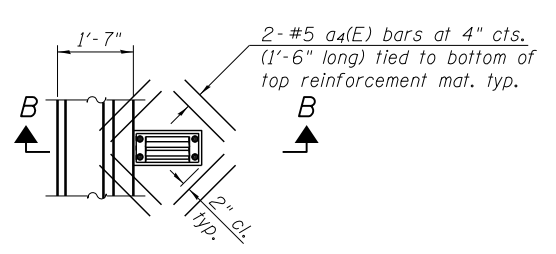
PLAN

Notes:
 See Sheet 8 of 19 for superstructure details and Bill of Material.
 Bars indicated thus 32 x 4- #5 etc. indicates 32 lines of bars with 4 lengths per line.
 See Sheet 8 of 19 for parapet reinforcement.
 See Sheet 9 of 19 for drainage scupper details.
 See Sheet 10 of 19 for Section A-A.

MIN. BAR LAP
 #5 Bar = 3'-3"

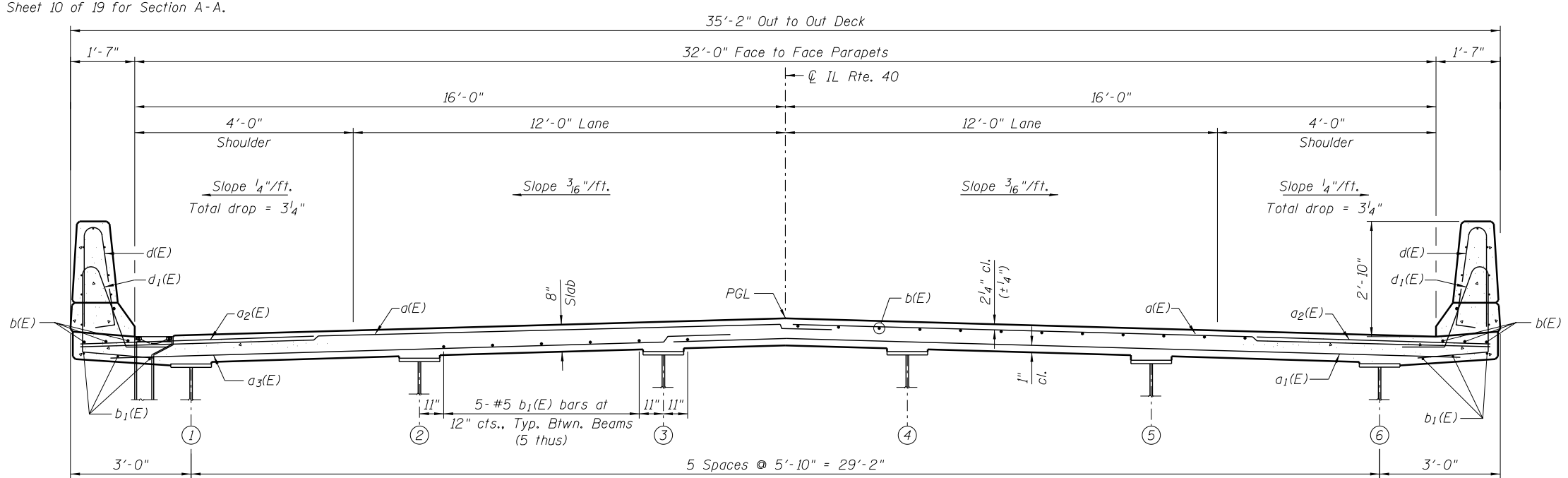


SECTION B-B



SCUPPER PLAN

Note:
 Cut longitudinal reinforcement to clear drainage scuppers.



CROSS SECTION
 (Looking West)

FILE NAME = ...64DB4-SN0080051-007-Superstructure.dgn



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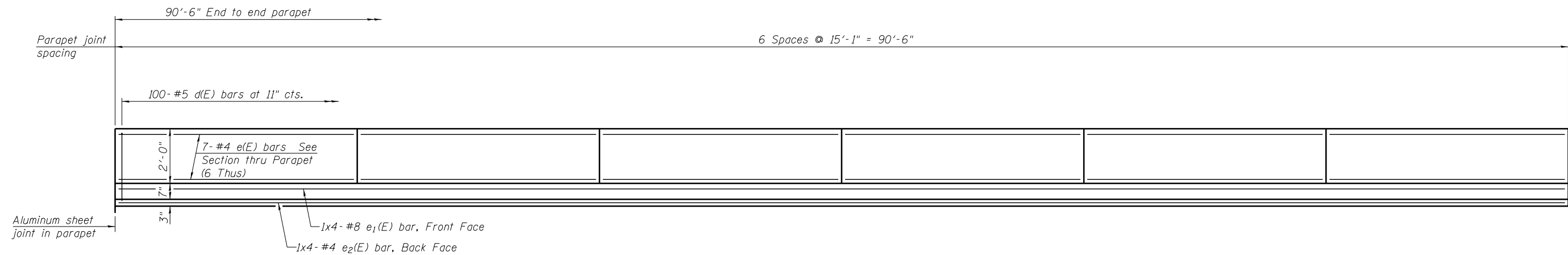
STATE OF ILLINOIS
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SUPERSTRUCTURE PLAN
 S.N. 008-0051

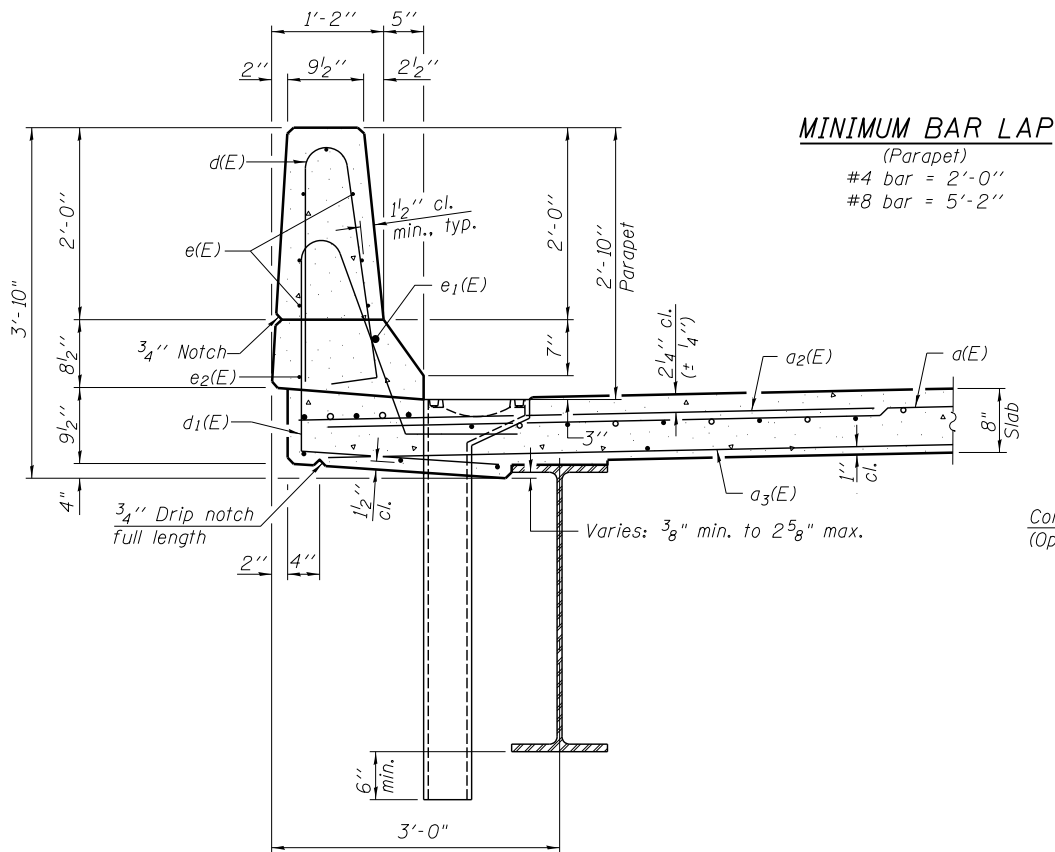
SHEET NO. 7 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	30
CONTRACT NO. 64DB4				

ILLINOIS FED. AID PROJECT

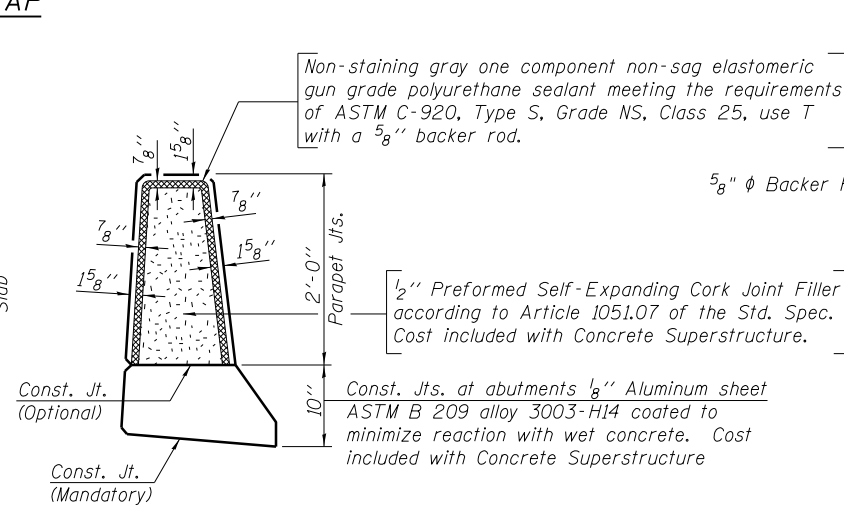


INSIDE ELEVATION OF PARAPET

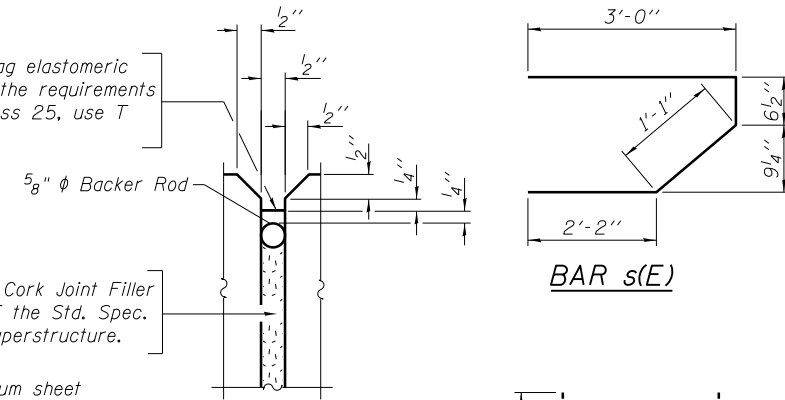


SECTION THRU PARAPET

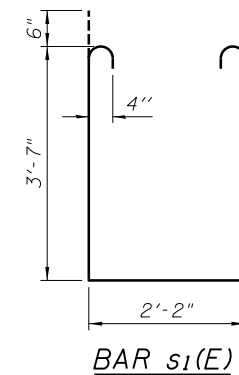
MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



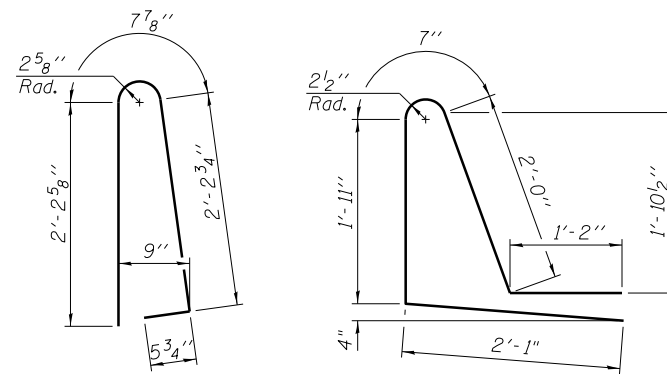
PARAPET JOINT DETAILS



BAR s(E)

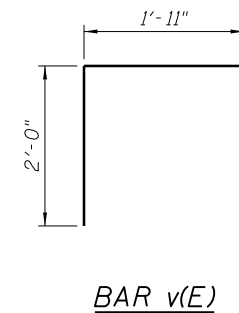


BAR s1(E)



BAR d(E)

BAR d1(E)



BAR v(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	312	#5	19'-0"	—
a1(E)	110	#5	21'-6"	—
a2(E)	312	#6	6'-6"	—
a3(E)	110	#5	15'-8"	—
a4(E)	16	#5	1'-6"	—
b(E)	152	#5	25'-1"	—
b1(E)	155	#5	20'-9"	—
d(E)	200	#5	5'-7"	┘
d1(E)	200	#5	7'-9"	┘
e(E)	84	#4	14'-9"	—
e1(E)	8	#8	26'-6"	—
e2(E)	8	#4	24'-2"	—
m(E)	20	#6	19'-3"	—
m1(E)	24	#6	8'-7"	—
m2(E)	10	#6	5'-7"	—
m3(E)	4	#6	2'-8"	—
s(E)	72	#5	6'-10"	┘
s1(E)	62	#4	10'-4"	┘
v(E)	72	#5	3'-11"	┘
Reinforcement Bars, Epoxy Coated		Pound	27,380	
Concrete Superstructure		Cu. Yds.	131.2	

Bars indicated thus: 1x4-#8 etc. indicates 1 line of bars with 4 lengths per line.

FILE NAME = ...E4DB4-SN0080051-008-SupDetails.dgn



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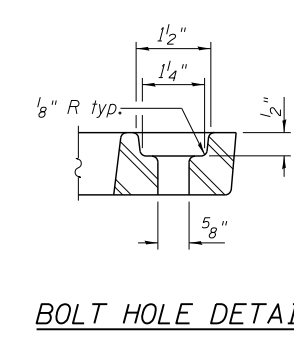
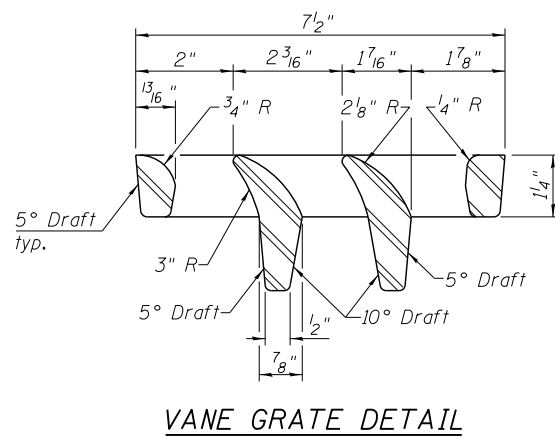
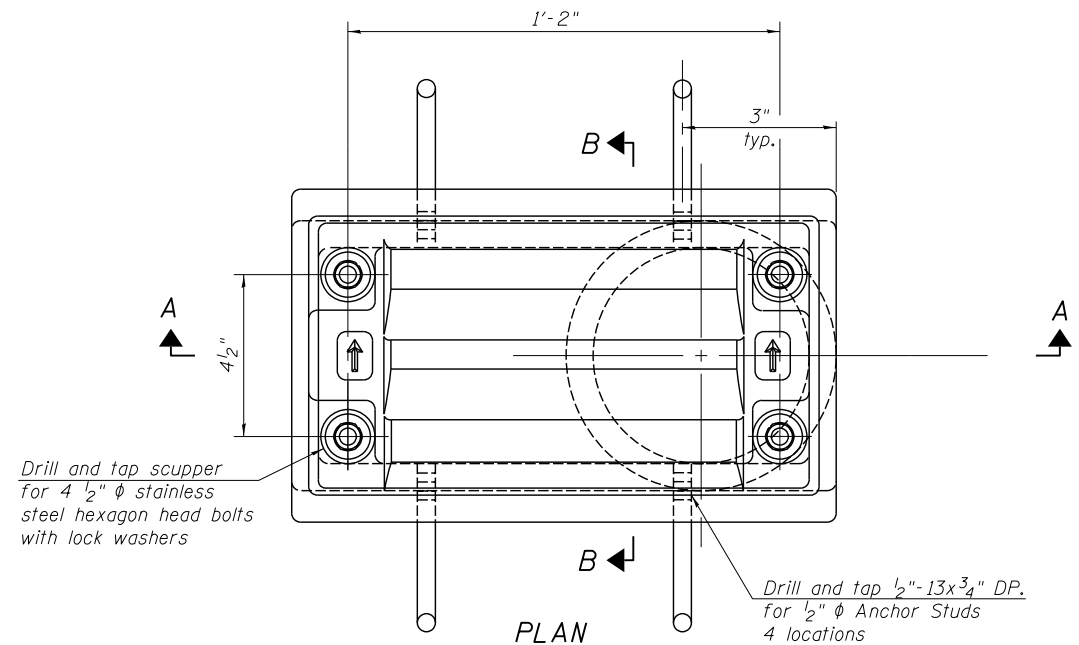
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
S.N. 008-0051

SHEET NO. 8 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	31
CONTRACT NO. 64DB4				

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Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

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

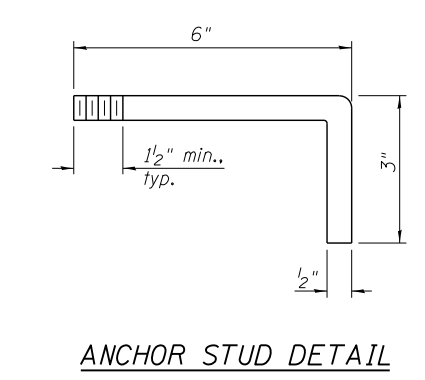
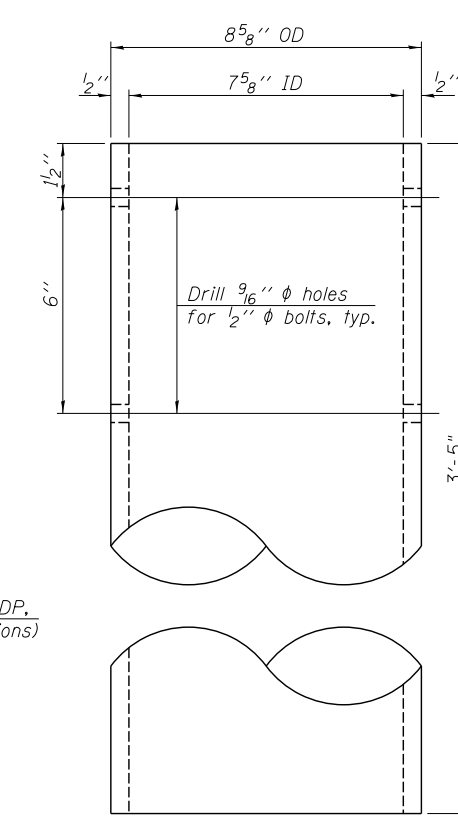
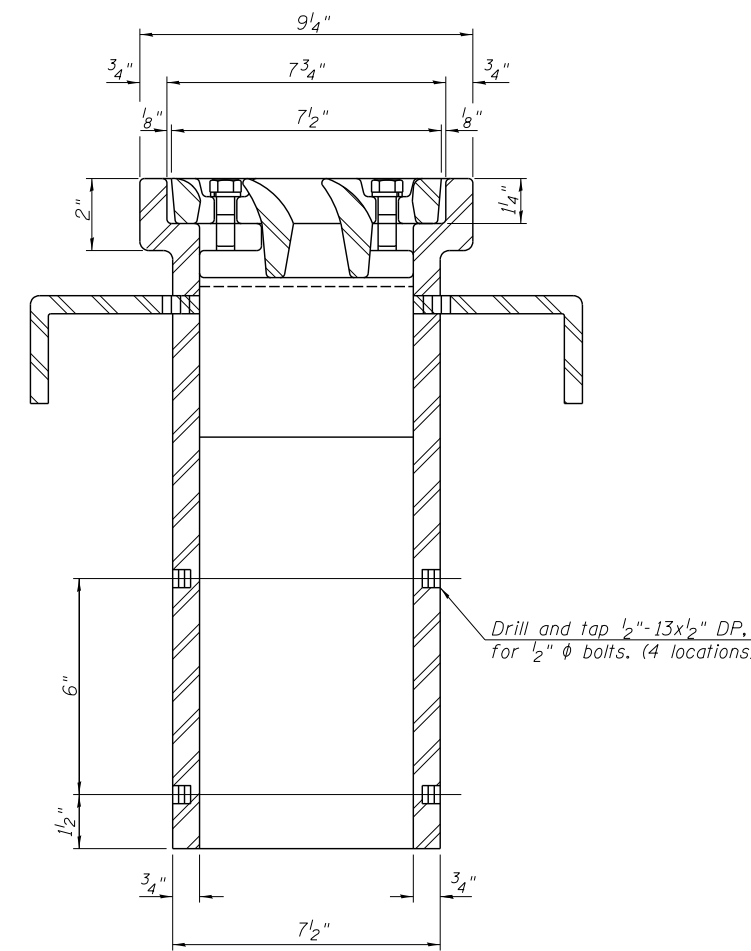
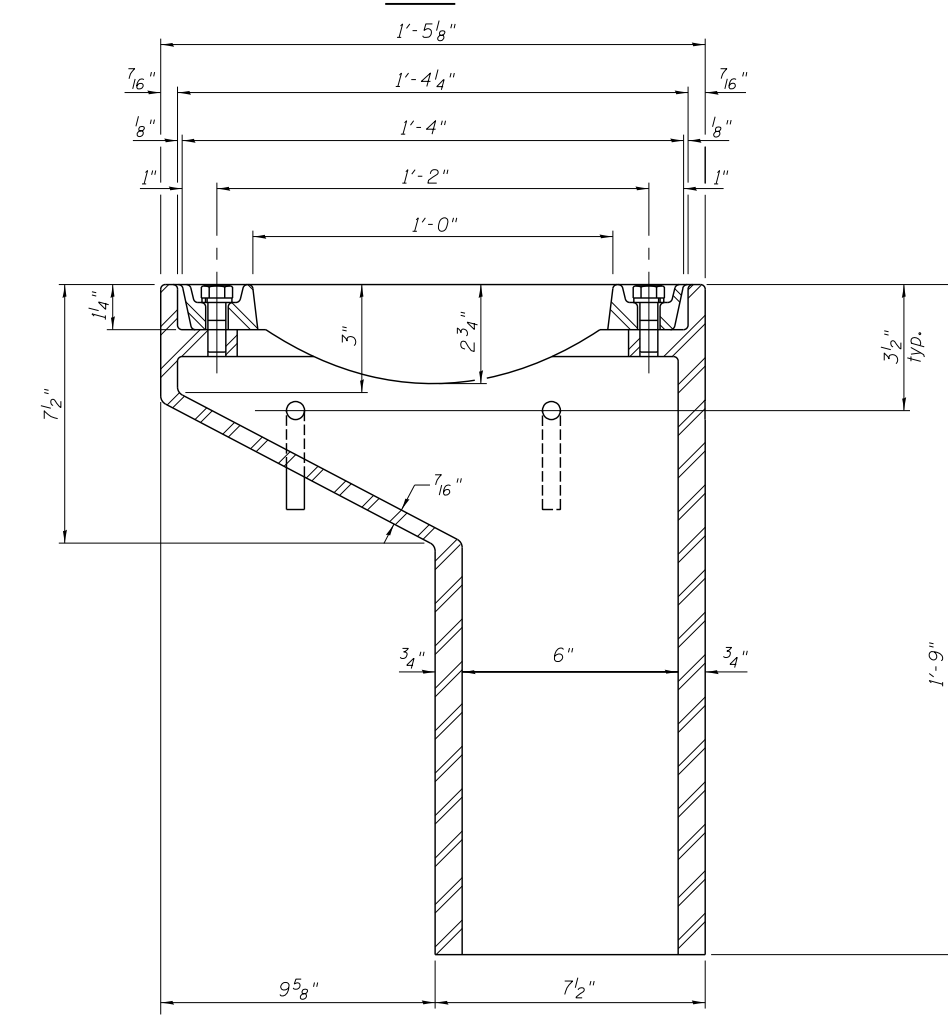
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

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

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

Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

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



See sheet 7 of 19 for scupper location relative to parapet.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	2

DS-11 7-1-10



USER NAME = SAW	DESIGNED - PMM	REVISED -
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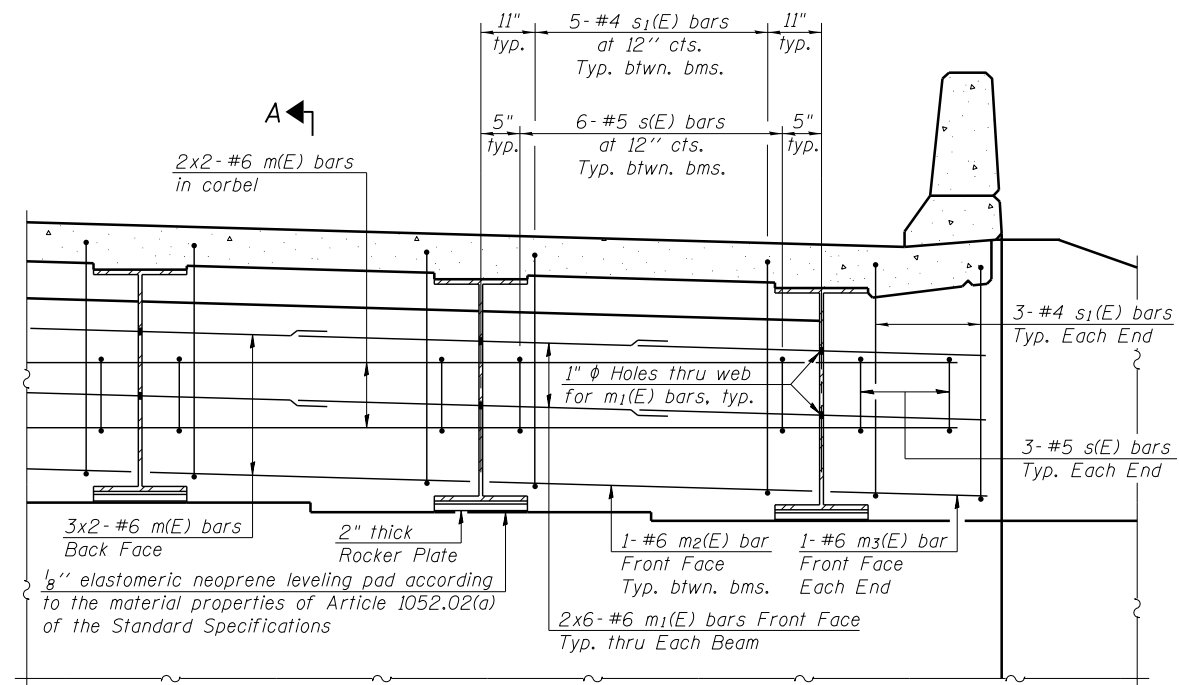
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
S.N. 008-0051

SHEET NO. 9 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	32
CONTRACT NO. 64DB4				
ILLINOIS FED. AID PROJECT				

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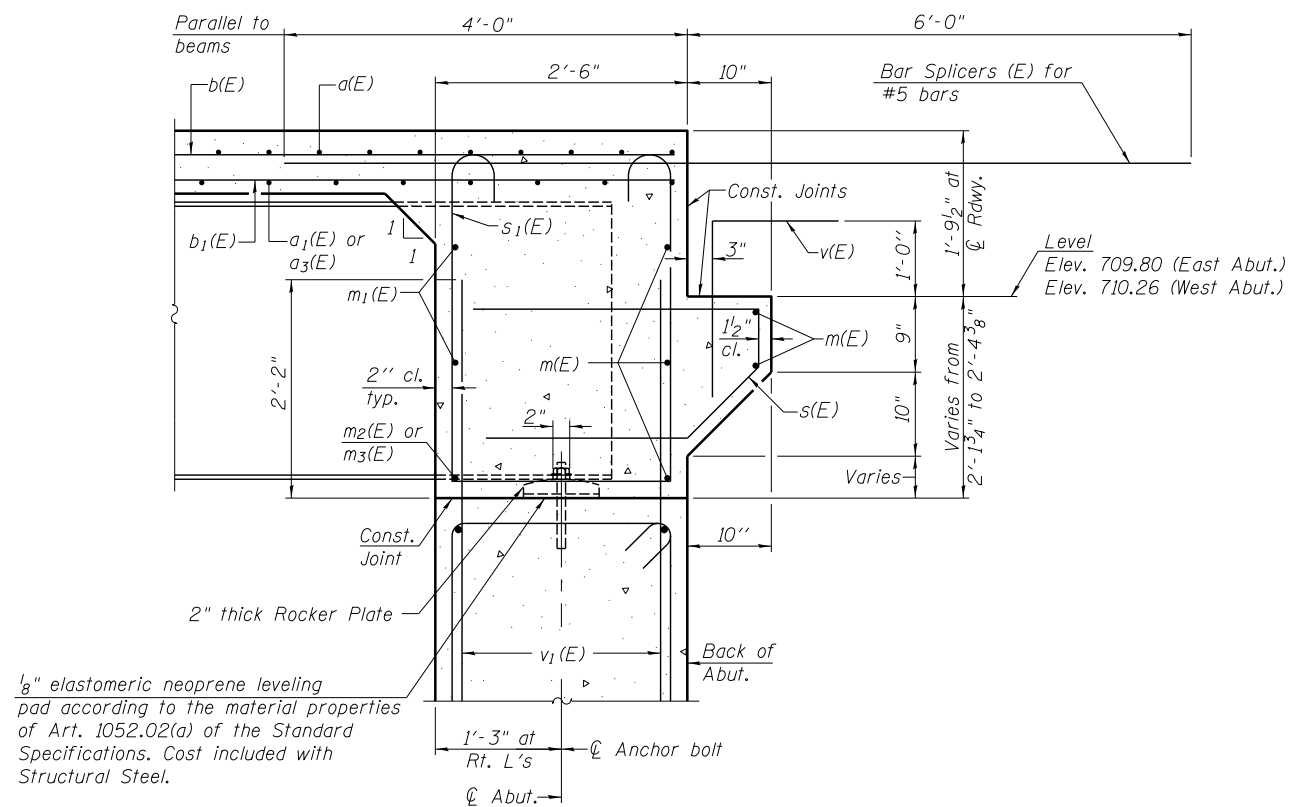
DIAPHRAGM ELEVATION AT ABUTMENT

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 19.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 19.
 For details of bars s(E) & s₁(E) see sheet 8 of 19.
 The s(E) and s₁(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
 Bars indicated thus: 2x6-#6 etc. indicates 2 lines of bars with 6 lengths per line.

MIN. BAR LAP

#6 bar = 3'-4"



SECTION A-A

Dimensions at right angles to abutment, except as shown.

FILE NAME = ...E4DB4-SN0080051-010-Diaphragm.dgn

SI-DS1

1-27-12



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PLOT DATE = 8/1/2013	CHECKED - PMM	REVISED -

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**INTEGRAL ABUTMENT DIAPHRAGM DETAILS
 S.N. 008-0051**

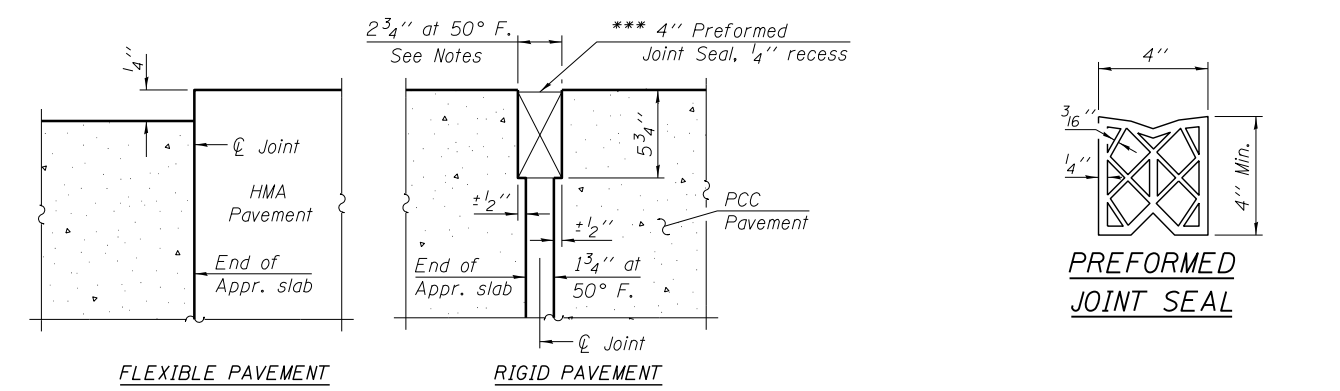
SHEET NO. 10 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	33
CONTRACT NO. 64DB4				

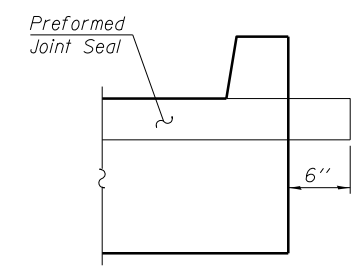
ILLINOIS FED. AID PROJECT

Notes:
 See sheet 12 of 19 for Sections C-C & D-D and View E-E.
 $a_{10}(E)$ and $a_{11}(E)$ bar spacings measured along \varnothing Rdwy.
 The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1'2" for installation purposes.

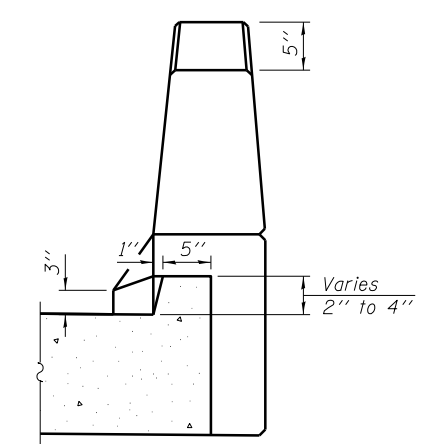
*** Cost included with Concrete Superstructure.



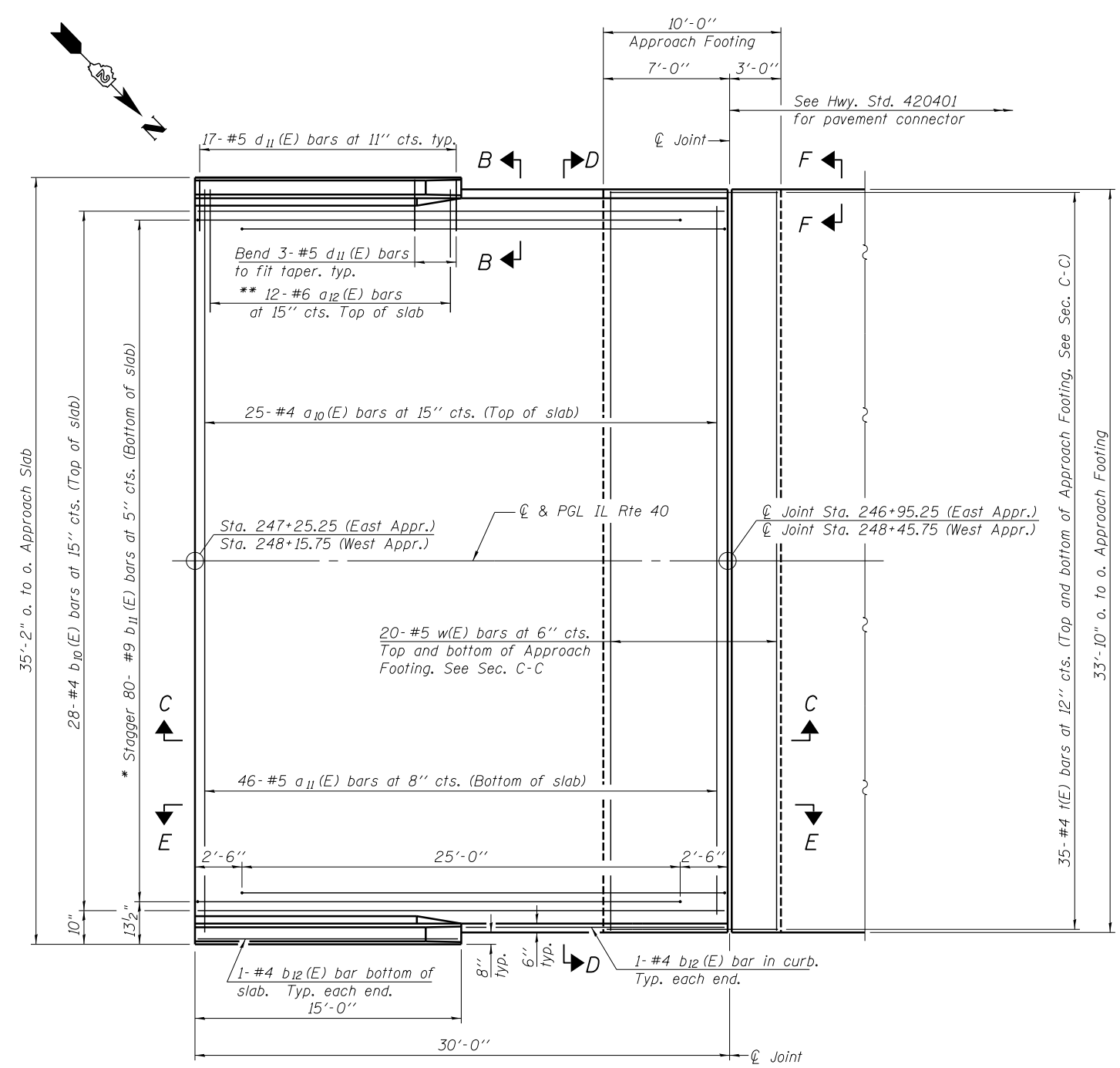
DETAIL A



VIEW F-F



VIEW B-B



PLAN

* Tilt #9 $b_{11}(E)$ bars as required to maintain clearance.
 ** Space between $a(E)$ bars, typ. ea. parapet.

FILE NAME = ...E4DB4-SN0080051-011-Appr-Slab1.dgn

BA-0 12-12-12



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 DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS 1
 S.N. 008-0051

SHEET NO. 11 OF 19 SHEETS

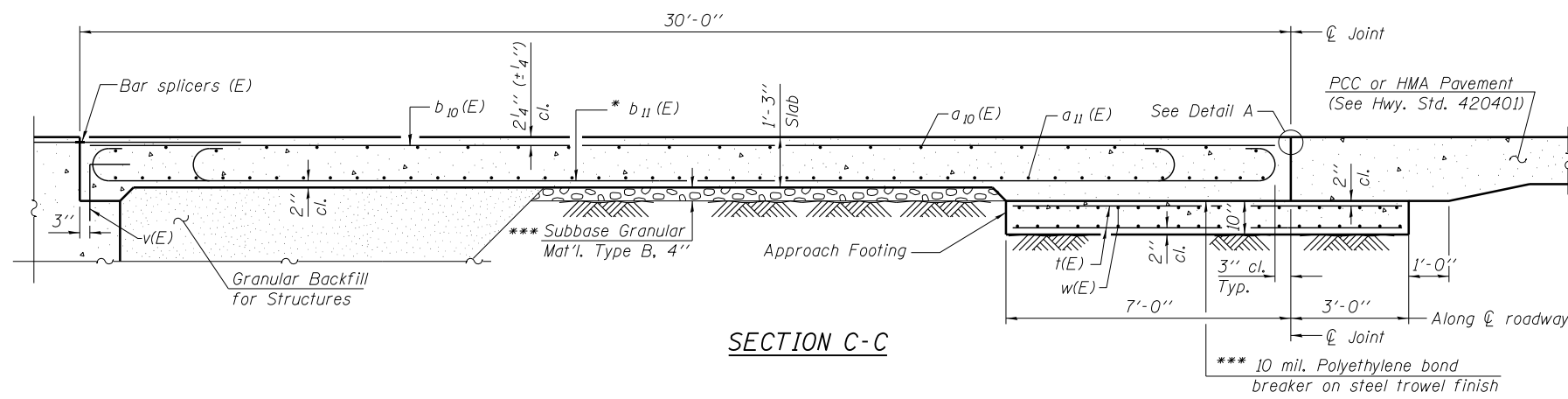
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	34
CONTRACT NO. 64DB4				

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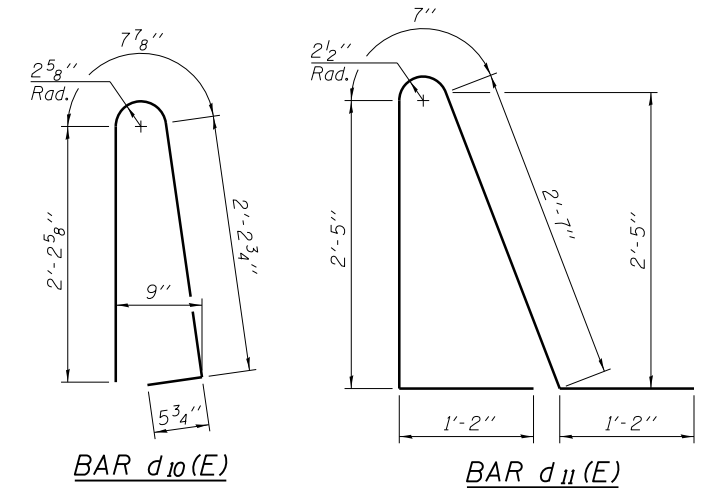
(Sheet 1 of 2)

Notes:

See sheet 11 of 19 for Detail A and View B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet 8 of 19.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 19.
 For additional parapet details, see sheet 8 of 19.



SECTION C-C

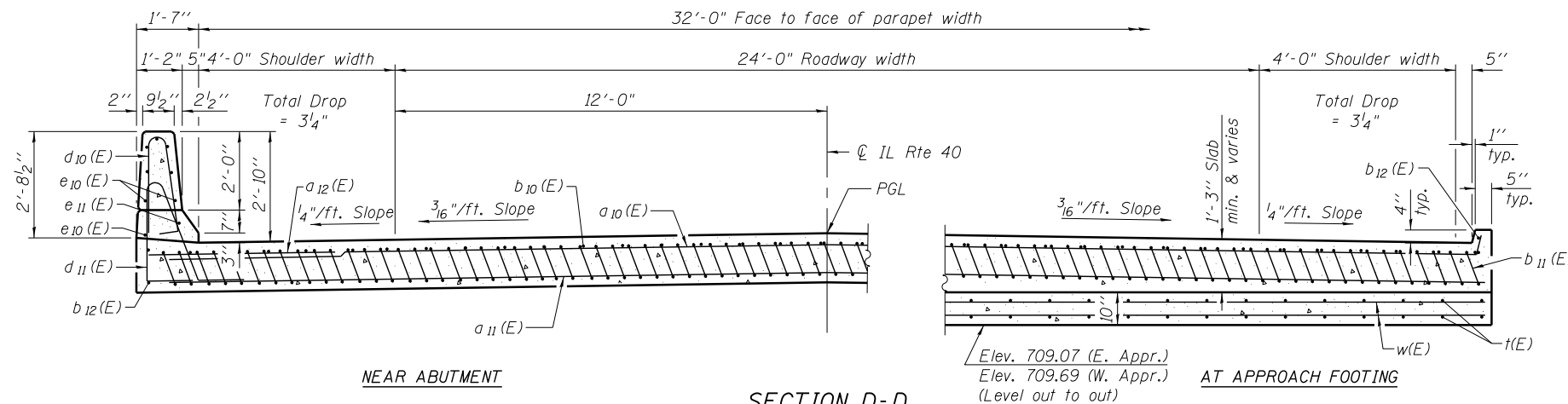


BAR d₁₀(E)

BAR d₁₁(E)

* Tilt #9 b₁₁(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

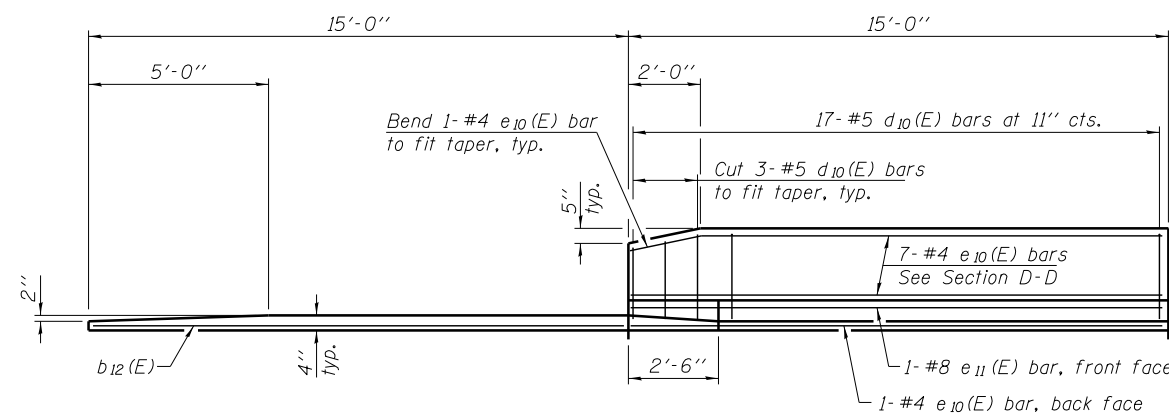


NEAR ABUTMENT

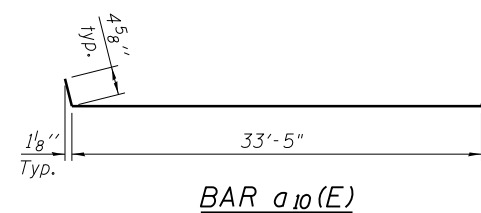
SECTION D-D

(See Plan for dimensions not shown)

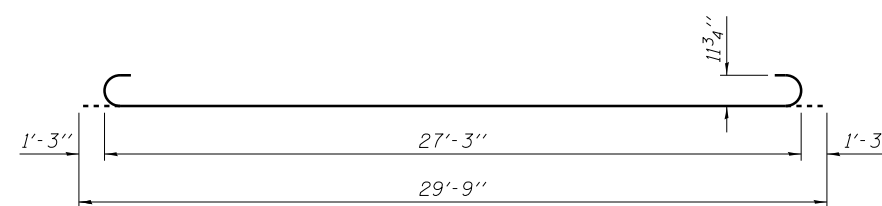
AT APPROACH FOOTING



VIEW E-E



BAR a₁₀(E)



BAR b₁₁(E)

TWO APPROACHES
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a ₁₀ (E)	50	#4	34'-3"	┌───┐
a ₁₁ (E)	92	#5	33'-6"	┌───┐
a ₁₂ (E)	48	#6	6'-6"	┌───┐
b ₁₀ (E)	56	#4	29'-8"	┌───┐
b ₁₁ (E)	160	#9	29'-9"	┌───┐
b ₁₂ (E)	8	#4	14'-8"	┌───┐
d ₁₀ (E)	68	#5	5'-7"	┌───┐
d ₁₁ (E)	68	#5	7'-11"	┌───┐
e ₁₀ (E)	32	#4	14'-8"	┌───┐
e ₁₁ (E)	4	#8	14'-8"	┌───┐
t(E)	140	#4	9'-8"	┌───┐
w(E)	80	#5	33'-6"	┌───┐
Concrete Superstructure			Cu. Yd.	109.8
Concrete Structures			Cu. Yd.	20.9
Reinforcement Bars, Epoxy Coated			Pound	27,330

(Sheet 2 of 2)

BRIDGE APPROACH SLAB DETAILS 2
 S.N. 008-0051

STATE OF ILLINOIS
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SHEET NO. 12 OF 19 SHEETS

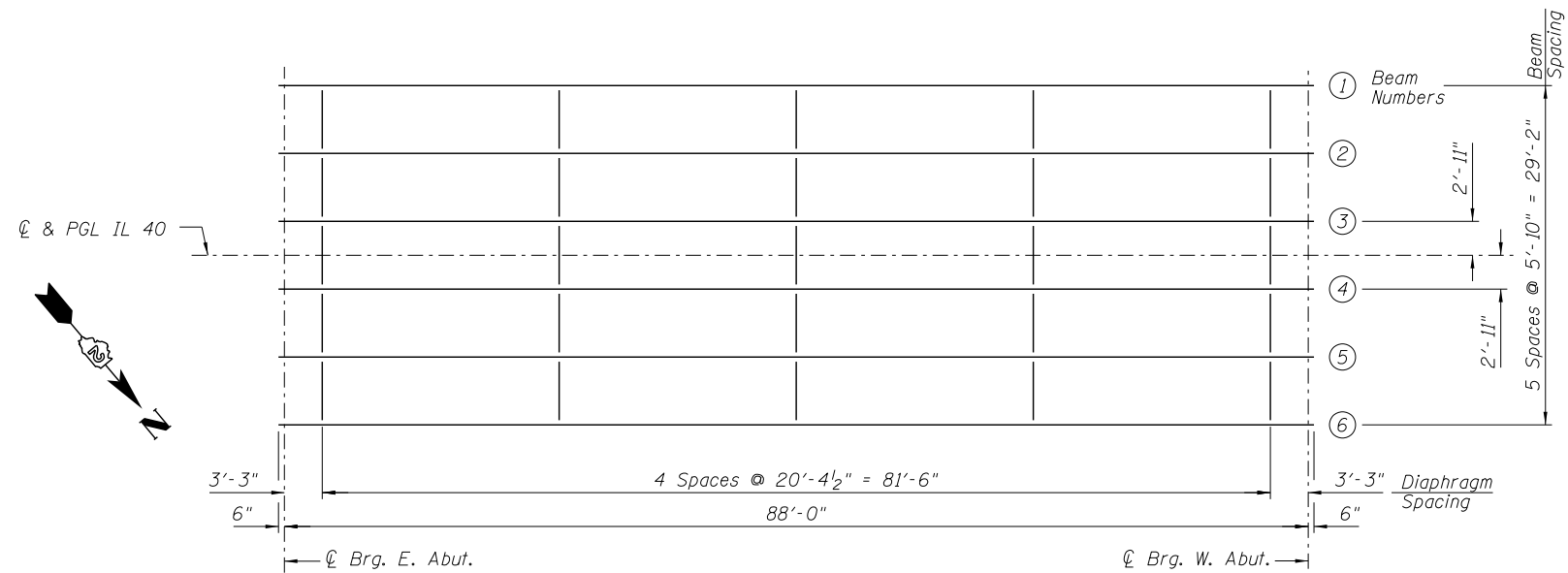
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	35
CONTRACT NO. 64DB4				

ILLINOIS FED. AID PROJECT

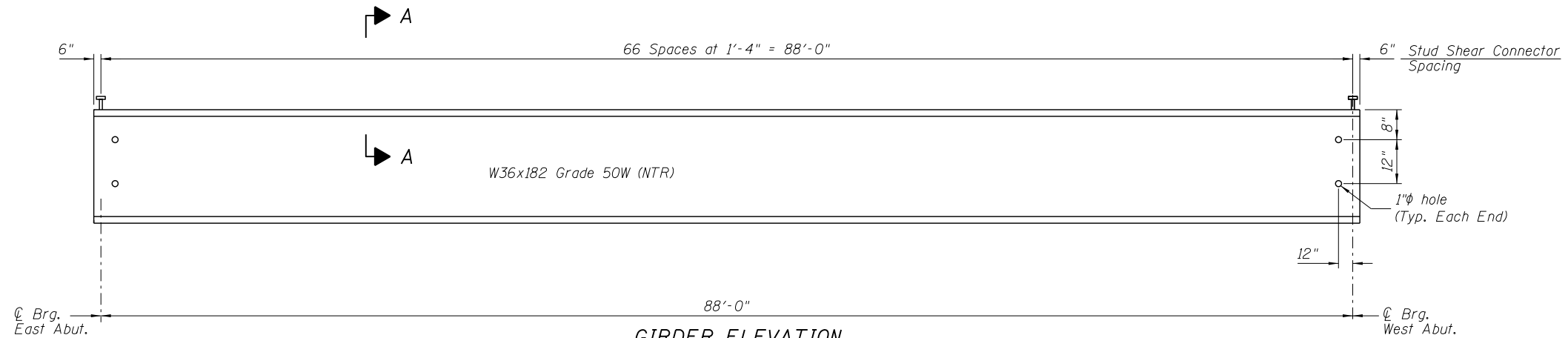
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ZROKA engineering
 Zroka Engineering, P.C.
 4216 North Hermitage
 Chicago, IL 60613

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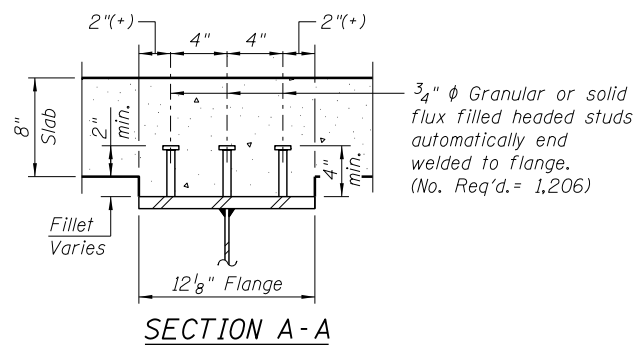


FRAMING PLAN



GIRDER ELEVATION

Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.



SECTION A-A

TOP OF BEAM ELEVATIONS

(For Fabrication Only)

Beam	CL Brg. E. Abut.	CL Brg. W. Abut.
1	710.66	711.11
2	710.76	711.21
3	710.85	711.30
4	710.85	711.30
5	710.76	711.21
6	710.66	711.11

Notes:

All dimensions are horizontal.

Work this sheet with Sheet 14 of 19.

Note:

All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

FILE NAME = ...64DB4-SN0080051-013-FramingPlan.dgn



Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = SAW	DESIGNED - PMM	REVISED -
PLOT SCALE = 0:2.0000 'ft' / in.	CHECKED - DAZ	REVISED -
PLOT DATE = 8/1/2013	DRAWN - SAW	REVISED -
	CHECKED - PMM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
S.N. 008-0051

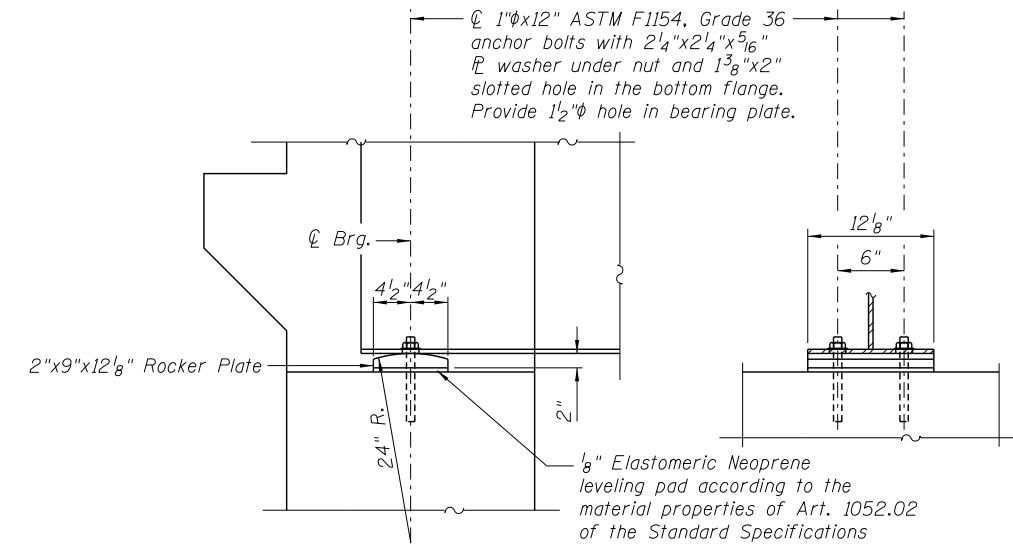
SHEET NO. 13 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	36
CONTRACT NO. 64DB4				
ILLINOIS FED. AID PROJECT				

INTERIOR GIRDER MOMENT TABLE		
		0.5 Sp. 1
I_s	(in ⁴)	11,300
$I_c(n)$	(in ⁴)	26,884
$I_c(3n)$	(in ⁴)	19,288
$I_c(cr)$	(in ⁴)	-
S_s	(in ³)	623
$S_c(n)$	(in ³)	877
$S_c(3n)$	(in ³)	782
$S_c(cr)$	(in ³)	-
DC1	(k/')	0.827
M _{DC1}	('k)	800
DC2	(k/')	0.150
M _{DC2}	('k)	142
DW	(k/')	0.27
M _{DW}	('k)	258
M _{ℓ + IM}	('k)	1,218
M _u (Strength I)	('k)	3,700
φ _r M _n	('k)	4,296
f _s DC1	(ksi)	10.9
f _s DC2	(ksi)	2.2
f _s DW	(ksi)	4.0
f _s (ℓ+IM)	(ksi)	16.7
f _s (Service II)	(ksi)	38.8
0.95R _n F _{yf}	(ksi)	47.5
f _s (Total)(Strength I)	(ksi)	-
φ _r F _n	(ksi)	-
V _f	(k)	24.3

INTERIOR GIRDER REACTION TABLE		
		Abut.
R _{DC1}	(k)	36.4
R _{DC2}	(k)	6.6
R _{DW}	(k)	11.7
R _{ℓ + IM}	(k)	74.9
R _{Total}	(k)	129.6

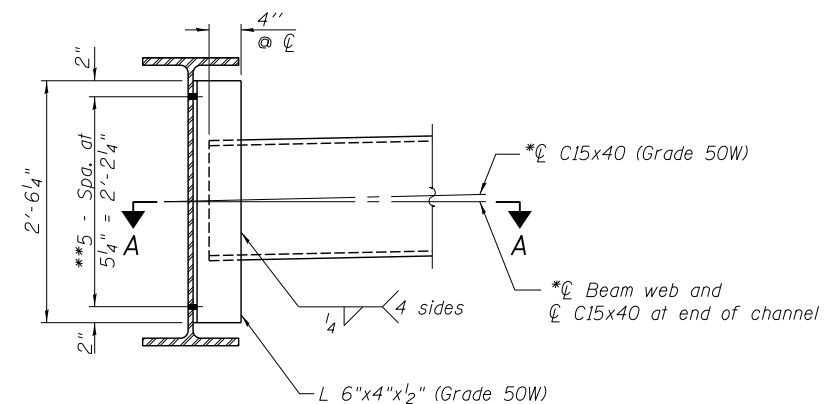
- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- $I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).
- DC1: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
M_{ℓ + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
M_u (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{ℓ + IM}
φ_rM_n: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_c
f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
M_{DC2} / S_c(3n) or M_{DC2} / S_c(cr) as applicable.
f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
M_{DW} / S_c(3n) or M_{DW} / S_c(cr) as applicable.
f_s (ℓ+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
M_{ℓ + IM} / S_c(n) or M_{DW} / S_c(cr) as applicable.
f_s (Service II): Sum of stresses as computed below (ksi).
f_sDC1 + f_sDC2 + f_sDW + 1.3 f_s(ℓ + IM)
0.95R_nF_{yf}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (f_sDC1 + f_sDC2) + 1.5 f_sDW + 1.75 f_s(ℓ + IM)
φ_rF_n: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
V_f: Maximum factored shear range in span computed according to Article 6.10.10.



ABUTMENT BEARING DETAILS

Notes:

- Anchor bolts shall be ASTM F1554, Grade 36 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- All plates and pintles of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.

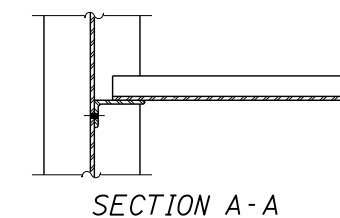


INTERIOR DIAPHRAGM

(25 Required)

Notes:

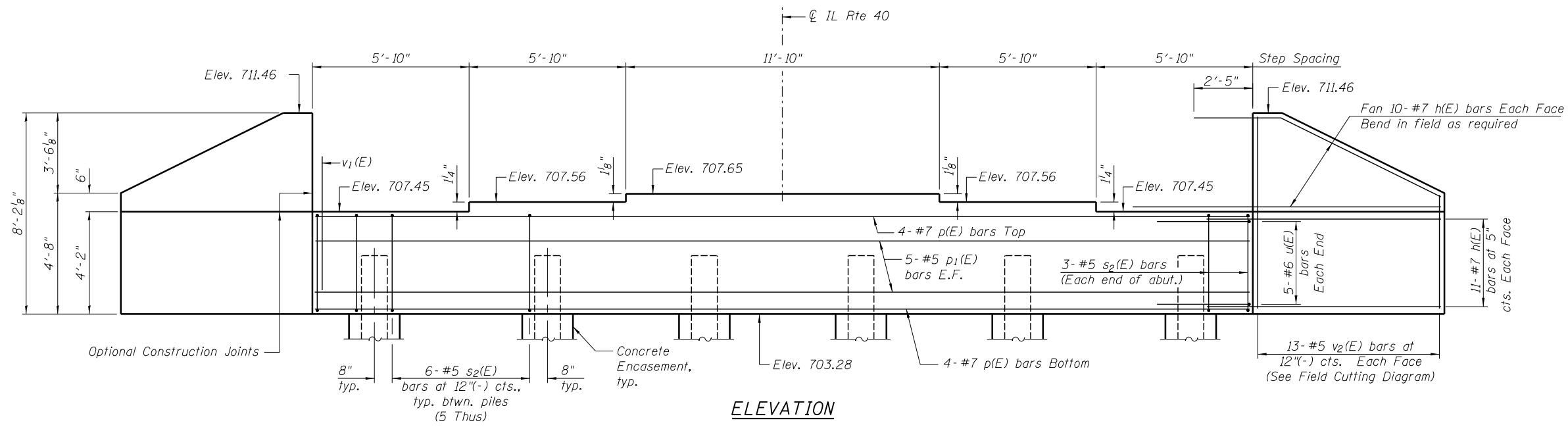
- Two hardened washers required for each set of oversized holes.
- *Alternate channels C15X50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
- The alternate, if utilized, shall be provided at no additional cost to the Department.
- **3/4" HS bolts, 1 5/16" φ holes.



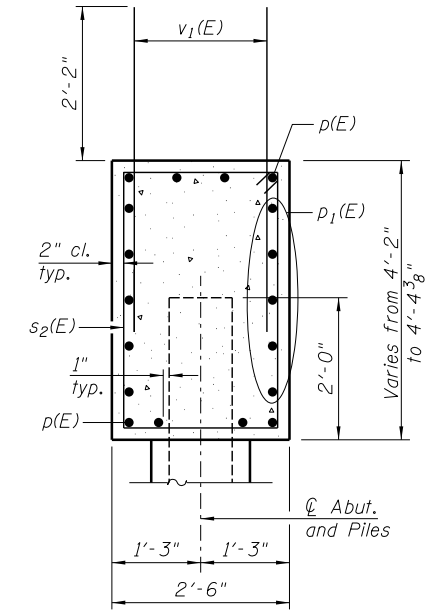
BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	24

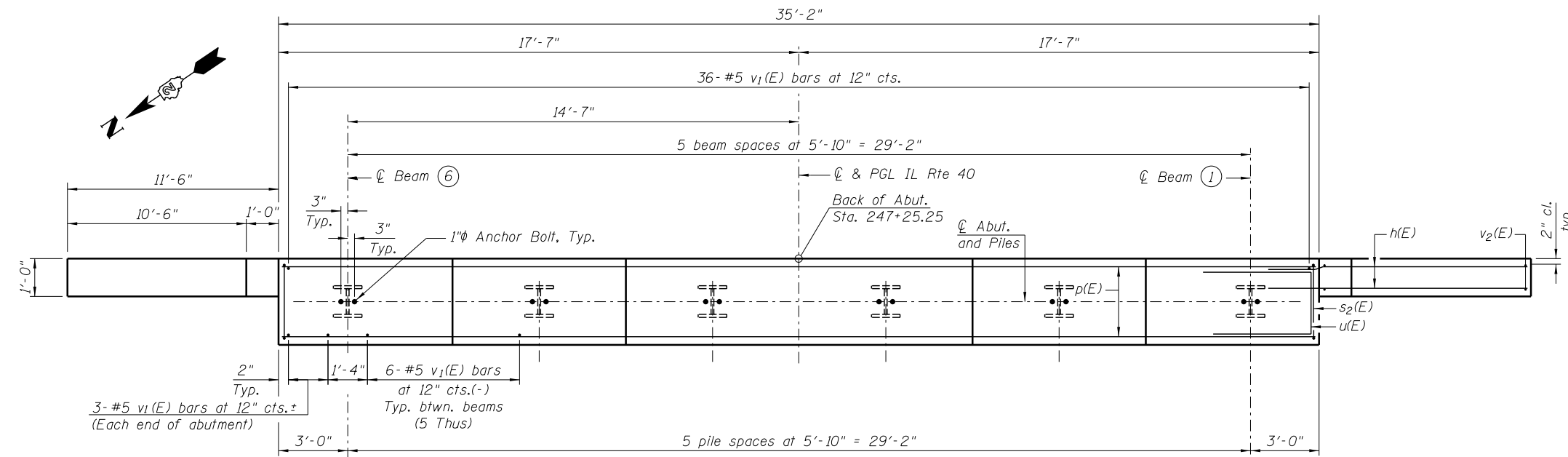
Notes:
Pour steps monolithically with cap.



ELEVATION



SEC. THRU ABUT.



PLAN

BILL OF MATERIAL

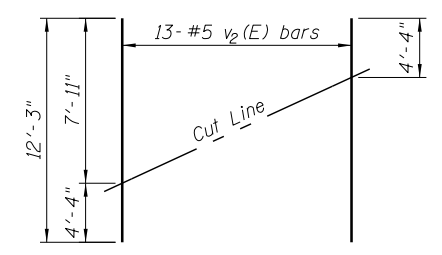
Bar	No.	Size	Length	Shape
h(E)	84	#7	14'-7"	—
p(E)	8	#7	34'-10"	—
p1(E)	10	#5	34'-10"	—
s2(E)	36	#5	12'-11"	□
u(E)	10	#6	12'-5"	⊏
v1(E)	72	#5	4'-4"	—
v2(E)	26	#5	12'-3"	—
Structure Excavation			Cu. Yd.	68
Concrete Structures			Cu. Yd.	19.4
Concrete Encasement			Cu. Yd.	2.0
Reinforcement Bars, Epoxy Coated			Pound	4,770
Furnishing Steel Piles, HP 12x53			Foot	150
Driving Piles			Foot	150
Pile Shoes			Each	6
Test Pile Steel, HP 12x53			Each	1

For details of HP piles, see sheet 18 of 19.

Space reinforcement in cap to miss anchor bolts.

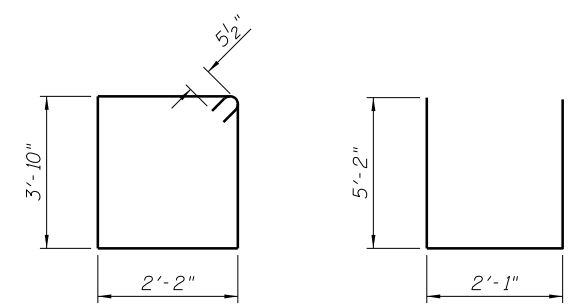
For Section Thru Abutment showing drainage, see sheet 2 of 19.

PILE DATA
Type: HP 12x53 with pile shoes
Nominal Required Bearing: 419k
Factored Resistance Available: 230k
Est. Length: 30.0 ft.
No. Production Piles: 5
No. Test Piles: 1



FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E) BAR u(E)

FILE NAME = ...64DB4-SN0080051-015-EastAbut.dgn

AI-0 7-1-10



USER NAME = SAW	DESIGNED - PMM	REVISED -
PLOT SCALE = 0:2.0000 '1' / in.	CHECKED - DAZ	REVISED -
PLOT DATE = 10/7/2013	DRAWN - SAW	REVISED -
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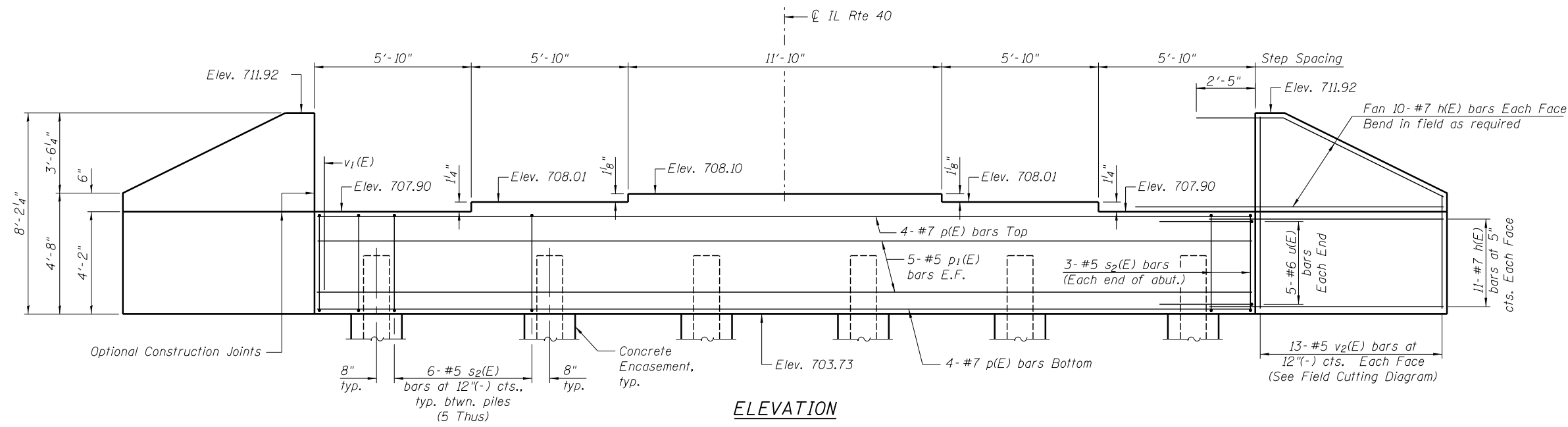
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
S.N. 008-0051

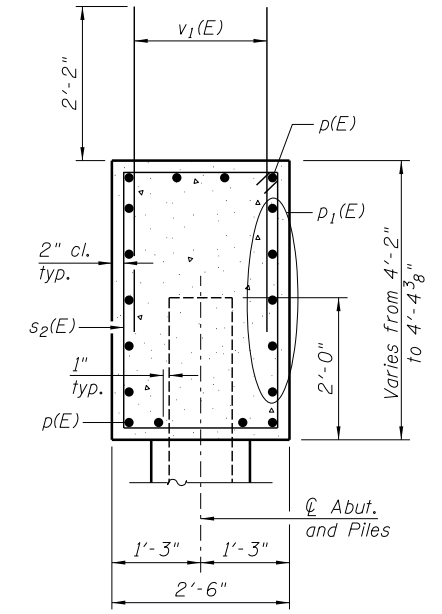
SHEET NO. 15 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	38
			CONTRACT NO. 64DB4	
ILLINOIS FED. AID PROJECT				

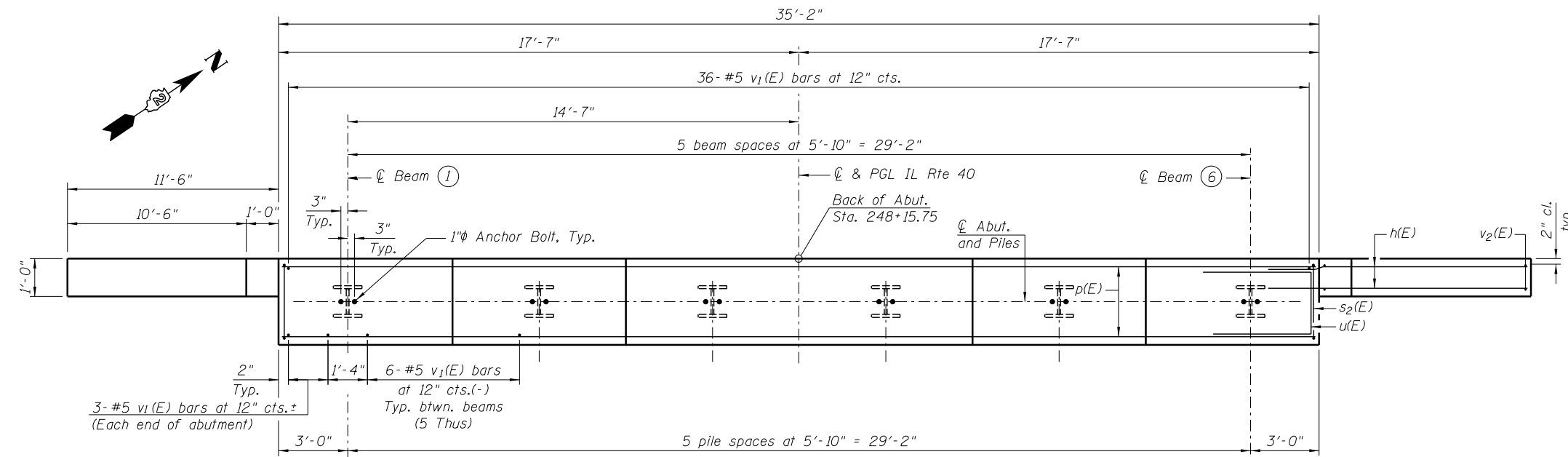
Notes:
Pour steps monolithically with cap.



ELEVATION



SEC. THRU ABUT.



PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	84	#7	14'-7"	—
p(E)	8	#7	34'-10"	—
p1(E)	10	#5	34'-10"	—
s2(E)	36	#5	12'-11"	□
u(E)	10	#6	12'-5"	⊏
v1(E)	72	#5	4'-4"	—
v2(E)	26	#5	12'-3"	—
Structure Excavation			Cu. Yd.	52
Concrete Structures			Cu. Yd.	18.7
Concrete Encasement			Cu. Yd.	2.0
Reinforcement Bars, Epoxy Coated			Pound	4,770
Furnishing Steel Piles, HP 12x53			Foot	125
Driving Piles			Foot	125
Pile Shoes			Each	6
Test Pile Steel, HP 12x53			Each	1

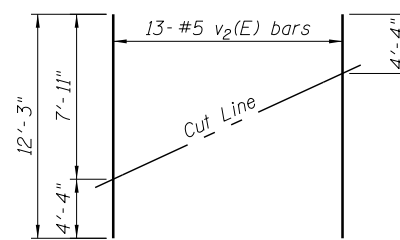
For details of HP piles, see sheet 18 of 19.

Space reinforcement in cap to miss anchor bolts.

For Section Thru Abutment showing drainage, see sheet 2 of 19.

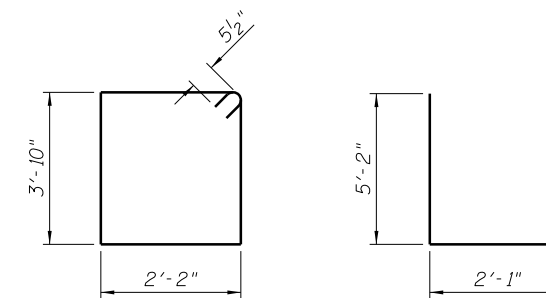
PILE DATA

Type: HP 12x53 with pile shoes
Nominal Required Bearing: 419k
Factored Resistance Available: 230k
Est. Length: 25.0 ft.
No. Production Piles: 5
No. Test Piles: 1



FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)

BAR u(E)

AI-0 7-1-10



USER NAME = SAW	DESIGNED - PMM	REVISED -
PLOT SCALE = 0:2.0000 '1' / in.	CHECKED - DAZ	REVISED -
PLOT DATE = 10/7/2013	DRAWN - SAW	REVISED -
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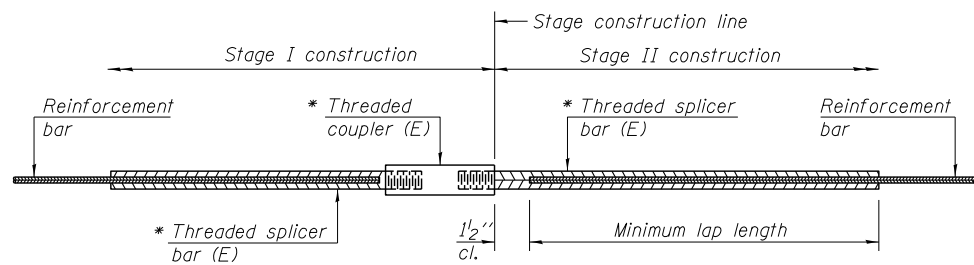
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT
S.N. 008-0051**

SHEET NO. 16 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	39
			CONTRACT NO. 64D84	
ILLINOIS FED. AID PROJECT				

FILE NAME = ...64D84-SN0080051-016-WestAbut.dgn



STANDARD BAR SPLICER ASSEMBLY

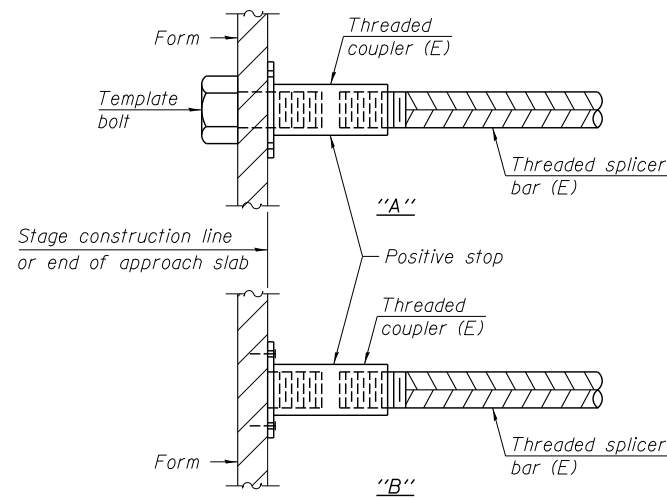
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

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

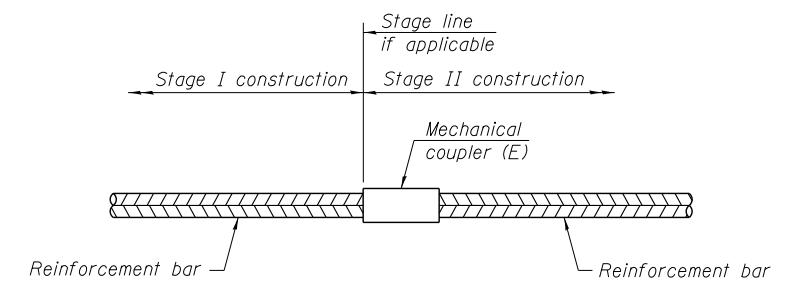
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



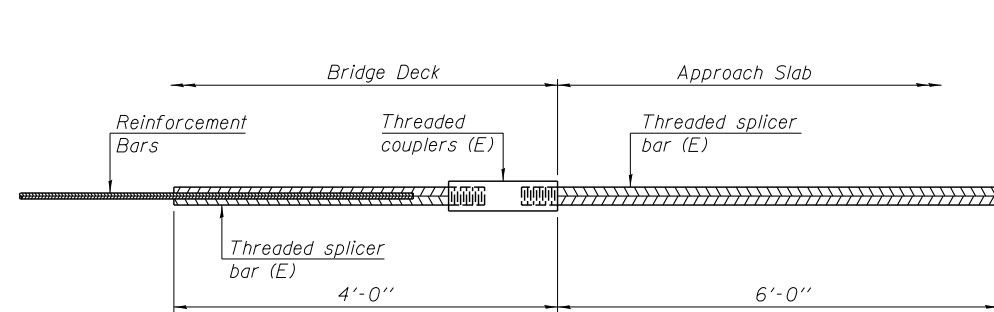
INSTALLATION AND SETTING METHODS

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



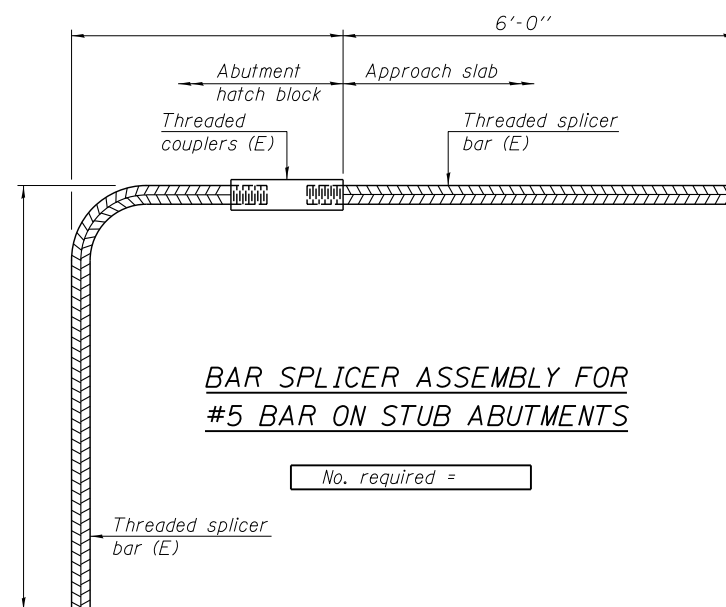
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. required = 76



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 approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-27-12



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 Chicago, IL 60613

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STATE OF ILLINOIS
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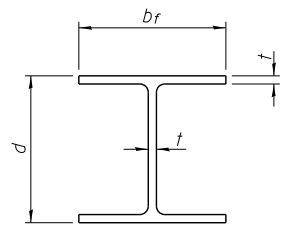
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 S.N. 008-0051

SHEET NO. 17 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	40
CONTRACT NO. 64D84				

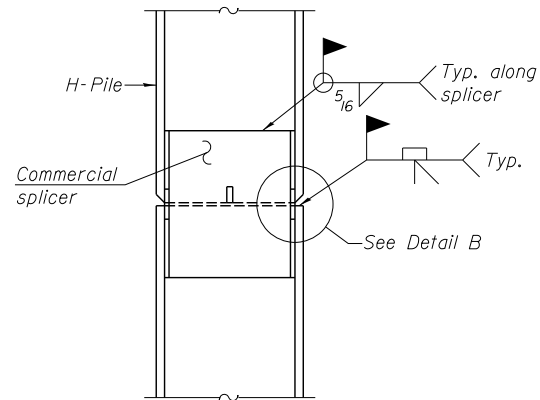
ILLINOIS FED. AID PROJECT

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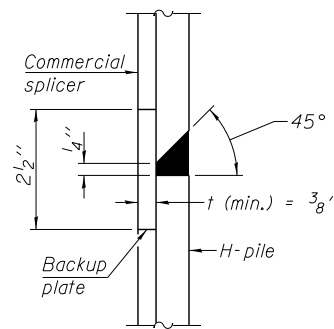


STEEL PILE TABLE

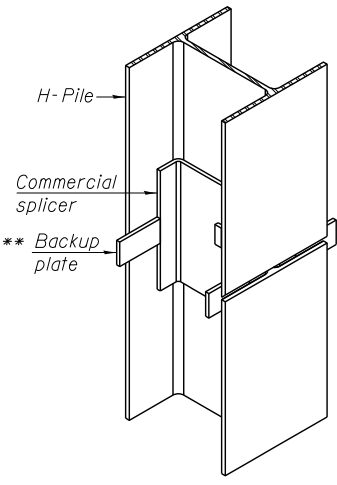
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

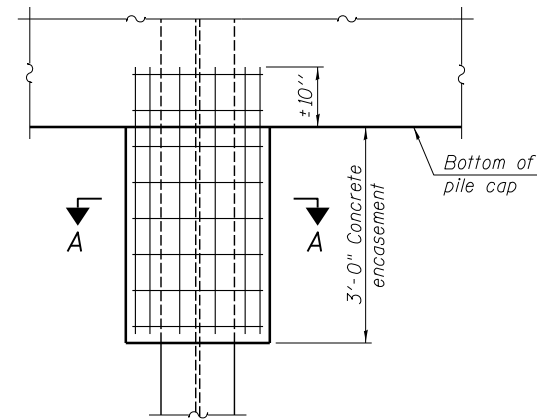


DETAIL "B"



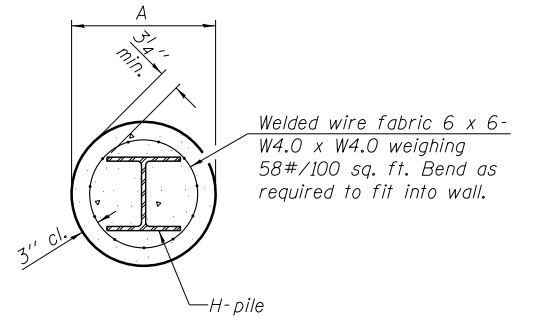
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



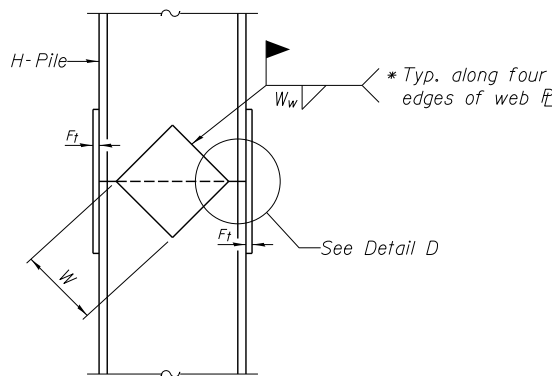
ELEVATION

PILE ENCASEMENT

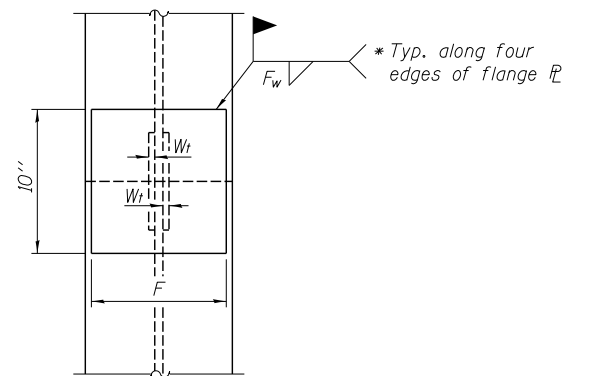


SECTION A-A

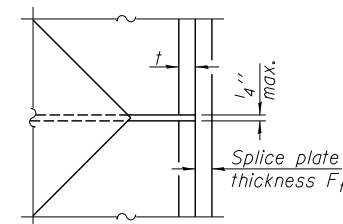
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



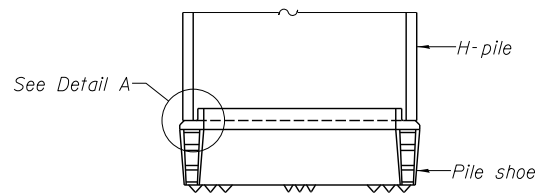
END VIEW



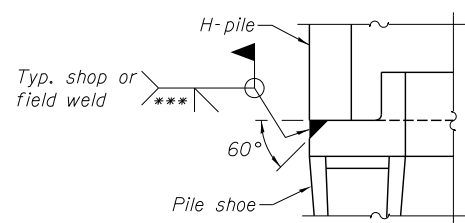
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

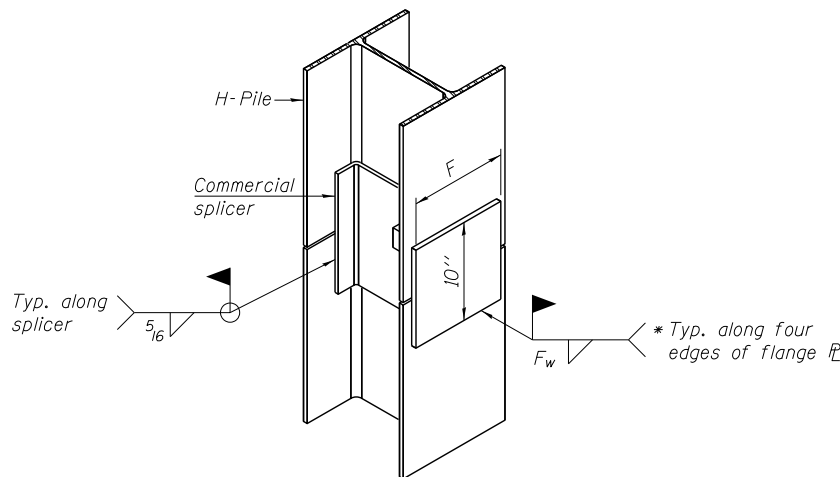


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

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

FILE NAME = ...E4DB4-SN0080051-018-HPF.1.es.dgn

F-HP 1-27-12



Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = SAW	DESIGNED - PMM	REVISED -
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PLOT DATE = 8/1/2013	CHECKED - PMM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
S.N. 008-0051

SHEET NO. 18 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	41
CONTRACT NO. 64DB4				

ILLINOIS FED. AID PROJECT

SOIL BORING B-1

SOIL BORING B-1b

SOIL BORING B-2

Wang Engineering
 wangeng@wangeng.com
 1145 N Main Street
 Lombard, IL 60148
 Telephone: 630 953-9928
 Fax: 630 953-9938

BORING LOG B-1
 WEI Job No.: 703-01-01
 Client: **Zroka Engineering, P.C.**
 Project: **IL RTE 40 Bridge over Otter Creek**
 Location: **Carroll County, IL**

Datum: NGVD
 Elevation: 701.39 ft
 North: 1933347.84 ft
 East: 2393519.45 ft
 Station: 248+21.41
 Offset: 35.0 LT

Wang Engineering
 wangeng@wangeng.com
 1145 N Main Street
 Lombard, IL 60148
 Telephone: 630 953-9928
 Fax: 630 953-9938

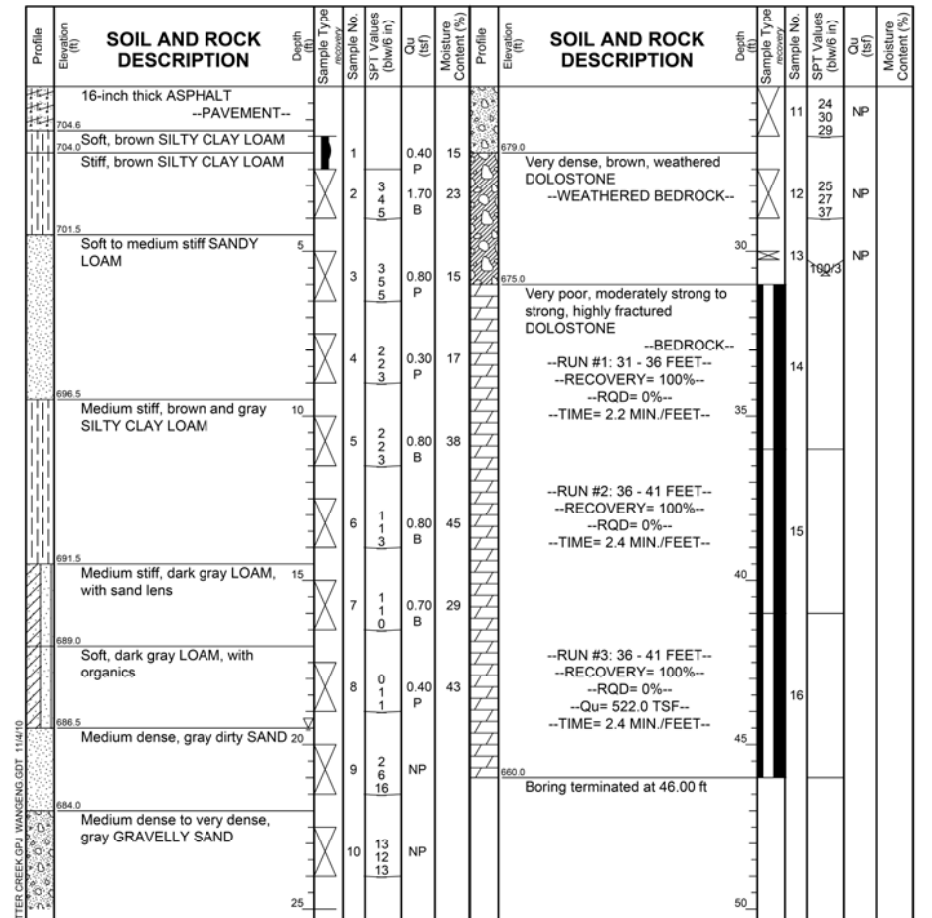
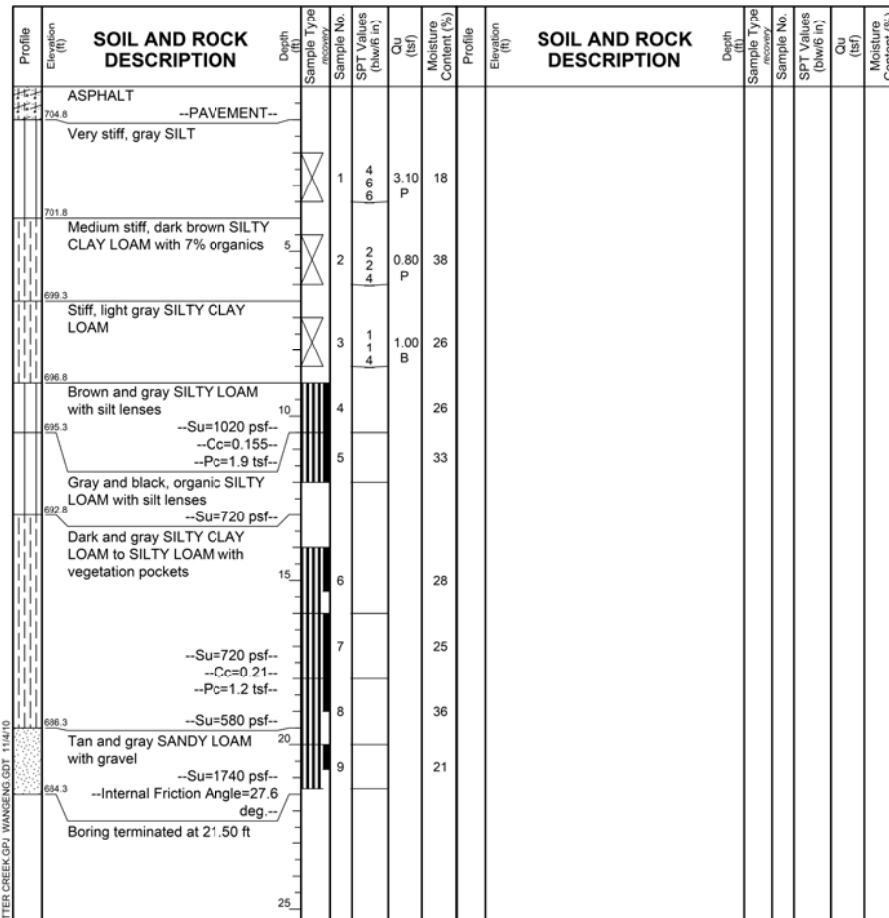
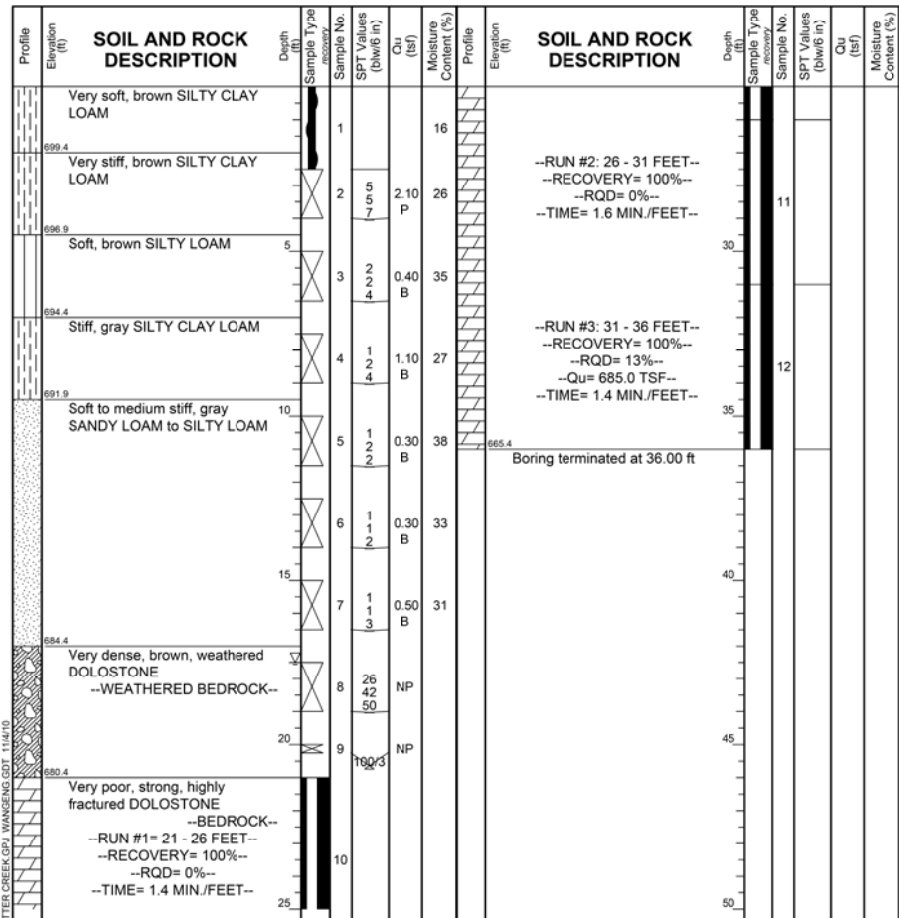
BORING LOG B-1b
 WEI Job No.: 703-01-01
 Client: **Zroka Engineering, P.C.**
 Project: **IL RTE 40 Bridge over Otter Creek**
 Location: **Carroll County, IL**

Datum: NGVD
 Elevation: 705.80 ft
 North: 1933397.50 ft
 East: 2393526.51 ft
 Station: 248+41.41
 Offset: 11.0 RT

Wang Engineering
 wangeng@wangeng.com
 1145 N Main Street
 Lombard, IL 60148
 Telephone: 630 953-9928
 Fax: 630 953-9938

BORING LOG B-2
 WEI Job No.: 703-01-01
 Client: **Zroka Engineering, P.C.**
 Project: **IL RTE 40 Bridge over Otter Creek**
 Location: **Carroll County, IL**

Datum: NGVD
 Elevation: 705.95 ft
 North: 1933324.56 ft
 East: 2393641.31 ft
 Station: 247+05.40
 Offset: 9.0 RT



GENERAL NOTES
 Begin Drilling: 10-22-2007 Complete Drilling: 10-22-2007
 Drilling Contractor: IDOT Drill Rig: _____
 Driller: _____ Logger: W. Garza Checked by: _____
 Drilling Method: Wang rendering of IDOT Boring Log

WATER LEVEL DATA
 While Drilling: 17.50 ft
 At Completion of Drilling: WASHED
 Time After Drilling: NA
 Depth to Water: NA
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

GENERAL NOTES
 Begin Drilling: 05-24-2010 Complete Drilling: 05-24-2010
 Drilling Contractor: IDOT Drill Rig: _____
 Driller: _____ Logger: W. Garza Checked by: _____
 Drilling Method: Wang rendering of IDOT Boring Log

WATER LEVEL DATA
 While Drilling: DRY
 At Completion of Drilling: DRY
 Time After Drilling: NA
 Depth to Water: NA
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

GENERAL NOTES
 Begin Drilling: 10-23-2007 Complete Drilling: 10-23-2007
 Drilling Contractor: IDOT Drill Rig: _____
 Driller: _____ Logger: W. Garza Checked by: _____
 Drilling Method: Wang rendering of IDOT Boring Log

WATER LEVEL DATA
 While Drilling: 19.50 ft
 At Completion of Drilling: WASHED
 Time After Drilling: NA
 Depth to Water: NA
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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USER NAME = SAW	DESIGNED - PMM	REVISED -
PLOT SCALE = 0:2.0000 't' / in.	CHECKED - DAZ	REVISED -
PLOT DATE = 8/1/2013	DRAWN - SAW	REVISED -
	CHECKED - PMM	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

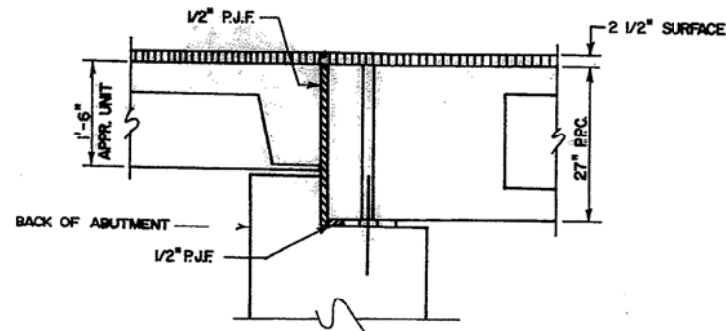
BORING LOGS
 S.N. 008-0051

SHEET NO. 19 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5BR-3	CARROLL	84	42
CONTRACT NO. 64DB4				
ILLINOIS FED. AID PROJECT				

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA 646	X	CARROLL	9	6
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT				

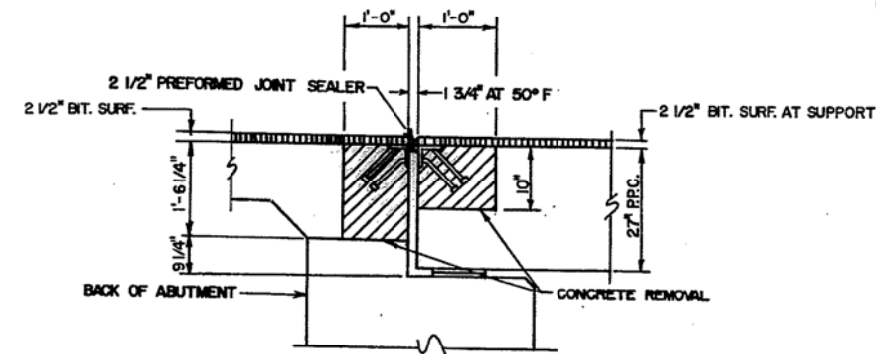
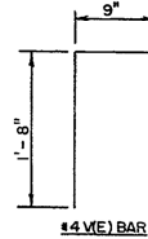
* 5BR-1-M



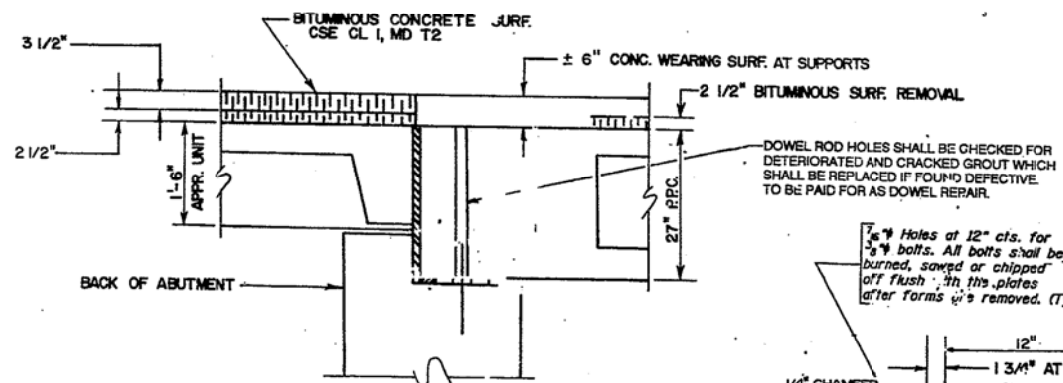
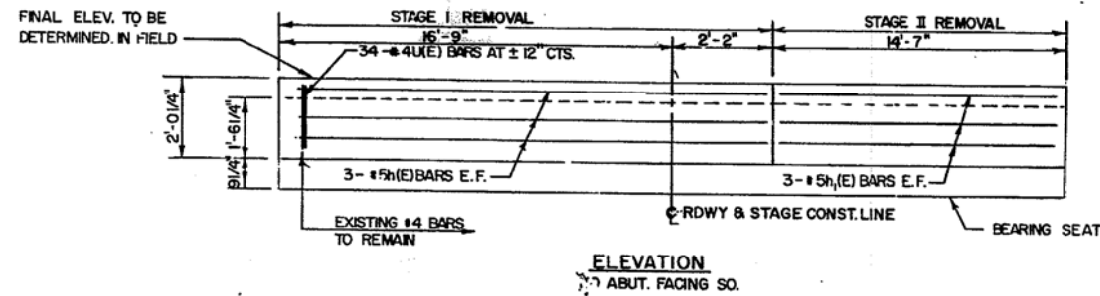
EXIST. SECTION THRU SOUTH ABUT.

BILL OF MATERIALS (No. ABUT. ONLY)

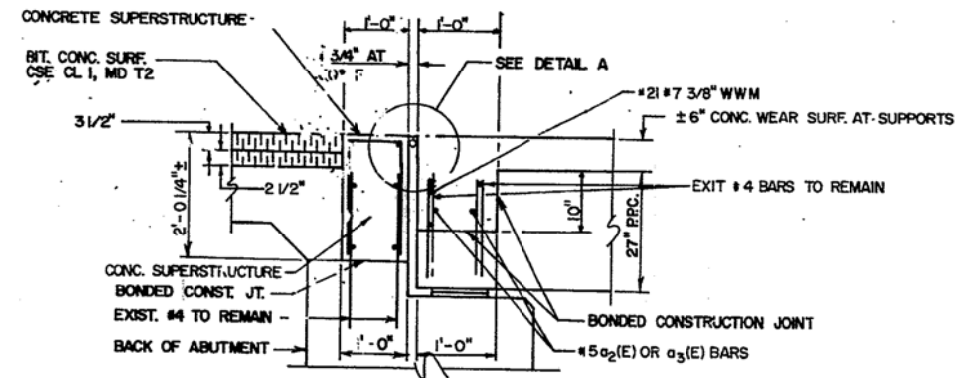
BAR	No.	SIZE	LENGTH	SHAPE
h (E)	6	#5	16'-9"	
h (E)	6	#5	16'-7"	
U (E)	34	#4	4'-1"	
Concrete Removal			CU. YD.	2.0
Concrete Superstructure			CU. YD.	3.0
Reinforcement Bars, Epoxy Ctd.			POUND	320



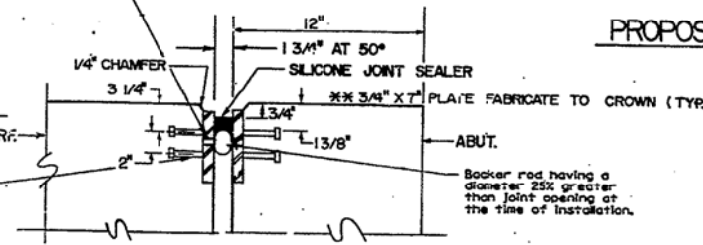
EXIST. SECTION THRU NORTH ABUT.



PROPOSED SECTION THRU SOUTH ABUT.



PROPOSED SECTION THRU NORTH ABUT.



1/4" x 8" Granular or solid flux filled headed studs conforming to Article 705.32 of the Std. Spec's. automatically and welded at 12" All. cts.

** Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 1/8". Seal space with Silicone Sealant suitable for Structural Steel. NO FIELD PAINTING REQUIRED.

SN 008-0014
 DISTRICT NO. 2 DIXON
 DESIGNED D. PAUSER
 DRAWN T. MISFELDT DATE 2/95
 CHECKED D. PAUSER SCALE

REVISED 3-22-96

FILE NAME = ... \D264D84-SHT-ExBr1.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED - DAZ	REVISIONS -	
PLOT DATE = 8/1/2013	DATE - 08-08-13		

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ZROKA
 engineering

Zroka Engineering, P.C.
 4216 North Hermitage
 Chicago, IL 60613

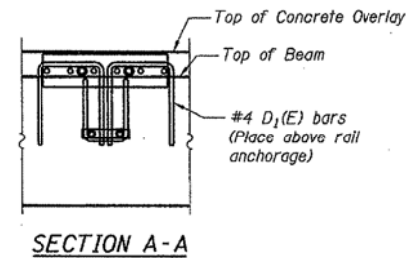
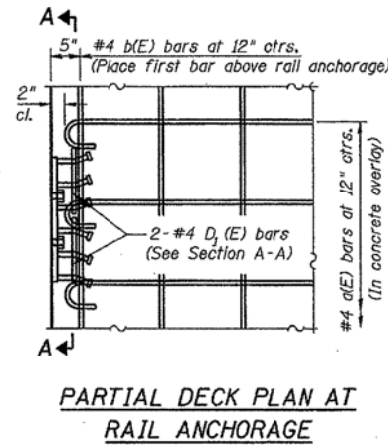
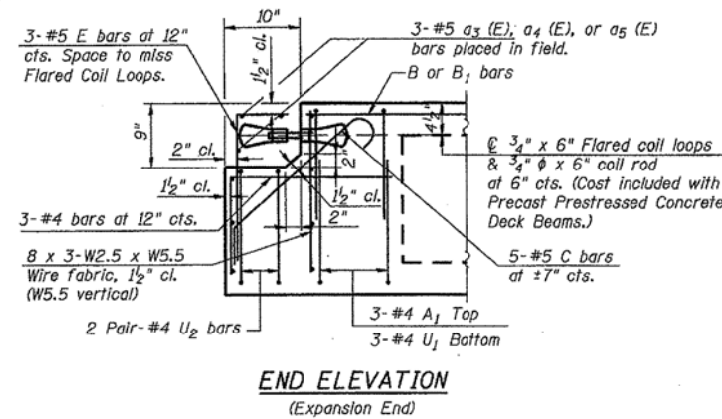
EXISTING BRIDGE PLANS
 FOR INFORMATION ONLY

SCALE: SHEET 1 OF 28 SHEETS STA. TO STA.

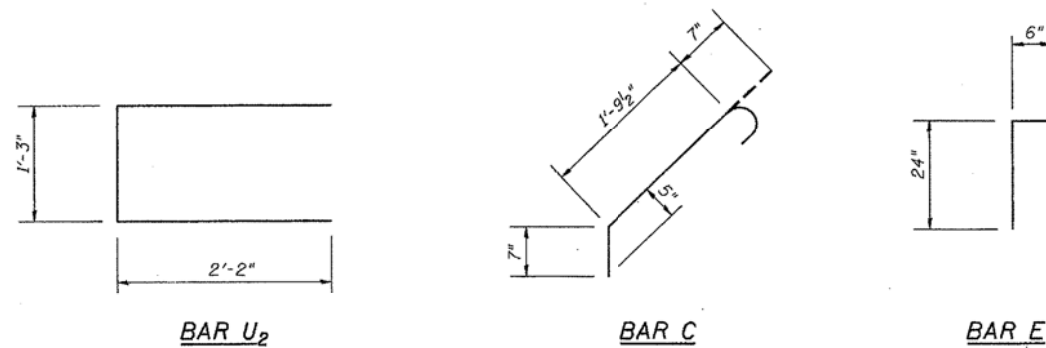
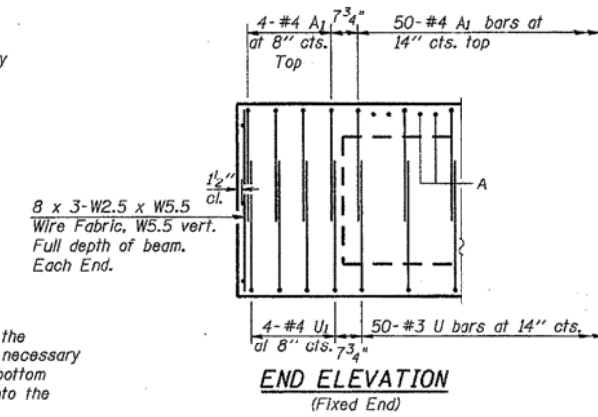
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	43
CONTRACT NO. 64D84				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 646	SECTION	COUNTY CARROLL	SHEETS 15	SHEET NO. 4 8 SHEETS
FED. ROAD DIST. NO. 7	SUBAPPROX	FED. AID PROJECT		



The rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.



Note: Transverse tie rods are not required at block-out end of beams.
See sheet 3 of 8 for additional beam information.

DESIGNED	DFM
CHECKED	CH
DRAWN	MV
CHECKED	DFM

DECK BEAM DETAILS
F.A.P. 646 (IL RTE 40)
CARROLL COUNTY
STRUCTURE NO. 008-0014
SHEET 15 OF 52

FILE NAME = ... \D264D84-SHT-ExBridge.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - SAW	REVISED -
		CHECKED - DAZ	REVISED -
		DATE - 08-08-13	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA
engineering

Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

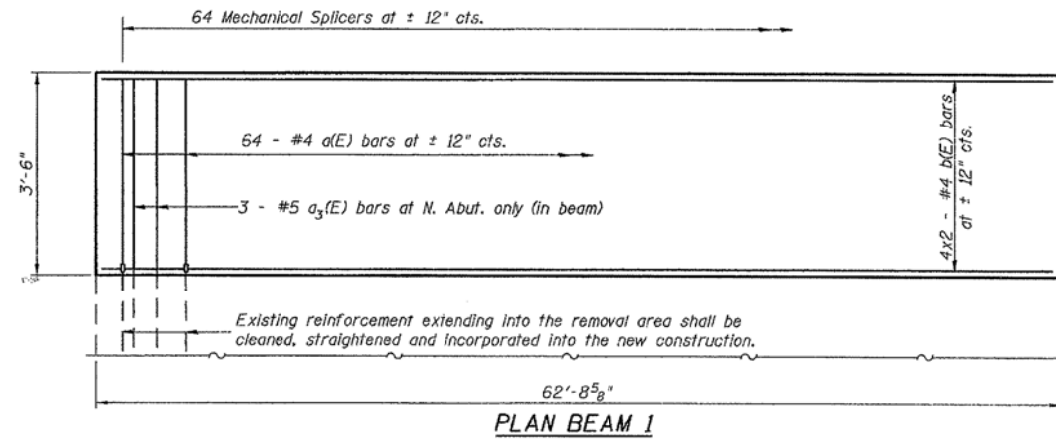
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: SHEET 2 OF 28 SHEETS STA. TO STA.

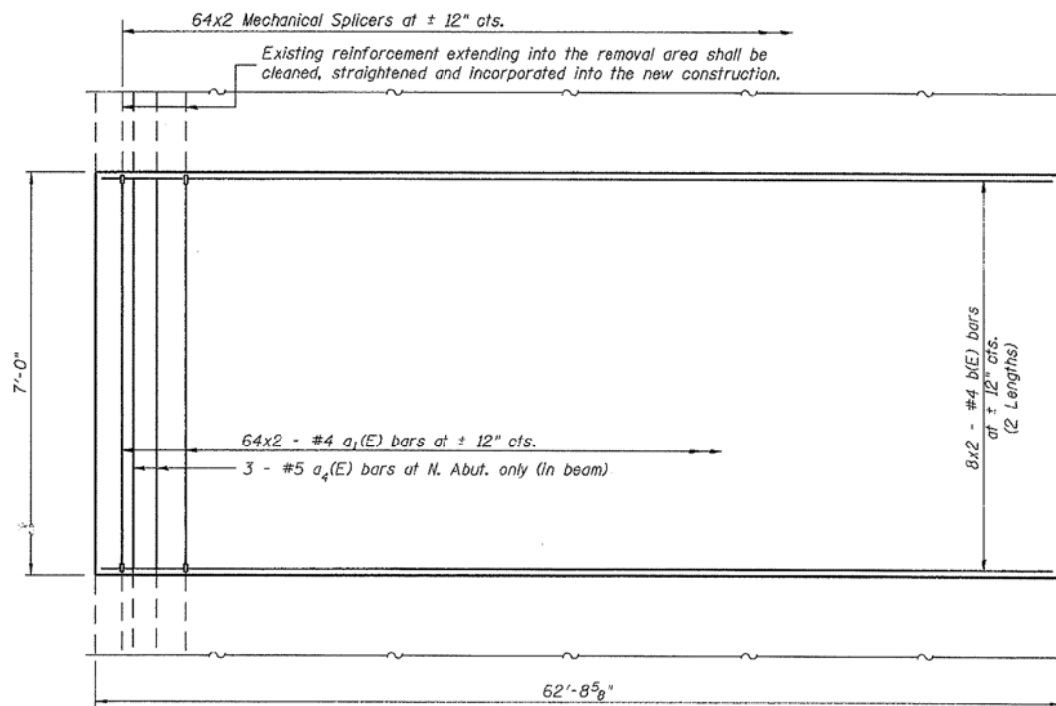
F.A.P. RTE. 646	SECTION 5 BR-3	COUNTY CARROLL	TOTAL SHEETS 84	SHEET NO. 44
				CONTRACT NO. 64D84
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 646		CARROLL	16	8
FED. ROAD DIST. NO. 7	BLDG. NO.	FED. AID PROJECT		

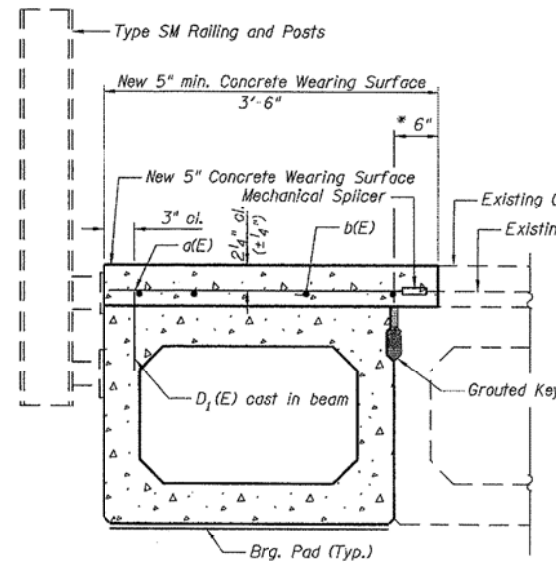


PLAN BEAM 1



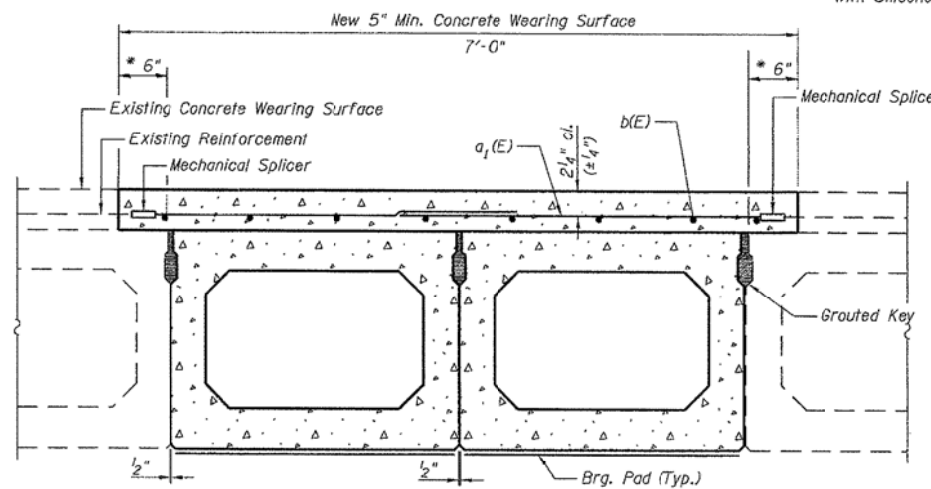
PLAN BEAMS 4 & 5

DESIGNED	DFM
CHECKED	CH
DRAWN	MV
CHECKED	DFM



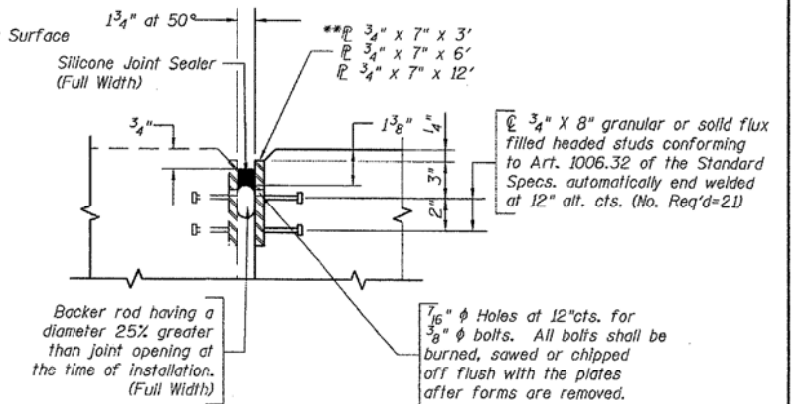
SECTION THRU BEAM 1

* Limits of 5" min. Concrete Wearing Surface Removal.
Cost Included with Concrete Removal.



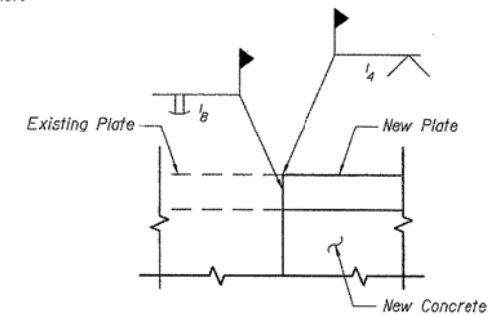
SECTION THRU BEAMS 4 & 5

* Limits of 5" min. Concrete Wearing Surface Removal.
Cost Included with Concrete Removal.



SILICONE JOINT SEAL

**After fabrication, all surfaces of the steel \bar{L} 's shall be painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost of furnishing and erecting and painting the structural steel is included with Silicone Joint Sealer.



ELEVATION JOINT PLATE WELD

Cost Included with Silicone Joint Sealer

BILL OF MATERIALS

See Sheet 6 of 8.

SUPERSTRUCTURE DETAILS
F.A.P. 646 (IL RTE 40)
CARROLL COUNTY
STRUCTURE NO. 008-0014
SHEET 16 OF 52

FILE NAME =
... \D264D84-SHT-ExB-ridge.dgn

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PLOT SCALE = 40.0000' / in.	DRAWN - SAW	REVISED -
PLOT DATE = 8/1/2013	CHECKED - DAZ	REVISED -
	DATE - 08-08-13	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA
engineering

Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

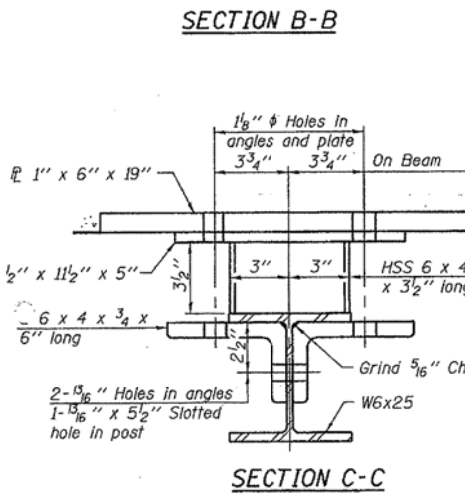
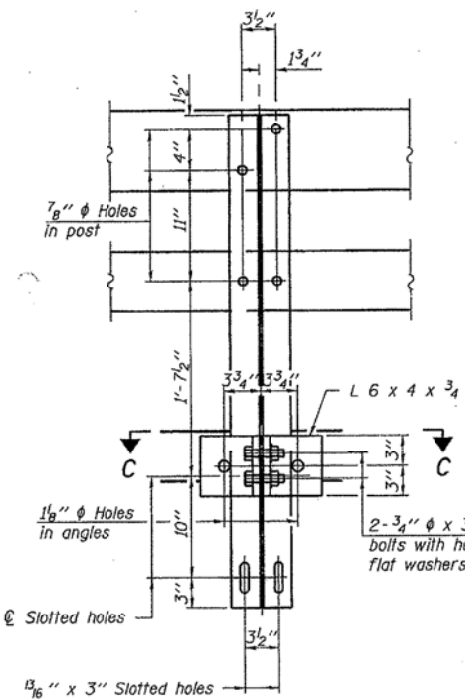
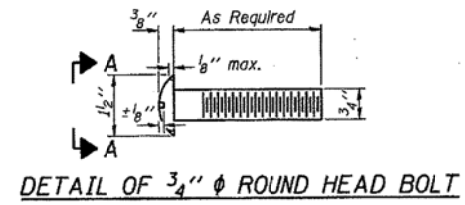
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: SHEET 3 OF 28 SHEETS STA. TO STA.

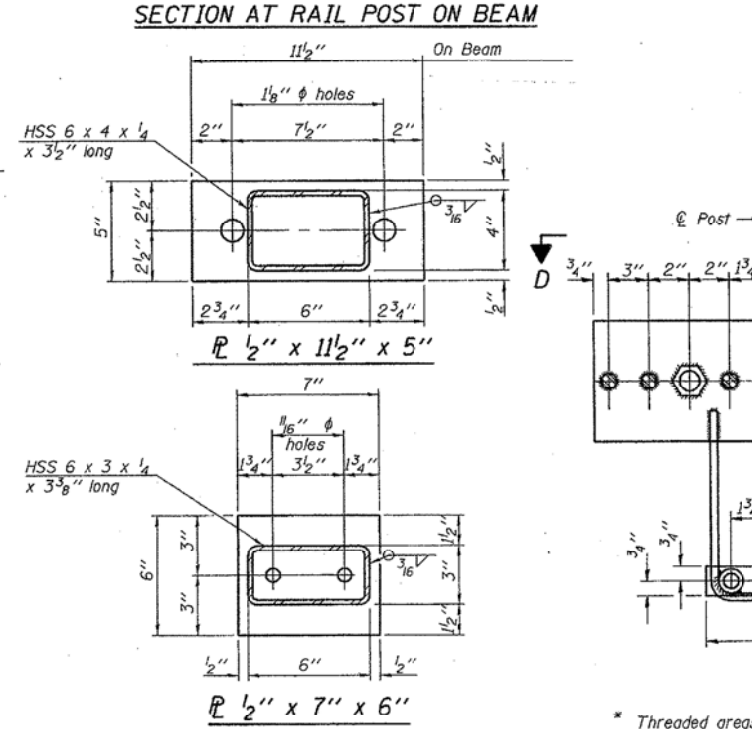
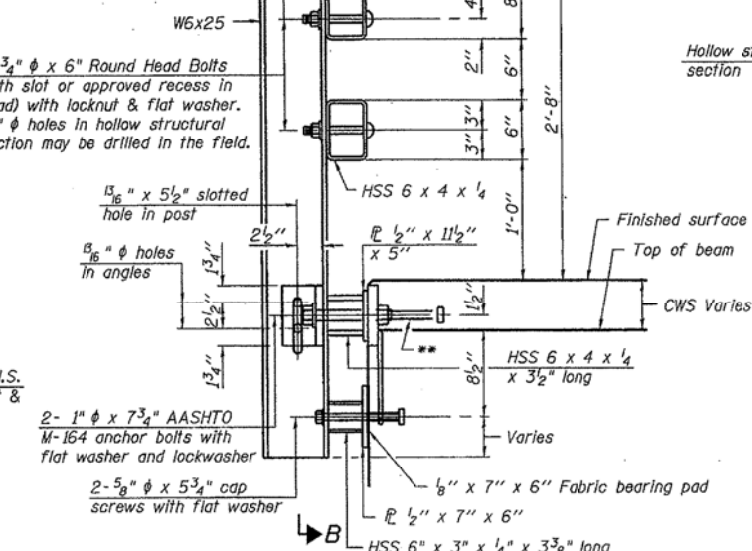
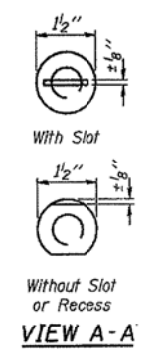
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	45
			CONTRACT NO. 64D84	
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAP 646		CARROLL	18	8 SHEETS
FED. ROAD DIST. NO. 7	BLANKET	FED. AID PROJECT		

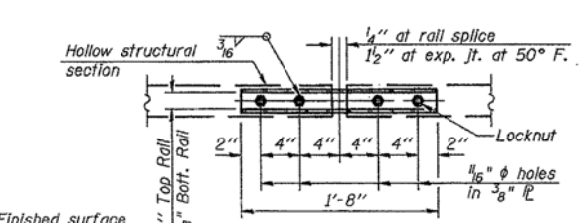


DESIGNED	DFM
CHECKED	CH
DRAWN	MV
CHECKED	DFM

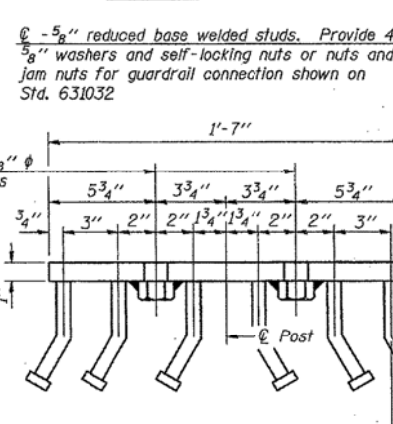


(6'-3" Maximum Post Spacing) (5" minimum to 7 1/8" maximum CWS thickness)

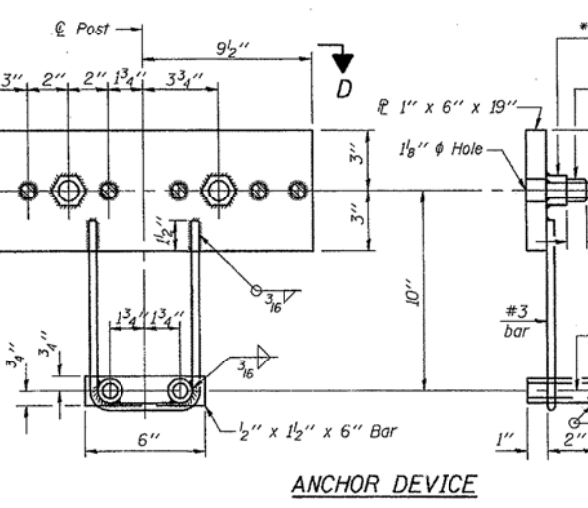
RAIL SPLICE CONNECTION
AT EXPANSION JT.



PLAN-BOTT. SPLICE R
TYPICAL



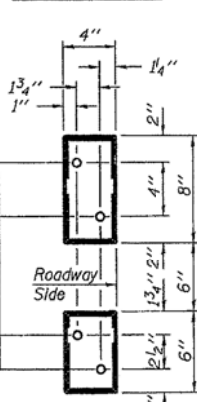
VIEW D-D



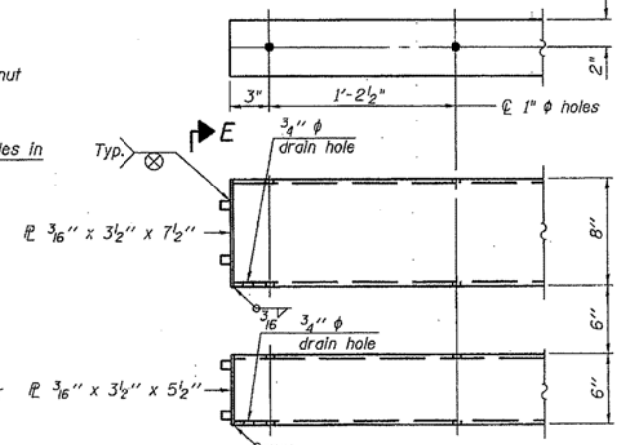
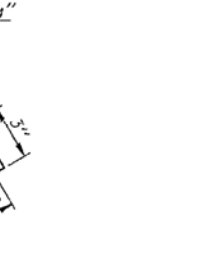
ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

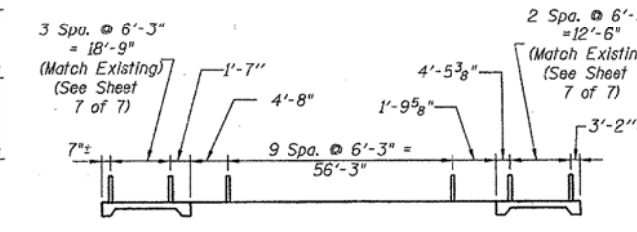
SECTION AT
RAIL SPLICE



VIEW E-E



END OF RAIL DETAILS



RAIL SPACING

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM.
Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
Anchor devices in existing approach slabs should be reused for attachment of Type SM Steel Bridge Railing.
** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	210

STEEL RAILING, TYPE SM
WITH CONCRETE WEARING SURFACE
F.A.P. 646 (IL RTE 40)
CARROLL COUNTY
STRUCTURE NO. 008-0014
SHEET 18 OF 52

FILE NAME = ...N0264084-SHT-ExB-ridge.dgn

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PLOT SCALE = 40.0000' / in.
PLOT DATE = 8/1/2013

DESIGNED - RAC
DRAWN - SAW
CHECKED - DAZ
DATE - 08-08-13

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

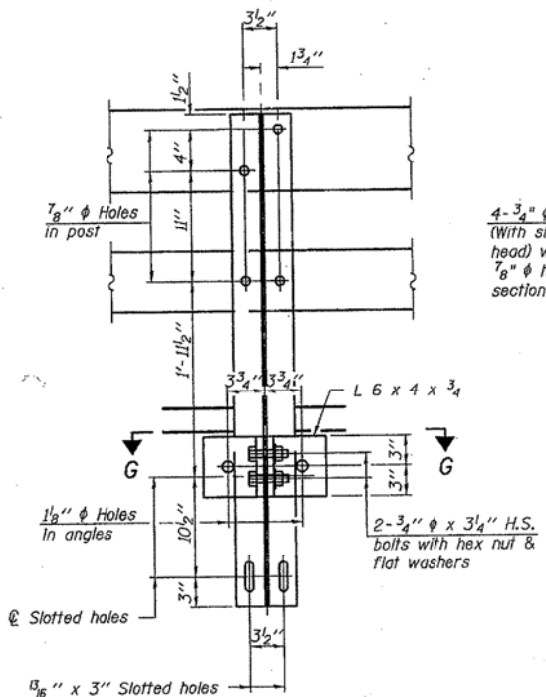
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: SHEET 4 OF 28 SHEETS STA. TO STA.

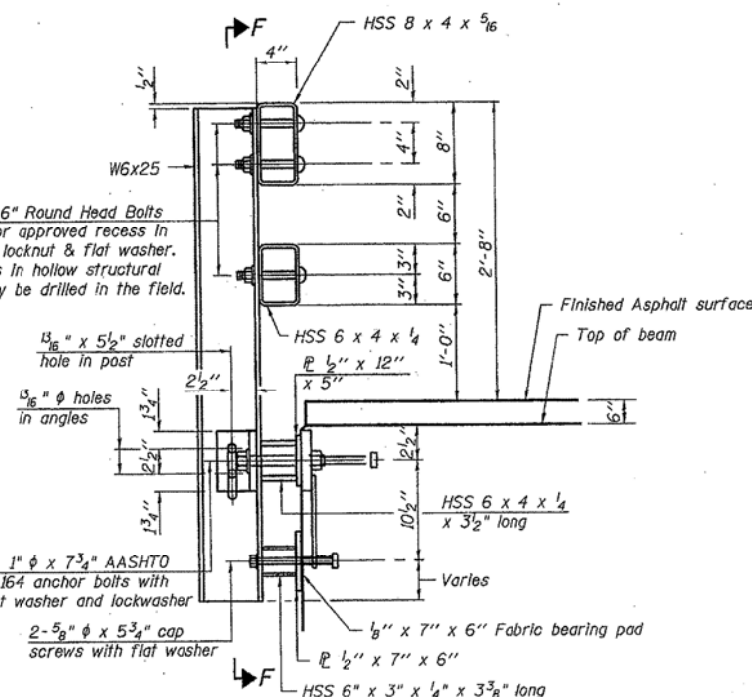
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	46
ILLINOIS FED. AID PROJECT			CONTRACT NO. 64D84	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

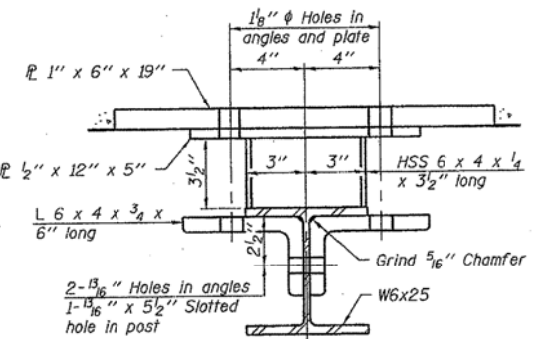
FIGURE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAP 646		CARROLL	19	8 SHEETS
FED. ROAD DIST. NO. 7	ALLIANCE	FED. AID PROJECT		



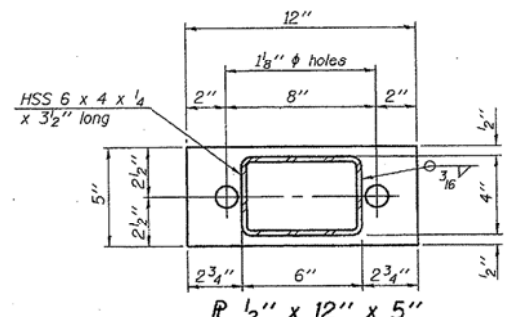
SECTION F-F



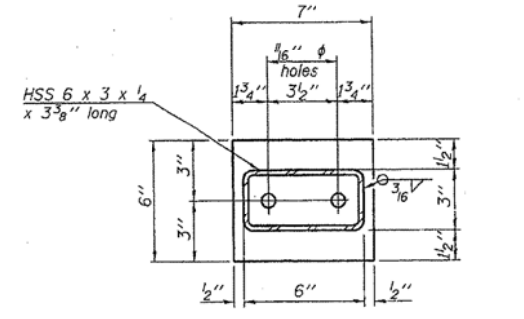
SECTION AT RAIL POST ON APPROACH SLAB



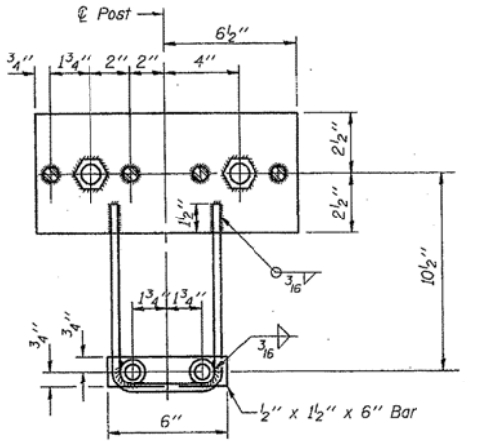
SECTION G-G



PLAN VIEW 1



PLAN VIEW 2



EXISTING ANCHOR DEVICE IN APPROACH

* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

DESIGNED	DFM
CHECKED	CH
DRAWN	MV
CHECKED	DFM

(6'-3" Maximum Post Spacing) (5" minimum to 7/8" maximum CWS thickness)

See Sheet 7 of 8 for additional details and notes.

STEEL RAILING, TYPE SM
ON APPROACH SLAB
F.A.P. 646 (IL RTE 40)
CARROLL COUNTY
STRUCTURE NO. 008-0014
SHEET 19 OF 52

FILE NAME = ... \D264DB4-SHT-ExB-ridge.dgn

USER NAME = SAW
PLOT SCALE = 40.0000' / in.
PLOT DATE = 8/1/2013

DESIGNED - RAC
DRAWN - SAW
CHECKED - DAZ
DATE - 08-08-13

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA
engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: SHEET 5 OF 28 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	47
			CONTRACT NO. 64DB4	
ILLINOIS FED. AID PROJECT				

INDEX TO SHEETS

Page No.	Title Page
1	Standard Cross Section 1032, 1130
2	12 Ft earth roadway
3	21ft Earth Culvert Section for future gutter section No. 992
4	Plan and Profile Sta 426+25 to Sta. 455+00
5	455+00 to 515+00
6	515+00 to 575+00
7	575+00 to 635+00
8	635+00 to 695+00
9	695+00 to 755+00 + 641+52
10	755+00 to 815+00
11	815+00 to 875+00
12	875+00 to 935+00
13	935+00 to 995+00
14	Inclusive Cross Sections
15	Standard Culvert Design No. 828-1, 828-3, 828-5, 752-1
16	Special
17	Sta. 426+25 to 455+00
18	Sta. 455+00 to 515+00
19	Sta. 515+00 to 575+00
20	Sta. 575+00 to 635+00
21	Sta. 635+00 to 695+00
22	Sta. 695+00 to 755+00
23	Sta. 755+00 to 815+00
24	Sta. 815+00 to 875+00
25	Sta. 875+00 to 935+00
26	Sta. 935+00 to 995+00
27	Sta. 426+25 to 455+00
28	Sta. 455+00 to 515+00
29	Sta. 515+00 to 575+00
30	Sta. 575+00 to 635+00
31	Sta. 635+00 to 695+00
32	Sta. 695+00 to 755+00
33	Sta. 755+00 to 815+00
34	Sta. 815+00 to 875+00
35	Sta. 875+00 to 935+00
36	Sta. 935+00 to 995+00
37	Sta. 426+25 to 455+00
38	Sta. 455+00 to 515+00
39	Sta. 515+00 to 575+00
40	Sta. 575+00 to 635+00
41	Sta. 635+00 to 695+00
42	Sta. 695+00 to 755+00
43	Sta. 755+00 to 815+00
44	Sta. 815+00 to 875+00
45	Sta. 875+00 to 935+00
46	Sta. 935+00 to 995+00
47	Standard 1166, 1177
48	Special Side Walk Cross Section

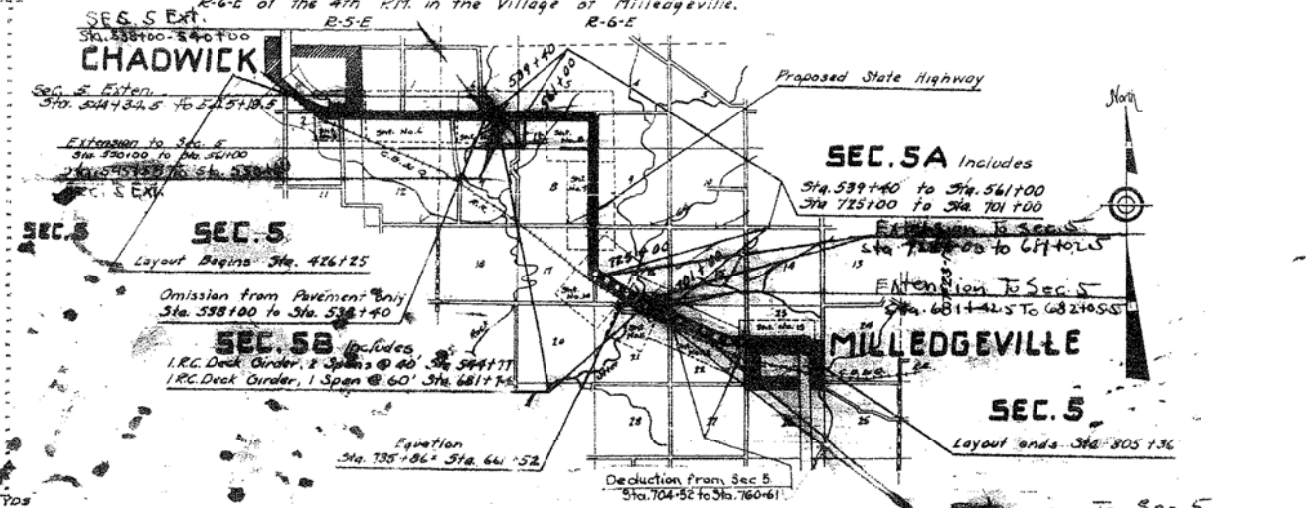
SUMMARY OF QUANTITIES

SUMMARY OF CONCRETE

SECTION	Item	Quantity	Unit
SECTION 5	Class A Excavation	17	Cu Yds
	Class B Excavation	17	Cu Yds
	Class C Excavation	17	Cu Yds
	Reinforcing Steel	17	Lbs
	Concrete Side Walk	17	Sq Ft
	Standard Culvert Design No. 828-1	1	3.0 Cu Yds
	Special	1	15.5
	Standard 1166, 1177	1	15.5
	Special Side Walk Cross Section	1	15.5
	SECTION 5A	Class A Excavation	17
Class B Excavation	17	Cu Yds	
Class C Excavation	17	Cu Yds	
Reinforcing Steel	17	Lbs	
SECTION 5B	Class A Concrete	542.0	Cu Yds
Class B Concrete	391	Cu Yds	
Class C Concrete	123	Cu Yds	
Reinforcing Steel	87,328	Lbs	
Unfinished Pk 10 Ton	1,200	Lin Ft	
Unfinished Pk 12 Ton	1,000	Lin Ft	
Reinforcing Steel	1,000	Lbs	
Structural Steel (2x4)	540	Lbs	
Name Plates	2	Each	
SECTION 5C	Class A Concrete	542.0	Cu Yds
Class B Concrete	391	Cu Yds	
Class C Concrete	123	Cu Yds	
Reinforcing Steel	87,328	Lbs	
Unfinished Pk 10 Ton	1,200	Lin Ft	
Unfinished Pk 12 Ton	1,000	Lin Ft	
Reinforcing Steel	1,000	Lbs	
Structural Steel (2x4)	540	Lbs	
Name Plates	2	Each	
SECTION 5D	Class A Concrete	542.0	Cu Yds
Class B Concrete	391	Cu Yds	
Class C Concrete	123	Cu Yds	
Reinforcing Steel	87,328	Lbs	
Unfinished Pk 10 Ton	1,200	Lin Ft	
Unfinished Pk 12 Ton	1,000	Lin Ft	
Reinforcing Steel	1,000	Lbs	
Structural Steel (2x4)	540	Lbs	
Name Plates	2	Each	
SECTION 5E	Class A Concrete	542.0	Cu Yds
Class B Concrete	391	Cu Yds	
Class C Concrete	123	Cu Yds	
Reinforcing Steel	87,328	Lbs	
Unfinished Pk 10 Ton	1,200	Lin Ft	
Unfinished Pk 12 Ton	1,000	Lin Ft	
Reinforcing Steel	1,000	Lbs	
Structural Steel (2x4)	540	Lbs	
Name Plates	2	Each	

PROJECT 109, SEC'S. 5-5A-5B, CARROLL CO.

From a point near the N.W. Corner of the S.W. 1/4 of Section 2, T-23-N, R-5-E in the Village of Chadwick to a point near the N.E. Corner of the N.W. 1/4 of the S.E. 1/4 of Section 23, T-23-N, R-6-E of the 4th R.M. in the Village of Milledgeville.



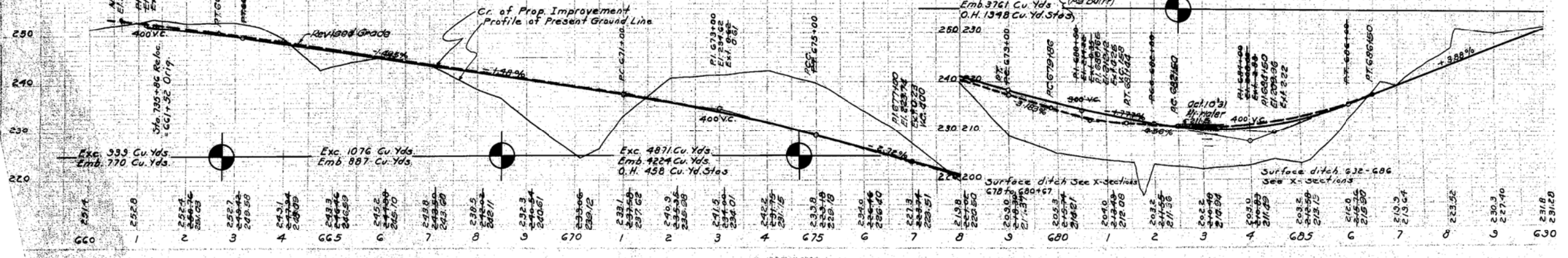
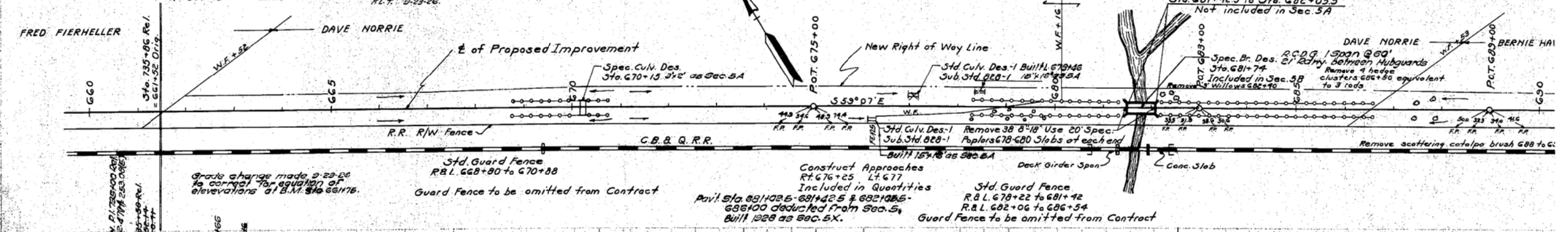
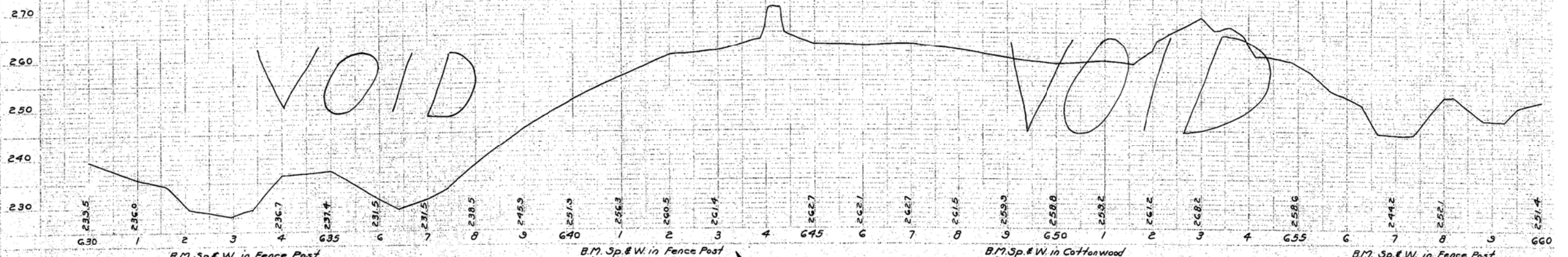
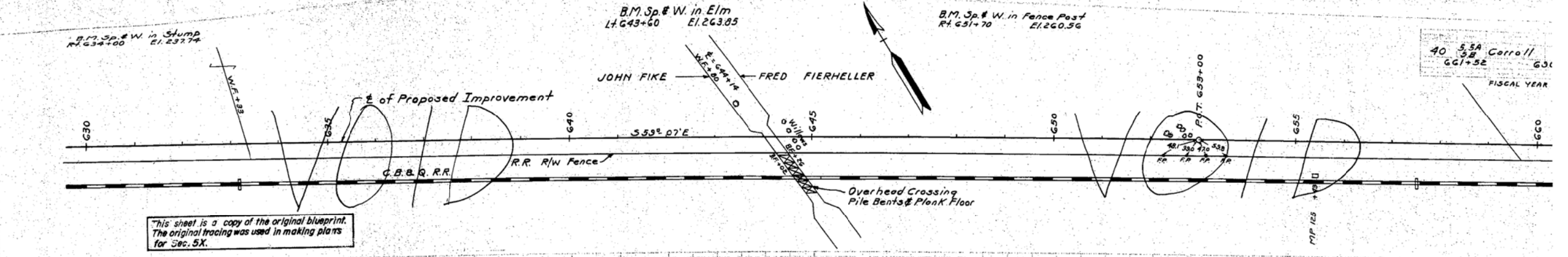
SUMMARY

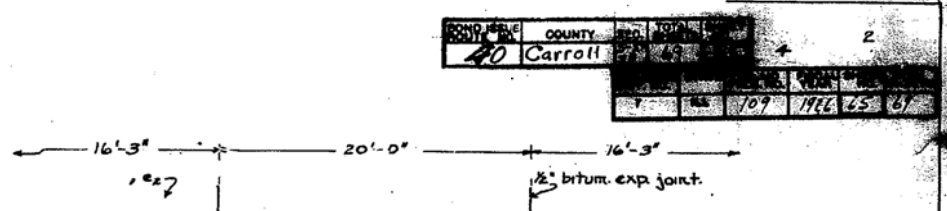
Station to Station	Gross Length Along Transit Line	Corrections for Curves	Corrections for Relocations	Net Length to be Improved in feet	Pavement over Bridges	Sq. Yds. of Pavement & Roadway	
						18 Ft	21 Ft
426+25 to 455+00	28.75	0.00	0.00	28.75	84	126	
455+00 to 515+00	60.00	0.00	0.00	60.00	180	270	
515+00 to 575+00	60.00	0.00	0.00	60.00	180	270	
575+00 to 635+00	60.00	0.00	0.00	60.00	180	270	
635+00 to 695+00	60.00	0.00	0.00	60.00	180	270	
695+00 to 755+00	60.00	0.00	0.00	60.00	180	270	
755+00 to 815+00	60.00	0.00	0.00	60.00	180	270	
815+00 to 875+00	60.00	0.00	0.00	60.00	180	270	
875+00 to 935+00	60.00	0.00	0.00	60.00	180	270	
935+00 to 995+00	60.00	0.00	0.00	60.00	180	270	
Total	453.75	0.00	0.00	453.75	1361	2041	

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

PROJECT NO. 109
DATE: Feb. 1, 1913

APPROVED: [Signature]



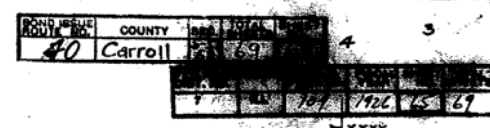


22'-0"

Oct. 10, 25
H. J. Daniels
W. J. ...
Grand Tablet

STA. 681+74
 S.B.I. ROUTE 40
 SEC. 5-B CARROLL CO.

1010-0



22'-0"

Oct. 10, 25
H. J. Daniels
W. J. ...
Grand Tablet

STA. 544+77
 STATE BOND ISSUE ROUTE 40
 SECTION 5B CARROLL CO.

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	ILL	109	1926	65	69

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

BOND ISSUE ROUTE NO. 40 COUNTY Carroll SEC. 5B TOTAL SHEETS 69 SHEET NO. 65

REINFORCED CONCRETE DECK GIRDER
 SPAN 40 FEET ROADWAY 22 FEET

Bar No.	Size	Length
1	1/2"	25'-0"
2	3/4"	25'-0"
3	1"	25'-0"
4	1 1/4"	25'-0"
5	1 1/2"	25'-0"
6	1 3/4"	25'-0"
7	2"	25'-0"
8	2 1/4"	25'-0"
9	2 1/2"	25'-0"
10	2 3/4"	25'-0"
11	3"	25'-0"
12	3 1/4"	25'-0"
13	3 1/2"	25'-0"
14	3 3/4"	25'-0"
15	4"	25'-0"

Use Class X concrete above top of subguard.
 Use Class A concrete to be used below top of subguard. Proportions as noted.

Rockers & Plates to be given 2 coats of sublimed blue lead paint.

STA. 544+77
 STATE BOND ISSUE ROUTE 40
 SECTION 5B CARROLL CO.

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	ILL	109	1926	65	69

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

BOND ISSUE ROUTE NO. 40 COUNTY Carroll SEC. 5B TOTAL SHEETS 69 SHEET NO. 65

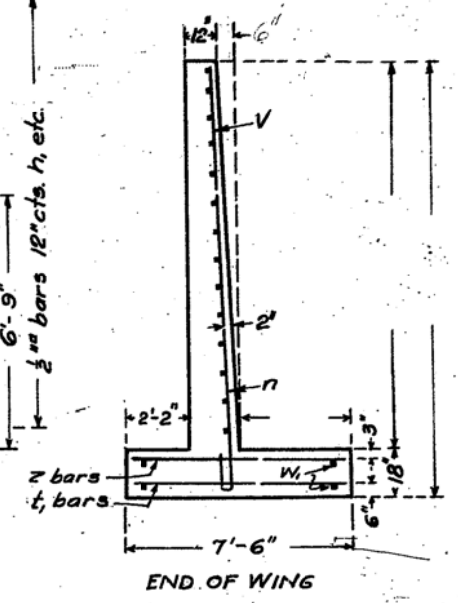
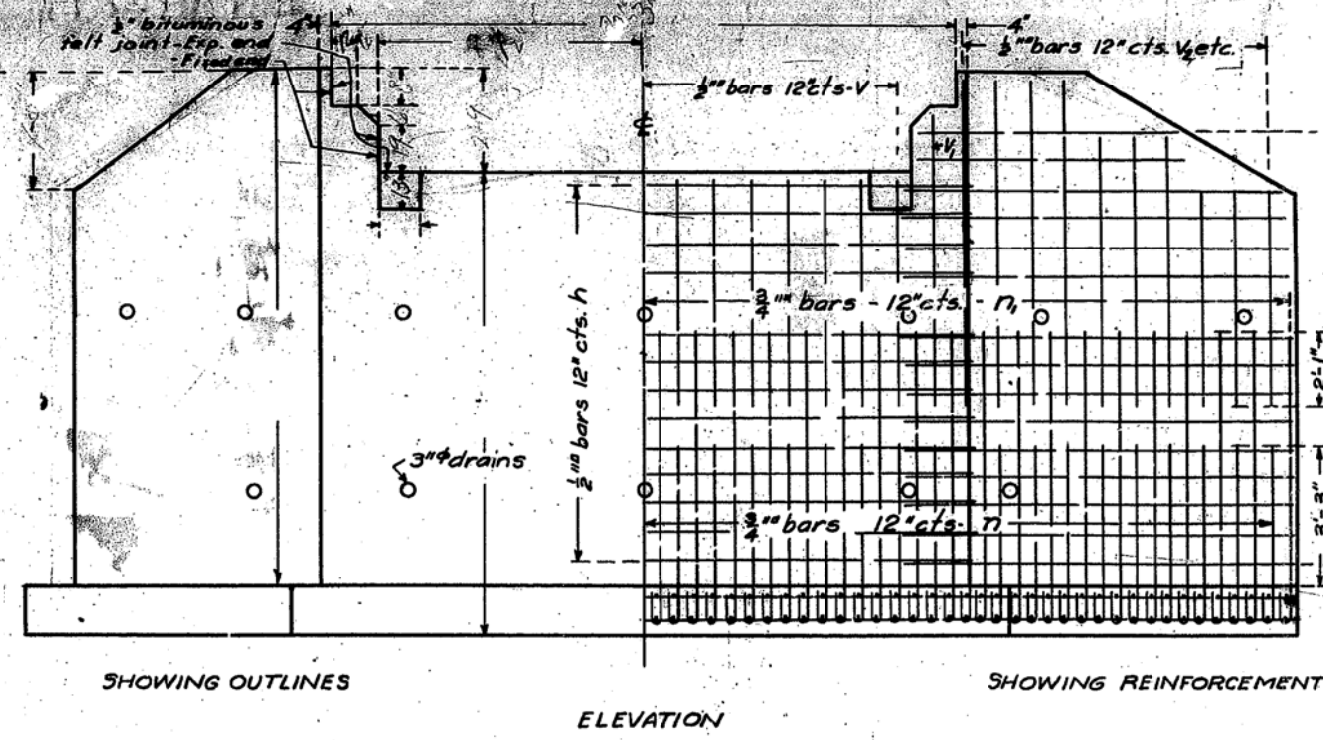
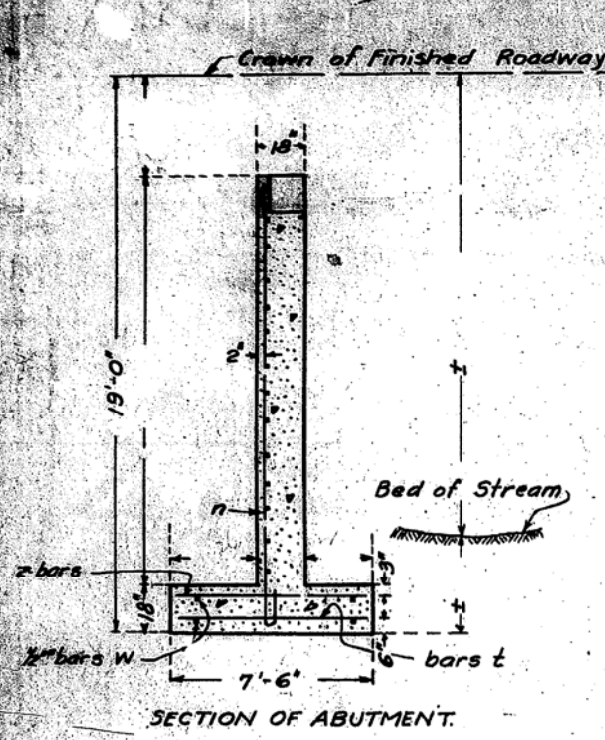
REINFORCED CONCRETE DECK GIRDER
 SPAN 60 FEET ROADWAY 22 FEET

Bar No.	Size	Length
1	1/2"	25'-0"
2	3/4"	25'-0"
3	1"	25'-0"
4	1 1/4"	25'-0"
5	1 1/2"	25'-0"
6	1 3/4"	25'-0"
7	2"	25'-0"
8	2 1/4"	25'-0"
9	2 1/2"	25'-0"
10	2 3/4"	25'-0"
11	3"	25'-0"
12	3 1/4"	25'-0"
13	3 1/2"	25'-0"
14	3 3/4"	25'-0"
15	4"	25'-0"

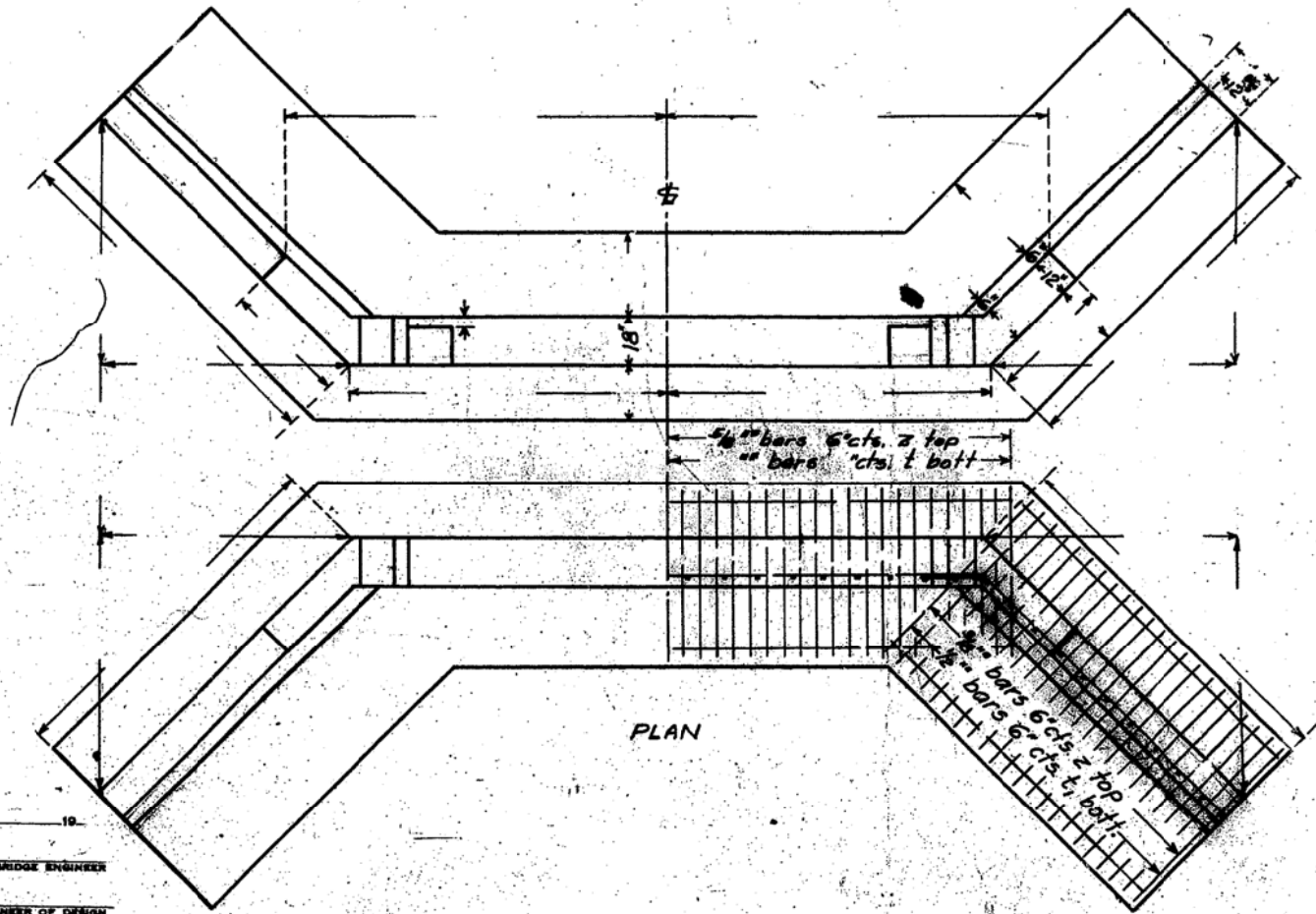
Class X Concrete in Rail above Hub Line. Proportions 1-2-3 1/2.

Rockers and Plates should be painted two coats of sublimed Blue Lead Paint.

STA. 681+74
 S.B.I. ROUTE 40
 SEC. 5-B CARROLL CO.



Class A concrete shall be used throughout.
Proportions 1:2 1/2 : 4
All reinforcing steel shall be securely wired in place before concrete is poured.



BILL OF MATERIAL

Bars	No.	Size	Length
V		1/2"	
V ₁		1/2"	
V ₂		1/2"	
V ₃		1/2"	
h		1/2"	
h ₁		1/2"	
h ₂		1/2"	
n		3/4"	6'-3"
n ₁		3/4"	9'-9"
t		1/2"	7'-3"
t ₁		1/2"	7'-3"
Z		5/8"	7'-3"
W		1/2"	
W ₁		1/2"	

Reinforcing Steel - Lbs.
Concrete Cu. Yds.

COMPUTED	W. Delaney	EXAMINED	10
CHECKED	E. Floyd Bell		
DRAWN	W. N. S.		
CHECKED	E. F. B.		

BRIDGE ENGINEER
ENGINEER OF DESIGN

FILE NAME =	USER NAME = SAW	DESIGNED - RAC	REVISED -
... \D264D84-SHT-ExBr1.dgn		DRAWN - SAW	REVISED -
		CHECKED - DAZ	REVISED -
		DATE - 08-08-13	REVISED -

No existing structure.
D.M. + S+W. in Cottonwood Tree
Rt. Sta. 680 +25 - Elev. 205.38

Elev. 211.34

4'-3 1/2"

12'-2 1/2"

2'-6"

3'-0"

3'-0"

4'-2"

14'-10"

6'-0"

16'-6"

14'-0 1/2"

2'-6"

4'-3 1/2"

20' 4'-10" 20' 2'-5"

15'-0"

15'-0"

12'-0"

12'-5 1/2"

8 alt. sps. @ 1'-7 3/4" = 13'-2"

3'-0"

12'-5 1/2"

3'-0"

12'-5 1/2"

12'-0"

12'-0"

12'-0"

12'-0"

12'-0"

12'-0"

12'-0"

12'-0"

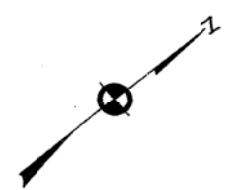
10'-7 1/2"

24'-3"

109	192L	66	67
-----	------	----	----

WEST ABUTMENT

WEST ABUTMENT



Let. 10.
A. J. Bueh
M. Brown
G. Brown
G. Brown

All piles are untreated.
15 Torc pile 12" Butt 10" Tip - 17' Reqd. = 340 lin. ft.
12 " " 12" " 10" " - 8 " = 160 " "
10 " " 10" " 8" " - 15 " = 225 " "

21	8'-0"
4	11'-0"
12	11'-6"
6	10'-0"
6	8'-6"
3	7'-0"
12	25'-0"
24	19'-0"
6	9'-0"
57	6"
57	6"
80	1/2" "
108	1/2" "
36	1/2" "
8	14'-6"
8	18'-0"
Z1 48	1/2" "
	7'-3"

4360
78.5

STA. 681 + 74
S.B.I. ROUTE 40
SEC. 5-B CARROLL CO.

1014

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
STATE BOND ISSUE HIGHWAY

WORK SHEET ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
SBI 40	5 BR-3	CARROLL	16	1

INDEX OF SHEETS

1. COVER SHEET & INDEX OF SHEETS
2. SUMMARY OF QUANTITIES, GENERAL NOTES, SCHEDULE OF QUANTITIES, & TYPICAL SECTION
3. GENERAL PLAN & ELEVATION - STRUCTURE STA. 544+77
4. SUPERSTRUCTURE DETAILS
5. DECK BEAM DETAILS
6. APPROACH DETAILS
7. TYPE W STEEL RAILING
8. ABUTMENTS
9. PIER
10. PILE DETAILS
11. GENERAL PLAN & ELEVATION - STRUCTURE STA. 681+74
12. SUPERSTRUCTURE DETAILS
13. DECK BEAM DETAILS
14. APPROACH DETAILS
15. TYPE W STEEL RAILING
16. ABUTMENTS

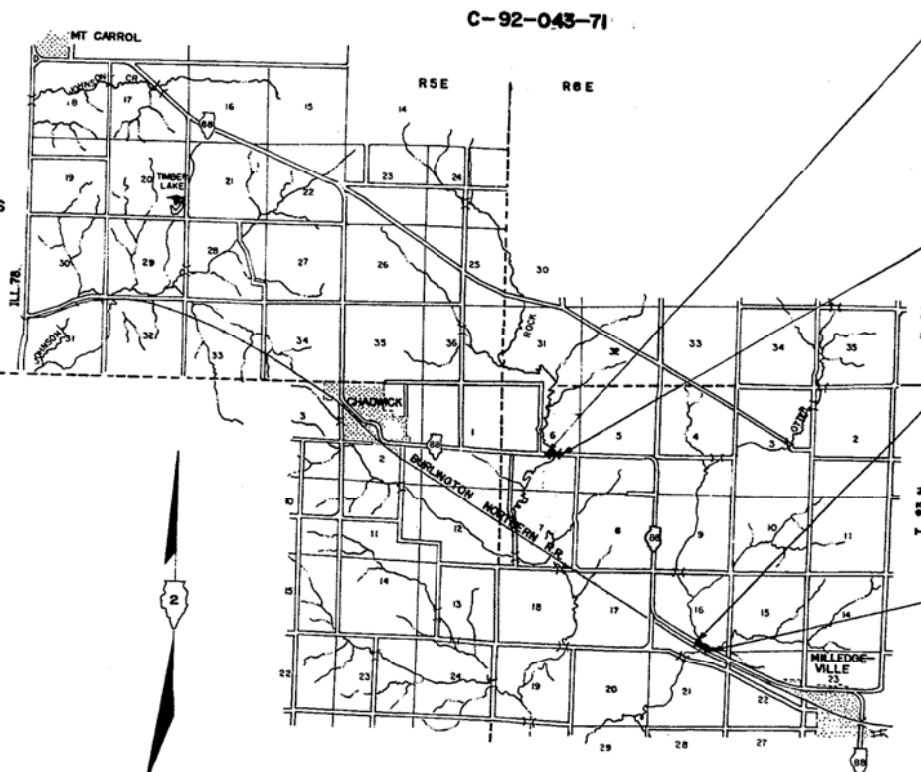
STANDARDS

2113-1	NAME PLATE FOR BRIDGE
2115-3	PAVEMENT FABRIC
2230-7	STEEL PLATE BEAM GUARD RAIL
2231-3	TYPICAL APPLICATION OF STEEL PLATE BEAM GUARD RAIL
2239-4	WIDENING & SHOULDERS FOR PAVEMENT RESURFACING
2298-2	APPLICATION OF TRAFFIC CONTROL DEVICES
2299-1	DESIGN OF TRAFFIC CONTROL DEVICES
2300	FLAGMAN TRAFFIC CONTROL SIGN
2302-1	APPLICATION OF TRAFFIC CONTROL DEVICES
2303-2	" " " " " "
2305-1	" " " " " "
2306-2	" " " " " "
2307-2	" " " " " "
2309-1	" " " " " "

SCALES

PLAN	1 INCH	100 FT.
PROFILE, HOR.	1 INCH	100 FT.
PROFILE, VERT.	1 INCH	10 FT.
CROSS-SECTIONS	1 INCH	5 FT.

S.B.I. ROUTE 40
SECTION 5BR & 5BR-1
CARROLL COUNTY



SECTION 5BR
BEGINS STA. 543+34
SECTION 5BR
INCLUDES The Reconstruction of the Superstructure and Portions of the Substructure of the Bridge Carrying SBI Route 40 (LL 88) over ROCK Creek; Spans 2 @ 42'-11" at STA. 544+77 and all other Work Necessary to Complete the Section.

SECTION 5BR
ENDS STA. 546+20

SECTION 5BR-1
BEGINS STA. 680+42.5

SECTION 5BR-1
INCLUDES The Reconstruction of the Superstructure and Portions of the Substructure of the Bridge Carrying SBI Route 40 (LL 88) over OTTER Creek; 2 @ 31'-4 7/8" at STA. 681+74 and all other Work Necessary to Complete the Section.

SECTION 5BR-1
ENDS STA. 683+05.5

SCALE 1" = 1 MILE

NET LENGTH OF SEC. 5BR = 286.0 LIN. FT. = 0.054 MILES
 NET LENGTH OF SEC. 5BR-1 = 263.0 LIN. FT. = 0.050 MILES
 GROSS LENGTH OF SECTION = 549.0 LIN. FT. = 0.104 MILES



STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
 DIVISION OF HIGHWAYS

SUBMITTED: Nov 14 1971

DESIGNED BY: D. E. Sennott

DRAWN BY: W. J. D. [Signature]

CHECKED BY: [Signature]

APPROVED BY: [Signature]

APPROVED BY: [Signature]

CONTRACT

CARROLL COUNTY SECTION 5BR & 5BR-1S. B. I. ROUTE 40

FILE NAME = ... \D264D84-SHT-ExBridge.dgn

USER NAME = SAW
 PLOT SCALE = 40.0000' / in.
 PLOT DATE = 8/1/2013

DESIGNED - RAC
 DRAWN - SAW
 CHECKED - DAZ
 DATE - 08-08-13

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ZROKA
 engineering

Zroka Engineering, P.C.
 4216 North Hermitage
 Chicago, IL 60613

EXISTING BRIDGE PLANS
 FOR INFORMATION ONLY

SCALE: SHEET 12 OF 28 SHEETS STA. TO STA.

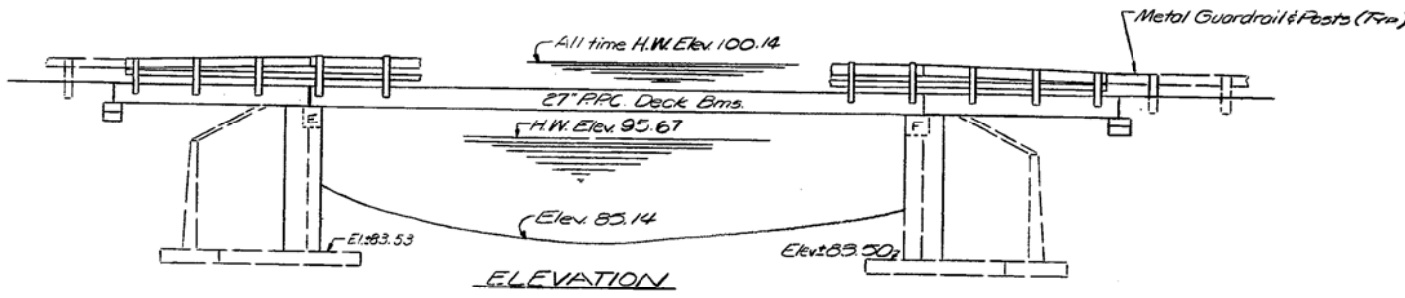
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	54

CONTRACT NO. 64D84
 ILLINOIS FED. AID PROJECT

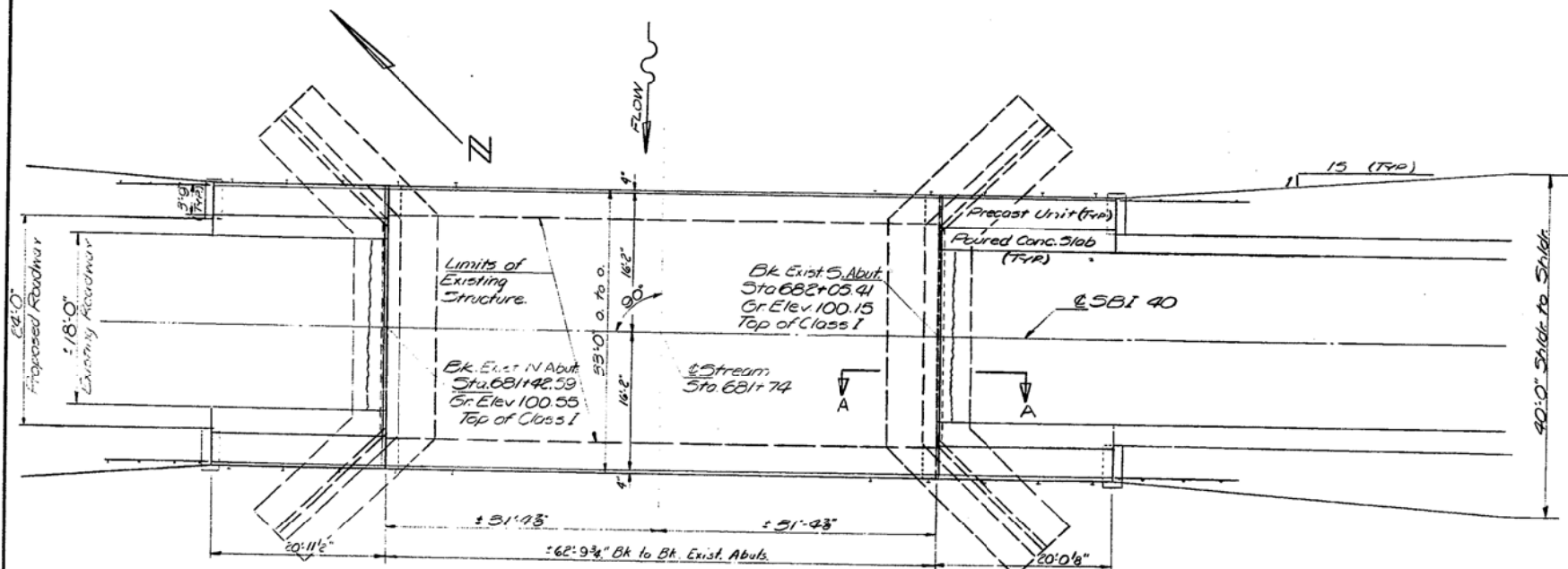
3' W. Top of W. Wall of exist. bridge. Elev. 100.00
 Existing Structure: Built as SBI. 40, Sec. 5B, Sta. 681+74
 in 1925, Superstr. is R.C. Deck Girder.
 Substructure is R.C. Closed Abutts.
 Traffic to be maintained with Staged Construction.
 Superstr. to be removed by Bridge Contractor.
 No Salvage

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. / TOTAL SHEETS
40	5B-1	CARROLL	16	11	6 SHEETS



GENERAL NOTES
 All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
 It shall be the responsibility of the contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.
 An alternate strand pattern using Extra High Strength Prestressing Strand (270 ksi) is permitted.
 Shoulder transition to wingwall shall be shaped with broken concrete.
 Limits of cool for interlayer protective coat shall be back to back of abutments and out to out of deck.
 Expansion bolts shall consist of self-drilling expansion anchors and 3/4" hooked bolts. Hooked bolts shall extend a minimum of 12" into new concrete unless otherwise shown.
 All excavation shall be incidental to contract.



TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Portland Cement Conc. Pavt. (10')	Sq. Yds.	33.2		33.2
Pavement Fabric	Sq. Yds.	33.2		33.2
Concrete Removal	Cu. Yds.		5.0	5.0
Expansion Bolts (3/4")	Each	52	118	170
Class II Concrete	Cu. Yds.	1.6	35.4	37.0
Precast Concrete Bridge Slab	Sq. Ft.	299		299
Precast Prestressed Conc. Deck Bms (27')	Sq. Ft.	2070		2070
Steel Railing, Type (W)	Lin. Ft.	200		200
Reinforcement Bars	Lbs.		1620	1620
Pavt. Rem. & P.C. Repl. Type 2 (10")	Sq. Yds.	12		12
Removal of Existing Superstructures #2 Each		1		1
Bituminous Conc. Surf. Course, Class I	Tons	32		32
Cool for Interlayer Protective Coat	Sq. Yds.	230		230
Performed Joint Sealer	Lin. Ft.	33		33
Temporary Guardrail	Lin. Ft.	63		63
Structural Steel	Lbs.	1790		1790

DESIGN STRESSES PLAN
 FIELD UNITS PRECAST PRESTRESSED UNITS

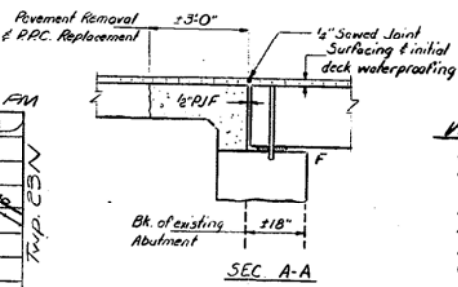
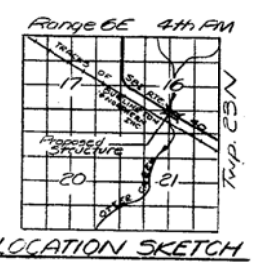
$f_c = 1000 \text{ psi (Sub.)}$
 $f_c = 2000 \text{ psi (Reinf.)}$
 $f_c = 7 \text{ psi (Footings)}$
 $f_t = 10$
 Allowable Future W.S. 25#/50.Ft.
 Design Specifications 1969
 AASHTO (as applicable)

$f_s = 3000 \text{ psi}$
 $f_s = 4000 \text{ psi}$
 $f_s = 243,000 \text{ psi}$
 $f_s = 173,600 \text{ psi}$

LOADING HS20-44

DESIGNED	DATE
CHECKED	DATE
DRAWN	DATE
CHECKED	DATE

EXAMINED
 PASSED
 APPROVED
 Richard A. Holterman



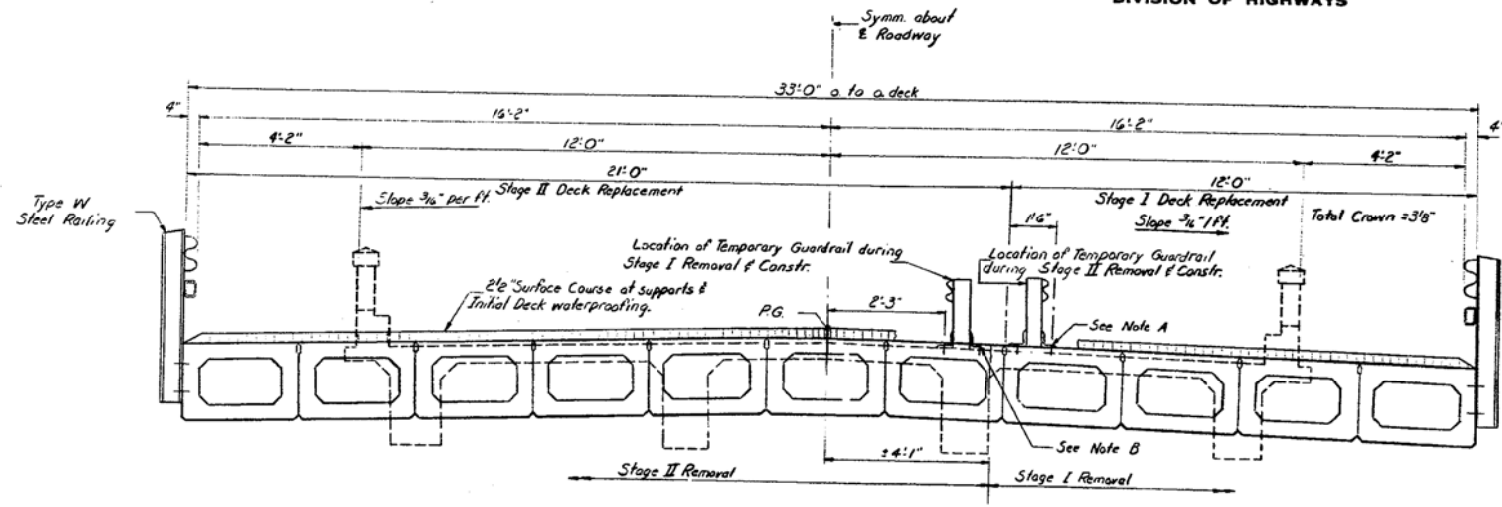
WATERWAY INFORMATION

Drainage Area: 14000 Acres
 Character: Rolling, hilly, clay, cultivated and pasture.
 Present Opening: 600 Sq. Ft.
 Req'd Opening: 500 Sq. Ft.
 Proposed Opening: 600 Sq. Ft.
 Q(50) 3773 cfs.

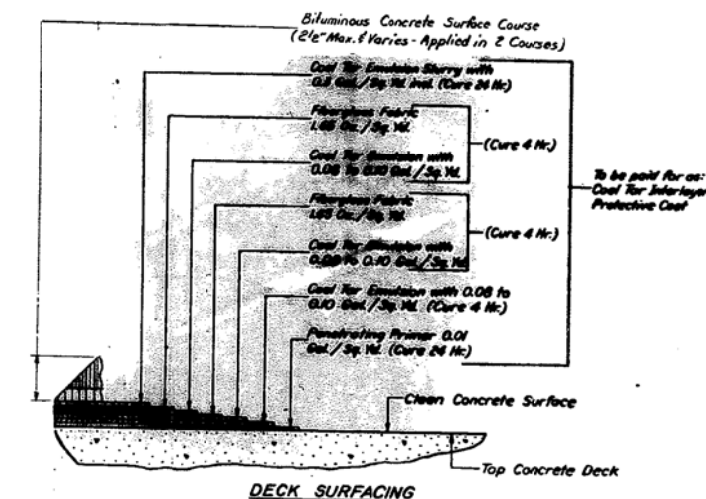
GENERAL PLAN & ELEVATION
 SBI. 40 over OTTER CREEK
 SBI RTE. 40 SEC. 5 BR-1
 CARROLL COUNTY
 STA. 681+74

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

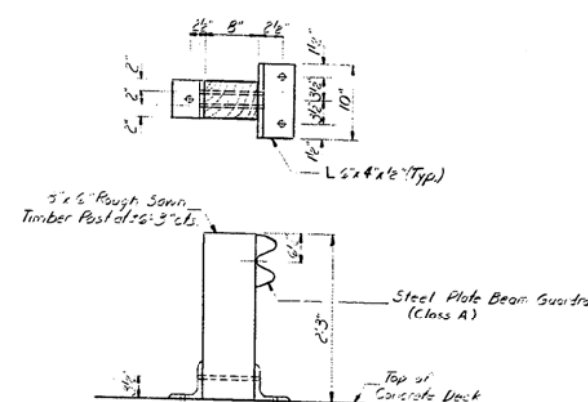
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
40	5BR-1	CARROLL	16	12	6 SHEETS



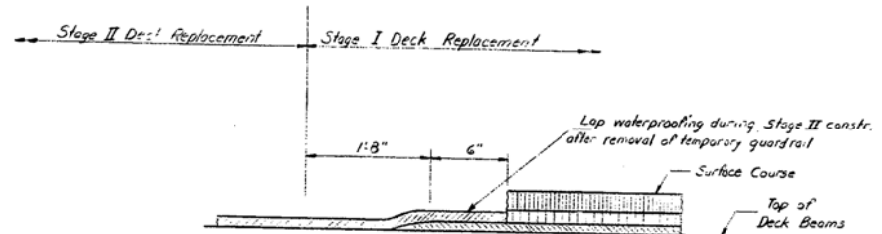
CROSS SECTION
Looking South



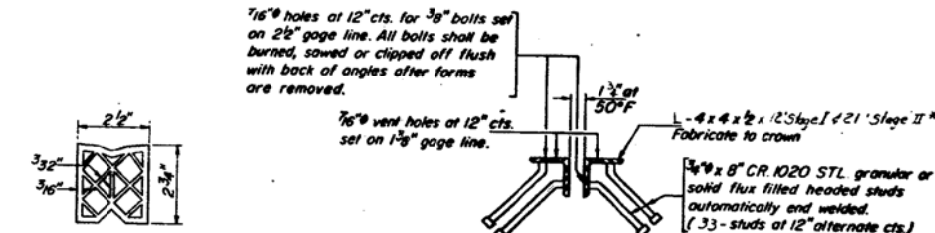
DECK SURFACING



TEMPORARY GUARDRAIL
See Special Provisions

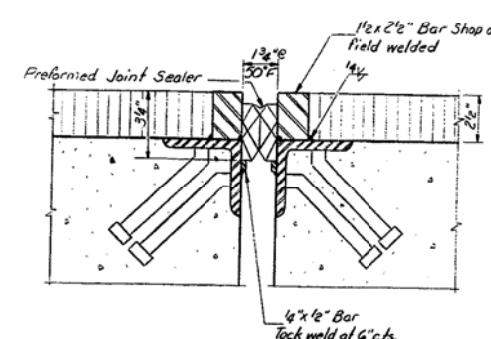


WATERPROOFING TREATMENT



DETAIL "A"

*The lengths of Exp. angles are to be determined in the field after the deck beams have been erected in place.



SEALED JOINT DETAIL

Note: PJS. to be installed after stage II construction is finished.

Note A: 3/8" Bolts to be cast in deck beams for use during stage II deck removal & construction. Cast incidental to RCC, deck beams. All bolts shall be burned, sawed or clipped off flush with the top of beams after temporary guardrail is removed.

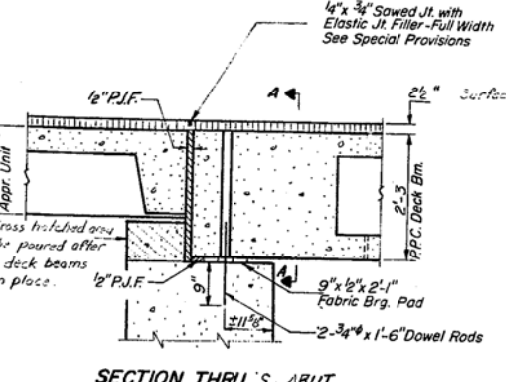
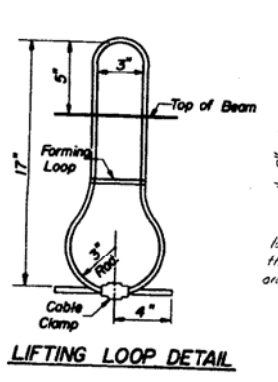
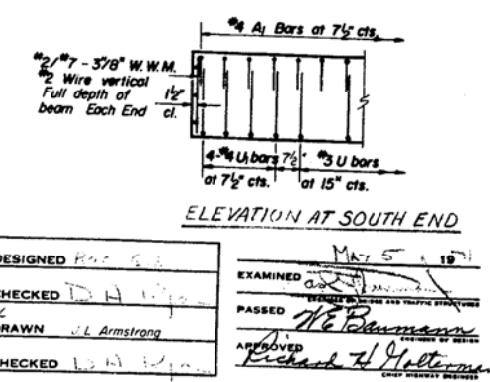
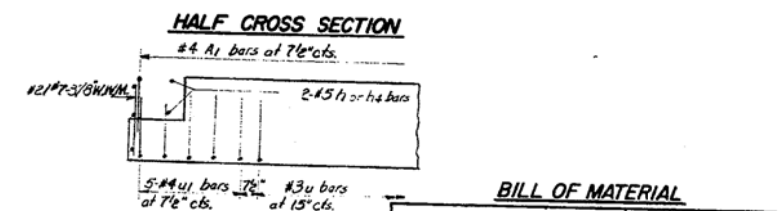
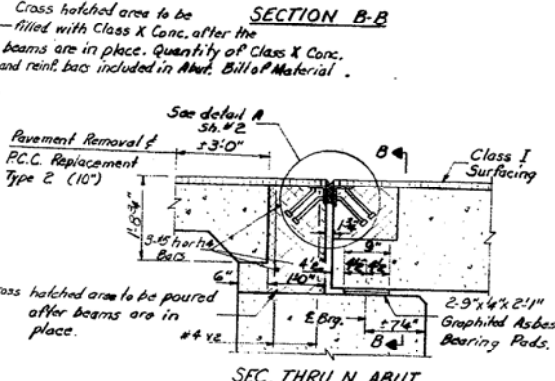
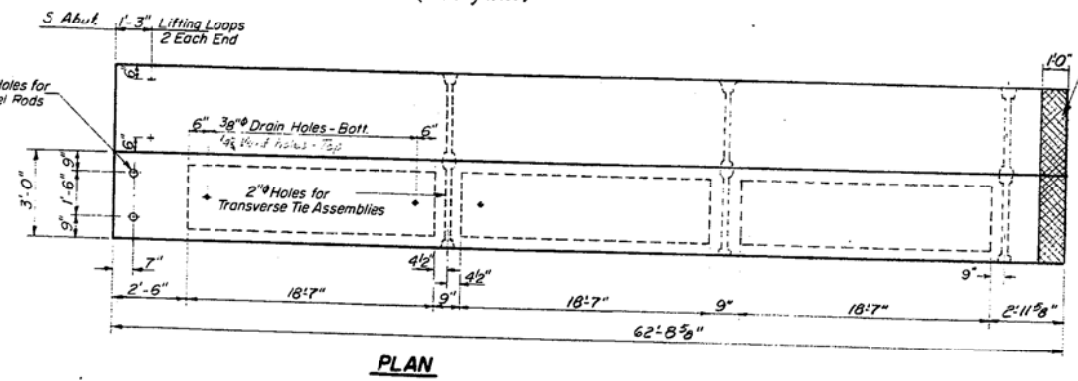
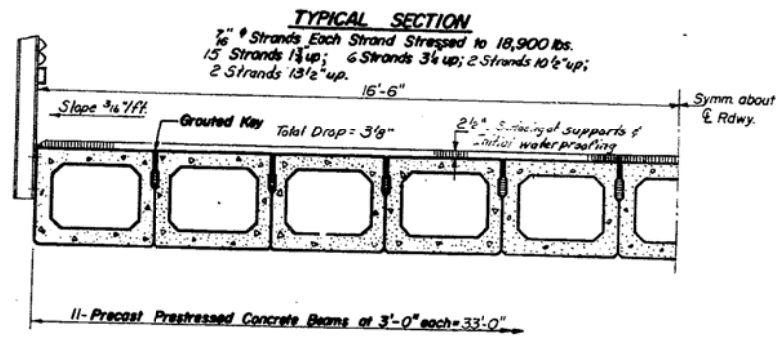
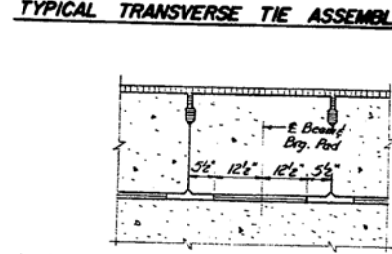
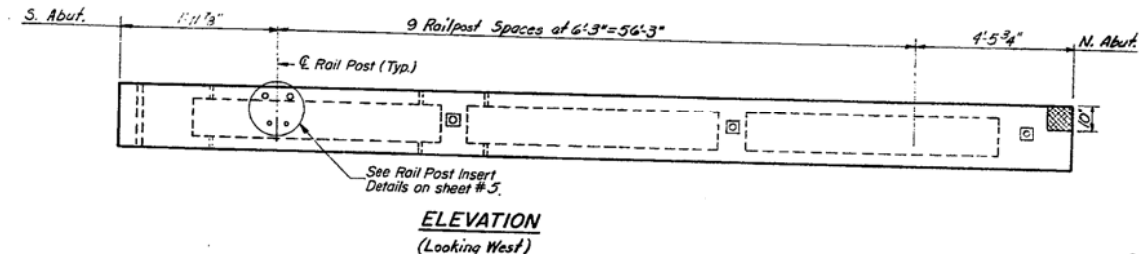
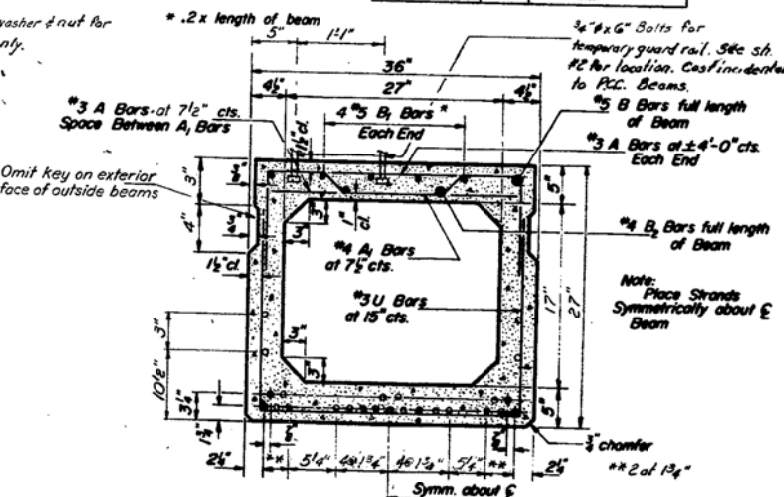
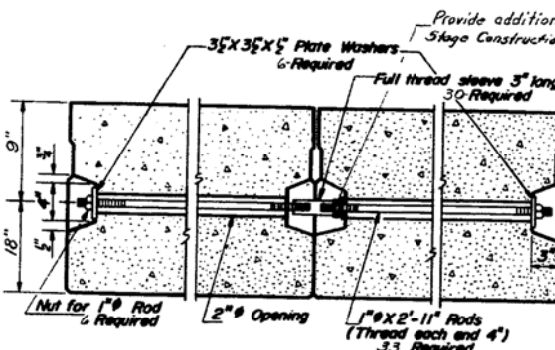
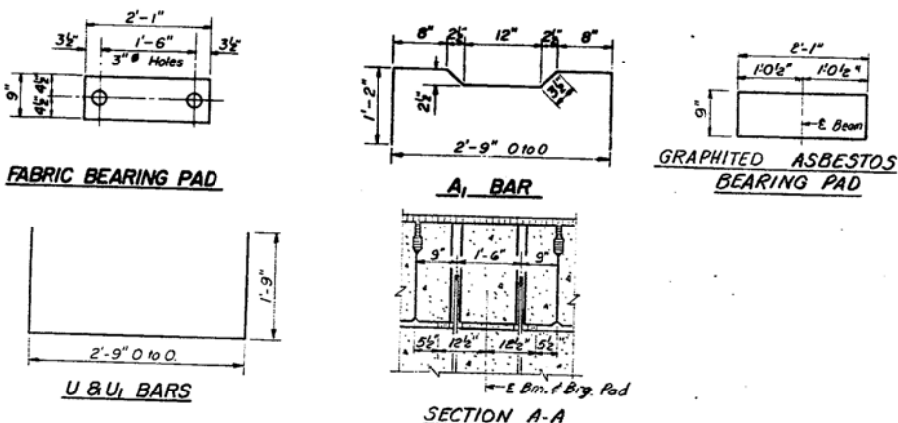
Note B: 3/4" Expansion Bolts for use during stage I deck removal & construction. Cast incidental to temporary guardrail.

DESIGNED	PAZ G. Z	EXAMINED	MAY 5 1971
CHECKED	D. A. RYAN	PASSED	ALF BAUMANN
DRAWN	S. E. LINDSEY	APPROVED	RICHARD H. GOLTZMAN
CHECKED	D. A. RYAN		

SUPERSTRUCTURE
SBI RT. 40 SEC. 5 BR-1
CARROLL COUNTY
STA. 681+74

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
40	5BR-1	CARROLL	15	6
SHEET NO. 3 6 SHEETS				



GENERAL NOTES

1. Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the nominal cross-sectional area shall be 0.109 sq. in. Lifting loops shall be 3/4" diameter, 6 x 19 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 44,400 lbs.

2. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside beam shall be filled with grout after transverse tie assembly is in place.

3. Longitudinal shear keys shall be packed with a very dry mix of 2-1 sand and P.C. mortar. After beams have been erected, holes for dowel anchors shall be drilled into sub-structure. Grout dowels at fixed end. At expansion end grout dowels into sub-structure & fill holes in beam with P.A.F.-4.

4. After fabrication the transverse tie assemblies (tie rods, nuts, washers and sleeves) shall be hot-dipped galvanized in accordance with A.S.T.M. Designation: A553.

5. Cost of reinforcement and accessories cast into the beam, or bearing pads, and grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams."

6. Steel for dowel rods shall be ASTM A-306 or ASTM A-615.

7. Steel for transverse tie rods shall be ASTM A-306, grade 70-80.

BILL OF MATERIAL

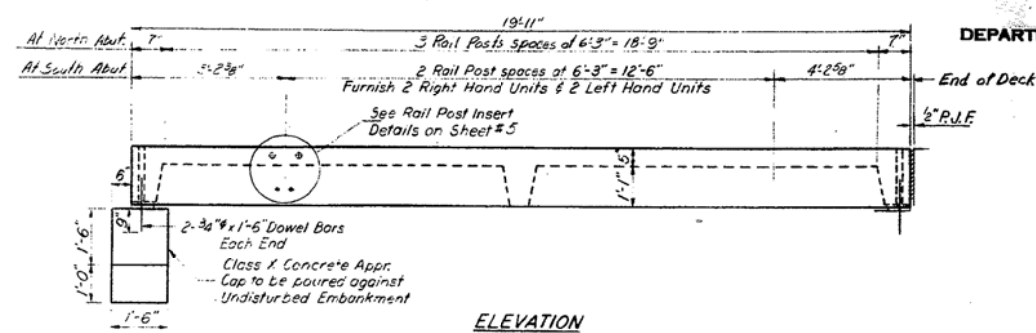
Item	Quantity	Unit	Notes
Precast Prestressed Concrete Deck Beams (27')	2070	Sq Ft	
Removal of Existing Superstructure No. 2	1	Each	

PD-3-S 11-19-65 Rev. 5-20-68
11-5 27 HPC Deck Bms

P.P.C. DECK BEAMS
S.B.I. RT. 40 SEC. 5BR-1
CARROLL COUNTY
STA. 681+74

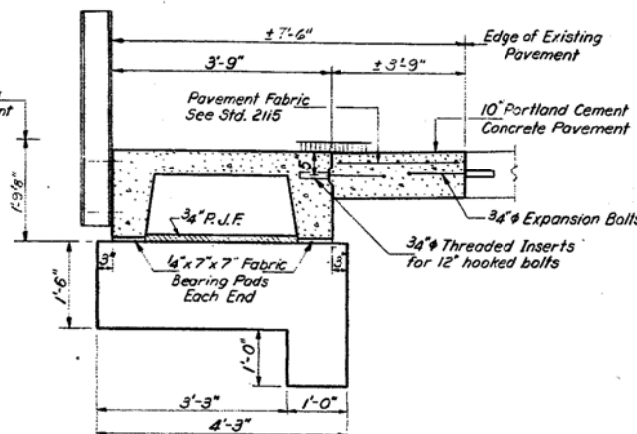
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
40	5BR-1	CARROLL	16	14	6 SHEETS

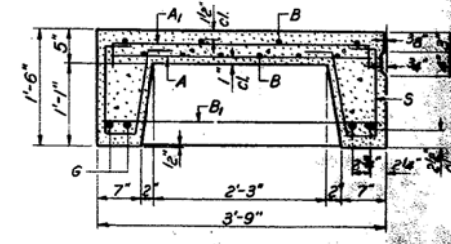


ELEVATION

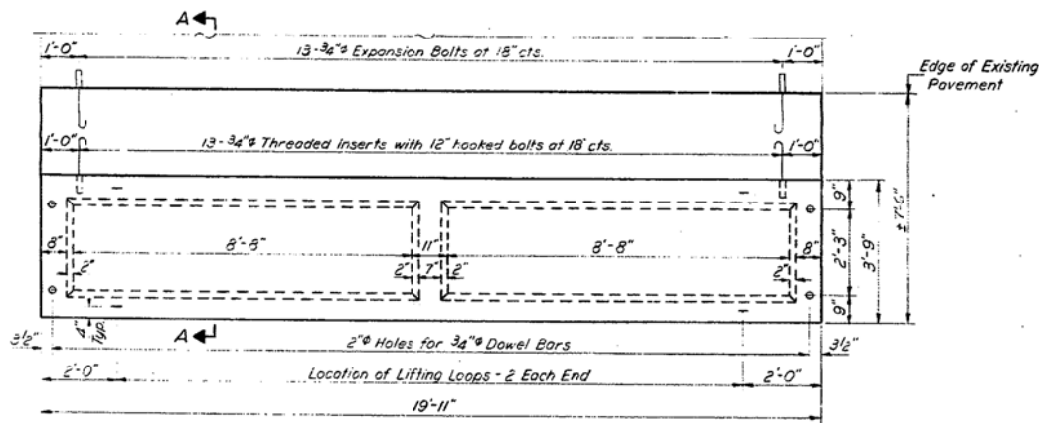
Grade Line Elev. of Rwy
Top of exist. conc. pavement



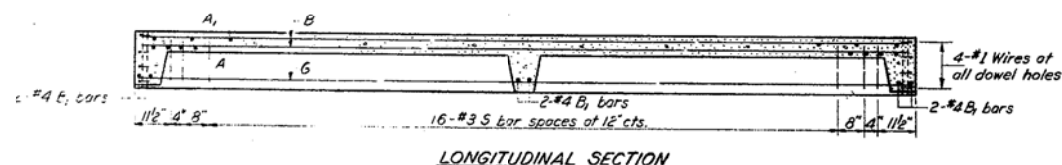
SECTION A-A



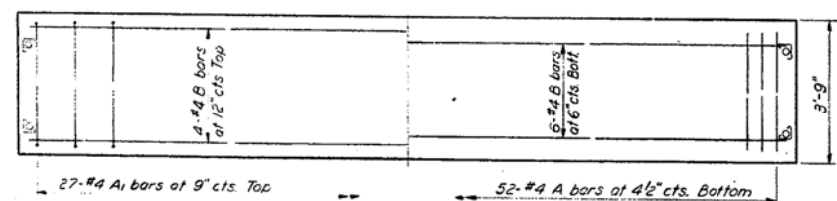
SECTION THRU PRECAST UNIT



PARTIAL PLAN OF APPROACH

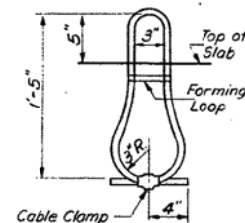


LONGITUDINAL SECTION

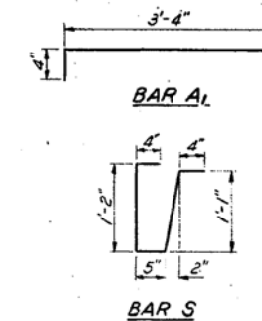


SLAB REINFORCEMENT

DESIGNED	EXAMINED
CHECKED	PASSED
DRAWN	APPROVED
CHECKED	



LIFTING LOOP DETAIL



BAR LIST - ONE UNIT

Bar	No.	Size	Length	Shape
A	52	#4	3'-3"	
A1	27	#4	4'-0"	
B	10	#4	19'-6"	
B1	6	#4	3'-6"	
S	4	#10	19'-6"	
S	42	#3	3'-4"	

NOTES

Unless otherwise approved by the Engineer, lifting loops shall be 1/2" 6x19 class wire rope with fiber core and shall have a minimum ultimate strength of 15,700 lbs. Loops shall be burned off after slab has been erected. Holes shall be drilled and anchor dowels grouted in place. Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor dowels and 3/4" hooked bolts is included in Unit bid price for "Precast Concrete Bridge Slab." The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.

TWO APPROACHES
BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	299
Portland Cement Concrete Pavement (NO)	Sq. Yds.	33.2
Pavement Fabric	Sq. Yds.	33.2
Expansion Bolts 3/4"	Each	52
Class X Concrete	Cu. Yds.	1.6

STRESSES

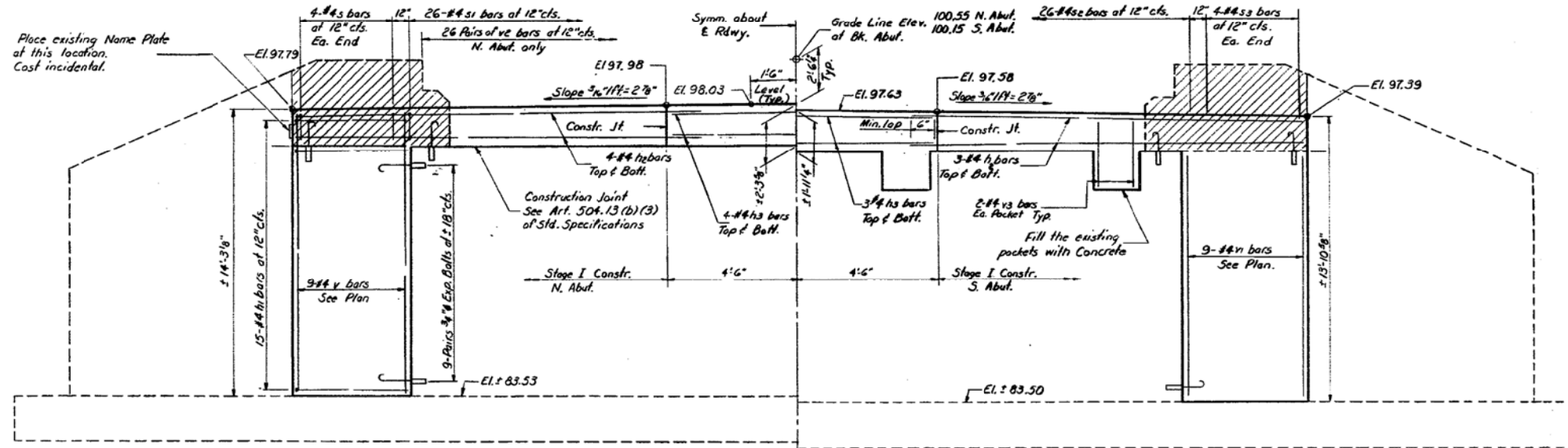
$f_c = 4,500$ psi.
 $f_t = 1,800$ psi.
 $f_s = 20,000$ psi.
 $n = 8$
LOADING HS-20

APPROACH DETAILS

SBI. RT. 40 SEC. 5-BR-1
CARROLL COUNTY
STA. 681+74

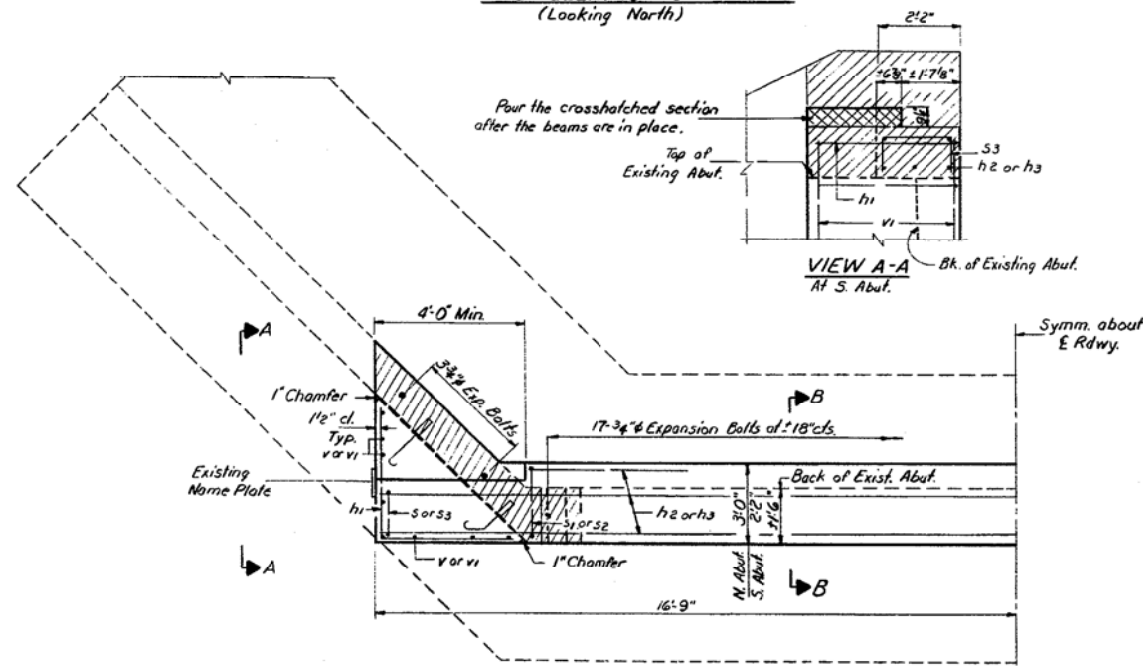
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

DATE	SECTION	EMPHY	TOTAL SHEETS	SHEET NO.
4-0	5BR-1	CARROLL	16	16
SHEET NO. 6				
6 SHEETS				

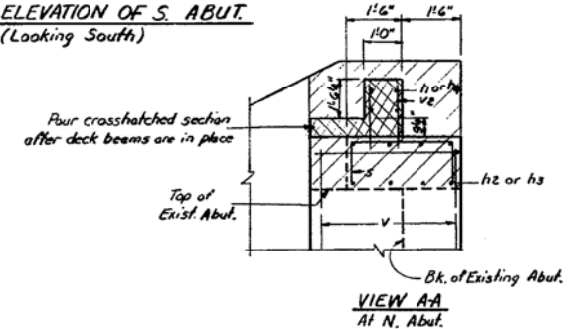


HALF ELEVATION OF N. ABUT.
(Looking North)

HALF ELEVATION OF S. ABUT.
(Looking South)

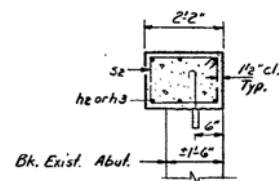


TYPICAL HALF PLAN

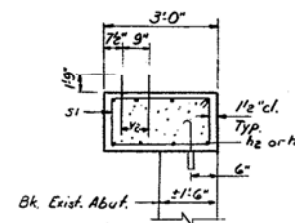


VIEW A-A
At S. Abut.

VIEW AA
At N. Abut.



SECTION B-B
(South Abut)



SECTION B-B
(North Abut.)

TWO ABUTMENTS
BILL OF MATERIAL

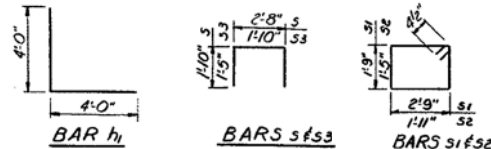
Bar	No.	Size	Length	Shape
h	5	#5	12'-7"	—
h1	60	#4	8'-0"	L
h2	14	#4	12'-7"	—
h3	14	#4	21'-1"	—
h4	5	#5	21'-1"	—
s	8	#4	2'-4"	□
s1	26	#4	9'-9"	—
s2	26	#4	7'-5"	□
s3	0	#4	4'-8"	—
v	18	#4	14'-0"	—
v1	18	#4	13'-7"	—
v2	46	#4	3'-3"	—
v3	16	#4	2'-3"	—
Class X Concrete		Cu Yds	35.4	
Reinforcement Bars		Lbs.	1420	
Expansion Bolts #4		Each	118	
Concrete Removal		Cu Yds	3.0	

ABUTMENTS
SBI. RT. 40 SEC. 5BR-1
CARROLL COUNTY
STA. 681+74

DESIGNED RAO G.K.
CHECKED D.A. Ryan
DRAWN S.E. Lindsey
CHECKED D.A. Ryan

EXAMINED
PASSED
APPROVED

Notes:
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Expansion bolts shall be anchored in sound concrete.
All edges shall have standard 3/4" chamfers except as noted.



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY FAP 646 (IL RTE 40) SECTION 5BR-1-M CARROLL COUNTY

INDEX OF SHEETS

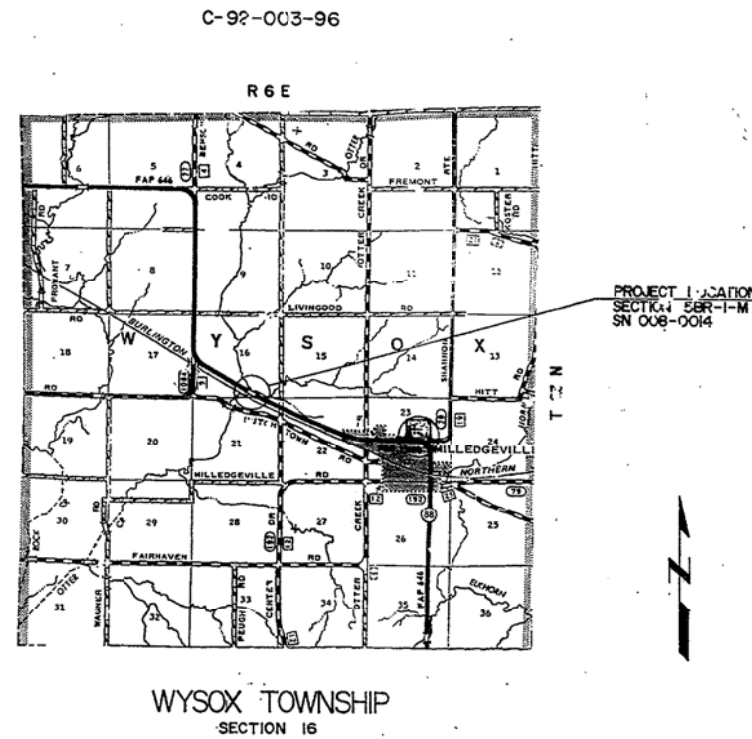
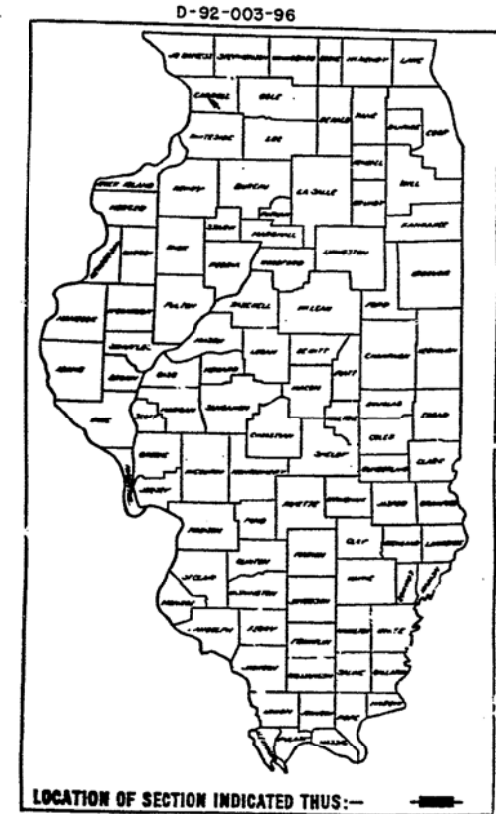
1. COVER SHEET
2. SUMMARY OF QUANTITIES AND GENERAL NOTES
3. TRAFFIC CONTROL PLAN
4. APPROACH ROADWAY PLAN
5. SUPERSTRUCTURE REPAIR PLAN
6. ABUTMENT REPAIR PLAN
7. BRIDGE RAILING REPAIR PLAN
8. TYPE S-1 STEEL RAILING
9. REFLECTOR MARKER TYPE A REFLECTOR AND TERMINAL MARKER PLACEMENT TO ACCUATE SIGNAL SIGN

STANDARDS

- 2230-18 STIFF PLATE BEAM GUARDRAIL
- 2298-12 TRAFFIC CONTROL DEVICES
- 2303-10 RURAL LANE CLOSURE, 2-LANE, 2-WAY, ON-ROAD TO 600mm(24") OFF-ROAD, DAY ONLY
- 2305-9 TRAFFIC CONTROL DEVICES
- 2307-10 RURAL LANE CLOSURE, 2-LANE, 2-WAY, SHORT TIME OPERATIONS
- 2311-12 RURAL LANE CLOSURE, 2-LANE, 2-WAY, PAVEMENT WIDENING
- 2340-6 TRAFFIC BARRIER TERMINAL TYPE 5 & 5A
- 2370-2 DETAIL OF DETECTOR INSTALLATIONS
- 2383-4 TEMPORARY CONCRETE BARRIER
- 2384-1 TYPICAL LAYOUTS FOR DETECTOR LOOPS
- 2409-4 BRIDGE REPAIR WITH BARRIER
- 2421-1 TRAFFIC BARRIER TERMINAL TYPE 1B

"CALL J.U.L.I.E.
BEFORE YOU DIG"
800-892-0123

FILE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 646	5BR-1-M	CARROLL	9	1



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: April 23, 1996
William D. Pate
 EXAMINED: _____
 PASSED: April 19, 1996
Nancy Gault
 APPROVED: April 19, 1996
James P. Selzer

SN 008-0014

CONTRACT NO. 64075

FILE NAME = ... \D264D84-SHT-ExBr-ridge.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - SAW	REVISED -
		CHECKED - DAZ	REVISED -
		DATE - 08-08-13	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA
engineering

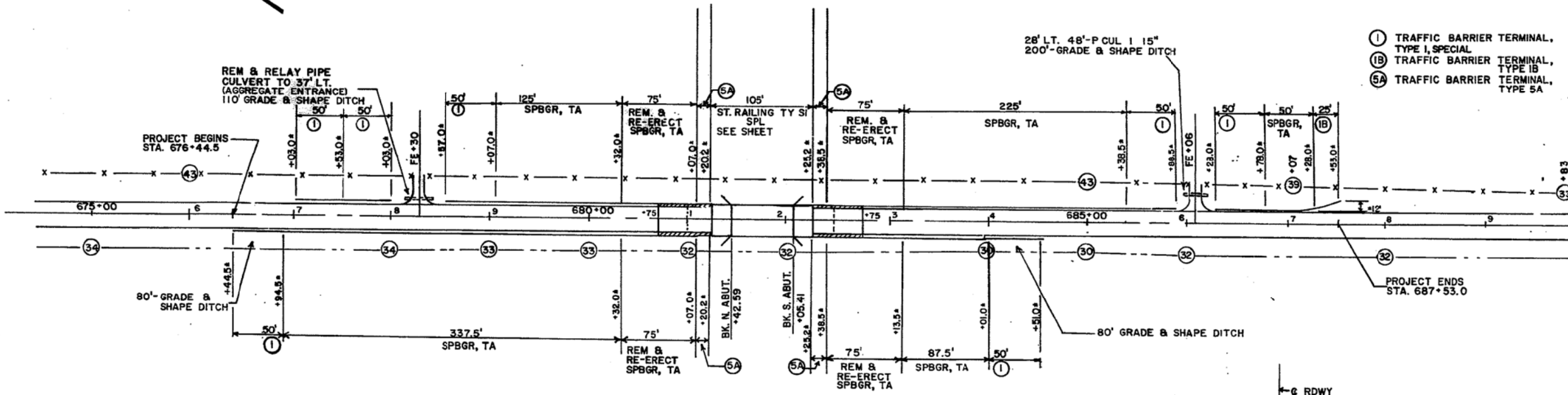
Zzoka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: SHEET 18 OF 28 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	60
CONTRACT NO. 64084				
ILLINOIS FED. AID PROJECT				

ROUTE NO.	REC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA646	*	CARROLL	9	4
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		
* SBR-1-M				



- (1) TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL
- (1B) TRAFFIC BARRIER TERMINAL, TYPE 1B
- (5A) TRAFFIC BARRIER TERMINAL, TYPE 5A

AGGREGATE BASE CSE. TYPE B

Lt. & Rt. Sta. 680+75 to Lt. & Rt. Sta. 681+23	TON	30
Lt. & Rt. Sta. 682+25 to Lt. & Rt. Sta. 681+75	TON	30
TOTAL		60

BITUMINOUS CONCRETE SURFACE CSE MD CL 12

Sta. 680+75 to Sta. 681+41.6*	TON	43
Sta. 682+05.4* to Sta. 682+75	TON	45
TOTAL		90

GRADING AND SHAPING DITCHES

Rt. Sta. 676+30* to Rt. Sta. 677+10	FOOT	80
Lt. Sta. 677+90* to Lt. Sta. 679+00	FOOT	110
Rt. Sta. 683+80* to Rt. Sta. 684+60	FOOT	80
Lt. Sta. 685+50* to Lt. Sta. 687+50*	FOOT	200
TOTAL		470

STEEL PLATE BEAM GUARDRAIL, TYPE A

Rt. Sta. 676+94.5* to Rt. Sta. 680+32*	FOOT	337.5
Lt. Sta. 679+07* to Lt. Sta. 680+32*	FOOT	125
Lt. Sta. 683+13.5* to Lt. Sta. 685+38.5*	FOOT	225
Rt. Sta. 683+13.5* to Rt. Sta. 684+01*	FOOT	87.5
Lt. Sta. 686+78* to Lt. Sta. 687+28*	FOOT	50
TOTAL		825

BITUMINOUS SURFACE REMOVAL - BUTT JOINT

Sta. 680+75 to Sta. 681+05	SQ. YD.	115
Sta. 682+45 to Sta. 682+75	SQ. YD.	115
TOTAL		230

REMOVE AND RE-ERECT SPBGR, TYPE A

Lt. & Rt. Sta. 680+32.0* to Sta. 681+07.0*	FOOT	150
Lt. & Rt. Sta. 682+38.5* to Sta. 683+13.5*	FOOT	150
TOTAL		300

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL

Rt. Sta. 676+44.5* to Pt. Sta. 676+94.5*	EACH	1
Lt. Sta. 677+03* to Lt. Sta. 678+03*	EACH	2
Lt. Sta. 679+57* to Lt. Sta. 679+07*	EACH	1
Rt. Sta. 684+01* to Rt. Sta. 684+51*	EACH	1
Lt. Sta. 685+38.5* to Lt. Sta. 685+83.5*	EACH	1
Lt. Sta. 686+28* to Lt. Sta. 686+78*	EACH	1
TOTAL		7

TRAFFIC BARRIER TERMINAL, TYPE 1B

Lt. Sta. 687+28.0* to Lt. Sta. 687+53.0*	EACH	1
TOTAL		1

INCIDENTAL BITUMINOUS SURFACING

Lt. & Rt. Sta. 680+75 to Lt. & Rt. Sta. 681+23*	TON	8
Lt. & Rt. Sta. 682+25 to Lt. & Rt. Sta. 681+75	TON	8
Verticle Tapers	TON	4
TOTAL		20

TRAFFIC BARRIER TERMINAL, TYPE 5A

Lt. & Rt. Sta. 681+07.0* to Lt. & Rt. Sta. 681+20.2*	EACH	2
Lt. & Rt. Sta. 682+25.2* to Lt. & Rt. Sta. 682+38.5*	EACH	2
TOTAL		4

GUARD RAIL REMOVAL

4 Existing Terminals	FOOT	100
TOTAL		100

EARTH EXCAVATION (WIDENING)

Lt. & Rt. Sta. 680+75 to Lt. & Rt. Sta. 681+23	CU. YD.	20
Lt. & Rt. Sta. 682+25 to Lt. & Rt. Sta. 681+75	CU. YD.	20
TOTAL		40

EMBANKMENT

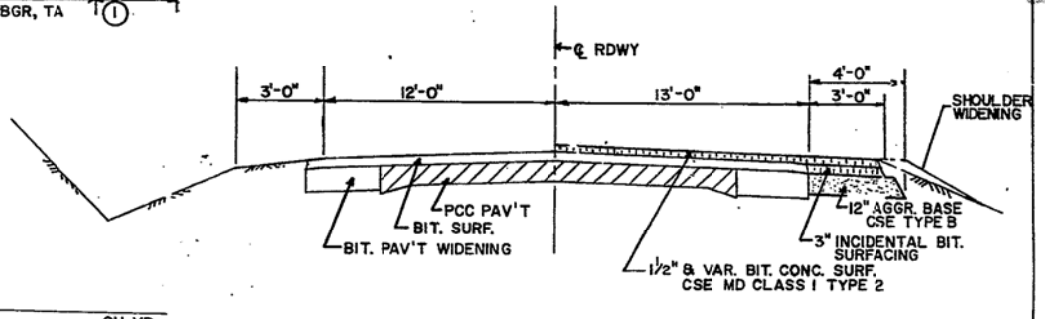
Rt. Sta. 676+70 TO 676+95	CU. YD.	3
Lt. Sta. 678+57 TO 678+82	CU. YD.	36
Rt. Sta. 684+11 TO 684+26	CU. YD.	7
Lt. Sta. 685+62 TO 685+87	CU. YD.	7
Lt. Sta. 686+28 TO 686+53	CU. YD.	7
Shoulder Widening (Entire Project)	CU. YD.	45
TOTAL		100

GUARDRAIL REFLECTORS, TYPE A

Rt. Sta. 676+45 to Rt. Sta. 681+20	EACH	10
Lt. Sta. 677+03 to Lt. Sta. 681+20	EACH	8
Rt. Sta. 682+25 to Rt. Sta. 684+51	EACH	5
Lt. Sta. 682+25 to Lt. Sta. 685+79	EACH	8
Lt. Sta. 686+30 to Lt. Sta. 687+43	EACH	3
TOTAL		34

TERMINAL MARKER-DIRECT APPLIED

Rt. Sta. 676+45*	EACH	1
Lt. Sta. 677+03*	EACH	1
Lt. Sta. 678+03*	EACH	1
Lt. Sta. 678+57*	EACH	1
Rt. Sta. 684+51*	EACH	1
Lt. Sta. 685+89*	EACH	1
Lt. Sta. 686+28*	EACH	1
TOTAL		7



PIPE CULVERTS, TYPE 1 15"

Lt. Sta. 685+82* to Lt. Sta. 686+30*	FOOT	48
TOTAL		48

REMOVE AND RELAY PIPE CULVERTS 15"

Lt. Sta. 678+16* to Lt. Sta. 678+44*	FOOT	28
TOTAL		28

APPROACH ROADWAY PLAN

SN 008-0014
 DISTRICT NO. 2 DIXON
 DESIGNED B. HASENAUER
 DRAWN J. RUMLEY DATE 7/95
 CHECKED D. PAUSER SCALE

REVISED 3-26-96

FILE NAME = ... \D264084-SHT-Ex-Bridge.dgn

USER NAME = SAW	DESIGNED - RAC	REVISED -
PLOT SCALE = 40.0000' / in.	DRAWN - SAW	REVISED -
PLOT DATE = 8/1/2013	CHECKED - DAZ	REVISED -
	DATE - 08-08-13	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ZROKA
 engineering
 Zroka Engineering, P.C.
 4216 North Hermitage
 Chicago, IL 60613

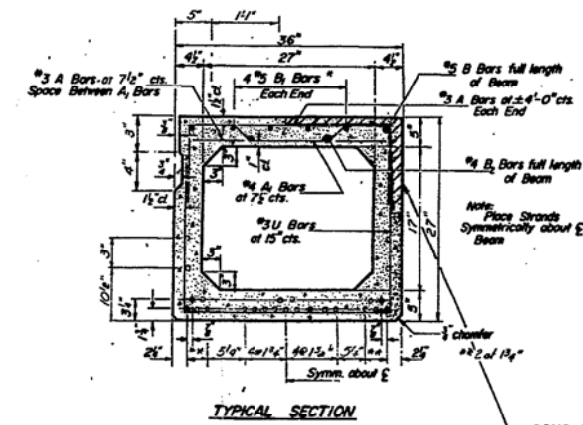
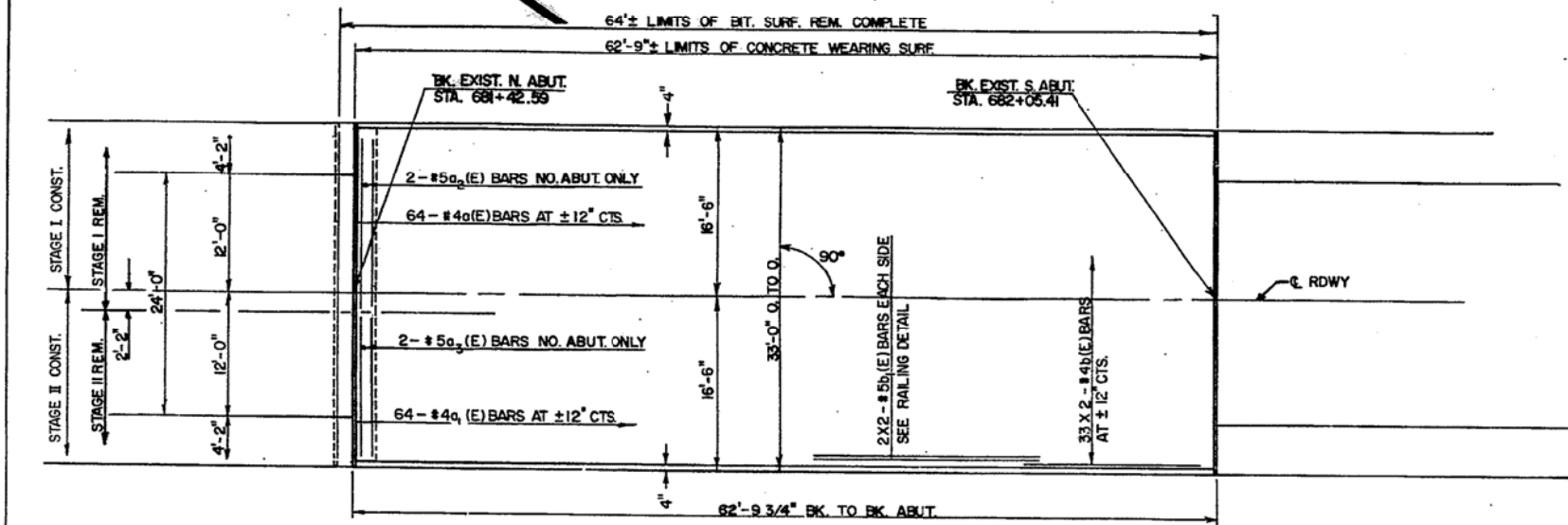
EXISTING BRIDGE PLANS
 FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	61
CONTRACT NO. 64D84				
ILLINOIS FED. AID PROJECT				

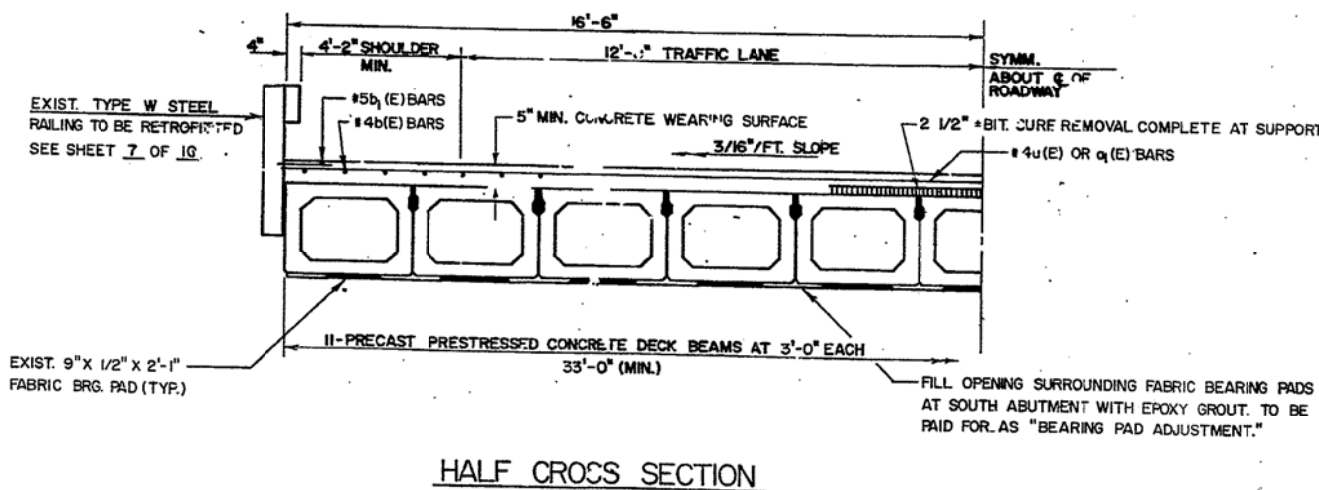
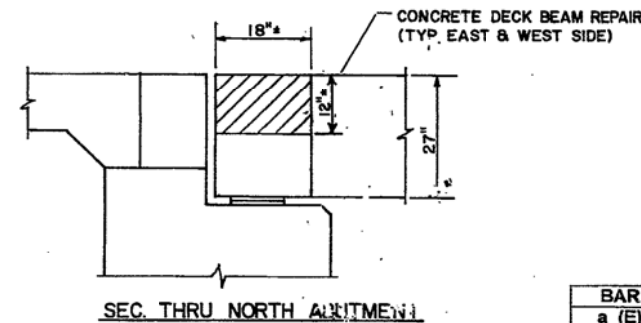
SCALE: SHEET 19 OF 28 SHEETS STA. TO STA.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA646	*	CARROLL	9	5

* 5BR-1-M



CONC. DECK BEAM REPAIR (SEE SPECIAL PROVISIONS)



BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
a (E)	64	#4	18'-0"	---
a1 (E)	64	#4	16'-4"	---
a2 (E)	2	#5	18'-6"	---
a3 (E)	2	#5	16'-4"	---
b (E)	66	#4	32'-4"	---
b1 (E)	8	#5	32'-4"	---
Concrete Removal			CU YD	1.0
Concrete Wearing Surface			CU YD	230
Reinforcement Bars, Epoxy Ctd.			POUND	3240
Bit. Surf. Rem. Complete			SQ FT	235
Silicone Joint Sealer			FOOT	33
Key Way Repair			FOOT	630
Dowel Repair			EACH	22
Bearing Pad Adj.			EACH	11
* Concrete Deck Bm. Rep.			SQ FT	50
F&E STRUCTURAL STEEL			POUND	1260

* Est. Quantity

SN 008-0014
 DISTRICT NO. 2 DIXON
 DESIGNED D. PAUSER
 DRAWN T. MISFELDT DATE 2/95
 CHECKED D. PAUSER SCALE

REVISED 3-22-96

FILE NAME = ... \D264D84-SHT-ExBr-ridge.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - SAW	REVISED -
		CHECKED - DAZ	REVISED -
		DATE - 08-08-13	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ZROKA
 engineering

Zroka Engineering, P.C.
 4216 North Hermitage
 Chicago, IL 60613

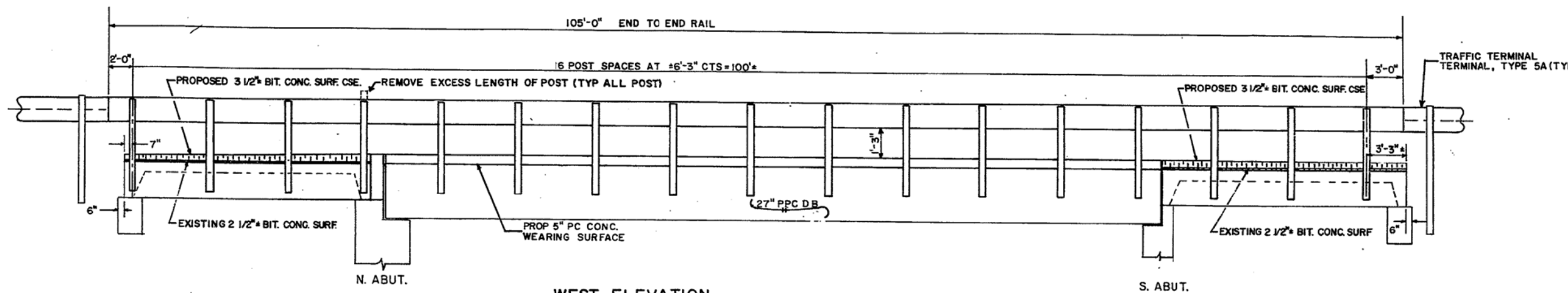
EXISTING BRIDGE PLANS
 FOR INFORMATION ONLY

SCALE: SHEET 20 OF 28 SHEETS STA. TO STA.

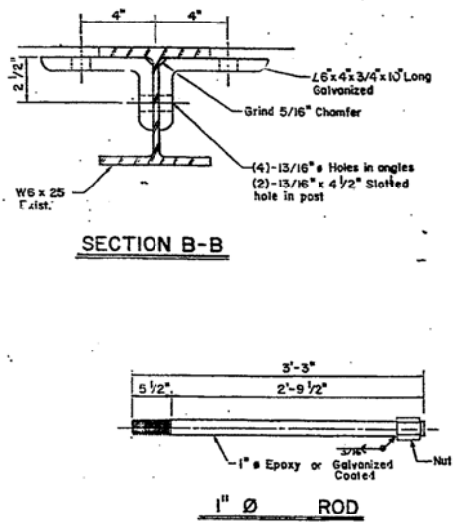
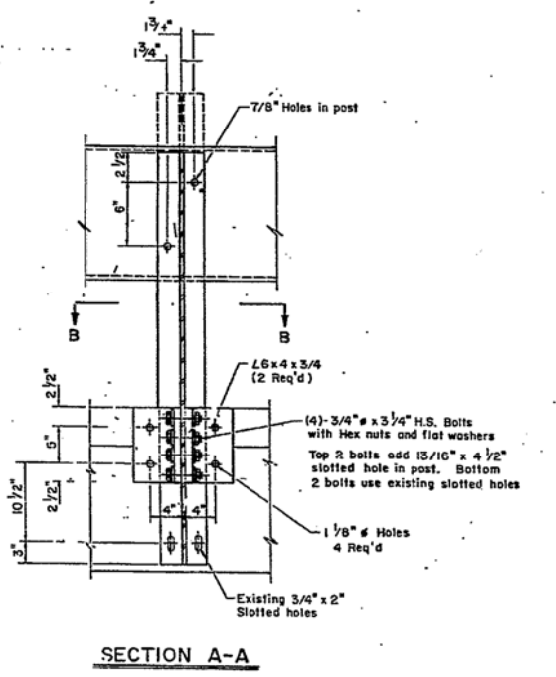
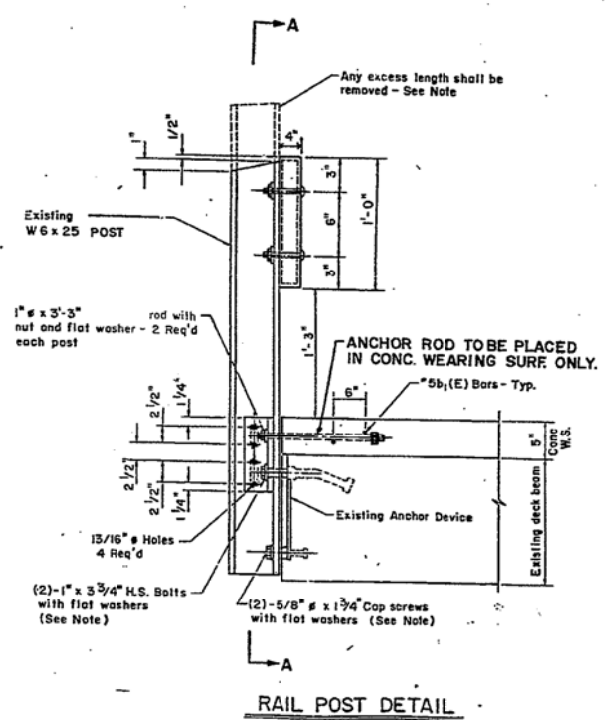
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	62

CONTRACT NO. 64D84
 ILLINOIS FED. AID PROJECT

ROUTE NO.	REC.	COUNTY	TOTAL SHEETS	SHEET NO.
646	*	CARROLL	9	7
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT				
* SECTION 5 BR-1-M				



WEST ELEVATION
(FACING EAST) EAST ELEV. SIMILAR



NOTES:

- THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF THE EXISTING RAIL ELEMENTS.
- ALL OTHER STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-270 GRADE 36 EXCEPT ANGLES SHALL CONFORM TO AASHTO M-270, GRADE 50.
- BOLTS, CAP SCREWS, AND NUTS SHALL CONFORM TO THE REQUIREMENT OF ASTM DESIGNATION A-307 EXCEPT FOR HIGH STRENGTH BOLTS, NUTS AND WASHERS NOTED WHICH SHALL CONFORM TO AASHTO M-164.
- ALL BOLTS, NUTS, CAP SCREWS, WASHERS AND LOCK WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.
- ALL ANGLES SHALL BE GALVANIZED AFTER SHOP FABRICATION IN ACCORDANCE WITH AASHTO M-111 AND ASTM A-385. GALVANIZED RAIL SHALL NOT BE PAINTED.
- ALL FIELD DRILLED HOLES AND SLOTS INCLUDING ANY BARE METAL AREAS OR POSTS FROM CUTTING SHALL BE PAINTED BEFORE ERECTION WITH ZINC RICH PAINT.
- THE LOWER PORTION OF THE POST FLANGE IN CONTACT WITH CONCRETE SHALL RECEIVE A 1/8" FABRIC BEARING PAD BETWEEN THE POST AND CONCRETE.
- THE 3/4" Ø HIGH STRENGTH BOLTS USED TO CONNECT THE 6 X 4 X 3/4 ANGLES TO THE POST SHALL BE TIGHTENED IN ACCORDANCE WITH ARTICLE 505 D4(D)(3) OF THE STANDARD SPECIFICATION. THE 1" Ø HIGH STRENGTH BOLTS CONNECTING THE ANGLES TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN. THE 5/8" Ø CAP SCREWS IN BOTTOM OF POSTS SHALL BE TIGHTENED TO A SNUG FIT ONLY.
- STEEL RAILING, TYPE S-1 (SPECIAL) INCLUDES FURNISHING AND ERECTING OF ALL GALVANIZED RAIL, ANGLES, BOLTS, NUTS, WASHERS, SHIM PLATES, RODS, REMOVAL OF EXISTING STEEL RAILING AND RETROFITTING EXISTING RAIL POST.
- CONTRACTOR SHALL PROVIDE SUFFICIENT SHIMS, H.S. BOLTS, NUTS AND FLAT WASHERS TO REALIGN EXISTING RAILING. BOLT LENGTH AND CAP SCREW LENGTH TO BE DETERMINED IN THE FIELD WHEN SHIMS ARE USED. COST TO BE INCLUDED IN THE UNIT PRICE PER FOOT FOR STEEL RAILING TYPE S-1(SPECIAL).

BRIDGE RAILING REPAIR PLAN

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
STEEL RAILING TYPE S-1 (SPECIAL)	FOOT	210

SN 008-0014
DISTRICT NO. 2 DIXON
DESIGNED D. PAUSER
DRAWN J. RUMLEY DATE 6/95
CHECKED SCALE

REVISED 3-22-96

FILE NAME = ... \0264084-SHT-ExBr-ridge.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - SAW	REVISED -
		CHECKED - DAZ	REVISED -
		DATE - 08-08-13	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	63
CONTRACT NO. 64D84				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET 21 OF 28 SHEETS STA. TO STA.

1-18-08 Letting, Item 072

SQUAD LEADER: FAITH DUNCAN
815-284-5364

PROJECT ENGINEER: REBECCA MARRUFFO

INDEX OF SHEETS

1	COVER SHEET
2	SUMMARY OF QUANTITIES
3	GENERAL NOTES
4,5	TYPICAL SECTIONS
6,7	SCHEDULE OF QUANTITIES
8	HORIZONTAL AND VERTICAL CONTROL
9-11	PLAN AND PROFILE
12-19	BRIDGE PLANS
20-22	EXISTING BRIDGE PLANS - INFORMATION ONLY
23,24	PERIMETER EROSION CONTROL BARRIER DETAIL
25,26	STAGING DETAILS
27	DETAIL OF HOT-MIX ASPHALT SHOULDER AT GUARDRAIL (23.4)
	DELINEATOR AND POST (37.4)
	INFORMATIONAL WARNING SIGN (39.4)
	TYPICAL BENCHING DETAIL ON EXISTING EMBANKMENT (50.4)
28	LETTERING FOR NAME PLATE (89.4)
	STOP LINE SIGN FOR TEMPORARY SIGNALS (99.4)
	EROSION CONTROL DETAILS FOR SILT FENCE (29.2)
29	WITNESS MARKER & PERMANENT SURVEY MARKERS, TYPE II (66.2)
30,31	TYPICAL PAVEMENT MARKINGS (41.1)
32-52	IL 40 CROSS SECTIONS

STATE STANDARDS

001001-01	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND A FOOT
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
515001-02	NAME PLATE FOR BRIDGES
630001-07	STEEL PLATE BEAM GUARDRAIL
630201-05	PCC/BITUMINOUS STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-04	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-03	TRAFFIC BARRIER TERMINAL, TYPE 6A
635001	DELINEATORS
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
667101	PERMANENT SURVEY MARKERS
701006-02	TYPICAL APPLICATION OF TRAFFIC CONTROL STANDARD
701201-02	TYPICAL APPLICATION OF TRAFFIC CONTROL STANDARD
701301-02	TYPICAL APPLICATION OF TRAFFIC CONTROL STANDARD
701306-01	TYPICAL APPLICATION OF TRAFFIC CONTROL STANDARD
701311-02	TYPICAL APPLICATION OF TRAFFIC CONTROL STANDARD
701321-09	TYPICAL APPLICATION OF TRAFFIC CONTROL STANDARD
701901	TRAFFIC CONTROL DEVICES
704001-04	TEMPORARY CONCRETE BARRIER
720011	METAL POST FOR SIGNS, MARKERS AND DELINEATORS
728001	TELESCOPING STEEL SIGN SUPPORT
729001	APPLICATIONS OF TYPE A & B METAL POSTS (FOR SIGNS AND MARKERS)
780001-01	TYPICAL PAVEMENT MARKINGS
886001	DETECTOR LOOP INSTALLATIONS
886006	TYPICAL LAYOUT FOR DETECTION LOOPS

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

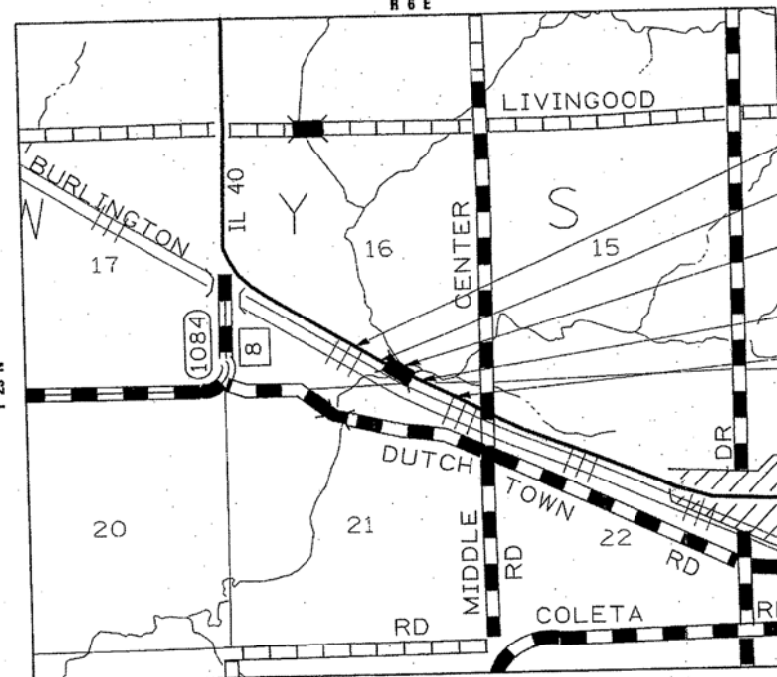
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

WYSEX TOWNSHIP SECTION 16, 21
CONTRACT NO. 64D29

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 646 (IL 40)
SECTION (5BR-1)D

CARROLL COUNTY
C-92-015-08



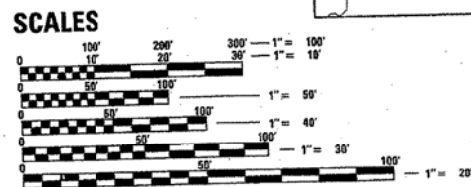
IMPROVEMENT ENDS
STA 251+79.15

SECTION ENDS
STA 249+02.71

SECTION (5BR-1)D
INCLUDES THE REMOVAL AND REPLACEMENT
OF SIX BEAMS ON THE EXISTING STRUCTURE
SN-008-0014 OVER OTTER CREEK.

SECTION BEGINS
STA 247+39.04

IMPROVEMENT BEGINS
STA 243+54.27



GROSS LENGTH OF PROJECT = 824.88 LIN FT = 0.15 MI
NET LENGTH OF PROJECT = 824.88 LIN FT = 0.15 MI

CONTRACT NO. 64D29				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	(5BR-1)D	CARROLL	52	1



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: _____ 20____

Angie E. Ryan
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

December 7, 20 07

Eric E. Harms
ENGINEER OF DESIGN AND ENVIRONMENT

December 7, 20 07

Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

**REGION 2, DISTRICT 2
DIXON**

FAP ROUTE 646 (IL 40)

SECTION (5BR-1)D

CARROLL COUNTY

CONTRACT NO. 64D29

FILE NAME =
... \D264D84-SHT-ExBr-ridge.dgn

USER NAME = SAW	DESIGNED - RAC	REVISED -
PLOT SCALE = 40.0000' / in.	DRAWN - SAW	REVISED -
PLOT DATE = 8/1/2013	CHECKED - DAZ	REVISED -
	DATE - 08-08-13	REVISED -

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4216 North Hermitage
Chicago, IL 60613

EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

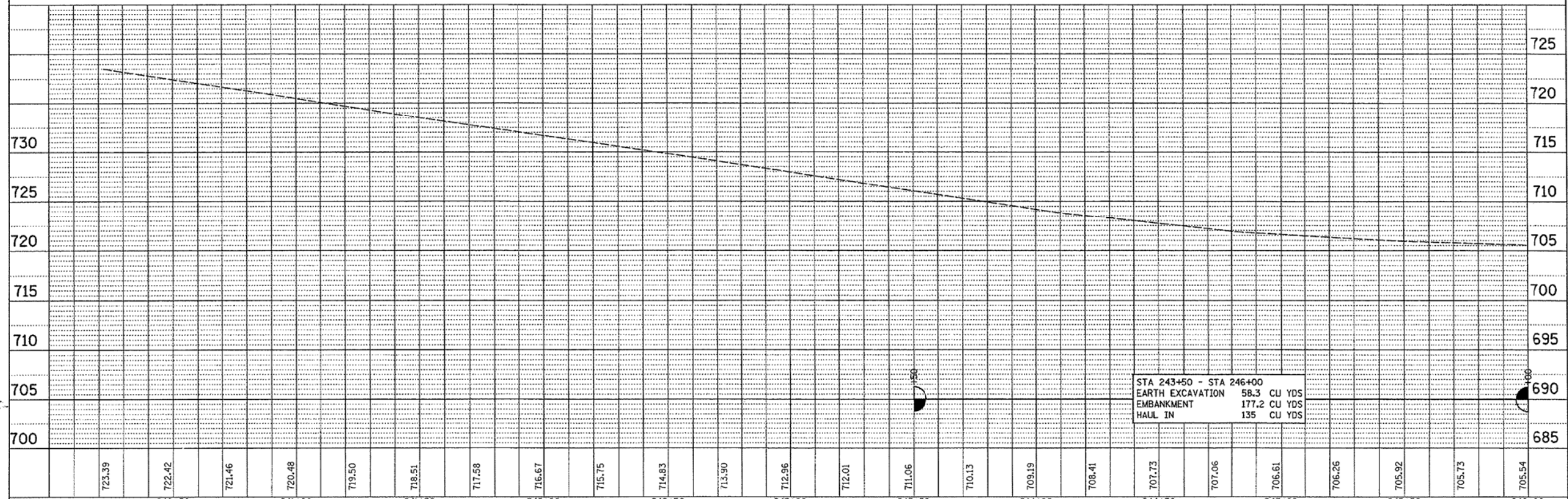
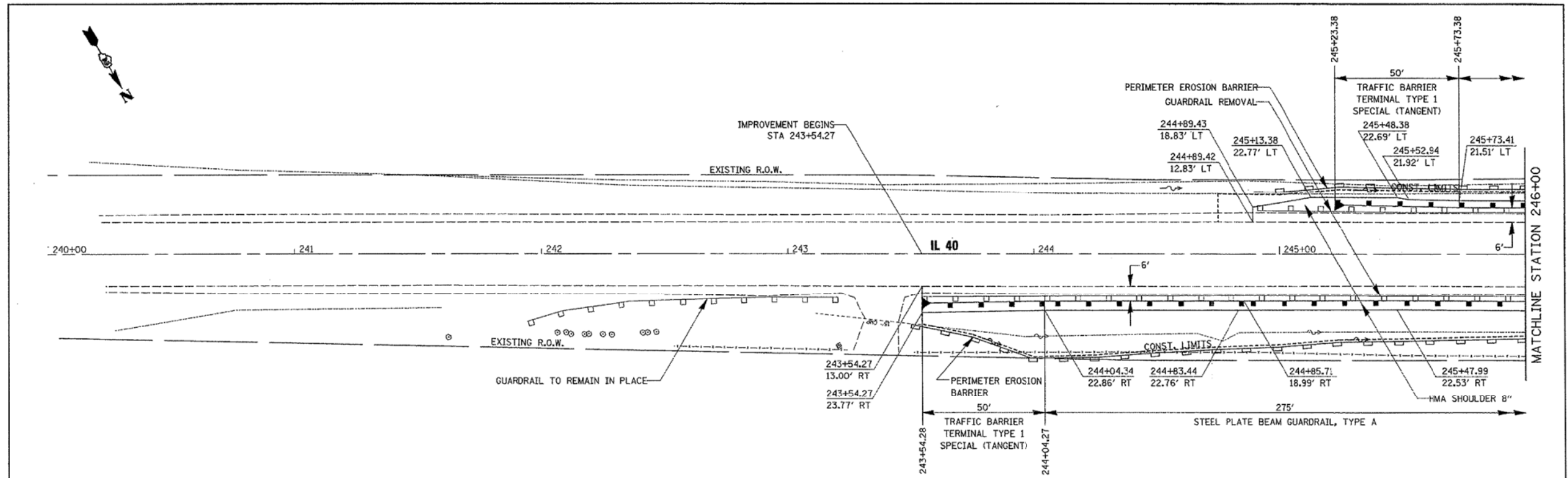
SCALE: SHEET 22 OF 28 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	64
				CONTRACT NO. 64D84

ILLINOIS FED. AID PROJECT

DATE	BY
APPROVED -	DATE
PLANNING	BY
DESIGNED	DATE
DRAWN	BY
CHECKED	DATE
REVISIONS	BY
NO.	DATE

DATE	BY
APPROVED -	DATE
PLANNING	BY
DESIGNED	DATE
DRAWN	BY
CHECKED	DATE
REVISIONS	BY
NO.	DATE



STA 243+50 - STA 246+00	EARTH EXCAVATION	58.3 CU YDS
	EMBANKMENT	177.2 CU YDS
	HAUL IN	135 CU YDS

FILE NAME =	USER NAME = duncanfe	DESIGNED - FD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND PROFILE	F.A.P. RTE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et\projects\p26587\d8997p1.dgn		DRAWN - HJ/FD	REVISED -			646	(SBR-1D)	CARROLL	52	9	
PLOT SCALE = 20.0000' / in.		CHECKED -	REVISED -			SCALE: 20		SHEET NO. 9 OF 52 SHEETS		STA. 240+00 TO STA. 246+00	
PLOT DATE = Wed Oct 24 11:46:22 2007		DATE - 9/20/07	REVISED -			FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 64D29	

FILE NAME =	USER NAME = SAW	DESIGNED - RAC	REVISED -
... \0264084-SHT-ExBr-ridge.dgn		DRAWN - SAW	REVISED -
		CHECKED - DAZ	REVISED -
		DATE - 08-08-13	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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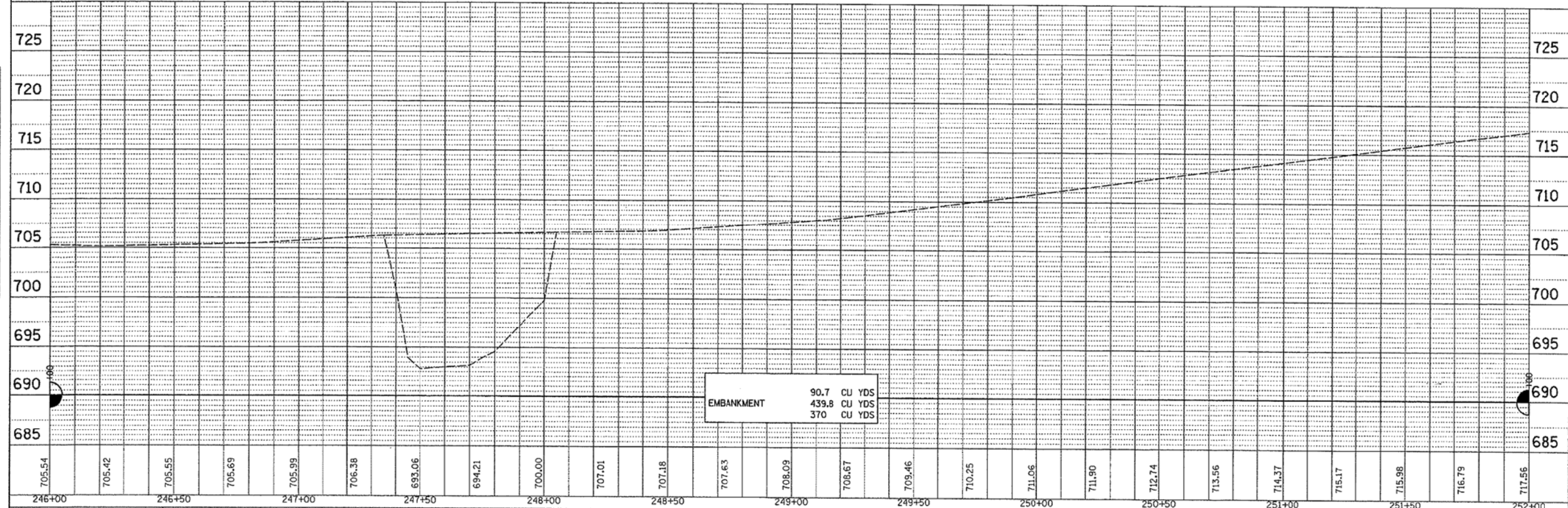
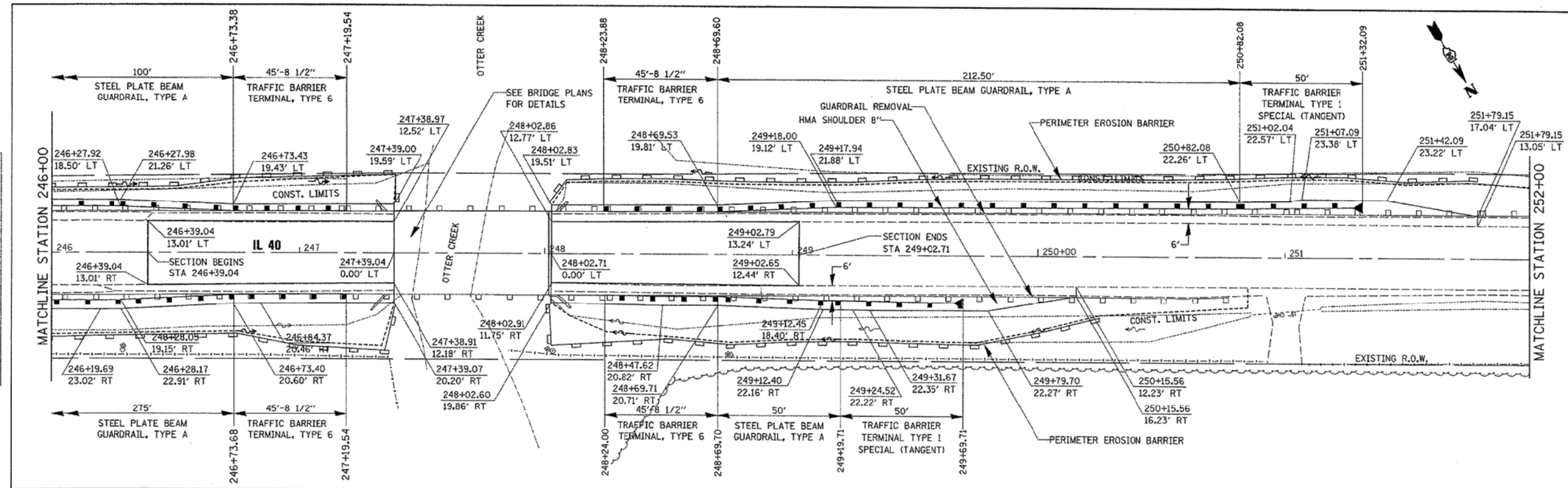
**EXISTING BRIDGE PLANS
FOR INFORMATION ONLY**

F.A.P. RTE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	65
CONTRACT NO. 64D84				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET 23 OF 28 SHEETS STA. TO STA.

DATE	
BY	
REVISION	
PLAN	
NOTE BOOK	
NO. OF SHEETS	
FILE NAME	

DATE	
BY	
REVISION	
PLAN	
NOTE BOOK	
NO. OF SHEETS	
FILE NAME	



FILE NAME =	USER NAME = duncanfe	DESIGNED - FD	REVISED -
...		DRAWN - HJ/FD	REVISED -
		CHECKED -	REVISED -
		DATE - 9/20/07	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
SCALE: 20 SHEET NO. 10 OF 52 SHEETS STA. 246+00 TO STA. 252+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64E	5 BR-3	CARROLL	52	10
CONTRACT NO. 64D29			ILLINOIS FED. AID PROJECT	

FILE NAME = ... \0264D84-SHT-ExBr-ridge.dgn

USER NAME = SAW	DESIGNED - RAC	REVISED -
	DRAWN - SAW	REVISED -
	CHECKED - DAZ	REVISED -
	DATE - 08-08-13	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

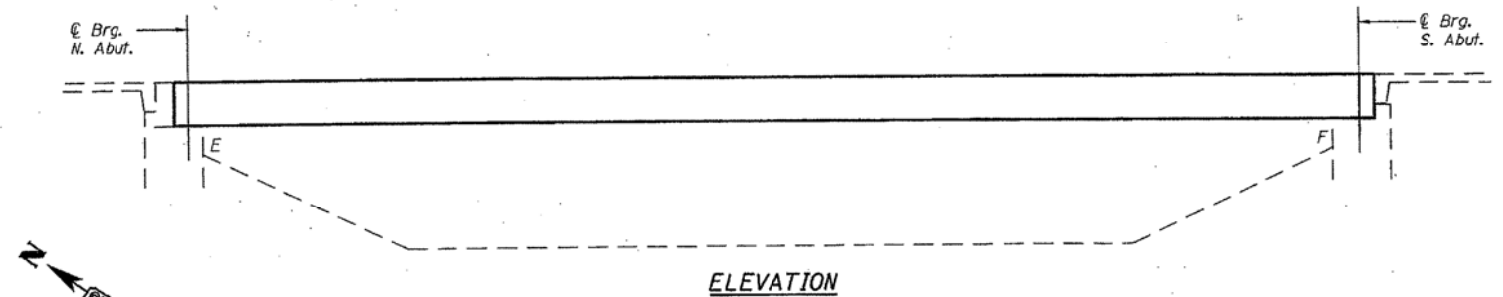
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: SHEET 24 OF 28 SHEETS STA. TO STA.

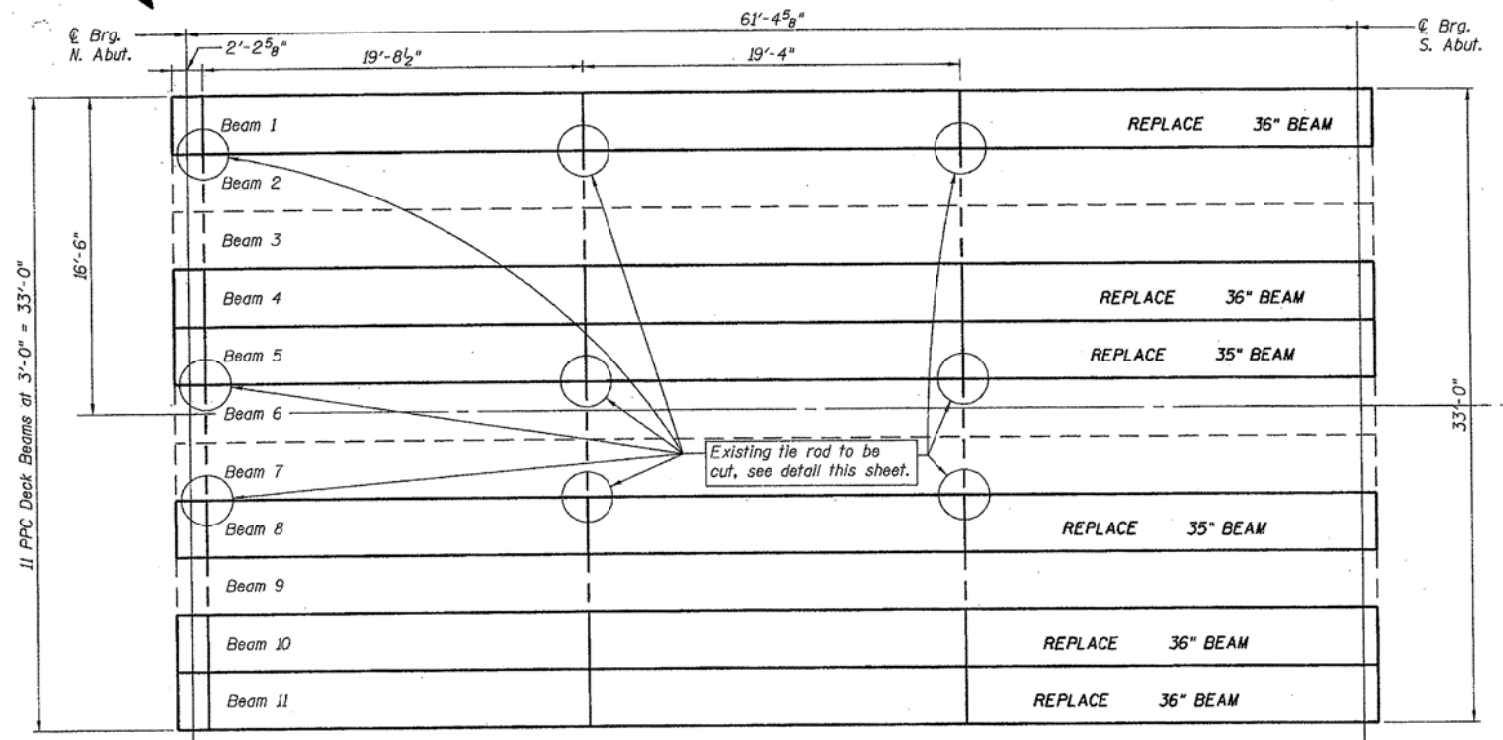
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64E	5 BR-3	CARROLL	84	66
CONTRACT NO. 64D84			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

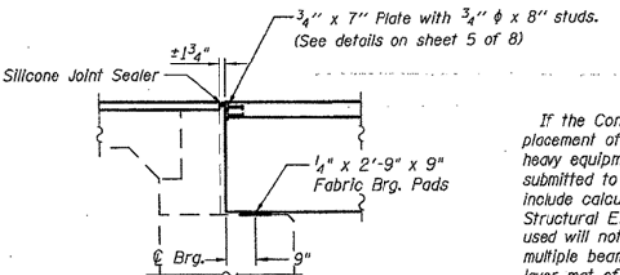
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAP 646		CARROLL	12	8
8 SHEETS				



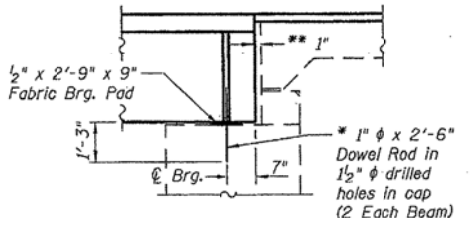
ELEVATION



PLAN



TYPICAL SECTION NORTH ABUTMENT



TYPICAL SECTION SOUTH ABUTMENT

GENERAL NOTES

If the Contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new beams. To distribute load to multiple beams and protect the concrete, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys. A temporary means of lateral restraint will be required for fascia beams at expansion ends of beams to prevent movement of the beams.

Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of Removal of Existing PPC Deck Beams.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall 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 work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for the new profile grade and actual beam camber.

All construction joints shall be bonded.

The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

The top surface of the beams shall be finished according to the IDOT Manual of Fabrication of Precast Prestressed Concrete Products.

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

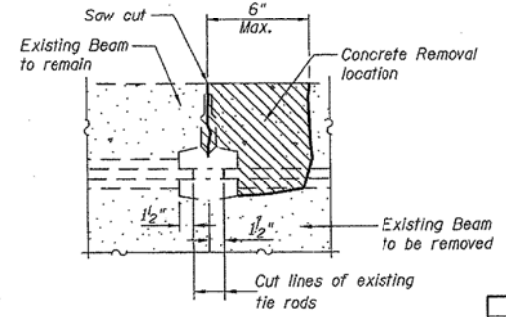
Reinforcement bars designated (E) shall be epoxy coated.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (21" Depth)	SQ.FT.	1119
Removal of Existing PPC Deck Beams	SQ.FT.	1129
Asbestos Bearing Pad Removal	EACH	6
Steel Railing, Type SM	FOOT	210
Reinforcement Bars, Epoxy Coated	POUND	2200
Concrete Wearing Surface, 5"	SQ.YD.	160.3
Concrete Removal	CU.YD.	5.3
Mechanical Splice	EACH	256
Silicone Joint Sealer	FOOT	33

* Existing dowel rods are to be burned off, ground flush, and sealed with epoxy prior to placement of new beams. Cost included in Removal of Existing PPC Deck Beams. After beams have been erected holes shall be drilled into cap and dowel rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure a minimum of 24 hours prior to grouting the shear keys.

** 1" Joint to be filled with Non-shrink grout. 1" dimension may vary to accommodate tolerance in beam length.

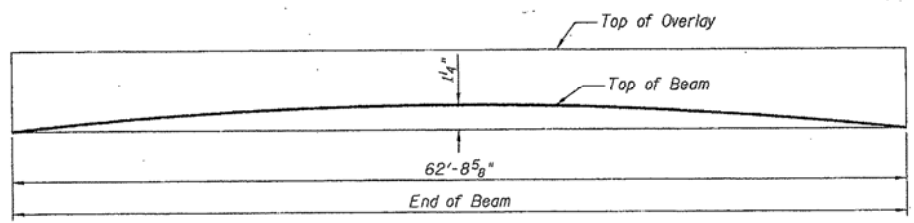


BEAM REMOVAL DETAIL AT TRANSVERSE TIES

DESIGN STRESSES

CAST IN PLACE
 $f'_c = 5,000$ psi (CWS)
 $f_y = 60,000$ psi (Reinforcement)

PRECAST UNITS
 $f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f'_s = 270,000$ psi (1/2" ϕ low lax strands)
 $f'_{si} = 201,960$ psi (1/2" ϕ low lax strands)



ANTICIPATED INITIAL CAMBER DIAGRAM

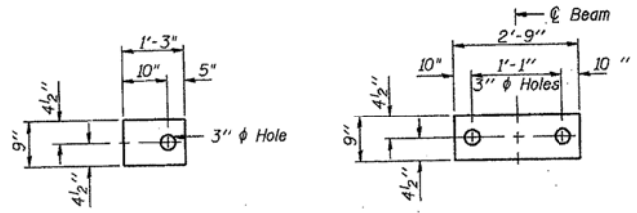
DAVID F. MAXWELL
181-005455
ST. LOUIS, MO.

David F. Maxwell, S.E.
Date: 10/22/07
My registration expires November 30, 2008.

DESIGNED	DFM
CHECKED	CH
DRAWN	MRV
CHECKED	DFM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

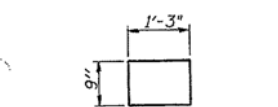
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO. 3
F.A.P. 646		CARROLL	14	8 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



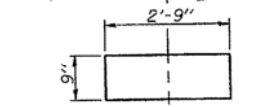
FABRIC BEARING PAD
(Exterior for Adjustment)

FABRIC BEARING PAD
(Interior)

FIXED



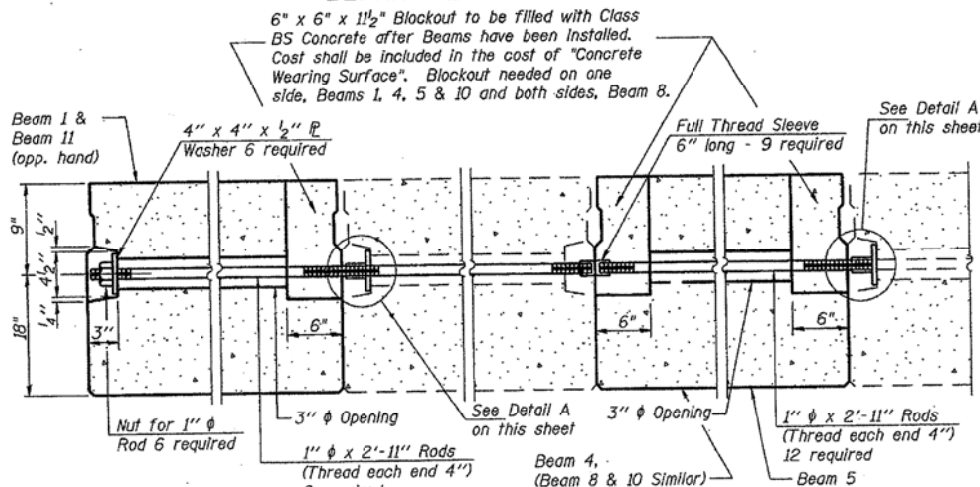
FABRIC BEARING PAD
(Exterior for Adjustment)



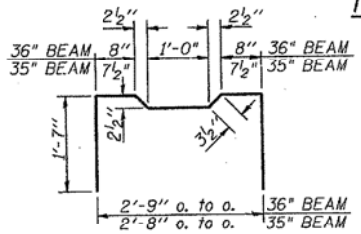
FABRIC BEARING PAD
(Interior)

EXPANSION

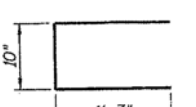
9" x 10" cross hatched area to be filled with Class BS Concrete after beams have been installed. (Existing joints to remain.) Cost shall be included in the cost of "Concrete Wearing Surface."



TYPICAL TRANSVERSE TIE ASSEMBLY



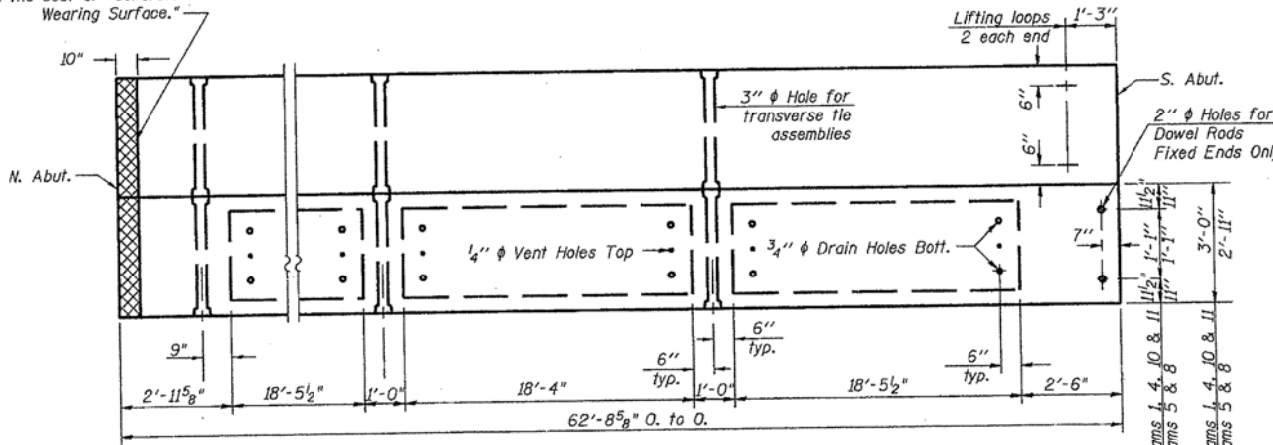
BAR A1



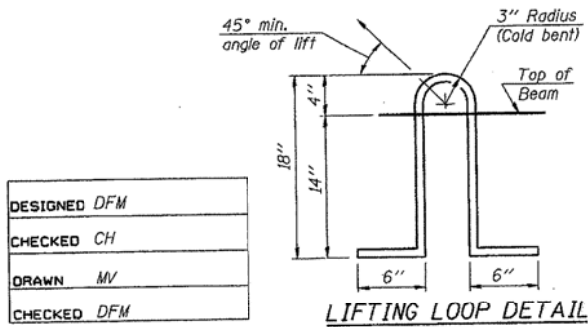
BAR D1(E)



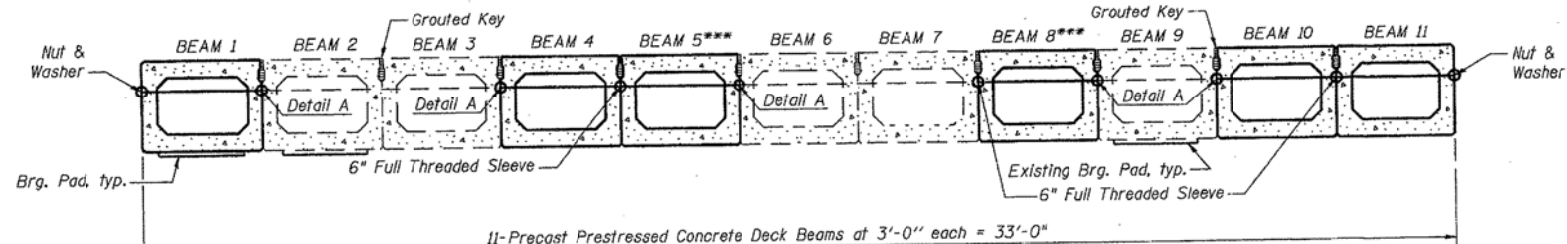
BARS U & U1



PLAN

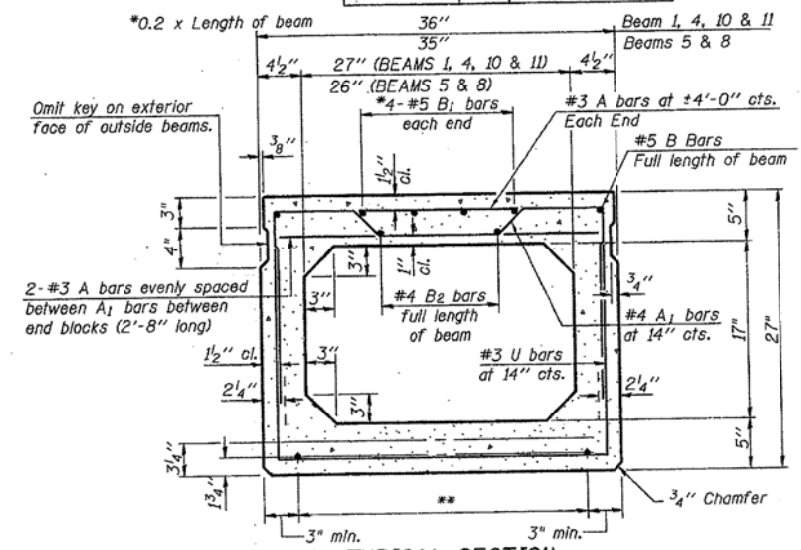


LIFTING LOOP DETAIL



CROSS SECTION

*** Beams 5 & 8 are 35" wide beams.



TYPICAL SECTION

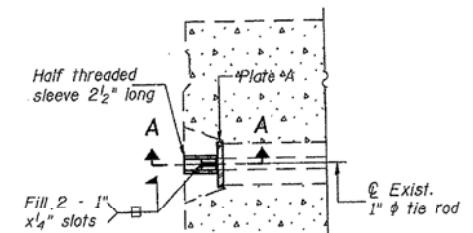
**TRANSVERSE PLACEMENT GUIDELINES

1. Place strands symmetrically about centerline of beam.
2. The minimum distance from center to center of strands in all directions shall be 2".
3. The minimum clearance from strand to dowel hole shall be 1/2".
4. The minimum clearance from strand to void shall be 1/2".

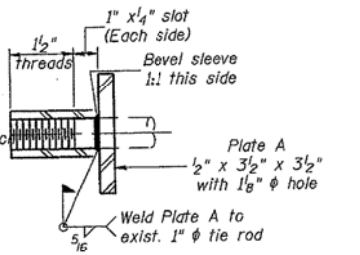
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2" φ-270 ksi strands, as shown. The 1" φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 5,000 p.s.i. See Sheet 4 of 8 for additional Beam information.



DETAIL A



SECTION A-A

(15 Required)

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms.	Sq. Ft.	1,119

DECK BEAM DETAILS
F.A.P. 646 (IL RTE 40)
CARROLL COUNTY
STRUCTURE NO. 008-0014
SHEET 14 OF 52

DESIGNED	DFM
CHECKED	CH
DRAWN	MV
CHECKED	DFM

FILE NAME = ... \0264084-SHT-ExBridg.dgn

USER NAME = SAW
PLOT SCALE = 40.0000' / in.
PLOT DATE = 8/1/2013

DESIGNED - RAC
DRAWN - SAW
CHECKED - DAZ
DATE - 08-08-13

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA
engineering

Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

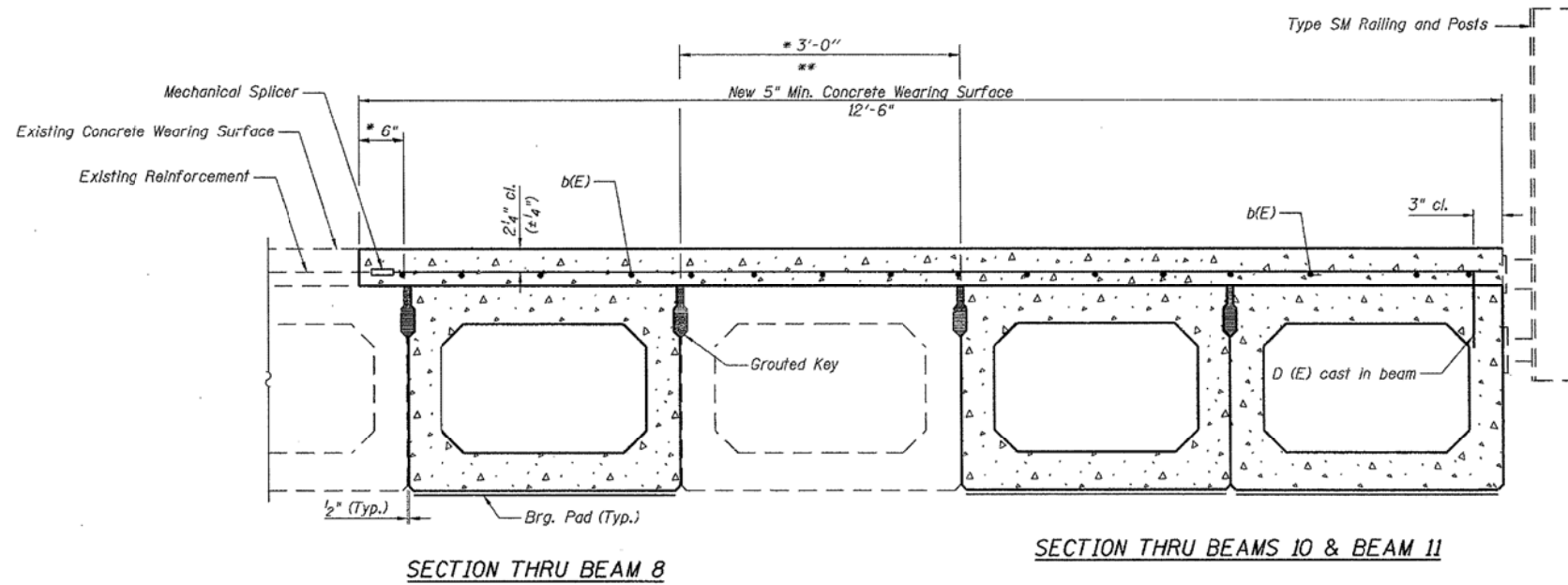
SCALE: SHEET 26 OF 28 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	68
ILLINOIS FED. AID PROJECT			CONTRACT NO. 64DB4	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

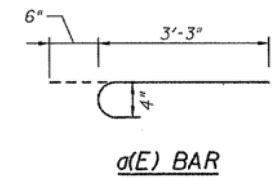
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 646	-	CARROLL	17	8
FED. AID DIST. NO. 7	BRIDGE	FED. AID PROJECT		

SHEET NO. 6
8 SHEETS

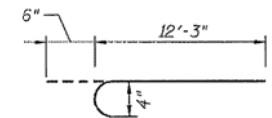


MIN. BAR LAP

#4 bar = 1'-4"
#5 bar = 1'-8"



a₁(E) BAR



a₂(E) BAR

BILL OF MATERIALS

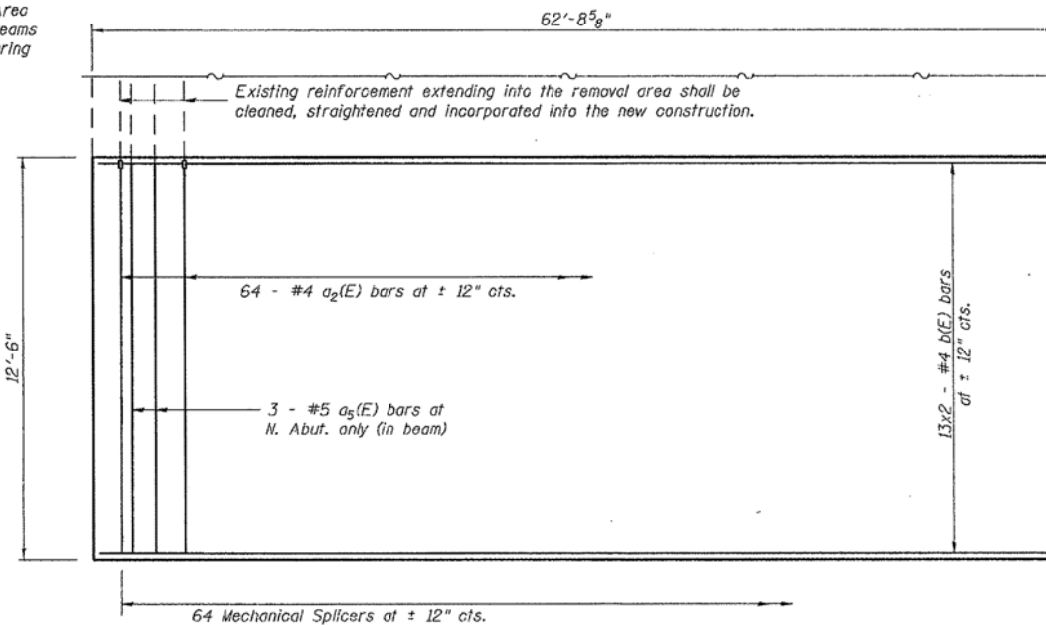
Bar	No.	Size	Length	Shape
a ₁ (E)	64	#4	3'-9"	┌
a ₂ (E)	128	#4	4'-2"	┌
a ₃ (E)	64	#4	12'-9"	┌
a ₄ (E)	3	#5	2'-9"	┌
a ₅ (E)	3	#5	5'-9"	┌
a ₆ (E)	3	#5	11'-9"	┌
b(E)	50	#4	32'-1"	┌
Reinforcement Bars, Epoxy Coated		Pound	2200	
Conc. Wearing Surface		Sq. Yd.	160.3	
Concrete Removal		Cu. Yd.	5.3	
Mechanical Splicers		Each	256	

Bars indicated thus 42 x 2-#4 etc.
Indicates 42 line of bars with 2 lengths per line.

SUPERSTRUCTURE DETAILS
F.A.P. 646 (IL RTE 40)
CARROLL COUNTY
STRUCTURE NO. 008-0014
SHEET 17 OF 52

* Limits of 5" min. Concrete Wearing Surface Removal.
Cost included with Concrete Removal.

** Remove a 9" x 10" blackout area at expansion end of Beam 9 to allow placement of #5 a₅(E) bars. Existing Reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal. Area to be filled with Class BS Concrete after the new beams have been installed. Cost included with Concrete Wearing Surface.



PLAN BEAMS 8 to 11

DESIGNED	DFM
CHECKED	CH
DRAWN	MV
CHECKED	DFM

FILE NAME =	USER NAME = SAW	DESIGNED - RAC	REVISED -
... \D264D84-SHT-ExBr1.dgn		DRAWN - SAW	REVISED -
	PLOT SCALE = 40.0000' / in.	CHECKED - DAZ	REVISED -
	PLOT DATE = 8/1/2013	DATE - 08-08-13	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA
engineering

Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

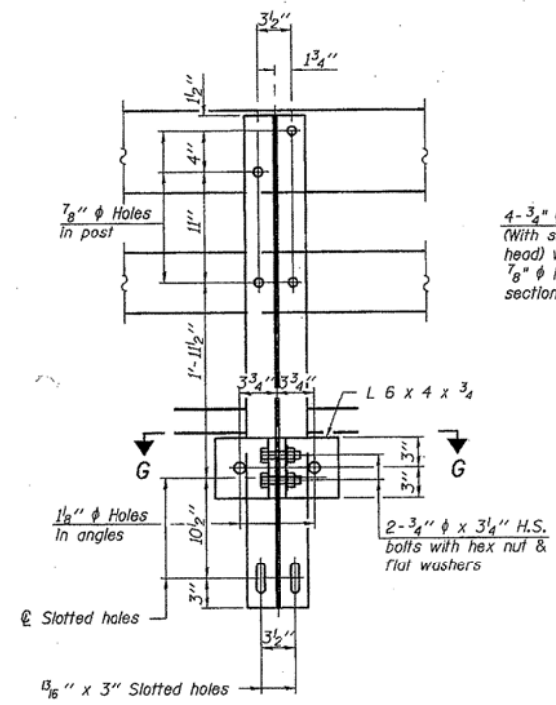
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: SHEET 27 OF 28 SHEETS STA. TO STA.

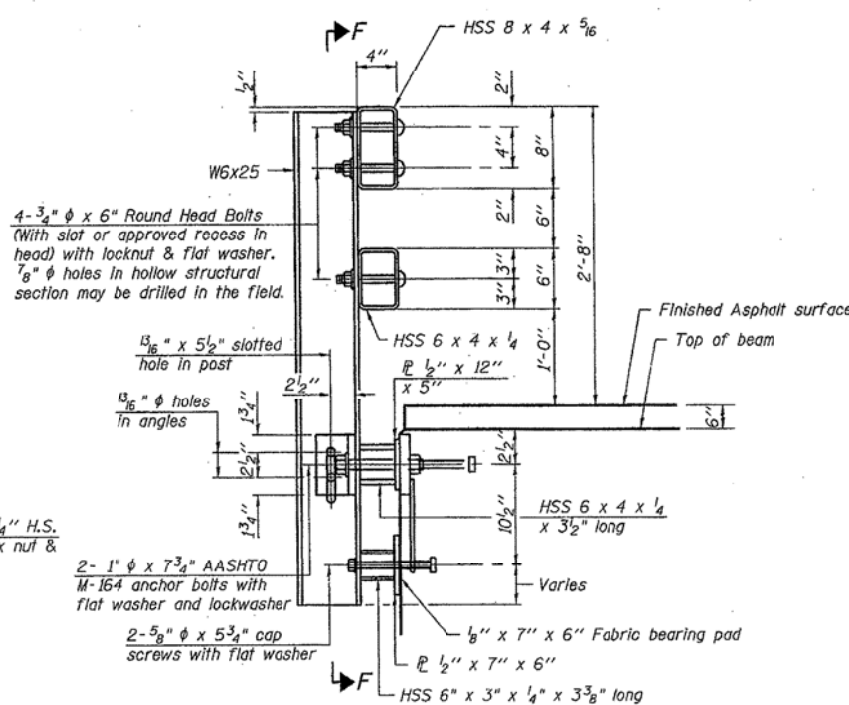
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	69
			CONTRACT NO. 64D84	
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

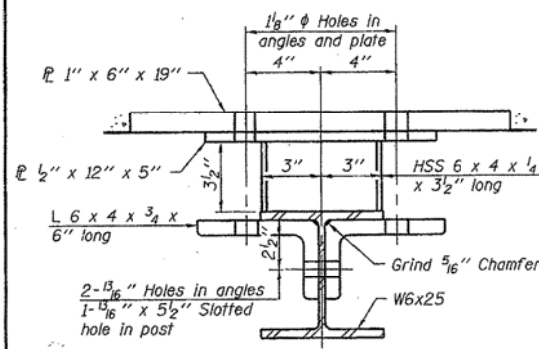
ROUTE NO.	SECTION	COUNTY	SHEET	NO.	SHEET NO. 8
FAP 646		CARROLL	19		8 SHEETS
FED. ROAD DIST. NO. 7		BLDG. NO.	FED. AID PROJECT		



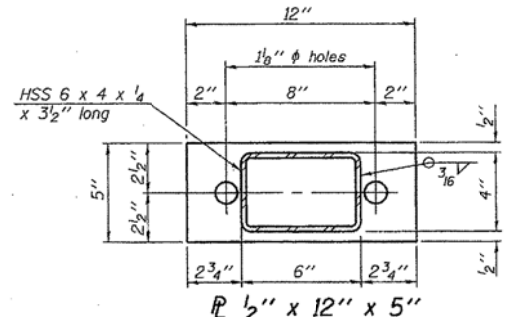
SECTION F-F



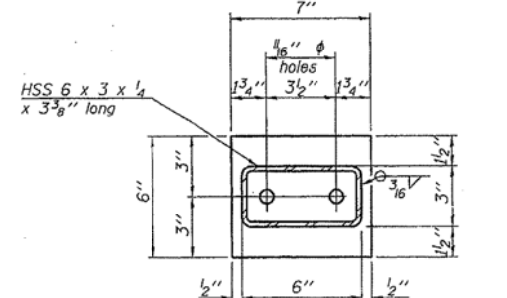
SECTION AT RAIL POST ON APPROACH SLAB



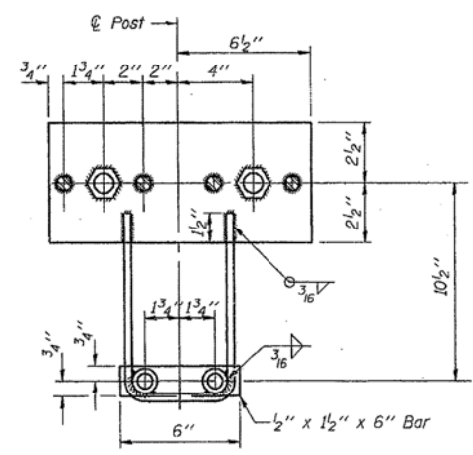
SECTION G-G



HSS 6 x 4 x 1/4 x 3 1/2" long



HSS 6 x 3 x 1/4 x 3 3/8" long



EXISTING ANCHOR DEVICE IN APPROACH

* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

See Sheet 7 of 8 for additional details and notes.

STEEL RAILING, TYPE SM
ON APPROACH SLAB
F.A.P. 646 (IL RTE 40)
CARROLL COUNTY
STRUCTURE NO. 008-0014
SHEET 19 OF 52

DESIGNED	DFM
CHECKED	CH
DRAWN	MV
CHECKED	DFM

(6'-3" Maximum Post Spacing) (5" minimum to 7 1/8" maximum CWS thickness)

FILE NAME = ... \D264DB4-SHT-ExBr-ridge.dgn

USER NAME = SAW
PLOT SCALE = 40.0000' / in.
PLOT DATE = 8/1/2013

DESIGNED - RAC
DRAWN - SAW
CHECKED - DAZ
DATE - 08-08-13

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

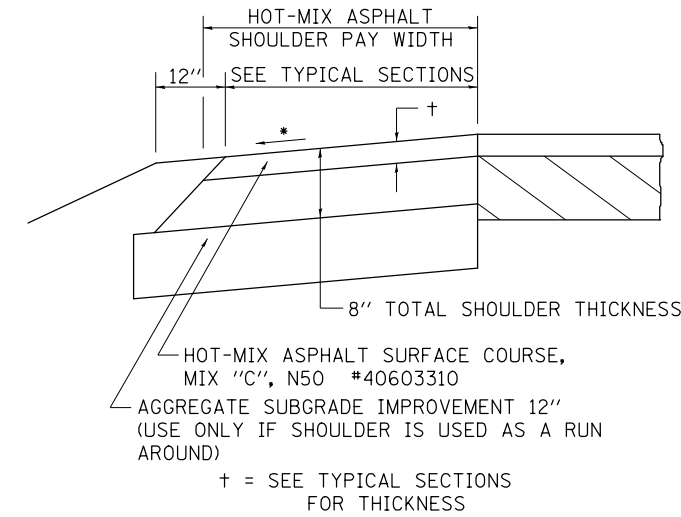
ZROKA
engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: SHEET 28 OF 28 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	84	70
CONTRACT NO. 64DB4			ILLINOIS FED. AID PROJECT	

HOT-MIX ASPHALT SHOULDER



GENERAL NOTES

THE HOT-MIX ASPHALT SHOULDER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 482 EXCEPT THE TOP LIFT SHALL BE HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 #40603310. THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 #40603310 AND SQUARE YARD FOR HOT-MIX ASPHALT SHOULDERS OF THE THICKNESS SPECIFIED.

USE HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 #40603310. WHEN RESURFACING EXISTING HOT-MIX ASPHALT SHOULDERS, THE THICKNESS IS SHOWN ON THE TYPICAL SECTIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 #40603310.

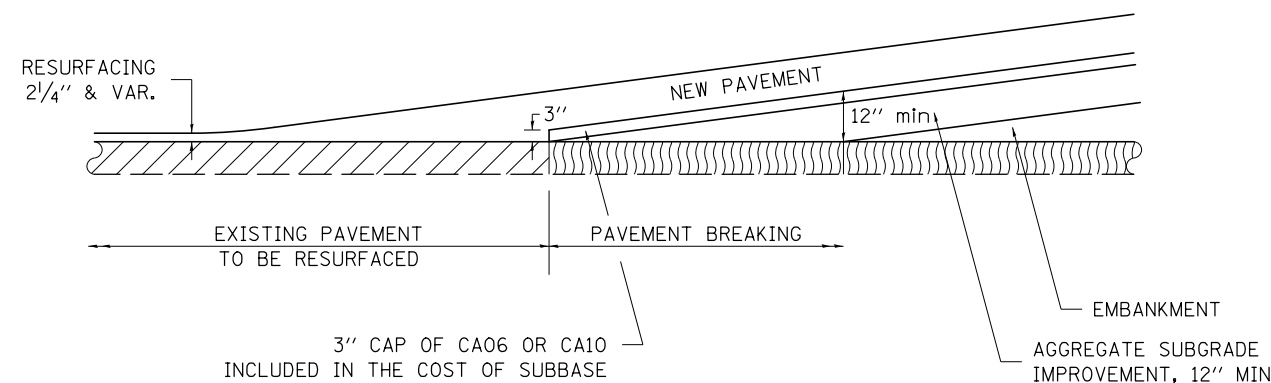
REMOVAL OF MATERIAL FOR PLACEMENT OF THE HOT-MIX ASPHALT SHOULDER TO BE PAID FOR IN UNITS FOR EXCAVATING AND GRADING EXISTING SHOULDERS OR IN CUBIC YARDS FOR EARTH EXCAVATION OR EARTH EXCAVATION WIDENING.

* 4% WHEN MAINLINE IS ON TANGENT. FOR CROSS SLOPE ON SUPERELEVATION SECTION, SEE HIGHWAY STANDARD 482001 OR 482006.

REVISED - 3-13-13

HOT-MIX ASPHALT SHOULDER 23.4a

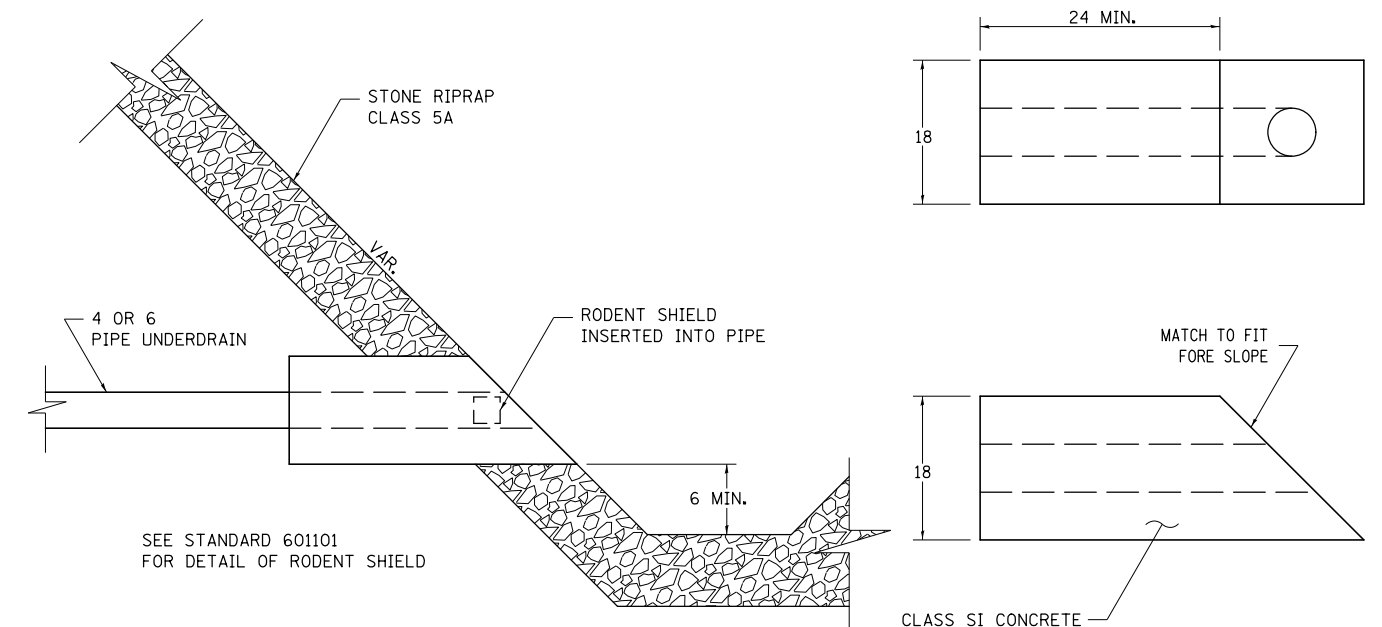
PAVEMENT BREAKING DETAIL



REVISED - 3-19-13

PAVEMENT BREAKING DETAIL 24.4

CONCRETE HEADWALLS FOR PIPE DRAINS



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

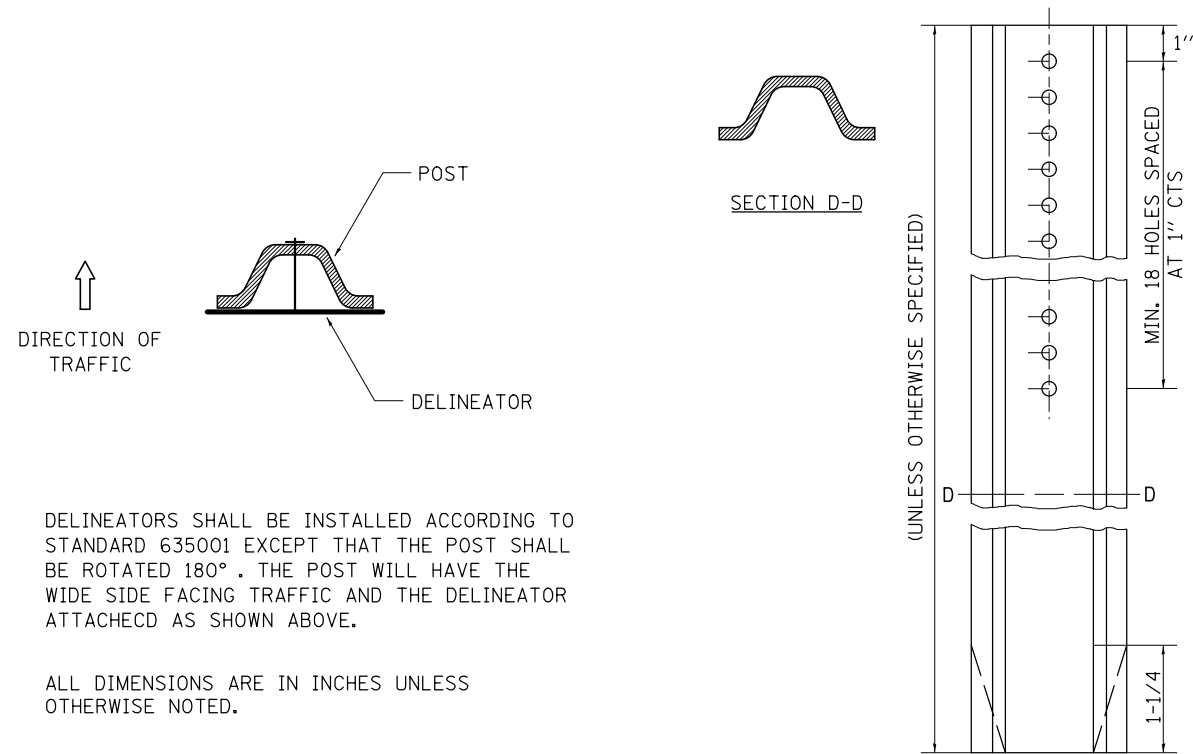
REVISED - 10-03-11

CONCRETE HEADWALLS FOR PIPE DRAINS 27.4

REVISED -	REGION 2 / DISTRICT 2 STANDARD				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
REVISED -	SCALE: *SCALE*	SHEET NO.	OF SHEETS	STA.	TO STA.	646	5 BR-3	83	71
REVISED -					CONTRACT NO. 64D83				
REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

PLOT DATE = *DATE*

DELINEATOR AND POST ORIENTATION



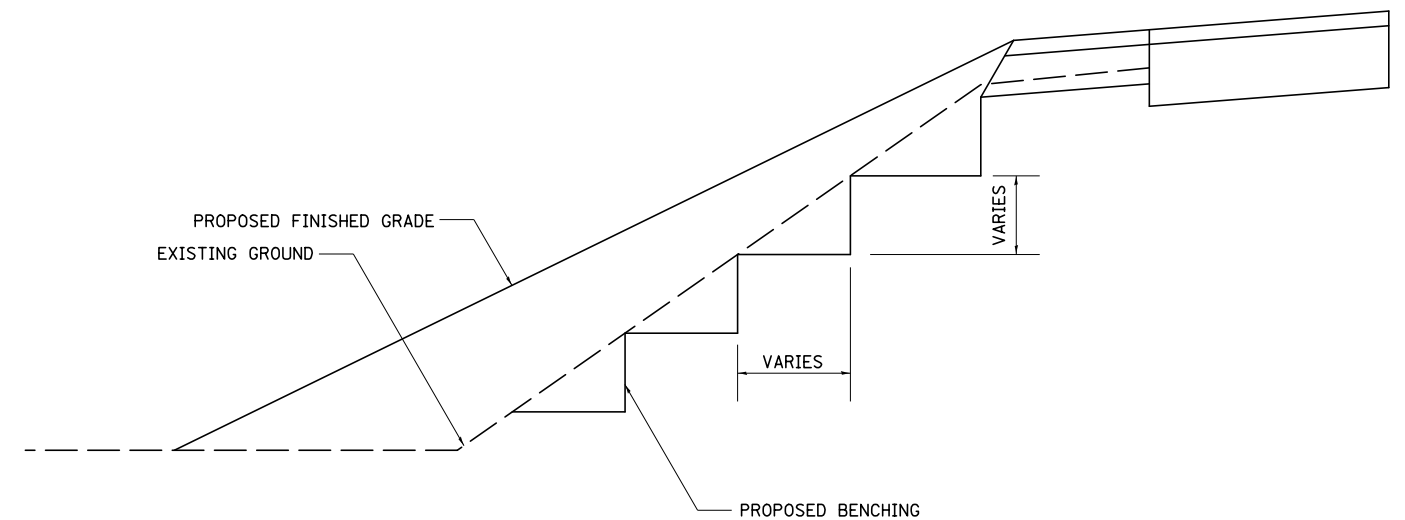
DELINEATORS SHALL BE INSTALLED ACCORDING TO STANDARD 635001 EXCEPT THAT THE POST SHALL BE ROTATED 180°. THE POST WILL HAVE THE WIDE SIDE FACING TRAFFIC AND THE DELINEATOR ATTACHED AS SHOWN ABOVE.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

REVISED - 10-03-11

DELINEATOR AND POST ORIENTATION 37.4

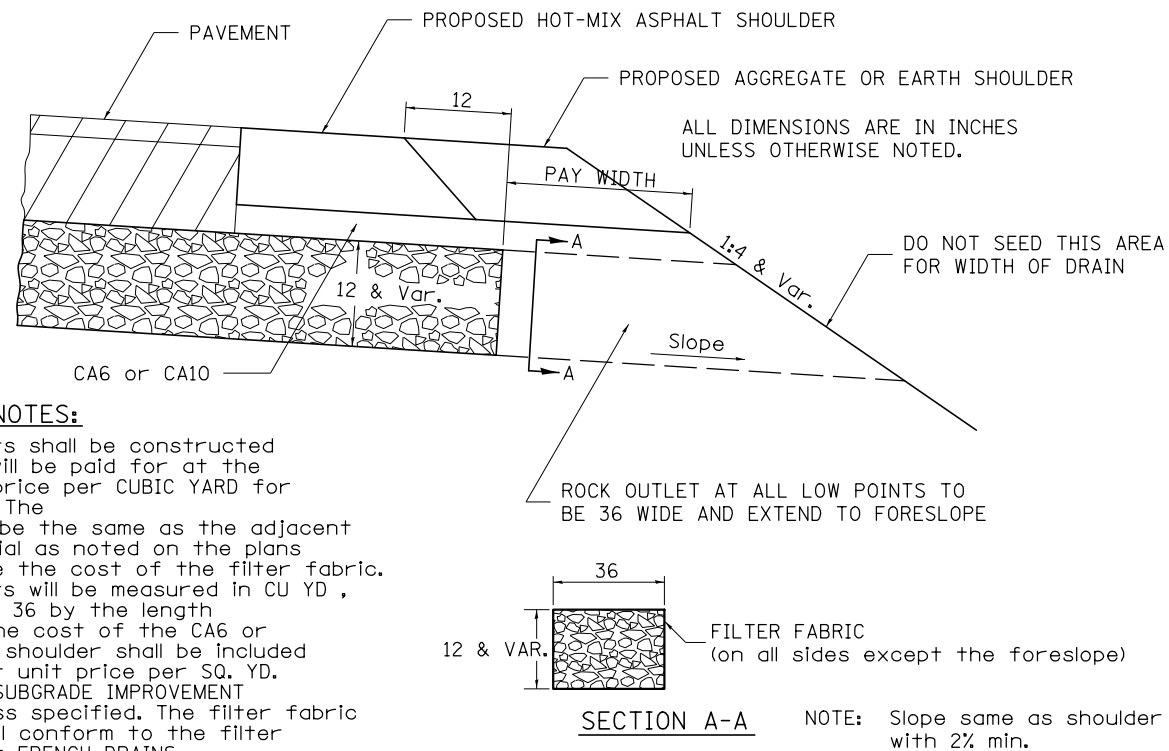
TYPICAL BENCHING ON EXISTING EMBANKMENT



REVISED - 2-22-06

TYPICAL BENCHING ON EXISTING EMBANKMENT 50.4

DRAIN FOR AGGREGATE BASE COURSE



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

NOTES:

The rock outlets shall be constructed using CA7 and will be paid for at the contract unit price per CUBIC YARD for FRENCH DRAINS. The thickness shall be the same as the adjacent sub-base material as noted on the plans and shall include the cost of the filter fabric. The Rock outlets will be measured in CU YD, the width being 36 by the length shown above. The cost of the CA6 or CA10 under the shoulder shall be included in the contract unit price per SQ. YD. for AGGREGATE SUBGRADE IMPROVEMENT of the thickness specified. The filter fabric to be used shall conform to the filter fabric used for FRENCH DRAINS.

ROCK OUTLET AT ALL LOW POINTS TO BE 36 WIDE AND EXTEND TO FORESLOPE

NOTE: Slope same as shoulder with 2% min.

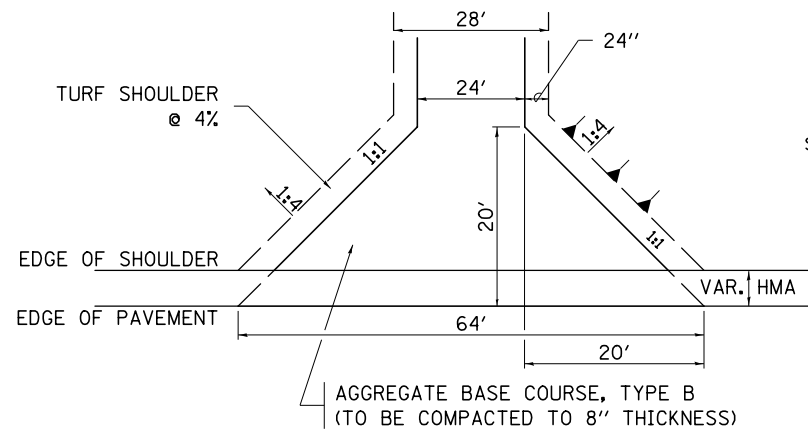
REVISED - 10-09-12

DRAIN FOR AGGREGATE BASE COURSE 96.4

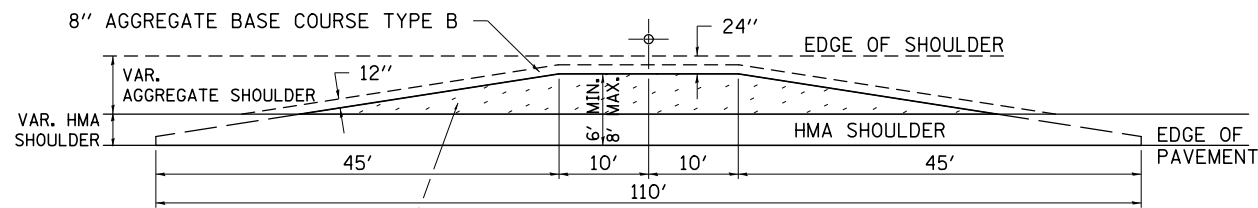
REVISED -	REGION 2 / DISTRICT 2 STANDARD				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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REVISED -					CONTRACT NO. 64D83				
REVISED -					SCALE: *SCALE*	SHEET NO.	OF SHEETS	STA.	TO STA.

PLOT DATE = *DATE*

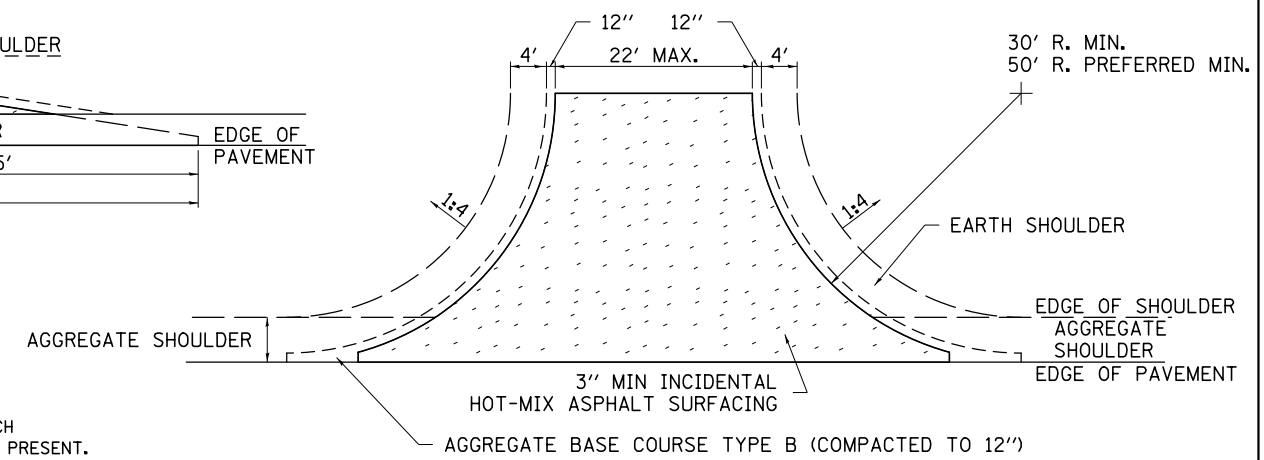
HOT-MIX ASPHALT APPROACHES AND MAILBOX RETURNS



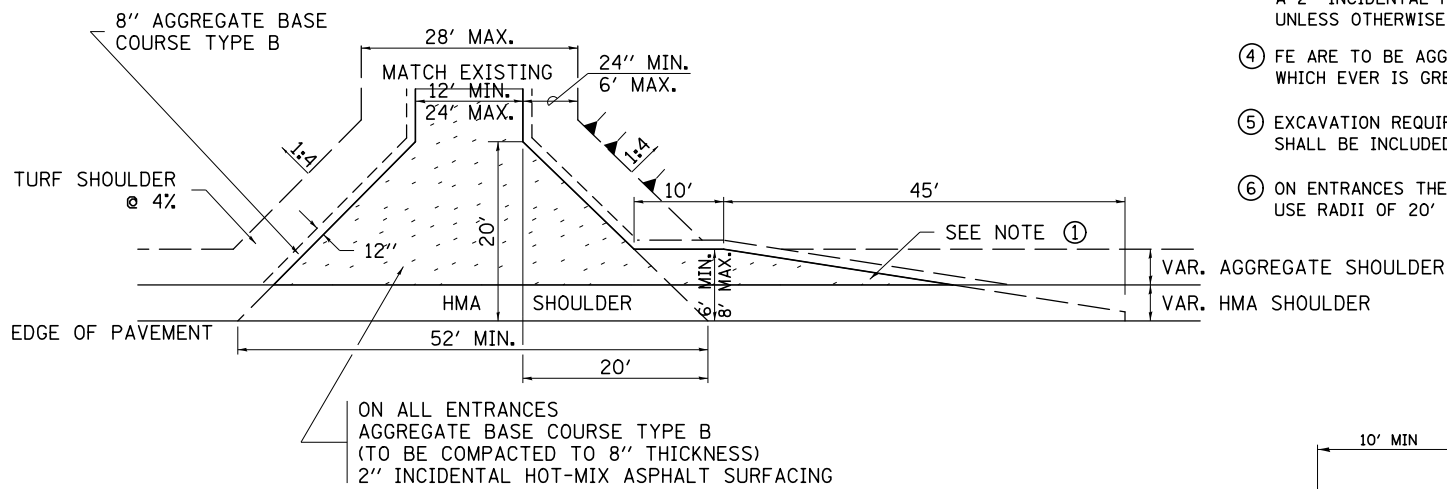
FIELD ENTRANCE



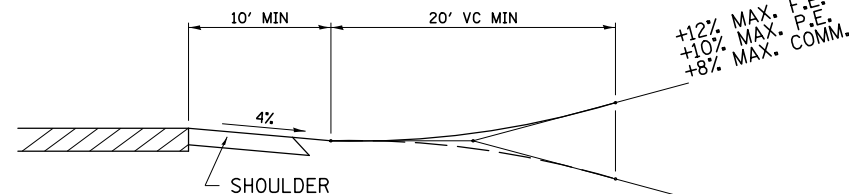
MAILBOX TURNOUT



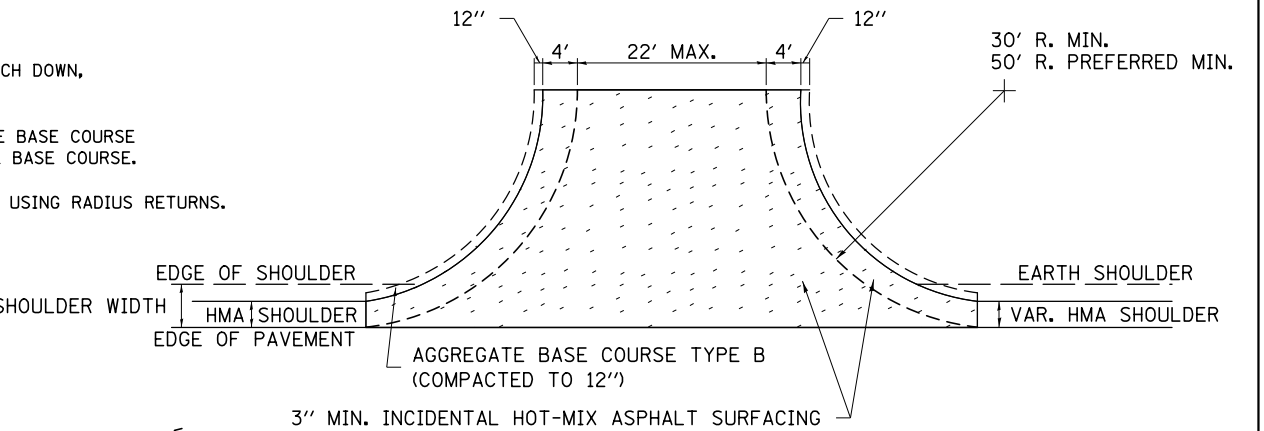
SIDE ROAD RETURN/EARTH SHOULDER



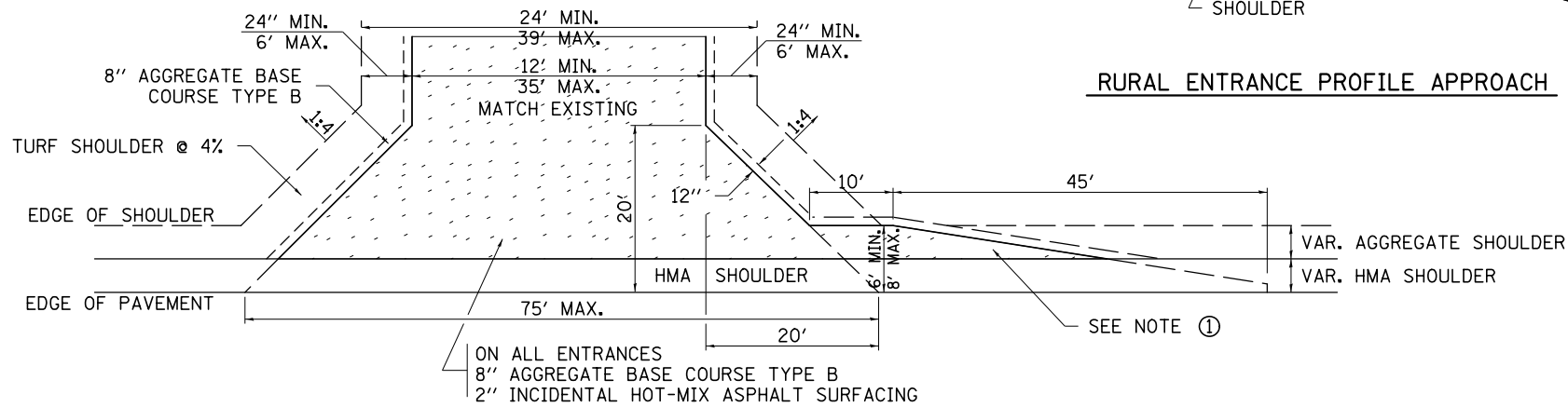
PRIVATE ENTRANCE



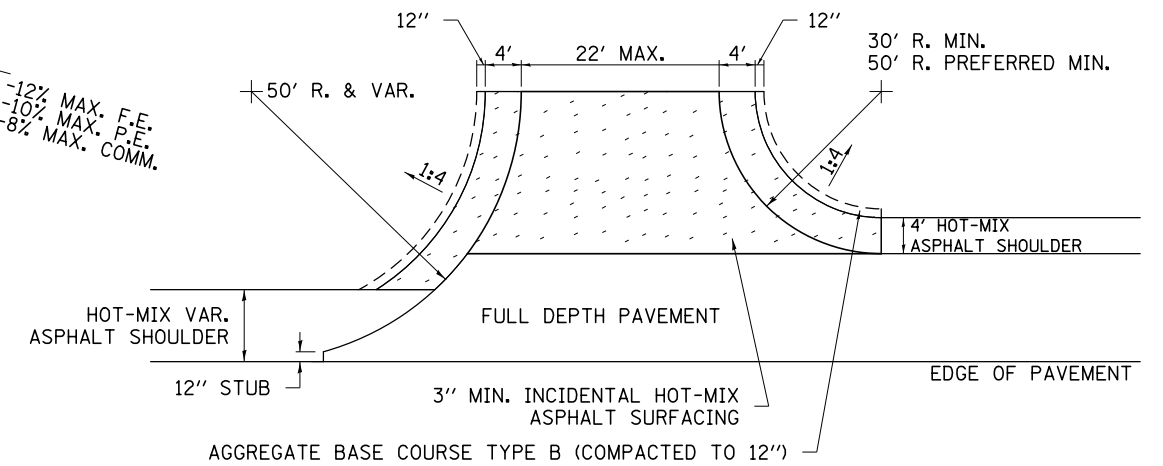
RURAL ENTRANCE PROFILE APPROACH



SIDE ROAD RETURN/HMA SHOULDER



COMMERCIAL ENTRANCE



SIDE ROAD RETURN WITH RIGHT TURN LANE

NOTE

- ① TURNOUTS ARE TO BE CONSTRUCTED ON THE APPROACH SIDE OF ALL PE & CE REGARDLESS IF A MAILBOX IS PRESENT.
- ② ALL PE & CE ARE TO BE SURFACED TO RIGHT OF WAY LINE. AREA BEHIND RIGHT OF WAY SHALL MATCH EXISTING SURFACE.
- ③ ALL PE & CE TO BE CONSTRUCTED WITH AN 8" AGGREGATE BASE COURSE, TYPE B AND WITH A 2" INCIDENTAL HOT-MIX ASPHALT SURFACING, UNLESS OTHERWISE NOTED.
- ④ FE ARE TO BE AGGREGATE TO RIGHT OF WAY OR TOUCH DOWN, WHICH EVER IS GREATEST.
- ⑤ EXCAVATION REQUIRED FOR PLACEMENT OF AGGREGATE BASE COURSE SHALL BE INCLUDED IN THE COST OF THE AGGREGATE BASE COURSE.
- ⑥ ON ENTRANCES THE CONTRACTOR HAS THE OPTION OF USING RADIUS RETURNS. USE RADII OF 20' TO 60'.

FILE NAME =	USER NAME = *USER*	DESIGNED -	REVISED - 12-07-10
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	PLOT SCALE = *SCALE*	CHECKED -	REVISED -
	PLOT DATE = *DATE*	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

REGION 2 / DISTRICT 2 STANDARD

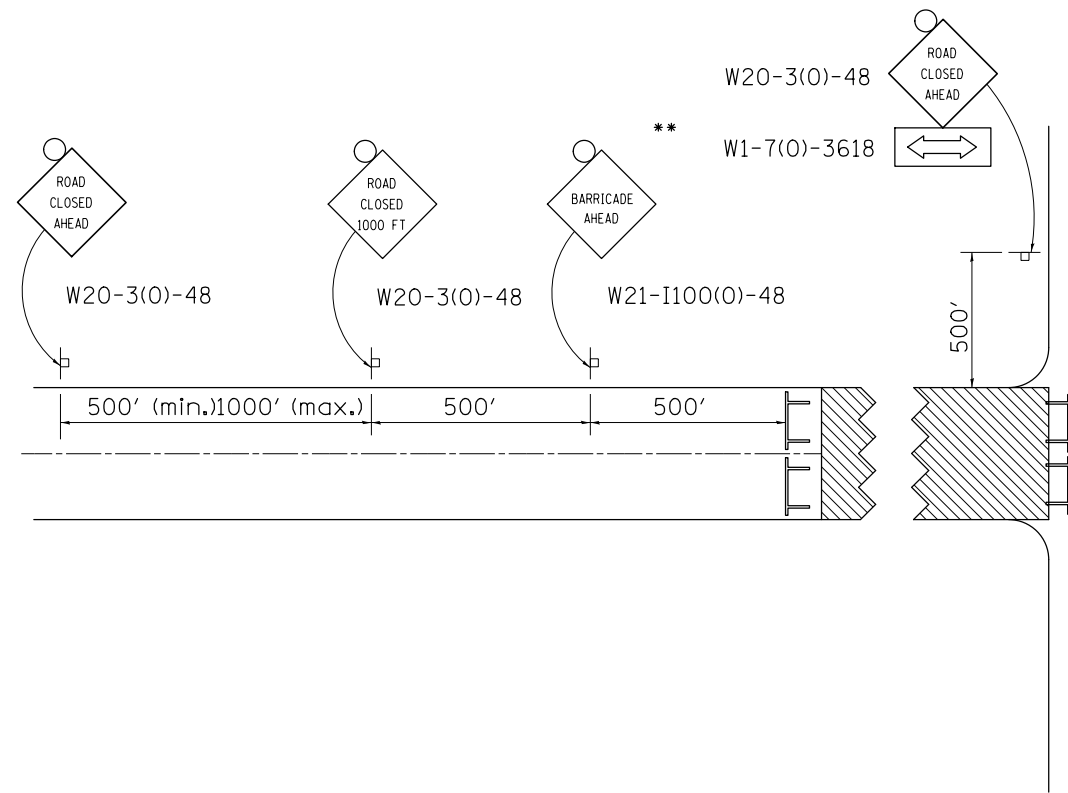
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	83	73
CONTRACT NO. 64DB3				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

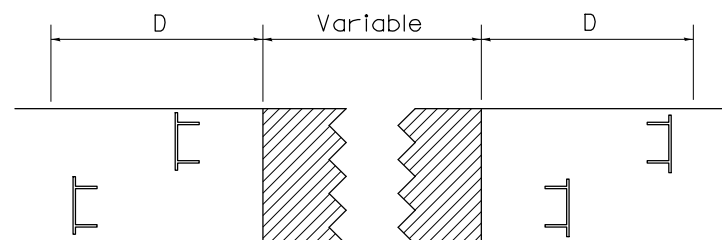
TRAFFIC CONTROL FOR ROAD CLOSURE

CONDITION II

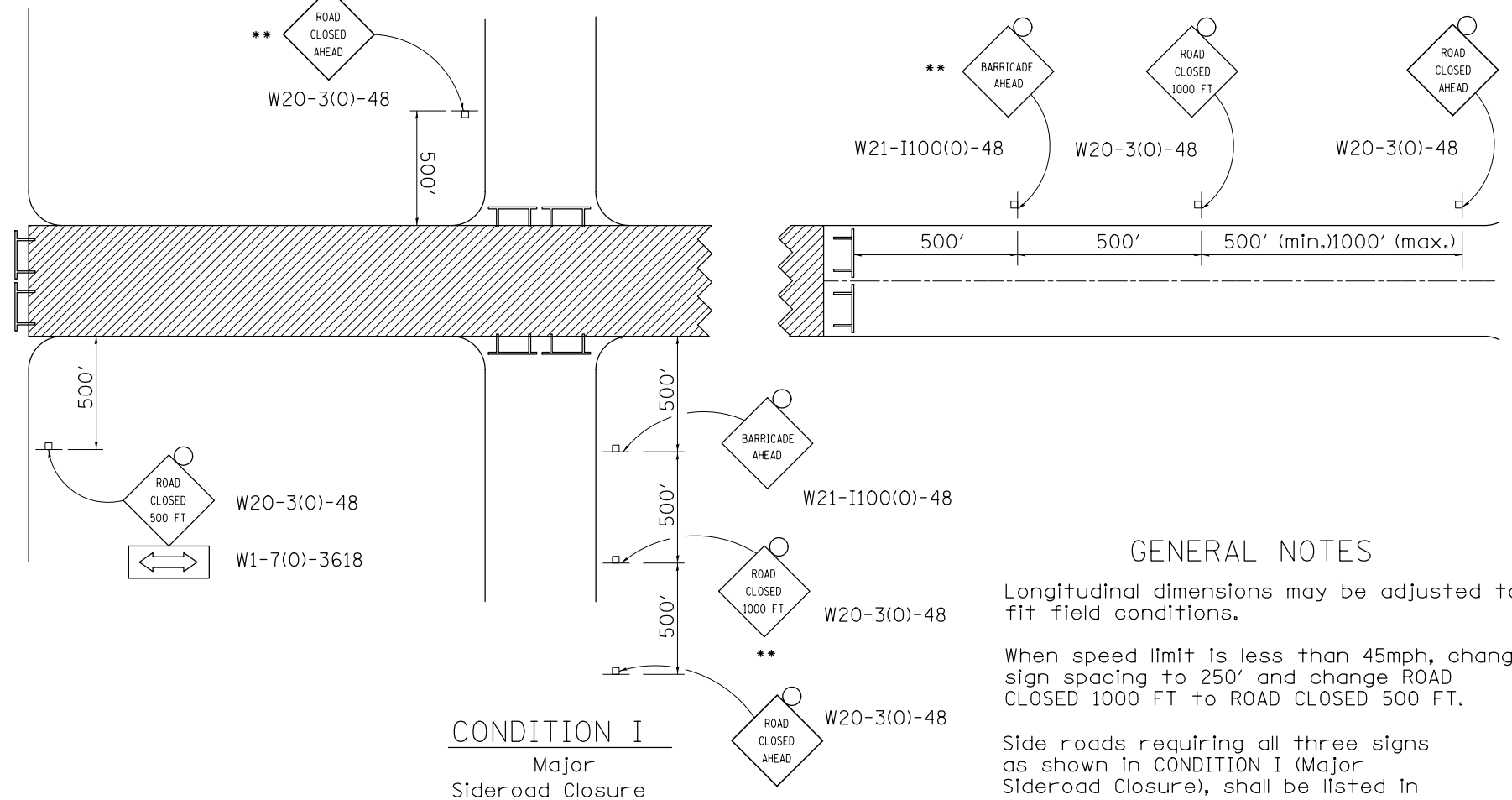
Minor Sideroad Closure



ROAD CLOSED TO THRU TRAFFIC BARRICADE SET UP



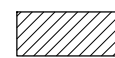
Type III Barricades and R11-4-4830 signs shall be as shown in "Road Closed To Thru Traffic" detail on Highway Standard 701901. If the distance "D" exceeds 2000' an additional set of barricades and R11-4-4830 shall be placed at each end of the work area.



CONDITION I

Major Sideroad Closure

SYMBOLS



Work area



Type III Barricade with Flashers



Sign with flashing light

GENERAL NOTES

Longitudinal dimensions may be adjusted to fit field conditions.

When speed limit is less than 45mph, change sign spacing to 250' and change ROAD CLOSED 1000 FT to ROAD CLOSED 500 FT.

Side roads requiring all three signs as shown in CONDITION I (Major Sideroad Closure), shall be listed in the special provision.

** Where local access is to be maintained, barricades are to be set up as shown in Road Closed to thru traffic. Type III Barricades and R11-2-4830 signs shall be as shown in "Road Closed To All Traffic" detail on Highway Standard 701901.

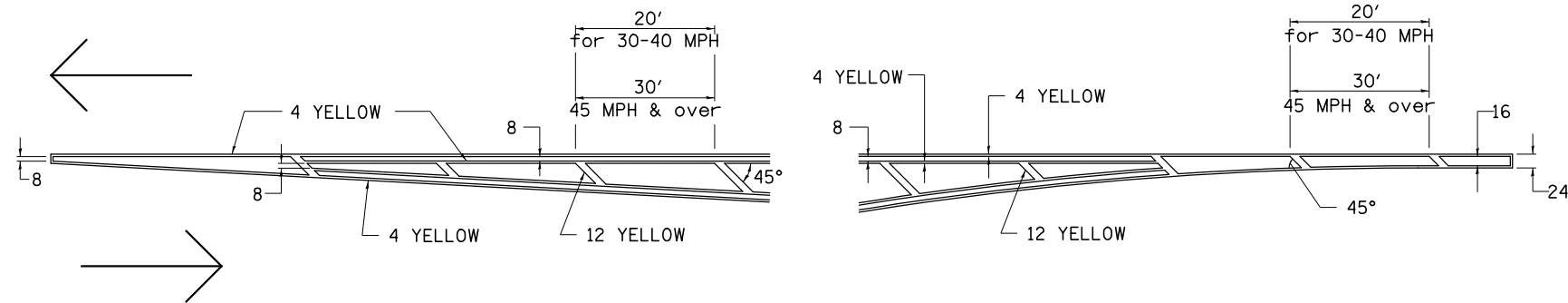
All dimensions are in inches unless otherwise shown.

TYPICAL APPLICATION FOR ROAD CLOSURE

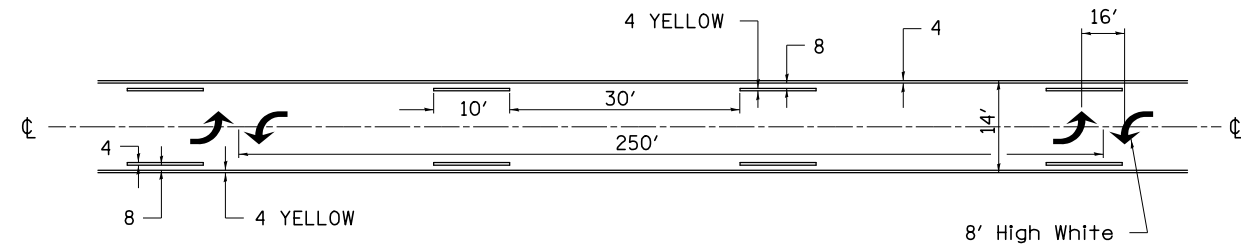
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TYPICAL PAVEMENT MARKINGS

TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN AT LEFT TURN LANE

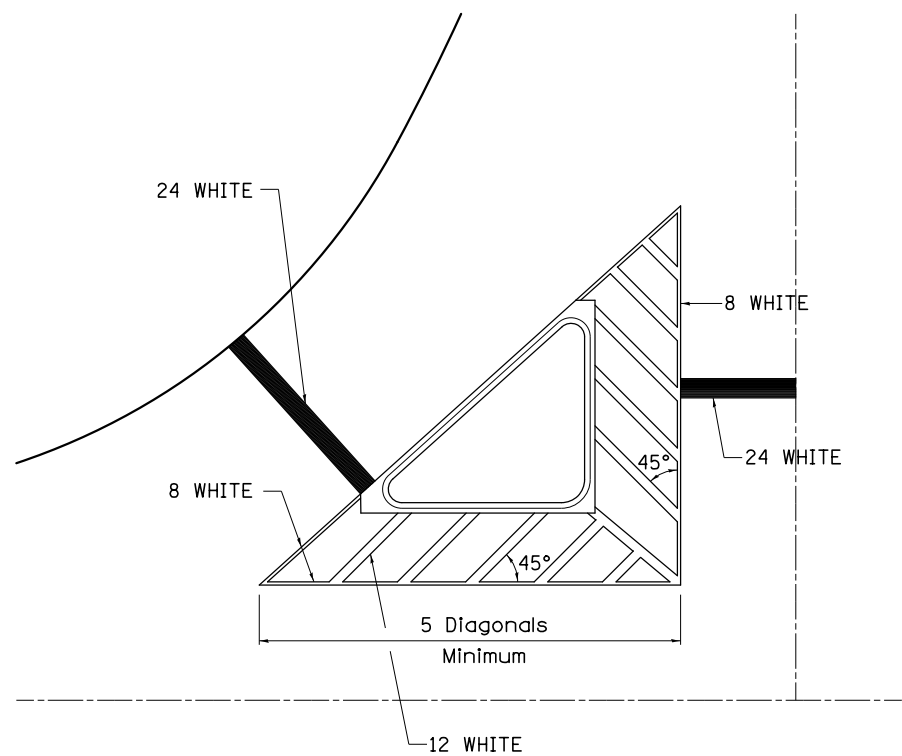


MEDIAN PAVEMENT MARKING

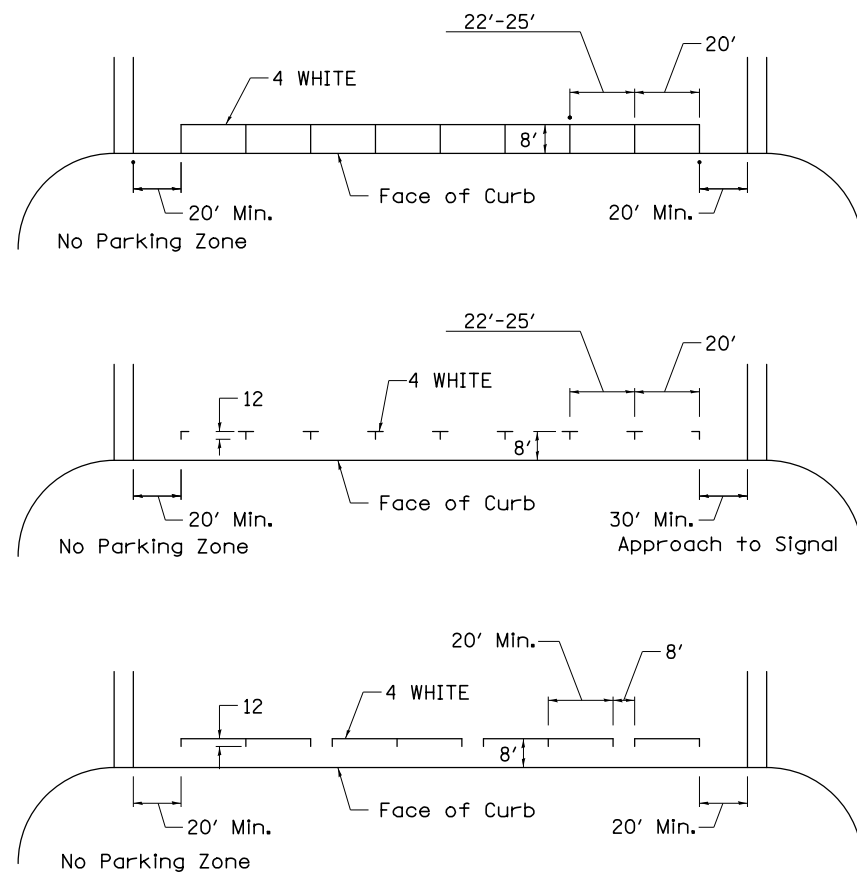


** ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

TYPICAL ISLAND OFFSET SHOULDER WIDTH

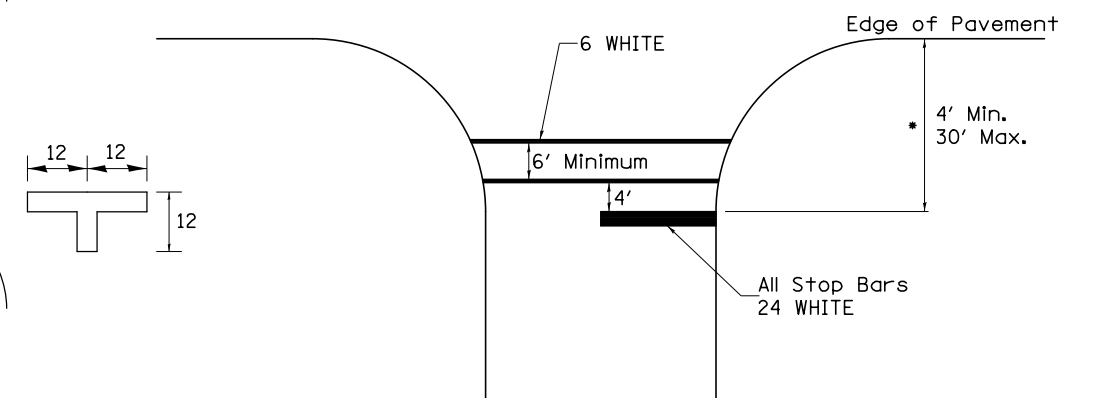


TYPICAL PARKING SPACING



STANDARD CROSSWALK MARKING

See Schedules for Locations

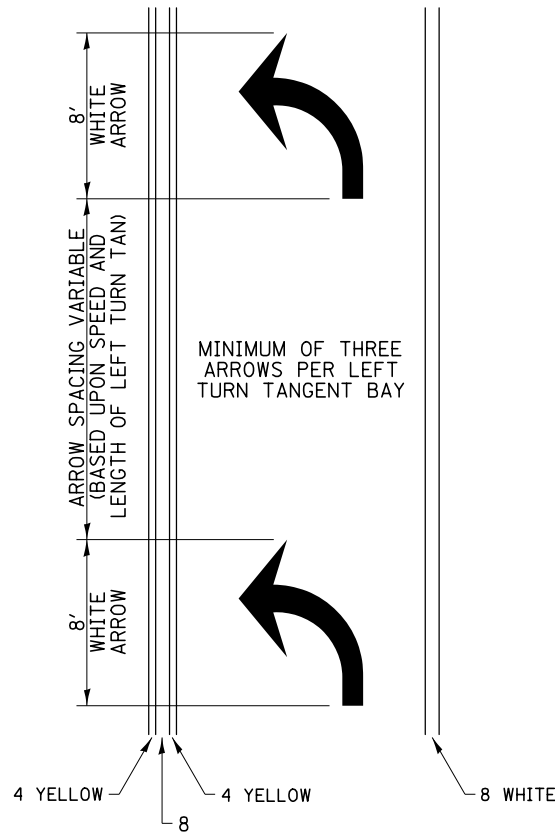


* Distance to the nearest edge of the intersecting roadway in the absence of a marked crosswalk.

FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED - 3-05-12	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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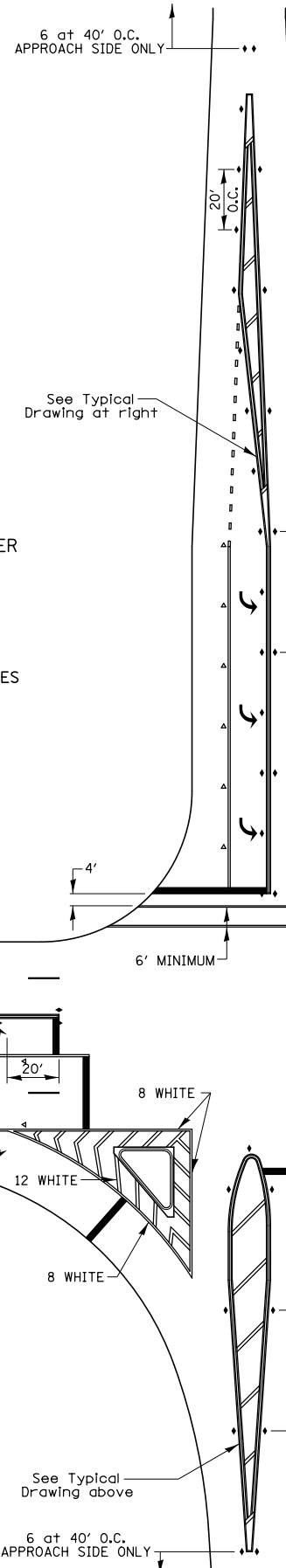
TYPICAL PAVEMENT MARKINGS

ARROW LAYOUT

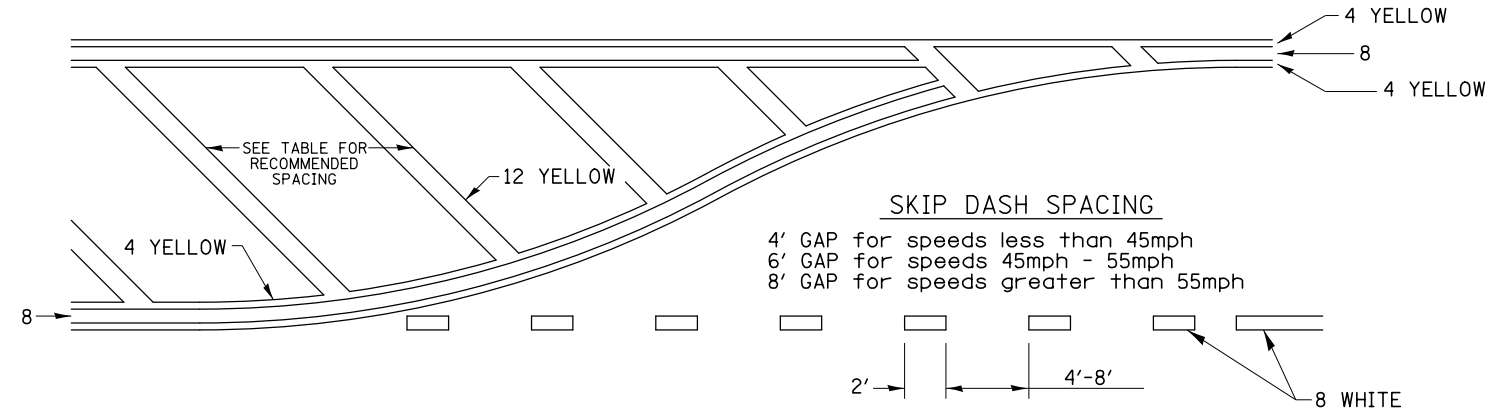


- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER
- ◆ TWO-WAY AMBER MARKER

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.



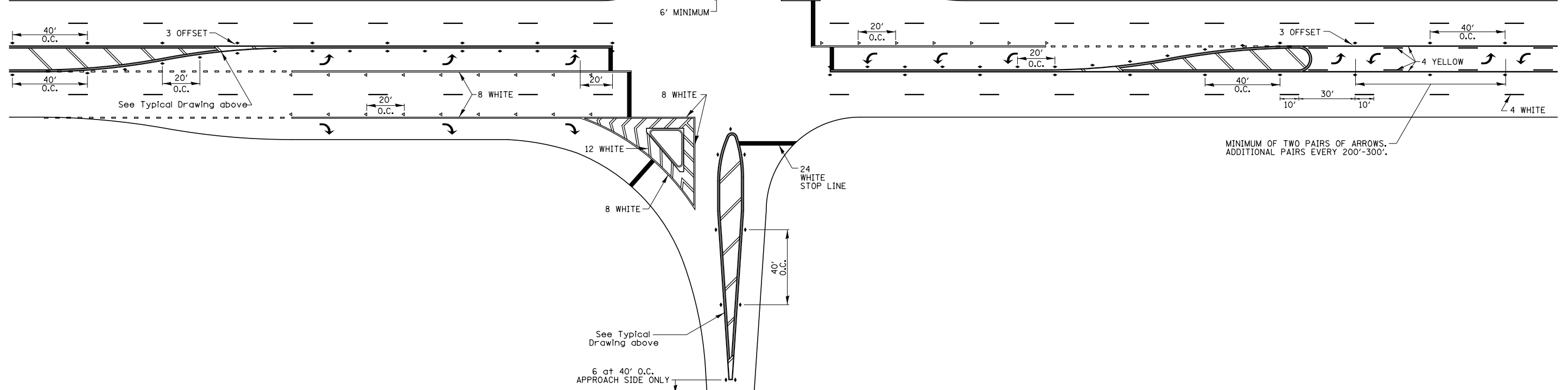
TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN



RECOMMENDED SPACING BETWEEN DIAGONALS (IN FEET)

Speed Limit Range	Continuous Median Area	Intersection Channelization	Objects (Islands)
less than 30MPH	50'	15'	10'
30-40MPH	75'	20'	15'
45MPH & over	75'	30'	20'

NOTE: If the spacing recommended in the Table does not permit at least five diagonal lines in the area being marked, the spacing from the next lowest speed range should be used. The recommended spacing is measured parallel to the pavement center line.



FILE NAME =	USER NAME = *USER*	DESIGNED -	REVISED - 3-05-12
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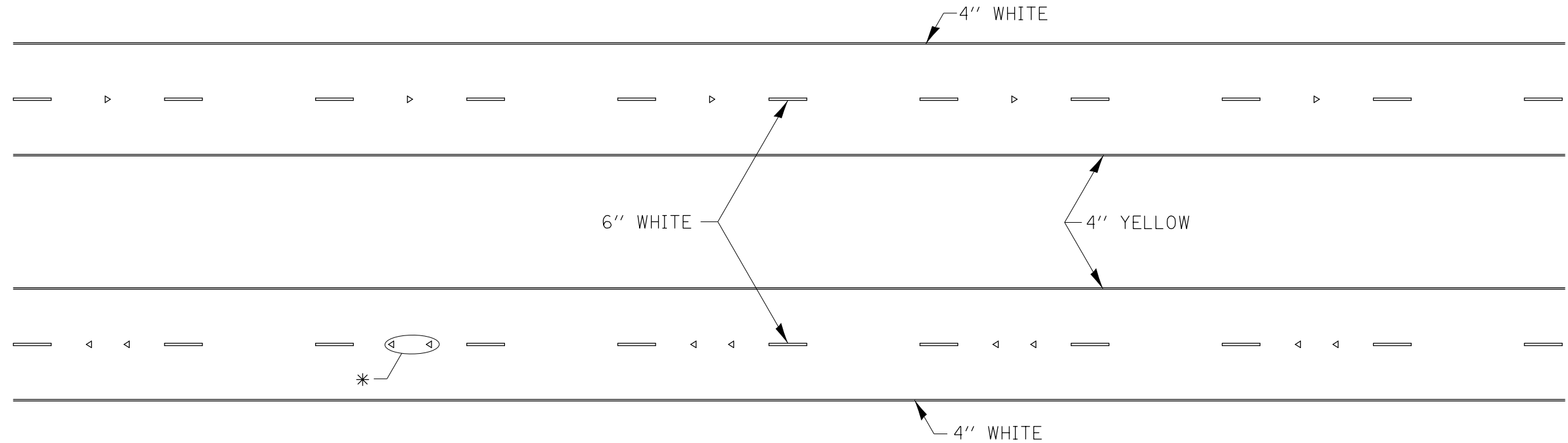
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REGION 2 / DISTRICT 2 STANDARD

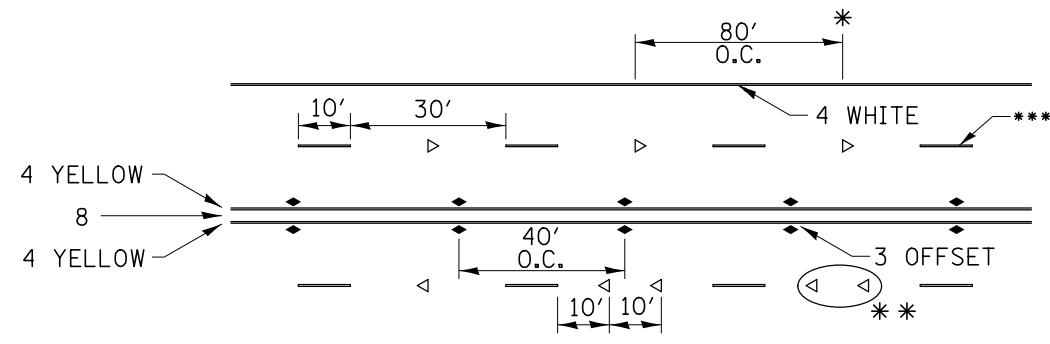
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	83	76
CONTRACT NO. 64D83				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

TYPICAL PAVEMENT MARKINGS



MULTI-LANE / DIVIDED



* REDUCE TO 40' O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH LOWER THAN POSTED SPEEDS.

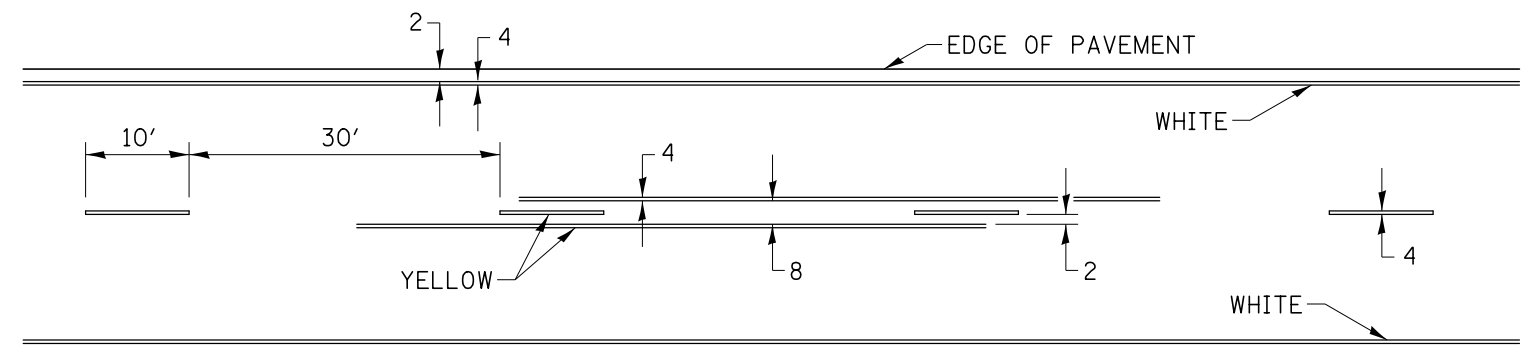
** USE DOUBLE MARKERS WHEN ADT ≥ 20,000

*** CENTERLINE SKIP DASH PAVEMENT MARKING SPEED LIMIT LESS THAN 40 MPH USE 4" LINE SPEED LIMIT 40 MPH AND OVER USE 6" LINE

MULTI-LANE / UNDIVIDED & ONE WAY

(FOR MULTI-LANE UNDIVIDED HIGHWAYS USE THIS DETAIL NOT HIGHWAY STANDARD 781001)

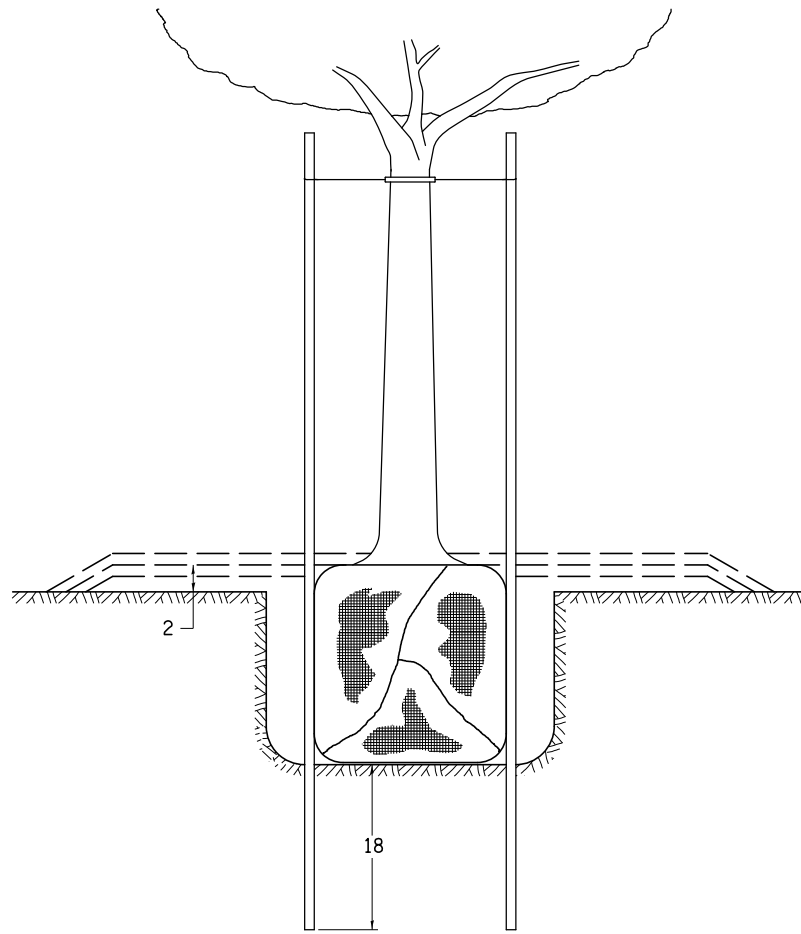
TYPICAL PAVEMENT MARKING FOR TWO LANE SECTION – NO PASSING ZONES



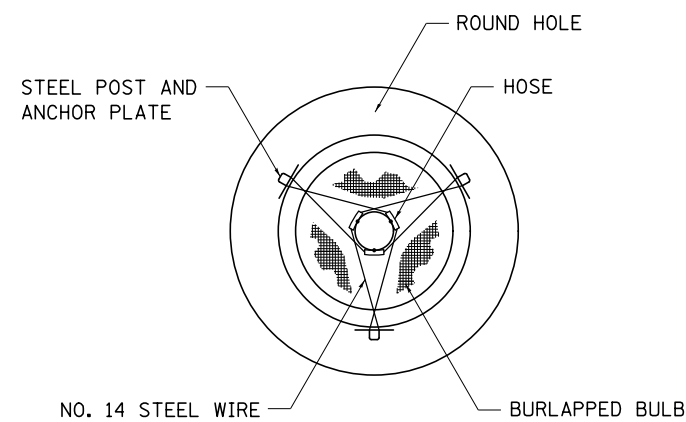
SYMBOLS

FILE NAME =	USER NAME = *USER*	DESIGNED -	REVISED - 11-28-12	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FILEL		DRAWN -	REVISED -					646	5 BR-3	CARROLL	83	77
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	PLOT DATE = *DATE*	DATE -	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

DETAILS OF PLANTING AND BRACING TREES

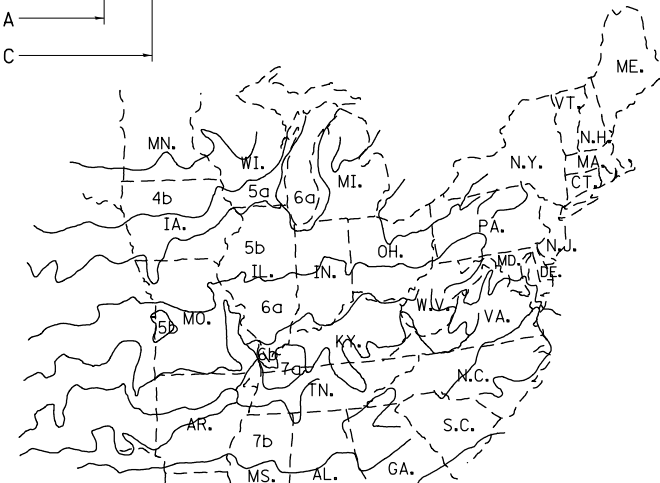
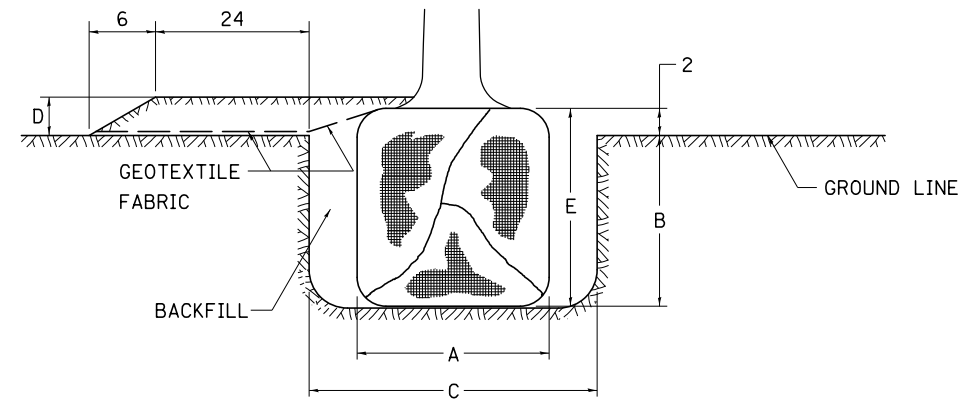


TREES SMALLER THAN 4 1/2 IN DIAMETER



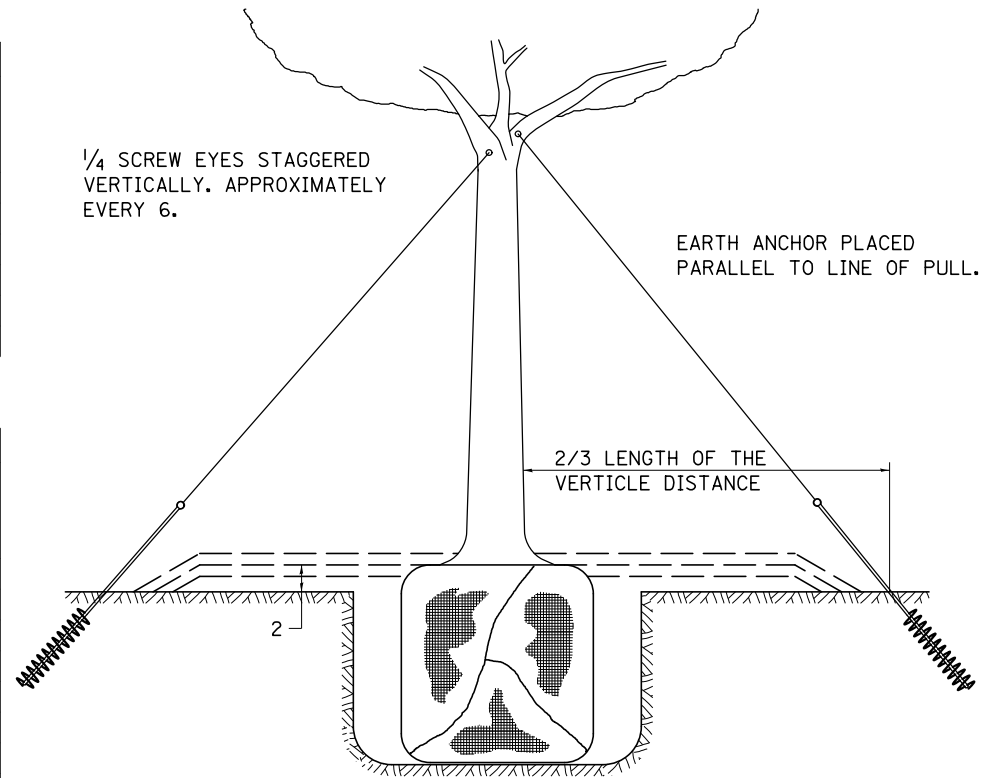
SMALL	A	B	C	D	E	F
TREE SIZE	DIAMETER OF BALL OR ROOT SYS.	DEPTH OF HOLE EXCAVATION	WIDTH OF HOLE EXCAVATION	THICKNESS OF MULCH COVER	DEPTH OF BALL OR ROOT SYS.	VOLUME OF MULCH COVER CU. YDS.
5'-6'	16	10	30	4	12	0.54
5'-6' BB	16	10	30	4	12	0.54
6'-7' BB	18	12	30	4	14	0.54
7'-8' BB	20	11	30	4	13	0.54
8'-10' BB	24	14	36	4	16	0.61
10'-12' BB	26	15	36	4	17	0.61

LARGE	A	B	C	D	E	F
TREE SIZE	DIAMETER OF BALL OR ROOT SYS.	DEPTH OF HOLE EXCAVATION	WIDTH OF HOLE EXCAVATION	THICKNESS OF MULCH COVER	DEPTH OF BALL OR ROOT SYS.	VOLUME OF MULCH COVER CU. YDS.
0-2	20	11	36	4	13	0.61
2-2 1/2 BB	24	14	48	4	16	0.78
2 1/2-3 BB	28	17	48	4	19	0.78
3-3 1/2 BB	32	17	60	4	19	0.96
3 1/2-4 BB	36	20	60	4	22	0.96
4-4 1/2 BB	40	22	72	4	24	1.16
4 1/2-5 BB	44	24	72	4	26	1.16
5-5 1/2 BB	48	27	84	4	29	1.38

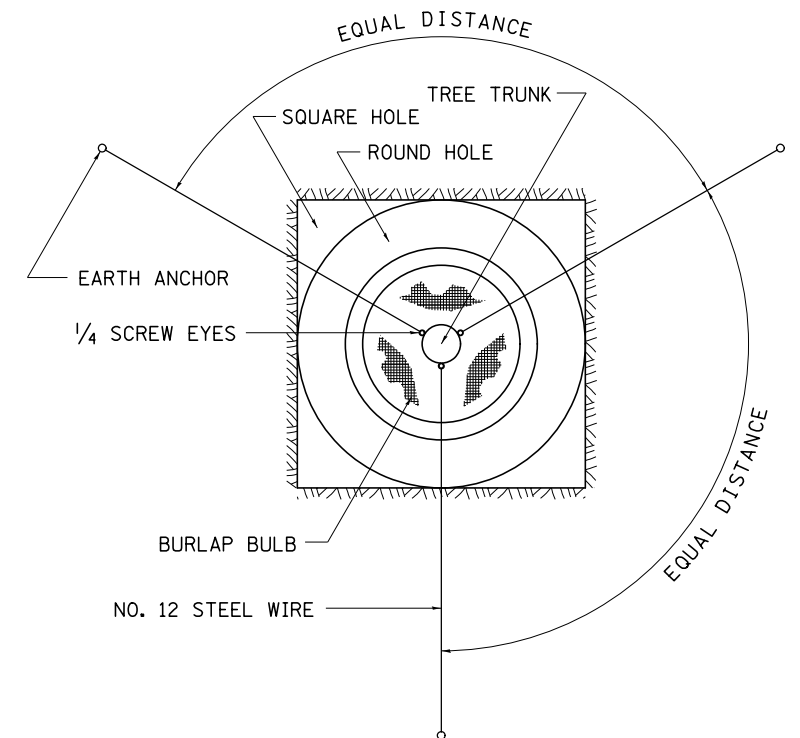


PLANT HARDINESS ZONE MAP

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PUBLICATION NO. 814



TREES OVER 4 1/2 IN DIAMETER



ALL DIMENSIONS ARE IN INCHES
UNLESS OTHERWISE NOTED.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

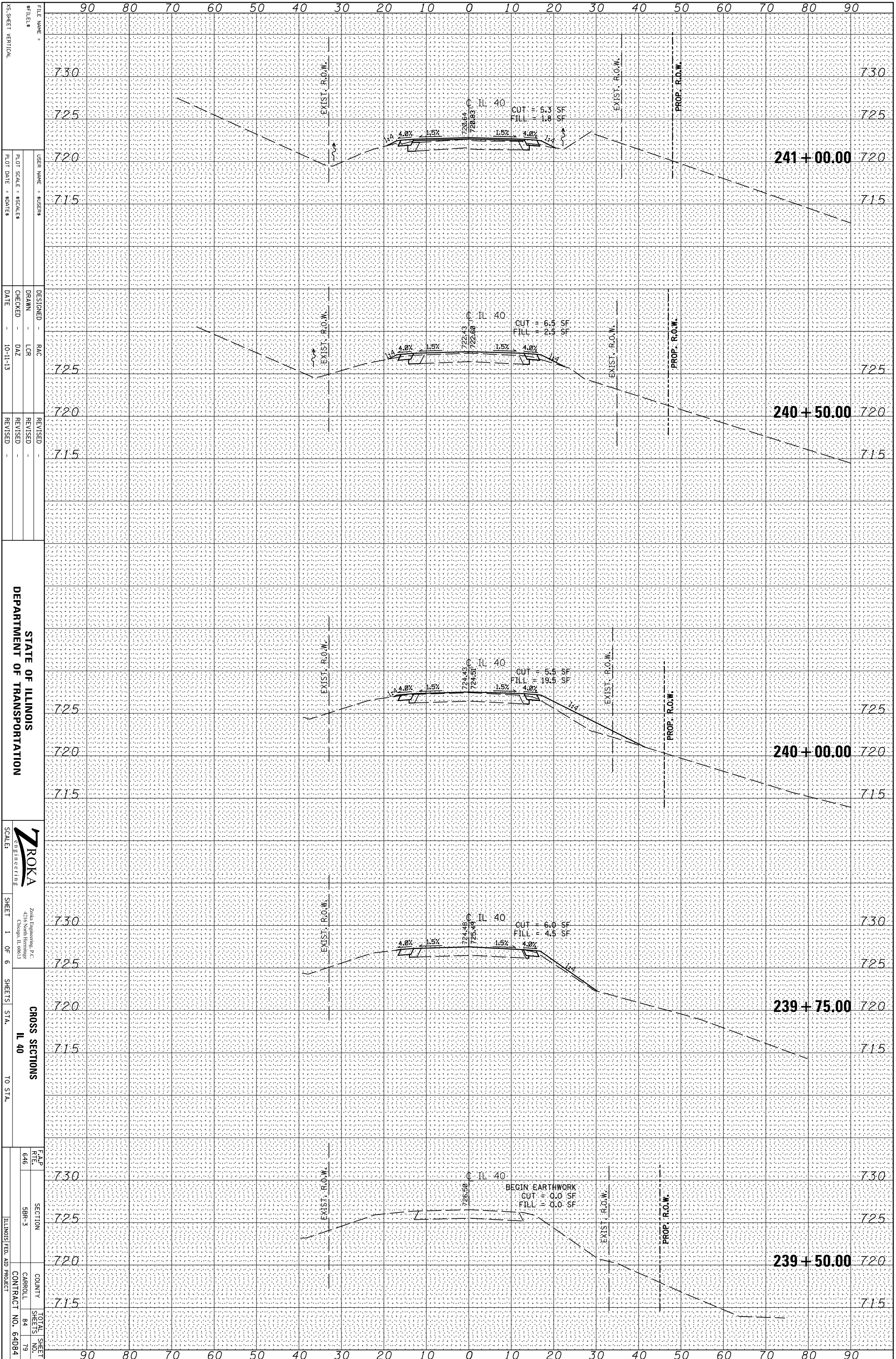
REGION 2 / DISTRICT 2 STANDARD

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	5 BR-3	CARROLL	83	78
CONTRACT NO. 64D83				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

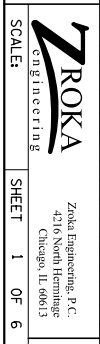
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NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		



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	DATE -	REVISION
	10-11-13	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

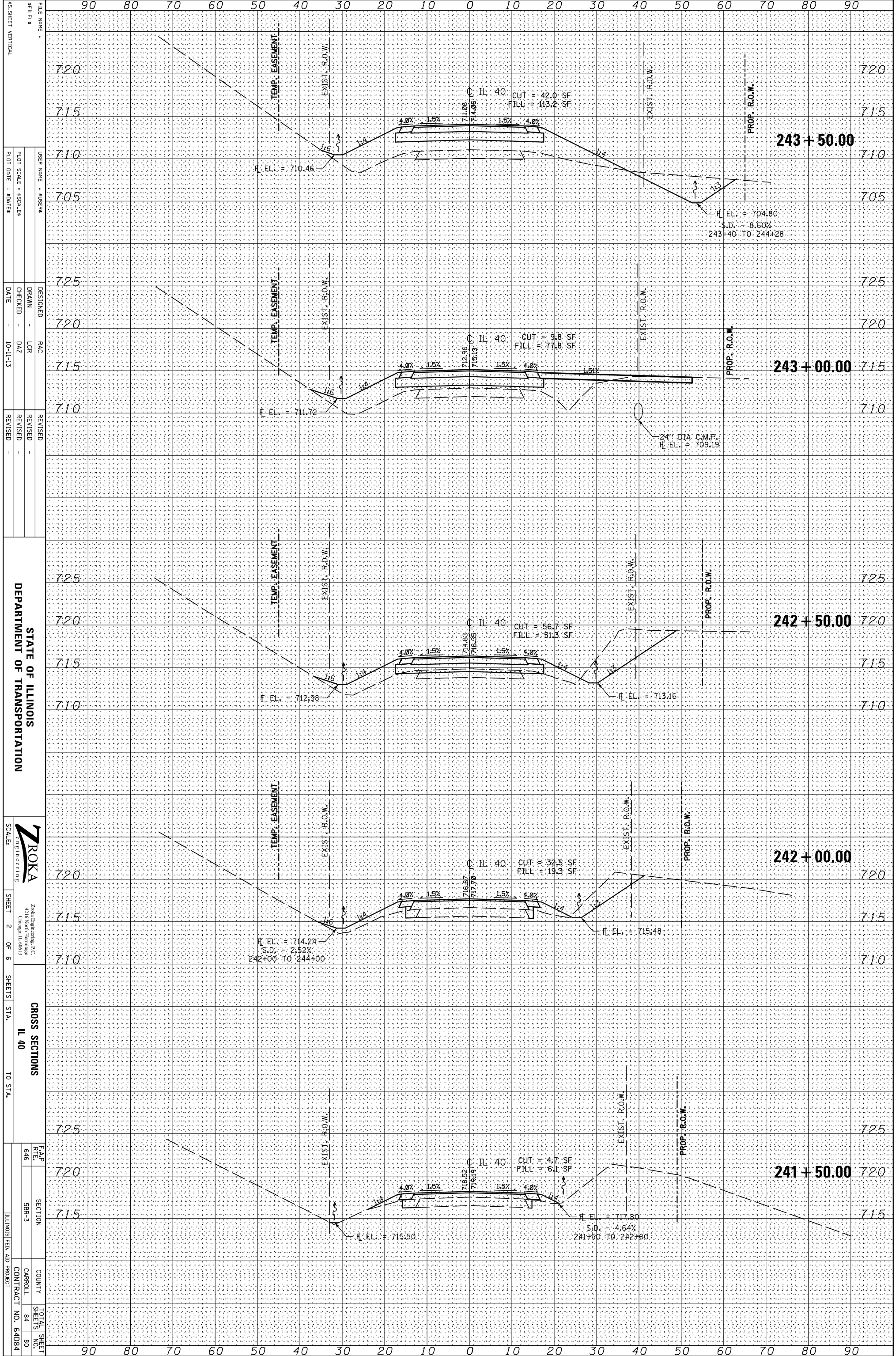


CROSS SECTIONS
IL 40

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
646	5BR-3	CARROLL	84
			79
			CONTRACT NO. 640B4
			ILLINOIS FED. AID PROJECT

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		



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 DRAWN - LCR
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 REVISIONS
 REVISION
 REVISION
 REVISION

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

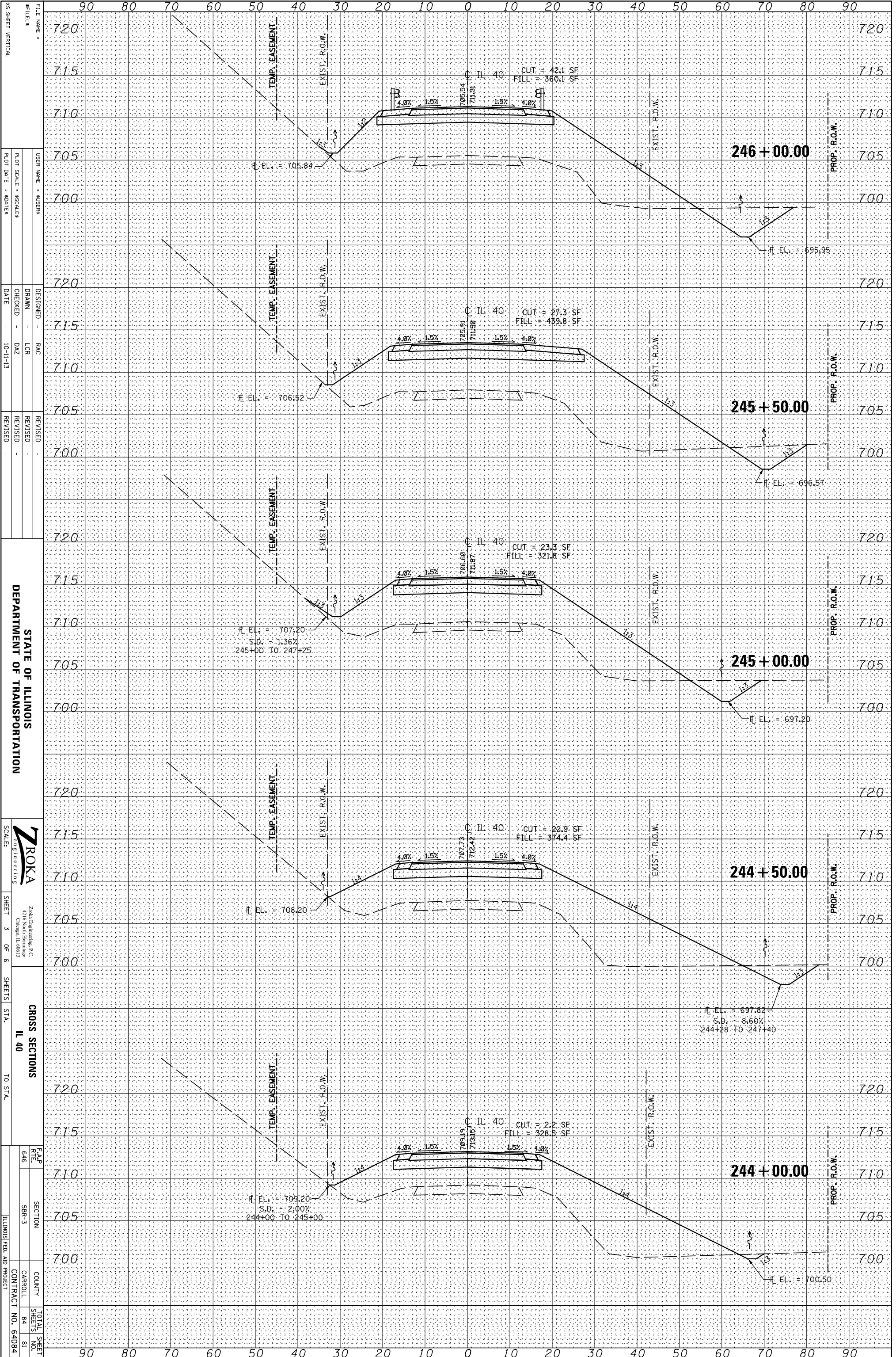
SCALE: **ZROKA**
 CONSULTING
 Zakra Engineering, P.C.
 401 Chicago, IL 60613

CROSS SECTIONS
 IL 40
 SHEET 2 OF 6 SHEETS STA. TO STA.

F.A.P. RTE. 646
 SECTION 5BR-3
 COUNTY CARROLL
 CONTRACT NO. 640B4
 TOTAL SHEET NO. 84
 SHEETS NO. 80
 ILLINOIS FED. AID PROJECT

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

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



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZOKA
CONSULTING
Zoka Engineering, P.C.
411 Chicago, IL 60613

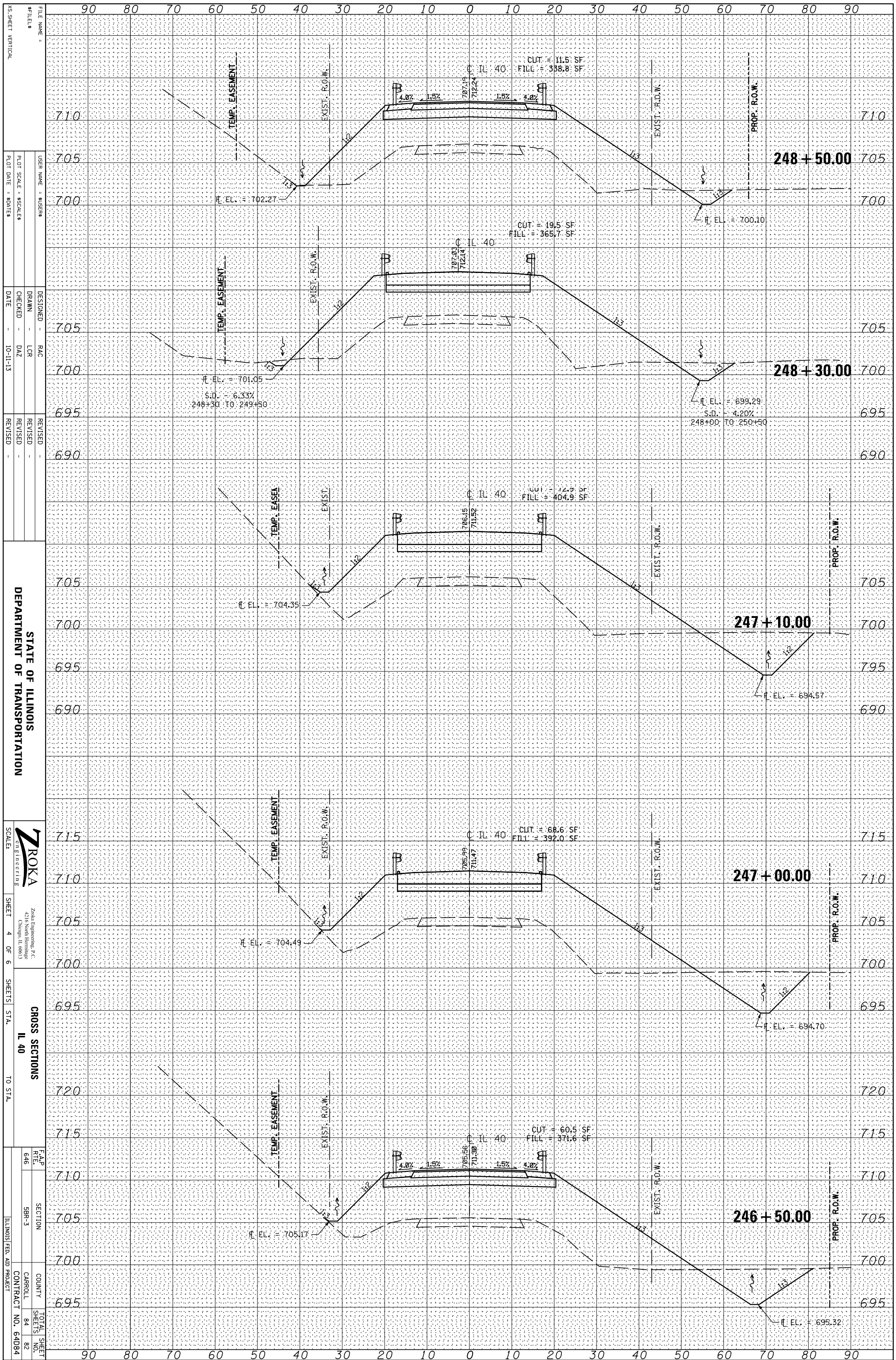
CROSS SECTIONS
IL 40
SHEET 3 OF 6 SHEETS STA. TO STA.
F.A.P. RTE. 646 SECTION 5BR-3 COUNTY CARROLL CONTRACT NO. 640B4
TOTAL SHEET SHEETS NO. 84 81

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DRAWN - LCR
CHECKED - DAZ
DATE - 10-11-13
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DRAWN - LCR
CHECKED - DAZ
DATE - 10-11-13
REVISIONS

KS-SHEET VERTICAL
PLOT SCALE = \$SCALE\$
PLOT DATE = \$DATE\$

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		



FILE NAME: XS-SHEET VERTICAL
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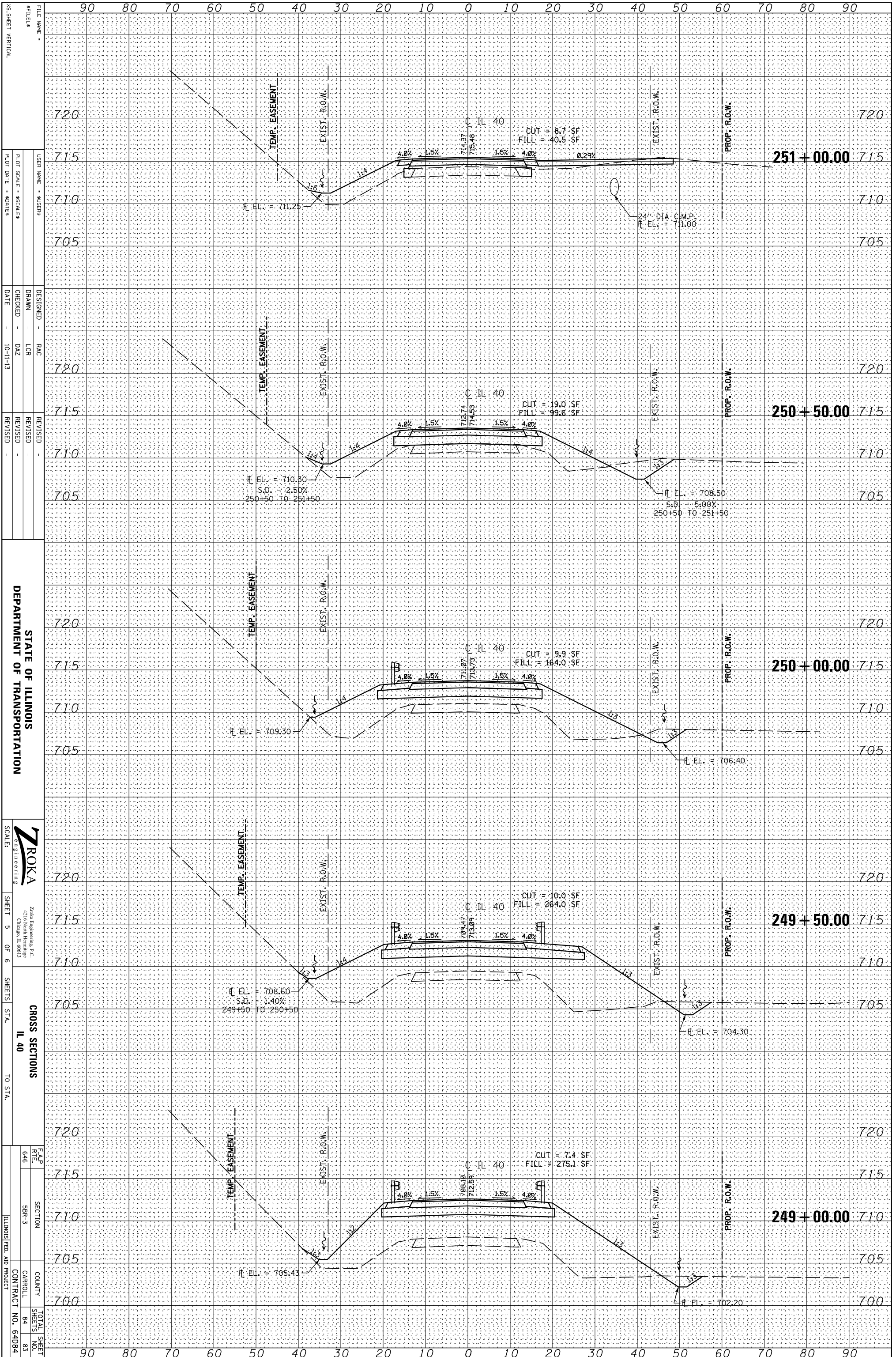
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SCALE: 1" = 40'
 SHEET 4 OF 6
 SHEETS STA. TO STA.

CROSS SECTIONS
 IL 40
 F.A.P. RTE. 646
 SECTION 5BR-3
 COUNTY CARROLL
 TOTAL SHEETS 84
 SHEETS NO. 82
 ILLINOIS FED. AID PROJECT CONTRACT NO. 64D084

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		



KS-SHEET VERTICAL

FILE NAME =

DESIGNED - RAC

DRAWN - LCR

CHECKED - DAZ

DATE - 10-11-13

REVISOR

REVISION

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

SCALE: 1" = 40'

SHEET 5 OF 6 SHEETS STA. TO STA.

CROSS SECTIONS

IL 40

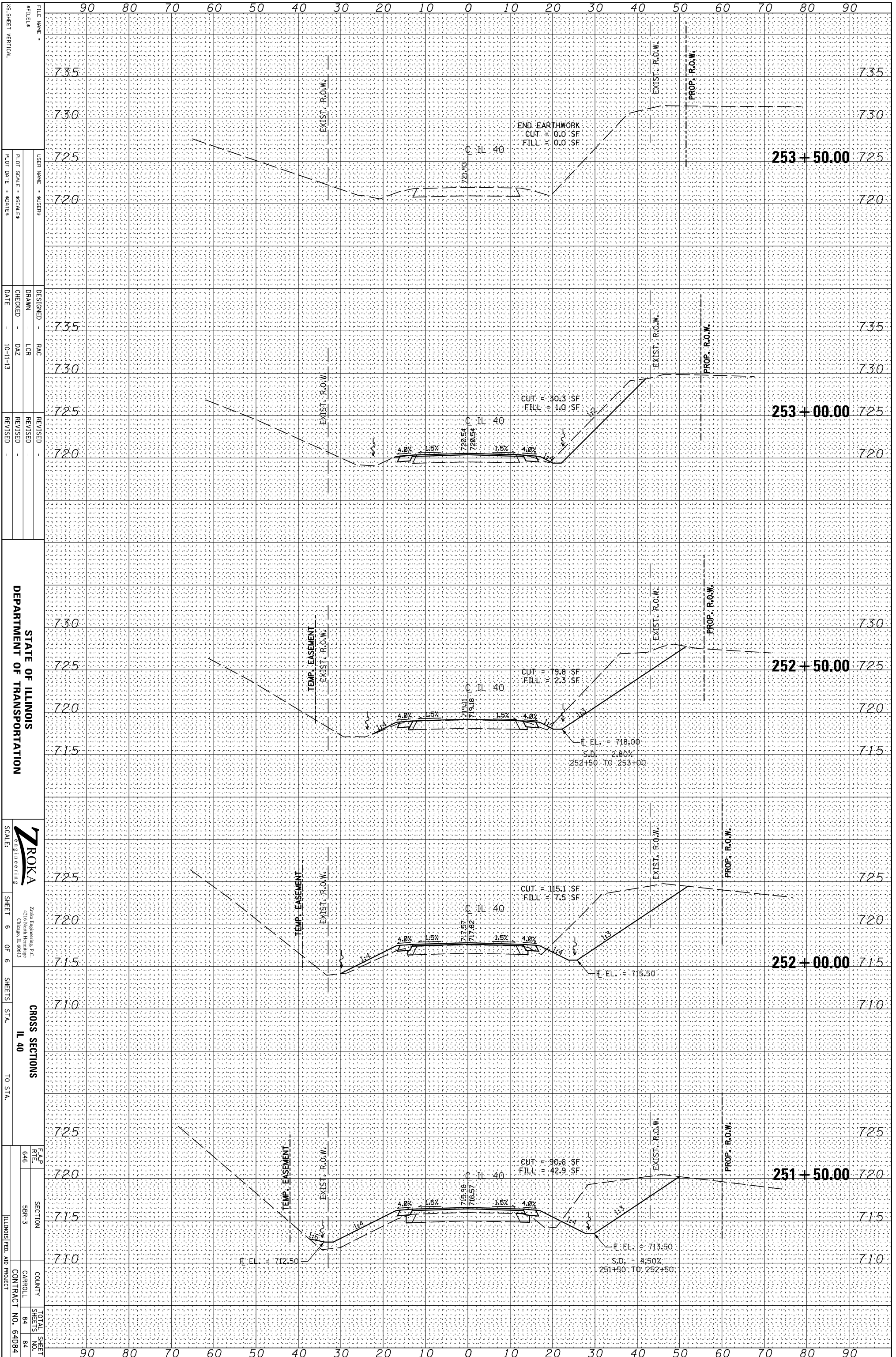
F.A.P. RTE. SECTION COUNTY TOTAL SHEET NO. SHEETS

646 5BR-3 CARROLL 84 83

ILLINOIS FED. AID PROJECT CONTRACT NO. 640B4

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA
ENGINEERING
Zakra Engineering, P.C.
401 Chicago, IL 60613

CROSS SECTIONS
IL 40

F.A.P. RTE. 646
SECTION 5BR-3
COUNTY CARROLL
CONTRACT NO. 64D084
TOTAL SHEETS 84
SHEETS NO. 84

FILE NAME: #TILE#
USER NAME: #USER#
DESIGNED: RAC
DRAWN: LCR
CHECKED: DAZ
DATE: 10-11-13
X-SHEET VERTICAL
PLOT SCALE: #SCALE#
PLOT DATE: #DATE#

SCALE: SHEET 6 OF 6 SHEETS STA. TO STA.