

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	1
		ILLINOIS	CONTRACT NO.	

**INDEX OF SHEETS**

1. COVER
2. GENERAL NOTES AND SOQ
3. DETOUR PLAN
4. TYPICAL SECTIONS
5. PLAN AND PROFILE
6. GRADING PLAN
- 7-19. STRUCTURAL PLANS
- 20-23. CROSS SECTIONS

**LIST OF STANDARDS**

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 630001-11 STEEL PLATE BEAM GUARDRAIL
- 630201-07 PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
- 630301-07 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 701901-06 TRAFFIC CONTROL DEVICES
- 725001-01 OBJECT AND TERMINAL MARKERS
- 782006 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
- BLR-21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR-27-1 TRAFFIC BARRIER TERMINAL TYPE 5A

**UTILITY CONTACTS**

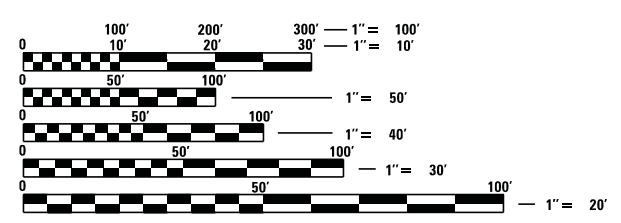
**ELECTRIC:**  
COMMONWEALTH EDISON  
PUBLIC RELOCATION DEPT.  
NORA FERNANDEZ  
(815) 490-2335

**GAS:**  
NICOR  
BRUCE KOPPANG  
(630) 388-3846

**COMMUNICATIONS:**  
DEKALB FIBER OPTIC  
ROGER ENGLE  
(815) 991-2459

FRONTIER COMMUNICATIONS  
KALIN HINSHAW  
(815) 895-1515

MEDIACOM  
PATRICK MCGRAW  
(815) 597-5103



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



*Daniel Schmanski*  
DANIEL SCHMANSKI, P.E. DATE \_\_\_\_\_  
EXPIRES 11/30/17

DEKALB COUNTY  
HIGHWAY DEPARTMENT

**PLANS FOR PROPOSED  
BRIDGE REPLACEMENT**

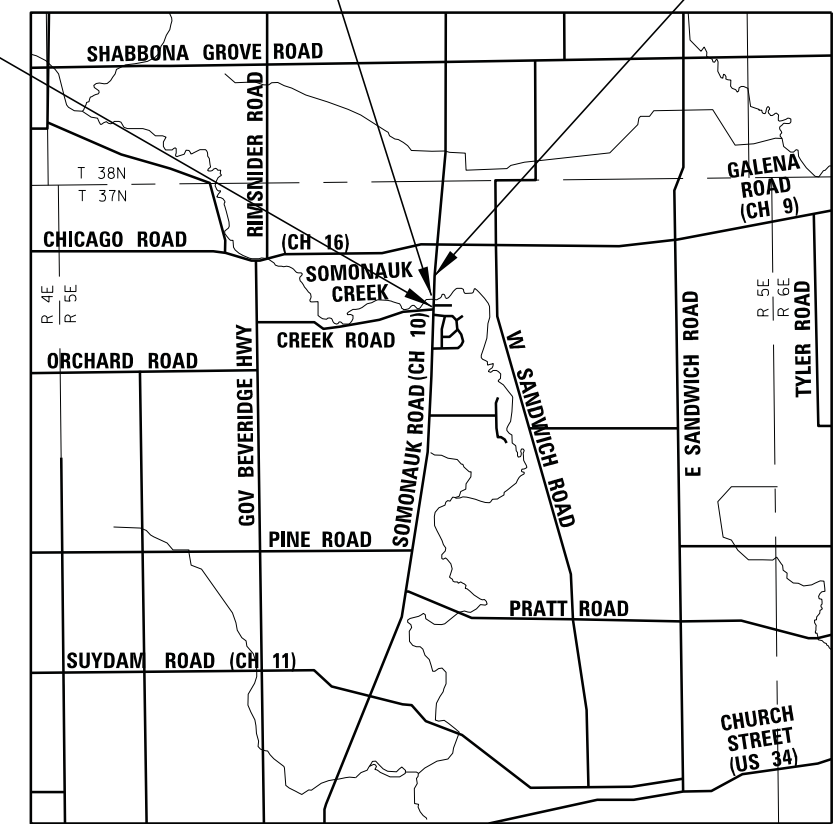
**SOMONAUK ROAD (CH 10)  
(OVER SOMONAUK CREEK)  
SECTION 15-00093-02-BR  
S.N. 019-3076  
STRUCTURE REPLACEMENT  
DEKALB COUNTY**



**PROJECT LOCATION**

**IMPROVEMENT ENDS  
STATION 17 + 75.00**

**IMPROVEMENT BEGINS  
STATION 11 + 73.84**



**EXISTING STRUCTURE**

THE EXISTING STRUCTURE IS A TWO SPAN PRECAST CONCRETE DECK BEAM STRUCTURE CARRYING TWO WAY TRAFFIC OVER SOMONAUK CREEK. THE TYPICAL SECTION IS A CONCRETE SURFACE WITH BRIDGE RAIL. TOTAL LENGTH IS APPROXIMATELY 70.8'. SN 019-3044

**PROPOSED IMPROVEMENT**

REMOVAL AND REPLACEMENT OF THE EXISTING STRUCTURE. THE PROPOSED STRUCTURE IS A SINGLE SPAN CONCRETE DECK, STEEL BEAM BRIDGE ON INTEGRAL ABUTMENTS. THE PROPOSED CROSS SECTION IS 30' OUT-TO-OUT OF DECK AND FACE TO FACE OF BRIDGE RAIL. THE PROPOSED TOTAL LENGTH IS 85'-4" BACK-TO-BACK OF ABUTMENTS. SN 019-3076

**GROSS LENGTH = 601.16 FT. = 0.114 MILE  
NET LENGTH = 601.16 FT. = 0.114 MILE**

<b>AGENCY RESPONSIBLE FOR LETTING</b>
Approved _____ DeKalb County, County Engineer

**GENERAL NOTES**

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE DETAILS IN THE PLANS, THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS, AND THE LATEST EDITION OF THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS", THE STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS", THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND THE "MANUAL OF TEST PROCEDURES FOR MATERIALS", THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" AND KANE COUNTY STORM WATER ORDINANCE.
2. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E" AT 1-800-892-0123 FOR FIELD LOCATION OF BURIED ELECTRIC, TELEPHONE, GAS AND OTHER FACILITIES AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
3. LOCATIONS OF PUBLIC OR PRIVATE UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND THE COUNTY DOES NOT GUARANTEE THEIR ACCURACY. THE CONTRACTOR SHALL HAVE THE RESPECTIVE UTILITY COMPANIES FIELD LOCATE ALL THEIR FACILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL ALSO VERIFY THE DEPTHS OF THE EXISTING UTILITIES IF NECESSARY. ANY RELOCATION OR LOWERING OF UTILITIES SHALL BE COORDINATED BY THE CONTRACTOR IN SUCH MANNER TO NOT IMPEDE PROJECT PROGRESS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND OR SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.
5. THE CONTRACTOR SHALL NOTIFY THE COUNTY, EMERGENCY SERVICES, BUS COMPANIES AND SOMONAUK TOWNSHIP ROAD COMMISSIONER AT LEAST 48 HOURS IN ADVANCE OF BEGINNING WORK AND COORDINATE ALL CONSTRUCTION OPERATIONS WITH THE COUNTY ENGINEER.
6. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL SECTION OR SUBSECTION MONUMENTS OR PROPERTY OR REFERENCE MARKERS UNTIL THE OWNERS, HIS AGENT OR AN AUTHORIZED SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THE LOCATIONS.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN DRAINAGE FLOWS AT ALL TIMES DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL MAINTAIN FLOWS THAT MEET ALL LOCAL, STATE AND FEDERAL REGULATIONS AND NOT CAUSE ANY DAMAGES UPSTREAM OR TO ANY ADJACENT DRAINAGE WATERSHED. COST OF MAINTAINING DRAINAGE FLOWS SHALL BE INCLUDED IN THE CONTRACT PAY ITEMS AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
8. CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES, IF SHOWN ARE FOR INFORMATION ONLY.
9. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, THE PROPOSED CONCRETE TRUCK WASHOUT LOCATIONS. RUNOFF FROM WASH AREAS SHALL BE CONTAINED IN DESIGNATED AREAS SO THAT RUNOFF DOES NOT REACH THE DITCH OR DRAINAGE SYSTEMS.
10. ACCESS TO PRIVATE DRIVEWAYS SHALL BE PROVIDED AT ALL TIMES EXCEPT DURING ACTUAL CONSTRUCTION ADJACENT THERE TO. TEMPORARY RAMPS SHALL BE CONSTRUCTED AS NEEDED TO PROVIDE SUCH ACCESS., UTILIZING CRUSHED STONE OR CRUSHED GRAVEL. CONSTRUCTION AND MAINTENANCE OF TEMPORARY RAMPS AND ACCESS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE PAID FOR SHOULDER AND PAVEMENT WORK.
11. ALL WORK SHALL BE COMPLETED WITHIN DEKALB COUNTY RIGHT-OF-WAY WITH NO EQUIPMENT OR MATERIAL STORAGE ON PRIVATE PROPERTY.
12. NO CHANNEL GRADING OR CONSTRUCTION ACTIVITIES WILL BE ALLOWED IN WATER DURING PERIODS OF HIGH FLOWS AND EXCESSIVE CHANNEL FLOW VELOCITIES.
13. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PROTECT PUBLIC AND PRIVATE PROPERTY. IF AT ANY TIME THE CONTRACTOR DAMAGES OR DESTROYS PUBLIC OR PRIVATE PROPERTY, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, RESTORE SUCH PROPERTY TO A CONDITION EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE.
14. TEMPORARY EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.
15. SEEDING SHALL BE DONE ON ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION OPERATIONS AS DIRECTED BY THE ENGINEER. SEEDING SHALL BE PAID FOR ONLY WITHIN THE PROPOSED CONSTRUCTION LIMITS. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMIT SHALL BE SEEDER AS DIRECTED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
16. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

SUMMARY OF QUANTITIES				
CODE NUMBER	PAY ITEM	UNIT	TOTAL	
20101100	TREE TRUNK PROTECTION	EACH	3	
20200100	EARTH EXCAVATION	CUYD	199	
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CUYD	397	
20300100	CHANNEL EXCAVATION	CUYD	108	
20400800	FURNISHED EXCAVATION	CUYD	2,420	
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQYD	3,717	
25100630	EROSION CONTROL BLANKET	SQYD	3,717	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	154	
28000305	TEMPORARY DITCH CHECKS	FOOT	125	
28000400	PERIMETER EROSION BARRIER	FOOT	1,178	
28001100	TEMPORARY EROSION CONTROL BLANKET	SQYD	7,434	
28100207	STONE RIPRAP, CLASS A4	TON	453	
28200200	FILTER FABRIC	SQYD	680	
35101800	AGGREGATE BASE COURSE, TYPE B, 6"	SQYD	530	
35102400	AGGREGATE BASE COURSE, TYPE B, 12"	SQYD	74	
40701841	HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 8"	SQYD	74	
44000100	PAVEMENT REMOVAL	SQYD	74	
44213200	SAW CUTS	FOOT	44	
48101200	AGGREGATE SHOULDERS, TYPE B	TON	85	
48203013	HOT-MIX ASPHALT SHOULDERS, 4"	SQYD	530	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	
50200100	STRUCTURE EXCAVATION	CUYD	188	
50300225	CONCRETE STRUCTURES	CUYD	36.0	
50300255	CONCRETE SUPERSTRUCTURE	CUYD	95.1	
50300260	BRIDGE DECK GROOVING	SQYD	265	
50300300	PROTECTIVE COAT	SQYD	284	
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L.SJM	1	
50500505	STUD SHEAR CONNECTORS	EACH	1,422	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	23,870	
50901050	STEEL RAILING, TYPE SM	FOOT	171	
51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	436	
51202305	DRIVING PILES	FOOT	436	
51203200	TEST PILE METAL SHELLS	EACH	1	
51500100	NAME PLATES	EACH	1	
52100520	ANCHOR BOLTS, 1"	EACH	24	
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CUYD	84	
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	75	
63100075	TRAFFIC BARRIER TERMINAL, TYPE SA	EACH	4	
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	
63200310	GUARDRAIL REMOVAL	FOOT	255	
67100100	MOBILIZATION	L.SJM	1	
78200410	GUARDRAIL MARKERS, TYPE A	EACH	8	
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.8	
X5010205	REMOVAL OF EXISTING STRUCTURE, SPECIAL	EACH	1	
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L.SJM	1	

Earthwork Schedule					
Location	Earth Excavation	Earth Excavation Adjusted for Shrinkage (25%)	Embankment	Earthwork Balance Waste or Shortage	Removal of Unsuitable Materials
	Cubic Yard	Cubic Yard	Cubic Yard	Cubic Yard	Cubic Yard
South of Bridge	33	25	577	552	84
North of Bridge	93	70	1,993	1,923	301
Levee	73	55	0	(55)	12
<b>Total</b>	<b>199</b>	<b>150</b>	<b>2,570</b>	<b>2,420</b>	<b>397</b>

FILE NAME = 6499\_aht-0notadgn



USER NAME = dwozniarski	DESIGNED - DMS	REVISED -
	CHECKED - SPF	REVISED -
PLOT SCALE = 40.0000' / 1"	DRAWN - DMW	REVISED -
PLOT DATE = 4/3/2017	CHECKED - SPF	REVISED -

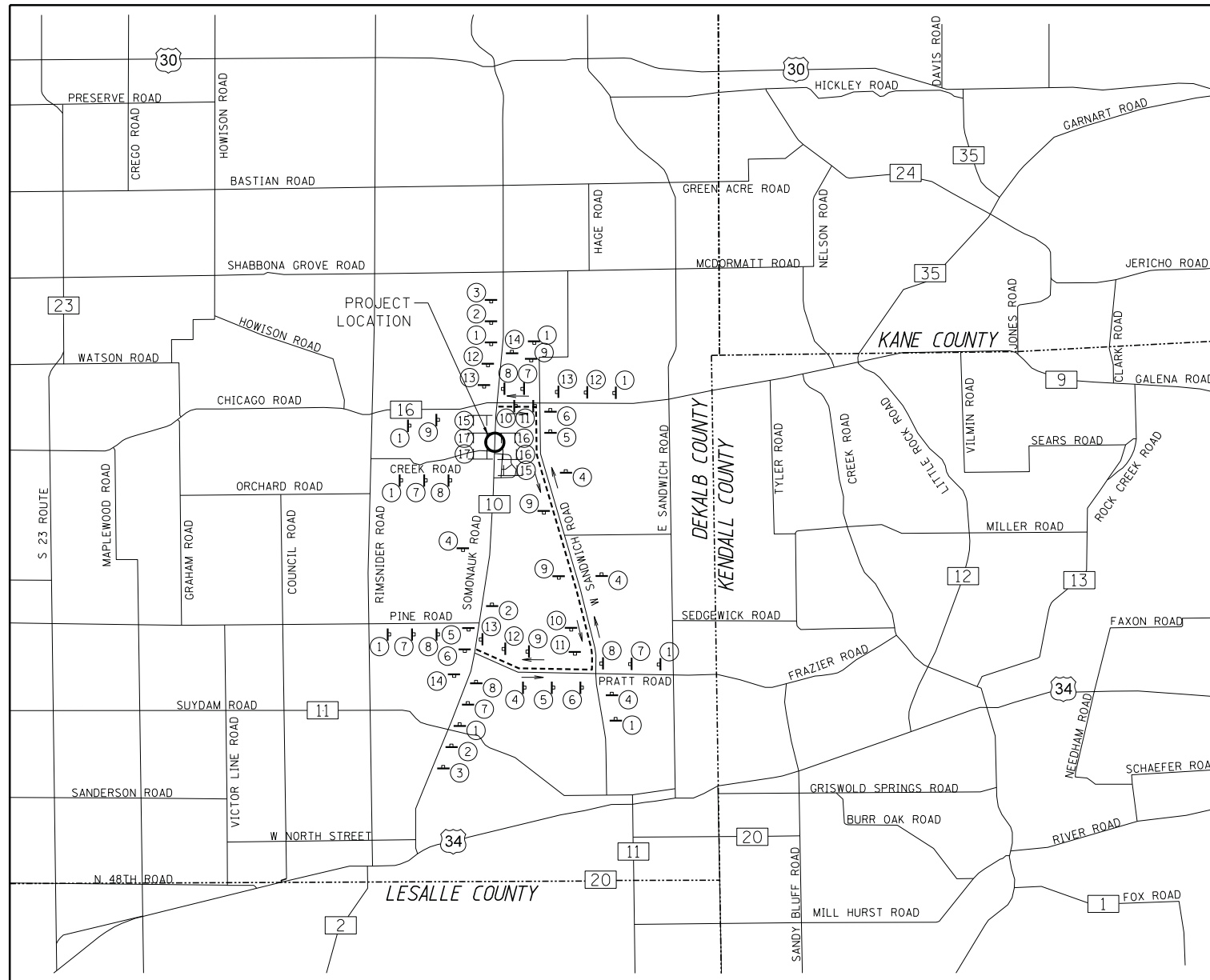
**DEKALB COUNTY  
HIGHWAY DEPARTMENT**

**GENERAL NOTES AND SOQ**

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

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	2
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				





**CONSTRUCTION STAGING**

STAGE I – LOCATE AND SET CHANGEABLE MESSAGE SIGNS 2 WEEKS PRIOR TO ESTABLISHING DETOUR ROUTE, INSTALL DETOUR ROUTE SIGNAGE, SET TYPE III BARRICADES FOR THROUGH TRAFFIC CLOSURE AND CLOSE THE BRIDGE. LOCAL TRAFFIC, EMERGENCY VEHICLE AND PROPERTY ACCESS MUST BE MAINTAINED FROM BOTH DIRECTIONS UP TO FULL CLOSURE LOCATION. IF DETOUR SIGNAGE IS INSTALLED PRIOR TO CLOSURE, SIGNS SHALL BE COVERED UNTIL NECESSARY.

STAGE II – REMOVE EXISTING PAVEMENT, BRIDGE, AND GUARDRAIL. INSTALL NEW BRIDGE, COMPLETE EMBANKMENT GRADING, CONSTRUCT NEW SHOULDERS, COMPLETE PAVEMENT REPLACEMENT AND INSTALL NEW GUARDRAIL.

STAGE III – INSTALL FINAL PAVEMENT MARKING, EMBANKMENT SEEDING, PLACE EROSION BLANKET AND PROVIDE FINAL CLEAN-UP. CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES AFTER FINAL SEEDING. MAINTENANCE OF EROSION CONTROL MEASURES IS REQUIRED UNTIL VEGETATION IS ESTABLISHED.

FINAL SEEDING AND EROSION CONTROL BLANKET MUST BE PLACED WITHIN 7 DAYS OF FINAL GRADING.

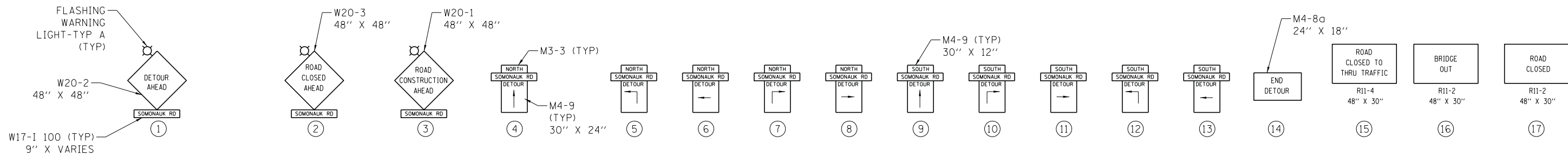
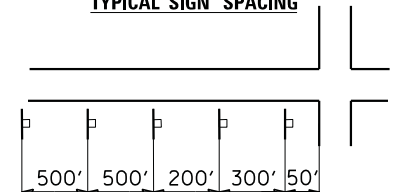
**TRAFFIC CONTROL NOTES**

1. DETOUR ROUTE SHALL BE ESTABLISHED FOR A MAXIMUM OF 91 CALENDAR DAYS.
2. SEE THE PLAN AND PROFILE SHEETS FOR LOCATION OF TYPE III BARRICADES WITH "ROAD CLOSED" SIGNAGE FOR FULL CLOSURE.
3. FULL CLOSURE OF SOMONAUK ROAD WILL BE PERMITTED AT THE BRIDGE SITE ONLY. LOCAL ACCESS TO AGRICULTURAL, RESIDENTIAL, AND COMMERCIAL PROPERTY MUST BE MAINTAINED FROM BOTH DIRECTIONS AT ALL TIMES.
4. CONTRACTOR SHALL COMPLETE ALL CONSTRUCTION FOR THIS PROJECT WITHIN THE 91 CALENDAR DAYS ESTABLISHED DETOUR LIMIT.
5. EXISTING ROAD SIGNS THAT CONFLICT WITH CONSTRUCTION OPERATIONS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER, THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE CONTRACT PAY ITEMS AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR.

**TRAFFIC CONTROL LEGEND**

- |—| INDICATES TYPE III BARRICADE WITH SIGN UNLESS OTHERWISE NOTED PER STANDARD 701901. (WITH TWO WARNING LIGHTS EACH BARRICADE)
- P— INDICATES DESIGNATED SIGN POST-MOUNTED IN GROUND PER ARTICLE 701.14 & STANDARD 701901 (SEE SIGN DETAIL BELOW)
- ↑↑—↑↑— INDICATES DETOUR ROUTE

**TYPICAL SIGN SPACING**



FILE NAME = 6499\_sht-detour.dgn



USER NAME = dwozniarski  
 PLOT SCALE = 40.0000' / 1" =  
 PLOT DATE = 4/3/2017

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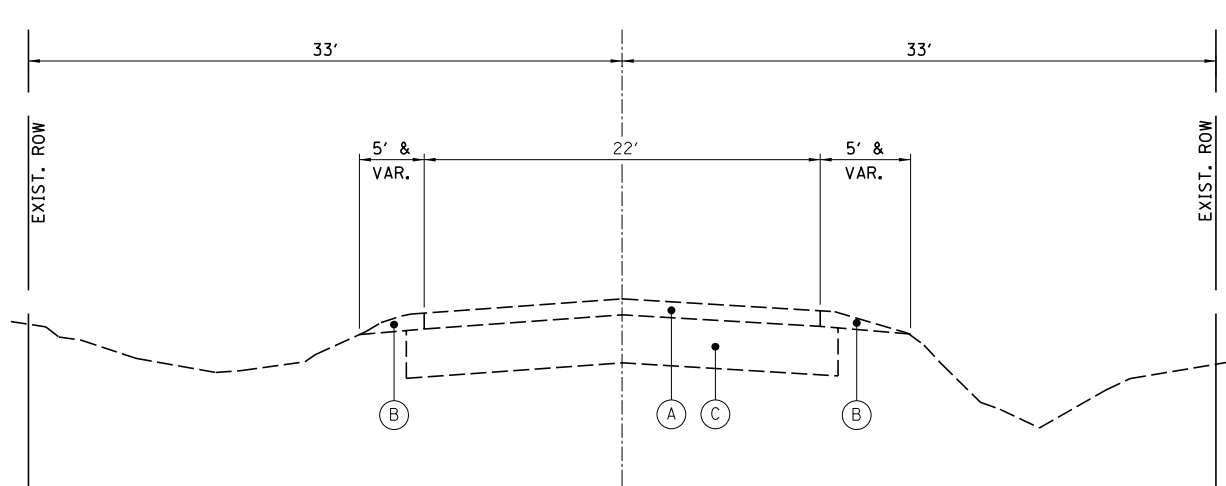
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**DEKALB COUNTY  
 HIGHWAY DEPARTMENT**

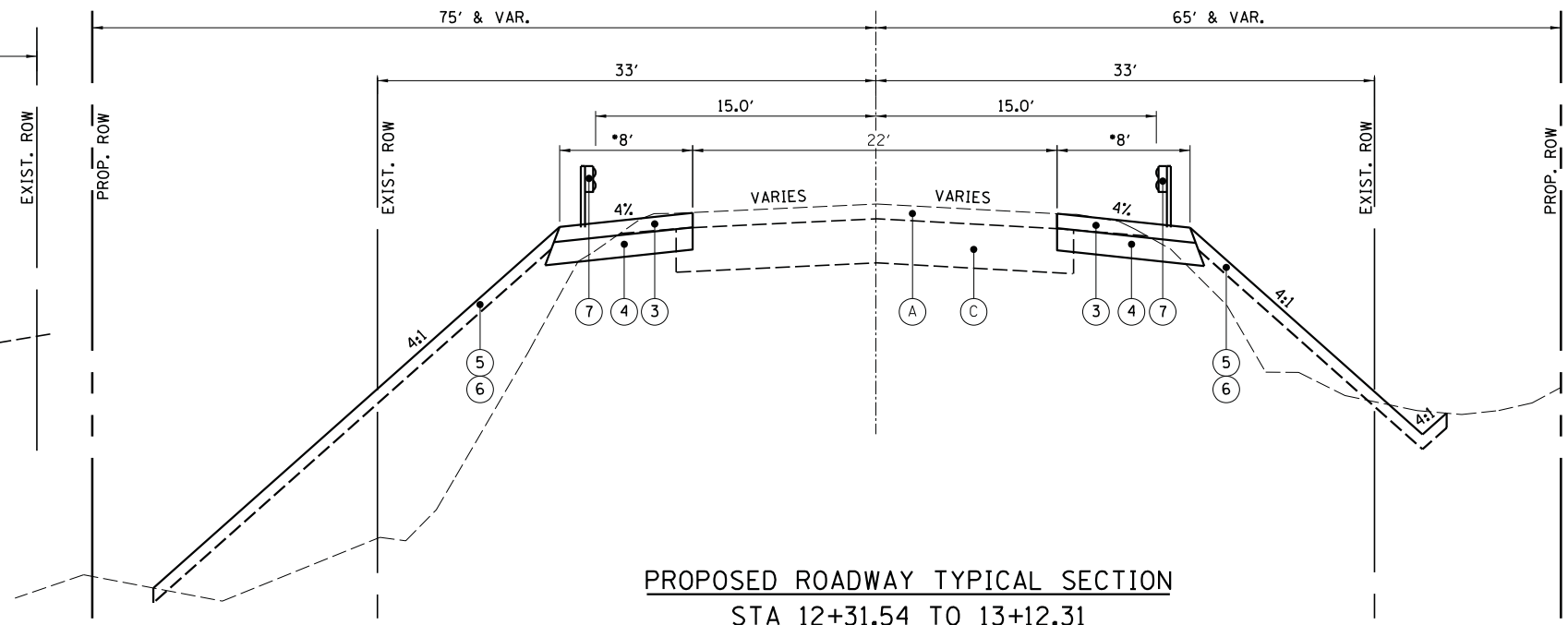
**DETOUR PLAN**

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

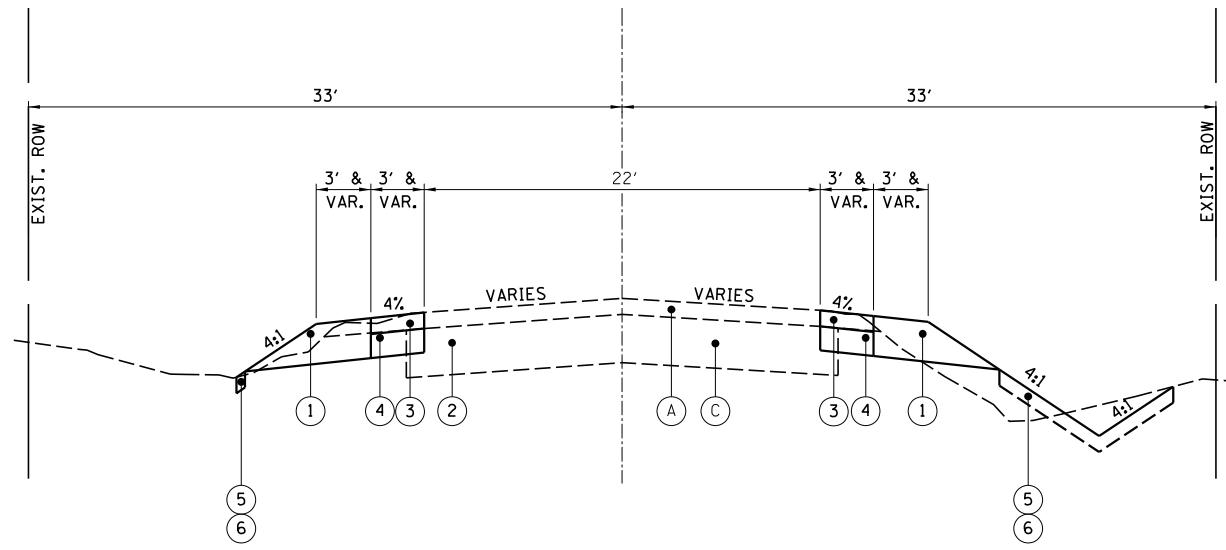
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	3
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ILLINOIS FED. AID PROJECT				



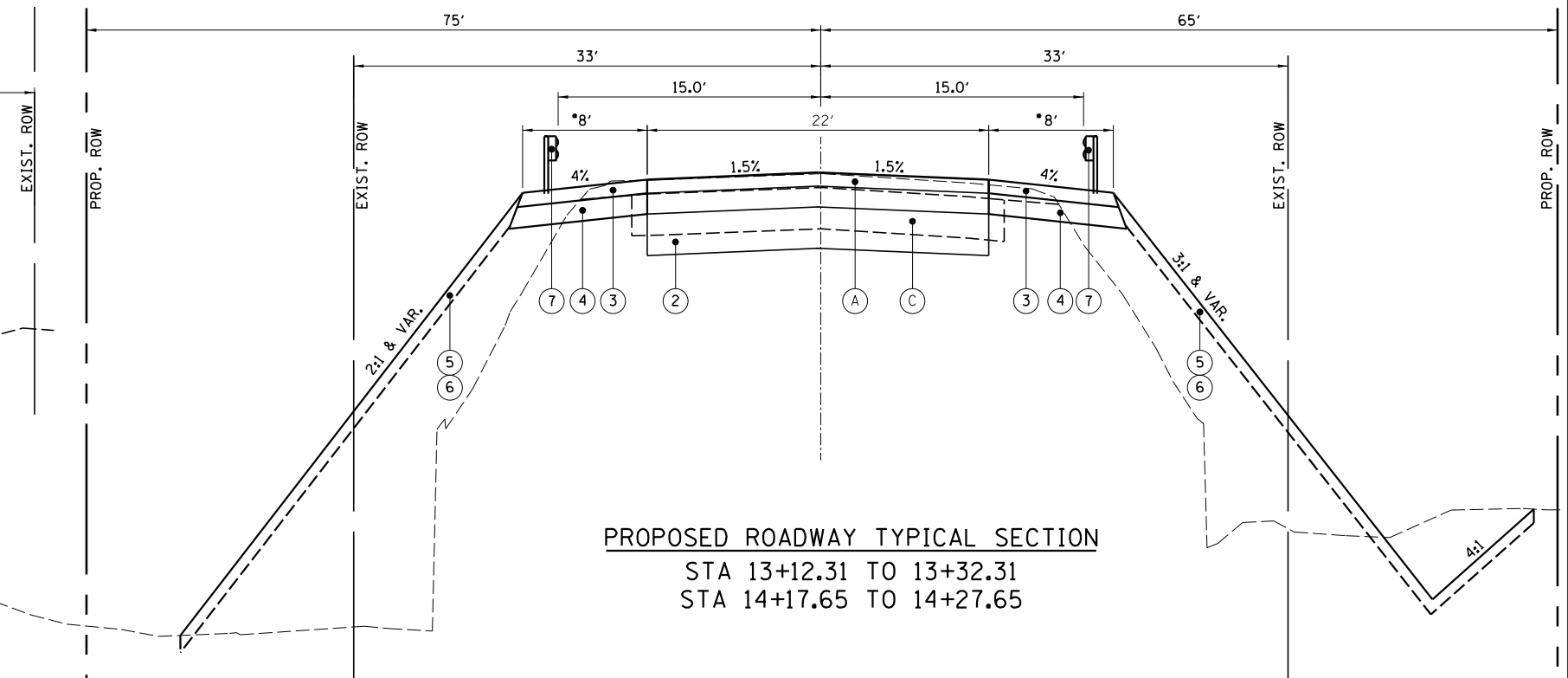
**EXISTING ROADWAY TYPICAL SECTION**  
STA 11+73.04 TO 17+75.00



**PROPOSED ROADWAY TYPICAL SECTION**  
STA 12+31.54 TO 13+12.31  
STA 14+27.65 TO 15+18.39



**PROPOSED ROADWAY TYPICAL SECTION**  
STA 11+77.50 TO 12+31.54  
STA 15+18.39 TO 17+25.00



**PROPOSED ROADWAY TYPICAL SECTION**  
STA 13+12.31 TO 13+32.31  
STA 14+17.65 TO 14+27.65

**EXISTING LEGEND**

- (A) EXISTING HMA PAVEMENT (4" & VAR.)
- (B) EXISTING AGGREGATE SHOULDER
- (C) EXISTING AGGREGATE BASE COURSE, 12"

**PROPOSED LEGEND**

- (1) AGGREGATE SHOULDER, TYPE B, 10"
- (2) HOT-MIX ASPHALT (FULL DEPTH) 8" 1.75" SURFACE COURSE 6.25" BINDER COURSE 12" AGGREGATE BASE COURSE STA 13+12.31 TO STA 13+32.31 STA 14+17.65 TO STA 14+27.65
- (3) HOT-MIX ASPHALT SHOULDERS, 4"
- (4) AGGREGATE BASE COURSE, TYPE B, 6"
- (5) TOPSOIL FURNISH AND PLACE, 4"
- (6) SEEDING, CLASS 2A / EROSION CONTROL BLANKET
- (7) STEEL PLATE BEAM GUARDRAIL, TY A

NOTE:  
SEE CROSS SECTIONS FOR SIDE SLOPE AND DITCH CONDITIONS.

HMA SHOULDERS SHALL BE CONSTRUCTED IN 2-2" LIFTS

\* SEE PLAN & PROFILE SHEET FOR SHOULDER TRANSITIONS AND GUARDRAIL LOCATIONS

FILE NAME = 6499\_ahc\_Typical.dgn



USER NAME = dwozniarski	DESIGNED - DMS	REVISED -
PLOT SCALE = 40.0000' / 1in.	CHECKED - SPF	REVISED -
PLOT DATE = 4/3/2017	DRAWN - DMW	REVISED -
	CHECKED - SPF	REVISED -

**DEKALB COUNTY  
HIGHWAY DEPARTMENT**

**TYPICAL SECTIONS**

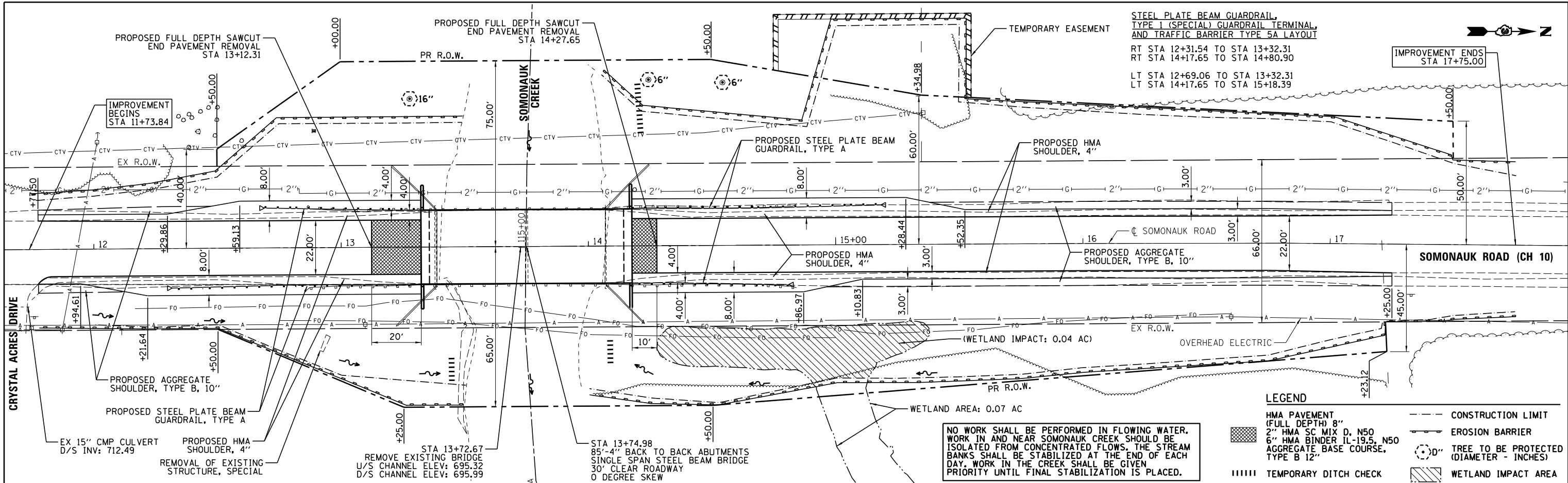
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	4
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

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

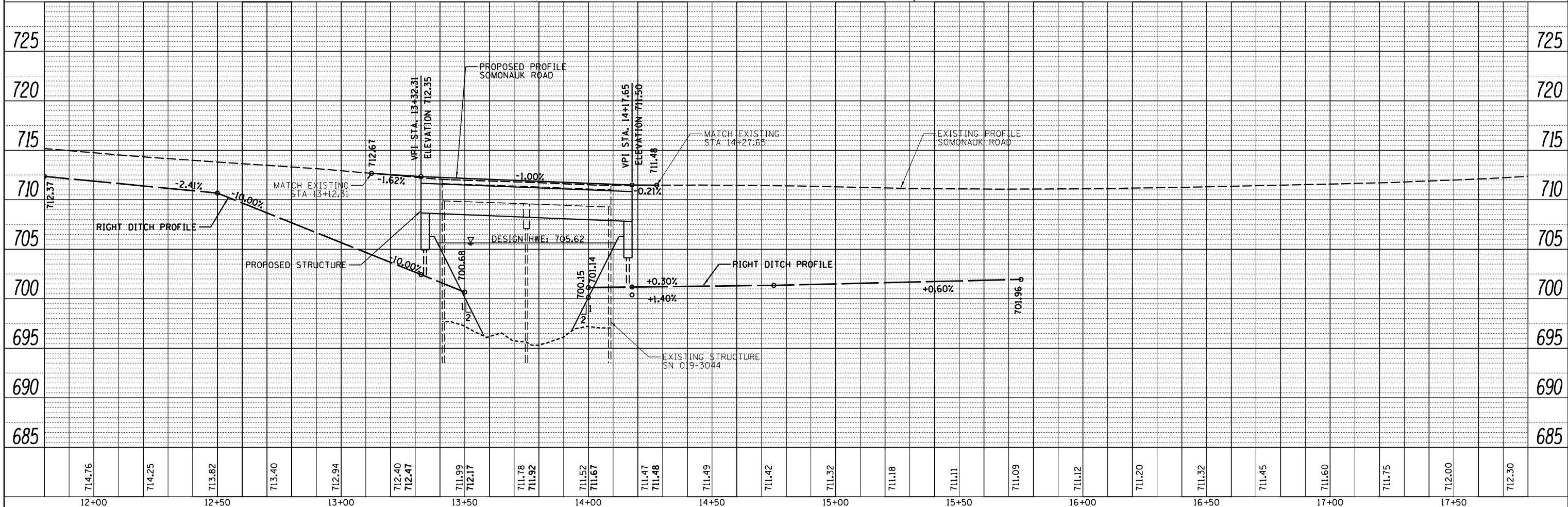
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	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE	
	NOTATIONS	
	NO.	

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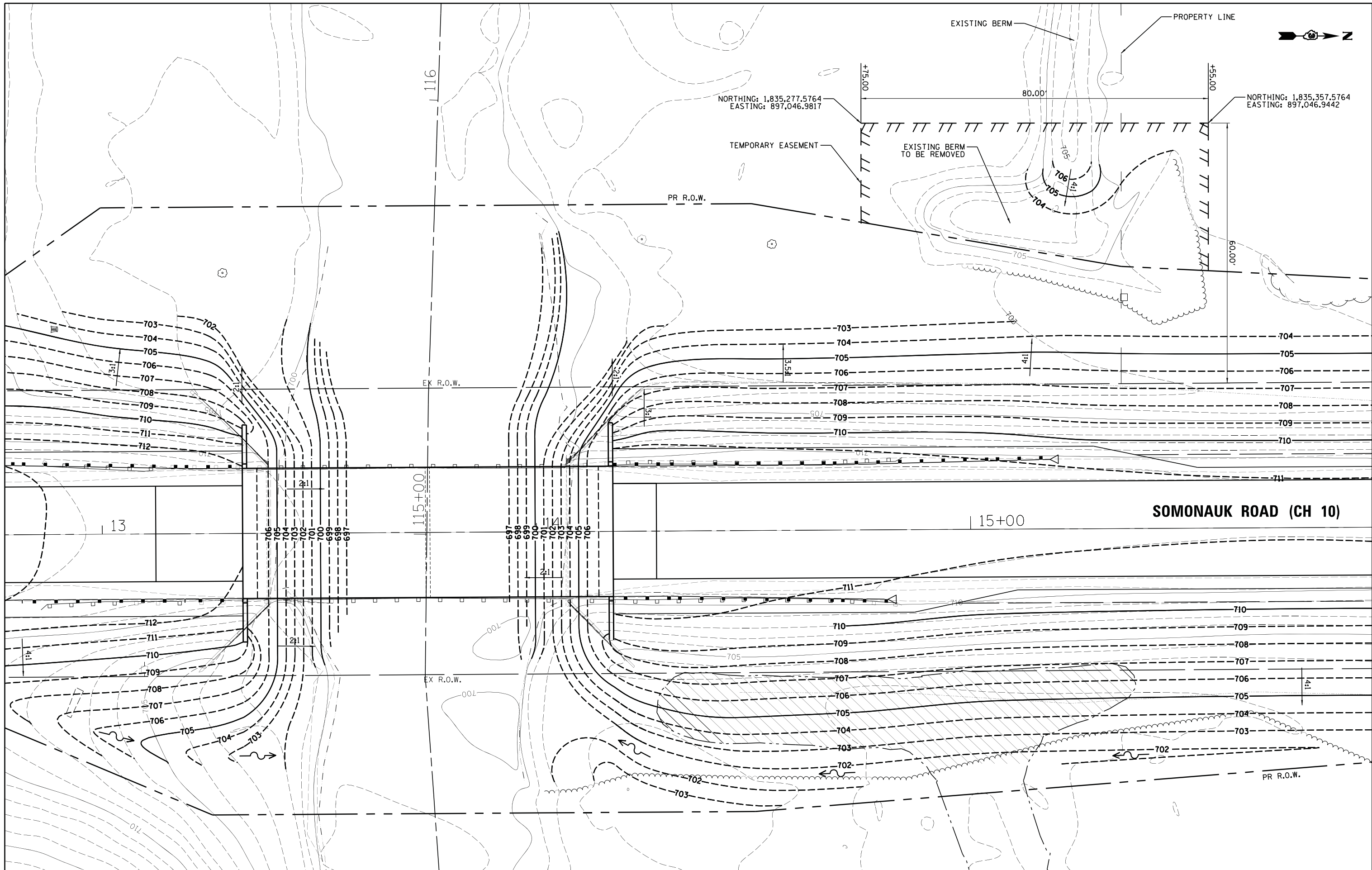
NO WORK SHALL BE PERFORMED IN FLOWING WATER. WORK IN AND NEAR SOMONAUK CREEK SHOULD BE ISOLATED FROM CONCENTRATED FLOWS. THE STREAM BANKS SHALL BE STABILIZED AT THE END OF EACH DAY. WORK IN THE CREEK SHALL BE GIVEN PRIORITY UNTIL FINAL STABILIZATION IS PLACED.

LEGEND	
	HMA PAVEMENT (FULL DEPTH) 8\"/>
	CONSTRUCTION LIMIT
	EROSION BARRIER
	TREE TO BE PROTECTED (DIAMETER - INCHES)
	TEMPORARY DITCH CHECK
	WETLAND IMPACT AREA



<b>CHASTAIN &amp; ASSOCIATES LLC</b> CONSULTING ENGINEERS 184-001397	USER NAME = dwaiznarski PLOT SCALE = 40.0000' / 1"	DESIGNED - CHECKED - DRAWN - CHECKED -	REVISED - REVISED - REVISED - REVISED -	<b>DEKALB COUNTY HIGHWAY DEPARTMENT</b>	<b>PLAN AND PROFILE SHEET</b>	SCALE: 1" = 20' SHEET 1 OF 1 SHEETS STA. 11+73.04 TO STA. 17+75.00	F.A.S. RTE. 96 SECTION 15-00093-02-BR COUNTY DEKALB TOTAL SHEETS 22 SHEET NO. 5 CONTRACT NO. ILLINOIS FED. AID PROJECT
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FILE NAME = 6493\_ahc\_grading.dgn

**CHASTAIN & ASSOCIATES LLC**  
CONSULTING ENGINEERS  
184-001397

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	CHECKED - SPF	REVISED -
PLOT SCALE = 20,0000' / in.	DRAWN - DMW	REVISED -
PLOT DATE = 4/3/2017	CHECKED - SPF	REVISED -

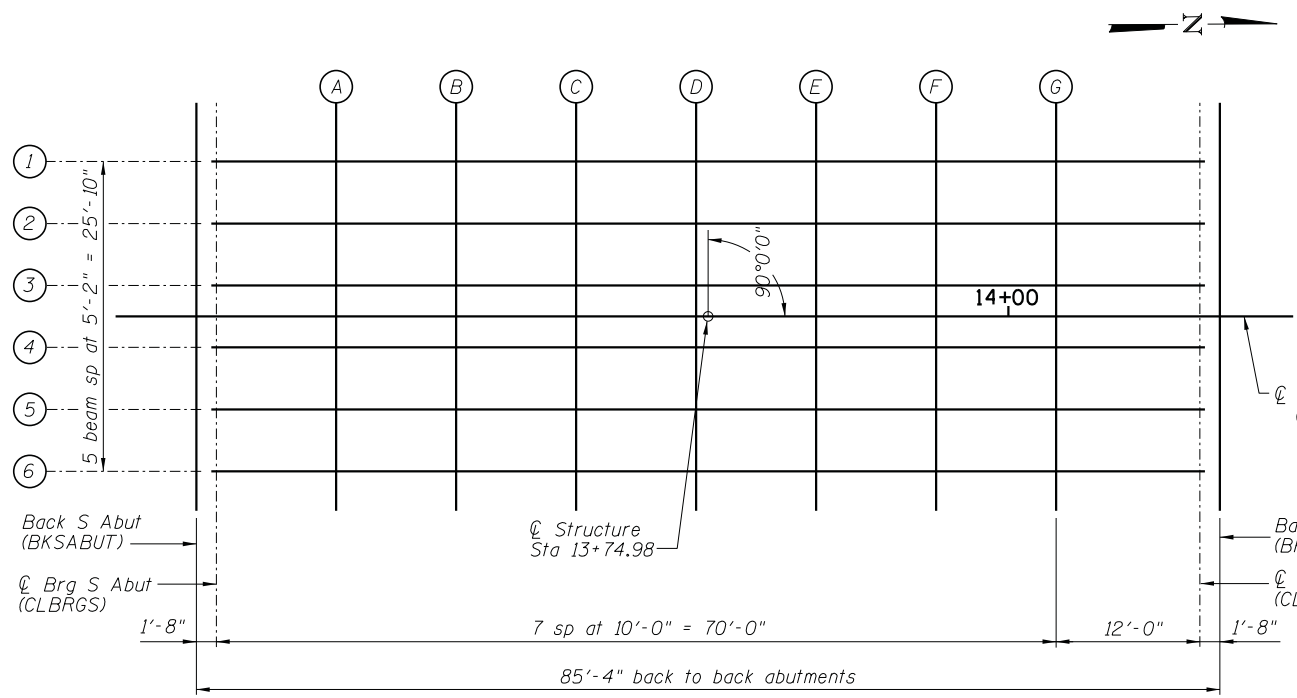
**DEKALB COUNTY  
HIGHWAY DEPARTMENT**

**PROPOSED GRADING PLAN**

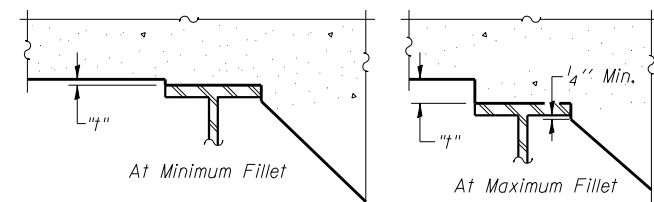
SCALE: 1" = 10'    SHEET 1    OF 1    SHEETS    STA.    TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	22	6
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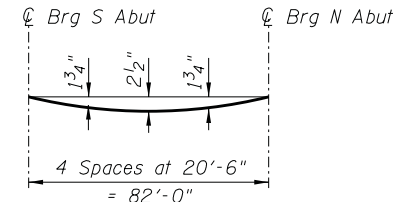




**DECK ELEVATION LAYOUT**



**FILLET HEIGHTS**



**DEAD LOAD DEFLECTION DIAGRAM**

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

BEAM 1				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	13+32.31	-12.92	712.13	712.13
CLBRGS	13+33.98	-12.92	712.12	712.12
A	13+43.98	-12.92	712.02	712.09
B	13+53.98	-12.92	711.92	712.06
C	13+63.98	-12.92	711.82	712.00
D	13+73.98	-12.92	711.72	711.92
E	13+83.98	-12.92	711.62	711.81
F	13+93.98	-12.92	711.52	711.67
G	14+03.98	-12.92	711.42	711.51
CLBRGN	14+15.98	-12.92	711.30	711.30
BKNABUT	14+17.65	-12.92	711.28	711.28

BEAM 2				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	13+32.31	-7.75	712.23	712.23
CLBRGS	13+33.98	-7.75	712.21	712.21
A	13+43.98	-7.75	712.11	712.18
B	13+53.98	-7.75	712.01	712.15
C	13+63.98	-7.75	711.91	712.09
D	13+73.98	-7.75	711.81	712.01
E	13+83.98	-7.75	711.71	711.90
F	13+93.98	-7.75	711.61	711.76
G	14+03.98	-7.75	711.51	711.60
CLBRGN	14+15.98	-7.75	711.39	711.39
BKNABUT	14+17.65	-7.75	711.37	711.37

BEAM 3				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	13+32.31	-2.58	712.31	712.31
CLBRGS	13+33.98	-2.58	712.29	712.29
A	13+43.98	-2.58	712.19	712.26
B	13+53.98	-2.58	712.09	712.23
C	13+63.98	-2.58	711.99	712.17
D	13+73.98	-2.58	711.89	712.09
E	13+83.98	-2.58	711.79	711.98
F	13+93.98	-2.58	711.69	711.84
G	14+03.98	-2.58	711.59	711.68
CLBRGN	14+15.98	-2.58	711.47	711.47
BKNABUT	14+17.65	-2.58	711.45	711.45

PGL				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	13+32.31	0.00	712.35	712.35
CLBRGS	13+33.98	0.00	712.33	712.33
A	13+43.98	0.00	712.23	712.31
B	13+53.98	0.00	712.13	712.27
C	13+63.98	0.00	712.03	712.21
D	13+73.98	0.00	711.93	712.13
E	13+83.98	0.00	711.83	712.02
F	13+93.98	0.00	711.73	711.88
G	14+03.98	0.00	711.63	711.72
CLBRGN	14+15.98	0.00	711.51	711.51
BKNABUT	14+17.65	0.00	711.49	711.49

BEAM 4				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	13+32.31	2.58	712.31	712.31
CLBRGS	13+33.98	2.58	712.29	712.29
A	13+43.98	2.58	712.19	712.26
B	13+53.98	2.58	712.09	712.23
C	13+63.98	2.58	711.99	712.17
D	13+73.98	2.58	711.89	712.09
E	13+83.98	2.58	711.79	711.98
F	13+93.98	2.58	711.69	711.84
G	14+03.98	2.58	711.59	711.68
CLBRGN	14+15.98	2.58	711.47	711.47
BKNABUT	14+17.65	2.58	711.45	711.45

BEAM 5				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	13+32.31	7.75	712.23	712.23
CLBRGS	13+33.98	7.75	712.21	712.21
A	13+43.98	7.75	712.11	712.18
B	13+53.98	7.75	712.01	712.15
C	13+63.98	7.75	711.91	712.09
D	13+73.98	7.75	711.81	712.01
E	13+83.98	7.75	711.71	711.90
F	13+93.98	7.75	711.61	711.76
G	14+03.98	7.75	711.51	711.60
CLBRGN	14+15.98	7.75	711.39	711.39
BKNABUT	14+17.65	7.75	711.37	711.37

BEAM 6				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	13+32.31	12.92	712.13	712.13
CLBRGS	13+33.98	12.92	712.12	712.12
A	13+43.98	12.92	712.02	712.09
B	13+53.98	12.92	711.92	712.06
C	13+63.98	12.92	711.82	712.00
D	13+73.98	12.92	711.72	711.92
E	13+83.98	12.92	711.62	711.81
F	13+93.98	12.92	711.52	711.67
G	14+03.98	12.92	711.42	711.51
CLBRGN	14+15.98	12.92	711.30	711.30
BKNABUT	14+17.65	12.92	711.28	711.28

FILE NAME = 6499-shr-deckelev.dgn



USER NAME = dwaiznarski	DESIGNED ACB	REVISED -
	CHECKED JMB	REVISED -
PLOT SCALE = 16.0000' / in.	DRAWN RLK	REVISED -
PLOT DATE = 4/3/2017	CHECKED JMB	REVISED -

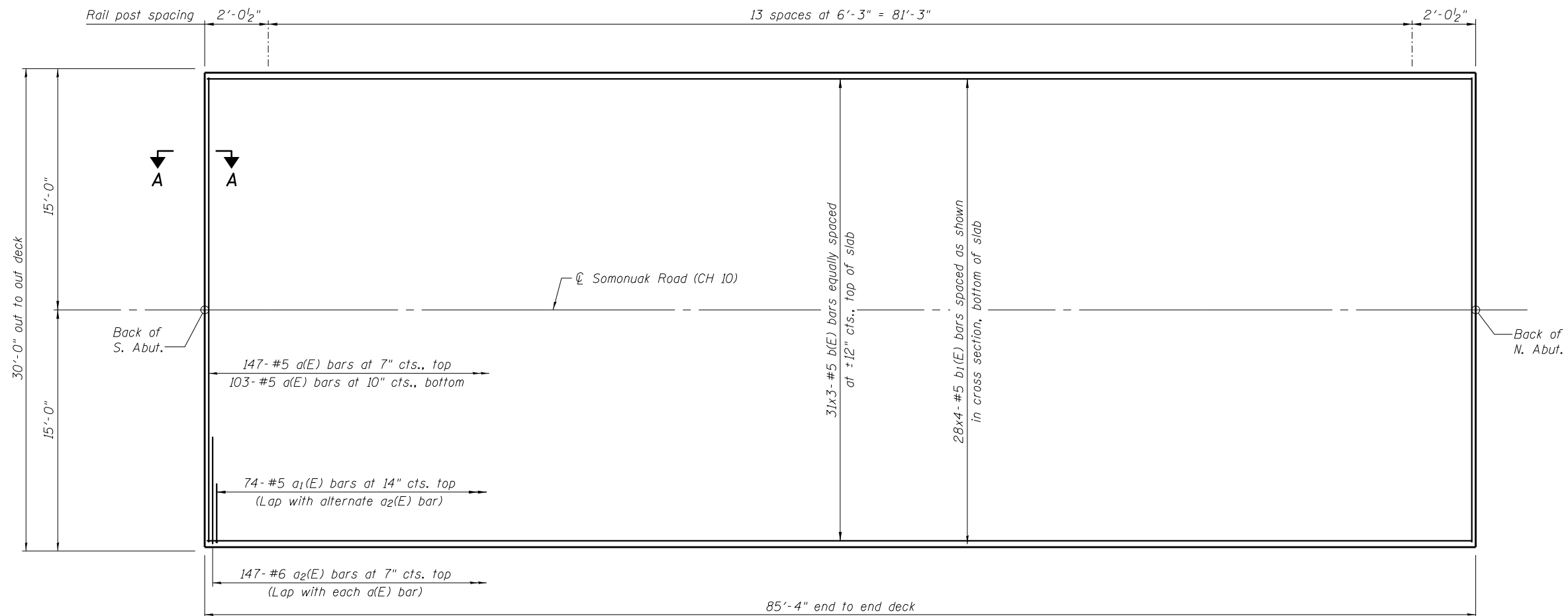
**DEKALB COUNTY HIGHWAY DEPARTMENT**

**TOP OF SLAB ELEVATIONS SOMONAUK ROAD (CH 10) OVER SOMONAUK CREEK**

SCALE: SHEET 2 OF 13 SHEETS STA. TO STA.

F.A.S. RTE. 96	SECTION 15-00093-02-BR	COUNTY DEKALB	TOTAL SHEETS 23	SHEET NO. 8
CONTRACT NO. ILLINOIS FED. AID PROJECT				

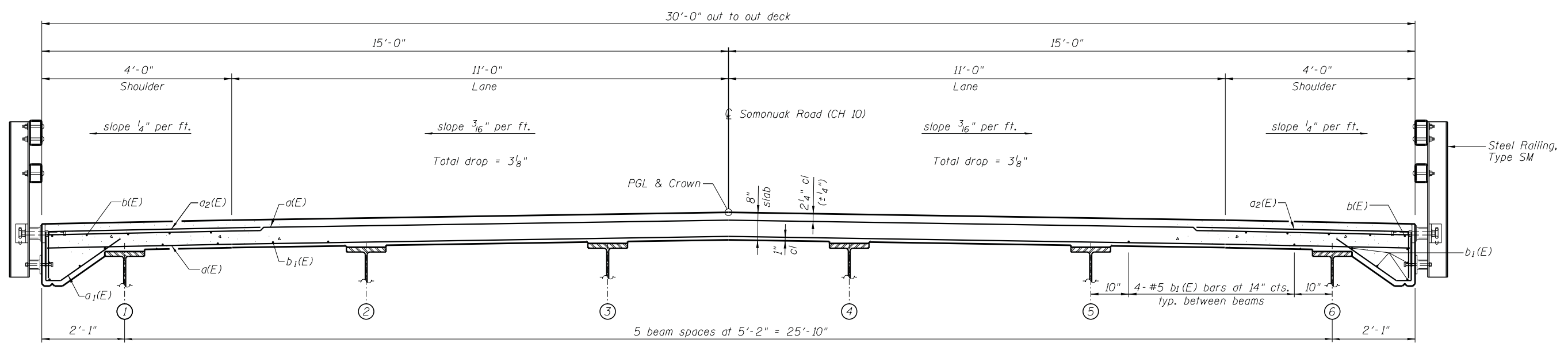




**PLAN**

**MINIMUM BAR LAP**  
#5 bar = 3'-6"

Notes:  
See Sheet 4 of 13 for superstructure details and Bill of Material.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See Sheet 5 of 13 for Section A-A and diaphragm details.  
See Sheet 6 of 13 for railing details.



**CROSS SECTION**  
(Looking Up Station)

FILE NAME = 6493-shr-superstructure.dgn



USER NAME = dwozniarski  
DESIGNED ACB  
CHECKED JMB  
DRAWN RLK  
CHECKED JMB  
PLOT SCALE = 2.0000' / 1"  
PLOT DATE = 4/3/2017

DESIGNED ACB  
CHECKED JMB  
DRAWN RLK  
CHECKED JMB

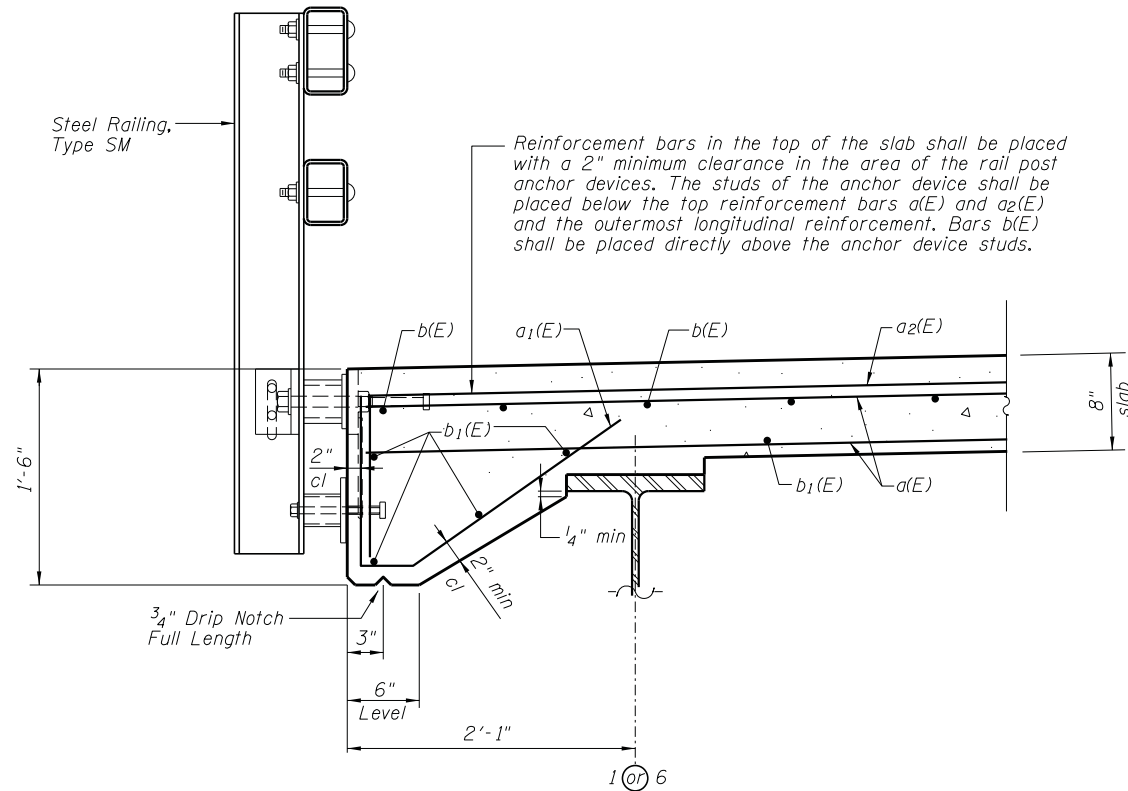
REVISED -  
REVISED -  
REVISED -  
REVISED -

**DEKALB COUNTY  
HIGHWAY DEPARTMENT**

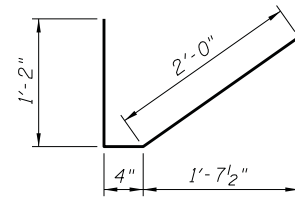
**SUPERSTRUCTURE  
SOMONAUK ROAD (CH 10) OVER SOMONAUK CREEK**

SCALE: SHEET 3 OF 13 SHEETS STA. TO STA.

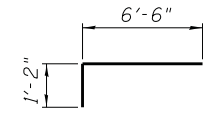
F.A.S. RTE. 96	SECTION 15-00093-02-BR	COUNTY DEKALB	TOTAL SHEETS 23	SHEET NO. 9
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



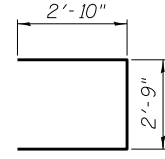
**SECTION THRU OUTSIDE EDGE OF SLAB**



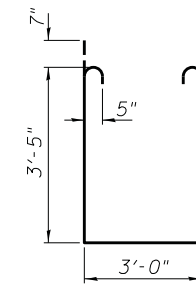
**BAR a1(E)**



**BAR a2(E)**



**BAR s(E)**



**BAR s1(E)**

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	250	#5	29'-8"	—
a1(E)	74	#5	3'-6"	✓
a2(E)	147	#6	7'-8"	└
b(E)	93	#5	30'-8"	—
b1(E)	112	#5	23'-11"	—
m(E)	8	#6	29'-8"	—
m1(E)	30	#6	4'-9"	—
m2(E)	12	#6	1'-8"	—
m3(E)	36	#5	4'-0"	—
s(E)	58	#5	8'-5"	U
s1(E)	58	#5	11'-0"	U
Reinforcement Bars, Epoxy Coated		Pound	17,390	
Concrete Superstructure		Cu. Yd.	95.1	
Bridge Deck Grooving		Sq. Yd.	265	
Protective Coat		Sq. Yd.	284	

FILE NAME = 6499-shr-superstr1.dgn

**CHASTAIN & ASSOCIATES LLC**  
CONSULTING ENGINEERS  
184-001397

USER NAME = dwozniarski	DESIGNED ACB	REVISED -
	CHECKED JMB	REVISED -
PLOT SCALE = 2.0000" / 1"	DRAWN RLK	REVISED -
PLOT DATE = 4/3/2017	CHECKED JMB	REVISED -

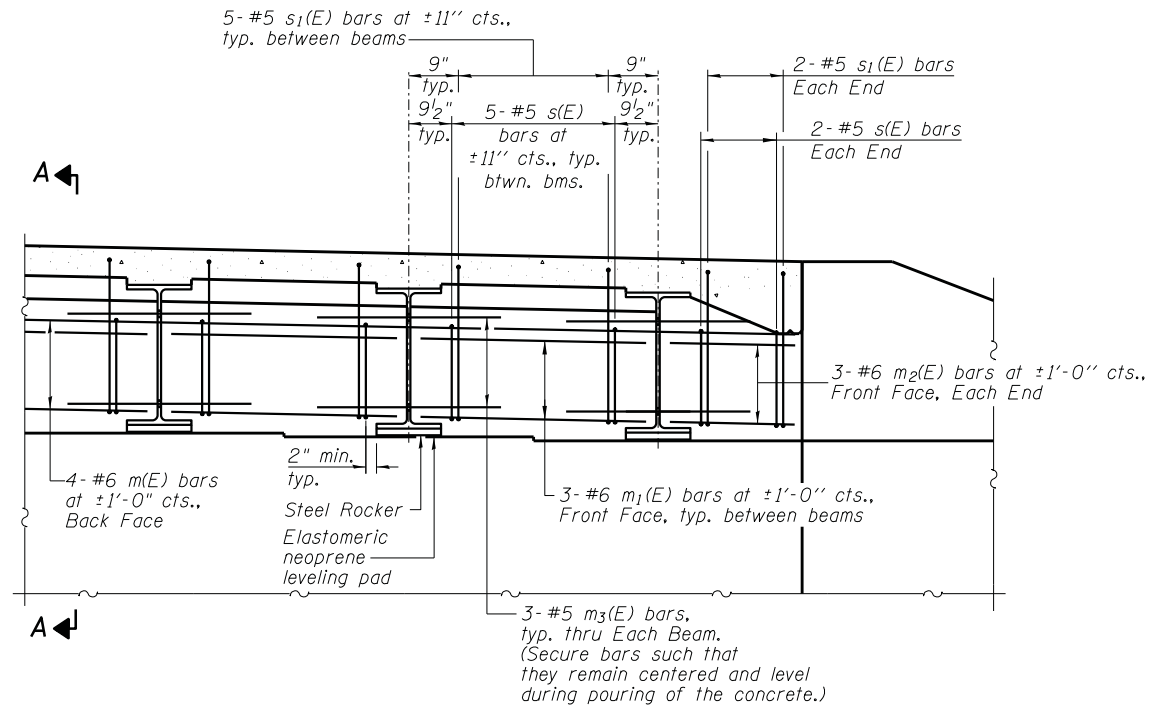
**DEKALB COUNTY  
HIGHWAY DEPARTMENT**

**SUPERSTRUCTURE DETAILS**  
**SOMONAUK ROAD (CH 10) OVER SOMONAUK CREEK**

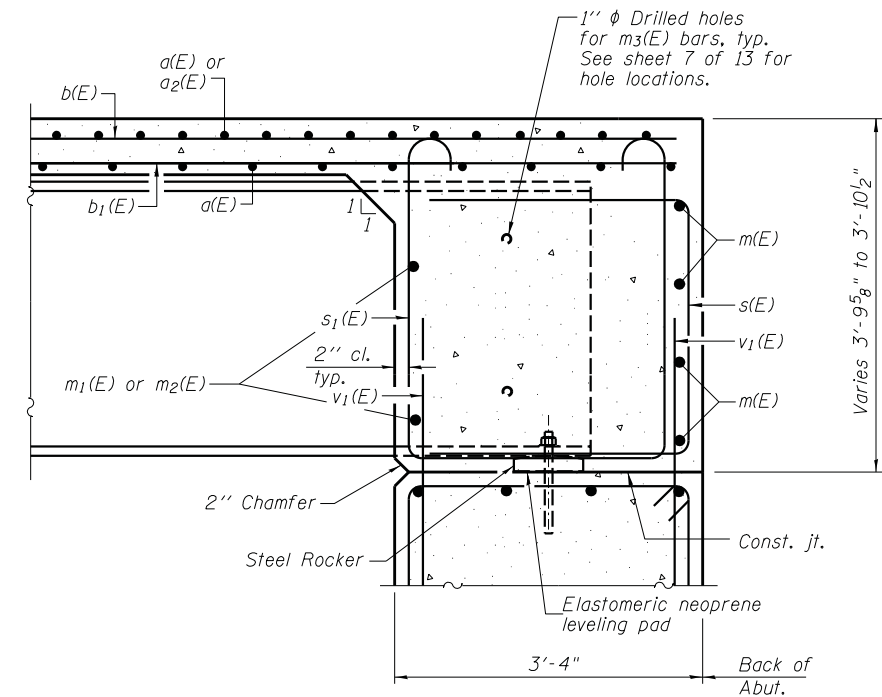
SCALE: SHEET 4 OF 13 SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	10
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

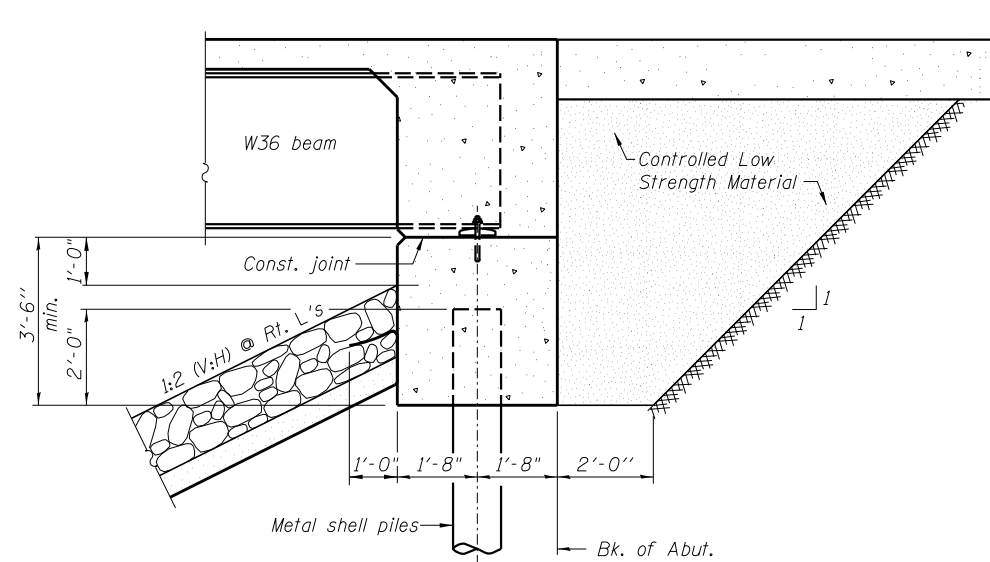




**DIAPHRAGM ELEVATION AT ABUTMENT**

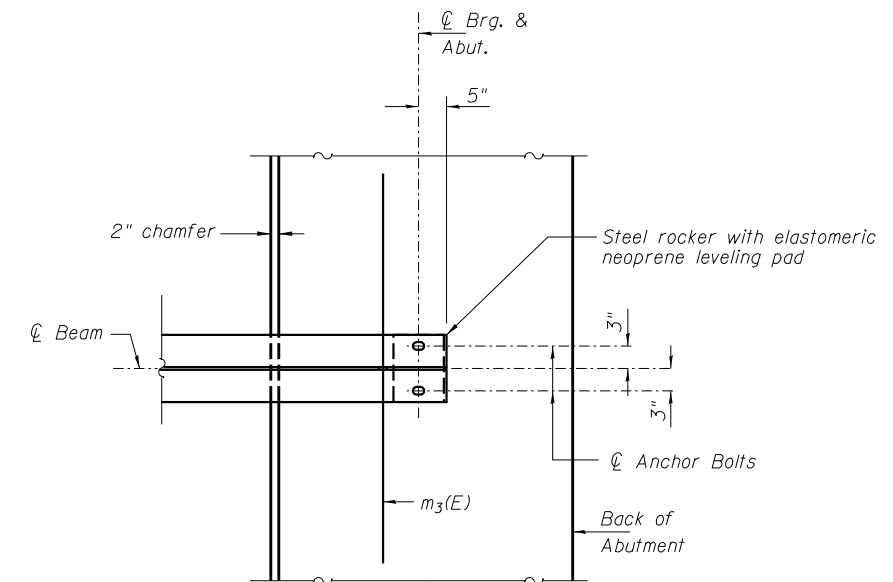


**SECTION A-A**



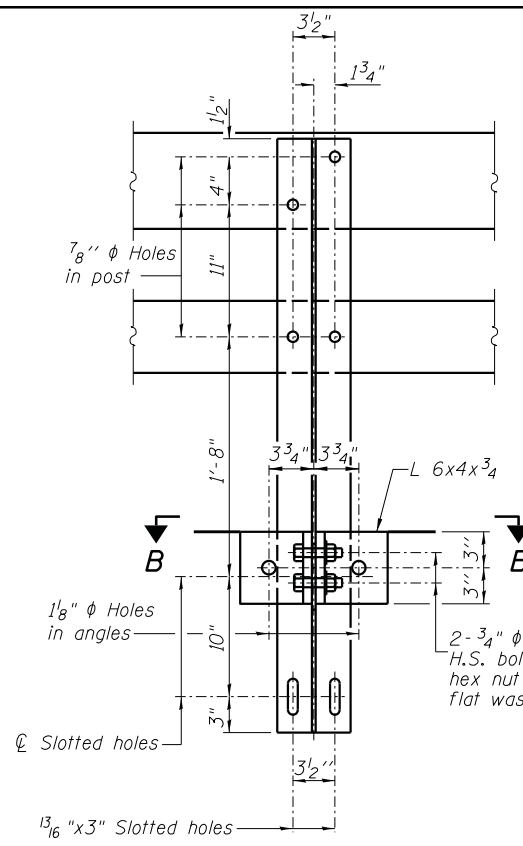
**SECTION THRU INTEGRAL ABUTMENT**  
(Horiz. dim. @ Rt. L's)

Notes:  
 Reinforcement bars in diaphragm are billed with superstructure on sheet 4 of 13.  
 Concrete in diaphragm is included with Concrete Superstructure on sheet 4 of 13.  
 For details of bars s(E) and s1(E) see sheet 4 of 13.  
 For bearing details see sheet 7 of 13.  
 For detail of bar v1(E) see Sheet 9 & 10 of 13.

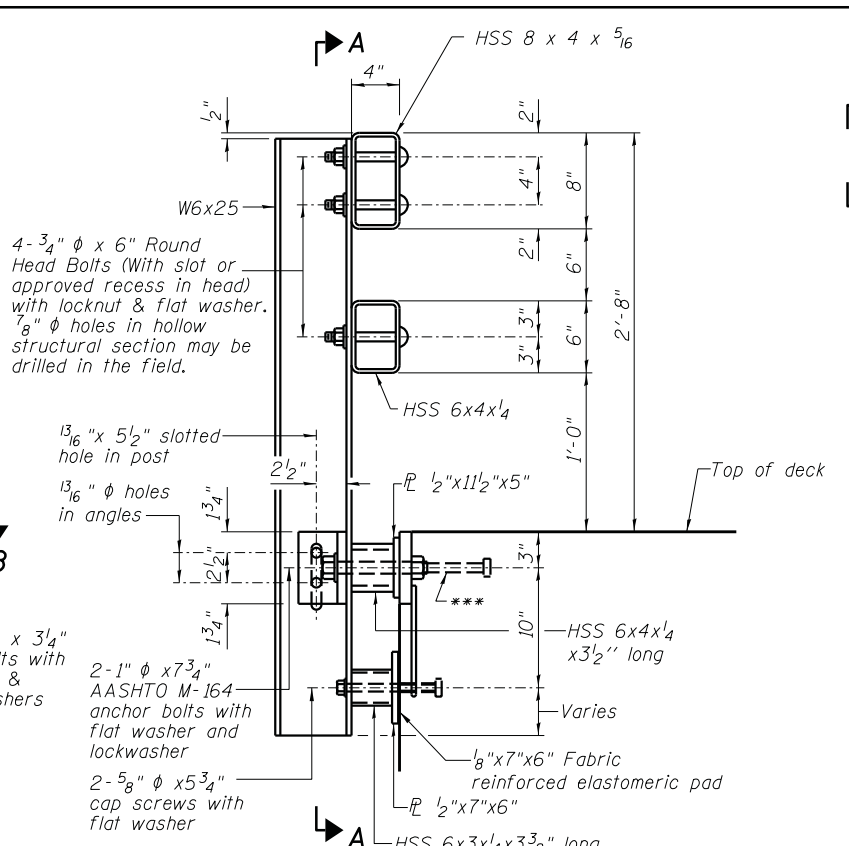


**PARTIAL PLAN AT ABUTMENT**  
(Showing bottom flange of beam)

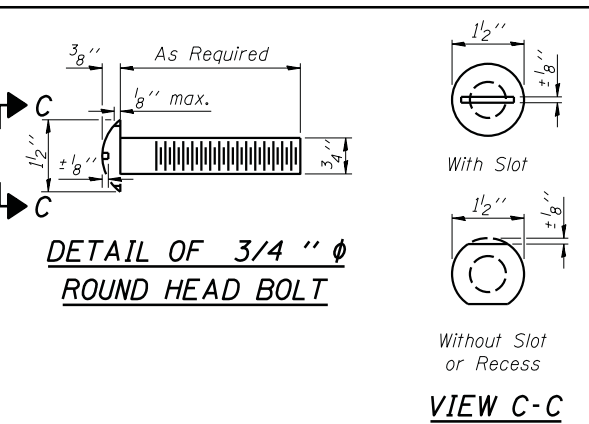
FILE NAME = 6499-shr-diaphragm.dgn



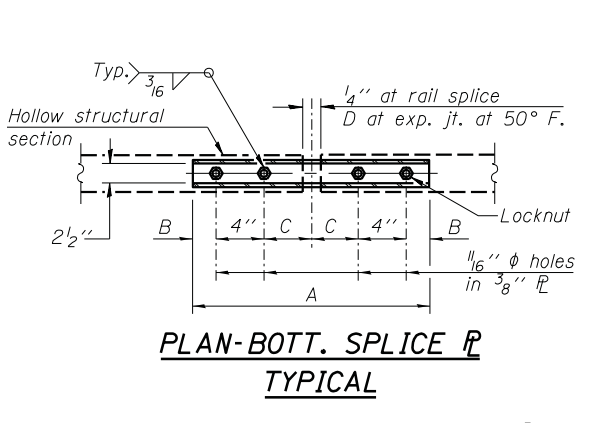
**SECTION A-A**



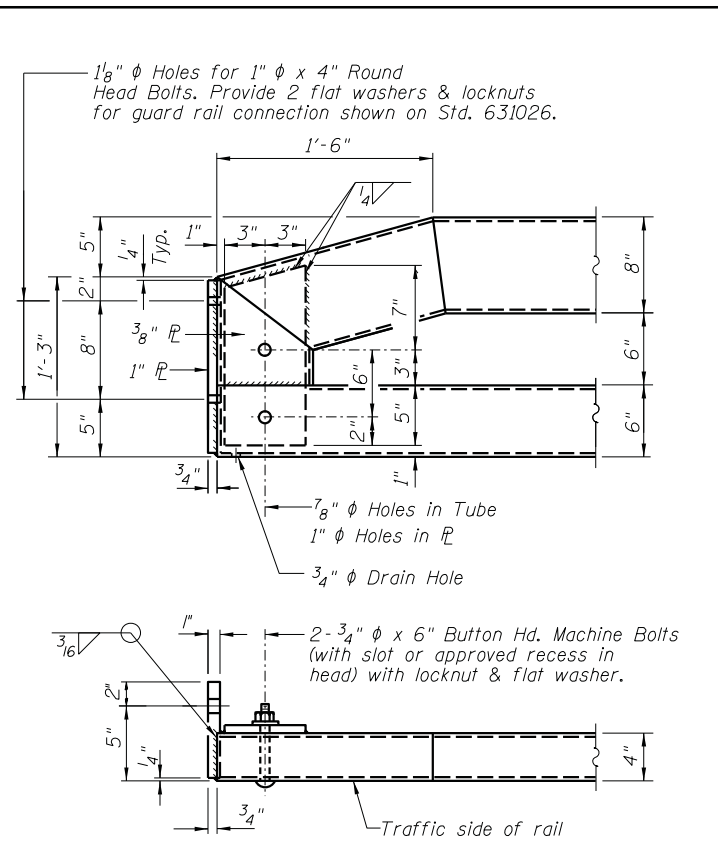
**SECTION AT RAIL POST**



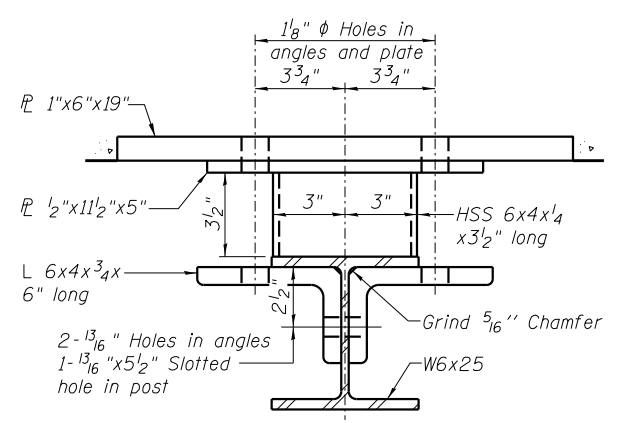
**DETAIL OF 3/4"  $\phi$  ROUND HEAD BOLT**



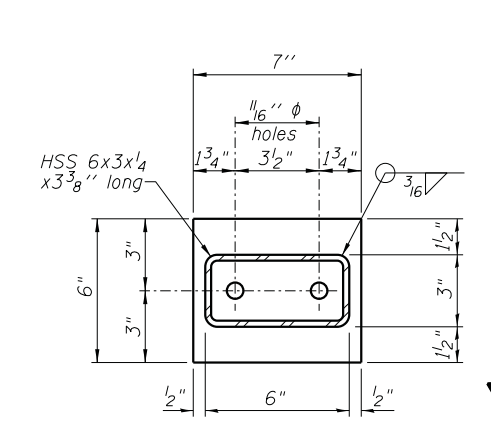
**PLAN-BOTT. SPLICE AT TYPICAL**



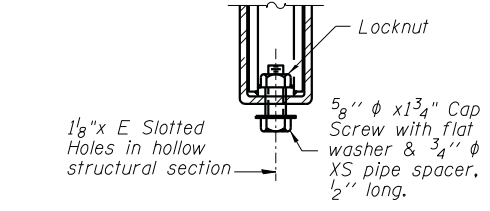
**END OF RAIL DETAILS**



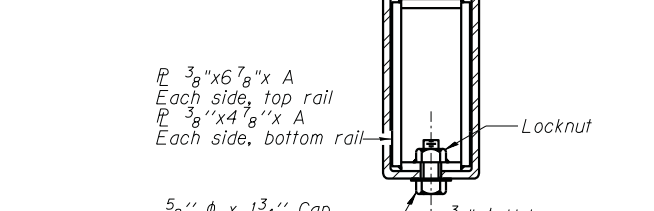
**SECTION B-B**



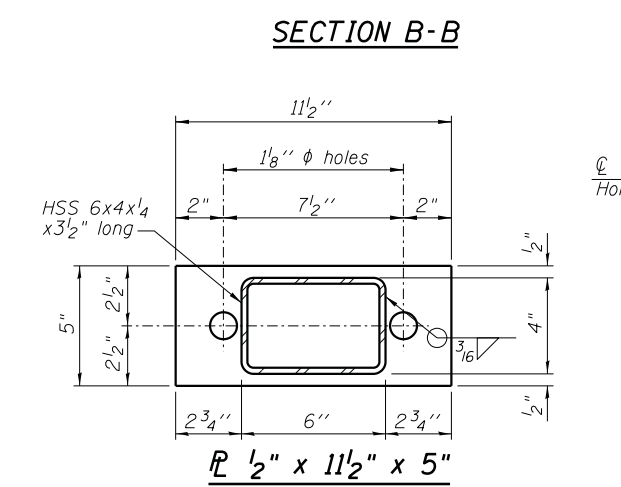
**P 1/2" x 7" x 6"**



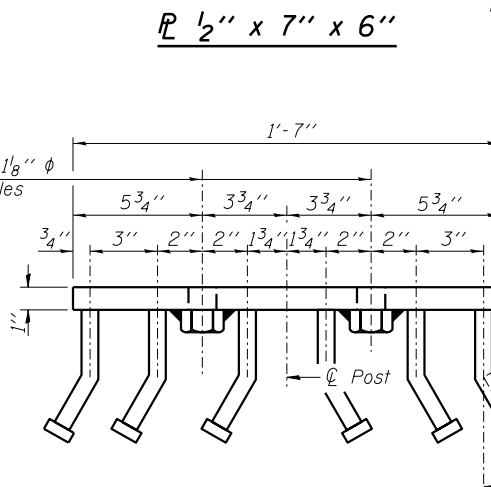
**RAIL SPLICE CONNECTION AT EXPANSION JT.**



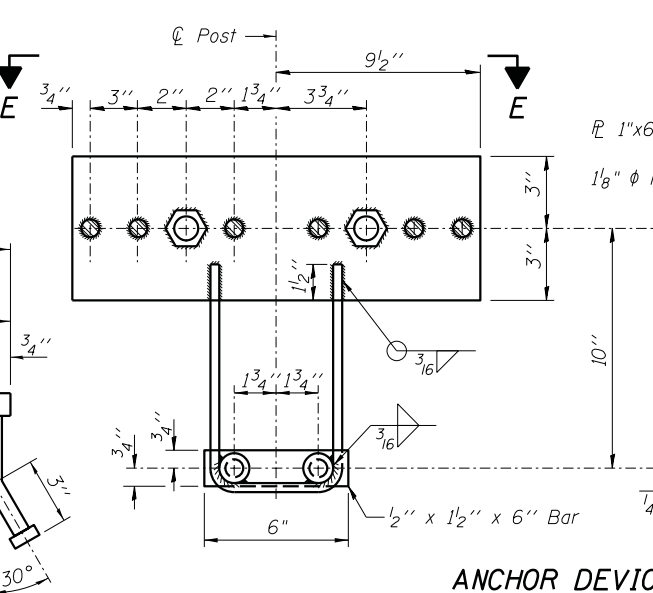
**SECTION AT RAIL SPLICE**



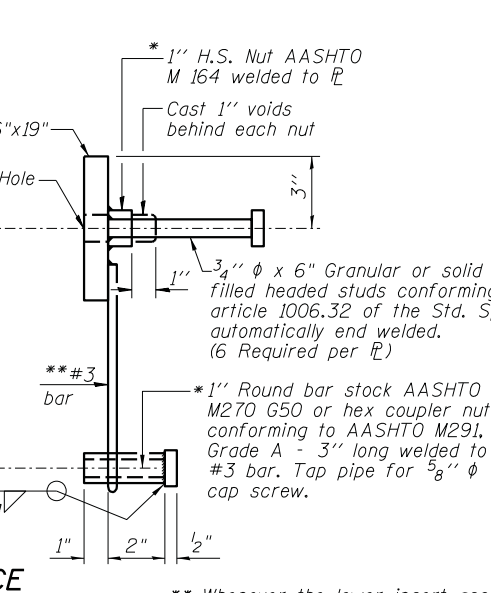
**P 1/2" x 11 1/2" x 5"**



**VIEW E-E**



**ANCHOR DEVICE**



**SECTION AT RAIL SPLICE**

**Notes:**  
 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 Railing, Type SM.  
 Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
 \*\*\* 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.

**SPLICE DIMENSIONS**

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

**BILL OF MATERIAL**

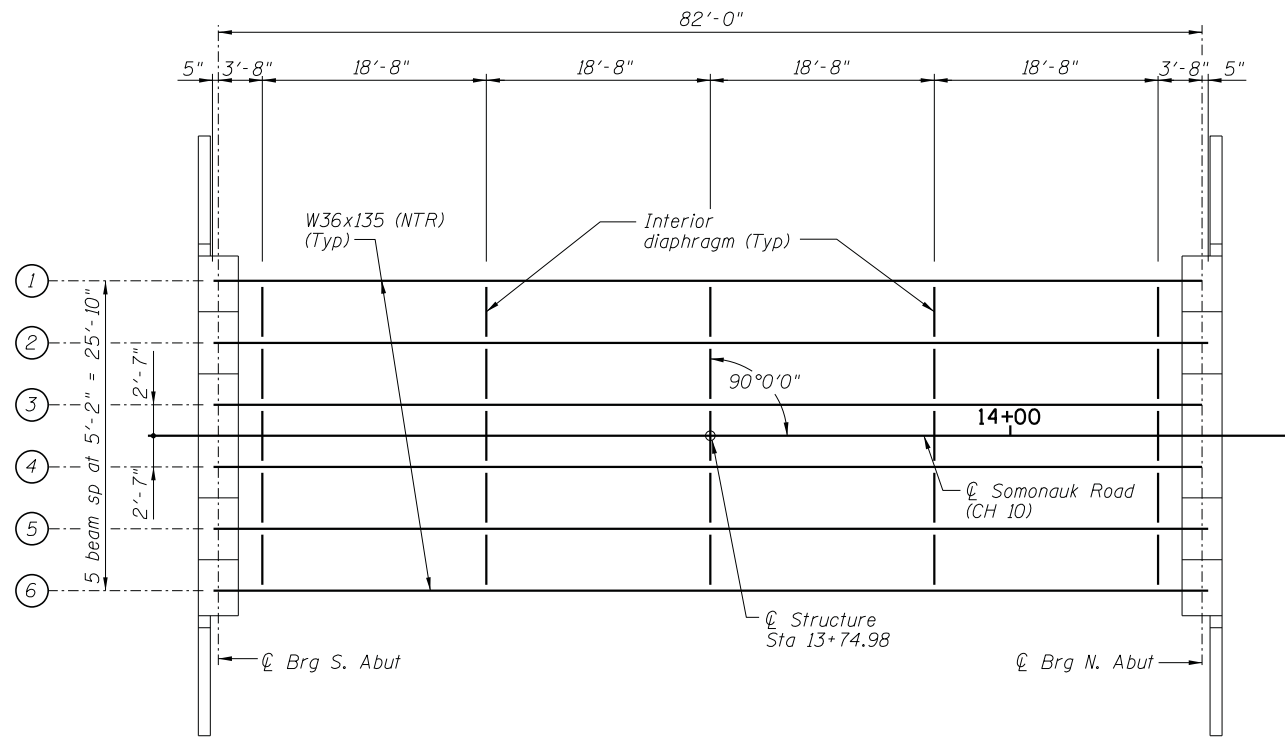
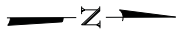
Item	Unit	Quantity
Steel Railing, Type SM	Foot	171

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

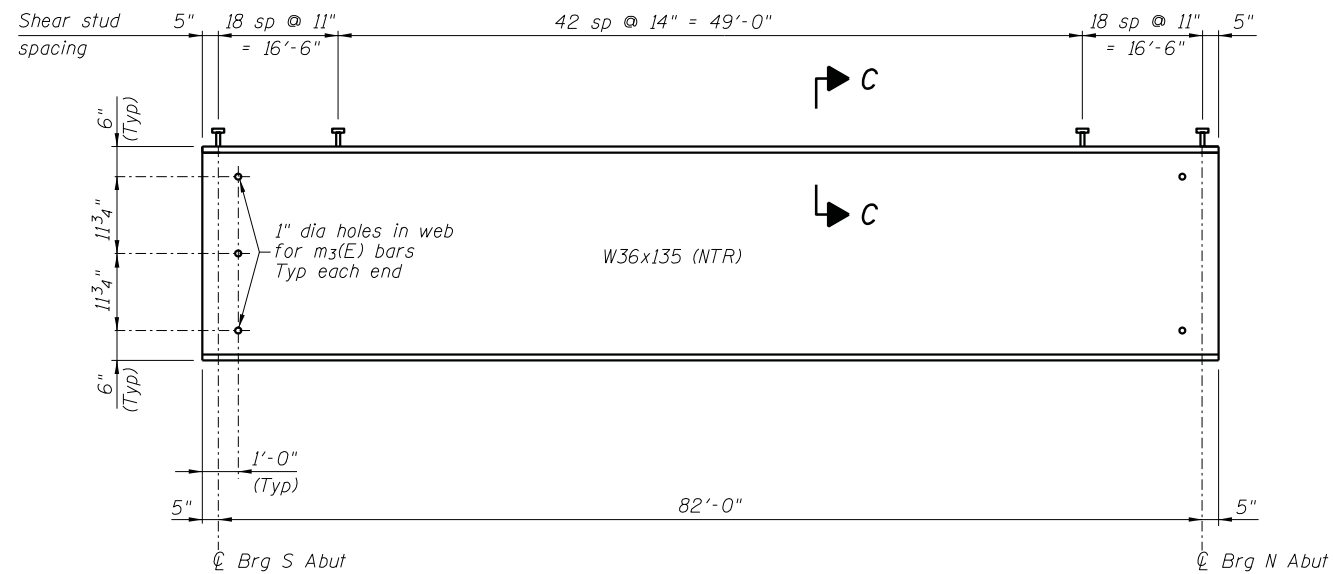
\*\* Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

FILE NAME = 6499-ah-steel-railing.dgn



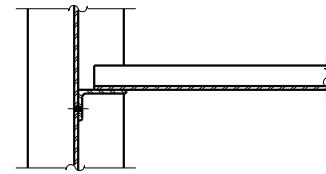


**FRAMING PLAN**

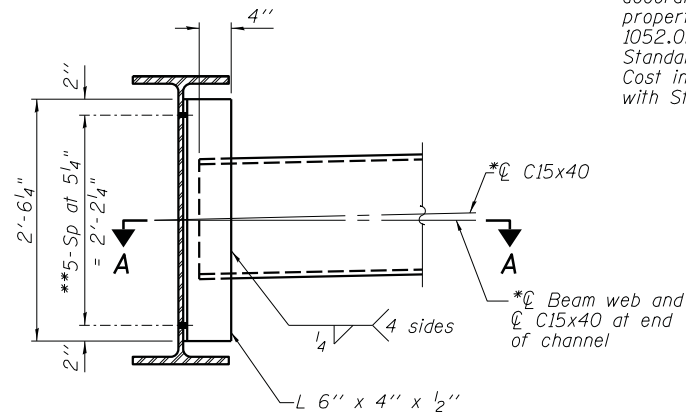


**BEAM ELEVATION**

"NTR" denotes notch toughness requirements are applicable.

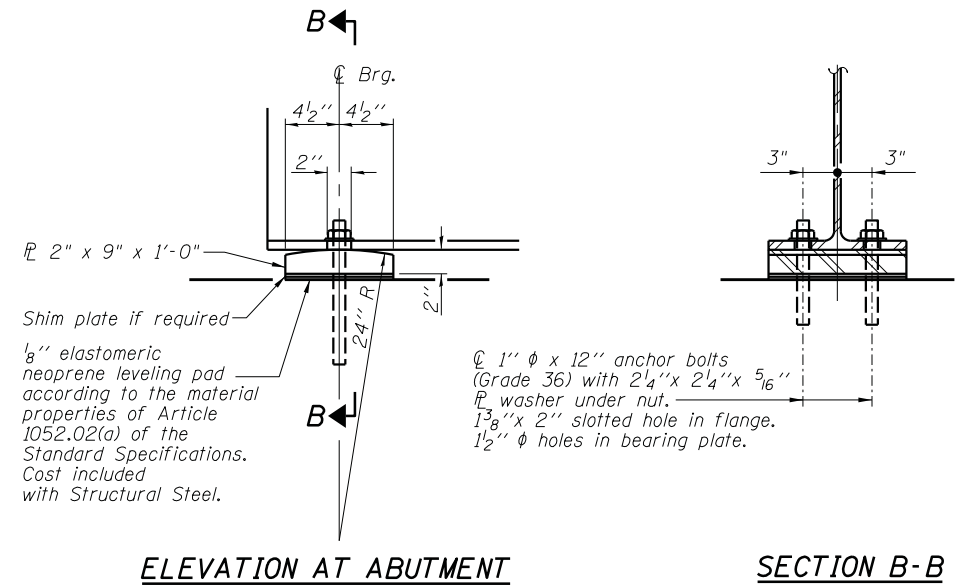


**SECTION A-A**



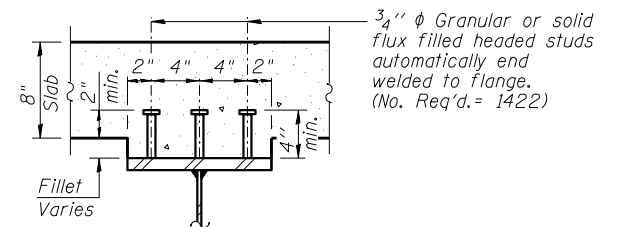
**INTERIOR DIAPHRAGM**

Note:  
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" φ HS bolts, 5/16" φ holes



**ELEVATION AT ABUTMENT**

**FIXED BEARING**



**SECTION C-C**

**NOTES:**

- All beams, diaphragms, connection angles and bearings shall be AASHTO M270 Grade 50W.
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- Anchor bolts shall be ASTM F1554 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.
- Anchors shall be set and grout cured for a minimum of 24 hours prior to forming the bridge deck.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

**BILL OF MATERIAL**

Item	Unit	Total
Anchor Bolts, 1"	Each	24

FILE NAME = 6499-ah-1-rmgplandgn

USER NAME = dwozniarski	DESIGNED ACB	REVISED -
PLOT SCALE = 1/8" = 1'-0"	CHECKED JMB	REVISED -
PLOT DATE = 4/3/2017	DRAWN RLK	REVISED -
	CHECKED JMB	REVISED -

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	13
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

INTERIOR BEAM MOMENT TABLE		
		0.5 Sp. 1
$I_s$	(in <sup>4</sup> )	7800
$I_c(n)$	(in <sup>4</sup> )	20721
$I_c(3n)$	(in <sup>4</sup> )	15195
$I_c(cr)$	(in <sup>4</sup> )	-
$S_s$	(in <sup>3</sup> )	438.9
$S_c(n)$	(in <sup>3</sup> )	648.1
$S_c(3n)$	(in <sup>3</sup> )	584.4
$S_c(cr)$	(in <sup>3</sup> )	-
DC1	(k/')	0.68
M <sub>DC1</sub>	('k)	567
DC2	(k/')	0.033
M <sub>DC2</sub>	('k)	28
DW	(k/')	0.25
M <sub>DW</sub>	('k)	210
LLDF		0.44
$M_L + IM$	('k)	933
$M_u$ (Strength I)	('k)	2692
$\phi_r M_n$	('k)	3511
$f_s$ DC1	(ksi)	15.5
$f_s$ DC2	(ksi)	0.6
$f_s$ DW	(ksi)	4.3
$f_s$ (L+IM)	(ksi)	17.3
$f_s$ (Service II)	(ksi)	42.8
$0.95R_n F_y f$	(ksi)	47.5
$f_s$ (Total)Strength I)	(ksi)	-
$\phi_r F_n$	(ksi)	-
$V_f$	(k)	22.0

BEAM REACTION TABLE			
		Abutment	
		Interior	Exterior
LLDF		0.61	0.49
OCF		-	1.0
$R_{DC1}$	(k)	28.3	25.9
$R_{DC2}$	(k)	1.4	1.4
$R_{DW}$	(k)	10.6	9.6
$R_{LL}$	(k)	54.8	44.1
$R_{IM}$	(k)	12.8	10.3
$R_{Total}$	(k)	107.9	91.2

$I_s, S_s$ : 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<sup>4</sup> and in<sup>3</sup>).

$I_c(n), S_c(n)$ : 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<sup>4</sup> and in<sup>3</sup>).

$I_c(3n), S_c(3n)$ : 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<sup>4</sup> and in<sup>3</sup>).

$I_c(cr), S_c(cr)$ : 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<sup>4</sup> and in<sup>3</sup>).

DC1: Un-factored non-composite dead load (kips/ft.).  
M<sub>DC1</sub>: 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<sub>DC2</sub>: 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<sub>DW</sub>: 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.).  
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$   
 $\phi_r M_n$ : 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).  
 $M_{DC1} / S_{nc}$   
 $f_s$  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).  
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (L + IM)$   
 $0.95R_n F_y f$ : 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).  
 $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s (L + IM)$   
 $\phi_r F_n$ : 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.  
LLDF: Live Load Distribution Factor  
OCF: Obtuse Correction Factor

FILE NAME = 6499-shr-mom-tables.dgn



USER NAME = dwozniowski	DESIGNED ACB	REVISED -
	CHECKED JMB	REVISED -
PLOT SCALE = 16.0011' / in.	DRAWN RLK	REVISED -
PLOT DATE = 4/3/2017	CHECKED JMB	REVISED -

DEKALB COUNTY  
HIGHWAY DEPARTMENT

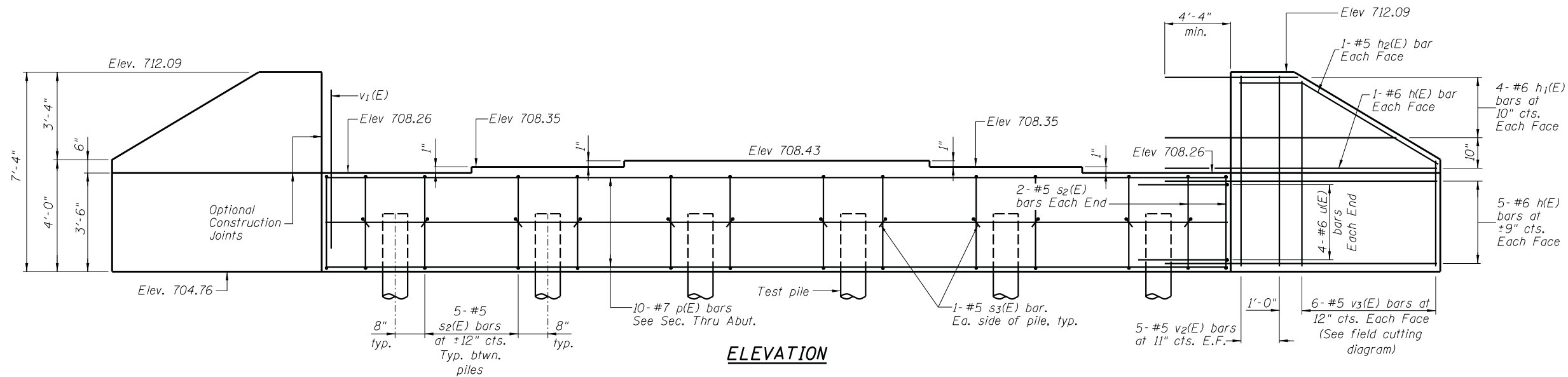
MOMENT TABLES  
SOMONAUK ROAD (CH 10) OVER SOMONAUK CREEK

SCALE: SHEET 8 OF 13 SHEETS STA. TO STA.

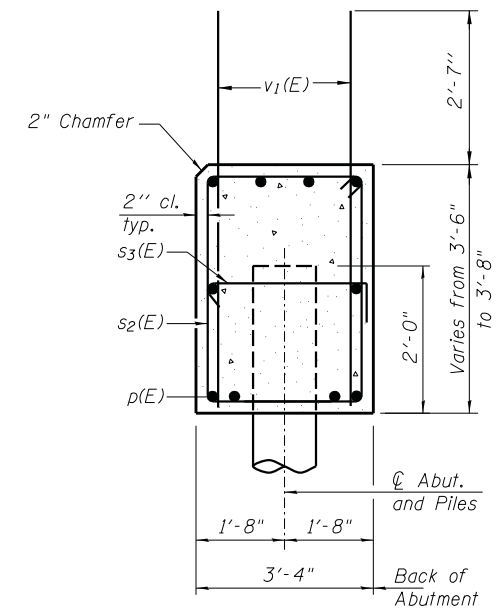
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	14
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



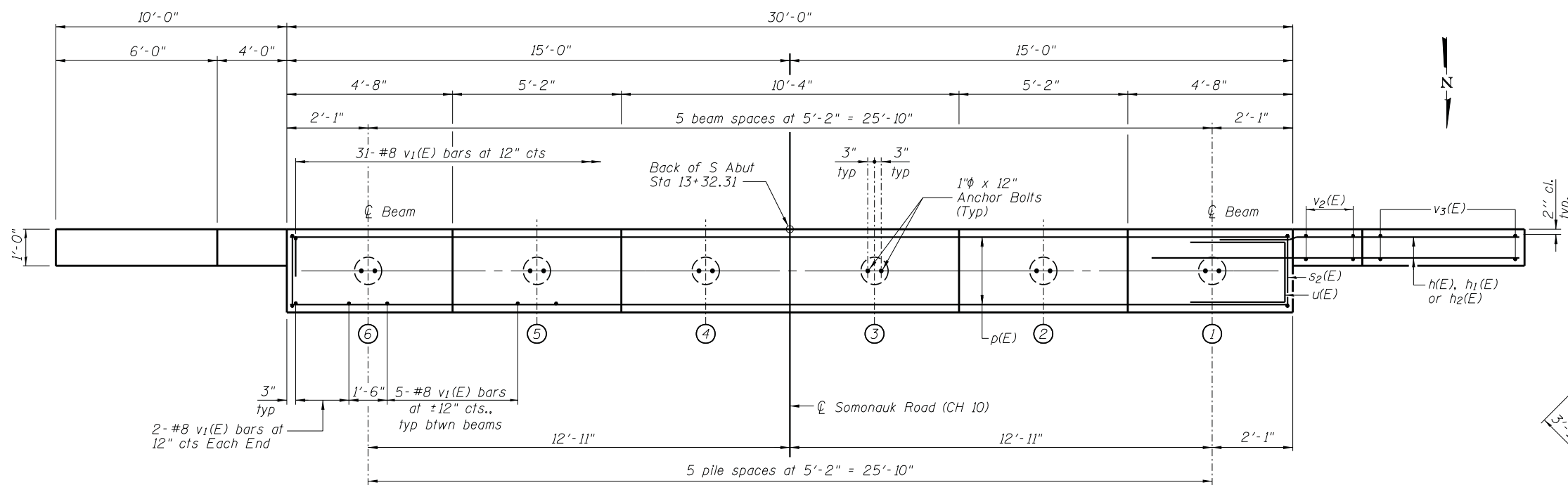
Notes:  
Pour steps monolithically with cap.



**ELEVATION**



**SEC. THRU ABUT.**



**PLAN**

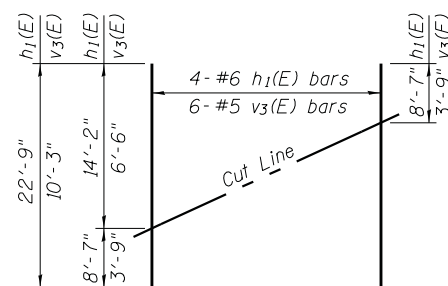
**BILL OF MATERIAL**

Bar No.	Size	Length	Shape
h(E)	24 #6	14'-2"	—
h1(E)	8 #6	22'-9"	—
h2(E)	4 #5	10'-7"	—
p(E)	10 #7	29'-8"	—
s2(E)	29 #5	13'-3"	□
s3(E)	12 #5	4'-0"	┌
u(E)	8 #6	10'-7"	□
v1(E)	60 #8	5'-11"	—
v2(E)	20 #5	7'-0"	—
v3(E)	12 #5	10'-3"	—
Structure Excavation	Cu. Yd.	94	
Concrete Structures	Cu. Yd.	18.0	
Reinforcement Bars, Epoxy Coated	Pound	3240	
Furnishing Metal Shell Piles 12"x0.250"	Foot	190	
Driving Piles	Foot	190	
Test Pile Metal Shells	Each	1	

For details of piles see sheet 11 of 13.

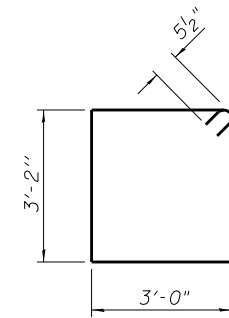
**PILE DATA**

Type: Metal Shell - 12"φ x 0.250" walls  
Nominal Required Bearing: 258k  
Factored Resistance Available: 143k  
Est. Length: 38'  
No. Production Piles: 5  
No. Test Piles: 1

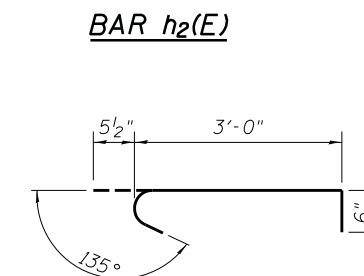


**FIELD CUTTING DIAGRAM**

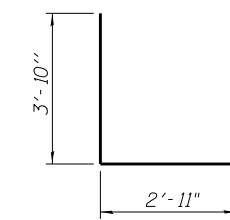
Order h1(E) and v3(E) bars full length. Cut as shown and use remainder of bars in opposite face.



**BAR s2(E)**



**BAR s3(E)**



**BAR u(E)**

FILE NAME = 6493-shr-Subabutment.dgn



USER NAME = dwozniarski  
DESIGNED ACB  
CHECKED JMB  
DRAWN RLK  
CHECKED JMB  
PLOT SCALE = 20x0 "/>

DESIGNED ACB  
CHECKED JMB  
DRAWN RLK  
CHECKED JMB  
PLOT DATE = 4/3/2017

REVISED -  
REVISED -  
REVISED -  
REVISED -

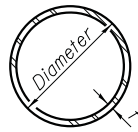
**DEKALB COUNTY HIGHWAY DEPARTMENT**

**SOUTH ABUTMENT DETAILS SOMONAUK ROAD (CH 10) OVER SOMONAUK CREEK**

SCALE: SHEET 9 OF 13 SHEETS STA. TO STA.

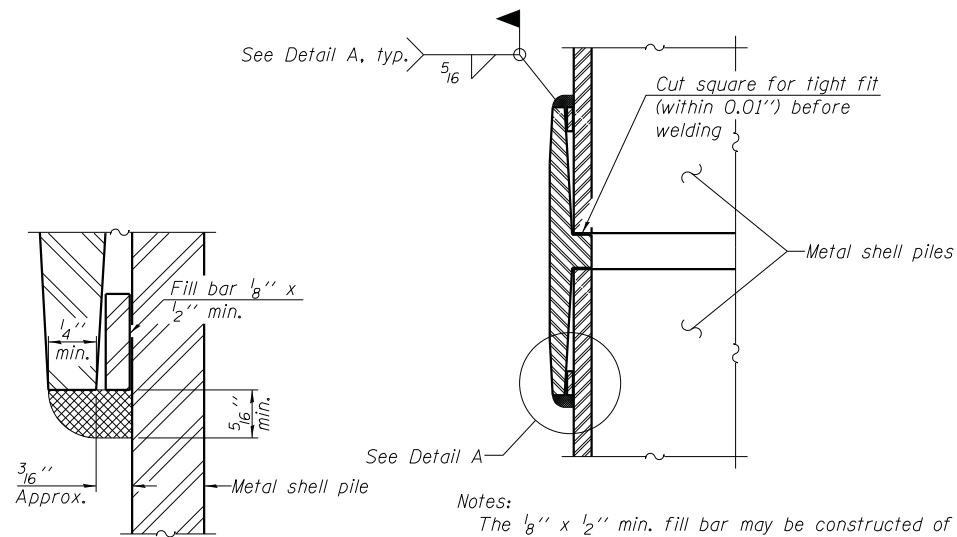
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	15
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				





**METAL SHELL PILE TABLE**

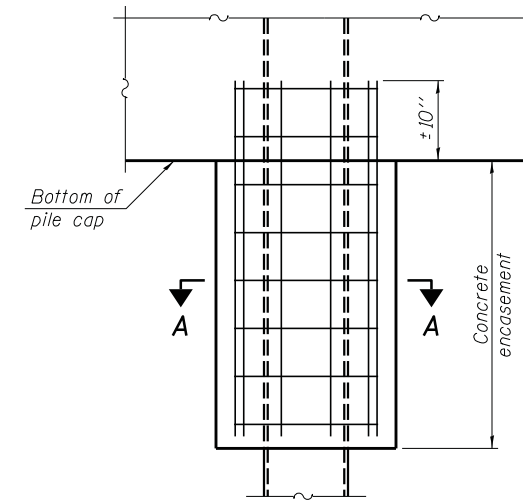
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. <sup>3</sup> /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



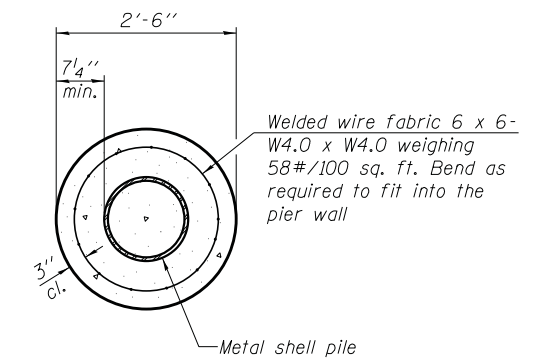
**DETAIL A**

**Notes:**  
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.  
 Pile segments shall be driven to solid contact with splicer before welding.

**WELDED COMMERCIAL SPLICE**



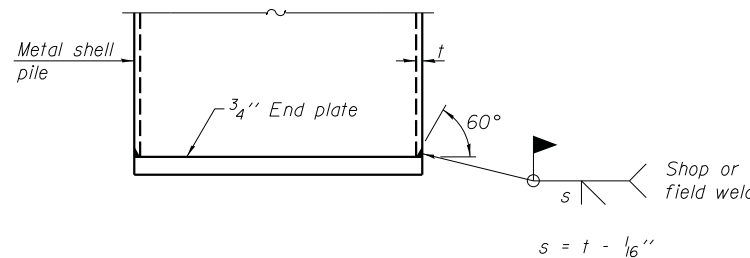
**ELEVATION**



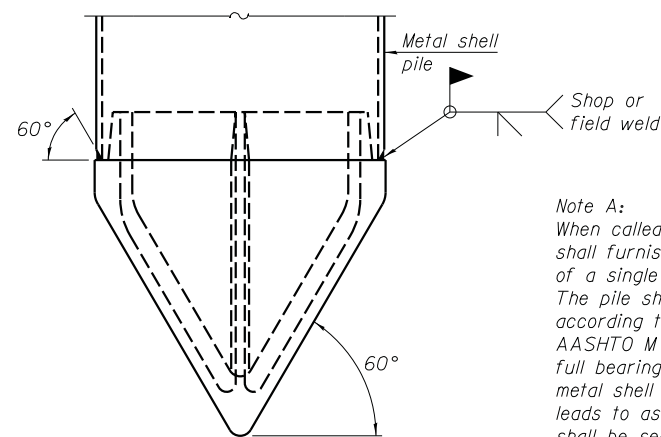
**SECTION A-A**

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

**CONCRETE ENCASEMENT AT PIERS**



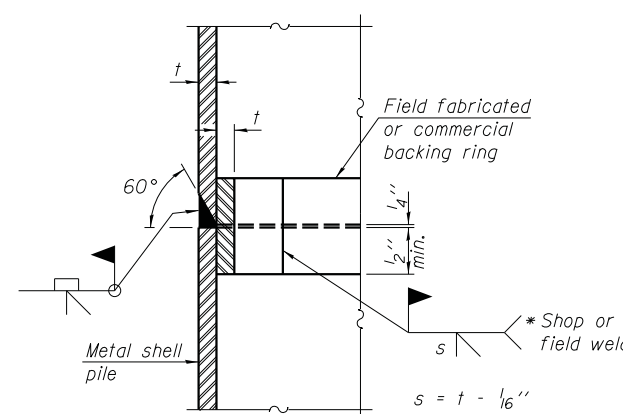
**END PLATE ATTACHMENT**



**Note A:**  
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

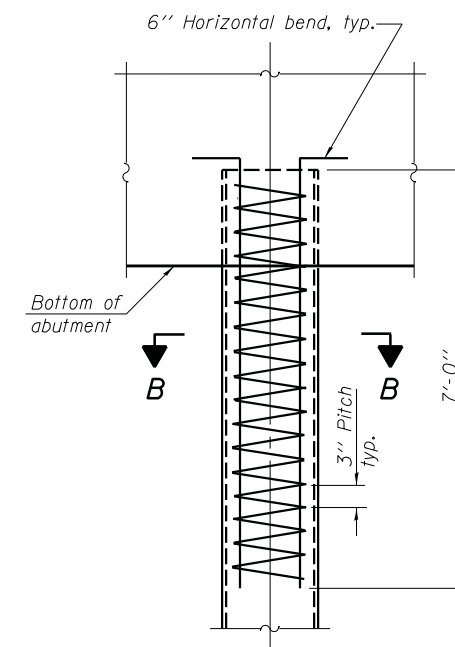
**METAL SHELL PILE SHOE ATTACHMENT**

(See Note A)

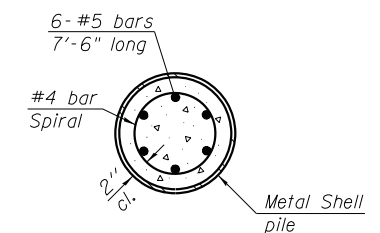


**COMPLETE PENETRATION WELD SPLICE**

\* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



**ELEVATION**



**SECTION B-B**

**METAL SHELL REINFORCEMENT AT ABUTMENTS**

**Note:**  
 The metal shell piles shall be according to ASTM A 252 Grade 3.

FILE NAME = 6499-shr-piles.dgn

USER NAME = dwozniarski	DESIGNED ACB	REVISED -
	CHECKED JMB	REVISED -
PLOT SCALE = 4.0000' / in.	DRAWN RLK	REVISED -
PLOT DATE = 4/3/2017	CHECKED JMB	REVISED -

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	17
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				





**SOIL BORING LOG**

Page 1 of 2

Date 2/4/16

ROUTE Somonauk Road Bridge DESCRIPTION Removal & Replacement of existing bridge along Somonauk Rd. Bridge LOGGED BY B.S.

SECTION Somonauk Road Bridge LOCATION Somonauk Road Bridge

COUNTY DeKalb County DRILLING METHOD 3 1/2" Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. Station	D E P T H S	B L O W S	U C S	M O D E	Surface Water Elev. Stream Bed Elev.	ft	D E P T H S	B L O W S	U C S	M O D E
B-01 Station Offset Ground Surface Elev.										
		1	1.5					8	4.7	
		2	B					12	S	
		3						18		
		3								
Black silty CLAY, trace sand and gravel; Soft to medium stiff (Possible topsoil)										
		1	0.5					12	3.9	
		2	B					14	B	
		5	2					25	14	
		5	2							
Gray gravelly SAND, trace fines; Loose to medium dense										
		3						4		
		2						5		
		7						7		
		7						7		
Gray gravelly SAND, trace fines; Medium dense										
		7						12		
		7						12		
		10	4					30	16	
		10	4							
Gray silty CLAY, trace sand and gravel; Medium stiff										
		3	1.0							
		2	B							
		3								
		3								
Gray gravelly SAND, trace fines; Medium dense										
		2						6	3.3	
		5						9	S	
		15	11					35	21	
		15	11							
Gray silty CLAY, trace sand and gravel; Very stiff to hard										
		6	5.0							
		10	S							
		15								
		15								
Gray silty CLAY, trace sand and gravel; Very stiff to hard										
		14	6.0					25	2.6	
		18	S					26	S	
		20	18					40	28	
		20	18							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, from 137 (Rev. 8-99)



**SOIL BORING LOG**

Page 2 of 2

Date 2/4/16

ROUTE Somonauk Road Bridge DESCRIPTION Removal & Replacement of existing bridge along Somonauk Rd. Bridge LOGGED BY B.S.

SECTION Somonauk Road Bridge LOCATION Somonauk Road Bridge

COUNTY DeKalb County DRILLING METHOD 3 1/2" Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. Station	D E P T H S	B L O W S	U C S	M O D E	Surface Water Elev. Stream Bed Elev.	ft	D E P T H S	B L O W S	U C S	M O D E
B-01 Station Offset Ground Surface Elev.										
Gray silty CLAY, trace sand and gravel; Very stiff to hard (continued)										
Gray gravelly SAND, trace fines; Medium dense										
Gray gravelly SAND, trace fines; Medium dense										
Gray silty CLAY, trace sand and gravel; Very stiff										
Gray silty CLAY, trace sand and gravel; Very stiff										
Gray SAND, trace gravel and fines; Loose to medium dense										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, from 137 (Rev. 8-99)

FILE NAME = 6499-shr-borings.dgn



USER NAME = dwozniowski	DESIGNED ACB	REVISOR -
	CHECKED JMB	REVISIONS -
PLOT SCALE = 16.0011' / in.	DRAWN RLK	REVISIONS -
PLOT DATE = 4/3/2017	CHECKED JMB	REVISIONS -

**DEKALB COUNTY HIGHWAY DEPARTMENT**

**SOIL BORING LOGS**  
**SOMONAUK ROAD (CH 10) OVER SOMONAUK CREEK**  
SCALE: SHEET 12 OF 13 SHEETS STA. TO STA.

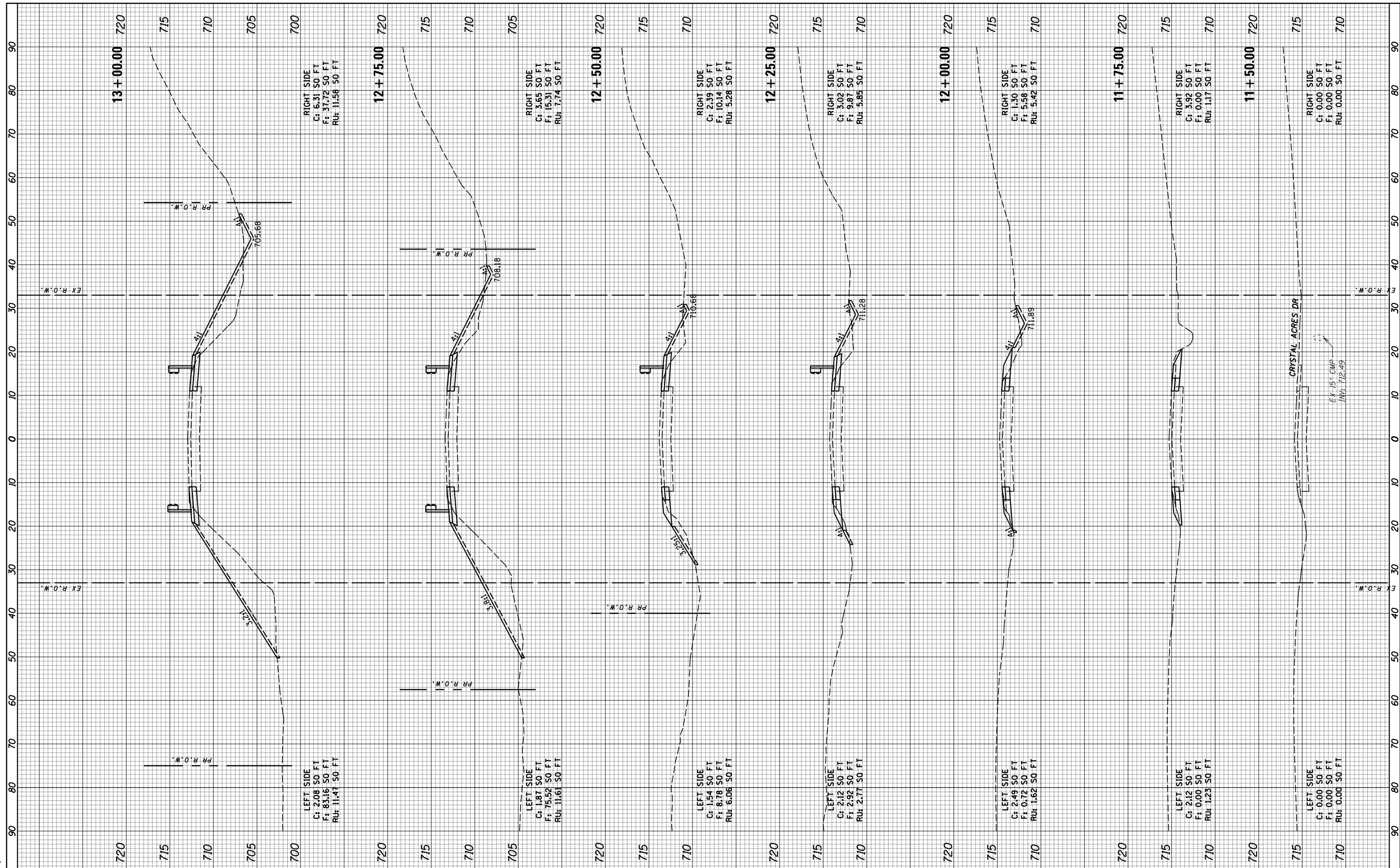
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	18
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



FINAL SURVEY	SURVEYED	DATE
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	CHECKED	

FILE NAME = 6439\_ah1-xshh.dgn



**CHASTAIN & ASSOCIATES LLC**  
CONSULTING ENGINEERS  
184-001397

USER NAME = dwozniarski  
DESIGNED -  
DRAWN -  
CHECKED -  
DATE -

REVISIONS:  
REVISION NO. | DATE | DESCRIPTION

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOMONAUK ROAD  
CROSS SECTIONS**

SCALE: SHEET 1 OF 4 SHEETS STA. 11+50.00 TO STA. 13+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
96	15-00093-02-BR	DEKALB	23	20
CONTRACT NO.				

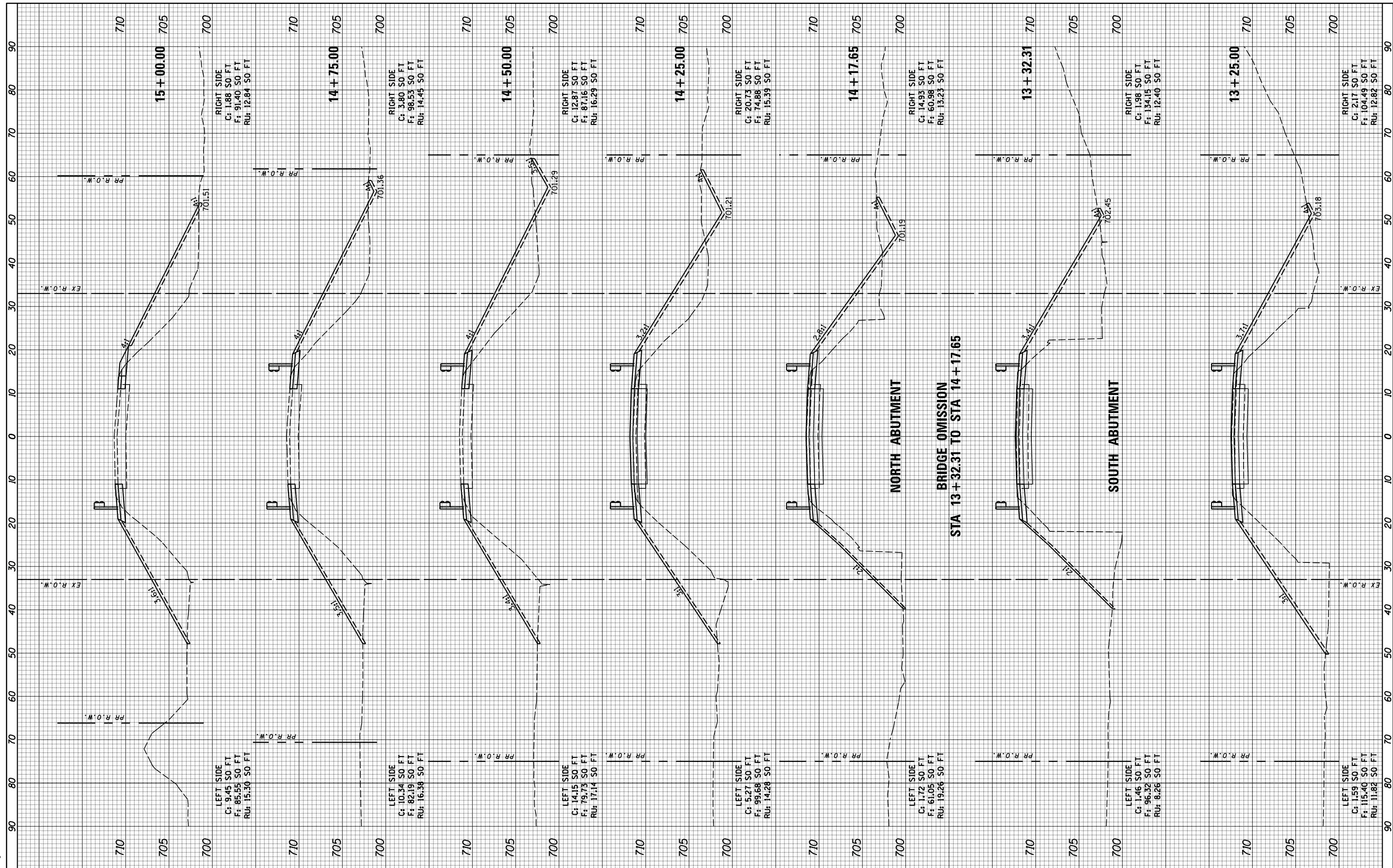
ILLINOIS FED. AID PROJECT



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

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

FILE NAME = 6439\_ah1-xsh.dgn



**CHASTAIN & ASSOCIATES LLC**  
CONSULTING ENGINEERS  
184-001397

USER NAME = dwozniarski  
DESIGNED -  
DRAWN -  
CHECKED -  
DATE -

DESIGNED -  
DRAWN -  
CHECKED -  
DATE -

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOMONAUK ROAD  
CROSS SECTIONS**

SCALE: SHEET 2 OF 4 SHEETS STA. 13+25.00 TO STA. 15+00.00

F.A.S. RTE. 96	SECTION 15-00093-02-BR	COUNTY DEKALB	TOTAL SHEETS 23	SHEET NO. 21
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				







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

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

FILE NAME = 6439\_ah12xsh.dgn



USER NAME = dwozniarski	DESIGNED -	REVISIED -
PLOT SCALE = 20.0000' / in.	DRAWN -	REVISIED -
PLOT DATE = 4/3/2017	CHECKED -	REVISIED -
	DATE -	REVISIED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOMONAUK ROAD  
CROSS SECTIONS

SCALE: SHEET 4 OF 4 SHEETS STA. 17+00.00 TO STA. 18+75.00

F.A.S. RTE. 96	SECTION 15-00093-02-BR	COUNTY DEKALB	TOTAL SHEETS 23	SHEET NO. 23
CONTRACT NO.				ILLINOIS FED. AID PROJECT

