

C.H. RTE. #	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	05-00259-00-BR	SHELBY	19	1
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION PLANS FOR PROPOSED BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

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COUNTY HIGHWAY 7 SECTION 05-00259-00-BR PRAIRIE ROAD DISTRICT SHELBY COUNTY STRUCTURE NO 087-3550 PROJECT NO. BROS-173 (148) JOB NO C-97- 032-07

UTILITY COMPANIES

CONSOLIDATED COMMUNICATION
MR. GERRY MEYERS
121 SOUTH 17th
MATOON, ILLINOIS 61938
(217) 235-9971

SHELBY ELECTRIC COOPERATIVE
MR. JIM MATLOCK
P.O. BOX 560
SHELBYVILLE, ILLINOIS 62565
(217) 774-3986

AMEREN CIPS
MR. CURT FISHER
911 S. NINTH STREET
MATTOON, ILLINOIS 61938
(888) 789-2477

EXISTING STRUCTURE NO. 087-3339

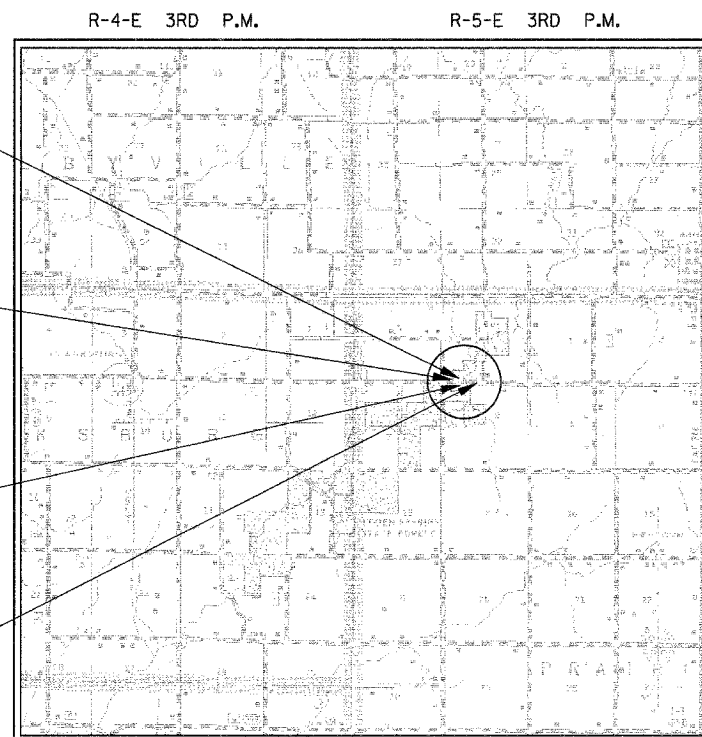
THREE SPAN BRIDGE WITH ASPHALT DECK SUPPORTED BY STEEL I-BEAMS WITH STEEL RAILINGS. TIMBER PIERS, TIMBER ABUTMENT WITH TIMBER WING WALLS ON THE EAST END, AND CONCRETE ABUTMENT ON THE WEST END.
LENGTH = 138' WIDTH = 19'

PROJECT BEGINS
STA. 4+50

STA. 9+80 - SPECIAL BRIDGE DESIGN

THREE SPAN 27" P.P.C. DECK BEAM BRIDGE
160' BACK TO BACK ABUTMENTS
24'-0" CLEAR WIDTH, SKEW = 20° FW RT
PILE BENT ABUTMENTS AND PIERS
STRUCTURE NO. 087-3550

PROJECT ENDS
STA. 14+75

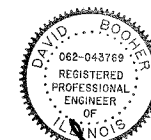


LOCATION MAP

0 1 2 MILES

APPROXIMATE SCALE : 1" = 1 MILE
NET LENGTH OF SECTION = 1025.00 FEET = 0.19 MILES
FUNCTIONAL CLASSIFICATION : RURAL MINOR COLLECTOR

CURRENT A.D.T. = 275
DESIGN SPEED 30 MPH



David Booher
David Booher, Illinois P.E. 062-043769 Date 1-30-07
Expires 11-30-2007

SCALES

PLAN	1" = 50'	
PROFILE HORIZ.	1" = 50'	
PROFILE VERT.	1" = 5'	
CROSS SECTIONS HORIZ. 1"	1" = 10'	
CROSS SECTIONS VERT. 1"	1" = 5'	

PLANS PREPARED BY:

IE Consultants, Inc.
6420 South Sixth Street Road
Springfield, Illinois 62712
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Fax: (630) 759-4275
e-mail: iebolingbrook@ie-consultants.com

CONTRACT NO. 95498

CALL **J.U.L.I.E.** (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS)
48 Hours (2 working days) Before You Dig.
TOLL FREE: 1 (800) 892-0123

APPROVED Feb 02 20 07
S. Al...
COUNTY ENGINEER, SHELBY COUNTY

PASSED 3/27 20 07
Maureen K...
DISTRICT SEVEN ENGINEER OF
LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review
3/27 20 07
Christine M. De...
DEPUTY DIRECTOR OF HIGHWAYS,
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	2
FED. ROAD DIST. NO.	ILLINOIS PROJECT			

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
△A2006416	TREE, QUERCUS ALBA (WHITE OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	6
△A2006616	TREE, QUERCUS IMBRICARIA (SHINGLE OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	6
△A2006816	TREE, QUERCUS MUEHLENBERGII (CHINKAPIN OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	6
△A2007116	TREE, QUERCUS RUBRA (RED OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	6
20100500	TREE REMOVAL, ACRES	ACRE	2.2
20200100	EARTH EXCAVATION	CU. YD.	6,149
* 20300100	CHANNEL EXCAVATION	CU. YD.	185
△* 25000200	SEEDING, CLASS 2	ACRE	2.1
△25000400	NITROGEN FERTILIZER NUTRIENTS	POUND	189
△25000500	PHOSPHORUS FERTILIZER NUTRIENTS	POUND	189
△25000600	POTASSIUM FERTILIZER NUTRIENTS	POUND	189
△* 25100115	MULCH METHOD 2	ACRE	2.1
△28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	480
28000300	TEMPORARY DITCH CHECKS	EACH	4
28000400	PERIMETER EROSION BARRIER	FOOT	615
28000500	INLET AND PIPE PROTECTION	EACH	3
28100207	STONE RIPRAP, CLASS A4	TON	465
* 28102600	STONE RIPRAP DITCH	TON	418
28200200	FILTER FABRIC	SQ. YD.	609
30200650	PROCESSING MODIFIED SOIL, 12"	SQ. YD.	2,115
30201500	LIME	TON	44
* 35100100	AGGREGATE BASE COURSE, TYPE A	TON	1,049
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU. YD.	157
50300225	CONCRETE STRUCTURES	CU. YD.	124.7
50300280	CONCRETE ENCASEMENT	CU. YD.	9.0
* 50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ. FT.	3785
* 50800105	REINFORCEMENT BARS	POUND	9,650
50900205	STEEL RAILING, TYPE S1	FOOT	320
51201400	FURNISHING STEEL H PILES 10X42	FOOT	647
51202305	DRIVING PILES	FOOT	72
51203400	TEST PILES STEEL HP 10X42	EACH	1
51204650	PILE SHOES	EACH	4
51500100	NAME PLATES	EACH	1
* 54200640	PIPE CULVERTS, TYPE 1, CORRUGATED STEEL OR ALUMINUM CULVERT PIPE 15"	FOOT	158.0
* 54215550	METAL END SECTIONS 15"	EACH	6
* 60109582	PIPE UNDERDRAIN FOR STRUCTURES 6"	FOOT	95.0
△* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4
△* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	7
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL. MO.	6
△* 78200400	GUARDRAIL REFLECTORS	EACH	8
△* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
* 67100100	MOBILIZATION	LS	1
* X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION, LOCATION 1	EACH	1
* X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION, LOCATION 2	EACH	1
* Z0065000	SETTING PILES IN ROCK	EACH	18

* SEE SPECIAL PROVISIONS

△ SPECIALTY ITEMS

ESTIMATED QUANTITIES

ITEM	RATE OF APPLICATION	QUANTITIES
SEEDING CLASS 2	= ART. 250.07	= 2.1 ACRES
NITROGEN FERTILIZER NUTRIENTS	= 90 LBS./ACRE	= 189 POUNDS
PHOSPHORUS FERTILIZER NUTRIENTS	= 90 LBS./ACRE	= 189 POUNDS
POTASSIUM FERTILIZER NUTRIENTS	= 90 LBS./ACRE	= 189 POUNDS
MULCH METHOD 2	=	= 2.1 ACRES
LIME	= 0.0208 TONS/SY	= 44 TONS

THE SEEDING MIXTURE SHALL CONFORM TO ROADSIDE MIXTURE TYPE 2, DURING THE PERIOD BETWEEN NOVEMBER 1, AND DECEMBER 31. THE CONTRACTOR SHALL SUBSTITUTE 10 POUNDS OF PERENNIAL RYE FOR 48 POUNDS OF OATS, SPRING.

EARTHWORK SUMMARY

EARTH EXCAVATION	=	6,149	CU. YD.
CHANNEL EXCAVATION	=	185	CU. YD.
TOTAL FILL REQ'D.	=	2671	CU. YD. (IN PLACE)

ESTIMATE OF FILL FROM EARTH EX. = 2671 CU. YD.
 ESTIMATE OF FILL FROM CHANNEL EX. = 0 CU. YD.
 FURNISHED EXCAVATION REQUIRED = 0 CU. YD.

GUARDRAIL SCHEDULE							
RT/LT	STA.	TO	STA.	TRAFFIC BARRIER TERMINAL, TYPE I, SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL, TYPE 5A	GUARDRAIL REFLECTORS	TERMINAL MARKER - DIRECT APPLIED
				EACH	EACH	EACH	EACH
LT	8+33.13	TO	8+53.13	1		1	1
LT	10+68.13	TO	11+18.13	1		1	1
RT	8+41.87	TO	8+91.87	1		1	1
RT	10+76.87	TO	11+26.87	1		1	1
LT	8+53.13	TO	8+93.63		1	1	
LT	10+55.63	TO	10+68.13		1	1	
RT	8+91.87	TO	9+04.37		1	1	
RT	10+64.37	TO	10+76.87		1	1	
TOTALS				4	4	8	4

PERIMETER EROSION BARRIER SCHEDULE				
STA.	LT/RT	STA.	LT/RT	PERIMETER EROSION BARRIER (FOOT)
8+40	LT	9+00	LT	100
10+00	LT	10+25	RT	140
10+00	LT	13+00	LT	300
10+25	RT	11+00	RT	75
TOTAL				615

TREE REMOVAL SCHEDULE				
STA.	LT/RT	STA.	LT/RT	ACRES
5+40	LT	13+25	LT	1.1
6+29	RT	11+96	RT	1.1
TOTAL				2.2

TEMPORARY EROSION CONTROL SCHEDULE				
STA.	LT/RT	OFFSET (FOOT)	TEMP DITCH CHECK (EACH)	INLET & PIPE PROTECTION (EACH)
5+29	RT	19.70		1
6+18	RT	22.00		1
9+00	LT	39.80	1	
9+00	RT	22.00	1	
10+60	RT	52.88	1	
14+50	LT	15.22	1	
12+72	RT	25.00		1
TOTAL			4	3

FURNISH & ERECTING RIGHT-OF-WAY MARKERS			
STA.	LT/RT	OFFSET (FOOT)	R-O-W MARKERS EACH
4+50	LT	20.36	1
4+50	RT	24.64	1
6+28.65	LT	70.00	1
6+28.65	RT	50.00	1
7+00	RT	46.77	1
11+26.03	LT	70.00	1
13+24.54	LT	24.45	1
TOTAL			7

ie consultants

DESIGNED: C.M.V. CHECKED: D.R.B.
 DRAWN: T.H.W. DATE: DECEMBER 2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	3
FED. ROAD DIST. NO.	ILLINOIS PROJECT			

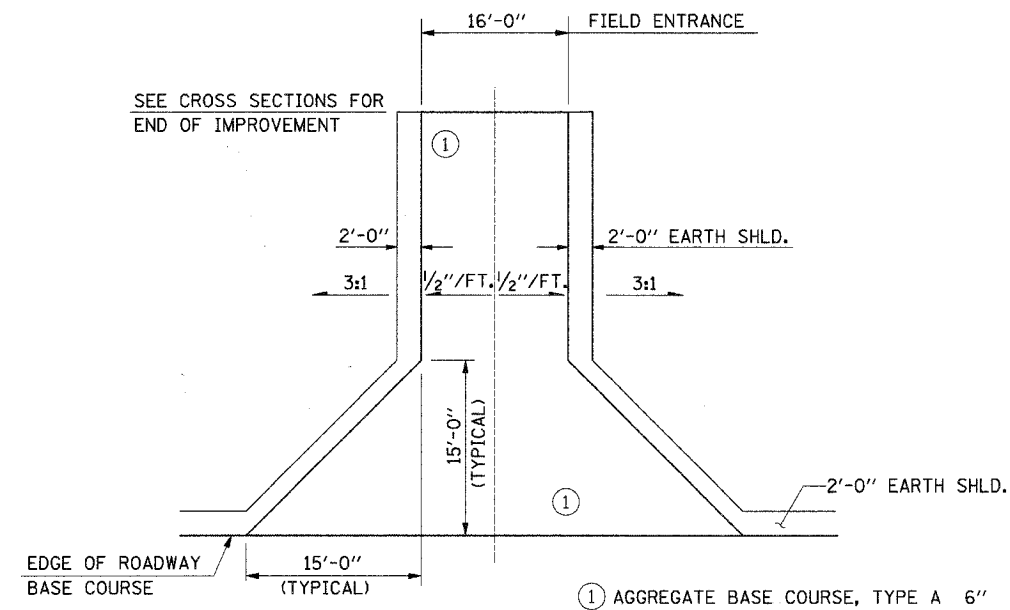
GENERAL NOTES

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

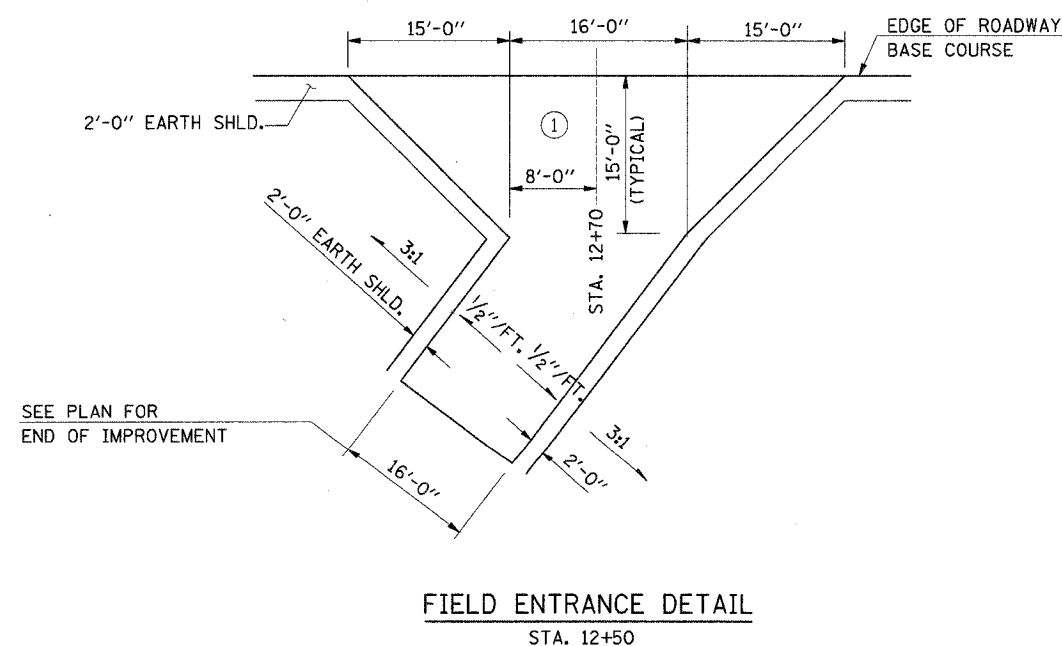
THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER IN REGARD TO THE EXACT LENGTHS OF PIPE CULVERTS PRIOR TO ORDERING THESE ITEMS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

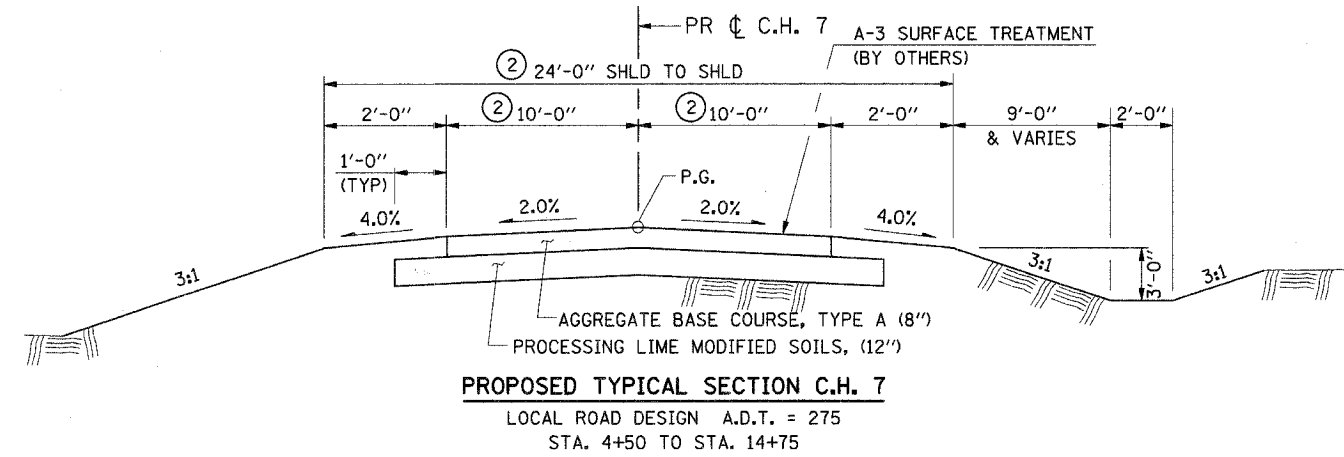
ALL DISTURBED EARTH SURFACES WITHIN THE LIMITS OF THE RIGHT-OF-WAY AND EASEMENTS SHALL BE SEEDED AS DIRECTED BY THE ENGINEER.



FIELD ENTRANCE DETAIL
STA. 5+50 & STA. 6+38

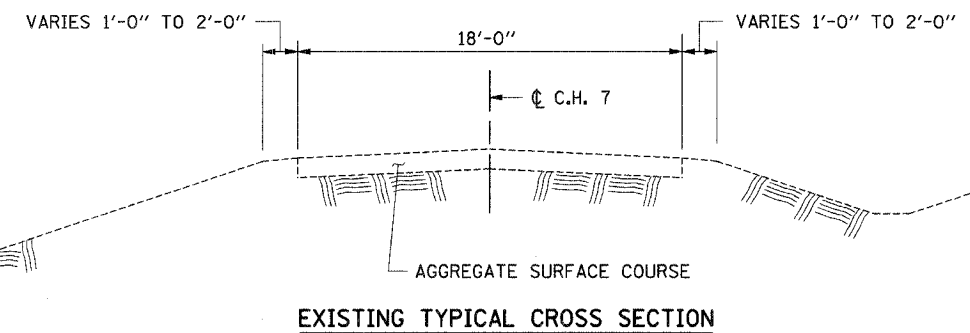


FIELD ENTRANCE DETAIL
STA. 12+50

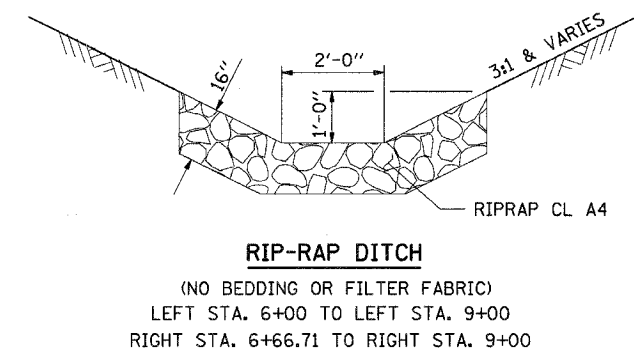


② SEE PLAN & PROFILE SHEET FOR TRANSITION.

THE PROPOSED EARTHWORK SHALL BE CONSTRUCTED AND COMPACTED PRIOR TO BEING CORED OUT FOR CONSTRUCTION OF THE AGGREGATE BASE COURSE.



EXISTING TYPICAL CROSS SECTION



RIP-RAP DITCH
(NO BEDDING OR FILTER FABRIC)
LEFT STA. 6+00 TO LEFT STA. 9+00
RIGHT STA. 6+66.71 TO RIGHT STA. 9+00

ie consultants	
DESIGNED: C.M.V.	CHECKED: D.R.B.
DRAWN: T.H.W.	DATE: DECEMBER 2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	4
FED. ROAD DIST. NO.		ILLINOIS PROJECT		
SHEET 1 of 2				

**C.H. 7 BRIDGE CONSTRUCTION PROJECT
PRAIRIE ROAD DISTRICT
SHELBY COUNTY**

THIS PLAN HAS BEEN PREPARED TO COMPLY WITH THE PROVISION OF THE NPDES PERMIT NUMBER ILR10 _____ ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITE ACTIVITIES.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRE OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION SUBMITTED, IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

J. Alford
(AGENCY OFFICIAL)

02-01-07
(DATE)

County ENGINEER
(TITLE)

THE FOLLOWING PLAN WAS ESTABLISHED AND INCLUDED IN THESE PLANS TO DIRECT THE CONTRACTOR IN THE PLACEMENT OF TEMPORARY EROSION CONTROL SYSTEMS AND TO PROVIDE A STORM WATER POLLUTION PREVENTION PLAN FOR COMPLIANCE UNDER NPDES. THE CONTRACTOR SHALL ABIDE TO ALL REQUIREMENTS WITHIN THIS PLAN AS PART OF THE CONTRACT.

THE PURPOSE OF THIS PLAN IS TO PREVENT / MINIMIZE SILTATION WITHIN THE CONSTRUCTION ZONE AND TO ELIMINATE SEDIMENTS FROM ENTERING AND LEAVING THE CONSTRUCTION ZONE BY UTILIZING PROPER TEMPORARY EROSION CONTROL SYSTEMS AND PROVIDING GROUND COVER WITHIN A REASONABLE TIME.

CERTAIN ITEMS, AS SHOWN IN THIS PLAN AND REFERENCED BY THE LEGEND, SHALL BE PLACED BY THE CONTRACTOR AT THE BEGINNING OF CONSTRUCTION. OTHER ITEMS SHALL BE PLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER ON A CASE BY CASE SITUATION RESULTING FROM THE CONTRACTOR'S SEQUENCE OF ACTIVITIES, TIME OF THE YEAR, AND EXPECTED WEATHER CONDITIONS.

THE CONTRACTOR SHALL PLACE PERMANENT EROSION CONTROL SYSTEMS AND SEEDING WITHIN A REASONABLE AMOUNT OF TIME; THEREFORE, REDUCING THE AMOUNT OF AREA BEING OPEN TO THE POSSIBILITY OF EROSION AND REDUCING THE AMOUNT OF TEMPORARY EROSION CONTROL SYSTEMS AND TEMPORARY SEEDING. THE RESIDENT ENGINEER WILL DETERMINE IF TEMPORARY EROSION CONTROL SYSTEMS SHOWN IN THE PLAN CAN BE DELETED, THE SIZE OF THE PROPOSED DITCH CHECKS, THE PROPER METHOD OF INSTALLATION, AND IF ANY ADDITIONAL TEMPORARY EROSION CONTROL SYSTEMS SHALL BE ADDED WHICH ARE NOT INCLUDED IN THIS PLAN. THE CONTRACTOR SHALL PERFORM ALL WORK AS DIRECTED BY THE ENGINEER AND AS SHOWN IN SPECIAL DETAILS AND IN STANDARD 280001 OF THE PLANS.

ALL DISTURBED AREAS HAVING HIGH POTENTIAL FOR EROSION, AS DETERMINED BY THE ENGINEER, SHALL BE PERMANENTLY SEEDDED AS SOON AS POSSIBLE.

LEGEND FOR STORM WATER POLLUTION PREVENTION PLAN

ITEM	SYMBOL
TEMPORARY DITCH CHECKS (HAY OR STRAW BALE DITCH CHECKS OR APPROVED SUBSTITUTION)	
PERIMETER EROSION BARRIER	
EROSION CONTROL BLANKET	
DIRECTION OF OVERLAND FLOW	
INLET AND PIPE PROTECTION	

NOTE: THE EROSION CONTROL PLAN SHALL BE IMPLEMENTED AS DESCRIBED ON THIS "SOIL EROSION AND SEDIMENT CONTROL PLAN" PER THE IDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, PER IDOT STANDARD 280001, AND AS DIRECTED BY THE ENGINEER.

SITE DESCRIPTION

DESCRIPTION OF CONSTRUCTION ACTIVITY:

1. THE PROPOSED IMPROVEMENT WILL CONSIST OF RECONSTRUCTION OF C.H. 7 FROM STA. 4+50 TO STA. 14+75. ROADWAY WORK WILL BE COMPLETED WITH NECESSARY SEEDING THROUGHOUT.

THE PROJECT MEASURES APPROXIMATELY 1025 FEET OR 0.19 MILE OF THE C.H. 7 ALIGNMENT.

DESCRIPTION OF INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB EARTH AND LEAD TO POSSIBLE EROSION FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

1. SEE SPECIAL PROVISIONS FOR SUGGESTED CONSTRUCTION STAGING PLAN AND NOTES.

AREA OF DISTURBED GROUND:

THE TOTAL AREA DISTURBED BY CONSTRUCTION ACTIVITIES IS APPROXIMATELY 1.6 ACRES.

CONTRACTOR CERTIFICATION STATEMENT

THIS CERTIFICATION STATEMENT IS PART OF THE STORM WATER POLLUTION PLAN FOR THE PROJECT DESCRIBED BELOW IN ACCORDANCE WITH NPDES PERMIT NO. ILR10 _____, ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY ON _____.

**C.H. 7 BRIDGE CONSTRUCTION PROJECT
PRAIRIE ROAD DISTRICT
SHELBY COUNTY**

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

SIGNATURE _____ DATE _____
TITLE _____
NAME OF FIRM _____
STREET ADDRESS _____
CITY, STATE, ZIP _____
PHONE NUMBER _____

NOTE: THE ABOVE BOXED IN AREA SHALL BE FILLED OUT BY THE CONTRACTOR AFTER THE AWARD OF THE CONTRACT TO OBTAIN THE REQUIRED NPDES PERMIT FROM IEPA. THIS IS A REQUIREMENT FOR THIS CONTRACT.

SOIL EROSION &
SEDIMENT CONTROL PLAN
C.H. 7 OVER RICHLAND CREEK
SEC. 05-00259-00-BR
SHELBY COUNTY
S.N. 087-3550
STA. 9+80

ie consultants

DESIGNED: C.M.V. CHECKED: D.R.B.
DRAWN: T.H.W. DATE: DECEMBER 2006

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SHEET 2 of 2

CONTROLS – EROSION CONTROLS AND SEDIMENT CONTROLS**DESCRIPTION OF STABILIZATION PRACTICES AT THE BEGINNING OF CONSTRUCTION (WHERE APPLICABLE):**

- THE AREA BETWEEN THE EXISTING AND PROPOSED RIGHT-OF-WAY/TEMPORARY EASEMENT BOUNDARIES AND LIMITS OF THE PROJECT WILL BE IMPROVED AND MANAGED FOR THE PURPOSES OF CONTROLLING EROSION WITHIN THE AREA, REDUCING WATER FLOW BY TEMPORARY DIVERSION AND MINIMIZING SILTATION INTO THE CONSTRUCTION ZONE, AND ESTABLISHING VEGETATIVE COVER WHICH WILL BECOME PERMANENT VEGETATION AND ACT AS AN EROSION BARRIER. WORK AT THE BEGINNING OF CONSTRUCTION WILL CONSIST OF THE FOLLOWING:
 - AREAS OF EXISTING VEGETATION (WOODS AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION SLOPE LIMITS SHALL BE IDENTIFIED FOR PRESERVING AND SHALL BE PROTECTED FROM MOWING, BRUSH CUTTING, TREE REMOVAL AND OTHER ACTIVITIES WHICH WOULD BE DETRIMENTAL TO THEIR MAINTENANCE AND DEVELOPMENT.
 - DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER, ALONG WITH REQUIRED TREE REMOVAL.
 - AS SOON AS REASONABLE ACCESS IS AVAILABLE (SUCH AS TREES CLEARED) TO ALL LOCATIONS WHERE DITCH CHECKS, AND/OR EROSION CONTROL FENCE SHALL BE INSTALLED AS CALLED OUT IN THIS PLAN AND DIRECTED BY THE ENGINEER.
 - BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODABLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE BEGINNING OF CONSTRUCTION WHERE NO CONSTRUCTION ACTIVITIES ARE IMMEDIATELY EXPECTED AS STATED IN THE SPECIAL PROVISION "TEMPORARY EROSION CONTROL SEEDING".
 - IMMEDIATELY AFTER TREE REMOVAL IS COMPLETED IN CERTAIN AREAS WHICH ARE HIGHLY ERODABLE AREAS AS DETERMINED BY THE ENGINEER, THE AREAS SHALL BE TEMPORARILY SEEDED WHERE NO CONSTRUCTION ACTIVITIES ARE IMMEDIATELY EXPECTED AS STATED IN THE SPECIAL PROVISION "TEMPORARY EROSION CONTROL SEEDING".
 - AT LOCATIONS WHERE A SIGNIFICANT AMOUNT OF WATER DRAINS INTO THE CONSTRUCTION ZONE, RIPRAP DITCH CHECKS WILL BE UTILIZED TO LOCALLY DIVERT WATER, REDUCE FLOW RATES, AND COLLECT OUTSIDE SILTATION INSIDE THE RIGHT-OF-WAY LINE. EROSION CONTROL ITEMS WILL NOT BE ALLOWED TO BE INSTALLED TO CAUSE FLOODING TO UPSTREAM PRIVATE PROPERTY WHICH COULD CAUSE CROP DAMAGES OR OTHER UNDESIREABLE CONDITIONS.
 - AT LOCATIONS WHERE WATER DRAINS AWAY FROM THE PROJECT, SEDIMENT BASINS, RIPRAP DITCH CHECKS, EROSION CONTROL FENCE, OR TEMPORARY DITCH CHECKS, SHALL BE USED.
- ESTABLISHMENT OF THESE TEMPORARY EROSION CONTROL MEASURES WILL HAVE ADDITIONAL BENEFITS TO THE PROJECT. DESIRABLE GRASS SEED WILL BECOME ESTABLISHED IN THESE AREAS AND WILL SPREAD SEEDS ONTO THE CONSTRUCTION SITE UNTIL PERMANENT SEEDING/MOWING AND OVERSEEDING CAN BE COMPLETE.
- A THIRD BENEFIT OF THESE FILTER AREAS IS THAT THEY WILL BEGIN TO PROVIDE A SCREEN AND BUFFER. THEY WILL HELP PROTECT THE CONSTRUCTION SITE FROM WINDS AND EXCESS SUN AND MITIGATE CONSTRUCTION NOISE AND DUST.

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION (WHERE APPLICABLE):

- DURING ROADWAY CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION SLOPE LIMITS AS OUTLINED PREVIOUS HEREIN SHALL BE PROTECTED FROM DAMAGING EFFECTS OF CONSTRUCTION. THE CONTRACTOR SHALL NOT USE THIS AREA FOR STAGING (EXCEPT AS DESIGNATED ON THE PLANS OR DIRECTED BY THE ENGINEER), PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.
 - WITHIN THE CONSTRUCTION ZONE, CRITICAL AREAS WHICH HAVE HIGH FLOWS OF WATER AS DETERMINED BY THE ENGINEER SHALL REMAIN UNDISTURBED UNTIL FULL SCALE CONSTRUCTION IS UNDERWAY TO PREVENT UNNECESSARY SOIL EROSION.
 - TOP SOIL AND EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN DAYS.
 - AS THE CONTRACTOR CONSTRUCTS A PORTION OF ROADWAY IN A FILL SECTION, HE/SHE SHALL FOLLOW THE FOLLOWING STEPS AS DIRECTED BY THE ENGINEER:
 - PLACE TEMPORARY EROSION CONTROL SYSTEMS AT LOCATIONS WHERE WATER LEAVES AND ENTERS THE CONSTRUCTION ZONE
 - TEMPORARY SEED HIGHLY ERODABLE AREAS OUTSIDE THE CONSTRUCTION SLOPE LIMITS
 - CONSTRUCT ROADSIDE DITCHES AND PROVIDE TEMPORARY EROSION CONTROL SYSTEMS
 - TEMPORARY DIVERT WATER AROUND PROPOSED CULVERT LOCATIONS
 - BUILD NECESSARY EMBANKMENT AT CULVERT LOCATIONS AND THEN EXCAVATE AND PLACE CULVERT
 - CONTINUE BUILDING UP THE EMBANKMENT TO THE PROPOSED GRADE WHILE AT THE SAME TIME PLACE PERMANENT EROSION CONTROL SUCH AS RIPRAP DITCH LINING AND CONDUCT FINAL SHAPING TO THE SLOPES
 - THE CONTRACTOR SHALL IMMEDIATELY FOLLOW MAJOR EARTH MOVING OPERATIONS WITH FINAL GRADING EQUIPMENT. AFTER THE MAJOR EARTH SPREAD OPERATION HAS MOVED TO A NEW LOCATION, FINAL GRADING SHALL BE COMPLETED WITHIN FOURTEEN DAYS. IF GRADING IS NOT COMPLETED WITHIN FOURTEEN DAYS, ALL MAJOR EARTH MOVING OPERATIONS WILL BE STOPPED, AS DIRECTED BY THE ENGINEER, UNTIL DISTURBED AREAS ARE FINAL GRADED AND SEEDED.
 - EXCAVATED AREAS AND EMBANKMENTS SHALL BE PERMANENTLY SEEDED WHEN FINAL GRADED. IF NOT, THEY SHALL BE TEMPORARILY SEEDED AS STATED IN THE SPECIAL PROVISION "TEMPORARY EROSION CONTROL SEEDING".

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION (WHERE APPLICABLE): (CONTD.)

- CONSTRUCTION EQUIPMENT SHALL BE STORED AND FUELED ONLY AT DESIGNATED LOCATIONS. ALL NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL OR POLLUTION RUN-OFF IN COMPLIANCE WITH EPA WATER QUALITY REGULATIONS. LEAKING EQUIPMENT OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.
- THE RESIDENT ENGINEER SHALL INSPECT THE PROJECT DAILY DURING ACTIVITIES AND WEEKLY OR AFTER LARGE RAINS DURING THE WINTER SHUTDOWN PERIOD. THE PROJECT SHALL ADDITIONALLY BE INSPECTED BY THE CONSTRUCTION FIELD ENGINEER ON A BI-WEEKLY BASIS TO DETERMINE THAT EROSION CONTROL EFFORTS ARE IN PLACE AND EFFECTIVE AND IF OTHER CONTROL WORK IS NECESSARY.
- SEDIMENT COLLECTED DURING CONSTRUCTION BY THE VARIOUS TEMPORARY EROSION CONTROL SYSTEMS SHALL BE DISPOSED OF ON THE SITE ON A REGULAR BASIS AS DIRECTED BY THE ENGINEER. THE COST OF THIS MAINTENANCE WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.
- THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AFTER USE IS NO LONGER NEEDED OR NO LONGER FUNCTIONING. THE COSTS OF THIS REMOVAL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE TEMPORARY EROSION CONTROL SYSTEM. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

DESCRIPTION OF STRUCTURAL PRACTICES AFTER FINAL GRADING (WHERE APPLICABLE):

- TEMPORARY EROSION CONTROL SYSTEMS SHALL BE LEFT IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY AND ALL PROPOSED TURF AREAS SEEDED AND ESTABLISHED WITH A PROPER STAND.
- ONCE PERMANENT EROSION CONTROL SYSTEMS AS PROPOSED IN THE PLANS ARE FUNCTIONAL AND ESTABLISHED, TEMPORARY ITEMS SHALL BE REMOVED, CLEANED UP, AND DISTURBED TURF RESEDED. TEMPORARY RIPRAP DITCH CHECKS WILL BE ALLOWED TO REMAIN IN PLACE WHERE APPROVED BY THE ENGINEER.

MAINTENANCE AFTER CONSTRUCTION (WHERE APPLICABLE):

- CONSTRUCTION IS COMPLETE AFTER ACCEPTANCE IS RECEIVED AT THE FINAL INSPECTION.
- AREAS WILL BE INSPECTED ON A REGULAR BASIS BY SHELBY COUNTY HIGHWAY DEPARTMENT.
- MAINTENANCE CREWS WILL PERFORM REGULAR MOWINGS TO AID IN KEEPING WEEDS DOWN AND ESTABLISHING A GOOD ROADSIDE SEED STAND.
- MAINTENANCE CREWS WILL ALSO AID IN ANY DITCH LINING MAINTENANCE OR IN ANY DRAINAGE PROBLEMS.
- ALL MAINTENANCE WILL BE CONDUCTED AT TIMES WHEN WEATHER CONDITIONS WILL NOT CAUSE SITE DAMAGE.

DOCUMENTATION

- A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THIS STORM WATER POLLUTION PREVENTION PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH SECTION 4.B. SHALL BE MADE AND RETAINED AS PART OF THE PLAN FOR AT LEAST THREE YEARS AFTER THE DATE OF INSPECTION. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART VI.G OF THE GENERAL PERMIT.
- IF ANY VIOLATION OF THE PROVISIONS OF THIS PLAN IS IDENTIFIED DURING THE CONDUCT OF THE CONSTRUCTION WORK COVERED BY THIS PLAN, THE RESIDENT ENGINEER OR RESIDENT TECHNICIAN SHALL COMPLETE AND FILE AN "INCIDENT OF NONCOMPLIANCE (ION)" REPORT FOR THE IDENTIFIED VIOLATION. THE RESIDENT ENGINEER OR RESIDENT TECHNICIAN SHALL USE FORMS PROVIDED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AND SHALL INCLUDE SPECIFIC INFORMATION ON THE NONCOMPLIANCE, ACTIONS WHICH WERE TAKEN TO PREVENT ANY FURTHER CAUSES OF NONCOMPLIANCE, AND A STATEMENT DETAILING ANY ENVIRONMENTAL IMPACT WHICH MAY HAVE RESULTED FROM THE NONCOMPLIANCE. ALL REPORTS OF NONCOMPLIANCE SHALL BE SIGNED BY A RESPONSIBLE AUTHORITY IN ACCORDANCE WITH PART VI.G. OF THE GENERAL PERMIT. THE REPORT OF NONCOMPLIANCE SHALL BE MAILED TO THE FOLLOWING ADDRESS:

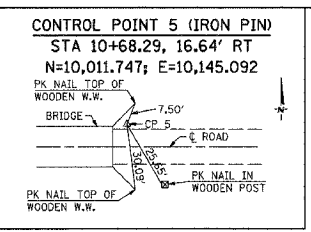
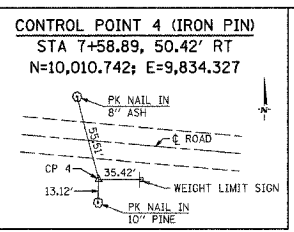
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
 DIVISION OF WATER POLLUTION CONTROL
 COMPLIANCE ASSURANCE SECTION #19
 POST OFFICE BOX 19276
 SPRINGFIELD, IL 62794-9276

SOIL EROSION &
 SEDIMENT CONTROL PLAN
 C.H. 7 OVER RICHLAND CREEK
 SEC. 05-00259-00-BR
 SHELBY COUNTY
 S.N. 087-3550
 STA. 9+80

ie consultants

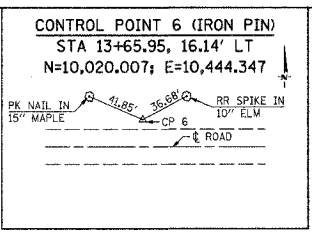
DESIGNED: C.M.V. CHECKED: D.R.B.
 DRAWN: T.H.W. DATE: DECEMBER 2006

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	6
STA. 4+50		TO STA. 14+75		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



CURVE 1 DATA
 PI STA 7+16.91
 $\Delta = 2^\circ 00' 17''$ (RT)
 $D = 1^\circ 00' 00''$
 $R = 5,729.59'$
 $T = 100.24'$
 $L = 200.47'$
 $E = 0.88'$
 $e = NC$
 PC STA 6+16.66
 PT STA 8+17.13

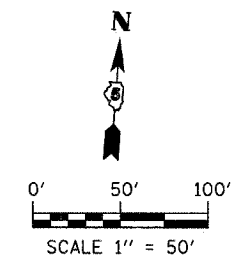
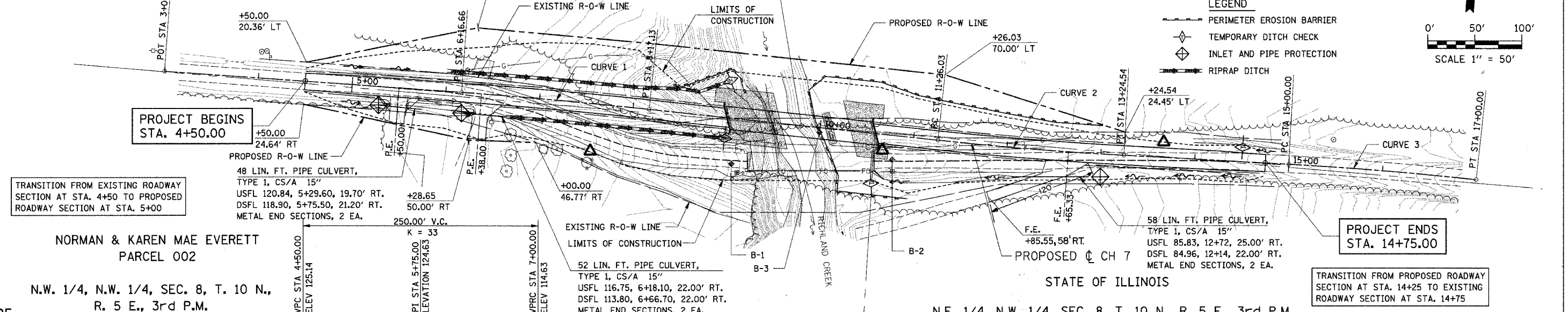
S.W. 1/4, SEC. 5, T. 10 N., R. 5 E., 3rd P.M.



CURVE 2 DATA
 PI STA 12+25.31
 $\Delta = 2^\circ 58' 39''$ (LT)
 $D = 1^\circ 30' 00''$
 $R = 3,820.00'$
 $T = 99.28'$
 $L = 198.51'$
 $E = 1.29'$
 $e = NC$
 PC STA 11+26.03
 PT STA 13+24.54

CURVE 3 DATA
 PI STA 16+00.03
 $\Delta = 3^\circ 09' 40''$ (RT)
 $D = 1^\circ 34' 50''$
 $R = 3,625.00'$
 $T = 100.03'$
 $L = 200.00'$
 $E = 1.38'$
 $e = NC$
 PC STA 15+00.00
 PT STA 17+00.00

STATE OF ILLINOIS
 PARCEL 001



PLAN

DATE	BY

REVISIONS

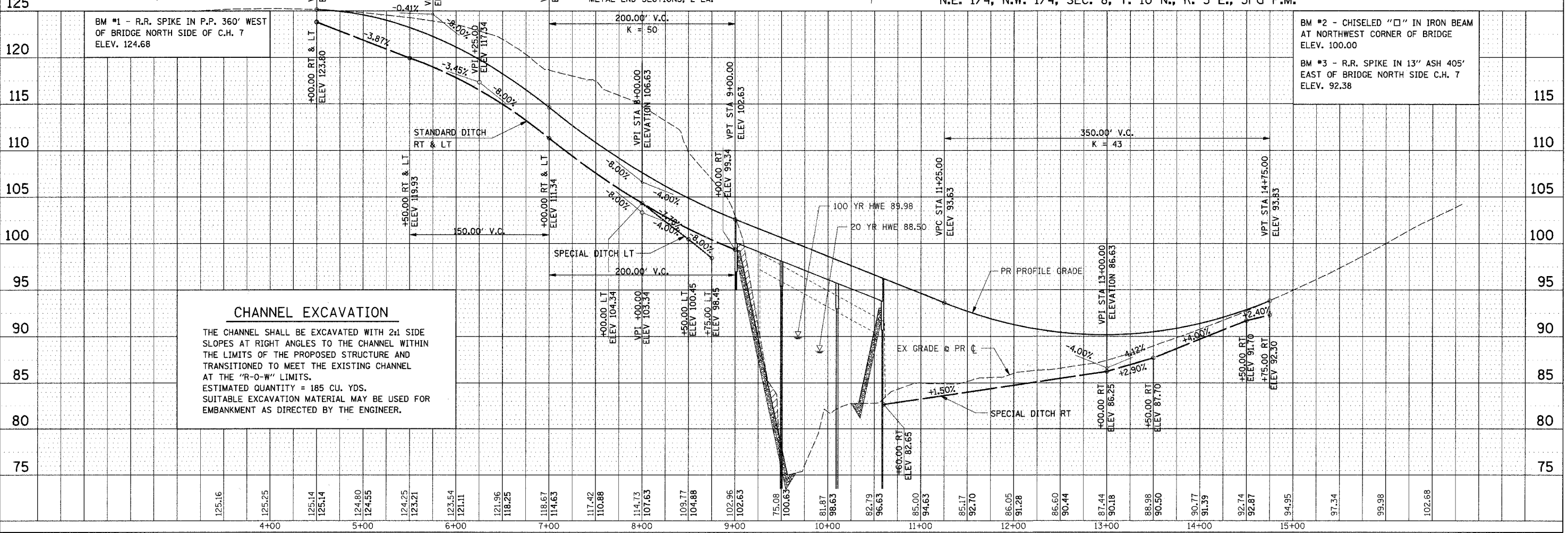
NO.	DESCRIPTION

PROFILE

DATE	BY

REVISIONS

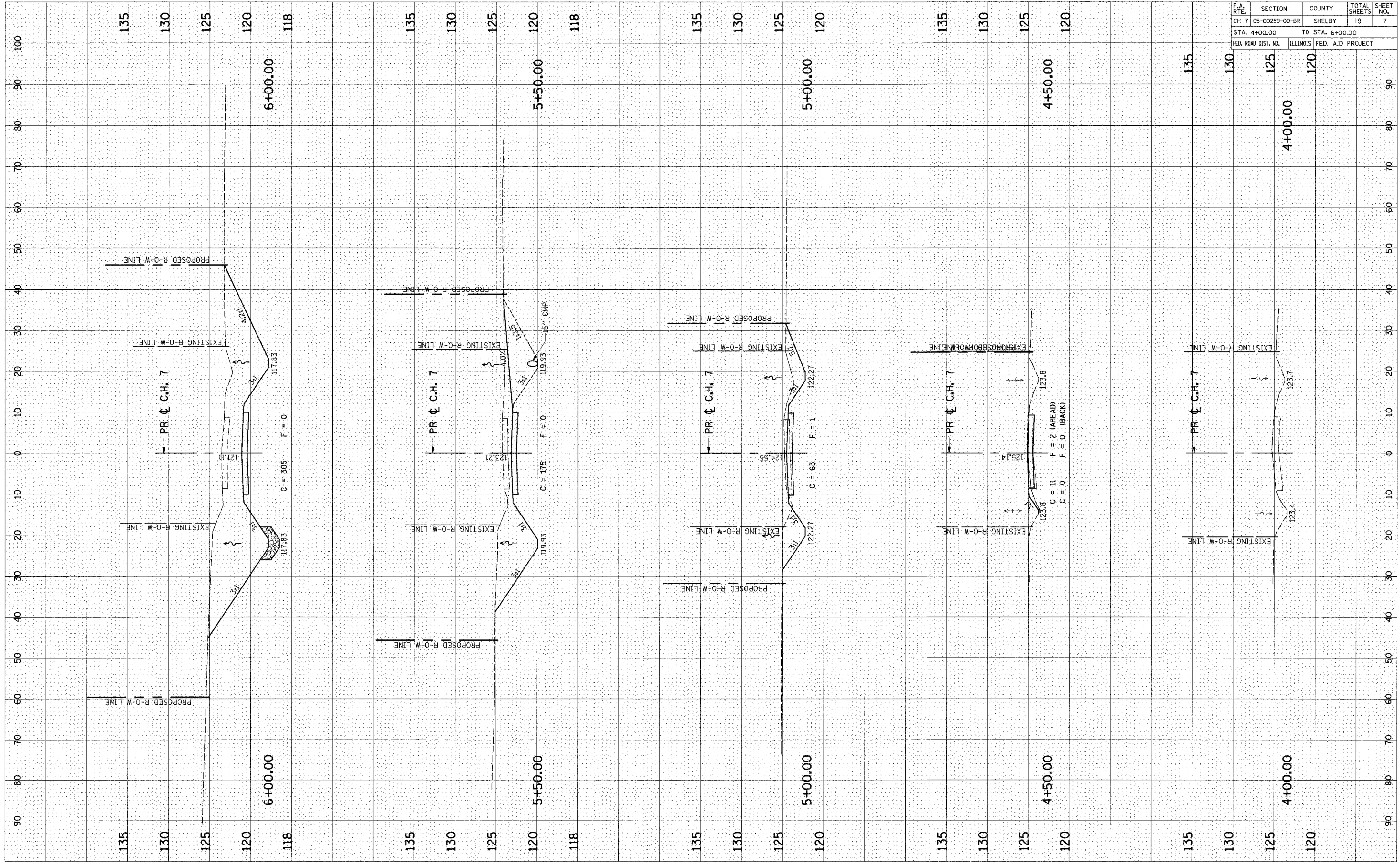
NO.	DESCRIPTION



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 USER NAME = Rick Goetz

ORIGINAL SURVEY
 CHECKED BY
 DATE

FINAL SURVEY
 CHECKED BY
 DATE



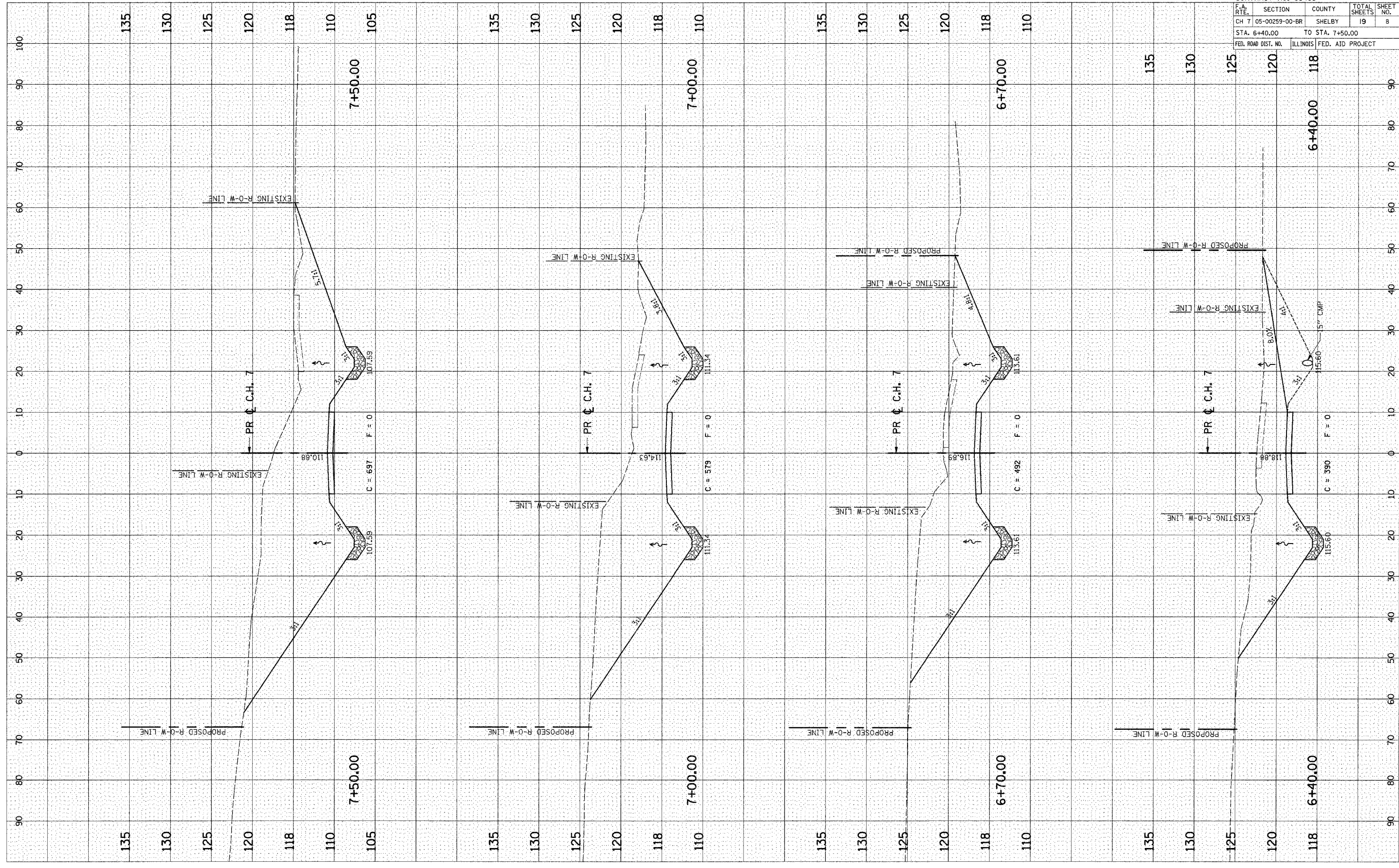
CONTRACT NO. 95498				
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
CH 7 05-00259-00-BR	SHELBY	19	7	
STA. 4+00.00	TO STA. 6+00.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 1/28/2007
 FILE NAME = G:\30985\CD\30985\81.dgn
 USER NAME = Rick Goertz

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

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

BY _____
 DATE _____



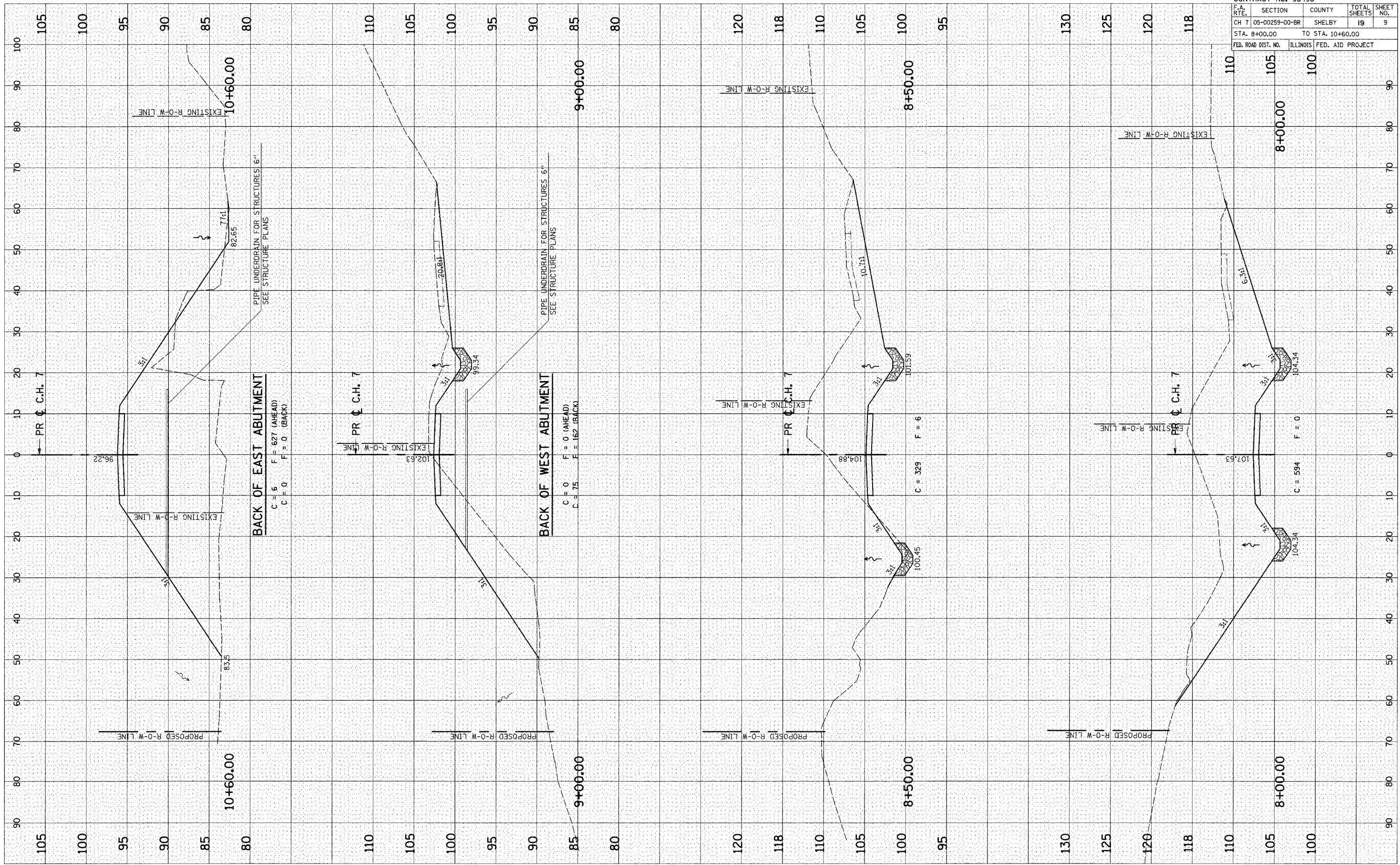
CONTRACT NO. 95498			
F.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19
STA. 6+40.00		TO STA. 7+50.00	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

PLOT DATE = 1/28/2007
 FILE NAME = G:\050595\CAD\050595.dgn
 USER NAME = Rick Goetz

ORIGINAL SURVEY
 SURVEY PLOTTED
 NOTE BOOK
 AREAS CHECKED

FINAL SURVEY
 SURVEY PLOTTED
 NOTE BOOK
 AREAS CHECKED

BY: _____ DATE: _____



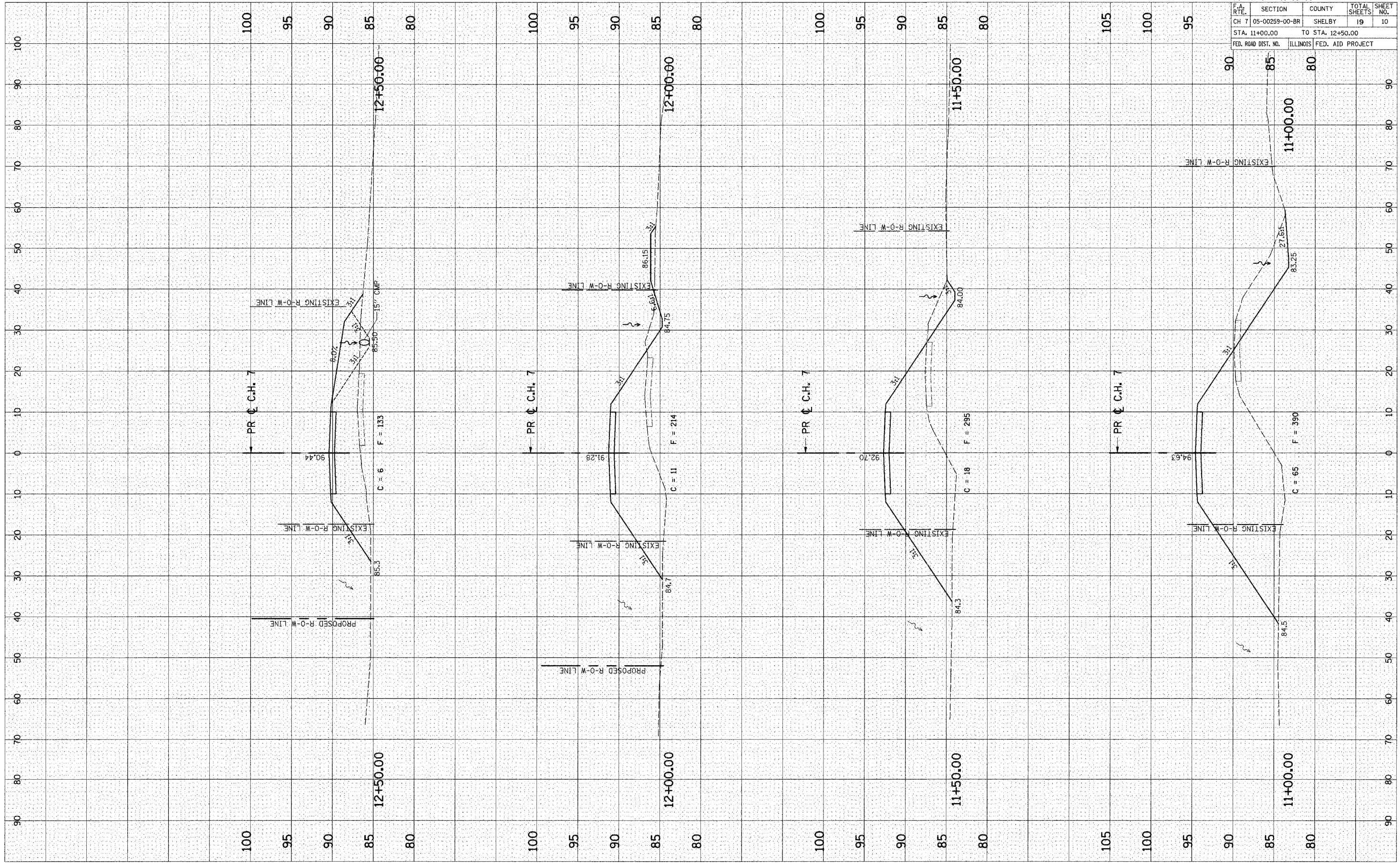
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CH 7	05-00259-00-BR	SHELBY	19
STA. 8+00.00		TO STA. 10+60.00	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	

PLOT DATE = 1/30/2007
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ORIGINAL SURVEY PLOTTED
 NOTE BOOK NO. _____
 AREAS CHECKED _____

FINAL SURVEY PLOTTED
 NOTE BOOK NO. _____
 AREAS CHECKED _____

BY _____
 DATE _____



CONTRACT NO. 95498

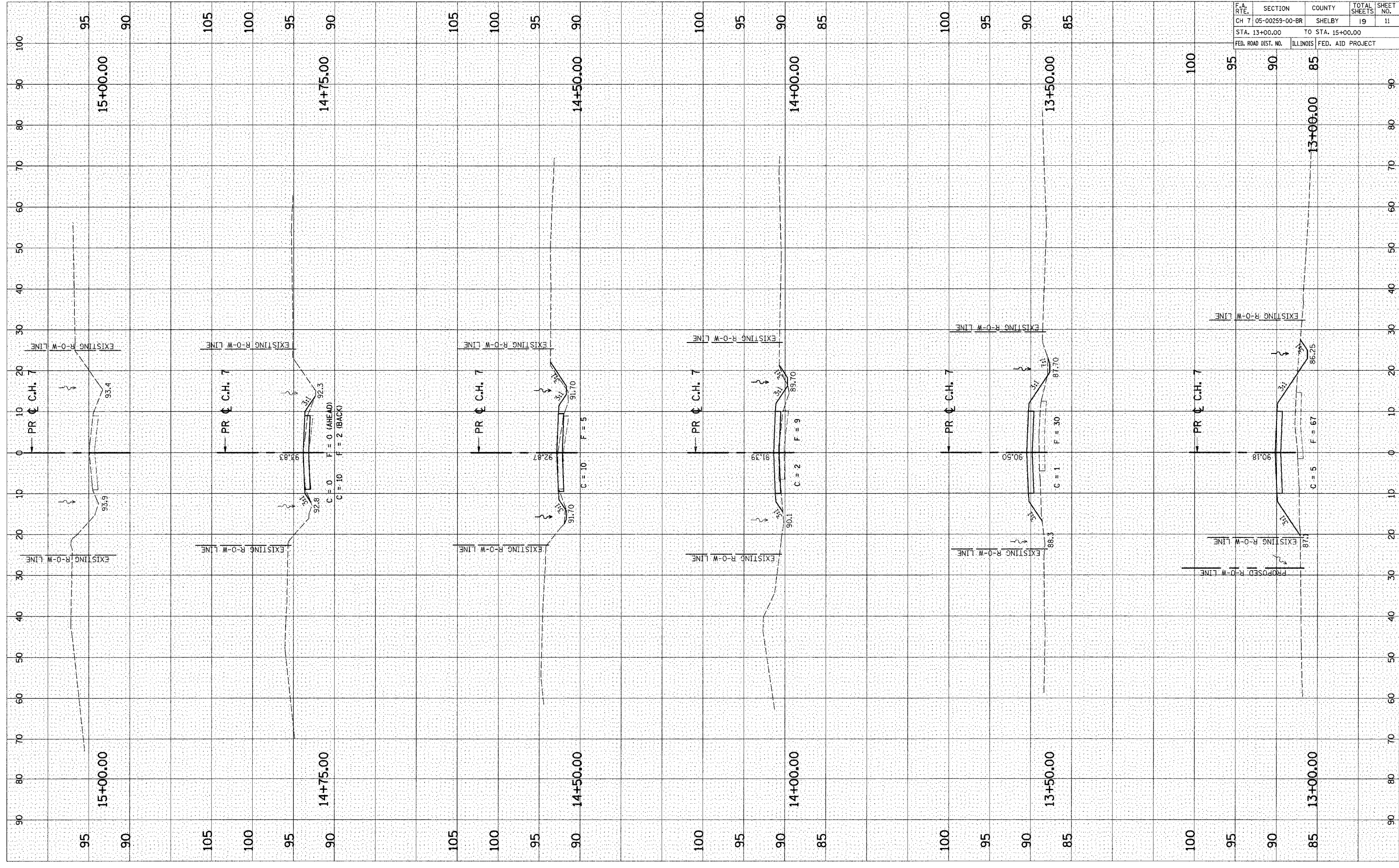
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STA. 11+00.00		TO STA. 12+50.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

PLOT DATE = 1/29/2007
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ORIGINAL SURVEY
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 NOTE BOOK
 NO.

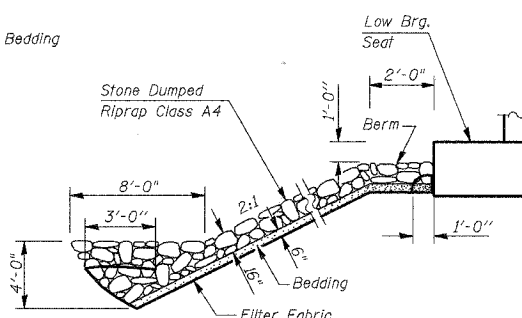
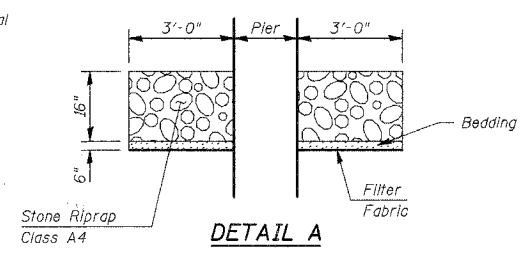
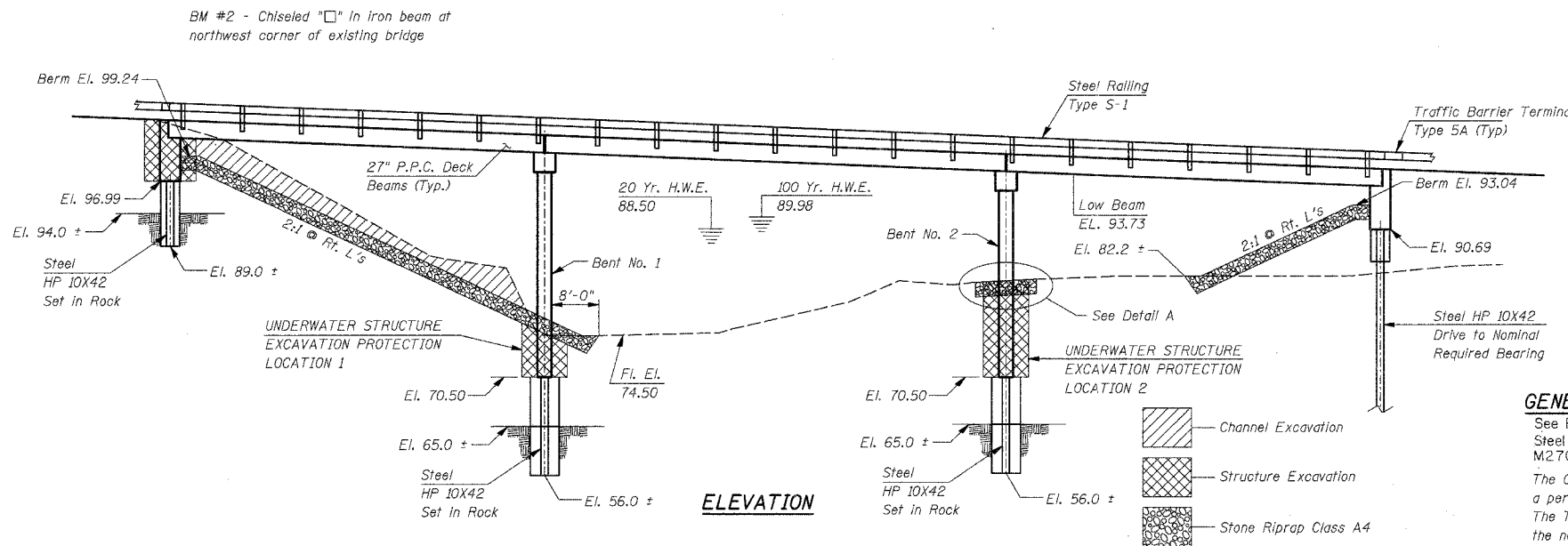
FINAL SURVEY
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 NOTE BOOK
 NO.

BY DATE



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	12
FED. ROAD DIST. NO.	ILLINOIS PROJECT	SHEET 1 of 8		

EXISTING STRUCTURE : S.N. 087-3339, Three Span Bridge with Asphalt Deck supported by Steel I-Beams with Steel Railings, Timber Piers, Timber Abutment with Timber Wingwalls on the east end, and Concrete Abutment on the west end. Length = 138', Width = 19'



GENERAL NOTES

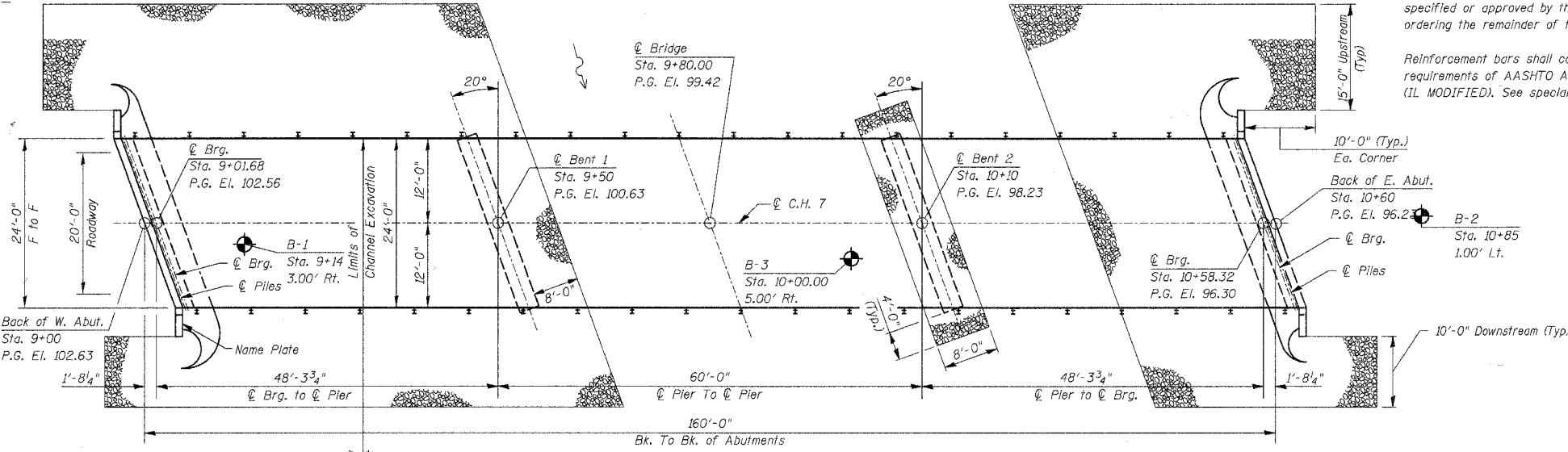
See Proposal for Boring Data. Steel H-Piles shall be according to AASHTO M270, Grade 50.

The Contractor shall drive one Test Pile at a permanent location in the East Abutment. The Test Pile shall be driven to 110% of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of the piles.

Reinforcement bars shall conform to the requirements of AASHTO A706 Grade 60 (IL MODIFIED). See special provisions

BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		185	185
Stone Riprap, Class A4	Ton		465	465
Filter Fabric	Sq. Yd.		609	609
Removal Of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		151	151
Concrete Structures	Cu. Yd.		124.7	124.7
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	3,785		3,785
Reinforcement Bars	Pound		9,650	9,650
Steel Railing, Type S1	Foot	320		320
Furnishing Steel Piles HP 10X42	Foot		647	647
Driving Piles	Foot		72	72
Pile Shoes	Each		4	4
Test Pile Steel HP 10x42	Each		1	1
Pipe Underdrain for Structures, 6"	Foot		95	95
Setting Piles in Rock	Each		18	18
Concrete Encasement	Cu. Yd.		9.0	9.0
Name Plates	Each	1		1
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1



NAME PLATE

(See Std. 515001)

RICHLAND CREEK
BUILT 200_ BY
SHELBY COUNTY
SEC. 05-00259-00-BR
PROJECT NO. BROS-173 ()
C.H. 7 STA. 9+80.00
STR. NO. 087-3550 LOADING HS 20

DESIGN STRESSES

Precast Unit $f'c = 5,000$ psi $f's = 270,000$ psi $n = 9$
 Cast-In-Place Unit $f'c = 3,500$ psi $f's = 60,000$ psi

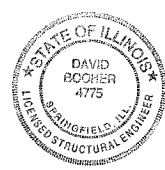
LOADING HS 20

DESIGN SPECIFICATION:
AASHTO 2002 Standard Specifications for Highway Bridges.

FUTURE WEARING SURFACE: 50 lb/Sq. Ft.

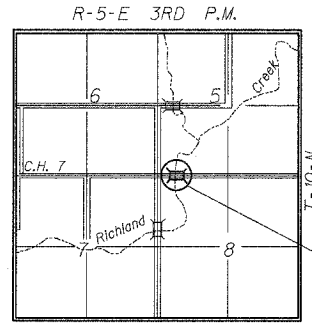
WATERWAY INFORMATION

Drainage Area	30.35	Sq. Mi.
Required Opening (20Yr.)	1148	Sq. Ft.
Provided Opening	1148	Sq. Ft.
Present Opening	1022	Sq. Ft.
20Yr. Discharge	3981	cfs
100Yr. Discharge	5804	cfs
Created Head at Bridge (100Yr.)	<1.0	Ft.
Created Head 1000' Upstream (100Yr.)	<0.5	Ft.
20Yr. H.W.E.	88.50	Ft.
100Yr. H.W.E.	89.98	Ft.



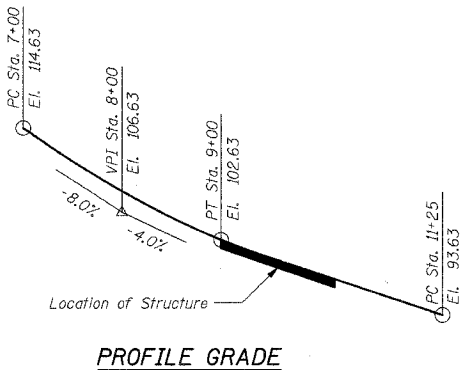
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

David Booher
David Booher, Illinois S.E. 080-04775
Expires 11-30-2008

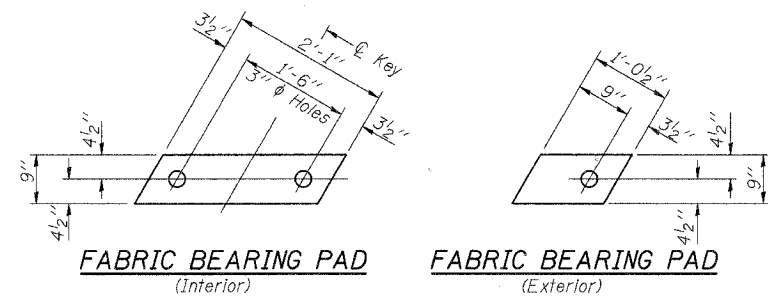


GENERAL PLAN & ELEVATION
C.H. 7 OVER RICHLAND CREEK
SEC. 05-00259-00-BR
SHELBY COUNTY
S.N. 087-3550
STA. 9+80

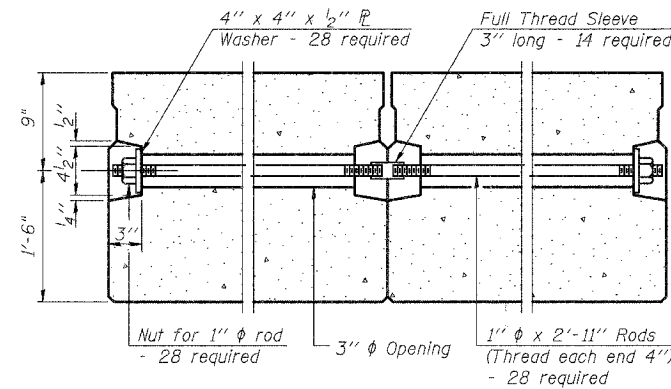
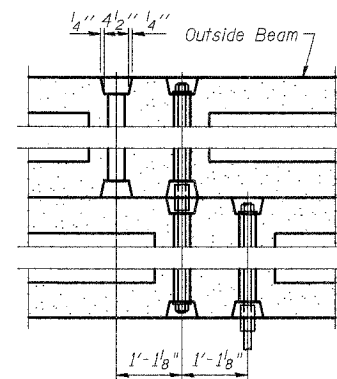
ie consultants
DESIGNED: C.M.V. CHECKED: D.R.B.
DRAWN: T.H.W. DATE: DECEMBER 2006



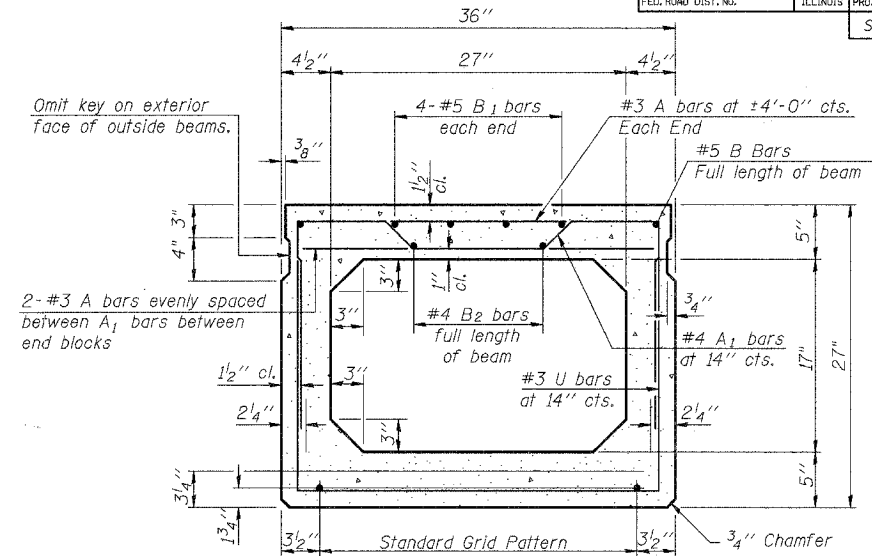
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	13
FED. ROAD DIST. NO.	ILLINOIS PROJECT		SHEET 2 of 8	



FIXED



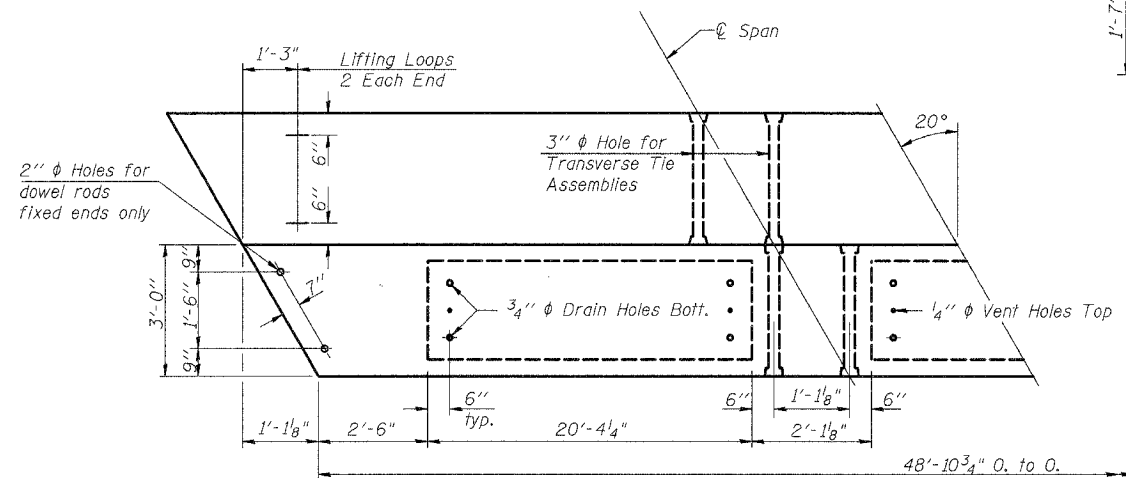
TYPICAL TRANSVERSE TIE ASSEMBLY



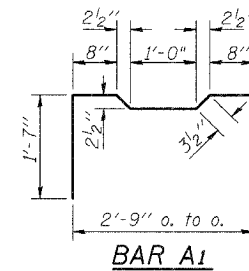
TYPICAL SECTION

1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
9-Strands 1 3/4" up, 2-Strands 3/4" up

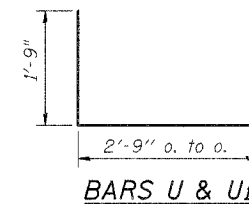
Note: Place strands symmetrically about ϕ of beam.



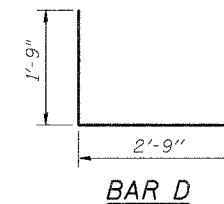
PLAN



BAR A1

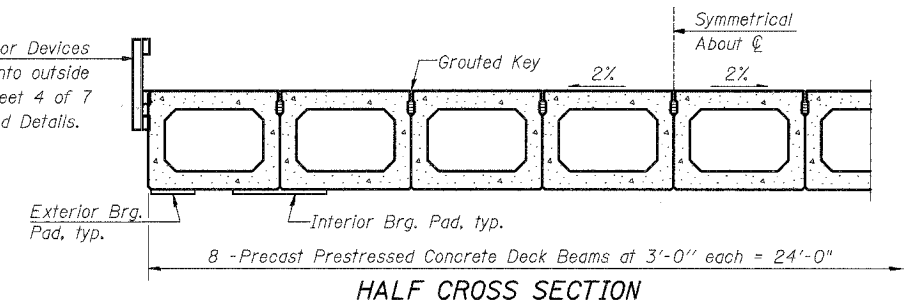


BARS U & U1



BAR D

Rail Post Anchor Devices shall be cast into outside beams. See Sheet 4 of 7 for Spacing and Details.



HALF CROSS SECTION

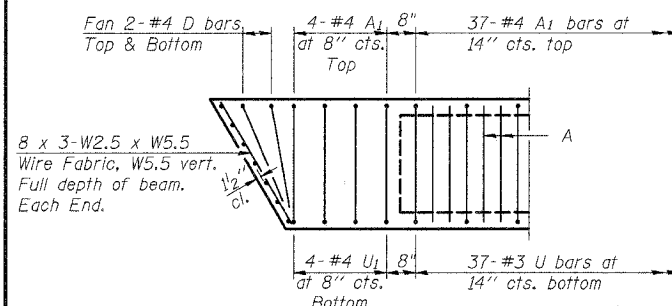
BILL OF MATERIAL

(Bar List for One Beam Only)

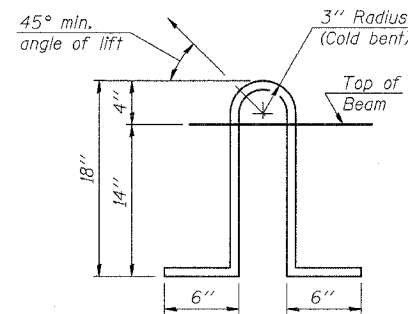
Bar	No.	Size	Length	Shape
A	80	#3	2'-8"	—
A1	45	#4	6'-1"	┌
B	4	#5	25'-10"	—
B1	8	#5	9'-9"	—
B2	4	#4	25'-6"	—
D	8	#4	4'-6"	L
U	37	#3	6'-3"	└
U1	8	#4	6'-3"	└
Precast Prestressed Conc. Deck Beams		Sq. Ft.	2347	

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. Packets 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 AASHTO A706 Grade 60 (IL Modified). 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, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4,000 p.s.i.



END PLAN



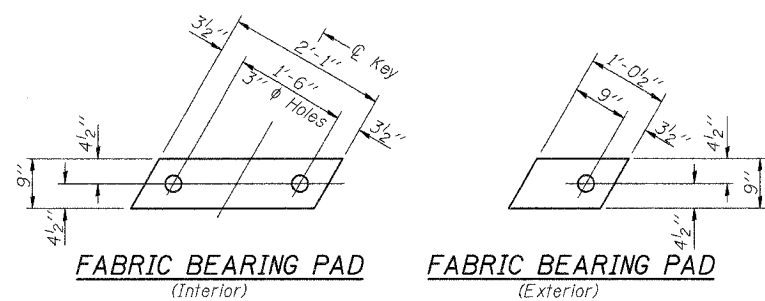
LIFTING LOOP DETAIL

P.P.C. BEAM DETAILS SPANS 1 & 3
C.H. 7 OVER RICHLAND CREEK
SEC. 05-00259-00-BR
SHELBY COUNTY
S.N. 087-3550
STA. 9+80

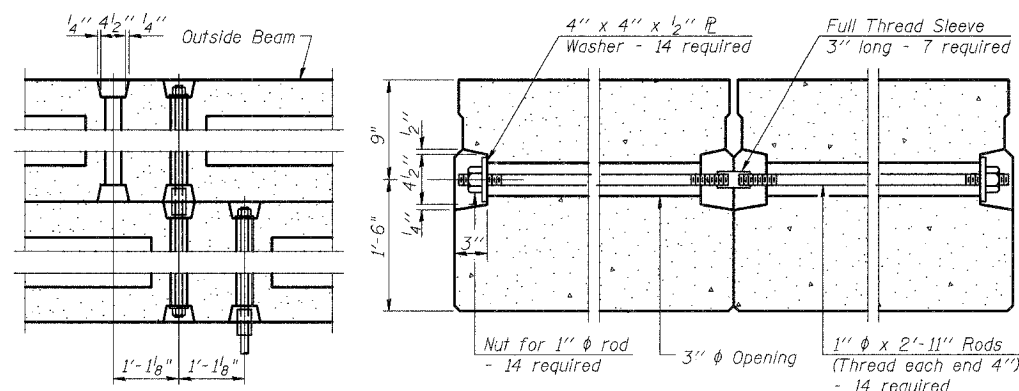
ie consultants

DESIGNED: C.M.V. CHECKED: D.R.B.
DRAWN: T.H.W. DATE: DECEMBER 2006

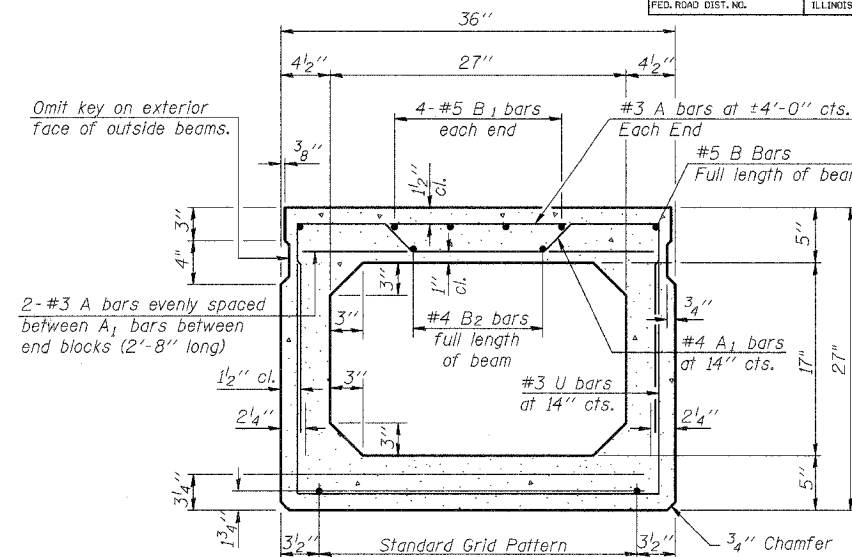
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	14
FED. ROAD DIST. NO.	ILLINOIS PROJECT		SHEET 3 of 8	



FIXED



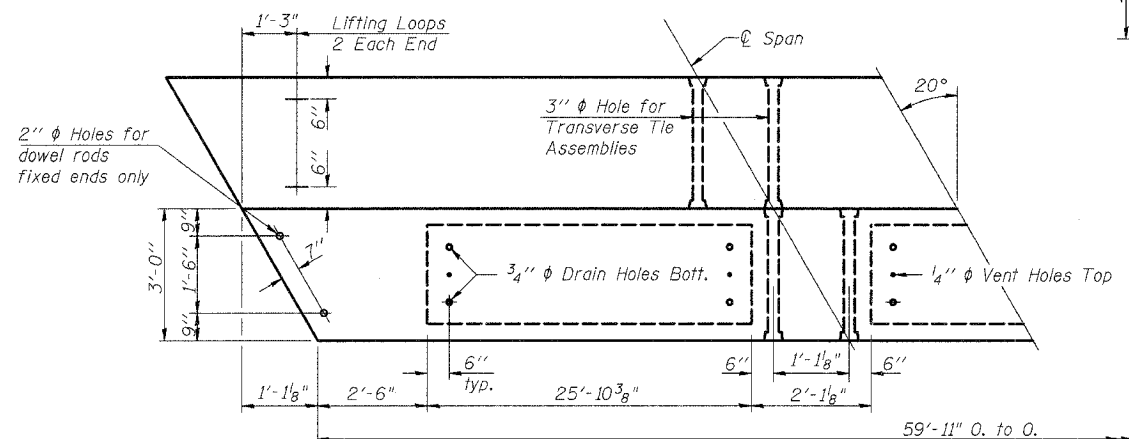
TYPICAL TRANSVERSE TIE ASSEMBLY



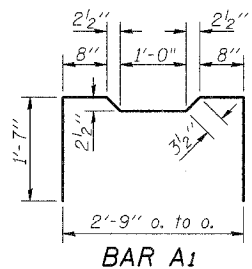
TYPICAL SECTION

1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
7-Strands 1 3/4" up, 6-Strands 3/4" up, & 2-Strands 7/2" up

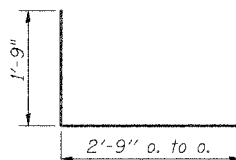
Note: Place strands symmetrically about ϕ of beam.



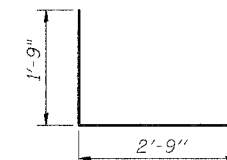
PLAN



BAR A1

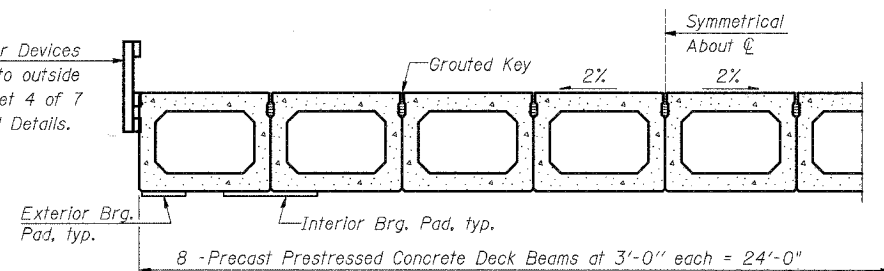


BARS U & U1



BAR D

Rail Post Anchor Devices shall be cast into outside beams. See Sheet 4 of 7 for Spacing and Details.



HALF CROSS SECTION

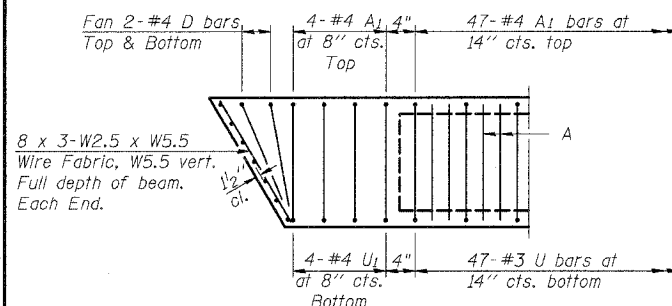
BILL OF MATERIAL

(Bar List for One Beam Only)

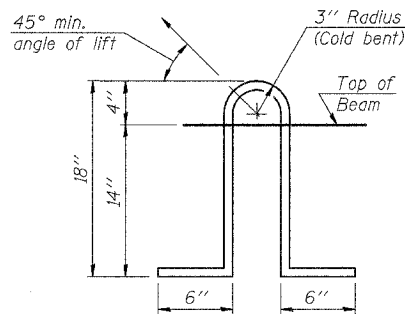
Bar	No.	Size	Length	Shape
A	100	#3	2'-8"	—
A1	55	#4	6'-1"	┌
B	6	#5	20'-11"	—
B1	8	#5	12'-0"	—
B2	6	#4	20'-8"	—
D	8	#4	4'-6"	└
U	47	#3	6'-3"	┌
U1	8	#4	6'-3"	┌
Precast Prestressed Conc. Deck Beams		Sq. Ft.	1438	

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 AASHTO A706 Grade 60 (IL Modified). 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, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4,000 p.s.i.



END PLAN



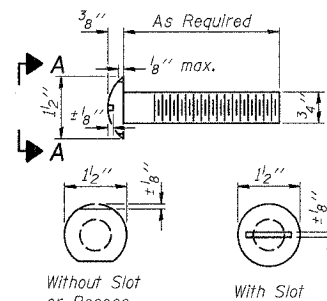
LIFTING LOOP DETAIL

**P.P.C. BEAM DETAILS SPAN 2
C.H. 7 OVER RICHLAND CREEK
SEC. 05-00259-00-BR
SHELBY COUNTY
S.N. 087-3550
STA. 9+80**

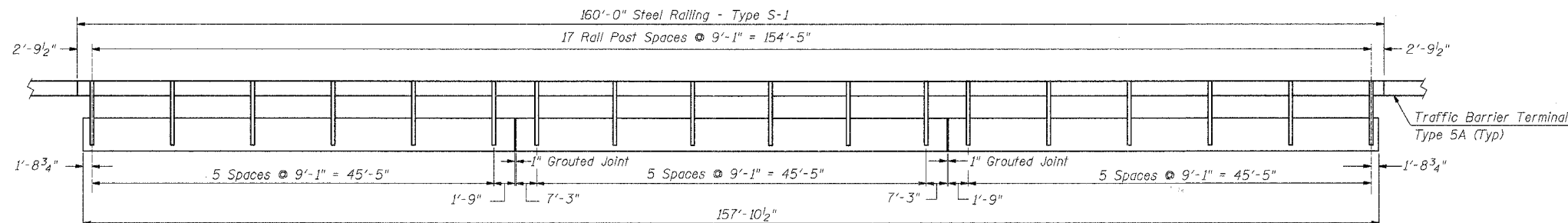
ie consultants

DESIGNED: C.M.V. CHECKED: D.R.B.
DRAWN: T.H.W. DATE: DECEMBER 2006

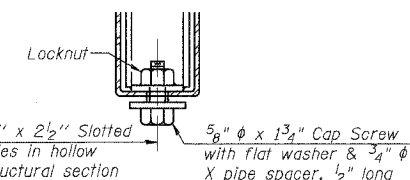
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	15
FED. ROAD DIST. NO.	ILLINOIS PROJECT			



VIEW A-A
ROUND HEAD BOLT



OUTSIDE ELEVATION



RAIL SPLICE CONNECTION
AT EXPANSION JT.

CURLED END SECTION DETAILS

(Cost incidental to Type S-1 Rail)

NOTES

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements 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 according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S-1.

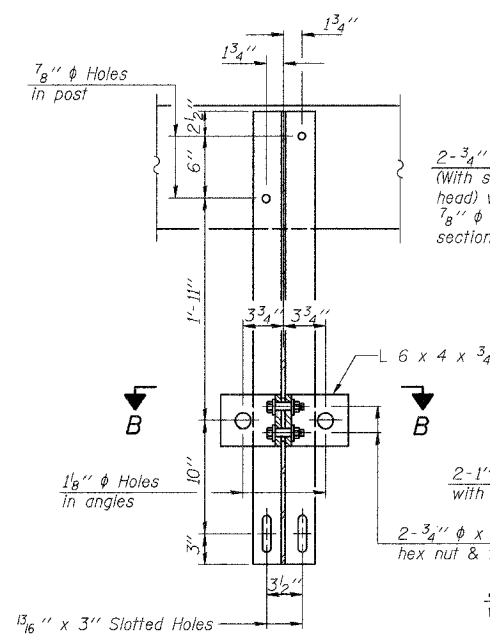
All field drilled holes shall be coated with an approved zinc rich paint before erection.

The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/2" fabric bearing pad between the post and concrete.

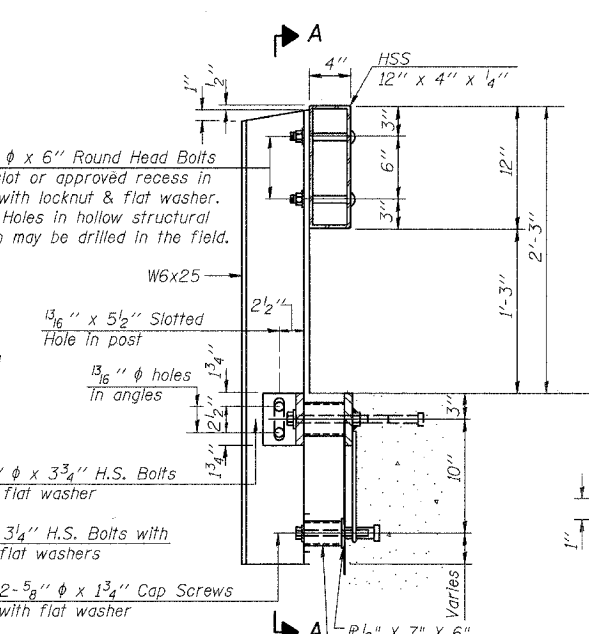
The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

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 S-1.

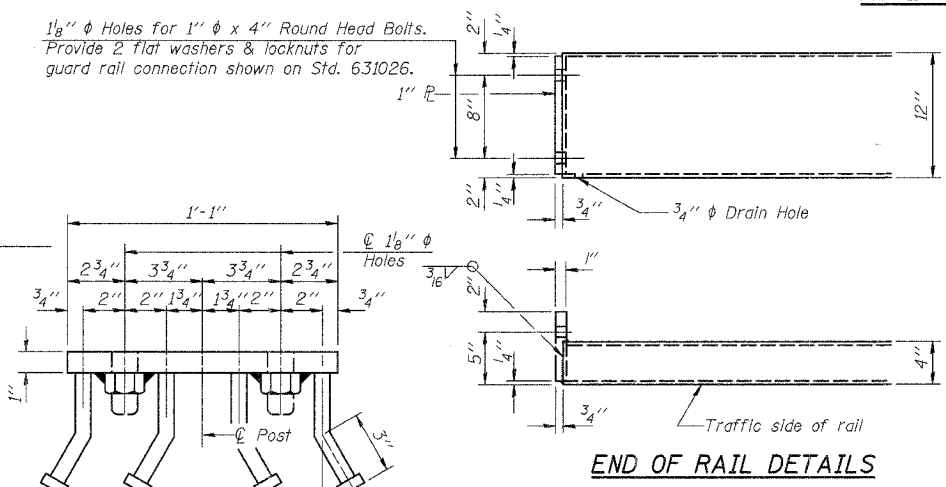
Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.



SECTION A-A



SECTION AT RAIL POST

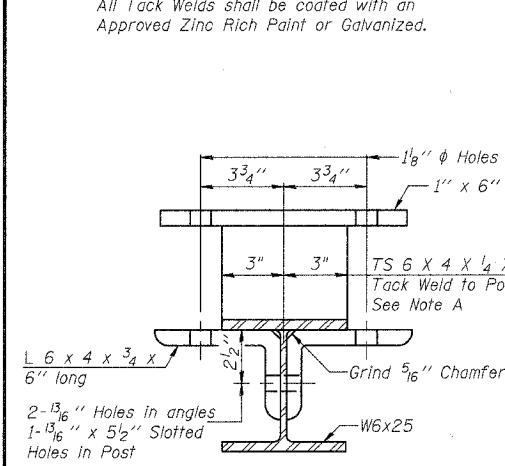


VIEW C-C

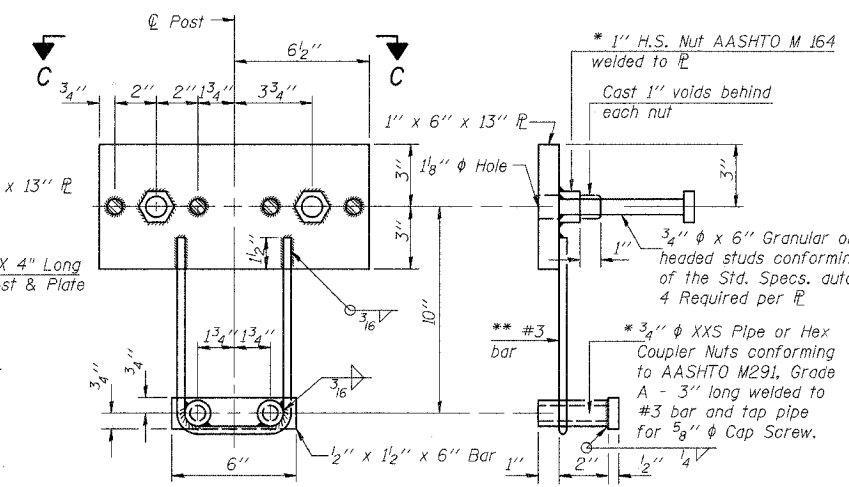
END OF RAIL DETAILS

NOTE A:
All Tack Welds shall be coated with an Approved Zinc Rich Paint or Galvanized.

** 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".

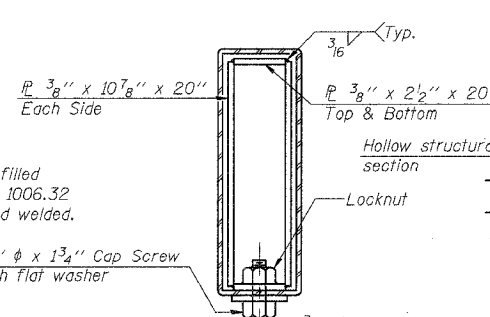


SECTION B-B

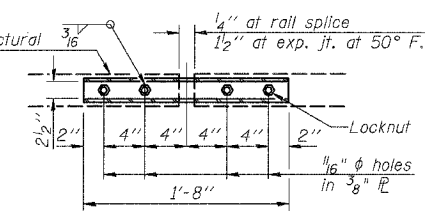


ANCHOR DEVICE

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



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing Type S-1	Foot	320

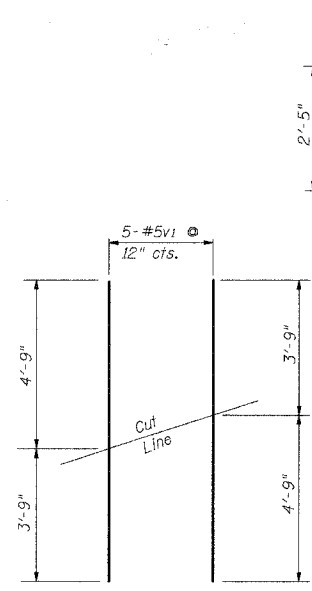
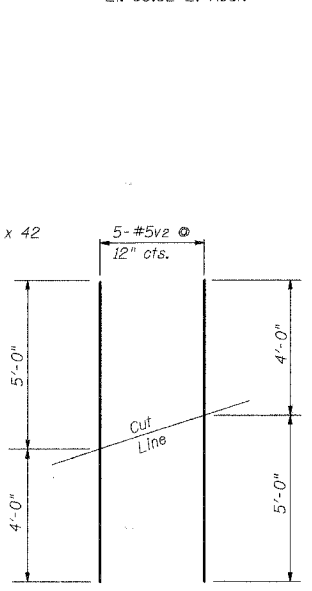
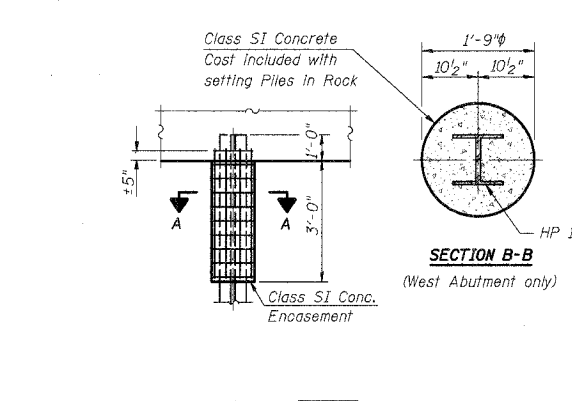
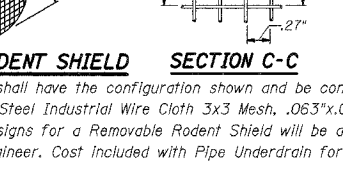
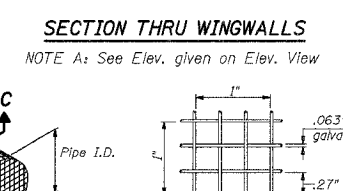
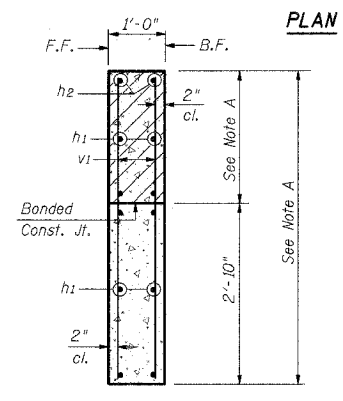
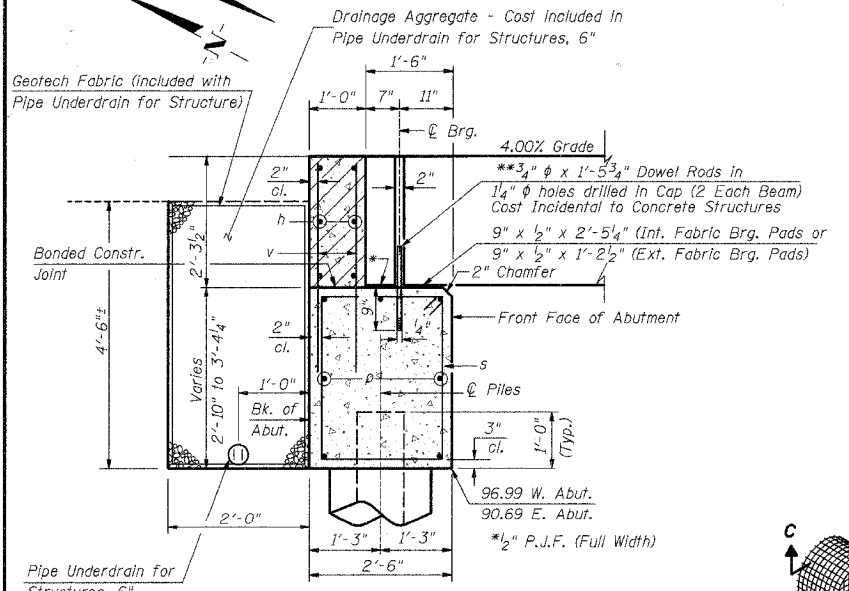
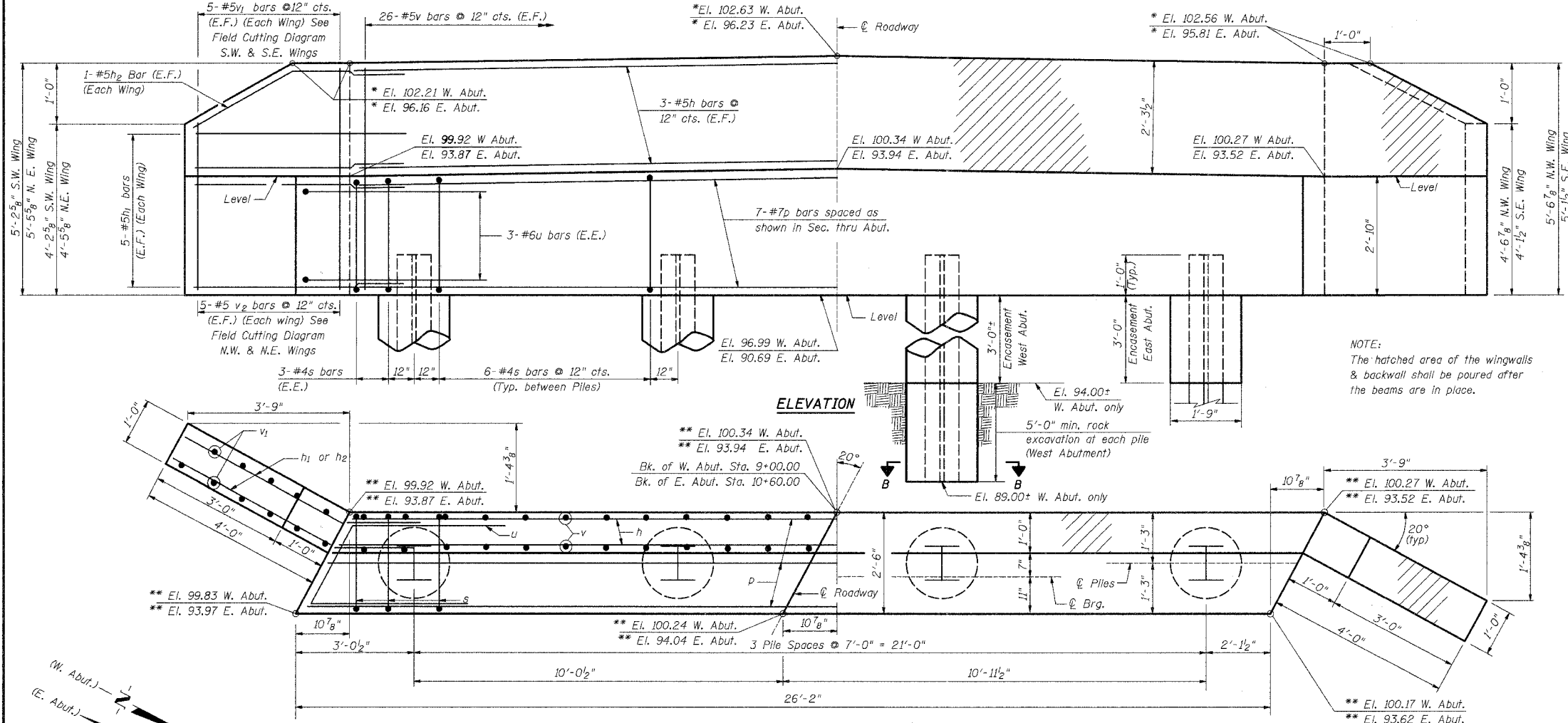
STEEL RAILING TYPE S-1 DETAILS
C.H. 7 OVER RICHLAND CREEK
SEC. 05-00259-00-BR
SHELBY COUNTY
S.N. 087-3550
STA. 9+80

ie consultants

DESIGNED: C.M.V. CHECKED: D.R.B.
DRAWN: T.H.W. DATE: DECEMBER 2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	16
FED. ROAD DIST. NO.		ILLINOIS PROJECT		SHEET 5 of 8

*El. Located at Back of Abut.
 ** El. Located at Top of Abut. Cap



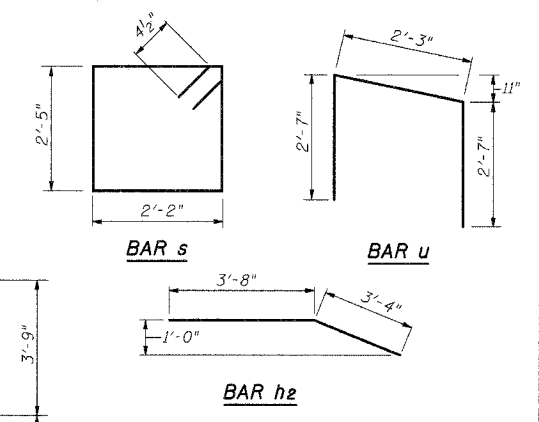
BILL OF MATERIAL
(2 Abutments)

Bar	No.	Size	Length	Shape
h	12	#5	25'-10"	—
h1	40	#5	7'-0"	—
h2	8	#5	7'-0"	—
p	14	#7	25'-10"	—
s	48	#4	9'-11"	□
u	12	#6	7'-5"	□
v	104	#5	4'-0"	—
v1	10	#5	8'-6"	—
v2	10	#5	9'-0"	—

ITEM	UNIT	QUANTITY
Reinforcement Bars	Pound	2,480
Concrete Structures	Cu. Yd.	22.4
Furnishing Steel Piles, HP 10 x 42	Lin. Ft.	108
Driving Steel Piles	Lin. Ft.	72
Test Piles	Each	1
Structure Excavation	Cu. Yd.	50
Concrete Encasement	Cu. Yd.	2.2
Setting Piles in Rock	Each	4
Pipe Underdrain for Structures, 6"	Foot	95
Pile Shoes	Each	4

PILE DATA

Type & Size: HP 10 x 42
 Nominal Required Bearing: 335 kips
 Est. Length: 24' East Abut. (Including ITSet Pile, With Pile Shoes)
 9' West Abut. (Set in Rock)
 No. of Production Piles: 3
 No. of Test Piles: 1
 Allowable Resistance Available: 112 kips
 Piles Set in Rock: 4



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DESIGNED: C.M.V. CHECKED: D.R.B.
 DRAWN: T.H.W. DATE: DECEMBER 2006

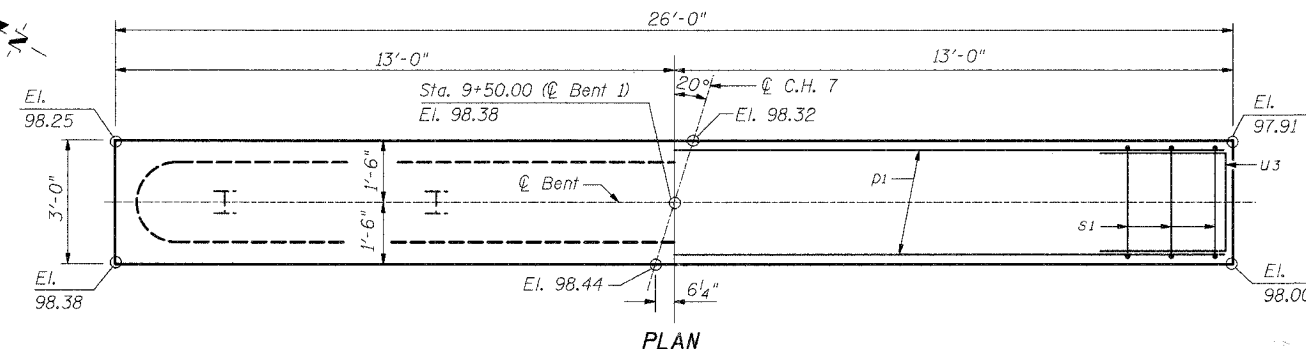
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	17
FED. ROAD DIST. NO.	ILLINOIS PROJECT		SHEET 6 of 8	

** 1" Joint shall be packed with a Non-shrinking Grout.
1" Dimension may Vary plus or Minus to accommodate Tolerance in Beam Lengths.

*** Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hours) prior to grouting Shear Keys.

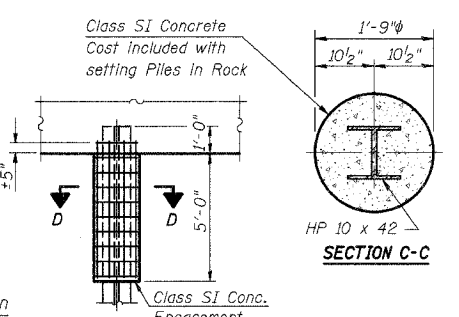
*** 3/4" φ x 1'-6" Dowel Rods in 1/4" φ holes drilled in Cap (2 Each Beam) Cost Incidental to Concrete Structures.

27" P.P.C. Beam
1" Grout
1/2" x 6" P.J.F. Full Width
1 - 9" x 1/2" x 2'-1" (Interior Fabric Brg. Pad) or 1 - 9" x 1/2" x 1'-0 1/2" (Exterior Fabric Brg. Pad)

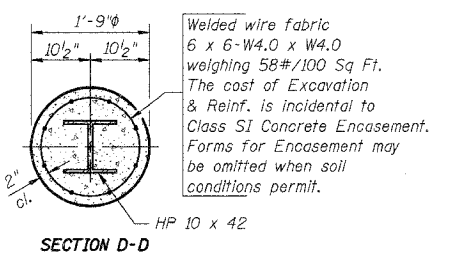


PLAN

NOTE:
All Edges shall have Standard 3/4" Chamfer except as Noted.

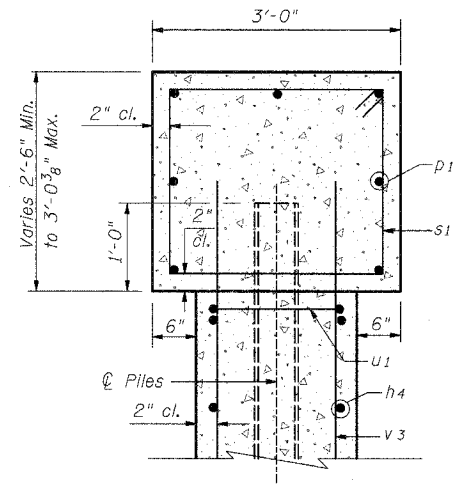


SECTION C-C

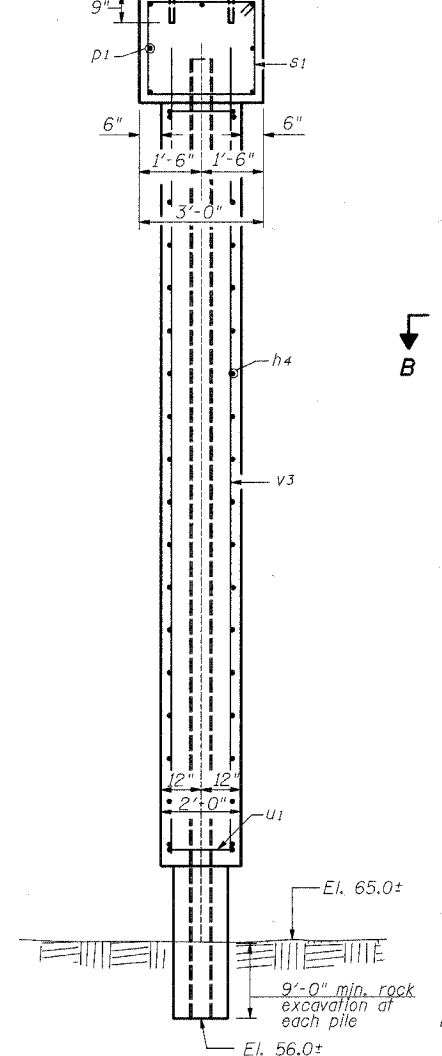


SECTION D-D

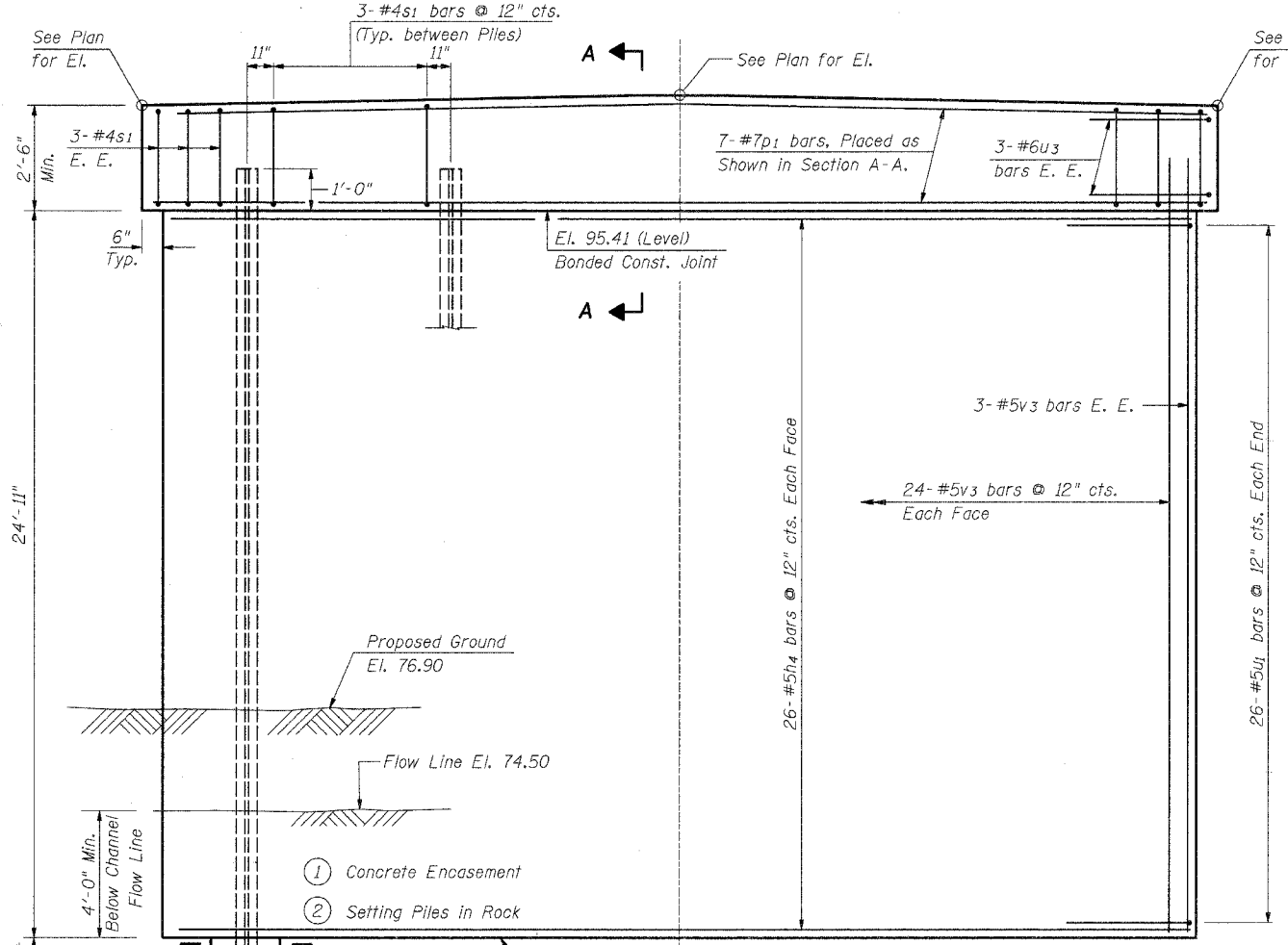
PILE ENCASEMENT DETAIL



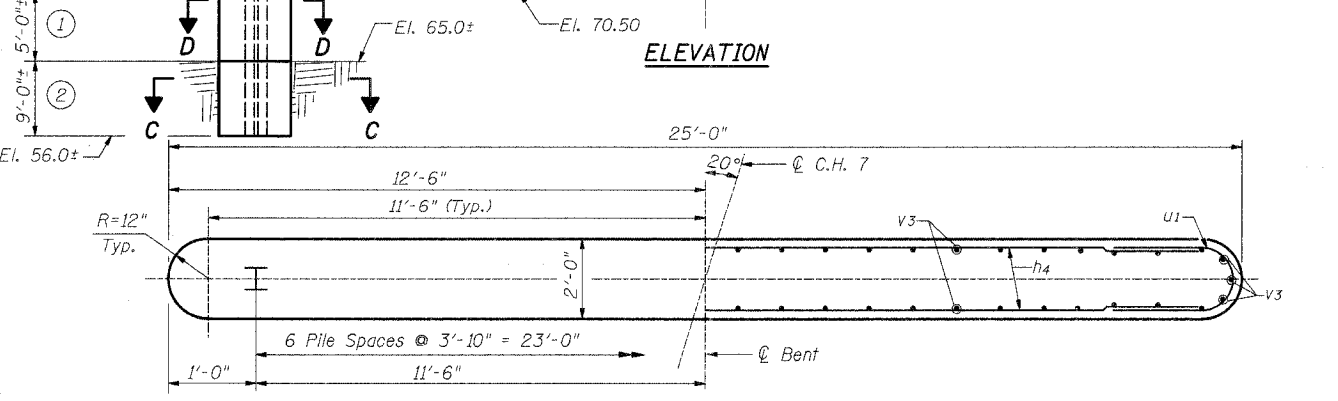
SECTION A-A



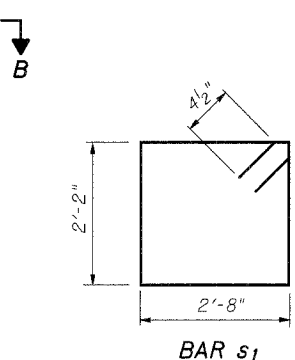
END VIEW



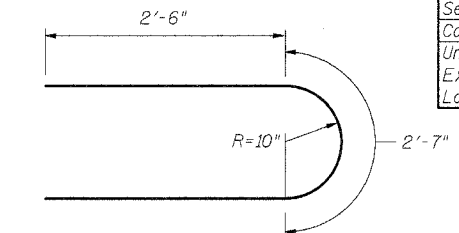
ELEVATION



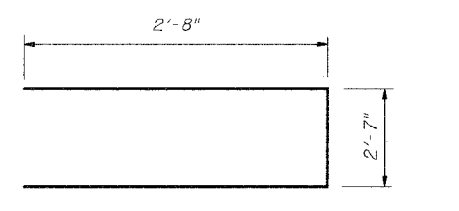
SECTION B-B



BAR s1



BAR u1



BAR u3

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h4	52	#5	23'-2"	—
p1	7	#7	25'-6"	—
s1	24	#4	10'-5"	□
u1	52	#5	7'-7"	U
u3	6	#6	7'-11"	U
v3	54	#5	26'-2"	—

ITEM	UNIT	QUANTITY
Reinforcement Bars	Pound	3750
Concrete Structures	Cu. Yd.	53.3
Furnishing Steel Piles, HP 10 x 42	Foot	280
Structure Excavation	Cu. Yd.	32
Setting Piles in Rock	Each	7
Concrete Encasement	Cu. Yd.	3.4
Underwater Structure Excavation Protection, Location 1	Each	1

BENT NO. 1 DETAILS
C.H. 7 OVER RICHLAND CREEK
SEC. 05-00259-00-BR
SHELBY COUNTY
S.N. 087-3550
STA. 9+80

PILE DATA

Type	=	HP 10 x 42
Capacity	=	45 Ton, Set in Rock
Estimated Length	=	40 Ft.
Number Req'd.	=	7

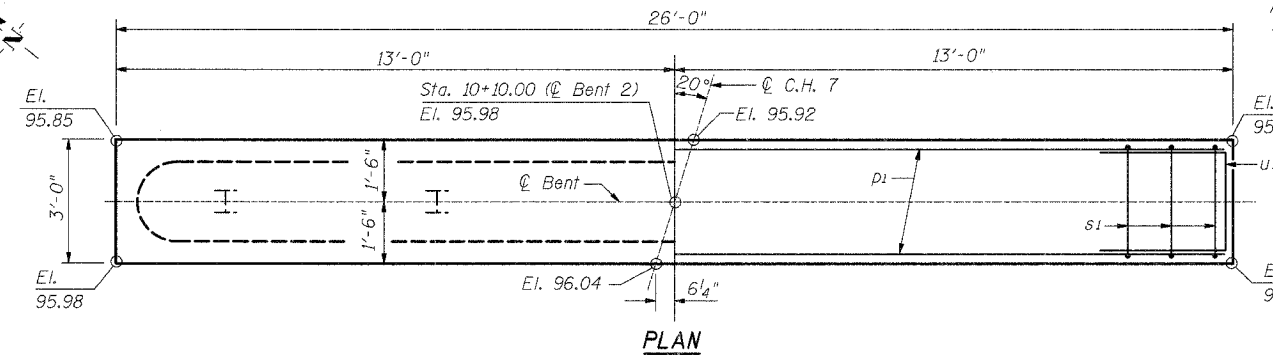
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	18
FED. ROAD DIST. NO.		ILLINOIS PROJECT		

** 1" Joint shall be packed with a non-shrink grout.
1" Dimension may Vary plus or Minus to accomodate Tolerance in Beam Lengths.

*** Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hours) prior to grouting Shear Keys.

*** 3/4" ϕ x 1'-6" Dowel Rods in 1/4" ϕ holes drilled in Cap (2 Each Beam) Cost Incidental to Concrete Structures.

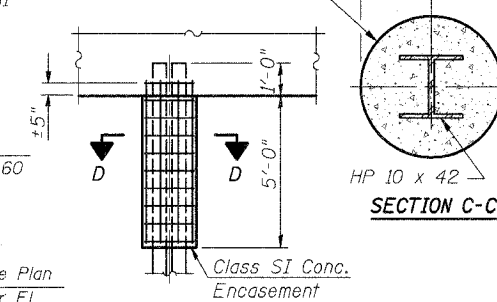
27" P.P.C. Beam
Grout
1"***
27" P.P.C. Beam
1/2" x 6" P.J.F. Full Width
1 - 9" x 1/2" x 2'-1" (Interior Fabric Brg. Pad) or 1 - 9" x 1/2" x 1'-0 1/2" (Exterior Fabric Brg. Pad)



PLAN

NOTE:
All Edges shall have Standard 3/4" Chamfer except as Noted.

Class SI Concrete
Cost included with setting Piles in Rock



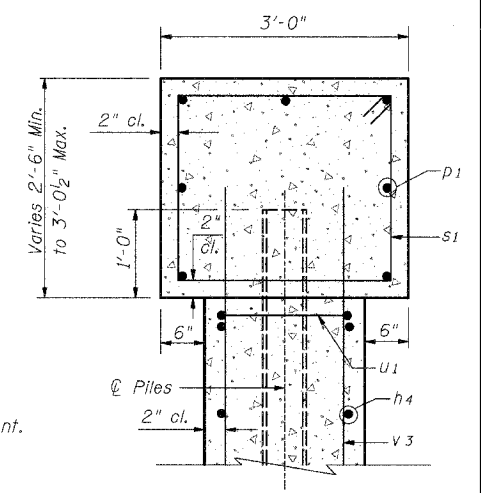
SECTION C-C

SECTION D-D

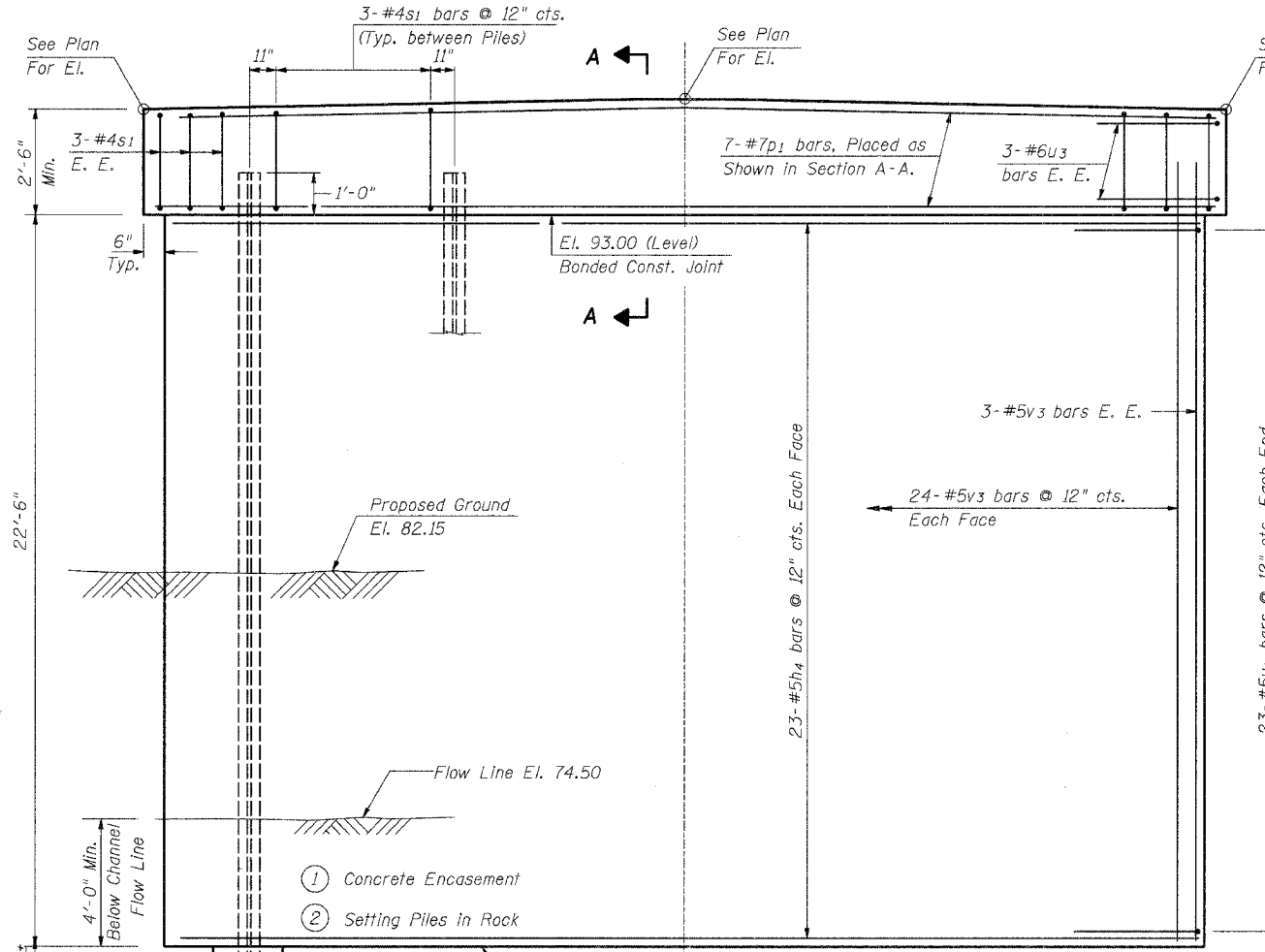
Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 Sq Ft. The cost of Excavation & Reinf. is incidental to Class SI Concrete Encasement. Forms for Encasement may be omitted when soil conditions permit.

SECTION D-D

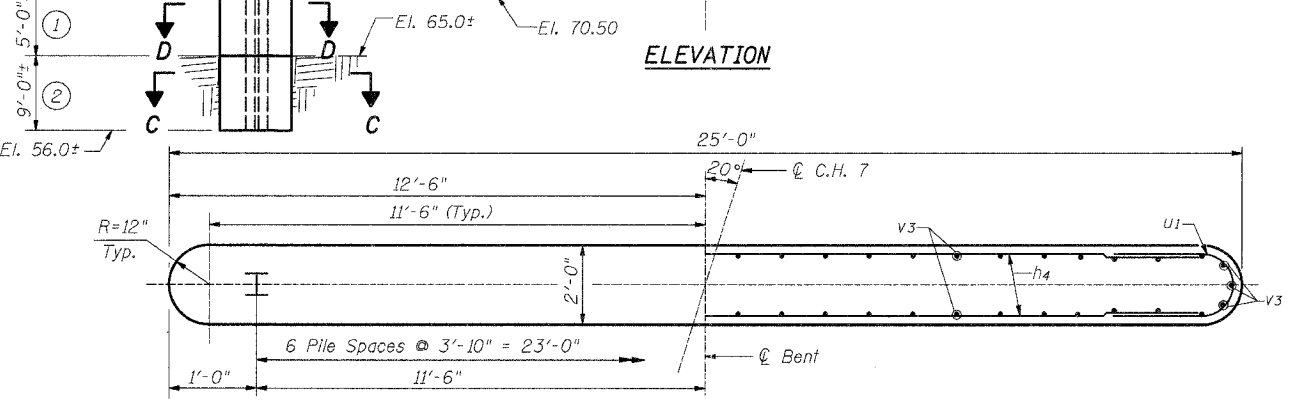
PILE ENCASEMENT DETAIL



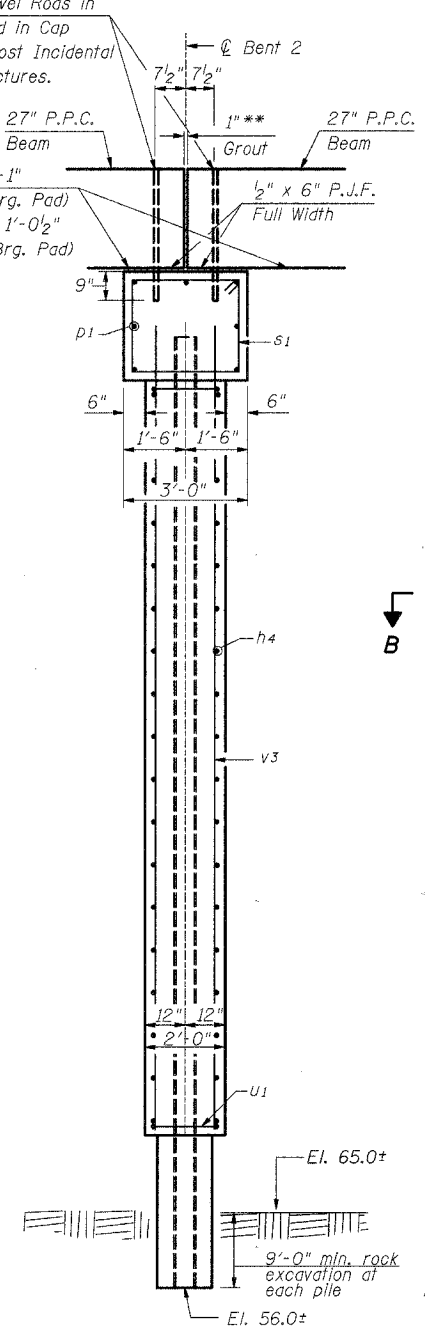
SECTION A-A



ELEVATION



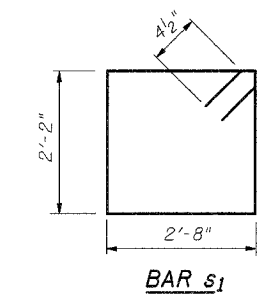
SECTION B-B



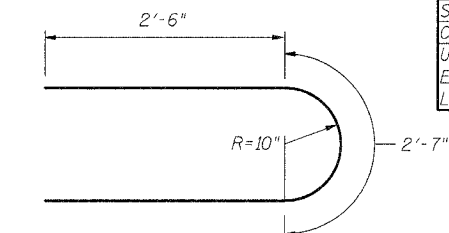
END VIEW

PILE DATA

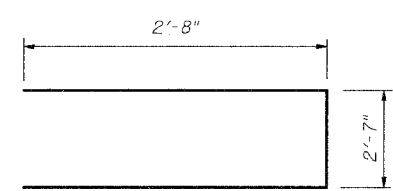
Type	=	HP 10 x 42
Capacity	=	45 Ton, Set in Rock
Estimated Length	=	37 Ft.
Number Req'd.	=	7



BAR s1



BAR u1



BAR u3

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h4	46	#5	23'-2"	—
p1	7	#7	25'-6"	—
s1	24	#4	10'-5"	□
u1	46	#5	7'-7"	U
u3	6	#6	7'-11"	U
v3	54	#5	23'-9"	—

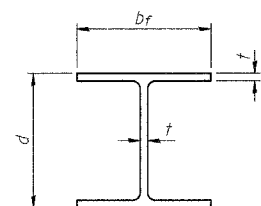
ITEM	UNIT	QUANTITY
Reinforcement Bars	Pound	3420
Concrete Structures	Cu. Yd.	49.0
Furnishing Steel Piles, HP 10 x 42	Foot	259
Structure Excavation	Cu. Yd.	75
Setting Piles in Rock	Each	7
Concrete Encasement	Cu. Yd.	3.4
Underwater Structure Excavation Protection, Location 2	L.S.	1

BENT NO. 2 DETAILS
C.H. 7 OVER RICHLAND CREEK
SEC. 05-00259-00-BR
SHELBY COUNTY
S.N. 087-3550
STA. 9+80

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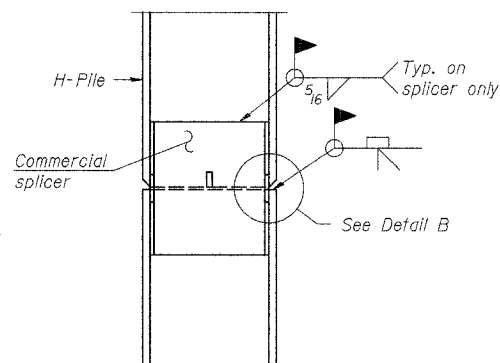
DESIGNED: C.M.V. CHECKED: D.R.B.
DRAWN: T.H.W. DATE: DECEMBER 2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 7	05-00259-00-BR	SHELBY	19	19
FED. ROAD DIST. NO.	ILLINOIS PROJECT		SHEET 8 of 8	

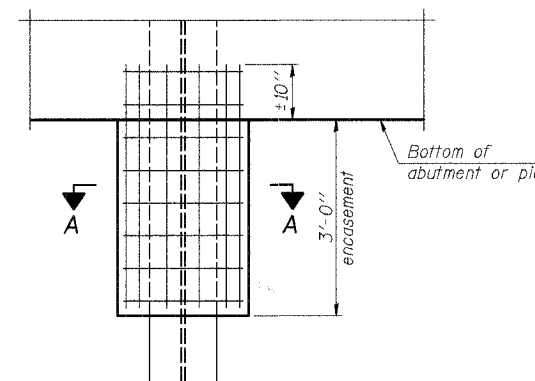


STEEL PILE TABLE

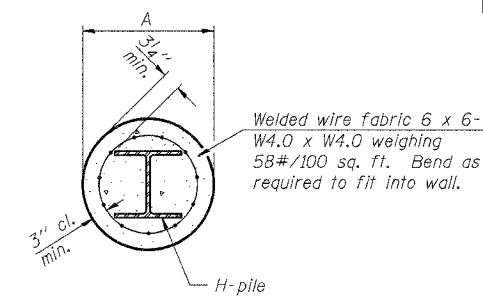
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
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

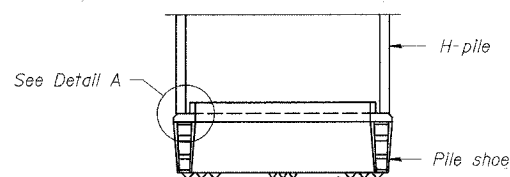


ELEVATION

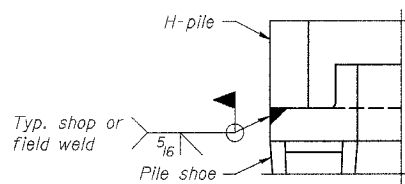


SECTION A-A

PILE ENCASEMENT

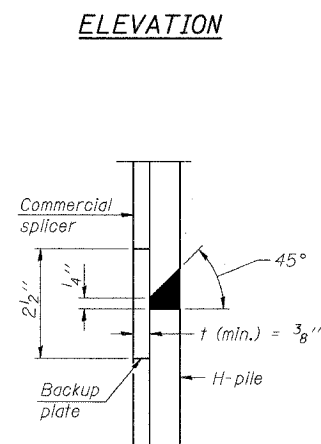


ELEVATION



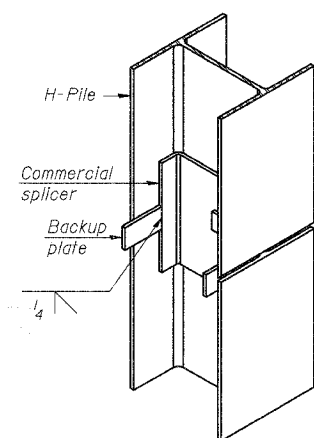
DETAIL A

H-PILE SHOE ATTACHMENT

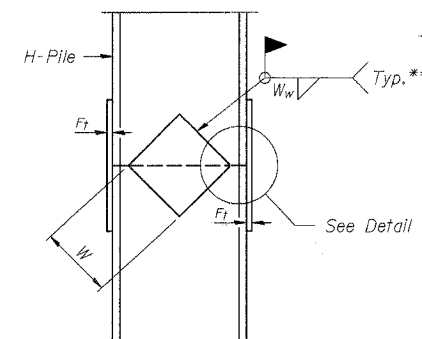


DETAIL "B"

WELDED COMMERCIAL SPLICE

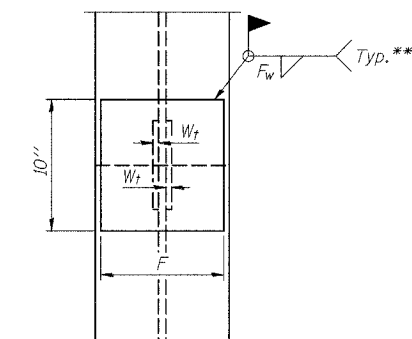


ISOMETRIC VIEW



ELEVATION

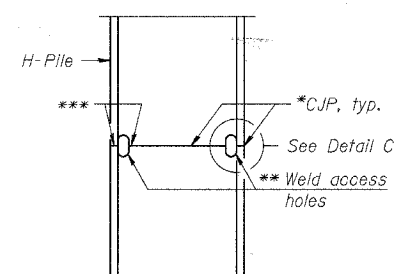
WELDED PLATE FIELD SPLICE



END VIEW

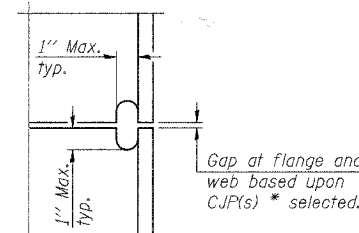
Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5 8/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5 8/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5 8/8"	1/2"
x63	10"	5/8"	1/2"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

STEEL H PILE DETAILS
 C.H. 7 OVER RICHLAND CREEK
 SEC. 05-00259-00-BR
 SHELBY COUNTY
 S.N. 087-3550
 STA. 9+80

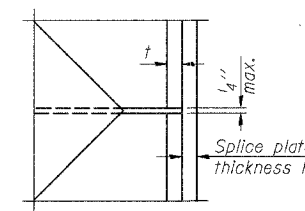


ELEVATION

COMPLETE PENETRATION WELD SPLICE



DETAIL C



DETAIL D

- * Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- ** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- *** Interrupt welds 1/4" from end of each pile.

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