CONTRACT NO. 78006

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-1,BR-2,BR-3)B-1	HAMILTON	140	1

D-99-026-06

INDEX OF SHEETS

FOR LIST OF STANDARDS, SEE SHEET NO. 3

DESIGN DESIGNATION

MINOR ARTERIAL (NON URBAN)
2005 AADT = 1400
23% TRUCKS
POSTED SPEED 55 MPH
2025 AADT = 1900

SCALES

0 50' 100' 1" = 50'
0 5' 10' 1" = 5'

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 776(IL 142)
SECTION (116BR-1,BR-2,BR-3)B-1
HAMILTON COUNTY *Proj. BRF-0776(024)*
STRUCTURE REPLACEMENTS OVER CONTRARY CREEK AND TRIBUTARIES TO CONTRARY CREEK
C-99-027-07
TOWNSHIP: MAYBERRY

PROPOSED PROJECT BEGINS STATION 513+50.00

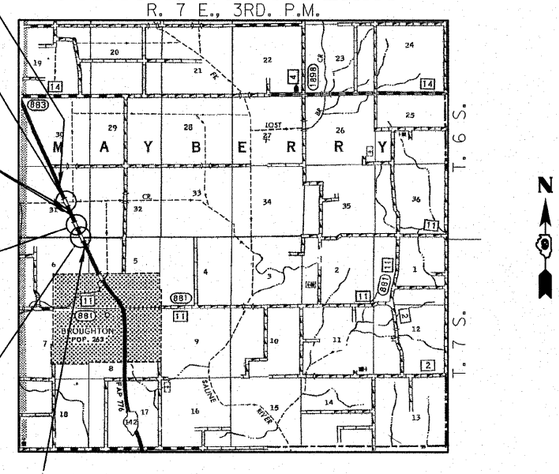
PROPOSED SECTION (116-BR1)B-1; S.N. 033-0050 OVER CONTRARY CREEK; THREE SPAN, STEEL BEAM BRIDGE; 125'-6" BK. - BK. ABUTS.; 32'-0" FC. - FC. PARAPETS; SKEW = 23°30' AT STA. 516+75.00

PROPOSED PROJECT OMISSION STATION 520+00.00 TO STATION 536+00.00

PROPOSED SECTION (116-BR2)B-1; S.N. 033-0051 OVER TRIBUTARY TO CONTRARY CREEK; FOUR SPAN, RC SLAB BRIDGE; 137'-0" BK. - BK. ABUTS.; 32'-0" FC. - FC. PARAPETS; SKEW = 0° AT STA. 539+14.20

PROPOSED SECTION (116-BR3)B-1; S.N. 033-0052 OVER TRIBUTARY TO CONTRARY CREEK; FOUR SPAN, RC SLAB BRIDGE; 137'-0" BK. - BK. ABUTS.; 32'-0" FC. - FC. PARAPETS; SKEW = 0° AT STA. 544+26.10

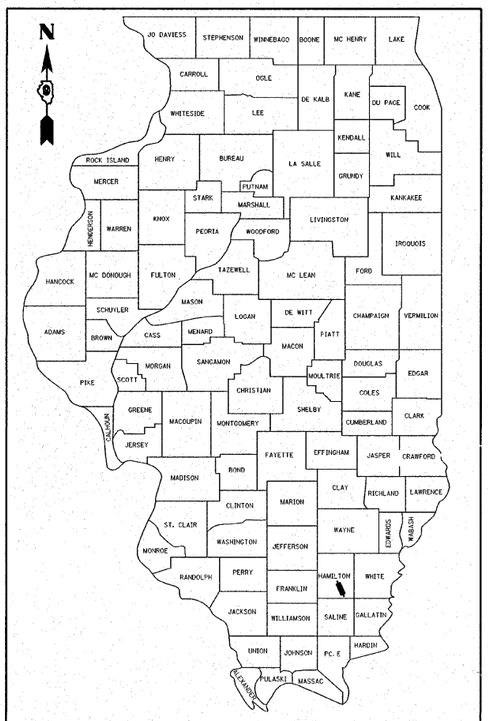
PROPOSED PROJECT ENDS STATION 547+50.00



LAYOUT

APPROXIMATE SCALE: 0 1 MILE

GROSS AND NET LENGTH OF SECTION	=	3400.00 FEET	= 0.645 MILES
OMISSION	=	1600.00 FEET	= 0.304 MILES
NET LENGTH OF SECTION	=	1800.00 FEET	= 0.342 MILES
NET ROADWAY LENGTH	=	1400.50 FEET	= 0.266 MILES
BRIDGE LENGTH SN 033-0050	=	125.50 FEET	= 0.024 MILES
BRIDGE LENGTH SN 033-0051	=	137.00 FEET	= 0.026 MILES
BRIDGE LENGTH SN 033-0052	=	137.00 FEET	= 0.026 MILES



LOCATION OF SECTION INDICATED THUS: –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Oct 11 20 07
Mary Lamie
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
December 7, 2007
Eric E. Harm, P.E.
Interim ENGINEER OF DESIGN AND ENVIRONMENT
December 7, 2007
Christine M. Reed, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

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

CONTRACT NO. 78006

PROJECT ENGINEER: DAVID PLUNK, (616)351-5227

DATE: 9/20/2007
BY: Louis F. Stauder
LICENSE EXPIRES: NOVEMBER 30, 2007

LICENSE NO. LICENSED PROFESSIONAL ENGINEER LOUIS F. STAUDER 062-34227 STATE OF ILLINOIS
SEAL:

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i | DATE: 07/16/07

CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	2
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

GENERAL NOTES

THE THICKNESS OF HOT-MIX ASPHALT MIXTURES SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HOT-MIX ASPHALT MIXTURE IS PLACED.

THE ALGEBRAIC DIFFERENCE BETWEEN THE PAVEMENT AND SHOULDER SLOPES SHALL NOT EXCEED 0.08'/'. THE SHOULDER ON THE OUTSIDE OF SUPERELEVATED CURVES SHALL BE FLATTENED ACCORDINGLY.

FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL BE USED FOR THE BASIS OF FINAL QUANTITIES:

ALL HOT-MIX ASPHALT	2.392 METRIC TONS/CU. METER (2.016 TONS/CU.YD.)
ALL AGGREGATE	2.43 METRIC TONS/CU. METER (2.05 TONS/CU.YD.)
BITUMINOUS MATERIALS:	
ON PAVEMENT	0.41 LITERS/SQ. METER (0.09 GAL./SQ.YD.)
INTERMEDIATE.LIFTS(FOG COAT)	0.20 LITERS/SQ. METER (0.04 GAL./SQ.YD.)
ON AGGREGATE SURFACE	1.45 LITERS/SQ. METER (0.32 GAL./SQ.YD.)
AGGREGATE (PRIME COAT)	0.0016 METRIC TONS/SQ. METER (0.0015 TONS/SQ.YD.)
RIPRAP	1.78 METRIC TONS/CU. METER (1.50 TONS/CU.YD.)

TREES SHALL BE PRESERVED THROUGHOUT THIS SECTION AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. GENERALLY, TREES OUTSIDE THE CLEAR ZONE, AND WHICH DO NOT INTERFERE WITH CONSTRUCTION, SHALL NOT BE DISTURBED.

TRIM EDGES OF EXISTING HOT-MIX ASPHALT SURFACE FLUSH WITH EXISTING PAVEMENT PRIOR TO CONSTRUCTING NEW BASE COURSE WIDENING.

EARTHWORK COMPACTION SHALL BE TO THE SATISFACTION OF THE ENGINEER.

THE QUANTITY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE PRIME COAT, SURFACE COURSE, AND BINDER COURSE.

IF THE CONTRACTOR ELECTS TO USE P.C.C. BASE COURSE WIDENING, SUCH WIDENING SHALL BE PRIMED ACCORDING TO ARTICLE 406.02, EXCEPT THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WIDENING.

LEVELING BINDER (MACHINE METHOD) SHALL BE USED TO CORRECT SAGS AND IRREGULARITIES IN THE EXISTING PAVEMENT AT LOCATIONS AS DIRECTED BY THE ENGINEER. IT IS NOT THE INTENTION THAT LEVELING BINDER (MACHINE METHOD) BE USED CONTINUOUSLY THROUGHOUT THE JOB.

ATTAINMENT OF PROPER CROWN OR SUPERELEVATION SHALL BE FULLY ACCOMPLISHED WITH THE HOT-MIX ASPHALT SURFACE REMOVAL OR HOT-MIX ASPHALT BINDER COURSE OR LEVELING BINDER, WHEN SPECIFIED.

AGGREGATE SURFACE COURSE TYPE B SHALL BE USED AS DIRECTED BY THE ENGINEER FOR MAINTENANCE PURPOSES. THE GRADATION SHALL BE CA-6 OR CA-10 AS DIRECTED BY THE ENGINEER. A QUANTITY OF 20 TONS HAS BEEN ESTIMATED FOR THIS WORK.

WHEN WIDENING FLEXIBLE BASE PAVEMENT, THE CONTRACTOR SHALL TRIM EXISTING SURFACE AND BASE TO A FIRM, NEAR VERTICAL PLANE BEFORE CONSTRUCTING THE WIDENING. THE COST OF THIS REQUIREMENT IS INCLUDED IN THE UNIT PRICE BID FOR THE BASE COURSE WIDENING.

AT ALL LOCATIONS WHERE THE PROPOSED HOT-MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT-MIX ASPHALT OR CONCRETE PAVEMENT, A FULL DEPTH SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCLUDED IN THE COST OF THE TYPE OF PAVEMENT BEING CONSTRUCTED.

THE MINIMUM VERTICAL CLEARANCE FOR PERMANENT SIGNS PLACED ON BACKSLOPES SHALL BE 0.914 m (3 FT.) MEASURED FROM A POINT DIRECTLY BENEATH THE FAR EDGE OF THE SIGN.

THE LIMITS OF ROCK AND EARTH SLOPES SHOWN IN THE CROSS SECTIONS ARE APPROXIMATE. THE ACTUAL SLOPE USED SHALL BE DETERMINED BY THE MATERIAL CLASSIFICATION AS DEFINED IN ARTICLE 202.04, AND AS DIRECTED BY THE ENGINEER.

(FOR USE ON TWO-LANE PAVEMENTS)
THE CONTRACTOR SHALL STAMP STATIONING IN THE PROPOSED HOT-MIX ASPHALT SURFACE AT 100 m (300 FT.) INTERVALS ON ALTERNATING SIDES OF THE PAVEMENT AND AS DIRECTED BY THE ENGINEER. THE STATION SYMBOL STAMPS USED SHALL BE FURNISHED BY THE CONTRACTOR. THEY SHALL BE 140 mm (5½ IN.) TALL, OF A DESIGN $^{5}/_{64}$ IN.) TALL, OF A DESIGN APPROVED BY THE ENGINEER, AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

THE REMOVAL OF EXISTING ENTRANCE PIPE CULVERTS ENCASED IN CONCRETE WILL BE CONSIDERED INCLUDED IN THE OTHER ITEMS OF CONSTRUCTION IF ONLY THE ENDS OF THE CULVERT [0.6 m (2 FT.) OR LESS] ARE ENCASED. IF MORE THAN 0.6 m (2 FT.) AT THE ENDS OF THE CULVERT ARE ENCASED IN CONCRETE, THE REMOVAL WILL BE PAID FOR ACCORDING TO ARTICLE 109.04.

HOT-MIX ASPHALT RESURFACING SHALL BE PLACED IN A SEQUENCE THAT WILL MINIMIZE THE TIME THE CENTERLINE EDGE IS EXPOSED TO TRAFFIC. WHEN AT THE END OF A DAY'S OPERATION THE EXPOSED CENTERLINE EDGE IS GREATER THAN 600 METERS (2,000 FT.), THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE ADJACENT LANE ON THE FOLLOWING WORK DAY. PRIOR TO WINTER SHUTDOWN, RESURFACING ON ADJACENT LANES IS TO BE BROUGHT UP TO THE SAME ELEVATION.

PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHOULD CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.

IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.

RECLAIMED ASPHALT PAVEMENT (RAP) WILL NOT BE ALLOWED FOR USE AS AGGREGATE IN AGGREGATE SHOULDERS, TYPE B.

ANY MIXING OR PLACEMENT OF HOT-MIX ASPHALT MIXTURES OCCURRING PRIOR TO THE TEST STRIP EVALUATION IS AT THE CONTRACTOR'S OWN RISK.

(FOR USE IN PROJECTS THAT SPECIFY STANDARD 701316 AND 701321)
THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 300 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.

(FOR USE ON PROJECTS THAT SPECIFY STANDARD 701321)
THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS. EDGE LINE PAVEMENT MARKING SHOULD BE REMOVED IF A 10 FOOT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.

(FOR USE ON PROJECTS THAT SPECIFY STANDARD 701321)
VERTICAL PANELS SHOWN ON STANDARD 701321 WILL NOT BE REQUIRED ON THE STAGE II NEW BRIDGE PARAPET. THE BARRIER WALL REFLECTORS SHALL BE INSTALLED PRIOR TO OPENING TO TRAFFIC.

(FOR USE ON PROJECTS THAT SPECIFY STANDARD 701321)
ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC. THE TEMPORARY TRAFFIC SIGNALS SHALL BE SET TO FLASH ALL RED.

(FOR USE ON PROJECTS THAT SPECIFY STANDARD 701321)
NARROW BRIDGE SIGNS WITH ADVISORY TAGS "11 FT 0 IN" SHALL BE ERECTED BETWEEN ONE ROAD CONSTRUCTION AHEAD AND THE SIGNAL AHEAD SIGNS.

STRUCTURES WITH PROJECT LIMITS

STRUCTURE NO.	OPERATING RATING	INVENTORY RATING	POSTING
033-0020	1.172	.702	NONE
033-0021	1.172	.702	NONE
033-0022	1.172	.702	NONE

COMMITMENTS:

COMMENTS ARE NOT TO BE ALTERED WITHOUT THE WRITTEN APPROVAL OF ALL PARTIES TO WHICH THE COMMITMENT WAS MADE.

UTILITIES:

HAMILTON CO TELEPHONE CO-OP,
HIGHWAY 142
P.O. BOX 40
DAHLGREN, IL 62928
KEVIN PYLE (618)736-2211

MIXTURE REQUIREMENTS

LOCATION(S):	HOT-MIX ASPHALT SURFACE COURSE & LEVELING BINDER
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE, MIX C, N90
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL-9.5mm OR IL-12.5mm
FRICTION AGGREGATE:	C SURFACE
MIXTURE WEIGHTS:	112 LBS / SY / INCH THICKNESS

MIXTURE REQUIREMENTS

LOCATION(S):	HOT-MIX ASPHALT BINDER COURSE & BASE COURSE
MIXTURE USE(S):	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL-19.0mm
FRICTION AGGREGATE:	NONE
MIXTURE WEIGHTS:	112 LBS / SY / INCH THICKNESS

MIXTURE REQUIREMENTS

LOCATION(S):	HOT-MIX ASPHALT SHOULDERS
MIXTURE USE(S):	HOT-MIX ASPHALT SHOULDERS
AC/PG:	PG 58-22
RAP % (MAX):	50%
DESIGN AIR VOIDS:	2.0%, 30 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE):	HOT-MIX ASPHALT AGGREGATE MIXTURE
FRICTION AGGREGATE:	NONE

Prepared By:	DISTRICT STUDIES & PLANS ENGINEER
Examined By:	DISTRICT LAND ACQUISITION ENGINEER
Examined By:	DISTRICT PROGRAM DEVELOPEMENT ENGINEER
Examined By:	DISTRICT OPERTIONS ENGINEER
Examined By:	DISTRICT CONSTRUCTION ENGINEER
Examined By:	DISTRICT MATERIALS ENGINEER
Examined By:	DISTRICT PROJECT IMPLEMENTATION ENGINEER
Examined By:	ASSISTANT REGIONAL ENGINEER
Approved By:	DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
	DATE: Oct 11 2007

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i		DATE: 09/19/07
DESIGNED: L.F.S	CHECKED: S.W.M.	DRAWN: W.J.S.

GENERAL NOTES AND MIXTURE REQUIREMENTS

F.A.P. ROUTE 776 (IL 142)

SECTION (116BR-1,BR-2,BR-3)B-1

HAMILTON COUNTY

DATE: 19-Sep-07 10:27
FILE: P:\12\1241002i\Cad\Phase II\Plans\4102i-sht-Notes.dgn

CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	3
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

SUMMARY OF QUANTITIES

CODE #	ITEM	HBP FUNDING (80% FEDERAL 20% STATE) UNIT	TOTAL QUANTITY	ROADWAY I000 2A	SN 033-0050 X071 2A	SN 033-0051 X020 2A	SN 033-0052 X020 2A
20200100	EARTH EXCAVATION	CU YD	679	679	0	0	0
20300100	CHANNEL EXCAVATION	CU YD	1533	0	974	343	216
20600200	GRANULAR EMBANKMENT, SPECIAL	CU YD	324	324	0	0	0
^ 20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	205	0	85	60	60
25000200	SEEDING, CLASS 2	ACRE	1.45	1.45	0	0	0
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	145	145	0	0	0
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	87	87	0	0	0
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	87	87	0	0	0
25100120	MULCH, METHOD 2	TON	5.8	5.8	0	0	0
25100630	EROSION CONTROL BLANKET	SQ YD	1654	1654	0	0	0
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	435	435	0	0	0
28000400	PERIMETER EROSION BARRIER	FOOT	2682	2682	0	0	0
28100107	STONE RIPRAP, CLASS A4	SQ YD	2070	0	920	590	560
28200200	FILTER FABRIC	SQ YD	2070	0	920	590	560
35501330	HOT-MIX ASPHALT BASE COURSE, 11 1/2"	SQ YD	1000	1000	0	0	0
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	348	348	0	0	0
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	540	540	0	0	0
40600300	AGGREGATE (PRIME COAT)	TON	8	8	0	0	0
40600645	LEVELING BINDER (MACHINE METHOD), N90	TON	744	744	0	0	0
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	2222	2222	0	0	0
40600990	TEMPORARY RAMP	SQ YD	292	292	0	0	0
40603090	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90	TON	152	152	0	0	0
40603320	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90	TON	361	361	0	0	0
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	666	666	0	0	0
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	132	132	0	0	0
44000100	PAVEMENT REMOVAL	SQ YD	1264	1264	0	0	0
44300200	STRIP REFLECTIVE CRACK CONTROL TREATMENT	FOOT	331	331	0	0	0
48203021	HOT-MIX ASPHALT SHOULDERS, 6"	SQ YD	874	874	0	0	0
^ 50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1	0	1	0	0
^ 50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1	0	0	1	0
^ 50100500	REMOVAL OF EXISTING STRUCTURES NO. 3	EACH	1	0	0	0	1
50200100	STRUCTURE EXCAVATION	CU YD	769	0	236	342	191
50300100	FLOOR DRAINS	EACH	38	0	14	12	12
50300225	CONCRETE STRUCTURES	CU YD	377.9	0	127.4	126.6	123.9
50300255	CONCRETE SUPERSTRUCTURE	CU YD	797.6	0	155.7	321.1	320.8
50300260	BRIDGE DECK GROOVING	SQ YD	1414	0	446	484	484
50300280	CONCRETE ENCASEMENT	CU YD	32.0	0	8.0	12.0	12.0
50300300	PROTECTIVE COAT	SQ YD	1779	0	566	606	607
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	0	1	0	0
50500505	STUD SHEAR CONNECTORS	EACH	3308	0	2748	280	280
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	185,460	0	47630	70420	67,410
50800515	BAR SPLICERS	EACH	1196	0	520	341	335
51201500	FURNISHING STEEL PILES HP10X57	FOOT	5830	0	1540	2310	1980
51202305	DRIVING PILES	FOOT	5830	0	1540	2310	1980
51203500	TEST PILE STEEL HP10X57	EACH	6	0	2	2	2
^ 51205200	TEMPORARY SHEET PILING	SQ FT	2157	0	540	592	1025
51500100	NAME PLATES	EACH	3	0	1	1	1
52100520	ANCHOR BOLTS, 1"	EACH	48	0	48	0	0
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	130	0	54	38	38
^ 60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	386	0	144	122	120
¥ 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	1083	1083	0	0	0
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	8	8	0	0	0
*^ 63100167	TRAFFIC BARRIER TERMINAL,TYPE 1(SPECIAL) TANGENT	EACH	4	4	0	0	0
63200310	GUARDRAIL REMOVAL	FOOT	975	975	0	0	0
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	10	10	0	0	0
^ 67100100	MOBILIZATION	L SUM	1	1	0	0	0
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	2	0	0	0
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	0	0	0
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1	0	0	0
^ 70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	8	8	0	0	0
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	10	10	0	0	0
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	20	20	0	0	0
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	231	231	0	0	0
70300625	TEMPORARY PAINT PAVEMENT MARKING LINE 4"	FOOT	12516	12516	0	0	0
70300660	TEMPORARY PAINT PAVEMENT MARKING LINE 24"	FOOT	96	96	0	0	0
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	3524	3524	0	0	0
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1525	1525	0	0	0
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1475	1475	0	0	0
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	4852	4852	0	0	0
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	17	17	0	0	0
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	6	6	0	0	0
20001900	ASBESTOS BEARING PAD REMOVAL	EACH	44		44		

SUMMARY OF QUANTITIES

CODE #	ITEM	UNIT	TOTAL QUANTITY	ROADWAY I000 2A	SN 033-0050 X071 2A	SN 033-0051 X020 2A	SN 033-0052 X020 2A
*^ 78200405	GUARDRAIL MARKERS	EACH	30	30	0	0	0
*^ 78200500	BARRIER WALL MARKERS	EACH	63	63	0	0	0
*^ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	0	0	0
^ 78300100	PAVEMENT MARKING REMOVAL	SQ FT	961	961	0	0	0
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	26	26	0	0	0
X0323988	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	224	0	224	0	0
^ X0321781	MECHANICAL SPLICE	EACH	351	0	96	129	126
^ X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1	0	1	0	0
^ X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1	0	1	0	0
^ X5020503	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 3	EACH	1	0	0	1	0
^ X5020504	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 4	EACH	1	0	0	1	0
^ X5020505	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 5	EACH	1	0	0	1	0
^ X5020506	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 6	EACH	1	0	0	0	1
^ X5020507	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 7	EACH	1	0	0	0	1
^ X5020508	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 8	EACH	1	0	0	0	1
^ XX006861	UNINTERRUPTABLE POWER SUPPLY	EACH	8	8	0	0	0
^ Z0030030	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	4	4	0	0	0
^ Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	4	0	0	0
^ Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	4	0	0	0

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

HIGHWAY STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001001-01	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
420001-07	PAVEMENT JOINTS
420101-04	7.2 m (24') JOINTED PCC PAVEMENT
420106-04	10.8 m (36') JOINTED PCC PAVEMENT
420401-06	BRIDGE APPROACH PAVEMENT
482001-02	HMA SHOULDERS ADJACENT TO FLEXIBLE PAVEMENT
515001-02	NAME PLATE FOR BRIDGES
601101	CONCRETE HEADWALL FOR PIPE DRAIN
630001-07	STEEL PLATE BEAM GUARDRAIL
630201-05	PCC / HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-04	SHOULDER WIDENING FOR TYPE 1, (SPECIAL) GUARDRAIL TERMINALS
631031-06	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
667101	PERMANENT SURVEY MARKERS
701006-02	OFF-ROAD OPERATIONS 2L, 2W, 4.5M (15') TO 600 MM (24") FROM PAVEMENT EDGE
701011-01	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-02	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-02	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-02	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS, DAY ONLY
701321-09	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-02	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING FOR SPEEDS ≥ 45 MPH
701901	TRAFFIC CONTROL DEVICES
704001-04	TEMPORARY CONCRETE BARRIER
780001-01	TYPICAL PAVEMENT MARKINGS
781001-02	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMETN MARKERS

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 11/1/07
DESIGNED: L.F.S	CHECKED: S.W.M.
	DRAWN: W.J.S.

Rev.

SUMMARY OF QUANTITIES

F.A.P. ROUTE 776 (IL 142)

SECTION (116BR-1,BR-2,BR-3)B-1

HAMILTON COUNTY

CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	4
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

GUARDRAIL SCHEDULE

LOCATION	IMPACT ATTENUATORS FULLY REDIRECTIVE NARROW TEST LEVEL 3	TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL TYPE 6	STEEL PLATE BEAM GUARDRAIL TYPE A	TERMINAL MARKER DIRECT APPLIED	MARKERS REFLECTORS
	EACH	EACH	EACH	FOOT	EACH	EACH
RT. STA. 516+05.29 TO RT. STA. 517+30.79						3
LT. STA. 516+19.21 TO LT. STA. 517+44.71						3
RT. STA. 515+81.37 TO RT. STA. 516+05.29	1					
LT. STA. 515+95.29 TO LT. STA. 516+19.21	1					
RT. STA. 517+30.79 TO RT. STA. 517+54.71	1					
LT. STA. 517+44.71 TO LT. STA. 517+68.63	1					
RT. STA. 535+90.55 TO RT. STA. 538+48.70		1	1	162.5	1	
LT. STA. 536+90.55 TO LT. STA. 538+48.70		1	1	62.5	1	
RT. STA. 539+79.70 TO RT. STA. 540+12.85			1			
LT. STA. 539+79.70 TO LT. STA. 540+12.85			1			
RT. STA. 540+12.85 TO RT. STA. 543+54.45				316.5		
LT. STA. 540+12.85 TO LT. STA. 543+54.45				316.5		
RT. STA. 543+54.45 TO RT. STA. 543+87.60			1			
LT. STA. 543+54.45 TO LT. STA. 543+87.60			1			
RT. STA. 545+18.60 TO RT. STA. 546+76.75		1	1	62.5	1	
LT. STA. 545+18.60 TO LT. STA. 547+76.75		1	1	162.5	1	
RT. STA. 535+90.55 TO RT. STA. 546+76.75						15
LT. STA. 536+90.55 TO LT. STA. 547+76.75						15
TOTAL	4	4	8	1083	4	30

SEEDING

LOCATION	EROSION CONTROL BLANKET	SEEDING CLASS 2	SEEDING TEMPORARY EROSION CONTROL 3 APPLICATIONS	FERTILIZER NITROGEN	FERTILIZER PHOSPHORUS	FERTILIZER POTASSIUM	MULCH METHOD 2
	SQ YD	ACRE	POUND	POUND	POUND	POUND	TON
LT. STA. 513+50.00 TO STA. 516+85.00	0	0.15	45	15	9	9	0.6
RT.STA. 513+50.00 TO STA. 516+48.00	0	0.13	39	13	8	8	0.5
RT.STA. 516+67.00 TO STA. 520+00.00	0	0.14	42	14	8	8	0.6
LT. STA. 517+02.00 TO STA. 520+00.00	0	0.13	39	13	8	8	0.5
RT.STA. 535+65.00 TO STA. 538+86.00	0	0.13	39	13	8	8	0.5
LT. STA. 536+00.00 TO STA. 538+86.00	0	0.13	39	13	8	8	0.5
RT.STA. 537+50.00 TO STA. 538+46.00	114	0	0	0	0	0	0
LT. STA. 538+00.00 TO STA. 537+46.00	69	0	0	0	0	0	0
LT. STA. 539+41.00 TO STA. 544+28.00	0	0.20	60	20	12	12	0.8
RT.STA. 539+41.00 TO STA. 544+28.00	0	0.19	57	19	11	11	0.8
RT.STA. 539+85.00 TO STA. 543+85.00	766	0	0	0	0	0	0
LT. STA. 539+89.00 TO STA. 543+85.00	477	0	0	0	0	0	0
LT. STA. 544+75.00 TO STA. 548+00.00	0	0.14	42	14	8	8	0.6
RT.STA. 544+80.00 TO STA. 547+50.00	0	0.11	33	11	7	7	0.4
RT.STA. 545+21.00 TO STA. 547+00.00	228	0	0	0	0	0	0
TOTAL	1654	1.45	435	145	87	87	5.8

EROSION CONTROL

LOCATION					PERIMETER EROSION BARRIER
					FOOT
LT.	STA.	513+50.00	TO STA.	515+26.00	176
RT.	STA.	513+50.00	TO STA.	515+16.00	166
RT.	STA.	515+37.00	TO STA.	515+88.00	51
LT.	STA.	515+42.00	TO STA.	516+14.00	72
RT.	STA.	517+35.00	TO STA.	518+00.00	65
LT.	STA.	517+55.00	TO STA.	518+18.00	63
RT.	STA.	518+20.00	TO STA.	520+00.00	180
LT.	STA.	518+38.00	TO STA.	520+00.00	162
RT.	STA.	236+00.00	TO STA.	238+56.00	256
LT.	STA.	236+25.00	TO STA.	238+56.00	231
RT.	STA.	239+00.00	TO STA.	242+90.00	390
LT.	STA.	239+00.00	TO STA.	242+90.00	390
RT.	STA.	243+25.00	TO STA.	245+90.00	265
LT.	STA.	243+30.00	TO STA.	245+45.00	215
				TOTAL PROJECT	2682

GUARDRAIL REMOVAL SCHEDULE

LOCATION	GUARDRAIL REMOVAL
	FOOT
RT. STA. 515+75 TO RT. STA. 516+25	50
LT. STA. 515+92 TO LT. STA. 516+29.5	37.5
RT. STA. 517+20.5 TO RT. STA. 517+58	37.5
LT. STA. 517+25 TO LT. STA. 517+75	50
RT. STA. 537+48 TO RT. STA. 538+48	100
LT. STA. 537+48 TO LT. STA. 538+48	100
RT. STA. 539+88 TO RT. STA. 540+88	100
LT. STA. 539+88 TO LT. STA. 540+88	100
RT. STA. 542+58 TO RT. STA. 543+58	100
LT. STA. 542+58 TO LT. STA. 543+58	100
RT. STA. 544+97 TO RT. STA. 545+97	100
LT. STA. 544+97 TO LT. STA. 545+97	100
TOTAL	975

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	ADDITIONAL EXCAVATION	SHRINKAGE FACTOR	PERCENT USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT REQUIRED	EARTHWORK BALANCE
	CU.YD.	CU. YD.			CU.YD.	CU.YD.	CU.YD.
STAGE 1							
STA. 513+50 TO STA. 520+50	121		25.00%	100.00%	91	12	79
STA. 535+50 TO STA. 548+00	176		25.00%	100.00%	132	471	-339
STAGE 2					0		0
STA. 513+50 TO STA. 520+50	36		25.00%	100.00%	27	9	18
STA. 535+50 TO STA. 548+00	346		25.00%	100.00%	260	808	-548
CHANNEL EXCAVATION 033-0050		974	25.00%	50.00%	365		365
CHANNEL EXCAVATION 033-0051		343	25.00%	50.00%	129		129
CHANNEL EXCAVATION 033-0052		216	25.00%	50.00%	81		81
STRUCTURE EXCAVATION 033-0050		236	25.00%	50.00%	89		89
STRUCTURE EXCAVATION 033-0051		342	25.00%	50.00%	128		128
STRUCTURE EXCAVATION 033-0052		191	25.00%	50.00%	72		72
TOTAL	679	2302			1374	1300	74

WASTE 74 CY

HAMPTON, LENZINI & RENWICK, INC.
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(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 11/1/07
DESIGNED: L.F.S	CHECKED: S.W.M.	DRAWN: TWK

SCHEDULE OF QUANTITIES

F.A.P. ROUTE 776 (IL 142)
SECTION (116BR-1,BR-2,BR-3)B-1
HAMILTON COUNTY

CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	5
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

ROADWAY SCHEDULE

LOCATION	HOT-MIX ASPHALT SURFACE COURSE MIX C N90 1.5" MIN	HOT-MIX ASPHALT BINDER COURSE IL-19.0 N-90 11.5"	LEVELING BINDER (MACHINE METHOD) N-90	HOT-MIX ASPHALT BASE COURSE 11.5"	BRIDGE APPROACH PAVEMENT	BRIDGE APPROACH PAVEMENT FLEXIBLE CONNECTOR	STRIP REFLECTIVE CRACK CONTROL TREATMENT SYSTEM A	BITUMINOUS MATERIALS (PRIME COAT) 0.1 GAL/SY	AGGREGATE PRIME COAT	HOT-MIX ASPHALT SURFACE REMOVAL BUTT-JOINT	TEMPORARY RAMP	AGGREGATE SURFACE COURSE TYPE B	HOT-MIX ASPHALT SHOULDERS 6"	GRANULAR EMBANKMENT (SPECIAL) 12"	PAVEMENT REMOVAL
	TON	TON	TON	SQ YD	SQ YD	SQ YD	FOOT	GAL	TON	SQ YD	SQ YD	TONS	SQ YD	TONS	SQ YD
STAGE 1															
STA. 513+50 TO STA. 520+00				370	111	22					81				181
STA. 536+00 TO STA. 547+50			347	622	222	44		118			39		379		283
STAGE 2															
STA. 513+50 TO STA. 520+00				8	111	22					81				181
STA. 536+00 TO STA. 547+50		152	325		222	44	331	118			39		495	324	619
STAGE 3															
STA. 513+50 TO STA. 520+00	138		57					160	4	1173	26				
STA. 536+00 TO STA. 547+50	223		15					144	4	1049	26				
ENTRANCES												328			
MAINTENANCE PURPOSES												20			
TOTAL	361	152	744	1000	666	132	331	540	8	2222	292	348	874	324	1264

* ESTIMATED QUANTITY FOR BIDDING PURPOSES

PAVEMENT MARKING SCHEDULE

LOCATION	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER	RAISED REFLECTIVE PAVEMENT BRIDGE	PAINT					SHORT TERM PAVEMENT MARKING	WORK ZONE PAVEMENT MARKING REMOVAL	PAVEMENT MARKING REMOVAL
				PERMANENT		TEMPORARY					
				SOLID SINGLE WHITE LINE 4"	SOLID SKIP YELLOW LINE 4"	SOLID SINGLE WHITE LINE 4"	SOLID SINGLE YELLOW 4" LINE	SOLID SINGLE YELLOW 24" LINE	SKIPPED-DASHED YELLOW CENTERLINE 4"		
	EACH	EACH	EACH	SQ FT	FOOT	FOOT	FOOT	FOOT	FOOT	SQ FT	SQ FT
STAGE 1											
CL. STA. 512+61.00 TO CL. STA. 520+83.00	12					1492		24		547	254
CL. STA. 535+21.00 TO CL. STA. 548+55.00	14					2366		24		1549	424
STAGE 2											
CL. STA. 513+48.00 TO CL. STA. 520+00.00						1392		24		490	150
CL. STA. 536+00.00 TO CL. STA. 547+50.00						2414		24		862	133
FINAL STAGE											
CL. STA. 512+61.00 TO CL. STA. 520+83.00		6	2		206		206			40	
RT. STA. 512+61.00 TO RT. STA. 520+83.00				822		822			122		
LT. STA. 512+61.00 TO LT. STA. 520+83.00				822		822					
CL. STA. 535+21.00 TO CL. STA. 548+55.00		11	4		334		334			36	
RT. STA. 535+21.00 TO RT. STA. 548+55.00				1334		1334			109		
LT. STA. 535+21.00 TO LT. STA. 548+55.00				1334		1334					
TOTAL	26	17	6	4312	540	11976	540	96	231	3524	961
USE	26	17	6	4852		12516		96	231	3524	961

ENTRANCE SUMMARY

LOCATION	TYPE	EXISTING SURFACE	EXISTING SURFACE	PROPOSED SURFACE	PROPOSED WIDTH	EDGE OF PROPOSED PAVEMENT	EDGE OF PROPOSED SHOULDER	FLAIR		LENGTH OF IMPROVEMENT (EDGE PVT/SHLD TO IMP. LIMITS)	AGGREGTE SURFACE COURSE TY B 6" 2.05 TON/CY
								LENGTH	WIDTH		
		MATERIAL	FOOT	MATERIAL	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	
FAP 776 (IL142)											
RT. STA. 15+70	FE	EARTH	14	AGG	20	13	16	15	15	12	87
LT. STA. 15+80	FE	EARTH	14	AGG	18	13	16	15	15	12	77
RT. STA. 17+64	FE	EARTH	14	AGG	20	13	16	15	15	12	87
LT. STA. 17+90	FE	EARTH	14	AGG	16	13	16	15	15	12	77
TOTAL											328

TEMPORARY CONCRETE BARRIER SCHEDULE

LOCATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	BARRIER WALL MARKERS
	FOOT	FOOT	EACH
STAGE 1			
LT. STA. 514+25 TO RT. STA. 515+25	100	100	
RT. STA. 515+25 TO RT. STA. 518+25	300	300	
RT. STA. 518+25 TO LT. STA. 519+25	100	100	
LT. STA. 536+97.5 TO RT. STA. 537+85	87.5	87.5	
RT. STA. 537+85 TO RT. STA. 545+85	800	800	
RT. STA. 545+85 TO RT. STA. 546+72.5	87.5	87.5	
STAGE 2			
RT. STA. 536+72.5 TO RT. STA. 536+97.5	25		
RT. STA. 546+72.5 TO RT. STA. 546+97.5	25		
LT. STA. 514+25 TO LT. STA. 519+25			21
RT. STA. 536+72.5 TO RT. STA. 546+97.5			42
TOTAL	1525	1475	63

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(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 11/1/07
DESIGNED: L.F.S	CHECKED: S.W.M.
	DRAWN: TWK

SCHEDULE OF QUANTITIES

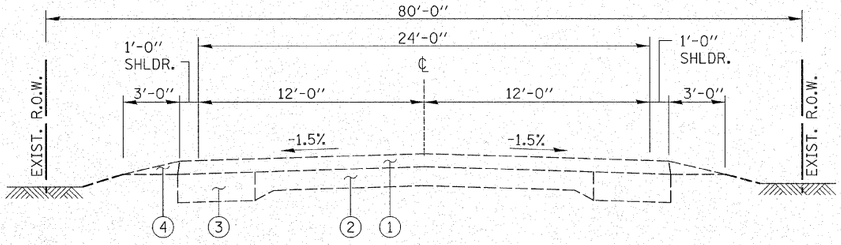
F.A.P. ROUTE 776 (IL 142)

SECTION (116BR-1,BR-2,BR-3)B-1

HAMILTON COUNTY

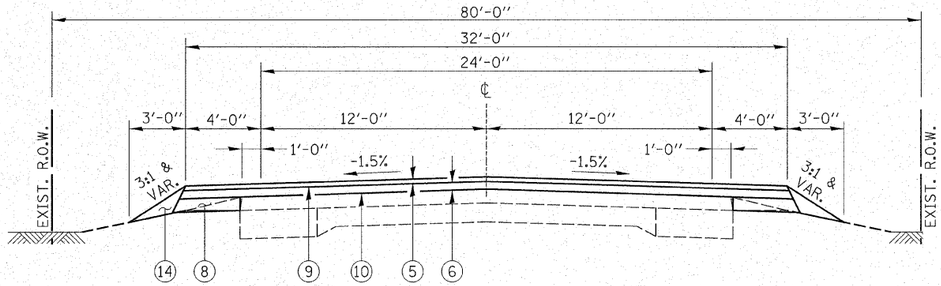
CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	6
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	



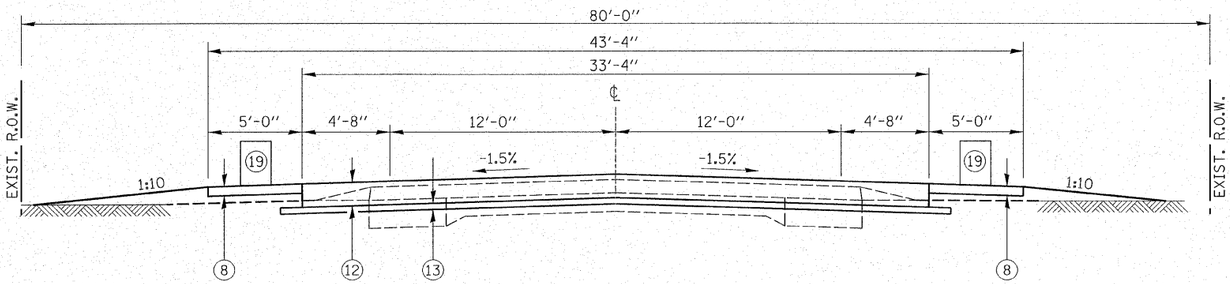
EXISTING TYPICAL CROSS SECTION

STA. 513+50.00 TO 516+31.73
STA. 517+18.27 TO 520+00.00
STA. 536+00.00 TO 538+59.20
STA. 540+22.20 TO 543+71.10
STA. 544+81.10 TO 547+50.0



PROPOSED ROADWAY TYP. SECTION

STA. 513+50.00 TO 515+82.25
STA. 517+67.75 TO 520+00.00
STA. 536+00.00 TO 538+10.20
STA. 545+57.10 TO 547+50.00



PROPOSED BRIDGE APPROACH PAVEMENT TYP. SECTION

STA. 515+76.25 TO STA. 515+82.25 (FLEXIBLE CONNECTOR)
STA. 515+82.25 TO STA. 516+12.25
STA. 517+37.75 TO STA. 517+67.75
STA. 517+67.75 TO STA. 517+73.75 (FLEXIBLE CONNECTOR)

LEGEND

1. EXISTING BITUMINOUS RESURFACING (2½")
2. EXISTING 18' WIDE CONCRETE PAVEMENT (9"-6"-9")
3. EXISTING CONCRETE BASE COURSE WIDENING (9")
4. EXISTING AGGREGATE SHOULDER
5. HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90 (1½" THICKNESS MIN)
6. LEVELING BINDER (MACHINE METHOD), N90 (¾" MIN)
7. HOT-MIX ASPHALT BINDER COURSE, IL-19, N90 (11½")
8. HOT-MIX ASPHALT BASE COURSE 11½"
9. BITUMINOUS MATERIALS (PRIME COAT)
10. AGGREGATE (PRIME COAT)
11. HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT
12. BRIDGE APPROACH PAVEMENT
13. SEE STANDARD 420401 FOR SUB-BASE GRANULAR MATERIAL INCLUDED IN THE COST OF BRIDGE APPROACH PAVEMENT
14. EMBANKMENT
15. STEEL PLATE BEAM GUARDRAIL
16. HOT-MIX ASPHALT SHOULDERS (6")
17. TRAFFIC BARRIER TERMINAL TYPE 6
18. GRANULAR EMBANKMENT SPECIAL (12½")
19. IMPACT ATTENUATORS (FULLY REDIRECTIVE, TEST LEVEL 3, NARROW)
20. STRIP REFLECTIVE CRACK CONTROL

PAVEMENT DESIGN

DESIGN PERIOD: 20 YEARS
STRUCTURAL DESIGN TRAFFIC (S.D.T.) = 1738 YEAR 2018
P.V. = 1286 S.U. = 243 M.U. = 209
ROAD/STREET CLASSIFICATION: CLASS III ROAD
PERCENT OF S.D.T. IN DESIGN LANE
P = 50% S = 50% M = 50%
TRAFFIC FACTOR = ACTUAL TF 1.07 AC TYPE 64-22
MINIMUM TF N/A
PG GRADE: BINDER = 64-22 SUFACE = 64-22
SUBGRADE SUPPORT RATING:
SSR= POOR

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ELGIN • SPRINGFIELD

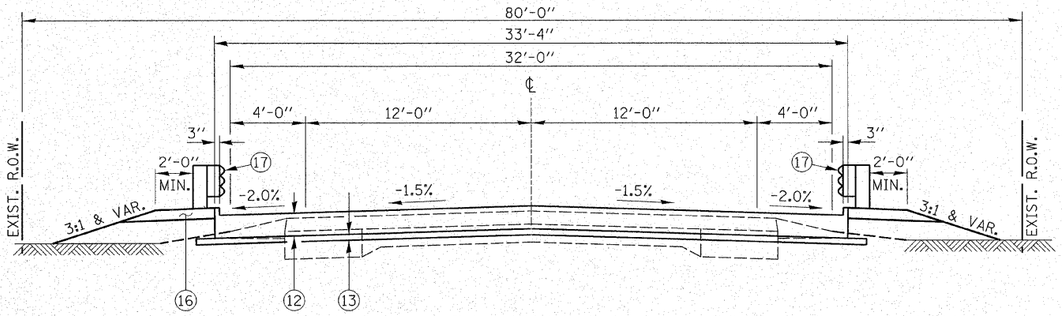
PROJECT NUMBER: 12-41-0021-1	DATE: 07/31/07
DESIGNED: L.F.S.	CHECKED: S.W.M.
	DRAWN: W.J.S.

TYPICAL SECTIONS

F.A.P. ROUTE 776 (IL 142)
SECTION (116BR-1,BR-2,BR-3)B-1
HAMILTON COUNTY

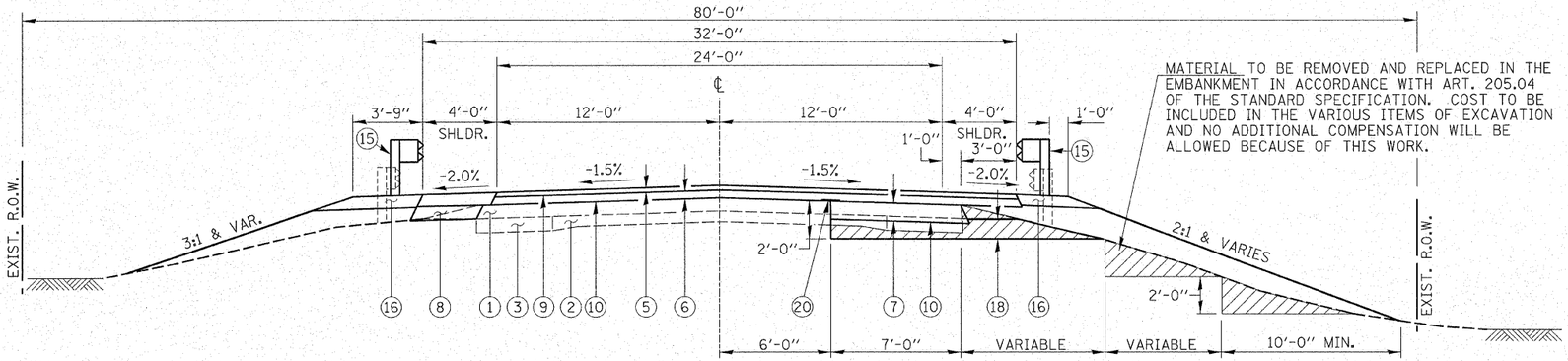
CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	7
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	



PROPOSED BRIDGE APPROACH PAVEMENT TYP. SECTION

STA. 538+10.20 TO STA. 538+16.20 (FLEXIBLE CONNECTOR)
STA. 538+16.20 TO STA. 538+46.20
STA. 539+82.20 TO STA. 540+12.20
STA. 540+12.20 TO STA. STA. 540+18.20 (FLEXIBLE CONNECTOR)
STA. 543+49.10 TO STA. 543+55.10 (FLEXIBLE CONNECTOR)
STA. 543+55.10 TO STA. 543+85.10
STA. 545+21.10 TO STA. 545+51.10
STA. 545+51.10 TO STA. 545+57.10 (FLEXIBLE CONNECTOR)



PROPOSED ROADWAY TYP. SECTION ADJACENT TO STRUCTURES

STA. 540+18.20 TO 543+49.10

LEGEND

1. EXISTING BITUMINOUS RESURFACING (2½")
2. EXISTING 18' WIDE CONCRETE PAVEMENT (9"-6"-9")
3. EXISTING CONCRETE BASE COURSE WIDENING (9")
4. EXISTING AGGREGATE SHOULDER
5. HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90 (1½" THICKNESS MIN)
6. LEVELING BINDER (MACHINE METHOD), N90 (¾" MIN)
7. HOT-MIX ASPHALT BINDER COURSE, IL-19, N90 (11½")
8. HOT-MIX ASPHALT BASE COURSE 11½"
9. BITUMINOUS MATERIALS (PRIME COAT)
10. AGGREGATE (PRIME COAT)
11. HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT
12. BRIDGE APPROACH PAVEMENT
13. SEE STANDARD 420401 FOR SUB-BASE GRANULAR MATERIAL INCLUDED IN THE COST OF BRIDGE APPROACH PAVEMENT
14. EMBANKMENT
15. STEEL PLATE BEAM GUARDRAIL
16. HOT-MIX ASPHALT SHOULDERS (6")
17. TRAFFIC BARRIER TERMINAL TYPE 6
18. GRANULAR EMBANKMENT SPECIAL (12½")
19. IMPACT ATTENUATORS (FULLY REDIRECTIVE, TEST LEVEL 3, NARROW)
20. STRIP REFLECTIVE CRACK CONTROL

PAVEMENT DESIGN

DESIGN PERIOD: 20 YEARS
STRUCTURAL DESIGN TRAFFIC (S.D.T.) = 1738 YEAR 2018
P.V. = 1286 S.U. = 243 M.U. = 209
ROAD/STREET CLASSIFICATION: CLASS III ROAD
PERCENT OF S.D.T. IN DESIGN LANE
P = 50% S = 50% M = 50%
TRAFFIC FACTOR = ACTUAL TF 1.07 AC TYPE 64-22
MINIMUM TF N/A
PG GRADE: BINDER = 64-22 SUFACE = 64-22
SUBGRADE SUPPORT RATING:
SSR= POOR

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 07/31/07
DESIGNED: L.F.S.	CHECKED: S.W.M.	DRAWN: W.J.S.

TYPICAL SECTIONS

F.A.P. ROUTE 776 (IL 142)
SECTION (116BR-1,BR-2,BR-3)B-1
HAMILTON COUNTY

CONTRACT NO. 78006

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-1)B-1	HAMILTON	140	8
STA. 508+50	TO STA. 523+50			
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 94998		

THOMAS & BETTY VANWIKLE
NE¼, SEC 31, T. 6 S., R. 7 E., 3RD P.M.

THOMAS & BETTY VANWIKLE
SE¼, SEC 31, T. 6 S., R. 7 E., 3RD P.M.

N

0 50′ 100′
GRAPHIC SCALE

MAG NAIL IN E.O.P.
IRON PIN W/IDOT CAP #33
MAG NAIL IN E.O.P.

P.O.T. STA. 511+00.00
MAG NAIL #13 (SET)
N. 470840.3463
E. 943796.0640

MAG NAIL IN E.O.P.
IRON PIN W/IDOT CAP #30
MAG NAIL IN E.O.P.

P.O.T. STA. 522+00.00
MAG NAIL #14 (SET)
N. 469832.7699
E. 944237.4137

STA 516+75
CENTER PR SN 033-0050
THREE SPAN, STEEL BEAM BRIDGE
32'-0" CLEAR ROADWAY WIDTH
125'-6" BK. TO BK. ABUTMENTS
SKEW = 23°30'

60" STEEL

TOP OF BANK/LEVEE

8'x5' ELLIPTICAL STEEL

F.E. 490 14' EARTH

LT. STA 515+80
CONST. 16' F.E.

LT. STA 517+90
CONST. 16' F.E.

CONSTRUCTION LIMITS

℄ FAP 776 (IL 142)

CREEK

66°30'

EXISTING R.O.W.

40'

40'

510 515 520

24" STEEL

CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

IMPROVEMENT BEGINS
STATION 513+50

IMPROVEMENT ENDS
STATION 520+00

F.E. 490 14' EARTH

F.E. 490 15' EARTH

RT. STA 515+70
CONST. 20' F.E.

RT. STA 517+64
CONST. 20' F.E.

CONTRARY

48" CMP

30" CMP

PAVEMENT REMOVAL

UTILITIES:

HAMILITON CO TELEPHONE CO-OP
(FACILITIES ABAONDONED)

CHANNEL EXCAVATION (SN 0050)

THE CHANNEL SHALL BE EXCAVATED AS SHOWN IN THE PLANS WITH 2:1 SIDE SLOPES WITHIN THE LIMITS OF THE PROPOSED STRUCTURE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. ONLY SUITABLE EXCAVATED MATERIAL SHALL BE USED IN THE EMBANKMENT.
CHANNEL EXCAVATION = 974 CU YD

EXISTING STRUCTURE NO. 033-0020

STA 516+75 - TWO SPAN, PCC
DECK BEAM BRIDGE ON CLOSED
ABUTMENTS AND SOLID SHAFT PIERS.
86.54' BK.-BK. ABUTS: 33' O.-O. DECK
REMOVAL OF EXISTING STRUCTURES NO. 1 = 1 EACH

COAL PROPERTIES C/O CONSOL, INC.
NE¼, SEC 31, T. 6 S., R. 7 E., 3RD P.M.

COAL PROPERTIES C/O CONSOL, INC.
SE¼, SEC 31, T. 6 S., R. 7 E., 3RD P.M.

PLAN
SURVEYED
PLOTTED
R.O.W. CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
PROFILE CHECKED
S.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

BM#514 - CHISELD SQUARE ON TOP OF WINGWALL
ON N.E. CORNER OF BRIDGE S.N. 033-0020
17.6' LT., STA. 516+37
ELEV. 370.60

385 380 375 370 365 360 355 350 345

P.I. STA. 515+25.00 ELEV. 372.89
P.I. STA. 516+75.00 ELEV. 373.94
P.I. STA. 518+25.00 ELEV. 372.89

K = 208
100′ V.C.
K = 143
200′ V.C.
K = 179
100′ V.C.

100 YEAR H.W. ELEV. 371.7
10 YEAR H.W. ELEV. 369.8

PROPOSED ℄ GRADE
EXISTING ℄ GRADE

+0.16% +0.22% +0.70% -0.70% -0.14% -0.18%

BEGIN STA. 513+50.00 ELEV. 372.58
STA. 515+10.00 ELEV. 372.89
STA. 518+15.00 ELEV. 373.00
END STA. 520+00.00 ELEV. 372.59

H.M.A. SURFACE REMOVAL BUTT JOINT
H.M.A. SURFACE REMOVAL BUTT JOINT

PAVEMENT TRANSITION
PAVEMENT TRANSITION

CHANNEL EXCAVATION
CHANNEL EXCAVATION

RIPRAP, SPECIAL

•2:1 @ RT. & LTS

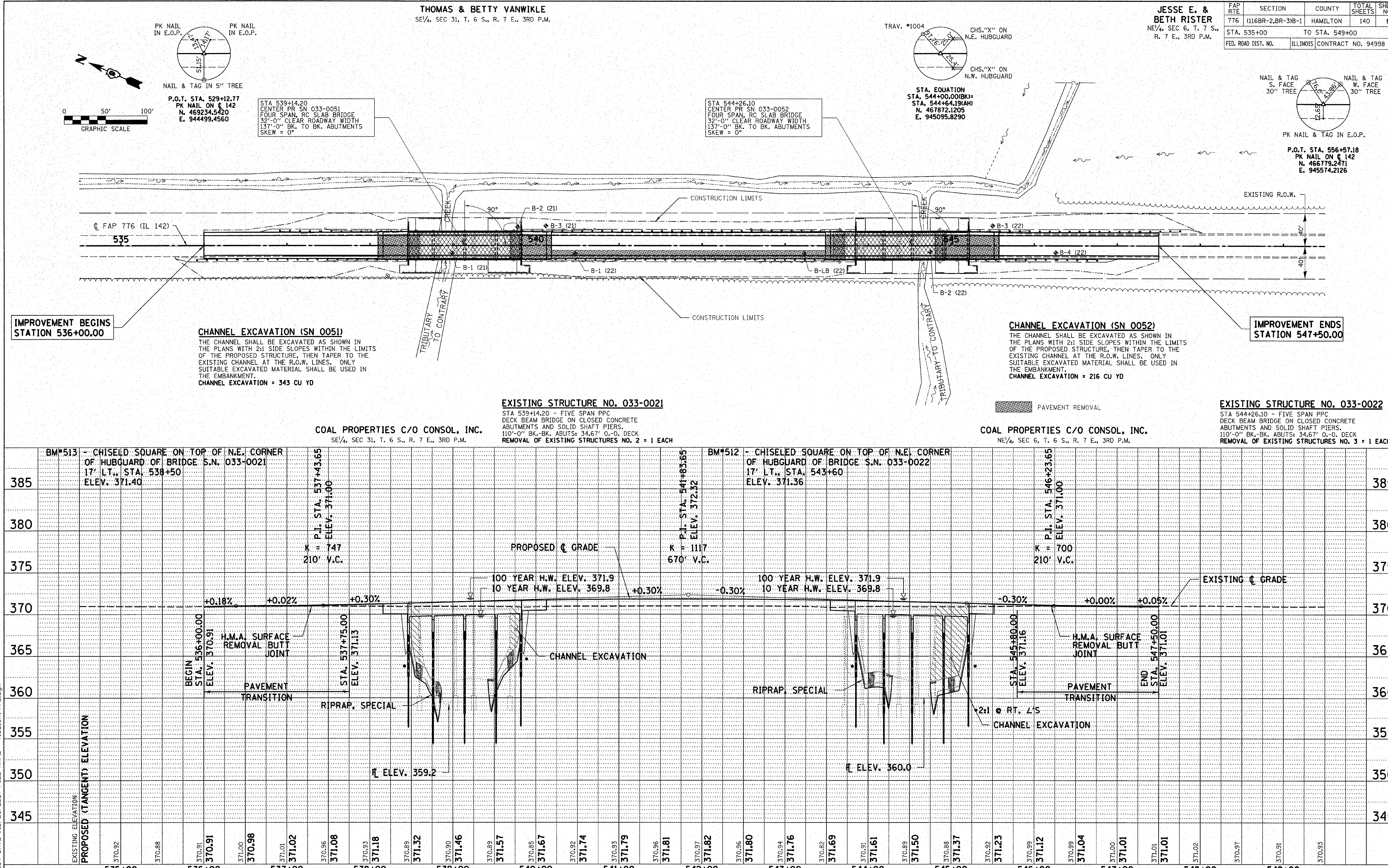
℄ ELEV. 355.1

	509+00	510+00	511+00	512+00	513+00	514+00	515+00	516+00	517+00	518+00	519+00	520+00	521+00	522+00	523+00
EXISTING ELEVATION	371.17	371.27	371.42	371.52	371.73	371.93	372.10	372.19	372.36	372.58	372.68	372.76	372.79	372.76	372.70
PROPOSED (TANGENT) ELEVATION	372.58	372.66	372.74	372.85	373.08	373.39	373.57	373.57	373.39	373.08	372.87	372.77	372.68	372.59	372.45
	372.34	372.21	372.06	371.91	371.71	371.50									

PLOT DATE : 10/26/2007 FILE NAME = 41021Sht-PPI.dgn

CONTRACT NO. 78006

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-2,BR-318-1	HAMILTON	140	9
STA. 535+00	TO STA. 549+00			
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 94998		



THOMAS & BETTY VANWIKLE
SE¼, SEC 31, T. 6 S., R. 7 E., 3RD P.M.
JESSE E. & BETH RISTER
NE¼, SEC 6, T. 7 S., R. 7 E., 3RD P.M.
PK NAIL IN E.O.P.
PK NAIL IN E.O.P.
NAIL & TAG IN 5" TREE
P.O.T. STA. 529+12.77
PK NAIL ON ℄ 142
N. 469234.5420
E. 944499.4560
GRAPHIC SCALE
0
50'
100'
STA 539+14.20
CENTER PR SN 033-0051
FOUR SPAN, RC SLAB BRIDGE
32'-0" CLEAR ROADWAY WIDTH
137'-0" BK. TO BK. ABUTMENTS
SKEW = 0°
STA 544+26.10
CENTER PR SN 033-0052
FOUR SPAN, RC SLAB BRIDGE
32'-0" CLEAR ROADWAY WIDTH
137'-0" BK. TO BK. ABUTMENTS
SKEW = 0°
TRAV. #1004
CHS."X" ON N.E. HUBGUARD
CHS."X" ON N.W. HUBGUARD
STA. EQUATION
STA. 544+00.00(BK)=
STA. 544+64.19(AH)
N. 467872.1205
E. 945095.8290
NAIL & TAG S. FACE 30" TREE
NAIL & TAG W. FACE 30" TREE
PK NAIL & TAG IN E.O.P.
P.O.T. STA. 556+57.18
PK NAIL ON ℄ 142
N. 466779.2471
E. 945574.2126
EXISTING R.O.W.
CONSTRUCTION LIMITS
℄ FAP 776 (IL 142)
535
540
545
CREEK
90°
B-2 (21)
B-3 (21)
B-1 (21)
B-1 (22)
B-LB (22)
B-3 (22)
B-4 (22)
B-2 (22)
40'
40'
TRIBUTARY TO CONTRARY
IMPROVEMENT BEGINS STATION 536+00.00
IMPROVEMENT ENDS STATION 547+50.00
CHANNEL EXCAVATION (SN 0051)
THE CHANNEL SHALL BE EXCAVATED AS SHOWN IN THE PLANS WITH 2:1 SIDE SLOPES WITHIN THE LIMITS OF THE PROPOSED STRUCTURE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. ONLY SUITABLE EXCAVATED MATERIAL SHALL BE USED IN THE EMBANKMENT.
CHANNEL EXCAVATION = 343 CU YD
CHANNEL EXCAVATION (SN 0052)
THE CHANNEL SHALL BE EXCAVATED AS SHOWN IN THE PLANS WITH 2:1 SIDE SLOPES WITHIN THE LIMITS OF THE PROPOSED STRUCTURE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. ONLY SUITABLE EXCAVATED MATERIAL SHALL BE USED IN THE EMBANKMENT.
CHANNEL EXCAVATION = 216 CU YD
PAVEMENT REMOVAL
EXISTING STRUCTURE NO. 033-0021
STA 539+14.20 - FIVE SPAN PPC DECK BEAM BRIDGE ON CLOSED CONCRETE ABUTMENTS AND SOLID SHAFT PIERS.
110'-0" BK.-BK. ABUTS: 34.67' O.-O. DECK
REMOVAL OF EXISTING STRUCTURES NO. 2 = 1 EACH
EXISTING STRUCTURE NO. 033-0022
STA 544+26.10 - FIVE SPAN PPC DECK BEAM BRIDGE ON CLOSED CONCRETE ABUTMENTS AND SOLID SHAFT PIERS.
110'-0" BK.-BK. ABUTS: 34.67' O.-O. DECK
REMOVAL OF EXISTING STRUCTURES NO. 3 = 1 EACH
COAL PROPERTIES C/O CONSOL, INC.
SE¼, SEC 31, T. 6 S., R. 7 E., 3RD P.M.
COAL PROPERTIES C/O CONSOL, INC.
NE¼, SEC 6, T. 6 S., R. 7 E., 3RD P.M.
BM#513 - CHISELD SQUARE ON TOP OF N.E. CORNER OF HUBGUARD OF BRIDGE S.N. 033-0021
17' LT., STA. 538+50
ELEV. 371.40
BM#512 - CHISELED SQUARE ON TOP OF N.E. CORNER OF HUBGUARD OF BRIDGE S.N. 033-0022
17' LT., STA. 543+60
ELEV. 371.36
P.I. STA. 537+43.65
ELEV. 371.00
K = 747
210' V.C.
P.I. STA. 541+83.65
ELEV. 372.32
K = 1117
670' V.C.
P.I. STA. 546+23.65
ELEV. 371.00
K = 700
210' V.C.
PROPOSED ℄ GRADE
EXISTING ℄ GRADE
100 YEAR H.W. ELEV. 371.9
10 YEAR H.W. ELEV. 369.8
+0.18%
+0.02%
+0.30%
+0.30%
-0.30%
-0.30%
+0.00%
+0.05%
BEGIN STA. 536+00.00 ELEV. 370.91
STA. 537+75.00 ELEV. 371.13
STA. 545+80.00 ELEV. 371.16
END STA. 547+50.00 ELEV. 371.01
H.M.A. SURFACE REMOVAL BUTT JOINT
PAVEMENT TRANSITION
CHANNEL EXCAVATION
RIPRAP, SPECIAL
2:1 @ RT. ∠'S
℄ ELEV. 359.2
℄ ELEV. 360.0
385
380
375
370
365
360
355
350
345
EXISTING ELEVATION
PROPOSED (TANGENT) ELEVATION
370.92
370.88
370.91 370.91
371.00 370.98
371.01 371.02
370.96 371.08
370.93 371.18
370.89 371.32
370.90 371.46
370.89 371.57
370.85 371.67
370.92 371.74
370.93 371.79
370.96 371.81
370.97 371.82
370.96 371.80
370.94 371.76
370.82 371.69
370.91 371.61
370.89 371.50
370.88 371.37
370.92 371.23
370.99 371.12
370.99 371.04
371.00 371.01
371.01 371.01
371.02
370.97
370.91
370.93
535+00
536+00
537+00
538+00
539+00
540+00
541+00
542+00
543+00
544+00
545+00
546+00
547+00
548+00
549+00

PLAN: DATE / BY / SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.O.W. CHECKED / CADD FILE NAME / NOTE BOOK NO.

PROFILE: DATE / BY / SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED / STRUCTURE NOTATIONS CHK'D / NOTE BOOK NO.

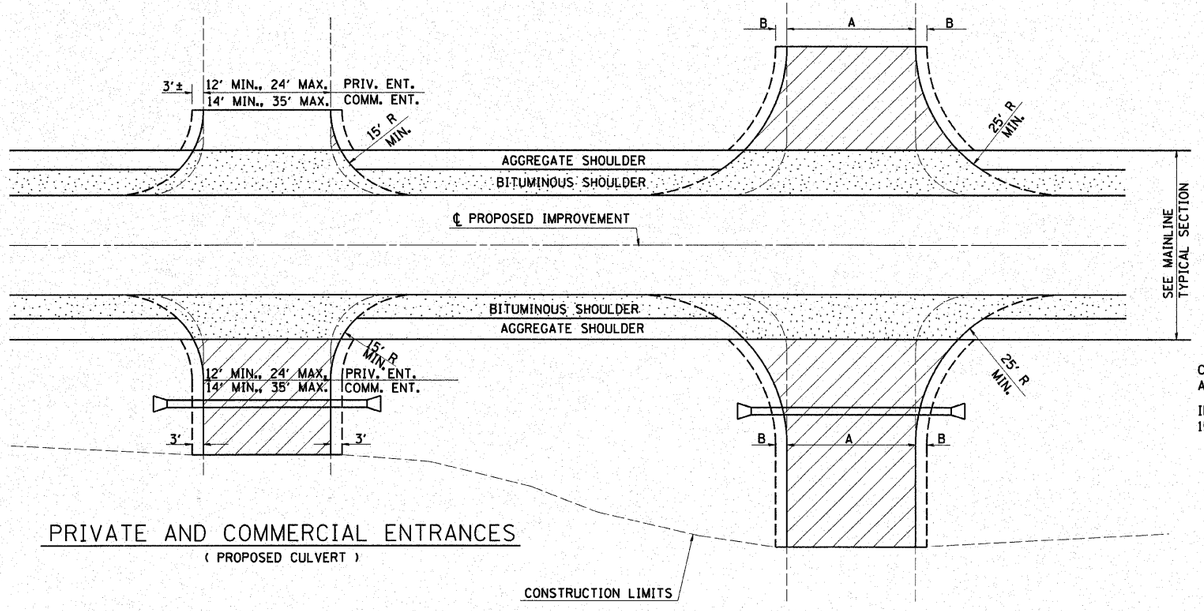
PLOT DATE :10/26/2007 FILE NAME = 41021Sht-PP2.dgn

CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	10
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

RURAL SIDE APPROACH DETAILS

PRIVATE AND COMMERCIAL ENTRANCES



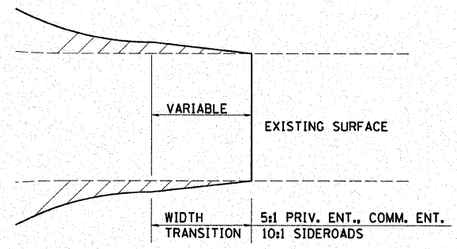
SIDEROADS

SIDEROAD DIMENSIONS (MIN.)

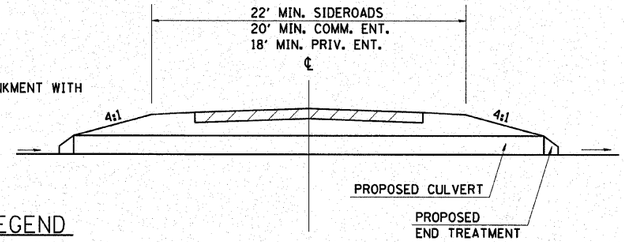
ADT	A (FT.)	B (FT.)
0 TO 250	18'	2'
250 TO 400	20'	2'
GREATER THAN 400	22'	4'

WIDTH TRANSITION DETAIL TO EXISTING

(IF APPLICABLE)



DETAIL FOR CALCULATING CULVERT LENGTH



FIELD ENTRANCE TREATMENT

CONSTRUCT MAINLINE BITUMINOUS AND AGGREGATE SHOULDERS THROUGH FIELD ENTRANCES.

IF A PIPE IS REQUIRED, PROVIDE A 22' WIDE EARTH EMBANKMENT WITH 15' RADII AT THE INTERSECTION.

PRIVATE AND COMMERCIAL ENTRANCES

(PROPOSED CULVERT)

SIDEROADS

(PROPOSED CULVERT)

LEGEND

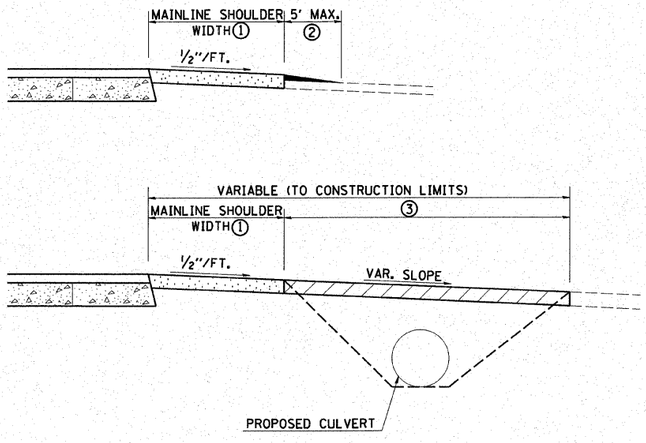
① CONSTRUCT BITUMINOUS SHOULDER "FULL SHOULDER WIDTH" THROUGH ENTRANCE/INTERSECTION UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

② IF REQUIRED, AGGREGATE TAPER FOR EXISTING GRAVEL SURFACE; BITUMINOUS TAPER FOR EXISTING HIGHER TYPE SURFACES.

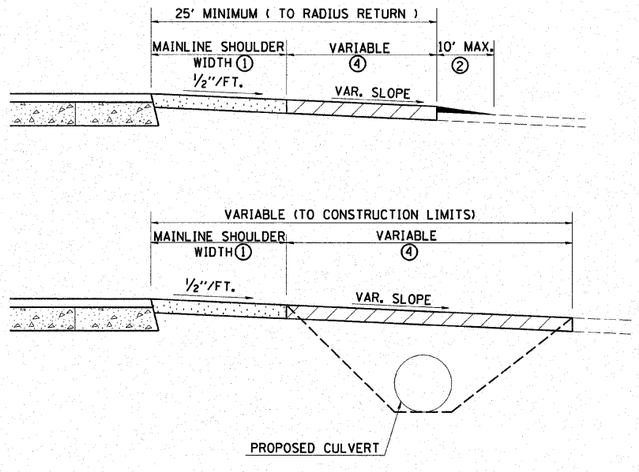
③ 6" AGGREGATE SURFACE COURSE FOR EXISTING GRAVEL SURFACE; 2" BITUMINOUS RESURFACING ON 4" AGGREGATE BASE COURSE FOR EXISTING BITUMINOUS SURFACE; PCC DRIVEWAY PAVEMENT (6" - PE; 7" - CE) FOR EXISTING CONCRETE SURFACE.

④ 2" MINIMUM BITUMINOUS RESURFACING ON 6" MINIMUM AGGREGATE BASE COURSE FOR EXISTING GRAVEL SURFACE OR OIL & CHIP SURFACE; MATCH EXISTING FOR EXISTING HIGHER TYPE SURFACES.

PRIVATE AND COMMERCIAL ENTRANCES



SIDEROADS



GENERAL NOTES

1. ENTRANCE LOCATIONS ARE TO COMPLY WITH IDOT'S POLICY "ACCESS TO STATE HIGHWAYS".
2. IN GENERAL, RELOCATED PRIVATE ENTRANCES ARE TO HAVE A 16' WIDE SURFACE WITH 3' WIDE SHOULDERS (22' WIDE EMBANKMENT).
3. SEE PLANS FOR PROPOSED PROFILE GRADES AT ENTRANCES/SIDEROADS. THE DESIRABLE MAXIMUM PROFILE GRADE FOR ENTRANCES ARE 12% FOR PE; 10% FOR CE.
4. ENTRANCE PIPE CULVERTS ARE TO BE A MINIMUM 15" DIAMETER AND NORMALLY REPLACED IN KIND; SIDEROAD PIPE CULVERTS ARE GENERALLY TO BE CONCRETE (18" MINIMUM DIAMETER).
5. THE INTERSECTION RADII OF SIDEROADS CONSTRUCTED TO FULL POLICY STANDARDS SHOULD COMPLY WITH THAT NOTED IN THE BUREAU OF LOCAL ROADS ADMINISTRATIVE POLICIES MANUAL (5-8-13).

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 07/16/07
DESIGNED: L.F.S.	CHECKED: S.W.M.	DRAWN: TWK

ENTRANCE DETAILS

F.A.P. ROUTE 776 (IL 142)

SECTION (116BR-1,BR-2,BR-3)B-1

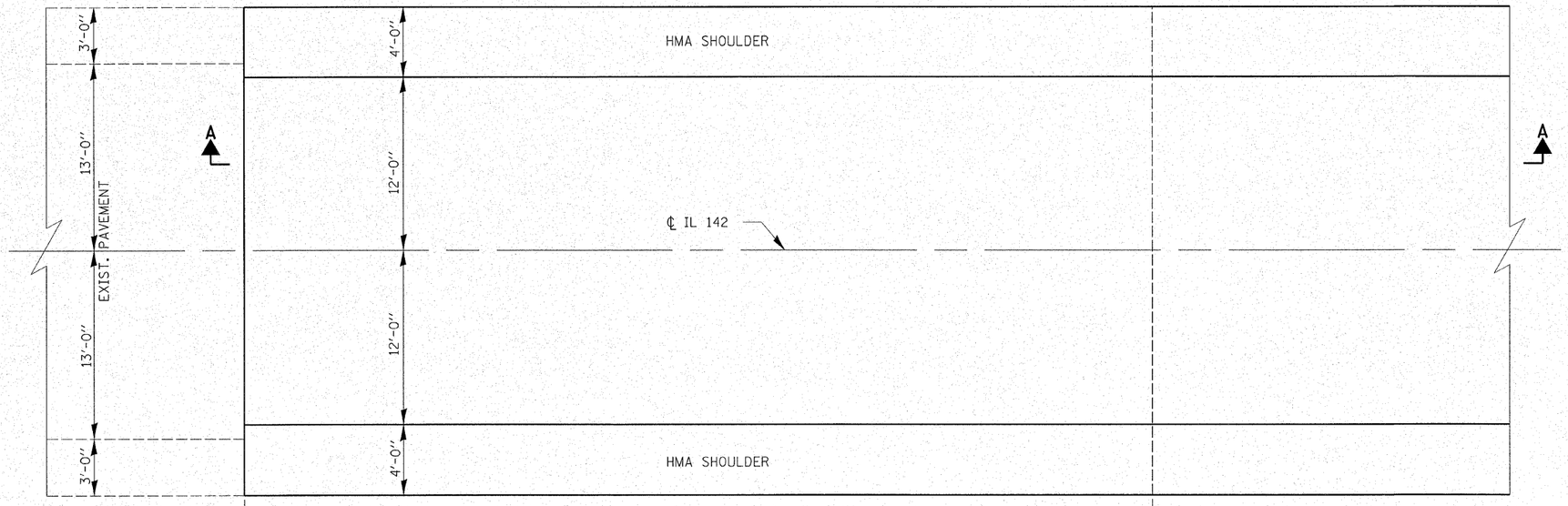
HAMILTON COUNTY

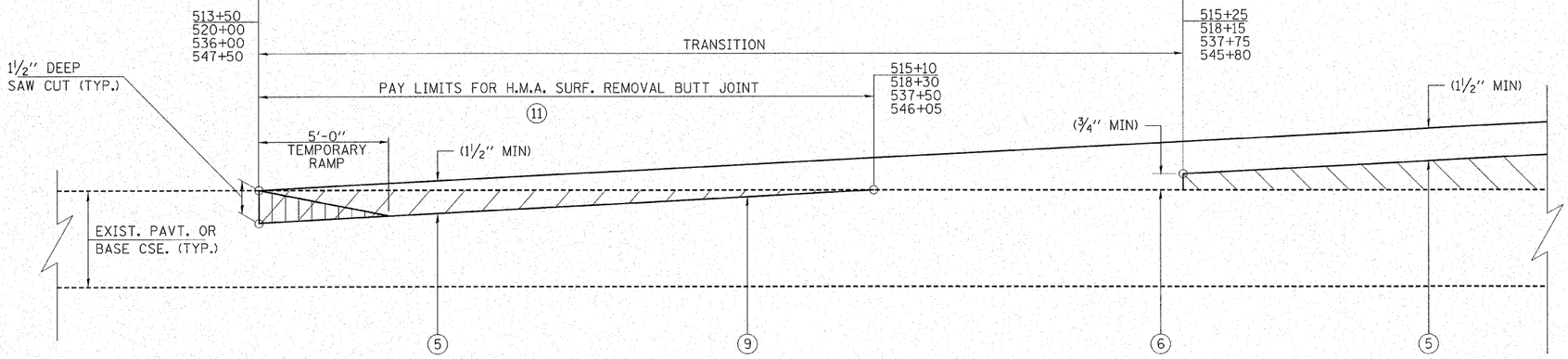
PLOT DATE = 10/26/2007 FILE NAME = 41021-sht-entrance.dgn

CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	11
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

BUTT JOINT





SECTION A-A

LEGEND

1. EXISTING BITUMINOUS RESURFACING (2½")
2. EXISTING 18' WIDE CONCRETE PAVEMENT (9"-6"-9")
3. EXISTING CONCRETE BASE COURSE WIDENING (9")
4. EXISTING AGGREGATE SHOULDER
5. HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90 (1½" THICKNESS MIN)
6. LEVELING BINDER (MACHINE METHOD), N90 (¾" MIN)
7. HOT-MIX ASPHALT BINDER COURSE, IL-19, N90 (11½")
8. HOT-MIX ASPHALT BASE COURSE 11½"
9. BITUMINOUS MATERIALS (PRIME COAT)
10. AGGREGATE (PRIME COAT)
11. HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT
12. BRIDGE APPROACH PAVEMENT
13. SEE STANDARD 420401 FOR SUB-BASE GRANULAR MATERIAL INCLUDED IN THE COST OF BRIDGE APPROACH PAVEMENT
14. EMBANKMENT
15. STEEL PLATE BEAM GUARDRAIL
16. HOT-MIX ASPHALT SHOULDERS (6")
17. TRAFFIC BARRIER TERMINAL TYPE 6
18. GRANULAR EMBANKMENT SPECIAL (12½")
19. IMPACT ATTENUATORS (FULLY REDIRECTIVE, TEST LEVEL 3, NARROW)
20. STRIP REFLECTIVE CRACK CONTROL

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

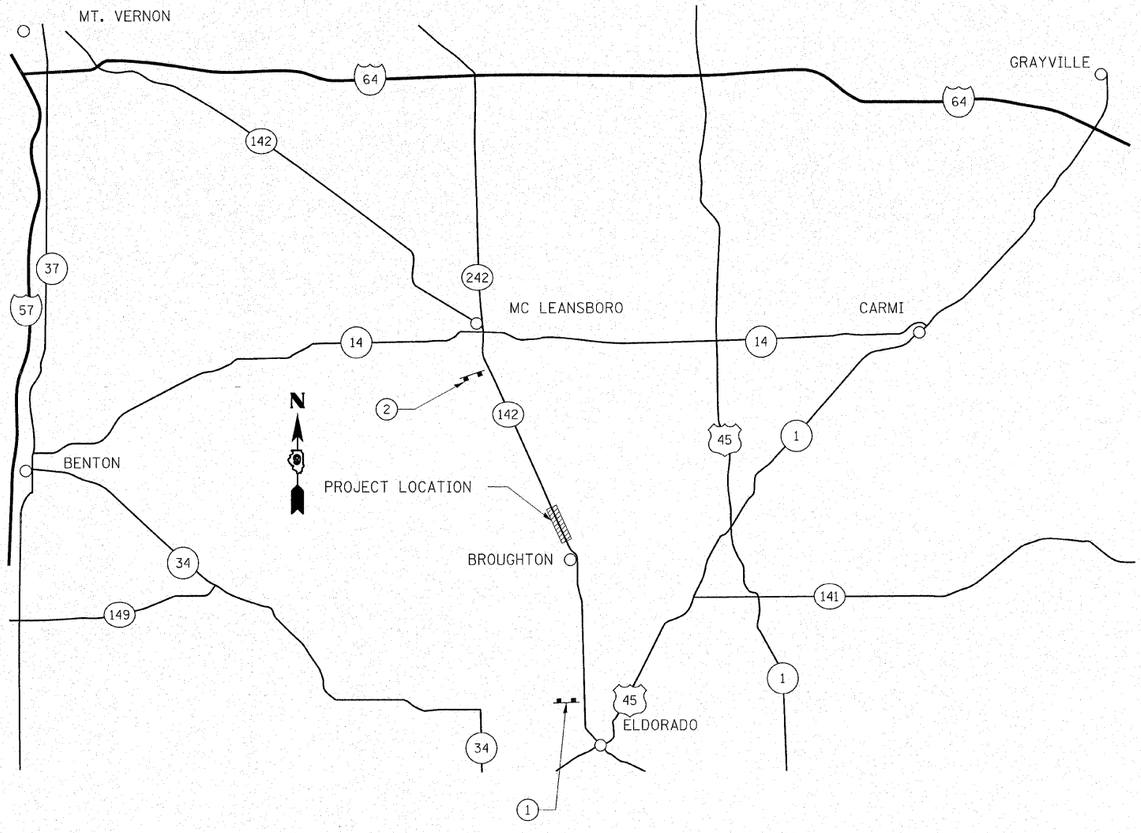
PROJECT NUMBER: 12-41-0021-1	DATE: 07/16/07
DESIGNED: L.F.S.	CHECKED: S.W.M.	DRAWN: W.J.S.

MISCELLANEOUS DETAILS

F.A.P. ROUTE 776 (IL 142)
SECTION (116BR-1,BR-2,BR-3)B-1
HAMILTON COUNTY

CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	12
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	



WIDE LOADS OVER 9'-6"
DETOUR VIA
NORTH: US 45
WEST: ILLINOIS 14
60"x60"

WIDE LOADS OVER 9'-6"
DETOUR VIA
EAST: ILLINOIS 14
SOUTH: US 45
60"x60"

DETOUR NOTES:

1. THE CONTRACTOR SHALL ERECT THE SIGN AT THE LOCATION DIRECTED BY THE RESIDENT ENGINEER. ALL SIGNS SHALL BE POST MOUNTED.
2. THE ABOVE NOTED WORK, INCLUDING SIGN POSTS HARDWARE AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE EACH. FOR FOR TRAFFIC CONTROL AND PROTECTION STD 701321 AND NO OTHER COMPENSATION SHALL BE ALLOWED.
3. THE RESIDENT ENGINEER SHALL GIVE I.D.O.T. BUREAU OF OPERATIONS PERMIT SECTION TWO WEEKS NOTICE BEFORE IMPLEMENTING ANY LANE WIDTH RESTRICTIONS.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 10/17/07
DESIGNED: L.F.S	CHECKED: S.W.M.	DRAWN: TWK

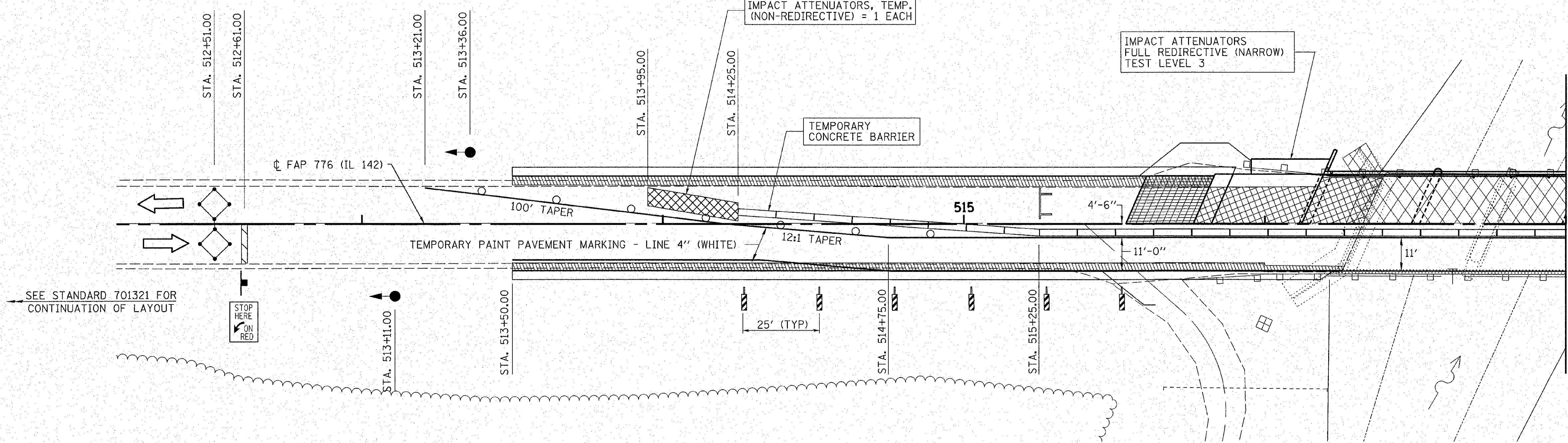
DETOUR SIGNING

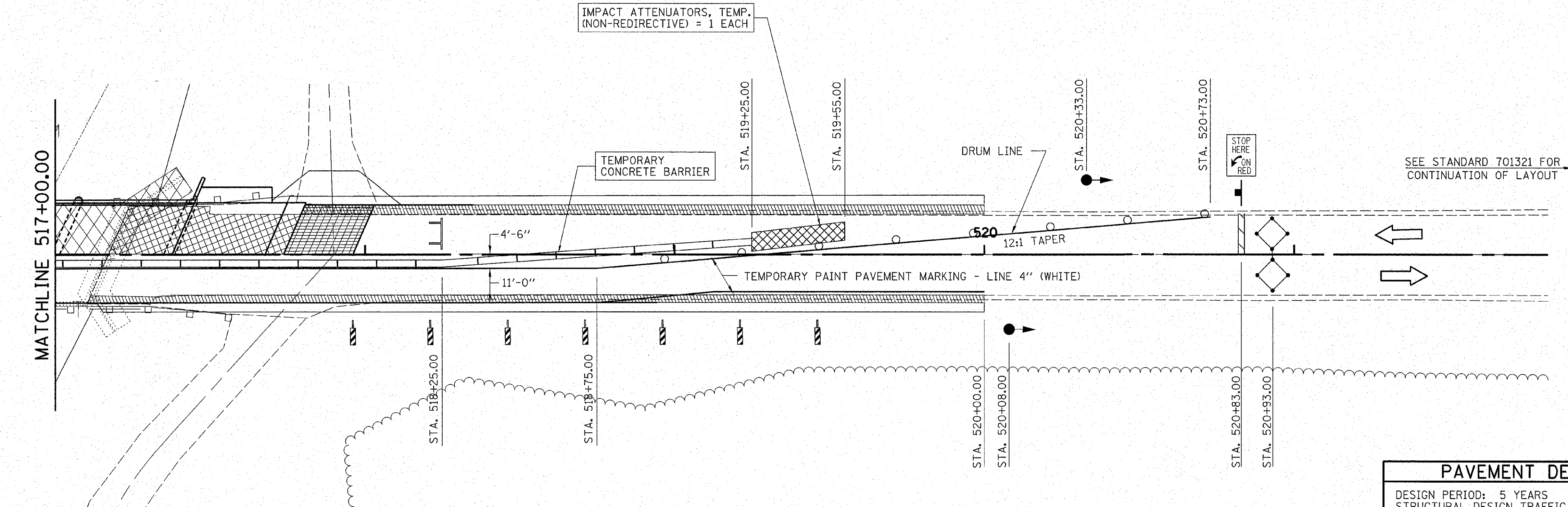
F.A.P. ROUTE 776 (IL 142)
SECTION (116BR-1,BR-2,BR-3)B-1
HAMILTON COUNTY

PLOT DATE :10/26/2007 FILE NAME = 41021-sht-signing.dgn

CONTRACT NO. 78006

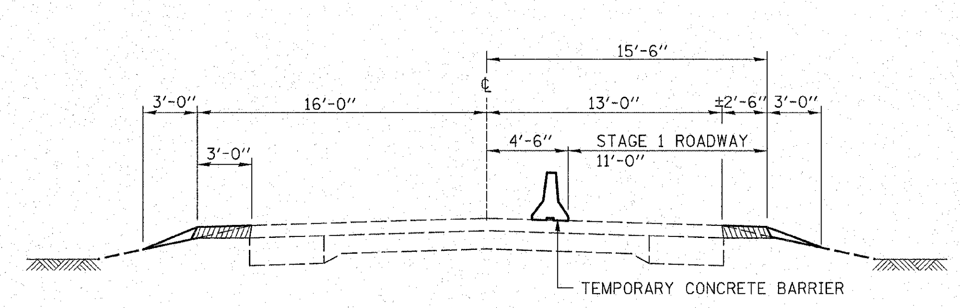
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-1)B-1	HAMILTON	140	13
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





PAVEMENT DESIGN (WIDENING)

DESIGN PERIOD: 5 YEARS
STRUCTURAL DESIGN TRAFFIC (S.D.T.) = 1597 YEAR 2011
P.V. = 1182 S.U. = 224 M.U. = 192
ROAD/STREET CLASSIFICATION: CLASS III ROAD
PERCENT OF S.D.T. IN DESIGN LANE
P = 50% S = 50% M = 50%
TRAFFIC FACTOR = ACTUAL TF 0.25 AC TYPE 64-22
MINIMUM TF
PG GRADE: BINDER = 64-22 SUFACE = 64-22
SUBGRADE SUPPORT RATING:
SSR= POOR



STAGE 1 TYPICAL CROSS SECTION
H.M.A. WIDENING - STA. 513+50 TO STA. 520+00

LEGEND

- HOT MIX ASPHALT BASE COURSE 11½" (WIDENING)
- BRIDGE REMOVAL
- PAVEMENT REMOVAL
- TEMPORARY RAMP

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

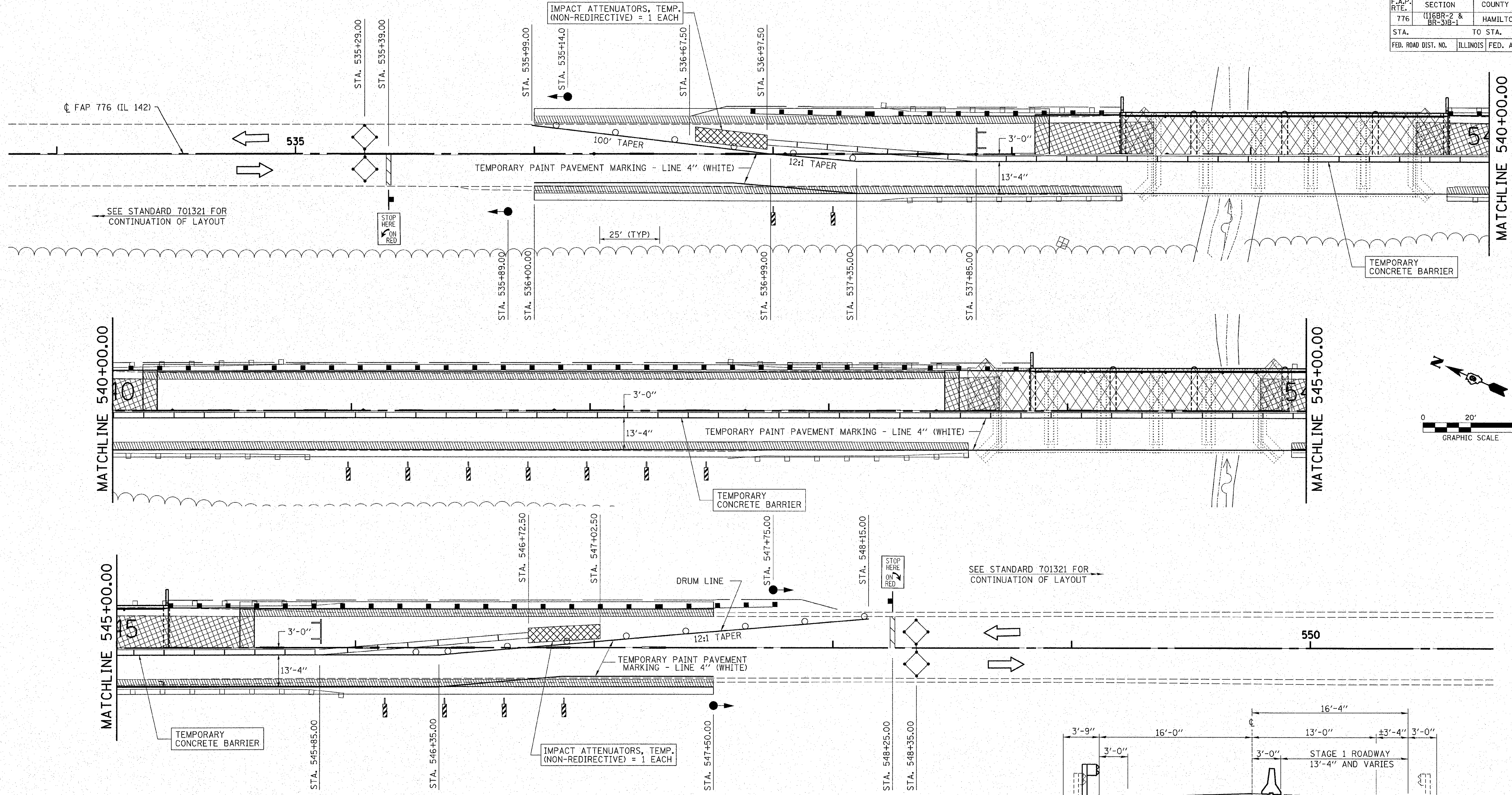
PROJECT NUMBER: 12-41-0021-i		DATE: 10/23/07
DESIGNED: L.F.S	CHECKED: S.W.M.	DRAWN: W.J.S.

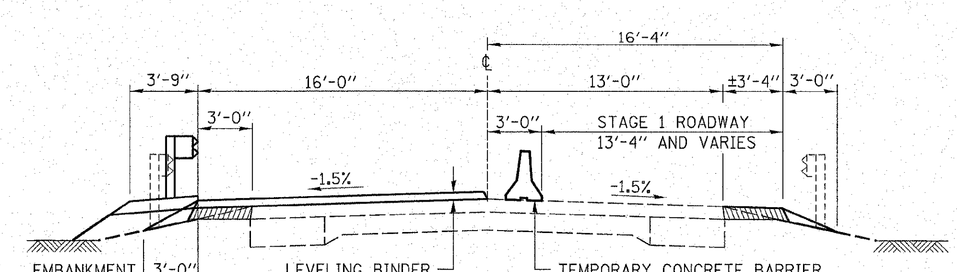
MAINTENANCE OF TRAFFIC, STAGE 1
SN 033-0050
F.A.P. ROUTE 776 (IL 142)
SECTION (116BR-1,BR-2,BR-3)B-1
HAMILTON COUNTY

PLOT DATE = 10/26/2007
FILE NAME = 410215ht-stage1-B1.dgn
PLOT SCALE =
USER NAME =

CONTRACT NO. 78006

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-2 & BR-3)B-1	HAMILTON	140	14
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





STAGE 1 TYPICAL CROSS SECTION

TEMPORARY WIDENING - STA. 540+18.20 TO STA. 543+49.10
LEVELING BINDER - LT. STA. 540+18.20 TO LT. STA. 543+49.10

STAGE 1 TYPICAL CROSS SECTION

TEMPORARY WIDENING - STA. 536+00.00 TO STA. 538+46.00
STA. 544+93.94 TO STA. 547+50.00

LEGEND

- HOT MIX ASPHALT BASE COURSE $11\frac{1}{2}$" (WIDENING)
- BRIDGE REMOVAL
- PAVEMENT REMOVAL

PLOT DATE = 10/26/2007
FILE NAME = 41021Sht-stage1-B2.dgn
PLOT SCALE =
USER NAME =

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 10/23/07
DESIGNED: L.F.S	CHECKED: S.W.M.	DRAWN: W.J.S.

MAINTENANCE OF TRAFFIC, STAGE 1
SN 033-0051 & SN 033-0052

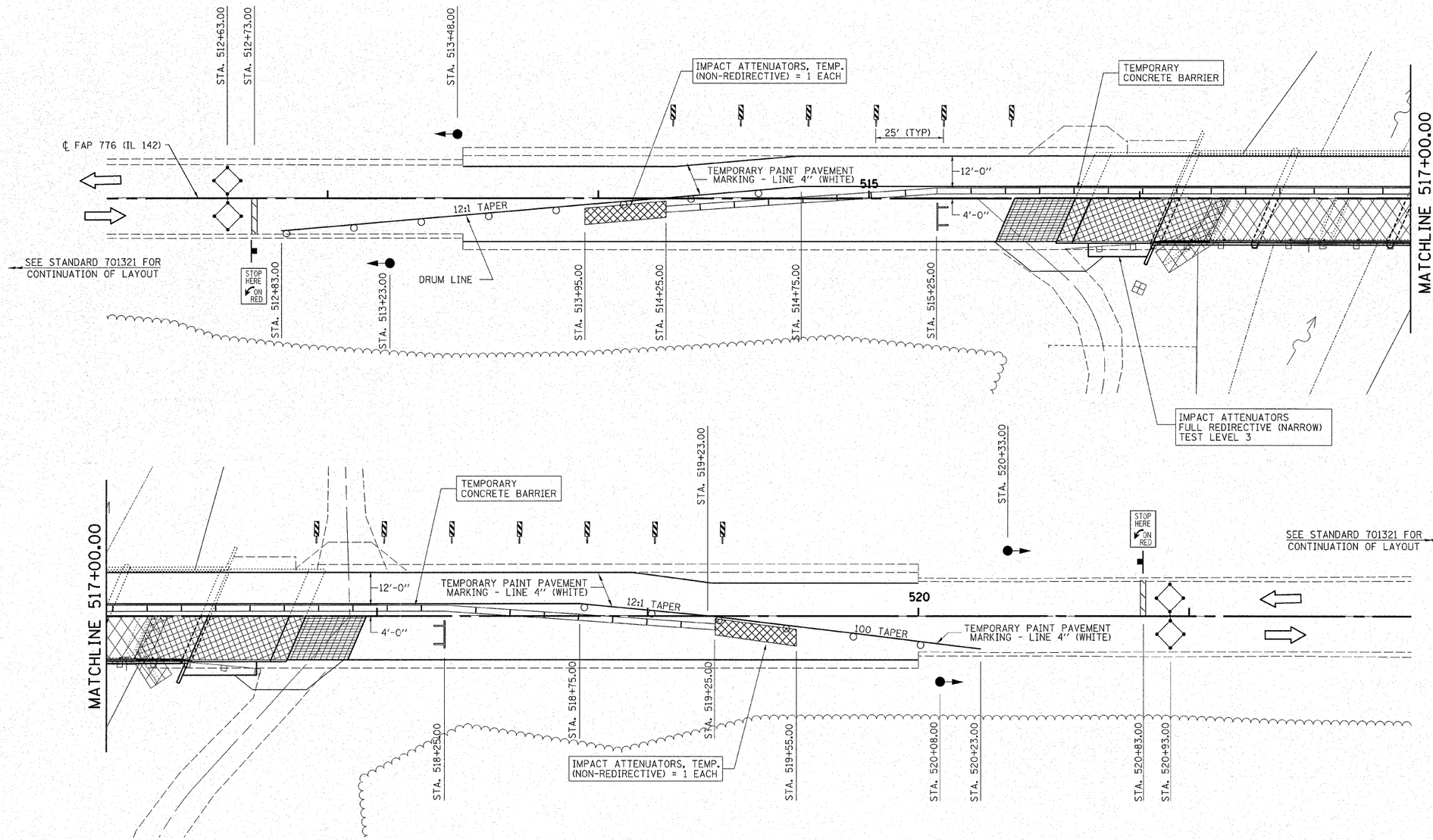
F.A.P. ROUTE 776 (IL 142)

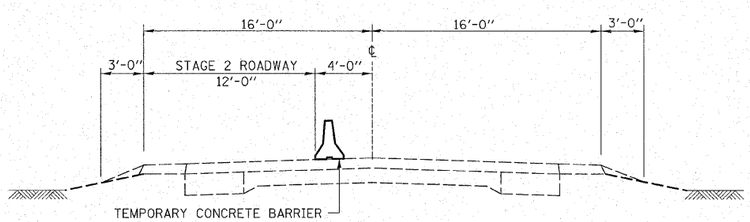
SECTION (116BR-1,BR-2,BR-3)B-1

HAMILTON COUNTY

CONTRACT NO. 78006

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-1)B-1	HAMILTON	140	15
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





STAGE 2 TYPICAL CROSS SECTION

LEGEND

- HOT MIX ASPHALT BASE COURSE 11½" (WIDENING)
- BRIDGE REMOVAL
- PAVEMENT REMOVAL
- TEMPORARY RAMP

PLOT DATE = 10/26/2007
FILE NAME = 4822tsht-stage2-B1.dgn
PLOT SCALE =
USER NAME =

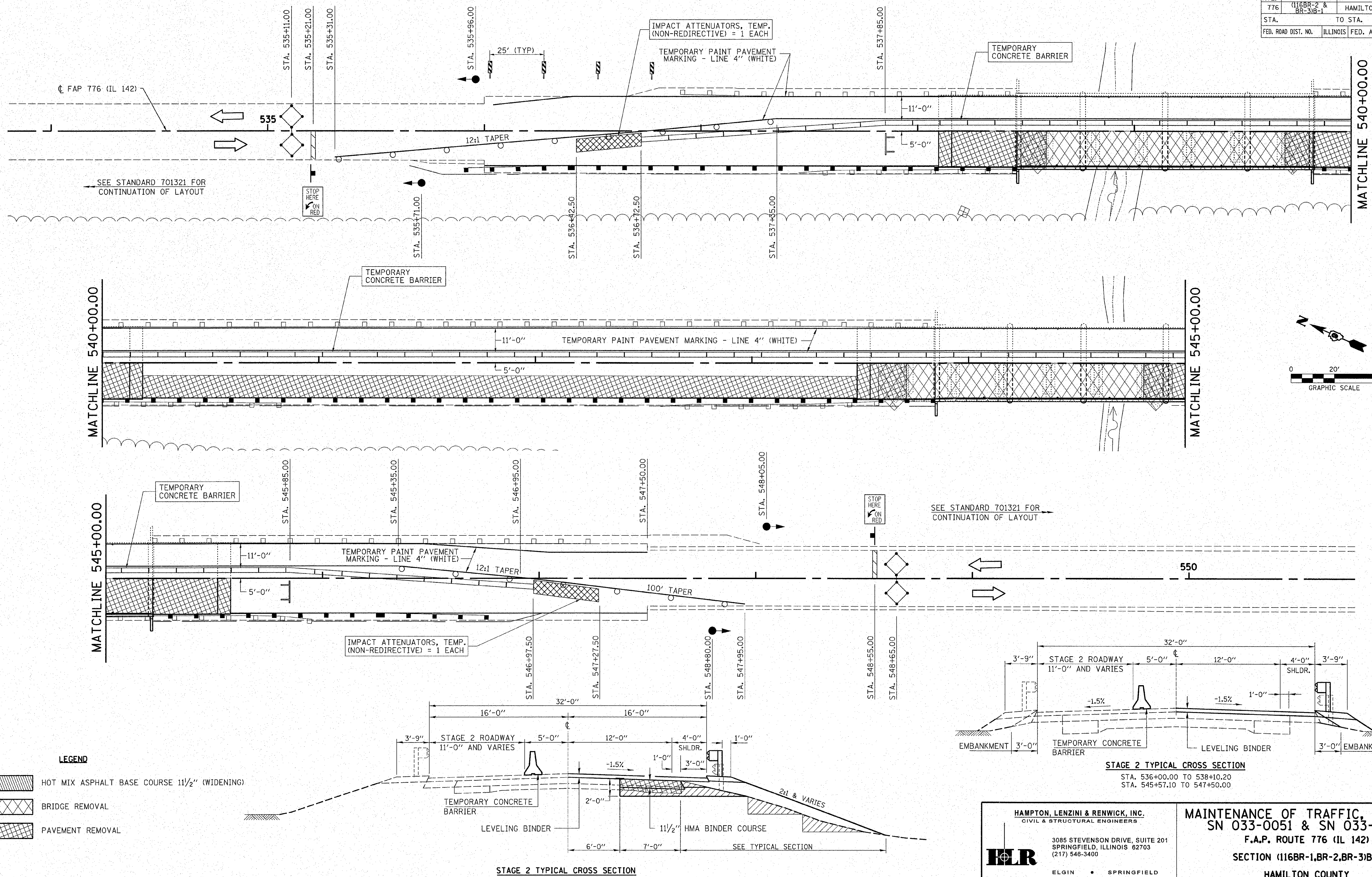
HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i		DATE: 10/23/07
DESIGNED: L.F.S	CHECKED: S.W.M.	DRAWN: W.J.S.

MAINTENANCE OF TRAFFIC, STAGE 2
SN 033-0050
F.A.P. ROUTE 776 (IL 142)
SECTION (116BR-1,BR-2,BR-3)B-1
HAMILTON COUNTY

CONTRACT NO. 78006

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-2 & BR-3)B-1	HAMILTON	140	16
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



LEGEND

- HOT MIX ASPHALT BASE COURSE 11½" (WIDENING)
- BRIDGE REMOVAL
- PAVEMENT REMOVAL

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 10/23/07
DESIGNED: L.F.S	CHECKED: S.W.M.	DRAWN: W.J.S.

MAINTENANCE OF TRAFFIC, STAGE 2
SN 033-0051 & SN 033-0052
F.A.P. ROUTE 776 (IL 142)

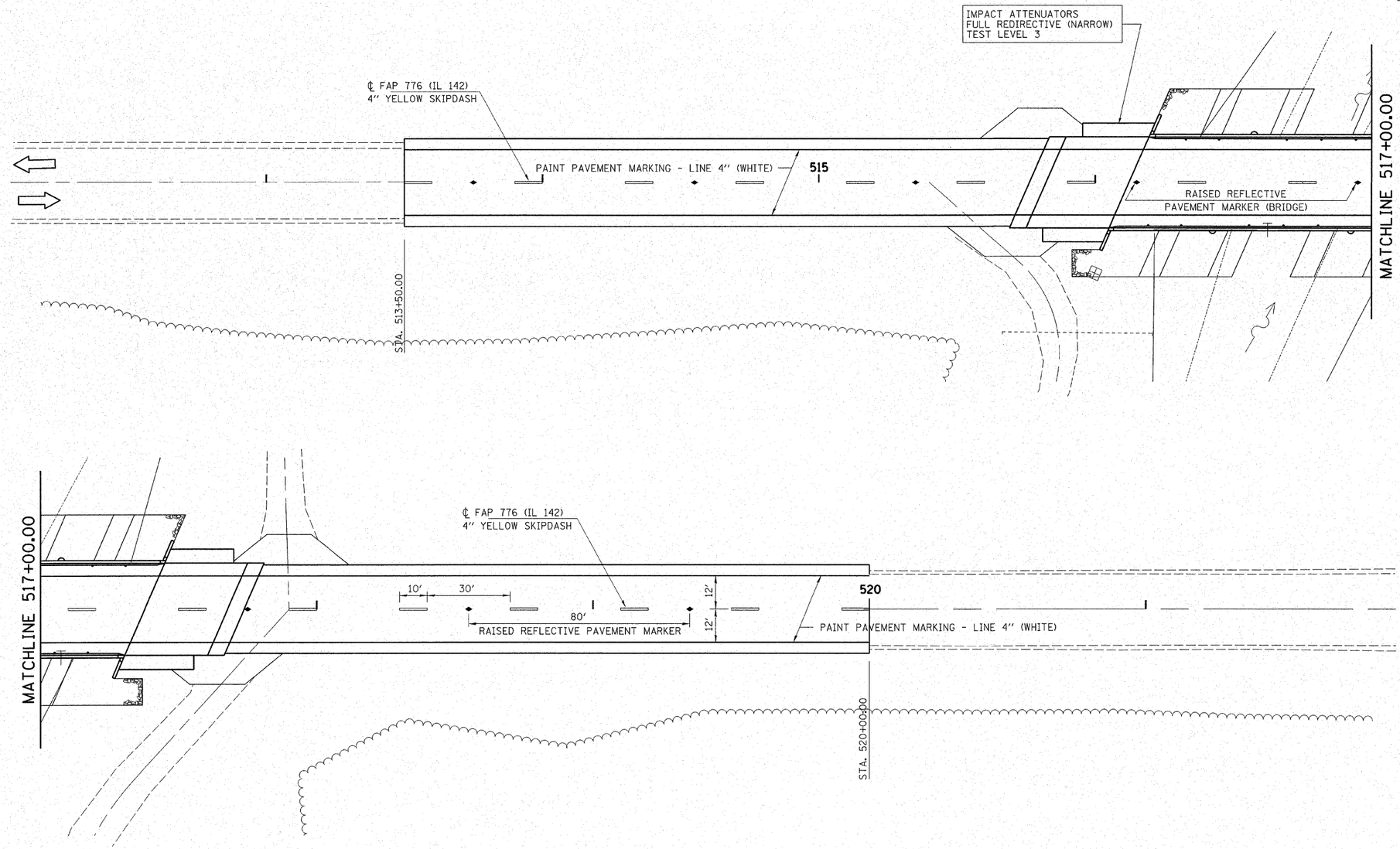
SECTION (116BR-1,BR-2,BR-3)B-1

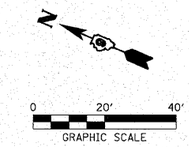
HAMILTON COUNTY

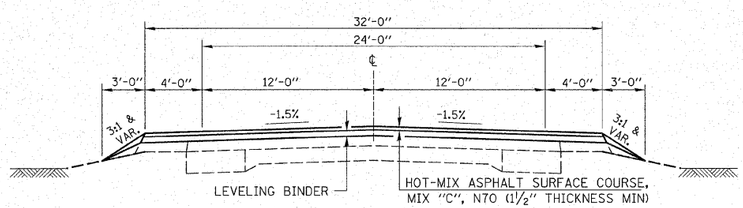
PLOT DATE = 10/26/2007
FILE NAME = 4021Sht-stage2-B2.dgn
PLOT SCALE =
USER NAME =

CONTRACT NO. 78006

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-1)B-1	HAMILTON	140	17
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		







STAGE 3 TYPICAL CROSS SECTION

STA. 513+50.00 TO 515+82.25
STA. 517+67.75 TO 520+00.00

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 07/30/07
DESIGNED: L.F.S.	CHECKED: S.W.M.
	DRAWN: W.J.S.

PAVEMENT MARKING, STAGE 3
SN 033-0050
F.A.P. ROUTE 776 (IL 142)

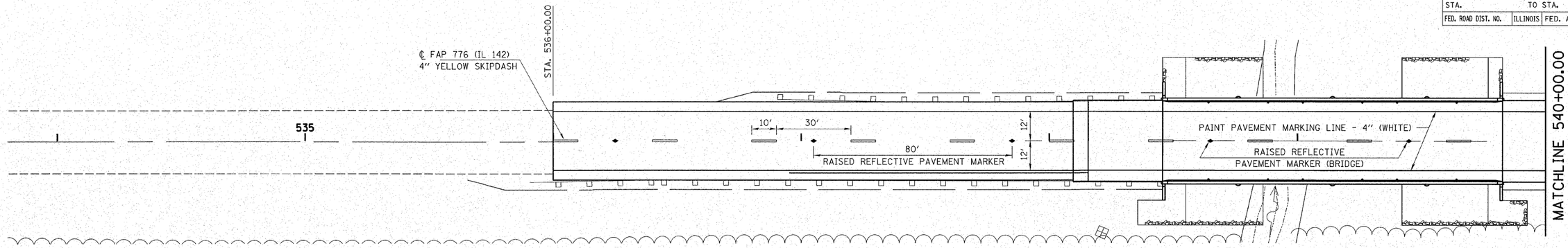
SECTION (116BR-1,BR-2,BR-3)B-1

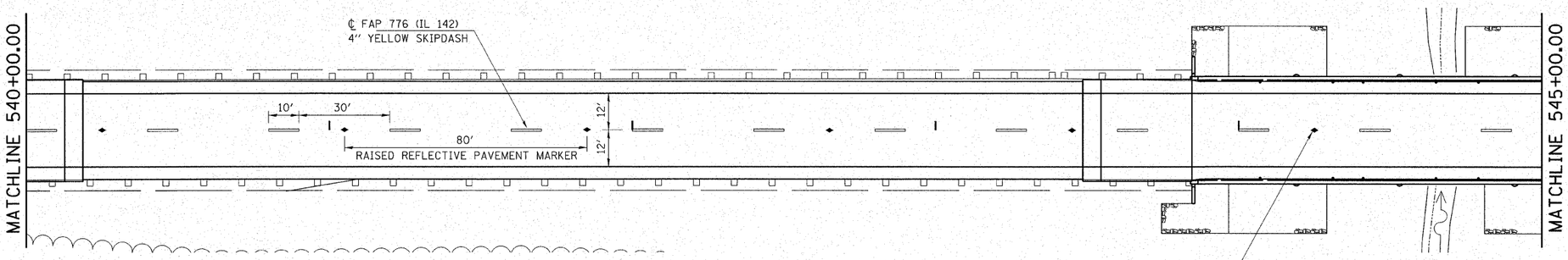
HAMILTON COUNTY

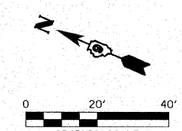
PLOT DATE = 10/26/2007
FILE NAME = 41021sht-stage3pvmrk-BI.dgn
PLOT SCALE =
USER NAME =

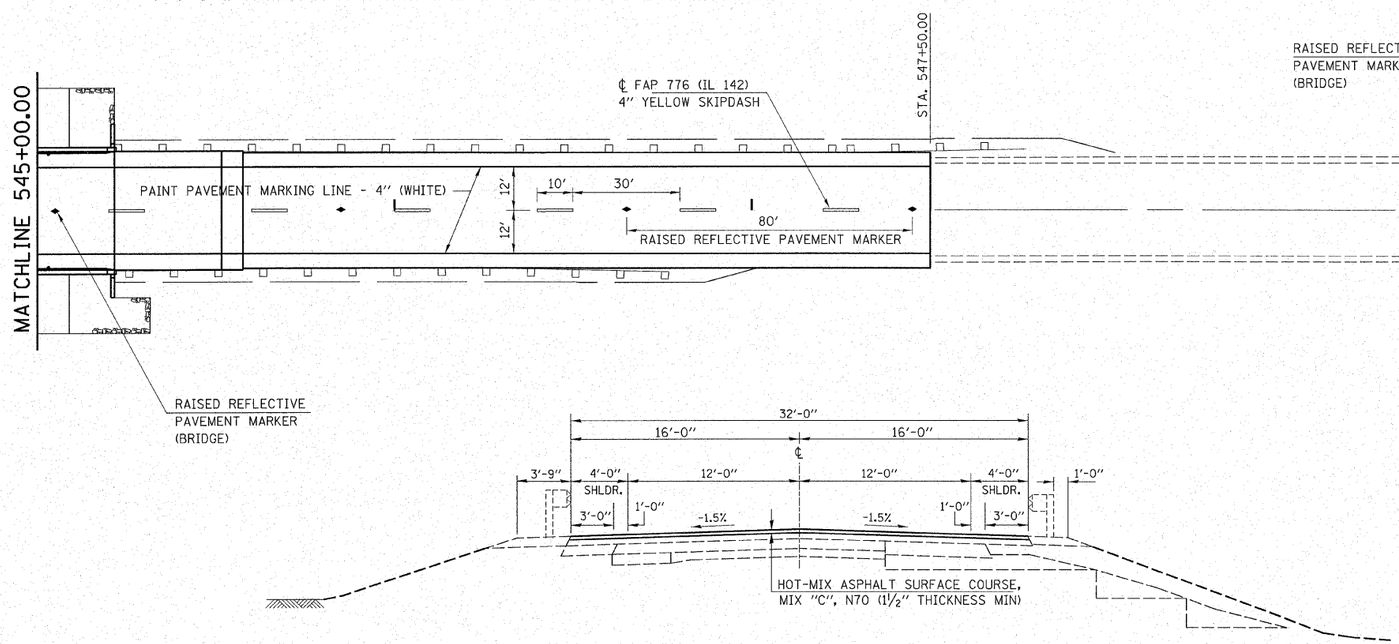
CONTRACT NO. 78006

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-2 & BR-3)B-1	HAMILTON	140	18
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

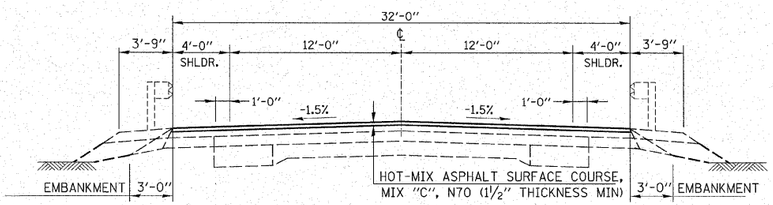








STAGE 3 TYPICAL CROSS SECTION
STA. 540+18.20 TO 543+49.10



STAGE 3 TYPICAL CROSS SECTION
STA. 536+00.00 TO 538+10.20
STA. 545+57.10 TO 547+50.00

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 07/30/07
DESIGNED: L.F.S.	CHECKED: S.W.M.	DRAWN: W.J.S.

PAVEMENT MARKING, STAGE 3
SN 033-0051 & SN 033-0052

F.A.P. ROUTE 776 (IL 142)

SECTION (116BR-1,BR-2,BR-3)B-1

HAMILTON COUNTY

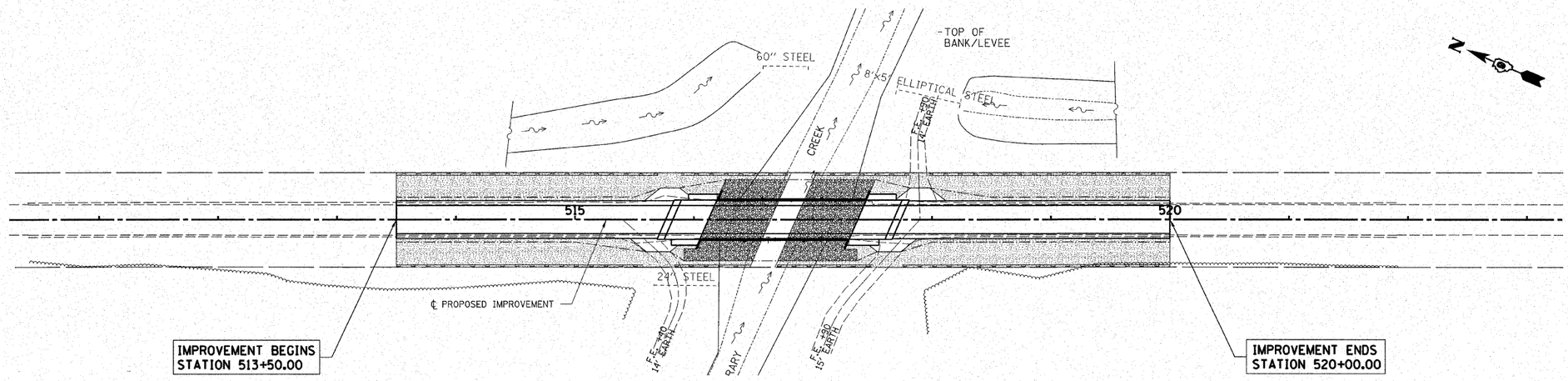
PLOT DATE = 10/26/2007
FILE NAME = 41021sht-stage3pvmrk-82.dgn
PLOT SCALE =
USER NAME =

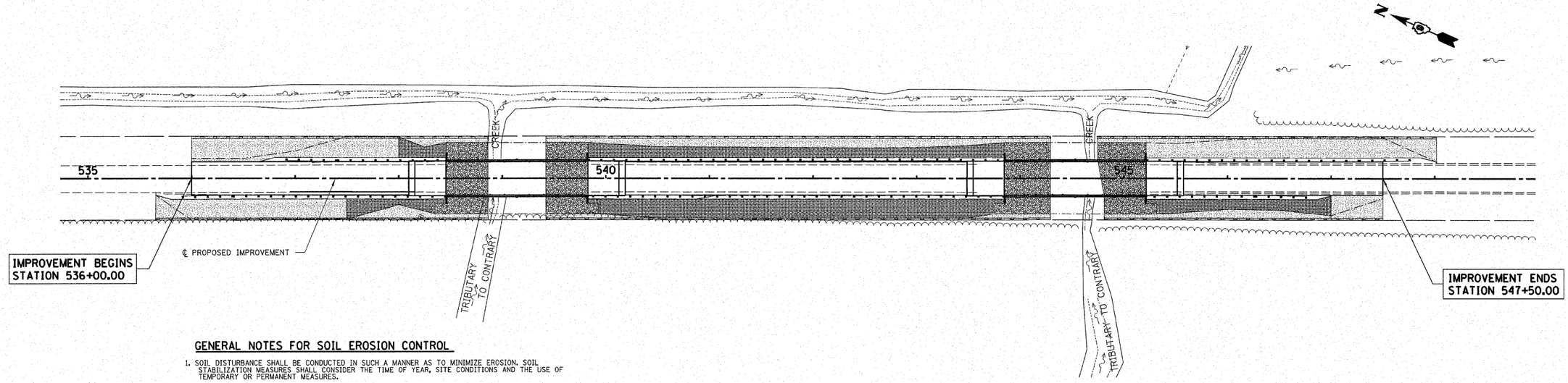
CONTRACT NO. 78006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1,BR-2, BR-3)B-1	HAMILTON	140	19
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

EROSION CONTROL PLAN & STORMWATER POLLUTION PREVENTION PLAN

THIS PROJECT DISTURBS 2.376 ACRES OF TOTAL LAND AREA. COMPLIANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER PERMIT IS ONLY NECESSARY IF A PROJECT DISTURBS 1 OR MORE ACRES OF TOTAL LAND AREA.





GENERAL NOTES FOR SOIL EROSION CONTROL

1. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
2. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER.
3. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.
4. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE CONTRACTOR SHALL INSPECT AND COMPLETE MAINTENANCE OF ALL ITEMS A MINIMUM OF EVERY 7 DAYS AND WITHIN 24 HOURS OF A ONE-HALF INCH RAINFALL.
5. THE CONTRACTOR SHALL CLEAN UP AND GRADE THE WORK AREA AS THE PROJECT PROGRESSES TO ELIMINATE THE CONCENTRATION OF RUNOFF. THE PAVEMENT SHALL BE CLEANED DAILY TO REMOVE EARTH MATERIAL TO THE SATISFACTION OF THE ENGINEER.
6. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE.
7. AREAS OR EMBANKMENTS HAVING SLOPES GREATER 3H:1V SHALL BE STABILIZED WITH EROSION CONTROL BLANKET IN COMBINATION WITH SEEDING.
8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.

LEGEND

- PERIMETER EROSION BARRIER
- RIPRAP
- EROSION CONTROL BLANKET
- SEEDING CLASS II

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-4	DATE: 07/16/07
DESIGNED: L.P.S	CHECKED: S.W.M.	DRAWN: TWK

EROSION CONTROL PLAN

F.A.P. ROUTE 776 (IL 142)

SECTION (116BR-1,BR-2,BR-3)B-1

HAMILTON COUNTY

PLOT DATE :10/26/2007 FILE NAME = 41021-sht-erosioncontrol.dgn

Benchmark: Chiseled square on top of wingwall on NE corner of Bridge 033-0020. 17.6' Lt., Elev. 370.60.

Existing Structure: SN 033-0020 was originally built in 1928. The superstructure was replaced and the substructure widened in 1976. The structure consists of 2 spans of PPC deck beams on closed abutments and solid shaft piers, supported on timber piles. The bridge is 86'-6½" bk.-bk. abuts. and 33'-0" o.-o. deck.
Existing structure is to be removed and replaced. One lane of traffic will be maintained utilizing stage construction.

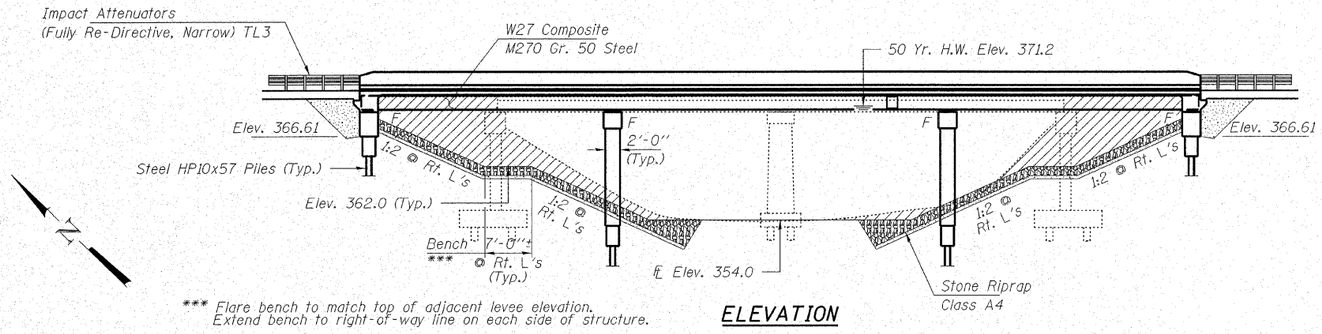
No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

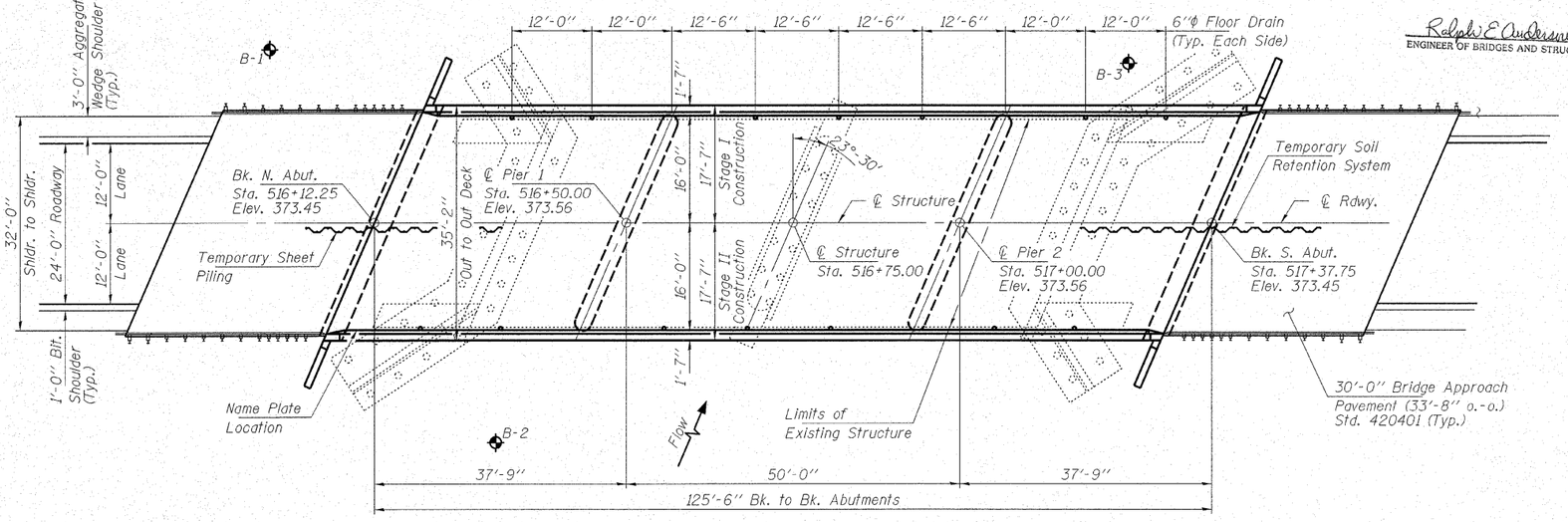
SHEET NO. 1
25 SHEETS

Contract #78006



*** Flare bench to match top of adjacent levee elevation.
Extend bench to right-of-way line on each side of structure.

ELEVATION



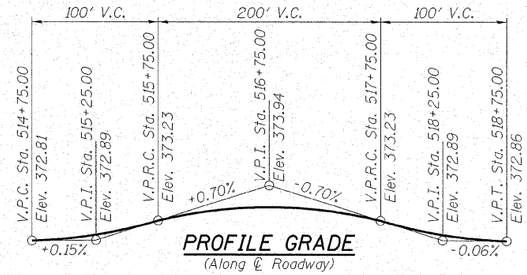
PLAN

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$"ϕ, holes $\frac{15}{16}$"ϕ, unless otherwise noted.
Calculated weight of Structural Steel = 71,930 lbs.
No field welding is permitted except as specified in the contract documents.
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
Reinforcement bars designated (E) shall be epoxy coated.
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing.
The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provisions for "Cleaning and Painting New Metal Structures".
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
The contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.
Two $\frac{1}{8}$" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

Slipforming of the parapets is not allowed.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E Anderson
ENGINEER OF BRIDGES AND STRUCTURES



PROFILE GRADE
(Along ℄ Roadway)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		85	85
Stone Riprap, Class A4	Sq. Yd.		920	920
Filter Fabric	Sq. Yd.		920	920
Removal of Existing Structures No. 1	Each			1
Structure Excavation	Cu. Yd.		236	236
Floor Drains	Each	14		14
Concrete Structures	Cu. Yd.		127.4	127.4
Concrete Superstructure	Cu. Yd.	155.7		155.7
Bridge Deck Grooving	Sq. Yd.	446		446
Concrete Encasement	Cu. Yd.		8.0	8.0
Protective Coat	Sq. Yd.	566		566
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	2,556	192	2,748
Reinforcement Bars, Epoxy Coated	Pound	34,510	13,120	47,630
Bar Splicers	Each	432	88	520
Furnishing Steel Piles HP10x57	Foot		1,540	1,540
Driving Piles	Foot		1,540	1,540
Test Pile Steel HP10x57	Each		2	2
Temporary Sheet Piling	Sq. Ft.		540	540
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		54	54
Pipe Underdrains for Structures 4"	Foot		144	144
Temporary Soil Retention System	Sq. Ft.		224	224
Underwater Structure Excavation Protection Location 1	Each		1	1
Underwater Structure Excavation Protection Location 2	Each		1	1
Anchor Bolts, 1"ϕ	Each			48
Mechanical Splice	Each			96
Asbestos Bearing Pad Removal	Each		44	44

WATERWAY INFORMATION

Drainage Area = 58 Sq. Mi.
Exist. Low Grade Elev. = 370.9 Ft. @ Sta. 526+75
Prop. Low Grade Elev. = 370.9 Ft. @ Sta. 526+75

Flood Frequency		Q cfs		Opening Sq. Ft.		Nat.	Head-Ft.		Headwater El.	
		Exist.	Prop.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
10 Yr	SN 033-0050	3971	3971	876	896	369.8	0.2	0.1	370.0	369.9
	SN 033-0051	466	511	381	409	366.4	0.1	0.1	366.5	366.5
	SN 033-0052	527	482	387	414	366.4	0.1	0.1	366.5	366.5
	Total	4964	4964	1644	1719					
Design 50 Yr	SN 033-0050	4635	4635	901	925	371.2	0.3	0.2	371.5	371.4
	SN 033-0051	1242	1267	684	709	371.0	0.1	0.1	371.1	371.1
	SN 033-0052	1253	1228	684	718	371.0	0.1	0.1	371.1	371.1
	Total	7130	7130	2269	2352					
Base 100 Yr	SN 033-0050	5245	5298	901	925	371.9	0.6	0.6	372.5	372.5
	SN 033-0051	1386	1388	684	709	371.7	0.1	0.0	371.8	371.7
	SN 033-0052	1399	1344	684	718	371.7	0.1	0.0	371.8	371.7
	Total	8030	8030	2269	2352					
Overtopping 50 Yr	SN 033-0050	4635	4635	901	925	371.2	0.3	0.2	371.5	371.4
	SN 033-0051	1242	1267	684	709	371.0	0.1	0.1	371.1	371.1
	SN 033-0052	1253	1228	684	718	371.0	0.1	0.1	371.1	371.1
	Total	7130	7130	2269	2352					
Max Calc 500 Yr	SN 033-0050	4903	4988	901	925	372.1	0.5	0.5	372.6	372.6
	SN 033-0051	2594	2605	684	709	372.4	0.2	0.2	372.6	372.6
	SN 033-0052	2619	2523	684	718	372.4	0.2	0.2	372.6	372.6
	Total	10116	10116	2269	2352					

LOADING HS20-44
Allow 50#/sq. ft. for future wearing surface.

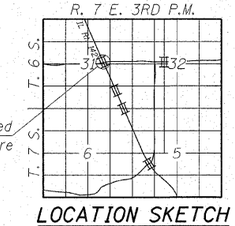
DESIGN SPECIFICATIONS
2002 AASHTO & all applicable interims.

DESIGN STRESSES
FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (structural steel) (M270 Grade 50)

SEISMIC DATA
Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.10g
Site Coefficient (S) = 2.0

STATION 516+75
BUILT 200_ BY
STATE OF ILLINOIS
FAP RTE 776
SEC (116BR-1)B-1
LOADING HS20
STRUCTURE NO. 033-0050

NAME PLATE
See Std. 515001



LOCATION SKETCH

Steven W Meggenson 11/16/07
ILLINOIS STRUCTURAL NO. 081-6064

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGINSON
081-6064
SPRINGFIELD, IL
STATE OF ILLINOIS
Expires 11-30-08

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

GENERAL PLAN & ELEVATION
IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

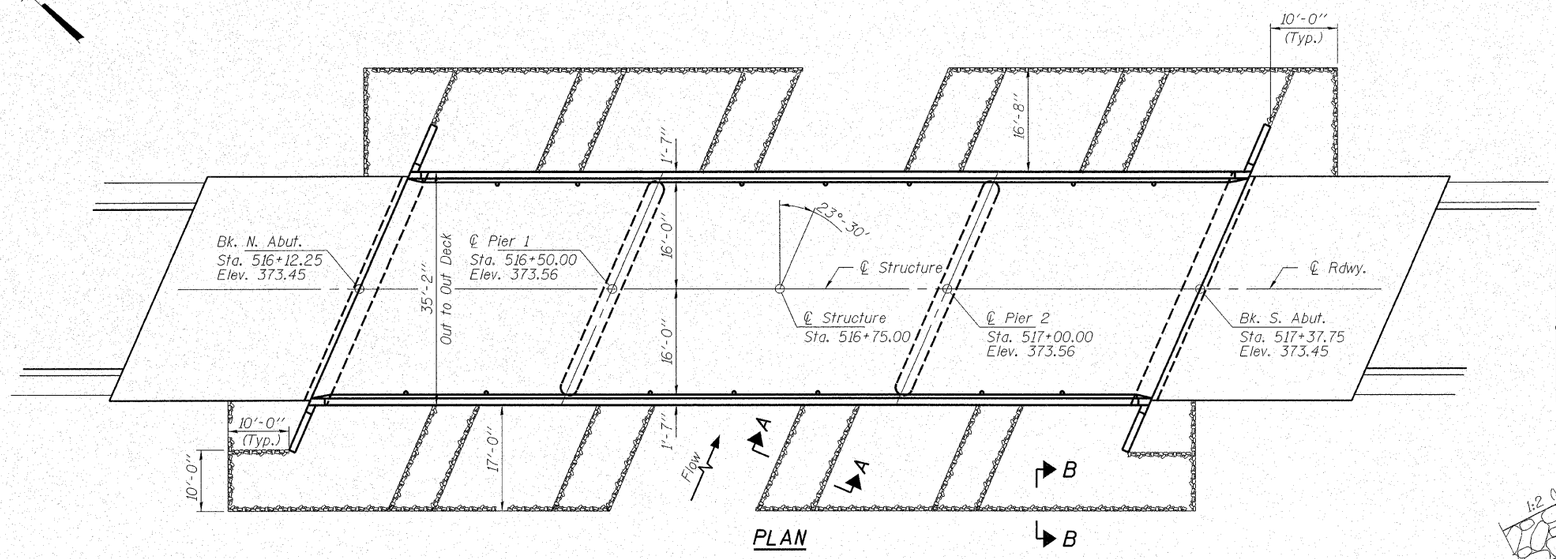
PLOT DATE = $DATE$ FILE NAME = $FILE$

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

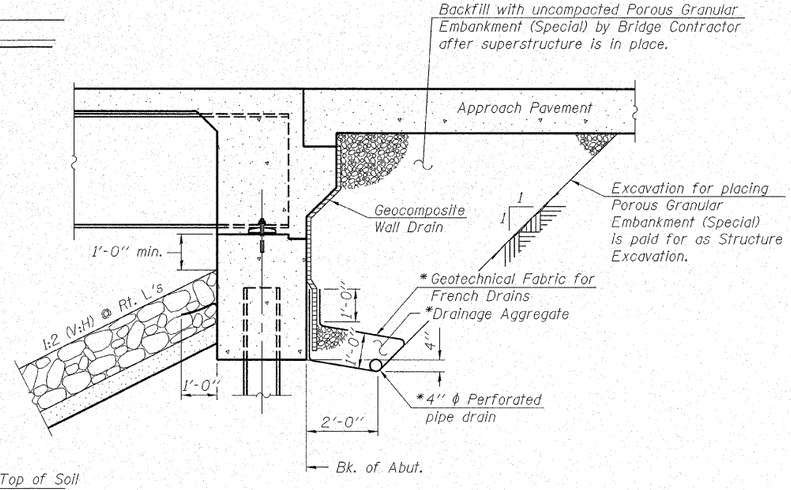
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	21
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
25 SHEETS

Contract #78006



PLAN

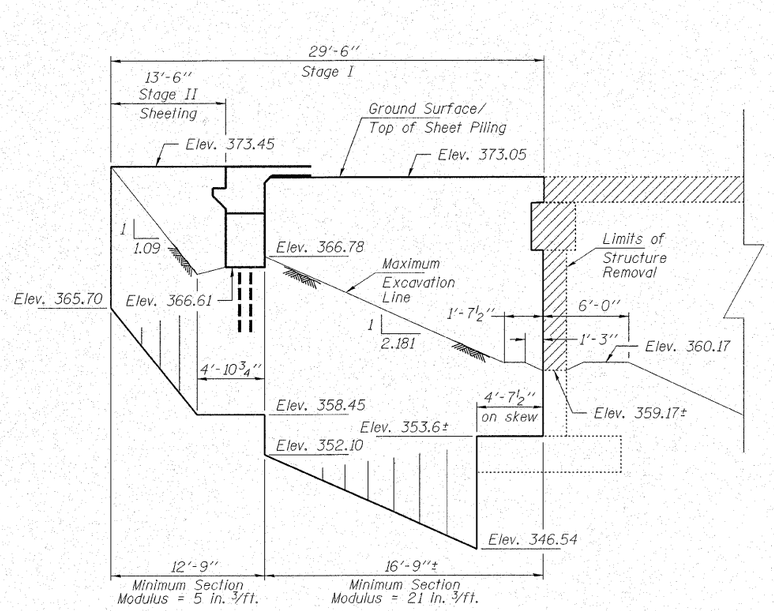


SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. ℄ Rt. L's)

* Included in the cost of Pipe Underdrains for Structures.

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

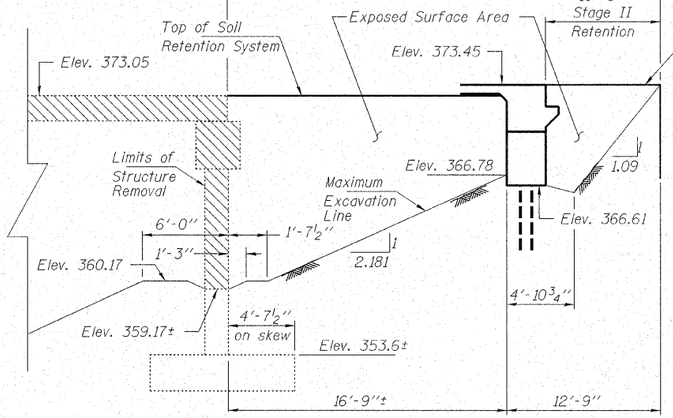


TEMPORARY SHEET PILING

(North Abutment)

The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

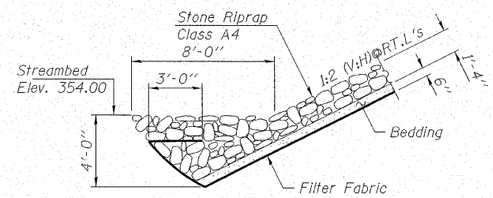
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.



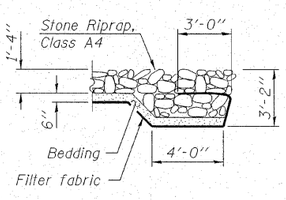
TEMPORARY SOIL RETENTION SYSTEM

(South Abutment)

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.



SECTION A-A



SECTION B-B

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Pipe Underdrains for structures 4"	Foot		144	144
Temporary Soil Retention System	Sq. Ft.		224	224
Temporary Sheet Piling	Sq. Ft.		540	540
Geocomposite Wall Drain	Sq. Yd.		54	54

HAMPTON, LENZINI & RENWICK, INC.
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LAND SURVEYORS
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SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

RIPRAP DETAILS

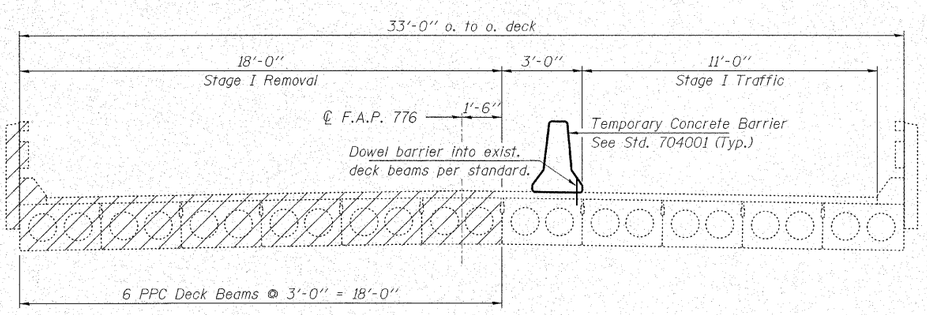
IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

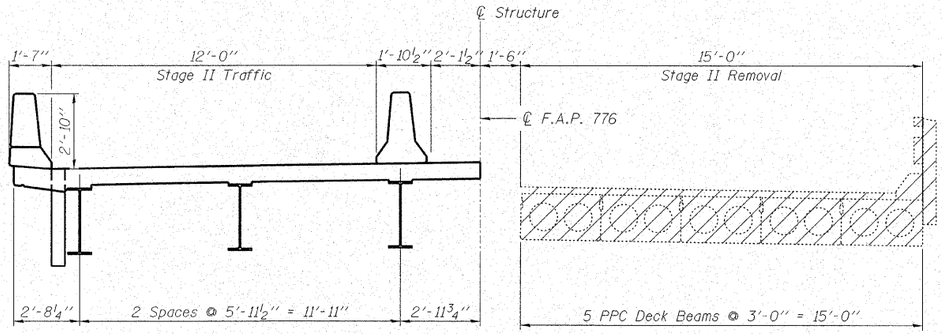
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3
25 SHEETS

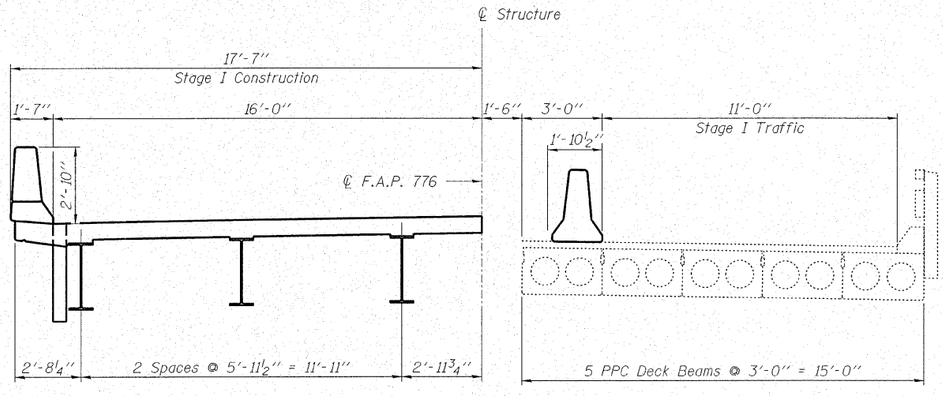
Contract #78006



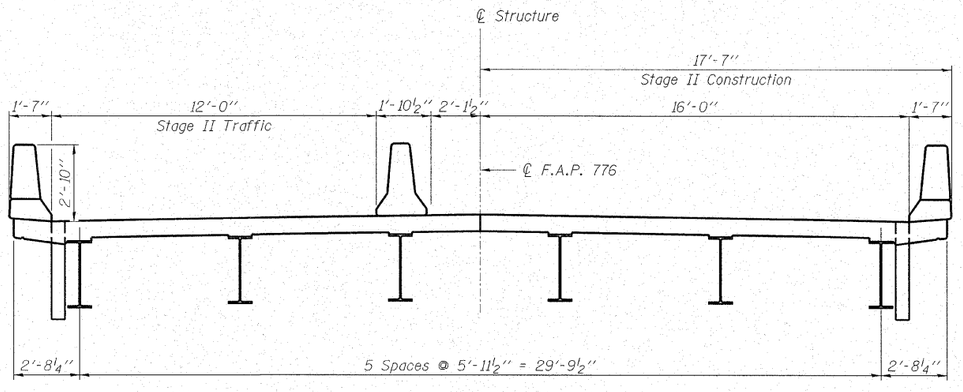
STAGE I REMOVAL
(Looking South)



STAGE II REMOVAL
(Looking South)



STAGE I CONSTRUCTION
(Looking South)



STAGE II CONSTRUCTION
(Looking South)

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-I	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

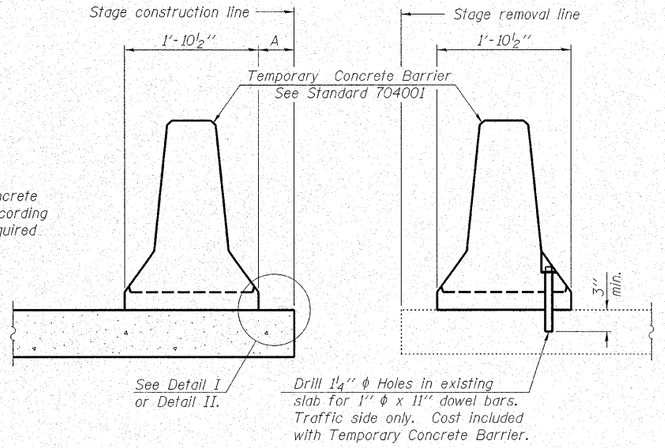
STAGE CONSTRUCTION DETAILS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
25 SHEETS
Contract #78006



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

NEW SLAB EXISTING SLAB

SECTIONS THRU SLAB

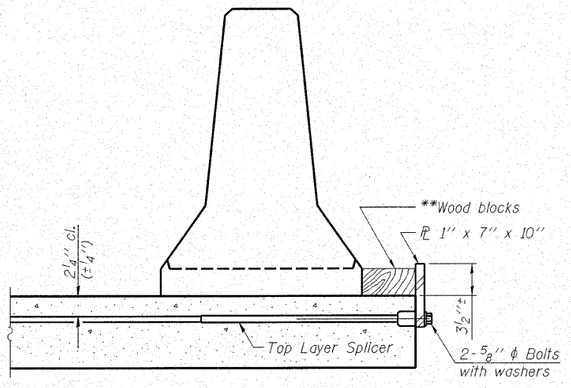
NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℄ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

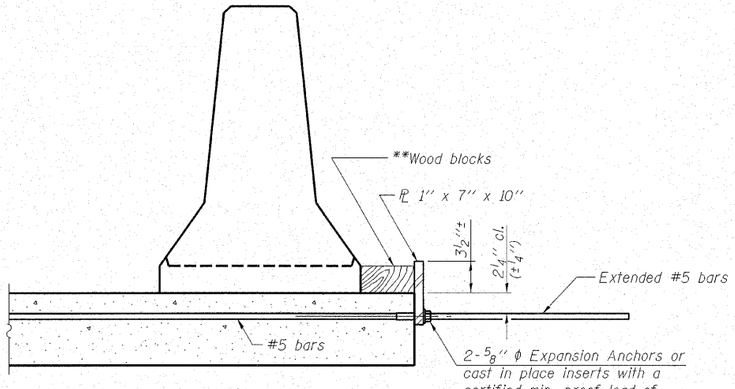
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel ℄ to the concrete slab with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

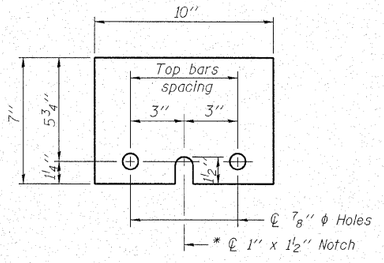


DETAIL I



DETAIL II

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



STEEL RETAINER ℄ 1" x 7" x 10"

* Required only with Detail II

HAMPTON, LENZINI & RENWICK, INC.
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LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

IL ROUTE 142 OVER CONTRARY CREEK

F.A.P. ROUTE 776 - SECTION (116BR-1)B-1

HAMILTON COUNTY

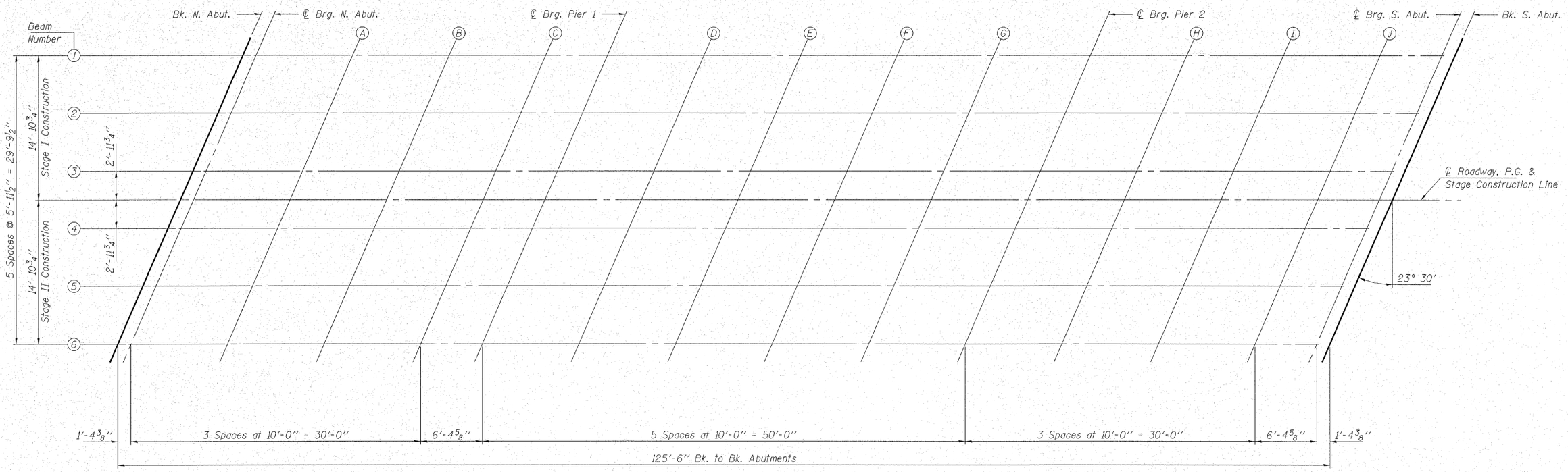
STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 5
25 SHEETS

Contract #78006



PLAN

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

TOP OF SLAB ELEVATIONS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6
25 SHEETS

Contract #78006

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	516+18.73	-14.896	373.231	373.231
℄ Brg. N. Abut.	516+20.09	-14.896	373.237	373.237
A	516+30.09	-14.896	373.272	373.279
B	516+40.09	-14.896	373.300	373.306
C	516+50.09	-14.896	373.321	373.323
℄ Brg. Pier 1	516+56.48	-14.896	373.330	373.330
D	516+66.48	-14.896	373.340	373.351
E	516+76.48	-14.896	373.342	373.362
F	516+86.48	-14.896	373.338	373.358
G	516+96.48	-14.896	373.326	373.337
℄ Brg. Pier 2	517+06.48	-14.896	373.308	373.308
H	517+16.48	-14.896	373.282	373.285
I	517+26.48	-14.896	373.250	373.257
J	517+36.48	-14.896	373.210	373.215
℄ Brg. S. Abut.	517+42.86	-14.896	373.181	373.181
Bk. S. Abut.	517+44.23	-14.896	373.175	373.175

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	516+16.14	-8.938	373.329	373.329
℄ Brg. N. Abut.	516+17.50	-8.938	373.335	373.335
A	516+27.50	-8.938	373.371	373.379
B	516+37.50	-8.938	373.401	373.408
C	516+47.50	-8.938	373.424	373.426
℄ Brg. Pier 1	516+53.89	-8.938	373.435	373.435
D	516+63.89	-8.938	373.446	373.457
E	516+73.89	-8.938	373.450	373.470
F	516+83.89	-8.938	373.448	373.468
G	516+93.89	-8.938	373.438	373.449
℄ Brg. Pier 2	517+03.89	-8.938	373.421	373.421
H	517+13.89	-8.938	373.397	373.401
I	517+23.89	-8.938	373.367	373.374
J	517+33.89	-8.938	373.329	373.334
℄ Brg. S. Abut.	517+40.27	-8.938	373.301	373.301
Bk. S. Abut.	517+41.64	-8.938	373.295	373.295

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	516+13.55	-2.979	373.411	373.411
℄ Brg. N. Abut.	516+14.91	-2.979	373.417	373.417
A	516+24.91	-2.979	373.456	373.463
B	516+34.91	-2.979	373.487	373.494
C	516+44.91	-2.979	373.512	373.514
℄ Brg. Pier 1	516+51.30	-2.979	373.524	373.524
D	516+61.30	-2.979	373.537	373.548
E	516+71.30	-2.979	373.543	373.563
F	516+81.30	-2.979	373.542	373.562
G	516+91.30	-2.979	373.534	373.545
℄ Brg. Pier 2	517+01.30	-2.979	373.519	373.519
H	517+11.30	-2.979	373.497	373.501
I	517+21.30	-2.979	373.468	373.476
J	517+31.30	-2.979	373.433	373.438
℄ Brg. S. Abut.	517+37.68	-2.979	373.406	373.406
Bk. S. Abut.	517+39.05	-2.979	373.400	373.400

HAMPTON, LENZINI & RENWICK, INC.
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LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
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(217) 546-3400
H&LR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.
	DRAWN: D.T.M.

TOP OF SLAB ELEVATIONS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
25 SHEETS

Contract #78006

℄ ROADWAY, P.G. & STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	516+12.25	0.000	373.452	373.452
℄ Brg. N. Abut.	516+13.61	0.000	373.458	373.458
A	516+23.61	0.000	373.498	373.505
B	516+33.61	0.000	373.530	373.537
C	516+43.61	0.000	373.556	373.558
℄ Brg. Pier 1	516+50.00	0.000	373.568	373.568
D	516+60.00	0.000	373.582	373.593
E	516+70.00	0.000	373.589	373.609
F	516+80.00	0.000	373.589	373.609
G	516+90.00	0.000	373.582	373.593
℄ Brg. Pier 2	517+00.00	0.000	373.568	373.568
H	517+10.00	0.000	373.547	373.550
I	517+20.00	0.000	373.519	373.527
J	517+30.00	0.000	373.484	373.489
℄ Brg. S. Abut.	517+36.39	0.000	373.458	373.458
Bk. S. Abut.	517+37.75	0.000	373.452	373.452

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	516+10.96	2.979	373.400	373.400
℄ Brg. N. Abut.	516+12.32	2.979	373.406	373.406
A	516+22.32	2.979	373.446	373.453
B	516+32.32	2.979	373.480	373.486
C	516+42.32	2.979	373.506	373.508
℄ Brg. Pier 1	516+48.71	2.979	373.519	373.519
D	516+58.71	2.979	373.534	373.545
E	516+68.71	2.979	373.542	373.562
F	516+78.71	2.979	373.543	373.563
G	516+88.71	2.979	373.537	373.548
℄ Brg. Pier 2	516+98.71	2.979	373.524	373.524
H	517+08.71	2.979	373.504	373.507
I	517+18.71	2.979	373.477	373.484
J	517+28.71	2.979	373.443	373.447
℄ Brg. S. Abut.	517+35.09	2.979	373.417	373.417
Bk. S. Abut.	517+36.46	2.979	373.411	373.411

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	516+08.36	8.938	373.295	373.295
℄ Brg. N. Abut.	516+09.73	8.938	373.301	373.301
A	516+19.73	8.938	373.343	373.351
B	516+29.73	8.938	373.379	373.385
C	516+39.73	8.938	373.407	373.409
℄ Brg. Pier 1	516+46.11	8.938	373.421	373.421
D	516+56.11	8.938	373.438	373.449
E	516+66.11	8.938	373.448	373.468
F	516+76.11	8.938	373.450	373.470
G	516+86.11	8.938	373.446	373.457
℄ Brg. Pier 2	516+96.11	8.938	373.435	373.435
H	517+06.11	8.938	373.416	373.420
I	517+16.11	8.938	373.391	373.399
J	517+26.11	8.938	373.359	373.364
℄ Brg. S. Abut.	517+32.50	8.938	373.335	373.335
Bk. S. Abut.	517+33.86	8.938	373.329	373.329

HAMPTON, LENZINI & RENWICK, INC.
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(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.
	DRAWN: D.T.M.

TOP OF SLAB ELEVATIONS

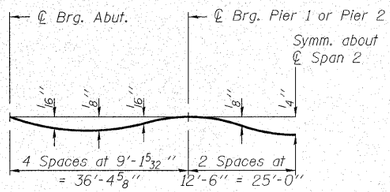
IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
25 SHEETS

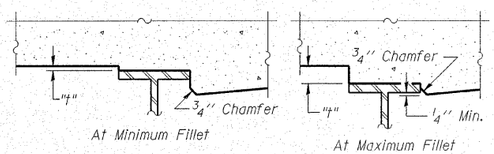
Contract #78006



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets 5 to 8.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on Sheets 5 to 8. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 5 to 8, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	516+05.77	14.896	373.175	373.175
℄ Brg. N. Abut.	516+07.14	14.896	373.181	373.181
A	516+17.14	14.896	373.225	373.232
B	516+27.14	14.896	373.262	373.269
C	516+37.14	14.896	373.292	373.294
℄ Brg. Pier 1	516+43.52	14.896	373.308	373.308
D	516+53.52	14.896	373.326	373.337
E	516+63.52	14.896	373.338	373.358
F	516+73.52	14.896	373.342	373.362
G	516+83.52	14.896	373.340	373.351
℄ Brg. Pier 2	516+93.52	14.896	373.330	373.330
H	517+03.52	14.896	373.314	373.317
I	517+13.52	14.896	373.290	373.298
J	517+23.52	14.896	373.260	373.265
℄ Brg. S. Abut.	517+29.91	14.896	373.237	373.237
Bk. S. Abut.	517+31.27	14.896	373.231	373.231

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CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

TOP OF SLAB ELEVATIONS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
25 SHEETS

Contract #78006

EAST CURB LINE

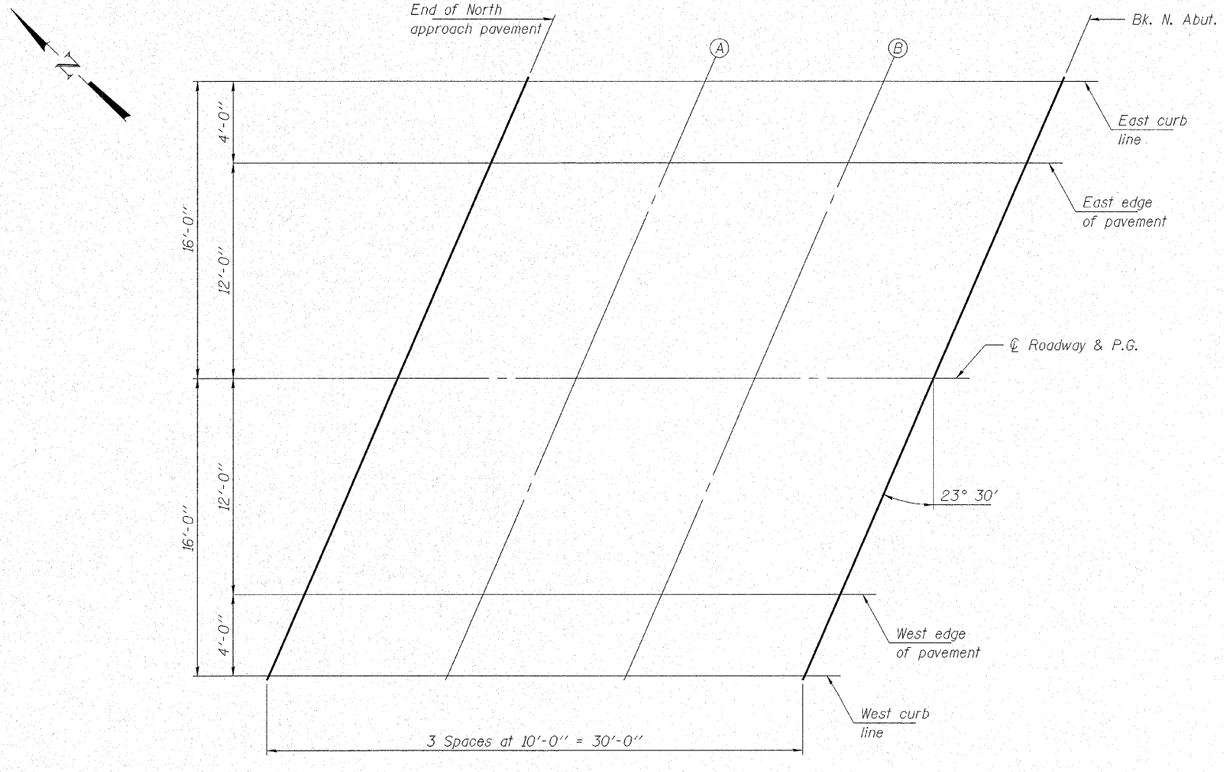
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End of N. Approach Pvmt.	515+89.21	-16.000	373.062	
A	515+99.21	-16.000	373.118	
B	516+09.21	-16.000	373.168	
Bk. N. Abutment	516+19.21	-16.000	373.210	

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End of N. Approach Pvmt.	515+87.47	-12.000	373.134	
A	515+97.47	-12.000	373.192	
B	516+07.47	-12.000	373.243	
Bk. N. Abutment	516+17.47	-12.000	373.287	

℄ ROADWAY & P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End of N. Approach Pvmt.	515+82.25	0.000	373.289	
A	515+92.25	0.000	373.350	
B	516+02.25	0.000	373.405	
Bk. N. Abutment	516+12.25	0.000	373.452	



PLAN

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End of N. Approach Pvmt.	515+77.03	12.000	373.067	
A	515+87.03	12.000	373.132	
B	515+97.03	12.000	373.190	
Bk. N. Abutment	516+07.03	12.000	373.241	

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End of N. Approach Pvmt.	515+75.29	16.000	372.971	
A	515+85.29	16.000	373.038	
B	515+95.29	16.000	373.097	
Bk. N. Abutment	516+05.29	16.000	373.149	

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(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

TOP OF NORTH APPROACH SLAB ELEVATIONS

IL ROUTE 142 OVER CONTRARY CREEK

F.A.P. ROUTE 776 - SECTION (116BR-1)B-1

HAMILTON COUNTY

STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	29
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
25 SHEETS

Contract #78006

EAST CURB LINE

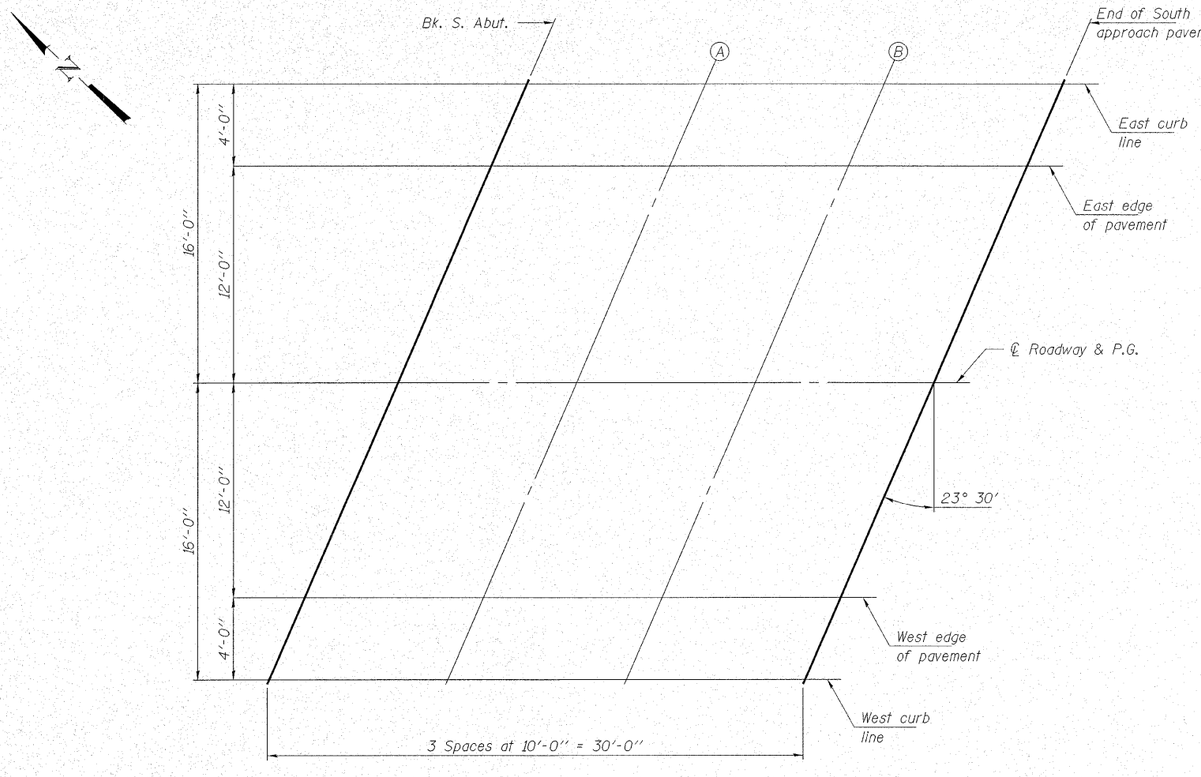
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment.	517+44.71	-16.000	373.149	
A	517+54.71	-16.000	373.097	
B	517+64.71	-16.000	373.038	
End of S. Approach Pvmt.	517+74.71	-16.000	372.971	

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment.	517+42.97	-12.000	373.241	
A	517+52.97	-12.000	373.190	
B	517+62.97	-12.000	373.132	
End of S. Approach Pvmt.	517+72.97	-12.000	373.067	

℄ ROADWAY & P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment.	517+37.75	0.000	373.452	
A	517+47.75	0.000	373.405	
B	517+57.75	0.000	373.350	
End of S. Approach Pvmt.	517+67.75	0.000	373.289	



PLAN

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment.	517+32.53	12.000	373.287	
A	517+42.53	12.000	373.243	
B	517+52.53	12.000	373.192	
End of S. Approach Pvmt.	517+62.53	12.000	373.134	

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment.	517+30.79	16.000	373.210	
A	517+40.79	16.000	373.168	
B	517+50.79	16.000	373.118	
End of S. Approach Pvmt.	517+60.79	16.000	373.062	

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(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

TOP OF SOUTH APPROACH SLAB ELEVATIONS

IL ROUTE 142 OVER CONTRARY CREEK

F.A.P. ROUTE 776 - SECTION (116BR-1)B-1

HAMILTON COUNTY

STRUCTURE NO. 033-0050 / STATION 516+75

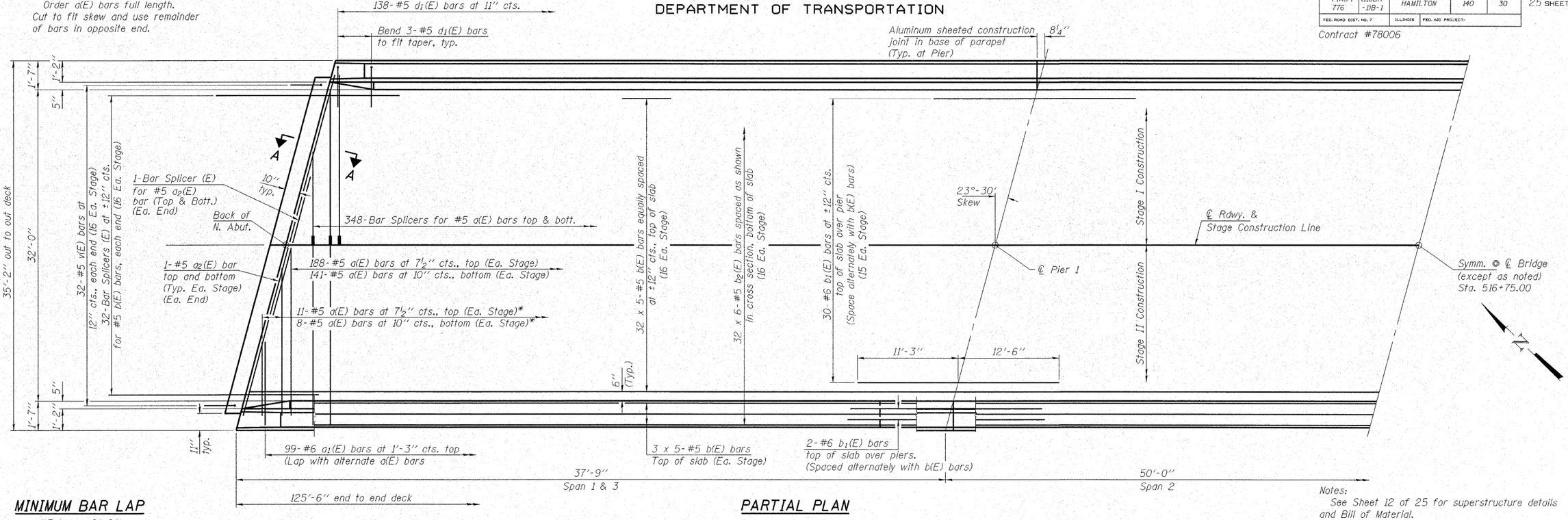
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
25 SHEETS

Contract #78006

* Order a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

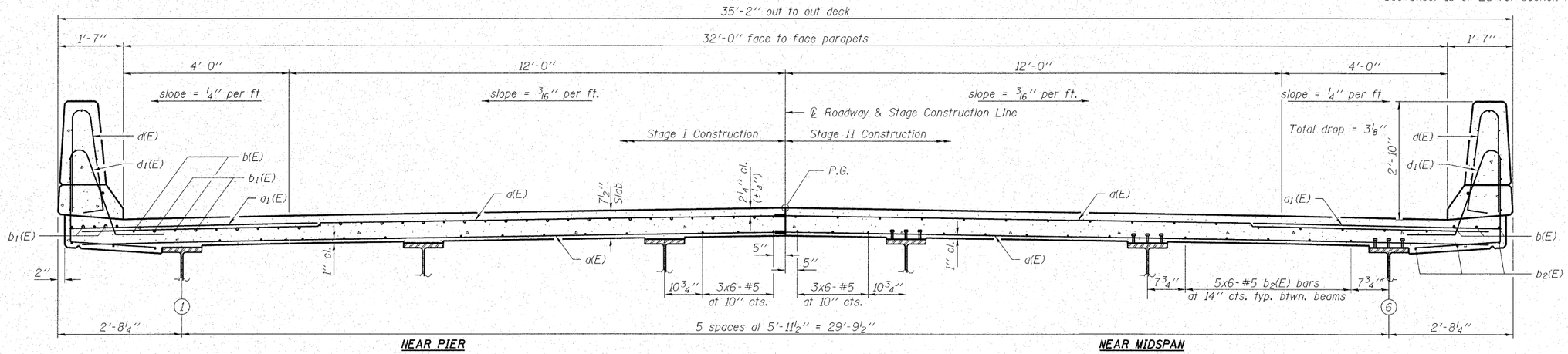


MINIMUM BAR LAP

#5 bar = 2'-2"

PARTIAL PLAN

Notes:
See Sheet 12 of 25 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 12 of 25 for parapet reinforcement.
See Sheet 13 of 25 for section A-A.



NEAR PIER — NEAR MIDSPAN

CROSS SECTION

(Looking South)

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(217) 546-3400
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PROJECT NUMBER: 12-41-0021-1		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

SUPERSTRUCTURE

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

SI-2-L

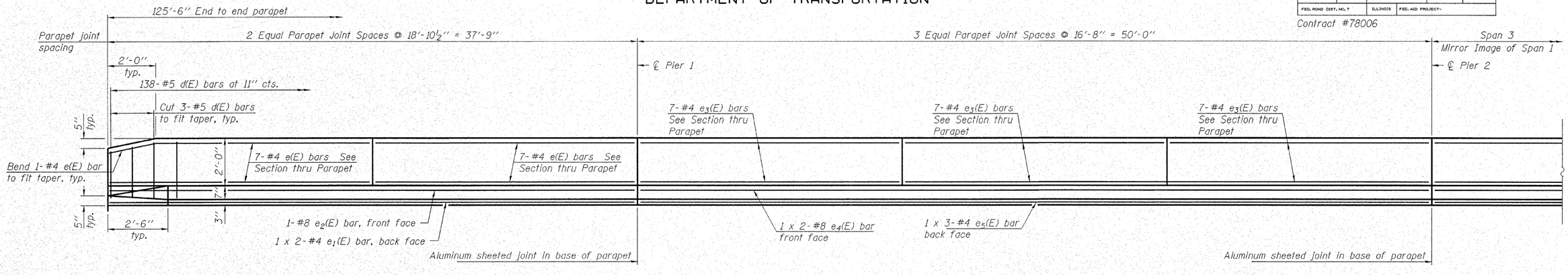
11-1-06

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	31
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

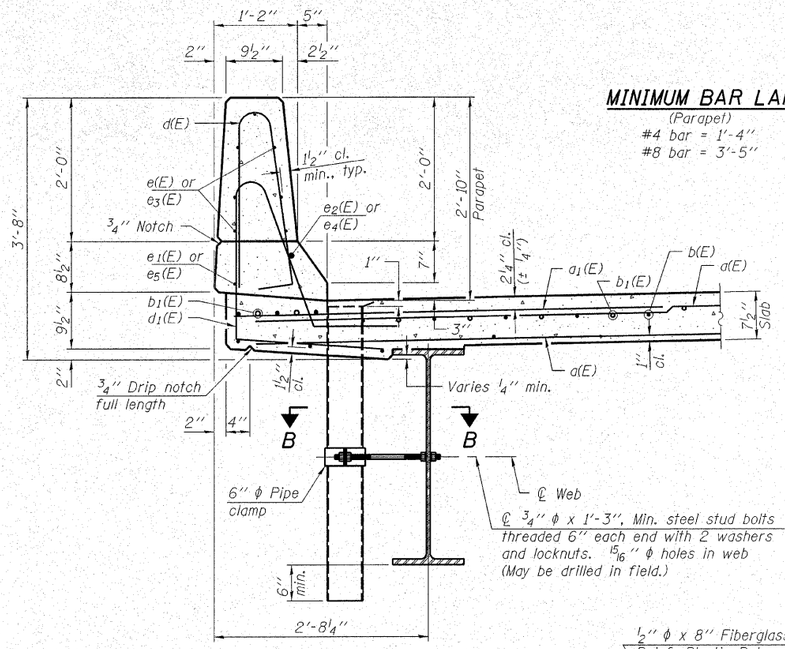
SHEET NO. 12
25 SHEETS

Contract #78006



INSIDE ELEVATION OF NORTH PARAPET

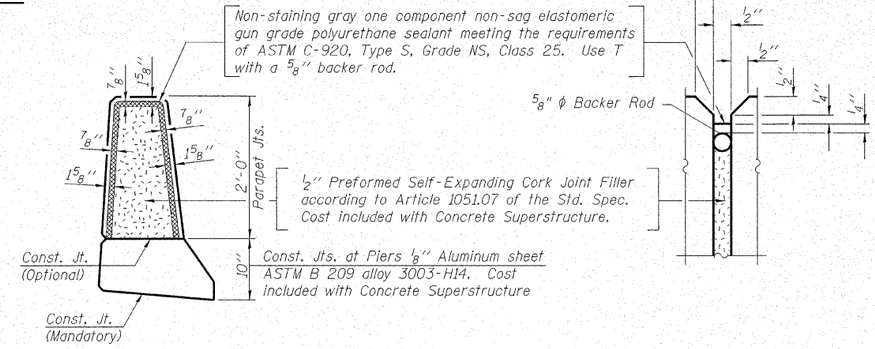
(South Parapet Opposite Hand)



SECTION THRU PARAPET

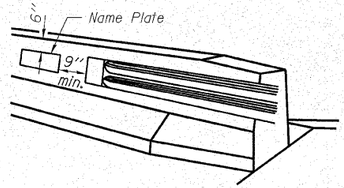
MINIMUM BAR LAP

(Parapet)
#4 bar = 1'-4"
#8 bar = 3'-5"



PARAPET JOINT DETAILS

Notes:
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Steel Structures Painting Council's Spec. SSPC-SP1 prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
For detail of bar s(E) see Sheet 13 of 25.

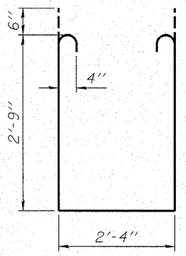


NAME PLATE LOCATION DETAIL

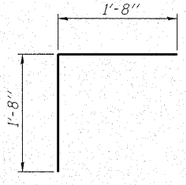
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	696	#5	17'-3"	
a1(E)	198	#6	6'-0"	
a2(E)	8	#5	18'-10"	
b(E)	190	#5	26'-10"	
b1(E)	68	#6	23'-9"	
b2(E)	192	#5	22'-9"	
d(E)	276	#5	5'-7"	
d1(E)	276	#5	7'-5"	
e(E)	56	#4	18'-7"	
e1(E)	8	#4	19'-5"	
e2(E)	4	#8	37'-6"	
e3(E)	42	#4	16'-5"	
e4(E)	4	#8	26'-7"	
e5(E)	6	#4	17'-6"	
m(E)	8	#6	17'-10"	
m1(E)	12	#6	18'-10"	
m2(E)	24	#6	8'-6"	
m3(E)	8	#6	6'-1"	
m4(E)	8	#6	2'-6"	
s(E)	72	#5	5'-8"	
s1(E)	64	#4	8'-10"	
v(E)	64	#5	3'-4"	
Concrete Superstructure		Cu. Yds.	155.7	
Bar Splicers		Each	432	
Reinforcement Bars, Epoxy Coated		Pound	34,510	

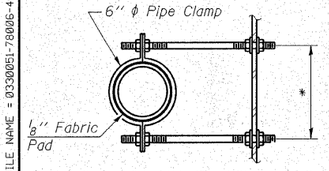
Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.



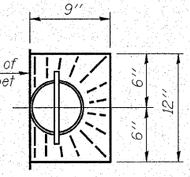
BAR s1(E)



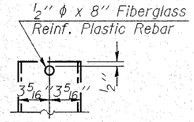
BAR v(E)



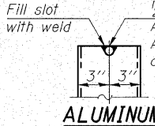
SECTION B-B
* Dimension as required by Pipe Clamp



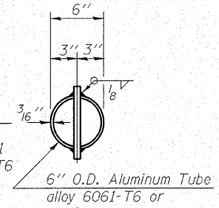
TOP PLAN



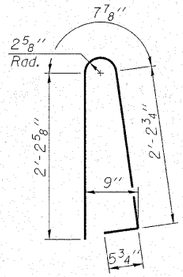
FIBERGLASS PIPE



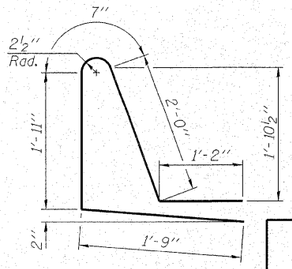
ALUMINUM TUBE



TOP PLAN
(Showing Aluminum Tube)



BAR d(E)



BAR d1(E)

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PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.
	DRAWN: D.T.M.

SUPERSTRUCTURE DETAILS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

S-I-D

11-1-06

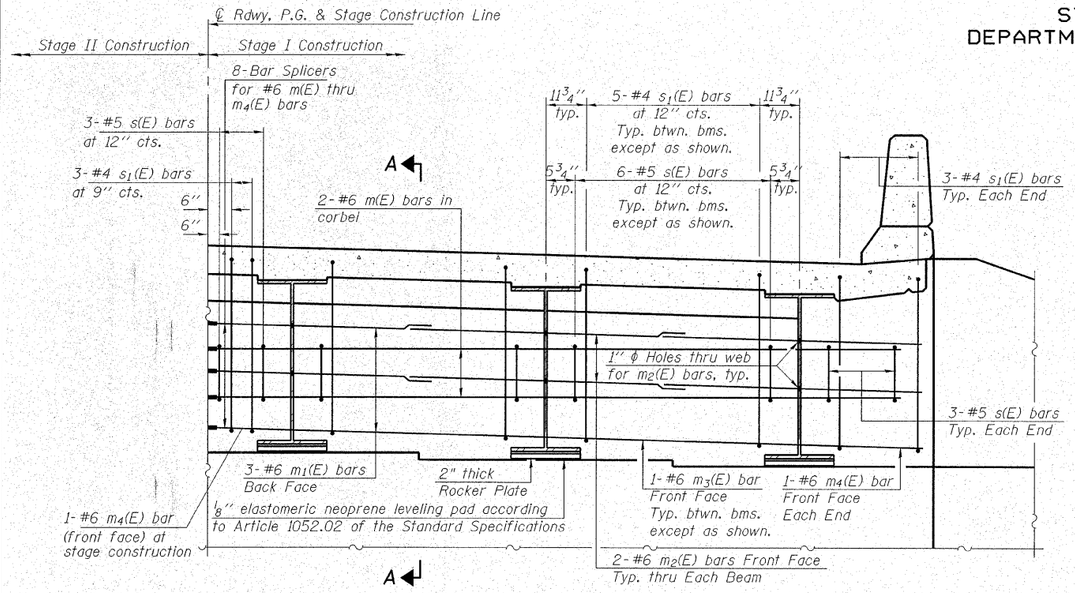
PLOT DATE = 10/26/2007 FILE NAME = 033005I-78006-4102bridge00S8.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1)B-1	HAMILTON	140	32
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

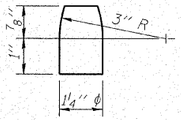
SHEET NO. 13
25 SHEETS

Contract #78006



DIAPHRAGM ELEVATION AT NORTH ABUTMENT

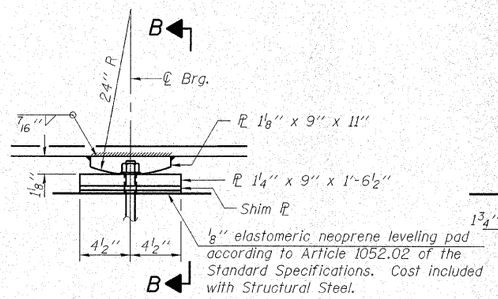
(South Abutment opposite hand)



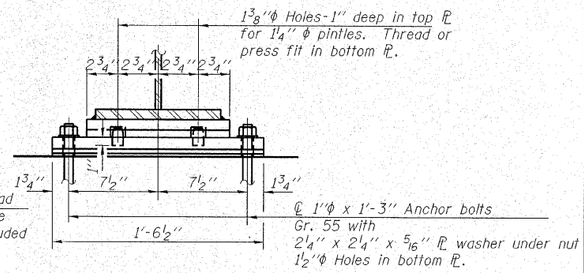
PINTLE

MINIMUM BAR LAP

(Diaphragm)
#6 bar = 2'-9"

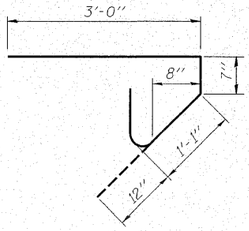


ELEVATION AT PIER

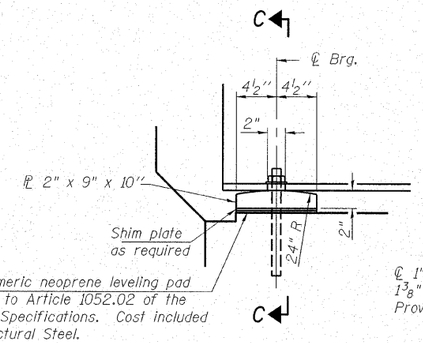


SECTION B-B

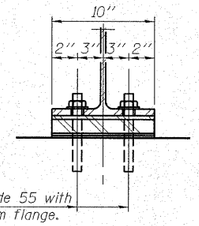
FIXED BEARING AT PIERS



BAR s(E)

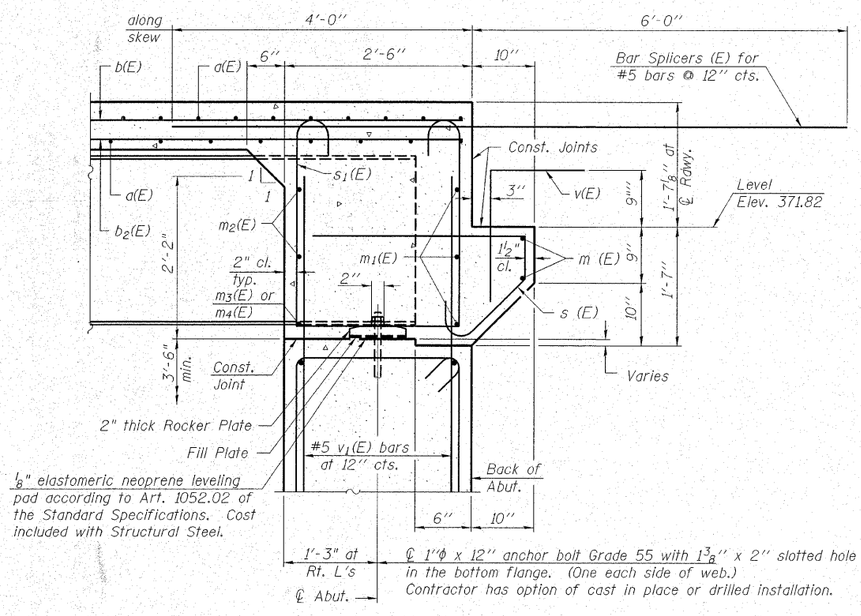


ELEVATION AT ABUTMENT



SECTION C-C

FIXED BEARING AT ABUTMENTS



SECTION A-A

See Sheet 11 of 25 for location of SECTION A-A.
Dimensions at right angles to abutment, except as shown.

Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet 12 of 25.
Concrete in diaphragm is included with Concrete Superstructure on sheet 12 of 25.
For details of bars s1(E) see sheet 12 of 25.
The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts 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.
Two ⅛" 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" ϕ	Each	48

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

SUPERSTRUCTURE DETAILS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

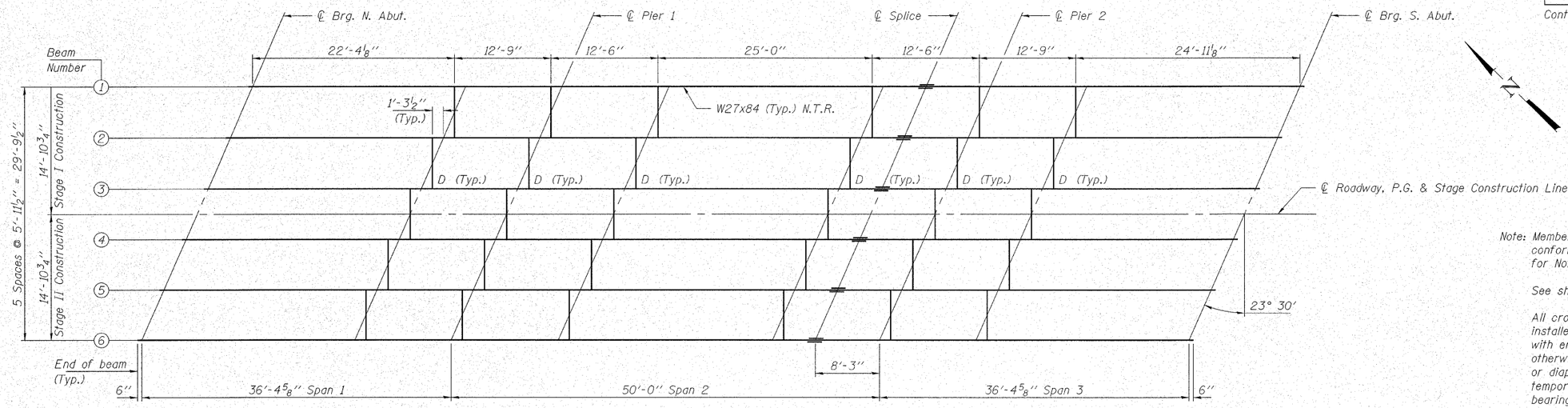
PLOT DATE = $DATE$ FILE NAME = $FILE$

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1)B-1	HAMILTON	140	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

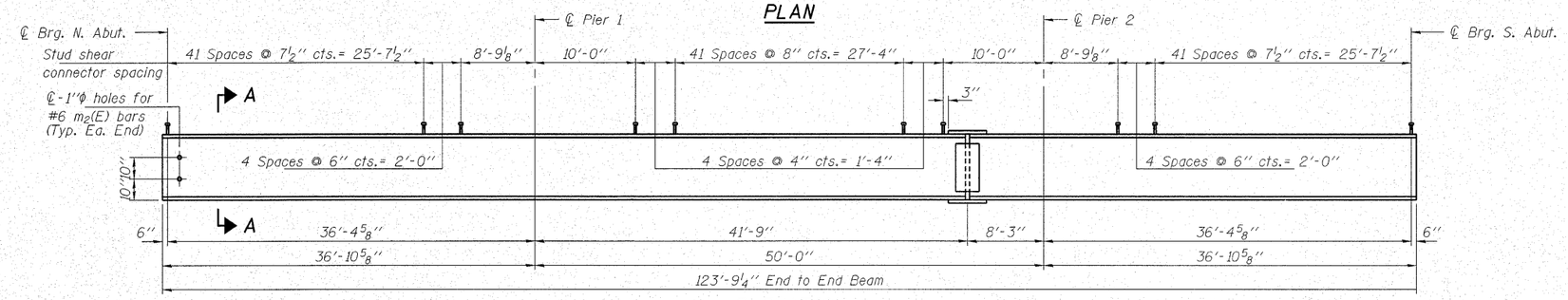
SHEET NO. 14
25 SHEETS

Contract #78006

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



ELEVATION

INTERIOR BEAM MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	2850	2850	2850	2850	2850
$I_c(n)$	(in^4)	8542		8542		8542
$I_c(3n)$	(in^4)	6353		6353		6353
S_s	(in^3)	213	213	213	213	213
$S_c(n)$	(in^3)	331		331		331
$S_c(3n)$	(in^3)	300		300		300
ϱ	(k/')	0.665	1.113	0.665	1.113	0.665
$M\varrho$	('k)	54	195	79	195	54
$s\varrho$	(k/')	0.448		0.448		0.448
$M_s\varrho$	('k)	45		74		45
M_L	('k)	178	109	240	109	178
M_{Imp}	('k)	54	33	70	33	54
$\frac{5}{3}[M_L + _{Imp}]$	('k)	386	237	517	237	386
M_a	('k)	631	561	871	561	631
* M_u	('k)	1504		1504		1504
f_s ϱ non-comp	(ksi)	3.0	11.0	4.5	11.0	3.0
f_s ϱ (comp)	(ksi)	1.8		2.7		1.8
f_s $\frac{5}{3}[M_L + M_{Imp}]$	(ksi)	14.0	13.4	20.7	13.4	14.0
f_s (Overload)	(ksi)	18.8	24.4	27.9	24.4	18.8
** f_s (Total)	(ksi)		31.7		31.7	
VR	(k)	40.0		34.4		40.0

* Compact section
** Braced non-compact and partially braced section

INTERIOR BEAM REACTION TABLE			
		Abut.	Pier
$R\varrho$	(k)	14.9	53.5
R_L	(k)	27.9	35.4
Imp.	(k)	8.4	10.6
R_{Total}	(k)	51.2	99.5

Note: Members designated N.T.R. shall conform to supplemental requirements for Notch Toughness (Zone 2).

See sheet 15 of 25 for section A-A.

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

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Z: Plastic Section Modulus of the steel section in non-composite areas ($in.^3$).

ϱ: Un-factored non-composite dead load (kips/ft.).

$M\varrho$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\varrho$: Un-factored long-term composite (superimposed) dead load (kips/ft.)

$M_s\varrho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L: Un-factored live load moment (kip-ft.).

M_{Imp}: Un-factored moment due to impact (kip-ft.).

M_a: Factored design moment (kip-ft.).
$1.3\ [M\varrho + M_s\varrho + \frac{5}{3}(M_L + M_{Imp})]$

M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M\varrho + M_s\varrho + \frac{5}{3}(M_L + M_{Imp})$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\varrho + M_s\varrho + \frac{5}{3}(M_L + M_{Imp})]$

VR: Maximum $_L$ + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

STRUCTURAL STEEL

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

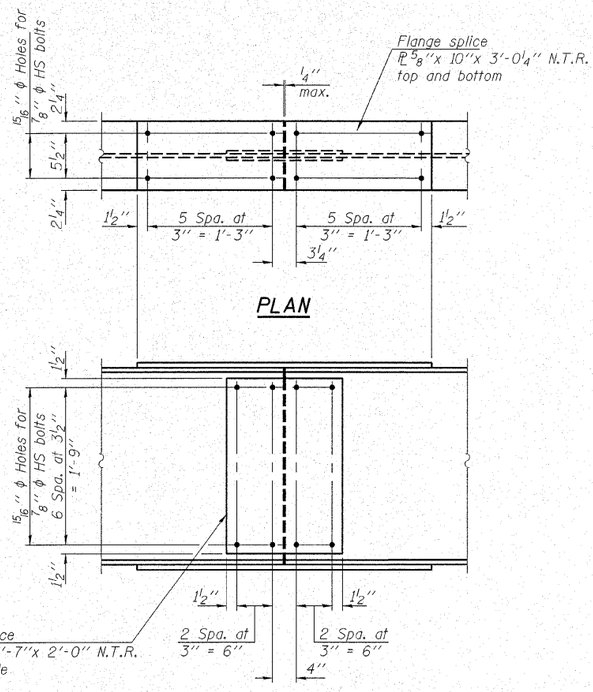
PLOT DATE = $DATE$ FILE NAME = $FILE1$

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

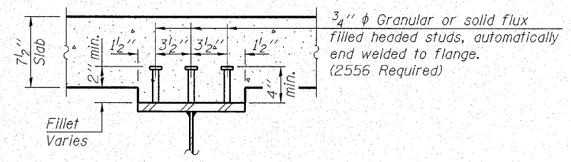
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	34
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 15
25 SHEETS

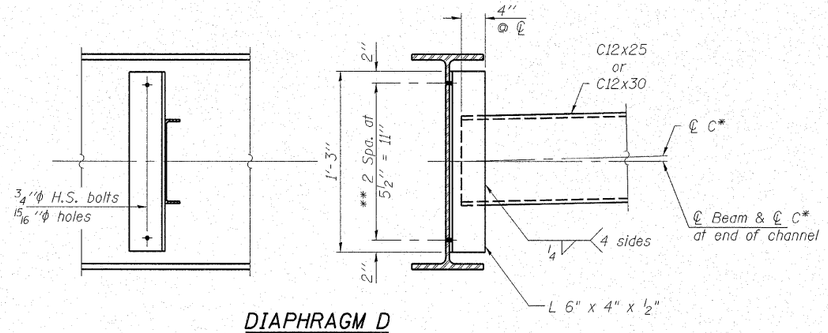
Contract #78006



Note: Components designated N.T.R. shall conform to the supplemental Requirements for Notch Toughness (Zone 2).



SECTION A-A



DIAPHRAGM D

Notes:
Two hardened washers required for each set of oversized holes.

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

* Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
** ¾" ϕ HS bolts, 15/16" ϕ holes

TOP OF BEAM ELEVATIONS

(For Fabrication Only)

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
℄ Brg. N. Abutment	372.570	372.668	372.750	372.739	372.634	372.514
℄ Brg. Pier 1	372.586	372.690	372.779	372.775	372.676	372.563
℄ Splice	372.604	372.716	372.812	372.816	372.725	372.619
℄ Brg. Pier 2	372.587	372.701	372.799	372.804	372.715	372.610
℄ Brg. S. Abutment	372.514	372.634	372.739	372.750	372.668	372.570

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

BEAM DETAILS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

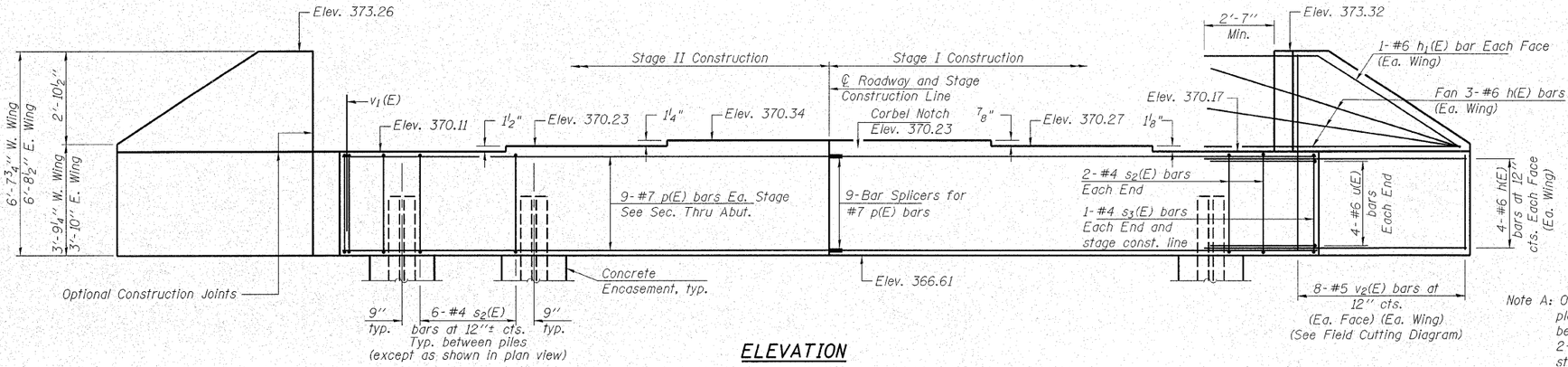
Notes: Pour steps monolithically with cap.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	35
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

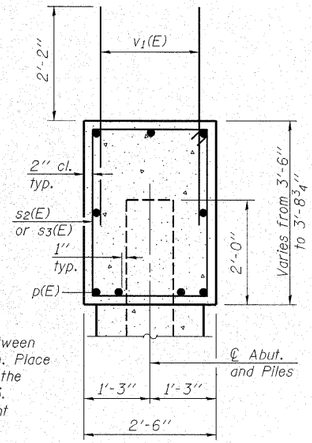
SHEET NO. 16
25 SHEETS

Contract #78006

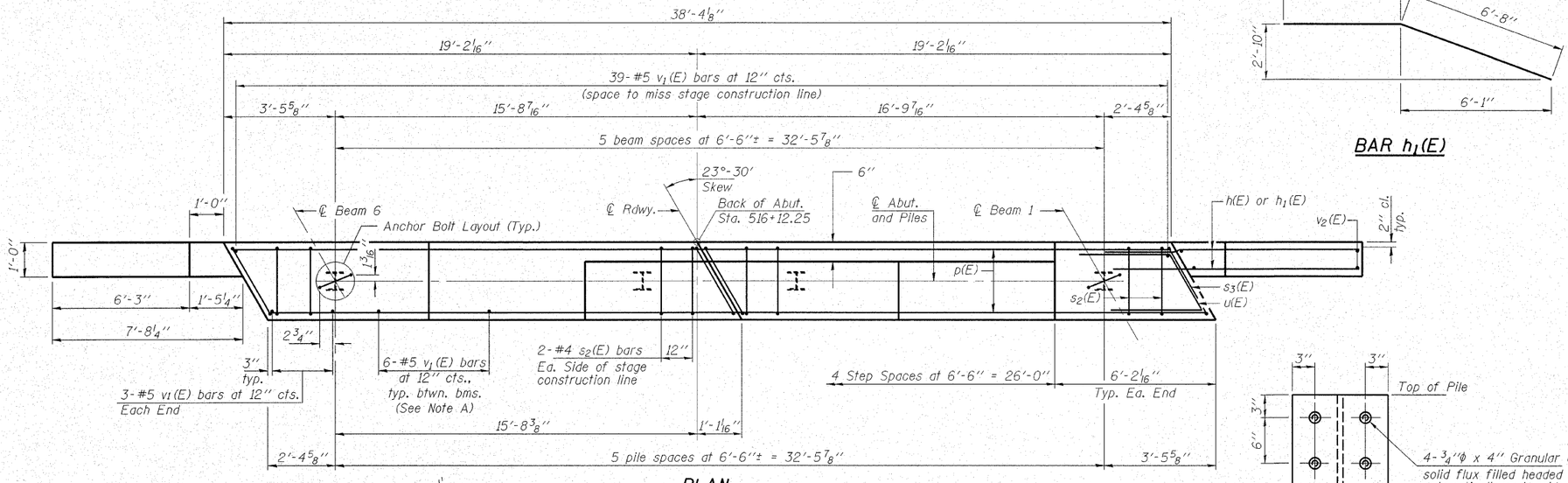


ELEVATION
(Looking North)

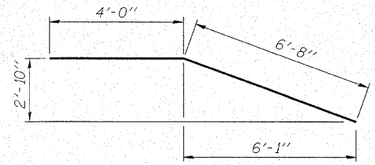
Note A: On the front face of abutment, place 4-$v_1(E)$ bars at 12" cts. between beam 4 and stage construction line. Place 2-$v_1(E)$ bars at 12" cts. between the stage construction line and beam 3. Place reinforcement in the abutment to miss anchor bolts.



SEC. THRU ABUT.



PLAN

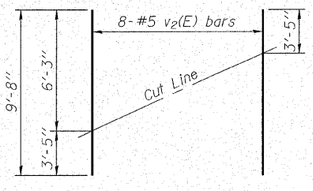


BAR $h_1(E)$

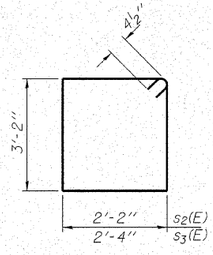
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#6	10'-3"	
$h_1(E)$	4	#6	10'-8"	
p(E)	18	#7	18'-10"	
$s_2(E)$	32	#4	11'-5"	
$s_3(E)$	4	#4	11'-9"	
u(E)	8	#6	12'-3"	
$v_1(E)$	74	#5	4'-4"	
$v_2(E)$	16	#5	9'-8"	
Structure Excavation		Cu. Yd.	96	
Concrete Structures		Cu. Yd.	15.9	
Concrete Encasement		Cu. Yd.	2.0	
Stud Shear Connectors		Each	48	
Reinforcement Bars, Epoxy Coated		Pound	2,110	
Bar Splicers		Each	9	
Furnishing Steel Piles, HP10x57		Foot	350	
Driving Piles		Foot	350	
Test Pile Steel HP10x57		Each	1	

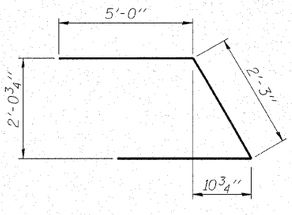
For details of Bar Splicers, see sheet 20 of 25.
For details of piles and Concrete Encasement, see sheet 22 of 25.



FIELD CUTTING DIAGRAM
Order $v_2(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BARS $s_2(E)$ & $s_3(E)$



BAR u(E)

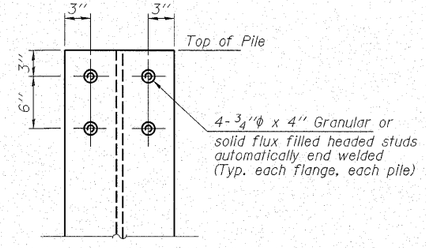
PILE DATA

Type and Size _____ Steel HP10x57
No. Req'd. _____ *6
Nominal Req'd Bearing _____ 453 Kips/Pile
Allowable Resistance Available _____ 151 Kips/Pile
Est. Lengths _____ 70 Fl/Pile

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

* Includes one test pile to be driven in permanent location at the North Abutment.



SEISMIC ANCHORAGE FOR PILES

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.
	DRAWN: D.T.M.

NORTH ABUTMENT
IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

AI-L 11-1-06

PLOT DATE = 10/26/2007 FILE NAME = 033005I: 78006-41021br-dge8050.dgn

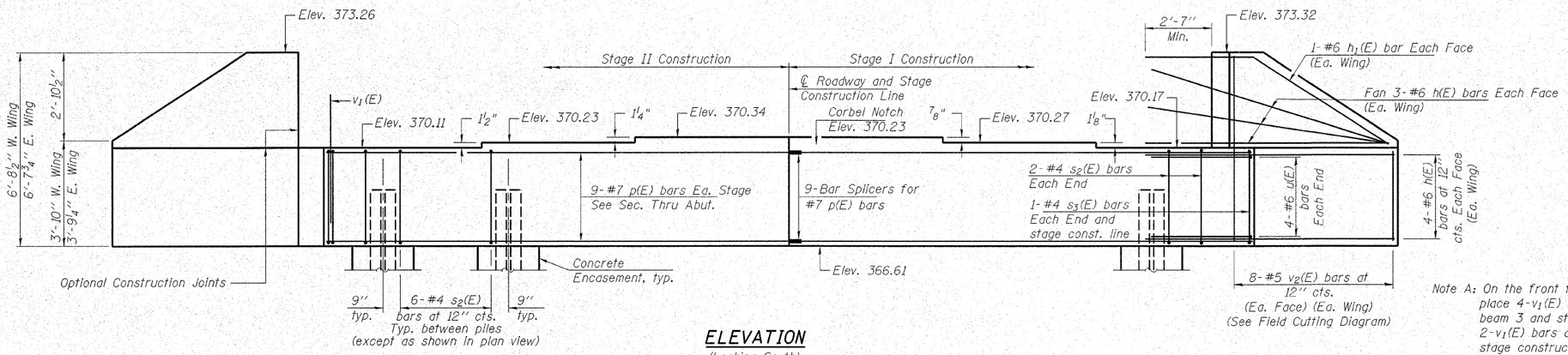
Notes: Pour steps monolithically with cap.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

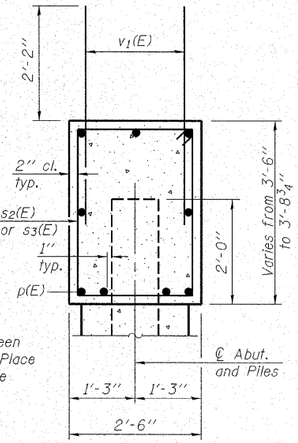
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	36
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 17
25 SHEETS

Contract #78006

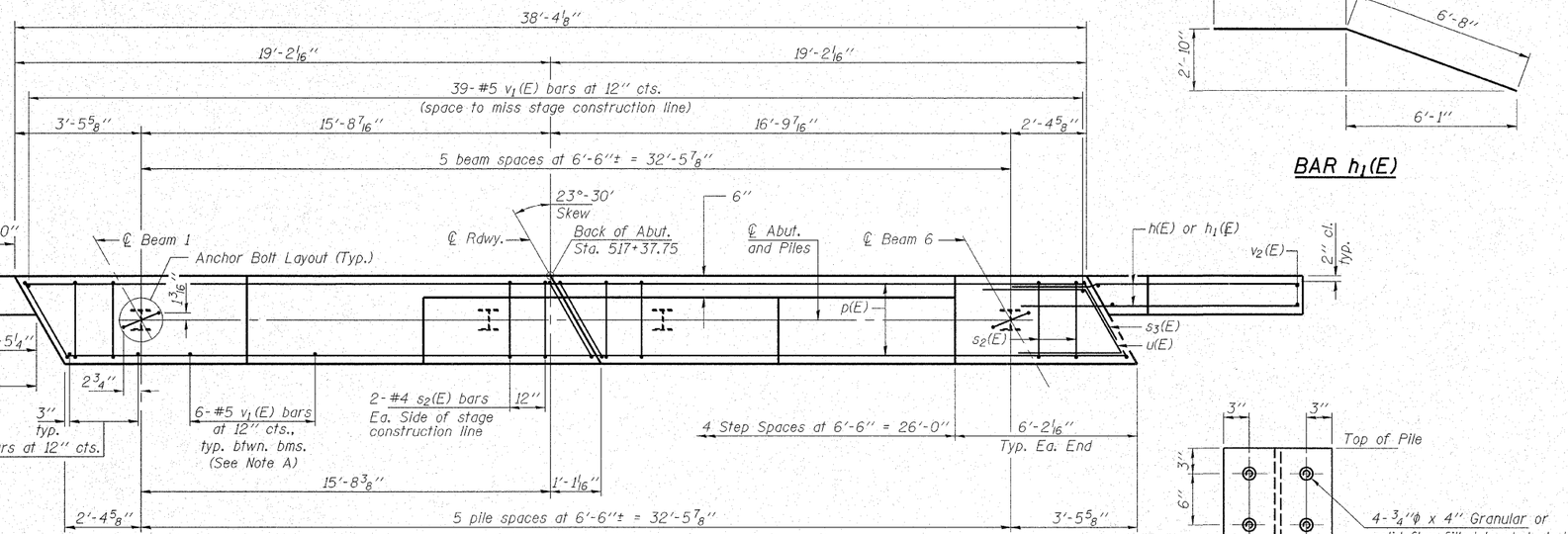


ELEVATION
(Looking South)

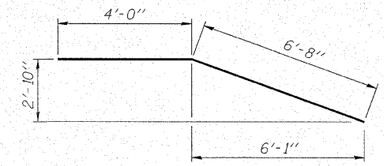


Note A: On the front face of abutment, place 4-v_1(E) bars at 12" cts. between beam 3 and stage construction line. Place 2-v_1(E) bars at 12" cts. between the stage construction line and beam 5. Place reinforcement in the abutment to miss anchor bolts.

SEC. THRU ABUT.



PLAN

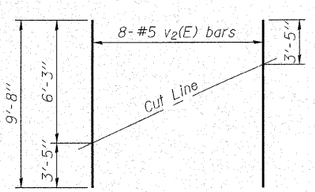


BAR h_1(E)

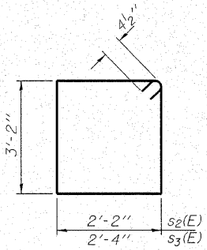
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#6	10'-3"	
h_1(E)	4	#6	10'-8"	
p(E)	18	#7	18'-10"	
s_2(E)	32	#4	11'-5"	
s_3(E)	4	#4	11'-9"	
u(E)	8	#6	12'-3"	
v_1(E)	74	#5	4'-4"	
v_2(E)	16	#5	9'-8"	
Structure Excavation			Cu. Yd.	96
Concrete Structures			Cu. Yd.	15.9
Concrete Encasement			Cu. Yd.	2.0
Stud Shear Connectors			Each	48
Reinforcement Bars, Epoxy Coated			Pound	2,110
Bar Splicers			Each	9
Furnishing Steel Piles, HP10x57			Foot	420
Driving Piles			Foot	420

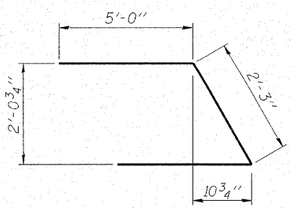
For details of Bar Splicers, see sheet 20 of 25.
For details of piles and Concrete Encasement, see sheet 22 of 25.



FIELD CUTTING DIAGRAM
Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s_2(E) & s_3(E)



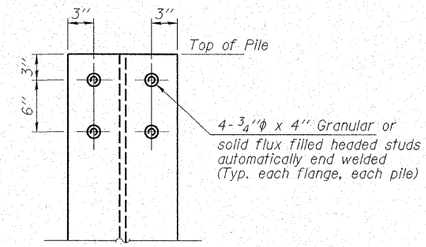
BAR u(E)

PILE DATA

Type and Size _____ Steel HP10x57
No. Req'd. _____ 6
Nominal Req'd Bearing _____ 453 Kips/Pile
Allowable Resistance Available ___ 151 Kips/Pile
Est. Lengths _____ 70 Ft/Pile

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.



SEISMIC ANCHORAGE FOR PILES

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

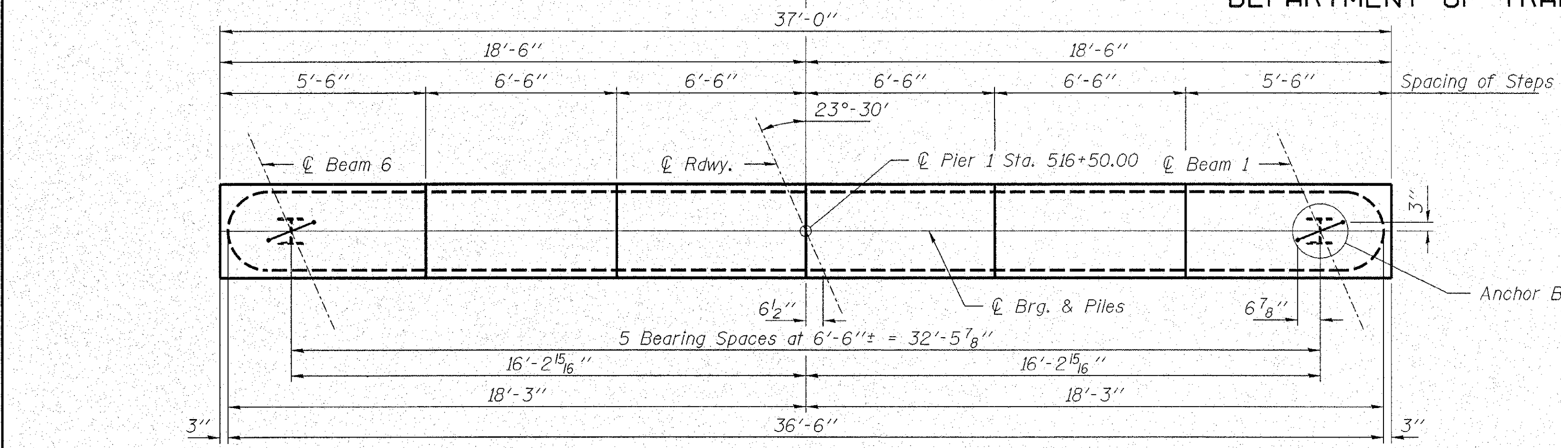
PROJECT NUMBER: 12-41-0021-1		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

SOUTH ABUTMENT
IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

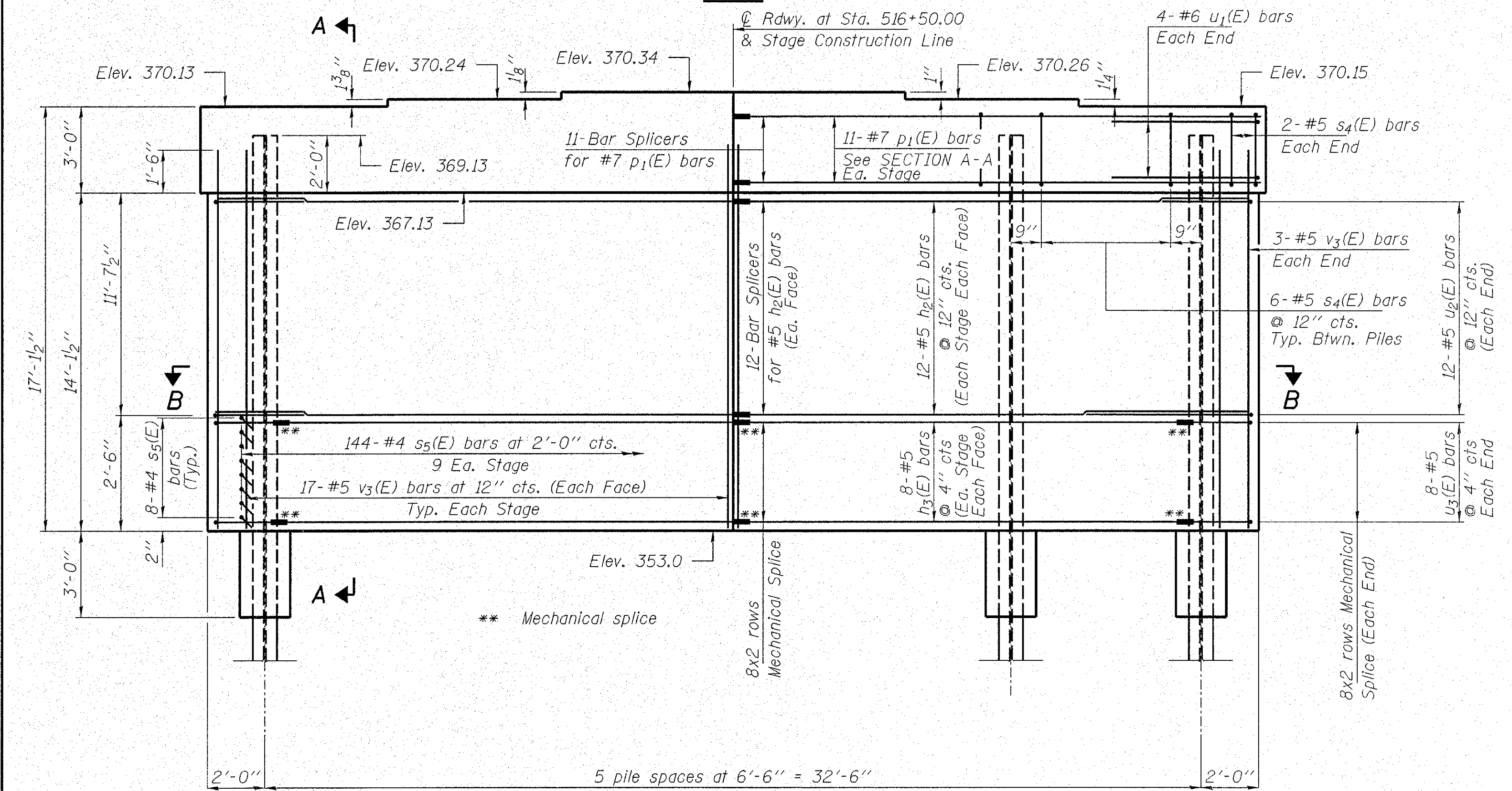
AI-L 11-1-06

Contract #78006

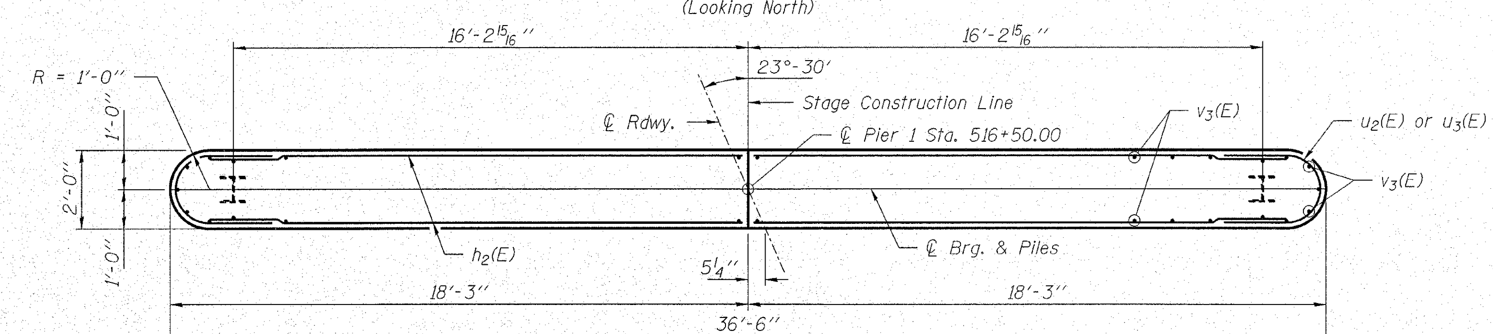
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



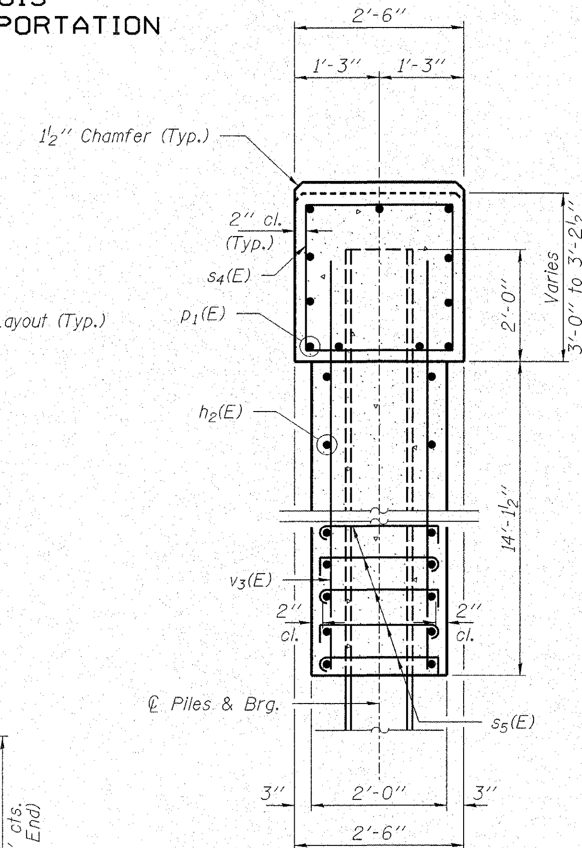
PLAN



ELEVATION
(Looking North)

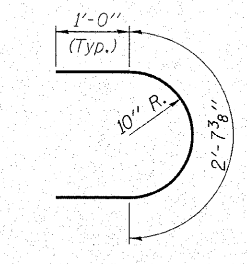


SECTION B-B

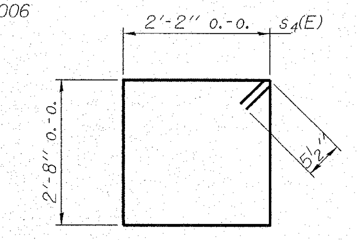


SECTION A-A

Note: For detail of Pile Encasement see Sheet 22 of 25.
Space reinforcement in cap to miss anchor bolts.



BAR $u_3(E)$



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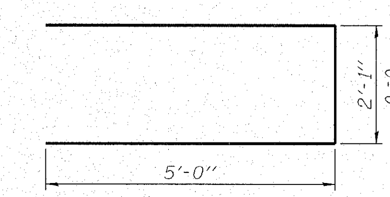

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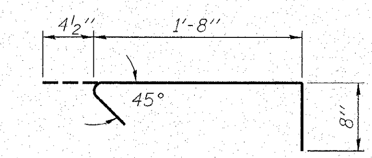

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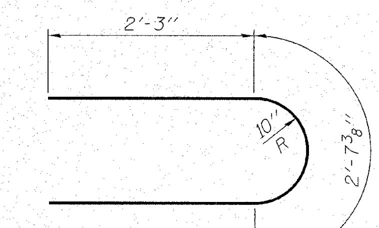
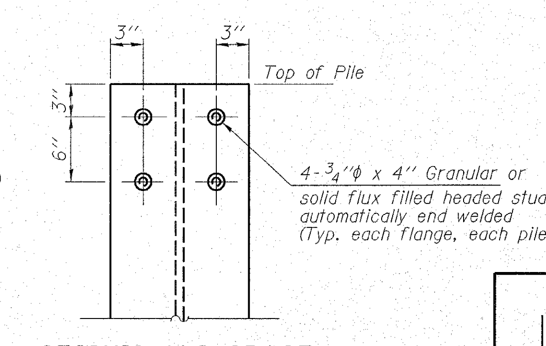


BAR $u_2(E)$

PILE DATA

Type and Size	Steel HP10x57
No. Req'd.	6
Nominal Req'd Bearing	453 Kips/Pile
Allowable Resistance Available	151 Kips/Pile
Est. Lengths	70 Ft/Pile

Note: The Steel H-Piles shall be according to AASHTO M270 Grade 50.



SEISMIC ANCHORAGE FOR PILES

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_2(E)$	48	#5	17'-1"	—
$h_3(E)$	32	#5	16'-1"	—
$p_1(E)$	22	#7	18'-2"	—
$s_4(E)$	34	#5	10'-7"	☐
$s_5(E)$	144	#4	2'-9"	⌐
$u_1(E)$	8	#6	12'-1"	⊐
$u_2(E)$	24	#5	7'-2"	⊃
$u_3(E)$	16	#5	4'-8"	⊃
$v_3(E)$	74	#5	15'-6"	—

Item	Unit	Total
Structure Excavation	Cu. Yd.	22
Concrete Structures	Cu. Yd.	47.8
Concrete Encasement	Cu. Yd.	2.0
Stud Shear Connectors	Each	48
Reinforcement Bars, Epoxy Coated	Pound	4,450
Bar Splicers	Each	35
Furnishing Steel Piles, HP10x57	Foot	420
Driving Piles	Foot	420
Underwater Structure Excavation Protection Location 1	Each	1
Mechanical Splice	Each	48

For details of Bar Splicers, see sheet 20 of 25.
For details of Piles and Concrete Encasement, see sheet 22 of 25.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07	
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

PIER 1

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

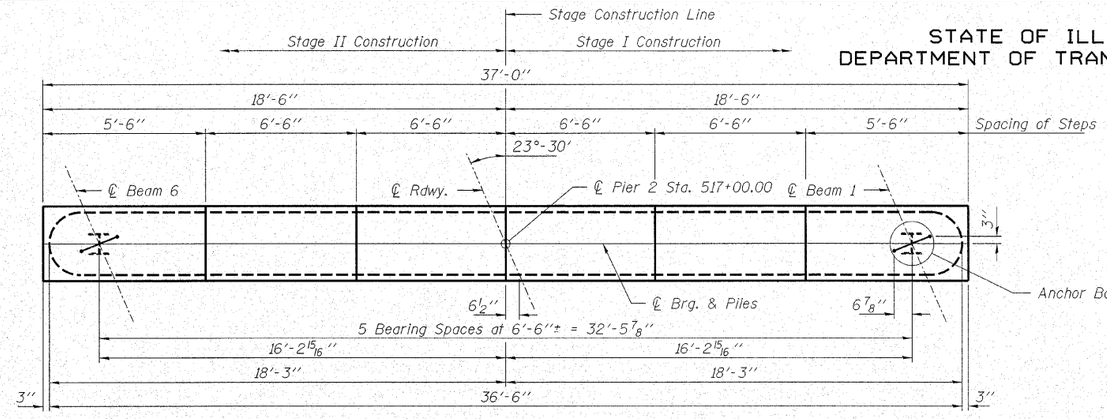
PLOT DATE :10/26/2007 FILE NAME = 0330051-78006-41021bridge0050.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

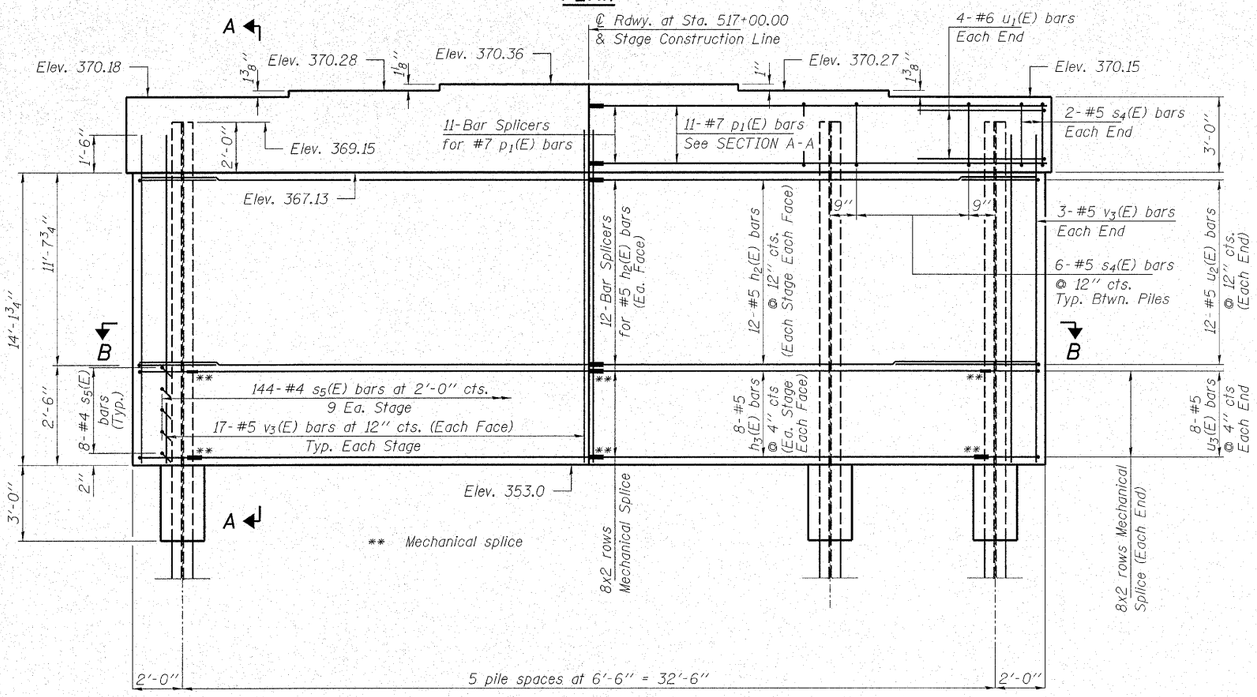
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 19
25 SHEETS

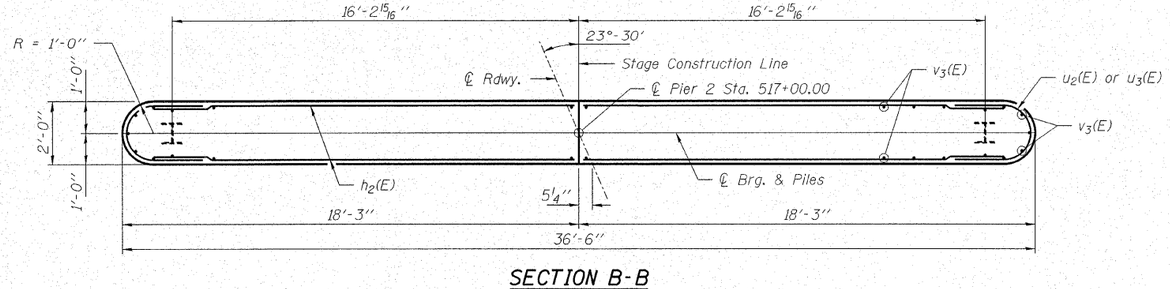
Contract #78006



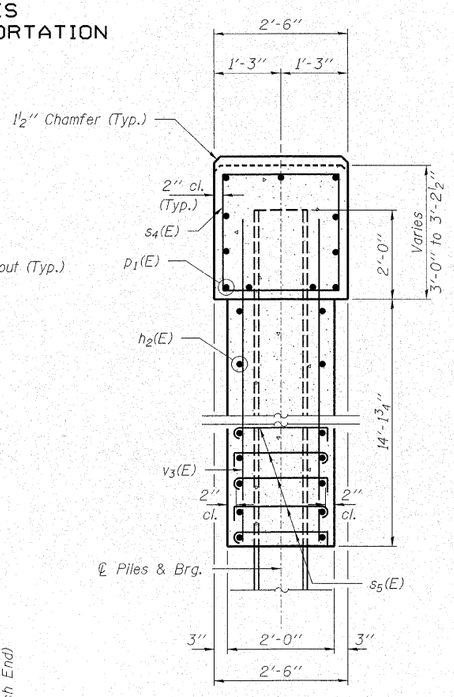
PLAN



ELEVATION
(Looking North)



SECTION B-B



SECTION A-A

Note: For detail of Pile Encasement see Sheet 22 of 25.
Space reinforcement in cap to miss anchor bolts.

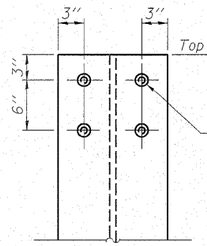
PILE DATA

Type and Size _____ Steel HP10x57
No. Req'd. _____ *6
Nominal Req'd Bearing _____ 453 Kips/Pile
Allowable Resistance Available ___ 151 Kips/Pile
Est. Lengths _____ 70 Ft/Pile

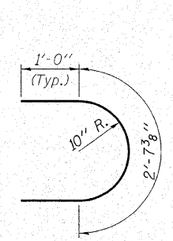
Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

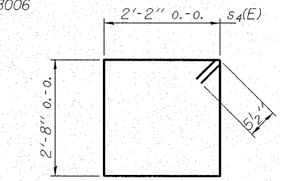
* Includes one test pile to be driven in a permanent location.



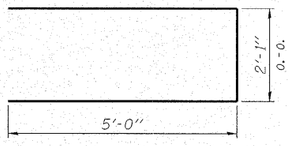
SEISMIC ANCHORAGE
FOR PILES



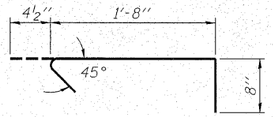
BAR u3(E)



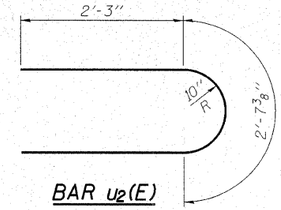
BAR s4(E)



BAR u1(E)



BAR s5(E)



BAR u2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h2(E)	48	#5	17'-1"	
h3(E)	32	#5	16'-1"	
p1(E)	22	#7	18'-2"	
s4(E)	34	#5	10'-7"	
s5(E)	144	#4	2'-9"	
u1(E)	8	#6	12'-1"	
u2(E)	24	#5	7'-2"	
u3(E)	16	#5	4'-8"	
v3(E)	74	#5	15'-6"	

Structure Excavation	Cu. Yd.	22
Concrete Structures	Cu. Yd.	47.8
Concrete Encasement	Cu. Yd.	2.0
Stud Shear Connectors	Each	48
Reinforcement Bars, Epoxy Coated	Pound	4,450
Bar Splicers	Each	35
Furnishing Steel Piles, HP10x57	Foot	420
Driving Piles	Foot	420
Underwater Structure Excavation Protection Location 1	Each	1
Mechanical Splice	Each	48

For details of Bar Splicers, see sheet 20 of 25.
For details of Piles and Concrete Encasement, see sheet 22 of 25.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.
	DRAWN: D.T.M.

PIER 2

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1)B-1	HAMILTON	140	39
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 20
25 SHEETS

Contract #78006

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

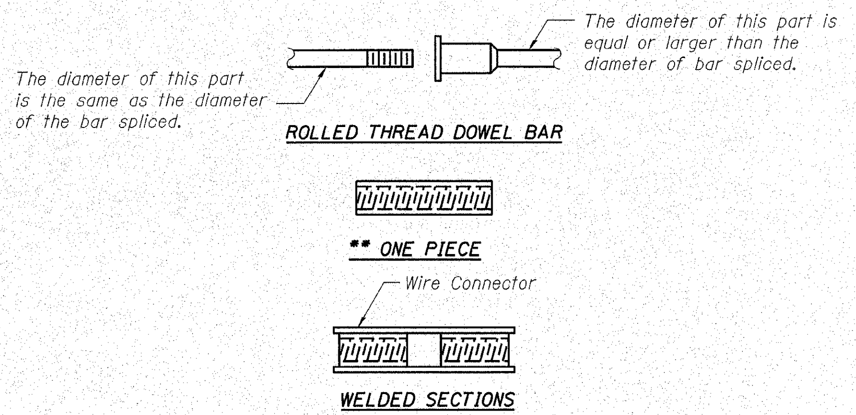
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) $= 1.25 \times f_y \times A_t$

② Minimum *Pull-out Strength (Tension in kips) $= 0.66 \times f_y \times A_t$

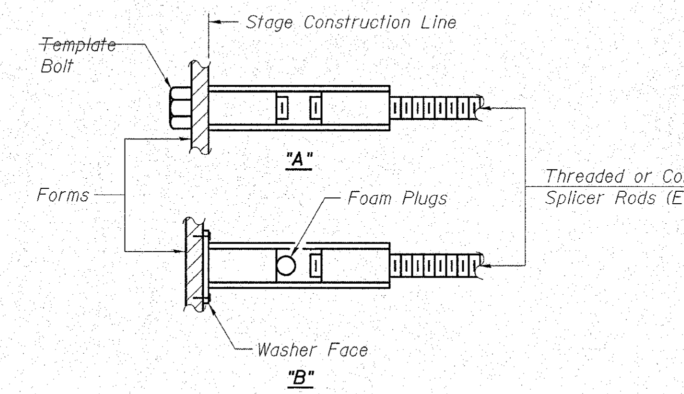
Where f_y = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



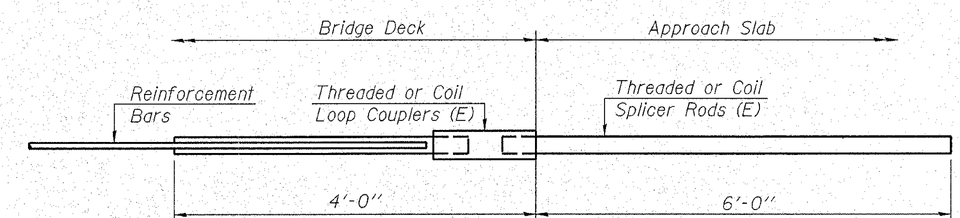
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



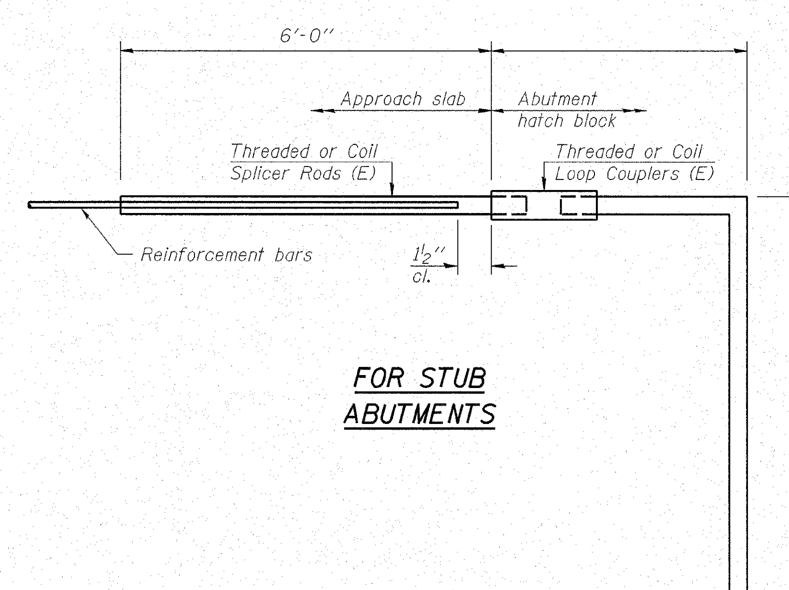
INSTALLATION AND SETTING METHODS

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



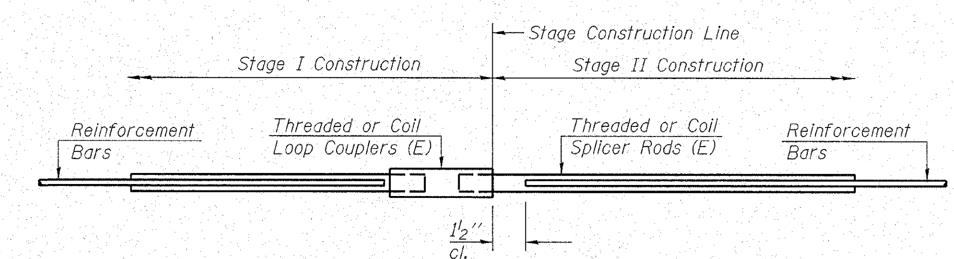
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 64



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 0



STANDARD

Bar Size	No. Assemblies Required	Location
#5	352	Bridge Deck
#6	16	Diaphragms
#7	18	Abutments
#5	48	Piers
#7	22	Piers

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CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

BAR SPLICER ASSEMBLY DETAILS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

BSD-1 11-1-06

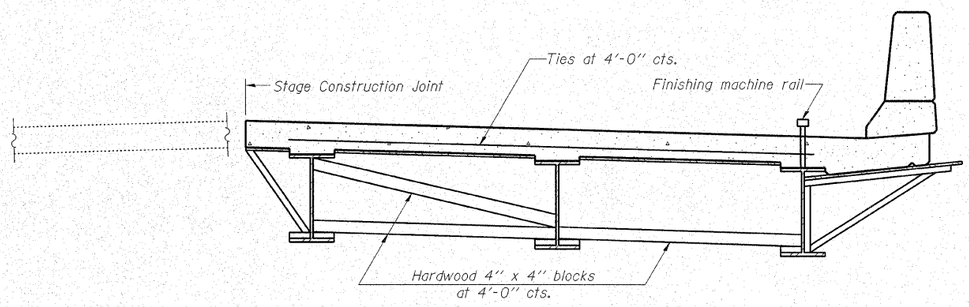
PLOT DATE :10/26/2007 FILE NAME = 0330051-78006-4102bridge0050.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 21
25 SHEETS

Contract #78006



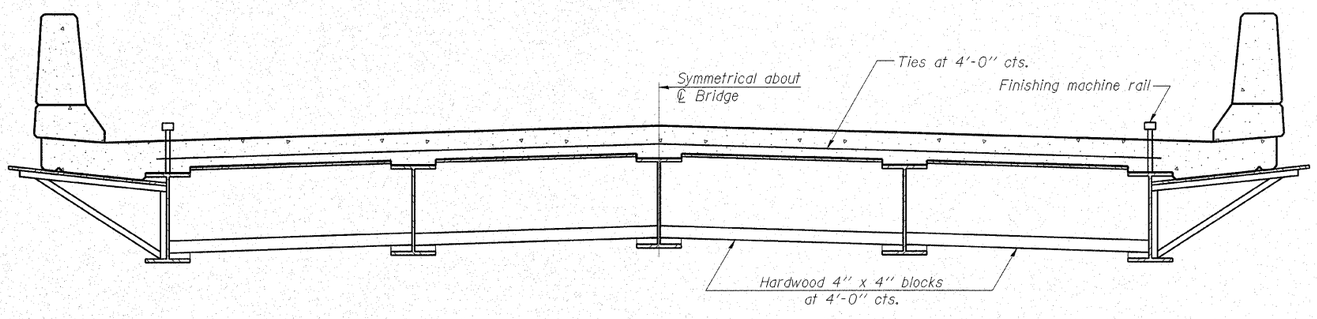
FORM BRACES FOR
STAGE CONSTRUCTION

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



FORM BRACES FOR
STANDARD CONSTRUCTION

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

CANTILEVER FORMING BRACKETS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

SB-1

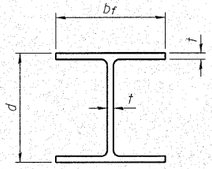
11-1-06

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -1)B-1	HAMILTON	140	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

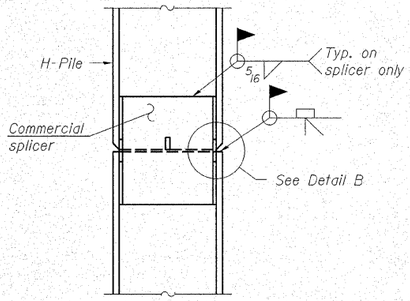
SHEET NO. 22
25 SHEETS

Contract #78006

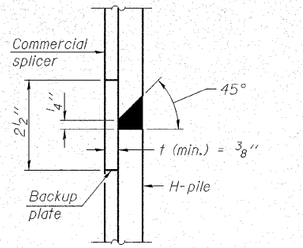


STEEL PILE TABLE

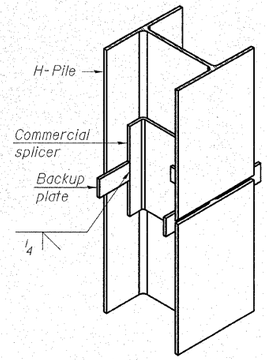
Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53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



ELEVATION

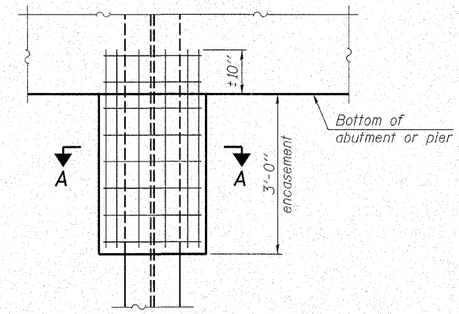


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



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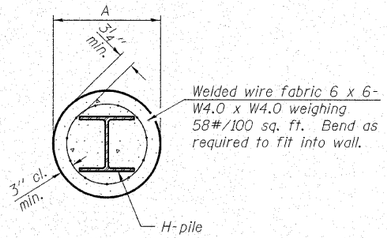
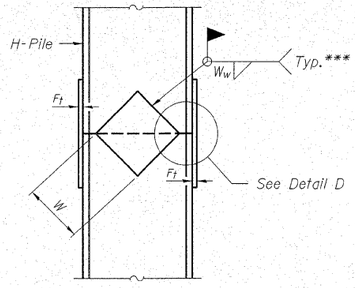


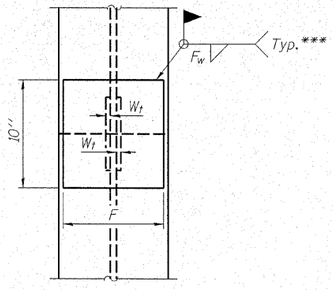
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT



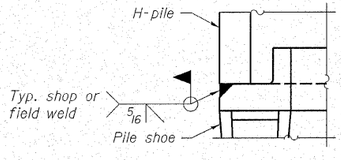
ELEVATION



END VIEW

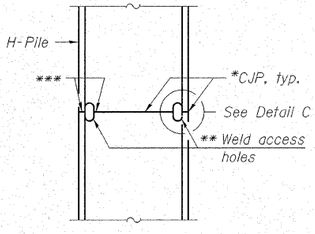
Designation	F	F_f	F_w	W	W_f	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

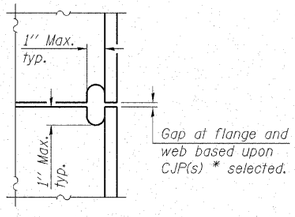


DETAIL A

H-PILE SHOE ATTACHMENT

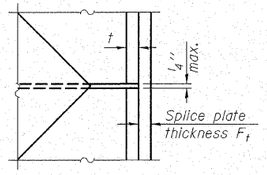


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

* 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.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.
	DRAWN: D.T.M.

STEEL H PILES

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

F-HP 11-1-06

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1)B-1	HAMILTON	140	42
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 23
25 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
IL Dept. of Trans. D-7

SOIL BORING LOG

Page 1 of 2

Date 7/15/05

ROUTE FAP 776 (IL 142) DESCRIPTION Contrary Creek LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION E 1/2, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0020
Station 516+75

BORING NO. 1
Station 515+96
Offset 25.80ft Lt
Ground Surface Elev. 371.98 ft

Surface Water Elev. 355.56 ft
Stream Bed Elev. 354.61 ft
Groundwater Elev.:
First Encounter 342.5 ft
Upon Completion ft
After 24 Hrs. 358.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Topsoil. 371.78			
Brown, CLAY w/ trace sand & gravel. 369.98			
	4		
Stiff to very stiff, damp, brown, CLAY.	4 5	2.0 PP	23
367.48			
-5	1		
Medium, damp, gray/brown/blue, CLAY.	3 4	0.7 B	22
	2		
	4 4	0.8 B	22
-10	0		
	2 3	0.7 BS	26
359.98			
Stiff, damp, gray/brown/red, CLAY.	1		
	2 4	1.2 B	24
-15	2		
	4 4	1.4 B	20
	3		
	4 5	1.9 B	28
352.48			
-20	1		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium to soft, damp, dark gray mottled red, CLAY. *(continued)*	2 4	1.0 B	23
	1		
347.48			
Soft to medium, damp, gray, SILTY LOAM w/ trace sand.	1 2 3	0.5 B	22
-25	1		
	1 1	0.5 B	22
344.98			
Soft, damp, gray, SANDY LOAM w/ few black specks and wood chunks.	0		
	2 2	0.4 B	24
342.48			
-30	1		
Gray, fine grained, SAND. *7% passing #200 sieve.* 341.68	2 1	0.3 B	21
Soft to medium, damp, gray, SILTY LOAM.			
	3		
-35	3		
	3 3	0.6 B	31
331.98 -40	0		

Latitude N 37 deg 57.51 min, Longitude W 89 deg 28.38 min, Map Datum WGS 84

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)

Illinois Department of Transportation
Division of Highways
IL Dept. of Trans. D-7

SOIL BORING LOG

Page 2 of 2

Date 7/15/05

ROUTE FAP 776 (IL 142) DESCRIPTION Contrary Creek LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION E 1/2, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0020
Station 516+75

BORING NO. 1
Station 515+96
Offset 25.80ft Lt
Ground Surface Elev. 371.98 ft

Surface Water Elev. 355.56 ft
Stream Bed Elev. 354.61 ft
Groundwater Elev.:
First Encounter 342.5 ft
Upon Completion ft
After 24 Hrs. 358.0 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Soft, damp, gray, SILTY LOAM. *Wood fragments.*	4 9	0.3 B	24
327.48			
Medium, damp, gray, CLAY TILL w/ sand. 326.98	1		
-45	9		
Soft to medium, damp, gray, SANDY LOAM.	8	0.7 B	16
-50	4		
	13 19	0.8 S	22
-55			
-60	3		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very loose, wet, gray, fine grained, SAND. *13% passing #200 sieve. (continued)*	1 0		
-65			
302.48			
Hard, moist, gray, CLAY SHALE. 301.78	50/4"		
-70	50/2"		7
Extent of exploration.	50/2"		
Benchmark: BM 514 Chiseled square on top wingwall on NE corner of existing bridge, Sta 516+37, Lt 17.6' = 370.60'			
-75			
-80			

Latitude N 37 deg 57.51 min, Longitude W 89 deg 28.38 min, Map Datum WGS 84

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)

BORING 1

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.
	DRAWN: D.T.M.

BORING LOGS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1)B-1	HAMILTON	140	43
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 24
25 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 1 of 2

Date 7/14/05

ROUTE FAP 776 (IL 142) DESCRIPTION Contrary Creek LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION E 1/2, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0020
Station 516+75

BORING NO. 2
Station 516+31
Offset 32.00ft Rt
Ground Surface Elev. 371.03 ft

Surface Water Elev. 355.56 ft
Stream Bed Elev. 354.61 ft

Groundwater Elev.:
First Encounter 336.5 ft
Upon Completion 348.0 ft
After 336 Hrs. 356.2 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Topsoil. /370.83/			
Brown, CLAY w/ trace sand & gravel.			
369.03			
Medium, damp, brown, SANDY LOAM.	2		
	3	0.8	4
	3	PP	
-5	3		
	3	0.8	17
	4	PP	
	0		
363.03	0	0.4	23
Soft to stiff, damp, gray/brown/red, CLAY.	1	B	
-10	0		
	1	0.6	25
	1	B	
	0		
	3	1.7	23
	4	B	
-15	2		
	2	0.8	27
355.23	3	B	
Red, very damp, SANDY LOAM.			
354.03			
Medium, damp, brown/gray/red, CLAY w/ silt.	2		
	3	0.6	26
	4	B	
-20	0		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium, damp, brown/gray/red, CLAY w/ silt. *(continued)*	1	0.6	23
	3	B	
349.03			
Medium to soft, damp, red/gray, SILTY LOAM.	0		
	3	0.8	23
	4	B	
	2		
-25			
	5	0.3	22
	3	B	
343.43	1		
Medium, damp, gray, SANDY LOAM w/ trace wood fragments.	2	0.8	19
	3	B	
341.03 -30	0		
Medium, damp, gray, SILTY LOAM w/ trace wood fragments.	2	0.8	23
	3	B	
336.53			
-35 Very loose, wet, gray, fine grained, SAND. *50%passing #200 sieve.*	0		
	0		23
331.53			
-40 Stiff, damp, gray, CLAY TILL.	2		

Latitude N 37 deg 57.21 min, Longitude W 89 deg 23.335 min, Map Datum WGS 84

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 2 of 2

Date 7/14/05

ROUTE FAP 776 (IL 142) DESCRIPTION Contrary Creek LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION E 1/2, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0020
Station 516+75

BORING NO. 2
Station 516+31
Offset 32.00R Rt
Ground Surface Elev. 371.03 ft

Surface Water Elev. 355.56 ft
Stream Bed Elev. 354.61 ft

Groundwater Elev.:
First Encounter 336.5 ft
Upon Completion 348.0 ft
After 336 Hrs. 356.2 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff, damp, gray, CLAY TILL. *(continued)*	4	1.7	15
	5	B	
326.03 -45	1		
Soft to medium, damp, gray, SANDY LOAM.	8	1.2	15
	12	B	
-55			
	7	0.5	24
	8	B	
311.53			
-60	1		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Soft, very damp, gray, SILTY LOAM. *(continued)*	3	0.3	27
	5	B	
-65			
303.03			
Hard, moist, dark gray, SANDY CLAY SHALE.			
-70 301.13	50/3"		6
Extent of exploration.	50/1"		
	50/1"		
Benchmark: BM 514 Chiseled square on top wingwall on NE corner of existing bridge, Sta 516+37, Lt 17.6' = 370.60'			
-75			
-80			

Latitude N 37 deg 57.21 min, Longitude W 89 deg 23.335 min, Map Datum WGS 84

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
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BBS, from 137 (Rev. 8-99)

BORING 2

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.	DRAWN: D.T.M.

BORING LOGS
IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

PLOT DATE = 10/26/2007 FILE NAME = 033005l-78006-4102lbridge0050.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-1)B-1	HAMILTON	140	44
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 25
25 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 1 of 3

Date 7/13/05

ROUTE FAP 776 (IL 142) DESCRIPTION Contrary Creek LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION E 1/2, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0020
Station 516+75
BORING NO. 3
Station 517+22
Offset 27.00ft Lt
Ground Surface Elev. 371.43 ft

Surface Water Elev. 355.56 ft
Stream Bed Elev. 354.61 ft
Groundwater Elev.:
First Encounter 343.9 ft
Upon Completion Washed ft
After 24 Hrs. 347.4 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Topsoil. 371.13			
Tan, CLAY w/ trace sand & gravel. 369.43			
Hard to medium, damp, gray/brown, CLAY.	7		
	7	+4.5	11
	8	PP	
-5	3		
	4	1.0	23
	6	B	
364.43			
	0		
	2		
No recovery this trip.	2		
-10	0		
Soft, to medium, damp, gray mottled blue, CLAY w/ trace silt.	1	0.3	28
	1	B	
	0		
	0	0.5	30
	1	B	
356.93			
-15 Soft to very soft, wet, gray, SILTY LOAM w/ wood chunks.	0		
	1	0.4	31
	2	PP	
	0		
	0	0.1	30
	0	B	
351.93			
-20	0		
Medium, damp, brown mottled gray, SILTY CLAY. *(continued)*	2	0.8	22
	3	B	
349.43			
Medium, damp, gray, SANDY LOAM.	1		
	4	0.7	19
	5	B	
346.93			
-25 Loose to very loose, water bearing, gray, fine grained, SAND. *27% passing #200 sieve.*	1		
	4		24
	6		
	0		
29% passing #200 sieve.	1		25
	3		
341.93			
-30 Medium to soft, damp, gray, SANDY LOAM.	2		
	3	0.8	21
	3	B	
	0		
-35	0		
	3	0.3	26
	7	B	
-40	3		

Latitude N 37 deg 57.48 min. Longitude W 89 deg 23.37 min. Map Datum WGS 84

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 2 of 3

Date 7/13/05

ROUTE FAP 776 (IL 142) DESCRIPTION Contrary Creek LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION E 1/2, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0020
Station 516+75
BORING NO. 3
Station 517+22
Offset 27.00ft Lt
Ground Surface Elev. 371.43 ft

Surface Water Elev. 355.56 ft
Stream Bed Elev. 354.61 ft
Groundwater Elev.:
First Encounter 343.9 ft
Upon Completion Washed ft
After 24 Hrs. 347.4 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium to stiff, damp, gray, SANDY CLAY TILL. *(continued)*	6	1.0	18
	5	B	
326.93			
-45 Soft, damp, gray, SANDY LOAM w/ many fine gravel.	0		
	3	0.3	24
	4	B	
321.93			
-50 Loose, wet, dark gray, fine grained, SAND. *24% passing #200 sieve.*	0		
	3		21
	5		
-55			
-60			
-65			
-70			
-75			
-80			
311.93			
-85 Very stiff, damp, gray, CLAY TILL	4		
Very stiff, damp, gray, CLAY TILL. *(continued)*	11	3.2	16
	13	B	
306.93			
-65 Soft, very moist, gray, CLAY SHALE.	12		
	21	2.3	13
	33	S	
-70	19		
300.93			
Hard, very moist, gray, CLAY SHALE. 300.83	42	2.9	9
Borehole continued with rock coring.	50/1"	S	

Latitude N 37 deg 57.48 min. Longitude W 89 deg 23.37 min. Map Datum WGS 84

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

ROCK CORE LOG

Page 3 of 3

Date 7/13/05

ROUTE FAP 776 (IL 142) DESCRIPTION Contrary Creek LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION E 1/2, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 033-0020
Station 516+75
BORING NO. 3
Station 517+22
Offset 27.00ft Lt
Ground Surface Elev. 371.43 ft

CORING BARREL TYPE & SIZE NW, conv dbl bbl, split inner
Core Diameter 2.06 in
Top of Rock Elev. 306.93 ft
Begin Core Elev. 300.83 ft

DEPTH (ft)	CORE (ft)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Hard, dark gray, slightly weathered, soapy, CLAY SHALE. 300.83		80	80	0.9	
-75					
		90	90	0.9	
-80					
Extent of exploration. 290.83					
Benchmark: BM 514 Chiseled square on top wingwall on NE corner of existing bridge, Sta 516+37, Lt 17.6' = 370.60'					
-85					
-90					

Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

BORING 3

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: P.L.	CHECKED: S.W.M.
	DRAWN: D.T.M.

BORING LOGS

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-1)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75

BENCHMARK: Chiseled square on top of NE hubguard of Bridge 033-0022, 7.0' Lt.: Elev. 371.36.

EXISTING STRUCTURE: SN 033-0021 was originally built in 1928. The superstructure was replaced and the substructure widened in 1976. The structure consists of 5 spans of PPC deckbeams on closed abutments and solid shaft piers supported on untreated timber piles. The structure has no skew. The approach shoulders are supported with Precast Concrete Beams. The bridge is 110'-0" bk.-bk. abuts. and 34'-8" o.-o. deck. Existing structure is to be removed and replaced. One lane of traffic will be maintained utilizing stage construction.

No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	45
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

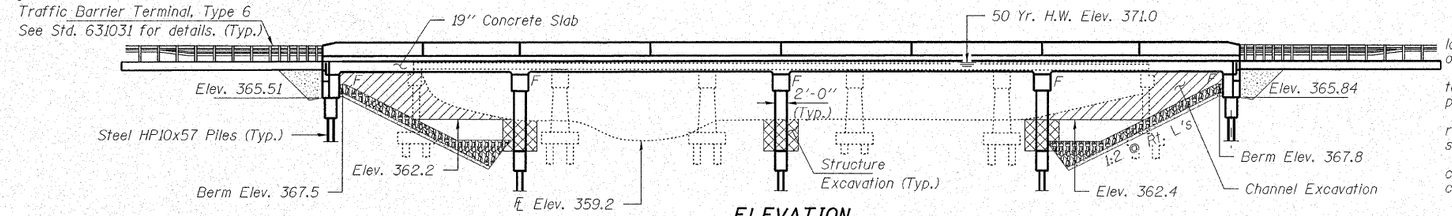
SHEET NO. 1
21 SHEETS

Contract #78006

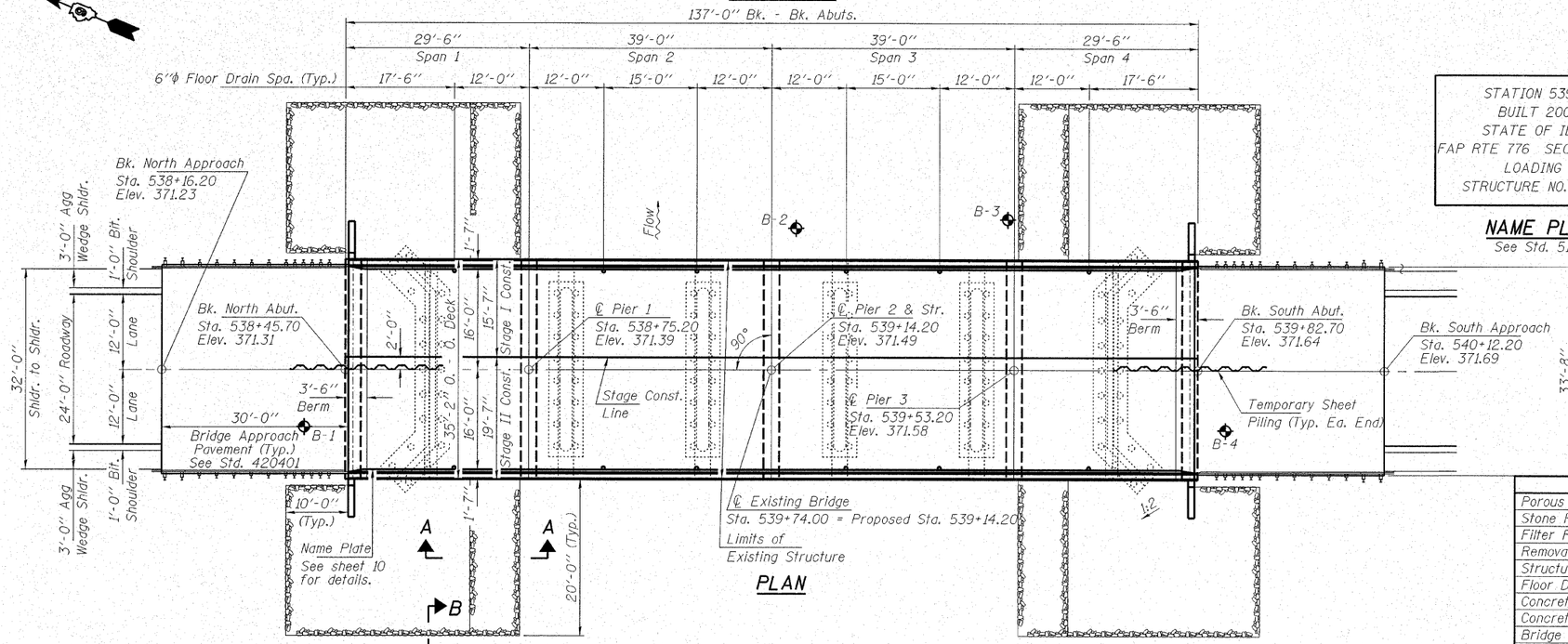
GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
Reinforcement bars designated (E) shall be epoxy coated.
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
The contractor shall drive two steel test piles to 110% of the nominal required bearing specified in production locations: one HP10x57 at the South Abutment and one HP10x57 at Pier 1, as approved by the Engineer before ordering the remainder of piles.
The contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach pavement.
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.
The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

Slipforming of the parapets is not allowed.



ELEVATION



PLAN

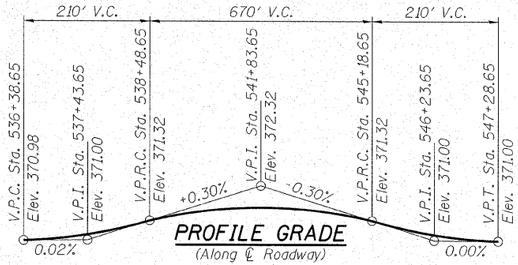
STATION 539+14.20
BUILT 200_ BY
STATE OF ILLINOIS
FAP RTE 776 SEC (116BR-2)B-1
LOADING HS20
STRUCTURE NO. 033-0051

NAME PLATE

See Std. 515001

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E Anderson
ENGINEER OF BRIDGES AND STRUCTURES



PROFILE GRADE

(Along ℄ Roadway)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.			60
Stone Riprap, Class A4	Sq. Yd.			590
Filter Fabric	Sq. Yd.			590
Removal of Existing Structures No. 2	Each			1
Structure Excavation	Cu. Yd.		342	342
Floor Drains	Each	12		12
Concrete Structures	Cu. Yd.		126.6	126.6
Concrete Superstructure	Cu. Yd.	321.1		321.1
Bridge Deck Grooving	Sq. Yd.	484		484
Concrete Encasement	Cu. Yd.		12.0	12.0
Protective Coat	Sq. Yd.	606		606
Stud Shear Connectors	Each		280	280
Reinforcement Bars, Epoxy Coated	Pound	55,340	15,080	70,420
Bar Splicers	Each	239	102	341
Furnishing Steel Piles HP10x57	Foot		2,310	2,310
Driving Piles	Foot		2,310	2,310
Test Pile Steel HP10x57	Each		2	2
Temporary Sheet Piling	Sq. Ft.			592
Name Plates	Each		1	1
Geocomposite Wall Drain	Sq. Yd.		38	38
Pipe Underdrains for Structures 4"	Foot			122
Underwater Structure Excavation Protection Location 3	Each		1	1
Underwater Structure Excavation Protection Location 4	Each		1	1
Underwater Structure Excavation Protection Location 5	Each		1	1
Mechanical Splice	Each		129	129

WATERWAY INFORMATION

Drainage Area = 58 Sq. Mi.
Exist. Low Grade Elev. = 370.9 Ft. @ Sta. 526+15
Prop. Low Grade Elev. = 370.9 Ft. @ Sta. 526+15

Flood Frequency		Q cfs		Opening Sq. Ft.		Nat.	Head-Ft.		Headwater El.	
		Exist.	Prop.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
10 Yr	SN 033-0050	3971	3971	876	896	369.8	0.2	0.1	370.0	369.9
	SN 033-0051	466	511	381	409	366.4	0.1	0.1	366.5	366.5
	SN 033-0052	527	482	387	414	366.4	0.1	0.1	366.5	366.5
	Total	4964	4964	1644	1719					
Design 50 Yr	SN 033-0050	4635	4635	901	925	371.2	0.3	0.2	371.5	371.4
	SN 033-0051	1242	1267	684	709	371.0	0.1	0.1	371.1	371.1
	SN 033-0052	1253	1228	684	718	371.0	0.1	0.1	371.1	371.1
	Total	7130	7130	2269	2352					
Base 100 Yr	SN 033-0050	5245	5298	901	925	371.9	0.6	0.6	372.5	372.5
	SN 033-0051	1386	1388	684	709	371.7	0.1	0.0	371.8	371.7
	SN 033-0052	1399	1344	684	718	371.7	0.1	0.0	371.8	371.7
	Total	8030	8030	2269	2352					
Overtopping 50 Yr	SN 033-0050	4635	4635	901	925	371.2	0.3	0.2	371.5	371.4
	SN 033-0051	1242	1267	684	709	371.0	0.1	0.1	371.1	371.1
	SN 033-0052	1253	1228	684	718	371.0	0.1	0.1	371.1	371.1
	Total	7130	7130	2269	2352					
Max Calc 500 Yr	SN 033-0050	4903	4988	901	925	372.1	0.5	0.5	372.6	372.6
	SN 033-0051	2594	2605	684	709	372.4	0.2	0.2	372.6	372.6
	SN 033-0052	2619	2523	684	718	372.4	0.2	0.2	372.6	372.6
	Total	10116	10116	2269	2352					

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.10g
Site Coefficient (S) = 2.0

LOADING HS20-44

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

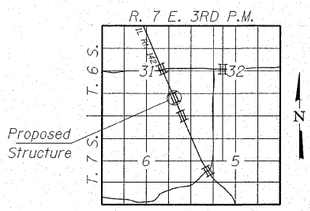
2002 AASHTO & all applicable interims.

DESIGN STRESSES

FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

DESIGN SCOUR ELEVATIONS

North Abutment	365.5
Pier 1	355.5
Pier 2	355.5
Pier 3	355.5
South Abutment	365.5



LOCATION SKETCH

Steven W Meggenson 11/16/07
ILLINOIS STRUCTURAL NO. 081-6064

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGINSON
081-6064
SPRINGFIELD, IL
STATE OF ILLINOIS

Expires 11-30-08

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1 | DATE: 09/25/07
DESIGNED: S.M.S. | CHECKED: S.W.M. | DRAWN: D.B.

GENERAL PLAN AND ELEVATION

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

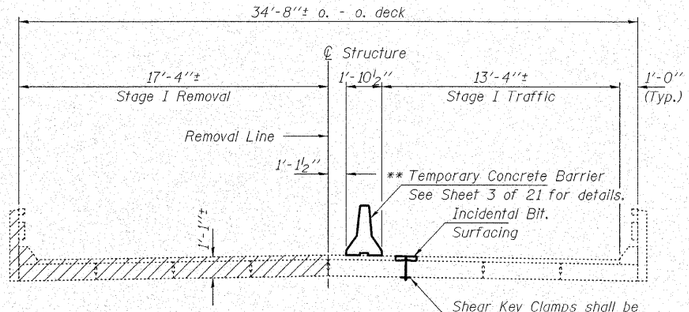
PLOT DATE = 10/26/2007 FILE NAME = 033005l-78006-4102lbridge005l.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY.	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	46
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

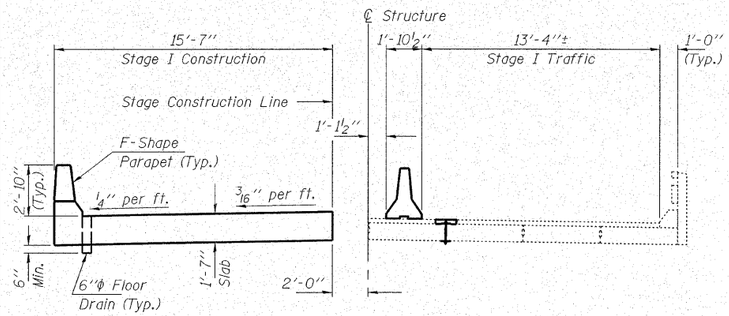
SHEET NO. 2
21 SHEETS

Contract #78006

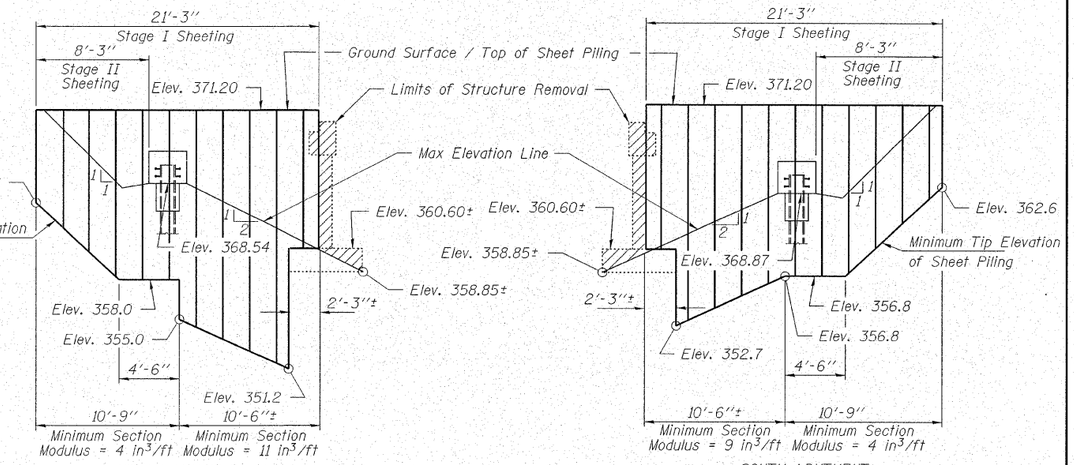


** See Roadway Plans for Quantity of Temporary Concrete Barrier.

STAGE I REMOVAL
(Looking South)

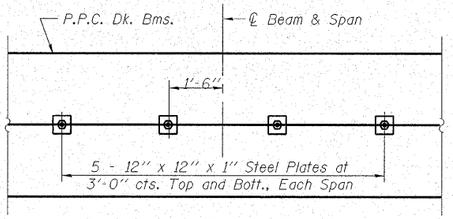


STAGE I CONSTRUCTION
(Looking South)

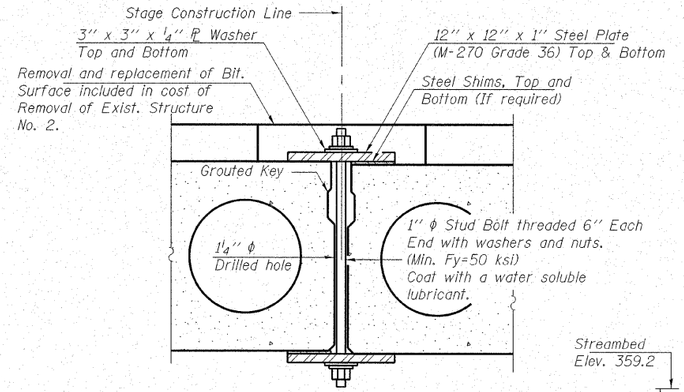


TEMPORARY SHEET PILING DETAILS

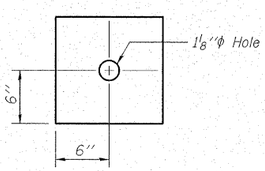
Notes:
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.



PLAN



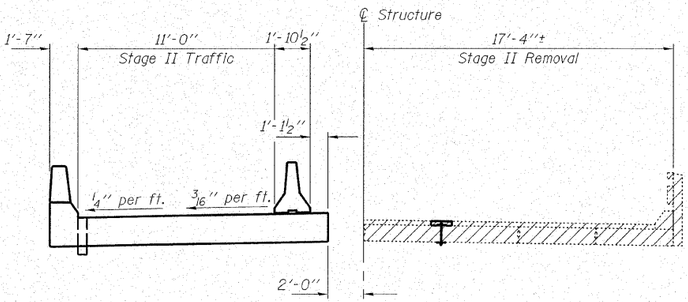
SECTION



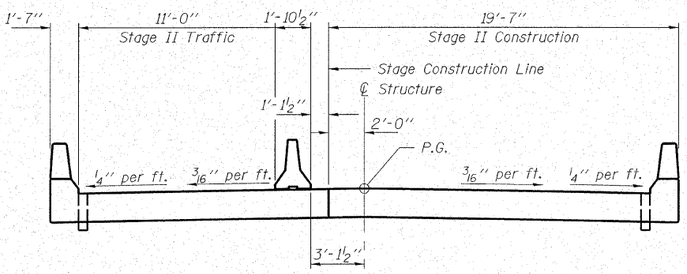
CLAMPING PLATE

SHEAR KEY CLAMPING

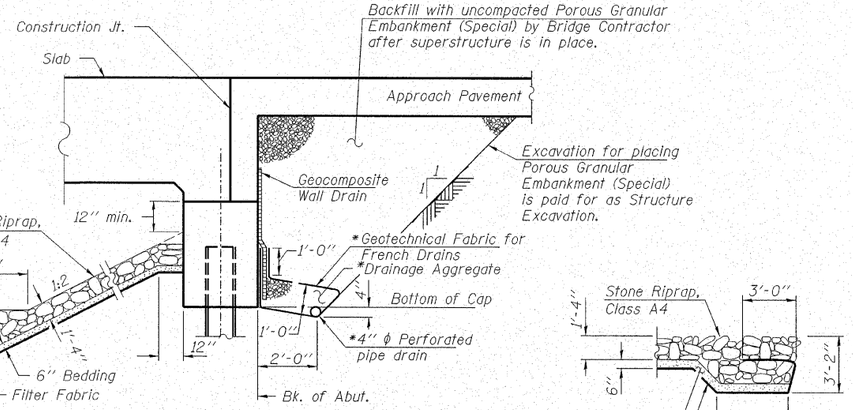
Cost included with Removal of Existing Structures No. 2. To be constructed along beams 5 & 6 of Span 3.



STAGE II REMOVAL
(Looking South)



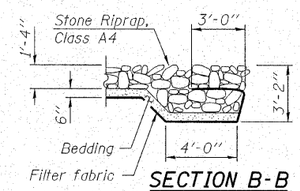
STAGE II CONSTRUCTION
(Looking South)



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

* Included in the cost of Pipe Underdrains for Structures.

Note: All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall drain into concrete headwalls. (See article 601.05 of the Standards Specifications and Highway Standard 601101)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Quantity
Temporary Sheet Piling	Sq. Ft.	592

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CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
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(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

STAGE CONSTRUCTION DETAILS

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)

F.A.P. ROUTE 776 - SECTION (116BR-2)B-1

HAMILTON COUNTY

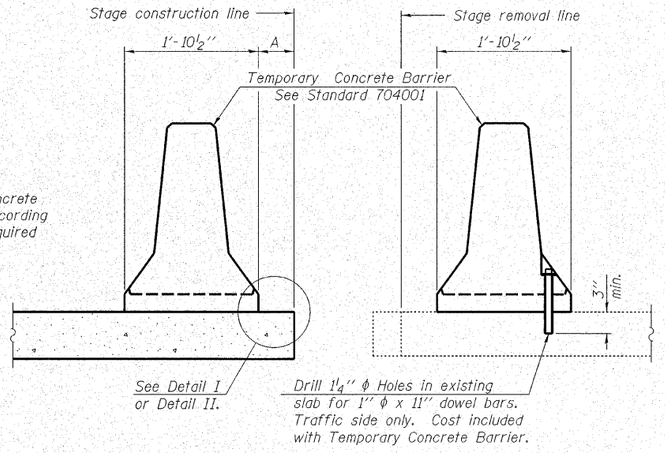
STRUCTURE NO. 033-0051 / STATION 539+14.20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-2)B-1	HAMILTON	140	47
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3
21 SHEETS

Contract #78006



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

NEW SLAB EXISTING SLAB

SECTIONS THRU SLAB

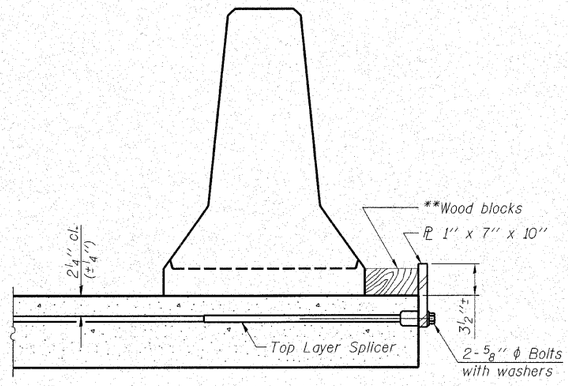
NOTES

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

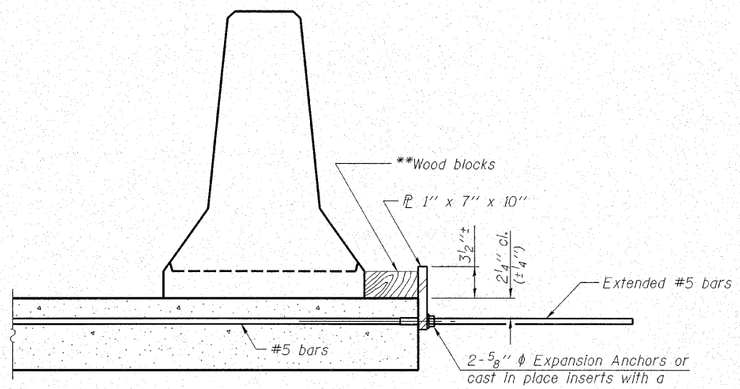
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel ℙ to the concrete slab with 2-$\frac{5}{8}$" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

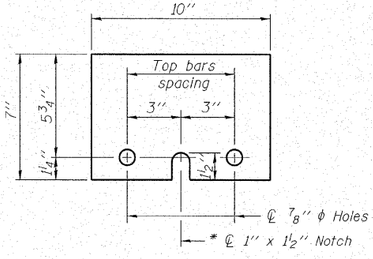


DETAIL I



DETAIL II

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



STEEL RETAINER ℙ 1" x 7" x 10"

* Required only with Detail II

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SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S. CHECKED: S.W.M.	DRAWN: D.B.

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)

F.A.P. ROUTE 776 - SECTION (116BR-2)B-1

HAMILTON COUNTY

STRUCTURE NO. 033-0051 / STATION 539+14.20

R-27

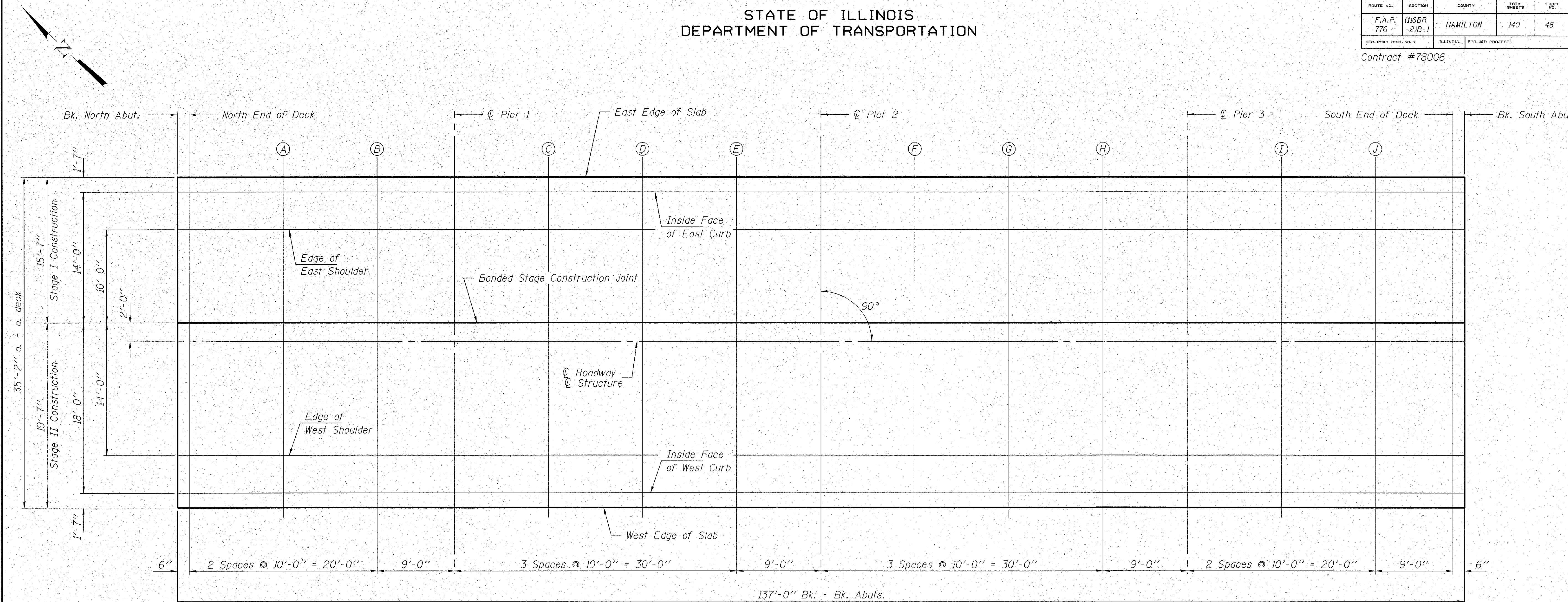
11-1-06

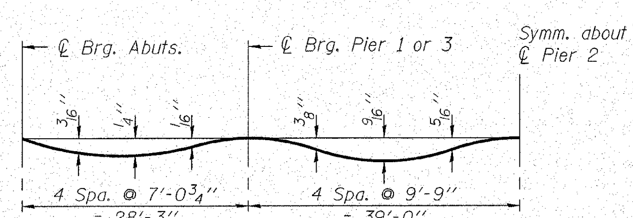
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-2)B-1	HAMILTON	140	48
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 4
21 SHEETS

Contract #78006

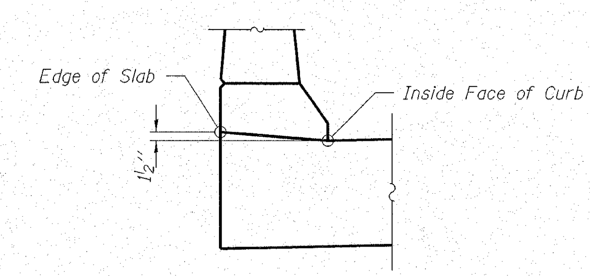




DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

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



CURB DETAIL

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i		DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

SLAB ELEVATIONS
IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

PLOT DATE :10/26/2007 FILE NAME = 0330051-78006-41021bridge0051.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-2)B-1	HAMILTON	140	49
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 5
21 SHEETS

Contract #78006

INSIDE FACE OF EAST CURB

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	538+45.70	-16.000	371.046	371.035
N. End of Deck	538+46.95	-16.000	371.050	371.039
A	538+56.95	-16.000	371.080	371.087
B	538+66.95	-16.000	371.108	371.107
℄ Pier 1	538+75.20	-16.000	371.131	371.121
C	538+85.20	-16.000	371.159	371.178
D	538+95.20	-16.000	371.185	371.220
E	539+05.20	-16.000	371.210	371.224
℄ Pier 2	539+14.20	-16.000	371.232	371.222
F	539+24.20	-16.000	371.256	371.273
G	539+34.20	-16.000	371.279	371.314
H	539+44.20	-16.000	371.301	371.318
℄ Pier 3	539+53.20	-16.000	371.320	371.309
I	539+63.20	-16.000	371.340	371.341
J	539+73.20	-16.000	371.359	371.366
S. End of Deck	539+81.45	-16.000	371.374	371.364
Bk. S. Abut.	539+82.70	-16.000	371.377	371.366

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	538+45.70	-12.000	371.119	371.119
N. End of Deck	538+46.95	-12.000	371.122	371.122
A	538+56.95	-12.000	371.152	371.170
B	538+66.95	-12.000	371.181	371.190
℄ Pier 1	538+75.20	-12.000	371.204	371.204
C	538+85.20	-12.000	371.231	371.262
D	538+95.20	-12.000	371.257	371.303
E	539+05.20	-12.000	371.283	371.307
℄ Pier 2	539+14.20	-12.000	371.305	371.305
F	539+24.20	-12.000	371.329	371.356
G	539+34.20	-12.000	371.351	371.397
H	539+44.20	-12.000	371.373	371.401
℄ Pier 3	539+53.20	-12.000	371.392	371.392
I	539+63.20	-12.000	371.412	371.425
J	539+73.20	-12.000	371.432	371.449
S. End of Deck	539+81.45	-12.000	371.447	371.447
Bk. S. Abut.	539+82.70	-12.000	371.449	371.449

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	538+45.70	-2.000	371.275	371.275
N. End of Deck	538+46.95	-2.000	371.279	371.279
A	538+56.95	-2.000	371.308	371.326
B	538+66.95	-2.000	371.337	371.346
℄ Pier 1	538+75.20	-2.000	371.360	371.360
C	538+85.20	-2.000	371.387	371.418
D	538+95.20	-2.000	371.414	371.459
E	539+05.20	-2.000	371.439	371.464
℄ Pier 2	539+14.20	-2.000	371.461	371.461
F	539+24.20	-2.000	371.485	371.512
G	539+34.20	-2.000	371.508	371.553
H	539+44.20	-2.000	371.530	371.557
℄ Pier 3	539+53.20	-2.000	371.548	371.548
I	539+63.20	-2.000	371.569	371.581
J	539+73.20	-2.000	371.588	371.605
S. End of Deck	539+81.45	-2.000	371.603	371.603
Bk. S. Abut.	539+82.70	-2.000	371.605	371.605

℄ STRUCTURE & P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	538+45.70	0	371.306	371.306
N. End of Deck	538+46.95	0	371.310	371.310
A	538+56.95	0	371.340	371.358
B	538+66.95	0	371.368	371.377
℄ Pier 1	538+75.20	0	371.391	371.391
C	538+85.20	0	371.419	371.449
D	538+95.20	0	371.445	371.491
E	539+05.20	0	371.470	371.495
℄ Pier 2	539+14.20	0	371.492	371.492
F	539+24.20	0	371.516	371.543
G	539+34.20	0	371.539	371.585
H	539+44.20	0	371.561	371.588
℄ Pier 3	539+53.20	0	371.580	371.580
I	539+63.20	0	371.600	371.612
J	539+73.20	0	371.619	371.636
S. End of Deck	539+81.45	0	371.634	371.634
Bk. S. Abut.	539+82.70	0	371.637	371.637

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(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

SLAB ELEVATIONS

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	50
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6
21 SHEETS

Contract #78006

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	538+45.70	12.000	371.119	371.119
N. End of Deck	538+46.95	12.000	371.122	371.122
A	538+56.95	12.000	371.152	371.170
B	538+66.95	12.000	371.181	371.190
℄ Pier 1	538+75.20	12.000	371.204	371.204
C	538+85.20	12.000	371.231	371.262
D	538+95.20	12.000	371.257	371.303
E	539+05.20	12.000	371.283	371.307
℄ Pier 2	539+14.20	12.000	371.305	371.305
F	539+24.20	12.000	371.329	371.356
G	539+34.20	12.000	371.351	371.397
H	539+44.20	12.000	371.373	371.401
℄ Pier 3	539+53.20	12.000	371.392	371.392
I	539+63.20	12.000	371.412	371.425
J	539+73.20	12.000	371.432	371.449
S. End of Deck	539+81.45	12.000	371.447	371.447
Bk. S. Abut.	539+82.70	12.000	371.449	371.449

INSIDE FACE OF WEST CURB

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	538+45.70	16.000	371.046	371.035
N. End of Deck	538+46.95	16.000	371.050	371.039
A	538+56.95	16.000	371.080	371.087
B	538+66.95	16.000	371.108	371.107
℄ Pier 1	538+75.20	16.000	371.131	371.121
C	538+85.20	16.000	371.159	371.178
D	538+95.20	16.000	371.185	371.220
E	539+05.20	16.000	371.210	371.224
℄ Pier 2	539+14.20	16.000	371.232	371.222
F	539+24.20	16.000	371.256	371.273
G	539+34.20	16.000	371.279	371.314
H	539+44.20	16.000	371.301	371.318
℄ Pier 3	539+53.20	16.000	371.320	371.309
I	539+63.20	16.000	371.340	371.341
J	539+73.20	16.000	371.359	371.366
S. End of Deck	539+81.45	16.000	371.374	371.364
Bk. S. Abut.	539+82.70	16.000	371.377	371.366

PLOT DATE :10/26/2007 FILE NAME = 0330051-78006-4102lbr.dge0051.dgn

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

SLAB ELEVATIONS

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	51
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
21 SHEETS

Contract #78006

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Pvmt.	538+16.20	-16.000	370.965
A	538+26.20	-16.000	370.991
B	538+36.20	-16.000	371.019
Bk. N. Abutment	538+46.20	-16.000	371.048

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Pvmt.	538+16.20	-12.000	371.045
A	538+26.20	-12.000	371.071
B	538+36.20	-12.000	371.099
Bk. N. Abutment	538+46.20	-12.000	371.128

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Pvmt.	538+16.20	-2.000	371.195
A	538+26.20	-2.000	371.221
B	538+36.20	-2.000	371.249
Bk. N. Abutment	538+46.20	-2.000	371.278

℄ STRUCTURE & PG

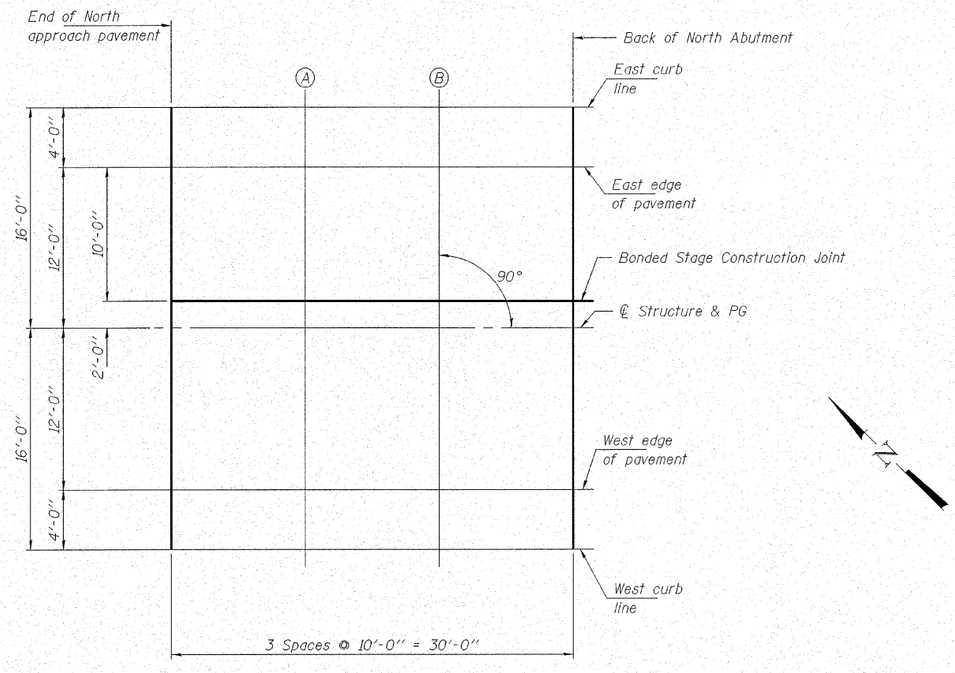
Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Pvmt.	538+16.20	0	371.225
A	538+26.20	0	371.251
B	538+36.20	0	371.279
Bk. N. Abutment	538+46.20	0	371.308

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Pvmt.	538+16.20	12.000	371.045
A	538+26.20	12.000	371.071
B	538+36.20	12.000	371.099
Bk. N. Abutment	538+46.20	12.000	371.128

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Pvmt.	538+16.20	16.000	370.965
A	538+26.20	16.000	370.991
B	538+36.20	16.000	371.019
Bk. N. Abutment	538+46.20	16.000	371.048



PLAN

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.
	DRAWN: D.B.

NORTH APPROACH SLAB ELEVATIONS

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION:	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	52
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
21 SHEETS

Contract #78006

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	539+82.20	-16.000	371.376
A	539+92.20	-16.000	371.393
B	540+02.20	-16.000	371.410
End of S. Approach Pvmt.	540+12.20	-16.000	371.426

EAST EDGE OF PAVEMENT

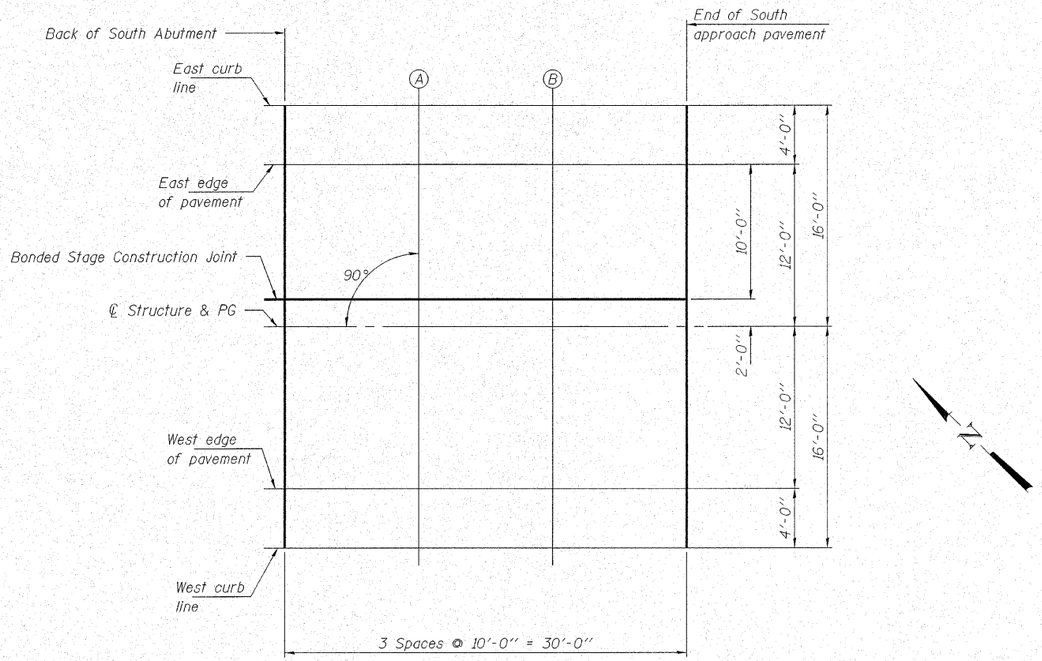
Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	539+82.20	-12.000	371.456
A	539+92.20	-12.000	371.473
B	540+02.20	-12.000	371.490
End of S. Approach Pvmt.	540+12.20	-12.000	371.506

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	539+82.20	-2.000	371.606
A	539+92.20	-2.000	371.623
B	540+02.20	-2.000	371.640
End of S. Approach Pvmt.	540+12.20	-2.000	371.656

℄ STRUCTURE & PG

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	539+82.20	0	371.636
A	539+92.20	0	371.653
B	540+02.20	0	371.670
End of S. Approach Pvmt.	540+12.20	0	371.686



PLAN

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	539+82.20	12.000	371.456
A	539+92.20	12.000	371.473
B	540+02.20	12.000	371.490
End of S. Approach Pvmt.	540+12.20	12.000	371.506

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	539+82.20	16.000	371.376
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End of S. Approach Pvmt.	540+12.20	16.000	371.426

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(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

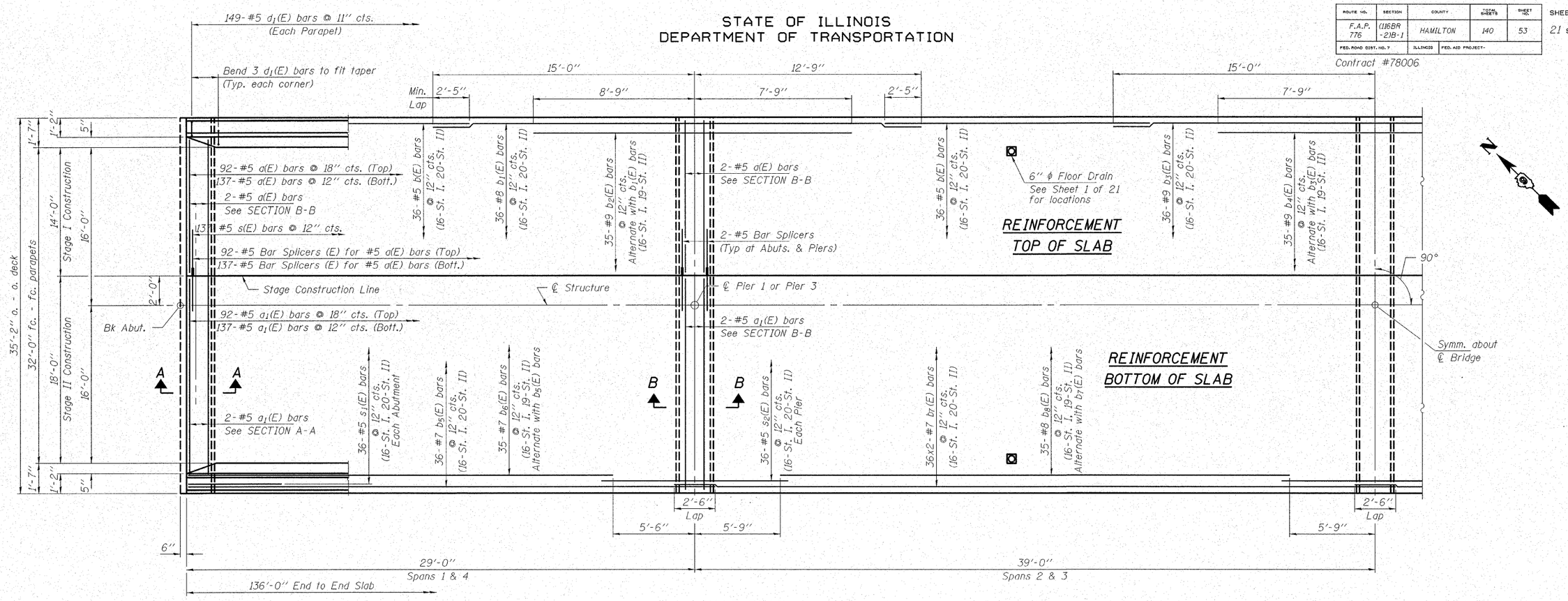
SOUTH APPROACH SLAB ELEVATIONS

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

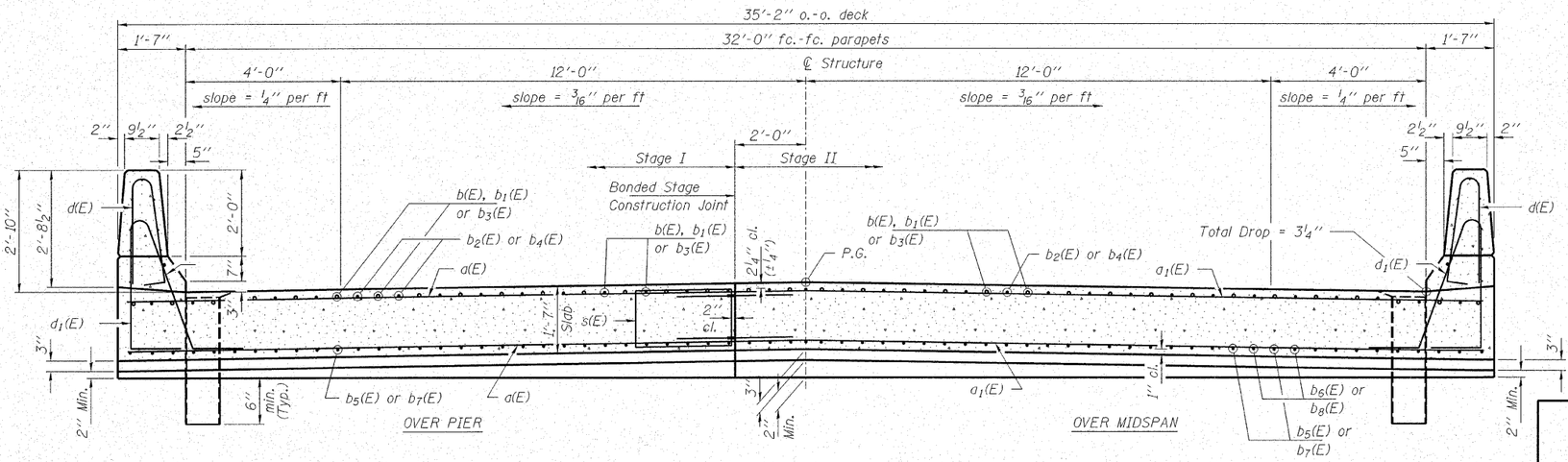
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	53
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
21 SHEETS
Contract #78006

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



HALF PLAN



CROSS SECTION
(Looking South)

Notes:
See Sheet 10 of 21 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 10 of 21 for parapet reinforcement.
See Sheet 10 of 21 for SECTION A-A & B-B.

MIN. BAR LAP
#7 = 2'-9"

HAMPTON, LENZINI & RENWICK, INC.
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(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

SUPERSTRUCTURE

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

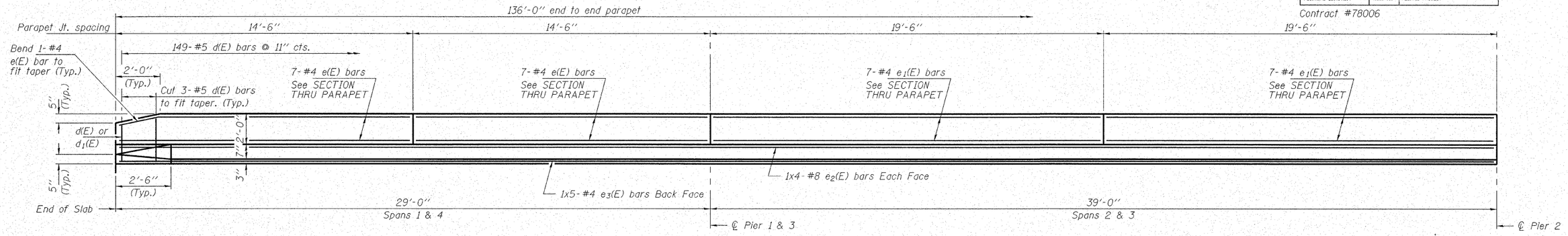
PLOT DATE = 10/26/2007 FILE NAME = 0330051-78006-41021br-ridge0051.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	54
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
21 SHEETS

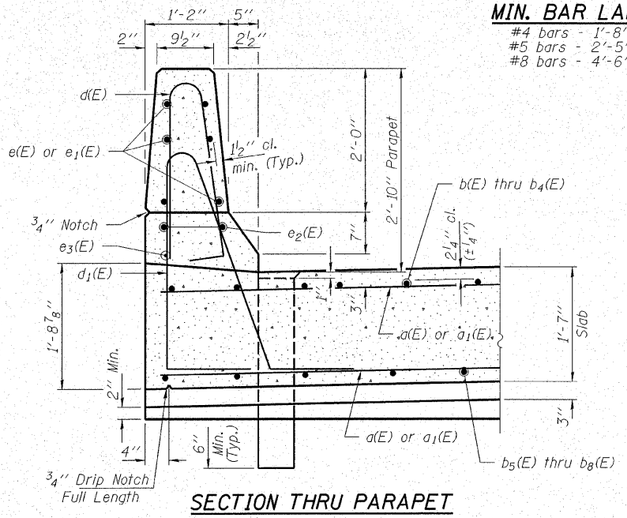
Contract #78006



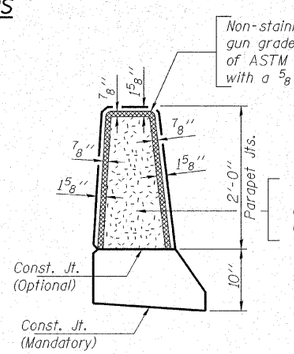
INSIDE ELEVATION OF PARAPET

MIN. BAR LAPS

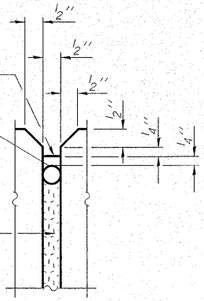
#4 bars - 1'-8"
#5 bars - 2'-5"
#8 bars - 4'-6"

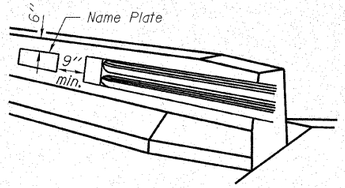


SECTION THRU PARAPET

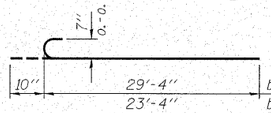


PARAPET JOINT DETAILS

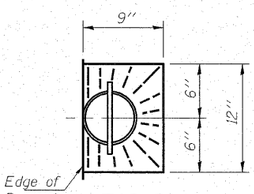




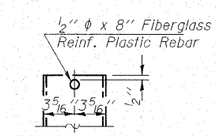
NAME PLATE LOCATION DETAIL



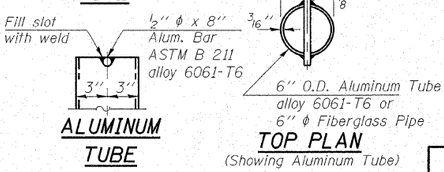
BAR b5(E) or b6(E)



TOP PLAN

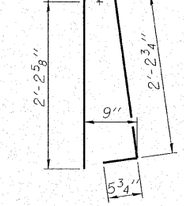


FIBERGLASS PIPE

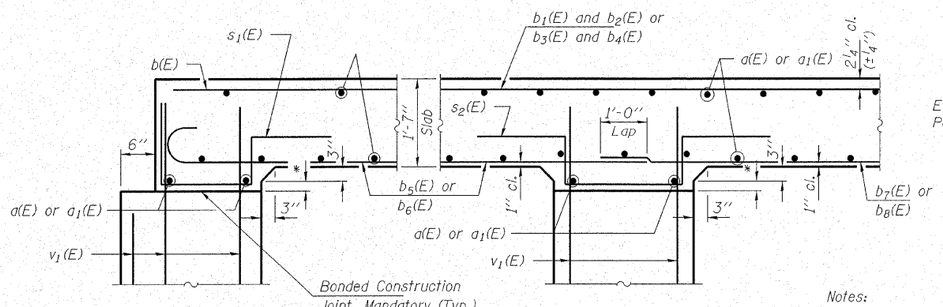


ALUMINUM TUBE

TOP PLAN (Showing Aluminum Tube)



BAR d(E)

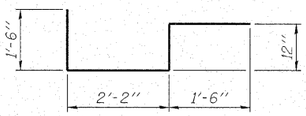


SECTION A-A

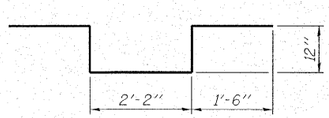
SECTION B-B

*Varies 2" to 5½"
Dimensions are ℄ Rt. L's

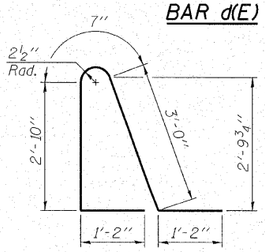
BAR s(E)



BAR s1(E)



BAR s2(E)



BAR d1(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	239	#5	15'-3"	—
d1(E)	239	#5	19'-3"	—
b(E)	144	#5	16'-3"	—
b1(E)	72	#8	27'-9"	—
b2(E)	70	#9	16'-6"	—
b3(E)	36	#9	30'-0"	—
b4(E)	35	#9	15'-6"	—
b5(E)	72	#7	30'-11"	C
b6(E)	70	#7	24'-2"	C
b7(E)	144	#7	22'-2"	—
b8(E)	70	#8	27'-6"	—
d(E)	298	#5	5'-7"	
d1(E)	298	#5	8'-9"	
e(E)	56	#4	14'-2"	—
e1(E)	56	#4	19'-2"	—
e2(E)	16	#8	37'-3"	—
e3(E)	10	#4	28'-6"	—
s(E)	137	#5	7'-8"	
s1(E)	72	#5	6'-2"	
s2(E)	108	#5	7'-2"	
Floor Drains		Each	12	
Concrete Superstructure		Cu. Yd.	321.1	
Bridge Deck Grooving		Sq. Yd.	484	
Protective Coat		Sq. Yd.	606	
Reinforcement Bars, Epoxy Coated		Pound	55,340	
Bar Splicers		Each	239	
Name Plates		Each	1	

Notes:
Floor drains need not be painted.
Fiberglass pipe shall conform to ASTM D 2996, with short-term rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

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PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

SUPERSTRUCTURE DETAILS

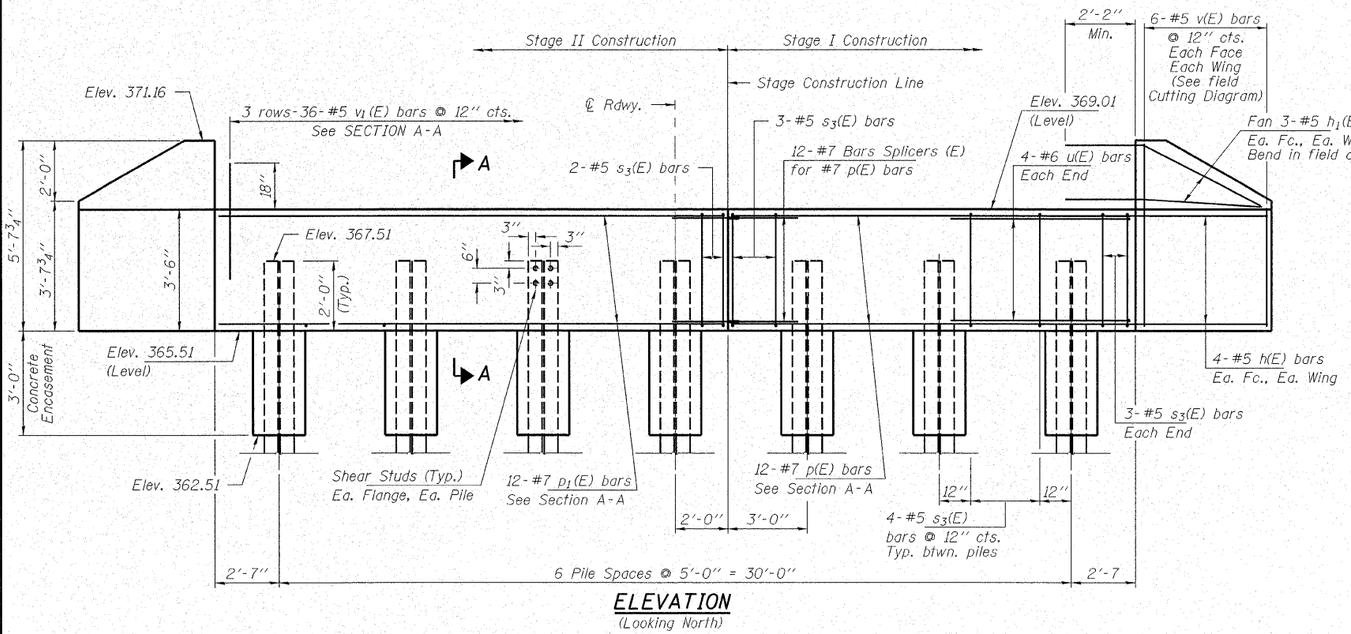
IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

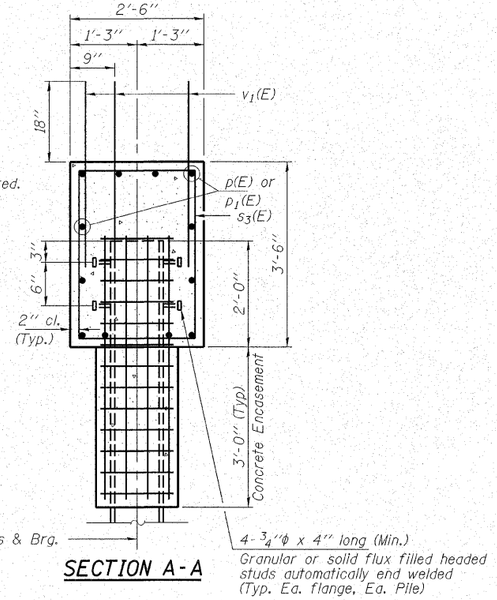
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	55
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
21 SHEETS

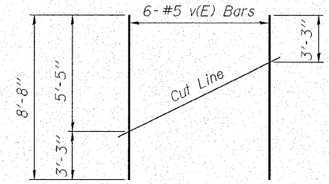
Contract #78006



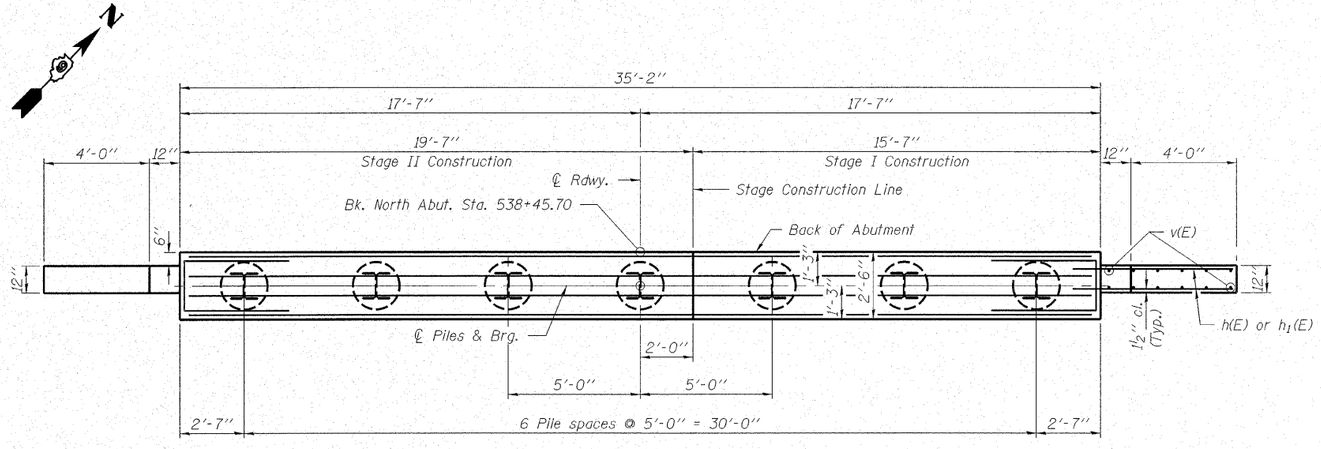
ELEVATION
(Looking North)



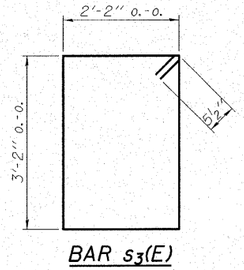
SECTION A-A



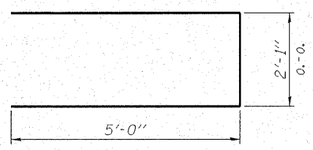
FIELD CUTTING DIAGRAM
Order v(E) bars full length. Cut as shown and use remainder of bars in opposite face.



PLAN



BAR s3(E)



BAR u(E)

BILL OF MATERIAL - N. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	16	#5	7'-0"	
h1(E)	12	#5	7'-6"	
p(E)	12	#7	15'-3"	
p1(E)	12	#7	19'-3"	
s3(E)	31	#5	11'-7"	
u(E)	8	#6	12'-1"	
v(E)	12	#5	8'-8"	
v1(E)	108	#5	4'-0"	
Structure Excavation			Cu. Yd.	75
Concrete Structures			Cu. Yd.	13.2
Concrete Encasement			Cu. Yd.	2.4
Stud Shear Connectors			Each	56
Reinforcement Bars, Epoxy Coated			Pound	2,140
Bar Splicers			Each	12
Steel Piles HP10x57			Foot	490

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Confractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.

PILE DATA

Type and Size ____ Steel HP10x57
No. Req'd. ____ 7
Nominal Req'd Bearing ____ 453 Kips/Pile
Allowable Resistance Available ____ 151 Kips/Pile
Est. Lengths ____ 70 Ft/Pile

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

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PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

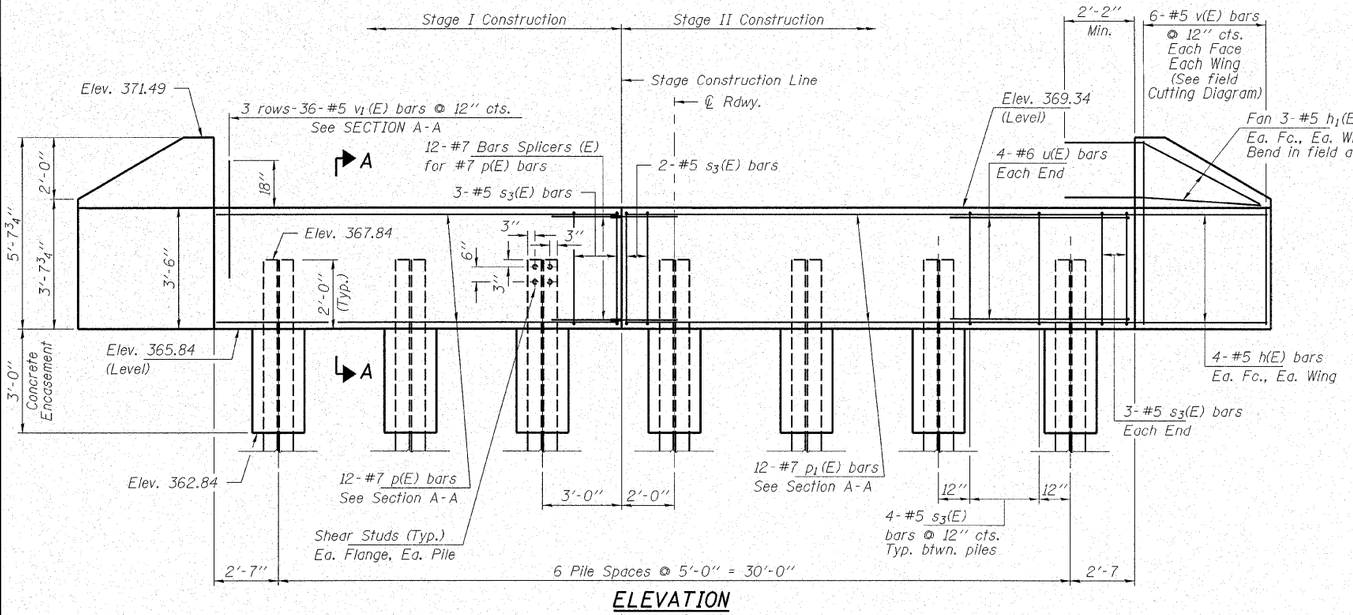
NORTH ABUTMENT
IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

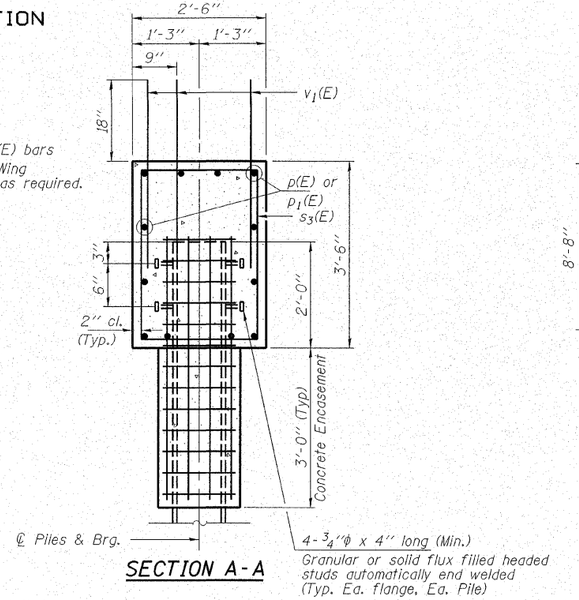
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-2)B-1	HAMILTON	140	56
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
21 SHEETS

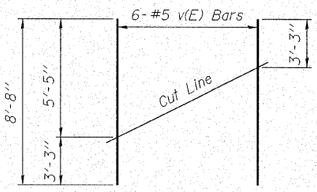
Contract #78006



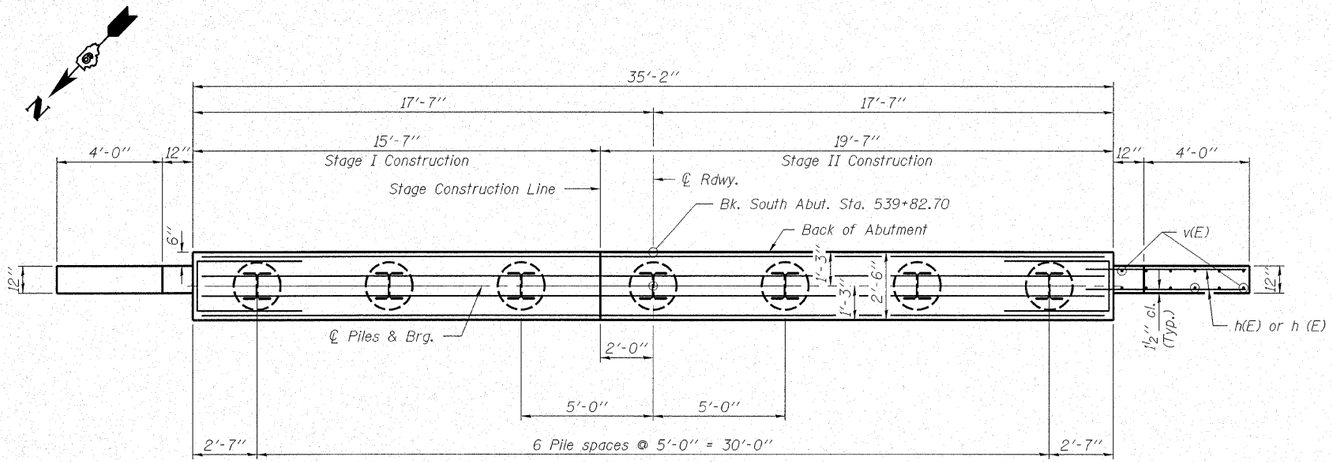
ELEVATION
(Looking South)



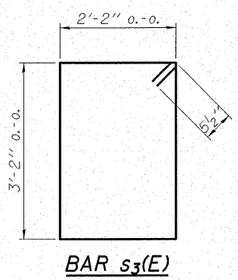
SECTION A-A



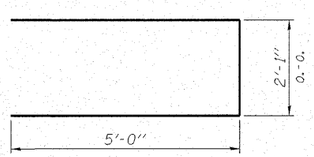
FIELD CUTTING DIAGRAM
Order v(E) bars full length. Cut as shown and use remainder of bars in opposite face.



PLAN



BAR s3(E)



BAR u(E)

BILL OF MATERIAL - S. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	16	#5	7'-0"	——
h1(E)	12	#5	7'-6"	——
p(E)	12	#7	15'-3"	——
p1(E)	12	#7	19'-3"	——
s3(E)	31	#5	11'-7"	□
u(E)	8	#6	12'-1"	▭
v(E)	12	#5	8'-8"	——
v1(E)	108	#5	4'-0"	——

Structure Excavation	Cu. Yd.	75
Concrete Structures	Cu. Yd.	13.2
Concrete Encasement	Cu. Yd.	2.4
Stud Shear Connectors	Each	56
Reinforcement Bars, Epoxy Coated	Pound	2,140
Bar Splicers	Each	12
Steel Piles HP10x57	Foot	420
Test Pile Steel HP10x57	Each	1

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.

PILE DATA

Type and Size ____ Steel HP10x57
No. Req'd. ____ *7
Nominal Req'd Bearing ____ 453 Kips/Pile
Allowable Resistance Available ____ 151 Kips/Pile
Est. Lengths ____ 70 Ft/Pile

Note: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

* Includes one test pile to be driven in permanent location at the South Abutment.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

SOUTH ABUTMENT

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)

F.A.P. ROUTE 776 - SECTION (116BR-2)B-1

HAMILTON COUNTY

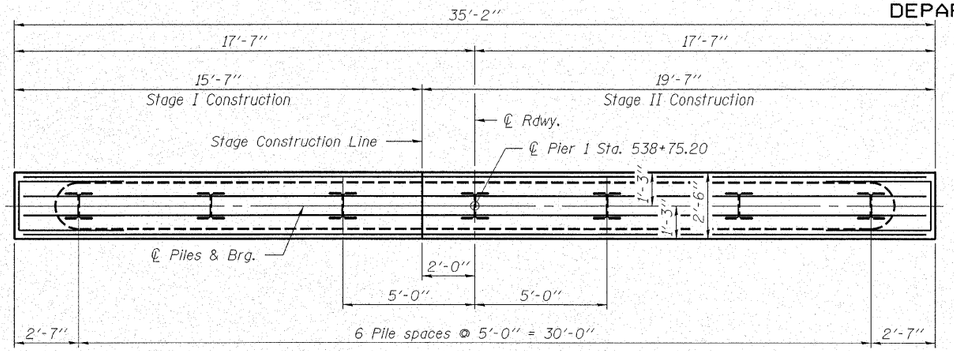
STRUCTURE NO. 033-0051 / STATION 539+14.20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	57
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
21 SHEETS

Contract #78006



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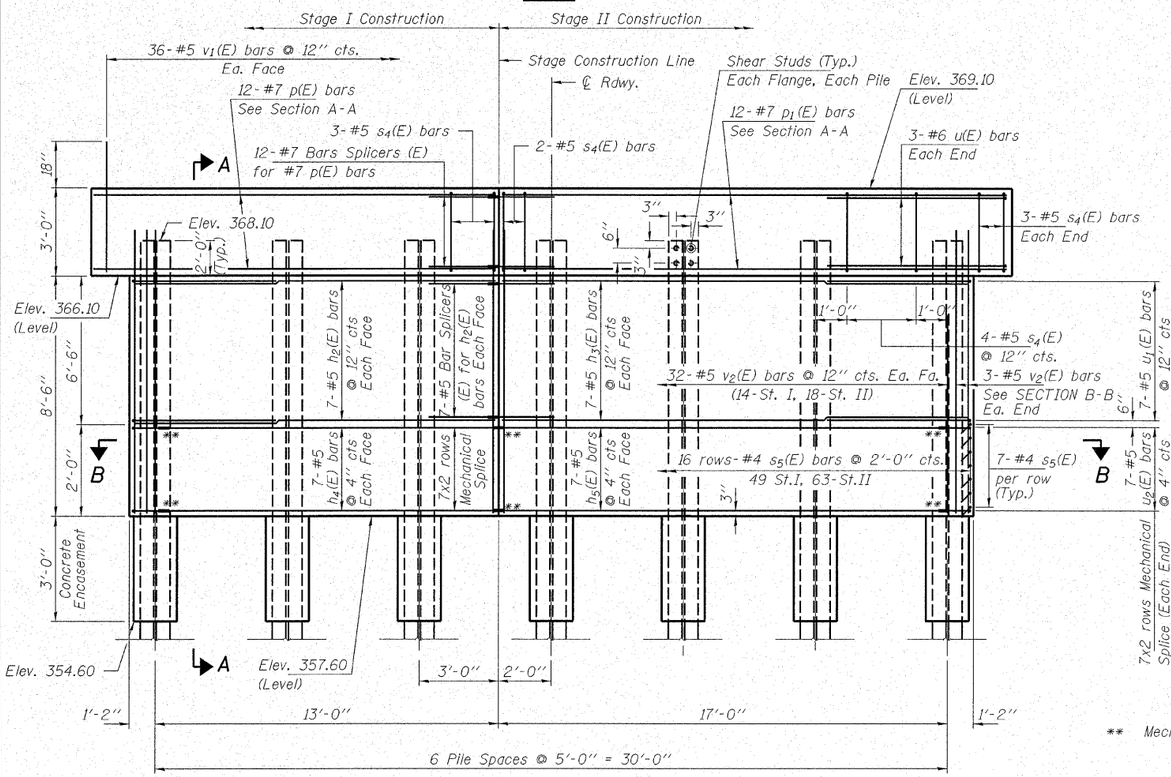
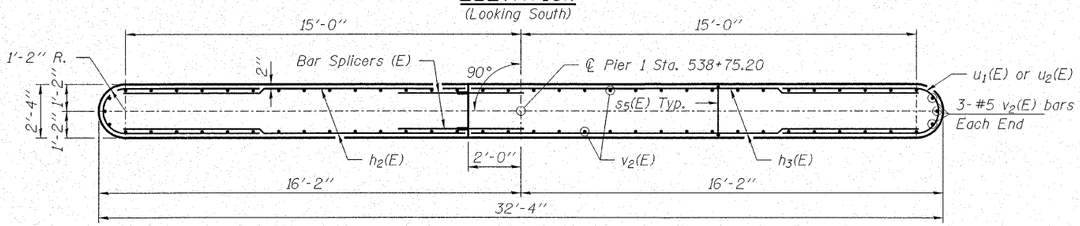
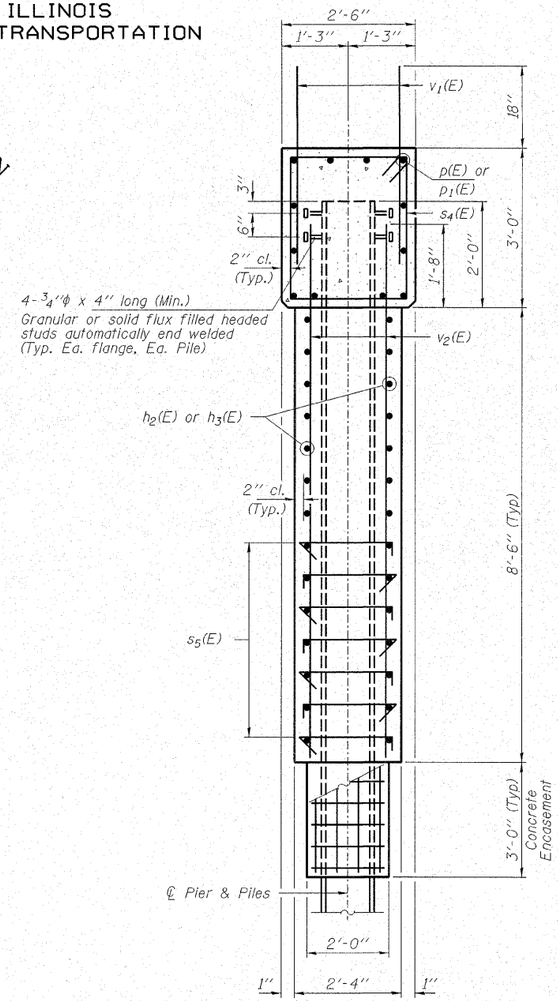


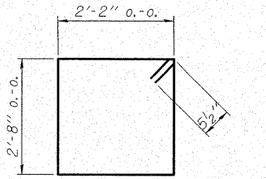
ELEVATION
(Looking South)

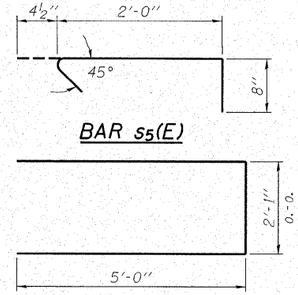


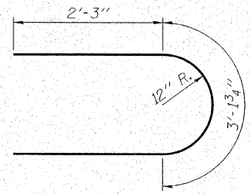
SECTION B-B

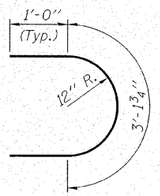


SECTION A-A









BILL OF MATERIAL - PIER 1

BAR	NO.	SIZE	LENGTH	SHAPE
$h_2(E)$	14	#5	12'-10"	—
$h_3(E)$	14	#5	16'-10"	—
$h_4(E)$	14	#5	11'-10"	—
$h_5(E)$	14	#5	15'-10"	—
$p(E)$	12	#7	15'-3"	—
$p_1(E)$	12	#7	19'-3"	—
$s_4(E)$	31	#5	10'-7"	□
$s_5(E)$	112	#4	3'-1"	⌐ ¬
$u(E)$	6	#6	12'-1"	⊐⊐
$u_1(E)$	14	#5	7'-8"	⊐⊐
$u_2(E)$	14	#5	5'-2"	⊐
$v_1(E)$	72	#5	4'-0"	—
$v_2(E)$	70	#5	10'-3"	—
Structure Excavation			Cu. Yd.	64
Concrete Structures			Cu. Yd.	33.4
Concrete Encasement			Cu. Yd.	2.4
Stud Shear Connectors			Each	56
Reinforcement Bars, Epoxy Coated			Pound	3,600
Bar Splicers			Each	26
Steel Piles HP10x57			Foot	420
Test Pile Steel, HP10X57			Each	1
Underwater Structure Excavation Protection Location 3			Each	1
Mechanical Splice			Each	42

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

** Mechanical splice

PILE DATA

Type and Size ____ Steel HP10x57
No. Req'd. ____ *7
Nominal Req'd Bearing ____ 453 Kips/Pile
Allowable Resistance Available ____ 151 Kips/Pile
Est. Lengths ____ 70 Ft/Pile

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

* Includes one test pile to be driven in permanent location at Pier 1.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.
	DRAWN: D.B.

PIER 1

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

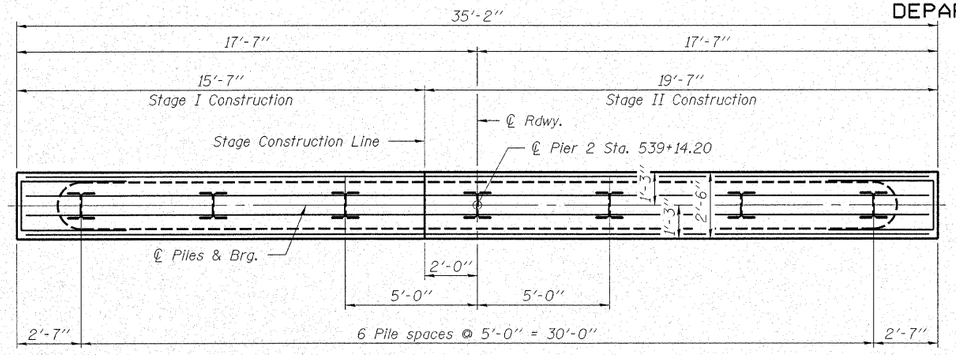
PLOT DATE = 10/26/2007 FILE NAME = 033005l-78006-41021bridge0051.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

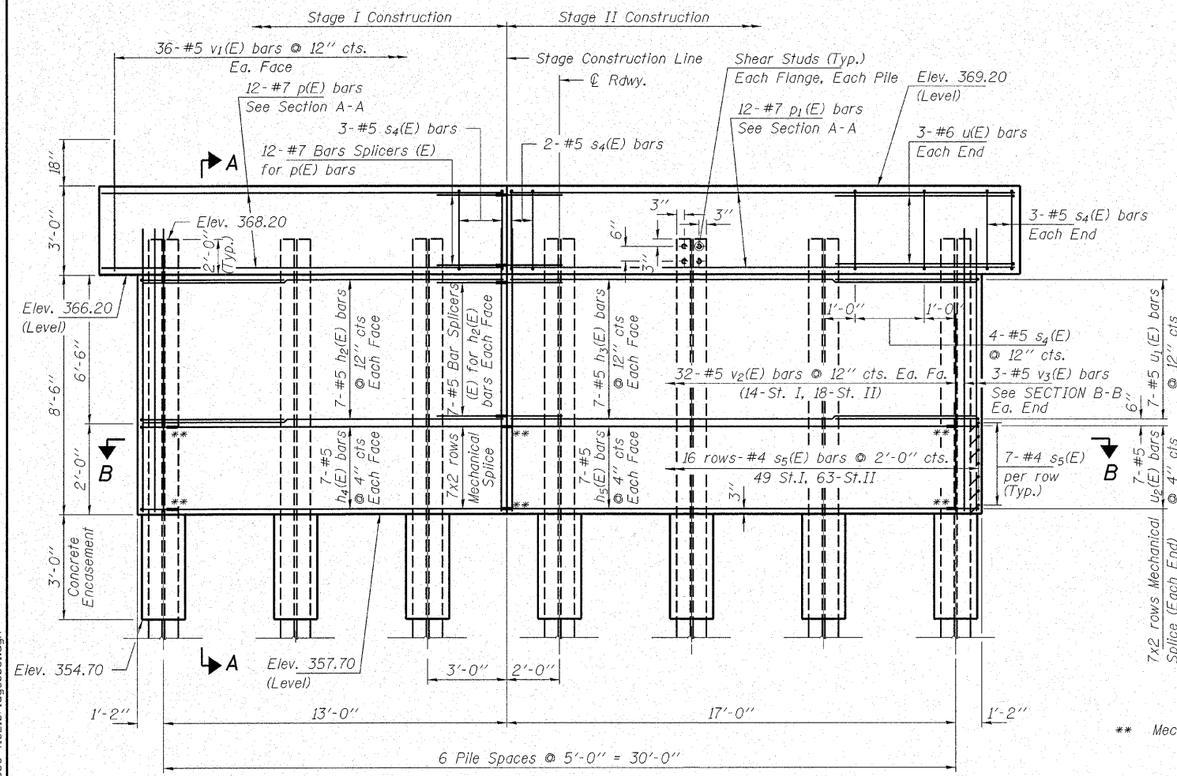
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	58
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
21 SHEETS

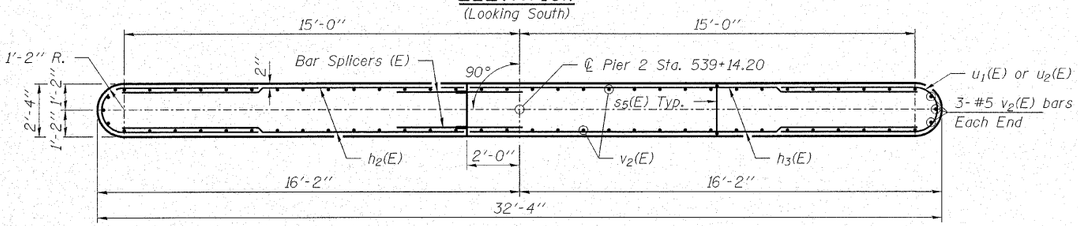
Contract #78006



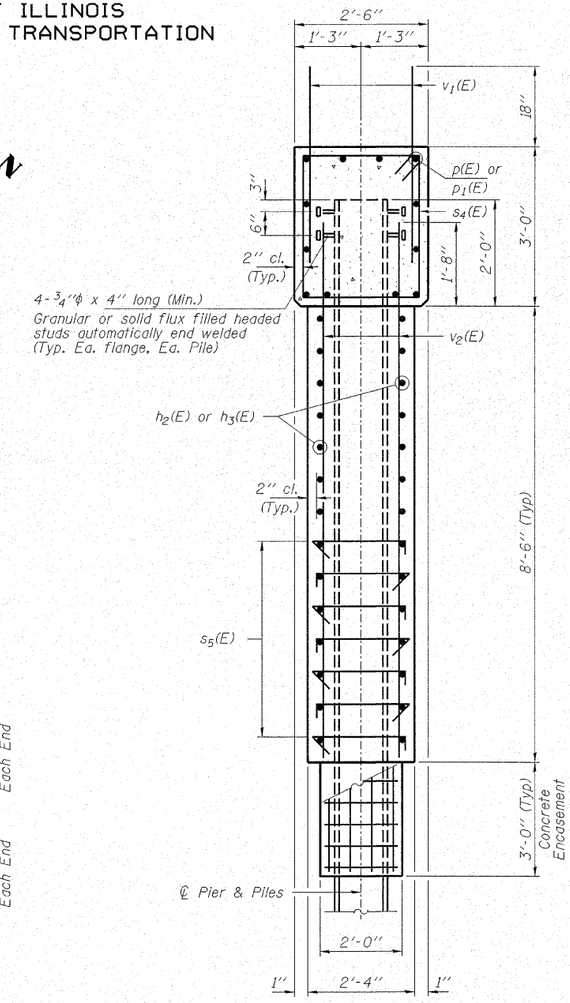
PLAN



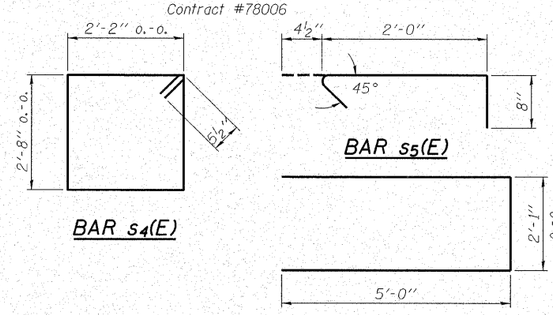
ELEVATION
(Looking South)

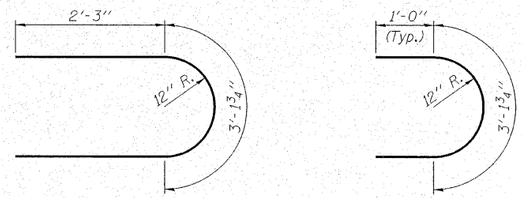


SECTION B-B



SECTION A-A





BILL OF MATERIAL - PIER 1

BAR	NO.	SIZE	LENGTH	SHAPE
$h_2(E)$	14	#5	12'-10"	
$h_3(E)$	14	#5	16'-10"	
$h_4(E)$	14	#5	11'-10"	
$h_5(E)$	14	#5	15'-10"	
$p(E)$	12	#7	15'-3"	
$p_1(E)$	12	#7	19'-3"	
$s_4(E)$	31	#5	10'-7"	
$s_5(E)$	112	#4	3'-1"	10
$u(E)$	6	#6	12'-1"	
$u_1(E)$	14	#5	7'-8"	U
$u_2(E)$	14	#5	5'-2"	U
$v_1(E)$	72	#5	4'-0"	
$v_2(E)$	70	#5	10'-3"	
Structure Excavation			Cu. Yd.	64
Concrete Structures			Cu. Yd.	33.4
Concrete Encasement			Cu. Yd.	2.4
Stud Shear Connectors			Each	56
Reinforcement Bars, Epoxy Coated			Pound	3,600
Bar Splicers			Each	26
Steel Piles HP10x57			Foot	420
Test Pile Steel, HP10X57			Each	1
Underwater Structure Excavation Protection Location 4			Each	1
Mechanical Splice			Each	42

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

** Mechanical splice

PILE DATA

Type and Size _____ Steel HP10x57
No. Req'd. _____ 7
Nominal Req'd Bearing _____ 453 Kips/Pile
Allowable Resistance Available _____ 151 Kips/Pile
Est. Lengths _____ 70 Ft/Pile

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

HAMPTON, LENZINI & RENWICK, INC.
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LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
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(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.
	DRAWN: D.B.

PIER 2
IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

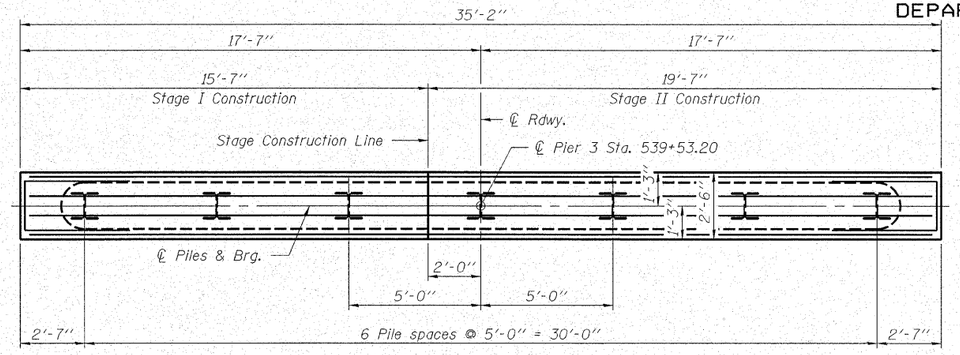
PLOT DATE = 10/26/2007 FILE NAME = 033005I-78006-41021b-ridge2005I.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

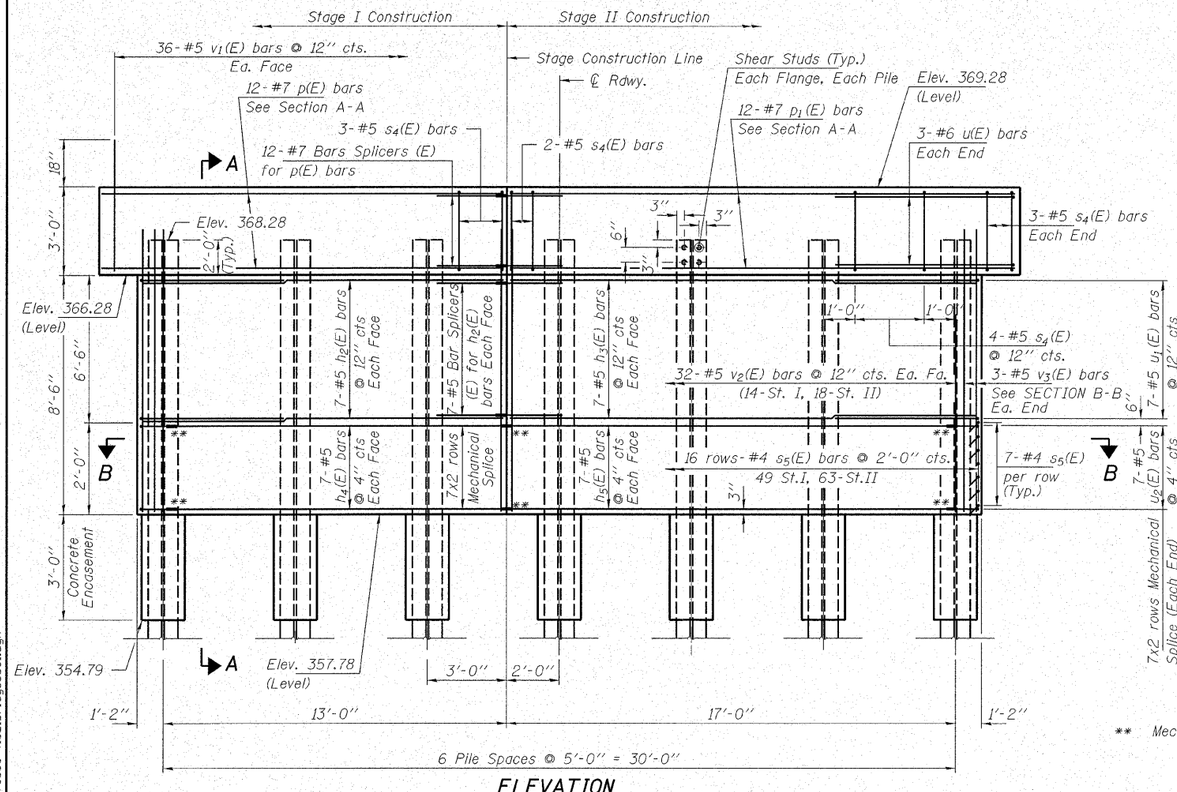
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-2)B-1	HAMILTON	140	59
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 15
21 SHEETS

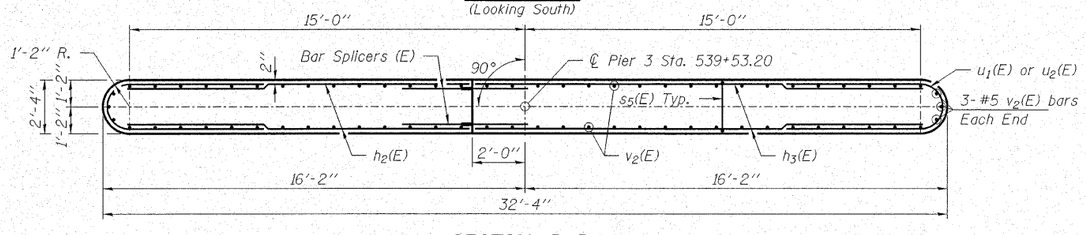
Contract #78006



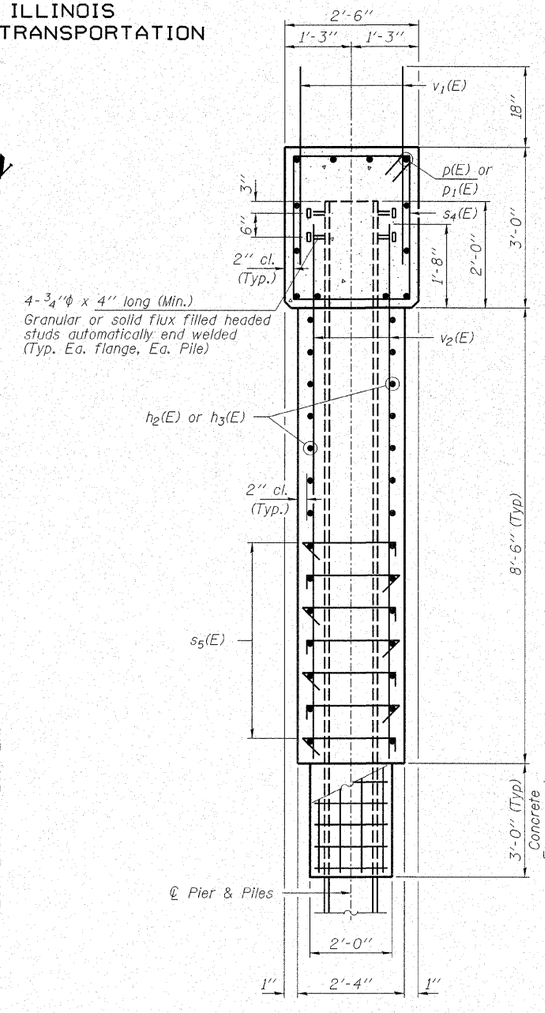
PLAN



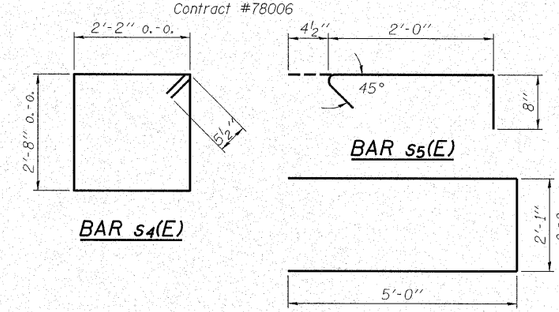
ELEVATION
(Looking South)

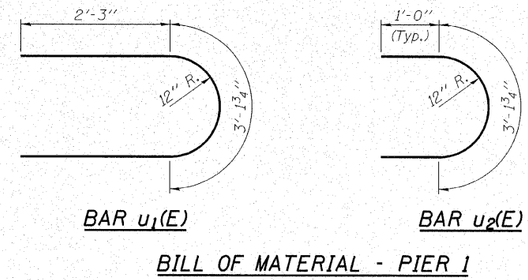


SECTION B-B



SECTION A-A





BILL OF MATERIAL - PIER 1

BAR	NO.	SIZE	LENGTH	SHAPE
$h_2(E)$	14	#5	12'-10"	
$h_3(E)$	14	#5	16'-10"	
$h_4(E)$	14	#5	11'-10"	
$h_5(E)$	14	#5	15'-10"	
$p(E)$	12	#7	15'-3"	
$p_1(E)$	12	#7	19'-3"	
$s_4(E)$	31	#5	10'-7"	
$s_5(E)$	112	#4	3'-1"	
$u(E)$	6	#6	12'-1"	
$u_1(E)$	14	#5	7'-8"	
$u_2(E)$	14	#5	5'-2"	
$v_1(E)$	72	#5	4'-0"	
$v_2(E)$	70	#5	10'-3"	

Structure Excavation	Cu. Yd.	64
Concrete Structures	Cu. Yd.	33.4
Concrete Encasement	Cu. Yd.	2.4
Stud Shear Connectors	Each	56
Reinforcement Bars, Epoxy Coated	Pound	3,600
Bar Splicers	Each	26
Steel Piles HP10x57	Foot	420
Test Pile Steel, HP10X57	Each	1
Underwater Structure Excavation Protection Location 5	Each	1
Mechanical Splice	Each	42

** Mechanical splice

PILE DATA

Type and Size ____ Steel HP10x57
No. Req'd. ____ 7
Nominal Req'd Bearing ____ 453 Kips/Pile
Allowable Resistance Available ____ 151 Kips/Pile
Est. Lengths ____ 70 Ft/Pile

Note: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
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SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
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ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S. CHECKED: S.W.M.	DRAWN: D.B.

PIER 3

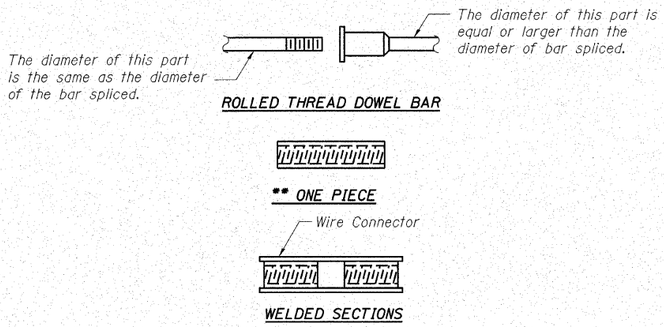
IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	60
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

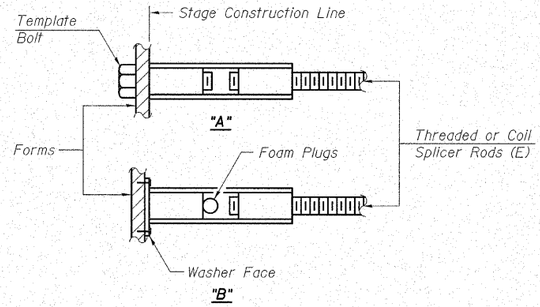
SHEET NO. 16
21 SHEETS

Contract #78006



BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

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

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

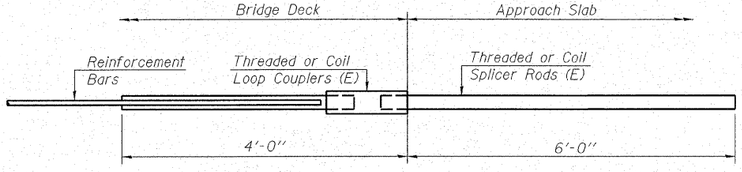
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

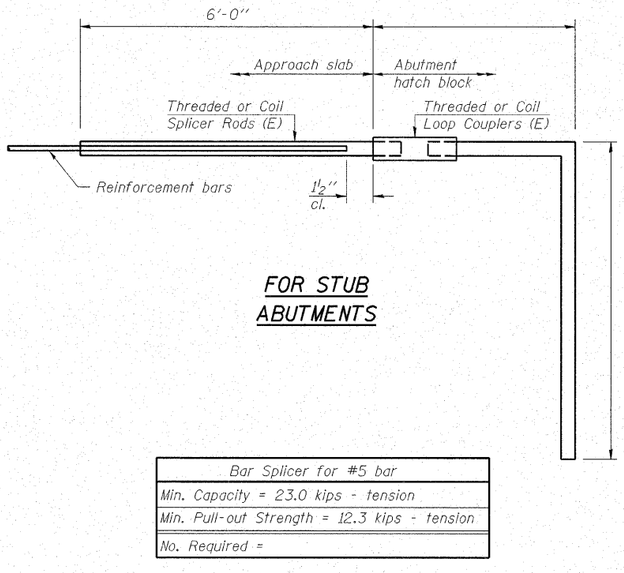
Where f_y = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



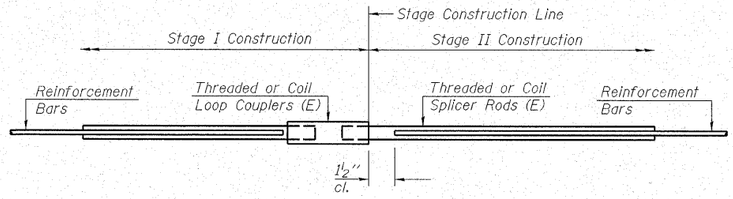
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#5	239	Slab
#7	12	N. Abut.
#7	12	S. Abut.
#7	12	Pier 1
#5	14	Pier 1
#7	12	Pier 2
#5	14	Pier 2
#7	12	Pier 3
#5	14	Pier 3

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

BAR SPLICER ASSEMBLY DETAILS

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

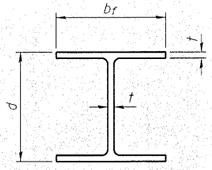
BSD-1 11-1-06

PLOT DATE =10/26/2007 FILE NAME = 0330051-78006-11021br-ridge0051.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

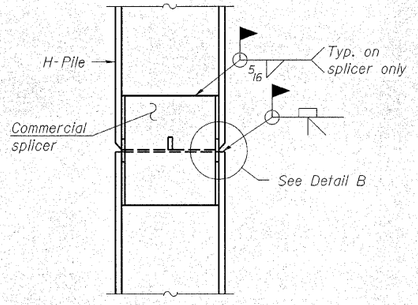
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-2)B-1	HAMILTON	140	61
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 17
21 SHEETS
Contract #78006

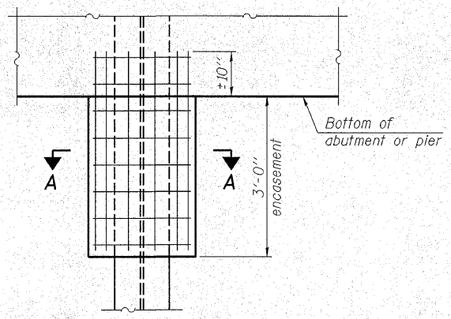


STEEL PILE TABLE

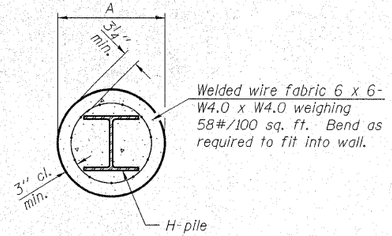
Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53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



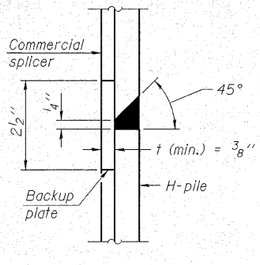
ELEVATION



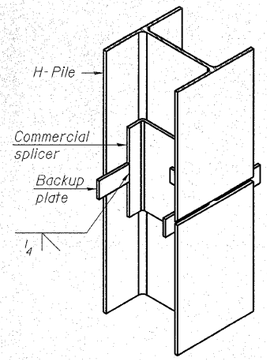
SECTION A-A

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

PILE ENCASEMENT

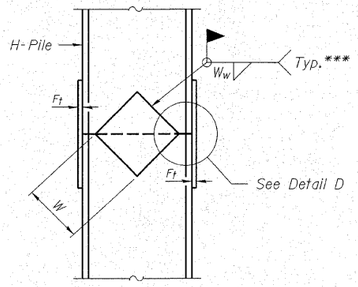


DETAIL "B"

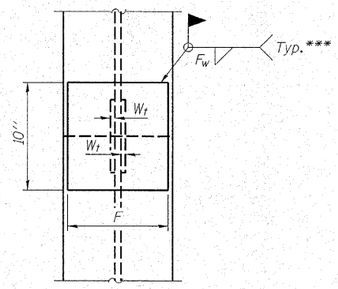


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



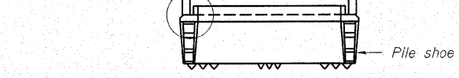
ELEVATION



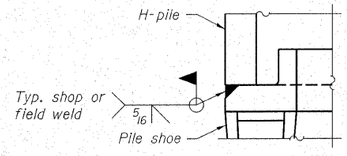
END VIEW

Designation	F	F_f	F_w	W	W_f	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

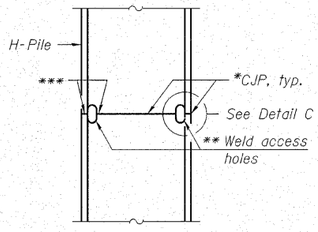


ELEVATION

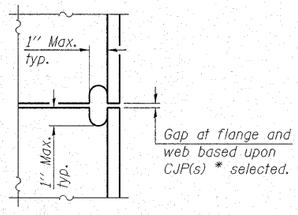


DETAIL A

H-PILE SHOE ATTACHMENT

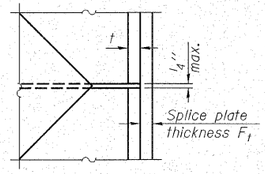


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

* 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.

F-HP 11-1-06

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.
	DRAWN: D.B.

STEEL H PILES

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-2)B-1	HAMILTON	140	62
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 18
21 SHEETS

Contract #78006

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation — SOIL BORING LOG

Division of Highways
Ill. Dept. of Trans. D-7

Page 1 of 2 — Date 7/20/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3) B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0021
Station 539+74

BORING NO. 1
Station 538+99
Offset 9.20ft Rt
Ground Surface Elev. 370.80 ft

Surface Water Elev. 395.02 ft
Stream Bed Elev. 395.02 ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion Dry ft
After ____ Hrs. N/A ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Asphalt pavement.	369.80				
Stiff to medium, damp, gray, CLAY w/ silt.			3		
			3	1.0	28
			3	B	
		-5	0		
			2	0.6	30
			3	B	
			0		
			2	1.0	28
			3	B	
	361.30				
Medium, damp, gray, SILTY CLAY w/ several wood chunks.		-10	0		
			2	0.8	29
			3	B	
	358.80				
Stiff to medium, damp, gray/red/brown, CLAY w/ silt.			2		
			3	1.0	26
			4	B	
		-15	2		
			3	1.7	23
			5	B	
			1		
			2	1.0	28
			3	B	
	351.30	-20	0		

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Soft to medium, red mottled gray, SILTY CLAY. *(continued)*			2	0.3	25
			2	B	
			0		
			2	0.9	21
			2	B	
		-25	1		
			2	1.0	25
			2	B	
	343.80				
Soft, very damp, brown, SILTY LOAM.			1		
			1	0.5	21
			2	B	
		-30	0		
			1	0.4	28
			2	B	
	336.30				
Soft to very soft, very damp, gray, SILT.		-35	0		
			0	0.3	34
			1	B	
		-40	0		

Latitude N 37 deg 57.169 min, Longitude W 88 deg 28.191 min, Map Datum WGS 84

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)

Illinois Department of Transportation — SOIL BORING LOG

Division of Highways
Ill. Dept. of Trans. D-7

Page 2 of 2 — Date 7/20/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3) B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0021
Station 539+74

BORING NO. 1
Station 538+99
Offset 9.20ft Rt
Ground Surface Elev. 370.80 ft

Surface Water Elev. 395.02 ft
Stream Bed Elev. 395.02 ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion Dry ft
After ____ Hrs. N/A ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Soft to very soft, very damp, gray, SILT. *(continued)*			0	0.3	29
			0	B	
		-45	0		
			0	0.2	29
			0	B	
	321.30				
Soft, damp, gray, SANDY LOAM.		-50	0		
			2	0.3	24
			6	S	
		-55			
	311.30	-60	10		

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very stiff, very moist, gray, SANDY LOAM TILL. *(continued)*			11	2.4	14
			21	BS	
		-65			
	301.30				
Hard, moist, gray, CLAY SHALE.	300.70	-70	50/4"		
Extent of exploration.			50/2"		5
			50/1"		
		-75			
		-80			

Benchmark: BM 513 Chiseled square on top of NE corner of hubguard of existing bridge Sta 538+50, Lt 17' = 371.40', provided by Program Development.

Note: Two sets of conflicting stationing present, borings referenced off nails on centerline.
B1 - 75' N of center of existing bridge.
B2 - 4' S of center of existing bridge.
B3 - 38' S of center of existing bridge.
B4 - 73' S of center of existing bridge.

Latitude N 37 deg 57.169 min, Longitude W 88 deg 28.191 min, Map Datum WGS 84

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)

BORING 1

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i		DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

BORING LOG 1
IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

PLOT DATE :10/26/2007 FILE NAME = 0330051-78006-41021bridge0051.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-2)B-1	HAMILTON	140	63
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 19
21 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Date 7/29/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
(116BR-1, BR-2, BR-3)
SECTION B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM

COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0021
Station 539+74

BORING NO. 2
Station 539+78
Offset 22.60ft Lt
Ground Surface Elev. 362.42 ft

Surface Water Elev. 395.02 ft
Stream Bed Elev. 395.02 ft

Groundwater Elev.:
First Encounter 334.9 ft
Upon Completion Washed ft
After ___ Hrs. samples ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Broken concrete and wire.			
358.92			
Stiff to medium, damp, brown mottled gray, CLAY.	2		
-5	3	1.2	22
	4	B	
	2		
	2	1.4	24
	3	B	
-10	2		
	3	0.8	20
	4	B	
350.42			
Medium, damp, brown mottled gray, SILTY LOAM.	0		
	2	0.6	22
	2	B	
347.92			
Medium, damp, red mottled gray, SILTY CLAY.	1		
-15	2	0.8	26
	3	B	
345.42			
Soft, very damp, brown/gray/red, SILTY LOAM.	1		
	2	0.5	21
	3	B	
-20	0		
Soft, very damp, brown/gray/red, SILTY LOAM. *(continued)*	2	0.4	27
	2	B	
339.92	0		
Soft, very damp, red/gray/black, LOAM.	0	0.3	22
	2	B	
337.92			
Medium, damp, gray/tan/black, CLAY TILL.	-25 1		
	2	0.8	21
	2	B	
335.42			
Soft, very damp, gray, SILT.	0		
	0	0.4	33
	1	B	
-30	0		
	0	0.3	38
	1	B	
327.92			
Soft, very damp, gray, SILTY LOAM.	-35 0		
	4	0.3	23
	5	B	
326.52			
Very loose, wet, gray, fine grained, SAND.			
322.42 -40	0		

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Date 7/29/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
(116BR-1, BR-2, BR-3)
SECTION B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM

COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0021
Station 539+74

BORING NO. 2
Station 539+78
Offset 22.60ft Lt
Ground Surface Elev. 362.42 ft

Surface Water Elev. 395.02 ft
Stream Bed Elev. 395.02 ft

Groundwater Elev.:
First Encounter 334.9 ft
Upon Completion Washed ft
After ___ Hrs. samples ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very loose, wet, gray, fine grained, SAND. *41% passing #200 sieve.*	0		22
	3		
-45	1		
316.92			
Medium to stiff, damp, gray, CLAY TILL.	3	1.0	15
	4	B	
312.92			
Medium, damp, gray, SANDY LOAM.	-50 0		
311.92	4	0.6	14
Gray, CLAY TILL.	8	B	
-55			
* Very dense, moist, gray, pokerchipped & powdered, CLAY SHALE.			
** 50/4", 50/1" & 50/1"			
Borehole continued with Rock Core.			
302.92			
* 302.42 -60	**		6

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

ROCK CORE LOG

Date 7/29/06

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
(116BR-1, BR-2, BR-3)
SECTION B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM

COUNTY Hamilton CORING METHOD Rotary, surf set diamond bit, NW, conv dbl bbl,
CORING BARREL TYPE & SIZE split inner

STRUCT. NO. 033-0021
Station 539+74

BORING NO. 2
Station 539+76
Offset 22.60ft Lt
Ground Surface Elev. 362.42 ft

Core Diameter 2.06 in
Top of Rock Elev. 302.92 ft
Begin Core Elev. 302.42 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	RQD (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Gray, slightly weathered, soapy, CLAY SHALE. 302.42		100	81	1	
-85		100	9	1	
292.42 -70					
Extent of exploration.					
Benchmark: BM 513 Chiseled square on top of NE corner of hubguard of existing bridge Sta 538+50, Lt 17' = 371.40', provided by Program Development.					
Note: Two sets of conflicting stationing present, borings referenced off nails on centerline.					
B1 - 75' N of center of existing bridge.					
B2 - 4' S of center of existing bridge.					
B3 - 38' S of center of existing bridge.					
B4 - 73' S of center of existing bridge.					
-75					
-90					

Color pictures of the cores ___
Cores will be stored for examination until ___
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

BORING 2

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

BORING LOG 2

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-2)B-1	HAMILTON	140	64
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 20
21 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 1 of 2

Date 8/4/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
(116BR-1, BR-2, BR-3)
SECTION B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM

COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0021
Station 539+74

BORING NO. 3
Station 540+12
Offset 24.00ft Lt
Ground Surface Elev. 363.03 ft

Surface Water Elev. 395.02 ft
Stream Bed Elev. 395.02 ft

Groundwater Elev.:
First Encounter 338.5 ft
Upon Completion 347.0 ft
After 24 Hrs. 357.6 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Topsoil. 362.83				Soft to medium, damp, gray marbled red, SILTY CLAY. *(continued)*	2	0.5	21
Very stiff to medium, damp, red marbled gray, CLAY.					2	B	
	3			341.03			
	4		23	Soft, very damp, gray marbled red, SILTY LOAM.	0		
	5				2	0.3	24
					3	B	
-5	3						
	4	1.2	25	338.03 -25	0		
	4	B		Stiff to medium, damp, gray, SILTY CLAY.	2	1.7	31
					3	B	
	2				1		
	4	2.3	25		2	0.8	32
	6	B			3	B	
				333.53			
-10	2			Soft, very damp, gray, SILT.			
	3	0.9	29	-30	0	0.3	36
Trace Silt.	4	B			0	B	
	2						
350.03	2	0.6	24	328.53			
Medium, damp, brown/gray, SILTY CLAY.	3	B		Soft, very damp, gray, SILTY LOAM.			
-15	1			-35	0		
	2	0.9	20		1	0.3	33
	4	B			1	B	
346.03							
Medium, damp, gray marbled brown, SILTY LOAM.	0						
	2	0.7	22				
	2	B					
343.53				323.53			
-20	0			-40	0		

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. 6-99)

Latitude N 37 deg 27 154 min Longitude W 89 deg 29 175 min Map Datum WGS 84

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 2 of 2

Date 8/4/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
(116BR-1, BR-2, BR-3)
SECTION B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM

COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0021
Station 539+74

BORING NO. 3
Station 540+12
Offset 24.00ft Lt
Ground Surface Elev. 363.03 ft

Surface Water Elev. 395.02 ft
Stream Bed Elev. 395.02 ft

Groundwater Elev.:
First Encounter 338.5 ft
Upon Completion 347.0 ft
After 24 Hrs. 357.5 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose, wet, gray, fine grained, SAND. *7% passing #200 sieve.* *(continued)*	2		17	Extent of exploration.	50/2"		
	6				50/1"		
				Benchmark: BM 513 Chiseled square on top of NE corner of hubguard of existing bridge Sta 538+50, Lt 17' = 371.40', provided by Program Development.			
318.53							
Medium to hard, damp, gray, CLAY TILL w/ Sand.	1			*Note: Two sets of conflicting stationing present, borings referenced off nails on centerline.* *B1 - 75' N of center of existing bridge.* *B2 - 4' S of center of existing bridge.* *B3 - 38' S of center of existing bridge.* *B4 - 73' S of center of existing bridge.*			
-45	4	0.8	18				
	4	B					
-50	2						
	9	4.3	14				
	14	B					
-55							
306.53							
Very dense, moist, gray, pokerchipped, CLAY SHALE.							
303.03 -60	50/3"		8				

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. 6-99)

Latitude N 37 deg 27 154 min Longitude W 89 deg 29 175 min Map Datum WGS 84

BORING 3

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3095 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.
	DRAWN: D.B.

BORING LOG 3

IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -2)B-1	HAMILTON	140	65
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 21
21 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 1 of 2
Date 8/8/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3) B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0021
Station 539+74
BORING NO. 4
Station 540+47
Offset 9.70ft Rt
Ground Surface Elev. 370.73 ft

Surface Water Elev. 395.02 ft
Stream Bed Elev. 395.02 ft
Groundwater Elev.:
First Encounter 330.7 ft
Upon Completion 354.7 ft
After ___ Hrs. N/A ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Asphalt pavement.	369.23				
Gray, CLAY w/ fine gravel.	368.73				
Medium to soft, damp, gray, SILTY CLAY.			0		
			2	0.7	31
			3	B	
		-5	1		
			1	0.5	34
			3	B	
			1		
			2	0.7	30
			3	B	
	360.73	-10	1		
Stiff, damp, gray/red, CLAY.			3	1.2	26
			4	BS	
			1		
			4	1.4	22
			4	B	
		-15	1		
			4	1.9	22
			4	B	
			2		
			4	1.2	30
			4	B	
	351.23	-20	0		

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Soft, very damp, brown, SILTY LOAM. *(continued)*			2	0.3	29
	349.93		3	B	
Stiff, very moist, red, SILTY CLAY.	348.73				
Very soft to stiff, damp, gray, SILTY LOAM.			0		
			1	0.5	25
			2	B	
		-25	0		
			2	0.6	22
			2	B	
			2		
			2	1.2	20
			4	B	
		-30	0		
With red, Sand.			4	0.4	22
			3	S	
		-35	0		
			0	0.4	34
			1	B	
	330.73	-40	0		

Latitude N 37 deg 57 154 mm Longitude W 88 deg 28 179 mm Map Datum WGS 84

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 2 of 2
Date 8/8/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3) B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0021
Station 539+74
BORING NO. 4
Station 540+47
Offset 9.70ft Rt
Ground Surface Elev. 370.73 ft

Surface Water Elev. 395.02 ft
Stream Bed Elev. 395.02 ft
Groundwater Elev.:
First Encounter 330.7 ft
Upon Completion 354.7 ft
After ___ Hrs. N/A ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very soft, damp, gray, SILTY LOAM.			1	0.2	35
			1	B	
	326.23				
Stiff, damp, gray, CLAY TILL.		-45	2		
			5	1.3	14
			5	B	
	321.23				
Medium to very dense, damp, gray, SANDY LOAM TILL.		-50	1		
			5	0.9	12
			7	B	
		-55			
		-60	16		

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium to very dense, damp, gray, SANDY LOAM TILL. *(continued)*			45		17
			50		
		-65			
	305.23				
Brown, SANDY LOAM.	304.63		7		
Very dense, moist, gray, CLAY SHALE.	304.03		50		7
			50/3"		
Extent of exploration.					
Benchmark: BM 513 Chiseled square on top of NE comer of hubguard of existing bridge Sta 538+50, Lt 17' = 371.40', provided by Program Development.		-70			
Note: Two sets of conflicting stationing present, borings referenced off nails on centerline. *B1 - 75' N of center of existing bridge.* *B2 - 4' S of center of existing bridge.* *B3 - 38' S of center of existing bridge.* *B4 - 73' S of center of existing bridge.*		-75			
		-80			

Latitude N 37 deg 57 154 mm Longitude W 88 deg 28 179 mm Map Datum WGS 84

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)

BORING 4

PLOT DATE :10/26/2007 FILE NAME = 0330051-78006-41021br-dge0051.dgn

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1		DATE: 09/25/07
DESIGNED: S.M.S.	CHECKED: S.W.M.	DRAWN: D.B.

BORING LOG 4
IL RTE. 142 OVER CONTRARY CREEK (NORTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-2)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0051 / STATION 539+14.20

BENCHMARK: Chiseled square on top of NE hubguard of Bridge 033-0022, 17.0' Lt.: Elev. 371.36.

EXISTING STRUCTURE: SN 033-0022 was originally built in 1928. The superstructure was replaced and the substructure widened in 1976. The structure consists of 5 spans of PPC deck beams on cantilevered closed abutments and solid shaft piers, supported on untreated timber piles. The structure has no skew. The approach shoulders are supported with Precast Concrete Beams. The bridge is 110'-0" bk.-bk. abuts. and 34'-8" o.-o. deck. Existing structure is to be removed and replaced. One lane of traffic will be maintained utilizing stage construction.

No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -3)B-1	HAMILTON	140	66
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
21 SHEETS

Contract #78006

GENERAL NOTES

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

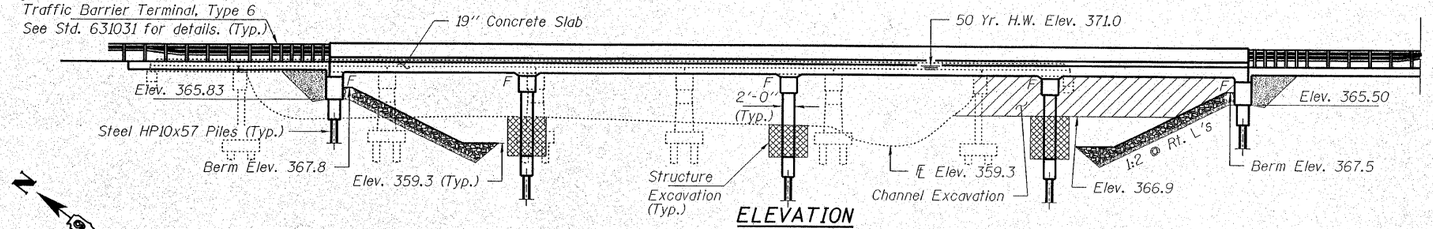
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

The contractor shall drive 2 steel test piles to 110% of the nominal required bearing specified in production locations: one HP10x57 at the South Abutment and one HP10x57 at Pier 2, as approved by the Engineer before ordering the remainder of piles.

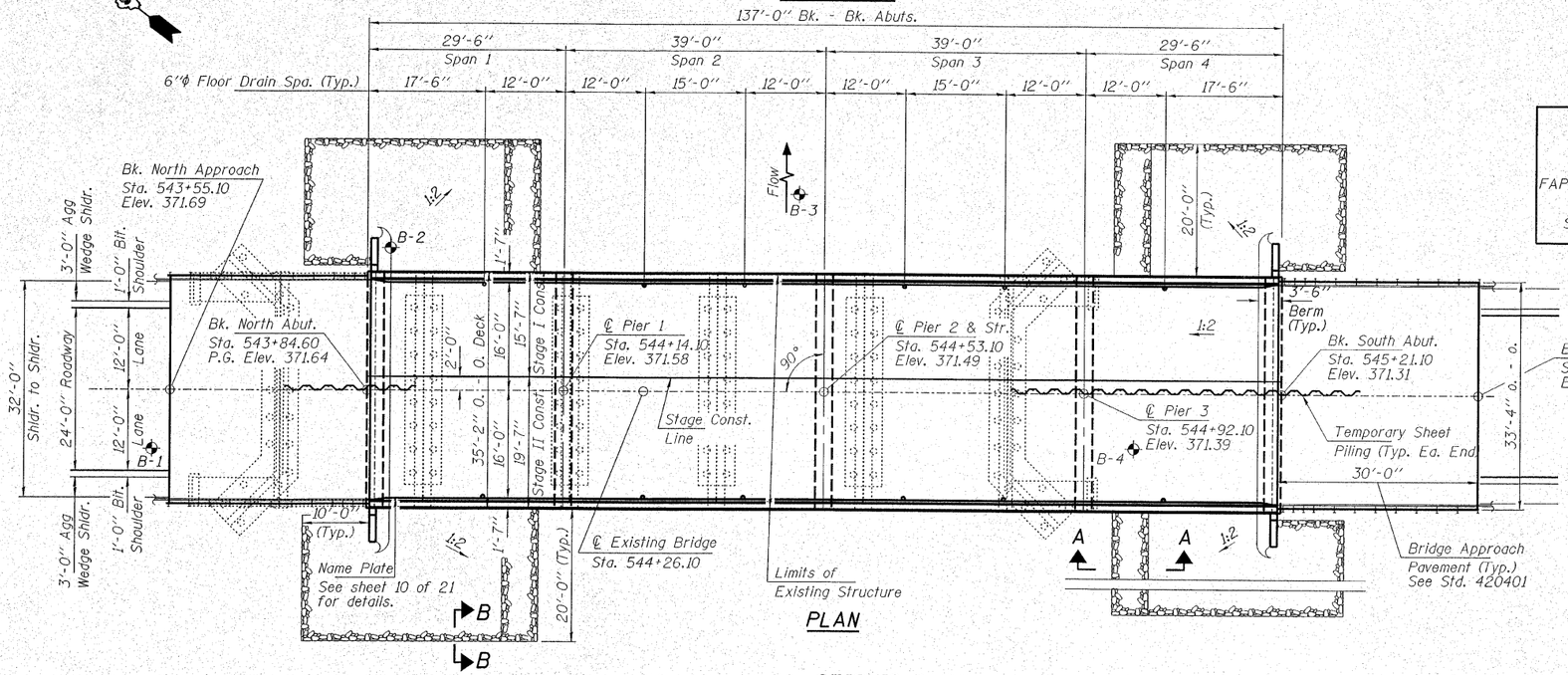
The contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach pavement.

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

Slipforming of the parapets is not allowed.



ELEVATION

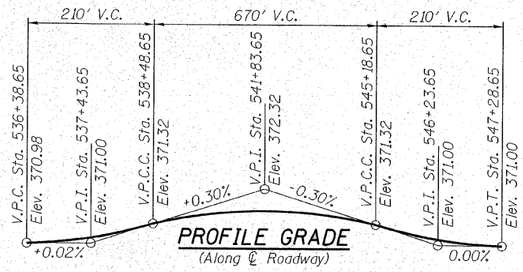


PLAN

STATION 544+53.10
BUILT 200_ BY
STATE OF ILLINOIS
FAP RTE 776 SEC (116BR-3)B-1
LOADING HS20
STRUCTURE NO. 033-0052

NAME PLATE

See Std. 515001



PROFILE GRADE
(Along ℄ Roadway)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.			60
Stone Riprap, Class A4	Sq. Yd.		560	560
Filter Fabric	Sq. Yd.		560	560
Removal of Existing Structures No. 3	Each			1
Structure Excavation	Cu. Yd.	191		191
Floor Drains	Each	12		12
Concrete Structures	Cu. Yd.		123.9	123.9
Concrete Superstructure	Cu. Yd.	320.8		320.8
Bridge Deck Grooving	Sq. Yd.	484		484
Concrete Encasement	Cu. Yd.		12.0	12.0
Protective Coat	Sq. Yd.	607		607
Stud Shear Connectors	Each		280	280
Reinforcement Bars, Epoxy Coated	Pound	54,690	14,720	69,410
Bar Splicers	Each	239	96	335
Furnishing Steel Piles HP10x57	Foot		1,980	1,980
Driving Piles	Foot		1,980	1,980
Test Pile Steel HP10x57	Each		2	2
Temporary Sheet Piling	Sq. Ft.		1,025	1,025
Name Plates	Each		1	1
Geocomposite Wall Drain	Sq. Yd.		38	38
Pipe Underdrains for Structures 4"	Foot			120
Underwater Structure Excavation Protection Location 6	Each		1	1
Underwater Structure Excavation Protection Location 7	Each		1	1
Underwater Structure Excavation Protection Location 8	Each		1	1
Mechanical Splice	Each		126	126

WATERWAY INFORMATION

Drainage Area = 58 Sq. Mi.

Exist. Low Grade Elev. = 370.9 Ft. @ Sta. 526+15
Prop. Low Grade Elev. = 370.9 Ft. @ Sta. 526+15

Flood Frequency		Q cfs		Opening Sq. Ft.		Nat.	Head-Ft.		Headwater El.	
		Exist.	Prop.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
10 Yr	SN 033-0050	3971	3971	876	896	369.8	0.2	0.1	370.0	369.9
	SN 033-0051	466	511	381	409	366.4	0.1	0.1	366.5	366.5
	SN 033-0052	527	482	387	414	366.4	0.1	0.1	366.5	366.5
	Total	4964	4964	1644	1719					
Design 50 Yr	SN 033-0050	4635	4635	901	925	371.2	0.3	0.2	371.5	371.4
	SN 033-0051	1242	1267	684	709	371.0	0.1	0.1	371.1	371.1
	SN 033-0052	1253	1228	684	718	371.0	0.1	0.1	371.1	371.1
	Total	7130	7130	2269	2352					
Base 100 Yr	SN 033-0050	5245	5298	901	925	371.9	0.6	0.6	372.5	372.5
	SN 033-0051	1386	1388	684	709	371.7	0.1	0.0	371.8	371.7
	SN 033-0052	1399	1344	684	718	371.7	0.1	0.0	371.8	371.7
	Total	8030	8030	2269	2352					
Overtopping 50 Yr	SN 033-0050	4635	4635	901	925	371.2	0.3	0.2	371.5	371.4
	SN 033-0051	1242	1267	684	709	371.0	0.1	0.1	371.1	371.1
	SN 033-0052	1253	1228	684	718	371.0	0.1	0.1	371.1	371.1
	Total	7130	7130	2269	2352					
Max Calc 500 Yr	SN 033-0050	4903	4988	901	925	372.1	0.5	0.5	372.6	372.6
	SN 033-0051	2594	2605	684	709	372.4	0.2	0.2	372.6	372.6
	SN 033-0052	2619	2523	684	718	372.4	0.2	0.2	372.6	372.6
	Total	10116	10116	2269	2352					

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.10g
Site Coefficient (S) = 2.0

LOADING HS20-44

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO & all applicable interims.

DESIGN STRESSES

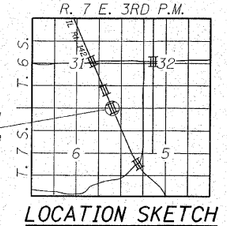
FIELD UNITS

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

DESIGN SCOUR ELEVATIONS

North Abutment	365.5
Pier 1	358.0
Pier 2	358.0
Pier 3	358.0
South Abutment	365.5

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



LOCATION SKETCH

MARY H. BLICKDORF 081-004869 SPRINGFIELD ILLINOIS LICENSED STRUCTURAL ENGINEER
10-26-08
Exp 11-30-08
Sheets 4 thru 10

Steven W. Meginnis 10/26/07
ILLINOIS STRUCTURAL NO. 081-6064

STEVEN W. MEGINNIS 081-6064 SPRINGFIELD, IL LICENSED STRUCTURAL ENGINEER
Sht 1-3 & 11-21
Expires 11-30-08

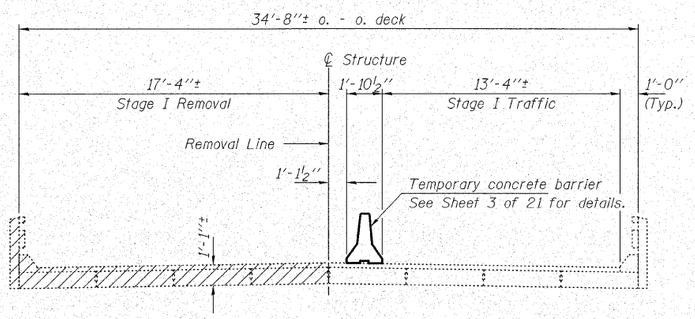
HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

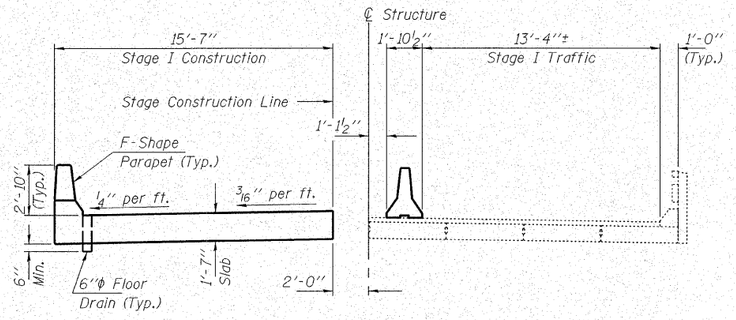
GENERAL PLAN AND ELEVATION

IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

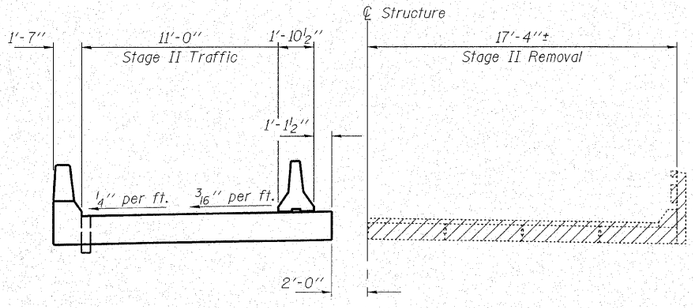
PLOT DATE = 10/26/2007 FILE NAME = 033005Z-78006-41021bridge0052.dgn



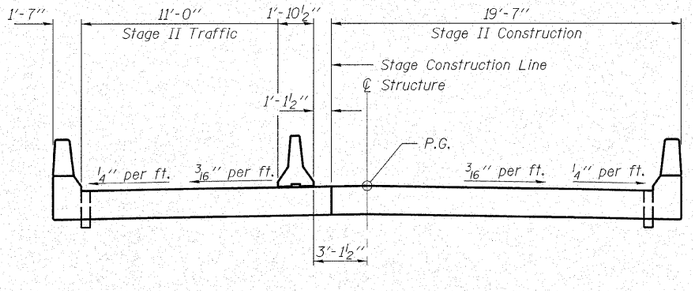
STAGE I REMOVAL



STAGE I CONSTRUCTION



STAGE II REMOVAL



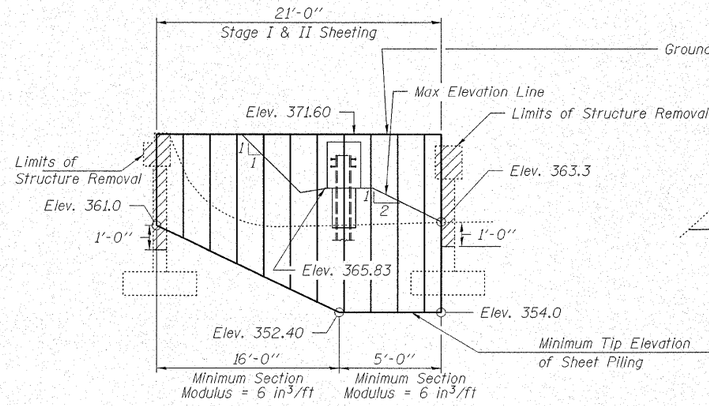
STAGE II CONSTRUCTION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

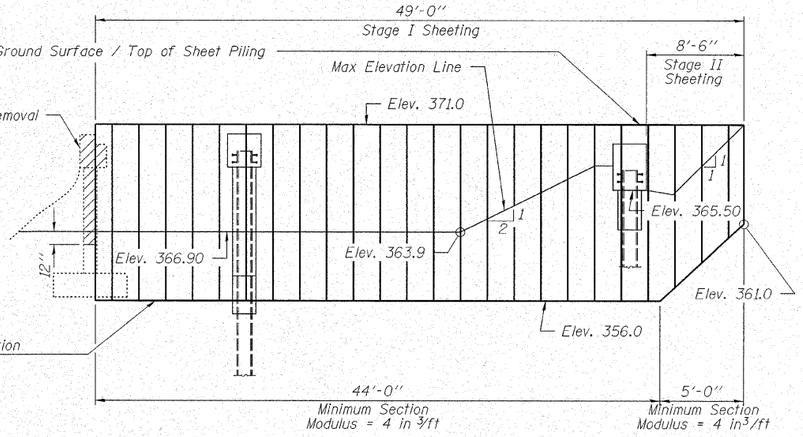
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -3)B-1	HAMILTON	140	67
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
21 SHEETS

Contract #78006



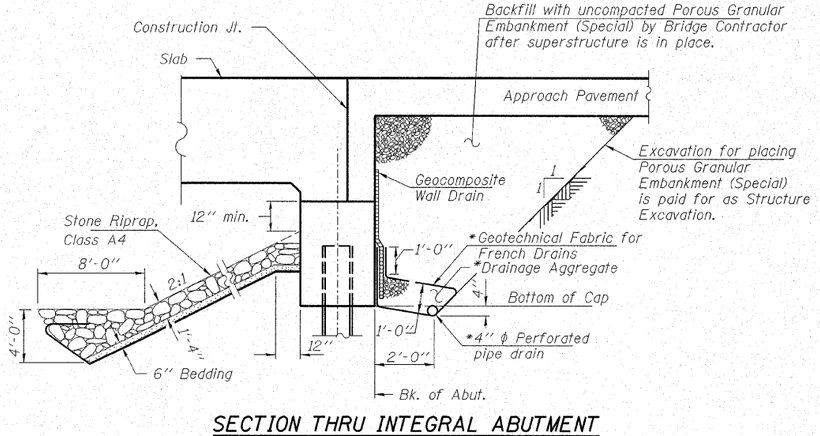
NORTH ABUTMENT



SOUTH ABUTMENT

TEMPORARY SHEET PILING DETAILS

Notes:
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

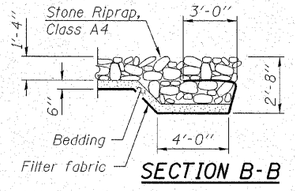


SECTION THRU INTEGRAL ABUTMENT

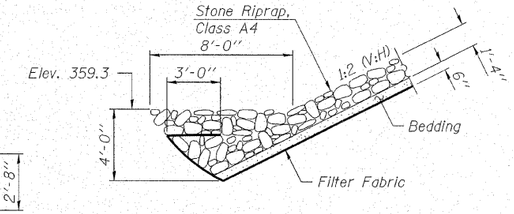
(Horiz. dim. ℄ Rt. L's)

* Included in the cost of Pipe Underdrains for Structures.

Note: All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall drain into concrete headwalls. (See Article 601.05 of the Standards Specifications and Highway Standard 601101)



SECTION B-B



SECTION A-A

BILL OF MATERIAL

Item	Unit	Quantity
Temporary Sheet Piling	Sq. Ft.	1,025

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.A.B.

STAGE CONSTRUCTION DETAILS

IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

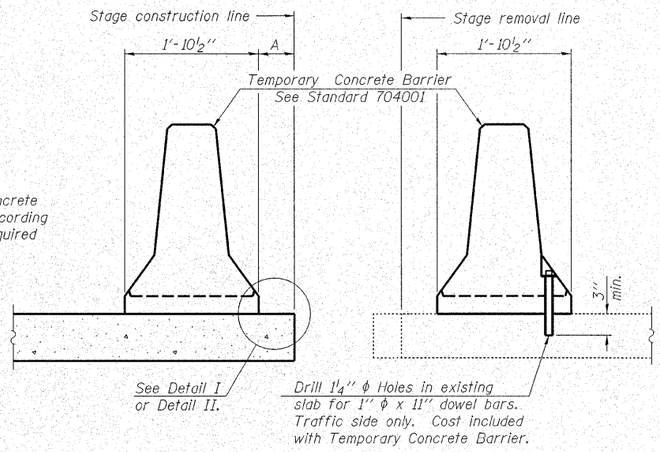
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -3)B-1	HAMILTON	140	68
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3
21 SHEETS

Contract #78006

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



NEW SLAB EXISTING SLAB

SECTIONS THRU SLAB

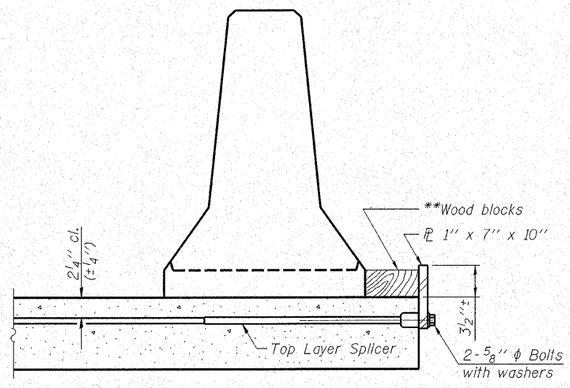
NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℄ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

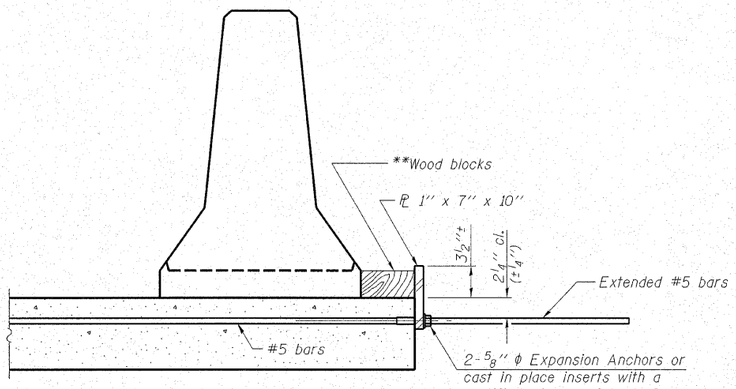
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel ℄ to the concrete slab with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

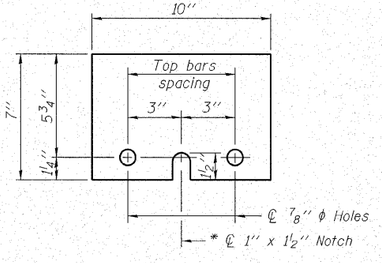


DETAIL I



DETAIL II

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



STEEL RETAINER ℄ 1" x 7" x 10"

* Required only with Detail II

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.A.B.

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)

F.A.P. ROUTE 776 - SECTION (116BR-3)B-1

HAMILTON COUNTY

STRUCTURE NO. 033-0052 / STATION 544+53.10

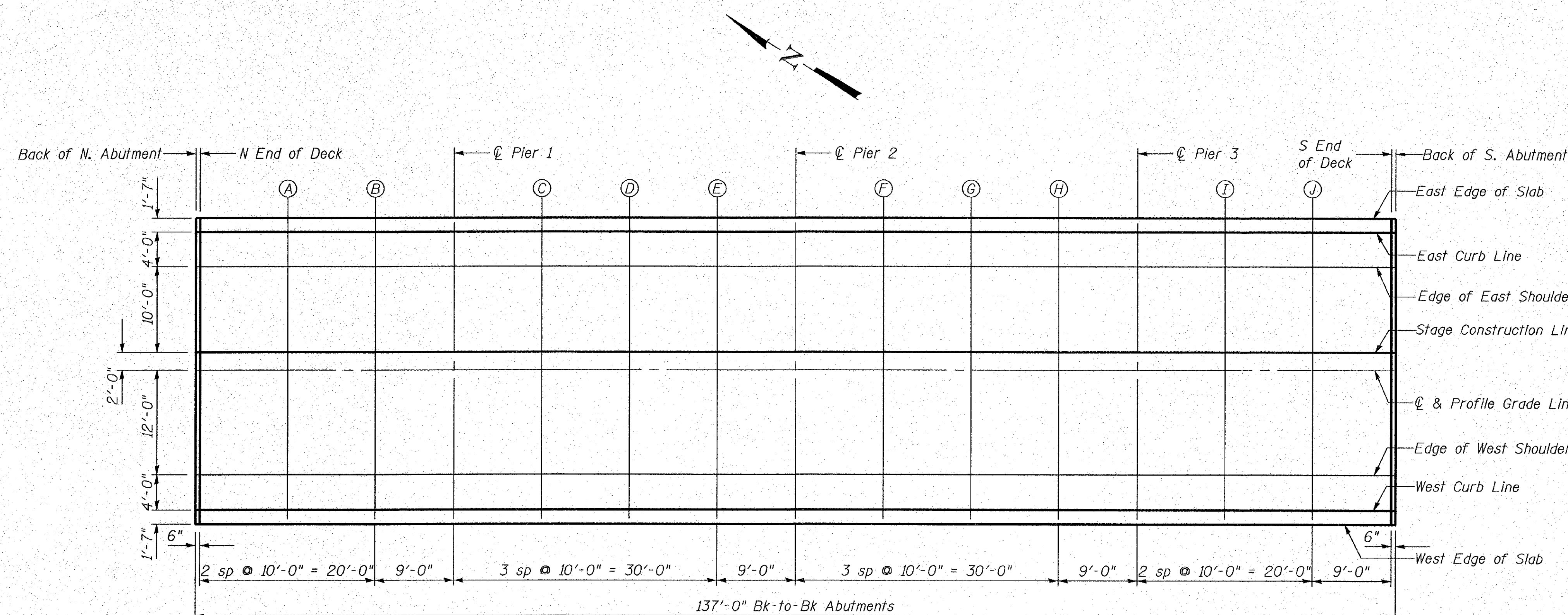
R-27

11-1-06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 776	(116BR-3)B-1	HAMILTON	140	69
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
21 SHEETS

Contract #78006



ILLINOIS DEPARTMENT OF TRANSPORTATION

SHEET TITLE

TOP OF SLAB ELEVATIONS

PROJECT
IL RTE. 142 OVER CONTRARY CREEK
(SOUTH OVERFLOW)
FAP ROUTE 776 SECTION (116BR-3)B-1
HAMILTON COUNTY STATION 544+53.10
STRUCTURE NUMBER 033-0052

PROJECT NO. 06028
SCALE
DATE 10/26/07
DRAWN BY TFG
CHECKED BY CME/MCB
DRAWING NO. 4
OF 21 SHTS

COOMBE-BLOXDORF P.C.
Engineers / Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

PLOT DATE = 10/26/2007
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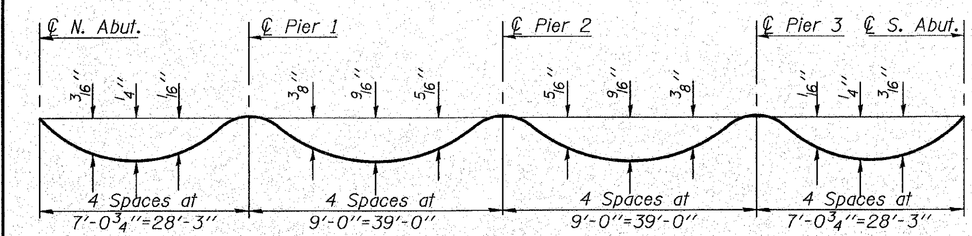
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 776	(116BR-3)B-1	HAMILTON	140	70
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 5
21 SHEETS

Contract #78006



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 below.

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk N Abut	54384.600	-16.000	371.366	371.366
N End of Deck	54385.100	-16.000	371.365	371.365
A	54395.100	-16.000	371.346	371.367
B	54405.100	-16.000	371.327	371.330
Cl Pier 1	54414.100	-16.000	371.309	371.309
C	54424.100	-16.000	371.288	371.320
D	54434.100	-16.000	371.266	371.312
E	54444.100	-16.000	371.243	371.266
Cl Pier 2	54453.100	-16.000	371.221	371.221
F	54463.100	-16.000	371.197	371.224
G	54473.100	-16.000	371.171	371.218
H	54483.100	-16.000	371.145	371.174
Cl Pier 3	54492.100	-16.000	371.120	371.120
I	54502.100	-16.000	371.092	371.105
J	54512.100	-16.000	371.063	371.082
S End of Deck	54521.100	-16.000	371.037	371.037
Bk S Abut	54521.600	-16.000	371.035	371.035

EDGE OF EAST SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk N Abut	54384.600	-12.000	371.449	371.449
N End of Deck	54385.100	-12.000	371.448	371.448
A	54395.100	-12.000	371.429	371.450
B	54405.100	-12.000	371.410	371.420
Cl Pier 1	54414.100	-12.000	371.392	371.392
C	54424.100	-12.000	371.371	371.403
D	54434.100	-12.000	371.349	371.395
E	54444.100	-12.000	371.326	371.349
Cl Pier 2	54453.100	-12.000	371.304	371.304
F	54463.100	-12.000	371.280	371.307
G	54473.100	-12.000	371.254	371.301
H	54483.100	-12.000	371.228	371.257
Cl Pier 3	54492.100	-12.000	371.203	371.203
I	54502.100	-12.000	371.175	371.188
J	54512.100	-12.000	371.146	371.164
S End of Deck	54521.100	-12.000	371.120	371.120
Bk S Abut	54521.600	-12.000	371.118	371.118

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk N Abut	54384.600	-2.000	371.605	371.605
N End of Deck	54385.100	-2.000	371.604	371.604
A	54395.100	-2.000	371.586	371.606
B	54405.100	-2.000	371.567	371.576
Cl Pier 1	54414.100	-2.000	371.548	371.548
C	54424.100	-2.000	371.527	371.559
D	54434.100	-2.000	371.505	371.552
E	54444.100	-2.000	371.482	371.506
Cl Pier 2	54453.100	-2.000	371.461	371.461
F	54463.100	-2.000	371.436	371.463
G	54473.100	-2.000	371.411	371.458
H	54483.100	-2.000	371.385	371.413
Cl Pier 3	54492.100	-2.000	371.360	371.360
I	54502.100	-2.000	371.332	371.345
J	54512.100	-2.000	371.303	371.322
S End of Deck	54521.100	-2.000	371.276	371.276
Bk S Abut	54521.600	-2.000	371.275	371.275

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E-S

11-1-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

SHEET TITLE
TOP OF SLAB ELEVATIONS

PROJECT
IL RTE. 142 OVER CONTRARY CREEK
(SOUTH OVERFLOW)
FAP ROUTE 776 SECTION (116BR-3)B-1
HAMILTON COUNTY STATION 544+53.10
STRUCTURE NUMBER 033-0052

PROJECT NO. 06028
SCALE
DATE 10/26/07
DRAWN BY TFG
CHECKED BY CME/MCB
DRAWING NO. 5
OF 21 SHTS

COOMBE-BLOXDORF P.C.
Engineers / Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 776	(116BR -3)B-1	HAMILTON	140	71
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6
21 SHEETS

Contract #78006

℄ AND PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk N Abut	54384.600	0.000	371.637	371.637
N End of Deck	54385.100	0.000	371.636	371.636
A	54395.100	0.000	371.617	371.638
B	54405.100	0.000	371.598	371.608
Cl Pier 1	54414.100	0.000	371.580	371.580
C	54424.100	0.000	371.559	371.591
D	54434.100	0.000	371.537	371.583
E	54444.100	0.000	371.514	371.537
Cl Pier 2	54453.100	0.000	371.492	371.492
F	54463.100	0.000	371.468	371.495
G	54473.100	0.000	371.442	371.489
H	54483.100	0.000	371.416	371.445
Cl Pier 3	54492.100	0.000	371.391	371.391
I	54502.100	0.000	371.363	371.376
J	54512.100	0.000	371.334	371.353
S End of Deck	54521.100	0.000	371.308	371.308
Bk S Abut	54521.600	0.000	371.306	371.306

EDGE OF WEST SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk N Abut	54384.600	12.000	371.449	371.449
N End of Deck	54385.100	12.000	371.448	371.448
A	54395.100	12.000	371.429	371.450
B	54405.100	12.000	371.410	371.420
Cl Pier 1	54414.100	12.000	371.392	371.392
C	54424.100	12.000	371.371	371.403
D	54434.100	12.000	371.349	371.395
E	54444.100	12.000	371.326	371.349
Cl Pier 2	54453.100	12.000	371.304	371.304
F	54463.100	12.000	371.280	371.307
G	54473.100	12.000	371.254	371.301
H	54483.100	12.000	371.228	371.257
Cl Pier 3	54492.100	12.000	371.203	371.203
I	54502.100	12.000	371.175	371.188
J	54512.100	12.000	371.146	371.165
S End of Deck	54521.100	12.000	371.120	371.120
Bk S Abut	54521.600	12.000	371.118	371.118

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk N Abut	54384.600	16.000	371.366	371.366
N End of Deck	54385.100	16.000	371.365	371.365
A	54395.100	16.000	371.346	371.367
B	54405.100	16.000	371.327	371.337
Cl Pier 1	54414.100	16.000	371.309	371.309
C	54424.100	16.000	371.288	371.320
D	54434.100	16.000	371.266	371.312
E	54444.100	16.000	371.243	371.266
Cl Pier 2	54453.100	16.000	371.221	371.221
F	54463.100	16.000	371.197	371.224
G	54473.100	16.000	371.171	371.218
H	54483.100	16.000	371.145	371.174
Cl Pier 3	54492.100	16.000	371.120	371.120
I	54502.100	16.000	371.092	371.105
J	54512.100	16.000	371.063	371.081
S End of Deck	54521.100	16.000	371.037	371.037
Bk S Abut	54521.600	16.000	371.035	371.035

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E-S

11-1-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

SHEET TITLE
TOP OF SLAB ELEVATIONS

PROJECT
IL RTE. 142 OVER CONTRARY CREEK
(SOUTH OVERFLOW)
FAP ROUTE 776 SECTION (116BR-3)B-1
HAMILTON COUNTY STATION 544+53.10
STRUCTURE NUMBER 033-0052

PROJECT NO. 06028
SCALE
DATE 10/26/07
DRAWN BY TFG
CHECKED BY CME/MCB
DRAWING NO. 6
OF 21 SHTS

COOMBE-BLOXDORF P.C.
Engineers / Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 776	(116BR-3)B-1	HAMILTON	140	72

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT-

SHEET NO. 7
21 SHEETS

Contract #78006

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End N Appr Slab	54355.100	-16.000	371.415	371.415
A	54365.100	-16.000	371.399	371.399
B	54375.100	-16.000	371.382	371.382
Bk N Abut	54384.600	-16.000	371.366	371.366

EDGE OF EAST SHOULDER

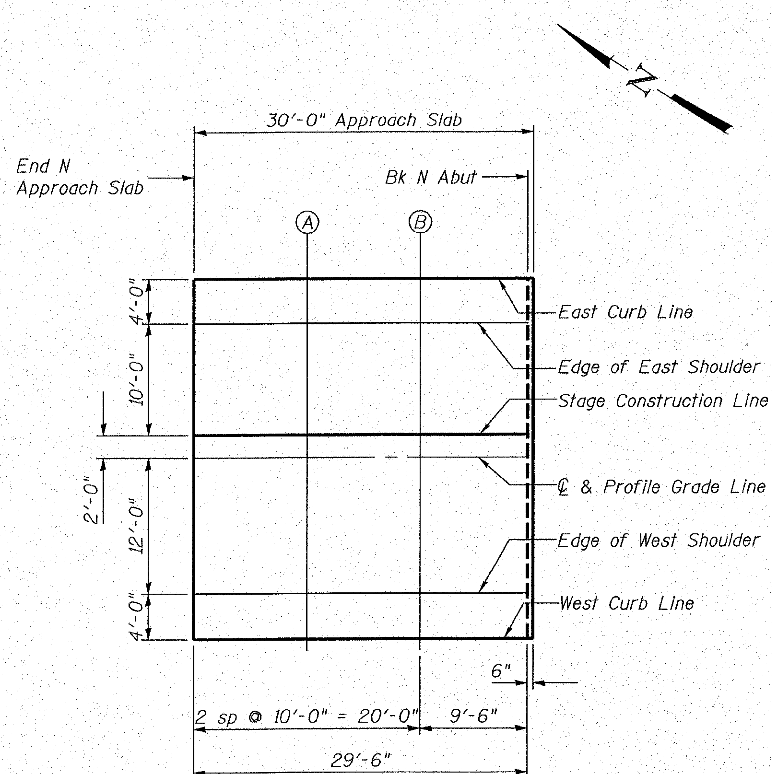
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End N Appr Slab	54355.100	-12.000	371.498	371.498
A	54365.100	-12.000	371.482	371.482
B	54375.100	-12.000	371.465	371.465
Bk N Abut	54384.600	-12.000	371.449	371.449

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End N Appr Slab	54355.100	-2.000	371.655	371.655
A	54365.100	-2.000	371.639	371.639
B	54375.100	-2.000	371.622	371.622
Bk N Abut	54384.600	-2.000	371.605	371.605

℄ AND PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End N Appr Slab	54355.100	0.000	371.686	371.686
A	54365.100	0.000	371.670	371.670
B	54375.100	0.000	371.653	371.653
Bk N Abut	54384.600	0.000	371.637	371.637



PLAN

EDGE OF WEST SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End N Appr Slab	54355.100	12.000	371.498	371.498
A	54365.100	12.000	371.482	371.482
B	54375.100	12.000	371.465	371.465
Bk N Abut	54384.600	12.000	371.449	371.449

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
End N Appr Slab	54355.100	16.000	371.415	371.415
A	54365.100	16.000	371.399	371.399
B	54375.100	16.000	371.382	371.382
Bk N Abut	54384.600	16.000	371.366	371.366

ILLINOIS DEPARTMENT OF TRANSPORTATION

SHEET TITLE
TOP OF SLAB ELEVATIONS NORTH APPROACH

PROJECT
IL RTE. 142 OVER CONTRARY CREEK
(SOUTH OVERFLOW)
FAP ROUTE 776 SECTION (116BR-3)B-1
HAMILTON COUNTY STATION 544+53.10
STRUCTURE NUMBER 033-0052

PROJECT NO. 06028
SCALE
DATE 10/26/07
DRAWN BY TFG
CHECKED BY CME/MCB
DRAWING NO. 7
OF 21 SHTS

COOMBE-BLOXDORF P.C.
Engineers / Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

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EAST CURB LINE

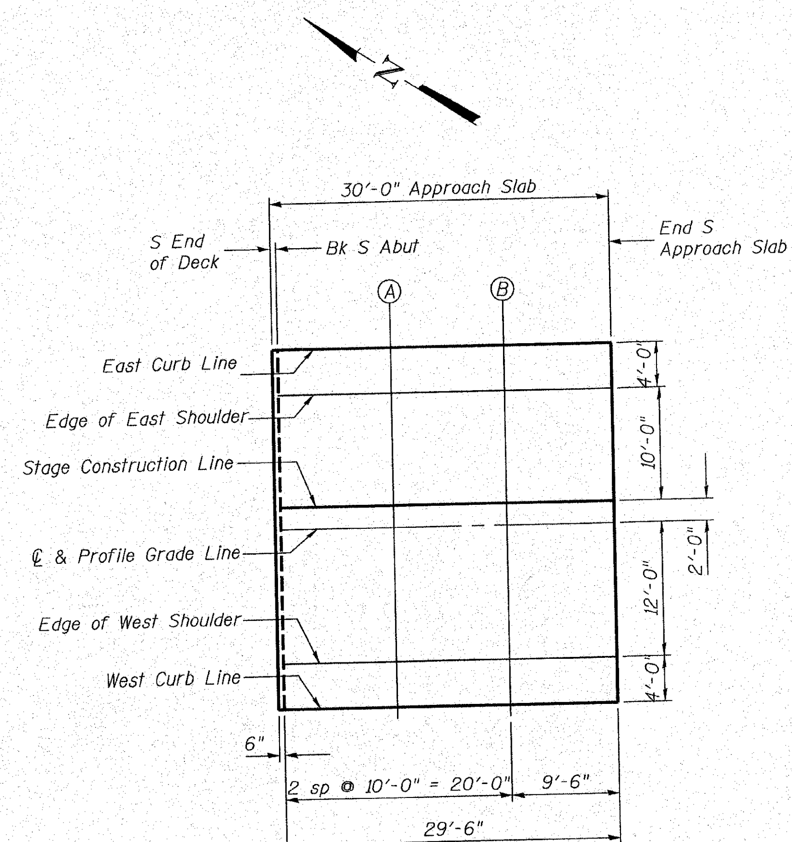
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk S Abut	54521.600	-16.000	371.035	371.035
A	54531.600	-16.000	371.006	371.006
B	54541.600	-16.000	370.979	370.979
End S Appr Slab	54551.100	-16.000	370.954	370.954

EDGE OF EAST SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk S Abut	54521.600	-12.000	371.118	371.118
A	54531.600	-12.000	371.089	371.089
B	54541.600	-12.000	371.062	371.062
End S Appr Slab	54551.100	-12.000	371.037	371.037

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk S Abut	54521.600	-2.000	371.275	371.275
A	54531.600	-2.000	371.246	371.246
B	54541.600	-2.000	371.219	371.219
End S Appr Slab	54551.100	-2.000	371.194	371.194



PLAN

℄ AND PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk S Abut	54521.600	0.000	371.306	371.306
A	54531.600	0.000	371.277	371.277
B	54541.600	0.000	371.250	371.250
End S Appr Slab	54551.100	0.000	371.225	371.225

EDGE OF WEST SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk S Abut	54521.600	12.000	371.118	371.118
A	54531.600	12.000	371.089	371.089
B	54541.600	12.000	371.062	371.062
End S Appr Slab	54551.100	12.000	371.037	371.037

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk S Abut	54521.600	16.000	371.035	371.035
A	54531.600	16.000	371.006	371.006
B	54541.600	16.000	370.979	370.979
End S Appr Slab	54551.100	16.000	370.954	370.954

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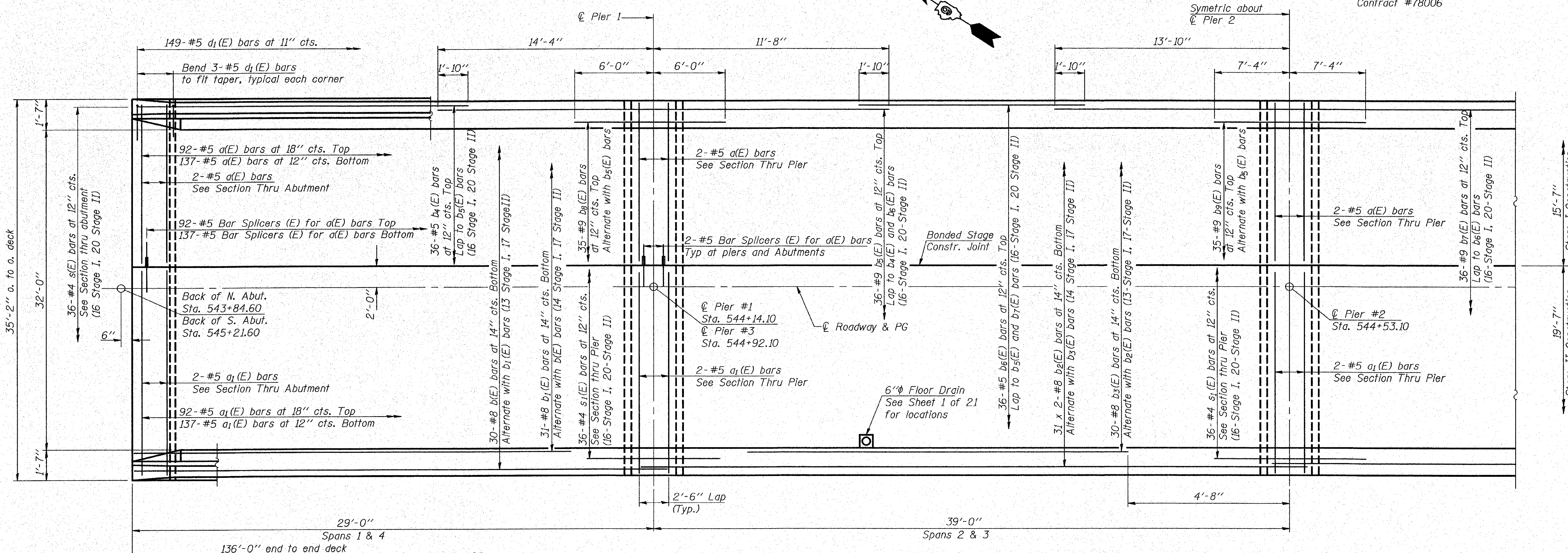
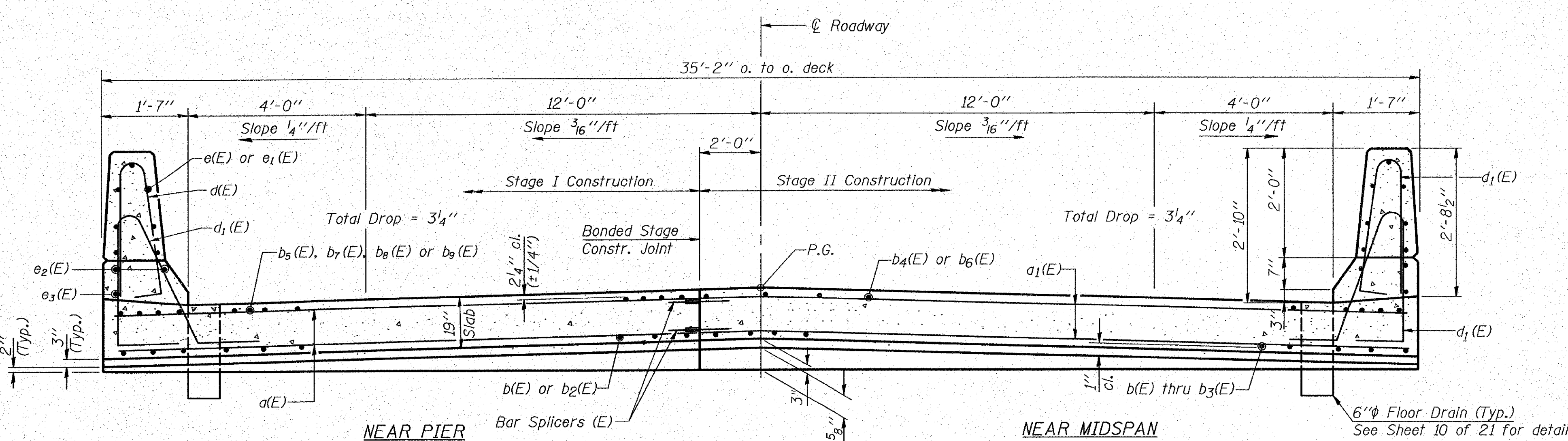
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 776	(116BR-3)B-1	HAMILTON	140	74
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
21 SHEETS

Contract #78006



PLAN



CROSS SECTION
(Looking South)

Min. Bar Lap
#5=1′-8″
#8=3′-8″

NOTES

See Sheet 10 of 21 for superstructure details, including Section thru abutment and Section thru Pier, and Bill of Material.

Bars indicated thus 31 x 2-#8 etc. indicates 31 lines of bars with 2 lengths per line.

See Sheet 10 of 21 for parapet reinforcement and bar details.

ILLINOIS DEPARTMENT OF TRANSPORTATION

SHEET TITLE
SUPERSTRUCTURE

PROJECT
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
FAP ROUTE 776 SECTION (116BR-3)B-1
HAMILTON COUNTY STATION 544+53.10
STRUCTURE NUMBER 033-0052

PROJECT NO. 06028
DATE 10/26/07
DESIGN BY CME/MCB
DRAWN BY TFG
CHECKED BY CME/MCB
DRAWING NO. 9
OF 21 SHTS

COOMBE-BLOXDORF P.C.
Engineers / Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

SI-1-0 11-01-06

PLOT DATE = 10/26/2007
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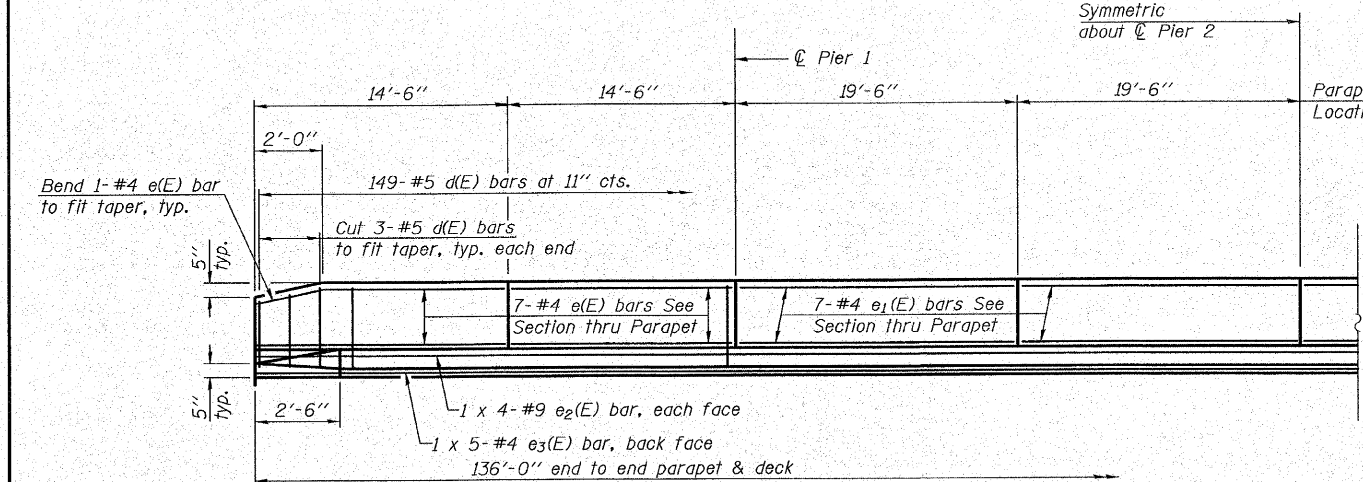
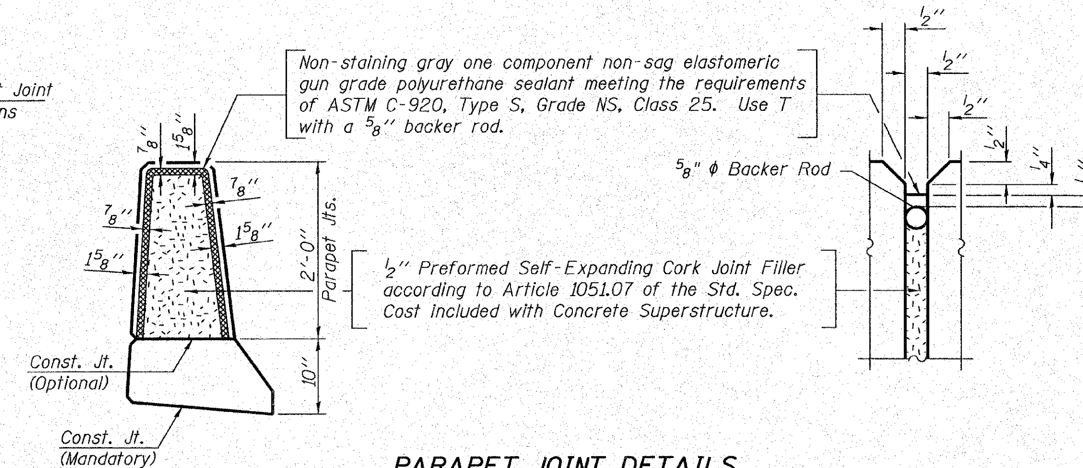
PLOT SCALE = 0:1.0000 ′ /′ IN.
USER NAME = TFG.

Contract #78006



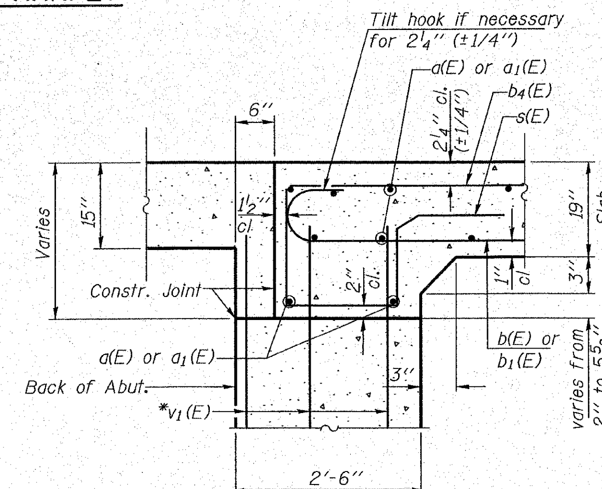
INSIDE ELEVATION OF PARAPET



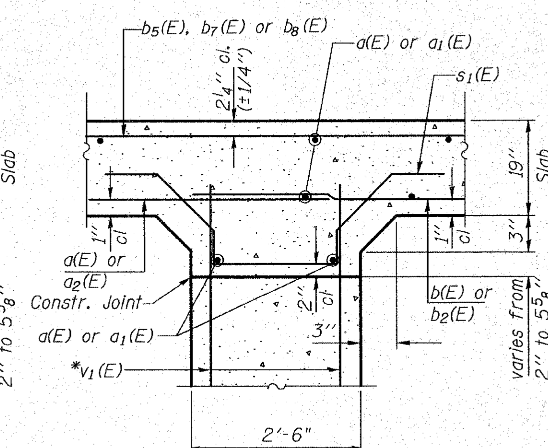
PARAPET JOINT DETAILS

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	239	#5	15'-3"	
a_1(E)	239	#5	19'-3"	
b(E)	62	#8	31'-0"	
b_1(E)	60	#8	24'-4"	
b_2(E)	124	#8	22'-7"	
b_3(E)	60	#8	29'-8"	
b_4(E)	72	#5	16'-4"	
b_5(E)	72	#9	26'-0"	
b_6(E)	72	#5	17'-2"	
b_7(E)	36	#9	27'-8"	
b_8(E)	70	#9	12'-0"	
b_9(E)	35	#9	14'-8"	
d(E)	298	#5	5'-7"	
d_1(E)	298	#5	8'-9"	
e(E)	28	#4	14'-2"	
e_1(E)	28	#4	19'-2"	
e_2(E)	16	#9	37'-3"	
e_3(E)	10	#4	28'-6"	
s(E)	72	#4	5'-1"	
s_1(E)	108	#4	5'-10"	
Reinforcement Bars, Epoxy Coated			Pound	54690
Concrete Superstructure			Cu. Yds.	320.8
Bar Splicers			Each	239

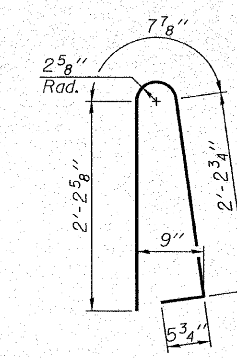


SECTION THRU ABUTMENT

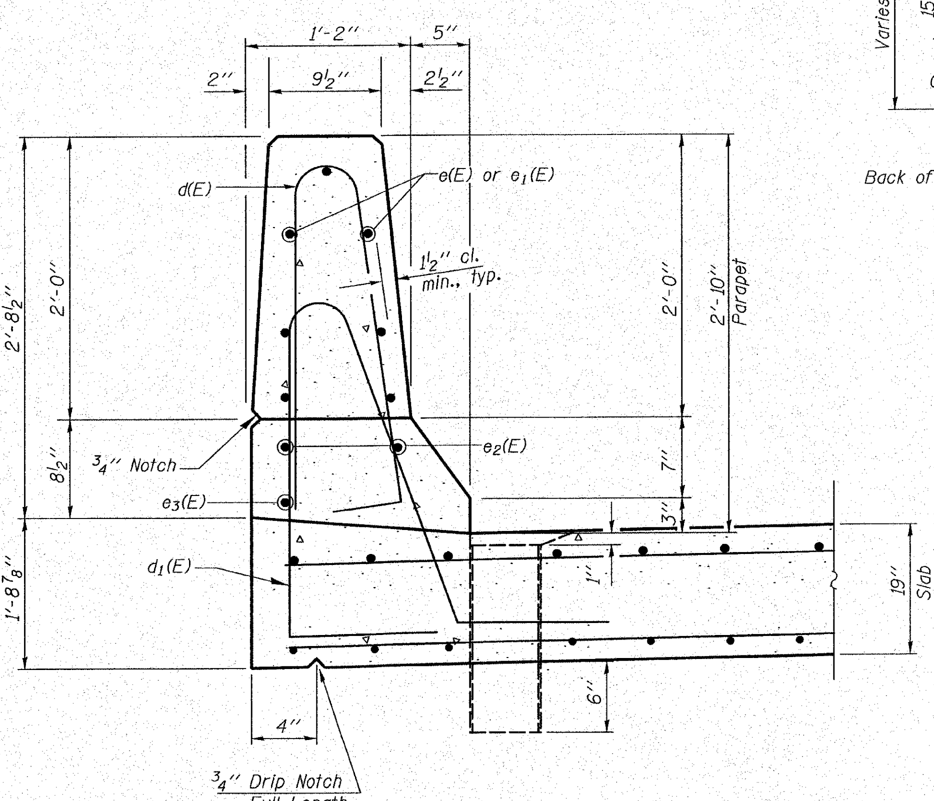


SECTION THRU PIER

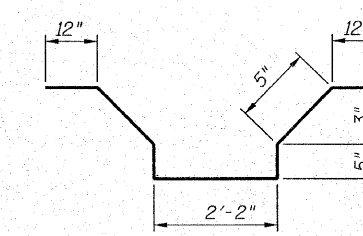
*v_1(E) bars are billed with abutments and piers. See Sheets 11 thru 15 of 21.



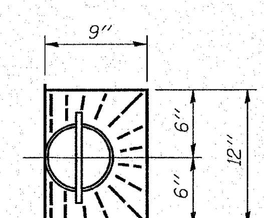
BAR d(E)



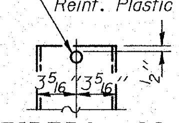
SECTION THRU PARAPET



BAR s_1(E)



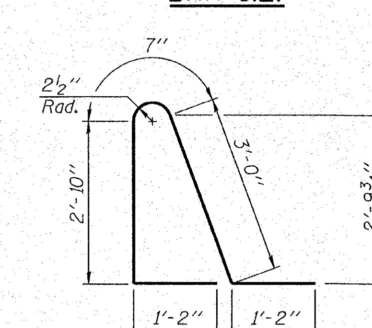
TOP PLAN



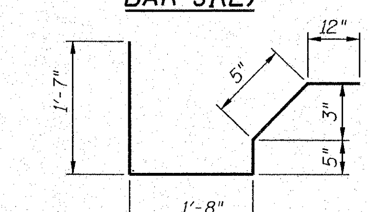
FIBERGLASS PIPE

Min. Bar Lap

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

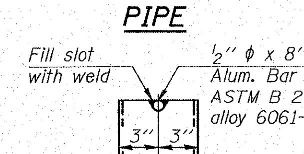


BAR d_1(E)

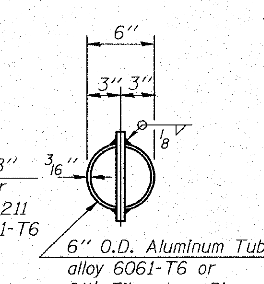


BAR s(E)

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

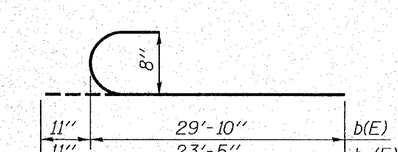


ALUMINUM TUBE



TOP PLAN

(Showing Aluminum Tube)



BAR b(E) & b_1(E)

NOTES

The exterior surfaces of the floor drains shall be painted with a pigment that matches the color of the concrete.

Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

ILLINOIS DEPARTMENT OF TRANSPORTATION

SHEET TITLE
SUPERSTRUCTURE DETAILS

PROJECT
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
FAP ROUTE 776 SECTION (116BR-3)B-1
HAMILTON COUNTY STATION 544+53.10
STRUCTURE NUMBER 033-0052

PROJECT NO. 06028
DATE 10/26/07
DESIGN BY CME/MCB
DRAWN BY TFG
CHECKED BY CME/MCB
DRAWING NO. 10
OF 21 SHTS

COOMBE-BLOXDORF P.C.
Engineers / Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

PLOT DATE = 10/26/2007
FILE NAME = ...super-details.dgn
PLOT SCALE = 0.1.0000 ' / IN.
USER NAME = TFG

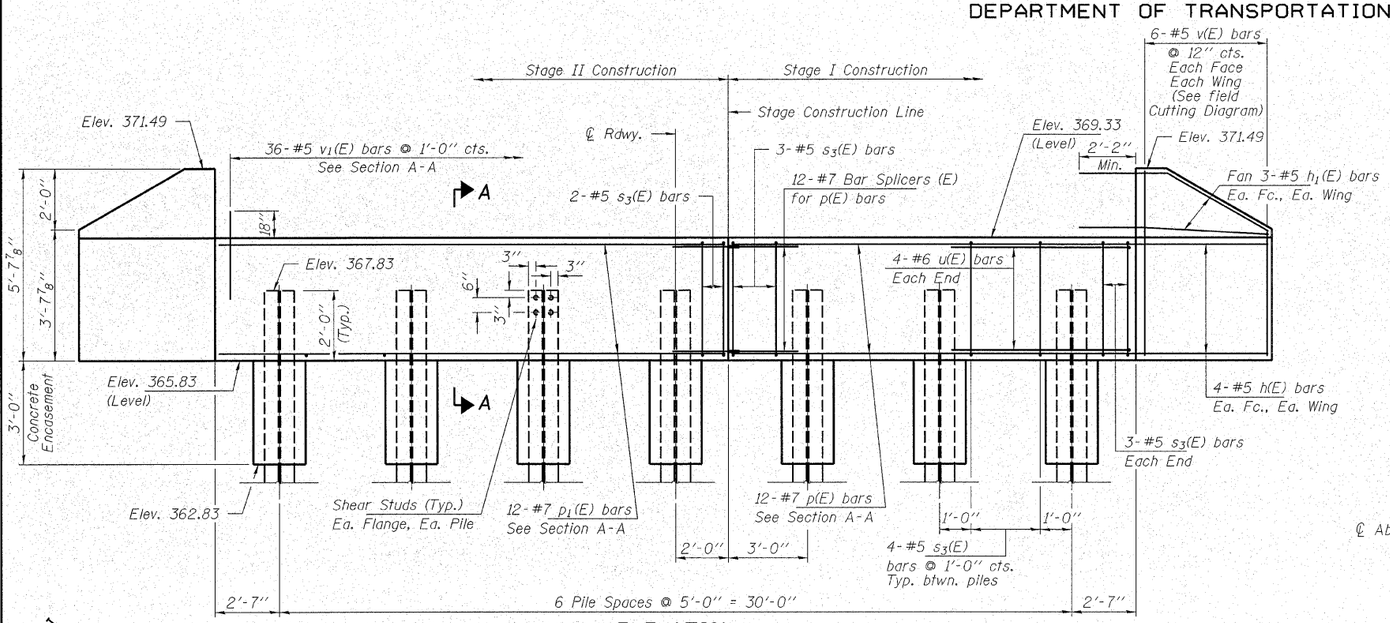
S-D 11-1-06

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

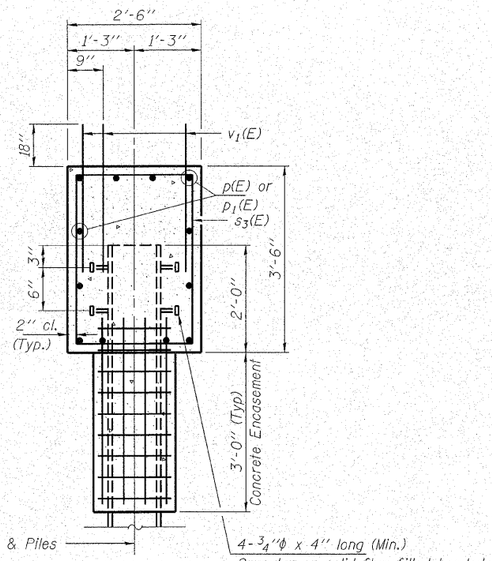
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-3)B-1	HAMILTON	140	76
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
21 SHEETS

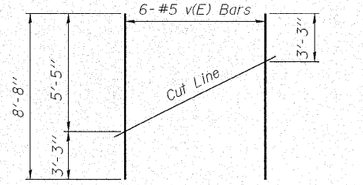
Contract #78006



ELEVATION
(Looking North)

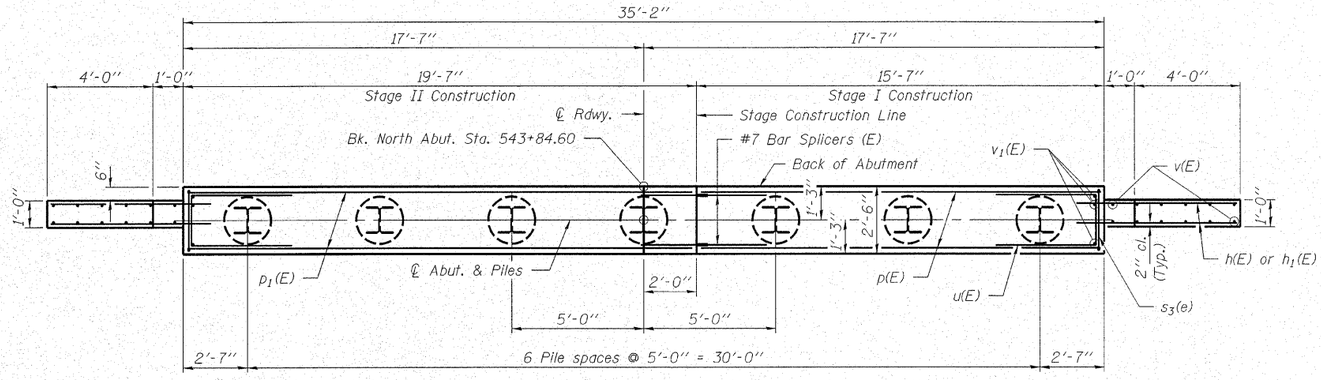


SECTION A-A

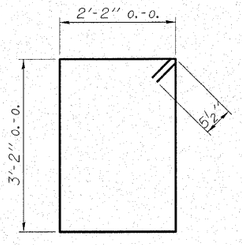


FIELD CUTTING DIAGRAM

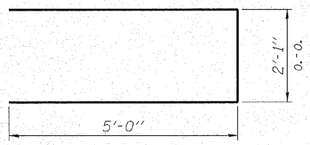
Order v(E) bars full length. Cut as shown and use remainder of bars in opposite face.



PLAN



BAR s3(E)



BAR u(E)

PILE DATA

Type and Size ____ Steel HP10x57
No. Req'd. ____ 7
Nominal Req'd Bearing ____ 453 Kips/Pile
Allowable Resistance Available ____ 151 Kips/Pile
Est. Lengths ____ 60 Ft/Pile

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

BILL OF MATERIAL - N. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	16	#5	7'-0"	——
h_1(E)	12	#5	7'-6"	——
p(E)	12	#7	15'-3"	——
p_1(E)	12	#7	19'-3"	——
s_3(E)	31	#5	11'-7"	□
u(E)	8	#6	12'-1"	▭
v(E)	12	#5	8'-8"	——
v_1(E)	108	#5	4'-0"	——
Concrete Structures			Cu. Yd.	13.2
Concrete Encasement			Cu. Yd.	2.4
Stud Shear Connectors			Each	56
Reinforcement Bars, Epoxy Coated			Pound	2,140
Bar Splicers			Each	12
Furnishing Steel Piles HP10x57			Foot	420

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
DRAWN: D.A.B.	

NORTH ABUTMENT

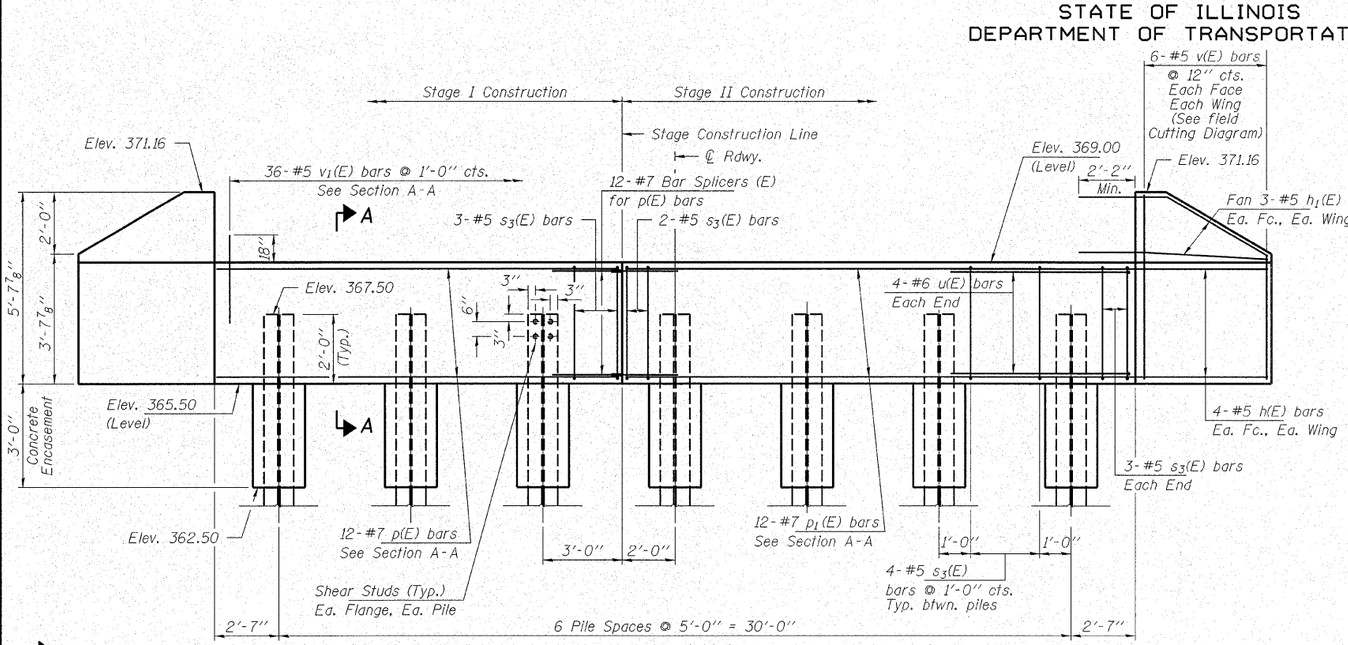
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

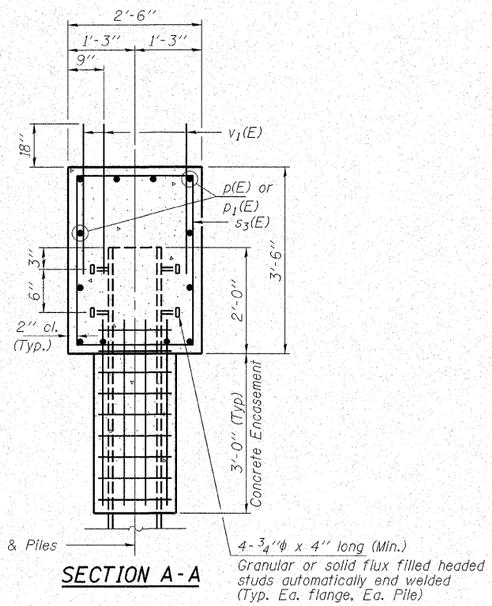
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -3)B-1	HAMILTON	140	77
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
21 SHEETS

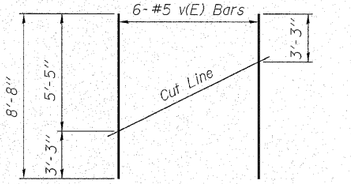
Contract #78006



ELEVATION
(Looking South)

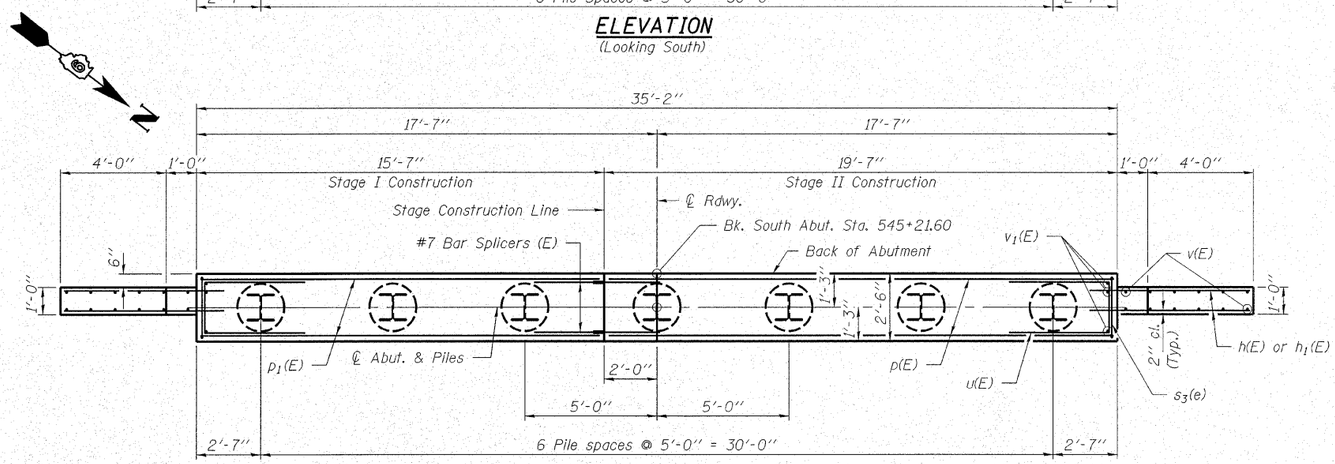


SECTION A-A



FIELD CUTTING DIAGRAM

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



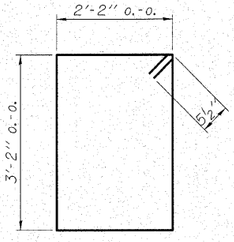
PLAN

BILL OF MATERIAL - S. ABUT.

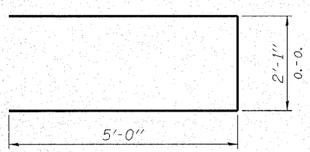
BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	16	#5	7'-0"	——
h_1(E)	12	#5	7'-6"	——
p(E)	12	#7	15'-3"	——
p_1(E)	12	#7	19'-3"	——
s_3(E)	31	#5	11'-7"	□
u(E)	8	#6	12'-1"	▭
v(E)	12	#5	8'-8"	——
v_1(E)	108	#5	4'-0"	——
Concrete Structures			Cu. Yd.	13.2
Concrete Encasement			Cu. Yd.	2.4
Stud Shear Connectors			Each	56
Reinforcement Bars, Epoxy Coated			Pound	2,140
Bar Splicers			Each	12
Furnishing Steel Piles HP10x57			Foot	360
Test Pile Steel HP10x57			Each	1

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.



BAR s_3(E)



BAR u(E)

PILE DATA

Type and Size _____ Steel HP10x57
No. Req'd. _____ *7
Nominal Req'd Bearing _____ 453 Kips/Pile
Allowable Resistance Available ___ 151 Kips/Pile
Est. Lengths _____ 60 Ft/Pile

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

* Includes one test pile to be driven in a permanent location at the South Abutment.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

SOUTH ABUTMENT

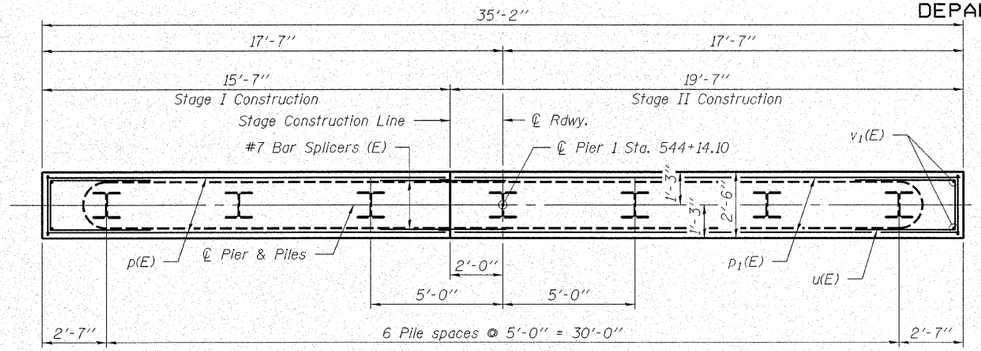
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

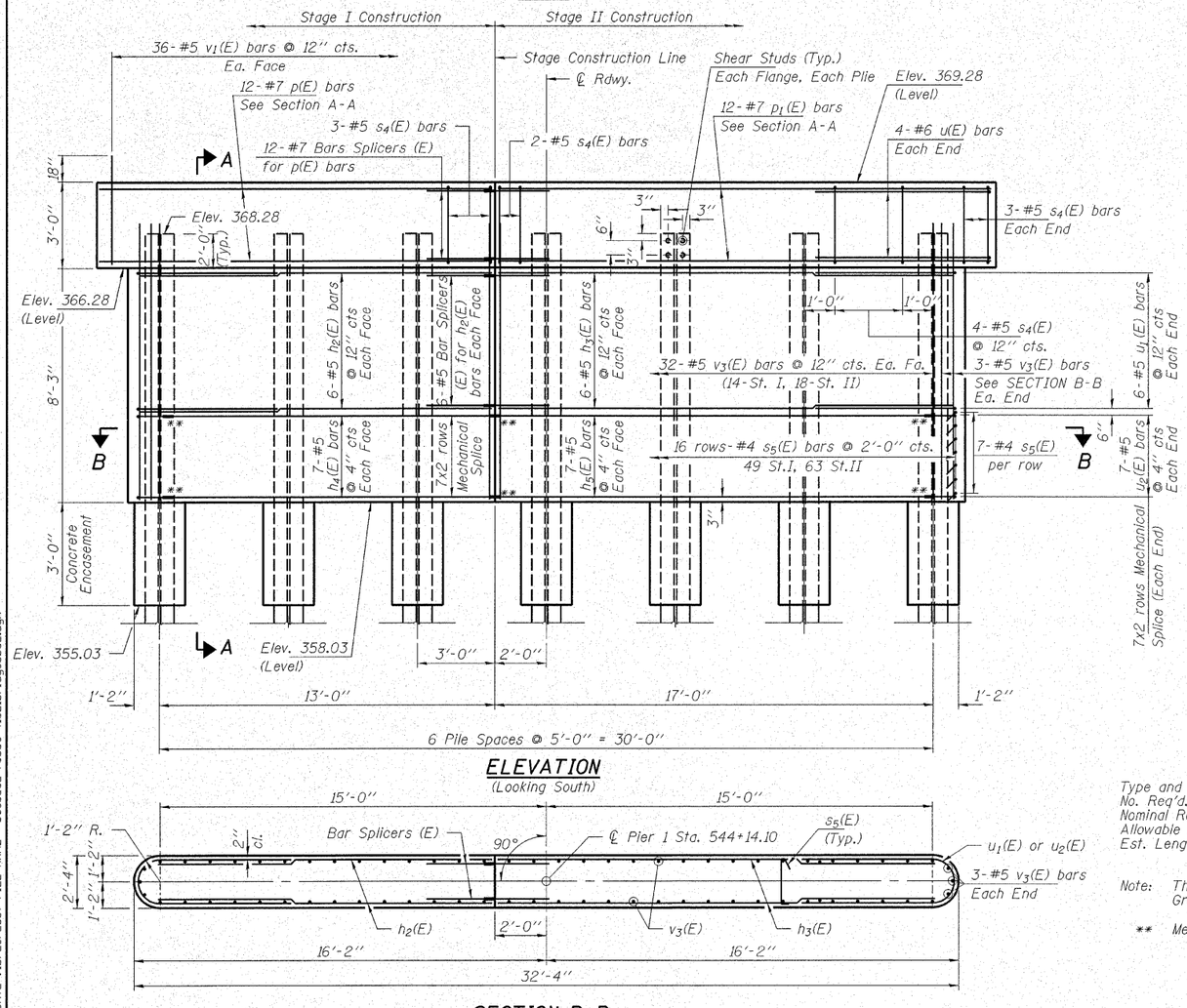
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -3)B-1	HAMILTON	140	78
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
21 SHEETS

Contract #78006

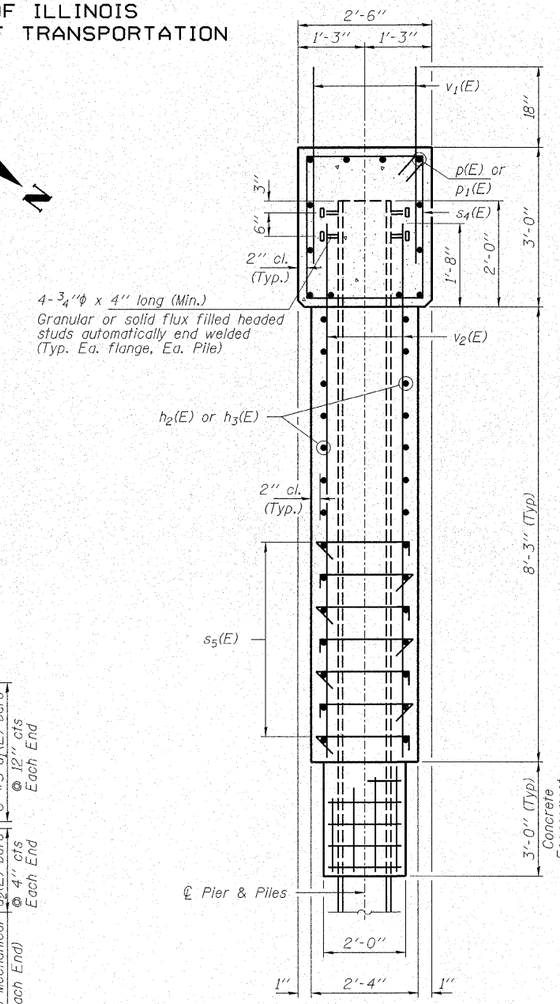


PLAN

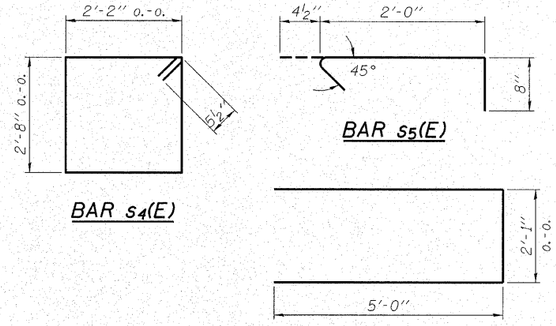


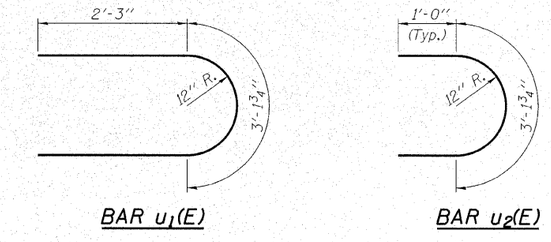
ELEVATION
(Looking South)

SECTION B-B



SECTION A-A





BILL OF MATERIAL - PIER 1

BAR	NO.	SIZE	LENGTH	SHAPE
$h_2(E)$	12	#5	12'-10"	
$h_3(E)$	12	#5	16'-10"	
$h_4(E)$	14	#5	11'-10"	
$h_5(E)$	14	#5	15'-10"	
$p(E)$	12	#7	15'-3"	
$p_1(E)$	12	#7	19'-3"	
$s_4(E)$	31	#5	10'-7"	
$s_5(E)$	112	#4	3'-1"	
$u(E)$	8	#6	12'-1"	
$u_1(E)$	12	#5	7'-8"	
$u_2(E)$	14	#5	5'-2"	
$v_1(E)$	72	#5	4'-0"	
$v_3(E)$	70	#5	9'-6"	
Concrete Structures			Cu. Yd.	32.5
Concrete Encasement			Cu. Yd.	2.4
Stud Shear Connectors			Each	56
Reinforcement Bars, Epoxy Coated			Pound	3,500
Bar Splicers			Each	24
Furnishing Steel Piles HP10x57			Foot	420
Underwater Structure Excavation Protection Location 6			Each	1
Mechanical Splice			Each	42

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

PILE DATA

Type and Size _____ Steel HP10x57
No. Req'd. _____ 7
Nominal Req'd Bearing _____ 453 Kips/Pile
Allowable Resistance Available ___ 151 Kips/Pile
Est. Lengths _____ 60 Ft/Pile

Note: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

** Mechanical splice

HAMPTON, LENZINI & RENWICK, INC.
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LAND SURVEYORS
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(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.A.B.

PIER 1

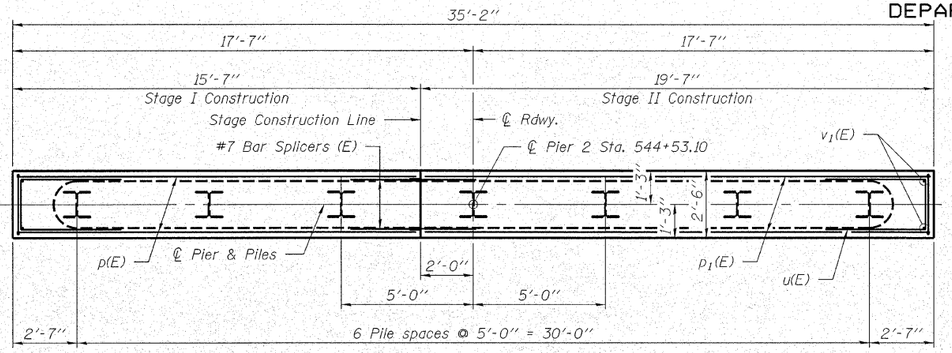
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

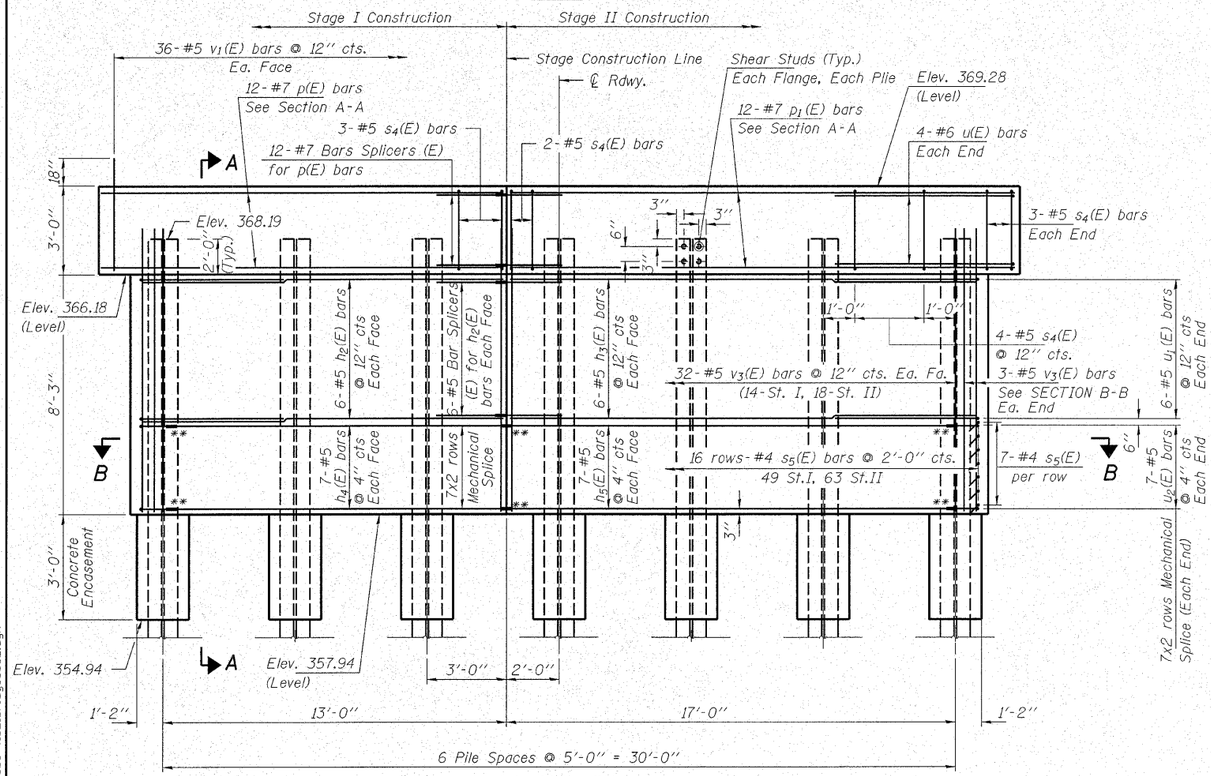
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -3)B-1	HAMILTON	140	79
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
21 SHEETS

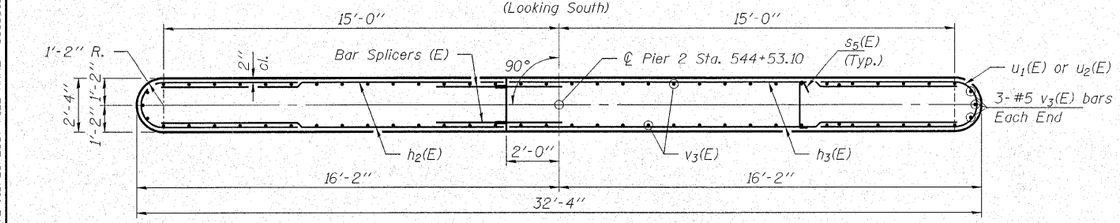
Contract #78006



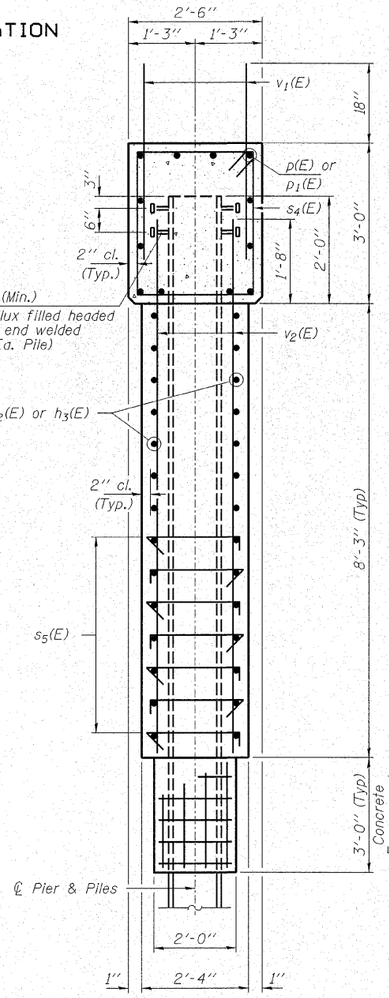
PLAN



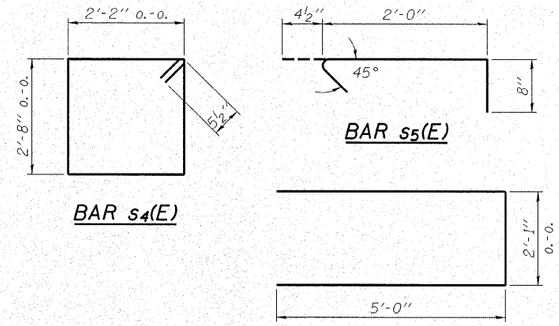
ELEVATION
(Looking South)



SECTION B-B



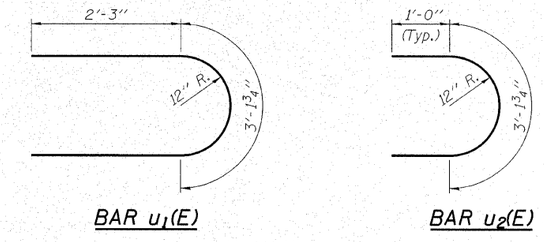
SECTION A-A



BAR s4(E)

BAR s5(E)

BAR u(E)



BAR u1(E)

BAR u2(E)

BILL OF MATERIAL - PIER 2

BAR	NO.	SIZE	LENGTH	SHAPE
h2(E)	12	#5	12'-10"	
h3(E)	12	#5	16'-10"	
h4(E)	14	#5	11'-10"	
h5(E)	14	#5	15'-10"	
p(E)	12	#7	15'-3"	
p1(E)	12	#7	19'-3"	
s4(E)	31	#5	10'-7"	
s5(E)	112	#4	3'-1"	
u(E)	8	#6	12'-1"	
u1(E)	12	#5	7'-8"	
u2(E)	14	#5	5'-2"	
v1(E)	72	#5	4'-0"	
v3(E)	70	#5	9'-6"	
Concrete Structures			Cu. Yd.	32.5
Concrete Encasement			Cu. Yd.	2.4
Stud Shear Connectors			Each	56
Reinforcement Bars, Epoxy Coated			Pound	3,500
Bar Splicers			Each	24
Furnishing Steel Piles HP10x57			Foot	360
Test Pile Steel HP10x57			Each	1
Underwater Structure Excavation Protection Location 7			Each	1
Mechanical Splice			Each	42

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

PILE DATA

Type and Size	Steel HP10x57
No. Req'd.	*7
Nominal Req'd Bearing	453 Kips/Pile
Allowable Resistance Available	151 Kips/Pile
Est. Lengths	60 Ft/Pile

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

* Includes one test pile to be driven in a permanent location.

** Mechanical splice

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(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

PIER 2

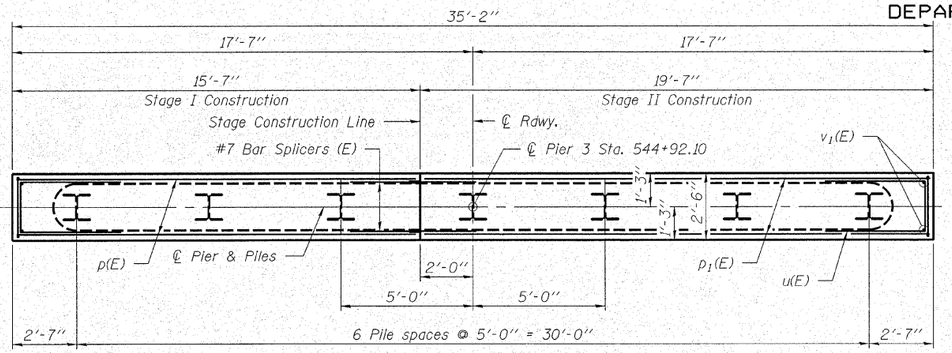
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

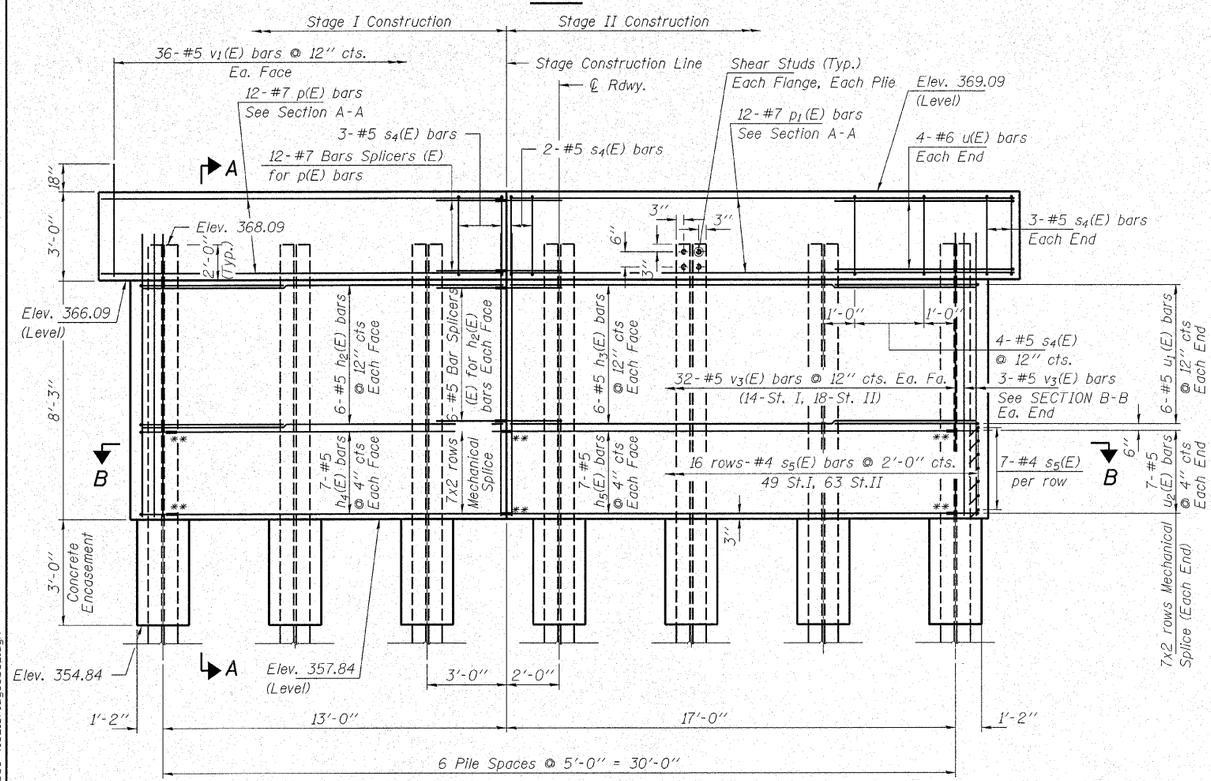
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -3)B-1	HAMILTON	140	80
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 15
21 SHEETS

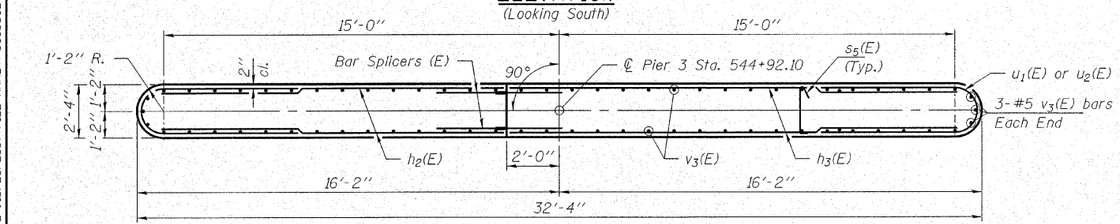
Contract #78006



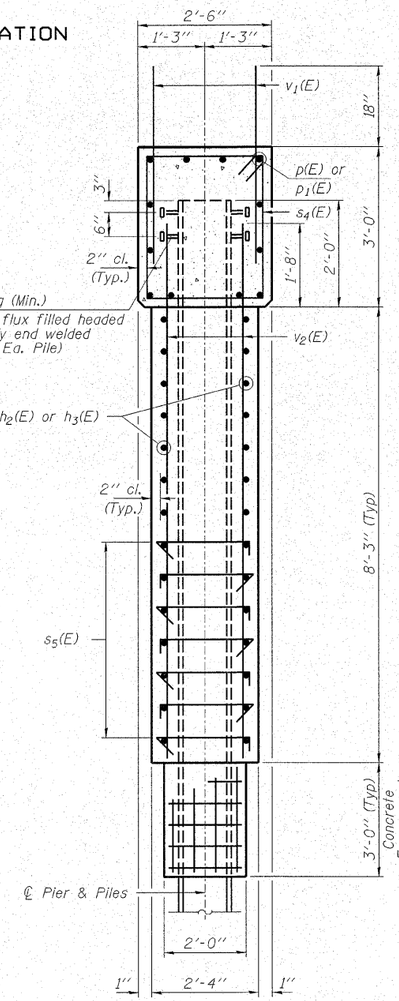
PLAN



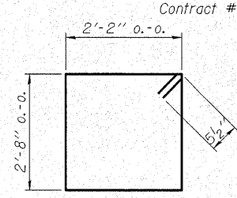
ELEVATION
(Looking South)



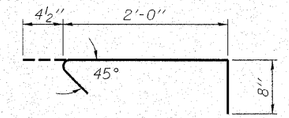
SECTION B-B



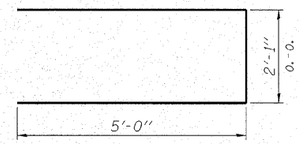
SECTION A-A



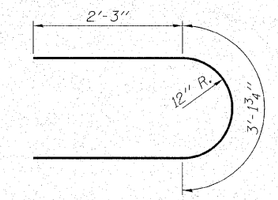
BAR s4(E)



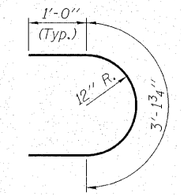
BAR s5(E)



BAR u(E)



BAR u1(E)



BAR u2(E)

BILL OF MATERIAL - PIER 3

BAR	NO.	SIZE	LENGTH	SHAPE
$h_2(E)$	12	#5	12'-10"	
$h_3(E)$	12	#5	16'-10"	
$h_4(E)$	14	#5	11'-10"	
$h_5(E)$	14	#5	15'-10"	
$p(E)$	12	#7	15'-3"	
$p_1(E)$	12	#7	19'-3"	
$s_4(E)$	31	#5	10'-7"	
$s_5(E)$	112	#4	3'-1"	
$u(E)$	8	#6	12'-1"	
$u_1(E)$	12	#5	7'-8"	
$u_2(E)$	14	#5	3'-2"	
$v_1(E)$	72	#5	4'-0"	
$v_3(E)$	70	#5	9'-6"	
Concrete Structures			Cu. Yd.	32.5
Concrete Encasement			Cu. Yd.	2.4
Stud Shear Connectors			Each	56
Reinforcement Bars, Epoxy Coated			Pound	3,500
Bar Splicers			Each	24
Furnishing Steel Piles HP10x57			Foot	420
Underwater Structure Excavation Protection Location 8			Each	1
Mechanical Splice			Each	42

PILE DATA

Type and Size _____ Steel HP10x57
No. Req'd. _____ 7
Nominal Req'd Bearing _____ 453 Kips/Pile
Allowable Resistance Available _____ 151 Kips/Pile
Est. Lengths _____ 60 Ft/Pile

Note: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

** Mechanical splice

For details of Bar Splicers, see sheet 16 of 21.
For details of Piles and Concrete Encasement, see sheet 17 of 21.

HAMPTON, LENZINI & RENWICK, INC.
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(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-i	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

PIER 3

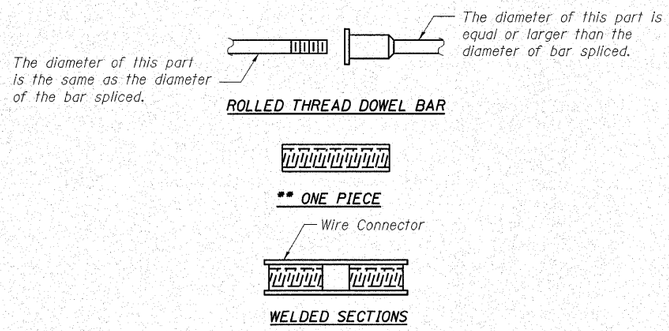
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -3)B-1	HAMILTON	140	81
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

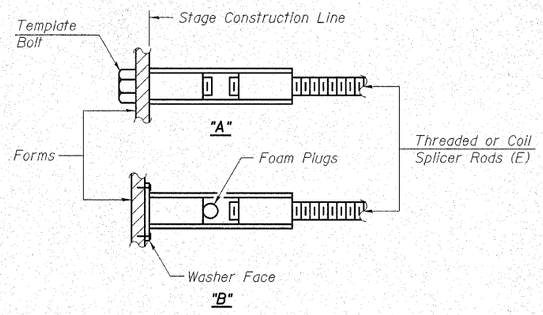
SHEET NO. 16
21 SHEETS

Contract #78006



BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

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

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

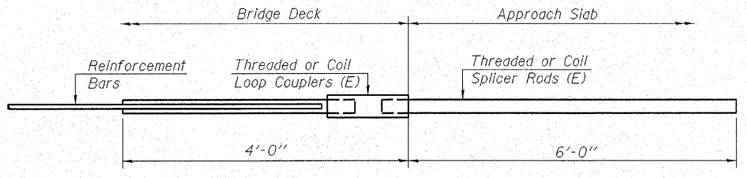
① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

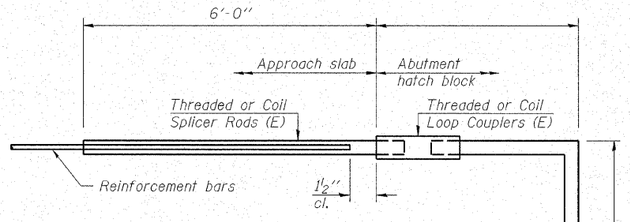
BAR SPLICER ASSEMBLIES

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



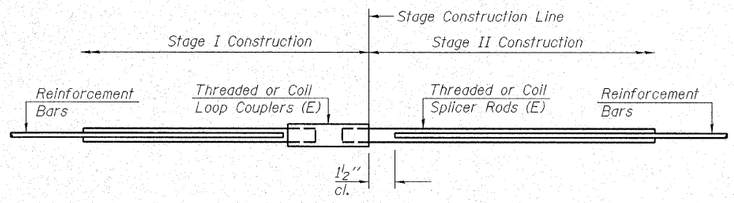
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#5	239	Slab
#7	12	N. Abut.
#7	12	S. Abut.
#7	12	Pier 1
#5	12	Pier 1
#7	12	Pier 2
#5	12	Pier 2
#7	12	Pier 3
#5	12	Pier 3

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(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

BAR SPLICER ASSEMBLY DETAILS

IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

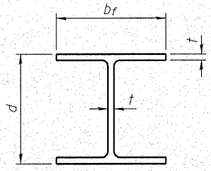
BSD-1 11-1-06

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-3)B-1	HAMILTON	140	82
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

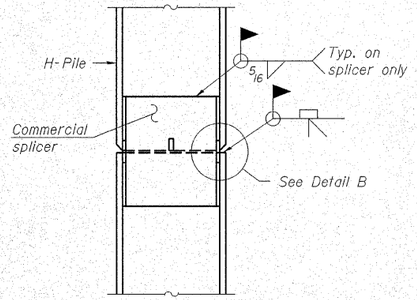
SHEET NO. 17
21 SHEETS

Contract #78006

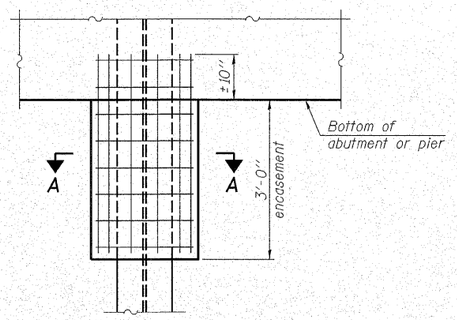


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	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"	11/16"	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



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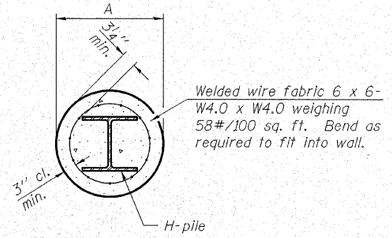
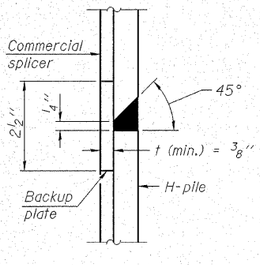


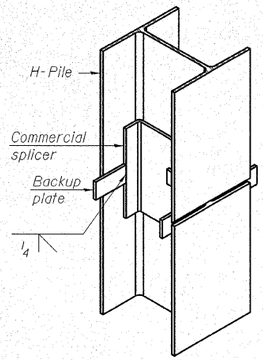
SECTION A-A

PILE ENCASEMENT

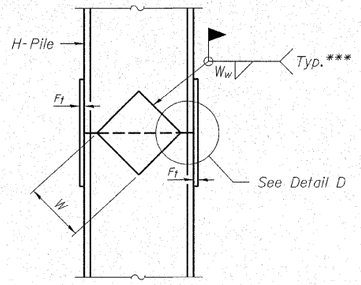
Note:
Forms for encasement may be omitted when soil conditions permit.



DETAIL "B"



ISOMETRIC VIEW



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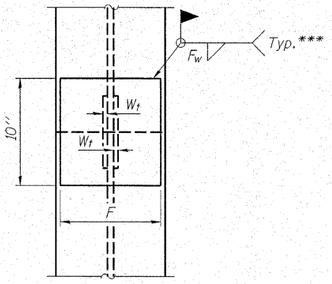
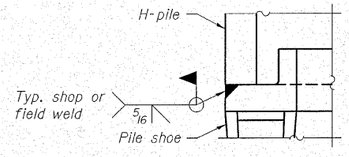
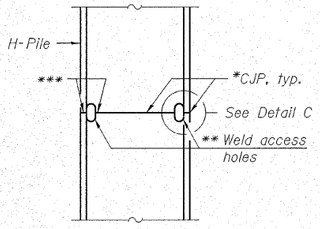


END VIEW

WELDED COMMERCIAL SPLICE



DETAIL A



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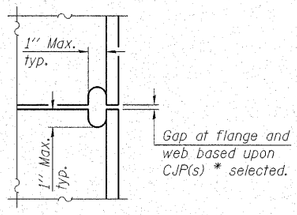
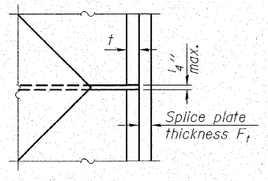


DETAIL C



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

H-PILE SHOE ATTACHMENT

COMPLETE PENETRATION WELD SPLICE

WELDED PLATE FIELD SPLICE

* 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.

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(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

STEEL H PILES

IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

F-HP 11-1-06

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-3)B-1	HAMILTON	140	83
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 18
21 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 1 of 2

Date 8/10/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0022
Station 545+50

BORING NO. 1
Station 544+75
Offset 7.50ft Rt
Ground Surface Elev. 370.72 ft

Surface Water Elev. 358.29 ft
Stream Bed Elev. 358.29 ft

Groundwater Elev.:
First Encounter 326.2 ft
Upon Completion 347.7 ft
After ____ Hrs. N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
12 1/2" Asphalt.				
369.72				
10" Concrete pavement.				
368.82				
Soft to medium, damp, gray, CLAY w/ silt.				
	-5	1		
		2	0.3	38
		2	B	
		0		
		1	0.8	39
		2	B	
	-10	1		
		2	0.9	37
		3	B	
		1		
		2	0.7	36
		3	B	
	-15	0		
		1	0.7	35
		2	B	
353.52				
Stiff, damp, red marbled gray, CLAY.		2		
		3	1.7	28
		4	B	
350.72	-20	0		
Soft, damp, gray, SILTY LOAM.		1	0.4	26
		2	B	
		0		
		1	0.3	21
		2	B	
	-25	0		
		0	0.3	19
		2	B	
343.72				
Medium to stiff, damp, gray, SANDY LOAM.		1		
		1	1.0	18
		2	B	
	-30	0		
		1	0.5	18
		0	B	
Soft to medium.				
339.72				
Medium to stiff, damp, gray, CLAY TILL.				
	-35	3		
335.72				
Gray, fine grained, SAND. *14% passing #200 sieve.*		18	1.0	15
		17	B	
331.22	-40	0		

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)

Latitude N 37 deg 57.092 min. Longitude W 88 deg 28.146 min. Map Datum WGS 84

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 2 of 2

Date 8/10/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0022
Station 545+50

BORING NO. 1
Station 544+75
Offset 7.50ft Rt
Ground Surface Elev. 370.72 ft

Surface Water Elev. 358.29 ft
Stream Bed Elev. 358.29 ft

Groundwater Elev.:
First Encounter 326.2 ft
Upon Completion 347.7 ft
After ____ Hrs. N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium to stiff, damp, gray, CLAY TILL. *(continued)*		2	1.0	15
		3	B	
326.22				
Medium, wet, gray, fine grained, SAND. *60% passing #200 sieve.*	-45	0		
		4		28
		11		
321.22				
Very stiff, damp, gray, CLAY TILL w/ few wood fragments.	-50	4		
		9	3.7	15
		13	B	
315.22	-55			
Very dense, moist, gray, poker chipped, CLAY SHALE.				
	-60	50/5"		
Extent of exploration. 310.52		50/2"		6
		50/1"		

Benchmark: BM 512 chiseled square on top of NE hubguard of existing bridge Station 543+60, Lt 17' = 371.36', provided by Program Development.

Note: Two sets of conflicting stationing present, borings referenced off nails on centerline.
B1 - 75' N of center of existing bridge.
B2 - 39' N of center of existing bridge.
B3 - 20' S of center of existing bridge.
B4 - 76' S of center of existing bridge.

-65		
-70		
-75		
-80		

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)

Latitude N 37 deg 57.092 min. Longitude W 88 deg 28.146 min. Map Datum WGS 84

BORING 1

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

BORING 1
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

PLOT DATE : 10/26/2007 FILE NAME = 0330052-78006-41021br-dge0052.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-3)B-1	HAMILTON	140	84
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 19
21 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 1 of 2

Date 7/28/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0022
Station 545+50

BORING NO. 2
Station 545+11
Offset 22.60ft Lt
Ground Surface Elev. 363.04 ft

Surface Water Elev. 358.29 ft
Stream Bed Elev. 358.29 ft

Groundwater Elev.:
First Encounter 336.0 ft
Upon Completion 348.3 ft
After 24 Hrs. 357.7 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Brown, SILTY CLAY w/ many grass roots. 362.04
				Brown, CLAY. 361.04
	2			Medium to very stiff, damp, gray, CLAY.
	3	0.8	29	
	3	PP		
				with Silt.
-5	0			
	2	0.9	30	
	3	B		
	1			
	3	1.4	24	
	4	B		
				with trace fine gravel.
-10	3			
	3	2.4	23	
	5	B		
	1			
				Soft, damp, gray, SILTY LOAM w/ organics. 350.54
	3	0.3	24	
	2	B		
-15	0			
	2	0.3	28	
	2	B		
	0			
	0	0.3	26	
	1	B		
-20	0			343.04

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	0	0.5	17	Soft to medium, damp, gray, SANDY LOAM.
	3	BS		
	1			
	2	0.3	18	
	2	B		
				338.54
-25	3			Medium, very damp, gray, fine grained, SAND. *25% passing #200 sieve.*
	5		19	
	8			
				336.04
	3			Soft, very damp, gray, SANDY LOAM w/ gravel. 335.04
	2	0.4	16	Medium, wet, gray, fine grained, SAND. *6% passing #200 sieve.*
	3	B		
-30	3			
	8		18	*9% passing #200 sieve.*
	7			
	1			*6% passing #200 sieve.* 327.74
-35	2	0.8	15	Medium to hard, damp, gray, CLAY TILL.
	4	B		
-40	9			

Latitude N 37 deg 57.089 min. Longitude W 89 deg 28.135 min. Map Datum WGS 84

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 2 of 2

Date 7/28/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0022
Station 545+50

BORING NO. 2
Station 545+11
Offset 22.60ft Lt
Ground Surface Elev. 363.04 ft

Surface Water Elev. 358.29 ft
Stream Bed Elev. 358.29 ft

Groundwater Elev.:
First Encounter 336.0 ft
Upon Completion 348.3 ft
After 24 Hrs. 357.7 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	11	4.8	11	Medium to hard, damp, gray, CLAY TILL. *(continued)*
	16	B		
-45	6			
	13	4.0	12	
	17	B		
				315.54
				Very dense, moist, gray, CLAY SHALE.
-50	50/4"			
	50/2"		6	
	50/2"			312.34
				Extent of exploration.
				Benchmark: BM 512 chiseled square on top of NE hubguard of existing bridge Station 543+60, Lt 17' = 371.36', provided by Program Development.
				Note: Two sets of conflicting stationing present, borings referenced off nails on centerline.
-55				*B1 - 75' N of center of existing bridge.*
				B2 - 39' N of center of existing bridge.
				B3 - 20' S of center of existing bridge.
				B4 - 76' S of center of existing bridge.
-60				

Latitude N 37 deg 57.089 min. Longitude W 89 deg 28.139 min. Map Datum WGS 84

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)

BORING 2

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

BORING 2
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-3)B-1	HAMILTON	140	85
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 20
21 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Date 7/21/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0022
Station 545+50
BORING NO. 3
Station 545+70
Offset 24.20ft Lt
Ground Surface Elev. 362.32 ft

Surface Water Elev. 358.29 ft
Stream Bed Elev. 358.29 ft
Groundwater Elev.:
First Encounter 335.3 ft
Upon Completion Washed ft
After ___ Hrs. samples ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown, SILTY CLAY w/ gravel. 361.32			
Stiff, damp, brown/gray/red, CLAY.	2		
-5	4 4	1.6 B	29
	2		
	3 4	1.2 B	24
	2		
	4 5	1.8 B	26
-10	2		
	3 4	1.5 B	31
	0		
Soft to medium strength.	0 2	0.5 B	31
347.62			
Medium to soft, damp, gray, SILTY LOAM. -15	0		
	0 1	0.6 B	44
	0		
	1 2	0.6 B	26
-20	0		
Medium to soft, damp, gray, SILTY LOAM. *(continued)*	0 1	0.3 B	22
	0		
	0 2	0.5 B	22
-25	0		
336.52			
Loose, wet, gray, fine grained, SAND.	1 4	0.3 B	29
	0		
6% passing #200 sieve.	5 4		19
6% passing #200 sieve. -30	2		
332.02			
Stiff, damp, gray, CLAY TILL.	4 5	1.2 B	16
327.82			
Medium, damp, gray, SILTY CLAY TILL. -35	0		
	2 3	0.6 B	15
322.82 -40	0		

Latitude N 37 deg 07.091 min. Longitude W 88 deg 28.122 min. Map Datum WGS 84

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Date 7/21/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0022
Station 545+50
BORING NO. 3
Station 545+70
Offset 24.20ft Lt
Ground Surface Elev. 362.32 ft

Surface Water Elev. 358.29 ft
Stream Bed Elev. 358.29 ft
Groundwater Elev.:
First Encounter 335.3 ft
Upon Completion Washed ft
After ___ Hrs. samples ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very loose, wet, gray, fine grained, SAND. *24% passing #200 sieve. (continued)*	0 1		23
317.82			
Very stiff, damp, gray, CLAY TILL. -45	4		
	12 50/4"	2.5 B	14
316.62			
Hard, moist, gray, CLAY SHALE.			
Very hard drilling at 48.5'			
312.32 -50	50/4"		6
Borehole continued with rock coring.	50/2" 50/1"		
-55			
-60			

Latitude N 37 deg 07.091 min. Longitude W 88 deg 28.122 min. Map Datum WGS 84

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

ROCK CORE LOG

Date 7/21/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 033-0022
Station 545+50
BORING NO. 3
Station 545+70
Offset 24.20ft Lt
Ground Surface Elev. 362.32 ft

CORING BARREL TYPE & SIZE NW, conv dbl bbl, split inner
Core Diameter 2.06 in
Top of Rock Elev. 316.62 ft
Begin Core Elev. 312.32 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Gray, moderately weathered, soapy, CLAY SHALE. 312.32		100	63	1	
-55					
Gray, slightly weathered, soapy, CLAY SHALE. 307.32		100	92	1	
Extent of exploration. 302.32 -60					
-65					
-70					

Benchmark: BM 512 chiseled square on top of NE hubguard of existing bridge Station 543+60, Lt 17' = 371.36', provided by Program Development.

Note: Two sets of conflicting stationing present, borings referenced off nails on centerline.
B1 - 75' N of center of existing bridge.
B2 - 39' N of center of existing bridge.
B3 - 20' S of center of existing bridge.
B4 - 76' S of center of existing bridge.

Color pictures of the cores ___
Cores will be stored for examination until ___
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

BORING 3

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-I	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

BORING 3
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

PLOT DATE :10/26/2007 FILE NAME = 0330052-78006-41021b-dge0052.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR -3)B-1	HAMILTON	140	86
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT=		

SHEET NO. 21
21 SHEETS

Contract #78006

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 1 of 2

Date 8/16/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0022
Station 545+50

BORING NO. 4
Station 546+26
Offset 8.60ft Rt
Ground Surface Elev. 370.73 ft

Surface Water Elev. 358.29 ft
Stream Bed Elev. 358.29 ft

Groundwater Elev.:
First Encounter 340.8 ft
Upon Completion 349.7 ft
After ____ Hrs. N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
369.63			
13" Asphalt.			
368.83			
9 1/2" Concrete pavement.			
	2		
	3	0.7	28
	4	B	
Medium, damp, gray, CLAY w/ trace Silt.			
366.23			
-5	0		
	2	0.4	32
	3	B	
Soft, damp, gray, SILTY CLAY.			
363.73			
	0		
	2	0.9	30
-10	3	B	
	1		
	3	1.2	28
	3	B	
Medium to stiff, damp, gray, CLAY w/ trace Silt.			
	2		
	4	1.5	29
	4	B	
-15	1		
	3	1.0	23
	4	B	
	1		
	3	1.7	29
	3	BS	
351.23			
-20	1		
Gray marbled red, w/ trace fine gravel.			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	1	0.5	21
	2	B	
Soft to medium, damp, brown/red, SILTY CLAY. *(continued)*			
	0		
	0	0.7	22
	2	B	
345.73			
-25	0		
	1	0.4	20
	2	B	
Soft, very damp, gray, LOAM.			
343.73			
	0		
	2	1.2	23
	3	B	
Stiff, damp, gray mottled red, CLAY.			
341.23			
-30	0		
	1	0.3	26
	3	B	
Soft, very damp, brown, SANDY CLAY w/ one 1" sand lense.			
336.13			
-35	2		
	7		16
	10		
Medium, wet, gray, fine grained, SAND. *17% passing #200 sieve.*			
331.23			
-40	2		

Latitude N 37 deg 57.070 min, Longitude W 88 deg 28.134 min, Map Datum WGS 84

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)

Illinois Department of Transportation
Division of Highways
Ill. Dept. of Trans. D-7

SOIL BORING LOG

Page 2 of 2

Date 8/16/05

ROUTE FAP 776 (IL 142) DESCRIPTION Un-Named Stream LOGGED BY E. Sandschafer
SECTION (116BR-1, BR-2, BR-3)B-1 LOCATION SE 1/4, SEC. 31, TWP. 6 S, RNG. 7 E, 3 PM
COUNTY Hamilton DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 033-0022
Station 545+50

BORING NO. 4
Station 546+26
Offset 8.60ft Rt
Ground Surface Elev. 370.73 ft

Surface Water Elev. 358.29 ft
Stream Bed Elev. 358.29 ft

Groundwater Elev.:
First Encounter 340.8 ft
Upon Completion 349.7 ft
After ____ Hrs. N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	5	1.8	23
	8	B	
Stiff, damp, gray, CLAY w/ trace Silt. *(continued)*			
326.23			
-45	4		
	11	1.3	23
	12	S	
Stiff, damp, gray, SANDY LOAM.			
321.23			
320.73 -50	4		
	7	3.0	17
	8	BS	
Gray, fine grained, SAND w/ many organics and wood fibers. *30% passing #200 sieve.*			
Very stiff, damp, gray, SANDY CLAY TILL.			
315.73 -55			
Very dense, moist, gray, CLAY SHALE.			
-60	50/5"		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
310.53	50/2"		6
Extent of exploration.	50/1"		
-65			
Benchmark: BM 512 chiseled square on top of NE hubguard of existing bridge Station 543+60, Lt 17' = 371.36', provided by Program Development.			
Note: Two sets of conflicting stationing present, borings referenced off nails on centerline.			
B1 - 75' N of center of existing bridge.			
B2 - 39' N of center of existing bridge.			
B3 - 20' S of center of existing bridge.			
B4 - 76' S of center of existing bridge.			
-70			
-75			
-80			

Latitude N 37 deg 57.070 min, Longitude W 88 deg 28.134 min, Map Datum WGS 84

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)

BORING 4

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1	DATE: 10/25/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

BORING 4
IL RTE. 142 OVER CONTRARY CREEK (SOUTH OVERFLOW)
F.A.P. ROUTE 776 - SECTION (116BR-3)B-1
HAMILTON COUNTY
STRUCTURE NO. 033-0052 / STATION 544+53.10

PLOT DATE = 10/26/2007 FILE NAME = 03300052-78006-4102tbr-idge0052.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	87
STA. 513+00.00		TO STA. 514+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

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

C = 6 F = 0

372.68

EXIST. R.O.W.

514+00.00

AHEAD C = 6 F = 1
BACK C = 0 F = 0

372.58

IMPROVEMENT BEGINS STA. 513+50

513+50.00

372.36

513+00.00

STAGE 1

PLOT DATE = 10/26/2007
FILE NAME = 41021Sh1-YS-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	88
STA. 514+50.00		TO STA. 515+40.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	
NOTE BOOK	
NO.	

SURVEYED
PLOTTED
AREAS
AREAS CHECKED

BY

DATE

ORIGINAL SURVEY	
NOTE BOOK	
NO.	

SURVEYED
PLOTTED
AREAS
AREAS CHECKED

BY

DATE

C = 10 F = 0

SKEWED ALONG EXISTING F.E. LT.

372.78

EXIST. R.O.W.

515+40.00

C = 6 F = 0

372.79

EXIST. R.O.W.

EXIST. R.O.W.

515+00.00

C = 6 F = 1

372.76

EXIST. R.O.W.

EXIST. R.O.W.

514+50.00

STAGE I

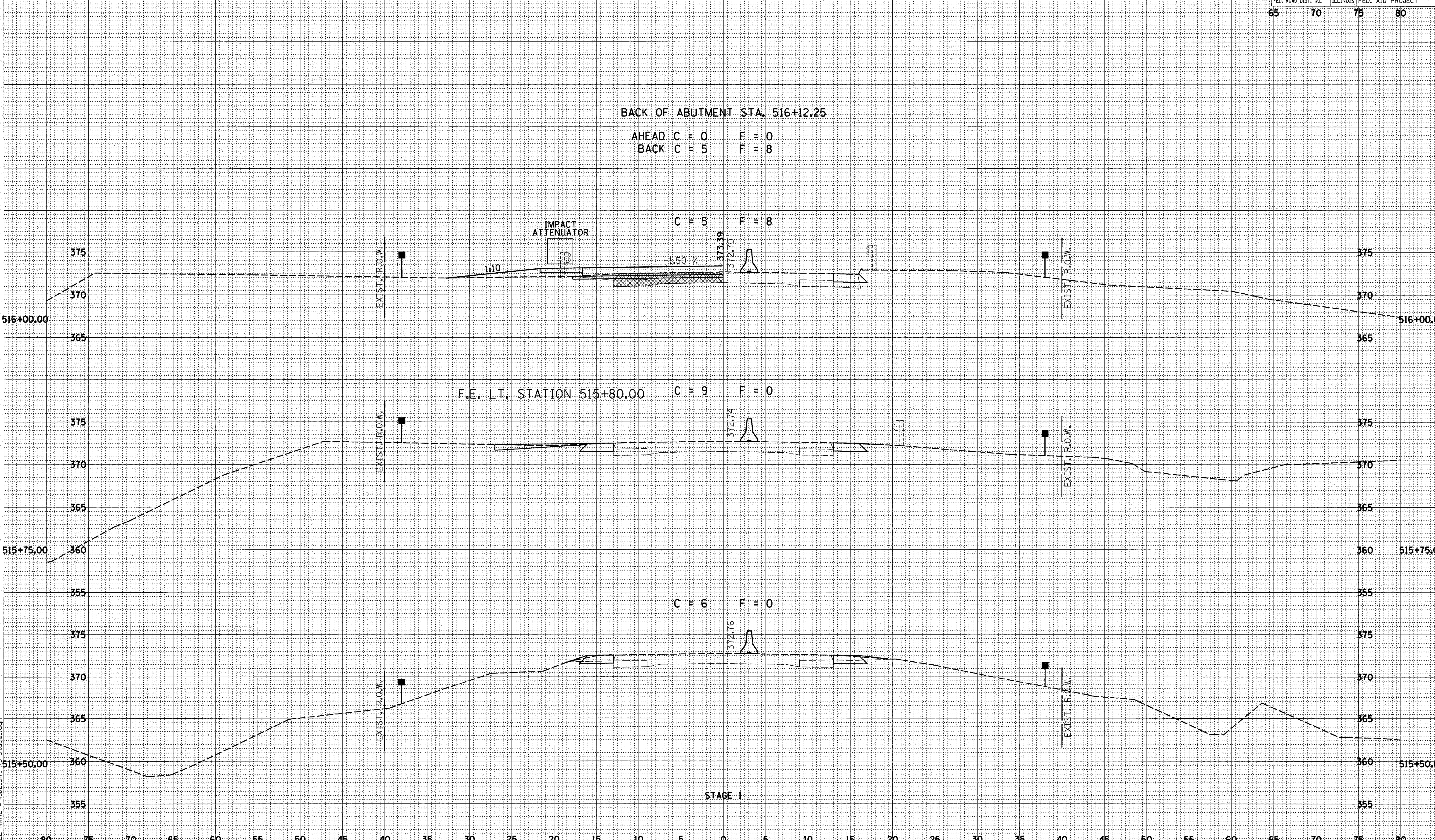
80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

375 370 365 360 355

PLOT DATE = 10/26/2007
FILE NAME = 4:\02ISH\Design\Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	89
STA. 515+50.00	TO STA. 516+00.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



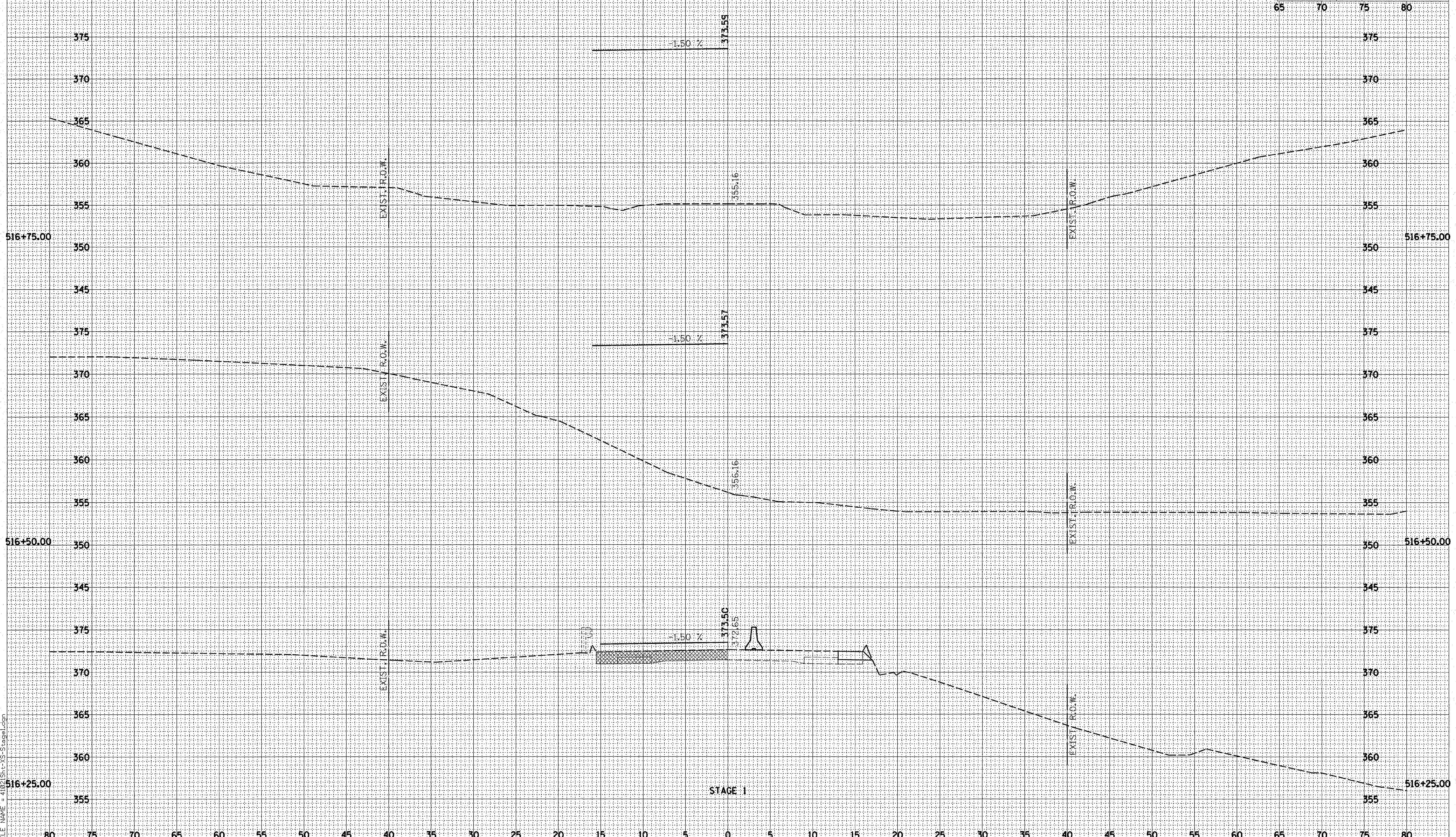
FINAL SURVEY | NOTE BOOK NO. | SURVEYED | PLOTTED | TEMPLATE | AREAS | AREAS CHECKED | BY | DATE

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

PLOT DATE :10/26/2007
FILE NAME = 41021Sht-XS-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	90
STA. 516+25.00	TO STA. 516+75.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



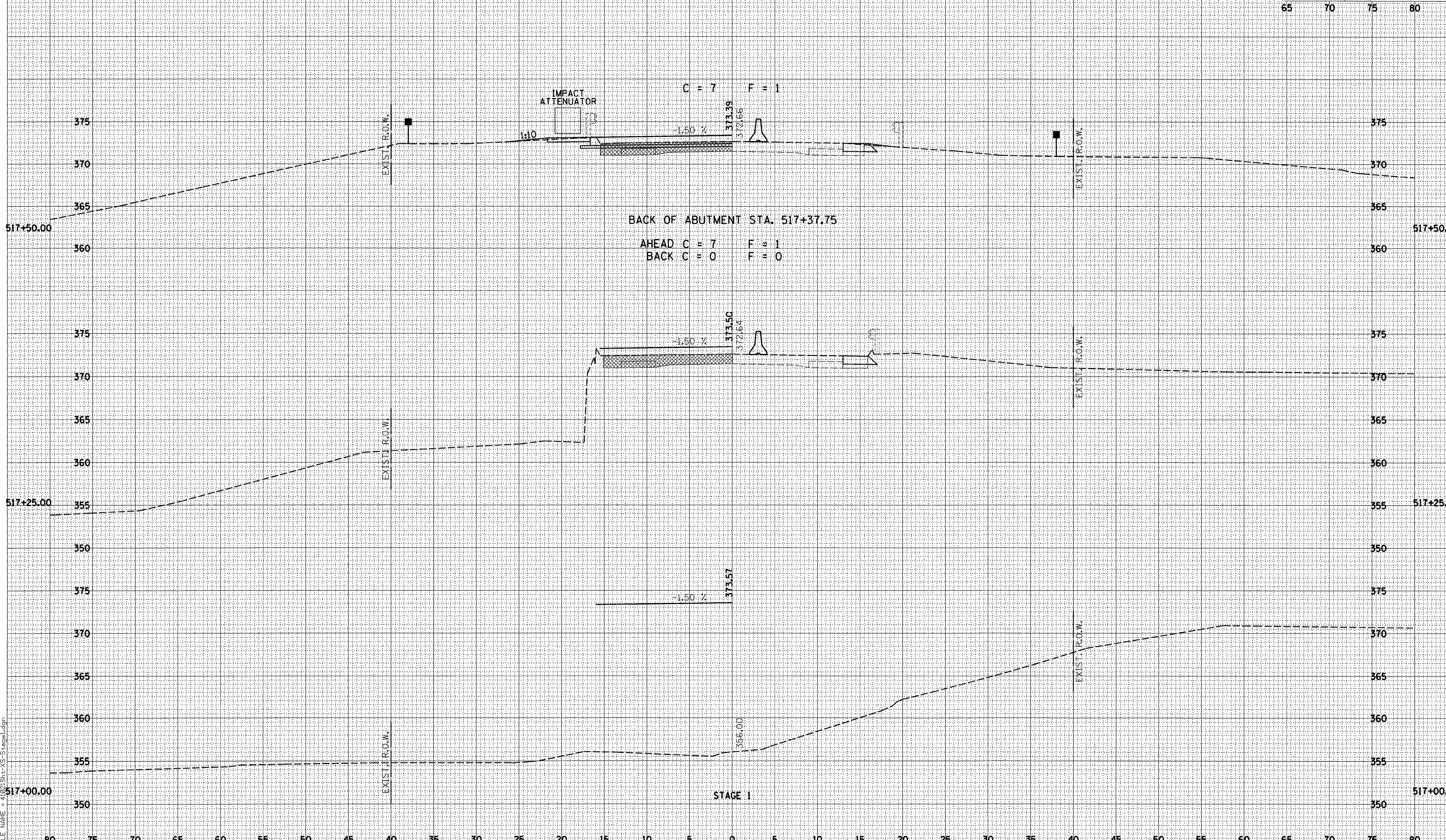
FINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

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

PLOT DATE :10/26/2007
FILE NAME = 41021Sht-XS-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	91
STA. 517+00.00 TO STA. 517+50.00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



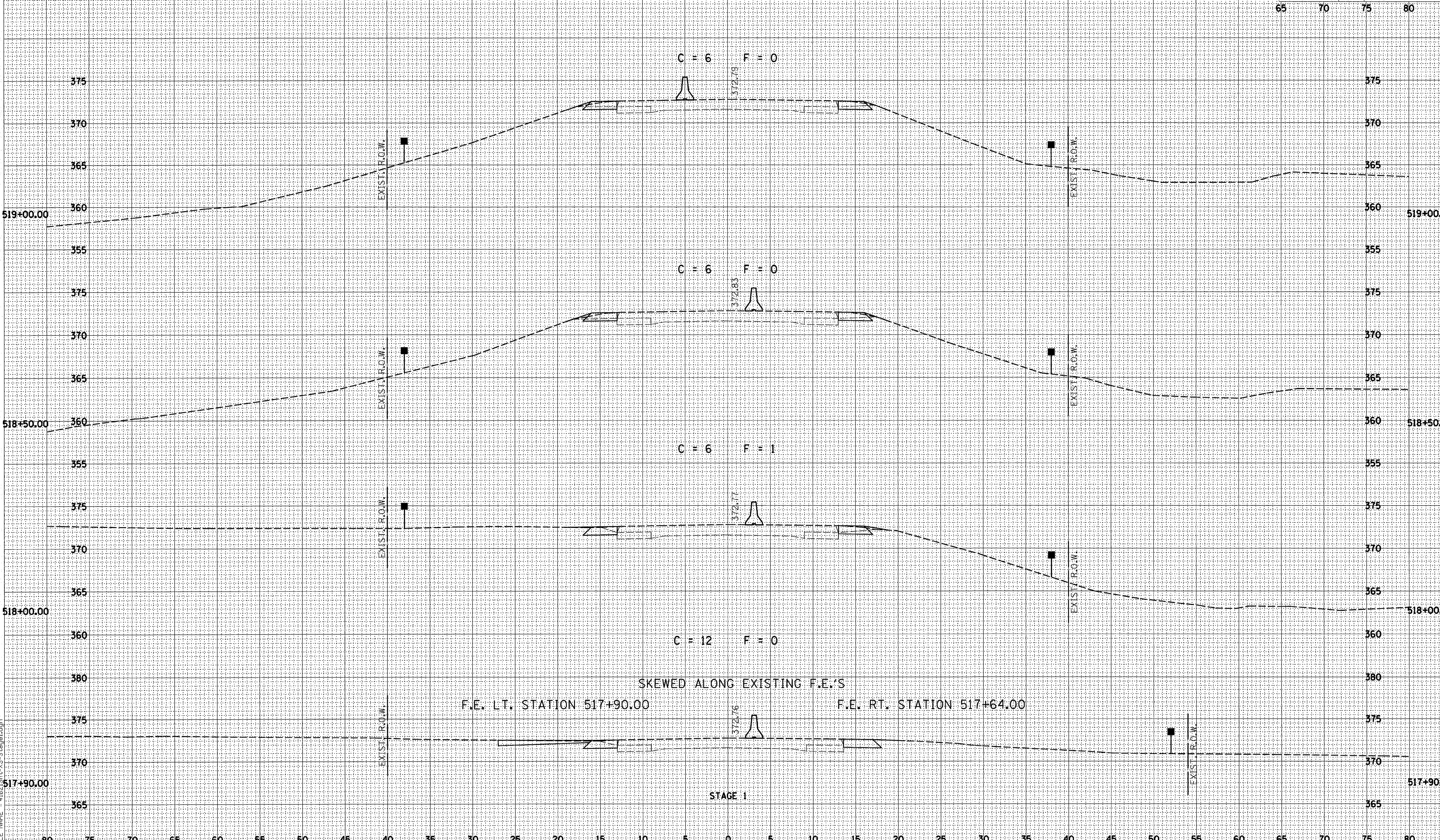
FINAL SURVEY NOTE BOOK NO. SURVEYED PLOTTED TEMPLATE AREAS AREAS CHECKED BY DATE

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

PLOT DATE :10/26/2007
FILE NAME = 41021Sht-XS-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	92
STA. 517+90.00 TO STA. 519+00.00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



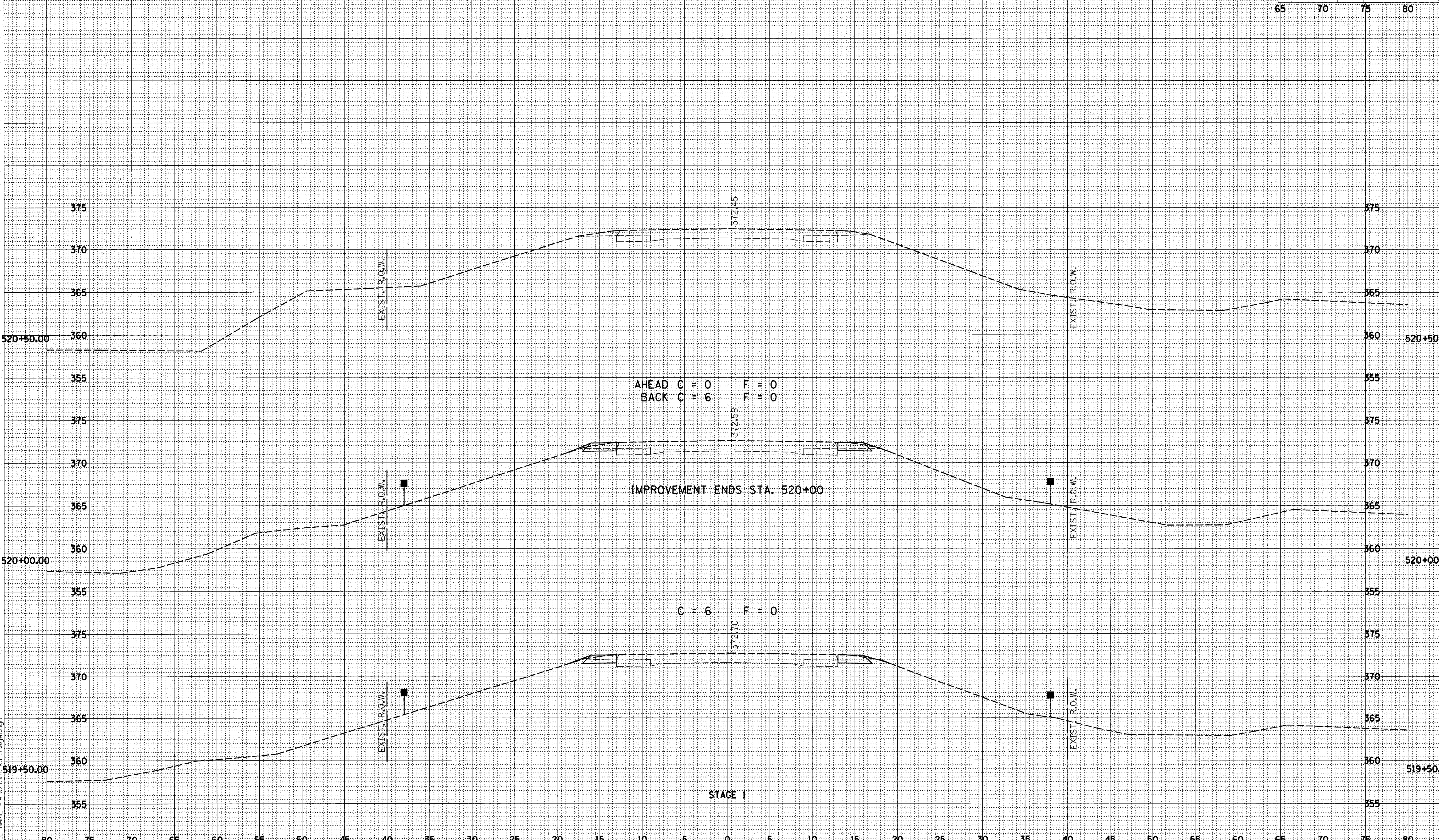
FINAL SURVEY | NOTE BOOK | NO. | SURVEYED | PLOTTED | TEMPLATE | AREAS | AREAS CHECKED | BY | DATE

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

PLOT DATE :10/26/2007
FILE NAME = 41021Sht-XS-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	93
STA. 519+50.00 TO STA. 520+50.00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



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

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

PLOT DATE :10/26/2007
FILE NAME = 41021Sht-XS-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	94
STA. 534+00.00		TO STA. 535+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

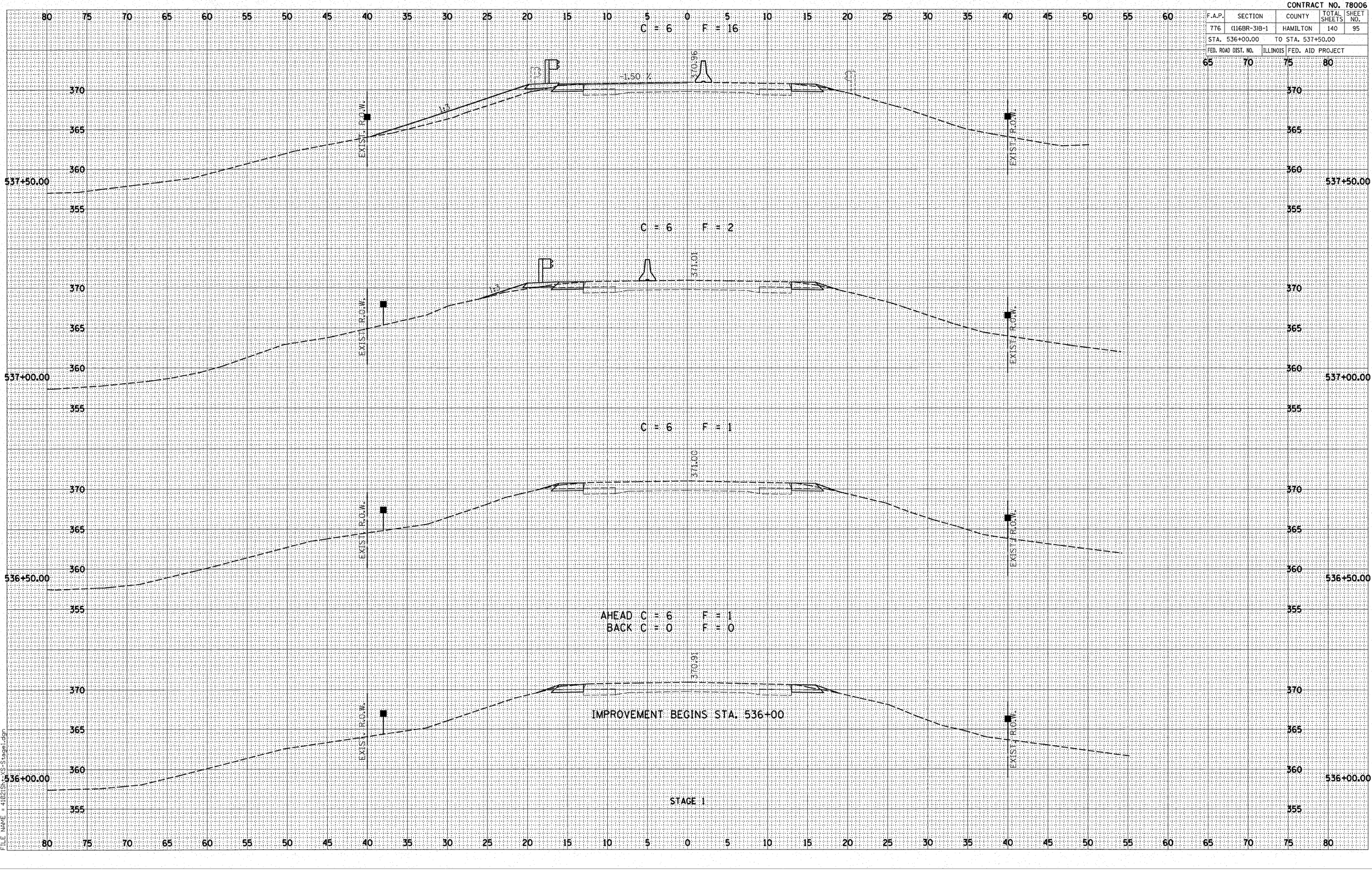
ORIGINAL SURVEY	DATE	BY
SURVEYED		
PLOTTED		
DRAWN		
TEMPLATE		
AREAS		
NOTE BOOK	AREAS CHECKED	
NO.		

370.88
370.92
370.95
370.97
EXIST. R.O.W.
535+50.00
535+00.00
534+50.00
534+00.00
STAGE 1

PLOT DATE = 10/26/2007
FILE NAME = 410215h\S-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	95
STA. 536+00.00		TO STA. 537+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



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

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

PLOT DATE = 10/26/2007
FILE NAME = 4102\SIGS-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	96
STA. 538+00.00		TO STA. 538+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

375 370 365 360 355

538+50.00

EXIST. R.O.W.

-1.50 %

371.32

370.89

1:3

1:3

BACK OF ABUTMENT STA. 538+45.70

AHEAD C = 0 F = 0

BACK C = 6 F = 10

C = 6 F = 10

371.25

370.92

538+25.00

C = 6 F = 17

370.93

538+00.00

STAGE I

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

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

PLOT DATE = 10/26/2007
FILE NAME = 41021S\S-Stage1.dgn

CONTRACT NO. 78006

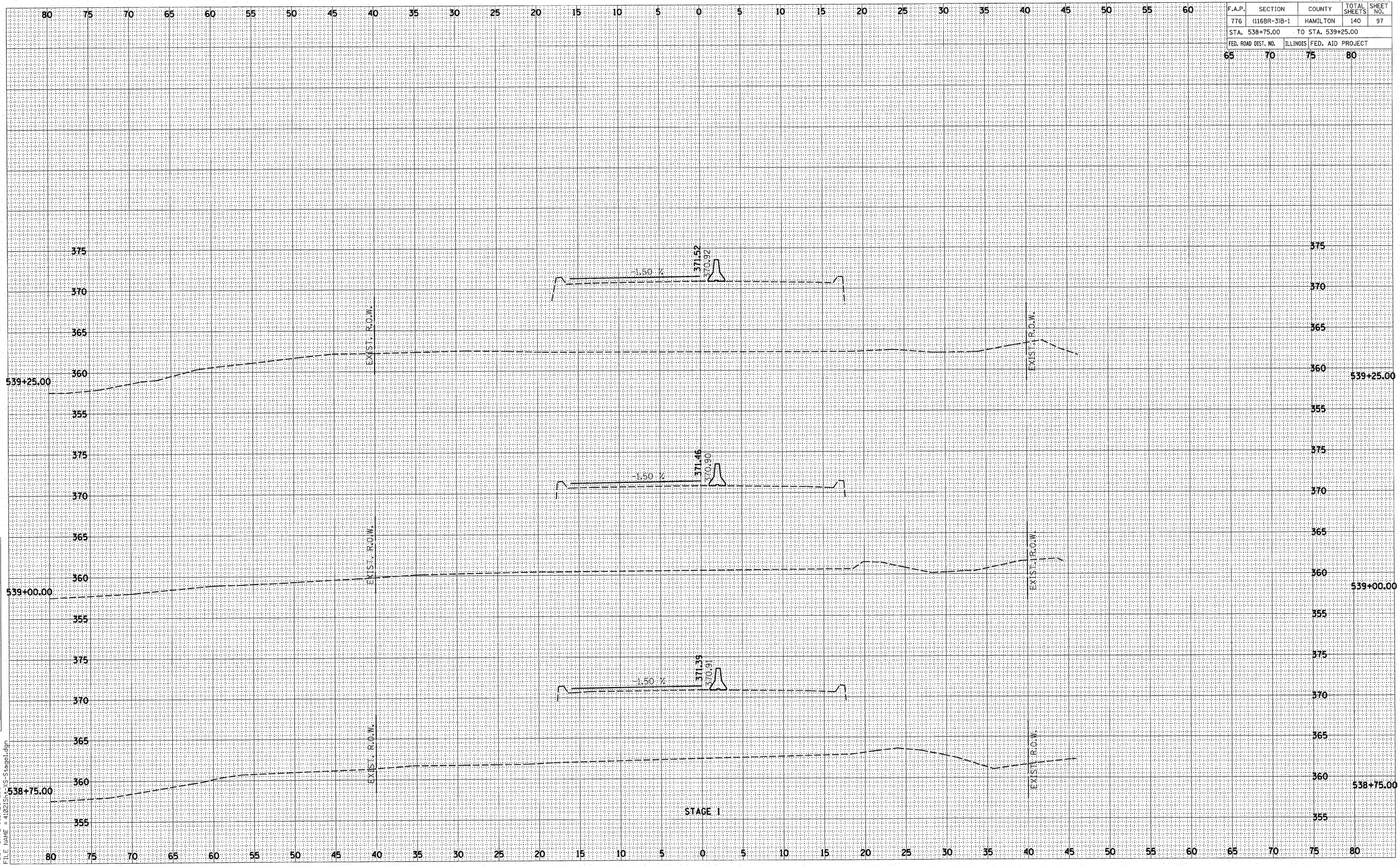
F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	97
STA. 538+75.00		TO STA. 539+25.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY

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

ORIGINAL SURVEY

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



PLOT DATE : 10/26/2007
FILE NAME = 410215n_TS-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	98
STA. 539+50.00	TO STA. 540+50.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

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

C = 6 F = 16

C = 4 F = 21

BACK OF ABUTMENT STA. 539+82.70

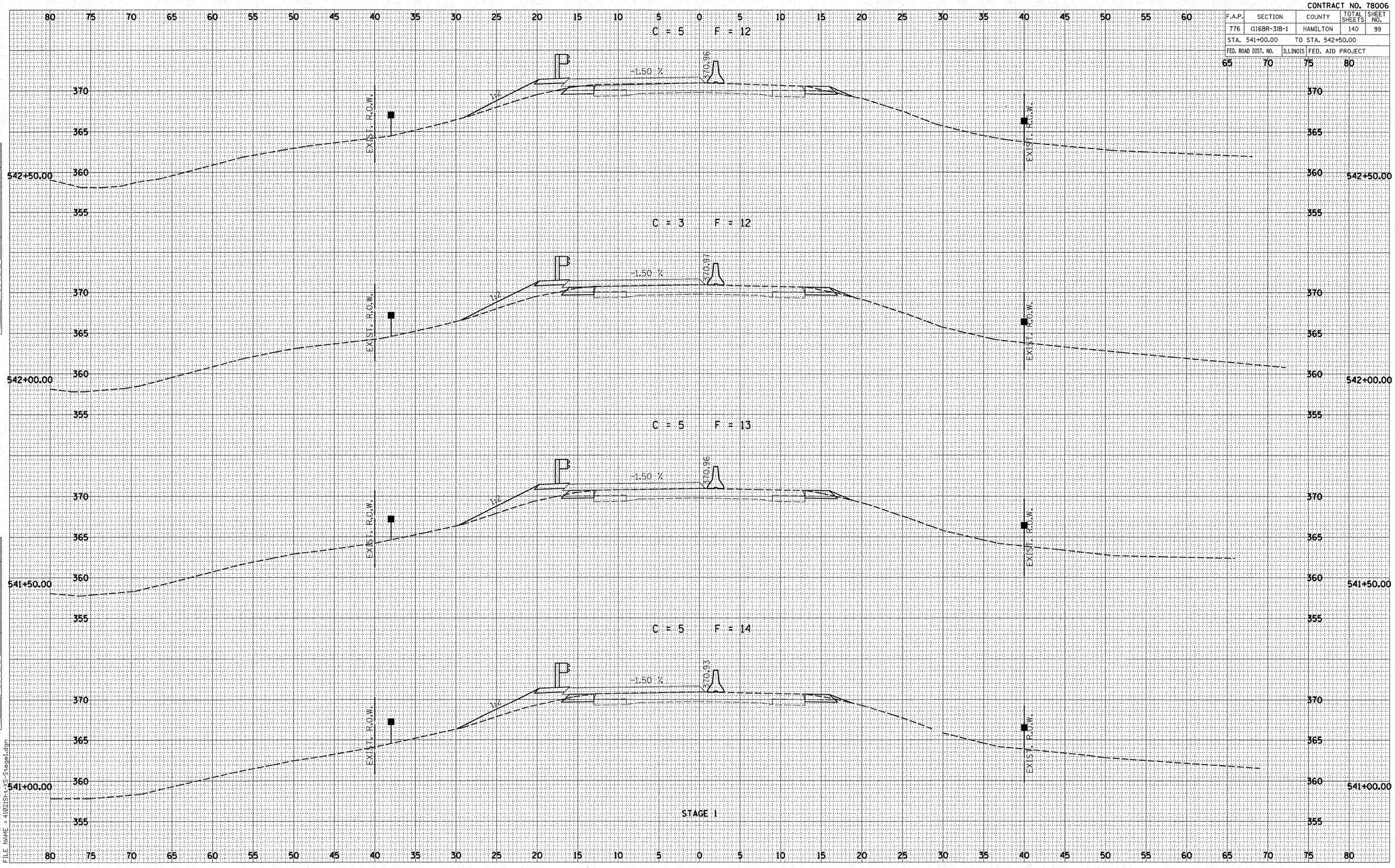
AHEAD C = 4 F = 21
BACK C = 0 F = 0

STAGE 1

PLOT DATE = 10/26/2007
FILE NAME = 410213-S-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	99
STA. 541+00.00	TO STA. 542+50.00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



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

PLOT DATE = 10/26/2007
FILE NAME = 41021SH-S-Stage1.dgn

CONTRACT NO. 78006

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	(116BR-3)B-1	HAMILTON	140	100
STA. 543+00.00		TO STA. 543+75.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BACK OF ABUTMENT STA. 543+84.60

AHEAD C = 0 F =0
BACK C = 0 F = 60

C = 0 F = 60

C = 6 F = 10

C = 5 F = 12

-1.50 %

371.65

370.85

370.82

370.94

1:2

EXIST. R.O.W.

543+75.00

543+50.00

543+00.00

STAGE I

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

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

PLOT DATE = 10/26/2007
FILE NAME = 410215h_S-Stage1.dgn