

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 74238		

\* 142 + 4 = 146

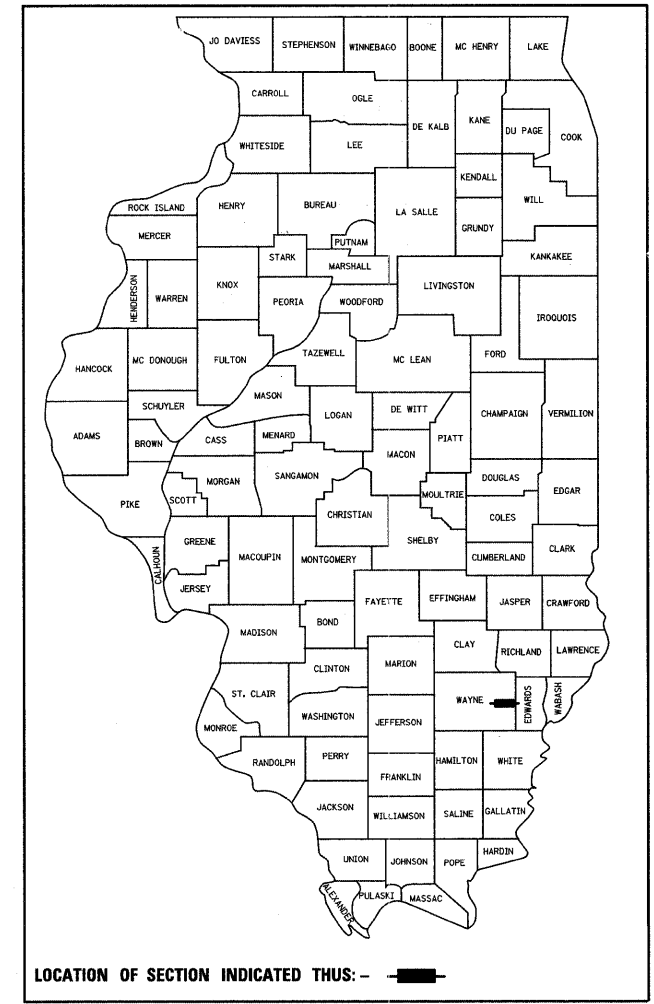
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 823 (ILLINOIS ROUTE 15)  
SECTION (22BY-1,22BY2,22BR)B-1  
PROJECT: **ACBRF-ACF-0823(010)**  
JOB NO. C-97-097-05  
WAYNE COUNTY

FOR INDEX OF SHEETS, SEE SHEET NO. 2

D-97-059-05



BLANK, WESSELINK, COOK & ASSOCIATES  
ENGINEERS - CONSULTANTS  
DECATUR, ILLINOIS

PROPOSED IMPROVEMENT BEGINS  
Sta 238 + 99.60

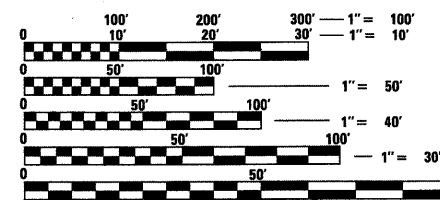
PROPOSED SN 096-0071  
STA. 301 + 65.00  
82'-0" BK-BK ABUTMENTS  
SKEW = 30° (RT. FWD.)  
DECK ROADWAY WIDTH = 35'-2"

ROADWAY OMISSION  
STA. 241 + 00.00 - STA. 288 + 41.59

PROPOSED IMPROVEMENT ENDS  
ENDS STA. 308 + 20.00

PROPOSED SN 096-0072  
STA. 295 + 41.00  
112'-0" BK-BK ABUTMENTS  
DECK ROADWAY WIDTH = 35'-2"

MINOR ARTERIAL (NON-URBAN)  
ADT = 2400 (2007)



PROPOSED DOUBLE 12'x7' BOX CULVERT  
STR. #096-2011  
STA. 239 + 87.00  
25'-9" BK TO BK.  
64'-0" OUT TO OUT HEADWALLS  
NO SKEW

**STATION EQUATIONS**

STA. 239 + 37.30 (BK)  
= STA. 239 + 37.70 (AH)

STA. 289 + 04.59 (BK)  
= STA. 289 + 07.00 (AH)

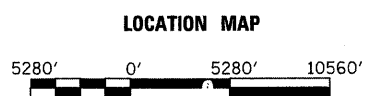
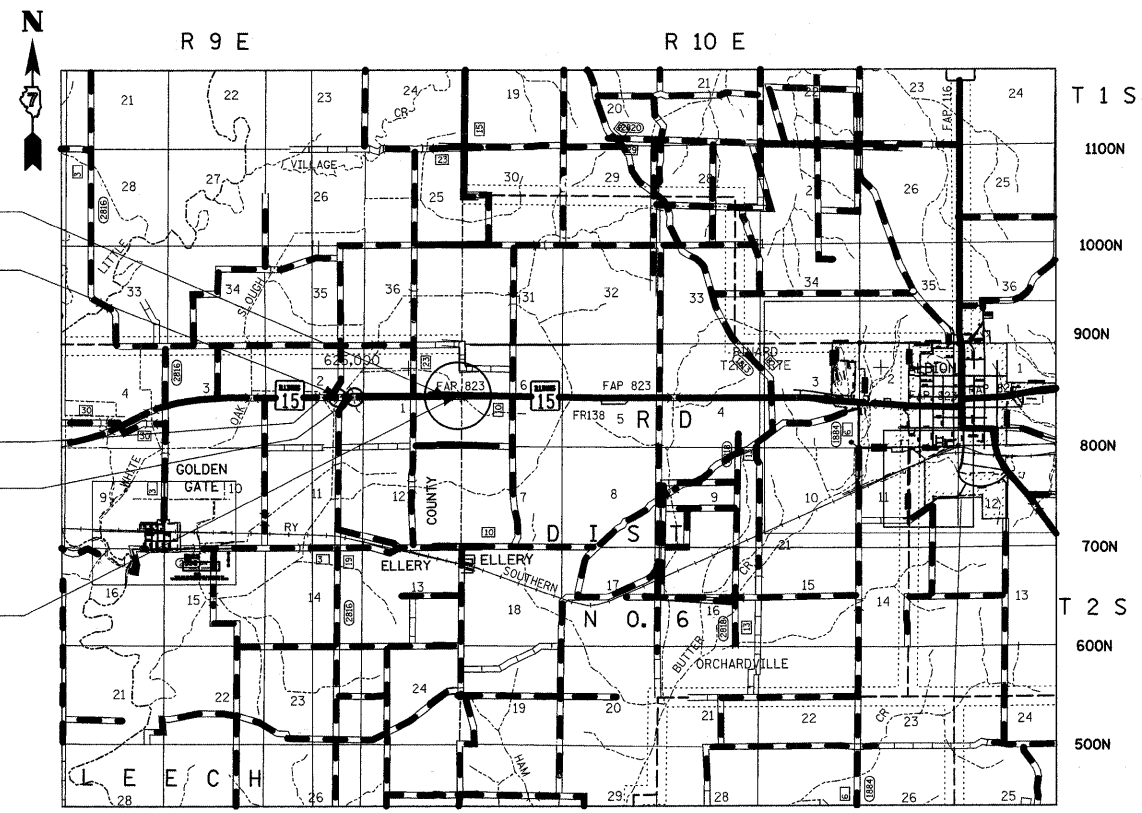
STA. 306 + 00.00 (BK)  
= STA. 305 + 96.06 (AH)

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

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

PROJECT ENGINEER: TOM RONAN  
SQUAD LEADER

CONTRACT NO. 74238



GROSS LENGTH OF PROJECT = 6921.5 FEET = 1.31 MILES  
NET LENGTH OF PROJECT = 2180.3 FEET = 0.41 MILES

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED March 30 2009

Raymond S. Stibel  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 8, 20 09  
Charles G. Ingersoll  
ENGINEER OF DESIGN AND ENVIRONMENT

May 8, 20 09  
Christine M. Reed  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

BLANK, WESSELINK, COOK & ASSOCIATES  
ENGINEERS - CONSULTANTS  
DECATUR, ILLINOIS



Charles W. Guthrie, Jr.  
CHARLES W. GUTHRIE, JR., P.E.  
DATE March 26 2009  
EXPIRES NOVEMBER 30, 2009

**PRINTED BY THE AUTHORITY  
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\* 80A - 80D. APPROACH PAV'T. DETAILS

**HIGHWAY STANDARDS**

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
353001-04	PCC BASE COURSE WITH HMA BINDER AND SURFACE COURSES
<del>420401-06</del>	<del>BRIDGE APPROACH PAVEMENT</del>
482001-02	HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
515001-03	NAME PLATE FOR BRIDGES
630001-08	STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-07	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
666001-01	RIGHT OF WAY MARKERS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 4.5M (15') AWAY
701006-03	OFF-ROAD OPERATIONS, 2L, 2W, 4.5M (15') TO 600MM (24") FROM PAVEMENT EDGE
701011-02	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-03	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
701306-02	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS >= 45 MPH
701321-10	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-03	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS >= 45 MPH
701901-01	TRAFFIC CONTROL DEVICES
704001-05	TEMPORARY CONCRETE BARRIER
780001-02	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
886001-01	DETECTOR LOOP INSTALLATIONS
BLR21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

601101-01

**GENERAL NOTES**

- THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" INDICATED ON THE CHECK SHEET, AND "THE SPECIAL PROVISIONS" INCLUDED IN THE PROPOSAL.
- THE WORK INCLUDED IN THIS SECTION CONSISTS OF REPLACEMENT OF SN 096-0055 WITH A CAST IN PLACE DOUBLE CONCRETE BOX CULVERT, REPLACEMENT OF SN 096-0016 AND REPLACEMENT OF SN 096-0017 WITH INTEGRAL ABUTMENT BRIDGES, UTILIZING STAGE CONSTRUCTION. THE ROADWAY OVER THE CULVERT WILL BE RAISED SLIGHTLY AND RESURFACED. THE ROADWAY OVER THE NEW BRIDGES WILL BE RAISED, REQUIRING ADDITIONAL EMBANKMENT AND NEW PAVEMENT. DITCHES WILL BE REGRADED.
- PAVEMENT MARKING SHALL BE APPLIED IN ACCORDANCE WITH SECTION 780 OF THE STANDARD SPECIFICATIONS, AS SHOWN ON THE PLANS, AND AS DETERMINED BY THE ENGINEER.  
  
TEMPORARY PAVEMENT MARKING APPLIED ON THE FINAL SURFACE SHALL BE TAPE. EXCEPT, MARKING PLACED PRIOR TO THE WINTER SHUTDOWN SHALL BE PAINT. QUANTITIES CONSIST OF:  
  
LINE 4" 640 FEET OF YELLOW AND 15567 FEET OF WHITE.  
  
FINAL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, AS SHOWN ON THE PAVEMENT MARKING PLANS. QUANTITIES CONSIST OF:  
  
LINE 4" 640 FEET OF YELLOW AND 4794 FEET OF WHITE.
- RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THE PLANS, AND AS DETERMINED BY THE ENGINEER. THE FINAL PAVEMENT MARKINGS SHALL BE PLACED PRIOR TO PLACING THE RAISED REFLECTIVE PAVEMENT MARKERS.
- FOR THE PAY ITEM BITUMINOUS MATERIALS (PRIME COAT), THE CONTRACTOR SHALL USE EITHER RC-70 OR AN EMULSIFIED POLYMER PRIME SS-IHP.
- THE FOLLOWING HOT MIX ASPHALT MIXTURE REQUIREMENTS APPLICABLE TO THIS PROJECT:  
  
MIXTURE USE(S): SURFACE COURSE  
APPLICATION: HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70  
PG GRADE: PG 64-22  
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 70  
MIXTURE COMPOSITION: IL-9.5  
FRICTION AGGREGATE: MIXTURE C  
  
MIXTURE USE(S): BINDER COURSE  
APPLICATION: HOT-MIX ASPHALT BINDER COURSE, IL 19.0, N70  
PG GRADE: PG 64-22  
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 70  
MIXTURE COMPOSITION: IL-19.0  
FRICTION AGGREGATE: N/A  
  
MIXTURE USE(S): HOT-MIX ASPHALT SHOULDERS (BOTTOM LIFTS)  
APPLICATION: HOT-MIX ASPHALT SHOULDERS  
PG GRADE: PG 58-22  
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 70  
MIXTURE COMPOSITION: IL-19.0  
FRICTION AGGREGATE: N/A  
  
MIXTURE USE(S): HOT-MIX ASPHALT SHOULDERS (TOP LIFTS)  
APPLICATION: HOT-MIX ASPHALT SHOULDERS  
PG GRADE: PG 58-22  
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 50  
MIXTURE COMPOSITION: IL-9.5  
FRICTION AGGREGATE: MIXTURE C
- AGGREGATE BASE COURSE(S) SHALL BE CRUSHED STONE.
- ALL ELEVATIONS SHOWN IN PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
- ALL DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS SHALL BE FERTILIZED AND SEEDED. SEEDING SHALL BE CLASS 2A IN ACCORDANCE WITH THE APPLICABLE ARTICLES OF SECTION 250 OF THE STANDARD SPECIFICATIONS. THE FOLLOWING APPLICATION RATE SHALL BE USED FOR THE VARIOUS ITEMS NECESSARY FOR SEEDING.  
  
NITROGEN FERTILIZER NUTRIENTS - 90 LB/ACRE  
PHOSPHORUS FERTILIZER NUTRIENTS - 90 LB/ACRE  
POTASSIUM FERTILIZER NUTRIENTS - 90 LB/ACRE  
AGRICULTURAL GROUND LIMESTONE - 2 TONS/ACRE
- THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF FACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 96 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING SIGNS OR DELIVERING EXISTING SIGNS TO THE IDOT DISTRICT 7 SIGN SHOP AS DIRECTED BY THE ENGINEER. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL ITEMS. ALL NEW SIGNAGE WILL BE FURNISHED AND INSTALLED BY DISTRICT 7.
- THE CONTRACTOR SHALL PROVIDE INTERNET ACCESSIBILITY TO THE BITUMINOUS PLANT'S QUALITY CONTROL LAB SO THAT BITUMINOUS REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK SHALL BE INCLUDED IN THE COST OF ALL BITUMINOUS ITEMS.
- BASE COURSE WIDENING SHALL, AT THE CONTRACTOR'S OPTION BE CONSTRUCTED OF EITHER PORTLAND CEMENT CONCRETE 8" THICK, OR HOT-MIX ASPHALT, 9" THICK. ANY EXCAVATION REQUIRED FOR CONSTRUCTION OF THE BASE COURSE WIDENING SHALL BE INCLUDED IN THE COST OF BASE COURSE WIDENING.
- RIGHT-OF-WAY MARKERS SHALL BE ERECTED WITH THE BACK FACE OF THE MARKER ON THE RIGHT-OF-WAY LINE UNLESS THE NEW RIGHT-OF-WAY LINE HAS BEEN SURVEYED AND PINNED, IN WHICH INSTANCE THE RIGHT-OF-WAY MARKER WILL BE ERECTED 12 INCHES INSIDE THE NEW RIGHT-OF-WAY LINE.
- ANY SECTION CORNERS DISTURBED DURING CONSTRUCTION SHALL BE REESTABLISHED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE. A LIST OF SECTION CORNERS WITHIN THE PROJECT LIMITS IS CONTAINED IN THE SCHEDULE OF QUANTITIES.
- THERE ARE NO COMMITMENTS FOR THIS PROJECT.

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	PLOT DATE = 3/26/2009	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, HIGHWAY STANDARDS, AND GENERAL NOTES**

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	Rev.
823	(22BY-1,22BY2,22BR0B-1	WAYNE	142	2	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 74238		

PAY CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY RURAL	F B&F F		
				80% FEDERAL 20% STATE 096-20II X028-2A	80% FEDERAL 20% STATE 096-007I X071-2A	80% FEDERAL 20% STATE 096-0072 X071-2A
20200100	EARTH EXCAVATION	CU YD	4420	355	3000	1065
20300100	CHANNEL EXCAVATION	CU YD	785		315	470
20400800	FURNISHED EXCAVATION	CU YD	9725	30	6705	2990
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	293		170	123
20800150	TRENCH BACKFILL	CU YD	291	192	99	
25000210	SEEDING, CLASS 2A	ACRE	10.00	1.00	5.75	3.25
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	900	90	517.5	292.5
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	900	90	517.5	292.5
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	900	90	517.5	292.5
25000700	AGRICULTURAL GROUND LIMESTONE	TON	20	2.0	11.5	6.5
25100115	MULCH, METHOD 2	ACRE	10.00	1.00	5.75	3.25
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	1000	100	575	325
28000300	TEMPORARY DITCH CHECKS	EACH	6	4	2	
28000400	PERIMETER EROSION BARRIER	FOOT	4288	475	2193	1620
28000500	INLET AND PIPE PROTECTION	EACH	12	1	8	3
28100107	STONE RIPRAP, CLASS A4	SQ YD	2018	205	784	1029
28200200	FILTER FABRIC	SQ YD	2018	205	784	1029
31101000	SUB-BASE GRANULAR MATERIAL, TYPE B	TON	4300		2835	1465
35501316	HOT-MIX ASPHALT BASE COURSE, 8"	SQ YD	2673		2673	
35600712	HOT-MIX ASPHALT BASE COURSE WIDENING, 9"	SQ YD	854		414	440
35650700	BASE COURSE WIDENING	SQ YD	1436	285	565	586
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	568		308	260
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	1227	87	646	494
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	814	188	280	346
40600990	TEMPORARY RAMP	SQ YD	144	36	54	54
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	2017.4	294.0	869.2	854.2
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	693.0	59.8	380.4	252.8
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	424		212	212
42001300	PROTECTIVE COAT	SQ YD	456		228	228
44000100	PAVEMENT REMOVAL	SQ YD	24	24		
44004250	PAVED SHOULDER REMOVAL	SQ YD	852	188	312	352
44004300	PAVEMENT BREAKING	SQ YD	2410		1278	1132
48101200	AGGREGATE SHOULDERS, TYPE B	TON	290	44	246	
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	390		184	206
48203100	HOT-MIX ASPHALT SHOULDERS	TON	167.8		73.5	94.3
50100300	REMOVAL OF EXISTING STRUCTURES NO.1	EACH	1	1		
50100400	REMOVAL OF EXISTING STRUCTURES NO.2	EACH	1		1	
50100500	REMOVAL OF EXISTING STRUCTURES NO.3	EACH	1			1
50105220	PIPE CULVERT REMOVAL	FOOT	247		247	
50200100	STRUCTURE EXCAVATION	CU YD	619	338	173	108
50300225	CONCRETE STRUCTURES	CU YD	119.1		36.4	82.7
50300255	CONCRETE SUPERSTRUCTURE	CU YD	267.5		122.3	145.2
50300260	BRIDGE DECK GROOVING	SQ YD	646		273	373
50300280	CONCRETE ENCASEMENT	CU YD	43.6		5.6	38.0
50300300	PROTECTIVE COAT	SQ YD	853		361	492
50500505	STUD SHEAR CONNECTORS	EACH	3636		1188	2448

\* DENOTES SPECIALTY ITEM

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: SHEET NO. 1 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	3
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 74238	

PAY CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY RURAL	F BRF A		
				80% FEDERAL 20% STATE 096-2011 X028-2A	80% FEDERAL 20% STATE 096-0071 X071-2A	80% FEDERAL 20% STATE 096-0072 X071-2A
50501005	JACK AND REPOSITION BEARINGS	EACH	1		1	
50800105	REINFORCEMENT BARS	POUND	30940	30940		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	70010		28460	41550
50800515	BAR SPLICERS	EACH	898	125	336	437
51201800	FURNISHING STEEL PILES HPI4X73	FOOT	1638			1638
51202000	FURNISHING STEEL PILES HPI4X102	FOOT	1120		1120	
51202305	DRIVING PILES	FOOT	2758		1120	1638
51203800	TEST PILE STEEL HPI4X73	EACH	4			4
51204000	TEST PILE STEEL HPI4X102	EACH	2		2	
51205200	TEMPORARY SHEET PILING	SQ FT	3556		1778	1778
51500100	NAME PLATES	EACH	3	1	1	1
52100520	ANCHOR BOLTS, 1"	EACH	72		24	48
54003000	CONCRETE BOX CULVERTS	CU YD	181.0	181.0		
542C1087	PIPE CULVERTS, CLASS C, TYPE 2 42"	FOOT	74		74	
542C1093	PIPE CULVERTS, CLASS C, TYPE 2 48"	FOOT	65		65	
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	44		44	
542D0229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	98		98	
542D0241	PIPE CULVERTS, CLASS D, TYPE 1 36"	FOOT	88	50		38
54201279	PIPE CULVERTS, TYPE 2 RCCP 24"	FOOT	18		18	
54201303	PIPE CULVERTS, TYPE 2 RCCP 48"	FOOT	167		167	
54213453	END SECTIONS 18"	EACH	2		2	
54213459	END SECTIONS 24"	EACH	7		5	2
54213471	END SECTIONS 36"	EACH	4	2		2
54213477	END SECTIONS 42"	EACH	2		2	
54213483	END SECTIONS 48"	EACH	1		1	
54213669	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24"	EACH	1		1	
54213693	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 48"	EACH	1		1	
54217722	REINFORCED CONCRETE PIPE TEE, 48" PIPE WITH 24" RISER	EACH	1		1	
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	178	178		
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	158		93	65
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	400		273	127
60801024	FLAP GATE 24"	EACH	1		1	
60801048	FLAP GATE 48"	EACH	2		2	
63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	1087.5		400.0	687.5
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	8		4	4
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1(SPECIAL) TANGENT	EACH	6		3	3
63200310	GUARDRAIL REMOVAL	FOOT	1195	638	198	359
63300725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	150		150	
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	25	8	16	1
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5		2	3
67100100	MOBILIZATION	L SUM	1		0.5	0.5
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.3	0.3	0.4
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1		0.5	0.5
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1		0.5	0.5

\* DENOTES SPECIALTY ITEM

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>SUMMARY OF QUANTITIES</b>	
SCALE:	SHEET NO. 2 OF 3 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	4
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 74238	

PAY CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY RURAL	BRF		
				80% FEDERAL 20% STATE 096-2011 X028-2A	80% FEDERAL 20% STATE 096-0071 X071-2A	80% FEDERAL 20% STATE 096-0072 X071-2A
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	5		2	3
70300220	TEMPORARY PAVEMENT MARKING - LINE 4'	FOOT	16207	1843	6892	7472
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	5401	614	2297	2490
70400100	TEMPORARY CONCRETE BARRIER	FOOT	2525	325	1075	1125
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	2525	325	1075	1125
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4'	FOOT	5434	739	2085	2610
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	32	4	13	15
* 78200405	GUARDRAIL MARKERS	EACH	23		10	13
* 78200500	BARRIER WALL MARKERS	EACH	4		2	2
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	6		3	3
X0321781	MECHANICAL SPLICE	EACH	48			48
X0323830	DRAINAGE SCUPPERS, DS-II	EACH	2			2
X0323988	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	1030	343	432	255
X0325864	BRIDGE APPROACH PAVEMENT REMOVAL	SQ YD	318	106	106	106
X0325888	TEMPORARY CULVERT 24"	FOOT	170		128	42
X5051401	FURNISHING AND ERECTING STRUCTURAL STEEL BRIDGE NO. 1	L SUM	1		1	
X5051402	FURNISHING AND ERECTING STRUCTURAL STEEL BRIDGE NO. 2	L SUM	1			1
X7016510	TEMPORARY BRIDGE TRAFFIC SIGNALS (SPECIAL) LOCATION 1	EACH	1	1		
X7016520	TEMPORARY BRIDGE TRAFFIC SIGNALS (SPECIAL) LOCATION 2	EACH	1		0.5	0.5
Z0030240	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 2	EACH	4	2	1	1
Z0030340	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 2	EACH	4	2	1	1
<b>Z0001900</b>	<b>ASBESTOS BEARING PAD REMOVAL</b>	<b>EACH</b>	<b>32</b>			<b>32</b>

\* DENOTES SPECIALTY ITEM

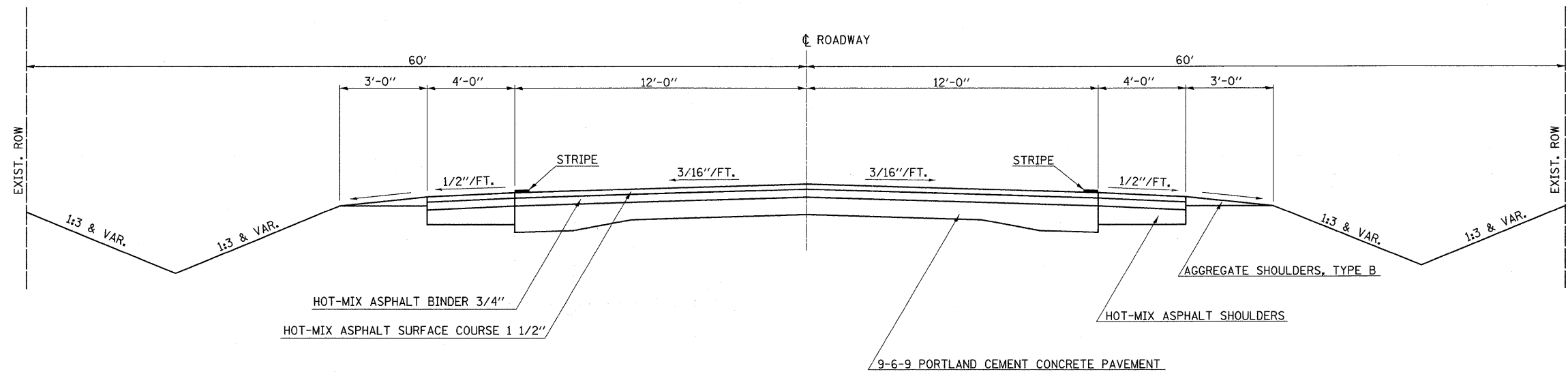
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		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

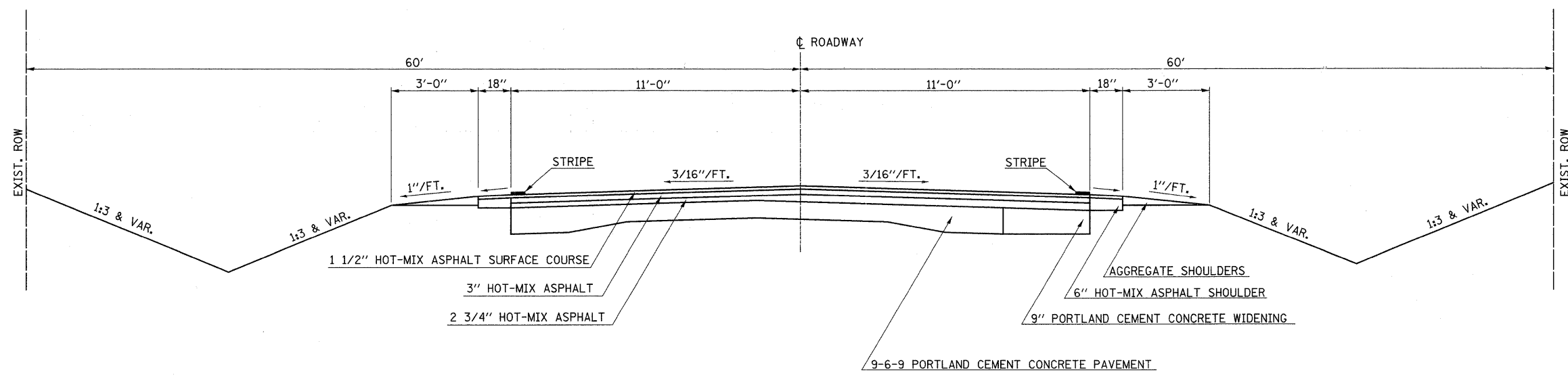
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	5
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 74238	



**EXISTING TYPICAL CROSS SECTION**

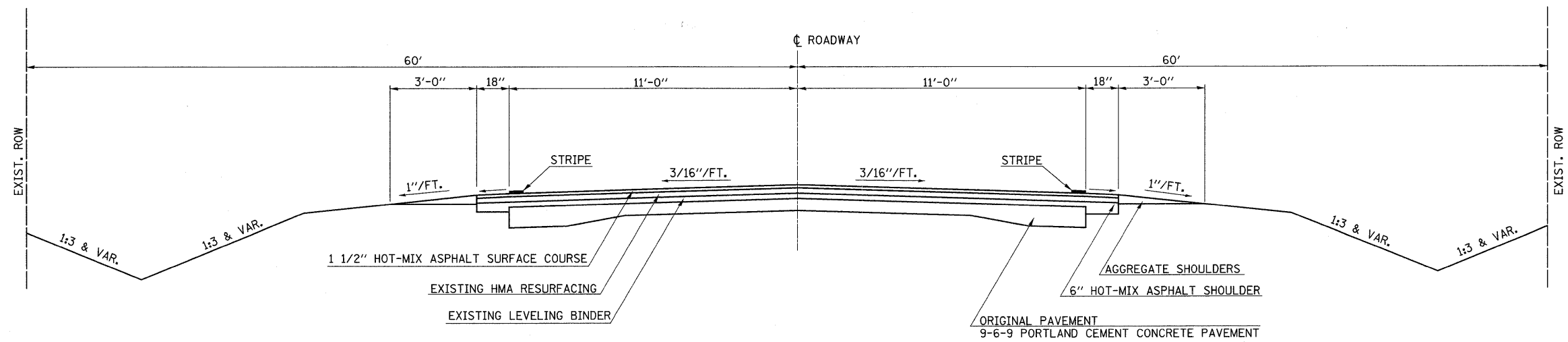
STATION 238+99.60 TO STATION 239+79.00



**EXISTING TYPICAL CROSS SECTION**

STATION 240+01.00 TO STATION 241+00.00

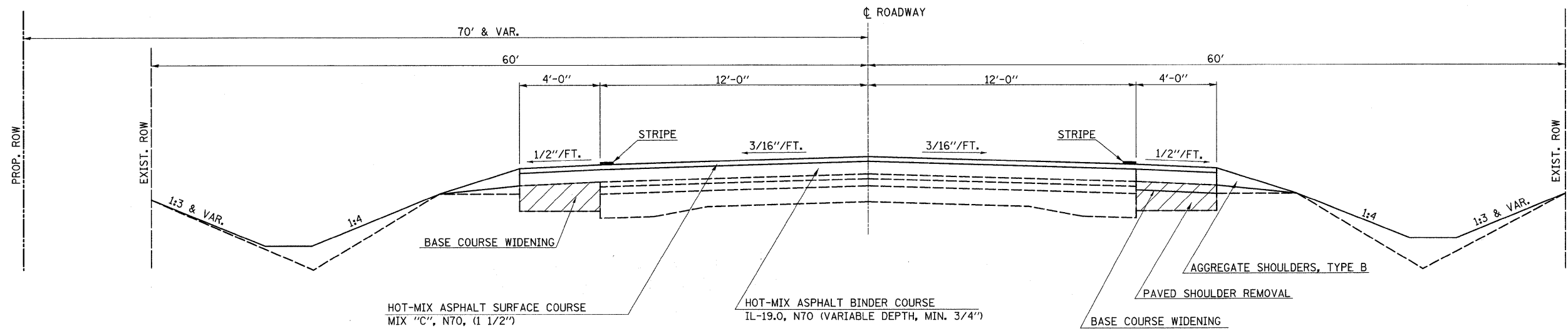
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P:\0340601_04\FIN0960055\Drawings\typical.dgn		DRAWN -	REVISED -		SCALE:	SHEET NO. 1 OF 6 SHEETS	STA.	TO STA.	823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	6
PLOT SCALE 50.0000 / IN.		CHECKED -	REVISED -						CONTRACT NO. 74238				
PLOT DATE = 3/26/2009		DATE -	REVISED -						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



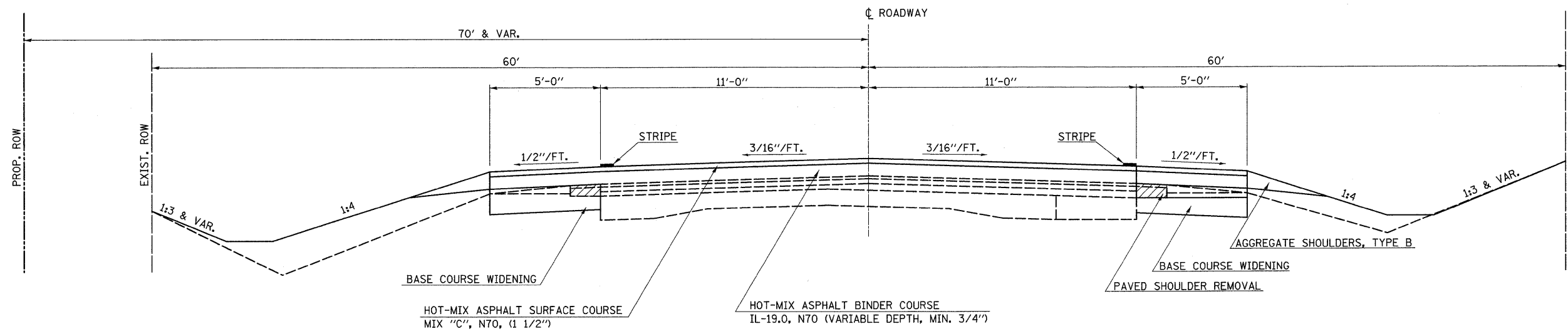
**EXISTING TYPICAL CROSS SECTION**

STATION 288+41.59 TO STATION 308+20.00  
 BRIDGE OMISSION STA 294+98.04 TO STA 296+01.96  
 BRIDGE OMISSION STA 301+34.54 TO STA 301+90.16

FILE NAME =	USER NAME = rcook	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL RTE 15</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
P:\0340601.04.FIN0960055\Drawings\typical.dgn		DRAWN -	REVISED -		SCALE:	SHEET NO. 2 OF 6 SHEETS	STA.	TO STA.	823	(22BY-1,22BY2,22BRIB-1	WAYNE	142	7
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		DATE -	REVISED -						FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



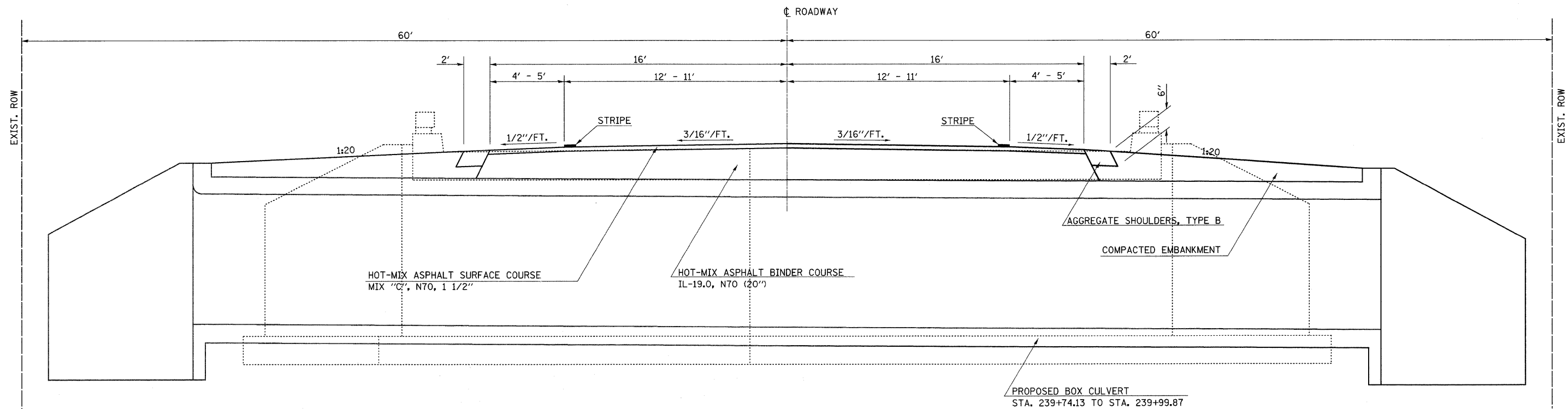
**PROPOSED TYPICAL CROSS SECTION**  
STATION 238+99.60 TO STATION 239+52.00



**PROPOSED TYPICAL CROSS SECTION**  
STATION 240+20.00 TO STATION 241+00.00

FILE NAME =	USER NAME = rcook	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL RTE 15</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
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		DATE -	REVISED -						ILLINOIS FED. AID PROJECT				

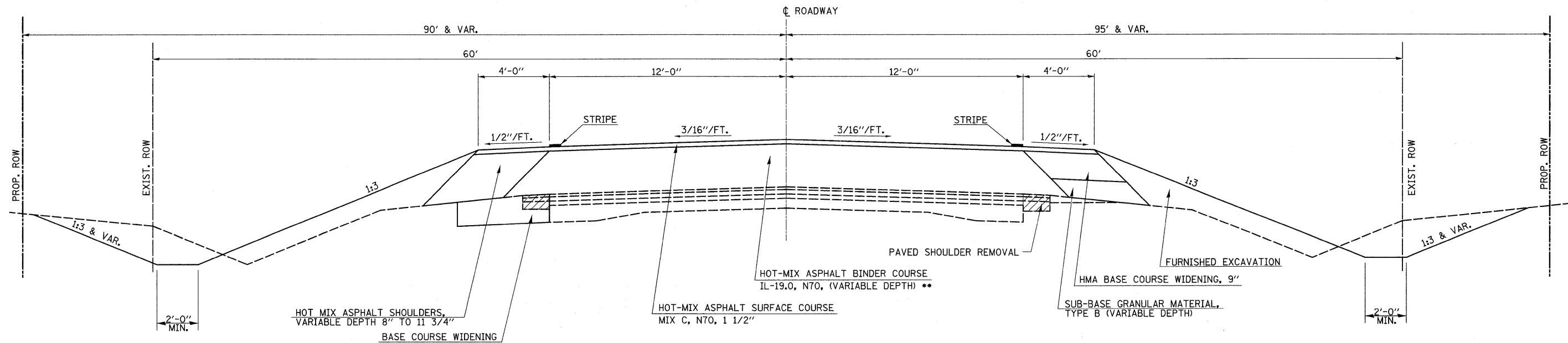




**PROPOSED TYPICAL CROSS SECTION AT BOX CULVERT**

STATION 239+52.00 TO STATION 240+20.00

FILE NAME =	USER NAME = rcook	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL RTE 15</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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		DATE -	REVISED -					ILLINOIS FED. AID PROJECT					

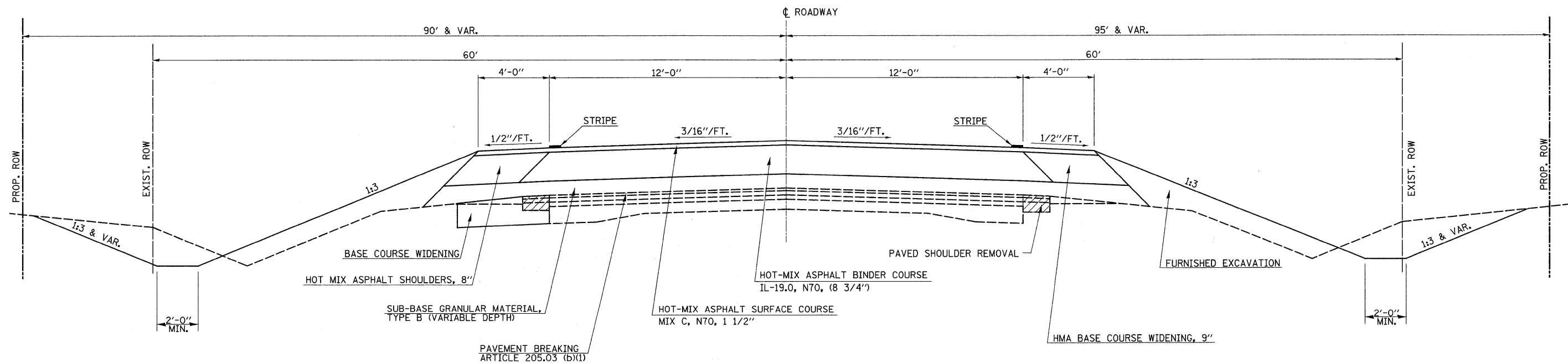


**PROPOSED TYPICAL CROSS SECTION**

STATION 288+41.59 TO STATION 292+25.00  
 STATION 305+25.00 TO STATION 308+20.00

•• STA. 288+41.59 TO STA. 292+25.00, 3/4" TO 1 3/4"  
 STA. 305+25.00 TO STA. 308+20.00, 1 3/4" TO 3/4"

NOTE: ALL HOT-MIX ASPHALT SHALL BE PLACED UTILIZING A STRINGLINE FOR GRADE CONTROL

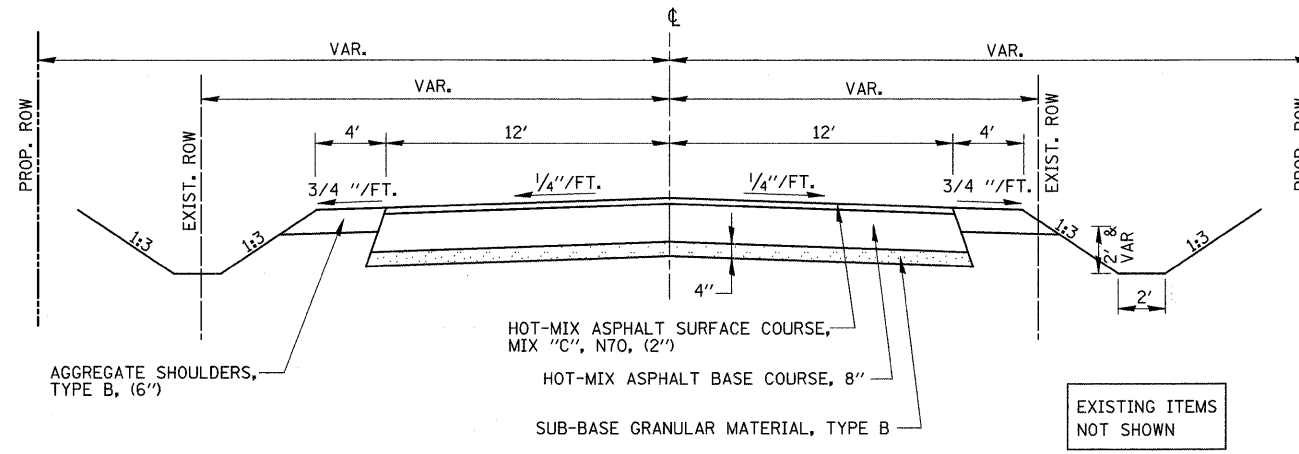


**PROPOSED TYPICAL CROSS SECTION**

STATION 292+25.00 TO STATION 294+55.00  
 STATION 296+27.00 TO STATION 300+94.00  
 STATION 302+36.00 TO STATION 305+25.00

NOTE: ALL HOT-MIX ASPHALT SHALL BE PLACED UTILIZING A STRINGLINE FOR GRADE CONTROL

FILE NAME =	USER NAME = rcook	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL RTE 15</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
P:\0340601.04.FIN\0960055\Drawings\typical.dgn		DRAWN -	REVISED -		SCALE:	SHEET NO. 5 OF 6 SHEETS	STA.	TO STA.	823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	10
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		DATE -	REVISED -							ILLINOIS FED. AID PROJECT			



**PROPOSED TYPICAL CROSS SECTION**

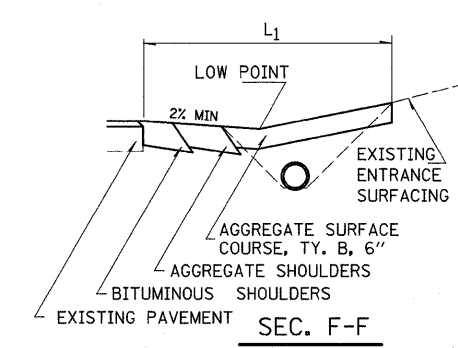
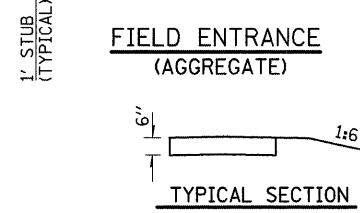
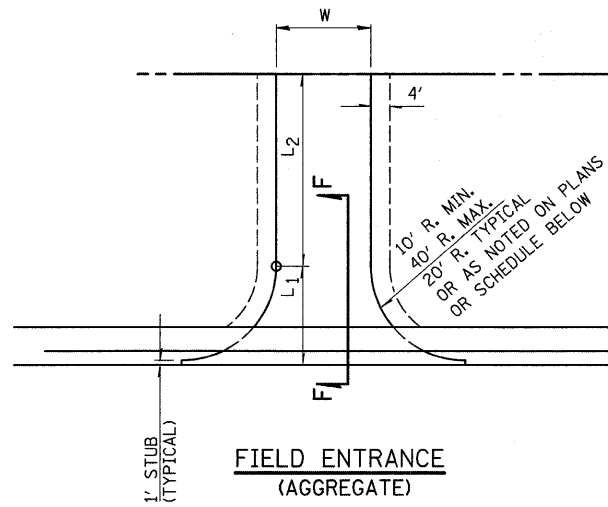
NORTH DITCH BANK ROAD (STA. 1+00.00 TO STA. 5+00.00)  
 SOUTH DITCH BANK ROAD (STA. 45+25.00 TO STA. 50+00.00)

FILE NAME =	USER NAME = rrook	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL RTE 15</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
P:\0340601.04.FIN0960055\Drawings\typical.dgn		DRAWN -	REVISED -			823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	11	
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 74238					
PLOT DATE = 3/26/2009		DATE -	REVISED -			SCALE:	SHEET NO. 6 OF 6 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT



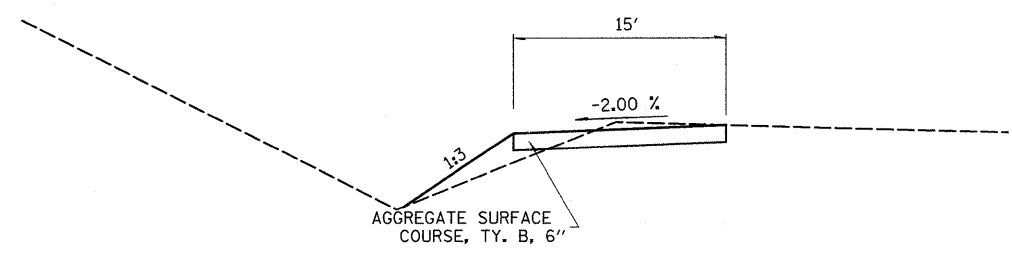


L<sub>1</sub> = DISTANCE FROM EDGE OF PAVEMENT TO RADIUS POINT OR MAX. DISTANCE 30'  
 L<sub>2</sub> = DISTANCE FROM RADIUS POINT OR MAX DISTANCE 30' OFF EDGE OF PAVEMENT TO R.O.W. LINE.  
 NOTE: MATERIAL USED TO CONSTRUCT L<sub>2</sub> LENGTH SHALL BE OF THE SAME TYPE OF MATERIAL AS EXISTING ENTRANCE.

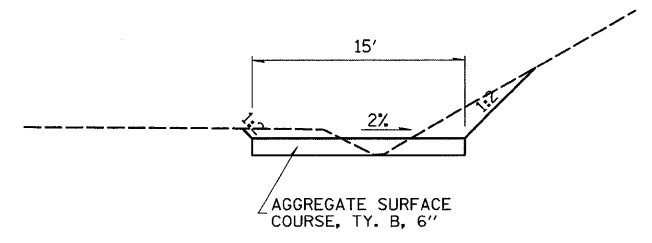


ENTRANCE SCHEDULE

TYPE	SIDE/ STATION	WIDTH	LENGTH		RADIUS	AGGREGATE BASE, CSE. TY. B, 6"		BITUMINOUS BASE COURSE, 8"	AGGREGATE SURF. CSE. TYPE B	INCIDENTAL BITUMINOUS SURFACING *	P.C.C. DRIVEWAY PAV'T		BIT. CONC. SURFACE COURSE	PCC PAVEMENT 8"
			L <sub>1</sub>	L <sub>2</sub>		TON	SQ. YD.				TON	SQ. YD.		
FE	289+21	20	24	34	20				42					
FE	289+50	24	28	30	24				51					
FE	308+59	20	24	38	20				44					
NORTH DITCH BANK ROAD														
FE	3+42.21	24	26	12	24				32					
TEMPORARY ENTRANCES FOR STAGING														
FE	286+50.00	15			SEE PLAN				167					
FE	313+00.00	15			SEE PLAN				232					



TEMPORARY ENTRANCE  
STATION 286+50.00 RT.



TEMPORARY ENTRANCE  
STATION 313+00.00 LT.

**GUARDRAIL REMOVAL**  
 RT STA. 237+65.74 - STA. 239+79.00 213'  
 LT STA. 238+47.91 - STA. 239+79.00 131'  
 RT STA. 240+01.00 - STA. 241+32.23 131'  
 LT STA. 240+01.00 - STA. 241+63.71 163'  
 TOTAL 638'

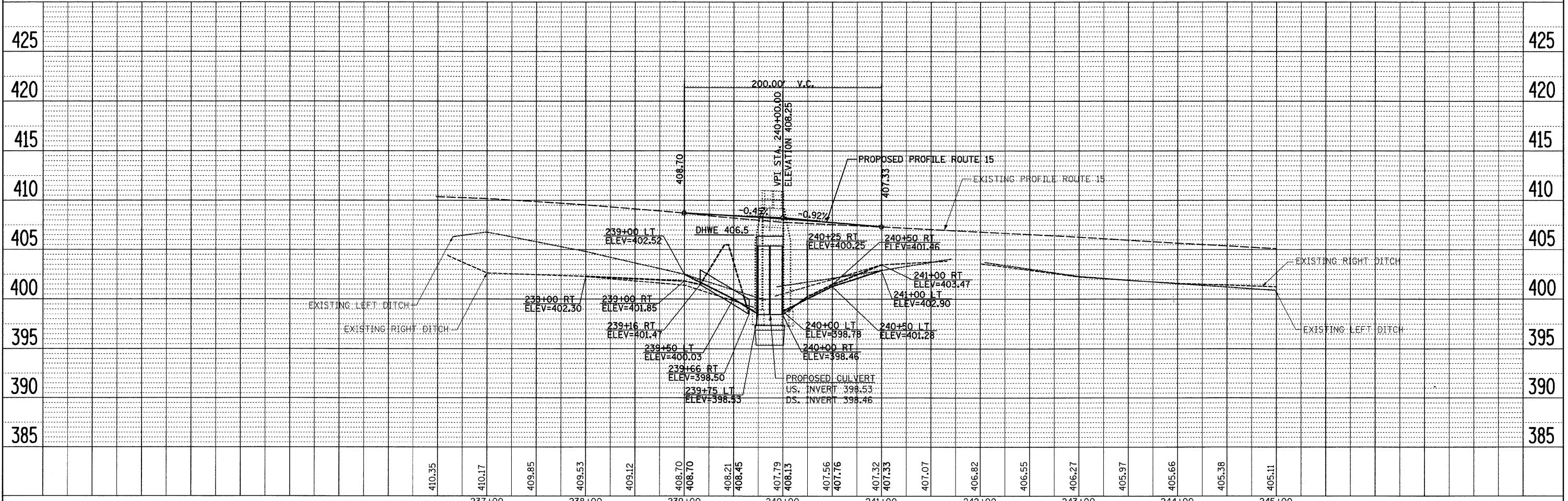
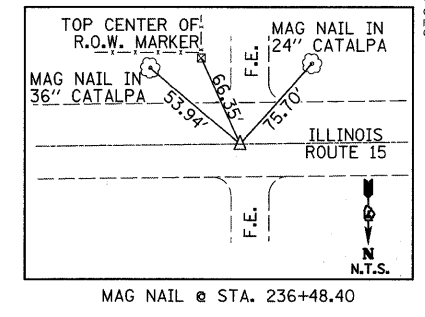
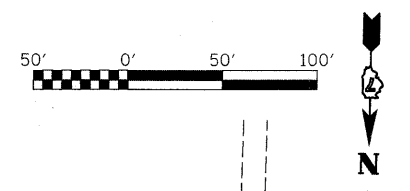
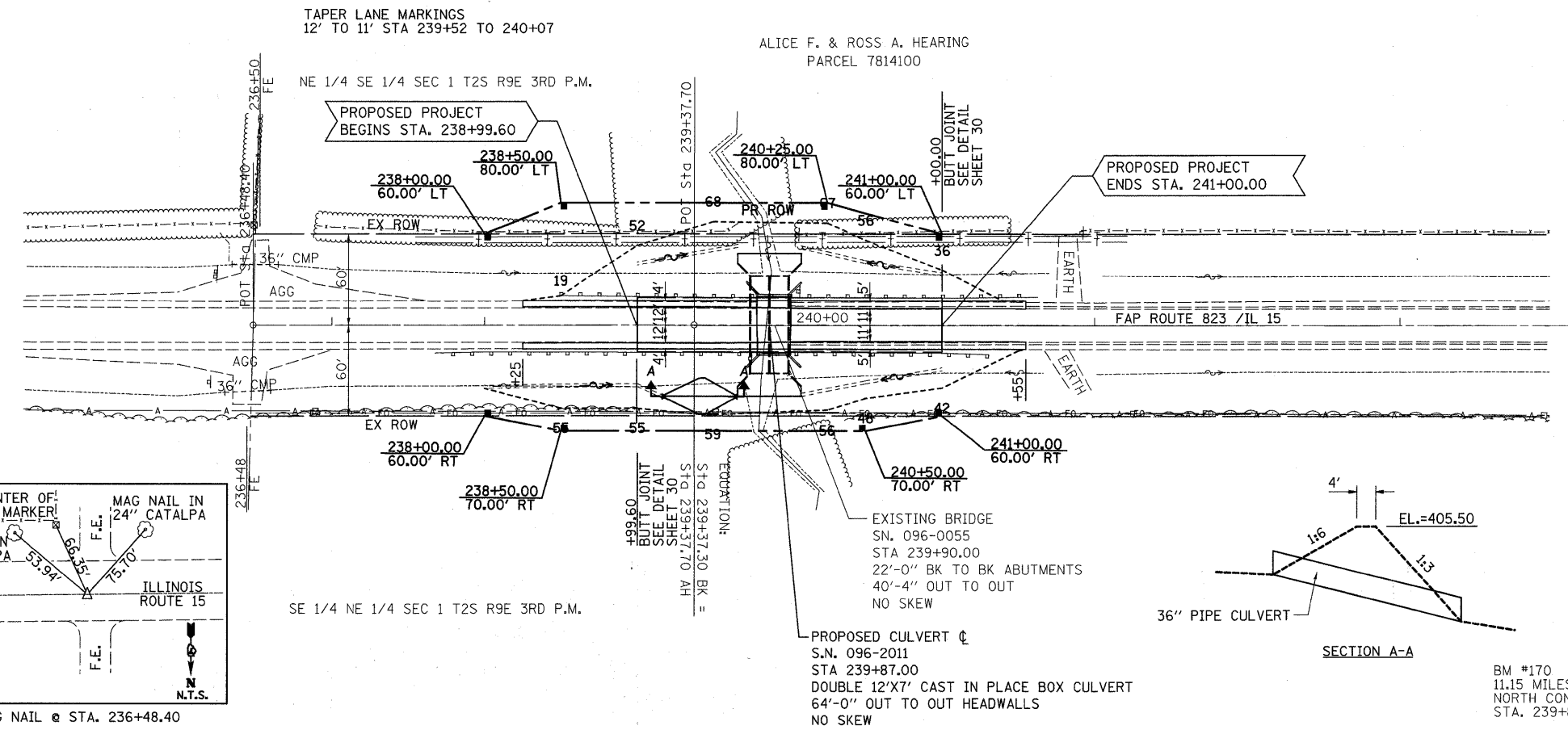
**PIPE CULVERT, CLASS D, TYPE 1, 36"**  
 LENGTH = 50'  
 USFL = 47' RT, STA. 239+16.00, EL = 401.47  
 DSFL = 47' RT, STA. 239+66.00, EL = 398.50  
 2 EACH, END SECTIONS, 36"

**FURNISHING AND ERECTING  
 RIGHT-OF-WAY MARKERS**

STA. 238+00.00	60' RT	1 EACH
STA. 238+50.00	70' RT	1 EACH
STA. 240+50.00	70' RT	1 EACH
STA. 241+00.00	60' RT	1 EACH
STA. 238+00.00	60' LT	1 EACH
STA. 238+50.00	80' LT	1 EACH
STA. 240+25.00	80' LT	1 EACH
STA. 241+00.00	60' LT	1 EACH
TOTAL		8 EACH

**END SECTIONS 36"**

RT STA. 239+16.00	1 EACH
RT STA. 239+66.00	1 EACH
TOTAL	2 EACH



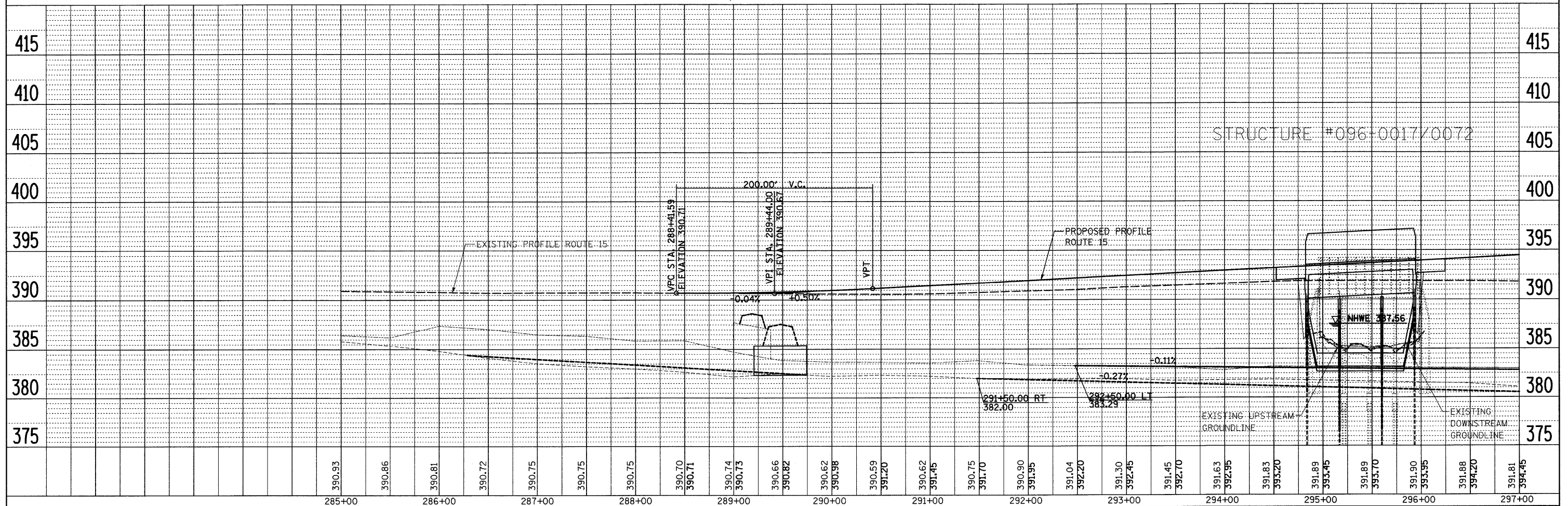
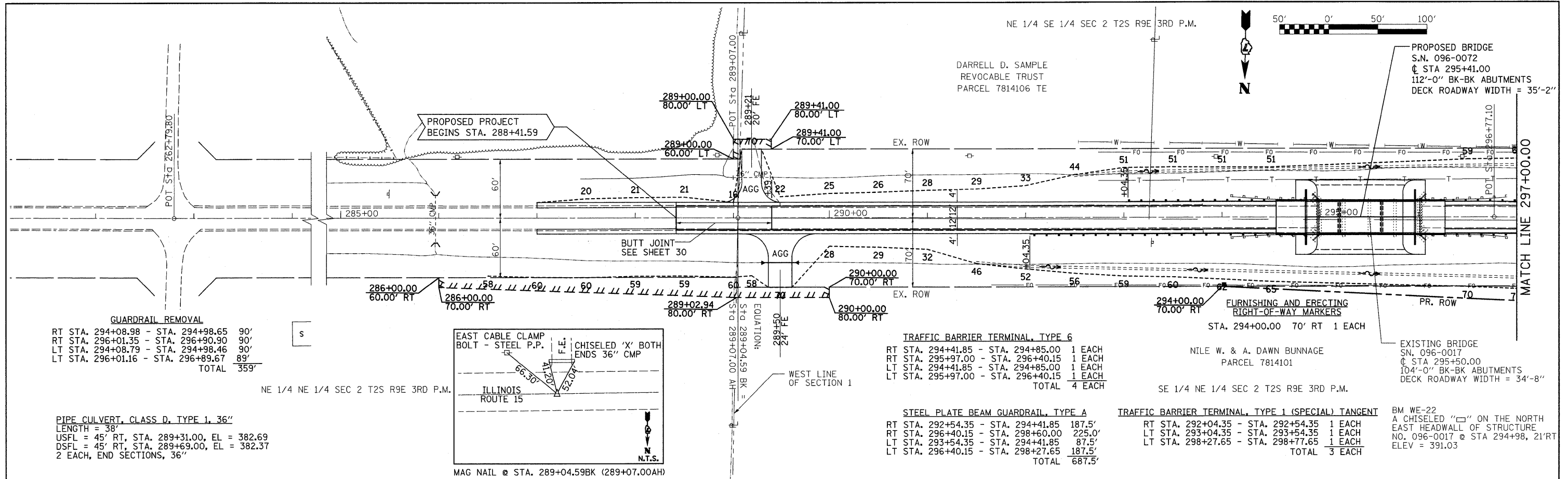
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P:\0348601.04\FIN\096055\Drawings\plan&profile\0055P&P1.dgn	DRAWN -	REVISED -	823						(22BY-1,22BY2,22BR)B-1	WAYNE	142	15	
PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -	CONTRACT NO. 74238										
PLOT DATE = 3/26/2009	DATE -	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT										

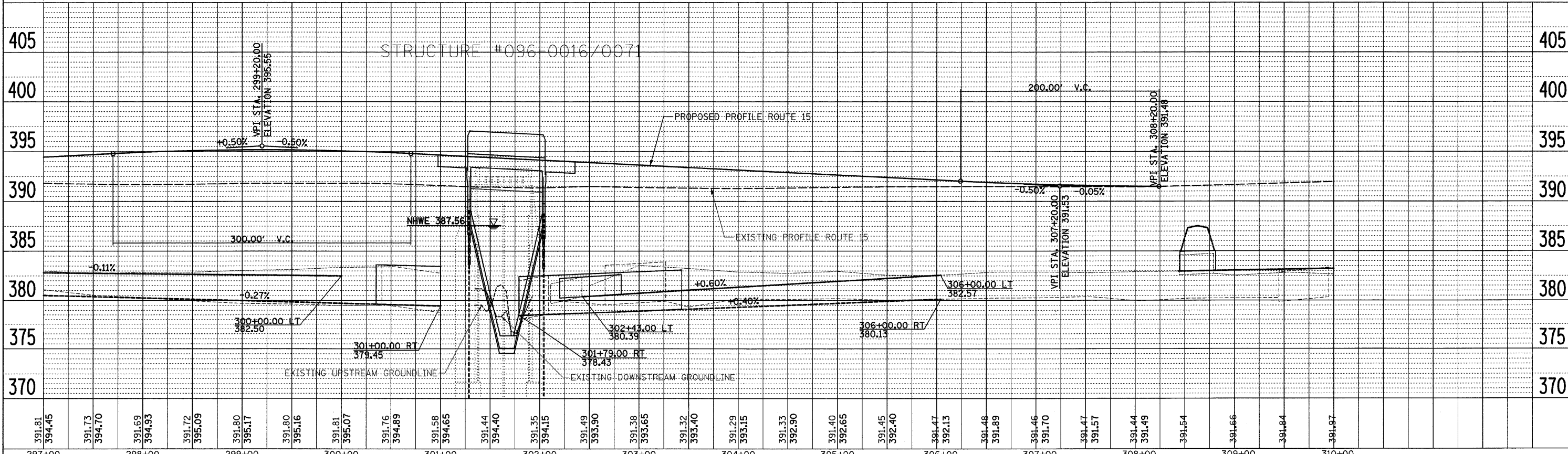
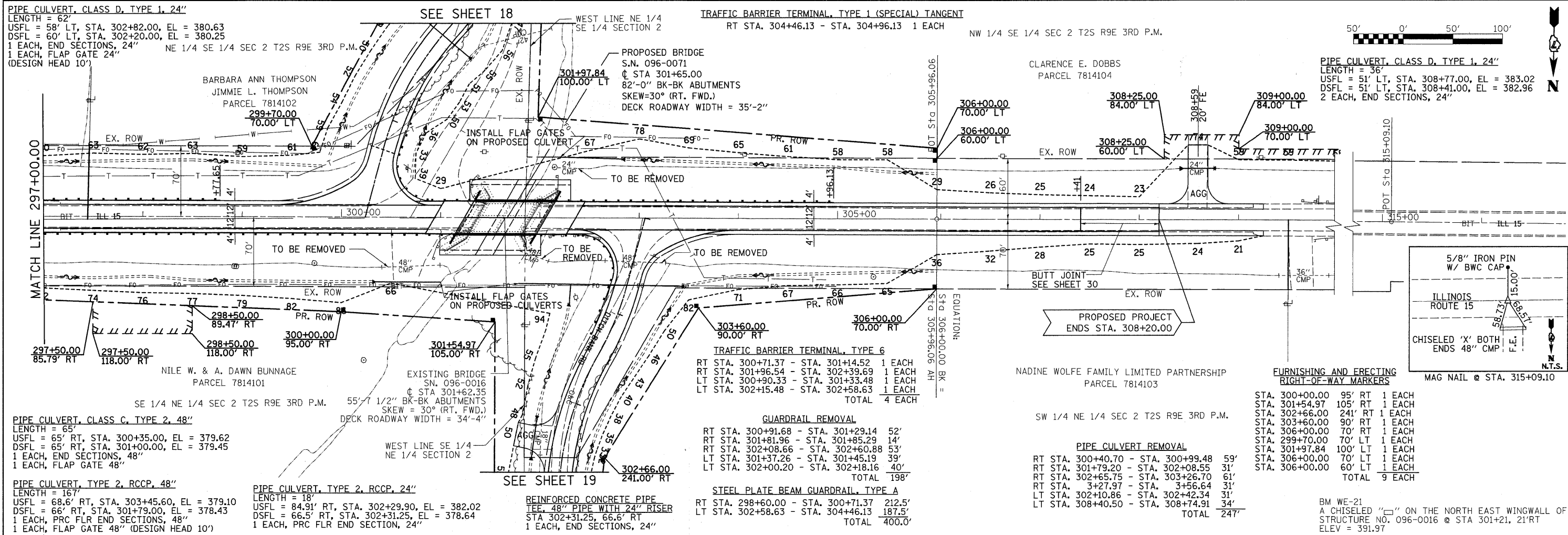
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DESCRIPTION	
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PLANNING	DATE
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DESCRIPTION	
BY	
DATE	



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PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -	REVISED -	SCALE: SHEET NO. 1 OF 2 SHEETS		STA. 277+00.00 TO STA. 292+00.00		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT				
PLOT DATE = 3/26/2009	DATE -	REVISED -	REVISED -										





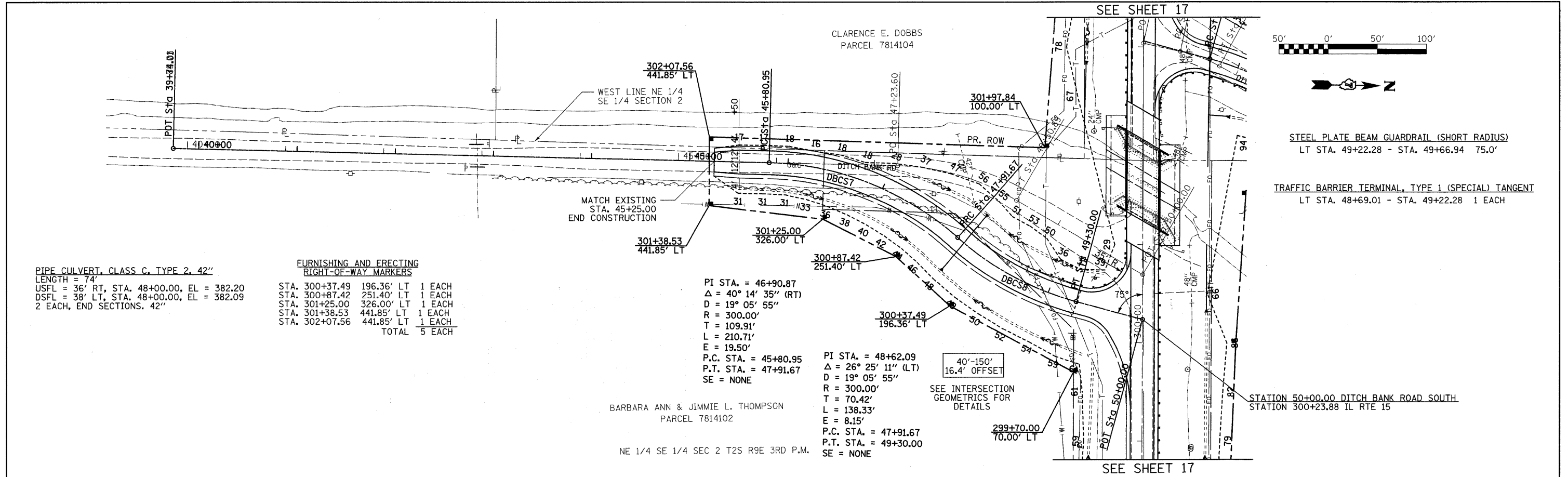
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PLOT DATE = 3/26/2009	DATE -	REVISED -							
SCALE:		SHEET NO. 2 OF 2 SHEETS		STA. 292+00.00 TO STA. 306+95.00		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	
						CONTRACT NO. 74238			

DATE	
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PROFILE	
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DATE	
BY	
PLAN	
NO.	



PIPE CULVERT, CLASS C, TYPE 2, 42"  
 LENGTH = 74'  
 USFL = 36' RT, STA. 48+00.00, EL = 382.20  
 DSFL = 38' LT, STA. 48+00.00, EL = 382.09  
 2 EACH, END SECTIONS, 42"

FURNISHING AND ERECTING  
 RIGHT-OF-WAY MARKERS

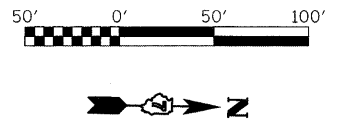
STA. 300+37.49	196.36' LT	1 EACH
STA. 300+87.42	251.40' LT	1 EACH
STA. 301+25.00	326.00' LT	1 EACH
STA. 301+38.53	441.85' LT	1 EACH
STA. 302+07.56	441.85' LT	1 EACH
TOTAL		5 EACH

PI STA. = 46+90.87  
 $\Delta = 40^\circ 14' 35''$  (RT)  
 $D = 19^\circ 05' 55''$   
 $R = 300.00'$   
 $T = 109.91'$   
 $L = 210.71'$   
 $E = 19.50'$   
 P.C. STA. = 45+80.95  
 P.T. STA. = 47+91.67  
 SE = NONE

PI STA. = 48+62.09  
 $\Delta = 26^\circ 25' 11''$  (LT)  
 $D = 19^\circ 05' 55''$   
 $R = 300.00'$   
 $T = 70.42'$   
 $L = 138.33'$   
 $E = 8.15'$   
 P.C. STA. = 47+91.67  
 P.T. STA. = 49+30.00  
 SE = NONE

BARBARA ANN & JIMMIE L. THOMPSON  
 PARCEL 7814102

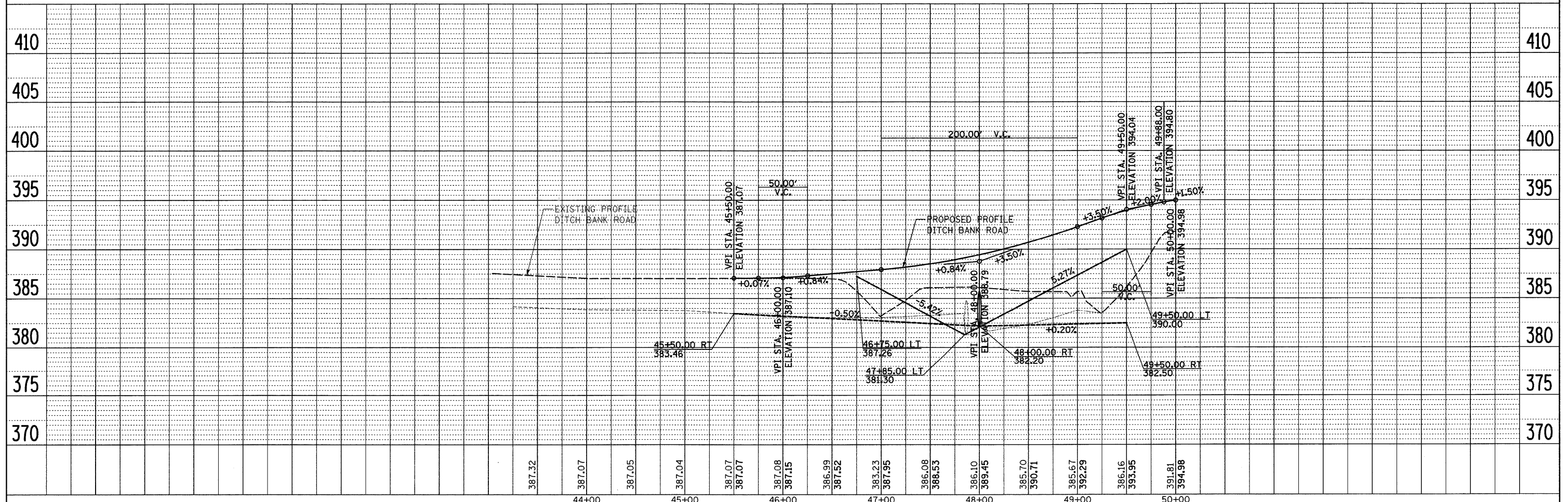
NE 1/4 SE 1/4 SEC 2 T2S R9E 3RD P.M.



STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)  
 LT STA. 49+22.28 - STA. 49+66.94 75.0'

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT  
 LT STA. 48+69.01 - STA. 49+22.28 1 EACH

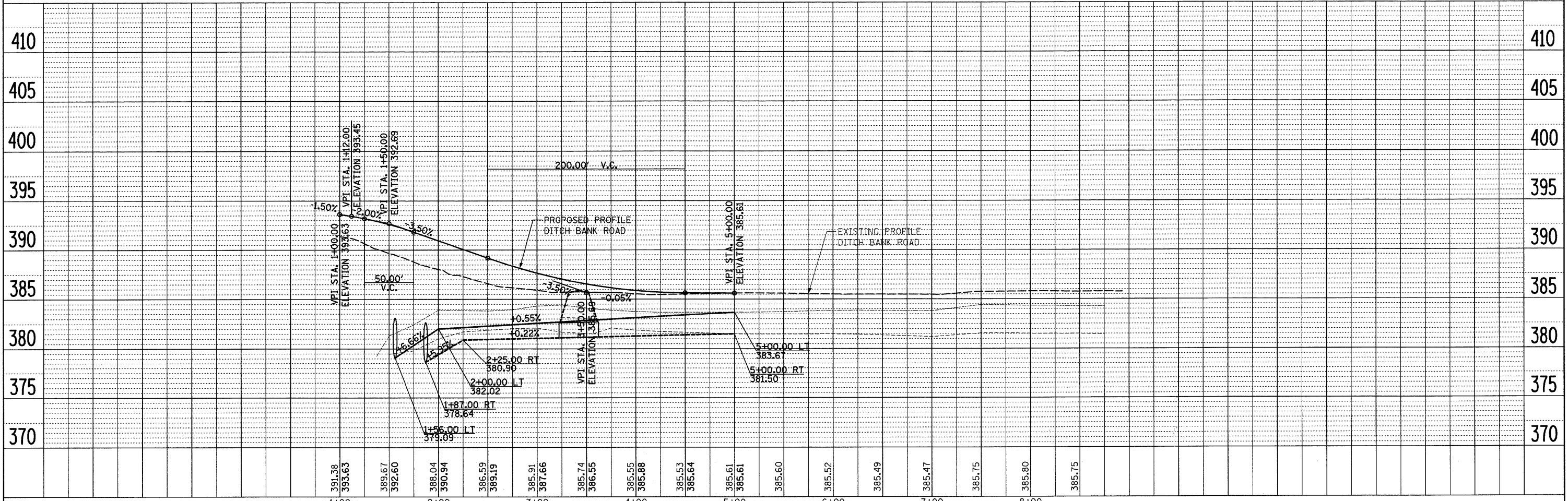
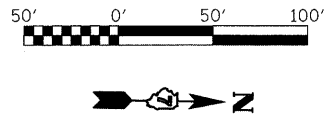
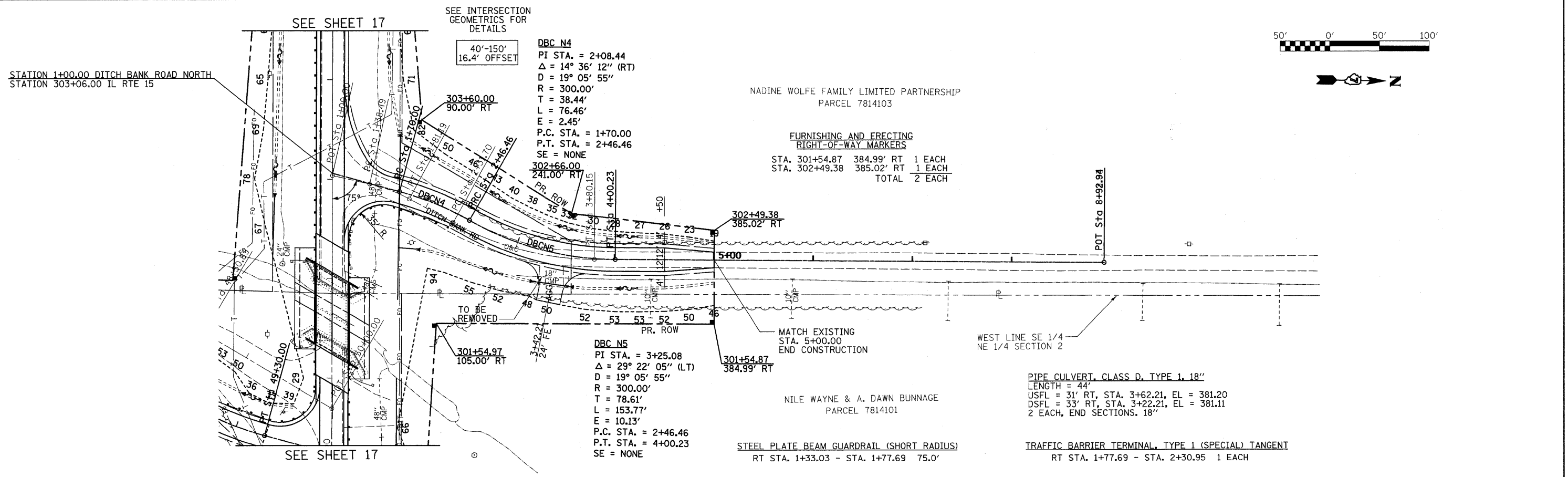
STATION 50+00.00 DITCH BANK ROAD SOUTH  
 STATION 300+23.88 IL RTE 15



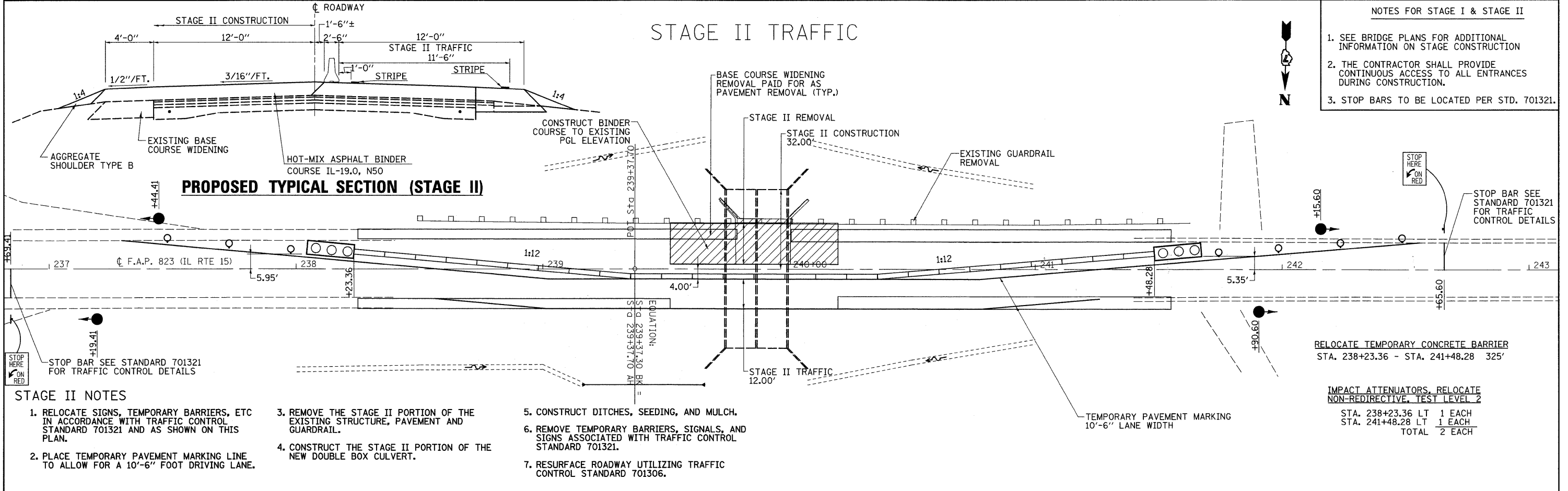
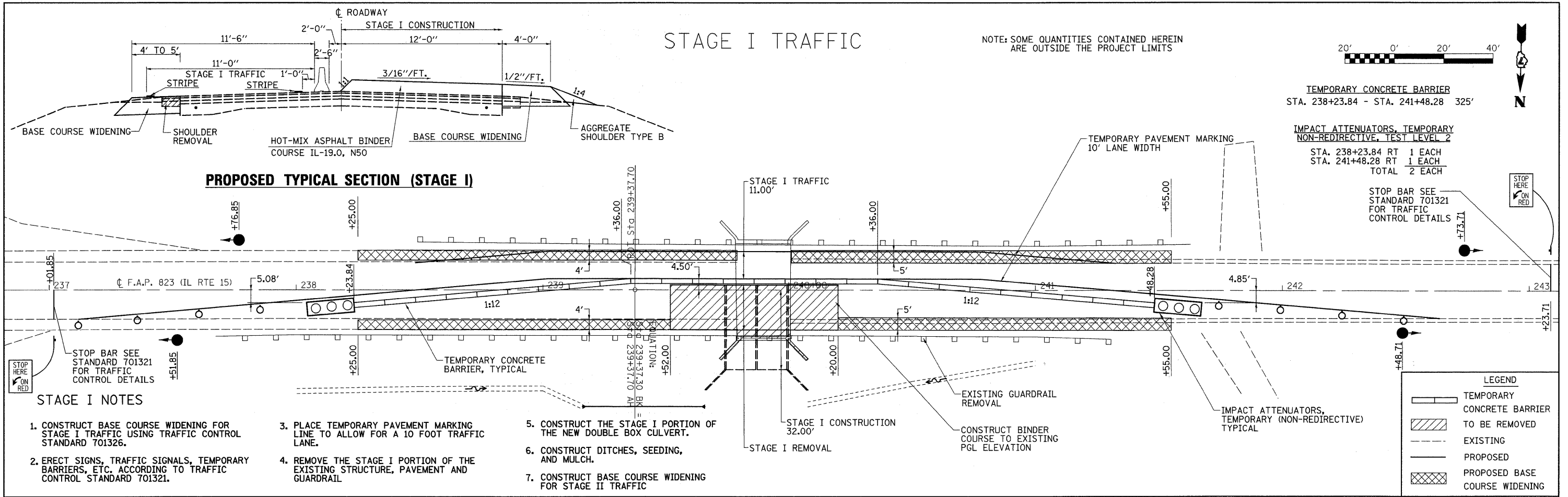
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P:\0340601_04_FIN\060055\Drawings\plan&profile\SideRoads.dgn		DRAWN -	REVISED -			823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	18
PLOT SCALE = 50.0000 / IN.		CHECKED -	REVISED -			CONTRACT NO. 74238				
PLOT DATE = 3/26/2009		DATE -	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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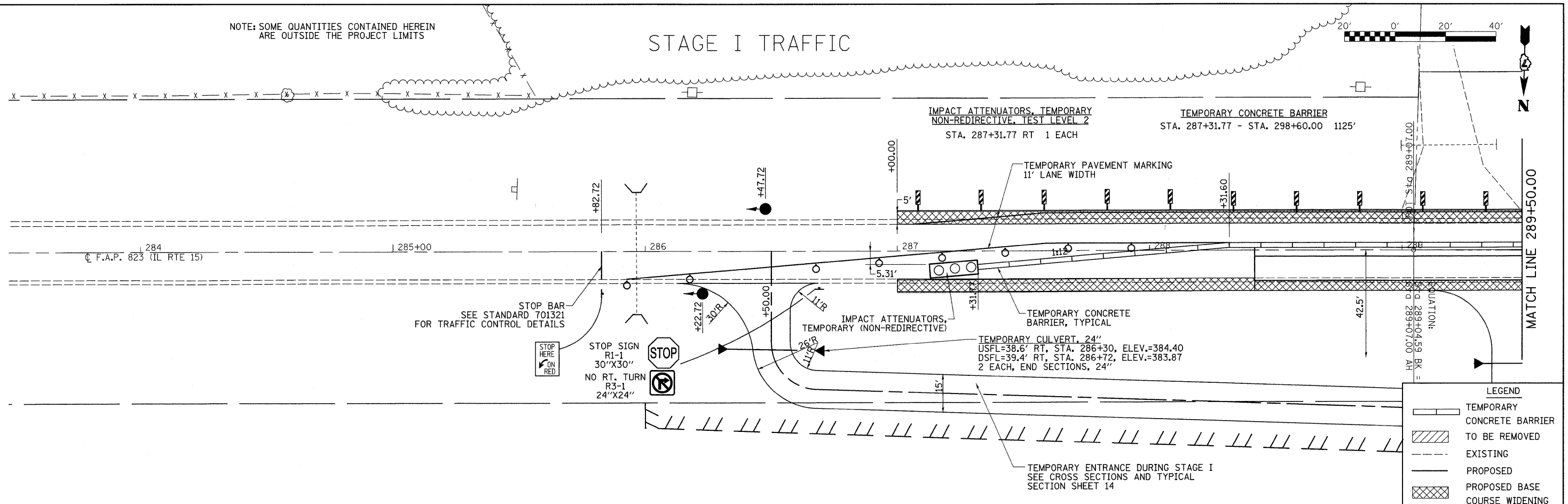
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P:\2340681_04_FIN\06055\Drawings\plan&prof\Files\F&PSideRoads.dgn	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -			823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	19	
PLOT DATE = 3/26/2009	DATE -	CHECKED -	REVISED -			CONTRACT NO. 74238		ILLINOIS FED. AID PROJECT			
		DATE -	REVISED -			SCALE:	SHEET NO. 1 OF 1 SHEETS	STA. 292+00.00 TO STA. 306+95.00			



FILE NAME =	USER NAME = rcook	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE I &amp; STAGE II CONSTRUCTION</b> <b>S.N. 096-2011</b>	F.A.P. RTE. 823	SECTION (22BY-1,22BY2,22BRB-1)	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 20		
P:\0340601.04\FIN0960055\Drawings\StageC	Plot Scale = 20,0000' / IN.	CHECKED -	REVISED -			SCALE:	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	CONTRACT NO. 74238		
Plot Date = 3/26/2009	DATE -	REVISED -	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

NOTE: SOME QUANTITIES CONTAINED HEREIN ARE OUTSIDE THE PROJECT LIMITS

### STAGE I TRAFFIC



**LEGEND**

	TEMPORARY CONCRETE BARRIER
	TO BE REMOVED
	EXISTING
	PROPOSED
	PROPOSED BASE COURSE WIDENING

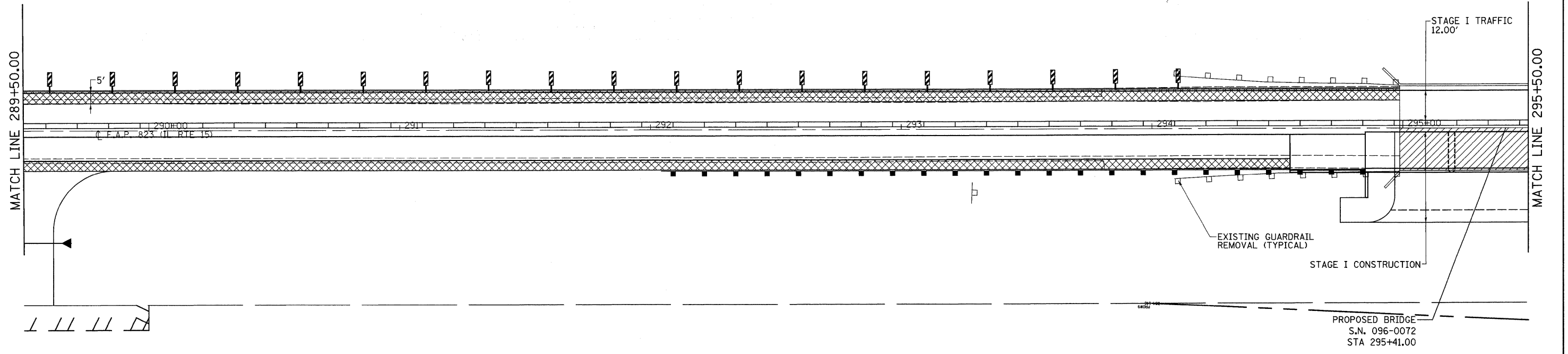
### STAGE I TRAFFIC

**NOTES FOR PRE-STAGE I**

- JACK AND REPOSITION BEARINGS ON SN 096-0016

**NOTES FOR STAGE I**

- SEE BRIDGE PLANS FOR ADDITIONAL INFORMATION ON STAGE CONSTRUCTION
- THE CONTRACTOR SHALL PROVIDE CONTINUOUS ACCESS TO ALL ENTRANCES DURING CONSTRUCTION.
- STOP BARS TO BE LOCATED PER STD. 701321.



FILE NAME = P:\0340601.04\FIN0960055\Drawings\StageC	USER NAME = rook	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE I CONSTRUCTION SN 096-0072</b>		F.A.P. RTE. 823	SECTION (22BY-1,22BY2,22BR0B-1)	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 21
CONSTR\stage_plans16&17.dgn	PLOT SCALE = 20.0000' / IN.	DRAWN -	REVISED -		SCALE:	SHEET NO. 1 OF 6 SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 74238	
	PLOT DATE = 3/26/2009	CHECKED -	REVISED -								
		DATE -	REVISED -								

NOTE: SOME QUANTITIES CONTAINED HEREIN ARE OUTSIDE THE PROJECT LIMITS

# STAGE I TRAFFIC



TEMPORARY CONCRETE BARRIER  
STA. 298+60.00 - STA. 309+29.86 1075'

STOP BAR  
SEE STANDARD 701321  
FOR TRAFFIC CONTROL DETAILS

STOP HERE  
ON RED

+43.16

+29.66

SOUTH DITCH  
BANK ROAD

POT. STA. 300.00

TEMPORARY SHEET PILING  
STA. 296+06.00 - STA. 298+60.00 1778 SQ FT  
STA. 298+60.00 - STA. 301+14.00 1778 SQ FT  
TOTAL 3556 SQ FT

+43.16

LEGEND	
	TEMPORARY CONCRETE BARRIER
	TO BE REMOVED
	EXISTING
	PROPOSED
	PROPOSED BASE COURSE WIDENING

STAGE I CONSTRUCTION

### NOTES FOR PRE-STAGE I

1. JACK AND REPOSITION BEARINGS ON SN 096-0016

# STAGE I TRAFFIC

### NOTES FOR STAGE I

1. SEE BRIDGE PLANS FOR ADDITIONAL INFORMATION ON STAGE CONSTRUCTION
2. THE CONTRACTOR SHALL PROVIDE CONTINUOUS ACCESS TO ALL ENTRANCES DURING CONSTRUCTION.
3. STOP BARS TO BE LOCATED PER STD. 701321.



PROPOSED BRIDGE  
S.N. 096-0071  
STA 301+65.00

STAGE I TRAFFIC  
11.00'

F.A.P. 823 (IL RTE 15)

EXISTING GUARDRAIL  
REMOVAL (TYPICAL)

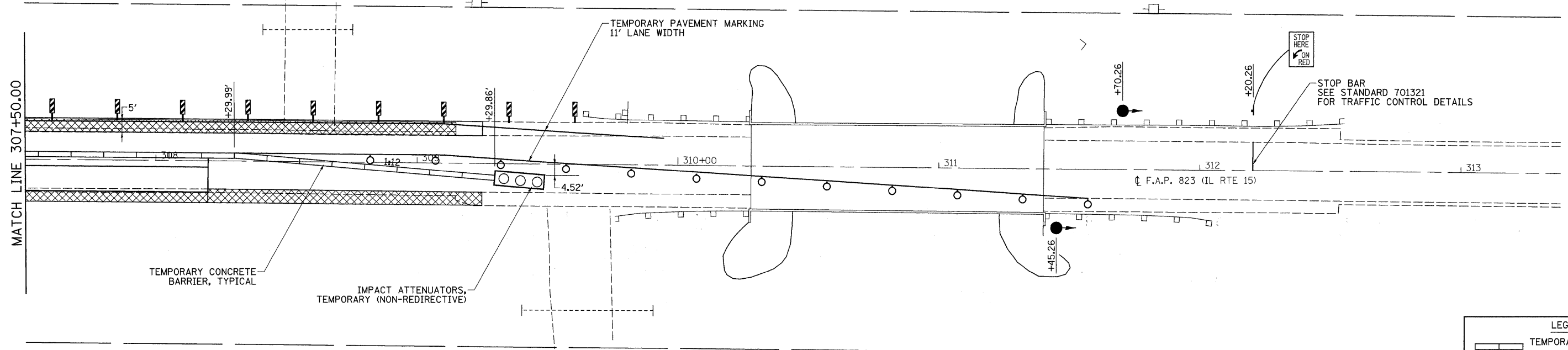
ROAD TO BE CLOSED  
DURING STAGE I CONSTRUCTION

STAGE I CONSTRUCTION

FILE NAME = P:\0340601\04.FIN\0960055\Drawings\StageI	USER NAME = rook	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE I CONSTRUCTION SN 096-0071 &amp; SN 096-0072</b>		F.A.P. RTE. 823	SECTION (22BY-1,22BY2,22BR0B-1)	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 22
	PLOT SCALE = 20,0000 / IN.	DRAWN -	REVISED -		SCALE:	SHEET NO. 2 OF 6 SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 74238	
	PLOT DATE = 3/26/2009	CHECKED -	REVISED -								
		DATE -	REVISED -								

NOTE: SOME QUANTITIES CONTAINED HEREIN ARE OUTSIDE THE PROJECT LIMITS

# STAGE I TRAFFIC

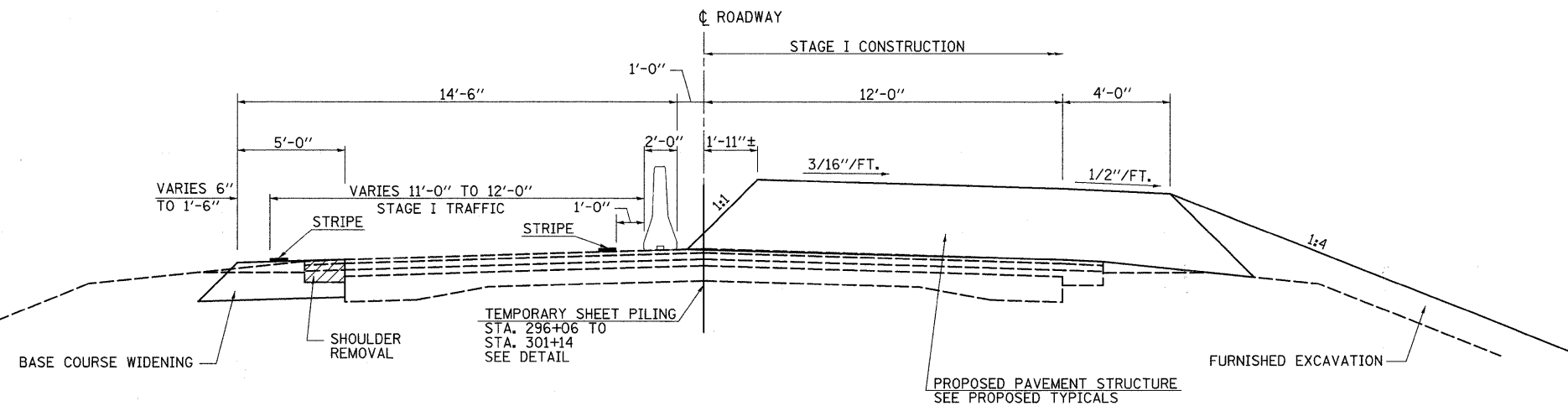


IMPACT ATTENUATORS, TEMPORARY  
NON-REDIRECTIVE, TEST LEVEL 2  
STA. 309+29.86 RT 1 EACH

LEGEND	
	TEMPORARY CONCRETE BARRIER
	TO BE REMOVED
	EXISTING
	PROPOSED
	PROPOSED BASE COURSE WIDENING

### NOTES FOR STAGE I

- SEE BRIDGE PLANS FOR ADDITIONAL INFORMATION ON STAGE CONSTRUCTION
- THE CONTRACTOR SHALL PROVIDE CONTINUOUS ACCESS TO ALL ENTRANCES DURING CONSTRUCTION.
- STOP BARS TO BE LOCATED PER STD. 701321.

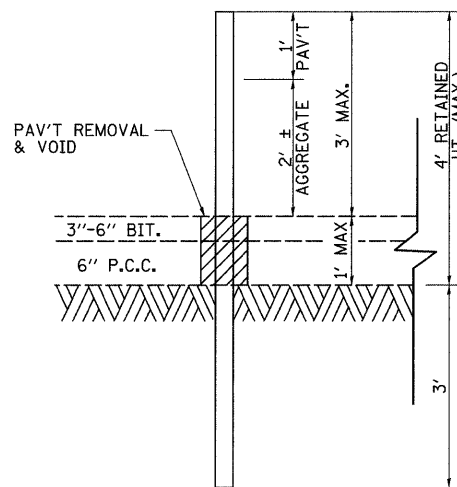


### PROPOSED TYPICAL SECTION (STAGE I)

### STAGE I NOTES

- CONSTRUCT BASE COURSE WIDENING FOR STAGE I TRAFFIC USING TRAFFIC CONTROL STANDARD 701326.
- ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARD 701321.
- PLACE TEMPORARY PAVEMENT MARKING LINE TO ALLOW FOR A 12 FOOT TRAFFIC LANE.
- REMOVE THE STAGE I PORTION OF THE EXISTING STRUCTURE, PAVEMENT AND GUARDRAIL
- CONSTRUCT THE STAGE I PORTION OF THE NEW BRIDGE AND ROADWAY.
- CONSTRUCT DITCHES, SEEDING, AND MULCH.
- BASE COURSE WIDENING FOR STAGE II TRAFFIC.

- NOTES:
- BOTTOM OF SHEET = 4'-0" BELOW EXIST. PGL
  - MAXIMUM RETAINED HT = 3'-4" ABOVE EXISTING PAVEMENT.
  - MIN. SECTION MODULUS OF TEMPORARY SHEET PILING = 0.8 IN /FT



### TEMPORARY SHEET PILING DETAIL

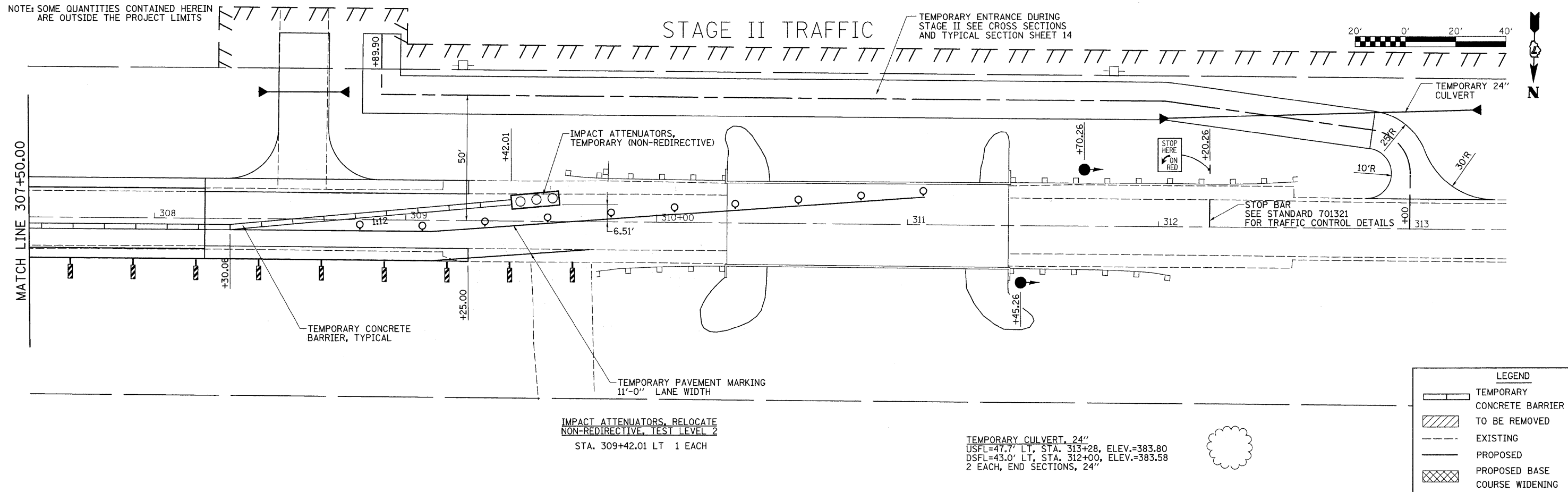
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P:\0340601.04.FIN\0960055\Drawings\StageC	const\stage_plans\16&17.dgn	DRAWN -	REVISED -		SCALE:	SHEET NO. 3 OF 6 SHEETS	STA. TO STA.	CONTRACT NO. 74238		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
		PLOT SCALE = 20,0000' / IN.	CHECKED -		REVISED -						
		PLOT DATE = 3/26/2009	DATE -		REVISED -						



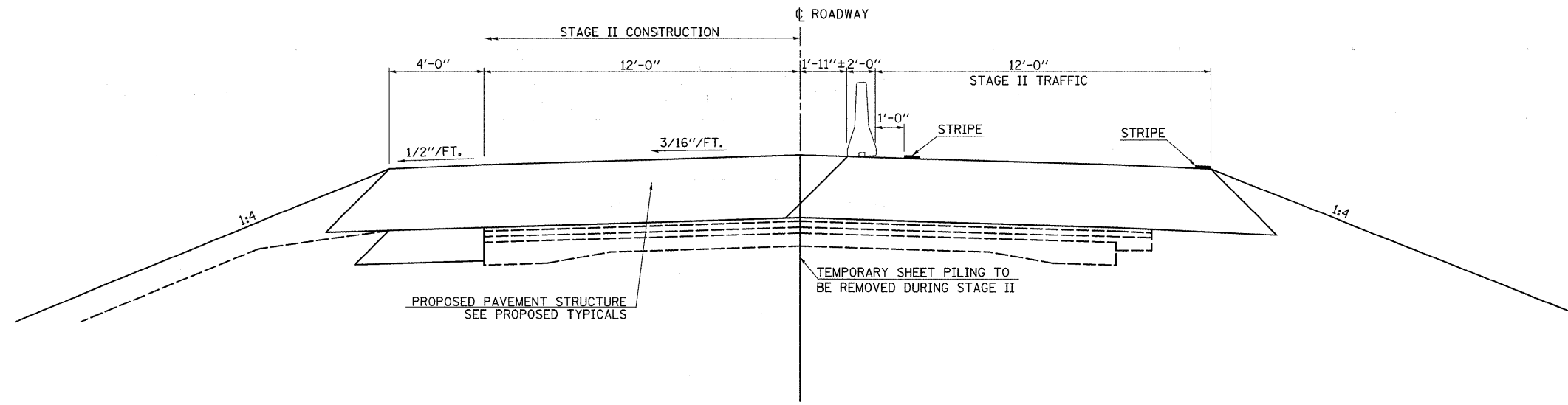




NOTE: SOME QUANTITIES CONTAINED HEREIN ARE OUTSIDE THE PROJECT LIMITS



- NOTES FOR STAGE II
- SEE BRIDGE PLANS FOR ADDITIONAL INFORMATION ON STAGE CONSTRUCTION
  - THE CONTRACTOR SHALL PROVIDE CONTINUOUS ACCESS TO ALL ENTRANCES DURING CONSTRUCTION.
  - STOP BARS TO BE LOCATED PER STD. 701321.



**PROPOSED TYPICAL SECTION (STAGE II)**

- STAGE II NOTES
- RELOCATE SIGNS, TEMPORARY BARRIERS, ETC IN ACCORDANCE WITH TRAFFIC CONTROL STANDARD 701321 AND AS SHOWN ON THIS PLAN.
  - PLACE TEMPORARY PAVEMENT MARKING LINE TO ALLOW FOR A 11'-6" DRIVING LANE.
  - REMOVE THE STAGE II PORTION OF THE EXISTING STRUCTURE, PAVEMENT AND GUARDRAIL.
  - CONSTRUCT THE STAGE II PORTION OF THE NEW BRIDGE AND ROADWAY.
  - CONSTRUCT DITCHES, SEEDING, AND MULCH.
  - REMOVE TEMPORARY BARRIERS, SIGNALS, AND SIGNS ASSOCIATED WITH TRAFFIC CONTROL STANDARD 701321.
  - RESURFACE ROADWAY UTILIZING TRAFFIC CONTROL STANDARD 701306.

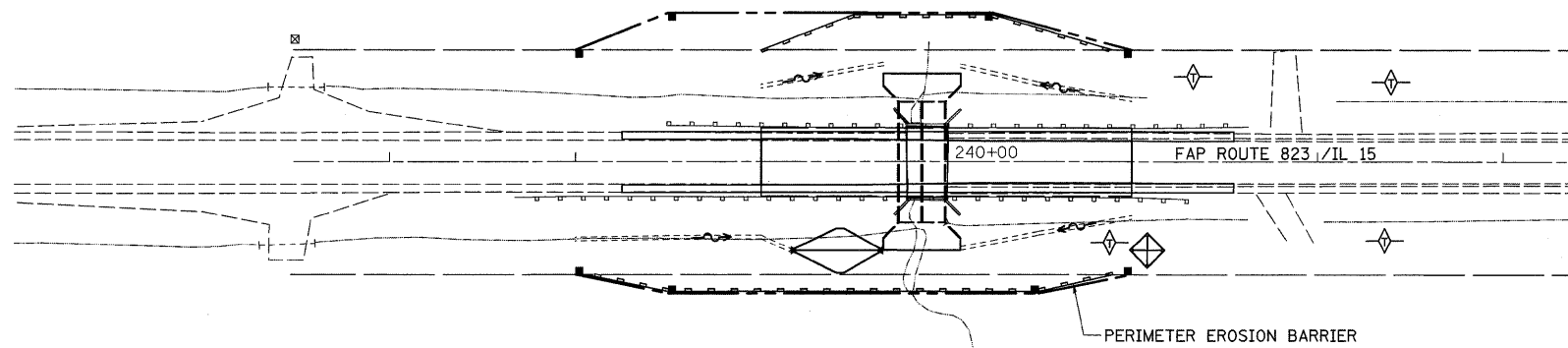
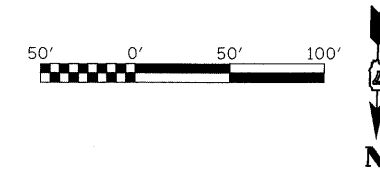
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P:\0340601.04.FIN0960055\Drawings\StageConst\stage_plans\16&17.dgn		DRAWN -	REVISED -		SCALE:	SHEET NO. 6 OF 6 SHEETS	STA.	TO STA.	823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	26
		CHECKED -	REVISED -							CONTRACT NO. 74238			
		DATE -	REVISED -							ILLINOIS FED. AID PROJECT			

**TEMPORARY DITCH CHECKS**

STA. 239+00 RT 1 EACH  
 STA. 240+50 RT 1 EACH  
 STA. 239+50 LT 1 EACH  
 STA. 240+50 LT 1 EACH  
 TOTAL 4 EACH

**PERIMETER EROSION BARRIER**

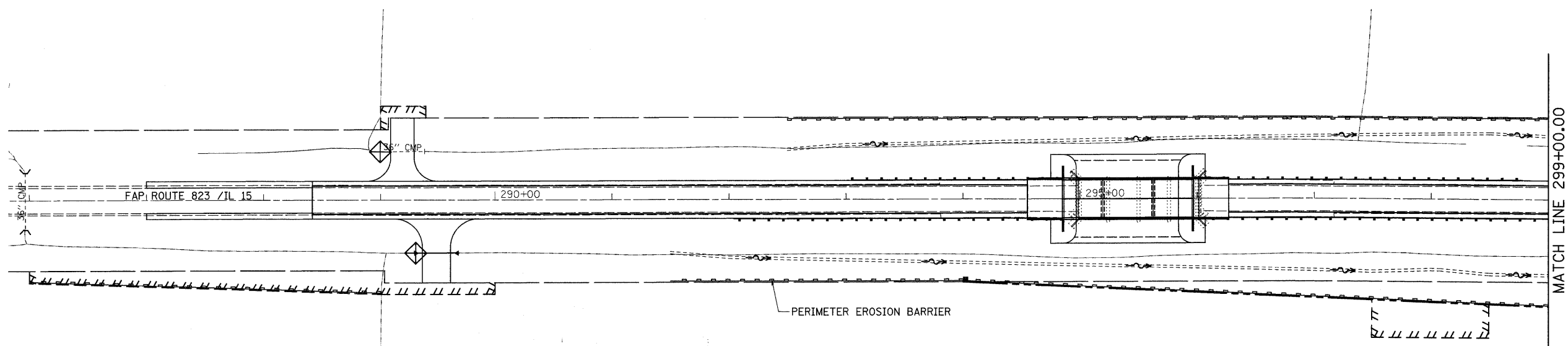
RT STA. 238+05.00 - STA. 240+90.00 285'  
 LT STA. 239+00.00 - STA. 240+90.00 190'  
 TOTAL 475'



**INLET AND PIPE PROTECTION**  
 STA. 239+16 RT 1 EACH

**LEGEND FOR EROSION CONTROL PLAN**

ITEM	SYMBOL
TEMPORARY DITCH CHECKS (APPROVED SUBSTITUTION)	
INLET PIPE PROTECTION (I&PP) (APPROVED SUBSTITUTION)	
PERIMETER EROSION BARRIER	



**PERIMETER EROSION BARRIER**  
 RT STA. 286+00.00 - STA. 289+00.00 300'  
 RT STA. 291+50.00 - STA. 298+60.00 710'  
 LT STA. 292+50.00 - STA. 298+60.00 610'  
 TOTAL 1620'

**INLET AND PIPE PROTECTION**  
 STA. 286+29 RT 1 EACH  
 STA. 289+00 LT 1 EACH  
 STA. 289+31 RT 1 EACH  
 TOTAL 3 EACH

FILE NAME =	USER NAME = rcook
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PLOT SCALE = 50.0000' / IN.	
PLOT DATE = 3/26/2009	

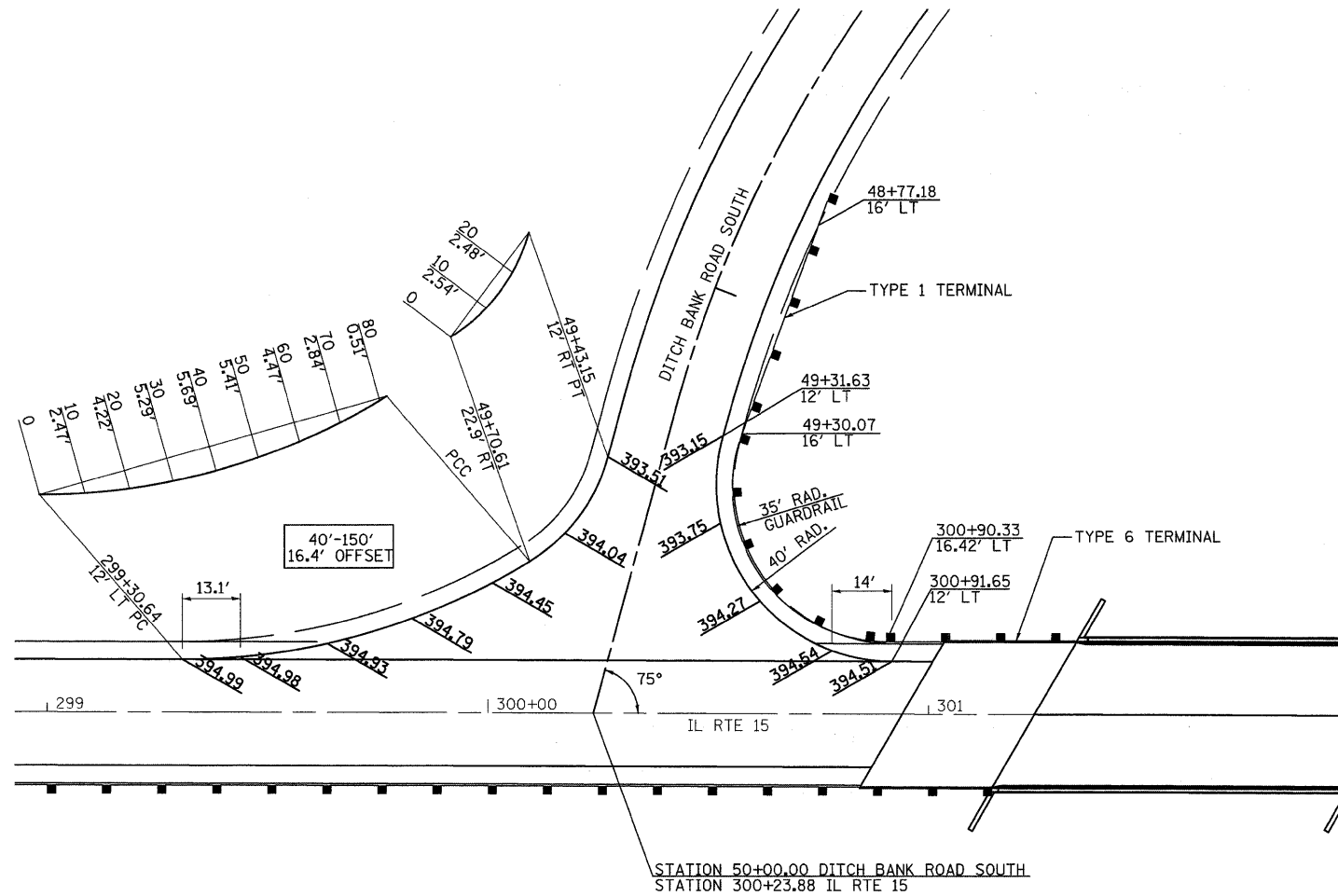
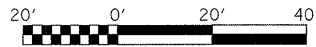
DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

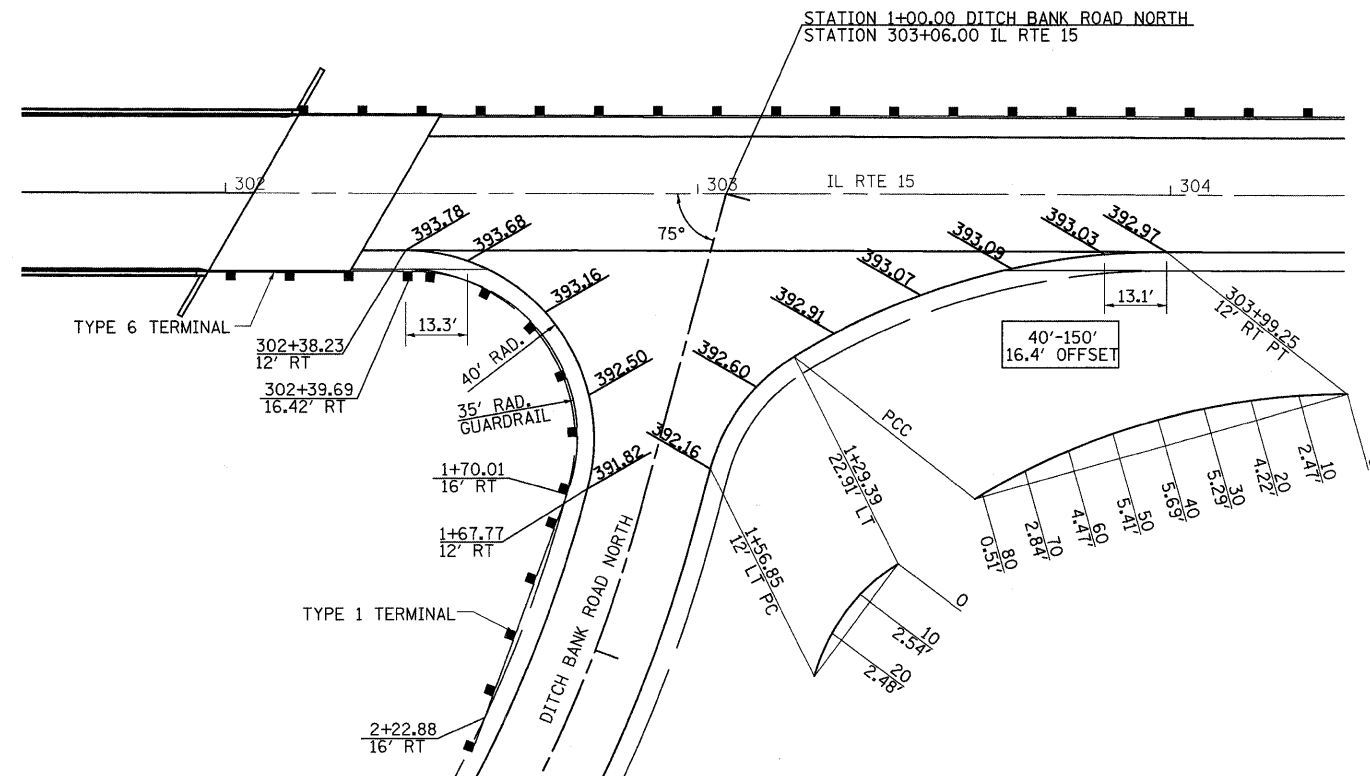
<b>EROSION CONTROL</b>	
SCALE:	SHEET NO. 1 OF 2 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	27
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 74238	





STATION 50+00.00 DITCH BANK ROAD SOUTH  
STATION 300+23.88 IL RTE 15



STATION 1+00.00 DITCH BANK ROAD NORTH  
STATION 303+06.00 IL RTE 15

**LEGEND**

XXX.XX INDICATES PROPOSED GRADE ELEVATION  
INTERVAL AROUND CURVES IS 20'  
UNLESS NOTED

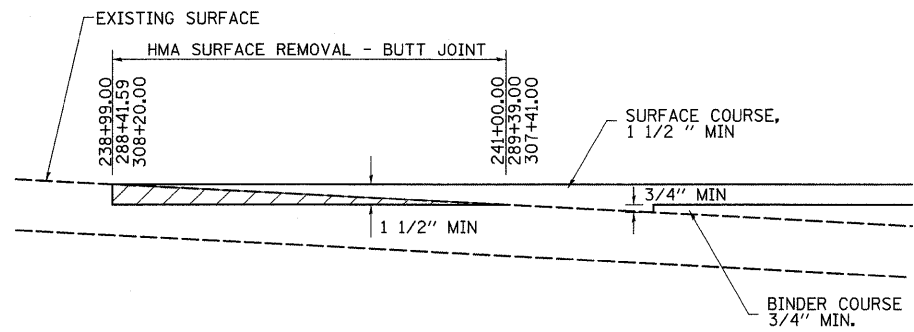
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PLOT SCALE = 20.0000' / IN.		CHECKED -	REVISED -
PLOT DATE = 3/26/2009		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INTERSECTION GEOMETRICS**

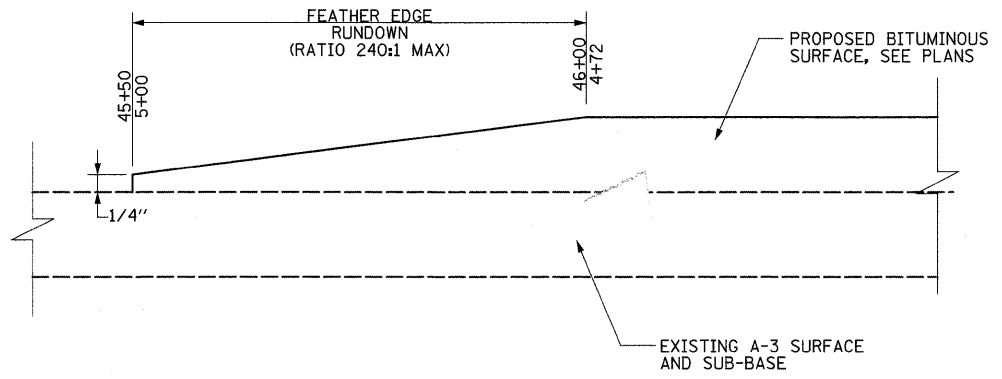
SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	29
CONTRACT NO. 74238				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



**BUTT JOINT DETAIL**

MAINLINE STA. 238+99.60 TO STA. 239+23.00  
 STA. 240+71.00 TO STA. 241+00.00  
 STA. 288+41.59 TO STA. 289+39.00  
 STA. 307+41.00 TO STA. 308+20.00



**FEATHER EDGE DETAIL**

DITCH BANK ROAD SOUTH STA. 45+50.00 TO STA. 46+00.00  
 DITCH BANK ROAD NORTH STA. 4+72.00 TO STA. 5+00.00

FILE NAME =	USER NAME = rook	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL ROUTE 15</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
P:\034060L04.FIN0960055\Drawings\Details	roadway details.dgn	DRAWN -	REVISED -		SCALE:	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	823	(22BY-1,22BY2,22BRB-1)	WAYNE	142 30
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -						CONTRACT NO. 74238			
	PLOT DATE = 3/26/2009	DATE -	REVISED -						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			

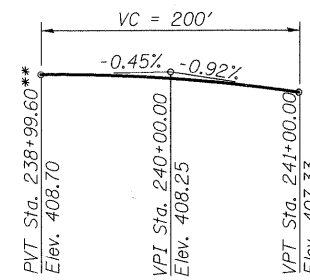
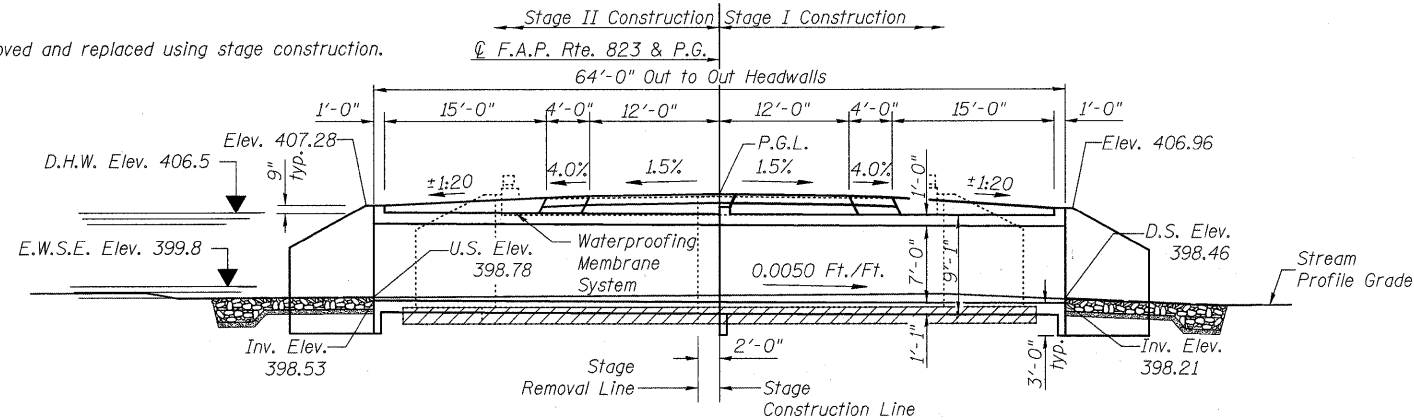
Bench Mark: NGS Disk in N.E. wingwall S.N. 096-0055. Elevation 410.16.

Existing Structure: S.N. 096-0055 The original structure was built in 1918 at Station 239+90 as a single 20'-0" span concrete slab bridge over closed abutments on spread footings. The original structure had a 20'-0" clear between rails, no skew and 45 degree wing walls. The Structure was widened in 1954 to 37'-0" clear with similar wingwalls and substructure.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Structure to be removed and replaced using stage construction.

No Salvage



\*\* Sta. Eqn. Sta. 239+37.30 Bk.  
= Sta. 239+37.70 Ah.

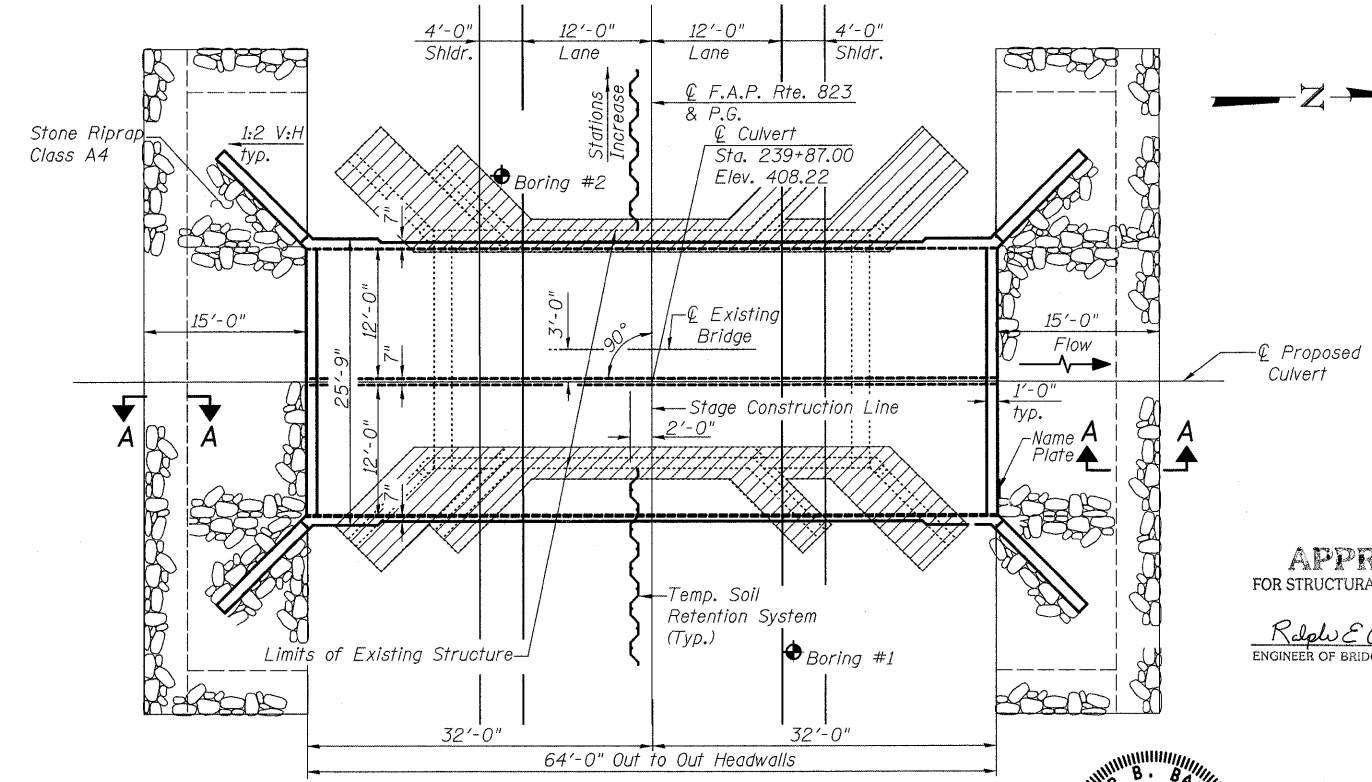
GENERAL NOTES

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

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

Excavation behind existing abutment walls shall be performed to balance front and back soil pressures 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.

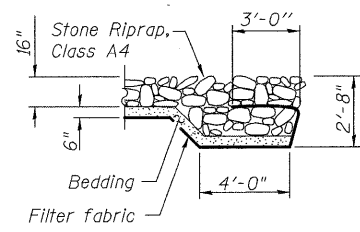
Precast Alternative not allowed.



STATION 239+87.00  
BUILT 2009 BY  
STATE OF ILLINOIS  
F.A.P. RT. 823 SEC. (22BR) B-1  
LOADING HS20-44  
STR. NO. 096-2011

NAME PLATE  
See Std. 515001

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY  
Peter B. Bayles (TD)  
ENGINEER OF BRIDGES AND STRUCTURES



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	QUANTITY
Stone Riprap, Class A4	Sq. Yd.		205	205
Filter Fabric	Sq. Yd.		205	205
Removal of Existing Structures	Each	1		1
Reinforcement Bars	Pound		30,940	30,940
Bar Splicers	Each		125	125
Concrete Box Culverts	Cu. Yd.		181	181
Temporary Soil Retention System	Sq. Ft.		343	343
Name Plates	Each	1		1
Waterproofing Membrane System	Sq. Yd.		178	178
Structure Excavation	Cu. Yd.		338	338

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 Staged Construction Details
- 3 Temporary Concrete Barrier
- 4-5 Culvert Details
- 6 Bar Splicer Assembly Details
- 7 Soil Boring Logs

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	U.S. *	D.S. *
	395.53	395.21

\*Bottom of Toe Wall Elevations

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	417	108	128	405.6	0.0	0.0	405.6	405.6
Base	50	722	122	149	406.5	0.4	0.1	406.9	406.6
Ex. Overtop	100	868	122	149	406.7	0.5	0.3	407.2	407.0
Pr. Overtop	200	950	-	149	406.8	-	0.4	-	407.2

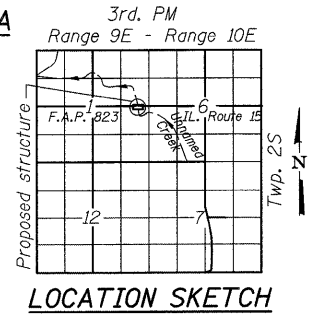
10 year velocity through existing bridge = 3.9 fps  
10 year velocity through prop. bridge = 2.8 fps

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

DESIGN SPECIFICATIONS  
2002 AASHTO

DESIGN STRESSES

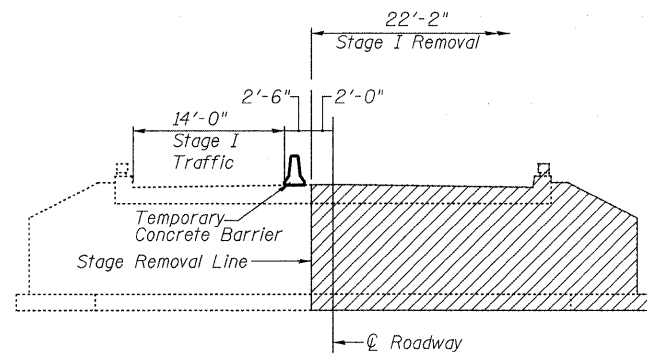
FIELD UNITS  
f<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (reinforcement)



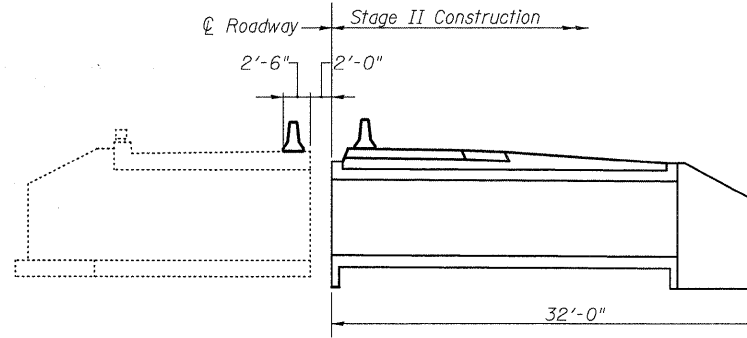
GENERAL PLAN  
IL 15 OVER TRIBUTARY TO  
UNION DRAINAGE DITCH  
STATION 239+87.00  
STRUCTURE NO. 096-2011

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1	823	(22BR) B-1	WAYNE	142	31
OF 7 SHEETS					
CONTRACT NO. 74238					
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					

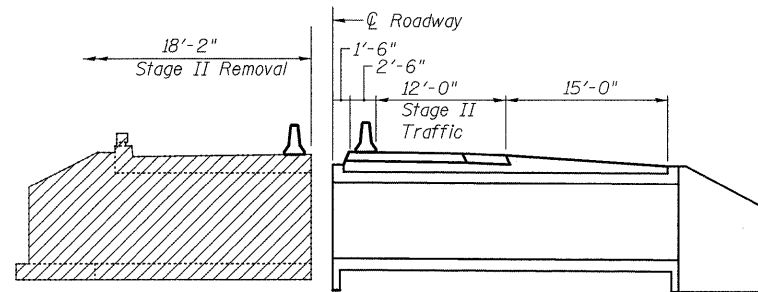
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



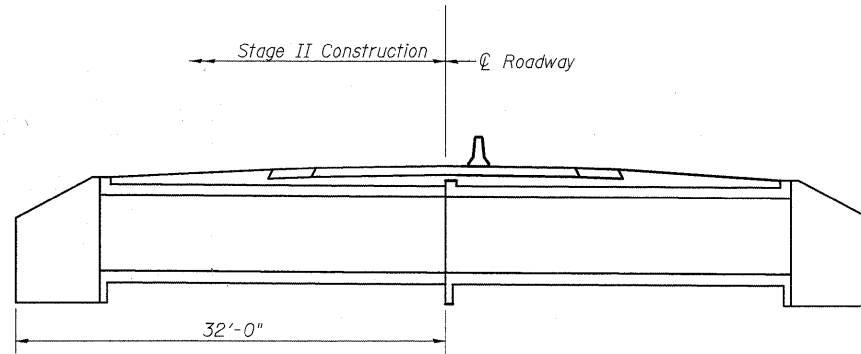
**STAGE I REMOVAL**  
(Looking West)



**STAGE I CONSTRUCTION**  
(Looking West)



**STAGE II REMOVAL**  
(Looking West)



**STAGE II CONSTRUCTION**  
(Looking West)

**NOTES**

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.

Hatched areas indicate Removal of Existing Structures.

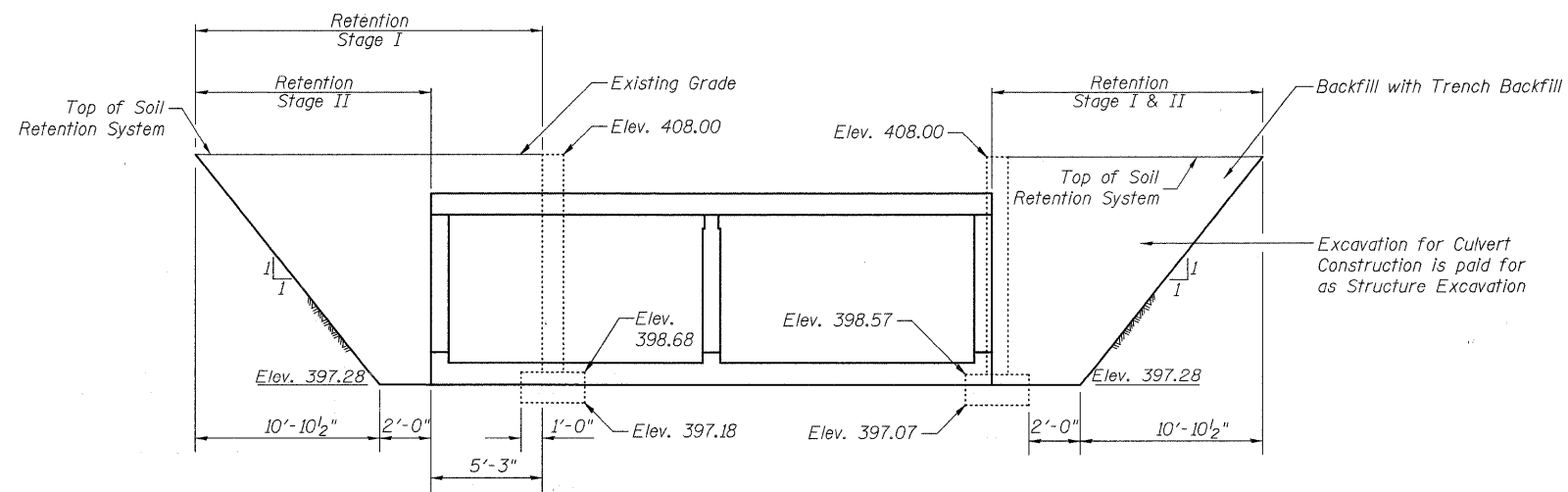
The Contractor shall excavate behind the existing abutment walls prior to removal of the existing superstructure and shall saw cut the existing abutment walls at the Stage Removal Line prior to Stage I Superstructure Removal.

For details of Temporary Concrete Barrier, see sheet 3 of 7.

See roadway plans for traffic control during construction.

Cost of sawcutting is included in Removal of Existing Structures.

For quantity of Temporary Concrete Barrier, see Roadway Plans.



**TEMPORARY SOIL RETENTION SYSTEM**  
(Slope and distances shown along  $\varnothing$  Roadway)

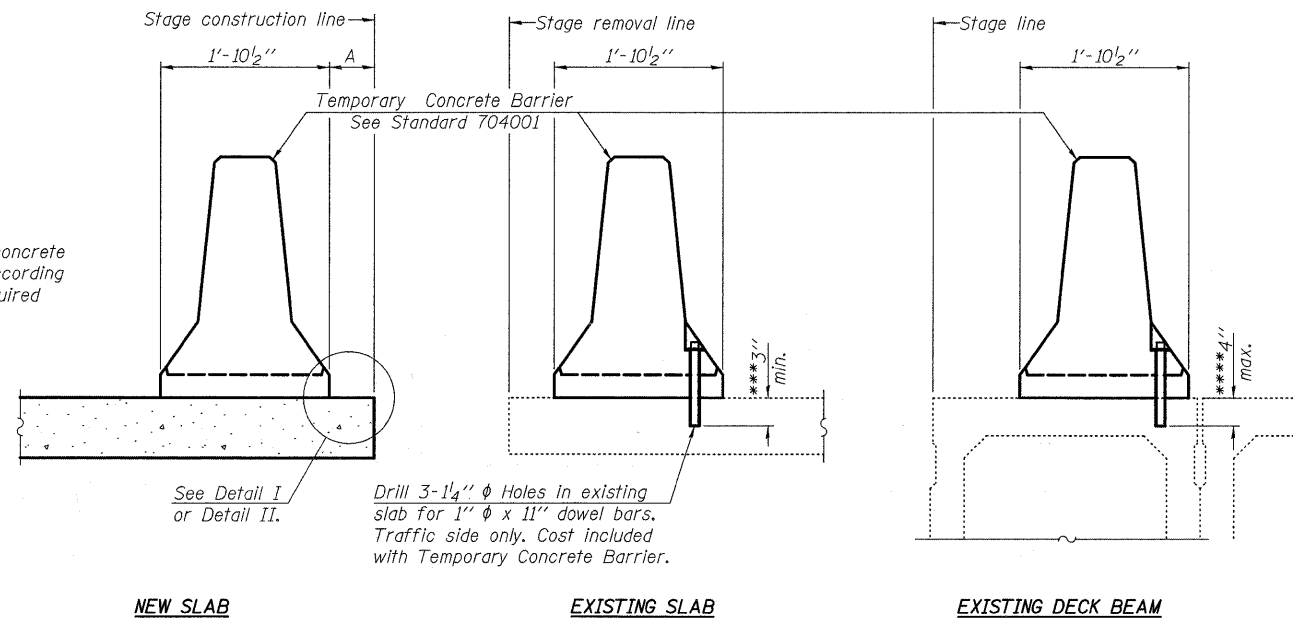
**STAGED CONSTRUCTION DETAILS**  
**IL 15 OVER TRIBUTARY TO**  
**UNION DRAINAGE DITCH**  
**STATION 239+87.00**  
**STRUCTURE NO. 096-2011**

SHEET NO. 2 OF 7 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BR1) B-1	WAYNE	142	32
			CONTRACT NO. 74238		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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



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

**NOTES**

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

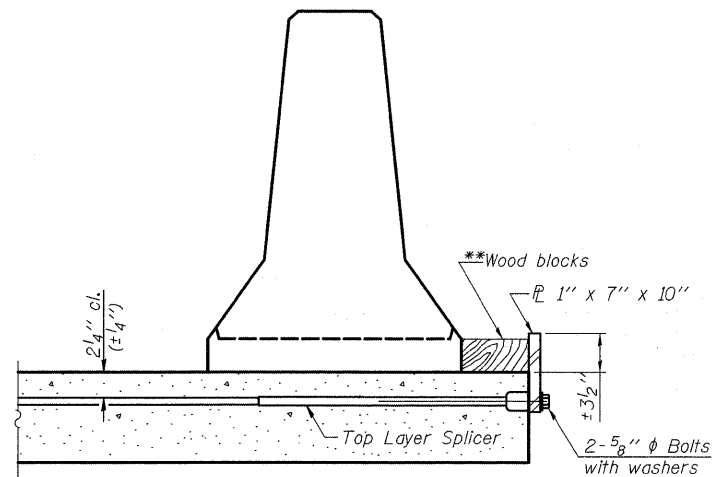
Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

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

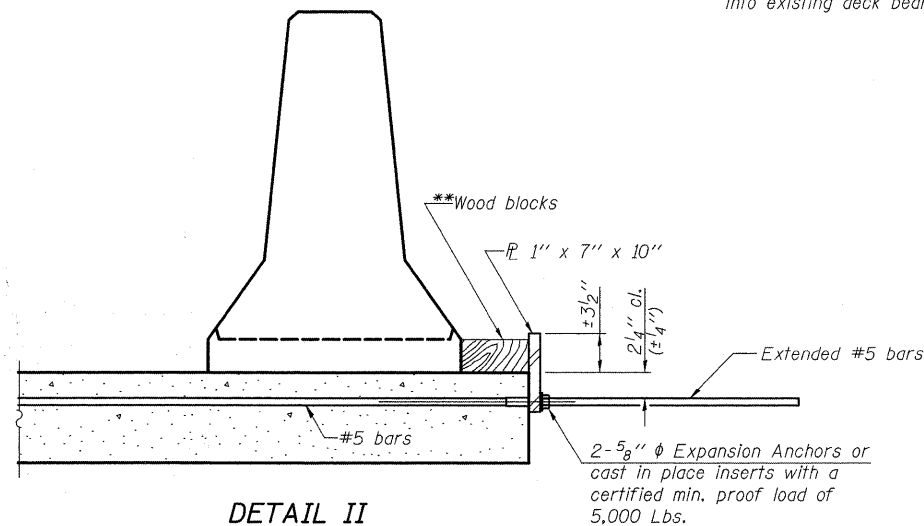
**SECTIONS THRU SLAB OR DECK BEAM**

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

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

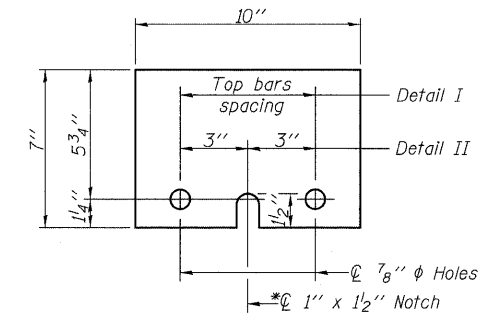


**DETAIL I**



**DETAIL II**

\*\*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.

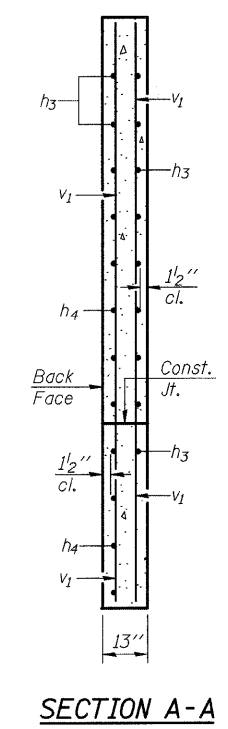
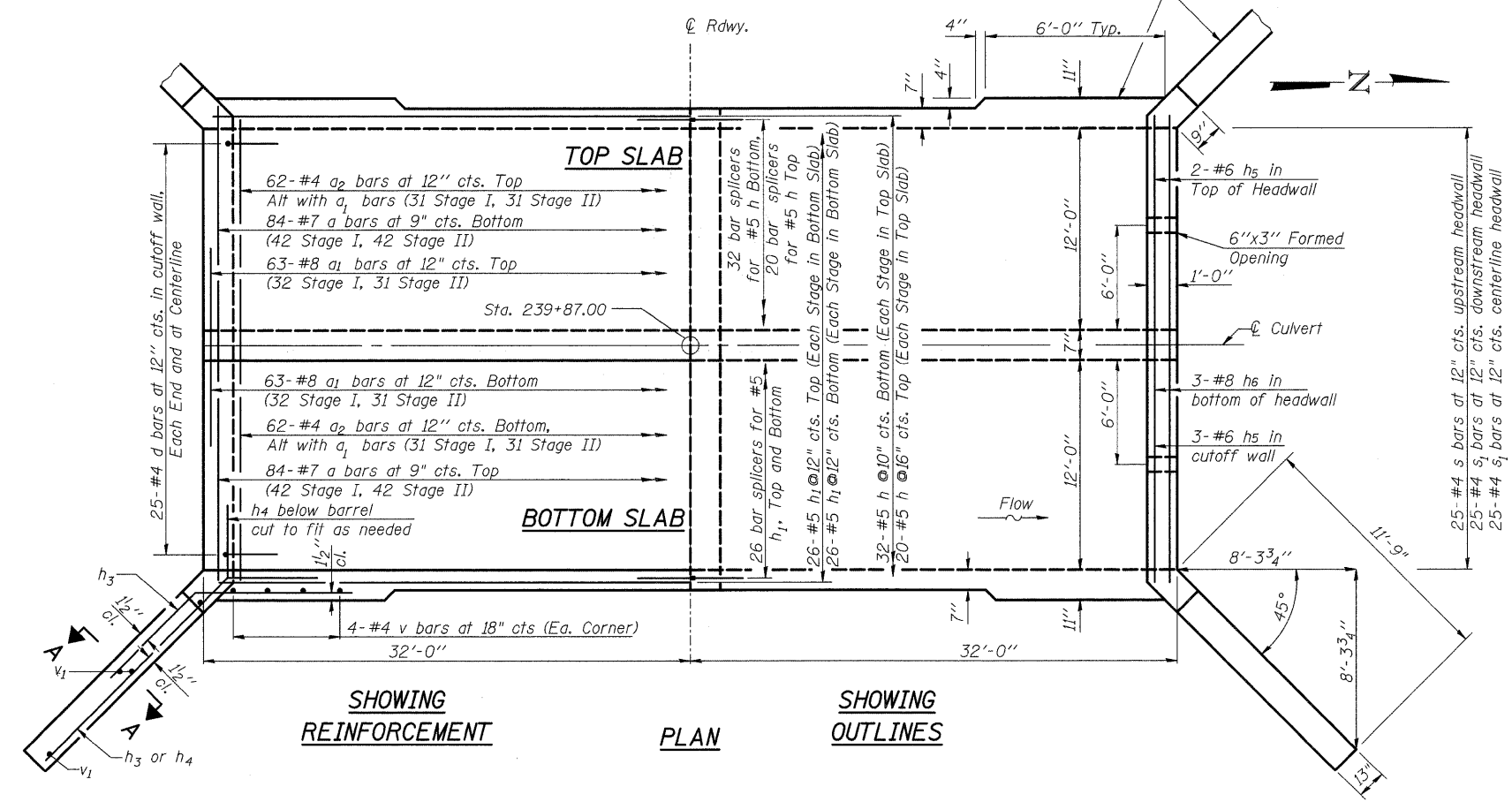
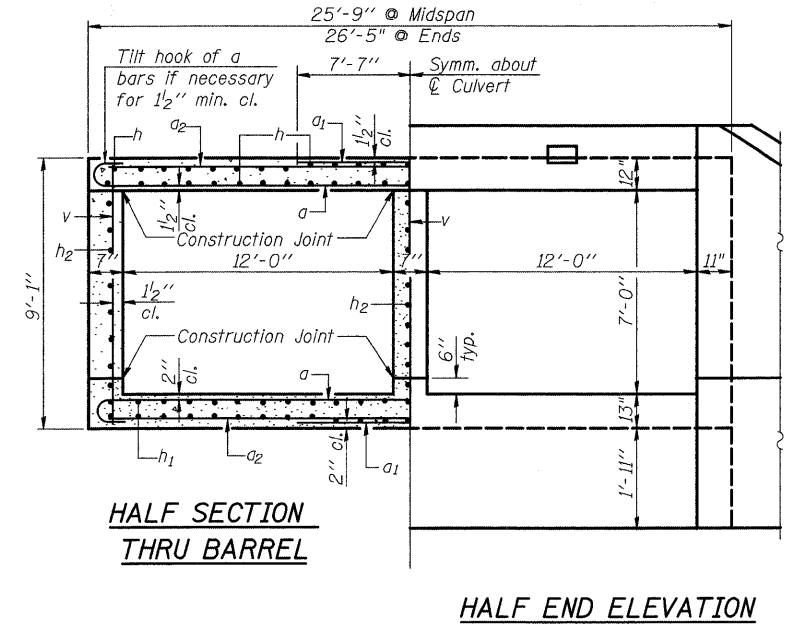
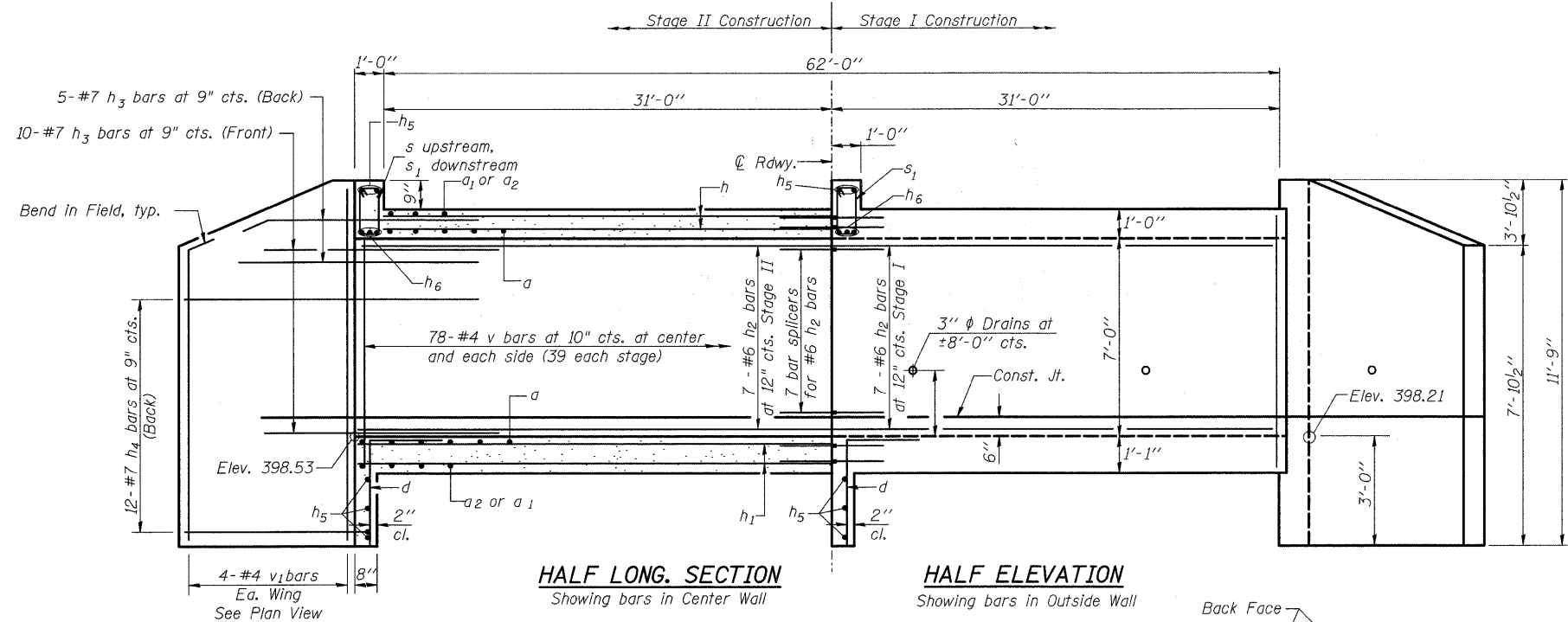


**STEEL RETAINER  $\bar{P}$  1" x 7" x 10"**

\*Required only with Detail II

**TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
IL 15 OVER TRIBUTARY TO  
UNION DRAINAGE DITCH  
STATION 239+87.00  
STRUCTURE NO. 096-2011**

SHEET NO. 3 OF 7 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BR1) B-1	WAYNE	142	33
			CONTRACT NO. 74238		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					

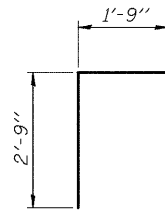


Notes: A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

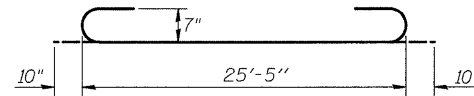
**CULVERT DETAILS**  
IL 15 OVER TRIBUTARY TO  
UNION DRAINAGE DITCH  
STATION 239+87.00  
STRUCTURE NO. 096-2011

SHEET NO. 4 OF 7 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BR1) B-1	WAYNE	142	34
			CONTRACT NO. 74238		
			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		

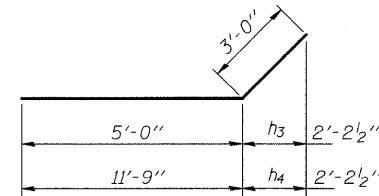
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



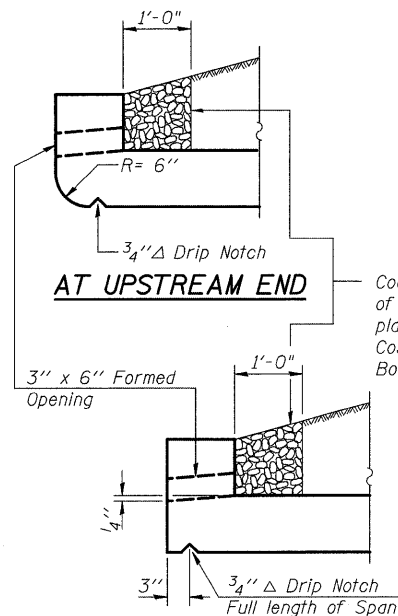
**BAR d**



**BAR a**



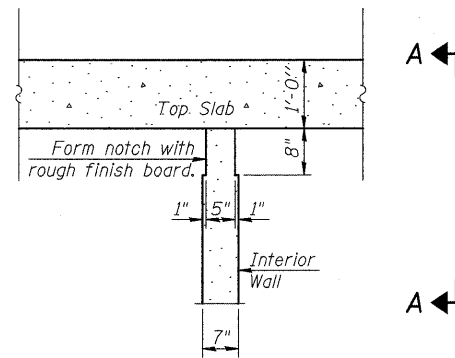
**BARS h3 & h4**



**AT UPSTREAM END**

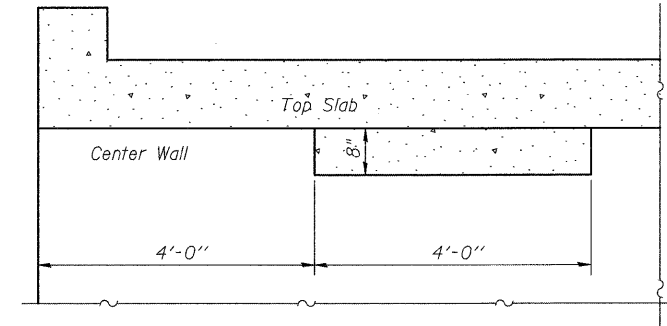
**AT DOWNSTREAM END**

**DRAIN DETAIL**



**PHOEBE NESTING  
SITE DETAIL**

(Interior wall, downstream end only)

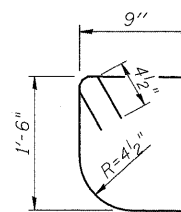


**VIEW A-A**

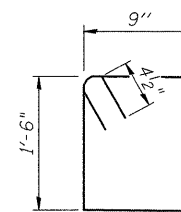
(Showing Phoebe Nesting Ledge)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a	168	#7	27'-1"	U
a <sub>1</sub>	126	#8	15'-2"	—
a <sub>2</sub>	124	#4	25'-5"	—
d	75	#4	4'-6"	L
h	104	#5	31'-3"	—
h <sub>1</sub>	104	#5	31'-3"	—
h <sub>2</sub>	42	#6	31'-3"	—
h <sub>3</sub>	60	#7	8'-0"	—
h <sub>4</sub>	48	#7	14'-9"	—
h <sub>5</sub>	15	#6	25'-3"	—
h <sub>6</sub>	9	#8	25'-3"	—
v	250	#4	8'-9"	—
v <sub>1</sub>	16	#4	11'-6"	—
s	25	#4	5'-3"	□
s <sub>1</sub>	50	#4	5'-3"	□
Concrete Box Culverts			Cu. Yd.	181
Reinforcement Bars			Pound	30940
Bar Splicers			Each	125



**BAR s**



**BAR s<sub>1</sub>**

**CULVERT DETAILS  
IL 15 OVER TRIBUTARY TO  
UNION DRAINAGE DITCH  
STATION 239+87.00  
STRUCTURE NO. 096-2011**

SHEET NO. 5 OF 7 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BR1) B-1	WAYNE	142	35
CONTRACT NO. 74238					
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					

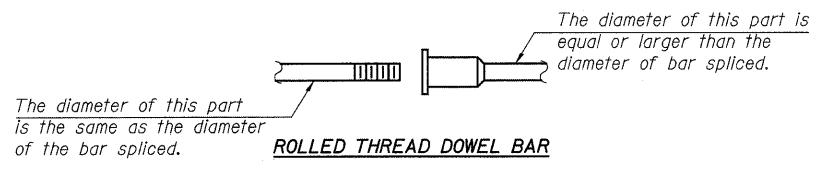
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**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

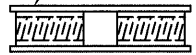
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



**ROLLED THREAD DOWEL BAR**



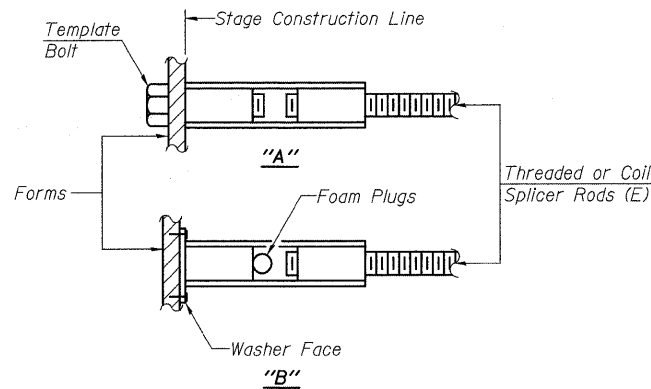
**\*\* ONE PIECE**  
Wire Connector



**WELDED SECTIONS**

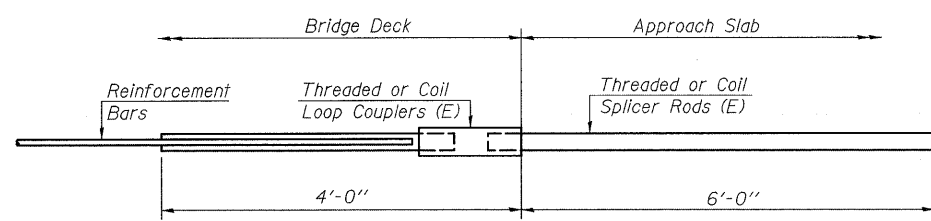
**BAR SPLICER ASSEMBLY ALTERNATIVES**

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

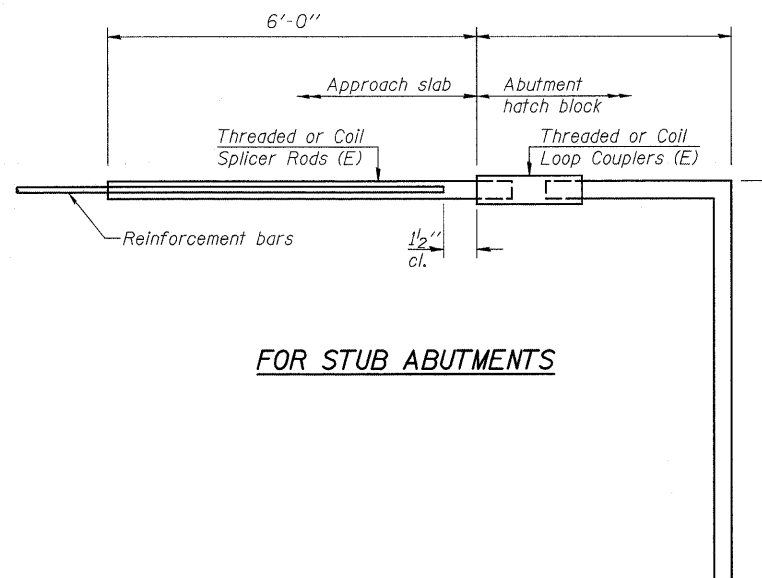


**INSTALLATION AND SETTING METHODS**

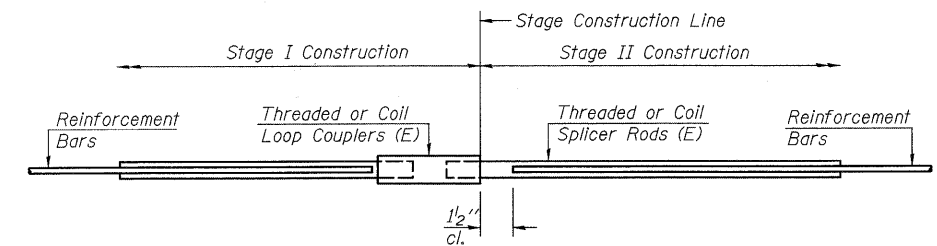
"A": Set bar splicer assembly by means of a template bolt.  
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.



**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**



**FOR STUB ABUTMENTS**



**STANDARD**

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

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

Bar Size	No. Assemblies Required	Location
#5	52	$h_1$ , top/bottom slab
#6	21	$h_2$ , side wall
#5	52	$h$ , top/bottom slab

**BAR SPLICER ASSEMBLY DETAILS**  
**IL 15 OVER TRIBUTARY TO**  
**UNION DRAINAGE DITCH**  
**STATION 239+87.00**  
**STRUCTURE NO. 096-2011**

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6	823	(22BR) B-1	WAYNE	142	36
OF 7 SHEETS					
CONTRACT NO. 74238					
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					

BSD-1

05-16-08

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SOIL BORING LOG

Page 1 of 1

Date 7/2/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschaler

SECTION (22BY-1,22BY2,22BR)B-1 LOCATION E 1/2, SEC. 1, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. Station	BORING NO. Station	Offset	Ground Surface Elev. ft	SOIL LOG				Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev. ft	First Encounter	Upon Completion	After Hrs.	DEPTH (ft)	BLOW COUNT	UCS	MOISTURE (%)
				D	B	U	M										
096-0055 239+90	1 239+88	14.00ft Rt	407.59														
			407.29										16	4.8	12		
													17				
													50/5				9
													50/2				
			403.09														
			400.59														
			398.09														
			393.09														
			380.29														

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



SOIL BORING LOG

Page 1 of 1

Date 7/2/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschaler

SECTION (22BY-1,22BY2,22BR)B-1 LOCATION E 1/2, SEC. 1, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO. Station	BORING NO. Station	Offset	Ground Surface Elev. ft	SOIL LOG				Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev. ft	First Encounter	Upon Completion	After Hrs.	DEPTH (ft)	BLOW COUNT	UCS	MOISTURE (%)
				D	B	U	M										
096-0055 239+90	2 240+12	13.00ft Lt	407.83														
			407.83														
			409.83														
			409.83														
			400.53														
			395.83														
			390.83														

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

SOIL BORINGS  
IL 15 OVER TRIBUTARY TO  
UNION DRAINAGE DITCH  
STATION 239+87.00  
STRUCTURE NO. 096-2011

SHEET NO. 7 OF 7 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BR1) B-1	WAYNE	142	37
CONTRACT NO. 74238					
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					

Bench Mark: Chiseled "□" in the top of the N.E. headwall S.N. 096-0017. Elevation 391.03.

Existing Structure: S.N. 096-0017 The original structure was built in 1922 at Station 296+00 as a 104' long, four span reinforced concrete slab on closed abutments with no skew. The Structure was widened in 1954 to 28'-0" roadway under revised Station 295+50. The structure was widened again in 1978 to 34'-8" out to out of deck, the superstructure was also replaced with PPC deck beams. Road is to remain open and traffic will be staged during construction. No Salvage.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		123	123
Stone Riprap, Class A4	Sq. Yd.		1029	1029
Filter Fabric	Sq. Yd.		1029	1029
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		108	108
Concrete Structures	Cu. Yd.		82.7	82.7
Concrete Superstructure	Cu. Yd.	145.2		145.2
Bridge Deck Grooving	Sq. Yd.	373		373
Concrete Encasement	Cu. Yd.		38.0	38.0
Protective Coat	Sq. Yd.	492		492
Furnishing and Erecting Structural Steel Bridge No. 2	L. Sum	1		1
Reinforcement Bars, Epoxy Coated	Pound	33770	7780	41550
Furnishing Steel Piles HP 14 x 73	Foot		1638	1638
Driving Piles	Foot		1638	1638
Test Pile Steel HP 14x73	Each		4	4
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	48		48
Geocomposite Wall Drain	Sq. Yd.		65	65
Pipe Underdrains for Structures 4"	Foot		127	127
Stud Shear Connectors	Each	2448		2448
Bar Splicers	Each	409	28	437
Drainage Scuppers DS-II	Each	2		2
Temporary Soil Retention System	Sq. Ft.		255	255
Mechanical Splice	Each		48	48
Asbestos Bearing Pad Removal	Each			32

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts 3/4 in. φ, holes 13/16 in. φ, unless otherwise noted.

Calculated weight of Structural Steel = 64,600 lbs.

All structural steel shall be AASHTO M270 Grade 50W.

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. 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 1/8" (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3". Those areas shall be primed in the shop with a Department approved zinc rich primer. No field painting shall be required. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

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.

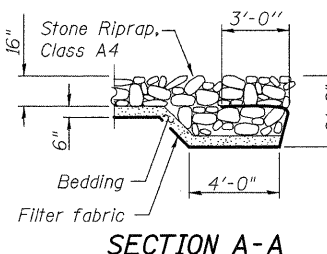
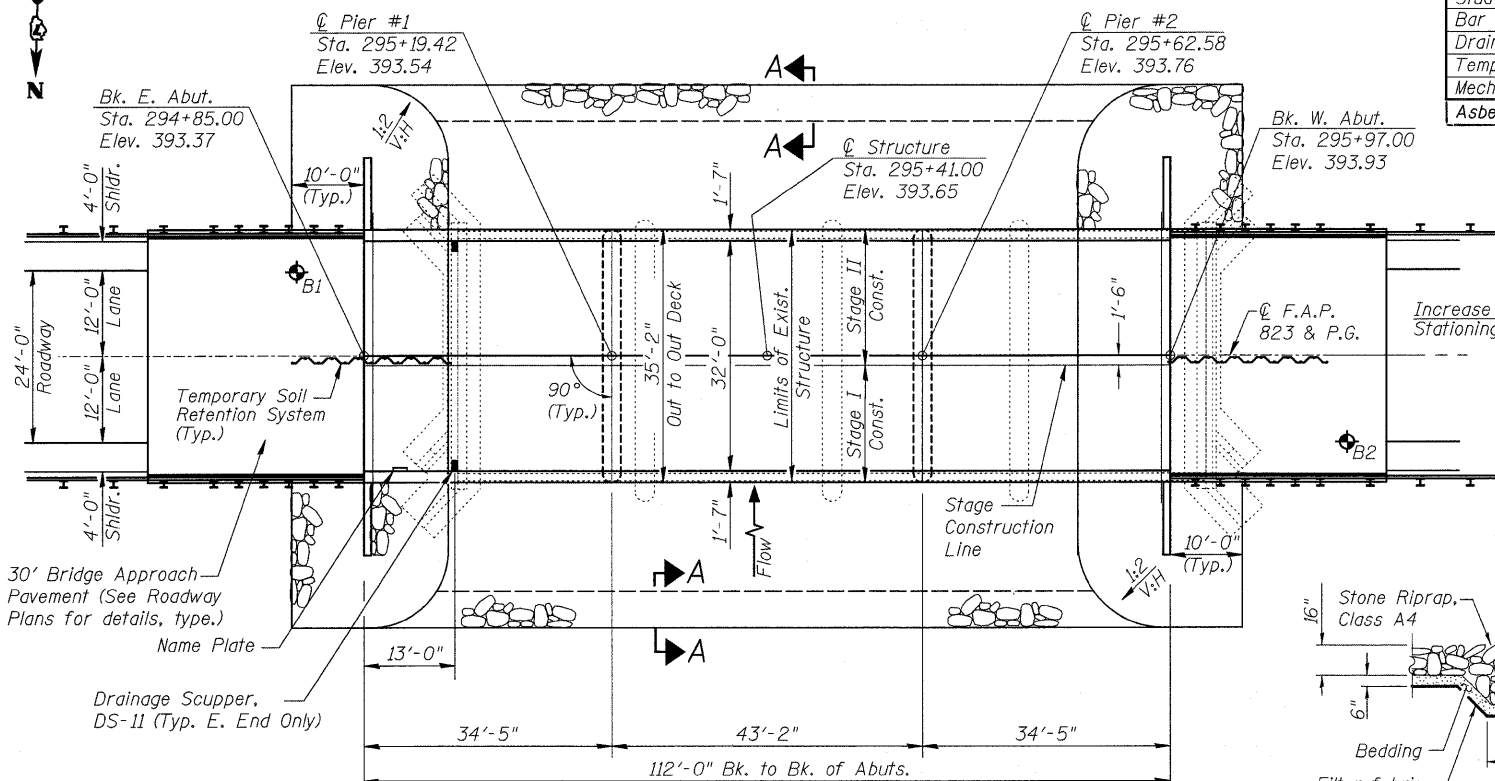
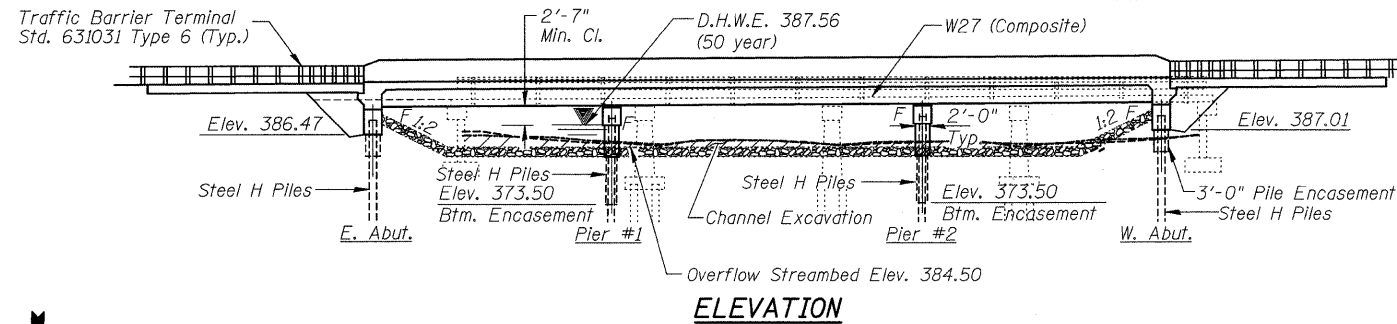
If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Removal of Existing Structures.

Slipforming of parapets is not allowed.

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.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

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



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

**DESIGN SPECIFICATIONS**  
2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

**SEISMIC DATA**  
Seismic Performance Category (SP2)=2  
Design Spectral Acceleration at 1.0 sec. (SD1)=0.278g  
Design Spectral Acceleration at 0.2 sec. (SDs)=0.618g  
Soil Site Class=D

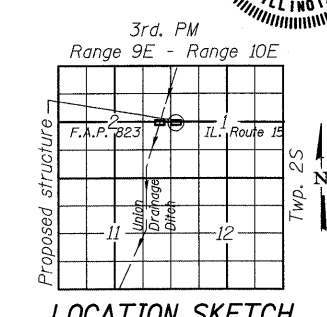
**DESIGN STRESSES**

FIELD UNITS  
f<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (reinforcement)  
f<sub>y</sub> = 50,000 psi (M270 Grade 50W)

- INDEX OF SHEETS**
- 1 General Plan, Notes and Bill of Materials
  - 2 Stage Construction Details
  - 3 Temporary Concrete Barrier
  - 4-5 Top of Slab Elevations
  - 6-7 Top of Approach Elevations
  - 8 Superstructure Plan
  - 9 Superstructure Details
  - 10 Abutment Diaphragm Details
  - 11 Drainage Scupper DS-II
  - 12 Framing Plan & Beam Details
  - 13 Structural Steel Details
  - 14 East Abutment
  - 15 West Abutment
  - 16 Pier 1
  - 17 Pier 2
  - 18 Bar Splicer Assembly Details
  - 19 H-Pile & Encasement Details
  - 20 Cantilever Forming Bracket Detail
  - 21-23 Soil Borings

PETER B. BAYLES  
081-006042  
LICENSED STRUCTURAL ENGINEER  
ILLINOIS

Peter B. Bayles, P.E., S.E.  
Structural Engineer License No. 081-006042  
Expiration Date: 11/30/2010



GENERAL PLAN  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072

Drainage Area = 1802.67 mi<sup>2</sup>    Exist. Low Grade Elev. 390.59 @ Sta. 290+50  
Prop. Low Grade Elev. 390.59 @ Sta. 290+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	164	78	81	385.92	0.50	0.49	386.42	386.41	
Base	50	758	230	264	387.56	0.57	0.56	388.13	388.12	
Max. Calc.	100	1095	287	334	388.16	0.64	0.63	388.80	388.79	
	500	1931	412	484	389.49	0.64	0.63	390.13	390.12	

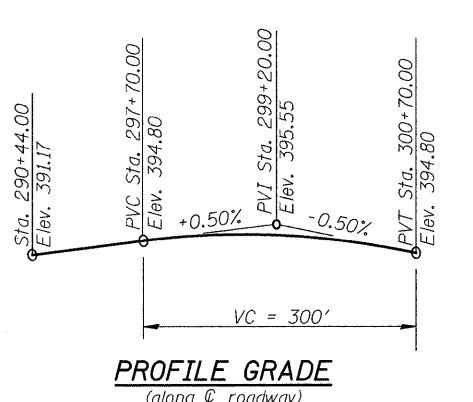
10 year velocity through existing bridge = 1.64 fps  
10 year velocity through prop. bridge = 1.70 fps

**DESIGN SCOUR ELEVATION TABLE**

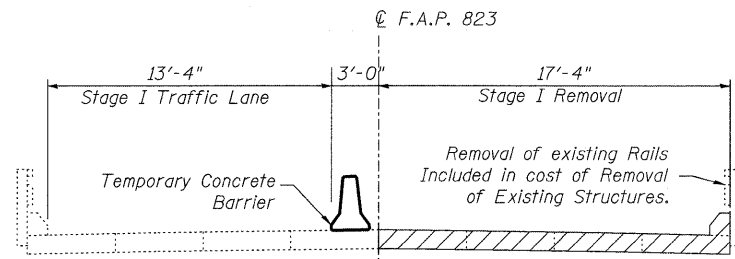
	E. Abut.	Pier 1	Pier 2	W. Abut.
Design Scour Elevation	386.47	373.50	373.50	387.01

STATION 295+41.00  
BUILT 20\_\_ BY  
STATE OF ILLINOIS  
F.A.P. RT. 823 SEC. (22BY2) B-1  
LOADING HL93  
STR. NO. 096-0072

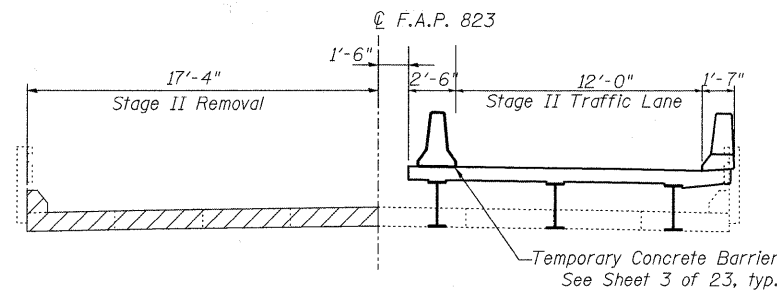
**NAME PLATE**  
See Std. 515001



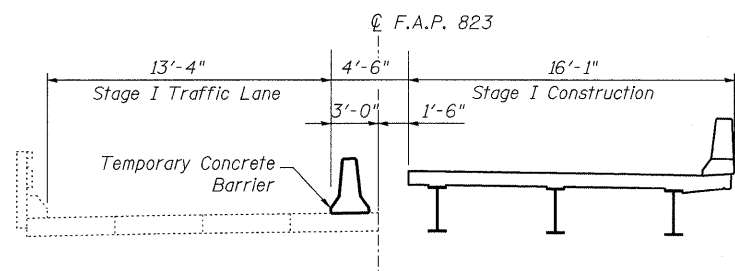
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



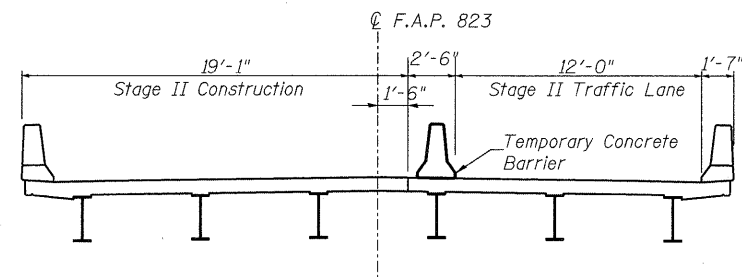
**STAGE I REMOVAL**  
(Looking West)



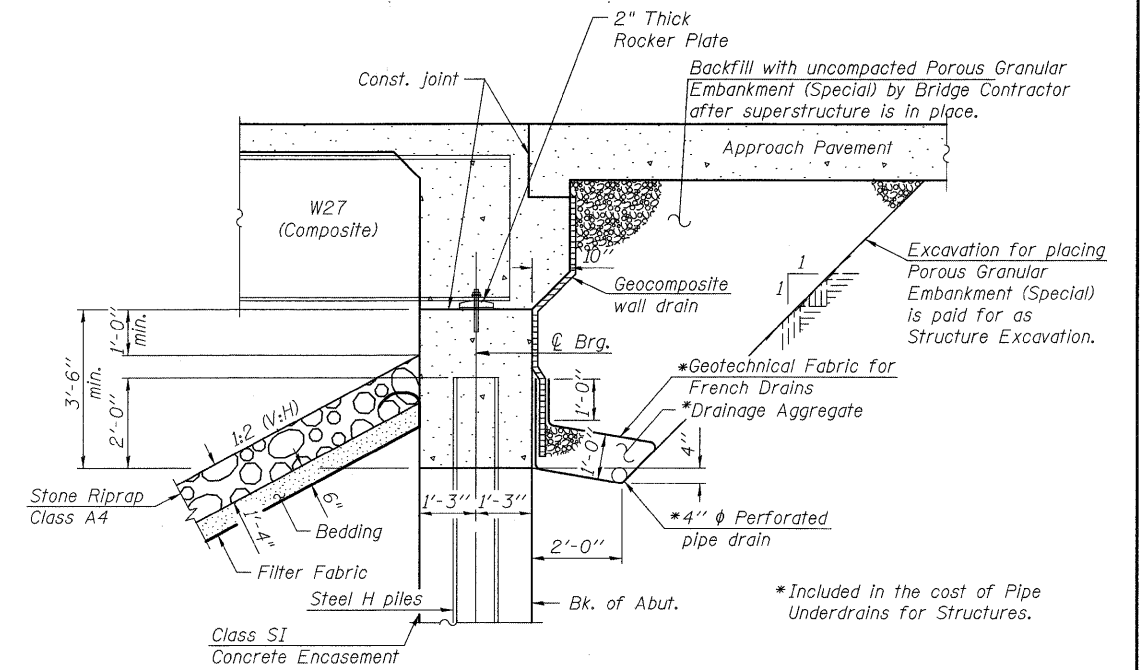
**STAGE II REMOVAL**  
(Looking West)



**STAGE I CONSTRUCTION**  
(Looking West)



**STAGE II CONSTRUCTION**  
(Looking West)



**SECTION THRU INTEGRAL ABUTMENT**

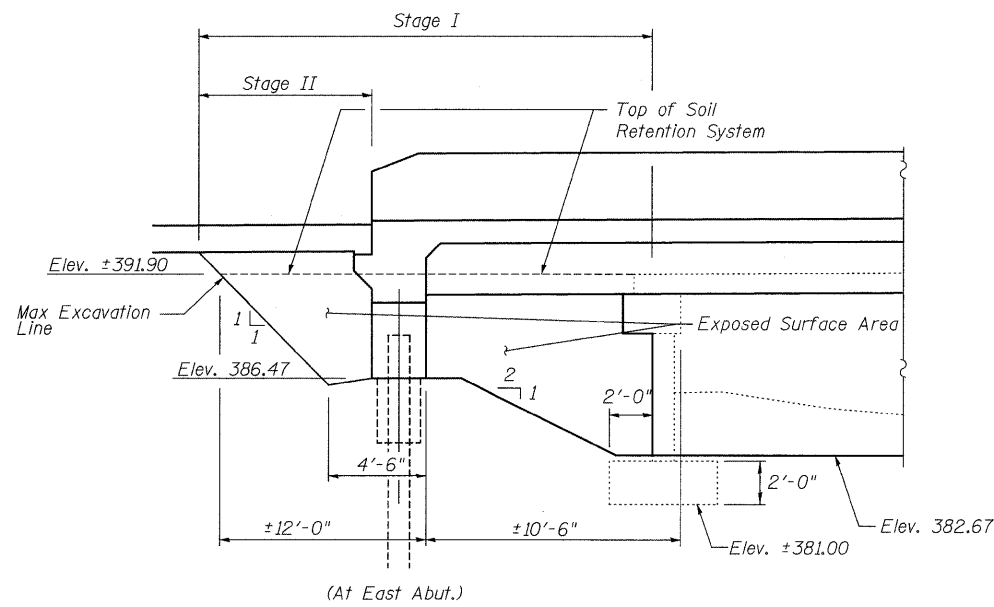
All drainage system components shall extend to 2'-0' from the end of each wingwall except an outlet pipe shall extend down to flowline of adjacent ditch. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

**NOTES**

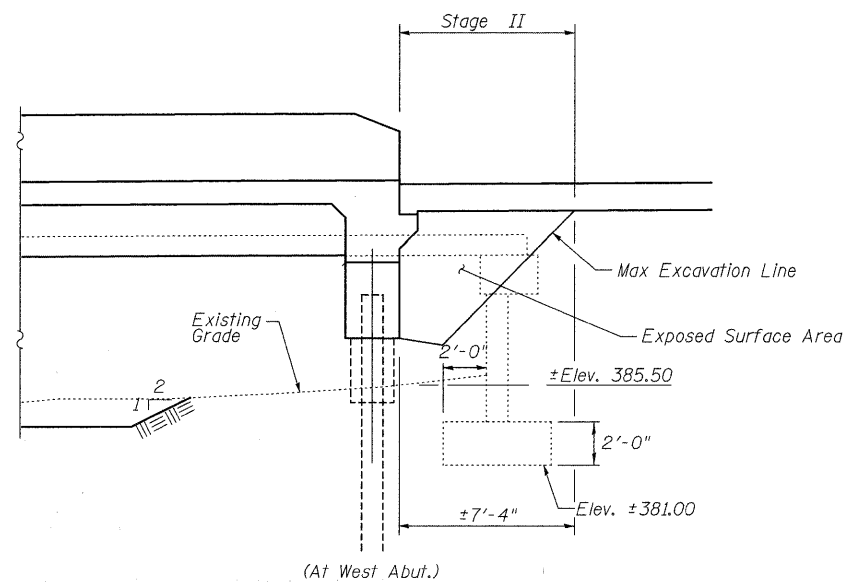
A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

The Contractor shall excavate behind the existing abutment walls prior to removal of the existing superstructure and shall saw cut the existing abutment walls at the Stage Removal Line prior to Stage I Superstructure Removal.

**STAGE CONSTRUCTION DETAILS**  
**IL 15 OVER UNION DRAINAGE**  
**DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

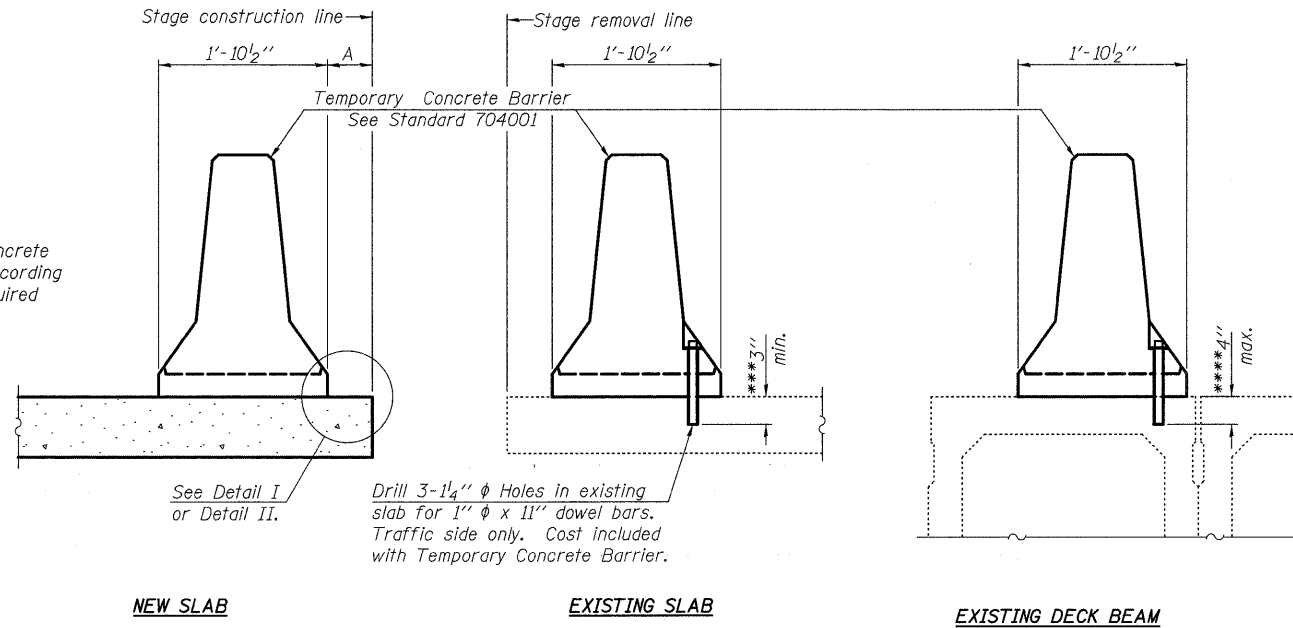


**TEMPORARY SOIL RETENTION SYSTEM**  
(Looking South)



SHEET NO. 2 23 SHEETS	F.A.P. RTE. 823	SECTION (22BY2) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 39
	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



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

See Detail I or Detail II.

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

**NOTES**

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

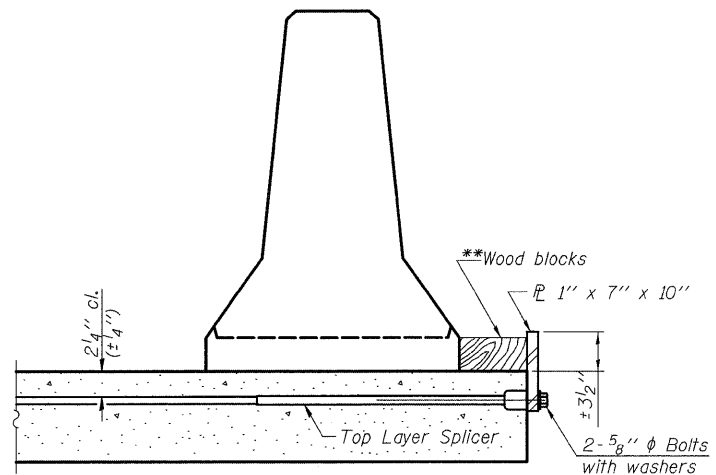
Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place Inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

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

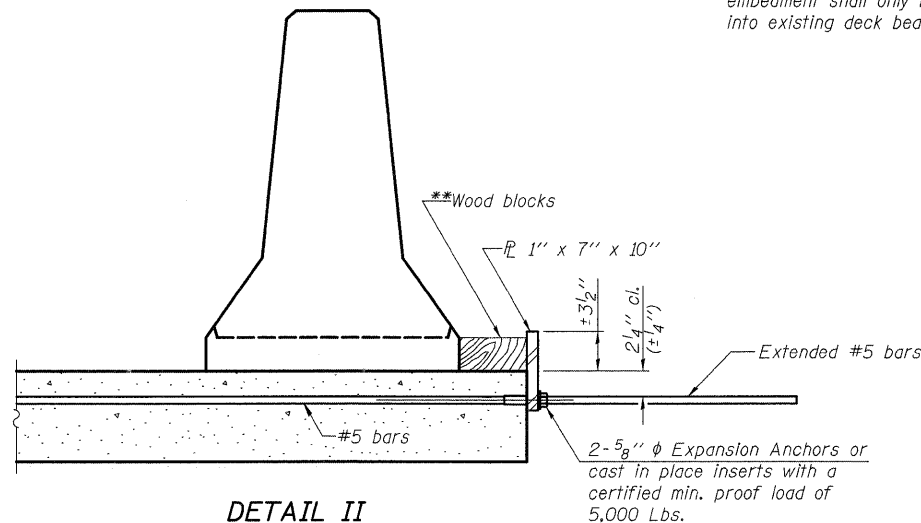
**SECTIONS THRU SLAB OR DECK BEAM**

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

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

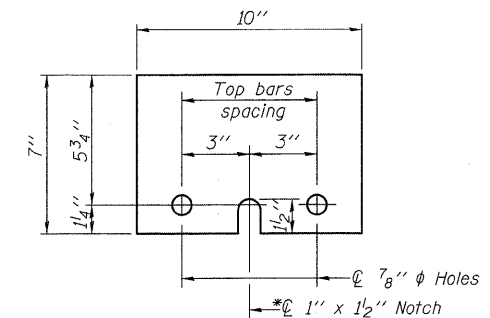


**DETAIL I**



**DETAIL II**

\*\*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  $\bar{L}$  1" x 7" x 10"**

\* Required only with Detail II

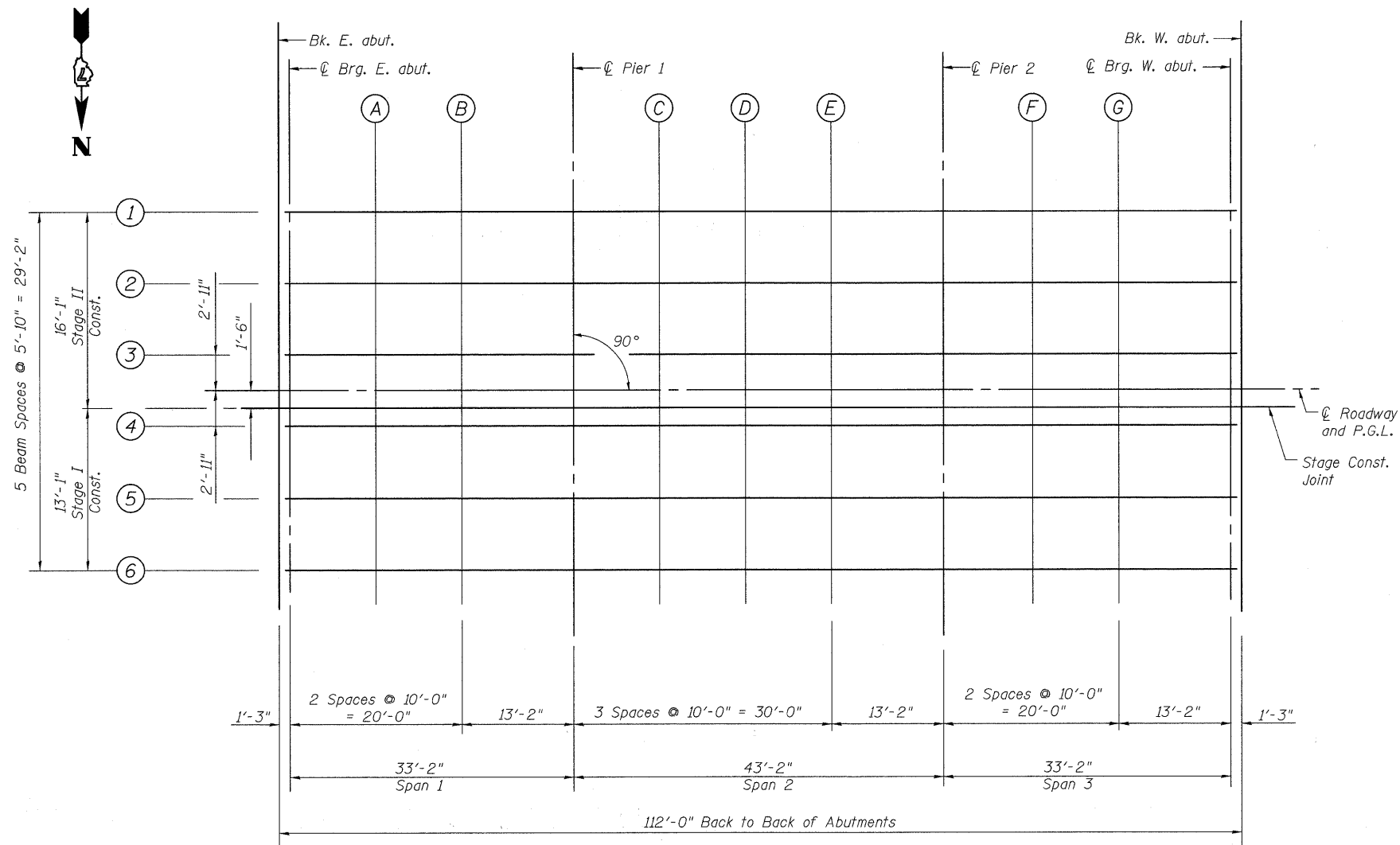
**TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072**

SHEET NO. 3 23 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	40
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 74238					

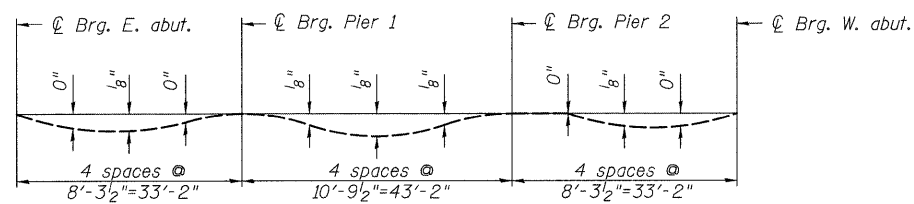
R-27

10-1-08





**PLAN**

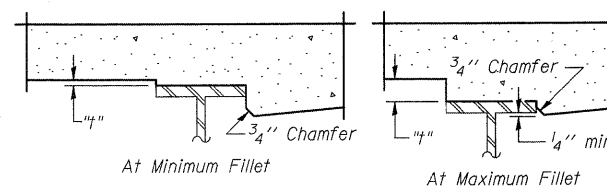


**DEAD LOAD DEFLECTION DIAGRAM**

(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 of 23.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 5 of 23, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**

**TOP OF SLAB ELEVATIONS (1 OF 2)**

**IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072**

SHEET NO. 4	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	41
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	294+85.00	-14.58	393.13	393.13
Cl.E.Abut.	294+86.25	-14.58	393.14	393.14
A	294+96.25	-14.58	393.19	393.20
B	295+06.25	-14.58	393.24	393.25
CL.Pier1	295+19.42	-14.58	393.30	393.30
C	295+29.42	-14.58	393.35	393.36
D	295+39.42	-14.58	393.40	393.41
E	295+49.42	-14.58	393.45	393.46
CL.Pier2	295+62.58	-14.58	393.52	393.52
F	295+72.58	-14.58	393.57	393.57
G	295+82.58	-14.58	393.62	393.63
Cl.W.Abut.	295+95.75	-14.58	393.68	393.68
Bk.W.Abut.	295+97.00	-14.58	393.69	393.69

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	294+85.00	-8.75	393.23	393.23
Cl.E.Abut.	294+86.25	-8.75	393.24	393.24
A	294+96.25	-8.75	393.29	393.30
B	295+06.25	-8.75	393.34	393.35
CL.Pier1	295+19.42	-8.75	393.40	393.40
C	295+29.42	-8.75	393.45	393.46
D	295+39.42	-8.75	393.50	393.51
E	295+49.42	-8.75	393.55	393.56
CL.Pier2	295+62.58	-8.75	393.62	393.62
F	295+72.58	-8.75	393.67	393.67
G	295+82.58	-8.75	393.72	393.73
Cl.W.Abut.	295+95.75	-8.75	393.78	393.78
Bk.W.Abut.	295+97.00	-8.75	393.79	393.79

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	294+85.00	-2.92	393.32	393.32
Cl.E.Abut.	294+86.25	-2.92	393.33	393.33
A	294+96.25	-2.92	393.38	393.39
B	295+06.25	-2.92	393.43	393.44
CL.Pier1	295+19.42	-2.92	393.49	393.49
C	295+29.42	-2.92	393.54	393.55
D	295+39.42	-2.92	393.59	393.60
E	295+49.42	-2.92	393.64	393.65
CL.Pier2	295+62.58	-2.92	393.71	393.71
F	295+72.58	-2.92	393.76	393.76
G	295+82.58	-2.92	393.81	393.82
Cl.W.Abut.	295+95.75	-2.92	393.87	393.87
Bk.W.Abut.	295+97.00	-2.92	393.88	393.88

**ROADWAY & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	294+85.00	0.000	393.37	393.37
Cl.E.Abut.	294+86.25	0.000	393.38	393.38
A	294+96.25	0.000	393.43	393.44
B	295+06.25	0.000	393.48	393.49
CL.Pier1	295+19.42	0.000	393.54	393.54
C	295+29.42	0.000	393.59	393.60
D	295+39.42	0.000	393.64	393.65
E	295+49.42	0.000	393.69	393.70
CL.Pier2	295+62.58	0.000	393.76	393.76
F	295+72.58	0.000	393.81	393.81
G	295+82.58	0.000	393.86	393.87
Cl.W.Abut.	295+95.75	0.000	393.92	393.92
Bk.W.Abut.	295+97.00	0.000	393.93	393.93

**STAGE CONST. JOINT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	294+85.00	1.50	393.35	393.35
Cl.E.Abut.	294+86.25	1.50	393.36	393.36
A	294+96.25	1.50	393.41	393.42
B	295+06.25	1.50	393.46	393.47
CL.Pier1	295+19.42	1.50	393.52	393.52
C	295+29.42	1.50	393.57	393.58
D	295+39.42	1.50	393.62	393.63
E	295+49.42	1.50	393.67	393.68
CL.Pier2	295+62.58	1.50	393.74	393.74
F	295+72.58	1.50	393.79	393.79
G	295+82.58	1.50	393.84	393.85
Cl.W.Abut.	295+95.75	1.50	393.90	393.90
Bk.W.Abut.	295+97.00	1.50	393.91	393.91

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	294+85.00	2.92	393.32	393.32
Cl.E.Abut.	294+86.25	2.92	393.33	393.33
A	294+96.25	2.92	393.38	393.39
B	295+06.25	2.92	393.43	393.44
CL.Pier1	295+19.42	2.92	393.49	393.49
C	295+29.42	2.92	393.54	393.55
D	295+39.42	2.92	393.59	393.60
E	295+49.42	2.92	393.64	393.65
CL.Pier2	295+62.58	2.92	393.71	393.71
F	295+72.58	2.92	393.76	393.76
G	295+82.58	2.92	393.81	393.82
Cl.W.Abut.	295+95.75	2.92	393.87	393.87
Bk.W.Abut.	295+97.00	2.92	393.88	393.88

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	294+85.00	8.75	393.23	393.23
Cl.E.Abut.	294+86.25	8.75	393.24	393.24
A	294+96.25	8.75	393.29	393.30
B	295+06.25	8.75	393.34	393.35
CL.Pier1	295+19.42	8.75	393.40	393.40
C	295+29.42	8.75	393.45	393.46
D	295+39.42	8.75	393.50	393.51
E	295+49.42	8.75	393.55	393.56
CL.Pier2	295+62.58	8.75	393.62	393.62
F	295+72.58	8.75	393.67	393.67
G	295+82.58	8.75	393.72	393.73
Cl.W.Abut.	295+95.75	8.75	393.78	393.78
Bk.W.Abut.	295+97.00	8.75	393.79	393.79

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	294+85.00	14.58	393.13	393.13
Cl.E.Abut.	294+86.25	14.58	393.14	393.14
A	294+96.25	14.58	393.19	393.20
B	295+06.25	14.58	393.24	393.25
CL.Pier1	295+19.42	14.58	393.30	393.30
C	295+29.42	14.58	393.35	393.36
D	295+39.42	14.58	393.40	393.41
E	295+49.42	14.58	393.45	393.46
CL.Pier2	295+62.58	14.58	393.52	393.52
F	295+72.58	14.58	393.57	393.57
G	295+82.58	14.58	393.62	393.63
Cl.W.Abut.	295+95.75	14.58	393.68	393.68
Bk.W.Abut.	295+97.00	14.58	393.69	393.69

**TOP OF SLAB ELEVATIONS (2 OF 2)**

**IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072**

SHEET NO. 5 23 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	42
			CONTRACT NO. 74238		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	294+55.00	16.42	392.94
A	294+65.00	16.42	392.99
B	294+75.00	16.42	393.04
Bk. E. Abut.	294+85.00	16.42	393.09

**NORTH EDGE OF PAVEMENT**

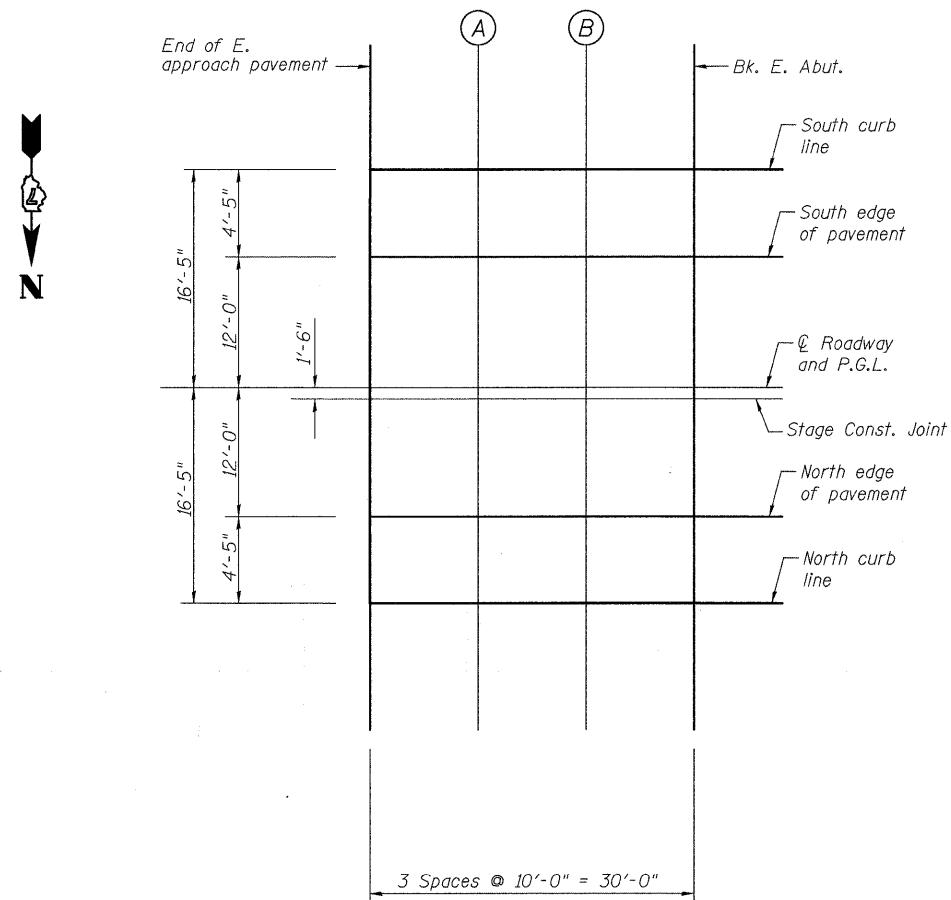
Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	294+55.00	12.00	393.03
A	294+65.00	12.00	393.08
B	294+75.00	12.00	393.13
Bk. E. Abut.	294+85.00	12.00	393.18

**STAGE CONST. JOINT**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	294+55.00	1.50	393.20
A	294+65.00	1.50	393.25
B	294+75.00	1.50	393.30
Bk. E. Abut.	294+85.00	1.50	393.35

**☉ ROADWAY & PG**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	294+55.00	0.000	393.22
A	294+65.00	0.000	393.27
B	294+75.00	0.000	393.32
Bk. E. Abut.	294+85.00	0.000	393.37



**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	294+55.00	-12.00	393.03
A	294+65.00	-12.00	393.08
B	294+75.00	-12.00	393.13
Bk. E. Abut.	294+85.00	-12.00	393.18

**SOUTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	294+55.00	-16.42	392.94
A	294+65.00	-16.42	392.99
B	294+75.00	-16.42	393.04
Bk. E. Abut.	294+85.00	-16.42	393.09

**TOP OF EAST APPROACH  
SLAB ELEVATIONS**  
**IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

SHEET NO. 6	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	43
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	295+97.00	16.42	393.65
C	296+07.00	16.42	393.70
D	296+17.00	16.42	393.75
End W. Appr. Pav't	296+27.00	16.42	393.80

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	295+97.00	12.00	393.74
C	296+07.00	12.00	393.79
D	296+17.00	12.00	393.84
End W. Appr. Pav't	296+27.00	12.00	393.89

**STAGE CONST. JOINT**

Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	295+97.00	1.50	393.91
C	296+07.00	1.50	393.96
D	296+17.00	1.50	394.01
End W. Appr. Pav't	296+27.00	1.50	394.06

**☉ ROADWAY & PG**

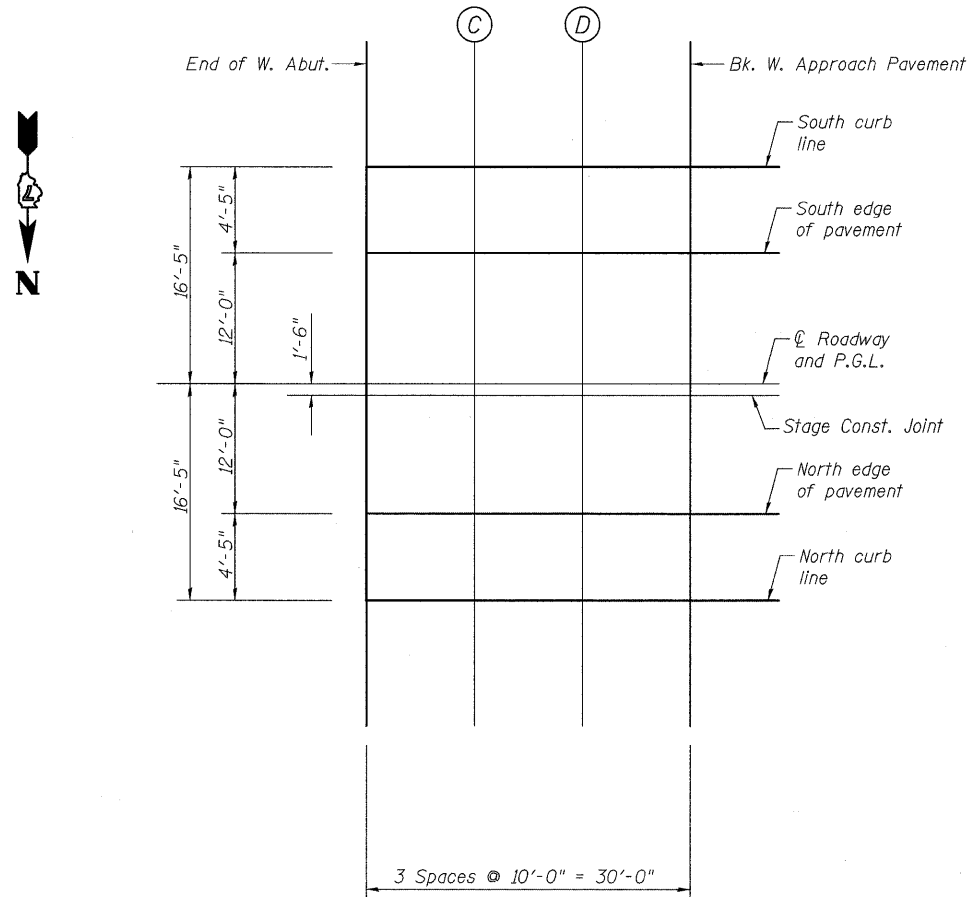
Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	295+97.00	0.000	393.93
C	296+07.00	0.000	393.98
D	296+17.00	0.000	394.03
End W. Appr. Pav't	296+27.00	0.000	394.08

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	295+97.00	-12.00	393.74
C	296+07.00	-12.00	393.79
D	296+17.00	-12.00	393.84
End W. Appr. Pav't	296+27.00	-12.00	393.89

**SOUTH CURB LINE**

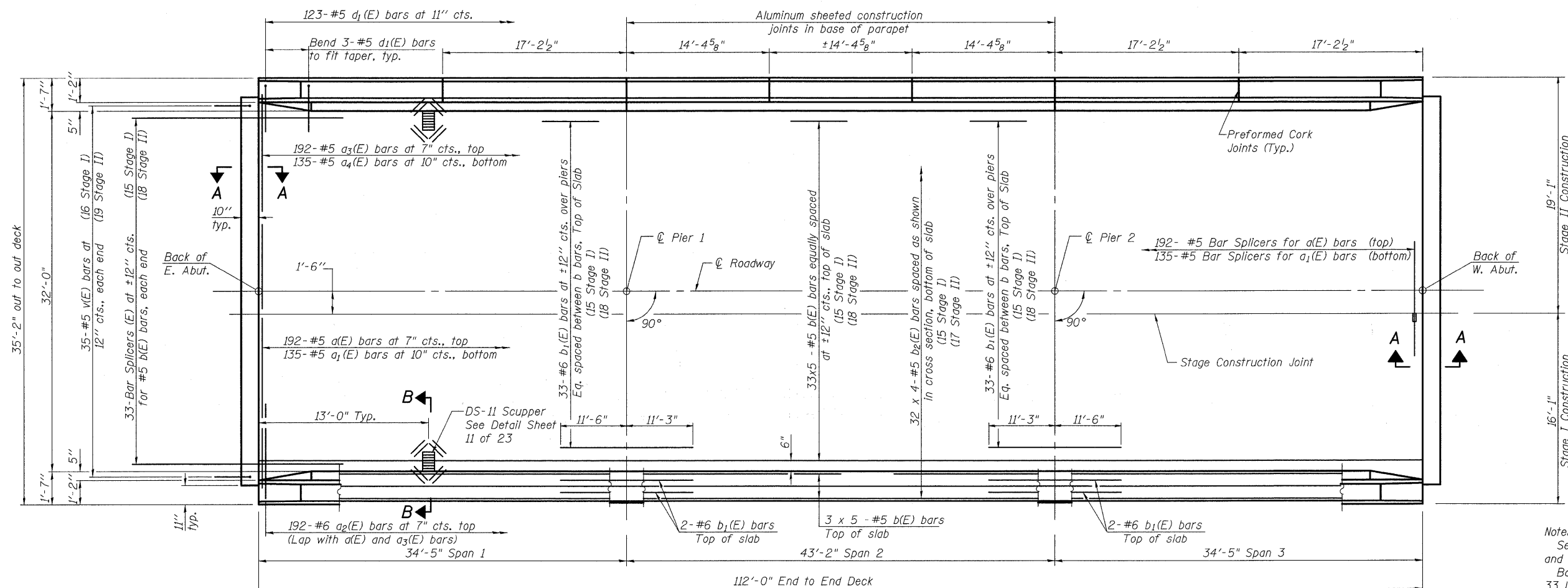
Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	295+97.00	-16.42	393.65
C	296+07.00	-16.42	393.70
D	296+17.00	-16.42	393.75
End W. Appr. Pav't	296+27.00	-16.42	393.80



**TOP OF WEST APPROACH  
SLAB ELEVATIONS**

**IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072**

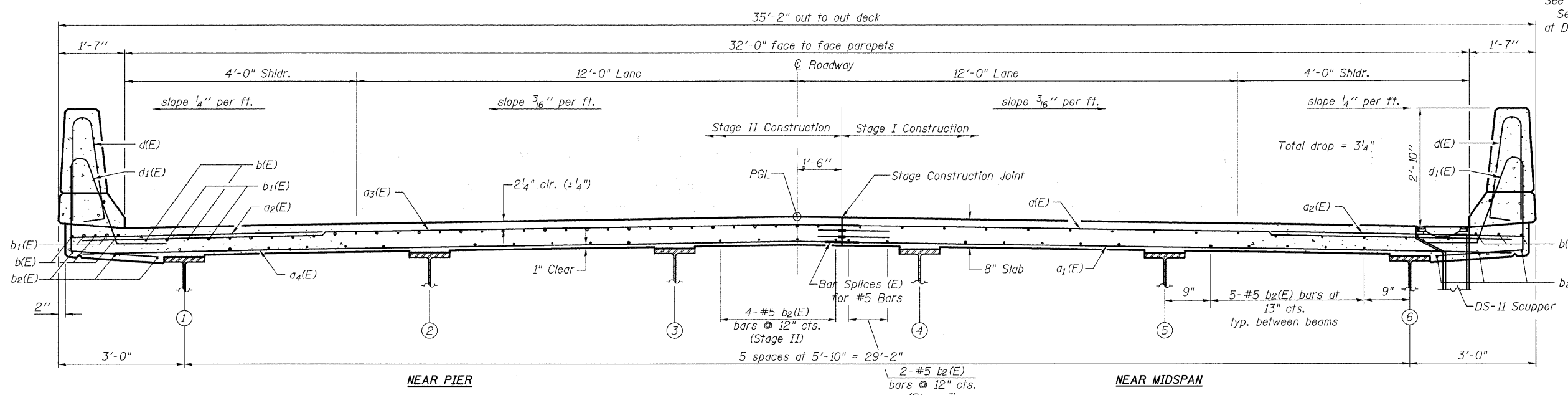
SHEET NO. 7	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	44
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		



**MINIMUM BAR LAP**  
#5 bar = 1'-8"

Notes:  
See Sheet 9 of 23 for superstructure details and Bill of Material.  
Bars indicated thus 30 x 5-#5 etc. indicates 33 lines of bars with 5 lengths per line.  
See Sheet 9 of 23 for parapet reinforcement.  
For details of bar splicers see Sheet 18 of 23.  
For Sections A-A and Section B-B See Sheet 10 of 23.  
See Sheet 10 of 23 for plan at Drainage Scupper.

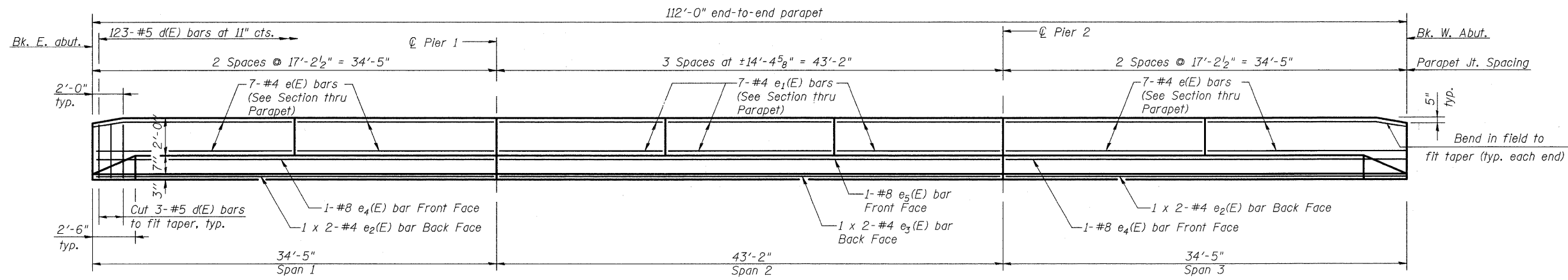
**PLAN**



**SUPERSTRUCTURE  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072**

**CROSS SECTION**  
(Looking West)

SHEET NO. 8 23 SHEETS	F.A.P. RTE. 823	SECTION (22BY2) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 45
	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		



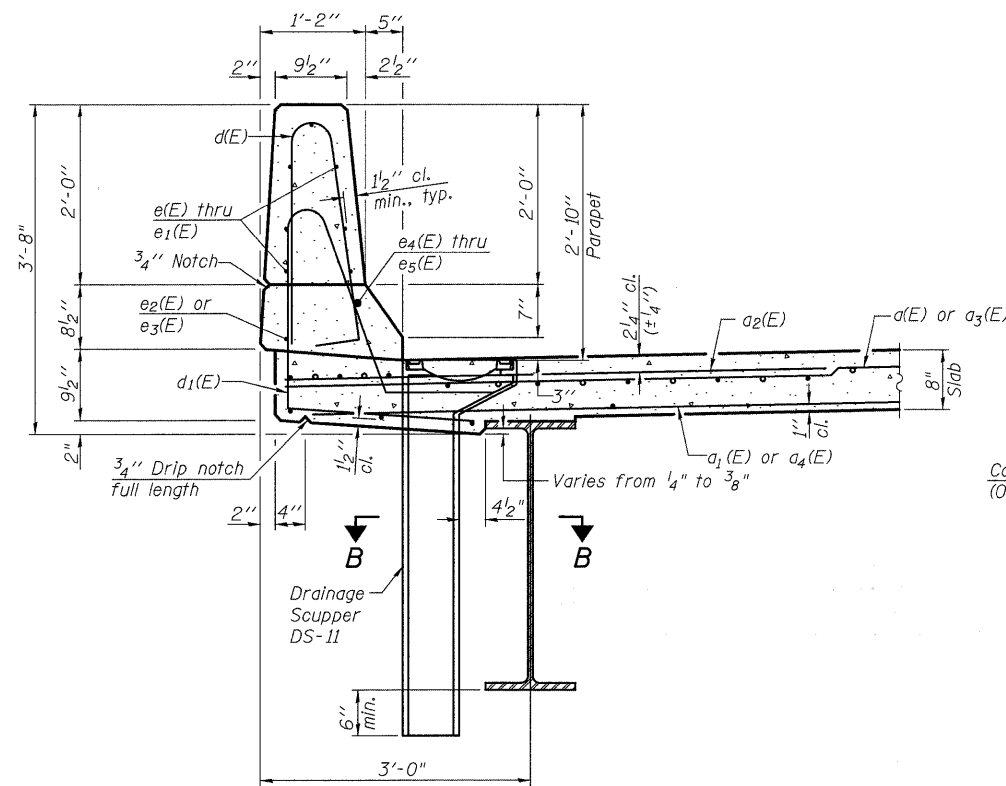
**MINIMUM BAR LAP**  
(Parapet)

#4 bar = 1'-4"  
#8 bar = 3'-5"

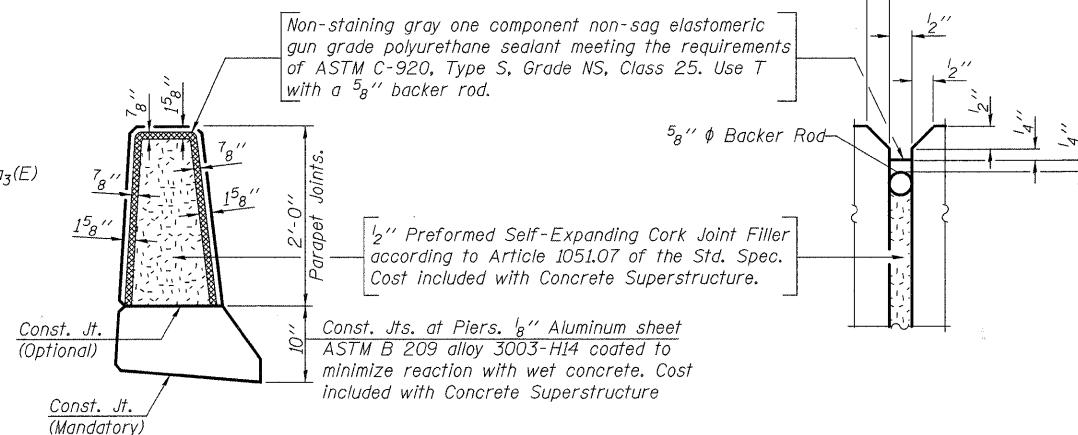
**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	192	#5	15'-7"	—
a <sub>1</sub> (E)	135	#5	15'-1"	—
a <sub>2</sub> (E)	384	#6	6'-0"	—
a <sub>3</sub> (E)	192	#5	18'-7"	—
a <sub>4</sub> (E)	135	#5	18'-1"	—
a <sub>5</sub> (E)	16	#5	1'-6"	—
b(E)	117	#5	23'-8"	—
b <sub>1</sub> (E)	70	#6	26'-6"	—
b <sub>2</sub> (E)	128	#5	29'-2"	—
d(E)	246	#5	5'-7"	⌋
d <sub>1</sub> (E)	246	#5	7'-10"	⌋
e(E)	56	#4	16'-11"	—
e <sub>1</sub> (E)	42	#4	14'-0"	—
e <sub>2</sub> (E)	8	#4	17'-9"	—
e <sub>3</sub> (E)	4	#4	22'-1"	—
e <sub>4</sub> (E)	4	#8	34'-1"	—
e <sub>5</sub> (E)	2	#8	42'-10"	—
m(E)	4	#6	14'-10"	—
m <sub>1</sub> (E)	6	#6	15'-9"	—
m <sub>2</sub> (E)	24	#6	8'-3"	—
m <sub>3</sub> (E)	8	#6	5'-5"	—
m <sub>4</sub> (E)	4	#6	2'-8"	—
m <sub>5</sub> (E)	4	#6	17'-10"	—
m <sub>6</sub> (E)	6	#6	18'-9"	—
m <sub>7</sub> (E)	2	#6	4'-1"	—
s(E)	72	#5	5'-5"	⌋
s <sub>1</sub> (E)	62	#4	8'-6"	⌋
v(E)	70	#5	3'-4"	⌋
Reinforcement Bars, Epoxy Coated		Pound	33770	
Concrete Superstructure		Cu. Yds.	145.2	
Bar Splicers		Each	409	

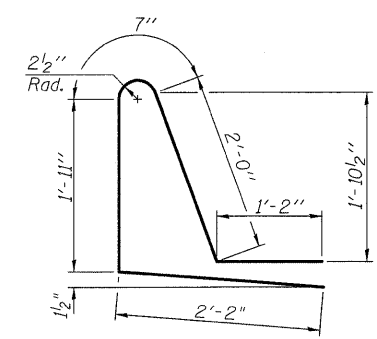
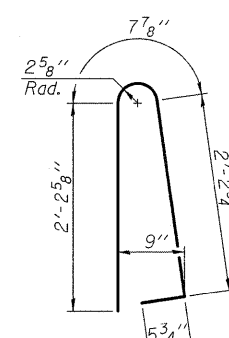
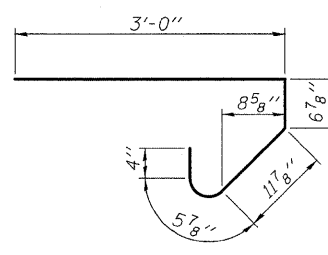
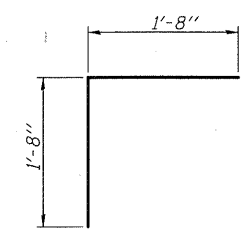
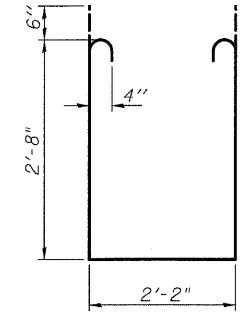
**INSIDE ELEVATION OF PARAPET**



**SECTION THRU PARAPET**

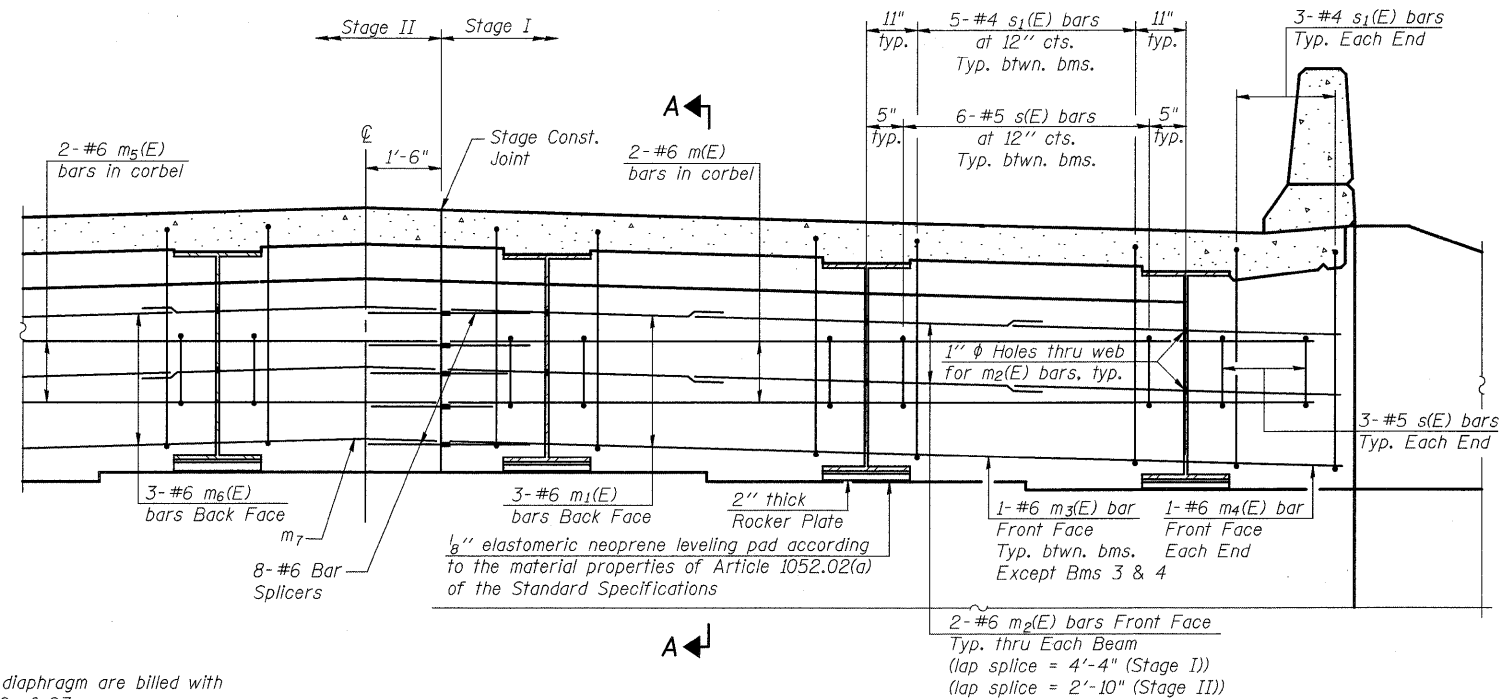


**PARAPET JOINT DETAILS**



**SUPERSTRUCTURE DETAILS**  
**IL 15 OVER UNION DRAINAGE**  
**DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

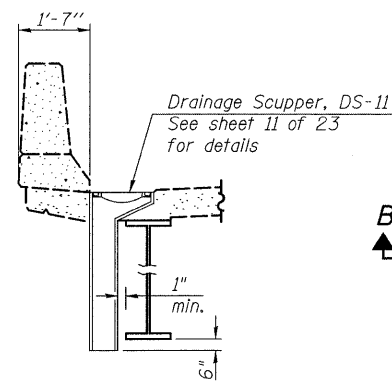
SHEET NO. 9	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	46
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		



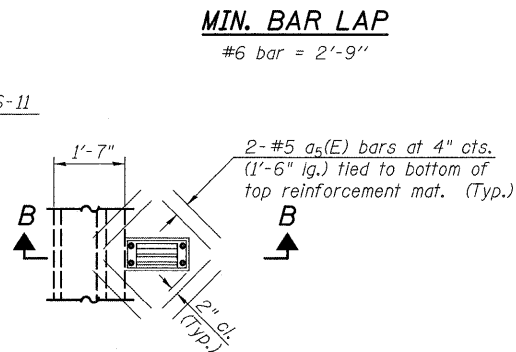
**DIAPHRAGM ELEVATION AT ABUTMENT**

Looking West @ W. Abutment  
(E. Abutment Similar)

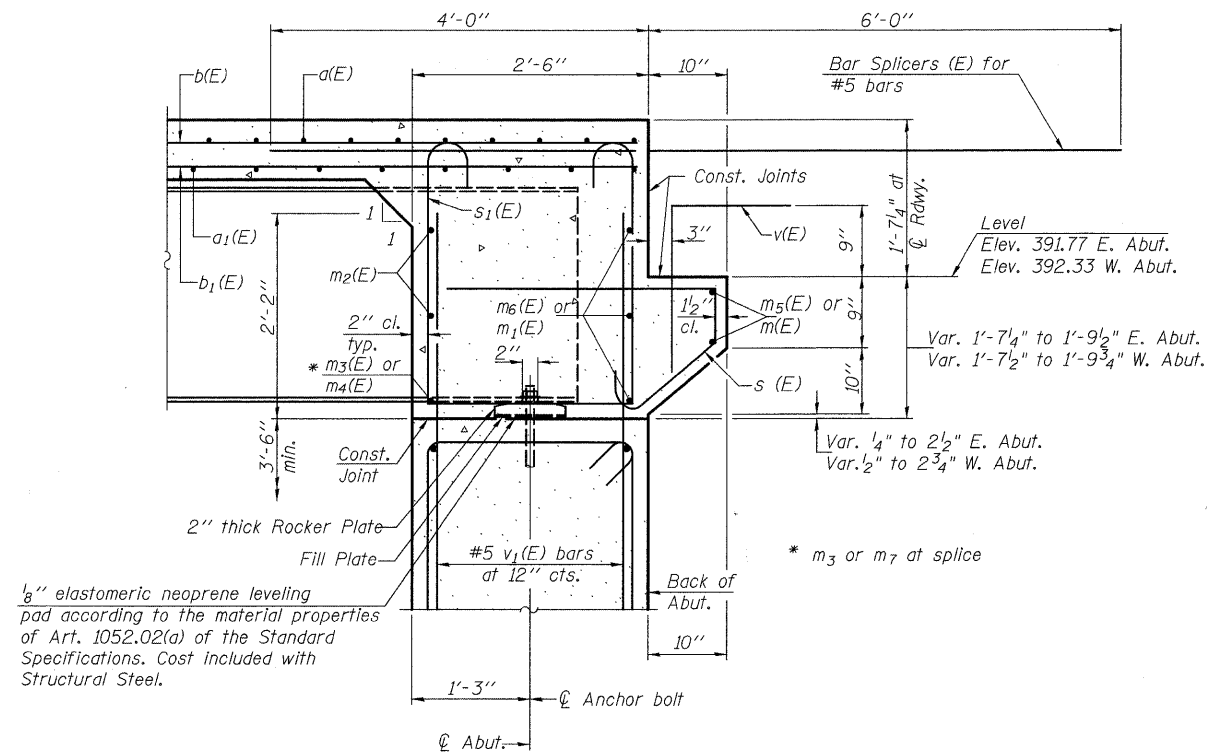
**Notes:**  
 Reinforcement bars in diaphragm are billed with superstructure on sheet 9 of 23.  
 Concrete in diaphragm is included with Concrete Superstructure on sheet 9 of 23.  
 For details of bars s(E) & s1(E) see sheet 9 of 23.  
 The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.



**SECTION B-B**



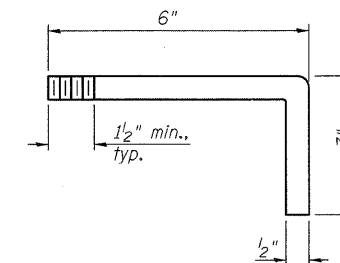
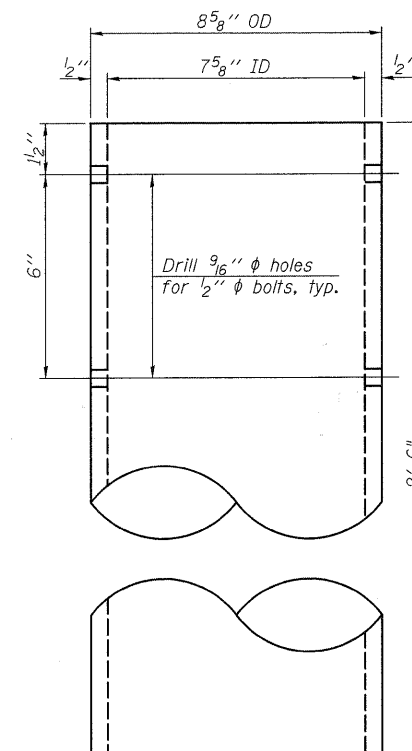
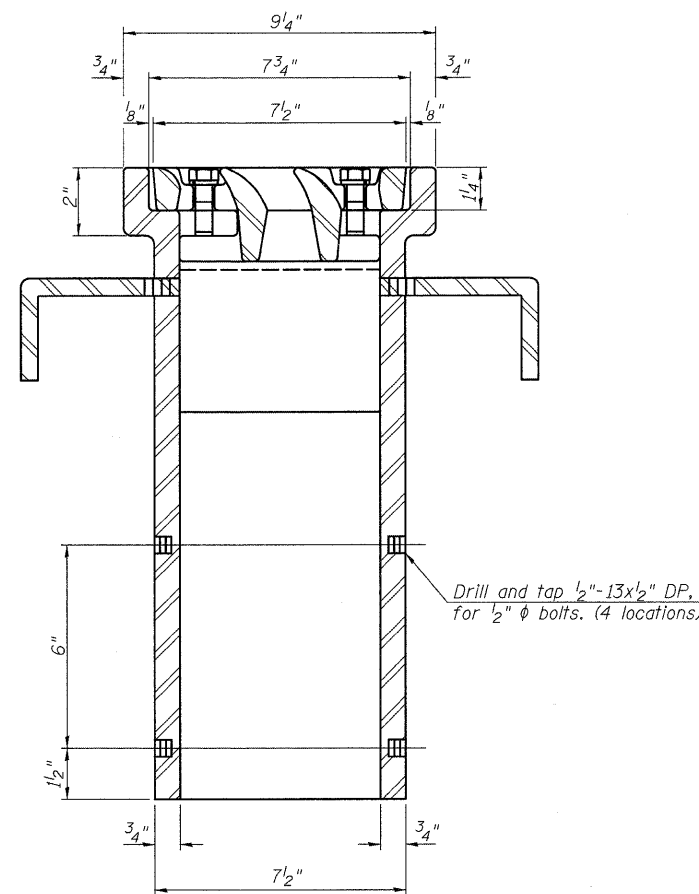
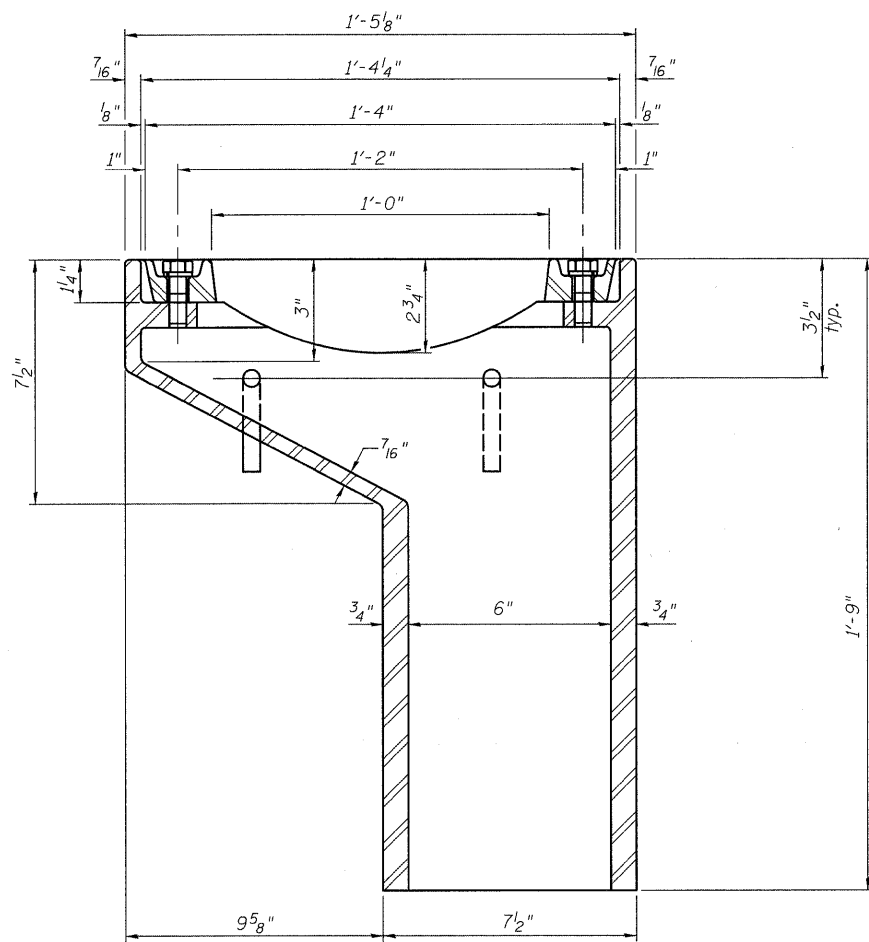
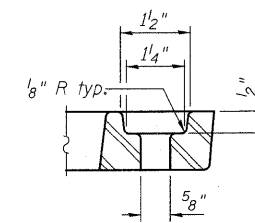
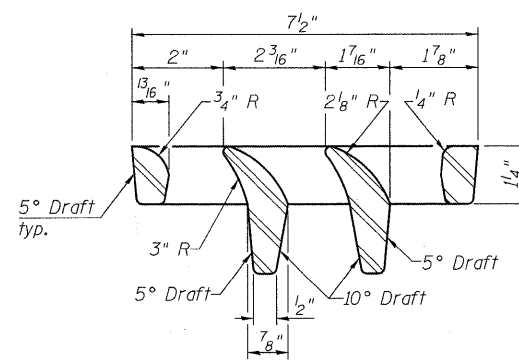
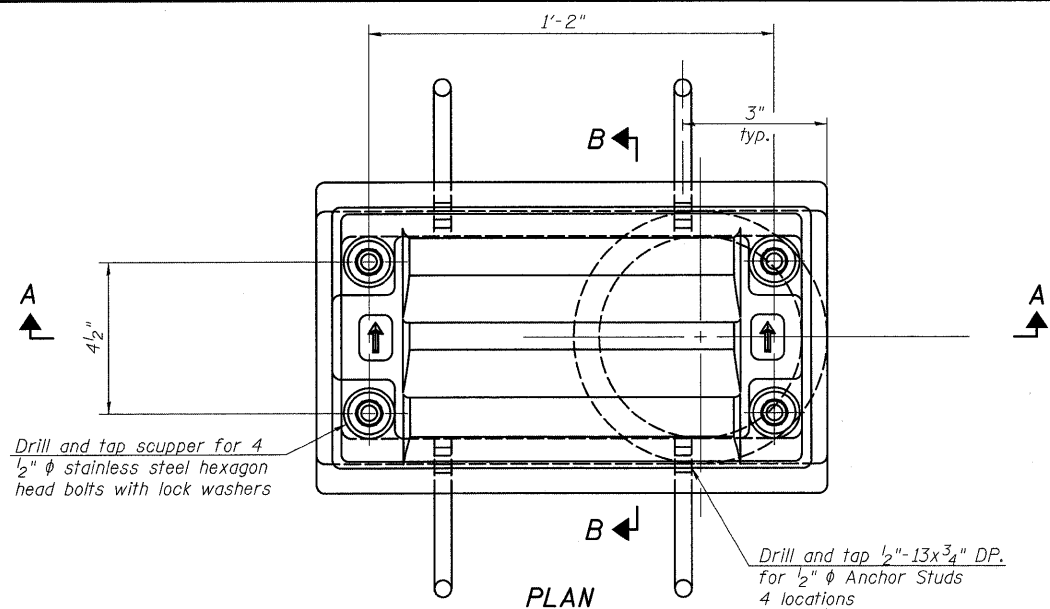
**PLAN**



**SECTION A-A**

**ABUTMENT DIAPHRAGM DETAILS**  
**IL 15 OVER UNION DRAINAGE**  
**DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

SHEET NO. 10 23 SHEETS	F.A.P. RTE. 823	SECTION (22BY2) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 47
	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	2

**DRAINAGE SCUPPER, DS-11**  
**IL 15 OVER UNION DRAINAGE**  
**DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

SHEET NO. 11	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
23 SHEETS	823	(22BY2) B-1	WAYNE	142	48
			CONTRACT NO. 74238		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

DS-11

10-1-08

BLANK, WESSELINK, COOK & ASSOCIATES

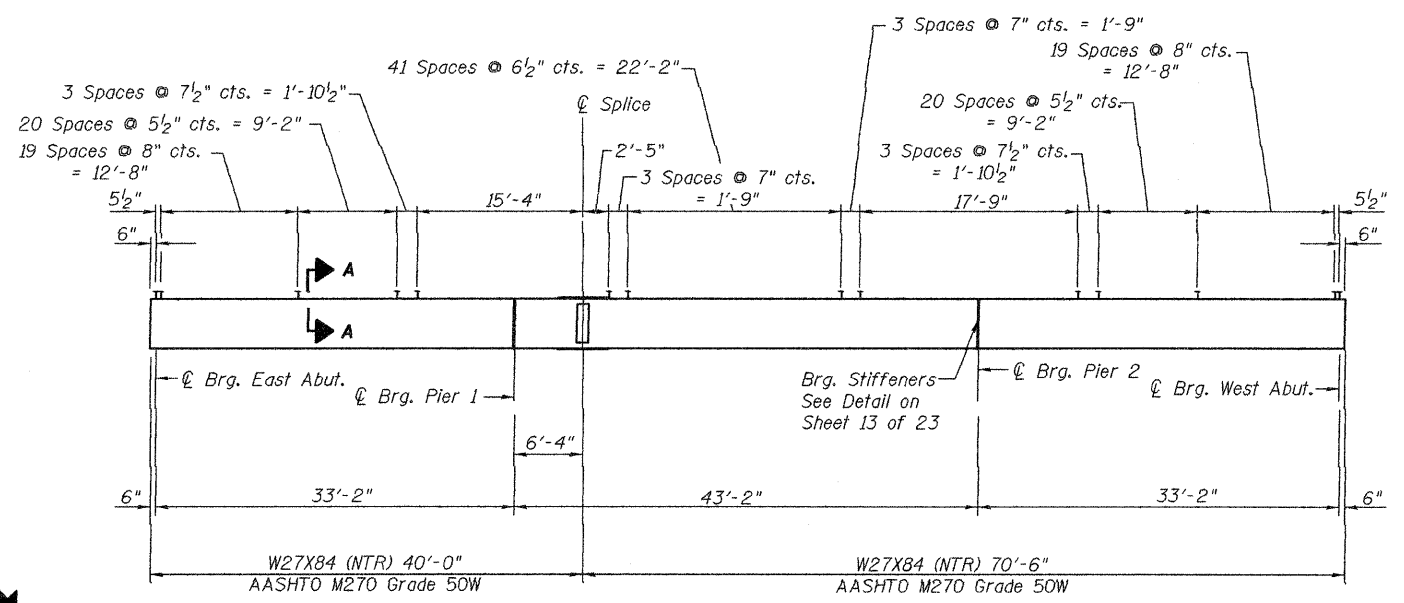
ENGINEERS - CONSULTANTS

DECATUR, ILLINOIS

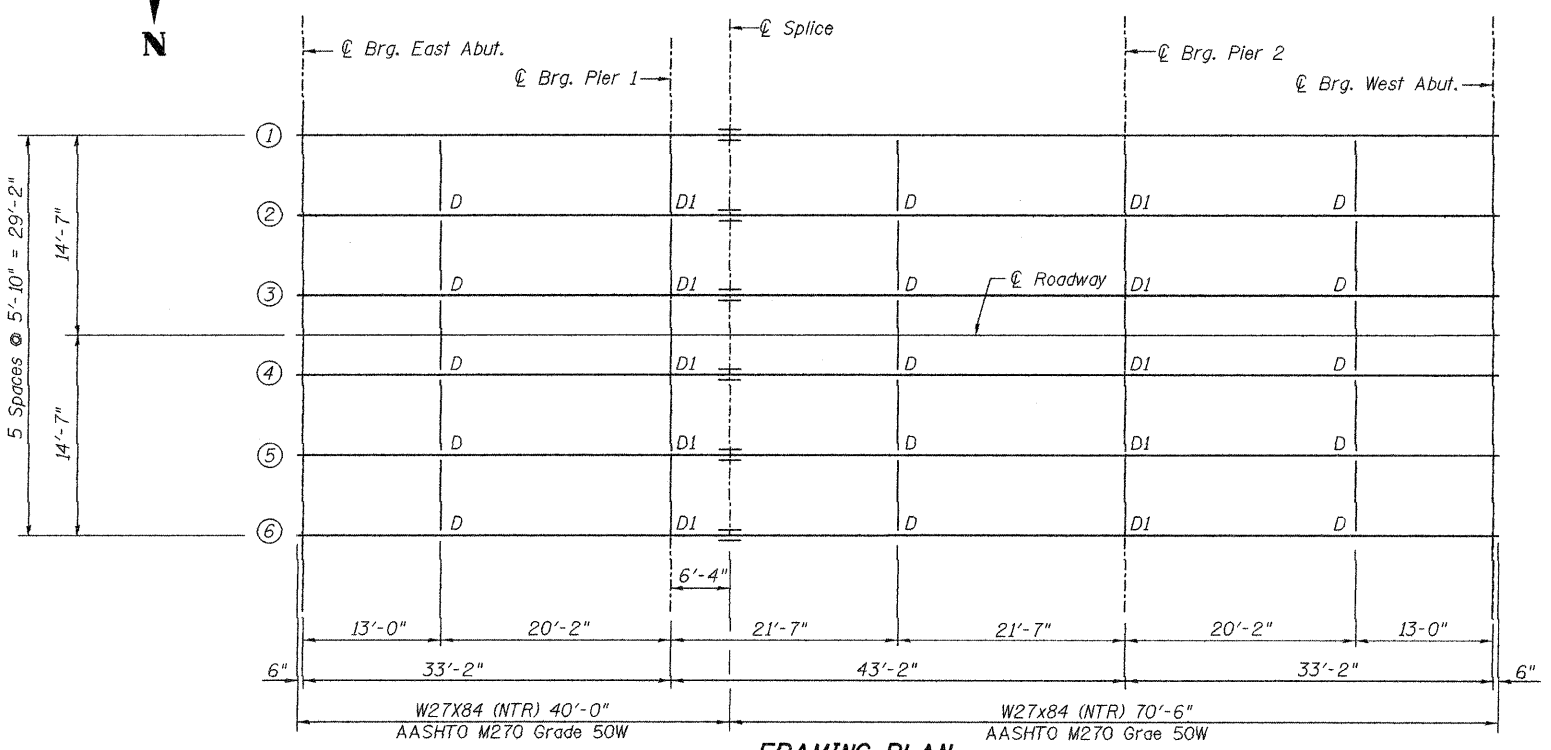
DESIGN FIRM NO. 184000894

**Notes:**  
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.  
 Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.  
 Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.  
 As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.  
 Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.  
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.  
 Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.  
 Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

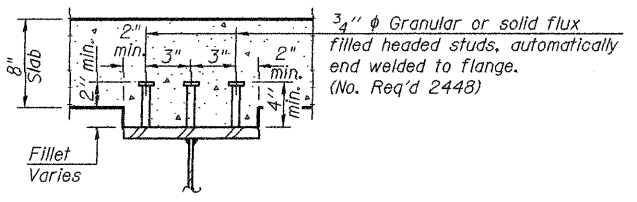




**ELEVATION**



**FRAMING PLAN**



**SECTION A-A**

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

Load carrying components designated \*NTR\* shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

	E. Abut.	☉ Pier 1	☉ Splice	☉ Pier 2	W. Abut.
Beam 1 and 6	392.37	392.53	392.56	392.75	392.91
Beam 2 and 5	392.47	392.63	392.66	392.85	393.01
Beam 3 and 4	392.56	392.72	392.75	392.94	393.10

**TOP OF BEAM ELEVATIONS**  
(For Fabrication use Only)

	0.4 Sp. 1 or 0.6 Sp. 2	Pier 1 or 2	0.5 Sp. 2
$I_s$	2850	2850	2850
$I_c(n)$	8832		8832
$I_c(3n)$	6565		6565
$S_s$	213	213	213
$S_c(n)$	338		338
$S_c(3n)$	305		305
DC1	0.700	0.700	0.700
M <sub>DC1</sub>	51	103	60
DC2	0.150	0.150	0.150
M <sub>DC2</sub>	11	22	13
DW	0.267	0.267	0.267
M <sub>DW</sub>	19	39	23
M <sub>ℓ + IM</sub>	291	227	294
M <sub>u</sub> (Strength I)	615	613	638
φ <sub>r</sub> M <sub>n</sub>	1990		1990
f <sub>s</sub> DC1	2.9	5.9	3.4
f <sub>s</sub> DC2	0.5	1.3	0.5
f <sub>s</sub> DW	0.8	2.3	0.9
f <sub>s</sub> 1.3(ℓ + IM)	13.5	16.6	13.7
f <sub>s</sub> (Service II)	17.7	26.1	18.5
f <sub>s</sub> (Total)(Strength I)	15.1	34.9	16.4
V <sub>r</sub>			

\* Compact sections  
\*\* Non-Compact and slender sections

	Abut.	Pier
R <sub>DC1</sub>	8.4	29.8
R <sub>DC2</sub>	1.8	6.4
R <sub>DW</sub>	3.2	11.3
R <sub>ℓ + IM</sub>	47.7	75.1
R <sub>Total</sub>	61.1	122.6

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$ (Total-Strength I, and Service II) due to non-composite dead loads (in.<sup>4</sup> and in.<sup>3</sup>).

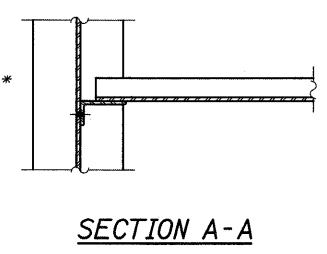
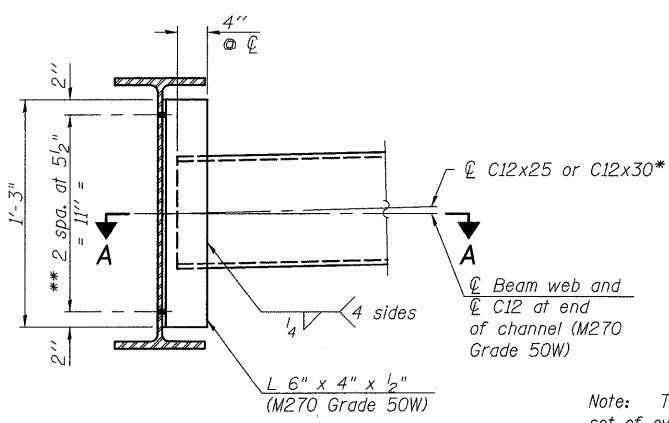
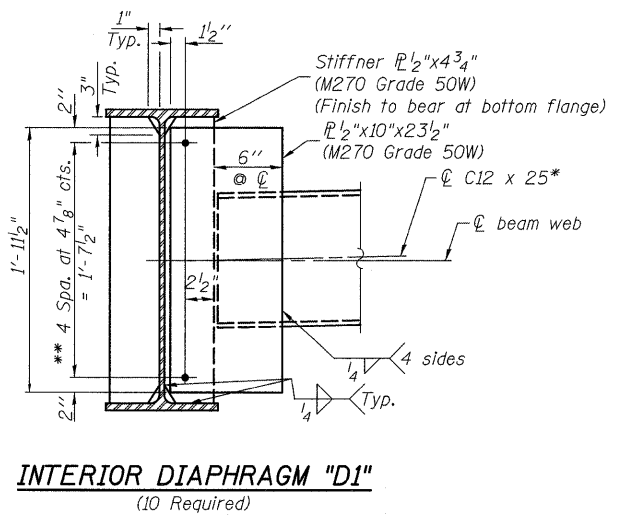
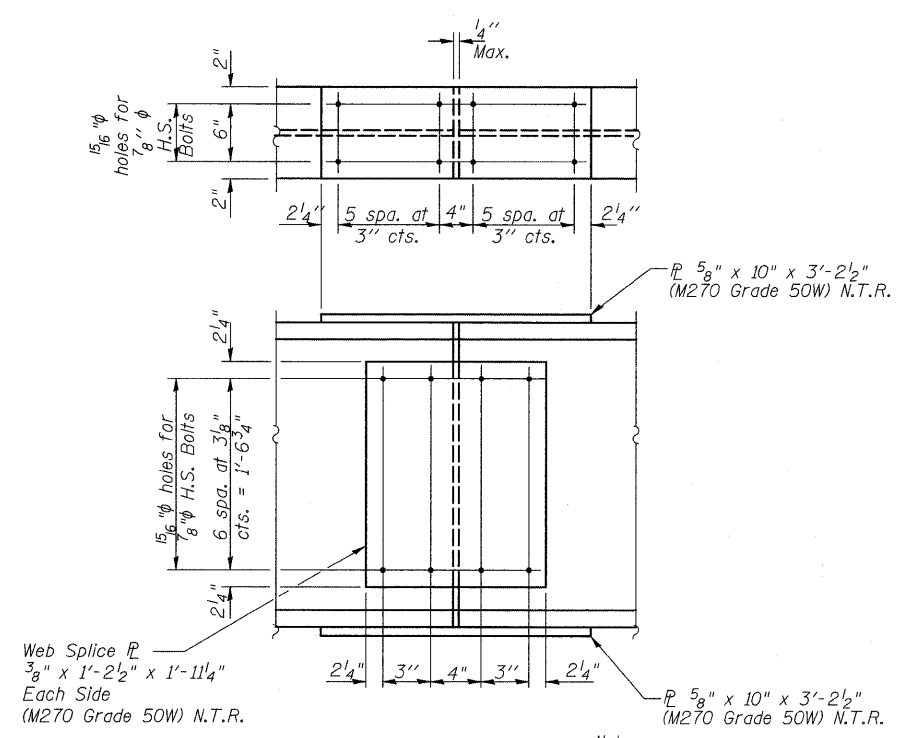
$I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$ (Total-Strength I, and Service II) due to short-term composite live loads (in.<sup>4</sup> and in.<sup>3</sup>).

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

DC1: Un-factored non-composite dead load (kips/ft.).  
M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).  
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
M<sub>ℓ + IM</sub>: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).  
M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>ℓ + IM</sub>  
φ<sub>r</sub>M<sub>n</sub>: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).  
f<sub>s</sub> (Service II): Sum of stresses as computed from the moments below (ksi).  
M<sub>DC1</sub> + M<sub>DC2</sub> + M<sub>DW</sub> + 1.3 M<sub>ℓ + IM</sub>  
f<sub>s</sub> (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>ℓ + IM</sub>  
V<sub>r</sub>: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

**FRAMING PLAN AND  
BEAM DETAILS  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072**

SHEET NO. 12	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
23 SHEETS	823	(22BY2) B-1	WAYNE	142	49
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
			CONTRACT NO. 74238		



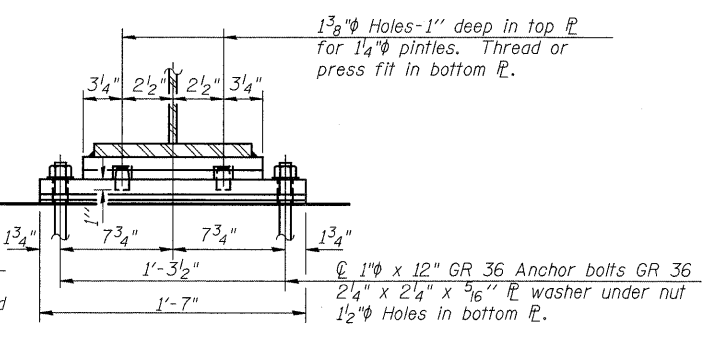
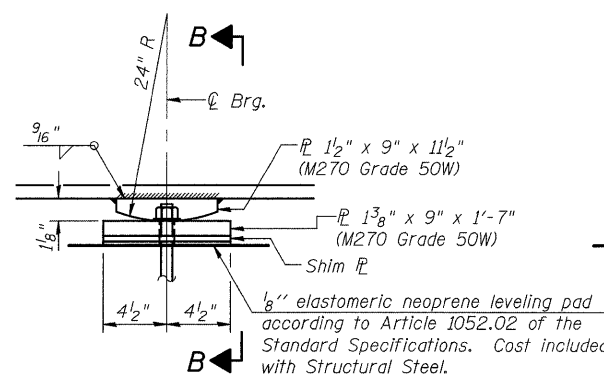
Note: Two hardened washers required for each set of oversized holes.

\* Alternate C12x30 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. This alternate, if utilized, shall be provided at no extra cost to the Department.

\*\* 3/4 inch diameter HS bolts, 5/16 inch diameter holes

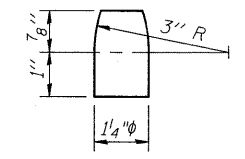
**SPLICE**  
(6 Required)

Note: Steel designated with N.T.R. shall conform to the requirements for Notch Toughness (Zone 2).



**ELEVATION AT PIER**

**SECTION B-B**



**PINTLE**

**FIXED BEARING AT PIERS**  
(12 Required)

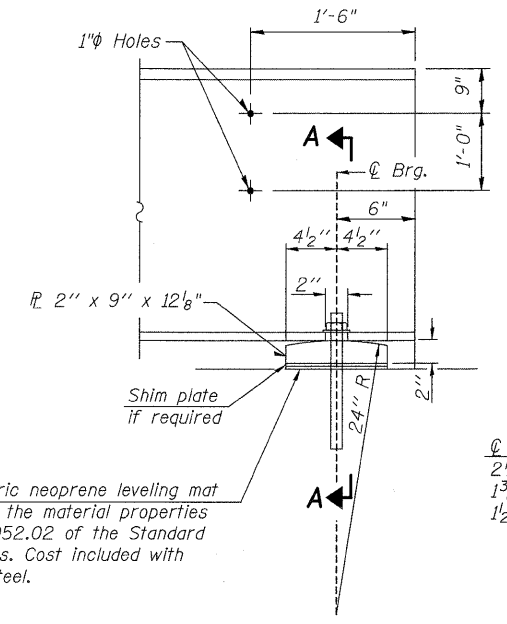
Notes:

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.

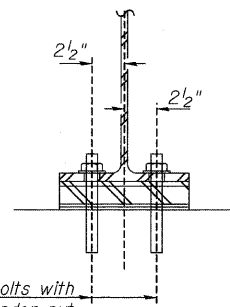
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



1/8 inch elastomeric neoprene leveling mat according to the material properties of Article 1052.02 of the Standard Specifications. Cost included with Structural Steel.

**ELEVATION AT ABUTMENT**



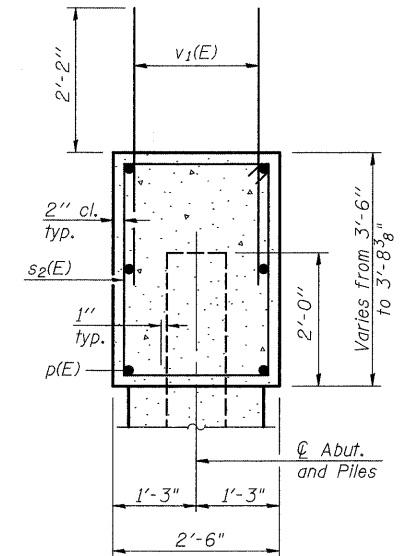
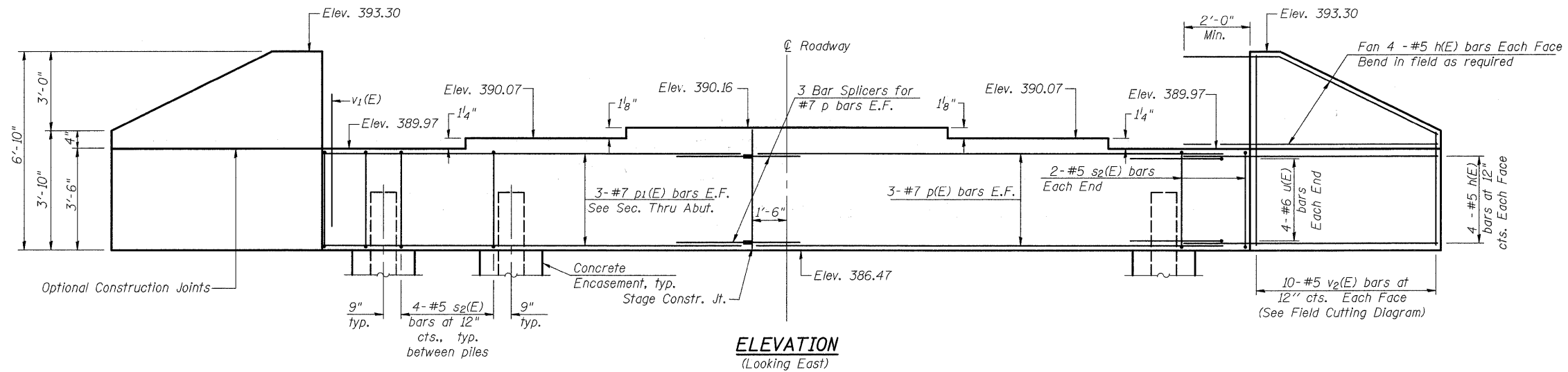
**SECTION A-A**

**FIXED BEARING**

**STRUCTURAL STEEL DETAILS**  
**IL 15 OVER UNION DRAINAGE**  
**DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

SHEET NO. 13	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	50
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

Notes: Pour steps monolithically with cap.

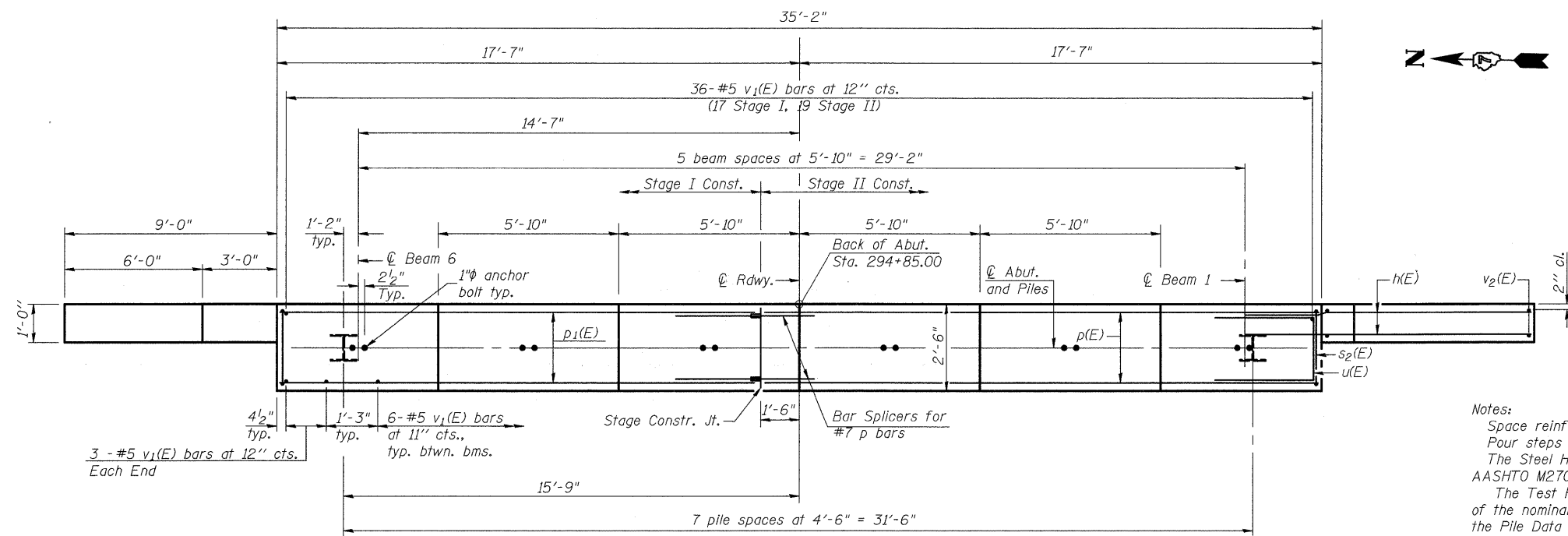


SEC. THRU ABUT.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	32	#5	10'-10"	—
p(E)	6	#7	18'-9"	—
d1(E)	6	#7	15'-9"	—
s2(E)	32	#5	11'-7"	□
u(E)	8	#6	10'-1"	□
v1(E)	72	#5	4'-4"	—
v2(E)	20	#5	10'-0"	—
Structure Excavation		Cu. Yd.	108	
Concrete Structures		Cu. Yd.	15.5	
Reinforcement Bars, Epoxy Coated		Pound	1990	
Furnishing Steel Piles, HP 14x73		Foot	434	
Driving Piles		Foot	434	
Test Pile, HP 14x73		Each	1	
Concrete Encasement		Cu. Yd.	4.4	
Bar Splicers		Each	6	

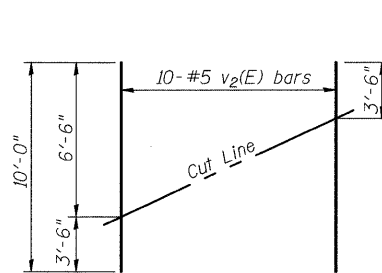
Notes:  
 Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 The Steel H Piles shall be according to AASHTO M270 Grade 50.  
 The Test Pile shall be driven to 110 percent of the nominal required bearing indicated in the Pile Data information.  
 For details of piles and Concrete Encasement, see sheet 19 of 23.



PLAN

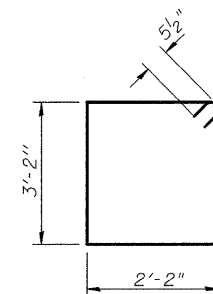
**PILE DATA**

Type: Steel HP 14x73  
 Nominal Required Bearing: 578k  
 Factored Resistance Available: 133k  
 Est. Length: 62 ft.  
 No. Production Piles: 7  
 No. Test Piles: 1

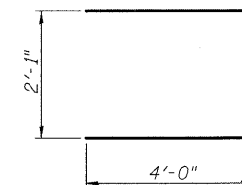


FIELD CUTTING DIAGRAM

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



BAR s2(E)

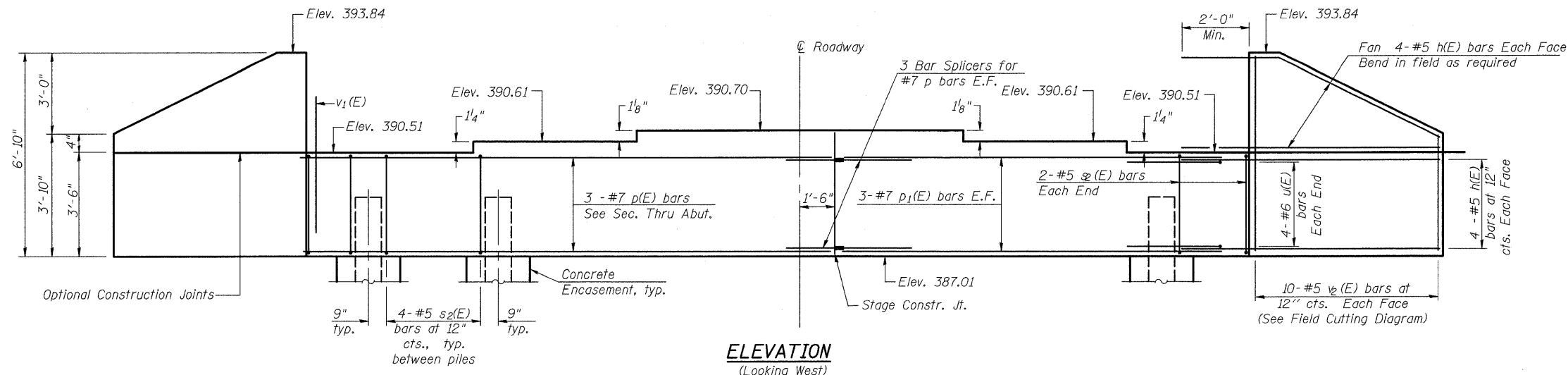


BAR u(E)

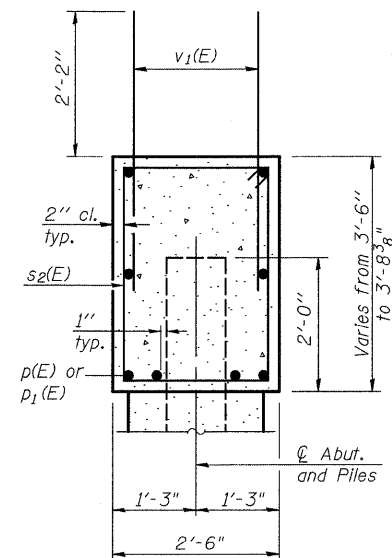
**EAST ABUTMENT**  
**IL 15 OVER UNION DRAINAGE**  
**DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

SHEET NO. 14	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	51
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

Notes: Pour steps monolithically with cap.



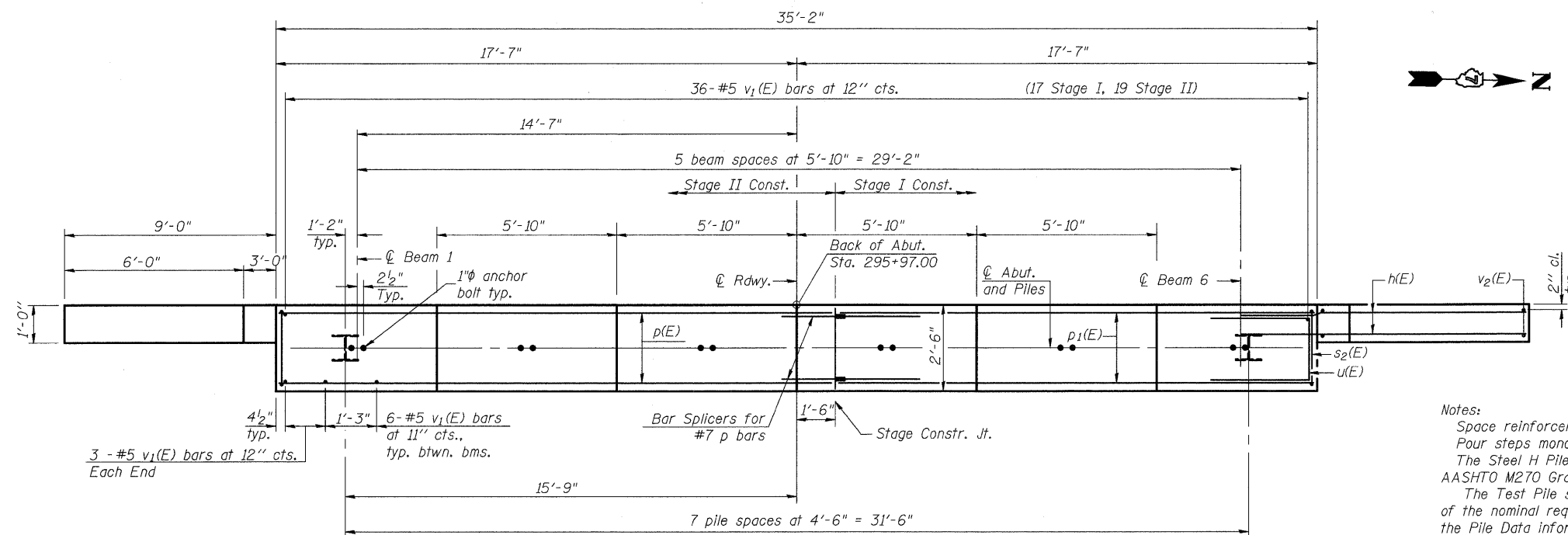
**ELEVATION**  
(Looking West)



**SEC. THRU ABUT.**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
h(E)	32	#5	10'-10"	—	
p(E)	6	#7	18'-9"	—	
p1(E)	6	#7	15'-9"	—	
s2(E)	32	#5	11'-7"	□	
u(E)	8	#6	10'-1"	□	
v1(E)	72	#5	4'-4"	—	
v2(E)	20	#5	10'-0"	—	
Concrete Structures				Cu. Yd.	15.5
Reinforcement Bars, Epoxy Coated				Pound	1990
Furnishing Steel Piles, HP 14x73				Foot	385
Driving Piles				Foot	385
Test Pile, HP 14x73				Each	1
Concrete Encasement				Cu. Yd.	4.4
Bar Splicers				Each	6

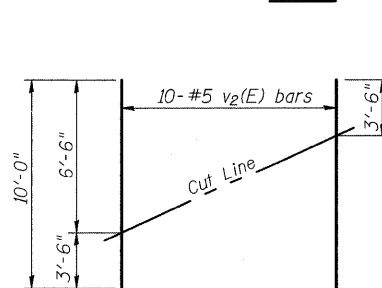


**PLAN**

Notes:  
Space reinforcement in cap to miss anchor bolts.  
Pour steps monolithically with cap.  
The Steel H Piles shall be according to AASHTO M270 Grade 50.  
The Test Pile shall be driven to 110 percent of the nominal required bearing indicated in the Pile Data information.  
For details of piles and Concrete Encasement, see sheet 19 of 23.

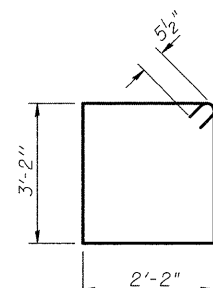
**PILE DATA**

Type: Steel HP 14x73  
Nominal Required Bearing: 578k  
Factored Resistance Available: 141k  
Est. Length: 55 ft.  
No. Production Piles: 7  
No. Test Piles: 1

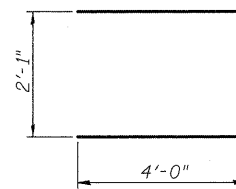


**FIELD CUTTING DIAGRAM**

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



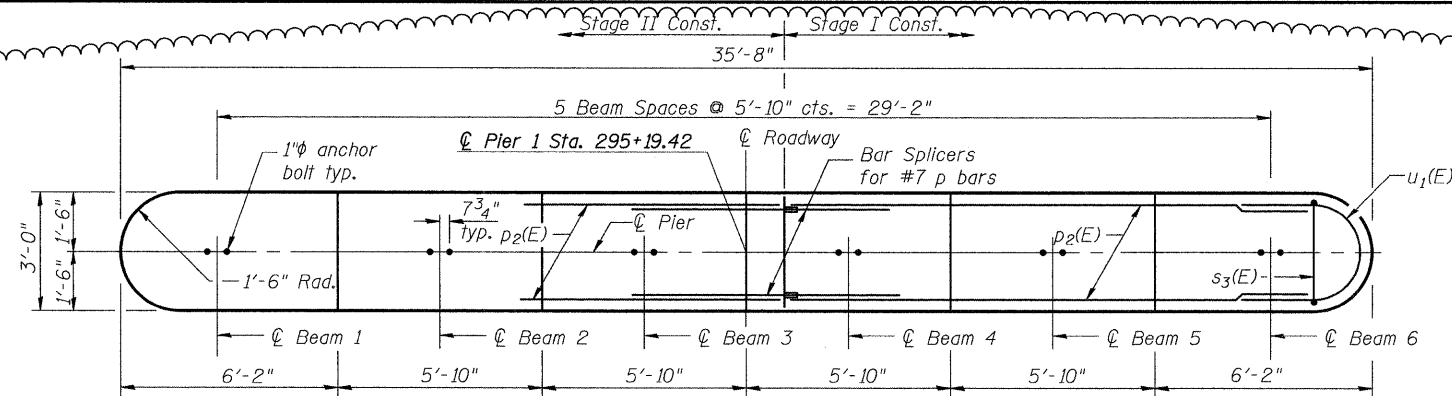
**BAR s2(E)**



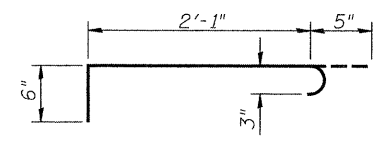
**BAR u(E)**

**WEST ABUTMENT**  
**IL 15 OVER UNION DRAINAGE**  
**DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

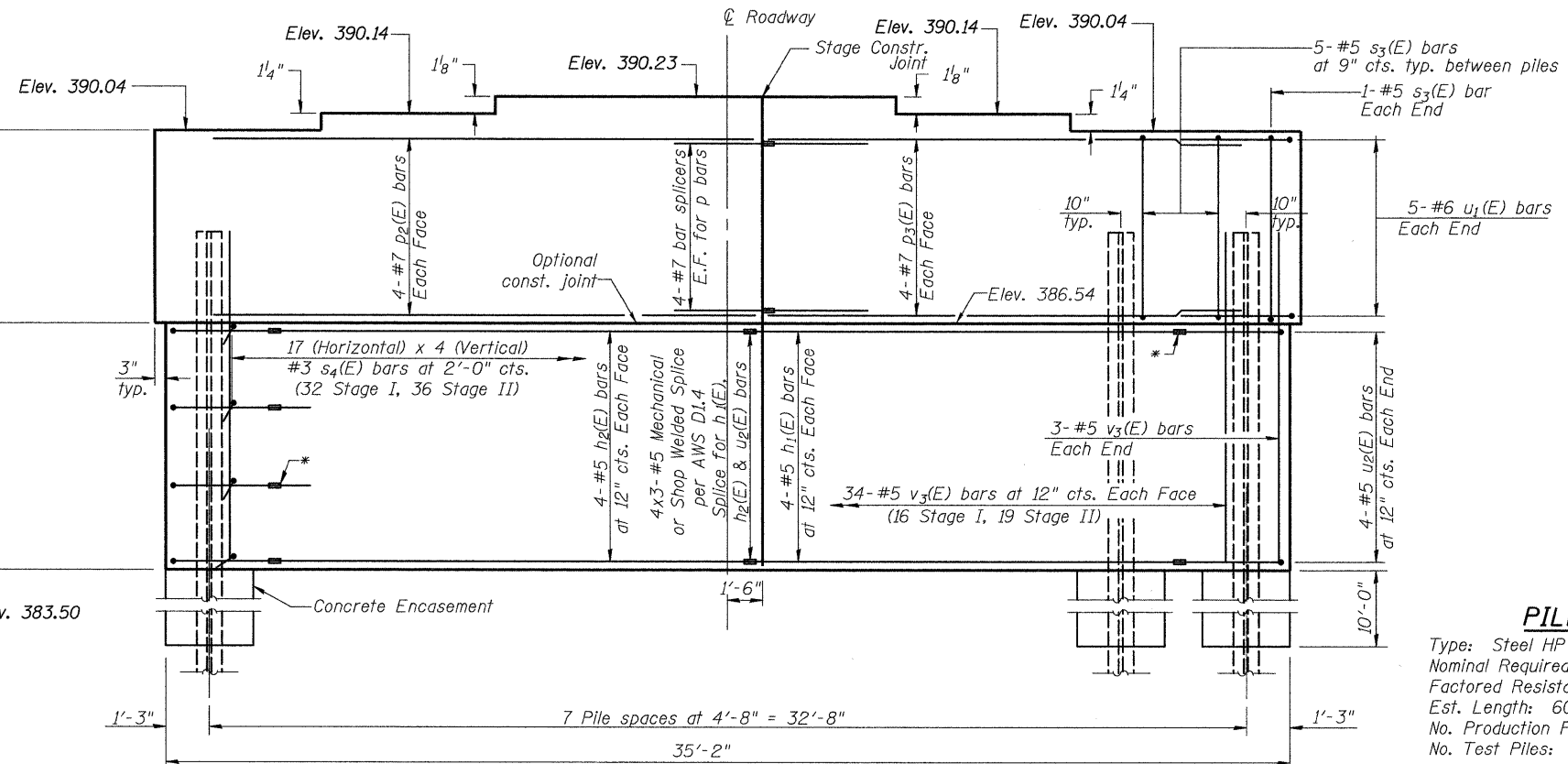
SHEET NO. 15	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	52
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		



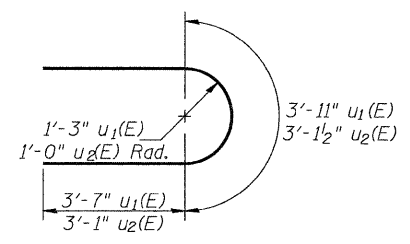
**TOP PLAN**



**BAR s4(E)**



**ELEVATION**  
(Looking West)



**BARS u1(E) & u2(E)**

**BAR s3(E)**

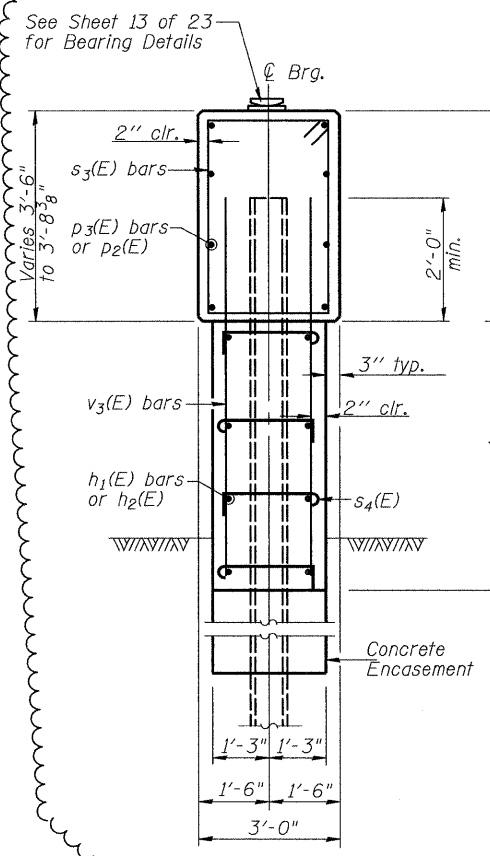
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
h1(E)	8	#5	12'-6"	—	
h2(E)	8	#5	14'-0"	—	
p2(E)	8	#7	17'-8"	—	
p3(E)	8	#7	14'-8"	—	
s3(E)	37	#5	12'-7"	□	
s4(E)	68	#3	3'-0"	┌	
u1(E)	10	#6	11'-1"	U	
u2(E)	8	#5	9'-4"	U	
v3(E)	74	#5	4'-10"	—	
Concrete Structures				Cu. Yd.	25.4
Reinforcement Bars, Epoxy Coated				Pound	1900
Furnishing Steel Piles, 14x73				Foot	420
Driving Piles				Foot	420
Test Pile, HP 14x73				Each	1
Concrete Encasement				Cu. Yd.	14.6
Bar Splicers				Each	8
Mechanical Splice				Each	24

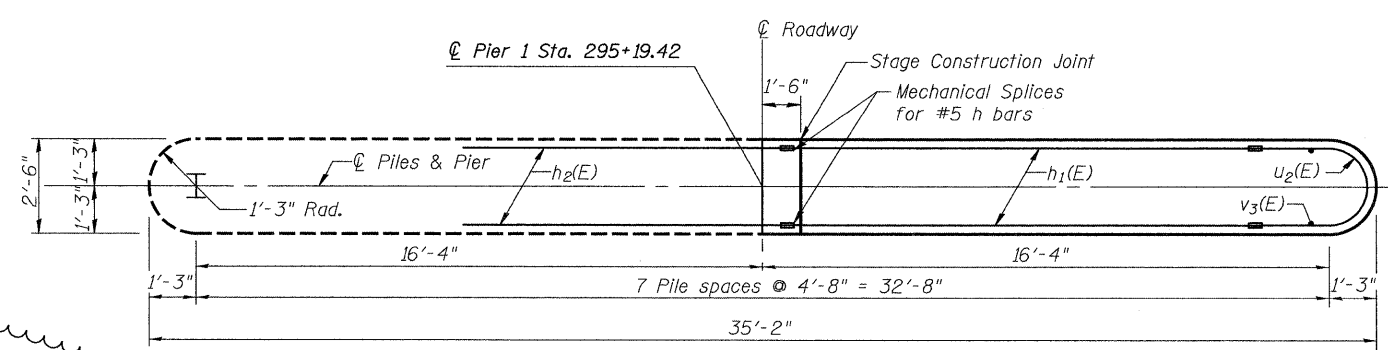
**PILE DATA**

Type: Steel HP 14x73  
 Nominal Required Bearing: 578 kips  
 Factored Resistance Available: 177 kips  
 Est. Length: 60 ft.  
 No. Production Piles: 7  
 No. Test Piles: 1

Notes:  
 Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.  
 The Steel H Piles shall be according to AASHTO M270 Grade 50.  
 The Test Pile shall be driven to 110 percent of the nominal required bearing indicated in the Pile Data information.  
 For details of Bar Splicers, see sheet 18 of 23.  
 For details of piles and Concrete Encasement, see sheet 19 of 23.



**END VIEW**

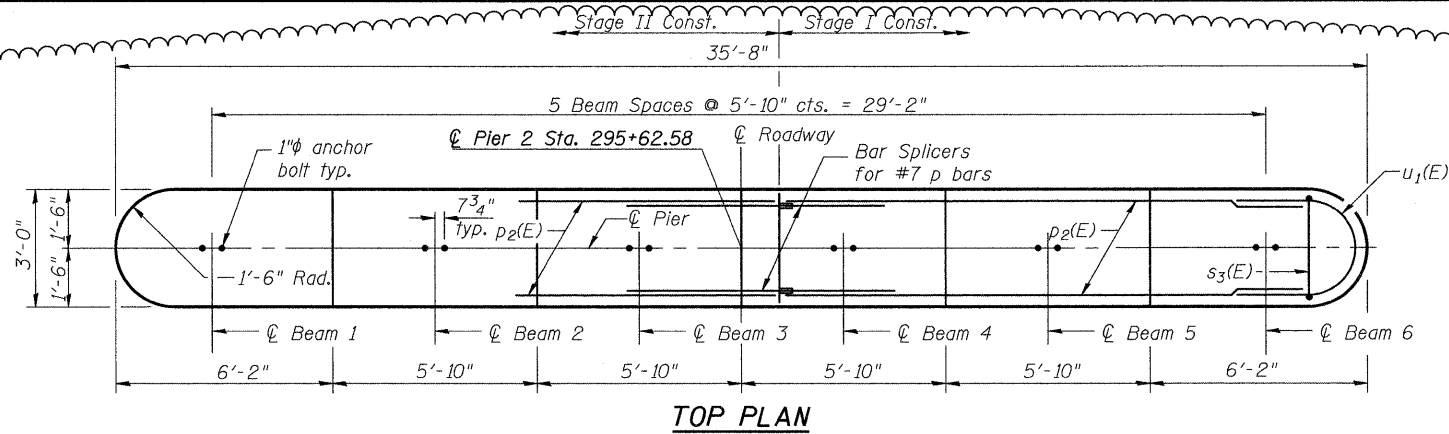


**PILE LAYOUT & PIER PLAN**

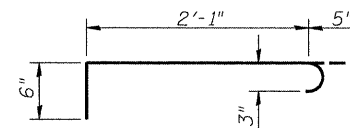
Revised 5/21/09, PBB

**PIER 1**  
**IL 15 OVER UNION DRAINAGE**  
**DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

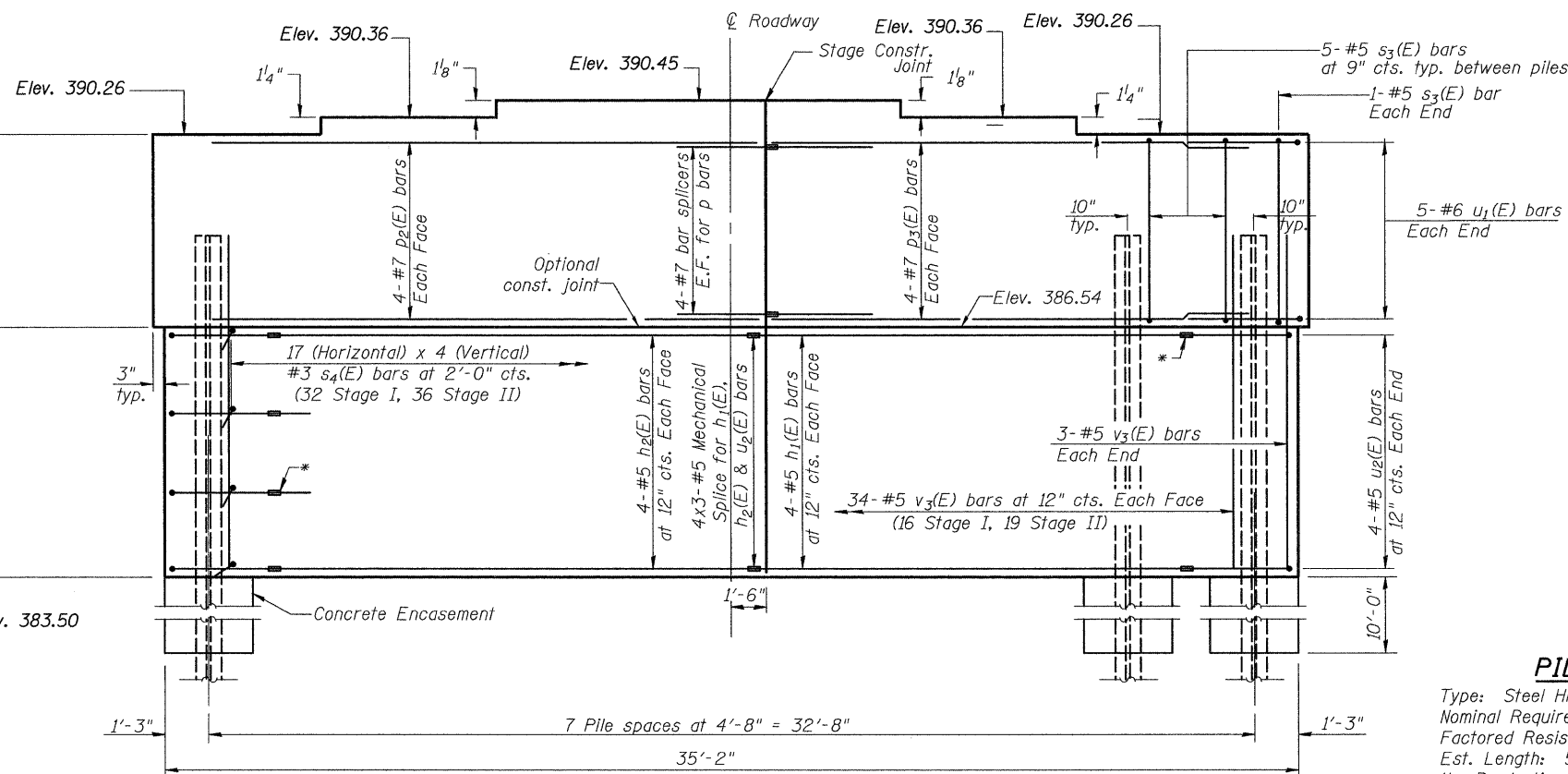
SHEET NO. 16	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	53
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			



TOP PLAN

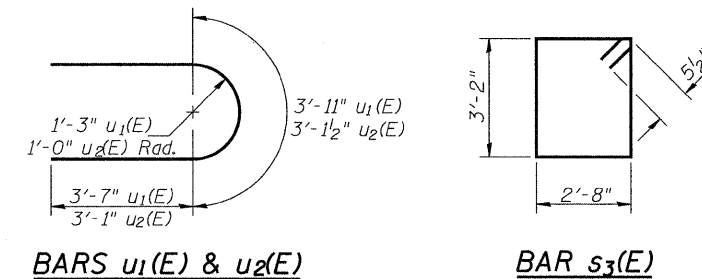


BAR s<sub>4</sub>(E)



ELEVATION (Looking West)

\* Mechanical Splice or Shop Welded per AWS D1.4



BARS u<sub>1</sub>(E) & u<sub>2</sub>(E)

BAR s<sub>3</sub>(E)

BILL OF MATERIAL

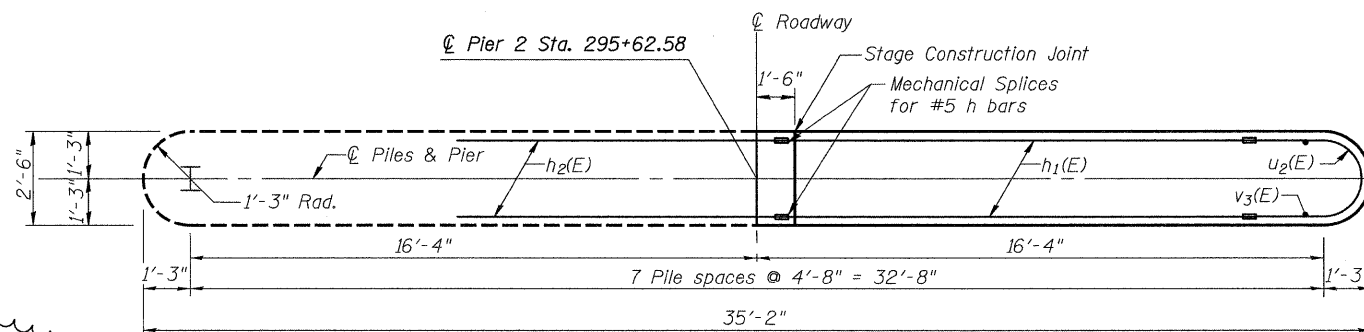
Bar	No.	Size	Length	Shape
h <sub>1</sub> (E)	8	#5	12'-6"	—
h <sub>2</sub> (E)	8	#5	14'-0"	—
p <sub>2</sub> (E)	8	#7	17'-8"	—
p <sub>3</sub> (E)	8	#7	14'-8"	—
s <sub>3</sub> (E)	37	#5	12'-7"	□
s <sub>4</sub> (E)	68	#3	3'-0"	┌
u <sub>1</sub> (E)	10	#6	11'-1"	U
u <sub>2</sub> (E)	8	#5	9'-4"	U
v <sub>3</sub> (E)	74	#5	4'-10"	—
Concrete Structures		Cu. Yd.	26.3	
Reinforcement Bars, Epoxy Coated		Pound	1900	
Furnishing Steel Piles, 14x73		Foot	399	
Driving Piles		Foot	399	
Test Pile, HP 14x73		Each	1	
Concrete Encasement		Cu. Yd.	14.6	
Bar Splicers		Each	8	
Mechanical Splice		Each	24	

PILE DATA

Type: Steel HP 14x73  
Nominal Required Bearing: 578 kips  
Factored Resistance Available: 185 kips  
Est. Length: 57 ft.  
No. Production Piles: 7  
No. Test Piles: 1

Notes:  
Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.  
The Steel H Piles shall be according to AASHTO M270 Grade 50.  
The Test Pile shall be driven to 110 percent of the nominal required bearing indicated in the Pile Data information.  
For details of Bar Splicers, see sheet 18 of 23.  
For details of piles and Concrete Encasement, see sheet 19 of 23.

Revised 5/21/09, PBB

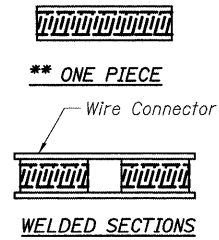
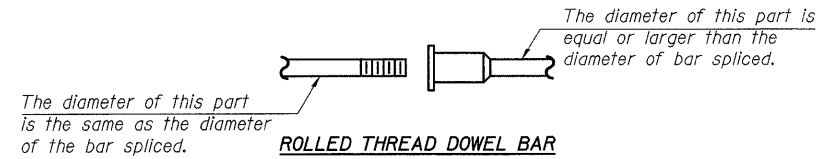


PILE LAYOUT & PIER PLAN

PIER 2  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072

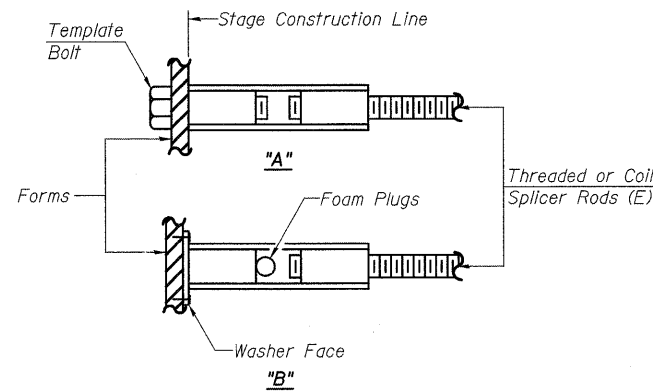
SHEET NO. 17 23 SHEETS	F.A.P. RTE. 823	SECTION (22BY2) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 54
	CONTRACT NO. 74238			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



**INSTALLATION AND SETTING METHODS**

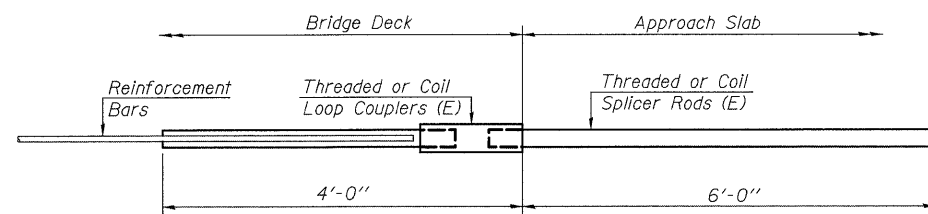
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

**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:

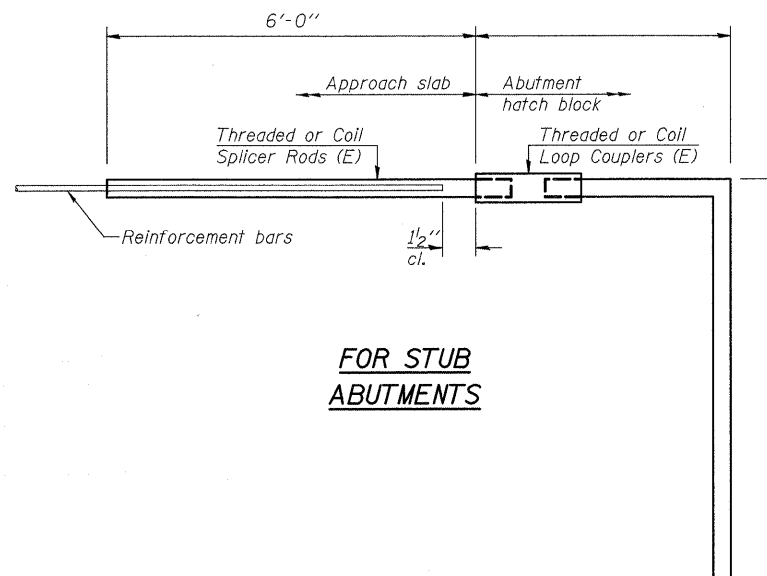
- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

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'-2"	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



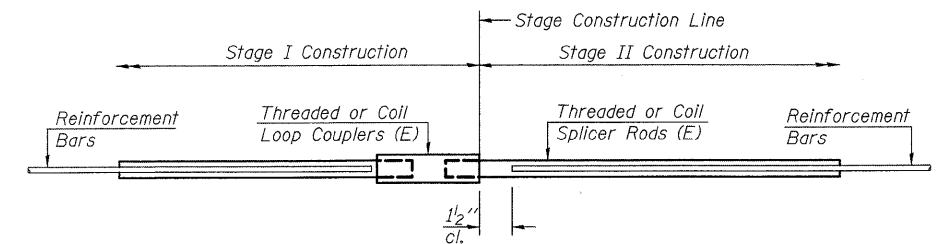
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 66



**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	327	deck
#6	16	diaphragm
#7	28	abut. & pier

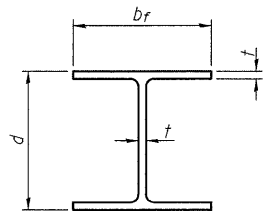
**BAR SPLICER ASSEMBLY DETAILS**  
**IL 15 OVER UNION DRAINAGE**  
**DITCH OVERFLOW**  
**WAYNE COUNTY**  
**STATION 295+41.00**  
**STRUCTURE NO. 096-0072**

SHEET NO. 18	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	55
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

BSD-1

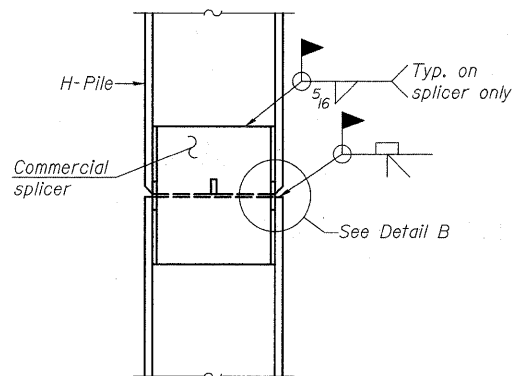
10-1-08

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

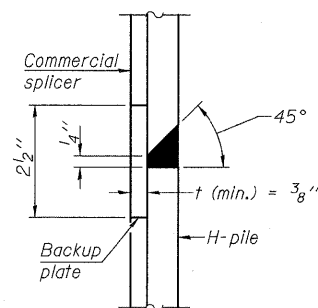


STEEL PILE TABLE

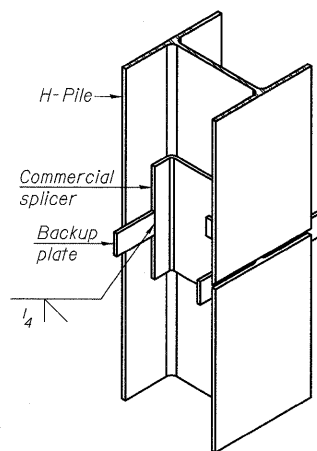
Designation	Depth d	Flange width b <sub>f</sub>	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"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

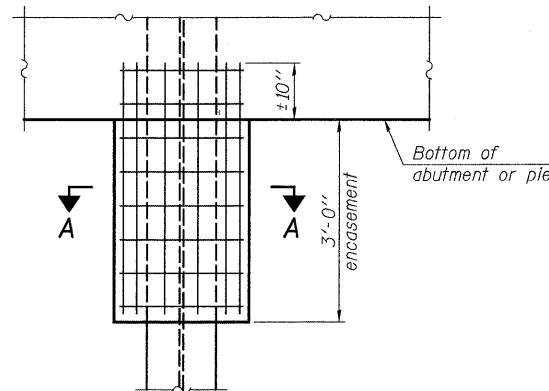


DETAIL "B"

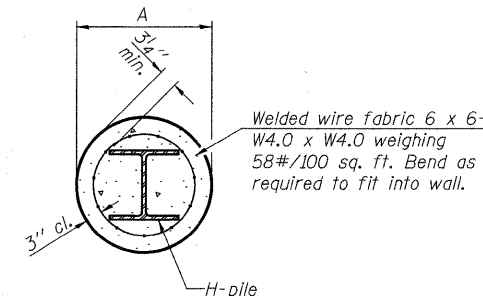


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



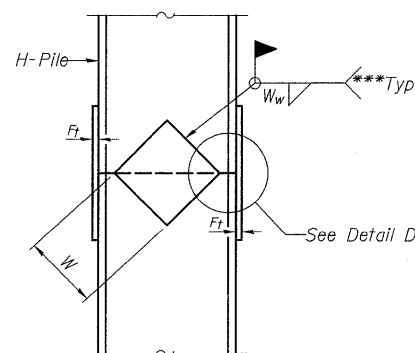
ELEVATION



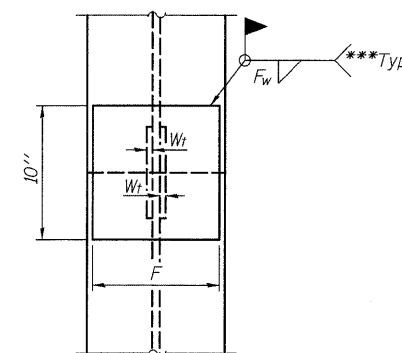
SECTION A-A

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

PILE ENCASEMENT



ELEVATION

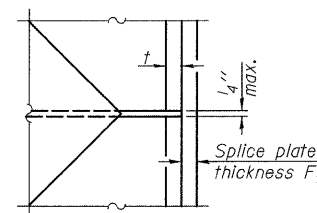


END VIEW

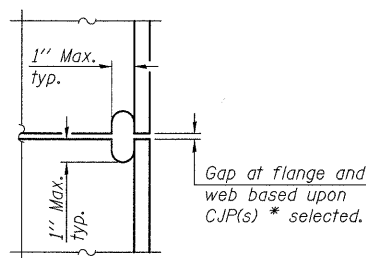
Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5 1/2"	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"

H-PILE & ENCASEMENT DETAILS  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072

WELDED PLATE FIELD SPLICE



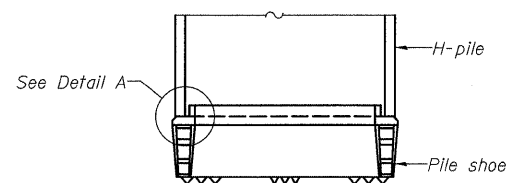
DETAIL D



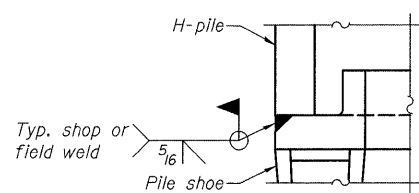
DETAIL C

ELEVATION

COMPLETE PENETRATION WELD SPLICE

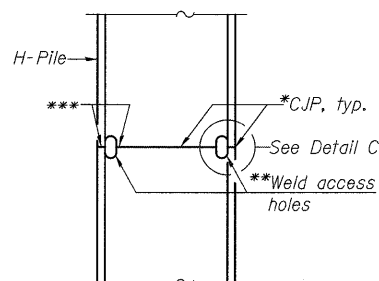


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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

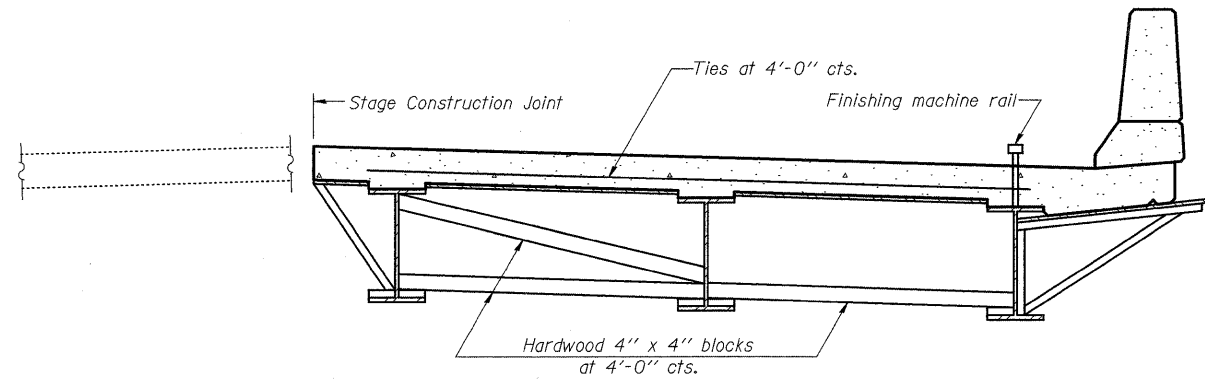
Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.

SHEET NO. 19 23 SHEETS	F.A.P. RTE. 823	SECTION (22BY2) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 56
	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

F-HP 10-1-08

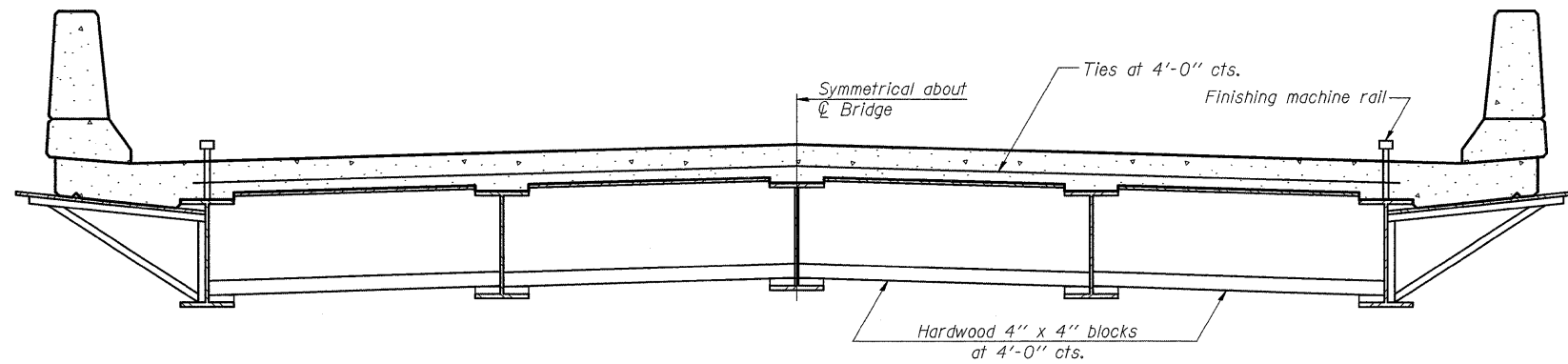


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**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**

**CANTILEVER FORMING BRACKETS  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072**

SHEET NO. 20	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	57
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

SB-1

11-1-06

BLANK, WESSELINK, COOK & ASSOCIATES

ENGINEERS - CONSULTANTS

DECATUR, ILLINOIS

DESIGN FIRM NO. 184000894

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



Illinois Department of Transportation  
Division of Highways  
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 3

Date 7/20/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer  
(22BY-1, 22BY-2, 22BR)B-1 LOCATION E 1/2, SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM  
COUNTY Wayne DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	DEPTH	DIAMETER	UNIT WEIGHT	MOISTURE	DESCRIPTION	DEPTH	DIAMETER	UNIT WEIGHT	MOISTURE
096-0017	295+50	1	294+73	12.00 ft LI	391.69 ft	(ft)	(/6")	(tsf)	(%)		(ft)	(/6")	(tsf)	(%)
										Surface Water Elev. Dry ft				
										Stream Bed Elev. 384.77 ft				
										Groundwater Elev.:				
										First Encounter 357.2 ft				
										Upon Completion Washed ft				
										After 72 Hrs. 381.0 ft				
										390.79				
										387.19				
										384.69				
										379.69				
										377.19				
										374.69				
										351.69				

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  
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 3

Date 7/20/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer  
(22BY-1, 22BY-2, 22BR)B-1 LOCATION E 1/2, SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM  
COUNTY Wayne DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO.	Station	BORING NO.	Station	Offset	Ground Surface Elev.	DEPTH	DIAMETER	UNIT WEIGHT	MOISTURE	DESCRIPTION	DEPTH	DIAMETER	UNIT WEIGHT	MOISTURE
096-0017	295+50	1	294+73	12.00 ft LI	391.69 ft	(ft)	(/6")	(tsf)	(%)		(ft)	(/6")	(tsf)	(%)
										Surface Water Elev. Dry ft				
										Stream Bed Elev. 384.77 ft				
										Groundwater Elev.:				
										First Encounter 357.2 ft				
										Upon Completion Washed ft				
										After 72 Hrs. 381.0 ft				
										391.69				
										384.69				
										379.69				
										377.19				
										374.69				
										351.69				

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

SOIL BORINGS  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072

SHEET NO. 21	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY2) B-1	WAYNE	142	58
23 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		



Illinois Department of Transportation  
Division of Highways  
Illinois Department of Transportation

ROCK CORE LOG

Page 3 of 3

Date 7/20/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer  
(22BY-1, 22BY-2,  
SECTION 22BR1B-1 LOCATION E 1/2, SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM

COUNTY Wayne CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 096-0017 CORING BARREL TYPE & SIZE NW, conv dbl bbl, split inner  
Station 295+50 Core Diameter 2.06 in  
BORING NO. 1 Top of Rock Elev. 337.89 ft  
Station 294+73 Begin Core Elev. 331.89 ft  
Offset 12.00 ft Lt  
Ground Surface Elev. 391.69 ft

DEPTH (ft)	CORRECTION (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
331.89	B1-1	95	17	0.4	
330.89					
330.29					
325.69	B1-2	100	64	0.5	
325.19					
324.89					
323.69					
321.89					
-70					
-75					

Color pictures of the cores Available on request  
Cores will be stored for examination until 07/20/08  
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)  
BBS, form 138 (Rev. 8-96)

Field Rock Core Log 8.18

Field Rock Core Log

Date: 7-20-07

Structure #: 096-0017

Boring #: 1

Rock Core #: B1C1

Rock Core #: B1C2

Note: All are open joints unless otherwise noted

Depth: 59.8'

0.07	Grey SS
0.35	w/mod weathering
0.49	
0.64	
0.74	
0.80	
0.91	
1.05	
1.18	
1.59	Grey clay shale
1.75	
1.87	
1.98	
1.95	
2.00	
2.20	thinly layered
2.47	
2.59	
2.68	
2.70	some blk veining
2.74	
2.80	
2.81	
2.83	
2.85	
2.90	
2.99	
3.07	
3.13	
3.14	
3.18	
3.16	
3.24	
3.25	
3.25	
3.30	
3.31	
3.32	
4.75	

Depth: 64.55'

Core Time: 2:10

Recovery: 95%

R.Q.D.: 16.8%

Logged By: Eric Sandschafer

Depth: 64.8'

0.26	Grey SS
0.34	w/some v thin
0.56	Blk layer
0.73	
0.89	scratches easy
1.14	
1.18	
1.16	
1.74	Grey Sand clay shale
1.80	
1.87	scratches easy
2.00	
2.50	Grey sandy clay shale
3.75	w/some moderate weathering
3.75	Grey SS w/some thin blk layering
4.30	scratches easy
4.48	
4.86	

Depth: 69.8'

Core Time: 2:32

Recovery: 100%

R.Q.D.: 64.3

RQD  
0.41  
0.43

SOIL BORINGS  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072

SHEET NO. 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
23 SHEETS	823	(22BY2) B-1	WAYNE	142	59
CONTRACT NO. 74238					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					



Bench Mark: Chiseled "□" on top of the N.W. wingwall S.N. 096-0016. Elevation 391.97.

Existing Structure: S.N. 096-0016 was originally built in 1921 as a single span RC Girder and was reconstructed in 1954 as SBI Rt. 15 Station 301+63.5. The structure is a two span reinforced concrete deck bridge which measures 34'-4" out to out and 55'-7 1/2" back to back of abutments with a 30° skew on closed concrete abutments and pile bent pier. Road is to remain open and traffic will be staged during construction. No salvage.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts 3/4 in. φ, holes 1 1/16 in. φ, unless otherwise noted.

Calculated weight of Structural Steel = 92,740lbs.

All structural steel shall be AASHTO M270 Grade 50W.

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. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3". Those areas shall be primed in the shop with a Department approved zinc rich primer. No field painting shall be required. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

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.

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

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

Silpforming of parapets is not allowed.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		170	170
Stone Riprap, Class A4	Sq. Yd.		784	784
Filter Fabric	Sq. Yd.		784	784
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		173	173
Concrete Structures	Cu. Yd.		36.4	36.4
Concrete Superstructure	Cu. Yd.	122.3		122.3
Bridge Deck Grooving	Sq. Yd.	273		273
Concrete Encasement	Cu. Yd.		5.6	5.6
Protective Coat	Sq. Yd.	361		361
Furnishing and Erecting Structural Steel Bridge No. 1	L. Sum	1		1
Reinforcement Bars, Epoxy Coated	Pound	23520	4940	28460
Furnishing Steel Piles HP 14 x 102	Foot		1120	1120
Driving Piles	Foot		1120	1120
Test Pile Steel HP 14x102	Each		2	2
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	24		24
Geocomposite Wall Drain	Sq. Yd.		93	93
Pipe Underdrains for Structures 4"	Foot		273	273
Stud Shear Connectors	Each	1188		1188
Bar Splicers	Each	324	12	336
Temporary Soil Retention System	Sq. Ft.		432	432
Jack and Reposition Bearings	Each		1	1

**SEISMIC DATA**

Seismic Performance Zone (SPZ)=2  
Design Spectral Acceleration at 1.0 sec. (SD1)=0.278  
Design Spectral Acceleration at 0.2 sec. (SDs)=0.618  
Soil Site Class=D

**LOADING HL 93**

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

**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

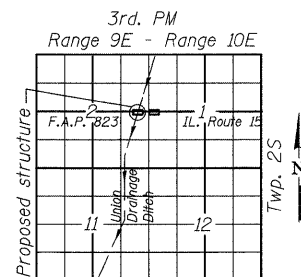
**DESIGN STRESSES**

**FIELD UNITS**

f<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (reinforcement)  
f<sub>y</sub> = 50,000 psi (M270 Grade 50W)

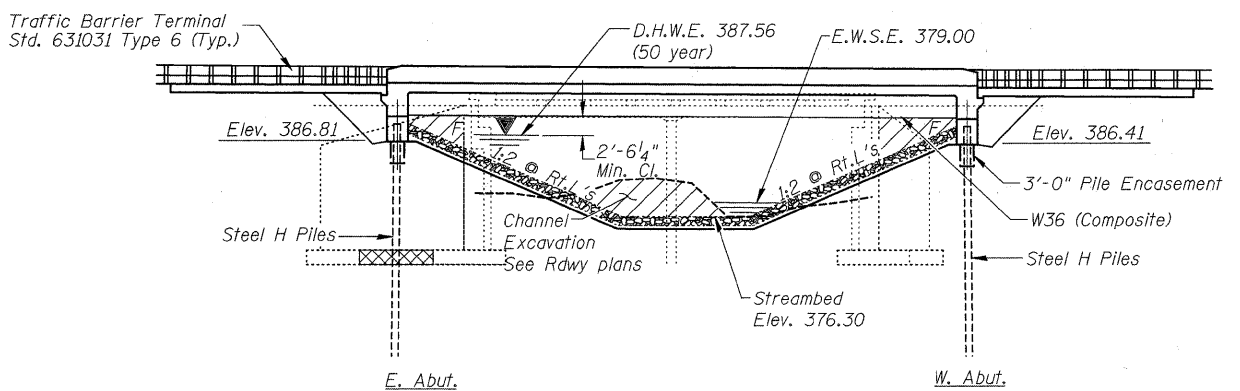
**INDEX OF SHEETS**

- 1 General Plan, Notes and Bill of Materials
- 2 Stage Construction Details
- 3 Temporary Concrete Barrier
- 4-5 Top of Slab Elevations
- 6-7 Top of Approach Elevations
- 8 Superstructure Plan
- 9 Superstructure Details
- 10 Abutment Diaphragm Details
- 11 Framing Plan & Beam Details
- 12 Structural Steel Details
- 13 East Abutment
- 14 West Abutment
- 15 Bar Splicer Assembly Details
- 16 H-Pile & Encasement Details
- 17-20 Soil Borings

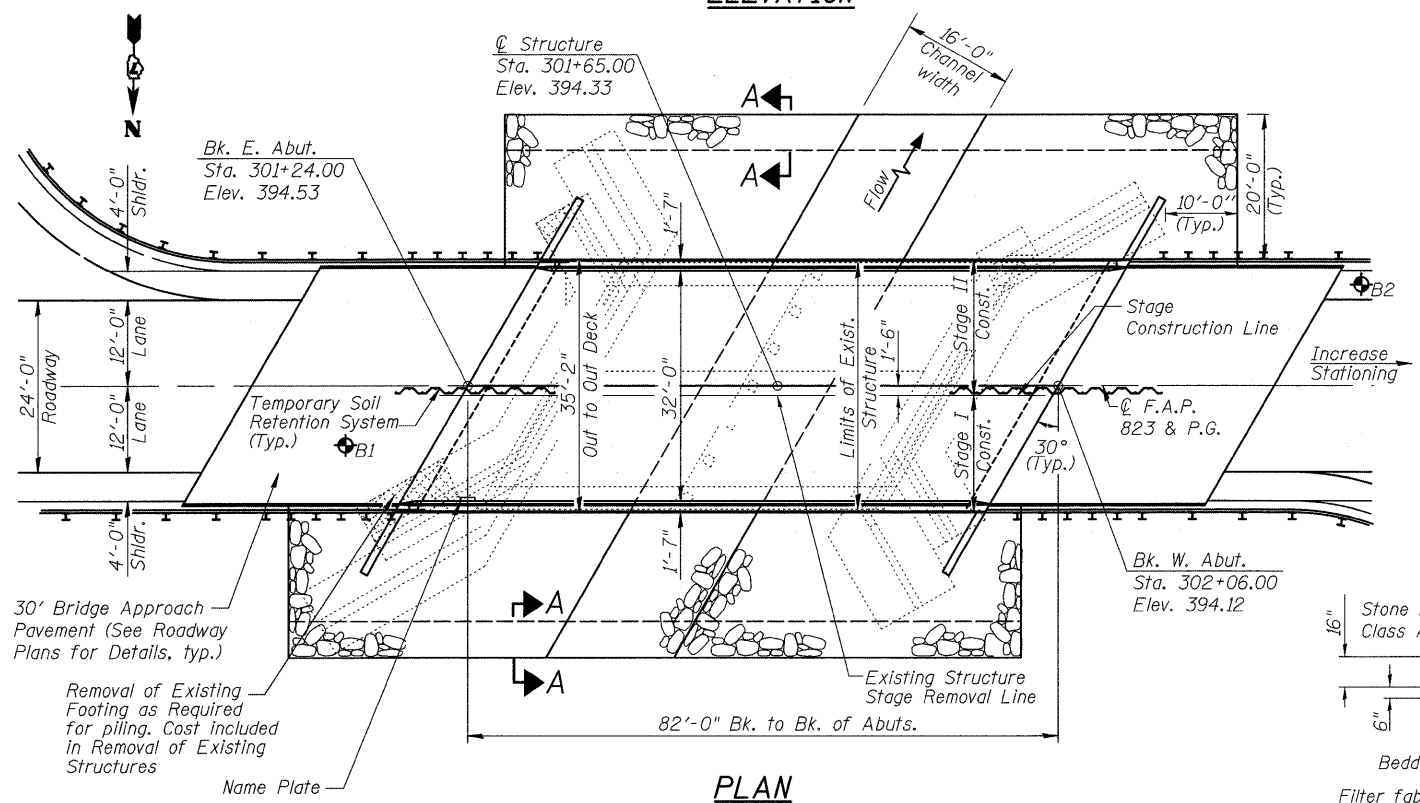


**LOCATION SKETCH**

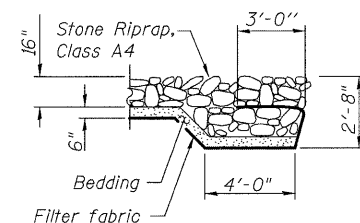
**GENERAL PLAN  
IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071**



**ELEVATION**



**PLAN**



**SECTION A-A**

**WATERWAY INFORMATION**

Drainage Area = 1802.67 mi<sup>2</sup>     Exist. Low Grade Elev. 390.59 @ Sta. 290+50  
Prop. Low Grade Elev. 390.59 @ Sta. 290+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	772	299	299	385.92	0.50	0.49	386.42	386.41	
Base	50	1416	366	385	387.56	0.57	0.56	388.13	388.12	
Max. Calc.	100	1645	391	426	388.16	0.64	0.63	388.80	388.79	
	500	2015	446	506	389.49	0.64	0.63	390.13	390.12	

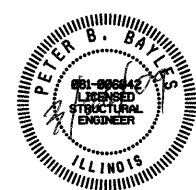
10 year velocity through existing bridge = 2.55 fps  
10 year velocity through prop. bridge = 2.53 fps

**DESIGN SCOUR ELEVATION TABLE**

	E. Abut.	W. Abut.
Design Scour Elevation	386.81	386.41

STATION 301+65.00  
BUILT 20\_\_ BY  
STATE OF ILLINOIS  
F.A.P. RT. 823 SEC. (22BY-1) B-1  
LOADING HL93  
STR. NO. 096-0071

**NAME PLATE**  
See Std. 515001



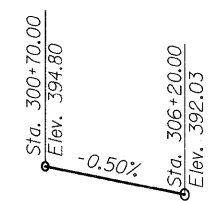
Peter B. Bayles, P.E., S.E.  
Structural Engineer License No. 081-006042  
Expiration Date: 11/30/2010

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

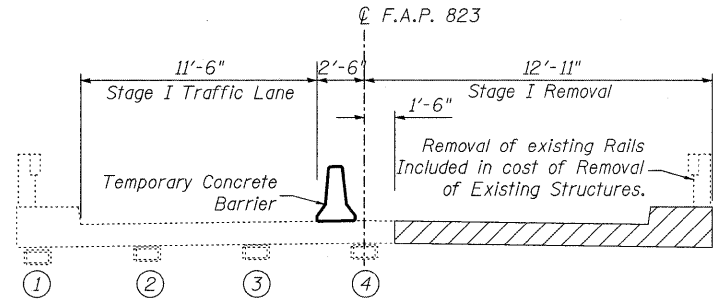
*Robert E. Anderson (Seal)*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
20 SHEETS					
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 74238					

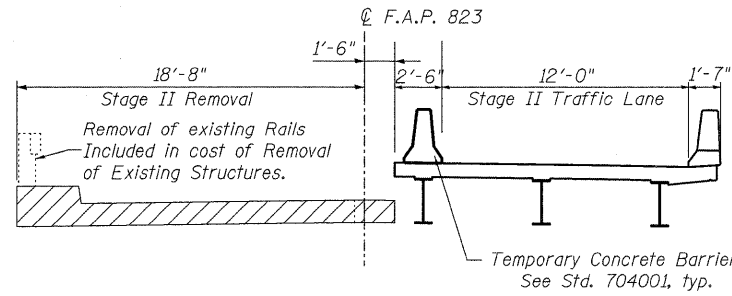
**PROFILE GRADE**  
(along roadway)



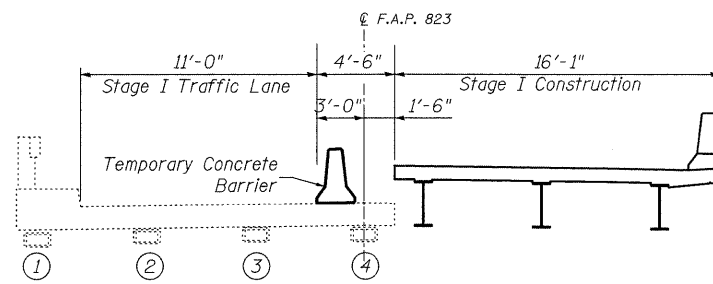
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



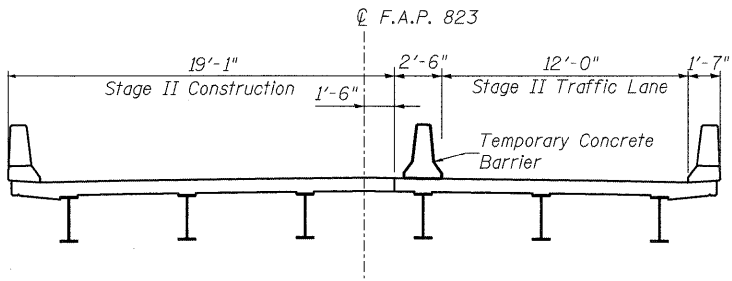
**STAGE I REMOVAL**  
(Looking West)



**STAGE II REMOVAL**  
(Looking West)



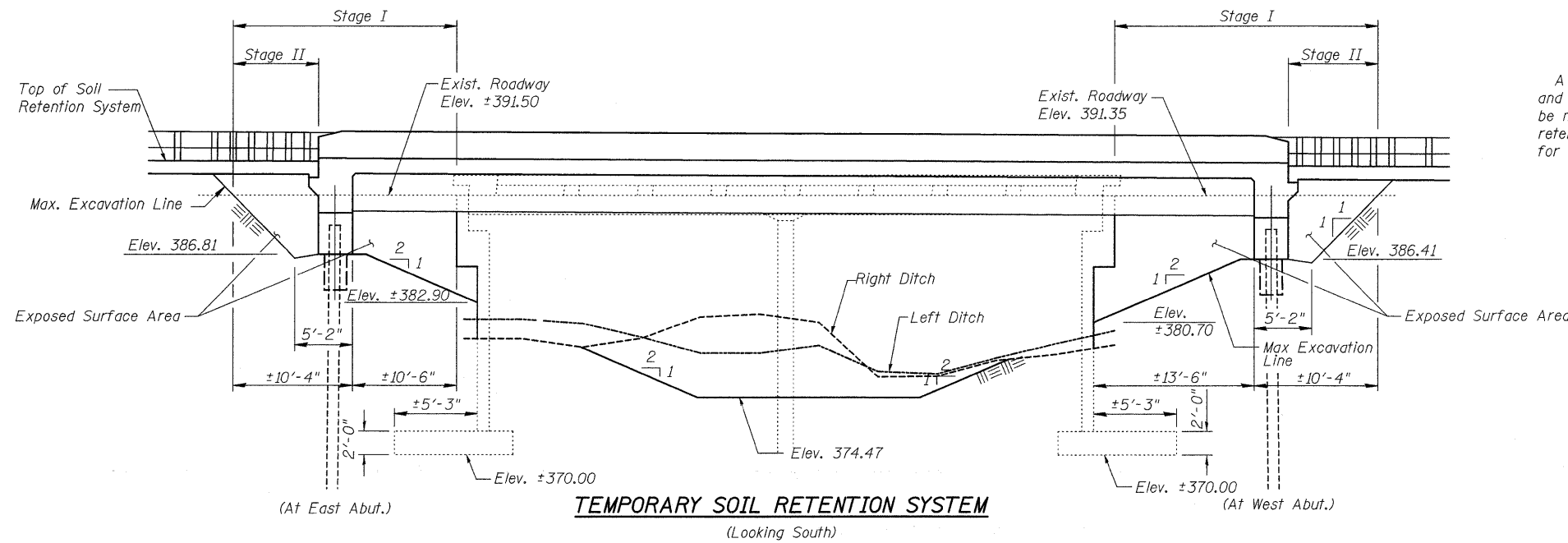
**STAGE I CONSTRUCTION**  
(Looking West)



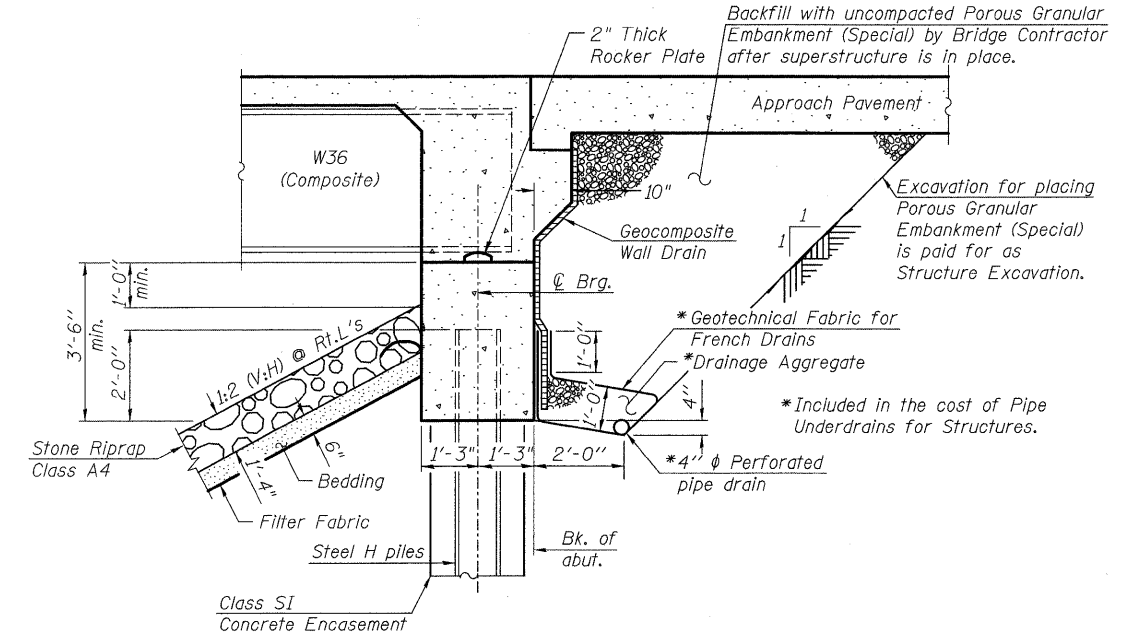
**STAGE II CONSTRUCTION**  
(Looking West)

Prior to Stage I Removal, existing bearings at abutments shall be jacked and repositioned as directed by the engineer under Lane Closure (Bearing #3 at E. Abut. to be jacked and repositioned). See Special Provision Jack and Reposition Bearings.

**UNFACTORED REACTIONS**  
15k Dead Load/Bearing



**TEMPORARY SOIL RETENTION SYSTEM**  
(Looking South)



**SECTION THRU INTEGRAL ABUTMENT**

All drainage system components shall extend to 2'-0' from the end of each wingwall except an outlet pipe shall extend down to flowline of adjacent ditch. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

**BILL OF MATERIAL**

ITEM	UNIT	Total
Jack and Reposition Bearings	Each	1

**NOTES**

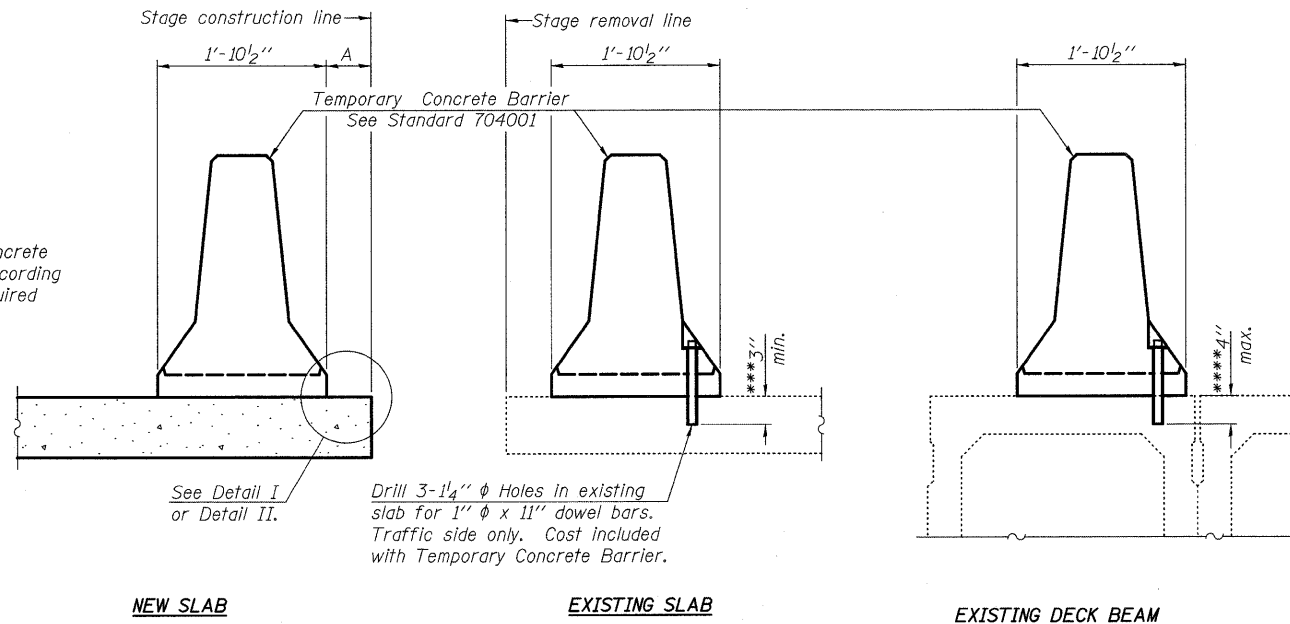
A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

**STAGE CONSTRUCTION DETAILS**  
**IL 15 OVER UNION**  
**DRAINAGE DITCH**  
**WAYNE COUNTY**  
**STATION 301+65.00**  
**STRUCTURE NO. 096-0071**

SHEET NO. 2 20 SHEETS	F.A.P. RTE. 823	SECTION (22BY-1) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 62
	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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



SECTIONS THRU SLAB OR DECK BEAM

NOTES

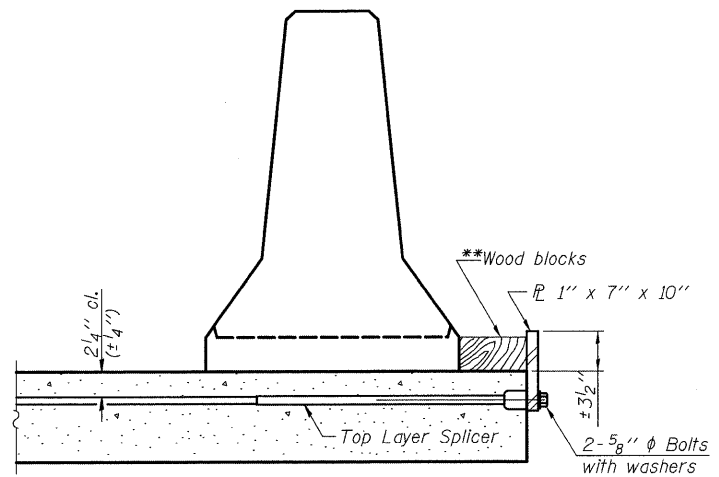
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.

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

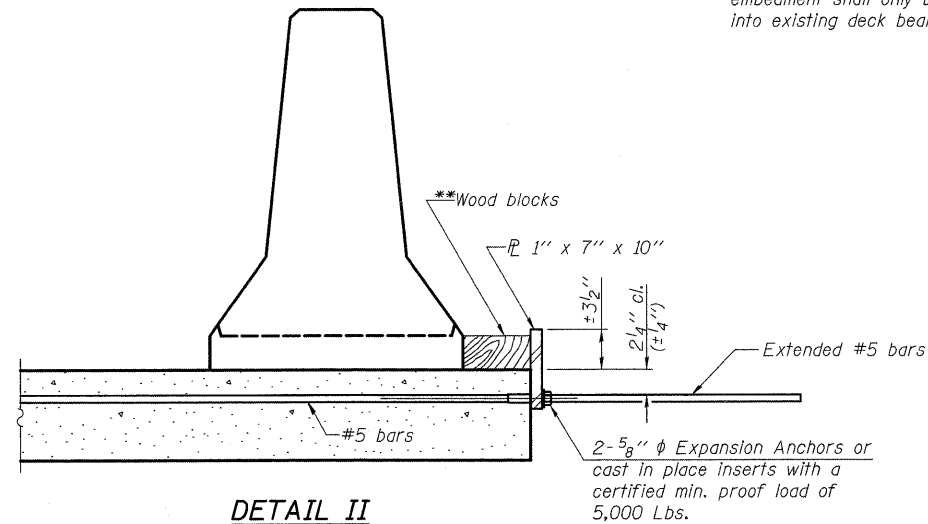
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

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

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

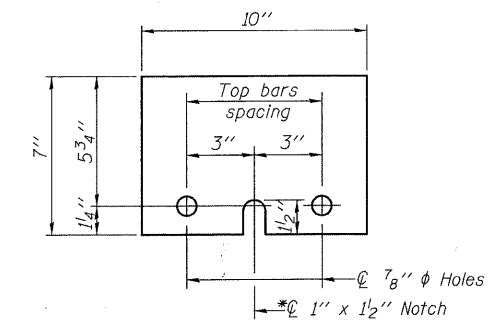


DETAIL I



DETAIL II

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



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

\* Required only with Detail II

TEMPORARY CONCRETE BARRIER

FOR STAGE CONSTRUCTION

IL 15 OVER UNION

DRAINAGE DITCH

WAYNE COUNTY

STATION 301+65.00

STRUCTURE NO. 096-0071

SHEET NO. 3 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	63
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 74238					

R-27

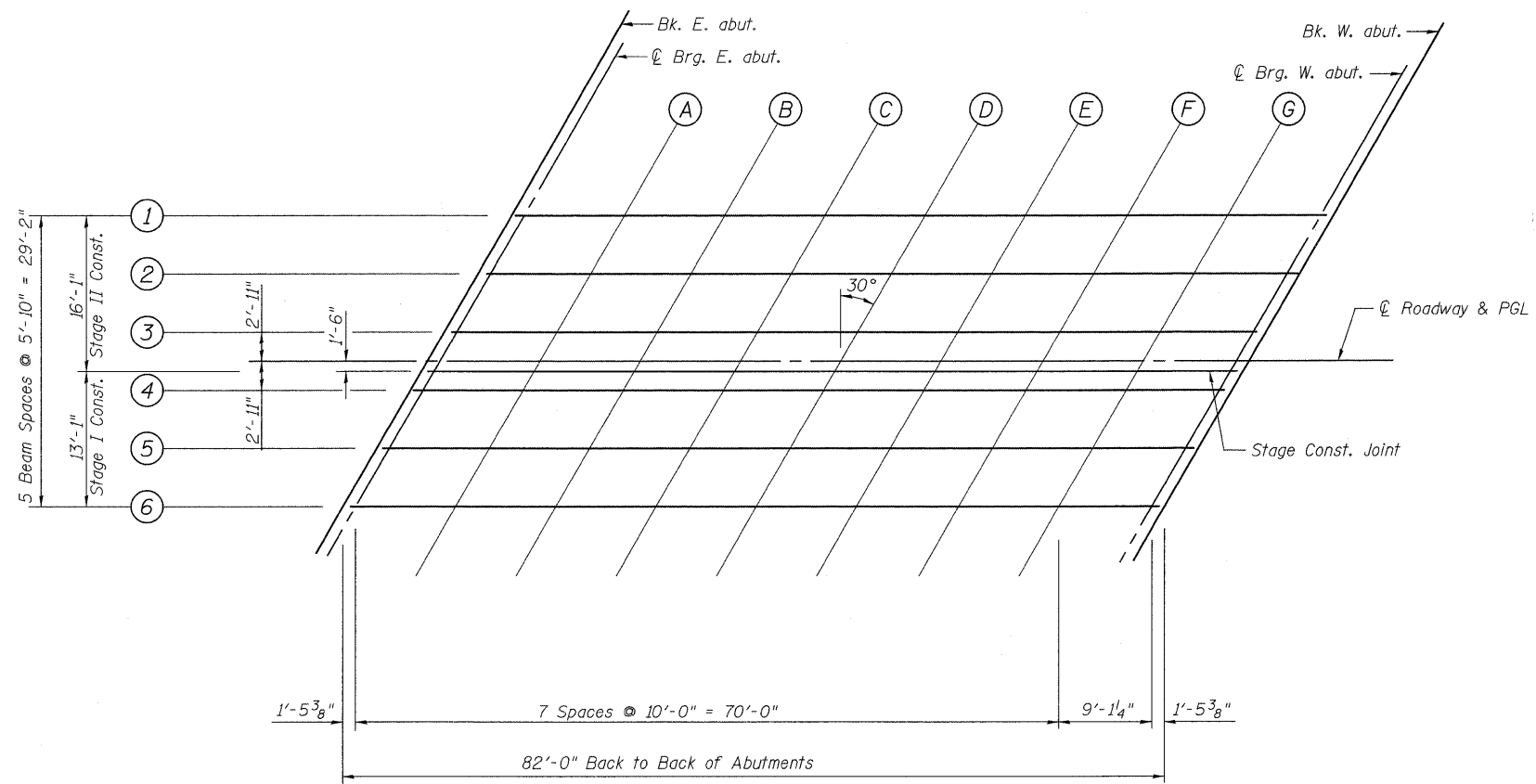
10-1-08

BLANK, WESSELINK, COOK & ASSOCIATES

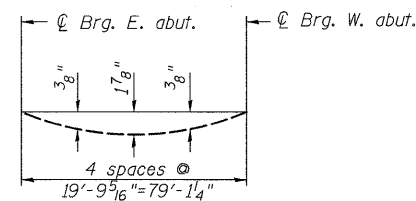
ENGINEERS - CONSULTANTS

DECATUR, ILLINOIS

DESIGN FIRM NO. 184000894



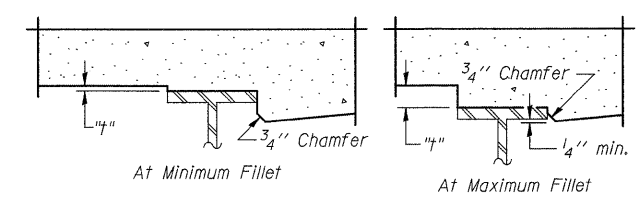
**PLAN**



**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 of 20.



**FILLET HEIGHTS**

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 5 of 20, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**TOP OF SLAB ELEVATIONS (1 OF 2)**

**IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071**

SHEET NO. 4 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	64
CONTRACT NO. 74238					
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			



**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	301+32.42	-14.58	394.25	394.25
Cl.E.Abut.	301+33.87	-14.58	394.24	394.24
A	301+43.87	-14.58	394.19	394.25
B	301+53.87	-14.58	394.14	394.25
C	301+63.87	-14.58	394.09	394.24
D	301+73.87	-14.58	394.04	394.20
E	301+83.87	-14.58	393.99	394.13
F	301+93.87	-14.58	393.94	394.05
G	302+03.87	-14.58	393.89	393.95
Cl.W.Abut.	302+12.97	-14.58	393.84	393.84
Bk.W.Abut.	302+14.42	-14.58	393.84	393.84

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	301+29.05	-8.75	394.36	394.36
Cl.E.Abut.	301+30.50	-8.75	394.35	394.35
A	301+40.50	-8.75	394.30	394.36
B	301+50.50	-8.75	394.25	394.36
C	301+60.50	-8.75	394.20	394.35
D	301+70.50	-8.75	394.15	394.31
E	301+80.50	-8.75	394.10	394.24
F	301+90.50	-8.75	394.05	394.16
G	302+00.50	-8.75	394.00	394.06
Cl.W.Abut.	302+09.60	-8.75	393.95	393.95
Bk.W.Abut.	302+11.05	-8.75	393.95	393.95

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	301+25.68	-2.92	394.47	394.47
Cl.E.Abut.	301+27.13	-2.92	394.46	394.46
A	301+37.13	-2.92	394.41	394.47
B	301+47.13	-2.92	394.36	394.47
C	301+57.13	-2.92	394.31	394.46
D	301+67.13	-2.92	394.26	394.42
E	301+77.13	-2.92	394.21	394.35
F	301+87.13	-2.92	394.16	394.27
G	301+97.13	-2.92	394.11	394.17
Cl.W.Abut.	302+06.23	-2.92	394.06	394.06
Bk.W.Abut.	302+07.68	-2.92	394.06	394.06

**☉ ROADWAY & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	301+24.00	0.00	394.53	394.53
Cl.E.Abut.	301+25.45	0.00	394.52	394.52
A	301+35.45	0.00	394.47	394.53
B	301+45.45	0.00	394.42	394.53
C	301+55.45	0.00	394.37	394.52
D	301+65.45	0.00	394.32	394.48
E	301+75.45	0.00	394.27	394.41
F	301+85.45	0.00	394.22	394.33
G	301+95.45	0.00	394.17	394.23
Cl.W.Abut.	302+04.55	0.00	394.12	394.12
Bk.W.Abut.	302+06.00	0.00	394.12	394.12

**STAGE CONST. JOINT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	301+23.13	1.50	394.51	394.51
Cl.E.Abut.	301+24.58	1.50	394.50	394.50
A	301+34.58	1.50	394.45	394.51
B	301+44.58	1.50	394.40	394.51
C	301+54.58	1.50	394.35	394.50
D	301+64.58	1.50	394.30	394.46
E	301+74.58	1.50	394.25	394.39
F	301+84.58	1.50	394.20	394.31
G	301+94.58	1.50	394.15	394.21
Cl.W.Abut.	302+03.68	1.50	394.10	394.10
Bk.W.Abut.	302+05.13	1.50	394.10	394.10

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	301+22.32	2.92	394.49	394.49
Cl.E.Abut.	301+23.77	2.92	394.48	394.48
A	301+33.77	2.92	394.43	394.49
B	301+43.77	2.92	394.38	394.49
C	301+53.77	2.92	394.33	394.48
D	301+63.77	2.92	394.28	394.44
E	301+73.77	2.92	394.23	394.37
F	301+83.77	2.92	394.18	394.29
G	301+93.77	2.92	394.13	394.19
Cl.W.Abut.	302+02.87	2.92	394.08	394.08
Bk.W.Abut.	302+04.32	2.92	394.08	394.08

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	301+18.95	8.75	394.42	394.42
Cl.E.Abut.	301+20.40	8.75	394.41	394.41
A	301+30.40	8.75	394.36	394.42
B	301+40.40	8.75	394.31	394.42
C	301+50.40	8.75	394.26	394.41
D	301+60.40	8.75	394.21	394.37
E	301+70.40	8.75	394.16	394.30
F	301+80.40	8.75	394.11	394.22
G	301+90.40	8.75	394.06	394.12
Cl.W.Abut.	301+99.50	8.75	394.01	394.01
Bk.W.Abut.	302+00.95	8.75	394.01	394.01

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk.E.Abut.	301+15.58	14.58	394.33	394.33
Cl.E.Abut.	301+17.03	14.58	394.32	394.32
A	301+27.03	14.58	394.27	394.33
B	301+37.03	14.58	394.22	394.33
C	301+47.03	14.58	394.17	394.32
D	301+57.03	14.58	394.12	394.28
E	301+67.03	14.58	394.07	394.21
F	301+77.03	14.58	394.02	394.13
G	301+87.03	14.58	393.97	394.03
Cl.W.Abut.	301+96.13	14.58	393.92	393.92
Bk.W.Abut.	301+97.58	14.58	393.92	393.92

**TOP OF SLAB ELEVATIONS (2 OF 2)**

**IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071**

SHEET NO. 5 20 SHEETS	F.A.P. RTE. 823	SECTION (22BY-1) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 65
	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	300+84.52	16.42	394.45
A	300+94.52	16.42	394.40
B	301+04.52	16.42	394.35
Bk. E. Abut.	301+14.52	16.42	394.30

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	300+87.07	12.00	394.52
A	300+97.07	12.00	394.47
B	301+07.07	12.00	394.42
Bk. E. Abut.	301+17.07	12.00	394.37

**CL ROADWAY & PG**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	300+94.00	0.000	394.68
A	301+04.00	0.000	394.63
B	301+14.00	0.000	394.58
Bk. E. Abut.	301+24.00	0.000	394.53

**STAGE CONST. LINE**

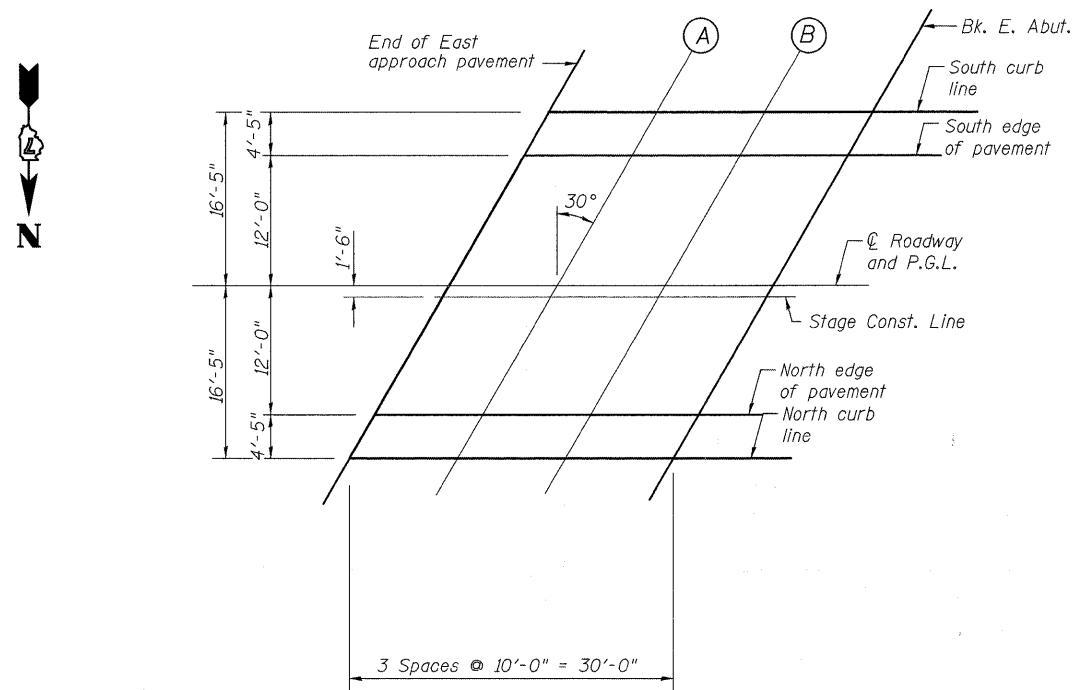
Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	300+93.13	1.50	394.66
A	301+03.13	1.50	394.61
B	301+13.13	1.50	394.56
Bk. E. Abut.	301+23.13	1.50	394.51

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	301+00.93	-12.00	394.46
A	301+10.93	-12.00	394.41
B	301+20.93	-12.00	394.36
Bk. E. Abut.	301+30.93	-12.00	394.31

**SOUTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
End E. Appr. Pav't	301+03.48	-16.42	394.35
A	301+13.48	-16.42	394.30
B	301+23.48	-16.42	394.25
Bk. E. Abut.	301+33.48	-16.42	394.20



**PLAN**

**TOP OF EAST APPROACH  
SLAB ELEVATIONS  
IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071**

SHEET NO. 6 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	66
FED. ROAD DIST. NO.			ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 74238					

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	301+96.52	16.42	393.89
C	302+06.52	16.42	393.83
D	302+16.52	16.42	393.78
End W. Appr. Pav't	302+26.52	16.42	393.73

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	301+99.07	12.00	393.96
C	302+09.07	12.00	393.90
D	302+19.07	12.00	393.85
End W. Appr. Pav't	302+29.07	12.00	393.80

**☉ ROADWAY & PG**

Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	302+06.00	0.000	394.12
C	302+16.00	0.000	394.06
D	302+26.00	0.000	394.01
End W. Appr. Pav't	302+36.00	0.000	393.96

**STAGE CONST. LINE**

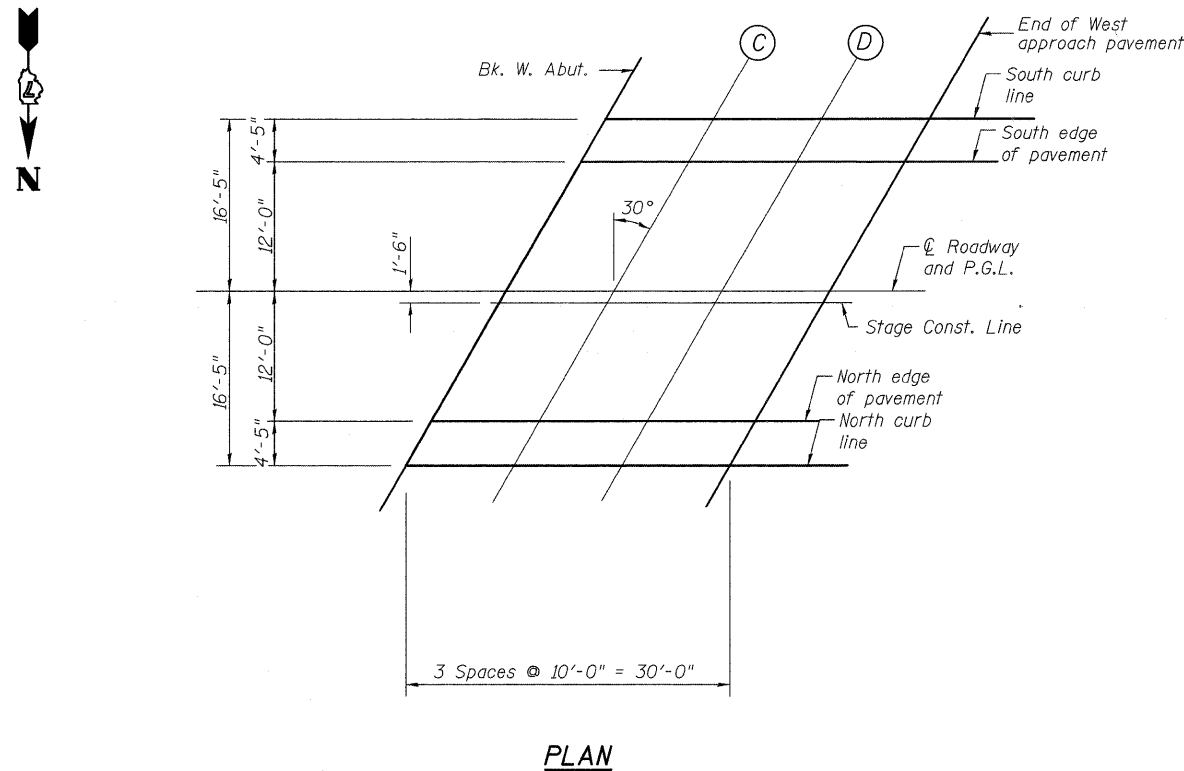
Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	302+05.13	1.50	394.10
C	302+15.13	1.50	394.04
D	302+25.13	1.50	393.99
End W. Appr. Pav't	302+35.13	1.50	393.94

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	302+12.93	-12.00	393.90
C	302+22.93	-12.00	393.84
D	302+32.93	-12.00	393.79
End W. Appr. Pav't	302+42.93	-12.00	393.74

**SOUTH CURB LINE**

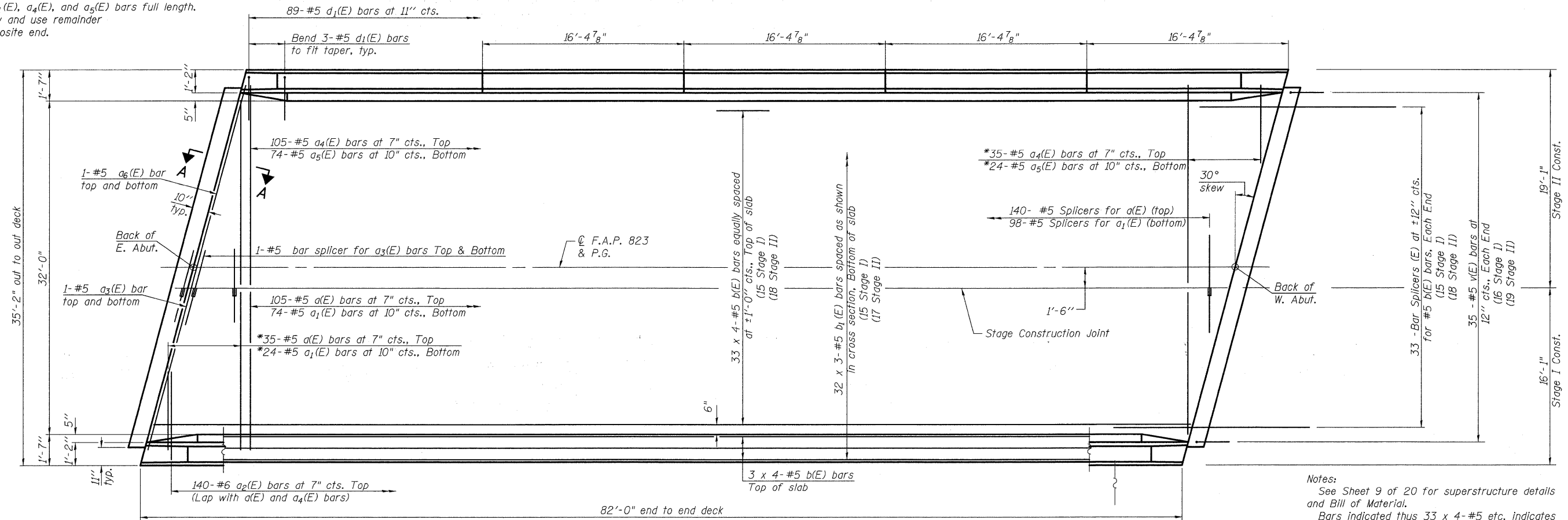
Location	Station	Offset	Theoretical Grade Elevations
Bk. W. Abut.	302+15.48	-16.42	393.79
C	302+25.48	-16.42	393.73
D	302+35.48	-16.42	393.68
End W. Appr. Pav't	302+45.48	-16.42	393.63



**TOP OF WEST APPROACH  
SLAB ELEVATIONS  
IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071**

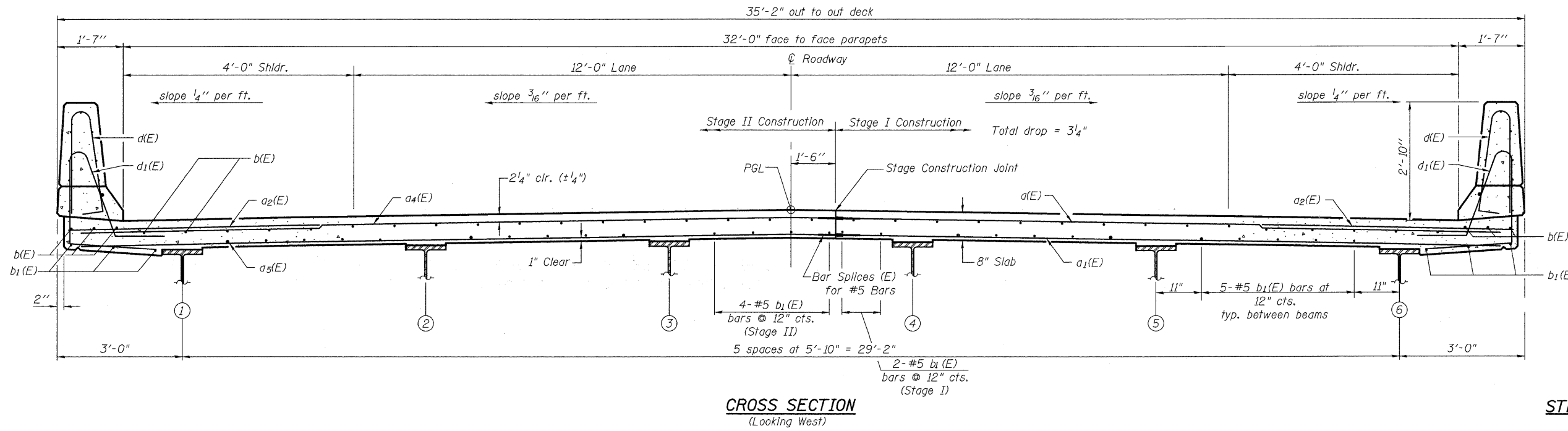
SHEET NO. 7 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	67
CONTRACT NO. 74238					
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

\*Order a(E), a<sub>1</sub>(E), a<sub>4</sub>(E), and a<sub>5</sub>(E) bars full length.  
Cut to fit skew and use remainder  
of bars in opposite end.



**PLAN**

Notes:  
See Sheet 9 of 20 for superstructure details and Bill of Material.  
Bars indicated thus 33 x 4-#5 etc. indicates 33 lines of bars with 4 lengths per line.  
See Sheet 9 of 20 for parapet reinforcement.  
For Section A-A See Sheet 10 of 20.

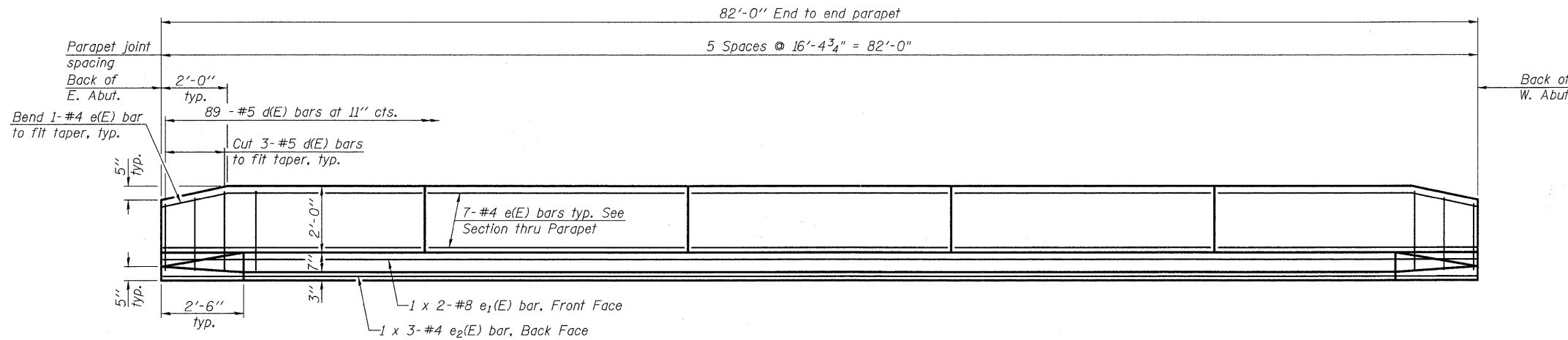


**CROSS SECTION**  
(Looking West)

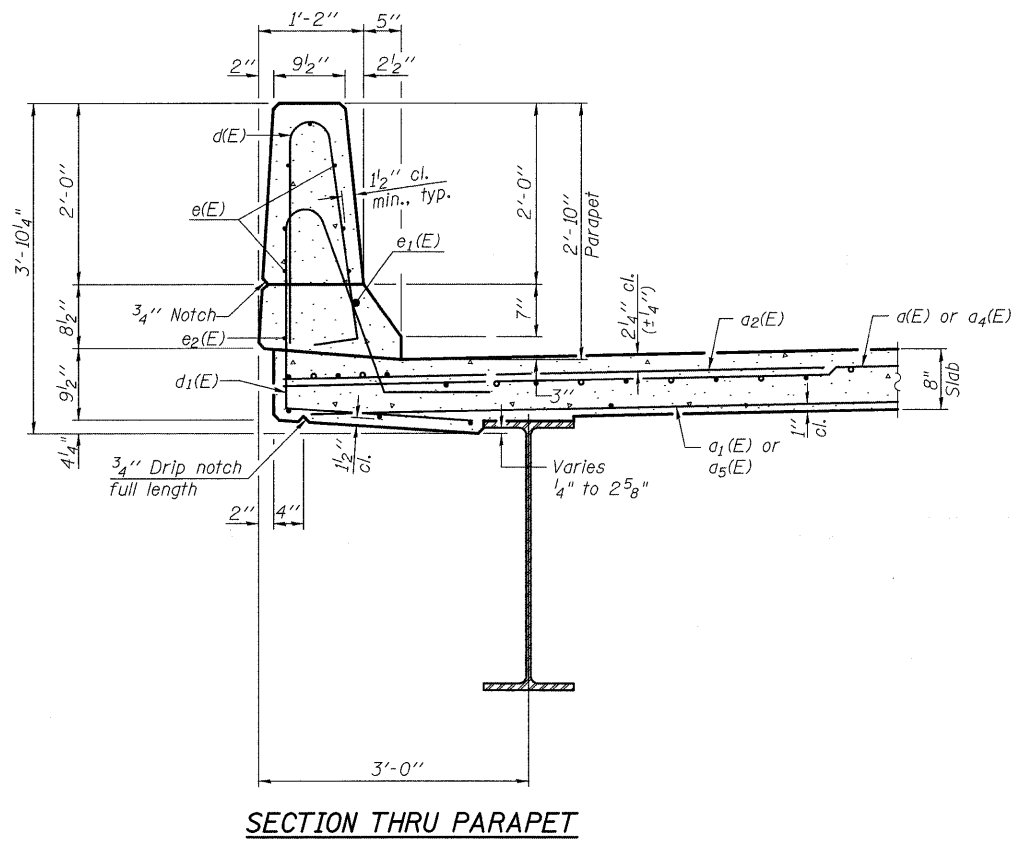
**MINIMUM BAR LAP**  
#5 bar = 1'-8"

**SUPERSTRUCTURE**  
**IL 15 OVER UNION**  
**DRAINAGE DITCH**  
**WAYNE COUNTY**  
**STATION 301+65.00**  
**STRUCTURE NO. 096-0071**

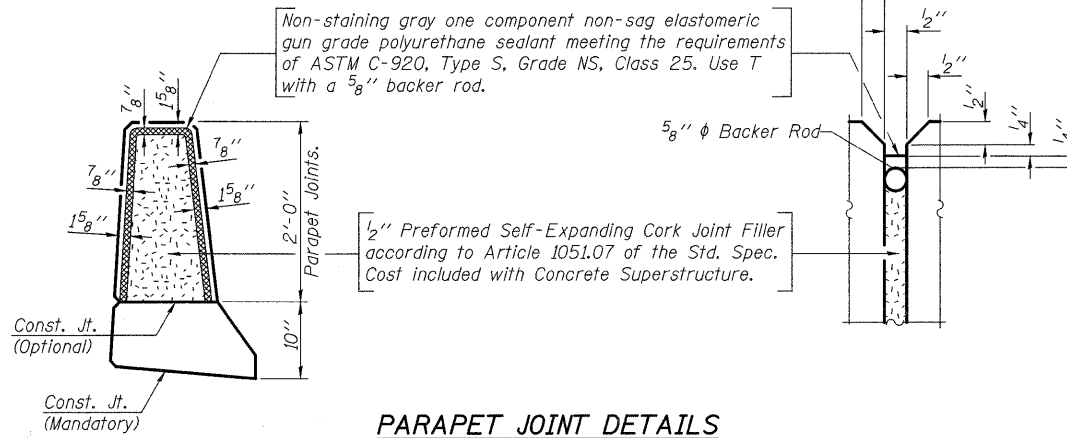
SHEET NO. 8 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	68
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 74238					



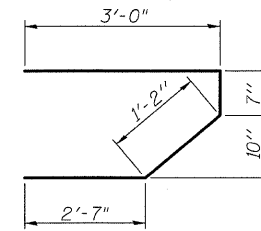
**INSIDE ELEVATION OF PARAPET**



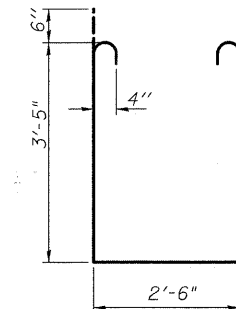
**SECTION THRU PARAPET**



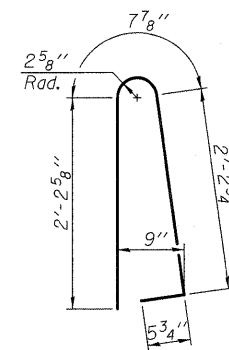
**PARAPET JOINT DETAILS**



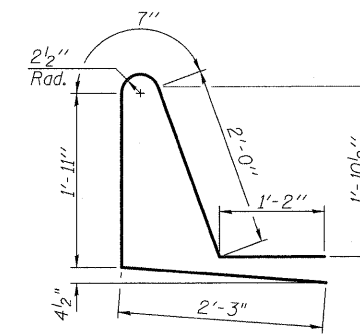
**BAR s(E)**



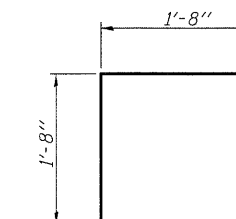
**BAR s1(E)**



**BAR d(E)**



**BAR d1(E)**



**BAR v(E)**

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	140	#5	15'-7"	—
a1(E)	98	#5	15'-1"	—
a2(E)	280	#6	6'-0"	—
a3(E)	4	#5	17'-10"	—
a4(E)	140	#5	18'-7"	—
a5(E)	98	#5	18'-1"	—
a6(E)	4	#5	21'-3"	—
b(E)	156	#5	21'-9"	—
b1(E)	96	#5	28'-4"	—
d(E)	178	#5	5'-7"	U
d1(E)	178	#5	7'-11"	U
e(E)	70	#4	16'-1"	—
e1(E)	4	#8	42'-7"	—
e2(E)	6	#4	28'-2"	—
m(E)	4	#6	17'-2"	—
m1(E)	6	#6	18'-3"	—
m2(E)	24	#6	9'-3"	—
m3(E)	8	#6	6'-3"	—
m4(E)	4	#6	3'-1"	—
m5(E)	4	#6	20'-8"	—
m6(E)	6	#6	21'-8"	—
m7(E)	2	#6	4'-10"	—
s(E)	72	#5	7'-4"	U
s1(E)	62	#4	10'-4"	U
v(E)	70	#5	3'-4"	U
Reinforcement Bars, Epoxy Coated		Pound	23520	
Concrete Superstructure		Cu. Yds.	122.3	
Bar Splitters		Each	324	

Bars indicated thus 1 x 2-#4 etc. indicates 1 line of bars with 2 lengths per line.

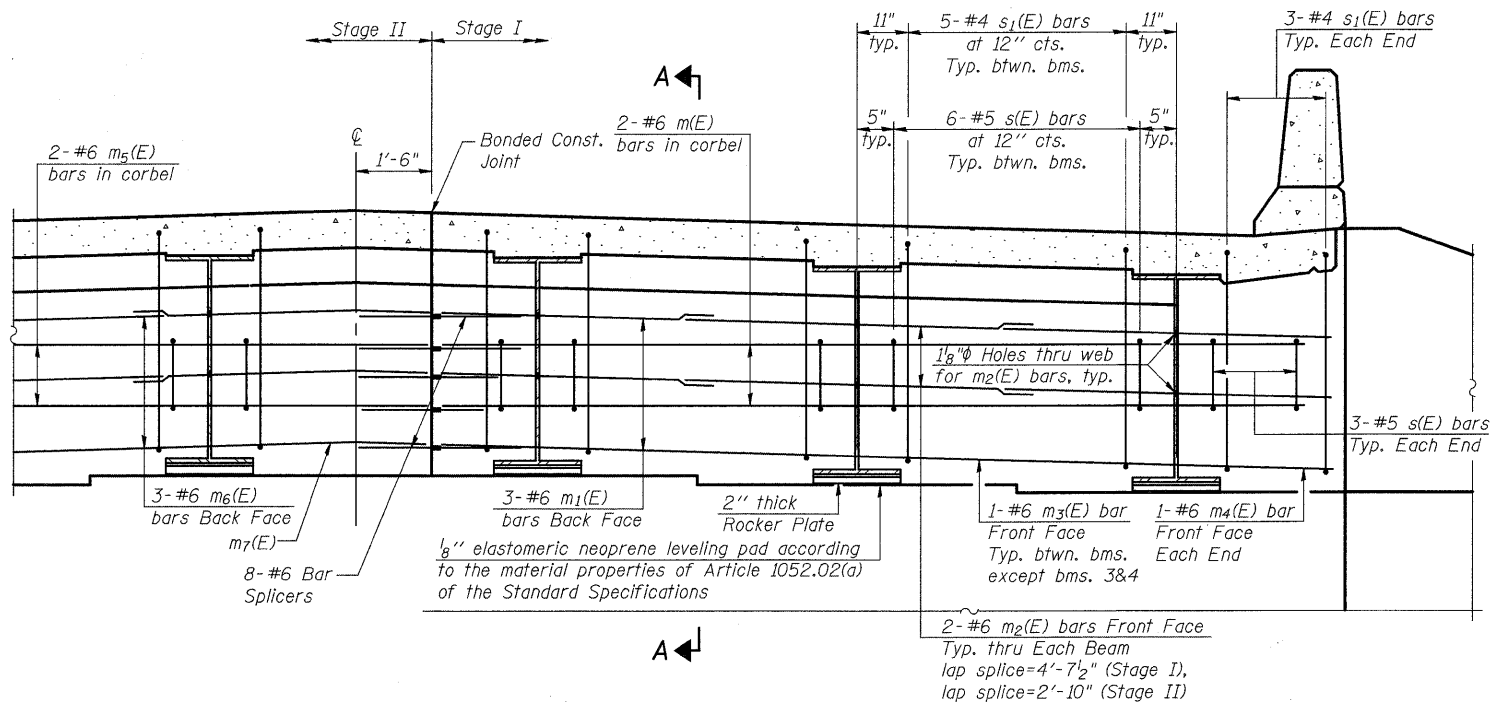
**MINIMUM BAR LAP**

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

**SUPERSTRUCTURE DETAILS**

**IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071**

SHEET NO. 9 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	69
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 74238					



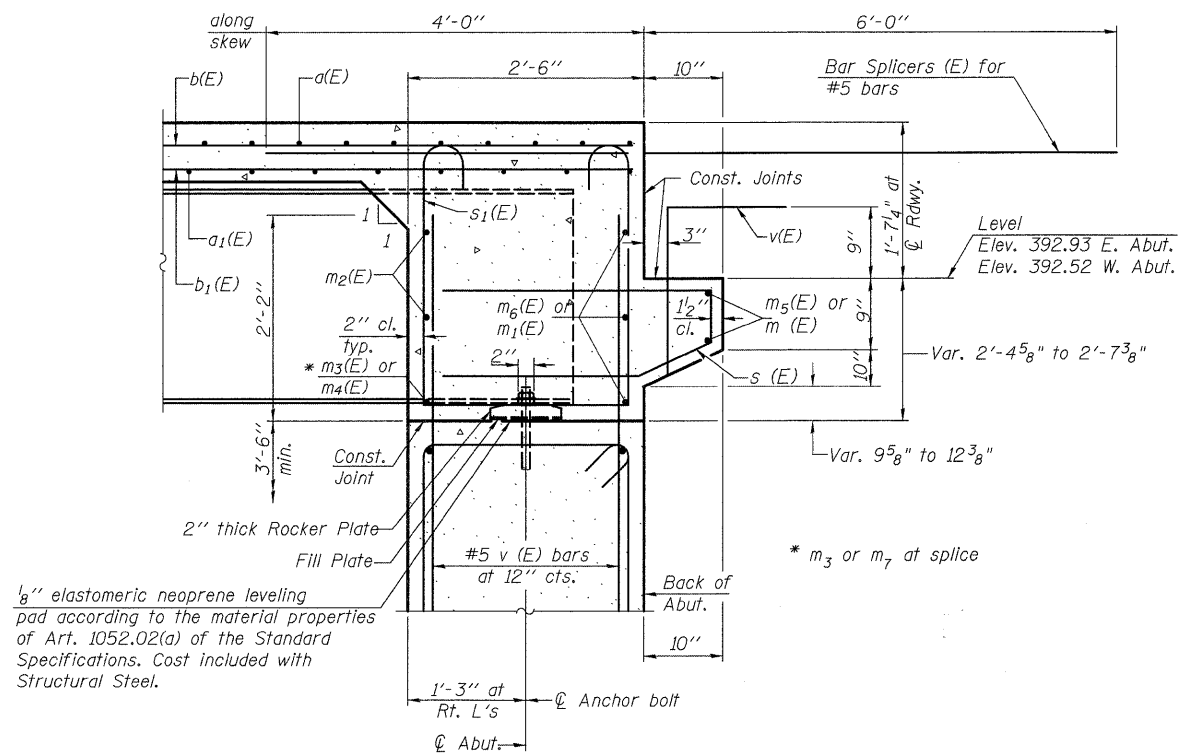
**DIAPHRAGM ELEVATION AT ABUTMENT**

Looking West @ W. Abutment  
(E. Abutment Similar)

**Notes:**  
 Reinforcement bars in diaphragm are billed with superstructure on sheet 9 of 20.  
 Concrete in diaphragm is included with Concrete Superstructure on sheet 9 of 20.  
 For details of bars s(E) & s<sub>1</sub>(E) see sheet 9 of 20.  
 The s(E) and s<sub>1</sub>(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

**MIN. BAR LAP**

#6 bar = 2'-9"

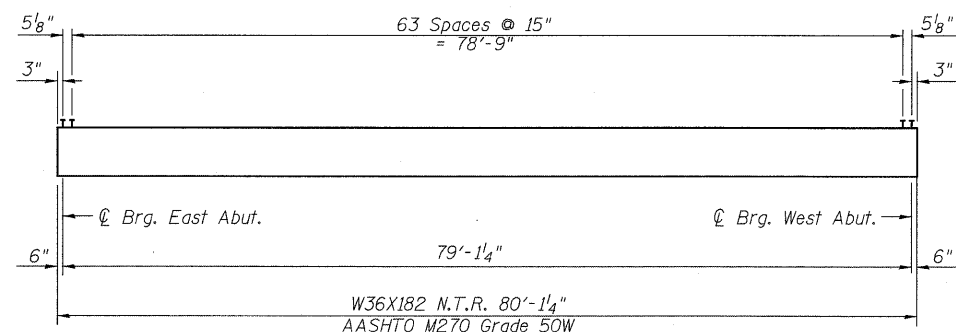


**SECTION A-A**

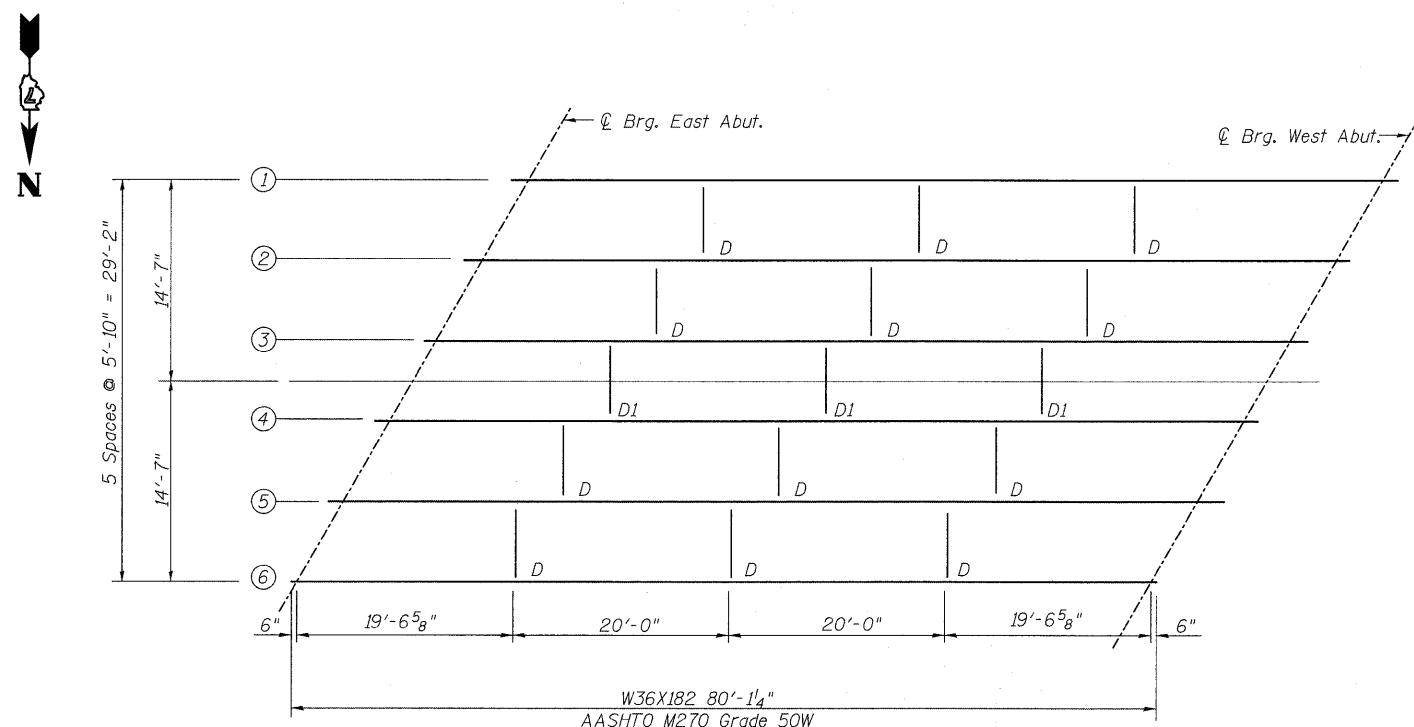
Dimensions at right angles to abutment, except as shown.

**ABUTMENT DIAPHRAGM DETAILS**  
**IL 15 OVER UNION**  
**DRAINAGE DITCH**  
**WAYNE COUNTY**  
**STATION 301+65.00**  
**STRUCTURE NO. 096-0071**

SHEET NO. 10 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	70
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 74238					

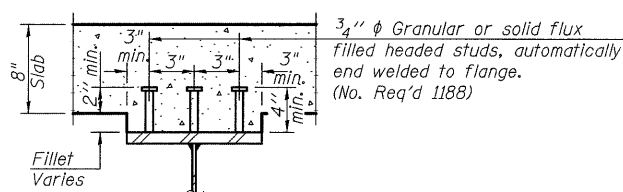


**ELEVATION**



**FRAMING PLAN**

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



**SECTION A-A**

	E. Abut.	W. Abut.
Beam 1	393.51	393.11
Beam 2	393.63	393.23
Beam 3	393.73	393.33
Beam 4	393.75	393.35
Beam 5	393.68	393.28
Beam 6	393.59	393.19

**TOP OF BEAM ELEVATIONS**

(For Fabrication use Only)

0.5 Sp. 1		
$I_s$	(in <sup>4</sup> )	11300
$I_c(n)$	(in <sup>4</sup> )	26430
$I_c(3n)$	(in <sup>4</sup> )	19115
$S_s$	(in <sup>3</sup> )	623
$S_c(n)$	(in <sup>3</sup> )	871
$S_c(3n)$	(in <sup>3</sup> )	780
DC1	(k/')	0.833
M <sub>DC1</sub>	(k)	668
DC2	(k/')	0.150
M <sub>DC2</sub>	(k)	120
DW	(k/')	0.267
M <sub>DW</sub>	(k)	214
M <sub>LL + IM</sub>	(k)	1084
M <sub>u</sub> (Strength I)	(k)	3203
* $\phi_r M_n$	(k)	4289
$f_s$ DC1	(ksi)	12.9
$f_s$ DC2	(ksi)	1.9
$f_s$ DW	(ksi)	3.3
$f_s$ 1.3(LL + IM)	(ksi)	19.5
$f_s$ (Service II)	(ksi)	37.6
V <sub>r</sub>	(k)	26.4

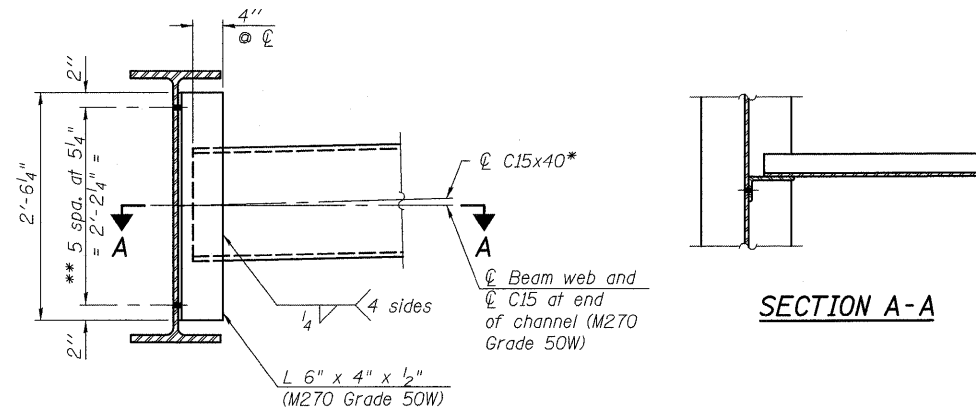
\* Compact sections

	E. Abut. & W. Abut.
R <sub>DC1</sub>	(k) 33.3
R <sub>DC2</sub>	(k) 6.0
R <sub>DW</sub>	(k) 10.6
R <sub>LL + IM</sub>	(k) 81.2
R <sub>Total</sub>	(k) 131.1

- $I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M<sub>LL + IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>LL + IM</sub>
- $\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- $f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).  
M<sub>DC1</sub> + M<sub>DC2</sub> + M<sub>DW</sub> + 1.3 M<sub>LL + IM</sub>
- V<sub>r</sub>: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

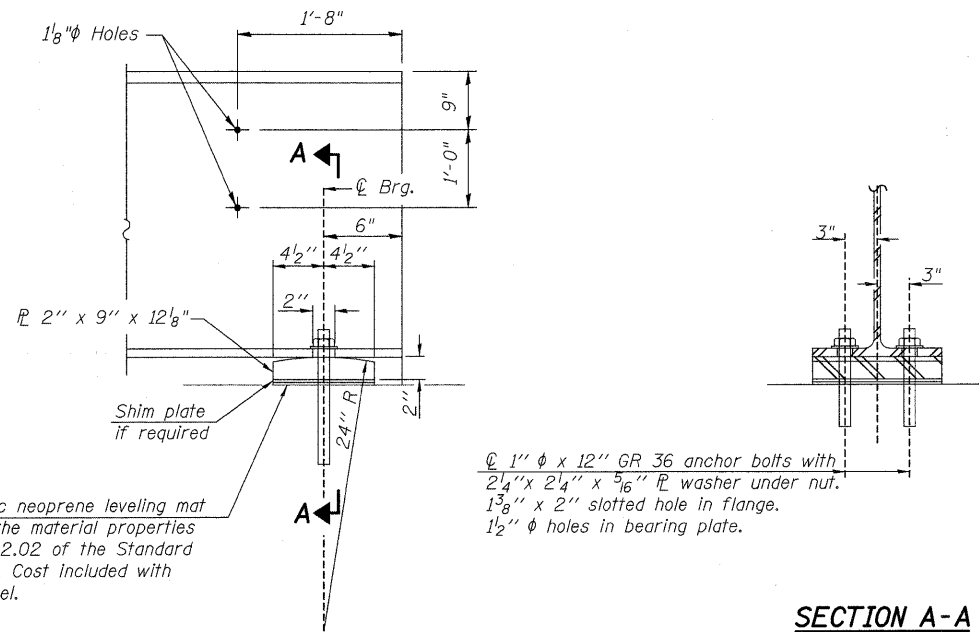
**FRAMING PLAN AND  
BEAM DETAILS  
IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071**

SHEET NO. 11	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
20 SHEETS	823	(22BY-1) B-1	WAYNE	142	71
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 74238					



**INTERIOR DIAPHRAGM D AND D1**

(12 Required D)  
(3 Required D1)



**ELEVATION AT ABUTMENT**

**FIXED BEARING**

1/8" elastomeric neoprene leveling mat according to the material properties of Article 1052.02 of the Standard Specifications. Cost included with Structural Steel.

1" φ x 12" GR 36 anchor bolts with 2 1/4" x 2 1/4" x 5/16" PL washer under nut. 1 3/8" x 2" slotted hole in flange. 1/2" φ holes in bearing plate.

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

Two 3x3x5/16" plate washers are required for each slotted hole.

\* Alternate C15x50 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no extra cost to the Department.

\*\* D-3/4" φ HS bolts, 1 5/16" φ holes (Beam), 1 5/16" φ holes (Angles)

D1-3/4" φ HS bolts, 1 5/16" φ holes (Beam), 1 3/8" x 1 7/8" slotted holes (Angles/Each End) Bolts at slots shall be finger tight until the second stage pour is complete, then fully tightened. Position and install angles on diaphragm to allow both sides of diaphragm bolts to slip under deck pour.

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.

One 1/8 in. shim shall be provided for each bearing at beam line 5.

One 1/4 in. shim shall be provided for each bearing at beam line 4.

**STRUCTURAL STEEL DETAILS**

**IL 15 OVER UNION**

**DRAINAGE DITCH**

**WAYNE COUNTY**

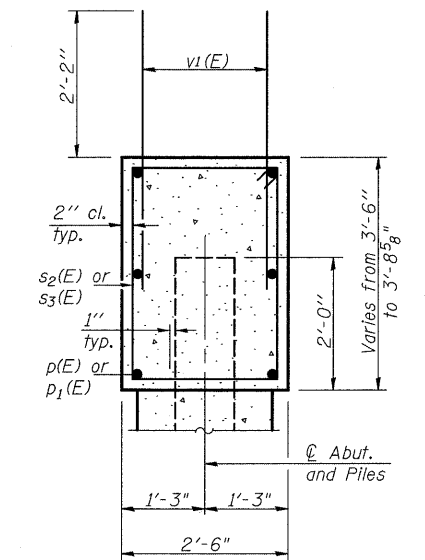
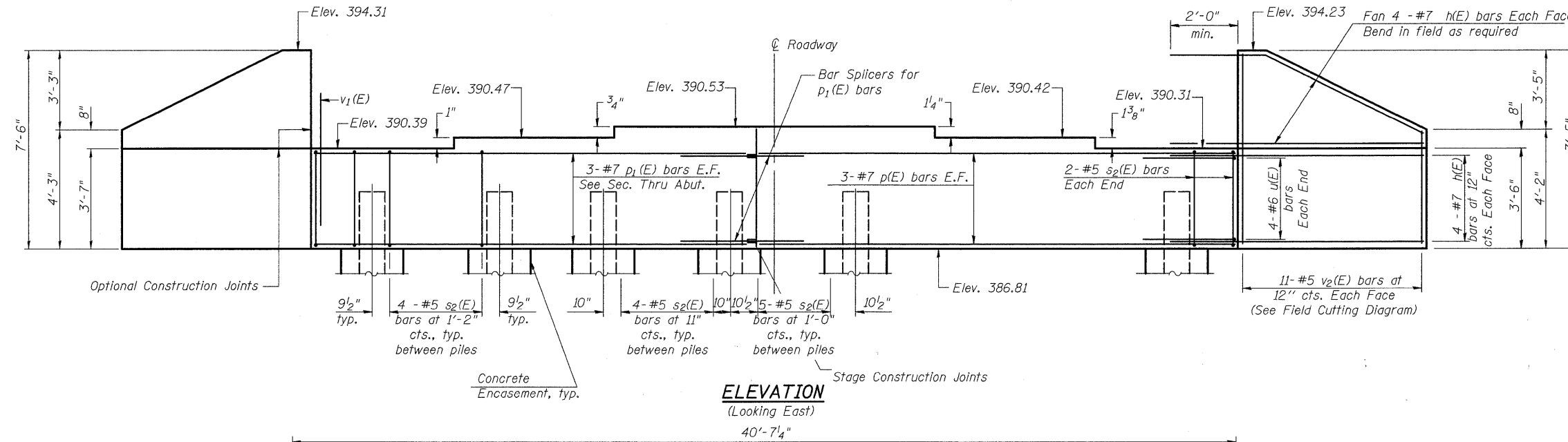
**STATION 301+65.00**

**STRUCTURE NO. 096-0071**

SHEET NO. 12  20 SHEETS	F.A.P. RTE. 823	SECTION (22BY-1) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 72
	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		



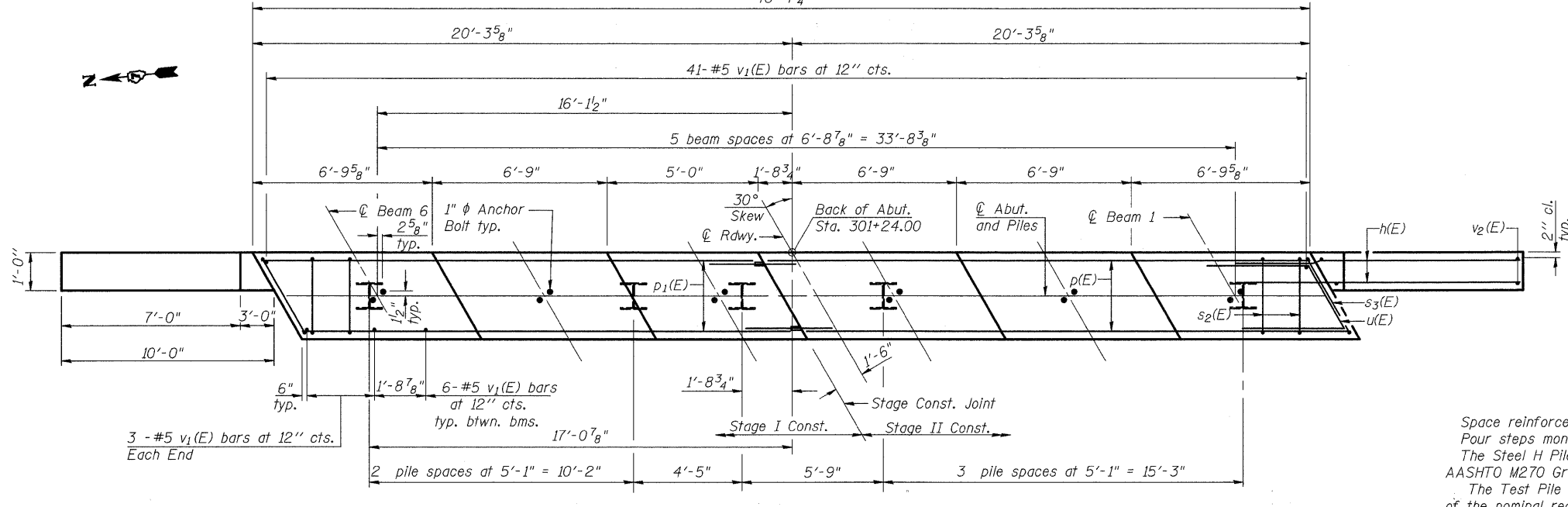
Note: Four steps monolithically with cap.



SEC. THRU ABUT.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#7	12'-8"	—
p(E)	6	#7	21'-7"	—
p1(E)	6	#7	18'-5"	—
s2(E)	33	#5	11'-7"	□
s3(E)	2	#5	12'-3"	□
u(E)	8	#6	10'-5"	∩
v1(E)	77	#5	4'-4"	—
v2(E)	22	#5	10'-11"	—
Structure Excavation		Cu. Yd.	81.0	
Concrete Structures		Cu. Yd.	18.2	
Reinforcement Bars, Epoxy Coated		Pound	2470	
Furnishing Steel Piles, HP 14x102		Foot	546	
Driving Piles		Foot	546	
Test Pile		Each	1	
Concrete Encasement		Cu. Yd.	2.8	

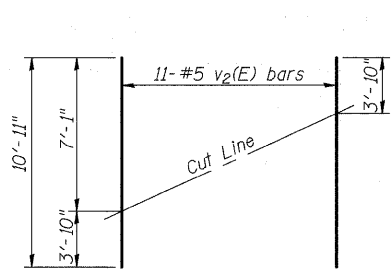


PLAN

Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap. The Steel H Piles shall be according to AASHTO M270 Grade 50. The Test Pile shall be driven to 110 percent of the nominal required bearing indicated in the Pile Data information. For details of Bar Splicers, see sheet 15 of 20. For details of piles and Concrete Encasement, see sheet 16 of 20.

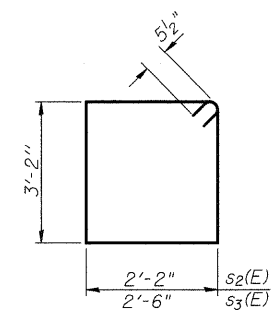
PILE DATA

Type: Steel HP14x102  
 Nominal Required Bearing: 810k  
 Factored Resistance Available: 223k  
 Est. Length: 78 ft.  
 No. Production Piles: 7  
 No. Test Piles: 1

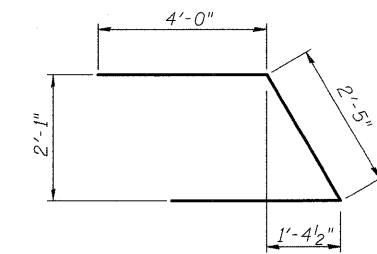


FIELD CUTTING DIAGRAM

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



BARS s2(E) & s3(E)

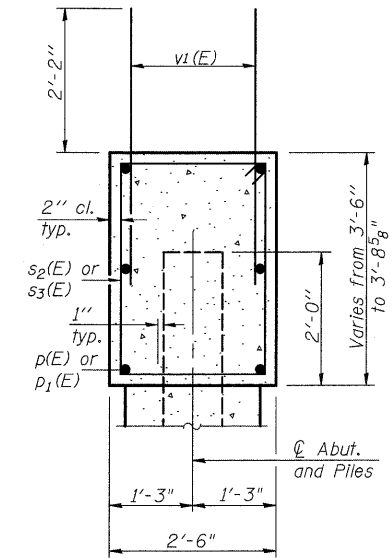
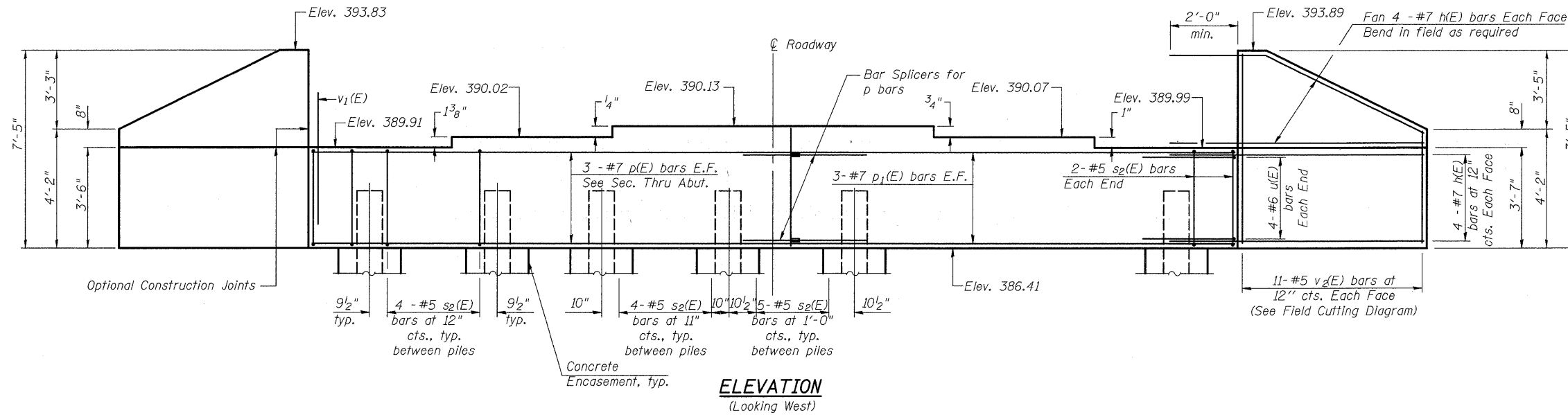


BAR u(E)

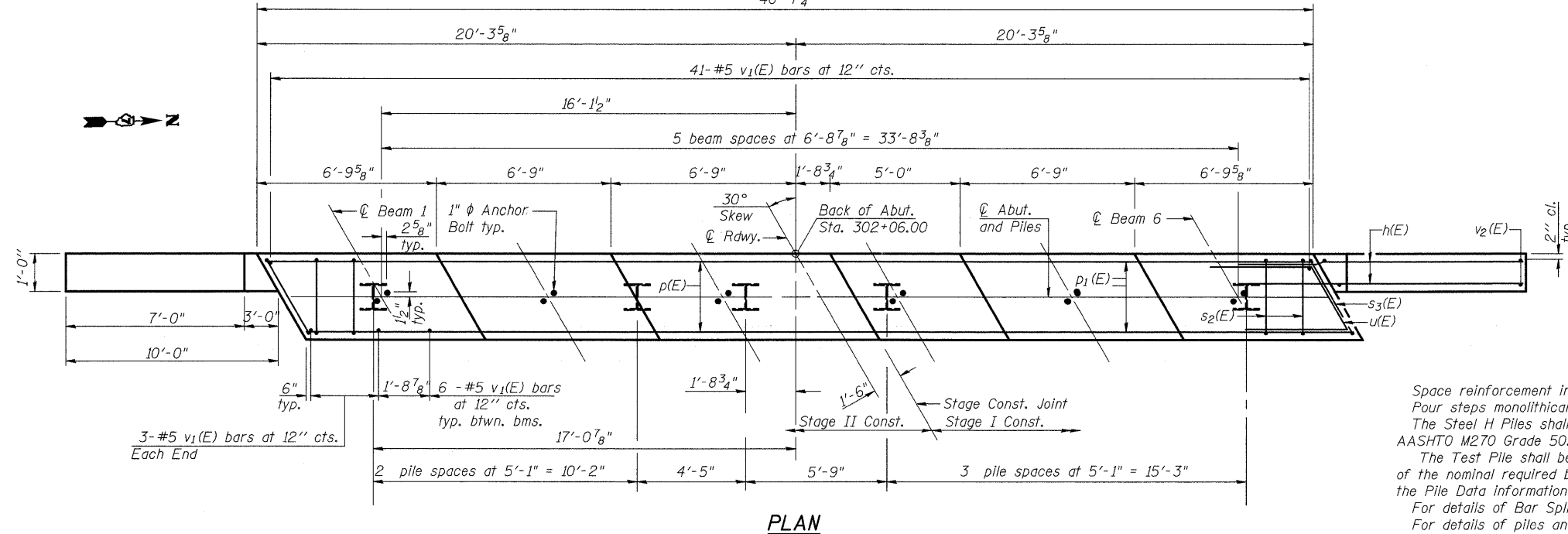
**EAST ABUTMENT**  
**IL 15 OVER UNION**  
**DRAINAGE DITCH**  
**WAYNE COUNTY**  
**STATION 301+65.00**  
**STRUCTURE NO. 096-0071**

SHEET NO. 13 20 SHEETS	F.A.P. RTE. 823	SECTION (22BY-1) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 73
	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

Note: Four steps monolithically with cap.



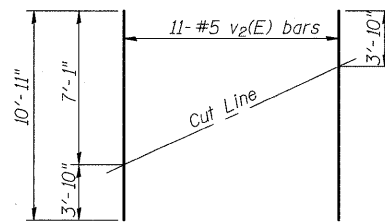
SEC. THRU ABUT.



PLAN

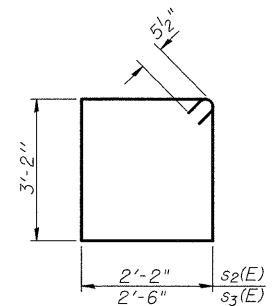
**PILE DATA**

Type: Steel HP14x102  
 Nominal Required Bearing: 810k  
 Factored Resistance Available: 189k  
 Est. Length: 82 ft.  
 No. Production Piles: 7  
 No. Test Piles: 1

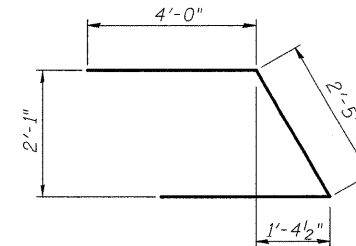


FIELD CUTTING DIAGRAM

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



BARS s2(E) & s3(E)



BAR u(E)

Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap. The Steel H Piles shall be according to AASHTO M270 Grade 50. The Test Pile shall be driven to 110 percent of the nominal required bearing indicated in the Pile Data information. For details of Bar Splicers, see sheet 15 of 20. For details of piles and Concrete Encasement, see sheet 16 of 20.

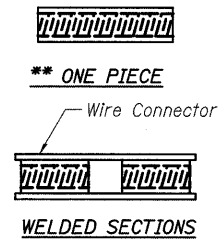
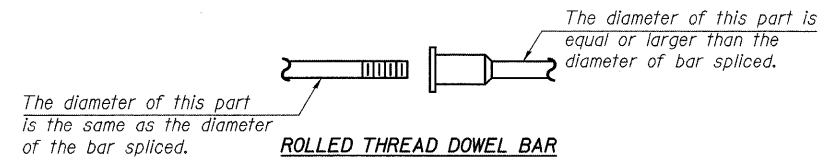
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	32	#7	12'-8"	—
p(E)	6	#7	21'-7"	—
p1(E)	6	#7	18'-5"	—
s2(E)	33	#5	11'-7"	□
s3(E)	2	#5	12'-3"	□
u(E)	8	#6	10'-5"	└
v1(E)	77	#5	4'-4"	—
v2(E)	22	#5	10'-11"	—
Structure Excavation			Cu. Yd.	92.0
Concrete Structures			Cu. Yd.	18.2
Reinforcement Bars, Epoxy Coated			Pound	2470
Furnishing Steel Piles, HP 14x102			Foot	574
Driving Piles			Foot	574
Test Pile,			Each	1
Concrete Encasement			Cu. Yd.	2.8

**WEST ABUTMENT  
 IL 15 OVER UNION  
 DRAINAGE DITCH  
 WAYNE COUNTY  
 STATION 301+65.00  
 STRUCTURE NO. 096-0071**

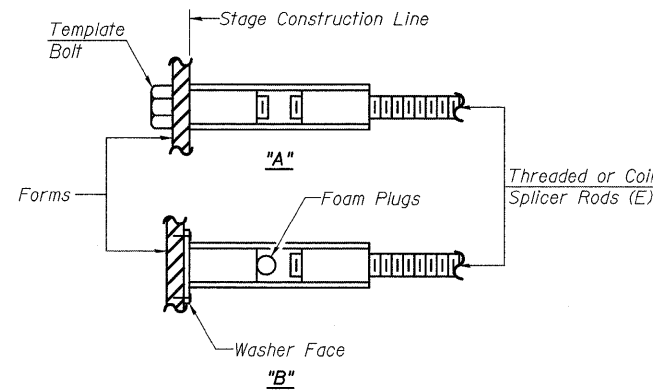
SHEET NO. 14 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	74
CONTRACT NO. 74238					
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



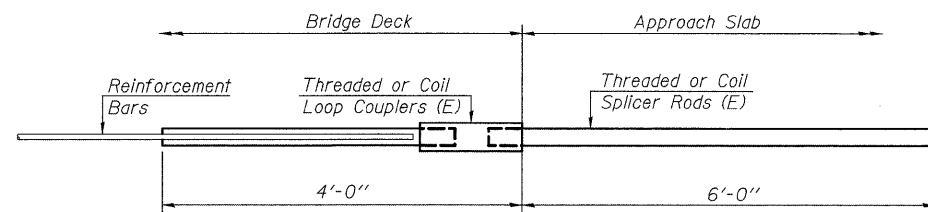
**INSTALLATION AND SETTING METHODS**

"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:

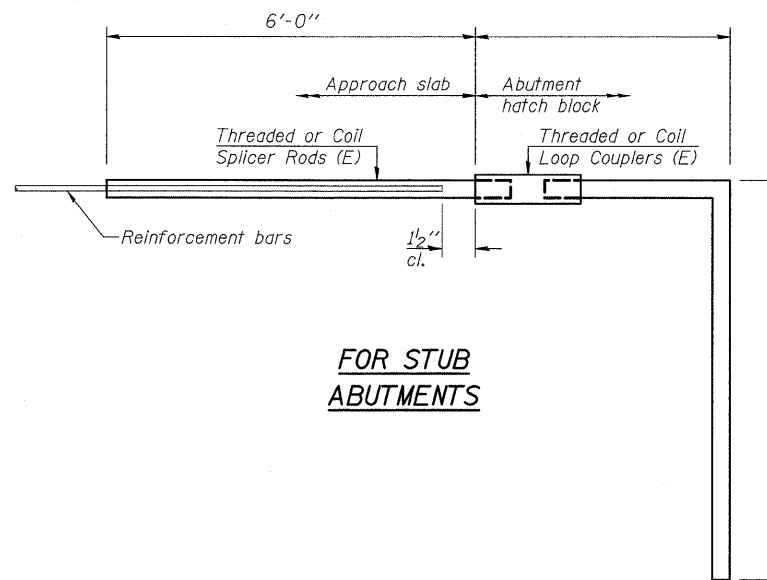
- ① Minimum Capacity =  $1.25 \times f_y \times A_s$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_s$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_s$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 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'-2"	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



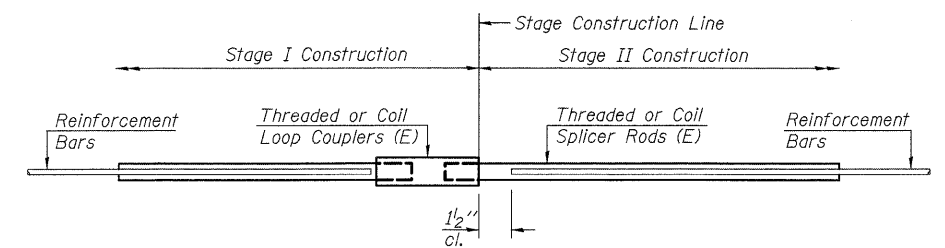
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 66



**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
#7	12	Abutments
#6	16	diaphragm/corbel
#5	242	Deck

**BAR SPLICER ASSEMBLY DETAILS**

**IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071**

SHEET NO. 15 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	75
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 74238					

BSD-1

10-1-08

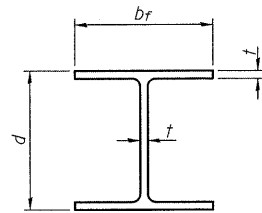
BLANK, WESSELINK, COOK & ASSOCIATES

ENGINEERS - CONSULTANTS

DECATUR, ILLINOIS

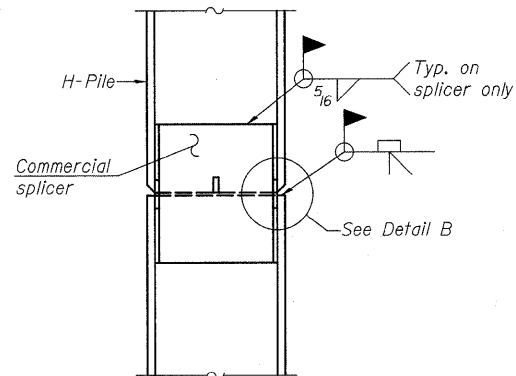
DESIGN FIRM NO. 184000894

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

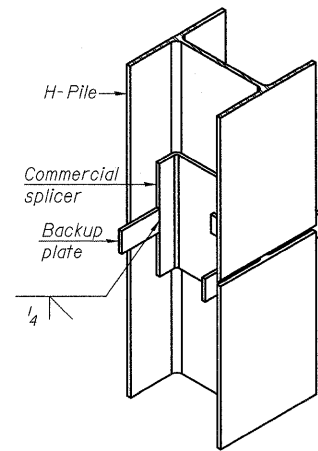


**STEEL PILE TABLE**

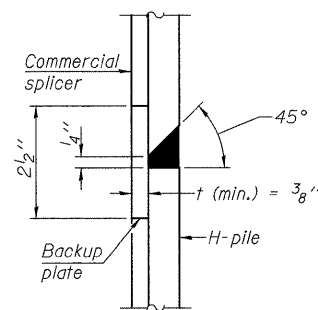
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"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



**ELEVATION**

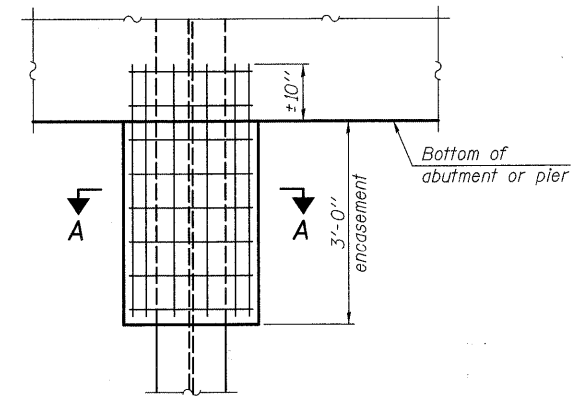


**ISOMETRIC VIEW**

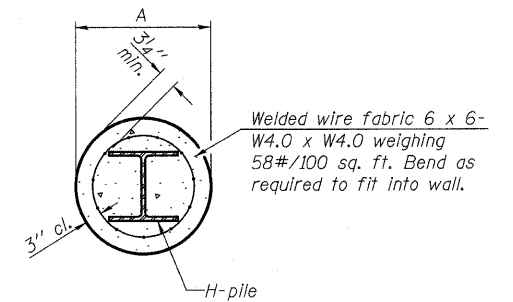


**DETAIL "B"**

**WELDED COMMERCIAL SPLICE**



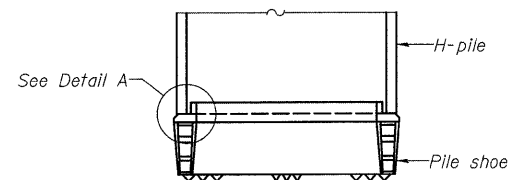
**ELEVATION**



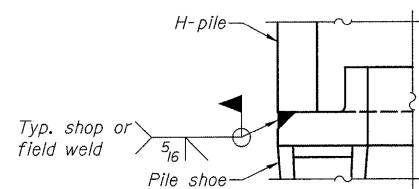
**SECTION A-A**

**PILE ENCASEMENT**

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

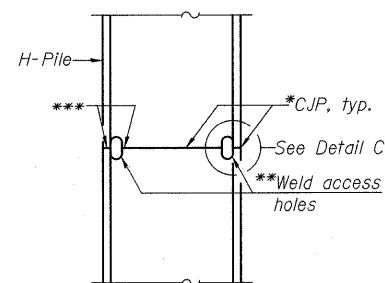


**ELEVATION**

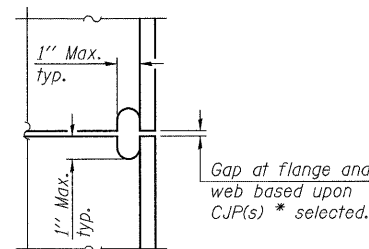


**DETAIL A**

**H-PILE SHOE ATTACHMENT**

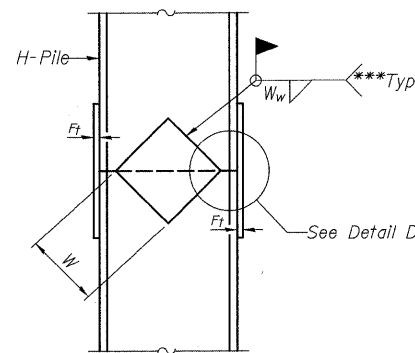


**ELEVATION**

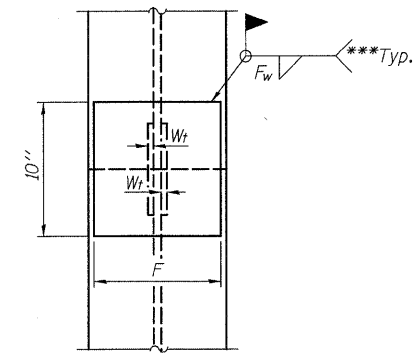


**DETAIL C**

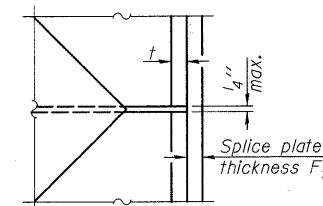
**COMPLETE PENETRATION WELD SPLICE**



**ELEVATION**



**END VIEW**



**DETAIL D**

**WELDED PLATE FIELD SPLICE**

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	1/2"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	1/2"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/2"	6 1/2"	5 1/2"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	5 1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	5 1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	5 1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	5 1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	5 1/2"	3/8"

**H-PILE & ENCASEMENT DETAILS**

**IL 15 OVER UNION**

**DRAINAGE DITCH**

**WAYNE COUNTY**

**STATION 301+65.00**

**STRUCTURE NO. 096-0071**

\* Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.

\*\* Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.

\*\*\* Interrupt welds 1/4" from end of each pile.

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

SHEET NO. 16 20 SHEETS	F.A.P. RTE. 823	SECTION (22BY-1) B-1	COUNTY WAYNE	TOTAL SHEETS 142	SHEET NO. 76
	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

F-HP

10-1-08

BLANK, WESSELINK, COOK & ASSOCIATES

ENGINEERS - CONSULTANTS

DECATUR, ILLINOIS

DESIGN FIRM NO. 184000894



**SOIL BORING LOG**

Page 1 of 3

Date 7/26/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer

SECTION (22BY-1, 22BY2, 22BR)B-1 LOCATION SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO.	Station	DEPTH (ft)	BLOW (16")	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	BLOW (16")	UCS (tsf)	MOIST (%)	
096-0016	301+63.5					Surface Water Elev. 378.32 ft Stream Bed Elev. 375.45 ft					
						Groundwater Elev.: First Encounter 374.1 ft Upon Completion Washed ft After 24 Hrs. 379.6 ft					
		391.43				3" asphalt on 11" concrete pavement.					
		390.23				Stiff, damp, gray, CLAY.					
			2					2	1.2	31	
			3	1.8	21			4	B		
			4	B				1			
								1	1.0	33	
								3	B		
		386.93				Stiff, damp, gray, SILTY CLAY.					
			1					0			
			3	1.1	23	Medium to soft, very damp, dark brown, SILTY LOAM.			0.6	36	
			3	B				1	B		
		364.43				Soft, damp, gray, SILTY LOAM.					
			1					0			
			2	0.3	27			0	0.3	23	
			2	BS				1	B		
		381.93				Stiff, damp, gray mottled red, CLAY.					
			1					0			
			2	1.4	27	Medium, damp, blue, SILTY CLAY.			1	0.7	29
			4	B				2	B		
						Very soft, very damp, blue, SILTY LOAM.					
			1								
			3	1.4	23						
			4	B							
		376.93				Medium, damp, red marbled gray, SILTY CLAY.					
			1					1			
			1	0.7	24	Soft, very damp, gray, SANDY LOAM.			0.4	27	
			2	B				5	B		
								6	B		
		374.13				Very soft, wet, red, SILTY LOAM.					
			2								
			3	1.6	27	Stiff to medium, damp, red marbled gray, SILTY CLAY.					
			3	B							
			2								
								3			

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



**SOIL BORING LOG**

Page 2 of 3

Date 7/26/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer

SECTION (22BY-1, 22BY2, 22BR)B-1 LOCATION SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM

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

STRUCT. NO.	Station	DEPTH (ft)	BLOW (16")	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	BLOW (16")	UCS (tsf)	MOIST (%)	
096-0016	301+63.5					Surface Water Elev. 378.32 ft Stream Bed Elev. 375.45 ft					
						Groundwater Elev.: First Encounter 374.1 ft Upon Completion Washed ft After 24 Hrs. 379.6 ft					
		391.43				Soft, very damp, gray, SANDY LOAM. (continued)					
			8	0.3	23	Gray, SANDY CLAY TILL. (continued)			3	0.1	18
			12	S					7	B	
		346.93				Medium, damp, gray, LOAM.					
			1								
			4	0.7	22						
			4	B							
		341.93				Very soft, wet, gray, SANDY LOAM.					
			0								
			3	0.4	24	Very stiff, very damp, gray, SANDY LOAM.			16	1.2	19
			6	B					32	S	
		315.43				Very dense, moist, gray, SANDY CLAY SHALE.					
		331.93				Gray, SANDY CLAY TILL.					
			1								

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

**SOIL BORINGS**  
**IL 15 OVER UNION**  
**DRAINAGE DITCH**  
**WAYNE COUNTY**  
**STATION 301+65.00**  
**STRUCTURE NO. 096-0071**

SHEET NO. 17	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	77
20 SHEETS	CONTRACT NO. 74238				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SOIL BORING LOG

Page 3 of 3

Date 7/26/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer  
(22BY-1, 22BY2)  
SECTION 22BR)B-1 LOCATION SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM  
COUNTY Wayne DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. Station	BORING NO. Station	DEPTH H	BULGE B	SHEAR S	PENETROMETER P	UNCONFINED COMPRESSIVE STRENGTH UCS	MOISTURE M	SILT S	CLAY C	QUARTZ Qu	Surface Water Elev. Stream Bed Elev.	Groundwater Elev.: First Encounter Upon Completion After 24 Hrs.
096-0016 301+63.5	1 301+11										376.32 375.45	374.1 378.6
Extent of exploration. 311.23' (ft) (16") (pcf) (%)												
Benchmark WE-21 Chiseled square on top of NW wingwall of existing structure 096-0016, Sta 301+21, 22.5' Rt = 391.97' elev. Provided by Program Development.												
-85												
-90												
-95												
-100												

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



SOIL BORING LOG

Page 1 of 4

Date 7/24/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer  
(22BY-1, 22BY2)  
SECTION 22BR)B-1 LOCATION SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM  
COUNTY Wayne DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. Station	BORING NO. Station	DEPTH H	BULGE B	SHEAR S	PENETROMETER P	UNCONFINED COMPRESSIVE STRENGTH UCS	MOISTURE M	SILT S	CLAY C	QUARTZ Qu	Surface Water Elev. Stream Bed Elev.	Groundwater Elev.: First Encounter Upon Completion After Hrs.
096-0016 301+63.5	2 302+40										376.32 375.45	373.8 N/A
4" aggregate shoulder. 381.04'												
Stiff, damp, gray, CLAY.												
Stiff, damp, gray, SILTY CLAY. (continued)												
3												
3 1.5 24												
6 PP												
2												
2 1.0 28												
3 B												
366.84'												
Soft to medium, damp, dark gray, SILTY LOAM.												
0												
0 0.4 33												
1 B												
0												
0 0.6 22												
1 B												
381.84'												
Stiff, damp, gray marbled brown, CLAY.												
1												
3 1.5 28												
4 B												
1												
2 0.5 28												
3 S												
376.84'												
Soft, very damp, gray marbled brown, SILTY LOAM.												
2												
2 0.3 24												
3 B												
373.84'												
Very soft, wet, brown, SILT.												
3 0.3 29												
3 B												
373.54'												
Soft, very damp, gray marbled brown, SILTY LOAM.												
371.84'												
Stiff, damp, gray, SILTY CLAY.												
2												

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

SOIL BORINGS  
IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071

SHEET NO. 18 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	78
CONTRACT NO. 74238					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SOIL BORING LOG

Page 2 of 4

Date 7/24/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer  
SECTION (22BY-1, 22BY2, 22BR)B-1 LOCATION SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM  
COUNTY Wayne DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 096-0016 Station 301+63.5		D E L T H		B L O W S		U C S		M O I S T		S T		Surface Water Elev. 376.32 ft Stream Bed Elev. 376.45 ft		D E P T H		B L O W S		U C S		M O I S T		S T	
BORING NO. 2 Station 302+40 Offset 14.00ft LL Ground Surface Elev. 391.34 ft		(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)
Very soft, very damp, gray, SANDY LOAM. (continued)		5	0.2	25		18	1.5	11															
		6	0.1	30		22	0.8	8															
		7	0.6	23		50/5"																	
		8	0.6	23		50/4"																	
		13				60/2"																	
		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 T200)  
BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

Page 3 of 4

Date 7/24/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer  
SECTION (22BY-1, 22BY2, 22BR)B-1 LOCATION SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM  
COUNTY Wayne DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 096-0016 Station 301+63.5		D E L T H		B L O W S		U C S		M O I S T		S T		Surface Water Elev. 376.32 ft Stream Bed Elev. 376.45 ft		D E P T H		B L O W S		U C S		M O I S T		S T	
BORING NO. 2 Station 302+40 Offset 14.00ft LL Ground Surface Elev. 391.34 ft		(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)	(tsf)	(%)	(ft)	(/ft)
Very dense, moist, gray, SANDY CLAY SHALE. (continued)		310.64	60/3"																				
Borehole continued with rock coring.			60/2"																				

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 T200)  
BBS, from 137 (Rev. 8-99)

SOIL BORINGS  
IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071

SHEET NO. 19 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	79
CONTRACT NO. 74238					
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



Illinois Department of Transportation  
Division of Highways  
Illinois Department of Transportation

ROCK CORE LOG

Page 4 of 4

Date 7/24/07

ROUTE FAP 823 (IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer

SECTION (22BY-1, 22BY2, 22BR1B-1) LOCATION SEC. 2, TWP. 2 S, RNG. 9 E, 3 PM

COUNTY Wayne CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 096-0016 CORING BARREL TYPE & SIZE NW, conv dbl bbl, split inner  
Station 301+63.5

BORING NO. 2 Core Diameter 2.08 in  
Station 302+40 Top of Rock Elev. 311.84 ft  
Offset 14.00 ft LT Begin Core Elev. 310.84 ft  
Ground Surface Elev. 391.34 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (ksf)
310.84	B2-1	81	81	1.1	
Rock core sample B2C1 @ 82.4' to 82.9' depth = 28.6 lsf Qu.					
	B2-2	100	98	1.1	
Rock core sample B2C2 @ 88.5' to 89.0' depth = 35.4 tsf Qu.					
300.84					
Extent of exploration.					
Benchmark: WE-21 Chiseled square on top of NW wingwall of existing structure 096-0016, Sta 301+21, 22.5' Rt = 391.97' elev. Provided by Program Development.					

Color pictures of the cores Available on request  
Cores will be stored for examination until 07/24/08  
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)  
BBS, form 138 (Rev. 8-99)

Field Rock Core Log.xls

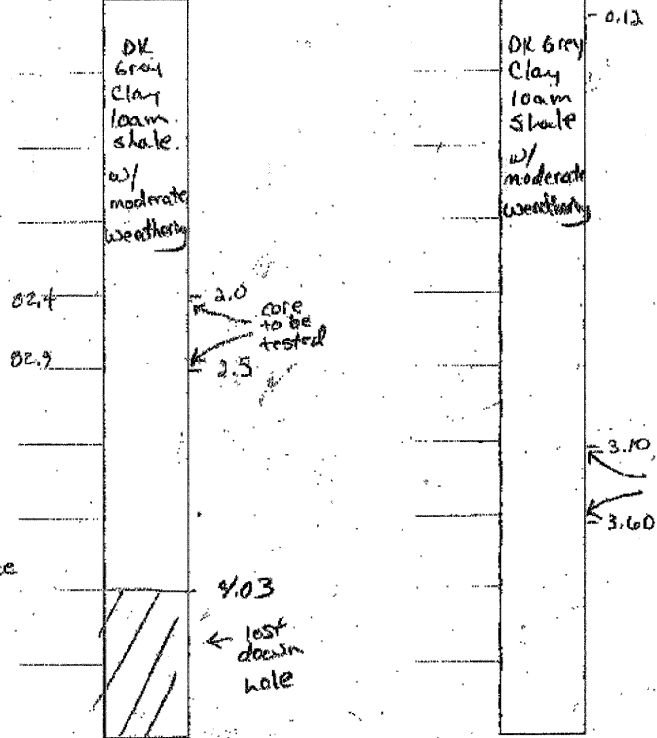
Field Rock Core Log

Date: 7-24-07

Structure #: 096-0016 Boring #: 2

Rock Core #: B2C1 Rock Core #: B2C2

Depth: 80.4 Depth: 85.4

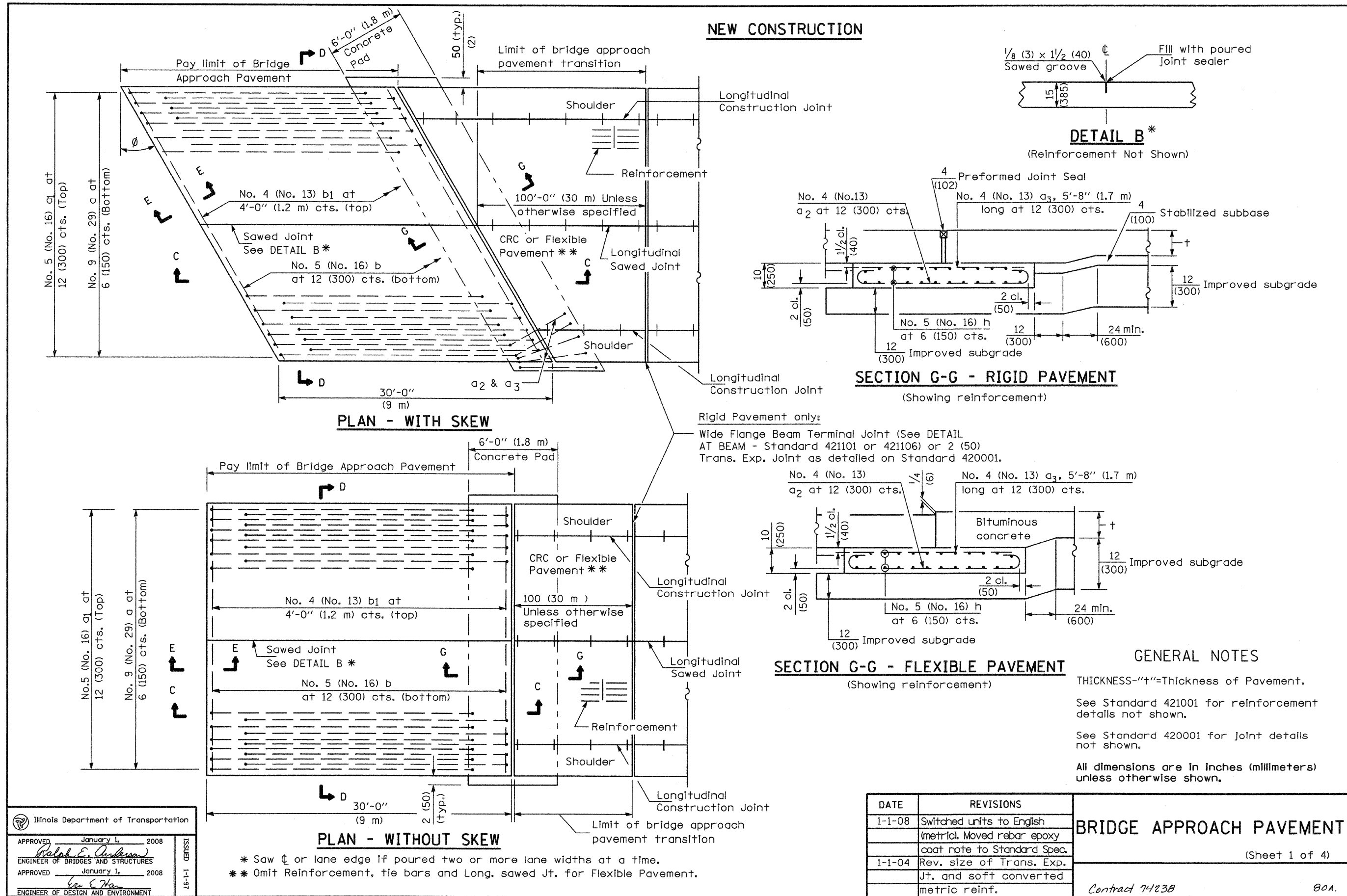


Depth: 80.4 Depth: 85.4  
Core Time: 5:37 Core Time: 5:22  
Recovery: 80.6% Recovery: 100%  
RQD: 80.6 RQD: 98.0  
Logged By: Eric Sandschafer

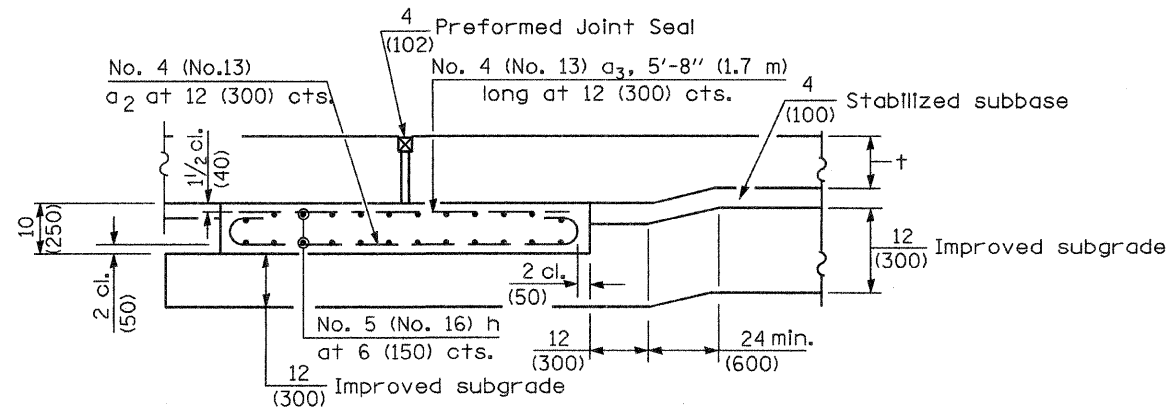
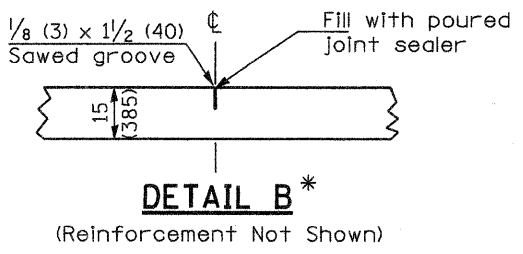
SOIL BORINGS  
IL 15 OVER UNION  
DRAINAGE DITCH  
WAYNE COUNTY  
STATION 301+65.00  
STRUCTURE NO. 096-0071

SHEET NO. 20 20 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823	(22BY-1) B-1	WAYNE	142	80
CONTRACT NO. 74238					
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

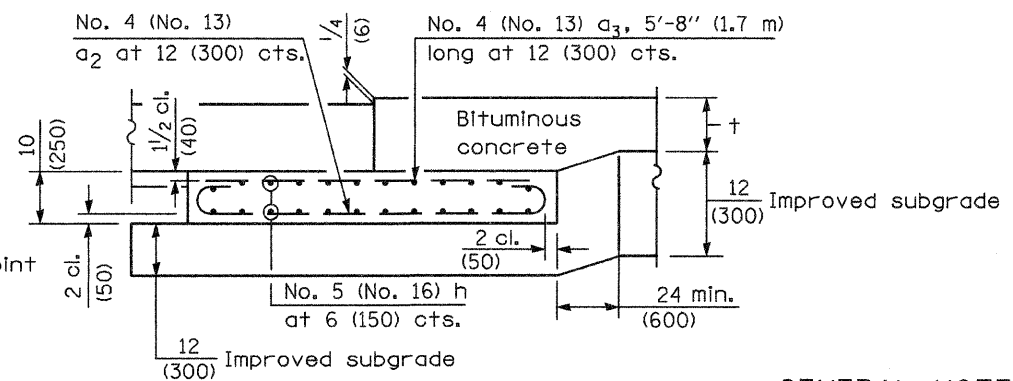




**NEW CONSTRUCTION**



Rigid Pavement only:  
 Wide Flange Beam Terminal Joint (See DETAIL AT BEAM - Standard 421101 or 421106) or 2 (50)  
 Trans. Exp. Joint as detailed on Standard 420001.



**GENERAL NOTES**

THICKNESS-"t"=Thickness of Pavement.  
 See Standard 421001 for reinforcement details not shown.  
 See Standard 420001 for joint details not shown.  
 All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-08	Switched units to English (metric). Moved rebar epoxy coat note to Standard Spec.
1-1-04	Rev. size of Trans. Exp. Jt. and soft converted metric reinf.

**BRIDGE APPROACH PAVEMENT**  
 (Sheet 1 of 4)  
 Contract 74238 80A.

Illinois Department of Transportation

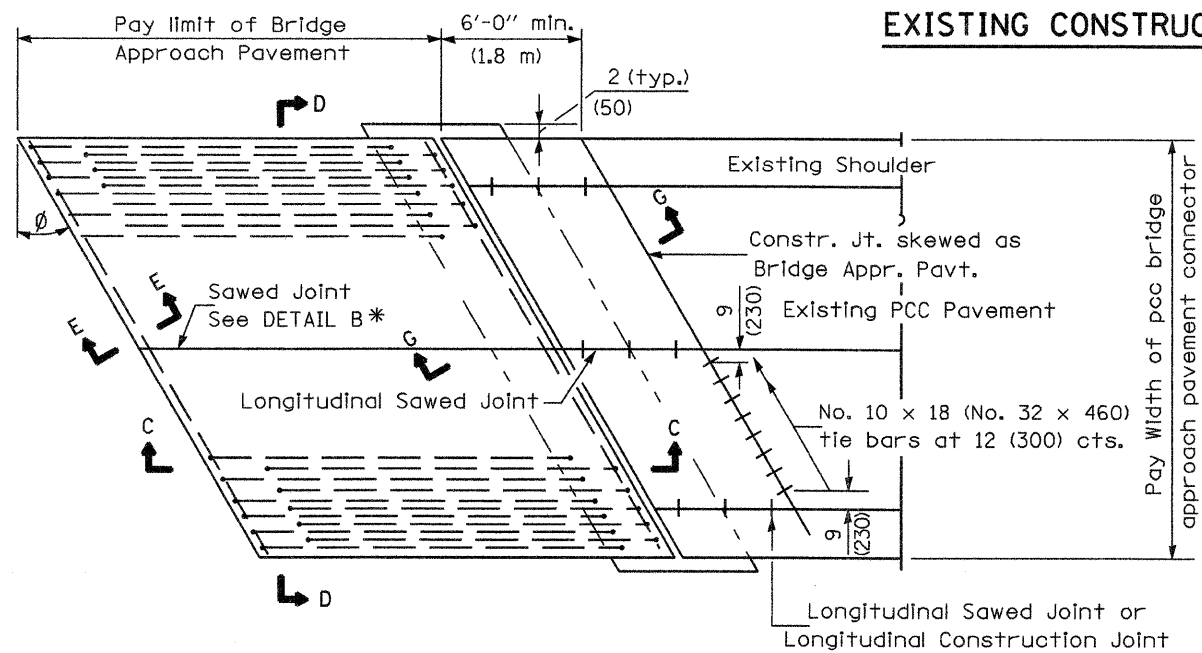
APPROVED January 1, 2008  
*Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

APPROVED January 1, 2008  
*Ken S. Han*  
 ENGINEER OF DESIGN AND ENVIRONMENT

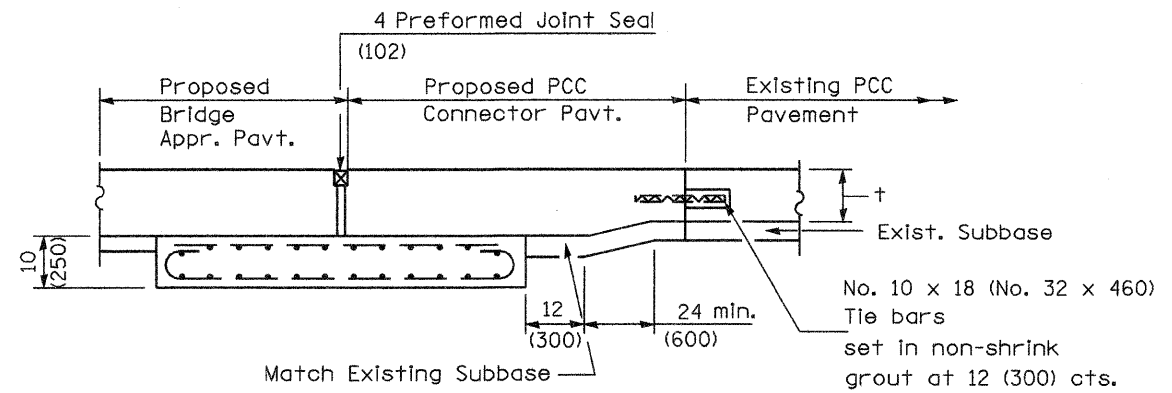
ISSUED 1-1-97

\* Saw  $\phi$  or lane edge if poured two or more lane widths at a time.  
 \*\* Omit Reinforcement, tie bars and Long. sawed Jt. for Flexible Pavement.

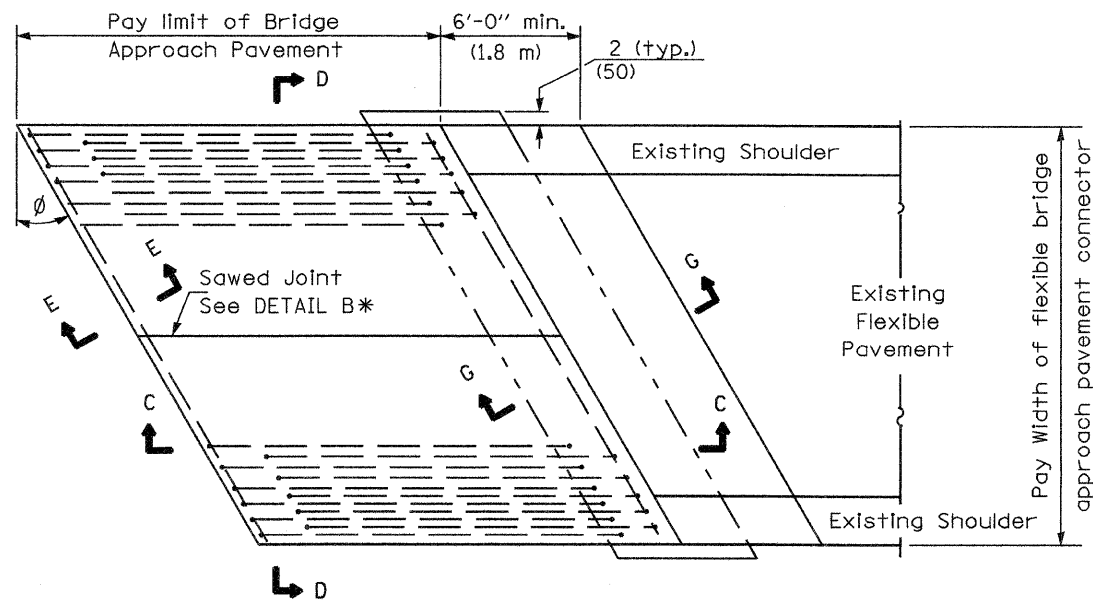
**EXISTING CONSTRUCTION**



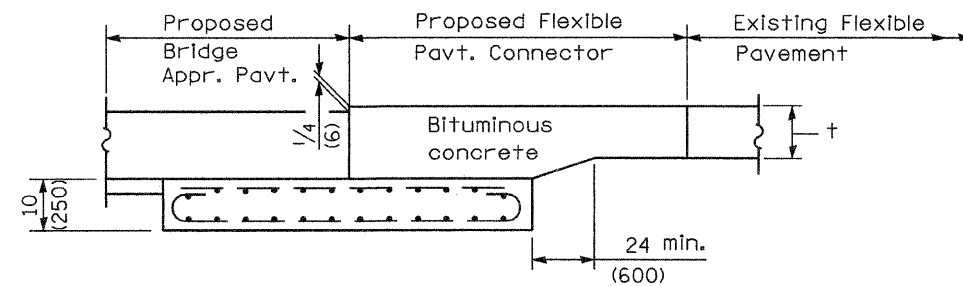
**BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)**



**SECTION G-G - RIGID PAVEMENT**



**BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)**



**SECTION G-G - FLEXIBLE PAVEMENT**

Illinois Department of Transportation  
 APPROVED January 1, 2008  
*Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES  
 APPROVED January 1, 2008  
*Ken E. Ho*  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 ISSUED 1-1-97

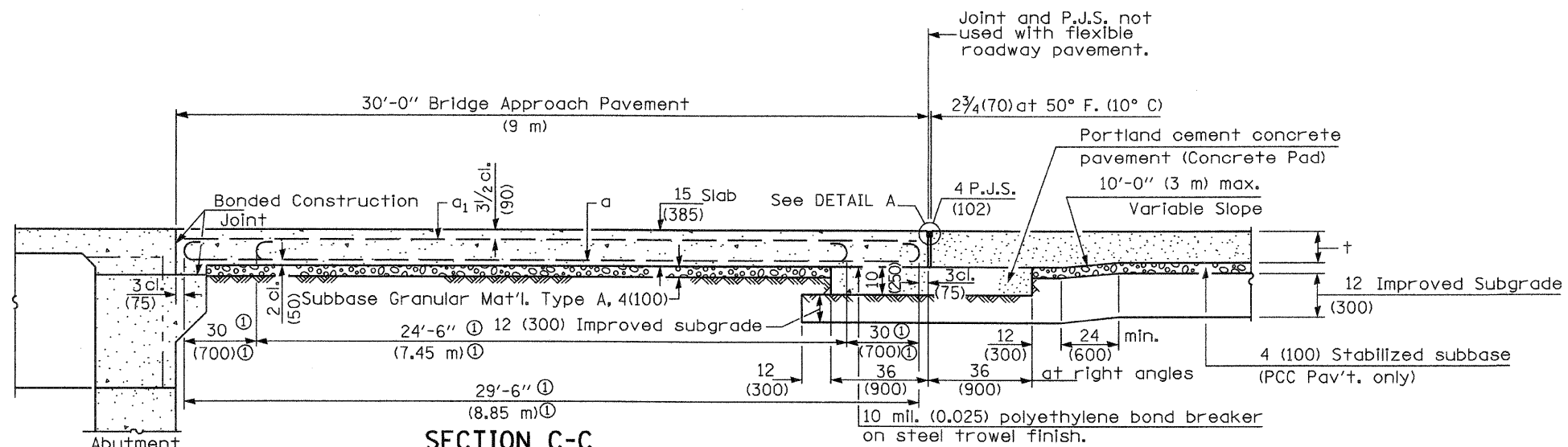
**BRIDGE APPROACH PAVEMENT**

(Sheet 2 of 4)

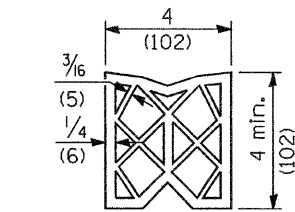
Contract 7423B

808.

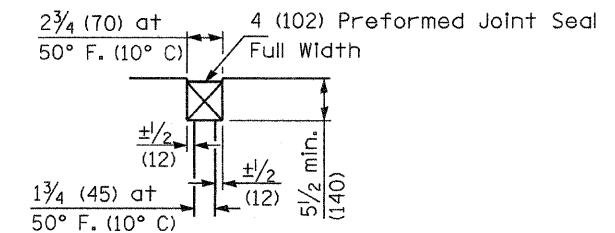
*Handwritten notes*



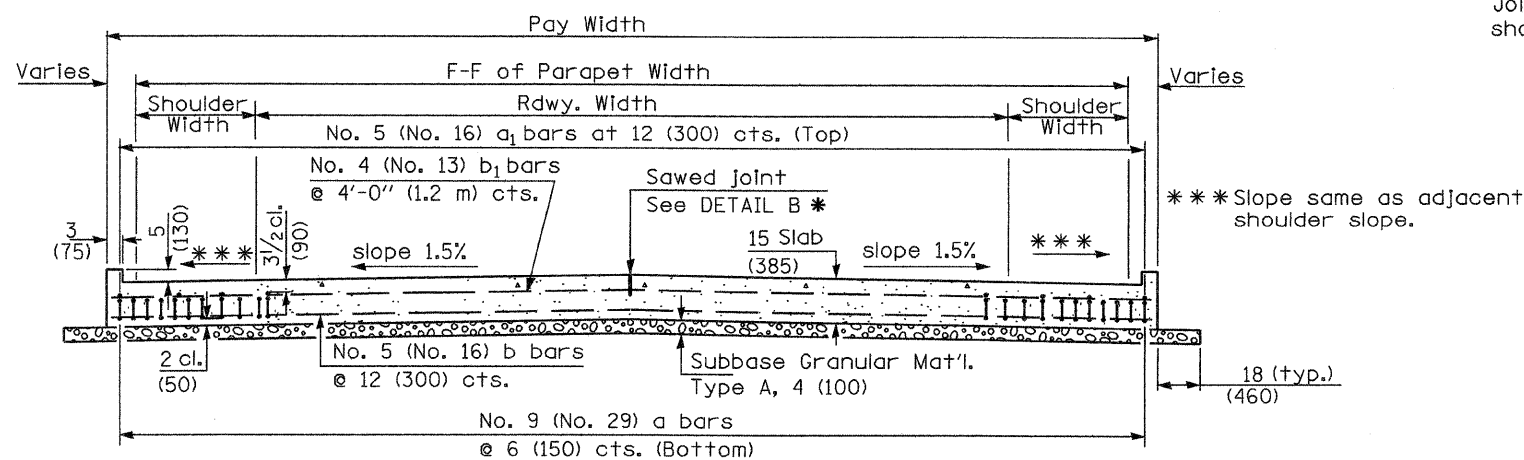
① Stagger No. 9 (No. 29) a bars as shown on plan - full width



**PREFORMED JOINT SEAL**



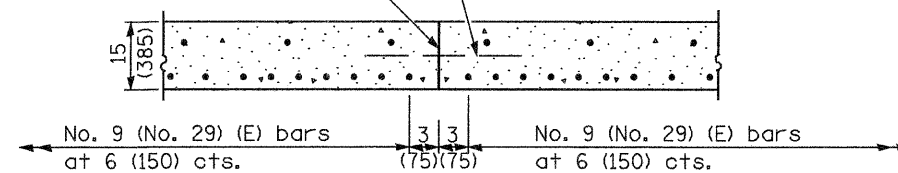
**DETAIL A**



**SECTION D-D**

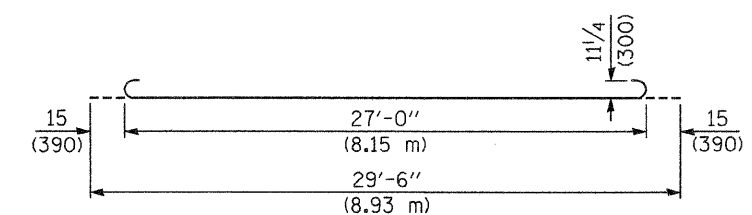
(See Plan for Dimensions not shown)

Longitudinal Construction Joint in accordance with details shown on Standard 420001.

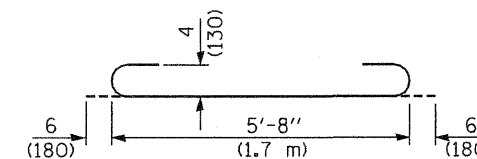


**OPTIONAL LONGITUDINAL CONSTRUCTION JOINT**

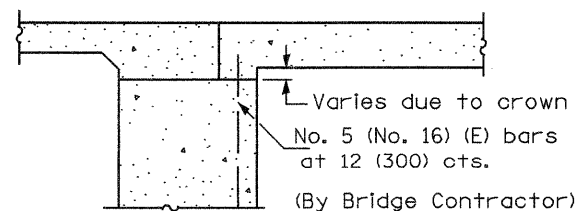
As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.



**BAR a**

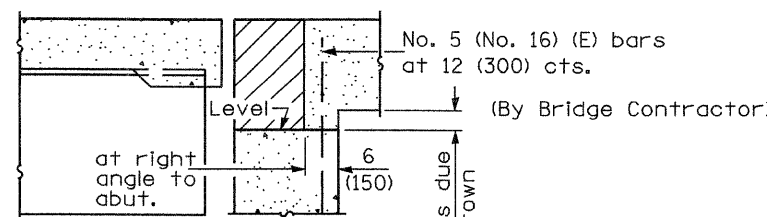


**BAR a2**



**SECTION E-E**

(Integral Abutments)



**SECTION E-E**

(Jointed Abutments)

**DESIGN STRESSES**

$f_y = 60,000$  p.s.i. (400 MPa)  
 $f'_c = 3,500$  p.s.i. (24 MPa)  
 $n = 8.5$

**BRIDGE APPROACH PAVEMENT**

(Sheet 3 of 4)

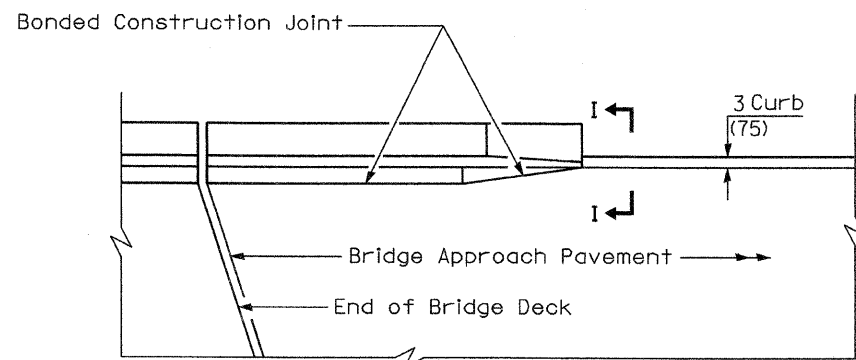
Contract 74238 80c.

Illinois Department of Transportation

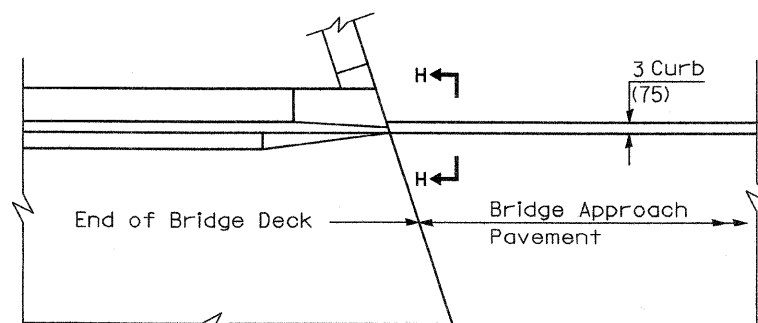
APPROVED January 1, 2008  
*Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

APPROVED January 1, 2008  
*Van E. Han*  
 ENGINEER OF DESIGN AND ENVIRONMENT

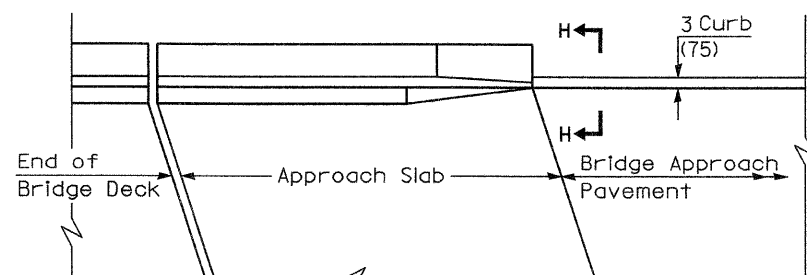
ISSUED 1-1-97



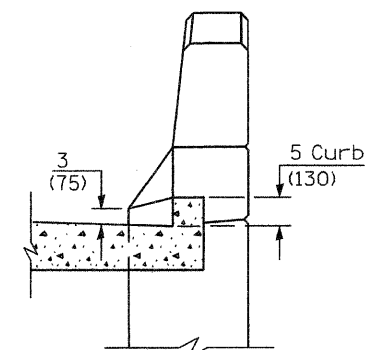
**PARAPET TO CURB TRANSITION  
PILE BENT ABUTMENT**



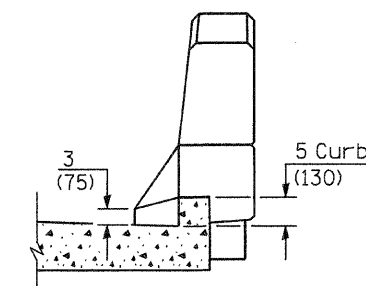
**PARAPET TO CURB TRANSITION  
INTEGRAL ABUTMENT**



**PARAPET TO CURB TRANSITION  
VAULTED ABUTMENT**



**SECTION I - I**



**SECTION H - H**

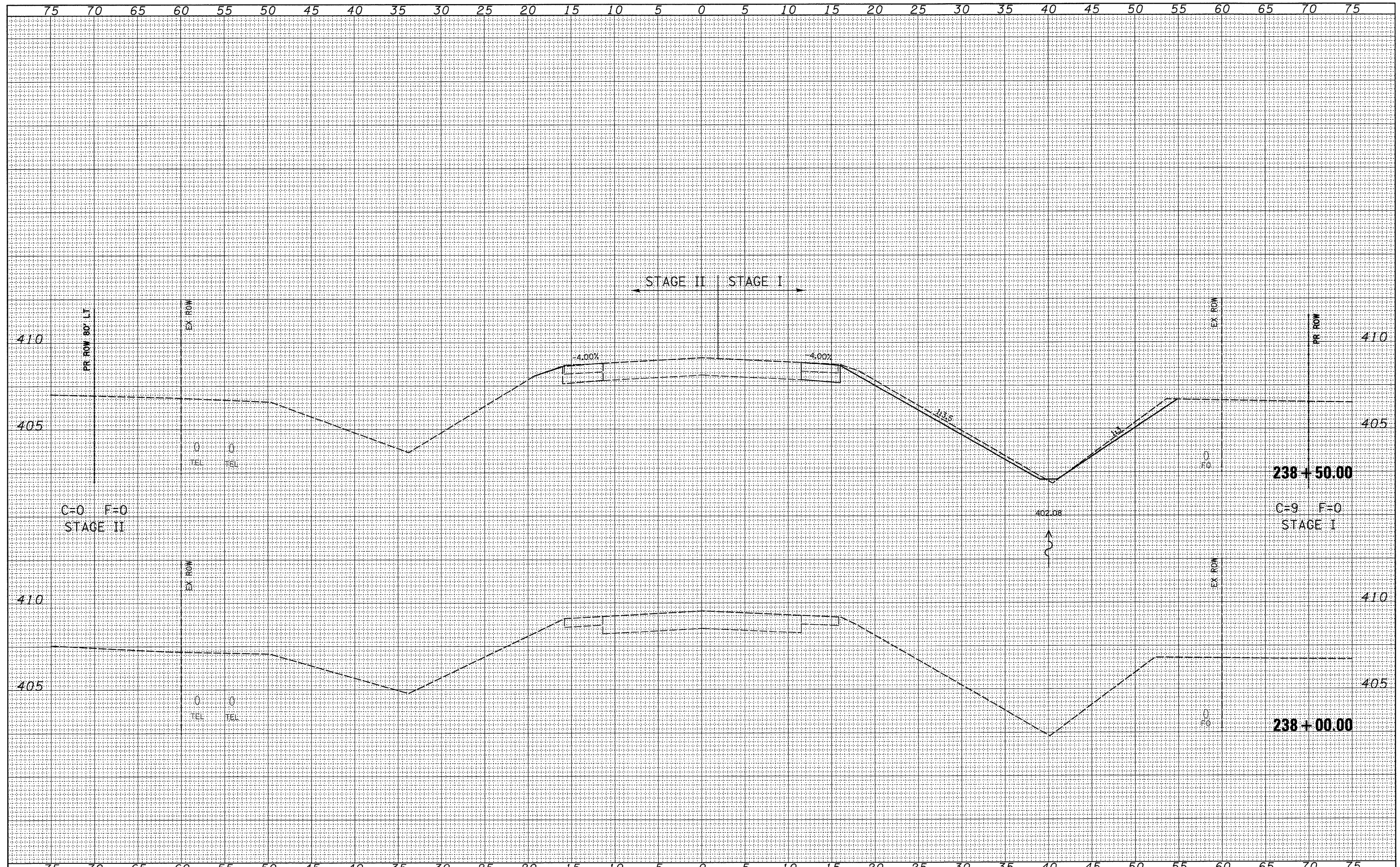
Illinois Department of Transportation  
 APPROVED January 1, 2008  
*Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES  
 APPROVED January 1, 2008  
*Ken E. Han*  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 ISSUED 1-1-97

**BRIDGE APPROACH PAVEMENT**  
 (Sheet 4 of 4)

Contract 74238 800.

DATE	
BY	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
NO.	

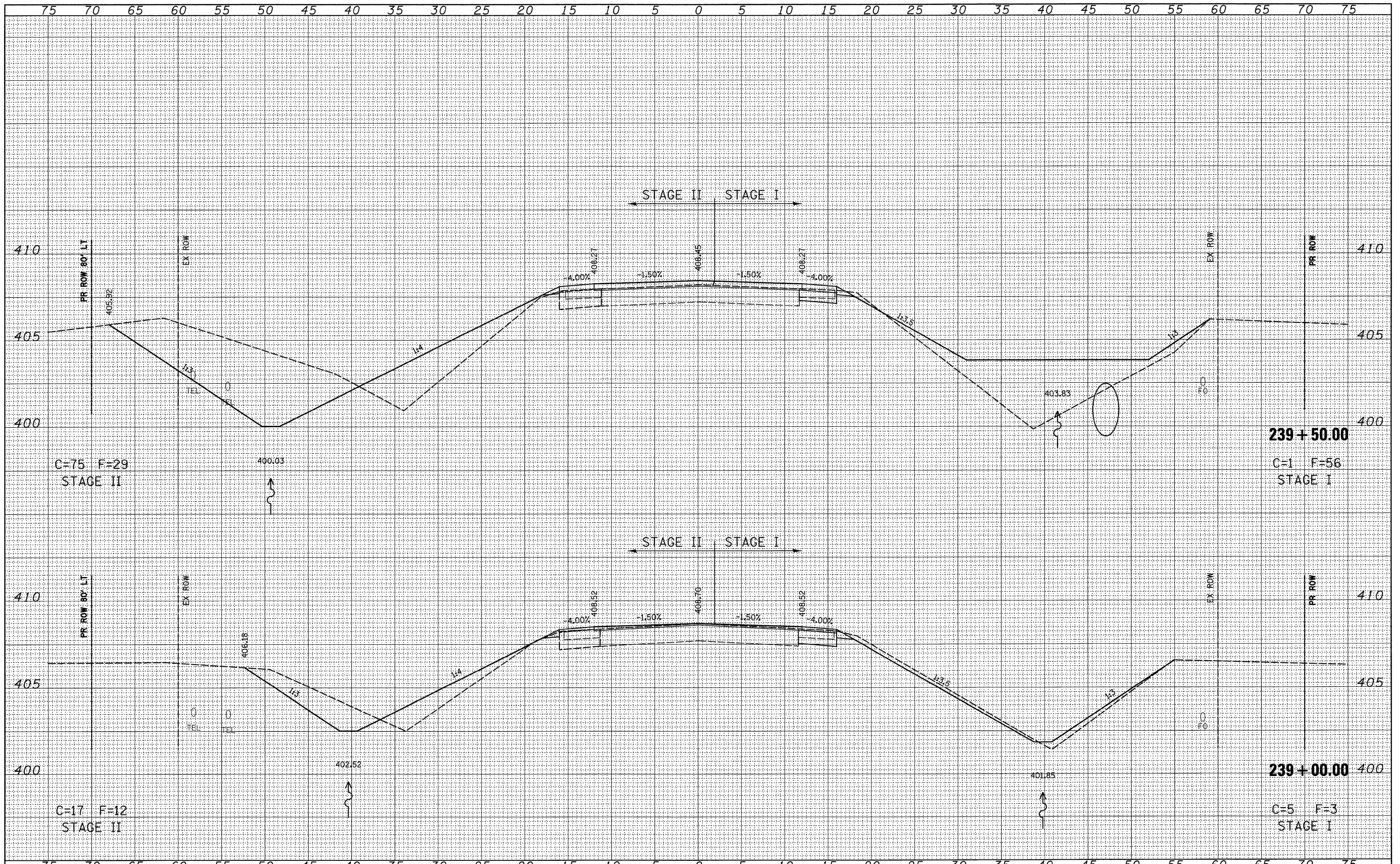
DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
NO.	



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PLOT DATE = 3/26/2009		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
SCALE:						SHEET NO. 1 OF 41 SHEETS		STA. 238+00.00 TO STA. 238+50.00			

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
REVISIONS	
NO.	

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
REVISIONS	
NO.	



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 CHECKED -  
 DATE -

DESIGNED -  
 DRAWN -  
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REVISED -  
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

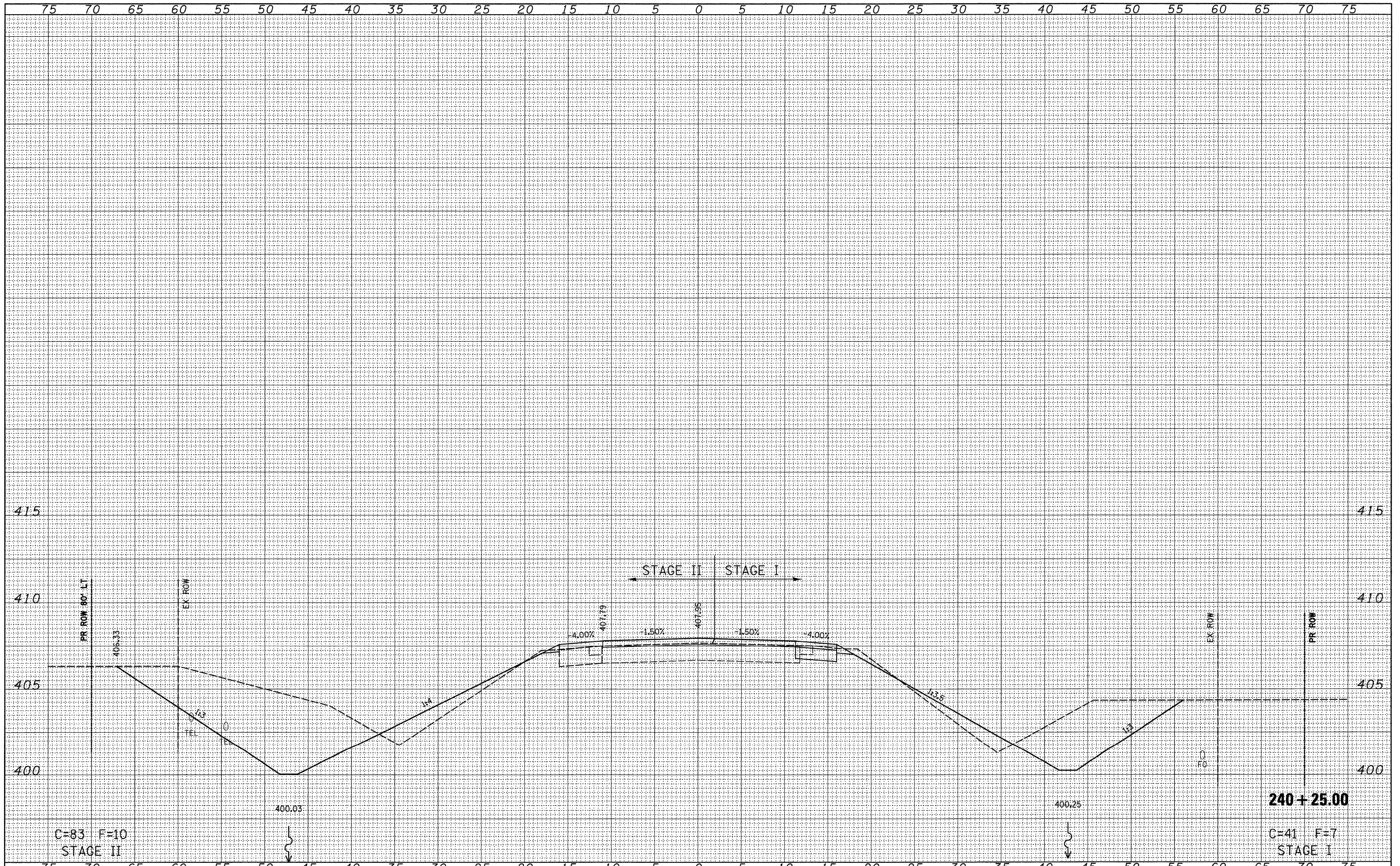
**IL ROUTE 15**

SCALE: SHEET NO. 2 OF 41 SHEETS STA. 239+00.00 TO STA. 239+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BRB-1	WAYNE	142	82
CONTRACT NO. 74238				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
REVISIONS	
NO.	

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
REVISIONS	
NO.	



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 PLOT SCALE = 5.0000' / IN.  
 PLOT DATE = 3/26/2009

DESIGNED -  
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 CHECKED -  
 DATE -

REVISED -  
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

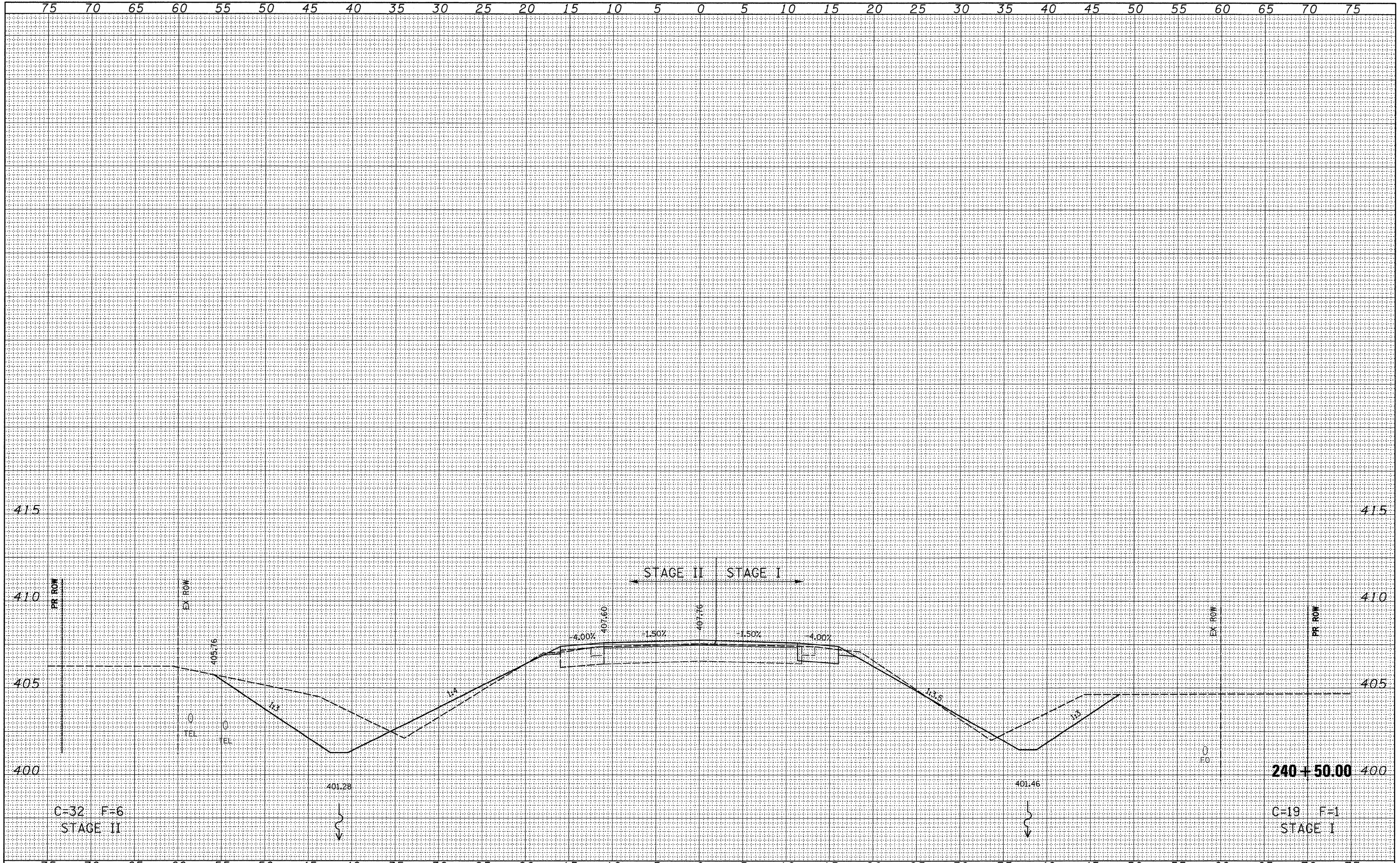
IL ROUTE 15

SCALE: SHEET NO. 3 OF 41 SHEETS STA. 240+25.00 TO STA. 240+25.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	83
CONTRACT NO. 74238				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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

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

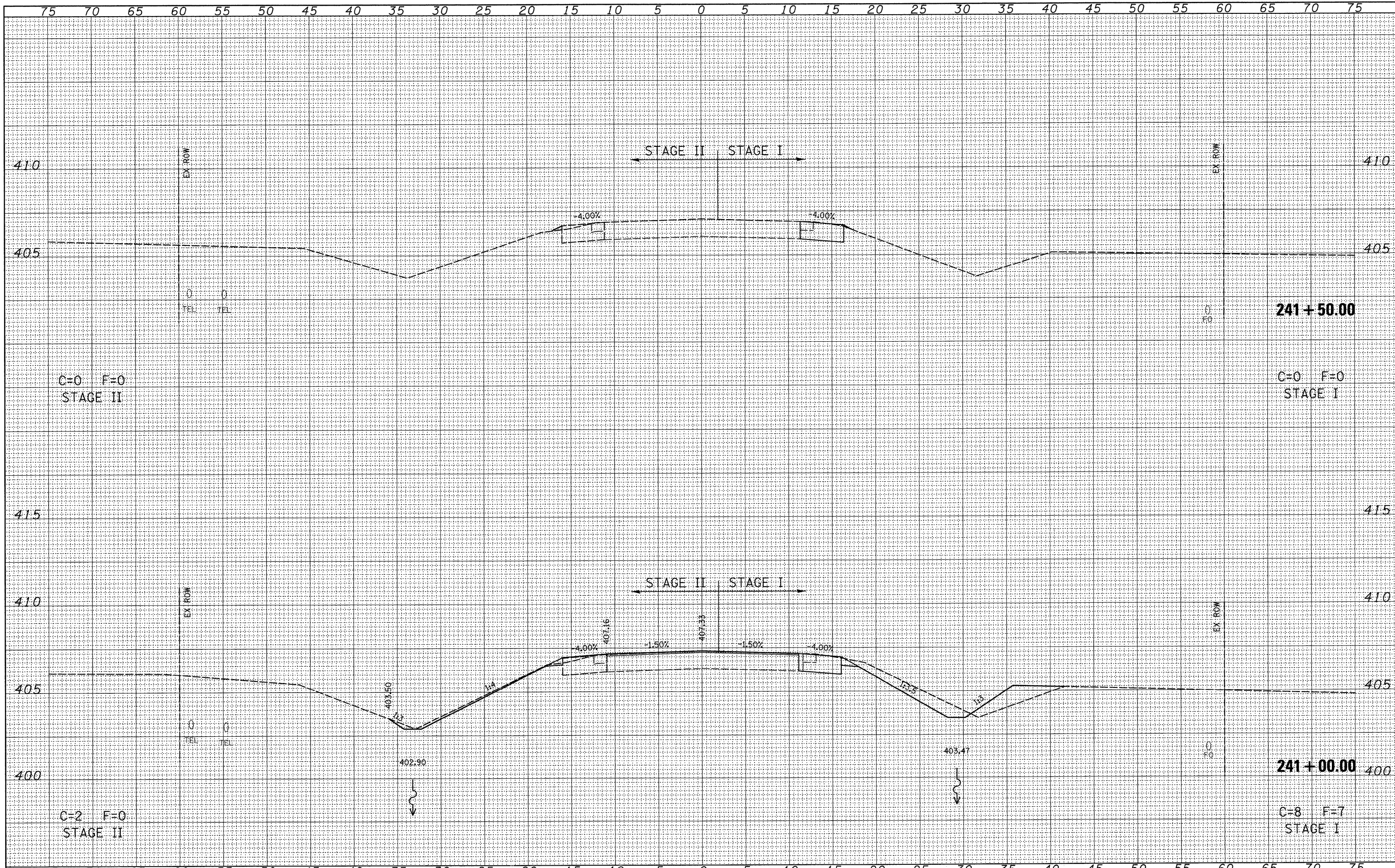


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PLOT SCALE = 5.0000' / IN.	CHECKED -	REVISED -	CONTRACT NO. 74238							
PLOT DATE = 3/26/2009	DATE -	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							
SCALE:		SHEET NO. 4 OF 41 SHEETS		STA. 240+50.00 TO STA. 240+50.00						



BY	DATE

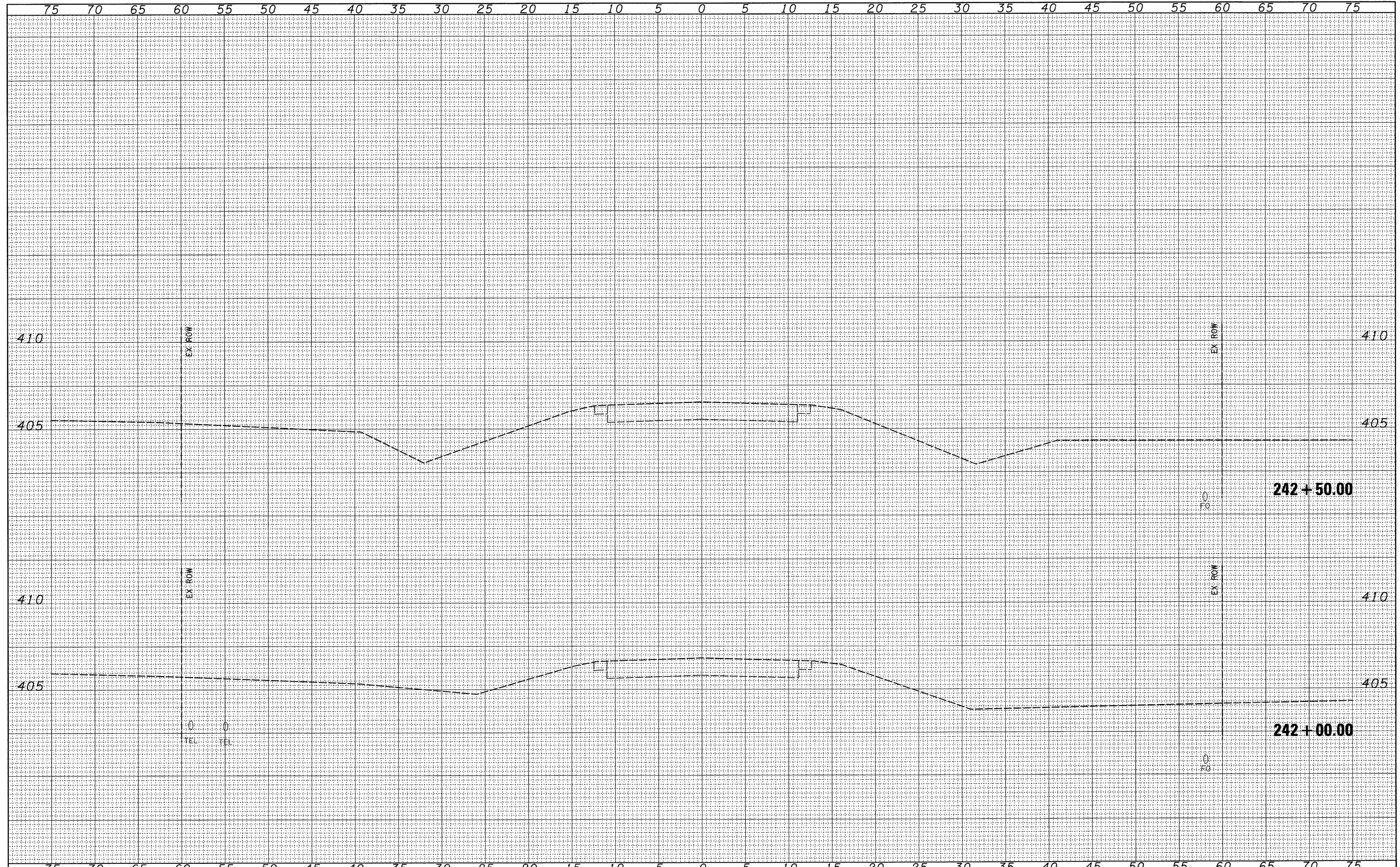
BY	DATE



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PLOT SCALE = 5,0000' / IN.	PLOT DATE = 3/26/2009	DRAWN -	REVISED -			SCALE: SHEET NO. 5 OF 41 SHEETS	STA. 241+00.00 TO STA. 241+50.00	CONTRACT NO. 74238		ILLINOIS FED. AID PROJECT	
		CHECKED -	REVISED -								
		DATE -	REVISED -								

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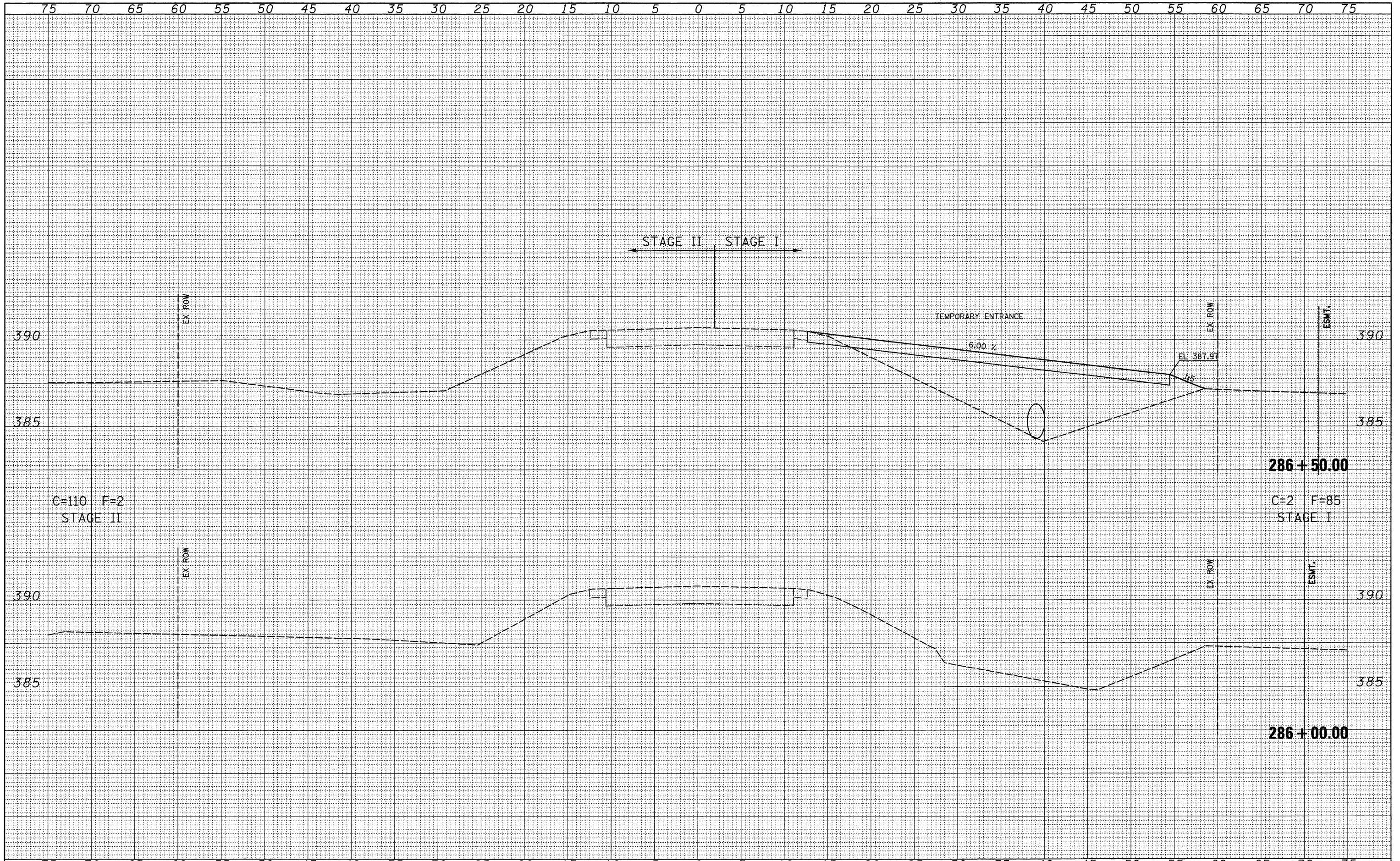
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P:\0340601.04.FIN\960055\Drawings\Xsecs\055Xsectsheet.dgn	DRAWN -	REVISED -	823			(22BY-1,22BY2,22BR)B-1	WAYNE	142	86	
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PLOT DATE = 3/26/2009	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							
SCALE:						SHEET NO. 6 OF 41 SHEETS		STA. 242+00.00 TO STA. 242+50.00		

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

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



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 PLOT SCALE = 5,0000 / IN.  
 PLOT DATE = 3/26/2009

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

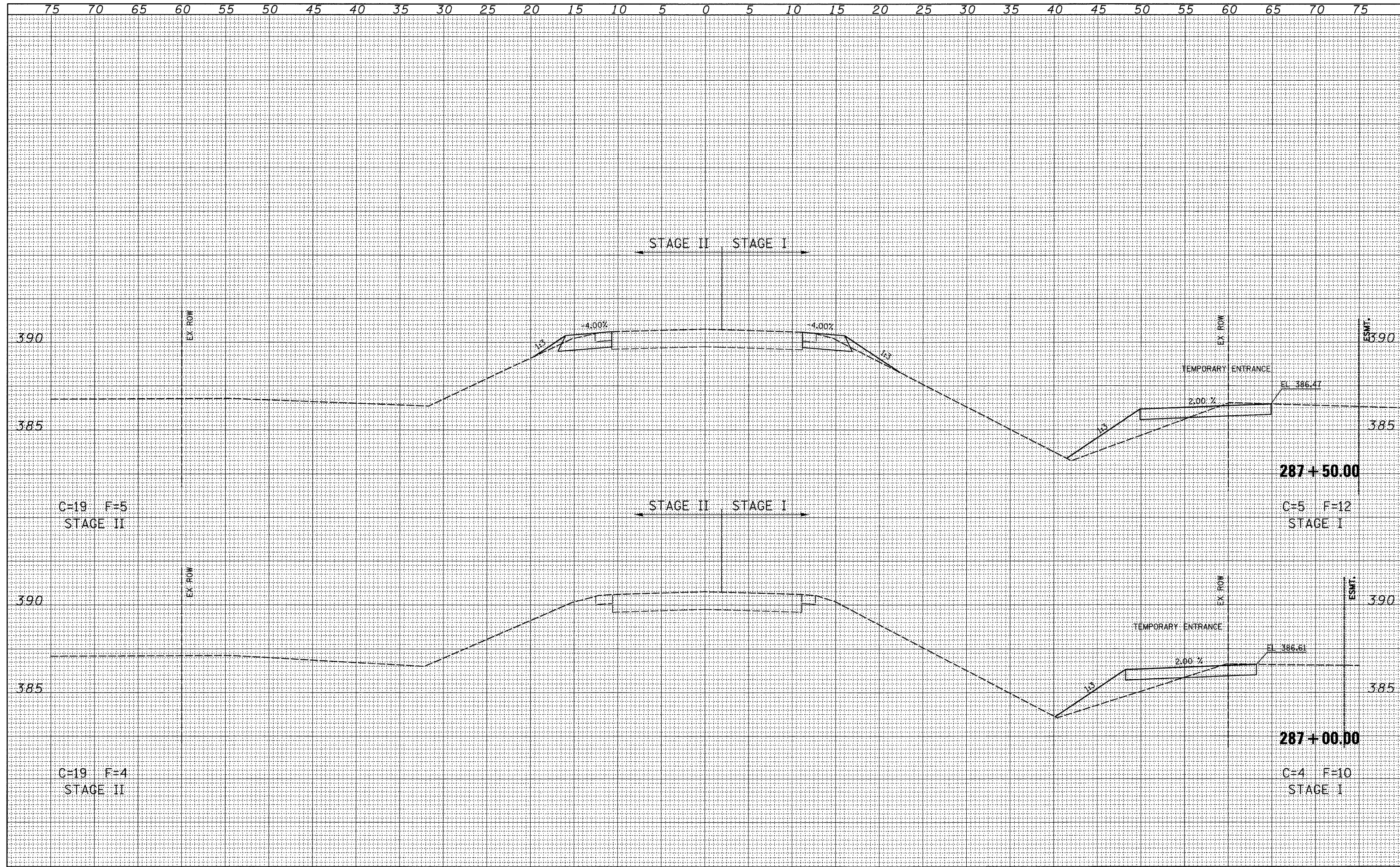
SCALE: SHEET NO. 7 OF 41 SHEETS STA. 286+00.00 TO STA. 286+50.00

**IL RTE 15**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BRB-1	WAYNE	142	87
CONTRACT NO. 74238			ILLINOIS FED. AID PROJECT	

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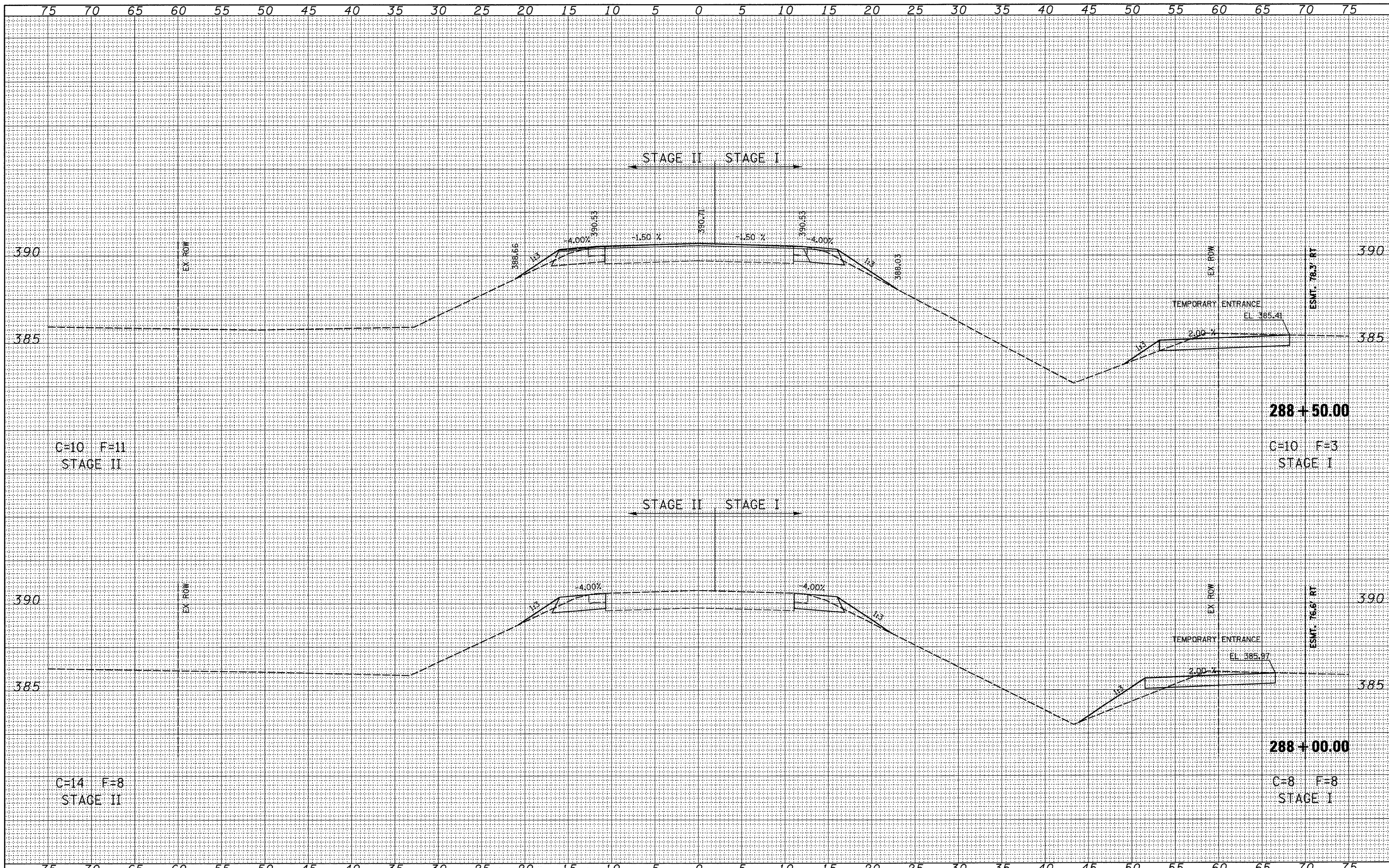
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PLOT SCALE = 5.0000' / IN.	PLOT DATE = 3/26/2009	DRAWN -	REVISED -			CONTRACT NO. 74238		ILLINOIS FED. AID PROJECT			
		CHECKED -	REVISED -								
		DATE -	REVISED -								

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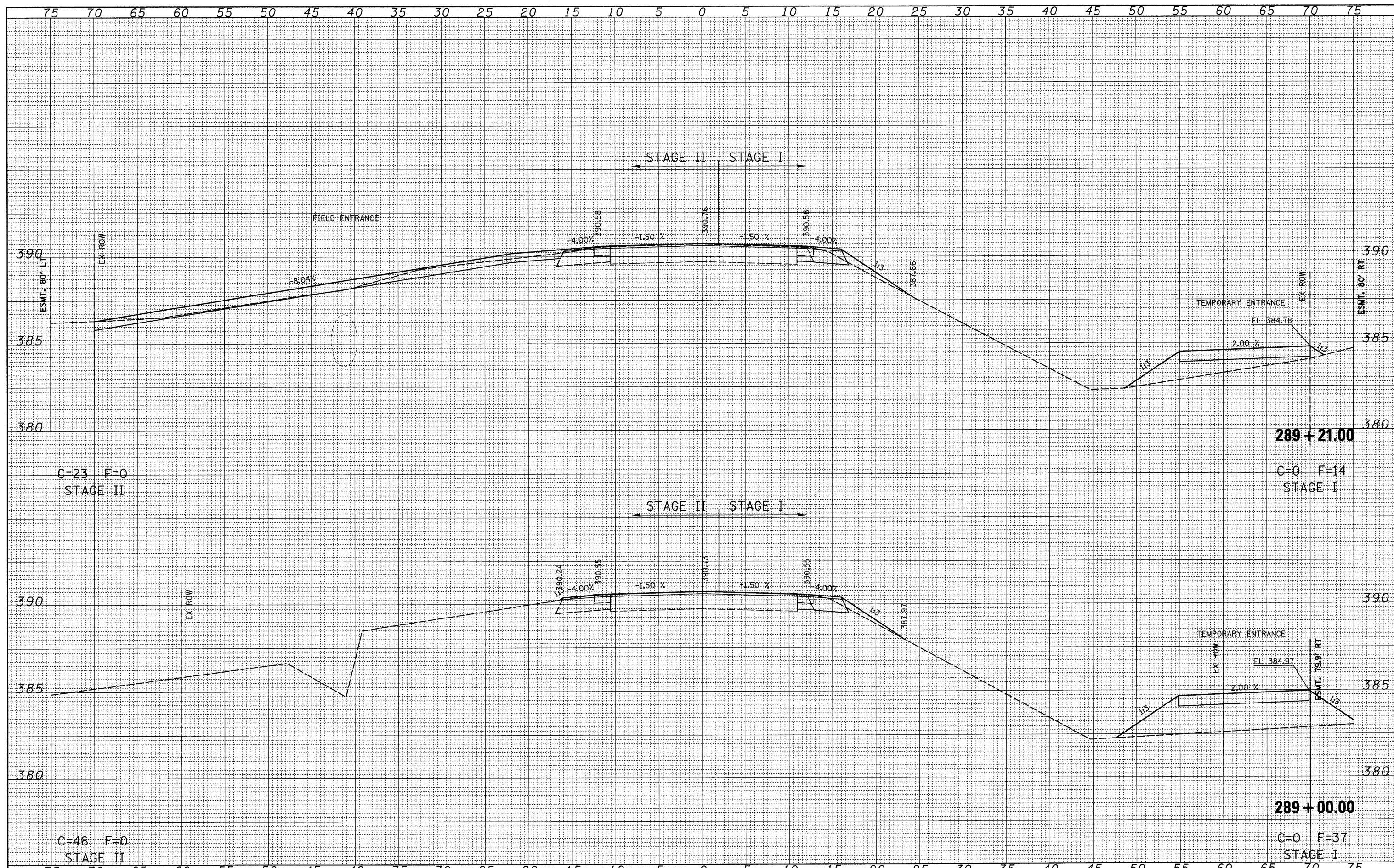
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL RTE 15**  
 SCALE: SHEET NO. 9 OF 41 SHEETS STA. 288+00.00 TO STA. 288+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR1B-1	WAYNE	142	89
CONTRACT NO. 74238				
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

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

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

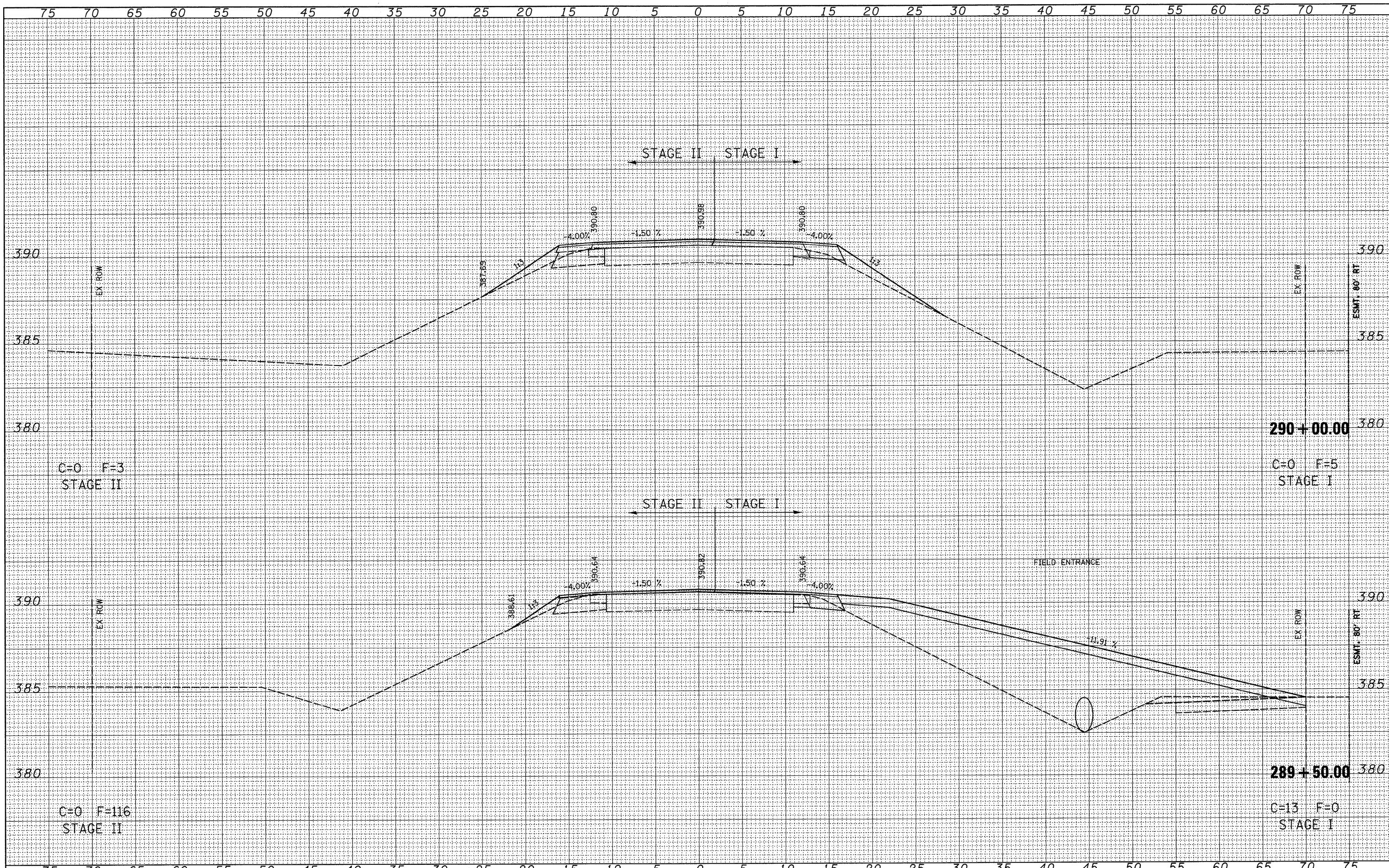


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P:\0340601_04_FIN\960055\Drawings\1617Xsect\sheet.dgn	PLOT SCALE = 5.0000' / IN.	DRAWN -	REVISED -			823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	90	
PLOT DATE = 3/26/2009	DATE -	CHECKED -	REVISED -			CONTRACT NO. 74238					
		DATE -	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

SCALE: SHEET NO. 10 OF 41 SHEETS STA. 289+00.00 TO STA. 289+21.00

FINAL SURVEY	SURVEY	DATE
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NOTE BOOK	NOTE BOOK	
AREAS CHECKED	AREAS CHECKED	
NO.	NO.	

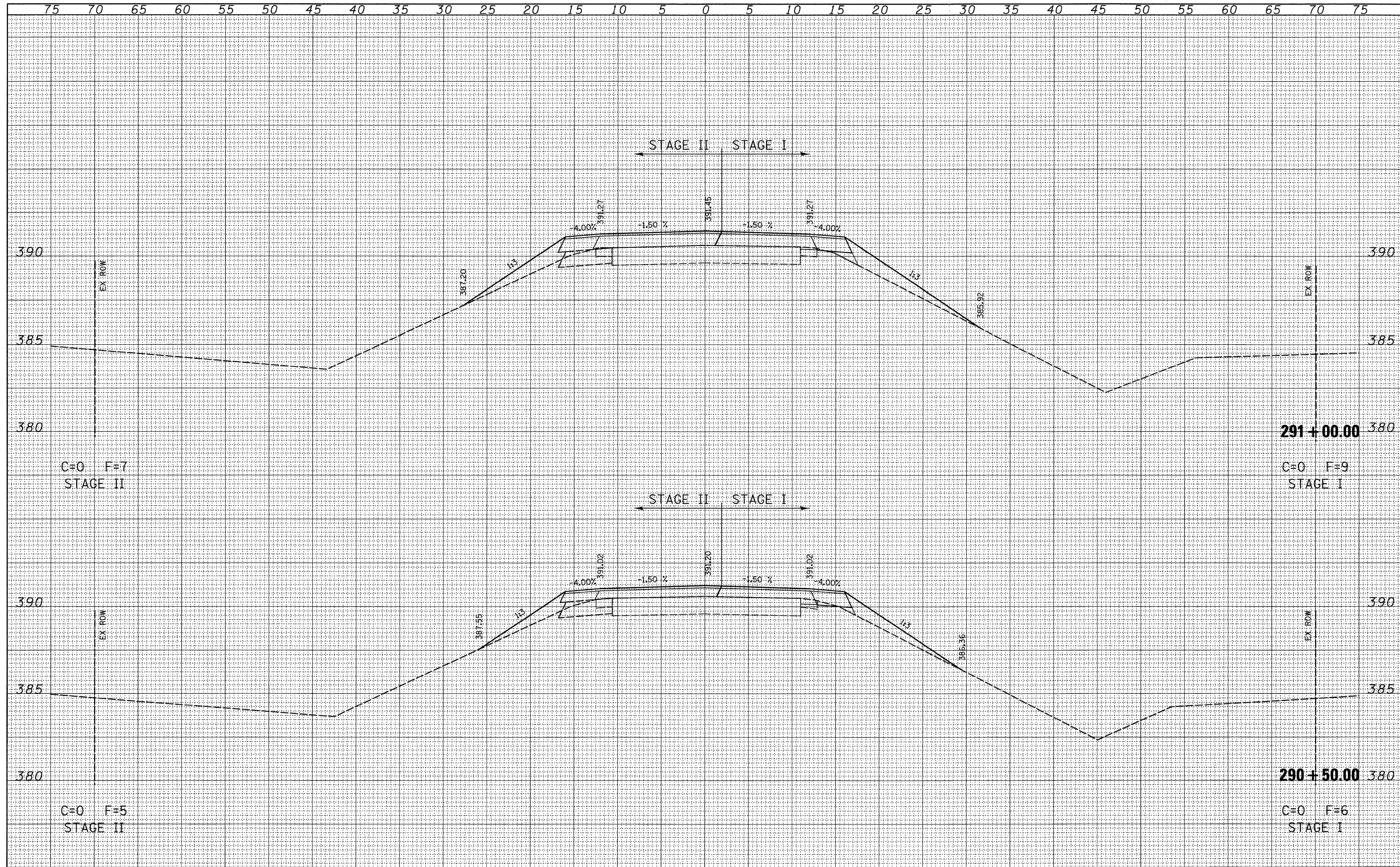
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PLOTTED	PLOTTED	
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PLOT SCALE = 5.0000' / IN.	CHECKED -	REVISED -	CONTRACT NO. 74238							
PLOT DATE = 3/26/2009	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							

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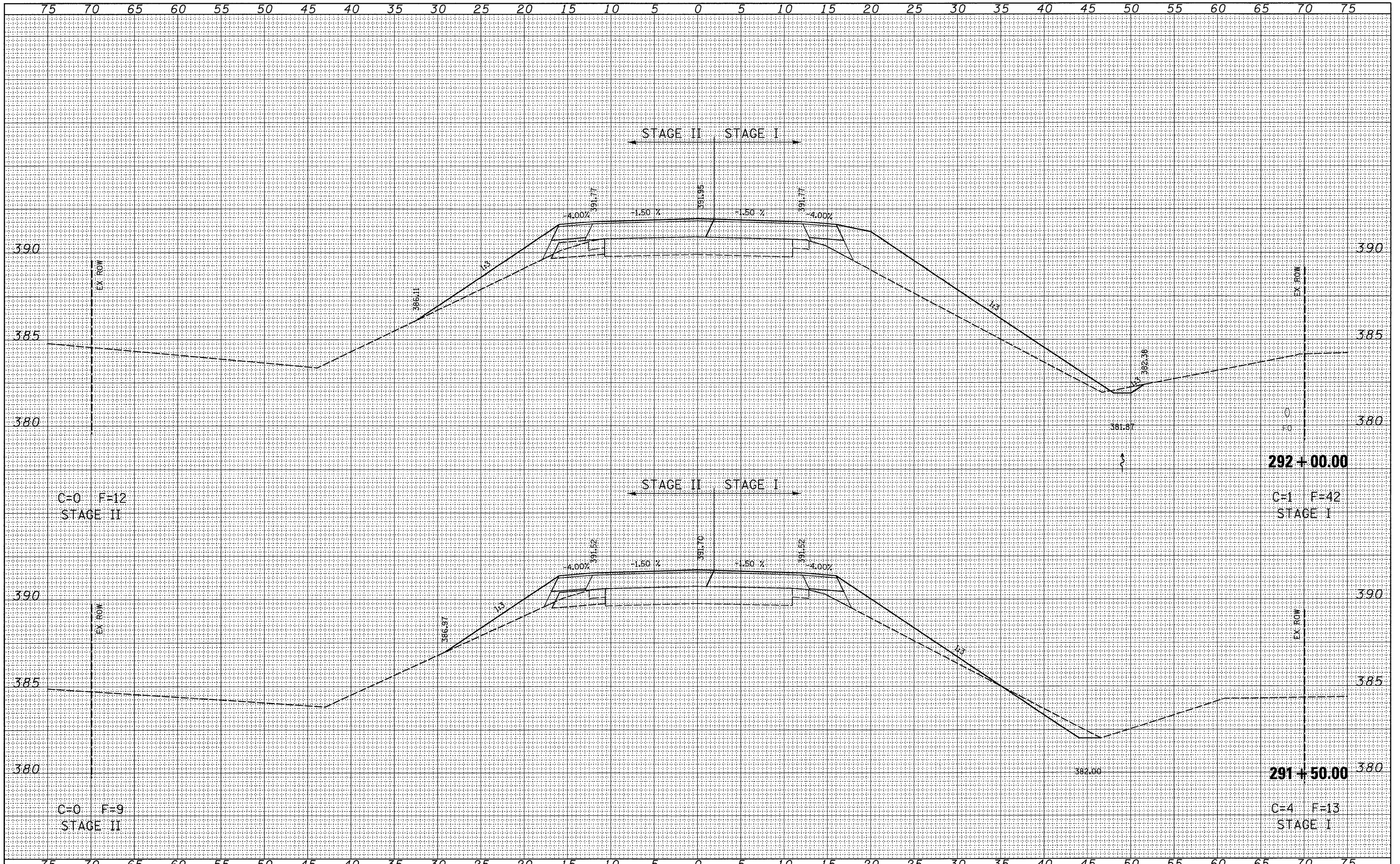
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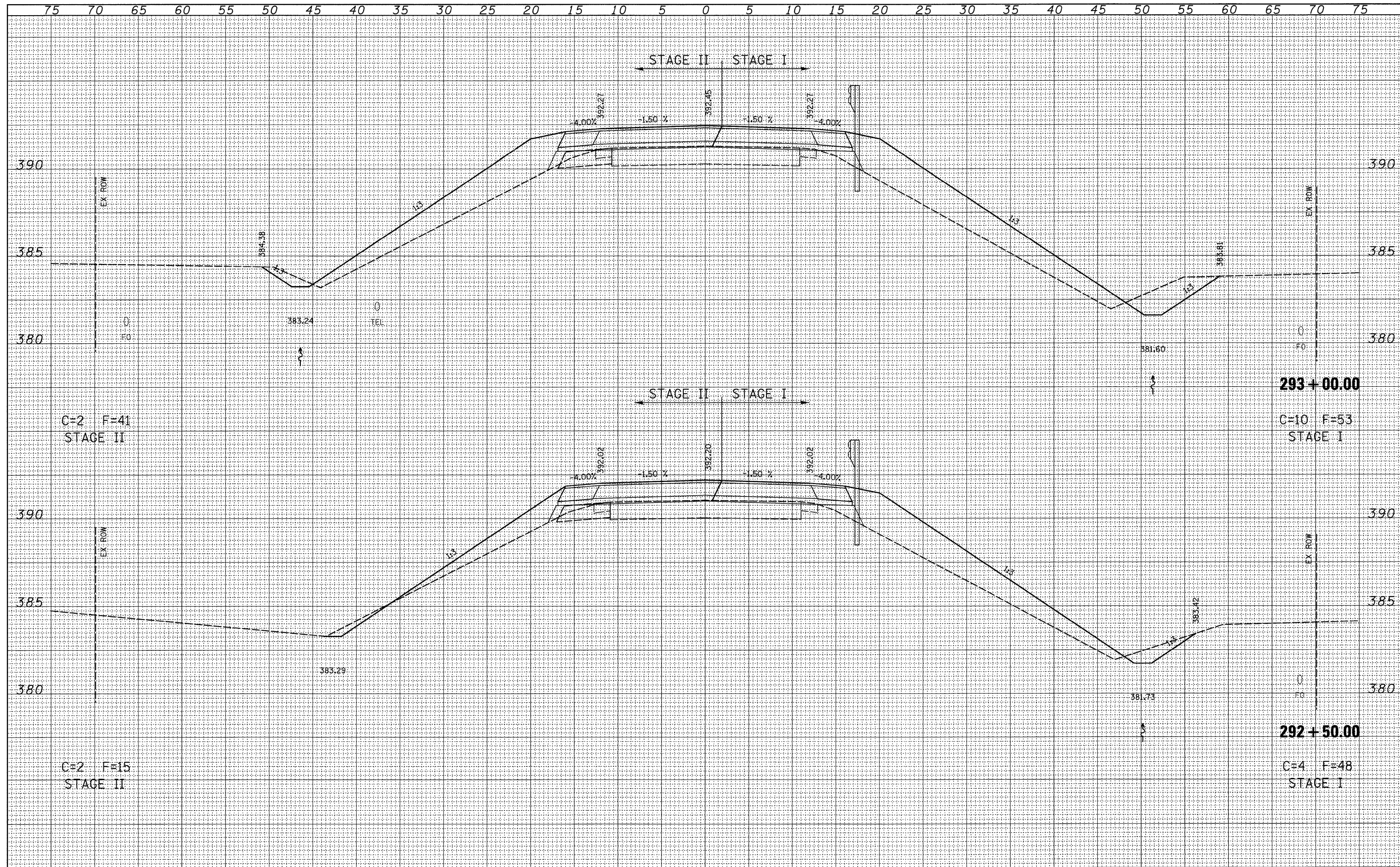
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PLOT SCALE = 5.0000' / IN.	PLOT DATE = 3/26/2009	DRAWN -	REVISED -			CONTRACT NO. 74238		ILLINOIS FED. AID PROJECT			
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		DATE -	REVISED -								

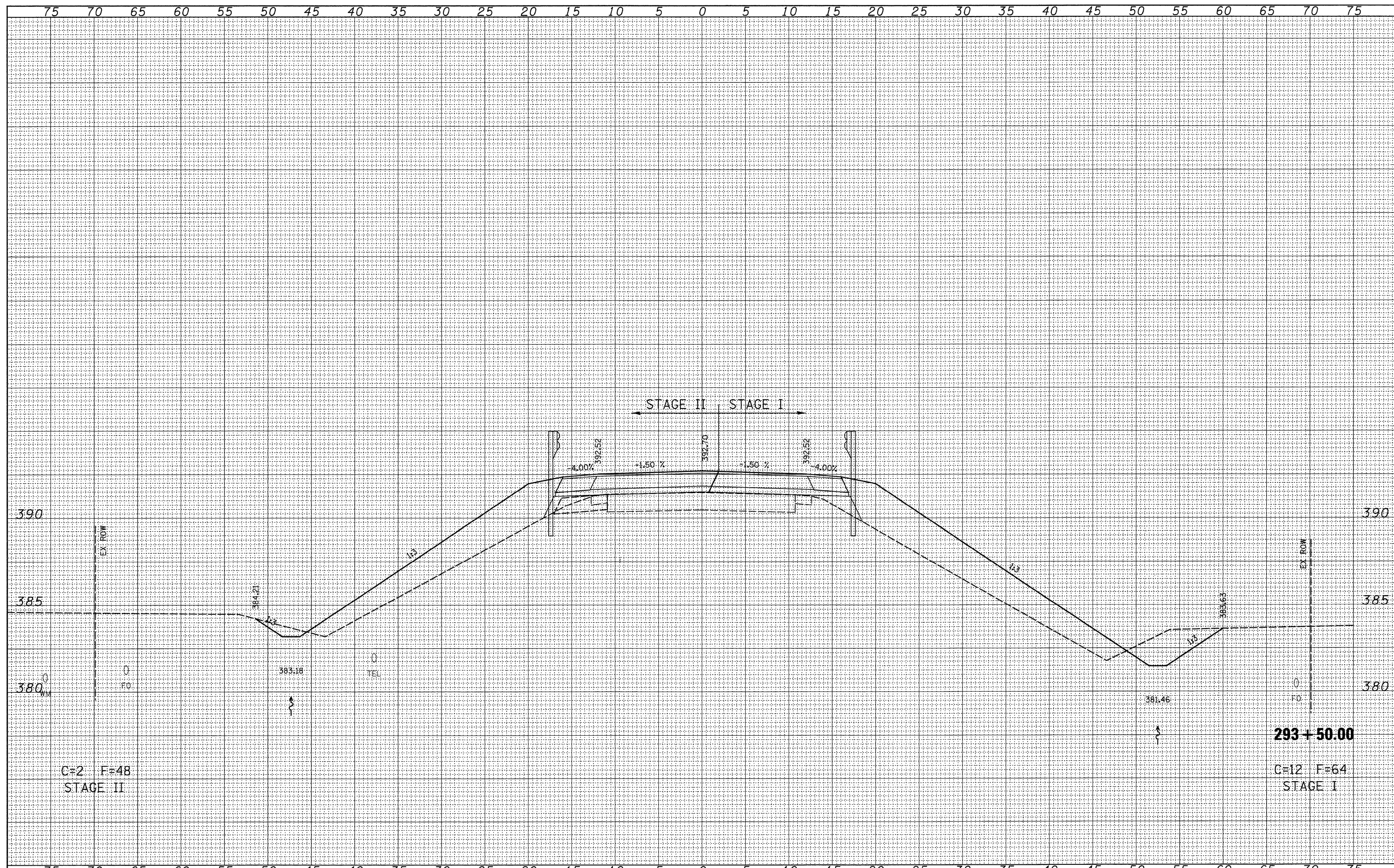
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 ORIGINAL SURVEY \_\_\_\_\_  
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FINAL SURVEY	SURVEYED	BY	DATE
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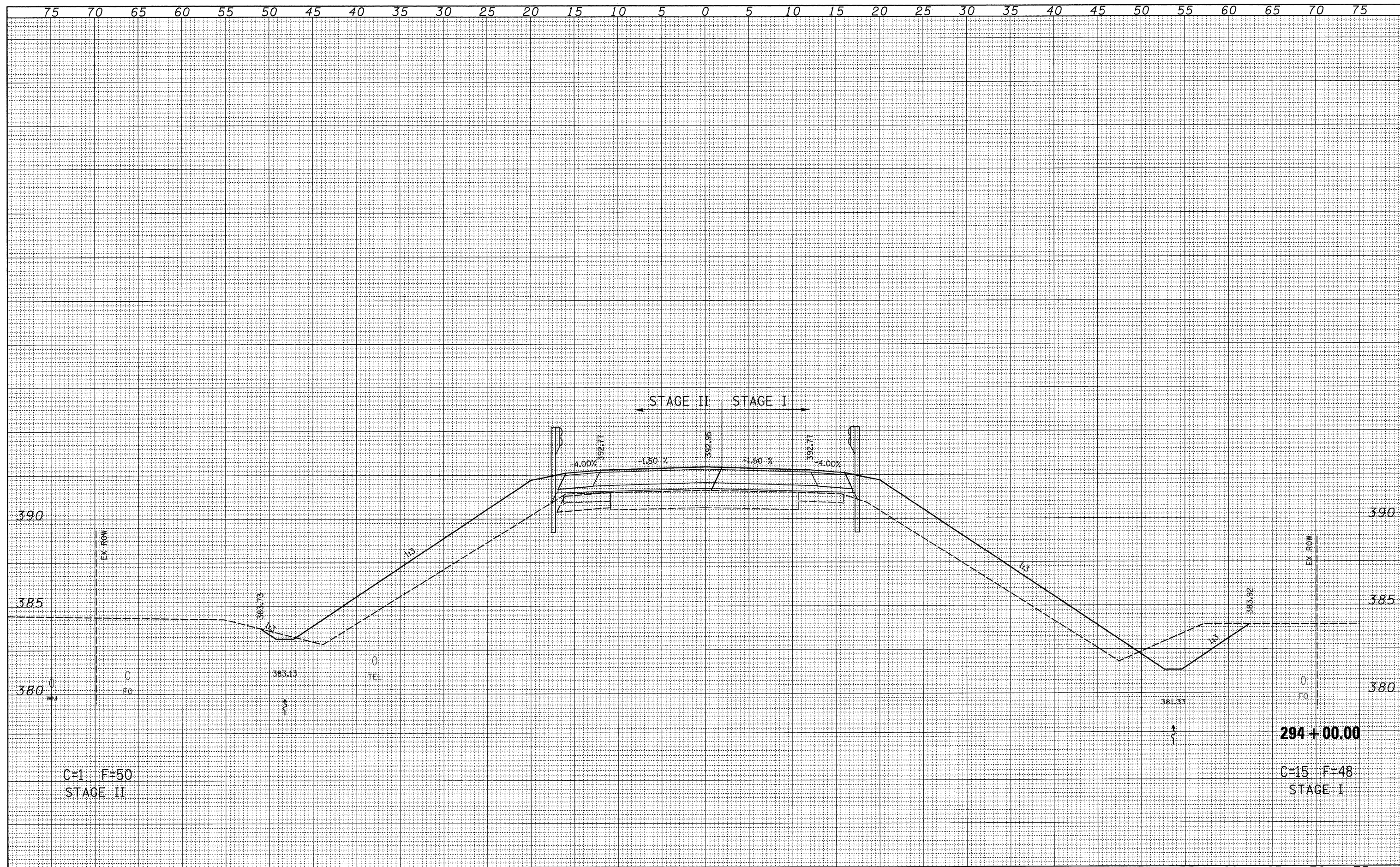
ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
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P:\0340601.04.FIN0960055\Drawings\Xsec\1617Xsec\sheet.dgn		DRAWN -	REVISED -			823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	95	
PLOT SCALE = 5.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 74238					
PLOT DATE = 3/26/2009		DATE -	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
				SCALE:	SHEET NO. 15 OF 41 SHEETS	STA. 293+50.00 TO STA. 293+50.00					

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PLOT SCALE =	5.0000' / IN.
PLOT DATE =	3/26/2009

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

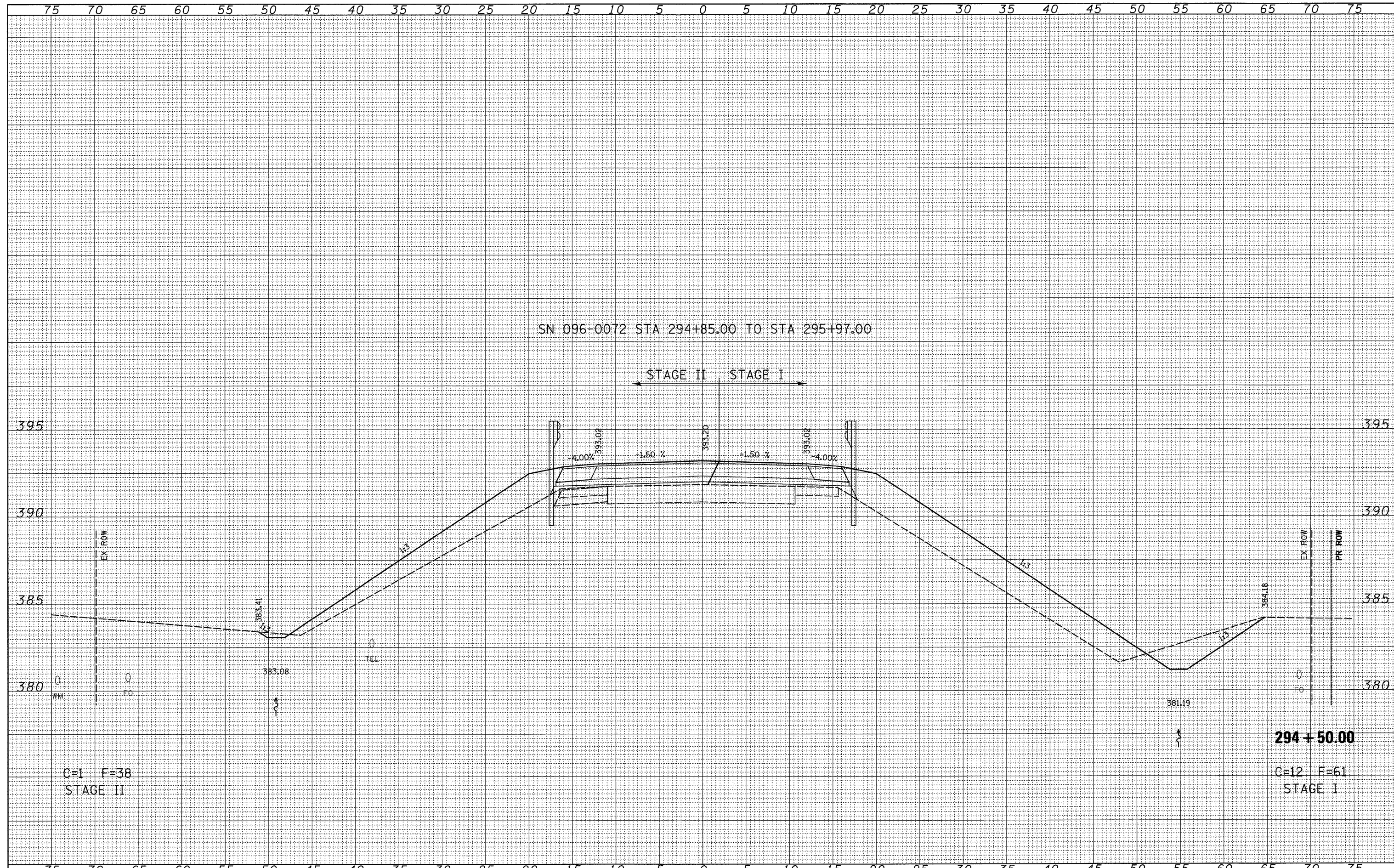
**IL RTE 15**

SCALE: SHEET NO. 16 OF 41 SHEETS STA. 294+00.00 TO STA. 294+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	96
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 74238		

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PLOT SCALE = 5.0000' / IN.		DRAWN -	REVISIONS -
PLOT DATE = 3/26/2009		CHECKED -	REVISIONS -
		DATE -	REVISIONS -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

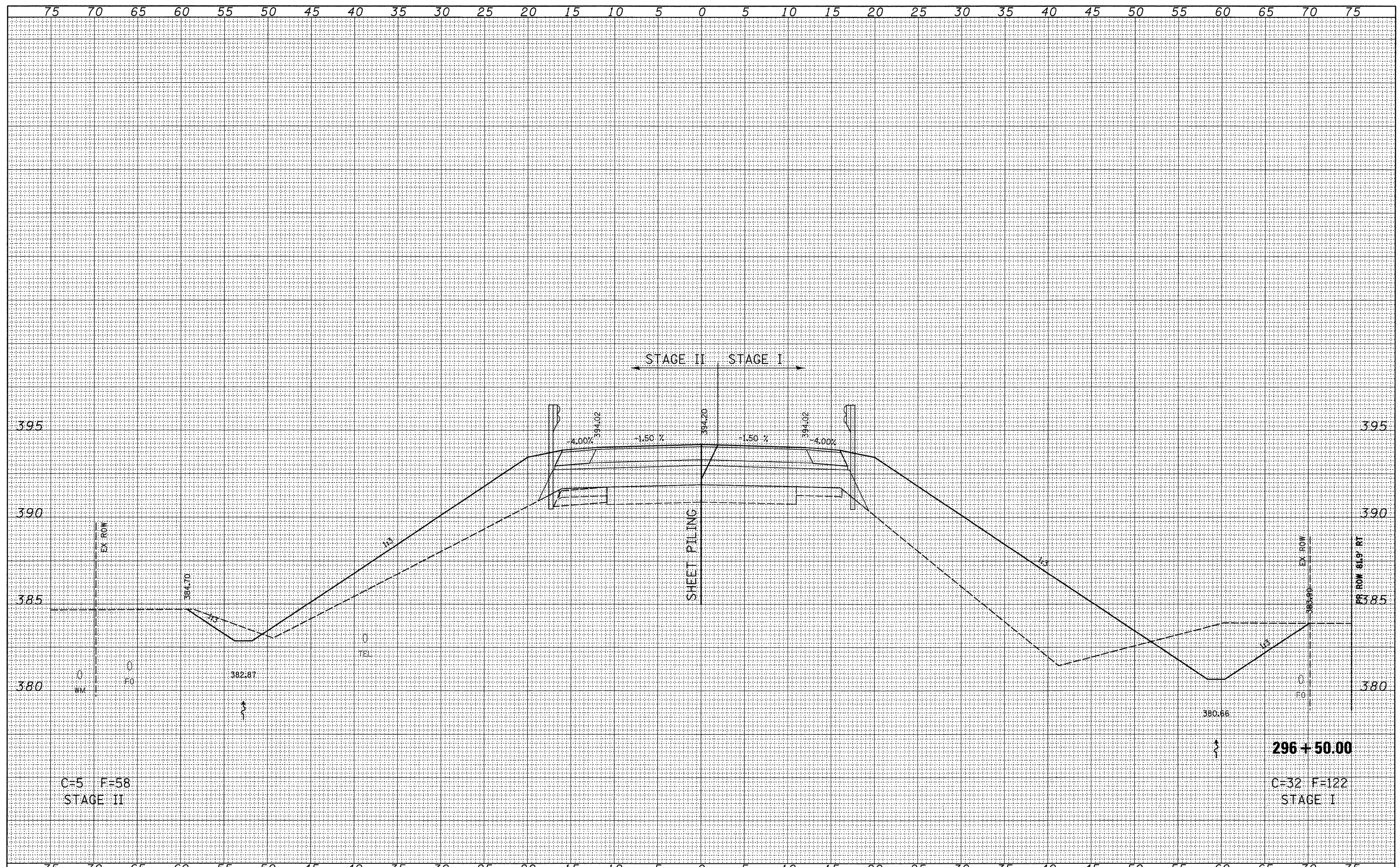
IL RTE 15

SCALE: SHEET NO. 17 OF 41 SHEETS STA. 294+50.00 TO STA. 294+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	97
CONTRACT NO. 74238			ILLINOIS FED. AID PROJECT	

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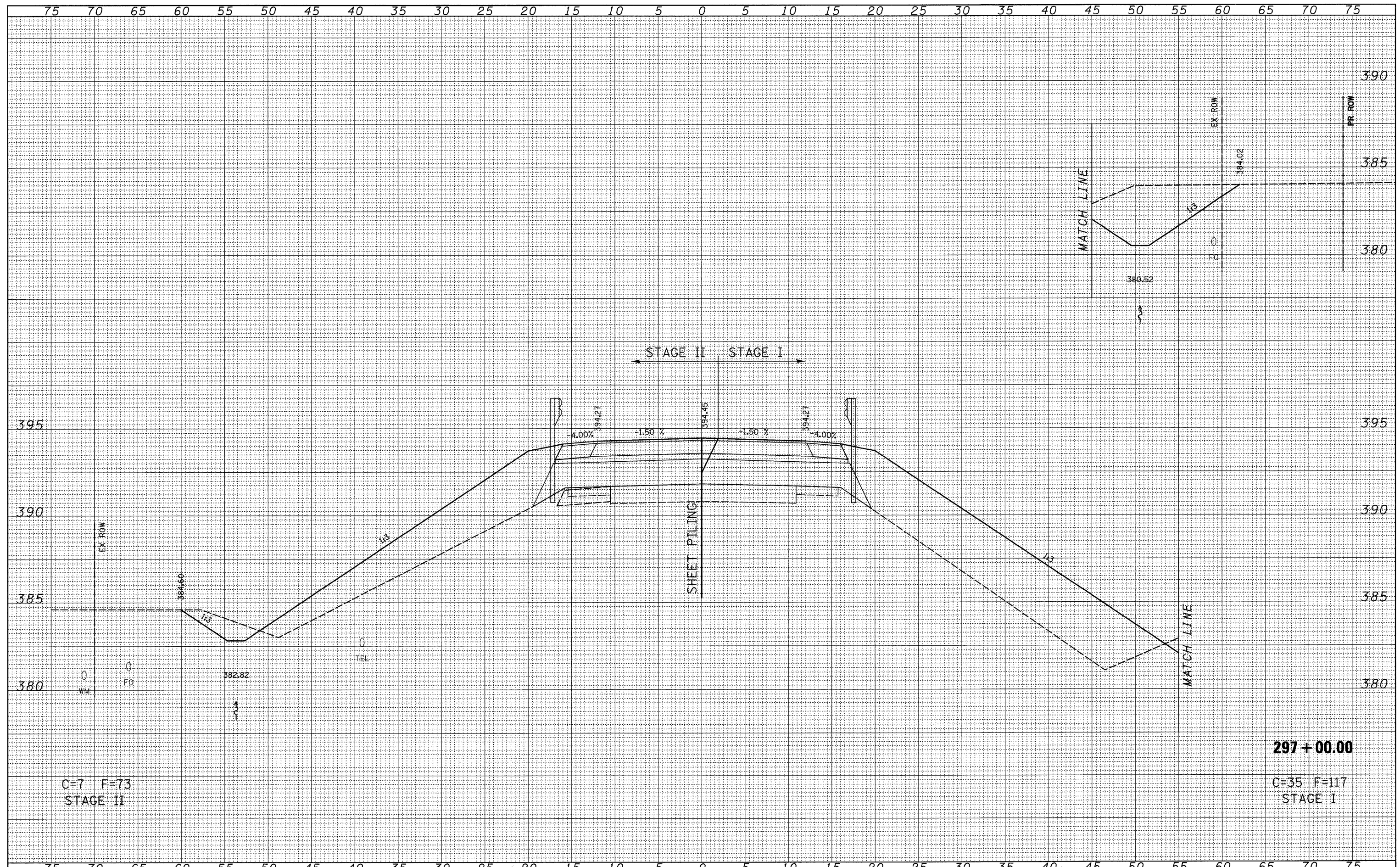
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ORIGINAL SURVEY	
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P:\034060\04.FIN0960055\Drawings\seca\1617\sheet.dgn		DRAWN -	REVISED -			823	(22BY-1,22BY2,22BR1B-1	WAYNE	142	98
PLOT SCALE = 5.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 74238				
PLOT DATE = 3/26/2009		DATE -	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
SCALE:						SHEET NO. 18 OF 41 SHEETS		STA. 296+50.00 TO STA. 296+50.00		

DATE	
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DESIGNED	
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TEMPLATE	
AREAS CHECKED	
FINAL SURVEY	
NOTE BOOK	
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DATE	
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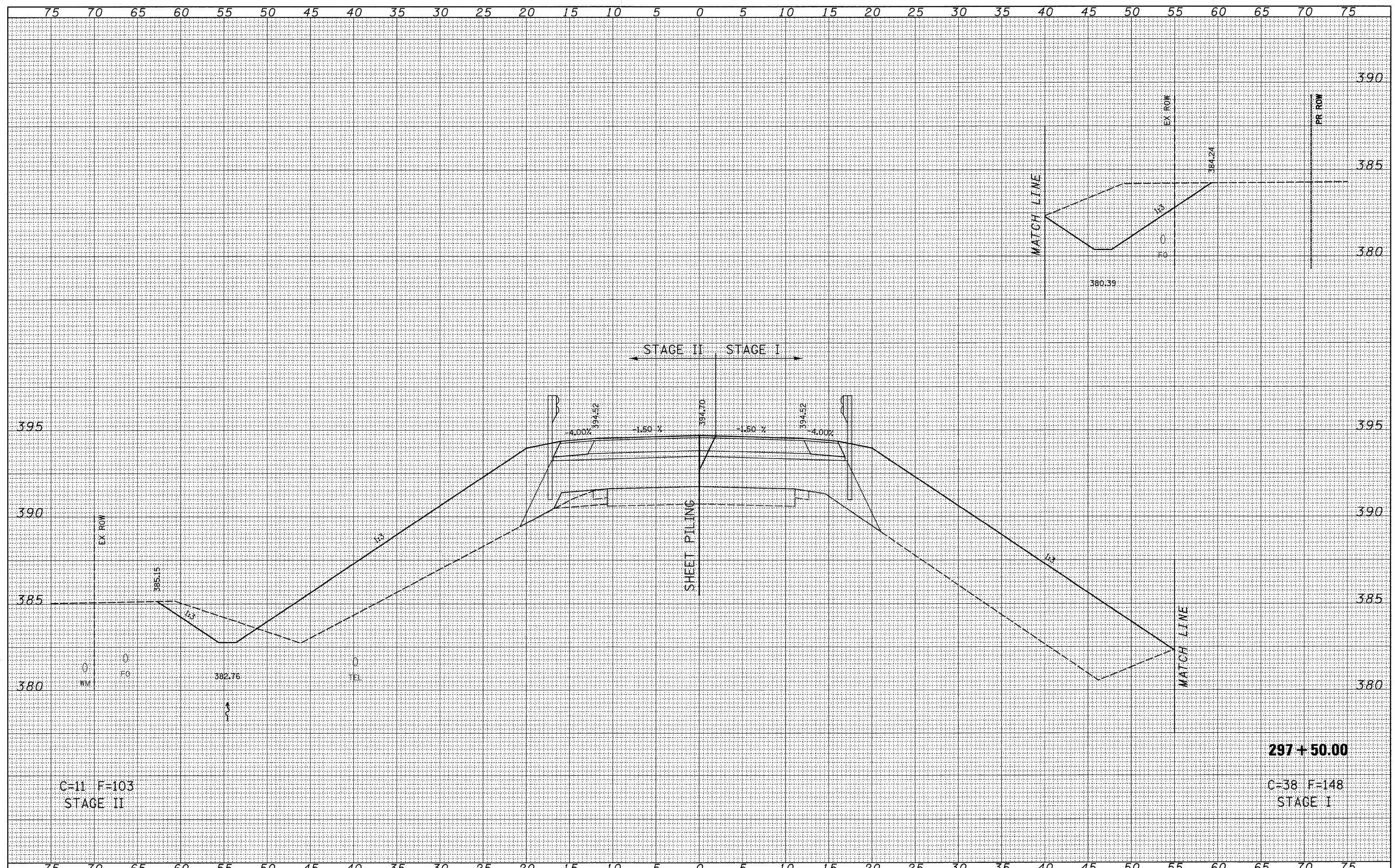
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STAGE II

297 + 00.00  
C=35 F=117  
STAGE I

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P:\0340601.04\FIN0960055\Drawings\sscs\1617Xsec\sheet.dgn		DRAWN -	REVISED -			823	(22BY-1,22BY2,22BR)B-1	WAYNE	142	99	
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PLOT DATE = 3/26/2009		DATE -	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
				SCALE:		SHEET NO. 19 OF 41 SHEETS		STA. 297+00.00 TO STA. 297+00.00			

DATE	
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C-11 F-103  
STAGE II

297+50.00

C-38 F-148  
STAGE I

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PLOT SCALE = 5.0000' / IN.	PLOT DATE = 3/26/2009	DRAWN -	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		IL RTE 15		CONTRACT NO. 74238
		CHECKED -	REVISIONS	SCALE:	SHEET NO. 20 OF 41 SHEETS	STA. 297+50.00 TO STA. 297+50.00	ILLINOIS FED. AID PROJECT	
		DATE -	REVISIONS					