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

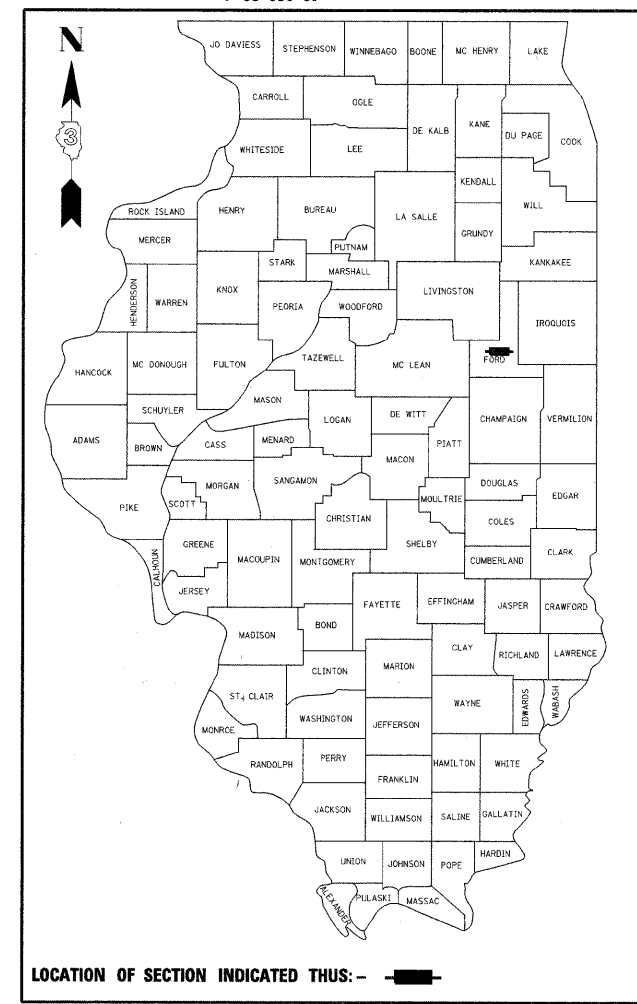
**FAP ROUTE 697 (IL RTE 9)**  
**SECTION (17)I**  
**PROJECT ACF-0697(029)**  
**FORD COUNTY**

**C - 93 - 022 - 09**

**REMOVE AND REPLACE EXISTING CULVERT (SN 027-2536) WITH**  
**NEW CULVERT (SN 027-2552) OVER A DRAINAGE DITCH**  
**1.3 MILES EAST OF IL 115**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
697	(17)I	FORD	29	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 66874	

**D-93-011-09**  
**P-93-030-07**



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.

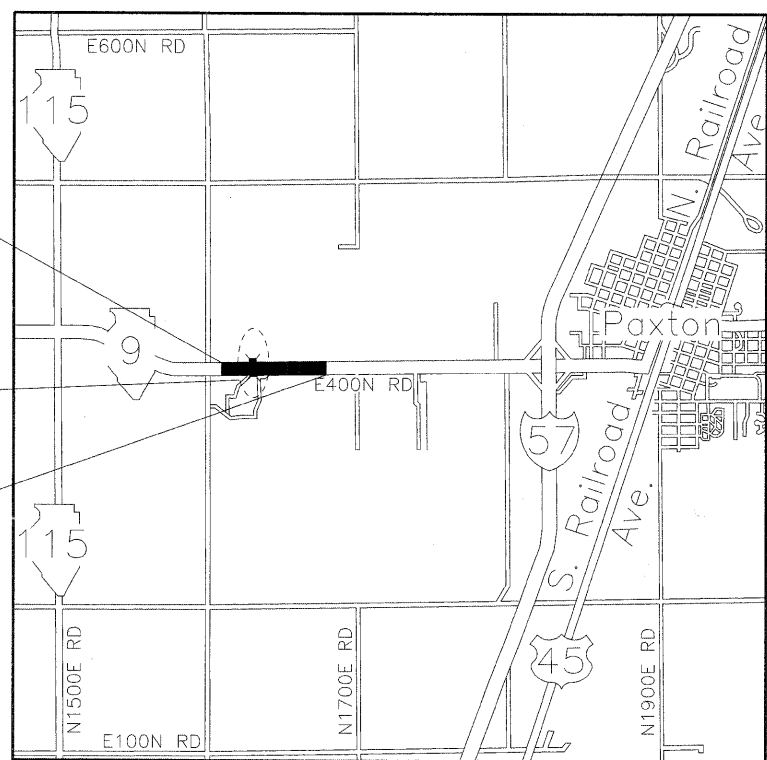
**J.U.L.I.E.**  
**JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION**  
**1-800-892-0123**  
**OR 811**

**DISTRICT 3 NO. (815) 434-6131**  
**PROJECT ENGINEER: JOSEPH KANNEL, P.E.**  
**UNIT CHIEF: MICHELE LINDEMANN, P.E.**  
**TOWNSHIP: PATTON**  
**CONTRACT NO. 66874**

**BEGIN IMPROVEMENT**  
**STA. 47+00.00**

**S.N. 027-2552**  
**STA 50+55.00**  
**14' X 6' CAST-IN-PLACE**  
**CONCRETE BOX CULVERT**

**END IMPROVEMENT**  
**STA. 54+00.00**



**LOCATION MAP**  
**NOT TO SCALE**  
**GROSS LENGTH = 700 FT. = 0.133 MI.**  
**NET LENGTH = 700 FT. = 0.133 MI.**



Syed M. Kazi  
 Licensed Professional Engineer  
 State of Illinois  
 Lic. No. 062-033486  
 Expires: 11-30-2009  
 Signature and Seal apply  
 to Civil Drawings



Syed M. Kazi  
 Licensed Structural Engineer  
 State of Illinois  
 Lic. No. 081-004047  
 Expires: 11-30-2010  
 Signature and Seal apply  
 to Structural Drawings

**FUNCTION CLASSIFICATION**

**RURAL MINOR ARTERIAL**  
**2009 ADT = 2270**  
**P.V. = 89.5%    S.U. = 4.7%    M.U. = 5.8%**

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

SUBMITTED \_\_\_\_\_ 20\_\_\_\_

*George Ryan*  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

*March 27, 2009*  
*Charles J. Ingersoll*  
 ENGINEER OF DESIGN AND ENVIRONMENT

*March 27, 2009*  
*Christine M. Reed*  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**DELTA ENGINEERING, INC.**  
 CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS  
 111 West Jackson Blvd., Suite 910 Chicago, IL 60604-2001

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**GENERAL NOTES**

- THE THICKNESS OF HMA SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HMA IS PLACED.
- THE HMA SURFACE OF ALL MAILBOX TURNOUTS, PRIVATE ENTRANCES, COMMERCIAL ENTRANCES, AND SIDE ROADS SHALL BE MADE NEATLY, IN A WORKMANLIKE MANNER, AND SHALL ACCURATELY CONFORM TO THE SHAPES AND DIMENSIONS SHOWN ON THE PLAN DETAILS. IF REQUIRED BY THE ENGINEER, THE CONTRACTOR SHALL BE REQUIRED TO SAW CUT THE HMA SURFACE TO CONFORM TO THE SHAPES AND DIMENSIONS SHOWN ON THE PLAN DETAILS. THIS WORK SHALL BE INCLUDED IN THE COST OF THE HMA SURFACE.
- EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.
- BEFORE ORDERING PIPE CULVERTS OR PIPE DRAINS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR EXACT LENGTHS & FIELD VERIFY.
- THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.
- FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.
- SEEDING SHALL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. LOCATIONS TO BE SEEDDED WILL BE DETERMINED BY THE ENGINEER.
- ONLY THOSE TREES DESIGNATED BY THE ENGINEER OR LISTED IN THE TREE REMOVAL SCHEDULE SHALL BE REMOVED. THE CONTRACTOR SHALL PROTECT ALL REMAINING TREES FROM DAMAGE DUE TO HIS OPERATIONS.
- THE FINISHED EARTHWORK SHALL HAVE A VEGETATION SUSTAINING SOIL COVERING THE TOP FOUR INCHES IN AREAS TO BE SEEDDED OR SODDED. THE VEGETATION SUSTAINING SOIL REQUIRED WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
- ON EXISTING PAVEMENT WHICH MAY BE SUPERELEVATED, THE NEW HMA PAVEMENT SHALL BE BUILT WITH THE SAME SUPERELEVATION UNLESS NEW SUPERELEVATION RATES ARE GIVEN ON THE PLANS.
- ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.
- ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
- ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS INCLUDED IN THESE PLANS.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:
 

GRANULAR MATERIALS	2.05	TONS / CU YD
BITUMINOUS MAT PRIME COAT	0.08	GAL / SQ YD
HMA RESURFACING	112	LBS / SQ YD / IN
SHORT TERM PAVEMENT MARKING	10	FT / 100 FT OF APPLICATION
MIX FOR CRACKS, JTS & FLGWYS	0.0003	TONS / SQ YD
LEVEL BINDER (HAND METHOD)	0.0005	TONS / SQ YD
SUPPLEMENTAL WATERING	3	GAL / SQ YD / APPLICATION
TEMPORARY DITCH CHECKS	5	TONS AGGREGATE
- MEMBERS OF JULIE KNOWN TO BE WITHIN THE LIMITS OF THE IMPROVEMENT ARE: VERIZON, NICOR AND AMEREN
- THE CONTRACTOR SHALL CONTACT JULIE AT LEAST 48 HOURS PRIOR TO EXCAVATION TO DETERMINE WHICH UTILITIES ARE IN THE AREA.
- THE SIGNS DISPLACED BY SHOULDER WIDENING ARE TO BE REINSTALLED IN LOCATIONS AS DETERMINED BY THE ENGINEER AND THE COST SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

**LIST OF STANDARDS**

000001-05	STANDARDS 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
482001-02	HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
482011-03	HMA SHOULDER STRIPS/SHOULDERS WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
515001-03	NAME PLATE FOR BRIDGES
542301-02	PRECAST REINFORCED CONCRETE FLARED END SECTION
542401-01	METAL END SECTION FOR PIPE CULVERTS
630001-08	STEEL PLATE BEAM GUARDRAIL
630101-08	GUARDRAIL MOUNTED ON EXISTING CULVERTS
630201-06	PCC/BITUMINOUS STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 GUARDRAIL TERMINALS
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
665001-02	WOVEN WIRE FENCE
666001-01	RIGHT OF WAY MARKERS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, 15' MINIMUM FROM PAVEMENT EDGE
701006-03	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO PAVEMENT EDGE, FOR SPEEDS >= 45 MPH
701011-02	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
701201-03	LANE CLOSURE, 2L, 2W, DAY ONLY
701301-03	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
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
720011-01	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
780001-02	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

**COMMITMENTS**

- NO EQUIPMENT TO EXTEND MORE THAN 116' ABOVE THE GROUND WITHOUT FURTHER COORDINATION WITH THE IL DIVISION OF AERONAUTICS AND/OR THE FEDERAL AVIATION ADMINISTRATION.
- TEMPORARY FENCE TO BE PLACED ALONG THE PROPOSED ROW IN THE SOUTHWEST QUADRANT OF THE PROJECT AREA TO PREVENT DAMAGE TO THE HOWARD THOMAS MEMORIAL NATURE PRESERVE.

PLAN	DATE
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NOTE BOOK	BY
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ALIGNMENT CHECKED	BY
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FIELD FILE NAME	

PROFILE	DATE
NO.	
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GRADES CHECKED	BY
STRUCTURE NOTATIONS CHKD	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DISTRICT THREE

PREPARED BY: [Signature]  
DISTRICT STUDIES & PLANS ENGINEER

DATE: 3/10/09

EXAMINED BY: [Signature]  
DISTRICT CONSTRUCTION ENGINEER

[Signature]  
DISTRICT MATERIALS ENGINEER

[Signature]  
DISTRICT OPERATIONS ENGINEER

FILE NAME =	USER NAME = #USER#	DESIGNED DB	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES AND LIST OF STANDARDS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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		DATE MARCH 2009	REVISED -			SCALE: NONE	SHEET NO. 1 OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT	

SUMMARY OF QUANTITIES

80% FED.  
20% STATE.  
NEW SN-027-2552

PAY CODE	DESCRIPTION	UNIT	CONSTRUCTION TYPE CODE X028-2A
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	58
20101100	TREE TRUNK PROTECTION	EACH	5
20101300	TREE PRUNING (1 TO 10 INCH DIAMETER)	EACH	5
20200100	EARTH EXCAVATION	CU YD	1,180
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	43
20400800	FURNISHED EXCAVATION	CU YD	815
20700220	POROUS GRANULAR EMBANKMENT	CU YD	559
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	47
* 25000300	SEEDING, CLASS 3	ACRE	0.60
* 25000400	NITROGEN FERTILIZER NUTRIENT	POUND	53
* 25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	53
* 25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	53
25100630	EROSION CONTROL BLANKET	SQ YD	2,970
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	60
28000300	TEMPORARY DITCH CHECKS	EACH	10
28000400	PERIMETER EROSION BARRIER	FOOT	42
28000500	INLET AND PIPE PROTECTION	EACH	2
28100107	STONE RIPRAP, CLASS A4	SQ YD	105
28200200	FILTER FABRIC	SQ YD	105
31100910	SUB-BASE GRANULAR MATERIAL, TYPE A 12"	SQ YD	144
35501326	HOT-MIX ASPHALT BASE COURSE, 10 1/2"	SQ YD	130
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	48
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	250
40600300	AGGREGATE (PRIME COAT)	TON	7
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGWAYS	TON	1
40600525	LEVELING BINDER (HAND METHOD), N50	TON	1.6
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	132
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	320
40600990	TEMPORARY RAMP	SQ YD	26
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	264
44000100	PAVEMENT REMOVAL	SQ YD	122
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	31
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	804
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105200	REMOVE EXISTING CULVERTS	EACH	2
50200100	STRUCTURE EXCAVATION	CU YD	652
50800105	REINFORCEMENT BARS	POUND	15,530
50800515	BAR SPLICERS	EACH	72

80% FED.  
20% STATE.  
NEW SN-027-2552

PAY CODE	DESCRIPTION	UNIT	CONSTRUCTION TYPE CODE X028-2A
51205200	TEMPORARY SHEET PILING	SQ FT	952
51500100	NAME PLATES	EACH	1
54003000	CONCRETE BOX CULVERTS	CU YD	65.1
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	56
54213450	END SECTIONS 15"	EACH	4
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	562.5
* 63000025	STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURES	FOOT	50
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	376
66411900	TEMPORARY FENCE	FOOT	357
66500105	WOVEN WIRE FENCE, 4'	FOOT	357
66502300	WOVEN WIRE FENCE REMOVAL	FOOT	295
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	12
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	11
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	2,044
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1,760
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	220
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	722
70400100	TEMPORARY CONCRETE BARRIER	FOOT	253
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	253
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,760
* 78001130	PAINT PAVEMENT MARKING - LINE 6"	FOOT	220
* 78200405	GUARDRAIL MARKERS	EACH	33
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2

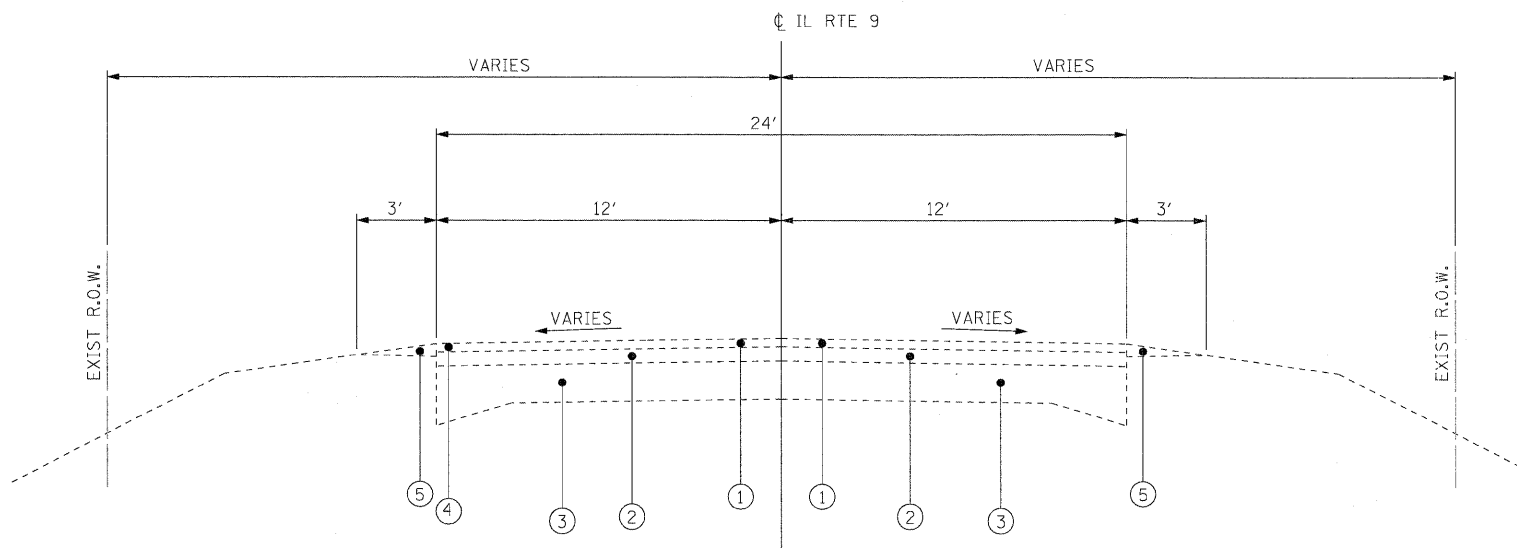
\* SPECIALTY ITEM

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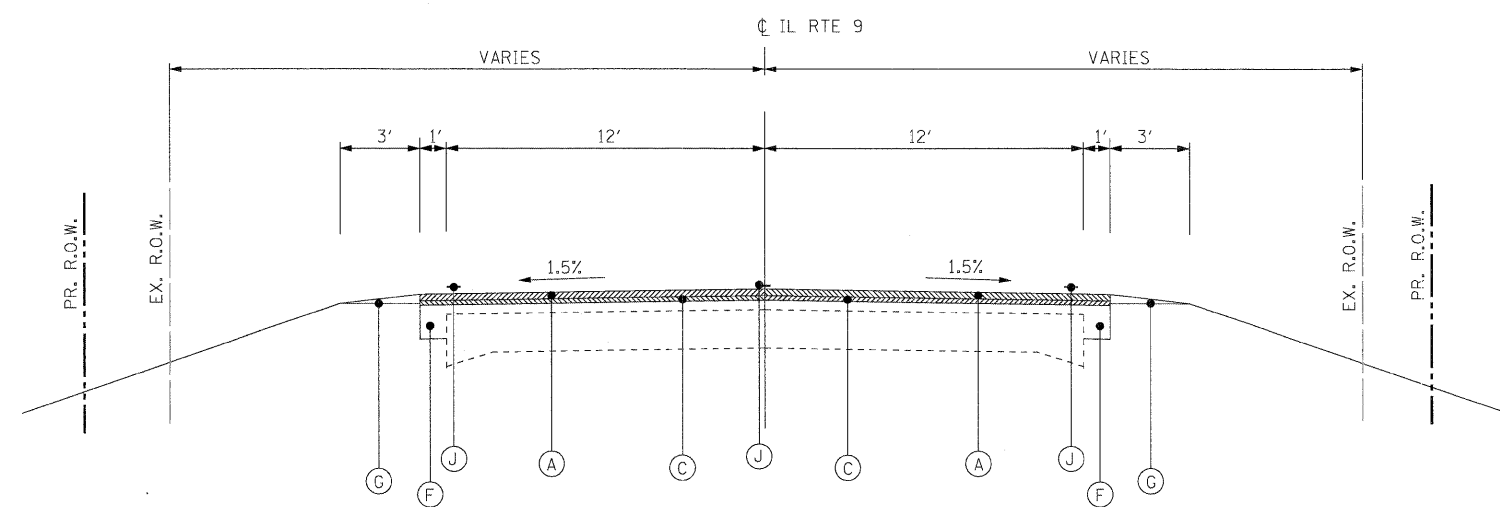
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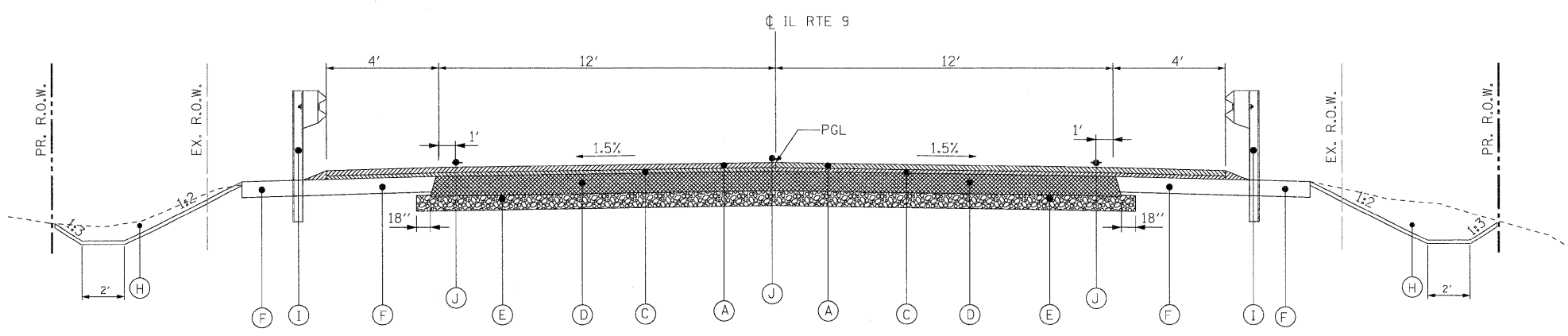
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**EXISTING ROADWAY TYPICAL SECTION**  
 NTS  
 FROM STA 46+10.00 TO STA 54+90.00



**PROPOSED ROADWAY TYPICAL SECTION**  
 NTS  
 FROM STA 47+00.00 TO STA 50+32.19  
 FROM STA 50+77.82 TO STA 54+00.00



**PROPOSED ROADWAY TYPICAL SECTION (FULL DEPTH)**  
 NTS  
 FROM STA 50+32.19 TO STA 50+47.17  
 FROM STA 50+62.83 TO STA 54+77.82

**BITUMINOUS MIXTURE REQUIREMENTS**

PAY ITEM	HMA LEVEL BINDER	HMA SURFACE	HMA BASE COURSE	HMA SHOULDERS
PG GRADE	PG64-22	PG64-22	PG64-22	PG64-22
MAX. % RAP ALLOWABLE **	25%	15%	25%	25%
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION	IL 9.5	IL 12.5 OR IL 9.5	IL 19.0	IL 19.0
FRICTION AGGREGATE		MIXTURE C		
DENSITY TEST METHOD	SATISFACTION OF THE ENGINEER	CORES	CORES	CORES*

\* MATERIAL SHALL BE COMPACTED TO 93.0 - 97.4 PERCENT OF THE MAXIMUM THEORETICAL DENSITY, EXCEPT THAT WHEN PLACED AS FIRST LIFT ON AN UNIMPROVED SUBGRADE THE MINIMUM PERCENT COMPACTION SHALL BE 92.0 PERCENT. THE MAXIMUM THEORETICAL DENSITY SHALL BE DETERMINED FROM THE MOVING AVERAGE AS SPECIFIED IN THE QC/QA SPECIFICATION.

\*\* WHEN MORE THAN 20% RAP IS USED, A SOFTER ASPHALT BINDER (PG58-22) MAY BE REQUIRED AS DETERMINED BY THE ENGINEER.

**LEGEND:**

**EXISTING**

- ① EXISTING HOT-MIX ASPHALT SURFACE CSE, 1 1/2"
- ② EXISTING HOT MIX ASPHALT OVERLAY
- ③ EXISTING PAVEMENT, ± 12"
- ④ EXISTING HMA SHOULDER
- ⑤ EXISTING AGGREGATE SHOULDER WEDGE (TYP.)

**PROPOSED**

- Ⓐ PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX C, N50, 1 1/2"
- Ⓒ PROPOSED LEVELING BINDER, N50, 3/4"
- Ⓓ PROPOSED HOT MIX ASPHALT BASE COURSE 10 1/2"
- Ⓔ PROPOSED SUBBASE GRANULAR MATERIAL, TYPE A, 12"
- Ⓕ PROPOSED HOT-MIX ASPHALT SHOULDERS, 8"
- Ⓖ PROPOSED AGGREGATE SHOULDER WEDGE
- Ⓗ PROPOSED EARTH EXCAVATION
- Ⓘ PROPOSED STEEL PLATE BEAM GUARD RAIL
- Ⓝ PAVEMENT MARKING

**NOTE:**

1. SEE PLAN AND PROFILE SHEETS FOR HMA SHOULDER STABILIZATION LOCATIONS.

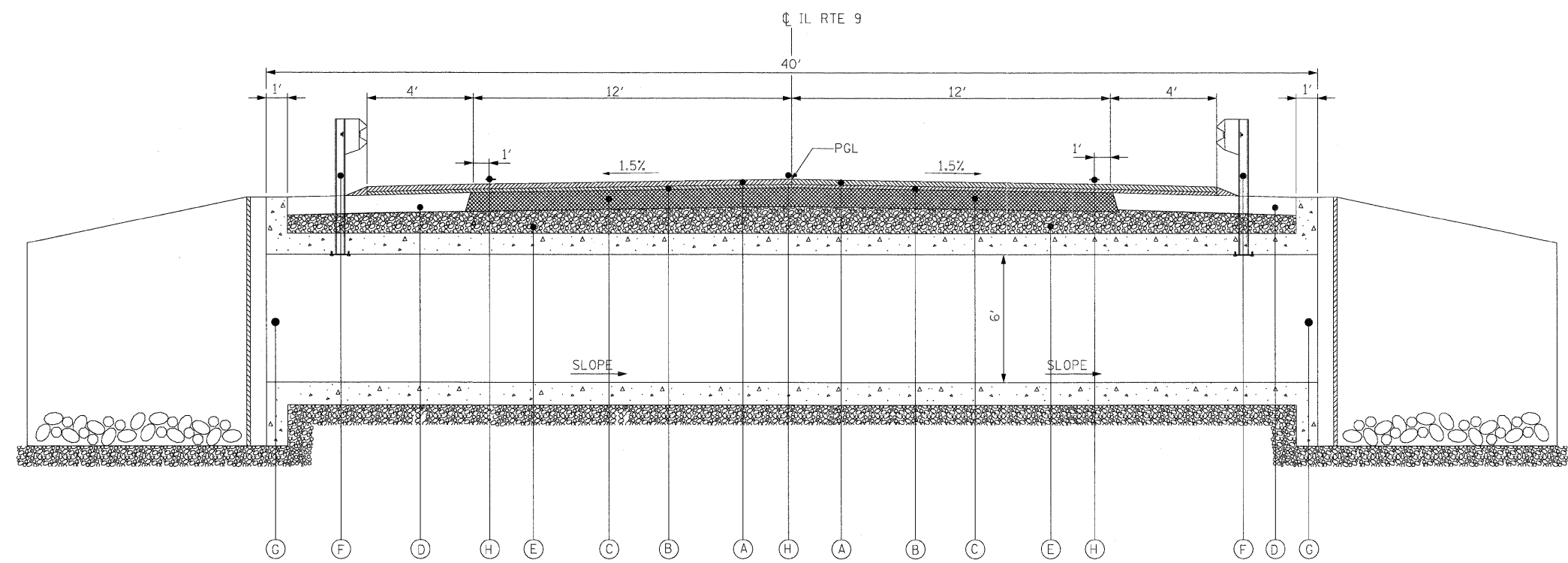
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#FILE#	PLOT SCALE = #SCALE#	DRAWN NS/RM	REVISED -		SCALE: NTS	SHEET NO. 1 OF SHEETS	STA. TO STA.	<b>CONTRACT NO. 66874</b>				
	PLOT DATE = #DATE#	CHECKED AS	REVISED -					FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				
		DATE MARCH 2009	REVISED -									

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PROFILE	DATE
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NOTE BOOK	NO.
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**LEGEND:**

- PROPOSED**
- (A) PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX C, N50, 1 1/2"
  - (B) PROPOSED LEVELING BINDER, N50, 3/4"
  - (C) PROPOSED HOT-MIX ASPHALT BASE COURSE 10 1/2"
  - (D) PROPOSED HOT-MIX ASPHALT SHOULDERS, 8"
  - (E) PROPOSED POROUS GRANULAR EMBANKMENT
  - (F) STEEL PLATE BEAM GUARD RAIL, ATTACHED TO STRUCTURES.
  - (G) PROPOSED CONCRETE BOX CULVERT 14' X 6'
  - (H) PAVEMENT MARKING



**PROPOSED BOX CULVERT SECTION LOOKING EAST**

NTS  
FROM STA 50+47.17 TO STA 50+62.83

FILE NAME =	USER NAME = #USER#	DESIGNED DB	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TYPICAL SECTIONS SN 027-2552 SHEET 2 OF 2</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT SCALE = #SCALE#	DATE MARCH 2009	REVISED -	REVISED -			CONTRACT NO. 66874		FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT		
PLOT DATE = #DATE#				SCALE: NTS	SHEET NO. 1 OF SHEETS	STA.	TO STA.			

PLAN  
 SURVEYED PLOTTED  
 ALIGNMENT CHECKED  
 CADD FILE NAME  
 NO.

PROFILE  
 SURVEYED PLOTTED  
 GRADES CHECKED  
 STRUCTURE NOTATIONS CHKO  
 NO.

PAVEMENT SCHEDULE

LOCATION		SIDE	SUB-BASE GRANULAR MATERIAL TY A 12"	HOT-MIX ASPHALT BASE COURSE 10 1/2"	HOT-MIX ASPHALT SHOULDERS, 8"	HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT	TEMPORARY RAMP	PAVEMENT REMOVAL	AGGREGATE SURFACE COURSE, TYPE B	AGGREGATE WEDGE SHOULDER, TYPE B	HOT-MIX ASPHALT SURFACE COURSE MIX "C", N50	LEVELING BINDER (HAND METHOD), N50	LEVELING BINDER (MACHINE METHOD), N50	BITUMINOUS MATERIALS (PRIME COAT)	MIXTURE FOR CRACKS, JOINTS AND FLANGEWAYS	AGGREGATE PRIME COAT	
STATION	TO	STATION	LT/RT	(SQ YD)	(SQ YD)	(SQ YD)	(SQ YD)	(SQ YD)	(TON)	(TON)	(TON)	(TON)	(TON)	(GAL)	(TON)	(TON)	
46+10.00	TO	54+90.00									207	1.2	104	250	1	7	
46+10.00	TO	47+00.00				160	<b>13</b>										
46+10.00	TO	48+40.82	RT								2	0.01	1				
46+10.00	TO	48+47.09	LT								2	0.01	1				
47+00.00	TO	47+85.00	LT							10							
47+00.00	TO	48+40.82	RT		16					16							
47+00.00	TO	48+41.80	RT														
47+00.00	TO	48+47.09	LT			17											
FIELD ENTRANCE AT STA. 48+12			LT					38									
48+36.00	TO	48+53.09	LT							1							
48+40.82	TO	52+62.90	RT		345					17	0.10	8					
48+40.82	TO	52+62.90								5	0.03	3					
48+47.09	TO	53+39.57	LT		402												
48+47.09	TO	53+39.67	LT							20	0.10	10					
48+47.09	TO	53+39.67								6	0.04	3					
FIELD ENTRANCE AT STA. 48+56			RT					10									
50+32.19	TO	50+77.82		144	130			122									
52+50.90	TO	54+00.00	RT							3							
52+62.90	TO	54+00.00	RT		16												
52+62.90	TO	54+90.00	RT							2	0.01	1					
53+33.67	TO	54+00.00	LT							1							
53+39.57	TO	54+00.00	LT		7												
53+39.67	TO	54+90.00	LT							2	0.01	1					
54+00.00	TO	54+90.00								160	<b>13</b>						
TOTAL				144	130	804	320	<b>26</b>	122	48	31	264	1.6	132	250	1	7

GUARDRAIL SCHEDULE

LOCATION		SIDE	GUARDRAIL REMOVAL	STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURES	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	TERMINAL MARKER DIRECT APPLIED	GUARDRAIL MARKERS	
STATION	TO	STATION	LT/RT	(FOOT)	(FOOT)	(FOOT)	(EACH)	(EACH)	
48+67.50	TO	49+17.50	LT				1		
48+80.00	TO	49+30.00	RT				1		
48+67.50	TO	53+17.50	LT					18	
48+80.00	TO	52+42.50	RT					15	
49+17.50	TO	50+42.50	LT			125			
49+30.00	TO	50+42.50	RT			112.50			
49+30.42	TO	51+18.42	RT	188					
49+92.50	TO	51+80.50	LT	188					
50+42.50	TO	50+67.50	LT		25				
50+42.50	TO	50+67.50	RT		25				
50+67.50	TO	52+67.50	LT			200			
50+67.50	TO	51+92.50	RT			125			
51+92.50	TO	52+42.50	RT				1		
52+67.50	TO	53+17.50	LT				1		
APPLIED AT EACH FACE OF TBT							4		
TOTAL				376	50	562.50	4	4	33

DRAINAGE STRUCTURE SCHEDULE

LOCATION		SIDE	REMOVE EXISTING CULVERTS	PIPE CULVERTS, CLASS D, TY 1 15"	END SECTIONS 15"	STONE RIPRAP, CLASS A4	FILTER FABRIC
STATION	TO	STATION	LT/RT	(EACH)	(FOOT)	(EACH)	(SQ YD)
47+95.00	TO	48+29.00	LT		34		
47+95.00			LT			1	
48+29.00			LT			1	
48+38.95	TO	48+70.35	RT	1			
48+44.00			RT			1	
48+44.00	TO	48+66.00	RT		22		
48+66.00			RT			1	
49+27.12	TO	49+67.72	LT	1			
50+40.59	TO	50+69.33	RT				44
50+40.66	TO	50+69.42	LT				61
TOTAL				2	56	4	105

DATE \_\_\_\_\_ BY \_\_\_\_\_  
 PLAN \_\_\_\_\_  
 CHECKED \_\_\_\_\_  
 DATE \_\_\_\_\_

DATE \_\_\_\_\_ BY \_\_\_\_\_  
 PROFILE \_\_\_\_\_  
 CHECKED \_\_\_\_\_  
 DATE \_\_\_\_\_

SEEDING AND EROSION CONTROL SCHEDULE												
LOCATION		SIDE	SEEDING CLASS	NITROGEN FERTILIZER (ACRE)	PHOSPHORUS FERTILIZER (POUND)	POTASSIUM FERTILIZER (POUND)	TEMPORARY EROSION CONTROL SEEDING (POUND)	EROSION CONTROL BLANKET (SQ YD)	PERIMETER EROSION BARRIER (FOOT)	INLET AND PIPE PROTECTION (EACH)	TEMPORARY DITCH CHECKS (EACH)	
STATION	TO	STATION	LT/RT	(ACRE)	(POUND)	(POUND)	(POUND)	(SQ YD)	(FOOT)	(EACH)	(EACH)	
47+00.00	TO	54+00.00	LT	0.30	27	27	30	1461				
47+00.00	TO	54+00.00	RT	0.30	26	26	30	1404				
47+85.00			LT								1	
47+90.00			LT							1		
48+30.00			RT								1	
48+40.00			RT							1		
49+50.00			RT								1	
49+50.00			LT								1	
50+40.59			RT					44				
50+40.66			LT					61				
50+48.00			RT								1	
50+48.00			LT								1	
50+62.00			RT								1	
50+62.00			LT								1	
51+75.00			RT								1	
51+75.00			LT								1	
NE OF CULVERT			LT						13			
SE OF CULVERT			LT						8			
NW OF CULVERT			RT						13			
SW OF CULVERT			RT						8			
TOTAL				0.60	53	53	60	2,970	42	2	10	

FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	
LOCATION	EACH
STATION	
46+75.00, 30' LT	1
47+50.00, 45' LT	1
50+00.00, 45' LT	1
50+25.00, 40' LT	1
53+00.00, 40' LT	1
54+00.00, 29.07' LT	1
47+00.00, 30' RT	1
47+50.00, 35' RT	1
51+00.00, 35' RT	1
51+50.00, 40' RT	1
53+00.00, 40' RT	1
54+00.00, 31.10' RT	1
TOTAL	12

PAVEMENT MARKING SCHEDULE					
LOCATION		SIDE	PAINT PAVEMENT MARKING-LINE 4" (FOOT)	PAINT PAVEMENT MARKING-LINE 6" (FOOT)	YELLOW SKIP DASH (FOOT)
STATION	TO	STATION	LT/RT		
46+10.00	TO	54+90.00	LT	880	
46+10.00	TO	54+90.00	RT	880	
46+10.00	TO	54+90.00	CL		220
TOTAL				1,760	220

TEMPORARY BRIDGE TRAFFIC SIGNALS	
(EACH)	
1	
TOTAL	1

EARTHWORK SCHEDULE				
STATION		SIDE	CUT VOLUME (CU YD)	FILL VOLUME (CU YD)
FROM	TO	LT/RT	EARTH EXCAVATION	FURNISHED EXCAVATION
47+00.00	54+00.00	LT	690.00	495.00
47+00.00	54+00.00	RT	490.00	320.00
TOTAL			1,180.00	815.00

TREE REMOVAL (6 TO 15 UNITS DIAMETER)			
STATION	OFFSET (FOOT)	LT/RT	UNITS
49+77.81	34.0	RT	6
49+80.93	33.0	RT	8
50+09.07	33.0	RT	8
50+12.42	38.0	LT	10
51+25.12	33.0	RT	6
51+38.15	34.0	RT	8
51+98.63	32.0	RT	6
52+91.69	34.0	RT	6
TOTAL			58

TREE TRUNK PROTECTION			
STATION	OFFSET (FOOT)	LT/RT	EACH
47+73.55	35.0	RT	1
51+23.98	35.0	RT	1
51+75.46	38.0	RT	1
53+86.07	34.0	RT	1
53+86.07	34.0	RT	1
TOTAL			5

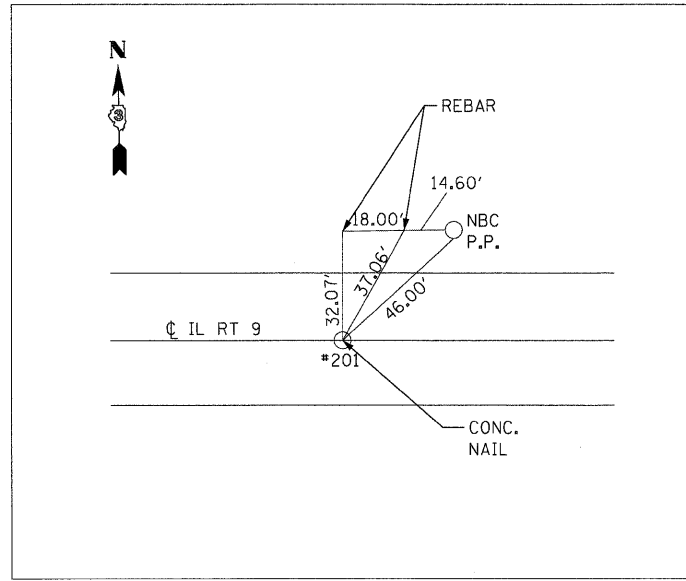
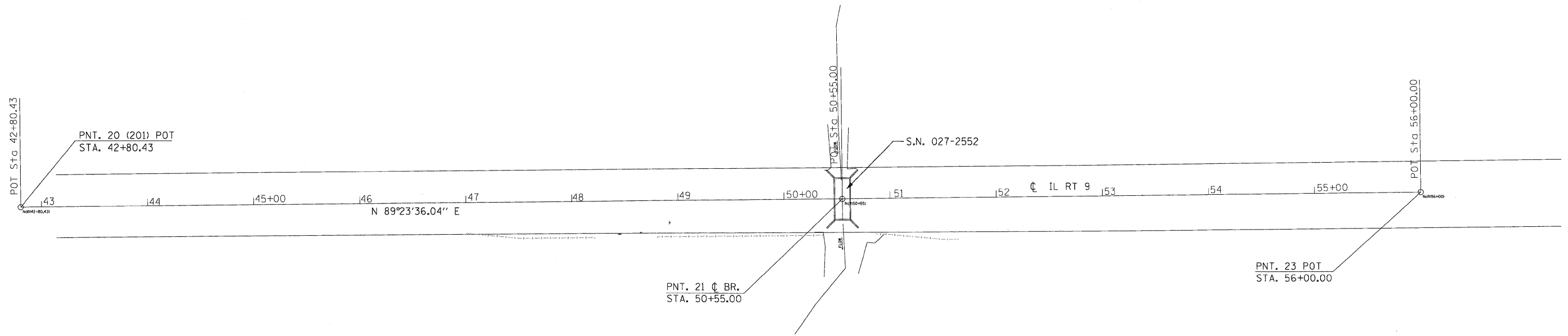
TREE PRUNING (1 TO 10 INCH DIAMETER)			
STATION	OFFSET (FOOT)	LT/RT	EACH
47+73.55	35.0	RT	1
51+23.98	35.0	RT	1
51+75.46	38.0	RT	1
53+86.07	34.0	RT	1
53+86.07	34.0	RT	1
TOTAL			5

MAINTENANCE OF TRAFFIC														
STAGE	LOCATION			SIDE	SHORT TERM PAVEMENT MARKING		TEMPORARY PAVEMENT MARKING-LINE 4" (FOOT)	TEMPORARY PAVEMENT MARKING-LINE 6" (FOOT)	WORK ZONE PAVEMENT MARKING REMOVAL (SQ FT)	TEMPORARY CONCRETE BARRIER (FOOT)	RELOCATE TEMPORARY CONCRETE BARRIER (FOOT)	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), (EACH)	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3 (EACH)	
	STATION	TO	STATION		WIDTH (IN)	WHITE (FOOT)								
	46+10.00	TO	54+90.00	LT			880							
	46+10.00	TO	54+90.00	RT			880							
	46+10.00	TO	54+90.00	CL				220						
STAGE I	47+35.00			RT	24	12			24					
	47+45.00	TO	53+65.00	RT	4	620			207					
	48+60.00	TO	52+50.00	LT	4	390			130					
	49+25.00											1		
	49+25.00	TO	51+77.00							253				
	51+77.00											1		
STAGE II	53+75.00			LT	24	12			24					
	47+45.00	TO	53+65.00	LT	4	620			207					
	48+60.00	TO	52+50.00	RT	4	390			130					
	49+32.00												1	
	49+32.00	TO	51+85.00								253			
	51+85.00												1	
TOTAL							2,044	1,760	220	722	253	253	2	2

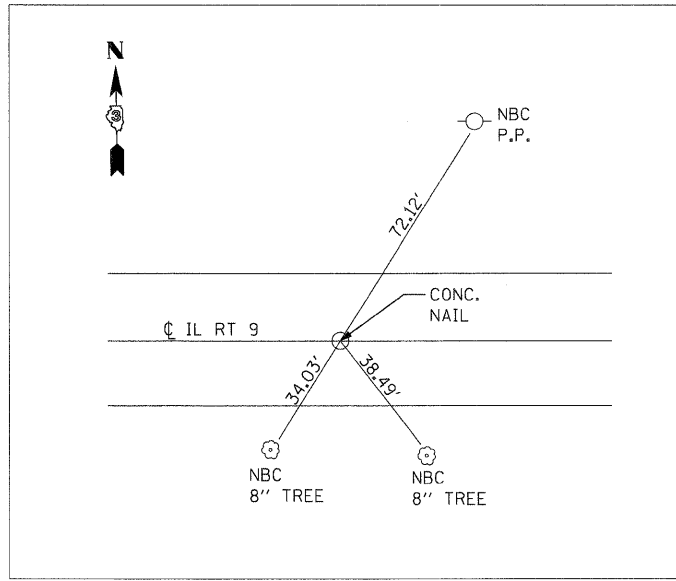
WOVEN WIRE FENCE SCHEDULE						
LOCATION			SIDE	WOVEN WIRE FENCE REMOVAL (FOOT)	WOVEN WIRE FENCE, 4' (FOOT)	TEMPORARY FENCE (FOOT)
STATION	TO	STATION	LT/RT	(FOOT)	(FOOT)	(FOOT)
47+00.00	TO	48+21.54	RT	122	122	122
48+80.14	TO	49+35.12	RT	55		
48+80.14	TO	50+37.06	RT		157	157
49+82.22	TO	50+25.86	RT	44		
50+86.32	TO	51+60.23	RT	74		
50+86.32	TO	51+64.07	RT		78	78
TOTAL				295	357	357

DATE	
BY	
REVIEWED	
PLANNED	
ALIGNED	
CHECKED	
FILE NAME	
NO.	

DATE	
BY	
REVIEWED	
PLANNED	
ALIGNED	
CHECKED	
FILE NAME	
NO.	



PNT. #20 POT (N.T.S)  
STA. 42+80.43



PNT. #23 POT (N.T.S)  
STA. 56+00

BENCHMARK #1  
RAILROAD SPIKE IN POWER POLE NORTH SIDE OF RT. 9  
NORTH OF WEST END OF GUARDRAIL.  
STA. 50+03, 32' LT. ELEV.= 747.16

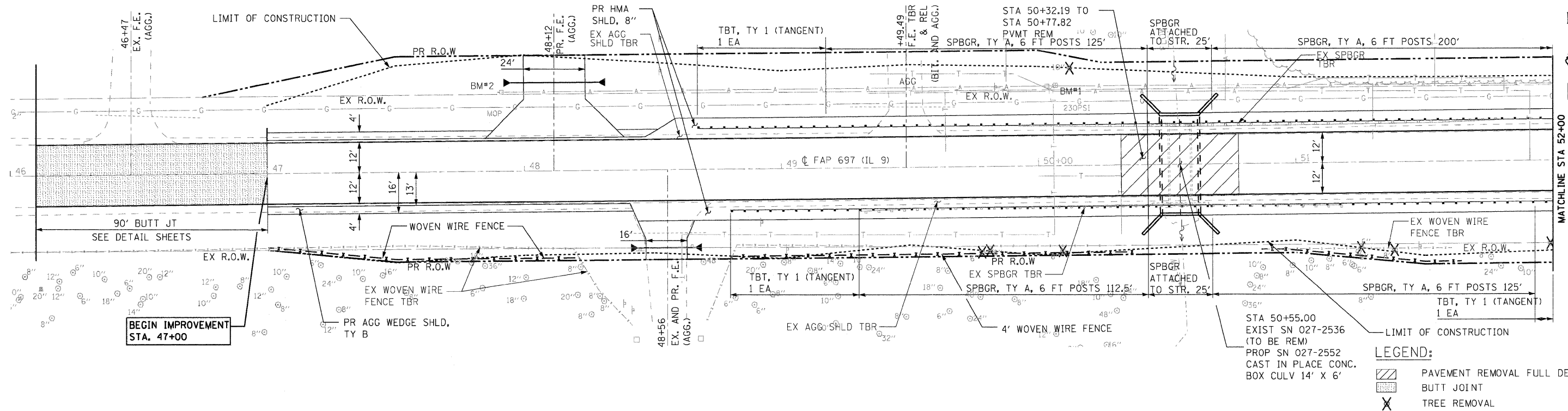
BENCHMARK #2  
RAILROAD SPIKE IN POWER POLE NORTH SIDE  
OF RT. 9, 230'± WEST OF BOX CULVERT.  
STA. 47+91, 30' LT. ELEV.= 747.18

FILE NAME =	USER NAME = #USER#	DESIGNED DB	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ALIGNMENT, TIES AND BENCHMARKS</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN NS/RM	REVISED -					697	(17)	FORD	29	8
	PLOT SCALE = #SCALE#	CHECKED AS	REVISED -		SCALE: 1"=20'			SHEET NO. 1 OF SHEETS STA. TO STA.			CONTRACT NO. 66874	
	PLOT DATE = #DATE#	DATE MARCH 2009	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

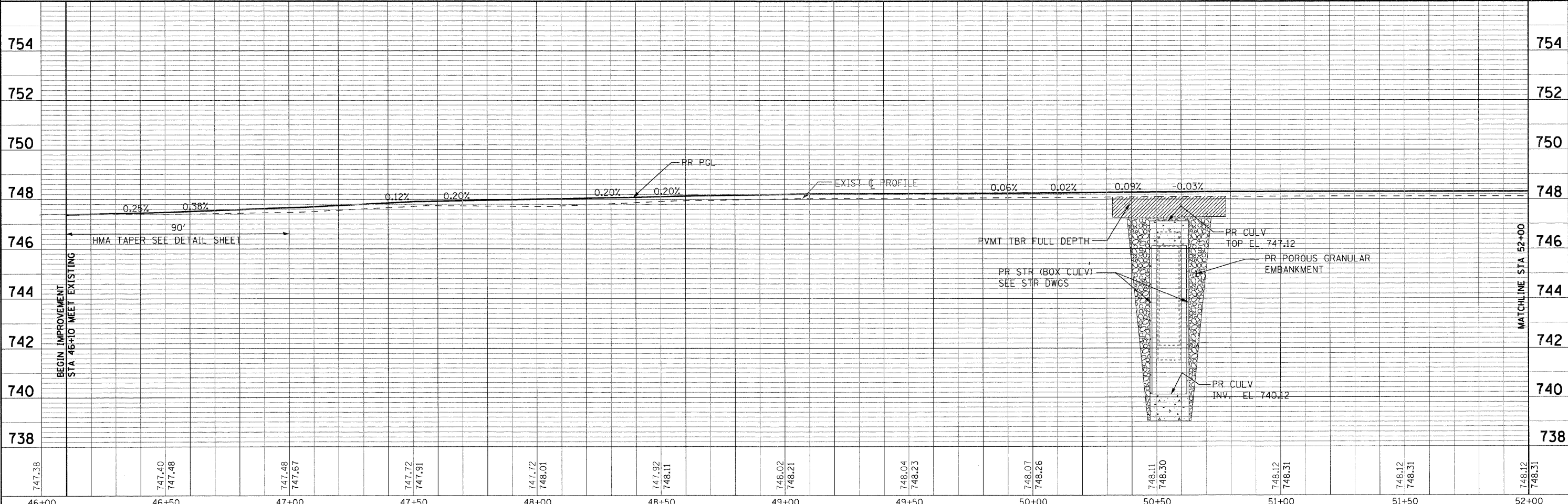


PLAN	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO.	

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



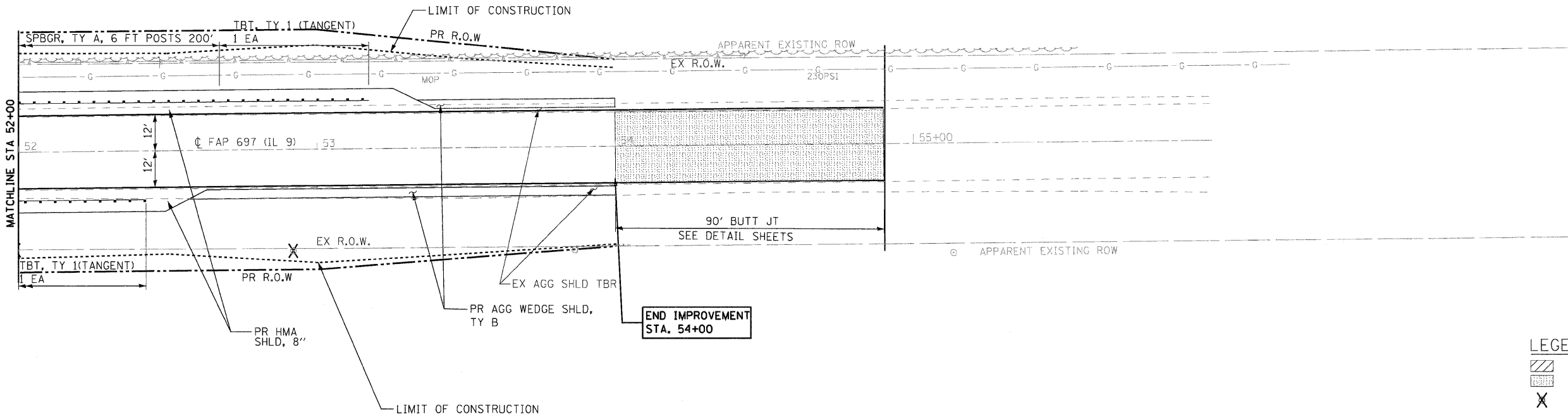
**NOTES:**  
 1. ON FIELD ENTRANCES SIDE SLOPE SHOULD BE 1:4.



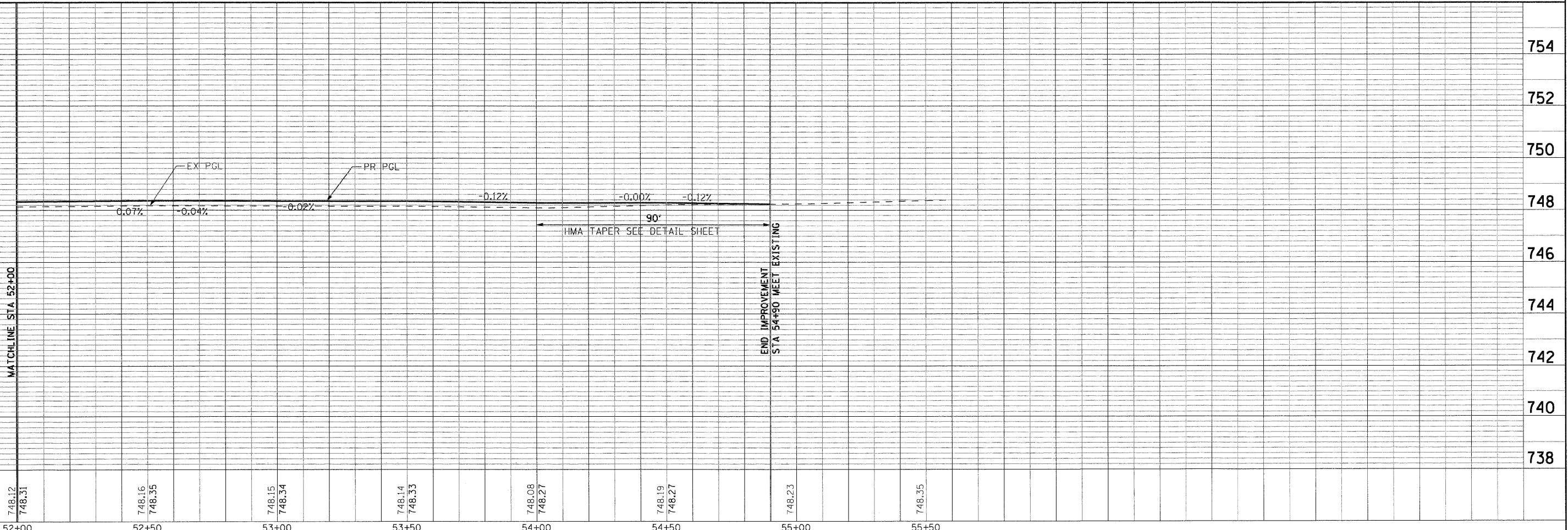
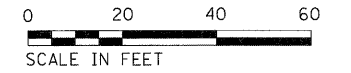
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	PLOT DATE = #DATE#	CHECKED AS	REVISED -			CONTRACT NO. 66874					
		DATE MARCH 2009	REVISED -			FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT					

PLAN	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTED	
	CADD FILE NAME	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTED	
	CADD FILE NAME	
	NO.	



**LEGEND:**  
 PAVEMENT REMOVAL FULL DEPTH  
 BUTT JOINT  
 TREE REMOVAL



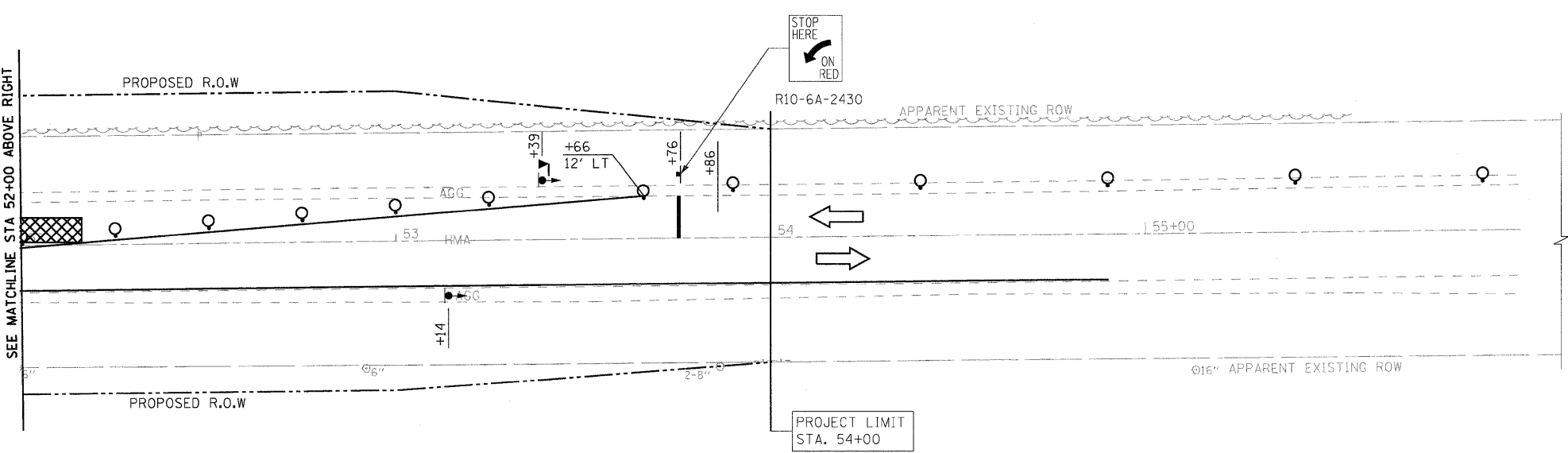
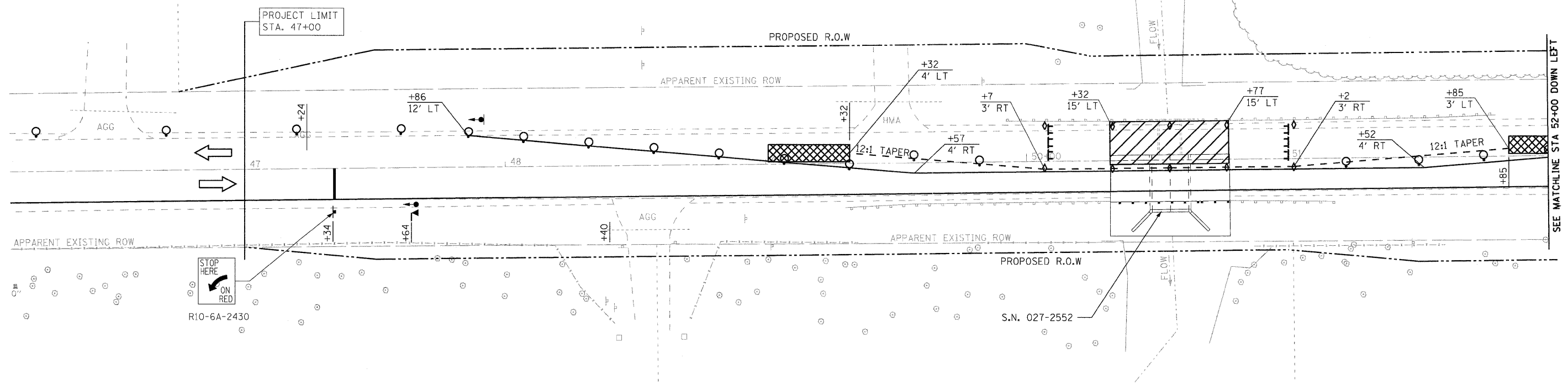
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#FILE#	PLOT SCALE = #SCALE#	DRAWN NS/RM	REVISED -			CONTRACT NO. 66874					
	PLOT DATE = #DATE#	CHECKED AS	REVISED -			FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT					
		DATE MARCH 2009	REVISED -			SCALE: 1"=20' SHEET NO. 1 OF 2 SHEETS STA. 52+00 TO STA. 54+90					





PLAN	REVIEWED	DATE
NOTE BOOK	BY	
NO.		
	ALIGNED	CHECKED
	DATE	
	FILE NAME	

PROFILE	REVIEWED	DATE
NOTE BOOK	BY	
NO.		
	GRADES	CHECKED
	DATE	
	STRUCTURE	NOTATIONS



**LEGEND:**

- HOT-MIX ASPHALT SHOULDERS, 8"
- DRUM WITH STEADY BURN LIGHT
- TRAFFIC SIGNALS WITH BACKPLATE
- MICROWAVE DETECTORS
- SIGN
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TYPE "C" BIDIRECTIONAL REFLECTOR
- DOUBLE VERTICAL PANEL (SEE DETAIL)
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
- WORK AREA

**NOTES:**

1. SEE STANDARD 701321 FOR DETAILS.
2. SEE STRUCTURAL SHEETS FOR STAGING PLAN.
3. THE ENTRANCE AT STATION 49+49 TO BE RELOCATED PRIOR TO SWITCHING TO STAGE II TRAFFIC CONTROL.

FILE NAME =	USER NAME = #USER#	DESIGNED DB	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE II TRAFFIC CONTROL</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = #DATE#	DATE MARCH 2009	REVISED -		STA. 46+10 TO STA. 54+90				CONTRACT NO. 66874			
								FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				











**BENCH MARK #1:**

Railroad spike in power pole, North side of Il Rte. 9, sta. 50+03, 31.97 ft. left, Elev. 747.163.

**BENCH MARK #2:**

Railroad spike in power pole, North side of Il Rte. 9, sta. 47+91, 30.40 ft. left, Elev. 747.183.

**EXISTING STRUCTURE:**

The existing structure number 027-2536, originally built in 1923, section 14(1) in Ford County to carry a drainage ditch under Il Rte. 9 approximately 1.3 miles east of Il Rte. 115. The existing structure is an 8 ft wide by 4 ft high single box culvert. The existing structure will be removed and replaced, in stages, with a single 14 ft wide by 6 ft high cast in place box culvert.

**STAGING:**

Traffic shall be maintained at all times utilizing stage construction.

**SALVAGE:**

No Salvage

2'-0" (Limits of Removal and Disposal of Unsuitable Material See Note 3, typ.)

**GENERAL NOTES:**

1. Reinforcement bars shall conform to the requirements of ASTM A 706, Grade 60. See special provisions.
2. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
3. The material used to replace the unsuitable material removed below the bottom of the proposed cast-in-place reinforced concrete box culvert and wingwalls shall be clean crushed CA-7 and shall be paid for as "Porous Granular Embankment, Special".
4. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
5. Precast concrete culvert alternate will not be allowed.

**LOADING HS20-44**

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

**DESIGN SPECIFICATIONS**

2002 AASHTO Standard Specs. for Highway Bridges

**DESIGN STRESSES**

Field units  
 f'c = 3,500 psi (Concrete)  
 fy = 60,000 psi (Reinforcement)

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	U.S.	D.S.
	737.20	737.05

DESIGNED - GBC/GMK
CHECKED - GBC/GMK/SMK
DRAWN - RR
CHECKED - GBC/GMK/SMK

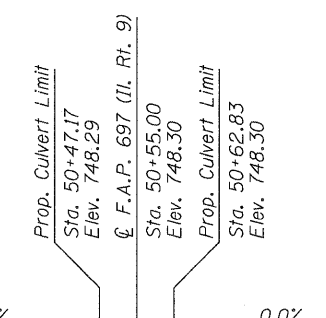
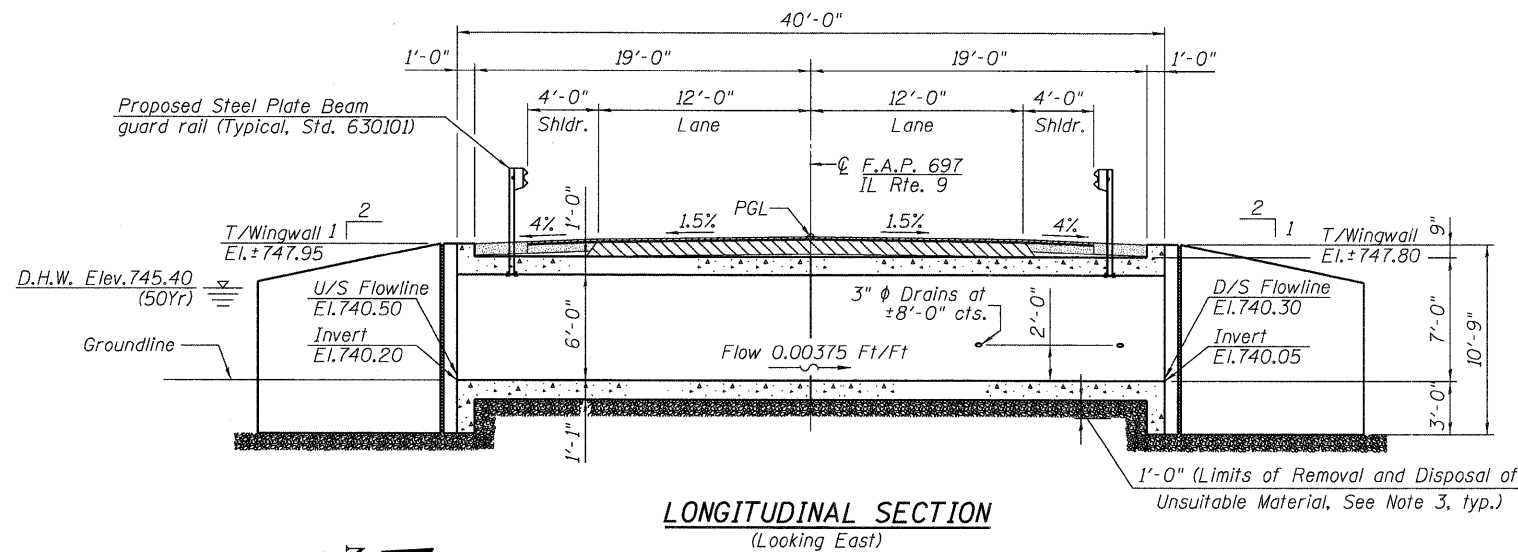
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**INDEX OF SHEETS**

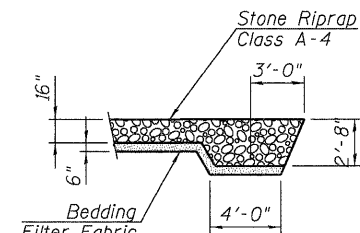
Sht No.	Description
S1	General Plan and Elevation
S2	Stage Construction
S3	Culvert and Wingwall Sections and Details
S4	Bar Splicer (Coupler) Details
S5	Soil Boring Logs

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	43
Porous Granular Embankment	Cu. Yd.	559
Porous Granular Embankment, Special	Cu. Yd.	47
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	652
Reinforcement Bars	Pound	15,530
Bar Splicers	Each	72
Temporary Sheet Piling	Sq. Ft.	952
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	65.1



**PROFILE GRADE**  
(Along C.F.A.P. 697)

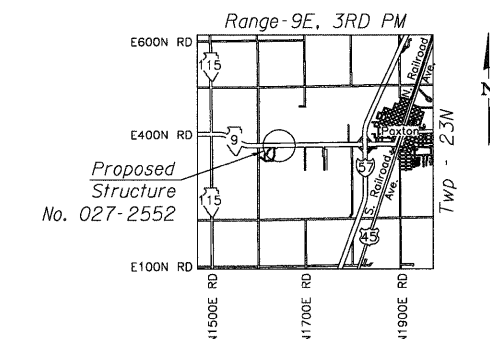


**SECTION A-A**

Note: For quantities, see roadway plans

STATION 50+55.00  
 BUILT 200 BY  
 STATE OF ILLINOIS  
 F.A.P. RT. 697 SEC. 17(1)  
 LOADING HS20-44  
 STR. NO. 027-2552

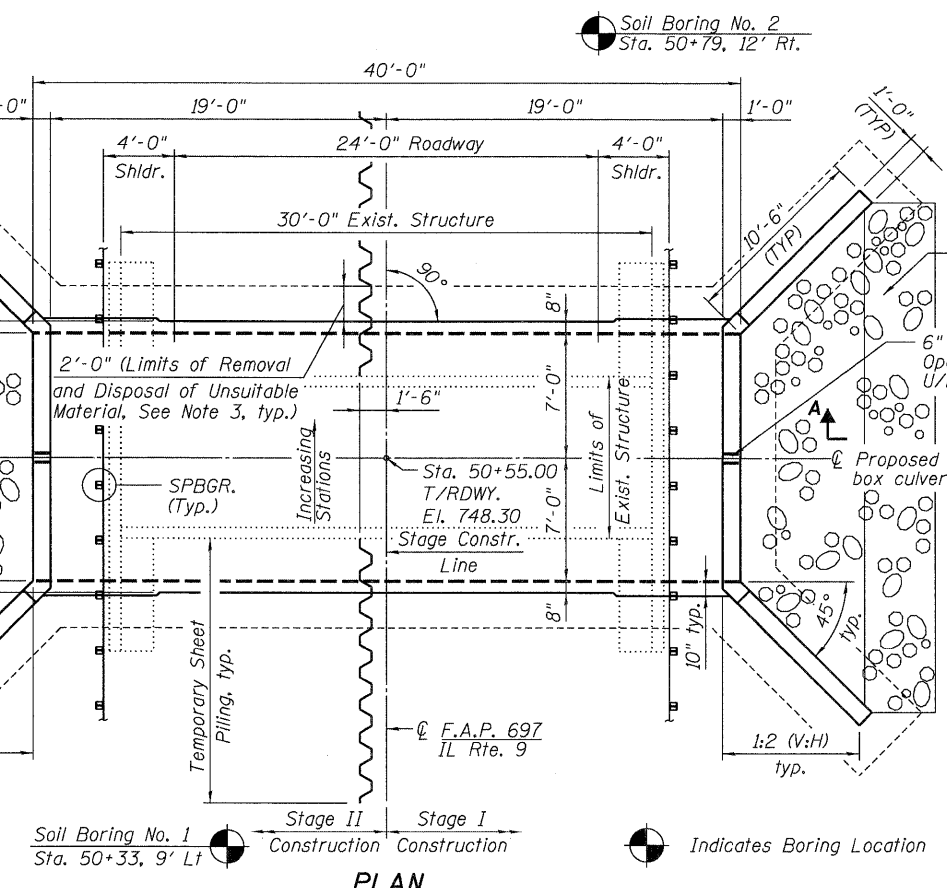
**NAME PLATE**  
See Std. 515001



**LOCATION SKETCH**

**GENERAL PLAN AND ELEVATION  
ILLINOIS ROUTE 9 OVER DRAINAGE DITCH  
F.A.P. ROUTE 697 - SECTION 17(1)**

**FORD COUNTY  
STATION 50+55.00  
SN 027-2552**  
Scale: None March 2009

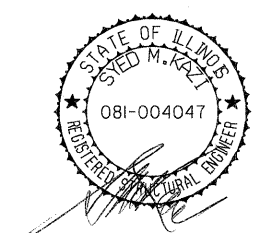


**WATERWAY INFORMATION**

Drainage Area = 1.06 sq. mi. Low Grade Elev. = 747.72 Exist./Prop. @ Sta. 47+50.00

Flood Yr.	Freq.	Q C.F.S.	Opening Sq. Ft. Exist.	Nat. H.W.E. Exist.	Head - Ft. Exist.	Headwater El. Exist.	Prop.	Headwater El. Prop.
10	361	21	65	744.9	3.0	0.1	747.9	744.9
Design	50	599	25	73	745.4	2.7	1.1	748.1
Base	100	706	28	76	745.7	2.6	1.8	748.2
Max. Calc.	500	969	31	82	746.0	2.4	2.0	748.4

Max. H.W.E.: 747.9± (ft.)  
 Exist. 10 Year Velocity: 8.74 (ft./sec.)  
 Prop. 10 Year Velocity: 5.89 (ft./sec.)  
 Max. H.W.E. Date: 4/21/1994

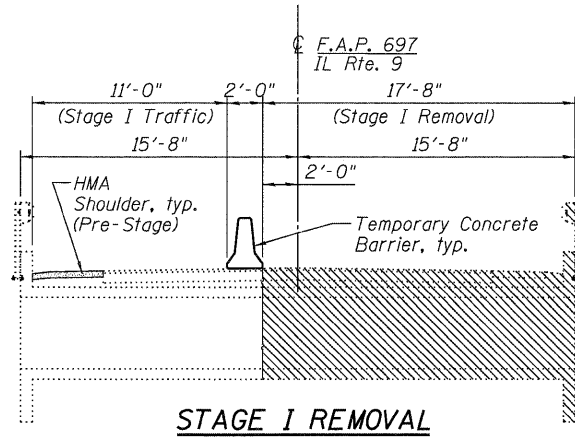


Syed M. Kazi  
 Licensed Structural Engineer  
 State of Illinois  
 Lic. No. 081-004047  
 Expires: 11-30-2010

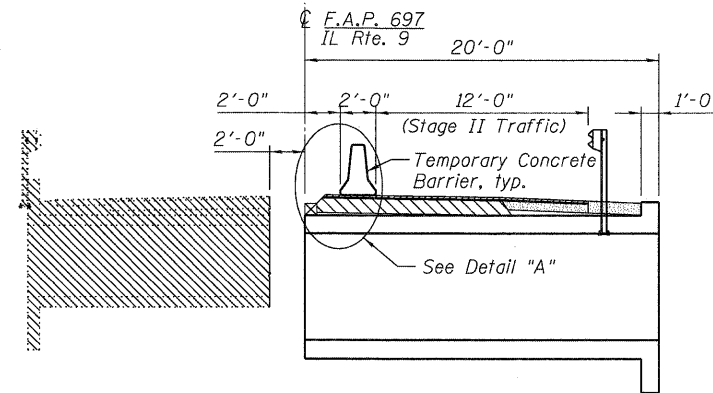


SHEET NO. S1	F.A.P. RTE. 697	SECTION 17(1)	COUNTY FORD	TOTAL SHEETS 29	SHEET NO. 17
S5 SHEETS	CONTRACT NO. 66874		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

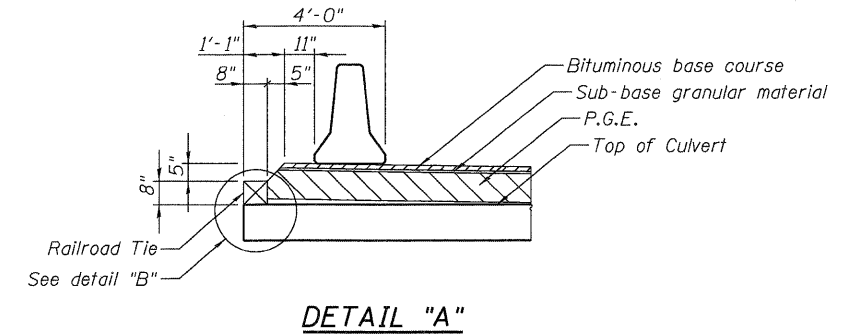
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



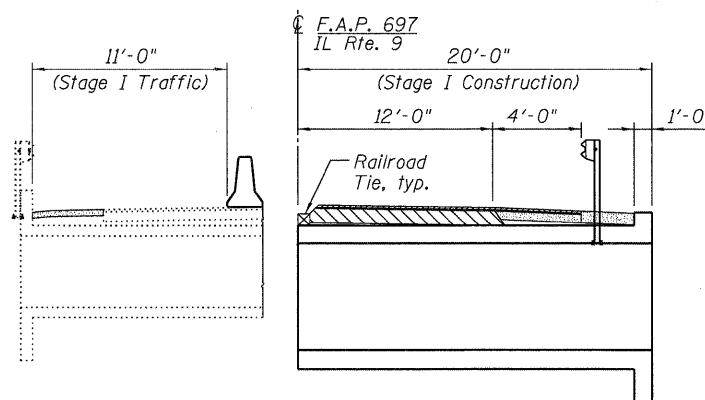
STAGE I REMOVAL



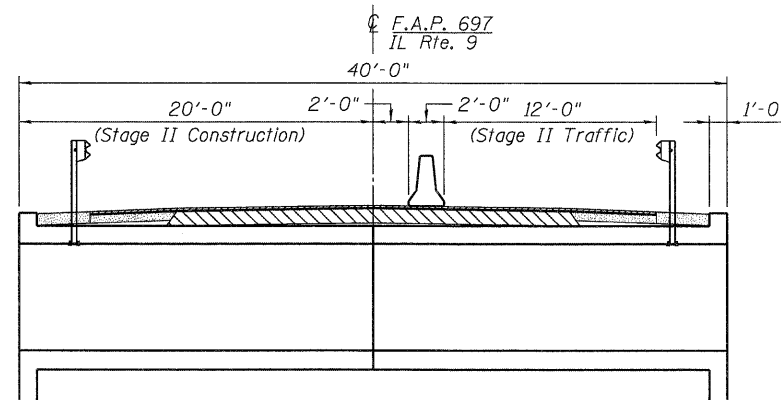
STAGE II REMOVAL



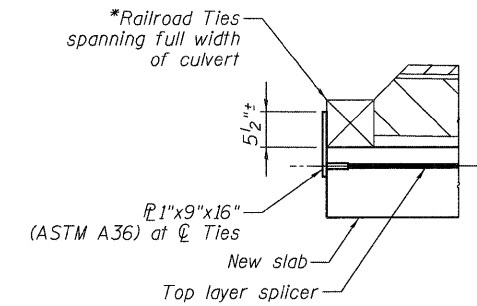
DETAIL "A"



STAGE I CONSTRUCTION



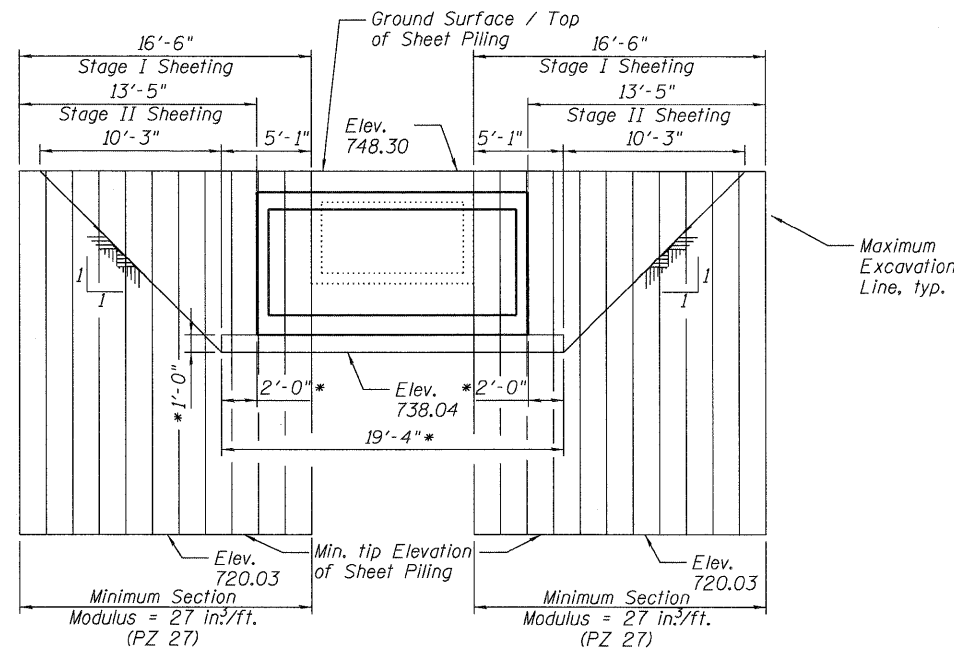
STAGE II CONSTRUCTION



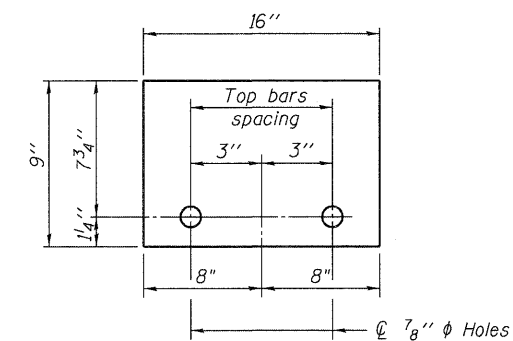
DETAIL "B"

\*Cost included with "Concrete Box Culverts"

\* Limits of Removal and Disposal of Unsuitable Material, See Note 3 on Sheet S1 of S5, typ.



TEMPORARY SHEET PILING



STEEL RETAINER P 1" x 9" x 16"

Notes:

- All staging cross sections are looking East.
- Hatched area indicates removal of existing structures.
- Cost of temporary concrete barrier will be included in the pay item for "Traffic Control and Protection, Standard 701321".

STAGE CONSTRUCTION  
ILLINOIS ROUTE 9 OVER DRAINAGE DITCH  
F.A.P. ROUTE 697 - SECTION 17(I)

FORD COUNTY  
STATION 50+55.00

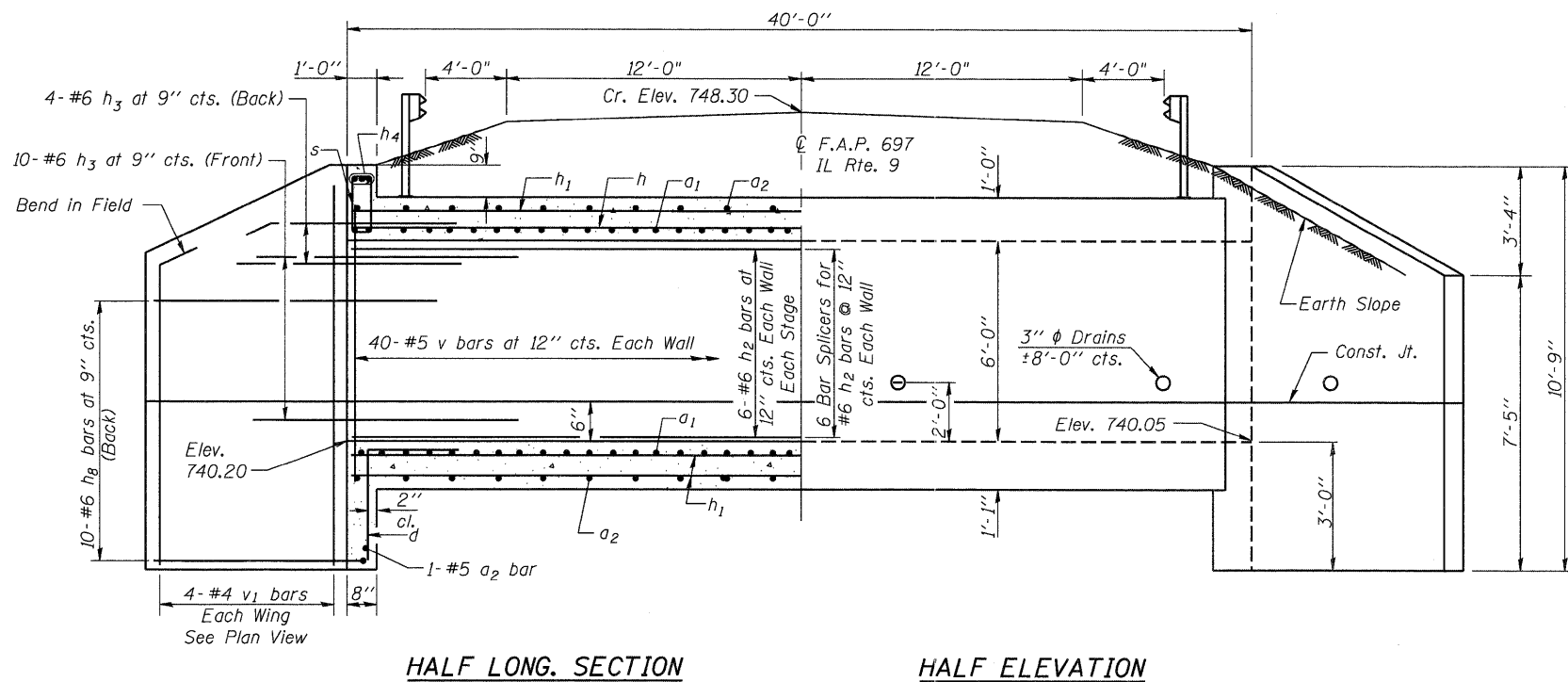
SN 027-2552

Scale: None March 2009

DESIGNED - GBC/GMK
CHECKED - GBC/GMK/SMK
DRAWN - RR
CHECKED - GBC/GMK/SMK

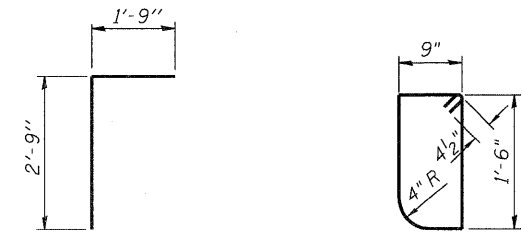
SHEET NO. S2	F.A.P. RTE. 697	SECTION 17(I)	COUNTY FORD	TOTAL SHEETS 29	SHEET NO. 18
S5 SHEETS			CONTRACT NO. 66874		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



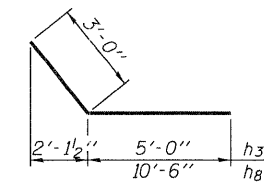
HALF LONG SECTION

HALF ELEVATION

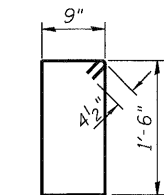


BAR d

BAR s  
(Up Stream End Only)

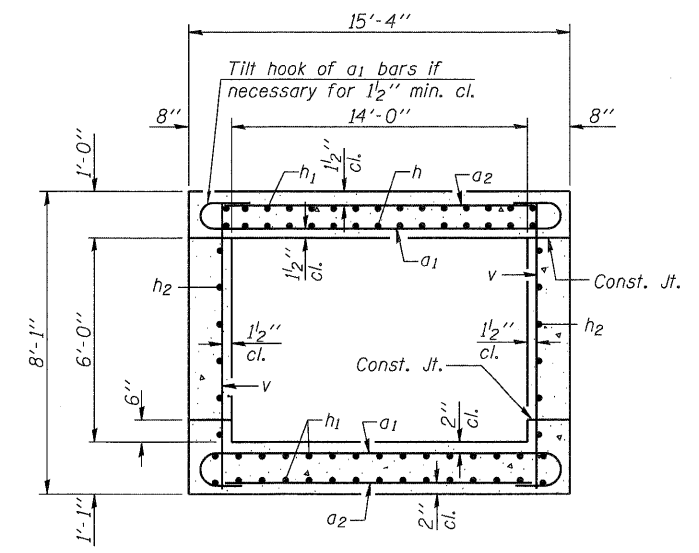


BARS h3 & h8

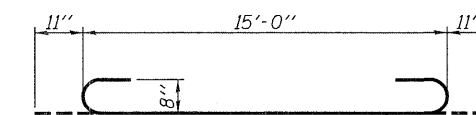


BAR s1

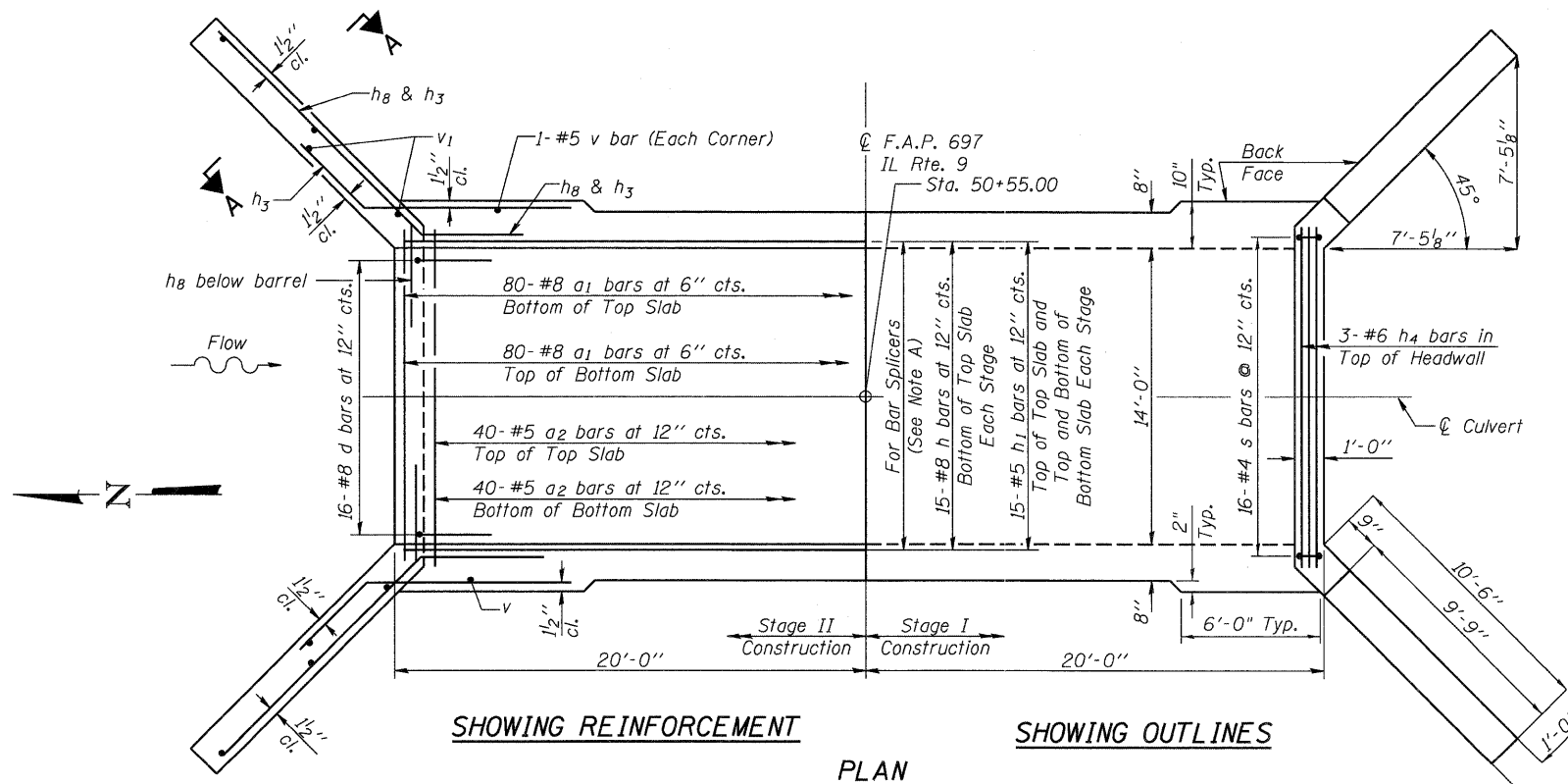
(Down Stream End Only)



SECTION THRU BARREL



BAR a1



SHOWING REINFORCEMENT

SHOWING OUTLINES

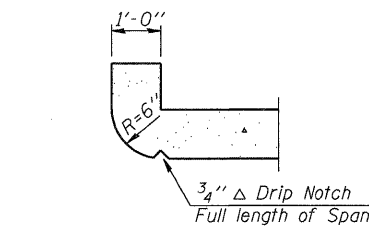
Note A:  
15 - Bar Splicers for #8 h bars, Bottom of Top Slab  
15 - Bar Splicers for #5 h1 bars, Top of Top Slab  
15 - Bar Splicers for #5 h1 bars, Bottom of Bottom Slab  
15 - Bar Splicers for #5 h1 bars, Top of Bottom Slab

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

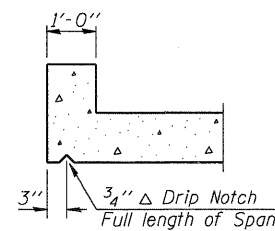
DESIGNED	- GBC/GMK
CHECKED	- GBC/GMK/SMK
DRAWN	- RR
CHECKED	- GBC/GMK/SMK

SSB-H-0



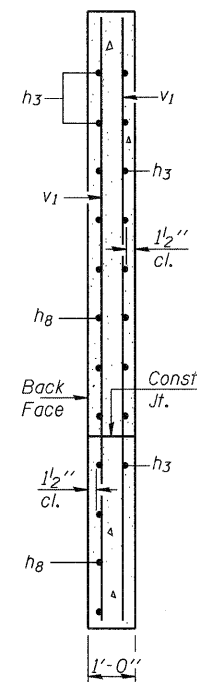
SECTION THRU HEADWALL

(Up Stream End Only)



SECTION THRU HEADWALL

(Down Stream End Only)



SECTION A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1	160	#8	16'-10"	U
a2	80	#5	15'-1"	—
d	32	#4	4'-6"	L
h	30	#8	19'-9"	—
h1	90	#5	19'-9"	—
h2	24	#6	19'-9"	—
h3	56	#6	8'-0"	—
h4	6	#6	14'-9"	—
h8	40	#6	13'-6"	—
v	84	#5	7'-10"	—
v1	16	#4	10'-6"	—
s	16	#4	5'-3"	U
s1	16	#4	4'-9"	U
Concrete Box Culverts			Cu. Yd.	65.1
Reinforcement Bars			Pound	15,530
Bar Splicers			Each	72

CULVERT AND WINGWALL SECTIONS AND DETAILS  
ILLINOIS ROUTE 9 OVER DRAINAGE DITCH  
F.A.P. ROUTE 697 - SECTION 17(I)

FORD COUNTY

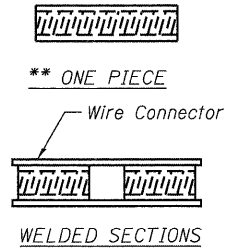
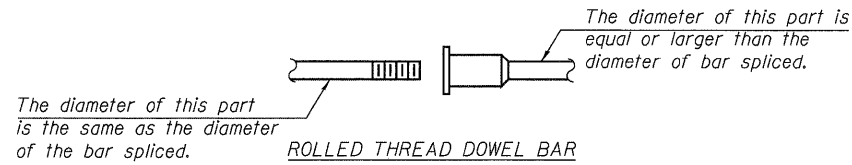
STATION 50+55.00

SN 027-2552

Scale: None March 2009

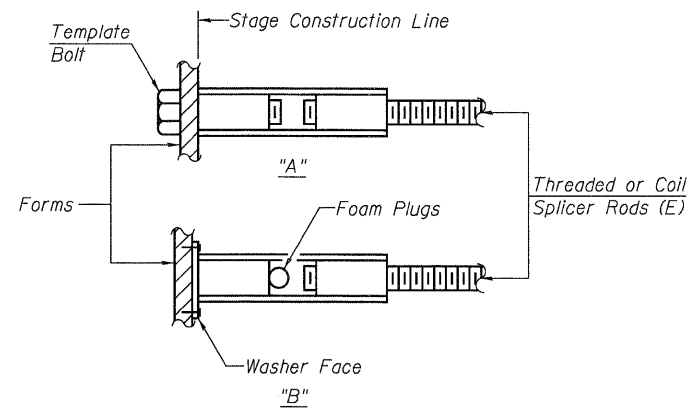
SHEET NO. S3	F.A.P. RTE. 697	SECTION 17(I)	COUNTY FORD	TOTAL SHEETS 29	SHEET NO. 19
55 SHEETS	CONTRACT NO. 66874		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

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**

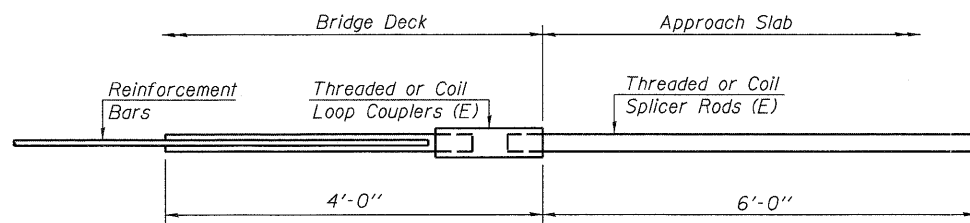
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

**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:

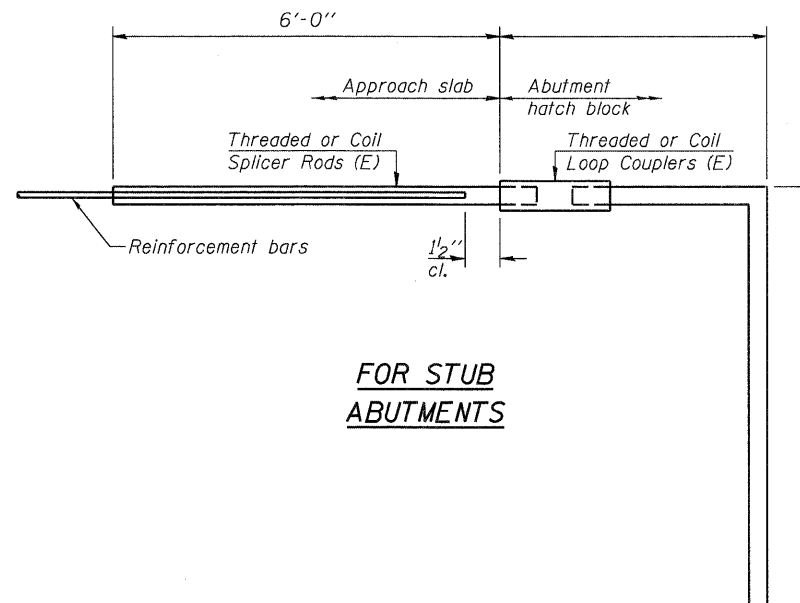
- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_t$
  - ② Minimum \*Pull-out Strength (Tension in kips) =  $0.66 \times f_y \times A_t$
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day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

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-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



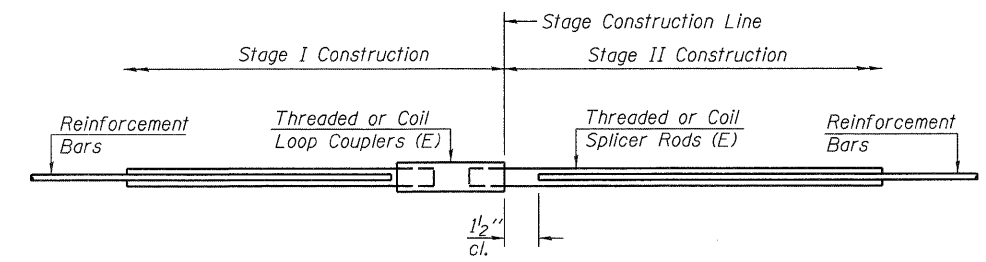
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

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



**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	15	Bottom of Bottom Slab
#5	15	Top of Bottom Slab
#6	12	Side Walls
#8	15	Bottom of Top Slab
#5	15	Top of Top Slab

**BAR SPLICER (COUPLER) DETAILS  
ILLINOIS ROUTE 9 OVER DRAINAGE DITCH  
F.A.P. ROUTE 697 - SECTION 17(1)**

FORD COUNTY  
STATION 50+55.00  
SN 027-2552

Scale: None March 2009

DESIGNED - GBC/GMK
CHECKED - GBC/GMK/SMK
DRAWN - RR
CHECKED - GBC/GMK/SMK

BSD-1



SHEET NO. S4	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	697	17(1)	FORD	29	20
S5 SHEETS	CONTRACT NO. 66874			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SOIL BORING LOG

Page 1 of 1

Date 11/21/06

ROUTE FAP 697 (IL 9) DESCRIPTION Rt 9 over Drainage Ditch LOGGED BY Larry Myers

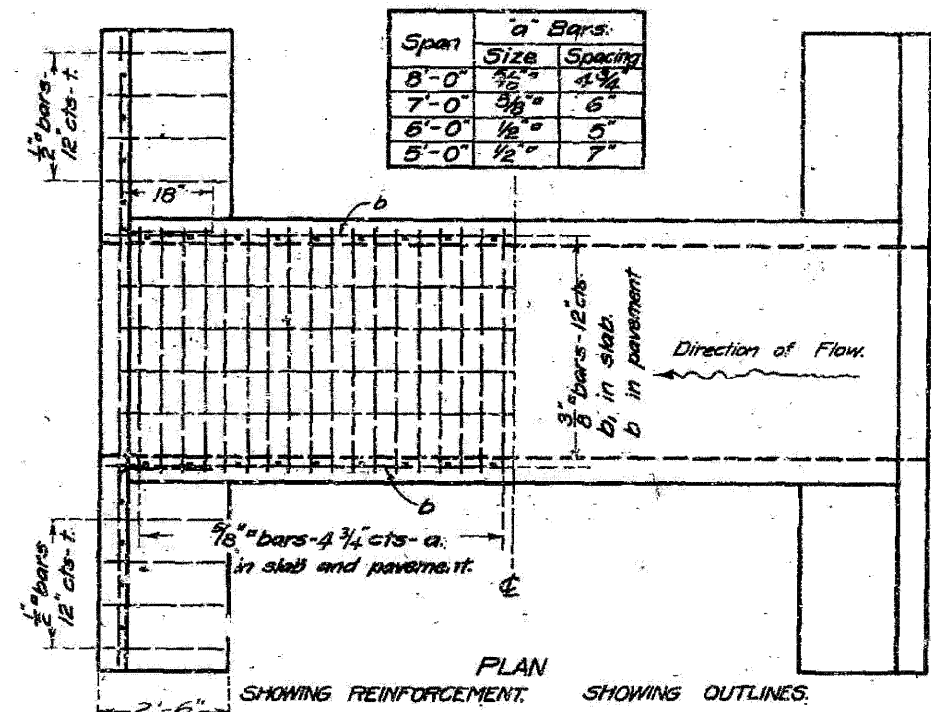
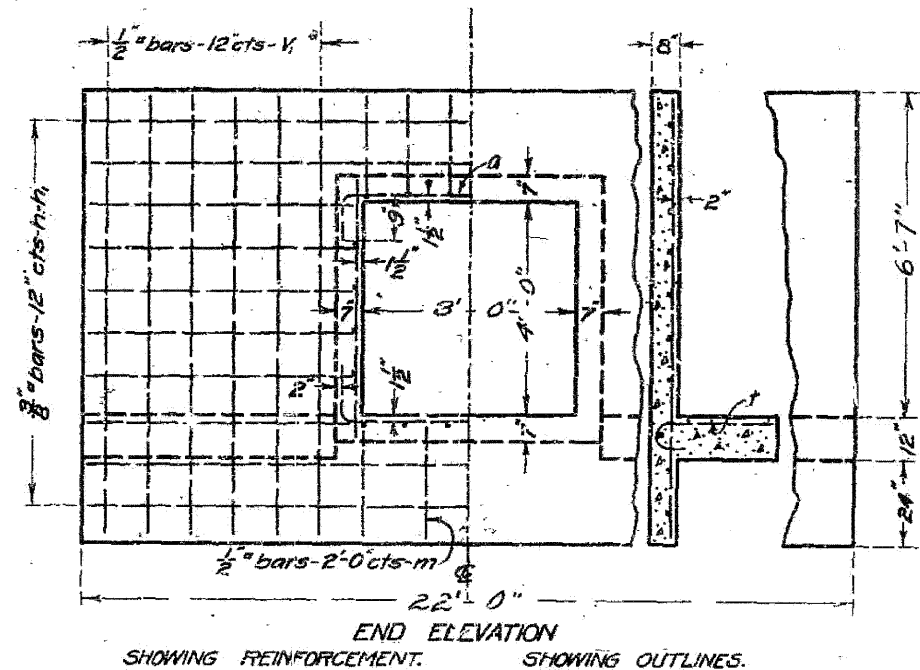
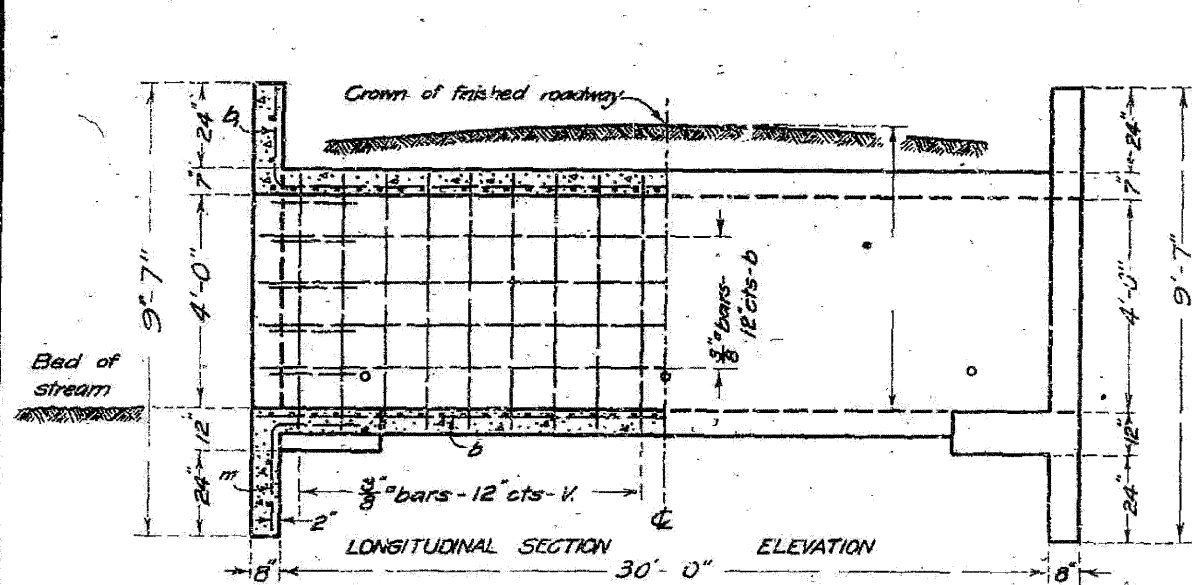
SECTION 17 LOCATION NW 1/4, SEC. 14, TWP. 23N, RNG.09E

COUNTY Ford DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 027-2536  
Station 50+55  
BORING NO. #1 NW Quad  
Station 50+33  
Offset 9.00ft Lt  
Ground Surface Elev. 748.03 ft

DEPTH (ft)	BLOWS (/6")	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	BLOWS (/6")	UCS (tsf)	MOIST (%)
				Surface Water Elev. 742.28 ft				
				Stream Bed Elev. _____ ft				
				Groundwater Elev.:				
				First Encounter 737.0 ft				
				Upon Completion 739.0 ft				
				After _____ Hrs. _____ ft				
748.03				Augered, bituminous pavement, dark brown, Sand and Gravel, and brown, Silty Clay Loam to Sandy Clay Loam- fill	727.53	6		
						7	3.5	22.6
						4	S	
745.53				Stiff, brown, Sandy Clay Loam to Silty Clay Loam- fill		3		
						2	1.5	16.0
						3	P	
743.03				Stiff, dark gray, Silty Clay to Silty Clay Loam with organics- stream bed deposits	723.53			
						5		
						6	3.7	14.8
						7	S	
741.03				Medium, gray and brown, Loam to Clay Loam- alluvial deposits		4		
						4	3.7	15.2
						6	S	
738.03				Loose, brown, loamy, fine to coarse, Sand with some fine to medium, Gravel Free H2O @ 11'	718.53			
						6		
						9	6.4	12.4
						12	S	
						4		
						3		16.2
733.53				Medium, gray, somewhat loamy, fine Sand to coarse Gravel		3		
						5	4.0	14.9
						8	S	
						7		
						5		18.4
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STATE OF ILLINOIS  
STATE HIGHWAY DEPARTMENT  
REINFORCED CONCRETE BOX CULVERT



Note: Use 'm' bars in downstream headwall only.  
Box is designed for no fill.  
Maximum clearance = 7'-6"

**BILL OF MATERIAL**

Bars	No.	Size	Length
v	60	3/8"	5'-0"
v <sub>i</sub>	24	1/2"	9'-0"
h	8	3/8"	2'-6"
h <sub>i</sub>	20	3/8"	8'-6"
a	156	3/8"	10'-0"
b	32	3/8"	16'-6"
b <sub>i</sub>	16	3/8"	18'-0"
t	24	1/2"	3'-0"
m	4	1/2"	5'-0"
Steel - Lbs.			3030
Concrete - Cu. Yds.			2.76

Class A concrete to be used throughout  
Proportions 1 - 2 1/4 - 4

STANDARD	COMPUTED	W. A. J. D. H.
	CHECKED	H. L. B. J.
	DRAWN	H. L. B. J.
	CHECKED	H. L. B. J.
SPECIAL	ASSEMBLED	H. L. B. J.
	CHECKED	H. L. B. J.
EXAMINED		
BRIDGE ENGINEER		
APPROVED		
STATE HIGHWAY ENGINEER		

**EXISTING PLANS FOR INFORMATION ONLY**

STR. 027-2536

619-20

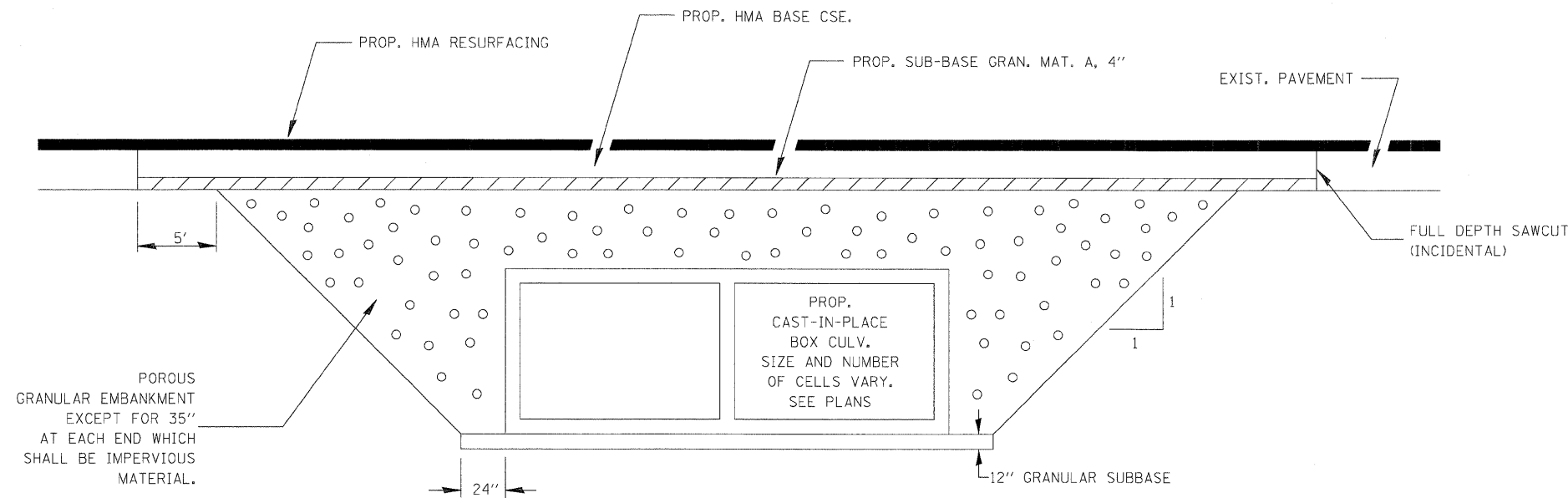




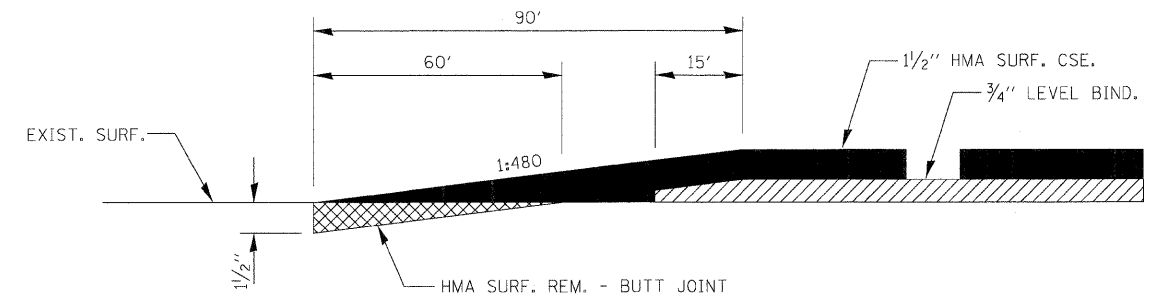


DATE	
BY	
REVISIONS	
NOTED	
PLANNED	
FILE NAME	
NO.	
PLAN	
NOTE BOOK	
NO.	

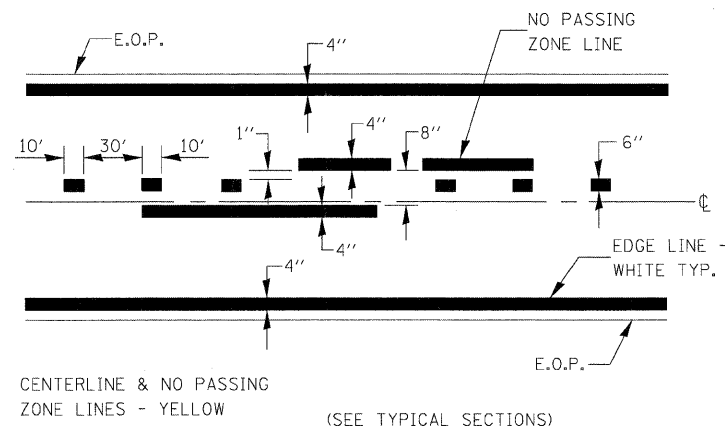
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BY	
REVISIONS	
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FILE NAME	
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PROFILE	
NOTE BOOK	
NO.	



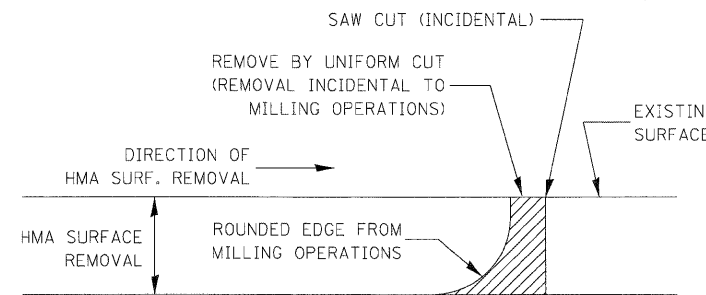
SECTION THROUGH CAST-IN-PLACE BOX CULVERT



BUTT JOINT

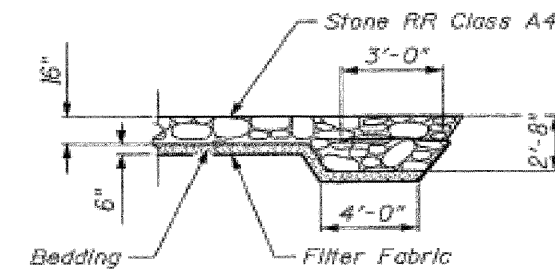


PAVEMENT MARKING

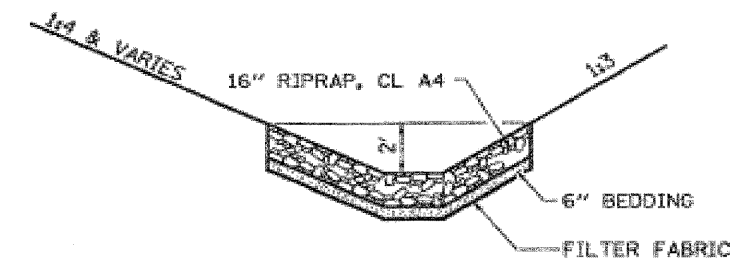


NOTE:  
WHEN MILLING OPERATIONS PRODUCE A ROUNDED EDGE, THEN A SAW CUT SHALL BE USED TO MANUFACTURE A PERPENDICULAR EDGE AS SHOWN IN THE DETAIL. THE ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE USE OF THIS DETAIL.

HMA DETAIL AT BUTT JOINTS



SECTION A-A FLANK DETAIL

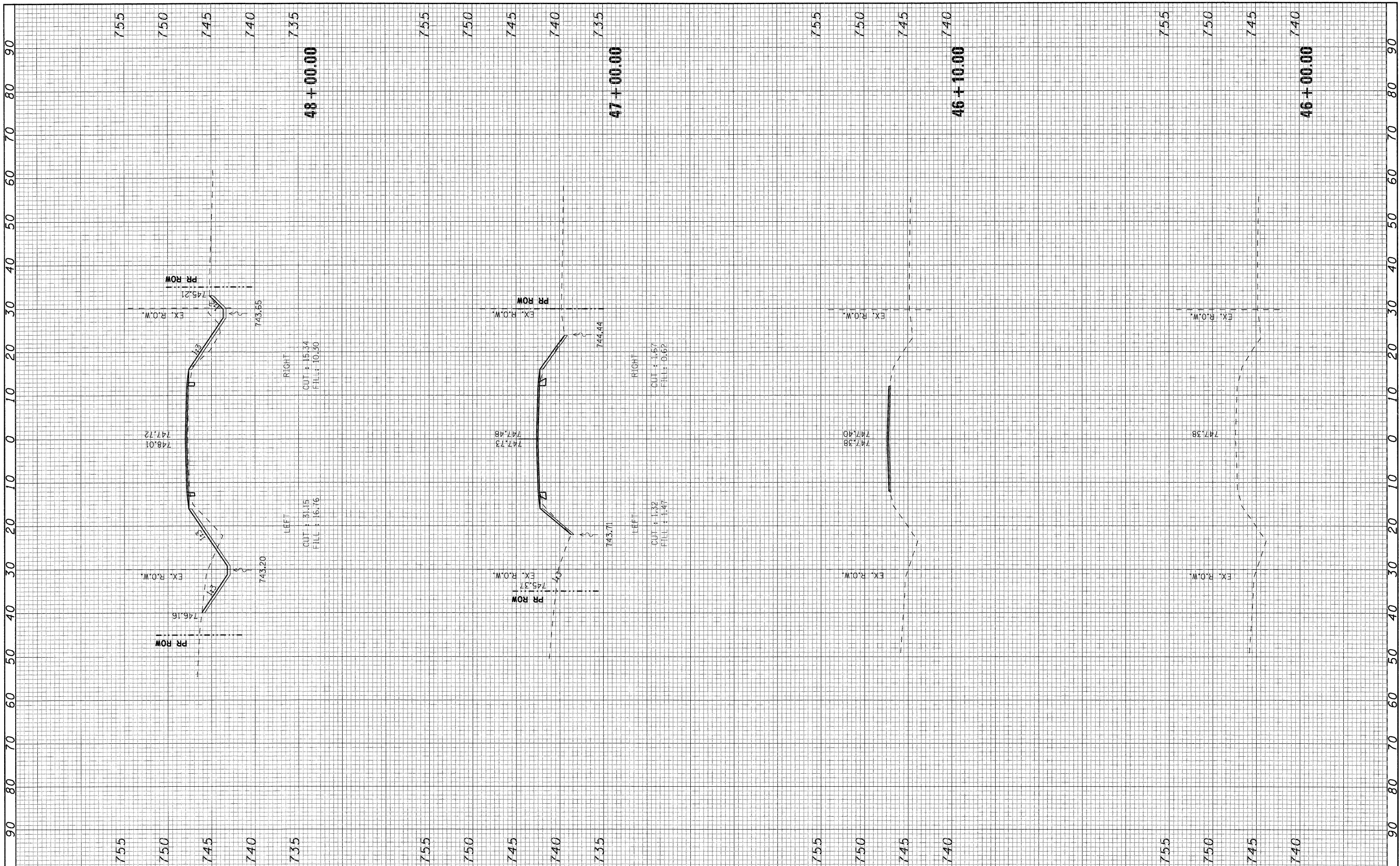


RIPRAP LINED DITCH DETAIL

FILE NAME =	USER NAME = #USER#	DESIGNED DB	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT DETAILS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN NS/RM	REVISED -			697	(171)	FORD	29	25	
	PLOT SCALE = #SCALE#	CHECKED AS	REVISED -			<b>CONTRACT NO. 66874</b>					
	PLOT DATE = #DATE#	DATE MARCH 2009	REVISED -			SCALE: NONE	SHEET NO. 1 OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

FINAL SURVEY PLOTTED DATE  
 NOTE BOOK NO. AREAS CHECKED

ORIGINAL SURVEY PLOTTED DATE  
 NOTE BOOK NO. AREAS CHECKED



FILE NAME =  
 #FILEL#

USER NAME = #USER#  
 DESIGNED - DB  
 DRAWN - NS  
 CHECKED - AS  
 DATE - MARCH 2009

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

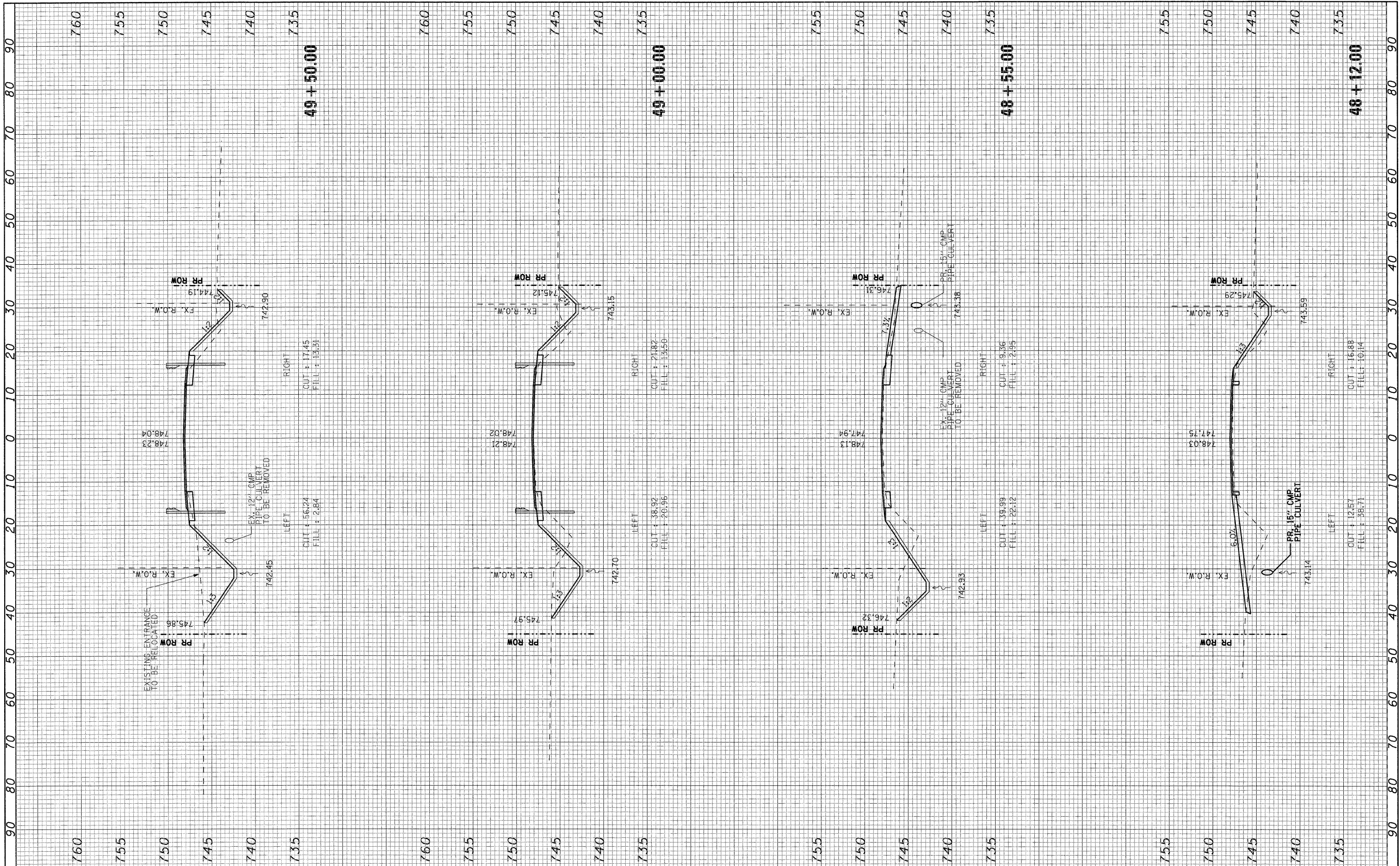
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**  
 SCALE: 1"=10'  
 SHEET NO. 1 OF 4 SHEETS  
 STA. 46+00 TO STA. 48+00

F.A.P. RTE. 697	SECTION (171)	COUNTY FORD	TOTAL SHEETS 29	SHEET NO. 26
CONTRACT NO. 66874				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

FINAL SURVEY PLOTTED NOTE BOOK NO. DATE

ORIGINAL SURVEY PLOTTED NOTE BOOK NO. DATE



FILE NAME =  
#FILE#

USER NAME = #USER#  
DESIGNED - DB  
DRAWN - NS  
CHECKED - AS  
DATE - MARCH 2009

REVISED -  
REVISED -  
REVISED -  
REVISED -

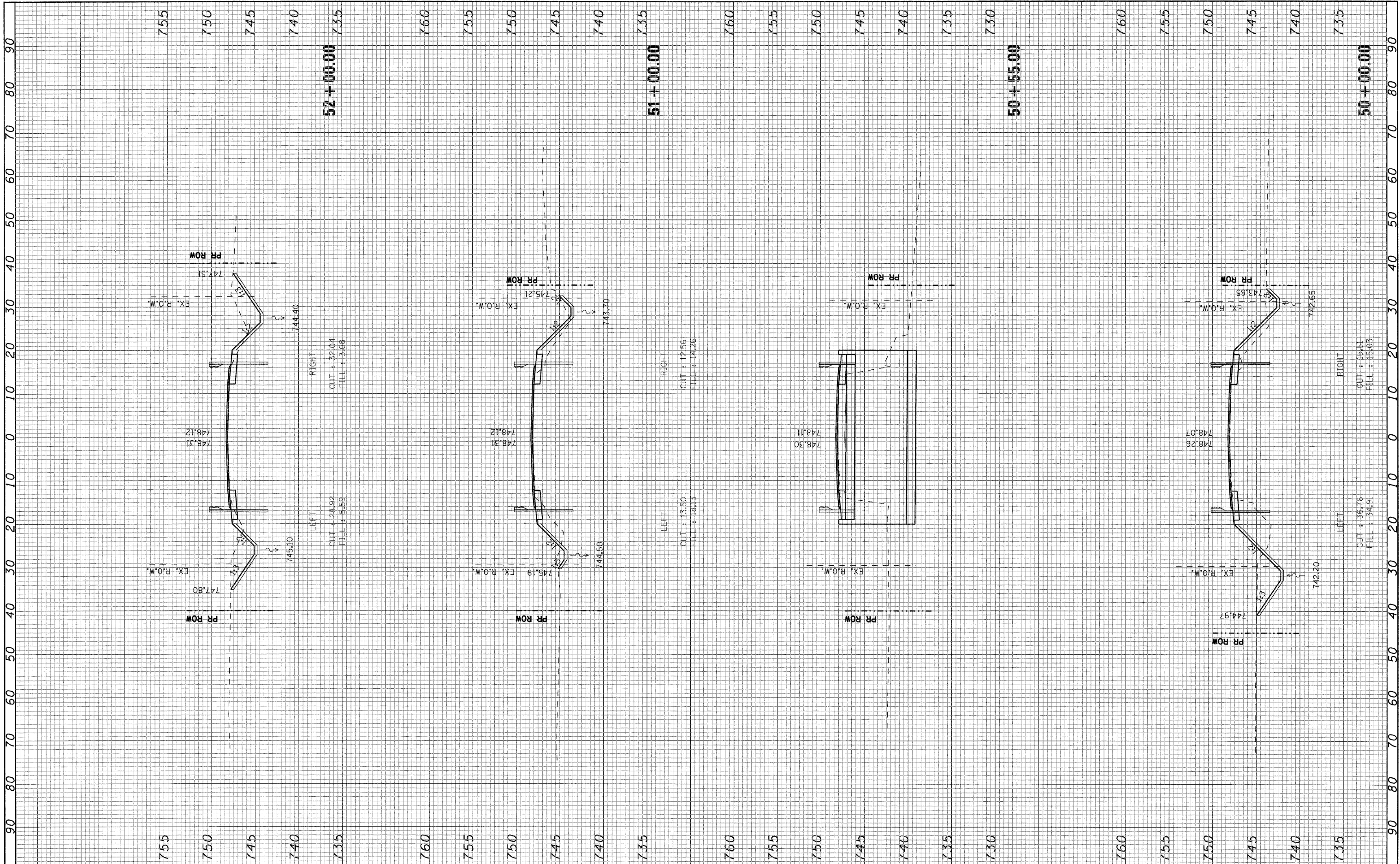
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**  
SCALE: 1"=10'  
SHEET NO. 2 OF 4 SHEETS  
STA. 48+12 TO STA. 49+50

F.A.P. RTE. 697	SECTION (17)I	COUNTY FORD	TOTAL SHEETS 29	SHEET NO. 27
CONTRACT NO. 66874				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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

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



FILE NAME =  
 #FILEL#

USER NAME = #USER#  
 DESIGNED - DB  
 DRAWN - NS  
 CHECKED - AS  
 DATE - MARCH 2009

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

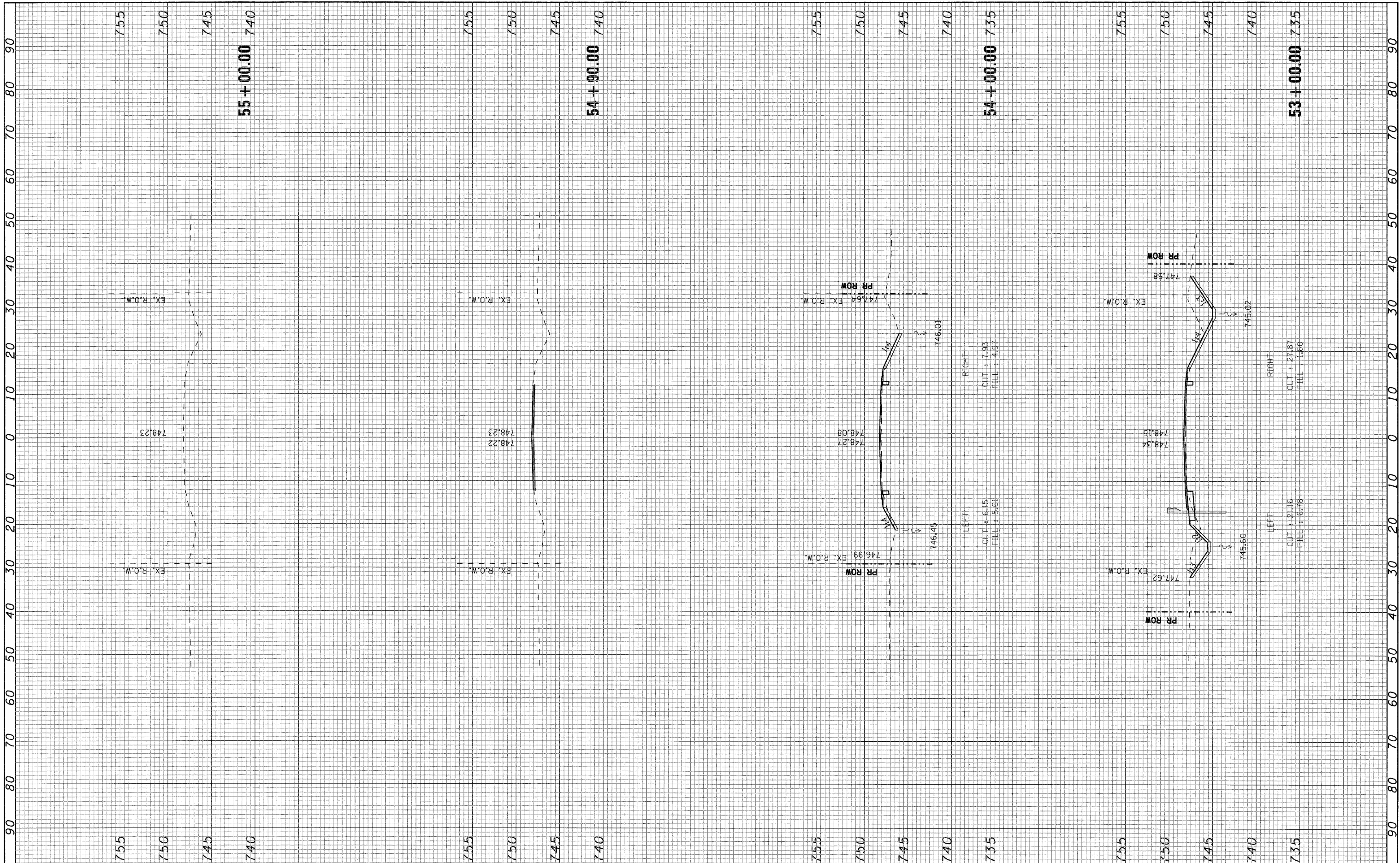
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**  
 SCALE: 1"=10'  
 SHEET NO. 3 OF 4 SHEETS  
 STA. 50+00 TO STA. 52+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
697	(17)	FORD	29	28
CONTRACT NO. 66874				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

FINAL SURVEY PLOTTED BY DATE  
 NO. SURVEY BOOK DATE AREAS CHECKED

ORIGINAL SURVEY PLOTTED BY DATE  
 NO. SURVEY BOOK DATE AREAS CHECKED



FILE NAME =  
 #FILE#

USER NAME = #USER#  
 PLOT SCALE = #SCALE#  
 PLOT DATE = #DATE#

DESIGNED - DB  
 DRAWN - NS  
 CHECKED - AS  
 DATE - MARCH 2009

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 1"=10' SHEET NO. 4 OF 4 SHEETS STA. 53+00 TO STA. 55+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
697	(17)I	FORD	29	29

CONTRACT NO. 66874  
 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT