

06-10-2016 LETTING ITEM 142

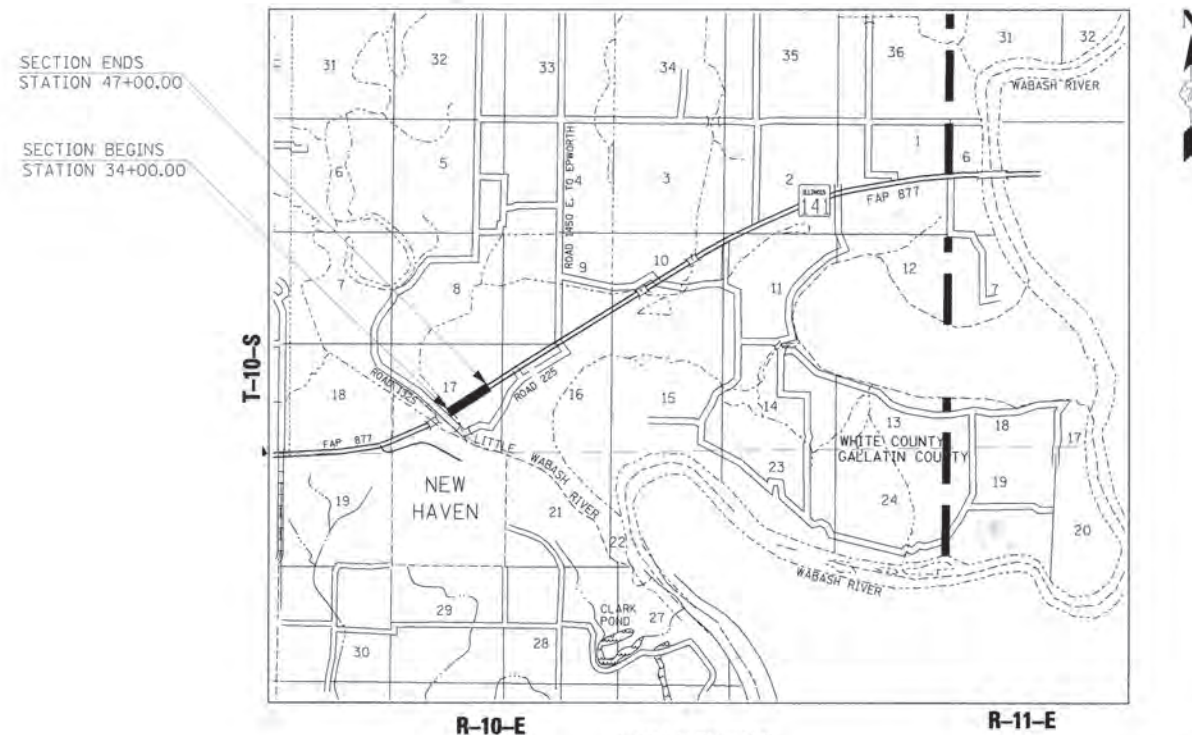
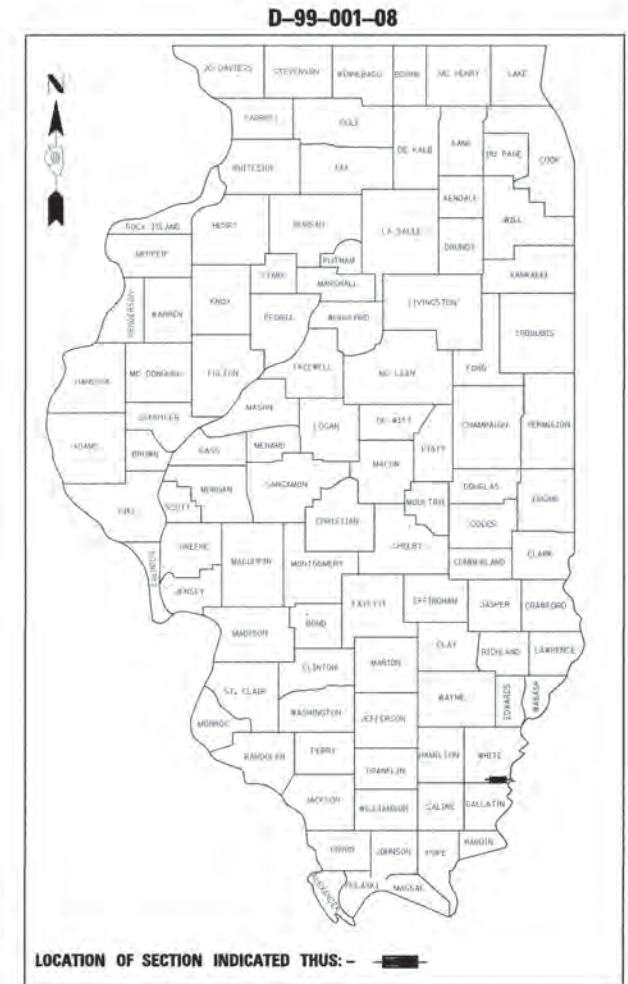
CONTRACT NO. 78021

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	102I-1	WHITE	31	1

#31+5 = 26 TOTAL SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PLANS FOR PROPOSED
HIGHWAY IMPROVEMENT**
FAP ROUTE 877 (IL RTE 141)
PROJECT
SECTION 102I-1
WHITE COUNTY
BOX CULVERT AND SLOPE STABILIZATION
C-99-001-08
ACSTP-0877(015)

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3

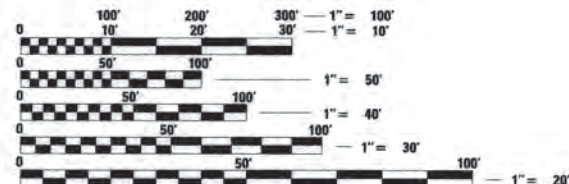


TOTAL LENGTH OF SECTION = 1,300.00 FEET (0.246 MILE)
NET LENGTH OF SECTION = 1,300.00 FEET (0.246 MILE)



ILLINOIS PROFESSIONAL ENGINEER NO. 062-050429 DATE 03-04-2008
EXPIRES 03-30-2009

YEAR 2013 ADT = 2,950



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

CONTRACT NO. 78021

CONSULTANT LIAISON: GARY WELTON
SQUAD LEADER: DAVID PICHE
TELEPHONE #: 1-618-351-5337

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

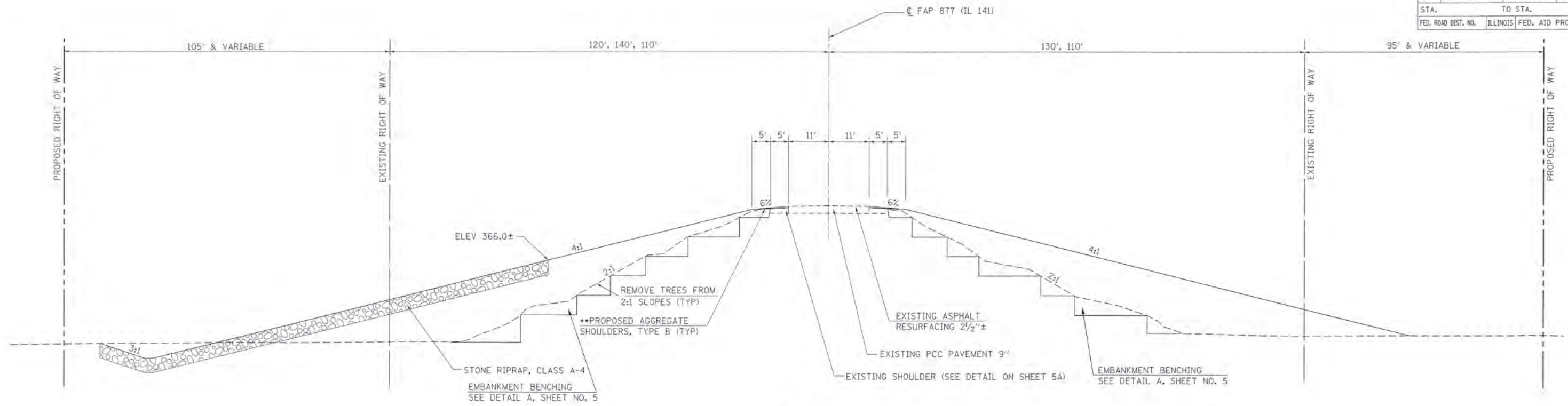
SUBMITTED *Feb 4* 2016
Stephen Keirn
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
May 6 2016
Maureen M. Addis, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT
May 6 2016
Cher Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER



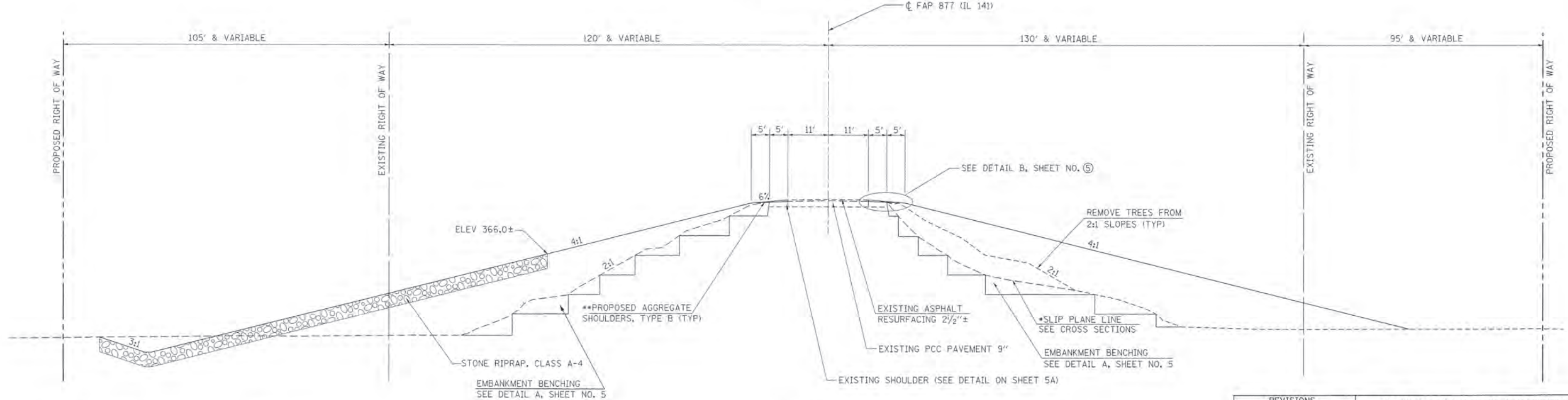
BERNARDIN • LOCHMUELLER & ASSOCIATES, INC.
3 OAK DRIVE
MARYVILLE, ILLINOIS 62062
PHONE (618) 288-4666
FAX (618) 288-4666

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OF THE STATE OF ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	4
STA. 877		TO STA. 877		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



IL ROUTE 141
 STA 34+00.00 TO STA 34+25.00
 STA 35+75.00 TO STA 38+00.00
 STA 43+00.00 TO STA 47+00.00



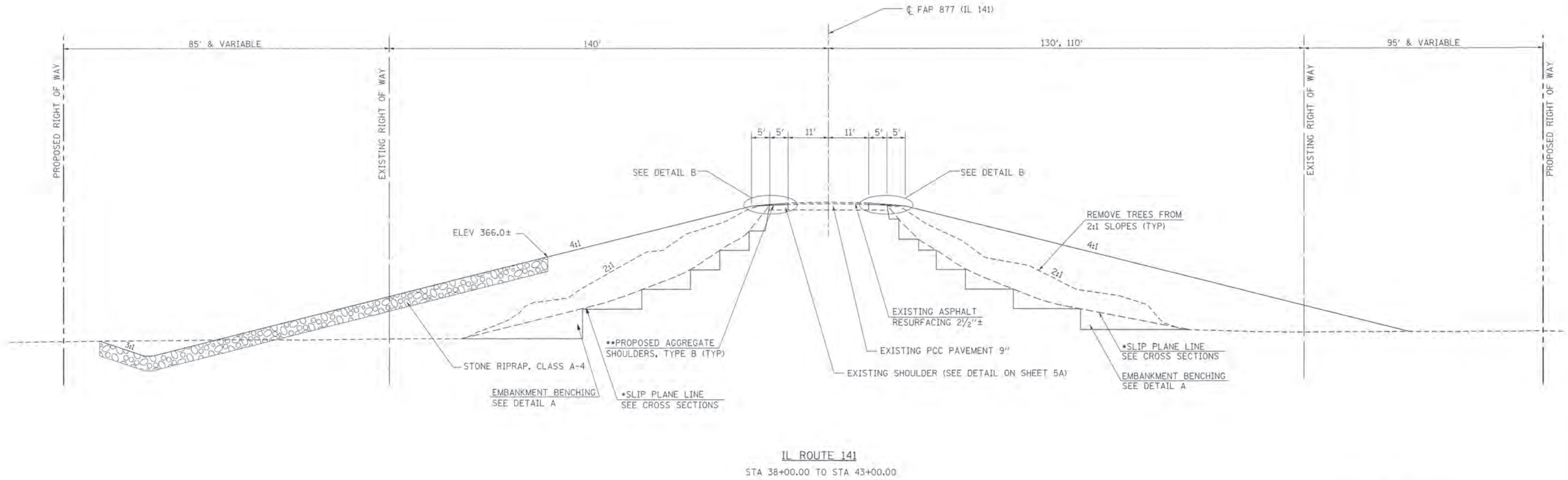
IL ROUTE 141
 STA 34+25.00 TO STA 35+75.00

NOTE: *SLIP PLANE LINES ON CROSS SECTIONS ARE ESTIMATED. ACTUAL LINE TO BE DETERMINED BY THE ENGINEER AND IN AGREEMENT WITH THE DISTRICTS BUREAU OF MATERIALS DURING CONSTRUCTION.
 **THE PROPOSED AGGREGATE SHOULDERS, TYPE B (TYP), WILL ONLY BE PLACED FULL WIDTH ON EXISTING AGGREGATE SHOULDERS. LOCATIONS WHERE EXISTING HMA SHOULDERS ARE ENCOUNTERED THE PROPOSED AGGREGATE SHOULDERS, TYPE B (TYP), SHALL ONLY BE PLACED ON THE OUTSIDE ±7'.

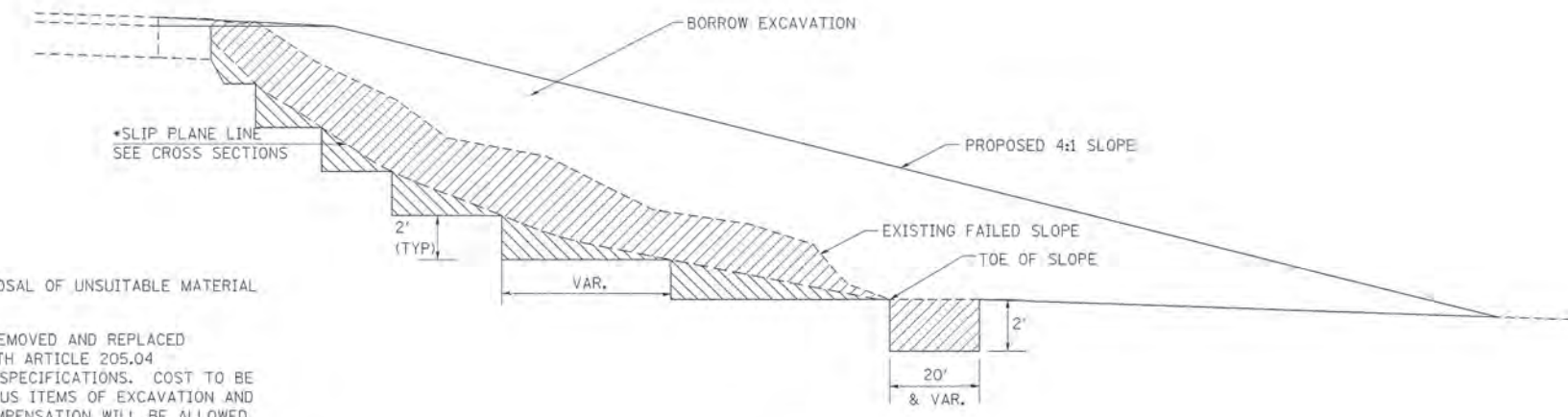
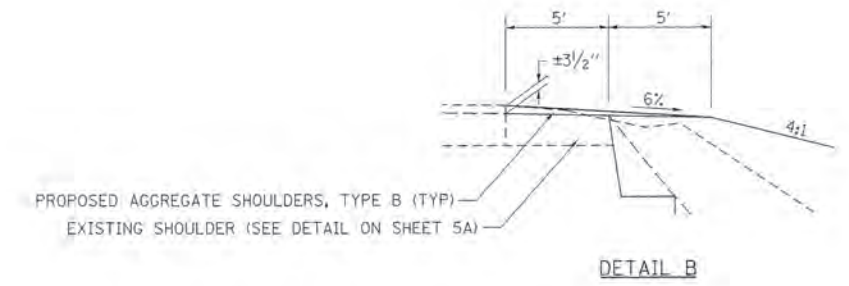
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
EXISTING & PROPOSED TYPICAL SECTIONS
 FAP ROUTE 877 (IL ROUTE 141)
 SECTION NO. 1021-1
 WHITE COUNTY
 SCALE: VERT. DATE
 HORIZ. DATE
 DRAWN BY
 CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



IL ROUTE 141
STA 38+00.00 TO STA 43+00.00



- REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL
- MATERIAL TO BE REMOVED AND REPLACED IN ACCORDANCE WITH ARTICLE 205.04 OF THE STANDARD SPECIFICATIONS. COST TO BE INCLUDED IN VARIOUS ITEMS OF EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED

*NOTE: *SLIP PLANE LINES ON CROSS SECTIONS ARE ESTIMATED. ACTUAL LINE TO BE DETERMINED BY THE ENGINEER AND IN AGREEMENT WITH THE DISTRICTS BUREAU OF MATERIALS DURING CONSTRUCTION.
 **THE PROPOSED AGGREGATE SHOULDERS, TYPE B (TYP), WILL ONLY BE PLACED FULL WIDTH ON EXISTING AGGREGATE SHOULDERS. LOCATIONS WHERE EXISTING HMA SHOULDERS ARE ENCOUNTERED THE PROPOSED AGGREGATE SHOULDERS, TYPE B (TYP), SHALL ONLY BE PLACED ON THE OUTSIDE ±7'.

DETAIL A

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

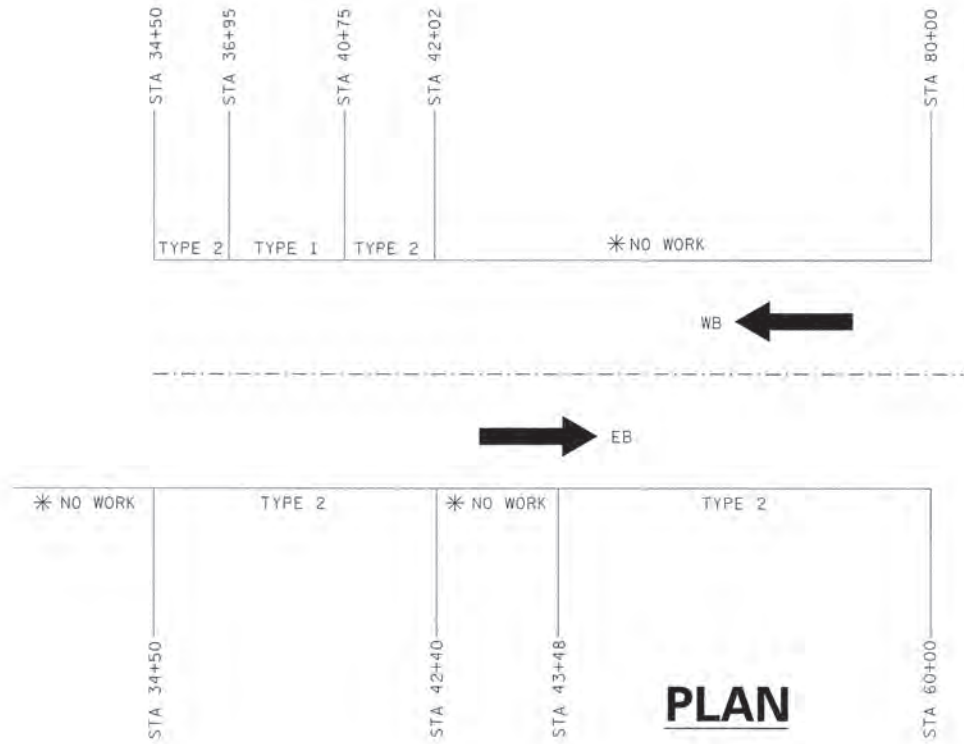
EXISTING & PROPOSED TYPICAL SECTIONS

FAP ROUTE 877 (IL ROUTE 141)
SECTION NO. 1021-1
WHITE COUNTY

SCALE: VERT. _____
HORIZ. _____

DATE _____ DRAWN BY _____
CHECKED BY _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	5A
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



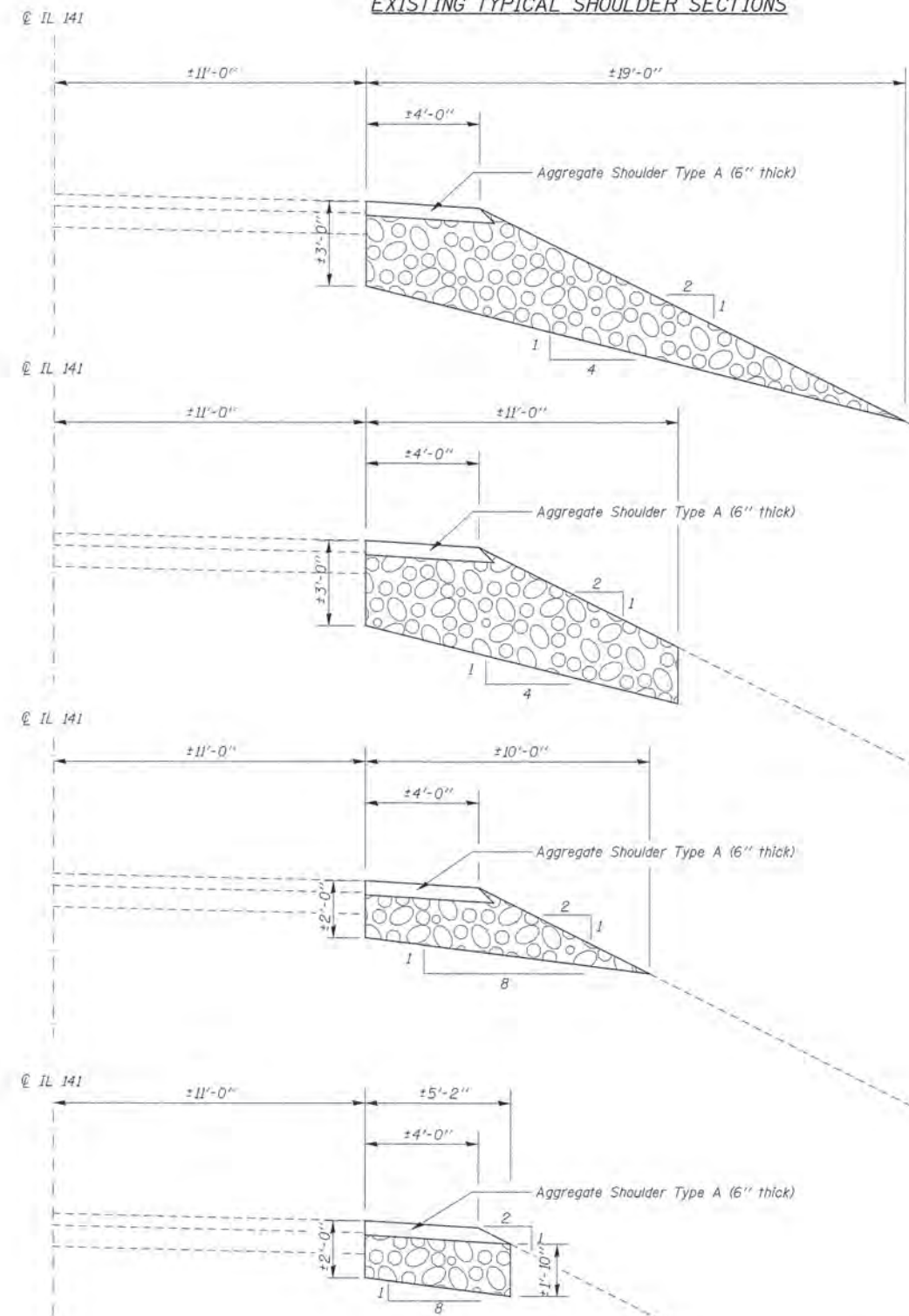
PLAN

INFORMATION ONLY

NOTES: This sheet is for information only. The details on this sheet are all existing conditions and were taken from and Emergency Slope Repair Contract that was constructed in 2013. Actual field conditions may vary.

*Existing 3' wide 10 1/2" thick HMA Shoulder.

EXISTING TYPICAL SHOULDER SECTIONS



REPAIR TYPE 1
OUTLET SECTION

102 Total Locations
Every 30' (3' wide) within project limits of Repair Type 1

REPAIR TYPE 1

(2,754 feet)

REPAIR TYPE 2
OUTLET SECTION

591 Total Locations
Every 30' (3' wide) within project limits of Repair Type 2

REPAIR TYPE 2

(15,941 feet)



Stone Dumped Riprap, Class A1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SCALE: VERT. DATE: HORIZ.

DRAWN BY: CHECKED BY:

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	6
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

EARTHWORK SCHEDULE

LOCATION	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL*	EARTH EXCAVATION	FOR INFORMATION ONLY			BORROW EXCAVATION	REMARKS
			EARTH EXCAVATION ADJUSTED FOR SHRINKAGE 25%	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)		
STATION TO STATION	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
34+00.00 TO 47+00.00	18245	6005	4805	103080	-98275	98275	
PAY TOTAL	18245	6005	4805	103080	-98275	98275	

* NOT A TOTAL QUANTITY

SHOULDER SCHEDULE

LOCATION	AGGREGATE SHOULDERS TYPE B
STATION TO STATION	SIDE (TON)
34+17.00 TO 47+00.00	LT 126
34+28.00 TO 47+00.00	RT 136
TOTAL	262

TRAFFIC CONTROL SCHEDULE

LOCATION	TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3	RELOCATE TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE) TEST LEVEL 3
STATION TO STATION	SIDE (FOOT)	(EACH)	(FOOT)	(EACH)
34+10.75 TO 34+37.50	RT			1
34+37.50 TO 42+17.50	RT	280	500	
37+10.75 TO 37+37.50	LT			1
37+37.50 TO 42+37.50	LT	500		
42+17.50 TO 42+44.25	RT			1
42+37.50 TO 42+64.25	LT			1
PAY TOTAL		780	500	2

RIGHT-OF-WAY MARKERS

LOCATION	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS
STATION	OFFSET SIDE (EACH)
33+88.78	225 LT 1
34+55.34	225 RT 1
37+55.24	224.98 LT 1
40+00.00	225 LT 1
44+81.84	582.82 RT 1
47+00.00	180 LT 1
47+00.00	110 LT 1
47+23.00	110 RT 1
47+27.16	592.91 RT 1
TOTAL	9

DRAINAGE SCHEDULE

LOCATION	PIPE CULVERT REMOVAL	PIPE CULVERTS CLASS D, TYPE 4 36"	END SECTIONS 36"
STATION	SIDE (FOOT)	(FOOT)	(EACH)
38+61.77	LT	63	
38+68.44	RT	26	
42+19.53 TO 43+49.23	LT		130
TOTAL		89	130

SEEDING SCHEDULE

LOCATION	SEEDING CLASS 2	NITROGEN FERTILIZER NUTRIENT	PHOSPORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	MULCH METHOD 2
STATION TO STATION	SIDE (ACRE)	(POUND)	(POUND)	(POUND)	(ACRE)
34+00.00 TO 47+00.00	LT/RT	6.75	608	608	6.75
TOTAL		6.75	608	608	6.75

TREE REMOVAL SCHEDULE

LOCATION	TREE REMOVAL
STATION TO STATION	SIDE (ACRES)
33+65.17 TO 47+00.00	LT 5.71
33+84.18 TO 47+00.00	RT 5.83
SUBTOTAL	11.54
PAY TOTAL	11.75

RIPRAP SCHEDULE

LOCATION	STONE RIPRAP, CLASS A4	FILTER FABRIC
STATION TO STATION	SIDE (SQ YD)	(SQ YD)
34+00.00 TO 47+00.00	LT/RT 14285	14285
TOTAL	14285	14285

* NOT A TOTAL QUANTITY

REMOVAL SCHEDULE

LOCATION	FLOOD CONTROL STRUCTURE REMOVAL
STATION TO STATION	SIDE (EACH)
38+62.22	LT 1
TOTAL	1

SHEET PILING REMOVAL SCHEDULE

LOCATION	REMOVE SHEET PILING
STATION TO STATION	SIDE (L. SUM)
37+97.62 TO 38+44.86	RT
38+47.74 TO 38+65.86	RT
39+03.99 TO 39+24.81	RT
39+58.31 TO 39+62.75	RT
39+67.91 TO 39+75.79	RT

FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

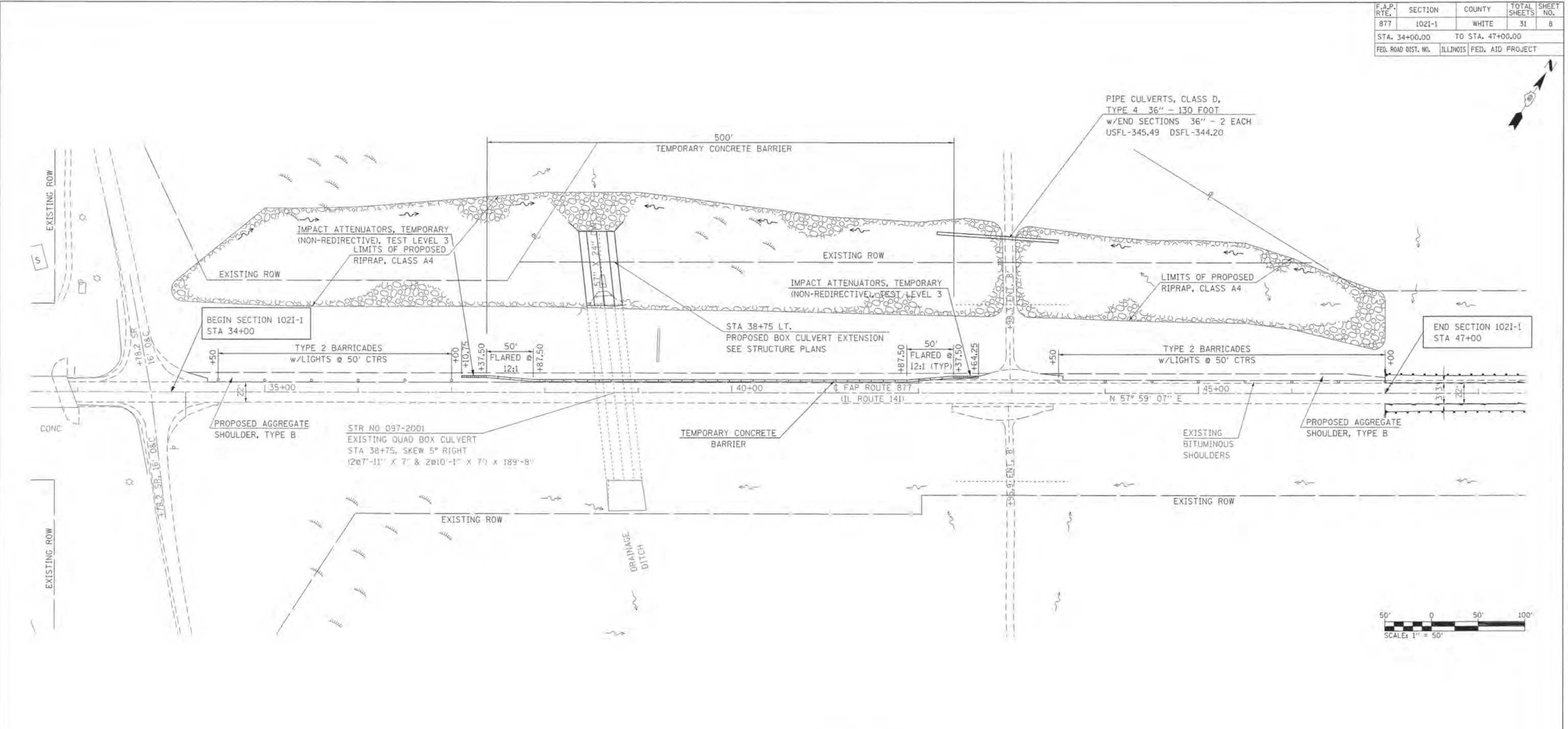
SCHEDULES OF QUANTITIES

FAP ROUTE 877 (IL ROUTE 141)
SECTION NO. 1021-1
WHITE COUNTY

SCALE: VERT.
DATE: HORIZ.

DRAWN BY
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	8
STA. 34+00.00		TO STA. 47+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



STAGE 1



PLOT DATE = 2/4/2016
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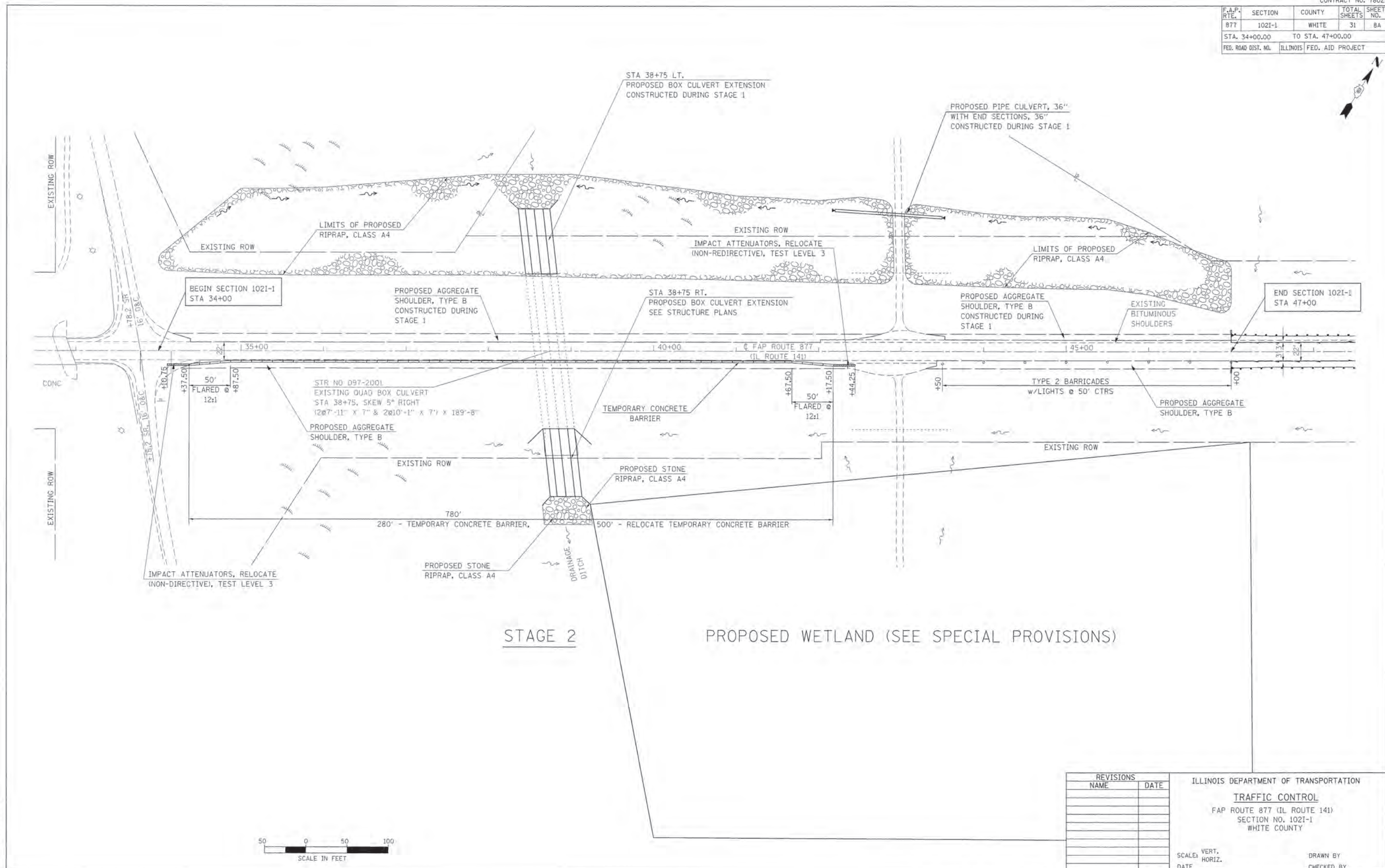
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL
 FAP ROUTE 877 (IL ROUTE 141)
 SECTION NO. 1021-1
 WHITE COUNTY



SCALE: VERT. _____
 HORIZ. _____
 DATE _____ DRAWN BY _____
 CHECKED BY _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	8A
STA. 34+00.00		TO STA. 47+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



STAGE 2

PROPOSED WETLAND (SEE SPECIAL PROVISIONS)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL
 FAP ROUTE 877 (IL ROUTE 141)
 SECTION NO. 1021-1
 WHITE COUNTY

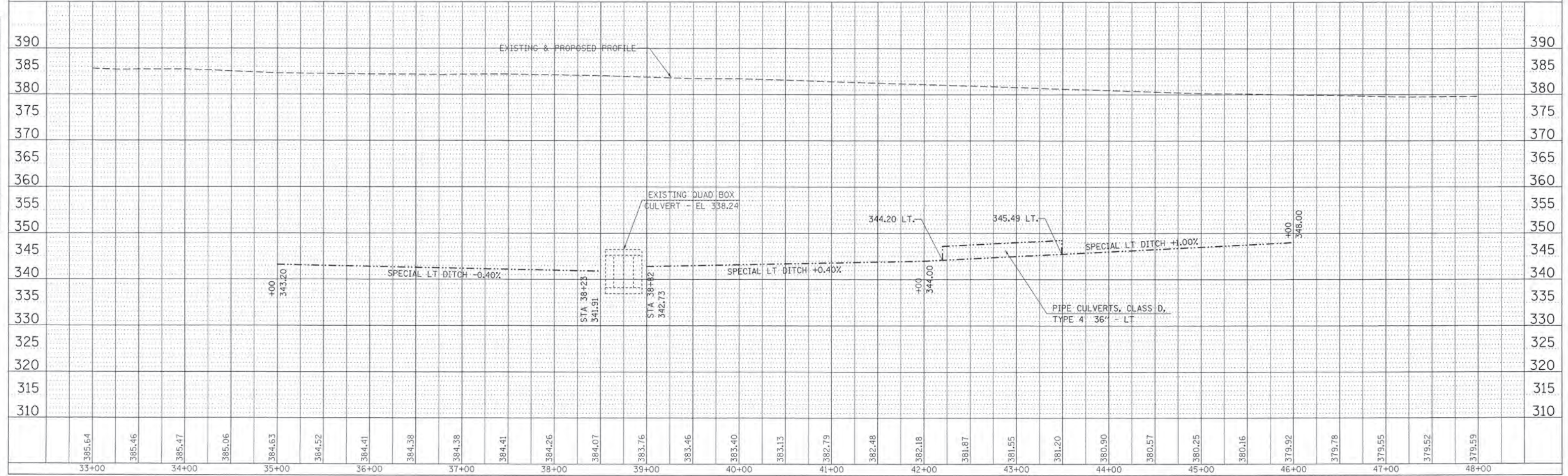
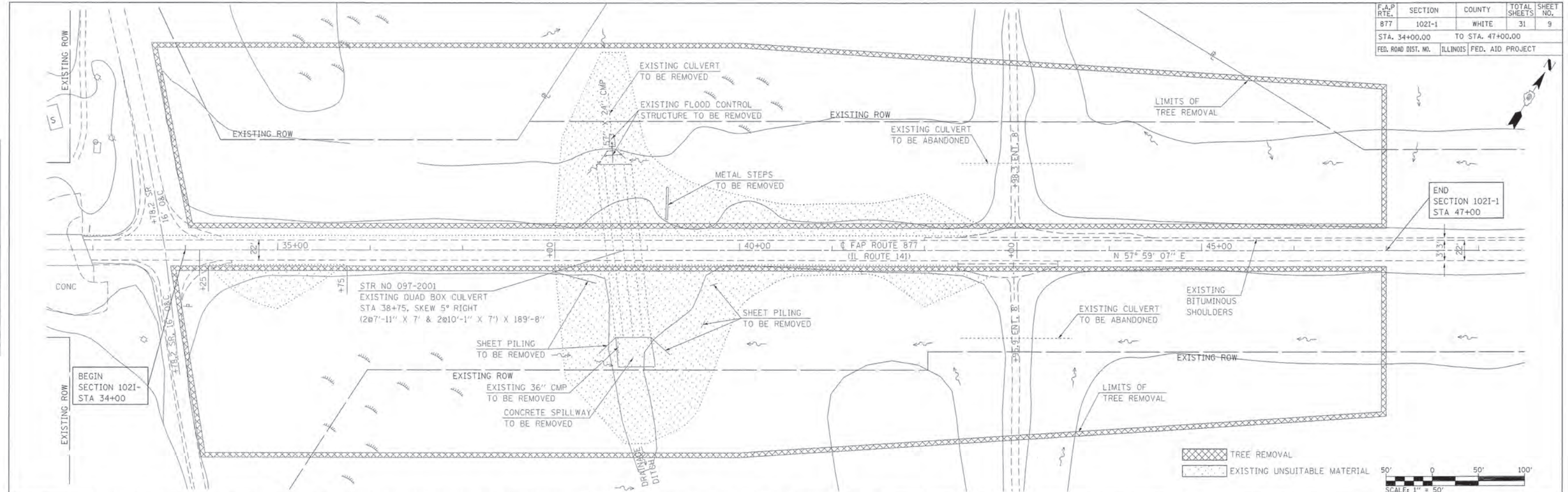
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 HORIZ. _____
 DATE _____
 DRAWN BY _____
 CHECKED BY _____

PLOT DATE = 2/11/2016
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 PLOT SCALE = 50:0000 / 1" = 50'
 USER NAME = halsomara

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	9
STA. 34+00.00		TO STA. 47+00.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

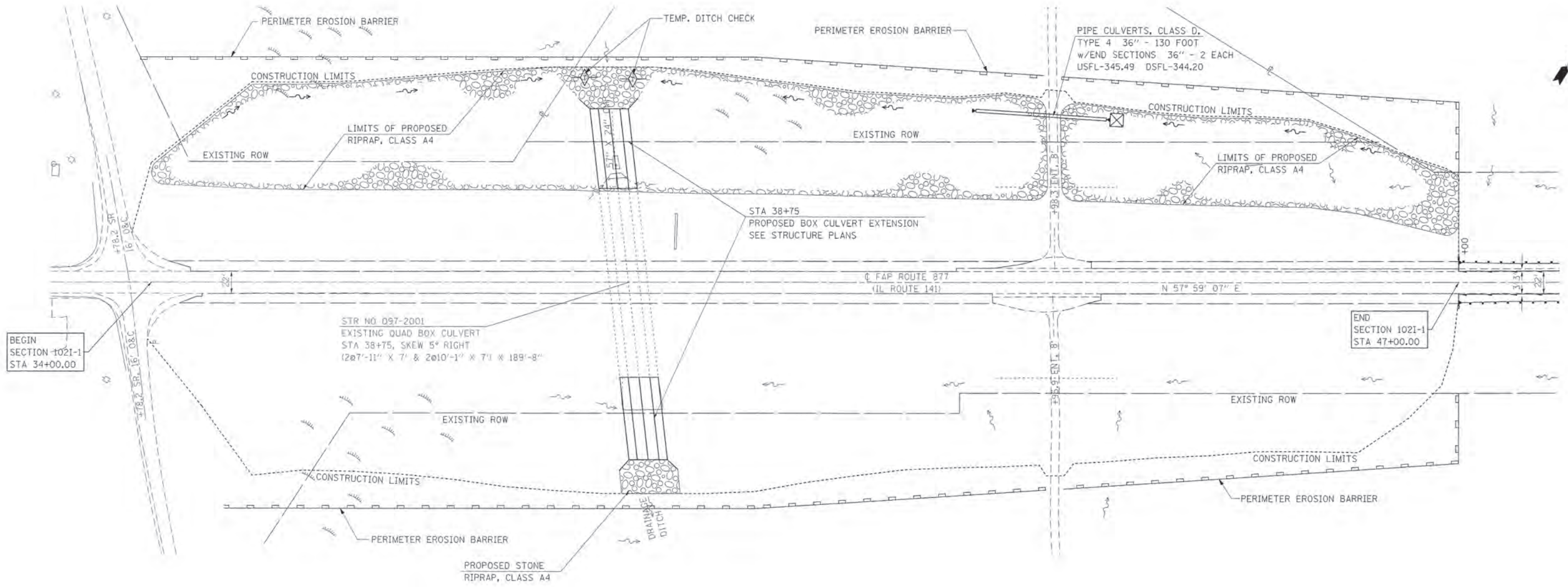
DATE	BY	REVISIONS

DATE	BY	REVISIONS



REMOVAL ITEMS, FAP ROUTE 877 (IL ROUTE 141), STA 33+00.00 TO STA 48+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	10
STA. 34+00		TO STA. 47+00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



BEGIN SECTION 1021-1 STA 34+00.00

STR NO 097-2001
EXISTING QUAD BOX CULVERT
STA 38+75, SKEW 5° RIGHT
(207'-11" X 7' & 2010'-1" X 7' & 189'-8")

STA 38+75
PROPOSED BOX CULVERT EXTENSION
SEE STRUCTURE PLANS

END SECTION 1021-1 STA 47+00.00

ITEM	LEGEND	SYMBOL
EROSION CONTROL BLANKET		
TEMPORARY DITCH CHECKS		
PERIMETER EROSION BARRIER		
SUMMIT		
ROADWAY DITCH FLOW		
INLET AND PIPE PROTECTION		
ITEM PLACED AT BEGINNING OF CONSTRUCTION (REQUIREMENT)		
SEDIMENT BASIN		

TEMPORARY EROSION CONTROL SEEDING SCHEDULE

LOCATION		TEMPORARY EROSION CONTROL SEEDING (POUND)
STATION	SIDE	
34+00.00 TO 47+00.00	LT/RT	675
TOTAL		675

INLET AND PIPE PROTECTION SCHEDULE

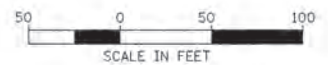
LOCATION		INLET AND PIPE PROTECTION (EACH)
STATION	SIDE	
43+59.65	LT	1
TOTAL		1

PERIMETER EROSION BARRIER SCHEDULE

LOCATION		PERIMETER EROSION BARRIER (FOOT)
STATION TO STATION	SIDE	
33+88.77 TO 42+86.90	LT	898.7
34+72.46 TO 42+89.31	RT	817.4
43+04.91 TO 47+00.00	RT	476.4
43+07.31 TO 47+00.00	LT	465.9
TOTAL		2658

TEMPORARY DITCH CHECK SCHEDULE

LOCATION		TEMPORARY DITCH CHECKS (FOOT)
STATION	SIDE	
38+30.60	LT	12'
38+78.48	LT	12'
TOTAL		24'



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
EROSION CONTROL
FAP ROUTE 877 (IL ROUTE 141)
SECTION NO. 1021-1
WHITE COUNTY

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

Bench Mark: Bench Mark No. 115, RR Spike set in light pole; N.E. Quadrant of IL 141 and Epworth Road (T.R. 1450E) Station 101+55 (ILL 141). Elev. 379.519. 34.0° Lt.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.P. 877	1021-1	WHITE	3/11	6 SHEETS
REG. ROAD DIST. NO.	SECTION	PROJECT		
			CONTRACT NO. 78021	

Existing Structure: S.N. 097-2001 built in 1955 under F.A. Route 113, Section 102. The structure consists of a cast in place multi-cell box culvert with cell widths of 7'-11", 10'-1", 10'-1" and 7'-11" for a total clear opening width of 36'-0" and a clear height of 7'-0". The length of the existing culvert along the skew is 189'-8". The structure shall be extended at both ends. Traffic shall be maintained during construction.

No salvage.

STATION 38+75.00
REBUILT 20xx BY
STATE OF ILLINOIS
F.A.P. RT. 877 SEC. 1021-1
LOADING HS20
STR. NO. 097-2001

NAME PLATE

See Std. 5J5001

Existing name plate relocated adjacent to the new name plate. Cost included with Name Plates.

GENERAL NOTES

All exposed concrete edges shall have a 3/4 inch by 45 degree chamfer, except where shown otherwise.

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.

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity furnished at the unit price for the work.

Inspection of the existing concrete culvert shall occur during construction to determine the extent of repairs to the interior surfaces of the existing concrete culvert. The Contractor shall thoroughly clean out and power wash the interior surfaces of the existing concrete culvert prior to inspection by IDOT Engineers. See the Special Provisions.

Expansion bolts shall conform to standard specifications article 1006.10.

Precast concrete culvert alternative will not be allowed at this site.

DESIGN SPECIFICATIONS

2002 AASHTO STANDARD SPECIFICATIONS

LOADING HS20-44

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

DESIGN STRESSES

NEW CONSTRUCTION FIELD UNITS

$f_c = 3,500$ psi

$f_y = 60,000$ psi (Reinforcement)

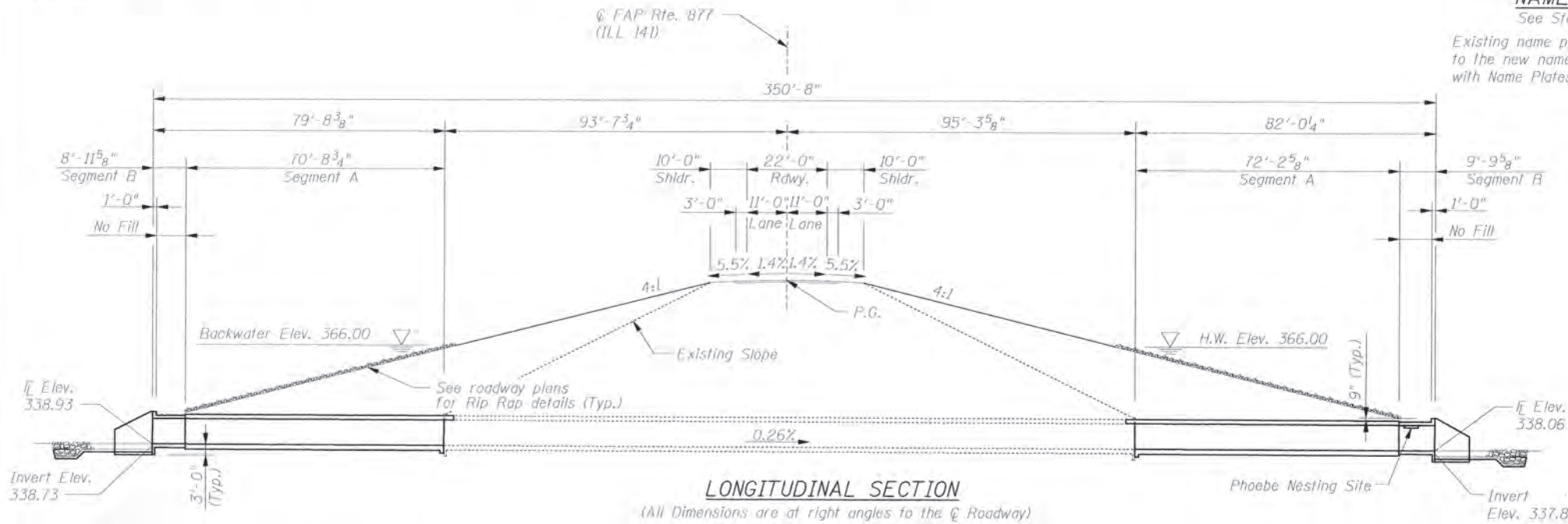
EXISTING CONSTRUCTION FIELD UNITS

$f_c = 1,400$ psi

$f_s = 20,000$ psi (Reinforcement)

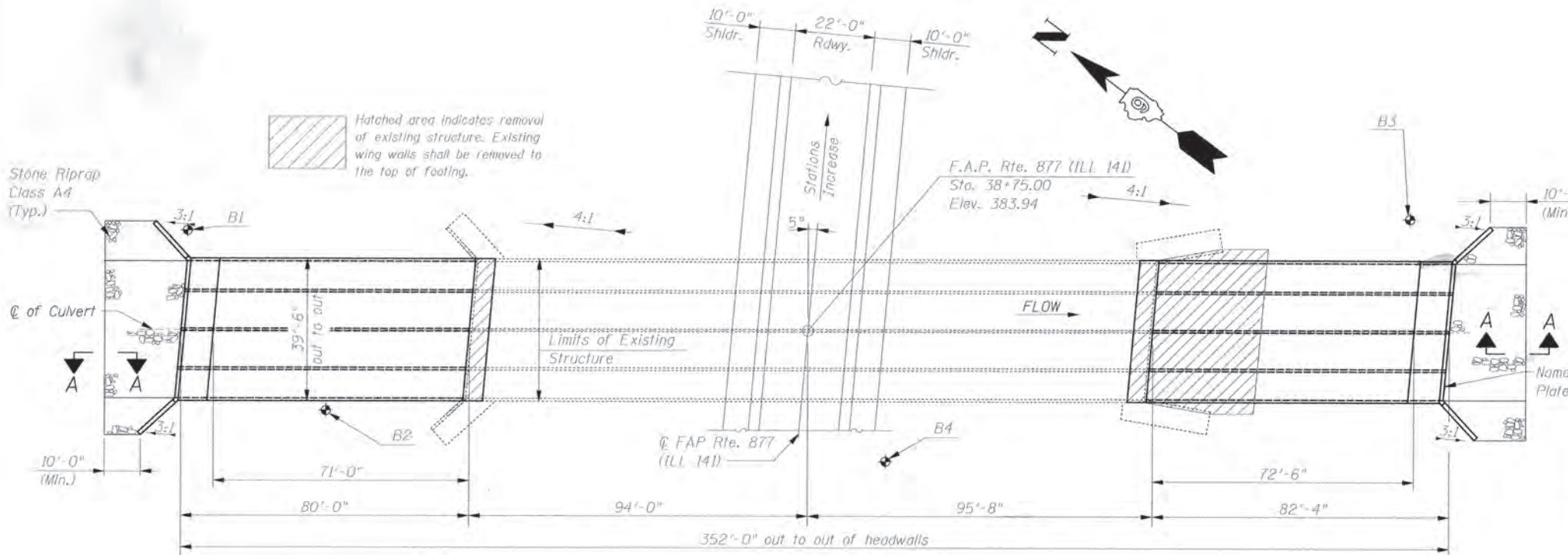
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	579
Stone Riprap, Class A4	Sq. Yd.	269
Filter Fabric	Sq. Yd.	269
Concrete Removal	Cu. Yd.	70.3
Name Plates	Each	1
Box Culverts to be Cleaned	Foot	759
Rock Fill - Foundation	Ton	1158
Reinforcement Bars	Pound	163,885
Expansion Bolts 3/4 Inch	Each	128
Concrete Box Culverts	Cu. Yd.	789.7



LONGITUDINAL SECTION

(All Dimensions are at right angles to the C Roadway)



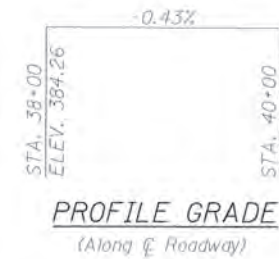
PLAN

WATERWAY INFORMATION

Drainage Area = 16.5 mi² Low Grade Elev.: 379.6 ft. Sta. 47+00

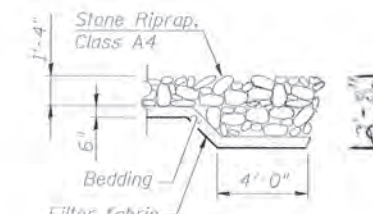
Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Opening Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	993	154	252	365.8*	1.1	0.5	366.9	366.3
	50	497	154	252	365.8*	2.6	1.1	368.4	366.9
	100	1713	154	252	365.8*	3.4	1.5	369.2	367.3
	500	2223	154	252	365.8*	5.7	2.5	371.5	368.3

* Tailwater elevation from Wabash River based on All-time HWE.

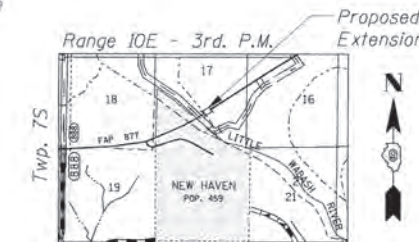


PROFILE GRADE

(Along C Roadway)



SECTION A-A



LOCATION SKETCH

DESIGNED	A.P.M./C.J.F.
CHECKED	J.R.G./F.A.S.
DRAWN	V.C.H./J.O.
CHECKED	C.J.F.



Chadwick J. Freeston
2/18/08

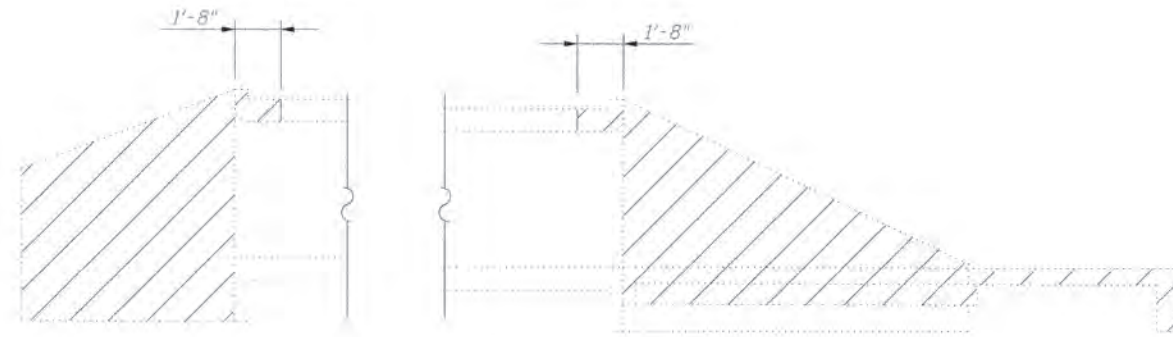
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Chadwick J. Freeston
ENGINEER OF BRIDGES AND STRUCTURES



BERNARDIN
LOCHMUELLER &
ASSOCIATES, INC.

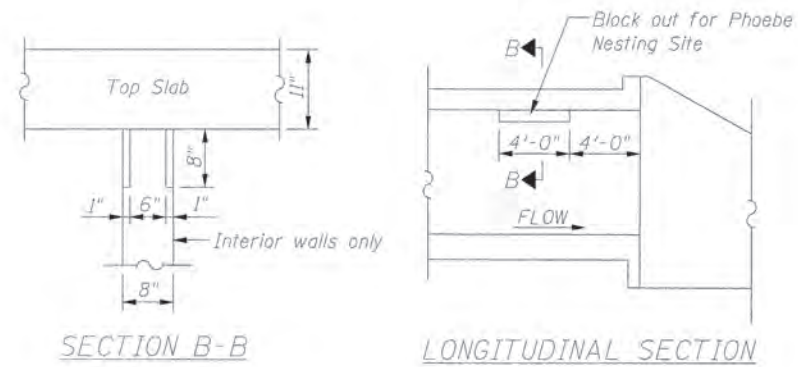
3 Oak Drive
Marysville, IL 62452-5635
Local (618) 288-4665
Fax 618-288-4666

GENERAL PLAN
ILLINOIS RTE. 141 OVER
DRAINAGE DITCH
FAP ROUTE 877 SECTION 1021-1
WHITE COUNTY
STATION 38+75.00
S.N. 097-2001



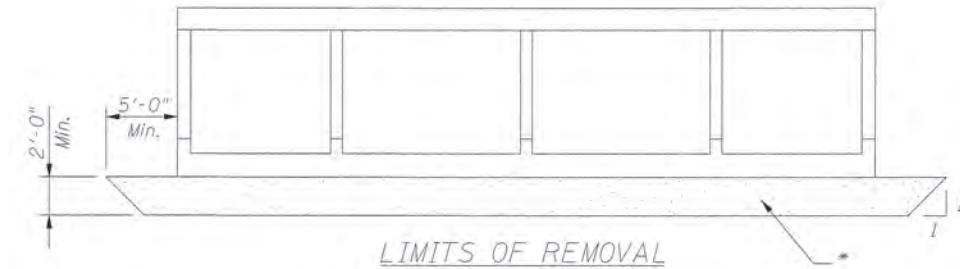
Indicates Concrete Removal

CULVERT REMOVAL DETAIL

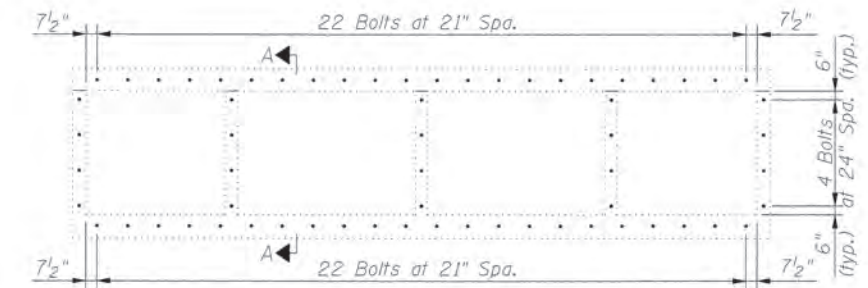


PHOEBE NESTING SITE DETAILS

Notch shall be formed by rough-finished board attached to and removed with the form work. (Downstream End Only)

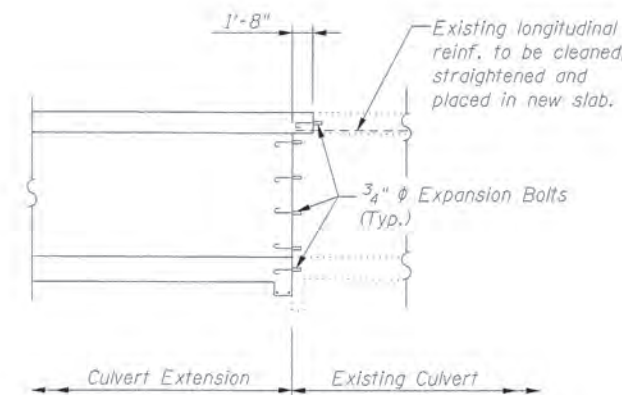


LIMITS OF REMOVAL
* Remove existing unsuitable material under the culvert extension as shown and replace with Rock Fill-Foundation. The final required removal & replacement limits shall be determined by the Engineer.



EXPANSION BOLTS INSTALLATION FOR CULVERT EXTENSIONS

Expansion bolts shall be $\frac{3}{4}$ " ϕ hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete.



SECTION A-A OF
EXPANSION BOLT DETAILS

BILL OF MATERIAL

Item	Unit	Total
Removal & Disposal of Unsuitable Material	Cu. Yd.	579
Concrete Removal	Cu. Yd.	70.3
Rock-Fill Foundation	Ton	1158
Expansion Bolts	Each	128

MISC. & EXISTING CULVERT DETAILS
ILLINOIS RTE. 141 OVER
DRAINAGE DITCH
FAP ROUTE 877 SECTION 1021-1
WHITE COUNTY
STATION 38+75.00
S.N. 097-2001

DESIGNED	A.P.M./C.J.F.
CHECKED	J.R.G./F.A.S.
DRAWN	V.C.H./J.G.
CHECKED	C.J.F.

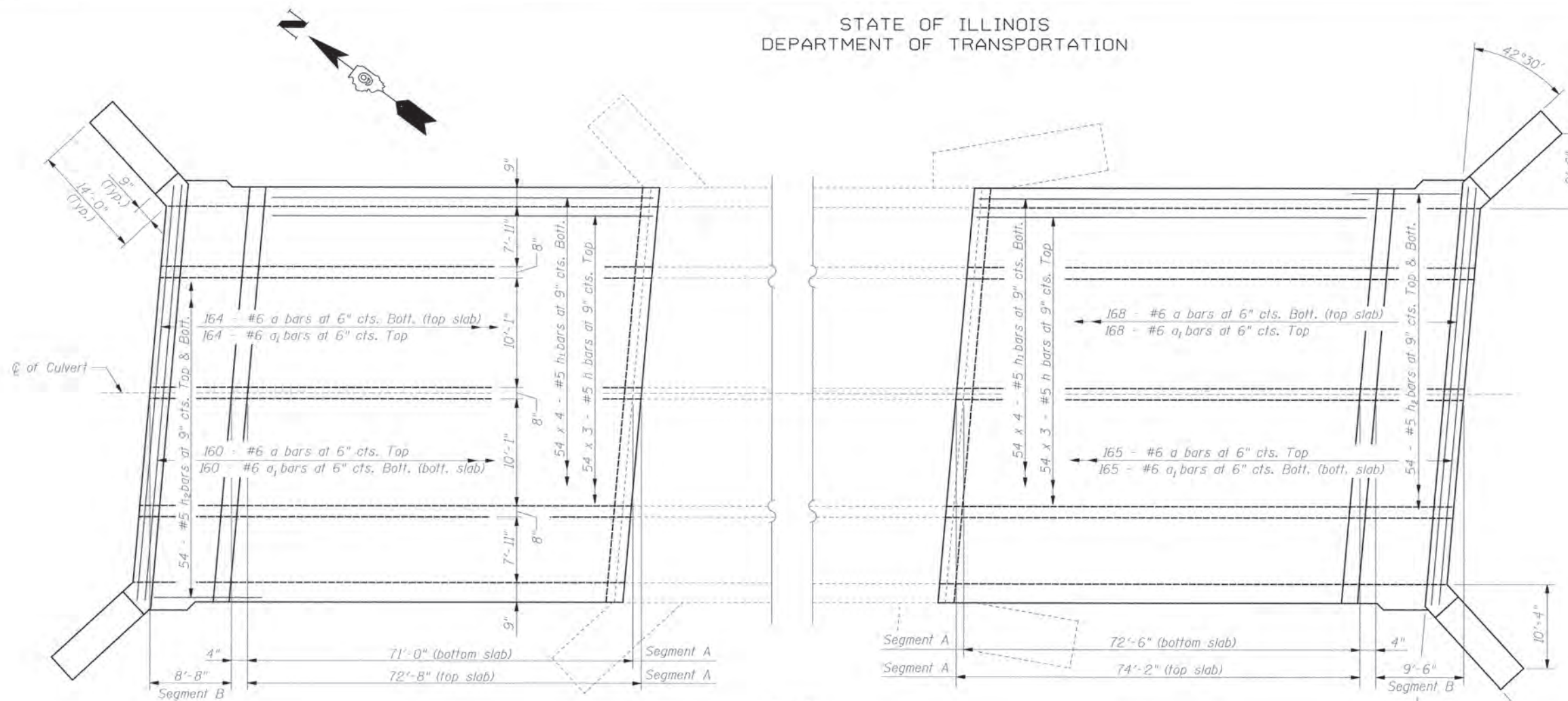


BERNARDIN
LOCHMUELLER &
ASSOCIATES, INC.

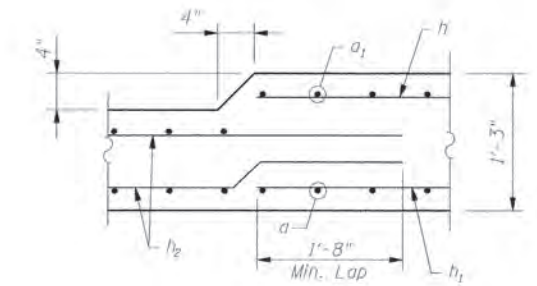
3 Oak Drive
Maryville, IL 62062-5635
Local (618) 288-4665
Fax 618-288-4666

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

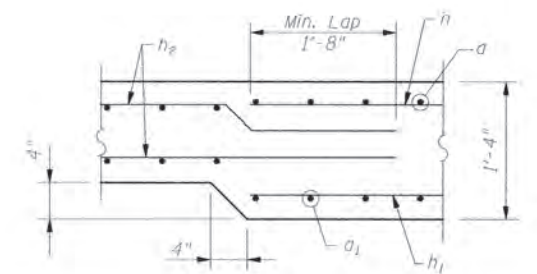
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
F.A.P. 877	1021-1	WHITE	31	13
CONTRACT NO. T8021				



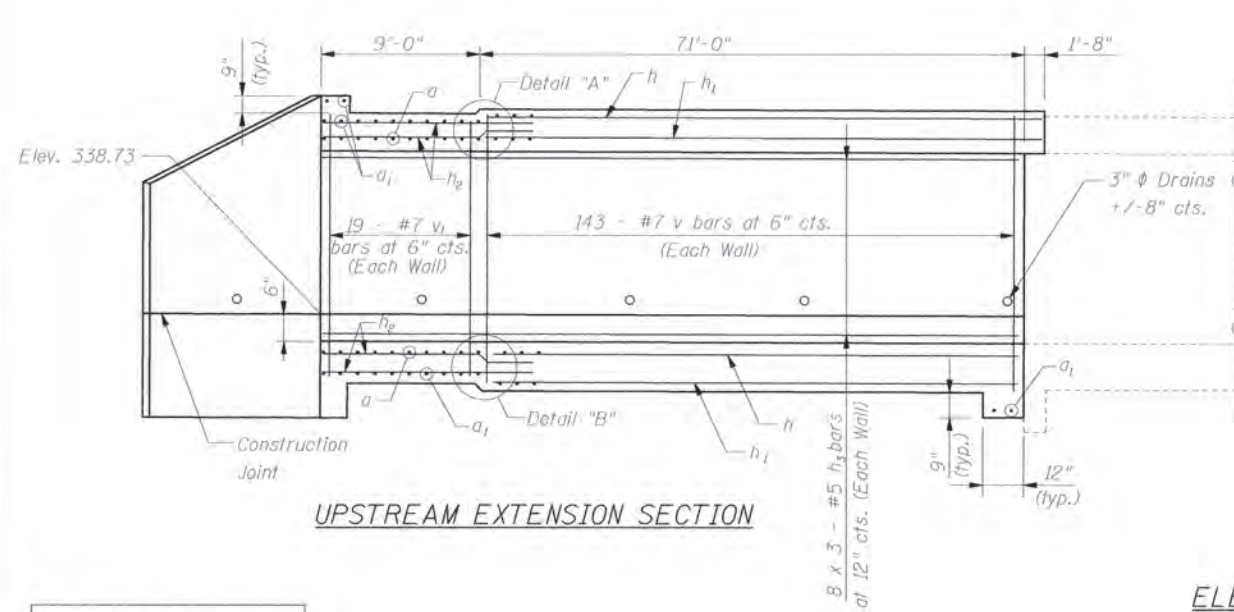
PLAN



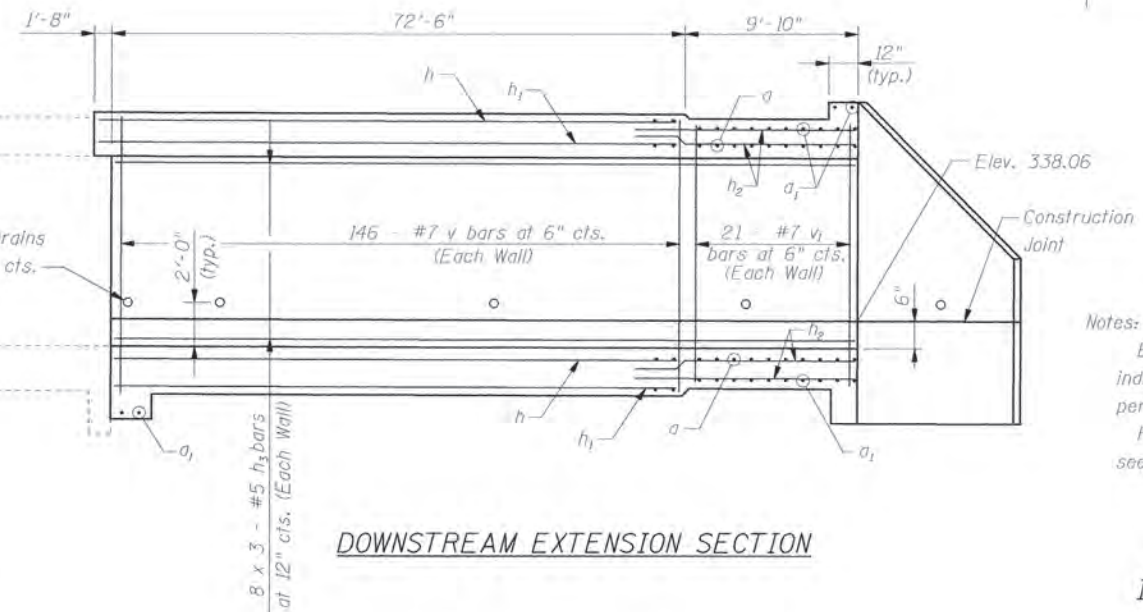
DETAIL "A"
TOP SLAB



DETAIL "B"
BOTTOM SLAB



UPSTREAM EXTENSION SECTION



DOWNSTREAM EXTENSION SECTION

ELEVATION

MINIMUM BAR LAP
#5 Bar = 1'-8"

Notes:
Bars indicated thus 54 x 3 - #5 ect. indicates 54 lines of bars with 3 lengths per line.
For cut off wall & wingwall rebar layout see sheet #4 of 6.

DESIGNED	A.P.M./C.J.F.
CHECKED	J.R.G./F.A.S.
DRAWN	V.C.H./J.G.
CHECKED	C.J.F.



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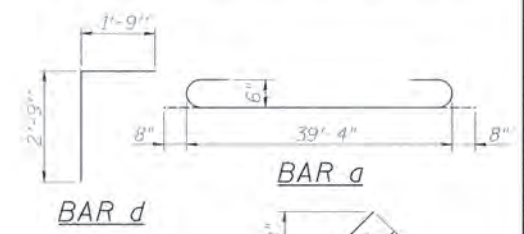
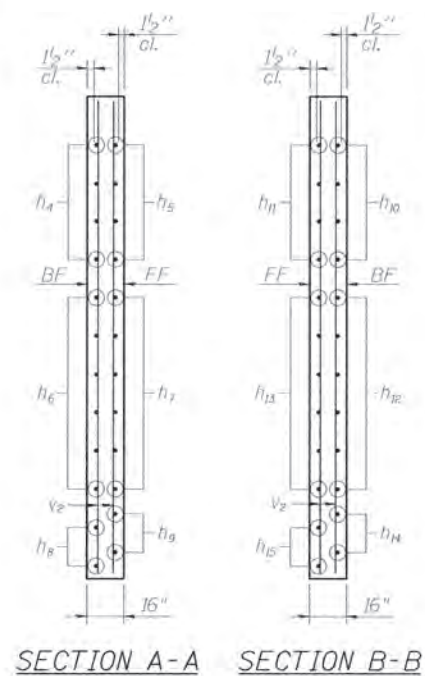
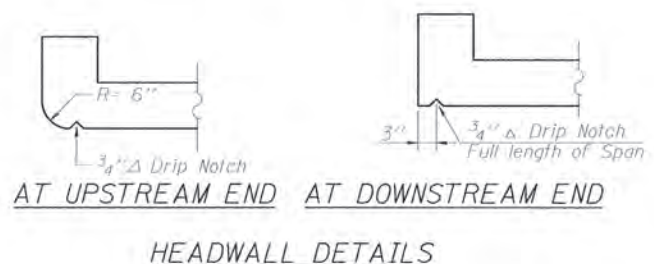
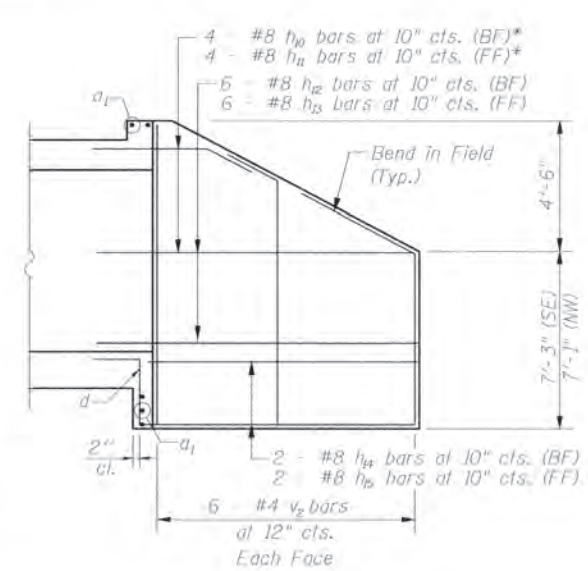
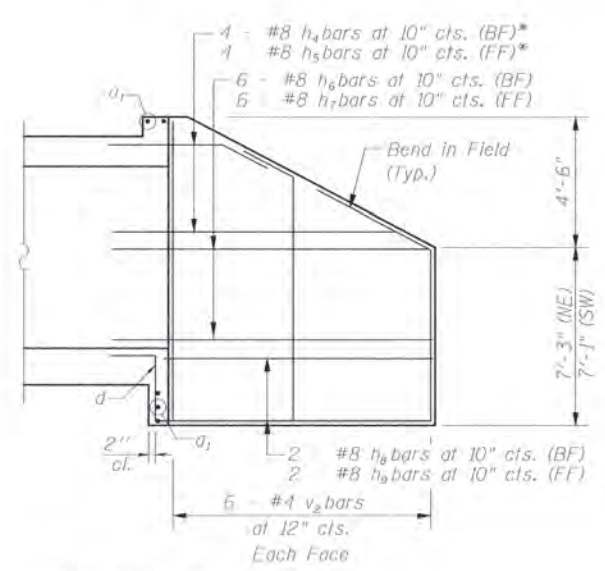
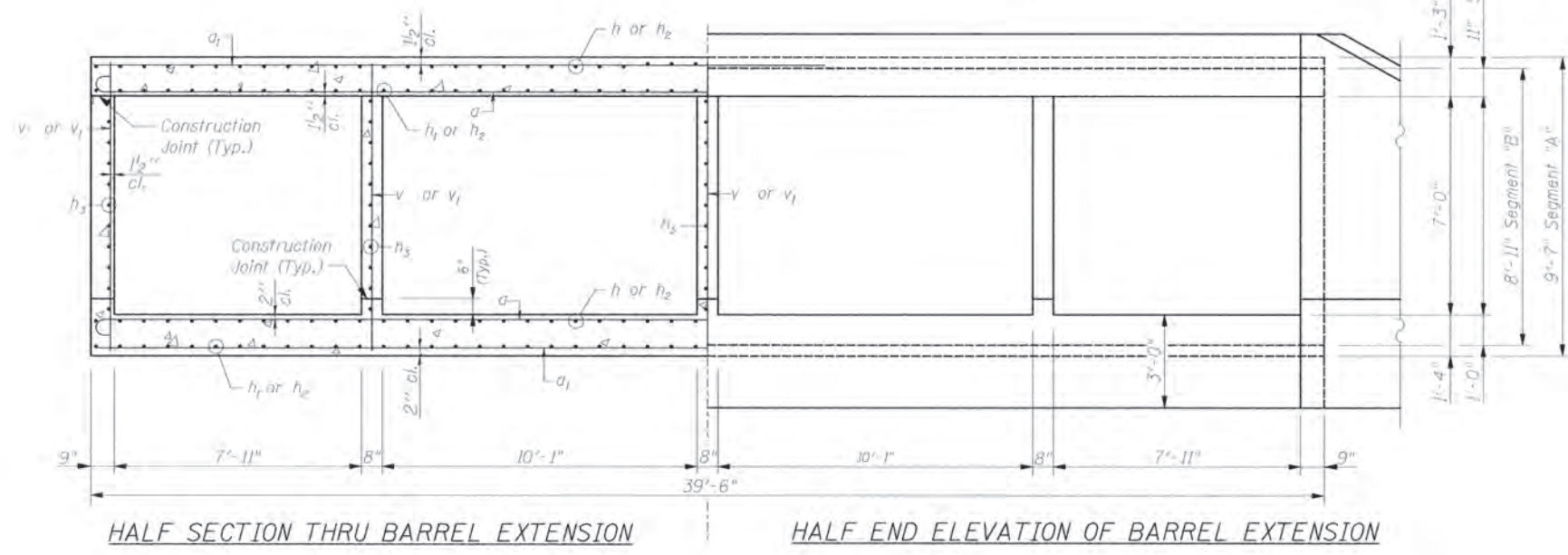
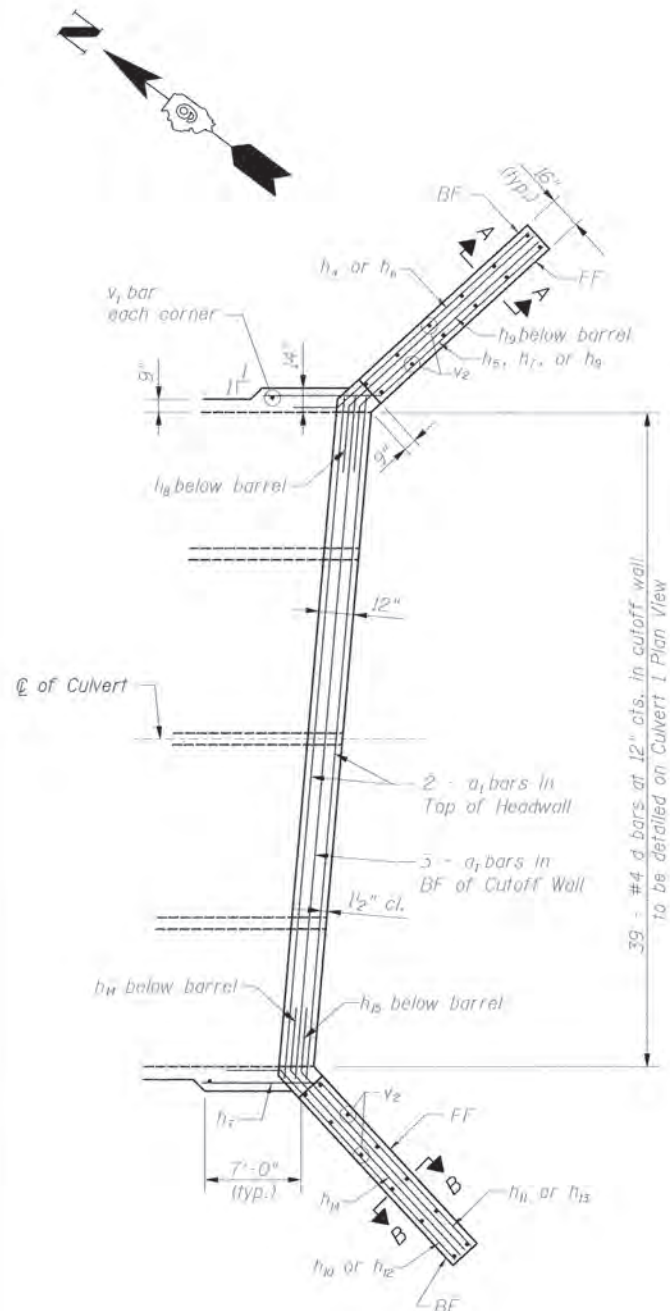
CULVERT DETAILS 1
ILLINOIS RTE. 141 OVER
DRAINAGE DITCH
FAP ROUTE 877 SECTION 1021-1
WHITE COUNTY
STATION 38+75.00
S.N. 097-2001

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.P. 877	1021-1	WHITE	3/14	6 SHEETS
CONTRACT NO. 78021				

BILL OF MATERIAL

Bar No.	Size	Length	Shape
a	#6	40'-8"	C
a ₁	#6	39'-4"	—
d	#4	4'-6"	L
h	#5	25'-9"	—
h ₁	#5	19'-8"	—
h ₂	#5	11'-4"	—
h ₃	#5	28'-5"	—
h ₄	#8	17'-6"	—
h ₅	#8	18'-0"	—
h ₆	#8	19'-6"	—
h ₇	#8	19'-10"	—
h ₈	#8	18'-0"	—
h ₉	#8	18'-5"	—
h ₁₀	#8	17'-2"	—
h ₁₁	#8	17'-11"	—
h ₁₂	#8	19'-2"	—
h ₁₃	#8	19'-11"	—
h ₁₄	#8	18'-2"	—
h ₁₅	#8	18'-1"	—
v	#7	9'-3"	—
v ₁	#7	8'-7"	—
v ₂	#4	11'-4"	—
Reinforcement Bars			Pound 163,885
Concrete Box Culverts			Cu. Yd. 789.7



Bar	dim "a"	dim "b"	dim "c"
h ₄	13'-0"	4'-6"	3'-0 1/2"
h ₅	10'-8"	7'-4"	4'-11 1/2"
h ₆	15'-0"	4'-6"	3'-0 1/2"
h ₇	12'-6"	7'-4"	4'-11 1/2"
h ₈	13'-6"	4'-6"	3'-0 1/2"
h ₉	13'-11"	4'-6"	3'-0 1/2"
h ₁₀	12'-8"	4'-6"	3'-3 7/8"
h ₁₁	10'-7"	7'-4"	5'-5 1/4"
h ₁₂	14'-8"	4'-6"	3'-3 7/8"
h ₁₃	12'-7"	7'-4"	5'-5 1/4"
h ₁₄	13'-8"	4'-6"	3'-3 7/8"
h ₁₅	13'-7"	4'-6"	3'-3 7/8"

* Cut to fit or bend in field.
BF indicates Back Face
FF indicating Front Face

DESIGNED	A.P.M./C.J.F.
CHECKED	J.R.G./F.A.S.
DRAWN	V.C.H./J.G.
CHECKED	C.J.F.

BERNARDIN & LOCHMUELLER & ASSOCIATES, INC.
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CULVERT DETAILS 2
ILLINOIS RTE. 141 OVER
DRAINAGE DITCH
FAP ROUTE 877 SECTION 1021-1
WHITE COUNTY
STATION 38+75.00
S.N. 097-2001

DESIGN FILE 2/18/2008 #FILE#

CULVERT DETAILS 2.dwg 7/18/2008 10:28:17 AM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
F.A.P. 877	1021-1	WHITE	3/15	5
6 SHEETS				
CONTRACT NO. 78021				



Illinois Department of Transportation
Division of Highways
Shively Geotechnical, Inc.

SOIL BORING LOG

Page 1 of 1

Date 4/25/05

ROUTE FAP 887 DESCRIPTION Culvert Extension on IL Route 141 LOGGED BY Hirstedt/May
SECTION 1021-1 LOCATION SEC. 17, TWP. 7S, RNG. 10E, 3rd PM
COUNTY White DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140-pound Automatic

STRUCT. NO.	BORING NO.	Station	Offset	Ground Surface Elev.	ft	(ft)	(ft)	(%)	Surface Water Elev.	ft	Stream Bed Elev.	ft	Groundwater Elev.:	ft	First Encounter	ft	Upon Completion	ft	After	Days	ft
097-2001	1	38+87.5	174.00ft Left	348.70																	
Dark Gray-Brown CLAY																					
						1															
						2	0.8	25.0													
						3	S														
Gray-Brown SILTY CLAY 345.70																					
						1															
						2	0.8	25.2													
						5	B														
Dark Gray-Brown below 10.5 Feet																					
						1															
						3	0.8	24.6													
						5	S														
Dark Gray-Brown Weathered SHALE 335.70																					
						1															
						5	0.1	18.1													
						26	S														
End of Boring 333.70																					

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
Shively Geotechnical, Inc.

SOIL BORING LOG

Page 1 of 1

Date 4/25/05

ROUTE FAP 887 DESCRIPTION Culvert Extension on IL Route 141 LOGGED BY Hirstedt/May
SECTION 1021-1 LOCATION SEC. 17, TWP. 7S, RNG. 10E, 3rd PM
COUNTY White DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140-pound Automatic

STRUCT. NO.	BORING NO.	Station	Offset	Ground Surface Elev.	ft	(ft)	(ft)	(%)	Surface Water Elev.	ft	Stream Bed Elev.	ft	Groundwater Elev.:	ft	First Encounter	ft	Upon Completion	ft	After	Days	ft
097-2001	2	38+41.1	131.30ft Left	360.70																	
Dark Gray-Brown SILTY CLAY, POSSIBLE FILL																					
						1															
						2	0.5	29.3													
						3	S														
Gray-Brown below 23.0 Feet																					
						1															
						1	0.6	34.7													
						2	S														
Dark Gray CLAY, POSSIBLE FILL 354.45																					
						1															
						2	0.5	32.0													
						2	S														
End of Boring 333.20																					
						1															
						1	0.3	30.5													
						3	S														
Dark Gray-Brown SILTY CLAY 350.20																					
						1															
						2	0.4	32.2													
						4	S														
LL=66, PL=18, PI=38																					
						1															
						2	0.4	27.0													
						4	S														
End of Boring 333.20																					

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
Shively Geotechnical, Inc.

SOIL BORING LOG

Page 1 of 1

Date 4/25/05

ROUTE FAP 887 DESCRIPTION Culvert Extension on IL Route 141 LOGGED BY Hirstedt/May
SECTION 1021-1 LOCATION SEC. 17, TWP. 7S, RNG. 10E, 3rd PM
COUNTY White DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140-pound Automatic

STRUCT. NO.	BORING NO.	Station	Offset	Ground Surface Elev.	ft	(ft)	(ft)	(%)	Surface Water Elev.	ft	Stream Bed Elev.	ft	Groundwater Elev.:	ft	First Encounter	ft	Upon Completion	ft	After	Days	ft
097-2001	3	39+20.7	163.60ft Right	348.30																	
Dark Gray-Brown SILTY CLAY LOAM																					
						1															
						2	0.4	25.7													
						3	B														
Dark Gray-Brown SILTY CLAY 345.30																					
						1															
						3	0.4	26.9													
						4	S														
End of Boring 323.30																					
						1															
						2	0.4	25.1													
						5	B														
LL=60, PL=21, PI=39																					
						1															
						3	0.4	24.2													
						6	S														
Dark Gray-Brown SILTY CLAY LOAM 335.30																					
						1															
						3	0.4	23.9													
						29	S														
Gray-Brown Weathered SHALE 333.80																					
						1															
						19															
						50/4"		7.9													
Dark Gray below 15.5 Feet																					
						1															
						16															
						50/4"		7.1													
End of Boring 323.30																					

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 1
ILLINOIS RTE. 141 OVER
DRAINAGE DITCH
FAP ROUTE 877 SECTION 1021-1
WHITE COUNTY
STATION 38+75.00
S.N. 097-2001



BERNARDIN
LOCHMUELLER &
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3 Oak Drive
Maryville, IL 62962-5635
Local (618) 298-1855
Fax 618-298-4968

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	SECTION	POST	SHEET NO. 6 6 SHEETS
F.A.P. 877	1021-1	WHITE	31	16	
FED. ROAD DIST. NO. 1		ALLIANCE	FED. AID PROJECT		
CONTRACT NO. 78021					



SOIL BORING LOG

Page 1 of 2

Date 4/25/05

ROUTE FAP 887 DESCRIPTION Culvert Extension on IL Route 141 LOGGED BY lmstedt/May
SECTION 1021-1 LOCATION SEC. 17, TWP. 7S, RNG. 10E, 3rd PM
COUNTY White DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140-pound Automatic

STRUCT. NO.	DEL	B	U	M	Surface Water Elev.	DEL	B	U	M
Station	P	L	C	O	ft	P	L	C	O
BORING NO.	T	O	S	I	ft	T	O	S	I
Station	H	S	Qu	T	ft	H	S	Qu	T
Offset					ft				
Ground Surface Elev.	(ft)	(/6")	(tsf)	(%)	ft	(ft)	(/6")	(tsf)	(%)
097-2001									
4									
38+40.6									
24.70ft Right									
382.40									
Dark Gray-Brown SILTY CLAY LOAM, FILL									
	1					1			
	2		14.9			3	0.9	25.1	
	2					7	S		
379.40									
Dark Gray-Brown SILTY CLAY, FILL									
	1					2			
	2	0.8	21.7			4	0.8	23.9	
	3	S				6	S		
376.90									
Dark Gray-Brown SILTY CLAY LOAM, FILL									
	1					2			
	2		17.2			4	0.8	22.5	
	3					6	S		
373.40									
Dark Gray-Brown SILTY CLAY, FILL									
	1					2			
	1	0.8	18.6			4	0.8	26.6	
	3	S				6	S		
	1								
	4	0.6	25.2						
	5	S							
	1					2			
	2	0.7	24.8			4	1.0	29.0	
	5	S				7	S		
347.90									
Dark Gray-Brown SILTY CLAY									
	2								
	4	0.6	22.6						
	6	B							
	1					2			
	3	1.0	21.6			5	1.0	22.9	
	7	S				6	S		

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



SOIL BORING LOG

Page 2 of 2

Date 4/25/05

ROUTE FAP 887 DESCRIPTION Culvert Extension on IL Route 141 LOGGED BY lmstedt/May
SECTION 1021-1 LOCATION SEC. 17, TWP. 7S, RNG. 10E, 3rd PM
COUNTY White DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140-pound Automatic

STRUCT. NO.	DEL	B	U	M	Surface Water Elev.	DEL	B	U	M
Station	P	L	C	O	ft	P	L	C	O
BORING NO.	T	O	S	I	ft	T	O	S	I
Station	H	S	Qu	T	ft	H	S	Qu	T
Offset					ft				
Ground Surface Elev.	(ft)	(/6")	(tsf)	(%)	ft	(ft)	(/6")	(tsf)	(%)
097-2001									
4									
38+40.6									
24.70ft Right									
382.40									
Dark Gray-Brown SILTY CLAY (continued)									
	2								
	5	0.9	26.7						
	6	S							
335.40									
Dark Brown SANDY LOAM									
	3								
	5		14.4						
	6	S							
332.90									
Dark Gray Weathered SHALE									
	42								
	50/2		8.3						
	55								
326.40									
End of Boring									

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



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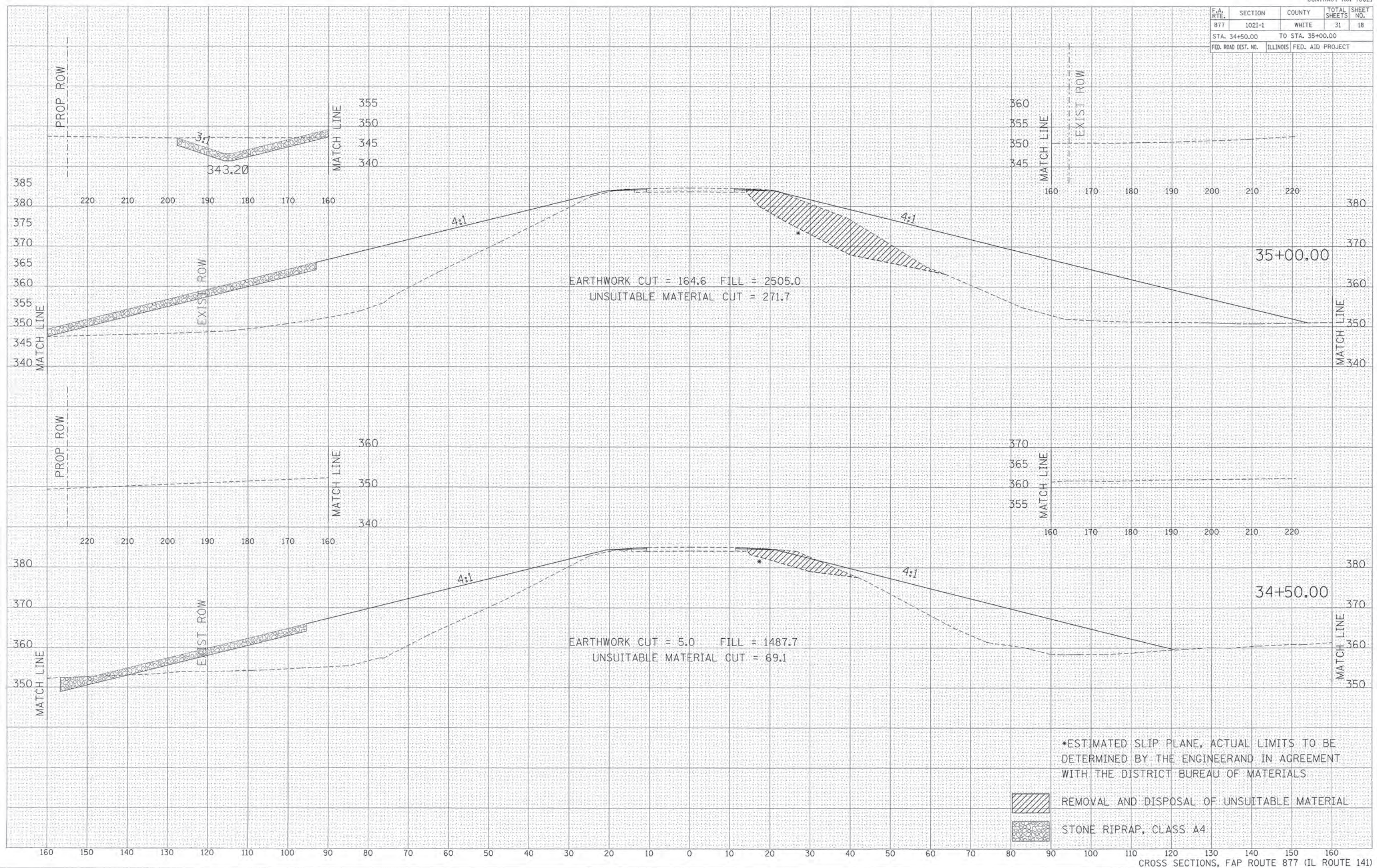
3 Oak Drive
Mayville, IL 62062-5685
Local (618) 288-4865
Fax 618-288-4060

SOIL BORINGS 2
ILLINOIS RTE. 141 OVER
DRAINAGE DITCH
FAP ROUTE 877 SECTION 1021-1
WHITE COUNTY
STATION 38+75.00
S.N. 097-2001

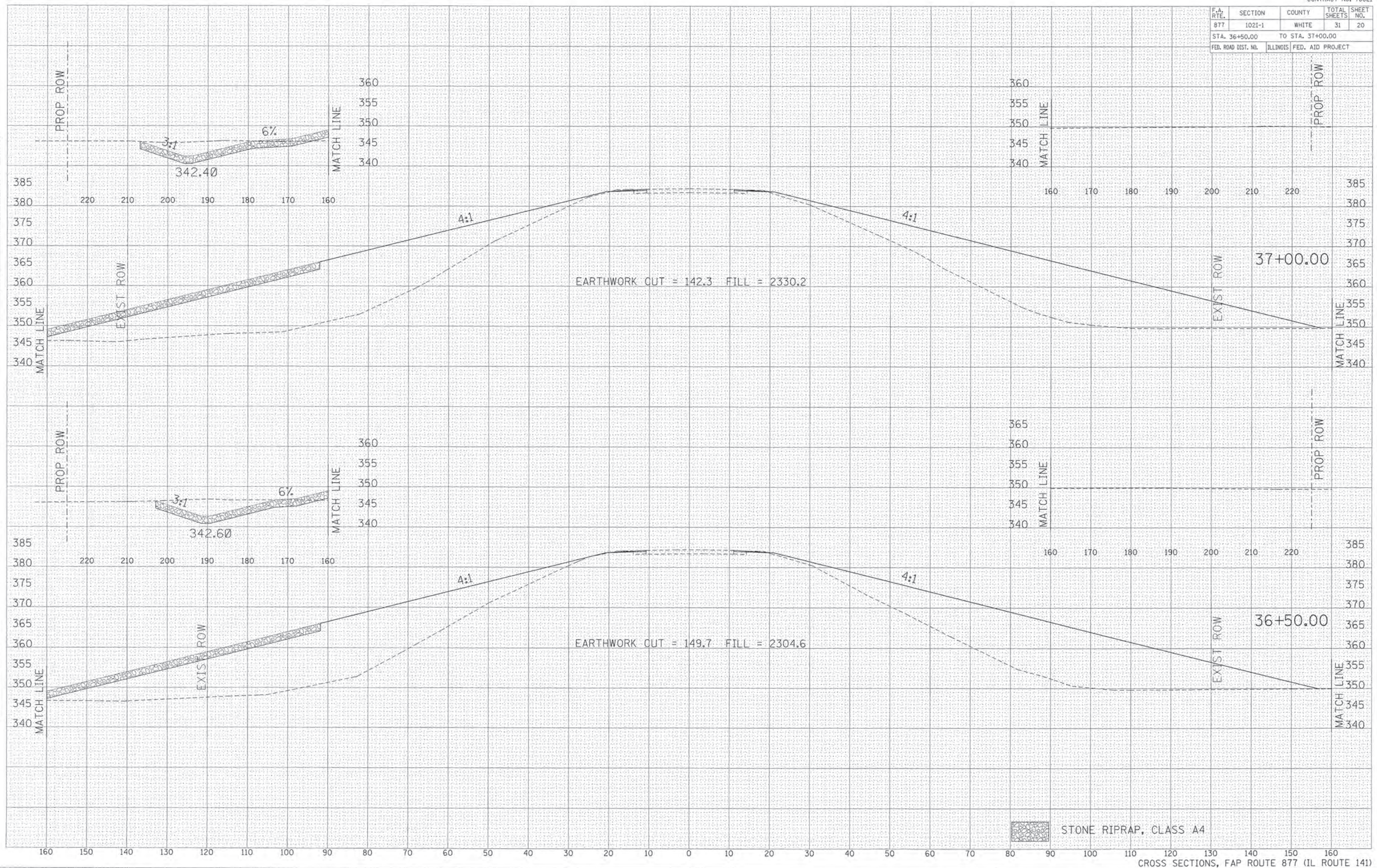
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	18
STA. 34+50.00		TO STA. 35+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
BY	
REVISIONS	
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DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	



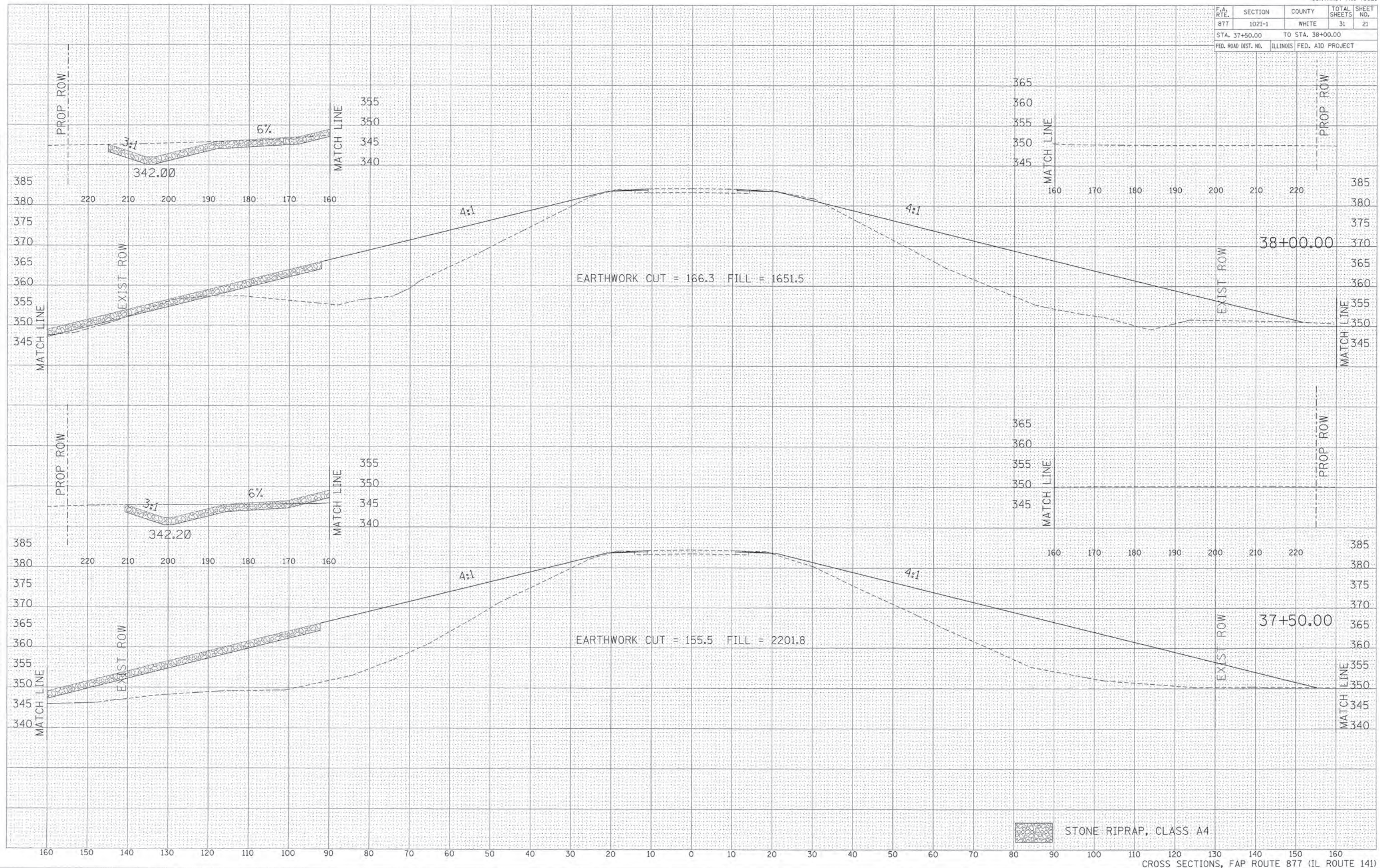
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	20
STA. 36+50.00 TO STA. 37+00.00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DATE: _____
 BY: _____
 SURVEYED: _____
 CHECKED: _____
 FINAL SURVEY: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____

DATE: _____
 BY: _____
 SURVEYED: _____
 CHECKED: _____
 ORIGINAL SURVEY: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____

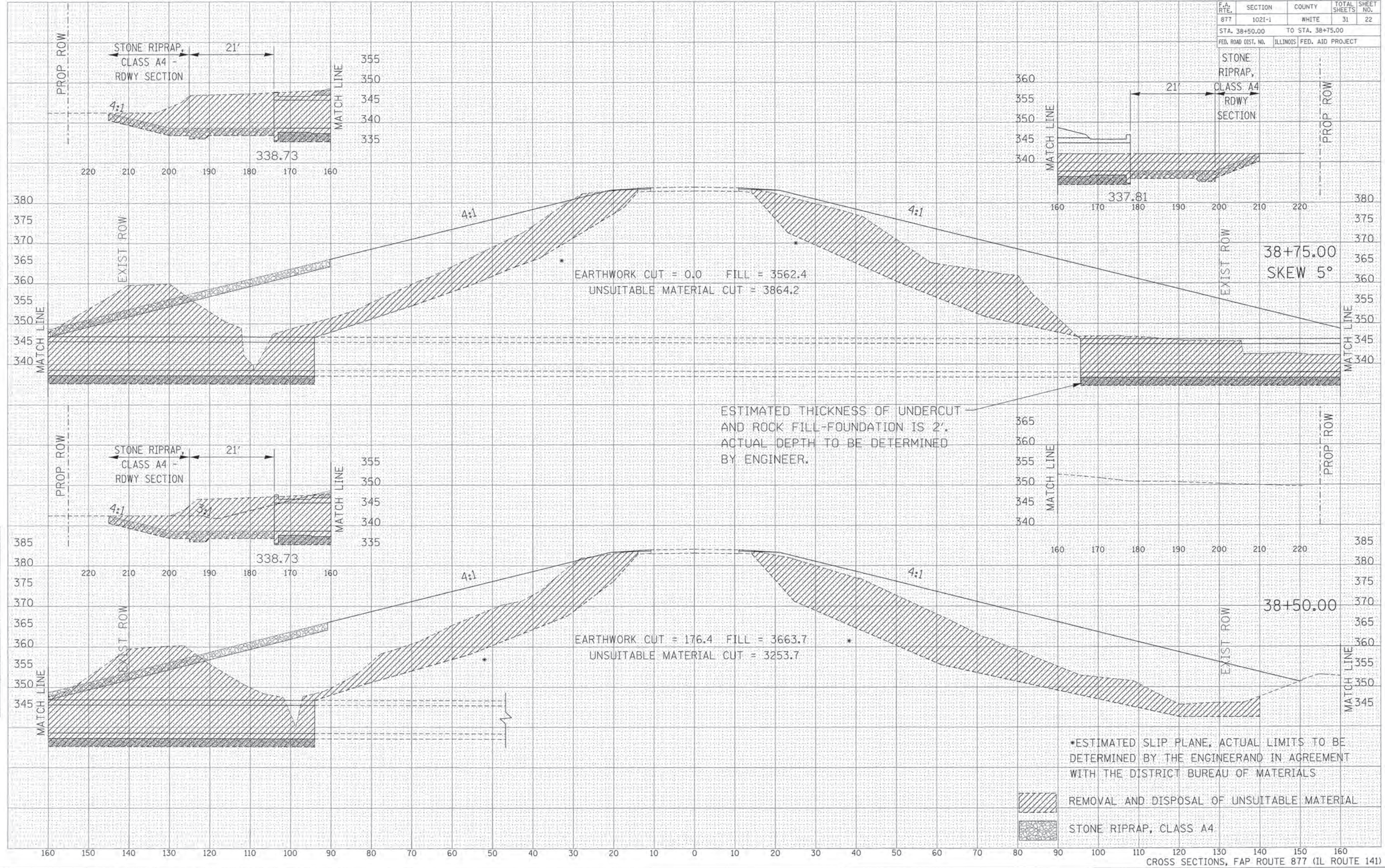
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	21
STA. 37+50.00 TO STA. 38+00.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



DATE: _____
 BY: _____
 SURVEYED: _____
 PLOTTED: _____
 TEMPLATE: _____
 AREAS: _____
 CHECKED: _____

DATE: _____
 BY: _____
 ORIGINAL SURVEY: _____
 PLOTTED: _____
 TEMPLATE: _____
 AREAS: _____
 CHECKED: _____

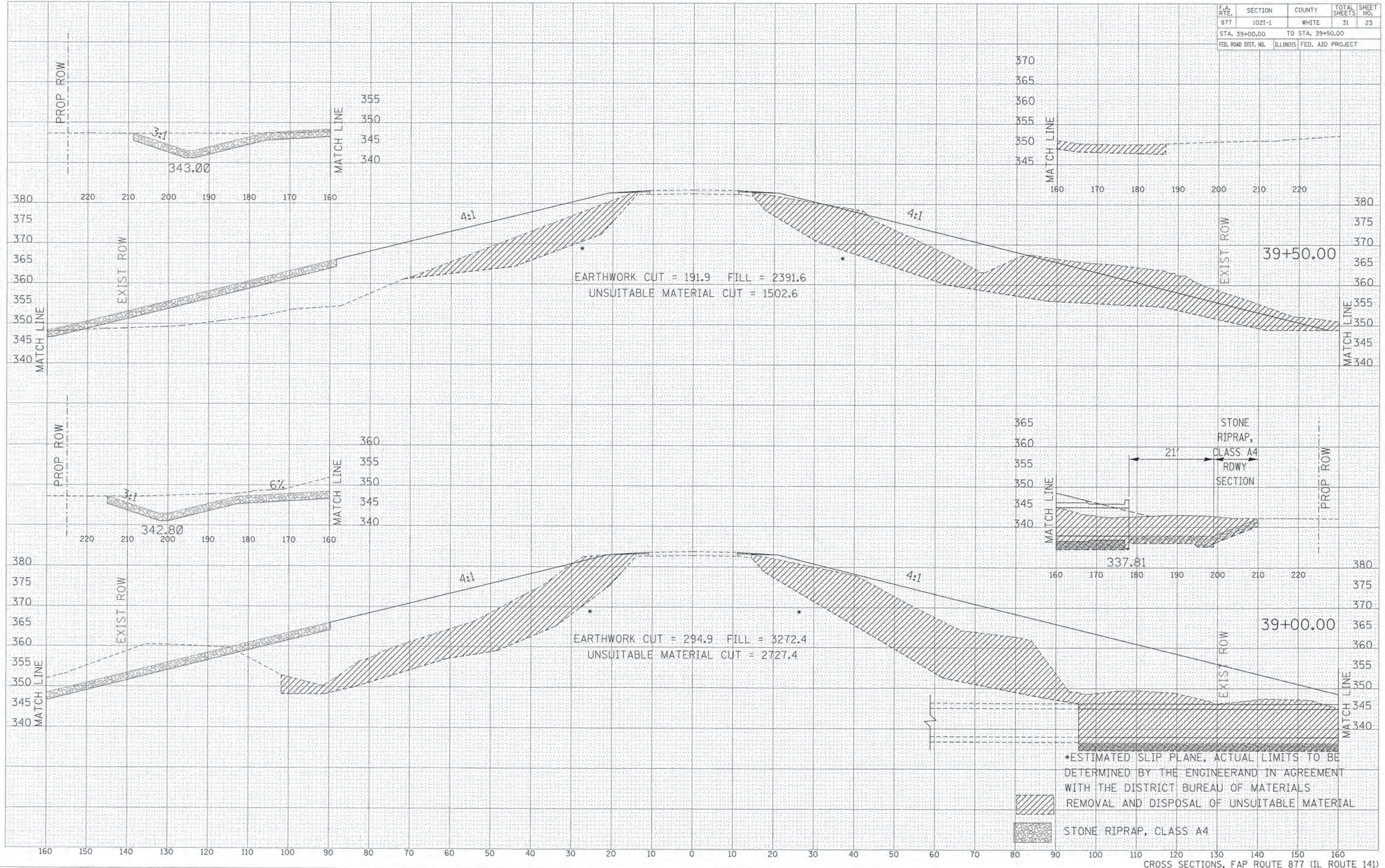
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	22
STA. 38+50.00		TO STA. 38+75.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DATE	
BY	
FINAL SURVEY	
SURVEYED	
NOTE BOOK	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
NOTE BOOK	
AREAS CHECKED	

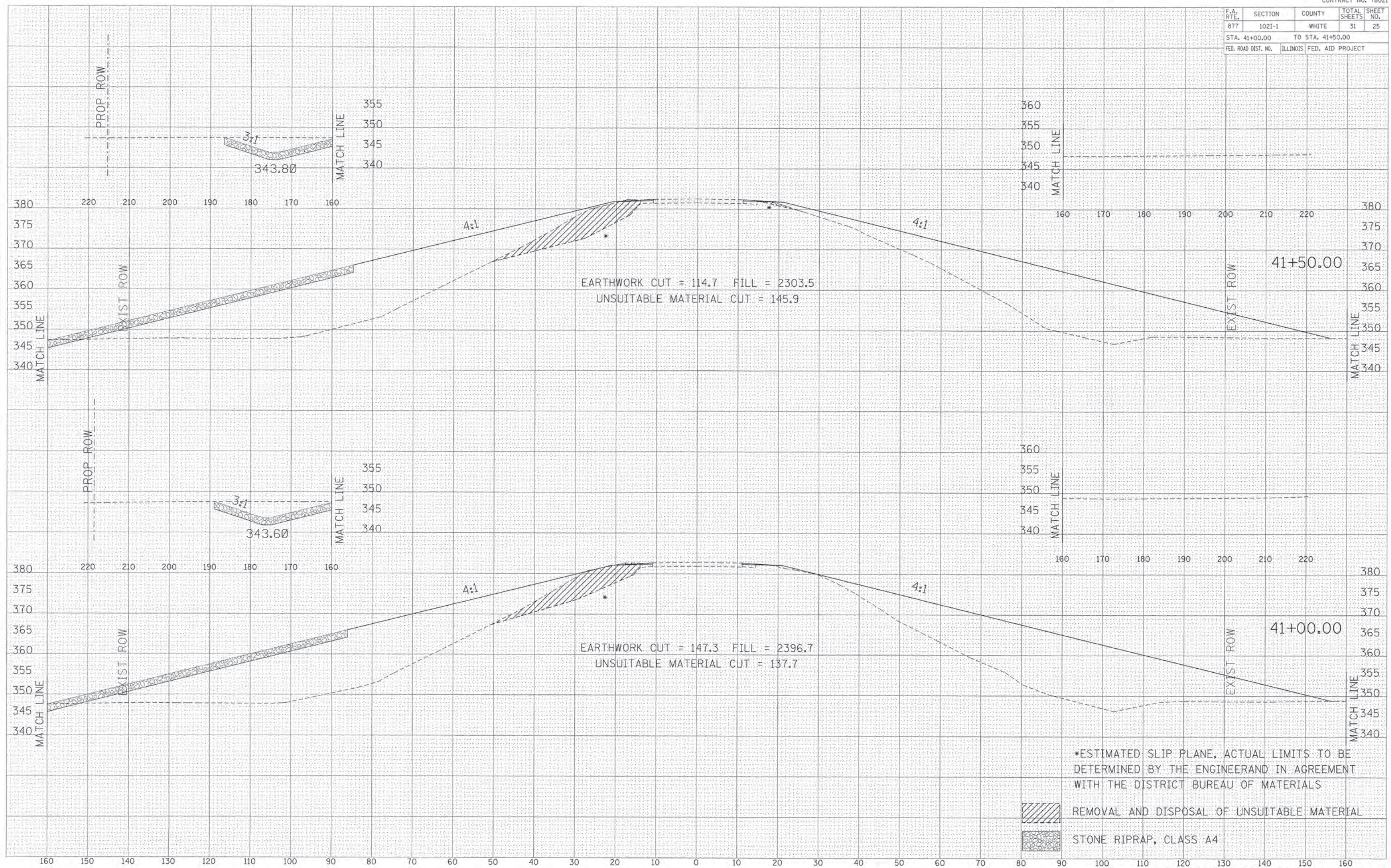
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	23
STA. 39+00.00		TO STA. 39+50.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DATE	
BY	
REVISION	
NO.	
DESCRIPTION	
DATE	
BY	
REVISION	
NO.	
DESCRIPTION	
DATE	
BY	
REVISION	
NO.	
DESCRIPTION	

DATE	
BY	
REVISION	
NO.	
DESCRIPTION	
DATE	
BY	
REVISION	
NO.	
DESCRIPTION	
DATE	
BY	
REVISION	
NO.	
DESCRIPTION	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	25
STA. 41+00.00 TO STA. 41+50.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



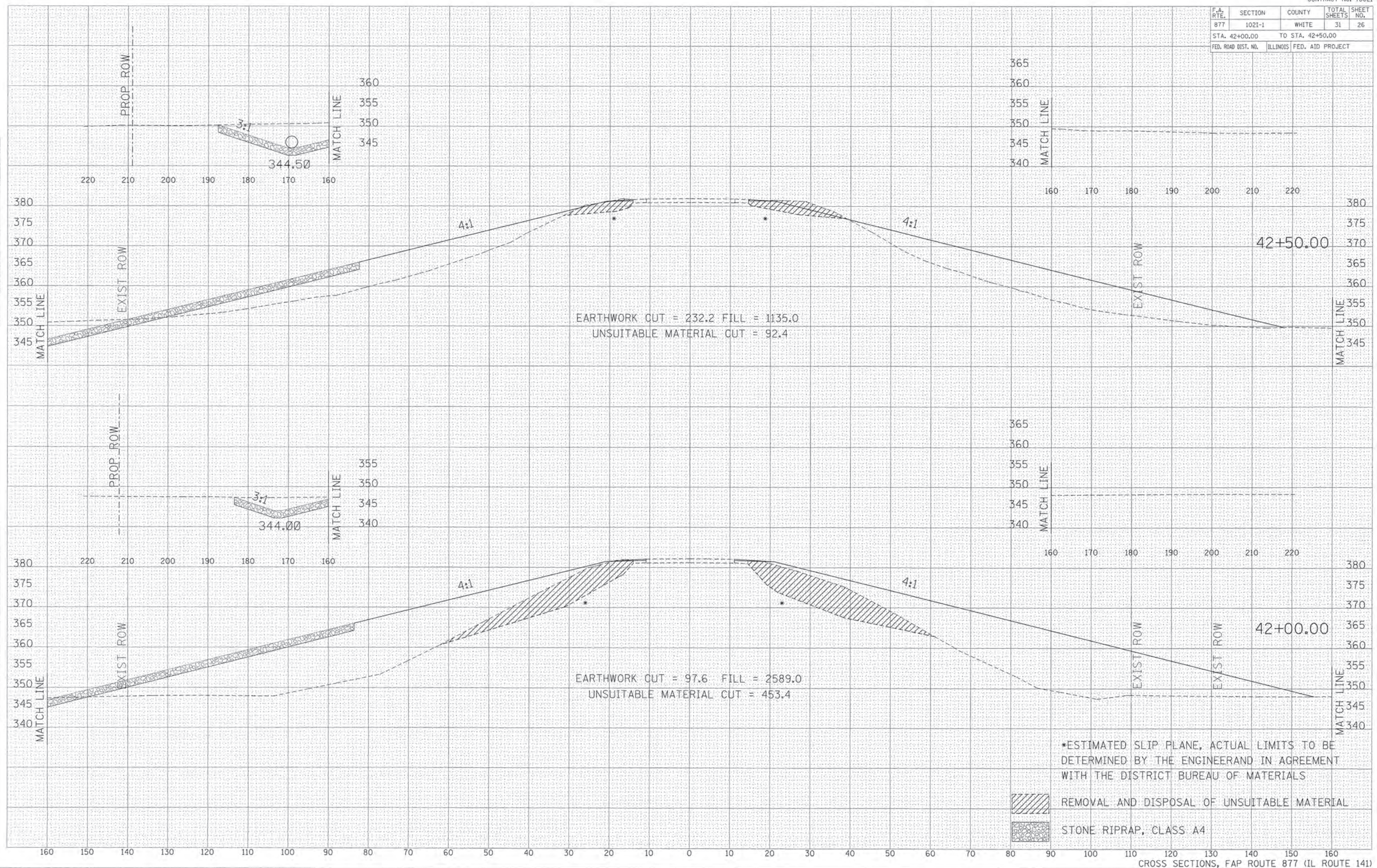
DATE: _____ BY: _____
 SURVEYED: _____
 PLANNED: _____
 CHECKED: _____
 APPROVED: _____

DATE: _____ BY: _____
 SURVEYED: _____
 PLANNED: _____
 CHECKED: _____
 APPROVED: _____

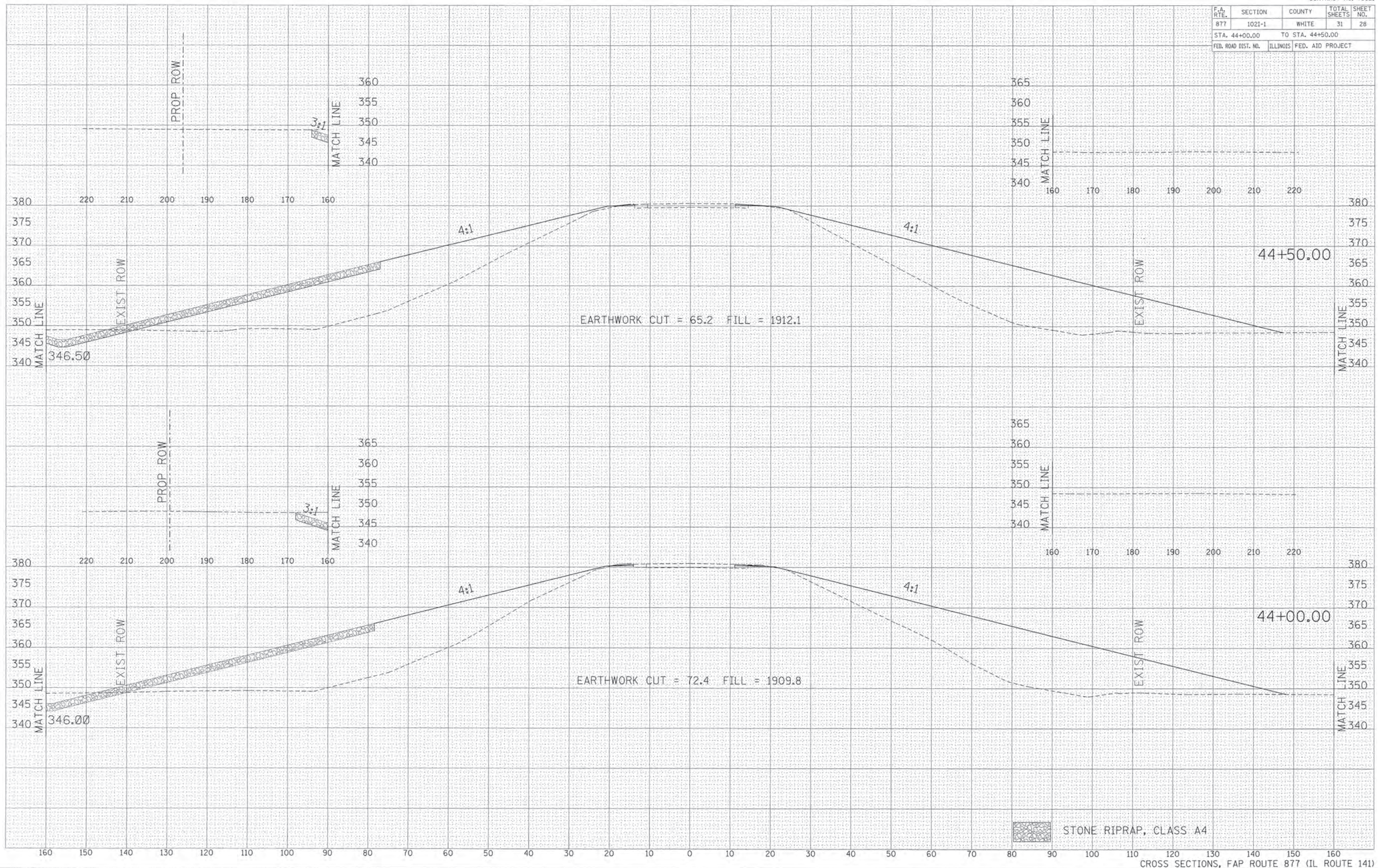
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	26
STA. 42+00.00		TO STA. 42+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

DATE: _____
 BY: _____
 CHECKED: _____
 SUPERVISOR: _____
 ENGINEER: _____
 FINAL SURVEY: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____

DATE: _____
 BY: _____
 CHECKED: _____
 SUPERVISOR: _____
 ENGINEER: _____
 ORIGINAL SURVEY: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____



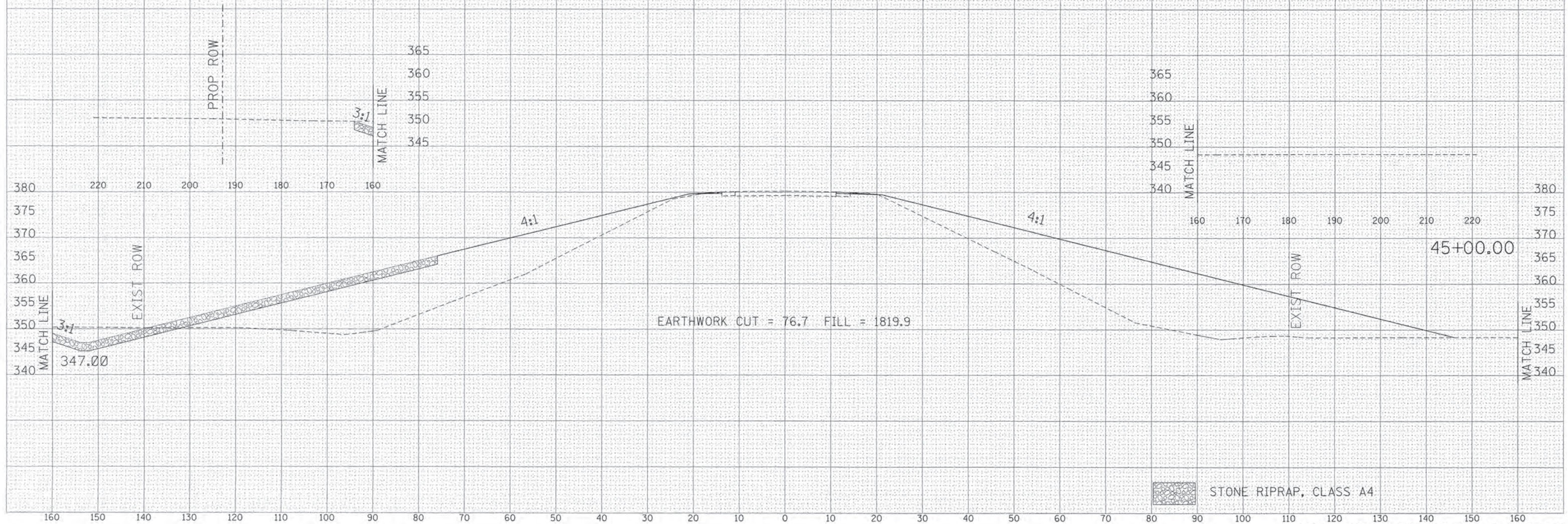
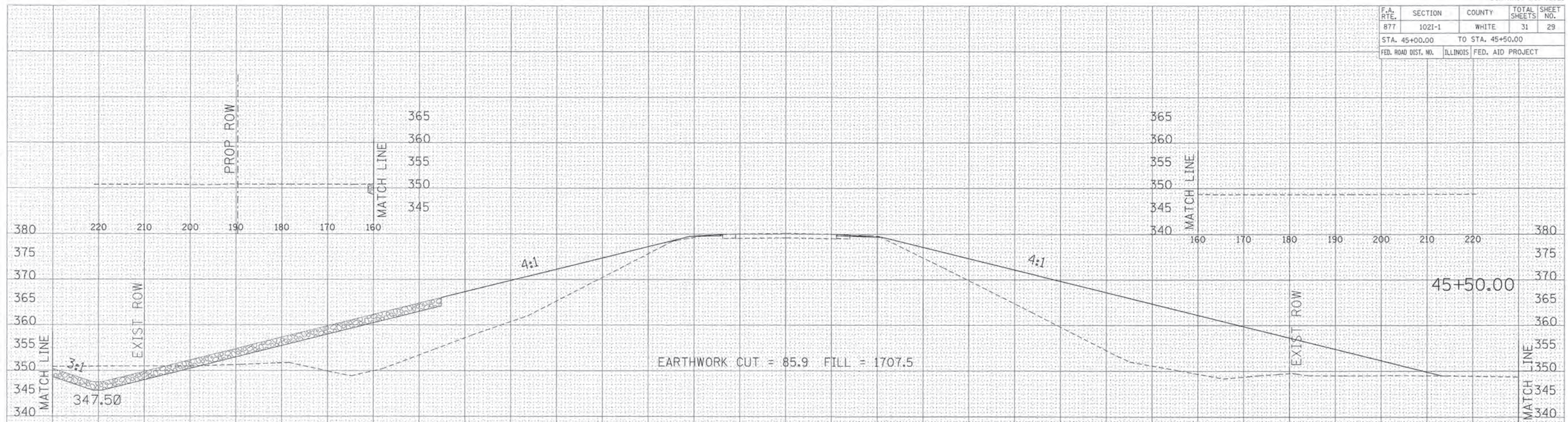
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	28
STA. 44+00.00 TO STA. 44+50.00				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DATE	
BY	
FINAL SURVEY	
PROPOSED SURVEY	
NOTE BOOK	
TEMPLATE	
AREAS	
CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
PROPOSED SURVEY	
NOTE BOOK	
TEMPLATE	
AREAS	
CHECKED	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	29
STA. 45+00.00 TO STA. 45+50.00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



 STONE RIPRAP, CLASS A4

DATE
BY
SUPERVISOR
SURVEY
NOTE BOOK
TEMPLATE
AREAS
CHECKED

DATE
BY
ORIGINAL
SURVEY
NOTE BOOK
TEMPLATE
AREAS
CHECKED

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
877	1021-1	WHITE	31	31
STA. 47+00.00		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS		FED. AID PROJECT	

FINAL SURVEY	BY	DATE
NOTE BOOK		
AREAS CHECKED		
DATE		

ORIGINAL SURVEY	BY	DATE
NOTE BOOK		
AREAS CHECKED		
DATE		

