

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED

SURFACE TRANSPORTATION / RURAL PROGRAM FUNDS
FAS 1600 (C.H. 7) SEC. 11-00078-02-BR ADAMS COUNTY
PROJECT NO. RS-1600(120)
STR. NO. 001-3235

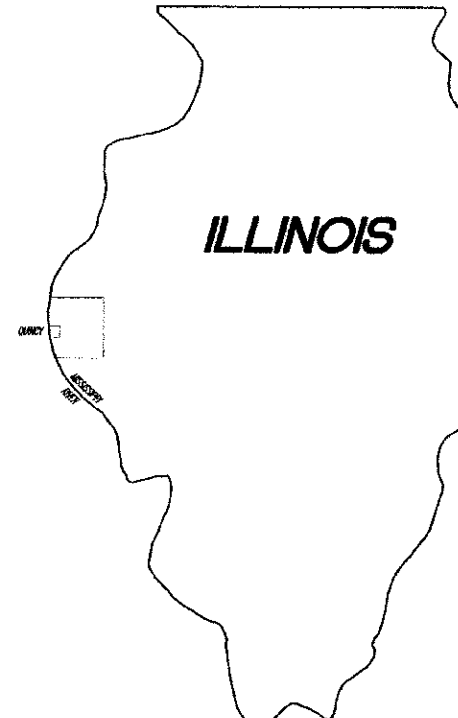
COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	1 OF 18
COVER SHEET			
TOTAL NO. SHEETS - 18			

93598

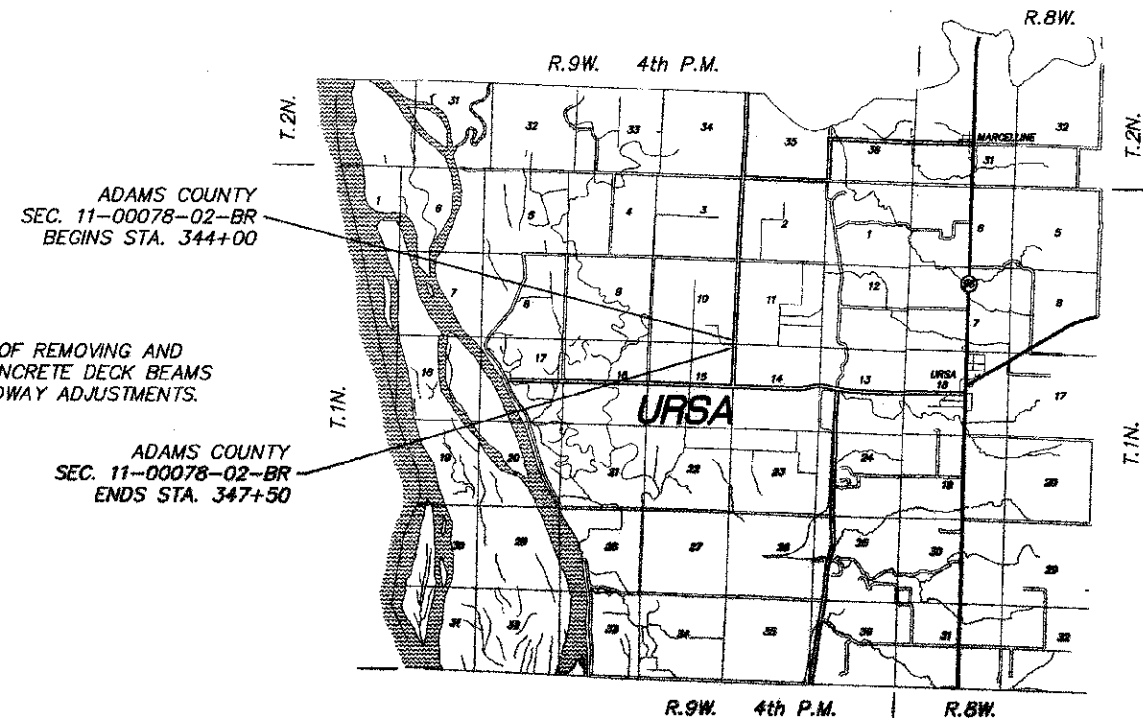
- SHEET NO. SHEET**
- 1 TITLE SHEET
 - 2 SUMMARY OF QUANTITIES
 - GENERAL NOTES
 - 3 TRAFFIC CONTROL AND PROTECTION
 - TYPICAL SECTIONS
 - HOT-MIX ASPHALT SURFACE REMOVAL DETAILS
 - 4 PLAN & PROFILE SHEET
 - 5-7 CROSS SECTIONS (ROADWAY)
 - 8-9 CROSS SECTIONS (CHANNEL)
 - 10 CROSS SECTIONS (FIELD ENTRANCES)
 - 11-18 BRIDGE PLAN SHEETS

STANDARDS

- STANDARD 280001-07
- STANDARD 515001-03
- STANDARD 630301-06
- STANDARD 635006-03
- STANDARD 701006-04
- STANDARD 701306-03
- STANDARD 701901-02
- STANDARD BLR 21-9
- STANDARD BLR 26-3
- STANDARD BLR 27-1



PROPOSED IMPROVEMENT MARKED THUS —



PROPOSED IMPROVEMENT TO CONSIST OF REMOVING AND REPLACING PRECAST PRESTRESSED CONCRETE DECK BEAMS WITH THE NECESSARY APPROACH ROADWAY ADJUSTMENTS.

LOCATION MAP

(IN MILES)



NET LENGTH OF IMPROVEMENT = 350.00 FT. = 0.066 MI.

DESIGN DESIGNATION:
COLLECTOR - 225
DESIGN SPEED - 50 M.P.H.



THESE PLANS WERE PREPARED BY ME OR A FULL TIME MEMBER OF MY STAFF WORKING UNDER MY PERSONAL SUPERVISION.

SUBMITTED BY James R. Frankel DATE 1/9/13
COUNTY ENGINEER
LICENSE NO. 062-044792
LIC. EXPIRES 11/30/2013

APPROVED 1/9/13
James R. Frankel
COUNTY ENGINEER

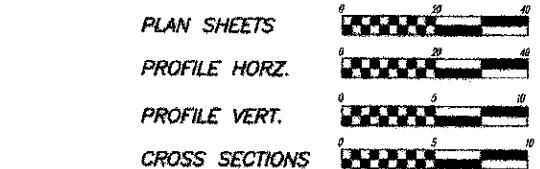
PASSED 2-7-2013
Ron Dehamban
DISTRICT ENGINEER OF CONSTRUCTION

PASSED February 8, 2013
Terrence H. Fountain M.A.S.
DISTRICT ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW February 8, 2013
Roger L. Driskell M.A.S.
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PREPARED BY
ADAMS COUNTY HIGHWAY DEPARTMENT
101 NORTH 54th STREET, QUINCY, ILLINOIS



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

UTILITIES:
J.U.L.I.E. 1-800-892-0123
ADAMS TELEPHONE CO-OPERATIVE
AMEREN ILLINOIS (ELECTRIC)

JOB NO. C-96-215-12
CONTRACT NO. 93598

COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	2

SUMMARY OF QUANTITIES
GENERAL NOTES HMA REQUIREMENTS

93598

SUMMARY OF QUANTITIES

TOTAL QUANTITY	UNIT	ITEM	SPECIAL PROVISION	CODE NUMBER
68	CU YD	EARTH EXCAVATION		20200100
148	CU YD	CHANNEL EXCAVATION		20300100
16	CU YD	FURNISHED EXCAVATION	*	20400800
20	POUND	TEMPORARY EROSION CONTROL SEEDING		28000250
75	TON	AGGREGATE SURFACE COURSE, TYPE B		40200800
100	GALLON	BITUMINOUS MATERIALS (PRIME COAT)	*	40600100
15	TON	LEVELING BINDER (MACHINE METHOD), N50	*	40600625
105	TON	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	*	40603310
150	TON	AGGREGATE SHOULDERS, TYPE B		48101200
5.60	CU YD	CONCRETE STRUCTURES	*	50300225
1,391	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	*	50400405
570	POUND	REINFORCEMENT BARS, EPOXY COATED		50600208
100	FOOT	STEEL RAILING, TYPE S1		50900205
1	EACH	NAME PLATES		51500100
98	FOOT	PIPE CULVERTS, CLASS D, TYPE 2 24"	*	54201089
155	SQ YD	WATERPROOFING MEMBRANE SYSTEM		58100200
50	FOOT	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS		63000001
4	EACH	TRAFFIC BARRIER TERMINAL, TYPE 5A		63100075
4	EACH	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT		63100167
300	FOOT	GUARDRAIL REMOVAL	*	63200310
1	L SUM	MOBILIZATION		67100100
40	FOOT	SHORT TERM PAVEMENT MARKING	*	70300100
4	EACH	TERMINAL MARKER - DIRECT APPLIED		78201000
1,490	SQ FT	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	*	X0320047
360	TON	STONE RIPRAP, CLASS A4 (SPECIAL)	*	X2810208
107	SQ YD	BRIDGE APPROACH PAVEMENT (SPECIAL)	*	X4201400
428	SQ YD	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	*	X4401128
1	L SUM	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	*	X7010216

CONSTRUCTION TYPE CODE: 0014

△ SPECIALTY ITEMS

GENERAL NOTES

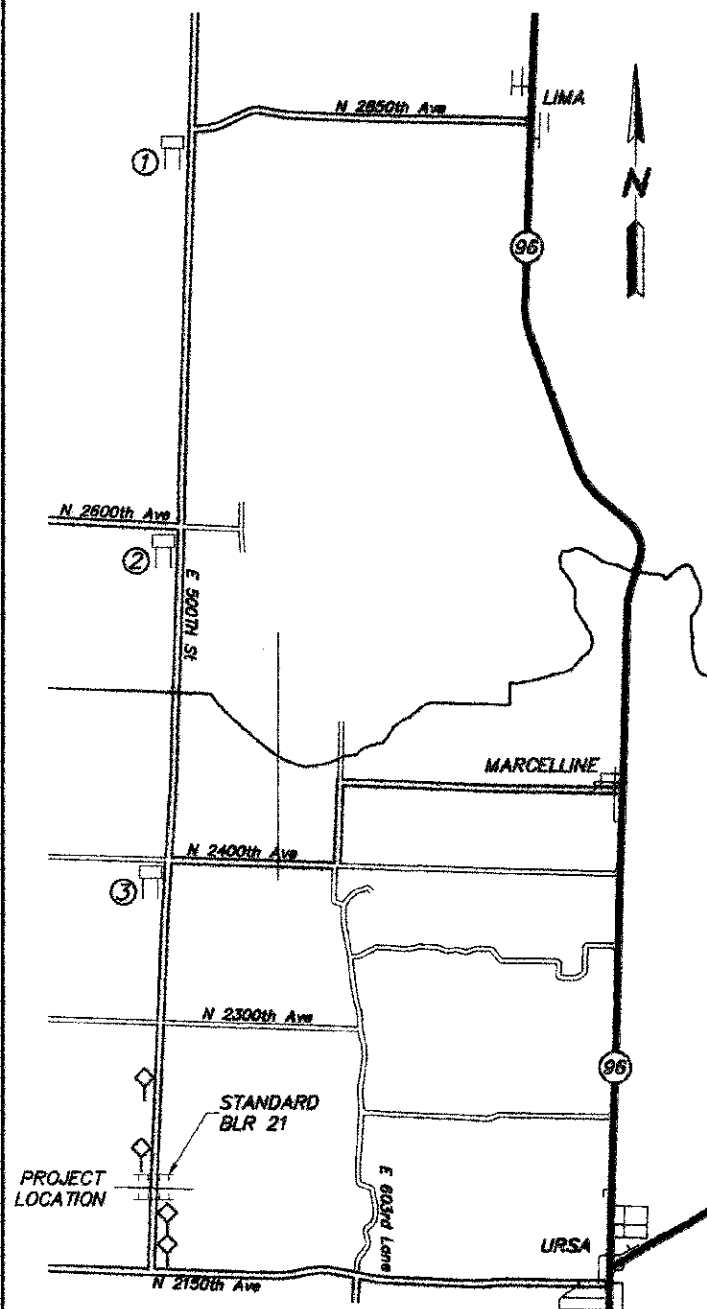
- SEEDING BY ADAMS COUNTY.
- PAVEMENT MARKINGS BY ADAMS COUNTY.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

ITEM	AGG. COMPOSITION	ASPHALT GRADE	VOIDS
LEVELING BINDER	IL-9.5	PG 64-22	4.0% @ N50
HOT-MIX ASPHALT SURFACE COURSE	IL-9.5 OR IL-12.5 MIXTURE "C"	PG 64-22	4.0% @ N50

NOTE: HOT-MIX ASPHALT QUANTITIES CALCULATED @ 112#/SQ. YD./ IN.

TRAFFIC CONTROL AND PROTECTION



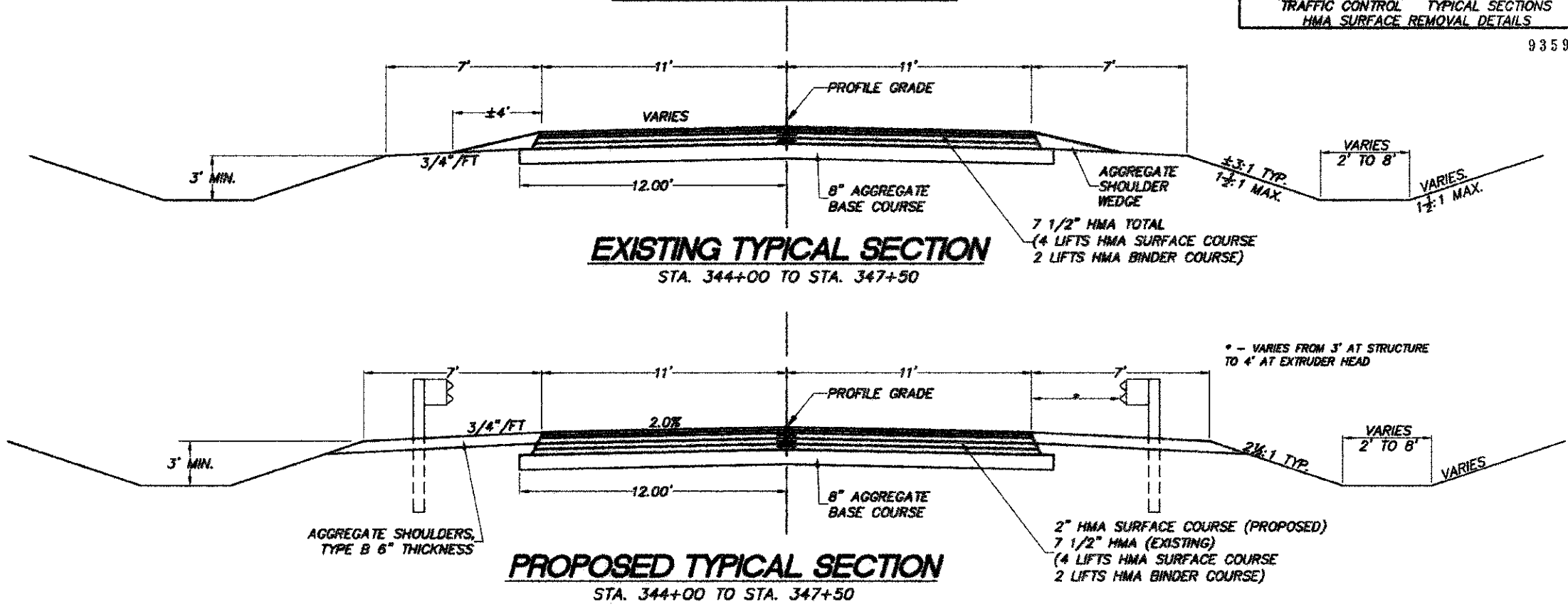
- ① R-11-3a SIGN
ROAD CLOSED
6.5 MILES AHEAD
LOCAL TRAFFIC ONLY
- ② R-11-3a SIGN
ROAD CLOSED
4 MILES AHEAD
LOCAL TRAFFIC ONLY
- ③ R-11-3a SIGN
ROAD CLOSED
2 MILES AHEAD
LOCAL TRAFFIC ONLY

COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1800	11-00078-02-BR	3

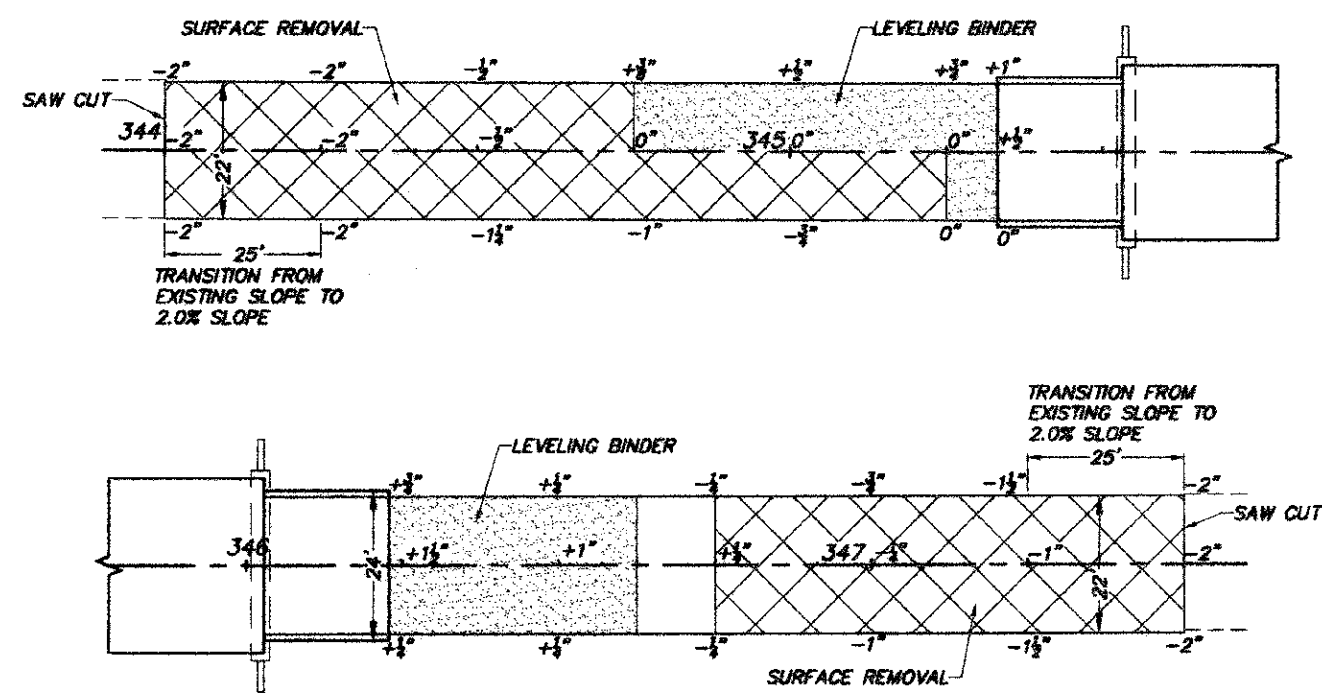
TRAFFIC CONTROL TYPICAL SECTIONS
HMA SURFACE REMOVAL DETAILS

93598

TYPICAL SECTIONS



HMA SURFACE REMOVAL, VARIABLE DEPTH



PROJECT NO. RS-1600(120)			
COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FS 1000	11-00078-02-BR	4
STA. 343+00 TO STA. 348+50			
93598			

STA. - STA.	TRAFFIC BARRIER TERMINAL, TYPE SA	STEEL PLATE BEAM GUARDRAIL, TYPE A	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	GUARDRAIL REMOVAL
LT. STA. 344+75.0 - 348+83.0	1	12.5 FT.	1	75 FT.
RT. STA. 344+75.0 - 348+83.0	1	12.5 FT.	1	75 FT.
LT. STA. 348+03.0 - 348+83.0	1	12.5 FT.	1	75 FT.
RT. STA. 348+03.0 - 348+83.0	1	12.5 FT.	1	75 FT.

SECTION 11 - T.I.N. - R.9W. - 4th P.M.

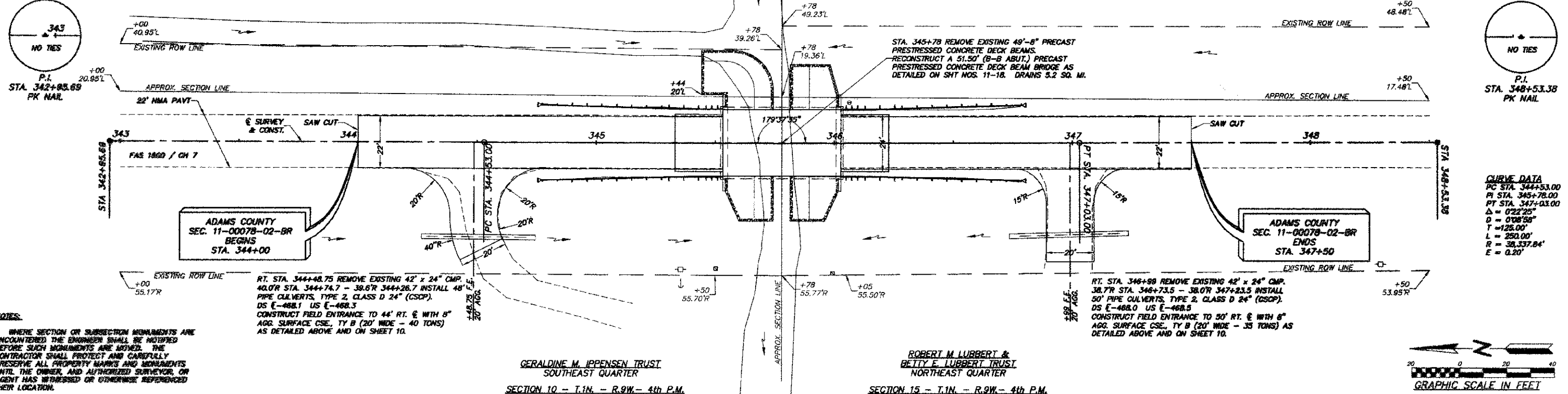
SECTION 14 - T.I.N. - R.9W. - 4th P.M.

RUSSELL P. & MARY K. SHRIVER
SOUTHWEST QUARTER

SPIRIT KNOB FARMS, INC.
W 1/2 OF THE NW 1/4

GERALDINE M. IPPENSEN TRUST
SOUTHEAST QUARTER

ROBERT M. LUBBERT &
BETTY E. LUBBERT TRUST
NORTHEAST QUARTER



ADAMS COUNTY
SEC. 11-00078-02-BR
BEGINS
STA. 344+00

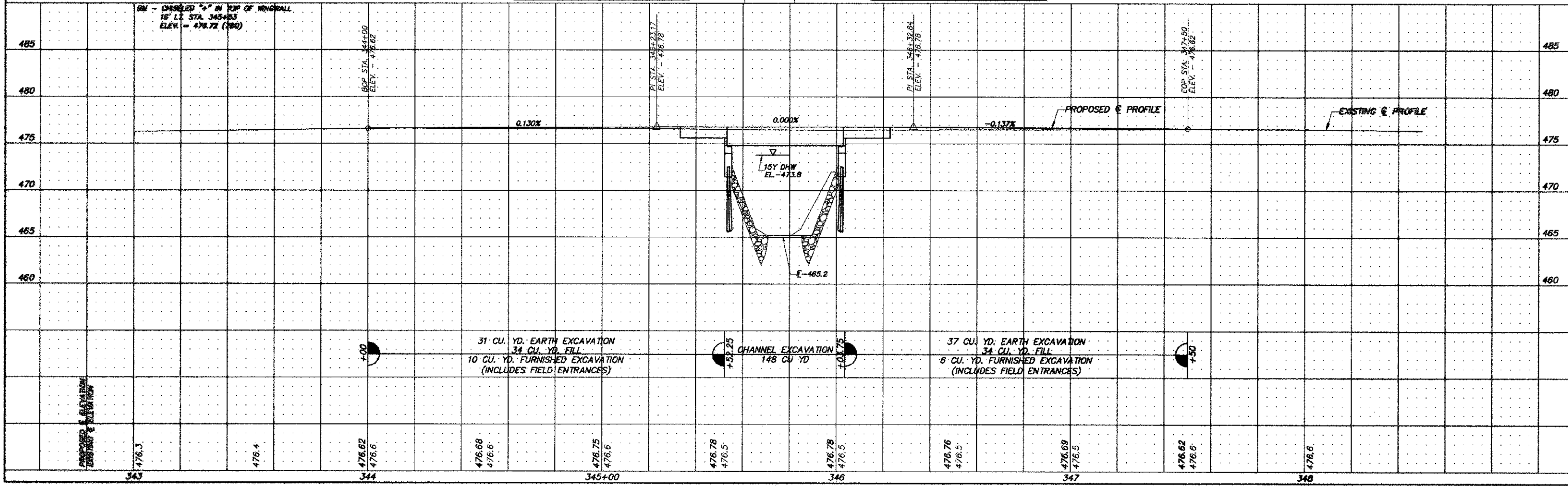
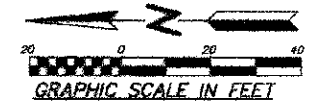
ADAMS COUNTY
SEC. 11-00078-02-BR
ENDS
STA. 347+50

CURVE DATA
PC STA. 344+53.00
PI STA. 345+78.00
PT STA. 347+03.00
Δ = 022°25'
D = 078°50'
T = 128.00'
L = 292.00'
R = 38,337.84'
E = 0.20'

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

RT. STA. 344+48.75 REMOVE EXISTING 42" x 24" CMP. 40.0'R STA. 344+74.7 - 39.6'R 344+26.7 INSTALL 48" PIPE CULVERTS, TYPE 2, CLASS D 24" (GSCP). DS E-488.1 US E-488.3 CONSTRUCT FIELD ENTRANCE TO 44' RT. E WITH 6" AGG. SURFACE CSE, TY B (20' WIDE - 40 TONS) AS DETAILED ABOVE AND ON SHEET 10.

RT. STA. 346+99 REMOVE EXISTING 42" x 24" CMP. 38.7'R STA. 346+73.5 - 38.0'R 347+23.5 INSTALL 50" PIPE CULVERTS, TYPE 2, CLASS D 24" (GSCP). DS E-488.0 US E-488.5 CONSTRUCT FIELD ENTRANCE TO 50' RT. E WITH 6" AGG. SURFACE CSE, TY B (20' WIDE - 35 TONS) AS DETAILED ABOVE AND ON SHEET 10.



Ex ROW 55.52'R

Ex ROW 55.46'R

Ex ROW 55.42'R

Ex ROW 55.42'R

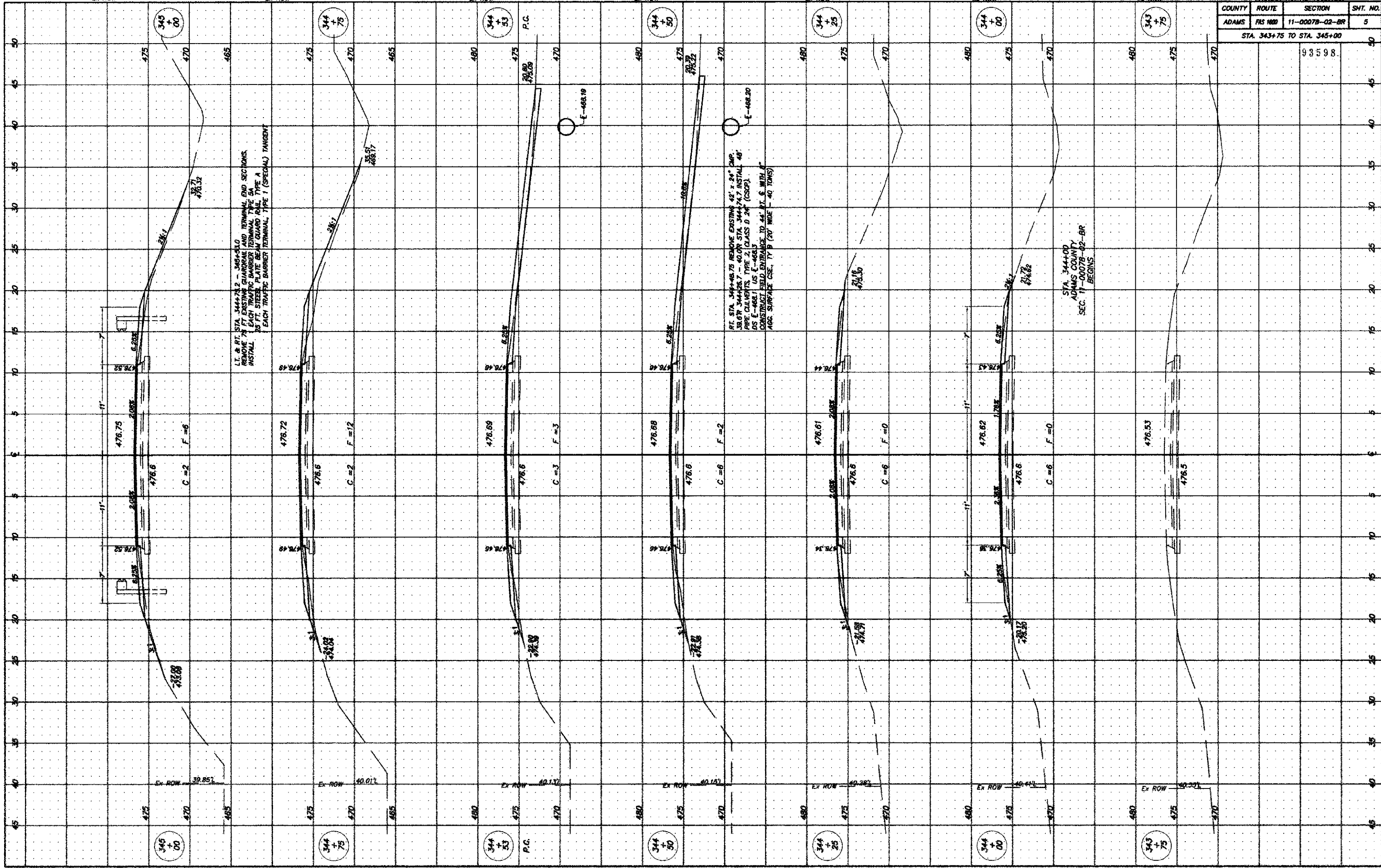
Ex ROW 55.37'R

Ex ROW 55.33'R

Ex ROW 55.29'R

PROJECT NO. RS-1600(120)

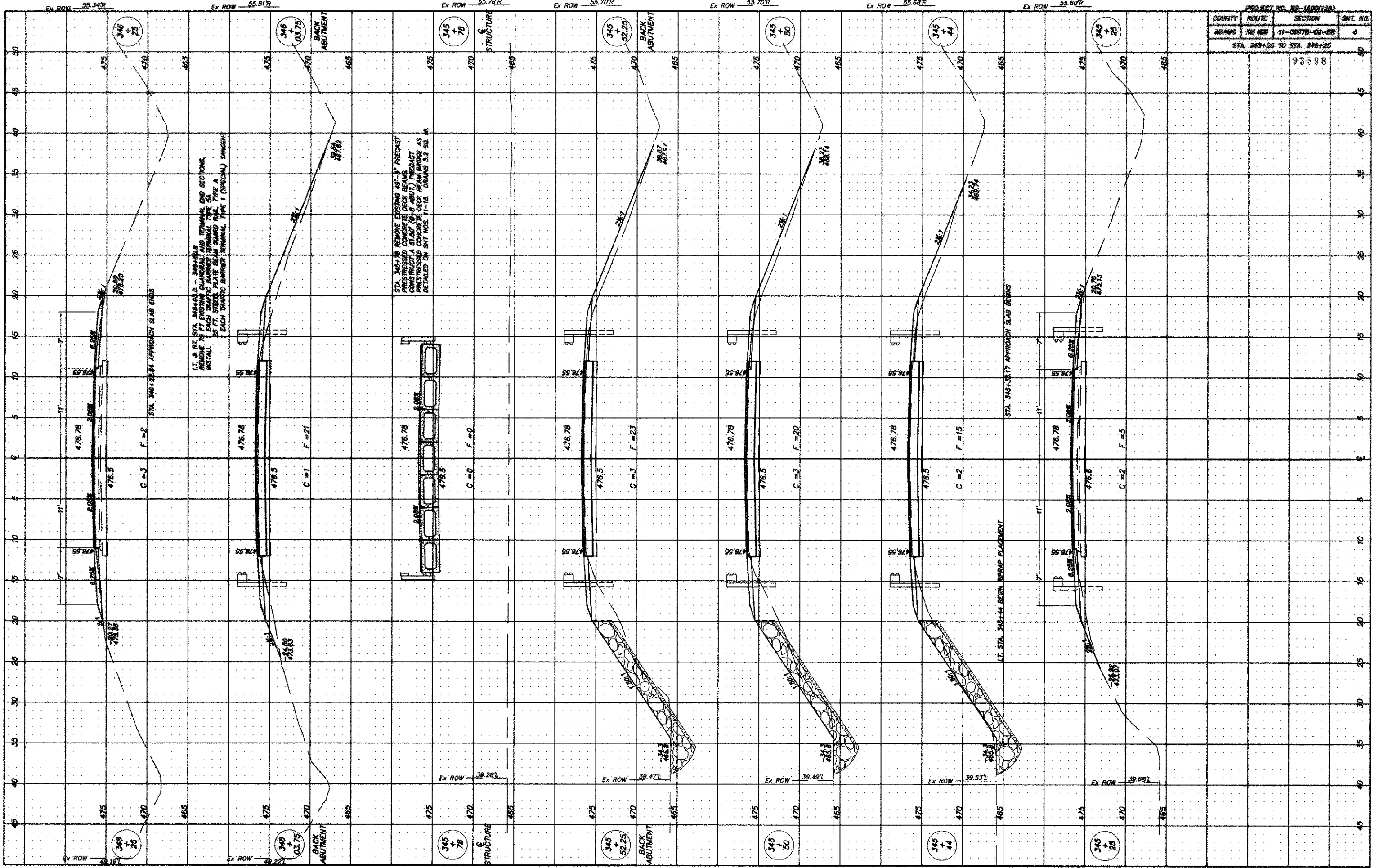
COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	RS 1600	11-0007B-02-BR	5
STA. 343+75 TO STA. 345+00			93598



L.L. & RT. STA. 344+75.2 - 345+31.0
 REMOVE 78 FT EXISTING GUARDRAIL AND TERMINAL END SECTIONS
 INSTALL EACH TRAFFIC BARRIER TERMINAL TYPE 'A'
 INSTALL EACH TRAFFIC BARRIER TERMINAL TYPE 'T' (SPECIAL) TANGENT

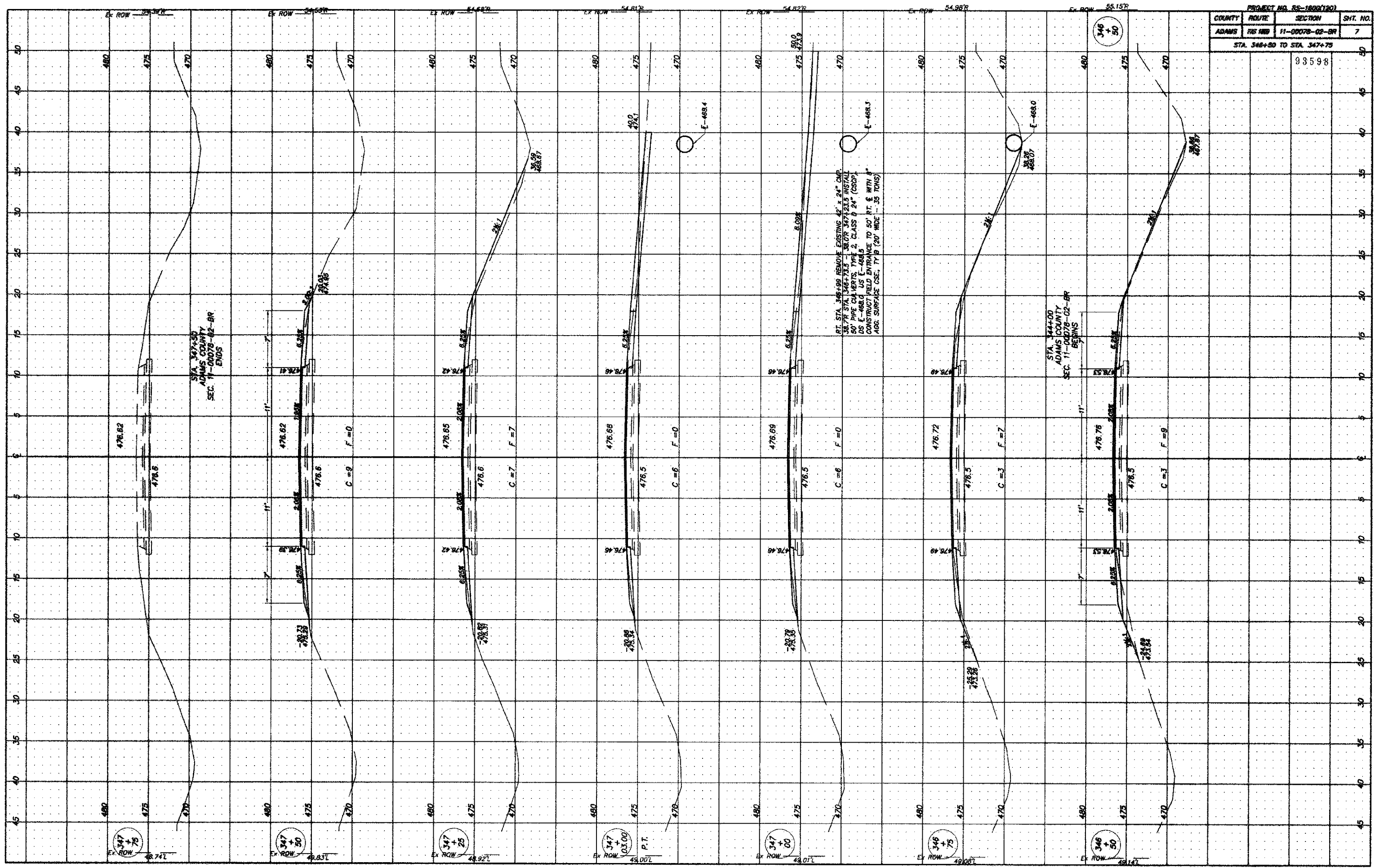
RT. STA. 344+25.75 REMOVE EXISTING 42' x 24" CURB
 36" OR 34" MAX. 40' OR STA. 344+75.25 INSTALL 46"
 PRE. CURBS, TYPE 2, CLASS B 24" (CSGP).
 OS. E-4621 US. E-4621
 CONSTRUCT FIELD ENTRANCES TO 44' BT. 6' WITH 2"
 ABS. SURFACE CSE. 17' 9" (20' WIDE - 40 TONS)

STA. 344+00
 ADAMS COUNTY
 SEC. 11-0007B-02-BR
 BEGINS



COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	NO 100	11-0007B-02-02	6
STA. 345+25 TO STA. 346+25			
98598			

COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	11	00078-02-BR	7
STA. 346+80 TO STA. 347+75			93598



STA. 347+30
ADAMS COUNTY
SEC. 11-00078-02-BR
ENDS

STA. 344+00
ADAMS COUNTY
SEC. 11-00078-02-BR
BEGINNS

RT. STA. 346+88 REMOVE EXISTING 42" x 24" CMP
34.7R STA. 346+73.5 - 34.0R 347+33.5 INSTALL
50" PIPE C/A VERTS. TYPE 2, CLASS B 24" (COP)
DS E-468.0 US E-468.5
CONSTRUCT FIELD ENTRANCE TO 50' RT. & WITH 8"
AGG. SURFACE CSE. TY B (20' WIDE - .35 TONS)

347
+ 75
EX ROW 49.741

347
+ 50
EX ROW 49.831

347
+ 25
EX ROW 49.921

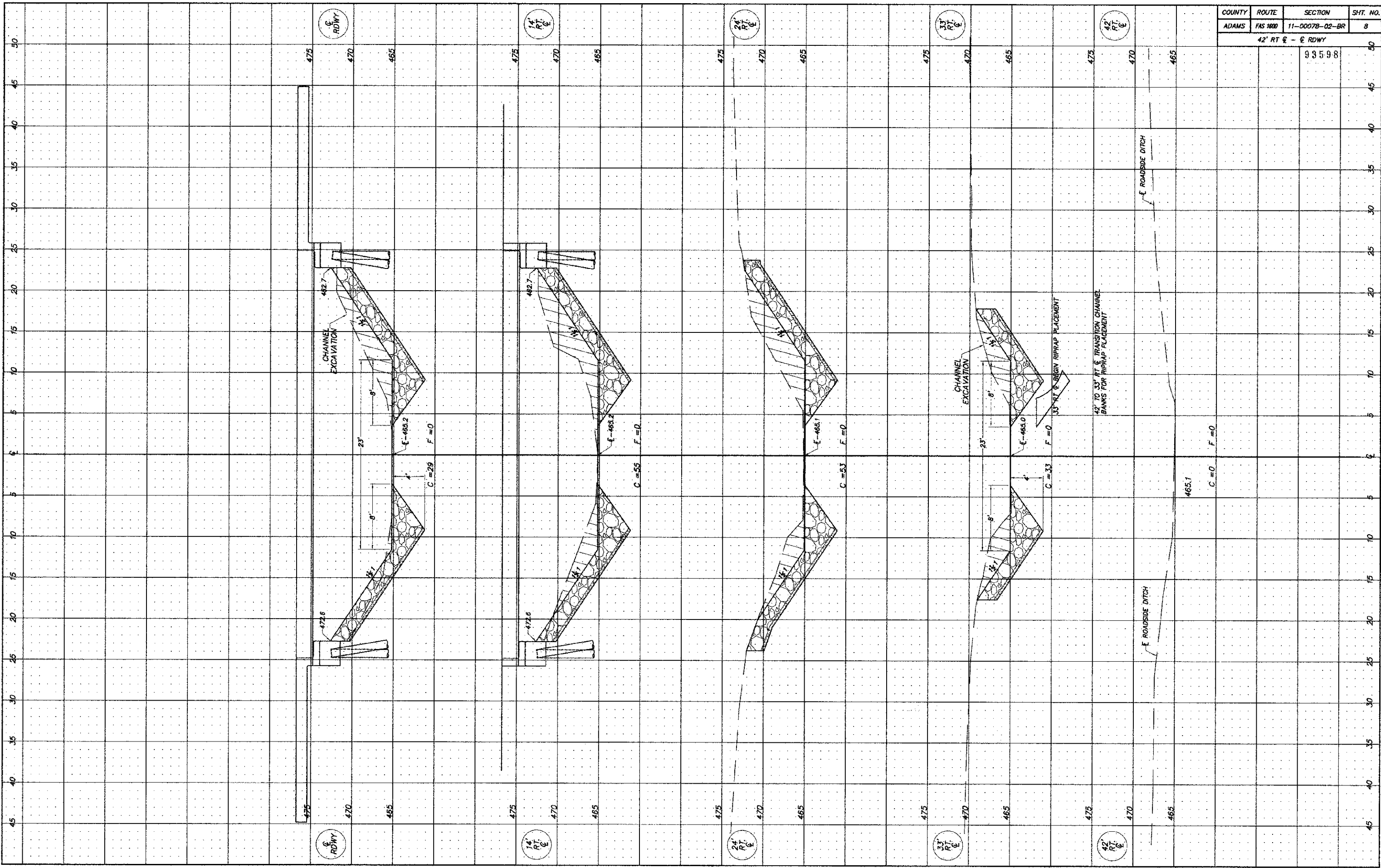
347
+ 00
EX ROW 49.001
P.T.

347
+ 00
EX ROW 49.071

346
+ 75
EX ROW 49.081

346
+ 50
EX ROW 48.141

346
+ 50



COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1800	11-00078-02-BR	8

42' RT E - E RDWY

93598

E ROADSIDE DITCH

42' TO 33' RT E TRANSITION CHANNEL BANKS FOR RIPRAP PLACEMENT

33' RT E BEGIN RIPRAP PLACEMENT

E ROADSIDE DITCH

465.1

F=0

C=0

F=0

F=0

F=0

F=0

F=0

F=0

F=0

F=0

F=0

RDWY

475

470

465

RDWY

475

470

465

RDWY

475

470

465

RDWY

475

470

465

RDWY

475

470

465

RDWY

475

470

465

RDWY

475

470

465

RDWY

475

470

465

RDWY

475

470

465

RDWY

475

470

465

CHANNEL EXCAVATION

CHANNEL EXCAVATION

CHANNEL EXCAVATION

23'

23'

23'

23'

23'

23'

8'

8'

8'

8'

8'

8'

C=29

C=53

C=53

C=33

E-465.2

E-465.2

E-465.1

E-465.0

482.7

482.7

482.7

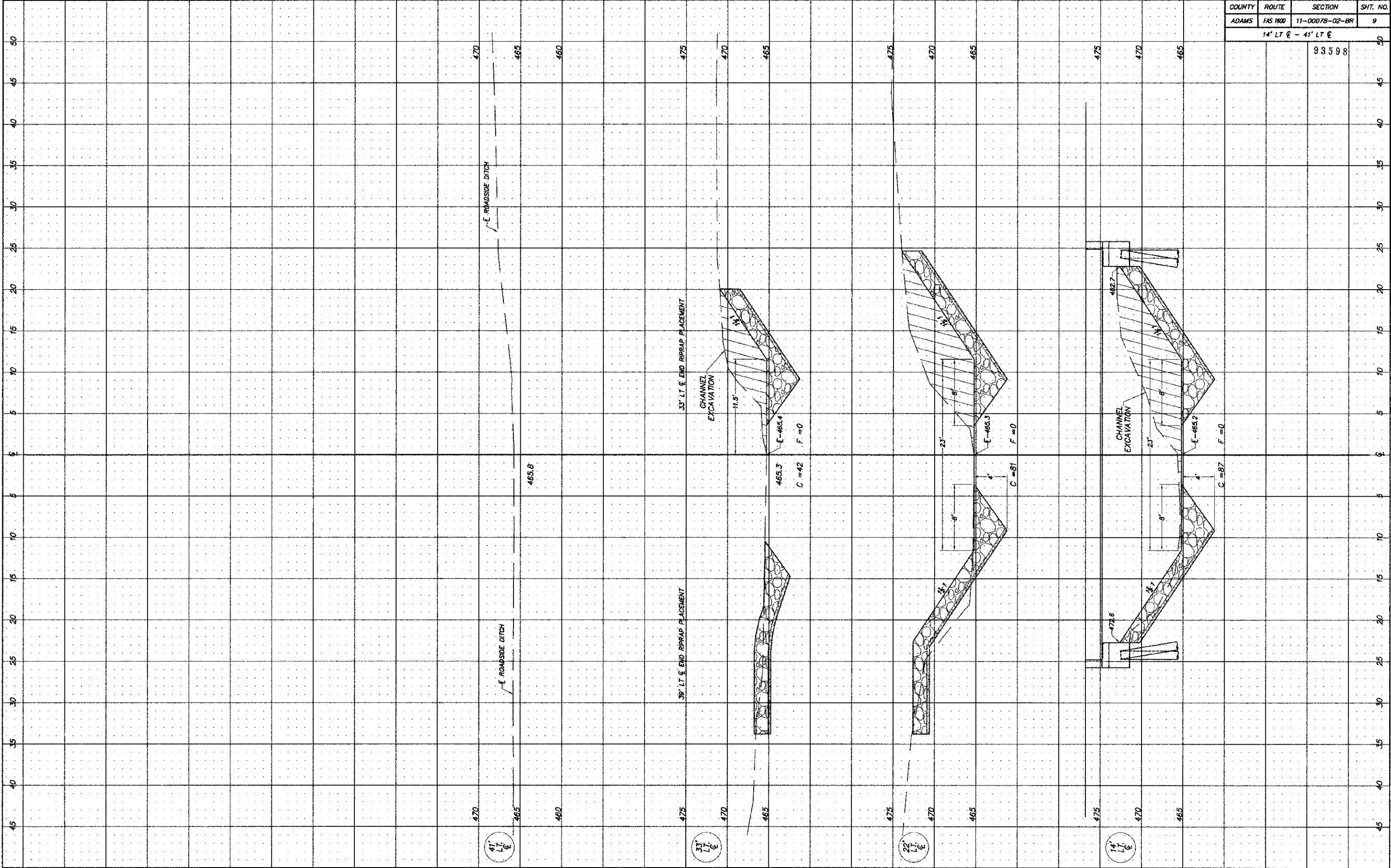
482.7

472.6

472.6

472.6

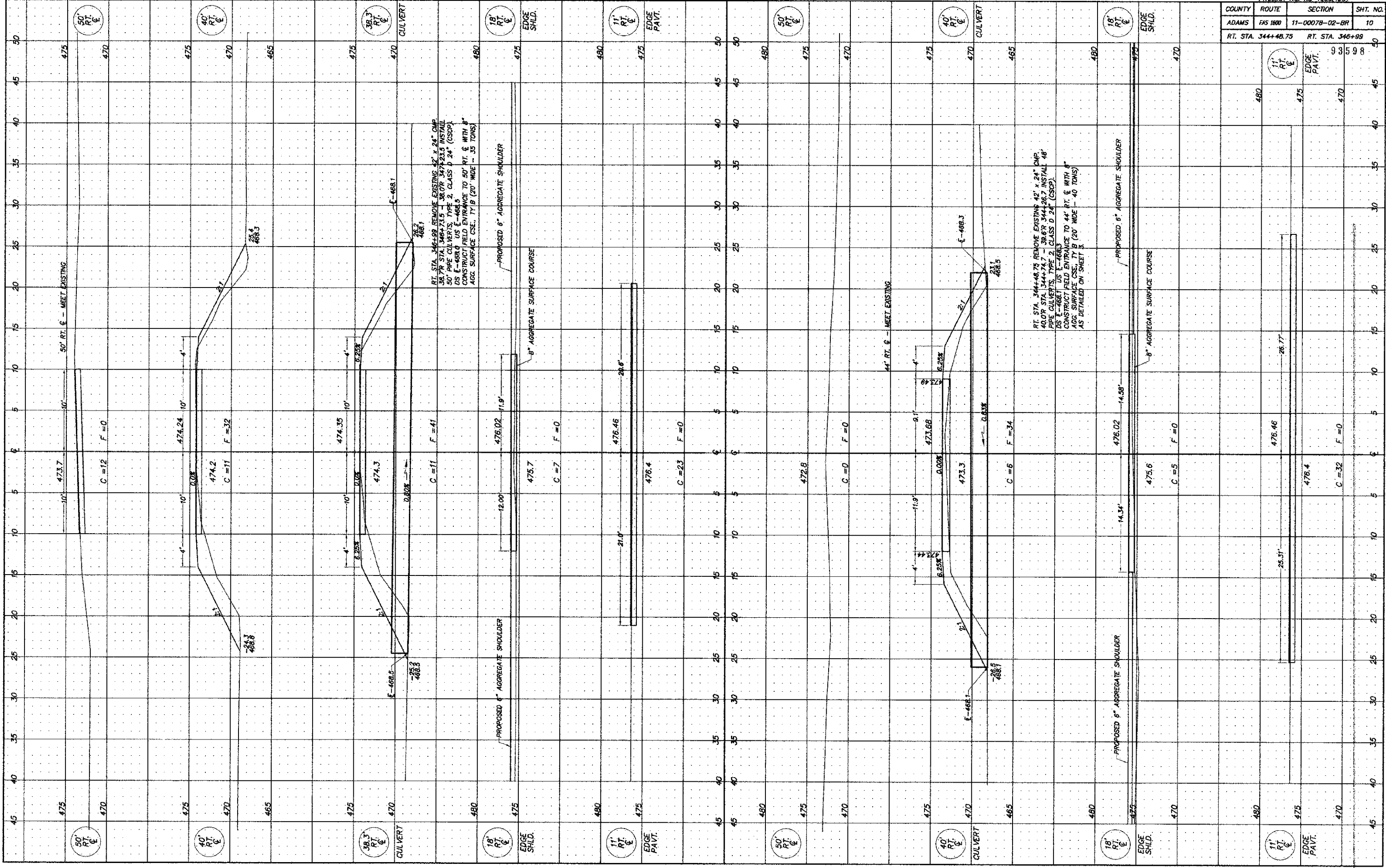
472.6



COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	9
14' LT. & 41' LT. &			93598

COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	10

RT. STA. 344+48.75 RT. STA. 346+99



COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	10

RT. STA. 344+48.75 RT. STA. 346+99

COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	71
BRIDGE GENERAL PLAN & ELEVATION			
BRIDGE SHEET 1 OF 8			93598

GENERAL NOTES

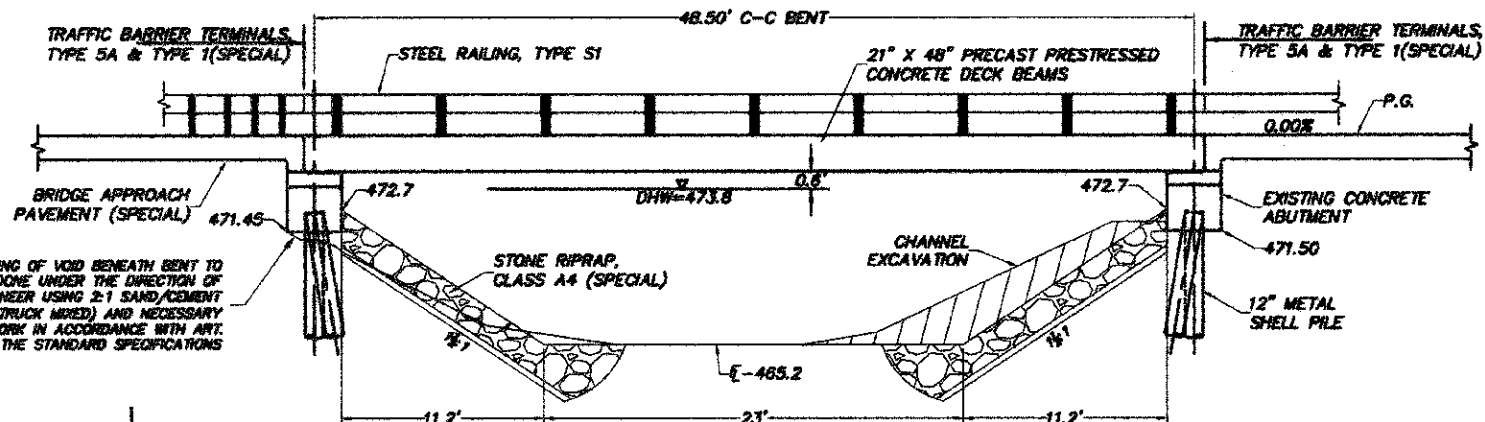
1. WATERPROOFING MEMBRANE SYSTEM SHALL BE REQUIRED ON THIS PROJECT.
2. ALL GROUT ON THIS PROJECT SHALL BE NON-SHRINK.
3. STONE RIPRAP SHALL BE PLACED TO THE DIMENSIONS SHOWN OVER A GEOTECHNICAL FABRIC IN ACCORDANCE WITH THE RIPRAP PLACEMENT DETAIL AND APPLICABLE SPECIAL PROVISIONS.
4. THE ENGINEER RESERVES THE RIGHT TO ALTER THE RIPRAP PLACEMENT DETAIL AND/OR ADJUST QUANTITIES TO FIT FIELD CONDITIONS.
5. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706, GRADE 60.
6. CORROSION INHIBITOR WILL BE REQUIRED IN THE PRODUCTION OF DECK BEAMS ON THIS PROJECT.
7. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR A CHANGE IN SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
8. REINFORCEMENT BARS DESIGNATED (e) SHALL BE EPOXY COATED.

BM - CHISELED "+" IN TOP OF WINDOW WALL
16' LT. STA. 345+53
ELEV. = 476.72 (78Q)

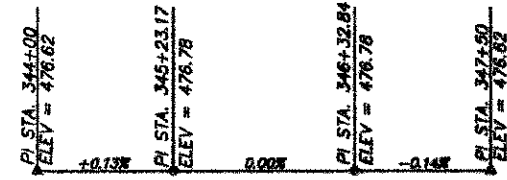
EXISTING STRUCTURE - 49'-8" x 30' PPC
DECK BEAM BRIDGE (21" DEPTH) ON
CONCRETE ABUTMENT CAPS WITH CONCRETE
PILING

SALVAGE - NONE

FILLING OF VOID BENEATH BENT TO
BE DONE UNDER THE DIRECTION OF
THE ENGINEER USING 2:1 SAND/CEMENT
GROUT (TRUCK MIXED) AND NECESSARY
FORMWORK IN ACCORDANCE WITH ART.
109.04 OF THE STANDARD SPECIFICATIONS



ELEVATION
SHOWN ALONG & ROADWAY



PROFILE

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER.	SUBSTRUCTURE		TOTAL
			PIER	ABUT.	
CHANNEL EXCAVATION	CU. YD.				148
STONE RIPRAP, CLASS A4 (SPECIAL)	TON				360
HOT-MIX ASPHALT SURFACE CSE., MIX "C", N50	TON	21.9			21.9
REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SQ. FT.	1,490			1,490
CONCRETE STRUCTURES	CU. YD.			5.6	5.6
P.P. CONCRETE DECK BEAMS 21" DEPTH	SQ. FT.	1,391			1,391
REINFORCEMENT BARS, EPOXY COATED	POUND			570	570
STEEL RAILING, TYPE S1	FOOT	100			100
WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	155			155
BRIDGE APPROACH PAVEMENT, SPECIAL	SQ. YD.	107			107
NAME PLATES	EACH	1			1

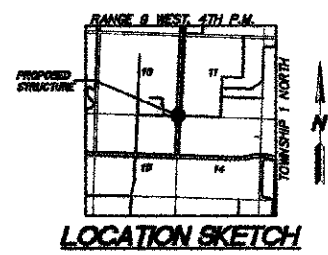
INDEX OF SHEETS

1. BRIDGE GENERAL PLAN AND ELEVATION
2. RIPRAP PLAN
3. TRAFFIC BARRIER TERMINAL INSTALLATION
4. PPC DECK BEAM SUPERSTRUCTURE
5. 21"x48" PPC DECK BEAM
6. 21"x48" PPC DECK BEAM DETAILS
7. PPC DECK BEAMS MODIFIED PILE BENT ABUTMENT
8. STEEL RAILING, TYPE S1
9. BRIDGE APPROACH PAVEMENT, SPECIAL

DESIGN STRESSES

(PRESTRESSED UNITS) (FIELD UNITS)
 $f_{ci} = 5.0$ KSI $f_c = 3.5$ KSI
 $f_c = 6.0$ KSI $f_y = 60$ KSI
 $f_y = 60$ KSI

DESIGN SCOUR ELEVATION (FT.)	
BENT #1	BENT #2
471.45	471.50

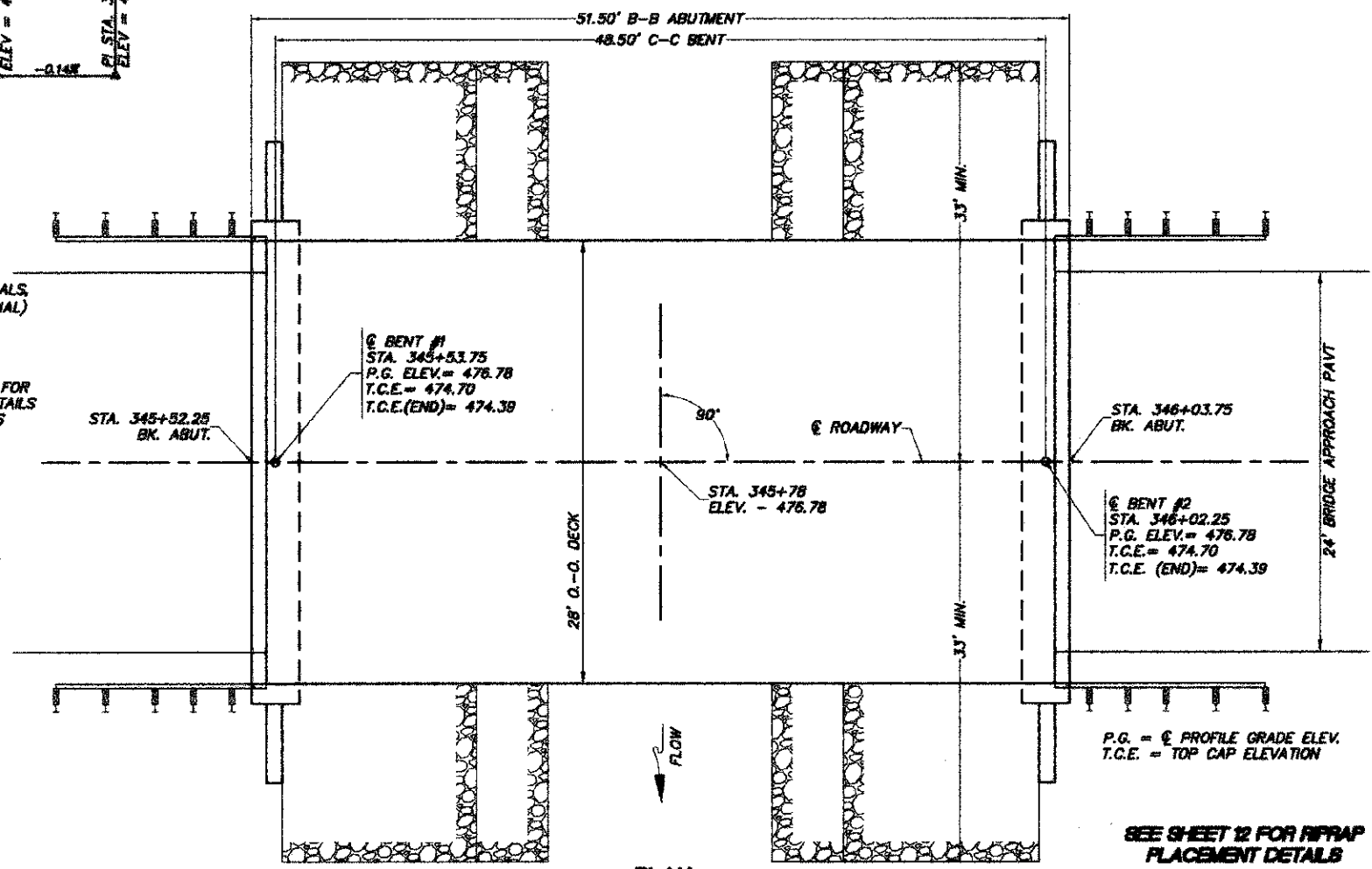


LOCATION SKETCH

DRAINAGE DITCH
BUILT 20__ BY
ADAMS COUNTY
SEC. 11-00078-02-BR
PROJECT RS-1600(120)
STATION 345+78
STR. NO. 001-3235 LOADING HL-93

LETTERING FOR NAME PLATE
RAIL MOUNT NAME PLATE AT THE SAME
CORNER OF BRIDGE AS EXISTING NAMEPLATE
(SEE STD. 515001)

BRIDGE GENERAL PLAN & ELEVATION
STRUCTURE NO. 001-3235
DRAINAGE DITCH
ADAMS COUNTY
SEC. 11-00078-02-BR
STATION 345+78



PLAN

SEE SHEET 12 FOR RIPRAP
PLACEMENT DETAILS

WATERWAY INFORMATION

FLOOD DESIGN	FLOOD FREQUENCY (YEAR)	FLOW VOLUME (CFS)	OPENING SQ. FT.		NATURAL H.W.E.	HEAD - FT.		HEADWATER ELEV.	
			EXISTING	PROPOSED		EXISTING	PROPOSED	EXISTING	PROPOSED
DESIGN	15	1,400	292	308		0.0	0.0		473.6
BASE	100	2,500							
OVERTOPPING									
MAX. CALC									

THE STRUCTURE HAS BEEN DESIGNED TO BE STABLE FOR SCOUR CONDITIONS IN ACCORDANCE WITH THE FHWA TECHNICAL ADVISORY T-5140.23 "EVALUATING SCOUR AT BRIDGES" AND HYDRAULIC ENGINEER CIRCULAR 18 - EVALUATING SCOUR AT BRIDGES. THE REQUIREMENTS OF THE IDNR DIVISION OF WATER RESOURCES HAVE BEEN FULFILLED WITH STATEWIDE PERMIT NO. 12.

I Certify That to the Best of my Knowledge, Information and Belief, the Revised Standard Detail Sheets and/or Special Component Sheets Included with the Standard Bridge Detail Sheets are Structurally Adequate for the Design Loading Shown on the Plans and Comply with the Requirements of the Current AASHTO Standard Specifications for Highway Bridges.

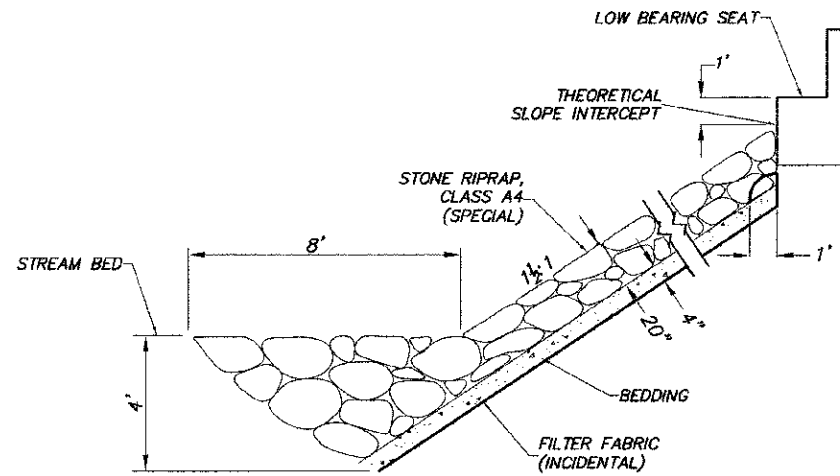
Matthew R. Frankenhoff
1-9-13
Date
Licensed Structural Engineer

DESIGN SPECIFICATIONS
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 5th ED.
WITH 2010 INTERIMS.
LOADING HL-93
ALLOW 50#/SQ.FT. FOR FUTURE WEARING SURFACE

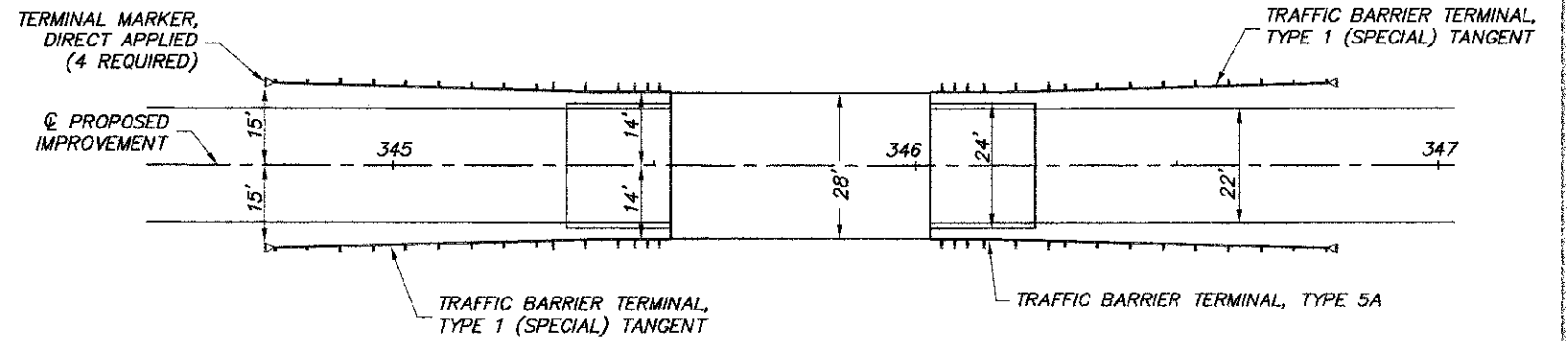


COUNTY	ROUTE	SECTION	SMT. NO.
ADAMS	FAS 1600	11-00078-02-BR	12
RIPRAP PLAN			
TRAFFIC BARRIER TERMINAL INSTALLATION			
BRIDGE SHEET 2 OF 8 93598			

TRAFFIC BARRIER TERMINAL INSTALLATION



RIPRAP PLACEMENT DETAIL



GUARD RAIL SCHEDULE

STA. - STA.	TRAFFIC BARRIER TERMINAL, TYPE 5A	STEEL PLATE BEAM GUARDRAIL, TYPE A	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	GUARDRAIL REMOVAL
LT. STA. 344+75.2 - 345+53.0	1	12.5 FT.	1	75 FT.
RT. STA. 344+75.2 - 345+53.0	1	12.5 FT.	1	75 FT.
LT. STA. 346+03.0 - 346+80.8	1	12.5 FT.	1	75 FT.
RT. STA. 346+03.0 - 346+80.8	1	12.5 FT.	1	75 FT.

SEE STANDARD 630301 FOR SHOULDER WIDENING DETAILS

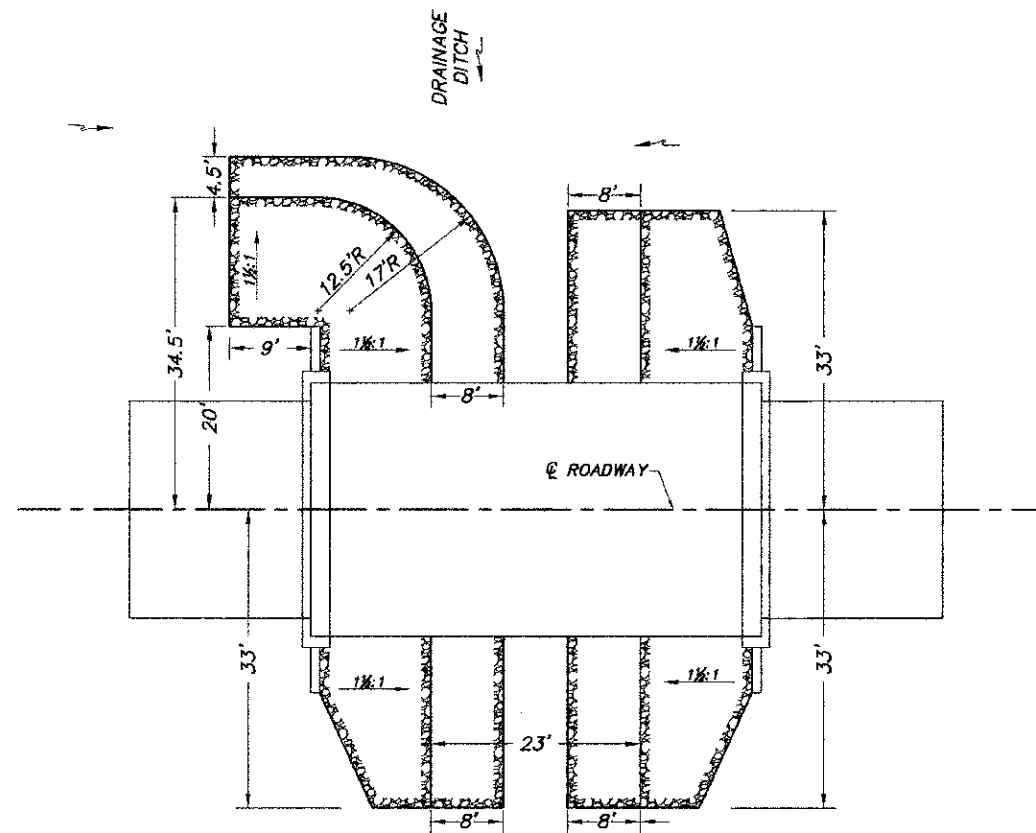
SUMMARY OF QUANTITIES

ITEM	UNIT	NO. ABUT.	SO. ABUT.	TOTAL
FILTER FABRIC FOR USE WITH RIPRAP	SQ. YD.	145	120	265*
STONE RIPRAP, CLASS A4 (SPECIAL)	TON	192	168	360

* INCIDENTAL TO UNIT PRICE BID FOR RIPRAP, SPECIAL

GENERAL NOTES:

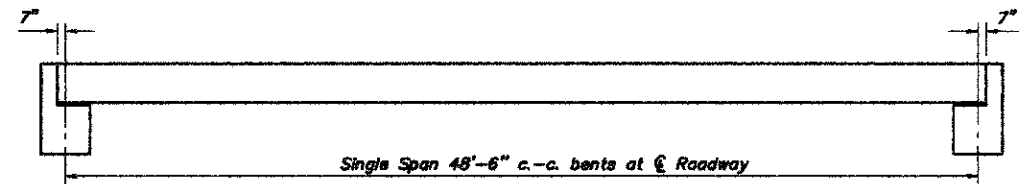
- LAYOUT OF THE SLOPE PROTECTION SYSTEM MAY BE VARIED TO SUIT GROUND CONDITIONS IN THE FIELD AS DIRECTED BY THE ENGINEER.
- 1.6 TON/CY USED FOR RIPRAP QUANTITY CALCULATION.



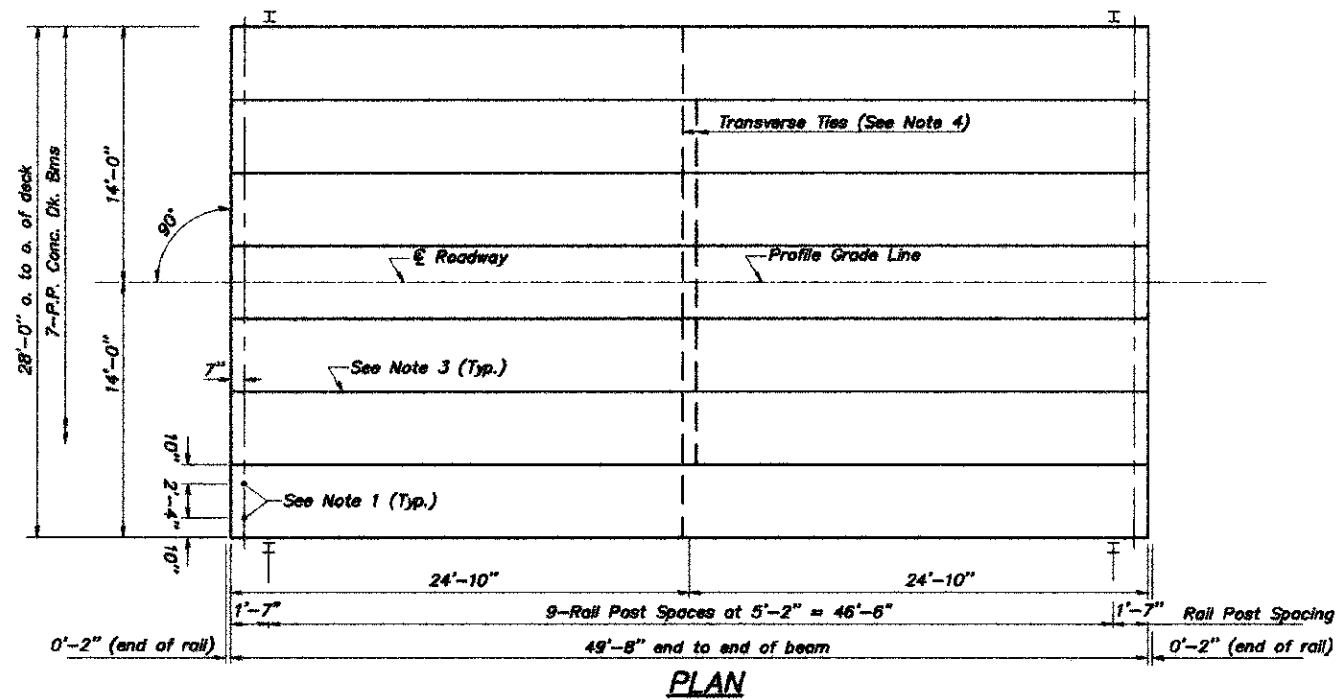
RIPRAP LAYOUT

RIPRAP PLAN
 TRAFFIC BARRIER TERMINAL INSTALLATION
 STRUCTURE NO. 001-3235
 DRAINAGE DITCH
 ADAMS COUNTY
 SEC. 11-00078-02-BR
 STATION 345+78

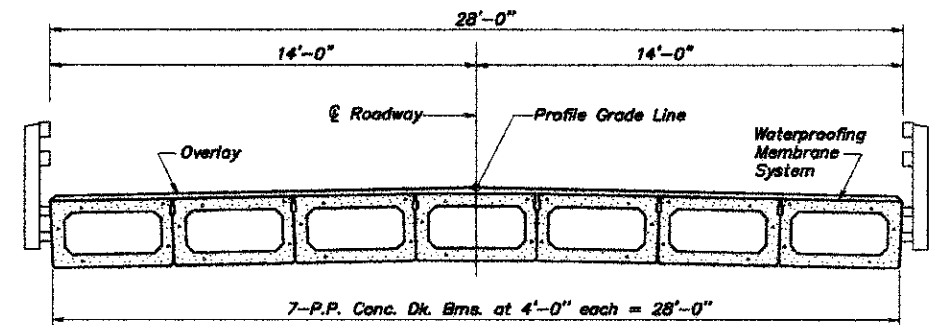
PROJECT NO. RS-1800(120)			
COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	13
PPC DECK BEAM SUPERSTRUCTURE			
BRIDGE SHEET 3 OF 8 93598			



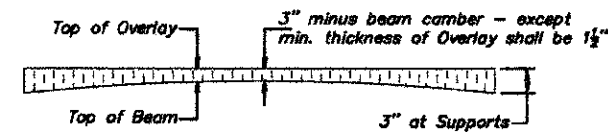
TYPICAL ELEVATIONS



PLAN



CROSS SECTION



PROFILE OF OVERLAY

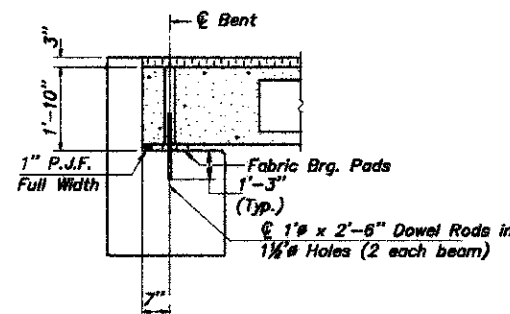
QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 21" Dp.	1,391 Sq. Ft.
Steel Railing, Type S-1	100 Ft.
PC Mortar Fairing Course*	298 Ft. 48"
Waterproofing Membrane System	155 Sq. Yds.

Note: Quantity of overlay for one span = 21.9 Tons
 * - Portland Cement Mortar Fairing Course to be considered incidental to P.P. Conc. Deck Beams

NOTES

1. After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
2. Nominal 1" joint at \bar{C} Pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted.
4. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar outside shall be filled with grout after transverse tie assembly is in place.



SECTION AT ABUTS.

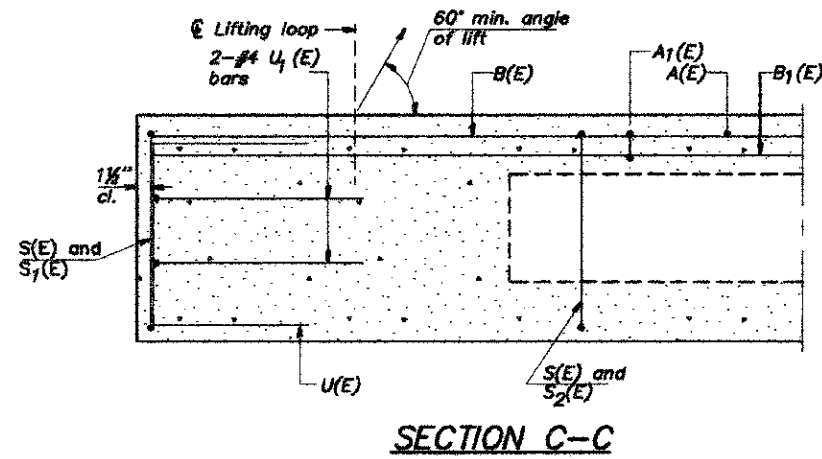
(Along \bar{C} Beams)

PPC DECK BEAM SUPERSTRUCTURE			
28' RDWY.	21" BMS.	49'-8" SPAN	0' SKEW

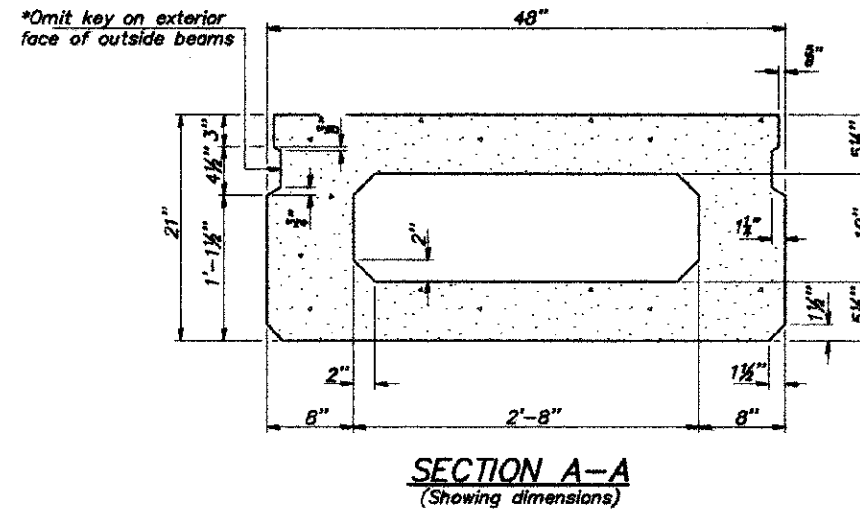
STRUCTURE NO. 001-3235
 DRAINAGE DITCH
 ADAMS COUNTY
 SEC. 11-00078-02-BR
 STATION 345+78

COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	14
21" x 48" PPC DECK BEAM			
BRIDGE SHEET 4 OF 8			93598

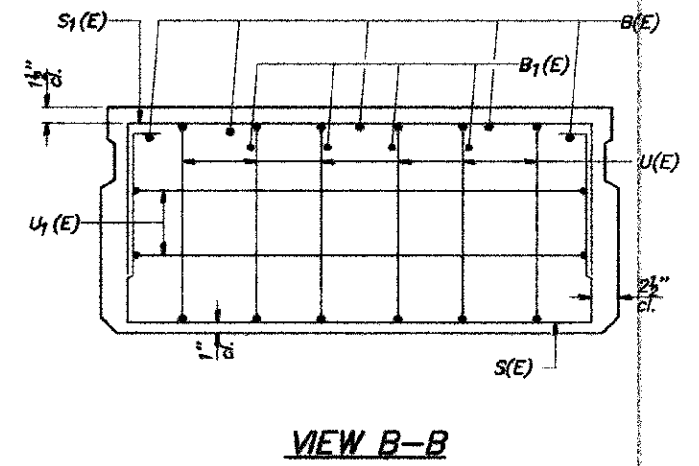
*Rail post anchor devices (specified elsewhere) to be cast into exterior face of outside beam.



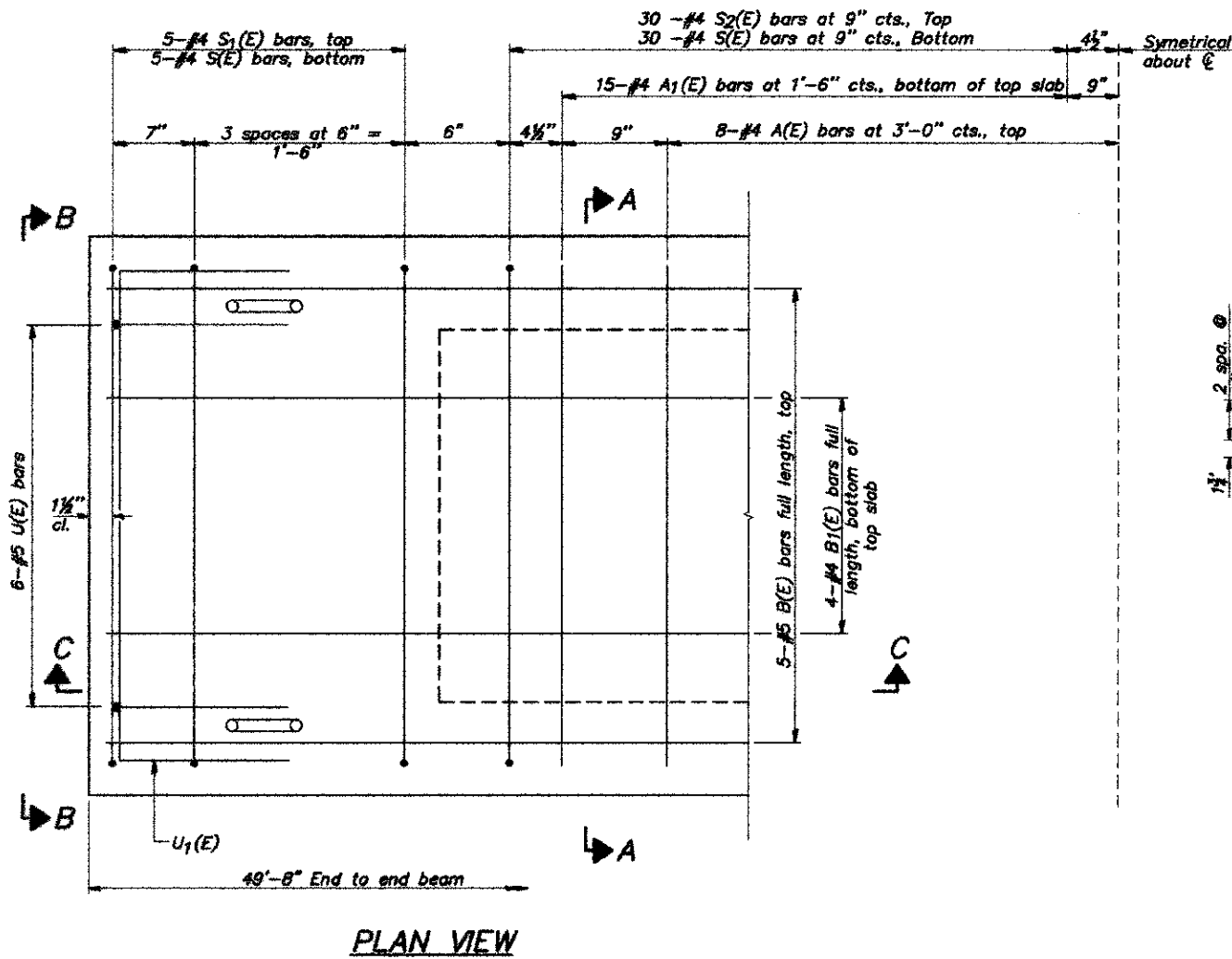
SECTION C-C



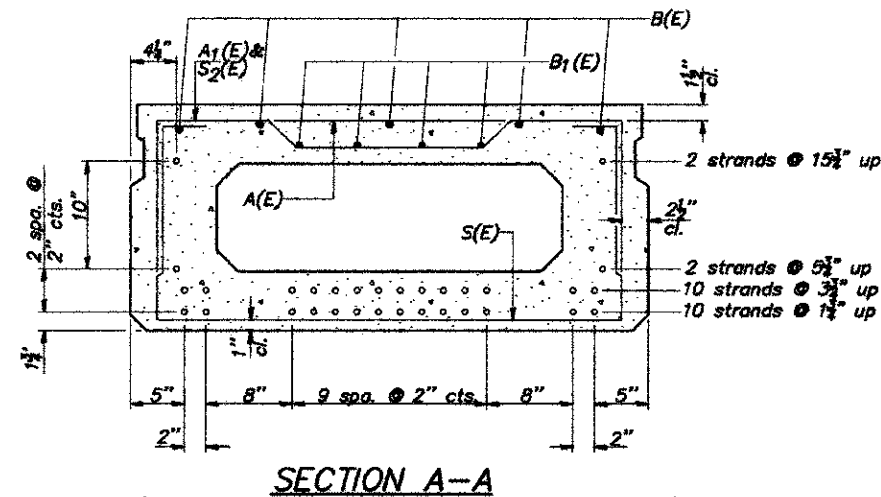
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



SECTION A-A
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	15	#4	3'-7"	—
A1(E)	30	#4	3'-10"	—
B(E)	5	#5	49'-5"	—
B1(E)	4	#4	49'-5"	—
S(E)	70	#4	7'-5"	□
S1(E)	10	#4	5'-11"	□
S2(E)	60	#4	6'-2"	□
U(E)	12	#5	4'-0"	□
U1(E)	4	#4	6'-0"	□

Note: See sheet 5 of 8 for additional details and Bill of Material.

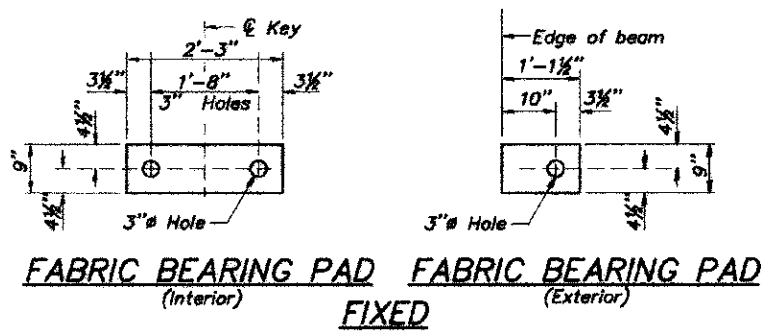
MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

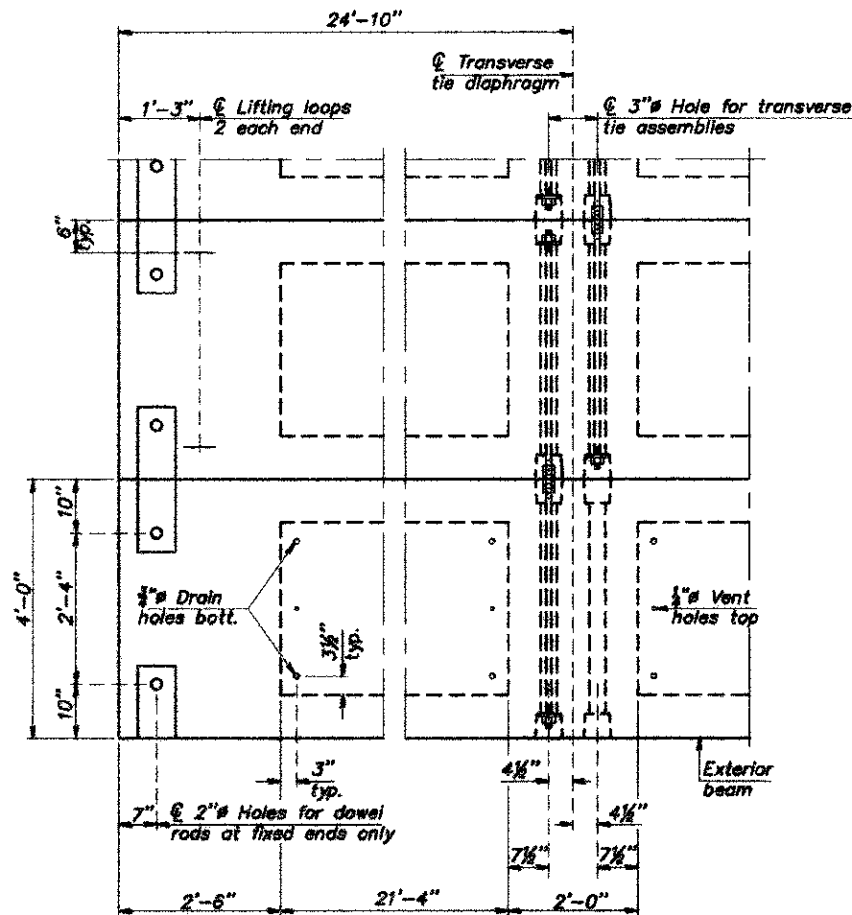
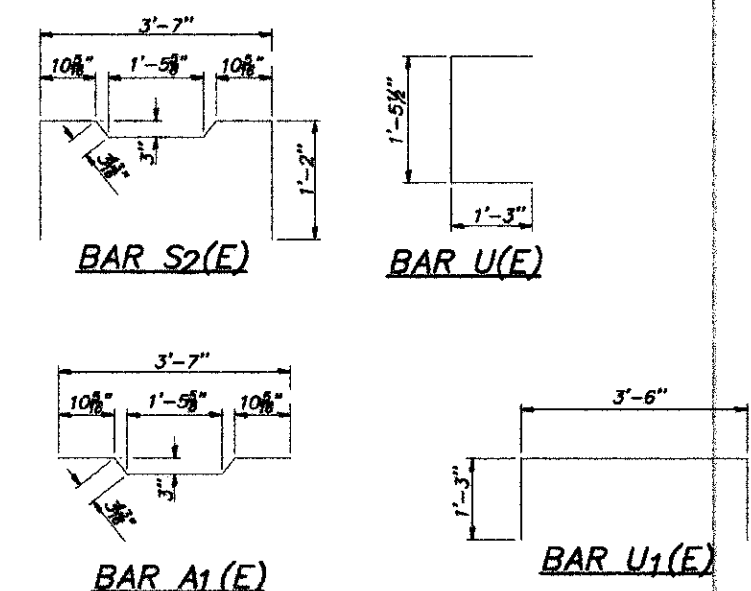
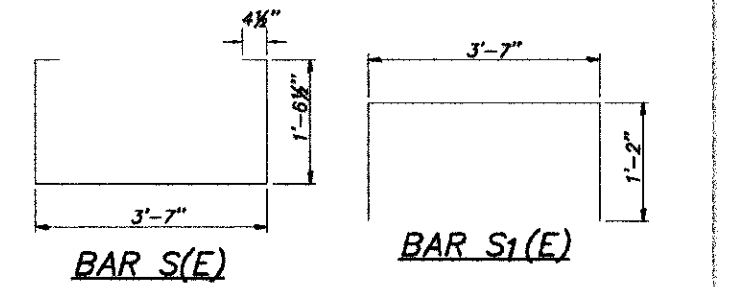
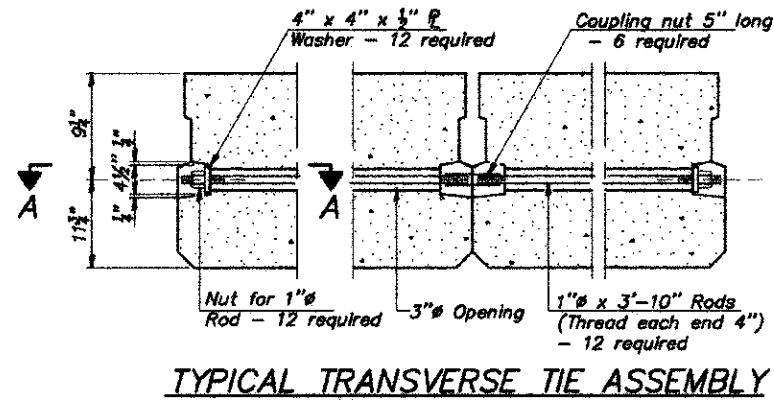
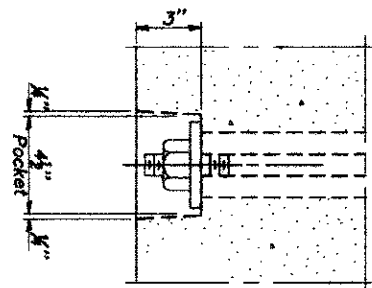
21" x 48" PPC DECK BEAM
STRUCTURE NO. 001-3235
DRAINAGE DITCH
ADAMS COUNTY
SEC. 11-00078-02-BR
STATION 345+78

COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	15

21" x 48" PPC DECK BEAM DETAILS
BRIDGE SHEET 5 OF 8 93598



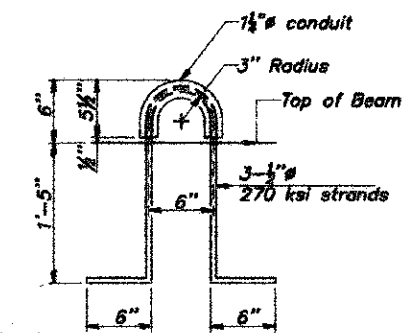
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



Note: Connect beams in pairs with the transverse tie configuration shown.

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Reinforcement bars shall conform to ASTM A 706, Grade 60.
Two 1/2" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
Corrosion inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f_c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f_{ci}, shall be 5000 psi.



BILL OF MATERIAL

Precast Prestressed Concrete Deck Beams (21" depth)	Sq. Ft. 1,391
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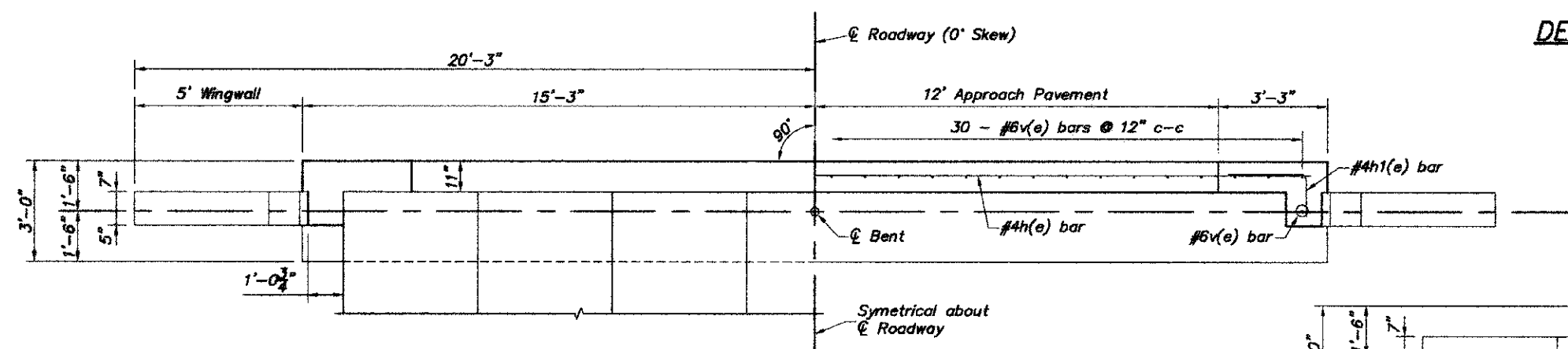
21" x 48" PPC DECK BEAM DETAILS

**STRUCTURE NO. 001-3235
DRAINAGE DITCH
ADAMS COUNTY
SEC. 11-00078-02-BR
STATION 345+78**

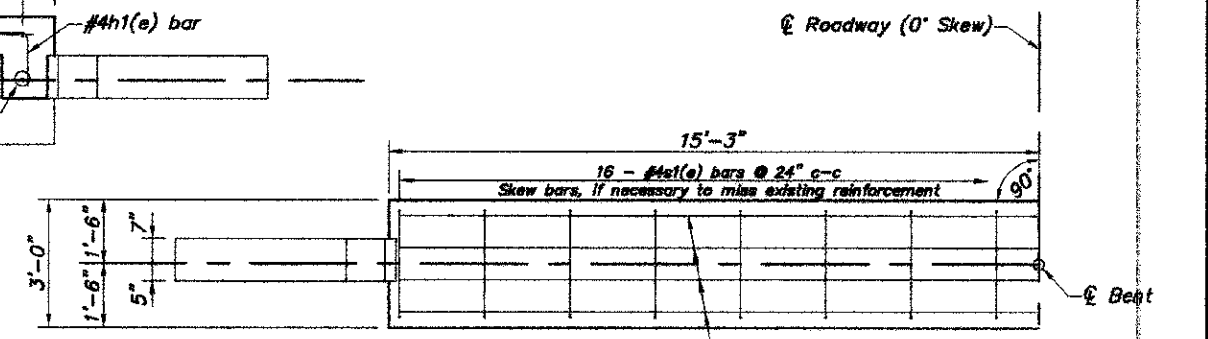
COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	18
PPC DECK BEAMS MODIFIED PILE BENT ABUTMENT			BRIDGE SHEET 6 OF 8

DESIGN STRESSES

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi

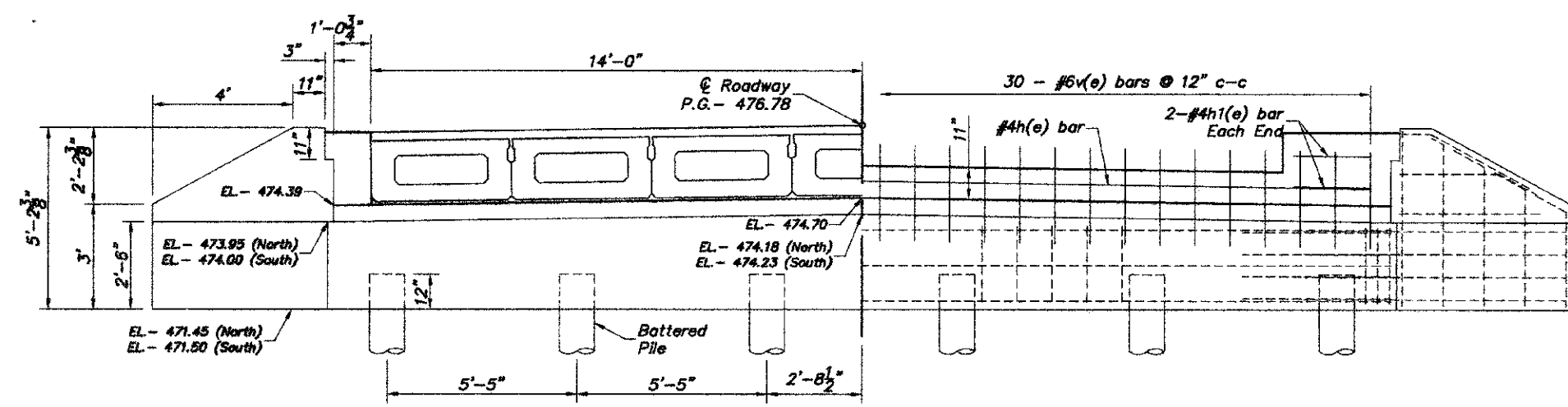


PLAN - Backwall



PLAN - Cap Elevation Adjustment

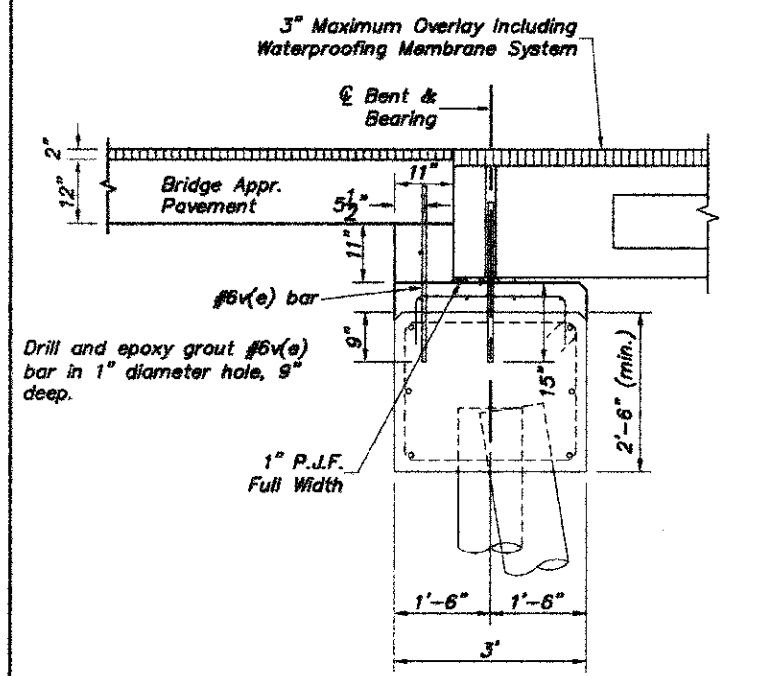
Existing dowel bars from deck removal to be cut flush with top of cap or holes to be filled with non-shrink grout. Top of existing cap to be sand blasted for bonded construction joint and to remove any deleterious material to the satisfaction of the Engineer.



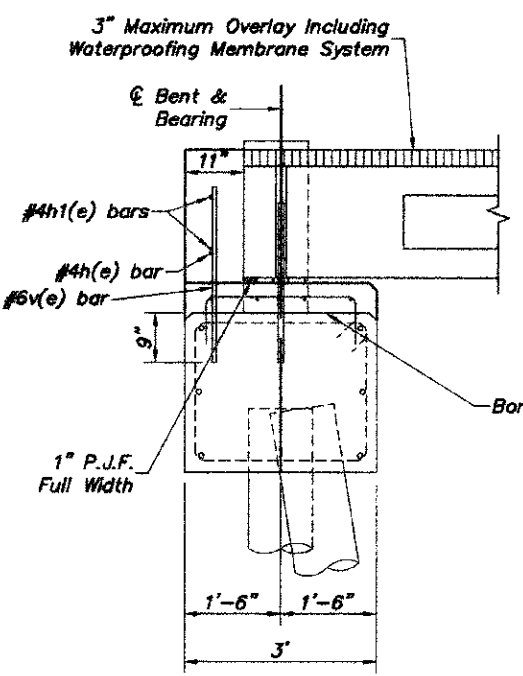
ELEVATION

BILL OF MATERIALS - FOR ONE ABUTMENT

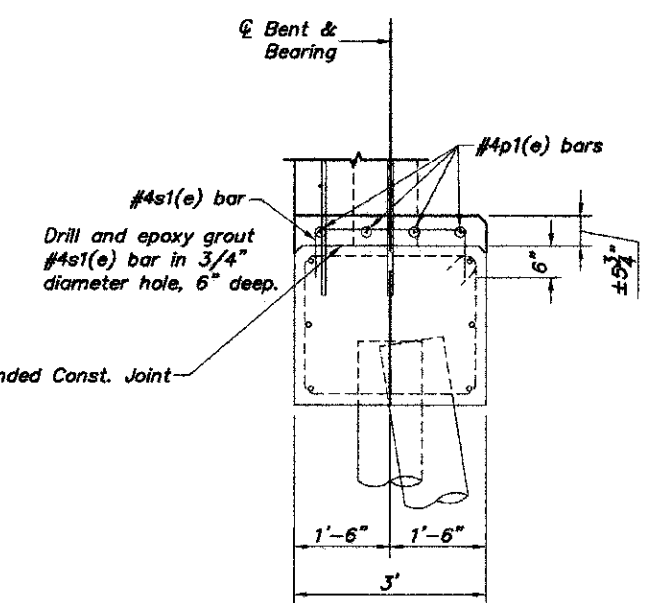
Bar	No.	Size	Length	Shape
h(e)	1	#4	29'-6"	—
h1(e)	4	#4	3'-6"	—
p1(e)	4	#4	30'-0"	—
s1(e)	16	#4	3'-10"	—
v(e)	32	#6	2'-9"	—
Concrete Structures				2.8 cu.yd.
Reinforcement Bars				282 lbs.



SECTION THRU ABUTMENT AT BRIDGE APPROACH PAV'T
(At Right Angles)

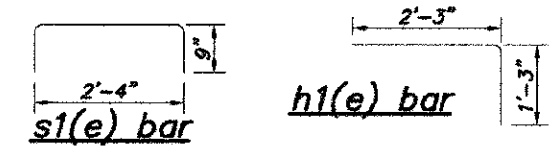
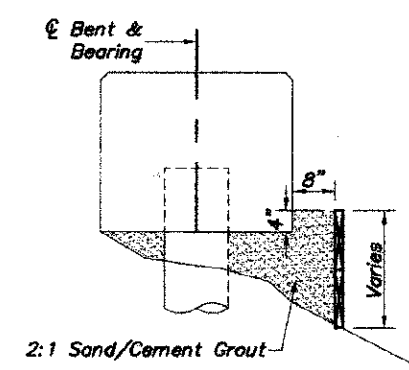


SECTION THRU ABUTMENT AT EDGE OF DECK
(At Right Angles)



SECTION THRU ABUTMENT TOP OF CAP ELEVATION ADJUSTMENT
(At Right Angles)

Filling of void beneath Bent 1 to be done under the direction of the Engineer using 2:1 sand/cement grout (truck mixed) and necessary formwork in accordance with Art. 109.04 of the Standard Specifications



EXISTING FILE DATA (2 ABUTMENTS)

TYPE	12" METAL SHELLS
ESTIMATED LENGTH	BENT #1- 44 FEET BENT #2- 44 FEET

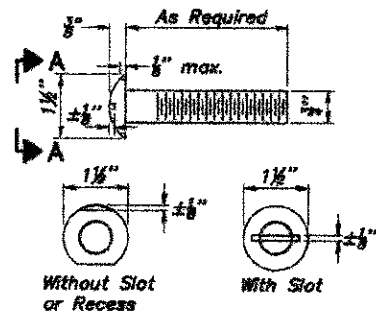
NOTES

- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60.
- Space reinforcement in cap to miss anchor bolts.

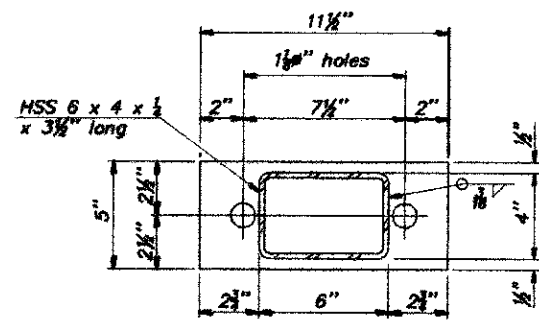
**PPC DECK BEAMS
MODIFIED PILE BENT ABUTMENT**

STRUCTURE NO. 001-3235
DRAINAGE DITCH
ADAMS COUNTY
SEC. 11-00078-02-BR
STATION 345+78

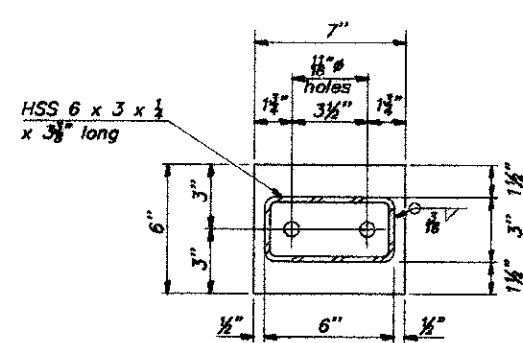
COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	17
STEEL RAILING, TYPE S1			



VIEW A-A
ROUND HEAD BOLT



$R \frac{1}{2}'' \times 11\frac{1}{2}'' \times 5''$



$R \frac{1}{2}'' \times 7'' \times 6''$

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

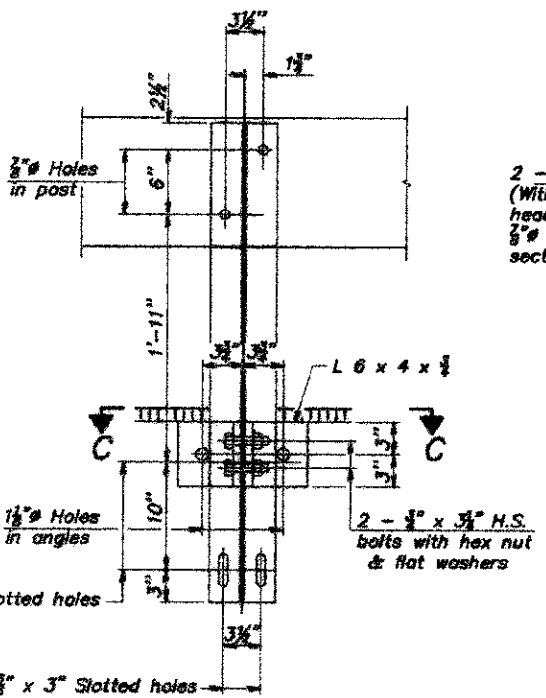
Notes:

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

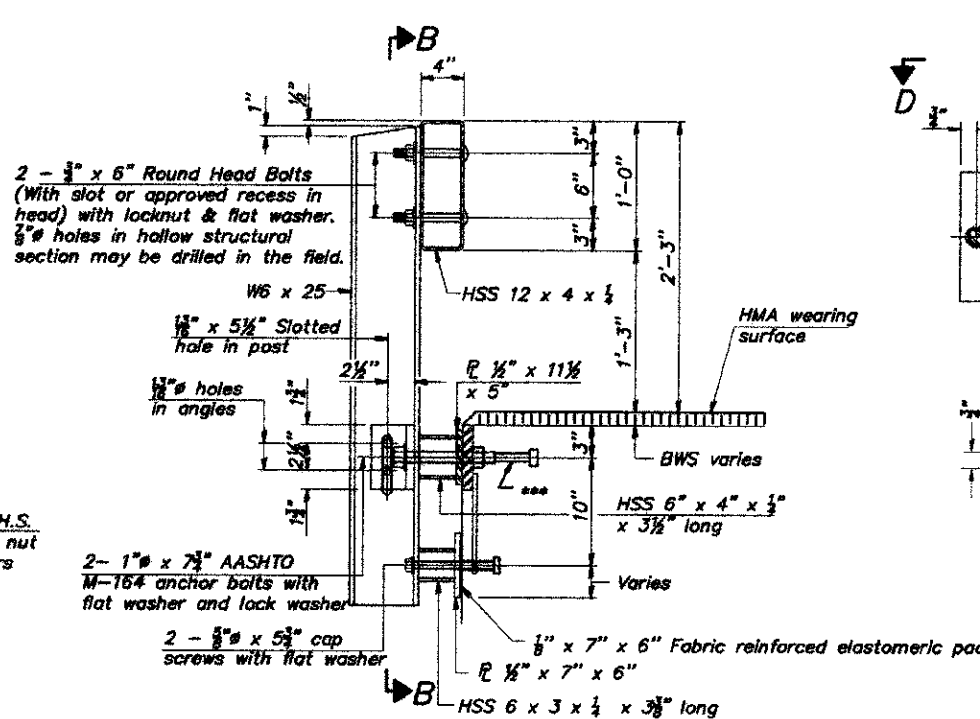
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

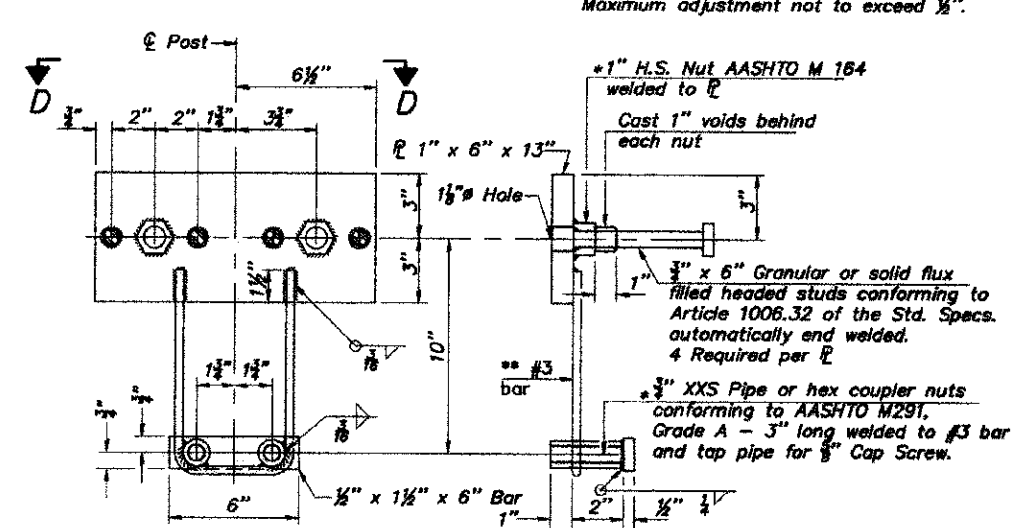
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



SECTION B-B

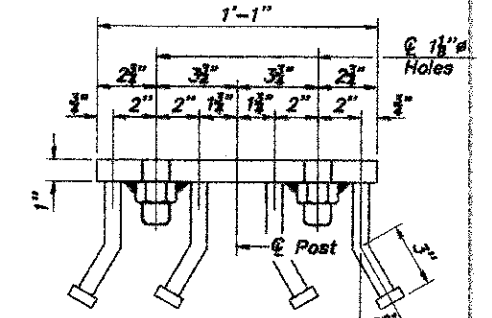


SECTION AT RAILING POST

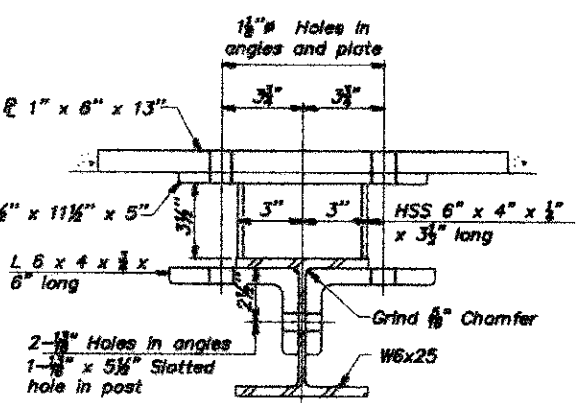


ANCHOR DEVICE

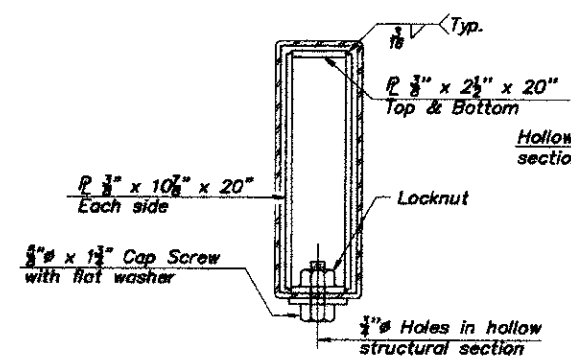
* Threaded areas shall be plugged or blocked off during casting of beam.



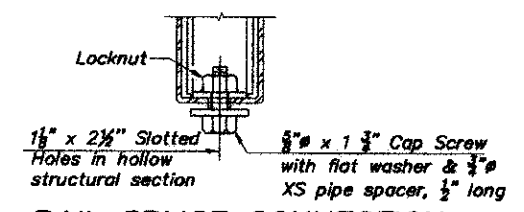
VIEW D-D



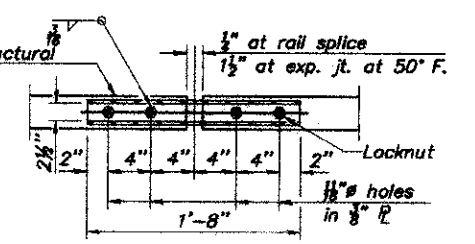
SECTION C-C



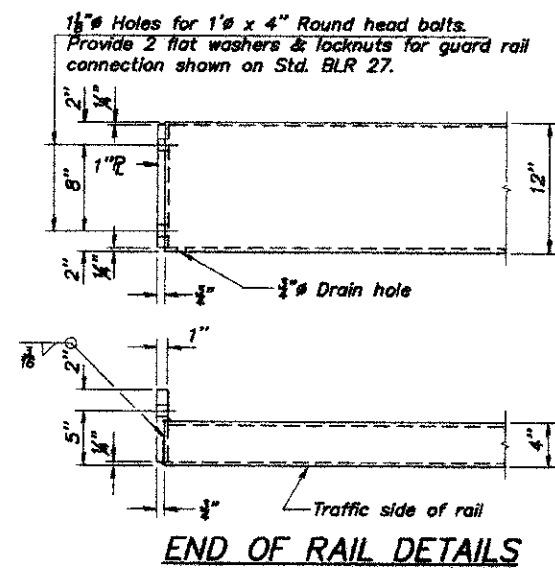
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN - BOTTOM SPLICE TYPICAL



END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	100

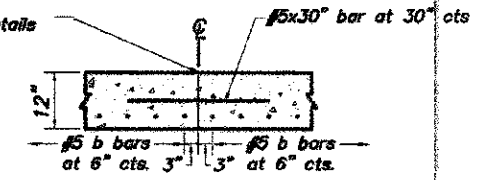
STEEL RAILING, TYPE S1
STRUCTURE NO. 001-3235
DRAINAGE DITCH
ADAMS COUNTY
SEC. 11-00078-02-BR
STATION 345+78

PROJECT NO. RS-1600(120)			
COUNTY	ROUTE	SECTION	SHT. NO.
ADAMS	FAS 1600	11-00078-02-BR	18
BRIDGE APPROACH PAVEMENT, SPECIAL			
BRIDGE SHEET 8 OF 8			93598



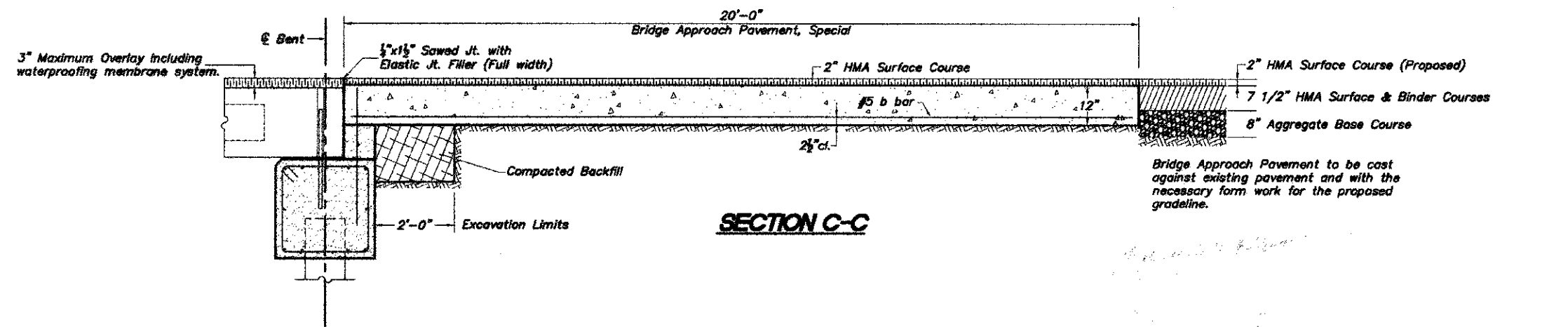
PLAN - WITHOUT SKEW

Longitudinal Construction Joint in accordance with details shown on Standard 420001



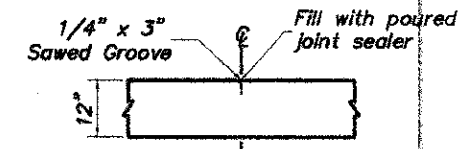
CONSTRUCTION JOINT

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



SECTION C-C

Bridge Approach Pavement to be cast against existing pavement and with the necessary form work for the proposed gradeline.

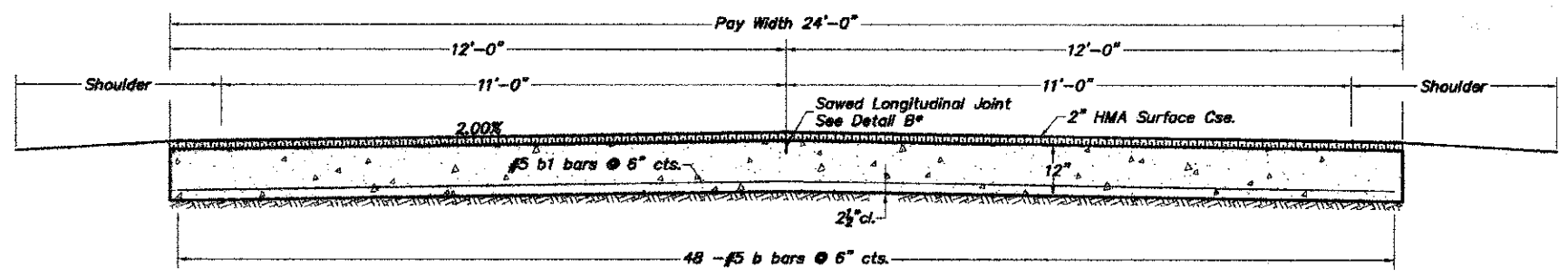


DETAIL B

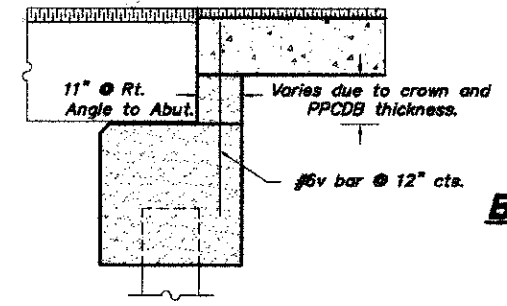
BILL OF MATERIAL FOR ONE APPROACH

Bar	No.	Size	Length	Shape
b(e)	48	#5	19'-8"	—
b1(e)	41	#5	23'-8"	—
Reinforcement Bars			1,997 Lbs.*	
Class PV Concrete			17.8 Cu. Yd.*	

* - INFORMATION ONLY



SECTION D-D



**SECTION E-E
(PILE BENT ABUTMENT CAP)**

DESIGN STRESSES

$f_c = 3,500 \text{ psi}$
 $f_y = 60,000 \text{ psi}$

BRIDGE APPROACH PAVEMENT, SPECIAL 53.3 SQ. YD.

BRIDGE APPROACH PAVEMENT, SPECIAL