

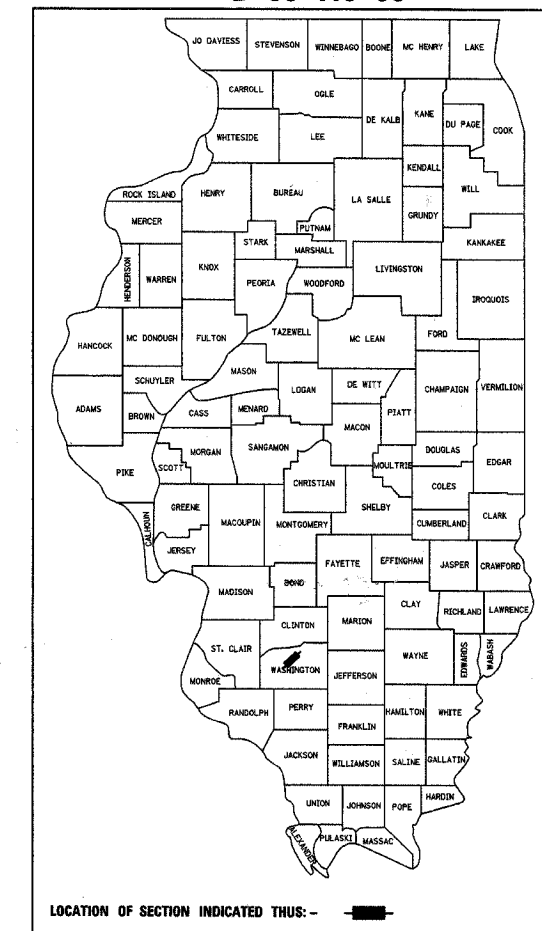
FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	34	1

CONTRACT NO. 76389

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**  
FAP ROUTE 42 (IL 127)  
SECTION 2BR  
PROJECT: F-0042(097)  
WASHINGTON COUNTY  
C-98-140-05  
STRUCTURE REPLACEMENT

D-98-119-00



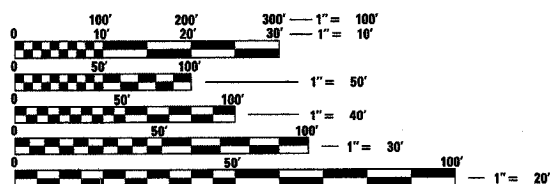
INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES, COMMITMENTS
- 3-3A SUMMARY OF QUANTITIES
- 4-5 TYPICAL SECTIONS
- 6 SCHEDULES
- 7-8 STAGE 1 CONSTRUCTION
- 9-10 STAGE 2 CONSTRUCTION
- 11 PLAN & PROFILE
- 12 BRIDGE APPROACH PAVEMENT DETAIL
- 13 GUARDRAIL AND SHOULDER DETAILS
- 14 PAVEMENT MARKING DETAILS
- 15-30 BRIDGE PLANS SN 095-0076
- 31-33 CROSS SECTIONS

HIGHWAY STANDARDS

280001-02	635011-01
420001-06	701006-02
420401-05	701011-01
515001-02	701201-02
542401	701311-02
601101	701321-08
609006-02	701326-02
630001-06	702001-06
630301-03	704001-02
631031-05	780001-01
631046-02	781001-02
635006-02	

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS



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

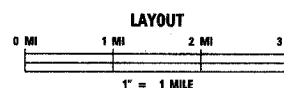
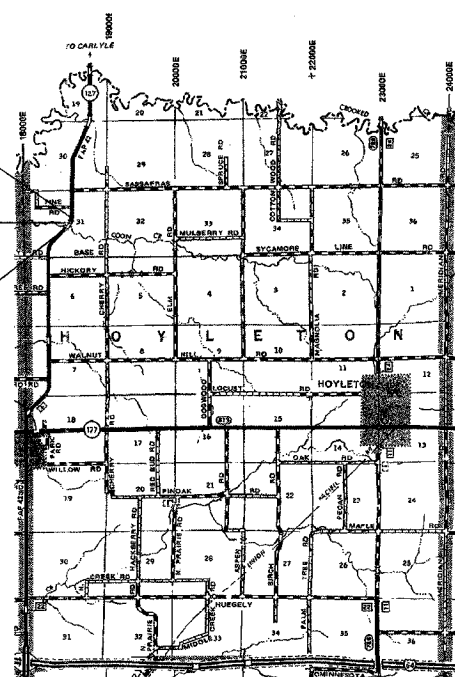
J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123

CONTRACT NO. 76389

BEGIN IMPROVEMENT  
STA 483+27

STA 487+25 PROPOSED STRUCTURE NO. 095-0076  
ONE SPAN WF BEAM BRIDGE WITH INTEGRAL  
ABUTMENTS, 85'-6" BK TO BK ABUTMENTS,  
40'-2" O TO O DECK, SKEW 0°

END IMPROVEMENT  
STA 491+23



LATITUDE X: 38.4853°  
LONGITUDE Y: 89.3586°



Michael D. Cummins (7/20/2005)  
ILLINOIS PROFESSIONAL NO. 43244  
(Expires 11/30/05)

GROSS LENGTH = 796.00 FEET 0.151 MILES  
NET LENGTH = 796.00 FEET 0.151 MILES

CUMMINS ENGINEERING CORPORATION  
SPRINGFIELD, ILLINOIS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED May 17, 2006  
Max Cummins  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

June 30, 2006  
Mike Hine  
ENGINEER OF DESIGN AND ENVIRONMENT

June 30, 2006  
Milton R. Sees, P.E.  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

PROJECT ENGINEER: PATTI LeBEAU (618) 346-3179  
SQUAD CONTACT: ARTHUR MUEHLFELD (618) 346-3209





# SUMMARY OF QUANTITIES

CONTRACT NO.				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	3A
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		X071-2A	SFTY-3N
X4066770	LEVELING BINDER (MACHINE METHOD), SUPERPAVE N70	TON	16	16	
Z0002600	BAR SPLICERS	EACH	374	374	
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		2

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT				

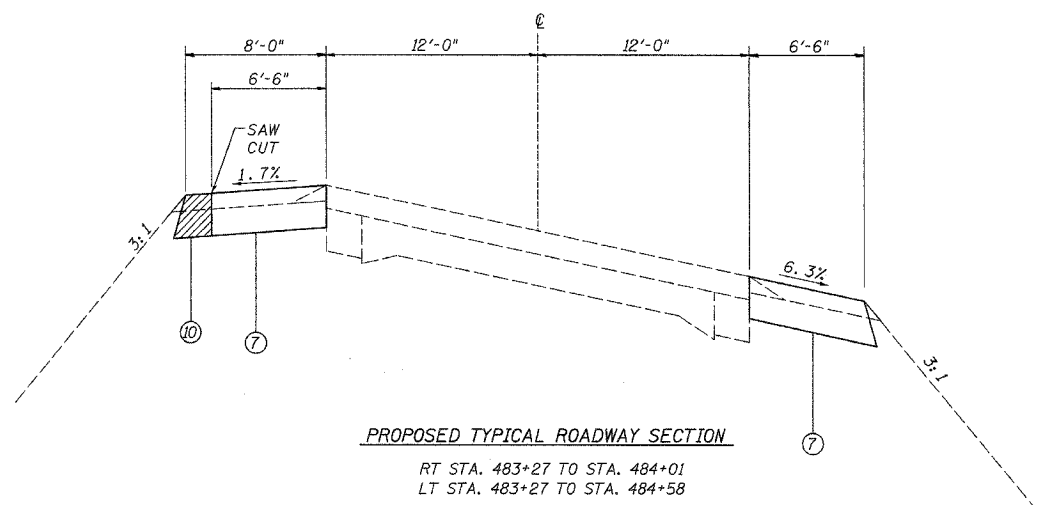
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 PLOT SCALE = 48,5999' / IN.  
 REFERENCE = #REF#

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	4
STA.		TO STA.		

EXISTING CONDITIONS:  
**CONTRACT NO. 76389**

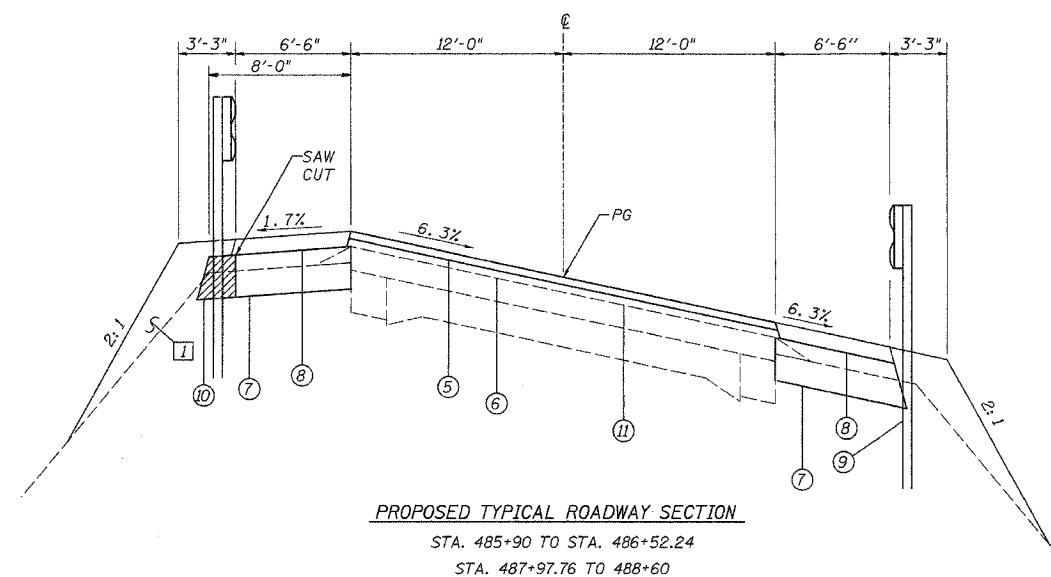
DATE	BY	REVISION

PLAN  
 NO. \_\_\_\_\_



**PROPOSED TYPICAL ROADWAY SECTION**

RT STA. 483+27 TO STA. 484+01  
 LT STA. 483+27 TO STA. 484+58

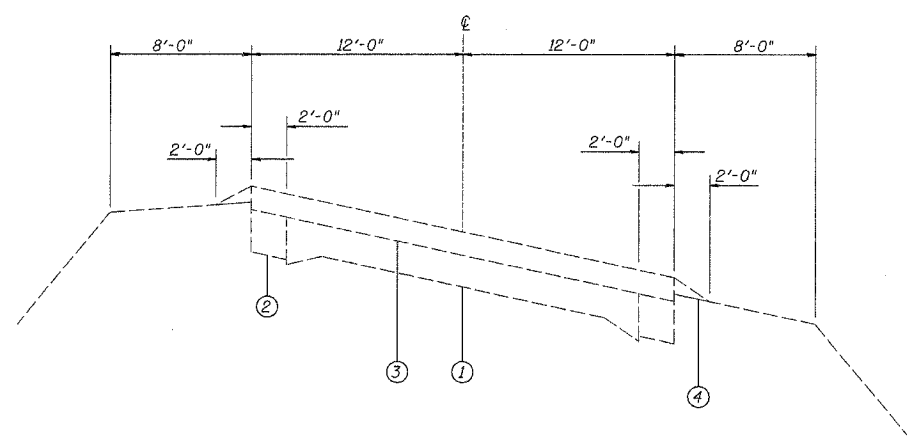


**PROPOSED TYPICAL ROADWAY SECTION**

STA. 485+90 TO STA. 486+52.24  
 STA. 487+97.76 TO 488+60

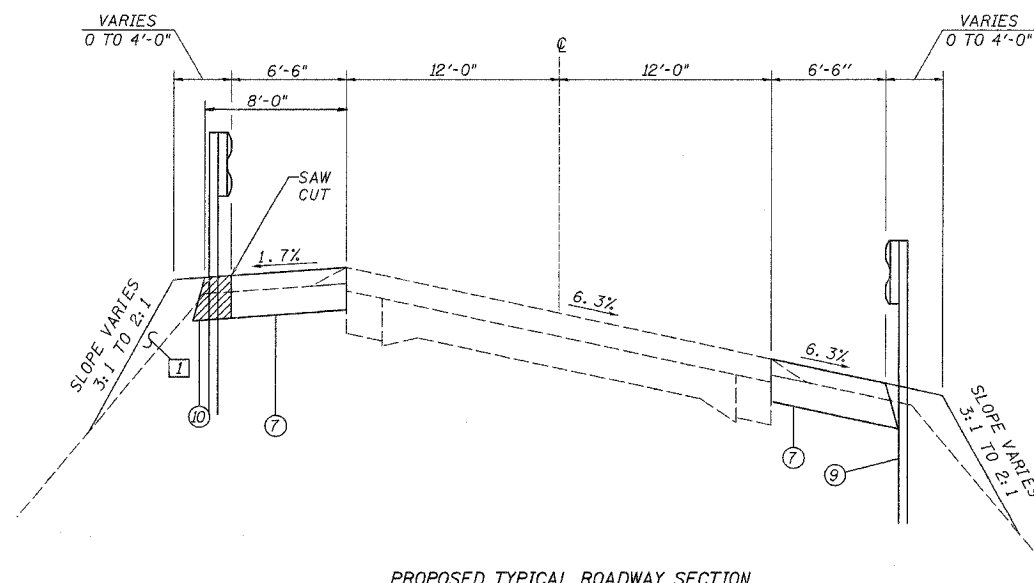
**LEGEND**

- 1 EXISTING CONCRETE PAVEMENT (9'-6"-9')
- 2 EXISTING CONCRETE WIDENING 8"
- 3 EXISTING BITUMINOUS CONCRETE 4 1/2"
- 4 EXISTING AGGREGATE SHOULDERS
- 5 PROPOSED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N70 1 1/2"
- 6 PROPOSED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL 19.0, N70 1 1/2"
- 7 PROPOSED BITUMINOUS BASE COURSE SUPERPAVE 8"
- 8 PROPOSED BITUMINOUS SHOULDERS, SUPERPAVE
- 9 PROPOSED STEEL PLATE BEAM GUARD RAIL TYPE A
- 10 PROPOSED PAVEMENT REMOVAL
- 11 BITUMINOUS MATERIALS (PRIME COAT)
- [ ] EMBANKMENT TO BE CONSTRUCTED IN PRELIMINARY PHASE



**EXISTING TYPICAL ROADWAY SECTION**

STA. 483+27 TO STA. 486+97.7  
 STA. 487+49.3 TO STA. 488+95.06



**PROPOSED TYPICAL ROADWAY SECTION**

RT STA. 484+01 TO STA. 485+90  
 LT STA. 484+58 TO STA. 485+90  
 STA. 488+60 TO STA. 488+95.06

**OMISSIONS:**  
 BRIDGE APPROACH PAVEMENT:  
 @ STA 486+52.24 TO STA 486+82.24  
 @ STA 487+67.76 TO STA 487+97.76  
 BRIDGE:  
 @ STA 486+82.24 TO STA 487+67.76

**TYPICAL CROSS SECTIONS**

FAP ROUTE 42 (IL 127)  
 SECTION 2BR  
 WASHINGTON COUNTY

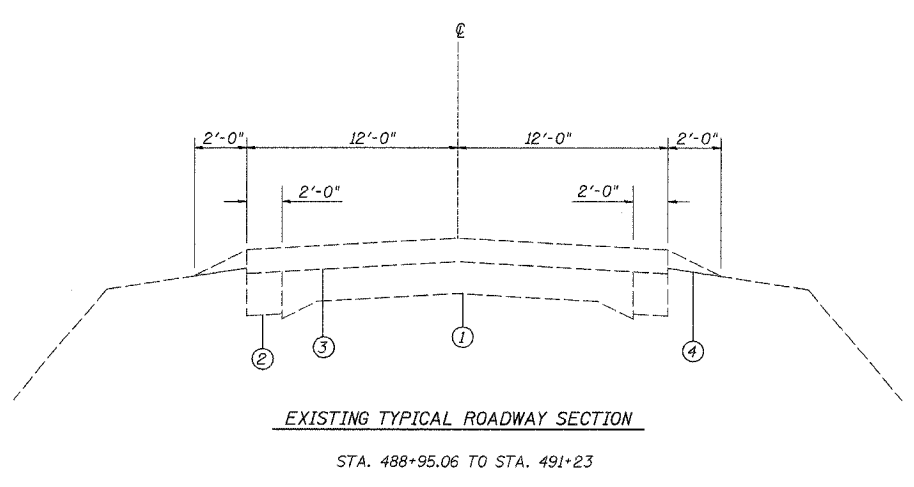
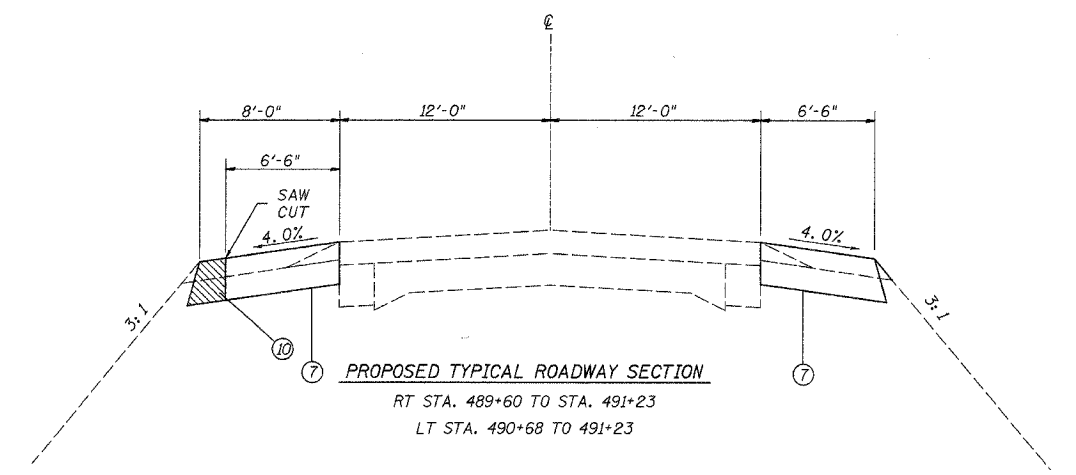
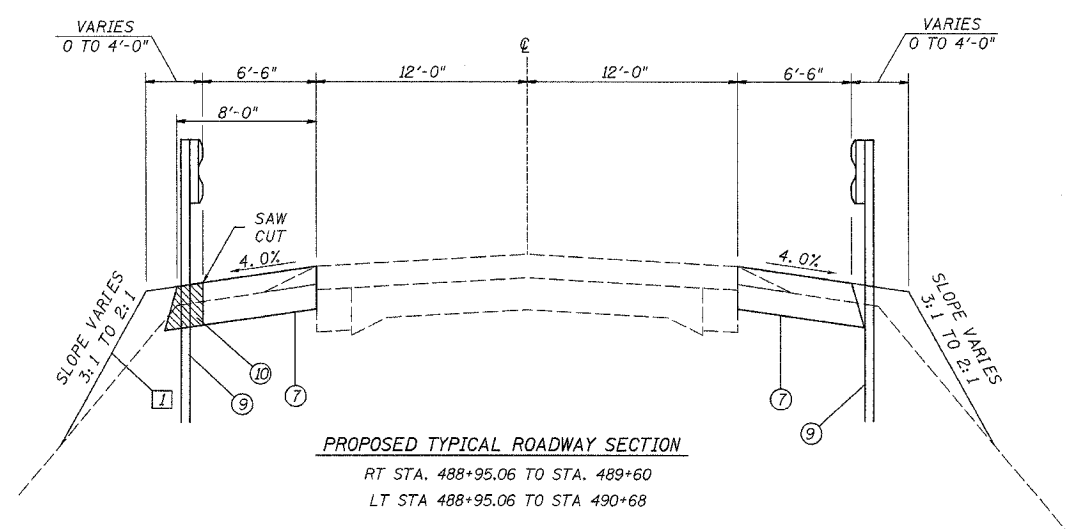
CUMMINS ENGINEERING CORPORATION

JOB #: 2158  
 FILE: 2158 typical  
 DATE: 6/22/05

DATE-TIME  
 DATE-TIME  
 DATE-TIME  
 DATE-TIME

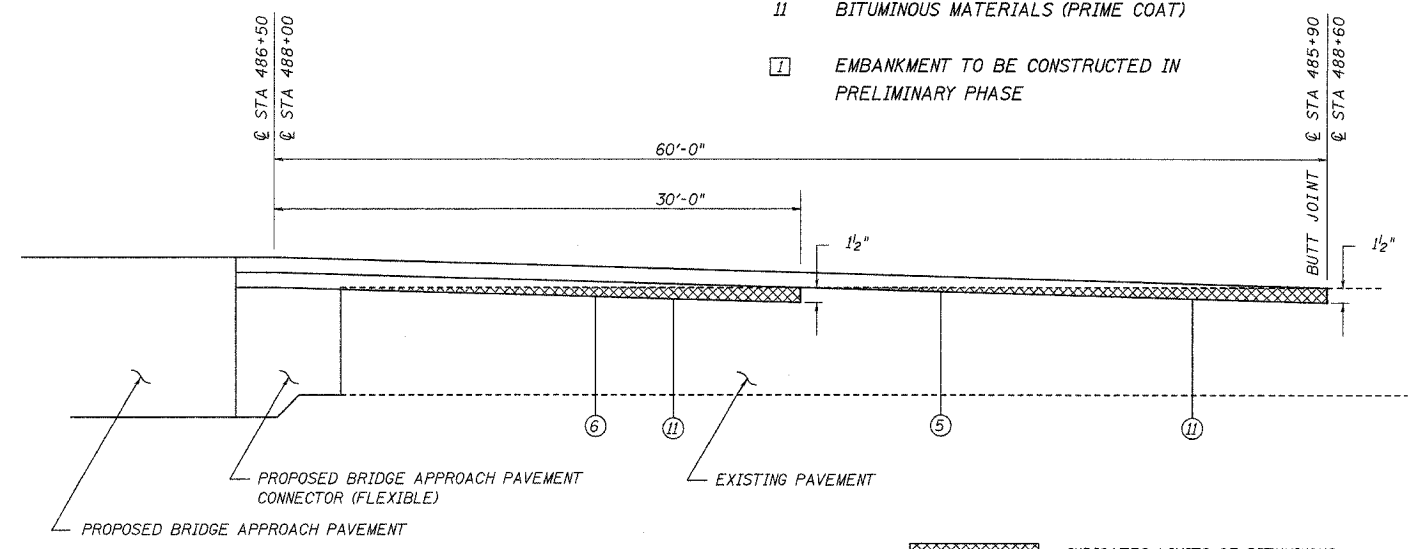
FAP NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	5
STA.		TO STA.		

EXISTING CONDITIONS: **CONTRACT NO. 76389**



**LEGEND**

- 1 EXISTING CONCRETE PAVEMENT (9"-6"-9")
- 2 EXISTING CONCRETE WIDENING 8"
- 3 EXISTING BITUMINOUS CONCRETE 4 1/2"
- 4 EXISTING AGGREGATE SHOULDERS
- 5 PROPOSED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N70 1 1/2"
- 6 PROPOSED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL 19.0, N70 1 1/2"
- 7 PROPOSED BITUMINOUS BASE COURSE SUPERPAVE 8"
- 8 PROPOSED BITUMINOUS SHOULDERS, SUPERPAVE
- 9 PROPOSED STEEL PLATE BEAM GUARD RAIL TYPE A
- 10 PROPOSED PAVEMENT REMOVAL
- 11 BITUMINOUS MATERIALS (PRIME COAT)
- 1 EMBANKMENT TO BE CONSTRUCTED IN PRELIMINARY PHASE



INDICATES LIMITS OF BITUMINOUS SURFACE REMOVAL - BUTT JOINT

BITUMINOUS BASE COURSE SHALL BE CONSTRUCTED FLUSH WITH THE TOP SURFACE OF THE EXISTING PAVEMENT.

BITUMINOUS SURFACE REMOVAL SHALL EXTEND FROM OUTSIDE OF BITUMINOUS BASE COURSE TO OUTSIDE OF BITUMINOUS BASE COURSE.

**TYPICAL SECTIONS**

FAP ROUTE 42 (IL 127)  
SECTION 2BR  
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158
FILE: 2158+typical
DATE: 6/22/05

PLAN	DATE
BY	
REVIEWED	
ALIGNED	
CHECKED	
RT. OF WAY	
CHECKED	
NO. _____	

DATE: 6/22/05  
JOB #: 2158  
FILE: 2158+typical

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	6
STA.		TO STA.		

CONTRACT NO. 76389

**EARTHWORK SCHEDULE**

LOCATION	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR 25% SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
STATION TO STATION	CU YD	CU YD	CU YD	CU YD
483+27 TO 484+00	27.0	20.3	6.8	13.5
484+00 TO 485+00	33.3	25.0	24.1	0.9
485+00 TO 486+00	33.3	25.0	40.7	-15.7
486+00 TO 486+50	21.3	16.0	18.5	-2.5
486+50 TO 486+75	11.1	8.3	7.4	0.9
486+75 TO 486+82	2.7	2.0	2.1	-0.1
487+68 TO 488+00	16.7	12.5	10.7	1.8
488+00 TO 488+25	10.6	8.0	7.4	0.6
488+25 TO 488+50	8.3	6.2	6.9	-0.7
488+50 TO 489+00	16.7	12.5	12.0	0.5
489+00 TO 490+00	33.3	25.0	11.1	13.9
490+00 TO 490+50	15.7	11.8	3.7	8.1
490+50 TO 491+00	13.9	10.4	8.3	2.1
491+00 TO 491+23	7.7	5.8	3.4	2.4
TOTAL	251.6	188.8	163.1	25.7
ROUNDED TOTAL	255	190	165	30

EARTHWORK REQUIRED FOR WIDENING IS INCLUDED IN THE EARTH EXCAVATION QUANTITY.

**BITUMINOUS BASE COURSE SUPERPAVE 8"**

LOCATION	WIDTH	SQ YD
LT STA 483+27.00 TO STA 486+97.70	8	330
LT STA 487+49.00 TO STA 491+23.00	8	333
RT STA 483+27.00 TO STA 486+42.07	6.5	228
RT STA 488+04.94 TO STA 491+23.00	6.5	230
TOTAL		1,121

**BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N70**

LOCATION	WIDTH	THICKNESS	TON
LT & RT STA 485+90.00 TO STA 486+52.24	24	1.5	14
LT & RT STA 487+97.76 TO STA 488+60.00	24	1.5	14
TOTAL			28

**BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL 19.0, N70**

LOCATION	WIDTH	THICKNESS	TON
LT & RT STA 486+20.00 TO STA 486+52.24	24	1.5	8
LT & RT STA 487+97.76 TO STA 488+30.00	24	1.5	8
TOTAL			16

**BITUMINOUS SHOULDERS SUPERPAVE**

LOCATION	WIDTH	THICKNESS	TON
LT & RT STA 485+90.00 TO STA 486+52.24	6.5	3	16
LT & RT STA 487+97.76 TO STA 488+60.00	6.5	3	16
TOTAL			32

BITUMINOUS CONCRETE QUANTITIES CALCULATED BASED ON 112 POUNDS PER SQUARE YARD PER 1 INCH OF THICKNESS.

**BITUMINOUS SURFACE REMOVAL - BUTT JOINT**

LOCATION	WIDTH	SQ YD
LT & RT STA 485+90.00 TO STA 486+50.00	37	247
LT & RT STA 488+00.00 TO STA 488+60.00	37	247
TOTAL		494

**BITUMINOUS MATERIALS (PRIME COAT)**

LOCATION	WIDTH	GAL	TON
LT & RT STA 485+90.00 TO STA 486+52.24	37	21	0.1
LT & RT STA 487+97.76 TO STA 488+60.00	37	21	0.1
TOTAL		42	0.2

THE QUANTITY FOR BITUMINOUS MATERIALS PRIME COAT REFLECTS TWO APPLICATIONS, ONE PRIOR TO PLACEMENT OF BINDER COURSE AND ONE PRIOR TO PLACEMENT OF BITUMINOUS SHOULDERS.

BITUMINOUS MATERIALS PRIME COAT QUANTITY CALCULATED BASED ON AN APPLICATION RATE OF 0.08 GALLON PER SQUARE YARD (7.9 POUNDS PER GALLON)

**BRIDGE APPROACH PAVEMENT**

LOCATION	WIDTH	SQ YD
STA 486+52.24 TO STA 486+82.24	38.333	128
STA 487+67.76 TO STA 487+97.76	38.333	126
TOTAL		254

**BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)**

LOCATION	WIDTH	SQ YD
STA 486+42 TO STA 486+52.24	37	42
STA 487+97.76 TO STA 488+04.94	37	30
TOTAL		72

**APPROACH PAVEMENT INLET RT STA 487+82.5**

ITEM	QTY	UNIT
TYPE D INLET STANDARD 609006	1	EACH
PIPE DRAINS 12"	16	FOOT
END SECTIONS 12"	1	EACH
PIPE ELBOW 12"	2	EACH
CONCRETE THRUST BLOCK	1	EACH

THE MEASURED LENGTH OF PIPE DRAINS SHALL EXCLUDE THE LENGTH OF ELBOWS.

**PAVEMENT REMOVAL**

LOCATION	WIDTH	SQ YD
LT & RT STA 486+42.00 TO STA 486+97.70	24	149
LT & RT STA 487+49.30 TO STA 488+04.94	24	149
LT STA 483+27.00 TO STA 486+42.00	1.5	53
LT STA 486+42.00 TO STA 486+97.70	8	50
LT STA 487+49.30 TO STA 488+04.94	8	50
LT STA 488+04.94 TO STA 491+23.00	1.5	53
TOTAL		504

**STEEL PLATE BEAM GUARD RAIL, TYPE A**

LOCATION	FOOT
LT STA 485+41.73 TO STA 486+52.65	112.5
LT STA 487+97.35 TO STA 489+83.45	187.5
RT STA 484+85.68 TO STA 486+50.52	162.5
RT STA 487+99.48 TO STA 488+75.56	75.0
TOTAL	537.5

**TRAFFIC BARRIER TERMINAL, TYPE 6**

LOCATION	EACH
LT STA 486+52.65 TO STA 486+82.87	1
LT STA 487+67.13 TO STA 487+97.35	1
RT STA 486+50.52 TO STA 486+81.61	1
RT STA 487+68.39 TO STA 487+99.48	1
TOTAL	4

**TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)**

LOCATION	EACH
LT STA 484+87.00 TO STA 485+36.25	1
LT STA 489+11.30 TO STA 489+61.30	1
RT STA 484+34.96 TO STA 484+85.68	1
RT STA 488+75.56 TO STA 489+25.56	1
TOTAL	4

**GUARDRAIL REMOVAL**

LOCATION	FOOT
LT STA 486+41.50 TO STA 486+95.50	54
LT STA 487+52.00 TO STA 487+80.00	28
RT STA 486+69.00 TO STA 486+97.00	28
RT STA 487+50.00 TO STA 488+03.00	53
TOTAL	163

**REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1**

LOCATION	EACH
LT STA 484+92.43 TO STA 485+41.73	1
LT STA 489+83.45 TO STA 490+33.45	1
TOTAL	2

**GUARDRAIL MARKERS TYPE B**

LOCATION	EACH
LT STA 485+41.73 TO STA 486+82.87	2
LT STA 487+67.13 TO STA 489+83.45	3
RT STA 484+85.68 TO STA 486+81.61	3
RT STA 487+68.39 TO STA 488+75.56	2
TOTAL	10

**BARRIER WALL MARKERS TYPE B & TYPE C**

LOCATION	EACH	EACH
LT STA 486+82.87 TO STA 487+67.13	2	2
RT STA 486+81.61 TO STA 487+68.39	2	2
TOTAL	4	4

**TERMINAL MARKERS - DIRECT APPLIED**

LOCATION	EACH
LT STA 484+92.43	1
LT STA 490+33.45	1
RT STA 484+34.96	1
RT STA 489+25.56	1
TOTAL	4

**TEMPORARY CONCRETE BARRIER**

LOCATION	FOOT
STA 484+51.00 TO STA 485+70.60	120
STA 485+70.60 TO STA 488+79.40	310
STA 488+79.40 TO STA 489+99.00	120
TOTAL	550

**IMPACT ATTENUATORS TEMPORARY, (NON-REDIRECTIVE) TEST LEVEL 3**

LOCATION	EACH
STA 484+50.00	1
STA 490+00.00	1
TOTAL	2

**RELOCATE TEMPORARY CONCRETE BARRIER**

LOCATION	FOOT
STA 484+70.00 TO STA 485+69.50	100
STA 485+69.50 TO STA 488+80.60	310
STA 488+80.60 TO STA 489+80.30	100
TOTAL	510

**IMPACT ATTENUATORS RELOCATE, (NON-REDIRECTIVE) TEST LEVEL 3**

LOCATION	EACH
STA 484+69.00	1
STA 489+81.00	1
TOTAL	2

**TEMPORARY STEEL PLATE BEAM GUARD RAIL, TYPE A**

LOCATION	FOOT
LT STA 485+36.25 TO STA 486+95.65	162.5
LT STA 487+51.05 TO STA 489+11.30	162.5
TOTAL	325.0

**TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 10**

LOCATION	EACH
LT STA 486+95.65 TO STA 486+98.50	1
LT STA 487+48.20 TO STA 487+51.05	1
TOTAL	2

**PAVEMENT MARKING REMOVAL**

LOCATION	TYPE	SQ FT
1) STA 482+72 TO STA 485+90	DOUBLE C.L.	210
1) STA 488+60 TO STA 491+88	DOUBLE C.L.	217
1) STA 483+27 TO STA 491+23	LT EDGE LINE	263
2) STA 483+27 TO STA 485+90	RT EDGE LINE	87
2) STA 488+60 TO STA 491+23	RT EDGE LINE	87
TOTAL		864

- 1) REMOVE PRIOR TO STAGE 1
- 2) REMOVE PRIOR TO STAGE 2

**TEMPORARY DITCH CHECKS**

LOCATION	EACH
STA 484+00	1
STA 485+00	1
STA 486+00	1
STA 486+80	1
TOTAL	4

**PERIMETER EROSION BARRIER**

LOCATION	FOOT
LT STA 483+27 TO STA 486+74	356
LT STA 487+75 TO STA 491+23	350
RT STA 487+69 TO STA 491+23	350
TOTAL	1,056

**SCHEDULE OF QUANTITIES**

FAP ROUTE 42  
SECTION 2BR  
WASHINGTON COUNTY

SEE SHEET 14 FOR PAVEMENT MARKING AND RAISED REFLECTIVE MARKER SCHEDULES.

CUMMINS ENGINEERING CORPORATION

JOB #: 2158  
FILE: schedules  
DATE: 3/17/05

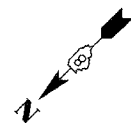
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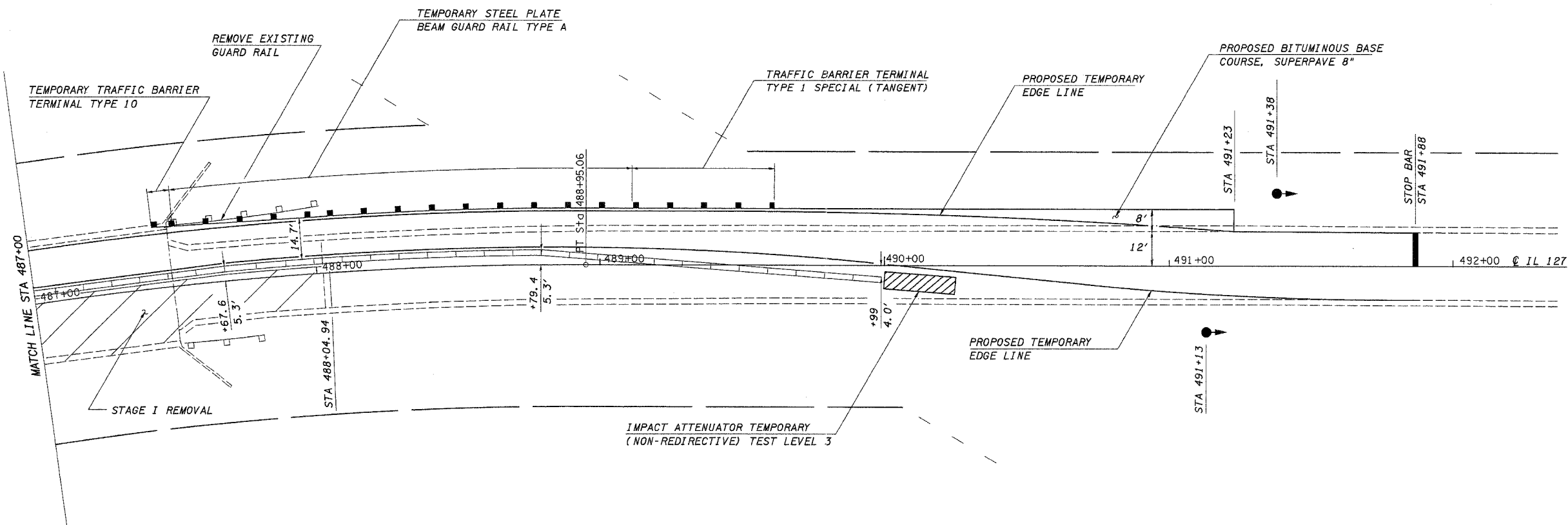
FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	8
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389



LEGEND

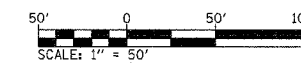
- TEMPORARY TRAFFIC SIGNALS
- TEMPORARY IMPACT ATTENUATOR
- TEMPORARY CONCRETE BARRIER



TEMPORARY PAVEMENT MARKINGS

LOCATION	LINE TYPE & COLOR	PAVEMENT MARKING TAPE, TYPE III 4" FOOT	TEMPORARY PAVEMENT MARKING - LINE 4" FOOT	WORKZONE PAVEMENT MARKING REMOVAL SQ. FT.
<b>STAGE I</b>				
12' LT STA 482+72 TO 12' LT STA 483+27	WHITE EDGE LINE	56		19
12' LT STA 483+27 TO 20' LT STA 484+20	WHITE EDGE LINE	94		32
20' LT STA 484+20 TO 20' LT STA 485+90	WHITE EDGE LINE	170		57
20' LT STA 485+90 TO 20' LT STA 488+60	WHITE EDGE LINE		270	
20' LT STA 488+60 TO 20' LT STA 490+30	WHITE EDGE LINE	170		57
20' LT STA 490+30 TO 12' LT STA 491+23	WHITE EDGE LINE	94		32
12' LT STA 491+23 TO 12' LT STA 491+88	WHITE EDGE LINE	66		22
12' RT STA 482+72 TO 5.3' LT STA 484+20	WHITE EDGE LINE	150		50
5.3' LT STA 484+20 TO 5.3' LT STA 485+90	WHITE EDGE LINE	170		57
5.3' LT STA 485+90 TO 5.3' LT STA 488+60	WHITE EDGE LINE		270	
5.3' LT STA 488+60 TO 5.3' LT STA 490+30	WHITE EDGE LINE	170		57
5.3' LT STA 490+30 TO 12' RT STA 491+88	WHITE EDGE LINE	160		53
<b>TOTAL</b>		<b>1,300</b>	<b>540</b>	<b>436</b>

QUANTITIES FOR PLACEMENT AND REMOVAL OF PAVEMENT MARKING TAPE TYPE III, 4" AND TEMPORARY PAVEMENT MARKING LINE 4" ARE INCLUDED FOR INFORMATION ONLY. PLACING AND REMOVING THESE ITEMS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL AND PROTECTION STANDARD 701321.



STAGE I CONSTRUCTION

FAP ROUTE 42 (IL 127)  
SECTION 2BR  
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION

JOB #: 2158  
FILE: Stage1  
DATE: 3/17/05



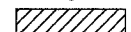

PLAN	SURVEYED	DATE
NOTE BOOK	ALIGNED	
NO. _____	BY _____	
	CHECKED	
	DATE	

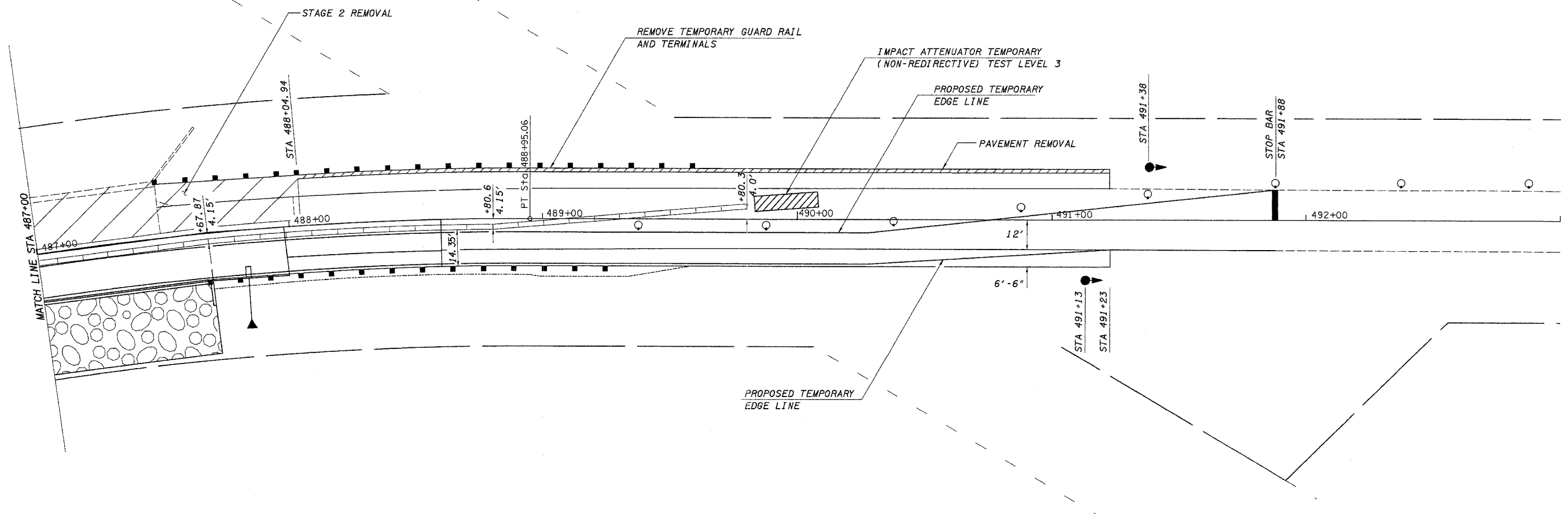


FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	10
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389

LEGEND

-  BARRELS OR BARRICADES WITH STEADY BURNING LIGHT
-  TEMPORARY TRAFFIC SIGNALS
-  TEMPORARY IMPACT ATTENUATOR
-  TEMPORARY CONCRETE BARRIER



PLAN	SURVEYED	DATE
NOTE BOOK	ALIGNED	
NO.	RT. OF WAY CHECKED	
	FILE NAME	

TEMPORARY PAVEMENT MARKINGS

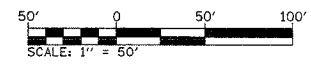
LOCATION	LINE TYPE & COLOR	PAVEMENT MARKING TAPE, TYPE III 4" FOOT	WORKZONE PAVEMENT MARKING REMOVAL SQ FT
<b>STAGE 2</b>			
12' RT STA 482+72 TO 12' RT STA 483+27	WHITE EDGE LINE	56	19
12' RT STA 483+27 TO 18.5' RT STA 485+70	WHITE EDGE LINE	243	81
18.5' RT STA 485+70 TO 18.5' RT STA 490+28	WHITE EDGE LINE	458	152
18.5' RT STA 490+28 TO 12' RT STA 491+23	WHITE EDGE LINE	96	32
12.0' RT STA 491+23 TO 12' RT STA 491+88	WHITE EDGE LINE	66	22
<b>STAGE 1</b>			
12' LT STA 482+72 TO 4.15' RT STA 485+70	WHITE EDGE LINE	299	99
4.15' RT STA 485+70 TO 4.15' RT STA 490+28	WHITE EDGE LINE	458	152
4.15' RT STA 490+28 TO 12' LT STA 491+88	WHITE EDGE LINE	161	54
<b>TOTAL</b>		<b>1,837</b>	<b>611</b>

QUANTITIES FOR PLACEMENT AND REMOVAL OF PAVEMENT MARKING TAPE TYPE III, 4" ARE INCLUDED FOR INFORMATION ONLY. PLACING AND REMOVING THESE ITEMS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

SHORT-TERM PAVEMENT MARKING

LOCATION	LINE TYPE & COLOR	SHORT-TERM PAVEMENT MARKING FOOT	WORKZONE PAVEMENT MARKING REMOVAL SQ FT
STA 482+72 TO STA 491+88	YELLOW CENTERLINE	100	33
STA 483+27 TO STA 491+23	WHITE EDGE LINE	64	22
<b>TOTAL</b>		<b>164</b>	<b>55</b>

SHORT-TERM PAVEMENT MARKING SHALL BE INSTALLED PRIOR TO REMOVAL OF TEMPORARY CONCRETE BARRIER AND TRAFFIC CONTROL DEVICES USED FOR STAGE 2 CONSTRUCTION.



STAGE II CONSTRUCTION

FAP ROUTE 42 (IL 127)  
SECTION 2BR  
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION  
JOB #: 2158  
FILE: Stage2  
DATE: 3/17/05

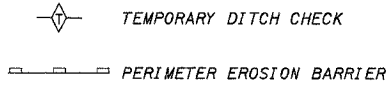
EXISTING STRUCTURE NO 95-0024  
 SINGLE SPAN REINFORCED T-BEAM BRIDGE  
 ON CLOSED ABUTMENTS WITH TIMBER PILES  
 53'-0" BK TO BK ABUTMENTS, 43'-6" O TO O DECK

REMOVAL OF EXISTING STRUCTURES-1 EACH  
 (TO BE REMOVED IN STAGES)

Exist. Curve C1  
 PI Sta. 484+17.40  
 $\Delta = 44^\circ 23' 09''$  (RT)  
 $D = 4^\circ 23' 56''$   
 $T = 531.35'$   
 $R = 1,302.50'$   
 $L = 1,009.02'$   
 $E = 104.21'$   
 PC Sta. 478+86.04  
 PT Sta. 488+95.06  
 SE 6.3%

F&P ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	11
STA.		TO STA.		
EXISTING CONDITIONS:				
<b>CONTRACT NO. 76389</b>				

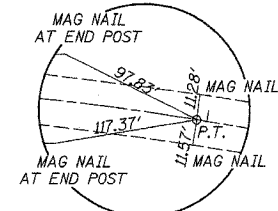
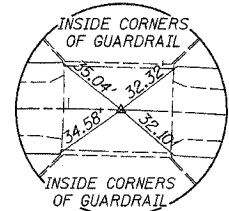
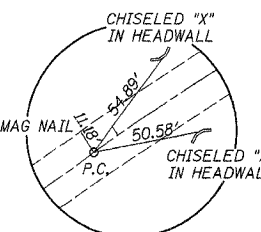
TEMPORARY EROSION CONTROL LEGEND



DATE	BY	REVISION
		REVISED
		PLANNED
		ALIGNED
		CHECKED
		DESIGNED
		FILED

PLAN

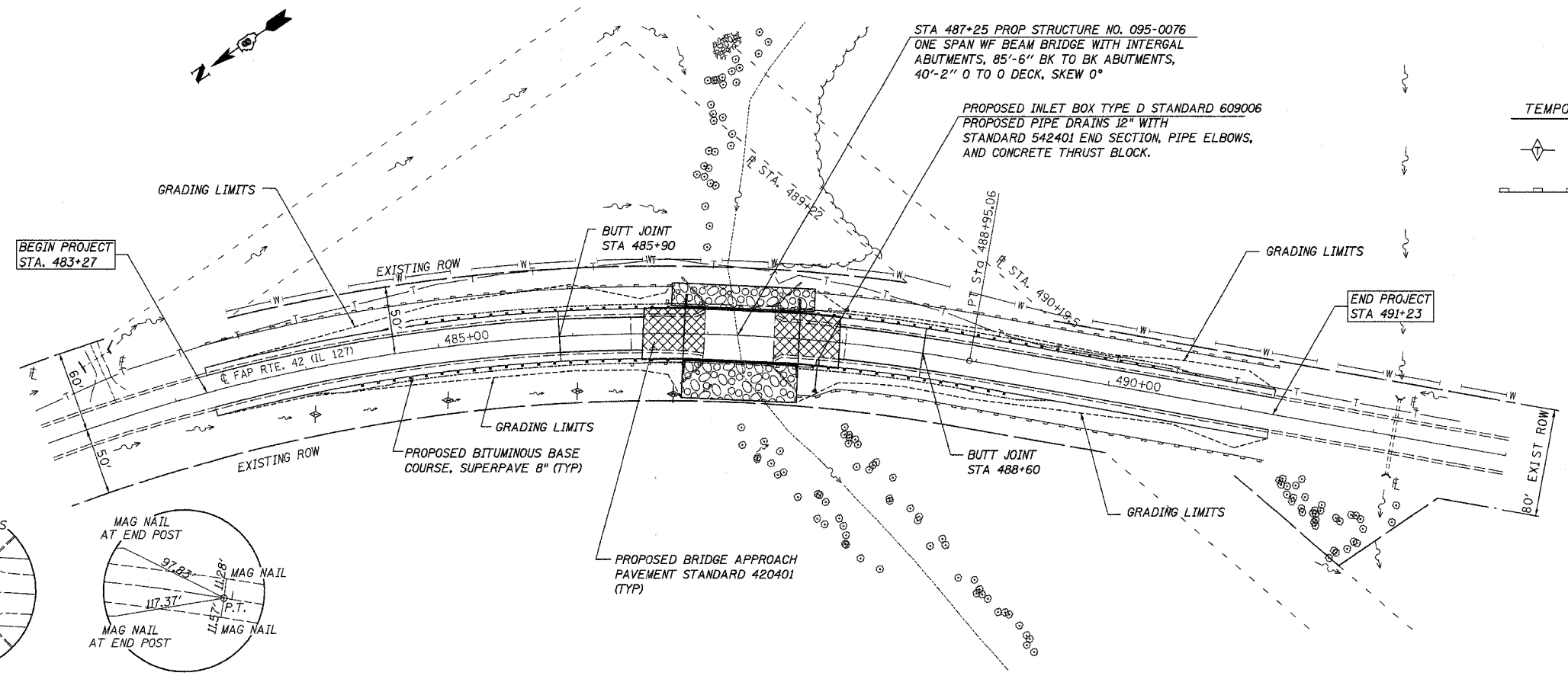
INDICATES LIMITS OF PAVEMENT REMOVAL



BEGIN PROJECT STA. 483+27

BUTT JOINT STA 485+90

END PROJECT STA 491+23

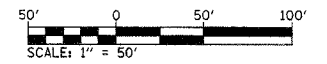


P.C. STA. 478+86.04  
MAG NAIL

STA. 487+25  
CHISELED "X"

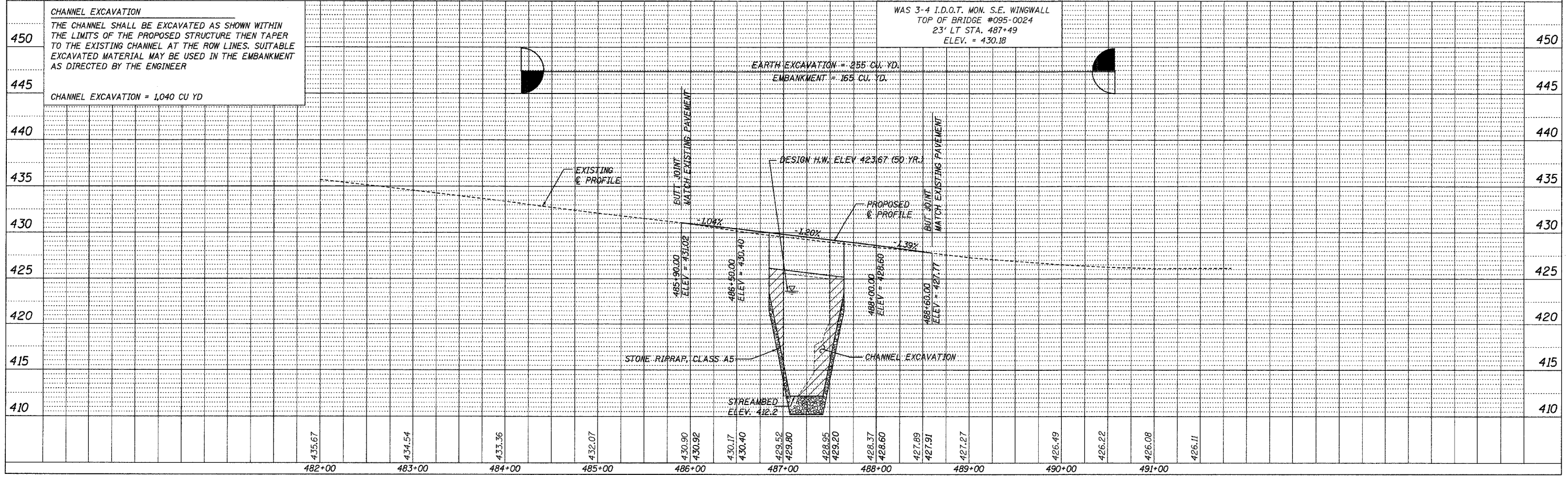
P.T. STA. 488+95.60  
MAG NAIL

SEC. 31 T.IN R.2W, 3RD P.M.



DATE	BY	REVISION
		REVISED
		PLANNED
		ALIGNED
		CHECKED
		DESIGNED
		FILED

PROFILE

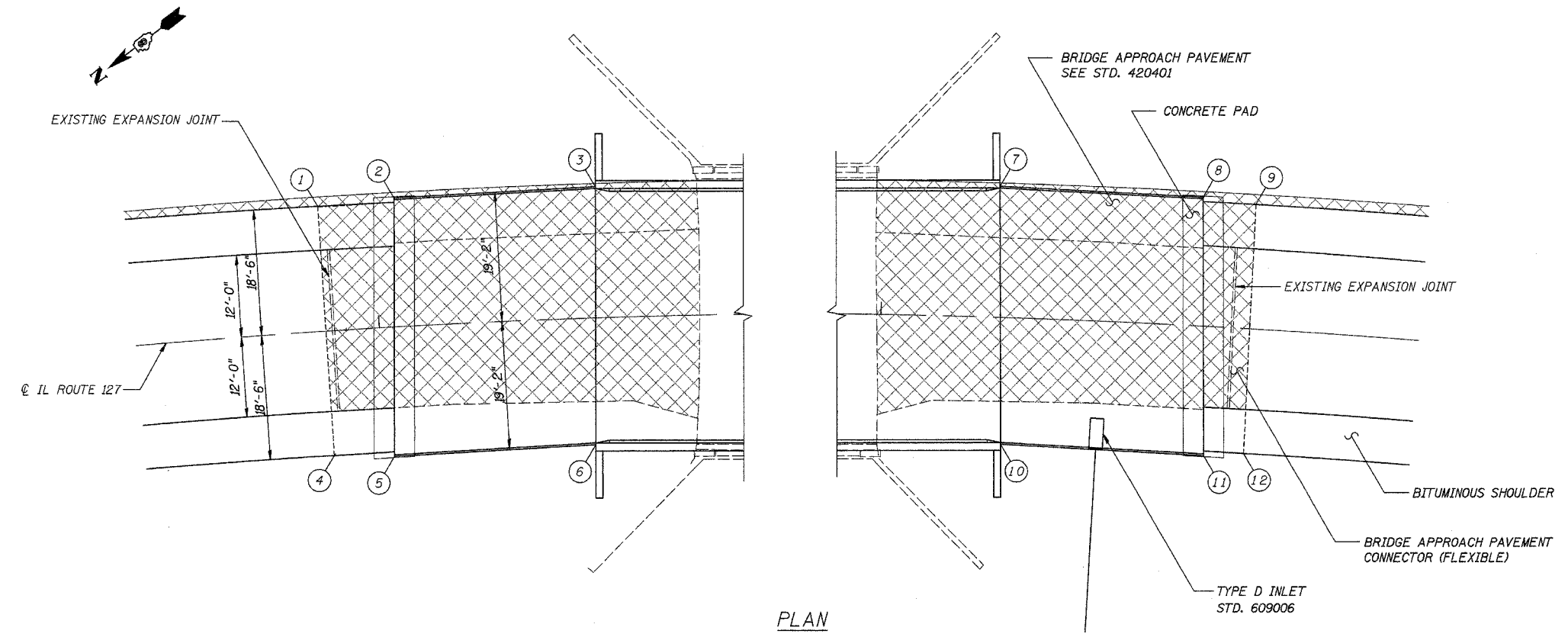


FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	12
STA.		TO STA.		

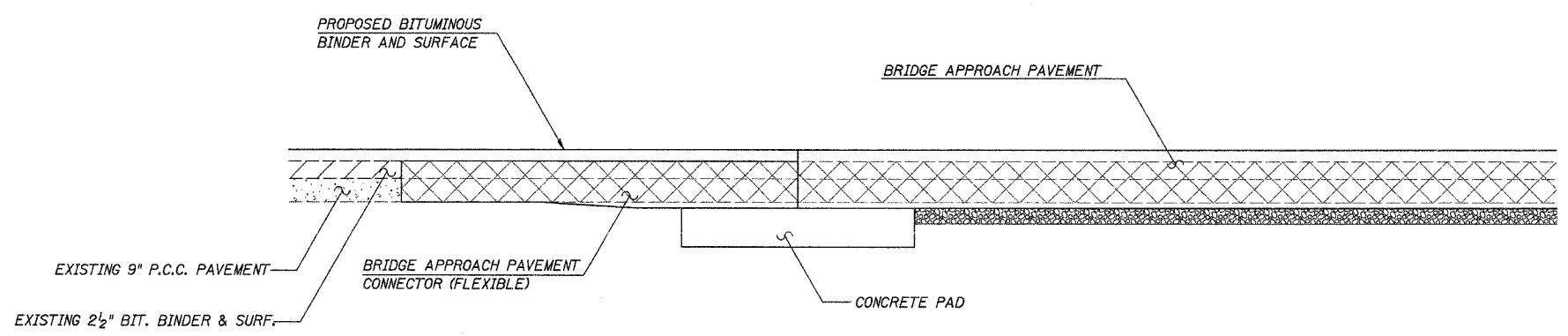
EXISTING CONDITIONS:  
**CONTRACT NO. 76389**

TABLE OF OFFSETS		
BRIDGE APPROACH PAVEMENT		
NO.	STA.	OFFSET *
1	SEE CONNECTORS	
2	486+53.26	19.17 LT
3	486+82.87	19.51 LT
4	SEE CONNECTORS	
5	486+51.12	19.17 RT
6	486+81.61	18.81 RT
7	487+67.13	19.51 LT
8	487+96.74	19.17 LT
9	SEE CONNECTORS	
10	487+68.39	18.81 RT
11	487+98.88	19.17 RT
12	SEE CONNECTORS	
CONNECTOR PAVEMENT		
NO.	STA.	OFFSET
1	486+42.00	18.5 LT
4	486+42.00	18.5 RT
9	488+04.94	18.5 LT
12	488+04.94	18.5 RT

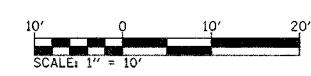
\* OFFSETS REFER TO THE DISTANCE FROM C TO THE BACK OF CURB.



PLAN



SECTION THROUGH APPROACH



NOTE: SEE STANDARD 420401 FOR DETAILS NOT SHOWN.

PROPOSED BRIDGE APPROACH PAVEMENT SHALL BE GROOVED AS SPECIFIED IN SECTION 503 OF THE STANDARD SPECIFICATIONS.

BRIDGE DECK GROOVING      228 SQ YD

**BRIDGE APPROACH PAVEMENT DETAILS**

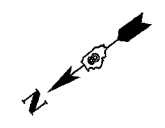
FAP ROUTE 42 (IL 127)  
SECTION 2BR  
ILLINOIS DEPT. OF TRANSPORTATION  
DISTRICT 8  
WASHINGTON COUNTY

CUMMINS ENGINEERING CORPORATION	JOB #: 2158
	FILE: APPRPVT
	DATE: 3/17/05

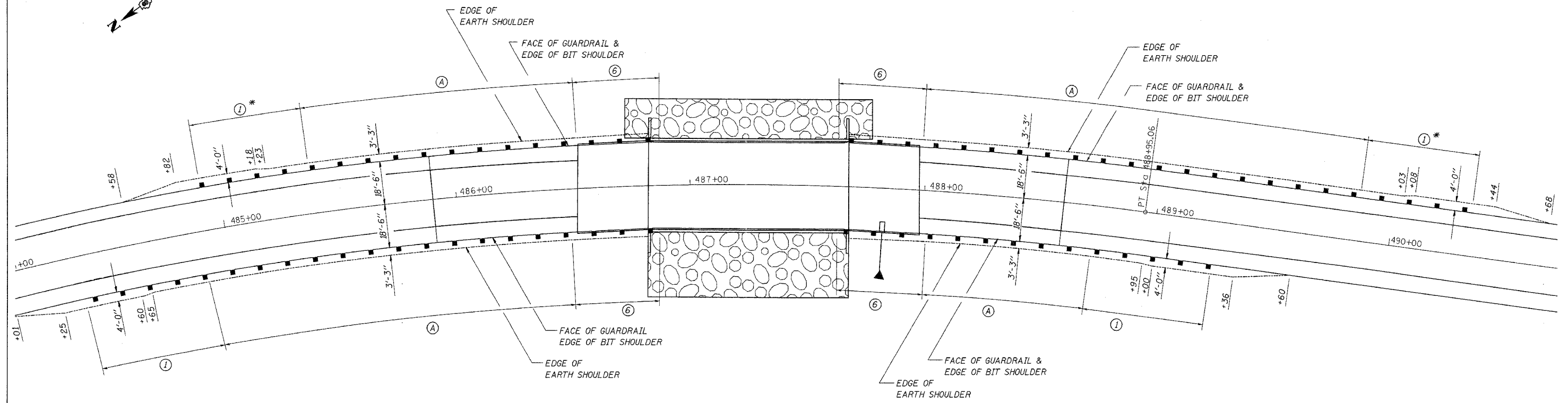
DATE	BY

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
42	2BR	WASHINGTON	33	13
STA.		TO STA.		
EXISTING CONDITIONS:				

CONTRACT NO. 76389



PLAN	DATE
NO. _____	BY _____
NO. _____	CHECKED _____
NO. _____	DATE _____

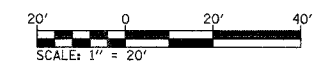


GUARDRAIL AND SHOULDER WIDENING DETAILS

\* PROPOSED TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT) SHALL BE INSTALLED AT THE TEMPORARY LOCATION PRIOR TO STAGE 1 CONSTRUCTION AND REMOVED AND RE-ERECTED AT THE FINAL LOCATION AS SHOWN ON THE PLANS DURING STAGE 2 CONSTRUCTION. RELOCATING THE TERMINAL SHALL BE PAID FOR AS "REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL TYPE 1."

LEGEND

- ① TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT)
- Ⓐ STEEL PLATE BEAM GUARD RAIL TYPE A
- ⑥ TRAFFIC BARRIER TERMINAL TYPE 6



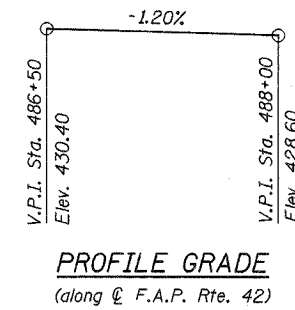
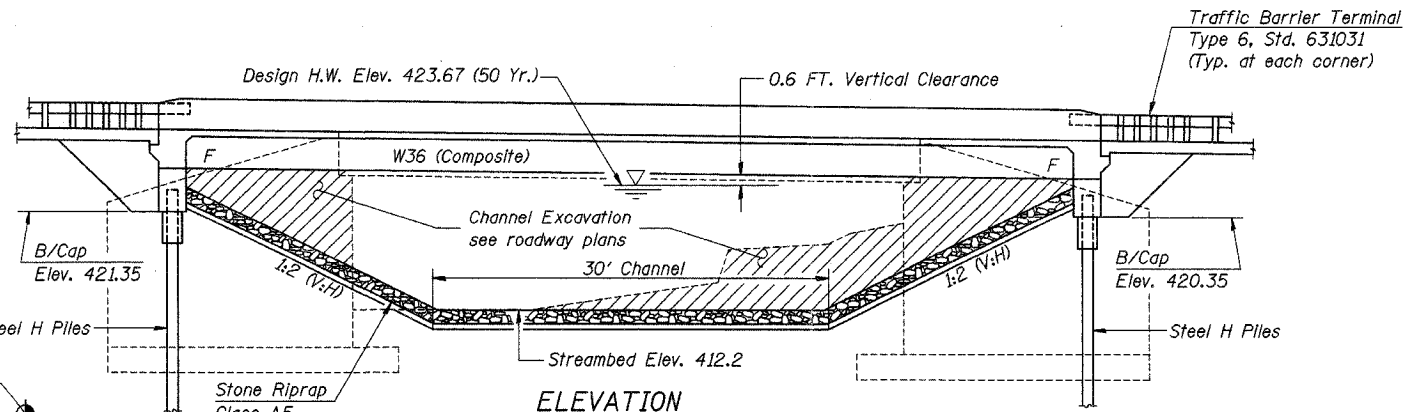
GUARDRAIL & SHOULDER DETAILS	
FAP ROUTE 42 (IL 127) SECTION 2BR WASHINGTON COUNTY	
CUMMINS ENGINEERING CORPORATION	JOB #: 2158 FILE: groll2158 DATE: 3/17/05



Bench Mark: Disc in SE Headwall of Bridge S.N. 095-0024. Elev. 430.18

Existing Structure: S.N. 095-0024 built in 1936 as S.B.I. Route 127, Sec. 2-B-NRH at Sta. 487+25. Structure is a single span RC T-beam bridge on closed abutments with timber piles. Overall length is 53'-0" back to back abutments. Bridge width is 43'-6" out to out of deck with a 39'-8" clear roadway width. Structure is to be removed and replaced with a single span composite WF bridge on integral abutments. Traffic shall be maintained at all times utilizing Stage Construction.

No Salvage.



**INDEX OF SHEETS**

1. General Plan and Elevation
2. General Notes & Total Bill of Material
3. Stage Construction Details
- 4-5. Top of Slab Elevations
6. Superstructure
7. Superstructure Details
8. Diaphragm Details
9. Structural Steel
10. Bearing Details
11. North Abutment
12. South Abutment
13. Bar Splicer Assembly Details
14. Anchor Bolt Details
15. Temporary Concrete Barrier for Stage Construction
16. Boring Logs

**DESIGN SPECIFICATIONS**

2002 AASHTO

**LOADING HS20-44**

Allow 50#/Sq. Ft. for future wearing surface

**DESIGN STRESSES**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (Structural Steel) (M270 GR. 50)

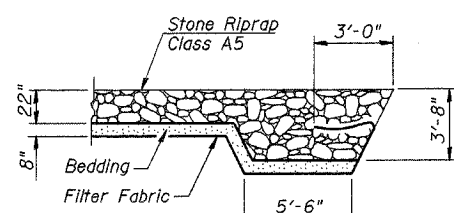
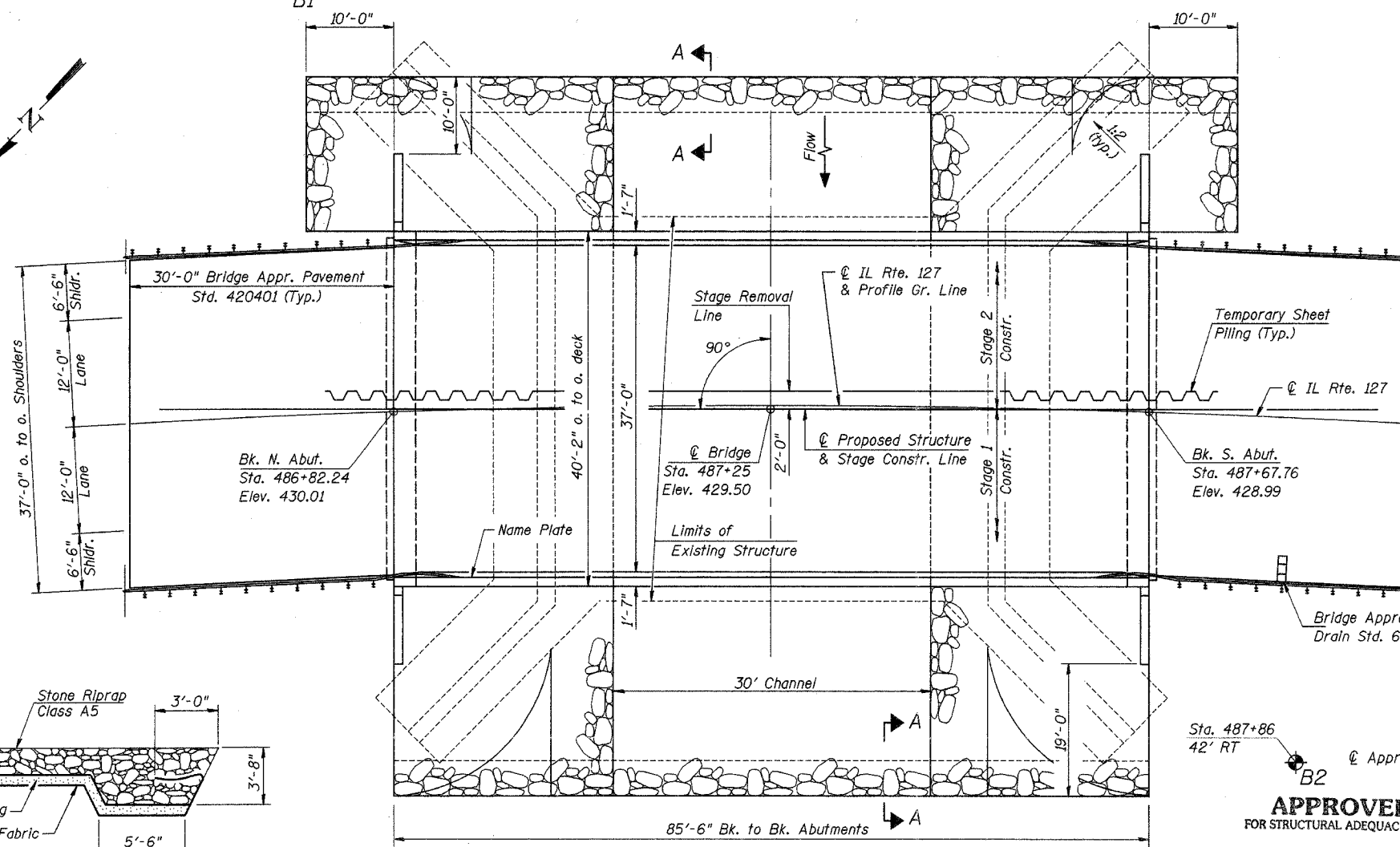
**SEISMIC DATA**

Seismic Performance Category (SPC) = B  
 Bedrock Acceleration Coefficient (A) = 0.10  
 Site Coefficient (S) = 1.0

**CURVE DATA**

(@ F.A.P. Route 42)

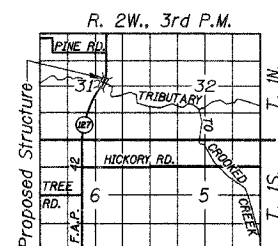
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 $D = 4^\circ 23' 56''$   
 $T = 531.35'$   
 $R = 1,302.50'$   
 $L = 1,009.02'$   
 $E = 104.21'$   
 $S.E. = 0.063'/Ft.$   
 $P.C. Sta. = 478+86.04$   
 $P.I. Sta. = 484+17.40$   
 $P.T. Sta. = 488+95.06$



**PLAN**

**WATERWAY INFORMATION**

Drainage Area = 12.36 Sq. Mi.		Low Grade Elev. 426.02		Sta. 492+12		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E. Exist.	Head - Ft. Exist.	Headwater El. Prop.
Design	50	3231	444 547	423.67	2.09 1.52	425.76 425.19
Base	100	3712	458 567	423.95	2.44 1.75	426.39 425.70
Overtopping	Exist.	71	3425 449	423.78	2.24	426.02
	Prop.	167	4000	579	424.11	1.91
Max. Calc.						

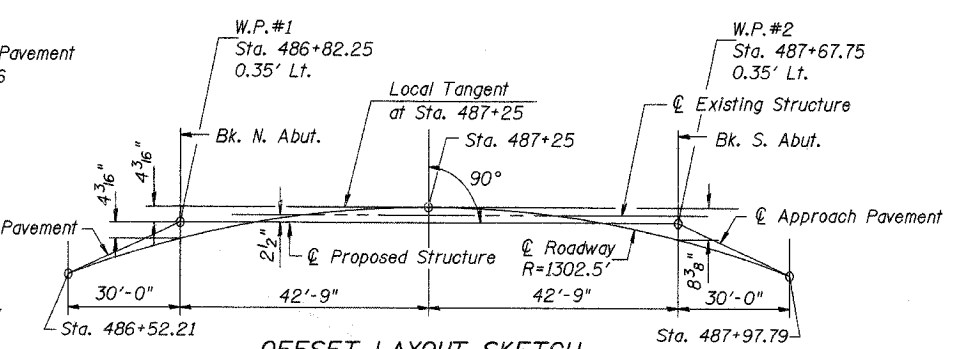


**LOCATION SKETCH**

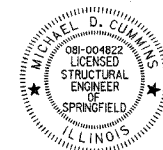
**APPROVED**  
 FOR STRUCTURAL ADEQUACY ONLY  
*Richard E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

STATION 487+25  
 BUILT 200\_ BY  
 STATE OF ILLINOIS  
 F.A.P. RTE. 42 SEC. 2BR  
 LOADING HS20  
 STR. NO. 095-0076

**LETTERING FOR NAME PLATE**  
 See Std. 515001



**OFFSET LAYOUT SKETCH**



*Michael D. Cummins*  
 (Expires 11/30/2006)

**GENERAL PLAN & ELEVATION**

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
 F.A.P. ROUTE 42 SECTION 2BR  
 WASHINGTON COUNTY  
 STA. 487+25  
 S.N. 095-0076

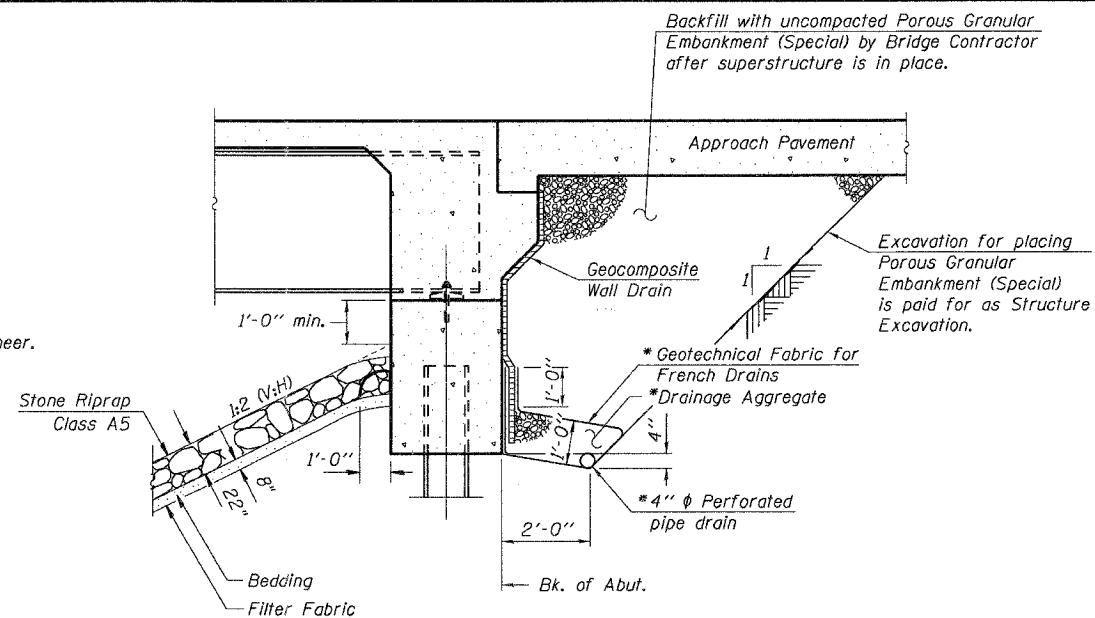
CUMMINS ENGINEERING CORPORATION	JOB #: 2158
	FILE: 2158GPE
	DATE: 2/10/05



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	16
FED. ROAD DIST. NO. 8		ILLINOIS PROJECT		
Sheet 2 of 16		CONTRACT #76389		

**GENERAL NOTES**

- Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ "  $\phi$ , open holes  $\frac{5}{16}$ "  $\phi$ , unless otherwise noted.
- Calculated weight of Structural Steel = 91,130 pounds.
- Field welding of construction accessories will not be permitted to beams or girders.
- The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams.
- Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The contractor shall drive two HP12x53 test piles in permanent locations, one at each abutment as directed by the Engineer before ordering the remainder of piles.
- In addition to all other requirements of Section 512 of the Standard Specifications, splices for steel H-piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection.
- All construction joints shall be bonded.
- Excavation behind existing closed abutment walls shall be done before removing the existing superstructure. The Contractor shall sawcut the existing abutments at the stage removal line before Stage I removal.
- The inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be gray, Munsell No 5B 7/1. See special provision for Cleaning and Painting New Metal Structures.



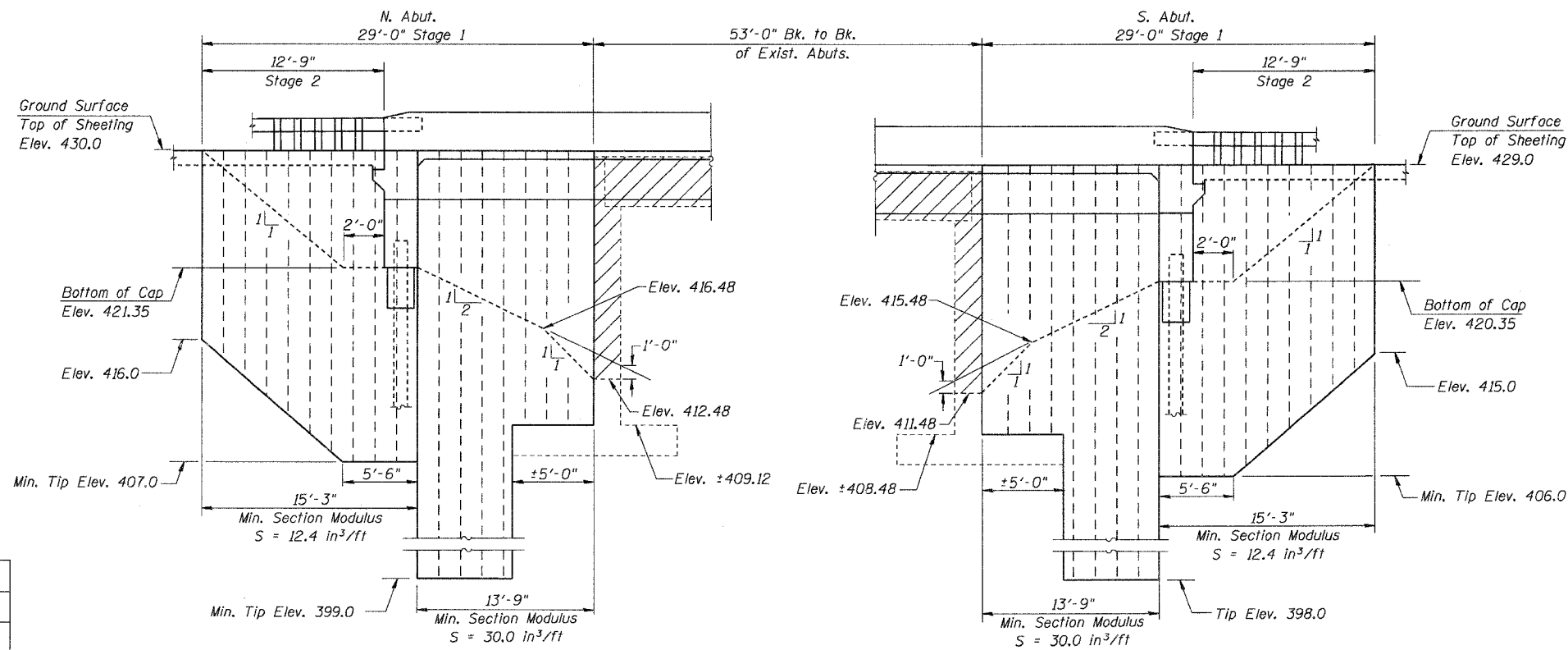
**SECTION THRU INTEGRAL ABUTMENT**  
(Horiz. dim. @ Rt. L's)

\* Included in the cost of Pipe Underdrains for Structures.

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

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.	215		215
Stone Riprap, Class A5	Sq. Yd.	970		970
Filter Fabric	Sq. Yd.	970		970
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		230	230
Concrete Structures	Cu. Yd.		40.2	40.2
Concrete Superstructure	Cu. Yd.	132.4		132.4
Bridge Deck Grooving	Sq. Yd.	331		331
Protective Coat	Sq. Yd.	423		423
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1350		1350
Reinforcement Bars, Epoxy Coated	Pound	25550	5940	31490
Furnishing Steel Piles HP12x53	Foot		335	335
Driving Steel Piles	Foot		335	335
Test Pile Steel HP12x53	Each		2	2
Temporary Sheet Piling	Sq. Ft.		1365	1365
Name Plates	Each		1	1
Bar Splicers	Each	360	14	374
Geocomposite Wall Drain	Sq. Yd.		83	83
Pipe Underdrains for Structures 4"	Foot		150	150



**TEMPORARY SHEET PILING DETAIL**  
(Looking East)

**Notes:**

Hatched area indicates limits of Removal of Existing Structures.

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

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

Hard driving may be encountered during the sheet piling installation. The Contractor shall provide the appropriate driving equipment for the soil conditions indicated on the boring logs.

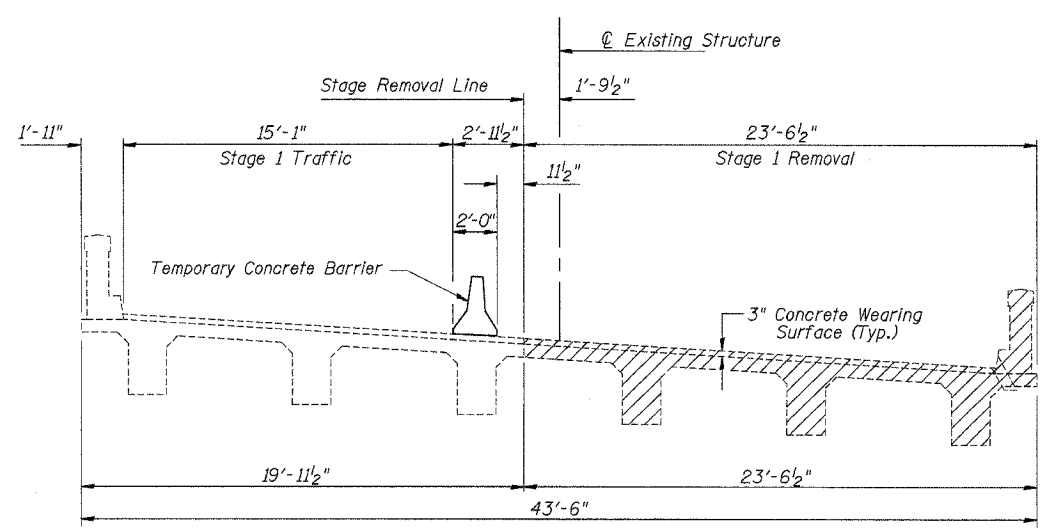
DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

**GENERAL NOTES & TOTAL BILL OF MATERIAL**

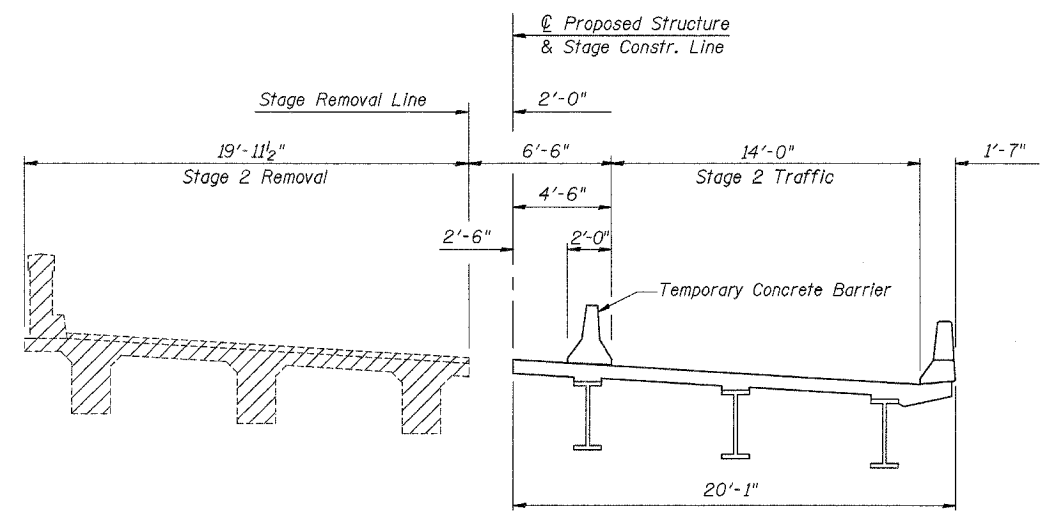
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
F.A.P. ROUTE 42 SECTION 2BR  
WASHINGTON COUNTY  
STA. 487+25  
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION	JOB #: 2158 FILE: 2158BILLMAT DATE: 5/30/06
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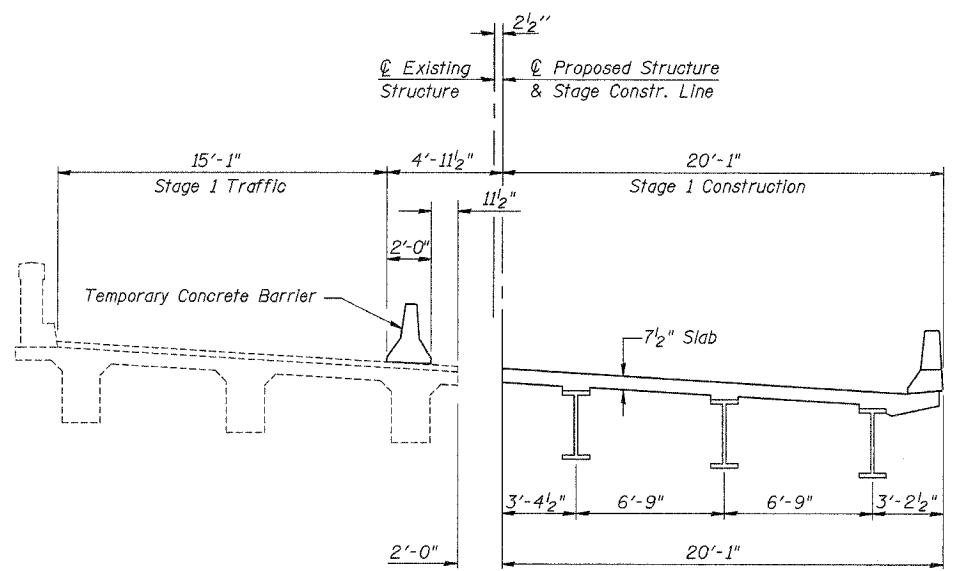
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	17
FED. ROAD DIST. NO. 8		ILLINOIS	PROJECT	
Sheet 3 of 16			CONTRACT #76389	



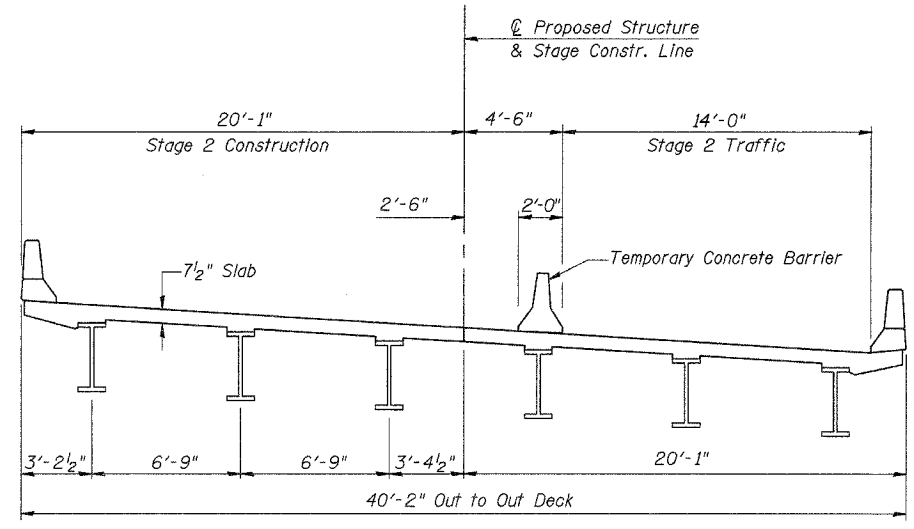
**STAGE 1 REMOVAL**  
(Looking South)



**STAGE 2 REMOVAL**  
(Looking South)



**STAGE 1 CONSTRUCTION**  
(Looking South)



**STAGE 2 CONSTRUCTION**  
(Looking South)

Notes:  
Hatched areas indicate Removal of Existing Structures.  
For details of Temporary Concrete Barrier, see sheet 15 of 16.  
See Roadway Plans for quantity of Temporary Concrete Barrier.

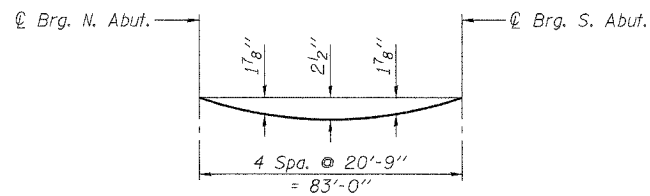
DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

**STAGE CONSTRUCTION DETAILS**

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
F.A.P. ROUTE 42 SECTION 2BR  
WASHINGTON COUNTY  
STA. 487+25  
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION	JOB #: 2158
	FILE: 2158STAGE
	DATE: 3/14/05

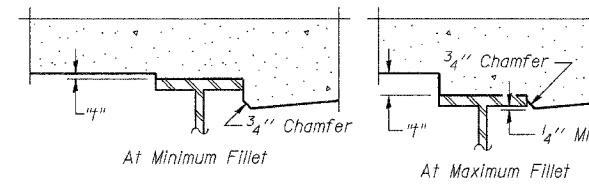
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	18
FED. ROAD DIST. NO. 8 ILLINOIS PROJECT			Sheet 4 of 16 CONTRACT #76389	



**DEAD LOAD DEFLECTION DIAGRAM**

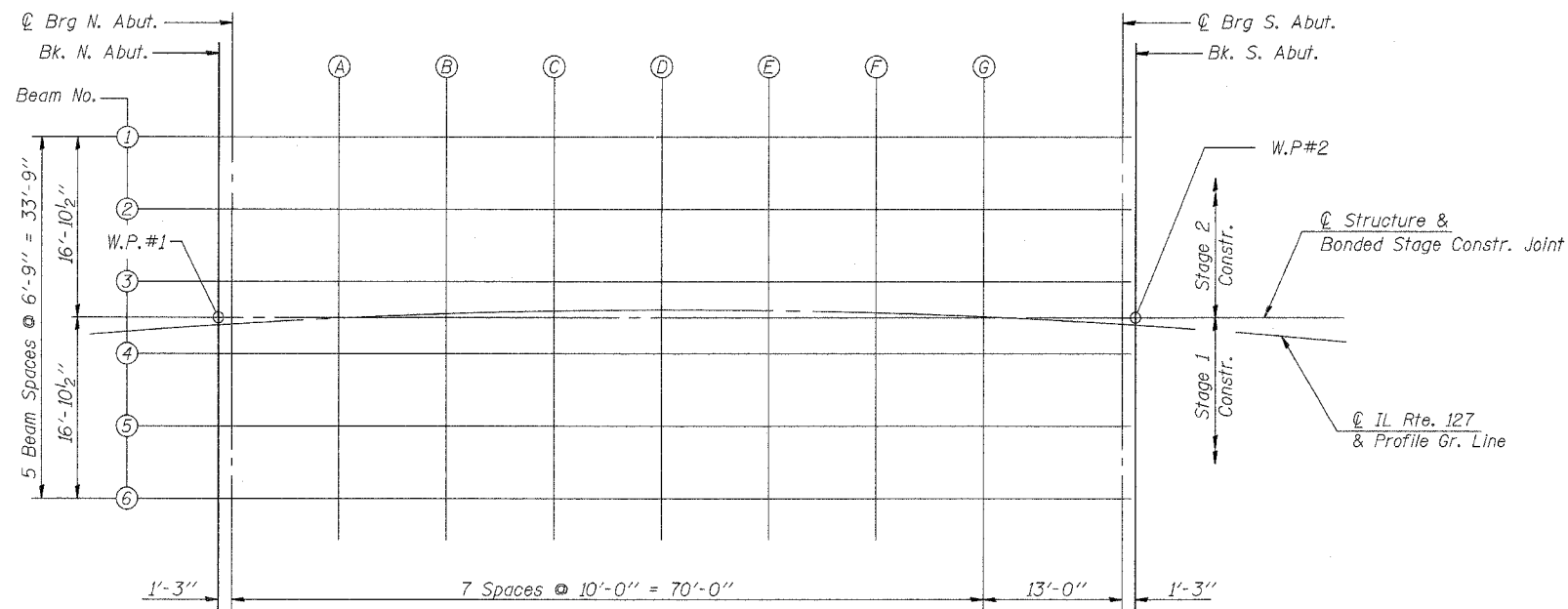
(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 5 of 16.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 5 of 16, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**



**PLAN**

Work this sheet with sheet 5 of 16.

**TOP OF SLAB ELEVATIONS**

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
 F.A.P. ROUTE 42 SECTION 2BR  
 WASHINGTON COUNTY  
 STA. 487+25  
 S.N. 095-0076

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

E-S 4-30-97

CUMMINS ENGINEERING CORPORATION	JOB #: 2158
	FILE: 2158SLAB
	DATE: 2/10/05

**☉ STRUCTURE &  
BONDED STAGE CONSTRUCTION JOINT**

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.800	-17.219	431.091	431.091
☉ Brg. N. Abut.	48684.033	-17.179	431.074	431.074
A	48693.901	-16.902	430.938	431.011
B	48703.771	-16.701	430.807	430.953
C	48713.644	-16.576	430.681	430.859
D	48723.519	-16.527	430.559	430.767
E	48733.393	-16.553	430.442	430.630
F	48743.267	-16.656	430.330	430.488
G	48753.139	-16.834	430.223	430.318
☉ Brg. S. Abut.	48765.967	-17.179	430.091	430.091
Bk. S. Abut.	48767.200	-17.219	430.078	430.078

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.583	-10.472	430.669	430.669
☉ Brg. N. Abut.	48683.823	-10.432	430.651	430.651
A	48693.741	-10.154	430.515	430.588
B	48703.662	-9.952	430.383	430.529
C	48713.586	-9.826	430.256	430.435
D	48723.511	-9.777	430.134	430.342
E	48733.437	-9.804	430.016	430.204
F	48743.361	-9.906	429.904	430.062
G	48753.283	-10.085	429.796	429.891
☉ Brg. S. Abut.	48766.177	-10.432	429.663	429.663
Bk. S. Abut.	48767.417	-10.472	429.651	429.651

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.364	-3.726	430.246	430.246
☉ Brg. N. Abut.	48683.610	-3.685	430.229	430.229
A	48693.579	-3.406	430.092	430.165
B	48703.552	-3.203	429.959	430.105
C	48713.527	-3.077	429.832	430.010
D	48723.503	-3.027	429.709	429.917
E	48733.480	-3.054	429.591	429.778
F	48743.456	-3.157	429.477	429.636
G	48753.429	-3.337	429.369	429.464
☉ Brg. S. Abut.	48766.390	-3.685	429.236	429.236
Bk. S. Abut.	48767.636	-3.726	429.223	429.223

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.254	-0.353	430.035	430.035
☉ Brg. N. Abut.	48683.503	-0.312	430.018	430.018
A	48693.498	-0.032	429.880	429.953
B	48703.496	0.172	429.747	429.893
C	48713.497	0.298	429.619	429.798
D	48723.500	0.348	429.496	429.704
E	48733.502	0.321	429.378	429.565
F	48743.504	0.218	429.264	429.423
G	48753.503	0.037	429.156	429.251
☉ Brg. S. Abut.	48766.497	-0.312	429.022	429.022
Bk. S. Abut.	48767.746	-0.353	429.009	429.009

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48682.143	3.021	429.824	429.824
☉ Brg. N. Abut.	48683.395	3.061	429.806	429.806
A	48693.416	3.342	429.668	429.742
B	48703.440	3.546	429.535	429.681
C	48713.467	3.673	429.407	429.586
D	48723.496	3.723	429.283	429.492
E	48733.524	3.696	429.165	429.352
F	48743.552	3.592	429.051	429.209
G	48753.577	3.411	428.942	429.037
☉ Brg. S. Abut.	48766.605	3.061	428.808	428.808
Bk. S. Abut.	48767.857	3.021	428.795	428.795

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48681.919	9.767	429.402	429.402
☉ Brg. N. Abut.	48683.178	9.808	429.384	429.384
A	48693.251	10.090	429.245	429.318
B	48703.328	10.295	429.111	429.258
C	48713.407	10.423	428.982	429.161
D	48723.488	10.473	428.858	429.066
E	48733.569	10.446	428.739	428.927
F	48743.649	10.342	428.625	428.783
G	48753.726	10.160	428.515	428.610
☉ Brg. S. Abut.	48766.822	9.808	428.380	428.380
Bk. S. Abut.	48768.081	9.767	428.368	428.368

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	48681.693	16.513	428.979	428.979
☉ Brg. N. Abut.	48682.958	16.554	428.962	428.962
A	48693.084	16.838	428.822	428.895
B	48703.214	17.044	428.688	428.834
C	48713.346	17.173	428.558	428.737
D	48723.480	17.223	428.433	428.641
E	48733.614	17.196	428.313	428.501
F	48743.747	17.091	428.198	428.357
G	48753.877	16.908	428.088	428.183
☉ Brg. S. Abut.	48767.042	16.554	427.953	427.953
Bk. S. Abut.	48768.307	16.513	427.940	427.940

Work this sheet with sheet 4 of 16.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

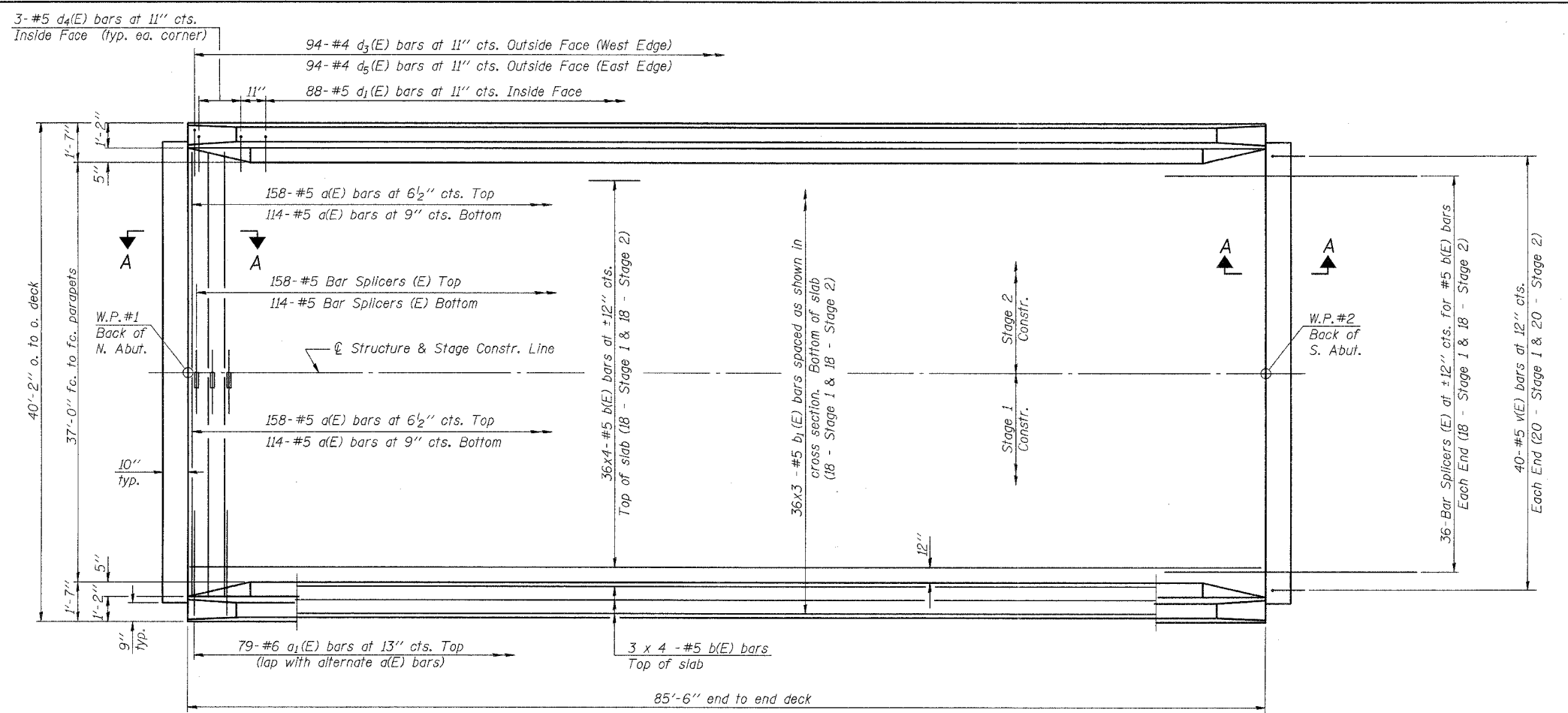
E-S 4-30-97

**TOP OF SLAB ELEVATIONS**

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
F.A.P. ROUTE 42 SECTION 2BR  
WASHINGTON COUNTY  
STA. 487+25  
S.N. 095-0076

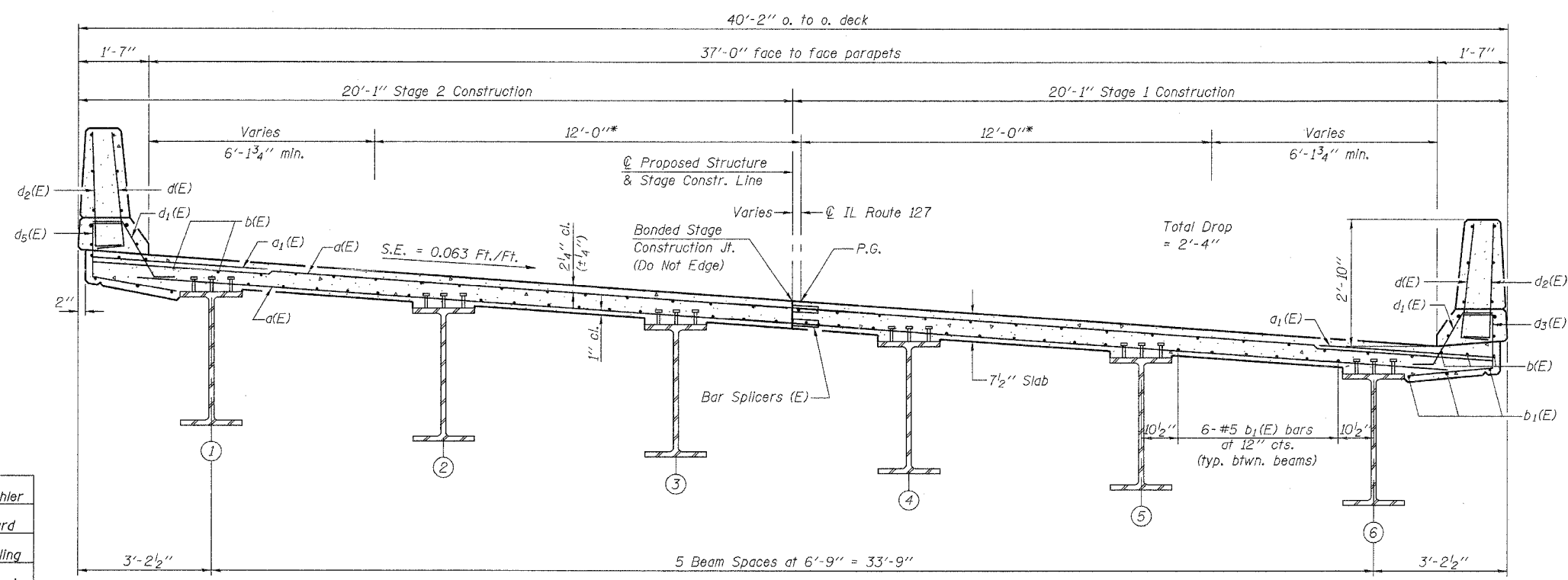
CUMMINS ENGINEERING CORPORATION	JOB #: 2158
	FILE: 2158SLAB
	DATE: 11/12/04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	20
FED. ROAD DIST. NO. 8 ILLINOIS PROJECT			Sheet 6 of 16 CONTRACT #76389	



PLAN

MIN. BAR LAPS  
#5 Bar = 1'-8"



CROSS SECTION  
(Looking South)

\*Radial Dimensions

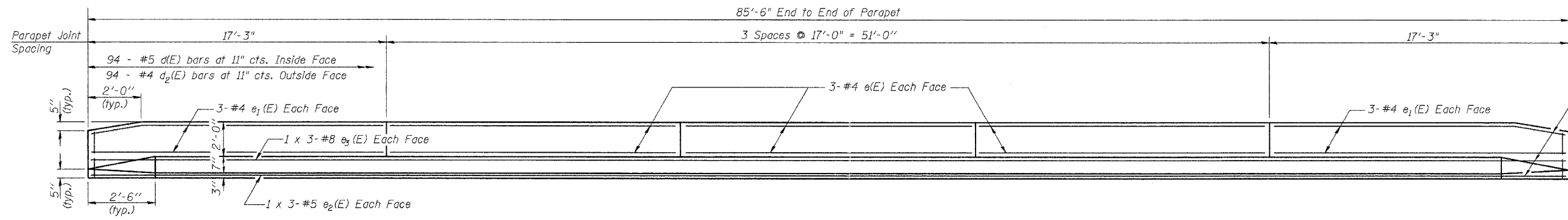
Notes:  
See Sheet 7 of 16 for parapet reinforcement, superstructure details and Bill of Material.  
See Sheet 8 of 16 for diaphragm details and Section A-A.  
See Sheet 13 of 16 for bar splicer details.  
Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 36 x 3-#5 etc. indicates 36 lines of bars with 3 lengths per line.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

**SUPERSTRUCTURE**  
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
F.A.P. ROUTE 42 SECTION 2BR  
WASHINGTON COUNTY  
STA. 487+25  
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION	JOB #: 2158 FILE: 2158SUPER DATE: 2/10/05
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	21
FED. ROAD DIST. NO. 8		ILLINOIS PROJECT	CONTRACT #76389	
Sheet 7 of 16				

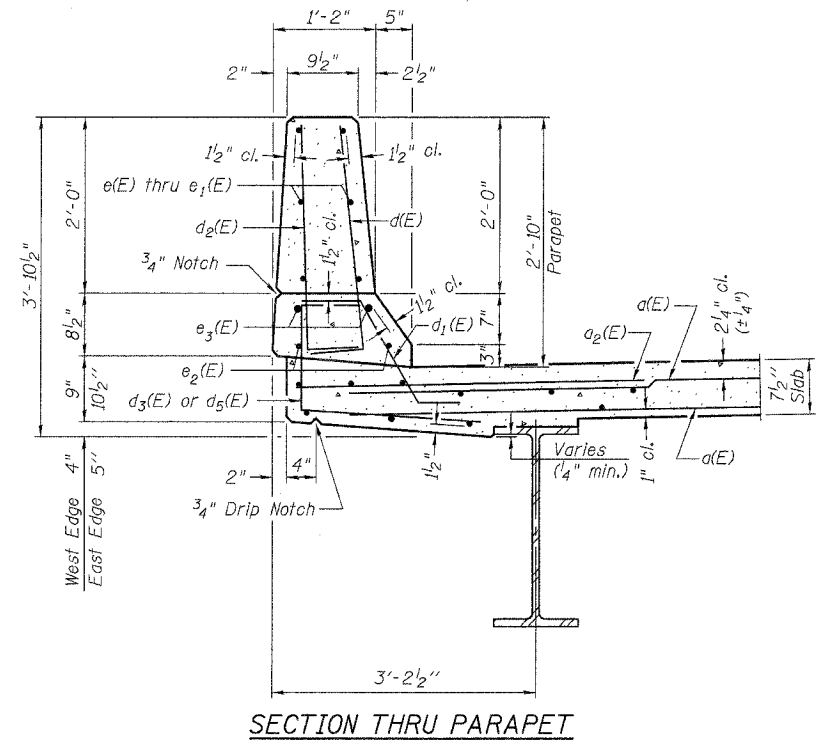


INSIDE ELEVATION OF PARAPET

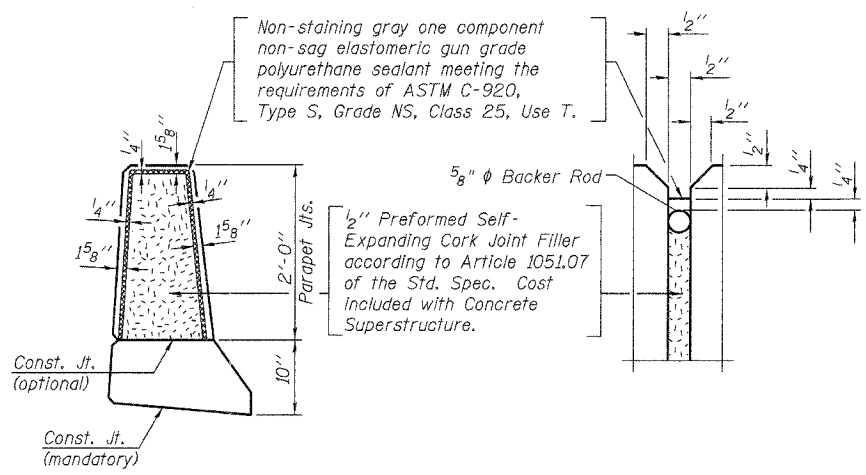
MIN. BAR LAPS  
 #5 Bar = 2'-2"  
 #8 Bar = 4'-6"

SUPERSTRUCTURE  
 BILL OF MATERIAL

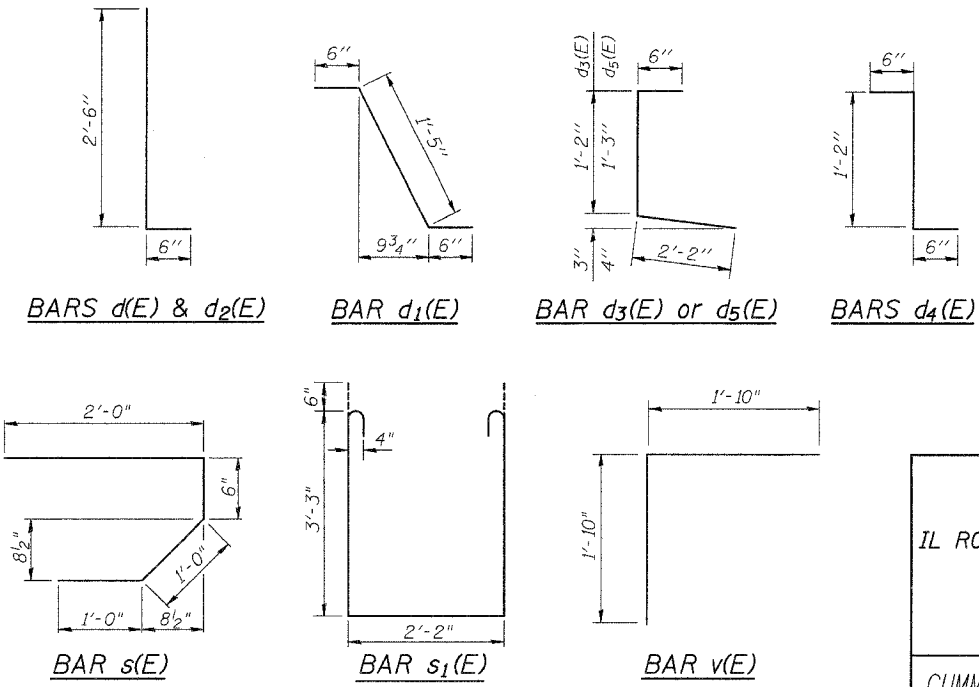
Bar	No.	Size	Length	Shape
a(E)	544	#5	19'-6"	—
a1(E)	158	#6	4'-6"	—
b(E)	168	#5	22'-7"	—
b1(E)	108	#5	29'-6"	—
d(E)	188	#5	3'-0"	┌
d1(E)	176	#5	2'-5"	┌
d2(E)	188	#4	3'-0"	┌
d3(E)	94	#4	3'-10"	┌
d4(E)	12	#5	2'-2"	┌
d5(E)	94	#4	3'-11"	┌
e(E)	36	#4	16'-8"	—
e1(E)	24	#4	16'-11"	—
e2(E)	12	#5	29'-10"	—
e3(E)	12	#8	31'-5"	—
m(E)	8	#6	19'-0"	—
m1(E)	12	#6	19'-9"	—
m2(E)	24	#6	8'-5"	—
m3(E)	10	#6	6'-5"	—
m4(E)	4	#6	2'-10"	—
s(E)	84	#5	4'-6"	└
s1(E)	72	#4	9'-8"	└
v(E)	80	#5	3'-8"	└
Reinforcement Bars, Epoxy Coated		Pound	25550	
Concrete Superstructure		Cu. Yds.	132.4	
Bar Splicers		Each	360	



SECTION THRU PARAPET



PARAPET JOINT DETAILS



Reinforcement bars designated (E) shall be epoxy coated.  
 Bars indicated thus 1 x 3 - #5 etc. indicates 1 line of bars with 3 lengths per line.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

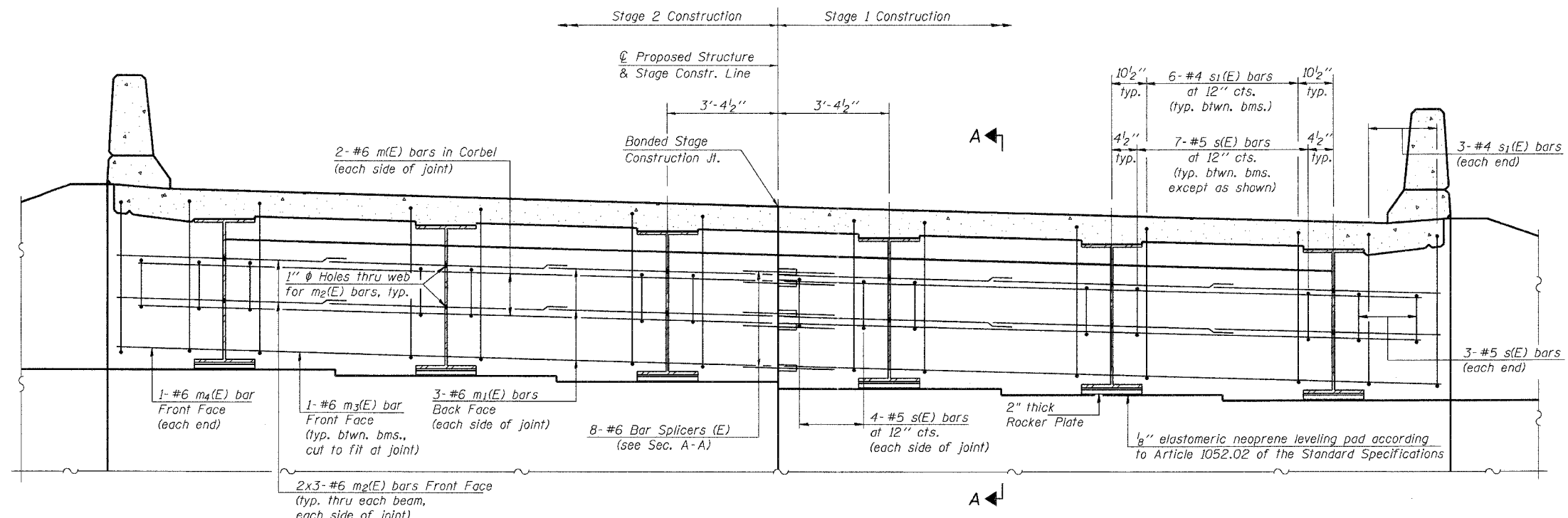
SUPERSTRUCTURE DETAILS

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
 F.A.P. ROUTE 42 SECTION 2BR  
 WASHINGTON COUNTY  
 STA. 487+25  
 S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

JOB #: 2158  
 FILE: 2158SUPER  
 DATE: 12/14/04

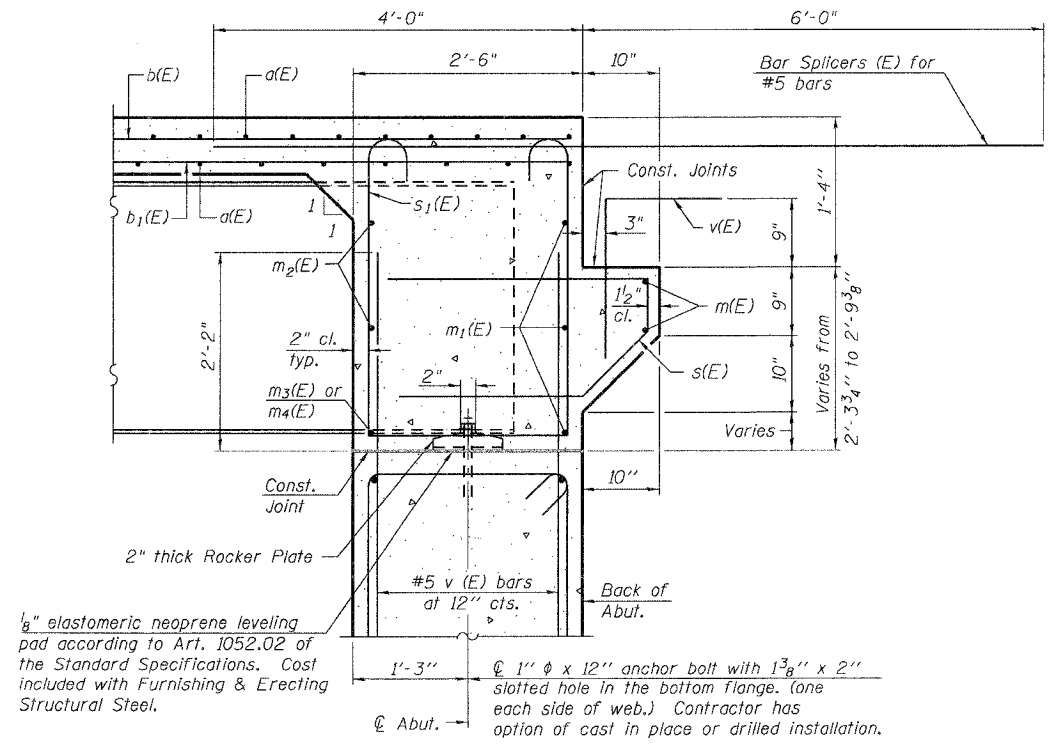
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	22
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		
Sheet 8 of 16			CONTRACT #76389	



**DIAPHRAGM ELEVATION AT SOUTH ABUTMENT**  
(Looking South)  
(North Abutment Similar)

**Notes:**  
 Reinforcement bars in diaphragm are billed with superstructure on sheet 7 of 16.  
 Concrete in diaphragm is included with Concrete Superstructure on sheet 7 of 16.  
 For details of bars s(E) & s<sub>1</sub>(E) see sheet 7 of 16.  
 The s(E) and s<sub>1</sub>(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.  
 For anchor bolt details see sheet 14 of 16.  
 Bars indicated thus 2x3 - #6 etc. indicates 2 lines of bars with 3 lengths per line.

**MIN. BAR LAP**  
 #6 bar = 2'-9"



**SECTION A-A**

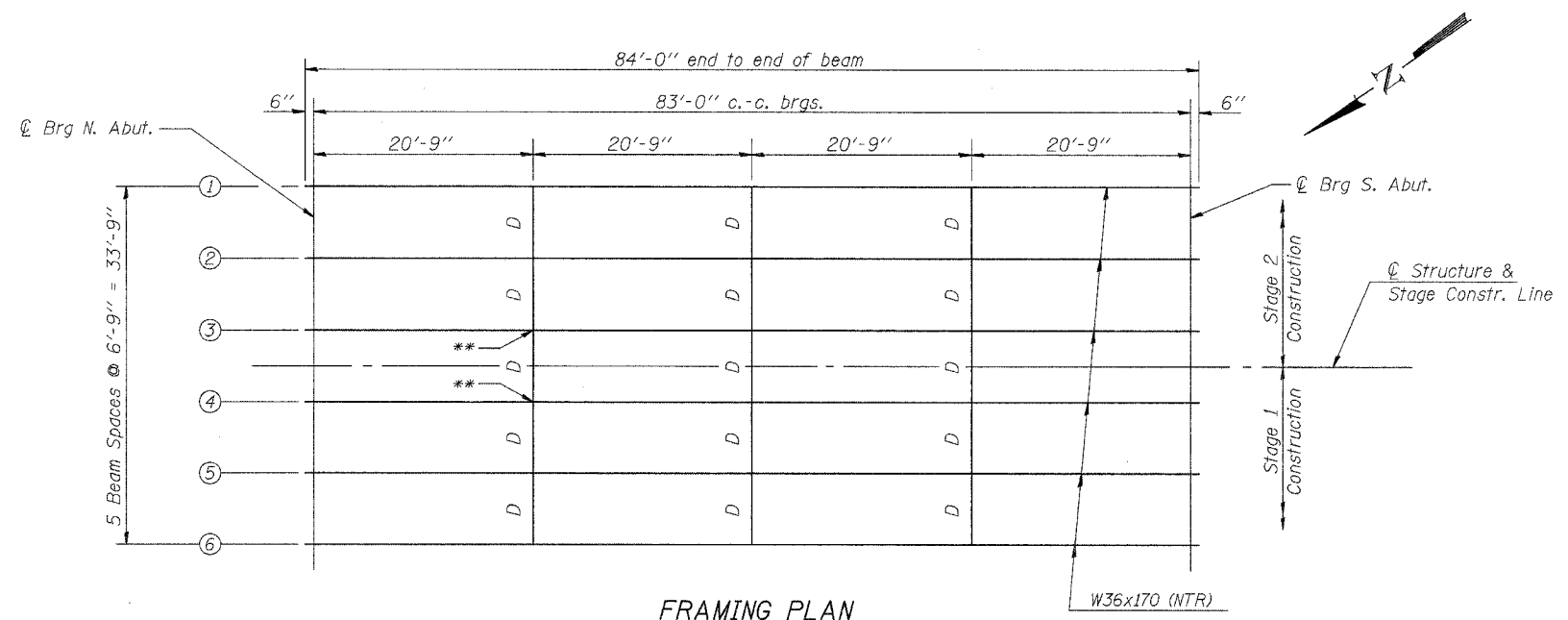
\*Cost included with Concrete Superstructure.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

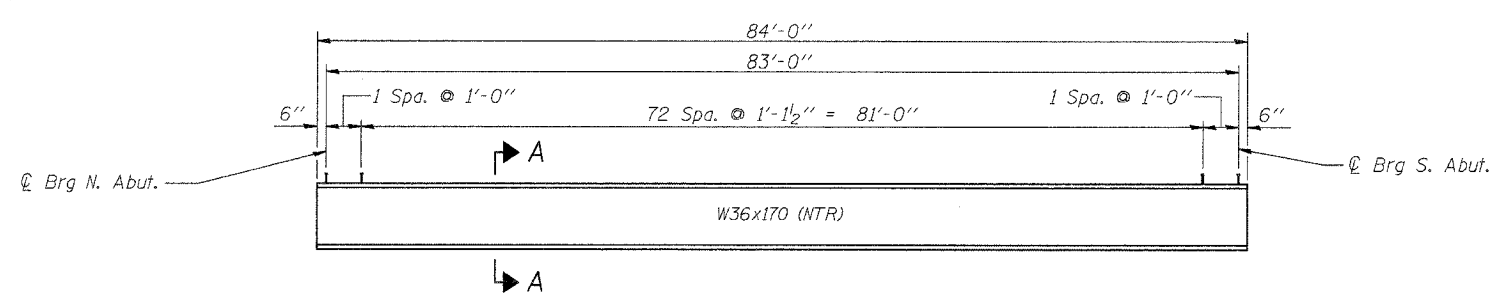
**DIAPHRAGM DETAILS**

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
 F.A.P. ROUTE 42 SECTION 2BR  
 WASHINGTON COUNTY  
 STA. 487+25  
 S.N. 095-0076

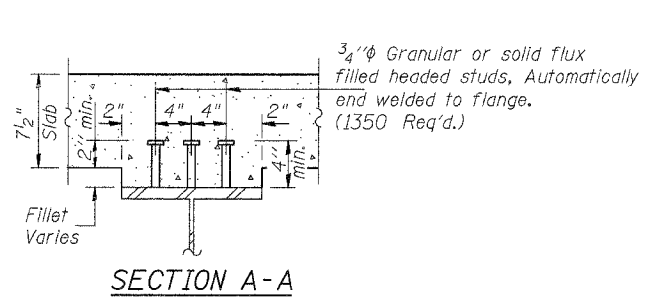
CUMMINS ENGINEERING CORPORATION	JOB #: 2158
	FILE: 2158SUPER
	DATE: 5/30/06



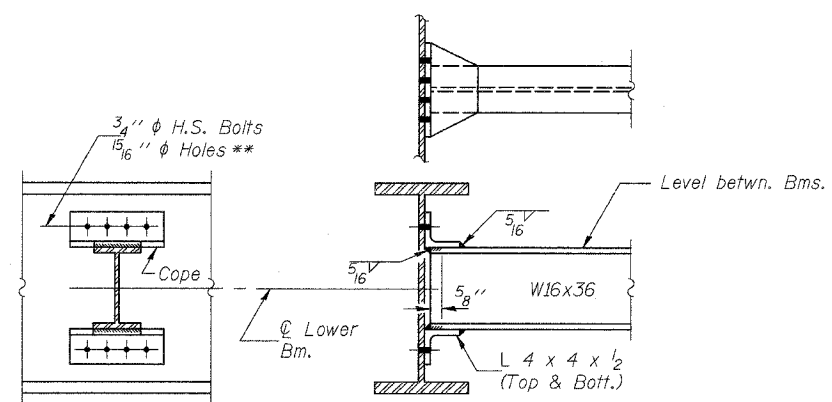
**FRAMING PLAN**



**BEAM ELEVATION**  
(Showing Shear Connector Spacing)



**SECTION A-A**



**DIAPHRAGM D**  
(15 Required)

\*\*Use 1 5/16" wide x 1 1/2" long slotted holes in L's for diaphragm connections between beams 3 & 4. Bolts shall be finger tightened prior to deck pour for stage 2 construction and then fully tightened after completion of deck pour for stage 2 construction.

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Overload).  
 $I_{c(n)}$  and  $S_{c(n)}$  are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.  
 $I_{c(3n)}$  and  $S_{c(3n)}$  are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)  
 VR is the maximum Live Load + Impact shear range in span.

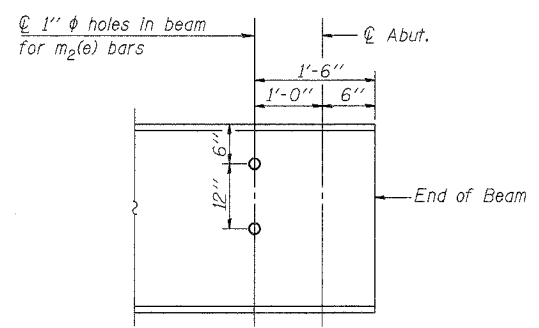
The Plastic Moment capacity ( $M_u$ ) is computed according to AASHTO 10.48.1 and 10.50.1.1.

$f_s$  (Overload) is the sum of the stresses due to  $M\ell + M_s\ell + {}^5_3(M\ell + M(Imp))$ .  
 $M\ell$  - Moment due to dead loads on non-composite section.  
 $M_s\ell$  - Moment due to dead loads on composite section.  
 $M\ell$  - Moment due to live loads on composite section.  
 $M(Imp)$  - Moment due to live load impact on composite section.  
 $M_a$  (Applied Moment) =  $1.3[M\ell + M_s\ell + {}^5_3(M\ell + M(Imp))]$ .

		Abuts.
$R\ell$	(k)	54.3
$R\ell$	(k)	39.3
Imp.	(k)	9.4
$R$ (Total)	(k)	103.0

		0.5 Span
$I_s$	(in <sup>4</sup> )	10500
$I_c$ (n)	(in <sup>4</sup> )	24511
$I_c$ (3n)	(in <sup>4</sup> )	18004
$S_s$	(in <sup>3</sup> )	580
$S_c$ (n)	(in <sup>3</sup> )	800
$S_c$ (3n)	(in <sup>3</sup> )	724
$\ell$	(k/ft.)	0.850
$M\ell$	(k)	732
$s\ell$	(k/ft.)	0.458
$M_s\ell$	(k)	394
$M\ell$	(k)	748
$M(Imp)$	(k)	180
${}^5_3[M\ell + M(Imp)]$	(k)	1547
$M_a$	(k)	3474
$M_u$	(k)	3846
$f_s\ell$ non-comp	(k.s.i.)	15.1
$f_s\ell$ (comp)	(k.s.i.)	6.5
$f_s\ell$ ( $\ell + Imp$ )	(k.s.i.)	23.2
$f_s$ (Overload)	(k.s.i.)	44.8
VR	(k)	48.7

\*Compact, Braced Section



**TYP. END OF BEAM ELEVATION**

Notes:  
 All steel for beams, diaphragms and connection L's shall be AASHTO M270, Grade 50.  
 Two hardened washers shall be required over all 1 5/16" diameter holes and two 1 1/2" x 1 1/2" x 5/16" L washers shall be required over all slotted holes for diaphragms.  
 "NTR" denotes members to which Notch Toughness Requirements, Zone 2 are applicable.

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

Location	℄ Brg. N. Abut.	℄ Brg. S. Abut.
Beam 1	430.39	429.39
Beam 2	429.97	428.97
Beam 3	429.55	428.55
Beam 4	429.13	428.13
Beam 5	428.71	427.71
Beam 6	428.29	427.29

DESIGNED Ruben V. Boehler  
 CHECKED Tim S. Howard  
 DRAWN Nicole L. Darling  
 CHECKED Michael D. Cummins

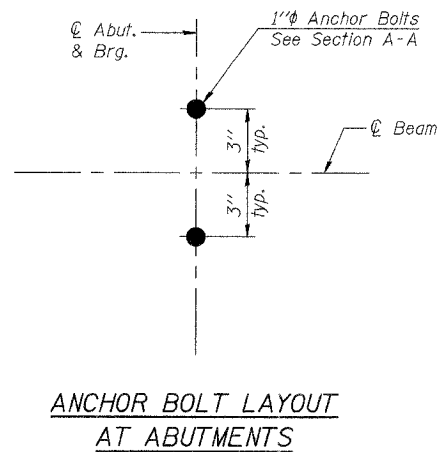
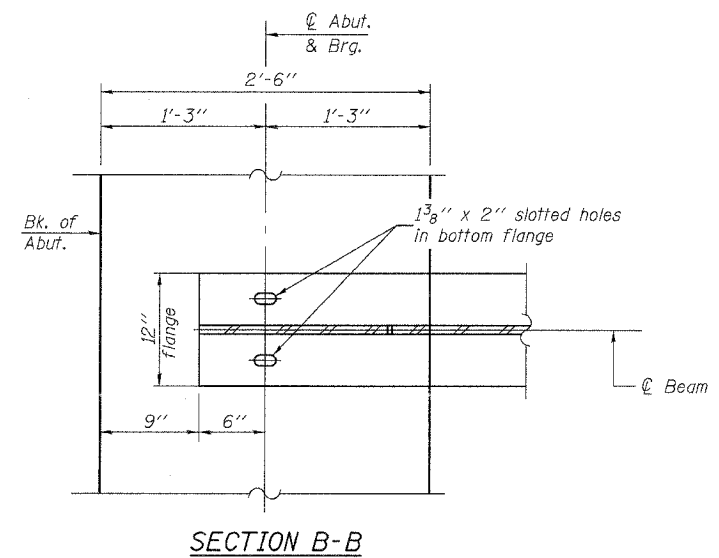
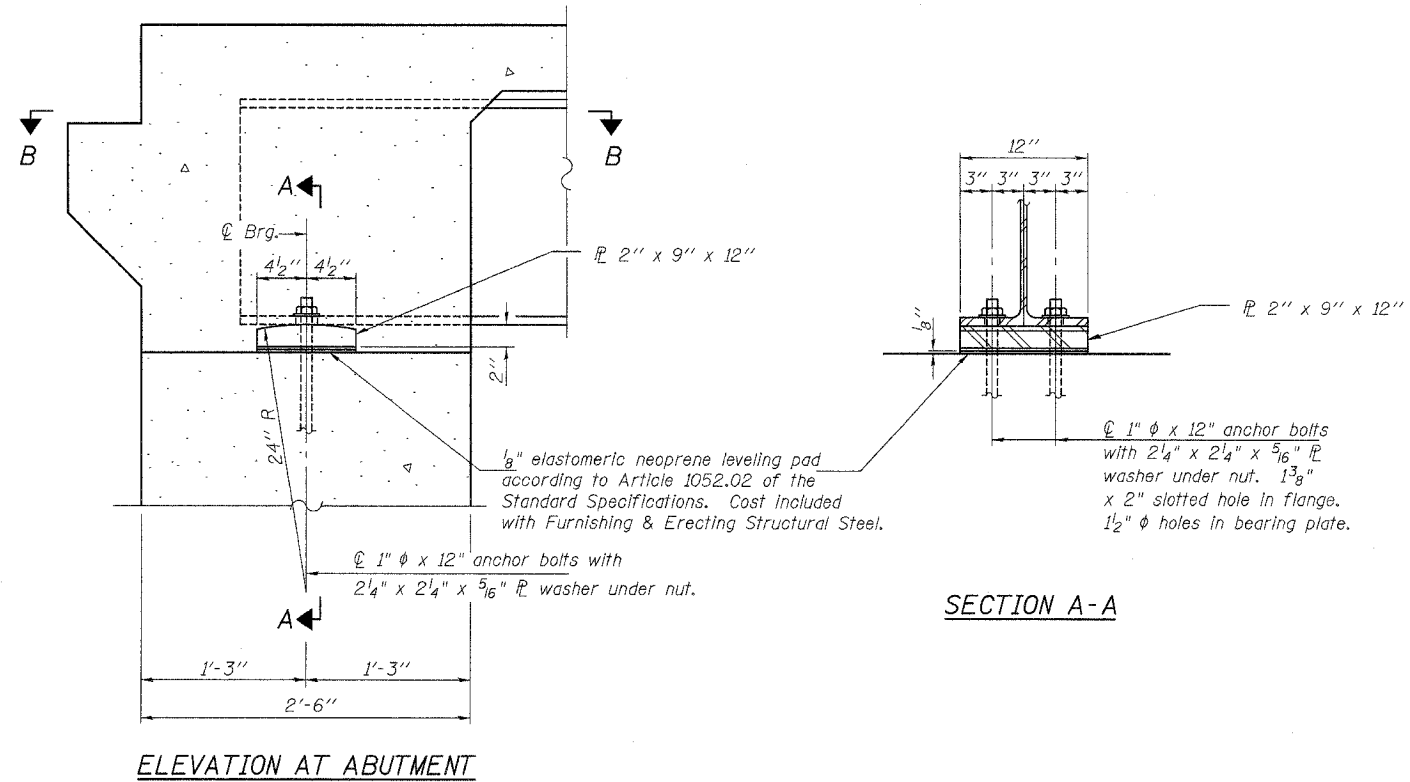
**STRUCTURAL STEEL**

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
 F.A.P. ROUTE 42 SECTION 2BR  
 WASHINGTON COUNTY  
 STA. 487+25  
 S.N. 095-0076

CUMMINS ENGINEERING CORPORATION	JOB #: 2158
	FILE: 2158SS
	DATE: 2/10/05



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	24
FED. ROAD DIST. NO. 8	ILLINOIS	PROJECT		
Sheet 10 of 16			CONTRACT #76389	



Notes:  
Steel bearing plates shall be AASHTO M270, Grade 50.

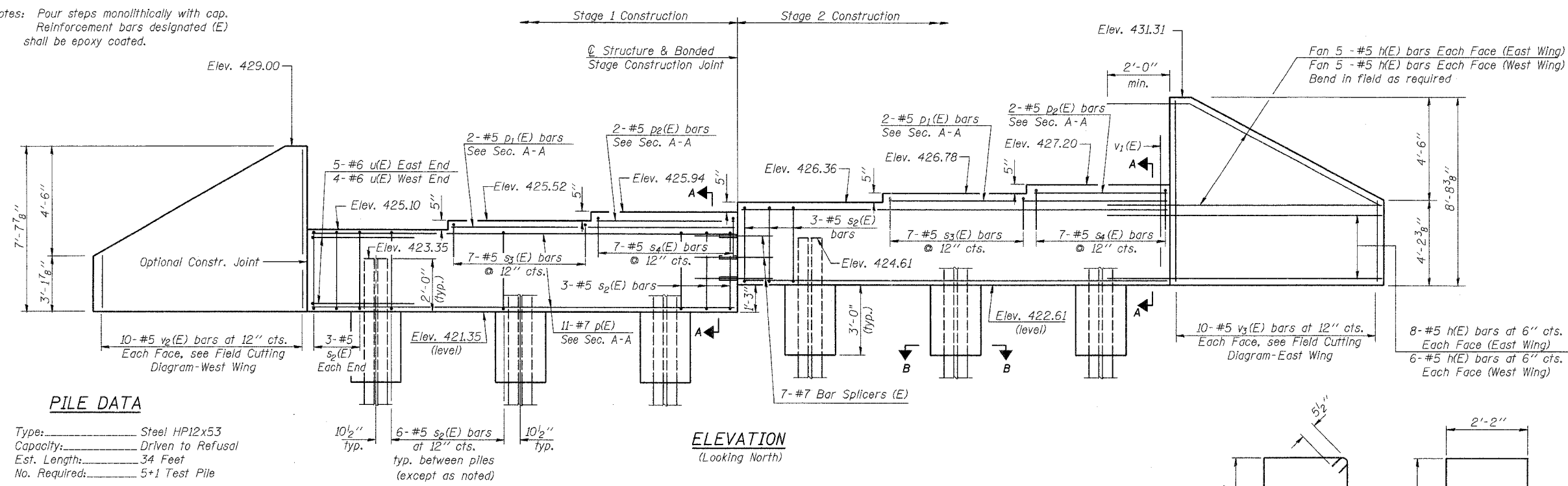
DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

**BEARING DETAILS**

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
F.A.P. ROUTE 42 SECTION 2BR  
WASHINGTON COUNTY  
STA. 487+25  
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION	JOB #: 2158
	FILE: 2158BRG
	DATE: 11/12/04

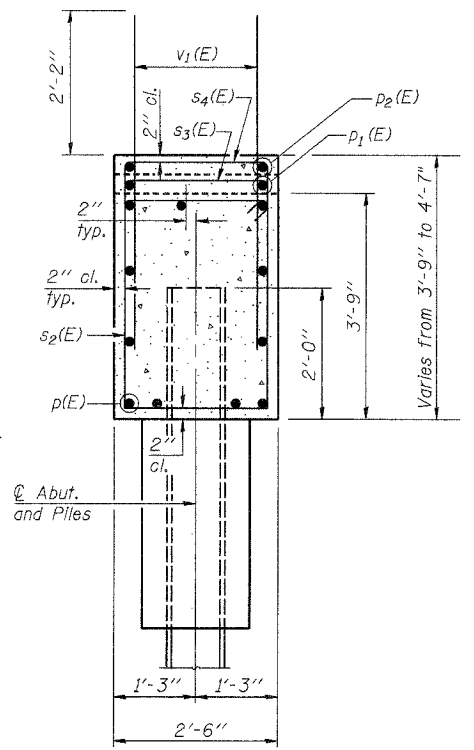
Notes: Pour steps monolithically with cap.  
Reinforcement bars designated (E)  
shall be epoxy coated.



**PILE DATA**

Type: Steel HP12x53  
Capacity: Driven to Refusal  
Est. Length: 34 Feet  
No. Required: 5+1 Test Pile

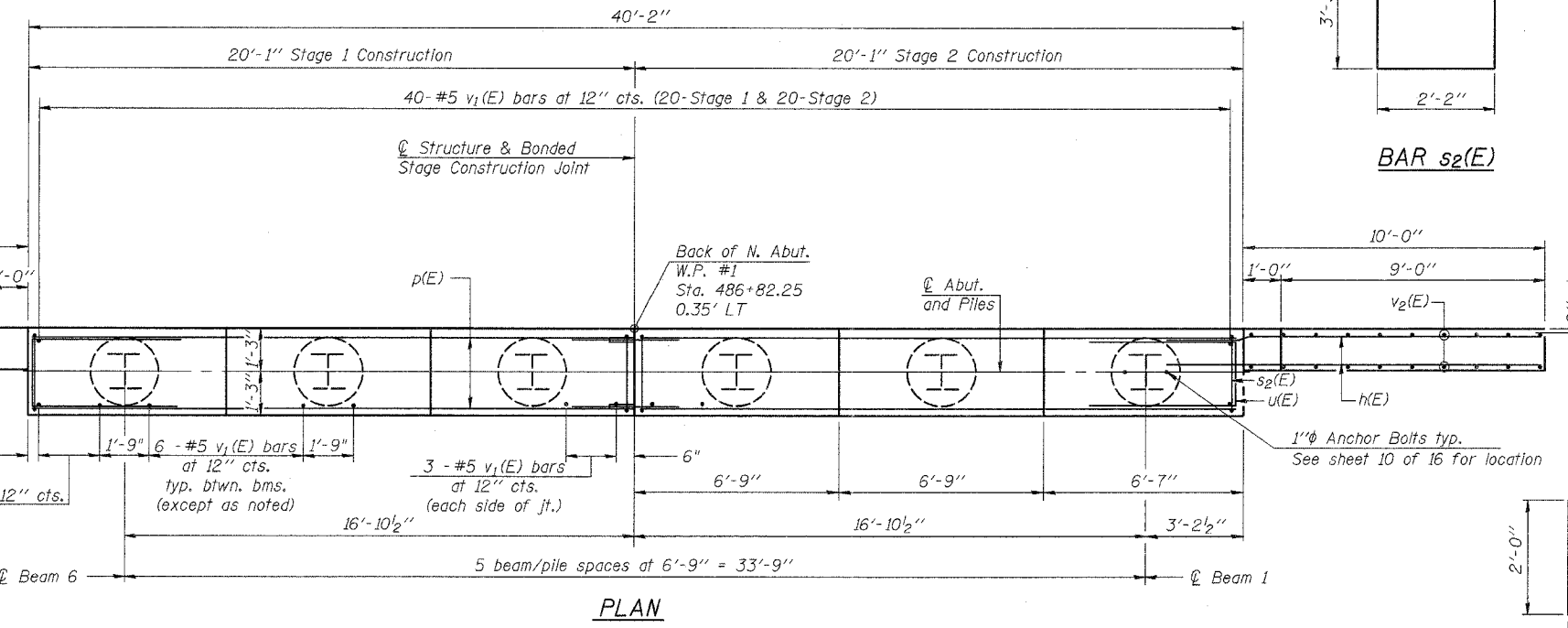
**ELEVATION**  
(Looking North)



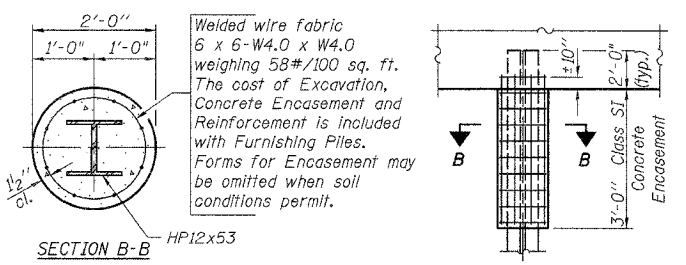
**SECTION A-A**

**BILL OF MATERIAL - NORTH ABUT.**

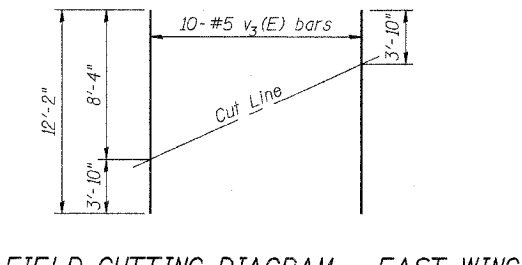
Bar	No.	Size	Length	Shape
h(E)	48	#5	12'-10"	—
p(E)	22	#7	19'-9"	—
p1(E)	4	#5	13'-0"	—
p2(E)	4	#5	6'-3"	—
s2(E)	36	#5	12'-1"	□
s3(E)	14	#5	5'-2"	□
s4(E)	14	#5	6'-0"	□
u(E)	9	#6	12'-0"	□
v1(E)	76	#5	4'-4"	—
v2(E)	10	#5	10'-1"	—
v3(E)	10	#5	12'-2"	—
Concrete Structures		Cu. Yd.	20.1	
Reinforcement Bars, Epoxy Coated		Pound	2970	
Structure Excavation		Cu. Yd.	115	
Bar Splicers		Each	7	
Furnishing Steel Piles HP12x53		Foot	170	
Driving Steel Piles HP12x53		Foot	170	
Test Pile Steel HP12x53		Each	1	



**PLAN**

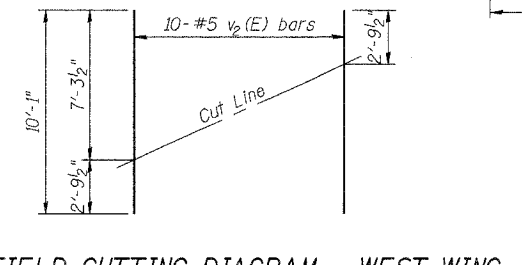


**PILE ENCASEMENT DETAIL**



**FIELD CUTTING DIAGRAM - EAST WING**

Order v3(E) full length. Cut as shown and use remainder of bars in opposite face.



**FIELD CUTTING DIAGRAM - WEST WING**

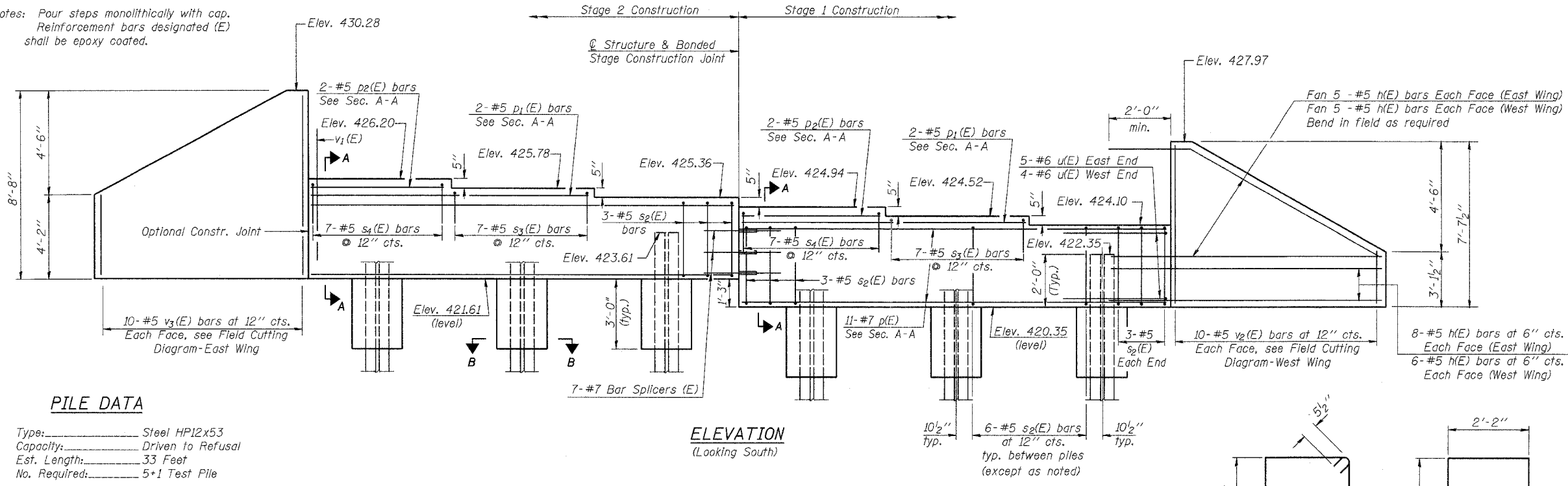
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.

DESIGNED Ruben V. Boehler  
CHECKED Tim S. Howard  
DRAWN Nicole L. Darling  
CHECKED Michael D. Cummins

**NORTH ABUTMENT**  
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
F.A.P. ROUTE 42 SECTION 2BR  
WASHINGTON COUNTY  
STA. 487+25  
S.N. 095-0076  
CUMMINS ENGINEERING CORPORATION  
JOB #: 2158  
FILE: 2158ABUTS  
DATE: 2/10/05

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	26
FED. ROAD DIST. NO. 8		ILLINOIS PROJECT		
Sheet 12 of 16		CONTRACT #76389		

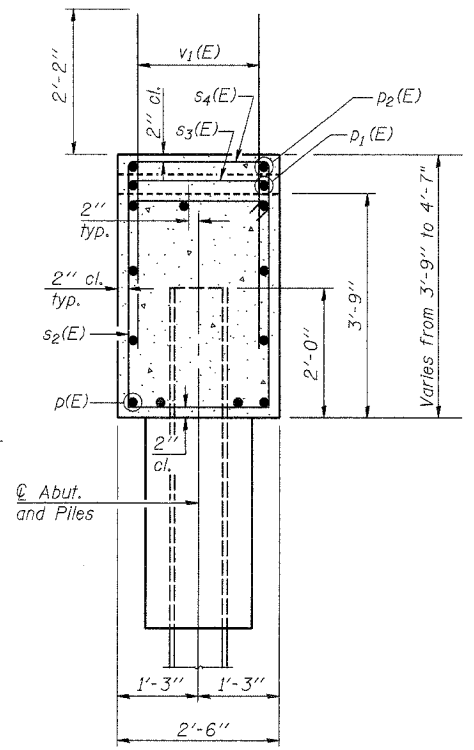
Notes: Four steps monolithically with cap. Reinforcement bars designated (E) shall be epoxy coated.



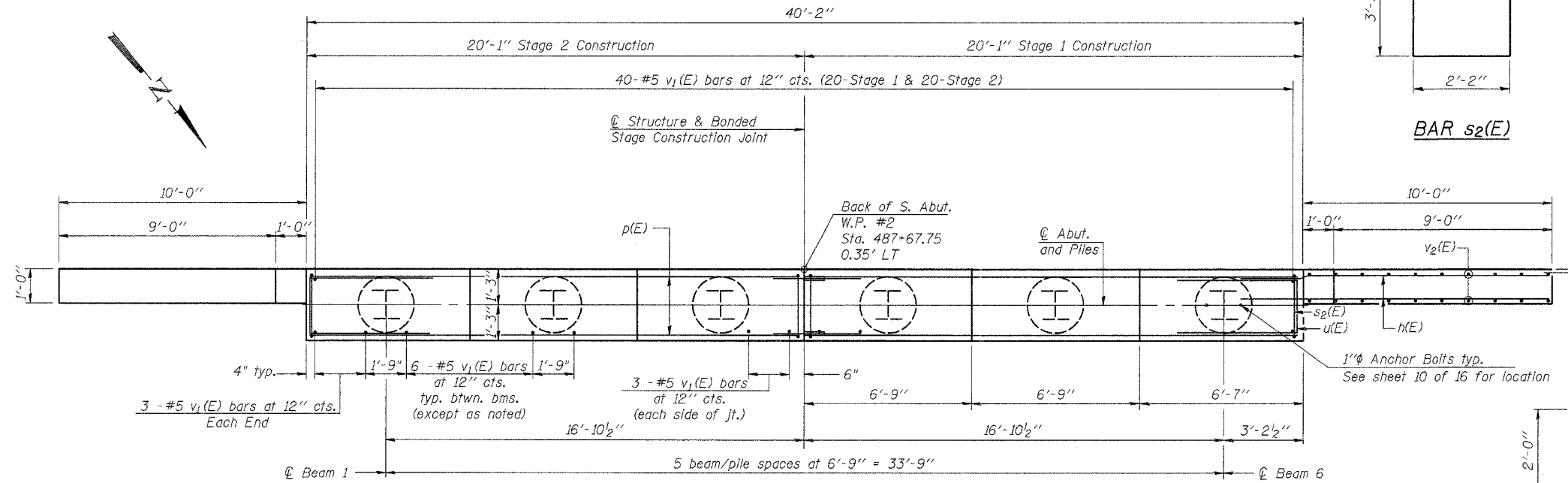
**PILE DATA**

Type: Steel HP12x53  
 Capacity: Driven to Refusal  
 Est. Length: 33 Feet  
 No. Required: 5+1 Test Pile

**ELEVATION**  
(Looking South)



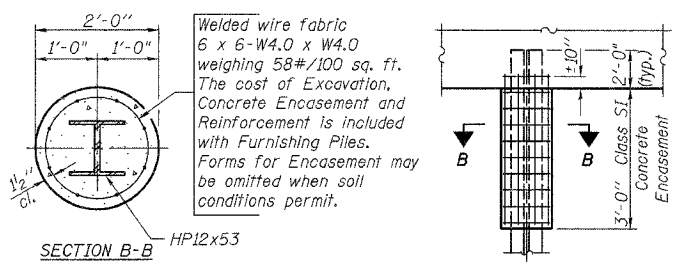
**SECTION A-A**



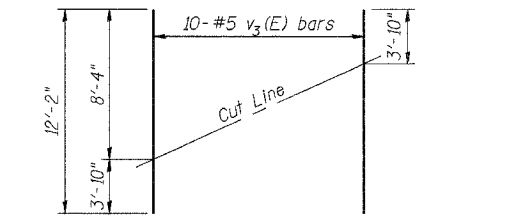
**PLAN**

**BILL OF MATERIAL - SOUTH ABUT.**

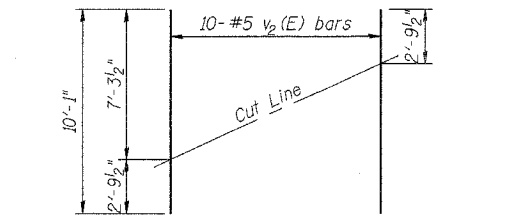
Bar	No.	Size	Length	Shape
h(E)	48	#5	12'-10"	—
p(E)	22	#7	19'-9"	—
p1(E)	4	#5	13'-0"	—
p2(E)	4	#5	6'-3"	—
s2(E)	36	#5	12'-1"	□
s3(E)	14	#5	5'-2"	□
s4(E)	14	#5	6'-0"	□
u(E)	9	#6	12'-0"	□
v1(E)	76	#5	4'-4"	—
v2(E)	10	#5	10'-1"	—
v3(E)	10	#5	12'-2"	—
Concrete Structures			Cu. Yd.	20.1
Reinforcement Bars, Epoxy Coated			Pound	2970
Structure Excavation			Cu. Yd.	115
Bar Splicers			Each	7
Furnishing Steel Piles HP12x53			Foot	165
Driving Steel Piles HP12x53			Foot	165
Test Pile Steel HP12x53			Each	1



**PILE ENCASEMENT DETAIL**



**FIELD CUTTING DIAGRAM - EAST WING**



**FIELD CUTTING DIAGRAM - WEST WING**

**BAR u(E)**

DESIGNED Ruben V. Boehler  
 CHECKED Tim S. Howard  
 DRAWN Nicole L. Darling  
 CHECKED Michael D. Cummins

**SOUTH ABUTMENT**  
 IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
 F.A.P. ROUTE 42 SECTION 2BR  
 WASHINGTON COUNTY  
 STA. 487+25  
 S.N. 095-0076  
 CUMMINS ENGINEERING CORPORATION  
 JOB #: 2158  
 FILE: 2158ABUTS  
 DATE: 2/10/05

**NOTES**

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

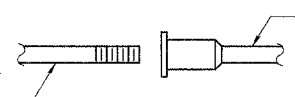
- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
 (Tension in kips)
- ② Minimum \*Pull-out Strength =  $1.25 \times f_{sallow} \times A_t$   
 (Tension in kips)

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{sallow}$  = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
 \* = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

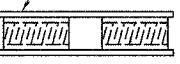
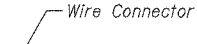
The diameter of this part is equal or larger than the diameter of bar spliced.



ROLLED THREAD DOWEL BAR



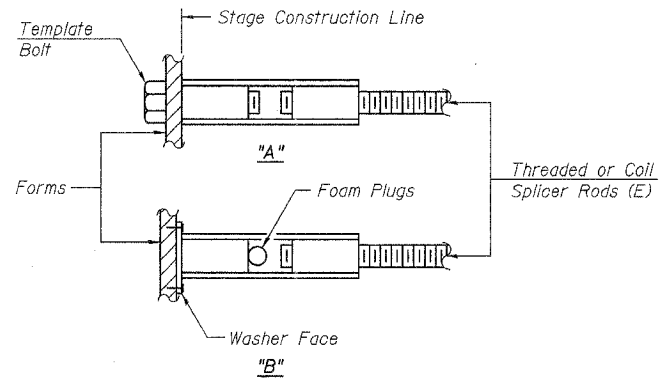
\*\* ONE PIECE



WELDED SECTIONS

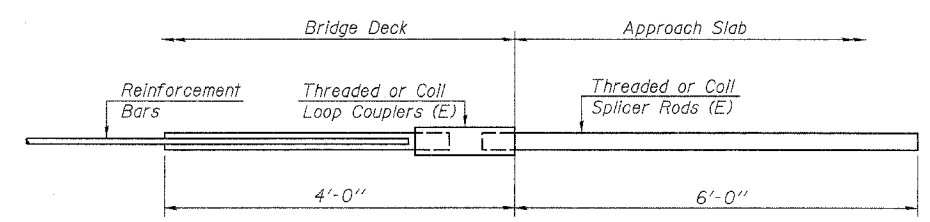
**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



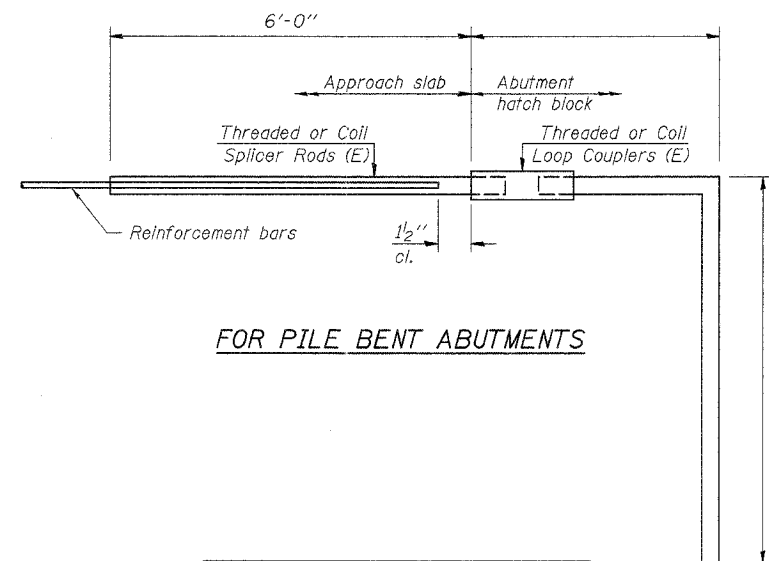
**INSTALLATION AND SETTING METHODS**

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



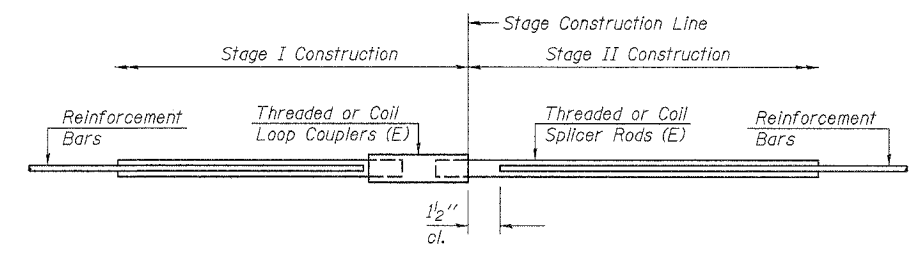
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 72



**FOR PILE BENT ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



**STANDARD**

Bar Size	No. Assemblies Required	Location
#5	272	Deck
#6	16	Diaphragms
#7	14	Abutments

**BAR SPLICER ASSEMBLY DETAILS**

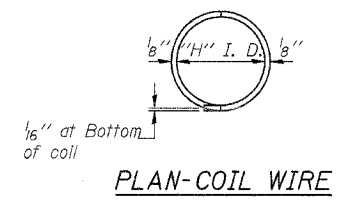
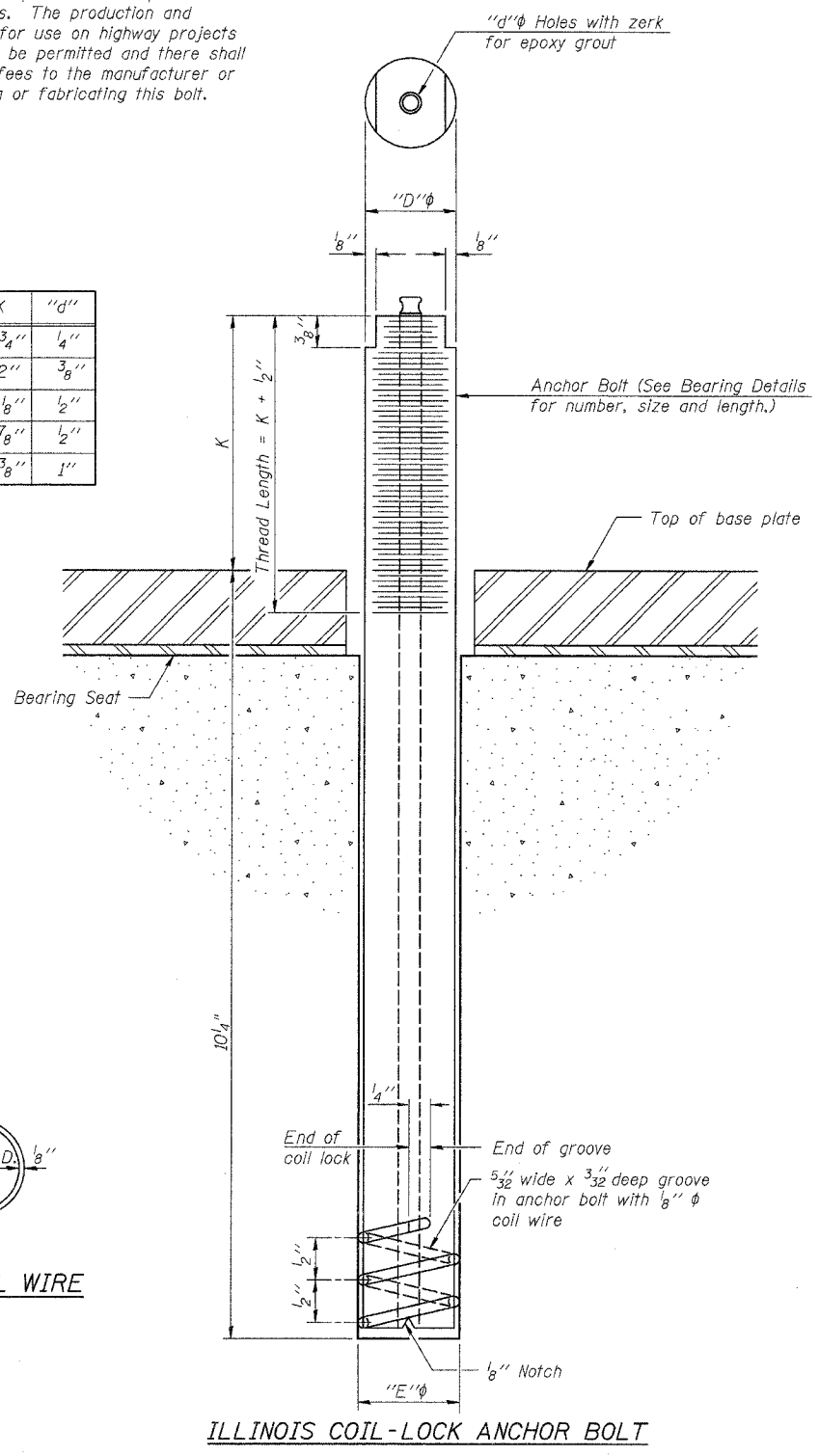
IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
 F.A.P. ROUTE 42 SECTION 2BR  
 WASHINGTON COUNTY  
 STA. 487+25  
 S.N. 095-0076

DESIGNED Ruben V. Boehler  
 CHECKED Tim S. Howard  
 DRAWN Nicole L. Darling  
 CHECKED Michael D. Cummins

CUMMINS ENGINEERING CORPORATION  
 JOB #: 2158  
 FILE: 2158BARSP  
 DATE: 11/16/04

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



### MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.  
 The coil wire shall be made of any suitable soft steel wire.  
 The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.  
 The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

### INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

### ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.  
 The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:  
 1. A threaded rod stud with nut and washer of the type specified.  
 2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abutments	A307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

### GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.  
 Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.  
 The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

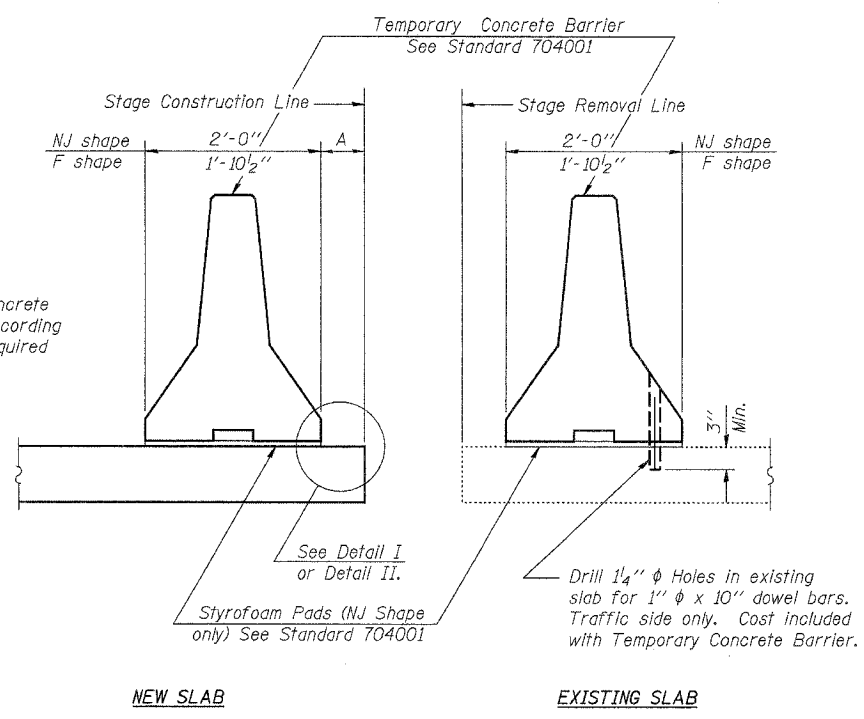
**ANCHOR BOLT DETAILS FOR BEARINGS**  
 IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
 F.A.P. ROUTE 42 SECTION 2BR  
 WASHINGTON COUNTY  
 STA. 487+25  
 S.N. 095-0076

CUMMINS ENGINEERING CORPORATION

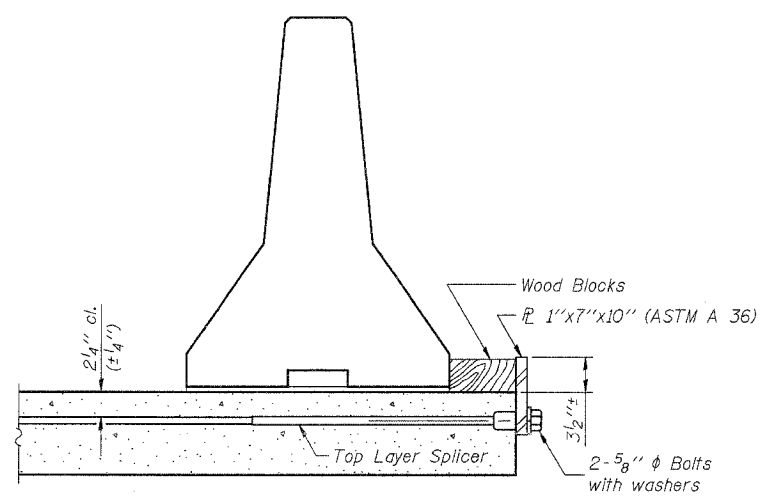
JOB #: 2158
FILE: 2158ANCHOR
DATE: 11/16/04

DESIGNED Ruben V. Boehler  
 CHECKED Tim S. Howard  
 DRAWN Nicole L. Darling  
 CHECKED Michael D. Cummins

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 42	2BR	WASHINGTON	33	29
FED. ROAD DIST. NO. 8		ILLINOIS PROJECT		
Sheet 15 of 16		CONTRACT #76389		

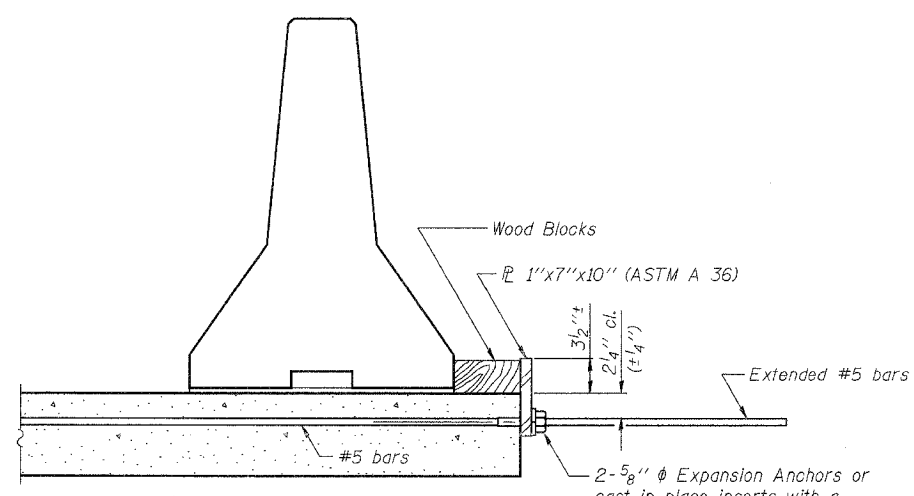


**SECTIONS THRU SLAB**



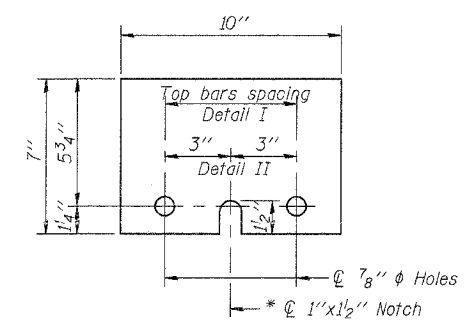
**DETAIL I**

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



**DETAIL II**

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



**1" x 7" x 10"**

\* Required only with Detail II

- NOTES**
- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel plate to the top layer of couplers with 2-5/8" bolts screwed to coupler at approximate center of each barrier panel.
  - Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel plate to the concrete slab with 2-5/8" Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate center of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier.

DESIGNED	Ruben V. Boehler
CHECKED	Tim S. Howard
DRAWN	Nicole L. Darling
CHECKED	Michael D. Cummins

R-27 9-01-03

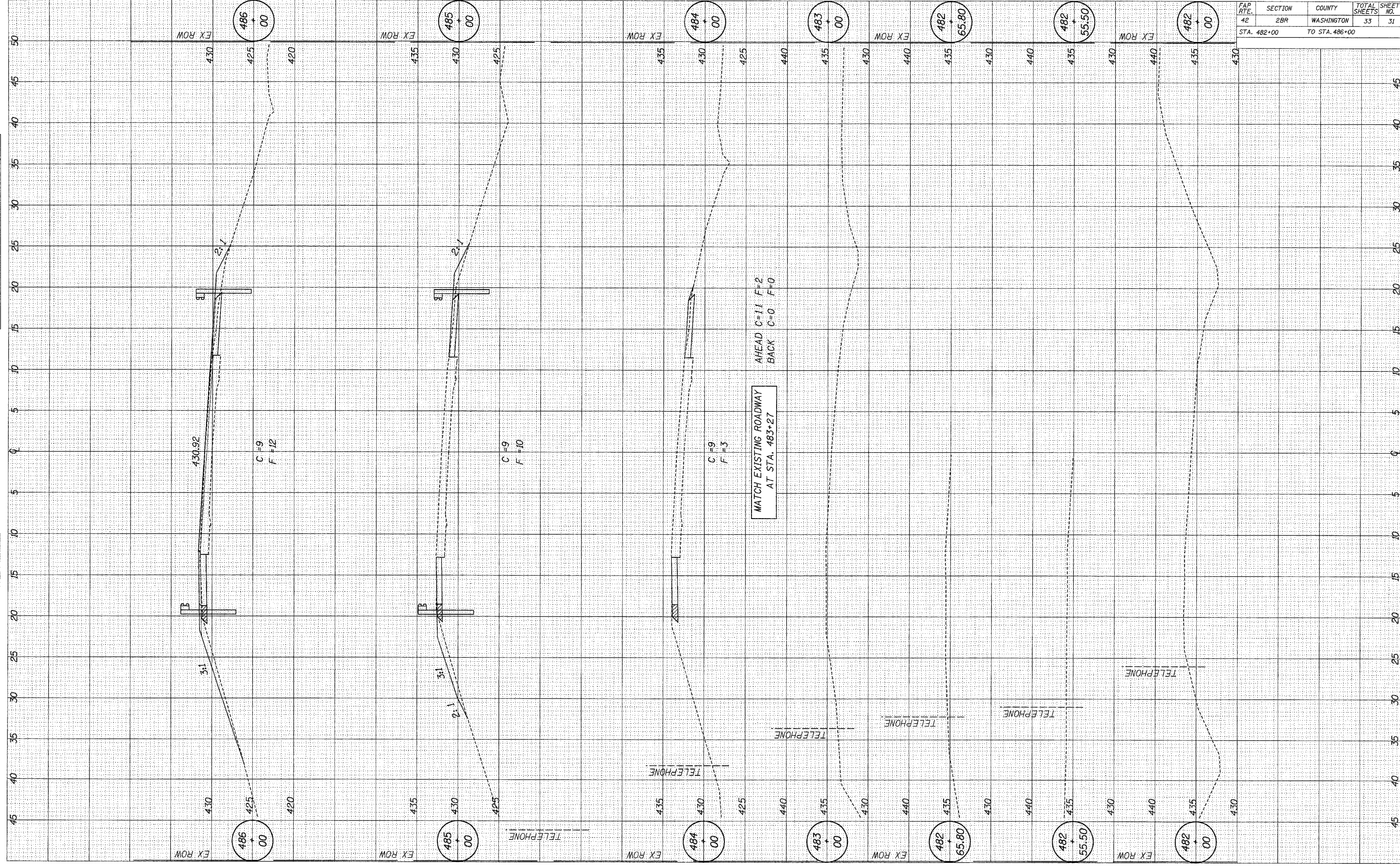
**TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION**

IL ROUTE 127 OVER TRIBUTARY TO CROOKED CREEK  
F.A.P. ROUTE 42 SECTION 2BR  
WASHINGTON COUNTY  
STA. 487+25  
S.N. 095-0076

CUMMINS ENGINEERING CORPORATION	JOB #: 2158 FILE: 2158BARRIER DATE: 11/16/04
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FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	31
STA. 482+00 TO STA. 486+00				

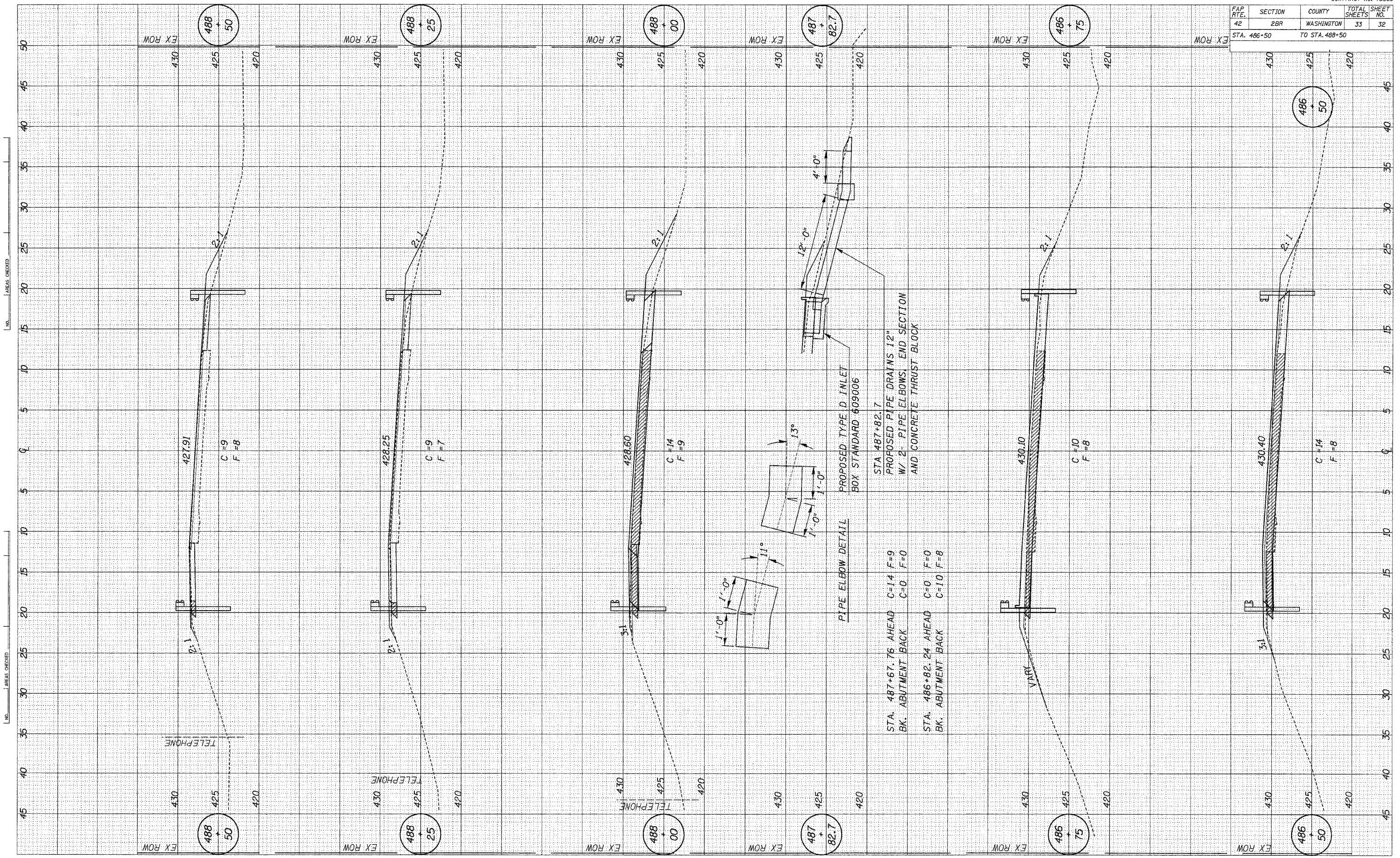


LINE LINES CHECKED

LINE LINES CHECKED



FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	32
STA. 486+50 TO STA. 488+50				

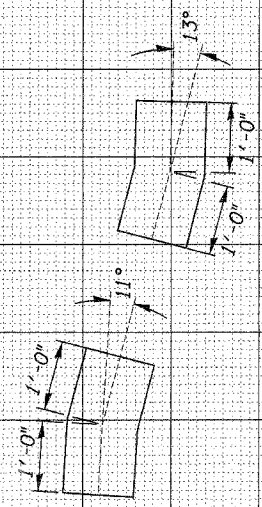


STA. 487+67.76 AHEAD C=14 F=9  
BK. ABUTMENT BACK C=0 F=0

STA. 486+82.24 AHEAD C=0 F=0  
BK. ABUTMENT BACK C=10 F=8

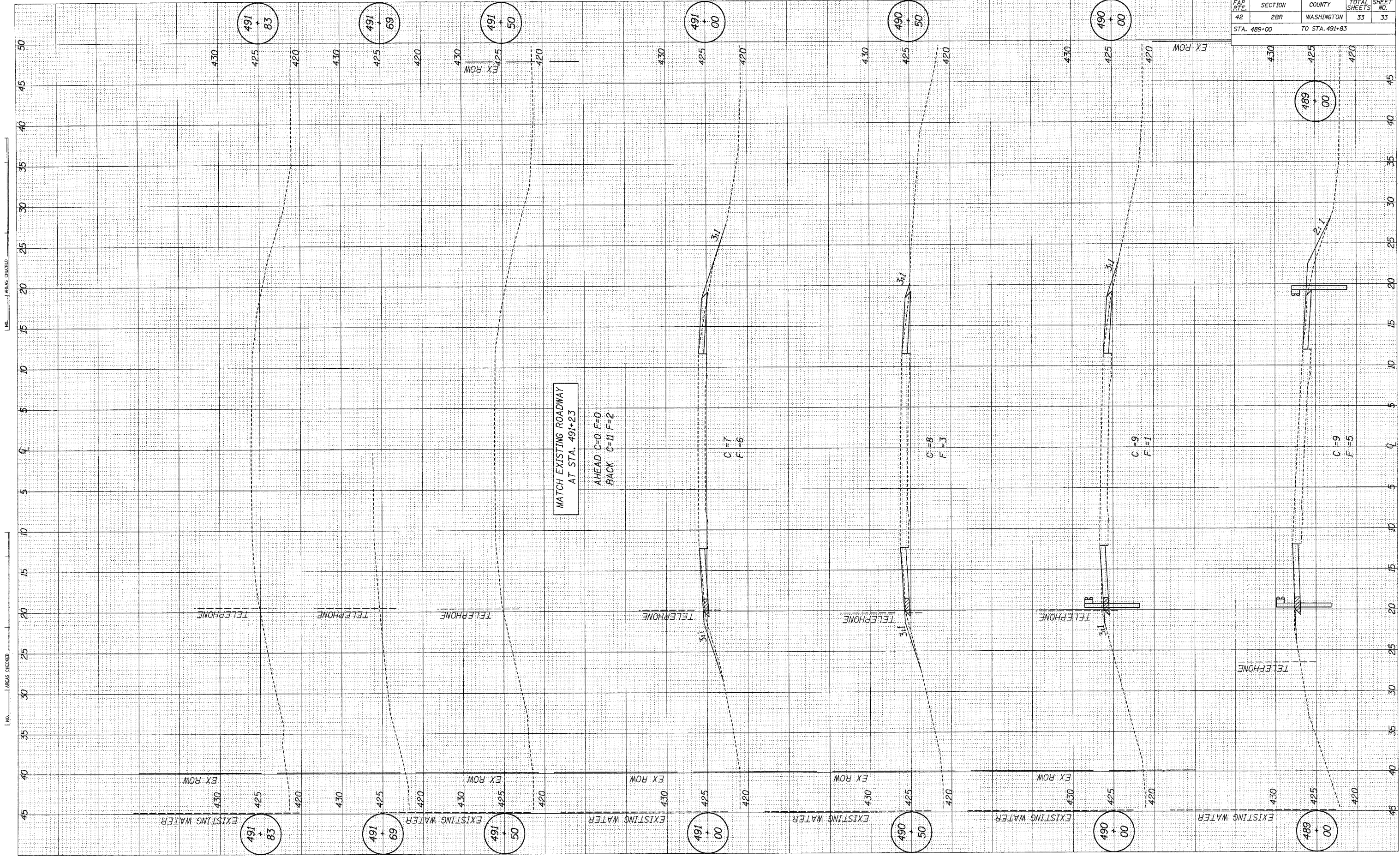
STA 487+82.7  
PROPOSED PIPE DRAINS 12"  
W/ 2- PIPE ELBOWS, END SECTION  
AND CONCRETE THRUST BLOCK

PROPOSED TYPE D INLET  
BOX STANDARD 609006



NO. AREAS CHECKED

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	2BR	WASHINGTON	33	33
STA. 489+00 TO STA. 491+83				



MATCH EXISTING ROADWAY  
AT STA. 491+23

AHEAD C=0 F=0  
BACK C=II F=2

C=7  
F=6

C=8  
F=3

C=9  
F=1

C=9  
F=5

EXISTING WATER

EX ROW

TELEPHONE

EXISTING WATER

EX ROW

TELEPHONE

EXISTING WATER

EX ROW

TELEPHONE

EXISTING WATER

EX ROW

TELEPHONE

EXISTING WATER

EX ROW

TELEPHONE

EXISTING WATER

EX ROW

TELEPHONE

EXISTING WATER

TELEPHONE

EX ROW

NO. AREAS CHECKED

NO. AREAS CHECKED