

WASHINGTON COUNTY, ILLINOIS	
COUNTY HIGHWAY 8	TOTAL SHEETS 27
SECTION 07-00077-01-BR	SHEET NO. 1
CONTRACT 97402	
FEDERAL AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM
LOCAL AGENCY PROJECT

FAS ROUTE 836 (COUNTY HIGHWAY 8)
SECTION 07-00077-01-BR
WASHINGTON COUNTY, ILLINOIS
PROJECT NO. BRS-0836(114)
JOB NO. C-98-389-09

INDEX OF SHEETS

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- 8 MAINTENANCE OF TRAFFIC
- 9-19 SN 095-3260 PLANS
- 20-27 CROSS SECTIONS
- HIGHWAY STANDARDS

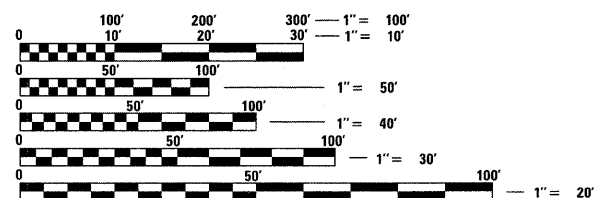
IDOT HIGHWAY STANDARDS

000001-05	631032-05
001001-02	635006-03
001006	635011-02
202001-01	701901-01
280001-05	BLR 21-8
515001-03	BLR 23-3
542401-01	BLR 26-2
630001-08	

DESIGN DESIGNATION

F.A.S. 836 (COUNTY HIGHWAY 8) - MAJOR RURAL COLLECTOR
2021 ADT = 910
DESIGN SPEED = 55 MPH

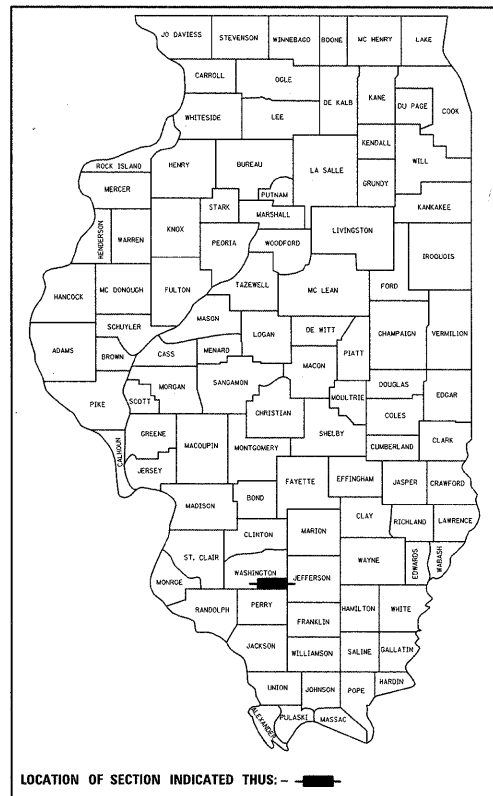
FOR SUMMARY OF QUANTITIES
SEE SHEET 3



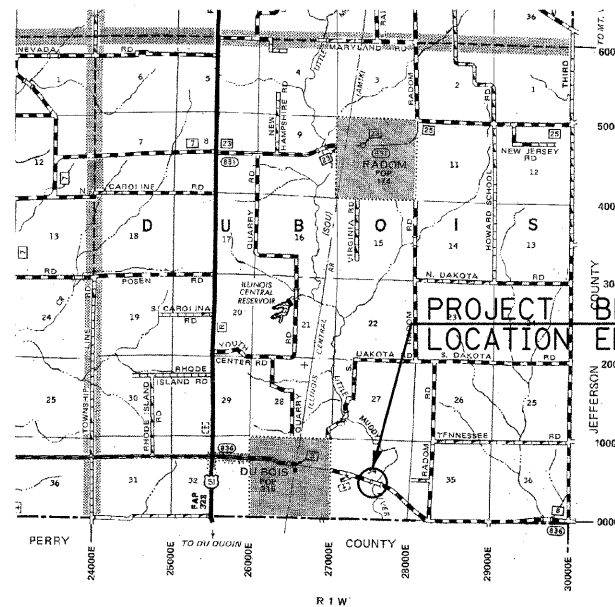
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

CONTRACT NO. 97402



LOCATION OF SECTION INDICATED THUS: - - -



NOT TO SCALE
PROJECT BEGINS STA. 942+00.00
LOCATION ENDS STA. 949+48.90

LOCATION MAP

GROSS LENGTH OF PROJECT = 748.90 FEET (0.142 MILES)
NET LENGTH OF PROJECT = 748.90 FEET (0.142 MILES)

PLANS PREPARED BY

HORNER & SHIFRIN, INC.
ENGINEERS

www.HornerShifrIn.com

640 Pierce Boulevard Suite 200 • O'Fallon, Illinois 62269
Phone: (618) 622-3040 • Fax: (618) 622-3070

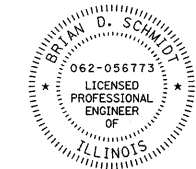
Illinois Professional Design Firm No. 184-000435
License Expires 4/30/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 1/21/2010 20 10
M. J. [Signature]
WASHINGTON COUNTY HIGHWAY ENGINEER

PASSED 2/8/2010 20
[Signature]
DISTRICT 8 ENGINEER OF LOCAL ROAD & STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW 2-8-2010 20
Mary C. Lemire
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER



Brian D. Schmidt 1/28/2010
BRIAN D. SCHMIDT, P.E. Date
License Expires 11/30/2011

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GENERAL NOTES

- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED, OR OTHERWISE REFERENCED THEIR LOCATION.
- EXISTING UNDERGROUND AND ABOVE-GRADE FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED ON THESE CONTRACT DOCUMENTS BASED UPON THE INFORMATION AND SURVEYS AVAILABLE AT THE TIME OF DRAWING PREPARATION. THE LOCATION OF THESE FEATURES MUST, THEREFORE, BE CONSIDERED APPROXIMATE ONLY. IN ADDITION, THERE MAY BE OTHER FACILITIES, STRUCTURES, AND UTILITIES WHICH DID NOT EXIST (OR THE EXISTENCE OF WHICH WAS NOT KNOWN) AT THE TIME OF DRAWING PREPARATION. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR(S) TO HAVE ALL EXISTING FACILITIES, STRUCTURES, AND UTILITIES LOCATED IN THE FIELD PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITY; AND TO PROTECT ALL SUCH EXISTING FEATURES (EXCEPT THOSE SPECIFICALLY NOTED FOR REMOVAL OR DEMOLITION) DURING CONSTRUCTION.
- THE THICKNESS OF BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.
- FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

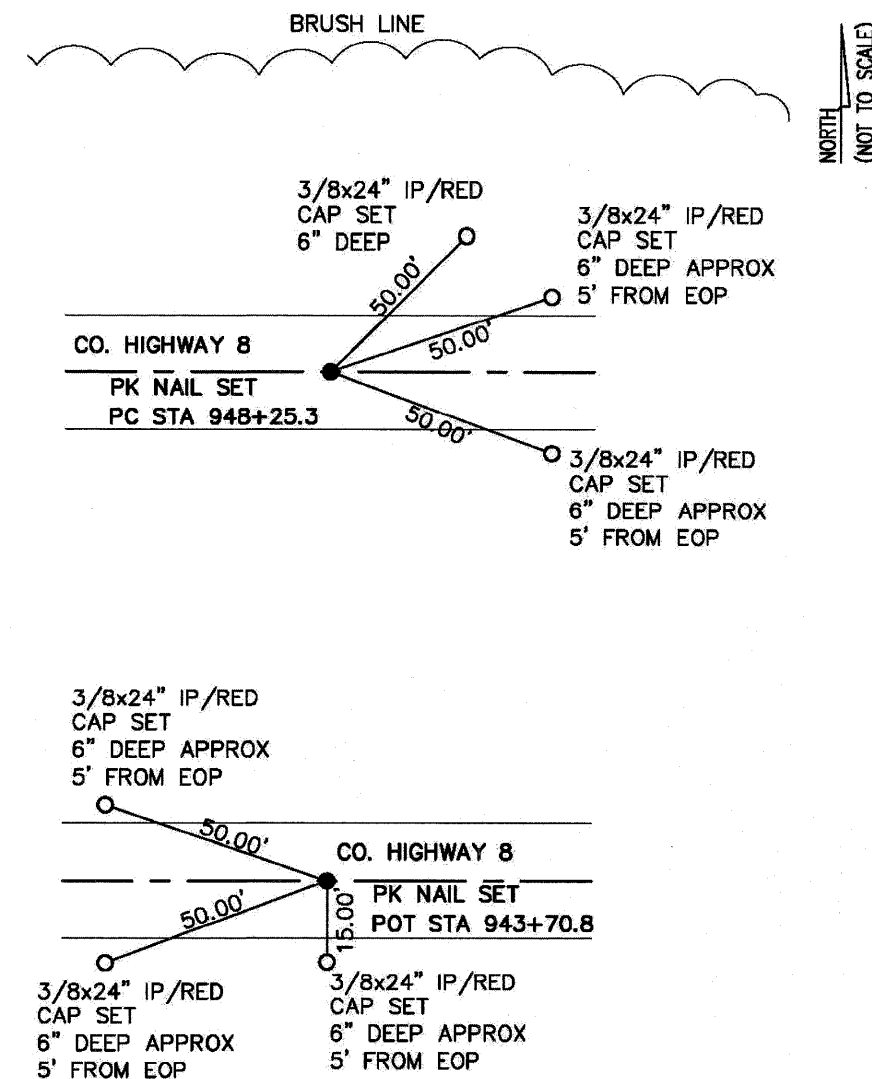
HOT MIX ASPHALT SURFACE COURSE	0.056	TON/SQ YD/IN	
LIME (LIME MODIFIED SOILS)	0.02	TON/SQ YD / FT THICK	
AGGREGATE (SURFACE, BASE, & BACKFILL)	2.05	TON/CU YD	
BITUMINOUS MATERIALS:			
PRIME COAT FOR HOT MIX ASPHALT:			
- ON PAVEMENT	0.05	GAL/SQ YD	
AGGREGATE (PRIME COAT)			
- ON EXISTING PAVEMENT	0.002	TON/SQ YD	
RIP RAP	1.5	TON/CU YD	
TEMPORARY EROSION CONTROL SEEDING	100	LB/ACRE	
NITROGEN FERTILIZER NUTRIENT	90	LB/ACRE	
PHOSPHORUS FERTILIZER NUTRIENT	90	LB/ACRE	
POTASSIUM FERTILIZER NUTRIENT	90	LB/ACRE	
MULCH	2	TON/ACRE	
- TREES SHALL BE PRESERVED THROUGHOUT THIS SECTION AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. TREES OUTSIDE THE CLEAR ZONE, AND WHICH DO NOT INTERFERE WITH CONSTRUCTION, SHALL NOT BE DISTURBED.
- ALL CULVERT EXTENSIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH METHOD II AS SPECIFIED IN ARTICLE 542.05 OF THE STANDARD SPECIFICATIONS. PRIOR TO EXTENDING ANY CULVERT, THE ENTIRE LENGTH OF THE EXISTING CULVERT SHALL BE CLEANED OF ALL EARTH AND DEBRIS BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE EXTENSION.
- THE ENGINEER SHALL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS BITUMINOUS LIFTS.
- FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SANDBAGS PER BARRICADE.
- BEFORE ORDERING STORM SEWERS, CATCH BASINS, PIPE CULVERTS, PIPE DRAINS, MANHOLES, INLETS, AND BOX CULVERTS, THE CONTRACTOR SHALL CONTACT THE ENGINEER AS TO THE EXACT LENGTH AND QUANTITY REQUIRED.
- THE STATE PLANE COORDINATE SYSTEM HAS BEEN USED FOR THE HORIZONTAL CONTROL.
- ALL ELEVATIONS SHOWN ON THE PLANS ARE BASED ON U. S. G. S. MEAN SEA LEVEL DATUM.
- SEEDING SHALL BE DONE ON ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION OPERATIONS AS DIRECTED BY THE ENGINEER. SEEDING SHALL BE PAID FOR ONLY WITHIN THE PROPOSED RIGHT-OF-WAY OR EASEMENT LIMITS. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE SEED AS DIRECTED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
- ALL DRAINAGE STRUCTURES SHALL BE DELIVERED TO THE PROJECT SITE WITHOUT SILT, DEBRIS, OR OTHER SUCH OBSTRUCTIONS AT THE TIME OF FINAL INSPECTION. THE CLEANING OF THESE DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS INVOLVED.
- THE ENGINEER SHALL BE CONTACTED AND PRIOR APPROVAL OBTAINED FOR ANY TREE REMOVAL BEYOND THE LIMITS/LOCATIONS INCLUDED IN THE PLANS.
- ALL CONSTRUCTION WARNING SIGNS SHALL BE 48" FLUORESCENT ORANGE.
- STRAW BALES, HAY BALES, PERIMETER EROSION BARRIER, AND SILT FENCES WILL NOT BE PERMITTED FOR TEMPORARY OR PERMANENT DITCH CHECKS. DITCH CHECKS SHALL BE COMPOSED OF AGGREGATE, SILT PANELS, ROLLED EXCELSIOR, SILT WEDGES, OR ANY OTHER MATERIAL APPROVED BY THE ENGINEER.
- ANY FACILITIES OR APPURTENANCES WHICH ARE THE PROPERTY OF ANY PUBLIC UTILITY LOCATED WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RELOCATED OR ADJUSTED BY THEIR RESPECTIVE OWNERS. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE OWNERS OF ANY SUCH FACILITY IN THEIR REMOVAL AND REARRANGEMENT OPERATIONS IN ORDER THAT THESE OPERATIONS AND THE CONSTRUCTION OF THIS PROJECT MAY PROGRESS IN A REASONABLE MANNER.
- THE REMOVAL OF AGGREGATE AND OIL & CHIP SURFACES IS INCLUDED IN THE COST OF EARTH EXCAVATION.
- THE FOLLOWING UTILITY COMPANIES MAY HAVE FACILITIES LOCATED WITHIN THE LIMITS OF CONSTRUCTION WHICH MAY REQUIRE ADJUSTMENTS, RELOCATION OR REMOVAL.

FRONTIER COMMUNICATIONS 801 WEST JACKSON STREET ALTAMONT, IL 62411 (618) 483-6205	AMEREN IP 2610 BROADWAY P. O. BOX 868 MT. VERNON, IL 62864 (618) 244-8271
ATTN: ROD ELLER	ATTN: MIKE TATLOCK

COMMITMENTS

NONE

ALIGNMENT TIES



MIXTURE DESIGNS

HOT-MIX ASPHALT MIXTURES REQUIREMENT TABLE			
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE	HOT-MIX ASPHALT BINDER COURSE	HOT-MIX ASPHALT SHOULDERS
AC/PG:	PG 64-22	PG 64-22	PG 58-22
RAPZ (MAX): **	0%	10%	20%
DESIGN AIR VOIDS:	4.0% @ Ndes=70	4.0% @ Ndes=70	2.0% @ Ndes=30
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL 12.5	IL 19.0	
FRICITION AGGREGATE	MIXTURE "C"		BAM

** FOR RAPZ GREATER THAN 15%, BOTH THE HIGH AND LOW TEMPERATURES OF THE BINDER SHOULD BE DECREASED

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WASHINGTON COUNTY
HIGHWAY DEPARTMENT

GENERAL NOTES, COMMITMENTS, AND MIXTURE DESIGNS

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

F.A.S. 836
COUNTY HIGHWAY 8
CONTRACT NO. 97402
SECTIONS 07-00077-01-BR

TOTAL SHEETS	SHEET NO.
27	2

SUMMARY OF QUANTITIES			
PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	65
20300100	CHANNEL EXCAVATION	CU YD	811
20400800	FURNISHED EXCAVATION	CU YD	1317
25000200	SEEDING, CLASS 2	ACRE	0.4
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	36
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	36
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	36
25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.8
25100115	MULCH, METHOD 2	ACRE	0.4
28000400	PERIMETER EROSION BARRIER	FOOT	946
28100113	STONE RIPRAP, CLASS A7	SQ YD	1122
28200200	FILTER FABRIC	SQ YD	1322
31100700	SUB-BASE GRANULAR MATERIAL, TYPE A 8"	SQ YD	570
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	72
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	121
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	90
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	832
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	152
50300225	CONCRETE STRUCTURES	CU YD	121.3
50300280	CONCRETE ENCASEMENT	CU YD	11.2
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	3948
50800105	REINFORCEMENT BARS	POUND	12390
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	5460
Δ 50901050	STEEL RAILING, TYPE SM	FOOT	286
51201610	FURNISHING STEEL PILES HP12X63	FOOT	1102
51202305	DRIVING PILES	FOOT	462
51203610	TEST PILE STEEL HP12X63	EACH	2
51204650	PILE SHOES	EACH	16
51500100	NAME PLATES	EACH	1
54213450	END SECTIONS 15"	EACH	1
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	50
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	439
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	846
Δ 63000002	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6.75 FOOT POSTS	FOOT	350
Δ 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4

SUMMARY OF QUANTITIES			
PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
67100100	MOBILIZATION	L SUM	1
• 70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
Δ 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	343
Δ 78200410	GUARDRAIL MARKERS, TYPE A	EACH	16
Δ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
Δ LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	4
• X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1
• X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1
X5080600	MECHANICAL SPLICERS	EACH	56
• Z0065000	SETTING PILES IN ROCK	EACH	16

• SPECIAL PROVISIONS
Δ SPECIALTY ITEMS

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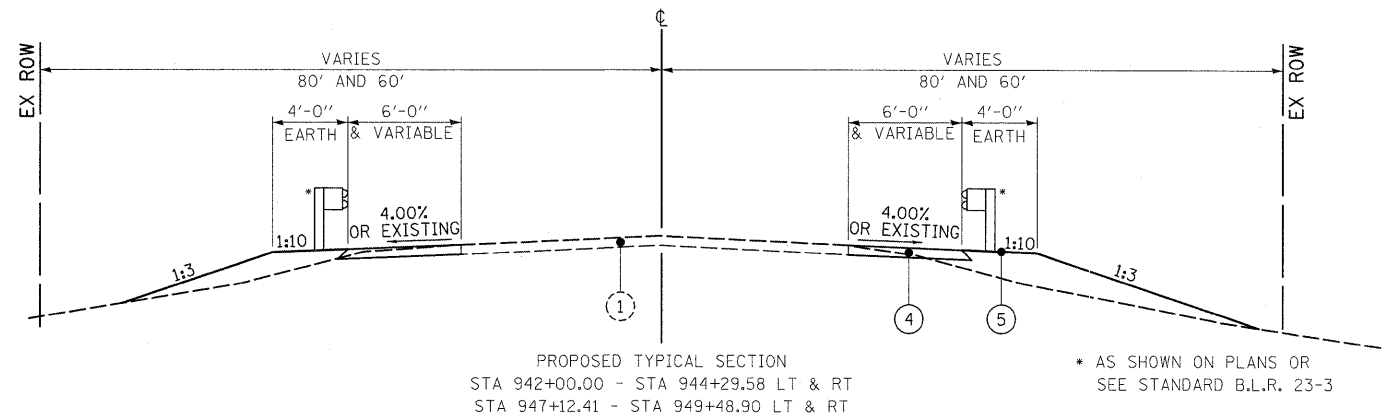
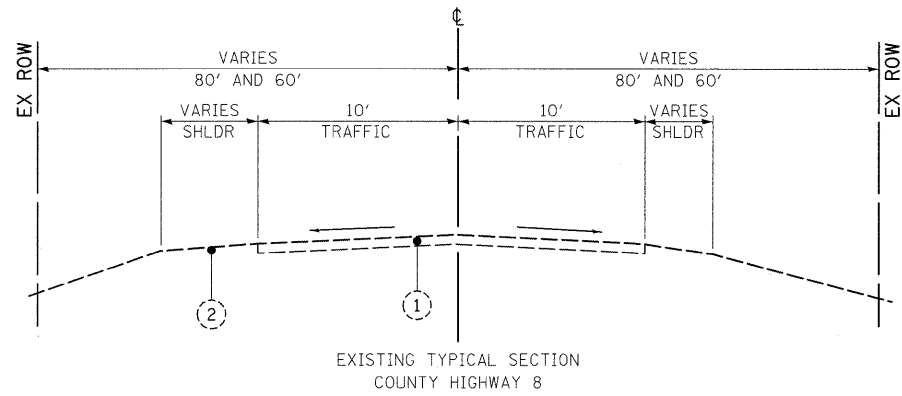
WASHINGTON COUNTY
HIGHWAY DEPARTMENT

SUMMARY OF QUANTITIES

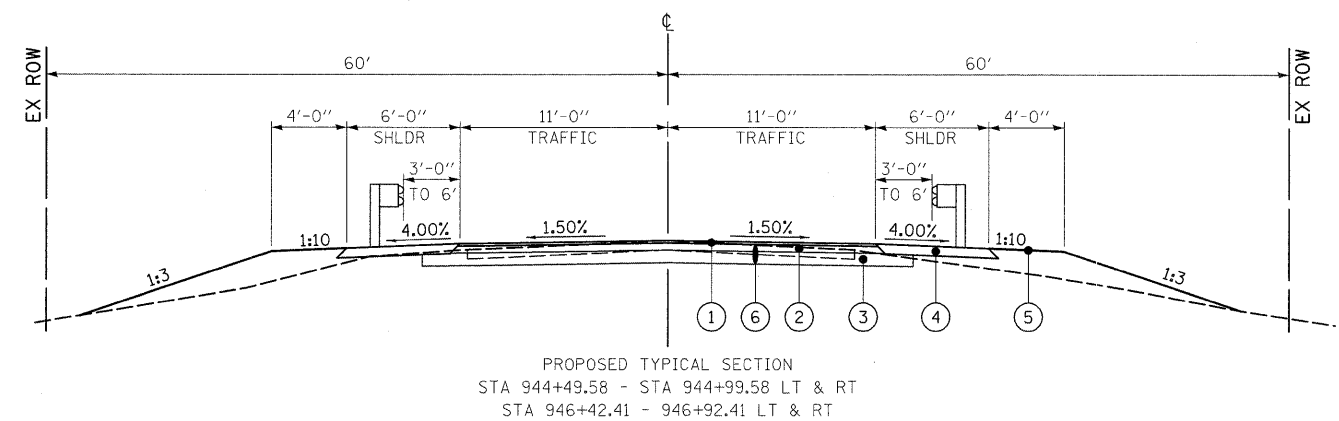
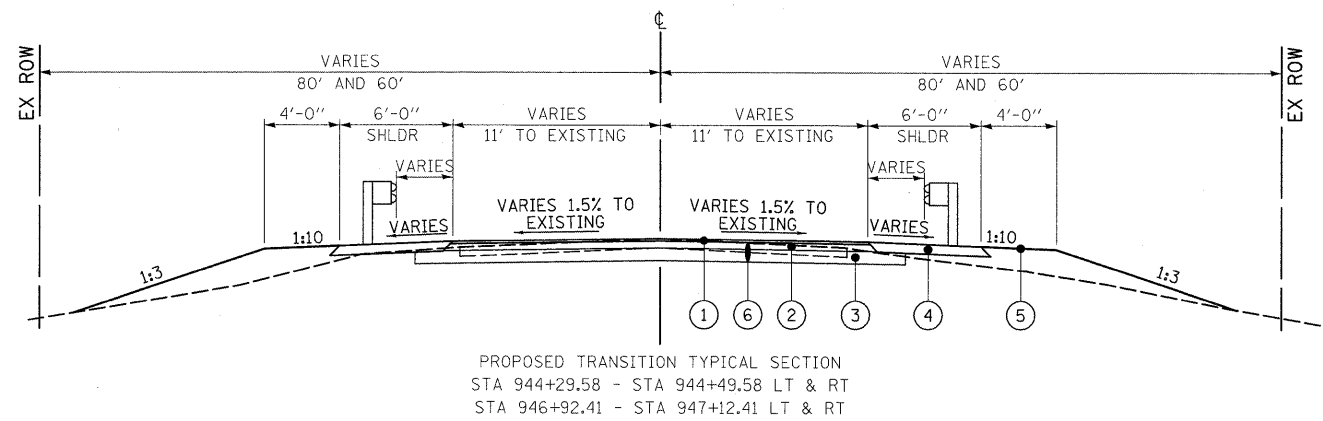
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F.A.S. 836
COUNTY HIGHWAY 8
CONTRACT NO. 97402
SECTIONS 07-00077-01-BR

TOTAL SHEETS 27
SHEET NO. 3



NOTE: SEE PLANS AND CROSS SECTION SHEETS FOR ACCURACY



- | | | |
|--------------------------------|--|---|
| ① EXISTING OIL & CHIP PAVEMENT | ① HOT-MIX ASPHALT SURFACE COURSE, 1.50" | ⑦ STEEL RAILING, TYPE SM (TYP) |
| ② EXISTING EARTH SHOULDER | ② HOT-MIX ASPHALT BINDER COURSE, 4.50" | ⑧ WATERPROOFING MEMBRANE SYSTEM |
| ③ EXISTING BRIDGE DECK | ③ SUB-BASE GRANULAR MATERIAL, TYPE A, 8" | ⑨ 21" x 48" PRECAST PRESTRESSED CONCRETE DECK BEAMS (TYP) |
| ④ EXISTING BRIDGE RAILING | ④ HOT-MIX ASPHALT SHOULDERS, 8" | ⑩ GROUTED KEY (TYP) |
| | ⑤ EARTH SHOULDER | ⑪ EXTERIOR BEARING PAD (TYP) |
| | ⑥ BITUMINOUS MATERIALS (PRIME COAT) | ⑫ INTERIOR BEARING PAD (TYP) |

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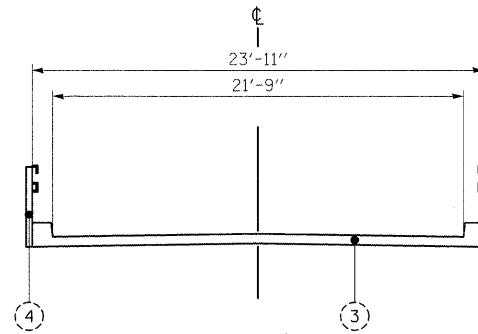


WASHINGTON COUNTY
HIGHWAY DEPARTMENT

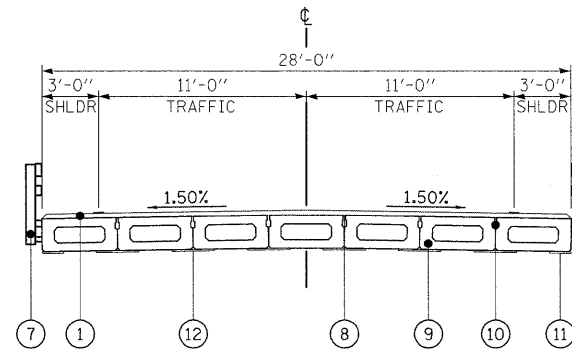
TYPICAL SECTIONS

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

F.A.S. 836 COUNTY HIGHWAY 8		TOTAL SHEETS	SHEET NO.
CONTRACT NO. 97402		27	4
SECTION 07-00077-01-BR			



EXISTING BRIDGE TYPICAL SECTION
STA 945+15.20 - STA 946+24.80



PROPOSED BRIDGE TYPICAL SECTION
STA 944+99.58 - STA 946+42.41

- | | | |
|--------------------------------|--|---|
| ① EXISTING OIL & CHIP PAVEMENT | ① HOT-MIX ASPHALT SURFACE COURSE, 1.50" | ⑦ STEEL RAILING, TYPE SM (TYP) |
| ② EXISTING EARTH SHOULDER | ② HOT-MIX ASPHALT BINDER COURSE, 4.50" | ⑧ WATERPROOFING MEMBRANE SYSTEM |
| ③ EXISTING BRIDGE DECK | ③ SUB-BASE GRANULAR MATERIAL, TYPE A, 8" | ⑨ 21" x 48" PRECAST PRESTRESSED CONCRETE DECK BEAMS (TYP) |
| ④ EXISTING BRIDGE RAILING | ④ HOT-MIX ASPHALT SHOULDERS, 8" | ⑩ GROUTED KEY (TYP) |
| | ⑤ EARTH SHOULDER | ⑪ EXTERIOR BEARING PAD (TYP) |
| | ⑥ BITUMINOUS MATERIALS (PRIME COAT) | ⑫ INTERIOR BEARING PAD (TYP) |

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DRAINAGE SCHEDULE			
LOCATION		PIPE CULVERT, CLASS D, TYPE 1, 15"	
		FOOT	EACH
948+63.44	30.6' LT	50	1
TOTAL		50	1

GUARDRAIL SCHEDULE									
LOCATION	STATION	STATION	DIRECTION	SIDE	STEEL PLATE BEAM GUARDRAIL, TYPE A	GUARDRAIL MARKER TYPE A	TRAFFIC TERMINAL BARRIERS		TERMINAL MARKER DIRECT APPLIED
							FOOT	EACH	
EB APPROACH	942+52.92	944+96.66	EASTBOUND	RT	175	4	1	1	1
WB DEPARTURE	944+35.73	945+04.16	WESTBOUND	LT		4	1	1	1
EB DEPARTURE	946+37.83	947+06.27	EASTBOUND	RT		4	1	1	1
WB APPROACH	946+45.34	948+90.47	WESTBOUND	LT	175	4	1	1	1
TOTAL					350	16	4	4	4

EARTH & FURNISHED EXCAVATION SCHEDULE		
LOCATION	FURNISHED EXCAVATION	EARTH EXCAVATION
	CU YD	CU YD
WEST SIDE	806	17
EAST SIDE	511	48
TOTAL	1317	65

SEEDING SCHEDULE									
LOCATION	SIDE	SEEDING, CLASS 2	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	AGRICULTURAL GROUND LIMESTONE	MULCH, METHOD 2	PERIMETER EROSION BARRIER	
		ACRE	POUND	POUND	POUND	TON	ACRE	FOOT	
941+87.88	944+92.44	RT	0.1	9	9	9	0.2	0.1	313
943+72.92	945+08.70	LT	0.1	9	9	9	0.2	0.1	155
946+34.25	947+75.91	RT	0.1	9	9	9	0.2	0.1	159
946+49.56	949+60.87	LT	0.1	9	9	9	0.2	0.1	319
TOTAL			0.4	36	36	36	0.8	0.4	946

PAVING SCHEDULE							
LOCATION	SIDE / AREA	HOT-MIX ASPHALT SURFACE COURSE, MIX 7" C, N70	HOT-MIX ASPHALT BINDER COURSE, IL-19, 0, N70	BITUMINOUS MATERIAL (PRIME COAT)	HOT-MIX ASPHALT SHOULDERS, 8"	SUB-BASE GRANULAR MATERIAL, TYPE A, 8"	
		TONS	TONS	GALLONS	SQ YD	SQ YD	
942+00.00	944+96.63	RT				277	
943+83.46	945+04.14	LT				133	
944+29.68	944+49.58	TRANSITION	10	29	18	139	
944+49.58	944+99.58	WEST SIDE	10	31	18	145	
SN 095-3260		STRUCTURE	50				
946+37.86	947+65.33	RT				137	
946+42.41	946+92.41	EAST SIDE	10	31	18	145	
946+45.36	949+48.90	LT				285	
946+92.41	947+12.41	TRANSITION	10	30	18	141	
TOTAL			90	121	72	832	570

PAVEMENT MARKING SCHEDULE		
LOCATION	PAINT PAVEMENT MARKING - LINE 4"	
	YELLOW SKIP DASH 10-30	YELLOW SOLID
	FOOT	FOOT
943+99.58 to 947+42.41	86	
944+85.00 to 947+42.41		257
TOTAL	86	257

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 9. _____
 10. _____

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BENCHMARK #1
 STA 941+50.27, 87.35 LT
 RR SPIKE IN 31" OAK TREE
 ELEVATION = 457.09

JOSEPH A. SHARDAN
 27705 CO. HWY 8
 DU BOIS, IL. 62831

JOSEPH A. SHARDAN
 27705 CO. HWY 8
 DU BOIS, IL. 62831

RALPH D. REHMUS
 27620 CO. HWY 8
 DU BOIS, IL. 62831

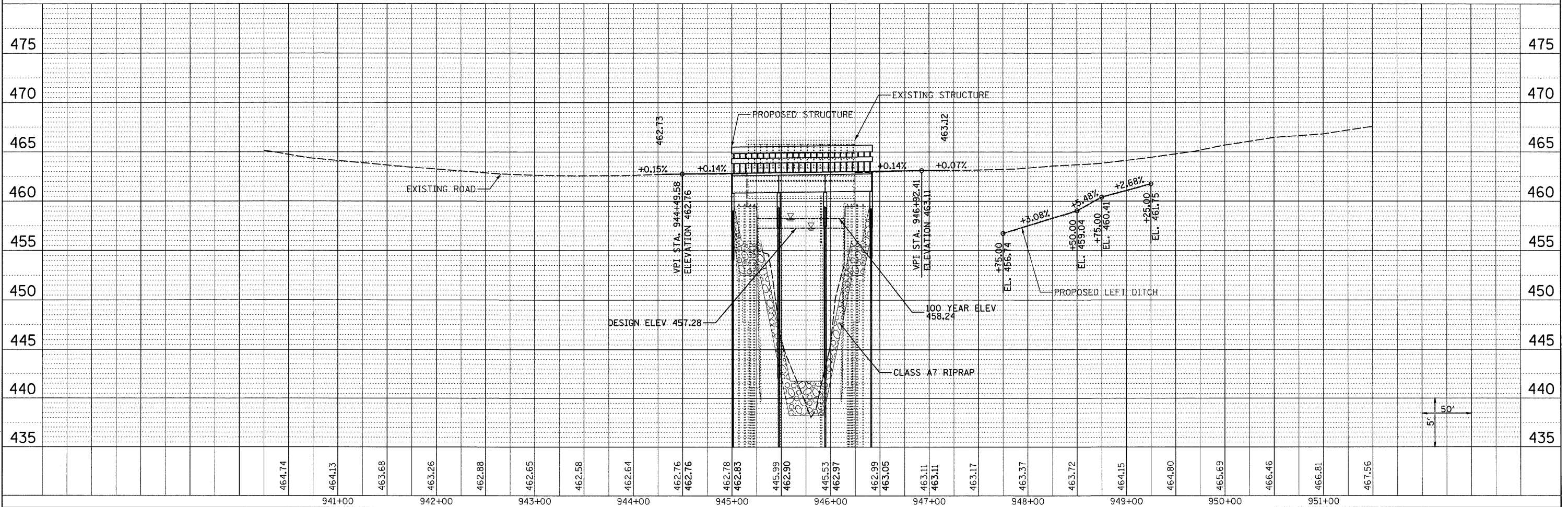
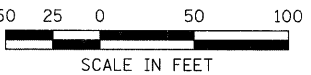
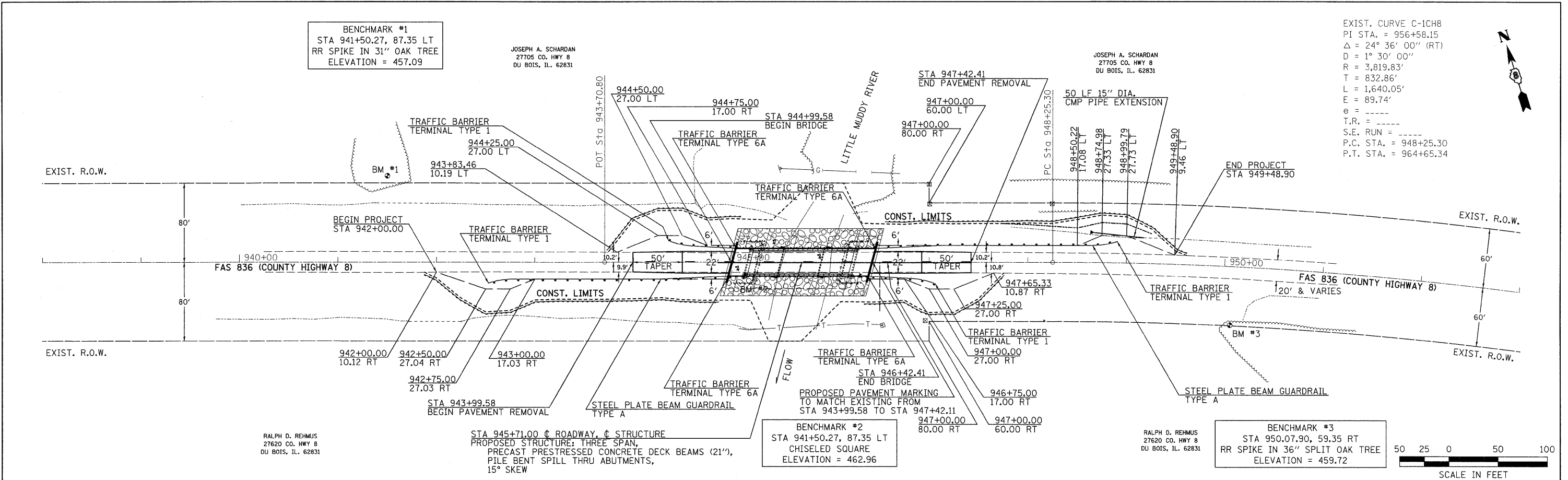
STA 945+71.00 C ROADWAY, C STRUCTURE
 PROPOSED STRUCTURE: THREE SPAN,
 PRECAST PRESTRESSED CONCRETE DECK BEAMS (21"),
 PILE BENT SPILL THRU ABUTMENTS,
 15° SKEW

BENCHMARK #2
 STA 941+50.27, 87.35 LT
 CHISELED SQUARE
 ELEVATION = 462.96

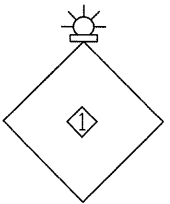
RALPH D. REHMUS
 27620 CO. HWY 8
 DU BOIS, IL. 62831

BENCHMARK #3
 STA 950.07.90, 59.35 RT
 RR SPIKE IN 36" SPLIT OAK TREE
 ELEVATION = 459.72

EXIST. CURVE C-1CH8
 PI STA. = 956+58.15
 $\Delta = 24^\circ 36' 00''$ (RT)
 $D = 1^\circ 30' 00''$
 $R = 3,819.83'$
 $T = 832.86'$
 $L = 1,640.05'$
 $E = 89.74'$
 $e = \text{---}$
 $T.R. = \text{---}$
 $S.E. RUN = \text{---}$
 $P.C. STA. = 948+25.30$
 $P.T. STA. = 964+65.34$



FILE NAME =	USER NAME = bschmidt	DESIGNED -	REVISED -		WASHINGTON COUNTY HIGHWAY DEPARTMENT	PLAN & PROFILE COUNTY HIGHWAY 8 STA 938+00 TO STA 951+00 SCALE: 1"=50' SHEET NO. 1 OF 1 SHEETS STA. 938+00 TO STA. 951+00		F.A.S. 836 COUNTY HIGHWAY 8 CONTRACT NO. 97402 SECTION 07-00077-01-BR		TOTAL SHEETS	SHEET NO.
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PLOT DATE = 1/28/2010 12:39:03 PM	DRAWN -	REVISED -									
	CHECKED -	REVISED -									



① ROAD CLOSED AHEAD - W20-3

② DETOUR 1000 FT - W20-2

③ DETOUR W/ LEFT ARROW - M4-9L

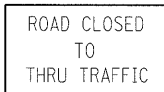
④ DETOUR W/ RIGHT ARROW - M4-9R

⑤ DETOUR - M4-8

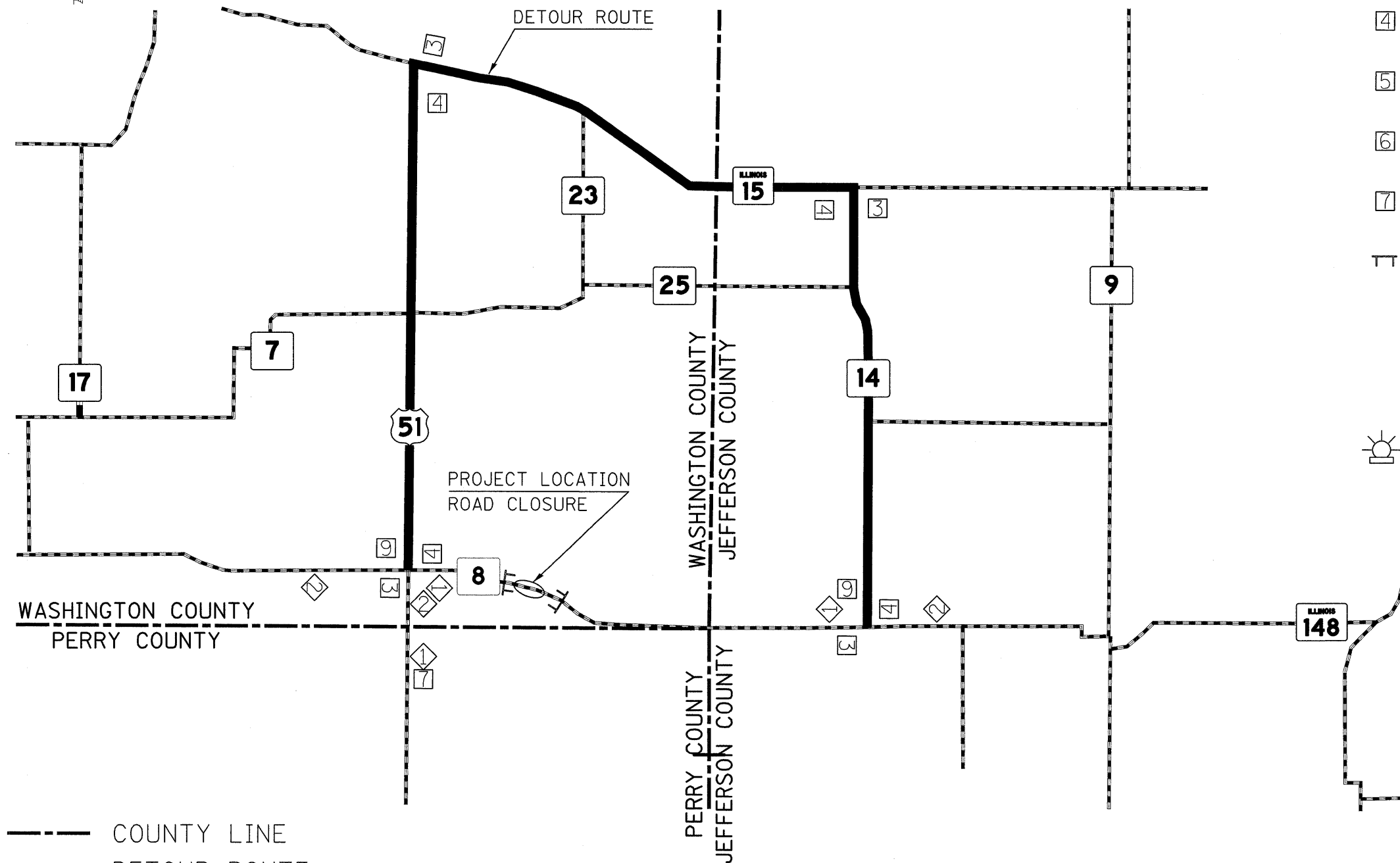
⑥ END DETOUR - M4-8A

⑦ 24" X 24" 

⌌ TYPE III BARRICADES W/ R-11-4-4830
(ROAD CLOSED TO THRU TRAFFIC)
SIGN AND TYPE A LOW INTENSITY
FLASHING LIGHTS



 TYPE A LOW INTENSITY FLASHING LIGHT



--- COUNTY LINE
 ——— DETOUR ROUTE
 - - - ROADWAY

DETOUR MAP

LAST SAVED = 1/20/2010 10:56:11 AM
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MDT.dgn		DRAWN -	REVISED -
PLOT SCALE = 5.0002' / IN.		CHECKED -	REVISED -
PLOT DATE = 1/26/2010 10:27:17 AM		DATE -	REVISED -



**WASHINGTON COUNTY
HIGHWAY DEPARTMENT**

**MAINTENANCE OF TRAFFIC
DETOUR ROUTE**

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

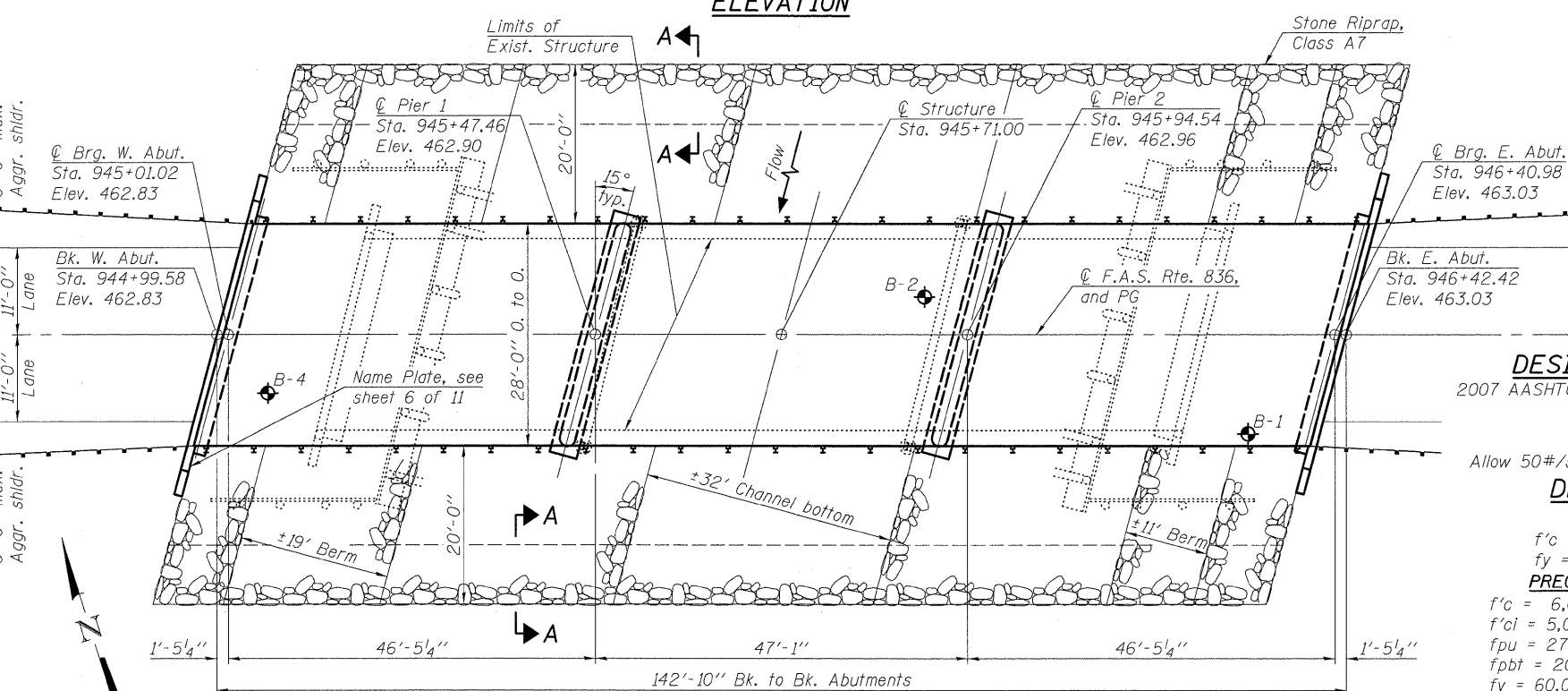
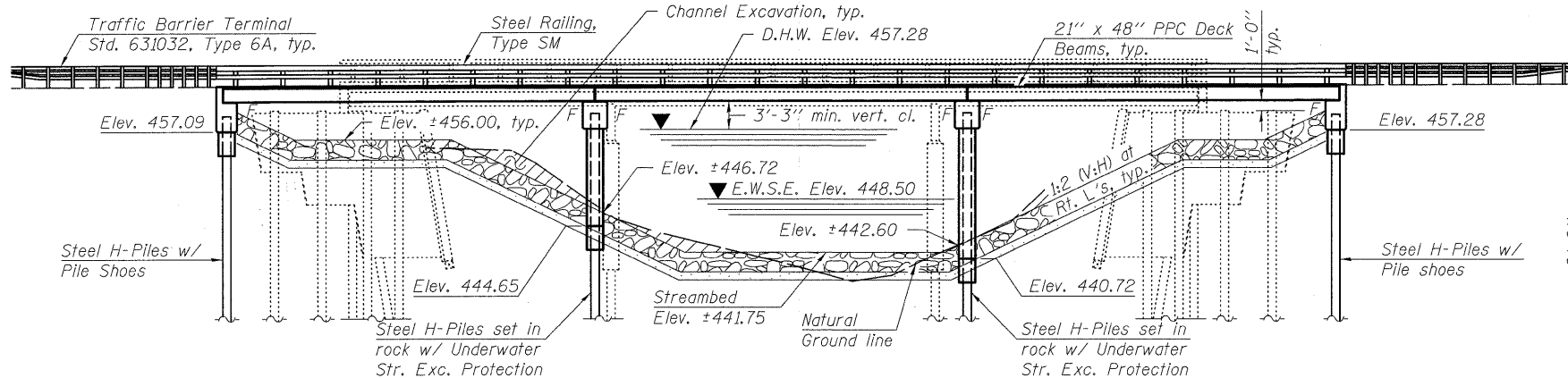
F.A.S. 836 COUNTY HIGHWAY 8	TOTAL SHEETS 27	SHEET NO. 8
CONTRACT NO. 97402		
SECTION 07-00077-01-BR		

Bench Mark: RR Spike in 31" Oak Tree ±87' Left of Sta. 941+50.27, Elev. 457.09.

Existing Structure: S.N. 095-3002 was built in 1948 under F.A.S. Rt. 828, Section 36-B. After Pier 2 failed due to scour, S.N. 095-3002 was reconstructed in 1962 under F.A.S. Rt. 828, Section 36 B-1. The existing structure consists of three span wide flange beams, is 109'-7 1/4" Bk. to Bk. Abutms., is 24'-0" wide out-to-out, and has a 14° left advance skew. The substructure consists of treated timber pile supported stub abutments and H-pile supported straddle bent piers. The abutments are protected by treated timber pile walls. The roadway will be closed during construction.

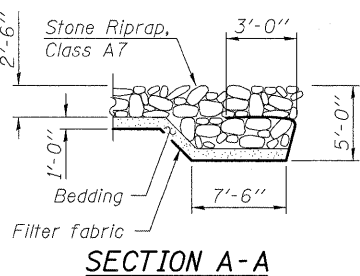
No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



LITTLE MUDDY RIVER
BUILT 201 BY
WASHINGTON COUNTY
SEC. 07-00077-01-BR
F.A.S. RT. 836 STA. 945+71.00
STR. NO. 095-3260 LOADING HL-93

NAME PLATE
See Std. 515001



INDEX OF SHEETS

1. General Plan
2. Superstructure
3. 21" x 48" PPC Deck Beam
4. 21" x 48" PPC Deck Beam Details
5. Steel Railing, Type SM
6. West Abutment
7. East Abutment
8. Pier 1
9. Pier 2
10. HP Pile Details
11. Boring Logs

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		811	811
Stone Riprap, Class A7	Sq. Yd.		1,122	1,122
Filter Fabric	Sq. Yd.		1,322	1,322
Hot-Mix Asphalt Surface Course, Mix "C", N70	Ton	50		50
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		152	152
Concrete Structures	Cu. Yd.		121.3	121.3
Concrete Encasement	Cu. Yd.		11.2	11.2
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	3,948		3,948
Reinforcement Bars	Pound		12,390	12,390
Reinforcement Bars, Epoxy Coated	Pound		5,460	5,460
Steel Railing, Type SM	Foot	286		286
Furnishing Steel Piles HP12x63	Foot		1,102	1,102
Driving Piles	Foot		462	462
Test Pile Steel HP12x63	Each		2	2
Pile Shoes	Each		16	16
Name Plates	Each		1	1
Waterproofing Membrane System	Sq. Yd.	439		439
Portland Cement Mortar Fairing Course	Foot	846		846
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1
Mechanical Splicers	Each		56	56
Setting Piles in Rock	Each		16	16

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" low lax. strands)
fpbt = 201,960 psi (1/2" low lax. strands)
fy = 60,000 psi (Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.22g
Design Spectral Acceleration at 0.2 sec. (SD5) = 0.61g
Soil Site Class = D

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See special Provisions.
Reinforcement bars designated (E) shall be epoxy coated.
Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

WATERWAY INFORMATION

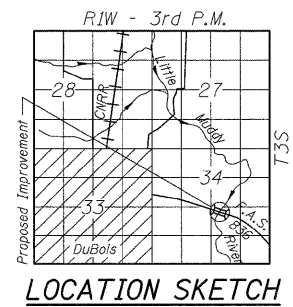
Drainage Area = 30.7 Sq. Mi. Low Grade Elev. 462.58 @ Sta. 943+50.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Design	20	5,000	735.14	925.76	457.28	1.97	1.69	459.25	458.97
Base	100	7,390	735.14	925.76	458.24	3.48	2.75	461.72	460.99
Overtopping	500	10,000	735.14	925.76	459.14	4.92	3.48	464.06	462.62

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	457.09	430.00	430.00	457.28

PROFILE GRADE
(Along F.A.S. Rte. 836)



Eric Lagemann 1/29/10
Expires 11/30/2010

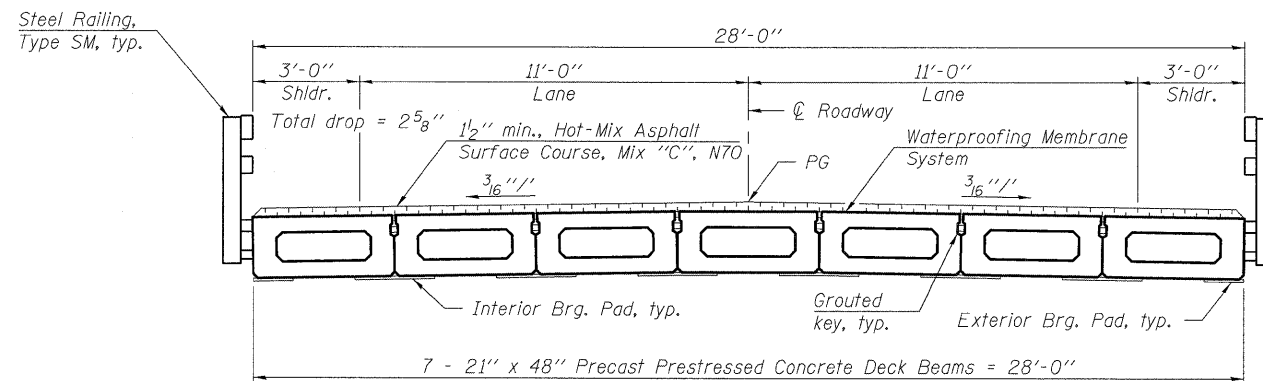
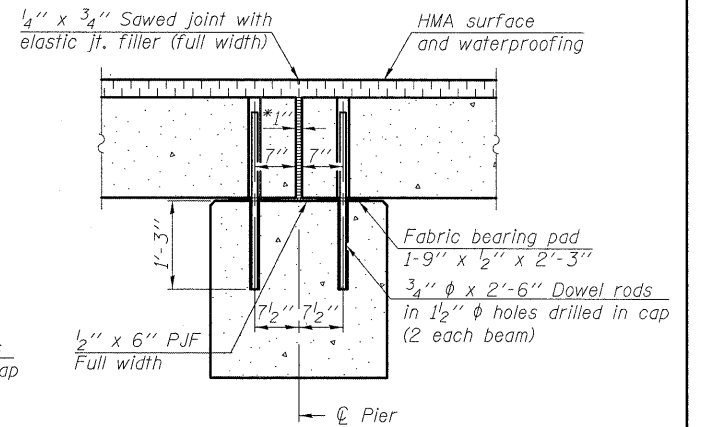
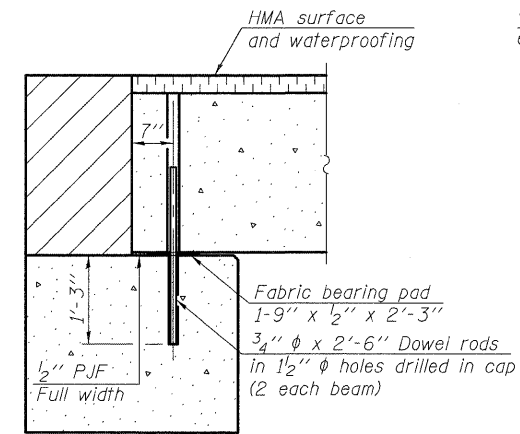
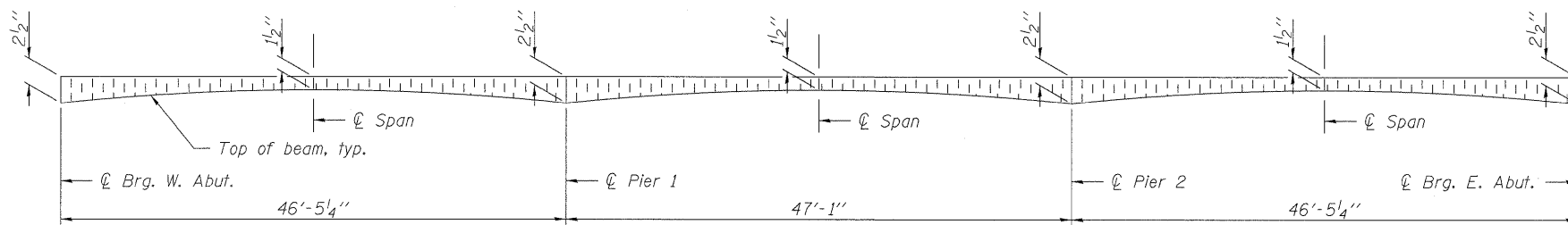
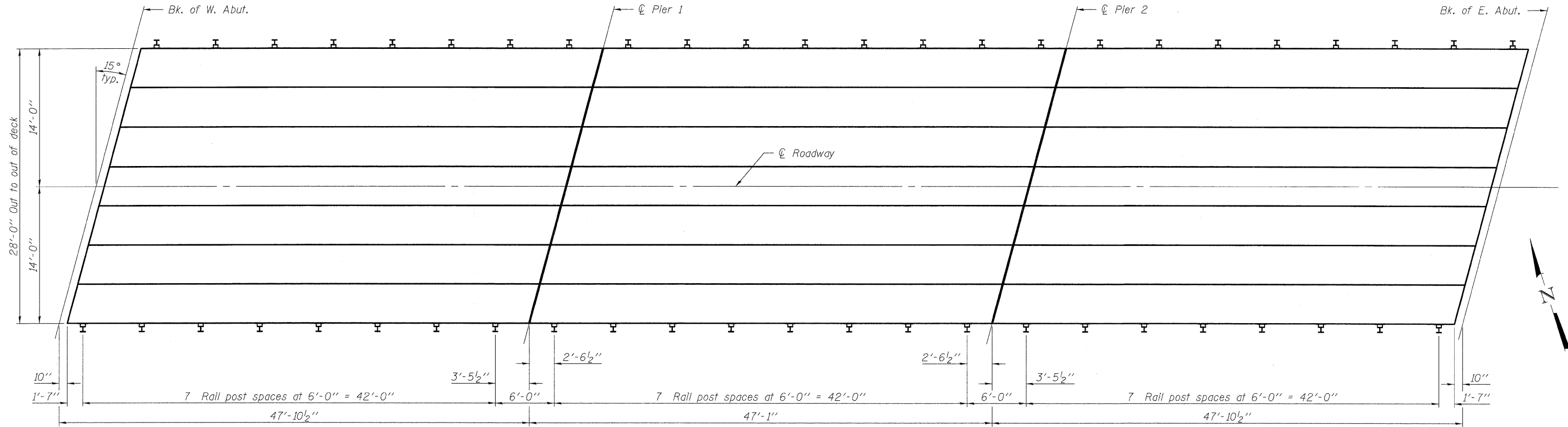
HORNER & SHIFRIN, INC.
ENGINEERS

GENERAL PLAN
CH 8 OVER LITTLE MUDDY RIVER
F.A.S. RT. 836 - SECTION 07-00077-01-BR
WASHINGTON COUNTY
STA. 945+71.00
STRUCTURE NO. 095-3260

DESIGNED EML
CHECKED KAK
DRAWN EML
CHECKED KAK

SHEET NO. 1	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
11 SHEETS	836	07-00077-01-BR	WASHINGTON	27	9
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 97402					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION THRU ABUTMENT

SECTION THRU FIXED PIER

*1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

Notes:

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.
All horizontal dimensions shown in Section thru Abutment and Section thru Fixed Pier are at right angles to beam ends.
Hatched area shown in Section thru Abutment and Section thru Fixed Pier to be poured after beams are in place.
See sheet 4 of 11 for bearing pad details.
Hot-Mix Asphalt Surface Course dimensions include 1/2" for waterproofing membrane thickness.
For Steel Railing, Type SM details, see sheet 5 of 11.

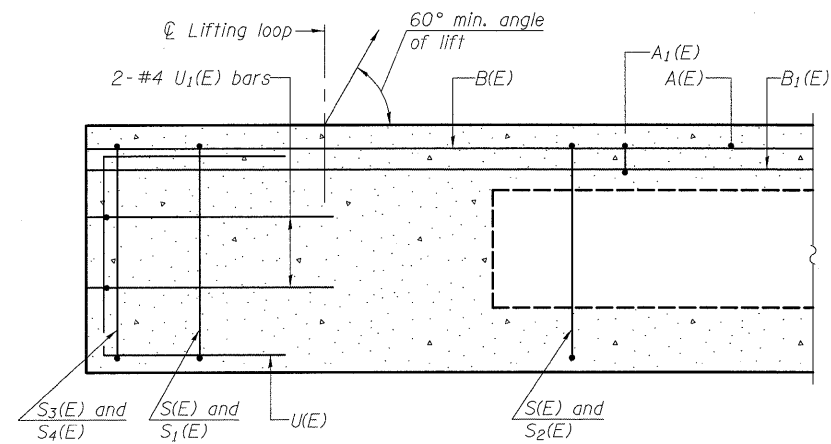
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CHECKED	KAK
DRAWN	EML
CHECKED	KAK

HORNER & SHIFRIN, INC.
ENGINEERS

SHEET NO. 2 11 SHEETS	F.A.S. RTE. 836	SECTION 07-00077-01-BR	COUNTY WASHINGTON	TOTAL SHEETS 27	SHEET NO. 10
	CONTRACT NO. 97402				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

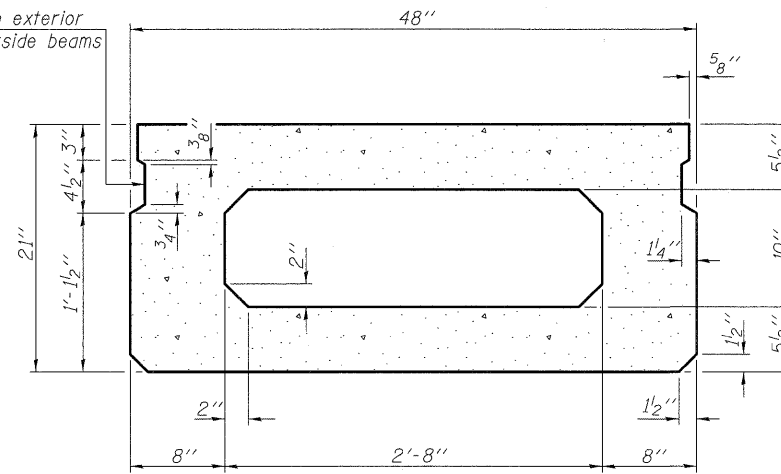
SUPERSTRUCTURE
STRUCTURE NO. 095-3260

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

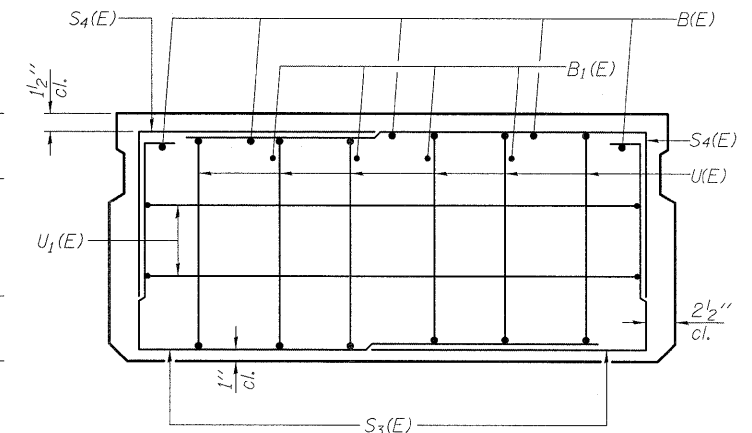


SECTION C-C

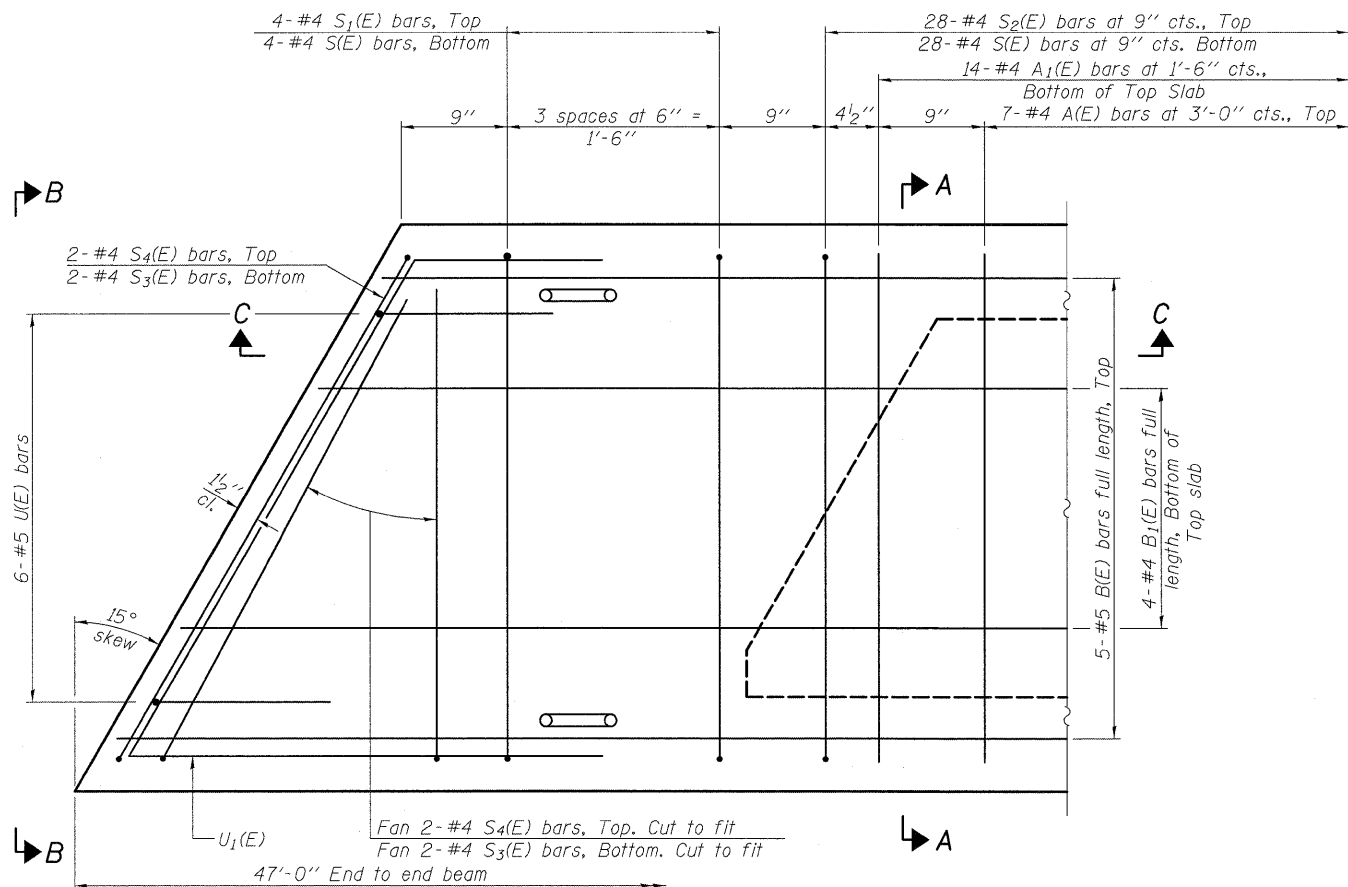
Omit key on exterior face of outside beams



SECTION A-A
(Showing dimensions)



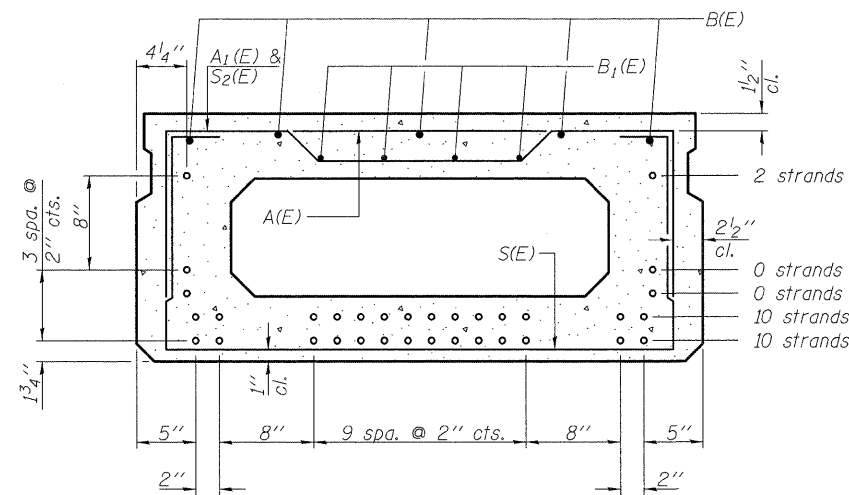
VIEW B-B



PLAN VIEW

Note: Spacing of S(E) and S₂(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

Similar about C



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)	14	#4	3'-7"	—
A ₁ (E)	28	#4	3'-10"	—
B(E)	5	#5	46'-8"	—
B ₁ (E)	4	#4	46'-8"	—
S(E)	64	#4	7'-5"	U
S ₁ (E)	8	#4	5'-11"	U
S ₂ (E)	56	#4	6'-2"	U
S ₃ (E)	8	#4	4'-8"	U
S ₄ (E)	8	#4	3'-11"	U
U(E)	12	#5	4'-0"	U
U ₁ (E)	4	#4	7'-1"	U

Note: See sheet 4 of 11 for additional details and Bill of Material.

DESIGNED	EML
CHECKED	KAK
DRAWN	EML
CHECKED	KAK

PD-2148-L

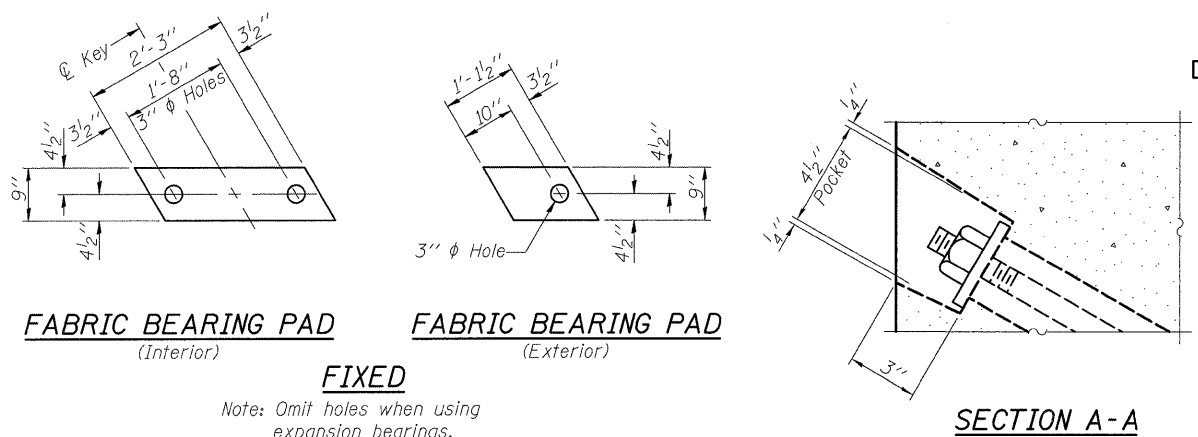
10-1-08

HORNER & SHIFRIN, INC.
ENGINEERS

SHEET NO. 3 11 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	836	07-00077-01-BR	WASHINGTON	27	11
FED. ROAD DIST. NO. ILLINOIS			FED. AID PROJECT		
CONTRACT NO. 97402					

21" X 48" PPC DECK BEAM
STRUCTURE NO. 095-3260

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



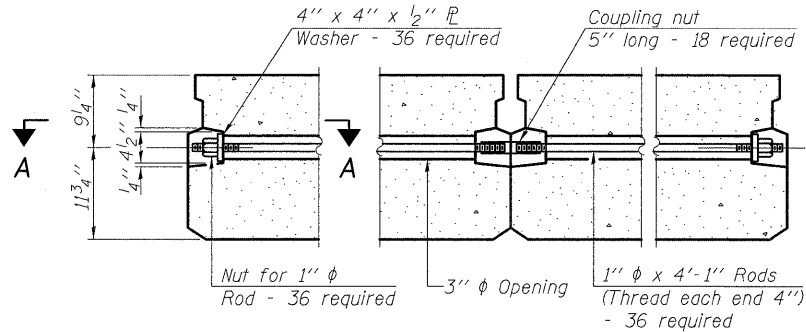
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

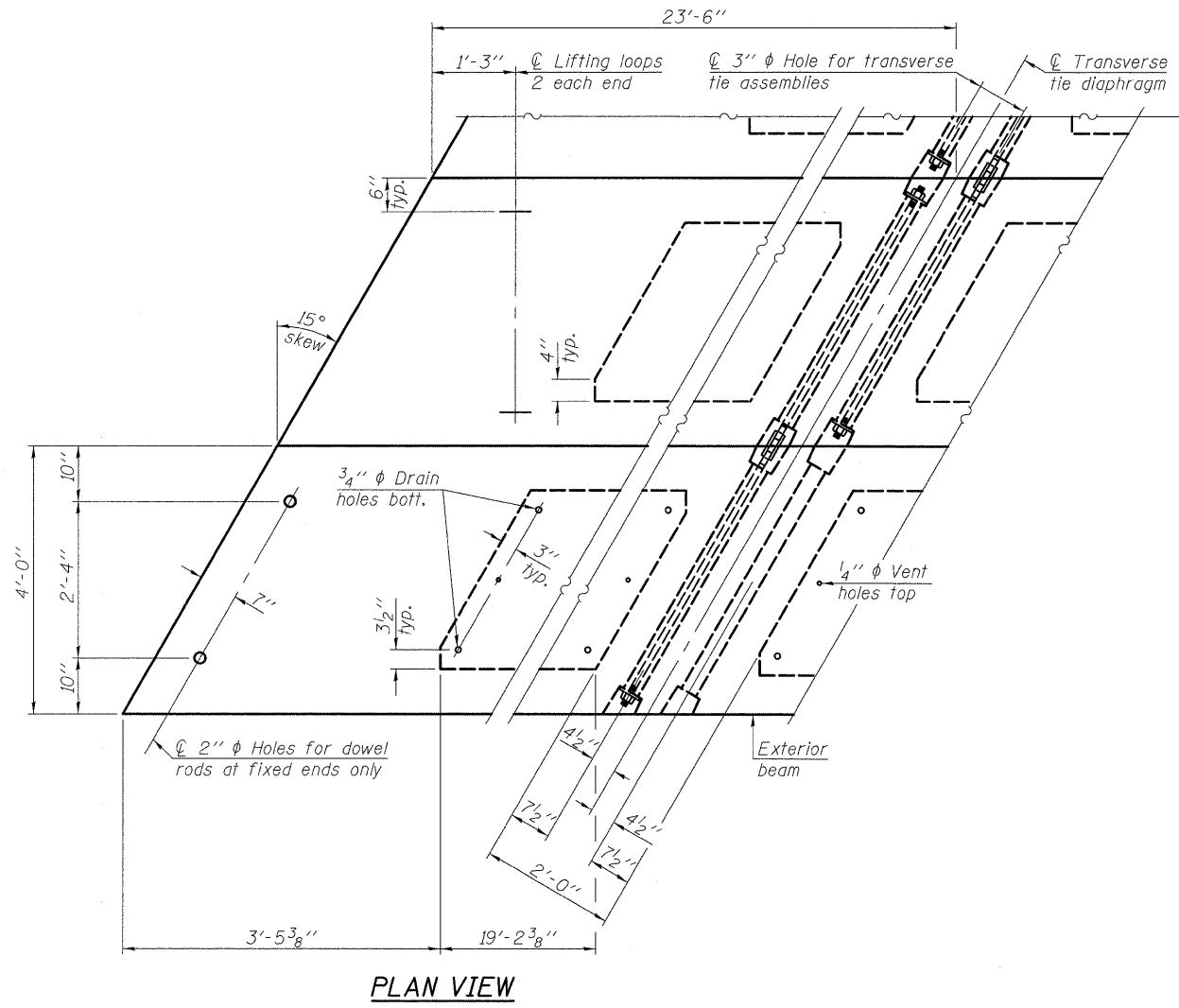
FIXED

Note: Omit holes when using expansion bearings.

SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY

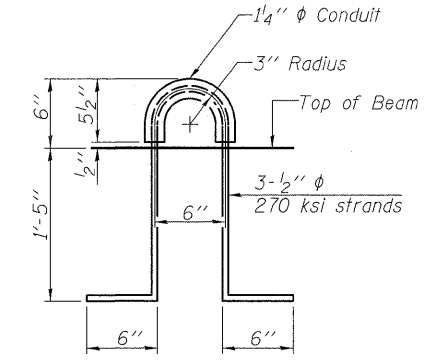
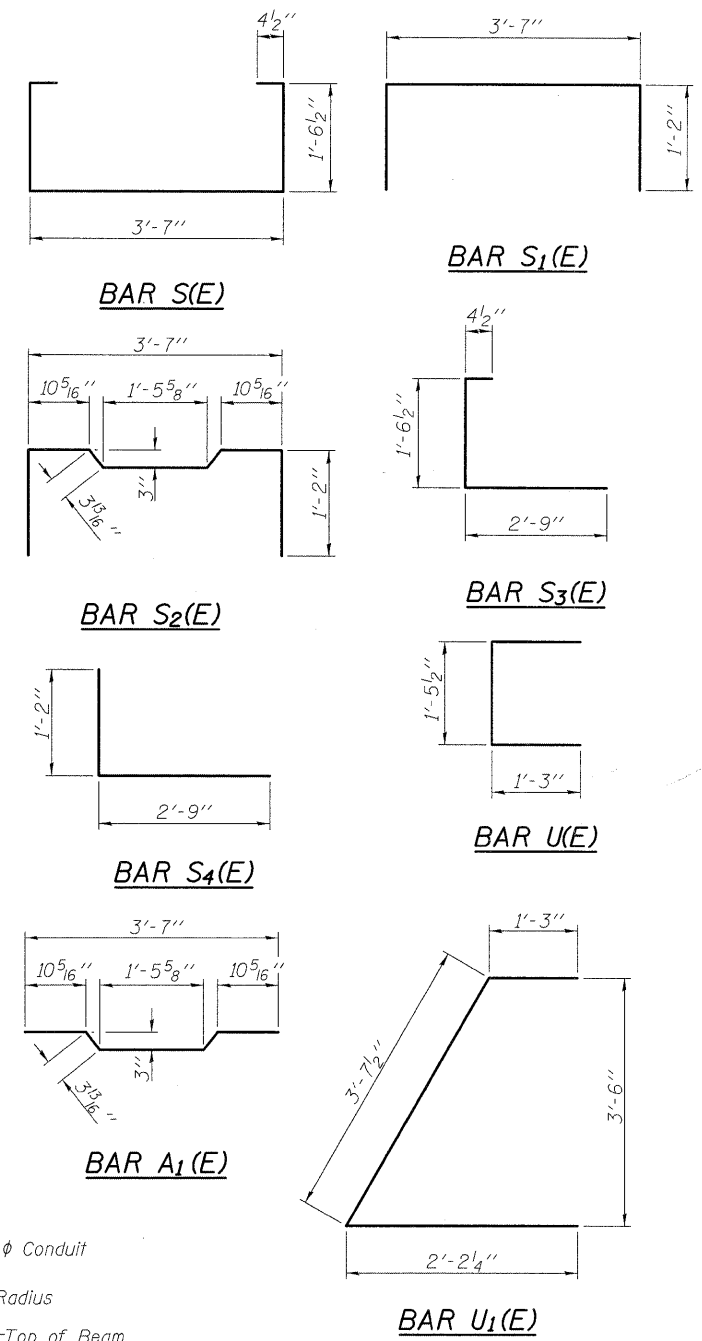


PLAN VIEW

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" ϕ 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. (See Special Provisions).
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 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.
- For rail post spacing, see sheet 2 of 11.
- For rail post anchor device detail, see sheet 5 of 11.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	3,948
---	---------	-------

**21" X 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 095-3260**

DESIGNED	EML
CHECKED	KAK
DRAWN	EML
CHECKED	KAK

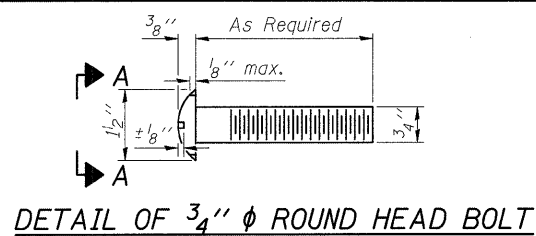
PD-2148-LD

10-1-08

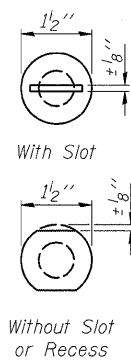


SHEET NO. 4	F.A.S. RTE. 836	SECTION 07-00077-01-BR	COUNTY WASHINGTON	TOTAL SHEETS 27	SHEET NO. 12
11 SHEETS	FED. ROAD DIST. NO. ILLINOIS		CONTRACT NO. 97402		
FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DETAIL OF 3/4" ϕ ROUND HEAD BOLT



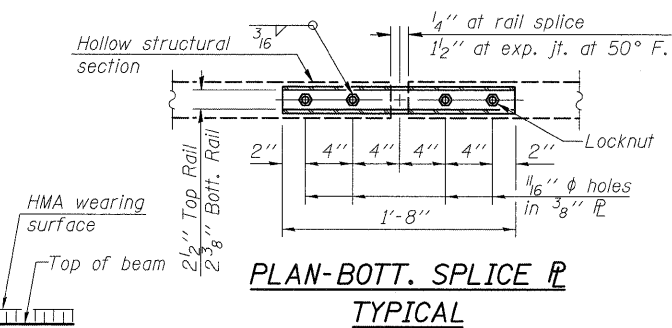
VIEW A-A

4-3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.

RAIL SPLICE CONNECTION
AT EXPANSION JT.

1/8" x 2 1/2" Slotted Holes in hollow structural section

5/8" ϕ x 1 3/4" Cap Screw with flat washer & 3/4" ϕ XS pipe spacer, 1/2" long.

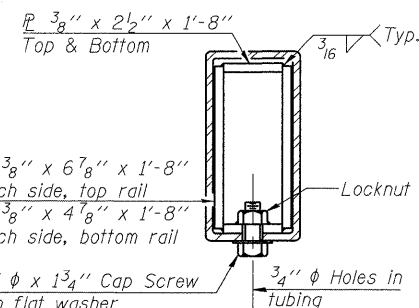


PLAN-BOTT. SPLICE P TYPICAL

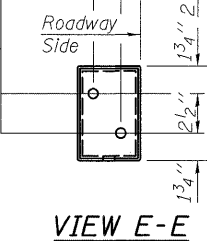
1/4" at rail splice
1/2" at exp. jt. at 50° F.

1/8" ϕ Holes in 3/8" P

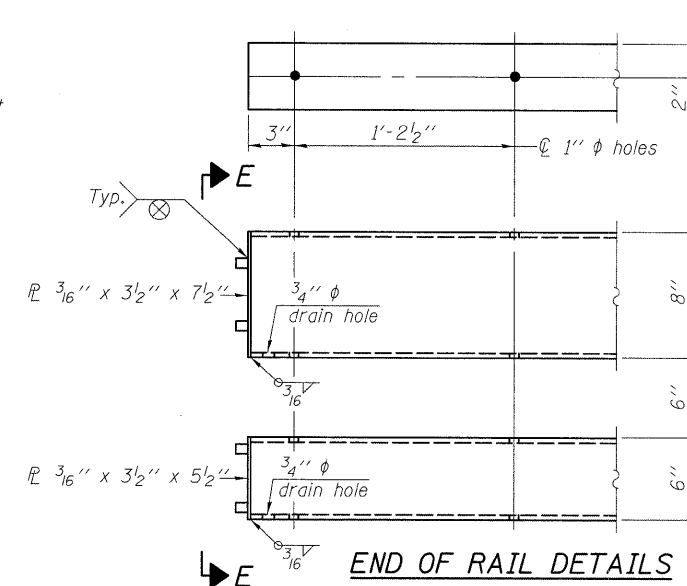
Locknut



SECTION AT RAIL SPLICE

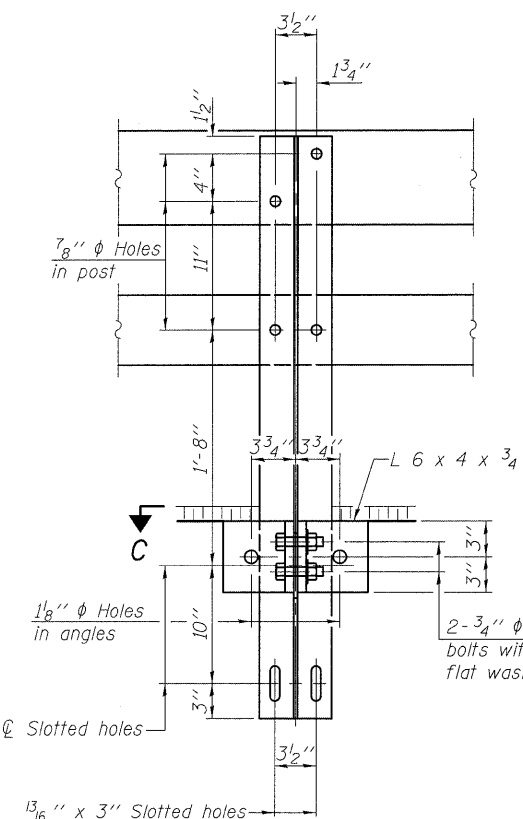


VIEW E-E

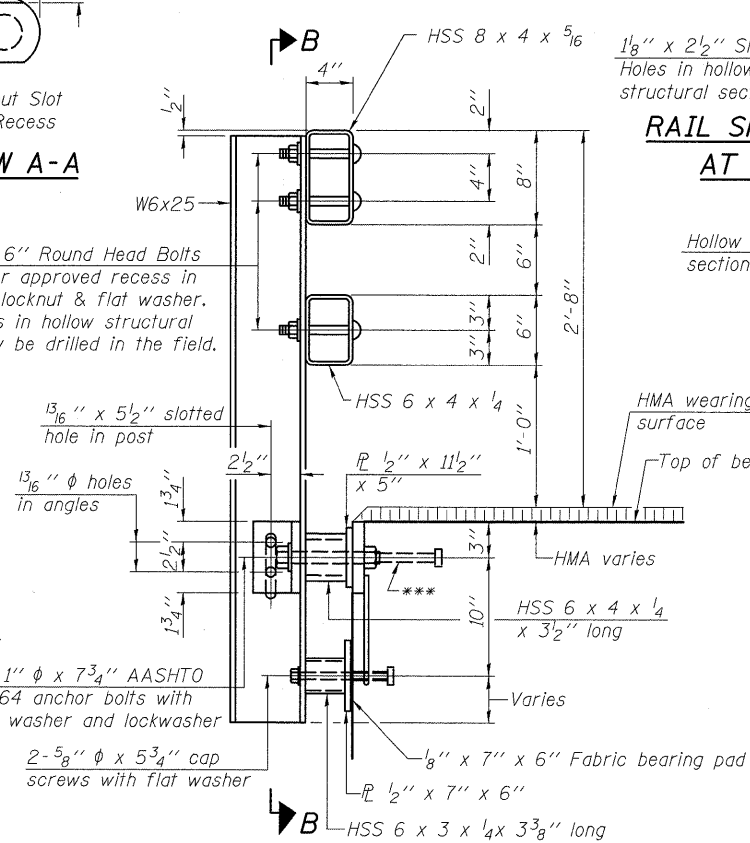


END OF RAIL DETAILS

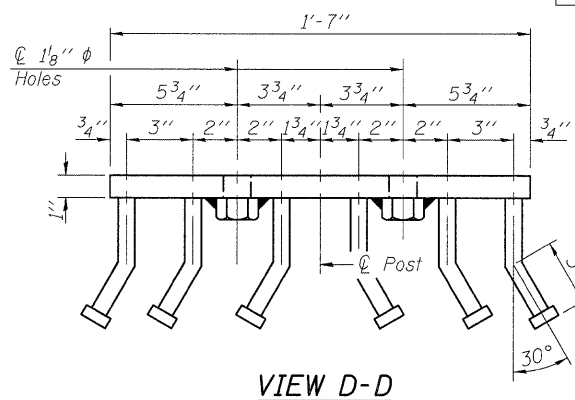
Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
All steel rail members shall 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.
For rail post spacing, see sheet 2 of 11.



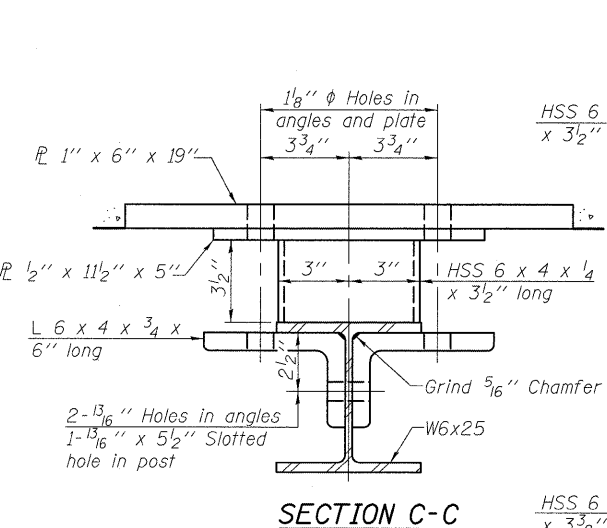
SECTION B-B



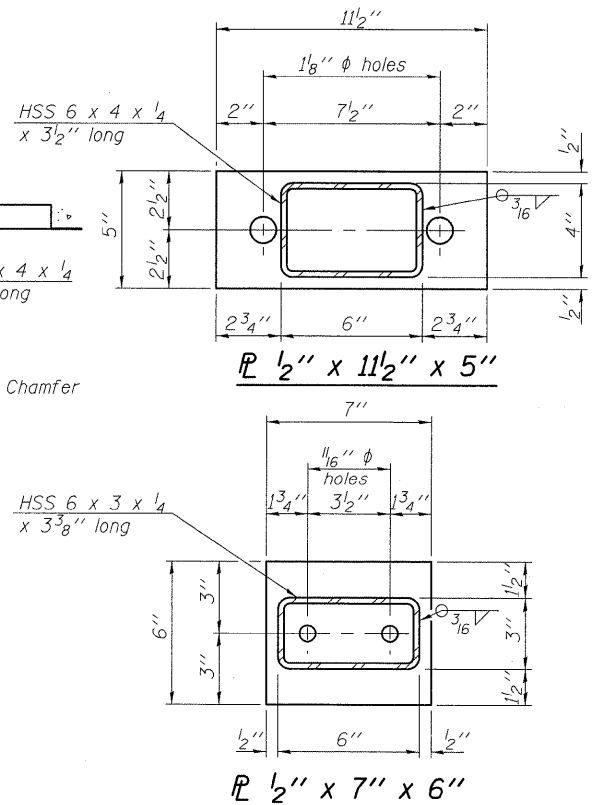
SECTION AT RAIL POST



VIEW D-D



SECTION C-C



ANCHOR DEVICE HORNER & SHIFRIN, INC. ENGINEERS

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

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	286

STEEL RAILING, TYPE SM WITH HOT-MIX ASPHALT WEARING SURFACE
STRUCTURE NO. 095-3260

DESIGNED EML
CHECKED KAK
DRAWN EML
CHECKED KAK

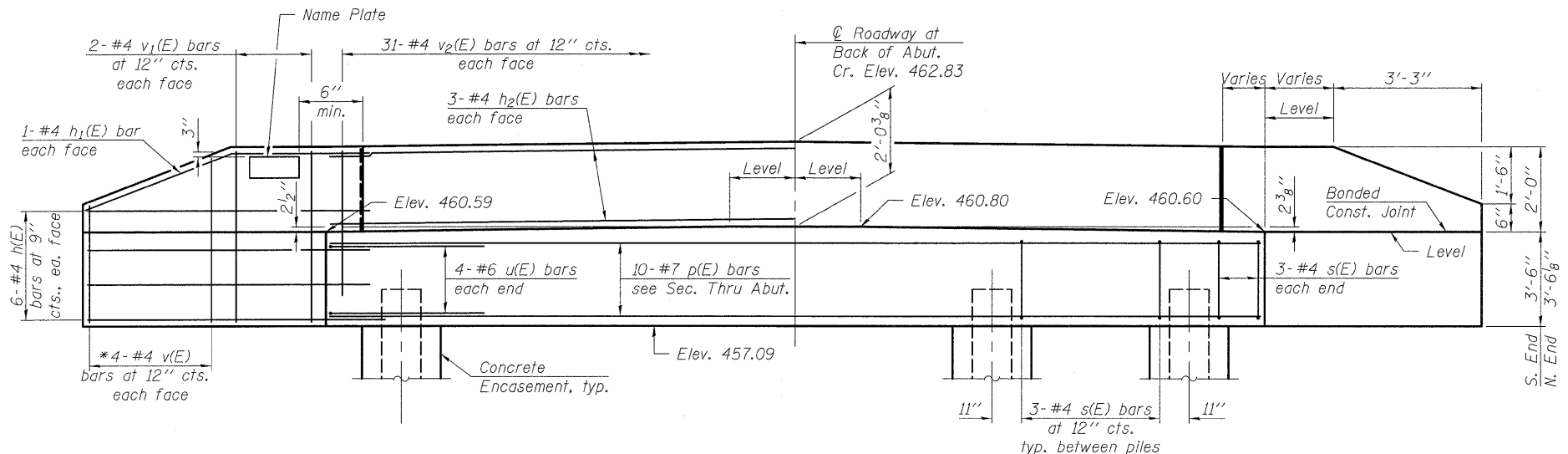
R-34HMAWS

10-1-08

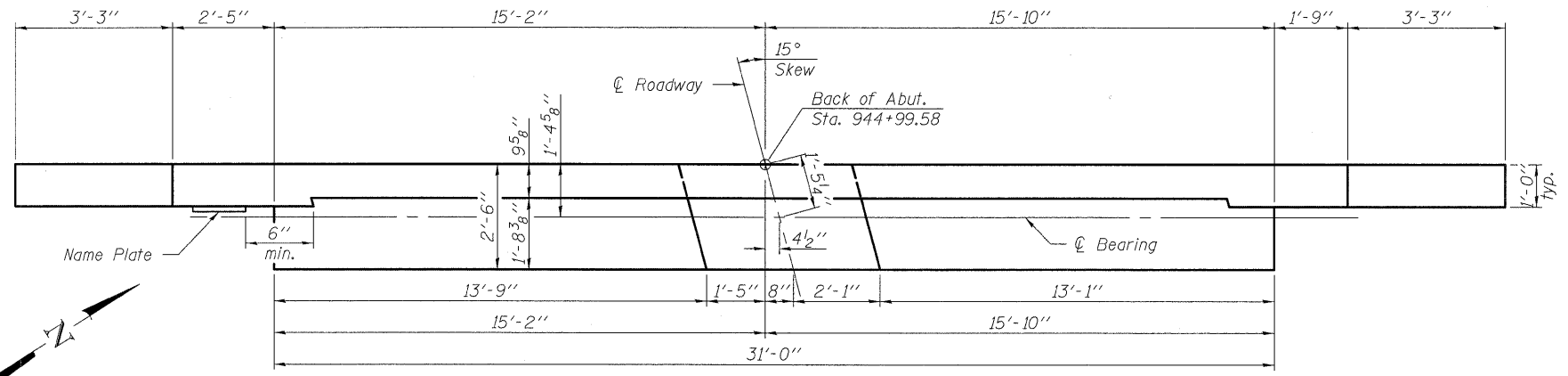
(6'-3" Maximum Post Spacing) (1/4" minimum to 3/8" maximum HMA thickness)

SHEET NO. 5	F.A.S. RTE. 836	SECTION 07-00077-01-BR	COUNTY WASHINGTON	TOTAL SHEETS 27	SHEET NO. 13
11 SHEETS	CONTRACT NO. 97402				
FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT	

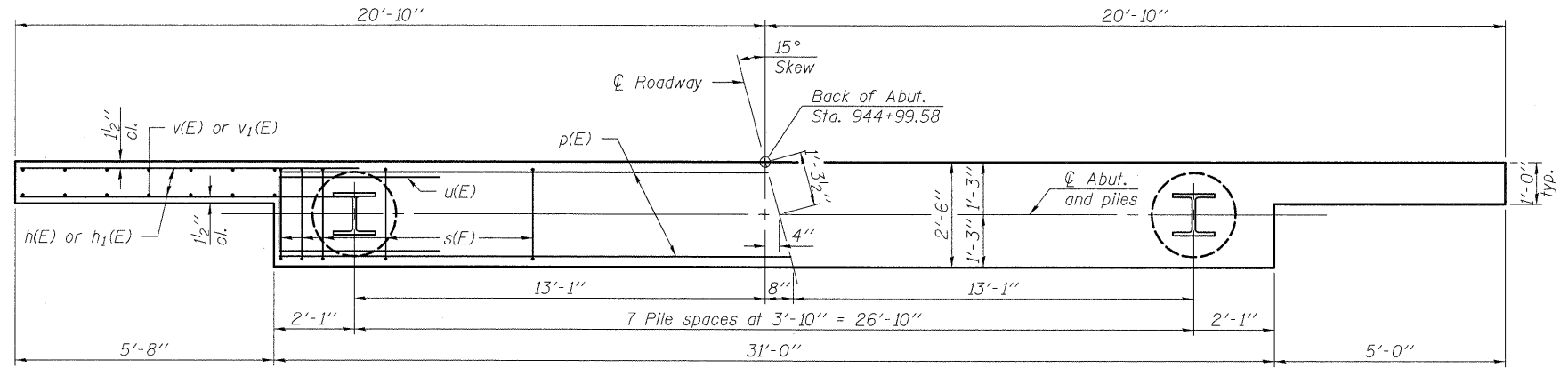
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



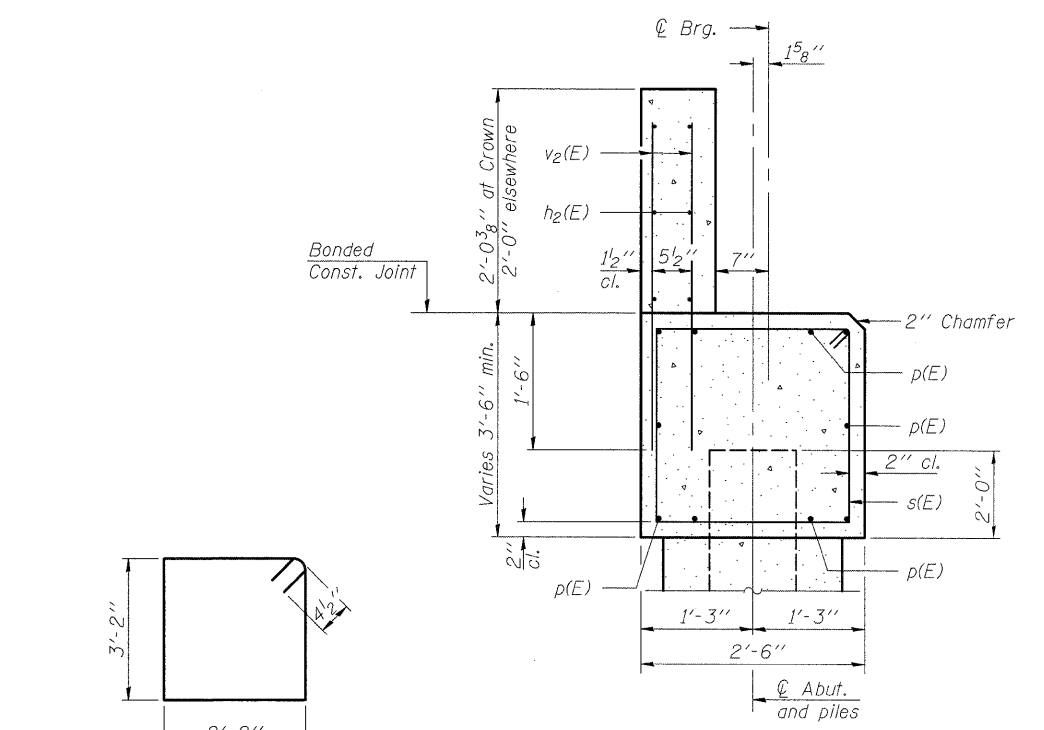
ELEVATION



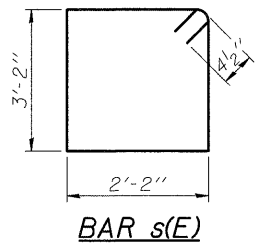
TOP VIEW



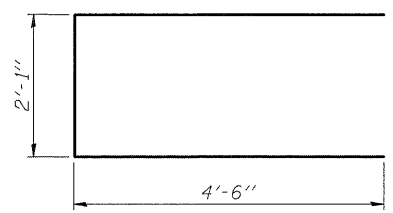
PLAN - PILE CAP



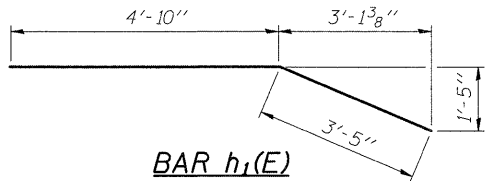
SECTION THRU ABUTMENT
(At Right Angles)



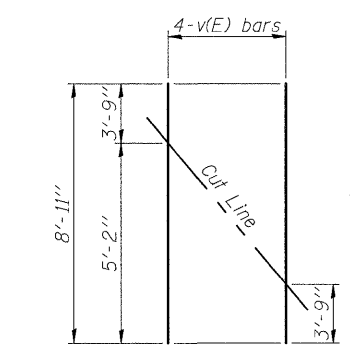
BAR s(E)



BAR u(E)



BAR h1(E)



FIELD CUTTING DIAGRAM

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	24	#4	8'-0"	—
h1(E)	4	#4	8'-3"	—
h2(E)	6	#4	30'-8"	—
p(E)	10	#7	30'-8"	—
s(E)	27	#4	11'-5"	□
u(E)	8	#6	11'-1"	—
v(E)	8	#4	8'-11"	—
v1(E)	8	#4	5'-2"	—
v2(E)	62	#4	3'-5"	—
Structure Excavation			Cu. Yd.	60
Concrete Structures			Cu. Yd.	14.3
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated			Pounds	1,460
Furnishing Steel Piles HP12x63			Foot	259
Driving Piles			Foot	259
Test Pile Steel HP12x63			Each	1
Pile Shoes			Each	8

The backwall and the portion of the wingwalls above the bonded construction joint shall be cast against the in-place beams.
Space reinforcement in cap to miss dowel rods. For dowel rod placement details, see sheet 2 of 11. For details of piles and Concrete Encasement, see sheet 10 of 11.

PILE DATA

Type:	HP12x63 w/Pile Shoes
Nominal Required Bearing:	497 kips
Factored Resistance Available:	199 kips
Est. Length:	37'
No. Production Piles:	7
No. Test Piles:	1

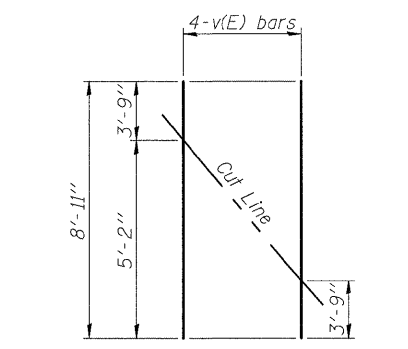
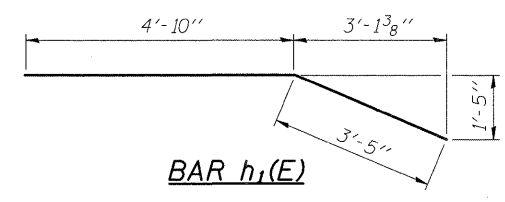
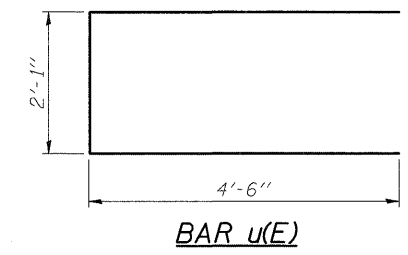
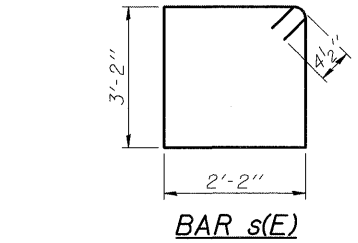
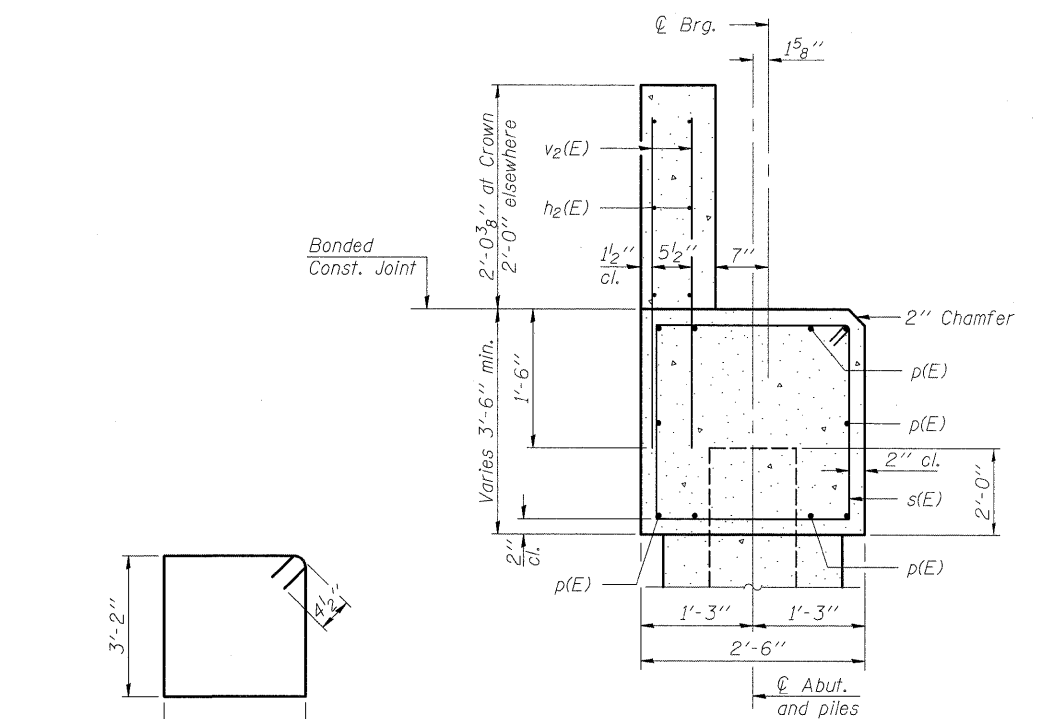
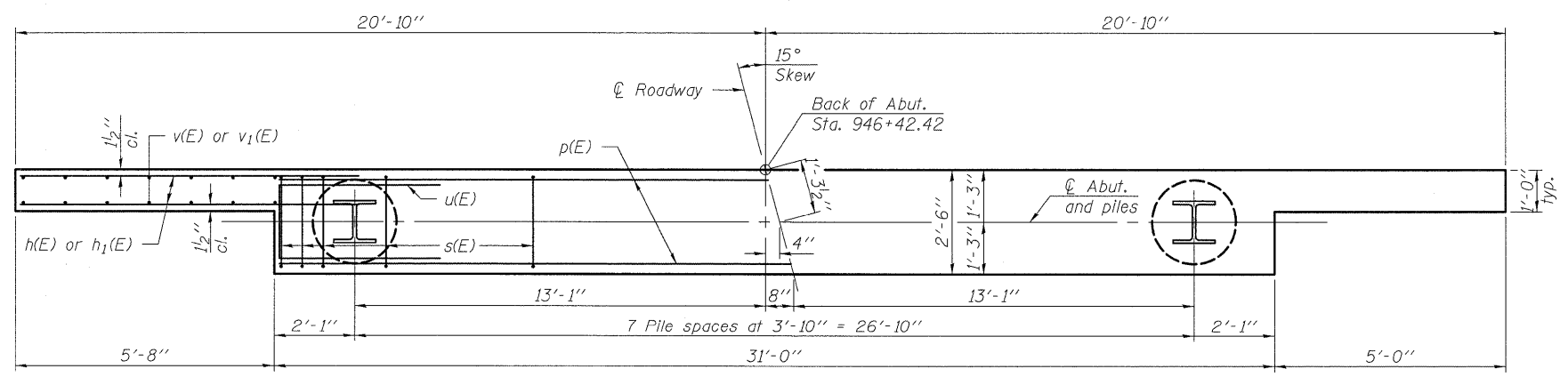
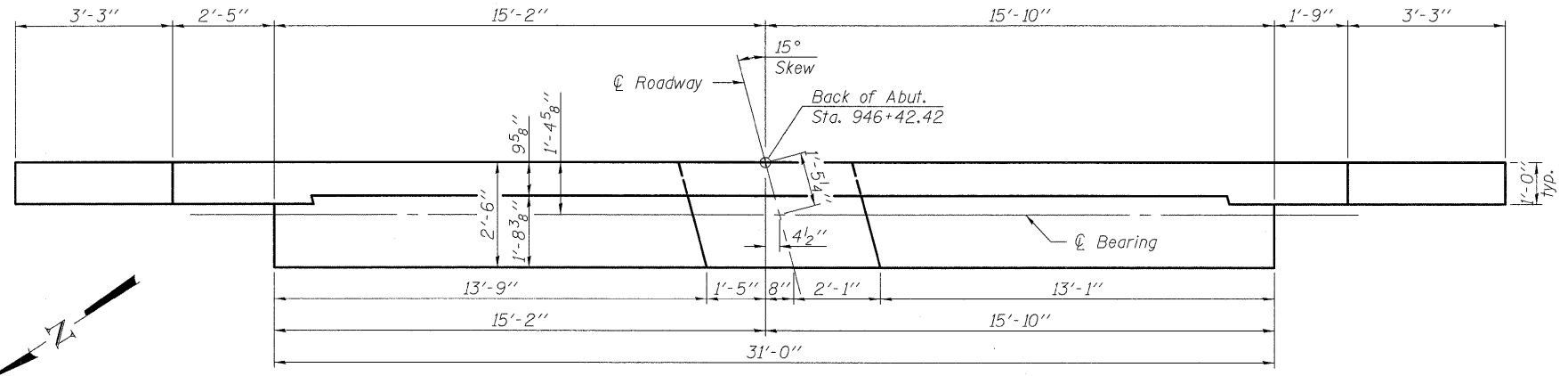
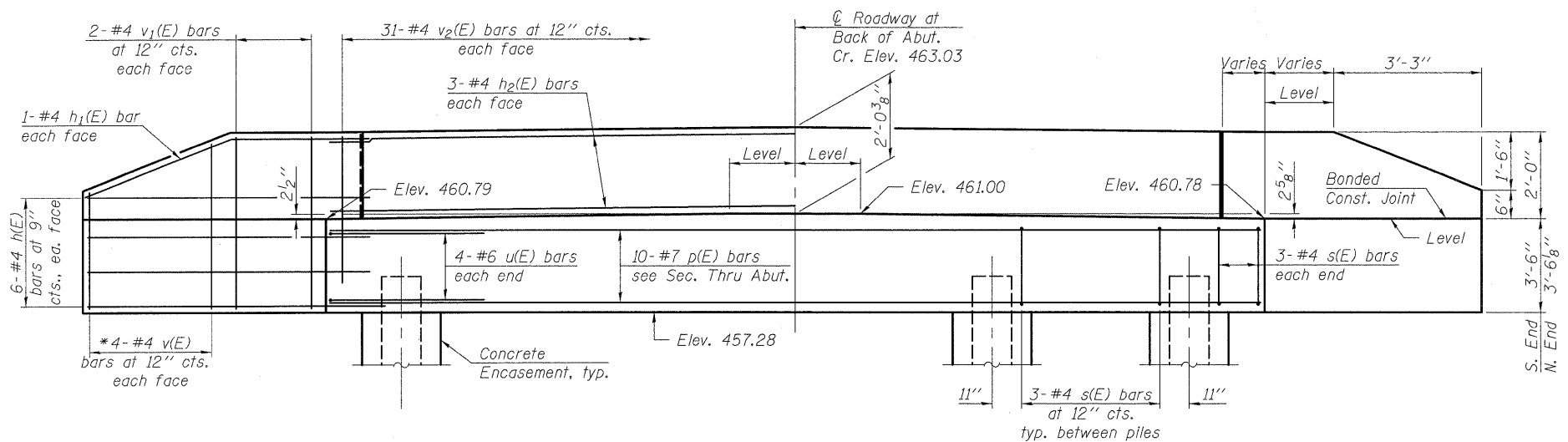


SHEET NO. 6 11 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	836	07-00077-01-BR	WASHINGTON	27	14
		CONTRACT NO. 97402			
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

WEST ABUTMENT
STRUCTURE NO. 095-3260

DESIGNED	EML
CHECKED	KAK
DRAWN	EML
CHECKED	KAK

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	24	#4	8'-0"	—
h ₁ (E)	4	#4	8'-3"	—
h ₂ (E)	6	#4	30'-8"	—
p(E)	10	#7	30'-8"	—
s(E)	27	#4	11'-5"	□
u(E)	8	#6	11'-1"	□
v(E)	8	#4	8'-11"	—
v ₁ (E)	8	#4	5'-2"	—
v ₂ (E)	62	#4	3'-5"	—
Structure Excavation			Cu. Yd.	60
Concrete Structures			Cu. Yd.	14.3
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated			Pounds	1,460
Furnishing Steel Piles HP12x63			Foot	203
Driving Piles			Foot	203
Test Pile Steel HP12x63			Each	1
Pile Shoes			Each	8

The backwall and the portion of the wingwalls above the bonded construction joint shall be cast against the in-place beams.
 Space reinforcement in cap to miss dowel bars.
 For dowel rod placement details, see sheet 2 of 11.
 For details of piles and Concrete Encasement, see sheet 10 of 11.

DESIGNED	EML
CHECKED	KAK
DRAWN	EML
CHECKED	KAK

PILE DATA

Type:	HP12x63 w/Pile Shoes
Nominal Required Bearing:	497 kips
Factored Resistance Available:	199 kips
Est. Length:	29'
No. Production Piles:	7
No. Test Piles:	1



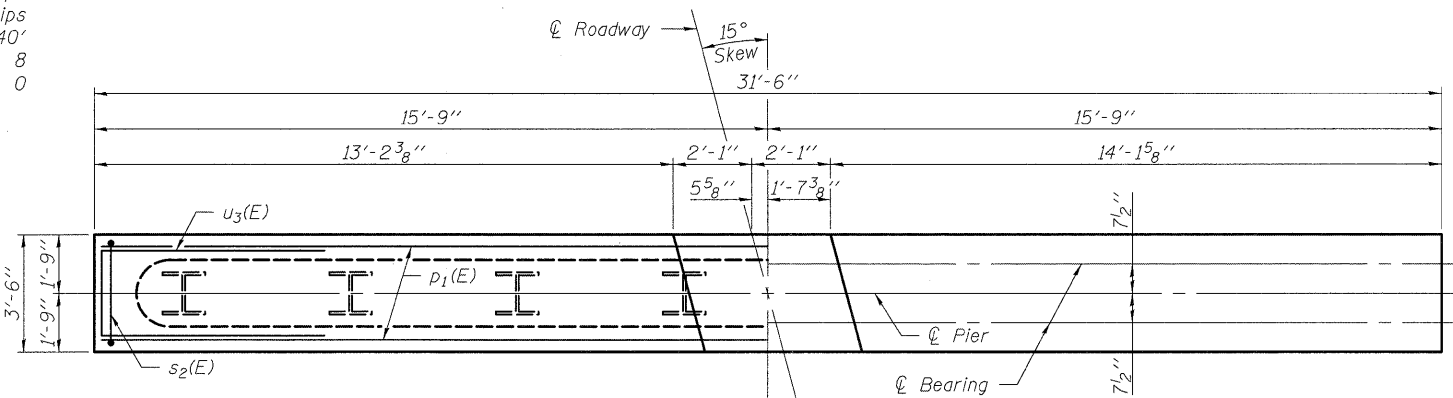
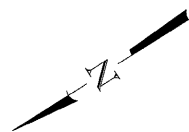
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	836	07-00077-01-BR	WASHINGTON	27	15
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 97402					

**EAST ABUTMENT
STRUCTURE NO. 095-3260**

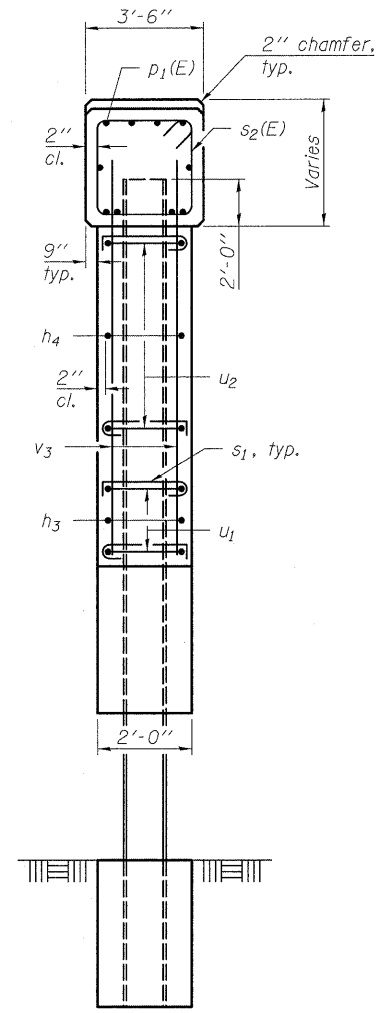
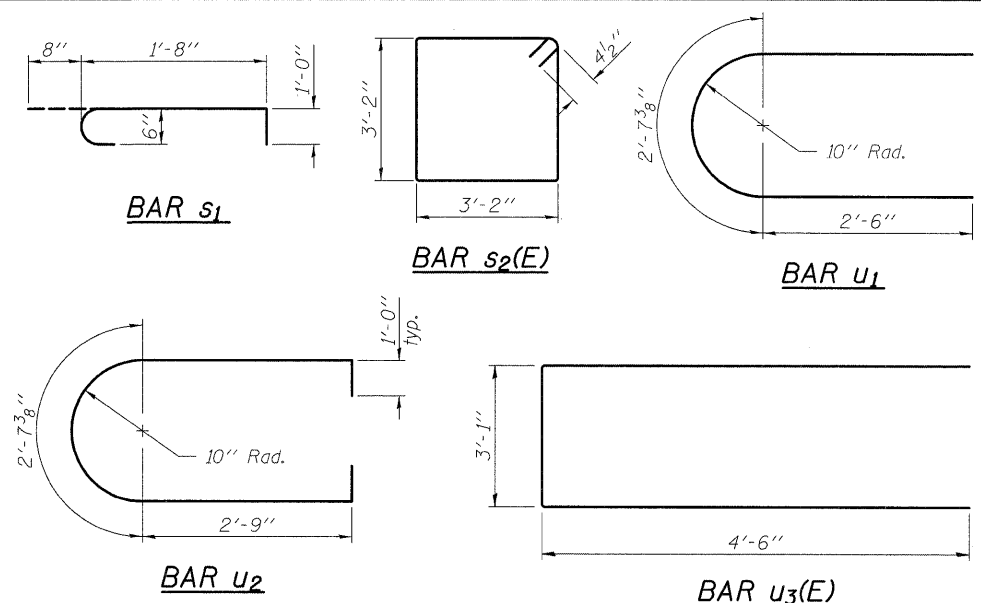
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PILE DATA

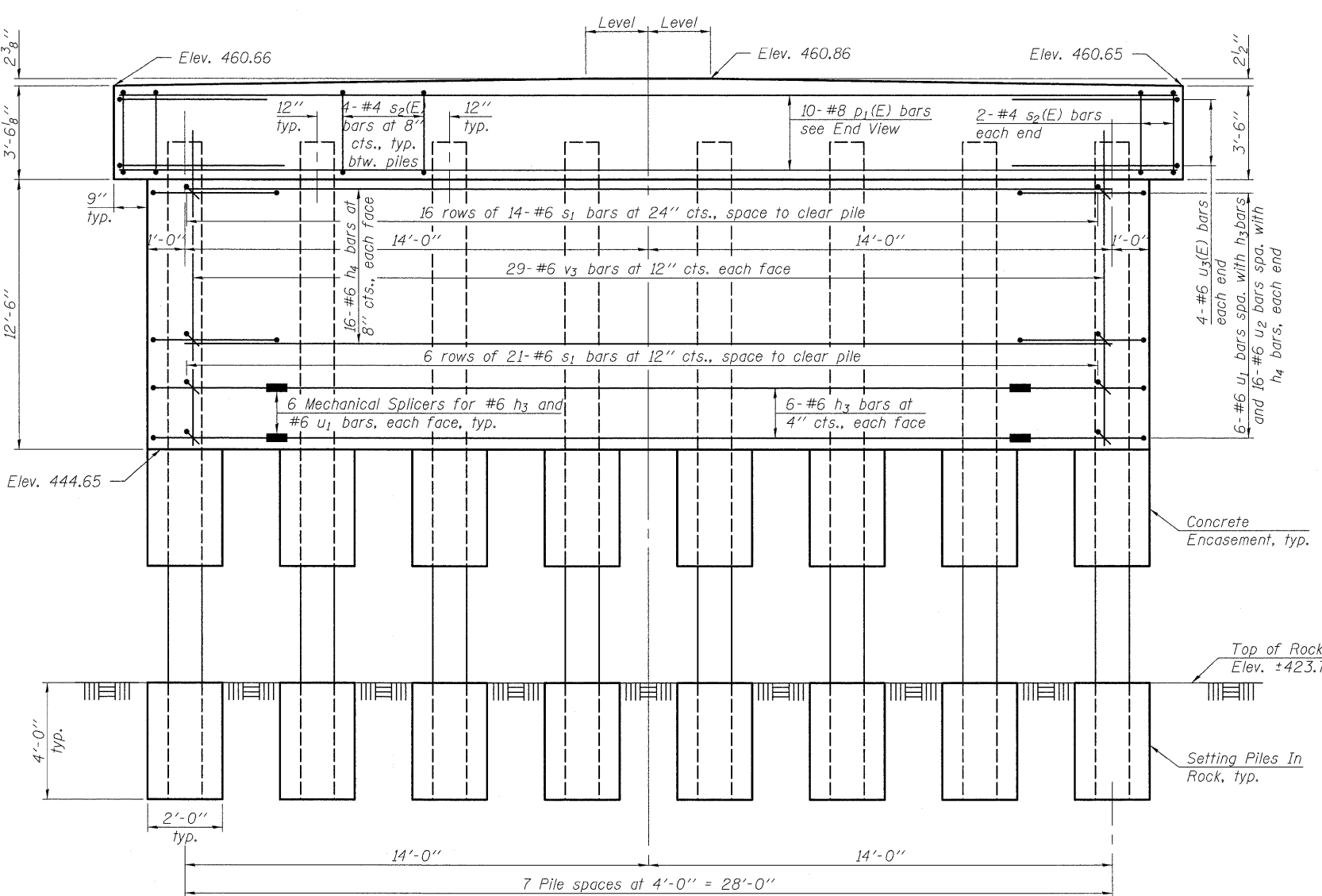
Type: HP12x63
Nominal Required Bearing: 497 kips
Factored Resistance Available: 199 kips
Est. Length: 40'
No. Production Piles: 8
No. Test Piles: 0



PLAN



END VIEW



ELEVATION

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h3	12	#6	23'-0"	—
h4	32	#6	28'-0"	—
P1(E)	10	#8	31'-2"	—
S1	350	#6	3'-4"	U
S2(E)	32	#4	13'-5"	□
U1	12	#6	7'-8"	U
U2	32	#6	10'-2"	U
U3(E)	8	#6	12'-1"	I
V3	58	#6	14'-0"	—
Structure Excavation			Cu. Yd.	22
Concrete Structures			Cu. Yd.	42.2
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	5,360
Reinforcement Bars, Epoxy Coated			Pound	1,270
Furnishing Steel Piles HP12x63			Foot	320
Mechanical Splicers			Each	24
Setting Piles in Rock			Each	8
Underwater Structure Excavation Protection - Location 1			Each	1

Space reinforcement in cap to miss dowel rods.
For dowel rod placement details, see sheet 2 of 11.
For details of piles and concrete encasement, see sheet 10 of 11.
If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.

DESIGNED	EML
CHECKED	KAK
DRAWN	EML
CHECKED	KAK



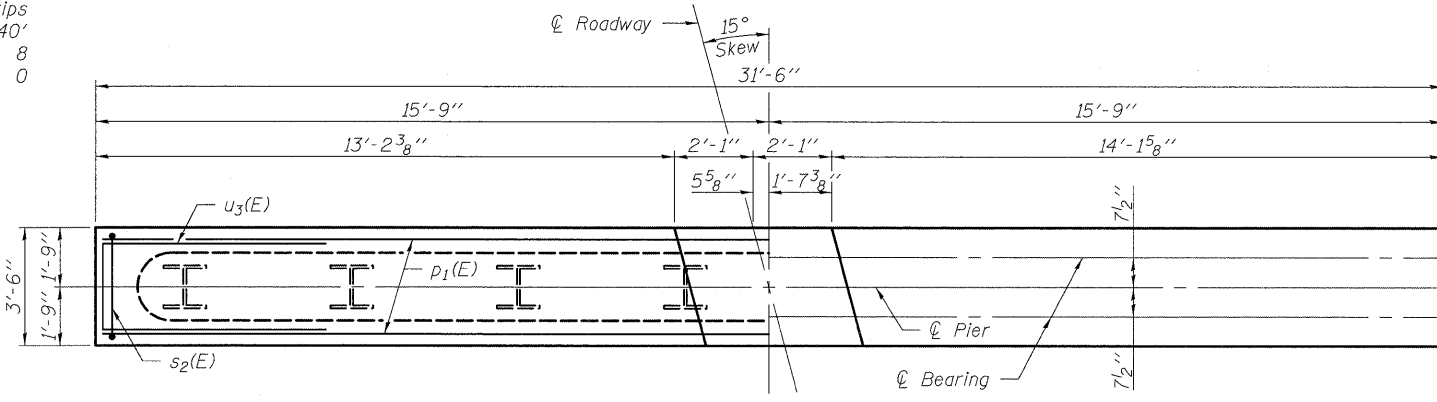
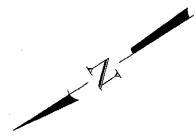
SHEET NO. 8 11 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	836	07-00077-01-BR	WASHINGTON	27	16
			CONTRACT NO. 97402		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

PIER 1
STRUCTURE NO. 095-3260

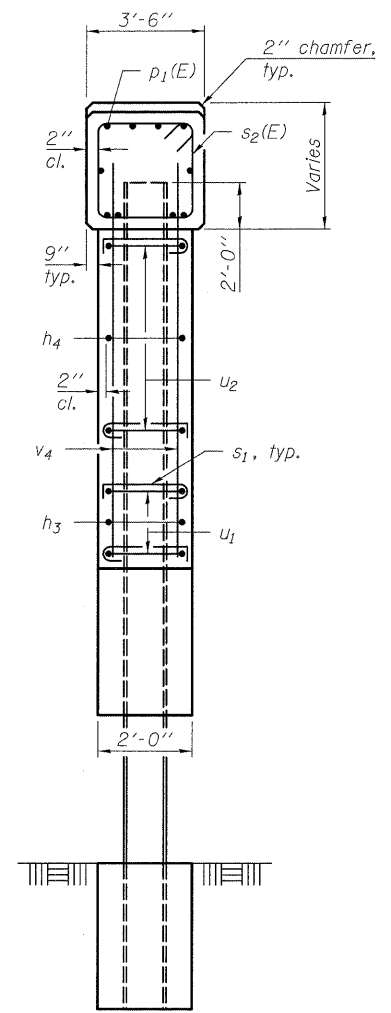
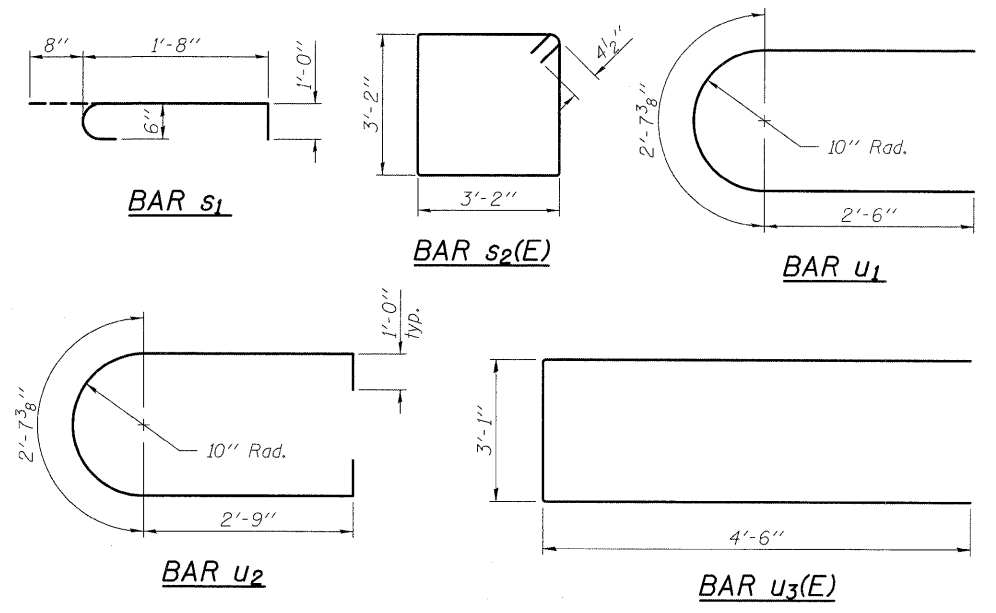
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PILE DATA

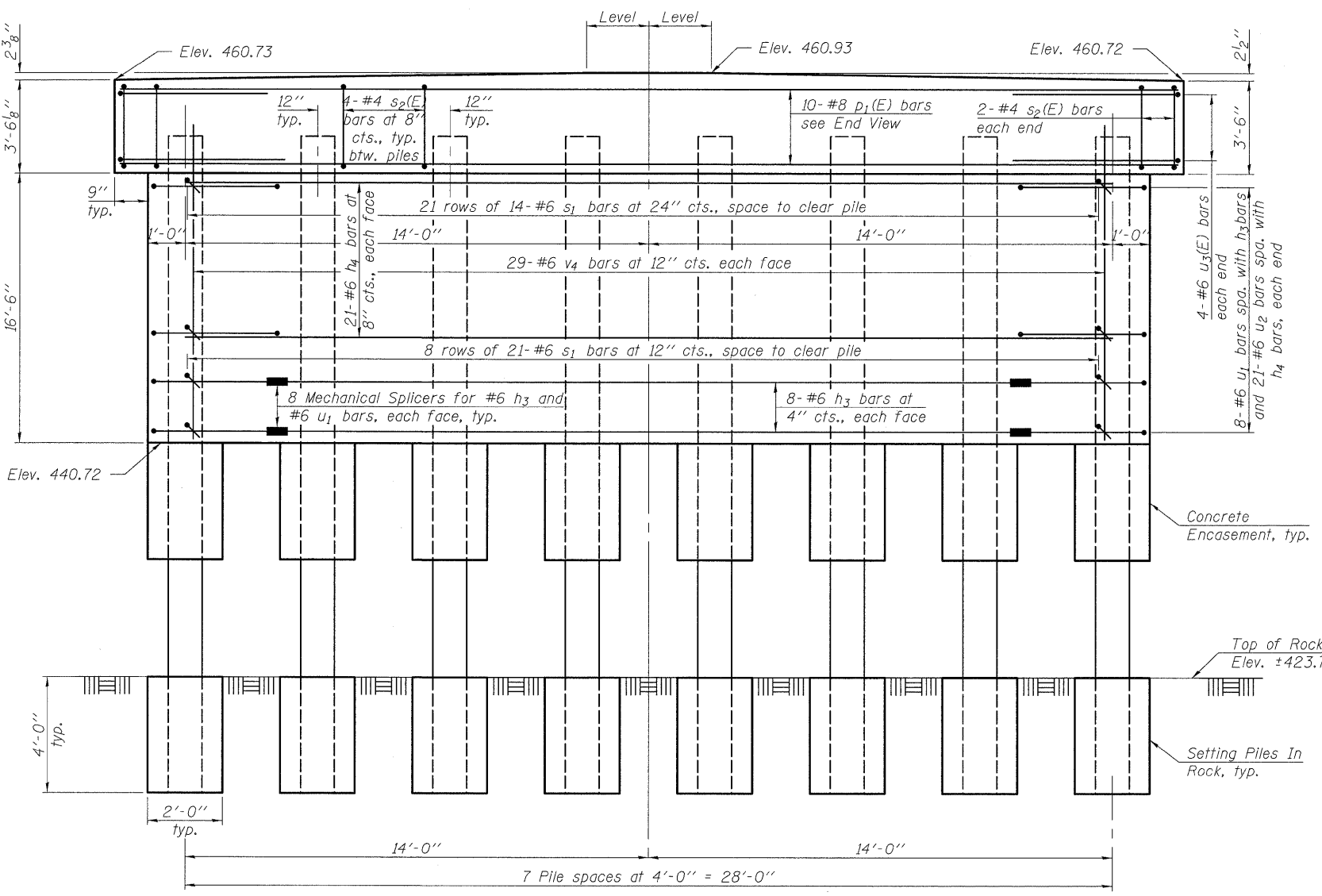
Type: HP12x63
Nominal Required Bearing: 497 kips
Factored Resistance Available: 199 kips
Est. Length: 40'
No. Production Piles: 8
No. Test Piles: 0



PLAN



END VIEW



ELEVATION

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h3	16	#6	23'-0"	—
h4	42	#6	28'-0"	—
p1(E)	10	#8	31'-2"	—
s1	462	#6	3'-4"	U
s2(E)	32	#4	13'-5"	□
u1	16	#6	7'-8"	U
u2	42	#6	10'-2"	U
u3(E)	8	#6	12'-1"	I
v4	58	#6	18'-0"	—
Structure Excavation			Cu. Yd.	10
Concrete Structures			Cu. Yd.	50.5
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	7,030
Reinforcement Bars, Epoxy Coated			Pound	1,270
Furnishing Steel Piles HP12x63			Foot	320
Mechanical Splicers			Each	32
Setting Piles in Rock			Each	8
Underwater Structure Excavation Protection - Location 2			Each	1

Space reinforcement in cap to miss dowel rods.
For dowel rod placement details, see sheet 2 of 11.
For details of piles and concrete encasement, see sheet 10 of 11.
If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.

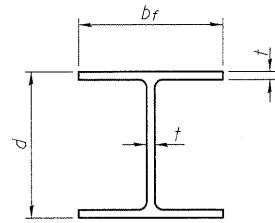
**PIER 2
STRUCTURE NO. 095-3260**

DESIGNED	EML
CHECKED	KAK
DRAWN	EML
CHECKED	KAK



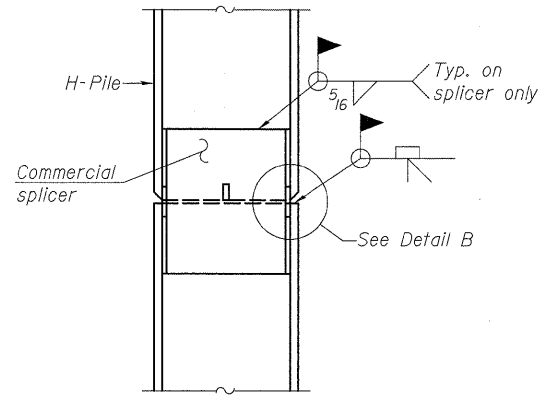
SHEET NO. 9 11 SHEETS	F.A.S. RTE. 836	SECTION 07-00077-01-BR	COUNTY WASHINGTON	TOTAL SHEETS 27	SHEET NO. 17
	CONTRACT NO. 97402				
FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

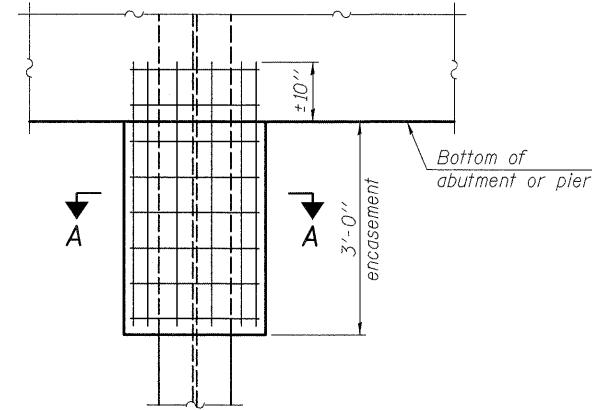


STEEL PILE TABLE

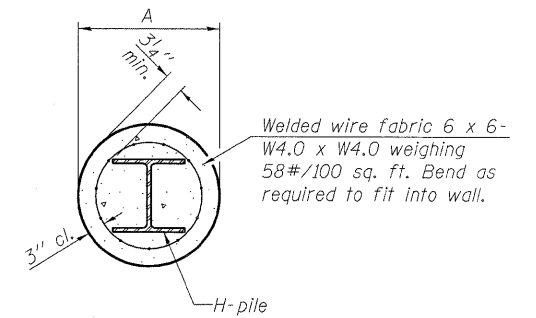
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"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



ELEVATION



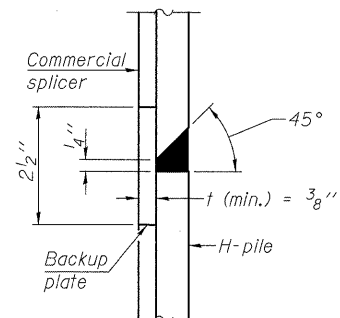
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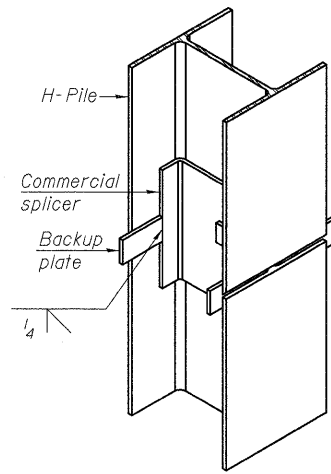
SECTION A-A

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

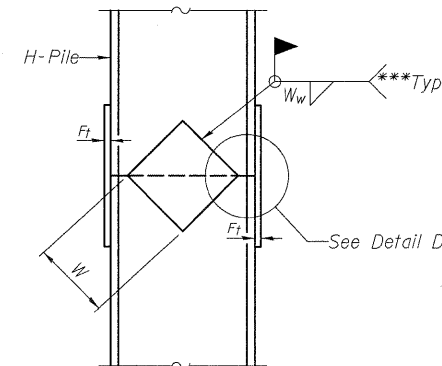
PILE ENCASEMENT



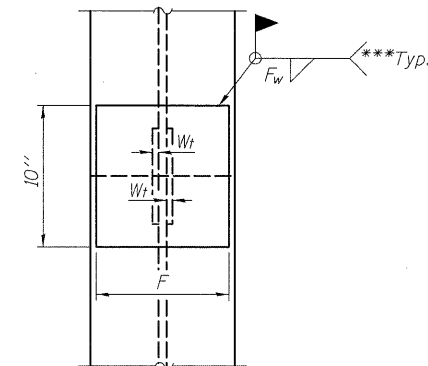
DETAIL "B"



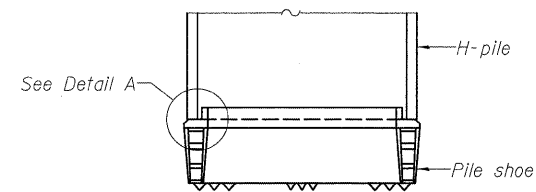
ISOMETRIC VIEW



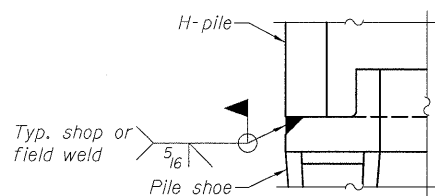
ELEVATION



END VIEW

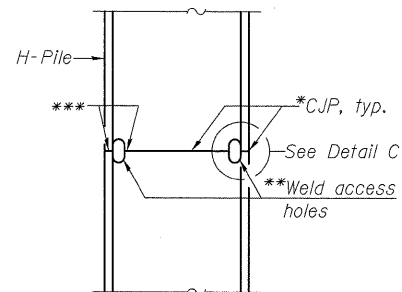


ELEVATION

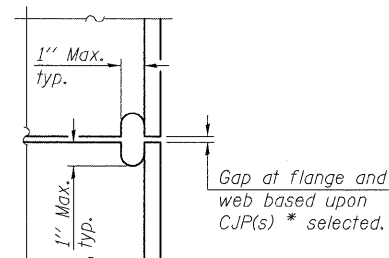


DETAIL A

H-PILE SHOE ATTACHMENT

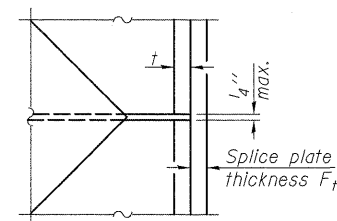


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

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

HP PILE DETAILS
STRUCTURE NO. 095-3260

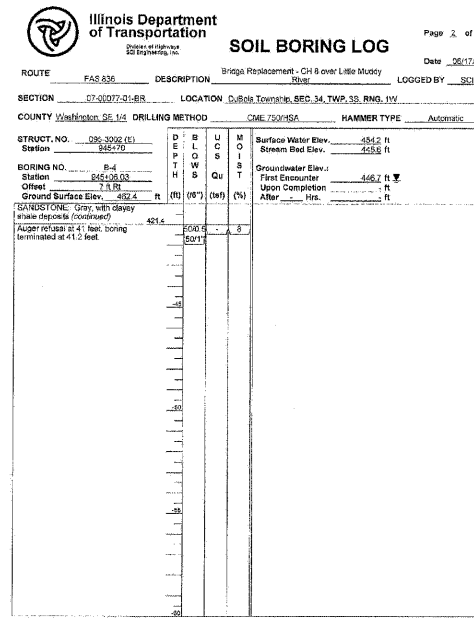
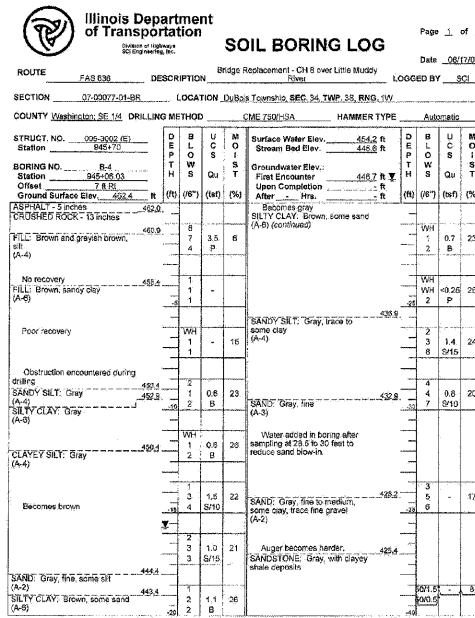
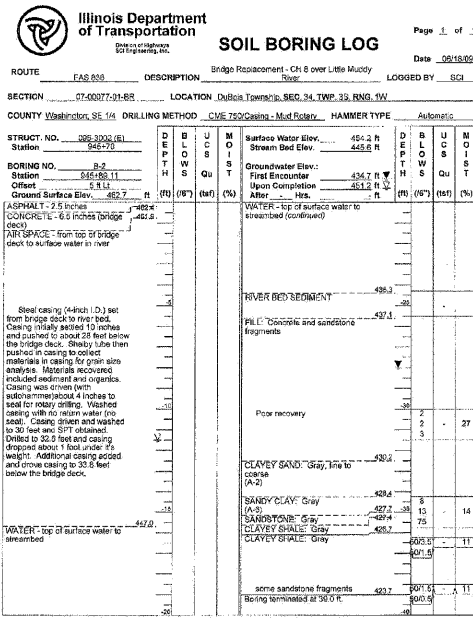
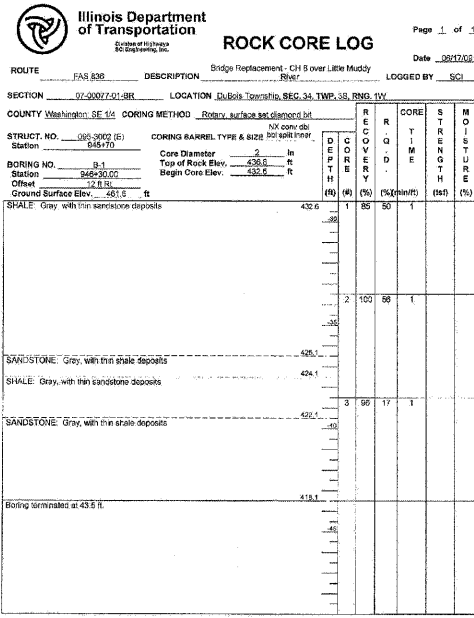
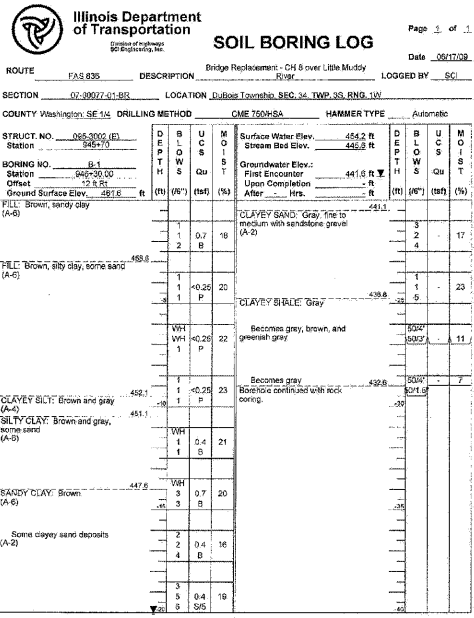
DESIGNED	EML
CHECKED	KAK
DRAWN	EML
CHECKED	KAK

F-HP 10-1-08

HORNER & SHIFRIN, INC.
ENGINEERS

SHEET NO. 10 11 SHEETS	F.A.S. RTE. 836	SECTION 07-00077-01-BR	COUNTY WASHINGTON	TOTAL SHEETS 27	SHEET NO. 18
	CONTRACT NO. 97402				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DESIGNED	EML
CHECKED	KAK
DRAWN	EML
CHECKED	KAK

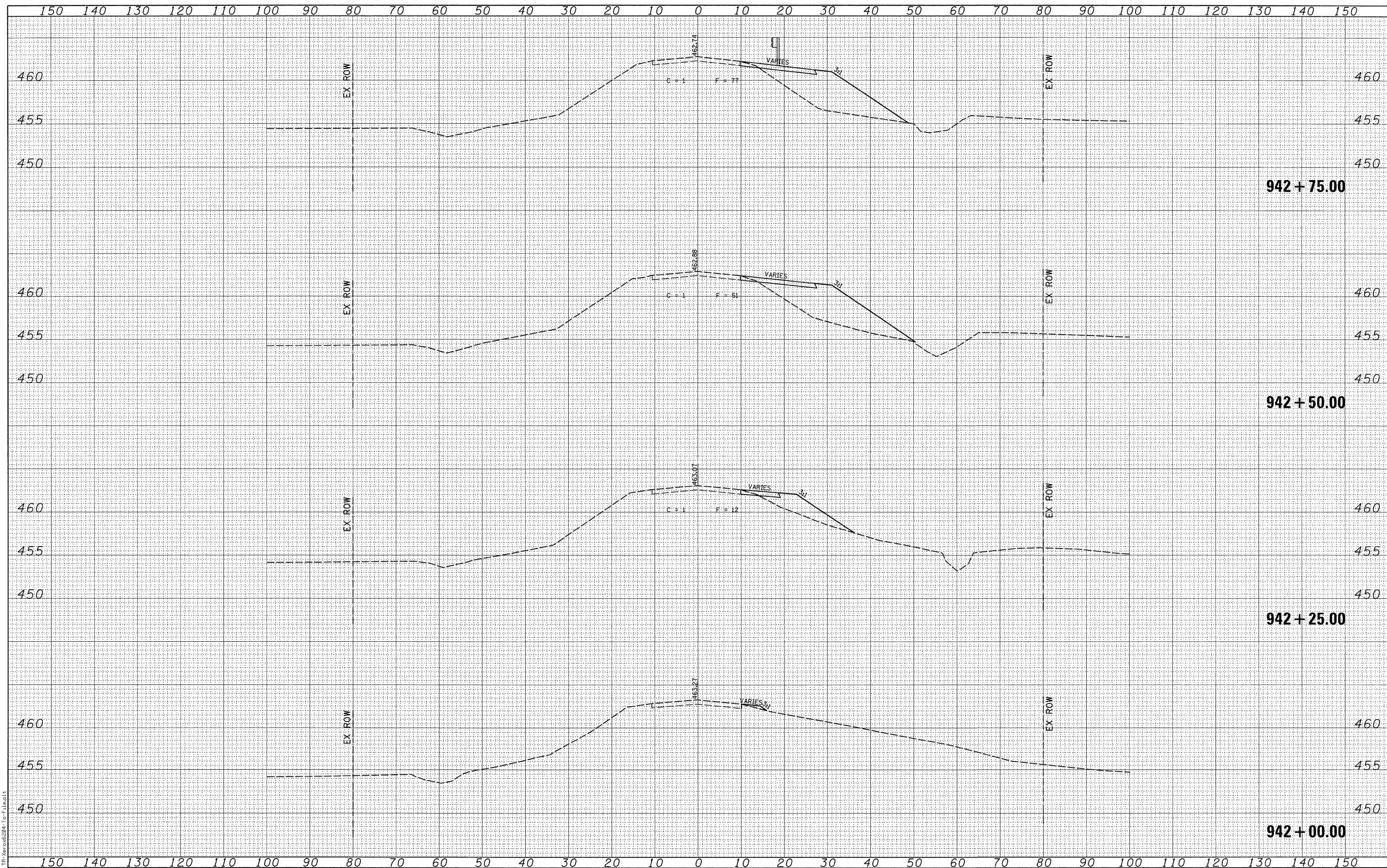
BORING LOGS
STRUCTURE NO. 095-3260

SHEET NO. 11 11 SHEETS	F.A.S. RTE. 836	SECTION 07-00077-01-BR	COUNTY WASHINGTON	TOTAL SHEETS 27	SHEET NO. 19
	FED. ROAD DIST. NO. ILLINOIS			FED. AID PROJECT CONTRACT NO. 97402	



DATE	
BY	
SUPERVISOR	
PLANNING	
TEMPLATE	
AREAS	
CHECKED	
NO.	
FINAL SURVEY	
NOTE BOOK	
NO.	

DATE	
BY	
SUPERVISOR	
PLANNING	
TEMPLATE	
AREAS	
CHECKED	
NO.	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	



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DESIGNED -
 CHECKED -
 DRAWN -
 CHECKED -

REVISED -
 REVISED -
 REVISED -
 REVISED -



WASHINGTON COUNTY
 HIGHWAY DEPARTMENT

CROSS SECTIONS
 COUNTY HIGHWAY 8

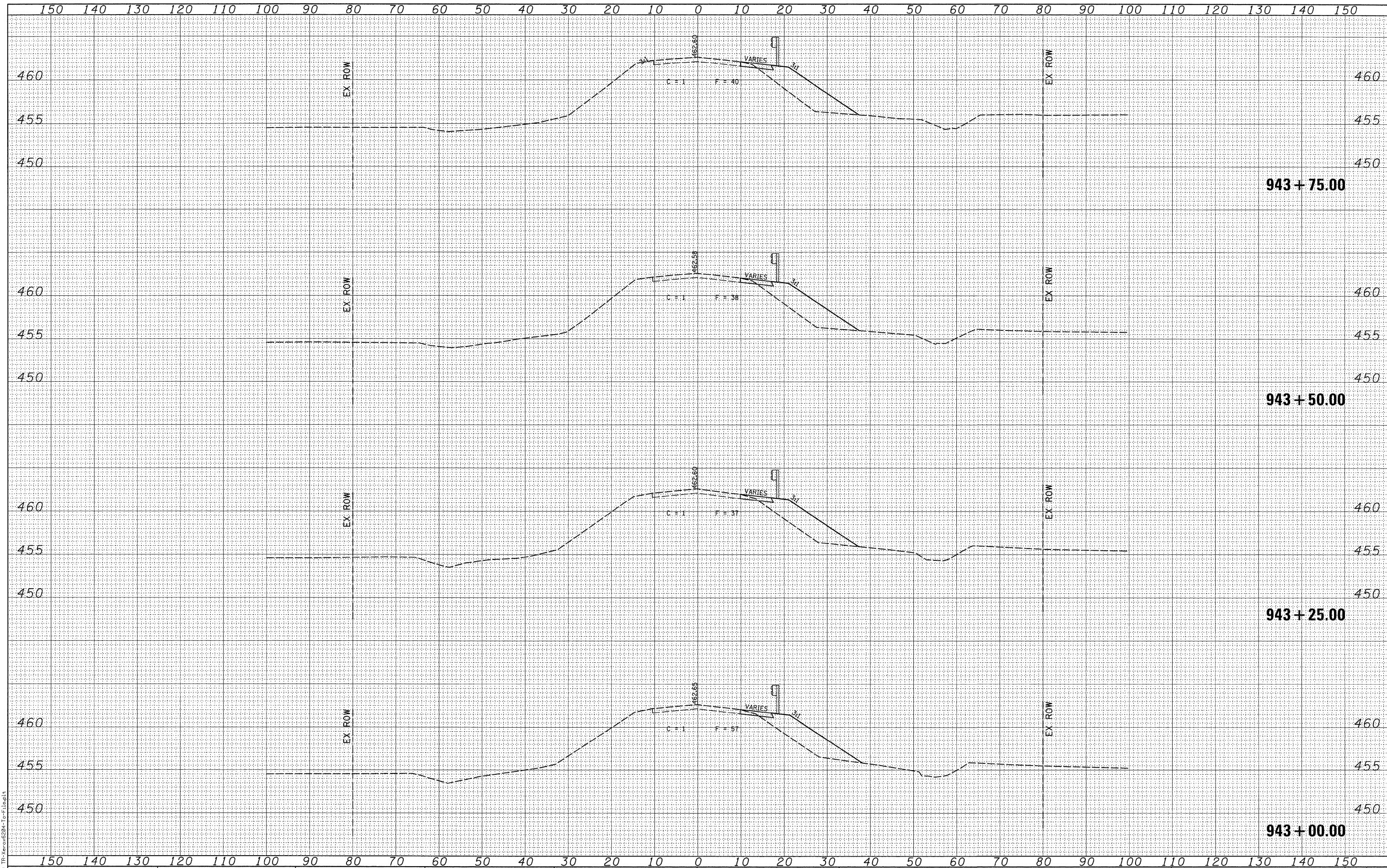
SCALE: SHEET NO. OF SHEETS STA. 942+00.00 TO STA. 942+75.00

F.A.S. 836
 COUNTY HIGHWAY 8
 CONTRACT NO. 97402
 SECTION 07-00077-01-BR

TOTAL SHEETS 27 SHEET NO. 20

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

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



LAST SAVED = 1/20/2010
 PEN TABLE = VB.tbl
 PLOT DRIVER = P:\xrc620a-1p-110p11

FILE NAME =
 USER NAME = bshmidt
 PLOT SCALE = 10.0005' / IN.
 PLOT DATE = 1/26/2010 10:27:23 AM

DESIGNED -
 CHECKED -
 DRAWN -
 CHECKED -

REVISED -
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 REVISED -



WASHINGTON COUNTY
 HIGHWAY DEPARTMENT

CROSS SECTIONS
 COUNTY HIGHWAY 8

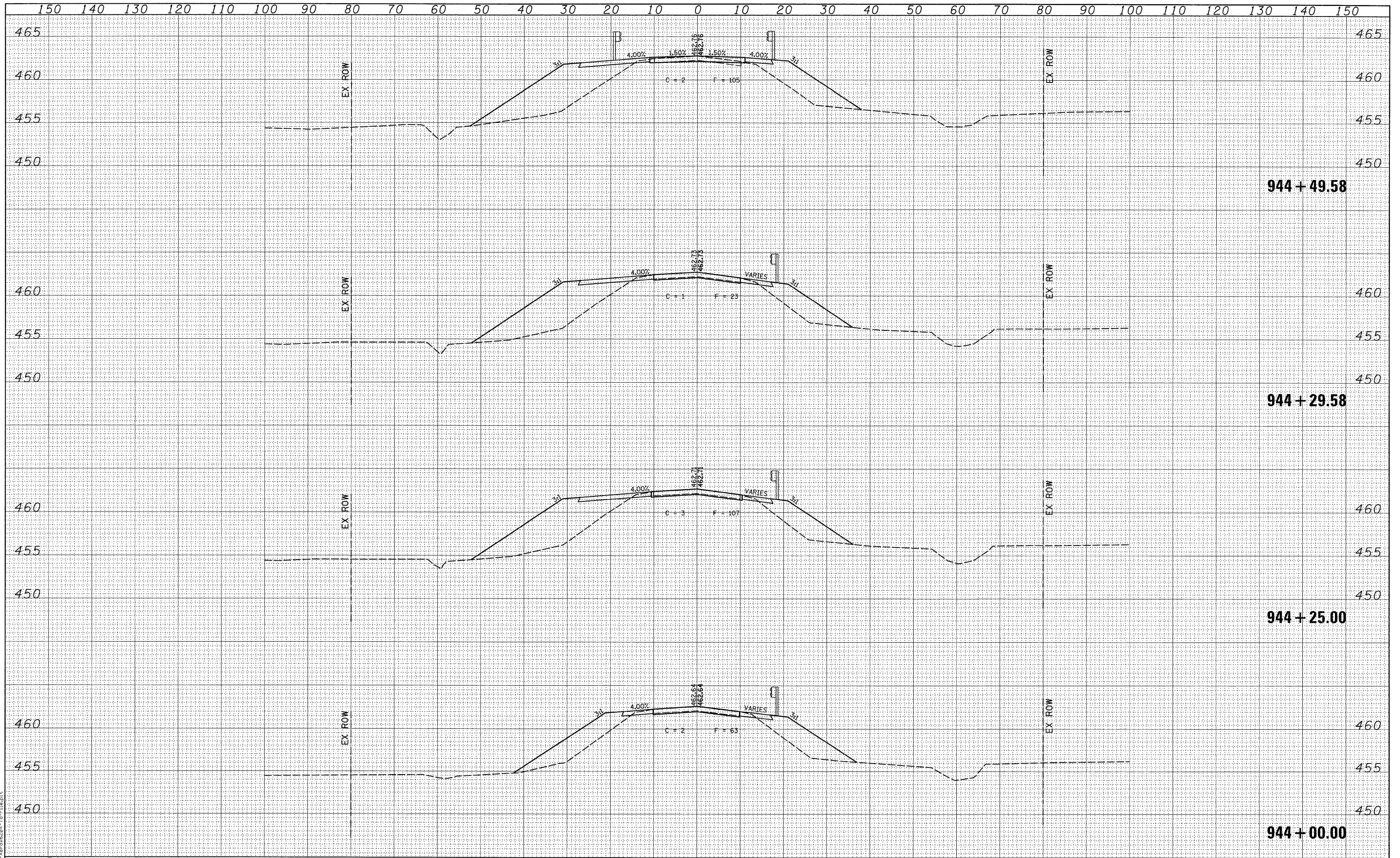
SCALE: SHEET NO. OF SHEETS STA. 943+00.00 TO STA. 943+75.00

F.A.S. 836
 COUNTY HIGHWAY 8
 CONTRACT NO. 97402
 SECTION 07-00077-01-BR

TOTAL SHEETS	27
SHEET NO.	21

DATE	
BY	
FINAL SURVEY	
REVISION	
NOTE BOOK	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
REVISION	
NOTE BOOK	
AREAS CHECKED	

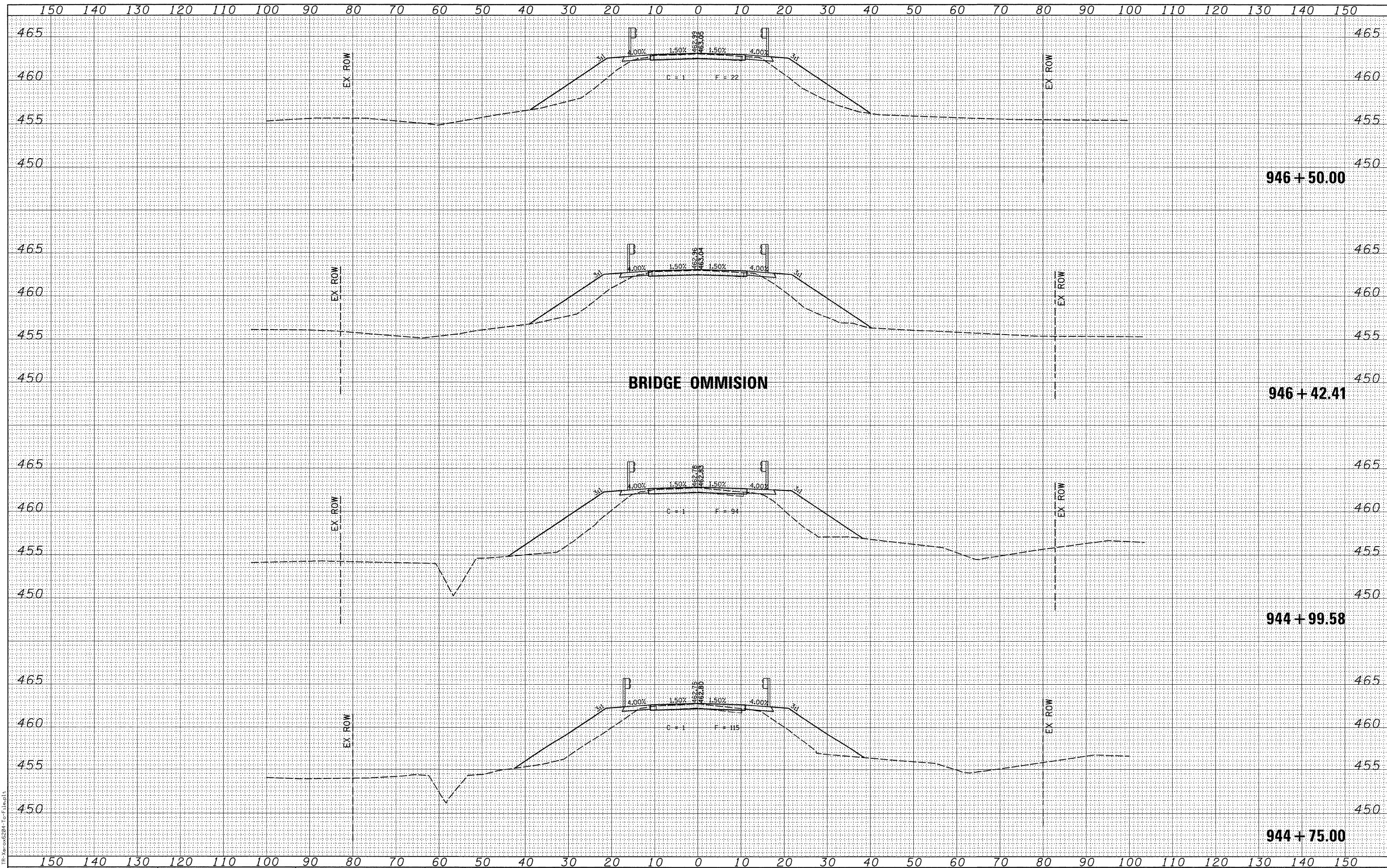


LAST SAVED = 1/20/2010
 PEN TABLE = 08.tbl
 PLOT DRIVER = P:\Xerox6204-1p-File.plt

FILE NAME = I:\0906300\cad\construction_plans\099_XS.dgn	USER NAME = bschmidt	DESIGNED -	REVISED -		WASHINGTON COUNTY HIGHWAY DEPARTMENT	CROSS SECTIONS COUNTY HIGHWAY 8			F.A.S. 836 COUNTY HIGHWAY 8		TOTAL SHEETS	SHEET NO.
PLOT SCALE = 10.0005' / IN.	PLOT DATE = 1/26/2010 10:27:24 AM	CHECKED -	REVISED -						CONTRACT NO. 97402		27	22
		DRAWN -	REVISED -			SECTION 07-00077-01-BR						
		CHECKED -	REVISED -			SCALE:	SHEET NO.	OF	SHEETS	STA. 944+00.00 TO STA. 944+49.58		

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

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



LAST SAVED = 1/20/2010
 PEN TABLE = VB.tbl
 PLOT DRIVER = P:\xerox6204\F-File.plt

FILE NAME =
 I:\0906300\cad\t\construction.plans\099_XS.dgn

USER NAME = bshmidt
 DESIGNED -
 CHECKED -
 DRAWN -
 CHECKED -
 PLOT SCALE = 10.0005' / IN.
 PLOT DATE = 1/26/2010 10:27:25 AM

DESIGNED -
 CHECKED -
 DRAWN -
 CHECKED -

REVISED -
 REVISED -
 REVISED -
 REVISED -



WASHINGTON COUNTY
 HIGHWAY DEPARTMENT

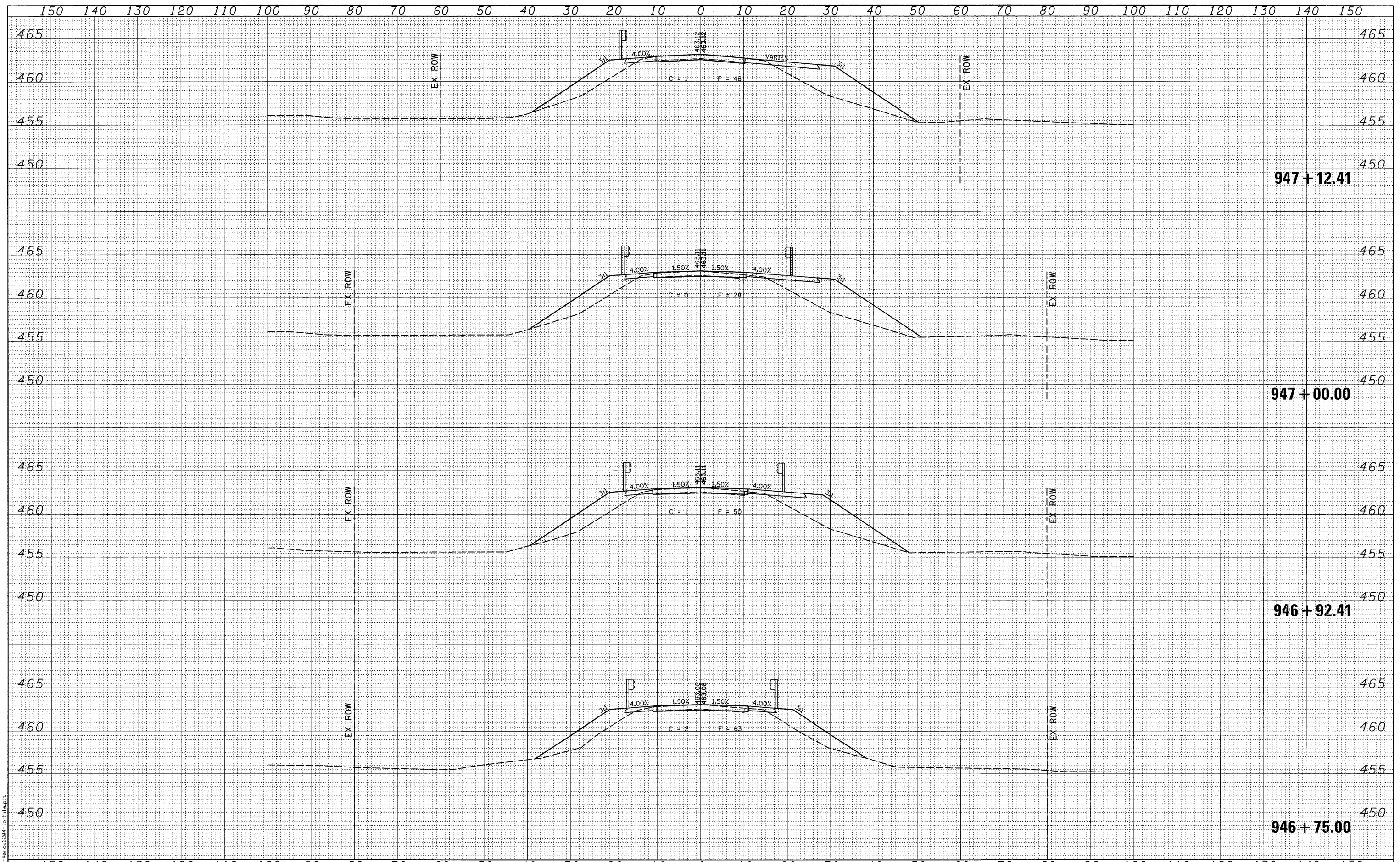
CROSS SECTIONS
 COUNTY HIGHWAY 8
 SCALE: SHEET NO. OF SHEETS STA. 944+75.00 TO STA. 946+50.00

F.A.S. 836
 COUNTY HIGHWAY 8
 CONTRACT NO. 97402
 SECTION 07-00077-01-BR

TOTAL SHEETS 27 SHEET NO. 23

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

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

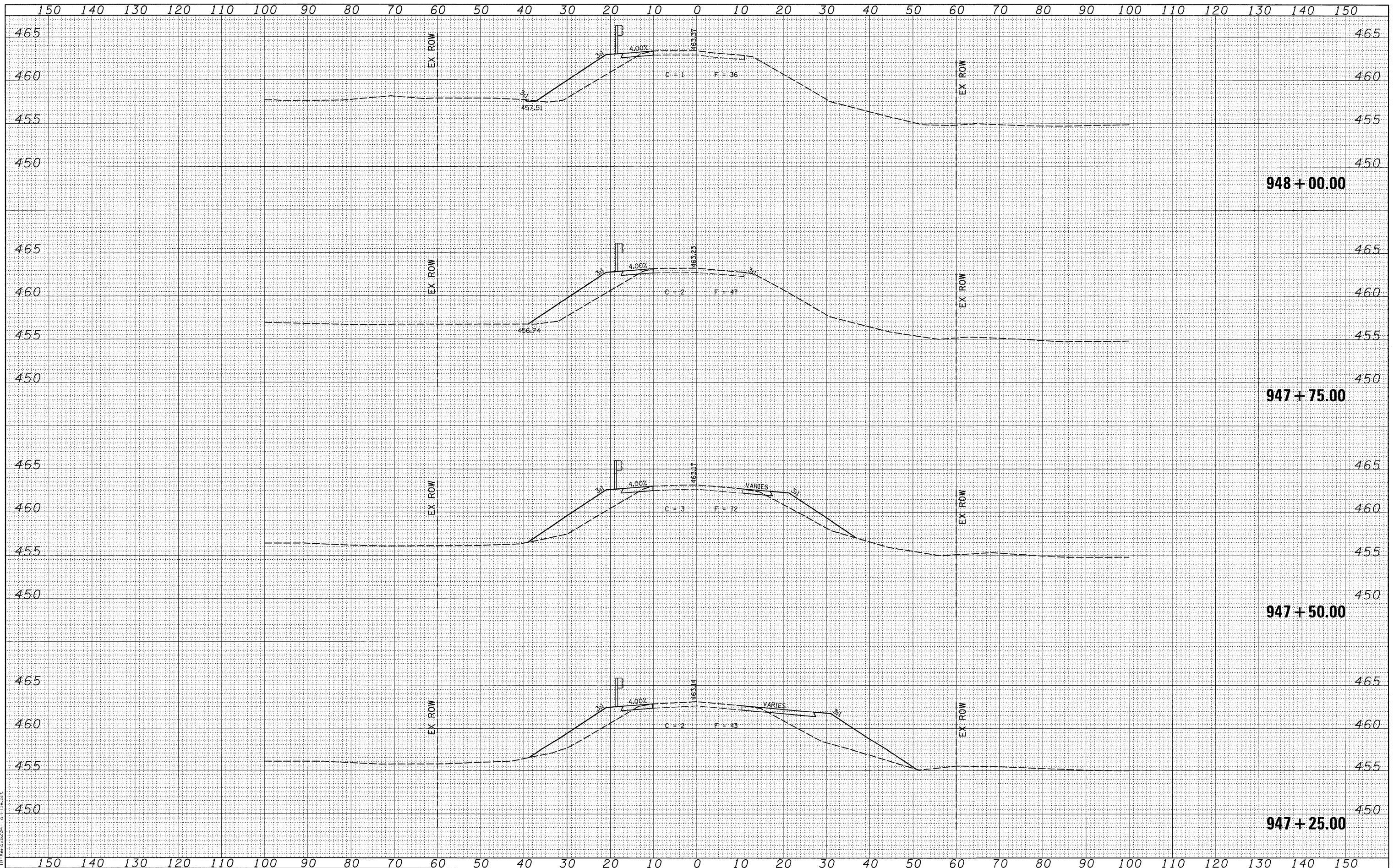


LAST SAVED = 1/28/2010
 PEN TABLE = VB.tbl
 PLOT DRIVER = TR:Korco6204-TopFile.plt

FILE NAME =	USER NAME = bshmdts	DESIGNED -	REVISIED -	 WASHINGTON COUNTY HIGHWAY DEPARTMENT	CROSS SECTIONS			F.A.S. 836	TOTAL SHEETS	SHEET NO.
h:\0906300\cad\construction_plans\099_XS.dgn		CHECKED -	REVISIED -		COUNTY HIGHWAY 8	27	24			
PLOT SCALE = 10.0005' / IN.		DRAWN -	REVISIED -		CONTRACT NO. 97402					
PLOT DATE = 1/26/2010 10:27:26 AM		CHECKED -	REVISIED -		SECTION 07-00077-01-BR					
SCALE:					SHEET NO.	OF SHEETS	STA. 946+75.00 TO STA. 947+12.41			

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

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



LAST SAVED = 1/20/2010
 PEN TABLE = 1/6.4h
 PLOT DRIVER = IT:Verov6204-To-File.plt

FILE NAME =
 USER NAME = bschmidt
 PLOT SCALE = 1/8,000'S / IN.
 PLOT DATE = 1/26/2010 10:27:27 AM

DESIGNED -
 CHECKED -
 DRAWN -
 CHECKED -

REVISED -
 REVISED -
 REVISED -
 REVISED -



WASHINGTON COUNTY
 HIGHWAY DEPARTMENT

CROSS SECTIONS
 COUNTY HIGHWAY 8

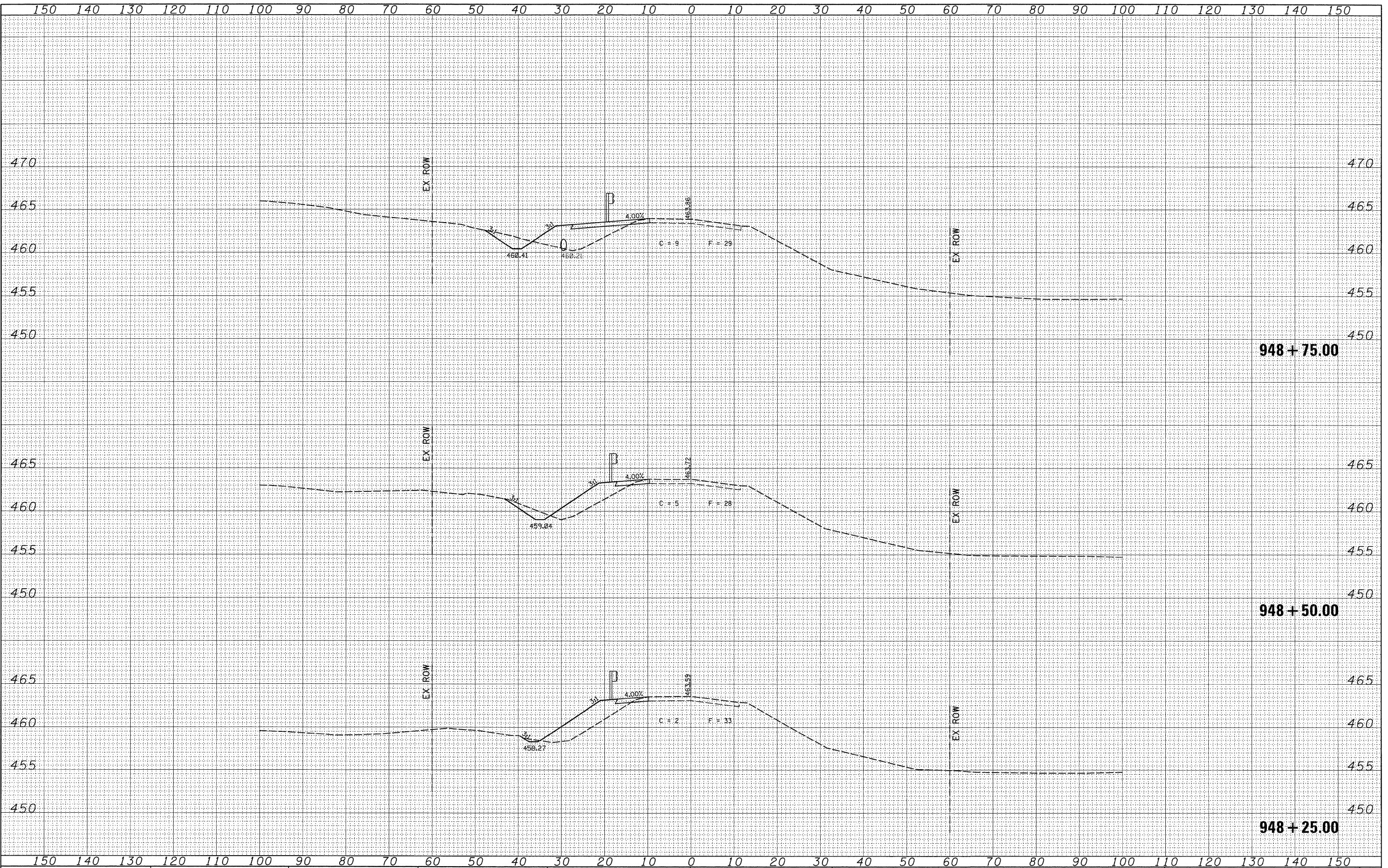
SCALE: SHEET NO. OF SHEETS STA. 947+25.00 TO STA. 948+00.00

F.A.S. 836
 COUNTY HIGHWAY 8
 CONTRACT NO. 97402
 SECTION 07-00077-01-BR

TOTAL SHEETS 27 SHEET NO. 25

DATE	
BY	
DESIGNED	
CHECKED	
PLotted	
TEMPLATE	
AREAS	
CHECKED	
FINAL SURVEY	
NOTE BOOK	
NO.	

DATE	
BY	
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CHECKED	
PLotted	
TEMPLATE	
AREAS	
CHECKED	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	



LAST SAVED = 1/20/2010
 PEN TABLE = VB.tbl
 PLOT DRIVER = TrxAcad6204-Tp-Plot.plt

FILE NAME = \\0906302\cad\construction_plans\099_XS.dgn

USER NAME = bshmdt
 PLOT SCALE = 10.0005' / IN.
 PLOT DATE = 1/26/2010 10:27:28 AM

DESIGNED -
 CHECKED -
 DRAWN -
 CHECKED -

REVISED -
 REVISED -
 REVISED -
 REVISED -



WASHINGTON COUNTY
 HIGHWAY DEPARTMENT

CROSS SECTIONS
 COUNTY HIGHWAY 8

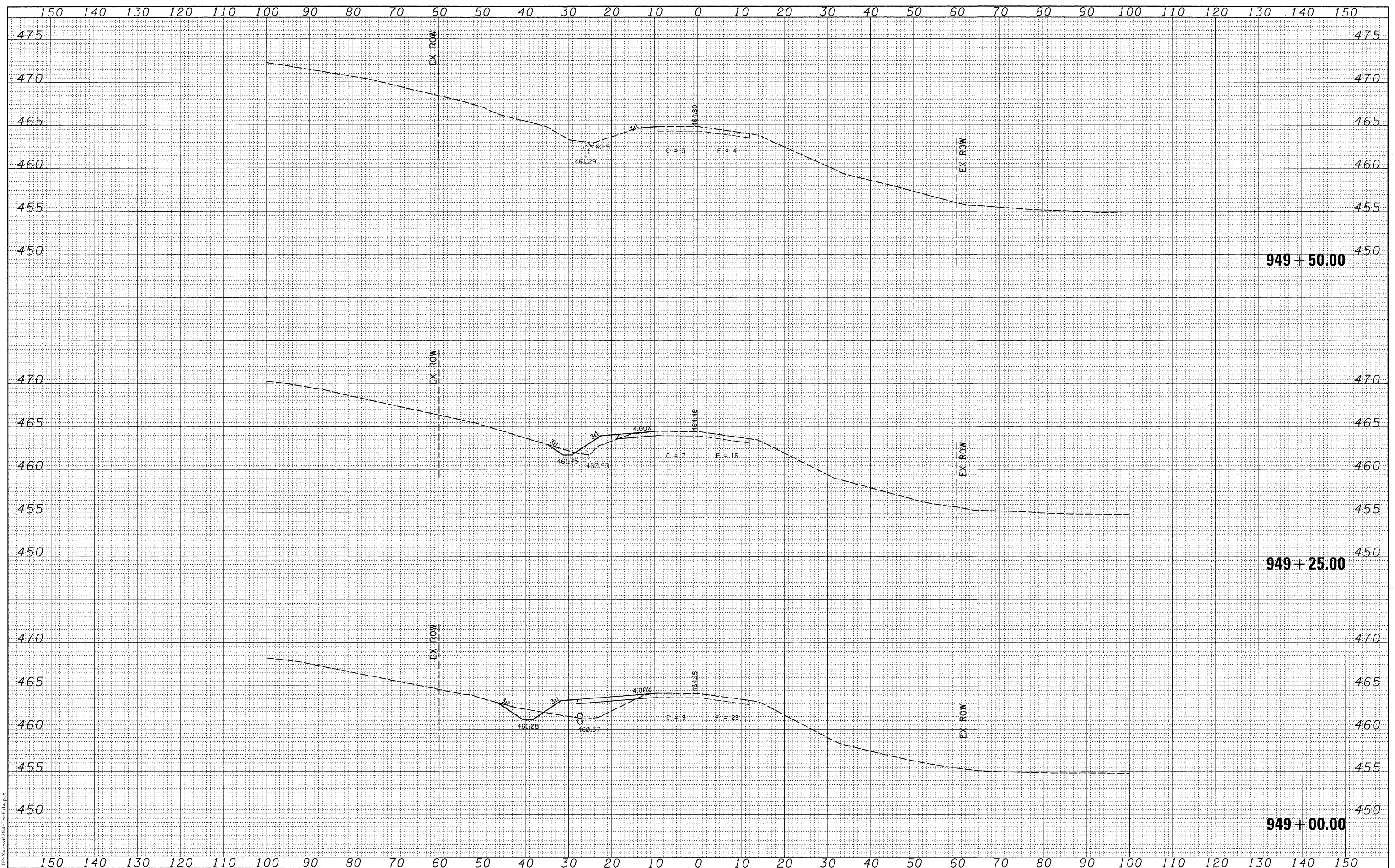
SCALE: SHEET NO. OF SHEETS STA. 948+25.00 TO STA. 948+75.00

F.A.S. 836
 COUNTY HIGHWAY 8
 CONTRACT NO. 97402
 SECTION 07-00077-01-BR

TOTAL SHEETS	27
SHEET NO.	26

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

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



FILE NAME = I:\20\2010
 PEN TABLE = V8.tbl
 PLOT DRIVER = P:\Xerox6284-1\Filepl1

USER NAME = bshmidt
 PLOT SCALE = 10.0005' / IN.
 PLOT DATE = 1/26/2010 10:27:29 AM

DESIGNED -
 CHECKED -
 DRAWN -
 CHECKED -

REVISED -
 REVISED -
 REVISED -
 REVISED -



WASHINGTON COUNTY
 HIGHWAY DEPARTMENT

CROSS SECTIONS
 COUNTY HIGHWAY 8

SCALE: SHEET NO. OF SHEETS STA. 949+00.00 TO STA. 949+50.00

F.A.S. 836
 COUNTY HIGHWAY 8
 CONTRACT NO. 97402
 SECTION 07-00077-01-BR

TOTAL SHEETS 27 SHEET NO. 27