

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/ C.H. 16)	03-00075- 00-BR, WASH. 03-00082- 00-BR, CLIN.	WASHINGTON CLINTON	22	1

FEDERAL AID PROJECT

MAJOR BRIDGE PROGRAM

DETAIL PLANS FOR

F.A.S. 788 (C.H. 24/C.H. 16) OVER CROOKED CREEK

SECTION 03-00075-00-BR WASHINGTON COUNTY

SECTION 03-00082-00-BR CLINTON COUNTY

PROJECT NO. BRS-788(109)

JOB NO. C-98-355-04

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES AND SCHEDULES
3. TYPICAL ROADWAY SECTIONS
4. DETOUR MAP
5. EROSION CONTROL PLAN
6. PLAN & PROFILE EXISTING & PROPOSED ROADWAY
- 7-10. CROSS SECTIONS EXISTING & PROPOSED ROADWAY
11. GENERAL PLAN & ELEVATION
12. GENERAL NOTES, DETAILS & TOTAL BILL OF MATERIAL
13. SUPERSTRUCTURE DETAILS
14. 42"x 36" P.P.C. DECK BEAM DETAILS
15. TYPE SM STEEL BRIDGE RAIL SIDE MOUNTED
16. PILE BENT ABUTMENT
17. PIER DETAILS
- 18-22. BORING LOGS

HIGHWAY STANDARDS

- | | |
|-----------|--|
| 280001-02 | TEMPORARY EROSION CONTROL SYSTEMS |
| 420401-05 | BRIDGE APPROACH PAVEMENT |
| 515001-02 | NAME PLATE FOR BRIDGE |
| 601101 | CONCRETE HEADWALL FOR PIPE DRAIN |
| 630001-06 | STEEL PLATE BEAM GUARDRAIL |
| 630301-03 | SHOULDER WIDENING FOR TYPE 1. (SPECIAL) GUARDRAIL TERMINALS |
| 631032-02 | TRAFFIC BARRIER TERMINAL, TYPE 6A |
| 635006-02 | REFLECTOR AND TERMINAL MARKER PLACEMENT |
| 702001-06 | TRAFFIC CONTROL DEVICES |
| BLR 21-6 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS |
| BLR 22-4 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC) |

DESIGN CLASSIFICATION

LOCAL ROAD A.D.T. = 400 - 2,000
 CURRENT A.D.T. = 1,350 (2000)
 FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (RURAL)
 DESIGN A.D.T. = 1,800 (2024)
 DESIGN SPEED = 50 MPH

UTILITIES:

CALL J.U.L.I.E. BEFORE YOU DIG
 1-800-892-0123

TELEPHONE:

FRONTIER COMMUNICATIONS
 ALTAMONT, IL.
 (618) 483-6961

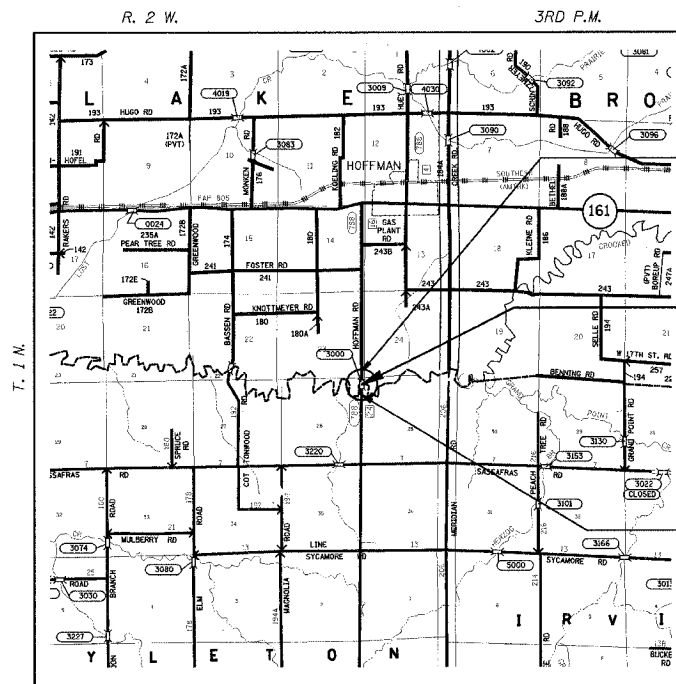
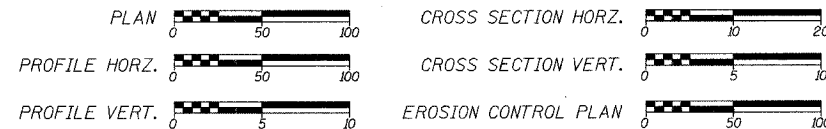
GAGING STA. NO. 05593520

U.S. ARMY CORPS OF ENGINEERS
 ST. LOUIS, MO.
 (800) 432-1208

U.S. GEOLOGICAL SURVEY
 MT. VERNON, IL.
 JOHN MAURER
 (618) 242-4495

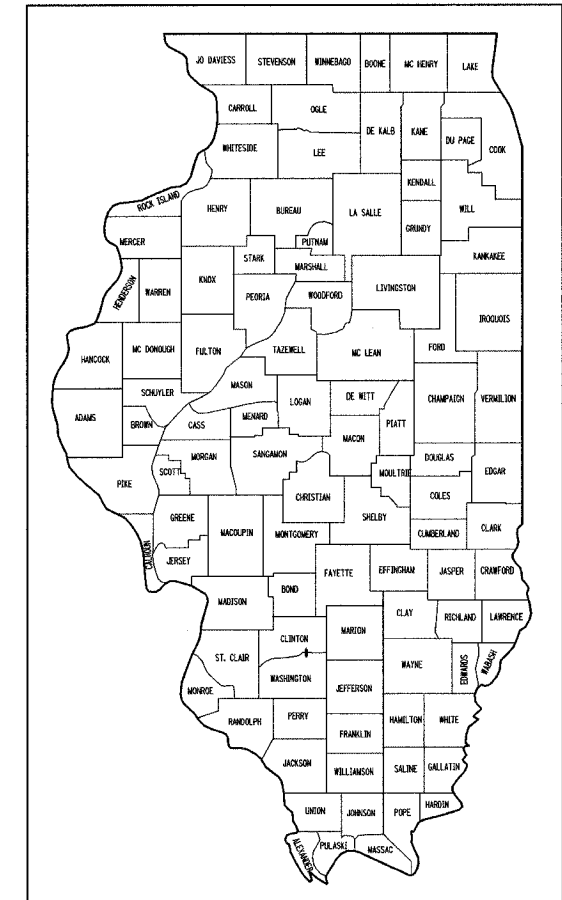
DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.

SCALES:



LOCATION MAP

NET LENGTH OF PROJECT = 1,150 FEET = 0.218 MILES



PROJECT LOCATION

PROPOSED STRUCTURE NO. 095-3252 STATION 205+54
 THREE SIMPLE SPANS, PRECAST PRESTRESSED CONCRETE DECK BEAMS (42") ON SPILL THRU PILE BENT ABUTMENTS AND PILE BENT PIERS MEASURING 319'-3 1/4" BK./BK. OF THE ABUTMENTS WITH A 33'-0" CLEAR ROADWAY WIDTH.

APPROVED	2-21 2006
William F. [Signature] WASHINGTON COUNTY ENGINEER	
APPROVED	2-21 2006
Paul [Signature] CLINTON COUNTY ENGINEER	
PASSED	2-24 2006
Jennifer Obertus DISTRICT ENGINEER OF LOCAL ROADS AND STREETS	
APPROVED	2-24 2006
Mary C. Lamie MARY C. LAMIE, P.E. DEPUTY DIRECTOR OF HIGHWAYS REGION FIVE ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	



PREPARED BY:
 HENRY, MEISENHEIMER & GENDE, INC.
 1075 LAKE ROAD
 CARLYLE, ILLINOIS 62231
 (618) 594-3711

LARRY D. GOWLER JR.
 REGISTERED PROFESSIONAL ENGINEER IN ILLINOIS, NO. 52900
 DATE: 2/24/06
 REGISTRATION EXPIRES: NOVEMBER 30, 2007



0250719213.DGN FEB. 21, 2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/ C.H. 16)	03-00075-00-BR, WASH. 03-00082-00-BR, CLIN.	WASHINGTON CLINTON	22	2

LOCATION OF WORK	F.A.S. 788 (C.H. 24/ C.H. 16) ROAD STA. 199+75 TO 211+25	BRIDGE STA. 205+54
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STEEL PLATE BEAM GUARD RAIL, TYPE A (63000000)	
STA. 202+66 TO 203+66, RT.	= 100.0 FT.
STA. 203+35 TO 203+60, LT.	= 25.0 FT.
STA. 207+42 TO 208+42, LT.	= 100.0 FT.
STA. 207+48 TO 207+73, RT.	= 25.0 FT.
TOTAL	= 250.0 FT.

GUARDRAIL MARKERS (78200405) EACH		
LOCATION	TYPE	
S.N. 095-3252	A	B
RT. 202+70	1	-
RT. 203+50	1	-
RT. 204+30	-	1
RT. 205+10	-	1
RT. 205+90	-	1
RT. 206+70	-	1
RT. 207+70	1	-
LT. 203+40	1	-
LT. 204+40	-	1
LT. 205+20	-	1
LT. 206+00	-	1
LT. 206+80	-	1
LT. 207+60	1	-
LT. 208+40	1	-
TOTAL	6	8

SUMMARY OF QUANTITIES				CONSTRUCTION CODE TYPE	
CODE NO.	ITEM	UNIT	QUANTITY	1000	X081-2A
20200100	EARTH EXCAVATION	CU. YD.	69	69	
20300100	CHANNEL EXCAVATION	CU. YD.	2,471		2,471
20400800	FURNISHED EXCAVATION	CU. YD.	328	328	
20700220	POROUS GRANULAR EMBANKMENT	CU. YD.	112		112
25000200	SEEDING, CLASS 2	ACRE	1.4	1.4	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	126	126	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	126	126	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	126	126	
25100115	MULCH, METHOD 2	ACRE	1.4	1.4	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	140	140	
28000400	PERIMETER EROSION BARRIER	FOOT	2,408	2,408	
28100109	STONE RIPRAP, CLASS A5	SQ. YD.	820		820
28200200	FILTER FABRIC	SQ. YD.	820		820
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	4	4	
40600300	AGGREGATE (PRIME COAT)	TON	19	19	
40600980	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SQ. YD.	713	713	
42001165	BRIDGE APPROACH PAVEMENT	SQ. YD.	220	220	
48100100	AGGREGATE SHOULDERS, TYPE A	TON	378	378	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
50200100	STRUCTURE EXCAVATION	CU. YD.	339		339
50300225	CONCRETE STRUCTURES	CU. YD.	188.2	188.2	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	17,280	160	17,120
50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT	640		640
51201610	FURNISHING STEEL PILES HP12x63	FOOT	564		564
51201900	FURNISHING STEEL PILES HP14x89	FOOT	650		650
51202700	DRIVING STEEL PILES	FOOT	1,214		1,214
51203610	TEST PILE STEEL HP12x63	EACH	2		2
51203900	TEST PILE STEEL HP14x89	EACH	2		2
51204600	METAL SHOES	EACH	26		26
51500100	NAME PLATES	EACH	1		1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	1,167		1,167
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	3,180		3,180
*63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	250	250	
*63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4	
*63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	4	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL. MO.	5	5	
67100100	MOBILIZATION	L SUM	1	1	
70101700	TRAFFIC CONTROL AND PROTECTION	L SUM	1	1	
*78001110	PAINT PAVEMENT MARKING-LINE 4"	FOOT	2,588	2,588	
78200405	GUARDRAIL MARKERS	EACH	14	14	
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
X3550010	BITUMINOUS BASE COURSE SUPERPAVE	TON	854	854	
X3560140	BITUMINOUS CONCRETE BASE COURSE WIDENING, SUPERPAVE 10 INCH	SQ YD	604	604	
X4066414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	TON	548	385	163
X4066614	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50	TON	196	196	
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1		1
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1		1
XX003515	PRECAST PRESTRESSED CONCRETE DECK BEAMS (42" DEPTH)	SO. FT.	10,494		10,494

EARTHWORK SCHEDULE
(SEE SPECIAL PROVISIONS)

LOCATION	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA. 199+75 TO 203+94.36	42	31	965	-934
BRIDGE OMISSION				
STA. 207+13.64 TO 211+25	27	20	1,267	-1,247
SUBTOTAL	69	51	2,232	-2,181
ALLOWANCE FOR 75% OF CHANNEL EXCAVATION IN EMBANKMENT				+1,853
TOTAL				-328

NOTE: SCHEDULE ASSUMES A 25% SHRINKAGE FACTOR.

MIXTURE REQUIREMENTS - SUPERPAVE PROJECT

ROUTE	F.A.S. 788 (C.H. 24/C.H. 16)
SECTION	03-00075-00-BR/ 03-00082-00-BR
COUNTY	WASHINGTON / CLINTON
CONTRACT	

MIXTURE USE	SURFACE	BINDER	BASE COURSE	WIDENING
AC/PG	PG 64-22	PG 64-22	PG 64-22	PG 64-22
RAP % (MAX)	0%	10%	15%	15%
DESIGN AIR VOIDS	4.0% @ Ndes=50	4.0% @ Ndes=50	4.0% @ Ndes=50	4.0% @ Ndes=50
MIX COMPOSITION (GRADATION MIXTURE)	IL 9.5	IL 19.0	N/A	N/A
FRICTION AGG	MIXTURE C	N/A	N/A	N/A

DESCRIPTION: HOYLETON - HOFFMAN RD. OVER CROOKED CREEK
20 YR. ESAL'S: 0.25

GENERAL NOTES

- ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL.
- IF SECTION OR SUB-SECTION 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 AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION AND THEIR TRUE LOCATION IS NOT GUARANTEED TO BE AS SHOWN ON THE PLANS. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND CARRY ON HIS OPERATIONS ACCORDINGLY.
- THE STANDARDS WITH THE REVISION NUMBER LISTED IN THE INDEX OF SHEETS INCLUDED IN THE PLANS SHALL HOLD PRECEDENCE OVER THE STANDARD NUMBERS LISTED IN THE SPECIAL PROVISIONS OR PLANS OF THE CONTRACT.

EXTRA BARS FOR TEST SAMPLES

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	1	#5	10'-0"	—
h ₃ (E)	1	#6	33'-3"	—
p(E)	1	#7	34'-0"	—
v(E)	1	#4	10'-3"	—
v ₁ (E)	1	#8	6'-1"	—

* THESE BARS SHALL BE IDENTICAL TO AND DELIVERED WITH THE BARS OF THE SAME MARK LISTED IN THE STRUCTURE SHEETS. ONE BAR OF EACH OF THESE MARKS WILL BE SELECTED BY THE ENGINEER TO BE USED AS A TEST SAMPLE.

** THIS CHART ASSUMES THAT ALL BARS OF THE SAME SIZE ON THE JOB WILL HAVE THE SAME HEAT NUMBER. IF BARS OF THE SAME SIZE ON THE JOB HAVE DIFFERENT HEAT NUMBERS, THEN THE CONTRACTOR SHALL SUPPLY ADDITIONAL BARS FROM OTHER HEAT NUMBERS FOR SAMPLING BY THE ENGINEER AT NO ADDITIONAL COST.

SUMMARY OF QUANTITIES AND SCHEDULES

F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
SECTION 03-00082-00-BR
CLINTON COUNTY

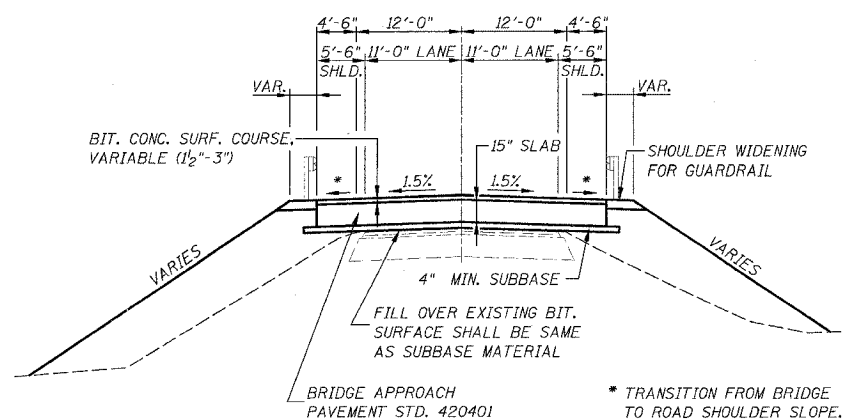
*** SPECIALTY ITEMS**

APPLICATION RATES
THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

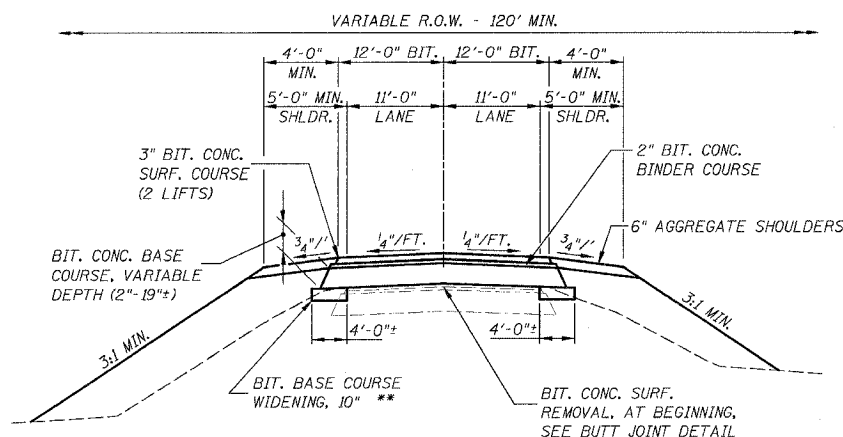
DESIGNED: L.D.G.	NITROGEN FERTILIZER NUTRIENT	90 LBS/ACRE	BITUMINOUS CONCRETE	112 LBS/SY/IN
CHECKED: B.G.H.	PHOSPHORUS FERTILIZER NUTRIENT	90 LBS/ACRE	BITUMINOUS MATERIALS (PRIME COAT)	
DRAWN: K.H.L.	POTASSIUM FERTILIZER NUTRIENT	90 LBS/ACRE	BITUMINOUS/OIL & CHIP SURFACE	0.562 LB/SY
CHECKED: L.D.G.	MULCH METHOD 2	2 TONS/ACRE	AGGREGATE SURFACE	2.811 LB/SY
	GRANULAR MATERIAL	2.05 TONS/CY	AGGREGATE (PRIME COAT)	
	RIPRAP	1.6 TONS/CY	BITUMINOUS/OIL & CHIP SURFACE	3 LBS/SY
			AGGREGATE SURFACE	5 LBS/SY

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FAS 788 (C.H. 24/C.H. 16)	03-00075-00-BR, WASH. 03-00082-00-BR, CLIN.	WASHINGTON CLINTON	22	3

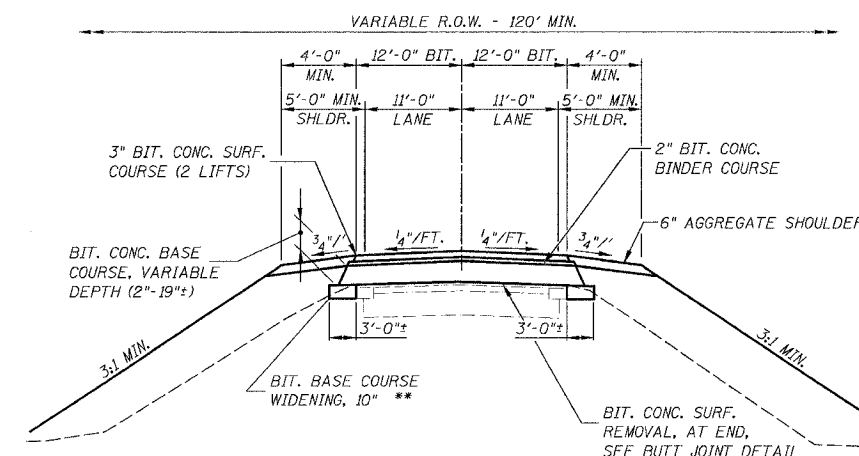
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PROPOSED TYPICAL SECTION THRU APPROACH PAVEMENT
STA. 203+64.36 TO STA. 203+94.36; STA. 207+13.64 TO STA. 207+43.64

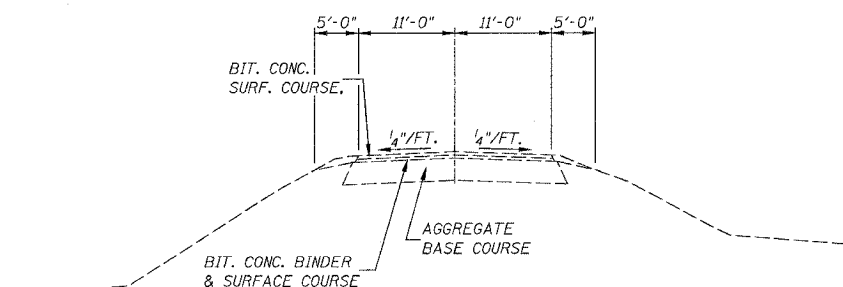


PROPOSED TYPICAL SECTION
STA. 199+75 TO STA. 203+64.36

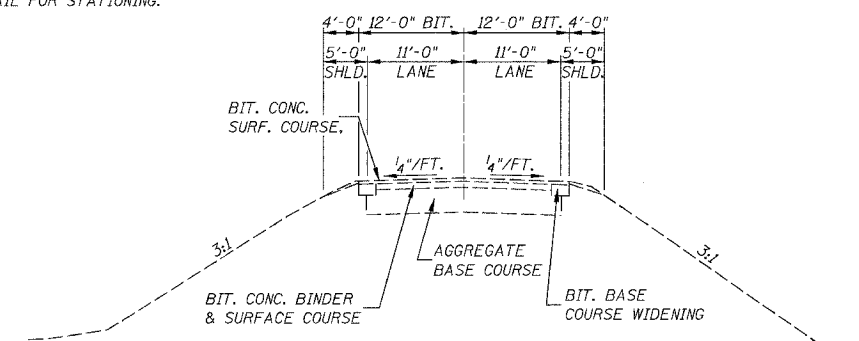


PROPOSED TYPICAL SECTION
STA. 207+43.64 TO STA. 211+25

** WIDENING WILL BE PLACED AT MILLING DEPTH FOR THE BUTT JOINTS. SEE PROPOSED BUTT JOINT TRANSITION DETAIL FOR STATIONING.



EXISTING TYPICAL SECTION
STA. 199+75 TO STA. 204+20



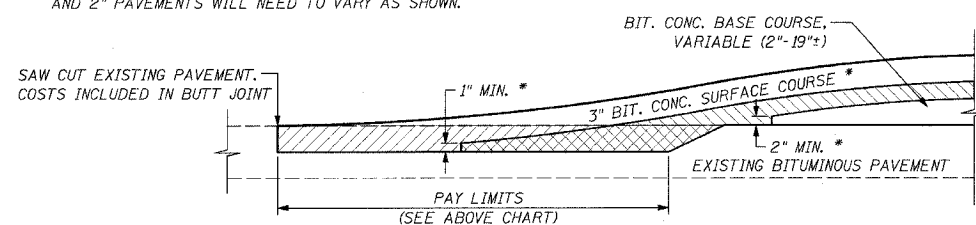
EXISTING TYPICAL SECTION
STA. 206+72 TO STA. 211+25

LOCATION	STATION TO STATION
SOUTH SIDE	199+75 TO 201+20
NORTH SIDE	209+95 TO 211+25

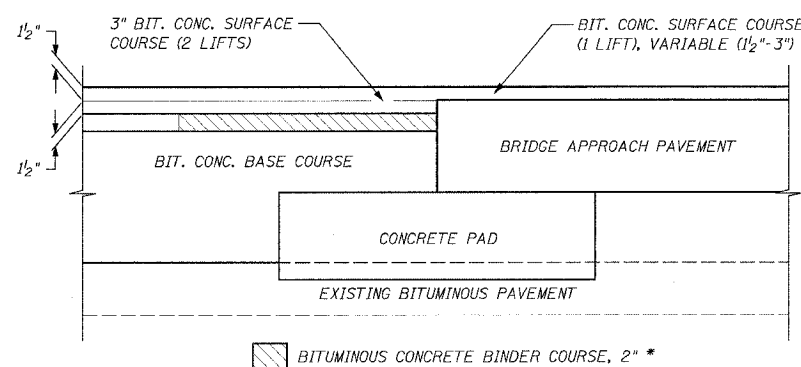
APPROXIMATE LIMITS OF SURFACE REMOVAL

- BITUMINOUS CONCRETE BINDER COURSE, 2" *
- BITUMINOUS CONCRETE SURFACE REMOVAL, 3"

* DUE TO A 1" MIN. PAVEMENT THICKNESS, THE 3" AND 2" PAVEMENTS WILL NEED TO VARY AS SHOWN.



PROPOSED BUTT JOINT TRANSITION DETAIL
NOT TO SCALE



PAVEMENT TRANSITION INTO BRIDGE APPROACH
NOT TO SCALE

PAINT PAVEMENT MARKINGS

LOCATION	PAINT PAVEMENT MARKING - LINE 4" (78001110)	WHITE 4"	YELLOW 4"
		LINES	LINES
LT STA 199+75 TO STA 211+25	WHITE - EDGE LANE LINE	1,150	--
CL STA 199+75 TO STA 211+25	YELLOW - CENTERLINE SKIP DASH	--	288
RT STA 199+75 TO STA 211+25	WHITE - EDGE LANE LINE	1,150	--
TOTAL		2,300	288
		2,588	

DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.

TYPICAL ROADWAY SECTIONS
F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
SECTION 03-00082-00-BR
CLINTON COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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04DET952L.DGN FEB. 21, 2006

LEGEND

T POST MOUNTED SIGN

ALL ITEMS OF WORK INVOLVED WITH THE ROAD CLOSURE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LUMP SUM FOR TRAFFIC CONTROL AND PROTECTION.

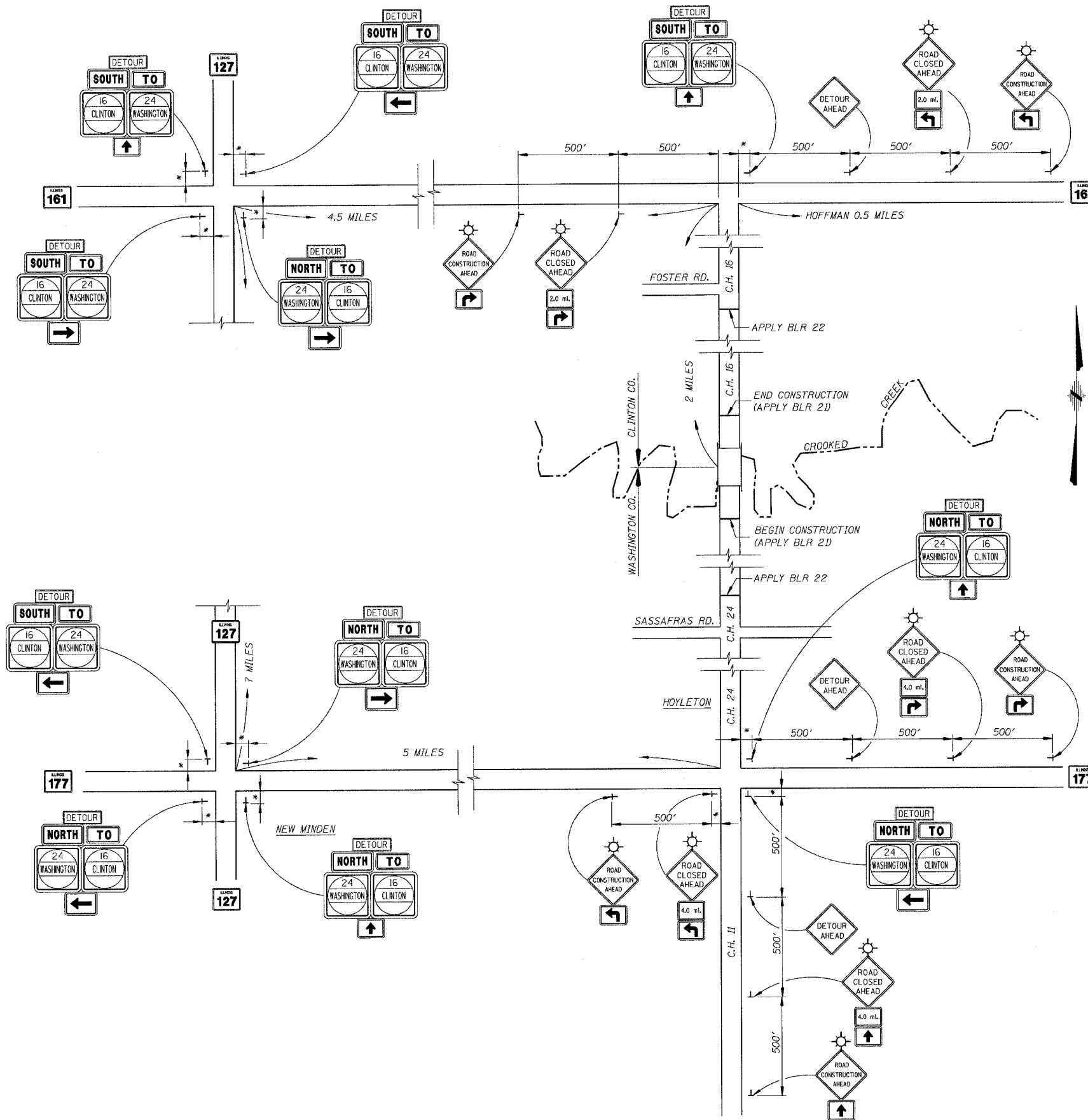
☀ ALL ROAD CONSTRUCTION AHEAD SIGNS AND ROAD CLOSED AHEAD SIGNS SHALL HAVE FLASHING LIGHTS.

NOTES:

ENGINEER MAY MODIFY SIGN PLACEMENT TO MEET FIELD CONDITIONS.

DETOUR SIGNING ASSEMBLY SHALL MAINTAIN THE HEIGHT TO THE BOTTOM OF THE LOWEST SIGN NO LESS THAN 5 FEET ABOVE THE EDGE OF PAVEMENT.

* 200' TYPICAL TO FIRST SIGN OR TO MEET FIELD CONDITIONS.

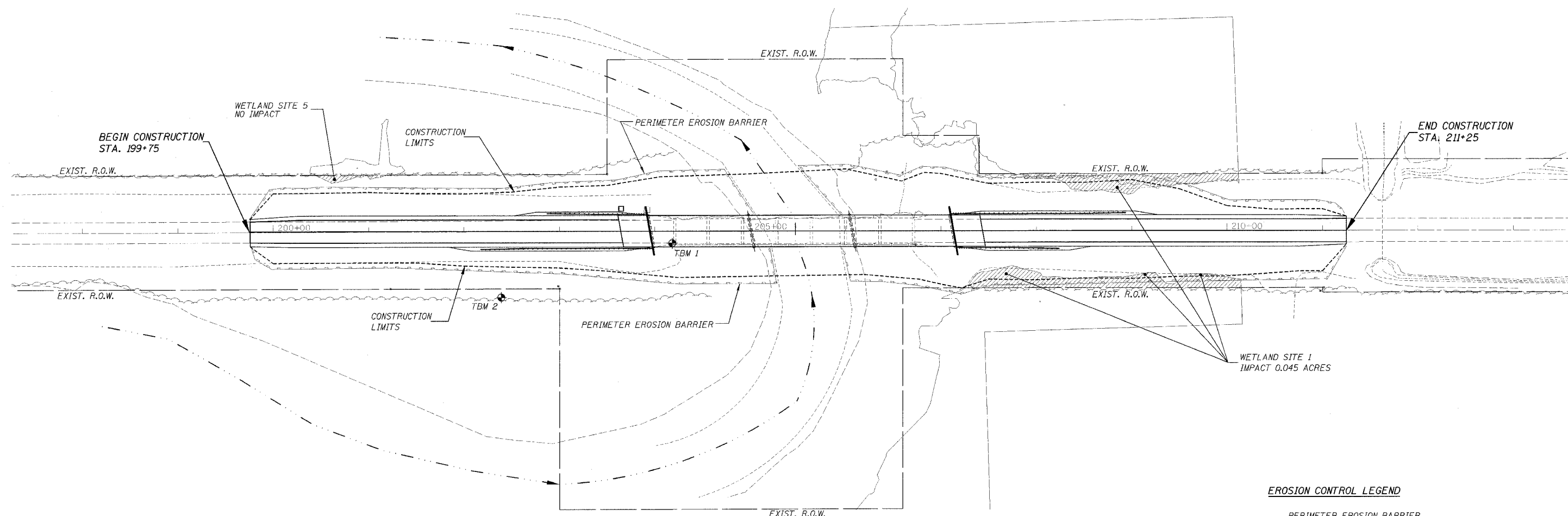


DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.

DETOUR MAP WITH SIGNING
F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
SECTION 03-00082-00-BR
CLINTON COUNTY

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03E905513.DGN FEB. 21, 2006



EROSION CONTROL LEGEND

- PERIMETER EROSION BARRIER
- FLOW DIRECTION

GENERAL NOTES:

1. CONTRACTOR SHALL CONSULT STORM WATER POLLUTION PREVENTION PLAN (S.W.P.P.) IN JOB SPECIFICATIONS FOR MORE INFORMATION.
2. LAYOUT OF EROSION CONTROL MEASURES MAY BE ADJUSTED IN FIELD BY ENGINEER FOR VARYING GROUND CONDITIONS.
3. TEMPORARY DITCH CHECKS SHALL BE URETHANE FOAM/GEOTEXTILE DITCH CHECKS PER STD. 280001.
4. STRAW BALES, PERIMETER EROSION BARRIER AND SILT FENCES SHALL NOT BE USED FOR DITCH CHECKS.
5. CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION ENTRANCES AS NECESSARY TO MINIMIZE OFF SITE VEHICLE TRACKING OF SOIL AND DEBRIS. SEE SPECS.
6. ALL DISTURBED AREAS SHALL RECEIVE TEMPORARY EROSION CONTROL SEEDING AS DESCRIBED IN S.W.P.P. UNTIL PERMANENT STABILIZATION CAN BE PERFORMED.
7. THE COUNTIES WILL ASSUME RESPONSIBILITY FOR MAINTAINING EROSION CONTROL MEASURES THROUGH FINAL STABILIZATION AFTER I.D.O.T. ACCEPTANCE OF WORK BY CONTRACTOR.
8. SEEDING, CLASS 2 SHALL BE USED ON ALL AREAS TO BE SEEDED AS DIRECTED BY THE ENGINEER TO ADJUST FOR VARYING GROUND CONDITIONS.
9. ALL ITEMS SHALL BE CONSTRUCTED AS PER STANDARD 280001 AND AS DIRECTED BY THE ENGINEER. MAINTENANCE AND CLEANING OF THE EROSION CONTROL ITEMS SHALL BE INCLUDED IN THE RESPECTIVE EROSION CONTROL PAY ITEMS.
10. ALL CONSTRUCTION ACTIVITY SHALL BE CONTAINED WITHIN THE RIGHT-OF-WAY LIMITS OF THIS PROJECT. NO OFF-SITE SOIL DISTURBING ACTIVITY WILL BE ALLOWED.

PLAN
SCALE: 1" = 50'

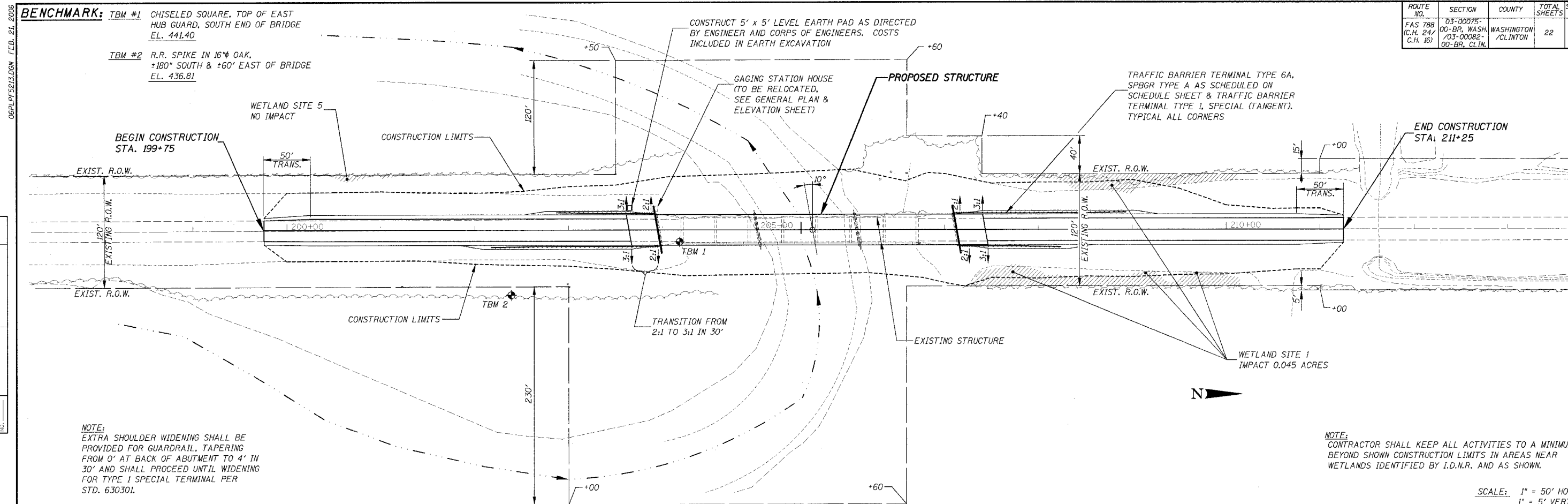
NOTE:
CONTRACTOR SHALL KEEP ALL ACTIVITIES TO A MINIMUM BEYOND SHOWN CONSTRUCTION LIMITS IN AREAS NEAR WETLANDS IDENTIFIED BY I.D.N.R. AND AS SHOWN.

DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.

EROSION CONTROL PLAN
F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
SECTION 03-00082-00-BR
CLINTON COUNTY

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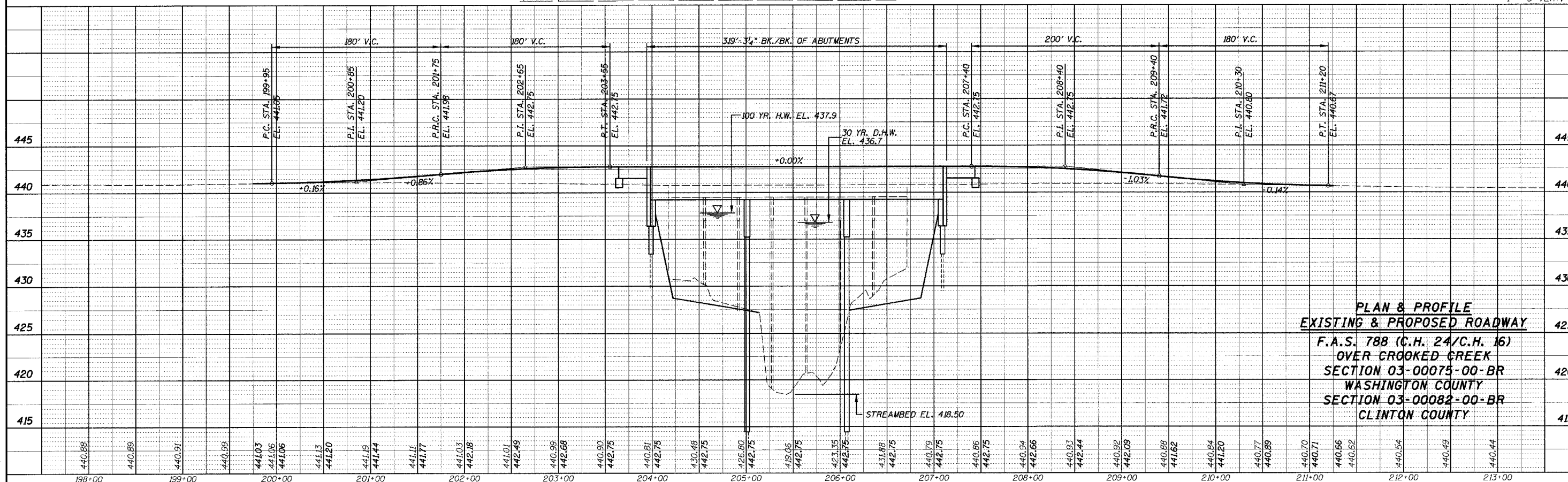
BENCHMARK: TBM #1 CHISELED SQUARE, TOP OF EAST HUB GUARD, SOUTH END OF BRIDGE EL. 441.40
 TBM #2 R.R. SPIKE IN 16" OAK, +180° SOUTH & +60' EAST OF BRIDGE EL. 436.81



NOTE:
 EXTRA SHOULDER WIDENING SHALL BE PROVIDED FOR GUARDRAIL, TAPERING FROM 0' AT BACK OF ABUTMENT TO 4' IN 30' AND SHALL PROCEED UNTIL WIDENING FOR TYPE 1 SPECIAL TERMINAL PER STD. 630301.

NOTE:
 CONTRACTOR SHALL KEEP ALL ACTIVITIES TO A MINIMUM BEYOND SHOWN CONSTRUCTION LIMITS IN AREAS NEAR WETLANDS IDENTIFIED BY I.D.N.R. AND AS SHOWN.

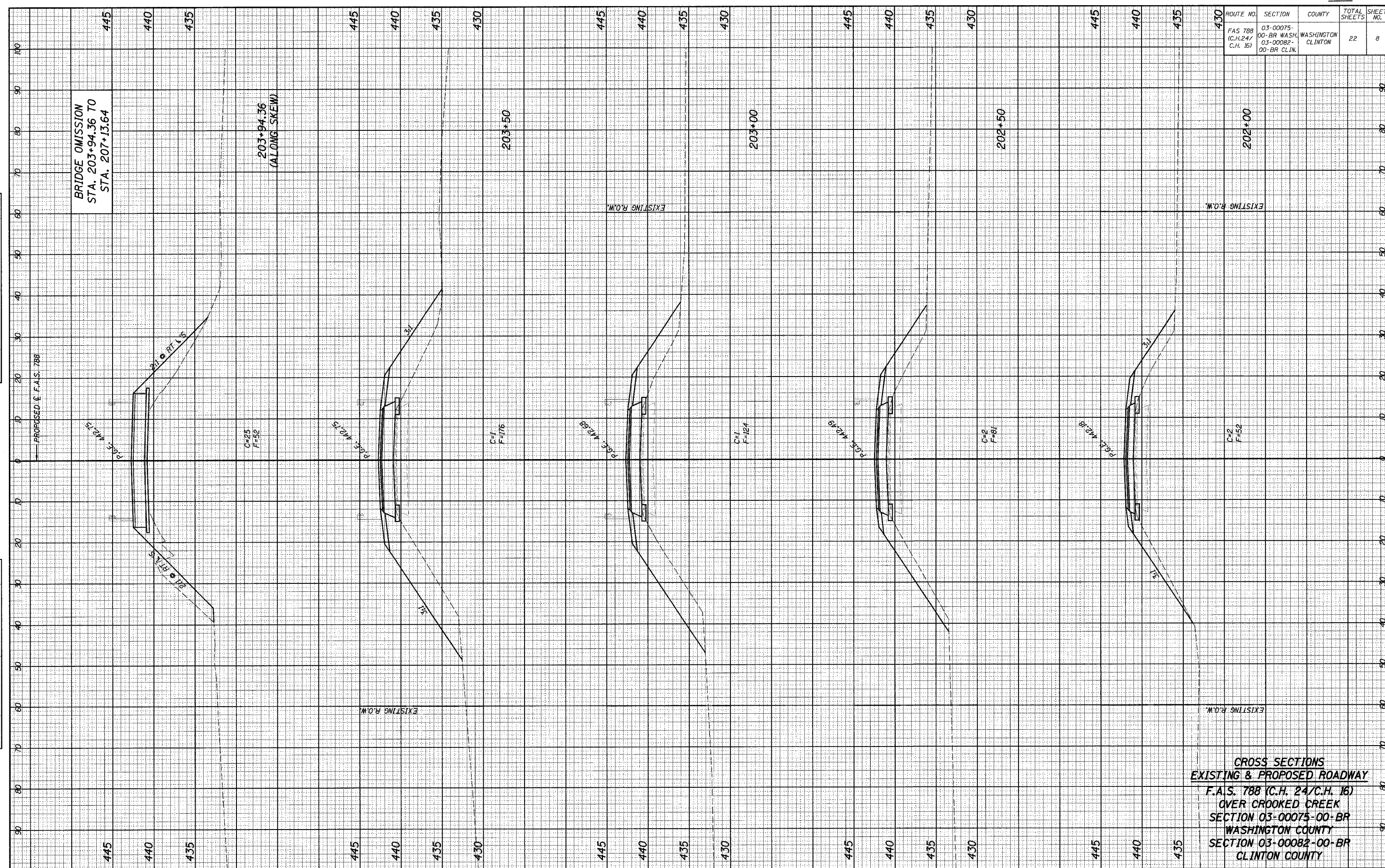
SCALE: 1" = 50' HORIZ.
 1" = 5' VERT.



PLAN & PROFILE
EXISTING & PROPOSED ROADWAY
 F.A.S. 788 (C.H. 24/C.H. 16)
 OVER CROOKED CREEK
 SECTION 03-00075-00-BR
 WASHINGTON COUNTY
 SECTION 03-00082-00-BR
 CLINTON COUNTY

FINAL SURVEY	DATE
REVISIONS	BY
PLOTTED	
TEMP. AFD.	
NOTE BOOK	
AREAS INCLUDED	

ORIGINAL SURVEY	DATE
REVISIONS	BY
PLOTTED	
TEMP. AFD.	
NOTE BOOK	
AREAS INCLUDED	

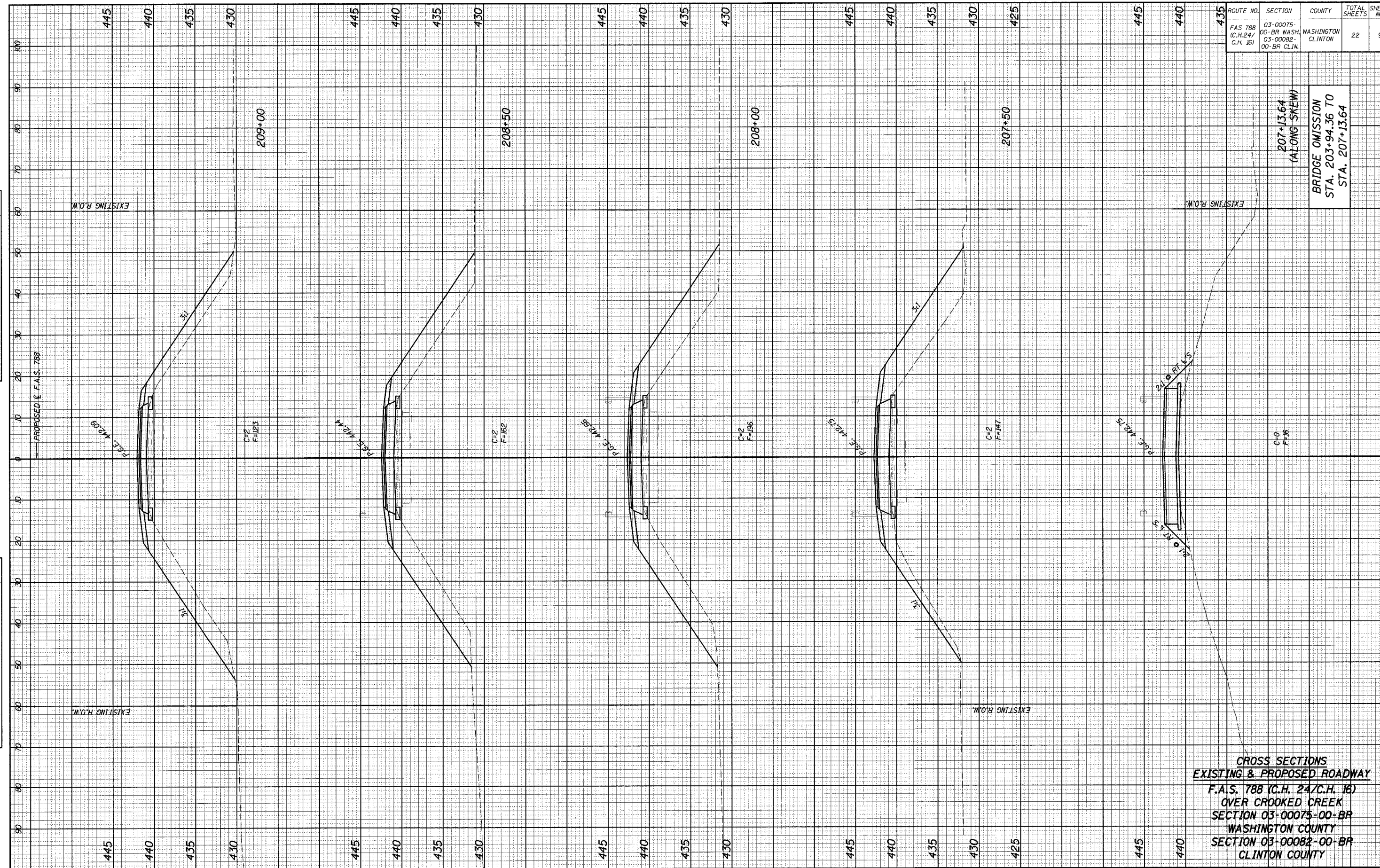


**CROSS SECTIONS
EXISTING & PROPOSED ROADWAY**
 F.A.S. 788 (C.H. 24/C.H. 16)
 OVER CROOKED CREEK
 SECTION 03-00075-00-BR
 WASHINGTON COUNTY
 SECTION 03-00082-00-BR
 CLINTON COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/ C.H. 16)	03-00075- 00-BR WASH. 03-00082- 00-BR CLIN.	WASHINGTON CLINTON	22	9

FINAL SURVEY
 DATE: 2/1/13
 DRAWN BY: [REDACTED]
 CHECKED BY: [REDACTED]
 DATE: [REDACTED]
 PROJECT NO.: [REDACTED]

ORIGINAL SURVEY
 DATE: [REDACTED]
 DRAWN BY: [REDACTED]
 CHECKED BY: [REDACTED]
 DATE: [REDACTED]
 PROJECT NO.: [REDACTED]



**CROSS SECTIONS
 EXISTING & PROPOSED ROADWAY**
 F.A.S. 788 (C.H. 24/C.H. 16)
 OVER CROOKED CREEK
 SECTION 03-00075-00-BR
 WASHINGTON COUNTY
 SECTION 03-00082-00-BR
 CLINTON COUNTY

BRIDGE OMISSION
 STA. 203+94.36 TO
 STA. 207+13.64
 (ALONG SKEW)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/ C.H. 16)	03-00075- 00-BR WASH. 03-00082- 00-BR CLIN.	WASHINGTON CLINTON	22	10

FINAL SURVEY

DATE: _____

NO. 17: BOOK _____

NO. _____

REVISIONS

DATE

BY

NO. _____

NO. _____

NO. _____

NO. _____

ORIGINAL SURVEY

DATE: _____

NO. 17: BOOK _____

NO. _____

REVISIONS

DATE

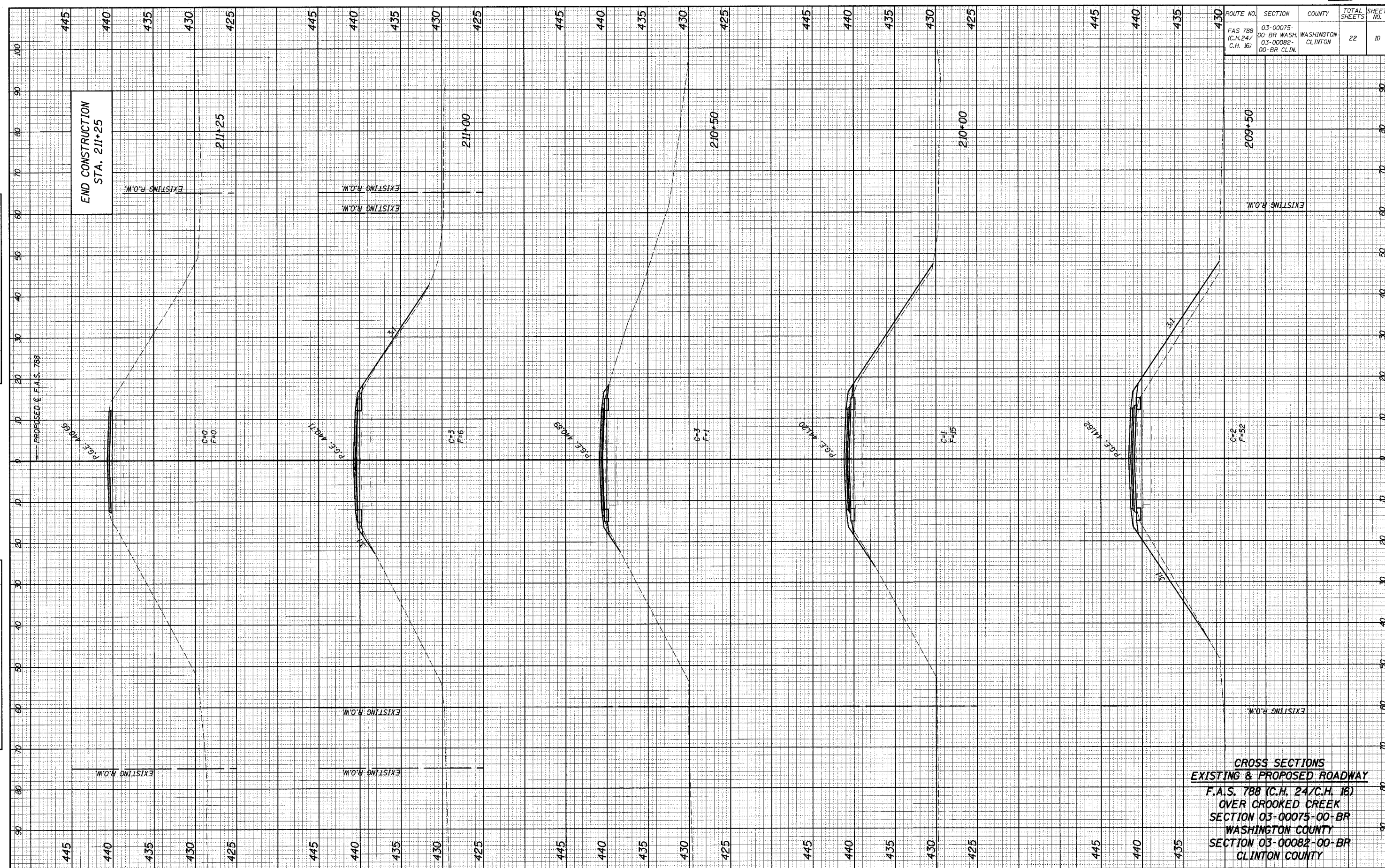
BY

NO. _____

NO. _____

NO. _____

NO. _____



**CROSS SECTIONS
EXISTING & PROPOSED ROADWAY**
F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
SECTION 03-00082-00-BR
CLINTON COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/ C.H. 16)	03-00075- 00-BR, WASH. 03-00082- 00-BR, CLIN.	WASHINGTON CLINTON	22	11

BENCHMARK: TBM #1; CHISELED SQUARE, TOP OF EAST HUB GUARD, SOUTH END OF BRIDGE EL. 441.40

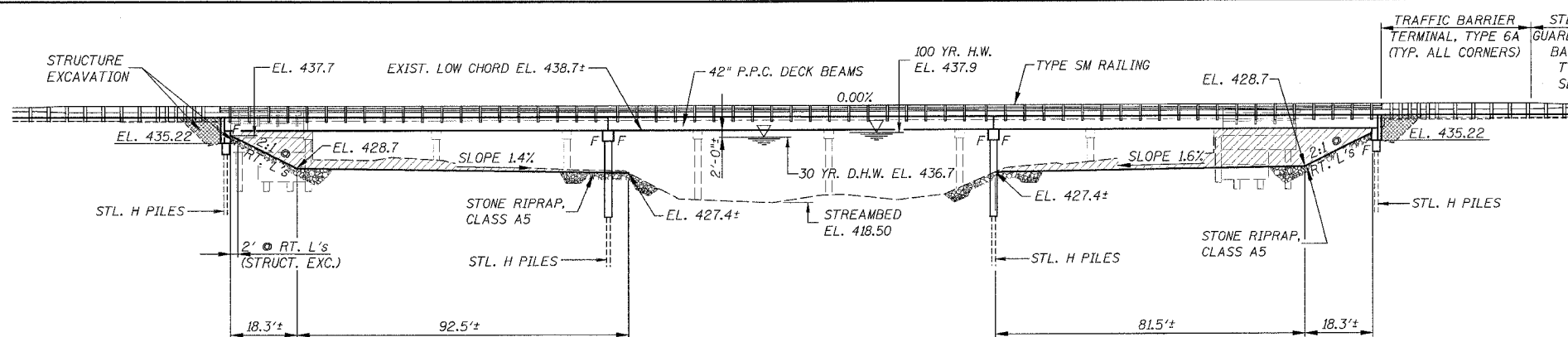
EXISTING STRUCTURE: S.N. 095-3000

THE EXISTING STRUCTURE IS A SEVEN SPAN PRECAST CHANNEL BEAM BRIDGE WITH 36"± SPANS, TOTALING 252'-11" BK. TO BK. ABUTS. AND 26'3" OUT TO OUT. SUBSTRUCTURE CONSISTS OF PRECAST CONCRETE VERTICAL ABUTMENTS ON METAL SHELL PILES AND PILE BENT PIERS ON PRECAST CONCRETE PILES.

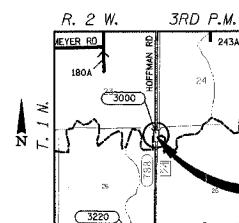
THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING STRUCTURE IN ACCORDANCE WITH SECTION 501 OF THE STANDARD SPECIFICATIONS.

SALVAGE:

GAGING STATION TO BE SALVAGED AND TEMPORARILY RELOCATED ON R.O.W. AS DIRECTED BY THE ENGINEER. THE COST OF SALVAGING, RELOCATION AND STORING SHALL BE INCLUDED IN THE COST OF "REMOVAL OF EXISTING STRUCTURES".

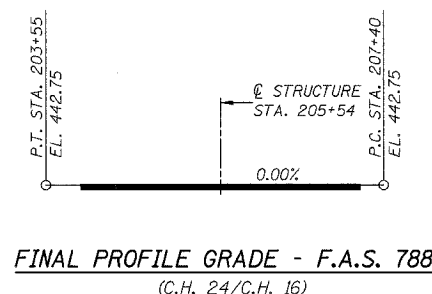


ELEVATION



STRUCTURE LOCATION

LOCATION SKETCH



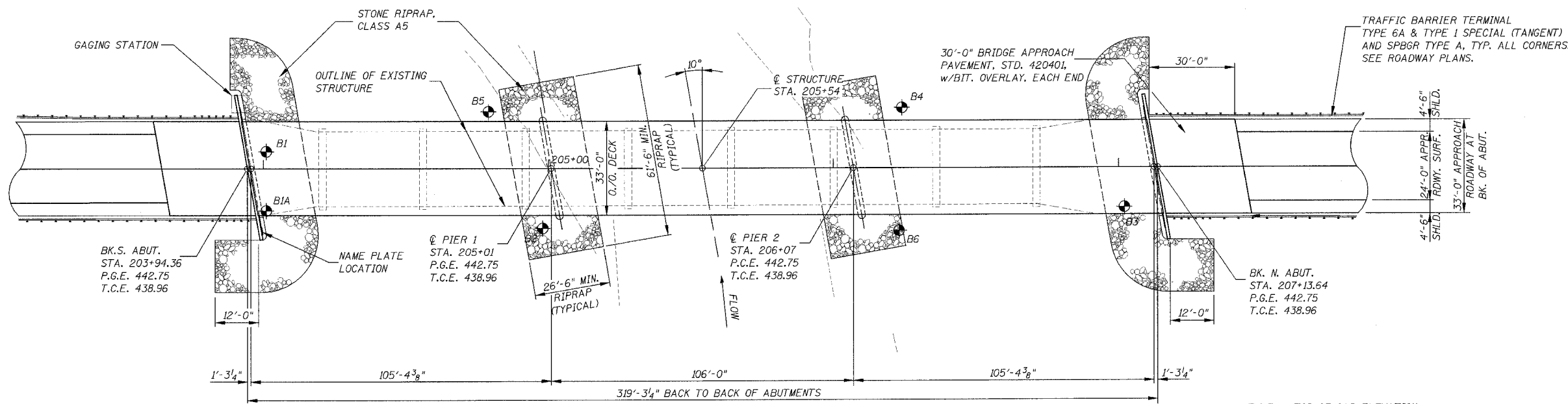
FINAL PROFILE GRADE - F.A.S. 788
(C.H. 24/C.H. 16)

INDEX OF BRIDGE SHEETS

11. GENERAL PLAN & ELEVATION
12. GENERAL NOTES, DETAILS & TOTAL BILL OF MATERIAL
13. SUPERSTRUCTURE DETAILS
14. 42"x36" P.P.C. DECK BEAM DETAILS
15. TYPE SM STEEL BRIDGE RAIL SIDE MOUNTED
16. PILE BENT ABUTMENT
17. PIER DETAILS
- 18-22. BORING LOGS

WATERWAY INFORMATION

		EXISTING LOW GRADE EL. = 440.13 FT. @ STA. 216+00		PROPOSED LOW GRADE EL. = 440.13 FT. @ STA. 216+00					
FLOOD	FREQ. YR.	Q CFS	OPENING SQ. FT.	NAT. H.W.E.	HEAD - FT.	HEADWATER EL.			
				EXIST.	PROP.	EXIST.	PROP.		
	10	14,300	2,540	3,138	436.6	1.5	1.3	437.1	436.9
DESIGN	30	20,100	3,091	3,569	436.7	3.1	1.8	439.8	438.5
BASE	100	26,800	3,091	3,828	437.9	2.8	2.4	440.7	440.3
OVERTOPPING	110±	30,750	3,091	3,828	438.5	2.4	2.0	440.9	440.5
MAX. CALC.									



PLAN

DESIGN SPECIFICATIONS

2002 AASHTO

DESIGN STRESSES

PRECAST PRESTRESSED CONCRETE	CAST IN PLACE CONCRETE
f'c = 6,000 psi	f'c = 3,500 psi
f'ol = 5,000 psi	fy = 60,000 psi (REINF.)
f's = 270,000 psi (1/2" STRANDS)	
f'sl = 201,960 psi (1/2" STRANDS)	

LOADING HS20-44

ALLOW 50 psf FOR FUTURE WEARING SURFACE.

SEISMIC DATA

SEISMIC PERFORMANCE CATEGORY (SPC): B
BEDROCK ACCELERATION COEFFICIENT: 9.7%
SITE COEFFICIENT (S) = 2.0 (TYPE IV)

GENERAL PLAN & ELEVATION

F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
SECTION 03-00082-00-BR
CLINTON COUNTY
STATION 205+54
STRUCTURE NO. 095-3252

CROOKED CREEK
BUILT 200 BY
WASHINGTON COUNTY
SECTION 03-00075-00-BR
CLINTON COUNTY
SECTION 03-00082-00-BR
F.A.S. 788 STATION 205+54
S.N. 095-3252 LOADING HS-20
PROJ. NO. BRS-788(109)

NAME PLATE

LOCATE NAME PLATE AS SHOWN IN PLAN VIEW (SEE STD. 515001)

"I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH REQUIREMENTS OF THE CURRENT 'A.A.S.H.T.O. STANDARD SPECIFICATION FOR HIGHWAY BRIDGES' INCLUDING SEISMIC DESIGN."

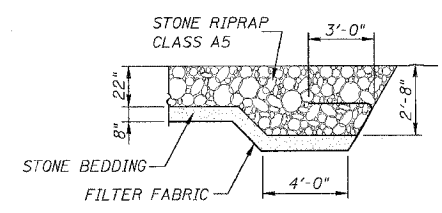
Bradley G. Hummert DATE: 2/21/06
BRADLEY G. HUMMERT
LICENSED STRUCTURAL ENGINEER
IN ILLINOIS NO. 081-005428 EXPIRES: NOVEMBER 30, 2006



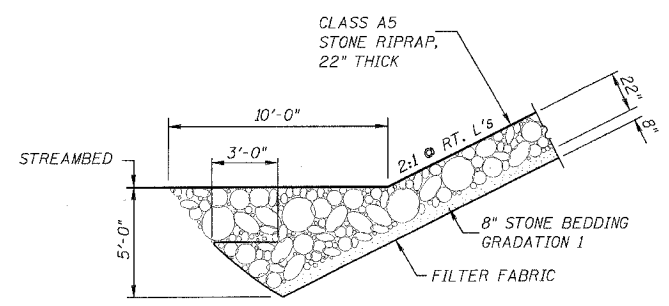
NOTE:
CHANNEL EXCAVATION SHALL BE TRANSITIONED FROM THE EDGE OF THE PROPOSED DECK TO MATCH THE EXISTING CHANNEL AND OVBANK AT TAPER RATE OF 10:1 AND BY R.O.W. LINE.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/ C.H. 16)	03-00075-00-BR, WASH. 03-00082-00-BR, CLIN.	WASHINGTON CLINTON	22	12

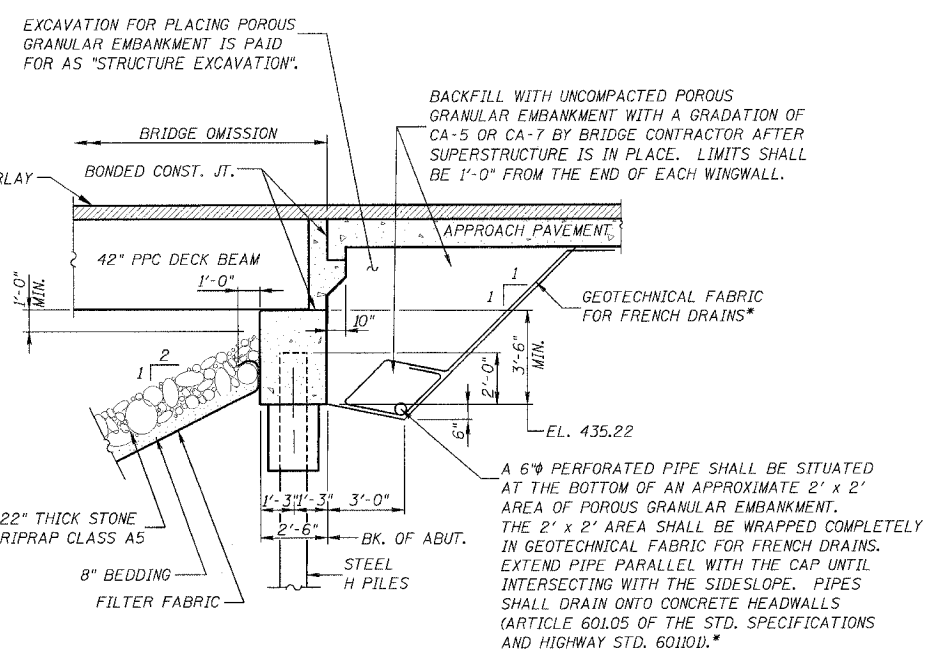
126NWS-5215.DGN FEB. 21, 2006



RIPRAP FLANK DETAIL



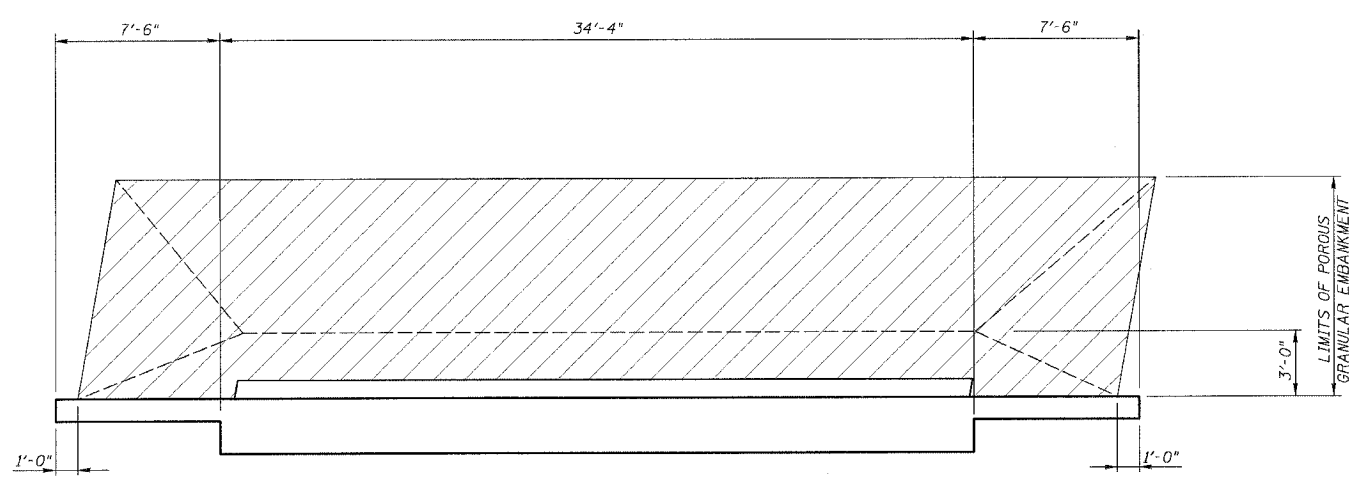
STONE RIPRAP ANCHOR DETAIL



* INCLUDED IN THE COST OF POROUS GRANULAR EMBANKMENT.

SECTION THRU INTEGRAL ABUTMENT

(ALL HORIZONTAL DIMENSIONS SHOWN ARE AT RIGHT ANGLES UNLESS OTHERWISE NOTED.)



PLAN SHOWING LIMITS OF POROUS GRANULAR EMBANKMENT AT ABUTMENT

GENERAL NOTES

1. THE CONTRACTOR SHALL DRIVE ONE (1) TEST PILE, AT EACH ABUTMENT AND PIER, IN PERMANENT LOCATIONS AS DIRECTED BY THE ENGINEER BEFORE ORDERING REMAINING PILES.
2. KEYWAY SURFACES SHALL BE CLEANED TO REMOVE FORM OIL OR OTHER BOND BREAKING MATERIAL PRIOR TO SHIPMENT OF BEAMS. CLEANING SHALL BE DONE BY SANDBLASTING THE KEYWAY AREAS BETWEEN THE TOP OF THE BEAM AND THE BOTTOM EDGE OF THE KEY.
3. CLASS SI CONCRETE SHALL BE USED THROUGHOUT EXCEPT IN THE DECK BEAMS.
4. A CALCIUM NITRIDE CORROSION INHIBITOR, AS COVERED IN THE SPECIAL PROVISIONS, SHALL BE USED IN THE CONCRETE FOR PRECAST PRESTRESSED CONCRETE DECK BEAMS.
5. IN ADDITION TO ALL OTHER REQUIREMENTS OF SECTION 512 OF THE STANDARD SPECIFICATIONS, SPLICES FOR STEEL HP PILES SHALL DEVELOP 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.
6. BITUMINOUS CONCRETE SURFACE COURSE OVERLAY FOR THE BRIDGE DECK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 582 OF THE STANDARD SPECIFICATIONS.
7. WATERPROOFING MEMBRANE SYSTEM FOR THE BRIDGE SHALL BE IN ACCORDANCE WITH MATERIAL AND CONSTRUCTION REQUIREMENTS OF SECTION 581 OF THE STANDARD SPECIFICATIONS.
8. PORTLAND CEMENT MORTAR FAIRING COURSE SHALL BE APPLIED ALONG THE PRECAST PRESTRESSED CONCRETE DECK BEAMS IN ACCORDANCE WITH SECTION 583 OF THE STANDARD SPECIFICATIONS.
9. ALL REINFORCEMENT FOR PIERS AND ABUTMENTS SHALL BE EPOXY COATED A.A.S.H.T.O. M-284.
10. LAYOUT OF SLOPE PROTECTION SYSTEM MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.
11. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. M-31 OR M-322, GRADE 60.
12. DECK BEAMS SHALL BE CLEANED TO SATISFACTION OF ENGINEER BEFORE PLACING WATERPROOFING MEMBRANE SYSTEM.

TOTAL BILL OF MATERIAL

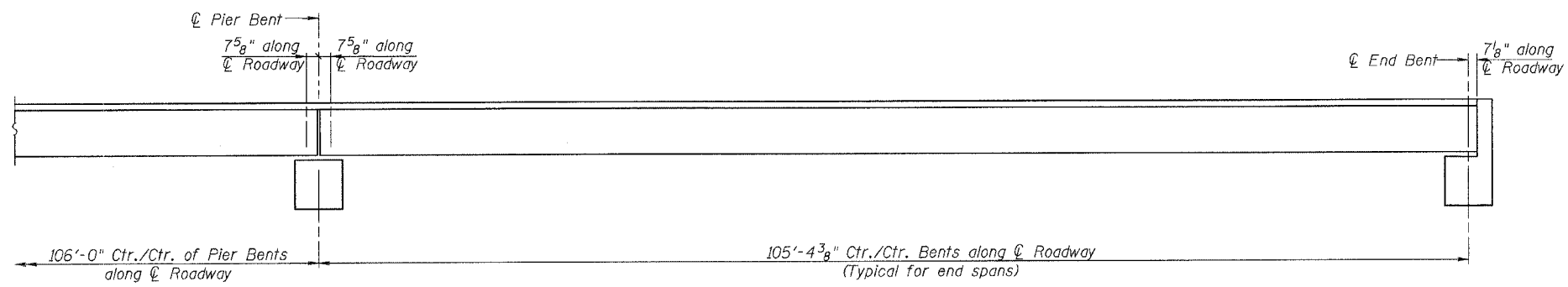
ITEM	UNIT	SUPER.	SUB.	TOTAL
REMOVAL OF EXISTING STRUCTURES	EACH			1
PRECAST PRESTRESSED CONCRETE DECK BEAMS (42" DEPTH)	SQ. FT.	10,494		10,494
CONCRETE STRUCTURES	CU. YD.		188.2	188.2
REINFORCEMENT BARS, EPOXY COATED	POUND		17,120	17,120
FURNISHING STEEL PILES HP12x63	FOOT		564	564
FURNISHING STEEL PILES HP14x89	FOOT		650	650
DRIVING STEEL PILES	FOOT		1,214	1,214
TEST PILE STEEL HP12x63	EACH		2	2
TEST PILE STEEL HP14x89	EACH		2	2
METAL SHOES	EACH		26	26
WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	1,167		1,167
PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	3,180		3,180
STEEL BRIDGE RAIL, TYPE SM	FOOT	640		640
NAME PLATES	EACH			1
CHANNEL EXCAVATION	CU. YD.			2,471
STONE RIPRAP, CLASS A5	SQ. YD.			820
FILTER FABRIC	SQ. YD.			820
STRUCTURE EXCAVATION	CU. YD.		339	339
POROUS GRANULAR EMBANKMENT	CU. YD.		112	112
BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	TON	163		163
UNDERWATER STRUCTURE EXCAVATION PROTECTION-LOCATION 1	EACH		1	1
UNDERWATER STRUCTURE EXCAVATION PROTECTION-LOCATION 2	EACH		1	1

GENERAL NOTES, DETAILS & TOTAL BILL OF MATERIAL
F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
SECTION 03-00082-00-BR
CLINTON COUNTY

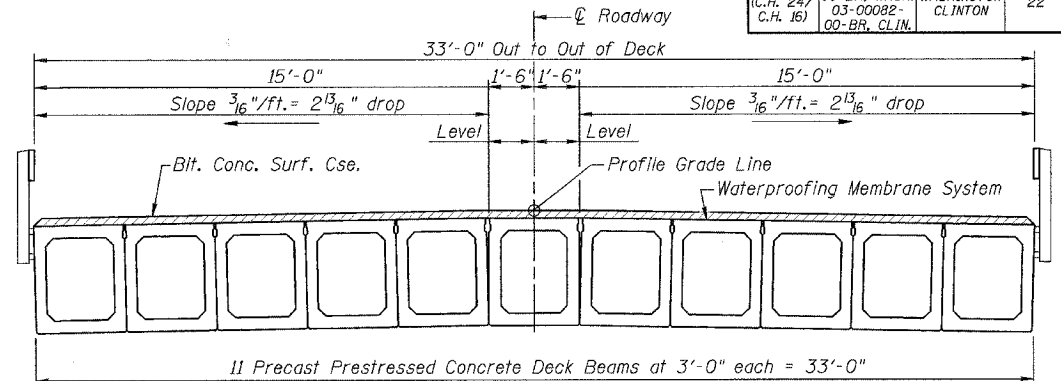
DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.

H.M. & G. INC.

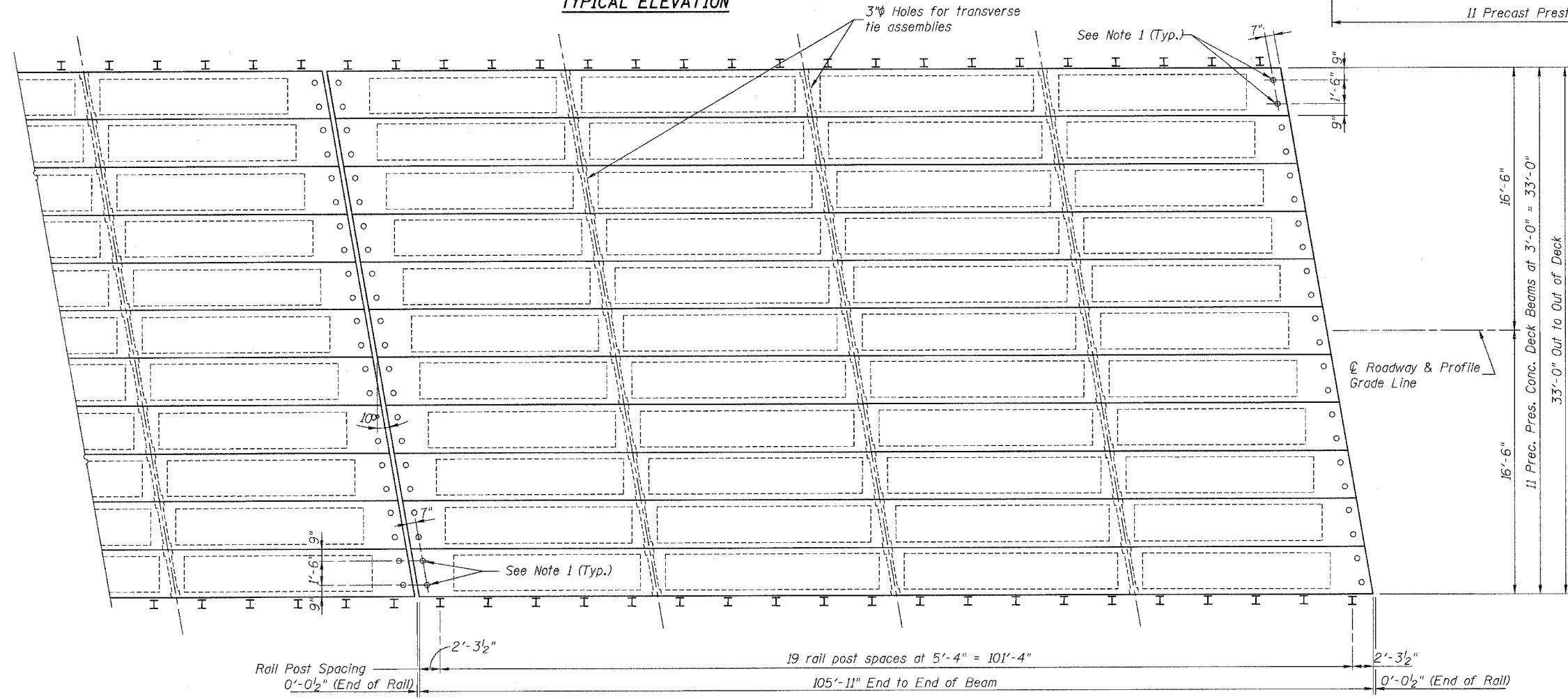
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/C.H. 16)	03-00075-00-BR, WASH. 03-00082-00-BR, CLIN.	WASHINGTON CLINTON	22	13



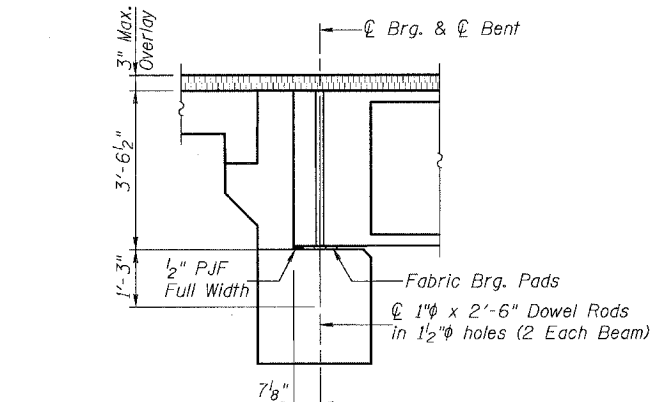
TYPICAL ELEVATION



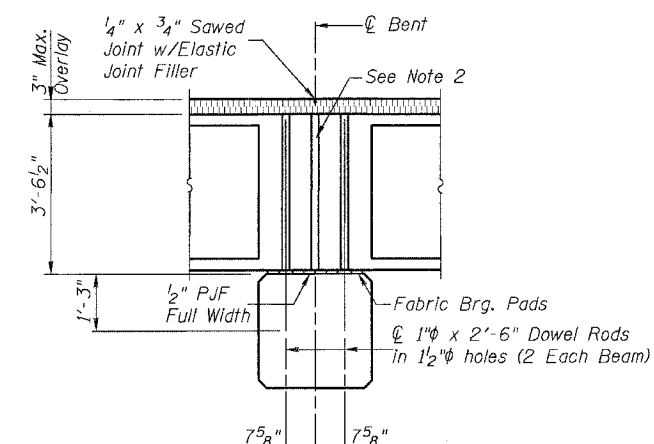
CROSS SECTION



PLAN



SECTION AT ABUTS. (Along \varnothing Beams)



SECTION AT PIERS (Along \varnothing Beams)

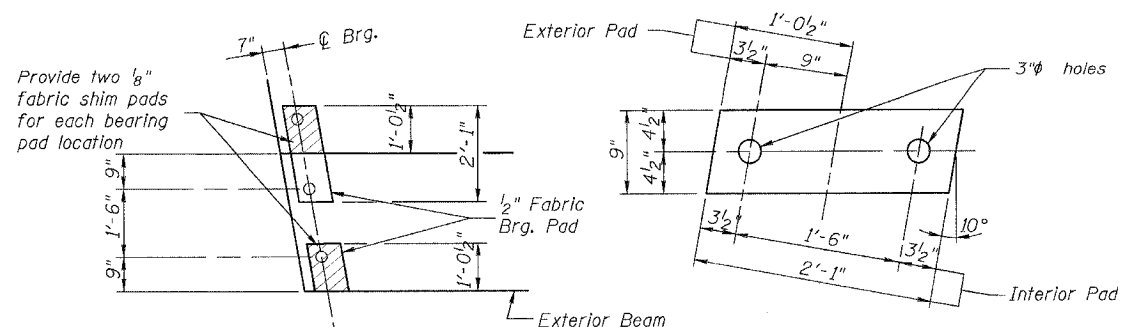
BILL OF MATERIAL-ONE SPAN

P.P. Conc. Dk. Bm. 42" Dp.	3,498 sq. ft.
Bit. Conc. Surf. Cse. Super "C" N50	54.2 tons
Waterproofing Membrane System	389 sq. yds.
Portland Cement Mortar Fairing Cse.	1,060 lin. ft.

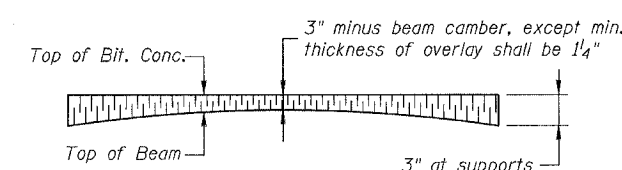
NOTES

- 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 key.
- Nominal 1" joint at \varnothing Pier shall be filled with non-shrink grout.
- Longitudinal keys shall be grouted.
- All transverse tie assemblies (nuts, bolts, washers) shall be hot dipped galvanized in accordance with A.S.T.M. A-153.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bars outside shall be filled with grout after transverse tie assembly is in place.

DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.



1/2" FABRIC BRG. PAD DETAILS

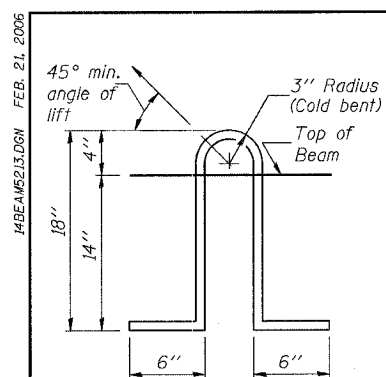


PROFILE OF OVERLAY

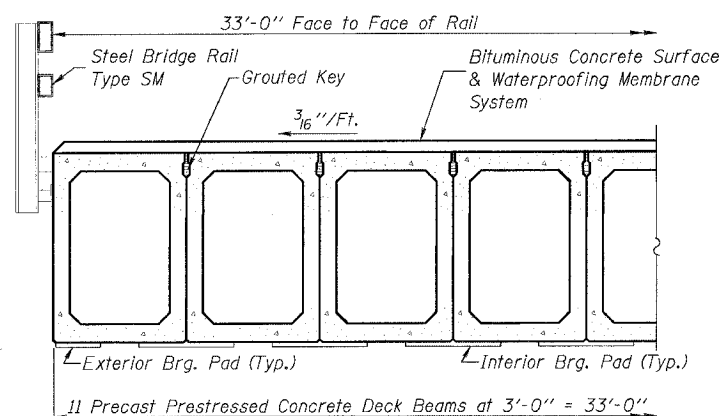
SUPERSTRUCTURE DETAILS
F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
SECTION 03-00082-00-BR
CLINTON COUNTY

13551R5213.DGN FEB. 21, 2006

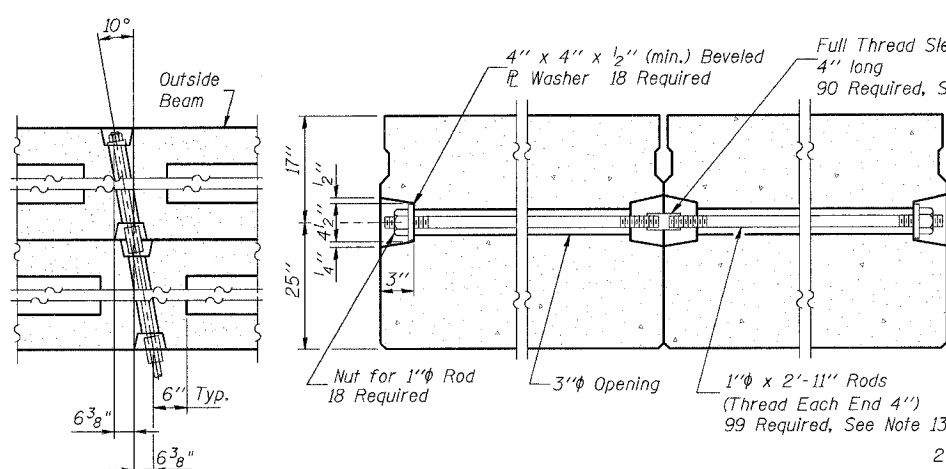
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/ C.H. 15)	03-00075-00-BR, WASH. 03-00082-00-BR, CLIN.	WASHINGTON CLINTON	22	14



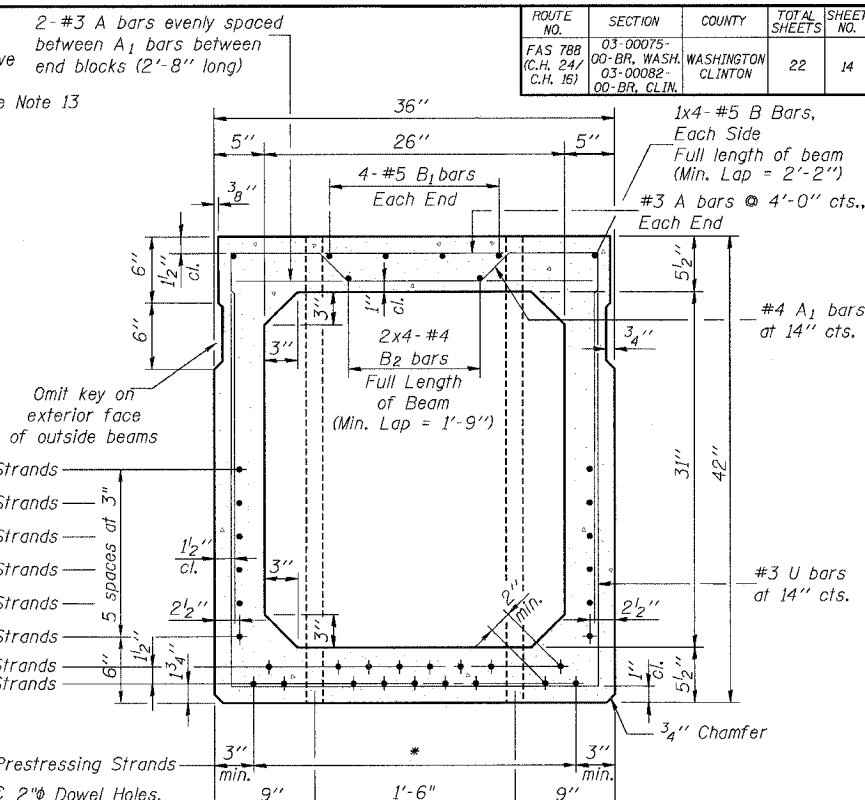
LIFTING LOOP DETAIL



PARTIAL CROSS SECTION



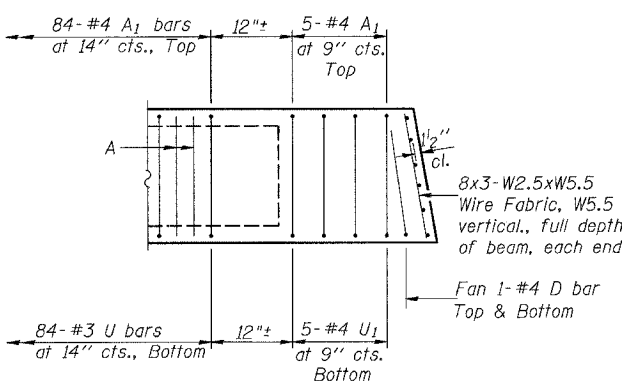
TYPICAL TRANSVERSE TIE ASSEMBLY



TYPICAL SECTION

NOTES

1. Prestressing steel shall be uncoated high strength, low-relaxation 7-wire strand, Grade 270.
2. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
3. Lifting loops shall be 4-1/2"φ-270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.
4. The 1"φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
5. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.
6. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
7. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.
8. A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
9. Required Release Strength, f'ci, shall be 5,000 p.s.i.
10. Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
11. When Waterproofing Membrane System is specified, the top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners and the top edge of the keys shall be rounded or chamfered a minimum of 1/4".
12. Bar Designation 2x2 - #4, etc. indicates 2 lines of bars with 2 lengths per line.
13. Alternate approved transverse tie rods of increased segmental length are acceptable.

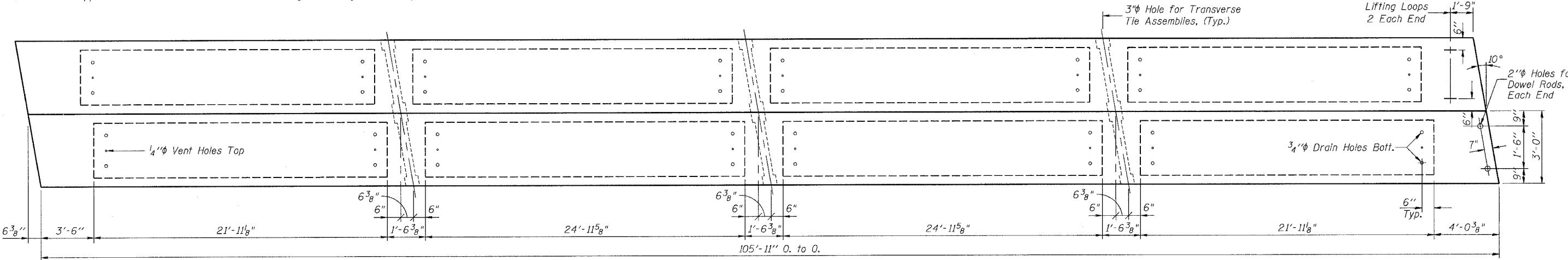


END PLAN

BAR LIST FOR ONE BEAM

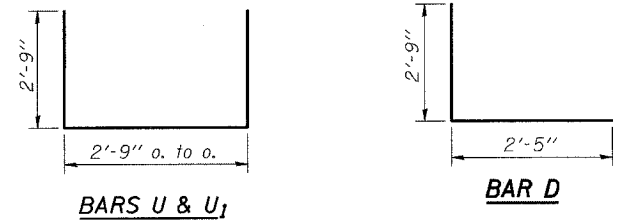
Bar	No.	Size	Length	Shape
A	178	#3	2'-8"	—
A1	94	#4	7'-0"	⌋
B	8	#5	28'-2"	—
B1	8	#5	21'-6"	—
B2	8	#4	27'-10"	—
D	4	#4	5'-2"	L
U	84	#3	8'-3"	⌋
U1	10	#4	8'-3"	⌋

- 29-1/2"φ Strands Each Strand Stressed to 30,900 Lbs.
 (9 Strands 1 3/4" up, 8 Strands 3/4" up, 2 Strands 6" up, 2 Strands 9" up, 2 Strands 12" up, 2 Strands 15" up, 2 Strands 18" up, 2 Strands 21" up)
- * TRANSVERSE STRAND PLACEMENT GUIDELINES**
1. Place strands symmetrically about centerline of beam.
 2. The min. distance from ctr./ctr. of strands in all directions shall be 2".
 3. The minimum clearance from strand to dowel hole shall be 1/2".
 4. The minimum clearance from strand to void shall be 1/2".
- Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

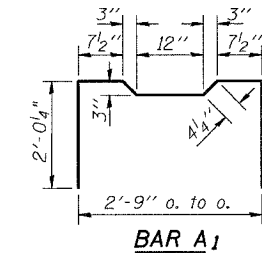


PLAN

DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.



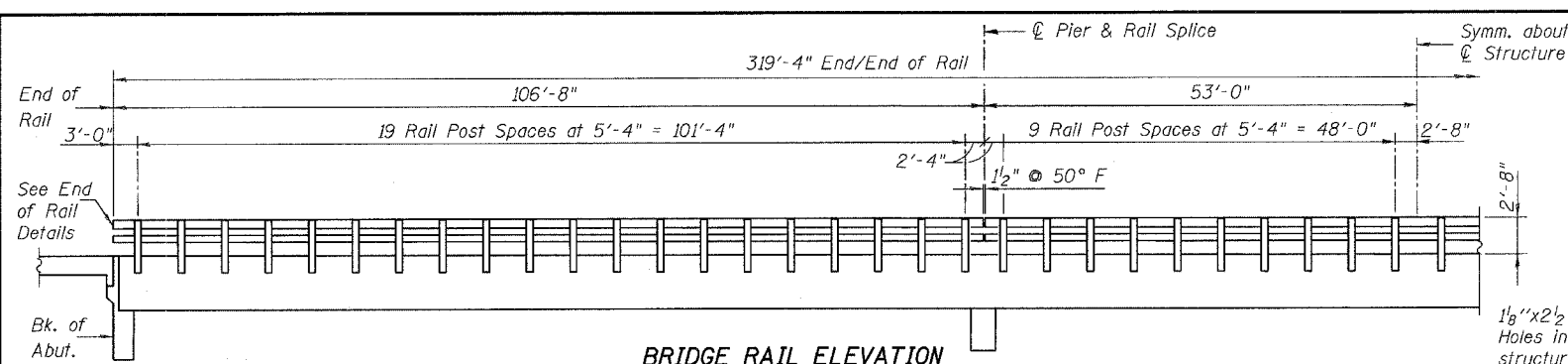
MIN. BAR LAP
 #4 bars = 1'-4"
 #5 bars = 1'-8"



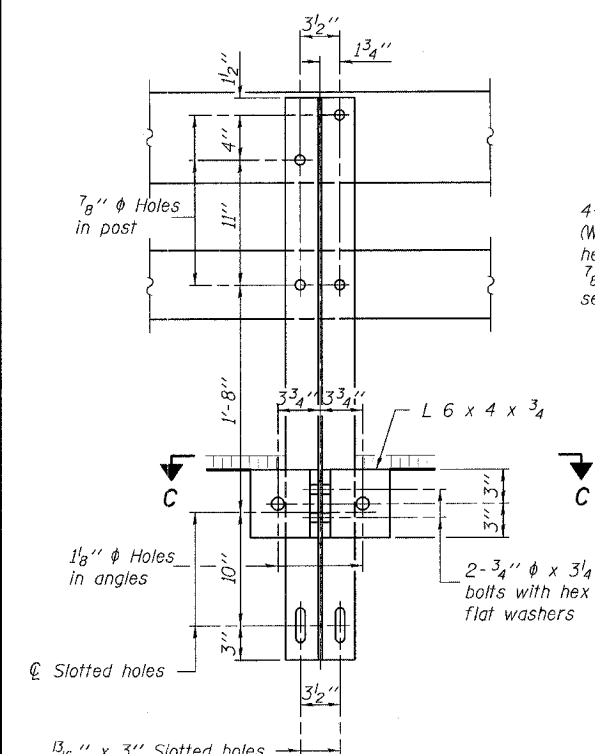
42"x36" P.P.C. DECK BEAM DETAILS
 F.A.S. 788 (C.H. 24/C.H. 16)
 OVER CROOKED CREEK
 SECTION 03-00075-00-BR
 WASHINGTON COUNTY
 SECTION 03-00082-00-BR
 CLINTON COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/ C.H. 16)	03-00075- 00-BR, WASH. 03-00082- 00-BR, CLIN.	WASHINGTON CLINTON	22	15

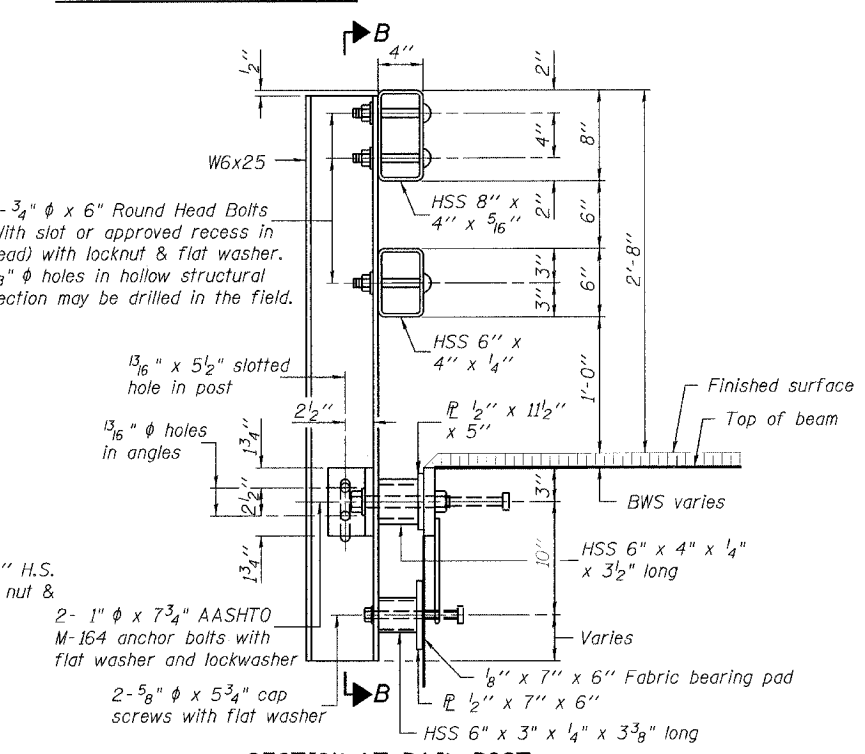
ISRLDTS233.DGN FEB. 21, 2006



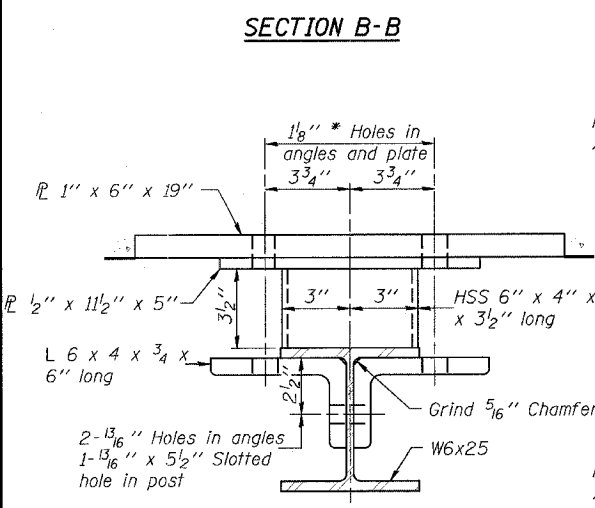
BRIDGE RAIL ELEVATION



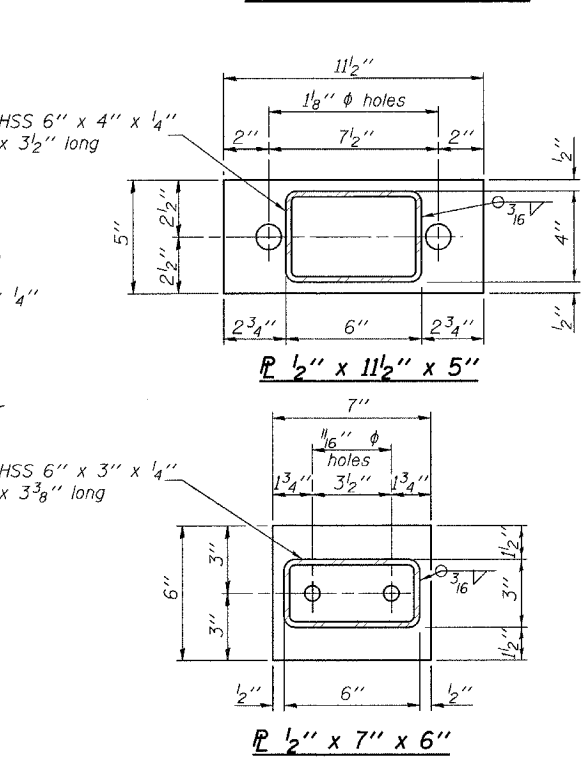
SECTION B-B



SECTION AT RAIL POST



SECTION C-C

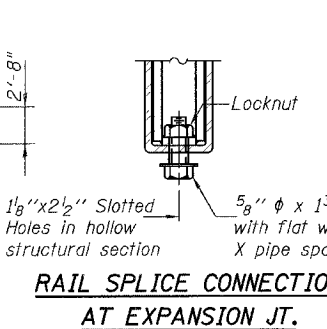


ANCHOR DEVICE

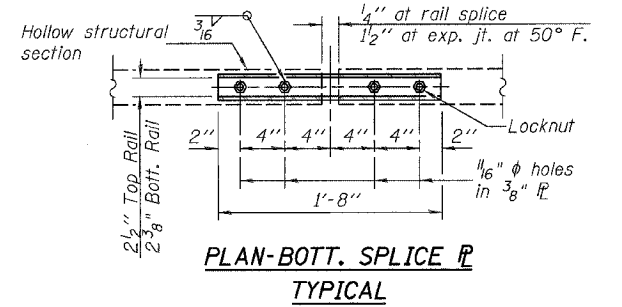
DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.

R-34BWS

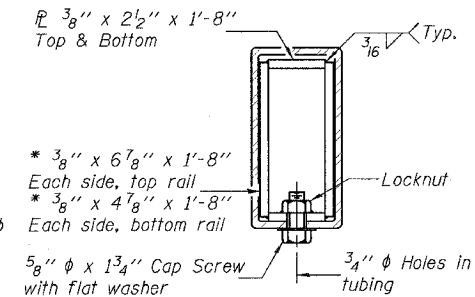
10-28-05 (6'-3" Maximum Post Spacing) (1/4" minimum to 3/8" maximum BWS thickness)



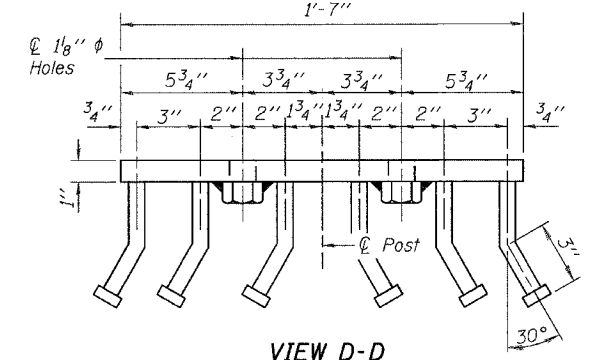
RAIL SPLICE CONNECTION AT EXPANSION JT.



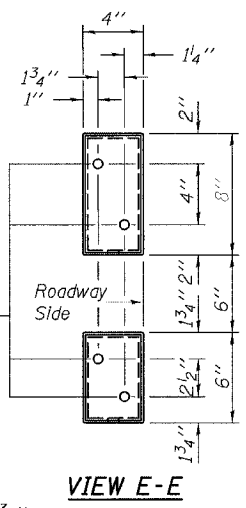
PLAN-BOTT. SPLICE AT TYPICAL



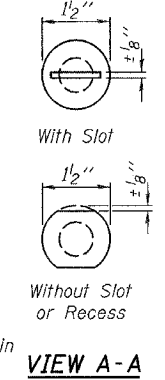
SECTION AT RAIL SPLICE



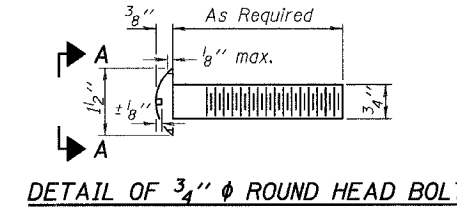
VIEW D-D



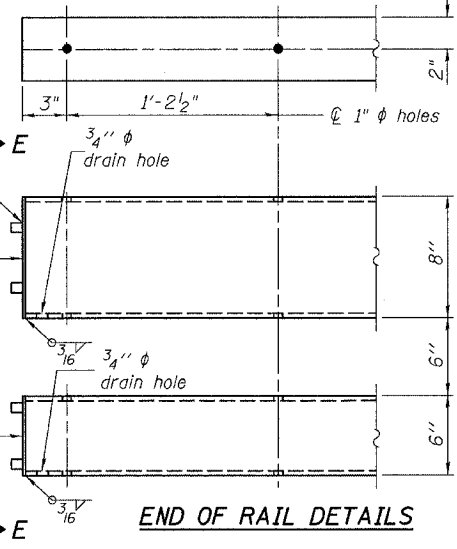
VIEW E-E



VIEW A-A



DETAIL OF 3/4" ROUND HEAD BOLT



END OF RAIL DETAILS

NOTES

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, Type SM.

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 Bridge Rail, Type SM.

The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(FX2) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	640

TYPE SM STEEL BRIDGE RAIL SIDE MOUNTED WITH BITUMINOUS WEARING SURFACE

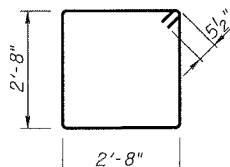
F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
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CLINTON COUNTY

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

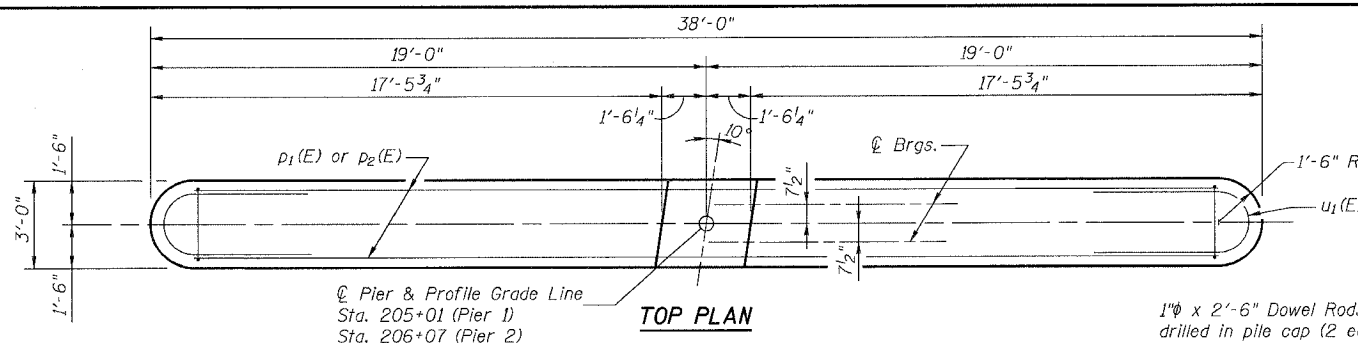
* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 788 (C.H. 24/C.H. 16)	03-00075-00-BR, WASH. 03-00082-00-BR, CLIN.	WASHINGTON CLINTON	22	17

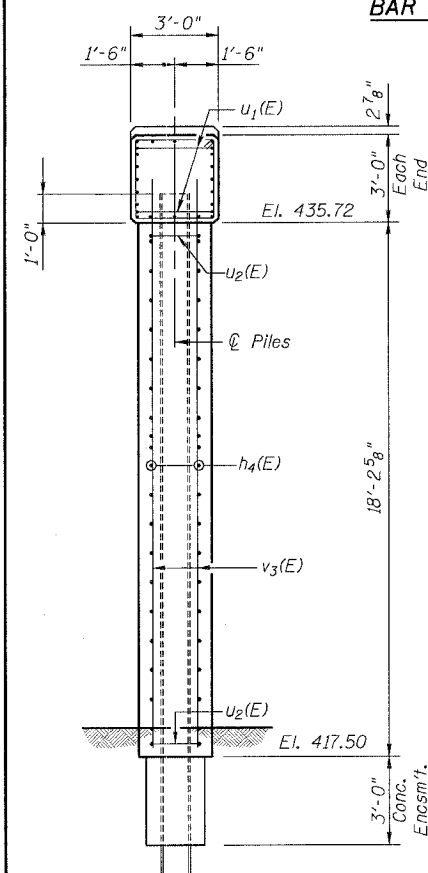
Notes:
 1. All edges shall have standard 3/4" chamfers except as noted.
 2. Space reinforcement in cap to miss dowel rods.



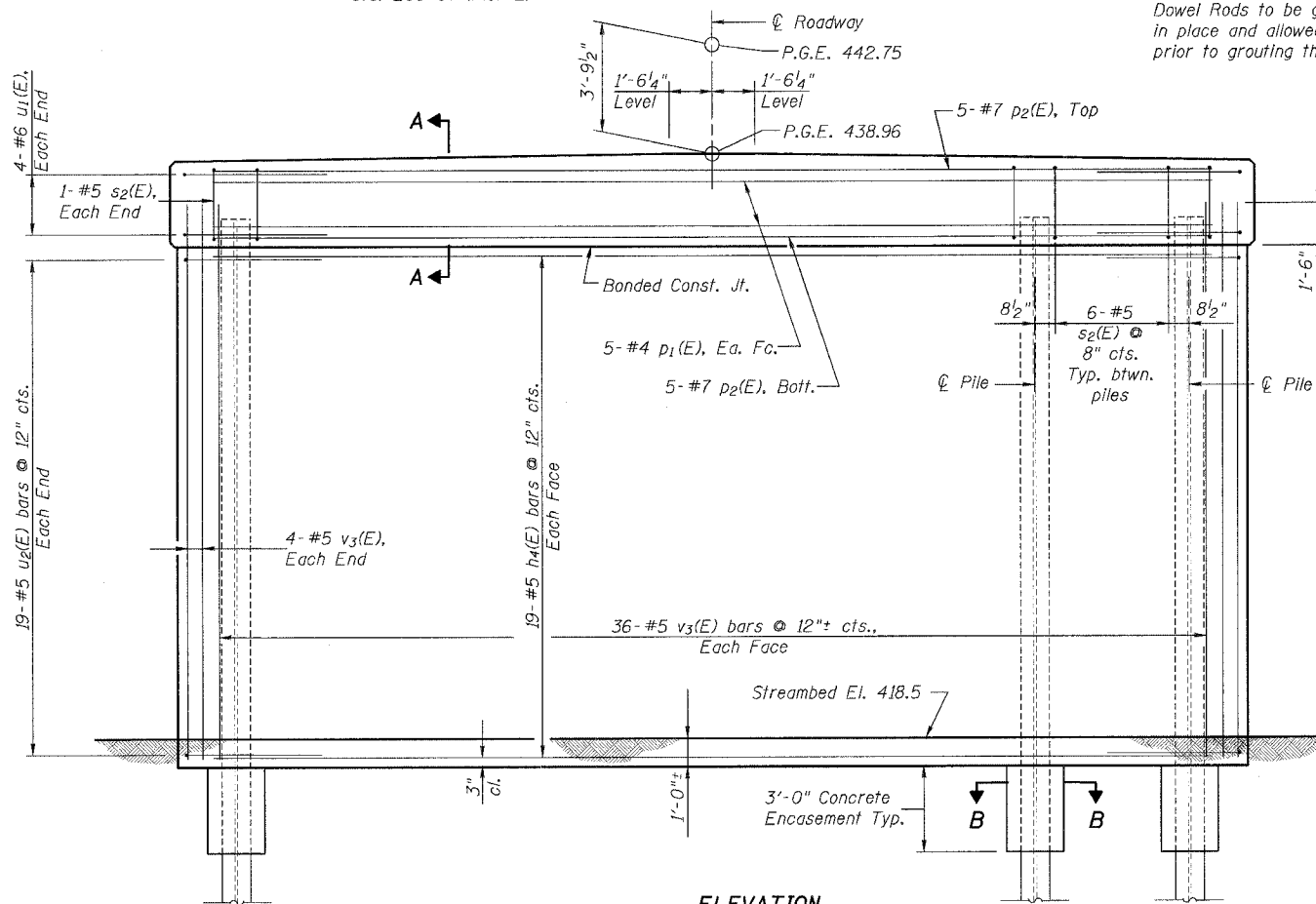
BAR s₂(E)



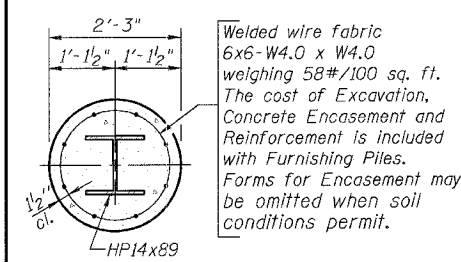
TOP PLAN



END VIEW

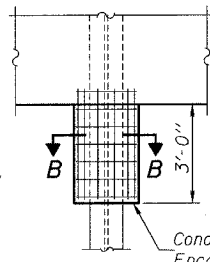


ELEVATION (LOOKING NORTH)



SECTION B-B

PILE ENCASEMENT DETAILS

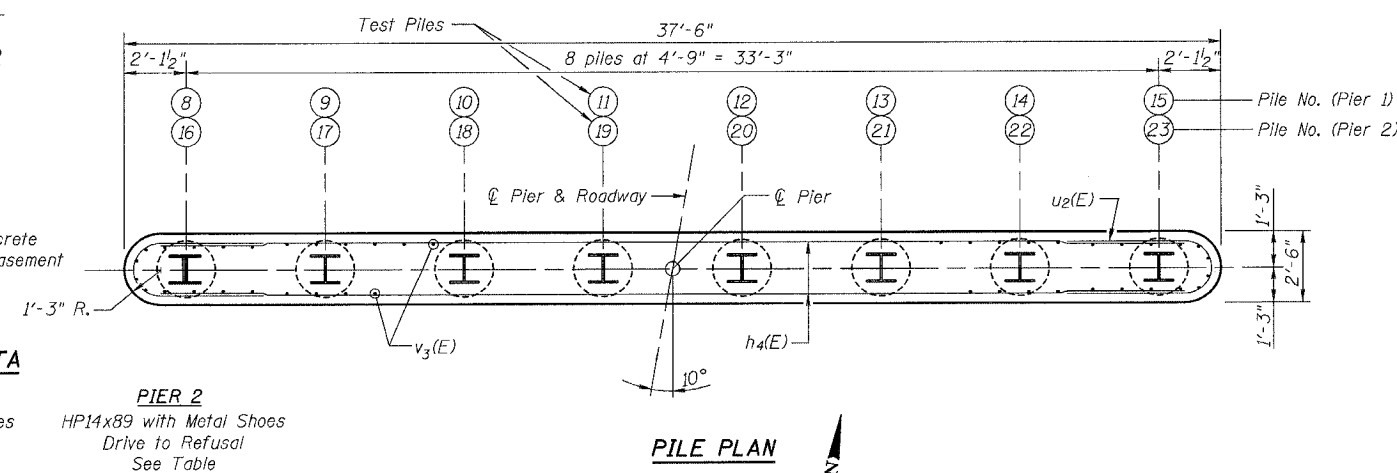


PILE DATA

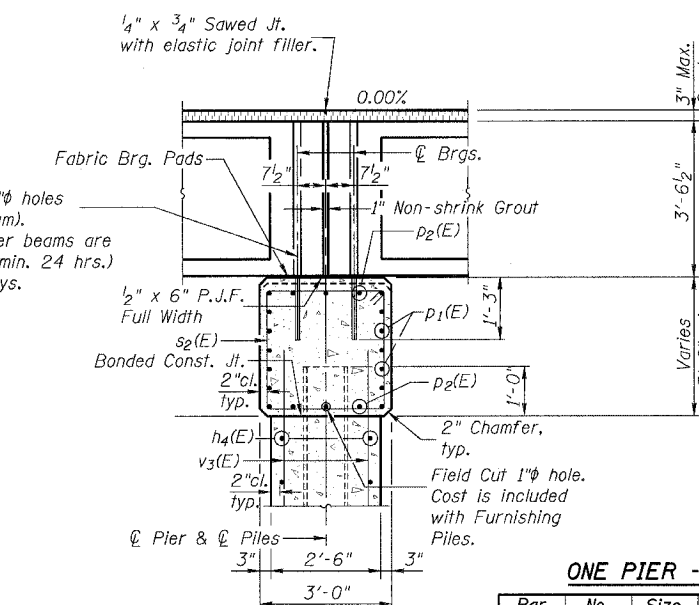
DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.

Type HP14x89 with Metal Shoes
 Capacity Drive to Refusal
 Est. Length See Table
 No. Required 8 (Includes 1 test pile at location indicated)

PIER 2
 Type HP14x89 with Metal Shoes
 Capacity Drive to Refusal
 Est. Length See Table
 No. Required 8 (Includes 1 test pile at location indicated)



PILE PLAN



SECTION A-A (Dimensions shown are at Rt. L's unless otherwise noted)

ONE PIER - BAR LIST

Bar	No.	Size	Length	Shape
h ₄ (E)	38	#5	35'-0"	—
p ₁ (E)	10	#4	35'-0"	—
p ₂ (E)	10	#7	35'-0"	—
s ₂ (E)	44	#5	11'-7"	□
u ₁ (E)	8	#6	12'-5"	⌋
u ₂ (E)	38	#5	10'-5"	⌋
v ₃ (E)	80	#5	19'-6"	—

TABLE OF ESTIMATED PILE LENGTHS

Pier 1		Pier 2	
Pile No.	Length	Pile No.	Length
8 - 11	54'	16 - 19	40'
12 - 15	48'	20 - 23	44'

PIER 1 - BILL OF MATERIAL

Item	Units	Quantity
Reinforcement Bars (Epoxy Coated)	Lbs.	5,060
Concrete Structures	Cu. Yds.	75.3
Structure Excavation	Cu. Yds.	108
Steel Piles HP14x89	Foot	354
Metal Shoes	Each	7
Test Pile Steel HP14x89	Each	1
Underwater Structure Excavation Protection - Location 1	Each	1

PIER 2 - BILL OF MATERIAL

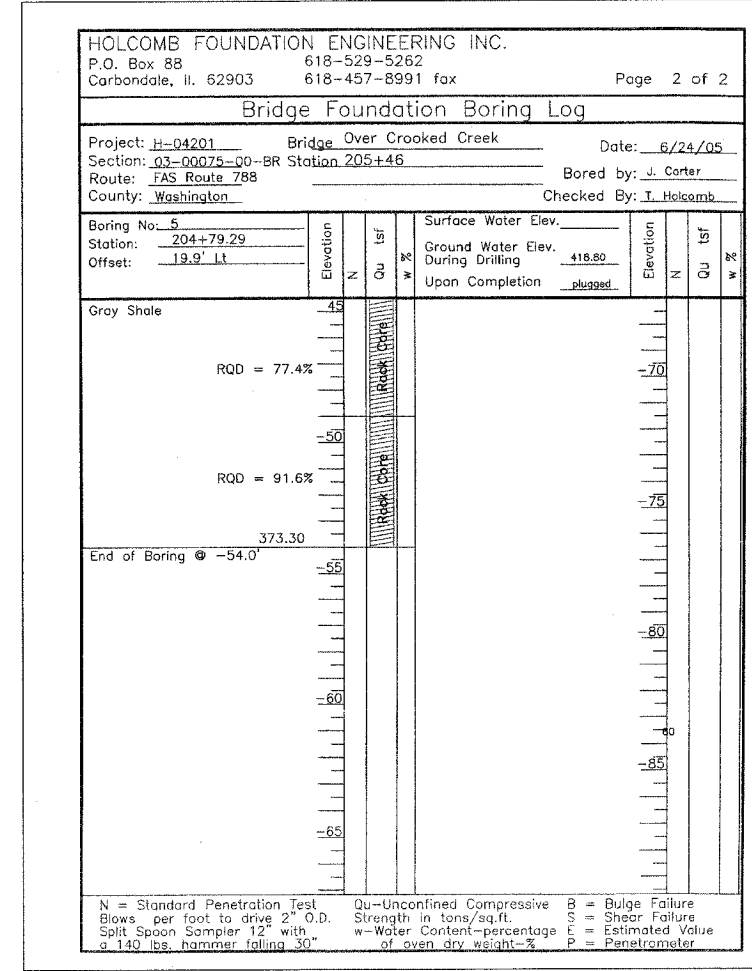
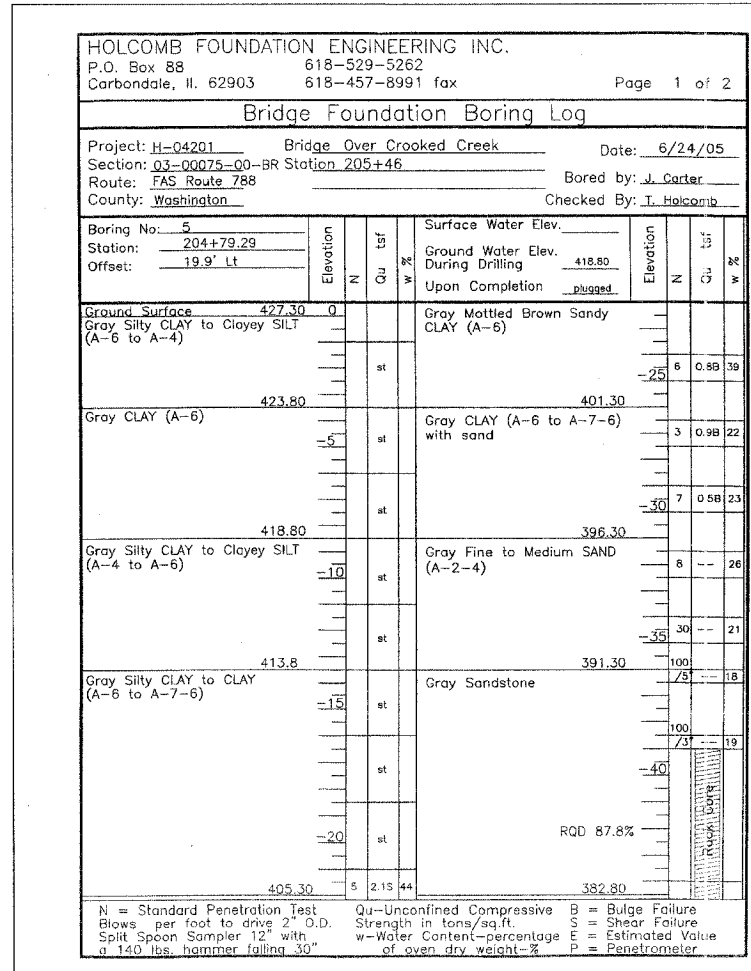
Item	Units	Quantity
Reinforcement Bars (Epoxy Coated)	Lbs.	5,060
Concrete Structures	Cu. Yds.	75.3
Structure Excavation	Cu. Yds.	108
Steel Piles HP14x89	Foot	296
Metal Shoes	Each	7
Test Pile Steel HP14x89	Each	1
Underwater Structure Excavation Protection - Location 2	Each	1

Reinforcement Bars designated (E) shall be Epoxy Coated.

PIER DETAILS

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FAS 788 (C.H. 24/ C.H. 16)	03-00075- 00-BR, WASH. 03-00082- 00-BR, CLIN.	WASHINGTON CLINTON	22	21



DESIGNED:	L.D.G.
CHECKED:	B.G.H.
DRAWN:	K.H.L.
CHECKED:	L.D.G.

BORING LOGS
F.A.S. 788 (C.H. 24/C.H. 16)
OVER CROOKED CREEK
SECTION 03-00075-00-BR
WASHINGTON COUNTY
SECTION 03-00082-00-BR
CLINTON COUNTY

H.M. & G. NO. 5613

