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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

LOCAL AGENCY IMPROVEMENT

FEDERAL-AID HBP PROJECT
HIGHWAY BRIDGE PROGRAM
FAS 60 (CEDARVILLE ROAD)
SECTION 07-00172-00-BR/ STEPHENSON COUNTY
PROJECT BRS-60(121)
JOB NO. C-92-012-08
CONTRACT NO. 85436
2008

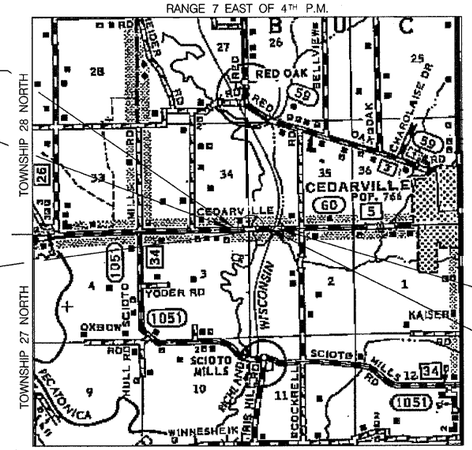
NET LENGTH 1,050 FT. = 0.199 MILES

LOCATION MAP SCALE 0 1 2 MILES

PLAN & PROFILE
HORIZONTAL 0 5 10 15 20 40 FT.
VERTICAL 0 5 10 FT.

CROSS SECTIONS
HORIZONTAL 0 5 10 FT.
VERTICAL 0 5 10 FT.

RANGE 7 EAST OF 4TH P.M.



LOCATION MAP

NAME AND ADDRESS OF UTILITIES	TYPE
MEDIACOM Attn: Darin W. Dean 3033 Asbury Road Dubuque, IA. 52001 (563) 584-0589	CABLE
COMED Attn: Mike Lenox 123 Energy Avenue Rockford, IL. 61109 (815) 490-2320	ELECTRIC
VERIZON NORTH, INC. Attn: Katin Hinshaw 112 North Elm Sycamore, IL 60178 (815) 895-1515	TELEPHONE

CALL J.U.L.I.E. TOLL FREE 800-892-0123

HIGHWAY CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
DESIGN SPEED: 50 MPH
ADT = 1,950 (2028) 2% TRUCKS
RURAL RECONSTRUCTION GUIDELINES
CLOSED ROAD ADT = <50

BRIAN K. CONVERSE
062-048141
LICENSED PROFESSIONAL ENGINEER
OF ILLINOIS

Brian K. Converse
DATE: MAY 27, 2008
EXPIRES 11/30/09

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE: XO81-2A

PAY CODE	QUANTITY	UNIT	ITEM
20100110	662	Unit	Tree Removal (6 to 15 Units Diameter)
20100210	565	Unit	Tree Removal (Over 15 Units Diameter)
20200100	2,064	Cu. Yd.	Earth Excavation
20300100	1,844	Cu. Yd.	Channel Excavation
20400800	31	Cu. Yd.	Furnished Excavation
*20700400	122	Cu. Yd.	Porous Granular Embankment (Special)
*25001000	1.96	Acre	Seeding, Class 2 (Special)
25100630	9,488	Sq. Yd.	Erosion Control Blanket
28000300	11	Each	Temporary Ditch Checks
28000400	662	Foot	Perimeter Erosion Barrier
28100107	1,232	Sq. Yd.	Stone Riprap, Class A4
28200200	1,232	Sq. Yd.	Filter Fabric
*31101000	1,054	Ton	Sub-Base Granular Material, Type B
*35100100	495	Ton	Aggregate Base Course, Type A
40200800	90	Ton	Aggregate Surface Course, Type B
40603080	972	Ton	Hot-Mix Asphalt Binder Course, IL-19.0, N50
40603310	277	Ton	Hot-Mix Asphalt Surface Course, Mix "C", N50
4060010 0	795	Gallon	Bituminous Materials (Prime Coat)
42001165	200	Sq. Yd.	Bridge Approach Pavement
48101200	113	Ton	Aggregate Shoulders, Type B
50100100	1	Each	Removal of Existing Structures
50200100	103	Cu. Yd.	Structure Excavation
50300225	60.2	Cu. Yd.	Concrete Structures
50300255	179.4	Cu. Yd.	Concrete Superstructures
50300260	546	Sq. Yd.	Bridge Deck Grooving
50300300	585	Sq. Yd.	Protective Coat
50401005	867.5	Foot	Furnishing & Erecting PPC I-Beams, 48"
50800205	41,230	Pound	Reinforcement Bars, Epoxy Coated
50800515	62	Each	Bar Splicers
Δ50901050	351	Foot	Steel Railing, Type SM
51200958	464	Foot	Furnishing Metal Shell Piles 14" x 0.250"
51202305	464	Foot	Driving Piles
51203200	3	Each	Test Pile Metal Shells
51500100	1	Each	Name Plates
54200640	54	Foot	Pipe Culverts, Type 1, Corrugated Steel or Aluminum Culvert Pipe 15"
54205929	48	Foot	Pipe Culverts, Type 1, Corrugated Steel, Equivalent Round-Size 54"
54213870	2	Each	Steel End Sections 15"
54215169	2	Each	Steel End Sections, Equivalent Round-Size 54"
59100100	48	Sq. Yd.	Geocomposite Wall Drain
60100060	4	Each	Concrete Headwall for Pipe Drains
*60109580	134	Foot	Pipe Underdrains for Structures 4"
Δ63000000	462.5	Foot	Steel Plate Beam Guard Rail, Type A
Δ*63100087	4	Each	Traffic Barrier Terminal, Type 6A
Δ*63100167	4	Each	Traffic Barrier Terminal, Type 1, Special (Tangent)
63200310	178	Foot	Guardrail Removal
67100100	1	L. Sum	Mobilization
*70101700	1	L. Sum	Traffic Control & Protection
70300100	184	Foot	Short Term Pavement Marking
70301000	62	Sq. Ft.	Work Zone Pavement Marking Removal
Δ78001110	2,370	Foot	Paint Pavement Marking - Line 4"
Δ*78200410	41	Each	Guardrail Markers, Type A
Δ*78201000	4	Each	Terminal Marker - Direct Applied
*XX005970	1	L. Sum	Underwater Structure Excavation Protection

* See Special Provisions
Δ Specialty Items

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

APPROVED 6-4-08 2008
Otis L Tidwell
STEPHENSON COUNTY ENGINEER

PASSED July 10 2008
DISTRICT 2 ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW July 10 2008
DEPUTY DIRECTOR OF HIGHWAYS, REGION 2 ENGINEER

Plans Prepared By:
WILLETT, HOFMANN & ASSOCIATES, INC.
CONSULTING ENGINEERS
Land Surveying - Transportation - Structural
Environmental - Architecture
809 East Second Street Dixon, Illinois 61021
Phone 815.284.3381 Fax 815.284.3385
Design Firm #184-000918
www.willetthofmann.com

WHA # 1106D07

GENERAL NOTES

Existing structures (including foundations, walls, cisterns, wells, or other underground structures) within the right of way shall be removed in accordance with Article 501.04 and 501.05 of the Standard Specifications, without additional compensation, unless otherwise noted in the plans or Special Provisions.

The Contractor shall seed all disturbed areas within the project limits.

No overhaul has been computed and none shall be paid for from any source.

The final top four inches of soil in any right of way area disturbed by the Contractor must be a cohesive soil capable of supporting vegetation.

The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications.

The utilities located within the project limits or immediately adjacent to the project construction limits include:

MEDIACOM	COMED	VERIZON NORTH, INC.
Attn: Darin W. Dean	Attn: Mike Lenox	Attn: Kalin Hinshaw
3033 Asbury Road	123 Energy Avenue	112 North Elm
Dubuque, IA. 52001	Rockford, IL. 61109	Sycamore, IL 60178
(563) 584-0589	(815) 490-2320	(815) 895-1515

A minimum of 48 hours advance notice is required for non-emergency work.

A Nationwide 404 Permit has been issued for this project and the conditions of that Permit must be adhered to.

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, monuments, and right of way pins until the Owner, an Authorized Surveyor, or Agent has witnessed or otherwise referenced their location.

Existing mail boxes, street signs, and traffic signs that are within the construction limits shall be removed and reset by the Contractor. Cost of removing and resetting to be included in the contract unit price bid per Cubic Yard for Earth Excavation.

SCHEDULE OF QUANTITIES

TREE REMOVAL (6 -15 UNIT DIAMETER)

LOCATION	UNIT	REMARKS
RT. STA. 379+52	45	3@ 15
RT. STA. 380+02	10	
RT. STA. 380+03	10	
RT. STA. 380+11	12	
RT. STA. 380+15	8	
RT. STA. 380+16	8	
RT. STA. 380+24	12	
RT. STA. 380+45	10	
RT. STA. 380+61	10	
RT. STA. 380+69	8	
RT. STA. 381+90	6	
RT. STA. 382+25	6	
LT. STA. 382+66	8	
LT. STA. 382+67	8	
LT. STA. 383+09	6	
LT. STA. 383+28	8	
LT. STA. 383+35	12	
RT. STA. 383+35	8	
LT. STA. 383+36	14	
RT. STA. 383+43	6	
LT. STA. 383+49	12	
LT. STA. 383+62	12	
LT. STA. 384+30	18	1@ 10 1@ 8
LT. STA. 384+36	20	2@ 10
LT. STA. 384+46	10	
RT. STA. 384+51	12	
RT. STA. 384+58	25	1@ 10 1@ 15
RT. STA. 384+76	10	
RT. STA. 386+49	10	
RT. STA. 386+50	6	
RT. STA. 386+54	6	
RT. STA. 386+90	12	
RT. STA. 386+91	22	1@ 10 1@ 12
RT. STA. 387+21	10	
RT. STA. 387+31	8	
RT. STA. 387+39	6	
RT. STA. 387+49	14	
RT. STA. 387+56	14	
LT. STA. 387+59	36	3@ 12
LT. STA. 387+63	24	2@ 24
RT. STA. 387+67	8	
RT. STA. 388+34	14	
RT. STA. 388+35	14	
RT. STA. 388+40	42	3@ 14
RT. STA. 388+48	12	
RT. STA. 388+52	12	
RT. STA. 388+69	10	
RT. STA. 389+18	12	
RT. STA. 389+29	12	
RT. STA. 389+41	12	
RT. STA. 389+56	12	
TOTAL	662 UNIT	

SCHEDULE OF QUANTITIES - CONT.

TREE REMOVAL (OVER 15 UNIT DIAMETER)

LOCATION	UNIT	REMARKS
RT. STA. 380+91	24	
RT. STA. 381+85	26	STUMP
RT. STA. 382+21	27	
LT. STA. 382+35	30	
RT. STA. 382+44	20	
LT. STA. 382+91	64	2@ 32
LT. STA. 384+60	36	
LT. STA. 385+66	32	
RT. STA. 386+87	24	
RT. STA. 386+88	18	
RT. STA. 387+39	16	
LT. STA. 387+56	24	
RT. STA. 388+59	36	
RT. STA. 388+69	20	
RT. STA. 388+77	16	
RT. STA. 389+06	20	
RT. STA. 389+12	20	
RT. STA. 389+24	28	
RT. STA. 389+32	16	
RT. STA. 389+39	24	
RT. STA. 389+51	20	
RT. STA. 389+69	24	
TOTAL	565 UNIT	

SEEDING, CLASS 2 (SPECIAL)

LOCATION	ACRE	REMARKS
RT. STA. 379+50-380+28.50	0.08	
RT. STA. 380+44.50-383+79.00	0.27	
RT. STA. 384+11-387+94	0.39	
RT. STA. 388+16-390+00	0.30	
LT. STA. 379+50-380+90.50	0.15	
LT. STA. 381+06.50-383+77	0.22	
LT. STA. 384+10-390+00	0.55	
TOTAL	1.96 ACRE	

EROSION CONTROL BLANKET

LOCATION	SQ. YD.	REMARKS
RT. STA. 379+50-380+28.50	388	
RT. STA. 380+44.50-383+79	1,307	
RT. STA. 384+11-387+94	1,888	
RT. STA. 388+16-390+00	1,452	
LT. STA. 379+50-380+90.50	726	
LT. STA. 381+06.50-383+77	1,065	
LT. STA. 384+10-390+00	2,662	
TOTAL	9,488 SQ. YD.	

TEMPORARY DITCH CHECKS

LOCATION	EACH	REMARKS
LT. STA. 380+00	1	
LT. STA. 381+50	1	
STA. 382+50	2	
STA. 385+00	2	
STA. 386+00	2	
STA. 387+00	2	
RT. STA. 388+50	1	
TOTAL	11 EACH	

PERIMETER EROSION BARRIER

LOCATION	FOOT	REMARKS
RT. STA. 379+50-380+26.50	77	
RT. STA. 380+46.50-382+50	204	
RT. STA. 383+50-383+79	29	
RT. STA. 384+15-384+50	35	
LT. STA. 383+50-383+77	27	
LT. STA. 384+10-384+50	40	
LT. STA. 387+50-390+00	250	
TOTAL	662 FOOT	

SUB-BASE GRANULAR MATERIAL, TYPE B

LOCATION	TON	REMARKS
STA. 379+50-380+10.80	74	TAPER, 8" COMPACTED
STA. 380+10.80-382+54.25	296	8" COMPACTED
STA. 384+89.75-389+74.86	589	8" COMPACTED
STA. 389+74.86-390+00	30	TAPER, 8" COMPACTED
P.E.R. STA. 388+05	65	ENTRANCE, 8" COMPACTED
TOTAL	1,054 TON	

SCHEDULE OF QUANTITIES - CONT.

AGGREGATE BASE COURSE, TYPE A

LOCATION	TON	REMARKS
STA. 379+50-380+10.80	37	TAPER, 4" COMPACTED
STA. 380+10.80-382+54.25	148	4" COMPACTED
STA. 384+89.75-389+74.86	295	4" COMPACTED
STA. 389+74.86-390+00	15	TAPER, 4" COMPACTED
TOTAL	495 TON	

AGGREGATE SURFACE COURSE, TYPE B

LOCATION	TON	REMARKS
F.E.R. 380+36.5	45	8" COMPACTED
F.E.L. 380+98.5	45	8" COMPACTED
TOTAL	90 TON	

HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50

LOCATION	TON	REMARKS
STA. 379+50 - 380+10.80	47	TAPER, 5.25"
STA. 380+10.80 - 380+54.50	34	5.25"
STA. 380+54.50 - 380+80	30	BEG. RT. HMA SHLDR. THRU BUMPOUT, 5.25"
STA. 380+80 - 381+16.50	41	5.25"
STA. 381+16.50 - 381+42	39	BEG. LT. HMA SHLDR. THRU BUMPOUT, 5.25"
STA. 381+42 - 382+68	180	5.25"
STA. 382+68 - 382+84.25	22	SHLDR. TAPER, 5.25"
STA. 384+59.75 - 384+76	22	SHLDR. TAPER, 5.25"
STA. 384+76 - 386+27	216	5.25"
STA. 386+27 - 386+64	53	RT. SHLDR. BUMPOUT, 5.25"
STA. 386+64 - 386+77	19	BEG. RT. SHLDR. TAPER THRU BEG. LT. SHLDR. BUMPOUT, 5.25"
STA. 386+77 - 386+88	16	BEG. LT. SHLDR. BUMPOUT THRU END, RT. SHLDR. TAPER, 5.25"
STA. 386+88 - 387+14	27	END RT. SHLDR. TAPER THRU BEG. LT. SHLDR TAPER, 5.25"
STA. 387+14 - 387+38	26	LT. SHLDR. TAPER, 5.25"
STA. 387+38 - 389+74.86	181	5.25"
STA. 389+74.86 - 390+00	19	TAPER, 5.25"
TOTAL	972 TON	
QUANTITY BASED ON 120 #/SQ. YD./IN.		

HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50

LOCATION	TON	REMARKS
STA. 379+50 - 380+10.80	13	TAPER, 1.5"
STA. 380+10.80 - 380+54.50	10	1.5"
STA. 380+54.50 - 380+80	8	BEG. RT. HMA SHLDR. THRU BUMPOUT, 1.5"
STA. 380+80 - 381+16.50	12	1.5"
STA. 381+16.50 - 381+42	11	BEG. LT. HMA SHLDR. THRU BUMPOUT 1.5"
STA. 381+42 - 382+68	51	1.5"
STA. 382+68 - 382+84.25	6	SHLDR. TAPER, 1.5"
STA. 384+59.75 - 384+76	6	SHLDR. TAPER, 1.5"
STA. 384+76 - 386+27	62	1.5"
STA. 386+27 - 386+64	15	RT. SHLDR. BUMPOUT 1.5"
STA. 386+64 - 386+77	5	BEG. RT. SHLDR. TAPER THRU BEG. LT. SHLDR. BUMPOUT, 1.5"
STA. 386+77 - 386+88	5	BEG. LT. SHLDR. BUMPOUT THRU END RT. SHLDR. TAPER, 1.5"
STA. 386+88 - 387+14	8	END RT. SHLDR. TAPER THRU BEG. LT. SHLDR. TAPER, 1.5"
STA. 387+14 - 387+38	8	LT. SHLDR. TAPER, 1.5"
STA. 387+38 - 389+74.86	52	1.5"
STA. 389+74.86 - 390+00	5	TAPER, 1.5"
TOTAL	277 TON	
QUANTITY BASED ON 120 #/SQ. YD./IN.		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
B.R.I. F.A.S. 60	07-00172-00-BR	STEPHENSON	31	2
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-6001(2)	

GENERAL NOTES & SCHEDULES
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 60	07-00172-00-BR	STEPHENSON	31	3
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-60(12)	

SCHEDULE OF QUANTITIES - CONT.

BITUMINOUS MATERIALS (PRIME COAT)

LOCATION	GALLON	REMARKS
STA. 379+50-380+10.80	55	TAPER, 0.375 GAL/SY
STA. 380+10.80-382+54.25	223	0.375 GAL/SY
STA. 384+89.75-389+74.86	445	0.375 GAL/SY
STA. 389+74.86-390+00	23	TAPER, 0.375 GAL/SY
P.E.R. 388+05	49	0.375 GAL/SY
TOTAL	795 GALLON	

BRIDGE APPROACH PAVEMENT

LOCATION	SQ. YD.	REMARKS
STA. 382+54.25-382+84.25	100	
STA. 384+59.75-384+89.75	100	
TOTAL	200 SQ. YD.	

AGGREGATE SHOULDERS, TYPE B

LOCATION	TON	REMARKS
RT. STA. 379+50-379+58	1	TAPER 6" COMPACTED
RT. STA. 379+58-380+22.5	11	6" COMPACTED
RT. STA. 386+88-387+88	15	6" COMPACTED
RT. STA. 388+22-389+83	24	6" COMPACTED
RT. STA. 389+83-390+00	2	TAPER 6" COMPACTED
LT. STA. 379+50-380+68	2	TAPER 6" COMPACTED
LT. STA. 379+68-380+84.50	18	6" COMPACTED
LT. STA. 387+38-389+87	38	6" COMPACTED
LT. STA. 389+87-390+00	2	TAPER 6" COMPACTED
TOTAL	113 TON	

PIPE CULVERTS, TYPE 1, CORRUGATED STEEL CULVERT PIPE 15"

LOCATION	FOOT	REMARKS
F.E.R. 388+05.00	53	
TOTAL	53 FOOT	

PIPE CULVERTS, TYPE 1, CORRUGATED STEEL, EQUIVALENT ROUND - SIZE 54"

LOCATION	FOOT	REMARKS
F.E.L. 380+98.50	47	
TOTAL	47 FOOT	

STEEL END SECTIONS 15"

LOCATION	EACH	REMARKS
F.E.R. 388+05.00	2	
TOTAL	2 EACH	

STEEL END SECTIONS, EQUIVALENT ROUND-SIZE 54"

LOCATION	EACH	REMARKS
F.E.L. 380+98.50	2	
TOTAL	2 EACH	

STEEL PLATE BEAM GUARDRAIL, TYPE A

LOCATION	FOOT	REMARKS
SOUTHWEST QUADRANT	137.5	
SOUTHEAST QUADRANT	100	
NORTHWEST QUADRANT	75	
NORTHEAST QUADRANT	150	
TOTAL	462.5 FOOT	

TRAFFIC BARRIER TERMINAL, TYPE 6A

LOCATION	EACH	REMARKS
SOUTHWEST QUADRANT	1	
SOUTHEAST QUADRANT	1	
NORTHWEST QUADRANT	1	
NORTHEAST QUADRANT	1	
TOTAL	4 EACH	

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)

LOCATION	EACH	REMARKS
SOUTHWEST QUADRANT	1	
SOUTHEAST QUADRANT	1	
NORTHWEST QUADRANT	1	
NORTHEAST QUADRANT	1	
TOTAL	4 EACH	

GUARDRAIL REMOVAL

LOCATION	FOOT	REMARKS
SOUTHWEST QUADRANT	51	
SOUTHEAST QUADRANT	26	
NORTHWEST QUADRANT	51	
NORTHEAST QUADRANT	50	
TOTAL	178 FOOT	

SHORT TERM PAVEMENT MARKING

LOCATION	FOOT	REMARKS
RT. STA. 379+50-390+00	44	WHITE (4' @ 45°-100 CTS.)
STA. 379+50-390+00	96	YELLOW (4'-40' SP)
LT. STA. 379+50-390+00	44	WHITE (4' @ 45°-100 CTS.)
TOTAL	184 FOOT	

WORK ZONE PAVEMENT MARKING REMOVAL

LOCATION	SQ. FT.	REMARKS
RT. STA. 379+50-390+00	15	4" WIDE
STA. 379+50-390+00	32	4" WIDE
LT. STA. 379+50-390+00	15	4" WIDE
TOTAL	62 SQ. FT.	

PAINT PAVEMENT MARKING - LINE 4"

LOCATION	FOOT	REMARKS
RT. STA. 379+50-390+00	1,050	WHITE EDGE LINE
STA. 379+50-390+00	270	YELLOW (10'-30' SP)
LT. STA. 379+50-390+00	1,050	WHITE EDGE LINE
TOTAL	2,370 FOOT	

GUARDRAIL MARKERS, TYPE A

LOCATION	EACH	REMARKS
RT. STA. 381+03-386+03	21	
LT. STA. 381+66-386+53	20	
TOTAL	41 EACH	

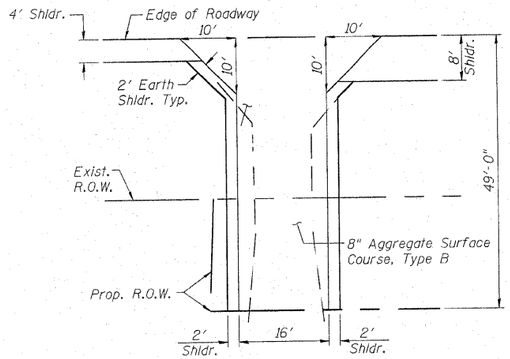
TERMINAL MARKER - DIRECT APPLIED

LOCATION	EACH	REMARKS
SOUTHWEST QUADRANT	1	
SOUTHEAST QUADRANT	1	
NORTHWEST QUADRANT	1	
NORTHEAST QUADRANT	1	
TOTAL	4 EACH	

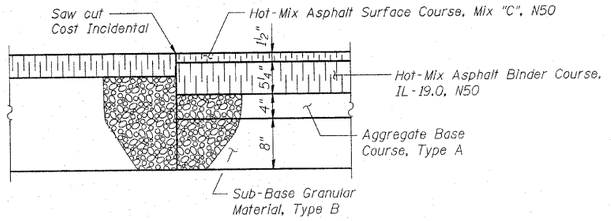
SCHEDULES
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106007

85436

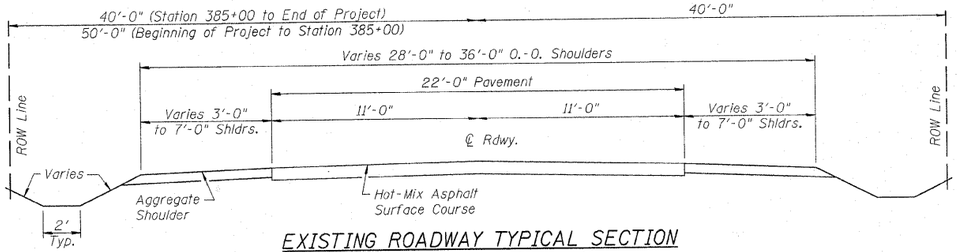
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:	BRS-6001(21)	



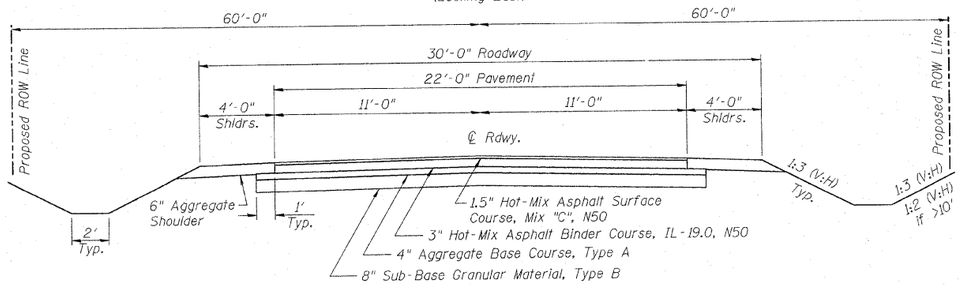
F.E.R. 380+36.5



CORE JOINT DETAIL

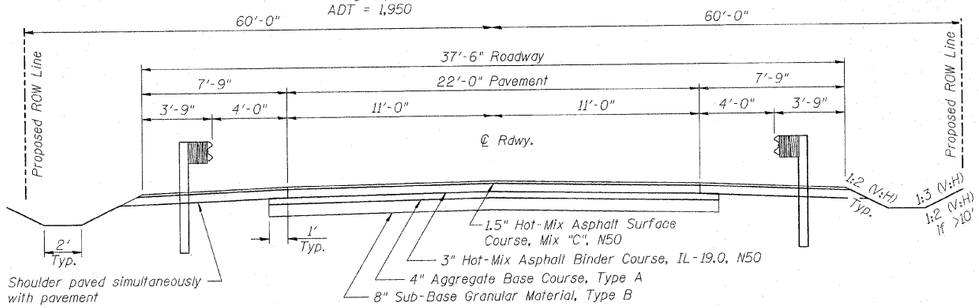


EXISTING ROADWAY TYPICAL SECTION
(Looking East)



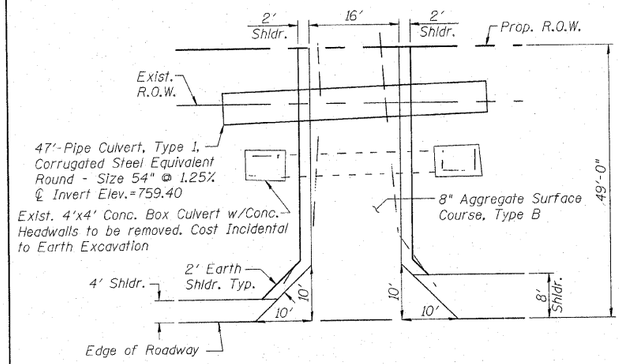
PROPOSED ROADWAY TYPICAL SECTION
(Looking East)

Rt. Sta. 379+50.00 - 380+22.50 & Rt. Sta. 386+87.50 - 390+00.00
Lt. Sta. 379+00.00 - 380+84.50 & Lt. Sta. 387+37.50 - 390+00.00
Highway Classification: Major Collector (Non-Urban)
Design Speed: 50 mph
ADT = 1,950

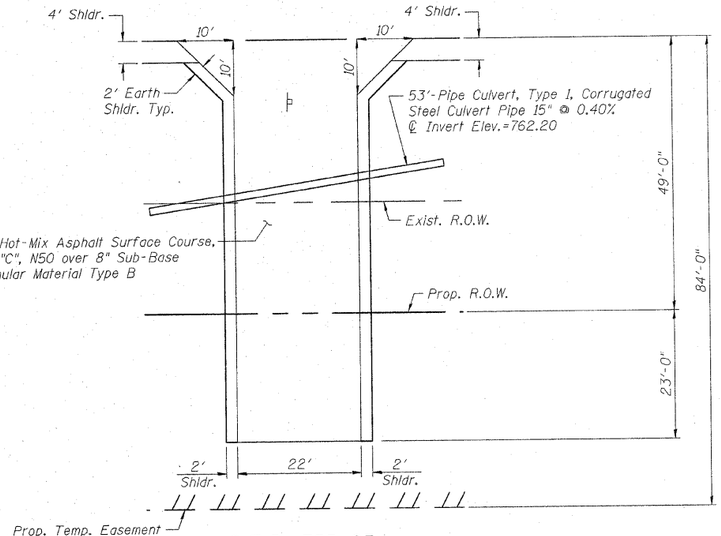


PROPOSED ROADWAY TYPICAL SECTION
(Looking East)

Rt. Sta. 380+46.50 - 382+84.25 & Rt. Sta. 384+59.75 - 386+87.50
Lt. Sta. 381+08.50 - 382+84.25 & Lt. Sta. 384+59.75 - 337+37.50
Highway Classification: Major Collector (Non-Urban)
Design Speed: 50 mph
ADT = 1,950



F.E.L. 380+98.5



P.E.R. 388+05

PAVEMENT STRUCTURAL DESIGN
FAS 60 (CEDARVILLE ROAD)

STRUCTURAL DESIGN TRAFFIC (S.D.T.) = YEAR 2018

CLASS III STREET

80,000# TRUCK DESIGN

P.V. 1665
S.U. 148
M.U. 37
] 1850 ADT

E_{RI} : (ASSUMED) 2 ksi
TF = 0.31
HMA MIX TEMP. 76° F
HMA E_{AC} = 560 ksi
HMA DESIGN STRAIN 208 microstrain

USE

1.5" HOT-MIX ASPHALT SURFACE COURSE, MIX "C" N50
5.25" HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50
4" AGGREGATE BASE COURSE, TYPE A
8" SUB-BASE GRANULAR MATERIAL, TYPE B

PAVEMENT MIXTURE REQUIREMENTS

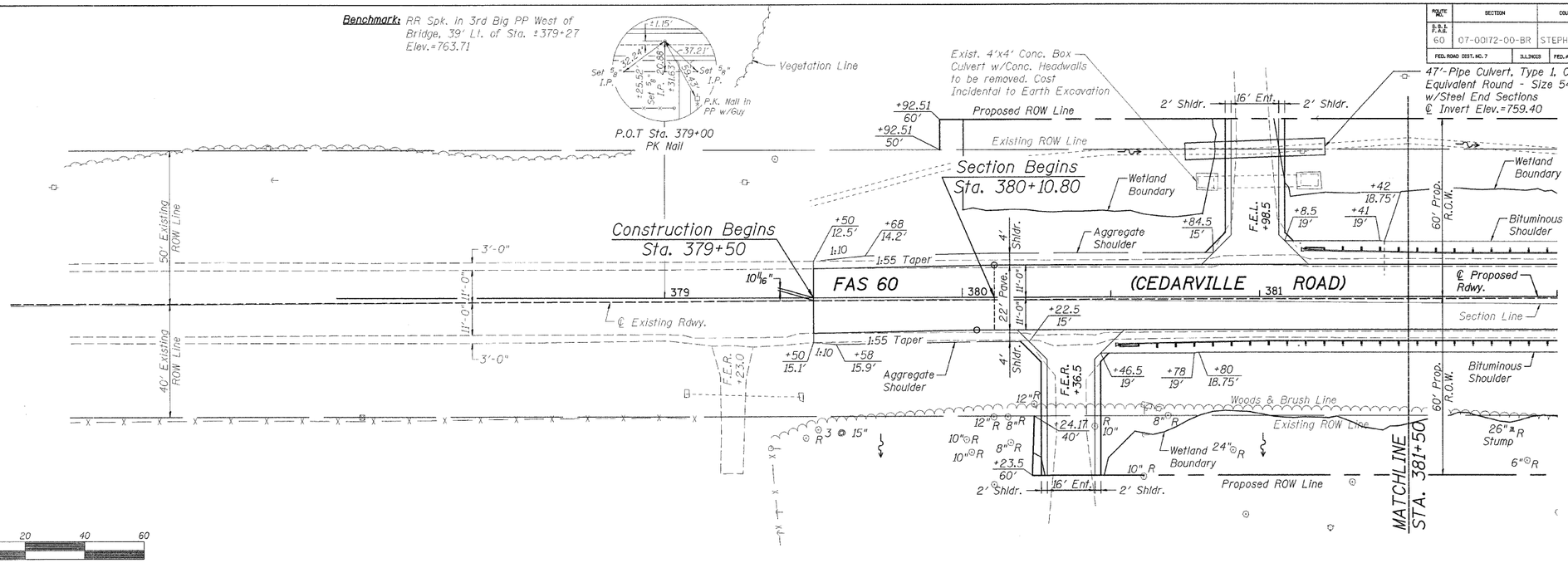
MIXTURE USE:	SURFACE AND TOP SHOULDER	BINDER AND BOTTOM SHOULDER
PG:	PG 58-28	58-28
DESIGN AIR VOIDS	4.0 @ N50	4.0 @ N50
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL 9.5 or 12.5	IL 19.0
FRICTION AGGREGATE	C	N/A
MIX UNIT WEIGHT	112 #/SQ.YD./IN.	112 #/SQ.YD./IN.

TYPICAL SECTIONS & ENTRANCE DETAILS
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY

WHA #1106D07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-6041(21)	

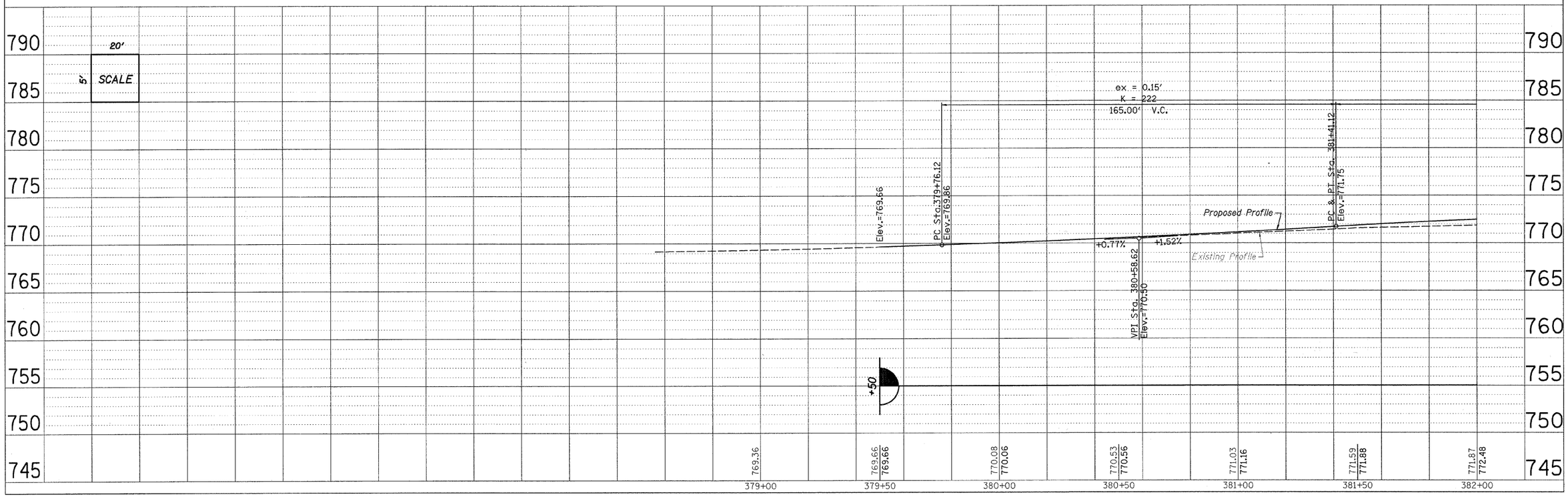
Benchmark: RR Spk. in 3rd Big PP West of Bridge, 39' Lt. of Sta. ±379+27 Elev.=763.71



CALL J.U.L.I.E. TOLL FREE 800-892-0123

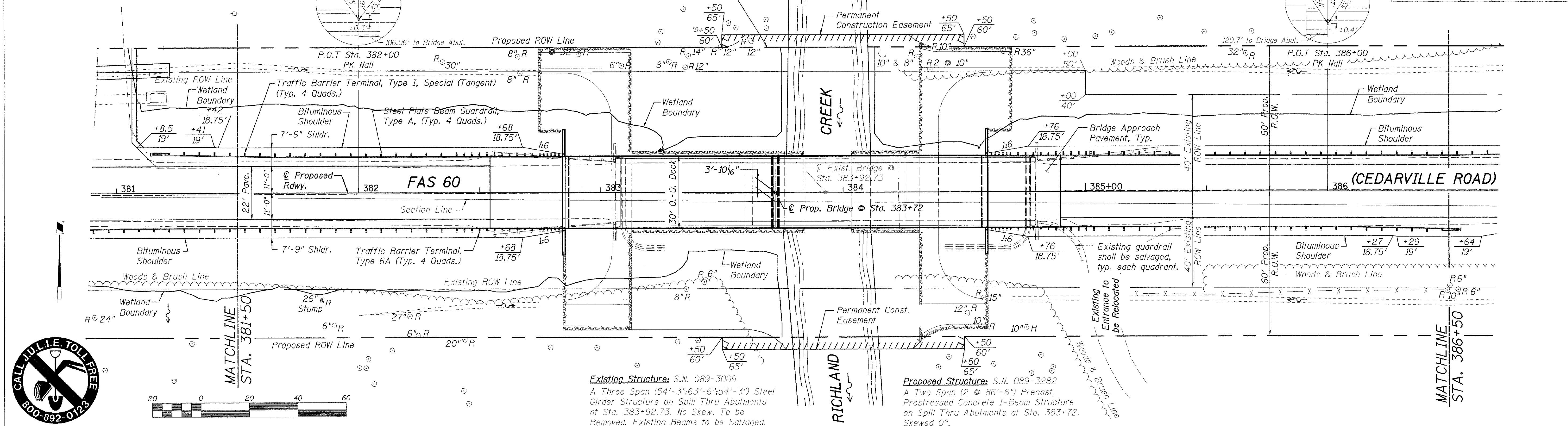
20 0 20 40 60

SCALE 5' 20'



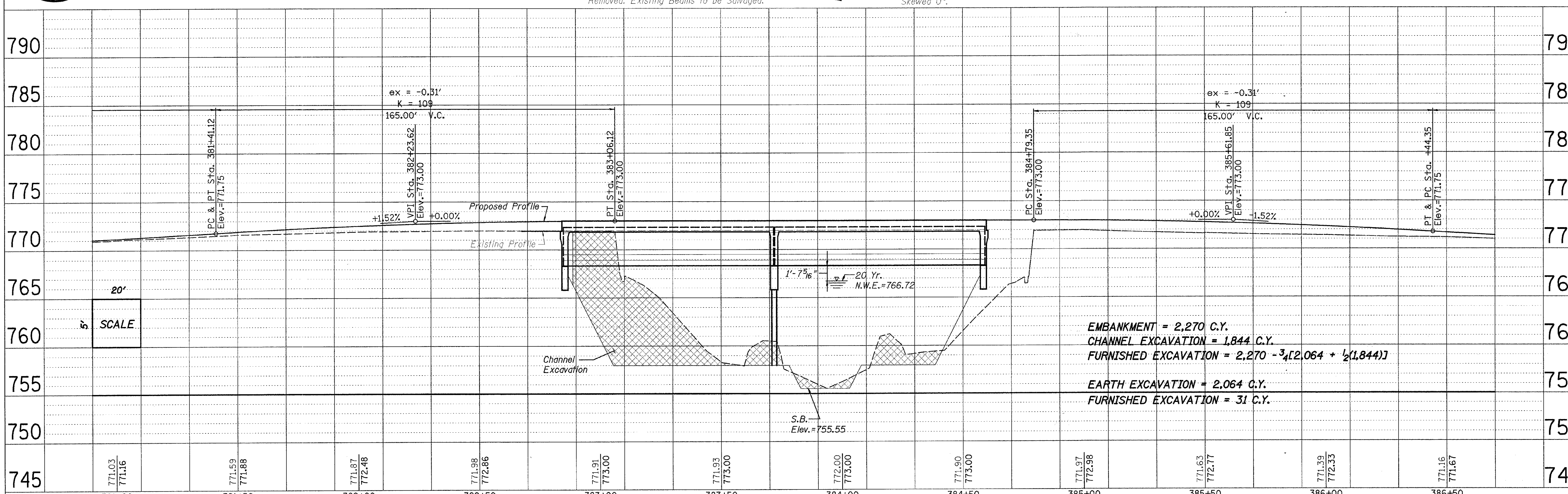
CEDARVILLE ROAD

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT BRS-6012(0)		


Benchmark: Chis. "□" on the NE Wingwall of Exist. Bridge over Cedarville Rd. Elev.=772.41
Benchmark: RR Spk. in PP, 1st PP East of Bridge, Sta. 385+85 Elev.=764.51
Top of Ditch shall be shaped to match-in with existing levee. (Typ. Each Quad.)
Permanent Construction Easement
Proposed ROW Line
P.O.T Sta. 382+00 PK Nail
P.O.T Sta. 386+00 PK Nail
Existing ROW Line
Wetland Boundary
Traffic Barrier Terminal, Type I, Special (Tangent) (Typ. 4 Quads.)
Bituminous Shoulder
Steel Plate Beam Guardrail, Type A, (Typ. 4 Quads.)
7'-9" Shldr.
℄ Proposed Rdwy.
FAS 60
Section Line
30' O.-O. Deck
3'-10⅛"
℄ Exist. Bridge @ Sta. 383+92.73
℄ Prop. Bridge @ Sta. 383+72
CREEK
RICHLAND
Bridge Approach Pavement, Typ.
(CEDARVILLE ROAD)
Traffic Barrier Terminal, Type 6A (Typ. 4 Quads.)
Woods & Brush Line
Existing guardrail shall be salvaged, typ. each quadrant.
Existing Entrance to be Relocated
Permanent Const. Easement
MATCHLINE STA. 381+50
MATCHLINE STA. 386+50
CALL J.U.L.I.E. TOLL FREE 800-892-0123

Existing Structure: S.N. 089-3009
A Three Span (54'-3":63'-6":54'-3") Steel Girder Structure on Spill Thru Abutments at Sta. 383+92.73. No Skew. To be Removed. Existing Beams to be Salvaged.

Proposed Structure: S.N. 089-3282
A Two Span (2 @ 86'-6") Precast, Prestressed Concrete I-Beam Structure on Spill Thru Abutments at Sta. 383+72. Skewed 0°.

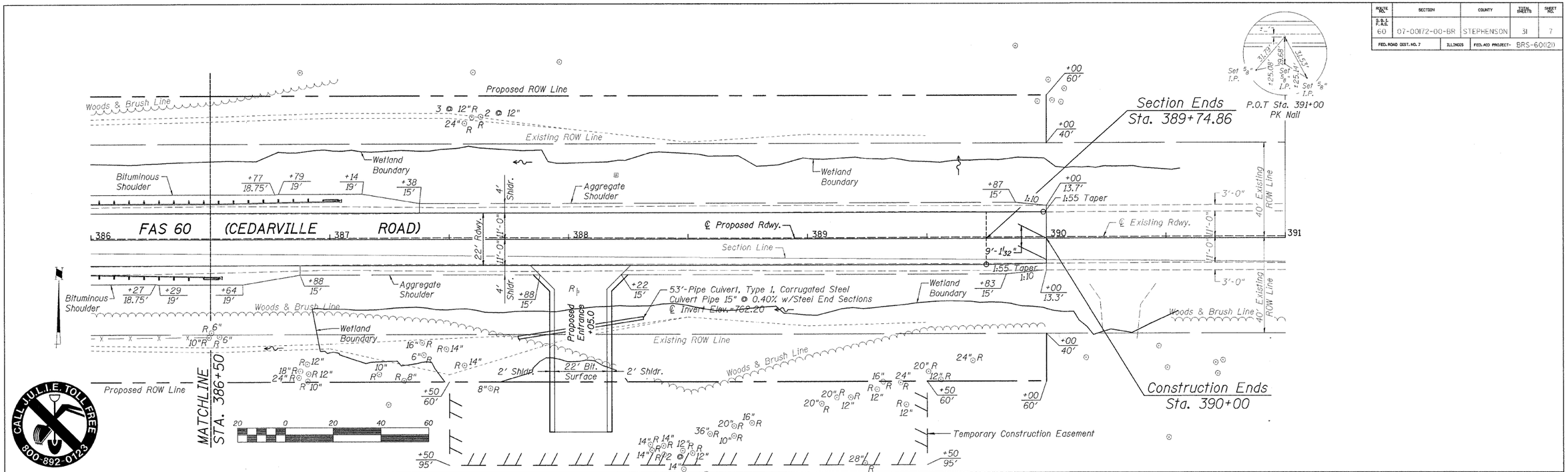

ex = -0.31'
K = 109
165.00' V.C.
PC & PT Sta. 381+41.12 Elev.=771.75
VPI Sta. 382+23.62 Elev.=773.00
PT Sta. 383+06.12 Elev.=773.00
PC Sta. 384+79.35 Elev.=773.00
VPI Sta. 385+61.85 Elev.=773.00
PT & PC Sta. 386+44.35 Elev.=771.75
+1.52%
+0.00%
-1.52%
Proposed Profile
Existing Profile
Channel Excavation
20 Yr. N.W.E.=766.72
S.B. Elev.=755.55
SCALE
381+00
381+50
382+00
382+50
383+00
383+50
384+00
384+50
385+00
385+50
386+00
386+50

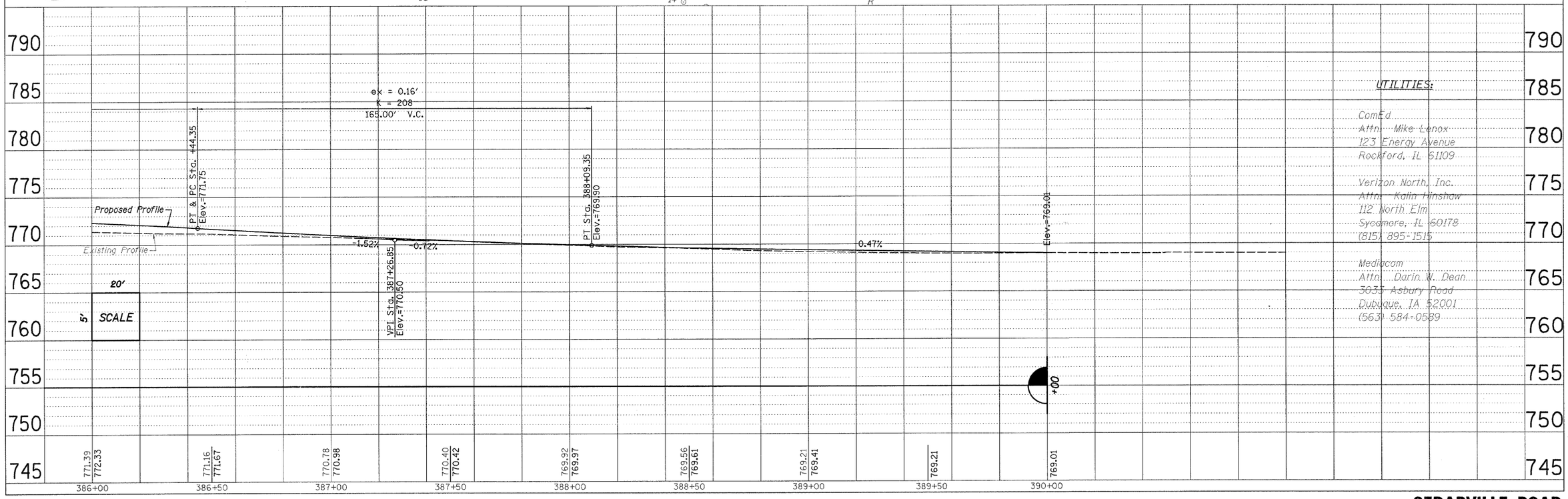
EMBANKMENT = 2,270 C.Y.
CHANNEL EXCAVATION = 1,844 C.Y.
FURNISHED EXCAVATION = 2,270 - ¾[2,064 + ½(1,844)]

EARTH EXCAVATION = 2,064 C.Y.
FURNISHED EXCAVATION = 31 C.Y.

CEDARVILLE ROAD

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. P.E. 60	07-00172-00-BR	STEPHENSON	31	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT- BRS-6001(21)		





UTILITIES:

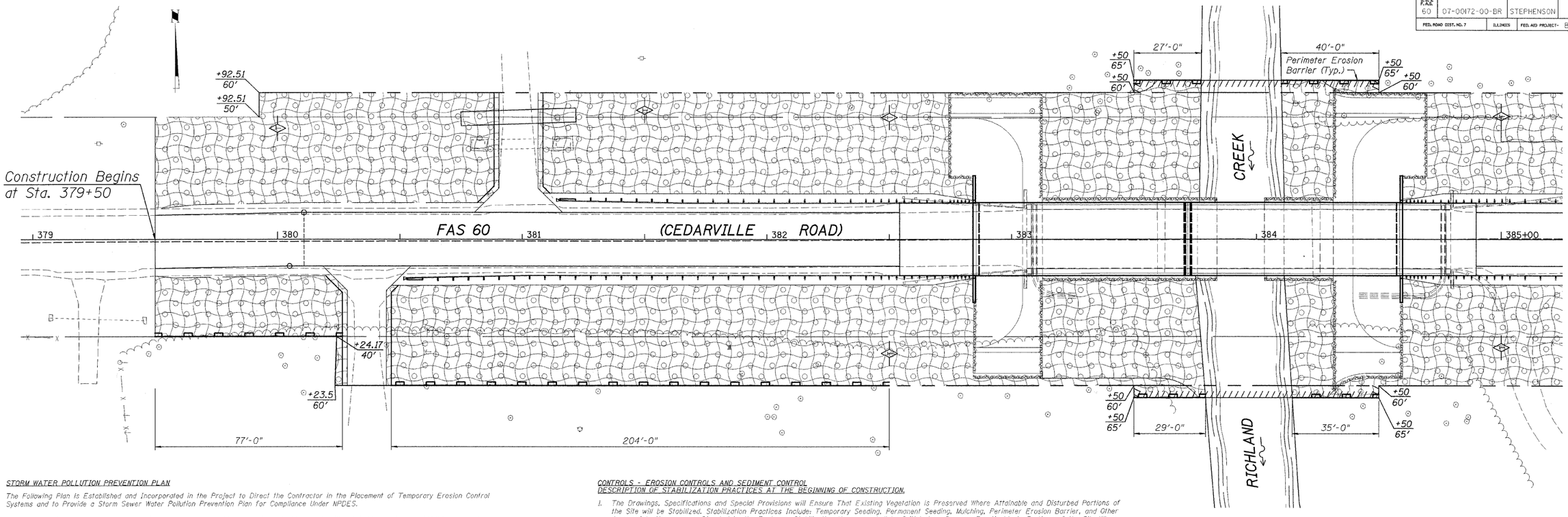
ComEd
Attn: Mike Lenox
123 Energy Avenue
Rockford, IL 61109

Verizon North, Inc.
Attn: Kalin Hinshaw
112 North Elm
Sycamore, IL 60178
(815) 895-1515

Mediacom
Attn: Darin W. Dean
3033 Asbury Road
Dubuque, IA 52001
(563) 584-0589

CEDARVILLE ROAD

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-6012(2)	



STORM WATER POLLUTION PREVENTION PLAN

The Following Plan Is Established and Incorporated in the Project to Direct the Contractor in the Placement of Temporary Erosion Control Systems and to Provide a Storm Sewer Water Pollution Prevention Plan for Compliance Under NPDES.

The Purpose of this Plan Is to Minimize Erosion Within the Construction Site and to Limit Sediments From Leaving the Construction Site by Utilizing Proper Temporary Erosion Control Systems and Providing Ground Cover Within a Reasonable Amount of Time.

Certain Erosion Control Facilities shall be Installed by the Contractor at the Beginning of Construction. Other Items shall be Installed by the Contractor as Directed by the Engineer on a Case by Case Situation Depending on the Contractor's Sequence of Activities, Time of Year, and Expected Weather Conditions.

The Contractor shall Install Permanent Erosion Control Systems and Seeding Within a Time Frame Specified Herein and as Directed by the Engineer. Therefore Minimizing the Amount of Area Susceptible to Erosion and Reducing the Amount of Temporary Seeding. The Engineer will Determine If any Temporary Erosion Control Systems Shown in the Plan can be Deleted and If any Additional Temporary Erosion Control Systems, which are not Included in this Plan, shall be Added. The Contractor shall Perform All Work as Directed by the Engineer and as Shown in Standard 280001 of the Plans.

Section 280, Temporary Erosion Control, of the Standard Specifications Additionally Supplements This Plan.

SITE DESCRIPTION
DESCRIPTION OF CONSTRUCTION ACTIVITY:

1. *The Project Consists of Bridge Replacement on Cedarville Road over Richland Creek & Approach Roadway work thereto.*
2. *Construction Includes Pavement Removal, Earth Excavation, Entrances, Channel Excavation, Various Pavement Items, Bridge Items and Other Miscellaneous Items of Construction.*

DESCRIPTION OF INTENDED SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB SOILS FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

1. *Pavement Removal and Earth Excavation*
2. *Channel Excavation*
3. *Furnished Excavation*
4. *Aggregate Base, Bituminous Surface and Related Appurtenances*
5. *Placement of Permanent Erosion Control, Including Seeding*

AREA OF CONSTRUCTION SITE:

The Total Area of the Construction Site is Estimated to be 1.96 Acres of Which 1.96 Acres will be Disturbed by Excavation, Grading, and Other Activities.

OTHER REPORTS, STUDIES AND PLANS WHICH AID IN THE DEVELOPMENT OF THE STORM WATER POLLUTION PREVENTION PLAN AS REFERENCED DOCUMENTS:

1. *Information of the Soils and Terrain Within the Site was Obtained From Soil Borings that were Utilized for the Development of the Proposed Temporary Erosion Control Systems.*
2. *Project Plan Documents, Specifications and Special Provisions, and Plan Drawings Indicating Drainage Patterns and Approximate Slopes Anticipated After Grading Activities were Utilized for the Proposed Placement of the Temporary Erosion Control Systems.*

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20 0 20 40 60

CONTROLS - EROSION CONTROLS AND SEDIMENT CONTROL
DESCRIPTION OF STABILIZATION PRACTICES AT THE BEGINNING OF CONSTRUCTION.

1. *The Drawings, Specifications and Special Provisions will Ensure That Existing Vegetation is Preserved Where Attainable and Disturbed Portions of the Site will be Stabilized. Stabilization Practices Include: Temporary Seeding, Permanent Seeding, Mulching, Perimeter Erosion Barrier, and Other Appropriate Measures as Directed by the Engineer. Stabilization Measures shall be Initiated as Soon as Practicable in Portions of the Site Where Construction Activities have Temporarily or Permanently Ceased, but in No Case More Than 7 Days After the Construction Activity in That Portion of the Site has Temporarily or Permanently Ceased.*

   (a) *Areas of Existing Vegetation (Wood and Grasslands) Outside the Proposed Construction Limits shall be Identified by the Engineer for Preserving and shall be Protected From Construction Activities.*

   (b) *Dead, Diseased, or Unsuitable Vegetation Within the Site shall be Removed as Directed by the Engineer, Along with Required Tree Removal.*

   (c) *As Soon as Reasonable Access is Available to All Locations Where Water Drains Away From the Project, Temporary Ditch Checks and Perimeter Erosion Barrier shall be Installed as Called Out in this Plan and Directed by the Engineer.*

   (d) *Bare and Sparsely Vegetated Ground in Highly Erodible Areas as Determined by the Engineer shall be Temporarily Seeded at the Beginning of Construction Where No Construction Activities are Expected Within Seven Days.*

   (e) *At Locations Where a Significant Amount of Water Drains Into the Construction Zone From Outside Areas (Adjacent Landowners), Temporary Ditch Checks will be Utilized to Locally Divert Water, Reduce Flow Rates, and Collect Outside Siltation Inside the Right-of-Way Line.*

2. *Establishment of These Temporary Erosion Control Measures will have Additional Benefits to the Project. Desirable Grass Seed will Become Established in These Areas and Will Spread Seeds onto the Construction Site Until Permanent Seeding/Mowing and Overseeding can be Completed.*

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION:

1. *During Construction, Areas Outside the Construction Limits as Outlined Previously Herein shall be Protected. The Contractor shall not Use This Area for Staging (Except as Described on the Plans and Directed by the Engineer), Parking of Vehicles or Construction Equipment, Storage of Materials, or Other Construction Related Activities.*

   (a) *Within the Construction Limits, Areas Which may be Susceptible to Erosion as Determined by the Engineer shall Remain Undisturbed Until Full Scale Construction is Underway to Prevent Unnecessary Soil Erosion.*

   (b) *Earth Stockpiles shall be Temporarily Seeded If They are to Remain Unused for More Than Fourteen Days.*

   (c) *As Construction Proceeds, the Contractor shall Institute the Following as Directed by the Engineer:*

      I. *Place Temporary Erosion Control Facilities at Locations Shown on the Plans.*

      II. *Temporarily Seed Erodable Bare Earth on a Weekly Basis to Minimize the Amount of Erodable Surface Area Within the Contract Limits.*

   (d) *Excavated Areas and Embankment shall be Permanently Seeded Immediately After Final Grading. If not, they shall be Temporarily Seeded if no Construction Activity in the Area is Planned for 7 Days.*

   (e) *Construction Equipment shall be Stored and Fueled Only at Designated Locations. All Necessary Measures shall be Taken to Contain any Fuel or Other Pollutant in Accordance With EPA Water Quality Regulations. Leaking Equipment or Supplies shall be Immediately Repaired or Removed From the Site.*

   (f) *The Resident Engineer shall Inspect the Project Daily During Construction Activities. Inspection shall Also be Done Weekly and After Rains of ½ Inch or Greater or Equivalent Snowfall and During the Winter Shutdown Period. The Project shall Additionally be Inspected by the Construction Field Engineer on a Bi-Weekly Basis to Determine That Erosion Control Efforts are in Place and Effective and if Other Erosion Control Work is Necessary.*

   (g) *Sediment Collected During Construction of the Various Temporary Erosion Control Systems shall be Disposed of on The Site on a Regular Basis as Directed by the Engineer. The Cost of This Maintenance shall be Included in the Unit Bid Price for Earth Excavation for Erosion Control.*

   (h) *The Temporary Erosion Control Systems shall be Removed as Directed by the Engineer After Use is No Longer Needed or No Longer Functioning. The Cost of This Removal shall be Included in the Unit Bid Price for Various Temporary Erosion Control Pay Items.*

NOTES CONTINUE ON PAGE 9 OF 31

LEGEND

Perimeter Erosion Barrier

Seeding, Class 2 (Special)

Temporary Aggregate Ditch Checks

Erosion Control Blanket

BILL OF MATERIAL

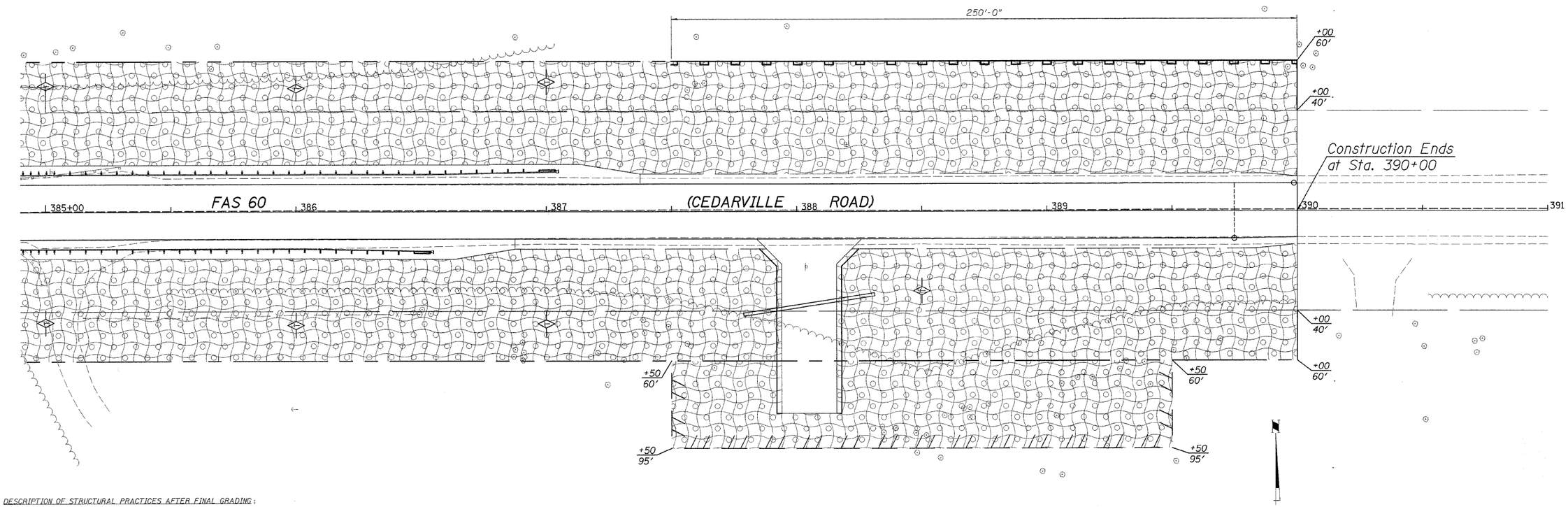
Item	Unit	Quantity
Seeding, Class 2 (Special)	Acre	1.96
Erosion Control Blanket	Sq. Yd.	9,488
Temporary Ditch Checks	Each	11
Perimeter Erosion Barrier	Foot	662

EROSION CONTROL PLAN
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY

WHA # 1106D07

85436

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	9
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-6011(21)	



DESCRIPTION OF STRUCTURAL PRACTICES AFTER FINAL GRADING:

1. Temporary Erosion Control Systems shall be Left in Place With Proper Maintenance Until Permanent Erosion Control is in Place and Working Properly and All Proposed Turf Areas Seeded and Established.
2. Once Permanent Erosion Control Systems as Proposed in the Plans are Functional and Established, Temporary Items shall be Removed, Cleaned Up, and Disturbed Turf Reseeded.

MAINTENANCE AFTER CONSTRUCTION:

1. Construction is Complete After Acceptance by I.D.O.T. Final Inspection. Maintenance Up to This Date Will be by the Contractor.

MISCELLANEOUS:

1. Temporary Erosion Control Seeding shall be Applied at a Rate of 100 Lbs./Acres.
2. Straw Bales, Hay Bales, Perimeter Erosion Barrier and Silt Fences Will be Permitted for Temporary or Permanent Ditch Checks. Ditch Checks May be Comprised of Aggregate, Silt Panels, Rolled Excelsior, Urethane Foam/Geotextile (Silt Sedges), and/or Any Other Material Approved by the Erosion and Sediment Control Coordinator.
3. Sediment Collected During Construction by the Various Temporary Erosion Control Systems shall be Disposed of on the Site on a Regular Basis, as Directed by the Engineer. The Cost of This Maintenance shall be Paid for at the Contract Unit Price per Cubic Yard for Earth Excavation.
4. All Erosion Control Products Furnished shall be Specifically Recommended by the Manufacturer for the Use Specified in the Erosion Control Plan. Prior to the Approval and Use of the Product, the Contractor shall Submit to the Engineer a Notarized Certification by the Producer Stating the Intended Use of the Product and That the Physical Properties Required for This Application are Met or Exceeded. The Contractor shall Provide Manufacturer Installation Procedures to Facilitate the Engineer in Construction Inspection.

This Plan has been Prepared to Comply With the Provisions of the NPDES Permit Number ILR10, Issued by the Illinois Environmental Protection Agency for Storm Water Discharges From Construction Site Activities.

I Certify Under Penalty of Law That This Document and All Attachments were Prepared Under My Direction or Supervision in Accordance with a System Designed to Assure That Qualified Personnel Properly Gathered and Evaluated the Information Submitted. Based on My Inquiry of the Person or Persons who Manage the System, or Those Persons Directly Responsible for Gathering the Information, the Information Submitted is, to the Best of My Knowledge and Belief, True, Accurate and Complete. I am Aware that There are Significant Penalties for Submitting False Information, Including the Possibility of Fine and Imprisonment for Knowing Violations.

Chris L. Fisher
STEPHENSON COUNTY ENGINEER

6.4.08
DATE

CALL J.U.L.I.E. TOLL FREE 800-892-0123

20 0 20 40 60

EROSION CONTROL NOTES

The Soil Erosion And Sediment Control Practices Will Be Inspected Weekly And After ½" Of Rain Or More By The Individual On Site In Charge Of Soil Erosion And Sediment Control During The Construction Of The Project.

Perimeter Erosion Barrier Shall Comply With Section 280 Of The Standard Specifications And Shall Be Placed As Shown On The Erosion Control Plan And In Accordance With Stations Shown On The Schedule Of Quantities Sheet Or As Directed By The Engineer.

Silt Fence Shall Be Installed Following The Completion And Stabilization Of All Areas Adjacent To The On-Site Drainages. The Silt Fence Will Remain In Place Until The Contributing Area Is Stabilized.

For Seeding, Class 2 (Special) See Special Provisions.

Mulch Shall Be Placed Over The Entire Seeded Region.

Erosion Control Blanket Shall Be Placed In Ditches And To All Disturbed Areas As Shown On This Erosion Control Plan Sheet And In Accordance With Section 251 Of The Standard Specifications For Road And Bridge Construction.

The Use Of Green Dye In The Erosion Control Blanket Is Not Acceptable.

The Use Of Asphalt As A Binder Is Not Acceptable.

Temporary Ditch Checks Shall Comply With Section 280 Of The Standard Specifications For Road And Bridge Construction And Standard 280001-04 Located In The Plans. Temporary Ditch Checks Shall Be Aggregate.

Temporary Ditch Checks Shall Be Placed At 100' Maximum Centers And Shall Be Placed At Stations Called Out In The Schedule Of Quantities Or As Directed By The Engineer.

Stockpiles Of Soil And Other Building Materials To Remain In Place More Than Three (3) Days Shall Be Furnished With Erosion And Sediment Control Measures (I.E. Perimeter Silt Fence). Stockpiles To Remain In Place For 30 Days Or More Shall Receive Temporary Seeding.

All Adjacent Streets Must Be Kept Clear Of Debris. Inspected Daily And Cleaned When Necessary.

All Soil Erosion And Sediment Control Practices Are Referenced From The Illinois Urban Manual.

LEGEND

Perimeter Erosion Barrier

Seeding, Class 2 (Special)

T — Temporary Aggregate Ditch Checks

Erosion Control Blanket

EROSION CONTROL PLAN
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY

WHA # 1106D07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. RT. 60	07-00172-00-BR	STEPHENSON	31	10
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-60(121)	

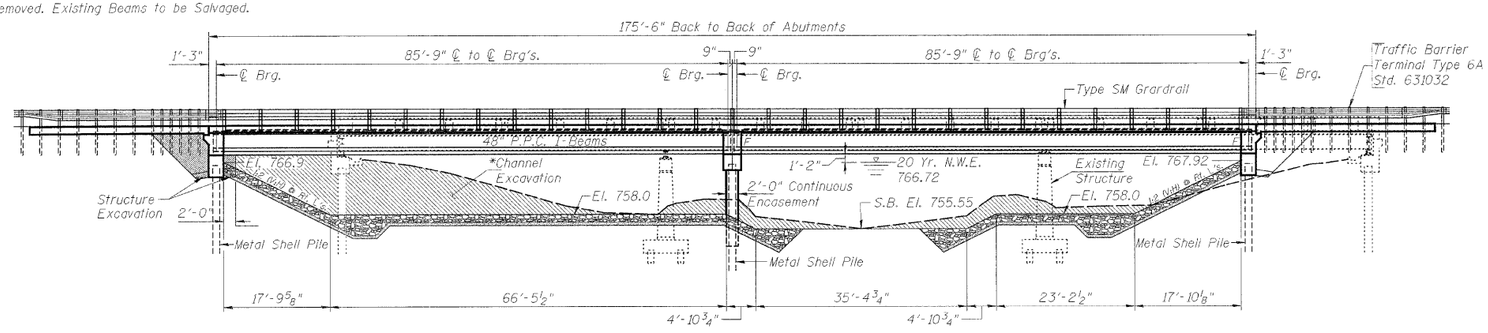
Structural Sheet 1 of 14

EXISTING STRUCTURE: S.N. 089-3009
A Three Span (54'-3";63'-6";54'-3") Steel Girder Structure on Spill Thru Abutments at Sta. 383+92.73. No Skew. To be Removed. Existing Beams to be Salvaged.

BENCH MARK: RR Spk. in 3rd Big PP West of Bridge, 39' Lt. of Sta. ±379+27
Elev.=763.71

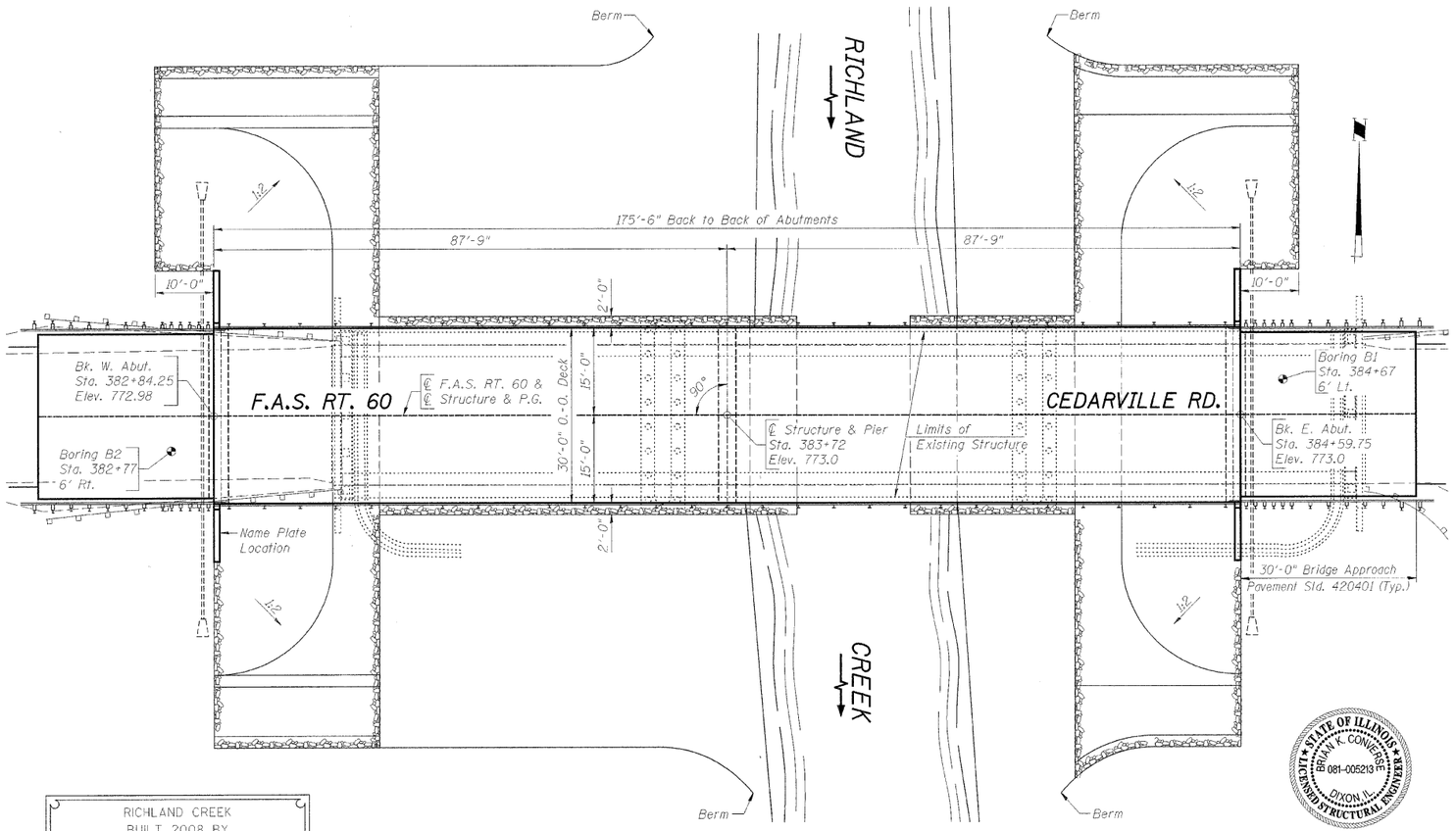
BENCH MARK: Chiseled "□" on the NE Wingwall of Exist. Bridge over Cedarville Rd.
Elev.=772.41

BENCH MARK: RR Spk. in PP, 1st PP East of Bridge, Sta. 385+85
Elev.=764.51



WEST ABUT. PIER EAST ABUT.

ELEVATION VIEW



PLAN VIEW

RICHLAND CREEK
BUILT 2008 BY
STEPHENSON COUNTY
SECTION 07-00172-00-BR
F.A.S. RT. 60 STATION 383+72
STR. NO. 089-3282 LOADING HL93

NAME PLATE LETTERING
Refer To Std. 515001-02

STATE OF ILLINOIS
BRIAN K. CONVERSE
081-005213
DIXON, IL
LICENSED STRUCTURAL ENGINEER

Brian K. Converse
DATE: MAY 8TH, 2008
EXPIRES 11/30/08

"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 Complies With Requirements Of The Current 'AASHTO Standard Specifications For Highway Bridges'."

BILL OF MATERIAL - BRIDGE

	ITEM	UNIT	SUB	SUPER	TOTAL
	Channel Excavation	Cu Yd	1,844	———	1,844
	Porous Granular Embankment, (Special)	Cu Yd	122	———	122
	Stone Riprap, Class A4	Sq Yd	1,232	———	1,232
	Filter Fabric	Sq Yd	1,232	———	1,232
	Removal of Existing Structures	Each	———	———	1
	Structure Excavation	Cu Yd	103	———	103
	Concrete Structures	Cu Yd	60.2	———	60.2
	Concrete Superstructures	Cu Yd	———	179.4	179.4
	Bridge Deck Grooving	Sq Yd	———	546	546
**	Protective Coat	Sq Yd	———	585	585
	Furnishing And Erecting Precast Prestressed Concrete I-Beams, 48"	Foot	———	867.5	867.5
	Reinforcement Bars, Epoxy Coated	Pound	7,130	34,100	41,230
	Bar Splicers	Each	———	62	62
	Steel Railing, Type SM	Foot	———	351	351
	Furnishing Metal Shell Piles 14" x 0.250"	Foot	464	———	464
	Driving Piles	Foot	464	———	464
	Test Pile Metal Shells	Each	3	———	3
	Name Plates	Each	———	1	1
	Concrete Headwalls for Pipe Drains	Each	4	———	4
	Geocomposite Wall Drain	Sq Yd	48	———	48
	Pipe Underdrains For Structures 4"	Foot	134	———	134
	Underwater Structure Excavation Protection	L Sum	1		1

GENERAL NOTES:

See Proposal for boring data.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Layout of 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.

*Channel shall be transitioned from edge of deck to Proposed Right of Way.

**Quantity is for the Deck only.

Filling Metal Shell Piles shall be included in cost of Driving Piles.

WATERWAY INFORMATION

DRAINAGE AREA	91.50 Sq. Mi.
DESIGN DISCHARGE (20 YR.)	5,950 C.F.S.
EXISTING OPENING	1,173 Sq. Ft.
REQUIRED OPENING	1,338 Sq. Ft.
PROPOSED OPENING	1,338 Sq. Ft.
CREATED HEAD (20 YR.)	< 0.5'
100 YR. DISCHARGE	8,587 C.F.S.
CREATED HEAD (100 YR.)	< 1.0'
HIGH WATER ELEV. (100 YR.)	767.88 Ft.

DESIGN SPECIFICATIONS

2004 AASHTO LRFD Bridge Design Specifications with 2005 and 2006 Interims

DESIGN STRESSES

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

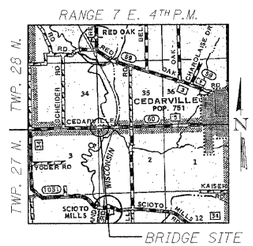
PRECAST PRESTRESSED UNITS
f'c = 7,000 psi
f'ci = 6,000 psi
f's = 270,000 psi (½" ϕ Low Lax Strands)
f'si = 201,960 psi (½" ϕ Low Lax Strands)

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
FAS 60 (CEDARVILLE ROAD) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY

WILLETT, HOFMANN & ASSOCIATES, INC.
CONSULTING ENGINEERS
Land Surveying - Transportation - Structural
Environmental - Architecture
809 East Second Street Dixon, Illinois 61021
Phone 815.284.3381 Fax 815.284.3365
Design Firm #184-000918
www.willetthofmann.com

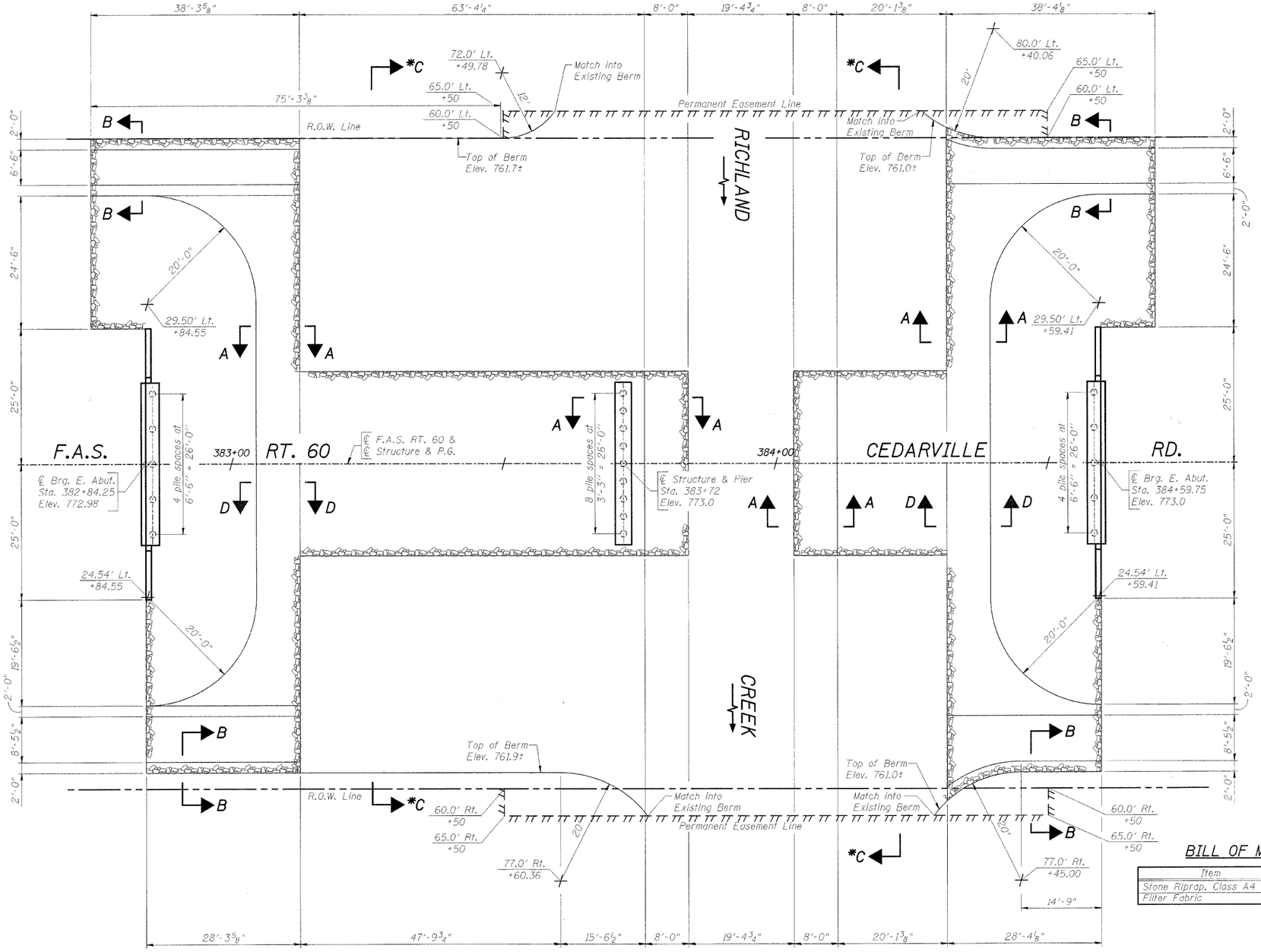
WHA #1106D07

Designed by: B. K. Converse DATE: 6/07
Checked by: M. A. Small DATE: 12/07
Drawn by: F. D. Lachat DATE: 12/07

85436

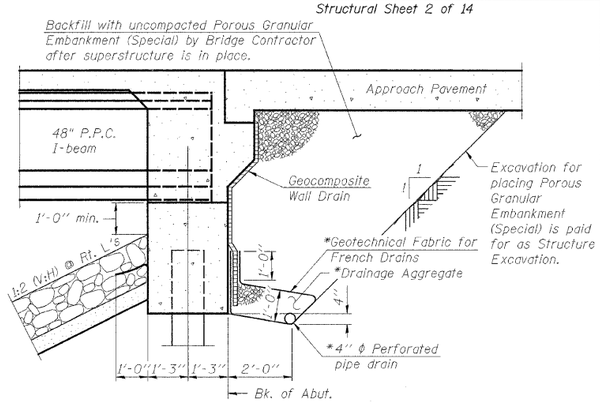
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.S. 60	07-00172-00-BR	STEPHENSON	31	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-60(121)	

Structural Sheet 2 of 14



PLAN VIEW

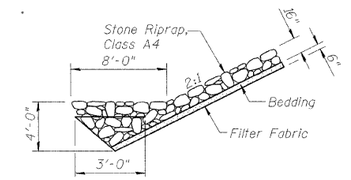
NOTE:
*See Cross Section Sheet 31 of 31 for Section C-C



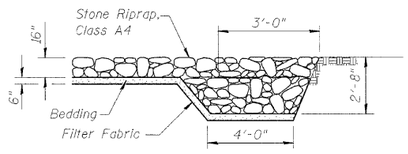
SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. ℄ Rt. L's)

* Included in the cost of Pipe Underdrains for Structures 4"

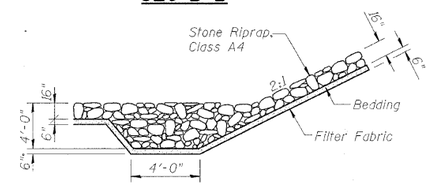
Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



SEC A-A



SEC B-B



SEC D-D

STONE RIPRAP ANCHOR DETAILS

BILL OF MATERIAL

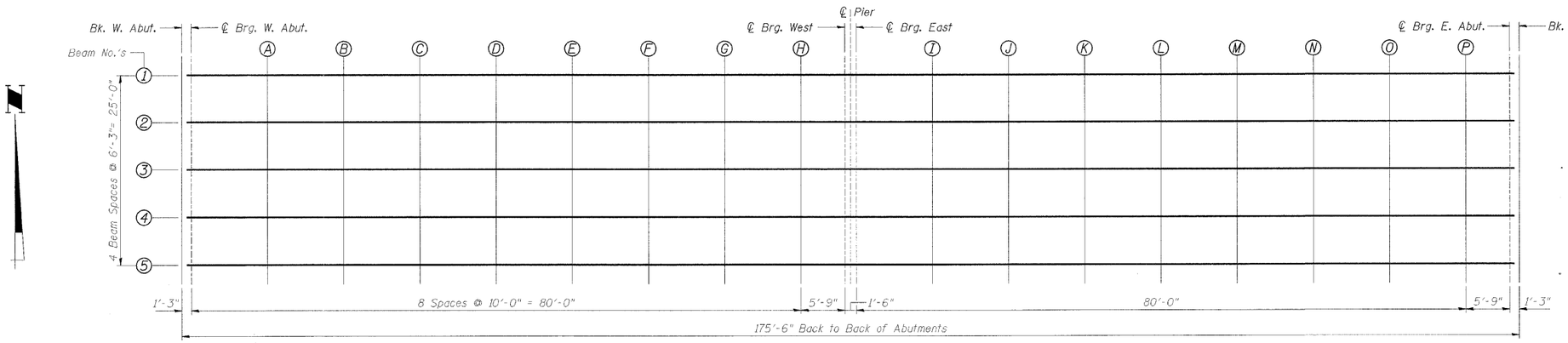
Item	Unit	Quantity
Stone Riprap, Class A4	Sq. Yd.	1.232
Filter Fabric	Sq. Yd.	1.232

RIPRAP AND PILE LAYOUT
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

85436

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. P.A.N. 60	07-00172-00-BR	STEPHENSON	31	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-60(121)	

Structural Sheet 3 of 14



PLAN

LEFT EDGE OF DECK

Location	Station	Offset Lt.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	382+84.25	-15.000	772.727	772.727
℄ Brg. West Abut.	382+85.50	-15.000	772.730	772.730
A	382+95.50	-15.000	772.744	772.779
B	383+05.50	-15.000	772.749	772.813
C	383+15.50	-15.000	772.750	772.834
D	383+25.50	-15.000	772.750	772.843
E	383+35.50	-15.000	772.750	772.841
F	383+45.50	-15.000	772.750	772.826
G	383+55.50	-15.000	772.750	772.802
H	383+65.50	-15.000	772.750	772.770
℄ Brg. Pier West	383+71.25	-15.000	772.750	772.750
℄ Pier	383+72.00	-15.000	772.750	772.750
℄ Brg. Pier East	383+72.75	-15.000	772.750	772.750
I	383+82.75	-15.000	772.750	772.784
J	383+92.75	-15.000	772.750	772.813
K	384+02.75	-15.000	772.750	772.834
L	384+12.75	-15.000	772.750	772.843
M	384+22.75	-15.000	772.750	772.841
N	384+32.75	-15.000	772.750	772.826
O	384+42.75	-15.000	772.750	772.802
P	384+52.75	-15.000	772.750	772.770
℄ Brg. East Abut.	384+58.50	-15.000	772.750	772.750
Back of East Abut.	384+59.75	-15.000	772.750	772.750

BEAM 1

Location	Station	Offset Lt.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	382+84.25	12.5	772.780	772.780
℄ Brg. West Abut.	382+85.50	12.5	772.782	772.782
A	382+95.50	12.5	772.796	772.831
B	383+05.50	12.5	772.802	772.865
C	383+15.50	12.5	772.802	772.886
D	383+25.50	12.5	772.802	772.895
E	383+35.50	12.5	772.802	772.893
F	383+45.50	12.5	772.802	772.878
G	383+55.50	12.5	772.802	772.854
H	383+65.50	12.5	772.802	772.822
℄ Brg. Pier West	383+71.25	12.5	772.802	772.802
℄ Pier	383+72.00	12.5	772.802	772.802
℄ Brg. Pier East	383+72.75	12.5	772.802	772.802
I	383+82.75	12.5	772.802	772.836
J	383+92.75	12.5	772.802	772.866
K	384+02.75	12.5	772.802	772.886
L	384+12.75	12.5	772.802	772.895
M	384+22.75	12.5	772.802	772.893
N	384+32.75	12.5	772.802	772.878
O	384+42.75	12.5	772.802	772.854
P	384+52.75	12.5	772.802	772.822
℄ Brg. East Abut.	384+58.50	12.5	772.802	772.802
Back of East Abut.	384+59.75	12.5	772.802	772.802

BEAM 2

Location	Station	Offset Lt.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	382+84.25	6.25	772.880	772.880
℄ Brg. West Abut.	382+85.50	6.25	772.882	772.882
A	382+95.50	6.25	772.897	772.931
B	383+05.50	6.25	772.902	772.966
C	383+15.50	6.25	772.902	772.986
D	383+25.50	6.25	772.902	772.996
E	383+35.50	6.25	772.902	772.993
F	383+45.50	6.25	772.902	772.979
G	383+55.50	6.25	772.902	772.954
H	383+65.50	6.25	772.902	772.922
℄ Brg. Pier West	383+71.25	6.25	772.902	772.902
℄ Pier	383+72.00	6.25	772.902	772.902
℄ Brg. Pier East	383+72.75	6.25	772.902	772.902
I	383+82.75	6.25	772.902	772.937
J	383+92.75	6.25	772.902	772.966
K	384+02.75	6.25	772.902	772.986
L	384+12.75	6.25	772.902	772.996
M	384+22.75	6.25	772.902	772.993
N	384+32.75	6.25	772.902	772.979
O	384+42.75	6.25	772.902	772.954
P	384+52.75	6.25	772.902	772.922
℄ Brg. East Abut.	384+58.50	6.25	772.902	772.902
Back of East Abut.	384+59.75	6.25	772.902	772.902

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	382+84.25	0.00	772.977	772.977
℄ Brg. West Abut.	382+85.50	0.00	772.980	772.980
A	382+95.50	0.00	772.994	773.029
B	383+05.50	0.00	772.999	773.063
C	383+15.50	0.00	773.000	773.084
D	383+25.50	0.00	773.000	773.093
E	383+35.50	0.00	773.000	773.091
F	383+45.50	0.00	773.000	773.076
G	383+55.50	0.00	773.000	773.052
H	383+65.50	0.00	773.000	773.020
℄ Brg. Pier West	383+71.25	0.00	773.000	773.000
℄ Pier	383+72.00	0.00	773.000	773.000
℄ Brg. Pier East	383+72.75	0.00	773.000	773.000
I	383+82.75	0.00	773.000	773.034
J	383+92.75	0.00	773.000	773.063
K	384+02.75	0.00	773.000	773.084
L	384+12.75	0.00	773.000	773.093
M	384+22.75	0.00	773.000	773.091
N	384+32.75	0.00	773.000	773.076
O	384+42.75	0.00	773.000	773.052
P	384+52.75	0.00	773.000	773.020
℄ Brg. East Abut.	384+58.50	0.00	773.000	773.000
Back of East Abut.	384+59.75	0.00	773.000	773.000

BEAM 4

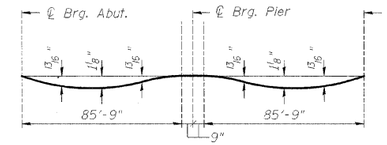
Location	Station	Offset Rt.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	382+84.25	6.250	772.880	772.880
℄ Brg. West Abut.	382+85.50	6.250	772.882	772.882
A	382+95.50	6.250	772.897	772.931
B	383+05.50	6.250	772.902	772.966
C	383+15.50	6.250	772.902	772.986
D	383+25.50	6.250	772.902	772.996
E	383+35.50	6.250	772.902	772.993
F	383+45.50	6.250	772.902	772.979
G	383+55.50	6.250	772.902	772.954
H	383+65.50	6.250	772.902	772.922
℄ Brg. Pier West	383+71.25	6.250	772.902	772.902
℄ Pier	383+72.00	6.250	772.902	772.902
℄ Brg. Pier East	383+72.75	6.250	772.902	772.902
I	383+82.75	6.250	772.902	772.937
J	383+92.75	6.250	772.902	772.966
K	384+02.75	6.250	772.902	772.986
L	384+12.75	6.250	772.902	772.996
M	384+22.75	6.250	772.902	772.993
N	384+32.75	6.250	772.902	772.979
O	384+42.75	6.250	772.902	772.954
P	384+52.75	6.250	772.902	772.922
℄ Brg. East Abut.	384+58.50	6.250	772.902	772.902
Back of East Abut.	384+59.75	6.250	772.902	772.902

BEAM 5

Location	Station	Offset Rt.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	382+84.25	12.500	772.780	772.780
℄ Brg. West Abut.	382+85.50	12.500	772.782	772.782
A	382+95.50	12.500	772.796	772.831
B	383+05.50	12.500	772.802	772.865
C	383+15.50	12.500	772.802	772.886
D	383+25.50	12.500	772.802	772.895
E	383+35.50	12.500	772.802	772.893
F	383+45.50	12.500	772.802	772.878
G	383+55.50	12.500	772.802	772.854
H	383+65.50	12.500	772.802	772.822
℄ Brg. Pier West	383+71.25	12.500	772.802	772.802
℄ Pier	383+72.00	12.500	772.802	772.802
℄ Brg. Pier East	383+72.75	12.500	772.802	772.802
I	383+82.75	12.500	772.802	772.836
J	383+92.75	12.500	772.802	772.866
K	384+02.75	12.500	772.802	772.886
L	384+12.75	12.500	772.802	772.895
M	384+22.75	12.500	772.802	772.893
N	384+32.75	12.500	772.802	772.878
O	384+42.75	12.500	772.802	772.854
P	384+52.75	12.500	772.802	772.822
℄ Brg. East Abut.	384+58.50	12.500	772.802	772.802
Back of East Abut.	384+59.75	12.500	772.802	772.802

RIGHT EDGE OF DECK

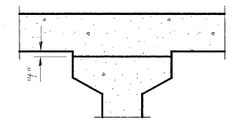
Location	Station	Offset Rt.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of West Abut.	382+84.25	15.000	772.727	772.727
℄ Brg. West Abut.	382+85.50	15.000	772.730	772.730
A	382+95.50	15.000	772.744	772.779
B	383+05.50	15.000	772.749	772.813
C	383+15.50	15.000	772.750	772.834
D	383+25.50	15.000	772.750	772.843
E	383+35.50	15.000	772.750	772.841
F	383+45.50	15.000	772.750	772.826
G	383+55.50	15.000	772.750	772.802
H	383+65.50	15.000	772.750	772.770
℄ Brg. Pier West	383+71.25	15.000	772.750	772.750
℄ Pier	383+72.00	15.000	772.750	772.750
℄ Brg. Pier East	383+72.75	15.000	772.750	772.750
I	383+82.75	15.000	772.750	772.784
J	383+92.75	15.000	772.750	772.813
K	384+02.75	15.000	772.750	772.834
L	384+12.75	15.000	772.750	772.843
M	384+22.75	15.000	772.750	772.841
N	384+32.75	15.000	772.750	772.826
O	384+42.75	15.000	772.750	772.802
P	384+52.75	15.000	772.750	772.770
℄ Brg. East Abut.	384+58.50	15.000	772.750	772.750
Back of East Abut.	384+59.75	15.000	772.750	772.750



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

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



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections", minus slab thickness, equals the fillet heights "t" above top flanges of beams.

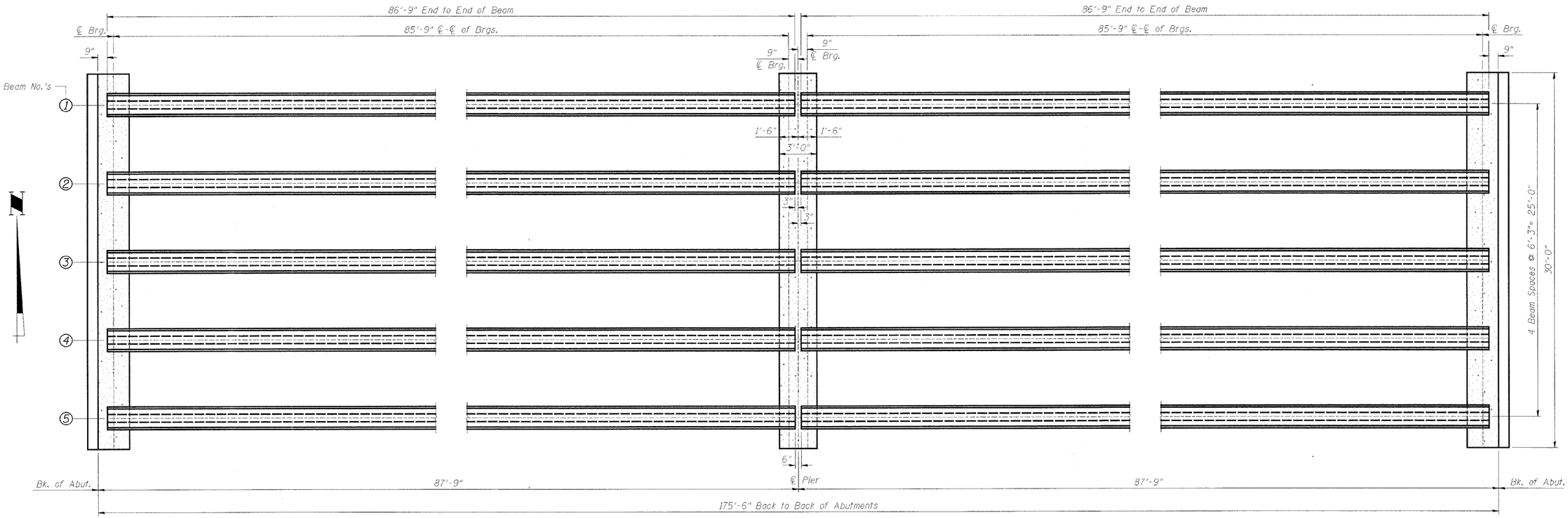
FILLET HEIGHTS

TOP OF SLAB ELEVATIONS
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

85436

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT- BRS-60(121)		

Structural Sheet 4 of 14

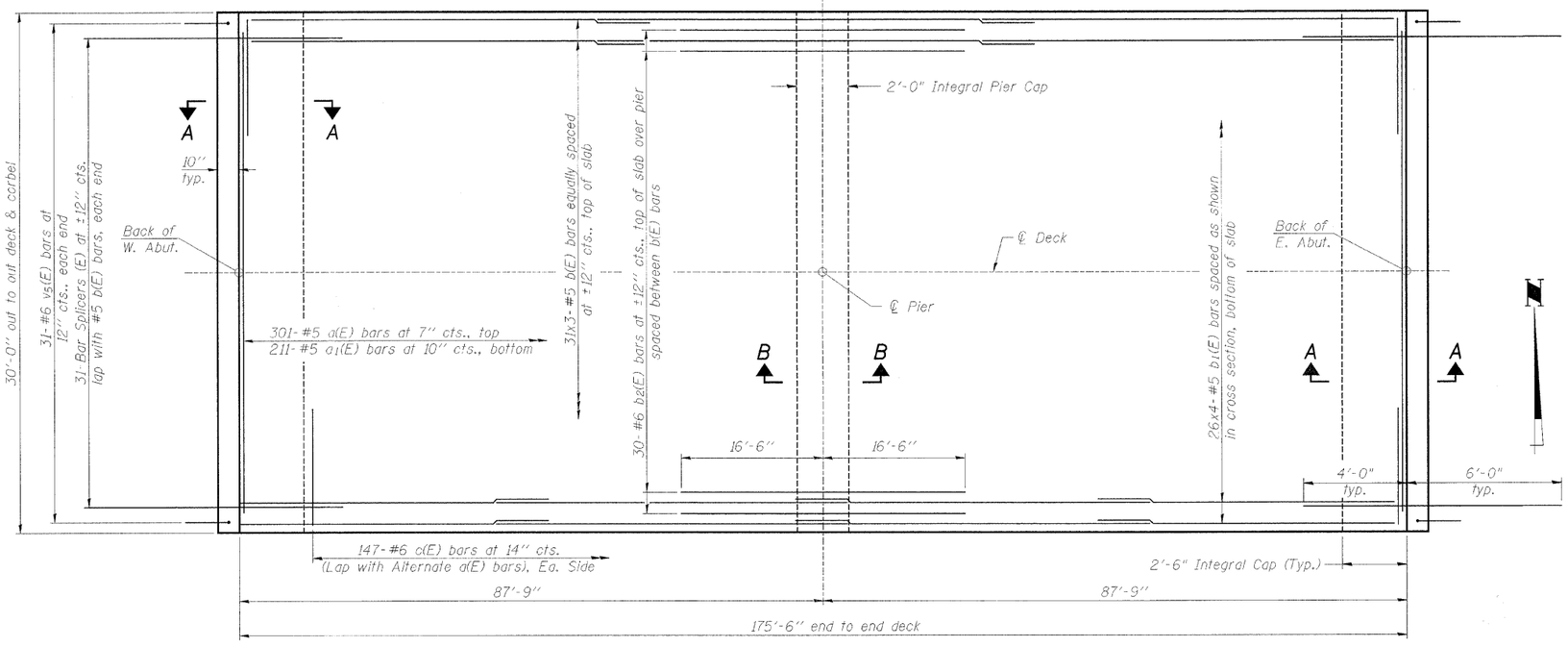


FRAMING PLAN

FRAMING PLAN
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

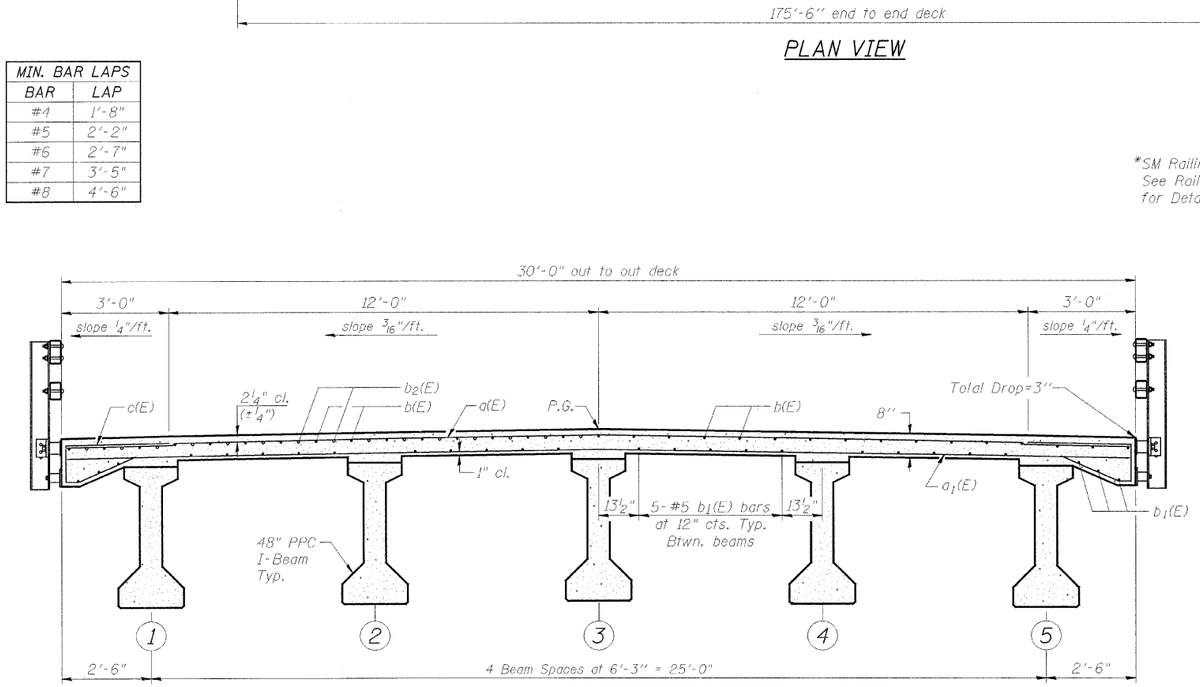
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-60(121)	

Structural Sheet 5 of 14



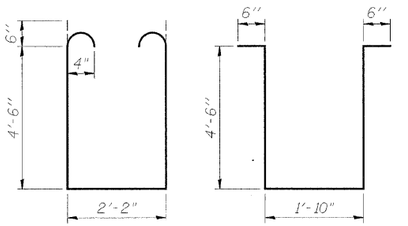
PLAN VIEW

MIN. BAR LAPS	
BAR	LAP
#4	1'-8"
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"

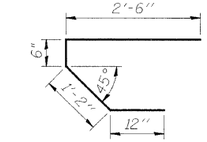


NEAR PIER NEAR MIDSPAN

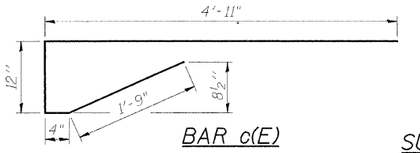
CROSS SECTION
(Looking East)



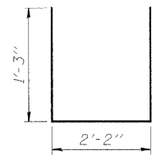
BAR s_1(E) BAR s_2(E)



BAR s(E)

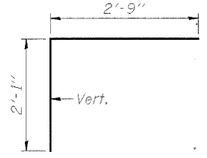


BAR c(E)

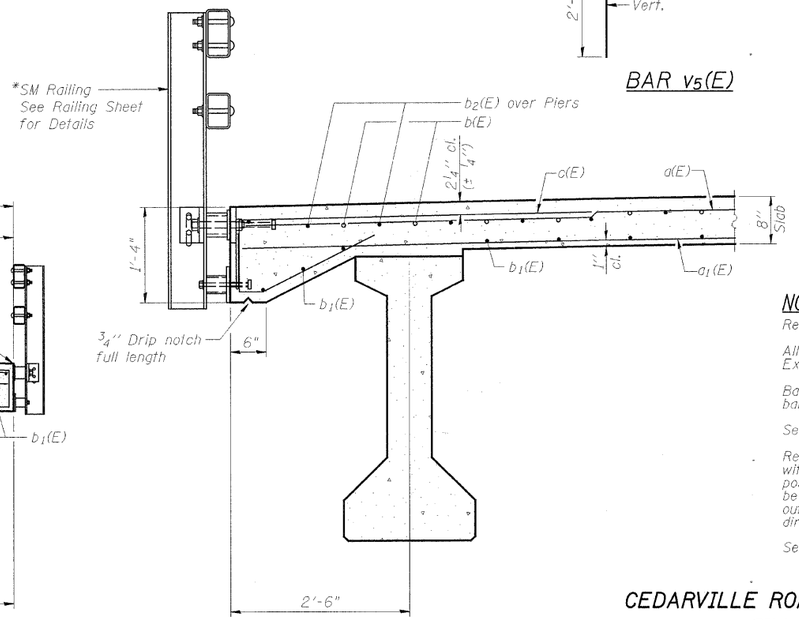


BAR u(E)

(See Structural Sheet 6 of 14 for Placement.)



BAR v_5(E)



SECTION THRU END OF DECK

*For insert locations See Structural Sheet 12 of 14.

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	301	#5	29'-8"	—
a_1(E)	211	#5	29'-8"	—
b(E)	93	#5	59'-10"	—
b_1(E)	104	#5	45'-5"	—
b_2(E)	30	#6	33'-0"	—
c(E)	294	#6	8'-0"	⌐
m(E)	4	#4	29'-8"	—
m_1(E)	8	#6	29'-8"	—
m_2(E)	20	#6	7'-7"	—
m_3(E)	16	#5	4'-1"	—
m_4(E)	4	#6	1'-3"	—
m_5(E)	24	#6	5'-3"	—
m_6(E)	5	#8	5'-10"	—
s(E)	60	#5	5'-2"	⊏
s_1(E)	52	#4	12'-2"	⊔
s_2(E)	20	#4	11'-10"	⊤
u(E)	20	#6	4'-8"	⊔
v_5(E)	62	#6	4'-10"	⌐
Reinforcement Bars, Epoxy Coated			Lbs.	34,100
Concrete Superstructure			Cu. Yds.	179.4
Protective Coat			Sq. Yds.	585
Bar Splicers			Each	62
Bridge Deck Grooving			Sq. Yds.	546

NOTES:

Reinforcement bars designated (E) shall be epoxy coated.

All exposed edges shall have standard 3/4" chamfers. Except as noted.

Bars indicated thus 31 x 3-#5 etc. indicates 31 lines of bars with 3 lengths per line.

See Structural Sheet 13 of 14 for bar splicer details.

Reinforcement bars in the top of the deck may be placed with a 1 1/2" minimum clearance in the area of the rail post anchor devices. 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.

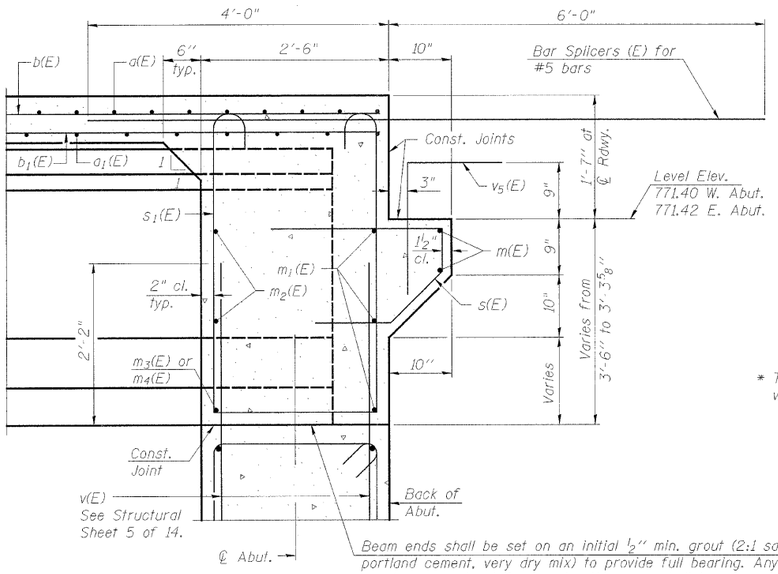
See Structural Sheet 6 of 14 for Sections A-A & B-B.

SUPERSTRUCTURE
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

85436

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-6011(21)	

Structural Sheet 6 of 14

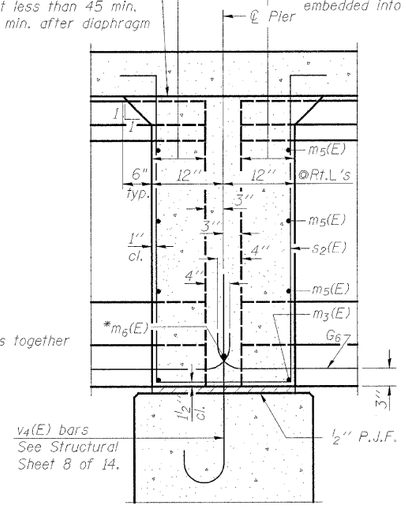


Beam ends shall be set on an initial ½" min. grout (2:1 sand and portland cement, very dry mix) to provide full bearing. Any excess grout squeezed out from under the beam shall be removed. Cost included with Concrete Structures.

SECTION A-A

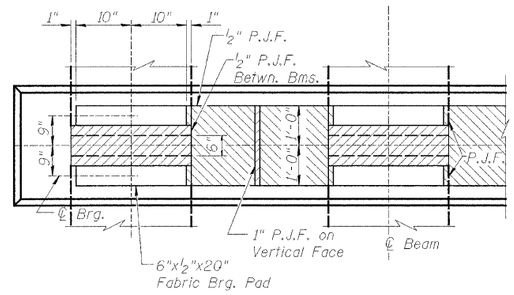
Pour diaphragm flush with bott. of slab. Concrete in slab above this line shall be placed not less than 45 min. nor more than 90 min. after diaphragm has been poured.

Roofing felt shall be bonded to side of beam embedded into diaphragm.



* Tightly fasten the #8 bars together with No. 9 wire ties.

SECTION B-B



PLAN VIEW-PIERS

NOTES:

See Structural Sheet 5 of 14 for location of Sections A-A and B-B.

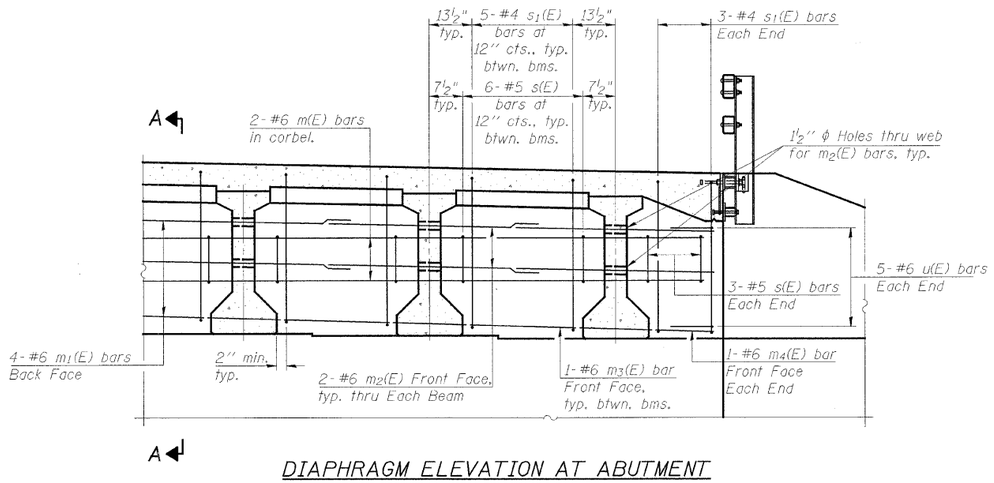
Reinforcement bars in diaphragm are billed with superstructure on Structural Sheet 5 of 14.

Concrete in diaphragm is included with Concrete Superstructure on Structural Sheet 5 of 14.

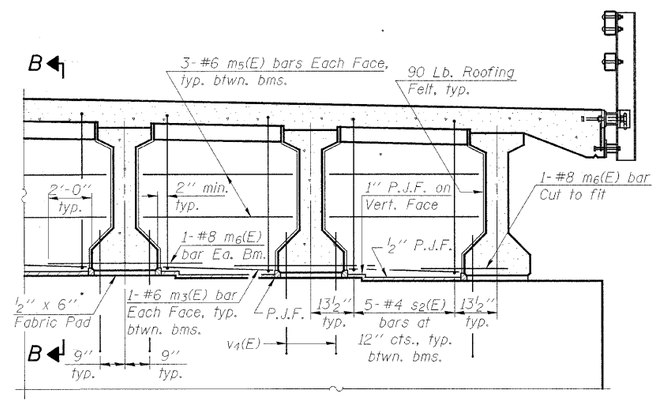
For details of bars s(E), s_1(E) and s_2(E), see Structural Sheet 5 of 14.

Cost of 90 Lb. roofing felt is included with Concrete Superstructure.

MIN. BAR LAPS	
BAR	LAP
#4	1'-8"
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"



DIAPHRAGM ELEVATION AT ABUTMENT



DIAPHRAGM AT PIER

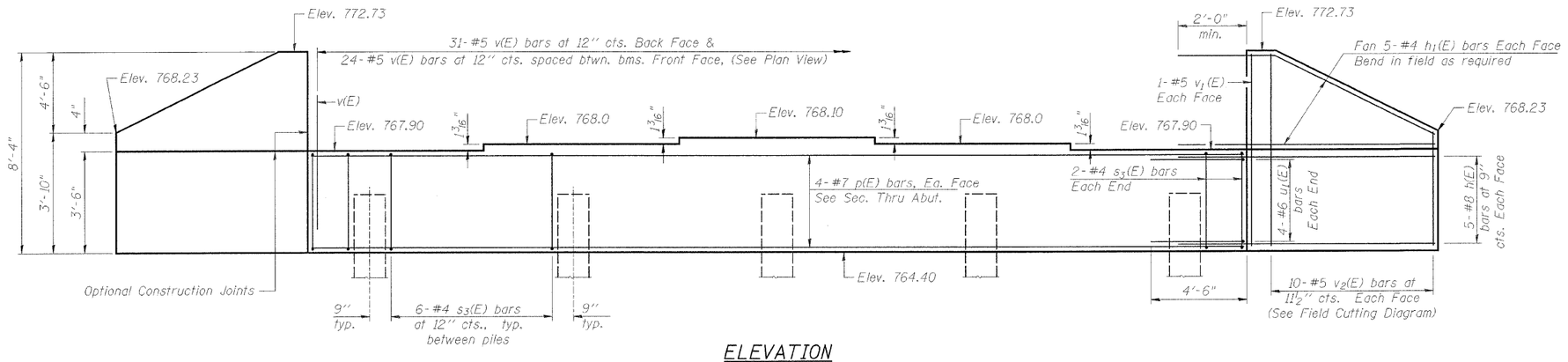
DIAPHRAGM DETAILS
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY

WHA #1106D07

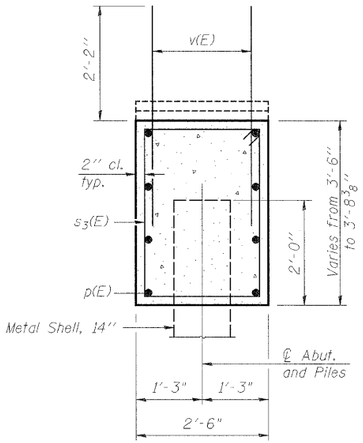
85436

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-60(121)	

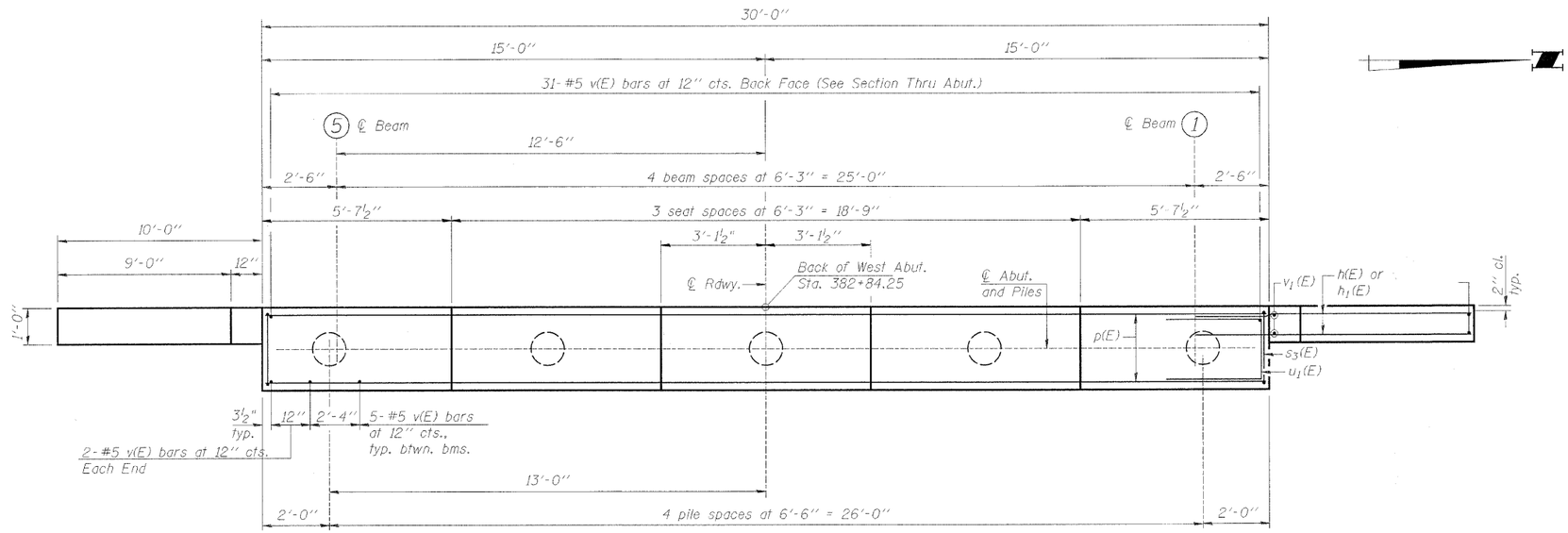
Structural Sheet 7 of 14



ELEVATION
Looking West



SEC. THRU ABUT.



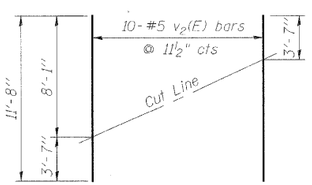
PLAN

BILL OF MATERIAL - WEST ABUT.

Bar	No.	Size	Length	Shape
h(E)	20	#8	14'-4"	——
h_1(E)	20	#4	12'-0"	——
p(E)	8	#7	28'-8"	——
s_3(E)	28	#4	11'-5"	⌐
u_1(E)	8	#6	9'-1"	▭
v(E)	55	#5	4'-11"	——
v_1(E)	4	#5	8'-1"	——
v_2(E)	20	#5	11'-8"	——
Porous Granular Embankment (Special)		Cu. Yd.	61	
Structure Excavation		Cu. Yd.	103	
Concrete Structures		Cu. Yd.	14.2	
Reinforcement Bars, Epoxy Coated		Pound	2,280	
Furnishing Metal Shell Piles 14" x 0.250"		Foot	120	
Driving Piles		Foot	120	
Test Pile Metal Shells		Each	1	
Geocomposite Wall Drain		Sq. Yd.	24	
Concrete Headwall for Pipe Drains		Each	2	
Pipe Underdrains for Structures 4"		Foot	67	

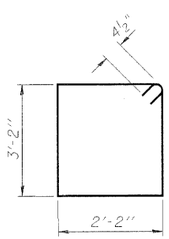
PILE DATA

Type: ..... Metal Shell-14" x 0.250"
Nominal Required Bearing: 416k
Factored Resistance Available: ... 208k
Est. Length: ..... 30'
No. Production Piles: 4
No. Test Piles: 1

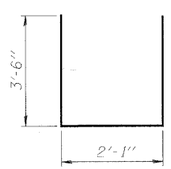


FIELD CUTTING DIAGRAM v_2(E) BARS

Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s_3(E)



BAR u_1(E)

NOTES:

Pour steps monolithically with cap.

Reinforcement bars designated (E) shall be epoxy coated.

Wing reinforcement shown is typical each wing. Unless otherwise noted.

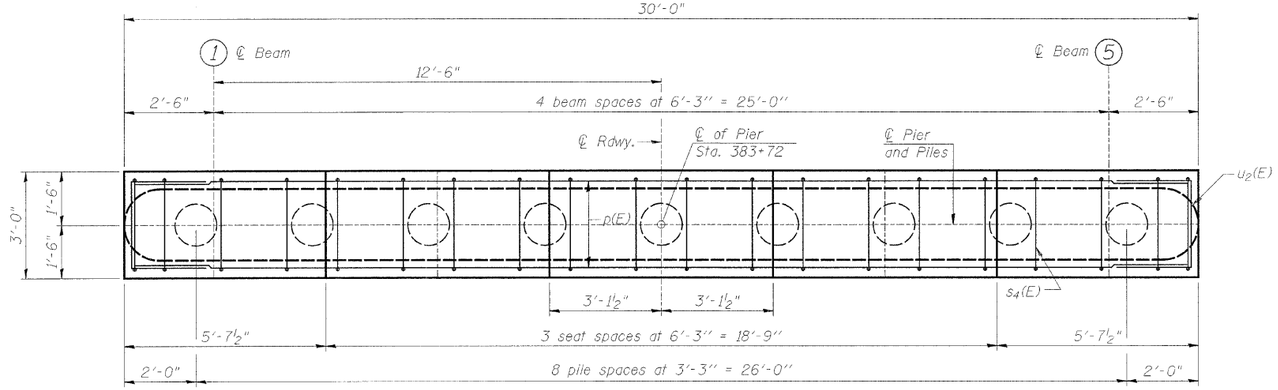
All exposed edges shall have standard 3/4" chamfers. Except as noted.

WEST ABUTMENT
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

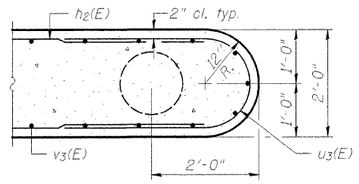
85436

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-60(121)	

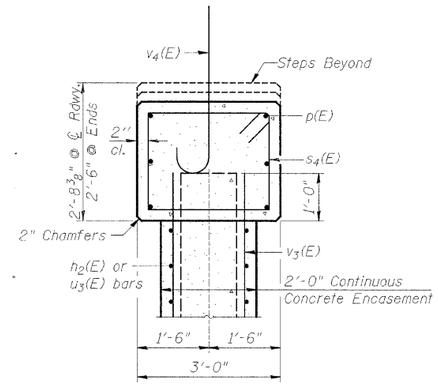
Structural Sheet 8 of 14



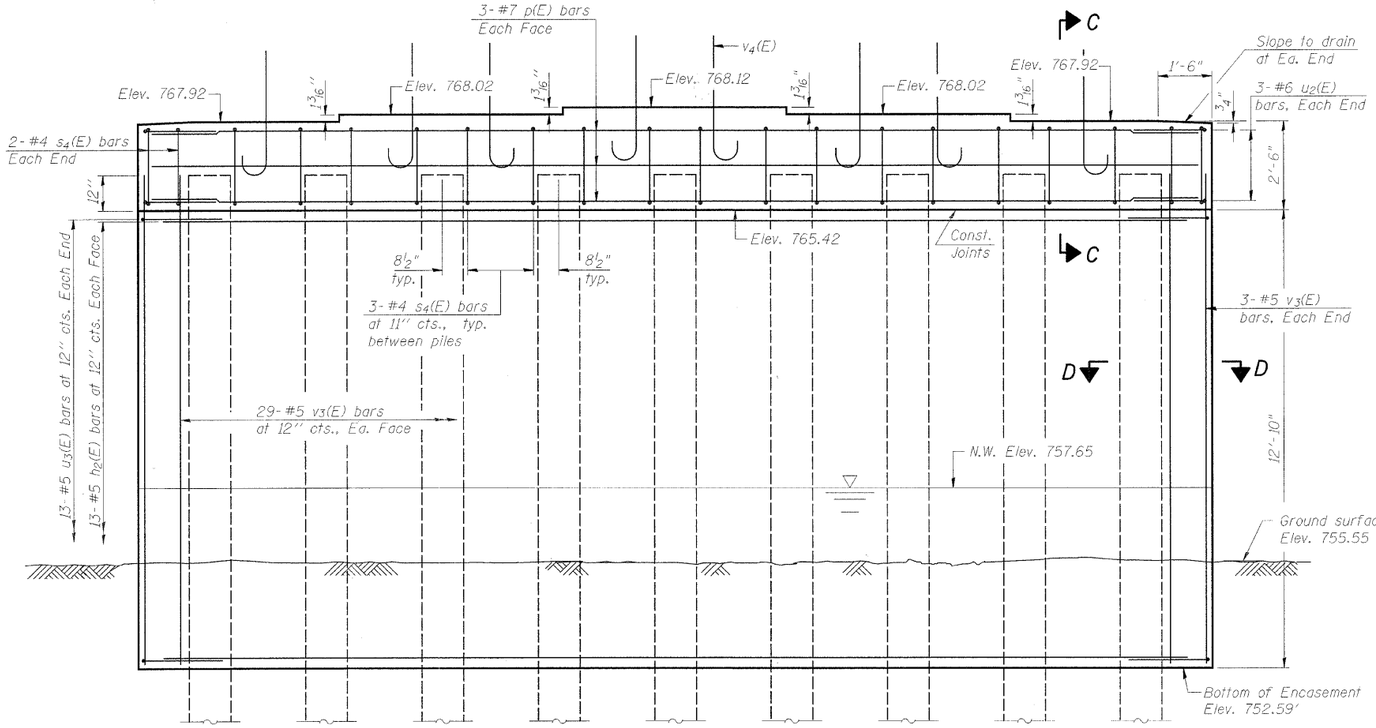
PLAN
(Looking Upstation)



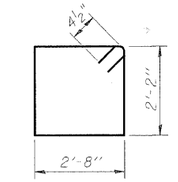
SECTION D-D



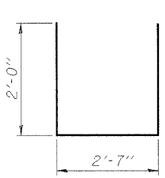
SECTION C-C



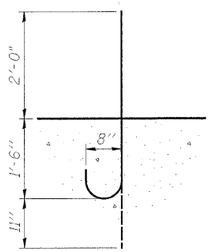
PIER ELEVATION



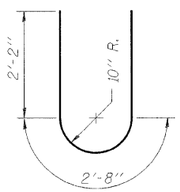
BARS s4(E)



BAR u2(E)



BARS v4(E)



BAR u3(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h2(E)	26	#5	28'-0"	—
p(E)	6	#7	28'-8"	—
s4(E)	28	#4	10'-5"	⌐
u2(E)	6	#6	6'-7"	⊔
u3(E)	26	#5	7'-0"	⊃
v3(E)	64	#5	13'-8"	—
v4(E)	8	#8	4'-5"	⌒
Concrete Structures		Cu. Yd.	31.8	
Reinforcement Bars, Epoxy Coated		Pound	2,570	
Underwater Structure Excavation Protection		L. Sum	1	
Furnishing Metal Shell Piles 14" x 0.250"		Foot	224	
Driving Piles		Foot	224	
Test Pile Metal Shells 14"		Each	1	

NOTES:

Pour steps monolithically with cap.

Reinforcement bars designated (E) shall be epoxy coated.

All exposed edges shall have standard ¾" chamfers. Except as noted.

v4(E) bars shall be placed at beam locations shown on diaphragm detail Structural Sheet 6 of 14.

PIER PILE DATA

Type: ..... Metal Shell-14" x 0.250"
Nominal Required Bearing: 416k
Factored Resistance Available: ... 197k
Est. Length: ..... 28'
No. Production Piles: 8
No. Test Piles: 1

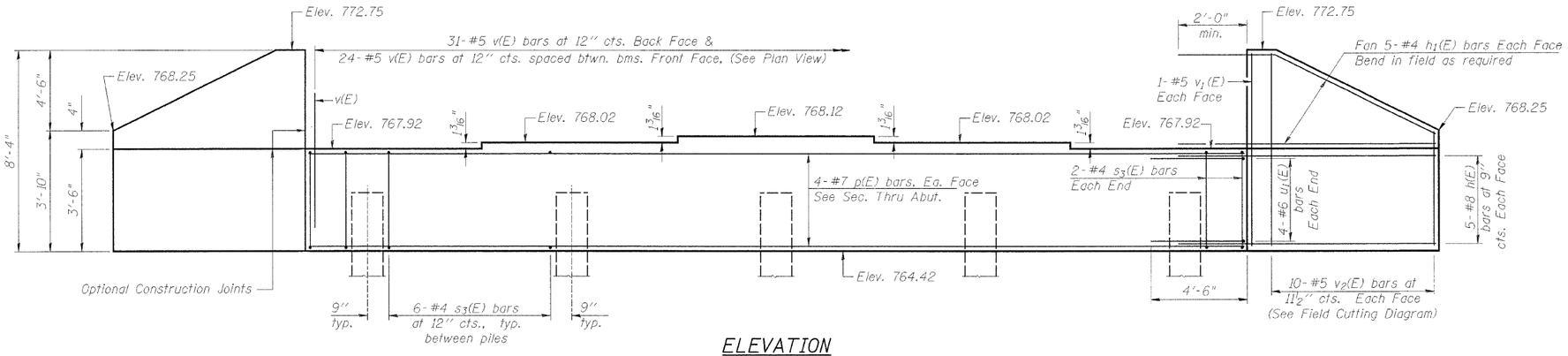
PIER DETAILS
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY

WHA #1106D07

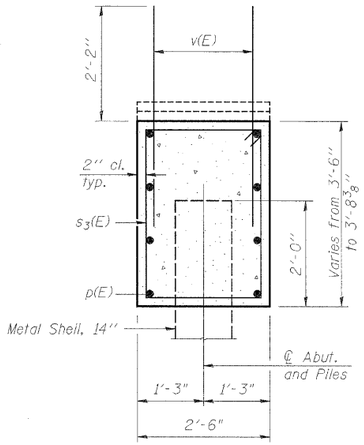
85436

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:	BRS-60(121)	

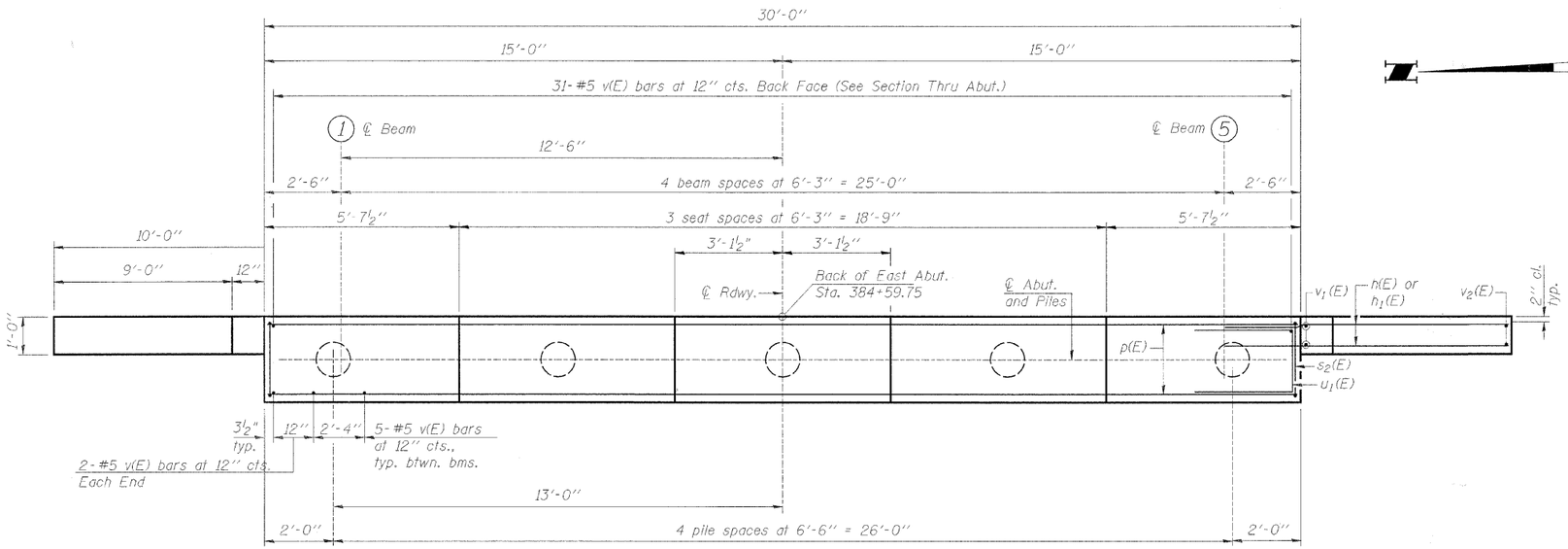
Structural Sheet 9 of 14



ELEVATION
(Looking West)



SEC. THRU ABUT.



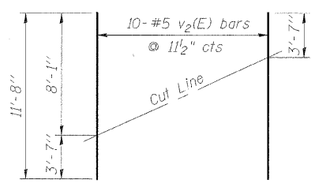
PLAN

BILL OF MATERIAL - EAST ABUT.

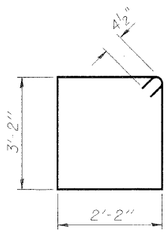
Bar	No.	Size	Length	Shape
h(E)	20	#8	14'-4"	——
h_1(E)	20	#4	12'-0"	——
p(E)	8	#7	28'-8"	——
s_3(E)	28	#4	11'-5"	□
u_1(E)	8	#6	9'-1"	▭
v(E)	55	#5	4'-11"	——
v_1(E)	4	#5	8'-1"	——
v_2(E)	20	#5	11'-8"	——
Porous Granular Embankment (Special)		Cu. Yd.	61	
Concrete Structures		Cu. Yd.	14.2	
Reinforcement Bars, Epoxy Coated		Pound	2,280	
Furnishing Metal Shell Piles 14" x 0.250"		Foot	120	
Driving Piles		Foot	120	
Test Pile Metal Shells		Each	1	
Geocomposite Wall Drain		Sq. Yd.	24	
Concrete Headwall for Pipe Drains		Each	2	
Pipe Underdrains for Structures 4"		Foot	67	

PILE DATA

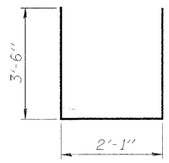
Type: ..... Metal Shell-14" x 0.250"
Nominal Required Bearing: 416k
Factored Resistance Available: ... 208k
Est. Length: ..... 30'
No. Production Piles: 4
No. Test Piles: 1



FIELD CUTTING DIAGRAM v_2(E) BARS
Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s_3(E)



BAR u_1(E)

NOTES:

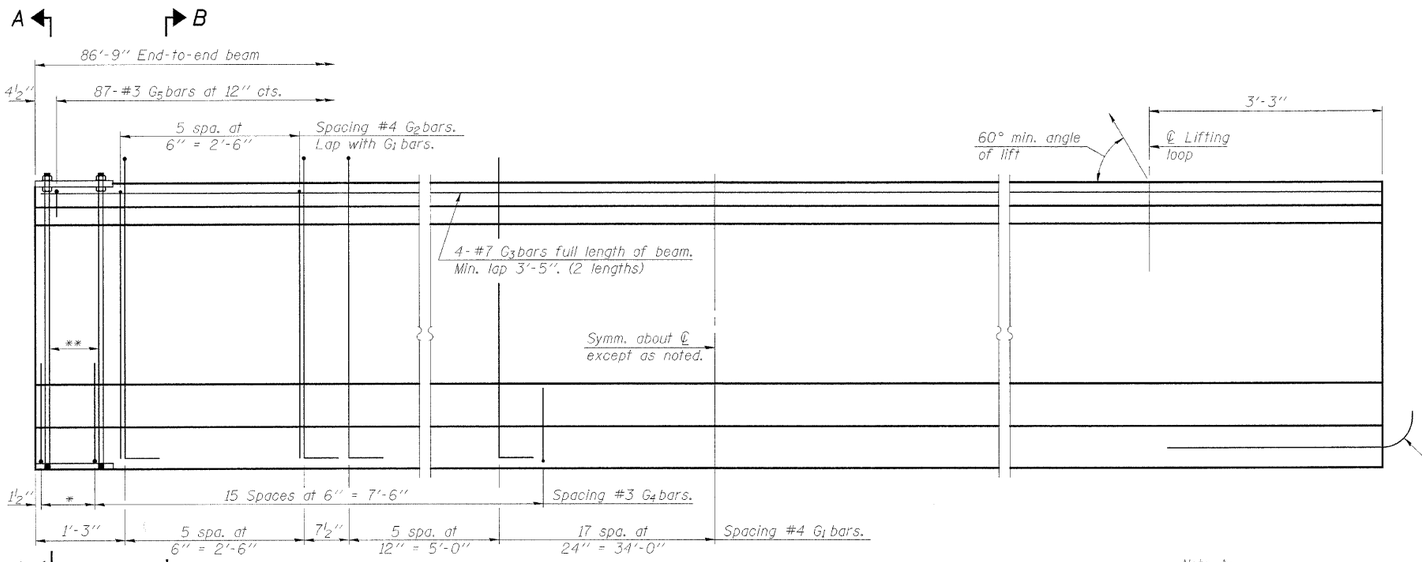
Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.
Wing reinforcement shown is typical each wing. Unless otherwise noted.
All exposed edges shall have standard ¾" chamfers. Except as noted.

EAST ABUTMENT
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

85436

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	19
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-60(121)	

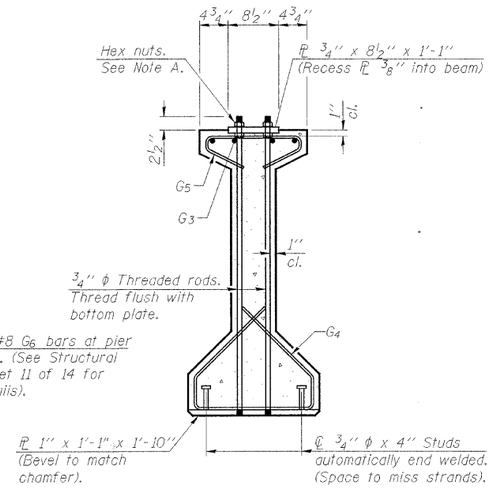
Structural Sheet 10 of 14



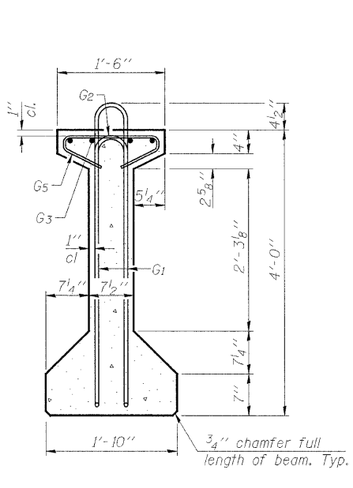
*3 spaces at 3" = 9".
**4-¾" ϕ threaded dowel rods at 3" cts., Each Face.

ELEVATION OF BEAM
(Showing reinforcement & dimensions)

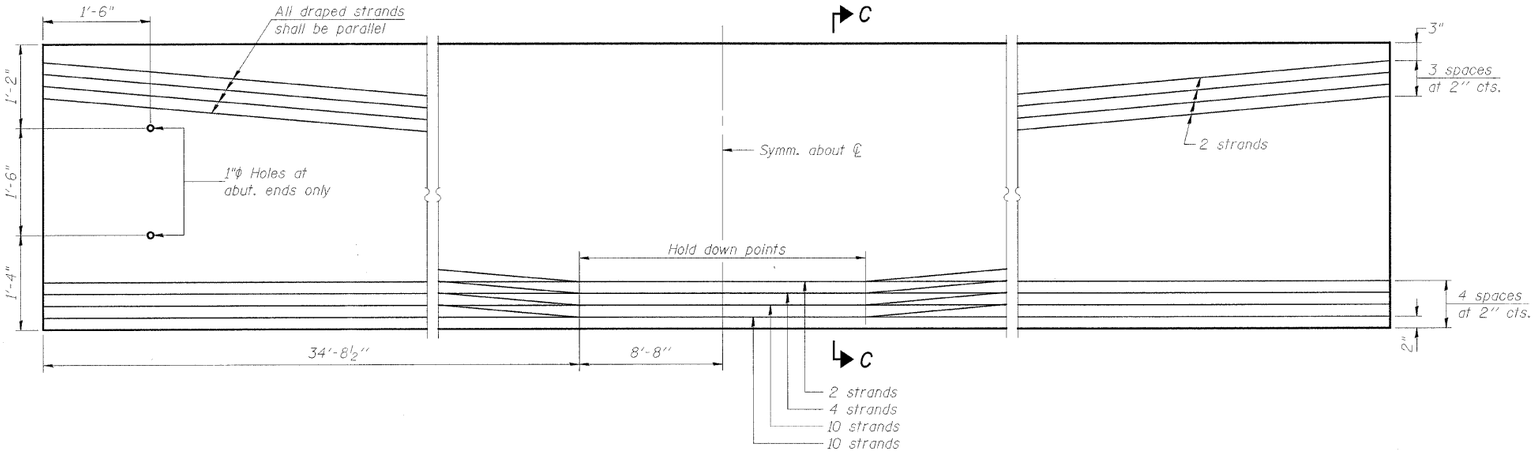
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



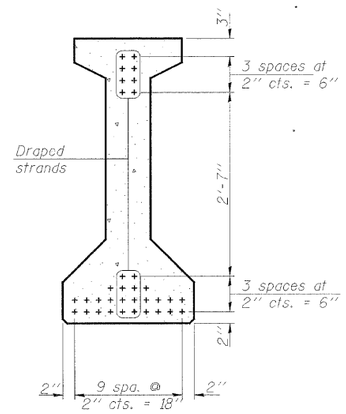
SECTION A-A



SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C

***BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	57	#4	9'-6"	
G_2	12	#4	7'-11"	
G_3	8	#7	44'-11"	
G_4	38	#3	5'-3"	
G_5	87	#3	2'-9"	
G_6	2	#8	3'-9"	

***For information only

NOTES:

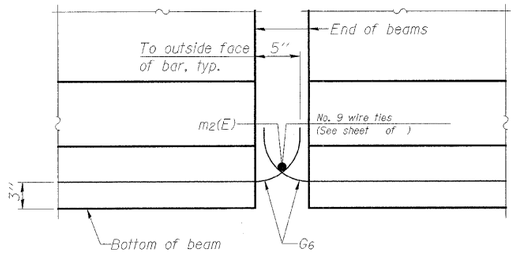
See Structural Sheet 11 of 14 for additional details and Bill of Material.

Required release strength, f'ci, shall be 6,000 psi.

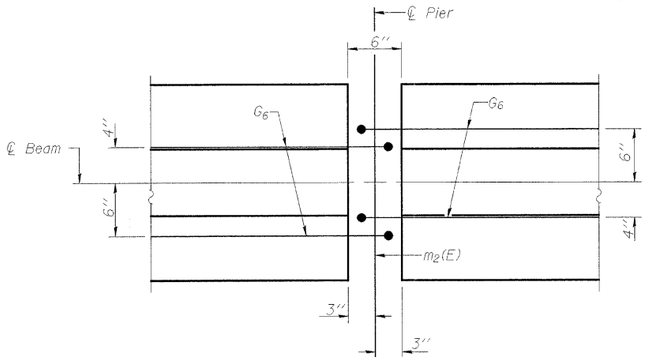
PRESTRESSED BEAM DETAILS
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-6011(21)	

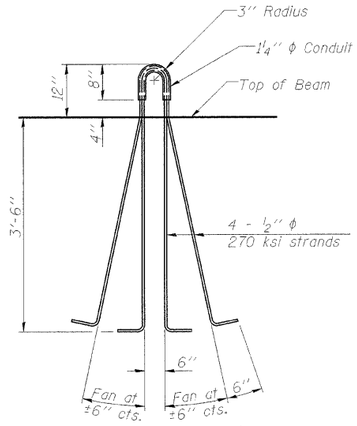
Structural Sheet 11 of 14



ELEVATION OF BEAM AT PIER



PLAN OF BEAM AT PIER



LIFTING LOOP DETAIL

NOTES:

Inserts for ¾" ϕ threaded dowel rods, when specified, are to be two strut, coil type for interior beams and single coil, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.

The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

Non-prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.

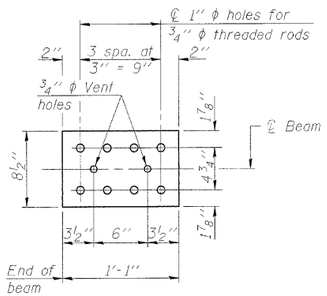
A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Cut G_6 bars when necessary to maintain 1½" clearance.

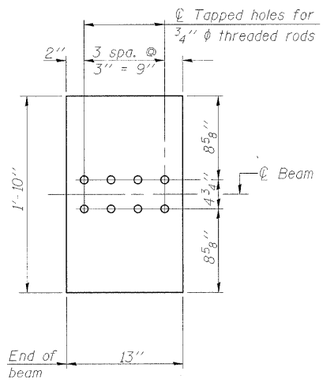
The top and bottom plates shall be AASHTO M270 Grade 50.

The bottom plates and studs shall be galvanized according to AASHTO M111

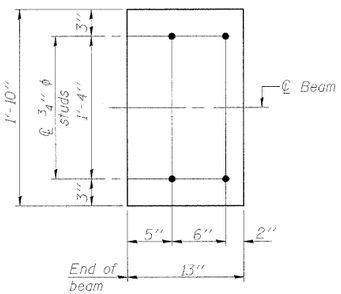
Threaded rods shall be ASTM F 1554 Grade 55.



TOP PLATE

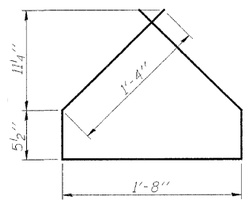


BOTTOM PLATE
(Showing threaded rods)

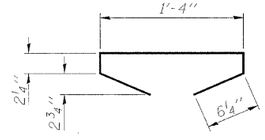


BOTTOM PLATE
(Showing studs)

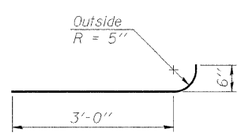
See bearing details for pintle hole locations when required.



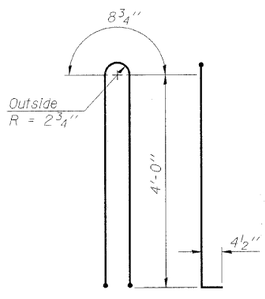
BAR G4



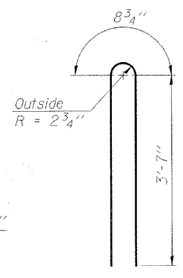
BAR G5



BAR G6



BAR G1



BAR G2

BILL OF MATERIAL

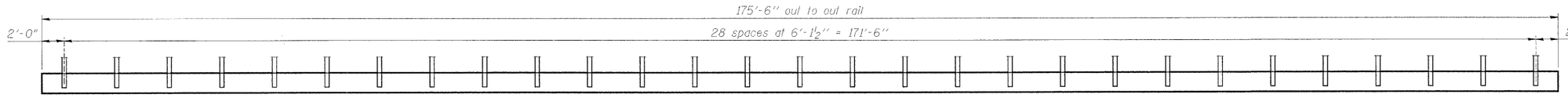
Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 48"	Ft.	867.5

PRESTRESSED BEAM DETAILS
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

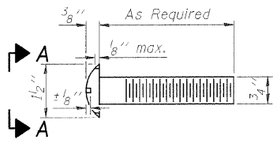
85436

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	21
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT- BRS-6011(121)		

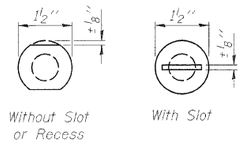
Structural Sheet 12 of 14



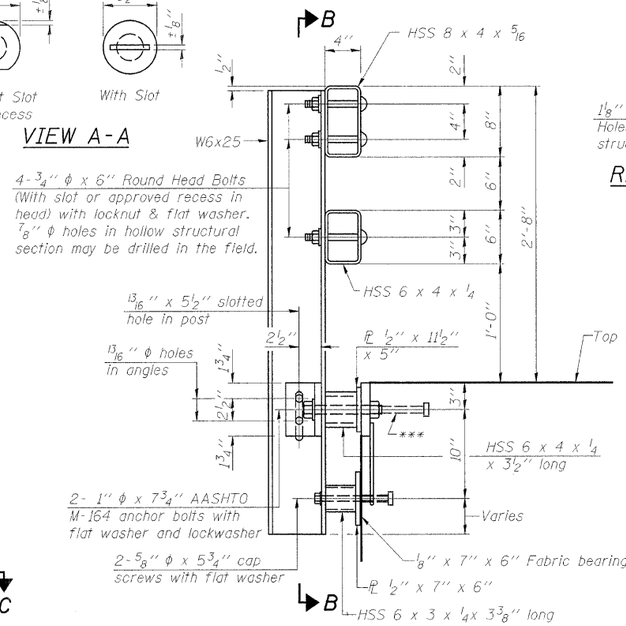
ELEVATION VIEW



DETAIL OF 3/4" ϕ ROUND HEAD BOLT

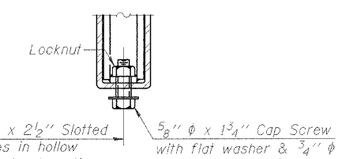


VIEW A-A

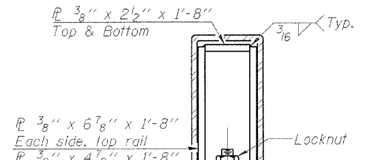


SECTION AT RAIL POST

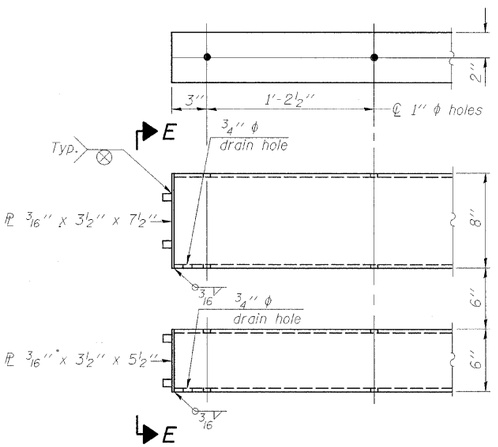
4- 3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.



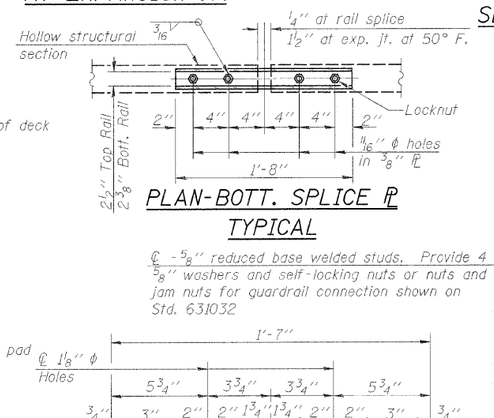
RAIL SPLICE CONNECTION AT EXPANSION JT.



SECTION AT RAIL SPLICE

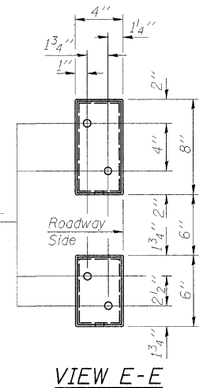


END OF RAIL DETAILS

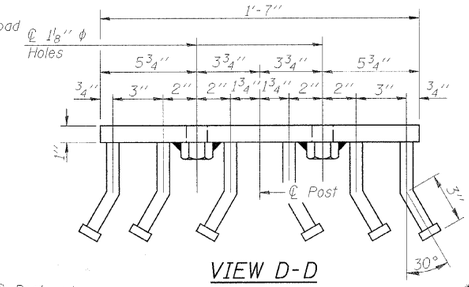


PLAN-BOTT. SPLICE ℄ TYPICAL

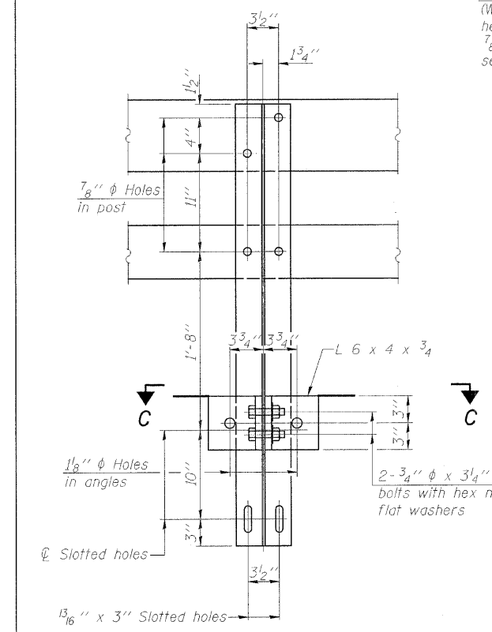
℄ - 5/8" reduced base welded studs. Provide 4 - 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032



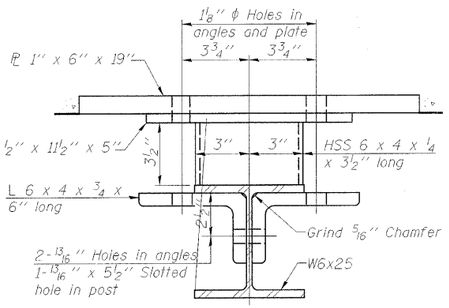
VIEW E-E



VIEW D-D

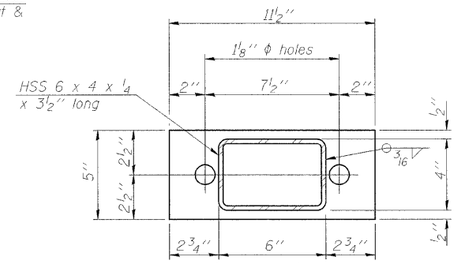


SECTION B-B

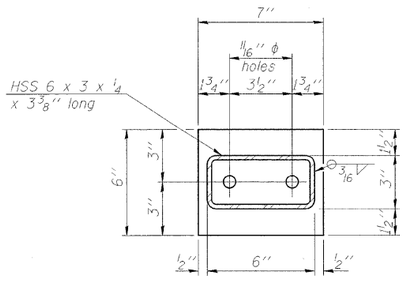


SECTION C-C

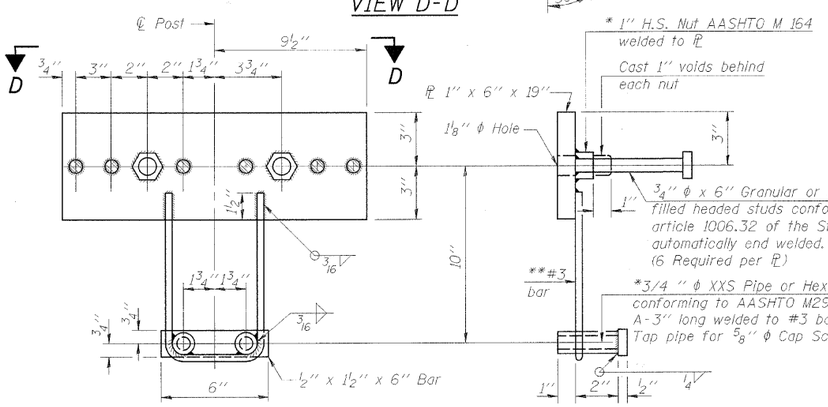
(6'-3" Maximum Post Spacing)



PL 1/2" x 11 1/2" x 5"



PL 1/2" x 7" x 6"



ANCHOR DEVICE

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

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

NOTES:

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

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

BILL OF MATERIAL

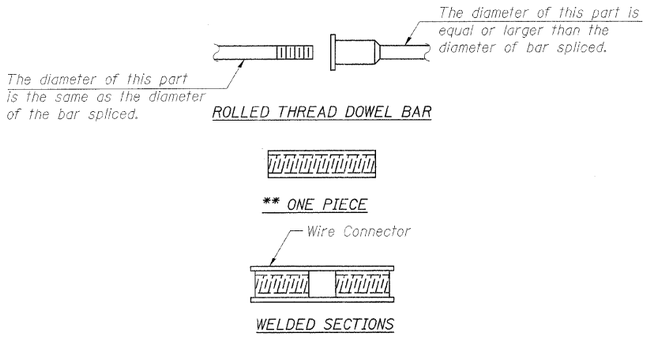
Item	Unit	Quantity
Steel Railing, Type SM	Foot	351

STEEL RAILING, TYPE SM
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

85436

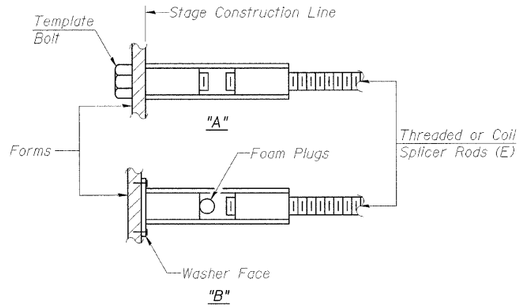
ROUTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.S. 60	07-00172-00-BR		STEPHENSON	31	22
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	BRS-6011(21)	

Structural Sheet 13 of 14



BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

NOTES:

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

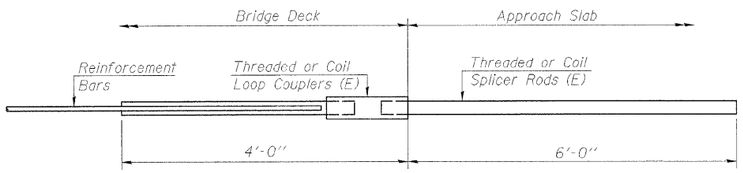
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = 1.25 x fy x A_t

② Minimum *Pull-out Strength (Tension in kips) = 0.66 x fy x A_t

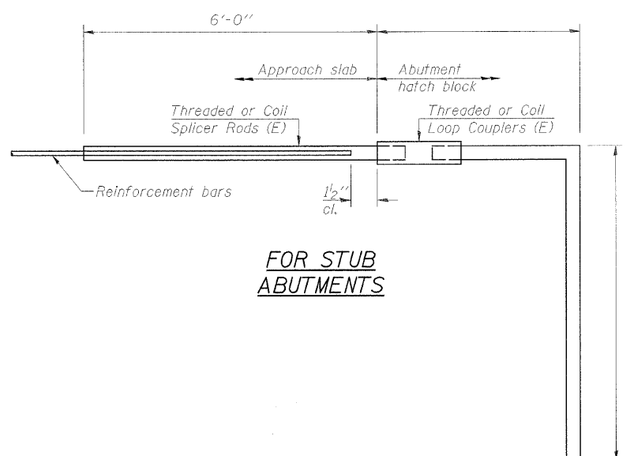
Where fy = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



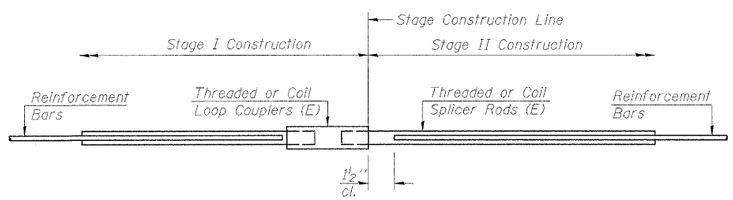
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 62



STANDARD

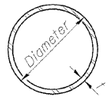
Bar Size	No. Assemblies Required	Location
#5	62	Approach slab

BAR SPLICER ASSEMBLY DETAILS
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY
WHA #1106D07

85436

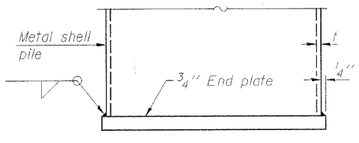
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. P.A.P. 60	07-00172-00-BR	STEPHENSON	31	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	BRS-6011(21)	

Structural Sheet 14 of 14

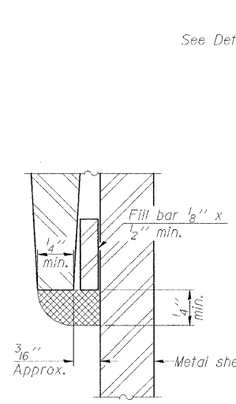


METAL SHELL PILE TABLE

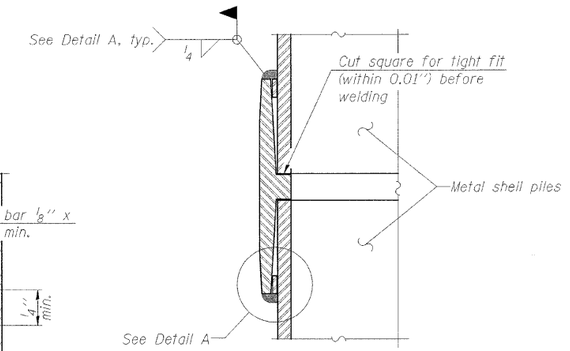
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd.³/ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



END PLATE ATTACHMENT

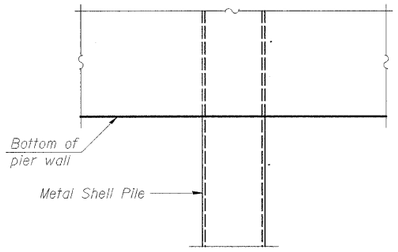


DETAIL A

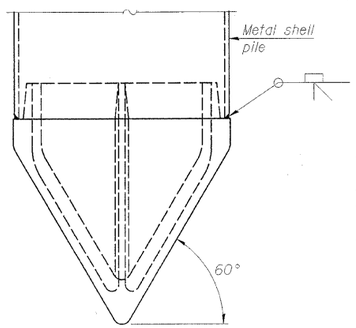


Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



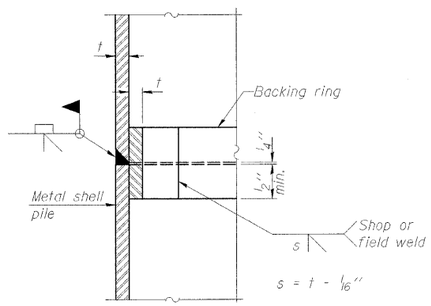
ELEVATION AT PIER



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

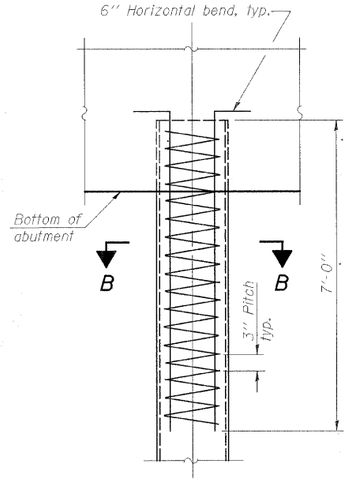
METAL SHELL PILE SHOE ATTACHMENT

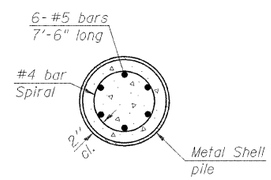
(See Note A)



COMPLETE PENETRATION WELD SPLICE

Backing ring made from pile shell. Remove segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.





SECTION B-B

ELEVATION

METAL SHELL REINFORCEMENT AT ABUTMENTS

NOTE:
The metal shell piles shall be according to ASTM A 252 Grade 3.

METAL SHELL PILE DETAILS
CEDARVILLE ROAD (FAS 60) OVER RICHLAND CREEK
STA. 383+72 (S.N. 089-3282)
SECTION 07-00172-00-BR
STEPHENSON COUNTY

WHA #1106D07

85436

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SCALE 5'

PROP. ROW

EX. ROW

380 + 36

F.E.R.

4.00% -2.00% ELEV.=770.41 -2.00% -4.00%

1:3

2'-0"

EL.=760.25

13.0%

Design Earthwork
Cut Area = 84 Sq. Ft.
Fill Area = 40 Sq. Ft.

SECTION BEGINS AT
STA. 380+10.80

380 + 00

4.00% -2.00% ELEV.=770.06 -2.00% -4.00%

EL.=760.75

Design Earthwork
Cut Area = 43 Sq. Ft.
Fill Area = 33 Sq. Ft.

379 + 50

ELEV.=769.66

Design Earthwork
Cut Area = 40 Sq. Ft.
Fill Area = 0 Sq. Ft.

CONSTRUCTION BEGINS AT
STA. 379+50

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

760 765 770 775

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

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

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$

s:/Struct/1106d07Cedarville/Design/xsCedarsheets.dgn

CEDARVILLE ROAD

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 60	07-00172-00-BR	STEPHENSON	31	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

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

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

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$

SCALE 5'

381 + 50

PROP. ROW — EX. ROW

-4.00% -2.00% **ELEV.=771.88** -2.00% -4.00%

1:2.5 — 1:3

2'-0" — EL.=758.75

Design Earthwork
Cut Area = 43 Sq. Ft.
Fill Area = 100 Sq. Ft.

380 + 98

F.E.L.

15.0% — 1:2 Beyond — 1:2.5 Beyond

-2.00% **ELEV.=771.14** -2.00% -4.00%

Exist. 4'x4' Conc. Box Culvert w/Conc. Headwalls to be removed. Cost Incidental to Earth Excavation

47"-Pipe Culvert, Type 1, Corrugated Steel, Equivalent Round-Size 54" @ 1.25%

2'-0" — EL.=759.40

Design Earthwork
Cut Area = 45 Sq. Ft.
Fill Area = 29 Sq. Ft.

380 + 50

-4.00% -2.00% **ELEV.=770.56** -2.00% -4.00%

1:3 — 1:3 — 1:3

2'-0" — EL.=760.00

Design Earthwork
Cut Area = 41 Sq. Ft.
Fill Area = 47 Sq. Ft.

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

775 770 765 760 755

CEDARVILLE ROAD

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

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

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

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$

BACK OF EAST ABUTMENT
STA. 384+59.75

Cut Area = 143 Sq. Ft.
Fill Area = 73 Sq. Ft.

SCALE 5' 5'

-2.00% ELEV.=773.00 -2.00%

BACK OF WEST ABUTMENT
STA. 382+84.25

Cut Area = 65 Sq. Ft.
Fill Area = 89 Sq. Ft.

-4.00% -2.00% ELEV.=772.86 -2.00% -4.00%

Design Earthwork
Cut Area = 65 Sq. Ft.
Fill Area = 89 Sq. Ft.

1:2 1:2.5 2'-0" EL.=758.00 1:2 1:3 2'-0" EL.=759.50

-4.00% -2.00% ELEV.=772.48 -2.00% -4.00%

Design Earthwork
Cut Area = 34 Sq. Ft.
Fill Area = 100 Sq. Ft.

1:2 1:3 2'-0" EL.=758.50 1:2 1:2.5

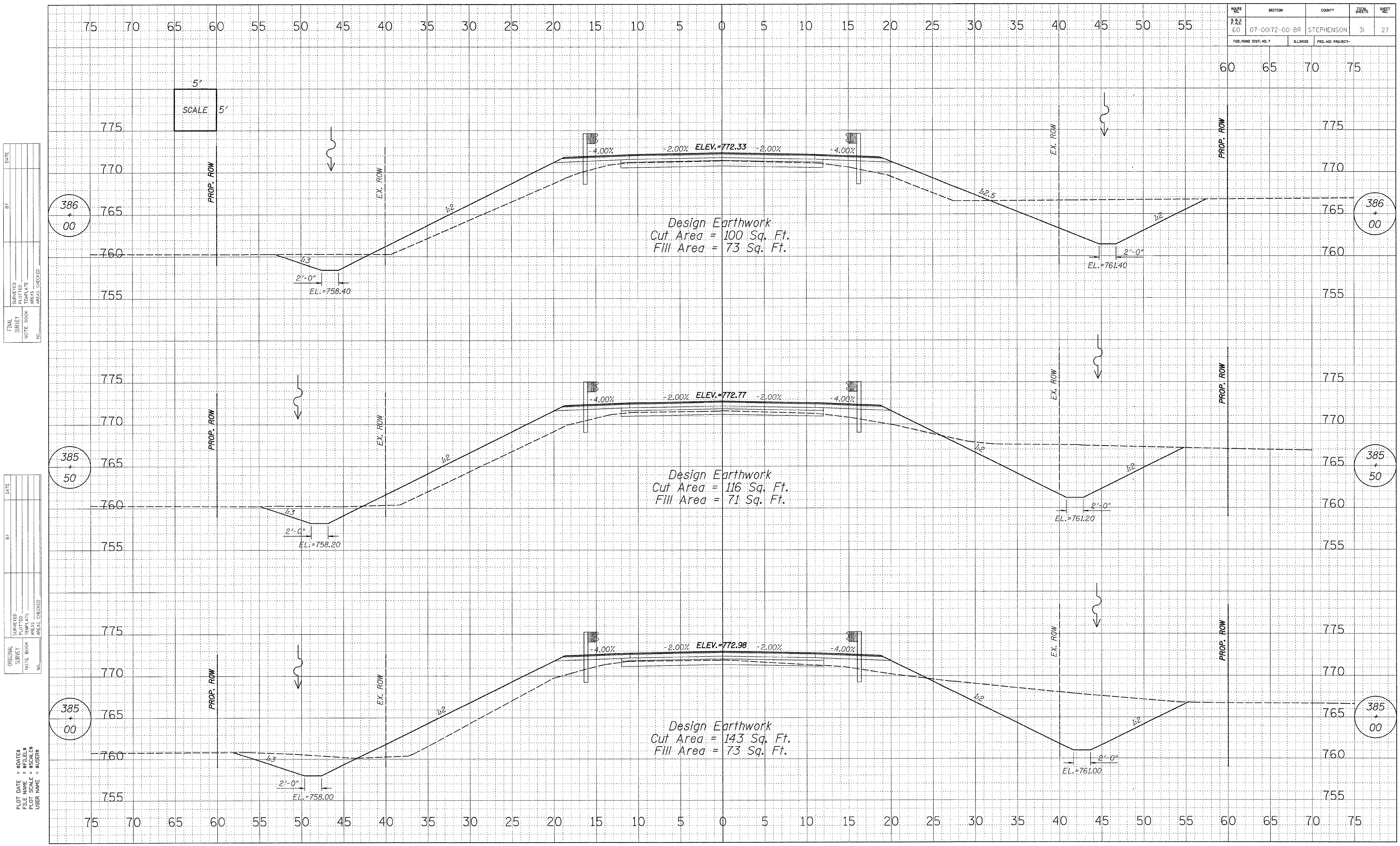
383 + 92.73 — 382 + 50 — 382 + 00

EX. ROW — PROP. ROW

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

775 770 765 760 755

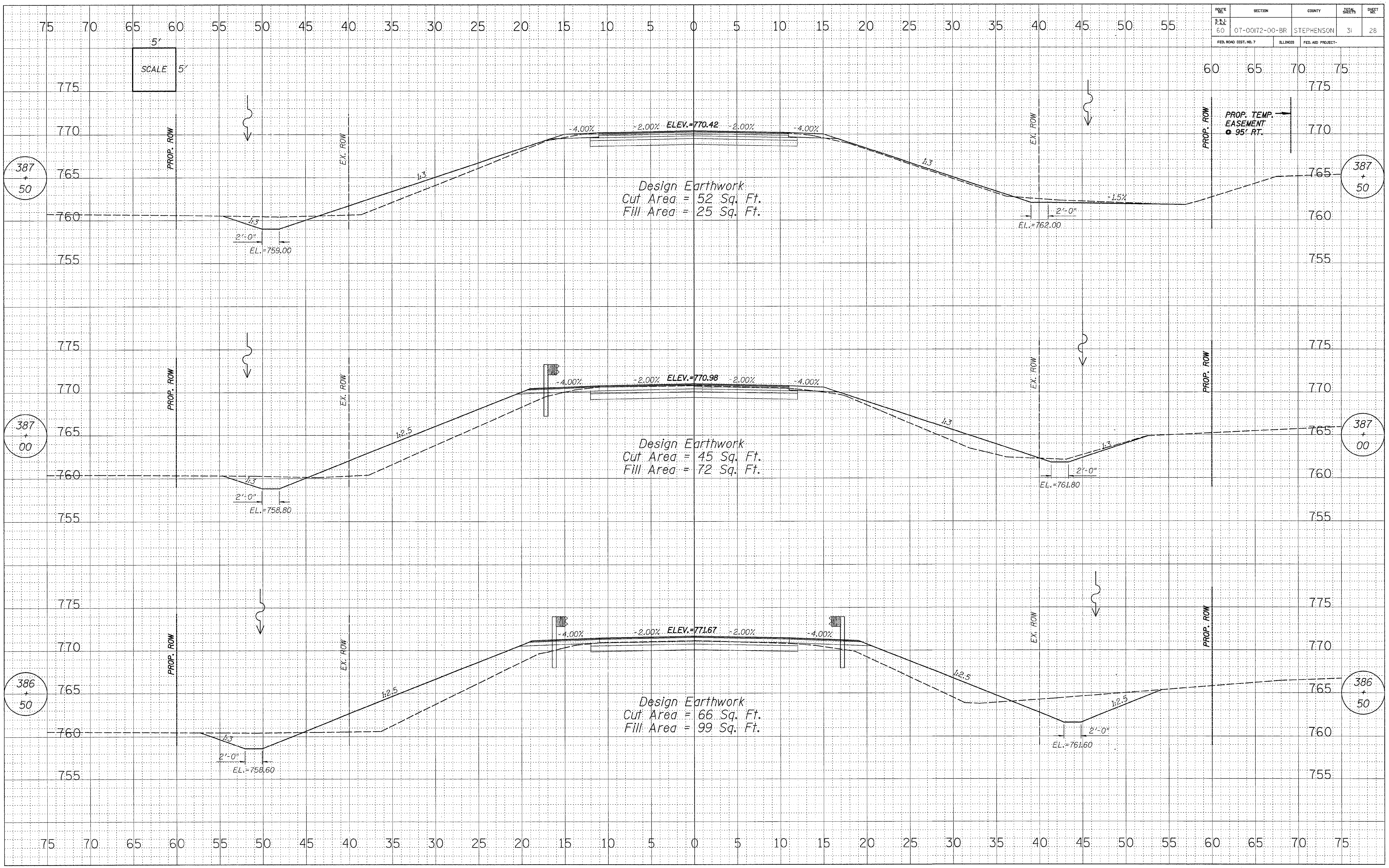
CEDARVILLE ROAD



ROUTE F.A.S. 60
SECTION 07-00172-00-BR
COUNTY STEPHENSON
TOTAL SHEETS 31
SHEET NO. 27
FED. ROAD DIST. NO. 7
ILLINOIS
FED. AID PROJECT
SCALE 5' 5'
386+00
ELEV.=772.33
Design Earthwork
Cut Area = 100 Sq. Ft.
Fill Area = 73 Sq. Ft.
EL.=758.40
EL.=761.40
385+50
ELEV.=772.77
Design Earthwork
Cut Area = 116 Sq. Ft.
Fill Area = 71 Sq. Ft.
EL.=758.20
EL.=761.20
385+00
ELEV.=772.98
Design Earthwork
Cut Area = 143 Sq. Ft.
Fill Area = 73 Sq. Ft.
EL.=758.00
EL.=761.00
PROP. ROW
EX. ROW
2'-0"
4.00%
2.00%
1:2
1:3
1:2.5

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.S. 60	07-00172-00-BR	STEPHENSON	31	28

FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-



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

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

PLOT DATE = $DATE$
FILE NAME = $FILE$
PLOT SCALE = $SCALE$
USER NAME = $USER$

CEDARVILLE ROAD

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 60	07-00172-00-BR	STEPHENSON	31	29
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

5'
SCALE 5'

55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95

770
765
760
775
755

PROP. ROW
389 + 00
EX. ROW
1:3
-4.00%
-2.00% ELEV.=769.41 -2.00%
-4.00%
1:3
Design Earthwork
Cut Area = 44 Sq. Ft.
Fill Area = 98 Sq. Ft.
2'-0"
EL.=762.60
EX. ROW
PROP. ROW
+0.8%
PROP. TEMP. EASEMENT
389 + 00

PROP. ROW
388 + 50
EX. ROW
1:3
-4.00%
-2.00% ELEV.=769.61 -2.00%
-4.00%
1:3
Design Earthwork
Cut Area = 57 Sq. Ft.
Fill Area = 114 Sq. Ft.
2'-0"
EL.=762.40
EX. ROW
PROP. ROW
+3.25%
PROP. TEMP. EASEMENT
388 + 50

PROP. ROW
388 + 00
P.E.R.
EX. ROW
1:3
-4.00%
-2.00% ELEV.=769.97 -2.00%
-4.00%
1:3
Design Earthwork
Cut Area = 45 Sq. Ft.
Fill Area = 145 Sq. Ft.
53'-Pipe Culvert, Type 1, Corrugated Steel Culvert Pipe 15" @ 0.40%
1:3 Beyond
1:3 Beyond
2'-0"
EL.=762.20
EX. ROW
PROP. ROW
-5.9%
2.4%
PROP. TEMP. EASEMENT
388 + 00
P.E.R.

CEDARVILLE ROAD

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

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

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 60	07-00172-00-BR	STEPHENSON	31	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

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

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

PLOT DATE = #DATE#
FILE NAME = #FILE#
PLOT SCALE = #SCALE#
USER NAME = #USER#

SCALE 5′

CONSTRUCTION ENDS AT STA. 390+00

SECTION ENDS AT STA. 389+74.86

PROP. TEMP. EASEMENT ø 95′ RT.

ELEV.=769.01

Design Earthwork
Cut Area = 37 Sq. Ft.
Fill Area = 0 Sq. Ft.

-4.00% -2.00% ELEV.=769.21 -2.00% -4.00%

1:3

4:3

+0.9%

2′-0″

EL.=762.80

Design Earthwork
Cut Area = 57 Sq. Ft.
Fill Area = 33 Sq. Ft.

PROP. ROW

EX. ROW

390 + 50

390 + 00

389 + 50

770

765

760

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

CEDARVILLE ROAD

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 60	07-00172-00-BR	STEPHENSON	31	31
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

	DATE
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	

FINAL SURVEY	
NOTE BOOK	
NO.	

5'
SCALE 5'

ELEV.=773.00

770
765
760
755

384 + 20

PERM. EASEMENT
PROP. ROW
EX. ROW

Top of Berm El.=761.0±

Stone Riprap, Class A4

El.=758.0

EX. ROW
PROP. ROW
PERM. EASEMENT

Top of Berm El.=761.0±

384 + 20

NOTE:
Excavation in this region is Channel Excavation, See General Plan and Elevation sheet for quantity.

SECTION C-C

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

	DATE
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	

ORIGINAL SURVEY	
NOTE BOOK	
NO.	

ELEV.=773.00

770
765
760
755

383 + 30

PROP. ROW
EX. ROW

Top of Berm El.=761.7±

Stone Riprap, Class A4

El.=758.0

EX. ROW
PROP. ROW

Top of Berm El.=761.9±

383 + 30

NOTE:
Excavation in this region is Channel Excavation, See General Plan and Elevation sheet for quantity.

SECTION C-C

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

PLOT DATE = $DATE$
FILE NAME = $FILE$
PLOT SCALE = $SCALE$
USER NAME = $USER$

CEDARVILLE ROAD