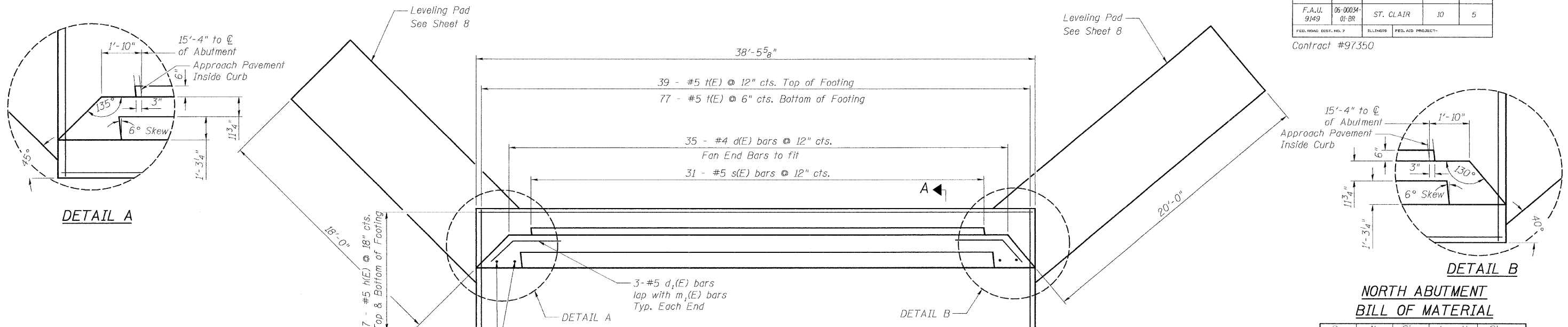
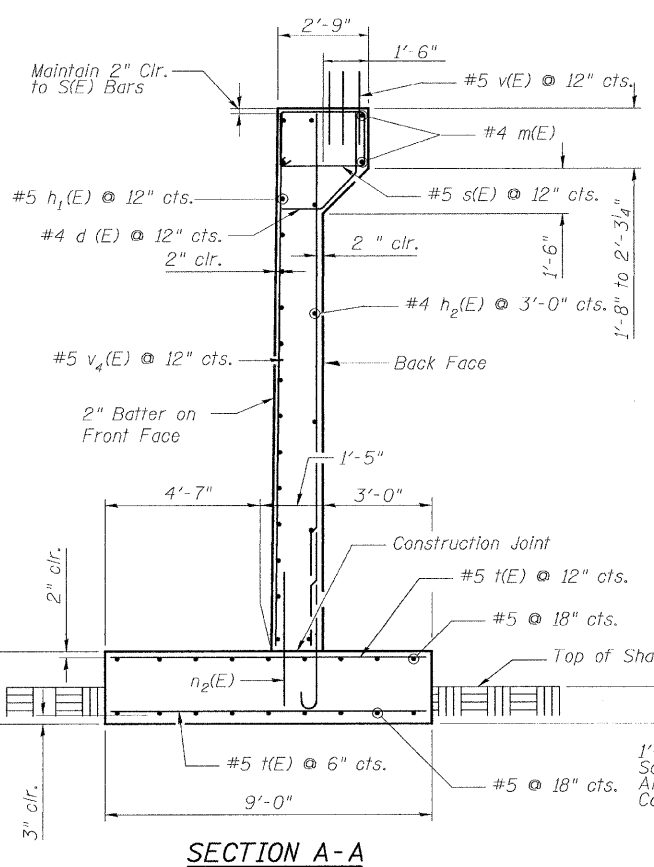


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 9149	06-00034-01-BR	ST. CLAIR	10	5
FED. ROAD DIST. NO. 7	BILLINGS	FED. AID PROJECT-		

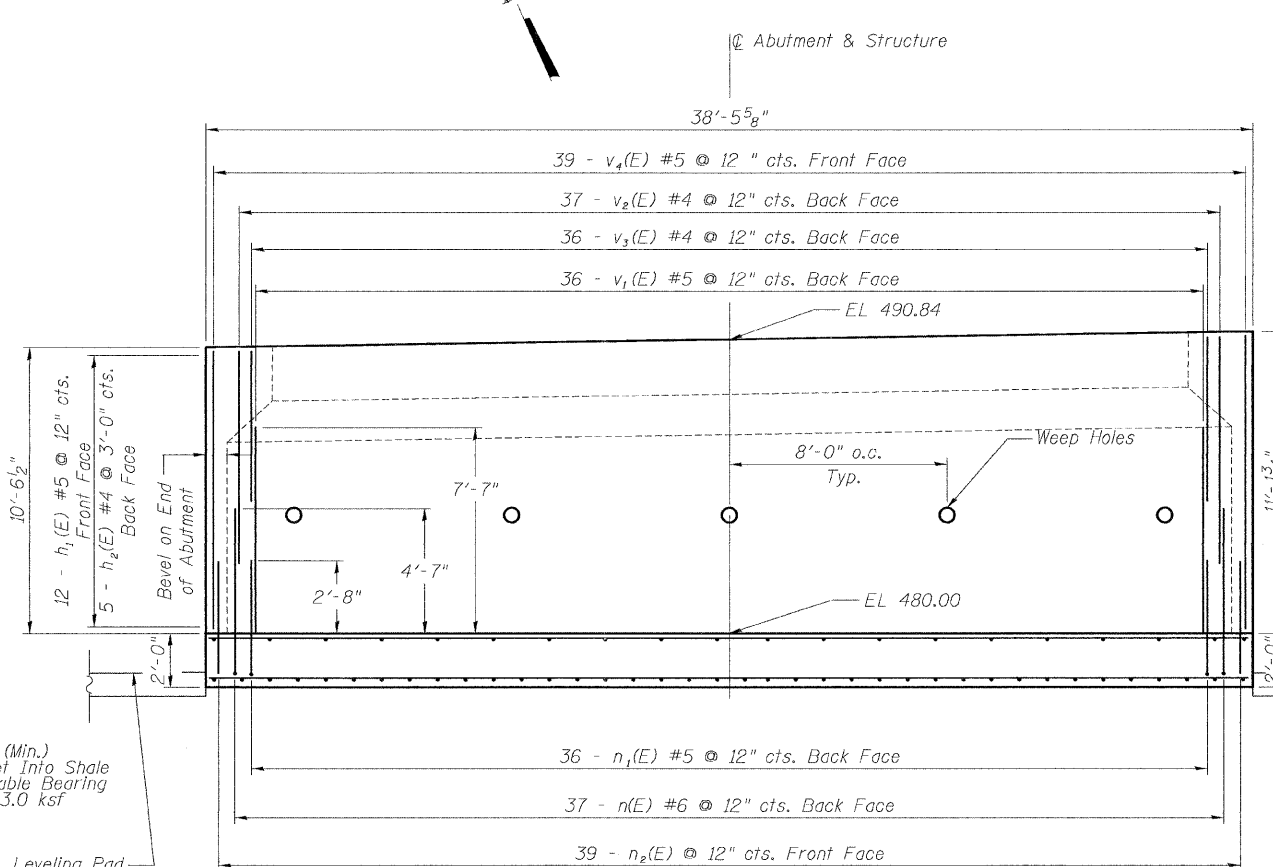
Contract #97350



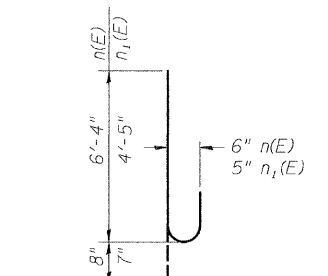
PLAN NORTH ABUTMENT



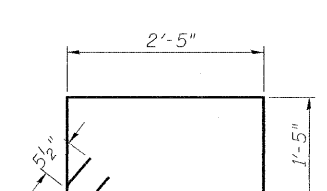
SECTION A-A



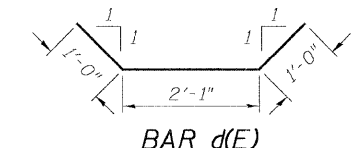
ELEVATION NORTH ABUTMENT



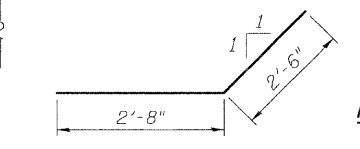
BAR n(E) and n1(E)



BAR s(E)



BAR d(E)



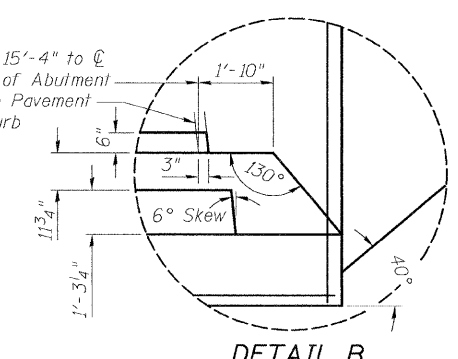
BAR d1(E)

MINIMUM BAR LAP

- #4 (E) bar = 2'-0"
- #5 (E) bar = 2'-8"

Notes: Upper bar laps increased to accommodate min 28" FRP deck thickness. Thinner deck will require adjustment of bar lengths.

Bill of material includes concrete and reinforcing for hatched area shown on sheet 7 of 11.



DETAIL B

NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	35	#4	4'-1"	U
d1(E)	6	#5	5'-2"	Z
h(E)	14	#5	38'-0"	—
h1(E)	12	#5	37'-6"	—
h2(E)	5	#4	35'-6"	—
m(E)	2	#4	30'-4"	—
m1(E)	6	#5	34'-0"	—
n(E)	37	#6	7'-0"	U
n1(E)	36	#5	5'-0"	U
n2(E)	39	#5	5'-0"	—
s(E)	31	#5	8'-7"	□
t(E)	116	#5	8'-8"	—
v(E)	101	#5	4'-0"	—
v1(E)	36	#5	7'-7"	—
v2(E)	37	#4	8'-10"	—
v3(E)	36	#4	5'-9"	—
v4(E)	39	#5	10'-4"	—
Concrete Structures	Cu. Yd.	54.8		
Reinforcement Bars, Epoxy Coated	Pound	5110		
Structure Excavation	Cu. Yd.	121		
Rock Excavation for Structures	Cu. Yd.	13		
Porous Granular Embankment (special)	Cu. Yd.	88		

NORTH ABUTMENT DETAILS
 F.A.U. 9149 (PLEASANT RIDGE ROAD)
 OVER LITTLE CANTEEN CREEK
 SECTION 06-00034-01-BR
 STATION 160+36
 FAIRVIEW HEIGHTS
 STRUCTURE NO. 082-6513

McDonough-Whitlow, P.C.
 Consulting Engineers & Land Surveyors
 138 East Wood Street
 Hillsboro, IL 62049
 Phone: 217.532.9233
 Fax: 217.532.6300
 PROFESSIONAL DESIGN NO. 181-002754

DESIGNED: K.C.M.
CHECKED: T.M.M.
DRAWN: E.J.R.
CHECKED: K.C.M.