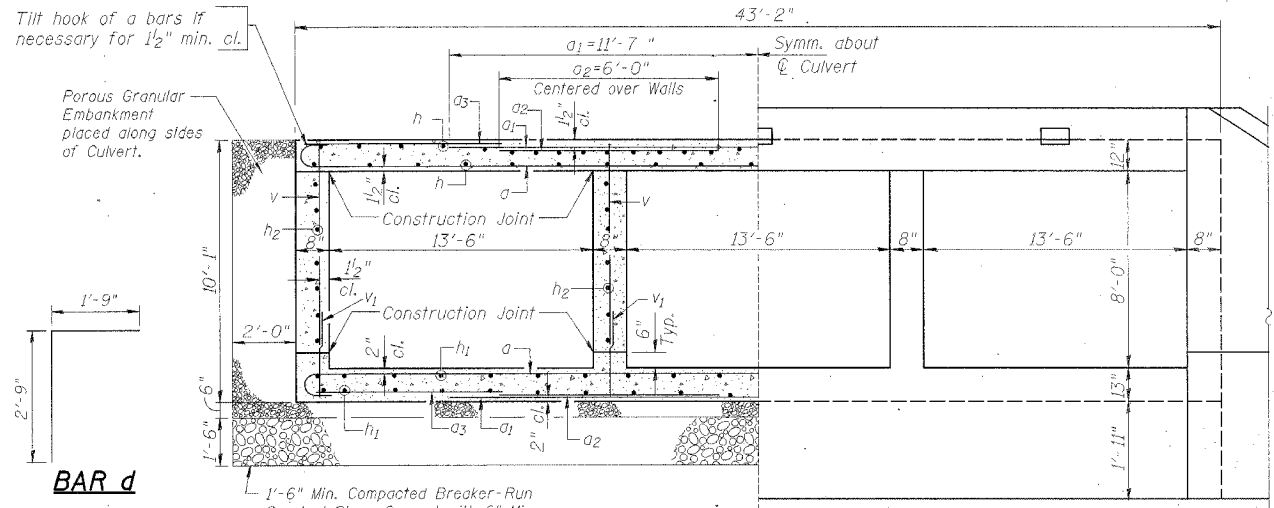
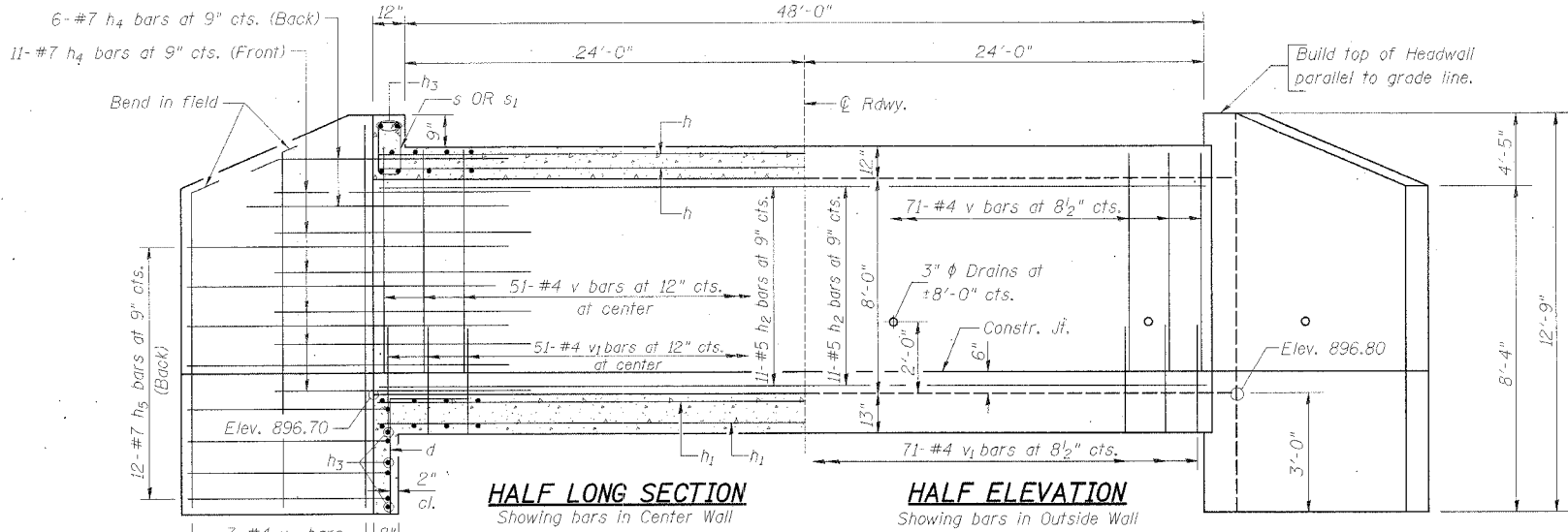
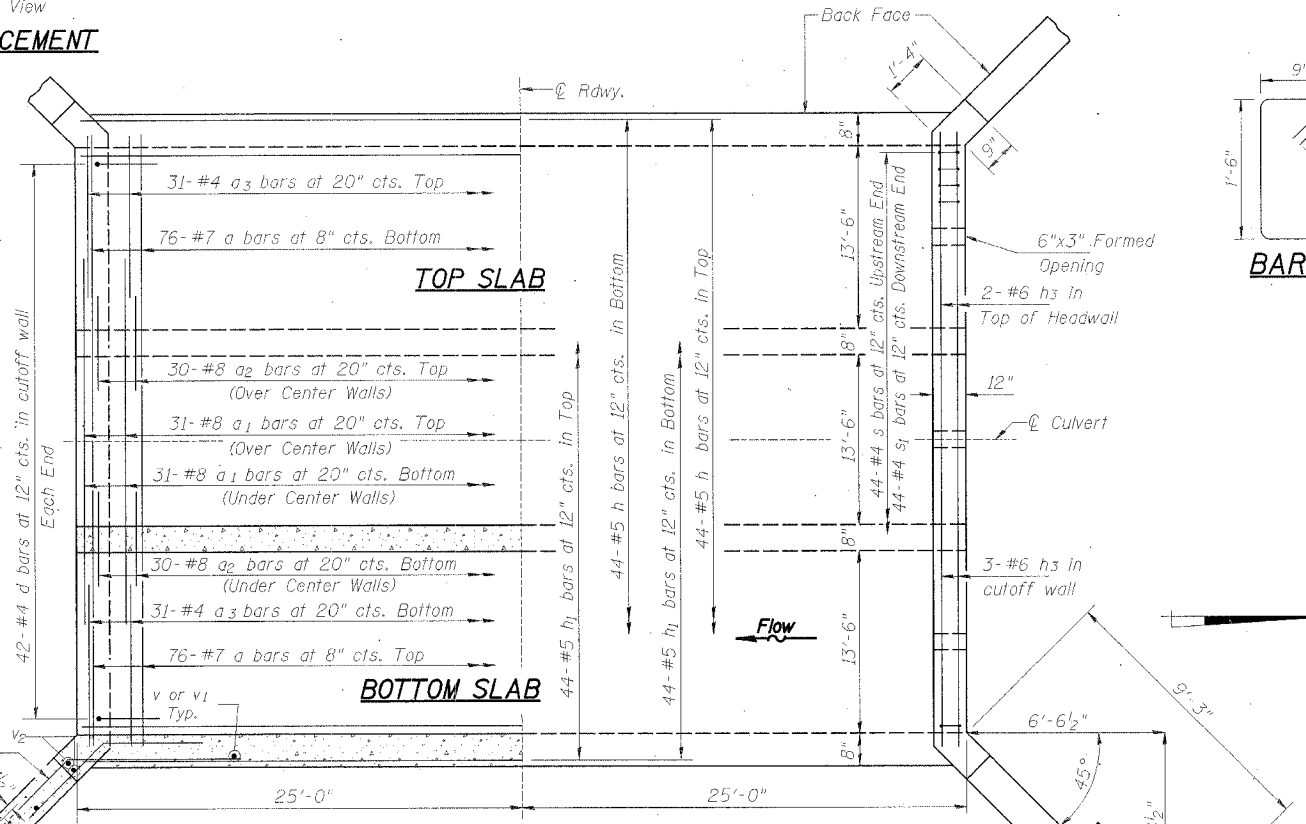


FA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
04-00162-00	BR	STEPHENSON	7	5
STA. 35+50	TO STA. 41+00			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



REINFORCEMENT



NOTE:
a₁ & a₂ Bars Alternate.
a₃ Bars are tied to a₁ Bars.

NAME PLATE LETTERING
Refer to Std. 515001

ROCK RUN CREEK
BUILT 200- BY
STEPHENSON COUNTY
SECTION 04-00162-00-BR
STATION 37+73
STR. NO. 089-5130 LOADING-HS20

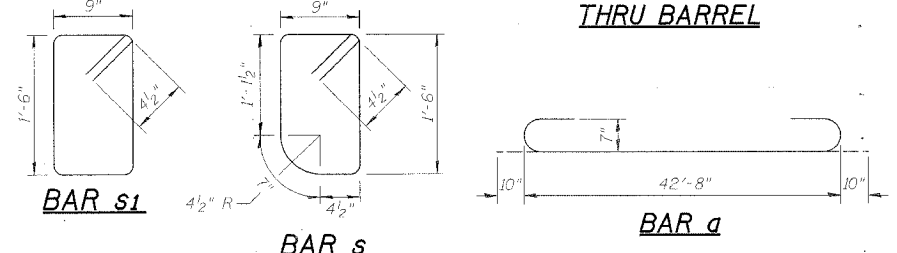
WATERWAY INFORMATION

Drainage Area	4.31	SQ. MI.
Design Discharge (20 Yr.)	1180	C.F.S.
Existing Opening	226	SQ. FT.
Required Opening	273	SQ. FT.
Proposed Opening	273	SQ. FT.
Created Head (20 Yr.)	<0.5	FT.
100 Yr. Discharge	1760	C.F.S.
Created Head (100 Yr.)	<1.0	FT.
High Water Elev. (100 Yr.)	903.86	

LOADING
HS20-44
Allow 50 PSF for FWS

DESIGN STRESSES
f_y = 60,000 p.s.i.
f'c = 3,500 p.s.i.

HALF SECTION THRU BARREL

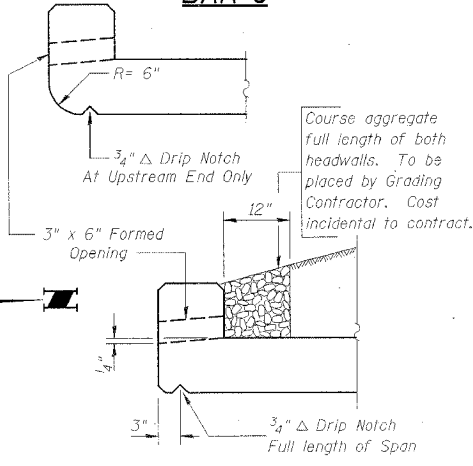


BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a	152	#7	44'-4"	
a ₁	62	#8	23'-2"	
a ₂	120	#8	6'-0"	
a ₃	124	#4	11'-6"	
d	84	#4	4'-6"	
h	88	#5	49'-9"	
h ₁	88	#5	49'-9"	
h ₂	44	#5	49'-9"	
h ₃	10	#6	37'-8"	
h ₄	68	#7	8'-0"	
h ₅	48	#7	12'-3"	
v	248	#4	8'-4"	
v ₁	248	#4	3'-0"	
v ₂	28	#4	12'-6"	
s	44	#4	5'-1"	
s ₁	44	#4	5'-3"	
Concrete Box Culverts		C.Y.	224.4	
Reinforcement Bars		LB	37,450	
Name Plate		EACH	1	
Porous Granular Embankment		C.Y.	119	
Breaker Run Crushed Stone		TON	270	

NOTES:
Class S1 Concrete shall be used throughout.
Exposed edges shall be beveled 3/4".
For backfill and embankment see standard specifications.
Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53 Grade 60.
It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of water diversion shall be subject to the approval of the engineer and the cost shall be included in the unit bid price of "Concrete Box Culverts".
NO PRECAST OPTION ALLOWED.

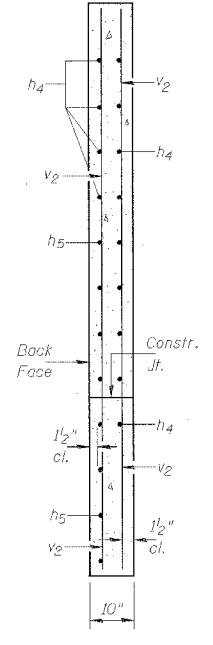
DRAIN DETAIL



BARS h₄ & h₅

DESIGN SPECIFICATIONS
Design in accordance with AASHTO Specifications Dated 2002.

SECTION A-A



STATE OF ILLINOIS
MICHAEL R. LEBLANC
081-005726
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 11/30/06

CULVERT DETAILS
ROCK GROVE ROAD OVER ROCK RUN CREEK
SECTION 04-00162-00-BR
STA. 37+73 S.N. 089-5130
STEPHENSON COUNTY
WHA # 1018D04

"I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS CULVERT 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."