

STRUCTURAL TOTAL BILL OF MATERIAL

ITEMS	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu Yd	408
Porous Granular Embankment	Cu Yd	500
Removal of Existing Structures	Each	1
Slope Wall Removal	Sq Yd	324
Concrete Structures	Cu Yd	29.0
Concrete Superstructure	Cu Yd	131.8
Bridge Deck Grooving	Sq Yd	417
*Protective Coat	Sq Yd	610
Reinforcement Bars, Epoxy Coated	Pound	138,560
Slope Wall 6"	Sq Yd	691
Name Plates	Each	1
Concrete Box Culverts	Cu Yd	555.1
Temporary Sheet Piling	Sq Ft	2,485
Masonry Wall Construction	Sq Ft	165
Porous Granular Embankment, Special	Cu Yd	408
Pipe Handrail, Special	Foot	102

*Quantity is for top surface of deck, sidewalk, parapet, and approach slab.

CULVERT BAR BENDING DIAGRAMS

Bar	a	b	Diagram
d	3'-8"	1'-9"	
d2	4'-0"	10"	
v	3'-6"	8"	
v4	3'-0"	2'-6"	

Bar	a	b	Diagram
d1	4'-10"	7"	
s	1'-6"	9"	

Bar	a	b	c	Diagram
a6	42'-4"	8"	6"	
a8	41'-4"	8"	6"	

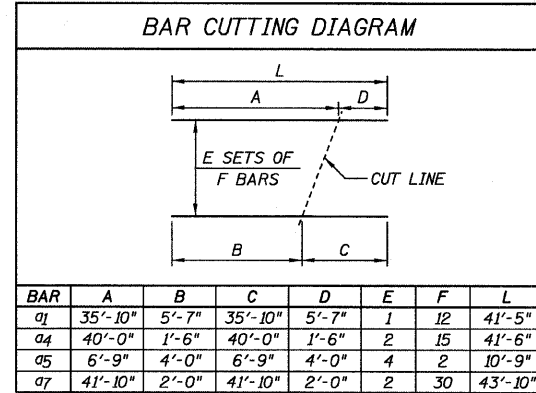
Bar	a	b	c	Diagram
s1	8"	2'-0"	4 1/2"	
s3	8 1/4"	1'-1 1/4"	4 1/2"	

Bar	a	b	c	d	Diagram
c	1'-0"	1'-8"	6"	2 1/2"	
v3	1'-8"	6"	1'-8"	4 1/4"	

Bar	a	b	c	d	Diagram
a2	2'-0"	4'-4"	1'-4 3/4"	7'-5"	
h2	1'-8"	2'-1"	1'-4 3/4"	2'-6"	

DESIGNED JCZ
 CHECKED MSW
 DRAWN JWK
 CHECKED MSW
 DATE 02/25/11

Bar	a	b	c	d	e	f	Diagram
s2	3 1/2"	2'-0"	4 1/2"	8"	1'-7 1/2"	4 1/2"	



BAR	A	B	C	D	E	F	L
q1	35'-10"	5'-7"	35'-10"	5'-7"	1	12	41'-5"
a4	40'-0"	1'-6"	40'-0"	1'-6"	2	15	41'-6"
a5	6'-9"	4'-0"	6'-9"	4'-0"	4	2	10'-9"
a7	41'-10"	2'-0"	41'-10"	2'-0"	2	30	43'-10"

CULVERT BILL OF MATERIAL

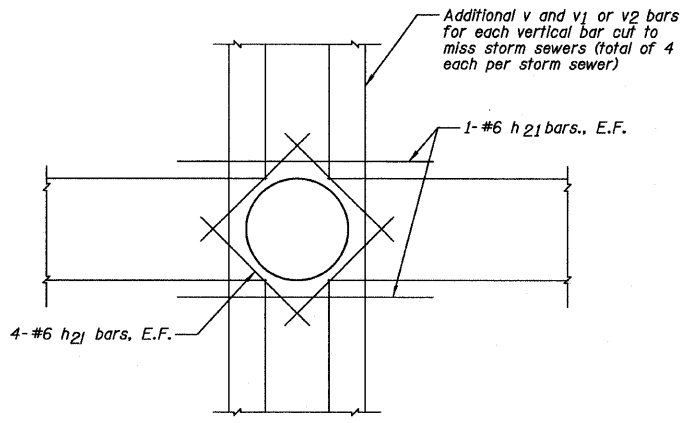
Bar	No.	Size	Length	Shape
7	163	#6	42'-4"	—
71	12	#6	41'-5"	—
72	15	#6	20'-1"	—
13	394	#6	8'-0"	—
74	30	#6	41'-6"	—
75	8	#6	10'-9"	—
76	91	#6	43'-8"	—
77	60	#6	43'-10"	—
78	91	#6	42'-8"	—
79	181	#6	41'-4"	—
h2	16	#5	44'-0"	—
h3	4	#4	44'-0"	—
2	86	#5	3'-2"	—
21	86	#5	5'-6"	—
7	86	#4	5'-5"	—
71	8	#5	10'-3"	—
72	56	#5	4'-10"	—
73	180	#5	10"	—
3	4	#4	16'-7"	—
31	8	#4	10'-11"	—
7	210	#5	22'-7"	—
71	172	#5	27'-0"	—
72	43	#5	10'-0"	—
73	15	#6	42'-7"	—
74	580	#5	27'-9"	—
720	204	#6	28'-2"	—
721	60	#6	5'-0"	—
722	8	#7	44'-0"	—
s	214	#4	3'-9"	—
s1	45	#4	6'-1"	—
s2	45	#4	5'-11"	—
s3	4	#4	4'-4"	—
v	662	#5	4'-2"	—
v1	224	#5	6'-4"	—
v2	438	#5	7'-8"	—
v3	212	#4	3'-10"	—
v4	88	#5	5'-6"	—
Item	Unit	Quantity		
Concrete Box Culverts	Cu. Yd.	491.3		
Reinforcement Bars, Epoxy Coated	Pound	95,450		

Location	Station	Offset	Elevation
A	9+73.33	0.00	767.47
B	9+88.23	0.00	767.50
C	10+02.77	0.00	767.50
D	10+17.67	0.00	767.49
E	9+69.14	-11.50	767.23
F	9+84.04	-11.50	767.26
G	9+98.58	-11.50	767.27
H	10+13.48	-11.50	767.27
I	9+77.52	11.50	767.25
J	9+92.42	11.50	767.27
K	10+06.96	11.50	767.27
L	10+21.86	11.50	767.25
M	9+62.41	-30.00	766.83
N	9+77.31	-30.00	766.88
O	9+91.85	-30.00	766.90
P	10+06.75	-30.00	766.90
Q	9+84.25	30.00	766.89
R	9+99.15	30.00	766.90
S	10+13.69	30.00	766.90
T	10+28.59	30.00	766.86
U	9+55.13	-50.00	766.82
V	9+70.03	-50.00	766.87
W	9+84.57	-50.00	766.89
X	9+99.47	-50.00	766.89
Y	9+91.53	50.00	766.88
Z	10+06.43	50.00	766.89
AA	10+20.97	50.00	766.88
BB	10+35.87	50.00	766.85

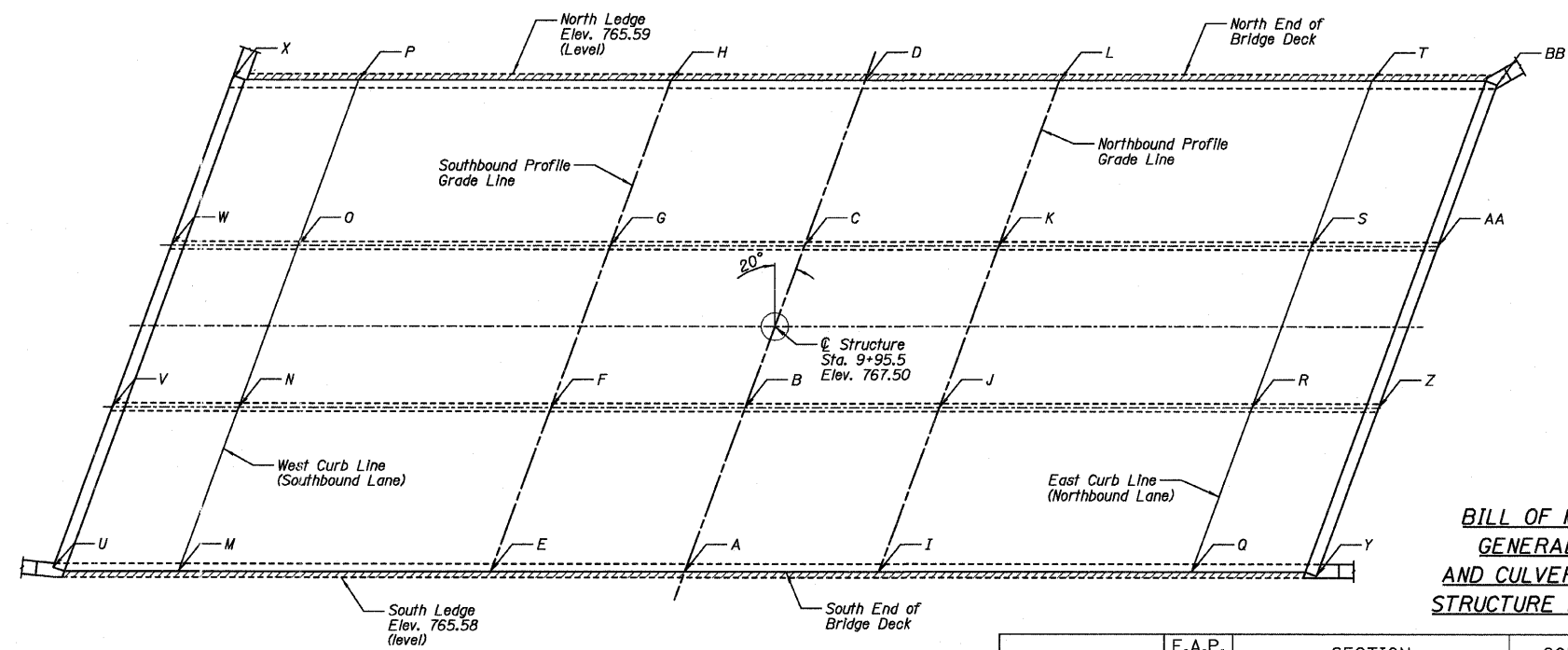
GENERAL NOTES

- At least 10'-0" of this culvert barrel shall be poured monolithically with the wingwalls.
- Exposed edges shall be beveled 3/4".
- Class SI Concrete shall be used throughout except Class BD Concrete shall be used for the top slab. Optional use of Precast Concrete Box Culverts is not allowed.
- Reinforcement Bars shall conform to the requirements of ASTM A706, Grade 60 (LL Modified). See Special Provision.
- For backfilling and embankment, see Standard Specifications and Roadway Plans.
- It shall be the responsibility of the Contractor to divert the stream flow and any storm sewer flow during construction in order to keep the construction areas free of water. The method of water diversion shall be subject to the approval of the Engineer and the cost shall be included with "Concrete Box Culverts".
- Contractor to field locate all utilities before starting construction and protect all utilities. Contractor to submit information regarding protecting utilities to the Engineer before starting construction.
- For field data, See Farnsworth Group field book No. 2675.
- The pay item "Removal And Disposal Of Unsuitable Material" shall include the excavation of unsuitable material for a depth to 1'-6" below the structure for a width of 46'-8" within the limits of the toe walls as shown in the plans. The actual amount shall be determined in the field by the Engineer.
- The pay item "Porous Granular Embankment, Special" shall include the placement of CA-1 and CA-7 below the structure for a width of 46'-8" within the limits of the toe walls as shown on the plans. The actual amount shall be determined in the field by the Engineer.
- All Reinforcement Bars shall be epoxy coated.
- E.F. denotes Each Face I.F. denotes Inside Face O.F. denotes Outside Face B.F. denotes Back Face F.F. denotes Front Face
- There will be no additional compensation should any reinforcement need to be cut or bent in the field.
- Construction Joints shall be bonded in accordance with Section 503.09(b) of the Standard Specifications.
- The layout of the paved ditch may be varied in the field to suit ground conditions as directed by the Engineer.
- Minimum bar lap lengths are as follows, unless noted otherwise.

Bar Size	Min. Lap Length	Wingwalls:	Bar Size	Min. Lap Length
#4	1'-4"		#4	1'-8"
#5	1'-8"		#5	2'-2"
#6	2'-0"		#6	2'-7"
#7	2'-9"		#7	3'-5"
#8	3'-8"		#8	4'-6"
#9	4'-7"		#9	5'-9"
- The concrete for the culvert top slab finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of culvert. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.
- If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
- The concrete in the retaining walls, sidewalk, parapet, and curb on the culvert slab shall be paid for as "Concrete Box Culverts".
- Contractor to protect the 24" Watermain. Positive means will be required including sheet piling.
- Contractor to submit information regarding protecting utilities to the Engineer before starting construction. Price included with "Temporary Sheet Piling".
- Removal of the bituminous wearing surface on the existing bridge shall be included in the rest of Removal of Existing Structures.
- The Paved Ditch shall be paid for as "Slope Wall 6 Inch". Removal of Paved Ditch shall be paid for as "Slope Wall Removal".



WALL REINFORCEMENT AROUND STORM SEWER, TYP.
(Cut Bars as necessary to miss storm sewers)



TOP SLAB ELEVATIONS

BILL OF MATERIAL, GENERAL NOTES, AND CULVERT DETAILS STRUCTURE NO. 057-7841

SHEET NO. C2	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
19 SHEETS		07-00233-00-BR	MCLEAN	40	17
		SN 057-7841	CONTRACT NO. 91422		
		FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT	