


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80/94		COOK	231	11
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
*(0203.1 & 0304) R-6			CONTRACT # 62105	

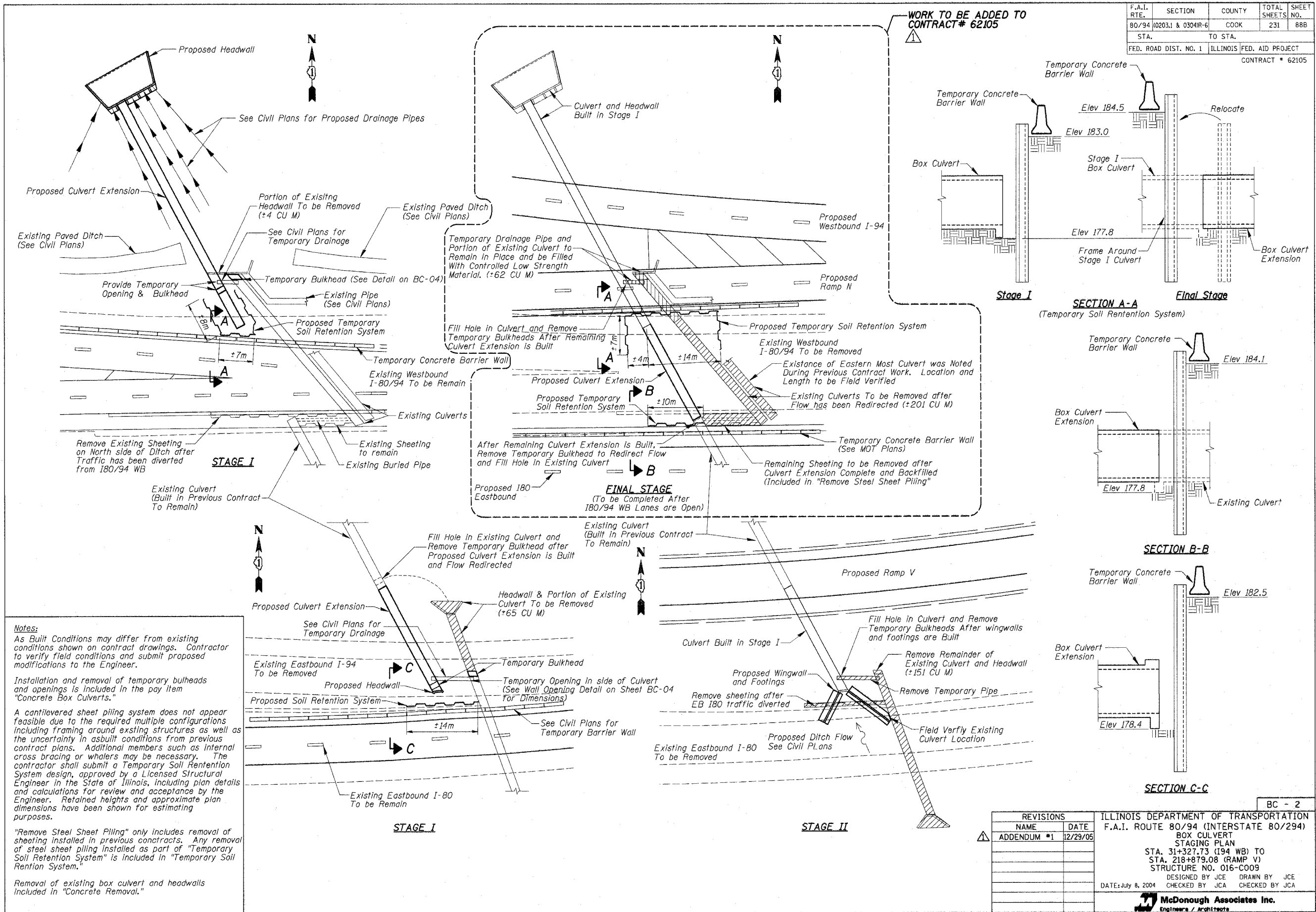
CODE NO.	PAY ITEM	UNIT	URBAN 90% FED. 10% STATE TOTAL QUANTITY	ROADWAY			SIGNING	ELECTRICAL	Box CULVERT SN 016-C009
				CONSTRUCTION TYPE CODE			WORK		
				J000-2A	Y002-1C	Y030-1E	Y007		
MZ013825	CONTROLLED LOW-STRENGTH MATERIAL	CU M	149	107				62	
MZ065755	SLOTTED DRAIN 300MM WITH VARIABLE SLOT HEIGHT	METER	160	160					
MX637160	CONCRETE BARRIER, SINGLE FACE, 1065 MM HEIGHT, REINFORCED	METER	101	101					
M6380205	CONCRETE GLARE SCREEN, SPECIAL	METER	29	29					
*MX033544	CONDUIT EMBEDDED IN STRUCTURE, 30MM DIA. CNC, 2 WIDE X 1 HIGH	METER	40				40		
*MX033545	CONDUIT EMBEDDED IN STRUCTURE, 30MM DIA. CNC, 4 WIDE X 2 HIGH	METER	1,134				1,134		
*MX010115	CONDUIT ENCASED, REINFORCED CONCRETE, 30MM DIA. CNC, 4 WIDE X 2 HIGH	METER	329				329		
MX033546	DRAINAGE STRUCTURES, 3.0M BY 0.9, SPECIAL WITH TWO TYPE 20 FRAME AND GRATES	EACH	1	1					
*M7290100	METAL POST - TYPE A	EACH	2			2			
*M700212	PAINT PAVEMENT MARKING - LINE 125MM (SPECIAL)	METER	59	59					
*M7002012	POLYUREA PAVEMENT MARKING TYPE I - LINE 125MM	METER	2,909	2,909					
MX033547	SLIP-ON FLAT BOTTOM CHECK VALVE 375MM	EACH	2	2					
MX033548	SLIP-ON FLAT BOTTOM CHECK VALVE 750MM	EACH	2	2					
*X0325130	TUBULAR TRAFFIC SIGN POST	EACH	13			13			
*X0325131	HIGHWAY ADVISORY RADIO FLASHING BEACON ASSEMBLY, SOLAR	EACH	1			1			
M2070220	POROUS GRANULAR EMBANKMENT	CU M	76					76	
M5010240	CONCRETE REMOVAL	CU M	201					201	
M5020100	STRUCTURE EXCAVATION	CU M	321					321	
M5080105	REINFORCEMENT BARS	KG	2290					2290	
M5403000	CONCRETE BOX CULVERTS	CU M	35.2					35.2	
M5403220	EXPANSION BOLTS M20	EACH	72					72	
MX030236	REMOVE STEEL SHEET PILING	SQM	200					200	
MX033276	TEMPORARY SOIL RETENTION SYSTEM	SQM	305					305	

* SPECIALTY ITEMS

SQ-6

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. ROUTE 80/94 (INTERSTATE 80/294)
NAME	DATE	
		SUMMARY OF QUANTITIES
		DATE: JULY 18, 2005
		DRAWN BY: AAS CHECKED BY: RCH
		 McDonough Associates Inc. Engineers / Architects

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80/94	(0203.1 & 0304R-6)	COOK	231	88B
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT		CONTRACT # 62105	



Notes:
 As Built Conditions may differ from existing conditions shown on contract drawings. Contractor to verify field conditions and submit proposed modifications to the Engineer.

Installation and removal of temporary bulheads and openings is included in the pay item "Concrete Box Culverts."

A cantilevered sheet piling system does not appear feasible due to the required multiple configurations including framing around existing structures as well as the uncertainty in asbuilt conditions from previous contract plans. Additional members such as internal cross bracing or walers may be necessary. The contractor shall submit a Temporary Soil Retention System design, approved by a Licensed Structural Engineer in the State of Illinois, including plan details and calculations for review and acceptance by the Engineer. Retained heights and approximate plan dimensions have been shown for estimating purposes.

"Remove Steel Sheet Piling" only includes removal of sheeting installed in previous contracts. Any removal of steel sheet piling installed as part of "Temporary Soil Retention System" is included in "Temporary Soil Retention System."

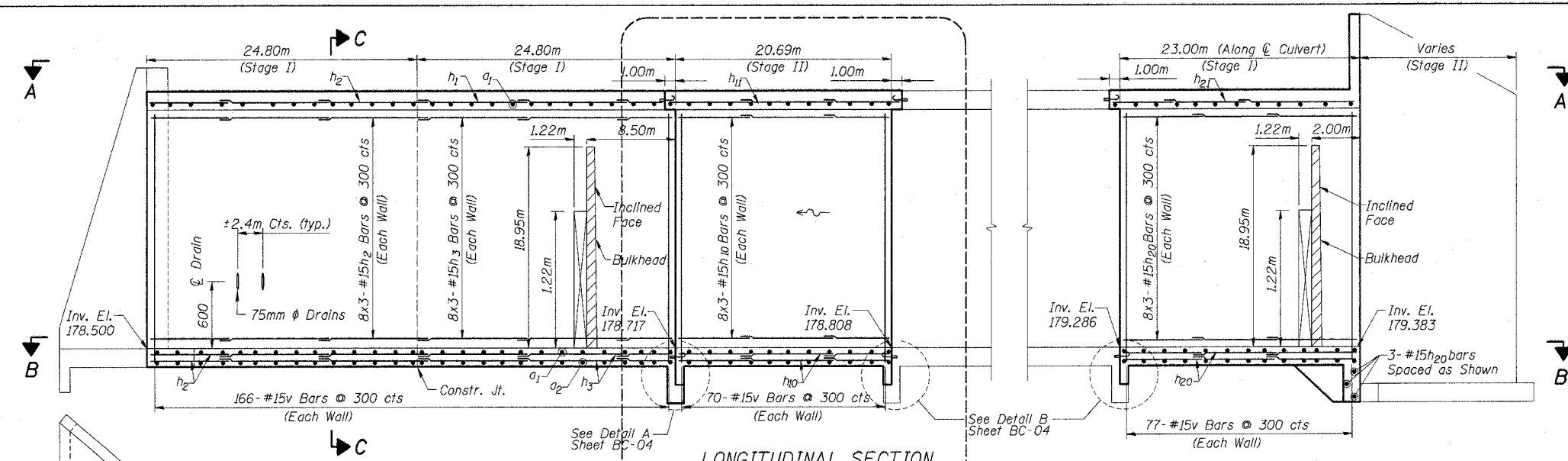
Removal of existing box culvert and headwalls included in "Concrete Removal."

REVISIONS	
NAME	DATE
ADDENDUM #1	12/29/05

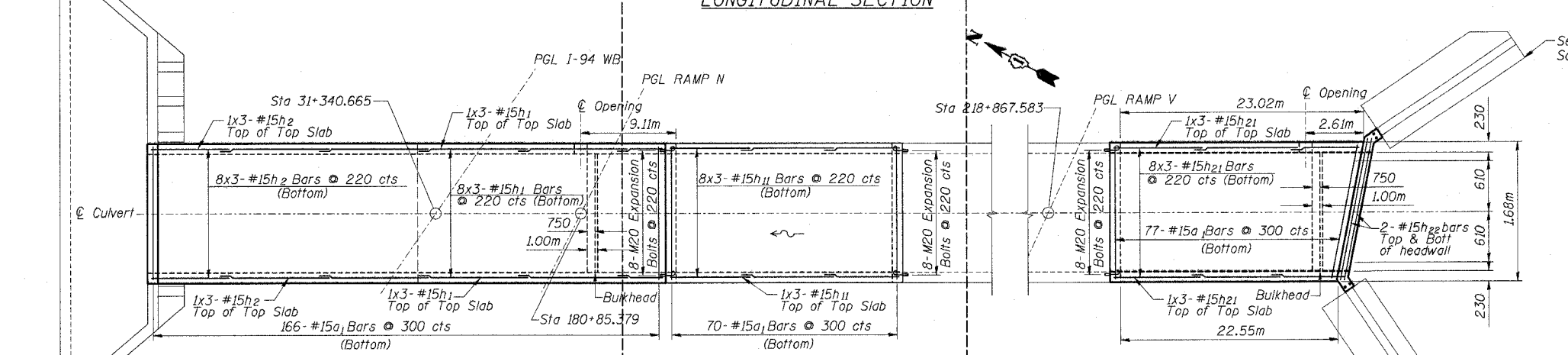
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. ROUTE 80/94 (INTERSTATE 80/294)
 BOX CULVERT
 STAGING PLAN
 STA. 31+327.73 (194 WB) TO
 STA. 218+879.08 (RAMP V)
 STRUCTURE NO. 016-C009
 DESIGNED BY JCE DRAWN BY JCE
 DATE: July 8, 2004 CHECKED BY JCA CHECKED BY JCA

McDonough Associates Inc.
 Engineers / Architects

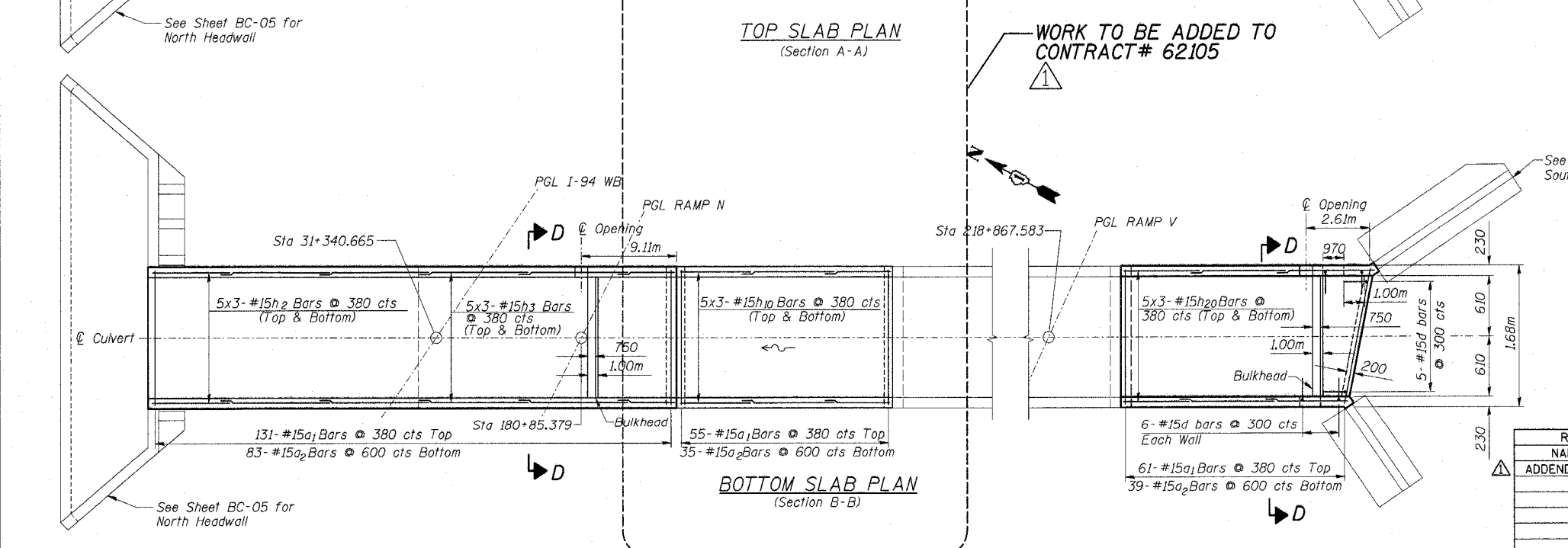
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80/94	0203.1 & 0304R-6	COOK	231	88C
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
CONTRACT # 62105				



LONGITUDINAL SECTION



TOP SLAB PLAN
(Section A-A)



BOTTOM SLAB PLAN
(Section B-B)

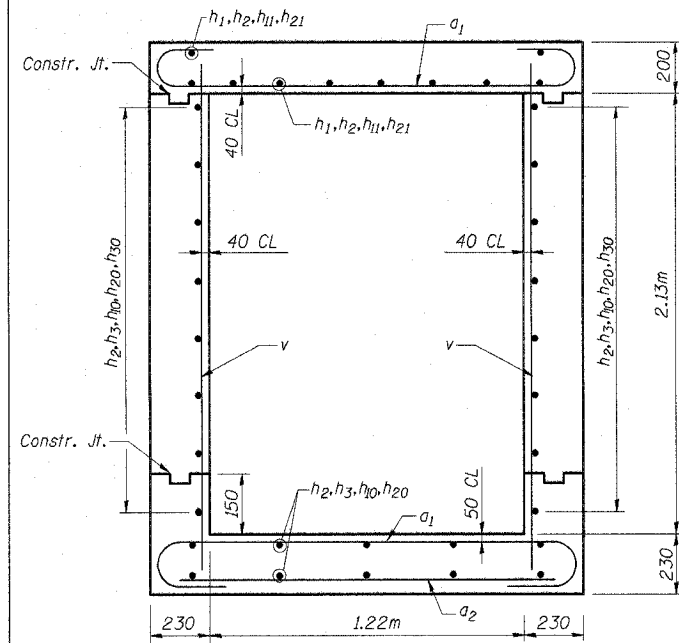
WORK TO BE ADDED TO CONTRACT # 62105

- NOTES:
1. Temporary openings on the east side of culvert shall be closed after Stage II work is complete. See Detail on BC-04.
 2. The purpose of the Bulkheads is to block the flow in culvert at ends to facilitate construction of the Stage II culvert extensions. The bulkhead shall be included for payment with "Concrete Box Culvert". These walls shall be removed after Stage II extensions are in place.
 3. For Sections C-C & D-D, see sheet BC-04.

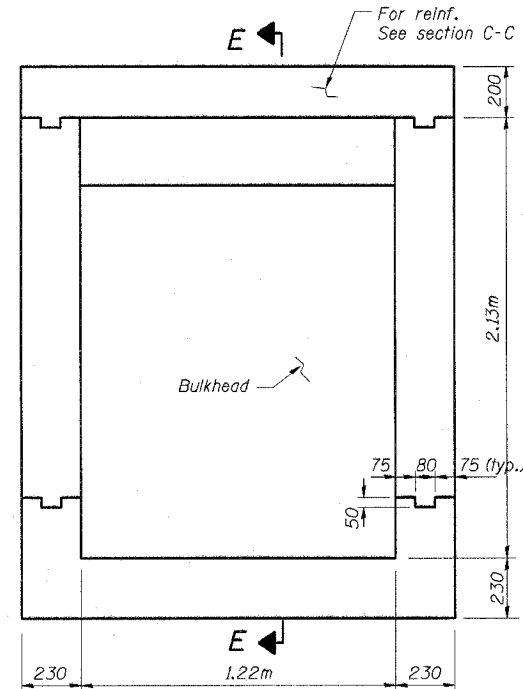
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. ROUTE 80/94 (INTERSTATE 80/294) BOX CULVERT PLAN & SECTIONS - BARREL STA. 31+327.73 (I94 WB) TO STA. 218+879.08 (RAMP V) STRUCTURE NO. 016-C009
NAME	DATE	
ADDENDUM #1	12/29/05	DESIGNED BY JCE DRAWN BY JCE DATE: July 8, 2004 CHECKED BY JCA CHECKED BY JCA

McDonough Associates Inc.
Engineers / Architects

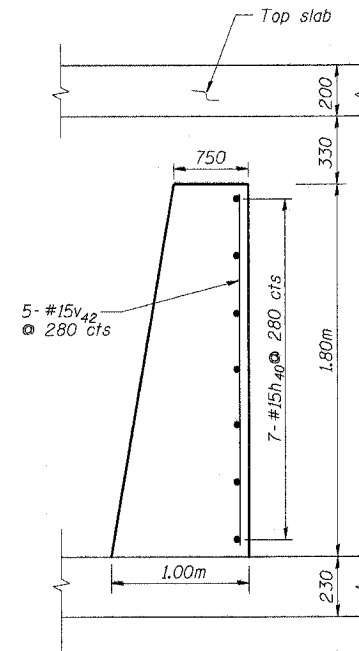
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80/94	02031 & 0304R-6	COOK	231	88D
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		
CONTRACT # 62105				



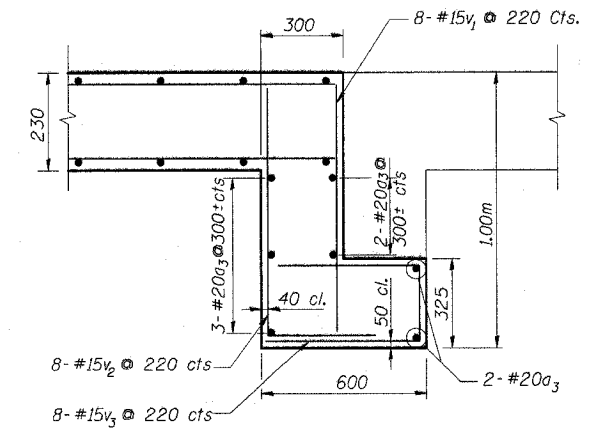
SECTION C-C
(TYPICAL SECTION THRU BARREL)



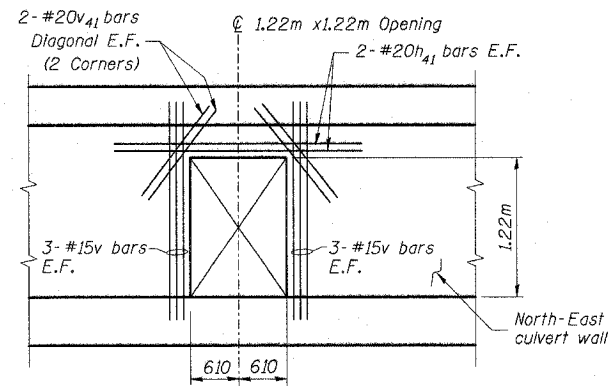
SECTION D-D



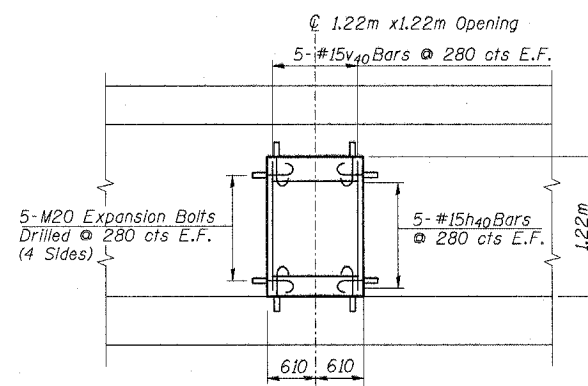
TEMPORARY BULKHEAD
SECTION E-E
(4 Req'd)



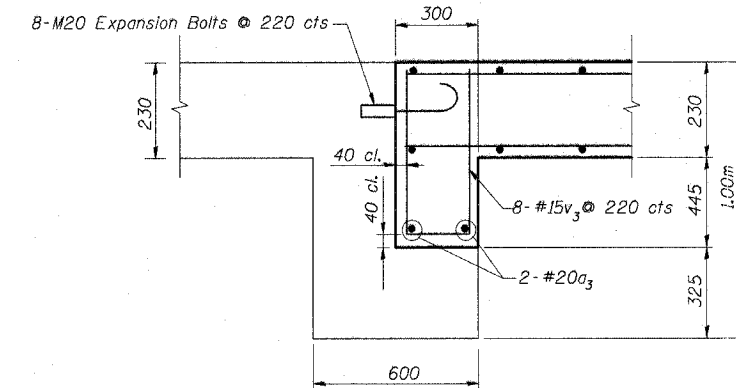
DETAIL A
(1 Req'd)



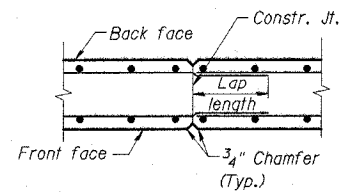
DETAIL SHOWING ADDITIONAL
REINFORCEMENT IN WALL OPENING
(2 Req'd)



DETAIL SHOWING FILLING OF
TEMPORARY DRAINAGE OPENINGS
(2 Req'd)



DETAIL B
(3 Req'd)



CONSTRUCTION JOINT DETAIL

REVISIONS	
NAME	DATE
ADDENDUM #1	12/29/05

BC - 4

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 80/94 (INTERSTATE 80/294)
BOX CULVERT
SECTIONS AND DETAILS
STA. 31+327.73 (194 WB) TO
STA. 218+879.08 (RAMP V)
STRUCTURE NO. 016-C009
DESIGNED BY JCE DRAWN BY JCE
DATE: July 8, 2004 CHECKED BY JCA CHECKED BY JCA

McDonough Associates Inc.
Engineers / Architects

STAGE I-NORTH HALF

Bar	No.	Size	Length (m)	Shape
a1	297	#15	1.94	—
a2	83	#15	1.50	—
a3	7	#20	1.58	—
h1	24	#15	8.36	—
h2	102	#15	8.91	—
h3	78	#15	8.69	—
h4	38	#10	10.30	—
h5	12	#10	5.90	—
h6*	20	#10	6.25	—
h7	8	#20	2.50	—
h8	44	#15	2.44	—
h9	16	#15	7.20	—
h40	7	#15	1.12	—
h41	4	#20	3.00	—
n(E)	168	#20	1.32	—
n1(E)	18	#25	1.88	—
n2(E)	8	#25	3.00	—
n3(E)	4	#20	1.50	—
t	220	#15	3.93	—
t1*	12	#15	6.84	—
t2	49	#20	1.60	—
t3	49	#15	0.80	—
v	344	#15	2.46	—
v1	8	#15	0.90	—
v2	8	#15	1.30	—
v3	8	#15	1.25	—
v4	44	#20	3.40	—
v5	18	#25	3.40	—
v6*	48	#20	4.05	—
v7	8	#15	3.04	—
v41	8	#20	1.80	—
v42	5	#15	1.70	—
w	172	#15	3.00	—
w1	44	#15	9.00	—
w2	30	#15	1.35	—
w3	10	#15	6.08	—
Porous Granular Embankment		m ³	223	
Concrete Removal		m ³	4	
Structure Excavation		m ³	846	
Reinforcement Bars		kg	10,670	
Reinforcement Bars, Epoxy Coated		kg	770	
Concrete Box Culverts		m ³	126.5	

* See Cutting Diagram

STAGE I-SOUTH HALF

Bar	No.	Size	Length (m)	Shape
a1	138	#15	1.94	—
a2	39	#15	1.50	—
a3	2	#20	1.58	—
d	17	#15	1.76	—
h20	81	#15	8.10	—
h21	30	#15	8.43	—
h22	4	#20	1.61	—
h41	4	#20	3.00	—
v	101	#15	2.46	—
v3	8	#15	1.25	—
v20	4	#15	3.66	—
v41	8	#20	1.80	—
v42	5	#15	1.25	—
Porous Granular Embankment		m ³	84	
Concrete Removal		m ³	65	
Structure Excavation		m ³	149	
Reinforcement Bars		kg	2,510	
Concrete Box Culverts		m ³	40.4	
Expansion Bolts M20		Each	16	

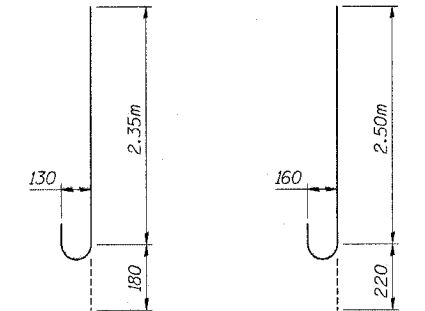
STAGE II-NORTH HALF

Bar	No.	Size	Length (m)	Shape
a1	125	#15	1.94	—
a2	35	#15	1.50	—
a3	4	#20	1.58	—
h10	78	#15	7.33	—
h11	24	#15	7.99	—
h40	10	#15	1.12	—
v	140	#15	2.46	—
v3	14	#15	1.25	—
Porous Granular Embankment		m ³	76	
Concrete Removal		m ³	201	
Structure Excavation		m ³	321	
Reinforcement Bars		kg	2,290	
Concrete Box Culverts		m ³	35.2	
Expansion Bolts M20		Each	72	

STAGE II-SOUTH HALF

Bar	No.	Size	Length (m)	Shape
h30	22	#15	6.40	—
h31	20	#15	5.27	—
h40	10	#15	1.12	—
n30(E)	56	#15	2.33	—
n31(E)	56	#20	2.72	—
t30	124	#15	1.88	—
t31*	6	#15	2.99	—
v30	112	#15	1.91	—
v40	10	#15	1.12	—
w30	10	#15	6.40	—
w31	20	#15	5.27	—
Porous Granular Embankment		m ³	29	
Concrete Removal		m ³	151	
Structure Excavation		m ³	220	
Reinforcement Bars		kg	1,420	
Reinforcement Bars, Epoxy Coated		kg	570	
Concrete Box Culverts		m ³	26.4	
Expansion Bolts M20		Each	40	

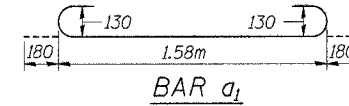
* See Cutting Diagram



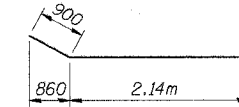
BAR n₃₀(E)

BAR n₃₁(E)

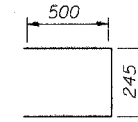
WORK TO BE ADDED TO CONTRACT # 62105



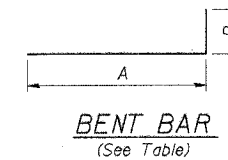
BAR a₁



BAR v₇



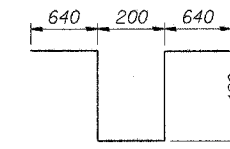
BAR v₃



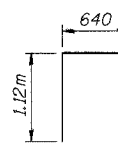
BENT BAR
(See Table)

Bar	A	B
n(E)	1000	320
n ₁ (E)	1480	400
n ₂ (E)	2600	400
t ₂ (E)	800	800
v ₂ (E)	900	400

BAR v₈



BAR h_g



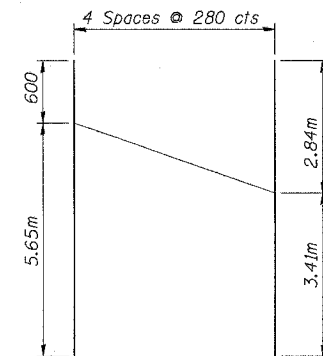
BAR d

LAP LENGTHS

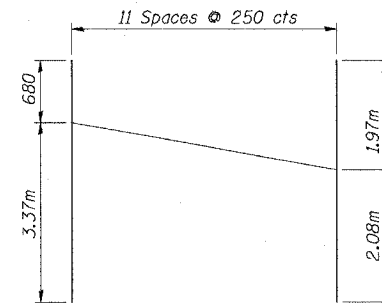
Bar Size	Lap Length (Min)
#10	450
#15	640
#20	790
#25	1320

Reinforcement bars designated (E) shall be epoxy coated.

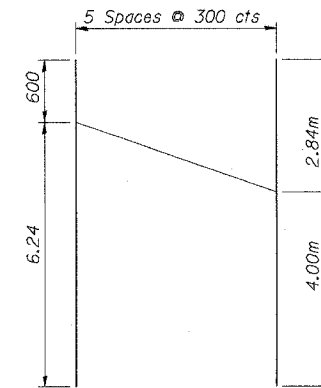
Bars indicated thus 1 x 2-#15 etc. indicates 1 line of bars with 2 lengths per line.



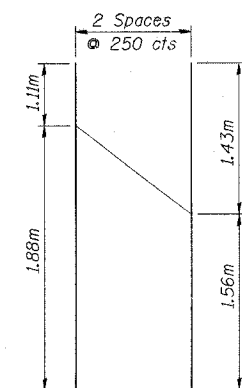
BAR h₆



BAR v₆



BAR t₁



BAR t₃

CUTTING DIAGRAMS

BC - 7

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. ROUTE 80/94 (INTERSTATE 80/294) BOX CULVERT BAR BEND & BILL OF MATERIAL STA. 31+327.73 (194 WB) TO STA. 218+879.08 (RAMP V) STRUCTURE NO. 016-C009 DESIGNED BY JCE DRAWN BY JCE DATE: July 8, 2004 CHECKED BY JCA
NAME	DATE	
ADDENDUM #1	12/29/05	

McDonough Associates Inc.
Engineers / Architects