

APPENDIX F

CONSTRUCTION QUANTITIES AND COSTS

NOTE: The costs presented herein are inclusive through August 1971. Costs for any additional work performed for the Department of Environmental Resources subsequent to this date are not available.

A. CUMMINGS SHAFT

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Dewatering (Sump Pumping)	\$10,000.00	L.S.	\$10,000.00	100%	\$10,000.00
(2)	Remove existing fence and portion of front wall	\$ 500.00	L.S.	\$ 500.00	100%	\$ 500.00
(3)	Excavation (a) Soil	\$ 3,600.00	600 C.Y.	\$ 6.00	925 C.Y.	\$ 5,500.00
	Excavation (b) Rock	\$ 3,600.00	100 C.Y.	\$ 36.00	-	0.00
(4)	Furnish and Install Reinforced Concrete Structure	\$ 7,200.00	60 C.Y.	\$ 120.00	77 C.Y.	\$ 9,240.00
(5)	Furnish and Install Pipe, Valve and Housing	\$ 2,070.00	L.S.	\$ 2,070.00	100%	\$ 2,070.00
(6)	Furnish and Install Wire Fence and Gate	\$ 1,080.00	L.S.	\$ 1,080.00	100%	\$ 1,080.00
(7)	Backfill	\$ 2,100.00	700 C.Y.	\$ 3.00	925 C.Y.	\$ 2,775.00
TOTALS		\$30,150.00				\$31,215.00

% OF ESTIMATED COST = 103%

B. E-1 MINE ENTRY

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Preparation	\$1,500.00	L.S.	\$1,500.00	100%	\$1,500.00
(2)	Excavation (a) Rock	\$ 720.00	4 C.Y.	\$ 180.00	4 C.Y.	\$ 720.00
(3)	Overhaul	-	C.Y.	\$ 20.00	-	-
(4)	Furnish and Install Reinforced Concrete Structure	\$ 800.00	4. C.Y.	\$ 200.00	4½ C.Y.	\$ 900.00
(5)	Furnish and Install Access Gate	\$ 150.00	L.S.	\$ 150.00	100%	\$ 150.00
TOTALS		\$3,170.00				\$3,270.00

% OF ESTIMATED COST = 103%

C. REMOVE BARRIER INSIDE MINE BETWEEN E-1 ENTRY AND CUMMINGS SHAFT.

(1)	Investigation	\$1,000.00	40 man hrs.	\$ 25.00	-	0.00
(2)	Removal	Cost	Plus 20	Percent	-	-
TOTALS		\$1,000.00				0.00

% of Estimated Cost = 0%

D. E-2 MINE ENTRIES

1. E-2

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Preparation (Includes Dewatering)	\$2,000.00	L.S.	\$2,000.00	100%	\$2,000.00
(2)	Demolition of Pump Housing and Concrete Beam	\$1,620.00	L.S.	\$1,620.00	100%	\$1,620.00
(3)	Excavation (a) Rock	\$ 800.00	4 C.Y.	\$ 200.00	-	-
(4)	Furnish and install Reinforced Concrete Structure	\$ 800.00	4 C.Y.	\$ 200.00	-	-
(5)	Furnish and Install Access Gate	\$ 300.00	L.S.	\$ 300.00	-	-
(6)	Excavation	\$2,000.00	200 C.Y.	\$ 10.00 \$6 (deduct)	191 C.Y.	\$1,964.00
(7)	Furnish and Install 18" Pipe in Drift Below Water	\$3,500.00	L.S.	\$3,500.00	100%	\$3,500.00
(8)	Place compacted and uncompacted Dikes and Backfill	\$1,000.00	200 C.Y.	\$ 5.00 \$3 (deduct)	191 C.Y.	\$ 982.00
TOTALS		\$12,020.00				\$10,066.00

2. E-2A

(1)	Excavation	\$4,000.00	500 C.Y.	\$ 8.00	523 C.Y.	\$4,184.00
(2)	Place compacted and uncompacted Dikes and Backfill	\$2,500.00	500 C.Y.	\$ 5.00	523 C.Y.	\$2,615.00
TOTALS		\$6,500.00				\$6,799.00

3. E-2B

(1)	Excavation	\$5,600.00	700 C.Y.	\$ 8.00	773 C.Y.	\$6,184.00
(2)	Place compacted and uncompacted Dikes and Backfill	\$3,500.00	700 C.Y.	\$ 5.00	773 C.Y.	\$3,865.00
(3)	Dewatering	\$ 900.00	L.S.	\$ 900.00	100%	\$ 900.00
TOTALS		\$10,000.00				\$10,949.00

GROSS TOTALS \$28,520.00

% OF ESTIMATED COST = 97%

\$27,814.00

E. MINE WATER TRANSFER PIPE BETWEEN E-1 AND E-2 MINE ENTRIES

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Excavation (a) Soil	\$ 3,500.00	350 C.Y.	\$ 10.00	318 C.Y.	\$ 3,180.00
(2)	Overhaul	-	C.Y.	\$ 20.00	-	-
(3)	Remove Portion of Existing Bridge	\$ 1,500.00	L.S.	\$1,500.00	100%	\$ 1,500.00
(4)	Furnish and Place Pipe Bedding Material	\$ 840.00	70 C.Y.	\$ 12.00	135 C.Y.	\$ 1,620.00
(5)	Furnish and Install Pipe	\$20,000.00	500 L.F.	\$ 40.00	509 L.F.	\$20,360.00
(6)	Furnish & Install Pipe Support Encasements & Insulation					
	(a) Bridge Portion	\$ 7,000.00	35 L.F.	\$ 200.00	35 L.F.	\$ 7,000.00
	(b) Trenched Portion	\$ 6,000.00	300 L.F.	\$ 20.00	200 L.F.	\$ 4,000.00
(7)	Backfill	\$ 2,100.00	300 C.Y.	\$ 7.00	580 C.Y.	\$ 4,060.00
(8)	Furnish and Install Cleanout Pipe Sections	\$ 1,500.00	L.S.	\$1,500.00	100%	\$ 1,500.00
TOTALS		\$42,440.00				\$43,220.00

% OF ESTIMATED COST = 101%

F. E-3 MINE ENTRIES

1. E-3 Barrier

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Preparation	\$ 2,000.00	L.S.	\$ 2,000.00	100%	\$ 2,000.00
(2)	Excavation (a) Rock	\$ 800.00	4 C.Y.	\$ 200.00	4 C.Y.	\$ 800.00
(3)	Furnish and Install Reinforced Concrete Structure	\$ 800.00	4 C.Y.	\$ 200.00	4 1/4 C.Y.	\$ 850.00
(4)	Furnish and Install Access Gate	\$ 260.00	L.S.	\$ 260.00	100%	\$ 260.00
(5)	Replace Existing Wood Barricade	\$ 3,150.00	L.S.	\$ 3,150.00	100%	\$ 3,150.00
TOTALS		\$ 7,010.00				\$ 7,060.00

2. E-3 Collapsed Shaft

(1)	Preparation (Includes Dewatering)	\$ 2,000.00	L.S.	\$ 2,000.00	100%	\$ 2,000.00
(2)	Excavation (a) Soil	\$ 2,000.00	200 C.Y.	\$ 10.00	1,280 C.Y.	\$12,800.00
	Excavation (b) Rock	\$ 6,000.00	200 C.Y.	\$ 30.00	-	-
(3)	Overhaul	-	C.Y.	\$ 20.00	-	-
(4)	Furnish and Install Reinforced Concrete Structure	\$ 1,300.00	6.5 C.Y.	\$ 200.00	-	-
(5)	Backfill	\$ 1,200.00	400 C.Y.	\$ 3.00	1,280 C.Y.	\$ 3,840.00
TOTALS		\$12,500.00				\$18,640.00
GROSS TOTALS		\$19,510.00				\$25,700.00

% OF ESTIMATED COST = 131%

G. DDH-44 BOREHOLE IN BOROUGH OF CREEKSIDE

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Exploratory Excavation	COST	Plus 20	Percent	-	\$314.53
(2)	Preparation	\$ 2,000.00	L.S.	\$2,000.00	-	-
(3)	Calipering or Gauging	\$ 1,500.00	L.S.	\$1,500.00	-	-
(4)	Reaming	\$ 3,600.00	120 L.F.	\$ 30.00	-	-
(5)	Plug and Grout	\$ 4,000.00	L.S.	\$4,000.00	-	-

TOTALS \$11,100.00

\$314.53

% OF ESTIMATED COST = 2.8%

H. CROCKED CREEK BOREHOLES

1. Borehole No. 1 (Original)

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Exploratory Excavation	Cost	Plus 20	Percent	-	\$ 414.48
(2)	Preparation	\$ 2,000.00	L.S.	\$2,000.00	100%	\$2,000.00
(3)	Calipering or Gauging	\$ 1,500.00	L.S.	\$1,500.00	100%	\$1,500.00
(4)	Reaming	\$ 3,000.00	100 L.F.	\$ 30.00	100 L.F.	\$3,000.00
(5)	Plug and Grout	<u>\$ 4,000.00</u>	L.S.	\$3,000.00 (change order)	100%	<u>\$3,000.00</u>
		TOTALS	\$10,500.00			\$9,914.48

2. Borehole No. 2 (Encountered following Construction)

(1)	Exploratory Excavation	Cost	Plus 20	Percent	-	\$ 432.00
(2)	Preparation	\$ 2,000.00	L.S.	\$2,000.00	100%	\$2,000.00
(3)	Calipering or Gauging	\$ 1,500.00	L.S.	\$1,500.00	100%	\$1,500.00
(4)	Reaming	\$ 3,000.00	100 L.F.	\$ 30.00	98.5 L.F.	\$2,955.00
(5)	Plug and Grout	<u>\$ 3,000.00</u>	L.S.	\$3,000.00	100%	<u>\$3,000.00</u>
		TOTALS	\$ 9,500.00			\$9,887.00
		GROSS TOTALS	\$20,000.00			\$19,801.48

% OF ESTIMATED COST = 99%

I. E-4 BOREHOLES

1. General

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Preparation	\$ 3,500.00	L.S.	\$3,500.00	100%	\$ 3,500.00
(2)	Granular Fill	\$ 600.00	50 C.Y.	-	50 C.Y.	\$ 600.00
(3)	Furnish and Install Concrete Pad and Valve Housing	\$ 2,500.00	L.S.	\$2,500.00	100%	\$ 2,500.00
TOTALS		\$ 6,600.00				\$ 6,600.00

2. Borehole No. 1 (8-inch dia.)

(1)	Cleaning	\$ 2,700.00	90 L.F.	\$ 30.00	100 L.F.	\$ 3,000.00
(2)	Plug, Install Pipe, Valve and Grout	\$ 8,500.00	L.S.	\$7,300.00 (change order)	100%	\$ 7,300.00
(3)	Calipering	\$ 1,500.00	L.S.	\$1,500.00	100%	\$ 1,500.00
TOTALS		\$12,700.00				\$11,800.00

3. Borehole No. 2 (16-inch dia.)

(1)	Cleaning	\$ 6,300.00	90 L.F.	\$ 70.00	100 L.F.	\$ 7,000.00
(2)	Plug, Install Pipe, Valve and Grout	\$14,000.00	L.S.	\$14,000.00	100%	\$14,000.00
TOTALS		\$20,300.00				\$21,000.00

I. E-4 BOREHOLES (continued)

4. Borehole No. 3 (8-inch dia.)

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Reaming	\$ 2,700.00	90 L.F.	\$ 30.00	100 L.F.	\$ 3,000.00
(2)	Plug, Install Pipe, Valve and Grout	\$ 8,500.00	L.S.	\$7,300.00 (change order)	100%	\$ 7,300.00
(3)	Caliperling	\$ 1,500.00	L.S.	\$1,500.00	100%	\$ 1,500.00
TOTALS		\$12,700.00				\$11,800.00

5. Borehole No. 4 (8-inch dia.)

(1)	Reaming	\$ 2,700.00	90 L.F.	\$ 30.00	99 L.F.	\$ 2,970.00
(2)	Plug, Install Pipe, Valve and Grout	\$ 4,000.00	L.S.	\$3,000.00 (change order)	100%	\$ 3,000.00
TOTALS		\$ 6,700.00				\$ 5,970.00
GROSS TOTALS		\$59,000.00				\$57,170.00

% OF ESTIMATED COST = 96%

J. FULTON SHAFTS

1. Fulton Shaft A

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Excavation (incl. walls) (a) Soil	\$12,600.00	3600 C.Y.	\$ 3.50	2,100 C.Y.	\$ 7,350.00
(2)	Overhaul	-	C.Y.	\$ 20.00	-	-
(3)	Preparation	\$ 3,500.00	L.S.	\$3,500.00	100%	\$ 3,500.00
(4)	Furnish and Install Reinforced Concrete Seal (includes decking)	\$ 3,150.00	25 C.Y.	\$ 126.00	23 C.Y.	\$ 2,898.00
(5)	Backfill (includes in shaft)	\$ 8,000.00	4,000 C.Y.	\$ 2.00	2,100 C.Y.	\$ 4,200.00
TOTALS		\$27,250.00				\$17,948.00

2. Fulton Shaft B

(1)	Exploratory Excavation	Cost	Plus	Percent		\$ 456.00
(2)	Excavation	\$12,600.00	3,600 C.Y.	\$ 3.50	3,200 C.Y.	\$11,200.00
(3)	Overhaul	-	C.Y.	\$ 20.00	-	-
(4)	Preparation	\$ 3,500.00	L.S.	\$3,500.00	100%	\$ 3,500.00
(5)	Furnish and Install Reinforced Concrete Seal	\$3,150.00	25 C.Y.	\$ 126.00	20 C.Y.	\$ 2,520.00
(6)	Backfill (includes in shaft)	\$8,000.00	4,000 C.Y.	\$ 2.00	3,200 C.Y.	\$ 6,400.00
TOTALS		\$27,250.00				\$24,076.00

J. FULTON SHAFTS (continued)

3. Fulton Shaft C (unknown location)

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Exploratory Excavation	Cost	Plus 20	Percent	-	\$79.20
(2)	Excavation	\$12,600.00	3,600 C.Y.	\$ 3.50	-	-
(3)	Overhaul	-	C.Y.	\$ 20.00	-	-
(4)	Preparation	\$ 3,500.00	L.S.	\$3,500.00	-	-
(5)	Furnish and Install Reinforced Concrete Seal (includes decking)	\$ 3,150.00	25 C.Y.	\$ 126.00	-	-
(6)	Backfill	<u>\$ 8,000.00</u>	4,000 C.Y.	\$ 2.00	-	-

TOTALS \$27,250.00

\$79.20

J. FULTON SHAFTS (continued)

4. Borehole No. 1

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Exploratory Excavation	Cost	plus 20	percent	-	-
(2)	Preparation	\$ 2,000.00	L.S.	\$2,000.00	100%	\$ 2,000.00
(3)	Calipering or Gauging	\$ 1,500.00	L.S.	\$1,500.00	100%	\$ 1,500.00
(4)	Reaming	\$ 3,000.00	100 L.F.	\$ 30.00	60 L.F.	\$ 2,490.00
(5)	Plug and Grout	\$ 4,800.00	L.S.	\$ 3,800.00 (change order)	100%	\$ 3,800.00
		TOTALS	\$11,300.00			\$ 9,790.00

5. Borehole No. 2

(1)	Exploratory Excavation	Cost	plus 20	percent		
(2) 1/2	Preparation	\$ 2,000.00	L.S.	\$2,000.00	100%	\$ 2,000.00
(3)	Calipering or Gauging	\$ 1,500.00	L.S.	\$1,500.00	100%	\$ 1,500.00
(4)	Reaming	\$ 3,000.00	100 L.F.	\$ 30.00	77 L.F.	\$ 2,655.00
(5)	Plug and Grout	\$ 4,800.00	L.S.	\$3,800.00 (change order)	100%	\$ 3,800.00
		TOTALS	\$11,300.00			\$ 9,955.00
		GROSS TOTALS	\$104,350.00			\$61,848.20

% OF ESTIMATED COST = 59%

K. PIEZOMETER INSTALLATION

CONTRACT ITEM	DESCRIPTION	ESTIMATED COST OF ITEM	ESTIMATED QUANTITY	CONTRACT UNIT PRICE	ACTUAL QUANTITY	ACTUAL COST OF ITEM
(1)	Soil Boring	\$ 675.00	150 L.F.	\$ 4.50	184.3 L.F.	\$ 829.35
(2)	NX Coring	\$ 7,200.00	1000 L.F.	\$ 7.20	918.3 L.F.	\$ 6,611.76
(3)	Pressure Testing	\$ 2,750.00	110 Hrs.	\$ 25.00	41 Hrs.	\$ 1,025.00
(4)	Furnish and Install Standpipe Including Grout	\$ 9,900.00	1100 L.F.	\$ 9.00	1070.7L.F.	\$ 9,636.30
(5)	Mobilization/Rig	\$ 4,000.00	2 Rigs	\$2,000.00	3 Rigs	\$ 6,000.00
(6)	Provide and Install Pipe Housing and PVC Valves Where Required	\$ 2,800.00	L.S.	\$2,800.00	100%	\$ 2,800.00
TOTALS		\$27,325.00				\$26,902.41

% OF ESTIMATED COST = 98%