0002

UTAH POWER & LIGHT COMPANY

P. O. BOX 899
SALT LAKE CITY, UTAH 84110

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LEGAL ASSISTANT
350-3217

STEVE D. WHITE
CLAIMS SPECIALIST
350-1861

Route - file in Deer Creek & Church

December 12, 1978

ACT/015/018

RECEIVED
DEC 14 1978
DIVISION OF OIL, GAS, & MINING

Water Pollution Control Division
Environmental Health Services Branch
150 West North Temple
Salt Lake City, UT 84116

Attn: Mr. Steven McNeal

Re: Sedimentation Ponds at Des-Bee Dove and Deer Creek Coal Mines

Gentlemen:

Pursuant to my recent discussions with Mr. McNeal of your office and with representatives of the Division of Oil, Gas and Mining, I am submitting copies of the plans and specifications for the sedimentation ponds being constructed at the above mines. As you are aware, we are under severe time constraints due to the passage of the Surface Mining Control and Reclamation Act which is being administered in this state by the Division of Oil, Gas and Mining. It is our understanding that that Division will be coordinating a review of the plans and specifications with your office. In view of the time limitations, we would appreciate their immediate review and any comments by your office as soon as possible.

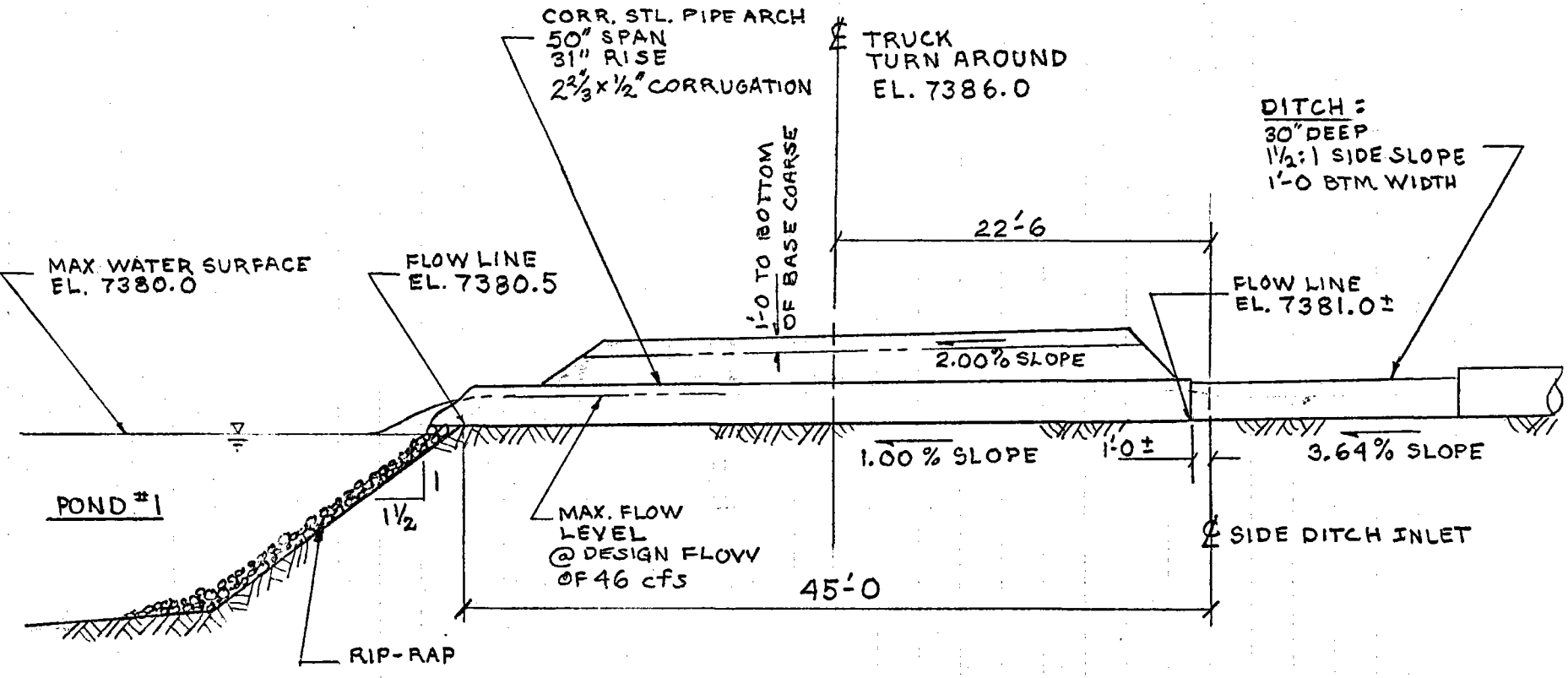
Very truly yours,

Ralph L. Jerman

RLJ:p

Attachments

cc: Division of Oil, Gas and Mining



DRAWN BY: G. WILLIAMS
DATE: 10-3-78
SCALE: 1" = 10'-0

CULVERT SECTION @ TRUCK TURN AROUND
WILBURG MINE SURFACE FACILITIES
UTAH POWER & LIGHT CO.
ORANGEVILLE UTAH

WILBURG MINE SURFACE DRAINAGE 10/2/78 (1)

System Location Designation	Drainage Area Increment Designation	Drainage Area Increment Acres	Drainage Area Increment "C"	Drainage Area Cumulative Acres	Drainage Area Cumulative "C"	Time Increment (min)	Time Cumulative (min)	Rainfall Intensity (in/hr)	Design Runoff (cfs)
A	2	12.36	0.25	12.36	0.25	10	10	3.9	12.05
B	3	3.29	0.25	15.65	0.25				
	4	1.07	0.86	16.72	0.28	0.07	10.07	3.9	18.21
C	1	2.02	0.25	18.74	0.277				
	5	1.72	0.51	20.46	0.30	0.63	10.7	3.8	23.32
D	6	0.96	0.60	21.42					
	9	0.53	0.90	21.95	0.33	0.38	11.1	3.7	26.8
E	7	0.33	0.60	22.28					
	10	0.52	0.90	22.80	0.35	0.18	11.3	3.7	29.5

System Location Designation	Drainage Area Increment Designation	Drainage Area Increment Acres	Drainage Area Increment "C"	Drainage Area Cumulative Acres	Drainage Area Cumulative "C"	Time Increment (min)	Time Cumulative (min)	Rainfall Intensity (in/hr)	Design Runoff (cfs)
F	8	0.38	0.60						
	11	0.34	0.78						
	12	0.17	0.90						
	14	0.19	0.75	23.88	0.37	0.04	11.34	3.7	32.44
G	13	0.17	0.90						
	15	0.86	0.63	24.91	0.38	0.11	11.45	3.7	35.26
H	16	0.34	0.78						
	17	0.10	0.90						
	18	0.60	0.90						
	19	0.44	0.90	26.39	0.41	0.14	11.59	3.7	40.0

System Location Designation	Drainage Area Increment Designation	Drainage Area Increment Acres	Drainage Area Increment "C"	Drainage Area Cumulative Acres	Drainage Area Cumulative "C"	Time Increment (min)	Time Cumulative (min)	Rainfall Intensity (in/hr)	Design Runoff (cfs)
I	21	0.62	0.60	27.01	0.41	0.05	11.64	3.7	41.4
J	22	0.81	0.90						
	23	0.16	0.60						
	24	0.15	0.70	28.13	0.43	0.82	12.46	3.55	42.9
K	25	0.36	0.65						
	25	0.48	0.67	28.97	0.44	0.11	12.57	3.5	44.2
L	26	0.13	0.60						
	30	0.35	0.62	29.45	0.44	0.06	12.62	3.5	45.6
auxil	27	0.41	0.69						
	28	0.09	0.90						
	29	0.22	0.90	0.72	0.78		5 min.	5.04	2.8

Table HC-1 Height-of-Cover Limits for Corrugated Steel Pipe
H 20 LIVE LOAD 2⅔″ x ½″ Corrugations

Diameter or Span in Inches	Min.* Cover	Maximum Cover in Feet — Specified Thickness in Inches 0.052	.064	.079	.109	.138	.168
12	12-in. Minimum Cover	199	248	310			
15		159	199	248			
18		132	166	207			
21		113	142	178	249		
24		99	124	155	218		
27			111	138	193		
30			99	124	174		
36			83	103	145	186	
42			71	88	124	160	195
48			62	77	109	140	171
54				66	93	120	147
60					79	102	125
66					68	87	107
72						73	89
78							74
84							61
90							50
96							41

*From top of pipe to top of subgrade.

Table HC-2 Height-of-Cover Limits for Corrugated Steel Pipe
H 20 LIVE LOAD 3″ x 1″ Corrugations

Diameter or Span in Inches	Min.* Cover	Maximum Cover in Feet — Specified Thickness in Inches 0.052	.064	.079	.109	.138	.168
36	12 inches	76	95	121	167	214	263
42		65	81	102	143	185	225
48		57	71	91	125	161	197
54			63	80	111	143	175
60			57	72	100	129	156
66			52	66	91	117	143
72			47	60	83	107	131
78			44	55	76	99	121
84			40	53	71	92	112
90			38	48	66	85	105
96			35	45	62	80	98
102	18 inches		33	42	58	75	92
108				39	54	69	84
114				35	49	63	77
120					45	58	72

*From top of pipe to top of subgrade.

Table HC-3 Heig
E 8

Diameter or Span in Inches	Min. Cover
12	12 inches
15	
18	
21	
24	
27	
30	
36	
42	
48	
54	18 inches
60	
66	
72	
78	24 inches
84	
90	
96	

Table HC-4 Heig
E

Diameter or Span in Inches	Min. Cover
36	12 in.
42	12 in.
48	12 in.
54	18 in.
60	18 in.
66	18 in.
72	18 in.
78	24 in.
84	24 in.
90	24 in.
96	24 in.
102	30 in.
108	30 in.
114	30 in.
120	30 in.

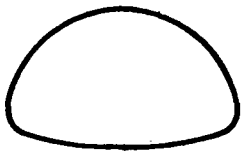


Table HC-7 Height-of-Cover Limits for Corrugated Steel Pipe-Arch

H 20 LIVE LOAD 2⅔″ x ½″ Corrugations

Size in Inches	Minimum Specified Thickness Required in In.	Maximum Height-of-Fill Over Pipe-Arch for the Following Corner Bearing Pressures in Tons per Sq Ft		
Span x Rise		2 Tons	3 Tons	4 Tons
18 x 11	0.064	15	22	30
22 x 13	0.064	14	21	28
25 x 16	0.064	12	19	25
29 x 18	0.064	12	18	24
36 x 22	0.064	12	18	24
43 x 27	0.064	10	15	20
50 x 31	0.079	9	14	19
58 x 36	0.109	9	14	19
65 x 40	0.109	9	14	19
72 x 44	0.138	9	14	19
79 x 49	0.168	9	14	19
85 x 54	0.168	10	15	20

Minimum cover from top of pipe-arch to top of subgrade = 1 ft

Table HC-8 Height-of-Cover Limits for Corrugated Steel Pipe-Arch

H 20 LIVE LOAD 3″ x 1″ Corrugations

Size in Inches		Minimum Specified Thickness Required in Inches	Minimum Cover	Maximum Height-of-Fill Over Pipe-Arch for the Following Corner Bearing Pressures in Tons per Sq Ft		
Equiv. Pipe Diam.	Span x Rise			2 Tons	3 Tons	4 Tons
36	43 x 27	0.064	12 inches	14	21	28
42	50 x 31			14	21	28
48	58 x 36			14	21	28
54	65 x 40			14	21	28
60	72 x 44			14	21	28
66	73 x 55			19	28	38
72	81 x 59			17	26	34
78	87 x 63			16	24	32
84	95 x 67		12 inches	15	22	29
90	103 x 71	0.064	18 inches	13	20	27
96	112 x 75	0.079	18 inches	13	18	25
102	117 x 79	0.109	18 inches	12	18	24
108	128 x 83	0.109	24 inches	11	16	22
114	137 x 87	0.109	24 inches	10	15	20
120	142 x 91	0.138	24 inches	10	15	20

Table HC-1 Height-of-Cover Limits for Corrugated Steel Pipe
H 20 LIVE LOAD 2⅔″ x ½″ Corrugations

Diameter or Span in Inches	Min.* Cover	Maximum Cover in Feet — Specified Thickness in Inches 0.052	.064	.079	.109	.138	.168
12	12-in. Minimum Cover	199	248	310			
15		159	199	248			
18		132	166	207			
21		113	142	178	249		
24		99	124	155	218		
27			111	138	193		
30			99	124	174		
36			83	103	145	186	
42			71	88	124	160	195
48			62	77	109	140	171
54				66	93	120	147
60					79	102	125
66					68	87	107
72						73	89
78							74
84							61
90							50
96							41

*From top of pipe to top of subgrade.

Table HC-2 Height-of-Cover Limits for Corrugated Steel Pipe
H 20 LIVE LOAD 3″ x 1″ Corrugations

Diameter or Span in Inches	Min.* Cover	Maximum Cover in Feet — Specified Thickness in Inches 0.052	.064	.079	.109	.138	.168
36	12 inches	76	95	121	167	214	263
42		65	81	102	143	185	225
48		57	71	91	125	161	197
54			63	80	111	143	175
60			57	72	100	129	156
66			52	66	91	117	143
72			47	60	83	107	131
78			44	55	76	99	121
84			40	53	71	92	112
90			38	48	66	85	105
96			35	45	62	80	98
102	18 inches		33	42	58	75	92
108				39	54	69	84
114				35	49	63	77
120					45	58	72

*From top of pipe to top of subgrade.

Table HC-3 Heig
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Diameter or Span in Inches	Min. Cover
12	12 inches
15	
18	
21	
24	
27	
30	
36	
42	
48	
54	18 inches
60	
66	
72	
78	24 inches
84	
90	
96	

Table HC-4 Heig
E

Diameter or Span in Inches	Min. Cover
36	12 in.
42	12 in.
48	12 in.
54	18 in.
60	18 in.
66	18 in.
72	18 in.
78	24 in.
84	24 in.
90	24 in.
96	24 in.
102	30 in.
108	30 in.
114	30 in.
120	30 in.

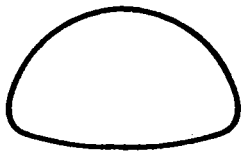


Table HC-7 Height-of-Cover Limits for Corrugated Steel Pipe-Arch

H 20 LIVE LOAD 2⅔″ x ½″ Corrugations

Size in Inches	Minimum Specified Thickness Required in In.	Maximum Height-of-Fill Over Pipe-Arch for the Following Corner Bearing Pressures in Tons per Sq Ft		
Span x Rise		2 Tons	3 Tons	4 Tons
18 x 11	0.064	15	22	30
22 x 13	0.064	14	21	28
25 x 16	0.064	12	19	25
29 x 18	0.064	12	18	24
36 x 22	0.064	12	18	24
43 x 27	0.064	10	15	20
50 x 31	0.079	9	14	19
58 x 36	0.109	9	14	19
65 x 40	0.109	9	14	19
72 x 44	0.138	9	14	19
79 x 49	0.168	9	14	19
85 x 54	0.168	10	15	20

Minimum cover from top of pipe-arch to top of subgrade = 1 ft

Table HC-8 Height-of-Cover Limits for Corrugated Steel Pipe-Arch

H 20 LIVE LOAD 3″ x 1″ Corrugations

Size in Inches		Minimum Specified Thickness Required in Inches	Minimum Cover	Maximum Height-of-Fill Over Pipe-Arch for the Following Corner Bearing Pressures in Tons per Sq Ft		
Equiv. Pipe Diam.	Span x Rise			2 Tons	3 Tons	4 Tons
36	43 x 27	0.064	12 inches	14	21	28
42	50 x 31			14	21	28
48	58 x 36			14	21	28
54	65 x 40			14	21	28
60	72 x 44			14	21	28
66	73 x 55			19	28	38
72	81 x 59			17	26	34
78	87 x 63			16	24	32
84	95 x 67		12 inches	15	22	29
90	103 x 71	0.064	18 inches	13	20	27
96	112 x 75	0.079	18 inches	13	18	25
102	117 x 79	0.109	18 inches	12	18	24
108	128 x 83	0.109	24 inches	11	16	22
114	137 x 87	0.109	24 inches	10	15	20
120	142 x 91	0.138	24 inches	10	15	20

Table HC-9

Size
Span x Rise, in
18 x 11
22 x 13
25 x 16
29 x 18
36 x 22
43 x 27
50 x 31
58 x 36
65 x 40
72 x 44

The above table

Table HC-10

Size in Inches
Span x Rise
43 x 27
50 x 31
58 x 36
65 x 40
72 x 44
73 x 55
81 x 59
87 x 63
95 x 67
103 x 71
112 x 75
117 x 79
128 x 83
137 x 87
142 x 91

WILBURG MINE SURFACE DRAINAGE 10/2/78 (1)

System Location Designation	Drainage Area Increment Designation	Drainage Area Increment Acres	Drainage Area Increment "C"	Drainage Area Cumulative Acres	Drainage Area Cumulative "C"	Time Increment (min)	Time Cumulative (min)	Rainfall Intensity (in/hr)	Design Runoff (cfs)
A	2	12.36	0.25	12.36	0.25	10	10	3.9	12.05
B	3	3.29	0.25	15.65	0.25				
	4	1.07	0.86	16.72	0.28	0.07	10.07	3.9	18.21
C	1	2.02	0.25	18.74	0.277				
	5	1.72	0.51	20.46	0.30	0.63	10.7	3.8	23.32
D	8	0.96	0.60	21.42					
	9	0.53	0.90	21.95	0.33	0.38	11.1	3.7	26.8
E	7	0.33	0.60	22.28					
	10	0.52	0.90	22.80	0.35	0.18	11.3	3.7	29.5

System Location Designation	Drainage Area Increment Designation	Drainage Area Increment Acres	Drainage Area Increment "C"	Drainage Area Cumulative Acres	Drainage Area Cumulative "C"	Time Increment (min)	Time Cumulative (min)	Rainfall Intensity (in/hr)	Design Runoff (cfs)
F	8	0.38	0.60						
	11	0.34	0.78						
	12	0.17	0.90						
	14	0.19	0.75	23.88	0.37	0.04	11.34	3.7	32.44
G	13	0.17	0.90						
	15	0.86	0.63	24.91	0.38	0.11	11.45	3.7	35.26
H	16	0.34	0.78						
	17	0.10	0.90						
	18	0.60	0.90						
	19	0.49	0.90	26.39	0.41	0.14	11.59	3.7	40.0

System Location Designation	Drainage Area Increment Designation	Drainage Area Increment Acres	Drainage Area Increment "C"	Drainage Area Cumulative Acres	Drainage Area Cumulative "C"	Time Increment (min)	Time Cumulative (min)	Rainfall Intensity (in/hr)	Design Runoff (cfs)
I	21	0.62	0.60	27.01	0.41	0.05	11.64	3.7	41.4
J	22	0.81	0.90						
	23	0.16	0.60						
	24	0.15	0.70	28.13	0.43	0.82	12.46	3.55	42.9
K	25	0.36	0.65						
	26	0.48	0.67	28.97	0.44	0.11	12.57	3.5	44.2
L	28	0.13	0.60						
	30	0.35	0.62	29.45	0.44	0.06	12.62	3.5	45.6
auxil	27	0.41	0.69						
	28	0.09	0.90						
	29	0.22	0.90	0.72	0.78		5 min.	5.04	2.8

ENGINEERS & CONTRACTORS
ROBERTS & SCHAEFER Company ... CHICAGO

WESTERN OFFICE:
140 WEST 2100 SOUTH
SALT LAKE CITY, UTAH 84115
(801) 487-7825

October 5, 1978

RECEIVED
OCT 8 1978
MINING AND EXPLORATION

Mr. Karl D. Gurr
Utah Power & Light Company
Mining & Exploration Dept.
P.O. Box 899
Salt Lake City, Utah 84110

Dear Mr. Gurr:

We are transmitting to you four copies of the additional documentation requested by the State Division of Oil, Gas and Mining. This documentation concerned the design and construction of the pond inlet pipe and the structural design of the 90" diameter culvert.

On September 29th, last, I received telephone confirmation from Mike Thompson of the State Division that his review of the pond hydrology was complete and acceptable. I asked him if this meant that the pond capacity was, therefore, acceptable for the drainage area involved. He said he felt that it was.

In the light of this and to accomodate W. W. Clyde's construction schedule, we have given Clyde approval to begin construction on the west leg of the truck turn around.

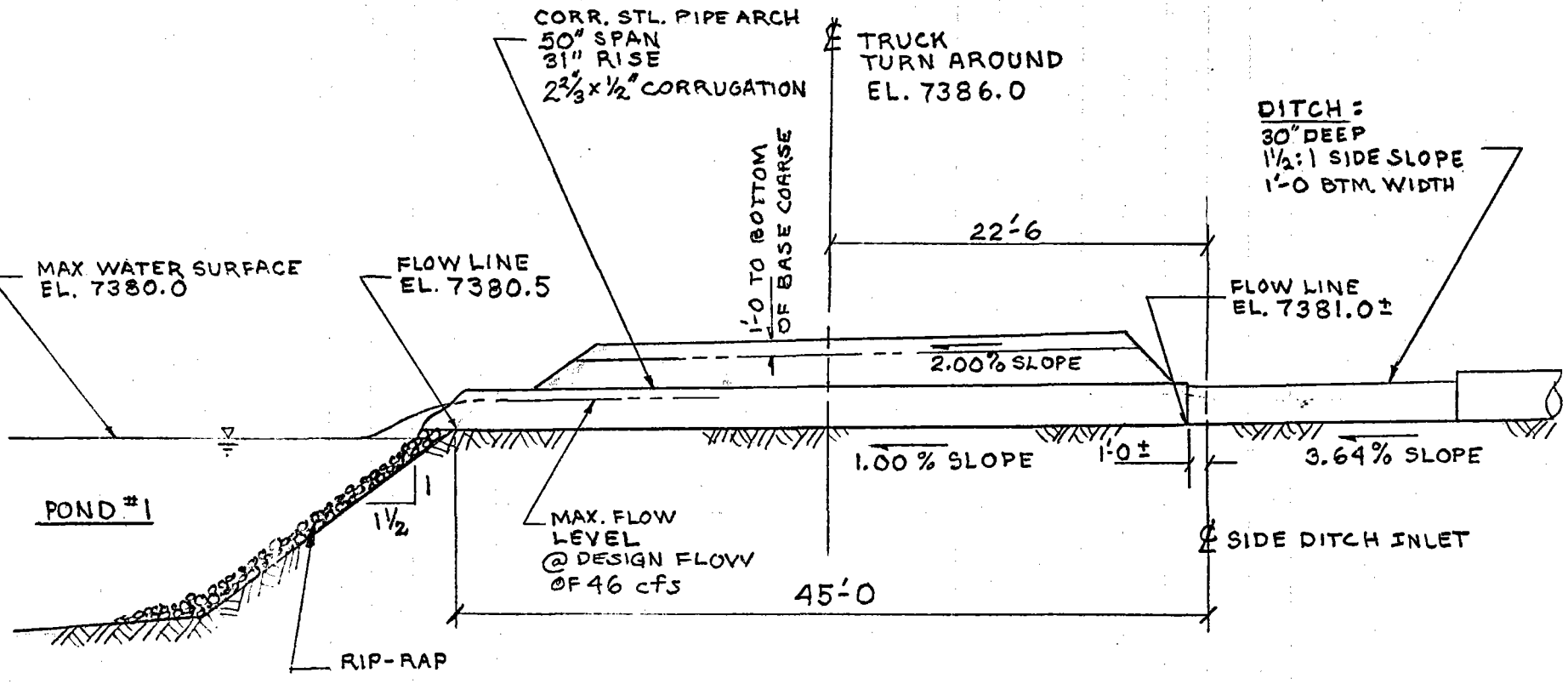
If you have any questions or comments, don't hesitate to contact us.

Yours very truly,
ROBERTS & SCHAEFER COMPANY

Samuel Musser

Samuel Musser

SM/dmb
7704
cc: D. Dewey
D. Jense
J. Thomas



DRAWN BY: G. WILLIAMS
DATE: 10-3-78
SCALE: 1" = 10'-0

CULVERT SECTION @ TRUCK TURN AROUND
WILBURG MINE SURFACE FACILITIES
UTAH POWER & LIGHT CO.
ORANGEVILLE UTAH