APPENDIX 1.2

OPTION MAPS, COMPUTATIONS AND SWMM Model Output *

For Options 1 through 25 and Option 29 (Recommended Option) , each includes the following -

Modeling approach description, map illustrating the layout of proposed facilities that were modeled within the Option, computations, Manhole Flooding Summary Tables, Detention Pond Routing Summary Tables and SWMM Model Output

Note –
Options 26, 27, 28, 30, 31 and 32 were also simulated but were eliminated from further consideration and therefore the SWMM output and related information is not provided.

* *NOTE* – The CD included in map pocket contains the SWMM Model Input Files

1. Drainage Improvement Options That Were Eliminated from Further Consideration. *(Description of modeling approach, facilities included and summaries of manhole flooding and detention pond routing results)*

2. Detention Pond Routing Summary Tables for all Eliminated Options and Option 29 (Recommended Option)

* *NOTE* – The CD included in map pocket contains the SWMM Model Input Files

APPENDIX 1.2

DETENTION POND ROUTING SUMMARY TABLES FOR

OPTIONS 1-29

TABLE 6-3

AIR QUALITY DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 1															
Air Quality Pond	Existing	Air Quality Pond	100.0	220.0	107.0	480369	11.0	4961.8	4952.3	4962.7	4952.3	9.5	4962.7	0.9	**0.9**
OPTION 2															
Air Quality Pond	Existing	Air Quality Pond	100.0	244.0	132.0	525868	12.1	4962.5	4952.3	4962.7	4952.3	10.2	4962.7	0.2	**0.2**
OPTION 3															
Air Quality Pond	Existing	Air Quality Pond	100.0	176.0	49.0	352754	8.1	4959.9	4952.3	4962.7	4952.3	7.7	4962.7	2.7	**2.7**

TABLE 6-3

AIR QUALITY DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 4															
Air Quality Pond	Existing	Air Quality Pond	100.0	174.0	54.0	353774	8.1	4959.9	4952.3	4962.7	4952.3	7.7	4962.7	2.7	**2.7**
OPTION 5															
Air Quality Pond	Existing	Air Quality Pond	100.0	109.0	39.0	186964	4.3	4957.3		4962.7	4952.3	5.0	4962.7	5.4	**5.4**
OPTION 6															
Air Quality Pond	Existing	Air Quality Pond	100.0	109.0	39.0	172138	4.0	4957.0	4952.3	4962.7	4952.3	4.8	4962.7	5.6	**5.6**

TABLE 6-3

AIR QUALITY DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 7															
Air Quality Pond	Existing	Air Quality Pond	100.0	109.0	39.0	145109	3.3	4956.6	4952.3	4962.7	4952.3	4.3	4962.7	6.1	**6.1**
OPTION 8															
Air Quality Pond	Existing	Air Quality Pond	100.0	159.0	40.0	160007	3.7	4958.7	4952.3	4962.7	4952.3	6.4	4962.7	4.0	**4.0**
OPTION 9															
Air Quality Pond	Existing	Air Quality Pond	100.0	164.0	39.0	280885	6.4	4958.8	4952.3	4962.7	4952.3	6.6	4962.7	3.8	**3.8**

TABLE 6-3

AIR QUALITY DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 10															
Air Quality Pond	Existing	Air Quality Pond	100.0	107.0	39.0	246027	5.6	4958.3	4952.3	4962.7	4952.3	6.0	4962.7	4.4	**4.4**
OPTION 11															
Air Quality Pond	Existing	Air Quality Pond	100.0	159.0	45.0	337687	7.8	4959.7	4952.3	4962.7	4952.3	7.4	4962.7	3.0	**3.0**
OPTION 12															
Air Quality Pond	Existing	Air Quality Pond	100.0	159.0	46.0	337681	7.8	4959.9	4952.3	4962.7	4952.3	7.6	4962.7	2.8	**2.8**

TABLE 6-3

AIR QUALITY DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 13															
Air Quality Pond	Existing	Air Quality Pond	100.0	207.0	81.0	369631	8.5	4960.2	4952.3	4962.7	4952.3	7.9	4962.7	2.5	**2.5**
OPTION 14															
Air Quality Pond	Existing	Air Quality Pond	100.0	192.0	60.0	371698	8.5	4960.2	4952.3	4962.7	4952.3	7.9	4962.7	2.4	**2.4**
OPTION 15															
Air Quality Pond	Existing	Air Quality Pond	100.0	195.0	115.0	453749	10.4	4961.4	4952.3	4962.7	4952.3	9.1	4962.7	1.3	**1.3**

TABLE 6-3

AIR QUALITY DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 16															
Air Quality Pond	Existing	Air Quality Pond	100.0	164.0	39.0	280885	6.4	4958.8	4952.3	4962.7	4952.3	6.6	4962.7	3.8	**3.8**
OPTION 17															
Air Quality Pond	Existing	Air Quality Pond	100.0	117.0	35.0	322965	7.4	4959.5	4952.3	4962.7	4952.3	7.2	4962.7	3.2	**3.2**
OPTION 18															
Air Quality Pond	Existing	Air Quality Pond	100.0	117.0	35.0	323100	7.4	4959.5	4952.3	4962.7	4952.3	7.2	4962.7	3.2	**3.2**
OPTION 19															
Air Quality Pond	Existing	Air Quality Pond	100.0	206.0	125.0	449752	10.3	4961.4	4952.3	4962.7	4952.3	9.1	4962.7	1.3	**1.3**

TABLE 6-3

AIR QUALITY DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f

a - See Drainage Basin Maps and Figure 6-1
b - See SWMM output for results "Node Inflow Summary" Table
c -Value calculated after unit conversion from SWMM output
d- See SWMM output for results "Node Depth Summary" Table
e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data
f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available
g - Value from SWMM output under Storage Volume Summary

TABLE 6-4

TINGLEY SURGE POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Tingley Surge Pond	Existing	Tingley Park Surge Pond		105	28	96733	2.221	4941.2	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**
OPTION 1															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	109	36	101400	2.328	4941.2	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**
OPTION 2															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	116	21	89424	2.053	4941.1	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**
OPTION 3															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	126	31	94712	2.174	4941.1	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**

TABLE 6-4

TINGLEY SURGE POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 4															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	140	35	117046	2.687	4941.3	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**
OPTION 5															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	152	30	94515	2.170	4941.1	4932.21	4946.66	4941.66	-0.6	4946.66	5.6	**5.6**
OPTION 6															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	120	29	84385	1.937	4941.1	4932.21	4946.66	4941.66	-0.6	4946.66	5.6	**5.6**

TABLE 6-4

TINGLEY SURGE POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 7															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	125	40	101860	2.338	4941.2	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**
OPTION 8															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	136	41	68380	1.570	4941.2	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**
OPTION 9															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	131	49	106594	2.447	4941.2	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**

TABLE 6-4

TINGLEY SURGE POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 10															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	114	36	97166	2.231	4941.2	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**
OPTION 11															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	111	46	100866	2.316	4941.2	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**
OPTION 12															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	112	38	106607	2.447	4941.2	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**
OPTION 13															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	99	40	90804	2.085	4941.1	4932.21	4946.66	4941.66	-0.5	4946.66	5.5	**5.5**

TABLE 6-4

TINGLEY SURGE POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 14															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	96	45	110933	2.547	4941.2	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**
OPTION 15															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	90	37	107322	2.464	4941.2	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**
OPTION 16															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	131	49	106594	2.447	4941.2	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**

TABLE 6-4

TINGLEY SURGE POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 17															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	205	89	415800	9.545	4942.3	4932.21	4946.66	4941.66	0.6	4946.66	4.4	**4.4**
OPTION 18															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	180	85	282583	6.487	4941.9	4932.21	4946.66	4941.66	0.2	4946.66	4.8	**4.8**
OPTION 19															
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	200	83	403136	9.255	4942.2	4932.21	4946.66	4941.66	0.6	4946.66	4.4	**4.4**

a - See Drainage Basin Maps and Figure 6-1
b - See SWMM output for results "Node Inflow Summary" Table
c -Value calculated after unit conversion from SWMM output
d- See SWMM output for results "Node Depth Summary" Table
e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data
f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available
g - Value from SWMM output under Storage Volume Summary

TABLE 6-7

WAREHOUSE DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Broadway / Lomas Pond	Existing	Broadway / Lomas Pond	100	266	55		12.109	4954.9	4950	4960	4950	4.9	4960	5.1	**5.1**
OPTION 3															
Warehouse Pond (h)	Proposed	Warehouse Pond	100	152	85	471180	10.817	4957.7	4950	4960	4950	7.7	4960	2.3	**2.3**
OPTION 4															
Warehouse Pond (h)	Proposed	Warehouse Pond	100	151	82	440285	10.108	4957.4	4950	4960	4950	7.4	4960	2.6	**2.6**

TABLE 6-7

WAREHOUSE DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 5															
Warehouse Pond (h)	Proposed	Warehouse Pond	100	132	73	340136	7.808	4956.3	4949	4958	4950	6.3	4958	1.7	**1.7**
OPTION 6															
Warehouse Pond (h)	Proposed	Warehouse Pond	100	132	71	308035	7.072	4955.9	4950	4960	4950	5.9	4960	4.1	**4.1**
OPTION 7															
Warehouse Pond (h)	Proposed	Warehouse Pond	100	82	77	174746	4.012	4954.4	4950	4960	4950	4.4	4960	5.6	**5.6**

TABLE 6-7

WAREHOUSE DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 8															
Warehouse Pond (h)	Proposed	Warehouse Pond	100	118	85	266882	6.127	4955.6	4950	4960	4950	5.6	4960	4.4	**4.4**
OPTION 9															
Warehouse Pond (h)	Proposed	Warehouse Pond	100	150	77	380211	8.728	4956.7	4950	4960	4950	6.7	4960	3.3	**3.3**
OPTION 10															
Warehouse Pond (h)	Proposed	Warehouse Pond	100	132	76	352019	8.081	4956.4	4950	4960	4950	6.4	4960	3.6	**3.6**

TABLE 6-7

WAREHOUSE DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 16															
Warehouse Pond (h)	Proposed	Warehouse Pond	100	150	77	380211	8.728	4956.7	4950	4960	4950	6.7	4960	3.3	**3.3**

a - See Drainage Basin Maps and Figure 6-1

b - See SWMM output for results "Node Inflow Summary" Table

c -Value calculated after unit conversion from SWMM output

d- See SWMM output for results "Node Depth Summary" Table

e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data

f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available

g - Value from SWMM output under Storage Volume Summary

TABLE 6-9

BR21 DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 4															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	96137	2.207	5068.6	5062	5076	5062	6.6	5076	7.4	**7.4**
OPTION 5															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93908	2.156	5068.6	5062	5076	5062	6.6	5076	7.4	**7.4**
OPTION 6															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93908	2.156	5068.6	5062	5076	5062	6.6	5076	7.4	**7.4**

TABLE 6-9

BR21 DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 7															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93908	2.156	5068.6	5062	5076	5062	6.6	5076	7.4	**7.4**
OPTION 8															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93908	2.156	5068.6	5062	5076	5062	6.6	5076	7.4	**7.4**
OPTION 9															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93908	2.156	5068.6	5062	5076	5062	6.6	5076	7.4	**7.4**

TABLE 6-9

BR21 DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 10															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93908	2.156	5068.6	5062	5076	5062	6.6	5076	7.4	**7.4**
OPTION 11															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93907	2.156	5068.5	5062	5076	5062	6.5	5076	7.5	**7.5**
OPTION 12															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93907	2.156	5068.5	5062	5076	5062	6.5	5076	7.5	**7.5**

TABLE 6-9

BR21 DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 13															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93907	2.156	5068.5	5062	5076	5062	6.5	5076	7.5	**7.5**
OPTION 14															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93907	2.156	5068.5	5062	5076	5062	6.5	5076	7.5	**7.5**
OPTION 15															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93907	2.156	5068.5	5062	5076	5062	6.5	5076	7.5	**7.5**

TABLE 6-9

BR21 DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 16															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93907	2.156	5068.5	5062	5076	5062	6.5	5076	7.5	**7.5**
OPTION 17															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93907	2.156	5068.5	5062	5076	5062	6.5	5076	7.5	**7.5**
OPTION 18															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93907	2.156	5068.5	5062	5076	5062	6.5	5076	7.5	**7.5**

TABLE 6-9

BR21 DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 19															
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	9	93907	2.156	5068.5	5062	5076	5062	6.5	5076	7.5	**7.5**

a - See Drainage Basin Maps and Figure 6-1
b - See SWMM output for results "Node Inflow Summary" Table
c -Value calculated after unit conversion from SWMM output
d- See SWMM output for results "Node Depth Summary" Table
e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data
f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available
g - Value from SWMM output under Storage Volume Summary

TABLE 6-15

WELLS PARK DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 8															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	274	274	712786	16.363	4959.0	4951	4960	4951	8.0	4960	1.0	**1.0**
OPTION 9															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	195	188	642018	14.739	4959.1	4951	4960	4951	8.1	4960	0.9	**0.9**
OPTION 10															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	172	136	653235	14.996	4959.3	4951	4960	4951	8.3	4960	0.7	**0.7**

TABLE 6-15

WELLS PARK DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 11															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	163	97	647649	14.868	4959.2	4951	4960	4951	8.2	4960	0.8	**0.8**
OPTION 12															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	162	72	642462	14.749	4958.9	4951	4960	4951	7.9	4960	1.1	**1.1**
OPTION 13															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	201	225	614394	14.105	4958.8	4951	4960	4951	7.8	4960	1.2	**1.2**

TABLE 6-15

WELLS PARK DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 14															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	213	261	571494	13.120	4959.2	4951	4960	4951	8.2	4960	0.8	**0.8**
OPTION 15															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	143	70	633288	14.538	4959.0	4951	4960	4951	8.0	4960	1.0	**1.0**
OPTION 16															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	195	188	642018	14.739	4959.1	4951	4960	4951	8.1	4960	0.9	**0.9**

TABLE 6-15

WELLS PARK DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 17															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	118	48	544745	12.506	4958.0	4951	4960	4951	7.0	4960	2.0	**2.0**
OPTION 18															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	120	36	545342	12.519	4958.0	4951	4960	4951	7.0	4960	2.0	**2.0**

TABLE 6-15

WELLS PARK DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 19															
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	120	37	576813	13.242	4958.4	4951	4960	4951	7.4	4960	1.6	**1.6**

a - See Drainage Basin Maps and Figure 6-1
b - See SWMM output for results "Node Inflow Summary" Table
c -Value calculated after unit conversion from SWMM output
d- See SWMM output for results "Node Depth Summary" Table
e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data
f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available
g - Value from SWMM output under Storage Volume Summary

TABLE 6-18

WEST DOT POND DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 10															
West DOT Pond	CONCEPTUAL	West DOT Pond	100	57	29	64093	1.471	4967.7	4963	4971	4963	4.7	4971	3.3	**3.3**
OPTION 11															
West DOT Pond	CONCEPTUAL	West DOT Pond	100	57	25	72031	1.654	4968.2	4963	4971	4963	5.1	4971	2.9	**2.9**
OPTION 12															
West DOT Pond	CONCEPTUAL	West DOT Pond	100	57	21	72031	1.654	4966.9	4963	4971	4963	3.9	4971	4.1	**4.1**

a - See Drainage Basin Maps and Figure 6-1

b - See SWMM output for results "Node Inflow Summary" Table

c -Value calculated after unit conversion from SWMM output

d- See SWMM output for results "Node Depth Summary" Table

e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data

f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available

g - Value from SWMM output under Storage Volume Summary

TABLE 6-19

EAST DOT POND DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 10															
East DOT Pond	CONCEPTUAL	East DOT Pond	100	61	48	34563	0.793	4975.9	4974	4980	4974	1.9	4980	4.1	**4.1**
OPTION 11															
East DOT Pond	CONCEPTUAL	East DOT Pond	100	61	48	34577	0.794	4975.9	4974	4980	4974	1.9	4980	4.1	**4.1**
OPTION 12															
East DOT Pond	CONCEPTUAL	East DOT Pond	100	61	43	46195	1.060	4975.9	4974	4980	4974	1.9	4980	4.1	**4.1**

a - See Drainage Basin Maps and Figure 6-1

b - See SWMM output for results "Node Inflow Summary" Table

c -Value calculated after unit conversion from SWMM output

d- See SWMM output for results "Node Depth Summary" Table

e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data

f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available

g - Value from SWMM output under Storage Volume Summary

TABLE 6-24

BROADWAY MARBLE POND DETENTION POND ROUTING SUMMARY

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
OPTION 14															
Broadway-Marble Pond	Conceptual	Broadway-Marble Pond	100	148	33	328120	7.533	4951.4	4946	4954	4946	5.4	4956	2.6	**4.6**
OPTION 15															
Broadway-Marble Pond	Conceptual	Broadway-Marble Pond	100	218	43	481722	11.059	4954.0	4946	4954	4946	8.0	4956	0.0	**2.0**
OPTION 17															
Broadway-Marble Pond	Conceptual	Broadway-Marble Pond		225	36	484017	11.112	4954.3	4946	4954	4946		4956	-0.3	**1.7**
OPTION 18															
Broadway-Marble Pond	Conceptual	Broadway-Marble Pond	100	225	38	485063	11.136	4954.3	4946	4954	4946		4956	-0.3	**1.7**

a - See Drainage Basin Maps and Figure 6-1
b - See SWMM output for results "Node Inflow Summary" Table
c -Value calculated after unit conversion from SWMM output
d- See SWMM output for results "Node Depth Summary" Table
e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data
f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available
g - Value from SWMM output under Storage Volume Summary

TABLE 6-28

Option 17 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Air Quality Pond	Existing	Air Quality Pond	100.0	112.0	36.0	211043	4.8	4957.7	4952.3	4962.7	4952.3	5.5	4962.7	4.9	**4.9**
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	122	47	116176	2.667	4941.3	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**
BR21 Pond	Conceptual	BR21 Pond	100	64	10	93907	2.156	5068.5	5062	5074	5062	6.5	5076	5.5	**7.5**
Santa Barbara Pond	Conceptual	Santa Barbara Pond	100	133	31	260187	5.999	4963.0	4961	4972	4961	2.0	4972	7.0	**9.0**

TABLE 6-28

Option 17 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Wells Park Pond	Conceptual	Wells Park Pond	100	116	46	527937	12.120	4957.8	4951	4960	4951	6.8	4960	2.2	**2.2**
Coronado Park Pond	Conceptual	Coronado Park Pond	100	162	39	435176	9.990	4961.7	4953	4964	4953	8.7	4964	2.3	**2.3**
Broadway-Marble Pond	Conceptual	Broadway-Marble Pond	100	217	40	466586	10.711	4953.9	4946	4954	4946	7.9	4954	0.1	**0.1**

a - See Drainage Basin Maps and Figure 6-1

b - See SWMM output for results "Node Inflow Summary" Table

c -Value calculated after unit conversion from SWMM output

d- See SWMM output for results "Node Depth Summary" Table

e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data

f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available

g - Value from SWMM output under Storage Volume Summary

TABLE 6-31

Option 18 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Air Quality Pond	Existing	Air Quality Pond	100.0	117.0	36.0	210710	4.8	4957.7	4952.3	4962.7	4952.3	5.5	4962.7	4.9	**4.9**
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	54	29	21051	0.483	4940.7	4932.21	4946.66	4941.66	-1.0	4946.66	6.0	**6.0**
BR21 Pond	Conceptual	BR21 POND	100	64	10	93907	2.156	5068.5	5062	5074	5062	6.5	5076	5.5	**7.5**
Santa Barbara Pond	Conceptual	Santa Barbara Pond	100	135	31	260453	5.999	4963.0	4961	4972	4961	2.0	4972	7.0	**9.0**

TABLE 6-31

Option 18 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Wells Park Pond	Conceptual	Wells Park Pond	100	114	34	494910	11.362	4958.0	4951	4960	4951	7.0	4960	2.0	**2.0**
Coronado Park Pond	Conceptual	Coronado Park Pond	100	162	41	422781	9.706	4961.5	4953	4962	4953	8.5	4964	0.5	**2.5**
Broadway-Marble Pond	Conceptual	Broadway-Marble Pond	100	217	44	483275	11.094	4953.8	4946	4954	4946		4956	0.2	**2.2**

a - See Drainage Basin Maps and Figure 6-1
b - See SWMM output for results "Node Inflow Summary" Table
c -Value calculated after unit conversion from SWMM output
d- See SWMM output for results "Node Depth Summary" Table
e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data
f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available
g - Value from SWMM output under Storage Volume Summary

TABLE 6-34

Option 19 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Air Quality Pond	Existing	Air Quality Pond	100.0	191.0	46.0	364863	8.4	4960.1	4952.3	4962.7	4952.3	7.8	4962.7	2.6	**2.6**
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	115	59	108517	2.491	4941.2	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**
BR21 Pond	Conceptual	BR21 Pond	100	64	10	93907	2.156	5068.5	5062	5074	5062	6.5	5076	5.5	**7.5**
Wells Park Pond	Conceptual	Wells Park Pond	100	121	34	496420	11.396	4957.4	4951	4960	4951	6.4	4960	2.6	**2.6**

TABLE 6-34

Option 19 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Coronado Park Pond	Conceptual	Coronado Park Pond	100	160	46	404086	9.277	4962.7	4953	4962	4953	9.7	4964	-0.7	**1.3**

a - See Drainage Basin Maps and Figure 6-1
b - See SWMM output for results "Node Inflow Summary" Table
c -Value calculated after unit conversion from SWMM output
d- See SWMM output for results "Node Depth Summary" Table
e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data
f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available
g - Value from SWMM output under Storage Volume Summary

TABLE 6-36

Option 21 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Air Quality Pond	Existing	Air Quality Pond	100.0	122.0	55.0	232247	5.3	4958.0	4952.3	4962.7	4952.3	5.8	4962.7	4.6	**4.6**
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	123	45	115989	2.663	4941.3	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**
BR21 Pond	Conceptual	BR21 Pond	100	64	10	93907	2.156	5068.5	5062	5074	5062	6.5	5076	5.5	**7.5**
Santa Barbara Pond	Conceptual	Santa Barbara Pond	100	135	31	260209	5.999	4963.0	4961	4972	4961	2.0	4972	7.0	**9.0**
Wells Park Pond	Conceptual	Wells Park Pond	100	124	49	546324	12.542	4958.6	4951	4960	4951	7.6	4960	1.4	**1.4**

TABLE 6-36

Option 21 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Coronado Park Pond	Conceptual	Coronado Park Pond	100	162	37	440883	10.121	4961.8	4953	4962	4953	8.8	4964	0.2	**2.2**

a - See Drainage Basin Maps and Figure 6-1

b - See SWMM output for results "Node Inflow Summary" Table

c -Value calculated after unit conversion from SWMM output

d- See SWMM output for results "Node Depth Summary" Table

e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data

f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available

g - Value from SWMM output under Storage Volume Summary

TABLE 6-38

OPTION 22 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Air Quality Pond	Existing	Air Quality Pond	100.0	104.0	44.0	200101	4.6	4957.5	4952.3	4962.7	4952.3	5.2	4962.7	5.2	**5.2**
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	120	40	89795	2.061	4941.3	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**
BR21 Pond	Conceptual	BR21 Pond	100	64	10	93907	2.156	5068.5	5062	5074	5062	6.5	5076	5.5	**7.5**
Santa Barbara Pond	Conceptual	Santa Barbara Pond	100	134	31	260231	5.999	4963.0	4961	4972	4961	2.0	4972	7.0	**9.0**

TABLE 6-38

OPTION 22 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Wells Park Pond	Conceptual	Wells Park Pond	100	120	53	540998	12.420	4958.0	4951	4960	4951	7.0	4960	2.0	**2.0**
Coronado Park Pond	Conceptual	Coronado Park Pond	100	160	36	439598	10.092	4961.8	4953	4962	4953	8.8	4964	0.2	**2.2**
Half Sized Broadway-Lomas Pond	Conceptual	Half Sized Broadway-Lomas Pond	100	200	54	212855	4.886	4956.4	4942	4956.66	4952	4.4	4958.66	0.2	**2.2**

a - See Drainage Basin Maps and Figure 6-1

b - See SWMM output for results "Node Inflow Summary" Table

c -Value calculated after unit conversion from SWMM output

d- See SWMM output for results "Node Depth Summary" Table

e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data

f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available

g - Value from SWMM output under Storage Volume Summary

TABLE 6-40

Option 23 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Air Quality Pond	Existing	Air Quality Pond	100.0	111.0	37.0	325714	7.5	4957.8	4952.3	4962.7	4952.3	5.6	4962.7	4.8	**4.8**
Tingley Surge Pond	Existing	Tingley Park Surge Pond	100	105	47	471590	10.826	4941.2	4932.21	4946.66	4941.66	-0.4	4946.66	5.4	**5.4**
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	10	93907	2.156	5068.5	5062	5074	5062	6.5	5076	5.5	**7.5**
Santa Barbara Pond	CONCEPTUAL	Santa Barbara Pond	100	134		260261	5.999	4963.0	4961	4972	4961	2.0	4972	7.0	**9.0**

TABLE 6-40

Option 23 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Wells Park Pond	CONCEPTUAL	WELLS PARK	100	119	43	581874	13.358	4957.5	4951	4960	4951	6.5	4960	2.5	**2.5**
Coronado Pond	CONCEPTUAL	McKnight Pond	100	164	179	405080	9.299	4961.2	4953	4962	4953	8.2	4964	0.8	**2.8**
Broadway / Lomas Pond	existing	Broadway / Lomas Pond	100	209	42	444389	10.202	4953.8	4946.66	4956.66	4946.66	7.2	4956.66	2.8	**2.8**

a - See Drainage Basin Maps and Figure 6-1

b - See SWMM output for results "Node Inflow Summary" Table

c -Value calculated after unit conversion from SWMM output

d- See SWMM output for results "Node Depth Summary" Table

e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data

f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available

g - Value from SWMM output under Storage Volume Summary

TABLE 6-42

Option 24 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Air Quality Pond	EXISTING	Air Quality Pond	100.0	115	33.0	267539	6.1	4958.6	4952.3	4962.66	4952.3	6.3	4962.66	4.1	**4.1**
Tingley Surge Pond	EXISTING	Tingley Park Surge Pond	100	84	37	26310	0.604	4940.7	4932.21	4946.66	4941.66	-1.0	4946.66	6.0	**6.0**
BR21 Pond	CONCEPTUAL	BR21 Pond	100	64	10	93908	2.156	5068.5	5062	5076	5062	6.5	5076	5.5	**7.5**
Santa Barbara Pond	CONCEPTUAL	Santa Barbara Pond	100	135	31	260229	5.999	4963.0	4961	4972	4961	2.0	4972	7.0	**9.0**

TABLE 6-42

Option 24 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	120	36	558597	12.824	4958.2	4951	4960	4951	7.2	4960	1.8	**1.8**
Mcknight Pond	CONCEPTUAL	Mcknight Pond	100	164	43	406887	9.341	4960.6	4952	4962	4952	8.6	4962	1.4	**1.4**
Marble-Arno Pond	CONCEPTUAL	Broadway / Lomas Pond	100	215	27	469467	10.777	4956.0	4946	4958	4946	9.9	4958	2.1	**2.1**

a - See Drainage Basin Maps and Figure 6-1

b - See SWMM output for results "Node Inflow Summary" Table

c -Value calculated after unit conversion from SWMM output

d- See SWMM output for results "Node Depth Summary" Table

e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data

f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available

g - Value from SWMM output under Storage Volume Summary

TABLE 6-44

Option 25 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Air Quality Pond	EXISTING	Air Quality Pond	100.0	115	34.0	272478	6.3	4958.7	4952.3	4962.66	4952.3	6.4	4962.66	4.0	**4.0**
Tingley Surge Pond	EXISTING	Tingley Park Surge Pond	100	70	27	24912	0.572	4940.7	4932.21	4946.66	4941.66	-1.0	4946.66	6.0	**6.0**
Santa Barbara Pond	CONCEPTUAL	Santa Barbara Pond	100	134	31	260254	5.999	4963.0	4961	4972	4961	2.0	4972	7.0	**9.0**

TABLE 6-44

Option 25 DETENTION POND ROUTING SUMMARY TABLE

Detention Pond Name	Existing or Proposed Pond (detention or retention)	Model Analysis Point Name	Storm Return Period (100-yr. 24-hr. duration)	Peak Inflow	Peak Outflow	Peak Storage Volume	Peak Storage Volume	Peak Water Surface Elevation	Principal Spillway Elevation	Emergency Spillway Elevation	Pond Invert Elevation	Water Depth	Top of Pond Embankment Elevation	Freeboard to Emergency Spillway Elevation	**Freeboard to top of Pond Embankment**
				(cfs)	(cfs)	(ft^3)	(ac-ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
a	a	a		b	c	g	c	d	e	e	e		e	f	f
Wells Park Pond	CONCEPTUAL	Wells Park Pond	100	125	36	537784	12.346	4957.9	4951	4960	4951	6.9	4960	2.1	**2.1**
Mcknight Pond	CONCEPTUAL	Mcknight Pond	100	164	46	419218	9.624	4960.8	4952	4962	4952	8.8	4962	1.2	**1.2**
Marble-Arno Pond	CONCEPTUAL	Broadway / Lomas Pond	100	281	30	588286	13.505	4957.1	4946	4958	4946	11.1	4958	0.9	**0.9**

a - See Drainage Basin Maps and Figure 6-1

b - See SWMM output for results "Node Inflow Summary" Table

c -Value calculated after unit conversion from SWMM output

d- See SWMM output for results "Node Depth Summary" Table

e - See Volume 2 Appendix 1.2 for Pond Routing Elev-Area-Capacity Discharge Data

f- Negative number indicates the flow depth exceeds referenced elevation - no freeboard available

g - Value from SWMM output under Storage Volume Summary

TABLE TP
TINGLEY SURGE POND revision 2
ELEVATION-STORAGE-DISCHARGE DATA (c)

grey box means must input data

Contour Elevation NGVD 1929	Contour Elevation NAVD 1988	Depth SWMM	Contour Area SWMM	Incremental Volume	Incremental Volume	Cumulative Volume	Riser Weir Discharge (12'x12' concrete/riser)	Principal Spillway Discharge	Emergency Spillway Discharge	Total Discharge Principal + Emergency Spillway) SWMM	Comment
			Principal Spillway Orifice Diameter (inches)					96			
			Number of Orifices					1			
(ft)	(ft)	(ft)	(sq ft)	(cu ft)	(ac-ft)	(ac-ft)	(cfs)	(cfs)	(cfs)	(cfs)	
	(d)	(a)					(b) (e)	(a) (e)	(b)		
4929.55	4932.21	0	144	0	0.0000	0.0000	0.0	0.0	0.0	0.0	Drop intake structure bottom
4931	4933.66	1.45	144.0	209	0.0048	0.0048	0.0	35.5	0.0	35.5	
4933	4935.66	3.45	144.24	288	0.0066	0.0114	0.0	182.8	0.0	182.8	
4935	4937.66	5.45	144.48	289	0.0066	0.0180	0.0	403.8	0.0	403.8	
4937	4939.66	7.45	144.72	289	0.0066	0.0247	0.0	631.2	0.0	631.2	
4937.55	4940.41	8.0	144.96	80	0.0018	0.0265	0.0	674.3	0.0	674.3	
4939	4941.66	9.45	307447	223004	5.1195	5.1460	0.0	732.9	0.0	732.9	Begins pond bottom at edge of 12x12 ft. grate
4940	4942.66	10.45	321481	314464	7.2191	12.3651	120.0	770.7	0.0	770.7	
4941	4943.66	11.45	335088	328285	7.5364	19.9015	339.4	806.7	0.0	806.7	
4942	4944.66	12.45	349745	342417	7.8608	27.7623	623.5	841.2	0.0	841.2	
4943	4945.66	13.45	363808	356777	8.1905	35.9527	960.0	874.3	0.0	874.3	
4944	4946.66	14.45	376180	369994	8.4939	44.4466	1,341.6	906.2	0.0	906.2	Emergency spillway invert elevation (f)
			Total Volume (ft^3) =	1936094							
			Total Volume (ac-ft) =	44.45							

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 4

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (f (f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over the top

C = 3 L (ft) = 900

L (ft) = 40

(c) Data Source: As-Builts and plans provided by the City of Albuquerque included in Appendix

(d) NGVD 1929 to NAVD 1988 Conversion Factor 2.66

(e) The weir (12 x 12) concrete around riser will not govern the discharge as it will pass more discharge per foot of head thatn the 96-inch pipe, therefore the 96-inch pipe governs the discharge - the weir discharge is not used in this case.

TABLE AQP
AIR QUALITY POND revision 2
ELEVATION-STORAGE-DISCHARGE DATA (c)

grey box means must input data

Contour Elevation NGVD 1929	Contour Elevation NAVD 1988	Depth SWMM	Contour Area SWMM	Incremental Volume	Incremental Volume	Cumulative Volume	Riser Discharge (1st row of orifices)	Riser Discharge (2nd row of orifices)	Riser Discharge (8'x8' grate)	Outfall Pipe Principal Discharge (48" RCP)	Principal Spillway Box Discharge	Outfall Pipe Discharge (24" RCP)	Emergency Spillway Discharge	Total Discharge (Riser Discharge + 24" RCP + Emergency Spillway) SWMM	Comment
			Principal Spillway Orifice Diameter (inches)				A 8	A 8	A	48		24			
			Number of Orifices				12	12		1		1			
(ft)	(ft)		(sq ft)	(cu ft)	(ac-ft)	(ac-ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	
	(d)						(a)	(a)	(b)	(a) (e)		(a)	(b)		
4949.6	4952.26	0	0	0	0.0000	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Pond bottom. 48" SD pipe invert, invert of first row of orifices (12 total)
4950.36	4953.02	0.76	9423	3581	0.0822	0.0822	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	24" RCP SD pipe invert
4951	4953.66	1.4	18846	9046	0.2077	0.2899	12.6	0.0	0.0	22.0	12.6	3.3	0.0	15.9	
4952	4954.66	2.4	45088	31967	0.7339	1.0237	23.5	0.0	0.0	57.8	23.5	16.7	0.0	40.3	
4952.6	4955.26	3.0	50289	28613	0.6569	1.6806	28.1	0.0	0.0	83.0	28.1	22.3	0.0	50.4	Invert of second row of orifices (12 total)
4953	4955.66	3.4	55489	21155	0.4857	2.1663	30.8	0.0	0.0	99.6	30.8	24.2	0.0	55.0	
4954	4956.66	4.4	57941	56715	1.3020	3.4683	36.6	12.6	0.0	125.0	49.2	28.4	0.0	77.6	
4955	4957.66	5.4	60383	59162	1.3582	4.8264	41.7	23.5	0.0	138.5	65.2	32.1	0.0	97.3	
4955.70	4958.36	6.1	61601	42694	0.9801	5.8066	44.9	28.8	0.0	147.2	73.7	34.4	0.0	108.1	Top of 8'x8' outlet grate (Principal Spillway)
4956	4958.66	6.4	62819	18663	0.4284	6.2350	46.2	30.8	15.8	150.8	92.7	35.4	0.0	128.1	
4957	4959.66	7.4	65265	64042	1.4702	7.7052	50.3	36.6	142.3	162.1	162.1	38.4	0.0	200.5	
4958	4960.66	8.4	67717	66491	1.5264	9.2316	54.0	41.7	334.9	172.7	172.7	41.2	0.0	213.9	
4959	4961.66	9.4	70160	68939	1.5826	10.8142	57.6	46.2	575.5	182.7	182.7	43.8	0.0	226.5	
4960	4962.66	10.4	72561	71361	1.6382	12.4524	60.9	50.3	856.0	192.2	192.2	46.3	0.0	238.5	Emergency spillway invert elevation (f)
		Total Volume (ft^3) =		542429											
		Total Volume (ac-ft) =		12.45											

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet **(D)** = 1.0
Principal Spillway Orifice radius r in feet **(E)** = 2.0
= depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation
Q = CLH^ C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (ft)
C = 3 L = 300 Spillway El 4962.66
L = 32 8'x8' grate

(c) Data Source : As-Builts and plans provided by City of Albuquerque included in Appendix

(d) NGVD 1929 to NAVD 1988 ConversionFactor= 2.66

(e) The two rows of orifices with the 8 x 8 grate (A), will govern discharge until the 48-inch pipe becomes fully submerged, when sum of A's is greater than 54-inch pipe capactity then 54-inch pipe capactiy governs discharge

(f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over top

TABLE BLP
OPTION 25 MARBLE ARNO POND 80 FT EXTENSION AT 1:1 SLOPE
ELEVATION-STORAGE-DISCHARGE DATA (c)

grey box means must input data

Contour Elevation NGVD 1929	Contour Elevation NAVD 1988	Depth SWMM	Contour Area SWMM	Incremental Volume	Incremental Volume	Cumulative Volume	A Riser Discharge (1st row of orifices)	A Riser Discharge (2nd row of orifices)	A Riser Discharge (8'x8' grate)	Outfall Pipe Discharge (54" RCP)	Total Riser / Outlet Pipe Discharge	Emergency Spillway Discharge	Total Discharge (Riser, Outlet Pipe and Emergency Spillway) SWMM	Comment
			Principal Spillway Orifice Diameter (inches)				8	8		54				
			Number of Orifices				10	12		1				
(ft)	(ft)		(sq ft)	(cu ft)	(ac-ft)	(ac-ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	
	(d)						(a)	(a)	(b)	(a) (e)	(e)	(b)		
4946	4946.00	0	47572	0	0.0000	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Pond bottom. 54" SD pipe invert, invert of first row of orifices (10 total)
4947	4947.00	1.0	48550	48061	1.1033	1.1033	0.0	0.0	0.0	12.5	0.0	0.0	0.0	
4948	4948.00	2.0	49535	49043	1.1259	2.2292	16.6	0.0	0.0	45.8	16.6	0.0	16.6	
4949	4949.00	3.0	50527	50031	1.1486	3.3777	23.4	0.0	0.0	92.5	23.4	0.0	23.4	Invert of second row of orifices (12 total)
4950	4950.00	4.0	51528	51028	1.1714	4.5492	28.7	0.0	0.0	141.7	28.7	0.0	28.7	
4951	4951.00	5.0	52536	52032	1.1945	5.7437	33.1	19.9	0.0	168.7	53.0	0.0	53.0	
4952.00	4952.36	6.0	53551	53044	1.2177	6.9614	38.3	30.5	0.0	190.2	68.8	0.0	68.8	Top of 8'x8' outlet grate (Principal Spillway)
4953	4953.00	7.0	54571	54061	1.2411	8.2024	40.6	34.4	49.2	199.6	124.1	0.0	124.1	
4954	4954.00	8.0	55605	55088	1.2646	9.4671	43.8	39.7	201.6	213.3	213.3	0.0	213.3	
4955	4955.00	9.0	56643	56124	1.2884	10.7555	46.8	44.4	411.8	226.3	226.3	0.0	226.3	
4956	4956.00	10.0	57688	57166	1.3123	12.0679	49.7	48.7	666.7	238.5	238.5	0.0	238.5	
4957	4957.00	11.0	58742	58215	1.3364	13.4043	52.4	52.6	959.5	250.2	250.2	0.0	250.2	Emergency spillway invert elevation (f)
4958	4958.00	12.0	59803	59273	1.3607	14.7650	54.9	56.2	1285.8	261.3	261.3			
			Total Volume (ft^3) =	643164										
			Total Volume (ac-ft) =	14.77										

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 2.25

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (ft)

C = 3 L = 230 Spillway Elev.: 4956.66

L = 32 8'x8' grate

(c) Data Source : As-builts or plans as provided by the Ctiy of Albuquerque included in Appendix

(d) NGVD 1929 to NAVD 1988 Conversion Factor = 0.00

Value changed from 2.66 to 0.

Ignore this portion

(e) The two rows of orifices with the 8 x 8 grate (A), will govern discharge until the 54-inch pipe becomes fully submerged, when sum of A's is greater than 54-inch pipe capactity then 54-inch pipe capactiy governs discharge

(f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over top

Smith Engineering Company /16/2012

TABLE BLP

OPTION 24 MARBLE ARNO EXTENDED 50FT WEST ALONG MARBLE POND AT 1:1 SLOPES ALONG PROPERTY LINES

ELEVATION-STORAGE-DISCHARGE DATA (c)

grey box means must input data

Contour Elevation NGVD 1929	Contour Elevation NAVD 1988	Depth SWMM	Contour Area SWMM	Incremental Volume	Incremental Volume	Cumulative Volume	A Riser Discharge (1st row of orifices)	A Riser Discharge (2nd row of orifices)	A Riser Discharge (8'x8' grate)	Outfall Pipe Discharge (54" RCP)	Total Riser / Outlet Pipe Discharge	Emergency Spillway Discharge	Total Discharge (Riser, Outlet Pipe and Emergency Spillway) SWMM	Comment
			Principal Spillway Orifice Diameter (inches)				8	8		54				
			Number of Orifices				10	12		1				
(ft)	(ft)		(sq ft)	(cu ft)	(ac-ft)	(ac-ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	
	(d)						(a)	(a)	(b)	(a) (e)	(e)	(b)		
4946	4946.00	0	42516	0	0.0000	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Pond bottom. 54" SD pipe invert, invert of first row of orifices (10 total)
4947	4947.00	1.0	43433	42975	0.9866	0.9866	0.0	0.0	0.0	12.5	0.0	0.0	0.0	
4948	4948.00	2.0	44358	43896	1.0077	1.9943	16.6	0.0	0.0	45.8	16.6	0.0	16.6	
4949	4949.00	3.0	45290	44824	1.0290	3.0233	23.4	0.0	0.0	92.5	23.4	0.0	23.4	Invert of second row of orifices (12 total)
4950	4950.00	4.0	46230	45760	1.0505	4.0738	28.7	0.0	0.0	141.7	28.7	0.0	28.7	
4951	4951.00	5.0	47177	46704	1.0722	5.1459	33.1	19.9	0.0	168.7	53.0	0.0	53.0	
4952.00	4952.36	6.0	48132	47655	1.0940	6.2399	38.3	30.5	0.0	190.2	68.8	0.0	68.8	Top of 8'x8' outlet grate (Principal Spillway)
4953	4953.00	7.0	49095	48614	1.1160	7.3560	40.6	34.4	49.2	199.6	124.1	0.0	124.1	
4954	4954.00	8.0	50065	49580	1.1382	8.4942	43.8	39.7	201.6	213.3	213.3	0.0	213.3	
4955	4955.00	9.0	51043	50554	1.1606	9.6547	46.8	44.4	411.8	226.3	226.3	0.0	226.3	
4956	4956.00	10.0	52028	51536	1.1831	10.8378	49.7	48.7	666.7	238.5	238.5	0.0	238.5	
4957	4957.00	11.0	53021	52525	1.2058	12.0436	52.4	52.6	959.5	250.2	250.2	0.0	250.2	Emergency spillway invert elevation (f)
4958	4958.00	12.0	54021	53521	1.2287	13.2723	54.9	56.2	1285.8	261.3	261.3			
			Total Volume (ft^3) =	578141										
			Total Volume (ac-ft) =	13.27										

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2} r^2 \left\{ \left[2\cos^{-1}\left(\frac{r-d}{r}\right) \right] \frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right) \right] \frac{\pi}{180} \right] \right\}$$

Principal Spillway Orifice radius r in feet = 2.25

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (ft)

C = 3 L = 230 Spillway Elev.: 4956.66

L = 32 8'x8' grate

(c) Data Source : As-builts or plans as provided by the Ctiy of Albuquerque included in Appendix

(d) NGVD 1929 to NAVD 1988 Conversion Factor = 0.00

Pond area based on pond extended 50 feet west along Marble and south to property line. See schematic sketch

Value changed from 2.66 to 0.

Ignore this portion

(e) The two rows of orifices with the 8 x 8 grate (A), will govern discharge until the 54-inch pipe becomes fully submerged, when sum of A's is greater than 54-inch pipe capactity then 54-inch pipe capactiy governs discharge

(partial area formula)

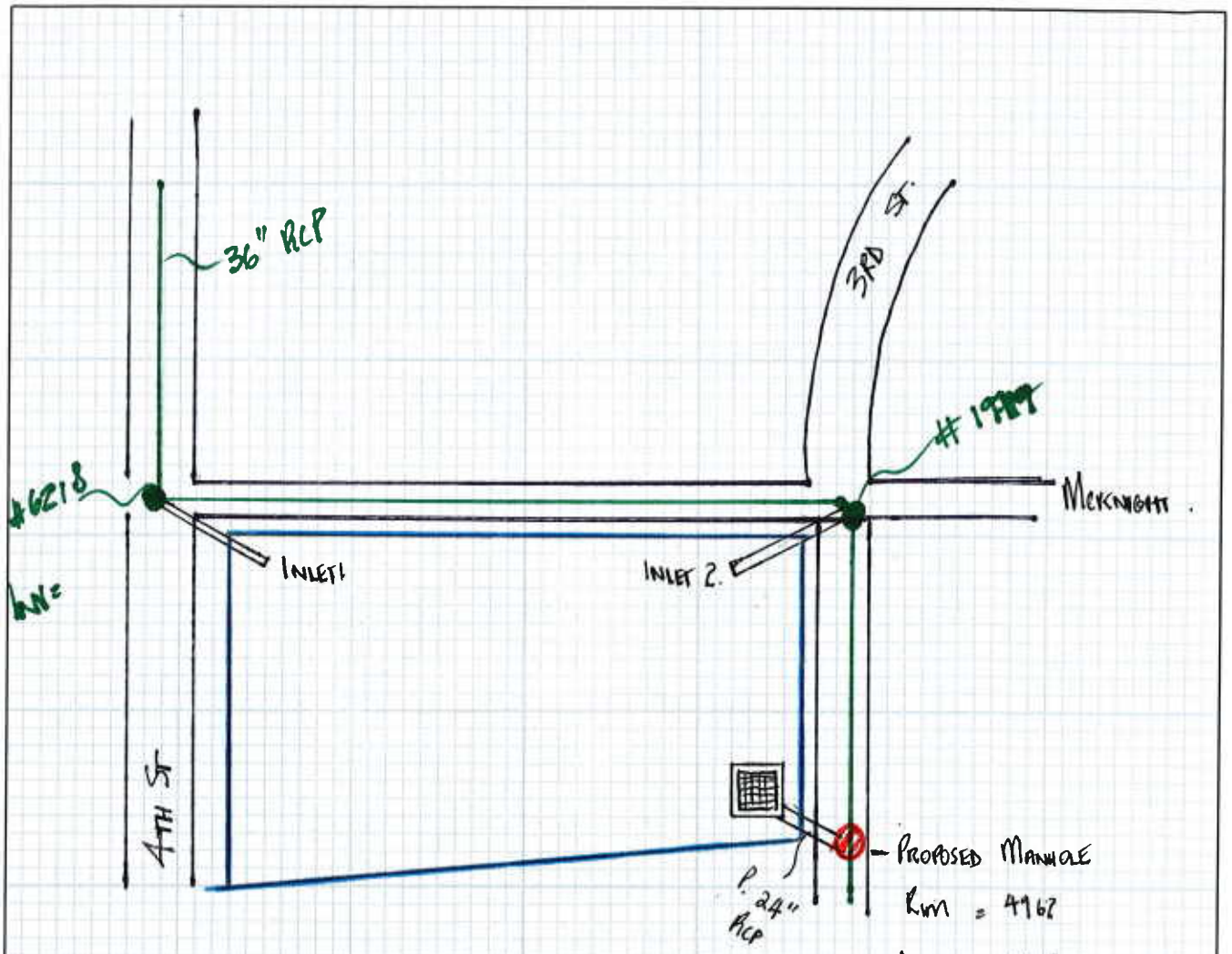
(f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over top

SMITH ENGINEERING COMPANY

PROJECT Mid Valley McKnight Colonnade Park Pond 2 SHEET NO. 1 OF 3

SUBJECT PROJECT NO. 110112

BY Chris N. DATE 1-26-12 CHECKED BY DATE



COA 6218

Inv = 4953.66

Max Depth = 9.34

Rim = 63.00

COA 19719

Inv = 4952.30

Max Depth = 9.98

Rim = 62.28

Assume 24" RCP Outlet. Approx = 100'

Assume

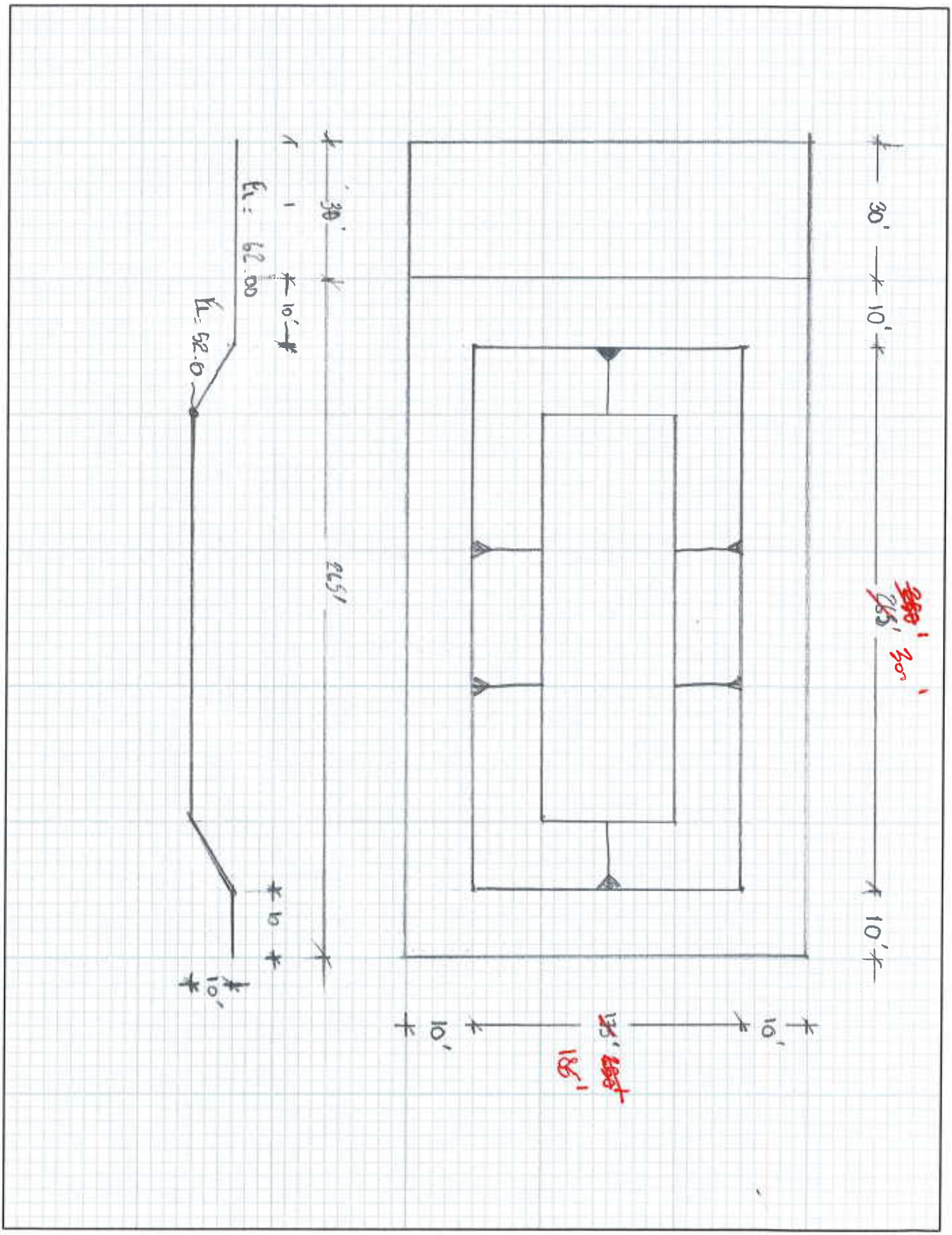
N

SMITH ENGINEERING COMPANY

PROJECT Mid Valley SHEET NO. 2 OF 3

SUBJECT Colonnade Park PROJECT NO. 110112

BY _____ DATE _____ CHECKED BY _____ DATE _____



Smith Engineering Company
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Smith Engineering Company /16/2012

TABLE

Mcknight Pond (located in Sub-Catchment B35)

ELEVATION-STORAGE-DISCHARGE DATA (c)

1.5 = side slopes 1V:?H grey box means must input data

Contour Elevation NAVD 88	Length	Width	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume		Principal Spillway Discharge	Weir Emergency Spillway Discharge	Total Discharge Principal + Emergency Spillway)	Comment
				Principal Spillway Orifice Diameter (inches)					24			
				Number of Orifices					1			
(ft)	(ft)	(ft)	(ft)	(sq ft)	(cu ft)	(ac-ft)	(ac-ft)		(cfs)	(cfs)	(cfs)	
								(a)	(a)	(b)		
4952	270.00	155.00	0.0	41850	0	0.0000	0.0000		0	0	0	Pond Bottom: Principal Spillway
4953	273.00	158.00	1.0	43134	42492	0.9755	0.9755	Partial Pipe	7	0	7	
4954	276.00	161.00	2.0	44436	43785	1.0052	1.9806	formula	21	0	21	
4955	279.00	164.00	3.0	45756	45096	1.0353	3.0159		26	0	26	
4956	282.00	167.00	4.0	47094	46425	1.0658	4.0817		30	0	30	
4957	285.00	170.00	5.0	48450	47772	1.0967	5.1784		33	0	33	
4958	288.00	173.00	6.0	49824	49137	1.1280	6.3064		36	0	36	
4959	291.00	176.00	7.0	51216	50520	1.1598	7.4662		39	0	39	
4960	294.00	179.00	8.0	52626	51921	1.1919	8.6581		42	0	42	
4961	297.00	182.00	9.0	54054	53340	1.2245	9.8826		45	0	45	
4962	300.00	185.00	10.0	55500	54777	1.2575	11.1402		47	0	47	Emergency Spillway: 4962
				Total Volume (ft^3) =	485265							
				Total Volume (ac-ft) =	11.14							

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 1.0 (formula here)

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (f (f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over the top

C = 3 L (ft) = 175

(c) Data Source: Conceptual Elevations and size based on 1 or 2 foot contours in the drainage basin map

PROJECT Mowalley BMP SHEET NO. ____ OF ____

SUBJECT 1F100. H - OPTION 8 PROJECT NO. 11011.2

BY ____ DATE / / CHECKED BY ____ DATE / /

CONCEPTUAL NORTH WELLS PARK POND

OPTIONS

Smith Engineering Company
2201 San Pedro NE Bldg. #4, Suite 200 Albuquerque, New Mexico 87110 505/884-0700 Fax 505/884-2376

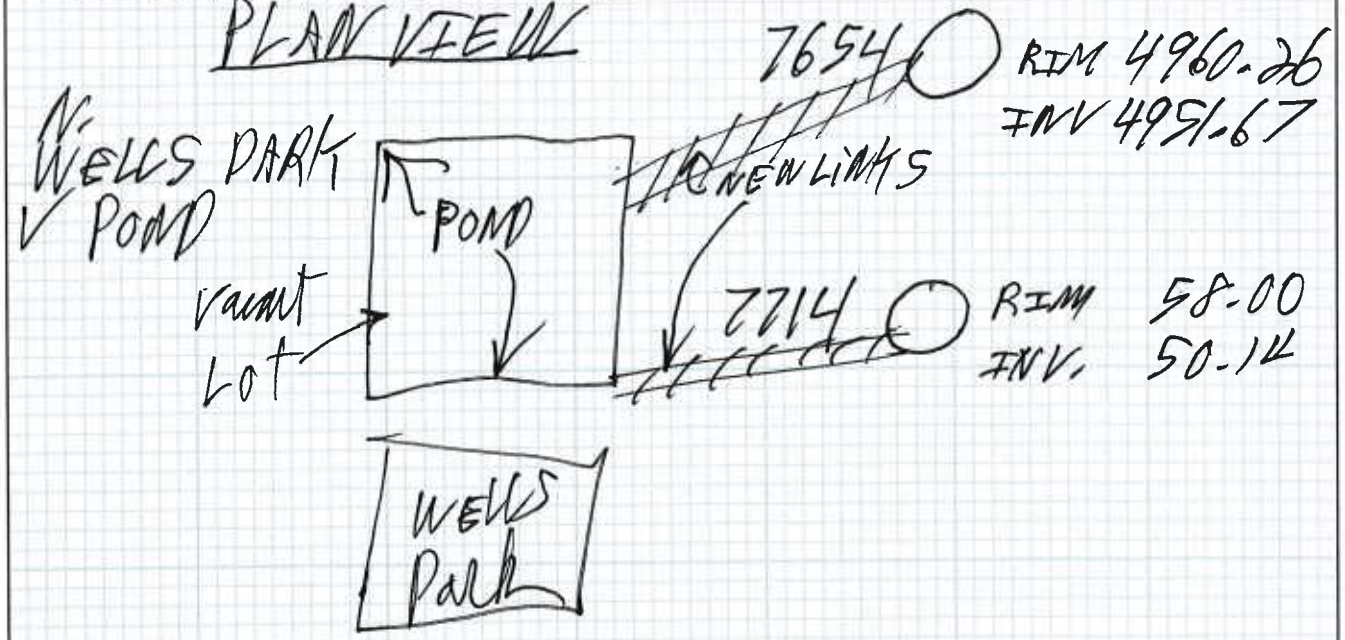
PROJECT ~~OPTION~~ SHEET NO. 8-23-11 OF

SUBJECT N. WELLS PARK POND PROJECT NO.

BY DATE CHECKED BY DATE / /

CONCEPTUAL DESIGN

PLAN VIEW



PLAN VIEW

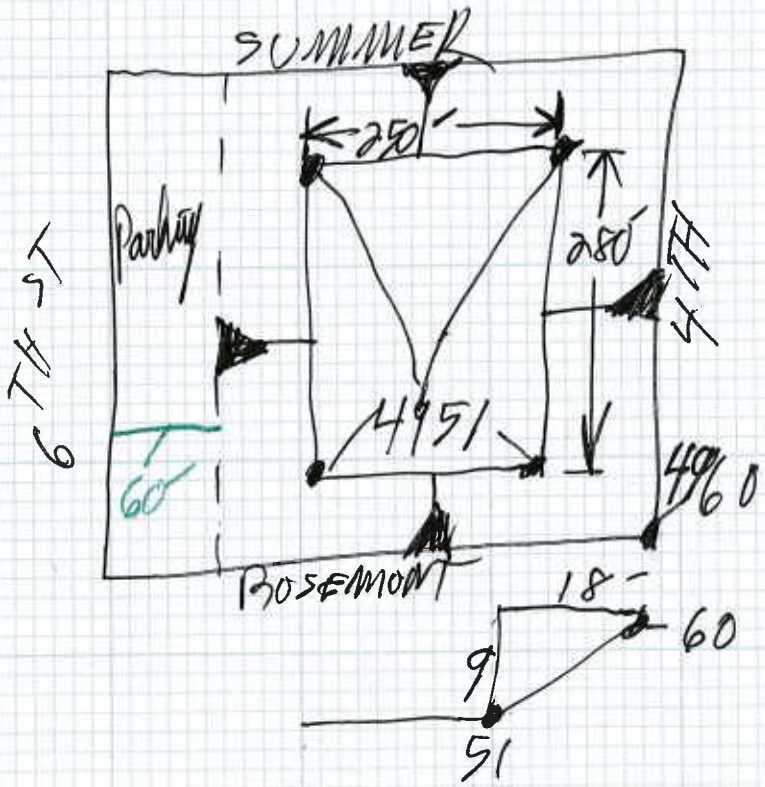


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TABLE
Wells Park North Pond (located in Sub-Catchment B28)
ELEVATION-STORAGE-DISCHARGE DATA (c)

2 = side slopes 1V:?H grey box means must input data

Contour Elevation NAVD 88	Length	Width	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume		Principal Spillway Discharge	Weir Emergency Spillway Discharge	Total Discharge Principal + Emergency Spillway)	Comment
				Principal Spillway Orifice Diameter (inches)					36			
				Number of Orifices					1			
(ft)	(ft)	(ft)	(ft)	(sq ft)	(cu ft)	(ac-ft)	(ac-ft)		(cfs)	(cfs)	(cfs)	
								(a)	(a)	(b)		
4951	280.00	250.00	0.0	70000	0	0.0000	0.0000		0	0	0	Pond Bottom
4952	284.00	254.00	1.0	72136	71068	1.6315	1.6315	Partial Pipe	10	0	10	
4953	288.00	258.00	2.0	74304	73220	1.6809	3.3124	formula	34	0	34	
4954	292.00	262.00	3.0	76504	75404	1.7310	5.0434		58	0	58	
4955	296.00	266.00	4.0	78736	77620	1.7819	6.8253		67	0	67	
4956	300.00	270.00	5.0	81000	79868	1.8335	8.6589		75	0	75	
4957	304.00	274.00	6.0	83296	82148	1.8859	10.5447		82	0	82	
4958	308.00	278.00	7.0	85624	84460	1.9389	12.4837		89	0	89	
4959	312.00	282.00	8.0	87984	86804	1.9927	14.4764		95	0	95	
4960	316.00	286.00	9.0	90376	89180	2.0473	16.5237	Full pipe	101	0	101	Emerg. Spillway Elev. 4960
				Total Volume (ft^3) =	719772							
				Total Volume (ac-ft) =	16.52							

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 1.5 (formula here)

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (f (f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over the top

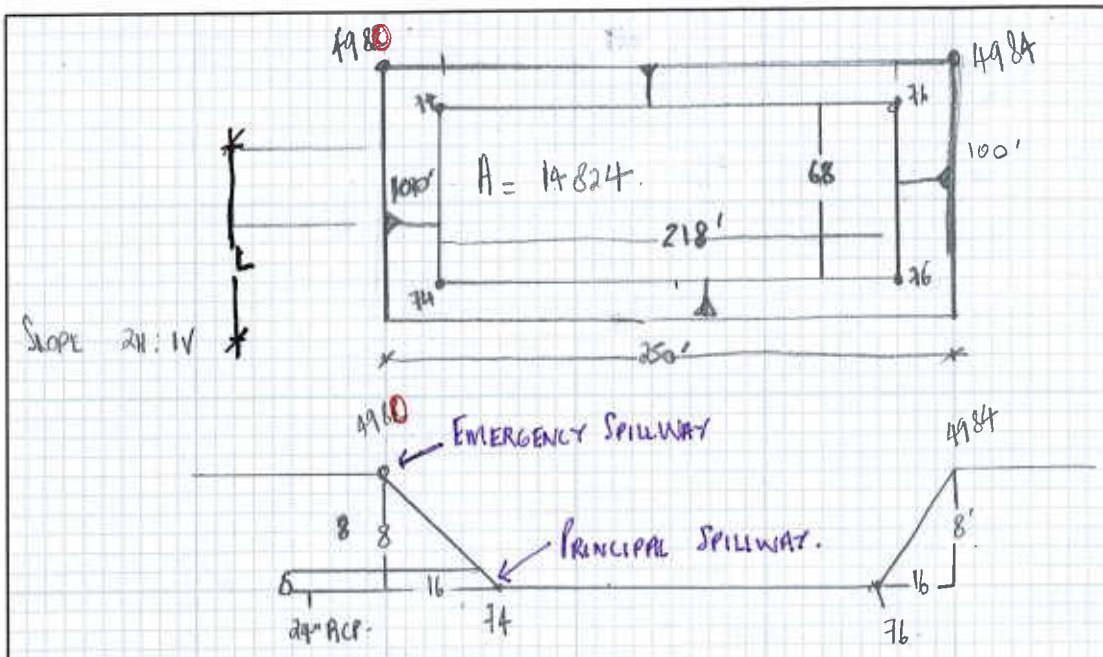
C = 3 L (ft) = 200

(c) Data Source: Conceptual Elevations and size based on 1 or 2 foot contours in the drainage basin map

PROJECT Retention Ponds SHEET NO. ____ OF ____

SUBJECT NMDOT Pond Broadway & I-40 (East of Broadway) PROJECT NO. 110112

BY Chris DATE 8/30/11 CHECKED BY ____ DATE / /



L = 83 ft from basemap.

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TABLE

East DOT Pond (located in Sub-Catchment BR17)

ELEVATION-STORAGE-DISCHARGE DATA (c)

2 = side slopes 1V:?H grey box means must input data

Contour Elevation NAVD 88	Length	Width	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume		Principal Spillway Discharge	Weir Emergency Spillway Discharge	Total Discharge Principal + Emergency Spillway)	Comment
				Principal Spillway Orifice Diameter (inches)					24			
				Number of Orifices					1			
(ft)	(ft)	(ft)	(ft)	(sq ft)	(cu ft)	(ac-ft)	(ac-ft)		(cfs)	(cfs)	(cfs)	
								(a)	(a)	(b)		
4974	226.00	76.00	0.0	17176	0	0.0000	0.0000		0	0	0	Pond Bottom: Principal Spillway
4975	230.00	80.00	1.0	18400	17788	0.4084	0.4084	Partial Pipe	7	0	7	
4976	234.00	84.00	2.0	19656	19028	0.4368	0.8452	formula	21	0	21	
4977	238.00	88.00	3.0	20944	20300	0.4660	1.3112		26	0	26	
4978	242.00	92.00	4.0	22264	21604	0.4960	1.8072		30	0	30	
4979	246.00	96.00	5.0	23616	22940	0.5266	2.3338		33	0	33	
4980	250.00	100.00	6.0	25000	24308	0.5580	2.8918		36	0	36	Emergency Spillway: 4980
				Total Volume (ft^3) =	125968							
				Total Volume (ac-ft) =	2.89							

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 1.0 (formula here)

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (f (f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over the top

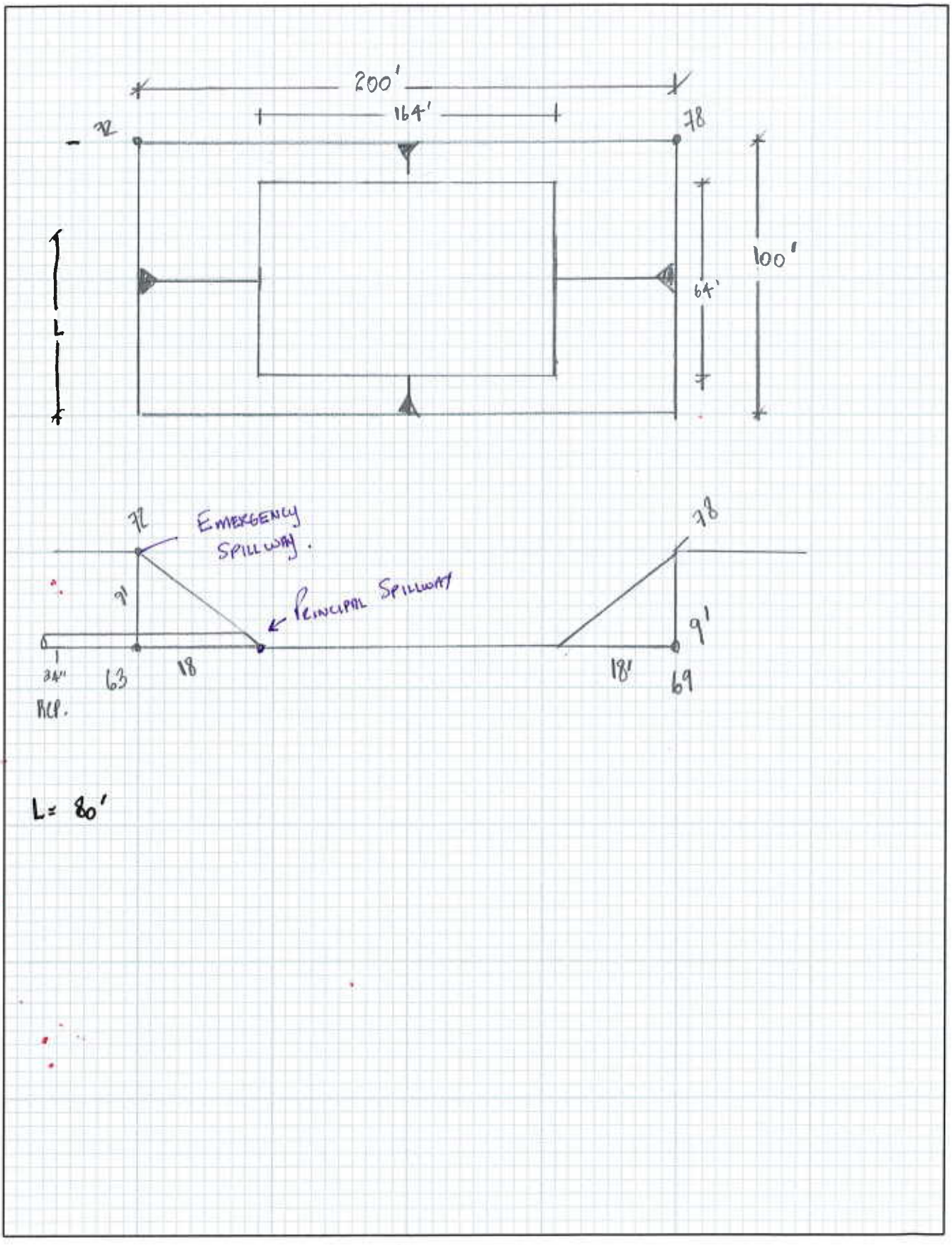
C = 3 L (ft) = 83

(c) Data Source: Conceptual Elevations and size based on 1 or 2 foot contours in the drainage basin map

PROJECT MID VALLEY FUTURE SHEET NO. ____ OF ____

SUBJECT CONCEPTUAL POND WEST OF BROADWAY & I-40 PROJECT NO. 110 112

BY CHRIS DATE 8/30/11 CHECKED BY ____ DATE / /



L = 80'

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TABLE

West DOT Pond (located in Sub-Catchment BR18)

ELEVATION-STORAGE-DISCHARGE DATA (c)

2 = side slopes 1V:?H grey box means must input data

Contour Elevation NAVD 88	Length	Width	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume		Principal Spillway Discharge	Weir Emergency Spillway Discharge	Total Discharge Principal + Emergency Spillway)	Comment
				Principal Spillway Orifice Diameter (inches)					24			
				Number of Orifices					1			
(ft)	(ft)	(ft)	(ft)	(sq ft)	(cu ft)	(ac-ft)	(ac-ft)		(cfs)	(cfs)	(cfs)	
								(a)	(a)	(b)		
4963	168.00	68.00	0.0	11424	0	0.0000	0.0000		0	0	0	Pond Bottom: Principal Spillway
4964	172.00	72.00	1.0	12384	11904	0.2733	0.2733	Partial Pipe	7	0	7	
4965	176.00	76.00	2.0	13376	12880	0.2957	0.5690	formula	21	0	21	
4966	180.00	80.00	3.0	14400	13888	0.3188	0.8878		26	0	26	
4967	184.00	84.00	4.0	15456	14928	0.3427	1.2305		30	0	30	
4968	188.00	88.00	5.0	16544	16000	0.3673	1.5978		33	0	33	
4969	192.00	92.00	6.0	17664	17104	0.3927	1.9904		36	0	36	
4970	196.00	96.00	7.0	18816	18240	0.4187	2.4092		39	0	39	
4971	200.00	100.00	8.0	20000	19408	0.4455	2.8547		42	0	42	Emergency Spillway El. 4971
				Total Volume (ft^3) =	124352							
				Total Volume (ac-ft) =	2.85							

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2} r^2 \left\{ \left[2\cos^{-1}\left(\frac{r-d}{r}\right) \right] \frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right) \right] \frac{\pi}{180} \right] \right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 1.0 (formula here)

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (f (f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over the top

C = 3 L (ft) = 80

(c) Data Source: Conceptual Elevations and size based on 1 or 2 foot contours in the drainage basin map

PROJECT MIDVALLEY

SUBJECT FUTURE OPTION 14. - BROADWAY - MARBLE

BY CHRIS N. CORRECTED 2-7-12 DATE / / CHECKED BY DATE / /

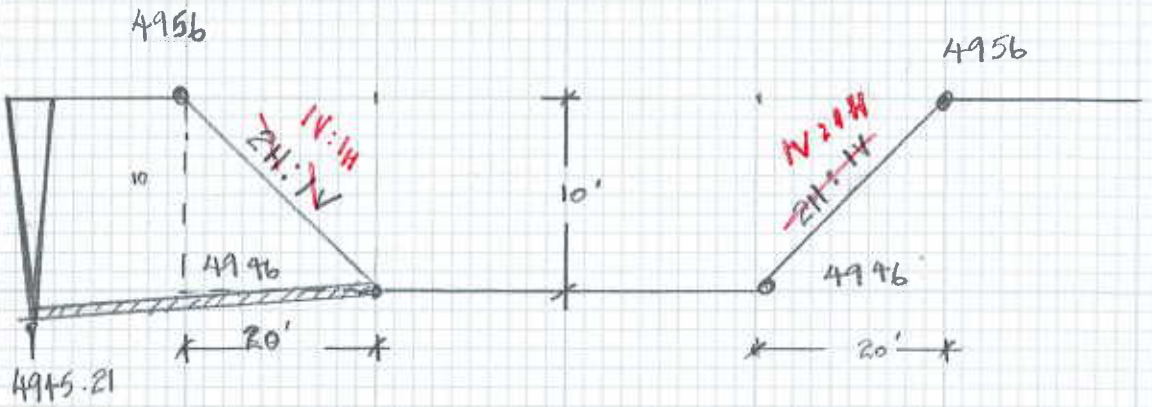
SHEET NO. 1 OF 1

PROJECT NO. 110112

PRINCIPAL SPILLWAY ELEV = 4946 L = 40'

EMERGENCY SPILLWAY ELEV = 4954

TOP OF BANK ELEV = 4956



ASSUME EQUIVALENT TOP LENGTH OF 340' TO FIT PROPERTY SHAPE.

MAX DEPTH : ASSUME 10'

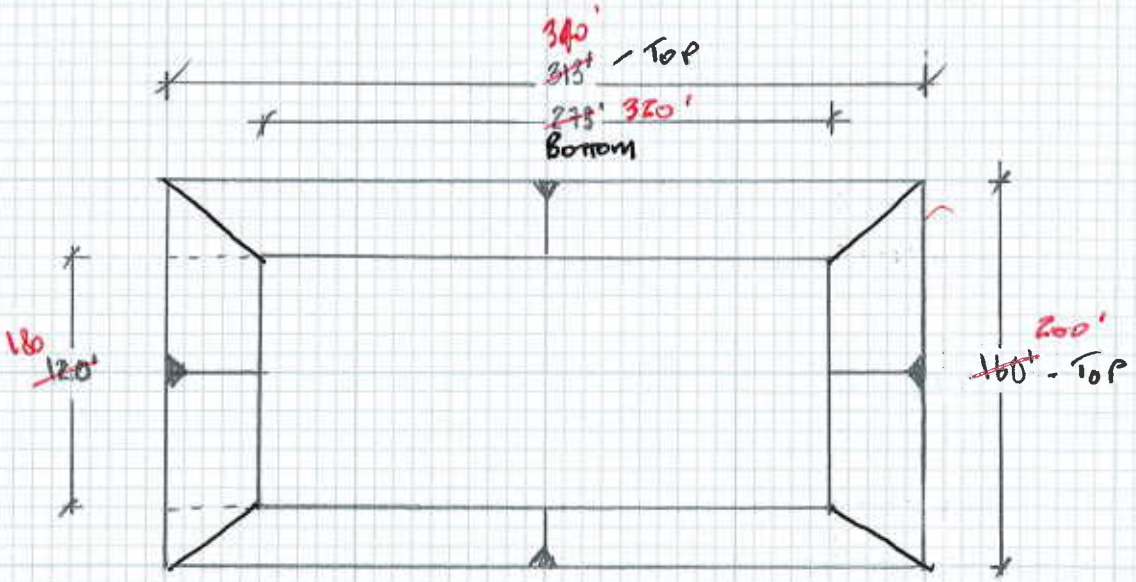


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TABLE
BROADWAY MARBLE Pond (located in Sub-Catchment BR3)
ELEVATION-STORAGE-DISCHARGE DATA (c)

1 = side slopes 1V:?H grey box means must input data

Contour Elevation NAVD 88	Length	Width	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume		Principal Spillway Discharge	Weir Emergency Spillway Discharge	Total Discharge Principal + Emergency Spillway)	Comment
				Principal Spillway Orifice Diameter (inches)					24			
				Number of Orifices					1			
(ft)	(ft)	(ft)	(ft)	(sq ft)	(cu ft)	(ac-ft)	(ac-ft)		(cfs)	(cfs)	(cfs)	
								(a)	(a)	(b)		
4946	320.00	180.00	0.0	57600	0	0.0000	0.0000		0	0	0	Pond Bottom: Principal Spillway
4947	322.00	182.00	1.0	58604	58102	1.3338	1.3338	Partial Pipe	7	0	7	
4948	324.00	184.00	2.0	59616	59110	1.3570	2.6908	formula	21	0	21	
4949	326.00	186.00	3.0	60636	60126	1.3803	4.0711		26	0	26	
4950	328.00	188.00	4.0	61664	61150	1.4038	5.4749		30	0	30	
4951	330.00	190.00	5.0	62700	62182	1.4275	6.9024		33	0	33	
4952	332.00	192.00	6.0	63744	63222	1.4514	8.3538		36	0	36	
4953	334.00	194.00	7.0	64796	64270	1.4754	9.8292		39	0	39	
4954	336.00	196.00	8.0	65856	65326	1.4997	11.3289		42	0	42	
4955	338.00	198.00	9.0	66924	66390	1.5241	12.8530		45	0	45	
4956	340.00	200.00	10.0	68000	67462	1.5487	14.4017		47	0	47	Emergency Spillway: 4954
				Total Volume (ft^3) =	493488							
				Total Volume (ac-ft) =	11.33							

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 1.0 (formula here)

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (f (f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over the top

C = 3 L (ft) = 200

(c) Data Source: Conceptual Elevations and size based on 1 or 2 foot contours in the drainage basin map

TABLE
Coronado Pond (located in Sub-Catchment B-38C)
ELEVATION-STORAGE-DISCHARGE DATA (c)

2 = side slopes 1V:?H grey box means must input data

Contour Elevation NAVD 88	Length	Width	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume		Principal Spillway Discharge	Weir Emergency Spillway Discharge	Total Discharge Principal + Emergency Spillway)	Comment
				Principal Spillway Orifice Diameter (inches)					24			
				Number of Orifices					1			
(ft)	(ft)	(ft)	(ft)	(sq ft)	(cu ft)	(ac-ft)	(ac-ft)		(cfs)	(cfs)	(cfs)	
								(a)	(a)	(b)		
4953	206.00	206.00	0.0	42436	0	0.0000	0.0000		0	0	0	Pond Bottom
4954	210.00	210.00	1.0	44100	43268	0.9933	0.9933	Partial Pipe	7	0	7	
4955	214.00	214.00	2.0	45796	44948	1.0319	2.0252	formula	21	0	21	
4956	218.00	218.00	3.0	47524	46660	1.0712	3.0963		26	0	26	
4957	222.00	222.00	4.0	49284	48404	1.1112	4.2075		30	0	30	
4958	226.00	226.00	5.0	51076	50180	1.1520	5.3595		33	0	33	
4959	230.00	230.00	6.0	52900	51988	1.1935	6.5530		36	0	36	
4960	234.00	234.00	7.0	54756	53828	1.2357	7.7887		39	0	39	
4961	238.00	238.00	8.0	56644	55700	1.2787	9.0674		42	0	42	
4962	242.00	242.00	9.0	58564	57604	1.3224	10.3898	Full pipe	45	0	45	
4963	246.00	246.00	10.0	60516	59540	1.3669	11.7567		47	0	47	
4964	250.00	250.00	11.0	62500	61508	1.4120	13.1687		49	0	49	Emerg. Spillway Elev. 4964
				Total Volume (ft^3) =	452580							
				Total Volume (ac-ft) =	10.39							

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 1.0 (formula here)

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (f (f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over the top

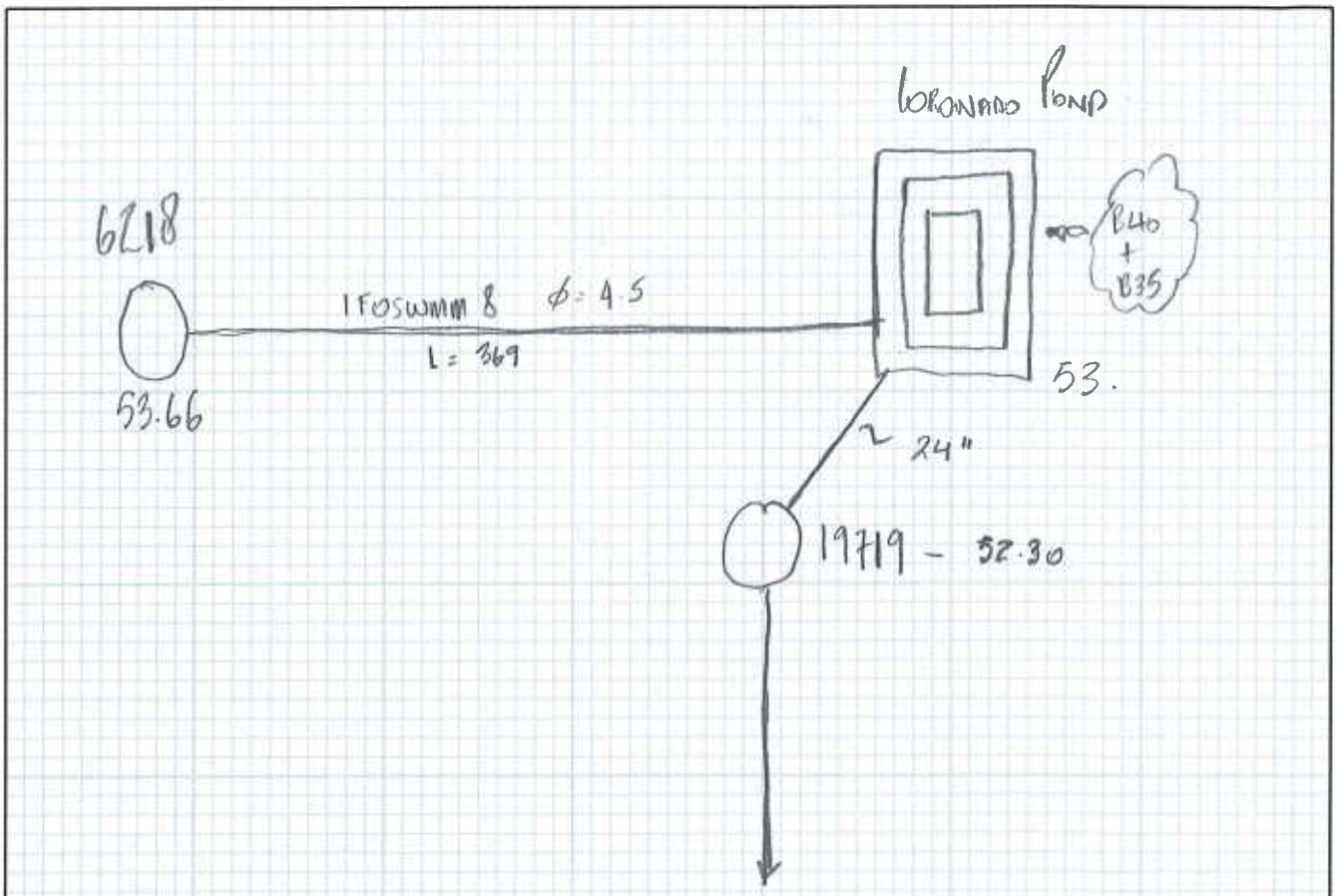
C = 3 L (ft) = 213

(c) Data Source: Conceptual Elevations and size based on 1 or 2 foot contours in the drainage basin map

PROJECT _____ SHEET NO. 2 OF 2

SUBJECT Orion 19. PROJECT NO. 40 112

BY Chris DATE 9/19/11 CHECKED BY _____ DATE / /



Assume Use Of Larger Park.

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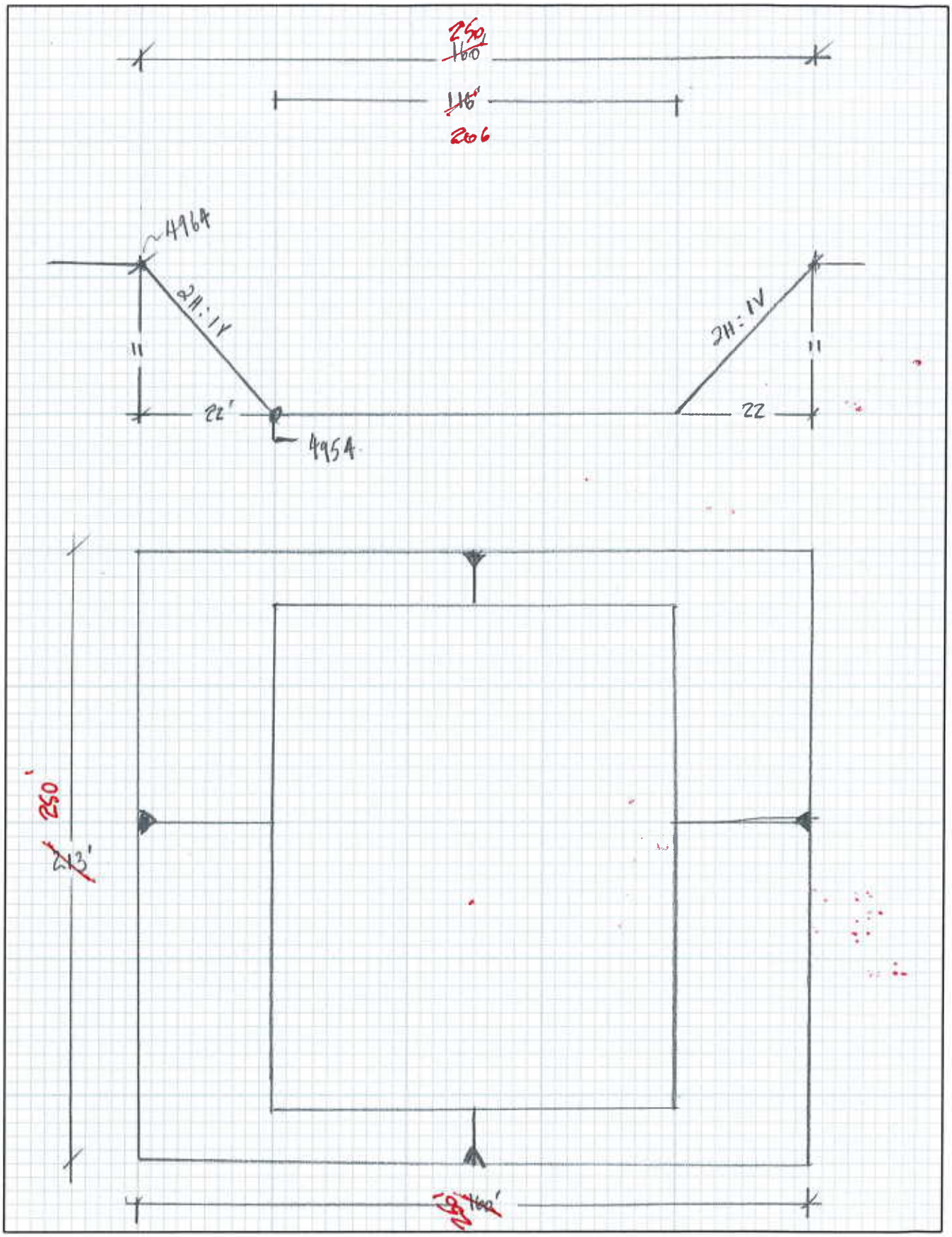
PROJECT Mid Valley SHEET NO. 1 OF 2

SUBJECT Option 17 - Coronado Pond PROJECT NO. 11012

BY Chris DATE 9/19/24 CHECKED BY DATE / /



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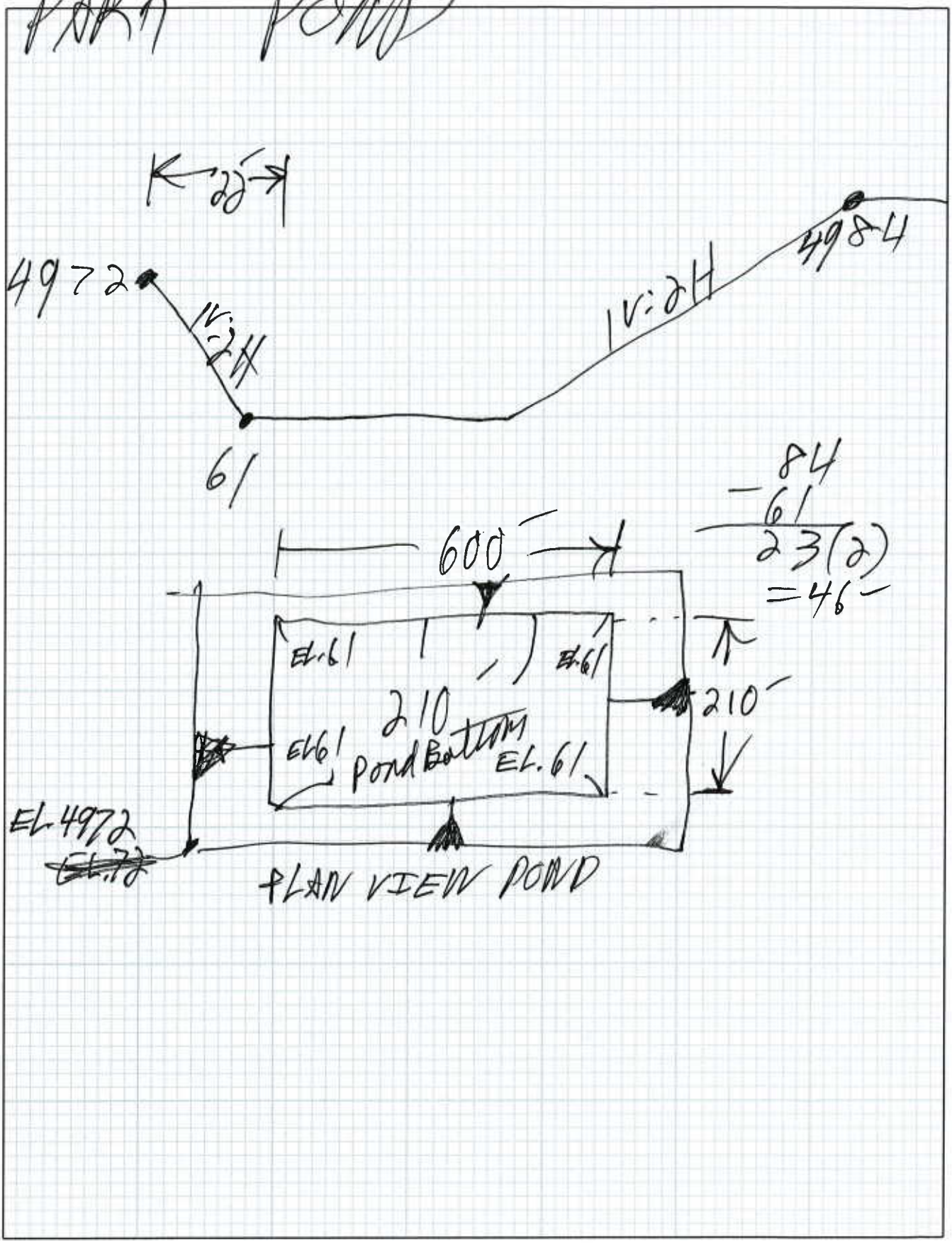
PROJECT SHEET NO. 8-23-11 OF

SUBJECT CONCEPTUAL SANTA BARBARA PARK POND PROJECT NO.

BY DATE CHECKED BY DATE



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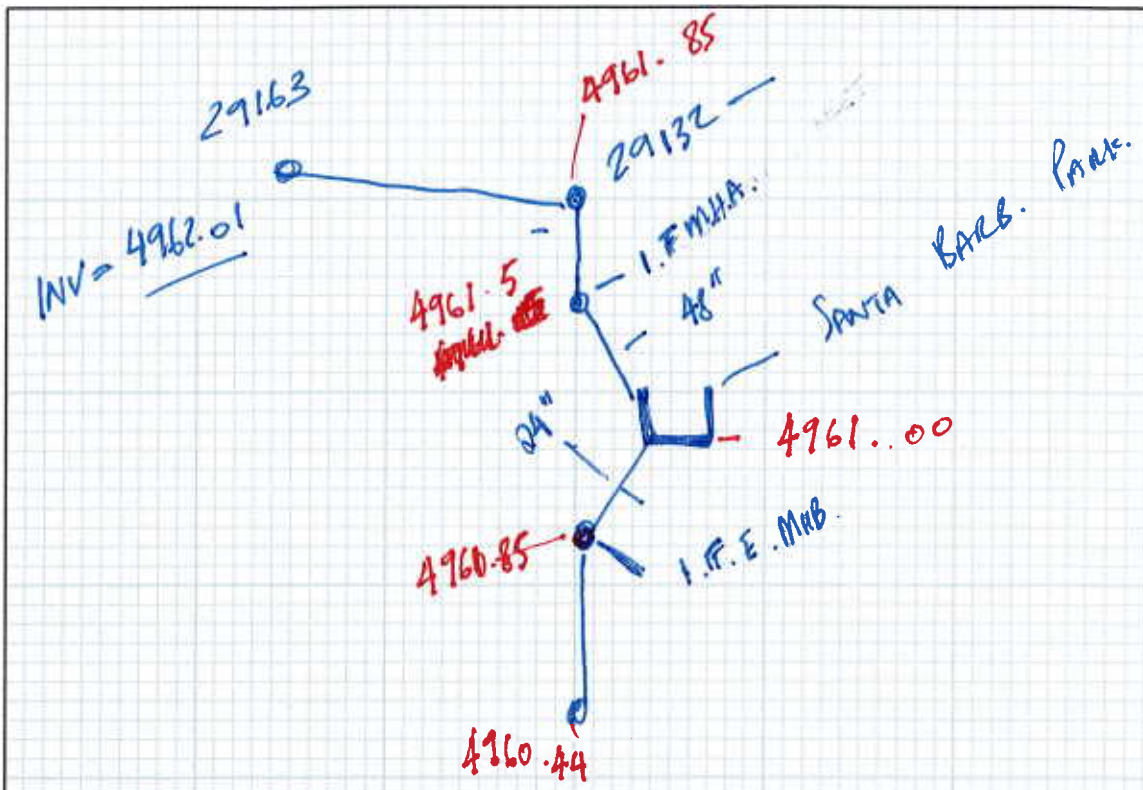
PROJECT Mid Valley Dump

SUBJECT Santa Barbara Road.

SHEET NO. ____ OF ____

PROJECT NO. 110112

BY ____ DATE 1/24/11 CHECKED BY ____ DATE / /



CHANGE INV. EL @ CO# 29132 From 4960.03 → 4961.85.

H.B. Surface Storage Area @ 7628 - 27118 ft² } 54236

7656 - 27118 ft²

Add I.F.E.MHA -

I.F.E. MHB -

Divide Area by 4 = 13559 /MH.

H.B - Routed to Bond.

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TABLE
Santa Barbara Park Pond (located in Sub-Catchment BR15-C)
ELEVATION-STORAGE-DISCHARGE DATA (c)

2 = side slopes 1V:?H grey box means must input data

Contour Elevation NAVD 88	Length	Width	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume		Principal Spillway Discharge	Weir Emergency Spillway Discharge	Total Discharge Principal + Emergency Spillway)	Comment
				Principal Spillway Orifice Diameter (inches)					36			
				Number of Orifices					1			
(ft)	(ft)	(ft)	(ft)	(sq ft)	(cu ft)	(ac-ft)	(ac-ft)		(cfs)	(cfs)	(cfs)	
								(a)	(a)	(b)		
4961	600.00	210.00	0.0	126000	0	0.0000	0.0000		0	0	0	Pond Bottom
4962	604.00	214.00	1.0	129256	127628	2.9299	2.9299	Partial Pipe	10	0	10	
4963	608.00	218.00	2.0	132544	130900	3.0051	5.9350	formula	34	0	34	
4964	612.00	222.00	3.0	135864	134204	3.0809	9.0159		58	0	58	
4965	616.00	226.00	4.0	139216	137540	3.1575	12.1734		67	0	67	
4966	620.00	230.00	5.0	142600	140908	3.2348	15.4082		75	0	75	
4967	624.00	234.00	6.0	146016	144308	3.3129	18.7210		82	0	82	
4968	628.00	238.00	7.0	149464	147740	3.3916	22.1127		89	0	89	
4969	632.00	242.00	8.0	152944	151204	3.4712	25.5838		95	0	95	
4970	636.00	246.00	9.0	156456	154700	3.5514	29.1353	Full pipe	101	0	101	
4971	640.00	250.00	10.0	160000	158228	3.6324	32.7677	formula	106	0	106	
4972	644.00	254.00	11.0	163576	161788	3.7141	36.4818		111	0	111	Emerg. Spillway Elev. 4972
				Total Volume (ft^3) =	1589148							
				Total Volume (ac-ft) =	36.48							

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 1.5 (formula here)

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (f (f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over the top

C = 3 L (ft) = 200

(c) Data Source: Conceptual Elevations and size based on 1 or 2 foot contours in the drainage basin map

PROJECT _____ SHEET NO. 1 OF _____

SUBJECT FUTURE MODEL IF100. D. PROJECT NO. _____

BY _____ DATE / / CHECKED BY _____ DATE / /

CONCEPTUAL POND

BASIN BR 21

CONCEPTUAL POND

EL — AREA — DISCHARGE DATA

INCLUDE IN OPTIONS _____

_____

_____

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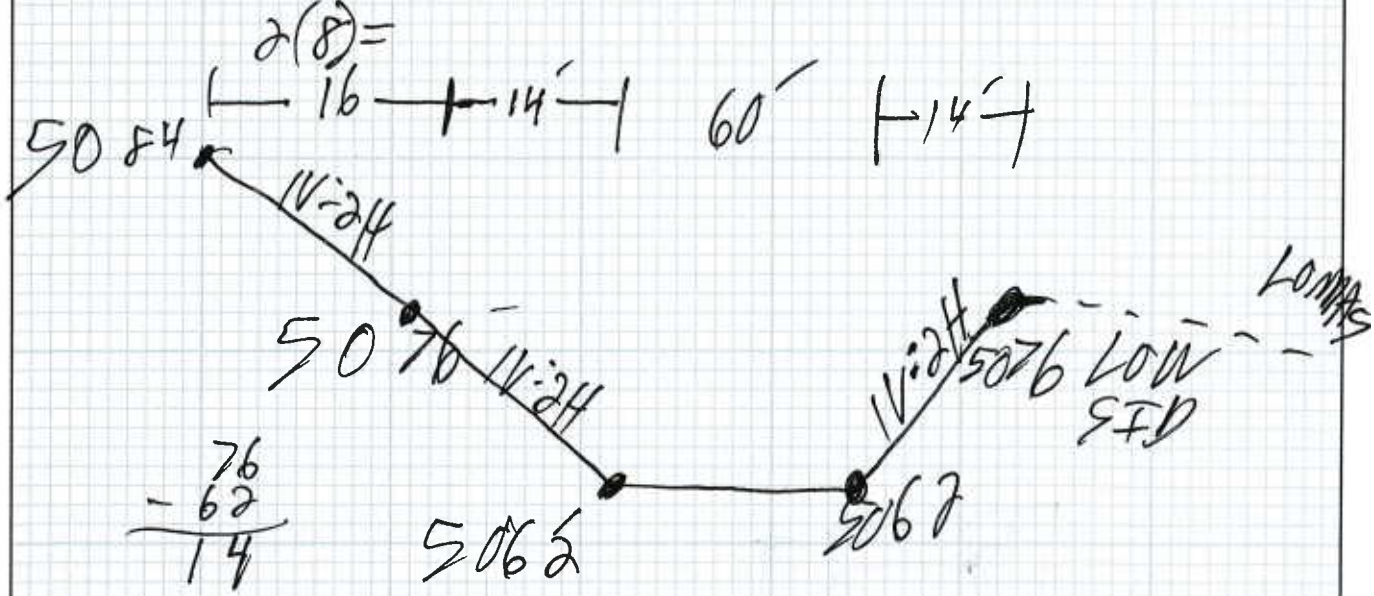
PROJECT MID-VALLEY DMP SHEET NO. 2 OF

SUBJECT PROPOSED POND BASIN BR21 PROJECT NO.

BY DATE CHECKED BY DATE 8-23-11

PURPOSE - DUE TO PROBLEMS AT INTERSECTION OF BROADWAY AND LOMAS

~~B~~ SIMULATE DET. POND in Basin BR 21 at Lomas and Medical area



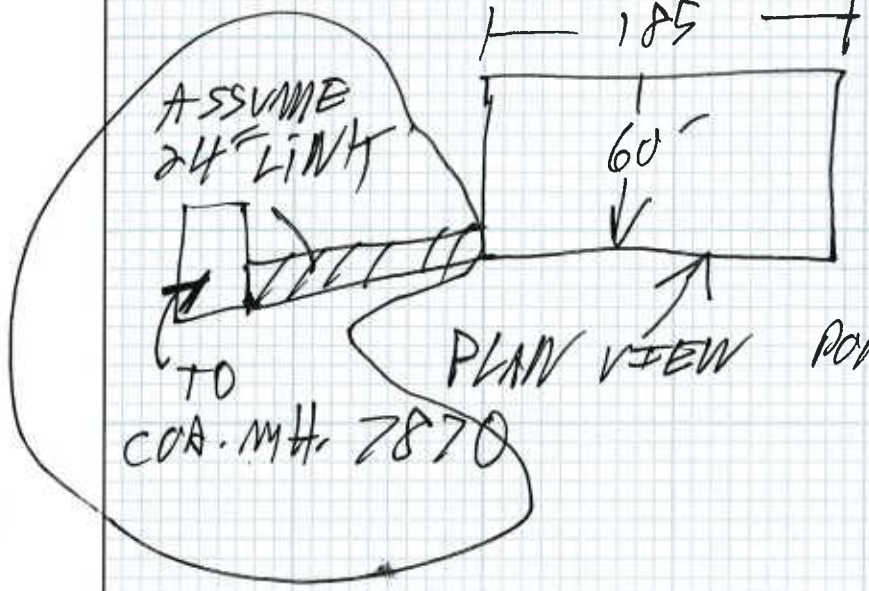


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TABLE
Conceptual BR21 Pond (located in Sub-Catchment BR21)
ELEVATION-STORAGE-DISCHARGE DATA (c)

2 = side slopes 1V:?H grey box means must input data

Contour Elevation NAVD 88	Length	Width	Depth	Contour Area	Incremental Volume	Incremental Volume	Cumulative Volume		Principal Spillway Discharge	Weir Emergency Spillway Discharge	Total Discharge Principal + Emergency Spillway)	Comment
				Principal Spillway Orifice Diameter (inches)					12			
				Number of Orifices					1			
(ft)	(ft)	(ft)	(ft)	(sq ft)	(cu ft)	(ac-ft)	(ac-ft)		(cfs)	(cfs)	(cfs)	
								(a)	(a)	(b)		
5062	185.00	60.00	0.0	11100	0	0.0000	0.0000	Partial Pipe	0	0	0	Pond Bottom
5063	189.00	64.00	1.0	12096	11598	0.2663	0.2663	formula	4	0	4	
5064	193.00	68.00	2.0	13124	12610	0.2895	0.5557		5	0	5	
5065	197.00	72.00	3.0	14184	13654	0.3135	0.8692		6	0	6	
5066	201.00	76.00	4.0	15276	14730	0.3382	1.2073		7	0	7	
5067	205.00	80.00	5.0	16400	15838	0.3636	1.5709		8	0	8	
5068	209.00	84.00	6.0	17556	16978	0.3898	1.9607		9	0	9	
5069	213.00	88.00	7.0	18744	18150	0.4167	2.3774		10	0	10	
5070	217.00	92.00	8.0	19964	19354	0.4443	2.8217		11	0	11	
5071	221.00	96.00	9.0	21216	20590	0.4727	3.2944	Full pipe	11	0	11	
5072	225.00	100.00	10.0	22500	21858	0.5018	3.7961	formula	12	0	12	
5073	229.00	104.00	11.0	23816	23158	0.5316	4.3278		12	0	12	
5074	233.00	108.00	12.0	25164	24490	0.5622	4.8900		13	0	13	
5075	237.00	112.00	13.0	26544	25854	0.5935	5.4835		13	0	13	
5076	241.00	116.00	14.0	27956	27250	0.6256	6.1091		14	0	14	Emerg.Spill Elev. at 76
				Total Volume (ft^3) =	266112							
				Total Volume (ac-ft) =	6.11							

(a) Orfice flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$Q = Ca\sqrt{2gh}$ C = 0.591 g=32.2 ft/sec^2, a=area (sq ft) h=head (ft)

$a = \pi D^2/4$ (full area formula)

$$a = \frac{1}{2}r^2\left\{\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180} - \sin\left[\left[2\cos^{-1}\left(\frac{r-d}{r}\right)\right]\frac{\pi}{180}\right]\right\}$$

(partial area formula)

Principal Spillway Orifice radius r in feet = 0.5 (formula here)

d = depth of water in the pipe in feet

(b) Emergency Spillway flows were computed based on the following data used in the weir equation

Q = CLH^ 1.5 C = discharge coeffient, L = spillway length perp. To flow in ft, H = head (f (f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over the top

C = 3 L (ft) = 200

(c) Data Source: Conceptual Elevations and size based on 1 or 2 foot contours in the drainage basin map

PROJECT MID-VALLEY DMP SHEET NO. OF

SUBJECT MARBLE-ARNO POND PROJECT NO.

BY PS-CN DATE 2-13-11 CHECKED BY DATE

SHOTCRETE VOLUME CALCS

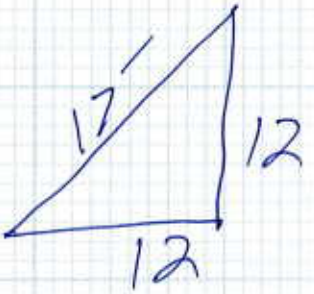
TOTAL TOP POND AREA 59803 sq ft

TOTAL BUT POND AREA 47572 sq ft

POND SIDE SLOPE AREAS PLANVIEW = 12,231 sq ft

ADJUST FOR HYPOTONUSE

$A = L\ W$



$\frac{12,231}{12} = L$

$L = 1019$

RECOMPUTE HYP. AREA $= 1019\left(\frac{17}{12}\right) = 17,323$ sq ft

~~SIDE SLOPE AREA = 11444 sq ft.~~

~~$\frac{17}{12} = 1.4$~~ ~~1019 (12) 1.4)~~

$= 1,925$ sq yd.

Smith Engineering Company

2201 San Pedro NE Bldg. #4, Suite 200 Albuquerque, New Mexico 87110 505/884-0700 Fax 505/884-2376

PROJECT Mid Valley DMP SHEET NO. ____ OF ____

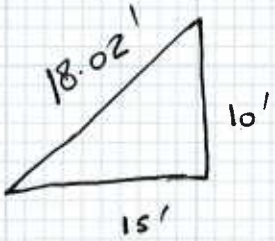
SUBJECT Weknight Pond Surface Area PROJECT NO. ____

BY CN - PS DATE / / CHECKED BY ____ DATE / /

Total Contour Area (Top) = 55,500 ft²

" " Bottom Area = 41,850 ft²

Pond Side Slope = 13,650 ft²



$A = LW$

$L = A/W = \frac{13{,}650\ ft^2}{15\ ft} = 910\ ft$

Surface Area = 910 × 18.02 = 16398 ft²

$16398\ ft^2 \times \frac{1\ yd^2}{9\ ft^2} = 1822\ sq\ yd$

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TABLE BLP

MARBLE ARNO POND 1:1 SLOPE AT 10' OFFSET FROM ROW

ELEVATION-STORAGE-DISCHARGE DATA (c)

grey box means must input data

Contour Elevation NGVD 1929	Contour Elevation NAVD 1988	Depth SWMM	Contour Area SWMM	Incremental Volume	Incremental Volume	Cumulative Volume
			Principal Spillway Orifice Diameter (inches)			
			Number of Orifices			
(ft)	(ft)		(sq ft)	(cu ft)	(ac-ft)	(ac-ft)
	(d)					
4946	4946.00	0	10498	0	0.0000	0.0000
4947	4947.00	1.0	11031	10765	0.2471	0.2471
4948	4948.00	2.0	35889	23460	0.5386	0.7857
4949	4949.00	3.0	36807	36348	0.8344	1.6201
4950	4950.00	4.0	37744	37276	0.8557	2.4758
4951	4951.00	5.0	38677	38211	0.8772	3.3530
4952.00	4952.36	6.0	39620	39149	0.8987	4.2518
4953	4953.00	7.0	40569	40095	0.9204	5.1722
4954	4954.00	8.0	41532	41051	0.9424	6.1146
4955	4955.00	9.0	42502	42017	0.9646	7.0792
4956	4956.00	10.0	43473	42988	0.9869	8.0660
4957	4957.00	11.0	44452	43963	1.0092	9.0753
4958	4958.00	12.0	45441	44947	1.0318	10.1071
			Total Volume (ft^3) =	440266		
			Total Volume (ac-ft) =	10.11		

APPENDIX 1.3

PROPOSED PLANS FOR SWMM MODEL OPTIONS MANHOLE, STORM DRAINS

Construction Plans for 10th St. and El Bordo Siphon Reconstruction and 96-inch Pipe Repairs Storm (Wilson & Company, May 25, 2011)