

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Watershed
<i>Minnetonka East</i>																										
801	2, 3	32.9	0.0	8.2	24.7	939.6	OC	N	NA	42	Hydrograph	NA	0.0		38.2	1	Modeling from GroTonka	NA	NA	32.9	NA	NA	0.18	0	0	801
802	3	30.8	1.3	5.9	23.6	927.2/ 932	12" with weir	N	927.2	12" with weir	Hydrograph	931.0	12.2		5.1	240	Existing conditions based on As-builts; Modeling from GroTonka	922.8	929.5	30.8	1.3	3.1	0.15	51.1	49.5	802
803	2, 3	7.0	0.0	1.7	5.2	946	OC	N	NA	18	Hydrograph	NA	0.0		14.7	1	Modeling from GroTonka	NA	NA	7.0	NA	NA	0.18	0	0	803
804	2, 3	32.2	2.6	10.4	19.2	927.2	18	N	927.2	27	Hydrograph	930.4	11.0		35.7	3	Modeling from GroTonka	922.4	928.5	32.2	2.6	3.6	0.25	47.5	57.8	804
805	2, 3	26.9	0.3	6.7	20.0	922.5	OC	HFP	917.8	48	Hydrograph	919.8	1.4		24.4	1	Modeling from GroTonka	916.9	918.5	26.9	0.3	0.3	0.18	9.7	9.7	805
806	2, 3	3.2	0.0	0.8	2.4	957.5	OC	N	NA	18	Hydrograph	NA	0.0		4.9	1	Modeling from GroTonka	NA	NA	3.2	NA	NA	0.18	0	0	806
807	2, 3	22.5	0.0	5.6	16.9	INA	18	N	NA	48	Hydrograph	NA	0.0		26.1	1	Existing pipe with overflow assumed to be adequate; Modeling from GroTonka	NA	NA	22.5	NA	NA	0.18	0	0	807
808	2, 3	17.1	0.0	4.3	12.8	INA	36	N	NA	36	Hydrograph	NA	0.0		44.4	1	Existing pipe with overflow assumed to be adequate; Modeling from GroTonka	NA	NA	17.1	NA	NA	0.18	0	0	808
809	2, 3	15.8	0.0	4.0	11.9	INA	36	N	NA	36	Hydrograph	NA	0.0		60.3	1	Existing pipe with overflow assumed to be adequate. Discharge diverted to north part of 804 for water quality purposes; Modeling from GroTonka	NA	NA	15.8	NA	NA	0.18	0	0	809
810	2, 3	19.4	0.5	4.7	14.2	941.2	OC	N	934	12	Hydrograph	937.2	3.3		1.3	3	Modeling from GroTonka	934.0	938.0	19.4	0.5	2.3	0.18	46	46	810
811	2, 3	26.1	0.0	6.5	19.6	INA	21	N	932.6	21	Hydrograph	936.0	2.2		21.9	2	Existing pipe with overflow assumed to be adequate; Modeling from GroTonka	932.6	936.5	26.1	NA	NA	0.18	0	19.6	811
812	1	18.6	0.0	4.6	13.9	939	OC	N	928.6	12	Volume Rtg	933.5	2.5	3.0		1		928.3	933.0	18.6	NA	NA	0.18	0	0	812

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%)	Total Phosphorus Removal (%) Total Watershed
813	1	17.0	0.3	4.2	12.5	943.6	OC	N	928	12	Volume Rtg	931.0	2.2	3.0	1		927.2	932.5	17.0	0.3	1.2	0.18	33.6	33.6	813	
814	1	30.0	5.2	6.2	18.6	928.3	OC	N	924	12	Volume Rtg	926.5	13.0	1.0	240		924.0	926.5	30.0	5.2	3.5	0.18	54.8	58.7	814	
815	1	9.0	0.0	2.3	6.8	943.6	18	N	NA	18	Volume Rtg	NA	0.0	24.0	0.5		NA	NA	9.0	NA	NA	0.18	0	0	815	
816	1	20.0	0.6	4.9	14.6	912.4	24	N	912.4	12	Volume Rtg	920.0	6.0	3.0	3		911.0	918.0	20.0	0.6	4.0	0.18	36.3	62.3	816	
817-1	2, 3	14.0	0.0	3.5	10.5	916.2	18	N	916.2	18	Hydrograph	919.0	2.8	47.7	3	Existing pipe with overflow assumed to be adequate; Modeling from GroTonka	NA	NA	14.0	NA	NA	0.18	0	46.5	817-1	
817-2	2, 3	18.6	0.0	4.7	14.0	915	OC	N	915	OC	Hydrograph	915.1	0.1	63.1	1	Existing outlet assumed to be adequate; Modeling from GroTonka	NA	NA	18.6	NA	NA	0.18	0	42.7	817-2	
817-3	2, 3	3.2	0.7	0.6	1.8	923.3	OC	N	922.5	12	Hydrograph	922.9	0.5	1.2	2	Modeling from GroTonka	NA	NA	3.2	0.7	3.4	0.18	56.9	56.9	817-3	
817A	2, 3	21.2	0.1	5.3	15.8	909.4	8" tile & 2-16	N	909.4	48	Hydrograph	911.7	5.0	59.6	3	Proposed pipe assumes flow over roadway; Modeling from GroTonka	NA	NA	21.2	0.1	0.6	0.18	1.2	40.1	817A	
817B	2, 3	90.7	22.6	13.6	54.5	905.5	24	N	905.5	24	Hydrograph	908.6	72.9	11.8	240	Modeling from GroTonka	908.0	913.0	90.7	22.6	2.0	0.15	38.3	60.5	817B	
818	1	32.7	0.7	8.0	24.0	906.4	12" tile & 24	N	906.4	24	Volume Rtg	908.0	4.0	12.0	96	Excavate emergency overflow at 908. Phase II of outlet to be constructed in 1996.	NA	NA	32.7	0.7	0.5	0.18	2.5	57.7	818	
819	1	55.0	0.8	13.5	40.6	905.1	10" tile & 36	N	905.1	12	Volume Rtg	908.0	8.8	1.0	240		904.0	908.0	55.0	0.8	1.1	0.18	29.5	29.5	819	
820	1	32.0	8.8	5.8	17.4	INA	12" tile	N	904.9	12	Volume Rtg	906.5	16.5	1.0	240		904.0	908.0	32.0	8.8	2.0	0.18	44	54.4	820	
821A	1	15.3	2.4	3.2	9.7	901.6	12" tile	N	901	OC	Volume Rtg	903.0	5.0	13.7	240		NA	NA	15.3	2.4	0.5	0.18	5.5	56.6	821A	
821B	1	18.3	0.0	4.6	13.7	898.8	24	N	898.8	24	Volume Rtg	903.0	7.8	13.7	240		900.0	903.0	18.3	NA	NA	0.18	0	55	821B	
821A-1	1	18.8	0.0	4.7	14.1	902.1	OC	N	902.1	OC	Volume Rtg	903.0	0.1	13.7	240	Existing outlet elevation estimated from topographic map. Existing outlet assumed to be adequate.	NA	NA	18.8	NA	NA	0.18	0	55.4	821A-1	
822	1	9.0	0.0	2.3	6.8	INA	36	N	NA	36	Hydrograph	NA	0.0	30.0	0.5		NA	NA	9.0	NA	NA	0.18	0	0	822	
903-3	1	28.5	4.1	6.1	18.3	895	36	N	895	36	Hydrograph	897.0	3.6	45.0	0.5		891.6	898.0	28.5	4.1	1.0	0.18	13.2	58.3	903-3	
Subtotal		685.7	51.0	156.7	477.9														685.7							Subtotal

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Watershed
<i>Ridgewood</i>																										
824	1	18.0	0.0	7.2	10.8	961	OC	N	NA	42	Volume Rtg	NA	0.0	58.0		0.5	Drainage area and discharge is approximate. Verify topographic information in Deephaven.	NA	NA	18.0	NA	NA	0.28	0	0	824
824-1	3, 6	19.3	0.5	4.7	14.1	914.15	2-12"	N	913.9	2-12"	Hydrograph	917.9	4.5	11.0	24	Drainage area and discharge is approximate. Verify topographic information in Deephaven; Existing conditions from As-builts; Modeling from Susan Lane	NA	NA	19.3	0.5	1.0	0.18	26.7	26.7	824-1	
824-2	3, 6	3.7	0.4	0.8	2.5	925	OC	N	913.3	12	Hydrograph	917.2	2.6	2.6	24	Discharge is approximate. Verify topographic information in Deephaven; Modeling from Susan Lane	911.7	915.0	3.7	0.4	1.0	0.18	20.4	40.1	824-2	
825	1	35.0	0.6	8.6	25.8	912	18	N	912	60	Volume Rtg	915.0	2.1	74.0		0.5	Drainage area and discharge is approximate. Verify topographic information in Deephaven.	911.0	915.0	35.0	0.6	1.0	0.18	19.5	38.7	825
826	1	77.0	12.0	16.3	48.8	919.8	OC	Y	911.5	21	Volume Rtg	913.0	19.0	18.0		3	Drainage area and criteria is approximate. Verify topographic and pond information in Deephaven.	NA	NA	77.0	12.0	2.0	0.18	43	54.7	826

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling														Water Quality Modeling						Subwatershed No.				
		Watershed Characteristics				Existing Conditions			Proposed Conditions							Historical Elevations ^C		PondNET Information								
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)		Mean Depth (ft)	Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Watershed
829	1	78.0	0.0	19.5	58.5	NA	NA	N	INA	NA	Volume Rtg	INA	INA	INA	NE	Drainage area is approximate. Verify topographic and pond information in Deephaven. Outlet to be installed by city of Deephaven. There are no wetlands within the Minnetonka city limits.	NA	NA	78.0	NA	NA	0.18	NE	NE	829	
830	1	27.0	0.0	6.8	20.3	915.5	OC	Y	905.9	NA	Volume Rtg	909.3	16.5		NE	Drainage area and criteria is approximate. Verify topographic information in Deephaven. There is approximately an additional 200 acres upstream area which drains to WS 830. Discharge not set due to lack of topographic information in Deephaven.	906.1	910.1	27.0	NA	NA	0.18	NE	NE	830	
832-1	1	22.1	0.8	5.3	16.0	903.4	18	N	903.4	12	Volume Rtg	906.7	2.8	1.0	1		903.4	905.0	22.1	0.8	3.0	0.18	47.3	53.1	832-1	
832-2	1	17.7	2.1	3.9	11.7	907.1	OC	Y	905.6	15	Volume Rtg	906.7	2.4	4.0	2		NA	NA	17.7	2.1	0.5	0.18	24.7	24.7	832-2	
833	10	105.0	0.0	26.3	78.8	885.62	18	N	885.2	NA	See Comment	887.5	23.0	0.0	32.0	NE	Storage is based on WMO's FE. Discharge set to Flood Insurance Study discharge; Existing condition based on As-builts (Ridgewood)	882.0	---	105.0	NA	NA	0.18	NE	NE	833

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling														Water Quality Modeling						Subwatershed No.					
		Watershed Characteristics				Existing Conditions			Proposed Conditions							Historical Elevations ^C		PondNET Information									
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)		Mean Depth (ft)	Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Total Watershed	
833A	2	30.0	1.1	7.2	21.7	901.2	Confirm Size	N	901.2	NA	Volume Rtg	904.0	3.9			NE	Drainage area is approximate. Verify topographic information in Deephaven. Discharge not set due to lack of topographic information; Need As-built information to verify existing outlet	NA	NA	30.0	1.1	1.5	0.18	NE	NE	833A	
833B	1	12.4	1.2	2.8	8.4	897	OC	N	897	NA	Volume Rtg	897.5	0.5			NE	Verify topographic information in Deephaven. Discharge not set due to lack of topographic information upstream.	NA	NA	12.4	1.2	0.5	0.18	NE	NE	833B	
834	1	8.7	0.0	3.0	5.7	885.2	18	N	NA	24	Volume Rtg	NA	0.0	24.0		0.5		NA	NA	8.7	NA	NA	0.25	0	0	834	
873-2	1	4.2	0.1	1.0	3.1	889.5	OC	N	888.9	18	Volume Rtg	889.5	0.1	10.0		0.5		NA	NA	4.2	0.1	2.0	0.18	44.1	44.1	873-2	
Subtotal		458.1	18.8	113.4	325.9															458.1							Subtotal

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.				
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information								
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Watershed	
<i>Purgatory</i>																											
835A	1	79.0	3.0	19.0	57.0	933.9	OC	N	933.9	OC	Volume Rtg	935.0	3.0	162.0	0.5	Drainage area is approximate. Verify topographic and pond information in Deephaven. Wetland area only includes area within the Minnetonka city limits. Existing outlet assumed to be adequate.	932.1	936.1	79.0	3.0	1.0	0.18	33.4	33.4	835A		
835B	1	4.6	0.1	1.1	3.4	925	12	N	925	60	Volume Rtg	928.1	0.4	170.0	0.5		NA	NA	4.6	0.1	2.0	0.18	10.8	39.6	835B		
836	1	4.1	1.1	0.8	2.3	934.6	12	N	934.6	12	Volume Rtg	935.3	1.0	1.0	2		932.0	933.0	4.1	1.1	2.0	0.18	48.4	48.4	836		
838	1	6.1	0.0	1.5	4.6	936.9	15	N	NA	24	Volume Rtg	NA	0.0	17.0	0.5		NA	NA	6.1	NA	NA	0.18	0	0	838		
839	10	6.5	0.3	1.6	4.7	935.06	12	N	933.9	12	Volume Rtg	938.4	1.3	1.0	2	Existing Conditions based on As-Built (2006 Street Rehabilitation)	937.4	940.0	6.5	0.3	2.0	0.18	45.8	45.8	839		
840	1	39.5	0.0	9.9	29.6	899	24	N	NA	72	Volume Rtg	NA	0.0	305.0	0.5		NA	NA	39.5	NA	NA	0.18	0	27.2	840		
840-3	1	2.0	0.1	0.5	1.4	933.5	OC	N	932.6	18	Volume Rtg	933.5	0.1	5.0	0.5	Discharge includes flow from 839.	NA	NA	2.0	0.1	2.0	0.18	46	46	840-3		
841	1	8.5	0.0	2.1	6.4	904	CB	N	NA	30	Volume Rtg	NA	0.0	25.0	0.5		NA	NA	8.5	NA	NA	0.18	0	0	841		
842	1	8.3	1.2	1.8	5.3	929	OC	N	920	12	Volume Rtg	921.3	1.2	2.0	2		915.1	916.5	8.3	1.2	4.0	0.18	59.1	59.1	842		
843	1	51.1	1.6	9.9	39.6	INA	INA	N	Invert	12	Volume Rtg	907.4	11.0	1.0	2	Set NE to existing invert + 1.5'.	908.0	910.4	51.1	1.6	2.0	0.15	45.1	45.1	843		
862	1	28.8	2.6	6.6	19.7	884.1	OC	N	884.1	12	Volume Rtg	885.7	5.5	1.0	12	Need to construct a berm.	884.0	885.5	28.8	2.6	0.5	0.18	24.5	24.5	862		
863	1	8.4	2.1	1.9	4.4	907.6	OC	Y	904.8	12	Volume Rtg	906.0	3.0	3.0	24		904.0	906.1	8.4	2.1	2.0	0.22	29.2	70.8	863		
863-2	1	11.2	0.2	2.7	8.2	911.8	OC	N	907.5	12	Volume Rtg	911.0	2.1	1.0	1		NA	NA	11.2	0.2	2.8	0.18	47.9	47.9	863-2		
864	1	4.9	0.3	1.2	3.5	931.5	OC	N	928	12	Volume Rtg	930.0	0.7	1.0	1		NA	NA	4.9	0.3	1.1	0.18	36.3	36.3	864		
865	1	18.9	2.9	5.6	10.4	914.4	OC	Y	910.8	12	Volume Rtg	911.8	3.4	2.0	12		910.0	911.5	18.9	2.9	3.0	0.25	53.1	55.8	865		
866	1	8.1	0.0	2.0	6.1	885.5	OC	N	NA	30	Volume Rtg	NA	0.0	25.0	0.5		NA	NA	8.1	NA	NA	0.18	0	0	866		
867	1	6.2	0.0	1.6	4.7	888	OC	N	NA	21	Volume Rtg	NA	0.0	17.0	0.5		NA	NA	6.2	NA	NA	0.18	0	0	867		
868	1	17.5	2.1	3.9	11.6	885	12	N	886.5	12	Volume Rtg	887.7	2.8	1.0	3	Need to construct a berm.	885.0	887.0	17.5	2.1	0.5	0.18	24.7	24.7	868		

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling														Water Quality Modeling						Subwatershed No.				
		Watershed Characteristics				Existing Conditions			Proposed Conditions							Historical Elevations ^C		PondNET Information								
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)		Mean Depth (ft)	Runoff Coefficient	Total Phosphorus Removal (%)	Total Phosphorus Removal (%) Total Watershed
869	1	15.1	0.0	3.8	11.3	921	OC	N	NA	42	Volume Rtg	NA	0.0	44.0		0.5		NA	NA	15.1	NA	NA	0.18	0	0	869
870	1	5.8	0.5	1.3	4.0	920.8	15	N	920.8	15	Volume Rtg	922.0	0.6	4.0		1		919.8	922.0	5.8	0.5	1.0	0.18	35.2	35.2	870
871	1	14.6	0.0	11.0	3.7	887.5	30	N	NA	30	Volume Rtg	NA	0.0	63.0		0.5	Existing pipe with overflow assumed to be adequate. Discharge includes flow from 871C.	NA	NA	14.6	NA	NA	0.49	0	0	871
871A	1	8.6	0.4	2.9	5.3	927.3	24	N	927.3	24	Volume Rtg	929.0	0.8	8.0		0.5		927.3	929.0	8.6	0.4	1.9	0.25	43.9	43.9	871A
871B	4, 7, 9	14.9	0.2	5.9	8.8	920.14	51 inch Arch	N	920	42	Hydrograph	922.5	0.9		23.0	0.5	Existing conditions based on As-built information; Modeling from Old Excelsior project; Modeled pipe size and invert not available in data provided	920.0	923.0	14.9	0.2	1.0	0.28	16.3	31.2	871B
871C	1	2.5	0.0	0.6	1.9	916	OC	N	NA	15	Volume Rtg	NA	0.0	8.0		0.5		911.6	915.0	2.5	NA	NA	0.18	0	0	871C
872	1	41.0	0.0	30.8	10.3	884.7	30	N	NA	54	Volume Rtg	NA	0.0	160.0		0.5		NA	NA	41.0	NA	NA	0.49	0	0	872
873	1	255.7	30.0	56.4	169.3	878.8	54x88	N	878.8	54x88	See Comment	886.5	122.0		160.0	NE	Discharge set to Flood Insurance Study discharge. FE from WMO.	883.0	---	255.7	30.0	1.5	0.18	NE	NE	873
873-1	1	4.4	0.5	1.0	2.9	893.5	OC	Y	892.5	12	Volume Rtg	893.5	0.5	3.0		1		NA	NA	4.4	0.5	2.0	0.18	48.1	48.1	873-1
918	1	114.2	10.0	52.1	52.1	879.2	72x113	N	879.2	72x113	See Comment	886.0	95.0		310.0	NE	Discharge set to Flood Insurance Study discharge. FE from WMO.	880.0	NA	114.2	10.0	0.5	0.34	NE	NE	918
918-1A	1	5.2	0.2	3.8	1.3	INA	INA	N	Invert	18	Volume Rtg	886.2	0.3	12.0		0.5	Set NE to existing pipe invert.	NA	NA	5.2	0.2	3.0	0.49	47.1	47.1	918-1A
928	1	24.8	0.0	6.2	18.6	894	OC	N	NA	48	Volume Rtg	NA	0.0	73.0		0.5		NA	NA	24.8	NA	NA	0.18	0	0	928
929	1	75.1	0.0	37.6	37.6	875.2	72	N	875.2	72	See Comment	884.0	45.0		630.0	NE	Discharge set to Flood Insurance Study discharge. FE from WMO.	NA	NA	75.1	NA	NA	0.34	NE	NE	929

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%)	Total Phosphorus Removal (%) Total Watershed
931	1	11.3	0.0	2.8	8.5	895.7	18	N	895.7	18	Volume Rtg	902.9	1.0	12.0		0.5		895.7	902.5	11.3	NA	NA	0.18	0	36.5	931
932	1	10.7	1.6	2.3	6.8	959.7	OC	N	957.5	12	Volume Rtg	958.5	1.7	1.0		3		952.0	954.0	10.7	1.6	3.4	0.18	56.4	56.4	932
933	1	7.0	0.2	1.7	5.1	957.5	OC	N	952	12	Volume Rtg	955.7	1.4	1.0		24		951.6	955.0	7.0	0.2	0.5	0.18	13.6	43	933
934	1	38.2	7.1	7.8	23.3	921.2	OC	Y	917.3	12	Volume Rtg	919.0	12.9	1.0		48		915.3	919.0	38.2	7.1	1.1	0.18	35.1	43.9	934
935	1	13.3	0.0	3.3	10.0	INA	15	N	NA	33	Volume Rtg	NA	0.0	39.0		0.5		NA	NA	13.3	NA	NA	0.18	0	0	935
936	1	19.8	0.0	5.0	14.9	932.3	CB	N	NA	42	Volume Rtg	NA	0.0	58.0		0.5		NA	NA	19.8	NA	NA	0.18	0	0	936
937	1	28.8	0.6	7.1	21.2	895.5	15	N	895.5	42	Volume Rtg	898.2	2.1	92.0		0.5	Need to construct a berm.	895.5	899.5	28.8	0.6	2.8	0.18	44.6	44.6	937
938-1	1	2.6	0.4	0.5	1.6	914	OC	N	912	12	Volume Rtg	913.5	0.7	1.0		1		NA	NA	2.6	0.4	3.0	0.18	54.7	54.7	938-1
938-6	1	3.9	0.6	0.8	2.4	875.6	21	N	875.6	21	Volume Rtg	876.4	0.4	5.0		0.5		NA	NA	3.9	0.6	1.0	0.18	28.8	43.2	938-6
938-8	1	3.1	0.6	0.6	1.9	885.6	OC	N	885.6	18	Volume Rtg	886.0	0.2	5.0		0.5	Need to construct a berm.	NA	NA	3.1	0.6	1.8	0.18	46.3	46.3	938-8
938A-1	1	18.3	0.9	4.4	13.1	877	OC	Y	875	18	Volume Rtg	877.0	2.3	5.0		1		NA	NA	18.3	0.9	2.5	0.18	49.7	49.7	938A-1
938A-N	1	148.8	20.0	32.2	96.6	868	OC	N	868	OC	Volume Rtg	877.0	100.5	NA		NE	Existing pipe assumed to be adequate. Due to complicated stream hydrology discharge not set. FE from WMO. Existing outlet elevation was estimated from topographic map.	NA	NA	148.8	20.0	0.5	0.18	NE	NE	938A-N
938A-S	1	7.1	0.8	1.6	4.7	866.5	42	N	866.5	42	Volume Rtg	877.0	18.5	NA		NE	Existing pipe assumed to be adequate. Due to complicated stream hydrology discharge not set. FE from WMO.	NA	NA	7.1	0.8	2.0	0.18	NE	NE	938A-S
938B-N1	1	20.1	2.9	4.3	12.9	868.5	OC	N	868.5	36	Volume Rtg	869.0	1.5	30.0		0.5	FE from WMO.	NA	NA	20.1	2.9	1.0	0.18	20.3	64.5	938B-N1
938B-S1	1	80.0	0.0	20.0	60.0	860	OC	N	860	OC	Volume Rtg	869.0	96.6	NA		NE	Existing outlet assumed to be adequate. Due to complicated stream hydrology discharge not set. FE from WMO. Existing outlet elevation was estimated from topographic map.	NA	NA	80.0	NA	NA	0.18	NE	NE	938B-S1

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Total Watershed
938B-N2	1	70.0	0.0	17.5	52.5	861	OC	N	861	OC	Volume Rtg	869.0	42.7	NA		NE	Existing outlet assumed to be adequate. Due to complicated stream hydrology discharge not set. FE from WMO. Existing outlet elevation was estimated from topographic map.	NA	NA	70.0	NA	NA	0.18	NE	NE	938B-N2
938B-S2	1	5.5	0.0	1.4	4.1	857	OC	N	857	OC	Volume Rtg	869.0	12.7	NA		NE	Existing outlet assumed to be adequate. Due to complicated stream hydrology discharge not set. FE from WMO.	NA	NA	5.5	NA	NA	0.18	NE	NE	938B-S2
939	1	29.7	0.0	7.4	22.3	883.7	OC	N	NA	66	Volume Rtg	NA	0.0	177.0		0.5	Discharge includes flow from 943.	NA	NA	29.7	NA	NA	0.18	0	10.3	939
940	1	20.3	2.0	4.6	13.8	873.9	60	N	873.9	60	Volume Rtg	876.0	5.0	213.0		0.5	Need to construct a berm. Existing pipe with overflow assumed to be adequate.	873.9	875.0	20.3	2.0	3.4	0.18	45.6	57.1	940
941	1	5.9	0.0	1.5	4.4	932.1	18	N	NA	18	Volume Rtg	NA	0.0	17.0		0.5		NA	NA	5.9	NA	NA	0.18	0	0	941
942	1	7.0	0.8	1.6	4.7	935.7	OC	Y	934.7	24	Volume Rtg	935.5	0.7	22.0		0.5		933.0	935.5	7.0	0.8	2.9	0.18	52.5	52.5	942
943	1	23.1	0.0	5.8	17.3	891.8	OC	N	NA	60	Volume Rtg	NA	0.0	90.0		0.5	Discharge includes flow from 942.	NA	NA	23.1	NA	NA	0.18	0	18.8	943
944	1	12.6	0.0	3.2	9.5	931.5	18	N	NA	36	Volume Rtg	NA	0.0	36.0		0.5		NA	NA	12.6	NA	NA	0.18	0	0	944
945	1	34.1	0.0	8.5	25.6	889.4	30	N	889.4	48	Volume Rtg	895.6	1.0	111.0		0.5		889.4	895.5	34.1	NA	NA	0.18	0	0	945
946-2	1	21.9	0.3	5.4	16.2	INA	18	N	Invert	66	Volume Rtg	880.0	0.5	174.0		0.5	Set NE to existing pipe invert.	NA	NA	21.9	0.3	0.5	0.18	9	29.7	946-2

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling														Water Quality Modeling						Subwatershed No.				
		Watershed Characteristics				Existing Conditions			Proposed Conditions							Historical Elevations ^C		PondNET Information								
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)		Mean Depth (ft)	Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Watershed
946-3	1	4.8	0.3	1.1	3.4	886	OC	N	886	60	Volume Rtg	886.5	0.2	121.0		0.5		NA	NA	4.8	0.3	2.0	0.18	32.4	32.4	946-3
947A	1	32.5	0.0	8.1	24.4	854.5	60	N	854.5	60	Volume Rtg	865.0	5.5	NA		NE	Existing pipe assumed to be adequate. Due to complicated stream hydrology discharge not set. FE from WMO.	NA	NA	32.5	NA	NA	0.18	NE	NE	947A
947B	1	47.4	5.0	10.6	31.8	852.3	2-48	N	852.3	2-48	Volume Rtg	862.0	66.0	NA		NE	Existing pipe assumed to be adequate. Due to complicated stream hydrology discharge not set. FE from WMO.	NA	NA	47.4	5.0	0.5	0.18	NE	NE	947B
948	1	2.6	0.8	0.5	1.4	906	12	N	906	12	Volume Rtg	906.5	0.4	2.0		1		905.0	906.0	2.6	0.8	3.0	0.18	55.1	55.1	948
949	1	5.6	0.7	1.2	3.7	903.5	OC	N	903.5	OC	Volume Rtg	904.0	0.4	10.0		0.5		903.5	905.0	5.6	0.7	2.3	0.18	45.9	55.4	949
949-1	1	7.9	1.0	1.7	5.2	904.4	OC	N	904.4	OC	Volume Rtg	905.0	0.6	10.0		0.5		903.5	905.0	7.9	1.0	2.2	0.18	49.4	49.4	949-1
950	1	7.7	1.5	1.6	4.7	900.2	12	N	900.2	12	Volume Rtg	903.5	5.9	1.0		6		900.2	902.0	7.7	1.5	5.1	0.18	54.8	70.9	950
Subtotal		1647.2	107.5	462.5	1077.2															1647.2						Subtotal

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling																Water Quality Modeling						Subwatershed No.		
		Watershed Characteristics				Existing Conditions			Proposed Conditions									Historical Elevations ^C		PondNET Information						
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)	Runoff Coefficient		Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Watershed
<i>Silver Lake Creek</i>																										
843A	1	365.0	0.0	91.3	273.8	896.5	15	N	896.5	NA	Volume Rtg	899.0	145.0	NA		NE	This watershed is outside the city limits. It is located adjacent to the southeast corner of the city. This drainage area contains Silver Lake. The drainage area is approximate. Verify topographic and wetland information in Shorewood. This watershed flows	896.5	897.7	365.0	See Comm.	See Comm.	0.18	See Comm.	See Comm.	843A
844	1	5.4	0.6	1.2	3.6	925	OC	N	922.9	12	Volume Rtg	924.0	0.8	1.0		2		NA	NA	5.4	0.6	0.6	0.18	28.6	28.6	844
844A	1	307.0	0.0	61.4	245.6	888	36x58	N	888	36x58	Volume Rtg	895.0	150.0	NA		NE	Existing pipe with overflow assumed to be adequate. Drainage area is approximate. Verify topographic and wetland information in Shorewood and Deephaven. Discharge not set due to lack of topographic information. This watershed flows to 853. FE from WMO. We	888.0	890.3	307.0	See Comm.	See Comm.	0.15	See Comm.	See Comm.	844A
845	1	36.7	5.0	7.9	23.8	971	OC	N	964	12	Volume Rtg	965.6	5.5	3.0		2	Drainage area and criteria is approximate. Verify topographic information in Deephaven.	NA	NA	36.7	5.0	4.0	0.18	59	59	845

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%)	Total Phosphorus Removal (%) Total Watershed
846	1	39.3	0.0	15.7	23.6	928.5	48	N	928.5	48	Volume Rtg	932.9	3.0	58.0		0.5		928.5	932.0	39.3	NA	NA	0.28	0	33.8	846
846A	1	11.6	0.4	4.5	6.7	952.6	24	N	961	24	Volume Rtg	963.0	1.1	13.0		0.5		NA	NA	11.6	0.4	4.1	0.28	36.2	66	846A
846-2	1	3.6	1.1	1.0	1.5	968.7	OC	N	964.9	12	Volume Rtg	965.9	1.2	3.0		24	Drainage area and discharge is approximate. Verify topographic information in Deephaven.	NA	NA	3.6	1.1	2.0	0.28	31.5	66.7	846-2
846-4	1	8.3	0.1	2.5	5.7	934.1	30	N	934.1	21	Volume Rtg	938.3	2.4	7.0		3	Existing pipe assumed to be adequate. Total P removal numbers are from proposed sedimentation pond located downstream of 846-4.	NA	NA	8.3	0.1	4.0	0.22	15.2	63.1	846-4
847	1	69.6	0.0	17.4	52.2	905	OC	N	905	OC	Volume Rtg	906.6	0.1	280.0		0.5		909.6	911.0	69.6	NA	NA	0.18	0	22.3	847
847A	1	5.0	0.5	1.1	3.4	922	OC	N	921.3	15	Volume Rtg	922.0	0.4	5.0		1		NA	NA	5.0	0.5	1.5	0.18	42.5	42.5	847A
847B	1	1.7	0.4	0.3	1.0	919.5	OC	N	919.5	OC	Volume Rtg	920.0	0.3	5.0		2		NA	NA	1.7	0.4	0.5	0.18	18.4	44.3	847B
848	1	4.8	0.0	1.2	3.6	939.2	18	N	NA	18	Volume Rtg	NA	0.0	13.0		0.5		NA	NA	4.8	NA	NA	0.18	0	0	848
849	1	6.9	1.7	1.3	3.9	910.9	18	N	910.9	18	Volume Rtg	911.5	1.0	3.0		1		910.9	911.5	6.9	1.7	4.9	0.18	62.8	62.8	849
850	1	122.0	0.0	30.5	91.5	902.3	42	N	902.3	42	Volume Rtg	906.6	14.4	287.0		0.5		908.0	910.0	122.0	NA	NA	0.18	0	15.1	850
851	1	23.7	4.0	4.9	14.8	894.8	24	N	894.8	24	Volume Rtg	900.4	14.8	145.0		2		894.8	899.0	23.7	4.0	0.5	0.18	15.4	27.4	851
852	1	39.2	1.3	9.5	28.4	900.2	15	N	900.2	12	Volume Rtg	902.7	7.3	1.0		12		900.2	902.5	39.2	1.3	0.5	0.18	22.1	22.1	852
853	1	23.9	1.0	5.7	17.2	887.2	36	N	887.2	36	Volume Rtg	893.0	36.0	NA		NE	Existing pipe assumed to be adequate. FE from WMO. There is 0.3' of freeboard at low house (5767 Vine Hill Road). Due to complicated stream hydrology discharge not estimated. Total P removal not estimated due to lack of U.S. information. Receives flow from	888.0	890.7	23.9	1.0	1.0	0.18	NE	NE	853
854	1	4.3	0.0	1.1	3.2	893	OC	N	NA	21	Volume Rtg	NA	0.0	16.0		0.5		NA	NA	4.3	NA	NA	0.18	0	0	854
855	1	15.5	0.0	3.9	11.6	887.1	OC	N	NA	33	Volume Rtg	NA	0.0	39.0		0.5		NA	NA	15.5	NA	NA	0.18	0	0	855

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

- 1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.
- 2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.
- 3 - Minor revisions to modeling required based upon review of as-built information.
- 4 - Modeling may need to be updated based on as-built information.
- 5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed
- 6 - Information regarding peak storage volume in updated modeling should be obtained.
- 7 - Information regarding the critical storm duration based upon updated modeling should be obtained.
- 8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.
- 9 - Modeled outlet size and invert not provided
- 10 - As-built provided but no updated modeling information
- 11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Watershed
856	1	4.3	0.0	1.1	3.2	893	OC	N	NA	21	Volume Rtg	NA	0.0	12.0		0.5		NA	NA	4.3	NA	NA	0.18	0	0	856
857	1	31.0	0.0	9.3	21.7	894.1	OC	N	NA	42	Volume Rtg	NA	0.0	55.0		0.5		NA	NA	31.0	NA	NA	0.22	0	0	857
858	1	2.6	0.0	0.7	2.0	905	OC	N	NA	15	Volume Rtg	NA	0.0	6.0		0.5		NA	NA	2.6	NA	NA	0.18	0	0	858
859	1	90.7	1.0	22.4	67.3	877	72x72	N	877	72x72	Volume Rtg	885.0	76.0	NA		NE	Existing pipe assumed to be adequate. Due to complicated stream hydrology discharge not estimated. FE from WMO. Total P removal not estimated due to lack of U.S. information.	878.0	880.5	90.7	1.0	2.0	0.18	NE	NE	859
860	1	15.4	0.0	3.9	11.6	INA	30	N	NA	30	Volume Rtg	NA	0.0	31.0		0.5		NA	NA	15.4	NA	NA	0.18	0	0	860
861	1	47.2	0.0	11.8	35.4	INA	24x36	N	Invert	24x36	Volume Rtg	869.0	7.0	NA		NE	Existing pipe assumed to be adequate. Set NE to invert of existing pipe. Due to complicated stream hydrology discharge not estimated. Total P removal not estimated due to lack of U.S. information. FE from WMO.	868.0	870.0	47.2	NA	NA	0.18	NE	NE	861
Subtotal		1284.7	17.1	311.4	956.2														1284.7							Subtotal

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling																Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions									Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)	Runoff Coefficient		Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Total Watershed	
Saddlewood																											
874	1	17.1	0.2	4.2	12.7	971.4	OC	N	959	12	Volume Rtg	964.0	2.1	4.0		1		958.1	965.0	17.1	0.2	0.6	0.18	21	21	874	
875	1	7.4	0.0	1.9	5.6	965.2	OC	N	NA	36	Volume Rtg	NA	0.0	36.0		0.5	Discharge includes flow from 874 and 878.	NA	NA	7.4	NA	NA	0.18	0	0	875	
876	1	20.7	4.0	4.2	12.5	912.4	12	N	912.4	12	Volume Rtg	913.8	6.6	5.0		12		912.0	913.5	20.7	4.0	1.5	0.18	40.7	44.2	876	
876A	1	9.1	0.0	2.3	6.8	923.3	18	N	923.3	33	Volume Rtg	927.6	0.6	34.0		0.5		NA	NA	9.1	NA	NA	0.18	0	8.7	876A	
877	1	49.6	0.8	12.2	36.6	909.4	12	N	909.4	33	Volume Rtg	913.0	4.3	30.0		0.5	Need to construct a berm.	909.4	912.5	49.6	0.8	2.0	0.18	29.9	47	877	
878	1	7.4	0.0	1.9	5.6	967.9	15	N	967.9	15	Volume Rtg	971.0	0.4	10.0		0.5		968.0	972.0	7.4	NA	NA	0.18	0	0	878	
879	1	15.3	0.2	3.8	11.3	966	OC	HFP	948.5	24	Volume Rtg	952.0	1.6	18.0		1		948.5	954.0	15.3	0.2	1.0	0.18	7.8	50.5	879	
880	1	7.0	0.0	1.8	5.3	961.3	15	N	961.3	15	Volume Rtg	967.3	0.2	17.0		0.5		959.6	965.0	7.0	NA	NA	0.18	0	54.4	880	
881	1	21.0	0.8	5.1	15.2	995.8	OC	N	994	12	Volume Rtg	995.8	2.2	9.0		1		994.0	997.0	21.0	0.8	2.0	0.18	45.2	45.2	881	
882	1	11.8	0.0	3.0	8.9	INA	18	N	NA	18	Hydrograph	NA	0.0			0.5		NA	NA	11.8	NA	NA	0.18	0	0	882	
883	1	10.2	1.1	2.3	6.8	984.1	OC	N	969.2	12	Volume Rtg	976.0	10.0	1.0		12		963.0	971.5	10.2	1.1	4.0	0.18	47.2	64.5	883	
884	1	10.1	0.7	2.4	7.1	996.2	OC	Y	992	12	Volume Rtg	993.9	1.6	3.0		1		986.0	990.5	10.1	0.7	5.0	0.18	57.7	65.4	884	
885	1	48.4	1.7	11.7	35.0	942.8	OC	HFP	927.1	24	Hydrograph	931.4	10.6			240	Assumes northeast part of watershed directed to pond.	926.0	929.5	48.4	1.7	1.0	0.18	22.5	46.8	885	
886	1	19.4	1.2	4.6	13.7	938	24	N	938	24	Hydrograph	941.2	5.8			240	Pond constructed as part of Tullamore Glen development. Existing pipe assumed to be adequate.	NA	NA	19.4	1.2	3.5	0.18	55.8	55.8	886	
886S	1	6.8	0.0	1.7	5.1	928	24	N	928	24	Hydrograph	931.4	0.7			1	Pond constructed as part of Tullamore Glen development. Existing pipe assumed to be adequate.	NA	NA	6.8	NA	NA	0.18	0	0	886S	

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

- 1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.
- 2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.
- 3 - Minor revisions to modeling required based upon review of as-built information.
- 4 - Modeling may need to be updated based on as-built information.
- 5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed
- 6 - Information regarding peak storage volume in updated modeling should be obtained.
- 7 - Information regarding the critical storm duration based upon updated modeling should be obtained.
- 8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.
- 9 - Modeled outlet size and invert not provided
- 10 - As-built provided but no updated modeling information
- 11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Watershed
887	1	19.7	1.5	4.6	13.7	968	OC	Y	963.8	12	Volume Rtg	966.0	3.0	1.0		3	Need pipe connecting ponds.	NA	NA	19.7	1.5	8.0	0.18	68.1	68.1	887
888	1	4.0	0.5	0.9	2.6	1015.4	OC	N	1015.4	OC	Volume Rtg	1016.0	0.7	3.0		0.5		1003.5	1006.0	4.0	0.5	5.5	0.18	63.6	63.6	888
889	1	12.0	0.0	3.0	9.0	943.7	18	N	NA	30	Volume Rtg	NA	0.0	29.0		0.5		NA	NA	12.0	NA	NA	0.18	0	0	889
900	1	14.4	0.0	3.6	10.8	NA	18	N	NA	36	Volume Rtg	NA	0.0	47.0		0.5		NA	NA	14.4	NA	NA	0.18	0	0	900
901	2	15.1	1.5	3.4	10.2	906.1	36	N	906.1	36	Hydrograph	910.0	7.6		37.0	1	Existing conditions assumed to be the same as proposed; Review of As-builts needed	906.1	910.0	15.1	1.5	20.0	0.18	63.7	77.1	901
902	1	9.9	0.0	2.5	7.4	905	OC	N	NA	24	Volume Rtg	NA	0.0	32.0		0.5		NA	NA	9.9	NA	NA	0.18	0	0	902
903	1	15.1	1.7	3.4	10.1	911	OC	N	906.5	12	Volume Rtg	907.6	2.1	1.0		1		904.7	907.0	15.1	1.7	4.0	0.18	58.8	58.8	903
904	1	71.7	4.0	16.9	50.8	891.6	24	N	891.6	18	Volume Rtg	893.5	31.0	7.0		24		891.6	894.5	71.7	4.0	1.5	0.18	20.1	63.5	904
904-1	1	37.2	0.0	9.3	27.9	888.3	18	N	888.3	18	Volume Rtg	893.5	16.0	2.0		24		NA	NA	37.2	NA	NA	0.18	0	12.9	904-1
917	1	11.2	0.9	2.6	7.7	910.7	12	N	910.7	12	Volume Rtg	912.1	1.4	4.0		1	Flood elevation and storage is based on existing pipe. At the proposed FE there is 0.3' of freeboard at low house. Existing pipe assumed to be adequate.	906.7	911.0	11.2	0.9	3.4	0.18	55.6	55.6	917
Subtotal		471.6	20.8	112.7	338.1														471.6							Subtotal

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.

3 - Minor revisions to modeling required based upon review of as-built information.

4 - Modeling may need to be updated based on as-built information.

5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed

6 - Information regarding peak storage volume in updated modeling should be obtained.

7 - Information regarding the critical storm duration based upon updated modeling should be obtained.

8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.

9 - Modeled outlet size and invert not provided

10 - As-built provided but no updated modeling information

11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling															Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions								Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)		Runoff Coefficient	Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Total Watershed
<i>Fair Hills</i>																										
905	1	7.4	0.0	5.9	1.5	1026.8	OC	N	NA	36	Volume Rtg	NA	0.0	51.0		0.5	Discharge includes flow from 906.	NA	NA	7.4	NA	NA	0.52	0	0	905
906	1	23.0	1.6	5.4	16.1	1025.1	OC	N	1022.6	21	Volume Rtg	1024.0	2.5	11.0		1		1015.0	1019.0	23.0	1.6	3.8	0.18	57.1	57.1	906
907	1	6.7	0.0	6.4	0.3	1020	OC	N	NA	54	Volume Rtg	NA	0.0	70.0		0.5	Discharge includes flow from 905.	NA	NA	6.7	NA	NA	0.61	0	0	907
908	1	31.2	2.8	7.1	21.3	1004.1	OC	N	986	12	Volume Rtg	992.0	21.0		4.0	96	Pumped Outlet.	985.5	993.0	31.2	2.8	8.0	0.18	62	69.6	908
908-1	1	5.7	0.2	1.4	4.2	1037.7	OC	Y	1035	15	Volume Rtg	1037.7	0.5	5.0		0.5		NA	NA	5.7	0.2	2.0	0.18	44	44	908-1
909	1	13.2	1.5	2.9	8.8	1004	OC	Y	1001.7	12	Volume Rtg	1003.0	4.0		3.0	1		998.5	1001.5	13.2	1.5	4.4	0.18	60.3	60.3	909
910	1	20.3	2.5	4.5	13.4	962.7	OC	N	953.4	12	Volume Rtg	956.5	8.0		4.0	240		954.5	956.5	20.3	2.5	2.0	0.18	26.8	70.3	910
911	8	9.9	0.2	2.4	7.3	953	45	N	953	15	Volume Rtg	957.5	1.2	4.0		1	Existing conditions assumed to be the same as proposed; Review of As-builts needed	951.1	956.5	9.9	0.2	2.0	0.18	7	67.9	911
912	1	20.7	0.4	5.1	15.2	934.5	15	N	934.5	15	Volume Rtg	938.8	4.6		12.0	1		934.0	938.8	20.7	0.4	1.6	0.18	10	63.4	912
913	1	10.5	1.1	2.4	7.1	922.7	24	N	922.7	12	Volume Rtg	925.0	3.4	4.0		12		922.7	924.0	10.5	1.1	1.0	0.18	11.1	64.2	913
914	1	12.8	0.2	3.2	9.5	918	24	N	918	12	Volume Rtg	920.0	1.9	3.0		1		920.6	922.0	12.8	0.2	0.5	0.18	2	60.6	914
915	1	21.0	0.3	5.2	15.5	946.8	OC	N	935.6	12	Volume Rtg	941.7	3.3		4.0	1		934.5	942.0	21.0	0.3	2.8	0.18	46.2	46.2	915
916	1	52.5	0.4	13.0	39.1	907.5	15	N	907.5	30	Volume Rtg	913.0	5.4		50.0	1		907.5	914.5	52.5	0.4	2.0	0.18	10.7	53.1	916
918A	1	12.7	0.0	3.2	9.5	890.2	80	N	890.2	30	Volume Rtg	897.5	2.0		55.0	1		890.2	898.0	12.7	NA	NA	0.18	0	50.6	918A
Subtotal		247.6	11.2	67.9	168.6														247.6							Subtotal

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

- 1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.
- 2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.
- 3 - Minor revisions to modeling required based upon review of as-built information.
- 4 - Modeling may need to be updated based on as-built information.
- 5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed
- 6 - Information regarding peak storage volume in updated modeling should be obtained.
- 7 - Information regarding the critical storm duration based upon updated modeling should be obtained.
- 8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.
- 9 - Modeled outlet size and invert not provided
- 10 - As-built provided but no updated modeling information
- 11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Table 3-14d Watershed Data, Hydrologic Modeling, and Water Quality Modeling Summary

City of Minnetonka, Water Resources Management Plan

Purgatory Creek Watershed

Subwatershed No.	Foot Notes ^A	Hydrologic Modeling																Water Quality Modeling						Subwatershed No.			
		Watershed Characteristics				Existing Conditions			Proposed Conditions									Historical Elevations ^C		PondNET Information							
		Total Area (Ac)	Water Area (Ac)	Impervious Area (Ac)	Turf Area (Ac)	Existing Outlet Elevation	Existing Outlet Size (in)	Land-Locked?	Proposed Normal Elevation	Proposed Outlet Size (in) Approx ^B	Hydrologic Evaluation Method	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Storage (Ac-ft)	Average Discharge (cfs)	Peak Discharge (cfs)	Critical Storm Duration (hrs)	Comments	Normal Elevation	1% Annual Exceedance Probability Storm (100-yr) Flood Elevation	Total Direct Watershed Area (Ac)	Pond Area (Ac)	Mean Depth (ft)	Runoff Coefficient		Total Phosphorus Removal (%) Pond	Total Phosphorus Removal (%) Total Watershed	
<i>Clear Springs</i>																											
919	1	12.6	0.0	3.2	9.5	NA	OC	N	NA	30	Volume Rtg	NA	0.0	31.0		0.5		NA	NA	12.6	NA	NA	0.18	0	0	919	
920	1	30.6	2.2	7.1	21.3	914.5	24	N	914.5	12	Volume Rtg	917.5	6.5	3.0		1		914.8	918.0	30.6	2.2	1.0	0.18	34.2	34.2	920	
921	1	8.2	0.4	2.0	5.9	913.3	30	N	913.3	24	Volume Rtg	914.4	0.6	12.0		0.5		914.0	914.4	8.2	0.4	0.5	0.18	11.7	37.1	921	
922	1	19.0	0.0	4.8	14.3	928.9	OC	N	NA	33	Volume Rtg	NA	0.0	37.0		0.5		NA	NA	19.0	NA	NA	0.18	0	0	922	
923	1	24.5	0.2	6.1	18.2	916.5	24	N	916.5	24	Volume Rtg	920.0	2.5	10.0		1		916.5	920.0	24.5	0.2	0.6	0.18	16.6	16.6	923	
924	1	22.3	4.5	4.5	13.4	914.3	24	N	915	12	Volume Rtg	917.0	9.0	3.0		6		914.3	917.5	22.3	4.5	1.0	0.18	33.8	37.5	924	
925	1	6.1	0.0	1.5	4.6	927.3	OC	N	NA	21	Volume Rtg	NA	0.0	15.0		0.5		NA	NA	6.1	NA	NA	0.18	0	0	925	
926	1	7.3	0.0	1.8	5.5	900.1	36	N	900.1	36	Volume Rtg	903.5	0.1	42.0		0.5		902.0	903.5	7.3	NA	NA	0.18	0	35.3	926	
927	1	13.3	0.0	3.3	10.0	INA	36	N	NA	42	Volume Rtg	NA	0.0	73.0		0.5		NA	NA	13.3	NA	NA	0.18	0	32	927	
<i>Subtotal</i>		143.9	7.3	34.2	102.5															143.9						<i>Subtotal</i>	
TOTAL		4938.7	233.7	1258.8	3446.2															4938.7						TOTAL	

Abbreviations: INA - Information Not Available; OC - Outlet is an Open Channel; NA - Not Available; Y - Yes; N - No; HFP - High Flood Potential; DNR - Minnesota Department of Natural Resources; PWC - DNR Public Watercourse; PD - DNR Public Ditch; US - Upstream; WQ - Water Quality; Const. - Construction

A -

- 1 - Numbers shown are preliminary estimates taken from the 1999 WRMP. A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.
- 2 - Numbers shown are preliminary estimates taken from the 1999 WRMP, as revised by updated modeling to evaluate changes in upstream watersheds (no change in proposed outlet from 1999 WRMP). A detailed hydrologic and hydraulic analysis considering multiple storm durations should be performed as part of final design.
- 3 - Minor revisions to modeling required based upon review of as-built information.
- 4 - Modeling may need to be updated based on as-built information.
- 5 - As-builts reflect conditions similar to 1999 WRMP proposed conditions, therefore modeling results from 1999 WRMP assumed to hold true. Updated modeling should be reviewed
- 6 - Information regarding peak storage volume in updated modeling should be obtained.
- 7 - Information regarding the critical storm duration based upon updated modeling should be obtained.
- 8 - Assumed outlet size and invert installed as proposed in 1999 WRMP. Needs to be verified with as-builts.
- 9 - Modeled outlet size and invert not provided
- 10 - As-built provided but no updated modeling information
- 11 - Outlets observed in the field; no modeling information related to flood elevations or discharge - modeling required

B - Bold Values in this column indicate that the proposed outlet conditions are different than the existing outlet conditions

C - From City of Minnetonka 1982 Water Resource Management Plan

- Values shown in Strikeout are taken from the 1999 WRMP, but may no longer be applicable. As-builts and modeling may be required to update stricken values