APPENDIX C
TECHNICAL MEMORANDUM NO. 1

Hydraulic and Hydraulic Modeling Methodology and Results

TECHNICAL MEMORANDUM No. 1

TO: Bruce Moser, City of Corvallis

FROM: Jim Hansen, Brown and Caldwell

DATE: December 2000

PREPARED BY: Dale Lough, Brown and Caldwell

REVIEWED BY: Steve Merrill, Brown and Caldwell

SUBJECT: Hydrologic/Hydraulic Modeling Methodology and Results

PROJECT: Corvallis Stormwater Master Plan

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1.0 INTRODUCTION

Dixon Creek, Squaw Creek, Sequoia Creek, Jackson Creek, Frazier Creek, Oak Creek, Village Green Creek, the Garfield area, and portions of South Corvallis and the Marys River drainage were modeled as part of the City of Corvallis (City) Stormwater Master Plan (SWMP) project. This technical memorandum describes the model selection, modeling methodology, calibration, and the model results. The physical parameters and assumptions used in the modeling are described in the modeling methodology section of this technical memorandum.

2.0 MODEL SELECTION

XP-SWMM was selected as the model for this project. This model is currently used by the City and allows for a detailed examination of flooding, backwater, and velocity issues within the pipes and open channels that comprise the stormwater conveyance system. SWMM, the core component of XP-SWMM, has been applied extensively to similar projects throughout this country and others. The U.S. Environmental Protection Agency maintains SWMM, with support from Oregon State University. XP-SWMM version 5.2 is the release used throughout the project.

3.0 MODELING METHODOLOGY

The following subsections describe the methods used to calculate the model parameters. The subsections include subwatershed delineation, design storms, runoff parameters, conveyance system, and modeling scenarios.

3.1 Watershed/Subwatershed Delineation

Based on topography, stormwater conveyance system and likelihood of future development, each tributary basin was divided into subbasins as shown in Figures 1 and 2. The subbasins range in size from 0.7 to 2,352 acres, and form the hydrologic units of the model. Oak Creek contains the largest number of subbasins due to its location outside of the urban growth boundary. See Table TM1-1 for detailed watershed information.

Table TM1-1. Watershed and Subwatershed Areas

Watershed name	Watershed, acres	Number of subwatersheds	Subwatershed minimum, acres	Subwatershed mean, acres	Subwatershed maximum, acres
Dixon Creek	2,712	96	2	28	250
Frazier Creek	2,254	12	39	188	424
Garfield Creek	346	12	5	29	151
Jackson Creek	1,798	9	109	200	316
Marys River	78	3	12	26	44
Oak Creek	8,308	30	21	277	2,352
Sequoia Creek	1,357	25	10	54	233
South Corvallis (Goodnight)	298	23	0.7	13	48
South Corvallis (Millrace)	349	6	19	44	84
Squaw Creek	2,363	31	12	76	468
Village Green Creek	380	9	7	42	77
Total	**20,243**	**256**			

3.2 Design Storm

The design storm utilized for this project was the rainfall pattern from December 24 to 29, 1998 (see Table A-1 in the Appendix). During this 5-day period, 5.15 inches of rain fell, 3.64 inches of which fell in the 24-hour period beginning at 1:00 p.m. on December 27. This 24-hour intensity is approximately equal to the 10-year event for Corvallis predicted by the Oregon Climate Service. (The 10-year event has a 10 percent chance of occurring in any given year or, in other words, is expected to occur on average once in every 10 years). The days before and after the critical 24 hours were included in the model runs to allow the model time to come to equilibrium. The entire December 24 to 29, 1998 storm distribution is graphed in TM1-3.

The rainfall distribution for the other storms modeled, the 2-, 5-, 25-, and 100-year storms, was obtained by multiplying the 10-year storm volume by the factors listed in Table TM1-2.

Table TM1-2. Design Storm Rainfall Multiplier

Return Frequency (years)	2	5	10	25	100
Multiplier	0.7	0.8	1.0	1.1	1.3

The rainfall date used for modeling comes from a City-maintained rainfall gauge at the wastewater treatment plant. The treatment plant is located in the valley portion of the watershed just to the west of the Willamette River. It has been observed that rainfall amounts measured in the headwaters of several basins (Jackson, Frazier, and Oak Creeks) are typically higher than those measured at the Corvallis Wastewater Treatment Plant. In order to account for this difference, the modeled rainfall amounts in several upper-basin subbasins of Jackson, Frazier, and Oak Creek were adjusted based on average rainfall data for Benton County mapped by the Oregon Climate Service. Jackson and Frazier Creeks' modeled rainfall amounts were adjusted upward by 17 percent. Oak Creek's modeled rainfall amount was adjusted upward by 33 percent.

Adjusted real storm data was used in lieu of the traditional synthetic design storms, such as the Soil Conservation Service (SCS) Type IA distribution, to more closely approximate runoff peaks and volumes found in Corvallis. The SWMM model reflects that peak flows in storm water systems are highly dependent on antecedent conditions. The peak flow rate generated from a given storm may have a greater recurrence interval than the rainfall, due to prior rainfall saturation of the soil and increasing runoff. Huber *(Stormwater Management Model User's Manual, Version III*, Huber, et. al., 1981) makes note of this effect by pointing out that design storms constructed from SCS distributions and 24-hour rainfall volumes create higher peaks and lower total volumes than are observed in long (40+ year) simulations with actual rainfall. The SCS distributions do not account for antecedent rainfall and allow too much of the rainfall to infiltrate at the beginning of the storm.

In the Northwest, rainfall with a Type IA distribution occurs at a much lower frequency than 24-hour rainfall volumes. Thus, using an SCS Type IA distribution with a 10-year rainfall volume may result in an event with a probability of occurrence lower than once in 10 years.

3.3 Runoff Parameters

This section describes the parameters utilized in the RUNOFF block of the SWMM program. The RUNOFF block calculates the amount of runoff originating from each subwatershed in the models. Values for the runoff parameters, including impervious percentage, width, and slope, are listed in Table A-2 in the Appendix.

3.3.1 Impervious Area

The mapped impervious percentages assigned to each land use were based on measurements of impervious areas shown on Geographic Information System (GIS) maps of representative land uses in Corvallis. The percentages were then applied to existing land use reported in the Corvallis tax lot coverage, and future land use based on comprehensive plan zoning. Present and future information is presented in Tables TM1-3 and TM1-4, respectively.

Table TM1-3. Imperviousness by Land Use, Present

Zoning	COMM	COMH	IND	OSA	OSF	PUB	RESL	RESM	RESH	VAC
Description	Commercial, medium	Govern-ment, high	Industrial	Open space/ agricultural	Open space/ forested	Public/ institu-tional	Single family residential light	Single family residential medium	Single family residential heavy	Vacant
Mapped impervious cover %	88	88	60	15	5	70	40	50	63	10

Table TM1-4. Imperviousness by Land Use, Future

Zoning	COMM	COMH	INDL	INDM	INDH	OSA	OSC	OSF	PUB	RESL	RESM	RESH	RT
Description	Commer-cial, medium	Commer-cial, high	Industrial, low	Industrial, medium	Industrial, high	Open space/ agricultural	Open space/ conserva tion	Open space/ forested	Public/ institu-tional	Single family residential light	Single family residential medium	Single family residential heavy	Research technology
Mapped impervious cover %	87	90	51	61	65	15	5	5	70	40	50	63	76

The effective impervious percentages, those areas directly connected to the conveyance system, were calculated for each subwatershed based upon the degree to which the conveyance system is piped in that location. An area with rooftops that drain to lawns or ditches instead of draining to curbs and gutters have less effective impervious areas than those directly connected to pipes. Formulas developed in previous studies for the Portland area were used for this conversion (Sutherland, 1987). The effective impervious area was then plugged into the SWMM model as the impervious percent for each subwatershed.

3.3.2 Pervious Area

Fine-grained soils found in Corvallis contribute to the high rate of runoff in the watersheds that were modeled. The main factor that determines how much water can infiltrate into the ground in previous areas is the soil type. The SCS recognizes four hydrologic soil types, A, B, C, and D. Type D soils are made up of clays that have the lowest infiltration rates of the four soil types, resulting in the most runoff. About 60 percent of the soils are classified as SCS (USDA, 1986) Hydrologic Type D soils. Type C soils are fine silts, with slightly higher infiltration rates. They make up 28 percent of the soils in the area. About 12 percent of the soils are classified as Type B silts or fine sands. A negligible amount of the coarser, more quickly draining Type A sands are also present.

Infiltration from pervious areas was computed by means of the Green-Ampt equations (Huber, 1992). This method makes use of physically based parameters that can be predicted for various soil types. Base parameters were taken from literature and then modified to reflect calibration data where possible. To better reflect the saturated soil conditions during the prolonged winter storms in the Corvallis area, the model was constructed with a very low value for the hydraulic conductivity.

3.3.3 Subbasin Width

The width parameter in SWMM is related to the time of concentration. This parameter is typically estimated by dividing the total subbasin area by its maximum length of overland flow. The maximum length and area are determined with the GIS for each subbasin.

3.3.4 Subbasin Slope

The subbasin slope is the average slope along the various pathways of overland flow. This value is used for the portions of the subbasin in which runoff is not confined within a channel or pipe.

3.4 Conveyance System

The Corvallis conveyance system consists mainly of urban streams with culverts and bridges at road crossings and a pipe system that transports runoff to the streams from upland areas.

Pipe/culvert size, slope, and elevations used in the model were based upon:

- Information provided by City staff
- Site visits by the modelers

Not all pipes in the system were modeled, due to scope limitations that confined efforts to the main stream channels. The modeling did include chronic problem areas within the watershed outside of the main channels that were reported by residents and City staff.

When slopes were not available, they were estimated based upon computerized topographic maps. Details of the modeled conveyance system are provided in the Appendix as Tables A-3 and A-4.

The width, depth, and other channel cross-section information was based on selected stream segments surveyed by City crews. Channel conditions, such as bank roughness, were based on site visits by the consultant team.

A hydraulic model, such as SWMM, allows excess flows to back up behind a constriction in the system. These flows can then be lost to the system, stored until they can pass the constriction, or passed downstream through an overflow route. In the Corvallis model, excess flows were handled in different ways depending on the situation. In piped systems, flows were allowed to back up in

upstream manholes and stored until they could be passed downstream. At culverts and bridges, they were allowed to back up behind the structure up to the elevation of the roadway, at which point they were routed downstream. In open channels, flows which exceeded the base channel capacity were contained within the overbank, where they were slowed down.

3.5 Modeling Scenarios

Two scenarios were modeled for the master plan. The first examined the existing conditions within each basin. The second projected flows into the future by utilizing the City of Corvallis Draft Comprehensive Plan. Existing flows were modeled in order to compare results with field observations. Future flows were modeled to identify problem areas.

4.0 CALIBRATION

No gauged flow or flood stage data was available for model calibration during this study. Instead, model results were mainly compared to reports on water elevations during storm events provided by City staff and the public. The best elevation data available for this study were water surface elevations reported during the December 24 to 29, 1998 storm. These model results were compared to the new XP-SWMM models. Table TM1-5 presents the results of the calibration effort for Dixon and Squaw Creeks, the two creeks for which City staff recorded water levels during the storm.

Table TM1-5. Calibration Results

Location	Reported Elevation, feet	Modeled Elevation, feet
Dixon Creek		
9th Street Bridge	217.8	218.6
Grant Avenue Bridge	224.2	225.4
Garfield Avenue Bridge	228.3	228.3
Circle Boulevard Bridge	240.0	240.2
Squaw Creek		
Knollbrook Place Bridge	225.7	228.6
Country Club Place Culverts	237.5	237.6

Other sources were also used for comparison purposes. The City's map of flooded roads and high water during the February 1996 storm were used, as were reports of flooding and erosion problems from the public. In addition, flows modeled during the Corvallis Drainage Master Plan (CH_2M Hill, 1981), were also analyzed, although this earlier effort also lacked gauged data for comparison.

5.0 MODEL RESULTS

Peak flow results were used to determine the adequacy of pipe, culverts, and bridges. If the peak flow predicted by the model exceeded the pipe full or bank full capacity of a conduit, the conduit was considered undersized. Backwater effects from constrictions or hydraulic transitions may also cause capacity problems. Surcharged or flooded nodes results were used to determine problem areas resulting from backwater effects. Refer to Table A-5 in the Appendix for flow results.

Peak velocity results were used to evaluate the potential for erosion in the modeled channels. A description of the range of velocities of concern is presented in Chapter 4 of the SWMP. Refer to Table A-6 in the Appendix for modeled velocities.

Much of the flooding reported by citizens was the result of backwater effects from the Marys and Willamette Rivers. The modeling did not examine flooding due to this, because it is beyond the City's ability to control.

6.0 REFERENCES

Huber, W. C., J. P. Heaney, L. J. Nix, R. E. Dickinson, and D. J. Pulmann, "Stormwater Management Model User's Manual, Version III", EPA 600/2-84-109a (NTIS PB84-198432), November 1981.

Huber, W. C., and R. E. Dickinson, "Storm Water Management Model, Version 4: User's Manual", EPA/600/3-88/001a (NTIS PB88-236641/AS), October 1992.

Sutherland, R. C., 1987. Methodology for estimating effective impervious area for natural, partially urbanized, and urban watersheds based on published U.S.G.S. data for watersheds throughout the metropolitan areas of Portland and Salem, Oregon.

USDA, 1986. Urban Hydrology for Small Watersheds. Soil Conservation Service Technical Release 55.

TABLE A-1

DECEMBER 24 – 29, 1998
STORM DISTRIBUTION

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	24	11:58	0		Dec	24	16:19	0		Dec	24	20:40	0
Dec	24	12:03	0		Dec	24	16:24	0		Dec	24	20:45	0
Dec	24	12:09	0		Dec	24	16:29	0		Dec	24	20:50	0.01
Dec	24	12:14	0		Dec	24	16:35	0		Dec	24	20:55	0.01
Dec	24	12:19	0		Dec	24	16:40	0		Dec	24	21:01	0
Dec	24	12:24	0		Dec	24	16:45	0		Dec	24	21:06	0.01
Dec	24	12:29	0		Dec	24	16:50	0.01		Dec	24	21:11	0.01
Dec	24	12:34	0		Dec	24	16:55	0		Dec	24	21:16	0
Dec	24	12:39	0		Dec	24	17:00	0		Dec	24	21:21	0
Dec	24	12:44	0		Dec	24	17:05	0		Dec	24	21:26	0.01
Dec	24	12:49	0		Dec	24	17:10	0		Dec	24	21:31	0
Dec	24	12:55	0		Dec	24	17:15	0.01		Dec	24	21:36	0
Dec	24	13:00	0		Dec	24	17:21	0.01		Dec	24	21:41	0
Dec	24	13:05	0		Dec	24	17:26	0		Dec	24	21:47	0
Dec	24	13:10	0		Dec	24	17:31	0		Dec	24	21:52	0
Dec	24	13:15	0		Dec	24	17:36	0		Dec	24	21:57	0
Dec	24	13:20	0		Dec	24	17:41	0		Dec	24	22:02	0.01
Dec	24	13:25	0		Dec	24	17:46	0.01		Dec	24	22:07	0
Dec	24	13:30	0		Dec	24	17:51	0		Dec	24	22:12	0
Dec	24	13:35	0		Dec	24	17:56	0		Dec	24	22:17	0
Dec	24	13:41	0		Dec	24	18:01	0		Dec	24	22:22	0.01
Dec	24	13:46	0		Dec	24	18:07	0.01		Dec	24	22:27	0
Dec	24	13:51	0		Dec	24	18:12	0		Dec	24	22:33	0
Dec	24	13:56	0		Dec	24	18:17	0		Dec	24	22:38	0.01
Dec	24	14:01	0		Dec	24	18:22	0		Dec	24	22:43	0
Dec	24	14:06	0		Dec	24	18:27	0		Dec	24	22:48	0
Dec	24	14:11	0		Dec	24	18:32	0		Dec	24	22:53	0
Dec	24	14:16	0		Dec	24	18:37	0.01		Dec	24	22:58	0
Dec	24	14:22	0		Dec	24	18:42	0		Dec	24	23:03	0
Dec	24	14:27	0		Dec	24	18:48	0		Dec	24	23:08	0
Dec	24	14:32	0		Dec	24	18:53	0		Dec	24	23:14	0
Dec	24	14:37	0		Dec	24	18:58	0		Dec	24	23:19	0
Dec	24	14:42	0		Dec	24	19:03	0		Dec	24	23:24	0
Dec	24	14:47	0		Dec	24	19:08	0		Dec	24	23:29	0
Dec	24	14:52	0		Dec	24	19:13	0		Dec	24	23:34	0
Dec	24	14:57	0		Dec	24	19:18	0		Dec	24	23:39	0
Dec	24	15:02	0		Dec	24	19:23	0		Dec	24	23:44	0
Dec	24	15:08	0		Dec	24	19:28	0		Dec	24	23:49	0
Dec	24	15:13	0		Dec	24	19:34	0		Dec	24	23:54	0
Dec	24	15:18	0		Dec	24	19:39	0		Dec	25	0:00	0.01
Dec	24	15:23	0		Dec	24	19:44	0		Dec	25	0:05	0
Dec	24	15:28	0		Dec	24	19:49	0		Dec	25	0:10	0
Dec	24	15:33	0		Dec	24	19:54	0		Dec	25	0:15	0
Dec	24	15:38	0		Dec	24	19:59	0		Dec	25	0:20	0
Dec	24	15:43	0		Dec	24	20:04	0		Dec	25	0:25	0
Dec	24	15:48	0		Dec	24	20:09	0		Dec	25	0:30	0
Dec	24	15:54	0		Dec	24	20:14	0		Dec	25	0:35	0
Dec	24	15:59	0		Dec	24	20:20	0		Dec	25	0:40	0
Dec	24	16:04	0		Dec	24	20:25	0.01		Dec	25	0:46	0
Dec	24	16:09	0		Dec	24	20:30	0		Dec	25	0:51	0
Dec	24	16:14	0		Dec	24	20:35	0		Dec	25	0:56	0

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	25	1:01	0		Dec	25	5:22	0		Dec	25	9:43	0.01
Dec	25	1:06	0		Dec	25	5:27	0		Dec	25	9:48	0
Dec	25	1:11	0		Dec	25	5:32	0		Dec	25	9:53	0
Dec	25	1:16	0		Dec	25	5:37	0		Dec	25	9:58	0.01
Dec	25	1:21	0		Dec	25	5:42	0		Dec	25	10:03	0
Dec	25	1:27	0		Dec	25	5:47	0		Dec	25	10:08	0
Dec	25	1:32	0		Dec	25	5:53	0		Dec	25	10:13	0.01
Dec	25	1:37	0		Dec	25	5:58	0.01		Dec	25	10:19	0.01
Dec	25	1:42	0		Dec	25	6:03	0		Dec	25	10:24	0.01
Dec	25	1:47	0		Dec	25	6:08	0		Dec	25	10:29	0.01
Dec	25	1:52	0		Dec	25	6:13	0		Dec	25	10:34	0
Dec	25	1:57	0		Dec	25	6:18	0		Dec	25	10:39	0.01
Dec	25	2:02	0		Dec	25	6:23	0.01		Dec	25	10:44	0
Dec	25	2:07	0		Dec	25	6:28	0		Dec	25	10:49	0.01
Dec	25	2:13	0		Dec	25	6:33	0		Dec	25	10:54	0
Dec	25	2:18	0		Dec	25	6:39	0.01		Dec	25	10:59	0
Dec	25	2:23	0		Dec	25	6:44	0		Dec	25	11:05	0
Dec	25	2:28	0		Dec	25	6:49	0		Dec	25	11:10	0
Dec	25	2:33	0		Dec	25	6:54	0		Dec	25	11:15	0
Dec	25	2:38	0		Dec	25	6:59	0.01		Dec	25	11:20	0
Dec	25	2:43	0		Dec	25	7:04	0		Dec	25	11:25	0
Dec	25	2:48	0		Dec	25	7:09	0		Dec	25	11:30	0.01
Dec	25	2:53	0		Dec	25	7:14	0		Dec	25	11:35	0
Dec	25	2:59	0		Dec	25	7:19	0		Dec	25	11:40	0
Dec	25	3:04	0		Dec	25	7:25	0		Dec	25	11:45	0
Dec	25	3:09	0		Dec	25	7:30	0		Dec	25	11:51	0
Dec	25	3:14	0		Dec	25	7:35	0		Dec	25	11:56	0
Dec	25	3:19	0		Dec	25	7:40	0		Dec	25	12:01	0.01
Dec	25	3:24	0		Dec	25	7:45	0.01		Dec	25	12:06	0
Dec	25	3:29	0		Dec	25	7:50	0		Dec	25	12:11	0
Dec	25	3:34	0		Dec	25	7:55	0		Dec	25	12:16	0
Dec	25	3:40	0		Dec	25	8:00	0		Dec	25	12:21	0
Dec	25	3:45	0		Dec	25	8:06	0		Dec	25	12:26	0
Dec	25	3:50	0		Dec	25	8:11	0		Dec	25	12:32	0
Dec	25	3:55	0		Dec	25	8:16	0.01		Dec	25	12:37	0
Dec	25	4:00	0		Dec	25	8:21	0		Dec	25	12:42	0
Dec	25	4:05	0		Dec	25	8:26	0		Dec	25	12:47	0.01
Dec	25	4:10	0		Dec	25	8:31	0		Dec	25	12:52	0
Dec	25	4:15	0		Dec	25	8:36	0.01		Dec	25	12:57	0
Dec	25	4:20	0		Dec	25	8:41	0		Dec	25	13:02	0
Dec	25	4:26	0		Dec	25	8:46	0		Dec	25	13:07	0
Dec	25	4:31	0		Dec	25	8:52	0		Dec	25	13:12	0
Dec	25	4:36	0		Dec	25	8:57	0.01		Dec	25	13:18	0
Dec	25	4:41	0		Dec	25	9:02	0		Dec	25	13:23	0
Dec	25	4:46	0		Dec	25	9:07	0		Dec	25	13:28	0.01
Dec	25	4:51	0		Dec	25	9:12	0		Dec	25	13:33	0
Dec	25	4:56	0		Dec	25	9:17	0		Dec	25	13:38	0
Dec	25	5:01	0		Dec	25	9:22	0.01		Dec	25	13:43	0
Dec	25	5:06	0		Dec	25	9:27	0		Dec	25	13:48	0
Dec	25	5:12	0		Dec	25	9:32	0		Dec	25	13:53	0
Dec	25	5:17	0		Dec	25	9:38	0		Dec	25	13:59	0

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	25	14:04	0		Dec	25	18:25	0		Dec	25	22:45	0
Dec	25	14:09	0		Dec	25	18:30	0		Dec	25	22:51	0
Dec	25	14:14	0		Dec	25	18:35	0		Dec	25	22:56	0
Dec	25	14:19	0		Dec	25	18:40	0		Dec	25	23:01	0
Dec	25	14:24	0		Dec	25	18:45	0		Dec	25	23:06	0
Dec	25	14:29	0.01		Dec	25	18:50	0		Dec	25	23:11	0
Dec	25	14:34	0		Dec	25	18:55	0		Dec	25	23:16	0
Dec	25	14:39	0.01		Dec	25	19:00	0		Dec	25	23:21	0
Dec	25	14:45	0		Dec	25	19:05	0		Dec	25	23:26	0
Dec	25	14:50	0.01		Dec	25	19:11	0		Dec	25	23:31	0
Dec	25	14:55	0		Dec	25	19:16	0		Dec	25	23:37	0
Dec	25	15:00	0.01		Dec	25	19:21	0		Dec	25	23:42	0
Dec	25	15:05	0		Dec	25	19:26	0		Dec	25	23:47	0
Dec	25	15:10	0		Dec	25	19:31	0		Dec	25	23:52	0
Dec	25	15:15	0		Dec	25	19:36	0		Dec	25	23:57	0
Dec	25	15:20	0.01		Dec	25	19:41	0		Dec	26	0:02	0
Dec	25	15:25	0		Dec	25	19:46	0		Dec	26	0:07	0
Dec	25	15:31	0		Dec	25	19:51	0		Dec	26	0:12	0
Dec	25	15:36	0		Dec	25	19:57	0		Dec	26	0:17	0
Dec	25	15:41	0		Dec	25	20:02	0		Dec	26	0:23	0
Dec	25	15:46	0		Dec	25	20:07	0		Dec	26	0:28	0
Dec	25	15:51	0		Dec	25	20:12	0		Dec	26	0:33	0
Dec	25	15:56	0		Dec	25	20:17	0		Dec	26	0:38	0
Dec	25	16:01	0		Dec	25	20:22	0		Dec	26	0:43	0
Dec	25	16:06	0		Dec	25	20:27	0		Dec	26	0:48	0
Dec	25	16:12	0		Dec	25	20:32	0		Dec	26	0:53	0
Dec	25	16:17	0		Dec	25	20:38	0		Dec	26	0:58	0
Dec	25	16:22	0		Dec	25	20:43	0		Dec	26	1:04	0
Dec	25	16:27	0		Dec	25	20:48	0		Dec	26	1:09	0
Dec	25	16:32	0		Dec	25	20:53	0		Dec	26	1:14	0
Dec	25	16:37	0		Dec	25	20:58	0		Dec	26	1:19	0
Dec	25	16:42	0		Dec	25	21:03	0		Dec	26	1:24	0
Dec	25	16:47	0		Dec	25	21:08	0		Dec	26	1:29	0
Dec	25	16:52	0		Dec	25	21:13	0		Dec	26	1:34	0
Dec	25	16:58	0.01		Dec	25	21:18	0		Dec	26	1:39	0
Dec	25	17:03	0		Dec	25	21:24	0		Dec	26	1:44	0
Dec	25	17:08	0		Dec	25	21:29	0		Dec	26	1:50	0
Dec	25	17:13	0		Dec	25	21:34	0		Dec	26	1:55	0
Dec	25	17:18	0		Dec	25	21:39	0		Dec	26	2:00	0
Dec	25	17:23	0		Dec	25	21:44	0		Dec	26	2:05	0
Dec	25	17:28	0		Dec	25	21:49	0		Dec	26	2:10	0
Dec	25	17:33	0		Dec	25	21:54	0		Dec	26	2:15	0
Dec	25	17:38	0		Dec	25	21:59	0		Dec	26	2:20	0
Dec	25	17:44	0		Dec	25	22:04	0		Dec	26	2:25	0
Dec	25	17:49	0		Dec	25	22:10	0		Dec	26	2:30	0
Dec	25	17:54	0		Dec	25	22:15	0		Dec	26	2:36	0
Dec	25	17:59	0		Dec	25	22:20	0		Dec	26	2:41	0.01
Dec	25	18:04	0		Dec	25	22:25	0		Dec	26	2:46	0
Dec	25	18:09	0		Dec	25	22:30	0		Dec	26	2:51	0
Dec	25	18:14	0		Dec	25	22:35	0		Dec	26	2:56	0
Dec	25	18:19	0		Dec	25	22:40	0		Dec	26	3:01	0

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	26	3:06	0		Dec	26	7:27	0		Dec	26	11:48	0
Dec	26	3:11	0		Dec	26	7:32	0		Dec	26	11:53	0
Dec	26	3:17	0		Dec	26	7:37	0		Dec	26	11:58	0
Dec	26	3:22	0		Dec	26	7:43	0		Dec	26	12:03	0
Dec	26	3:27	0		Dec	26	7:48	0.01		Dec	26	12:09	0
Dec	26	3:32	0		Dec	26	7:53	0		Dec	26	12:14	0
Dec	26	3:37	0		Dec	26	7:58	0		Dec	26	12:19	0
Dec	26	3:42	0		Dec	26	8:03	0		Dec	26	12:24	0
Dec	26	3:47	0		Dec	26	8:08	0		Dec	26	12:29	0
Dec	26	3:52	0		Dec	26	8:13	0		Dec	26	12:34	0
Dec	26	3:57	0		Dec	26	8:18	0		Dec	26	12:39	0
Dec	26	4:03	0		Dec	26	8:23	0		Dec	26	12:44	0
Dec	26	4:08	0		Dec	26	8:29	0		Dec	26	12:49	0
Dec	26	4:13	0		Dec	26	8:34	0		Dec	26	12:55	0
Dec	26	4:18	0		Dec	26	8:39	0		Dec	26	13:00	0
Dec	26	4:23	0		Dec	26	8:44	0		Dec	26	13:05	0
Dec	26	4:28	0		Dec	26	8:49	0		Dec	26	13:10	0
Dec	26	4:33	0		Dec	26	8:54	0		Dec	26	13:15	0
Dec	26	4:38	0		Dec	26	8:59	0		Dec	26	13:20	0
Dec	26	4:43	0		Dec	26	9:04	0		Dec	26	13:25	0
Dec	26	4:49	0		Dec	26	9:09	0		Dec	26	13:30	0
Dec	26	4:54	0		Dec	26	9:15	0		Dec	26	13:35	0
Dec	26	4:59	0		Dec	26	9:20	0		Dec	26	13:41	0
Dec	26	5:04	0		Dec	26	9:25	0		Dec	26	13:46	0
Dec	26	5:09	0		Dec	26	9:30	0		Dec	26	13:51	0
Dec	26	5:14	0		Dec	26	9:35	0		Dec	26	13:56	0
Dec	26	5:19	0		Dec	26	9:40	0		Dec	26	14:01	0
Dec	26	5:24	0		Dec	26	9:45	0		Dec	26	14:06	0
Dec	26	5:30	0		Dec	26	9:50	0		Dec	26	14:11	0
Dec	26	5:35	0		Dec	26	9:56	0		Dec	26	14:16	0
Dec	26	5:40	0		Dec	26	10:01	0		Dec	26	14:22	0
Dec	26	5:45	0		Dec	26	10:06	0		Dec	26	14:27	0
Dec	26	5:50	0		Dec	26	10:11	0		Dec	26	14:32	0
Dec	26	5:55	0		Dec	26	10:16	0		Dec	26	14:37	0
Dec	26	6:00	0		Dec	26	10:21	0		Dec	26	14:42	0
Dec	26	6:05	0		Dec	26	10:26	0		Dec	26	14:47	0
Dec	26	6:10	0		Dec	26	10:31	0		Dec	26	14:52	0
Dec	26	6:16	0		Dec	26	10:36	0		Dec	26	14:57	0
Dec	26	6:21	0		Dec	26	10:42	0		Dec	26	15:02	0
Dec	26	6:26	0		Dec	26	10:47	0		Dec	26	15:08	0
Dec	26	6:31	0		Dec	26	10:52	0		Dec	26	15:13	0
Dec	26	6:36	0		Dec	26	10:57	0		Dec	26	15:18	0
Dec	26	6:41	0		Dec	26	11:02	0		Dec	26	15:23	0
Dec	26	6:46	0		Dec	26	11:07	0		Dec	26	15:28	0
Dec	26	6:51	0		Dec	26	11:12	0		Dec	26	15:33	0
Dec	26	6:56	0		Dec	26	11:17	0		Dec	26	15:38	0
Dec	26	7:02	0		Dec	26	11:22	0		Dec	26	15:43	0
Dec	26	7:07	0		Dec	26	11:28	0		Dec	26	15:48	0
Dec	26	7:12	0		Dec	26	11:33	0		Dec	26	15:54	0
Dec	26	7:17	0		Dec	26	11:38	0		Dec	26	15:59	0
Dec	26	7:22	0		Dec	26	11:43	0		Dec	26	16:04	0

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	26	16:09	0		Dec	26	20:30	0		Dec	27	0:51	0
Dec	26	16:14	0		Dec	26	20:35	0		Dec	27	0:56	0
Dec	26	16:19	0		Dec	26	20:40	0		Dec	27	1:01	0
Dec	26	16:24	0		Dec	26	20:45	0		Dec	27	1:06	0
Dec	26	16:29	0		Dec	26	20:50	0		Dec	27	1:11	0
Dec	26	16:35	0		Dec	26	20:55	0		Dec	27	1:16	0
Dec	26	16:40	0		Dec	26	21:01	0		Dec	27	1:21	0
Dec	26	16:45	0		Dec	26	21:06	0		Dec	27	1:27	0
Dec	26	16:50	0		Dec	26	21:11	0		Dec	27	1:32	0
Dec	26	16:55	0		Dec	26	21:16	0		Dec	27	1:37	0
Dec	26	17:00	0		Dec	26	21:21	0		Dec	27	1:42	0
Dec	26	17:05	0		Dec	26	21:26	0		Dec	27	1:47	0
Dec	26	17:10	0		Dec	26	21:31	0		Dec	27	1:52	0
Dec	26	17:15	0		Dec	26	21:36	0		Dec	27	1:57	0
Dec	26	17:21	0		Dec	26	21:41	0		Dec	27	2:02	0
Dec	26	17:26	0		Dec	26	21:47	0		Dec	27	2:07	0
Dec	26	17:31	0		Dec	26	21:52	0		Dec	27	2:13	0
Dec	26	17:36	0		Dec	26	21:57	0		Dec	27	2:18	0
Dec	26	17:41	0		Dec	26	22:02	0		Dec	27	2:23	0
Dec	26	17:46	0		Dec	26	22:07	0		Dec	27	2:28	0
Dec	26	17:51	0		Dec	26	22:12	0		Dec	27	2:33	0
Dec	26	17:56	0		Dec	26	22:17	0		Dec	27	2:38	0
Dec	26	18:01	0		Dec	26	22:22	0		Dec	27	2:43	0
Dec	26	18:07	0		Dec	26	22:27	0		Dec	27	2:48	0
Dec	26	18:12	0		Dec	26	22:33	0		Dec	27	2:53	0
Dec	26	18:17	0		Dec	26	22:38	0		Dec	27	2:59	0
Dec	26	18:22	0		Dec	26	22:43	0		Dec	27	3:04	0
Dec	26	18:27	0		Dec	26	22:48	0		Dec	27	3:09	0
Dec	26	18:32	0		Dec	26	22:53	0		Dec	27	3:14	0
Dec	26	18:37	0		Dec	26	22:58	0		Dec	27	3:19	0
Dec	26	18:42	0		Dec	26	23:03	0		Dec	27	3:24	0
Dec	26	18:48	0		Dec	26	23:08	0		Dec	27	3:29	0
Dec	26	18:53	0		Dec	26	23:14	0		Dec	27	3:34	0
Dec	26	18:58	0		Dec	26	23:19	0		Dec	27	3:40	0
Dec	26	19:03	0		Dec	26	23:24	0		Dec	27	3:45	0
Dec	26	19:08	0		Dec	26	23:29	0		Dec	27	3:50	0
Dec	26	19:13	0		Dec	26	23:34	0		Dec	27	3:55	0
Dec	26	19:18	0		Dec	26	23:39	0		Dec	27	4:00	0.01
Dec	26	19:23	0		Dec	26	23:44	0		Dec	27	4:05	0
Dec	26	19:28	0		Dec	26	23:49	0		Dec	27	4:10	0
Dec	26	19:34	0		Dec	26	23:54	0		Dec	27	4:15	0
Dec	26	19:39	0		Dec	27	0:00	0		Dec	27	4:20	0.01
Dec	26	19:44	0		Dec	27	0:05	0		Dec	27	4:26	0
Dec	26	19:49	0		Dec	27	0:10	0		Dec	27	4:31	0
Dec	26	19:54	0		Dec	27	0:15	0		Dec	27	4:36	0
Dec	26	19:59	0		Dec	27	0:20	0		Dec	27	4:41	0
Dec	26	20:04	0		Dec	27	0:25	0		Dec	27	4:46	0.01
Dec	26	20:09	0		Dec	27	0:30	0		Dec	27	4:51	0
Dec	26	20:14	0		Dec	27	0:35	0		Dec	27	4:56	0
Dec	26	20:20	0		Dec	27	0:40	0		Dec	27	5:01	0
Dec	26	20:25	0		Dec	27	0:46	0		Dec	27	5:06	0

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	27	5:12	0		Dec	27	9:32	0		Dec	27	13:53	0.01
Dec	27	5:17	0		Dec	27	9:38	0		Dec	27	13:59	0.02
Dec	27	5:22	0		Dec	27	9:43	0.01		Dec	27	14:04	0
Dec	27	5:27	0		Dec	27	9:48	0		Dec	27	14:09	0.02
Dec	27	5:32	0		Dec	27	9:53	0		Dec	27	14:14	0.01
Dec	27	5:37	0		Dec	27	9:58	0.01		Dec	27	14:19	0.02
Dec	27	5:42	0		Dec	27	10:03	0		Dec	27	14:24	0.01
Dec	27	5:47	0		Dec	27	10:08	0		Dec	27	14:29	0.01
Dec	27	5:53	0.01		Dec	27	10:13	0		Dec	27	14:34	0.02
Dec	27	5:58	0		Dec	27	10:19	0.01		Dec	27	14:39	0.01
Dec	27	6:03	0.01		Dec	27	10:24	0		Dec	27	14:45	0.01
Dec	27	6:08	0		Dec	27	10:29	0.01		Dec	27	14:50	0.02
Dec	27	6:13	0		Dec	27	10:34	0.01		Dec	27	14:55	0.02
Dec	27	6:18	0		Dec	27	10:39	0		Dec	27	15:00	0.02
Dec	27	6:23	0.01		Dec	27	10:44	0.01		Dec	27	15:05	0.01
Dec	27	6:28	0		Dec	27	10:49	0.01		Dec	27	15:10	0.02
Dec	27	6:33	0		Dec	27	10:54	0		Dec	27	15:15	0.02
Dec	27	6:39	0		Dec	27	10:59	0		Dec	27	15:20	0.02
Dec	27	6:44	0		Dec	27	11:05	0.01		Dec	27	15:25	0.02
Dec	27	6:49	0		Dec	27	11:10	0.01		Dec	27	15:31	0.02
Dec	27	6:54	0		Dec	27	11:15	0.01		Dec	27	15:36	0.02
Dec	27	6:59	0.01		Dec	27	11:20	0.01		Dec	27	15:41	0.03
Dec	27	7:04	0		Dec	27	11:25	0.01		Dec	27	15:46	0.04
Dec	27	7:09	0		Dec	27	11:30	0.01		Dec	27	15:51	0.02
Dec	27	7:14	0.01		Dec	27	11:35	0.01		Dec	27	15:56	0.03
Dec	27	7:19	0		Dec	27	11:40	0		Dec	27	16:01	0.03
Dec	27	7:25	0		Dec	27	11:45	0.01		Dec	27	16:06	0.02
Dec	27	7:30	0		Dec	27	11:51	0.01		Dec	27	16:12	0.02
Dec	27	7:35	0.01		Dec	27	11:56	0		Dec	27	16:17	0.02
Dec	27	7:40	0		Dec	27	12:01	0.01		Dec	27	16:22	0.01
Dec	27	7:45	0		Dec	27	12:06	0.02		Dec	27	16:27	0.02
Dec	27	7:50	0		Dec	27	12:11	0.01		Dec	27	16:32	0.01
Dec	27	7:55	0		Dec	27	12:16	0.01		Dec	27	16:37	0.01
Dec	27	8:00	0		Dec	27	12:21	0.02		Dec	27	16:42	0.02
Dec	27	8:06	0		Dec	27	12:26	0.01		Dec	27	16:47	0.02
Dec	27	8:11	0		Dec	27	12:32	0.01		Dec	27	16:52	0.01
Dec	27	8:16	0		Dec	27	12:37	0.01		Dec	27	16:58	0.01
Dec	27	8:21	0		Dec	27	12:42	0.02		Dec	27	17:03	0.01
Dec	27	8:26	0		Dec	27	12:47	0.01		Dec	27	17:08	0.01
Dec	27	8:31	0.01		Dec	27	12:52	0.02		Dec	27	17:13	0.01
Dec	27	8:36	0		Dec	27	12:57	0.01		Dec	27	17:18	0.01
Dec	27	8:41	0		Dec	27	13:02	0.02		Dec	27	17:23	0.01
Dec	27	8:46	0		Dec	27	13:07	0.01		Dec	27	17:28	0
Dec	27	8:52	0		Dec	27	13:12	0.01		Dec	27	17:33	0.01
Dec	27	8:57	0.01		Dec	27	13:18	0.01		Dec	27	17:38	0.01
Dec	27	9:02	0		Dec	27	13:23	0.01		Dec	27	17:44	0.01
Dec	27	9:07	0		Dec	27	13:28	0.01		Dec	27	17:49	0.01
Dec	27	9:12	0		Dec	27	13:33	0.01		Dec	27	17:54	0.02
Dec	27	9:17	0		Dec	27	13:38	0.01		Dec	27	17:59	0.02
Dec	27	9:22	0		Dec	27	13:43	0.01		Dec	27	18:04	0.03
Dec	27	9:27	0		Dec	27	13:48	0.01		Dec	27	18:09	0.02

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	27	18:14	0.02		Dec	27	22:35	0		Dec	28	2:56	0.01
Dec	27	18:19	0.03		Dec	27	22:40	0.01		Dec	28	3:01	0.02
Dec	27	18:25	0.03		Dec	27	22:45	0.01		Dec	28	3:06	0.01
Dec	27	18:30	0.02		Dec	27	22:51	0		Dec	28	3:11	0.02
Dec	27	18:35	0.02		Dec	27	22:56	0.01		Dec	28	3:17	0.02
Dec	27	18:40	0.02		Dec	27	23:01	0.01		Dec	28	3:22	0.02
Dec	27	18:45	0.01		Dec	27	23:06	0.01		Dec	28	3:27	0.01
Dec	27	18:50	0.02		Dec	27	23:11	0.01		Dec	28	3:32	0.01
Dec	27	18:55	0.02		Dec	27	23:16	0		Dec	28	3:37	0
Dec	27	19:00	0.02		Dec	27	23:21	0.01		Dec	28	3:42	0.01
Dec	27	19:05	0.02		Dec	27	23:26	0.02		Dec	28	3:47	0.01
Dec	27	19:11	0.01		Dec	27	23:31	0.01		Dec	28	3:52	0
Dec	27	19:16	0.02		Dec	27	23:37	0.01		Dec	28	3:57	0.01
Dec	27	19:21	0.02		Dec	27	23:42	0.01		Dec	28	4:03	0.02
Dec	27	19:26	0.03		Dec	27	23:47	0.01		Dec	28	4:08	0.01
Dec	27	19:31	0.02		Dec	27	23:52	0.02		Dec	28	4:13	0
Dec	27	19:36	0.02		Dec	27	23:57	0.01		Dec	28	4:18	0.02
Dec	27	19:41	0.02		Dec	28	0:02	0.01		Dec	28	4:23	0.02
Dec	27	19:46	0.02		Dec	28	0:07	0.01		Dec	28	4:28	0.01
Dec	27	19:51	0.01		Dec	28	0:12	0.01		Dec	28	4:33	0.02
Dec	27	19:57	0.02		Dec	28	0:17	0.01		Dec	28	4:38	0.02
Dec	27	20:02	0.01		Dec	28	0:23	0.02		Dec	28	4:43	0.02
Dec	27	20:07	0.02		Dec	28	0:28	0.02		Dec	28	4:49	0.01
Dec	27	20:12	0.03		Dec	28	0:33	0.02		Dec	28	4:54	0.01
Dec	27	20:17	0.01		Dec	28	0:38	0.02		Dec	28	4:59	0.02
Dec	27	20:22	0.02		Dec	28	0:43	0.02		Dec	28	5:04	0.02
Dec	27	20:27	0.01		Dec	28	0:48	0.02		Dec	28	5:09	0.02
Dec	27	20:32	0.02		Dec	28	0:53	0.01		Dec	28	5:14	0.01
Dec	27	20:38	0.01		Dec	28	0:58	0.01		Dec	28	5:19	0.02
Dec	27	20:43	0.01		Dec	28	1:04	0.01		Dec	28	5:24	0.02
Dec	27	20:48	0.01		Dec	28	1:09	0.02		Dec	28	5:30	0.02
Dec	27	20:53	0.01		Dec	28	1:14	0.01		Dec	28	5:35	0.01
Dec	27	20:58	0.01		Dec	28	1:19	0.01		Dec	28	5:40	0.01
Dec	27	21:03	0.01		Dec	28	1:24	0.02		Dec	28	5:45	0.01
Dec	27	21:08	0.02		Dec	28	1:29	0.01		Dec	28	5:50	0.02
Dec	27	21:13	0.01		Dec	28	1:34	0.01		Dec	28	5:55	0.01
Dec	27	21:18	0.01		Dec	28	1:39	0.02		Dec	28	6:00	0.02
Dec	27	21:24	0.01		Dec	28	1:44	0.01		Dec	28	6:05	0.02
Dec	27	21:29	0.02		Dec	28	1:50	0.01		Dec	28	6:10	0.01
Dec	27	21:34	0.01		Dec	28	1:55	0.01		Dec	28	6:16	0.02
Dec	27	21:39	0.01		Dec	28	2:00	0.01		Dec	28	6:21	0.01
Dec	27	21:44	0		Dec	28	2:05	0.02		Dec	28	6:26	0
Dec	27	21:49	0.01		Dec	28	2:10	0.01		Dec	28	6:31	0.01
Dec	27	21:54	0.01		Dec	28	2:15	0.02		Dec	28	6:36	0.02
Dec	27	21:59	0		Dec	28	2:20	0.01		Dec	28	6:41	0.01
Dec	27	22:04	0.01		Dec	28	2:25	0.02		Dec	28	6:46	0.02
Dec	27	22:10	0		Dec	28	2:30	0.02		Dec	28	6:51	0.01
Dec	27	22:15	0.01		Dec	28	2:36	0.02		Dec	28	6:56	0.01
Dec	27	22:20	0.01		Dec	28	2:41	0.02		Dec	28	7:02	0
Dec	27	22:25	0		Dec	28	2:46	0.01		Dec	28	7:07	0.01
Dec	27	22:30	0.01		Dec	28	2:51	0.02		Dec	28	7:12	0.01

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	28	7:17	0		Dec	28	11:38	0.02		Dec	28	15:59	0.01
Dec	28	7:22	0.02		Dec	28	11:43	0.01		Dec	28	16:04	0.01
Dec	28	7:27	0		Dec	28	11:48	0.01		Dec	28	16:09	0.01
Dec	28	7:32	0.01		Dec	28	11:53	0.01		Dec	28	16:14	0.01
Dec	28	7:37	0.01		Dec	28	11:58	0.01		Dec	28	16:19	0.01
Dec	28	7:43	0.01		Dec	28	12:03	0.01		Dec	28	16:24	0.01
Dec	28	7:48	0.01		Dec	28	12:09	0.01		Dec	28	16:29	0.01
Dec	28	7:53	0.01		Dec	28	12:14	0		Dec	28	16:35	0.01
Dec	28	7:58	0		Dec	28	12:19	0.01		Dec	28	16:40	0.01
Dec	28	8:03	0.01		Dec	28	12:24	0.01		Dec	28	16:45	0.01
Dec	28	8:08	0.01		Dec	28	12:29	0.01		Dec	28	16:50	0
Dec	28	8:13	0		Dec	28	12:34	0.01		Dec	28	16:55	0.01
Dec	28	8:18	0.01		Dec	28	12:39	0.01		Dec	28	17:00	0.01
Dec	28	8:23	0.01		Dec	28	12:44	0		Dec	28	17:05	0.01
Dec	28	8:29	0.02		Dec	28	12:49	0.01		Dec	28	17:10	0.01
Dec	28	8:34	0		Dec	28	12:55	0.01		Dec	28	17:15	0.01
Dec	28	8:39	0.01		Dec	28	13:00	0.01		Dec	28	17:21	0.01
Dec	28	8:44	0.01		Dec	28	13:05	0		Dec	28	17:26	0
Dec	28	8:49	0.01		Dec	28	13:10	0.01		Dec	28	17:31	0.01
Dec	28	8:54	0.01		Dec	28	13:15	0.01		Dec	28	17:36	0.01
Dec	28	8:59	0.01		Dec	28	13:20	0		Dec	28	17:41	0.01
Dec	28	9:04	0.01		Dec	28	13:25	0.01		Dec	28	17:46	0
Dec	28	9:09	0		Dec	28	13:30	0		Dec	28	17:51	0.01
Dec	28	9:15	0.01		Dec	28	13:35	0.01		Dec	28	17:56	0.01
Dec	28	9:20	0.01		Dec	28	13:41	0.01		Dec	28	18:01	0
Dec	28	9:25	0		Dec	28	13:46	0.01		Dec	28	18:07	0.01
Dec	28	9:30	0		Dec	28	13:51	0.01		Dec	28	18:12	0.01
Dec	28	9:35	0.01		Dec	28	13:56	0		Dec	28	18:17	0.01
Dec	28	9:40	0		Dec	28	14:01	0.01		Dec	28	18:22	0.01
Dec	28	9:45	0		Dec	28	14:06	0		Dec	28	18:27	0.01
Dec	28	9:50	0.01		Dec	28	14:11	0.01		Dec	28	18:32	0
Dec	28	9:56	0		Dec	28	14:16	0		Dec	28	18:37	0.01
Dec	28	10:01	0.01		Dec	28	14:22	0		Dec	28	18:42	0.01
Dec	28	10:06	0.01		Dec	28	14:27	0.01		Dec	28	18:48	0.01
Dec	28	10:11	0.01		Dec	28	14:32	0		Dec	28	18:53	0.01
Dec	28	10:16	0		Dec	28	14:37	0.01		Dec	28	18:58	0.01
Dec	28	10:21	0.01		Dec	28	14:42	0		Dec	28	19:03	0.01
Dec	28	10:26	0.01		Dec	28	14:47	0.01		Dec	28	19:08	0.01
Dec	28	10:31	0.01		Dec	28	14:52	0		Dec	28	19:13	0.01
Dec	28	10:36	0		Dec	28	14:57	0.01		Dec	28	19:18	0.02
Dec	28	10:42	0.01		Dec	28	15:02	0		Dec	28	19:23	0.01
Dec	28	10:47	0.01		Dec	28	15:08	0.01		Dec	28	19:28	0.01
Dec	28	10:52	0.01		Dec	28	15:13	0		Dec	28	19:34	0
Dec	28	10:57	0.02		Dec	28	15:18	0.01		Dec	28	19:39	0.01
Dec	28	11:02	0		Dec	28	15:23	0		Dec	28	19:44	0.01
Dec	28	11:07	0.01		Dec	28	15:28	0.01		Dec	28	19:49	0
Dec	28	11:12	0.01		Dec	28	15:33	0.01		Dec	28	19:54	0.01
Dec	28	11:17	0.01		Dec	28	15:38	0.01		Dec	28	19:59	0
Dec	28	11:22	0.01		Dec	28	15:43	0.01		Dec	28	20:04	0.01
Dec	28	11:28	0.01		Dec	28	15:48	0.01		Dec	28	20:09	0
Dec	28	11:33	0.01		Dec	28	15:54	0.02		Dec	28	20:14	0

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	28	20:20	0.01		Dec	29	0:40	0		Dec	29	5:01	0
Dec	28	20:25	0		Dec	29	0:46	0		Dec	29	5:06	0
Dec	28	20:30	0		Dec	29	0:51	0		Dec	29	5:12	0
Dec	28	20:35	0.01		Dec	29	0:56	0		Dec	29	5:17	0
Dec	28	20:40	0		Dec	29	1:01	0		Dec	29	5:22	0
Dec	28	20:45	0		Dec	29	1:06	0		Dec	29	5:27	0
Dec	28	20:50	0		Dec	29	1:11	0		Dec	29	5:32	0
Dec	28	20:55	0		Dec	29	1:16	0		Dec	29	5:37	0
Dec	28	21:01	0		Dec	29	1:21	0		Dec	29	5:42	0
Dec	28	21:06	0		Dec	29	1:27	0		Dec	29	5:47	0
Dec	28	21:11	0		Dec	29	1:32	0		Dec	29	5:53	0
Dec	28	21:16	0		Dec	29	1:37	0		Dec	29	5:58	0
Dec	28	21:21	0		Dec	29	1:42	0		Dec	29	6:03	0
Dec	28	21:26	0		Dec	29	1:47	0		Dec	29	6:08	0
Dec	28	21:31	0		Dec	29	1:52	0		Dec	29	6:13	0
Dec	28	21:36	0		Dec	29	1:57	0		Dec	29	6:18	0
Dec	28	21:41	0		Dec	29	2:02	0		Dec	29	6:23	0
Dec	28	21:47	0.01		Dec	29	2:07	0		Dec	29	6:28	0
Dec	28	21:52	0		Dec	29	2:13	0		Dec	29	6:33	0
Dec	28	21:57	0		Dec	29	2:18	0		Dec	29	6:39	0
Dec	28	22:02	0		Dec	29	2:23	0		Dec	29	6:44	0
Dec	28	22:07	0		Dec	29	2:28	0		Dec	29	6:49	0
Dec	28	22:12	0		Dec	29	2:33	0		Dec	29	6:54	0
Dec	28	22:17	0		Dec	29	2:38	0		Dec	29	6:59	0
Dec	28	22:22	0		Dec	29	2:43	0		Dec	29	7:04	0
Dec	28	22:27	0		Dec	29	2:48	0		Dec	29	7:09	0
Dec	28	22:33	0		Dec	29	2:53	0		Dec	29	7:14	0
Dec	28	22:38	0		Dec	29	2:59	0		Dec	29	7:19	0
Dec	28	22:43	0		Dec	29	3:04	0		Dec	29	7:25	0
Dec	28	22:48	0		Dec	29	3:09	0		Dec	29	7:30	0
Dec	28	22:53	0		Dec	29	3:14	0		Dec	29	7:35	0
Dec	28	22:58	0		Dec	29	3:19	0		Dec	29	7:40	0
Dec	28	23:03	0		Dec	29	3:24	0		Dec	29	7:45	0
Dec	28	23:08	0		Dec	29	3:29	0		Dec	29	7:50	0
Dec	28	23:14	0		Dec	29	3:34	0		Dec	29	7:55	0
Dec	28	23:19	0		Dec	29	3:40	0		Dec	29	8:00	0
Dec	28	23:24	0		Dec	29	3:45	0		Dec	29	8:06	0
Dec	28	23:29	0		Dec	29	3:50	0		Dec	29	8:11	0
Dec	28	23:34	0		Dec	29	3:55	0		Dec	29	8:16	0
Dec	28	23:39	0		Dec	29	4:00	0		Dec	29	8:21	0
Dec	28	23:44	0		Dec	29	4:05	0		Dec	29	8:26	0
Dec	28	23:49	0		Dec	29	4:10	0		Dec	29	8:31	0
Dec	28	23:54	0		Dec	29	4:15	0		Dec	29	8:36	0
Dec	29	0:00	0		Dec	29	4:20	0		Dec	29	8:41	0
Dec	29	0:05	0		Dec	29	4:26	0		Dec	29	8:46	0
Dec	29	0:10	0		Dec	29	4:31	0		Dec	29	8:52	0
Dec	29	0:15	0		Dec	29	4:36	0		Dec	29	8:57	0
Dec	29	0:20	0		Dec	29	4:41	0		Dec	29	9:02	0
Dec	29	0:25	0		Dec	29	4:46	0		Dec	29	9:07	0
Dec	29	0:30	0		Dec	29	4:51	0		Dec	29	9:12	0
Dec	29	0:35	0		Dec	29	4:56	0		Dec	29	9:17	0

Table A-1. December 24-29, 1998 Storm Distribution

Month	Day	Time	Inches		Month	Day	Time	Inches		Month	Day	Time	Inches
Dec	29	9:22	0										
Dec	29	9:27	0										
Dec	29	9:32	0										
Dec	29	9:38	0										
Dec	29	9:43	0										
Dec	29	9:48	0										
Dec	29	9:53	0										
Dec	29	9:58	0										
Dec	29	10:03	0										
Dec	29	10:08	0										
Dec	29	10:13	0										
Dec	29	10:19	0										
Dec	29	10:24	0										
Dec	29	10:29	0										
Dec	29	10:34	0										
Dec	29	10:39	0										
Dec	29	10:44	0										
Dec	29	10:49	0										
Dec	29	10:54	0										
Dec	29	10:59	0										
Dec	29	11:05	0										
Dec	29	11:10	0										
Dec	29	11:15	0										
Dec	29	11:20	0										
Dec	29	11:25	0.01										
Dec	29	11:30	0										
Dec	29	11:35	0										
Dec	29	11:40	0										
Dec	29	11:45	0										
Dec	29	11:51	0										
Dec	29	11:56	0										
Dec	29	12:01	0										

TABLE A-2

SUBBASIN CHARACTERISTICS

Table A-2. Subbasin Characteristics

Basin	Subbasin	Runoff Node	Area	Slope	Width	Present Impervious	Future Impervious
Dixon	DIX010B	DIX410N	28.83	0.091	2850	24.89	25.30
Dixon	DIX020B	DIX415N	69.73	0.097	6000	23.82	25.30
Dixon	DIX030B	DIX375N	13.66	0.134	1775	22.76	25.30
Dixon	DIX040B	DIX385N	57.83	0.102	3250	20.19	20.19
Dixon	DIX050B	DIX390N	47.49	0.128	3775	13.50	13.50
Dixon	DIX180B	DIX235N	25.71	0.001	1450	45.71	51.62
Dixon	DIX190B	DIX245N	33.24	0.002	3525	42.96	62.54
Dixon	DIX200B	DIX225N	45.02	0.002	3350	43.01	61.38
Dixon	DIX210B	DIX225N	66.64	0.002	5375	42.07	74.27
Dixon	DIX215B	DIX515N	12.93	0.004	2000	34.58	40.12
Dixon	DIX220B	DIX525N	60.28	0.003	6375	28.93	29.48
Dixon	DIX225B	DIX505N	9.25	0.002	650	47.77	47.87
Dixon	DIX230B	DIX520N	37.41	0.001	2400	48.09	48.41
Dixon	DIX240B	DIX290N	131.15	0.010	7250	41.07	41.38
Dixon	DIX242B	DIX340N	68.18	0.094	4200	23.59	24.25
Dixon	DIX250B	DIX535N	4.85	0.003	675	19.39	25.30
Dixon	DIX260B	DIX535N	4.97	0.003	525	20.45	25.30
Dixon	DIX270B	DIX545N	8.27	0.003	1050	24.90	25.30
Dixon	DIX280B	DIX560N	14.09	0.003	1775	24.45	25.30
Dixon	DIX290B	DIX560N	16.66	0.016	2375	25.23	25.38
Dixon	DIX300B	DIX560N	31.55	0.006	1600	25.07	25.07
Dixon	DIX310B	DIX565N	42.31	0.010	3525	24.96	25.07
Dixon	DIX320B	DIX575N	9.19	0.005	1975	25.30	25.30
Dixon	DIX325B	DIX580N	20.02	0.002	1650	49.70	49.70
Dixon	DIX330B	DIX575N	122.68	0.204	10550	25.93	26.42
Dixon	DIX340B	DIX420N	17.96	0.019	1500	30.08	30.08
Dixon	DIX342B	DIX435N	36.19	0.048	5000	41.35	58.33
Dixon	DIX344B	DIX465N	30.47	0.127	950	21.76	42.35
Dixon	DIX350B	DIX360N	16.32	0.055	1550	34.53	34.53
Dixon	DIX352B	DIX400N	15.90	0.051	1175	25.30	25.30
Dixon	DIX360B	DIX610N	14.93	0.087	1250	24.75	25.30
Dixon	DIX370B	DIX610N	6.48	0.064	900	25.30	25.30
Dixon	DIX375B	DIX613N	19.13	0.035	1150	23.30	25.93
Dixon	DIX380B	DIX620N	4.73	0.004	775	25.30	25.30
Dixon	DIX390B	DIX625N	19.64	0.157	1925	22.75	25.30
Dixon	DIX400B	DIX625N	9.72	0.028	775	20.24	26.46
Dixon	DIX410B	DIX640N	21.28	0.116	725	28.77	41.94
Dixon	DIX420B	DIX645N	19.18	0.122	775	27.66	33.35
Dixon	DIX430B	DIX655N	41.33	0.138	1875	21.88	39.85
Dixon	DIX440B	DIX660N	77.37	0.156	3600	27.42	29.63
Dixon	DIX450B	DIX660N	204.81	0.229	9025	23.62	23.62
Dixon	DIX460B	DIX675N	3.39	0.015	450	20.79	35.24
Dixon	DIX470B	DIX695N	3.48	0.035	525	21.36	35.36
Dixon	DIX480B	DIX355N	45.25	0.099	2675	7.13	30.85
Dixon	DIX490B	DIX698N	9.36	0.027	540	19.98	31.01
Dixon	DIX500B	DIX698N	14.59	0.014	1600	21.59	25.73
Dixon	DIX510B	DIX705N	7.96	0.040	1200	22.36	22.90
Dixon	DIX520B	DIX700N	5.30	0.083	950	21.71	23.18
Dixon	DIX530B	DIX785N	19.58	0.073	1475	18.44	18.44
Dixon	DIX540B	DIX790N	8.57	0.125	775	18.30	18.30

Table A-2. Subbasin Characteristics

Basin	Subbasin	Runoff Node	Area	Slope	Width	Present Impervious	Future Impervious
Dixon	DIX550B	DIX785N	3.91	0.059	675	9.52	9.66
Dixon	DIX560B	DIX710N	3.93	0.091	625	16.24	17.45
Dixon	DIX570B	DIX735N	2.22	0.060	1070	4.05	4.05
Dixon	DIX580B	DIX715N	8.01	0.077	875	10.61	15.40
Dixon	DIX590B	DIX740N	2.38	0.045	925	3.96	3.96
Dixon	DIX600B	DIX735N	14.43	0.084	900	21.72	21.72
Dixon	DIX610B	DIX800N	27.69	0.143	2875	7.14	23.24
Dixon	DIX620B	DIX745N	6.90	0.123	425	20.27	20.40
Dixon	DIX630B	DIX760N	3.20	0.092	525	3.48	3.48
Dixon	DIX640B	DIX720N	16.47	0.079	2350	10.08	19.86
Dixon	DIX650B	DIX725N	10.56	0.150	350	3.28	29.93
Dixon	DIX660B	DIX730N	76.12	0.169	3725	2.30	8.10
Dixon	DIX670B	DIX755N	94.70	0.199	4550	1.78	7.15
Dixon	DIX680B	DIX780N	18.42	0.163	1350	5.23	9.94
Dixon	DIX690B	DIX665N	1.79	0.006	450	23.97	25.30
Dixon	DIX700B	DIX635N	8.92	0.093	650	24.24	25.30
Dixon	DIX710B	DIX810N	16.84	0.195	1675	27.21	27.96
Dixon	DIX720B	DIX810N	27.03	0.007	1750	31.87	36.45
Dixon	DIX730B	DIX815N	15.62	0.224	2950	25.06	27.78
Dixon	DIX740B	DIX825N	12.36	0.206	1450	18.59	25.30
Dixon	DIX750B	DIX830N	48.64	0.075	3625	20.09	27.93
Dixon	DIX760B	DIX835N	73.11	0.157	8600	18.37	22.72
Dixon	DIX770B	DIX840N	24.35	0.133	4100	19.55	27.31
Dixon	DIX780B	DIX840N	3.46	0.036	275	31.51	35.36
Dixon	DIX790B	DIX850N	3.70	0.030	325	35.36	35.36
Dixon	DIX800B	DIX855N	11.85	0.128	1100	22.30	26.07
Dixon	DIX810B	DIX860N	40.24	0.070	1225	13.26	25.30
Dixon	DIX820B	DIX850N	12.65	0.156	1375	20.16	28.02
Dixon	DIX830B	DIX860N	4.11	0.164	500	29.61	30.67
Dixon	DIX840B	DIX860N	8.64	0.113	475	23.24	25.30
Dixon	DIX850B	DIX870N	6.24	0.208	750	9.66	25.34
Dixon	DIX860B	DIX865N	15.86	0.166	575	22.37	25.30
Dixon	DIX870B	DIX885N	19.07	0.239	975	11.04	19.12
Dixon	DIX880B	DIX874N	10.18	0.144	950	5.47	25.30
Dixon	DIX890B	DIX880N	10.61	0.116	950	3.16	25.30
Dixon	DIX895B	DIX885N	2.78	0.066	325	15.49	25.30
Dixon	DIX900B	DIX915N	6.85	0.261	525	1.52	2.16
Dixon	DIX910B	DIX925N	23.83	0.215	1800	1.42	6.03
Dixon	DIX920B	DIX900N	8.00	0.055	650	12.22	24.39
Dixon	DIX930B	DIX945N	5.51	0.116	350	16.37	25.30
Dixon	DIX940B	DIX910N	14.35	0.170	1500	3.06	10.22
Dixon	DIX950B	DIX940N	21.22	0.200	1625	4.11	15.17
Dixon	DIX960B	DIX955N	10.30	0.116	1300	12.75	18.46
Dixon	DIX970B	DIX975N	4.89	0.176	300	1.17	1.17
Dixon	DIX980B	DIX995N	34.57	0.174	2200	1.12	1.12
Dixon	DIX990B	DIX930N	249.51	0.257	10000	1.12	1.12
Squaw	SQW005B	SQW260N	467.51	0.075	7931	20.14	21.53
Squaw	SQW010B	SQW150N	118.15	0.046	2695	20.07	22.28
Squaw	SQW015B	SQW150N	95.79	0.057	1931	14.30	28.48
Squaw	SQW020B	SQW075N	106.84	0.023	2433	21.10	25.59

Table A-2. Subbasin Characteristics

Basin	Subbasin	Runoff Node	Area	Slope	Width	Present Impervious	Future Impervious
Squaw	SQW025B	SQW085N	48.34	0.018	2269	15.60	48.21
Squaw	SQW030B	SQW265N	83.73	0.044	3328	10.97	24.48
Squaw	SQW035B	SQW155N	78.73	0.069	2894	9.99	9.99
Squaw	SQW040B	SQW160N	71.29	0.089	1935	30.73	36.56
Squaw	SQW045B	SQW165N	57.03	0.079	1151	6.87	6.91
Squaw	SQW050B	SQW006N	15.34	0.010	1777	16.27	16.43
Squaw	SQW055B	SQW010N	53.33	0.080	3267	23.44	23.44
Squaw	SQW060B	SQW030N	53.91	0.098	2393	20.60	21.09
Squaw	SQW065B	SQW021N	30.67	0.018	2667	50.36	50.36
Squaw	SQW070B	SQW000N	32.35	0.013	959	55.19	55.19
Squaw	SQW075B	SQW035N	32.93	0.016	2570	20.09	20.09
Squaw	SQW080B	SQW235N	45.45	0.010	1908	20.78	23.93
Squaw	SQW085B	SQW035N	55.26	0.016	2258	19.87	33.00
Squaw	SQW090B	SQW250N	95.94	0.012	2670	5.47	43.79
Squaw	SQW095B	SQW250N	141.23	0.031	3699	11.28	26.49
Squaw	SQW100B	SQW085N	14.84	0.013	1038	27.89	42.00
Squaw	SQW105B	SQW195N	12.46	0.021	2320	26.93	65.36
Squaw	SQW110B	SQW040N	45.18	0.022	3065	11.35	35.21
Squaw	SQW115B	SQW120N	35.93	0.025	3027	20.21	33.24
Squaw	SQW120B	SQW050N	81.22	0.068	2365	17.04	17.04
Squaw	SQW125B	SQW085N	52.78	0.012	3775	36.61	55.41
Squaw	SQW130B	SQW060N	55.81	0.010	4184	27.15	29.26
Squaw	SQW135B	SQW060N	11.82	0.014	1769	14.47	43.52
Squaw	SQW140B	SQW205N	44.32	0.060	2321	24.22	25.73
Squaw	SQW145B	SQW145N	132.95	0.041	3705	23.95	37.75
Squaw	SQW150B	SQW260N	78.42	0.053	2416	15.00	39.03
Squaw	SQW155B	SQW045N	113.53	0.094	3743	8.94	8.94
North	NOR010B	NOR035N	243.42	0.154	2050	1.12	1.12
North	NOR020B	NOR035N	253.65	0.133	2600	1.12	1.12
North	NOR030B	NOR030N	316.38	0.122	3800	3.65	4.62
North	NOR040B	NOR025N	201.17	0.138	6125	7.47	12.77
North	NOR050B	NOR005N	39.00	0.006	1700	12.19	14.38
North	NOR060B	NOR070N	417.48	0.059	7025	4.63	10.19
North	NOR070B	NOR095N	210.39	0.192	3900	1.13	1.14
North	NOR080B	NOR005N	169.80	0.028	5650	24.42	31.00
North	NOR090B	NOR060N	175.61	0.152	4950	10.65	27.41
North	NOR100B	NOR075N	72.71	0.165	2550	8.68	22.50
North	NOR110B	NOR080N	423.65	0.159	4400	1.50	2.32
North	NOR120B	NOR090N	155.94	0.317	4250	1.31	2.58
North	NOR130B	NOR010N	108.51	0.225	2650	11.98	27.27
North	NOR140B	NOR000N	236.67	0.084	6425	24.21	28.44
North	NOR150B	NOR050N	166.75	0.126	5100	21.20	26.91
North	NOR160B	NOR060N	207.07	0.024	4050	39.20	39.82
North	NOR170B	NOR085N	132.14	0.138	2575	3.44	18.87
North	NOR180B	NOR005N	154.28	0.047	2850	6.07	23.15
North	NOR190B	NOR050N	83.43	0.009	3325	18.28	22.44
North	NOR200B	NOR015N	167.59	0.024	7550	16.21	23.79
North	NOR210B	NOR007N	116.21	0.061	3800	37.02	40.44
Village Green	VLG100B	VLG040N	26.54	0.010	600	13.85	13.85
Village Green	VLG200B	VLG035N	32.28	0.013	1350	40.45	42.11

Table A-2. Subbasin Characteristics

Basin	Subbasin	Runoff Node	Area	Slope	Width	Present Impervious	Future Impervious
Village Green	VLG300B	VLG035N	7.37	0.012	925	43.60	46.19
Village Green	VLG400B	VLG040N	76.89	0.009	2350	19.45	19.45
Village Green	VLG500B	VLG025N	23.10	0.006	750	35.41	35.82
Village Green	VLG600B	VLG025N	29.82	0.012	2150	35.39	43.59
Village Green	VLG700B	VLG015N	61.74	0.007	2975	29.31	31.97
Village Green	VLG800B	VLG010N	57.00	0.006	3225	36.67	36.77
Village Green	VLG900B	VLG000N	65.23	0.005	4150	18.91	18.91
Sequoia	SEQ005B	SEQ345N	184.71	0.130	4560	23.80	25.14
Sequoia	SEQ010B	SEQ185N	71.34	0.076	7320	26.57	39.62
Sequoia	SEQ015B	SEQ150N	79.57	0.086	5080	34.70	50.10
Sequoia	SEQ020B	SEQ140N	20.99	0.098	1820	24.78	28.61
Sequoia	SEQ025B	SEQ120N	54.75	0.010	4250	35.01	40.54
Sequoia	SEQ030B	SEQ305N	23.90	0.118	3140	23.91	26.29
Sequoia	SEQ035B	SEQ385N	9.65	0.097	1225	21.74	26.55
Sequoia	SEQ040B	SEQ255N	23.79	0.146	910	21.76	29.28
Sequoia	SEQ045B	SEQ260N	62.31	0.157	2240	16.23	27.33
Sequoia	SEQ050B	SEQ170N	34.07	0.012	5000	27.75	27.75
Sequoia	SEQ055B	SEQ160N	84.40	0.003	6460	37.45	65.69
Sequoia	SEQ060B	SEQ100N	59.22	0.004	2790	36.87	53.70
Sequoia	SEQ065B	SEQ005N	233.00	0.006	3400	11.57	15.47
Sequoia	SEQ070B	SEQ205N	66.27	0.002	3010	38.85	39.30
Sequoia	SEQ075B	SEQ200N	108.91	0.031	9070	35.14	35.43
Sequoia	SEQ080B	SEQ195N	23.73	0.014	1920	25.78	25.78
Sequoia	SEQ085B	SEQ080N	34.83	0.005	1921	21.20	73.58
Sequoia	SEQ090B	SEQ025N	45.00	0.009	2533	29.96	48.12
Sequoia	SEQ095B	SEQ335N	15.67	0.136	1000	22.70	25.30
Sequoia	SEQ100B	SEQ285N	18.69	0.156	1260	17.97	30.73
Sequoia	SEQ105B	SEQ325N	12.67	0.078	1075	24.13	25.30
Sequoia	SEQ110B	SEQ290N	21.79	0.053	1000	24.03	30.24
Sequoia	SEQ115B	SEQ365N	17.53	0.023	1400	36.54	36.54
Sequoia	SEQ120B	SEQ345N	12.25	0.091	1150	23.29	25.30
Sequoia	SEQ125B	SEQ390N	37.92	0.113	1275	21.85	23.94
Garfield	GAR010B	GAR010N	150.97	0.011	3580	39.48	47.26
Garfield	GAR025B	GAR025N	62.56	0.010	1375	45.83	47.85
Garfield	GAR030B	GAR030N	5.14	0.025	930	46.48	81.15
Garfield	GAR055A	GAR055N	16.99	0.004	1560	44.32	76.66
Garfield	GAR055B	GAR055N	17.04	0.004	2490	46.48	81.15
Garfield	GAR075B	GAR075N	33.62	0.003	1865	37.68	37.68
Garfield	GAR090B	GAR090N	8.79	0.005	950	45.82	59.96
Garfield	GAR095B	GAR095N	5.33	0.004	1365	40.13	41.52
Garfield	GAR105B	GAR105N	7.65	0.004	1100	44.29	74.77
Garfield	GAR130B	GAR130N	17.37	0.004	1735	28.95	65.89
Garfield	GAR140B	GAR140N	6.16	0.004	1000	46.56	46.77
Garfield	GAR150B	GAR150N	13.94	0.004	2100	54.14	54.14
Oak	OAK005B	OAK205N	1562.41	0.144	12125	1.12	1.12
Oak	OAK010B	OAK215N	432.10	0.160	8575	1.12	1.12
Oak	OAK015B	OAK150N	810.41	0.086	12000	1.51	1.51
Oak	OAK020B	OAK170N	728.17	0.161	11875	1.92	2.96
Oak	OAK025B	OAK230N	260.85	0.172	5775	5.22	15.61
Oak	OAK030B	OAK240N	38.63	0.183	1150	5.81	5.81

Table A-2. Subbasin Characteristics

Basin	Subbasin	Runoff Node	Area	Slope	Width	Present Impervious	Future Impervious
Oak	OAK035B	OAK100N	254.88	0.035	3675	9.35	18.60
Oak	OAK040B	OAK100N	122.06	0.022	2600	8.66	8.66
Oak	OAK045B	OAK090N	217.88	0.030	5475	11.05	21.78
Oak	OAK050B	OAK060N	73.67	0.041	1675	44.46	47.76
Oak	OAK055B	OAK010N	48.80	0.010	1575	54.70	56.19
Oak	OAK060B	OAK025N	45.97	0.013	1175	26.08	26.18
Oak	OAK065B	OAK260N	50.38	0.010	1350	45.62	52.12
Oak	OAK070B	OAK145N	33.42	0.031	1750	39.49	39.49
Oak	OAK075B	OAK020N	33.15	0.015	900	54.59	54.59
Oak	OAK080B	OAK030N	13.46	0.017	630	58.11	58.11
Oak	OAK085B	OAK035N	24.91	0.008	1275	56.90	56.90
Oak	OAK090B	OAK205N	2352.12	0.267	15000	1.12	1.12
Oak	OAK100B	OAK045N	26.73	0.025	1275	54.81	54.81
Oak	OAK105B	OAK310N	88.47	0.010	2725	58.57	58.57
Oak	OAK110B	OAK375N	92.38	0.015	3550	22.85	29.57
Oak	OAK115B	OAK395N	18.61	0.006	2542	58.57	58.57
Oak	OAK120B	OAK280N	20.88	0.177	1275	6.56	6.56
Oak	OAK125B	OAK290N	573.92	0.171	12125	6.86	12.96
Oak	OAK130B	OAK285N	66.57	0.181	1775	5.81	5.81
Oak	OAK135B	OAK245N	104.65	0.110	3000	8.89	12.22
Oak	OAK140B	OAK235N	34.38	0.131	1725	5.57	5.65
Oak	OAK145B	OAK250N	46.33	0.158	1175	5.81	5.81
Oak	OAK150B	OAK120N	31.60	0.047	1400	5.81	5.81
Oak	OAK155B	OAK120N	33.21	0.007	1025	5.81	5.81
Oak	OAK160B	OAK380N	37.65	0.015	2391	58.57	58.57
Oak	OAK165B	OAK410N	29.38	0.013	1346	51.11	51.15
Marys River	MRY001B	MRY001N	43.65	0.092	1025	5.97	18.23
Marys River	MRY002B	MRY003N	23.16	0.088	650	16.77	25.30
Marys River	MRY003B	MRY005N	11.64	0.107	570	23.43	25.30
Goodnight	GDN015B	GDN015N	47.55	0.010	1600	7.22	32.29
Goodnight	GDN030B	GDN030N	7.96	0.010	1875	18.37	23.99
Goodnight	GDN045B	GDN045N	1.52	0.008	320	35.21	35.21
Goodnight	GDN050B	GDN050N	6.41	0.005	1075	24.31	25.30
Goodnight	GDN055B	GDN055N	12.75	0.005	1050	26.92	29.10
Goodnight	GDN060B	GDN060N	8.75	0.005	1075	16.94	25.30
Goodnight	GDN075B	GDN075N	46.71	0.005	4100	25.47	34.23
Goodnight	GDN090B	GDN090N	23.05	0.005	1500	34.73	35.35
Goodnight	GDN100B	GDN100N	11.48	0.005	1600	24.40	25.40
Goodnight	GDN140B	GDN140N	10.80	0.005	2000	25.26	25.45
Goodnight	GDN150B	GDN150N	0.70	0.005	50	25.30	25.30
Goodnight	GDN160B	GDN160N	5.67	0.005	1200	25.30	25.30
Goodnight	GDN165B	GDN165N	0.72	0.005	50	25.30	26.90
Goodnight	GDN185B	GDN185N	11.27	0.030	1000	3.16	9.23
Goodnight	GDN500B	GDN500N	0.78	0.008	300	17.80	25.30
Goodnight	GDN520B	GDN520N	5.41	0.008	1080	10.26	25.15
Goodnight	GDN535B	GDN535N	3.47	0.008	700	3.37	25.41
Goodnight	GDN550B	GDN550N	4.03	0.008	440	3.23	30.76
Goodnight	GDN555B	GDN555N	22.23	0.015	1200	3.16	40.23
Goodnight	GDN565B	GDN565N	5.91	0.015	920	3.26	35.28
Goodnight	GDN570B	GDN570N	26.27	0.005	925	3.17	35.36

Table A-2. Subbasin Characteristics

Basin	Subbasin	Runoff Node	Area	Slope	Width	Present Impervious	Future Impervious
Goodnight	GDN575B	GDN575N	19.17	0.005	700	3.73	35.36
Goodnight	GDN585B	GDN585N	15.57	0.005	500	19.47	36.46
Millrace	MIL005B	MIL005N	19.14	0.005	1425	26.60	37.94
Millrace	MIL030B	MIL030N	19.30	0.005	1325	23.57	26.63
Millrace	MIL040B	MIL035N	83.86	0.005	2475	33.33	59.67
Millrace	MIL055B	MIL055N	79.35	0.011	4300	32.37	39.20
Millrace	MIL060B	MIL060N	19.46	0.005	1200	29.93	62.27
Millrace	MIL075B	MIL075N	70.96	0.005	2650	40.49	45.12
Millrace	MIL080B	MIL080N	28.88	0.005	1025	5.76	5.76
Millrace	MIL085B	MIL085N	27.58	0.005	750	5.58	5.58

Recommendations: Given relatively favorable existing conditions, fairly minimal structural improvements and planting efforts could potentially enhance salmonid holding and spawning habitat in the upper reaches of Oak Creek. The upstream area reportedly contains cutthroat trout and conditions could readily be improved for this species. Fully functional channel and floodplain conditions, along with the establishment of a wide woody riparian corridor and stream buffer, could also be achieved with little or no infrastructure impact in this area. These generally favorable (and readily improvable) channel and riparian conditions in the upstream reaches of Oak Creek provides a strong incentive to prioritize removal of all fish passage barriers between Oak Creek's headwaters and its confluence with the Mary's River.

TABLE A-3

CLOSED CONDUIT PARAMETERS

Table A-3. Closed Conduit Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Circular Dia, ft	Mannings Roughness	Box Depth, ft	Box Width, ft	No. of conduits
Dixon	DIX225L	DIX225N	DIX220N	BRIDGE	207.50	207.00	140	0.00	0.013	20.00	16.00	1
Dixon	DIX235L	DIX235N	DIX230N	BRIDGE	203.50	203.00	150	0.00	0.013	7.60	23.00	1
Dixon	DIX245L	DIX245N	DIX240N	BRIDGE	204.30	204.00	62	0.00	0.013	7.50	17.00	1
Dixon	DIX255L	DIX255N	DIX250N	BRIDGE	205.00	204.50	150	0.00	0.013	8.70	23.00	1
Dixon	DIX475L	DIX475N	DIX470N	BRIDGE	198.00	197.50	91	0.00	0.013	11.50	8.00	1
Dixon	DIX485L	DIX485N	DIX480N	BRIDGE	206.40	206.00	56	0.00	0.013	5.70	21.00	1
Dixon	DIX495L	DIX495N	DIX490N	BRIDGE	211.60	211.00	32	0.00	0.013	6.50	20.80	1
Dixon	DIX505L	DIX505N	DIX500N	BRIDGE	213.30	213.00	124	0.00	0.013	6.80	18.00	1
Dixon	DIX515L	DIX515N	DIX510N	BRIDGE	214.00	213.80	47	0.00	0.013	10.00	11.00	1
Dixon	DIX525L	DIX525N	DIX520N	BRIDGE	214.50	214.30	64	0.00	0.013	8.00	18.10	1
Dixon	DIX535L	DIX535N	DIX530N	BRIDGE	216.30	216.00	70	0.00	0.013	7.90	18.10	1
Dixon	DIX545L	DIX545N	DIX540N	BRIDGE	218.80	218.30	55	0.00	0.013	6.00	20.00	1
Dixon	DIX560L	DIX560N	DIX555N	BRIDGE	220.00	219.73	52	0.00	0.013	7.00	6.30	2
Dixon	DIX575L	DIX575N	DIX570N	BRIDGE	224.15	223.46	127	0.00	0.013	5.20	10.60	2
Dixon	DIX590L	DIX590N	DIX585N	BRIDGE	229.00	228.50	100	0.00	0.013	5.50	21.70	1
Dixon	DIX600L	DIX600N	DIX595N	BRIDGE	234.70	234.50	135	0.00	0.013	5.70	22.00	1
Dixon	DIX610L	DIX610N	DIX605N	BRIDGE	238.70	238.20	59	0.00	0.013	5.70	19.00	1
Dixon	DIX620L	DIX620N	DIX615N	BRIDGE	243.30	243.00	22	0.00	0.013	12.00	6.00	1
Dixon	DIX635L	DIX635N	DIX630N	BRIDGE	256.50	256.00	53	0.00	0.013	3.90	16.50	1
Dixon	DIX645L	DIX645N	DIX640N	BRIDGE	260.40	259.58	86	0.00	0.013	8.00	12.00	1
Dixon	DIX675L	DIX675N	DIX670N	BRIDGE	260.55	259.65	90	0.00	0.013	4.00	6.00	1
Dixon	DIX840L	DIX840N	DIX835N	BRIDGE	302.50	302.00	41	0.00	0.013	4.10	6.30	1
Dixon	DIX850L	DIX850N	DIX845N	BRIDGE	318.50	318.00	44	0.00	0.013	3.00	4.00	1
Dixon	DIX860L	DIX860N	DIX855N	BRIDGE	338.12	330.32	140	0.00	0.025	2.70	5.30	1
Dixon	DIX655L	DIX655N	DIX650N	CULVERT	265.56	264.27	72	5.00	0.013	0.00	0.00	1
Dixon	DIX685L	DIX685N	DIX680N	CULVERT	272.50	272.00	45	3.00	0.013	0.00	0.00	1
Dixon	DIX705L	DIX705N	DIX700N	CULVERT	280.60	279.40	85	5.00	0.013	0.00	0.00	1
Dixon	DIX730L	DIX730N	DIX725N	CULVERT	384.00	382.60	70	1.75	0.025	0.00	0.00	1
Dixon	DIX755L	DIX755N	DIX750N	CULVERT	386.00	383.60	59	2.50	0.025	0.00	0.00	1
Dixon	DIX780L	DIX780N	DIX775N	CULVERT	389.00	387.60	70	1.75	0.025	0.00	0.00	1
Dixon	DIX800L	DIX800N	DIX795N	CULVERT	392.50	386.70	160	1.50	0.013	0.00	0.00	1
Dixon	DIX830L	DIX830N	DIX825N	CULVERT	296.50	296.00	58	3.00	0.013	0.00	0.00	1
Dixon	DIX870L	DIX870N	DIX865N	CULVERT	372.00	371.50	80	3.00	0.013	0.00	0.00	1
Dixon	DIX880L	DIX880N	DIX875N	CULVERT	442.50	442.00	37	3.00	0.013	0.00	0.00	1
Dixon	DIX900L	DIX900N	DIX895N	CULVERT	433.00	432.00	21	2.00	0.013	0.00	0.00	1
Dixon	DIX910L	DIX910N	DIX905N	CULVERT	462.50	462.00	52	2.00	0.013	0.00	0.00	1
Dixon	DIX920L	DIX920N	DIX915N	CULVERT	437.50	437.00	30	2.00	0.013	0.00	0.00	1

Table A-3. Closed Conduit Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Circular Dia, ft	Mannings Roughness	Box Depth, ft	Box Width, ft	No. of conduits
Dixon	DIX940L	DIX940N	DIX935N	CULVERT	472.00	462.00	289	2.00	0.013	0.00	0.00	1
Dixon	DIX965L	DIX965N	DIX960N	CULVERT	534.50	534.00	37	2.00	0.013	0.00	0.00	1
Dixon	DIX975L	DIX975N	DIX970N	CULVERT	552.50	552.00	24	2.00	0.013	0.00	0.00	1
Dixon	DIX985L	DIX985N	DIX980N	CULVERT	558.50	558.00	21	2.00	0.013	0.00	0.00	1
Dixon	DIX995L	DIX995N	DIX990N	CULVERT	576.50	576.00	29	2.00	0.013	0.00	0.00	1
Dixon	DIX260L	DIX260N	DIX530N	PIPE	219.70	216.30	920	3.00	0.013	0.00	0.00	1
Dixon	DIX265L	DIX265N	DIX260N	PIPE	220.19	219.70	217	3.00	0.013	0.00	0.00	1
Dixon	DIX270L	DIX270N	DIX265N	PIPE	220.40	220.19	81	3.00	0.013	0.00	0.00	1
Dixon	DIX275L	DIX275N	DIX270N	PIPE	220.90	220.40	259	3.00	0.013	0.00	0.00	1
Dixon	DIX280L	DIX280N	DIX275N	PIPE	222.07	220.90	570	3.00	0.013	0.00	0.00	1
Dixon	DIX285L	DIX285N	DIX280N	PIPE	222.83	222.07	381	3.00	0.013	0.00	0.00	1
Dixon	DIX290L	DIX290N	DIX285N	PIPE	223.63	222.83	378	3.00	0.013	0.00	0.00	1
Dixon	DIX295L	DIX295N	DIX290N	PIPE	224.42	223.63	260	2.00	0.013	0.00	0.00	1
Dixon	DIX300L	DIX300N	DIX295N	PIPE	224.47	224.42	25	2.00	0.013	0.00	0.00	1
Dixon	DIX305L	DIX305N	DIX300N	PIPE	225.45	224.47	407	2.00	0.013	0.00	0.00	1
Dixon	DIX310L	DIX310N	DIX305N	PIPE	227.93	225.45	405	1.50	0.013	0.00	0.00	1
Dixon	DIX315L	DIX315N	DIX310N	PIPE	229.55	227.93	236	1.50	0.013	0.00	0.00	1
Dixon	DIX320L	DIX320N	DIX315N	PIPE	230.40	229.55	172	1.50	0.013	0.00	0.00	1
Dixon	DIX325L	DIX325N	DIX320N	PIPE	230.99	230.40	121	1.50	0.013	0.00	0.00	1
Dixon	DIX330L	DIX330N	DIX325N	PIPE	235.57	230.99	266	1.50	0.013	0.00	0.00	1
Dixon	DIX335L	DIX335N	DIX330N	PIPE	239.96	235.57	259	1.50	0.013	0.00	0.00	1
Dixon	DIX340L	DIX340N	DIX335N	PIPE	246.53	239.96	367	1.50	0.013	0.00	0.00	1
Dixon	DIX345L	DIX345N	DIX690N	PIPE	274.58	273.00	95	3.00	0.013	0.00	0.00	1
Dixon	DIX350L	DIX350N	DIX345N	PIPE	275.00	274.58	81	3.00	0.013	0.00	0.00	1
Dixon	DIX355L	DIX355N	DIX350N	PIPE	281.50	275.00	347	3.00	0.013	0.00	0.00	1
Dixon	DIX360L	DIX360N	DIX395N	PIPE	237.73	234.65	614	3.00	0.013	0.00	0.00	1
Dixon	DIX365L	DIX365N	DIX360N	PIPE	240.53	237.73	471	3.00	0.013	0.00	0.00	1
Dixon	DIX370L	DIX370N	DIX365N	PIPE	247.18	240.53	557	3.00	0.013	0.00	0.00	1
Dixon	DIX375L	DIX375N	DIX370N	PIPE	253.56	247.18	477	3.00	0.013	0.00	0.00	1
Dixon	DIX380L	DIX380N	DIX375N	PIPE	273.93	253.56	626	3.00	0.013	0.00	0.00	1
Dixon	DIX385L	DIX385N	DIX380N	PIPE	284.00	273.93	268	3.00	0.013	0.00	0.00	1
Dixon	DIX390L	DIX390N	DIX385N	PIPE	292.00	284.00	171	3.00	0.013	0.00	0.00	1
Dixon	DIX395L	DIX395N	DIX595N	PIPE	234.65	234.50	59	3.00	0.013	0.00	0.00	1
Dixon	DIX400L	DIX400N	DIX395N	PIPE	239.09	234.65	589	3.00	0.013	0.00	0.00	1
Dixon	DIX405L	DIX405N	DIX400N	PIPE	242.98	239.09	520	3.00	0.013	0.00	0.00	1
Dixon	DIX410L	DIX410N	DIX405N	PIPE	252.03	242.98	580	3.00	0.013	0.00	0.00	1
Dixon	DIX415L	DIX415N	DIX410N	PIPE	258.50	252.03	402	3.00	0.013	0.00	0.00	1

Table A-3. Closed Conduit Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Circular Dia, ft	Mannings Roughness	Box Depth, ft	Box Width, ft	No. of conduits
Dixon	DIX420L	DIX420N	DIX590N	PIPE	231.44	230.93	307	3.00	0.013	0.00	0.00	1
Dixon	DIX425L	DIX425N	DIX420N	PIPE	231.73	231.44	65	2.50	0.013	0.00	0.00	1
Dixon	DIX430L	DIX430N	DIX425N	PIPE	233.55	231.73	473	2.50	0.013	0.00	0.00	1
Dixon	DIX435L	DIX435N	DIX430N	PIPE	234.69	233.55	346	2.25	0.013	0.00	0.00	1
Dixon	DIX440L	DIX440N	DIX435N	PIPE	243.52	234.69	465	1.75	0.013	0.00	0.00	1
Dixon	DIX445L	DIX445N	DIX440N	PIPE	245.34	243.52	100	1.75	0.013	0.00	0.00	1
Dixon	DIX450L	DIX450N	DIX445N	PIPE	248.70	245.34	179	1.75	0.013	0.00	0.00	1
Dixon	DIX455L	DIX455N	DIX450N	PIPE	254.59	248.70	168	1.75	0.013	0.00	0.00	1
Dixon	DIX460L	DIX460N	DIX455N	PIPE	258.86	254.59	121	1.75	0.013	0.00	0.00	1
Dixon	DIX465L	DIX465N	DIX460N	PIPE	273.30	258.86	267	1.75	0.013	0.00	0.00	1
Squaw	SQW000L	SQW000N	SQWOUTN	BRIDGE	206.00	205.50	48	0.00	0.013	10.50	27.86	1
Squaw	SQW020L	SQW020N	SQW015N	BRIDGE	220.90	220.70	36	0.00	0.035	3.40	20.00	1
Squaw	SQW030L	SQW030N	SQW025N	BRIDGE	226.80	226.50	57	0.00	0.013	6.00	22.00	1
Squaw	SQW045L	SQW045N	SQW040N	BRIDGE	228.75	228.50	52.5	0.00	0.013	4.00	6.00	3
Squaw	SQW125L	SQW125N	SQW085N	BRIDGE	237.05	236.55	100	0.00	0.013	6.00	4.00	2
Squaw	SQW205L	SQW205N	SQW200N	BRIDGE	233.00	232.75	24	0.00	0.013	6.00	15.00	1
Squaw	SQW215L	SQW215N	SQW210N	BRIDGE	234.00	233.50	55	0.00	0.013	4.00	6.00	2
Squaw	SQW230L	SQW230N	SQW220N	BRIDGE	234.00	233.50	52	0.00	0.013	4.00	6.00	2
Squaw	SQW235L	SQW235N	SQW230N	BRIDGE	235.00	234.00	56	0.00	0.013	4.00	6.00	2
Squaw	SQW240L	SQW240N	SQW235N	BRIDGE	236.00	235.00	56	0.00	0.013	4.00	6.00	1
Squaw	SQW250L	SQW250N	SQW245N	BRIDGE	242.00	240.00	37.5	0.00	0.013	4.00	10.00	2
Squaw	SQW055L	SQW055N	SQW050N	CULVERT	233.39	233.10	67.5	4.50	0.013	0.00	0.00	3
Squaw	SQW135L	SQW135N	SQW130N	CULVERT	244.50	244.00	82	2.00	0.014	0.00	0.00	2
Squaw	SQW145L	SQW145N	SQW140N	CULVERT	252.00	251.50	77	5.39	0.014	0.00	0.00	1
Squaw	SQW260L	SQW260N	SQW255N	CULVERT	257.00	256.00	73	5.00	0.013	0.00	0.00	1
Squaw	SQW265L	SQW265N	SQW080N	CULVERT	255.00	254.00	76	4.00	0.014	0.00	0.00	1
Squaw	SQW090L	SQW090N	SQW085N	PIPE	237.93	237.00	147	2.25	0.013	0.00	0.00	1
Squaw	SQW095L	SQW095N	SQW090N	PIPE	238.58	237.93	180	2.00	0.013	0.00	0.00	1
Squaw	SQW100L	SQW100N	SQW095N	PIPE	239.41	238.58	192	2.00	0.013	0.00	0.00	1
Squaw	SQW105L	SQW105N	SQW100N	PIPE	240.38	239.41	251	2.00	0.013	0.00	0.00	1
Squaw	SQW110L	SQW110N	SQW105N	PIPE	242.18	240.38	245	1.50	0.013	0.00	0.00	1
Squaw	SQW120L	SQW120N	SQW110N	PIPE	244.14	242.18	284	1.25	0.013	0.00	0.00	1
Squaw	SQW170L	SQW170N	SQW040N	PIPE	229.07	228.50	152	2.50	0.013	0.00	0.00	1
Squaw	SQW175L	SQW175N	SQW170N	PIPE	230.17	229.07	309	2.50	0.013	0.00	0.00	1
Squaw	SQW180L	SQW180N	SQW175N	PIPE	231.88	230.17	223	2.00	0.013	0.00	0.00	1
Squaw	SQW185L	SQW185N	SQW180N	PIPE	233.80	231.88	318	2.00	0.013	0.00	0.00	1
Squaw	SQW190L	SQW190N	SQW185N	PIPE	236.96	233.80	282	1.75	0.013	0.00	0.00	1

Table A-3. Closed Conduit Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Circular Dia, ft	Mannings Roughness	Box Depth, ft	Box Width, ft	No. of conduits
Squaw	SQW195L	SQW195N	SQW190N	PIPE	241.10	236.96	296	1.50	0.013	0.00	0.00	1
North	NOR005L	NOR005N	NOR000N	BRIDGE	217.64	217.00	67	0.00	0.013	5.00	14.00	2
North	NOR025L	NOR025N	NOR020N	BRIDGE	294.05	293.53	35	0.00	0.025	5.67	20.00	1
North	NOR060L	NOR060N	NOR055N	BRIDGE	261.52	261.00	49	0.00	0.025	6.24	9.00	1
North	NOR015L	NOR015N	NOR010N	CULVERT	263.24	262.58	95	9.25	0.025	0.00	0.00	1
North	NOR070L	NOR070N	NOR065N	CULVERT	311.67	310.81	43	6.00	0.025	0.00	0.00	1
Village Green	VLG015L	VLG015N	VLG010N	BRIDGE	206.10	206.00	50	0.00	0.035	5.67	16.00	1
Village Green	VLG025L	VLG025N	VLG020N	BRIDGE	207.60	207.34	84	0.00	0.013	4.40	4.20	2
Village Green	VLG005L	VLG005N	VLG000N	CULVERT	204.10	204.00	61	4.00	0.013	0.00	0.00	2
Village Green	VLG035L	VLG035N	VLG030N	CULVERT	209.00	208.70	54	3.50	0.013	0.00	0.00	3
Sequoia	SEQ005L	SEQ005N	SEQ000N	BRIDGE	201.10	201.00	28	0.00	0.013	4.00	10.00	1
Sequoia	SEQ025L	SEQ025N	SEQ020N	BRIDGE	212.49	212.30	12	0.00	0.035	5.67	16.00	1
Sequoia	SEQ120L	SEQ120N	SEQ115N	BRIDGE	217.38	216.62	96	0.00	0.013	4.00	6.00	2
Sequoia	SEQ160L	SEQ160N	SEQ155N	BRIDGE	218.20	218.00	85	0.00	0.013	4.00	5.00	2
Sequoia	SEQ170L	SEQ170N	SEQ165N	BRIDGE	218.50	218.40	222	0.00	0.013	5.00	10.00	1
Sequoia	SEQ175L	SEQ175N	SEQ170N	BRIDGE	220.00	218.70	364	0.00	0.013	5.00	10.00	1
Sequoia	SEQ180L	SEQ180N	SEQ175N	BRIDGE	221.04	220.20	360	0.00	0.013	5.00	10.00	1
Sequoia	SEQ185L	SEQ185N	SEQ180N	BRIDGE	223.02	221.60	275	0.00	0.025	5.00	10.00	1
Sequoia	SEQ130L	SEQ130N	SEQ125N	CULVERT	222.20	222.00	165	1.75	0.013	0.00	0.00	1
Sequoia	SEQ145L	SEQ145N	SEQ140N	CULVERT	226.00	225.90	113	1.50	0.013	0.00	0.00	1
Sequoia	SEQ315L	SEQ315N	SEQ310N	CULVERT	244.00	243.80	77	3.00	0.013	0.00	0.00	2
Sequoia	SEQ325L	SEQ325N	SEQ320N	CULVERT	250.50	250.30	59	3.50	0.025	0.00	0.00	1
Sequoia	SEQ335L	SEQ335N	SEQ330N	CULVERT	258.00	257.80	69	3.00	0.025	0.00	0.00	1
Sequoia	SEQ345L	SEQ345N	SEQ340N	CULVERT	294.25	292.18	91	4.50	0.025	0.00	0.00	1
Sequoia	SEQ035L	SEQ035N	SEQ030N	PIPE	213.60	213.56	14	4.00	0.013	0.00	0.00	1
Sequoia	SEQ040L	SEQ040N	SEQ035N	PIPE	213.78	213.60	68	4.00	0.013	0.00	0.00	1
Sequoia	SEQ045L	SEQ045N	SEQ040N	PIPE	213.85	213.78	46	4.00	0.013	0.00	0.00	1
Sequoia	SEQ050L	SEQ050N	SEQ045N	PIPE	213.95	213.85	53	4.00	0.013	0.00	0.00	1
Sequoia	SEQ055L	SEQ055N	SEQ050N	PIPE	214.57	213.95	336	3.00	0.013	0.00	0.00	1
Sequoia	SEQ060L	SEQ060N	SEQ055N	PIPE	215.13	214.57	326	3.00	0.013	0.00	0.00	1
Sequoia	SEQ065L	SEQ065N	SEQ060N	PIPE	215.18	215.13	21	3.00	0.013	0.00	0.00	1
Sequoia	SEQ070L	SEQ070N	SEQ065N	PIPE	215.74	215.18	302	3.00	0.013	0.00	0.00	1
Sequoia	SEQ075L	SEQ075N	SEQ070N	PIPE	215.91	215.74	53	3.00	0.013	0.00	0.00	1
Sequoia	SEQ080L	SEQ080N	SEQ075N	PIPE	216.67	215.91	303	3.00	0.013	0.00	0.00	1
Sequoia	SEQ092L	SEQ092N	SEQ190N	PIPE	220.53	220.10	22	2.50	0.013	0.00	0.00	1
Sequoia	SEQ195L	SEQ195N	SEQ190N	PIPE	220.10	220.10	19	3.00	0.013	0.00	0.00	1
Sequoia	SEQ200L	SEQ200N	SEQ195N	PIPE	220.36	220.10	342	3.00	0.013	0.00	0.00	1

Table A-3. Closed Conduit Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Circular Dia, ft	Mannings Roughness	Box Depth, ft	Box Width, ft	No. of conduits
Sequoia	SEQ205L	SEQ205N	SEQ190N	PIPE	220.97	220.10	630	3.00	0.013	0.00	0.00	1
Sequoia	SEQ210L	SEQ210N	SEQ092N	PIPE	222.78	220.53	431	2.50	0.013	0.00	0.00	1
Sequoia	SEQ220L	SEQ220N	SEQ210N	PIPE	225.00	222.78	423	2.50	0.013	0.00	0.00	1
Sequoia	SEQ225L	SEQ225N	SEQ220N	PIPE	227.90	225.23	268	2.00	0.013	0.00	0.00	1
Sequoia	SEQ230L	SEQ230N	SEQ225N	PIPE	227.00	228.00	53	2.00	0.013	0.00	0.00	1
Sequoia	SEQ231L	SEQ230N	SEQ305N	PIPE	227.00	227.00	44	4.50	0.013	0.00	0.00	1
Sequoia	SEQ235L	SEQ235N	SEQ230N	PIPE	230.12	227.00	606	4.00	0.013	0.00	0.00	1
Sequoia	SEQ240L	SEQ240N	SEQ235N	PIPE	233.40	230.12	500	4.00	0.013	0.00	0.00	1
Sequoia	SEQ245L	SEQ245N	SEQ240N	PIPE	234.50	234.40	50	3.00	0.013	0.00	0.00	1
Sequoia	SEQ250L	SEQ250N	SEQ245N	PIPE	235.00	234.50	62	3.00	0.013	0.00	0.00	1
Sequoia	SEQ255L	SEQ255N	SEQ250N	PIPE	236.65	235.00	103	2.50	0.013	0.00	0.00	1
Sequoia	SEQ260L	SEQ260N	SEQ255N	PIPE	241.20	236.65	285	2.50	0.013	0.00	0.00	1
Sequoia	SEQ265L	SEQ265N	SEQ305N	PIPE	237.00	227.00	407	2.00	0.013	0.00	0.00	1
Sequoia	SEQ270L	SEQ270N	SEQ265N	PIPE	249.53	241.08	107	1.50	0.013	0.00	0.00	1
Sequoia	SEQ275L	SEQ275N	SEQ270N	PIPE	266.81	249.53	247	1.50	0.013	0.00	0.00	1
Sequoia	SEQ280L	SEQ280N	SEQ275N	PIPE	271.93	266.81	73	1.50	0.013	0.00	0.00	1
Sequoia	SEQ285L	SEQ285N	SEQ280N	PIPE	287.95	272.03	383	1.50	0.013	0.00	0.00	1
Sequoia	SEQ305L	SEQ305N	SEQ370N	PIPE	225.69	225.44	124	4.50	0.013	0.00	0.00	1
Sequoia	SEQ360L	SEQ360N	SEQ185N	PIPE	223.79	223.02	133	4.50	0.013	0.00	0.00	1
Sequoia	SEQ365L	SEQ365N	SEQ360N	PIPE	224.79	223.79	545	4.50	0.013	0.00	0.00	1
Sequoia	SEQ370L	SEQ370N	SEQ365N	PIPE	225.44	224.79	539	4.50	0.013	0.00	0.00	1
Sequoia	SEQ375L	SEQ375N	SEQ245N	PIPE	236.74	234.50	66	2.50	0.013	0.00	0.00	1
Sequoia	SEQ380L	SEQ380N	SEQ375N	PIPE	247.00	236.74	347	2.50	0.013	0.00	0.00	1
Sequoia	SEQ385L	SEQ385N	SEQ380N	PIPE	252.75	247.00	191	2.50	0.013	0.00	0.00	1
Sequoia	SEQ390L	SEQ390N	SEQ385N	PIPE	266.50	252.75	280	2.50	0.013	0.00	0.00	1
Garfield	GAR005L	GAR005N	GAR000N	CULVERT	202.75	200.23	84	3.00	0.025	0.00	0.00	1
Garfield	GAR020L	GAR020N	GAR015N	CULVERT	214.49	214.44	48	4.00	0.025	0.00	0.00	1
Garfield	GAR030L	GAR030N	GAR025N	CULVERT	214.92	214.86	52.5	4.00	0.025	0.00	0.00	1
Garfield	GAR045L	GAR045N	GAR040N	PIPE	217.00	216.63	101	3.00	0.013	0.00	0.00	1
Garfield	GAR050L	GAR050N	GAR045N	PIPE	218.10	217.20	311	3.00	0.013	0.00	0.00	1
Garfield	GAR055L	GAR055N	GAR050N	PIPE	218.48	218.10	39	3.00	0.013	0.00	0.00	1
Garfield	GAR060L	GAR060N	GAR055N	PIPE	220.81	218.48	40	2.00	0.013	0.00	0.00	1
Garfield	GAR065L	GAR065N	GAR060N	PIPE	221.32	220.81	514	2.00	0.013	0.00	0.00	1
Garfield	GAR070L	GAR070N	GAR065N	PIPE	221.73	221.32	388	2.00	0.013	0.00	0.00	1
Garfield	GAR075L	GAR075N	GAR070N	PIPE	221.98	221.73	218	2.00	0.013	0.00	0.00	1
Garfield	GAR080L	GAR080N	GAR055N	PIPE	218.83	218.48	48	2.00	0.013	0.00	0.00	1
Garfield	GAR085L	GAR085N	GAR080N	PIPE	219.24	218.83	364	1.50	0.013	0.00	0.00	1

Table A-3. Closed Conduit Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Circular Dia, ft	Mannings Roughness	Box Depth, ft	Box Width, ft	No. of conduits
Garfield	GAR090L	GAR090N	GAR085N	PIPE	219.51	219.24	292	1.50	0.013	0.00	0.00	1
Garfield	GAR095L	GAR095N	GAR090N	PIPE	219.63	219.51	123	1.50	0.013	0.00	0.00	1
Garfield	GAR100L	GAR100N	GAR035N	PIPE	215.88	215.70	100	3.50	0.013	0.00	0.00	1
Garfield	GAR105L	GAR105N	GAR100N	PIPE	216.63	215.88	461	3.50	0.013	0.00	0.00	1
Garfield	GAR110L	GAR110N	GAR105N	PIPE	217.02	216.63	224	3.50	0.013	0.00	0.00	1
Garfield	GAR120L	GAR120N	GAR110N	PIPE	217.81	217.02	578	3.50	0.013	0.00	0.00	1
Garfield	GAR125L	GAR125N	GAR120N	PIPE	218.37	217.81	265	3.50	0.013	0.00	0.00	1
Garfield	GAR130L	GAR130N	GAR125N	PIPE	218.56	218.37	98	3.00	0.013	0.00	0.00	1
Garfield	GAR135L	GAR135N	GAR130N	PIPE	218.38	218.56	182	2.25	0.013	0.00	0.00	1
Garfield	GAR140L	GAR140N	GAR135N	PIPE	218.80	218.38	170	2.25	0.013	0.00	0.00	1
Garfield	GAR145L	GAR145N	GAR140N	PIPE	219.22	218.80	364	2.25	0.013	0.00	0.00	1
Garfield	GAR150L	GAR150N	GAR145N	PIPE	219.72	219.22	22	2.25	0.013	0.00	0.00	1
Oak	OAK010L	OAK010N	OAK005N	BRIDGE	202.48	201.50	122	0.00	0.025	12.00	12.00	2
Oak	OAK020L	OAK020N	OAK015N	BRIDGE	203.00	202.75	31	0.00	0.025	17.00	26.00	2
Oak	OAK030L	OAK030N	OAK025N	BRIDGE	210.00	209.50	50	0.00	0.025	10.00	34.00	1
Oak	OAK040L	OAK040N	OAK035N	BRIDGE	217.00	216.00	45	0.00	0.025	6.50	35.30	1
Oak	OAK065L	OAK065N	OAK060N	BRIDGE	221.00	220.00	90	0.00	0.025	10.00	43.00	1
Oak	OAK085L	OAK085N	OAK080N	BRIDGE	225.00	224.50	21	0.00	0.025	11.00	25.50	1
Oak	OAK135L	OAK135N	OAK130N	BRIDGE	266.00	265.50	64	0.00	0.025	6.00	31.50	1
Oak	OAK145L	OAK145N	OAK140N	BRIDGE	279.00	278.50	81	0.00	0.025	9.00	15.60	1
Oak	OAK160L	OAK160N	OAK155N	BRIDGE	299.96	299.50	73	0.00	0.025	9.00	20.00	1
Oak	OAK115L	OAK115N	OAK110N	CULVERT	262.30	261.80	67	7.00	0.025	0.00	0.00	2
Oak	OAK230L	OAK230N	OAK225N	CULVERT	268.85	268.00	129	5.50	0.025	0.00	0.00	1
Oak	OAK240L	OAK240N	OAK235N	CULVERT	284.00	280.00	157	3.00	0.025	0.00	0.00	1
Oak	OAK250L	OAK250N	OAK245N	CULVERT	301.00	296.00	164	7.50	0.025	0.00	0.00	1
Oak	OAK260L	OAK260N	OAK255N	CULVERT	269.05	268.55	167	5.75	0.025	0.00	0.00	1
Oak	OAK285L	OAK285N	OAK280N	CULVERT	335.36	334.88	211	7.50	0.025	0.00	0.00	1
Oak	OAK295L	OAK295N	OAK033N	PIPE	213.13	211.00	274	4.00	0.013	0.00	0.00	1
Oak	OAK305L	OAK305N	OAK295N	PIPE	216.59	213.13	309	3.00	0.013	0.00	0.00	1
Oak	OAK310L	OAK310N	OAK305N	PIPE	219.87	216.59	293	3.00	0.013	0.00	0.00	1
Oak	OAK315L	OAK315N	OAK310N	PIPE	223.43	219.87	318	3.00	0.013	0.00	0.00	1
Oak	OAK325L	OAK325N	OAK315N	PIPE	224.25	223.43	73	3.00	0.013	0.00	0.00	1
Oak	OAK330L	OAK330N	OAK325N	PIPE	225.32	224.25	260	3.00	0.013	0.00	0.00	1
Oak	OAK335L	OAK335N	OAK330N	PIPE	226.16	225.32	202	3.00	0.013	0.00	0.00	1
Oak	OAK340L	OAK340N	OAK335N	PIPE	226.54	226.16	91	3.00	0.013	0.00	0.00	1
Oak	OAK345L	OAK345N	OAK340N	PIPE	228.00	226.54	353	3.00	0.013	0.00	0.00	1
Oak	OAK355L	OAK355N	OAK350N	PIPE	234.96	234.15	304	1.50	0.013	0.00	0.00	1

Table A-3. Closed Conduit Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Circular Dia, ft	Mannings Roughness	Box Depth, ft	Box Width, ft	No. of conduits
Oak	OAK365L	OAK365N	OAK355N	PIPE	235.71	234.96	279	1.50	0.013	0.00	0.00	1
Oak	OAK370L	OAK370N	OAK365N	PIPE	238.35	235.71	984	1.50	0.013	0.00	0.00	1
Oak	OAK375L	OAK375N	OAK370N	PIPE	236.53	238.35	55	1.50	0.013	0.00	0.00	1
Oak	OAK376L	OAK375N	OAK420N	PIPE	239.90	235.07	355	1.50	0.013	0.00	0.00	1
Oak	OAK380L	OAK380N	OAK345N	PIPE	228.24	228.00	70	3.00	0.013	0.00	0.00	1
Oak	OAK385L	OAK385N	OAK380N	PIPE	229.19	228.24	284	3.00	0.013	0.00	0.00	1
Oak	OAK390L	OAK390N	OAK385N	PIPE	230.03	229.19	251	3.00	0.013	0.00	0.00	1
Oak	OAK395L	OAK395N	OAK390N	PIPE	230.90	230.03	261	3.00	0.013	0.00	0.00	1
Oak	OAK400L	OAK400N	OAK395N	PIPE	231.53	230.90	207	1.50	0.013	0.00	0.00	1
Oak	OAK405L	OAK405N	OAK400N	PIPE	232.08	231.53	186	1.50	0.013	0.00	0.00	1
Oak	OAK410L	OAK410N	OAK405N	PIPE	232.66	232.08	196	1.50	0.013	0.00	0.00	1
Oak	OAK415L	OAK415N	OAK410N	PIPE	233.63	232.66	327	1.50	0.013	0.00	0.00	1
Oak	OAK420L	OAK420N	OAK415N	PIPE	235.07	233.63	105	1.50	0.013	0.00	0.00	1
Marys River	MRY001L	MRY001N	MRY000N	CULVERT	20.00	18.92	53	2.00	0.013	0.00	0.00	1
Marys River	MRY003L	MRY003N	MRY002N	CULVERT	20.00	19.17	57	2.00	0.013	0.00	0.00	1
Marys River	MRY005L	MRY005N	MRY004N	CULVERT	20.00	5.58	84.5	2.00	0.013	0.00	0.00	1
Goodnight	GDN190L	GDN190N	GDN185N	CULVERT	233.50	233.50	75	1.00	0.013	0.00	0.00	4
Goodnight	GDN560L	GDN560N	GDN555N	CULVERT	232.00	232.00	97	1.50	0.013	0.00	0.00	1
Goodnight	GDN570L	GDN570N	GDN565N	CULVERT	232.70	232.60	103	1.00	0.013	0.00	0.00	1
Goodnight	GDN005L	GDN005N	GDN000N	PIPE	217.73	216.68	533	4.00	0.013	0.00	0.00	1
Goodnight	GDN010L	GDN010N	GDN005N	PIPE	218.43	217.73	448	4.00	0.013	0.00	0.00	1
Goodnight	GDN015L	GDN015N	GDN010N	PIPE	219.23	218.43	401	4.00	0.013	0.00	0.00	1
Goodnight	GDN030L	GDN030N	GDN015N	PIPE	221.33	219.23	505	3.50	0.013	0.00	0.00	1
Goodnight	GDN035L	GDN035N	GDN030N	PIPE	222.22	221.33	370	3.50	0.013	0.00	0.00	1
Goodnight	GDN040L	GDN040N	GDN035N	PIPE	222.53	222.22	131	3.50	0.013	0.00	0.00	1
Goodnight	GDN045L	GDN045N	GDN040N	PIPE	223.05	222.53	314	2.00	0.013	0.00	0.00	1
Goodnight	GDN050L	GDN050N	GDN045N	PIPE	224.33	223.05	112	2.00	0.013	0.00	0.00	1
Goodnight	GDN055L	GDN055N	GDN050N	PIPE	225.57	224.33	422	2.00	0.013	0.00	0.00	1
Goodnight	GDN060L	GDN060N	GDN040N	PIPE	223.42	222.53	236	3.00	0.013	0.00	0.00	1
Goodnight	GDN065L	GDN065N	GDN060N	PIPE	223.58	223.42	25	3.00	0.013	0.00	0.00	1
Goodnight	GDN075L	GDN075N	GDN065N	PIPE	224.60	223.58	508	3.00	0.013	0.00	0.00	1
Goodnight	GDN085L	GDN085N	GDN045N	PIPE	225.40	223.05	324	2.50	0.013	0.00	0.00	1
Goodnight	GDN090L	GDN090N	GDN085N	PIPE	226.40	225.40	234	2.50	0.013	0.00	0.00	1
Goodnight	GDN095L	GDN095N	GDN090N	PIPE	226.42	226.40	84	2.50	0.013	0.00	0.00	1
Goodnight	GDN100L	GDN100N	GDN095N	PIPE	226.76	226.42	136	3.00	0.013	0.00	0.00	1
Goodnight	GDN105L	GDN105N	GDN100N	PIPE	227.00	226.76	147	3.00	0.013	0.00	0.00	1
Goodnight	GDN110L	GDN110N	GDN105N	PIPE	227.20	227.00	134	3.00	0.013	0.00	0.00	1

Table A-3. Closed Conduit Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Circular Dia, ft	Mannings Roughness	Box Depth, ft	Box Width, ft	No. of conduits
Goodnight	GDN115L	GDN115N	GDN110N	PIPE	227.29	227.20	350	2.50	0.013	0.00	0.00	1
Goodnight	GDN120L	GDN120N	GDN115N	PIPE	227.51	227.29	216	2.50	0.013	0.00	0.00	1
Goodnight	GDN125L	GDN125N	GDN120N	PIPE	227.65	227.51	105	2.00	0.013	0.00	0.00	1
Goodnight	GDN130L	GDN130N	GDN125N	PIPE	227.94	227.65	166	2.00	0.013	0.00	0.00	1
Goodnight	GDN135L	GDN135N	GDN130N	PIPE	228.16	227.94	127	2.00	0.013	0.00	0.00	1
Goodnight	GDN140L	GDN140N	GDN135N	PIPE	228.53	228.16	104	1.50	0.013	0.00	0.00	1
Goodnight	GDN145L	GDN145N	GDN140N	PIPE	228.95	228.53	216	1.00	0.013	0.00	0.00	1
Goodnight	GDN150L	GDN150N	GDN145N	PIPE	229.87	228.95	341	1.00	0.013	0.00	0.00	1
Goodnight	GDN155L	GDN155N	GDN120N	PIPE	227.90	227.51	174	1.00	0.013	0.00	0.00	1
Goodnight	GDN160L	GDN160N	GDN155N	PIPE	228.50	227.90	196	1.00	0.013	0.00	0.00	1
Goodnight	GDN165L	GDN165N	GDN160N	PIPE	229.27	228.50	255	1.00	0.013	0.00	0.00	1
Goodnight	GDN185a	GDN185N	GDN525N	PIPE	234.30	228.00	147	0.83	0.013	0.00	0.00	1
Goodnight	GDN500L	GDN500N	GDN035N	PIPE	223.75	223.40	132	2.00	0.013	0.00	0.00	1
Goodnight	GDN510L	GDN510N	GDN500N	PIPE	224.15	223.75	84	2.00	0.013	0.00	0.00	1
Goodnight	GDN515L	GDN515N	GDN510N	PIPE	224.73	224.15	133	2.00	0.013	0.00	0.00	1
Goodnight	GDN520L	GDN520N	GDN515N	PIPE	225.47	224.73	139	2.00	0.013	0.00	0.00	1
Goodnight	GDN525L	GDN525N	GDN520N	PIPE	225.93	225.47	145	2.00	0.013	0.00	0.00	1
Goodnight	GDN530L	GDN530N	GDN525N	PIPE	226.26	226.13	64	2.00	0.013	0.00	0.00	1
Goodnight	GDN535L	GDN535N	GDN530N	PIPE	227.00	226.47	132	1.50	0.013	0.00	0.00	1
Goodnight	GDN540L	GDN540N	GDN535N	PIPE	227.74	227.22	117	1.50	0.013	0.00	0.00	1
Goodnight	GDN545L	GDN545N	GDN540N	PIPE	228.60	228.00	265	1.25	0.013	0.00	0.00	1
Goodnight	GDN550L	GDN550N	GDN545N	PIPE	229.04	228.70	69	1.25	0.013	0.00	0.00	1
Mill Race	MIL030L	MIL030N	MIL025N	BRIDGE	199.00	198.50	54	0.00	0.025	15.00	22.00	1
Mill Race	MIL045L	MIL045N	MIL040N	BRIDGE	208.26	208.00	35	0.00	0.025	8.50	19.60	1
Mill Race	MIL060L	MIL060N	MIL055N	BRIDGE	208.70	208.63	111	0.00	0.025	8.00	20.00	1
Mill Race	MIL010L	MIL010N	MIL005N	CULVERT	203.25	202.75	412	11.25	0.025	0.00	0.00	1
Mill Race	MIL020L	MIL020N	MIL015N	CULVERT	204.00	203.30	73	0.00	0.025	11.50	0.00	1
Mill Race	MIL080L	MIL080N	MIL075N	CULVERT	208.11	208.00	45	4.00	0.025	0.00	0.00	1

TABLE A-4

OPEN CHANNEL PARAMETERS

Table A-4. Open Channel Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Left Bank Roughness	Channel Roughness	Right Bank Roughness	Left Bank Slope	Right Bank Slope	Channel Roughness	Depth, ft	Width, ft
Dixon	DIX220L	DIX220N	DIX485N	NCHANNEL	207.00	206.40	228	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX230L	DIX230N	DIX475N	NCHANNEL	203.00	198.00	1086	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX240L	DIX240N	DIX235N	NCHANNEL	204.00	203.50	203	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX250L	DIX250N	DIX245N	NCHANNEL	204.50	204.30	39	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX480L	DIX480N	DIX255N	NCHANNEL	206.00	205.00	240	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX490L	DIX490N	DIX225N	NCHANNEL	211.00	207.50	560	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX500L	DIX500N	DIX495N	NCHANNEL	213.00	211.60	279	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX510L	DIX510N	DIX505N	NCHANNEL	213.80	213.30	671	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX520L	DIX520N	DIX515N	NCHANNEL	214.30	214.00	250	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX530L	DIX530N	DIX525N	NCHANNEL	216.00	214.50	667	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX540L	DIX540N	DIX535N	NCHANNEL	218.30	216.30	915	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX555L	DIX555N	DIX545N	NCHANNEL	219.73	218.80	476	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX565L	DIX565N	DIX560N	NCHANNEL	222.00	220.00	843	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX570L	DIX570N	DIX565N	NCHANNEL	223.46	222.00	715	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX580L	DIX580N	DIX575N	NCHANNEL	228.00	224.15	1084	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX585L	DIX585N	DIX580N	NCHANNEL	228.50	228.00	513	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX595L	DIX595N	DIX590N	NCHANNEL	234.50	229.00	867	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX605L	DIX605N	DIX600N	NCHANNEL	238.20	234.70	556	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX615L	DIX615N	DIX613N	NCHANNEL	243.00	239.00	322	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX630L	DIX630N	DIX625N	NCHANNEL	256.00	247.00	588	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX660L	DIX660N	DIX655N	NCHANNEL	287.00	265.56	1133	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX665L	DIX665N	DIX635N	NCHANNEL	257.50	256.50	104	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX695L	DIX695N	DIX675N	NCHANNEL	263.00	260.55	455	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX785L	DIX785N	DIX705N	NCHANNEL	295.00	280.60	379	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX845L	DIX845N	DIX840N	NCHANNEL	318.00	302.50	646	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX855L	DIX855N	DIX850N	NCHANNEL	330.32	318.50	625	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX865L	DIX865N	DIX860N	NCHANNEL	371.50	338.12	740	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX915L	DIX915N	DIX890N	NCHANNEL	437.00	422.00	412	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Dixon	DIX613L	DIX613N	DIX610N	TCHANNEL	239.00	238.70	568	0.000	0.000	0.000	0.50	0.50	0.035	7.00	7.00
Dixon	DIX625L	DIX625N	DIX620N	TCHANNEL	247.00	243.30	741	0.000	0.000	0.000	0.50	0.50	0.035	7.00	7.00
Dixon	DIX640L	DIX640N	DIX665N	TCHANNEL	259.58	257.50	150	0.000	0.000	0.000	0.50	0.50	0.035	5.00	5.00
Dixon	DIX650L	DIX650N	DIX645N	TCHANNEL	264.27	260.40	624	0.000	0.000	0.000	1.00	1.00	0.035	4.00	4.00
Dixon	DIX670L	DIX670N	DIX805N	TCHANNEL	259.65	259.00	133	0.000	0.000	0.000	0.50	0.50	0.035	5.00	5.00
Dixon	DIX680L	DIX680N	DIX695N	TCHANNEL	272.00	263.00	331	0.000	0.000	0.000	1.00	1.00	0.035	4.00	4.00
Dixon	DIX690L	DIX690N	DIX685N	TCHANNEL	273.00	272.50	183	0.000	0.000	0.000	1.00	1.00	0.035	4.00	4.00
Dixon	DIX698L	DIX698N	DIX695N	TCHANNEL	263.50	263.00	588	0.000	0.000	0.000	1.00	1.00	0.035	4.00	4.00
Dixon	DIX700L	DIX700N	DIX698N	TCHANNEL	279.40	263.50	661	0.000	0.000	0.000	1.00	1.00	0.035	4.00	4.00
Dixon	DIX710L	DIX710N	DIX785N	TCHANNEL	320.00	295.00	650	0.000	0.000	0.000	1.00	1.00	0.035	4.00	4.00

Table A-4. Open Channel Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Left Bank Roughness	Channel Roughness	Right Bank Roughness	Left Bank Slope	Right Bank Slope	Channel Roughness	Depth, ft	Width, ft
Squaw	SQW008L	SQW008N	SQW007N	NCHANNEL	214.56	212.88	481	0.200	0.150	0.200	0.00	0.00	0.000	0.00	0.00
Squaw	SQW010L	SQW010N	SQW008N	NCHANNEL	216.76	214.56	397	0.200	0.150	0.200	0.00	0.00	0.000	0.00	0.00
Squaw	SQW015L	SQW015N	SQW010N	NCHANNEL	220.70	216.76	685	0.200	0.150	0.200	0.00	0.00	0.000	0.00	0.00
Squaw	SQW021L	SQW021N	SQW020N	NCHANNEL	221.05	220.90	59	0.100	0.070	0.100	0.00	0.00	0.000	0.00	0.00
Squaw	SQW022L	SQW022N	SQW021N	NCHANNEL	221.79	221.05	276	0.100	0.070	0.100	0.00	0.00	0.000	0.00	0.00
Squaw	SQW023L	SQW023N	SQW022N	NCHANNEL	222.24	221.79	167	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW024L	SQW024N	SQW023N	NCHANNEL	222.84	222.24	233	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW025L	SQW025N	SQW024N	NCHANNEL	226.50	222.84	226	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW035L	SQW035N	SQW030N	NCHANNEL	228.00	226.80	788	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW040L	SQW040N	SQW035N	NCHANNEL	228.50	228.00	690	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW060L	SQW060N	SQW055N	NCHANNEL	235.00	233.39	900	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW075L	SQW075N	SQW060N	NCHANNEL	250.00	235.00	1715	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW150L	SQW150N	SQW145N	NCHANNEL	260.00	252.00	2479	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW165L	SQW165N	SQW160N	NCHANNEL	304.00	284.00	770	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW200L	SQW200N	SQW035N	NCHANNEL	232.75	228.00	1912	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW255L	SQW255N	SQW270N	NCHANNEL	256.00	250.00	2093	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW270L	SQW270N	SQW250N	NCHANNEL	250.00	242.00	1571	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Squaw	SQW050L	SQW050N	SQW045N	TCHANNEL	233.10	228.75	1754	0.000	0.000	0.000	1.00	1.00	0.035	5.79	5.00
Squaw	SQW080L	SQW080N	SQW075N	TCHANNEL	254.00	250.00	1202	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Squaw	SQW085L	SQW085N	SQW060N	TCHANNEL	236.55	235.00	851	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Squaw	SQW130L	SQW130N	SQW125N	TCHANNEL	244.00	237.05	1096	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Squaw	SQW140L	SQW140N	SQW135N	TCHANNEL	251.50	244.00	224	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Squaw	SQW155L	SQW155N	SQW150N	TCHANNEL	276.00	260.00	2047	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Squaw	SQW160L	SQW160N	SQW155N	TCHANNEL	284.00	276.00	1463	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Squaw	SQW210L	SQW210N	SQW205N	TCHANNEL	233.50	233.00	739	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Squaw	SQW220L	SQW220N	SQW215N	TCHANNEL	233.50	233.50	74	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Squaw	SQW245L	SQW245N	SQW240N	TCHANNEL	240.00	236.00	891	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Squaw	SQWOUTL	SQWOUTN	SQWENDN	TCHANNEL	205.50	200.00	57	0.000	0.000	0.000	1.00	1.00	0.035	10.00	10.00
North	NOR007L	NOR007N	NOR005N	NCHANNEL	240.00	217.64	3270	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
North	NOR010L	NOR010N	NOR007N	NCHANNEL	262.58	240.00	1667	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
North	NOR020L	NOR020N	NOR015N	NCHANNEL	293.53	263.24	1818	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
North	NOR030L	NOR030N	NOR025N	NCHANNEL	380.00	294.05	4185	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
North	NOR035L	NOR035N	NOR030N	NCHANNEL	566.00	380.00	3326	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
North	NOR050L	NOR050N	NOR005N	NCHANNEL	242.00	217.64	3207	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
North	NOR055L	NOR055N	NOR050N	NCHANNEL	261.00	242.00	3065	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
North	NOR065L	NOR065N	NOR060N	NCHANNEL	310.81	261.52	3967	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
North	NOR075L	NOR075N	NOR070N	NCHANNEL	370.00	311.67	2246	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
North	NOR080L	NOR080N	NOR075N	NCHANNEL	430.00	370.00	1638	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00

Table A-4. Open Channel Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Left Bank Roughness	Channel Roughness	Right Bank Roughness	Left Bank Slope	Right Bank Slope	Channel Roughness	Depth, ft	Width, ft
North	NOR085L	NOR085N	NOR050N	TCHANNEL	324.00	242.00	4717	0.000	0.000	0.000	0.50	0.50	0.035	7.00	5.00
North	NOR090L	NOR090N	NOR085N	TCHANNEL	368.00	324.00	1565	0.000	0.000	0.000	0.50	0.50	0.035	5.00	5.00
North	NOR095L	NOR095N	NOR090N	TCHANNEL	508.00	368.00	2269	0.000	0.000	0.000	0.50	0.50	0.035	5.00	5.00
Village Green	VLG020L	VLG020N	VLG015N	NCHANNEL	207.34	206.10	1570	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Village Green	VLG030L	VLG030N	VLG025N	NCHANNEL	208.70	207.60	618	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Village Green	VLG040L	VLG040N	VLG035N	NCHANNEL	210.00	209.00	1177	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Village Green	VLG000L	VLG000N	VLGOUTN	TCHANNEL	204.00	200.00	735	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Village Green	VLG010L	VLG010N	VLG005N	TCHANNEL	206.00	204.10	343	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Sequoia	SEQ100L	SEQ100N	SEQ025N	NCHANNEL	213.60	212.49	1167	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Sequoia	SEQ105L	SEQ115N	SEQ100N	NCHANNEL	213.81	213.60	724	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Sequoia	SEQ155L	SEQ155N	SEQ120N	NCHANNEL	218.00	214.53	840	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Sequoia	SEQ165L	SEQ165N	SEQ160N	NCHANNEL	218.40	218.20	865	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Sequoia	SEQ290L	SEQ290N	SEQ185N	NCHANNEL	238.00	223.02	653	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Sequoia	SEQ000L	SEQ000N	SEQOUTN	TCHANNEL	201.00	200.00	1355	0.000	0.000	0.000	1.00	1.00	0.035	5.00	10.00
Sequoia	SEQ020L	SEQ020N	SEQ005N	TCHANNEL	212.30	201.10	2872	0.000	0.000	0.000	1.00	1.00	0.035	5.00	10.00
Sequoia	SEQ030L	SEQ030N	SEQ025N	TCHANNEL	213.56	212.49	534	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Sequoia	SEQ125L	SEQ125N	SEQ120N	TCHANNEL	222.00	214.53	562	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Sequoia	SEQ140L	SEQ140N	SEQ130N	TCHANNEL	225.90	222.20	1063	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Sequoia	SEQ150L	SEQ150N	SEQ145N	TCHANNEL	228.00	226.00	663	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Sequoia	SEQ190L	SEQ190N	SEQ165N	TCHANNEL	220.10	218.40	1334	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Sequoia	SEQ310L	SEQ310N	SEQ290N	TCHANNEL	243.80	238.00	454	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Sequoia	SEQ320L	SEQ320N	SEQ315N	TCHANNEL	250.30	244.00	286	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Sequoia	SEQ330L	SEQ330N	SEQ325N	TCHANNEL	257.80	250.50	336	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Sequoia	SEQ340L	SEQ340N	SEQ335N	TCHANNEL	292.18	258.00	717	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Garfield	GAR010L	GAR010N	GAR005N	NCHANNEL	212.00	202.75	1453	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Garfield	GAR015L	GAR015N	GAR010N	NCHANNEL	214.44	212.00	1634	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Garfield	GAR025L	GAR025N	GAR020N	NCHANNEL	214.86	214.49	748	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Garfield	GAR035L	GAR035N	GAR030N	NCHANNEL	215.70	214.92	450	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Garfield	GAR040L	GAR040N	GAR030N	NCHANNEL	216.63	214.92	470	0.035	0.020	0.035	0.00	0.00	0.000	0.00	0.00
Garfield	GAR000L	GAR000N	GAR999N	TCHANNEL	200.23	195.23	100	0.000	0.000	0.000	1.00	1.00	0.013	5.00	5.00
Oak	OAK005L	OAK005N	OAKOUTN	NCHANNEL	200.00	198.00	342	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK015L	OAK015N	OAK010N	NCHANNEL	202.75	202.48	153	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK033L	OAK033N	OAK030N	NCHANNEL	211.00	210.00	778	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK045L	OAK045N	OAK040N	NCHANNEL	218.00	217.00	738	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK060L	OAK060N	OAK045N	NCHANNEL	220.00	218.00	1143	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK090L	OAK090N	OAK085N	NCHANNEL	230.86	225.00	1301	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK103L	OAK103N	OAK100N	NCHANNEL	252.00	242.34	1368	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK105L	OAK105N	OAK103N	NCHANNEL	259.50	252.00	1322	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00

Table A-4. Open Channel Parameters

Basin	Name	Upstream Node	Downstream Node	Conduit Type	US Invert Elev., ft	DS Invert Elev., ft	Length, ft	Left Bank Roughness	Channel Roughness	Right Bank Roughness	Left Bank Slope	Right Bank Slope	Channel Roughness	Depth, ft	Width, ft
Oak	OAK110L	OAK110N	OAK105N	NCHANNEL	261.80	259.50	684	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK120L	OAK120N	OAK115N	NCHANNEL	264.50	262.30	196	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK125L	OAK125N	OAK120N	NCHANNEL	265.00	264.50	120	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK140L	OAK140N	OAK135N	NCHANNEL	278.50	266.00	2099	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK150L	OAK150N	OAK145N	NCHANNEL	298.00	279.00	1264	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK170L	OAK170N	OAK160N	NCHANNEL	322.82	299.96	2254	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK205L	OAK205N	OAK170N	NCHANNEL	370.00	322.82	4933	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK235L	OAK235N	OAK120N	NCHANNEL	280.00	264.50	1530	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK255L	OAK255N	OAK105N	NCHANNEL	268.55	259.50	1044	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK280L	OAK280N	OAK245N	NCHANNEL	334.88	296.00	1967	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK290L	OAK290N	OAK285N	NCHANNEL	362.00	335.36	1220	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK350L	OAK350N	OAK090N	NCHANNEL	234.15	230.86	343	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Oak	OAK025L	OAK025N	OAK020N	TCHANNEL	209.50	203.00	855	0.000	0.000	0.000	1.60	1.70	0.035	17.50	20.00
Oak	OAK035L	OAK035N	OAK033N	TCHANNEL	216.00	211.00	310	0.000	0.000	0.000	0.46	1.00	0.035	17.50	21.00
Oak	OAK080L	OAK080N	OAK065N	TCHANNEL	224.50	221.00	798	0.000	0.000	0.000	1.60	1.50	0.035	9.00	16.00
Oak	OAK100L	OAK100N	OAK090N	TCHANNEL	242.34	230.86	2087	0.000	0.000	0.000	1.00	1.00	0.035	7.85	10.00
Oak	OAK130L	OAK130N	OAK125N	TCHANNEL	265.50	265.00	194	0.000	0.000	0.000	1.60	0.97	0.035	6.20	14.00
Oak	OAK155L	OAK155N	OAK150N	TCHANNEL	299.50	298.00	1379	0.000	0.000	0.000	1.10	1.70	0.035	7.00	17.00
Oak	OAK215L	OAK215N	OAK205N	TCHANNEL	390.00	370.00	949	0.000	0.000	0.000	1.30	1.70	0.035	6.00	10.00
Oak	OAK225L	OAK225N	OAK125N	TCHANNEL	268.00	265.00	69	0.000	0.000	0.000	1.60	0.97	0.035	6.20	14.00
Oak	OAK245L	OAK245N	OAK235N	TCHANNEL	296.00	280.00	1410	0.000	0.000	0.000	2.50	4.75	0.035	4.00	24.00
Goodnight	GDN185b	GDN185N	GDN030N	TCHANNEL	235.00	228.23	122	0.000	0.000	0.000	1.00	1.00	0.035	5.00	5.00
Goodnight	GDN555L	GDN555N	GDN190N	TCHANNEL	232.00	232.00	280	0.000	0.000	0.000	1.00	1.00	0.035	1.00	1.00
Goodnight	GDN565L	GDN565N	GDN560N	TCHANNEL	232.60	232.00	803	0.000	0.000	0.000	1.00	1.00	0.035	1.00	1.00
Goodnight	GDN575L	GDN575N	GDN570N	TCHANNEL	233.30	232.70	518	0.000	0.000	0.000	1.00	1.00	0.035	1.50	1.00
Goodnight	GDN580L	GDN580N	GDN575N	TCHANNEL	232.90	233.30	324	0.000	0.000	0.000	1.00	1.00	0.035	1.00	1.00
Goodnight	GDN585L	GDN585N	GDN580N	TCHANNEL	233.00	232.90	359	0.000	0.000	0.000	1.00	1.00	0.035	1.20	1.00
Mill Race	MIL025L	MIL025N	MIL020N	NCHANNEL	198.50	204.00	314	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Mill Race	MIL040L	MIL040N	MIL030N	NCHANNEL	208.00	199.00	956	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Mill Race	MIL050L	MIL050N	MIL045N	NCHANNEL	208.46	208.26	342	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Mill Race	MIL055L	MIL055N	MIL050N	NCHANNEL	208.63	208.46	307	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Mill Race	MIL075L	MIL075N	MIL060N	NCHANNEL	208.00	208.70	1379	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Mill Race	MIL085L	MIL085N	MIL080N	NCHANNEL	210.17	208.11	1036	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Mill Race	MIL090L	MIL090N	MIL085N	NCHANNEL	210.79	210.17	310	0.070	0.035	0.070	0.00	0.00	0.000	0.00	0.00
Mill Race	MIL005L	MIL005N	MILOUTN	TCHANNEL	202.75	194.75	445	0.000	0.000	0.000	1.60	1.60	0.035	8.00	16.00
Mill Race	MIL015L	MIL015N	MIL010N	TCHANNEL	203.30	203.25	32	0.000	0.000	0.000	1.80	1.10	0.035	8.00	20.00

TABLE A-5

MODEL RESULTS – FLOW

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX220L	2730.00	384.00	447.00	553.00	586.00	673.00	394.00	457.00	559.00	597.00	675.00
Dixon	DIX230L	17000.00	390.00	453.00	556.00	592.00	683.00	400.00	464.00	561.00	602.00	684.00
Dixon	DIX240L	8660.00	387.00	451.00	558.00	592.00	680.00	397.00	461.00	562.00	602.00	681.00
Dixon	DIX250L	12100.00	385.00	451.00	555.00	590.00	677.00	394.00	458.00	562.00	599.00	680.00
Dixon	DIX260L	41.00	29.00	30.70	31.00	31.40	35.50	29.00	30.60	31.10	31.40	35.70
Dixon	DIX265L	32.00	29.00	30.90	30.90	30.90	35.30	29.10	30.90	30.90	30.90	35.60
Dixon	DIX270L	34.00	29.00	31.00	30.90	31.00	35.30	29.10	30.90	31.00	30.90	35.60
Dixon	DIX275L	29.00	29.00	30.90	30.90	30.90	30.90	29.10	30.90	31.00	30.90	30.90
Dixon	DIX280L	30.00	29.00	30.90	30.90	30.90	30.90	29.10	30.90	30.90	30.90	30.90
Dixon	DIX285L	30.00	29.00	30.90	30.90	30.90	30.90	29.10	30.90	30.90	30.90	30.90
Dixon	DIX290L	31.00	29.00	30.90	30.90	30.90	30.90	29.10	30.90	31.00	30.90	30.90
Dixon	DIX295L	12.00	8.34	8.60	12.90	11.20	13.40	8.34	8.57	12.90	11.20	13.40
Dixon	DIX300L	10.00	8.29	8.60	13.00	11.20	13.40	8.29	8.56	13.00	11.30	13.40
Dixon	DIX305L	11.00	8.24	8.59	12.90	11.20	13.40	8.25	8.56	12.90	11.40	13.40
Dixon	DIX310L	8.20	8.19	8.25	8.56	8.38	8.85	8.19	8.25	8.57	8.38	8.85
Dixon	DIX315L	8.70	8.19	8.25	8.56	8.38	8.85	8.19	8.25	8.57	8.38	8.85
Dixon	DIX320L	7.40	8.19	8.25	8.30	8.36	8.36	8.19	8.25	8.30	8.36	8.37
Dixon	DIX325L	7.30	8.19	8.25	8.30	8.39	8.40	8.22	8.25	8.30	8.39	8.42
Dixon	DIX330L	14.00	9.56	9.56	9.56	9.58	9.57	9.56	9.56	9.56	9.58	9.57
Dixon	DIX335L	14.00	12.30	12.30	12.30	12.30	12.30	12.30	12.30	12.30	12.30	12.30
Dixon	DIX340L	14.00	13.10	14.80	14.80	14.80	14.80	13.10	14.80	14.80	14.80	14.80
Dixon	DIX345L	86.00	7.69	9.09	11.90	13.30	16.10	9.09	10.60	13.70	15.20	18.30
Dixon	DIX350L	48.00	7.68	9.08	11.90	13.20	16.00	9.07	10.60	13.70	15.20	18.30
Dixon	DIX355L	91.00	7.71	9.11	11.90	13.30	16.10	9.17	10.70	13.80	15.40	18.60
Dixon	DIX360L	47.00	24.60	28.60	38.40	39.70	40.10	24.30	28.80	38.40	39.70	40.20
Dixon	DIX365L	51.00	22.10	25.50	34.10	37.50	41.60	22.10	25.70	34.10	37.50	41.60
Dixon	DIX370L	73.00	22.60	26.30	34.00	37.50	45.00	22.70	26.30	34.00	37.50	45.00
Dixon	DIX375L	77.00	22.50	26.30	36.20	38.30	45.00	22.50	26.40	36.30	38.50	45.00
Dixon	DIX380L	120.00	19.80	23.20	30.00	33.30	40.10	19.80	23.20	29.90	33.30	40.10
Dixon	DIX385L	129.00	19.80	23.20	30.00	33.40	40.20	19.80	23.20	30.00	33.40	40.20
Dixon	DIX390L	144.00	9.16	10.70	13.80	15.30	18.50	9.16	10.70	13.80	15.30	18.50
Dixon	DIX395L	34.00	46.20	53.10	62.30	60.90	69.30	46.00	53.50	61.90	60.60	69.60
Dixon	DIX400L	58.00	21.70	24.70	33.00	34.60	36.10	21.80	25.00	33.20	35.10	36.20
Dixon	DIX405L	58.00	21.20	23.40	29.60	31.10	32.80	21.40	23.50	29.90	31.00	32.80
Dixon	DIX410L	83.00	20.00	23.30	30.10	33.40	40.20	20.20	23.50	30.30	33.70	40.50

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX415L	85.00	14.20	16.70	21.30	23.90	29.10	14.40	16.90	21.50	24.10	29.40
Dixon	DIX420L	27.00	15.60	18.40	22.90	22.90	23.10	17.00	20.00	22.70	22.70	22.80
Dixon	DIX425L	27.00	12.70	14.90	17.90	17.50	18.10	14.10	16.50	17.80	17.90	18.10
Dixon	DIX430L	25.00	12.80	14.90	17.90	17.60	18.10	14.20	16.50	17.90	17.80	18.10
Dixon	DIX435L	18.00	13.10	15.30	18.70	18.40	17.90	14.70	16.90	18.70	18.50	18.10
Dixon	DIX440L	22.00	5.20	6.10	8.00	8.91	10.80	6.06	7.17	9.24	10.30	12.30
Dixon	DIX445L	21.00	5.23	6.12	8.05	8.91	10.80	6.08	7.22	9.26	10.30	12.50
Dixon	DIX450L	22.00	5.27	6.13	8.09	8.94	10.80	6.07	7.25	9.30	10.30	12.40
Dixon	DIX455L	30.00	5.30	6.18	8.10	8.99	10.90	6.05	7.28	9.35	10.40	12.50
Dixon	DIX460L	30.00	5.24	6.17	8.01	8.94	10.80	6.05	7.21	9.30	10.30	12.50
Dixon	DIX465L	37.00	5.17	6.12	8.00	8.94	10.80	6.10	7.16	9.28	10.30	12.50
Dixon	DIX480L	4160.00	384.00	447.00	553.00	586.00	673.00	394.00	457.00	559.00	597.00	674.00
Dixon	DIX490L	4270.00	372.00	433.00	535.00	568.00	651.00	380.00	441.00	540.00	579.00	655.00
Dixon	DIX500L	2010.00	372.00	433.00	535.00	568.00	651.00	380.00	441.00	540.00	579.00	655.00
Dixon	DIX510L	2710.00	371.00	431.00	533.00	567.00	649.00	379.00	440.00	538.00	578.00	653.00
Dixon	DIX520L	1640.00	369.00	430.00	531.00	565.00	647.00	378.00	438.00	536.00	576.00	651.00
Dixon	DIX530L	1710.00	358.00	417.00	514.00	549.00	633.00	367.00	426.00	519.00	560.00	637.00
Dixon	DIX540L	1010.00	334.00	391.00	484.00	519.00	610.00	343.00	399.00	491.00	533.00	615.00
Dixon	DIX555L	1300.00	333.00	390.00	482.00	518.00	610.00	342.00	398.00	488.00	532.00	615.00
Dixon	DIX565L	2170.00	326.00	383.00	473.00	508.00	613.00	336.00	390.00	478.00	526.00	618.00
Dixon	DIX570L	1120.00	322.00	377.00	465.00	506.00	604.00	331.00	384.00	471.00	520.00	610.00
Dixon	DIX580L	3510.00	303.00	354.00	439.00	483.00	570.00	313.00	361.00	444.00	496.00	576.00
Dixon	DIX585L	670.00	300.00	350.00	435.00	479.00	565.00	308.00	358.00	440.00	491.00	571.00
Dixon	DIX595L	3010.00	288.00	335.00	415.00	460.00	546.00	296.00	342.00	432.00	472.00	553.00
Dixon	DIX605L	4130.00	249.00	288.00	358.00	405.00	494.00	256.00	294.00	363.00	418.00	501.00
Dixon	DIX613L	157.00	246.00	284.00	354.00	401.00	489.00	253.00	291.00	358.00	414.00	495.00
Dixon	DIX615L	3590.00	244.00	281.00	350.00	398.00	485.00	250.00	287.00	355.00	410.00	491.00
Dixon	DIX625L	483.00	243.00	280.00	350.00	400.00	485.00	250.00	287.00	355.00	412.00	492.00
Dixon	DIX630L	7400.00	239.00	275.00	343.00	398.00	478.00	245.00	282.00	348.00	408.00	485.00
Dixon	DIX640L	328.00	65.40	76.40	98.40	108.00	130.00	66.70	77.80	100.00	110.00	132.00
Dixon	DIX650L	175.00	58.90	68.80	88.60	97.60	117.00	59.80	69.80	89.70	98.70	118.00
Dixon	DIX660L	3900.00	54.20	63.30	81.80	90.70	109.00	54.40	63.50	82.00	90.90	110.00
Dixon	DIX665L	6880.00	237.00	273.00	341.00	396.00	475.00	244.00	280.00	346.00	406.00	482.00
Dixon	DIX670L	195.00	67.60	78.50	102.00	111.00	131.00	70.10	81.10	105.00	112.00	134.00
Dixon	DIX680L	366.00	7.62	9.01	11.80	13.10	15.90	8.81	10.30	13.30	14.60	17.60

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX690L	116.00	7.65	9.04	11.80	13.20	15.90	8.92	10.40	13.40	14.80	17.90
Dixon	DIX695L	4200.00	67.40	78.70	102.00	112.00	132.00	69.90	81.10	104.00	113.00	134.00
Dixon	DIX698L	65.00	59.70	70.40	91.00	101.00	123.00	61.60	72.60	93.30	106.00	125.00
Dixon	DIX700L	344.00	56.30	66.30	86.60	96.20	116.00	58.30	68.40	88.80	98.70	119.00
Dixon	DIX710L	436.00	19.50	23.00	30.10	33.60	40.70	20.50	24.10	31.30	34.90	42.20
Dixon	DIX715L	535.00	18.90	22.30	29.10	32.50	39.30	19.90	23.30	30.30	33.80	40.80
Dixon	DIX720L	447.00	17.40	20.60	26.90	30.10	36.40	18.40	21.60	28.10	31.30	37.90
Dixon	DIX725L	340.00	14.30	17.00	22.20	24.80	30.10	15.20	17.90	23.30	26.00	31.50
Dixon	DIX735L	456.00	24.50	28.80	37.70	41.90	50.80	25.10	29.50	38.40	42.80	51.80
Dixon	DIX740L	507.00	21.60	25.50	33.30	37.10	44.90	22.30	26.20	34.00	37.90	45.80
Dixon	DIX745L	623.00	21.20	25.00	32.60	36.30	44.00	21.80	25.70	33.30	37.20	44.90
Dixon	DIX750L	321.00	16.00	18.90	24.80	27.60	33.50	16.60	19.50	25.40	28.40	34.40
Dixon	DIX760L	439.00	19.90	23.50	30.70	34.20	41.50	20.60	24.20	31.40	35.10	42.40
Dixon	DIX775L	479.00	3.41	3.99	5.18	5.74	6.95	3.49	4.09	5.27	5.86	7.08
Dixon	DIX785L	4840.00	54.90	64.60	84.40	93.90	114.00	56.90	66.80	86.70	96.50	117.00
Dixon	DIX790L	516.00	7.00	8.18	10.50	11.70	14.10	7.36	8.57	10.90	12.20	14.60
Dixon	DIX795L	542.00	5.42	6.32	8.09	9.04	10.90	5.87	6.83	8.72	9.72	11.70
Dixon	DIX805L	414.00	175.00	204.00	246.00	301.00	354.00	179.00	207.00	250.00	301.00	357.00
Dixon	DIX810L	391.00	109.00	131.00	147.00	209.00	227.00	110.00	131.00	148.00	208.00	228.00
Dixon	DIX815L	253.00	104.00	124.00	136.00	205.00	212.00	105.00	125.00	136.00	205.00	212.00
Dixon	DIX820L	300.00	103.00	122.00	132.00	229.00	238.00	103.00	123.00	132.00	234.00	253.00
Dixon	DIX825L	314.00	103.00	123.00	134.00	258.00	267.00	104.00	124.00	134.00	264.00	285.00
Dixon	DIX835L	339.00	94.10	112.00	152.00	210.00	215.00	94.80	114.00	163.00	213.00	227.00
Dixon	DIX845L	3660.00	79.60	96.40	123.00	138.00	166.00	80.20	97.30	124.00	139.00	167.00
Dixon	DIX855L	12600.00	81.20	95.30	121.00	135.00	164.00	82.10	96.40	122.00	137.00	166.00
Dixon	DIX865L	2400.00	72.30	84.80	109.00	120.00	146.00	72.70	85.20	109.00	121.00	148.00
Dixon	DIX874L	475.00	71.20	83.90	109.00	121.00	146.00	71.70	84.50	110.00	122.00	147.00
Dixon	DIX875L	583.00	1.94	2.28	2.96	3.29	3.98	2.18	2.55	3.28	3.63	4.39
Dixon	DIX885L	398.00	69.50	81.90	107.00	119.00	143.00	70.00	82.60	107.00	119.00	144.00
Dixon	DIX890L	393.00	64.00	75.50	98.40	109.00	132.00	64.50	76.00	98.90	110.00	132.00
Dixon	DIX895L	682.00	4.06	4.76	6.19	6.85	8.23	4.24	4.95	6.38	7.08	8.48
Dixon	DIX905L	522.00	2.79	3.26	4.21	4.68	5.64	2.88	3.35	4.31	4.79	5.76
Dixon	DIX915L	3270.00	60.10	70.90	92.40	103.00	123.00	60.40	71.20	92.70	103.00	124.00
Dixon	DIX925L	398.00	58.90	69.50	90.50	101.00	121.00	59.20	69.80	90.80	101.00	122.00
Dixon	DIX930L	486.00	41.40	49.00	64.10	71.70	87.00	41.40	49.00	64.10	71.70	87.00

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX935L	466.00	4.01	4.69	6.07	6.75	8.15	4.23	4.92	6.33	7.03	8.46
Dixon	DIX945L	492.00	13.30	15.60	20.10	21.80	25.60	13.50	15.80	20.30	22.10	26.00
Dixon	DIX950L	505.00	8.58	10.00	12.70	13.60	16.20	8.57	10.00	12.70	13.60	16.20
Dixon	DIX955L	224.00	8.58	10.00	12.70	13.60	16.30	8.58	10.00	12.70	13.60	16.20
Dixon	DIX960L	638.00	6.77	7.93	10.10	10.90	13.00	6.77	7.93	10.10	10.90	13.00
Dixon	DIX970L	679.00	6.81	7.98	10.10	11.00	13.20	6.81	7.98	10.10	11.00	13.20
Dixon	DIX995L	553.00	6.11	7.19	9.35	10.40	12.60	6.11	7.19	9.35	10.40	12.60
Dixon	DIXOUTL	2640.00	389.00	452.00	555.00	593.00	683.00	398.00	461.00	559.00	601.00	683.00
Dixon	DIX225A	2330.00	192.00	224.00	278.00	294.00	337.00	197.00	229.00	281.00	300.00	339.00
Dixon	DIX225O	3820.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX235A	2410.00	390.00	454.00	561.00	595.00	685.00	400.00	464.00	566.00	605.00	687.00
Dixon	DIX235O	4540.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX245A	1990.00	388.00	451.00	558.00	592.00	681.00	397.00	461.00	563.00	602.00	682.00
Dixon	DIX245O	5740.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX255A	2260.00	384.00	447.00	553.00	586.00	673.00	394.00	457.00	559.00	597.00	675.00
Dixon	DIX255O	3850.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX475A	1400.00	389.00	451.00	555.00	593.00	683.00	398.00	460.00	560.00	600.00	684.00
Dixon	DIX475O	5420.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX485A	2110.00	384.00	447.00	553.00	586.00	673.00	394.00	457.00	559.00	597.00	674.00
Dixon	DIX485O	4990.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX495A	4000.00	372.00	433.00	535.00	568.00	651.00	380.00	441.00	540.00	579.00	655.00
Dixon	DIX495O	9460.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX505A	1250.00	372.00	433.00	535.00	569.00	652.00	380.00	441.00	541.00	580.00	655.00
Dixon	DIX505O	3290.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX515A	1370.00	371.00	432.00	534.00	567.00	650.00	379.00	440.00	539.00	578.00	653.00
Dixon	DIX515O	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX525A	99.00	365.00	425.00	525.00	559.00	641.00	374.00	433.00	531.00	570.00	644.00
Dixon	DIX525O	4570.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX535A	2020.00	334.00	391.00	485.00	521.00	610.00	343.00	400.00	491.00	533.00	615.00
Dixon	DIX535O	4190.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX545A	2390.00	334.00	391.00	484.00	519.00	611.00	343.00	399.00	489.00	533.00	617.00
Dixon	DIX545O	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX560A	971.00	272.00	322.00	406.00	441.00	531.00	280.00	329.00	411.00	455.00	536.00
Dixon	DIX560B	104.00	60.70	68.40	76.50	77.50	80.10	62.10	69.40	76.70	78.10	80.40
Dixon	DIX560O	4660.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX575A	1170.00	225.00	264.00	331.00	365.00	449.00	231.00	269.00	335.00	378.00	454.00
Dixon	DIX575B	106.00	48.40	56.40	67.40	71.70	78.10	49.90	57.40	68.10	72.50	78.40
Dixon	DIX575O	2970.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX590A	1760.00	300.00	350.00	435.00	479.00	565.00	308.00	358.00	440.00	491.00	571.00
Dixon	DIX590O	3610.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX600A	517.00	249.00	288.00	358.00	405.00	494.00	256.00	294.00	363.00	418.00	501.00
Dixon	DIX600O	2790.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX610A	1790.00	249.00	288.00	358.00	406.00	494.00	256.00	294.00	363.00	418.00	501.00
Dixon	DIX610O	3870.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX620A	1460.00	244.00	281.00	351.00	400.00	462.00	250.00	287.00	355.00	412.00	463.00
Dixon	DIX620O	6320.00	0.00	0.00	0.00	0.00	40.60	0.00	0.00	0.00	0.00	46.80
Dixon	DIX635A	1080.00	239.00	275.00	343.00	399.00	478.00	246.00	282.00	349.00	408.00	485.00
Dixon	DIX635O	3990.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX645A	303.00	31.00	36.20	46.80	51.50	61.60	31.60	36.80	47.50	52.00	62.40
Dixon	DIX645O	3340.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX655A	349.00	59.00	68.90	88.70	97.70	117.00	60.00	69.90	89.80	98.80	118.00
Dixon	DIX655O	4020.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX675A	310.00	67.70	78.70	102.00	111.00	131.00	70.10	81.20	105.00	112.00	134.00
Dixon	DIX675O	3400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX685A	70.00	7.63	9.01	11.80	13.10	15.90	8.84	10.30	13.30	14.70	17.60
Dixon	DIX685O	2790.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX705A	309.00	55.40	65.30	85.30	94.70	114.00	57.40	67.40	87.60	97.30	117.00
Dixon	DIX705O	1410.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX730A	12.00	8.99	9.38	10.30	10.80	11.60	9.13	9.55	10.50	10.90	11.80
Dixon	DIX730O	1680.00	3.79	5.72	9.44	11.30	15.20	4.20	6.13	9.92	11.80	15.80
Dixon	DIX755A	43.00	16.10	19.00	24.20	25.90	28.50	16.70	19.70	24.70	26.40	28.70
Dixon	DIX755O	2390.00	0.00	0.00	0.65	1.82	5.20	0.00	0.00	0.91	2.18	5.81
Dixon	DIX780A	12.00	3.42	4.01	5.19	5.73	6.39	3.51	4.10	5.29	5.81	6.44
Dixon	DIX780O	1680.00	0.00	0.00	0.00	0.02	0.59	0.00	0.00	0.00	0.06	0.66
Dixon	DIX800A	20.00	5.44	6.35	8.04	8.55	9.32	5.96	6.93	8.42	8.87	9.61
Dixon	DIX800O	2260.00	0.00	0.00	0.07	0.52	1.62	0.00	0.00	0.40	0.97	2.27
Dixon	DIX830A	62.00	58.60	62.00	90.40	93.90	92.60	58.70	62.20	91.80	94.50	95.90
Dixon	DIX830O	1100.00	42.60	58.50	129.00	189.00	197.00	43.20	59.70	174.00	196.00	216.00
Dixon	DIX840A	377.00	83.50	100.00	133.00	178.00	173.00	84.20	101.00	140.00	177.00	178.00
Dixon	DIX840O	2930.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX850A	132.00	79.60	89.80	99.90	105.00	114.00	80.20	90.20	100.00	105.00	114.00
Dixon	DIX850O	2830.00	0.00	6.56	23.10	32.90	52.20	0.00	7.10	23.70	33.60	53.00
Dixon	DIX860A	186.00	79.50	93.30	118.00	129.00	132.00	80.40	94.30	119.00	130.00	132.00
Dixon	DIX860O	2800.00	0.00	0.00	0.00	3.75	28.90	0.00	0.00	0.10	4.40	30.60
Dixon	DIX870A	80.00	70.00	82.10	105.00	116.00	140.00	70.30	82.40	105.00	117.00	141.00
Dixon	DIX870O	5930.00	0.00	0.00	0.00	0.00	1.31	0.00	0.00	0.00	0.00	2.18
Dixon	DIX880A	78.00	1.96	2.30	2.98	3.32	4.01	2.24	2.61	3.37	3.73	4.50
Dixon	DIX880O	3080.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX900A	49.00	4.06	4.76	6.19	6.85	8.23	4.24	4.95	6.38	7.07	8.47
Dixon	DIX900O	4480.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX910A	22.00	2.81	3.28	4.23	4.71	5.67	2.90	3.38	4.34	4.82	5.80
Dixon	DIX910O	1160.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX920A	29.00	22.10	23.70	26.60	27.80	30.10	22.10	23.80	26.60	27.90	30.20
Dixon	DIX920O	1530.00	36.70	45.70	63.90	72.60	90.80	37.00	46.00	64.10	73.00	91.20
Dixon	DIX940A	42.00	4.02	4.70	6.08	6.77	8.16	4.23	4.93	6.34	7.05	8.48
Dixon	DIX940O	2420.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX965A	26.00	6.78	7.94	10.10	10.90	13.00	6.78	7.94	10.10	10.90	13.00
Dixon	DIX965O	3080.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX975A	33.00	6.81	7.98	10.10	11.00	13.20	6.81	7.98	10.10	11.00	13.20
Dixon	DIX975O	3830.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW005L	473.00	167.00	169.00	172.00	173.00	176.00	167.00	169.00	172.00	174.00	176.00
Squaw	SQW006L	450.00	163.00	164.00	165.00	165.00	166.00	163.00	164.00	165.00	166.00	166.00
Squaw	SQW007L	230.00	162.00	162.00	162.00	162.00	162.00	162.00	162.00	162.00	162.00	162.00
Squaw	SQW008L	184.00	162.00	162.00	162.00	162.00	162.00	162.00	162.00	162.00	163.00	162.00
Squaw	SQW010L	215.00	174.00	174.00	174.00	174.00	176.00	174.00	174.00	174.00	174.00	175.00
Squaw	SQW015L	458.00	231.00	231.00	232.00	232.00	233.00	231.00	231.00	232.00	233.00	233.00
Squaw	SQW021L	612.00	232.00	234.00	236.00	237.00	238.00	232.00	234.00	236.00	237.00	238.00
Squaw	SQW022L	279.00	229.00	231.00	232.00	232.00	236.00	230.00	231.00	232.00	233.00	235.00
Squaw	SQW023L	378.00	231.00	268.00	269.00	269.00	269.00	238.00	268.00	269.00	269.00	269.00
Squaw	SQW024L	1670.00	231.00	291.00	380.00	416.00	472.00	239.00	300.00	386.00	440.00	474.00
Squaw	SQW025L	1040.00	235.00	291.00	380.00	416.00	472.00	243.00	300.00	386.00	440.00	474.00
Squaw	SQW035L	1720.00	233.00	287.00	373.00	408.00	460.00	242.00	297.00	379.00	435.00	465.00
Squaw	SQW040L	854.00	136.00	155.00	194.00	207.00	233.00	138.00	159.00	196.00	206.00	235.00
Squaw	SQW050L	6170.00	124.00	140.00	177.00	189.00	211.00	127.00	143.00	179.00	188.00	213.00
Squaw	SQW060L	1700.00	115.00	131.00	175.00	198.00	228.00	117.00	133.00	179.00	199.00	230.00

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Squaw	SQW075L	248.00	26.60	31.20	40.30	44.80	53.90	27.50	32.10	41.30	46.40	57.10
Squaw	SQW080L	232.00	12.30	14.30	18.50	20.90	25.60	13.10	15.70	20.60	23.10	28.10
Squaw	SQW085L	172.00	80.20	92.10	119.00	132.00	161.00	82.00	94.10	121.00	135.00	162.00
Squaw	SQW090L	25.00	6.10	7.17	8.46	8.40	8.40	6.66	7.82	8.44	8.38	8.37
Squaw	SQW095L	14.00	6.11	7.17	8.46	8.40	8.40	6.67	7.82	8.44	8.37	8.37
Squaw	SQW100L	15.00	6.15	7.18	8.45	8.39	8.39	6.69	7.83	8.43	8.37	8.36
Squaw	SQW105L	14.00	6.22	7.29	8.48	8.43	8.42	6.82	7.93	8.41	8.40	8.42
Squaw	SQW110L	9.00	6.25	7.34	8.62	8.59	8.49	6.92	8.07	8.60	8.55	8.51
Squaw	SQW120L	5.40	6.27	7.36	8.62	8.60	8.51	6.98	8.12	8.60	8.57	8.53
Squaw	SQW130L	321.00	62.40	72.10	92.90	104.00	126.00	63.30	73.00	93.90	106.00	127.00
Squaw	SQW140L	737.00	62.40	72.10	92.90	104.00	126.00	63.30	73.00	94.00	107.00	127.00
Squaw	SQW150L	200.00	56.40	66.40	86.30	96.00	109.00	57.10	67.30	86.90	96.70	110.00
Squaw	SQW155L	356.00	29.70	34.70	44.60	49.50	60.70	29.80	34.90	44.70	50.10	61.40
Squaw	SQW160L	298.00	18.40	21.60	27.70	30.80	37.70	18.50	21.80	27.90	31.30	38.50
Squaw	SQW165L	686.00	7.75	9.25	11.90	13.30	16.00	7.76	9.25	11.90	13.30	16.00
Squaw	SQW170L	25.00	2.32	2.84	8.70	11.90	21.80	2.90	3.64	9.03	12.70	22.10
Squaw	SQW175L	24.00	2.37	2.87	5.03	5.56	11.80	2.93	3.65	5.16	6.21	11.20
Squaw	SQW180L	20.00	2.52	2.99	4.07	4.50	7.78	3.05	3.68	4.65	5.17	8.77
Squaw	SQW185L	18.00	2.55	3.09	3.85	4.29	5.13	3.15	3.76	4.70	5.22	6.18
Squaw	SQW190L	17.00	2.57	3.01	3.90	4.34	5.22	3.18	3.76	4.77	5.29	6.48
Squaw	SQW195L	12.00	2.60	3.04	3.92	4.36	5.25	3.22	3.75	4.81	5.34	6.37
Squaw	SQW200L	3060.00	114.00	133.00	173.00	191.00	231.00	117.00	137.00	177.00	223.00	230.00
Squaw	SQW210L	253.00	110.00	129.00	167.00	184.00	225.00	115.00	132.00	171.00	221.00	224.00
Squaw	SQW220L	13.00	112.00	130.00	168.00	186.00	249.00	117.00	135.00	173.00	234.00	243.00
Squaw	SQW245L	270.00	106.00	124.00	161.00	176.00	210.00	111.00	128.00	166.00	180.00	212.00
Squaw	SQW255L	585.00	77.80	90.90	117.00	130.00	156.00	78.90	92.10	118.00	132.00	162.00
Squaw	SQW270L	13400.00	76.30	87.70	115.00	127.00	152.00	77.20	88.50	116.00	128.00	153.00
Squaw	SQWOUTI	18400.00	168.00	169.00	174.00	173.00	182.00	171.00	169.00	172.00	181.00	180.00
Squaw	SQW000A	8680.00	172.00	169.00	175.00	173.00	189.00	174.00	169.00	172.00	183.00	183.00
Squaw	SQW000C	931.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW020A	276.00	200.00	203.00	204.00	206.00	206.00	201.00	203.00	204.00	206.00	206.00
Squaw	SQW020C	680.00	31.30	31.50	31.80	31.90	32.00	31.40	31.50	31.80	32.00	32.10
Squaw	SQW030A	1940.00	235.00	291.00	380.00	416.00	473.00	243.00	300.00	386.00	440.00	474.00
Squaw	SQW030C	3970.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW045A	214.00	43.40	49.70	64.10	69.10	77.90	44.20	50.90	65.10	68.90	78.60

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Squaw	SQW045C	629.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW055A	71.00	37.30	41.90	52.60	56.10	62.90	37.80	42.60	53.00	55.70	63.20
Squaw	SQW055B	86.00	39.80	45.20	58.30	62.60	69.90	40.50	46.00	59.10	62.60	70.20
Squaw	SQW055C	2750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW125A	299.00	31.60	36.40	47.10	52.70	63.90	32.20	37.10	47.80	53.90	64.30
Squaw	SQW125C	645.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW135A	16.00	17.20	18.20	19.70	20.60	22.50	17.30	18.30	19.80	20.80	22.60
Squaw	SQW135B	137.00	28.00	35.60	53.60	62.80	81.30	28.70	36.40	54.40	64.60	81.80
Squaw	SQW135C	2810.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW145A	238.00	62.40	72.10	92.90	104.00	127.00	63.30	73.00	94.00	106.00	127.00
Squaw	SQW145C	735.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW205A	1750.00	116.00	136.00	175.00	193.00	235.00	119.00	139.00	179.00	227.00	236.00
Squaw	SQW205C	931.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW215A	295.00	55.90	65.20	84.20	92.80	123.00	58.50	67.40	86.50	117.00	121.00
Squaw	SQW215C	870.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW230A	304.00	56.00	65.30	84.40	92.80	135.00	58.60	67.60	86.70	110.00	123.00
Squaw	SQW230C	894.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Squaw	SQW235A	414.00	56.00	65.40	84.30	92.80	125.00	58.60	67.60	86.70	110.00	119.00
Squaw	SQW235C	1220.00	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.00	0.02	0.09
Squaw	SQW240A	414.00	106.00	123.00	160.00	174.00	199.00	111.00	128.00	164.00	192.00	202.00
Squaw	SQW240C	1220.00	0.00	0.00	0.00	2.32	23.30	0.00	0.00	0.00	13.10	26.80
Squaw	SQW250A	1340.00	53.20	62.00	80.60	88.50	105.00	55.80	64.10	83.30	90.90	106.00
Squaw	SQW250C	2110.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW260A	305.00	81.00	94.60	122.00	135.00	163.00	81.90	95.50	123.00	138.00	169.00
Squaw	SQW260C	1070.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Squaw	SQW265A	153.00	12.80	14.90	19.00	21.40	26.30	13.60	16.20	21.30	23.80	29.00
Squaw	SQW265C	1050.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North	NOR007L	1570.00	191.00	220.00	292.00	326.00	389.00	191.00	220.00	292.00	326.00	389.00
North	NOR010L	43900.00	178.00	212.00	274.00	306.00	363.00	179.00	213.00	275.00	306.00	364.00
North	NOR020L	9260.00	141.00	169.00	219.00	245.00	292.00	142.00	169.00	219.00	245.00	292.00
North	NOR030L	1700.00	114.00	137.00	179.00	199.00	238.00	114.00	137.00	179.00	200.00	238.00
North	NOR035L	1910.00	73.70	88.30	114.00	130.00	154.00	73.70	88.40	114.00	130.00	154.00
North	NOR050L	1650.00	284.00	338.00	427.00	476.00	563.00	286.00	340.00	429.00	478.00	568.00
North	NOR055L	709.00	180.00	212.00	273.00	305.00	358.00	181.00	214.00	274.00	307.00	360.00
North	NOR065L	1000.00	128.00	152.00	195.00	219.00	257.00	129.00	153.00	197.00	220.00	258.00

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
North	NOR075L	1690.00	75.50	90.00	116.00	131.00	155.00	76.00	90.50	116.00	132.00	156.00
North	NOR080L	2010.00	65.70	78.60	101.00	114.00	135.00	66.10	79.00	101.00	115.00	135.00
North	NOR085L	674.00	71.10	83.00	107.00	118.00	145.00	72.00	83.90	108.00	120.00	147.00
North	NOR090L	468.00	53.40	62.10	79.80	89.80	110.00	53.40	62.20	79.80	90.00	111.00
North	NOR095L	693.00	30.10	35.10	45.10	50.10	60.20	30.10	35.10	45.10	50.10	60.20
North	NOR005A	1180.00	261.00	305.00	395.00	439.00	510.00	263.00	307.00	397.00	442.00	511.00
North	NOR005O	3080.00	0.00	0.00	0.00	0.00	26.70	0.00	0.00	0.00	0.00	28.50
North	NOR015A	582.00	164.00	195.00	252.00	281.00	334.00	164.00	195.00	252.00	282.00	334.00
North	NOR015O	3230.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North	NOR025A	1390.00	142.00	169.00	219.00	245.00	292.00	142.00	169.00	219.00	245.00	293.00
North	NOR025O	4410.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North	NOR060A	517.00	180.00	213.00	273.00	305.00	358.00	182.00	214.00	275.00	307.00	360.00
North	NOR060O	3860.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North	NOR070A	311.00	129.00	152.00	196.00	220.00	257.00	130.00	154.00	197.00	221.00	258.00
North	NOR070O	4140.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Village Green	VLG000L	2420.00	245.00	252.00	269.00	280.00	298.00	245.00	252.00	270.00	281.00	298.00
Village Green	VLG010L	2440.00	237.00	244.00	257.00	266.00	281.00	237.00	244.00	258.00	267.00	281.00
Village Green	VLG020L	757.00	224.00	228.00	236.00	242.00	251.00	224.00	228.00	236.00	242.00	251.00
Village Green	VLG030L	2140.00	218.00	222.00	228.00	232.00	240.00	218.00	222.00	228.00	233.00	240.00
Village Green	VLG040L	752.00	214.00	216.00	221.00	225.00	231.00	214.00	216.00	222.00	225.00	231.00
Village Green	WETLAND	200.00	203.00	203.00	204.00	205.00	207.00	203.00	203.00	204.00	205.00	207.00
Village Green	VLG005A	192.00	237.00	244.00	257.00	266.00	281.00	237.00	244.00	258.00	267.00	281.00
Village Green	VLG005O	3710.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Village Green	VLG015A	282.00	231.00	236.00	246.00	254.00	266.00	231.00	236.00	247.00	255.00	266.00
Village Green	VLG015O	3600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Village Green	VLG025A	123.00	99.60	101.00	105.00	107.00	112.00	99.60	101.00	105.00	108.00	112.00
Village Green	VLG025B	25.00	24.60	25.20	26.10	26.70	27.80	24.70	25.20	26.20	26.80	27.80
Village Green	VLG025O	2790.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Village Green	VLG035A	75.00	62.90	62.90	62.90	62.30	61.80	62.90	62.90	62.90	62.30	61.80
Village Green	VLG035O	3090.00	43.50	50.20	63.10	71.60	83.00	43.60	50.30	63.90	72.00	83.00
Sequoia	SEQ000L	17000.00	175.00	203.00	260.00	286.00	339.00	178.00	207.00	261.00	289.00	342.00
Sequoia	SEQ020L	1660.00	162.00	189.00	238.00	269.00	305.00	167.00	196.00	247.00	279.00	310.00
Sequoia	SEQ030L	180.00	4.86	5.72	7.31	8.28	9.98	5.82	6.79	9.18	9.67	12.40
Sequoia	SEQ035L	77.00	4.80	5.63	7.28	8.18	9.84	6.56	7.59	9.82	10.70	12.80
Sequoia	SEQ040L	74.00	4.80	5.63	7.28	8.17	9.84	6.61	7.65	9.86	10.80	12.90

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Sequoia	SEQ045L	56.00	4.81	5.62	7.27	8.16	9.83	6.66	7.71	9.91	10.80	12.90
Sequoia	SEQ050L	62.00	4.81	5.63	7.27	8.15	9.82	6.70	7.75	9.94	10.90	12.90
Sequoia	SEQ055L	29.00	4.83	5.65	7.28	8.13	9.81	6.81	7.87	10.00	11.10	13.00
Sequoia	SEQ060L	28.00	4.85	5.68	7.33	8.14	9.82	6.90	8.01	10.20	11.30	13.30
Sequoia	SEQ065L	33.00	4.85	5.69	7.35	8.16	9.83	6.92	8.05	10.30	11.40	13.50
Sequoia	SEQ070L	29.00	4.89	5.73	7.38	8.20	9.85	6.97	8.10	10.40	11.50	13.70
Sequoia	SEQ075L	38.00	4.91	5.75	7.42	8.25	9.92	6.99	8.13	10.40	11.50	13.80
Sequoia	SEQ080L	33.00	4.97	5.83	7.53	8.37	10.10	7.04	8.19	10.50	11.70	14.00
Sequoia	SEQ092L	57.00	0.78	1.04	1.40	1.50	2.90	0.79	1.04	1.39	1.42	2.64
Sequoia	SEQ100L	230.00	152.00	181.00	226.00	260.00	288.00	159.00	186.00	234.00	269.00	292.00
Sequoia	SEQ105L	102.00	146.00	173.00	217.00	250.00	282.00	152.00	177.00	225.00	257.00	283.00
Sequoia	SEQ125L	464.00	18.00	22.10	28.70	31.90	38.40	19.70	23.50	30.20	33.50	40.20
Sequoia	SEQ140L	238.00	18.30	22.40	29.00	32.20	38.70	20.10	23.80	30.50	33.80	40.50
Sequoia	SEQ150L	221.00	15.50	18.40	23.80	26.60	32.10	16.90	19.80	25.80	28.90	34.80
Sequoia	SEQ155L	2610.00	123.00	147.00	186.00	218.00	258.00	128.00	149.00	195.00	225.00	265.00
Sequoia	SEQ165L	201.00	113.00	135.00	172.00	199.00	234.00	115.00	137.00	176.00	203.00	238.00
Sequoia	SEQ170L	171.00	85.90	104.00	135.00	152.00	184.00	87.70	106.00	138.00	155.00	187.00
Sequoia	SEQ175L	480.00	80.80	98.10	128.00	143.00	173.00	82.50	100.00	130.00	146.00	177.00
Sequoia	SEQ180L	388.00	81.10	98.60	129.00	144.00	174.00	82.80	100.00	132.00	147.00	177.00
Sequoia	SEQ185L	300.00	81.30	98.90	130.00	145.00	175.00	83.30	101.00	133.00	148.00	178.00
Sequoia	SEQ190L	144.00	31.40	37.30	47.40	51.60	56.40	31.40	37.30	47.30	51.40	55.40
Sequoia	SEQ195L	2.10	25.70	30.50	39.60	41.50	41.10	25.80	30.50	39.70	41.20	39.00
Sequoia	SEQ200L	18.00	21.90	25.80	33.30	34.80	34.20	22.00	25.80	33.40	34.60	34.10
Sequoia	SEQ205L	25.00	9.05	10.60	13.90	15.80	19.20	9.07	10.70	13.90	15.80	19.30
Sequoia	SEQ210L	30.00	0.72	0.94	1.34	1.45	2.65	0.71	0.94	1.34	1.37	2.45
Sequoia	SEQ220L	30.00	0.59	0.61	0.73	0.79	0.94	0.64	0.63	0.75	0.81	0.97
Sequoia	SEQ225L	23.00	0.56	0.61	0.74	0.79	0.94	0.58	0.63	0.75	0.81	0.98
Sequoia	SEQ230L	31.00	-0.56	-0.62	-0.74	-0.79	-0.94	-0.58	-0.63	-0.76	-0.81	-0.98
Sequoia	SEQ231L	6.20	22.30	26.40	34.60	38.60	46.40	23.50	27.70	36.00	40.00	47.90
Sequoia	SEQ235L	103.00	23.00	27.20	35.40	39.40	47.10	24.20	28.40	36.80	40.70	48.70
Sequoia	SEQ240L	116.00	23.10	27.30	35.70	39.80	48.30	24.30	28.60	37.40	41.50	51.00
Sequoia	SEQ245L	30.00	23.10	27.20	35.60	39.60	48.20	24.30	28.50	37.00	41.10	50.30
Sequoia	SEQ250L	60.00	14.80	17.40	22.90	25.50	31.10	15.80	18.60	24.40	26.80	33.30
Sequoia	SEQ255L	52.00	14.80	17.40	22.90	25.50	31.10	15.90	18.60	24.40	26.80	33.40
Sequoia	SEQ260L	52.00	10.70	12.60	16.50	18.30	22.30	11.70	13.70	17.60	19.30	24.10

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	**Name**	**Capacity, cfs**	**2-year**	**5-year**	**10-year**	**25-year**	**100-year**	**2-year**	**5-year**	**10-year**	**25-year**	**100-year**
Sequoia	SEQ265L	35.00	3.62	4.23	5.46	6.08	7.31	3.93	4.59	5.97	6.63	7.98
Sequoia	SEQ270L	30.00	3.63	4.23	5.47	6.08	7.31	3.94	4.60	5.99	6.66	8.01
Sequoia	SEQ275L	28.00	3.63	4.24	5.47	6.09	7.33	3.96	4.61	6.02	6.68	8.04
Sequoia	SEQ280L	28.00	3.64	4.24	5.48	6.09	7.34	3.96	4.62	6.02	6.69	8.05
Sequoia	SEQ285L	21.00	3.63	4.24	5.51	6.13	7.39	3.96	4.61	6.08	6.75	8.12
Sequoia	SEQ290L	881.00	37.00	46.70	62.60	70.00	84.80	37.30	47.20	63.20	70.70	85.60
Sequoia	SEQ305L	88.00	30.10	35.40	46.20	51.30	61.50	31.50	36.80	47.80	52.90	63.40
Sequoia	SEQ310L	455.00	33.80	43.00	57.80	64.70	78.10	34.10	43.40	58.30	65.20	78.70
Sequoia	SEQ320L	598.00	33.80	43.20	58.10	65.00	78.90	34.10	43.50	58.70	65.60	79.60
Sequoia	SEQ330L	593.00	31.80	41.40	54.80	61.20	74.20	32.20	42.00	55.30	61.80	74.80
Sequoia	SEQ340L	879.00	32.50	38.50	50.60	56.50	68.50	32.90	39.00	51.00	57.00	69.10
Sequoia	SEQ360L	150.00	32.70	38.50	50.10	55.60	66.70	34.20	40.00	51.80	57.40	68.70
Sequoia	SEQ365L	84.00	32.80	38.70	50.20	55.70	66.80	34.30	40.10	51.90	57.50	68.70
Sequoia	SEQ370L	68.00	30.00	35.30	46.00	51.10	61.20	31.40	36.70	47.60	52.70	63.10
Sequoia	SEQ375L	76.00	8.40	9.89	12.90	14.50	17.60	8.55	10.10	13.40	14.80	18.10
Sequoia	SEQ380L	71.00	8.44	9.94	12.90	14.40	17.40	8.58	10.10	13.10	14.70	17.80
Sequoia	SEQ385L	71.00	8.45	9.95	12.90	14.40	17.50	8.60	10.10	13.20	14.70	17.80
Sequoia	SEQ390L	91.00	6.47	7.65	9.99	11.20	13.50	6.58	7.76	10.20	11.30	13.80
Sequoia	SEQ005A	347.00	177.00	207.00	262.00	290.00	341.00	181.00	210.00	265.00	294.00	344.00
Sequoia	SEQ005O	4260.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sequoia	SEQ025A	793.00	163.00	191.00	240.00	274.00	308.00	170.00	199.00	250.00	285.00	312.00
Sequoia	SEQ025O	7380.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sequoia	SEQ120A	276.00	60.70	73.80	94.70	110.00	126.00	63.50	75.60	98.50	114.00	126.00
Sequoia	SEQ120B	58.00	29.80	30.00	29.70	30.20	34.80	29.50	29.50	29.80	30.10	35.30
Sequoia	SEQ120O	812.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sequoia	SEQ130A	5.50	11.60	12.40	13.40	13.80	14.50	11.90	12.60	13.60	14.00	14.70
Sequoia	SEQ130O	1410.00	6.47	9.86	15.40	18.20	23.90	7.88	11.00	16.70	19.60	25.60
Sequoia	SEQ145A	3.10	10.60	10.80	10.90	10.90	10.90	10.80	10.90	10.90	10.90	11.00
Sequoia	SEQ145O	1630.00	4.38	7.35	12.70	15.30	21.00	5.82	8.58	14.30	17.10	23.40
Sequoia	SEQ160A	119.00	31.50	37.80	47.90	56.20	66.50	32.60	38.80	50.20	57.90	68.20
Sequoia	SEQ160B	49.00	15.60	17.60	22.50	26.40	31.30	16.00	17.80	23.60	27.20	32.10
Sequoia	SEQ160C	182.00	44.70	53.80	67.80	79.60	94.10	46.40	55.20	71.10	82.00	96.50
Sequoia	SEQ160O	442.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sequoia	SEQ315A	34.00	16.90	21.50	29.00	32.40	39.10	17.10	21.70	29.20	32.70	39.40
Sequoia	SEQ315O	2370.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Sequoia	SEQ325A	30.00	33.80	43.20	55.10	57.40	60.80	34.20	43.50	55.30	57.50	60.90
Sequoia	SEQ325O	2830.00	0.00	0.00	3.02	7.72	18.20	0.00	0.00	3.36	8.11	18.70
Sequoia	SEQ335A	19.00	31.80	36.80	40.00	41.40	43.80	32.20	36.90	40.10	41.50	43.90
Sequoia	SEQ335O	2500.00	0.00	4.73	14.80	20.00	30.50	0.00	5.09	15.20	20.40	31.00
Sequoia	SEQ345A	154.00	32.80	38.80	50.90	57.00	69.30	33.20	39.30	51.60	57.70	70.10
Sequoia	SEQ345O	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Garfield	GAR000L	15400.00	29.40	31.50	34.00	45.10	69.00	29.70	31.60	34.10	48.10	70.50
Garfield	GAR010L	1510.00	46.20	54.00	69.30	75.30	88.40	47.50	55.20	70.30	77.00	87.00
Garfield	GAR015L	277.00	27.20	31.60	40.20	44.40	52.20	27.80	32.20	40.80	45.00	52.90
Garfield	GAR025L	971.00	27.80	32.30	41.20	45.50	53.50	28.50	33.20	42.30	46.80	55.50
Garfield	GAR035L	882.00	7.22	8.47	11.00	12.20	14.60	8.24	9.55	12.20	13.50	15.60
Garfield	GAR040L	1280.00	13.10	15.60	20.10	22.60	27.00	14.50	17.00	21.60	24.20	28.40
Garfield	GAR045L	40.00	13.20	15.70	20.90	23.50	28.10	14.50	17.10	22.40	25.10	29.70
Garfield	GAR050L	36.00	13.20	15.70	20.90	23.50	28.20	14.50	17.20	22.50	25.20	29.80
Garfield	GAR055L	66.00	13.20	15.80	21.00	23.60	28.30	14.60	17.20	22.60	25.30	29.80
Garfield	GAR060L	55.00	4.78	5.58	7.52	8.49	10.20	4.78	5.58	7.56	8.50	10.60
Garfield	GAR065L	7.10	4.78	5.58	7.55	8.52	10.20	4.78	5.58	7.51	8.51	10.70
Garfield	GAR070L	7.40	4.81	5.62	7.56	8.52	10.40	4.81	5.62	7.56	8.52	10.40
Garfield	GAR075L	7.70	4.83	5.65	7.56	8.51	10.40	4.83	5.65	7.56	8.51	10.40
Garfield	GAR080L	19.00	2.77	3.21	4.20	4.63	5.48	2.93	3.38	4.39	4.85	5.63
Garfield	GAR085L	3.50	2.67	3.19	4.21	4.66	5.50	2.85	3.39	4.39	4.86	5.62
Garfield	GAR090L	3.20	2.67	3.19	4.20	4.66	5.52	2.85	3.38	4.39	4.87	5.62
Garfield	GAR095L	3.30	1.05	1.25	1.67	1.85	2.30	1.07	1.30	1.68	1.86	2.36
Garfield	GAR100L	43.00	7.47	8.75	11.30	12.50	14.90	8.46	9.80	12.50	13.80	16.30
Garfield	GAR105L	41.00	7.57	8.86	11.40	12.60	15.10	8.56	9.91	12.50	13.90	16.50
Garfield	GAR110L	42.00	6.42	7.52	9.70	10.70	12.90	7.26	8.42	10.70	11.80	14.10
Garfield	GAR120L	37.00	6.50	7.65	9.90	11.00	13.20	7.36	8.56	10.90	12.10	14.40
Garfield	GAR125L	46.00	6.53	7.70	10.00	11.20	13.50	7.40	8.62	11.10	12.30	14.70
Garfield	GAR130L	29.00	6.54	7.71	10.00	11.20	13.60	7.41	8.64	11.10	12.30	14.90
Garfield	GAR135L	9.70	-3.94	-4.60	-5.91	-6.55	-7.92	-3.99	-4.63	-5.93	-6.60	-7.94
Garfield	GAR140L	15.00	3.94	4.59	5.90	6.54	7.91	3.95	4.60	5.91	6.58	7.92
Garfield	GAR145L	11.00	2.81	3.27	4.18	4.62	5.57	2.80	3.26	4.17	4.62	5.55
Garfield	GAR150L	47.00	2.86	3.34	4.32	4.82	5.81	2.85	3.34	4.32	4.81	87.00
Garfield	GAR005A	60.00	29.40	31.50	34.00	36.50	40.90	29.70	31.60	34.10	37.00	41.00
Garfield	GAR005B	3950.00	0.00	0.00	0.00	8.45	28.20	0.00	0.00	0.00	10.50	29.40

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Garfield	GAR020A	24.00	27.40	31.80	40.40	44.60	52.40	28.00	32.40	41.00	45.30	53.30
Garfield	GAR020B	4180.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Garfield	GAR030A	25.00	19.90	23.30	29.80	33.10	39.40	21.90	25.50	32.20	35.60	41.80
Garfield	GAR030B	3810.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK005L	7360.00	684.00	894.00	1000.00	1030.00	1080.00	691.00	903.00	1010.00	1040.00	1090.00
Oak	OAK015L	7990.00	681.00	890.00	991.00	1020.00	1070.00	688.00	899.00	1000.00	1030.00	1080.00
Oak	OAK025L	14500.00	679.00	887.00	985.00	1010.00	1060.00	686.00	897.00	994.00	1020.00	1070.00
Oak	OAK033L	4350.00	676.00	883.00	976.00	1000.00	1050.00	683.00	892.00	985.00	1010.00	1050.00
Oak	OAK035L	13900.00	663.00	866.00	940.00	960.00	999.00	669.00	874.00	948.00	969.00	1010.00
Oak	OAK045L	3130.00	661.00	864.00	936.00	955.00	993.00	668.00	872.00	944.00	963.00	1000.00
Oak	OAK060L	2310.00	660.00	862.00	931.00	950.00	986.00	666.00	870.00	939.00	958.00	995.00
Oak	OAK080L	2360.00	655.00	856.00	919.00	936.00	968.00	662.00	864.00	926.00	943.00	977.00
Oak	OAK090L	6180.00	656.00	856.00	919.00	936.00	969.00	662.00	865.00	926.00	943.00	977.00
Oak	OAK100L	1180.00	638.00	835.00	882.00	893.00	916.00	643.00	842.00	886.00	897.00	920.00
Oak	OAK103L	8430.00	617.00	810.00	835.00	837.00	841.00	621.00	816.00	835.00	837.00	841.00
Oak	OAK105L	2600.00	617.00	810.00	835.00	837.00	841.00	621.00	816.00	835.00	837.00	841.00
Oak	OAK110L	1930.00	613.00	806.00	826.00	828.00	831.00	617.00	812.00	826.00	829.00	831.00
Oak	OAK120L	4590.00	614.00	807.00	832.00	843.00	850.00	617.00	812.00	832.00	843.00	850.00
Oak	OAK125L	1620.00	554.00	728.00	788.00	812.00	820.00	556.00	730.00	788.00	812.00	820.00
Oak	OAK130L	736.00	537.00	707.00	1080.00	1260.00	1530.00	538.00	709.00	1080.00	1260.00	1530.00
Oak	OAK140L	1820.00	539.00	723.00	1090.00	1260.00	1530.00	540.00	724.00	1090.00	1260.00	1530.00
Oak	OAK150L	5030.00	538.00	721.00	1080.00	1260.00	1600.00	538.00	722.00	1080.00	1260.00	1600.00
Oak	OAK155L	722.00	491.00	660.00	979.00	1130.00	1440.00	491.00	660.00	980.00	1130.00	1440.00
Oak	OAK170L	4910.00	493.00	662.00	985.00	1140.00	1460.00	494.00	663.00	986.00	1140.00	1460.00
Oak	OAK205L	2840.00	450.00	598.00	885.00	1020.00	1310.00	450.00	598.00	885.00	1020.00	1310.00
Oak	OAK215L	1650.00	58.20	72.60	103.00	116.00	146.00	58.20	72.60	103.00	116.00	146.00
Oak	OAK225L	3020.00	20.20	28.20	125.00	-196.00	-243.00	24.10	32.50	123.00	-206.00	256.00
Oak	OAK235L	2050.00	65.40	90.90	137.00	160.00	201.00	69.30	94.50	142.00	164.00	205.00
Oak	OAK245L	1400.00	60.10	83.40	127.00	148.00	185.00	63.90	87.10	131.00	152.00	189.00
Oak	OAK255L	355.00	5.03	6.39	9.03	10.30	13.00	5.66	6.92	9.71	11.20	14.10
Oak	OAK280L	2780.00	48.80	68.00	104.00	120.00	151.00	52.40	71.50	108.00	125.00	156.00
Oak	OAK290L	7580.00	43.90	61.50	92.50	107.00	136.00	48.30	66.20	97.00	112.00	141.00
Oak	OAK295L	127.00	18.50	26.50	36.90	40.50	48.80	19.50	27.10	36.90	40.80	48.80
Oak	OAK305L	71.00	18.70	26.30	36.90	40.50	48.80	19.60	27.10	36.90	40.90	48.80
Oak	OAK310L	71.00	19.00	26.20	36.90	40.70	48.80	19.80	27.20	36.90	40.90	48.80

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Oak	OAK315L	71.00	8.46	13.40	19.40	21.90	24.40	9.14	14.20	19.40	21.90	24.40
Oak	OAK325L	71.00	8.46	13.40	19.10	20.90	24.40	9.14	14.20	19.10	20.90	24.40
Oak	OAK330L	43.00	8.51	13.40	19.00	20.50	24.40	9.14	14.20	19.00	20.50	24.30
Oak	OAK335L	43.00	8.48	13.40	19.00	20.40	24.00	9.16	14.20	19.00	20.40	24.00
Oak	OAK340L	43.00	8.48	13.40	19.00	20.40	23.70	9.15	14.20	19.00	20.40	23.70
Oak	OAK345L	43.00	8.50	13.40	19.00	20.40	23.40	9.16	14.20	19.00	20.40	23.40
Oak	OAK350L	569.00	5.16	5.38	6.88	6.85	6.93	5.20	5.40	6.94	6.92	6.80
Oak	OAK355L	5.40	5.14	5.29	6.79	6.88	6.76	5.18	5.44	6.77	6.89	6.76
Oak	OAK365L	5.40	5.14	5.29	6.79	6.88	6.76	5.18	5.48	6.77	6.89	6.76
Oak	OAK370L	5.40	5.15	5.30	6.79	6.88	6.76	5.28	5.50	6.78	6.90	6.76
Oak	OAK375L	19.00	-5.47	-5.77	-9.10	-9.10	-9.10	-5.74	-5.51	-9.10	-9.13	-9.10
Oak	OAK376L	12.00	2.73	5.47	7.22	7.44	6.70	3.55	5.72	7.44	7.49	7.00
Oak	OAK380L	39.00	8.50	13.40	19.00	20.40	22.90	9.15	14.20	19.00	20.40	22.90
Oak	OAK385L	39.00	6.12	9.99	13.70	15.00	16.20	6.92	10.80	14.00	15.00	16.20
Oak	OAK390L	39.00	6.15	10.00	13.80	15.10	16.40	6.92	10.90	14.10	15.10	16.50
Oak	OAK395L	39.00	6.16	10.10	13.90	15.20	16.80	6.93	10.90	14.20	15.20	16.80
Oak	OAK400L	5.80	4.10	7.30	9.47	9.50	9.51	4.56	8.00	9.50	9.50	9.51
Oak	OAK405L	5.70	4.12	7.30	9.47	9.50	9.51	4.58	8.00	9.50	9.50	9.51
Oak	OAK410L	5.70	4.15	7.31	9.47	9.50	9.51	4.71	8.00	9.50	9.50	9.51
Oak	OAK415L	5.70	2.65	4.91	6.66	7.06	6.68	3.38	5.59	7.16	7.17	6.92
Oak	OAK420L	12.00	2.70	5.00	6.66	7.23	6.68	3.51	5.63	7.23	7.30	6.95
Oak	OAK010A	1600.00	342.00	447.00	500.00	513.00	540.00	346.00	452.00	504.00	518.00	544.00
Oak	OAK010B	2060.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK020A	7030.00	341.00	445.00	495.00	508.00	534.00	344.00	450.00	500.00	513.00	538.00
Oak	OAK020B	3740.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK030A	4980.00	677.00	884.00	978.00	1000.00	1050.00	683.00	893.00	987.00	1010.00	1060.00
Oak	OAK030B	2640.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK040A	3990.00	661.00	864.00	936.00	955.00	993.00	668.00	872.00	944.00	963.00	1000.00
Oak	OAK040B	2290.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK065A	6850.00	655.00	855.00	919.00	936.00	969.00	661.00	864.00	926.00	943.00	977.00
Oak	OAK065B	1820.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK085A	6310.00	655.00	856.00	919.00	936.00	968.00	662.00	864.00	926.00	943.00	977.00
Oak	OAK085B	3660.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK115A	287.00	307.00	397.00	402.00	402.00	403.00	308.00	398.00	402.00	402.00	403.00
Oak	OAK115B	1920.00	0.00	12.40	22.60	23.80	25.10	0.00	14.90	22.60	23.90	25.30

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Oak	OAK135A	1840.00	537.00	708.00	1080.00	1220.00	1330.00	538.00	709.00	1080.00	1220.00	1330.00
Oak	OAK135B	1920.00	0.00	0.00	0.09	41.40	196.00	0.00	0.00	0.11	41.70	196.00
Oak	OAK145A	1320.00	539.00	724.00	1090.00	1260.00	1590.00	540.00	724.00	1090.00	1260.00	1590.00
Oak	OAK145B	1860.00	0.00	0.00	0.00	0.00	18.40	0.00	0.00	0.00	0.00	18.60
Oak	OAK160A	2360.00	491.00	660.00	980.00	1130.00	1410.00	492.00	661.00	981.00	1130.00	1410.00
Oak	OAK160B	376.00	0.00	0.00	0.00	0.00	35.40	0.00	0.00	0.00	0.00	35.60
Oak	OAK230A	142.00	20.80	28.80	43.30	50.00	63.10	25.00	33.10	47.90	54.80	68.50
Oak	OAK230B	1180.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK240A	55.00	3.42	4.57	6.63	7.61	9.74	3.42	4.57	6.63	7.61	9.74
Oak	OAK240B	757.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK250A	697.00	3.85	5.27	7.79	8.97	11.30	3.85	5.27	7.79	8.97	11.30
Oak	OAK250B	1080.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK260A	108.00	5.27	6.51	9.30	10.80	13.80	5.92	7.25	10.20	11.80	15.00
Oak	OAK260B	260.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK285A	190.00	47.20	65.80	100.00	117.00	149.00	50.80	69.50	105.00	121.00	153.00
Oak	OAK285B	226.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marys River	MRY001A	32.00	6.42	7.47	9.59	10.60	12.70	6.73	7.83	10.20	11.40	14.00
Marys River	MRY001B	2820.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marys River	MRY003A	27.00	3.60	4.19	5.53	6.21	7.58	3.78	4.50	5.91	6.61	8.05
Marys River	MRY003B	2660.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marys River	MRY005A	93.00	0.96	1.15	1.55	1.74	2.15	0.98	1.17	1.57	1.77	2.17
Marys River	MRY005B	4230.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Goodnight	GDN005L	64.00	16.70	22.70	33.80	39.10	49.40	24.00	31.20	44.10	49.40	61.40
Goodnight	GDN010L	57.00	16.90	22.80	33.90	39.20	49.50	24.10	31.30	44.20	49.50	61.80
Goodnight	GDN015L	64.00	16.90	22.90	34.00	39.30	49.60	24.20	31.50	44.30	49.60	62.00
Goodnight	GDN030L	65.00	14.70	19.50	28.10	32.20	40.00	20.30	26.10	36.40	40.50	50.70
Goodnight	GDN035L	49.00	13.90	18.50	26.70	30.60	38.20	18.10	22.70	30.70	34.00	39.90
Goodnight	GDN040L	49.00	11.70	15.40	22.20	25.20	31.40	12.40	16.20	22.70	25.10	29.20
Goodnight	GDN045L	9.20	6.45	8.39	11.80	13.20	16.50	6.52	8.44	11.70	13.20	17.50
Goodnight	GDN050L	24.00	1.81	2.30	3.29	4.08	5.25	1.81	2.35	3.41	4.18	10.50
Goodnight	GDN055L	12.00	1.25	1.60	2.15	2.66	3.37	1.25	1.63	2.22	2.74	4.52
Goodnight	GDN060L	41.00	4.27	5.63	8.13	9.36	11.50	4.73	6.06	8.50	9.73	12.90
Goodnight	GDN065L	53.00	4.32	5.68	8.18	9.34	11.60	4.78	6.07	8.48	9.56	13.70
Goodnight	GDN075L	30.00	4.46	5.84	8.37	9.53	11.80	4.92	6.25	8.74	9.81	13.50
Goodnight	GDN085L	35.00	4.55	5.91	8.38	9.40	11.30	4.59	5.94	8.36	9.42	12.50

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Goodnight	GDN090L	27.00	4.56	5.92	8.35	9.26	11.30	4.59	5.95	8.17	9.31	12.50
Goodnight	GDN095L	6.30	2.42	3.13	4.42	5.08	6.70	2.44	3.15	4.37	5.47	7.92
Goodnight	GDN100L	33.00	2.38	3.07	4.35	5.03	6.64	2.39	3.09	4.32	5.29	7.46
Goodnight	GDN105L	27.00	1.40	1.79	2.54	2.94	4.20	1.40	1.80	2.48	3.33	5.36
Goodnight	GDN110L	26.00	1.35	1.74	2.50	2.84	3.98	1.36	1.75	2.45	3.10	4.87
Goodnight	GDN115L	6.60	1.33	1.69	2.47	2.79	3.69	1.33	1.69	2.45	2.78	4.17
Goodnight	GDN120L	13.00	1.33	1.68	2.46	2.83	3.38	1.33	1.68	2.46	2.68	3.71
Goodnight	GDN125L	8.30	1.23	1.57	2.27	2.67	3.09	1.23	1.57	2.28	2.59	3.18
Goodnight	GDN130L	9.50	1.24	1.58	2.28	2.70	3.25	1.24	1.58	2.29	2.67	3.18
Goodnight	GDN135L	9.40	1.24	1.59	2.30	2.73	3.42	1.24	1.60	2.31	2.73	3.38
Goodnight	GDN140L	6.30	1.24	1.60	2.32	2.75	3.48	1.25	1.60	2.32	2.75	3.48
Goodnight	GDN145L	1.60	0.15	0.21	0.32	0.37	0.40	0.15	0.21	0.32	0.37	-1.22
Goodnight	GDN150L	1.90	0.13	0.16	0.21	0.23	0.29	0.13	0.16	0.21	0.23	-1.02
Goodnight	GDN155L	1.70	0.15	0.17	0.23	0.25	0.33	0.15	0.17	0.23	0.25	-0.77
Goodnight	GDN160L	2.00	0.14	0.17	0.21	0.24	0.32	0.14	0.17	0.21	0.24	0.66
Goodnight	GDN165L	2.00	0.13	0.16	0.23	0.27	0.31	0.13	0.16	0.23	0.27	0.66
Goodnight	GDN185a	4.50	0.00	0.00	0.03	0.16	0.61	2.86	2.91	2.98	2.99	3.57
Goodnight	GDN185b	948.00	0.00	0.00	0.00	0.00	0.00	1.62	2.74	5.02	6.49	9.25
Goodnight	GDN190L	0.11	-0.25	-0.33	-0.47	-0.51	-0.59	0.85	1.06	1.55	1.81	2.33
Goodnight	GDN500L	12.00	1.19	1.57	2.37	2.88	4.24	4.32	4.80	5.79	6.33	7.60
Goodnight	GDN510L	16.00	1.12	1.48	2.21	2.68	3.97	4.22	4.69	5.62	6.10	7.27
Goodnight	GDN515L	15.00	1.12	1.48	2.21	2.66	3.91	4.23	4.69	5.64	6.03	7.24
Goodnight	GDN520L	17.00	1.12	1.48	2.21	2.67	3.91	4.23	4.69	5.67	6.08	7.22
Goodnight	GDN525L	13.00	0.59	0.82	1.26	1.58	2.42	3.63	3.93	4.52	4.79	5.91
Goodnight	GDN530L	10.00	0.60	0.82	1.23	1.42	1.82	0.81	1.04	1.54	1.82	2.56
Goodnight	GDN535L	6.70	0.60	0.82	1.23	1.42	1.82	0.81	1.04	1.54	1.82	2.49
Goodnight	GDN540L	7.00	0.30	0.42	0.64	0.74	0.95	0.43	0.56	0.80	0.94	1.59
Goodnight	GDN545L	3.10	0.30	0.42	0.64	0.74	0.95	0.44	0.56	0.80	0.95	1.27
Goodnight	GDN550L	4.50	0.31	0.44	0.66	0.76	0.96	0.47	0.59	0.83	0.98	1.27
Goodnight	GDN555L	0.17	-0.96	-1.28	-1.85	-2.01	-2.29	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN560L	0.33	-1.37	-1.38	-1.43	-1.44	-1.34	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN565L	1.50	-1.18	-1.18	-1.18	-1.18	-1.18	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN570L	1.10	1.95	2.04	2.04	2.04	2.04	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN575L	4.30	0.92	0.92	1.01	1.20	1.20	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN580L	1.90	-0.80	0.98	1.23	1.36	1.36	n/a	n/a	n/a	n/a	n/a

Table A-5. Model Results - Flows

			Present Flows, cfs					Future Flows, cfs				
Basin	Name	Capacity, cfs	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Goodnight	GDN585L	1.30	1.11	1.33	1.33	1.33	1.33	n/a	n/a	n/a	n/a	n/a
Mill Race	MIL005L	3830.00	25.90	32.00	50.50	59.00	75.50	29.30	37.60	55.70	64.00	80.80
Mill Race	MIL015L	1280.00	24.70	30.40	48.10	56.10	71.80	27.80	35.80	53.00	60.90	77.30
Mill Race	MIL025L	9570.00	-24.60	-30.30	-47.80	-55.80	-71.40	-27.80	-35.70	-52.80	-60.70	-76.70
Mill Race	MIL040L	9310.00	23.40	28.70	45.20	52.70	67.50	26.40	34.10	50.10	57.70	73.60
Mill Race	MIL050L	955.00	17.00	21.00	33.10	38.50	49.30	17.80	23.30	34.90	40.30	51.40
Mill Race	MIL055L	1060.00	17.00	21.10	33.10	38.60	49.40	17.80	23.20	34.90	40.30	51.30
Mill Race	MIL075L	1960.00	-9.03	-11.20	-17.40	-20.50	-26.60	-9.22	-11.70	-18.20	-21.30	-27.30
Mill Race	MIL085L	1950.00	1.63	2.31	3.54	4.15	5.67	1.69	2.47	3.64	4.37	5.86
Mill Race	MIL090L	1660.00	0.00	0.00	-0.17	-0.30	-0.69	0.00	-0.07	-0.26	-0.45	-0.75
Mill Race	MIL010A	410.00	24.50	30.20	47.70	55.60	71.20	27.60	35.50	52.60	60.40	76.30
Mill Race	MIL010B	165.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL020A	1150.00	24.50	30.20	47.70	55.70	71.20	27.70	35.50	52.60	60.40	76.50
Mill Race	MIL020B	464.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL030A	5110.00	25.00	30.70	48.50	56.50	72.50	28.20	36.30	53.60	61.50	78.00
Mill Race	MIL030B	456.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL045A	1760.00	17.20	21.20	33.20	38.70	49.50	18.10	23.50	35.10	40.50	51.90
Mill Race	MIL045B	409.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL060A	481.00	11.40	13.90	21.30	24.90	32.10	11.90	14.90	22.60	26.20	33.10
Mill Race	MIL060B	119.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL080A	37.00	3.50	4.84	7.17	8.54	11.60	3.64	5.07	7.44	9.03	12.00
Mill Race	MIL080B	234.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE A-6

MODEL RESULTS -- VELOCITIES

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX220L	7.22	5.62	5.61	5.64	5.64	5.64	5.62	5.61	5.64	5.64	5.64
Dixon	DIX230L	17.20	3.24	3.23	3.21	3.21	3.47	3.25	3.23	3.22	3.22	3.46
Dixon	DIX240L	10.39	3.57	3.60	3.61	3.61	3.61	3.58	3.60	3.61	3.61	3.61
Dixon	DIX250L	17.23	2.29	2.37	2.41	2.41	2.41	2.30	2.38	2.41	2.41	2.41
Dixon	DIX260L	5.74	5.05	5.06	5.01	5.19	5.26	5.02	5.05	5.00	5.22	5.27
Dixon	DIX265L	4.48	4.58	4.81	4.64	4.68	5.00	4.60	4.81	4.63	4.68	5.04
Dixon	DIX270L	4.80	4.00	4.29	4.29	4.29	4.96	4.01	4.28	4.30	4.29	5.00
Dixon	DIX275L	4.15	4.02	4.33	4.34	4.34	4.34	4.03	4.33	4.35	4.34	4.34
Dixon	DIX280L	4.28	4.10	4.36	4.36	4.36	4.36	4.10	4.36	4.36	4.36	4.36
Dixon	DIX285L	4.21	4.09	4.35	4.35	4.35	4.35	4.10	4.36	4.35	4.35	4.35
Dixon	DIX290L	4.34	4.09	4.35	4.35	4.35	4.35	4.09	4.35	4.35	4.35	4.35
Dixon	DIX295L	3.97	2.74	2.86	4.10	3.55	4.23	2.75	2.86	4.10	3.54	4.23
Dixon	DIX300L	3.22	2.71	2.80	4.09	3.55	4.22	2.71	2.80	4.10	3.56	4.23
Dixon	DIX305L	3.53	2.63	2.70	4.07	3.54	4.21	2.63	2.70	4.07	3.59	4.21
Dixon	DIX310L	4.65	4.61	4.64	4.81	4.71	4.98	4.61	4.64	4.81	4.71	4.98
Dixon	DIX315L	4.92	4.60	4.64	4.79	4.70	4.95	4.60	4.64	4.79	4.70	4.95
Dixon	DIX320L	4.18	4.59	4.63	4.65	4.69	4.68	4.59	4.63	4.65	4.69	4.68
Dixon	DIX325L	4.15	4.57	4.61	4.64	4.68	4.73	4.59	4.61	4.64	4.68	4.73
Dixon	DIX330L	7.80	5.34	5.35	5.35	5.36	5.35	5.34	5.35	5.35	5.35	5.35
Dixon	DIX335L	7.74	6.86	6.86	6.86	6.86	6.86	6.86	6.86	6.86	6.86	6.86
Dixon	DIX340L	7.95	7.29	8.20	8.22	8.22	8.22	7.33	8.20	8.22	8.22	8.22
Dixon	DIX345L	12.17	4.63	4.70	4.82	4.86	4.94	4.74	4.80	4.91	4.97	5.05
Dixon	DIX350L	6.79	3.54	3.67	3.90	3.98	4.14	3.65	3.78	3.99	4.07	4.22
Dixon	DIX355L	12.91	4.30	4.50	4.86	5.02	5.32	4.55	4.75	5.11	5.29	5.58
Dixon	DIX360L	6.68	3.63	4.03	5.39	5.57	5.63	3.60	4.06	5.38	5.57	5.63
Dixon	DIX365L	7.28	5.06	5.08	5.11	5.26	5.83	5.06	5.08	5.11	5.26	5.83
Dixon	DIX370L	10.31	7.35	7.36	7.35	7.32	7.39	7.35	7.35	7.36	7.32	7.38
Dixon	DIX375L	10.91	8.08	8.26	8.36	8.37	8.30	8.08	8.25	8.35	8.36	8.29
Dixon	DIX380L	17.02	8.86	9.18	10.70	11.04	11.10	8.85	9.17	10.72	11.04	11.09
Dixon	DIX385L	18.29	10.42	10.69	11.21	11.41	11.64	10.42	10.69	11.21	11.41	11.64
Dixon	DIX390L	20.41	6.45	6.60	6.89	7.01	7.12	6.45	6.60	6.89	7.02	7.11
Dixon	DIX395L	4.76	6.44	7.48	8.76	8.57	9.59	6.37	7.53	8.72	8.53	9.66
Dixon	DIX400L	8.19	3.94	3.89	4.64	4.85	5.07	3.93	3.91	4.66	4.93	5.09
Dixon	DIX405L	8.16	5.92	5.86	5.85	5.93	5.99	5.91	5.87	5.85	5.92	5.99
Dixon	DIX410L	11.79	8.26	8.47	8.43	8.45	8.41	8.27	8.48	8.44	8.47	8.41

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX415L	11.97	7.77	8.00	8.30	8.50	8.74	7.79	8.02	8.30	8.52	8.75
Dixon	DIX420L	3.85	3.31	3.36	3.64	3.48	3.38	3.46	3.56	3.62	3.46	3.53
Dixon	DIX425L	5.58	2.70	2.98	3.56	3.50	3.53	2.91	3.24	3.53	3.54	3.54
Dixon	DIX430L	5.18	3.32	3.35	3.57	3.52	3.64	3.39	3.46	3.57	3.56	3.66
Dixon	DIX435L	4.47	4.11	4.16	4.60	4.53	4.41	4.20	4.26	4.63	4.56	4.45
Dixon	DIX440L	9.08	3.50	3.93	4.95	5.37	6.18	3.88	4.57	5.52	5.97	6.66
Dixon	DIX445L	8.89	5.63	5.81	6.13	6.24	6.47	5.80	6.01	6.29	6.41	6.62
Dixon	DIX450L	9.03	5.74	5.86	6.05	6.06	6.09	5.84	5.99	6.08	6.08	6.12
Dixon	DIX455L	12.33	7.73	7.94	8.27	8.37	8.52	7.92	8.14	8.41	8.50	8.59
Dixon	DIX460L	12.38	7.50	7.73	8.06	8.21	8.47	7.70	7.93	8.26	8.41	8.64
Dixon	DIX465L	15.32	8.63	8.95	9.35	9.53	9.83	8.97	9.17	9.59	9.78	10.05
Dixon	DIX480L	11.33	3.71	3.71	3.73	3.72	3.72	3.71	3.71	3.73	3.73	3.73
Dixon	DIX490L	11.04	6.83	6.96	7.06	7.05	7.10	6.84	6.95	7.05	7.06	7.09
Dixon	DIX500L	8.06	6.71	6.92	7.19	7.27	7.41	6.74	6.94	7.21	7.29	7.41
Dixon	DIX510L	6.71	4.96	5.07	5.19	5.22	5.27	4.98	5.08	5.20	5.22	5.27
Dixon	DIX520L	6.70	3.42	3.50	3.57	3.57	3.57	3.43	3.51	3.57	3.57	3.57
Dixon	DIX530L	6.34	3.21	3.33	3.46	3.46	3.44	3.23	3.34	3.46	3.46	3.44
Dixon	DIX540L	5.36	5.65	5.81	6.10	6.08	6.05	5.68	5.84	6.12	6.03	6.11
Dixon	DIX555L	3.68	4.44	4.58	4.76	4.78	4.83	4.47	4.60	4.77	4.80	4.83
Dixon	DIX565L	4.53	5.06	5.15	5.13	5.06	5.07	5.08	5.12	5.07	5.07	5.13
Dixon	DIX570L	4.80	5.00	5.35	5.77	5.81	5.85	5.06	5.39	5.79	5.83	5.88
Dixon	DIX580L	12.46	6.05	6.31	6.36	6.39	6.50	6.11	6.34	6.55	6.36	6.34
Dixon	DIX585L	3.48	4.38	4.93	5.53	5.83	6.36	4.47	5.02	5.57	5.91	6.40
Dixon	DIX595L	15.35	8.20	8.21	8.21	8.21	8.20	8.21	8.22	8.22	8.23	8.21
Dixon	DIX605L	11.18	4.21	4.33	4.67	4.77	4.93	4.22	4.36	4.68	4.79	4.94
Dixon	DIX613L	2.14	5.78	6.07	6.74	7.41	8.54	5.84	6.12	6.81	7.58	8.61
Dixon	DIX615L	13.12	4.83	5.02	5.28	5.26	5.25	4.87	5.05	5.26	5.26	5.25
Dixon	DIX625L	6.58	6.10	6.33	6.68	6.83	6.96	6.14	6.37	6.70	6.86	7.01
Dixon	DIX630L	18.63	4.22	4.33	4.40	4.36	4.35	4.25	4.33	4.40	4.35	4.37
Dixon	DIX640L	8.76	4.62	4.74	5.04	5.28	5.58	4.62	4.73	5.09	5.30	5.46
Dixon	DIX650L	5.47	4.38	4.56	4.85	4.95	5.14	4.40	4.58	4.86	4.96	5.14
Dixon	DIX660L	21.66	3.29	3.34	3.68	3.67	3.57	3.28	3.32	3.60	3.60	3.52
Dixon	DIX665L	21.56	6.76	6.83	6.99	7.08	7.22	6.77	6.83	7.00	7.10	7.22
Dixon	DIX670L	5.20	2.47	2.59	2.91	3.09	3.50	2.52	2.64	2.96	3.02	3.57
Dixon	DIX680L	11.44	2.21	2.33	2.41	2.42	2.38	2.57	2.69	2.68	2.71	2.59

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX690L	3.63	1.40	1.46	1.55	1.58	1.64	1.46	1.52	1.61	1.65	1.71
Dixon	DIX695L	15.25	2.60	2.65	2.58	2.64	2.55	2.59	2.62	2.62	2.62	2.64
Dixon	DIX698L	2.02	3.52	3.72	4.03	4.29	4.49	3.56	3.75	4.08	4.32	4.42
Dixon	DIX700L	10.76	3.42	3.62	4.18	4.53	5.22	3.46	3.66	4.26	4.62	5.31
Dixon	DIX710L	13.61	5.69	6.00	6.54	6.76	7.16	5.78	6.09	6.62	6.83	7.24
Dixon	DIX715L	16.71	5.70	5.94	6.34	6.52	6.84	5.78	6.01	6.40	6.59	6.90
Dixon	DIX720L	13.96	5.58	5.89	6.41	6.64	7.04	5.68	5.98	6.50	6.72	7.12
Dixon	DIX725L	10.63	4.36	4.60	5.01	5.19	5.50	4.45	4.69	5.08	5.26	5.57
Dixon	DIX735L	14.26	6.33	6.66	7.23	7.47	7.92	6.38	6.71	7.28	7.52	7.97
Dixon	DIX740L	15.85	5.56	5.79	6.19	6.36	6.67	5.62	5.85	6.23	6.41	6.72
Dixon	DIX745L	19.47	6.94	7.32	7.96	8.24	8.74	7.01	7.39	8.02	8.30	8.80
Dixon	DIX750L	10.04	4.23	4.45	4.84	5.01	5.31	4.28	4.50	4.88	5.05	5.35
Dixon	DIX760L	13.72	5.78	6.09	6.62	6.85	7.26	5.84	6.15	6.67	6.90	7.31
Dixon	DIX775L	14.98	1.47	1.54	1.66	1.72	1.82	1.48	1.55	1.68	1.73	1.84
Dixon	DIX785L	32.04	1.83	1.87	1.92	1.94	1.98	1.86	1.90	1.95	1.98	2.00
Dixon	DIX790L	16.11	3.21	3.45	3.85	4.05	4.39	3.34	3.57	3.98	4.16	4.52
Dixon	DIX795L	16.93	3.88	4.10	4.46	4.64	4.94	4.08	4.30	4.68	4.89	5.21
Dixon	DIX805L	5.63	5.53	5.77	6.07	6.56	6.96	5.55	5.79	6.09	6.56	6.98
Dixon	DIX810L	10.43	5.19	5.47	5.67	7.02	7.42	5.20	5.49	5.70	7.00	7.45
Dixon	DIX815L	6.74	5.51	5.79	5.91	6.64	6.66	5.52	5.79	5.91	6.65	6.66
Dixon	DIX820L	8.01	5.31	5.57	5.68	7.27	7.39	5.33	5.59	5.67	7.35	7.54
Dixon	DIX825L	8.37	6.23	6.51	6.68	8.16	8.25	6.24	6.54	6.68	8.22	8.40
Dixon	DIX835L	9.05	3.79	4.33	5.04	5.97	5.99	3.81	4.37	4.99	5.99	6.07
Dixon	DIX845L	29.23	4.81	4.91	4.93	4.94	4.94	4.82	4.91	4.93	4.94	4.94
Dixon	DIX855L	30.50	2.58	2.64	2.66	2.59	2.64	2.59	2.61	2.64	2.56	2.64
Dixon	DIX865L	27.97	10.17	10.47	10.03	10.16	9.71	10.15	10.01	10.00	10.18	9.64
Dixon	DIX874L	14.85	3.80	4.35	5.38	5.84	6.73	3.82	4.37	5.40	5.87	6.76
Dixon	DIX875L	18.22	0.90	0.90	1.48	1.31	0.90	1.85	0.90	0.90	0.92	1.04
Dixon	DIX885L	12.44	7.87	8.25	8.88	9.14	9.61	7.89	8.26	8.89	9.16	9.63
Dixon	DIX890L	12.28	7.16	7.50	8.07	8.31	8.74	7.17	7.51	8.08	8.32	8.75
Dixon	DIX895L	21.31	1.13	1.12	1.07	1.13	1.15	1.15	1.30	1.10	1.12	1.18
Dixon	DIX905L	16.31	1.13	1.13	1.13	1.16	1.22	1.13	1.13	1.15	1.18	1.23
Dixon	DIX915L	28.28	8.34	8.68	9.22	9.44	9.84	8.34	8.68	9.22	9.44	9.85
Dixon	DIX925L	12.45	3.16	3.61	4.46	4.84	5.58	3.17	3.62	4.48	4.86	5.60
Dixon	DIX930L	15.19	6.43	6.76	7.30	7.55	8.00	6.41	6.74	7.29	7.54	7.98

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX935L	14.55	2.32	2.45	2.68	2.80	3.02	2.48	2.61	2.84	2.95	3.15
Dixon	DIX945L	15.37	2.74	2.86	3.05	3.08	3.24	2.77	2.88	3.08	3.12	3.23
Dixon	DIX950L	15.77	4.13	4.35	4.72	4.84	5.13	4.13	4.36	4.72	4.84	5.14
Dixon	DIX955L	7.01	3.01	3.18	3.47	3.55	3.78	3.01	3.18	3.46	3.55	3.78
Dixon	DIX960L	19.95	2.83	3.00	3.30	3.40	3.62	2.83	3.00	3.30	3.40	3.63
Dixon	DIX970L	21.23	1.43	1.45	1.48	1.47	1.49	1.43	1.45	1.48	1.47	1.49
Dixon	DIX995L	17.28	1.28	1.33	1.36	1.36	1.39	1.28	1.33	1.36	1.36	1.38
Dixon	DIXOUTL	13.18	8.69	9.08	9.59	9.77	10.14	8.75	9.12	9.61	9.81	10.14
Dixon	DIX225A	14.61	3.06	3.15	3.23	3.24	3.25	3.08	3.16	3.25	3.23	3.25
Dixon	DIX225O	75.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX235A	13.75	5.85	6.16	6.33	6.34	6.40	5.90	6.20	6.33	6.34	6.39
Dixon	DIX235O	90.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX245A	15.49	5.75	5.99	6.27	6.31	6.44	5.79	6.02	6.29	6.33	6.44
Dixon	DIX245O	114.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX255A	11.27	3.21	3.35	3.56	3.61	3.73	3.23	3.37	3.57	3.63	3.73
Dixon	DIX255O	76.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX475A	15.11	8.81	9.28	9.97	10.20	10.67	8.88	9.34	10.00	10.24	10.67
Dixon	DIX475O	107.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX485A	17.54	4.99	5.04	5.10	5.10	5.21	5.00	5.04	5.10	5.09	5.23
Dixon	DIX485O	99.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX495A	29.66	5.58	5.98	6.56	6.73	7.07	5.64	6.03	6.59	6.78	7.07
Dixon	DIX495O	188.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX505A	10.24	5.75	6.00	6.38	6.49	6.72	5.79	6.03	6.40	6.52	6.72
Dixon	DIX505O	65.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX515A	12.45	3.95	4.21	4.62	4.82	5.66	3.99	4.24	4.65	4.89	5.69
Dixon	DIX515O	95.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX525A	0.00	2.87	3.10	3.44	3.57	4.25	2.91	3.13	3.46	3.62	4.28
Dixon	DIX525O	90.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX535A	14.17	3.66	3.84	4.08	4.12	4.24	3.70	3.86	4.09	4.13	4.25
Dixon	DIX535O	83.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX545A	19.99	5.37	5.73	6.23	6.35	6.52	5.44	5.78	6.27	6.38	6.53
Dixon	DIX545O	95.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX560A	12.76	5.07	5.32	5.70	5.87	6.93	5.11	5.36	5.73	5.96	6.96
Dixon	DIX560B	8.24	5.08	5.38	5.98	6.03	6.35	5.13	5.43	5.99	6.08	6.38
Dixon	DIX560O	92.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX575A	13.73	5.12	5.38	5.78	5.91	6.24	5.17	5.41	5.81	5.94	6.26
Dixon	DIX575B	8.43	4.83	5.06	5.46	5.59	6.08	4.87	5.09	5.48	5.63	6.10
Dixon	DIX575O	59.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX590A	14.68	4.67	5.09	5.59	5.83	6.24	4.74	5.15	5.62	5.89	6.27
Dixon	DIX590O	71.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX600A	6.91	4.70	4.82	5.32	5.68	6.61	4.70	4.87	5.35	5.79	6.71
Dixon	DIX600O	55.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX610A	16.58	5.31	5.55	5.94	5.97	6.06	5.35	5.59	5.95	6.00	6.07
Dixon	DIX610O	77.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX620A	20.39	5.84	6.16	6.55	6.56	6.54	5.90	6.21	6.55	6.57	6.55
Dixon	DIX620O	125.73	0.00	0.00	0.00	0.00	2.28	0.00	0.00	0.00	0.00	2.56
Dixon	DIX635A	14.99	5.41	5.70	6.16	6.49	7.21	5.47	5.75	6.19	6.55	7.32
Dixon	DIX635O	79.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX645A	12.60	3.01	3.14	3.36	3.44	3.59	3.02	3.15	3.37	3.44	3.59
Dixon	DIX645O	66.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX655A	17.75	5.76	5.99	6.45	6.67	7.13	5.78	6.01	6.48	6.69	7.18
Dixon	DIX655O	80.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX675A	12.91	3.27	3.45	3.92	4.44	5.44	3.33	3.50	3.99	4.66	5.56
Dixon	DIX675O	67.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX685A	9.95	4.29	4.46	4.74	4.87	5.11	4.45	4.62	4.92	5.02	5.27
Dixon	DIX685O	55.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX705A	15.76	6.56	6.79	7.27	7.49	8.03	6.61	6.84	7.32	7.56	8.12
Dixon	DIX705O	28.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX730A	4.84	5.12	5.26	5.47	5.56	5.73	5.17	5.29	5.50	5.58	5.75
Dixon	DIX730O	33.36	5.05	5.38	5.74	5.86	6.08	5.16	5.43	5.77	5.90	6.12
Dixon	DIX755A	8.76	6.08	6.29	6.75	7.00	7.38	6.13	6.34	6.82	7.07	7.43
Dixon	DIX755O	47.58	0.00	0.00	3.66	5.01	6.42	0.00	0.00	4.05	5.28	6.56
Dixon	DIX780A	4.84	3.48	3.62	3.86	3.94	4.15	3.50	3.64	3.88	3.94	4.18
Dixon	DIX780O	33.36	0.00	0.00	0.00	1.57	3.00	0.00	0.00	0.00	1.74	3.10
Dixon	DIX800A	11.32	6.90	7.06	7.27	7.29	7.65	7.00	7.14	7.32	7.43	7.80
Dixon	DIX800O	44.91	0.00	0.00	2.35	3.77	5.39	0.00	0.00	3.50	4.58	6.01
Dixon	DIX830A	8.76	8.58	8.80	12.69	13.17	12.94	8.59	8.81	12.87	13.24	13.44
Dixon	DIX830O	21.90	5.36	5.76	7.17	8.29	8.42	5.38	5.78	7.78	8.40	8.68
Dixon	DIX840A	14.58	5.09	5.40	5.64	6.65	6.47	5.10	5.42	5.60	6.60	6.60
Dixon	DIX840O	58.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Dixon	DIX850A	11.00	9.13	10.04	10.79	11.13	11.71	9.19	10.07	10.81	11.15	11.73
Dixon	DIX850O	56.23	0.00	7.04	7.58	7.79	8.01	0.00	7.12	7.60	7.80	8.01
Dixon	DIX860A	13.02	10.00	10.32	10.78	10.78	10.77	10.03	10.34	10.78	10.78	10.77
Dixon	DIX860O	55.68	0.00	0.00	0.00	8.07	11.42	0.00	0.00	3.12	8.44	11.48
Dixon	DIX870A	8.27	10.46	12.03	14.88	16.21	18.91	10.51	12.08	14.92	16.29	18.94
Dixon	DIX870O	117.94	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.64
Dixon	DIX880A	10.97	2.89	2.99	3.15	3.22	3.34	2.97	3.06	3.23	3.29	3.42
Dixon	DIX880O	61.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX900A	15.71	4.18	4.30	4.56	4.67	4.90	4.21	4.34	4.59	4.71	4.95
Dixon	DIX900O	89.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX910A	7.06	3.14	3.27	3.49	3.60	3.79	3.17	3.29	3.52	3.62	3.82
Dixon	DIX910O	23.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX920A	9.30	8.81	9.17	9.76	10.00	10.43	8.82	9.18	9.77	10.01	10.44
Dixon	DIX920O	30.45	5.56	5.83	6.30	6.50	6.88	5.57	5.83	6.31	6.51	6.89
Dixon	DIX940A	13.39	7.09	7.33	7.73	7.89	8.16	7.17	7.41	7.80	7.95	8.22
Dixon	DIX940O	48.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX965A	8.37	4.13	4.38	5.04	5.63	6.59	4.13	4.38	5.03	5.62	6.59
Dixon	DIX965O	61.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dixon	DIX975A	10.39	4.14	4.40	5.10	5.71	6.70	4.14	4.40	5.09	5.71	6.70
Dixon	DIX975O	76.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW005L	1.73	1.66	1.66	1.67	1.67	1.68	1.66	1.66	1.67	1.68	1.68
Squaw	SQW006L	1.43	1.08	1.09	1.09	1.08	1.08	1.08	1.10	1.08	1.08	1.08
Squaw	SQW007L	1.40	1.03	1.03	1.03	1.03	1.04	1.03	1.03	1.03	1.03	1.04
Squaw	SQW008L	0.70	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28
Squaw	SQW010L	1.15	1.22	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.22
Squaw	SQW015L	0.95	1.00	0.99	0.97	0.98	0.99	1.00	0.99	0.99	0.98	0.99
Squaw	SQW021L	2.43	1.39	1.41	1.42	1.42	1.42	1.39	1.41	1.42	1.41	1.42
Squaw	SQW022L	1.39	1.70	1.71	1.66	1.68	1.68	1.70	1.70	1.68	1.68	1.69
Squaw	SQW023L	1.44	2.09	2.09	2.14	2.14	2.11	2.09	2.11	2.14	2.13	2.11
Squaw	SQW024L	2.56	2.48	2.50	2.48	2.49	2.49	2.49	2.51	2.49	2.50	2.50
Squaw	SQW025L	9.68	3.00	3.43	4.00	4.22	4.51	3.04	3.49	4.04	4.35	4.52
Squaw	SQW035L	2.39	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Squaw	SQW040L	1.55	1.44	1.44	1.61	1.61	1.51	1.45	1.45	1.63	1.62	1.52
Squaw	SQW050L	4.68	0.29	0.29	0.31	0.31	0.35	0.30	0.31	0.33	0.34	0.37
Squaw	SQW060L	2.08	2.00	1.99	1.99	1.99	2.00	2.00	1.99	1.99	2.00	1.99

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Squaw	SQW075L	5.41	1.16	1.25	1.53	1.68	1.95	1.18	1.30	1.57	1.73	2.04
Squaw	SQW080L	4.65	1.82	1.93	2.13	2.22	2.37	1.93	2.04	2.23	2.32	2.48
Squaw	SQW085L	3.44	2.56	2.69	3.09	3.33	3.55	2.59	2.71	3.11	3.27	3.57
Squaw	SQW090L	6.20	2.34	2.37	2.46	2.54	2.67	2.53	2.52	2.58	2.63	2.79
Squaw	SQW095L	4.33	2.78	2.87	2.93	2.96	2.85	2.81	2.87	2.91	2.81	2.87
Squaw	SQW100L	4.73	2.97	2.95	3.06	3.07	3.11	2.96	3.03	3.09	3.10	3.08
Squaw	SQW105L	4.48	3.29	3.23	3.21	3.25	3.30	3.26	3.18	3.24	3.27	3.33
Squaw	SQW110L	5.10	4.30	4.28	4.79	4.77	4.77	4.31	4.59	4.77	4.77	4.77
Squaw	SQW120L	4.37	5.18	5.93	6.88	6.86	6.79	5.60	6.52	6.87	6.84	6.81
Squaw	SQW130L	6.41	3.23	3.33	3.52	3.61	3.74	3.26	3.36	3.55	3.64	3.76
Squaw	SQW140L	14.73	3.23	3.31	3.39	3.58	4.21	3.24	3.32	3.39	3.67	4.23
Squaw	SQW150L	1.62	1.88	1.87	1.89	1.91	1.91	1.84	1.82	1.84	1.84	1.85
Squaw	SQW155L	7.12	2.35	2.44	2.70	2.87	3.22	2.32	2.40	2.70	2.88	3.23
Squaw	SQW160L	5.95	2.50	2.63	2.83	2.92	3.11	2.51	2.64	2.85	2.95	3.14
Squaw	SQW165L	9.80	2.27	2.33	2.47	2.45	2.44	2.31	2.37	2.53	2.51	2.50
Squaw	SQW170L	5.12	0.59	0.62	1.76	2.40	4.42	0.92	1.04	1.83	2.58	4.47
Squaw	SQW175L	4.99	1.56	1.55	1.56	1.68	2.33	1.87	1.87	1.84	1.94	2.28
Squaw	SQW180L	6.31	3.07	3.25	3.46	3.44	3.50	3.30	3.43	3.56	3.56	3.41
Squaw	SQW185L	5.60	3.53	3.59	3.40	3.47	3.59	3.70	3.51	3.50	3.57	3.69
Squaw	SQW190L	6.97	4.29	4.62	4.91	5.00	5.18	4.47	4.88	5.11	5.21	5.29
Squaw	SQW195L	7.03	5.08	5.27	5.57	5.69	5.89	5.34	5.53	5.80	5.91	6.11
Squaw	SQW200L	2.86	1.72	1.73	1.71	1.68	1.64	1.75	1.74	1.69	1.69	1.60
Squaw	SQW210L	1.33	0.58	0.68	0.88	0.97	1.18	0.60	0.70	0.90	1.17	1.18
Squaw	SQW220L	0.00	3.69	3.92	4.24	4.37	4.99	3.78	4.05	4.34	4.73	4.94
Squaw	SQW245L	5.40	3.92	3.93	3.97	3.98	4.20	3.94	3.98	4.00	4.11	4.24
Squaw	SQW255L	4.90	2.22	2.26	2.49	2.60	2.78	2.29	2.31	2.56	2.65	2.82
Squaw	SQW270L	7.48	3.32	3.34	3.35	3.36	3.36	3.35	3.37	3.36	3.36	3.35
Squaw	SQWOUTL	48.96	10.18	10.13	10.17	10.18	10.35	10.21	10.15	10.17	10.29	10.31
Squaw	SQW000A	28.86	2.71	2.64	2.71	2.66	2.84	2.74	2.64	2.65	2.76	2.78
Squaw	SQW020A	4.06	2.92	2.96	2.98	3.01	3.01	2.93	2.96	2.99	3.01	3.01
Squaw	SQW020O	13.52	3.06	3.09	3.11	3.12	3.12	3.07	3.09	3.11	3.12	3.13
Squaw	SQW045A	8.91	1.65	1.93	2.67	2.87	3.24	1.69	1.99	2.71	2.87	3.27
Squaw	SQW045O	12.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW055A	6.97	6.18	6.48	7.46	8.19	9.08	6.21	6.53	7.55	8.13	9.11
Squaw	SQW055B	7.32	6.15	6.43	7.30	8.00	8.89	6.18	6.47	7.37	7.92	8.93

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Squaw	SQW055O	54.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW125A	10.59	2.04	2.13	2.34	2.45	2.66	2.07	2.17	2.38	2.49	2.69
Squaw	SQW125O	12.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW135A	5.22	5.40	5.66	6.24	6.51	7.12	5.42	5.69	6.26	6.57	7.14
Squaw	SQW135B	9.38	5.04	5.34	6.00	6.35	7.18	5.07	5.37	6.03	6.42	7.20
Squaw	SQW135O	56.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW145A	10.43	6.15	6.42	6.99	7.32	8.13	6.18	6.45	7.02	7.39	8.14
Squaw	SQW145O	14.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW205A	19.39	2.27	2.57	3.15	3.39	3.92	2.33	2.62	3.20	3.84	3.94
Squaw	SQW205O	18.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW215A	12.31	3.16	3.41	3.85	4.05	4.82	3.24	3.55	3.99	4.65	4.87
Squaw	SQW215O	17.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW230A	12.66	2.62	2.82	3.23	3.56	5.62	2.68	2.87	3.30	4.51	5.10
Squaw	SQW230O	17.79	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.27
Squaw	SQW235A	17.25	2.84	2.98	3.24	3.68	5.11	2.88	3.02	3.30	4.58	4.97
Squaw	SQW235O	24.25	0.00	0.00	0.00	0.00	2.84	0.00	0.00	0.00	1.48	2.01
Squaw	SQW240A	17.25	5.21	5.37	6.40	7.14	8.19	5.27	5.42	6.56	7.68	8.40
Squaw	SQW240O	24.25	0.00	0.00	0.00	2.78	5.19	0.00	0.00	0.00	4.58	5.88
Squaw	SQW250A	33.48	2.66	2.67	2.85	2.87	2.94	2.66	2.69	2.89	2.93	2.99
Squaw	SQW250O	41.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Squaw	SQW260A	15.52	5.95	6.29	7.14	7.63	9.04	5.98	6.33	7.18	7.75	9.32
Squaw	SQW260O	21.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31
Squaw	SQW265A	12.18	4.37	4.46	4.63	4.71	4.87	4.45	4.56	4.75	4.83	4.99
Squaw	SQW265O	20.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North	NOR007L	6.83	5.06	5.14	5.24	5.23	5.23	5.05	5.15	5.22	5.24	5.23
North	NOR010L	15.45	0.68	0.70	0.79	0.79	0.83	0.68	0.70	0.81	0.79	0.83
North	NOR020L	15.42	2.37	2.44	2.46	2.43	2.43	2.37	2.44	2.45	2.43	2.42
North	NOR030L	11.04	4.38	5.65	6.17	4.40	4.61	4.39	5.65	6.17	4.40	4.61
North	NOR035L	17.50	9.03	9.13	9.79	10.77	11.32	9.03	9.12	9.79	10.77	11.32
North	NOR050L	7.20	5.50	5.58	5.91	6.19	6.26	5.50	5.62	5.95	6.24	6.25
North	NOR055L	5.20	3.30	3.65	4.23	4.48	4.83	3.32	3.67	4.25	4.49	4.85
North	NOR065L	7.36	3.64	3.68	3.85	3.93	4.04	3.66	3.69	3.85	3.93	4.05
North	NOR075L	11.76	2.63	2.72	2.80	2.83	2.77	2.62	2.67	2.76	2.77	2.71
North	NOR080L	13.96	6.58	6.99	7.58	7.90	8.31	6.60	7.01	7.60	7.92	8.32
North	NOR085L	11.33	2.96	3.22	3.82	4.03	4.60	2.98	3.24	3.84	4.09	4.63

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
North	NOR090L	12.47	5.79	6.11	6.63	6.85	7.23	5.74	6.00	6.53	6.75	7.13
North	NOR095L	18.47	5.34	5.61	6.06	6.26	6.61	5.33	5.60	6.06	6.26	6.61
North	NOR005A	16.79	5.59	5.89	7.22	8.14	9.17	5.61	5.91	7.29	8.17	9.18
North	NOR005B	61.27	0.00	0.00	0.00	0.00	3.60	0.00	0.00	0.00	0.00	3.81
North	NOR015A	8.66	7.02	7.35	7.89	8.17	8.68	7.02	7.35	7.90	8.18	8.68
North	NOR015B	64.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North	NOR025A	12.29	3.37	3.66	4.17	4.41	4.80	3.37	3.66	4.17	4.41	4.80
North	NOR025B	87.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North	NOR060A	9.20	5.32	5.77	6.47	6.79	7.24	5.35	5.79	6.49	6.81	7.26
North	NOR060B	76.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North	NOR070A	11.02	7.28	7.78	8.84	9.50	11.15	7.31	7.81	8.87	9.53	11.19
North	NOR070B	82.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Village Green	VLG000L	9.67	5.61	5.66	5.77	5.85	5.95	5.61	5.66	5.78	5.85	5.95
Village Green	VLG010L	9.76	2.38	2.38	2.39	2.39	2.40	2.38	2.38	2.39	2.39	2.40
Village Green	VLG020L	2.77	2.86	2.86	2.86	2.85	2.85	2.86	2.86	2.86	2.85	2.85
Village Green	VLG030L	4.41	1.61	1.62	1.64	1.65	1.65	1.62	1.62	1.64	1.65	1.65
Village Green	VLG040L	2.45	1.74	1.75	1.77	1.77	1.79	1.75	1.76	1.77	1.77	1.79
Village Green	WETLAND	0.67	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Village Green	VLG005A	3.82	7.14	7.21	7.36	7.47	7.64	7.14	7.21	7.37	7.48	7.64
Village Green	VLG005O	73.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Village Green	VLG015A	3.11	3.02	3.02	3.04	3.05	3.07	3.02	3.02	3.04	3.05	3.07
Village Green	VLG015O	71.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Village Green	VLG025A	6.65	5.35	5.48	5.67	5.80	6.02	5.36	5.48	5.68	5.81	6.02
Village Green	VLG025B	5.16	5.00	5.11	5.29	5.41	5.62	5.00	5.11	5.30	5.42	5.62
Village Green	VLG025O	55.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Village Green	VLG035A	7.79	6.51	6.51	6.51	6.46	6.40	6.51	6.51	6.51	6.45	6.40
Village Green	VLG035O	61.48	2.50	2.81	3.38	3.71	4.06	2.50	2.81	3.41	3.73	4.06
Sequoia	SEQ000L	4.45	1.20	1.23	1.28	1.28	1.28	1.21	1.24	1.28	1.28	1.28
Sequoia	SEQ020L	4.84	1.78	1.79	1.78	1.78	1.82	1.71	1.74	1.76	1.77	1.82
Sequoia	SEQ030L	3.60	0.43	0.43	0.43	0.43	0.52	0.62	0.64	0.66	0.65	0.66
Sequoia	SEQ035L	6.11	2.30	2.23	2.25	2.24	2.23	2.35	2.44	2.47	2.51	2.43
Sequoia	SEQ040L	5.88	1.78	1.78	1.82	1.81	1.75	1.86	1.88	1.96	1.96	2.00
Sequoia	SEQ045L	4.46	1.74	1.72	1.73	1.75	1.74	1.82	1.78	1.84	1.86	1.86
Sequoia	SEQ050L	4.97	1.64	1.63	1.63	1.64	1.66	1.75	1.70	1.72	1.75	1.75
Sequoia	SEQ055L	4.05	2.16	2.18	2.17	2.17	2.21	2.33	2.29	2.26	2.30	2.33

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Sequoia	SEQ060L	3.91	2.41	2.44	2.46	2.47	2.47	2.58	2.62	2.60	2.59	2.57
Sequoia	SEQ065L	4.60	2.20	2.26	2.35	2.38	2.39	2.36	2.43	2.53	2.56	2.58
Sequoia	SEQ070L	4.06	2.29	2.34	2.42	2.47	2.50	2.42	2.49	2.59	2.62	2.66
Sequoia	SEQ075L	5.34	2.38	2.43	2.51	2.55	2.60	2.50	2.56	2.66	2.69	2.74
Sequoia	SEQ080L	4.73	2.64	2.69	2.77	2.82	2.87	2.77	2.82	2.91	2.94	2.98
Sequoia	SEQ092L	11.68	-0.45	-0.52	-0.55	-0.61	-0.60	-0.46	-0.52	-0.55	-0.61	-0.60
Sequoia	SEQ100L	1.73	3.32	3.45	3.56	3.55	3.55	3.35	3.46	3.55	3.55	3.55
Sequoia	SEQ105L	1.00	2.69	2.96	3.34	3.57	3.78	2.75	2.99	3.40	3.63	3.77
Sequoia	SEQ125L	9.28	0.72	0.87	1.10	1.21	1.42	0.78	0.92	1.15	1.26	1.48
Sequoia	SEQ140L	4.75	0.92	1.00	1.20	1.29	1.47	0.92	1.04	1.25	1.34	1.52
Sequoia	SEQ150L	4.42	0.88	0.90	0.98	1.06	1.22	0.90	0.93	1.04	1.13	1.30
Sequoia	SEQ155L	7.67	2.96	2.93	2.94	2.90	2.96	2.94	2.93	2.94	2.92	2.94
Sequoia	SEQ165L	1.15	2.05	2.16	2.22	2.19	2.63	2.05	2.15	2.18	2.20	2.36
Sequoia	SEQ170L	3.41	1.96	2.20	2.52	2.78	3.54	1.98	2.22	2.55	2.84	3.62
Sequoia	SEQ175L	9.60	2.22	2.44	2.71	2.83	3.29	2.25	2.46	2.72	2.87	3.37
Sequoia	SEQ180L	7.76	2.95	3.09	3.30	3.38	3.54	2.98	3.10	3.32	3.39	3.48
Sequoia	SEQ185L	6.00	4.04	4.09	4.23	4.26	4.36	4.06	4.11	4.24	4.27	4.29
Sequoia	SEQ190L	2.87	1.11	1.17	1.30	1.29	1.39	1.09	1.16	1.27	1.26	1.29
Sequoia	SEQ195L	0.00	3.76	4.23	5.47	5.75	5.73	3.74	4.24	5.48	5.73	5.51
Sequoia	SEQ200L	2.60	3.02	3.56	4.69	4.89	4.81	3.03	3.57	4.70	4.87	4.80
Sequoia	SEQ205L	3.51	1.74	1.69	1.91	2.23	2.71	1.74	1.71	1.92	2.23	2.73
Sequoia	SEQ210L	6.04	0.31	0.36	0.41	0.41	0.81	0.30	0.36	0.41	0.41	0.75
Sequoia	SEQ220L	6.05	2.26	2.23	2.27	2.20	2.25	2.30	2.25	2.29	2.20	2.27
Sequoia	SEQ225L	7.19	2.82	2.88	3.00	3.06	3.19	2.85	2.90	3.02	3.08	3.23
Sequoia	SEQ230L	9.89	-0.38	-0.43	-0.52	-0.56	-0.66	-0.39	-0.45	-0.53	-0.57	-0.69
Sequoia	SEQ231L	0.00	3.57	3.62	3.60	3.62	3.68	3.59	3.62	3.59	3.63	3.69
Sequoia	SEQ235L	8.20	4.46	4.65	4.70	4.70	4.73	4.56	4.68	4.72	4.73	4.75
Sequoia	SEQ240L	9.26	5.78	5.99	6.28	6.46	6.50	5.84	6.04	6.38	6.53	6.52
Sequoia	SEQ245L	4.22	4.39	4.78	5.71	6.38	7.45	4.50	4.91	5.94	6.56	7.71
Sequoia	SEQ250L	8.47	2.25	2.47	3.18	3.60	4.37	2.35	2.58	3.39	3.78	4.69
Sequoia	SEQ255L	10.58	3.70	3.71	4.66	5.17	6.27	3.78	3.85	4.95	5.43	6.73
Sequoia	SEQ260L	10.56	5.69	5.70	5.74	5.75	5.71	5.72	5.72	5.76	5.77	5.72
Sequoia	SEQ265L	11.29	5.24	5.17	5.26	5.58	5.22	5.29	5.46	5.57	5.69	5.36
Sequoia	SEQ270L	16.70	9.44	9.72	10.17	10.36	10.68	9.61	9.88	10.34	10.53	10.85
Sequoia	SEQ275L	15.72	9.56	9.87	10.40	10.62	10.98	9.77	10.06	10.59	10.81	11.17

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Sequoia	SEQ280L	15.74	8.60	8.83	9.14	9.26	9.46	8.72	8.95	9.25	9.37	9.63
Sequoia	SEQ285L	12.12	8.52	8.86	9.44	9.66	10.03	8.71	51.00	9.64	9.86	10.21
Sequoia	SEQ290L	9.24	4.73	4.80	4.87	4.88	4.88	4.76	4.83	4.91	4.95	4.91
Sequoia	SEQ305L	5.55	3.09	3.18	3.41	3.51	3.76	3.14	3.23	3.45	3.58	3.85
Sequoia	SEQ310L	9.10	4.21	4.50	4.84	5.00	5.32	4.22	4.50	4.85	5.02	5.34
Sequoia	SEQ320L	11.95	3.44	3.68	3.86	4.03	3.99	3.44	3.67	3.86	4.04	3.99
Sequoia	SEQ330L	11.87	1.99	2.04	2.11	2.21	2.61	2.00	2.04	2.11	2.23	2.62
Sequoia	SEQ340L	17.58	1.85	1.83	1.95	2.15	2.56	1.85	1.84	1.96	2.17	2.58
Sequoia	SEQ360L	9.41	4.51	4.55	4.52	4.48	4.52	4.56	4.60	4.55	4.51	4.57
Sequoia	SEQ365L	5.30	3.95	4.08	4.26	4.32	4.40	3.98	4.11	4.29	4.36	4.46
Sequoia	SEQ370L	4.29	3.24	3.36	3.59	3.69	3.87	3.29	3.41	3.64	3.75	3.95
Sequoia	SEQ375L	15.39	2.75	2.90	3.22	3.30	3.57	2.72	2.90	3.23	3.32	3.67
Sequoia	SEQ380L	14.37	8.08	8.05	8.05	8.06	8.12	8.04	8.03	8.05	8.09	8.17
Sequoia	SEQ385L	14.50	8.14	8.35	8.66	8.77	9.05	8.16	8.36	8.65	8.77	9.07
Sequoia	SEQ390L	18.52	8.40	8.32	8.35	8.40	8.46	8.40	8.36	8.36	8.43	8.47
Sequoia	SEQ005A	8.66	5.64	6.06	7.20	8.19	9.43	5.69	6.11	7.31	8.28	9.48
Sequoia	SEQ005O	84.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sequoia	SEQ025A	8.74	4.52	4.88	5.38	5.72	5.98	4.64	4.98	5.49	5.82	6.03
Sequoia	SEQ025O	146.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sequoia	SEQ120A	11.49	3.81	3.97	4.20	4.35	5.15	3.85	4.00	4.24	4.40	5.22
Sequoia	SEQ120O	8.17	4.26	4.27	4.24	4.30	4.88	4.21	4.21	4.25	4.28	4.94
Sequoia	SEQ120O	16.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sequoia	SEQ130A	2.29	6.30	6.42	6.54	6.59	6.63	6.35	6.45	6.56	6.60	6.64
Sequoia	SEQ130O	28.07	3.70	4.55	5.53	5.92	6.61	4.09	4.79	5.71	6.11	6.77
Sequoia	SEQ145A	1.77	6.31	6.34	6.34	6.34	6.32	6.35	6.33	6.37	6.36	6.34
Sequoia	SEQ145O	32.39	1.70	2.33	3.26	3.60	4.19	2.06	2.65	3.56	3.89	4.51
Sequoia	SEQ160A	5.95	1.64	1.83	2.39	2.81	3.32	1.67	1.86	2.51	2.89	3.40
Sequoia	SEQ160B	5.07	1.55	1.75	2.33	2.74	3.24	1.59	1.78	2.45	2.82	3.32
Sequoia	SEQ160C	6.51	1.66	1.86	2.42	2.84	3.36	1.70	1.89	2.54	2.93	3.44
Sequoia	SEQ160O	8.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sequoia	SEQ315A	4.81	4.23	4.57	5.15	5.48	6.35	4.24	4.58	5.17	5.50	6.42
Sequoia	SEQ315O	47.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sequoia	SEQ325A	3.17	5.35	6.31	7.91	8.06	8.22	5.38	6.37	7.93	8.07	8.23
Sequoia	SEQ325O	56.40	0.00	0.00	1.03	2.31	4.39	0.00	0.00	1.14	2.40	4.47
Sequoia	SEQ335A	2.64	6.58	7.26	7.50	7.57	7.69	6.64	7.28	7.50	7.58	7.70

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Sequoia	SEQ335O	49.81	0.00	2.01	4.61	5.54	7.05	0.00	2.14	4.69	5.61	7.11
Sequoia	SEQ345A	9.70	5.89	6.13	6.54	6.73	7.11	5.91	6.14	6.56	6.75	7.13
Sequoia	SEQ345O	55.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Garfield	GAR000L	76.95	10.50	10.78	11.10	12.30	14.42	10.54	10.80	11.11	12.60	14.54
Garfield	GAR010L	6.41	2.14	2.15	2.19	2.18	2.22	2.16	2.18	2.19	2.19	2.25
Garfield	GAR015L	3.58	1.35	1.51	1.31	1.36	1.47	1.29	1.40	1.50	1.46	1.42
Garfield	GAR025L	2.78	0.82	0.82	0.83	0.83	0.85	0.83	0.83	0.84	0.85	0.85
Garfield	GAR035L	6.58	0.62	0.64	0.64	0.64	0.65	0.67	0.66	0.67	0.66	0.69
Garfield	GAR040L	9.53	1.40	1.44	1.49	1.48	1.41	1.42	1.47	1.51	1.47	1.43
Garfield	GAR045L	5.71	3.94	4.17	4.52	4.71	4.88	4.07	4.29	4.63	4.79	4.98
Garfield	GAR050L	5.08	3.61	3.68	3.85	3.93	4.16	3.64	3.71	3.89	4.01	4.24
Garfield	GAR055L	9.31	3.42	3.50	3.68	3.75	3.97	3.43	3.50	3.70	3.79	4.08
Garfield	GAR060L	17.38	3.44	3.61	3.97	4.16	4.34	3.50	3.60	3.96	4.14	4.35
Garfield	GAR065L	2.27	2.77	2.91	3.60	3.84	3.97	2.78	2.92	3.58	3.84	3.95
Garfield	GAR070L	2.34	1.83	1.92	2.40	2.70	3.31	1.83	1.91	2.37	2.70	3.31
Garfield	GAR075L	2.44	1.98	2.04	2.40	2.70	3.30	1.98	2.04	2.40	2.70	3.31
Garfield	GAR080L	6.15	1.38	1.42	1.47	1.51	1.74	1.30	1.31	1.35	1.54	1.79
Garfield	GAR085L	1.99	1.54	1.74	2.37	2.62	3.09	1.55	1.91	2.47	2.73	3.15
Garfield	GAR090L	1.81	1.58	1.78	2.36	2.62	3.09	1.55	1.91	2.46	2.73	3.14
Garfield	GAR095L	1.86	0.68	0.73	0.94	1.04	1.28	0.71	0.73	0.94	1.04	1.32
Garfield	GAR100L	4.44	2.02	2.01	2.04	2.04	2.07	2.03	2.04	2.07	2.09	2.11
Garfield	GAR105L	4.22	2.20	2.18	2.23	2.25	2.27	2.22	2.24	2.28	2.29	2.29
Garfield	GAR110L	4.36	2.27	2.25	2.24	2.26	2.27	2.28	2.24	2.27	2.26	2.30
Garfield	GAR120L	3.87	2.49	2.54	2.56	2.54	2.48	2.54	2.58	2.57	2.56	2.51
Garfield	GAR125L	4.81	2.67	2.74	2.87	2.91	2.93	2.73	2.80	2.91	2.94	2.94
Garfield	GAR130L	4.15	2.61	2.70	2.86	2.93	3.03	2.68	2.77	2.92	2.98	3.09
Garfield	GAR135L	2.45	-1.50	-1.58	-1.74	-1.83	-2.04	-1.42	-1.51	-1.68	-1.76	-1.99
Garfield	GAR140L	3.87	1.43	1.50	1.64	1.72	1.94	1.34	1.42	1.58	1.68	1.91
Garfield	GAR145L	2.65	1.33	1.34	1.37	1.38	1.42	1.24	1.26	1.29	1.30	1.38
Garfield	GAR150L	11.74	2.34	2.37	2.43	2.43	2.40	2.32	2.37	2.38	2.36	17.00
Garfield	GAR005A	8.50	7.11	7.60	8.16	8.68	9.53	7.18	7.62	8.18	8.78	9.53
Garfield	GAR005B	78.62	0.00	0.00	0.00	12.10	16.10	0.00	0.00	0.00	13.74	16.16
Garfield	GAR020A	1.92	4.25	4.54	5.06	5.31	5.78	4.30	4.58	5.10	5.36	5.85
Garfield	GAR020B	83.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Garfield	GAR030A	2.01	2.72	2.85	3.06	3.16	3.37	2.84	2.97	3.17	3.28	3.50

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Garfield	GAR030B	75.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK005L	11.46	6.50	7.16	7.45	7.52	7.66	6.53	7.19	7.48	7.55	7.68
Oak	OAK015L	8.37	5.86	6.01	6.03	6.04	6.04	5.87	6.02	6.04	6.04	6.04
Oak	OAK025L	16.92	5.54	5.87	5.97	6.00	6.04	5.55	5.88	5.98	6.01	6.05
Oak	OAK033L	6.34	5.70	6.17	6.35	6.39	6.47	5.71	6.19	6.36	6.41	6.49
Oak	OAK035L	23.49	6.15	6.87	7.06	7.11	7.21	6.17	6.89	7.08	7.13	7.23
Oak	OAK045L	5.61	6.07	6.50	6.62	6.65	6.71	6.09	6.52	6.63	6.66	6.72
Oak	OAK060L	5.93	4.97	5.43	5.57	5.60	5.67	4.99	5.45	5.58	5.62	5.69
Oak	OAK080L	8.74	4.91	5.23	5.30	5.32	5.35	4.92	5.24	5.31	5.33	5.36
Oak	OAK090L	10.85	5.06	5.28	5.34	5.37	5.39	5.07	5.29	5.35	5.37	5.40
Oak	OAK100L	8.39	7.44	8.05	8.18	8.20	8.26	7.46	8.07	8.19	8.21	8.27
Oak	OAK103L	9.02	6.12	6.24	6.26	6.34	6.31	6.10	6.24	6.26	6.33	6.31
Oak	OAK105L	8.77	5.08	5.75	5.82	5.83	5.84	5.09	5.77	5.83	5.83	5.84
Oak	OAK110L	7.16	5.43	5.94	5.99	6.03	6.05	5.44	5.95	5.99	6.03	6.05
Oak	OAK120L	8.94	3.11	3.15	3.13	3.12	3.12	3.11	3.15	3.13	3.12	3.12
Oak	OAK125L	7.15	5.32	5.40	5.29	5.29	5.21	5.24	5.27	5.22	5.23	5.15
Oak	OAK130L	5.40	4.73	5.20	7.97	9.25	11.21	4.70	5.21	7.97	9.25	11.21
Oak	OAK140L	8.41	5.80	6.00	6.04	6.70	7.12	5.77	5.98	6.04	6.70	7.12
Oak	OAK150L	15.25	6.00	6.29	6.49	6.50	7.27	6.00	6.29	6.49	6.50	7.27
Oak	OAK155L	3.85	4.59	5.10	6.36	7.10	8.38	4.59	5.10	6.36	7.10	8.38
Oak	OAK170L	12.67	4.96	5.36	5.75	5.91	6.03	4.96	5.36	5.75	5.91	6.03
Oak	OAK205L	10.94	7.49	8.10	9.03	9.40	9.91	7.49	8.10	9.03	9.40	9.91
Oak	OAK215L	14.48	1.37	1.50	1.73	1.91	2.34	1.37	1.51	1.73	1.91	2.34
Oak	OAK225L	22.18	0.86	1.16	1.25	-1.67	-2.01	1.40	1.35	1.49	-1.78	2.29
Oak	OAK235L	8.48	2.42	2.31	2.50	2.58	2.56	2.56	2.55	2.61	2.61	2.63
Oak	OAK245L	9.07	1.68	2.03	2.56	2.76	3.08	1.74	2.09	2.61	2.81	3.12
Oak	OAK255L	4.63	0.55	0.46	0.50	0.55	0.64	0.53	0.42	0.51	0.56	0.60
Oak	OAK280L	12.41	4.84	4.83	5.07	5.33	5.42	4.83	4.84	5.14	5.39	5.42
Oak	OAK290L	18.56	2.86	3.08	2.84	2.87	2.90	3.23	2.92	3.00	3.14	3.31
Oak	OAK295L	10.08	3.32	3.42	3.12	3.26	3.87	3.09	3.15	2.93	3.21	3.87
Oak	OAK305L	9.98	6.26	6.51	6.14	6.07	6.86	6.27	6.41	5.95	6.03	6.85
Oak	OAK310L	9.98	6.17	6.52	6.79	6.61	6.86	6.28	6.63	6.77	6.60	6.85
Oak	OAK315L	9.98	5.55	5.82	5.88	5.90	5.94	5.61	5.83	5.91	5.90	5.96
Oak	OAK325L	10.00	4.76	5.01	5.38	5.59	5.39	4.77	5.08	5.34	5.41	5.38
Oak	OAK330L	6.05	3.59	3.78	4.08	4.36	4.38	3.63	3.80	4.09	4.36	4.38

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Oak	OAK335L	6.08	3.55	3.77	3.94	4.12	4.14	3.58	3.80	3.95	4.12	4.13
Oak	OAK340L	6.10	3.26	3.50	3.69	3.74	3.80	3.30	3.54	3.69	3.74	3.80
Oak	OAK345L	6.07	3.64	3.87	4.01	4.03	4.08	3.68	3.90	4.01	4.02	4.08
Oak	OAK350L	6.81	1.10	1.09	1.05	1.06	1.10	1.01	0.97	1.00	1.02	1.05
Oak	OAK355L	3.07	3.43	3.64	4.11	4.44	4.43	3.42	3.63	4.43	4.43	4.43
Oak	OAK365L	3.08	2.81	2.90	3.82	3.87	3.80	2.84	3.03	3.80	3.88	3.80
Oak	OAK370L	3.08	3.21	3.17	3.80	3.84	3.78	3.20	3.17	3.79	3.86	3.78
Oak	OAK375L	10.81	-3.33	-3.40	-5.04	-5.04	-5.04	-3.39	-3.39	-5.04	-5.05	-5.04
Oak	OAK376L	6.93	4.93	5.32	5.54	5.29	5.41	5.18	5.42	5.50	5.38	5.45
Oak	OAK380L	5.53	3.33	3.64	3.86	3.90	3.97	3.39	3.68	3.86	3.90	3.97
Oak	OAK385L	5.46	2.61	2.79	2.95	2.98	2.98	2.87	2.93	3.03	2.99	2.99
Oak	OAK390L	5.46	3.20	3.32	3.52	3.51	3.47	3.26	3.39	3.59	3.51	3.47
Oak	OAK395L	5.45	3.27	3.51	3.66	3.63	3.59	3.34	3.53	3.65	3.58	3.58
Oak	OAK400L	3.28	3.13	4.26	5.34	5.36	5.38	3.25	4.57	5.37	5.36	5.38
Oak	OAK405L	3.23	2.81	4.11	5.29	5.30	5.31	2.87	4.49	5.30	5.30	5.31
Oak	OAK410L	3.23	2.81	4.10	5.25	5.26	5.27	2.87	4.47	5.26	5.26	5.27
Oak	OAK415L	3.24	2.13	2.75	3.67	3.90	3.68	2.54	3.12	3.96	3.96	3.82
Oak	OAK420L	6.96	3.76	3.92	3.90	3.99	3.85	3.83	3.99	4.00	4.03	3.92
Oak	OAK010A	11.08	7.44	8.05	8.32	8.39	8.52	7.46	8.08	8.35	8.41	8.54
Oak	OAK010O	40.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK020A	15.90	2.43	2.68	2.78	2.80	2.85	2.43	2.69	2.79	2.81	2.85
Oak	OAK020O	74.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK030A	14.64	5.13	5.68	5.89	5.95	6.05	5.15	5.70	5.92	5.97	6.07
Oak	OAK030O	52.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK040A	17.37	5.98	6.45	6.61	6.65	6.72	5.99	6.47	6.62	6.66	6.74
Oak	OAK040O	45.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK065A	15.94	2.26	2.59	2.69	2.71	2.76	2.27	2.61	2.70	2.72	2.77
Oak	OAK065O	36.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK085A	22.50	5.28	5.79	5.92	5.96	6.02	5.30	5.81	5.94	5.97	6.04
Oak	OAK085O	72.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK115A	7.46	8.85	11.13	11.22	11.22	11.23	8.91	11.15	11.22	11.22	11.23
Oak	OAK115O	38.14	0.00	0.73	1.29	1.35	1.42	0.00	0.87	1.29	1.36	1.43
Oak	OAK135A	9.73	3.05	3.74	5.72	6.42	7.00	3.03	3.75	5.72	6.42	7.00
Oak	OAK135O	38.22	0.00	0.00	0.00	1.65	6.96	0.00	0.00	0.00	1.66	6.96
Oak	OAK145A	9.40	6.55	7.40	8.45	9.38	11.69	6.56	7.40	8.45	9.38	11.70

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Oak	OAK145O	37.07	0.00	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.78
Oak	OAK160A	10.48	3.57	4.11	4.65	4.74	6.24	3.57	4.11	4.65	4.74	6.24
Oak	OAK160O	7.49	0.00	0.00	0.00	0.00	4.30	0.00	0.00	0.00	0.00	4.30
Oak	OAK230A	5.97	3.45	3.43	4.08	3.95	3.80	3.66	3.72	4.49	4.35	4.09
Oak	OAK230O	23.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK240A	7.83	1.51	1.62	2.01	2.25	2.69	1.51	1.61	2.00	2.19	2.65
Oak	OAK240O	15.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK250A	15.78	2.82	3.05	3.50	3.52	3.70	2.65	2.82	3.17	3.31	3.54
Oak	OAK250O	21.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK260A	4.14	2.30	2.46	2.75	2.88	3.11	2.39	2.54	2.83	2.96	3.19
Oak	OAK260O	5.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oak	OAK285A	4.31	3.42	4.04	4.91	5.25	5.63	3.56	4.15	5.00	5.33	5.69
Oak	OAK285O	4.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marys River	MRY001A	10.28	3.49	3.70	4.48	4.92	5.64	3.54	3.80	4.75	5.20	6.04
Marys River	MRY001B	56.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marys River	MRY003A	8.69	2.77	2.81	3.02	3.18	3.59	2.77	2.86	3.11	3.30	3.83
Marys River	MRY003B	52.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marys River	MRY005A	29.75	8.49	8.00	8.31	8.42	8.63	7.80	8.09	8.32	8.43	8.64
Marys River	MRY005B	84.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Goodnight	GDN005L	5.07	3.91	4.22	4.70	4.91	5.30	4.28	4.60	5.10	5.30	5.82
Goodnight	GDN010L	4.52	3.15	3.35	3.65	3.78	4.11	3.39	3.59	3.92	4.11	4.87
Goodnight	GDN015L	5.11	3.17	3.32	3.53	3.64	3.91	3.37	3.50	3.74	3.92	4.92
Goodnight	GDN030L	6.74	4.06	4.17	4.32	4.35	4.39	4.15	4.20	4.30	4.28	5.24
Goodnight	GDN035L	5.13	3.77	4.02	4.23	4.27	4.35	3.91	4.00	4.03	4.05	4.13
Goodnight	GDN040L	5.09	2.54	2.72	2.99	3.09	3.23	2.28	2.51	2.71	2.74	3.02
Goodnight	GDN045L	2.93	2.26	2.59	3.74	4.17	5.21	2.13	2.62	3.71	4.18	5.51
Goodnight	GDN050L	7.70	1.48	1.47	1.98	2.10	2.35	1.48	1.47	1.99	2.12	3.30
Goodnight	GDN055L	3.90	2.31	2.34	2.36	2.36	2.42	2.27	2.37	2.31	2.35	2.38
Goodnight	GDN060L	5.79	1.61	1.62	1.59	1.72	1.86	1.52	1.66	1.63	1.77	1.96
Goodnight	GDN065L	7.55	2.52	2.51	2.48	2.46	2.48	2.46	2.47	2.47	2.51	2.56
Goodnight	GDN075L	4.23	2.54	2.64	2.66	2.60	2.63	2.61	2.65	2.57	2.56	2.57
Goodnight	GDN085L	7.12	2.19	2.24	2.32	2.31	2.29	2.05	2.11	2.19	2.14	2.53
Goodnight	GDN090L	5.46	3.30	3.49	3.58	3.61	3.58	3.30	3.49	3.55	3.53	3.52
Goodnight	GDN095L	1.29	1.30	1.37	1.75	1.76	1.80	1.30	1.36	1.76	1.76	1.84
Goodnight	GDN100L	4.72	1.27	1.29	1.56	1.57	1.57	1.27	1.29	1.58	1.57	1.58

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Goodnight	GDN105L	3.81	1.24	1.21	1.21	1.19	1.23	1.23	1.20	1.19	1.20	1.30
Goodnight	GDN110L	3.65	1.39	1.39	1.37	1.38	1.39	1.39	1.39	1.37	1.38	1.41
Goodnight	GDN115L	1.34	1.29	1.33	1.40	1.38	1.37	1.29	1.32	1.41	1.38	1.37
Goodnight	GDN120L	2.67	1.26	1.30	1.39	1.42	1.40	1.26	1.30	1.40	1.43	1.38
Goodnight	GDN125L	2.63	1.44	1.49	1.63	1.69	1.70	1.44	1.49	1.63	1.68	1.65
Goodnight	GDN130L	3.01	1.58	1.63	1.75	1.79	1.84	1.58	1.63	1.75	1.79	1.79
Goodnight	GDN135L	3.00	1.69	1.75	1.87	1.91	1.96	1.69	1.75	1.87	1.91	1.95
Goodnight	GDN140L	3.55	2.05	2.13	2.27	2.34	2.45	2.05	2.13	2.27	2.34	2.45
Goodnight	GDN145L	2.00	0.67	0.69	0.73	0.70	0.75	0.67	0.69	0.73	0.70	-1.54
Goodnight	GDN150L	2.36	1.30	1.32	1.27	1.24	1.32	1.30	1.32	1.27	1.24	1.32
Goodnight	GDN155L	2.15	0.57	0.49	0.51	0.51	0.52	0.57	0.49	0.51	0.51	-0.96
Goodnight	GDN160L	2.51	1.33	1.33	1.27	1.28	1.32	1.33	1.33	1.27	1.28	1.32
Goodnight	GDN165L	2.49	1.38	1.47	1.62	1.68	1.68	1.38	1.47	1.62	1.68	1.68
Goodnight	GDN185a	8.29	0.00	0.00	2.37	3.70	5.13	6.58	6.59	6.59	6.58	6.61
Goodnight	GDN185b	18.97	0.00	0.00	0.00	0.00	0.00	2.47	3.01	3.78	4.15	4.72
Goodnight	GDN190L	0.00	-0.62	-0.75	-0.68	-0.70	-0.75	1.08	1.34	1.96	2.29	2.94
Goodnight	GDN500L	3.71	2.08	2.08	2.03	2.05	2.06	2.96	2.96	2.97	2.98	2.97
Goodnight	GDN510L	4.97	2.09	2.09	2.10	2.08	2.09	2.48	2.63	2.68	2.66	2.66
Goodnight	GDN515L	4.76	2.40	2.47	2.49	2.49	2.48	2.79	2.88	2.92	2.92	2.91
Goodnight	GDN520L	5.25	2.51	2.67	2.81	2.85	2.88	3.14	3.19	3.23	3.24	3.21
Goodnight	GDN525L	4.06	1.71	1.82	1.95	2.09	2.25	2.55	2.56	2.57	2.57	2.58
Goodnight	GDN530L	3.25	1.69	1.83	2.04	2.13	2.27	0.94	0.95	1.04	1.17	1.28
Goodnight	GDN535L	3.77	2.09	2.25	2.47	2.56	2.69	1.78	1.89	2.08	2.20	2.34
Goodnight	GDN540L	3.96	1.82	1.98	2.17	2.21	2.26	2.00	2.13	2.30	2.34	2.36
Goodnight	GDN545L	2.50	1.54	1.69	1.90	1.99	2.14	1.70	1.83	2.03	2.13	2.31
Goodnight	GDN550L	3.70	1.89	2.02	2.16	2.21	2.30	2.06	2.15	2.28	2.33	2.43
Goodnight	GDN555L	0.00	-0.48	-0.64	-0.93	-1.01	-1.15	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN560L	0.00	-0.78	-0.78	-0.81	-0.81	-0.76	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN565L	0.75	-0.59	-0.59	-0.59	-0.59	-0.59	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN570L	1.41	2.47	2.59	2.59	2.59	2.59	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN575L	1.16	0.55	0.55	0.55	0.55	0.51	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN580L	0.97	-0.54	-0.54	0.63	0.68	0.68	n/a	n/a	n/a	n/a	n/a
Goodnight	GDN585L	0.50	0.43	0.50	0.50	0.50	0.50	n/a	n/a	n/a	n/a	n/a
Mill Race	MIL005L	16.62	3.30	3.57	4.23	4.48	4.89	3.46	3.79	4.38	4.61	5.02
Mill Race	MIL015L	5.05	0.47	0.52	0.63	0.68	0.75	0.50	0.56	0.66	0.70	0.77

Table A-6. Model Results - Velocities

		Design	Present Velocities, fps					Future Velocities, fps				
Basin	Name	Vel, fps	2-year	5-year	10-year	25-year	100-year	2-year	5-year	10-year	25-year	100-year
Mill Race	MIL025L	19.56	-0.21	-0.24	-0.32	-0.38	-0.41	-0.25	-0.27	-0.34	-0.37	-0.42
Mill Race	MIL040L	15.53	0.90	0.84	1.09	1.18	1.34	0.87	0.94	1.16	1.24	1.39
Mill Race	MIL050L	3.31	1.14	1.15	1.13	1.16	1.28	1.11	1.13	1.14	1.16	1.29
Mill Race	MIL055L	3.11	1.44	1.45	1.51	1.48	1.55	1.41	1.42	1.43	1.43	1.55
Mill Race	MIL075L	3.31	-0.49	-0.52	-0.54	-0.57	-0.62	-0.49	-0.52	-0.54	-0.57	-0.63
Mill Race	MIL085L	5.31	0.13	0.16	0.20	0.21	0.24	0.14	0.16	0.20	0.22	0.25
Mill Race	MIL090L	5.49	0.00	0.00	-0.07	-0.09	-0.13	0.00	-0.04	-0.10	-0.12	-0.13
Mill Race	MIL010A	4.13	2.82	3.02	3.49	3.66	3.95	2.93	3.18	3.60	3.76	4.05
Mill Race	MIL010B	3.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL020A	11.60	2.05	2.14	2.37	2.45	2.60	2.10	2.22	2.42	2.50	2.65
Mill Race	MIL020B	9.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL030A	15.50	0.20	0.22	0.32	0.36	0.43	0.21	0.22	0.32	0.37	0.44
Mill Race	MIL030B	9.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL045A	10.57	0.60	0.62	0.65	0.71	0.82	0.60	0.61	0.66	0.72	0.83
Mill Race	MIL045B	8.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL060A	3.01	0.37	0.40	0.45	0.49	0.56	0.37	0.40	0.46	0.50	0.57
Mill Race	MIL060B	2.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mill Race	MIL080A	2.94	0.46	0.58	0.73	0.80	0.98	0.47	0.58	0.74	0.82	1.00
Mill Race	MIL080B	4.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00