STATE OF COLORADO

Ebert - DNR, Jared <jared.ebert@state.co.us>

Coulson Temporary SWSP's

Peter Wayland <pwayland@weilandinc.com> Fri, Apr 5, 2019 at 2:05 PM
To: "Comaniciu - DNR, Ioana" <ioana.comaniciu@state.co.us>
Cc: "Ebert - DNR, Jared" <jared.ebert@state.co.us>

Ioana,

The attorney (Sean Rutledge) we are working with to file the Coulson Gravel Ponds Augmentation Plan with water court has indicated he won't be able to file with water court until end of April or May. In the interim, I have attached revised updated individual Plans for Gardels, Brownwood and Kirtright for your review.

I expect to complete Challenger and update Bonser early this next week along with a company wide table for City of Loveland Lease water deliveries for each pit.

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You can view "BROWNWOOD SSP 4-4-19.pdf" at: https://documentcloud.adobe.com/link/track?uri=urn%3Aaaid%3Ascds%3AUS%3A2b47da88-a72c-4ccd-a2f5-c6dd1439791d

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Peter Wayland

Weiland, Inc

303.518.2182 m

KIRTRIGHT PIT M-1986-123
TEMPORARY SUBSTITUTE
WATER SUPPLY PLAN

LARIMER COUNTY, CO

Prepared For:

Coulson Excavating Co., Inc
3609 North County Road 13
Loveland, CO 80308

Prepared By:

Weiland, Inc.
PO Box 18087
Boulder, CO 80308

June 26, 2012

Revised
September 29, 2014
September 29, 2016
April 4, 2019

Figures

Appendices

1.0 INTRODUCTION

Coulson Excavating Company contracted Weiland, Inc. (WI) to complete the well application/temporary substitute supply plan (SWSP) for the Kirtright Pit gravel operation (M-1986-123). The pit is operated by Coulson Excavating Company, Inc. (Coulson)of Loveland, Colorado and owner by the Kirtright family.

1.1. 1.1 LEGAL DESCRIPTION AND SITE LOCATION

The legal description of the new permit area is: The east half of the southeast quarter of Section 15, Township 5 North, Range 68 West of the 6th P.M. The Larimer County parcel numbers are 85150-00-003 and 85150-00-029. A site index map is given in Figure 1.

1.2. 1.2 JUSTIFICATION AND NEED

Coulson provides services that utilize gravel for construction of roads and development of the infrastructure of Colorado. Their need is to excavate gravel at the property below to keep up with their demand for services.

1.3. 1.3 PROJECT DESCRIPTION

The Kirtright pit is currently mined out and has been reclaimed. This plan accounts for evaporative losses from the pits that have been allowed to fill with groundwater. The current reclamation plan is to leave unlined ponds, which will require a long-term court approved augmentation plan.

A permanent plan for augmentation of all of CEC's unlined gravel pit ponds tributary to the Big Thompson River has been completed. The plan is titled *Coulson Gravel Ponds Augmentation Plan* (CGPAP) and will be filed with water court no later than June 2019.

This temporary plan has been updated to include the evaporative loss depletion calculations from the permanent plan. It is requested this plan be approved for 2 years in order to give ample time for the permanent augmentation plan to be adjudicated by water court.

This plan will use Hillsborough Ditch crop credits to cover most of the depletions during the irrigation season. City of Loveland fully consumable effluent will be used to cover winter replacements.

2.0 OPERATIONAL WATER BALANCE

2.1. PREDICTED OPERATIONAL DEPLETIONS

2.1.1. Evaporative Losses

The evaporative loss calculations are given in **AI.1 Evaporative Loss Worksheet - Kirtright Pit.** The monthly fraction of annual evaporation is based on the Guidelines for Substitute Water Supply Plans for elevations below 6500 ft published by the Office of the State Engineer (OSE). The annual free water surface evaporation is taken from NOAA Technical Report NWS 33. After applying precipitation credit, the net evaporative depletions were lagged utilizing the IDS AWAS program. Transmissivity was set to 20,115 g.p.d./ft. and is based on the published Colorado DWR CDSS GIS layer. The distance to the aquifer boundary was set to 3,500 ft, which is based on the Atlas of Sand, Gravel & Quarry Aggregate Resources, Colorado Front Range. The IDS AWAS output is given in **AII.2 – Kirtright IDS Loss AWAS Model Output**. The annual net evaporation rate for the Kirtright ponds is calculated to be **48.96 acre-ft./yr.**

2.2. HISTORICAL CONSUMPTIVE USE CREDIT

A consumptive use analysis was completed for the entire Kirtright Farm utilizing the IDS Consumptive Use Model (IDSCU). The crop rotation is given in Table 2.2.1.

Table 2.2.1 – Kirtright Farm Crop Rotation

Date	Silage Corn	Grass Hay	Totals
1950-1975	31.11 acres	61.64 acres	92.75acres
1976-1980		96.01 acres	96.01 acres
1981-1986	13.96 acres	82.04 acres	96.01 acres

38 Year Weighted Average for Irrigated Acres = 93.5

The crop rotation is based on information form Mrs. Darlene Kirtright and Aerial Photography shown in **Figure 3 Irrigated Cropland 1950** and **Figure 4 Irrigated Cropland 1979**. The period of 1950-1986 was chosen based on the earliest available aerial photograph for the area and the knowledge that CEC began mining the northern portion of the property in approximately 1986.

The farm was irrigated solely by one share in the Hillsborough Ditch. This one share was historically used to irrigate approximately 93.5 acres. The Hillsborough Ditch has a total of 118 shares. Natural Streamflow diversion flow values were input electronically directly from the CDSS Hydrobase into the IDSCU model for

Climate data (Fort Collins) was likewise imported from Hydrobase, as were crop characteristics and coefficients.

The reach for the Hillsborough Ditch is typically gaining between the river headgate and the Kirtright farm headgate as evidenced by continuous flow when the headgate is shut down and observed groundwater seepage from the hillside adjacent to the ditch. Ditch loss or shrinkage is therefore not considered for the main ditch, however 2% loss has been assigned to the Kirtright lateral.

Crops were irrigated through wild flood and furrows, therefore the analysis used an irrigation efficiency of 60%. The soil water holding capacity was taken from NRCS Soil survey data and was set at 1.92 in/ft.

The consumptive use model output the for 1950-1986 is given in **Table AI.2 IDS CU Model Output**. The historical averages used to calculate the Net Consumptive Use Crop Credit are given in **AI.3 Historical Consumptive Use Model Output Averages (1950-1986)**. This plan utilizes a 46.75 are dry-up credit (0.5 shares of Hillsborough Ditch) to offset evaporative depletions. Less than 43.75 acres have been irrigated since mining began in 1986 and currently approximately 22 acres are irrigated on the property.

The model assumes that 50% of the return flow runs off as tailwater and 50% percolates into the ground as deep percolation. This is based on the knowledge that the soil has a layer of clay above the sand and gravel deposit. The deep percolation return flows were lagged also utilizing the IDS AWAS Model (see Appendix AII.2). The ditch water continues to be delivered to the farm annually; therefore lagged ditch seepage was not considered.

2.3. NET WATER DEPLETION

The net water loss per year can be written as:

(Monthly Lagged Evaporative Loss) – (Monthly Historic Net Consumptive Use Credit) = (Net Stream Depletion / Replacement)

The net annual water loss or potential injury to the Big Thompson River is given in **AI.4 Net Water Loss / Replacement Worksheet**

2.4. REPLACEMENT

During the irrigation season, the plan operation will measure return flows given in **AI.3 Historical Consumptive Use Model Output Averages (1950-1986)** Column (9) back to the river. A Parshall flume has been installed for flow measurement and accounting.

Replacement water will come from a portion of the water leased by Coulson Excavating Company from the City of Loveland, Colorado (see Appendix I for Lease of Fully Consumable Water). Replacement water will be delivered to the stream at the City of Loveland's wastewater treatment plant, 700 South Boise Avenue, Loveland, Colorado. The point of delivery is approximately 7 miles upstream of the Kirtright pit. Transit loss has been calculated at 2% per mile for a total transit loss of 14%. Total replacement for the plan is given in **AI.4 Net Water Loss / Replacement Worksheet**.

Monthly accounting will be submitted to the Division 1 office electronically (dnr_div1accounting@state.co.us). A sample accounting worksheet in given as **AII.3 Sample Accounting Worksheet – Brownwood Pit.**

3.0 REFERENCES

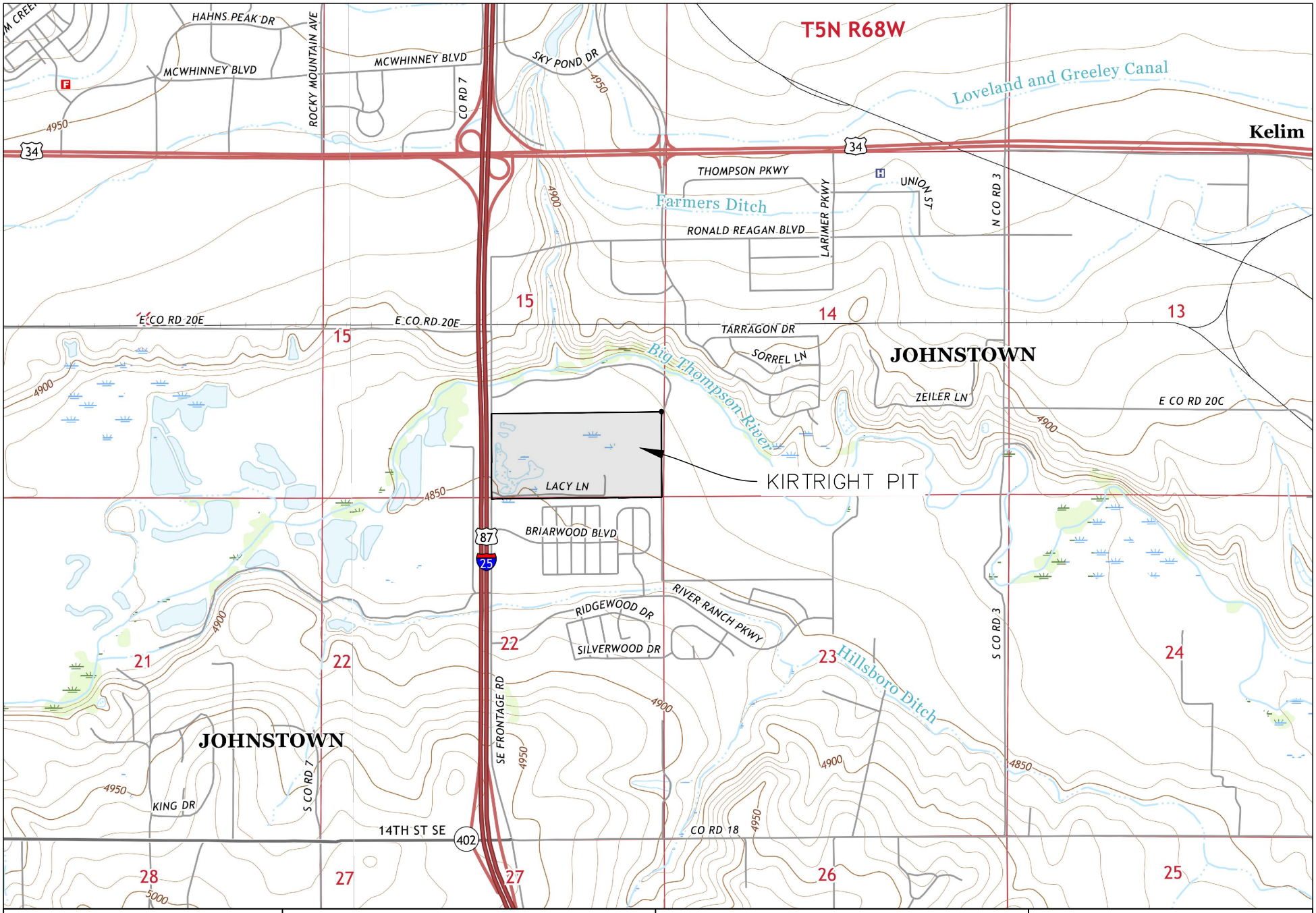
Farnsworth, R. K., Thompson, E. S., and Peck, P.L., 1982 “Evaporation Atlas for the Contiguous 48 United States”. NOAA Technical Report NWS 33, Office of Hydrology National Weather Service, Washington D.C.

Garwood, A.N., 1996, “Weather America” Toucan Valley Publications, Milpitas, California.

Kirtright, Darlene. 2012. Personnel Communication with Darlene Kirtright of Kirtright Farm and Peter Wayland of Weiland, Inc.

Schroeder, D.R., 1987, “Analytical Stream Depletion Model”. Office of the State Engineer Division of Water Resources, State of Colorado.

USDA, 1967, “Irrigation Water Requirements”. Technical Release No 21, United States Department of Agriculture Soil Conservation Service Engineering Division.



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

WSI Weiland, Inc.
Environmental & Engineering
PO BOX 18087
BOULDER, CO 80308
ph 303-443-9521

KIRTRIGHT PIT - TEMPORARY SUBSTITUTE WATER SUPPLY PLAN

LARIMER COUNTY, CO

PREPARED FOR: COLSON EXCAVATING, CO., INC.

FIGURE 1

SITE LOCATION MAP

SCALE	DWG NO.	REV.
1"=2,000'	SITE LOC.DWG	REV

DRAWN BY:	CHECKED BY:	DATE:	SHEET
CTW	PFW	04/03/2019	1 OF 1

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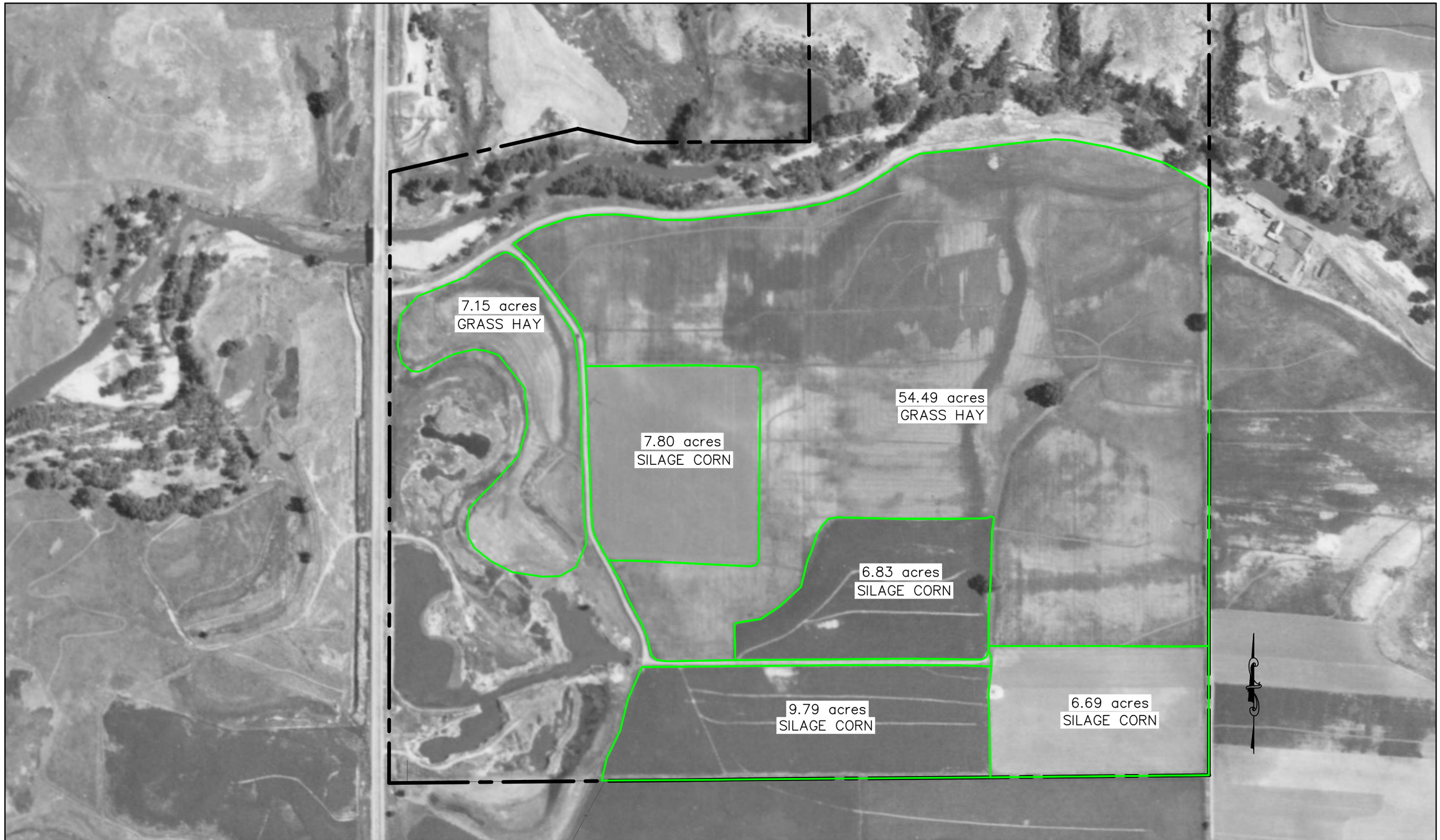
COULSON GRAVEL PONDS
AUGMENTATION PLAN
LARIMER COUNTY, CO

PREPARED FOR: COULSON EXCAVATING CO., INC.

FIGURE 2
KIRTRIGHT PIT POND AREAS

SCALE	DWG NO.	REV.
1"=250'	FIGURE 6.DWG	REV

DRAWN BY:	CHECKED BY:	DATE:	SHEET
CTW	PFW	01/24/2018	1 OF 1



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TEMPORARY SUBSTITUTE WATER SUPPY PLAN
KIRTRIGHT PIT

LARIMER COUNTY

PREPARED FOR: COULSON EXCAVATING CO., INC

FIGURE 3
IRRIGATED CROPLAND 1950

SCALE	DWG NO.	REV.
1"=300'	1950.DWG	REV

DRAWN BY:	CHECKED BY:	DATE:	SHEET
CTW	PFW	1/25/2012	1 OF 1

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TEMPORARY SUBSTITUTE WATER SUPPY PLAN
KIRTRIGHT PIT
LARIMER COUNTY

PREPARED FOR: COULSON EXCAVATING CO., INC

FIGURE 4
IRRIGATED CROPLAND 1979

SCALE	DWG NO.	REV.
1"=300'	1979.DWG	REV

DRAWN BY:	CHECKED BY:	DATE:	SHEET
CTW	PFW	1/25/2012	1 OF 1

APPENDIX I

AI.1 Evaporative Loss Worksheets - Kirtright Pit

Pond 1 Surface Area: 3.51 acres

Month	(1) Monthly Distribution	(2) Free Water Surface Evaporation [ft./yr.]	(3) Gross Evaporation Rate [ft./mo.]	(4) Surface Area [acres]	(5) Gross Evaporation [acre-ft./mo.]	(6) Average Monthly Precip. [ft./mo.]	(7) Effective Precip. Credit [acre-ft./mo.]	(8) Net Evaporative Loss (unlagged) [acre-ft./mo.]	(9) Net Evaporative Loss (lagged) [acre-ft./mo.]
Jan	0.030	3.310	0.099	3.51	0.00	0.04	0.00	0.00	0.45
Feb	0.035	3.310	0.116	3.51	0.41	0.05	0.12	0.29	0.40
Mar	0.055	3.310	0.182	3.51	0.64	0.12	0.29	0.35	0.43
Apr	0.090	3.310	0.298	3.51	1.05	0.17	0.42	0.63	0.48
May	0.120	3.310	0.397	3.51	1.39	0.22	0.54	0.85	0.56
June	0.145	3.310	0.480	3.51	1.68	0.14	0.34	1.34	0.70
Jul	0.150	3.310	0.497	3.51	1.74	0.13	0.32	1.42	0.86
Aug	0.135	3.310	0.447	3.51	1.57	0.11	0.27	1.30	0.96
Sep	0.100	3.310	0.331	3.51	1.16	0.13	0.32	0.84	0.94
Oct	0.070	3.310	0.232	3.51	0.81	0.10	0.25	0.56	0.83
Nov	0.040	3.310	0.132	3.51	0.46	0.06	0.15	0.31	0.71
Dec	0.030	3.310	0.099	3.51	0.00	0.05	0.00	0.00	0.57
totals			3.310		10.91	1.32	3.02	7.89	7.89

Notes:

(1) = SEO Monthly fraction of evaporation for elevations below 6500 ft from Guidelines for Substitute Water Supply Plans.
(2) = Free Water Surface Evaporation from NOAA Technical Report NWS 33 = Class A Pan Evaporation * Kp, where Kp = 1.0.
(3) = Column (1) * Column (2).
(4) = Total Free Water Surface Area (see Figure 2 - Kirtright Pond Areas).
(5) = Column (3) * Column (4). For months where Mean Ave. Temp. <32, ice cover = 0.0 Evap.
(6) = From AII.1 Precipitation Data.
(7) = (Column (6) * 70%) * Column (4)
(8) = Column (5) -Column (7).
(9) = Column (8) Lagged utilizing AWAS program (See AII.2).

AI.1 Evaporative Loss Worksheets - Kirtright Pit

Pond 2 Surface Area: 1.4 acres

Month	(1) Monthly Distribution	(2) Free Water Surface Evaporation [ft./yr.]	(3) Gross Evaporation Rate [ft./mo.]	(4) Surface Area [acres]	(5) Gross Evaporation [acre-ft./mo.]	(6) Average Monthly Precip. [ft./mo.]	(7) Effective Precip. Credit [acre-ft./mo.]	(8) Net Evaporative Loss (unlagged) [acre-ft./mo.]	(9) Net Evaporative Loss (lagged) [acre-ft./mo.]
Jan	0.030	3.310	0.099	1.40	0.00	0.04	0.00	0.00	0.23
Feb	0.035	3.310	0.116	1.40	0.16	0.05	0.05	0.11	0.20
Mar	0.055	3.310	0.182	1.40	0.25	0.12	0.12	0.13	0.20
Apr	0.090	3.310	0.298	1.40	0.42	0.17	0.17	0.25	0.20
May	0.120	3.310	0.397	1.40	0.56	0.22	0.22	0.34	0.21
June	0.145	3.310	0.480	1.40	0.67	0.14	0.14	0.53	0.24
Jul	0.150	3.310	0.497	1.40	0.70	0.13	0.13	0.57	0.28
Aug	0.135	3.310	0.447	1.40	0.63	0.11	0.11	0.52	0.32
Sep	0.100	3.310	0.331	1.40	0.46	0.13	0.13	0.33	0.35
Oct	0.070	3.310	0.232	1.40	0.32	0.10	0.10	0.22	0.33
Nov	0.040	3.310	0.132	1.40	0.19	0.06	0.06	0.13	0.30
Dec	0.030	3.310	0.099	1.40	0.00	0.05	0.00	0.00	0.27
totals			3.310		4.36	1.32	1.23	3.13	3.13

Notes:

(1) = SEO Monthly fraction of evaporation for elevations below 6500 ft from Guidelines for Substitute Water Supply Plans.
(2) = Free Water Surface Evaporation from NOAA Technical Report NWS 33 = Class A Pan Evaporation * Kp, where Kp = 1.0.
(3) = Column (1) * Column (2).
(4) = Total Free Water Surface Area (see Figure 2 - Kirtright Pond Areas).
(5) = Column (3) * Column (4). For months where Mean Ave. Temp. <32, ice cover = 0.0 Evap.
(6) = From AII.1 Precipitation Data.
(7) = (Column (6) * 70%) * Column (4)
(8) = Column (5) -Column (7).
(9) = Column (8) Lagged utilizing AWAS program (See AII.2).

AI.1 Evaporative Loss Worksheets - Kirtright Pit

Pond 3 Surface Area: 6.95 acres

Month	(1) Monthly Distribution	(2) Free Water Surface Evaporation [ft./yr.]	(3) Gross Evaporation Rate [ft./mo.]	(4) Surface Area [acres]	(5) Gross Evaporation [acre-ft./mo.]	(6) Average Monthly Precip. [ft./mo.]	(7) Effective Precip. Credit [acre-ft./mo.]	(8) Net Evaporative Loss (unlagged) [acre-ft./mo.]	(9) Net Evaporative Loss (lagged) [acre-ft./mo.]
Jan	0.030	3.310	0.099	6.95	0.00	0.04	0.00	0.00	1.08
Feb	0.035	3.310	0.116	6.95	0.81	0.05	0.24	0.57	0.96
Mar	0.055	3.310	0.182	6.95	1.27	0.12	0.58	0.69	0.95
Apr	0.090	3.310	0.298	6.95	2.07	0.17	0.83	1.24	0.98
May	0.120	3.310	0.397	6.95	2.76	0.22	1.07	1.69	1.08
June	0.145	3.310	0.480	6.95	3.34	0.14	0.68	2.66	1.25
Jul	0.150	3.310	0.497	6.95	3.45	0.13	0.63	2.82	1.50
Aug	0.135	3.310	0.447	6.95	3.11	0.11	0.54	2.57	1.68
Sep	0.100	3.310	0.331	6.95	2.30	0.13	0.63	1.67	1.74
Oct	0.070	3.310	0.232	6.95	1.61	0.10	0.49	1.12	1.65
Nov	0.040	3.310	0.132	6.95	0.92	0.06	0.29	0.63	1.49
Dec	0.030	3.310	0.099	6.95	0.00	0.05	0.00	0.00	1.30
totals			3.310		21.64	1.32	5.98	15.66	15.66

Notes:

(1) = SEO Monthly fraction of evaporation for elevations below 6500 ft from Guidelines for Substitute Water Supply Plans.
(2) = Free Water Surface Evaporation from NOAA Technical Report NWS 33 = Class A Pan Evaporation * Kp, where Kp = 1.0.
(3) = Column (1) * Column (2).
(4) = Total Free Water Surface Area (see Figure 2 - Kirtright Pond Areas).
(5) = Column (3) * Column (4). For months where Mean Ave. Temp. <32, ice cover = 0.0 Evap.
(6) = From AII.1 Precipitation Data.
(7) = (Column (6) * 70%) * Column (4)
(8) = Column (5) -Column (7).
(9) = Column (8) Lagged utilizing AWAS program (See AII.2).

AI.1 Evaporative Loss Worksheets - Kirtright Pit

Pond 4 Surface Area: 9.9 acres

Month	(1) Monthly Distribution	(2) Free Water Surface Evaporation [ft./yr.]	(3) Gross Evaporation Rate [ft./mo.]	(4) Surface Area [acres]	(5) Gross Evaporation [acre-ft./mo.]	(6) Average Monthly Precip. [ft./mo.]	(7) Effective Precip. Credit [acre-ft./mo.]	(8) Net Evaporative Loss (unlagged) [acre-ft./mo.]	(9) Net Evaporative Loss (lagged) [acre-ft./mo.]
Jan	0.030	3.310	0.099	9.90	0.00	0.04	0.00	0.00	1.56
Feb	0.035	3.310	0.116	9.90	1.15	0.05	0.35	0.80	1.38
Mar	0.055	3.310	0.182	9.90	1.80	0.12	0.83	0.97	1.36
Apr	0.090	3.310	0.298	9.90	2.95	0.17	1.18	1.77	1.40
May	0.120	3.310	0.397	9.90	3.93	0.22	1.52	2.41	1.54
June	0.145	3.310	0.480	9.90	4.75	0.14	0.97	3.78	1.76
Jul	0.150	3.310	0.497	9.90	4.92	0.13	0.90	4.02	2.11
Aug	0.135	3.310	0.447	9.90	4.42	0.11	0.76	3.66	2.37
Sep	0.100	3.310	0.331	9.90	3.28	0.13	0.90	2.38	2.47
Oct	0.070	3.310	0.232	9.90	2.29	0.10	0.69	1.60	2.34
Nov	0.040	3.310	0.132	9.90	1.31	0.06	0.42	0.89	2.13
Dec	0.030	3.310	0.099	9.90	0.00	0.05	0.00	0.00	1.86
totals			3.310		30.80	1.32	8.52	22.28	22.28

Notes:

(1) = SEO Monthly fraction of evaporation for elevations below 6500 ft from Guidelines for Substitute Water Supply Plans.
(2) = Free Water Surface Evaporation from NOAA Technical Report NWS 33 = Class A Pan Evaporation * Kp, where Kp = 1.0.
(3) = Column (1) * Column (2).
(4) = Total Free Water Surface Area (see Figure 2 - Kirtright Pond Areas).
(5) = Column (3) * Column (4). For months where Mean Ave. Temp. <32, ice cover = 0.0 Evap.
(6) = From AII.1 Precipitation Data.
(7) = (Column (6) * 70%) * Column (4)
(8) = Column (5) -Column (7).
(9) = Column (8) Lagged utilizing AWAS program (See AII.2).

AI.1 Evaporative Loss Worksheets - Kirtright Pit

Month	(1) Net Evaporative Loss (lagged) Pond 1	(2) Net Evaporative Loss (lagged) Pond 2	(3) Net Evaporative Loss (lagged) Pond 3	(4) Net Evaporative Loss (lagged) Pond 4	(5) **Total Net Evaporative Loss (lagged)**
	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]	**[acre-ft.]**
Jan	0.45	0.23	1.08	1.56	**3.32**
Feb	0.40	0.20	0.96	1.38	**2.94**
Mar	0.43	0.20	0.95	1.36	**2.94**
Apr	0.48	0.20	0.98	1.40	**3.06**
May	0.56	0.21	1.08	1.54	**3.39**
June	0.70	0.24	1.25	1.76	**3.95**
Jul	0.86	0.28	1.50	2.11	**4.75**
Aug	0.96	0.32	1.68	2.37	**5.33**
Sep	0.94	0.35	1.74	2.47	**5.50**
Oct	0.83	0.33	1.65	2.34	**5.15**
Nov	0.71	0.30	1.49	2.13	**4.63**
Dec	0.57	0.27	1.30	1.86	**4.00**
totals	7.89	3.13	15.66	22.28	**48.96**

Notes:
(1) = Column (9) from Pond 1
(2) = Column (9) from Pond 2
(3) = Column (9) from Pond 3
(4) = Column (9) from Pond 4
(5) = Column (1) + Column (2) + Column (3) + Column (4)

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1950	92.75	acres										
Jan-50	0	0	0	0.6	0	2.78	0	1.39	0	0	0	0
Feb	0	0	0	0.6	0	1.31	0	0.66	0	0	0	0
Mar	0	0	0	0.6	0	2.78	0	1.39	0	0	0	0
Apr	3.18	0.06	3.11	0.6	1.87	15.46	0.34	2.28	0.75	0.41	1.25	1.87
May	19.41	0.39	19.03	0.6	11.42	30.22	10.8	0.06	15.11	4.31	7.61	11.42
Jun	40.57	0.81	39.75	0.6	23.85	10.28	5.91	0	32.36	26.45	15.9	23.85
Jul	33.45	0.67	32.78	0.6	19.67	10.67	6.53	0	41.68	35.14	13.11	19.67
Aug	28.79	0.58	28.22	0.6	16.93	4.64	2.75	0	37.89	35.14	11.29	16.93
Sep	21.41	0.43	20.98	0.6	12.59	13.14	5.35	0	18.47	13.12	8.39	12.59
Oct	7.73	0.15	7.57	0.6	4.54	2.4	0.69	0.31	10.19	9.51	3.03	4.54
Nov	0.24	0	0.23	0.6	0.14	3.86	0.04	0.57	0.18	0.14	0.09	0.14
Dec	0	0	0	0.6	0	0.62	0	0.31	0	0	0	0
Year Total	154.78	3.1	151.68	0.6	91.01	98.16	32.41	6.97	156.64	124.23	60.67	91.01
1951	92.75	acres										
Jan-51	0	0	0	0.6	0	5.64	0	2.82	0	0	0	0
Feb	0	0	0	0.6	0	5.41	0	2.71	0	0	0	0
Mar	0	0	0	0.6	0	2.71	0	1.35	0	0	0	0
Apr	1.87	0.04	1.83	0.6	1.1	8.58	0	4.29	0	0	0.73	1.1
May	19.85	0.4	19.46	0.6	11.67	20.02	8.14	0	17.95	15.32	7.78	11.67
Jun	40.06	0.8	39.26	0.6	23.55	16.31	8.66	0	26.46	22.97	15.7	23.55
Jul	44.29	0.89	43.4	0.6	26.04	15.23	9.57	0	48.9	40.6	17.36	26.04
Aug	17.22	0.34	16.87	0.6	10.12	57.12	28.48	0	39.91	11.72	6.75	10.12
Sep	19.65	0.39	19.25	0.6	11.55	7.42	2.72	0	15.45	19.72	7.7	11.55
Oct	1.5	0.03	1.47	0.6	0.88	21.1	3.81	3.02	4.96	1.95	0.59	0.88
Nov	0	0	0	0.6	0	5.1	0	2.55	0	0	0	0
Dec	0	0	0	0.6	0	7.27	0	3.63	0	0	0	0
Year Total	144.43	2.89	141.54	0.6	84.92	171.9	61.37	20.37	153.64	112.3	56.62	84.92

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1952	92.75	acres										
Jan-52	0	0	0	0.6	0	0.54	0	0.27	0	0	0	0
Feb	0	0	0	0.6	0	0.62	0	0.31	0	0	0	0
Mar	0	0	0	0.6	0	12.13	0	5.62	0	0	0	0
Apr	0	0	0	0.6	0	14.61	1.31	0	3.22	1.91	0	0
May	14.41	0.29	14.12	0.6	8.47	28.68	12.11	0	19.85	7.75	5.65	8.47
Jun	49.08	0.98	48.1	0.6	28.86	19.01	10.9	0	39.15	28.25	19.24	28.86
Jul	35.15	0.7	34.45	0.6	20.67	5.57	3.59	0	47.85	44.26	13.78	20.67
Aug	32.68	0.65	32.02	0.6	19.21	7.5	4.64	0	42.37	37.73	12.81	19.21
Sep	22.8	0.46	22.34	0.6	13.4	0.31	0	0	17.56	17.56	8.94	13.4
Oct	9.56	0.19	9.36	0.6	5.62	1.55	0.22	0.15	6.21	5.99	3.75	5.62
Nov	0	0	0	0.6	0	7.96	0	3.98	0	0	0	0
Dec	0	0	0	0.6	0	0.77	0	0.39	0	0	0	0
Year Total	163.67	3.27	160.39	0.6	96.24	99.24	32.77	10.72	176.22	143.45	64.16	96.24

1953	92.75	acres										
Jan-53	0	0	0	0.6	0	1.47	0	0.73	0	0	0	0
Feb	0	0	0	0.6	0	3.79	0	1.89	0	0	0	0
Mar	0	0	0	0.6	0	8.12	0	4.06	0	0	0	0
Apr	0	0	0	0.6	0	14.45	0	4.94	0	0	0	0
May	21.55	0.43	21.12	0.6	12.67	14.53	3.92	0	11.87	7.94	10.49	10.62
Jun	44.48	0.89	43.59	0.6	26.15	21.56	11.95	0	36.34	24.39	19.2	24.39
Jul	33.67	0.67	33	0.6	19.8	9.51	6.2	0	49.55	43.35	13.2	19.8
Aug	32.85	0.66	32.19	0.6	19.31	5.02	3.09	0	42	38.91	12.88	19.31
Sep	25.89	0.52	25.37	0.6	15.22	3.71	1.45	0	20.04	18.59	10.15	15.22
Oct	10.09	0.2	9.88	0.6	5.93	0.93	0.04	0.02	9.19	9.16	3.95	5.93
Nov	0	0	0	0.6	0	3.48	0.07	0.5	0.38	0.31	0	0
Dec	0	0	0	0.6	0	1.7	0	0.85	0	0	0	0
Year Total	168.51	3.37	165.14	0.6	99.09	88.27	26.72	13	169.37	142.64	69.87	95.27

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1954	92.75	acres										
Jan-54	0	0	0	0.6	0	0.85	0	0.43	0	0	0	0
Feb	0	0	0	0.6	0	0.46	0	0.23	0	0	0	0
Mar	0	0	0	0.6	0	6.96	0	3.48	0	0	0	0
Apr	7.45	0.15	7.3	0.6	4.38	2.71	0	1.35	0	0	2.92	4.38
May	30.3	0.61	29.69	0.6	17.82	8.81	4.19	0	19.95	15.76	11.88	17.82
Jun	31.84	0.64	31.2	0.6	18.72	6.88	4.15	0	37.83	33.68	12.48	18.72
Jul	32.89	0.66	32.23	0.6	19.34	7.34	5.07	0	56.48	51.41	12.89	19.34
Aug	30.88	0.62	30.26	0.6	18.16	9.58	5.6	0	40.68	35.09	12.1	18.16
Sep	22.84	0.46	22.39	0.6	13.43	7.65	2.84	1.18	18.03	15.19	8.95	13.43
Oct	6.74	0.13	6.61	0.6	3.96	2.71	0.8	0.37	8.67	7.87	2.64	3.96
Nov	0	0	0	0.6	0	4.1	0.13	0.61	0.57	0.44	0	0
Dec	0	0	0	0.6	0	3.63	0	1.82	0	0	0	0
Year Total	162.93	3.26	159.67	0.6	95.8	61.68	22.78	9.46	182.21	159.44	63.87	95.8

1955	92.75	acres										
Jan-55	0	0	0	0.6	0	2.78	0	1.39	0	0	0	0
Feb	0	0	0	0.6	0	4.87	0	2.43	0	0	0	0
Mar	0	0	0	0.6	0	8.89	0	4.44	0	0	0	0
Apr	3.71	0.07	3.63	0.6	2.18	1.7	0.04	0.18	1.34	1.3	1.45	2.18
May	30.93	0.62	30.32	0.6	18.19	12.68	6.32	0	22.43	16.11	12.13	18.19
Jun	25.23	0.5	24.72	0.6	14.83	19.94	10.75	0	31.48	20.72	9.89	14.83
Jul	32.74	0.65	32.08	0.6	19.25	9.51	6.39	0	53.64	47.25	12.83	19.25
Aug	27.11	0.54	26.57	0.6	15.94	10.98	6.39	0	42.21	35.82	10.63	15.94
Sep	25.84	0.52	25.32	0.6	15.19	14.76	5.22	2.19	16.91	11.69	10.13	15.19
Oct	7.09	0.14	6.94	0.6	4.17	1.47	0.24	0.13	8.21	7.97	2.78	4.17
Nov	0	0	0	0.6	0	8.12	0	4.06	0	0	0	0
Dec	0	0	0	0.6	0	4.56	0	2.28	0	0	0	0
Year Total	152.64	3.05	149.59	0.6	89.75	100.25	35.35	17.11	176.2	140.85	59.83	89.75

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1956	92.75	acres										
Jan-56	0	0	0	0.6	0	5.41	0	2.71	0	0	0	0
Feb	0	0	0	0.6	0	5.1	0	2.55	0	0	0	0
Mar	0	0	0	0.6	0	5.49	0	2.74	0	0	0	0
Apr	4.4	0.09	4.32	0.6	2.59	12.91	1.59	0.66	4.15	2.56	1.73	2.59
May	28.69	0.57	28.12	0.6	16.87	20.25	9.61	0	23.02	13.41	14.41	13.71
Jun	42.41	0.85	41.56	0.6	24.94	2.4	1.25	0	41.38	40.13	16.62	24.94
Jul	33.34	0.67	32.68	0.6	19.61	17.24	10.69	0	48.67	37.98	13.07	19.61
Aug	29.41	0.59	28.82	0.6	17.29	14.76	8.12	0	36.74	28.62	11.53	17.29
Sep	26.94	0.54	26.4	0.6	15.84	0.23	0	0	18.03	18.03	10.56	15.84
Oct	14.88	0.3	14.58	0.6	8.75	0.39	0	0	8.65	8.65	5.83	8.75
Nov	0	0	0	0.6	0	6.11	0	3.05	0	0	0	0
Dec	0	0	0	0.6	0	3.94	0	1.97	0	0	0	0
Year Total	180.08	3.6	176.48	0.6	105.89	94.22	31.25	13.68	180.63	149.38	73.75	102.73
1957	92.75	acres										
Jan-57	0	0	0	0.6	0	5.41	0	2.71	0	0	0	0
Feb	0	0	0	0.6	0	4.02	0	2.01	0	0	0	0
Mar	0	0	0	0.6	0	3.25	0	1.62	0	0	0	0
Apr	0	0	0	0.6	0	30.45	0.91	4.17	0.92	0.01	0	0
May	1.67	0.03	1.63	0.6	0.98	46.68	15.42	0.69	15.9	0.48	0.65	0.98
Jun	34.12	0.68	33.44	0.6	20.07	7.88	4.59	0	32.78	28.19	13.38	20.07
Jul	56.92	1.14	55.78	0.6	33.47	3.32	2.03	0	49.48	47.45	22.31	33.47
Aug	30.4	0.61	29.8	0.6	17.88	23.73	13.76	0	44.24	30.49	11.92	17.88
Sep	21.28	0.43	20.85	0.6	12.51	6.26	2.58	0	18.09	15.51	8.34	12.51
Oct	4.82	0.1	4.72	0.6	2.83	15.38	4.02	2.27	7.53	3.51	1.89	2.83
Nov	0	0	0	0.6	0	4.79	0	2.4	0	0	0	0
Dec	0	0	0	0.6	0	0.77	0	0.39	0	0	0	0
Year Total	149.21	2.98	146.23	0.6	87.74	151.96	43.31	16.26	168.94	125.64	58.49	87.74

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1958	92.75	acres										
Jan-58	0	0	0	0.6	0	1.31	0	0.66	0	0	0	0
Feb	0	0	0	0.6	0	3.09	0	1.55	0	0	0	0
Mar	0	0	0	0.6	0	14.45	0	7.23	0	0	0	0
Apr	0	0	0	0.6	0	15.07	0.17	2.23	0.43	0.26	0	0
May	4.76	0.1	4.66	0.6	2.8	40.96	17.94	0.36	25.03	7.08	1.86	2.8
Jun	41.38	0.83	40.55	0.6	24.33	17.78	10.16	0	37.86	27.7	16.22	24.33
Jul	33.56	0.67	32.89	0.6	19.73	12.21	7.61	0	45.31	37.7	13.16	19.73
Aug	32.49	0.65	31.84	0.6	19.11	7.81	4.56	0	41.96	37.4	12.74	19.11
Sep	21.26	0.43	20.84	0.6	12.5	3.56	1.25	0.52	17.85	16.6	8.34	12.5
Oct	8.68	0.17	8.51	0.6	5.1	6.57	2.08	1.01	9.08	7	3.4	5.1
Nov	0	0	0	0.6	0	4.41	0	2.2	0	0	0	0
Dec	0	0	0	0.6	0	7.57	0	3.79	0	0	0	0
Year Total	142.13	2.84	139.29	0.6	83.57	134.8	43.78	19.54	177.53	133.75	55.72	83.57

1959	92.75	acres										
Jan-59	0	0	0	0.6	0	3.56	0	1.78	0	0	0	0
Feb	0	0	0	0.6	0	4.48	0	2.24	0	0	0	0
Mar	0	0	0	0.6	0	10.51	0	4.97	0	0	0	0
Apr	0	0	0	0.6	0	20.95	1.99	2.31	2.99	1	0	0
May	15.91	0.32	15.59	0.6	9.36	27.36	11.14	0	18.59	7.46	7.14	8.45
Jun	42.59	0.85	41.74	0.6	25.05	3.01	1.65	0	37.38	35.73	16.7	25.05
Jul	34.74	0.69	34.05	0.6	20.43	2.4	1.32	0	49.61	48.29	13.62	20.43
Aug	32.74	0.65	32.09	0.6	19.25	4.64	2.92	0	46.22	43.29	12.84	19.25
Sep	23.55	0.47	23.08	0.6	13.85	15.23	5.45	0	15.74	10.3	9.23	13.85
Oct	5.24	0.1	5.14	0.6	3.08	20.95	3.57	3	4.6	1.03	2.06	3.08
Nov	0	0	0	0.6	0	0.31	0	0.15	0	0	0	0
Dec	0	0	0	0.6	0	0.93	0	0.46	0	0	0	0
Year Total	154.79	3.1	151.69	0.6	91.01	114.31	28.04	14.92	175.13	147.09	61.58	90.11

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1960	92.75	acres										
Jan-60	0	0	0	0.6	0	2.86	0	1.43	0	0	0	0
Feb	0	0	0	0.6	0	4.1	0	2.05	0	0	0	0
Mar	0	0	0	0.6	0	6.49	0	3.25	0	0	0	0
Apr	6.16	0.12	6.04	0.6	3.62	6.8	0	2.74	0	0	5.91	0.13
May	16.94	0.34	16.6	0.6	9.96	19.32	8.53	0	19.64	11.11	6.64	9.96
Jun	39.67	0.79	38.88	0.6	23.33	5.57	3.32	0	36.68	33.37	15.55	23.33
Jul	35.57	0.71	34.86	0.6	20.92	6.18	4.06	0	49.66	45.6	13.94	20.92
Aug	32.51	0.65	31.86	0.6	19.12	0.23	0	0	43.79	43.79	12.74	19.12
Sep	25.3	0.51	24.79	0.6	14.88	3.01	1.02	0.42	17.91	16.89	9.92	14.88
Oct	8.6	0.17	8.43	0.6	5.06	16.31	4.73	2.4	8.09	3.36	3.37	5.06
Nov	0	0	0	0.6	0	2.16	0	1.08	0	0	0	0
Dec	0	0	0	0.6	0	4.33	0	2.16	0	0	0	0
Year Total	164.75	3.29	161.45	0.6	96.87	77.37	21.66	15.54	175.78	154.12	68.07	93.38
1961	92.75	acres										
Jan-61	0	0	0	0.6	0	1.62	0	0.81	0	0	0	0
Feb	0	0	0	0.6	0	4.95	0	2.47	0	0	0	0
Mar	0	0	0	0.6	0	26.12	0	7.77	0	0	0	0
Apr	2.04	0.04	2	0.6	1.2	7.73	0.45	0	1.95	1.5	0.8	1.2
May	17.21	0.34	16.87	0.6	10.12	54.57	19.32	0	19.96	0.64	15.93	0.94
Jun	37.25	0.75	36.5	0.6	21.9	14.14	8.06	0	34.45	26.38	14.6	21.9
Jul	35.81	0.72	35.1	0.6	21.06	33	18.8	0	47.62	28.81	14.04	21.06
Aug	33.71	0.67	33.03	0.6	19.82	30.92	17.14	0	43.64	26.5	13.21	19.82
Sep	17.5	0.35	17.15	0.6	10.29	30.92	9.63	4.22	12.93	3.3	6.86	10.29
Oct	0	0	0	0.6	0	9.04	2.14	0.41	6.07	3.93	0	0
Nov	0	0	0	0.6	0	4.79	0	1.59	0	0	0	0
Dec	0	0	0	0.6	0	1.93	0	0.64	0	0	0	0
Year Total	143.53	2.87	140.66	0.6	84.39	219.74	75.54	17.92	166.6	91.06	65.45	75.21

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1962	92.75	acres										
Jan-62	0	0	0	0.6	0	9.04	0	3.01	0	0	0	0
Feb	0	0	0	0.6	0	5.41	0	1.8	0	0	0	0
Mar	0	0	0	0.6	0	4.25	0	1.41	0	0	0	0
Apr	4.94	0.1	4.84	0.6	2.91	7.73	0	0.69	0	0	4.84	0
May	29.04	0.58	28.46	0.6	17.08	18.24	8.9	0	22.59	13.69	14.77	13.69
Jun	24.88	0.5	24.39	0.6	14.63	16.46	9.15	0	32.9	23.75	9.75	14.63
Jul	46.52	0.93	45.59	0.6	27.35	16	9.83	0	46.36	36.54	18.24	27.35
Aug	28.86	0.58	28.28	0.6	16.97	2.4	1.14	0	37.52	36.38	11.31	16.97
Sep	24.79	0.5	24.3	0.6	14.58	3.17	1.06	0.45	16.06	14.99	9.72	14.58
Oct	6.59	0.13	6.45	0.6	3.87	13.53	4.45	2.02	9.73	5.28	2.58	3.87
Nov	0	0	0	0.6	0	4.41	0.23	0.66	0.95	0.72	0	0
Dec	0	0	0	0.6	0	1.39	0	0.7	0	0	0	0
Year Total	165.62	3.31	162.31	0.6	97.39	102.02	34.76	10.74	166.12	131.36	71.21	91.1
1963	92.75	acres										
Jan-63	0	0	0	0.6	0	5.18	0	2.59	0	0	0	0
Feb	0	0	0	0.6	0	3.25	0	1.62	0	0	0	0
Mar	0	0	0	0.6	0	9.89	0	4.95	0	0	0	0
Apr	6.52	0.13	6.39	0.6	3.83	3.86	0.35	0.57	3.47	3.12	2.56	3.83
May	32.19	0.64	31.54	0.6	18.93	3.25	1.58	0	23.57	21.99	12.62	18.93
Jun	24.37	0.49	23.88	0.6	14.33	28.98	15.67	0	37.99	22.32	9.55	14.33
Jul	32.53	0.65	31.88	0.6	19.13	1	0.15	0	54.38	54.23	12.75	19.13
Aug	31.76	0.64	31.13	0.6	18.68	13.06	7.17	0	38.41	31.24	12.45	18.68
Sep	19.57	0.39	19.18	0.6	11.51	16.23	5.82	2.39	18.98	13.17	7.67	11.51
Oct	8.26	0.17	8.09	0.6	4.86	2.32	0.66	0.3	10.83	10.17	3.24	4.86
Nov	0	0	0	0.6	0	1.47	0.05	0.13	0.97	0.92	0	0
Dec	0	0	0	0.6	0	4.25	0	2.13	0	0	0	0
Year Total	155.21	3.1	152.1	0.6	91.26	92.75	31.44	14.67	188.59	157.16	60.84	91.26

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1964	92.75	acres										
Jan-64	0	0	0	0.6	0	2.4	0	1.2	0	0	0	0
Feb	0	0	0	0.6	0	1.62	0	0.81	0	0	0	0
Mar	0	0	0	0.6	0	7.11	0	3.56	0	0	0	0
Apr	0	0	0	0.6	0	13.06	0.74	1.96	2.07	1.33	0	0
May	29.51	0.59	28.92	0.6	17.35	14.45	7.07	0	22.53	15.46	11.57	17.35
Jun	25.18	0.5	24.68	0.6	14.81	4.17	2.37	0	33.32	30.95	9.87	14.81
Jul	32.71	0.65	32.06	0.6	19.23	8.04	5.49	0	55.07	49.58	12.82	19.23
Aug	31.83	0.64	31.19	0.6	18.72	3.48	1.87	0	37.17	35.3	12.48	18.72
Sep	23.68	0.47	23.2	0.6	13.92	2.63	0.83	0.35	16.01	15.18	9.28	13.92
Oct	13.47	0.27	13.2	0.6	7.92	0.46	0	0	8.16	8.16	5.28	7.92
Nov	0	0	0	0.6	0	3.56	0	1.78	0	0	0	0
Dec	0	0	0	0.6	0	1.39	0	0.7	0	0	0	0
Year Total	156.38	3.13	153.25	0.6	91.95	62.37	18.37	10.35	174.34	155.96	61.3	91.95
1965	92.75	acres										
Jan-65	0	0	0	0.6	0	5.1	0	2.55	0	0	0	0
Feb	0	0	0	0.6	0	2.4	0	1.2	0	0	0	0
Mar	0	0	0	0.6	0	6.49	0	3.25	0	0	0	0
Apr	5.19	0.1	5.09	0.6	3.05	9.2	2.21	1.41	7.83	5.62	2.04	3.05
May	29.5	0.59	28.91	0.6	17.35	14.61	6.62	0	19.5	12.87	11.56	17.35
Jun	18.04	0.36	17.68	0.6	10.61	40.73	20.16	0	32.03	11.87	7.07	10.61
Jul	34.29	0.69	33.61	0.6	20.16	17.7	11	0	49.32	38.32	13.44	20.16
Aug	33.32	0.67	32.65	0.6	19.59	3.4	1.94	0	39.81	37.88	13.06	19.59
Sep	20.78	0.42	20.36	0.6	12.22	18.01	5.91	2.62	11.84	5.93	8.14	12.22
Oct	11.8	0.24	11.56	0.6	6.94	3.94	1.29	0.58	10.08	8.79	4.63	6.94
Nov	0	0	0	0.6	0	0	0	0	1.56	1.56	0	0
Dec	0	0	0	0.6	0	3.4	0	1.7	0	0	0	0
Year Total	152.91	3.06	149.86	0.6	89.91	124.98	49.12	13.31	171.99	122.86	59.94	89.91

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1966	92.75	acres										
Jan-66	0	0	0	0.6	0	0.93	0	0.46	0	0	0	0
Feb	0	0	0	0.6	0	4.64	0	2.32	0	0	0	0
Mar	0	0	0	0.6	0	0.08	0	0.04	0	0	0	0
Apr	9.09	0.18	8.91	0.6	5.35	10.74	0	5.37	0	0	6.05	2.86
May	27.72	0.55	27.16	0.6	16.3	2.09	0.55	0	15.73	15.18	11.99	15.18
Jun	26.12	0.52	25.6	0.6	15.36	12.37	7.1	0	33.86	26.76	10.24	15.36
Jul	32.56	0.65	31.91	0.6	19.15	4.79	3.25	0	56.25	52.99	12.76	19.15
Aug	31.85	0.64	31.22	0.6	18.73	4.87	2.93	0	40.58	37.64	12.49	18.73
Sep	16.52	0.33	16.19	0.6	9.72	8.97	3.29	1.37	17.32	14.04	6.48	9.72
Oct	6.62	0.13	6.49	0.6	3.89	3.32	0.87	0.48	7.48	6.6	2.6	3.89
Nov	0	0	0	0.6	0	3.48	0	1.74	0	0	0	0
Dec	0	0	0	0.6	0	0.46	0	0.23	0	0	0	0
Year Total	150.49	3.01	147.48	0.6	88.49	56.73	18	12.02	171.22	153.21	62.6	84.88
1967	92.75	acres										
Jan-67	0	0	0	0.6	0	4.71	0	2.36	0	0	0	0
Feb	0	0	0	0.6	0	2.71	0	1.35	0	0	0	0
Mar	0	0	0	0.6	0	4.71	0	2.36	0	0	0	0
Apr	6.66	0.13	6.52	0.6	3.91	23.34	1.74	3.3	2.79	1.05	2.61	3.91
May	10.71	0.21	10.49	0.6	6.3	37.02	12.72	0	16.06	3.34	4.38	6.11
Jun	9.46	0.19	9.27	0.6	5.56	25.2	12.87	0	27.63	14.76	3.71	5.56
Jul	25.84	0.52	25.32	0.6	15.19	23.96	14.12	0	46.69	32.57	10.13	15.19
Aug	32.76	0.66	32.11	0.6	19.26	14.07	8.43	0	41.31	32.88	12.84	19.26
Sep	22.29	0.45	21.84	0.6	13.11	7.19	3.04	0	19.67	16.63	8.74	13.11
Oct	8.46	0.17	8.29	0.6	4.97	4.71	1.52	0.71	9.45	7.93	3.31	4.97
Nov	0	0	0	0.6	0	8.81	0	4.41	0	0	0	0
Dec	0	0	0	0.6	0	8.12	0	4.06	0	0	0	0
Year Total	116.17	2.32	113.85	0.6	68.31	164.55	54.44	18.55	163.61	109.17	45.73	68.12

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1968	92.75	acres										
Jan-68	0	0	0	0.6	0	0.7	0	0.35	0	0	0	0
Feb	0	0	0	0.6	0	4.64	0	2.32	0	0	0	0
Mar	0	0	0	0.6	0	6.96	0	3.48	0	0	0	0
Apr	0	0	0	0.6	0	14.3	0.47	2.13	1.05	0.57	0	0
May	21.42	0.43	20.99	0.6	12.59	24.73	9.71	0	16.86	7.15	11.89	9.1
Jun	33.13	0.66	32.47	0.6	19.48	6.65	3.96	0	35.98	32.02	12.99	19.48
Jul	33.2	0.66	32.53	0.6	19.52	15.84	9.89	0	48.44	38.56	13.01	19.52
Aug	33.03	0.66	32.37	0.6	19.42	16.31	9.55	0	40	30.45	12.95	19.42
Sep	20.44	0.41	20.03	0.6	12.02	0.7	0	0	17.23	17.23	8.01	12.02
Oct	8.69	0.17	8.52	0.6	5.11	5.02	1.46	0.76	7.94	6.49	3.41	5.11
Nov	0	0	0	0.6	0	6.03	0	3.01	0	0	0	0
Dec	0	0	0	0.6	0	1	0	0.5	0	0	0	0
Year Total	149.91	3	146.91	0.6	88.14	102.88	35.04	12.55	167.51	132.47	62.26	84.65

1969	92.75	acres										
Jan-69	0	0	0	0.6	0	4.56	0	2.28	0	0	0	0
Feb	0	0	0	0.6	0	2.55	0	1.28	0	0	0	0
Mar	0	0	0	0.6	0	4.56	0	2.28	0	0	0	0
Apr	4.69	0.09	4.6	0.6	2.76	11.28	0.4	1.71	1.46	1.06	1.84	2.76
May	20.96	0.42	20.54	0.6	12.33	29.37	14.29	0	23.54	9.25	8.22	12.33
Jun	19.94	0.4	19.54	0.6	11.72	19.79	10.6	0	30.5	19.9	7.81	11.72
Jul	38.51	0.77	37.74	0.6	22.64	6.49	4.37	0	52.86	48.49	15.1	22.64
Aug	32.48	0.65	31.83	0.6	19.1	13.29	7.11	0	39.46	32.35	12.73	19.1
Sep	22.56	0.45	22.11	0.6	13.26	4.87	1.78	0.74	17.7	15.92	8.84	13.26
Oct	0.97	0.02	0.96	0.6	0.57	37.49	2.43	5.71	2.43	0	0.38	0.57
Nov	0	0	0	0.6	0	2.47	0	1.24	0	0	0	0
Dec	0	0	0	0.6	0	0.15	0	0.08	0	0	0	0
Year Total	140.11	2.8	137.3	0.6	82.38	136.88	40.97	15.31	167.94	126.98	54.92	82.38

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1970	92.75	acres										
Jan-70	0	0	0	0.6	0	0.46	0	0.23	0	0	0	0
Feb	0	0	0	0.6	0	0.15	0	0.08	0	0	0	0
Mar	0	0	0	0.6	0	20.48	0	9.3	0	0	0	0
Apr	0.67	0.01	0.66	0.6	0.4	8.04	0.82	0	2.88	2.06	0.26	0.4
May	22.31	0.45	21.86	0.6	13.12	11.59	4.99	0	17.69	12.7	8.74	13.12
Jun	25.74	0.51	25.22	0.6	15.13	18.86	10.36	0	33.05	22.69	10.09	15.13
Jul	41.35	0.83	40.52	0.6	24.31	20.48	12.55	0	49.56	37.01	16.21	24.31
Aug	31.42	0.63	30.79	0.6	18.47	7.5	4.83	0	46.76	41.94	12.32	18.47
Sep	13.68	0.27	13.41	0.6	8.05	12.44	4.69	0	16.66	11.96	5.36	8.05
Oct	0	0	0	0.6	0	9.66	1.65	1.48	4.34	2.68	0	0
Nov	0	0	0	0.6	0	4.17	0	2.09	0	0	0	0
Dec	0	0	0	0.6	0	1.24	0	0.62	0	0	0	0
Year Total	135.16	2.7	132.46	0.6	79.48	115.09	39.89	13.79	170.93	131.05	52.98	79.48
1971	92.75	acres										
Jan-71	0	0	0	0.6	0	4.56	0	2.28	0	0	0	0
Feb	0	0	0	0.6	0	3.86	0	1.93	0	0	0	0
Mar	0	0	0	0.6	0	3.94	0	1.97	0	0	0	0
Apr	0	0	0	0.6	0	34.16	7.4	4.57	7.4	0	0	0
May	15.4	0.31	15.09	0.6	9.05	18.01	7.67	0	18.33	10.65	6.04	9.05
Jun	41.59	0.83	40.75	0.6	24.45	1.55	0.57	0	37.23	36.66	16.3	24.45
Jul	42.39	0.85	41.55	0.6	24.93	4.02	2.49	0	46.44	43.95	16.62	24.93
Aug	33.03	0.66	32.37	0.6	19.42	1.47	0.54	0	44.93	44.39	12.95	19.42
Sep	13.31	0.27	13.05	0.6	7.83	27.44	9.07	0	14.41	5.34	5.22	7.83
Oct	0	0	0	0.6	0	7.27	1.88	1.12	6.56	4.68	0	0
Nov	0	0	0	0.6	0	0.15	0	0.08	0	0	0	0
Dec	0	0	0	0.6	0	1.62	0	0.81	0	0	0	0
Year Total	145.72	2.91	142.81	0.6	85.68	108.05	29.63	12.76	175.29	145.67	57.12	85.68

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1972	92.75	acres										
Jan-72	0	0	0	0.6	0	4.17	0	2.09	0	0	0	0
Feb	0	0	0	0.6	0	0.46	0	0.23	0	0	0	0
Mar	0	0	0	0.6	0	3.32	0	1.66	0	0	0	0
Apr	4.86	0.1	4.76	0.6	2.86	10.67	0	5.33	0	0	1.9	2.86
May	28.66	0.57	28.09	0.6	16.85	4.25	1.99	0	21.07	19.08	11.23	16.85
Jun	24.19	0.48	23.7	0.6	14.22	10.82	6.46	0	38.17	31.71	9.48	14.22
Jul	32.56	0.65	31.91	0.6	19.15	5.57	3.54	0	45.95	42.41	12.76	19.15
Aug	31.08	0.62	30.46	0.6	18.28	17.31	9.76	0	39.83	30.07	12.18	18.28
Sep	5.75	0.12	5.63	0.6	3.38	3.94	1.38	0.58	16.29	14.9	2.25	3.38
Oct	0	0	0	0.6	0	4.41	1.07	0.66	6.66	5.59	0	0
Nov	0	0	0	0.6	0	7.03	0	3.52	0	0	0	0
Dec	0	0	0	0.6	0	4.64	0	2.32	0	0	0	0
Year Total	127.1	2.54	124.55	0.6	74.73	76.6	24.21	16.4	167.98	143.77	49.82	74.73
1973	92.75	acres										
Jan-73	0	0	0	0.6	0	2.01	0	1	0	0	0	0
Feb	0	0	0	0.6	0	0.15	0	0.08	0	0	0	0
Mar	0	0	0	0.6	0	6.11	0	3.05	0	0	0	0
Apr	0	0	0	0.6	0	9.66	2.07	1.48	6.37	4.3	0	0
May	1.51	0.03	1.48	0.6	0.89	12.6	5.8	0	19.86	14.06	0.59	0.89
Jun	34.44	0.69	33.75	0.6	20.25	2.63	1.37	0	36.43	35.06	13.5	20.25
Jul	45.79	0.92	44.87	0.6	26.92	19.79	11.89	0	46.38	34.49	17.95	26.92
Aug	32.83	0.66	32.17	0.6	19.3	1.39	0.47	0	45.44	44.97	12.87	19.3
Sep	15.45	0.31	15.14	0.6	9.08	13.14	4.61	1.97	15.33	10.72	6.06	9.08
Oct	0	0	0	0.6	0	3.32	0.95	0.48	8.82	7.87	0	0
Nov	0	0	0	0.6	0	17.7	0	8.85	0	0	0	0
Dec	0	0	0	0.6	0	9.04	0	4.52	0	0	0	0
Year Total	130.02	2.6	127.42	0.6	76.45	97.54	27.16	21.43	178.62	151.47	50.97	76.45

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1974	92.75	acres										
Jan-74	0	0	0	0.6	0	2.55	0	1.28	0	0	0	0
Feb	0	0	0	0.6	0	0.46	0	0.21	0	0	0	0
Mar	0	0	0	0.6	0	8.12	0	1.36	0	0	0	0
Apr	0	0	0	0.6	0	12.75	2.16	0.16	5.86	3.71	0	0
May	16.44	0.33	16.11	0.6	9.67	0.08	0	0	25.78	25.78	6.44	9.67
Jun	30.31	0.61	29.7	0.6	17.82	23.26	12.93	0	38.12	25.18	11.88	17.82
Jul	35.87	0.72	35.15	0.6	21.09	12.75	8.36	0	52.62	44.26	14.06	21.09
Aug	32.43	0.65	31.78	0.6	19.07	0.93	0.06	0	34.39	34.33	12.71	19.07
Sep	12.04	0.24	11.79	0.6	7.08	8.35	2.99	1.28	14.99	12	4.72	7.08
Oct	0	0	0	0.6	0	15.54	4.88	2.3	9.18	4.3	0	0
Nov	0	0	0	0.6	0	4.56	0	2.28	0	0	0	0
Dec	0	0	0	0.6	0	0.46	0	0.23	0	0	0	0
Year Total	127.08	2.54	124.54	0.6	74.72	89.81	31.37	9.09	180.94	149.56	49.81	74.72

1975	92.75	acres										
Jan-75	0	0	0	0.6	0	0.39	0	0.19	0	0	0	0
Feb	0	0	0	0.6	0	4.17	0	2.09	0	0	0	0
Mar	0	0	0	0.6	0	12.13	0	6.07	0	0	0	0
Apr	0	0	0	0.6	0	11.83	1.44	1.74	3.49	2.06	0	0
May	18	0.36	17.64	0.6	10.59	35.01	12.72	0	16.85	4.14	8.81	8.84
Jun	18.36	0.37	17.99	0.6	10.79	13.68	7.65	0	31.42	23.76	7.2	10.79
Jul	52.92	1.06	51.86	0.6	31.11	7.11	4.68	0	49.94	45.26	20.74	31.11
Aug	32.96	0.66	32.3	0.6	19.38	22.11	12.84	0	43.32	30.48	12.92	19.38
Sep	22.19	0.44	21.74	0.6	13.05	3.01	1.1	0	18.02	16.92	8.7	13.05
Oct	1.08	0.02	1.05	0.6	0.63	6.96	2.13	1.07	8.59	6.47	0.42	0.63
Nov	0	0	0	0.6	0	5.41	0	2.71	0	0	0	0
Dec	0	0	0	0.6	0	10.13	0	5.06	0	0	0	0
Year Total	145.5	2.91	142.59	0.6	85.55	131.94	42.56	18.93	171.64	129.08	58.79	83.8

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1976	92.75	acres										
Jan-76	0	0	0	0.6	0	2.4	0	1.2	0	0	0	0
Feb	0	0	0	0.6	0	4.56	0	2.28	0	0	0	0
Mar	0	0	0	0.6	0	5.12	0	2.56	0	0	0	0
Apr	0	0	0	0.6	0	13.12	5.51	0	14.1	8.59	0	0
May	11.16	0.22	10.94	0.6	6.56	9.04	4.99	0	26.83	21.84	4.38	6.56
Jun	31.13	0.62	30.51	0.6	18.3	7.6	4.59	0	39.2	34.61	12.2	18.3
Jul	33.03	0.66	32.37	0.6	19.42	8.24	5.43	0	51.95	46.52	12.95	19.42
Aug	31.92	0.64	31.28	0.6	18.77	15.04	8.89	0	41.19	32.31	12.51	18.77
Sep	17.3	0.35	16.95	0.6	10.17	15.52	8.21	0	25.76	17.55	6.78	10.17
Oct	0	0	0	0.6	0	2	0.51	0	8.69	8.19	0	0
Nov	0	0	0	0.6	0	0.64	0	0.32	0	0	0	0
Dec	0	0	0	0.6	0	1.2	0	0.6	0	0	0	0
Year Total	124.54	2.49	122.05	0.6	73.23	84.48	38.12	6.96	207.73	169.61	48.82	73.23
1977	92.75	acres										
Jan-77	0	0	0	0.6	0	0.32	0	0.16	0	0	0	0
Feb	0	0	0	0.6	0	0.4	0	0.2	0	0	0	0
Mar	1.48	0.03	1.45	0.6	0.87	1.04	0	0.52	0	0	0.58	0.87
Apr	2.03	0.04	1.99	0.6	1.2	21.52	9.36	0	15.89	6.52	0.8	1.2
May	19.35	0.39	18.96	0.6	11.38	8.8	5.01	0	31.1	26.1	7.58	11.38
Jun	32.44	0.65	31.79	0.6	19.08	2.56	1.41	0	48.91	47.51	12.72	19.08
Jul	24.37	0.49	23.89	0.6	14.33	46.88	26.15	0	52.54	26.4	9.55	14.33
Aug	28.81	0.58	28.24	0.6	16.94	9.6	5.83	0	40.9	35.07	11.29	16.94
Sep	15.73	0.31	15.42	0.6	9.25	1.12	0.19	0	30.16	29.97	6.17	9.25
Oct	3.19	0.06	3.13	0.6	1.88	1.12	0.17	0	14.69	14.52	1.25	1.88
Nov	0	0	0	0.6	0	2.8	0.04	0	0.29	0.25	0	0
Dec	0	0	0	0.6	0	0.88	0	0.44	0	0	0	0
Year Total	127.41	2.55	124.87	0.6	74.92	97.04	48.16	1.32	234.48	186.32	49.95	74.92

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1978	92.75	acres										
Jan-78	0	0	0	0.6	0	4.8	0	2.4	0	0	0	0
Feb	0	0	0	0.6	0	2.08	0	1.04	0	0	0	0
Mar	0	0	0	0.6	0	3.52	0	1.76	0	0	0	0
Apr	1.95	0.04	1.91	0.6	1.15	10.32	0	5.16	0	0	0.76	1.15
May	3.82	0.08	3.74	0.6	2.24	49.2	16.84	0	19.57	2.73	1.5	2.24
Jun	27.1	0.54	26.55	0.6	15.93	11.12	6.73	0	41.42	34.69	10.62	15.93
Jul	47.39	0.95	46.44	0.6	27.86	8.16	5.37	0	51.79	46.41	18.58	27.86
Aug	32.86	0.66	32.21	0.6	19.32	6.32	3.85	0	40.76	36.91	12.88	19.32
Sep	21.97	0.44	21.53	0.6	12.92	0.96	0.06	0	28.63	28.57	8.61	12.92
Oct	5.56	0.11	5.45	0.6	3.27	15.52	6.38	0	12.49	6.11	2.18	3.27
Nov	0	0	0	0.6	0	0.56	0	0.28	0	0	0	0
Dec	0	0	0	0.6	0	6.4	0	3.2	0	0	0	0
Year Total	140.64	2.81	137.83	0.6	82.7	118.96	39.24	13.84	194.65	155.42	55.13	82.7
1979	96.01	acres										
Jan-79	0	0	0	0.6	0	2.88	0	1.44	0	0	0	0
Feb	0	0	0	0.6	0	2.32	0	1.16	0	0	0	0
Mar	0	0	0	0.6	0	18.64	0	9.28	0	0	0	0
Apr	0	0	0	0.6	0	11.04	0	0	0	0	0	0
May	0	0	0	0.6	0	40.64	13.67	0	18.73	5.05	0	0
Jun	7.88	0.16	7.73	0.6	4.64	25.04	13.82	0	39.15	25.33	3.09	4.64
Jul	41.92	0.84	41.08	0.6	24.65	7.6	4.98	0	50.9	45.92	16.43	24.65
Aug	25.95	0.52	25.43	0.6	15.26	25.04	13.85	0	39.42	25.57	10.17	15.26
Sep	15.72	0.31	15.4	0.6	9.24	8.24	4.64	0	29.3	24.67	6.16	9.24
Oct	2.17	0.04	2.13	0.6	1.27	6.96	3.01	0	13.8	10.79	0.85	1.27
Nov	0	0	0	0.6	0	16	0	8	0	0	0	0
Dec	0	0	0	0.6	0	12.16	0	6.08	0	0	0	0
Year Total	93.64	1.87	91.77	0.6	55.06	176.56	53.97	25.96	191.31	137.34	36.71	55.06

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1980	96.01	acres										
Jan-80	0	0	0	0.6	0	9.12	0	1.28	0	0	0	0
Feb	0	0	0	0.6	0	7.12	0	0	0	0	0	0
Mar	0	0	0	0.6	0	17.84	0	0	0	0	0	0
Apr	0	0	0	0.6	0	23.28	5.18	0	7.87	2.7	0	0
May	0	0	0	0.6	0	28.24	13.89	0	24.73	10.84	0	0
Jun	27.57	0.55	27.02	0.6	16.21	0.64	0	0	45.67	45.67	10.81	16.21
Jul	43.94	0.88	43.06	0.6	25.84	9.2	6.12	0	53.72	47.6	17.22	25.84
Aug	32.76	0.66	32.11	0.6	19.26	4.96	3.02	0	42.51	39.49	12.84	19.26
Sep	25.47	0.51	24.96	0.6	14.97	5.6	3.11	0	27.98	24.87	9.98	14.97
Oct	0.24	0	0.23	0.6	0.14	5.2	2.25	0	11.42	9.16	0.09	0.14
Nov	0	0	0	0.6	0	4.32	0	2.16	0	0	0	0
Dec	0	0	0	0.6	0	1.04	0	0.52	0	0	0	0
Year Total	129.97	2.6	127.37	0.6	76.42	116.56	33.56	3.96	213.9	180.34	50.95	76.42
1981	96.01	acres										
Jan-81	0	0	0	0.6	0	4.08	0	2.04	0	0	0	0
Feb	0	0	0	0.6	0	0.48	0	0.24	0	0	0	0
Mar	0	0	0	0.6	0	12.72	0	6.36	0	0	0	0
Apr	0	0	0	0.6	0	8.96	3.38	0.6	15.06	11.68	0	0
May	2.86	0.06	2.8	0.6	1.68	33.68	14.99	0.01	22.57	7.58	1.12	1.68
Jun	18.73	0.37	18.35	0.6	11.01	2.96	1.64	0	42.65	41.01	7.34	11.01
Jul	32.69	0.65	32.04	0.6	19.22	15.84	10.05	0	52.07	42.02	12.82	19.22
Aug	32.79	0.66	32.14	0.6	19.28	12	7.28	0	42.45	35.17	12.86	19.28
Sep	19.77	0.4	19.37	0.6	11.62	9.76	4.75	0	26.19	21.44	7.75	11.62
Oct	0.82	0.02	0.81	0.6	0.48	6	2.57	0.4	11.02	8.45	0.32	0.48
Nov	0	0	0	0.6	0	0.8	0	0	1.25	1.25	0	0
Dec	0	0	0	0.6	0	5.2	0	2.6	0	0	0	0
Year Total	107.66	2.15	105.51	0.6	63.31	112.48	44.67	12.25	213.26	168.59	42.2	63.31

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1982	96.01	acres										
Jan-82	0	0	0	0.6	0	2	0	1	0	0	0	0
Feb	0	0	0	0.6	0	0.4	0	0.2	0	0	0	0
Mar	0	0	0	0.6	0	5.12	0	2.56	0	0	0	0
Apr	12.09	0.24	11.84	0.6	7.11	3.04	0	1.52	0	0	4.74	7.11
May	12.2	0.24	11.96	0.6	7.18	39.84	14.7	0.28	20.15	5.45	5.02	6.94
Jun	12.96	0.26	12.7	0.6	7.62	34.24	17.44	0	33.22	15.78	5.08	7.62
Jul	32.76	0.66	32.11	0.6	19.26	38.88	21.91	0	50.23	28.32	12.84	19.26
Aug	32.86	0.66	32.21	0.6	19.32	3.6	2.16	0	47.21	45.04	12.88	19.32
Sep	13.3	0.27	13.03	0.6	7.82	28.08	11.89	0	21.37	9.48	5.21	7.82
Oct	0	0	0	0.6	0	5.92	1.81	0.39	8.46	6.65	0	0
Nov	0	0	0	0.6	0	3.84	0	1.92	0	0	0	0
Dec	0	0	0	0.6	0	3.28	0	1.64	0	0	0	0
Year Total	116.17	2.32	113.85	0.6	68.31	168.24	69.91	9.51	180.64	110.73	45.78	68.07
1983	96.01	acres										
Jan-83	0	0	0	0.6	0	0.08	0	0.04	0	0	0	0
Feb	0	0	0	0.6	0	0.32	0	0.16	0	0	0	0
Mar	0	0	0	0.6	0	23.12	0	11.56	0	0	0	0
Apr	0	0	0	0.6	0	32.8	2.06	1.43	2.06	0	0	0
May	0	0	0	0.6	0	25.68	11.26	0	19.92	8.65	0	0
Jun	7.95	0.16	7.79	0.6	4.68	28.16	14.76	0	33.69	18.93	3.12	4.68
Jul	37.45	0.75	36.7	0.6	22.02	12.56	8.06	0	51.01	42.94	14.68	22.02
Aug	38.83	0.78	38.05	0.6	22.83	8.16	5.33	0	50.53	45.21	15.22	22.83
Sep	23.94	0.48	23.46	0.6	14.07	2.24	0.9	0	25.65	24.75	9.38	14.07
Oct	2.4	0.05	2.36	0.6	1.41	1.36	0.26	0.04	11.62	11.35	0.94	1.41
Nov	0	0	0	0.6	0	17.04	0	8.52	0	0	0	0
Dec	0	0	0	0.6	0	4.08	0	2.04	0	0	0	0
Year Total	110.57	2.21	108.36	0.6	65.02	155.6	42.63	23.8	194.47	151.84	43.34	65.02

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1984	96.01	acres										
Jan-84	0	0	0	0.6	0	4.48	0	2.24	0	0	0	0
Feb	0	0	0	0.6	0	3.12	0	1.56	0	0	0	0
Mar	0	0	0	0.6	0	11.68	0	1.7	0	0	0	0
Apr	0	0	0	0.6	0	27.2	1.1	1.04	1.62	0.52	0	0
May	4.98	0.1	4.88	0.6	2.93	14.72	7.72	0	27.71	19.99	1.95	2.93
Jun	32	0.64	31.36	0.6	18.82	17.84	10.07	0	37	26.93	12.55	18.82
Jul	40.61	0.81	39.8	0.6	23.88	15.68	10.02	0	53	42.98	15.92	23.88
Aug	28.11	0.56	27.54	0.6	16.53	4.56	2.73	0	44.28	41.55	11.02	16.53
Sep	18.59	0.37	18.22	0.6	10.93	6.4	2.98	0.43	21.31	18.33	7.29	10.93
Oct	0	0	0	0.6	0	20.24	0.27	1.27	0.44	0.17	0	0
Nov	0	0	0	0.6	0	0.16	0	0.08	0	0	0	0
Dec	0	0	0	0.6	0	2.16	0	1.08	0	0	0	0
Year Total	124.29	2.49	121.8	0.6	73.08	128.24	34.91	9.4	185.37	150.46	48.72	73.08

1985	96.01	acres										
Jan-85	0	0	0	0.6	0	6.4	0	3.2	0	0	0	0
Feb	0	0	0	0.6	0	2	0	1	0	0	0	0
Mar	0	0	0	0.6	0	2.8	0	1.4	0	0	0	0
Apr	0	0	0	0.6	0	16.88	5.73	0	13.3	7.57	0	0
May	8.29	0.17	8.12	0.6	4.87	7.76	4.37	0	29.1	24.73	3.25	4.87
Jun	44.39	0.89	43.51	0.6	26.1	22.16	12.54	0	40.67	28.13	17.4	26.1
Jul	33.28	0.67	32.62	0.6	19.57	29.68	17.45	0	51.13	33.68	13.05	19.57
Aug	32.71	0.65	32.06	0.6	19.23	1.92	0.8	0	39.94	39.15	12.82	19.23
Sep	17.11	0.34	16.77	0.6	10.06	10.96	4.98	0.72	19.58	14.59	6.71	10.06
Oct	0	0	0	0.6	0	9.36	2.6	0.62	7.83	5.22	0	0
Nov	0	0	0	0.6	0	11.04	0	5.52	0	0	0	0
Dec	0	0	0	0.6	0	10	0	5	0	0	0	0
Year Total	135.79	2.72	133.07	0.6	79.84	130.96	48.47	17.46	201.54	153.08	53.23	79.84

	River Supply	Conveyance Loss	Farm Surf. Water Supply	Composite Field Efficiency	Surface Water Avail. for CU	Total Rainfall	Effective Rainfall to CU	Effective Rainfall to Soil Storage	Crop CU	NWR	Total DP & Runoff of Water Supplies	On Farm Dep. of Surf. Water
1986	96.01	acres										
Jan-86	0	0	0	0.6	0	1.28	0	0.64	0	0	0	0
Feb	0	0	0	0.6	0	2.08	0	1.04	0	0	0	0
Mar	0	0	0	0.6	0	8.32	0	3.31	0	0	0	0
Apr	0	0	0	0.6	0	16.24	3.71	0.3	8.47	4.76	0	0
May	15.52	0.31	15.2	0.6	9.12	11.6	6.01	0	24.61	18.6	6.08	9.12
Jun	28.91	0.58	28.33	0.6	17	9.44	5.81	0	42.69	36.88	11.33	17
Jul	47.35	0.95	46.4	0.6	27.84	7.6	4.97	0	50.63	45.66	18.56	27.84
Aug	32.85	0.66	32.19	0.6	19.31	9.68	5.87	0	42.55	36.68	12.88	19.31
Sep	14.79	0.3	14.5	0.6	8.7	5.92	2.74	0.39	20.58	17.84	5.8	8.7
Oct	0	0	0	0.6	0	12.64	4.3	0.83	9.27	4.97	0	0
Nov	0	0	0	0.6	0	12.24	0	6.12	0	0	0	0
Dec	0	0	0	0.6	0	2.16	0	1.08	0	0	0	0
Year Total	139.42	2.79	136.63	0.6	81.98	99.2	33.4	13.7	198.79	165.39	54.65	81.98

AI.3 - Historical Consumptive Use Model Output Averages (1950-1986)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Farm Surf. Water Supply	**Total DP & Runoff of Water Supplies**	**On Farm Dep. of Surf. Water**	**Average Deep Perc**	**Average Runoff**	**Average Lagged Deep Perc**	**Net Consumptive Use Crop Credit**	**Net Consumptive Use Crop Credit for 43.75 acres of Dryup**	**Return Flow Obligation**
	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]
Jan	0.00	0.00	0.00	0.00	0.00	1.25	-1.25	-0.63	0.00
Feb	0.00	0.00	0.00	0.00	0.00	1.08	-1.08	-0.54	0.00
Mar	0.04	0.02	0.02	0.01	0.01	0.96	-0.92	-0.46	0.00
Apr	2.32	0.93	1.39	0.46	0.46	0.94	0.91	0.46	0.23
May	15.98	6.39	9.59	3.20	3.20	1.44	11.34	5.67	1.60
Jun	29.01	11.61	17.28	5.80	5.80	2.59	20.62	10.31	2.90
Jul	36.66	14.66	21.33	7.33	7.33	3.82	25.51	12.75	3.67
Aug	30.75	12.30	18.04	6.15	6.15	4.46	20.13	10.07	3.07
Sep	19.36	7.74	11.37	3.87	3.87	4.20	11.29	5.64	1.94
Oct	4.38	1.75	2.59	0.88	0.88	3.24	0.27	0.13	0.44
Nov	0.01	0.00	0.00	0.00	0.00	2.16	-2.16	-1.08	0.00
Dec	0.00	0.00	0.00	0.00	0.00	1.55	-1.55	-0.78	0.00
Totals	138.50	55.40	81.61	27.70	27.70	27.70	83.10	41.55	

Notes:
(1) = 38 Year Average farm Surface Water Supply
(2) = 38 Year Average of the Total (Deep Percolation) DP & Runoff of Water Supplies
(3) = 38 Year Average of the Total On Farm Depletions of Surface Water
(4) = 50% of Column (3)
(5) = 50% of Column (3)
(6) = Steady State Lagged Depletions from AWAS Model Based on Column (4) Model Input
(7) = Column (1) minus (Column (5)+Column (6))
(8) = Column (7) * (46.75ac/93.5ac). 93.5 acres is the weighted average of irrigated acres over 38 years. Equivalent to 0.5 shares of Hillsborough
(9) = Column (5) * (46.75ac/93.5ac).

AI.4 Net Water Loss / Replacement

Month	(1) Net Evaporative Loss - Pond [acre-ft]	(2) Historic Net Stream Depletion Credit [acre-ft]	(3) Net Water Loss [acre-ft]	(4) Total Replacement [acre-ft]
	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]
JAN	3.32	-0.63	3.95	4.50
FEB	2.94	-0.54	3.48	3.97
MAR	2.94	-0.46	3.40	3.88
APR	3.06	0.46	2.60	2.97
MAY	3.39	5.67	0.00	0.00
JUN	3.95	10.31	0.00	0.00
JUL	4.75	12.75	0.00	0.00
AUG	5.33	10.07	0.00	0.00
SEP	5.50	5.64	0.00	0.00
OCT	5.15	0.13	5.02	5.72
NOV	4.63	-1.08	5.71	6.51
DEC	4.00	-0.78	4.78	5.44
totals	48.96	41.55	28.93	**32.98**

Notes:

(1) = Column (10), Table AI.1
(2) = Column (8), Table AI.3
(3) = Column (1) - Column (2)
(4) = Column (3) + 14% Transit Loss

Table AI.5. Hillsborough Ditch Diversion Records

Hydrobase Measurement Numbers 523/w:4/s:1/f:/u:1/t:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1950	0	0	0	374.882	2290.94	4786.78	3947.56	3397.74	2526.58	911.815	27.769	0
1951	0	0	0	220.168	2342.71	4726.68	5226.13	2031.7	2318.31	176.928	0	0
1952	0	0	0	0	1699.86	5791.82	4147.5	3855.92	2690.02	1127.62	0	0
1953	0	0	0	0	2542.85	5248.34	3972.95	3875.76	3054.59	1190.1	0	0
1954	0	0	0	878.691	3575.26	3756.75	3880.72	3643.69	2695.58	795.384	0	0
1955	0	0	0	437.362	3650.24	2976.84	3862.87	3199.39	3048.64	836.045	0	0
1956	0	0	0	519.677	3385.83	5004.37	3934.67	3470.73	3178.36	1755.6	0	0
1957	0	0	0	0	196.565	4026.7	6716.33	3587.75	2510.91	568.669	0	0
1958	0	0	0	0	561.331	4882.58	3960.06	3834.3	2509.13	1024.08	0	0
1959	0	0	0	0	1877.58	5026.19	4099.5	3863.86	2778.88	618.852	0	0
1960	0	0	0	726.754	1998.38	4681.06	4197.28	3836.09	2985.37	1015.16	0	0
1961	0	0	0	241.194	2030.91	4395.44	4225.85	3977.31	2065.42	0	0	0
1962	0	0	0	583.149	3426.7	2936.18	5489.14	3405.67	2925.66	777.135	0	0
1963	0	0	0	769.4	3798.2	2875.68	3839.06	3747.82	2309.79	974.494	0	0
1964	0	0	0	0	3482.03	2971.28	3859.89	3755.76	2793.76	1589.78	0	0
1965	0	0	0	612.902	3481.04	2128.3	4046.34	3931.3	2451.61	1392.42	0	0
1966	0	0	0	1073.07	3270.79	3082.36	3842.04	3758.73	1949.78	781.499	0	0
1967	0	0	0	785.466	1263.49	1116.71	3048.64	3865.84	2630.12	997.701	0	0
1968	0	0	0	0	2526.98	3909.48	3917.41	3897.58	2411.94	1025.47	0	0
1969	0	0	0	553.397	2473.43	2352.43	4544.2	3832.12	2661.86	115.043	0	0
1970	0	0	0	79.34	2632.1	3036.74	4879.41	3707.16	1614.57	0	0	0
1971	0	0	0	0	1816.89	4907.18	5002.39	3897.58	1570.93	0	0	0
1972	0	0	0	573.231	3381.87	2854.26	3842.04	3667.49	678.357	0	0	0
1973	0	0	0	0	178.515	4064.19	5403.05	3873.78	1822.84	0	0	0
1974	0	0	0	0	1939.86	3576.25	4232.79	3826.17	1420.19	0	0	0
1975	0	0	0	0	2124.33	2165.98	6244.06	3889.64	2618.22	126.944	0	0
1976	0	0	0	0	1317.04	3673.44	3897.58	3766.67	2041.02	0	0	0
1977	0	0	174.548	240.004	2283.01	3828.16	2876.07	3399.72	1856.56	376.865	0	0
1978	0	0	0	230.086	450.255	3197.4	5591.49	3877.74	2592.43	656.538	0	0
1979	0	0	0	0	0	930.262	4946.85	3062.52	1854.57	255.871	0	0
1980	0	0	0	0	0	3252.94	5184.87	3865.84	3005	27.769	0	0

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1981	0	0	0	0	337.195	2209.62	3857.91	3869.81	2332.6	97.192	0	0
1982	0	0	0	1426.14	1440.02	1529.28	3865.84	3877.74	1568.95	0	0	0
1983	0	0	0	0	0	938.196	4419.24	4581.88	2824.5	283.641	0	0
1984	0	0	0	0	587.116	3776.58	4792.14	3316.41	2193.75	0	0	0
1985	0	0	0	0	977.865	5238.42	3927.33	3859.89	2019.2	0	0	0
1986	0	0	0	0	1830.77	3411.62	5587.52	3875.76	1745.48	0	0	0

APPENDIX II

Description: **LOVELAND NCWCD**

Time Series Identifier:	**USC00055236.NOAA.Precip.Month**	**Data Source:**	**NOAA**
Located in Water Division, District:	**1, 4**	**Measurement Type:**	**Precip**
Located in County, State:	**LARIMER, CO**	**Data Interval:**	**Monthly**
Located in HUC:	**10190006**	**Data Units:**	**IN**
Latitude, Longitude	**40.435000 , -105.085000**		
Elevation:	**5,079.99**		

Time Series Creation History:

Available Data: **1989 To 2017**
Selected Time Series From: **1989-01 To 2017-12**

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
1989	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	2.21	NC
1990	1.00	0.14	0.54	0.67	0.67	4.56	0.97	2.89	0.29	1.67	1.43	2.37	17.19
1991	0.49	0.73	0.58	0.45	0.03	0.25	0.83	2.04	2.06	3.05	1.47	1.12	13.10
1992	0.65	1.71	0.03	0.48	0.02	3.05	1.17	1.19	1.88	1.48	2.86	0.00	14.52
1993	0.17	1.11	0.30	0.38	0.84	1.43	2.14	1.12	2.55	1.04	0.95	2.70	14.71
1994	2.01	1.23	0.18	0.41	0.80	0.56	2.53	1.28	2.91	1.07	1.77	0.72	15.47
1995	0.81	0.69	0.44	0.21	0.94	0.69	3.16	6.80	3.44	0.82	0.18	1.84	20.02
1996	0.16	0.63	0.11	1.10	0.28	1.51	0.85	2.76	1.56	2.44	0.70	2.74	14.86
1997	0.48	0.72	0.09	0.91	0.77	0.67	3.26	2.57	2.61	1.98	3.11	2.24	19.41
1998	1.25	0.46	0.28	0.12	0.28	2.05	1.99	2.05	1.32	1.09	0.54	0.90	12.34
1999	3.43	0.89	NC	0.45	0.06	0.67	NC	1.83	2.26	1.70	1.85	1.57	NC
2000	1.05	0.72	0.16	0.09	0.28	1.11	0.71	1.50	1.22	0.89	0.60	1.85	10.17
2001	0.57	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2002	NC	NC	NC	NC	NC	NC	NC	NC	NC	0.29	0.47	1.95	NC
2003	0.94	0.61	0.01	0.01	0.97	3.92	2.54	2.63	2.99	0.76	1.58	0.31	17.26
2004	0.09	0.55	0.37	0.47	0.88	0.47	1.96	2.04	2.48	2.66	2.06	2.04	16.06
2005	1.34	1.78	0.21	1.07	0.51	0.78	3.20	2.26	2.61	0.53	0.92	0.37	15.58
2006	3.19	0.11	0.29	0.11	0.59	1.61	0.14	0.71	0.10	1.59	1.72	0.37	10.54
2007	2.22	0.62	1.01	1.03	0.39	1.67	1.96	1.55	0.25	1.15	1.87	1.58	15.28
2008	1.43	0.39	1.57	0.04	0.36	1.14	0.80	1.89	1.32	0.52	2.58	1.43	13.47
2009	0.63	0.07	0.68	0.58	0.26	1.31	4.92	2.02	2.32	2.14	1.34	1.16	17.42
2010	2.28	0.71	1.34	0.23	0.76	2.11	3.30	1.97	2.44	2.50	0.73	0.06	18.42
2011	0.54	0.76	0.33	0.46	0.84	0.29	2.30	4.63	1.67	2.31	0.16	1.64	15.91
2012	1.45	0.88	1.41	0.18	1.45	0.01	0.50	1.62	0.11	2.12	0.08	1.19	11.01
2013	0.81	0.49	0.33	0.08	1.04	1.26	3.22	3.24	1.44	1.32	1.11	6.63	20.96
2014	1.24	0.46	0.50	1.81	0.40	1.22	0.58	5.32	0.65	2.91	2.68	1.46	19.23
2015	0.92	1.04	0.81	0.30	1.57	0.37	2.74	6.44	2.66	1.19	1.02	0.05	19.10
2016	2.24	1.80	1.36	0.52	1.26	2.85	2.30	2.23	0.23	1.08	0.80	0.25	16.92
2017	0.46	0.24	0.72	0.91	0.46	0.67	2.42	4.11	0.39	0.44	1.91	1.86	14.59
2018	1.50	0.57	0.38	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:

Years shown are water years.
A water year spans October of the previous calendar year to September of the current year (all within the indicated water year).
Annual values and statistics are computed only on non-missing data.
NC indicates that a value is not computed because of missing data or the data value itself is missing.

Description: **LOVELAND NCWCD**

Time Series Identifier:	**USC00055236.NOAA.Precip.Month**	**Data Source:**	**NOAA**
Located in Water Division, District:	**1, 4**	**Measurement Type:**	**Precip**
Located in County, State:	**LARIMER, CO**	**Data Interval:**	**Monthly**
Located in HUC:	**10190006**	**Data Units:**	**IN**
Latitude, Longitude	**40.435000 , -105.085000**		
Elevation:	**5,079.99**		

Time Series Creation History:

Available Data: **1989 To 2017**
Selected Time Series From: **1989-01 To 2017-12**

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Min:	0.09	0.07	0.01	0.01	0.02	0.01	0.14	0.71	0.10	0.29	0.08	0.00	10.17
Max:	3.43	1.80	1.57	1.81	1.57	4.56	4.92	6.80	3.44	3.05	3.11	6.63	20.96
Mean:	1.19	0.74	0.54	0.50	0.64	1.39	2.02	2.64	1.68	1.51	1.35	1.52	15.74

Notes:

Years shown are water years.
A water year spans October of the previous calendar year to September of the current year (all within the indicated water year).
Annual values and statistics are computed only on non-missing data.
NC indicates that a value is not computed because of missing data or the data value itself is missing.

Description: **LOVELAND NCWCD**

Time Series Identifier:	**USC00055236.NOAA.TempMean.Month**	**Data Source:**	**NOAA**
Located in Water Division, District:	**1, 4**	**Measurement Type:**	**MeanTemp**
Located in County, State:	**LARIMER, CO**	**Data Interval:**	**Monthly**
Located in HUC:	**10190006**	**Data Units:**	**F**
Latitude, Longitude	**40.435000 , -105.085000**		
Elevation:	**5,079.99**		

Time Series Creation History:

Available Data: **1989 To 2017**
Selected Time Series From: **1989-01 To 2017-12**

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
1989	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	60.06	NC
1990	50.00	39.82	25.10	33.73	31.04	36.69	47.62	54.29	68.63	69.00	68.94	64.69	49.13
1991	49.82	41.16	22.05	23.76	38.08	41.54	46.61	57.87	66.30	70.41	69.35	60.78	48.98
1992	49.34	34.18	31.96	30.95	38.60	41.36	52.74	58.40	64.46	68.29	66.39	63.00	49.97
1993	51.89	32.05	24.13	24.15	27.60	41.61	46.54	57.76	63.58	69.29	66.97	57.42	46.92
1994	47.32	32.72	32.03	31.85	28.69	42.70	47.28	60.43	69.95	70.55	70.62	63.76	49.83
1995	49.63	35.89	33.30	31.23	35.26	40.52	44.25	50.59	62.75	70.39	73.61	60.59	49.00
1996	49.43	41.18	32.89	25.87	33.15	36.67	48.63	58.02	67.43	71.44	69.38	60.04	49.51
1997	50.76	36.38	33.23	25.49	31.47	41.90	41.99	57.33	66.89	71.65	69.14	63.73	49.16
1998	50.08	35.25	30.95	33.46	35.09	37.60	46.50	59.15	62.23	72.78	71.53	66.85	50.12
1999	49.89	42.77	NC	33.76	39.63	43.78	NC	55.24	64.63	73.18	70.74	58.59	NC
2000	50.46	44.64	35.80	33.08	39.31	41.41	51.30	60.82	66.61	75.05	73.19	63.19	52.91
2001	50.01	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2004	NC	NC	NC	NC	29.99	45.01	47.45	59.35	62.02	69.19	66.71	60.88	NC
2005	49.87	36.83	30.55	30.94	34.74	39.23	46.44	55.33	65.30	73.77	69.33	62.41	49.56
2006	50.54	40.78	27.89	35.46	29.32	37.01	50.85	59.26	70.71	74.04	71.14	57.20	50.35
2007	48.42	38.25	26.85	19.51	28.49	44.17	45.74	57.29	66.45	75.10	72.97	62.96	48.85
2008	51.46	39.18	22.68	25.07	32.25	38.16	44.20	54.81	64.60	72.23	67.97	58.94	47.63
2009	48.48	41.09	24.08	30.87	35.58	39.54	44.56	57.21	62.62	68.55	66.75	60.67	48.33
2010	41.11	38.77	21.51	26.54	26.37	38.59	46.67	52.20	66.34	71.61	70.72	62.69	46.93
2011	52.16	36.51	32.57	26.42	25.78	41.21	46.45	51.18	65.65	73.70	73.45	61.45	48.88
2012	50.22	37.26	24.30	33.02	27.75	46.14	52.28	57.58	71.28	75.21	70.83	63.30	50.76
2013	47.07	38.46	28.96	26.88	27.89	35.64	40.52	55.90	67.99	71.66	71.13	64.12	48.02
2014	46.59	38.26	26.21	28.07	25.75	38.70	47.69	56.17	65.28	71.35	68.73	61.80	47.88
2015	52.66	33.57	30.27	30.97	33.11	41.86	48.14	51.89	68.05	71.09	70.81	65.96	49.87
2016	54.49	37.39	27.33	28.01	35.64	40.67	47.92	52.91	69.97	73.16	69.03	62.97	49.96
2017	54.89	43.60	24.38	27.30	39.40	45.72	47.89	54.60	67.55	73.34	68.29	62.32	50.77
2018	47.24	42.14	30.63	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Min:	41.11	32.05	21.51	19.51	25.75	35.64	40.52	50.59	62.02	68.29	66.39	57.20	46.92
Max:	54.89	44.64	35.80	35.46	39.63	46.14	52.74	60.82	71.28	75.21	73.61	66.85	52.91
Mean:	49.76	38.33	28.32	29.02	32.40	40.70	47.09	56.22	66.29	71.84	69.91	61.94	49.27

Notes:

Years shown are water years.
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Annual values and statistics are computed only on non-missing data.
NC indicates that a value is not computed because of missing data or the data value itself is missing.

Pond 1

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3,500	20,115.00	0.2	1,062

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
1	0.000	0.000	0.000
2	0.001	0.029	0.029
3	0.002	0.132	0.103
4	0.004	0.313	0.181
5	0.006	0.609	0.297
6	0.009	1.060	0.451
7	0.012	1.695	0.635
8	0.013	2.439	0.744
9	0.012	3.188	0.749
10	0.010	3.846	0.658
11	0.008	4.395	0.549
12	0.006	4.821	0.426
13	0.005	5.131	0.310
14	0.005	5.410	0.279
15	0.006	5.726	0.316
16	0.007	6.095	0.369
17	0.009	6.561	0.467
18	0.012	7.167	0.606
19	0.014	7.944	0.777
20	0.015	8.818	0.874
21	0.014	9.687	0.868
22	0.012	10.454	0.768
23	0.010	11.105	0.651
24	0.007	11.624	0.519
25	0.006	12.020	0.396
26	0.006	12.378	0.358
27	0.007	12.767	0.389
28	0.008	13.203	0.436
29	0.010	13.731	0.528
30	0.013	14.394	0.663
31	0.015	15.223	0.829
32	0.016	16.146	0.923
33	0.014	17.059	0.913
34	0.012	17.867	0.809
35	0.010	18.556	0.688
36	0.008	19.110	0.554
37	0.006	19.538	0.428
38	0.007	19.925	0.387
39	0.007	20.341	0.416
40	0.008	20.802	0.461
41	0.010	21.353	0.551

Pond 1

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3,500	20,115.00	0.2	1,062

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
42	0.013	22.037	0.684
43	0.015	22.886	0.849
44	0.016	23.827	0.941
45	0.015	24.756	0.929
46	0.013	25.580	0.824
47	0.011	26.282	0.702
48	0.008	26.849	0.567
49	0.007	27.289	0.440
50	0.007	27.687	0.398
51	0.007	28.113	0.426
52	0.009	28.584	0.471
53	0.010	29.144	0.560
54	0.013	29.835	0.692
55	0.015	30.691	0.856
56	0.016	31.639	0.947
57	0.015	32.574	0.936
58	0.013	33.404	0.830
59	0.011	34.111	0.708
60	0.008	34.683	0.572

Pond 2

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3,500	20,115.00	0.2	1,556

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
1	0.000	0.000	0.000
2	0.000	0.003	0.003
3	0.000	0.021	0.018
4	0.001	0.057	0.037
5	0.001	0.123	0.066
6	0.002	0.229	0.106
7	0.003	0.388	0.159
8	0.004	0.595	0.207
9	0.004	0.828	0.233
10	0.004	1.056	0.229
11	0.003	1.267	0.211
12	0.003	1.453	0.186
13	0.002	1.608	0.155
14	0.002	1.742	0.134
15	0.002	1.875	0.133
16	0.003	2.015	0.140
17	0.003	2.175	0.160
18	0.004	2.366	0.192
19	0.004	2.604	0.238
20	0.005	2.883	0.279
21	0.005	3.183	0.299
22	0.005	3.473	0.290
23	0.004	3.740	0.267
24	0.004	3.978	0.238
25	0.003	4.181	0.203
26	0.003	4.359	0.178
27	0.003	4.532	0.174
28	0.003	4.710	0.177
29	0.003	4.904	0.195
30	0.004	5.127	0.223
31	0.005	5.394	0.267
32	0.005	5.700	0.306
33	0.005	6.024	0.324
34	0.005	6.337	0.313
35	0.005	6.626	0.288
36	0.004	6.883	0.257
37	0.003	7.103	0.220
38	0.003	7.298	0.194
39	0.003	7.486	0.189
40	0.003	7.678	0.191
41	0.004	7.885	0.207

Pond 2

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3,500	20,115.00	0.2	1,556

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
42	0.004	8.120	0.235
43	0.005	8.398	0.278
44	0.005	8.714	0.316
45	0.006	9.047	0.333
46	0.005	9.368	0.321
47	0.005	9.665	0.296
48	0.004	9.929	0.265
49	0.004	10.156	0.227
50	0.003	10.357	0.201
51	0.003	10.551	0.194
52	0.003	10.747	0.196
53	0.004	10.959	0.212
54	0.004	11.199	0.239
55	0.005	11.481	0.282
56	0.006	11.800	0.320
57	0.006	12.137	0.337
58	0.005	12.462	0.325
59	0.005	12.761	0.299
60	0.004	13.028	0.267

Pond 3

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3500	20,115.00	0.2	1,404

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
1	0.000	0.000	0.000
2	0.001	0.023	0.023
3	0.003	0.143	0.120
4	0.005	0.374	0.231
5	0.008	0.774	0.400
6	0.013	1.397	0.623
7	0.018	2.320	0.922
8	0.021	3.477	1.157
9	0.021	4.736	1.260
10	0.019	5.937	1.201
11	0.017	7.014	1.078
12	0.014	7.932	0.918
13	0.011	8.667	0.735
14	0.011	9.302	0.635
15	0.011	9.954	0.653
16	0.013	10.661	0.707
17	0.015	11.493	0.831
18	0.019	12.510	1.017
19	0.023	13.793	1.283
20	0.026	15.282	1.489
21	0.026	16.846	1.565
22	0.023	18.328	1.481
23	0.021	19.664	1.336
24	0.017	20.820	1.156
25	0.015	21.774	0.954
26	0.014	22.610	0.837
27	0.014	23.449	0.839
28	0.015	24.327	0.878
29	0.018	25.316	0.989
30	0.021	26.479	1.162
31	0.025	27.896	1.417
32	0.028	29.507	1.612
33	0.027	31.185	1.678
34	0.025	32.771	1.586
35	0.022	34.203	1.432
36	0.019	35.448	1.245
37	0.016	36.484	1.036
38	0.015	37.395	0.912
39	0.015	38.303	0.908
40	0.016	39.245	0.942
41	0.019	40.293	1.048

Pond 3

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3500	20,115.00	0.2	1,404

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
42	0.022	41.509	1.216
43	0.026	42.976	1.467
44	0.028	44.634	1.658
45	0.028	46.354	1.720
46	0.026	47.979	1.625
47	0.023	49.447	1.468
48	0.019	50.724	1.278
49	0.016	51.790	1.066
50	0.015	52.730	0.940
51	0.016	53.663	0.934
52	0.017	54.629	0.966
53	0.019	55.698	1.069
54	0.023	56.935	1.237
55	0.027	58.420	1.485
56	0.029	60.095	1.675
57	0.028	61.831	1.736
58	0.026	63.470	1.639
59	0.023	64.951	1.481
60	0.020	66.241	1.290

Pond 4

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3500	20,115.00	0.2	1,436

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
1	0.000	0.000	0.000
2	0.002	0.029	0.029
3	0.004	0.189	0.160
4	0.007	0.502	0.313
5	0.011	1.049	0.547
6	0.018	1.906	0.857
7	0.024	3.179	1.273
8	0.029	4.787	1.608
9	0.029	6.549	1.763
10	0.027	8.242	1.693
11	0.024	9.771	1.529
12	0.020	11.082	1.311
13	0.016	12.140	1.058
14	0.015	13.053	0.914
15	0.016	13.985	0.931
16	0.018	14.987	1.003
17	0.021	16.160	1.173
18	0.027	17.588	1.428
19	0.033	19.385	1.797
20	0.036	21.473	2.089
21	0.036	23.679	2.205
22	0.033	25.779	2.100
23	0.030	27.683	1.904
24	0.025	29.340	1.657
25	0.021	30.715	1.376
26	0.020	31.922	1.207
27	0.020	33.123	1.201
28	0.022	34.374	1.251
29	0.025	35.775	1.401
30	0.030	37.414	1.639
31	0.036	39.405	1.991
32	0.039	41.672	2.268
33	0.039	44.042	2.370
34	0.036	46.294	2.252
35	0.032	48.338	2.044
36	0.027	50.123	1.785
37	0.023	51.617	1.494
38	0.022	52.932	1.316
39	0.022	54.234	1.301
40	0.023	55.577	1.343
41	0.026	57.063	1.487

Pond 4

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3500	20,115.00	0.2	1,436

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
42	0.031	58.781	1.717
43	0.037	60.844	2.063
44	0.040	63.178	2.334
45	0.040	65.609	2.431
46	0.037	67.917	2.308
47	0.033	70.013	2.096
48	0.028	71.845	1.833
49	0.024	73.384	1.538
50	0.022	74.740	1.356
51	0.022	76.078	1.339
52	0.024	77.456	1.378
53	0.027	78.974	1.518
54	0.032	80.721	1.747
55	0.037	82.811	2.090
56	0.041	85.169	2.359
57	0.040	87.623	2.454
58	0.037	89.952	2.329
59	0.033	92.067	2.115
60	0.028	93.918	1.851

Historical Deep Percolation

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3500	20,115.00	0.2	1,436

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
1	0.000	0.000	0.000
2	0.000	0.000	0.000
3	0.000	0.001	0.001
4	0.003	0.081	0.080
5	0.019	0.741	0.660
6	0.042	2.613	1.872
7	0.062	5.771	3.158
8	0.065	9.629	3.858
9	0.055	13.271	3.642
10	0.035	15.992	2.722
11	0.022	17.681	1.689
12	0.016	18.796	1.116
13	0.013	19.649	0.853
14	0.011	20.356	0.707
15	0.010	20.971	0.615
16	0.011	21.599	0.628
17	0.027	22.755	1.156
18	0.049	25.080	2.325
19	0.068	28.653	3.574
20	0.071	32.892	4.239
21	0.061	36.886	3.993
22	0.040	39.930	3.045
23	0.027	41.916	1.986
24	0.020	43.306	1.389
25	0.017	44.410	1.105
26	0.015	45.349	0.939
27	0.013	46.179	0.829
28	0.014	47.003	0.825
29	0.030	48.341	1.337
30	0.052	50.833	2.492
31	0.071	54.560	3.727
32	0.074	58.941	4.381
33	0.063	63.065	4.124
34	0.042	66.229	3.165
35	0.028	68.326	2.097
36	0.022	69.818	1.491
37	0.018	71.016	1.199
38	0.016	72.042	1.025
39	0.014	72.950	0.909
40	0.016	73.848	0.898
41	0.031	75.253	1.405

Historical Deep Percolation

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3500	20,115.00	0.2	1,436

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
42	0.053	77.807	2.554
43	0.072	81.592	3.785
44	0.074	86.026	4.434
45	0.064	90.198	4.172
46	0.043	93.407	3.210
47	0.029	95.545	2.138
48	0.022	97.075	1.529
49	0.019	98.308	1.234
50	0.016	99.366	1.058
51	0.015	100.304	0.938
52	0.016	101.229	0.925
53	0.032	102.659	1.430
54	0.053	105.237	2.577
55	0.072	109.043	3.806
56	0.075	113.496	4.453
57	0.064	117.686	4.190
58	0.043	120.912	3.226
59	0.029	123.066	2.153
60	0.023	124.609	1.543
61	0.019	125.856	1.247
62	0.017	126.925	1.070
63	0.015	127.874	0.949
64	0.016	128.810	0.936
65	0.032	130.249	1.439
66	0.053	132.835	2.586
67	0.072	136.649	3.814
68	0.075	141.110	4.461
69	0.064	145.307	4.197
70	0.043	148.539	3.232
71	0.029	150.698	2.159
72	0.023	152.247	1.549
73	0.019	153.498	1.251
74	0.017	154.572	1.074
75	0.015	155.525	0.954
76	0.016	156.465	0.939
77	0.032	157.908	1.443
78	0.053	160.497	2.589
79	0.072	164.314	3.817
80	0.075	168.777	4.463
81	0.064	172.976	4.199
82	0.044	176.211	3.235

Historical Deep Percolation

Boundary Condition	Dist. To Alluvial Boundary	Transmissivity	Specific Yield	X to Well
	[ft.]	[g.p.d./ft.]	[nd]	[ft.]
Alluvial Aquifer	3500	20,115.00	0.2	1,436

Time	Dep. Rate	Vol. of Dep.	Vol. of Dep. This Step
[month]	[c.f.s.]	[acre-ft.]	[acre-ft.]
83	0.029	178.372	2.161
84	0.023	179.923	1.551
85	0.019	181.176	1.253
86	0.017	182.251	1.076
87	0.015	183.206	0.955
88	0.016	184.147	0.941
89	0.032	185.591	1.444
90	0.053	188.182	2.590
91	0.072	192.000	3.818
92	0.075	196.464	4.464
93	0.064	200.664	4.200
94	0.044	203.900	3.236
95	0.029	206.062	2.162
96	0.023	207.613	1.551
97	0.019	208.867	1.254
98	0.017	209.943	1.076
99	0.015	210.899	0.956
100	0.016	211.840	0.941
101	0.032	213.284	1.445
102	0.053	215.875	2.591
103	0.072	219.694	3.818
104	0.075	224.158	4.465
105	0.064	228.359	4.201
106	0.044	231.595	3.236
107	0.029	233.757	2.162
108	0.023	235.309	1.552
109	0.019	236.563	1.254
110	0.017	237.639	1.076
111	0.015	238.595	0.956
112	0.016	239.536	0.941
113	0.032	240.981	1.445
114	0.053	243.572	2.591
115	0.072	247.391	3.818
116	0.075	251.856	4.465
117	0.064	256.056	4.201
118	0.044	259.292	3.236
119	0.029	261.455	2.162
120	0.023	263.006	1.552

All.3 Sample Accounting Worksheet - Kirtright Pit

2019

MONTHLY WATER ACCOUNTING WORKSHEET
Kirtright Pit M-1986-123

Month	(1) Monthly Distribution	(2) Free Water Surface Evap. [ft./yr.]	(3) Gross Evap. Rate [ft./mo.]	(4) Surface Area [acres]	(5) Gross Evap. [acre-ft./mo.]	(6) Average Monthly Precip. [ft./mo.]	(7) Effective Precip. Credit [acre-ft./mo.]	(8) Net Evap. Loss (unlagged) [acre-ft./mo.]	(9) Net Evap. Loss (lagged) [acre-ft./mo.]	(10) Historic Net Stream Depletion Credit [acre-ft./mo.]	(11) Net Water Loss [acre-ft./mo.]	(12) Total Replace-ment Requirement [acre-ft./mo.]	(13) Actual Replace-ment Delivery [acre-ft./mo.]	(14) Net Effect On Stream [acre-ft./mo.]
Jan	0.030	3.310	0.099	*21.76*	0.00	0.04	0.00	0.00	3.32	-0.63	3.95	4.50	*4.50*	*0.00*
Feb	0.035	3.310	0.116	*21.76*	2.52	0.05	0.76	1.76	2.94	-0.54	3.48	3.97	*3.97*	*0.00*
Mar	0.055	3.310	0.182	*21.76*	3.96	0.12	1.83	2.13	2.94	-0.46	3.40	3.88	*3.88*	*0.00*
Apr	0.090	3.310	0.298	*21.76*	6.48	0.17	2.59	3.89	3.06	0.46	2.60	2.97	*2.97*	*0.00*
May	0.120	3.310	0.397	*21.76*	8.64	0.22	3.35	5.29	3.39	5.67	0.00	0.00	*0.00*	*0.00*
June	0.145	3.310	0.480	*21.76*	10.44	0.14	2.13	8.31	3.95	10.31	0.00	0.00	*0.00*	*0.00*
Jul	0.150	3.310	0.497	*21.76*	10.80	0.13	1.98	8.83	4.75	12.75	0.00	0.00	*0.00*	*0.00*
Aug	0.135	3.310	0.447	*21.76*	9.72	0.11	1.68	8.04	5.33	10.07	0.00	0.00	*0.00*	*0.00*
Sep	0.100	3.310	0.331	*21.76*	7.20	0.13	1.98	5.22	5.50	5.64	0.00	0.00	*0.00*	*0.00*
Oct	0.070	3.310	0.232	*21.76*	5.04	0.10	1.52	3.52	5.15	0.13	5.02	5.72	*5.72*	*0.00*
Nov	0.040	3.310	0.132	*21.76*	2.88	0.06	0.91	1.97	4.63	-1.08	5.71	6.51	*6.51*	*0.00*
Dec	0.030	3.310	0.099	*21.76*	0.00	0.05	0.00	0.00	4.00	-0.78	4.78	5.44	*5.44*	*0.00*
											28.93	32.98	32.98	

Notes:

(1) = SEO Monthly fraction of evaporation for elevations below 6500 ft from Guidelines for Substitute Water Supply Plans.
(2) = Free Water Surface Evaporation from NOAA Technical Report NWS 33 = Class A Pan Evaporation * Kp, where Kp = 1.0.
(3) = Column (1) * Column (2).
(4) = Total Free Water Surface Area.
(5) = Column (3) * Column (4). For months where Mean Ave. Temp. <32, ice cover = 0.0 Evap.
(6) = From NCWCD Loveland Precipitation Data 1987-2017.
(7) = (Column (6) * 70%) * Column (4)
(8) = Column (5) -Column (7).
(9) = Column (8) Lagged utilizing AWAS program
(10) = Historical Crop Credit (Hilsborough Ditch)
(11) = Column (9) - Column (10)
(12) = Column (11) + 14% Transit Loss
(13) = Actual Monthy Replacement Delivery By the City of Loveland at Boise Ave.
(14) = Column (13) - Column (12). Positive Value = Accretion

LEASE OF FULLY CONSUMABLE WATER

THIS LEASE is made and entered into this 13th day of Jan, 1998, by and between the City of Loveland, Colorado, a Colorado home rule municipality ("City"), whose address is 500 East Third Street, Loveland, Colorado 80537, and Coulson Excavating Company, a Colorado corporation ("Lessee"), whose address is 3609 North County Road 13, Loveland, Colorado 80538.

WHEREAS, the City owns certain water which, pursuant to the water laws of the state of Colorado, may be used, re-used and successively used to extinction (the "Fully Consumable Water"); and

WHEREAS, the Lessee wishes to lease from the City the right to use a portion of the City's Fully Consumable Water; and

WHEREAS, the City is willing to lease to Lessee a portion of its Fully Consumable Water pursuant to certain terms and conditions as set forth in this Lease,

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and other good and valuable consideration, the receipt of which is hereby acknowledged, the parties agree as follows:

1. The City hereby leases to the Lessee the right to receive one hundred acre feet of the City's Fully Consumable Water, as defined in paragraph 4 of this Lease, on an annual basis. This Lease shall be for a term of twenty-five (25) years, ending on December 31, 2022. However, Lessee shall have the option to renew this Lease for successive terms of twenty-five years, which option shall terminate only if Lessee is in default of its payment obligations under paragraphs 6 or 7 of this Lease or if Lessee elects not to exercise its option to renew by giving notice to the City pursuant to paragraph 12 of this Lease not later than three (3) months prior to the end of any twenty-five (25) year term. In the event Lessee is not in default of its payment obligations and elects to renew the Lease for any successive twenty-five year period, Lessee shall not be required to pay any additional amounts under this Lease for the right to receive its allotted amount of the City's Fully Consumable Water as set forth above.

2. The one hundred acre feet of Fully Consumable Water which the Lessee shall be entitled to receive annually is hereinafter referred to as the "Leased Water." The parties

recognize that, simultaneously with the execution of this Lease, the City has leased the right to receive two hundred acre feet of its Fully Consumable Water to Loveland Ready Mix and that the City may, in the future, lease additional portions of its Fully Consumable Water to persons other than Lessee. The Lessee's right to receive one hundred acre feet of the City's Fully Consumable Water pursuant to this Lease shall be equal to the right of Loveland Ready Mix to receive its two hundred acre feet of Fully Consumable Water such that in the event less than three hundred acre feet of Fully Consumable Water is available in any year, Lessee and Loveland Ready Mix shall each be entitled to receive a proportionate share of the available Fully Consumable Water. The right of Lessee to receive one hundred acre feet of the City's Fully Consumable Water under this Lease shall be deemed to be a first right relative to all others, such that in the event the available Fully Consumable Water in any year is in excess of three hundred acre feet but is not sufficient to meet the needs of all persons holding leases of Fully Consumable Water, Lessee shall receive up to its entire one hundred acre feet allotment from the first three hundred acre feet of Fully Consumable Water available.

3. In consideration of the right to receive the Leased Water, Lessee shall, upon execution of this Lease, pay City the sum of Two Hundred Twenty Thousand and 00/100 ($ 220,000.00) Dollars in certified funds. By entering into this Lease with the Lessee, the City is and shall be under no obligation to file an application for a change of water rights or for a plan of augmentation concerning the use of the Leased Water by the Lessee.

The City shall not be responsible for the implementation of any temporary substitute supply plan or augmentation plan concerning the use of the Leased Water. The cost and expense of any such proceeding shall be that of the Lessee. The City agrees to furnish sufficient Leased Water so that, subject to the provisions of this Agreement, the net usable first use or subsequent use water obtained by the Lessee shall be 100 acre feet. The City shall not be obligated to deliver Leased Water to Lessee unless Lessee shall have first provided written notice to the City that Leased Water will be required in a given year by April 1 of the preceding year.

The City shall deliver the Leased Water under this Lease in a total annual quantity as specified by the Lessee and at specific monthly delivery times and in specific monthly quantities according to the evaporation table, attached hereto as

Exhibit A, or as otherwise agreed by the City and the Lessee in writing. In no event shall the monthly deliveries exceed the monthly amounts shown on Exhibit A unless hereafter agreed in writing by the City and the Lessee.

The Lessee shall not have the right to carryover from month to month or from year to year any Leased Water which was deliverable, but not requested for delivery, in a prior time period. If the maximum allowable delivery under this Lease is not requested by Lessee in any month, the right of Lessee to call for the delivery of such water shall lapse and all such water shall remain the sole property of the City.

4. In supplying the Leased Water pursuant to this Lease, the City may use any water, including, but not limited to the following sources of water which may be used to extinction (the "Fully Consumable Water"):

a. Native water from the Big Thompson River basin which, when stored within the City's reservoir system, may be totally consumed pursuant to the terms and conditions of the Decree for Change of Water Rights for the City of Loveland, dated June 18, 1985, Case No. 82-CW-202A, Water Court Division One, State of Colorado or subsequent actions; and

b. Water under an Allotment Contract with the Municipal Sub-District of the Northern Colorado Water Conservancy District (the "Northern District"), commonly known as Windy Gap Water; and

c. Any water subsequently acquired by the City and determined by Water Court Decree to be totally consumable.

5. The City shall have the right to deliver the Leased Water to Lessee from any of the sources of Fully Consumable Water, at the City's sole discretion, and shall have the right to determine if any or all of the Leased Water shall be first use water or subsequent use water. The City shall never be required to deliver first use water, even if it is the only Fully Consumable Water available to meet the terms of this Lease. In the event the only water available to the City to meet the terms of this Lease is first use Windy Gap Water and the City is willing to deliver such first use water, the City shall notify the Lessee prior to delivering such water and the Lessee shall

have the option to accept the first use Windy Gap Water and pay the costs of delivering such water pursuant to the terms of paragraph 6 of this Lease. In the event the Lessee refuses to accept the delivery of the first use Windy Gap Water, the City shall be deemed to have met its obligations under this Lease, until such time as a source of Fully Consumable Water, other than first use Windy Gap Water, becomes available. In the event the City is reasonably able to but fails to exercise its rights under Case No. 82CW202A sufficient to meet the demands under this Agreement, (unless the exercise of such rights would impair the City's ability to meet the normal domestic needs of the City), and the only water available to the City to meet the terms of this Lease is first use Windy Gap Water, the Lessee shall not be required to pay the delivery charges provided in paragraphs 5 or 6 for the delivery of such first use Windy Gap Water.

6. In the event the Lessee agrees to accept the delivery of first use water from the City's allotment of Windy Gap Water, Lessee shall pay to the City, the total costs of all pumping and conveyance charges, plus any assessments and fees for administrative, operating, maintenance and any other fees or costs charged by the Sub-District for delivery of the water to the City. The Lessee shall pay the City the total estimated costs in advance, and the City shall not be obligated to deliver any such water until it has received the full estimated payment. In the event the estimated costs paid by the Lessee are less than the actual costs incurred by the City in delivery of Windy Gap Water to the Lessee, Lessee shall pay the City any additional amounts owed within thirty days of receipt of an invoice from the City setting forth the amount owed. In the event the Lessee shall fail to pay such additional amounts upon receipt of an invoice from the City, the City shall have the right, in addition to any other legal or equitable remedies it may have, to refuse to deliver any Leased Water until such time as all additional amounts owed pursuant to this paragraph have been paid in full. In the event the estimated costs paid by the Lessee are greater than the actual costs incurred by the City in delivery of Windy Gap Water to the Lessee, the City shall refund any excess within thirty days of the City's receipt of an invoice from the Northern District.

7. Lessee shall pay the City's reasonable costs incurred in administering the terms of this Lease. For the first five years of this Lease, the administrative costs shall be One Thousand and 00/100 Dollars($1,000.00) per year, payable in advance. The City shall recalculate the reasonable administrative costs every five years and inform the Lessee in writing of the

change at least thirty days prior to the start of the new five year period. In the event the Lessee does not require the delivery of any of the Leased Water in a given year, there shall be no administrative costs charged. The City shall invoice the Lessee for the annual administrative costs in January of each year and Lessee shall pay said costs within thirty days of the invoice date. In the event the Lessee shall fail to pay its accrued administrative costs in any year, the City shall have the right, in addition to any other legal or equitable remedies it may have, to refuse to deliver the Leased Water until such time as all accrued administrative fees have been paid in full.

8. At the option of the City, delivery of the Leased Water shall be made at the City's Waste Water Treatment Plant, 700 South Boise Avenue, Loveland, CO, or at such other downstream location or locations above the Lessee's original point of need as agreed by and between the Lessee and City in writing. Lessee shall not unreasonably withhold its approval of any request by the City to move the point of delivery.

9. Subject to the provisions of paragraph 5, the City shall only be obligated to deliver the Leased Water to the Lessee if water meeting the requirements of this Lease is reasonably available to the City. In the event of a drought or other conditions, restrictions or emergency situations beyond the control of the City which limit the City's ability to receive or deliver all or a portion of the Leased Water to the Lessee, the City shall be relieved of its obligations to deliver such water under the terms of this Lease until such time as conditions permit the City's receipt and delivery of the Leased Water.

10. The Lessee shall take the Leased Water AS IS and the City makes no express or implied warranties of any kind or nature, including the warranties of merchantability or fitness for a particular purpose, concerning the water quality of the Leased Water.

11. In the event the Lessee wishes to assign, encumber or exchange its rights to receive all or any portion of the Leased Water not already used to satisfy a temporary substitute supply plan or permanent augmentation decree to a third party, the City shall have the first right of refusal to reacquire said rights. In such event, Lessee shall notify the City in writing and shall provide the City with a copy of the signed agreement between the Lessee and the third party. The City shall have the right to reacquire the water rights within ninety days from receipt of the notice, by informing Lessee of its intent to exercise its first

right of refusal and by paying Lessee the contract price as set forth in the agreement between the Lessee and the third party. If the City does not exercise its right of first refusal, the Lessee may assign or transfer its rights to a third party, and the third party shall be bound by all terms and conditions of this Lease, including the obligation to allow the City the first right of refusal on any transfer or assignment of the Leased Water, it being the intent of this Lease that the City's right of first refusal shall apply to each and every transfer of the Leased Water which may arise at any time during the existence of this or any subsequent Lease. The right of first refusal set forth in this paragraph shall not apply in the event the Lessee wishes to assign, encumber or exchange its rights to receive all or any portion of the Leased Water to a third party pursuant to an exchange which is a transfer, sale or assignment of all or substantially all of Lessee's assets to said third party.

12. After the City has increased the storage capacity of Green Ridge Glade Reservoir to at least five thousand (5,000) acre feet, and upon sufficient advance written notice so as to permit the City to place appropriate orders for replacement water, the Lessee may temporarily sub-lease the Leased Water or portions thereof to third parties without activating the City's right of first refusal as set forth in paragraph 11, so long as the length of the sub-lease term and the amounts and times of discharge required by the Sub-lessee are acceptable to the City. Any such lease arrangement shall first be provided to the City for its review and approval, which approval shall not be unreasonably withheld.

13. All notices shall be in writing and shall be deemed given if personally delivered or mailed, certified mail, return receipt requested, to the following addresses:

If to City, to:

City of Loveland Water & Power Department
Attn: Ralph Mullinix, Director
200 North Wilson Avenue
Loveland, Colorado 80537

with a copy to:
City of Loveland
Attn: City Attorney
500 East Third Street
Loveland, Colorado 80537

If to Lessee, to:
Coulson Excavating Company
3609 North County Road 13
Loveland, Colorado 80538

14. No alteration or other modification of this Lease shall be effective unless such modification shall be in writing and signed by the parties.

15. In the event any portion of this Lease should become invalid, the remainder of the Lease shall remain in full force and effect.

16. This Lease shall be governed by and construed in accordance with the laws of the State of Colorado. This Lease shall inure to the benefit of, and be binding upon, the successors in interest of the respective parties.

IN WITNESS WHEREOF, the parties have executed this Lease on the day and year first above written.

CITY OF LOVELAND

Kathleen G. Gilliland
Mayor

CITY OF LOVELAND SEAL COLORADO

ATTEST:

City Clerk

APPROVED AS TO FORM:

Jane S. Brautigam
City Attorney

LESSEE
COULSON EXCAVATING COMPANY

Coulson Excavating Company Inc.
By: Richard Coleman
Its: President

ATTEST:

Diana Montgomery
Asst. Secretary

EXHIBIT A TO LEASE OF FULLY CONSUMABLE WATER
BETWEEN
THE CITY OF LOVELAND AND COULSON EXCAVATING COMPANY

EVAPORATION BY MONTHS

MONTH	PERCENT EVAPORATION
January	3.0%
February	3.5
March	5.5
April	9.0
May	12.0
June	14.5
July	15.0
August	13.5
September	10.0
October	7.0
November	4.0
December	3.0

AFFADAVIT

My family owns the land and 1 share of Hillsborough Ditch water rights for the property located at 260 SE Frontage Rd Johnstown, CO 80534. Coulson Excavating Company, Inc. (CEC) has been operating a sand and gravel mine (M-1986-123) on our property since approximately 1986. I hereby give permission for CEC to use 0.5 shares of our Hillsborough Ditch shares for the purpose of applying historic crop credit to the Temporary Substitute Water Supply Plan associated with the Kirtright Pit.

Signed Darlene Kirtright Date 1-27-12

Darlene Kirtright

No. 794

-one- Shares

The Consolidated Hillsboro Ditch Co.

CAPITAL STOCK, $11,800.

This Certifies that Randy Kirtright, Steve Kirtright, Virgil and Darlene Kirtright.

are the owners of -One- Share of the Capital Stock of

The Consolidated Hillsboro Ditch Company

transferable only on the books of the Corporation by the holder hereof, or by attorney, upon surrender of this Cerfificate properly endorsed.

In Witness Whereof, The said Corporation has caused this Certificate to be signed by its duly authorized officers and to be sealed with the seal of the Corporation at Johnstown, Colorado, this 21st day of September, A. D. 1987

Susan K Ernst
Secretary.

Emanuel Bey
President

*For Value received*_____*hereby sell, transfer and assign to*

_____

the _____*Shares of Stock within mentioned, and authorize the Secretary of said Company to cancel this Certificate and issue new Certificate, or Certificates, to effectuate this transfer on the Stock Books and Stock Ledger of said Company.*

*In testimony whereof*_____*have set* _____*hand..and seal this*

_____*day of* _____19_____

_____*L. S.*

*In presence of*_____

*For value received*_____*hereby sell, transfer and assign to*

_____

*the*_____*Shares of Stock within mentioned, and authorize the Secretary of said Company to cancel this Certificate and issue new Certificate, or Certificates, to effectuate this transfer on the Stock Books and Stock Ledger of said Company.*

*In testimony whereof*_____*have set*_____*hand*__*and seal this*

_____*day of*_____19____

_____*L. S.*

*In presence of*_____

TEMPORARY DRY-UP AGREEMENT

This agreement shall temporarily remove 46.75 acres of land from irrigation by 0.5 shares of Hillsborough Ditch water rights for the property owned by the Kirtright Family known as the Kirtright Pit (DRMS Permit # M-1986-123, east half of the southeast quarter of Section 15, Township 5 North, Range 68 West.). The purpose of this dry up is to make the above mentioned historical consumptive use portion of Hillsborough water rights available to offset depletions associated with the Kirtright Pit Temporary Substitute Water Supply Plan. The term of this agreement shall be for the duration of the Temporary Substitute Water Supply Plan.

Signature of Landowner

Darlene Kirtright

Date 3-26-12