STATE OF COLORADO

Colorado Water Conservation Board
Department of Natural Resources
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May 17, 2013

Mr. Dick Wolfe
State Engineer
Colorado Division of Water Resources
1313 Sherman St., Rm 818
Denver, CO 80203

Alan Martellaro
Division Engineer, Water Division 5
Colorado Division of Water Resources
202 Center Drive
Glenwood Springs, CO 81601

Re: Temporary Lease of Water Rights to CWCB for Instream Flow Use from Colorado Water Trust and Winter Park Ranch Water & Sanitation District: Hammond No. 2 and Tyron Ditches, Water Division 5, Grand County.

Dear Mr. Wolfe and Mr. Martellaro:

The Colorado Water Conservation Board ("CWCB") hereby requests approval of a Temporary Lease of Water Right offered by Winter Park Ranch Water & Sanitation District ("WPR") and presented to CWCB by the Colorado Water Trust ("CWT") for instream flow ("ISF") use pursuant to C.R.S. 37-83-105. This request is for a 10-year period beginning on January 1, 2013 and extending to December 31, 2022 (the term of the lease). The CWCB, WPR, and CWT acknowledge that the lease may only be implemented starting on the date of approval by the State and Division Engineers.

The subject water right consists of one direct flow water right decreed to the Hammond No. 2 Ditch and one direct flow water right decreed to the Tyron Ditch. WPR will lease 0.685 cfs of the Hammond No. 2 Ditch water right under Priority 19, and 0.349 cfs of the Tyron Ditch water right under Priority 192 ("Leased Water Rights") to CWCB for ISF use on St. Louis Creek and the Fraser River, upstream of the confluence the Fraser and Colorado Rivers, in amounts not to exceed the ISF decreed rates of the four ISF water rights described in Section III herein, for a period not to exceed 120 days in a calendar year, and up to 3 years in a 10-year period. See map at **Attachment 1**.

The CWCB has provided a written notice of this request for approval by electronic mail to all parties listed on the Division 5 substitute water supply plan notification list established pursuant to C.R.S. 37-92-308(6).

I. Summary of Proposal and Statement of Duration

Under a lease agreement among the WPR, CWCB and CWT, upon approval of this request by the State and Division Engineers, WPR will make water available to CWCB for ISF use when conditions permit. See Lease Agreement at **Attachment 2**. The CWCB will use the water for ISF purposes on St. Louis Creek between the Hammond No. 2 Ditch headgate and the Tyron Ditch headgate (the lower terminus of the ISF reach on St. Louis Creek), and on the Fraser River from the confluence of St. Louis Creek and the Fraser River, to the confluence of the Fraser River and the Colorado River. The Leased Water Rights will be used for ISF purposes both upstream and downstream of the point of historical return flow. Therefore, CWCB proposes to use the historical diversion amounts upstream of the point of historical return flows, and the historical consumptive use amounts below the point of historical return flow. Under this proposal, once the water enters the Colorado River, both the consumptive use portion and return flow portion of the water will be available for use by others.

Evidence of the proponent's legal right to use the Leased Water Rights is provided as follows: WPR owns the portion of the Hammond No. 2 and Tyron Ditches to be leased. See decree in Case No. W2264-74 and 2007 court order granting name change at **Attachment 3**. Rule 6(k) of the Rules Concerning CWCB's Instream Flow and Natural Lake Level Program sets forth procedures for accepting temporary loans and leases of water for ISF use, in accordance with C.R.S. 37-83-105. Provided that the State Engineer has made a determination of no injury pursuant to C.R.S. 37-83-105(2)(a)(III), the CWCB Board has delegated authority to the CWCB Director to accept loans and leases and to take any administrative action necessary to put the water to ISF use. Such acceptance and water use is subject to Board ratification at the next scheduled Board meeting.

Upon approval of this request by the State and Division Engineers, WPR, in coordination with the CWCB and CWT, will make the Leased Water Rights available to CWCB for ISF use in amounts not to exceed the ISF decreed rates of the four ISF water rights described in Section III herein, and for a period not to exceed 120 days in a calendar year, and up to 3 years in a 10-year period.

II. Historical Use and Reasonable Estimate of Consumptive Use

The Hammond No. 2 and Tyron water rights that are the subject of this lease are described below, with the portion of the rights available under this lease listed in the column titled "WPR Ownership".

NAME	SOURCE	PRIORITY-- *Admin #*	AMOUNT (CFS)		ADJUD. DATE	APPROP. DATE	DECREE
			Total Decreed	WPR Ownership			
Hammond No. 2	St. Louis Creek	19-- *12296.00000*	8 cfs	0.685 cfs	8-11-1906	8-31-1883	CA0112
Hammond No. 2	St. Louis Creek	151— *20676.12266*	3 cfs	---	8-3-1911	8-1-1883	CA0183
Tyron Ditch	St. Louis Creek	85— *14944.00000*	4 cfs	---	8-11-1906	11-30-1890	CA0112
Tyron Ditch	St. Louis Creek	192-- *20676.14944*	2 cfs	0.349 cfs	8-3-1911	11-30-1890	CA0183

Bishop-Brogden Associates, Inc. ("BBA") has prepared a memorandum, dated April 23, 2013, summarizing the historical diversions, historical consumptive use (HCU), and return flow patterns attributable to WPR's pro-rata ownership of the Hammond No. 2 and Tyron Ditch water rights. See BBA engineering analysis at **Attachment 4.**

The Hammond No. 2 and Tyron Ditches both divert from St. Louis Creek just above its confluence with the Fraser River. The majority of the irrigated lands are adjacent to the Fraser River. Therefore, diversions of the Leased Water Rights fully deplete St. Louis Creek and the approximately one-mile portion of the Fraser River between the confluence of St. Louis Creek and the Fraser River, and the point of historical return flow on the Fraser River. Diversions under the ditches typically begin in April and continue into October. In 2002, a total of 184.70 acre-feet was diverted under the Leased Water Rights, which was greater than the average historical diversion of 63.52 acre-feet.

The WPR water rights in the Hammond No. 2 and Tyron were historically used for flood irrigation of approximately 59 acres of pasture grass. The HCU for the Hammond No. 2 Ditch and the Tyron Ditch was computed by BBA, based on a study period of 1989 through 2011. Average and dry-year consumptive irrigation requirement (CIR) and HCU were determined using the modified Blaney-Criddle methodology within the IDSCU program. Crop coefficients used in the IDSCU model were calibrated for high altitude, based upon SPDSS Task 59.1, Final Memorandum, March 18, 2005. A maximum irrigation efficiency of 50% was assumed for the analysis. A ditch loss of 10% was assumed for both ditches, based on previous experience in the Upper Fraser River valley, and a review of the underlying geology.

A portion of the water diverted by the Leased Water Rights historically accrued to the Fraser River in the form of ground water return flows. Based on the geology of the area, 75% of the return flows were assumed to accrue to the stream as surface return flow in the same month that the water was diverted, and the remaining 25% returned to the Fraser River as ground water return flows. Because the effect of ground water return flows on the Fraser River is not immediate, total ground water return flows were lagged to the Fraser River using the Integrated Decision Support AWAS model. The analysis indicates that approximately 96.5% of the ground water depletions affect the river within 4 months (including the month of irrigation).

The average and dry-year total net lagged depletion for the Leased Water Rights for the period of record is 21.11 and 40.60 acre-feet, respectively. A net depletion credit of 42.85 acre-feet occurs from April to October and a return flow obligation of 2.25 acre-feet occurs from November

through January of a dry-year. In an average year, a net depletion credit of 21.87 acre-feet occurs from April through September and a return flow obligation of 0.76 acre-feet occurs from October through January.

III. Proposed Instream Flow Use

During years in which this lease is exercised, irrigation use will be suspended and the Leased Water Rights will remain in the stream to benefit CWCB's decreed ISF water rights in St. Louis Creek and the Fraser River. The ISF water right decrees to be benefitted by this lease are listed below:

Case No.	Stream	Segment	Approp Date	Segment Length	Amount
5-90CW316	St. Louis Creek	King Creek to Tyron Ditch div	11-27-1990	4.2 miles	6 cfs (5/15 – 9/15) 3.5 cfs (9/16 – 5/14)
5-90CW315	Fraser River	St. Louis Creek to Ranch Creek	11-27-1990	4.2 miles	17 cfs (5/15 – 9/15) 11 cfs (9/16 – 5/14)
5-90CW308	Fraser River	Ranch Creek to Crooked Creek	11-27-1990	0.7 miles	17 cfs (5/15 – 9/15) 11 cfs (9/16 – 5/14)
5-90CW308B	Fraser River	Crooked Creek to Colorado River	11-27-1990	13.2 miles	30 cfs (5/15 – 9/15) 19 cfs (9/16 – 5/14)

These ISF water rights were decreed to preserve the natural environment to a reasonable degree. The ISF flow rates decreed on the Fraser River were biologically quantified to preserve existing populations of rainbow and brown trout. These fish species indicate the presence of a natural environment. CDSS stream flow models were used to evaluate the flow conditions during 2002 at a location near the upper terminus of the Fraser River ISF reach (Case 5-90CW315, St. Louis Creek to Ranch Creek). At the CDSS Hammond No. 1 model node, the ISF rights were short for 119 days in 2002, and the average shorted amount ranged from 1.06 cfs to 4.8 cfs.

This lease seeks to use the historical dry-year (as represented by 2002) diversion rates (less ditch loss) identified in the Table below for ISF use in the approximately 50-yard segment of St. Louis Creek between the Hammond Ditch and the Tyron Ditch (Reach 1a on **Attachment 1**) and the one-mile segment of the Fraser River between its confluence with St. Louis Creek and the location of historical return flows (Reach 1b on **Attachment 1**).

Monthly Diversion Rate Available for ISF Use in a Dry Year

(Reaches 1a and 1b: St. Louis Creek from Hammond Ditch to the Point of Historical Return Flow on the Fraser R.)

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Total
AF	--	--	--	--	--	25.02	32.51	31.25	25.04	8.62	25.29	18.5	166.23
cfs	--	--	--	--	--	0.420	0.529	0.525	0.407	0.140	0.425	0.301	

In addition, this lease also seeks to use the historical net stream depletion to benefit ISF water rights for an approximately 17 mile segment of the Fraser River between the point of historical return flow for the Leased Water Rights and its confluence with the Colorado River (Reach 2 on **Attachment 1**).

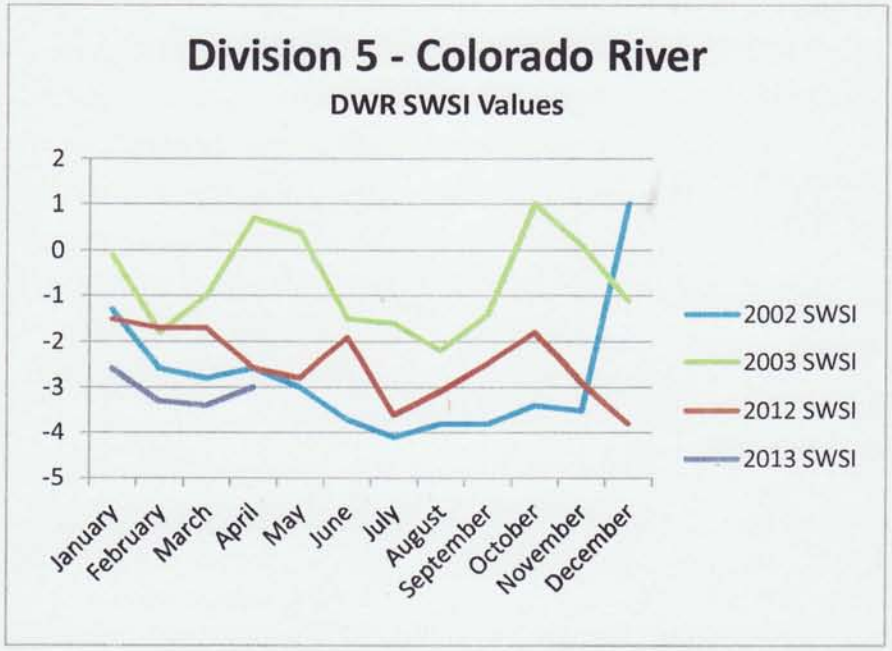
The table below reflects the dry-year (2002) net stream depletion available for ISF benefits in the Fraser River downstream from the historical return flow point.

Monthly Net Depletions Available for ISF Use in a Dry Year
(Reach 2: Downstream from Point of Historical Return Flow)

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
AF	-1.52	-0.56	-0.17	--	--	2.09	7.66	15.04	11.99	3.45	2.62	0
cfs	-0.026	-0.009	-0.003	--	--	0.035	0.125	0.253	0.195	0.056	0.044	0

Due to the expected drought conditions in 2013 (see Figure 1 below), the amount of water claimed for ISF use under this lease during 2013 is based upon dry–year yields for the Leased Water Rights. The diversions used in BBA's analysis to estimate dry-year consumptive use are assumed to be equal to the diversions in 2002, which experienced similar drought conditions, based on the Surface Water Supply Index (Figure 1). In 2002, the portion of the Hammond No. 2 Ditch owned by Winter Park Ranch (Priority 19) received water from April through October; however, the portion of the Tyron Ditch owned by Winter Park Ranch (Priority 192) did not receive any water. If this lease is exercised in subsequent years that are not as dry as 2013, CWT and CWCB may seek approval from the Division of Water Resources to claim historical diversions and consumptive use consistent with average year conditions as presented in Tables 2 and 3b of the BBA engineering analysis.

FIGURE 1 – Surface Water Supply Index (SWSI), Division 5, Colorado River



The total amount of water claimed for ISF use will not exceed the total amount decreed to the Fraser River ISF water right. The Leased Water Rights will only be used to supplement ISF water rights in the Fraser River during the historical irrigation season from April through October. Under this lease proposal, 59 acres will be removed from irrigation in years when the lease is implemented. Return flows will be maintained as needed to prevent injury to other water rights. During the irrigation season, return flows will be maintained by leaving the diversion amounts in the river. During the non-irrigation season, return flow obligations will be replaced with water released from the Village Ponds any time a water right call is in effect. The Village Ponds are located approximately ½ mile upstream from the Fraser River-St. Louis Creek confluence. The Village Ponds were decreed in Consolidated Cases W3653 and W3697, and

Consolidated Cases 93CW123 and 93CW225, for a total of 38.26 AF. Decreed uses for the ponds include municipal (including commercial and augmentation purposes), recreation and fish and wildlife propagation. By the date specified in the approval of this lease, CWCB and CWT will provide to the Division Engineer a copy of a contract or other evidence for an adequate amount of replacement water to replace the lagged return flow obligations.

The CWCB will not use any of the leased water on the Colorado River for ISF use, or claim credit for the historical consumptive use associated with the Leased Water Rights downstream from the Fraser River-Colorado River confluence. The leased water will be beneficially used under existing decreed ISF water rights and will be available for other beneficial uses downstream of the lower-most Fraser River ISF reach. As such, this lease will not adversely affected Colorado's compact entitlements.

IV. Terms and Conditions to Prevent Injury

To prevent injury to other water users from the exercise of this lease agreement, CWCB, CWT, and WPR ("Proponents") propose to operate the lease in accordance with the following terms and conditions:

- The amount of water that CWCB will use under the lease in 2013 is limited to the dry-year, monthly, historical diversion and net depletion amount as described above, and will not exceed the decreed flow rate of the St. Louis Creek or Fraser River ISF water rights.

- Proponents shall maintain historical return flows to the Fraser River in time, place and amount. Prior to operating the lease, a copy of the contract or other evidence for an adequate amount of replacement water to replace the lagged return flow obligations will be provided to the State and Division Engineers.

- WPR will not irrigate with the Leased Water Rights in a lease implementation year.

- Proponents shall install and maintain any measuring devices or structures required by the State and Division Engineers to administer this lease.

- Proponents shall submit records and accounting as required by the State and Division Engineers to administer this lease.

- Each year of the lease agreement, prior to commencement of the irrigation season, CWCB shall notify the State and Division Engineers if the Proponents intend to implement the lease in the upcoming season. If this lease is exercised in subsequent years that are not characterized as dry years, CWT and CWCB will seek approval from the State and Division Engineers to claim historical diversions and consumptive use consistent with average year conditions.

- CWCB shall notify the State and Division Engineers when it is using the Leased Water Rights for the St. Louis Creek and Fraser River ISF water rights.

V. Conclusion

The CWCB respectfully requests approval of the temporary lease of the Hammond No. 2 and Tyron Ditch water rights offered by WPR for ISF use on St. Louis Creek and the Fraser River. If operated in the manner presented herein, no injury will occur to other water rights.

Thank you for your assistance in this matter. Please let us know if you have any questions or require additional information.

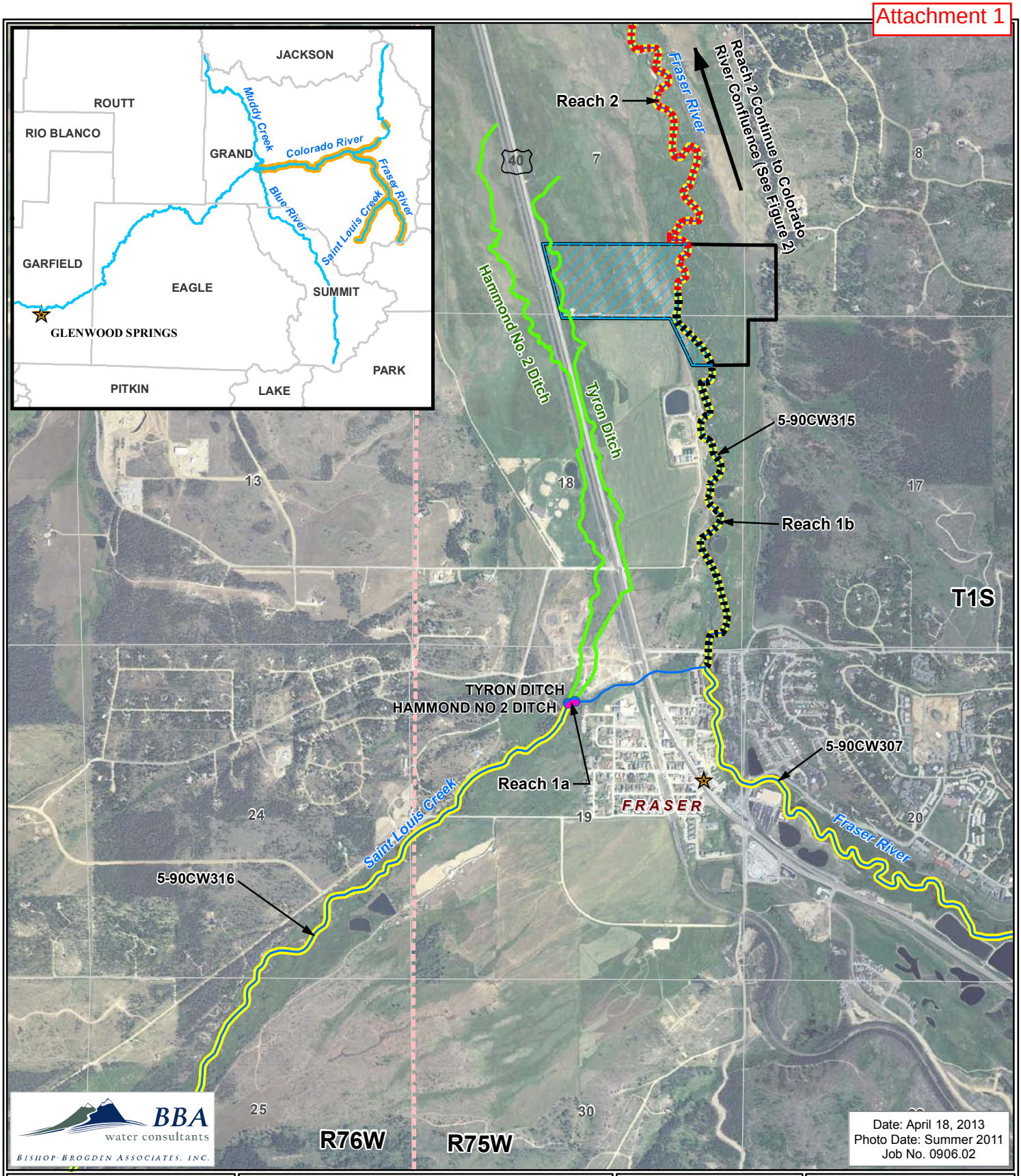
Sincerely,

Linda J. Bassi, Chief
Stream and Lake Protection Section

Cc: Jeff Baessler, CWCB; Don West, PE, CWCB; CWT; Winter Park Ranch Water & Sanitation District.

Encl: Attachment 1 – Map; Attachment 2 – Lease Agreement; Attachment 3 – Decrees and Court Order; Attachment 4 – BBA Engineering Analysis.

Attachment 1



BBA water consultants
Bishop-Brogden Associates, Inc.

Date: April 18, 2013
Photo Date: Summer 2011
Job No. 0906.02

Legend

- Headgates
- Ditch (Approximate)
- CWCB Instream Flow
- Case No. W-2264 Irrigated Area (Approximate)
- Case No. W-2264 Property Boundary (Approximate)

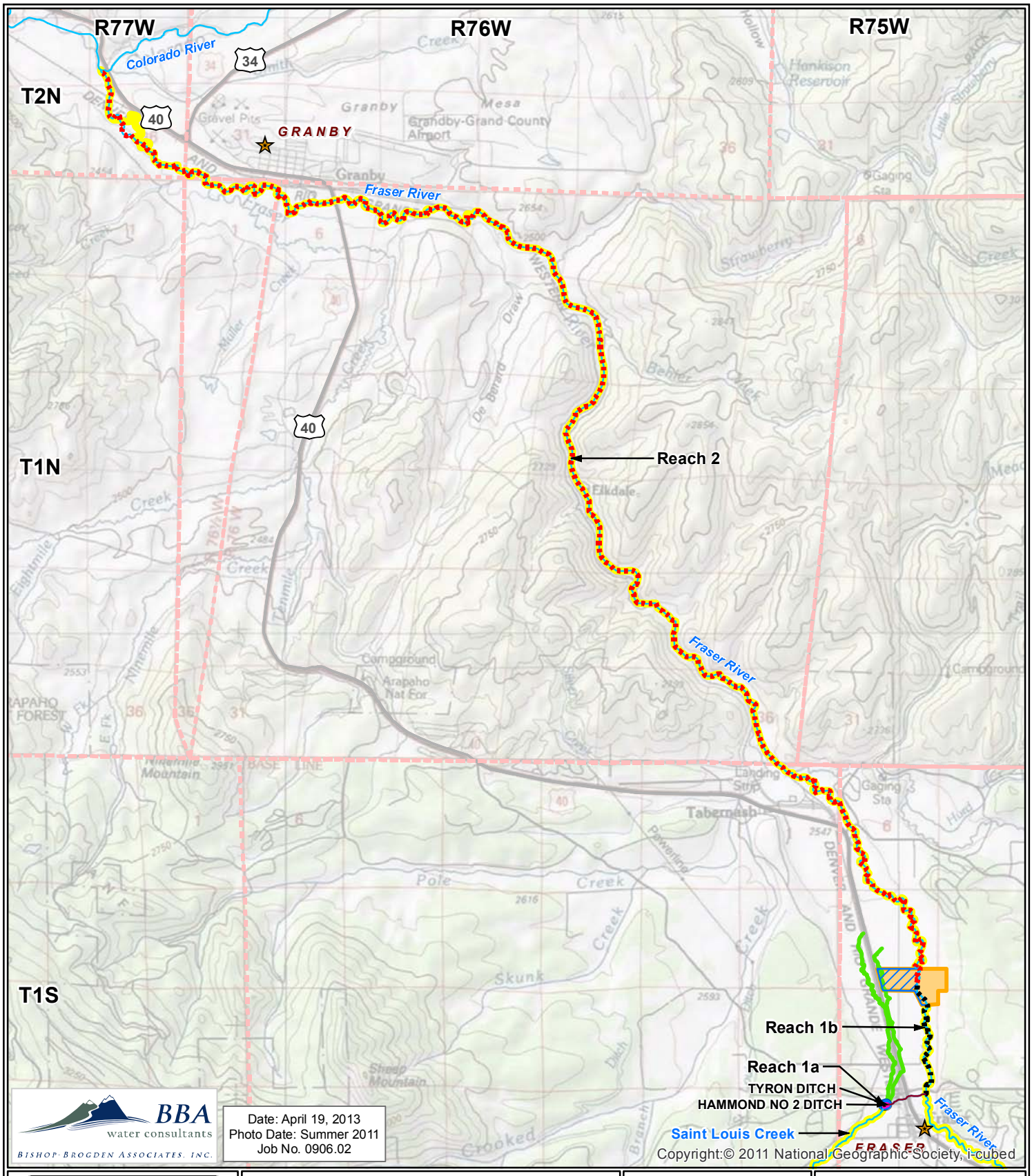
Figure 1
CWT Fraser River Leased Water Rights

N
W E
S

1 inch = 2,083 feet

0 1,100 2,200 Feet

Overview Map



BBA water consultants
BISHOP-BROGDEN ASSOCIATES, INC.

Date: April 19, 2013
Photo Date: Summer 2011
Job No. 0906.02

Legend

- Headgates
- Ditch (Approximate)
- CWCB Instream Flow
- Case No. W-2264 Irrigated Area (Approximate)
- Case No. W-2264 Property Boundary (Approximate)

Figure 2
CWT Fraser River Leased Water Rights

N
W E
S

1 inch = 7,083 feet

0 3,500 7,000 Feet

Overview Map

Attachment 2

TEMPORARY WATER LEASE AGREEMENT: CWT REQUEST FOR WATER 2013

This water lease agreement ("Lease") is entered into by and between the COLORADO WATER CONSERVATION BOARD ("CWCB"), an agency of the State of Colorado; the COLORADO WATER TRUST ("CWT"), a Colorado nonprofit corporation; and WINTER PARK RANCH WATER AND SANITATION DISTRICT, a Colorado special district ("Lessor"), collectively, the Parties.

RECITALS

A. Section 37-92-102(3), C.R.S. (2011) authorizes CWCB to acquire by lease or other contractual agreement such water, water rights, or interests in water as CWCB determines may preserve and improve the natural environment to a reasonable degree.

B. CWT is a Colorado nonprofit dedicated to protecting and restoring streamflows in Colorado through voluntary, market-based efforts. CWT works within CWCB's acquisition program to accomplish this mission. This Lease supports that mission.

C. Section 37-83-105(2) authorizes water rights owners to lease or loan water to CWCB for instream flow use pursuant to a decreed instream flow water right held by CWCB and administrative approval, subject to certain conditions and procedures ("Short Term Lease Program").

D. Under the Short Term Lease Program, a lease may have a term for up to ten years, but may only be used for instream flows for three of those ten years. For each year the water right is used in the Short Term Lease Program, it may only be used for instream flows up to 120 days in that calendar year.

E. Colorado snowpack totals for the spring of 2013 are similar to those of the drought year of 2002. That year, many CWCB decreed instream flows were not satisfied and the lack of water negatively impacted the state's aquatic ecosystems. This year, CWT and CWCB anticipate many decreed instream flows will not be met again. However, CWT and CWCB will use the Short Term Lease Program - not available in 2002 - to supply water to those decreed, but not met, instream flows to protect Colorado's aquatic ecosystems.

F. CWT issued a statewide "Request for Water" to solicit water rights to lease into the Short Term Lease Program on April 23, 2012. This Lease is a result of that effort.

G. Lessor wishes to lease two water rights: (1) its interest in the Hammond No. 2 on St. Louis Creek, tributary to the Fraser River, and (2) its interest in the Tryon (aka Tyron) Ditch on St. Louis Creek, tributary to the Fraser River ("Water Rights"). Lessor wishes to lease the Water Rights to CWCB for instream flow use, pursuant to the procedures and subject to the conditions set forth herein, in Section 37-83-105(2), and in CWCB Rule 6(k) of the Rules Concerning the Colorado Instream Flow and Natural Lake Level Program.

H. CWCB holds four instream flow water rights to be benefited by the Lease ("Instream Flows"):

   a. Decreed in Case No. 5-90CW316 for 6 cfs (May 15 - September 15) and 3.5 cfs (September 16 - May 14), in the reach of St. Louis Creek extending from King Creek to the Tyron Ditch headgate; and

   b. Decreed in Case No. 5-90CW315 for 17 cfs (May 15 - September 15) and 11 cfs (September 16 - May 14), in the reach of the Fraser River extending from St. Louis Creek to Ranch Creek.

   c. Decreed in Case No. 5-90CW308 for 17 cfs (May 15 - September 15) and 11 cfs (September 16 - May 14), in the reach of the Fraser River extending from Ranch Creek to Crooked Creek.

   d. Decreed in Case No. 5-90CW308B for 30 cfs (May 15 - September 15) and 19 cfs (September 16 - May 14), in the reach of the Fraser River extending from Crooked Creek to the Colorado River.

I. Subject to the terms of this Lease, Lessor will lease to CWCB the Water Rights for instream flow purposes. CWCB will use the Water Rights to maintain the Instream Flows for a period not to exceed one hundred twenty days in one calendar year.

J. Subject to the terms of this Lease, CWT will pay Lessor for the use of the Water Rights in the Short Term Lease Program.

K. The Water Rights to be leased are not decreed for instream flow use. The use of the Water Rights by CWCB for instream flow purposes will require State and Division Engineer approval and final ratification by CWCB Board of Directors, pursuant to section 37-83-105(2).

L. The amount of water to be used by CWCB under this Lease will not exceed the amount of water decreed to the Instream Flows.

NOW THEREFORE, in consideration of the mutual agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, CWCB, CWT, and Lessor agree as follows:

LEASE OF WATER RIGHTS

1. Term.

   a. The term of this Lease shall be from January 1, 2013, until December 31, 2022 ("Ten-Year Term"), pursuant to section 37-83-105(2).

   b. The Lease is only implemented this 2013 irrigation season ("Implementation Term").

   c. The Parties agreed in good faith to consult on or before April 1 of each year during the Ten-Year Term to determine if the Lease shall be implemented.

   d. Implementation after the first year of the Ten-Year Term shall only require the completion and execution of the Request for Water 2013 Water Use Agreement Implementation, the form of which is attached hereto as Appendix A.

2. Purchase Price and Payment Procedure.

   a. For and in consideration of the payment of the sum of Two Thousand Four Hundred and Sixty Dollars ($2,460) ("Purchase Price") for the current year of implementation paid to Lessor by CWT and the keeping and performance of the covenants and agreements contained herein, Lessor shall lease to CWCB the Water Rights, more particularly described below:

      0.349 cfs of Priority 192 in the Tyron (aka Tryon) Ditch, decreed by the District Court in and for Grand County on August 3, 1911, in Civil Action 183, with an appropriation date of November 30, 1890, and subsequently changed in Case No. W-2264, District Court, Water Division No. 5.

      0.685 cfs of Priority 19 in the Hammond Ditch No. 2, decreed by the District Court in and for Grand County on August 3, 1906, in Civil Action 112, with an appropriation date of August 31, 1883, and subsequently changed in Case No. W-2264, District Court, Water Division No. 5.

   b. Payment by CWT to Lessor shall occur only upon the approval by

the State and Division Engineers and acceptance by CWCB Director of the use of the Water Rights in the Short Term Lease Program and the Lease, pursuant to sections 37-83-105(2)(a)(IV) and 37-83-105(2)(b)(VII).

c. Payment by CWT shall not occur if the Division Engineer or State Engineer denies or CWCB Director does not accept the proposed use of the Water Rights in the Short Term Lease Program and the Lease, and payment shall only occur in the years of implementation.

d. For the current year of implementation, CWT shall pay the Lessor half the Purchase Price four (4) weeks after this Lease is approved by the State and Division Engineers and accepted by CWCB Director. CWT shall pay the remaining half by September 30, 2013.

3. Operations, Accounting and Monitoring.

a. CWCB shall notify the State and Division Engineers when the Water Rights are being used for instream flow pursuant to this approval for administrative purposes.

b. The Parties agree to coordinate record keeping and accounting as reasonably required by the State and Division Engineers to administer the water right use for instream flow purposes.

c. The Parties agree to coordinate to install and maintain any measuring devices or structures reasonably required by the State and Division Engineers to administer the water right use for instream flow purposes.

4. CWCB Acceptance of Lease. CWCB's acceptance of the Lease of the Water Rights is contingent upon the State and Division Engineers' determination that CWCB's use of the Water Rights in the Short Term Lease Program will not injure existing water rights of others and will not affect Colorado's compact entitlements. Approval may include terms and conditions to ensure the non-injury standard is met pursuant to section 37-83-105(2)(b)(VI).

5. Cessation of Historic Use. Lessor agrees and acknowledges that Lessor may not irrigate with the Water Rights within the Implementation Term. However, in any other year that the Water Rights are not used for instream flow during the Ten-Year Term of this Lease, the Lessor may use the Water Rights for irrigation,

augmentation or other decreed uses.

6. Protections of Lessor's Water Rights. The Lessor's Water Rights are protected from diminishment of historical consumptive use and abandonment under this Lease by sections 37-83-105(2)(c) and 37-92-103(2)(b)(V).

7. Use of Water Leased. CWCB will use the Water Rights to maintain its Instream Flows water right decreed to preserve the natural environment to a reasonable degree. Downstream of the Instream Flows, the Water Rights will be available for other water users and other beneficial uses.

8. Inspections.

   a. Lessor grants CWCB or CWT staff and any of their representatives any and all of Lessor's access rights to the Water Rights and to inspect all facilities related to the water right (e.g. source, headgate, other diversion structures, ditch system, irrigated acreage) upon request at reasonable times, for the purpose of evaluating the stream and habitat characteristics in the reach of stream that would benefit from the Lease.

   b. Lessor grants CWCB or CWT staff and any of their representatives access to any of the Lessor's land subject to the Lease upon request at reasonable times to ensure compliance with the terms of the Lease.

STATE AND DIVISION ENGINEER APPROVAL OF LEASE

9. Statement to State Engineer. Prior to accepting the Lease, CWCB shall compile a statement requesting approval of and explaining the Lease in sufficient detail for the State Engineer to determine that such Lease does not injure existing decreed water rights. Lessor and CWT shall use best efforts to assist CWCB in compiling said statement and in obtaining State and Division Engineer approval of the Lease as described below. Lessor shall have a reasonable opportunity to review and comment on said statement for the purpose of protecting its interests in the Water Rights.

10. Request for Approval. Upon review and approval by Lessor, which shall not be unreasonably withheld, CWCB shall file the request for approval of the Lease with the State and Division Engineers pursuant to section 37-83-105, which request shall include the following information:

a. Evidence of proponent's legal right to use the Water Rights;

b. A statement of the duration of the Lease;

c. A description of the original points of diversion, the return flow pattern, the stream reach, and the time, place, and types of use of the Water Rights;

d. A description of the stream reach, and the time, place, and types of use of the Water Rights; and

e. A reasonable estimate of the historic consumptive use of the Water Rights.

11. Notice to Substitute Water Supply Plan. CWCB shall provide written notice of the request for approval of the Lease by first-class mail or electronic mail to all parties on the substitute water supply plan notification list established pursuant to section 37-92-308 (6) for the water division in which the proposed Lease is located, and shall file proof of such notice with the Division Engineer.

12. Compliance. The Parties shall use their best efforts to comply with all the requirements of section 37-83-105(2), to obtain approval of the Lease, and to address any comments submitted by any party concerning potential injury to that party's water rights, either as part of the initial approval process or a year in which the Lease has been exercised.

13. Denial and/or Termination.

a. If the request for approval is denied in whole or in part, or if the approval is conditioned in such manner as to prevent this Lease from being completely fulfilled, then this Lease may be terminated within 30 days of written notice by any party to this Lease.

b. The Lease shall terminate at the end of the Ten-Year Term.

14. Miscellaneous Provisions.

a. CWCB shall take such action as is necessary or desirable to protect the use of the Water Rights for instream flow purposes, including requesting the Division Engineer to administer the Water Rights; however, CWCB shall not take any action to adversely impact the Water Rights' use for other purposes after the Implementation Term. CWT and Lessor shall work with

CWCB to provide information concerning implementation and monitoring of this Lease.

b. The Parties will implement this Lease in accordance with any terms and conditions imposed by the State and Division Engineers.

c. This Lease shall not be assignable by any party without the prior written consent of the others.

d. This Lease shall be a covenant that runs with the Water Rights and shall be binding upon the parties hereto, their successors, and assigns. CWCB shall record this Lease with the Clerk and Recorder of Grand County, Colorado, with a conformed copy provided by CWCB to the Lessor and CWT.

e. Any notices required or permitted hereunder shall be sent to the addresses or email addresses set forth below, as may be changed from time to time by proper notice.

If to CWT:

Colorado Water Trust
1420 Ogden Street, Suite A2
Denver, CO 80218
Attn: Amy Beatie, abeatie@coloradowatertrust.org
Attn: Zach Smith, zsmith@coloradowatertrust.org

If to CWCB:

Colorado Water Conservation Board
Stream and Lake Protection Section
1313 Sherman Street, Room 721
Denver, CO 80203
Attn: Kaylea White, kaylea.white@state.co.us

If to Lessor:

Winter Park Ranch Water and Sanitation District
601 Park Place, P.O. Box 1390
Fraser, CO 80442
Attn: Kirk Klancke, District Manager,
kk@wprwater.com

15. Limited Representations By Lessor.

a. Lessor represents and warrants that it has full power and authority to execute this Lease, lease the Water Rights, and perform its obligations hereunder.

b. Lessor represents and warrants that the Water Rights have been used in compliance with decreed terms during the period from 2000 to 2012.

16. Enforcement of this Lease.

a. Pursuant to section 37-92-102(3), the terms of this Lease shall be enforceable by each party as a water matter in a court of competent jurisdiction; provided, however, that before commencing any action for enforcement of this Lease, the party alleging violation shall notify the other parties in writing of the alleged violation and the parties shall make a good faith effort to resolve their differences through informal consultation.

b. Specific performance of this Lease shall be the exclusive remedy for the failure of either party to comply with any provision of this Lease.

17. Effective Date. The effective date of this Lease shall be the date it is executed by all parties.

IN WITNESS HEREOF, CWCB, CWT, and Lessor have executed this Lease.

WINTER PARK RANCH WATER AND SANITATION DISTRICT (Lessor)

By: _____
NAME Jon Westerlund
TITLE President

Date: 5/14/13

COLORADO WATER CONSERVATION BOARD

By: _____
Jennifer Gimbel
Director

Date: _____

COLORADO WATER TRUST

By: _____

Date: 5/15/2013

NOTARIZATION

STATE OF COLORADO)
) ss.
COUNTY OF Denver)

The foregoing instrument was acknowledged before me on this 15 day of May, 2013, by Amy W. Beatie as Executive Director of COLORADO WATER TRUST.

Witness my hand and official seal.

Alyse Greenberg

Notary Public

ALYSE GREENBERG
Notary Public
State of Colorado
Notary ID 20134022579
My Commission Expires Apr 11, 2017

My commission expires:

April 11, 2017

NOTARIZATION

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me on this ___ day of _____, 2013, by _____ as _____ of _____.

Witness my hand and official seal.

_____

Notary Public

My commission expires:

_____

NOTARIZATION

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me on this ___ day of _____, 2013, by _____ as _____ of COLORADO WATER CONSERVATION BOARD.

Witness my hand and official seal.

_____

Notary Public

My commission expires:

_____

Appendix A

WATER LEASE AGREEMENT IMPLEMENTATION:
REQUEST FOR WATER 2013

This water lease agreement implementation ("Implementation") is entered into this _____ day of _____, 20__, by and between the COLORADO WATER CONSERVATION BOARD ("the CWCB"), an agency of the State of Colorado; the COLORADO WATER TRUST ("CWT"), a Colorado nonprofit corporation; and _____ ("Lessor"), collectively, the Parties.

RECITALS

A. This Implementation renews the Water Lease Agreement: Request for Water 2013 between the CWCB, CWT, and Lessor, dated _____ ("Lease").

B. The Parties have entered into the Lease for a certain Water Right for instream flow pursuant to section 37-83-105 C.R.S.

C. The Implementation Term of the Lease expires as of _____, 2014.

D. The Parties desire to implement the Lease again.

NOW, THEREFORE, in consideration of the mutual agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

IMPLEMENTATION OF THE LEASE

1. Except as otherwise provided herein, the Lease, and all terms, provisions and conditions set forth therein are hereby renewed. In the event of any conflict or discrepancy between this Implementation and the Lease, the terms and conditions of the Implementation shall control and supersede the terms and conditions of the Lease.

2. The Implementation Term shall be from _____, 20__, to _____, 20__.

3. Purchase Price and Payment Procedure

    a. For and in consideration of the payment of the sum of _____ Dollars ($_____) ("Purchase Price") paid to Lessor by CWT and the keeping and performance of the covenants and agreements contained herein, Lessor shall lease to the CWCB the Water Right, more particularly described below:

_____ Ditch, decreed by the District Court in and for ____ County on _____ in Case No. _____ for __ cfs out of the _____, with an appropriation date of _____.

b. Payment by CWT to Lessor shall occur only upon the approval of the CWCB Director and State and Division Engineer for the use of the Water Right in the Short Term Lease Program, pursuant to sections 37-83-105(2)(a)(IV) and 37-83-105(2)(b)(VII).

c. Payment by CWT shall not occur if the CWCB Director, Division Engineer or State Engineer denies the use of the Water Right in the Short Term Lease Program.

d. CWT shall pay the Lessor half the Purchase Price X weeks after this Lease is signed. CWT shall pay the remaining half by September 30, 20__.

4. Except as expressly amended hereby, all of the terms, conditions, provisions, and agreements of the Lease shall remain unchanged.

IN WITNESS HEREOF, the CWCB, CWT, and Lessor have executed this Implementation as of the ___ day of_____ 20__.

Lessor

By: _____
NAME
TITLE

COLORADO WATER CONSERVATION BOARD

By: _____
NAME
TITLE

COLORADO WATER TRUST

By: _____
Amy Beatie
Executive Director

NOTARIZATION

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me on this ___ day of _____, 20__, by _____ as _____ of _____.

Witness my hand and official seal.

_____

Notary Public

My commission expires:

_____

NOTARIZATION

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me on this ___ day of _____, 20__, by _____ as _____ of COLORADO WATER CONSERVATION BOARD.

Witness my hand and official seal.

_____

Notary Public

My commission expires:

_____

NOTARIZATION

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me on this ___ day of _____, 20__, by _____ as _____ of COLORADO WATER TRUST.

Witness my hand and official seal.

_____

Notary Public

My commission expires:

_____

Attachment 3

IN THE DISTRICT COURT IN AND FOR

WATER DIVISION NO. 5

STATE OF COLORADO

CASE NO. W-2264

IN THE MATTER OF THE APPLICATION FOR WATER RIGHTS OF WINTER PARK WEST WATER AND SANITATION DISTRICT IN GRAND COUNTY	)	FINDINGS OF FACT, CONCLUSIONS OF LAW AND DECREE APPROVING PLAN FOR AUGMENTATION INCLUDING EXCHANGE

THIS MATTER, having come on for hearing upon the application of Winter Park West Water and Sanitation District for approval of a plan for augmentation including exchange which was filed on March 29, 1974, and the Court having considered the pleadings, the files herein, and the evidence presented, FINDS:

1. Timely and adequate notice of this proceeding has been given in the manner required by law, and the Water Judge sitting in this Court has jurisdiction over the subject matter of these proceedings and over all parties affected hereby, whether they have appeared or not. The City and County of Denver, acting by and through its Board of Water Commissioners, has timely filed a statement of opposition. The time for the filing of additional statements of opposition has expired.

2. Applicant is a quasi-municipal water and sanitation district organized under and pursuant to the laws of the State of Colorado, in order, inter alia, to serve its inhabitants with water for domestic and municipal purposes. Applicant has filed this plan for augmentation in order to provide a water supply for its inhabitants on a year-round basis.

3. Applicant owns the following decreed water rights:

Hammond No. 1, priority no. 12, from the Fraser River, 1.01 cfs. out of 12.0 cfs. decreed thereto, by decree of August 3, 1906, and correction decree of July 21, 1908, appropriation date, December 31, 1882, located at a point whence the Southeast corner of Section 18, T1S, R75W of the 6th P.M. bears N 81°45' W, (sic, actual bearing appears to be N 81°45' E) 520 feet, for irrigation purposes.

Hammond No. 2, priority no. 19, from Saint Louis Creek, a tributary of the Fraser River, 0.685 cfs. out of 8.0 cfs. decreed thereto by decree of August 3, 1906 and correction decree of May 18, 1910, appropriation date, August 31, 1883, located at a point on the north bank of said creek at a point whence the South quarter corner of Section 18, T1S, R75W, 6th P.M. bears N 11°15' E, 835 feet, for irrigation purposes.

Tryon, First Enlargement, priority no. 192, from Saint Louis Creek, a tributary of the Fraser River, 0.349 cfs. out of 2.00 decreed thereto by virtue of said first enlargement, by decree of August 3, 1911, appropriation date, November 30, 1890, located, according to the decree, on the north bank of Saint Louis Creek at a point whence the South quarter corner of Section 15, (sic, actually should be Section 18), T1S, R75W, 6th P.M., bears N 42°15' W, 411.5 feet, for irrigation purposes.

Joy Ditch, priority no. 448, from the Fraser River for 2.75 cfs. by decree of October 28, 1955, nunc pro tunc November 7, 1952, appropriation date, June 1, 1892, located on the west bank of the Fraser River at a point whence the South quarter corner of Section 20, T1S, R75W, 6th P.M. bears S 0°15' E, 1,508 feet, for irrigation purposes.

Winter Park West Ditch, from the Fraser River, 0.22 cfs. final and 2.78 cfs. conditional, for muncipal purposes, by decree of the Water Court for Water Division No. 5 in Case No. W-472 filed on January 4, 1972, appropriation date, November 11, 1965.

Winter Park West Wells No. 1, 2, 3, 4, 5 and 6, all decreed by the Water Court for Water Division No. 5 in Case No. W-995; filed on June 27, 1972, all with appropriation date, July 13, 1966 as follows:

Well No. 1, 0.45 cfs. absolute, located in the NE¼ SW¼ of Section 20, T1S, R75W, 6th P.M. at a point whence the Northwest corner of said Section 20 bears N 28°29' W, 3,208 feet, Well Permit No. 11094-F.

Well No. 2, 0.45 cfs. conditional, located in the SW¼ NW¼ of Section 20, T1S, R75W, 6th P.M. at a point whence the Northwest corner of said Section 20 bears N 19°46' W, 2,446 feet, Well Permit No. 018044-F.

Well No. 3, 0.45 cfs. conditional, located in the SW¼ NW¼ of Section 20, T1S, R75W, 6th P.M. at a point whence the Northwest corner of said Section 20 bears N 4°38' W, 1,864 feet, Well Permit No. 016610-F.

Well No. 4, 0.45 cfs. conditional, located in the NE¼ SW¼ of Section 20, T1S, R75W, 6th P.M. at a point whence the Northwest corner of said Section 20 bears N 33°21' W, 3,766 feet, Well Permit No. 018045-F.

Well No. 5, 0.45 cfs. conditional, located in the NE¼ SW¼ of Section 20, T1S, R75W, 6th P.M. at a point whence the Northwest corner of said Section 20 bears N 37°05' W, 4,347 feet, Well Permit No. 018046-F.

Well No. 6, 0.45 cfs. conditional, located in the NW¼ SE¼ of Section 20, T1S, R75W, 6th P.M. at a point whence the Northwest corner of said Section 20 bears N 40°52' W, 4,984 feet, Well Permit No. 018047-F.

4. Applicant will use its water in two non-adjacent areas. The District service area, to be served by applicant by means of a municipal water supply system is located in Sections 20 and 21, Township 1 South, Range 75 West, 6th P.M., and contains approximately 530 acres. Applicant will also continue to provide irrigation water on an interim basis for a 100-acre parcel lying north of the District service area and located in Sections 7, 8, and 18 of the same township and range. In addition, provision will be made for the service of six dwelling units to be served by individual domestic wells. The source of water for the domestic water service to be provided by applicant to the inhabitants of both parcels will be water diverted from the Fraser River alluvium. The source of water for the continuation of the historic irrigation on the north parcel will continue to be the surface flow of Saint Louis Creek and the Fraser River.

5. Water diverted pursuant to applicant's Hammond No. 1, Hammond No. 2, and Tryon, First Enlargement rights has historically been used between the months of April and October to irrigate 93 acres of hay meadow in the north parcel. Water diverted pursuant to applicant's Joy Ditch right has been used between May and August to irrigate 70 acres in the District service area. Assuming strict administration of the Joy Ditch in the future, however, it is conservative to assume that water will be available during May, June and early July. The said hay meadows consist principally of native grasses, and the annual consumptive use for such irrigation in the subject area is 0.90 acre feet per acre assuming a full supply of water. Taking into account the historically available supply of water, but assuming strict administration, the annual consumptive use of these surface rights is approximately 84 acre feet and 30 acre feet respectively.

6. Water supplied to the inhabitants of the District service area will be directly applied to municipal-type purposes through a central water supply system. The means of diversion of such water will be through Winter Park West Wells 1, 2, 3, 4, 5, and 6. In order to provide water service through its central supply system during times of the year when its wells will be out of priority, applicant will use said wells as alternate points of diversion for its surface water rights, while continuing diversions through the decreed headgates of the Hammond No. 1, Hammond No. 2, and Tryon ditches, to the extent permitted under this decree, for use in irrigation of the historic hay meadow area in the northern parcel. As long as the total amount of water diverted through wells and ditches does not exceed the amount of the decreed water rights owned by applicant, as long as the depletions to the river system from the combination of wells and ditches is not greater than the historic depletion from the ditches, and as long as applicant adequately compensates for the winter depletions resulting from the year-round use of its water rights, no vested rights will be injured by applicant's change of point of diversion of part or all of its surface rights.

7. As development in the District proceeds, water currently used to irrigate the 93 acres in the northern parcel will be diverted through the Winter Park West wells as alternate points of diversion for the Hammond No. 1, Hammond No. 2, and Tryon, First Enlargement rights. As and to the extent that said water is diverted through the Winter Park West wells, the part of the north parcel currently irrigated will be dried up and sold. Applicant intends to divide the north parcel into 6 large tracts, each of which will serve as one residential unit. The source of supply for the domestic water service for these 6 units will be from the Fraser River alluvium. The means of diversion of such water will be by 6 individual domestic wells, which will be exempt wells pursuant to C.R.S. 1963 §148-21-45(1)(c) (Supp. 1969, as amended). Water from

these wells will be used for domestic and related purposes, and sewage disposal will be by standard septic system or other type with comparable or less consumptive use. When applicant dries up that land which has been historically irrigated, water used thereon will be left in the stream system, and any injurious effect caused by these wells will be compensated for.

8. The process of development within the District is expected to be a gradual one, occurring over a period of years. Although applicant may have to eventually discontinue that portion of the historic irrigation of the 93 acres of hay meadow in the north parcel transferred to its future consumptive use, applicant desires to maintain as much of this historic irrigation use as may be permitted until and to the extent the water rights used in said irrigation are required to serve the development, by using the historic headgates of the Hammond No. 1, Hammond No. 2, and Tryon ditches as alternate points of diversion for the well rights described in Finding 3. As long as the total consumptive use of water resulting from all the uses contemplated by applicant is not greater than the historic depletion from applicant's surface rights and the other conditions herein are followed, no other water rights will be injuriously affected by applicant's continuation of this historic hay meadow irrigation. In order to help implement this condition and to insure that the historically decreed flow rate is not exceeded by the total flow of wells and headgate diversions, the permissable headgate diversion must be limited to the difference between the total decreed flow rate of the historic irrigation water rights owned by applicant out of the various ditches and the rate of flow being pumped through applicant's wells.

9. It is anticipated that, at full development, the District service area will contain approximately 3,000 dwelling units, with an ultimate household water demand of approximately 1,058 acre feet per year. Consumptive use of these dwelling units will be 3% of the water supplied thereto, or approximately 32 acre feet per year. It is further anticipated that no more than 20 acres will be irrigated for lawn and landscape purposes, and applicant will be so limited herein. The consumptive use of the water used for lawn and landscape irrigation is calculated to be 0.9 acre feet per acre per year, or 18 acre feet per year. Thus, the ultimate

consumptive use for domestic purposes within the District service area will be 50 acre feet per year. For those units in the north parcel to be served by individual domestic wells, water diverted for domestic use will be approximately 12 acre feet per year. The consumptive use will be approximately 6 acre feet per year. The consumptive use of water used to irrigate the 93 acres of hay meadow, as historically practiced and to the extent that such irrigation is continued is calculated to be 0.90 acre feet per acre per year. As long as the combined depletion to the river system from all the uses contemplated by applicant does not exceed the 113.7 acre feet per year consumed by the historic uses of applicant's surface rights, then no other rights will be injuriously affected by this plan, provided other protective conditions in this decree are met.

10. In order to simplify the administration of applicant's water use and to provide applicant with the flexibility it needs during the developmental period, the Court may permit the use of a formula to determine the required curtailment of the historic irrigation use as the development progresses toward completion. The consumptive use attributed to certain elements of the future use is tabulated below:

6 individual domestic wells	6.0 acre feet
20 acres of future lawn irrigation in the development	18.0 acre feet
water to be stored for winter compensation (as described in Paragraph 11)	19.0 acre feet
surface evaporation from winter compensation ponds	5.0 acre feet
surface evaporation from sewage lagoons	8.0 acre feet
120 presently existing dwelling units	0.6 acre feet
TOTAL - - - - - - - - -	56.6 acre feet

For simplicity these will be committed to at the outset, and 56.6 acre feet of historic use will be terminated initially. The 70 acres under the Joy Ditch will be dried up accounting for approximately 30 acre feet; 29.6 acres in the north tract will be dried up accounting for 26.6 acre feet. The remaining 57.1 acre feet of consumptive use credit may be allocated by means of the following

formula, on an annual basis:

X acres of hay irrigation x 0.90 acre feet/acre
+ Y dwelling units x 0.00467 acre feet/dwelling unit -
0.6 acre feet = 57.1 acre feet,

where X will determine the allowable remaining amount of hay irrigation and where Y is the total number of dwelling units being served at any point in time. (The -0.6 appearing in the formula serves to account for the present 120 dwelling units now existing.) The present amount of irrigation permitted to continue is 63.4 acres. At the projected number of dwelling units, 3,000, the ultimate development will leave 43.7 acre feet unallocated. This represents 48.6 acres of irrigation. This amount may be continued for hay irrigation purposes indefinitely, used to serve additional dwelling units within the district, or transferred to other uses at other locations upon proper application to this Court as then required by law.

11. Upon ultimate development, the year-round domestic use contemplated by applicant will result in a small depletion to the stream system during the winter period. The 113.7 acre feet historically consumed was all consumed during the summer irrigation season, and the proposed reallocation to year-round depletions may be potentially injurious to winter water diverters. Applicant proposes to store an amount of water equal to its probable winter injurious effect, 19 acre feet, plus the surface evaporation from these reservoirs, 5 acre feet, in one or more storage reservoirs to be constructed or acquired. This amount of water has been deducted from the amount of historic consumptive use in paragraph 10 above. Applicant will release said water at times and at rates as required by the Division Engineer to avoid injury to any senior winter diverters.

During the beginning period of development, however, winter depletions will be immaterial and no releases should be required. As development continues, winter releases should be provided for

in proportion to the number of dwelling units being served including the the 6 individual domestic units on the north parcel. For this purpose the winter period may be assumed to be October through March.

It is recognized that no releases of water should be required except during times when material injury is being caused to other vested water rights and there is a valid call for water by senior water rights. In no event shall total releases exceed the total of winter depletions actually occurring from October through April of each winter period, being 19 acre feet for ultimate development.

12. Applicant will use the Winter Park West wells as alternate points of diversion for its surface rights. Because this proposed transfer might place an additional burden on the Fraser River, exercise of the priorities of said surface rights by placing a call on upstream water rights could adversely affect other rights on the River. However, if applicant waives its right to place a call on upstream rights on the River, no injurious affect will be caused to the rights of other water users by applicant's proposed use of its wells as alternate points of diversion for its surface water rights. It is understood that by waiving its right to call out upstream water rights, applicant does not waive its right to exercise its priorities with respect to downstream water rights.

13. In order to permit proper administration of the plan proposed herein, it is necessary that the amounts of all well diversions be metered. Applicant intends that all meter records will be made available to the Division Engineer.

14. The lands within the District are not located within a designated ground water basin.

CONCLUSIONS OF LAW

The Court concludes, as a matter of law:

1. The plan for augmentation proposed by applicant is

one contemplated by law, and, if administered in accordance with the provisions of this decree, there will be no adverse affect on any vested water rights on the Fraser River or its tributaries.

2. The State Engineer may lawfully be required to administer the plan of operation in the manner provided for herein.

3. The State Engineer may lawfully be required to grant well permits for the 6 individual domestic wells provided for in the plan of operation approved herein.

DECREE

IT IS THEREFORE ORDERED, ADJUDGED, AND DECREED:

1. The plan for augmentation proposed by applicant herein is hereby approved subject to the following conditions:

a. That applicant's depletion of the Fraser River and its tributaries, pursuant to the exercise of the priorities described herein, shall not exceed 114 acre feet per year, and that the 70 acres of irrigation under the Joy Ditch be dried up forthwith, and that 29.6 acres of land under the Hammond No. 1, Hammond No. 2, and Tryon, 1st Enlargement be dried up and diversions reduced proportionately. The number of acres that may be continued to be irrigated, or used for other purposes upon proper change of water right proceeding, shall be determined by the following formula, on an annual basis:

X acres of irrigation x 0.90 acre feet/acre
+ Y dwelling units x 0.00467 acre feet/dwelling units
- 0.6 acre feet = 57.1 acre feet,

where X will determine the allowable remaining amount of hay irrigation and where Y is the total number of dwelling units being served at any point in time. The amount of water which may continue to be diverted at any time at the historic points of diversion shall not exceed the difference between the total decreed flow rate of the historic irrigation water rights owned by applicant out of the various ditches and the flow rate being pumped through the Winter Park West Wells Nos. 1, 2, 3, 4, 5 and 6.

b. That applicant ultimately be required to store water in one or more reservoirs to be constructed or acquired, and to release water in amounts not to exceed 19 acre feet to compensate for winter depletions which injuriously affect other vested water rights. At present, no such releases shall be required. As the development progresses, however, total winter depletions will be determined in proportion to the number of dwelling units then being served. Such releases shall be at times and at rates as required by the Division Engineer between October and April of each year, but releases shall be required only during times when material injury would actually occur to water rights entitled to water and only during times of valid call for water by senior water rights.

c. That applicant waive its right to place a call on upstream rights on the Fraser River in order to supply its water rights.

d. That the amounts of all well diversions under this plan be metered at applicant's wells.

2. IT IS SPECIFICALLY ORDERED, ADJUDGED, AND DECREED that the points of diversion for the above-described surface water rights be transferred to each of the wells above-described as alternate points of diversion for said surface water rights, but that applicant retains an alternate point of diversion at each of the decreed headgate locations of its surface water rights.

3. FURTHER, IT IS HEREBY ORDERED, ADJUDGED AND DECREED that applicant's water rights above-described may hereafter be used for year-round municipal use (including domestic, commercial, industrial and incidental irrigation), irrigation, recreation, fish and wildlife propagation and all other beneficial purposes, specifically including storage for each of the above purposes.

4. FURTHER, IT IS HEREBY ORDERED, ADJUDGED, AND DECREED that all the above-described water rights and structures are part of one system.

5. FURTHER IT IS HEREBY ORDERED, ADJUDGED, AND DECREED that the State Engineer shall grant well permits for the 6 domestic wells described in Finding 7 upon application by users thereof in conformity herewith.

Done this 28th day of February, 1975.

BY THE COURT

Water Judge

Approved as to Form and Content:

KENNETH L. BROADHURST

By
Attorney for Objector, City and County of Denver acting by and through its Board of Water Commissioners

DISTRICT COURT, GRAND COUNTY, STATE OF COLORADO Court Address: 308 Byers Avenue, P.O. Box 192 Hot Sulphur Springs, CO 80451 (970)725-3357 **In re:** **WINTER PARK WEST WATER AND SANITATION DISTRICT** Attorney: Name: Anthony J. DiCola Address: 400 Byers Ave., P.O. Box 312 Hot Sulphur Springs, CO 80451 Phone Number: 970-725-3315 Atty. Reg. #: 5598	▲ **COURT USE ONLY** ▲ Case Number: Division: Courtroom:

ORDER

THIS MATTER comes before the Court on Petitioner's MOTION FOR ORDER APPROVING NAME CHANGE.

THE COURT being fully advised in this matter finds that good cause has been shown;

NOW THEREFORE it is Ordered that the name of the Winter Park West Water and Sanitation District is changed to the Winter Park Ranch Water and Sanitation District.

BE IT FURTHER ORDERED that public notice of such change of name be given by publication by at least three times in the Winter Park Manifest, within twenty days of the date of this Order and be it further Ordered that notice of such change of name be further provided within twenty days to the Grand County Clerk and Recorder's Office, the Grand County Assessors Office, the Colorado Division of Local Government, and all other appropriate parties.

DONE AND SIGNED, this 3rd day of July, 2007.

BY THE COURT:

/s/ MARY C. HOAK

Acting District Court Judge jms

Attachment 4

MEMORANDUM

BBA water consultants

BISHOP-BROGDEN ASSOCIATES, INC.

To: Amy Beattie, Colorado Water Trust
From: Jeff Clark and Kristina Wynne
Subject: Analysis of Temporary Donation Rights – Fraser River Basin
Job: 0906.02
Date: April 23, 2013

This memorandum summarizes an analysis completed to estimate the potential instream flow (ISF) benefits from the temporary loan of water rights authorized by 37-83-105 C.R.S. This analysis estimates the approximate historical average and dry year consumptive use (HCU) and irrigation return flows from the temporary cessation of irrigation for the 2013 irrigation season. These monthly amounts will constitute the projected change in streamflow during and after the irrigation season.

Subject Water Rights

The Colorado Water Trust (CWT) has proposed to lease a portion of the water rights owned by the Winter Park West Water & Sanitation District (WPW), and will donate the use of these rights to the CWCB under the 37-83-105 C.R.S. statute. Specifically, CWT proposes to lease the following water rights from WPW which divert from St. Louis Creek near the Town of Fraser, Colorado.

Water Right Name	Source	Dates of		SEO Admin Number	Flow Rate (cfs)	
		Appropriation	Adjudication		Total	WPW
Hammond No. 2	St. Louis Creek	8/31/1883	8/11/1906	12296.00000 (Priority No. 19)	8.0	0.685
		8/1/1883	8/3/1911	20676.12266 (Priority No. 151)	3.0	--
Tyron Ditch[1]	St. Louis Creek	11/30/1890	8/11/1906	14944.00000 (Priority No. 85)	4.0	--
		11/30/1890	8/3/1911	20676.14944 (Priority No. 192)	2.0	0.349

Note: Both priorities decreed in 1911 Supplemental Adjudication are junior to Shoshone (1,250 cfs = Admin No. 20427.18999), but senior to Cameo (Admin No. 22729.21241)

These water rights were originally decreed in Case Nos. CA112, CA182 and CA183. We note that the State Engineers Office (SEO) water rights tabulation for Priority No. 85 of the Tyron Ditch appears to total 6.675 cfs. However, review of the decrees for the Tyron Ditch indicates that the total water right is equal to 4.0 cfs. These rights are also the subject of a Plan for Augmentation decree by WPW in Case No. W-2264, dated February 28th, 1975. However, it is our understanding that these rights have continued to be used for irrigation since the time of the Case No. W-2264 decree and have not yet been converted for augmentation uses as allowed in that decree.

[1] W-2264 refers to the Tyron Ditch as the 'Tryon' Ditch

Historical Use Analysis

To estimate the changes in streamflow from the temporary cessation of irrigation with the water rights described above, an analysis of the estimated consumptive use and return flows that would have occurred under continued irrigation was performed. Although the decree in Case No. W-2264 changed the above portions of the Tyron Ditch and Hammond No. 2 Ditch water rights and includes an estimate of the HCU, a separate analysis was completed to support this loan proposal for the following reasons:

- The determination of HCU in the decree in Case No. W-2264 includes contributions from a portion of the Hammond No. 1 Ditch water right, which is not being proposed for the ISF loan this year.
- The decree did not specify a monthly allocation of HCU, which will be critical for defining the monthly ISF benefit.
- The decree did not specify a quantity or timing of historical irrigation return flows to be maintained for these water rights, which is an important component of the ISF loan proposal.
- The determination of HCU in the decree of 0.9 acre-feet/acre (ac-ft/ac) was presumably based on a long-term average consumptive irrigation requirement (CIR). However, the temporary loan of these water rights may be proposed for a dry year due to the possibility of extremely low snowpack in 2013, and therefore low streamflow. Therefore an evaluation of the potential consumptive use that may occur in a dry year would be helpful to define the ISF benefit.

The HCU yield in this analysis was estimated based upon the average yield of the water rights from 1989-2011 as well as in a dry year. The driest year of record during this period is 2002, and therefore the 2002 diversion and climate data were used in the analysis of consumptive use for a dry year.

Diversions, Ditch Loss, and Farm Headgate Delivery

The Tyron and Hammond No. 2 Ditches both divert from St. Louis Creek, just above its confluence with the Fraser River. As shown on the attached Figure 1, the majority of the ditches and irrigated lands served by these ditches are adjacent to the Fraser River. For purposes of this analysis, all of the diversions affect St. Louis Creek and the Fraser River, but all of the consumptive use and return flows affect only the Fraser River.

The consumptive use was estimated for both average year and dry year scenarios. The average year analysis was conducted using diversion records and climate data from 1989-2011. While ditch diversion records are available from the SEO back to 1975, climate data at NOAA's Fraser weather station are only available since 1989. The diversions used in this analysis to estimate dry year consumptive use are assumed to be equal to the diversions in 2002, the driest year on record. Daily diversion records for the total water through the headgates of the Tyron Ditch and the Hammond No. 2 Ditch were obtained from the State Engineer's Office (SEO) CDSS database. The diversions attributable to the WPW water rights, and therefore available to the CWT and CWCB this year, were calculated by scaling the daily diversion by the pro-rata WPW ownership of the water rights under the ditch. The Hammond No. 2 Ditch diversion available to the CWT is equal to the sum of daily headgate diversions up to 8 cfs multiplied by the ratio of 0.685 cfs/8 cfs. WPW is entitled to 0.685 cfs of the total 8 cfs decreed to the Hammond No. 2 Ditch Priority No. 19 water right, as shown in the water rights table above. Any diversions greater than 8 cfs were not credited to the WPW portion of this water right. The Tyron Ditch diversion available to the CWT is equal to ratio of 0.349 cfs/2 cfs for all daily headgate diversions that exceed 4 cfs (assuming that

all diversions less that 4 cfs are attributable to the senior water right under the ditch). The CWT is entitled to 0.349 cfs of the 2 cfs decreed to the Tyron Ditch Priority No. 192 water right, also shown in the water rights table above.

As shown in the attached Table 1 for a dry year scenario, the Hammond No. 2 Ditch diverted water from April through October of 2002. The pro-rata amount attributable to the WPW water rights is equal to 184.70 acre-feet (ac-ft). While the Tyron Ditch diverted water from May through August of 2002, it appears that it did not divert water under Priority No. 192. Therefore, the pro-rata WPW amount available to the CWT in 2002 is zero.

Table 2 shows that in the WPW portion of the Hammond No. 2 Ditch diverted an average of 52.21 ac-ft from April through October (based upon diversion records from 1989-2011). Similarly, the WPW's portion of the Tyron Ditch Priority No. 192 water right diverted an average of 11.31 ac-ft from May through October as shown in Row 2 of Table 2. The total average diversions attributable to the WPW water rights (and available under a CWT lease) were approximately 63.52 ac-ft/yr. The decree in Case No. W-2264 does not describe a ditch loss for either of these ditches. Based upon our previous experience with historical use analyses in the Upper Fraser River valley, a brief review of the underlying geology of the area, and the length of the Tyron Ditch and the Hammond No. 2 Ditch, the ditch loss for both ditches was estimated to be 10% of the total headgate diversion. The farm headgate delivery attributable to the CWT lease water is therefore equal to the total diversion less 10%, or 166.23 ac-ft in a dry year (as shown in Table 1) and 57.17 ac-ft in an average year (as shown in Table 2).

Historical Consumptive Use Analysis

The average and dry year CIR and HCU were determined using the modified Blanney-Criddle methodology within the IDSCU program. The WPW water rights in the Tyron Ditch and the Hammond No. 2 Ditch have been historically used for flood irrigation of pasture grass. The decree in Case No. W-2264 did not allocate the total irrigated acreage of 93 acres by ditch. However, Exhibit A to the application for water rights in Case No. W-2264 includes a map of the 93 acres. This map was replicated into GIS, which indicates that approximately 59 acres were irrigated by the Hammond No. 2 Ditch and the Tyron Ditch, as shown in Figure 1. A maximum irrigation efficiency of 50% was assumed for the analysis. Climate data from NOAA's Fraser weather station, which is available from 1989-2011, was used. For the dry year analysis, only the 2002 climate data from the Fraser weather station was used. Additionally, the crop coefficients used in the IDSCU model are calibrated for high altitude based upon SPDSS Task 59.1 Final Memorandum, March 18, 2005. The available water holding capacity is based upon the NRCS Soil Survey for Grand County and is equal to 0.9 inches per foot. The rooting depth for pasture grass used in the IDSCU analysis is equal to two feet.

The dry year (2002) CIR for the 59 acres irrigated by the Hammond No. 2 and the Tyron Ditch is equal to 57.74 ac-ft, or 0.98 ac-ft/ac. The average CIR for the lands irrigated by the two ditches is equal to 49.89 ac-ft, or 0.85 ac-ft/ac. The dry year and average CIR values determined in this analysis are approximately 8% greater and 6% less, respectively, than the average CIR determined in Case No. W-2264 (0.9 ac-ft/ac).

Historical Consumptive Use Results

As shown in Row 6 of Table 1, the dry year (2002) consumptive use attributable to the water rights available to the CWT is equal to 40.60 ac-ft, or 0.69 ac-ft/ac. The average annual historical consumptive use (HCU) is equal to 21.11 ac-ft, as shown in Table 2. The average historical HCU determined in Case No. W-2264 is equal to 0.9 ac-ft per acre.

Irrigation Return Flows

As discussed above, the maximum irrigation efficiency for flood irrigation under the Tyron Ditch and the Hammond No. 2 Ditch was estimated to be 50% of the farm headgate delivery. The remaining 50% returns to the Fraser River as either overland flow or as deep percolation. Based upon the geology of the area, it was estimated that 75% of the return flow returns to the stream as surface return flow in the same month that is delivered to the irrigated area. As shown in Table 1, the total dry-year surface water return flow is equal to 94.23 ac-ft. The total average annual surface water return flow is equal to 27.04 ac-ft, as shown in Table 2.

The remaining 25% of total return flows was determined to return to the Fraser River by deep percolation as ground water return flow. Because the effect of ground water return flows on the Fraser River is not immediate, the total ground water return flows were lagged to the Fraser River using the Integrated Decision Support AWAS model and the following aquifer parameters:

- Transmissivity (T): 730 gallons/day/foot, based upon observation well pumping test in Grand County on the Fraser River.
- Specific Yield (s): 0.000582, based upon observation well pumping test in Grand County on the Fraser River.
- Approximate Aquifer Width (w): 4,255 feet, based upon geologic mapping of the area.
- Distance from centroid of irrigated area to the Fraser River (x): 855 feet.

Based upon the AWAS modeling, it was determined that approximately 96.5% of the ground water depletions affect the river within 4 months (including the month of irrigation). The remaining 3.5% 'tail' is lagged over several following months but is wrapped into the first four months for this analysis. The lagged ground water return flow is shown by month in Tables 1 and 2.

The total net lagged depletion associated with the use of WPW's pro-rata portion of the Tyron Ditch and the Hammond No. 2 Ditch is equal to the total farm headgate delivery less the surface water return flow less the lagged ground water return flow and is equal to 40.60 ac-ft in a dry year and 21.11 ac-ft on average. As shown in Table 1, a net depletion (HCU plus lagged return flow) credit of 42.85 ac-ft occurs from April to October and a return flow obligation (negative values in Table 1) of 2.25 ac-ft occurs from November through January of a dry year. In an average year, as shown in Table 2, a net depletion credit of 21.87 ac-ft occurs from April through September and a return flow obligation of 0.76 ac-ft occurs from October through January.

Instream Flow Use

The Hammond No. 2 Ditch and Tyron Ditch water rights are on St. Louis Creek, which is a tributary to the Fraser River, as shown on the attached Figure 1. The CWCB currently owns and maintains ISF water rights for these streams as shown table below:

	Upstream Terminus of Reach	Downstream Terminus of Reach	ISF Right	Case No.
St. Louis Creek	Confluence with King Creek	Tyron Ditch headgate	6 cfs(5/15-9/15) 3.5 cfs (9/16-5/14)	5-90CW316
Fraser River	Confluence with St. Louis Creek	Confluence with Ranch Creek	17 cfs (5/15-9/15) 11 cfs (9/16-5/14)	5-90CW315
Fraser River	Confluence with Ranch Creek	Confluence with Crooked Creek	17 cfs (5/15-9/15) 11 cfs (9/16-5/14)	5-90CW308
Fraser River	Confluence with Crooked Creek	Confluence with Colorado River	30 cfs (5/15-9/15) 19 cfs (9/16-5/14)	5-90CW308B

The instream flow segments that will benefit from the lease of the Tyron Ditch and Hammond No. 2 Ditch water rights are located on St. Louis Creek (Case No. 5-90CW316) and the Fraser River (Case Nos. 5-90CW315, 5-90CW308 and 5-90CW308B) and are shown in Figures 1and 2. The location of the proposed use will benefit the four instream flow segments displayed in the table above, which extend from the historical point of diversion at the Hammond No. 2 headgate downstream to the confluence of the Fraser River with the Colorado River for a total of approximately 19 miles. For purposes of this analysis, the instream flow segments that will benefit from the lease of the Tyron Ditch and Hammond No. 2 Ditch water rights have been divided into three reaches. Reach 1a is on St. Louis Creek from the headgate of the Hammond No. 2 Ditch downstream to the end of ISF water right on St. Louis Creek at the Tyron Ditch headgate. Reach 1b is from the confluence of St. Louis Creek with the Fraser River downstream approximately 1.3 miles to the historical point of return flow on the Fraser River. Under historical irrigation operations, diversions were fully depletive to segments 1a and 1b of stream. The CWT and CWCB will be able to take credit for the historical farm headgate deliveries for instream flow use in these reaches. Downstream from the point of return flow (Reach 2, on the Fraser River), only the HCU amount will be available for credit for instream flow use.

For purposes of this analysis, we have assumed that irrigation will be suspended and the WPW water will be used for ISF benefits for the entire 2013 irrigation season. In 2013, the diversions and HCU are equal to the historical values shown in Tables 1 and 2. However, due to the absence of irrigation throughout the season, the farm headgate deliveries, surface return flow, and deep percolation are equal to zero since the diversion will be bypassed at the ditch headgates to benefit the streamflow. However, the historical return flows will still be owed to the stream as described below. In the irrigation cessation scenarios, the stream will benefit by the amount of the historical consumptive use for either a dry year or an average year (40.60 ac-ft or 21.11 ac-ft, respectively).

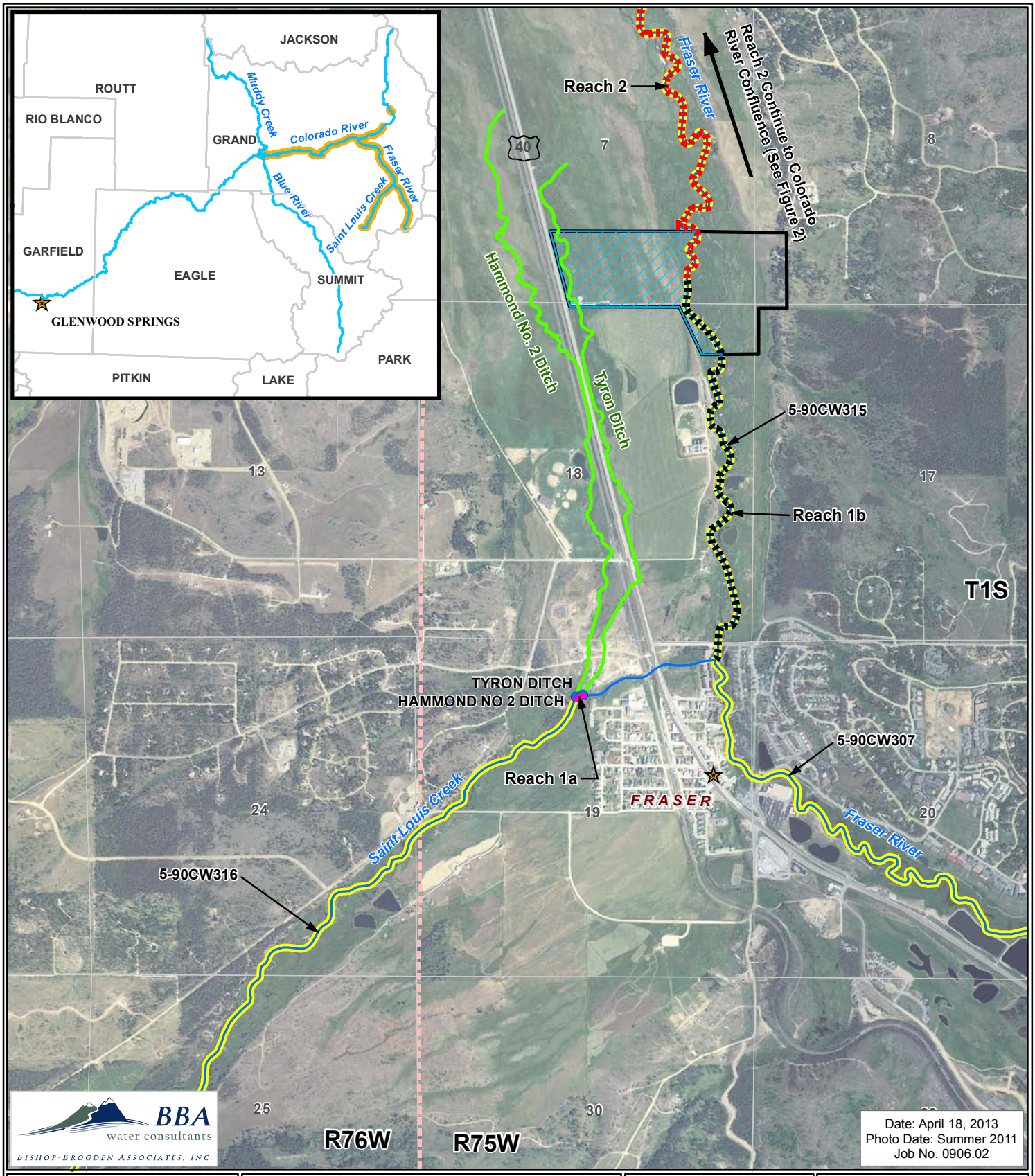
The cessation of irrigation of these rights will result in changes to the streamflow in the following reaches:

Reaches 1a and 1b – *On St. Louis Creek between the headgates of the Tyron and the Hammond No. 2 Ditches (Reach 1a) and from the confluence with the Fraser River to the approximate point of return for the irrigation return flows (Reach 1b, see Figure 1).* During the irrigation season, the streamflow in this reach will increase in an amount equal to the dry year farm headgate delivery shown in Table 1, or the average year amounts shown in Table 2. Note that we are assuming that WPW's portion of the ditch loss (10%) will need to remain in the ditch for the protection of the other owners in these ditches that may still be irrigating.

Reach 2 – On the Fraser River *from the approximate point of return for the irrigation return flows downstream (see Figures 1 and 2).* During the irrigation season, the streamflow in this reach will increase by the dry year or average year daily flow associated with the consumptive use amount that would have occurred under continued irrigation. During the following non-irrigation season, the streamflow in this reach will decrease by the average daily amount of the dry or average year lagged irrigation return flows that would have occurred under continued irrigation.

Table 3a summarizes the benefit to streamflow due to the cessation of irrigation in a dry year. In Reach 1, the stream will benefit by a total volume of 166.23 ac-ft from April through October. The increased streamflow will range from 0.140 cfs in October to 0.529 cfs in May. In Reach 2, below the point of historical return flow, the benefit to the Fraser River in a dry year is equal to the historical net lagged depletions (Row 10 of Table). As shown in Table 3a, the streamflow will increase by a total of 42.85 ac-ft from April through September, resulting in increases to streamflow ranging from 0.035 cfs in April to 0.253 cfs in June. The historical lagged return flow of 2.25 ac-ft will be owed from November through January.

Table 3b summarizes the benefit to streamflow due to the cessation of irrigation in an average year. In Reach 1, the stream will benefit by a total volume of 57.17 ac-ft from April through October. The increased streamflow will range from 0.026 cfs in April to 0.242 cfs in June. In Reach 2, below the point of historical return flow, the benefit to the Fraser River in an average year is equal to the historical net lagged depletion (Row 10 of Table 2). As shown in Table 3b, the streamflow will increase by a total of 21.87 ac-ft from April through September, resulting in increases to streamflow ranging from 0.002 cfs in April to 0.122 cfs in June. The historical lagged return flow of 0.76 ac-ft will be owed from October through January.


JACKSON
ROUTT
RIO BLANCO
GRAND
GARFIELD
EAGLE
SUMMIT
PARK
PITKIN
LAKE
GLENWOOD SPRINGS
Muddy Creek
Colorado River
Blue River
Fraser River
Saint Louis Creek
Reach 2
Fraser River
Reach 2 Continue to Colorado River Confluence (See Figure 2)
Hammond No. 2 Ditch
Tyron Ditch
5-90CW315
Reach 1b
T1S
TYRON DITCH
HAMMOND NO 2 DITCH
Reach 1a
5-90CW307
FRASER
Saint Louis Creek
Fraser River
5-90CW316
R76W
R75W
7
8
13
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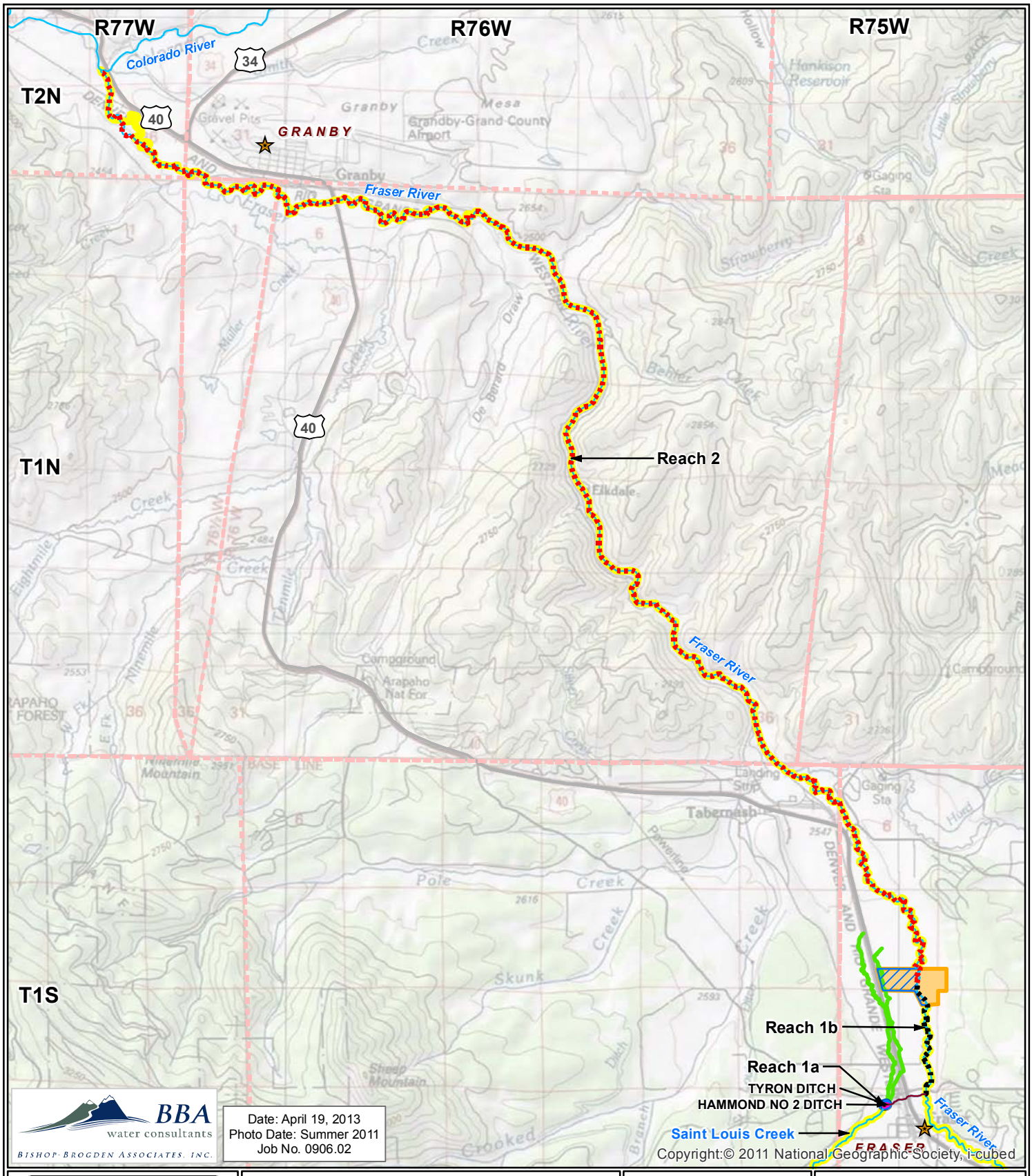
30
40
BBA
water consultants
Bishop-Brogden Associates, Inc.
Date: April 18, 2013
Photo Date: Summer 2011
Job No. 0906.02
Legend
Headgates
Ditch (Approximate)
CWCB Instream Flow
Case No. W-2264 Irrigated Area (Approximate)
Case No. W-2264 Property Boundary (Approximate)
Figure 1
CWT Fraser River
Leased Water Rights
N
W
E
S
1 inch = 2,083 feet
0
1,100
2,200
Feet
Overview Map
Main Map
Colorado



BBA water consultants
BISHOP-BROGDEN ASSOCIATES, INC.

Date: April 19, 2013
Photo Date: Summer 2011
Job No. 0906.02

Legend

- Headgates
- Ditch (Approximate)
- CWCB Instream Flow
- Case No. W-2264 Irrigated Area (Approximate)
- Case No. W-2264 Property Boundary (Approximate)

Figure 2
CWT Fraser River Leased Water Rights

N
W E
S

1 inch = 7,083 feet

0 3,500 7,000 Feet

Overview Map

Table 1
Colorado Water Trust
Hammond No. 2 Ditch and Tyron Ditch
Dry Year (2002) Historical Consumptive Use Analysis
(all values in ac-ft)

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
(1)	Hammond No. 2 Ditch Diversion Available for CWT	27.80	36.12	34.72	27.82	9.58	28.10	20.56	0.00	0.00	0.00	184.70
(2)	Tyron Ditch Diversion Available for CWT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(3)	Total Historical (2002) Diversion	27.80	36.12	34.72	27.82	9.58	28.10	20.56	0.00	0.00	0.00	184.70
(4)	Ditch Loss (10%)	2.78	3.61	3.47	2.78	0.96	2.81	2.06	0.00	0.00	0.00	18.47
(5)	Farm Headgate Delivery	25.02	32.51	31.25	25.04	8.62	25.29	18.50	0.00	0.00	0.00	166.23
(6)	Historical Consumptive Use	0.00	6.92	15.63	12.52	4.31	1.22	0.00	0.00	0.00	0.00	40.60
(7)	Surface Return Flow	18.77	19.19	11.72	9.39	3.23	18.05	13.88	0.00	0.00	0.00	94.23
(8)	Deep Percolation	6.26	6.40	3.91	3.13	1.08	6.02	4.63	0.00	0.00	0.00	31.41
(9)	Lagged Deep Percolation	4.16	5.66	4.49	3.66	1.94	4.62	4.62	1.52	0.56	0.17	31.41
(10)	Net Lagged Depletions	2.09	7.66	15.04	11.99	3.45	2.62	0.00	-1.52	-0.56	-0.17	40.60
(11)	Net Lagged Depletions (cfs)	0.035	0.125	0.253	0.195	0.056	0.044	0.000	-0.026	-0.009	-0.003	

Notes:

(1) Equal to the 2002 headgate diversions up to 8 cfs (based upon CDSS database) multiplied by 0.685 cfs/8 cfs. The CWT is entitled to 0.685 cfs of the total 8 cfs decreed to the Hammond No. 2 Ditch Priority No. 19 water right.

(2) Equal to the 2002 headgate diversions (based upon CDSS database), less 4 cfs (the senior water right under the ditch), multiplied by 0.349 cfs/2 cfs. The CWT is entitled to 0.349 cfs of the 2 cfs decreed to the Tyron Ditch Priority No. 192 water right.

(3) Equal to (1) + (2).

(4) Ditch loss is assumed to equal 10% of the total ditch diversion.

(5) Equal to (3) - (4).

(6) Historical consumptive use (HCU) is based upon Blaney-Criddle analysis completed using the Integrated Decision Support Consumptive Use (IDSCU) Model and the 2002 climate data from NOAA's Fraser weather station. Crop coefficients calibrated for high altitude based upon SPDSS Task 59.1 Final Memorandum, March 18, 2005.

(7) Equal to (5) - (6) multiplied by 75% (surface return flow assumed to equal 75% of total return flow).

(8) Equal to (5) - (6) multiplied by 25% (ground water return flow assumed to equal 25% of total return flow).

(9) Total ground water return flows in (8) were lagged to the Fraser River using the Integrated Decision Support AWAS model and the following aquifer parameters. 96.5% of depletions effect the river within 4 months. The depletions were normalized so that 100% of depletions are accounted for within 4 months.
Transmissivity (T): 730 gallons/day/foot, based upon observation well pumping test in Grand County on the Fraser River.
Specific Yield (s): 0.000582, based upon observation well pumping test in Grand County on the Fraser River.
Approximate Aquifer Width (w): 4,255 feet
Distance from centroid of irrigated area to the Fraser River (x): 855 feet

(10) Equal to (5) - (7) - (9).

(11) Equal to (10) divided by number of days per month, converted to cfs.

Table 2
Colorado Water Trust
Hammond No. 2 Ditch and Tyron Ditch
Average Year (1989-2011) Historical Consumptive Use Analysis
(all values in ac-ft)

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
(1)	Hammond No. 2 Ditch Diversion Available for CWT	1.72	4.72	11.41	10.24	9.19	9.27	5.66	0.00	0.00	0.00	52.21
(2)	Tyron Ditch Diversion Available for CWT	0.00	0.82	4.61	5.12	0.76	0.00	0.00	0.00	0.00	0.00	11.31
(3)	Total Historical Average Diversion	1.72	5.54	16.02	15.37	9.95	9.27	5.66	0.00	0.00	0.00	63.52
(4)	Ditch Loss (10%)	0.17	0.55	1.60	1.54	0.99	0.93	0.57	0.00	0.00	0.00	6.35
(5)	Farm Headgate Delivery	1.55	4.99	14.42	13.83	8.96	8.34	5.09	0.00	0.00	0.00	57.17
(6)	Historical Consumptive Use	0.00	1.96	6.81	6.84	3.69	1.80	0.00	0.00	0.00	0.00	21.11
(7)	Surface Return Flow	1.16	2.27	5.70	5.24	3.95	4.91	3.82	0.00	0.00	0.00	27.04
(8)	Deep Percolation	0.39	0.76	1.90	1.75	1.32	1.64	1.27	0.00	0.00	0.00	9.01
(9)	Lagged Deep Percolation	0.26	0.59	1.46	1.66	1.43	1.58	1.37	0.45	0.15	0.05	9.01
(10)	Net Lagged Depletions	0.13	2.13	7.25	6.93	3.58	1.85	-0.10	-0.45	-0.15	-0.05	21.11
(11)	Net Lagged Depletions (cfs)	0.002	0.035	0.122	0.113	0.058	0.031	-0.002	-0.008	-0.003	-0.001	

Notes:

(1) Equal to the 1989-2011 average headgate diversions up to 8 cfs (based upon CDSS database) multiplied by 0.685 cfs/8 cfs. The CWT is entitled to 0.685 cfs of the total 8 cfs decreed to the Hammond No. 2 Ditch Priority No. 19 water right.

(2) Equal to the 1989-2011 average headgate diversions (based upon CDSS database), less 4 cfs (the senior water right under the ditch), multiplied by 0.349 cfs/2 cfs. The CWT is entitled to 0.349 cfs of the 2 cfs decreed to the Tyron Ditch Priority No. 192 water right.

(3) Equal to (1) + (2).

(4) Ditch loss is assumed to equal 10% of the total ditch diversion.

(5) Equal to (3) - (4).

(6) Historical consumptive use (HCU) is based upon Blaney-Criddle analysis completed using the Integrated Decision Support Consumptive Use (IDSCU)

(7) Equal to (5) - (6) multiplied by 75% (surface return flow assumed to equal 75% of total return flow).

(8) Equal to (5) - (6) multiplied by 25% (ground water return flow assumed to equal 25% of total return flow).

(9) Total ground water return flows in (8) were lagged to the Fraser River using the Integrated Decision Support AWAS model and the following aquifer parameters. 96.5% of depletions effect the river within 4 months. The depletions were normalized so that 100% of depletions are accounted for within 4 months.
Transmissivity (T): 730 gallons/day/foot, based upon observation well pumping test in Grand County on the Fraser River.
Specific Yield (s): 0.000582, based upon observation well pumping test in Grand County on the Fraser River.
Approximate Aquifer Width (w): 4,255 feet
Distance from centroid of irrigated area to the Fraser River (x): 855 feet

(10) Equal to (5) - (7) - (9).

(11) Equal to (10) divided by number of days per month, converted to cfs.

Table 3a
Colorado Water Trust
Hammond No. 2 Ditch and Tyron Ditch
Streamflow Benefit Due to Cessation of Irrigation in a *DRY YEAR*

		April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
(1)	Reach 1a & 1b: Ditch Headgate to Point of Historical Return Flow (ac-ft)	25.02	32.51	31.25	25.04	8.62	25.29	18.50	0.00	0.00	0.00
(2)	Reach 1a & 1b: Ditch Headgate to Point of Historical Return Flow (cfs)	0.420	0.529	0.525	0.407	0.140	0.425	0.301	0.000	0.000	0.000
(3)	Reach 2: Below Point of Historical Return Flow (ac-ft)	2.09	7.66	15.04	11.99	3.45	2.62	0.00	-1.52	-0.56	-0.17
(4)	Reach 2: Below Point of Historical Return Flow (cfs)	0.035	0.125	0.253	0.195	0.056	0.044	0.000	-0.026	-0.009	-0.003

Notes:

(1) Is equal to the 2002 farm headgate delivery available for the CWT beginning in August 2012 (as shown in Row 5 of Table 1).

(2) is equal to (1) divided by the number of days per month, converted to cfs.

(3) Below the point of historical return flow, the benefit to the Fraser River is equal to the historical net lagged depletion (Row 10 of Table 1).

(4) is equal to (3), divided by the number of days per month, converted to cfs.

Table 3b
Colorado Water Trust
Hammond No. 2 Ditch and Tyron Ditch
Streamflow Benefit Due to Cessation of Irrigation in an *AVERAGE YEAR*

		April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
(1)	Reach 1a & 1b: Ditch Headgate to Point of Historical Return Flow (ac-ft)	1.55	4.99	14.42	13.83	8.96	8.34	5.09	0.00	0.00	0.00
(2)	Reach 1a & 1b: Ditch Headgate to Point of Historical Return Flow (cfs)	0.026	0.081	0.242	0.225	0.146	0.140	0.083	0.000	0.000	0.000
(3)	Reach 2: Below Point of Historical Return Flow (ac-ft)	0.13	2.13	7.25	6.93	3.58	1.85	-0.10	-0.45	-0.15	-0.05
(4)	Reach 2: Below Point of Historical Return Flow (cfs)	0.002	0.035	0.122	0.113	0.058	0.031	-0.002	-0.008	-0.003	-0.001

Notes:

(1) Is equal to the average farm headgate delivery available for the CWT beginning in August 2012 (as shown in Row 5 of Table 2).

(2) is equal to (1) divided by the number of days per month, converted to cfs.

(3) Below the point of historical return flow, the benefit to the Fraser River is equal to the historical net lagged depletion (Row 10 of Table 2).

(4) is equal to (3), divided by the number of days per month, converted to cfs.