

DISTRICT COURT, WATER DIVISION NO. 1, COLORADO 901 9 th Avenue Greeley, Colorado 80631	EFILED Document – District Court 2003CW84 CO Weld County District Court 19th JD Filing Date: Mar 10 2009 2:14PM MDT Filing ID: 24145246
CONCERNING THE APPLICATION FOR WATER RIGHTS OF: CANNON WATER, LLP, and CANNON LAND COMPANY, IN ADAMS AND WELD COUNTIES, COLORADO.	<p style="text-align: center;">▲ COURT USE ONLY ▲</p> Case No.: 03CW84
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This matter comes before the court upon the Application of Cannon Water, LLP, and Cannon Land Company (collectively “Cannon” or “Applicants”) for a change of water rights. A trial to the court was held October 6, 2008 through October 8, 2008. Having reviewed and considered the pleadings, lay and expert testimony, documentary and other evidence, and the arguments of counsel, the court makes the following determinations:

I. CASE AND PROCEDURAL HISTORY

1. Cannon seeks to change its water rights. These water rights include: 141 shares in the Fulton Irrigating Ditch Company (“Fulton”); 4 and 11/12 shares in the Platteville Irrigating and Milling Company (“PIMC”); water rights in Mose Davis Reservoir No. 1 and its Enlargement (a.k.a. Fulton Waste Reservoir); and water rights in Mose Davis Lake No. 2. Cannon’s requested change will add the following uses to the currently decreed beneficial uses: augmentation, replacement of stream depletions, and recharge. Cannon is the owner of the Cannon Water Rights and has standing to bring this action.

2. Cannon seeks to change its interest in the following decreed water rights (collectively “Cannon Water Rights”):

The Fulton Ditch: Decree entered on April 28, 1883, in Case No. 6009, District Court, Arapahoe County, Colorado. The decreed point of diversion is on the east side of the South Platte River near Section 9 between Sections 16 and 17 in T2S, R67W of the 6th P.M. The source of the water is the South Platte River. The appropriation dates and amounts for the Fulton Ditch water rights are: May 1, 1865, for 79.70 c.f.s.; July 8, 1876, for 74.25 c.f.s., and November 5, 1879, for 50.23 c.f.s. The decreed use of the water rights is irrigation. Cannon is seeking to change its 141 shares in the Fulton Ditch, which shares represent, *inter alia*, a pro-rata portion of each of the Fulton Ditch water rights.

The Platteville Irrigating and Milling Ditch (“Platteville Ditch”): Decree entered on April 28, 1883, in Case No. 6009, District Court, Arapahoe County, Colorado. The decreed point of diversion is on the South Platte River in Section 31, T2N, R66W of the 6th P.M. The source of water is the South Platte River. The Platteville Ditch’s water rights appropriation dates and amounts are: July 1, 1862, for 47.88 c.f.s.; January 1, 1871, for 5.25 c.f.s.; and October 15, 1873, for 94.25 c.f.s. The decreed use of the water rights is irrigation. Cannon is seeking to change its 4 and 11/12th shares in the PIMC, which shares represent, *inter alia*, a pro-rata portion of each of the Platteville Ditch’s water rights.

Mose Davis Reservoir No. 1 and its Enlargement: (a.k.a. Fulton Waste Reservoir): Decree entered on November 27, 1906, in Case No. 40823, by the District Court, City and County of Denver. The decreed location of the reservoir is in the SW ¼ of Section 3, SE ¼ of Section 4, the NE ¼ of Section 9, and the NW ¼ of Section 10, all in T2N, R66W of the 6th P.M. The source of water is the South Platte River through the Fulton Ditch as well as “such seepage, waste, or surplus water as may be turned or discharged from the said Fulton Ditch” The reservoir’s appropriation dates and amounts are April 3, 1905, for 352.38 acre-feet; and April 25, 1906, for 173.23 acre-feet. The decreed use of the water right is irrigation.

Mose Davis Lake No. 2: Decree entered on September 23, 1970, Case No. W-34, District Court, Water Division No. 1. The decreed location of the reservoir is in the SW ¼ of Section 4, T2N, R66W of the 6th P.M. The western point of the high water line is located approximately 900 feet east of the west quarter corner of Section 4. The source is Fulton Ditch, wastewater, seepage water, and floodwater. The appropriation date and amount for the reservoir is September 30, 1928, for 153.53 acre-feet. The decreed uses of the water right are irrigation, stock water, and recreation.

3. Statements of Opposition were filed by the City of Aurora, Bijou Irrigation Company and Bijou Irrigation District, the City of Boulder, Centennial Water and Sanitation District, Co-Generation Holdings, LLC, the City of Englewood, Freund Investments, Inc., Farmers Irrigation and Reservoir Company (FRICO), Public Service Company of Colorado d/b/a Xcel Energy, South Adams County Water and Sanitation District, and the City of Thornton. The time for filing Statements of Opposition has expired. The Bijou Irrigation Co. and Bijou Irrigation District withdrew their Statement of Opposition on January 5, 2006. All of the remaining Opposers except for FRICO have stipulated to a form of decree at least as restrictive as the Proposed Decree filed with the court on October 3, 2008.

4. Proper notice is fundamental to the court's jurisdiction over parties, in part, "[b]ecause a water rights decree issued without adequate resume notice is void and can be challenged at any time." *Board of County Comm'rs of Arapahoe v. Collard*, 827 P.2d 546, 552 (Colo. 1992); *see also Danielson v. Jones*, 698 P.2d 240, 244-46 (Colo. 1985) (stating that a water court may only consider those matters that are properly presented in an application in a manner that provides appropriate notice to potential objectors.)

5. Applicants must strictly comply with the résumé notice system. *In re Water Rights of Columbine Ass'n*, 993 P.2d 483, 491 (Colo. 2000); *see also* § 37-92-302, C.R.S. (2008). "[C]ompliance with the notice provisions of the [1969] Act must be judged with reference to the underlying purpose of the notice: to put interested parties to the extent reasonably possible on inquiry notice of the nature, scope, and impact of the proposed diversion." *Closed Basin Landowners Ass'n v. Rio Grande Water Conservation Dist.*, 734 P.2d 627, 634 (Colo. 1987); *City of Black Hawk v. City of Central*, 97 P.3d 951, 959 (Colo. 2004). "Inquiry notice requires sufficient facts to attract the attention of interested person and prompt a reasonable person to inquire further. The receipt of inquiry notice charges a party with notice of all the facts that a reasonably diligent inquiry would have disclosed." *Monoghan Farms, Inc. v. City and County of Denver Bd. of Water Comm'rs*, 807 P.2d 9, 15 (Colo. 1991).

6. A review of the pleadings and the record in this manner establishes the following:

6.1. Proper and adequate notice of filing and contents of the Application were given in the manner required by law. The court has jurisdiction over the subject matter of the Application, has jurisdiction to enter this decree pursuant to § 37-92-304, C.R.S., and has jurisdiction over all persons who have standing to appear as parties, regardless of whether they have appeared. Neither the land nor the water rights involved in this application are located within the boundaries of a designated ground water basin.

6.2. The Division Engineer held a Summary of Consultation on June 19, 2003, and Cannon served a copy of the Summary of Consultation to the parties on June 27, 2003. The court has duly considered the Summary of Consultation in entering this Order.

7. Prior to trial, Cannon and FRICO reached agreement on a number of issues not in dispute in the trial. Those matters included: the acres actually historically irrigated on the Cannon property; the historical crop mix on the historically irrigated lands; the methodology for determination of crop consumptive use, including the use of the Penman-Monteith method and the calibrated crop coefficients that were derived from that methodology and then used with the modified Blaney-Criddle method; the correctness of the value used by Cannon for sprinkler irrigation efficiency; the validity of the IDSCU model to compute crop consumptive use; the Applicants' allocation of return flow between surface water return flows and groundwater return flows from historically irrigated lands; the methodology used for lagging return flows back to the South Platte from the historically irrigated lands and the lagging factors; the lagging factors used for water placed in a recharge pond; the methodology for determining actual dry-up; the title to the water rights to be changed; and the compilations of diversion records for the Platteville Ditch and the Fulton Ditch.

8. The issues specifically reserved by FRICO for trial were the methodology used by Cannon for determination of flood and furrow irrigation efficiency and the amount of ditch loss on both ditches. In addition, FRICO claims that there has been an illegal expansion of the Platteville Ditch water rights and the Fulton Ditch water rights. FRICO also claims that the Mose Davis Reservoir No. 1 were never adjudicated as part of a general adjudication for Water District No. 2, dated August 2, 1918, and thus are junior in administrative order to all rights and decrees adjudicated in 1918 general adjudication. FRICO claims that neither the Mose Davis Reservoir No. 1 nor the Mose Davis Lake No. 2 historically have diverted from the South Platte River, and thus do not have a continued right to claim or call for water from the South Platte.

II. EVIDENCE PRESENTED AT TRIAL

9. Cannon called Mr. Brown W. Cannon as a lay witness in support of the Application. Cannon called Michael J. Ballantine, P.E., and Mark A. McLean, P.E., experts in water rights engineering and water resources engineering, to testify in support of the Application.

10. FRICO called Duane Helton, P.E., as an expert in water rights and water resources engineering to testify in opposition to certain aspects of the Application.

11. Mr. Cannon is the President of Cannon Land Company, the managing partner of Cannon Water, LLP, and a member of the PIMC Board of Directors. He described to the court the historical irrigation practices on the Cannon property and the Platteville Ditch's diversion works, delivery structures, and other ditch facilities. In 1952, the Cannon family first bought a portion of the property historically irrigated by several Platteville Ditch shares at issue in this case. Mr. Cannon has been continuously involved in the agricultural operations on the property since his family first acquired it and, upon graduating college in 1968, began working on the property. In

1970, Mr. Cannon became president of Cannon Land Company and has worked on, or has been actively involved in, the agricultural operations on the property since that time.

12. Mr. Cannon's testimony established that the Applicants seek this change of water rights to provide water to replace stream depletions caused by water use at the Fort Lupton Cogeneration Power Facility. Cannon has entered into a contract with Cogeneration Holdings LLC ("Cogen") to provide replacement water for up to 1,500 acre-feet per year of stream depletions caused by water used at the Fort Lupton Cogeneration Power Facility located in the NE ¼ of Section 33, T2N, R66W of the 6th P.M. as shown in Appendix A. The purpose of this application is to quantify the historical use of the Cannon Water Rights and change them so that the historical consumptive use will be made available to replace up to 1,500 acre-feet of stream depletions annually during the term of the lease. For the period February 1, 2008, through January 31, 2013, Cannon is only required to provide 1,200 acre-feet of replacement water for the Fort Lupton Cogeneration Power Facility, but the total quantity of replacement water required may increase to 1,400 acre-feet per year during the next 5-year term of the current lease.

A. Platteville Ditch

13. PIMC is a mutual ditch company with 24.5 shares issued and outstanding. The PIMC delivers water through the Platteville Ditch to its shareholders and to one contract water user, the "Ewing Farm." The Ewing Farm is the first farm headgate on the Platteville Ditch and is contractually entitled to receive the first 150 inches (3.9 c.f.s.) of diversions for irrigation on the 85-acre Ewing Farm in the S ½ of Section 30, T2N, and R66W of the 6th P.M. *See Appendix A.* The contract is limited to this land and prohibits diversions from the ditch in excess of the irrigation needs of the land. The balance of the water diverted by the water rights of the Platteville Ditch is for the benefit of the PIMC stockholders.

1. Historical Use of Cannon's Share of Platteville Ditch Water

14. Mr. Ballantine testified regarding the investigations performed by Deere & Ault Consultants (D&A) to determine the historical water use of Cannon's Platteville Ditch water rights during the Study Period of 1950 through 2002 ("Study Period"). Mr. Ballantine testified that the 53-year Study Period was chosen because it contains wet, average, and dry years, and is representative of the historical use of the Platteville Ditch water rights. In addition, the data available concerning the historical use of the Platteville Ditch water rights for the Study Period, including cropping data, climatic data, and irrigated lands, is more complete and reliable than the data available in earlier years. The Study Period ended in 2002 because by 2003, the water attributable to a number of Cannon's shares had been removed from irrigation and used in successive Substitute Water Supply Plans. This is a representative and reliable Study Period for the purposes of this case.

14.1. D&A determined the historically irrigated acreage of Cannon's Platteville Ditch lands by review of aerial photography and from an irrigation history provided by Cannon and its employees, who have knowledge of the irrigation of this land since the early 1950s. Based on its investigation, D&A determined that Cannon's 4 and 11/12 shares in

PIMC were historically used to irrigate an average of 618.2 acres of land located in Sections 7, 8, 17, 18, and 19, T2N, R66W of the 6th P.M.

2. *Historical Diversions*

15. The uncontested evidence establishes that during the Study Period, the diversions by the Platteville Ditch at the river headgate averaged 19,317.8 acre-feet per year, ranging from a low of 10,098 acre-feet in 1967 to a high of 323,480.6 acre-feet in 1998. After excluding water delivered under the Ewing Contract, the historical diversions during the Study Period available to PIMC shareholders averaged 18,981.36 acre-feet per year, or 774.8 acre-feet per share annually, and ranged from a low of 402.5 acre-feet per share in 1967, to a high of 1,310.4 acre-feet per share in 1998.

16. The pro-rata share of river headgate diversion attributable to Cannon's 4 and 11/12 shares averaged 3,876.7 acre-feet per year during the Study Period, ranging from a low of 2,026.5 acre-feet in 1967 to a high of 6,518.2 acre-feet in 1998. After excluding water delivered under the Ewing Contract, Cannon's pro-rata share of historical diversions during the Study Period averaged 3,809.2 acre-feet per share annually, ranging from a low of 1,978.8 acre-feet in 1967 to a high of 6,442.9 acre-feet in 1998. In the severe drought year of 2002, Cannon's pro-rata share of Platteville Ditch's diversions was 4,420.0 acre-feet.

17. To determine the quantity of water historically consumed by the irrigation with Cannon's 4 and 11/12 shares, it is necessary to estimate ditch delivery losses, ditch loss, to the farm headgates. D&A conducted ditch loss measurements on the Platteville Ditch, studied the types of soils through which the ditch passes, and interviewed ditch company officials and ditch riders. Based on its investigation, D&A concluded that the ditch losses vary between 20% early in the season to 7% near the end of the irrigation season, and average approximately 15% annually. FRICO questioned the accuracy of D&A's methodology for determining ditch loss in its cross-examination of Mr. Ballantine, but did not provide any evidence regarding an alternative ditch loss amount that should have been used by D&A in its analysis. The court finds that the methodology for determining ditch loss employed by D&A is reasonable for purposes of this case.

18. When the average ditch loss is applied to river headgate diversions, Cannon's pro-rata interest of water available for farm headgate delivery to shareholders attributable to its 4 and 11/12 shares averaged 3,237.8 acre-feet per year. Cannon did not use a portion of Cannon's pro-rata share of this water, and this portion reduced Cannon's farm headgate deliveries to an average of 2,194.8 acre-feet per year.

3. *Historical Consumptive Use of Irrigation Water*

19. In determining historical consumptive use of irrigation water, it is necessary to determine the type of crops grown on the historically irrigated land during the Study Period. The parties stipulated to the historical crop types. Mr. Cannon testified regarding the crops historically grown on the Cannon Platteville property. D&A also interviewed Cannon and its employees concerning the crops grown during the Study Period. Based on these investigations, Mr.

McLean's undisputed testimony established that the historical crop mix on the Cannon Property averaged 295.0 acres of alfalfa (47.7%), 240.5 acres of corn (38.9%), 58.9 acres of small grains (9.5%), 16.0 acres of grass pasture (2.6%), and 7.8 acres of sugar beets (1.3%). Mr. McLean's opinion also relied on a ditch-wide cropping pattern during the period 1950-1968 for the Erickson ½ share as discussed below.

20. There are several accepted methods for determination of evapotranspiration by irrigated crops, including the Modified Blaney-Criddle Method and the American Society of Civil Engineers ("ASCE") standardized Penman-Monteith Method. The parties stipulated to Cannon's use of the Penman-Monteith Method.

21. The Penman-Monteith Method provides a more reliable estimate of reference evapotranspiration in arid climates. The Penman-Monteith Method uses temperature, precipitation, humidity, wind-speed, and solar radiation data to estimate reference evapotranspiration. In contrast, the Modified Blaney-Criddle Method uses only temperature and precipitation data for this purpose. The climate data required for Penman-Monteith Method is not available throughout the Study Period, but the data for the Modified Blaney-Criddle is generally available throughout the Study Period.

22. The absence of the climate data needed for the Penman-Monteith Method for the entire Study Period does not mean that this more reliable method cannot be used for potential consumptive use in this change of water rights. Rather, to do so would require the development of "calibrated crop coefficients" for use with the Modified Blaney-Criddle Method, the use of which allows that method to match more closely the potential consumptive use results predicted with the Penman-Monteith Method. D&A developed calibrated crop coefficients by computing the monthly potential consumptive use for each of the crops historically grown on Cannon's irrigated lands served by the Platteville Ditch, utilizing both the Modified Blaney-Criddle Method and the ASCE standardized Penman-Monteith Method. The monthly consumptive use values from each method were compared and a monthly calibration factor determined for each crop. The calibration factors were applied to adjust the crop coefficients typically used with the Modified Blaney-Criddle Method. The resulting calibrated crop coefficients were used in the Modified Blaney-Criddle Method to estimate historical crop consumptive use.

23. The Applicants' use of the Penman-Monteith Method to develop calibrated crop coefficients for use with the Modified Blaney-Criddle Method is both a generally accepted and scientifically valid method for obtaining more accurate estimates of historical crop consumptive use. The Applicants' use of calibrated crop coefficients with the Modified Blaney-Criddle Method resulted in a more accurate estimate of historical crop consumptive use during those parts of the Study Period when only the data required for use of the Modified Blaney-Criddle Method was available.

a. Irrigation Efficiency

24. To determine the historical consumptive use of irrigation water, it is also necessary to determine irrigation efficiency. Irrigation efficiency is the ratio of the amount of irrigation water available for crop consumption compared to the amount of farm headgate delivery. Mr. McLean

testified that in his original expert disclosures dated January 2008 and revised in April 2008, he used a method described in the Ames Irrigation Handbook (“Ames Method”) to determine Cannon’s historical flood/furrow irrigation efficiency. In May 2008, Mr. McLean learned that in the trial of Case No. 02CW403, this court had not allowed the presentation of expert opinion testimony based upon the Ames Method on the grounds that the scientific reliability of the Ames Method had not been adequately demonstrated in that trial. In FRICO’s expert report disclosure dated June 11, 2008, Mr. Helton refers to the 02CW403 case and states that based on the court’s ruling in that case regarding the Ames Method, “the D&A estimates of irrigation efficiency . . . do not appear to be [sic] to provide an adequate basis for the adjudication of the water rights requested in Case No. 03CW84.” D&A performed an analysis of Cannon’s flood/furrow irrigation efficiency using the United States Department of Agriculture’s Farm Irrigation Rating Index, Version 1.2 (“FIRI Method”), and included the results of that analysis in its rebuttal expert disclosures.

25. The FIRI Method, which was developed by the United States Department of Agriculture Natural Resources Conservation Service (NRCS), is a method for estimating maximum efficiency. The FIRI Method considers the method of irrigation, management factors, and other system factors. The system factors include, among others, water management, soil moisture, monitoring and scheduling, irrigation skill and action, maintenance, water delivery, soil condition, water distribution, control, conveyance efficiency, land leveling, and tailwater reuse. The FIRI Method begins with potential maximum irrigation efficiency for the irrigation method involved and then reduces it by applying various system and management factors to represent actual farm conditions. D&A used version 1.2 of FIRI, the version recommended by the State of Colorado NRCS. Version 1.2 uses a uniformity distribution approach to calculate the impact of each of the management and system factors on overall efficiency.

26. FRICO objects to the use of the FIRI Method, claiming: (1) it was improper for Cannon to use this method for the first time in its rebuttal expert disclosures; and (2) the scientific validity of the FIRI Method had not been demonstrated. FRICO argues that because Mr. Helton did not submit any determinations in his report based on the FIRI Method, instead noting that the Ames Method previously had been excluded by the court in another case, the Applicants’ July 18, 2008 rebuttal expert report constituted an improper disclosure of new evidence to which FRICO had no opportunity to respond. Cannon argues that FRICO’s June 10, 2008 expert disclosures placed at issue the adequacy of the Ames Method for purposes of this case.

27. FRICO placed at issue the reliability of the Ames Method in its expert disclosures and that the Applicant was entitled to respond to that claim. FRICO was not prejudiced by the Applicants’ use of the FIRI Method in its rebuttal disclosures because after receipt of the Applicants’ rebuttal expert disclosures, FRICO could have filed a motion for leave to file a surrebuttal report to respond to the Applicants’ use of the FIRI Method, or filed a Motion in Limine within the time provided by the Case Management Order seeking to exclude that evidence at trial.

28. FRICO also objects to the admissibility of the FIRI Method for determining irrigation efficiency, claiming that Cannon did not comply with CRE 702 and the Colorado Supreme

Court's opinion in *People v. Schreck*, 22 P.3d 68 (Colo. 2001). Specifically, FRICO objects to the use of 0.6 as the baseline for the Potential Efficiency ("PE") for flood irrigation.

29. Rule 702 states, "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill experience, training, or education, may testify thereto in the form of an opinion or otherwise." An expert's testimony is admissible under CRE 702 if it is reliable and relevant. See *Schreck*, 22 P.3d at 77. Here, there was no dispute that Mr. McLean's testimony is relevant. The only question before the court is whether the FIRI Method is reliable enough to be admitted into evidence.

30. FRICO claims that because the published FIRI Method does not provide any empirical data, assumptions, or other bases upon which the PE for flood irrigation was determined, to admit Mr. McLean's expert testimony based upon the FIRI Method, Mr. McLean must (1) confirm the validity and reliability of PE value, and (2) confirm the applicability of the particular PE value used by D&A to the circumstances being evaluated as a condition for the admissibility of such testimony.

31. FRICO argues, although it does not contest that the FIRI Method is generally accepted as reliable and valid by experts in the water resources engineering community, Mr. McLean needed to have investigated the underlying data used in the FIRI methodology to determine independently with "reasonable scientific certainty" the validity and reliability of the method. Thus, the effect of FRICO's argument is that CRE 702 requires more proof to establish the admissibility of expert opinion testimony.

32. Mr. McLean's testimony established that the FIRI Method was developed as a collaboration among the conservation engineers in the NRCS and was reviewed by the water resources community in the western United States. Mr. McLean's testimony also established that the NRCS irrigation engineers are considered to be the experts in this field, and that the FIRI Method has been accepted by the water resources community as a reliable method for estimating irrigation efficiency. Mr. McLean testified that FIRI Version 1.2 is the method recommended by the Colorado office of the NRCS. Mr. McLean's testimony established a sufficient basis under CRE 702 for the admission of expert testimony based on the FIRI Method Version 1.2. FRICO offered no evidence to establish that the FIRI Method was not scientifically reliable or was not a proper basis for expert testimony under CRE 702.

33. The standard of admissibility under CRE 702 is relevance and reliability, not certainty. *People v. Martinez*, 74 P.3d at 322; see also *People v. Ramirez*, 155 P.3d at 371 (holding that medical expert testimony does not require "a reasonable degree of medical certainty or probability"). Based upon the standards of *Martinez* and *Schreck*, as well as the evidence presented by Applicants, Mr. McLean's opinion testimony regarding the irrigation efficiency on the Cannon lands using the FIRI Method is admissible. The FIRI Method was developed by the acknowledged experts in the subject, has been tested and subjected to peer review, is generally accepted as reliable by the relevant scientific community, and has been admitted as a proper basis for expert opinion testimony offered by FRICO's expert and others in Case No. 02CW403. Therefore, the FIRI Method meets the standards of CRE 702.

34. Mr. McLean testified that D&A evaluated the irrigation efficiency for the Cannon lands irrigated by the Platteville Ditch and Fulton Ditch (discussed *infra*). As part of its evaluation, D&A looked at water distribution, conveyance efficiency, land leveling, measurement of water, soil moisture monitoring, the skill of the irrigator, the maintenance of the irrigation systems, the water supply, the soils, and tailwater reuse.

35. Mr. McLean testified that he reviewed several different methods for determining irrigation efficiency, including the Ames Method, the FIRI Method, and reviewed literature on the subject. Applicants' Exhibit 78A, Table 7 shows the ranges of irrigation efficiencies for flood and furrow irrigation. D&A reviewed these sources to make sure that the irrigation efficiencies it had calculated were reasonable and appropriate. In addition, D&A reviewed the irrigation efficiencies included in cases involving changes of use of Fulton Ditch water rights to confirm that the proposed irrigation efficiencies were comparable. In general, the irrigation efficiencies for flood and furrow irrigation claimed in those cases were higher than the efficiencies claimed by the Applicant in this case.

36. The principal factors influencing irrigation efficiency are the method of irrigation, how well the system is managed, water supply in the conveyance structures, and the layout of the fields. Mr. McLean testified that the field soils, including soil improvement practices, also influence irrigation efficiency. Mr. McLean's testimony stated that the Cannon Platteville system has a good water supply, is very well managed, and that Cannon employs excellent soil improvement practices.

37. During the Study Period, the majority of the lands served by the Platteville Ditch were flood and furrow irrigated during the Study Period. Beginning in the 1960s and continuing thereafter, some of Cannon's lands were irrigated with sprinklers. At the end of the Study Period, Cannon irrigated 336 acres out of 658 acres, 51% of the total, with sprinklers. D&A determined the maximum irrigation efficiency for the flood-irrigated lands during the Study Period was 52%, and the maximum irrigation efficiency for furrow irrigated lands during the Study Period was 66%. D&A then applied a maximum irrigation efficiency of 85% to the lands under sprinkler irrigation. Using these irrigation efficiencies and the history of irrigation methods used on the irrigated lands, D&A determined annual maximum irrigation efficiencies for Cannon's lands during the Study Period that varied from 52% in 1950 to 72% in 2002, peaking at 74% in the early 1970s. Over the Study Period, Cannon's Platteville lands that were flood and furrow irrigated averaged 404.9 acres at a maximum irrigation efficiency of 57%, while sprinkler irrigated lands averaged 213.3 acres at a maximum irrigation efficiency of 85%. The overall average weighted maximum irrigation efficiency on Cannon's Platteville lands was 65%.

38. Return flows to the South Platte River from the operation of the Platteville Ditch and the irrigation of Cannon's Platteville lands during the Study Period resulted from: ditch seepage losses; releases to the river from the ditch's wasteway of water not then needed for irrigation or tailwater returned to the river at the lower end of the ditch; surface run-off from irrigation; and deep percolation from irrigation.

39. Mr. McLean testified, based on his professional experience and interviews with Mr. Cannon and his long-time farm manager, about the locations of the lands, the types of soils, the types of irrigation practices, and the return flows from Cannon’s Platteville land. The evidence established that during the Study Period, the surface run-off from Cannon’s Platteville lands was 30% of the unconsumed water used for flood and furrow irrigation, averaging 207.2 acre-feet per year (9% of farm headgate deliveries). The evidence also established that deep percolation averaged 762.1 acre-feet per year (35% of farm headgate deliveries) during the Study Period. The deep percolation was lagged to the South Platte River using the AWAS model with the alluvial aquifer method. Return flows from historical use on Cannon’s land of Cannon’s 4 and 11/12th shares returned to the South Platte River above the headgate of the Meadow Island No. 2 ditch, located in the NW¼, SE¼, NW¼, Section 1, T2N, R67W of the 6th P.M. Tr. Vol. 1 at 139-40.

40. Net stream depletions (historical consumptive use) attributable to Cannon’s 4 and 11/12th shares averaged 1,225.5 acre-feet per year during the Study Period. The monthly net stream depletions, in acre-feet, for the 4 and 11/12th shares are as follows (numbers in parentheses indicate accretions to the river):

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(59.6)	(53.2)	(47.7)	14.1	185.0	360.4	451.7	348.9	200.3	(27.4)	(78.9)	(68.1)

B. The Fulton Ditch and Mose Davis Reservoirs

41. The Fulton Ditch diverts from the east side of the South Platte River near Section 9 and between Sections 16 and 17 in T2S, R67W of the 6th P.M. From that point, it travels in a generally northeasterly direction some 26 miles to the last delivery ditch known as the Fulton Extension Ditch. The Fulton Extension Ditch is approximately 2.5 miles long and terminates in the Mose Davis Reservoir No. 1 and Mose Davis Lake No. 2 (collectively “Mose Davis Reservoirs”). *See Appendix A.* The Fulton Ditch currently has decrees for a total of 204.18 c.f.s.

42. The Fulton Ditch is owned by the Fulton Irrigating Ditch Company, a mutual ditch company. Accordingly, the water in the Fulton Ditch is allocated among its shareholders pro rata based upon the number of shares of each shareholder and the needs of the shareholder. Mr. Cannon testified that Cannon receives its pro rata share of Fulton Ditch water over the course of an irrigation season, not necessarily on a daily basis. Fulton shareholders have different needs with regard to timing and application based upon their individual crops and operations, and do not all need or pull water from the Fulton Ditch at the same time. Accordingly, at times, shareholders are able to take more than their pro rata share of the water present in the ditch.

43. The lands historically irrigated by Cannon’s Fulton Ditch shares are referred to as the “Fulton/Davis lands.” Cannon has owned this land since 1969. The Fulton/Davis lands are located at the end of the Fulton Extension Ditch. Cannon currently has one farm headgate on the Fulton Extension Ditch, which terminates in the Mose Davis Reservoirs. *See Appendix A.* Over the course of the irrigation season, the Fulton/Davis lands received, *inter alia*, Cannon’s Fulton Ditch water rights less delivery losses (“Fulton Ditch share water”) and the Mose Davis

Reservoirs' water. The Fulton/Davis lands were historically irrigated through Cannon's farm headgates, which delivered water to one or more flood irrigated fields lying south and west of Mose Davis Reservoir No. 1, and through the reservoirs, which delivered water to the balance of the irrigated lands.

44. Mr. McLean testified regarding his determination of the historically irrigated acreage on the Fulton/Davis lands based on his review of aerial photography and from irrigation history provided by Mr. Cannon. Based upon his investigation, Mr. McLean determined that an average of 547.4 acres was irrigated during the Study Period.

45. Historically, there was no continuous measurement of water delivered to the Fulton/Davis lands, and there was no measurement of deliveries into, or releases out of, the Mose Davis Reservoirs. Accordingly, water use of the Mose Davis Reservoirs was quantified based on Cannon's experience in using the reservoirs. On average, the water stored in the Mose Davis Reservoirs were used for irrigation starting in early July and were drawn down to approximately one-third of their total storage capacity by the middle of September. At that time, water generally again became available for storage in the reservoirs. When the Fulton Ditch river headgate diversions stopped for the season, usually around November 1, the Mose Davis Reservoirs typically had been filled to approximately three-quarters capacity. The Mose Davis Reservoirs stored winter inflows. When Fulton Ditch river headgate diversions began, usually in March or April, the Mose Davis Reservoirs resumed filling and typically filled before July. From July 1 to the middle of September, the Mose Davis Reservoirs were drawn down as the stored water was used for irrigation.

46. Mr. McLean testified that D&A assumed the ditch loss in the Fulton Ditch averaged 20% of river headgate diversions. This ditch loss was confirmed by Mr. McLean with the superintendant for the Fulton Ditch and has been used in other changes of Fulton Ditch water rights entered by this court. This is a reasonable estimate of ditch loss of the purposes of this case.

47. D&A used the same basis to estimate irrigation efficiency for the Fulton/Davis lands they used for the Cannon Platteville Ditch lands. Based upon its investigations, D&A determined that flood irrigation efficiency on the Fulton/Davis lands was 49%, and sprinkler irrigation efficiency was 85%. Over time, Cannon converted many of the Fulton/Davis lands from flood irrigation to sprinkler irrigation. Total irrigated acreage changed as center pivot sprinklers were added, fields were removed from irrigation, and different fields were irrigated. D&A determined the overall efficiency on the Fulton/Davis lands by pro-rating the flood and sprinkler efficiencies according to their acreages. The overall system efficiency for the Study Period varied from 49% for the period 1950-1968, to 82% for the period 1980-2002.

48. From 1950 to 1969, the Fulton/Davis lands grew equal acreages of alfalfa and grass hay. After purchasing the land in 1969, Cannon changed approximately 12.5% of the acreage to corn and 12.5% of the acreage to small grains, growing alfalfa on the balance.

49. D&A calculated the potential crop consumptive use for the Fulton/Davis lands using the same method used for Cannon's Platteville lands. D&A also used the IDSCU water budget

model to calculate the irrigation water requirements for the historically irrigated Fulton/Davis lands. D&A calculated the total potential consumptive use for the Fulton/Davis lands as 1,247.1 acre-feet per year. No consumptive use was included for November, and no consumptive use was included for October in the years when the Fulton Ditch water rights were not diverted in October. Cannon's Fulton Ditch share water and Mose Davis Reservoirs water did not yield sufficient water to satisfy the full potential consumptive use on the historically irrigated land, and therefore it is necessary to determine separately the historical consumptive use of water from each of these sources.

50. Based upon Mr. McLean's testimony, during the Study Period, the historical consumptive use of Cannon's Fulton Ditch share water on the Fulton/Davis lands averaged 309.5 acre-feet per year. In addition, during the Study Period, an average of approximately 450 acre-feet of Mose Davis Reservoirs water was used to irrigate the Fulton/Davis lands, typically during July through mid-September, resulting in 289.6 acre-feet of average historical consumptive use on the Fulton/Davis lands.

51. D&A calculated the total historical consumptive use for Cannon's 141 Fulton shares and Mose Davis Reservoirs water during the Study Period as 599.1 acre-feet per year ($309.5 + 289.6 = 599.1$) on 547.4 acres. Based on the Study Period average historical consumptive use, 51.7% of the average historical consumptive use of 599.1 acre-feet is attributable to the Fulton Ditch share water and 48.3% of the average historical consumptive use of 599.1 acre-feet is attributable to the Mose Davis Reservoirs water. To allow separate use for Augmentation Use of the Fulton Ditch share water and the Mose Davis Reservoirs water, Mr. McLean testified that the historically irrigated acreage was pro-rated between these two sources of water using the same percentages, with 282.8 acres of the historically irrigated 547.4 acres being allocated to the Fulton Ditch share water and the remaining 264.6 acres of the historically irrigated 547.4 acres being allocated to the Mose Davis Reservoirs water.

52. D&A determined the farm surface runoff, deep percolation, and total return flows for the Study Period on the Fulton/Davis lands from the use of Cannon's 141 Fulton shares and the Mose Davis Reservoirs. Based on the proximity of the land to surface drainages and the soil composition, D&A estimated that 30% of the total farm return flow was surface runoff, and the remaining 70% was groundwater return flow for flood-irrigated fields. All return flows from sprinkler-irrigated fields were assumed to be deep percolation.

53. The surface runoff attributable to the Fulton Ditch share water averaged 22.7 acre-feet per year (5% of farm headgate deliveries). The deep percolation attributable to the Fulton Ditch share water averaged 103.0 acre-feet per year (24% of farm headgate deliveries). Total return flows averaged 125.7 acre-feet per year (29% of farm headgate deliveries). Return flows from historical use of Cannon's Fulton Ditch share water returned to the South Platte River above the headgate of the Meadow Island Ditch No. 2.

54. The surface runoff attributable to the irrigation use of Mose Davis Reservoir water averaged 37.3 acre-feet per year (9% of farm headgate deliveries). The deep percolation attributable to the Mose Davis Reservoir releases averaged 123.0 acre-feet per year (27% of farm headgate deliveries). Total return flows averaged 160.3 acre-feet per year (36% of farm

headgate deliveries). Return flows from historical use of the Mose Davis Reservoir water returned to the South Platte River above the headgate of the Meadow Island No. 2 Ditch.

55. D&A determined the timing and quantity of groundwater return flows from the Fulton/Davis lands using the Return Flow Lagging Factors.

56. D&A calculated that the historical net stream depletions (historical consumptive use) resulting from Cannon’s use of Fulton Ditch water on the Fulton/Davis lands are equal to Cannon’s farm headgate delivery of its Fulton Ditch share water minus surface runoff and lagged groundwater return flow. The historical net stream depletions attributable to Cannon’s Fulton Ditch share water averaged 309.5 acre-feet per year. Average monthly historical net stream depletions for Cannon’s Fulton Ditch shares are as follows (numbers in parentheses indicate accretions to the river):

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(8.7)	(8.7)	(1.3)	16.2	45.8	68.1	87.7	74.1	40.8	12.7	(8.6)	(8.6)

57. Historical return flows attributable to Cannon’s Mose Davis Reservoirs water rights averaged 160.3 acre-feet per year in the following monthly amounts.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10.3	10.4	10.5	10.6	10.4	10.2	27.8	23.9	15.6	10.1	10.2	10.3

Of these amounts, 37.3 acre-feet occurred as surface run-off in the following monthly amounts: July – 17.8 acre-feet; August – 13.9 acre-feet; and September – 5.6 acre-feet.

III. PRINCIPLE ISSUES IN DISPUTE AT TRIAL

58. Cannon and FRICO dispute whether the changes in the application will injure other users and whether such changes accurately reflect the historical consumptive use that is the measure of the appropriations at issue. “A change of water right . . . shall be approved if such change . . . will not injuriously affect the owner of or persons entitled to use water under a vested water right or a decreed conditional water right.” § 37-92-305(3)(a), C.R.S. “Actual beneficial use is the basis, measure, and limit of an appropriation.” *High Plains A&M, LLC v. Southeastern Colo. Water Conservancy Dist.*, 120 P.3d 710, 719 (Colo. 2005) (citing *Santa Fe Trail Ranches Prop. Owners Ass’n v. Simpson*, 990 P.2d 46, 54 (Colo. 1999)). “Over an extended period of time, a pattern of historic diversions and use under the decreed right at its place of use will mature and become the measure of the appropriation for change purposes.” *High Plains A&M*, 120 P.3d at 719 (citing *In re Application for Water Rights of Midway Ranches Prop. Owners Ass’n Inc.*, 938 P.2d 515, 521 (Colo. 1997)).

A. Platteville Ditch

1. *Place of Use of the Platteville Ditch Water Rights*

59. FRICO claims that the 1862 and 1871 Platteville Ditch water rights were not intended to be used beyond the first mile of the Platteville Ditch. As such, FRICO claims that any use of the 1862 and 1871 priorities beyond the first three-quarters of a mile of the Platteville Ditch constitutes an illegal expansion of use. FRICO's claims rely upon the Findings of the Referee in Case No. 6009, as well as testimony by representatives of the Platteville Irrigating and Milling Company and others.

60. Specifically, FRICO argues: (1) the Platteville Irrigating and Milling Company was not incorporated until 1879, and therefore could not have had any appropriative intent dating to 1862 or 1871; (2) the claims relating to the 1862 and 1871 priorities were solely attributable to David Ewing or his predecessor in interest, the Mark Will Ditch, were solely intended for the irrigation of 158 acres titled to Mr. Ewing in 1866, and did not extend more than one mile beyond the point of diversion on the South Platte River; (3) irrigation of lands beyond the Ewing lands did not begin until 1874; (4) the 1874 acquisition of the Ewing lands was for the purpose of obtaining the 1862 and 1871 priority dates; (5) the Mark Wills Ditch is the most likely source of the 1862 and 1871 priority dates and this ditch had been abandoned before 1874; and (6) in 1874 David Ewing sold "excess" water to the predecessor of the Platteville Irrigating and Milling Company.

61. The water rights for the Platteville Ditch were adjudicated by the District Court for Arapahoe County in Case No. 6009, *In re Adjudication of Water Rights for District No. 2*, entered on April 28, 1883. Under the 1881 adjudication procedures then in effect, sections 1762-1801, Colorado General Statutes, 1883, a person claiming an interest in a ditch, canal, or reservoir was required to file a statement of claim with the clerk of the District Court on or before June 1, 1881. *Id.* § 1763. The statement of claim was required to contain the names and addresses of the claimants, the name of the structure, and:

The description of such ditch, canal, or reservoir as to location of headgate, general course of ditch, the name of the natural stream from which such ditch, canal, or reservoir draws its supply of water, the length, width, depth, and grade thereof, as near as may be, the time fixing a day, month and year as the date of the appropriation of water by original construction, also by any enlargement or extension, if any such thereof may have been made, and the amount the water claimed by or under such construction, enlargement or extension, and the present capacity of the ditch, canal or feeder of reservoir, and also the number of acres of land laying under and being or proposed to be irrigated by water from such ditch, canal or reservoir. Said statement shall be signed by the proper party or parties.

Id.

62. Upon commencement of the adjudication proceeding, the District Court could refer the case to a referee who was charged with taking evidence on the claims, preparing a report and

decree, and submitting the report and decree to the court for review. *Id.* § 1772. In making his report, the referee was required to:

Examine all witnesses to his own satisfaction, touching any point involved in the matter in question, and shall ascertain as far as possible the date of the commencement of each ditch, canal or reservoir, with the original size and carrying capacity thereof, the time of the commencement of each enlargement thereof, *with the increased carrying capacity thereby occasioned*, the length of time spent in such construction or enlargement, the diligence with which the work was prosecuted, the nature of the work as to difficulty of construction, and all such other facts as may tend to show compliance with the law in acquiring the priority of right claimed for such ditch, canal or reservoir; and upon all the facts so obtained shall be determined the relative priorities among the several ditches, canals and reservoirs, the volume or amount of water lawfully appropriated by each, as well as by means of the construction, as by the enlargements thereof, and the time when each such appropriations took effect.

Id. § 1778 (emphasis added).

Said referee, upon closing the testimony, shall proceed to carefully examine the same, together with all testimony and proofs which may have been heretofore taken by any former referee in the same district, if any such shall have been taken, under the provisions of said act, the title of which is recited in section four [§ 1766] of this act; he shall make an abstract of all the testimony and proofs in his possession concerning each ditch, canal and reservoir separately, and shall number each ditch and canal in order, and likewise each reservoir, each class consecutively, and also number the several appropriations of water shown by the evidence, all in manner and form as provided in section nine [§ 1771] hereof, and shall make a separate finding of all the facts connected with each ditch, canal and reservoir, touching which evidence shall have been offered; and he shall prepare a draft of a decree in accordance with his said findings, in substance the same as the decree mentioned in section four [§ 1766] of this act, and conformable also to the provisions of section nine [§ 1771] hereof, so far as the same are applicable; which decree, so prepared by him, shall be returned with his report to the court, and he shall file his report with said evidence, abstract and findings, and said decree, with the clerk of the court, and inform the judge of so doing, without delay.

Id. § 1782. After hearing any challenges to the report of the Referee, the court was to enter a final decree. *Id.* § 1783. The court followed this procedure in Case No. 6009 and entered a decree that contains both the report of the Referee as well as the judgment and decree of the court.

63. To evaluate FRICO's claims, the court must first examine the language of the decree in Case No. 6009.

64. With respect to the Platteville Ditch, the Referee found:

First that ditch No. 2 is named the Platteville Irrigating & Milling Company Ditch. That said ditch is claimed The Platteville Irrigating and Milling Company. It is a ditch used for the irrigation of lands taking its water from the South Platte River. The Head Gate thereof is located in Sec. 31, T.2 No. of range 66 W., Weld Co. The original consturction [sic] was begun on July 1st, 1862, was built one mile in length. The 1st enlargement was begun January 1st, 1871. A second enlargement was begun October 15, 1873. The work on said ditch and its enlargements was dilligently [sic] prosecuted.

The original ditch was one mile in length, 3 feet deep, width four (4) feet; slope of banks one to one. Grade 3-2/10 feet to the mile. Velocity 2-28/100 feet per second, and is entitled to the amount of water on priority No. 2 that a ditch of those dimensions would carry estimated at 2873 cubic feet per minute [47.88 c.f.s.].

The 1st enlargement was begun January 1st, 1871, and the ditch was deepened 6 inches. The velocity thereby increased to 2-30/100 feet per second. And said ditch is entitled on priority No. 17, to the increased amount of water in that the ditch would carry by reason of said enlargements estimated at 315 cubic feet per minute [5.25 c.f.s.].

A second enlargement was begun on Oct. 15th, 1873. The Ditch was extended 12 miles, enlarged 6 feet, depth 3-1/2 feet, other dimensions remaining the same. The velocity was thereby increased to 3-12/100 feet per second, and said ditch is entitled on priority No. 31 to the increased amount of water that said ditch would carry by reason of said enlargement estimated at 5655 cubic feet per minute [94.25 c.f.s.]. And the estimated amount of all the water to which the ditch is at present entitled is 8841 feet per minute. No more water is appropriated than is necessary for the irrigation of the lands under the ditch.

65. On April 28, 1883, after taking into consideration the report submitted by Referee Barnum, the returns of service of notices, affidavits, lists, indices, and findings, the court adopted the report of the Referee and made the following ruling with respect to the Platteville Ditch:

That said ditch is entitled to Priorities Nos. 2, 19 and 33, and it is claimed by the Platteville Irrigating and Milling Company. It is used for irrigating lands, and takes its supply of water from the South Platte river [sic]; the headgate is located on Section 31, Township 2 north of range 66 west, in Weld County, and is hereby

ADJUDGED AND DECREED that there be allowed to flow into said ditch from said river for the use aforesaid and for the benefit of the parties lawfully entitled thereto, under and by virtue of said appropriation, by construction and Priority No. 2 so much water as will flow in said ditch, it being four feet wide on the

bottom, depth of water flow three feet, slope of banks one to one, grade three and two-tenths feet to the mile, computed at 2,873 cubic feet per minute; that there be further allowed to flow in said ditch as aforesaid, under and by virtue of Priority No. 19, so much additional water for the purposes aforesaid as will supply the increased flow thereof as enlarged by being deepened six inches, the other dimensions remaining the same, computed at 315 cubic feet per minute; and that there be further allowed to flow in said ditch as aforesaid under and by virtue of Priority No. 33, so much additional water for the purposes aforesaid as will supply the increased flow thereof as enlarged six feet, depth of water flow three and one half feet, the other dimensions remaining the same, computed at 5,655 cubic feet per minute, and the whole amount of water to which said ditch is at present entitled is computed at 8,841 cubic feet per minute.

66. The Referee's findings do not identify the lands to be served by the ditch or by the individual priorities. The Referee's findings do not contain any limitation that restricts any priority to any particular parcel or parcels of land. Rather, the Referee simply found that "no more water is appropriated than is necessary for the irrigation of the lands under the ditch." The Referee did not purport to limit the three priorities to any particular acreage under the ditch. The decree of the court likewise imposed no limitations on the land that could be irrigated with the three separate priorities decreed to the Platteville Ditch.

67. FRICO claims that because the Referee's report, which was adopted by the court, states that the original ditch was one mile in length, and because there was no finding concerning the length of the ditch after the first enlargement, the use of water diverted pursuant to the 1862 and 1871 water rights must be limited to the first mile of the ditch. There is nothing in the language of either the findings of the Referee or the decree of the court that supports this limitation. The Referee found, "No more water is appropriated than is necessary for the irrigation of the lands under the ditch." The Referee made no finding about the length of the ditch as a result of the first enlargement, and § 1772 did not require that he do so.

68. The first priority for the Platteville Ditch is for 47.88 c.f.s. and the second priority is for 5.25 c.f.s. The evidence establishes that there are no more than approximately 80 irrigated acres under the first mile of the Platteville Ditch. *Appendix A*. The expert witnesses for both the Applicants and FRICO testified that the sum of the first two priorities, 53.13 c.f.s., is far more water than needed to irrigate 80 acres.

69. Because the Referee's report and final decree are silent as to the acreage that can be irrigated by the Platteville Ditch water rights, the court may examine the statement of claim and testimony taken by the Referee as part of the adjudication for evidence regarding whether the priorities were limited to any particular land. *See Orchard Dist. v. Whitten*, 145 Colo. 127, 135 (1961) ("We have consistently held that statements of claim and transcripts of testimony in adjudication proceedings are admissible evidence in other actions involving the construction or interpretation of water decrees."); *see also Concerning the Water Rights of Central Colo. Water Conservancy Dist.*, 147 P.3d 9, 11-12 (Colo. 2006); *New Mercer Ditch Co. v. Armstrong*, 21 Colo. 357, 362, 40 P. 989 (1895). In so doing, the court must recognize that a "decree is not woven of thin air;" it is a determination of a specific issue presented to the court. It is grounded

on the facts creating that issue; and, where construction is necessary, it must be construed in light of the facts that gave it birth and limited by the issues it resolved.” *Hinderlider v. Canon Heights Irr. & Reservoir Co.*, 117 Colo. 183, 189, 185 P.2d 325, 327 (1947), (citing *Arthur Irr. Co. v. Strayer*, 50 Colo. 371, 115 P. 724 (1911); *Drach v. Isola*, 48 Colo. 134, 109 P. 748 (1910)).

70. Cannon’s expert, Mr. Ballantine, and FRICO’s expert, Mr. Helton, testified regarding the available documentation related to the history of the adjudication of the Platteville Ditch water rights. Mr. Ballantine stated that the documents provided to the parties were all of the records that could be found concerning the proceedings before the Referee in Case No. 6009. FRICO’s expert, Mr. Helton, testified that in his experience, there was less information about the water rights adjudicated to the Platteville Ditch than he frequently finds. However, Mr. Helton also testified that he had not checked the records of the State Engineer or the state archives to see if he could find additional documents.

71. The Platteville Milling and Ditch Company filed its Statement of Claim on May 30, 1881. In the Statement of Claim, President William G. Winbourn, claimed that David Ewing originally constructed the Platteville Ditch and appropriated the waters of the South Platte in April of 1870. As originally constructed, the ditch was three-fourths of a mile long, two and one-half feet wide, and six inches deep. Mr. Ballantine testified that a ditch of this dimension would carry only 1.2 c.f.s.

72. The Statement of Claim then states that in the spring of 1874, “said Ditch was enlarged as follows: It was increased to three feet width on the bottom, and made to carry water nine inches deep.” Mr. Ballantine testified that a ditch of this dimension could only carry approximately 2.9 c.f.s. The Statement of Claim continues,

David W. Ewing sold and conveyed all his interest in said Ditch. . . . In the year 1874, [Platteville Milling and Irrigating] Company enlarged said ditch as follows, viz: That the length thereof was extended to the length of 12 miles; that the width thereof on the bottom was increased to the width of ten feet; That the slope of the banks, was, one and one half to one; that the depth thereof was three feet of water and the grade thereof was three and a half feet to the mile. That such enlargement and extension was completed on the 1st day of September A.D. 1874.

73. According to the Statement of Claim, “the amount of water appropriated by and under such original construction and by its enlargement is all the waters said Ditch is capable of carrying to its full capacity under its original construction, and under the enlargement thereof as above set forth.” Finally, the Statement of Claim concludes, “the number of acres of land lying and proposed to be irrigated by water from said Ditch, as enlarged, is about four thousand (4,000) acres of land.”

74. On February 24, 1880 D.W. Ewing provided the following testimony:

This Ditch was first built in the fall of 1874. Head was built 10 feet wide on the bottom, general course of Ditch North. Grade is 3 ½ feet to the mile. Completed in the winter of 1874. Water turned into the Ditch in the spring of 1875 for

irrigation. Ditch was built by Johnson, Pierce and Byers for domestic and irrigating purposes. The ditch will dispose of and carry all water taken at the head. The bottom of Ditch is as low as bottom of the river. Ditch has been in constant use since it was first built. . . . Ditch will carry 24 feet of water at the Head for one mile it was cut from 2 to 6 feet deep; Ditch has cost not less than \$7,000. Length of Ditch, 11 or 12 miles. Head of ditch is located in Section 31, Town 2, Range 66 West.

75. On February 23, 1880, Benjamin F. Johnson testified, “the ditch was commenced about Sept. 1st, 1874, and completed in December of the same year. It has a width of 10 feet at the head, six (6) feet deep, slope of banks one to one, grade 3½ feet per mile. It is between 11 and 12 miles long.”

76. Walker Ewing appeared before the Referee on September 2, 1880 for the purpose of providing additional testimony on behalf of the Platteville Irrigating and Milling Ditch Company. When asked what he knew “concerning the Platteville Irrigating and Milling Company in reference to any Ditch which formerly was located near the line of this Company Ditch,” Mr. Ewing stated:

In the spring of 1870, last of April I think, one David W. Ewing commenced the construction of a Ditch on the East side of the Platte River. The head of this said Ditch was located at the same point where now is located the head of the Ditch belonging to the Platteville Irrigating and Milling Ditch Company. This Ditch was built about ¾ mile long 2 ½ foot wide on bottom and to carry water 6 inches deep this was not completed until summer of 1871, this Ditch was used for irrigating land that season irrigating 25 or 30 acres of meadow land.

In the spring of 1874 Ewing enlarged this Ditch to 3 feet on bottom and made to carry about 9 inches of water in depth. It was not extended and in 1874 said Ewing irrigated about 75 acres of hay from this Ditch.

In the fall of 1874 the Platteville Irrigating and Milling Ditch Company began an enlargement and extension of this Ditch. It was extended to about 12 miles in length and made much wider and deeper but to what extent I am unable to state.

In response to the question, “was there any other Ditch near this Ditch in 1874 except the one you have described? If so, state where it was located,” Mr. Ewing stated:

About 75 feet to the west of this line there was a bed of an old ditch which had formerly been used for an irrigating ditch but had been abandoned for several years and is still abandoned. This old abandoned Ditch was formerly known as the Mark Wills Ditch.

77. On September 10, 1880, Theodore Furber submitted the following testimony to the Referee:

That on or about the month of August A.D. 1874 in company with B.F. Johnson, President of [the Platteville Ditch Company], we visited David Ewing and consulted with him – the said Ewing in regard to using a small ditch owned by him and securing the rights of way for the Platteville ditch over his lands, that such consultation resulted in an agreement between the said David Ewing and the Platteville Ditch Company, by which the said David Ewing was to and did surrender to said Company his small ditch, affirming that this small ditch was of but little use to him from the fact that it did not furnish him the amount of needed water. Also, and at the same time guaranteeing to said Company the right of way over his land for the Platteville Ditch. In consideration for which surrender and right of way, the said Ditch Company agreed to, and did grant to the said David Ewing the right of use of one hundred and fifty (150) cubic inches of water annually from the Platteville Ditch, which consideration to the best of my knowledge he, the said Ewing, has received and enjoyed.

78. On September 3, 1880, before the Referee, W.G. Winbourn stated:

The construction of this Ditch was commenced September 1, 1874, and completed that year and has been used for domestic and irrigation purposes ever since and the Ditch has been kept in repair. At the time of the construction of this Ditch there was a small Ditch belonging to D.W. Ewing on the line now occupied by this Ditch it was the one described by Walker Ewing in his testimony in this behalf and was the size and description mentioned by him in this testimony. There was an old line of Ditch starting from the river about 75 or 100 feet below the headgate of this Ditch which had formerly been known as the Mark Wills Ditch. The old headgate and line of that Ditch had been abandoned several years and has never been repaired and used in any manner since that time. It has now been abandoned some 14 or 15 years. The headgate of this Ditch (claimant) is now the same as constructed and placed in 1874, except that the company placed another headgate further up 100 yards by reason of changes in the stream. I wish to correct the statement made by D.W. Ewing in his testimony formerly given and corroborated by me in regard to the width of the head of the Ditch as constructed in 1874. I have measured the same within the last week and it is and since 1874 has been 12 feet wide. The Ditch as constructed in 1874 was 10 feet wide on bottom. Depth of water carried 3 feet grade per mile $3\frac{1}{2}$ feet slope of banks $1\frac{1}{2}$ to 1 and this was the capacity of the Ditch at point when water was used from it for irrigation the length of the Ditch as constructed was between 11 & 12 miles. The land under this Ditch dependent upon it for irrigation was sufficient to require the full capacity of the ditch but cannot state exact number of acres.

79. These documents appear to be all that has been preserved from the record of the proceedings before the Referee regarding the Platteville Ditch. Mr. Ballantine testified that he searched both the State Engineer's records and the State Archives and found no additional evidence regarding the testimony and evidence taken during the adjudication of the Platteville Ditch water rights in Case No. 6009. Mr. Helton testified that he reviewed the documents provided to him by Cannon, but did not do any additional investigation.

80. The testimony that PIMC provided to Referee Whiteside took place some three years before Referee Barnum filed his report to the court in Case No. 6009. It is unknown whether Referee took additional testimony or reviewed additional evidence related to the adjudication of the Platteville Ditch water rights.

81. FRICO argues for certain origins of the 1862 and 1871 priorities and the appropriative intent behind those priorities, but its theories are not supported by the evidence on the record. FRICO argues that the abandoned Mark Wills Ditch is the “most probable” origin for the 1862 and 1871 priorities. The only evidence regarding the Mark Wills Ditch is that it was located about 75 feet to the west of the Platteville Ditch, it formerly had been used for irrigation, and it had been abandoned for at least 14 or 15 years prior to the testimony before Referee Whiteside. There is no evidence of the size of the ditch, what lands were served by the ditch, or who initiated the appropriation of the ditch. The record does not support the theory that the 1862 and 1871 priorities arose from the abandoned Mark Will Ditch, were solely attributable to Mr. David W. Ewing, and were intended for irrigation of the 158 acres titled to Mr. Ewing in 1866.

82. The Referee’s findings on the Platteville Ditch priority No. 2 for 47.88 c.f.s. and priority 19 for 5.25 c.f.s. in Case No. 6009 are not based upon the testimony before Referee Whiteside. Specifically, there is no evidence that explains the basis of the first priority of July 1, 1862, for 47.88 c.f.s., and there is no evidence that explains the basis for the appropriation on January 1, 1871 of 5.25. c.f.s. This second priority has an appropriation date after the date upon which Mr. David Ewing was said to have begun the construction of his ditch, and is for a greater amount that could have been carried in the size of ditch Mr. Ewing is reported to have built.

83. The third priority for 94.25 c.f.s. has an appropriation date of October 15, 1873. This is very close to the time that the third enlargement was claimed to have begun. Appropriation dates can precede the date of initial of construction provided there has been an overt act providing notice of the intent to appropriate and formation of intent to appropriate water. *See, e.g., In re Vought*, 76 P.3d 903 (Colo. 2003); *Elk-Rifle Water Co. v. Templeton*, 173 Colo. 438, 484 P.2d 1211 (1971). The second enlargement is of the size and length described in the Statement of Claim. Thus, the proper construction of the decree is that Priority No. 33 is based upon the appropriation by Johnson, Pierce, and Byers, and while the enlargement was not constructed until 1874, the Referee concluded that the appropriation had been initiated on October 15, 1873, and completed prior to entry of the decree.

84. FRICO argues that the requisite appropriative intent behind the Platteville Ditch’s 1862 and 1871 priorities was not present, citing *In re Water Rights of Central Colorado Water Conservancy District*, 147 P.3d 9 (2006) (hereinafter *Jones Ditch*). In that case, the Jones Ditch Water Right was an appropriation limited to the volume of water sufficient to irrigate approximately 344 acres. *Id.* at 11. “Neither the express language of the decree nor the testimony of Mr. Jones suggested that the appropriation was intended to extend beyond the acreage irrigated by Mr. Jones in 1879, or that the appropriation could be extended beyond those acres upon the satisfaction of a subsequent condition.” *Id.* at 12. When, as in this case, the decree is silent as to the specific acreage for which the decreed water could be used, “Colorado law recognizes an implied limitation to the acreage for which the appropriation is made.” *Id.* To

give effect to this implied limitation, “statements of claim and transcripts of testimony in adjudication proceedings are admissible evidence” when construing or interpreting water decrees. *Id.* “Statements may be likened to a pleading upon which a judgment is based and they are proper to be introduced along with the decree to enable the court to interpret or constrain the latter in light of the claimant’s own assertion of his demand.” *Id.* at 16-17 (citations omitted).

85. A judgment entered by a court of general jurisdiction is presumed to be correct. *See Laessig v. May D&F*, 157 Colo. 260, 262, 402 P.3d 183, 185 (1965). This presumption applies equally to water court decrees. *See In re Michel*, 638 P.2d 74, 75 (Colo. 1981); *see also Schuster v. Szicker*, 659 P.2d 687, 690 (Colo. 1983). It is well-settled that when a decree is unambiguous, it cannot be varied by extrinsic evidence. *Farmers High Line Canal & Res. Co. v. City of Golden*, 975 P.2d 189, 199 (Colo. 1999). “Furthermore, it is fundamental that a decree should be complete and certain in itself.” *Id.* (citing *Hinderlider*, 185 P.2d at 327-28 (1947)). “Absent a finding of ambiguity, we will not look beyond the four corners of the agreement in order to determine the meaning intended by the parties.” *Id.* In determining whether a provision in a decree is ambiguous, the instrument’s language must be examined and construed in harmony with the plain and generally accepted meaning of the words used. *Id.*

86. The general statutory decree as entered in the judgment book of the court is the best evidence of what was adjudicated in the proceeding. *Bates v. Hall*, 98 P. 3, 5-6 (Colo. 1908). If the decree on the record is different from the decree as reported by the Referee, “the presumption is the latter was modified by the court after the report was filed, and before the entry was made.” *Id.* at 6. The decree as entered “is binding on all the parties.” *Id.* “Upon the supposition that [the decree] was filed, it will be presumed that the decree fixing the volume represented by the carrying capacity of the ditch was intended to be limited to the acreage described.” *Id.*

87. Accordingly, in this case, the court is bound by the decree of the court, which adopted the findings of Referee Barnum. Those findings decreed to the Platteville Ditch Priority No. 2 for 2,873 cubic feet per minute (47.88 c.f.s.), Priority No. 19 for 315 cubic feet per minute (5.25 c.f.s.); and Priority No. 33 for 5.655 cubic feet per minute (94.25 c.f.s.). Additionally, this court looks to the Statement of Claim to enable it to interpret the decree’s silence with respect to the acreage for which the water was appropriated. Unlike in the *Jones Ditch* case, the plain language of the Statement of Claim and Decree of the court in Case No. 6009 show that PIMC sought a decree for the irrigation of up to 4,000 acres with all of the water rights appropriated to the Platteville Ditch, and that the court awarded the Company such a right.

88. In their Statement of Claim, filed as required by § 1763, General Statutes of Colorado (1883), the claimants of the Platteville Ditch included “the number of acres of land lying under and being or proposed to be irrigated by water from such ditch” While the Statement of Claim does not explain the factual basis for the court’s award of the various appropriation dates and amounts to the Platteville Ditch, it states, “The number of acres of land lying under and proposed to be irrigated by water from said Ditch, as enlarged is about 4,000 acres of land.” The Statement of Claim shows that the ditch, as enlarged, was intended to irrigate about 4,000 acres. It contains no delineation between the acres to be irrigated by each of the claimed water rights. The Referee found that the Platteville Ditch was 13 miles long, which corresponds to the length of the ditch in the Statement of Claim. And the testimony of Mr. Ballantine establishes that there

are in excess of 4,000 irrigable acres under the Platteville Ditch. On this basis and in accordance with *Bates*, the court presumes, “the decree fixing the volume represented by the carrying capacity of the ditch was intended to be limited to the acreage described.” Thus, considering the totality of the facts and circumstances in this case, there is no evidence that would justify a construction of the decree to limit any of the three priorities of the Platteville Ditch to use on less than the “about 4,000 acres of land” under the Platteville Ditch as identified in the Statement of Claim.

89. Any party wishing to challenge the appropriation dates and amounts of water decreed for the Platteville Ditch or the failure to specify the land that each of the water rights could irrigate should have done so within two years after the entry of the decree. Section 1788 of the General Statutes of Colorado, 1883, provided:

The district court, or judge thereof in vacation, shall have power to order, for good cause shown, and upon terms just to all parties, and in such manner as may seem meet, a re-argument or review, with or without additional evidence, of any decree made under the provisions of this act, whenever said court or judge shall find from the cause shown for that purpose by any party or parties feeling aggrieved, that the ends of justice will be thereby promoted; but no such review or re-argument shall be ordered unless applied for by petition or otherwise within two years from the time of entering the decree complained of.

Anyone wishing to contest the water rights decree for the Platteville Ditch needed to have done so before April 28, 1885. Because no parties contested the decree within the statutory statute of limitations, the decree stands as entered and cannot now be collaterally attacked.

90. As with the Brantner Ditch water rights that were also adjudicated in Case No. 6009, the Platteville Ditch water rights can be used along the entire length of the ditch. “There is no limit in the decree confining the use to any section of, or upon any land under, or to any length of, the ditch.” *New Brantner Extension Ditch Co. v. Kramer*, 66 Colo. 429, 182 P.17 (1919). The decree entered in an 1883 adjudication awarded the water to the entire Brantner Ditch “for irrigation use generally, not for any particular acres, or to any length of the ditch, or to any set of users, but to the whole ditch system.” *Id.* at 425.

91. PIMC sought an adjudication of the Platteville Ditch for all three appropriations for use on all of the land served by the ditch. Like the decree for the Brantner Ditch, the decree for the Platteville Ditch awards the priorities to the entire ditch for irrigation generally—not for any particular acres, or to any length of the ditch, or to any set of users, but to the whole ditch system. Therefore, all three of the water rights decreed to the Platteville Ditch in the 1883 adjudication may be used to irrigate any of the “about 4,000 acres of land” under the Platteville Ditch as stated in the Platteville Ditch Statement of Claim.

92. FRICO asserts that Ewing unlawfully sold his “excess” water to PIMC’s predecessors in interest, thereby unlawfully expanding Ewing’s water right. As discussed above, there is no evidence of the origin of the 1862 and 1871 priorities, but the appropriation dates and amounts do not correspond with the testimony before the Referee regarding the agreement between Ewing

and PIMC's predecessor. There is no evidence to support the claim that Ewing had "excess" water to sell. Ewing had no decreed water rights to sell and the evidence demonstrates that the ditch constructed by Ewing could carry no more than 2.9 c.f.s.

93. The decree in Case No. 6009 affords PIMC the right to use all three priorities awarded to the Platteville Ditch along the whole of the ditch. There is no evidence in this case that the Platteville Ditch has operated beyond the limit of its decree. As such, the historical use of the 1862 and 1871 water rights on the Cannon property was and is lawful.

2. Cannon's Use of Platteville Ditch Water Rights above the Platteville Ditch

94. FRICO claims there has been an expansion of use of Cannon's interest in the Platteville Ditch water rights because Cannon has sprinkler-irrigated lands that are physically situated above the Platteville Ditch using water from the Platteville Ditch water rights. On cross-examination, Mr. Helton testified that the irrigation of lands identified by Cannon as being physically situated above the Platteville Ditch would be an improper expansion of use of the Platteville Ditch water rights unless and until it was shown that there has been an offsetting reduction in consumption below the ditches. Mr. Helton did not present any analysis of whether there had been an increase in consumptive use as a result of the irrigation of this land and did not review Cannon's water budget analyses. FRICO also claims that because Cannon never filed a change of water right application to change the place of use of its share of the Platteville Ditch water rights to above the line of the Platteville Ditch, such use was illegal. As such, FRICO claims that all irrigation above the Platteville Ditch must be deducted from the historical consumptive use analysis.

95. "Water use at a place other than that anticipated by the original decree can be used to establish historic use in a change proceeding, but only if the change is inconsequential and there is no question of enlargement or abandonment." *In re Tonko*, 154 P.3d 397, 405 (Colo. 2007) (citing *Santa Fe Trail Ranches Property Owners Ass'n v. Simpson*, 990 P.2d 46, 55-56 (Colo. 1999); *Southeastern Colo. Water Conservancy Dist. v. Rich*, 625 P.2d 977, 980 (Colo. 1981)). In *Rich*, the Supreme Court upheld the trial court's determination that the Applicant's earlier change in point of diversion was inconsequential because there was "no increase in the duty of water and no increased consumptive use . . ." 625 P.2d at 979. Whether such a change occurred is a question of fact to be tried in water court. *In re Tonko*, 154 P.3d at 407.

96. In general, the distribution of shares among the lands irrigated by the Platteville Ditch is not equal; as a result, some farms have more shares per irrigated acres than others. Historically, the Cannon property has been "share long"; in other words, it generally has more shares per acre than other Platteville Ditch lands. Occasionally, Cannon had more water than it needed to irrigate its lands. As a result, Cannon would not use all of the water available to its shares, increasing the amount available to other shareholders in the Platteville Ditch.

97. Prior to 1970, Cannon and its predecessors used up to 4 and 5/12 shares of the Platteville Ditch water rights to irrigate lands located below the Platteville Ditch. In 1970, to ensure an adequate water supply in "short years" and to put more of the Cannon lands into irrigation, Cannon acquired an additional 1/2 share of Platteville Ditch water rights, known as the Erickson

½ share. Cannon then installed a center pivot sprinkler to irrigate approximately 117 acres located on the NE ¼ of Section 8, T2N, R66W of the 6th P.M. directly adjacent to and above the Platteville Ditch. This land had formerly been irrigated by Cannon's Fulton Ditch shares and Mose Davis Reservoir water.

98. At the same time, the lands historically irrigated by the Erickson ½ share were taken out of irrigation and permanently dried up. In addition, because Cannon applied more of its pro rata share of Platteville Ditch water to irrigation by incorporating the new field into the farm, portions of Cannon's share of the Platteville Ditch water were no longer available for use by other shareholders, thereby reducing consumptive use of those water rights elsewhere along the Platteville Ditch.

99. Mr. McLean prepared a water budget analysis for Cannon's Platteville lands. Based on the water budget analysis, the average consumptive use of Cannon's 4 and 11/12 shares of Platteville Ditch water rights before installation of the center pivot above the line of the Platteville Ditch (from 1950 to 1969) was 1,201.4 acre-feet per year. The average consumptive use based on the water budget analysis, of Cannon's 4 and 11/12 shares of Platteville Ditch water rights after installation of the center pivot (from 1970 to 2002) was 1,240.2 acre-feet per year, or an increase of 38.8 acre-feet per year. This is only enough water to supply 19.6 acres. Mr. McLean also testified that the 19.6 acre increase was off-set by the reduced delivery of Cannon's unused share water to other Platteville Ditch shareholders. The irrigation of 117 acres above the line of the Platteville Ditch by Cannon did not result in a material increase in overall consumption. Thus, under the standard advocated by FRICO at trial, the irrigation of 117 acres of land above the line of the ditch did not cause an expansion of the Platteville Ditch water rights.

100. Whether use of water in a place other than that contemplated by the original decree is inconsequential, i.e., not material, is a question of fact. Here, as in *In re Tonko*, there has been no change in point of diversion of the water right and the water right has continued to be used to serve lands along the line of the Platteville Ditch. In this case, the lands irrigated above the line of the Platteville Ditch are immediately adjacent both to the ditch and to the Cannon lands historically irrigated by the Platteville Ditch water rights. In addition, the lands historically irrigated by the Erickson ½ share under the Platteville Ditch were dried up. Though Cannon irrigated land above and immediately adjacent to the ditch instead of below this change of use was inconsequential because there was no increase in the duty of the water or in consumptive use.

101. In addition, Mr. McLean's testimony concerning his examination of the historical irrigation practices and crop mix associated with the Erickson ½ share and Cannon's other 4 and 5/12 share of Platteville Ditch water established that there has been no material enlargement of Cannon's 4 and 11/12 share of the Platteville Ditch water rights as a result of the irrigation of 117 acres located above the line of the Platteville Ditch. Cannon's use of the Erickson ½ share demonstrates that there has been no abandonment.

102. Even assuming that the original decree for the Platteville Ditch water rights did not anticipate the irrigation of lands above the ditch, the change in place of use from below the

Platteville Ditch to directly above the Platteville Ditch is inconsequential and does not constitute an enlargement or abandonment of Cannon's share of the Platteville Ditch water rights. Therefore, Cannon's irrigation of land located immediately above the Platteville Ditch does not constitute an illegal change in place of use of the Platteville Ditch water rights and this court relies on the use of that water to calculate historical consumptive use.

3. *Number of Acres that can be Irrigated by the Platteville Ditch*

103. FRICO also disputes Cannon's use of the 1873 priority under the Platteville Ditch to an extent greater than its pro-rata share of the amount of the 1873 priority as it existed in 1898. FRICO claims, based on this court's order in Case No. 02CW403, District Court, Water District No. 1, that the total acreage that the Platteville Ditch can legally irrigate should be limited to the number of acres that were irrigated within 24 years after appropriation of the most junior water right adjudicated to the Platteville Ditch. FRICO cites this court's application of *Drach v. Isola*, 109 P. at 751. Based on this theory, Mr. Helton testified that the Platteville Ditch should be limited to the maximum acreage irrigated by the Platteville Ditch prior to 1898, which was 2,502 acres. FRICO claims that because the Burlington system was far more extensive than the Platteville system, the 24-year period for "build-out" of the Platteville system is more than sufficient for a 13-mile ditch.

104. This court's order of September 5, 2008, in Case No. 02CW403 illustrates that the facts in this case are distinguishable from the facts in Case No. 02CW403. The court's ruling in paragraph 374 of that order was not intended to be a generally applicable rule of law, but rather, as stated there "in the unique circumstances of this matter, 20 years is an unreasonable amount of time in which to perfect an appropriation." FRICO has shown no such unique circumstances in this case.

105. In Case No. 02CW403, this court found that years after the appropriation of its water right, the Burlington Company sold its "excess" water to FRICO, at which point FRICO proceeded to extend the infrastructure of the Burlington system and to expand the Burlington water right "beyond the limits of the decree." This court also found that although the Referee's findings in the Burlington decree stated that 28,000 acres below Barr Lake was "susceptible to being irrigated" by the Burlington Canal and Barr Lake. The Referee found that the "susceptible" lands extended to the eastern line of Colorado. This court held that the use of the word "susceptible" is not an expression of intent actually to irrigate these acres, but rather, is a factual statement describing the acreage below the Burlington structures that potentially could be irrigated.

106. In this case, it appears that the Platteville Ditch was completed at the time the water rights were adjudicated and there has been no Burlington-like expansion of the Platteville Ditch infrastructure since the entry of the decree. In addition, unlike the referee's findings in the Burlington case, the Platteville Ditch Statement of Claim is an expression of the acreage that the Company intended to irrigate with the water rights. The Statement of Claims says that "the number of acres of land lying under and proposed to be irrigated by water from said Ditch, as enlarged, is about four thousand (4,000) acres of land."

107. Until an action is initiated to change a water right, the decreed amount continues to quantify the water right. *Southeastern Colo. Water Conservancy Dist. v. Pueblo West*, 717 P.2d 955, 959. The Statement of Claim shows that PIMC intended to irrigate up to 4,000 acres with its water rights. FRICO has presented no evidence of an unlawful expansion of the Platteville Ditch water rights beyond the limits of the decree in Case No. 6009. As such, there is no factual basis for this court to reduce the lawfully irrigated acres to the number of acres reported to have been irrigated prior to 1898.

108. Cannon's change of water rights claim is based upon a parcel-specific analysis, not a ditch-wide analysis. Therefore, it is not necessary for the court to determine whether there has been an expansion of the total acreage irrigated by the Platteville Ditch in order for the court to determine the acres historically and legally irrigated by Cannon's 4 and 11/12th shares at issue here. Accordingly, the court makes no determination regarding the propriety of irrigation of any other lands served by the Platteville Ditch.

4. *Enlarged Use of the Platteville Ditch Water Rights by Extension of the Platteville Ditch*

109. At trial, Mr. Helton testified that he believed there had been an illegal expansion of the Platteville Ditch water rights because the Platteville Ditch delivers water to "as far as 14 miles below the headgate," though he believed the Platteville Ditch originally was only 11 or 12 miles long. On cross examination, Mr. Helton admitted that the Referee's report in Case No. 6009 found the ditch to have been extended by 12 miles for a total length of 13 miles.

110. Cannon's farm headgates on the Platteville Ditch are located within the first 3.5 miles of the Platteville Ditch. *See Appendix A*. Apart from its claim that Cannon's 117 acres above the Platteville Ditch constitute an enlarged use, FRICO did not claim that Cannon's remaining Platteville lands constituted an enlarged use under the Platteville Ditch.

111. Because the lands historically irrigated by Cannon are not located in the area where Mr. Helton claimed expansion of use had occurred, and because this case uses a parcel-specific analysis, not a ditch-wide analysis, this court has no need to decide that issue in order to resolve this case, and specifically declines to do so.

B. Fulton Ditch and Mose Davis Reservoirs

112. The Fulton Ditch diverts from the South Platte near Section 9 between Sections 16 and 17 in T2S, R67W of the 6th P.M. The Fulton Ditch's last delivery is into the Fulton Extension Ditch delivery lateral located in the SW¼ of Section 16, T2N, R66W of the 6th P.M. *Appendix A*. The overall length of the ditch between these two points is 26 miles. The Fulton Extension Ditch is a delivery ditch that serves Fulton Ditch shareholders under that lateral and terminates in the Mose Davis Reservoirs, 2.5 miles away. Cannon and other Fulton Ditch shareholders take delivery of their water at the head of this delivery ditch. Cannon owns 141 shares in the Fulton Ditch and there are approximately 200 Fulton Ditch shares taking delivery through this delivery ditch. Cannon is the last delivery on that ditch.

1. *Irrigation by Cannon above the Fulton Extension Ditch and the Mose Davis Reservoirs*

113. FRICO claims that Cannon's use of its Fulton Ditch water rights and its Mose Davis Reservoir water rights to irrigate land above the Fulton Extension Ditch and the Mose Davis Reservoirs constitutes an illegal expansion of use of those water rights. FRICO also claims that the conversion from flood irrigation to sprinkler irrigation could constitute an expansion of use. As with the Platteville Ditch, Mr. Helton testified that the lands identified by Cannon as being historically irrigated by, but physically situated above, the Fulton Extension Ditch and Mose Davis Reservoirs would represent an improper expansion of use of those water rights unless and until it is shown that there has been an offsetting reduction in consumption below the ditches. In other words, as long as there is no increase in consumption, there is no expansion of use. Mr. Helton made no analysis to determine whether there was an increase in consumptive use.

114. The historically irrigated Fulton/Davis lands are served with water through the Fulton Ditch and the delivery lateral from the Fulton Ditch known as the Fulton Extension Ditch. That delivery ditch terminates at the Mose Davis Reservoirs. There are no shareholders on the Fulton Ditch below the Fulton/Davis lands. The delivery ditch for Mose Davis Reservoir lies to the east of the reservoirs. The land that FRICO claims was not lawfully irrigated lies immediately east and north of this delivery ditch. The water used to irrigate these lands was Cannon's Fulton Ditch share water and the Mose Davis Reservoirs water.

115. From 1950 to 1968, an average of 559 acres below the Fulton Extension Ditch was irrigated with shares in the Fulton Ditch and the Mose Davis Reservoir water rights. In 1969, Cannon converted much of the land below the Mose Davis Reservoirs from flood irrigation to sprinkler irrigation. In addition, in 1969, Cannon installed one sprinkler above the Reservoir that irrigated lands both above and below the delivery ditch that supplied Mose Davis Lake No. 2. The lands below the delivery ditch and above the reservoirs had previously been irrigated. By 1977, Cannon had reduced the number of acres irrigated below the reservoirs, but had not added any lands above the reservoirs. By 1988, Cannon had removed more sprinkler irrigated lands below the reservoir, had relocated one sprinkler above the reservoirs, and installed a second. The two sprinklers were on lands located directly adjacent to but above the Fulton Extension Ditch and were supplied with Fulton Ditch and Mose Davis Reservoir water. Mr. McLean testified that during the period between 1969 and 2002, Cannon removed from irrigation more land below the Reservoirs and the Fulton Extension Ditch on average than Cannon irrigated above the Reservoirs and the Fulton Extension Ditch. As a term and condition of the proposed change of water rights, Cannon has agreed to limit its use of the Fulton Ditch and Mose Davis Reservoir water rights to the irrigation of no more than 547 acres, 12 fewer acres than historically irrigated below the Fulton Extension Ditch during the period 1950-1969. This acreage represents fewer acres than were irrigated during the period when all use was below the reservoirs and the Fulton Extension Ditch.

116. Under the standard described in *In re Tonko*, above, Cannon's historical use of the Fulton Ditch and Mose Davis Reservoir water above the Fulton Extension Ditch and the Mose Davis Reservoirs can be used to establish historical use in this proceeding. The lands irrigated

by Cannon above the line of the Fulton Extension Ditch are located at the end of the Fulton Extension Ditch and are immediately adjacent to the lands Cannon historically irrigated below the line of the Fulton Extension Ditch and the Mose Davis Reservoirs. No change in use or point of diversion has occurred. The return flows generated on the lands above the Fulton Extension Ditch and Mose Davis Reservoirs return to the South Platte at the same location as those generated below the Fulton Ditch and Mose Davis Reservoirs. On average, the total number of irrigated acres decreased rather than increased, and therefore, there has been no expansion of use. The majority of the land below the reservoirs was sprinkler irrigated by 1969. As such, the irrigation of these specific lands above the Reservoirs and the Fulton Extension Ditch represent an inconsequential change in place of use of the Fulton Ditch and Mose Davis Reservoir water rights. In addition, because the record shows that there has been no expansion or abandonment of Cannon's share of the Fulton Ditch water rights or Mose Davis Reservoir water rights, under *In re Tonko*, Cannon's use of these water rights above the Fulton Extension Ditch and Mose Davis Reservoirs can be considered in this court's determination of historical use.

2. *Limits on the Place of Use of Fulton Ditch Water Rights*

117. FRICO claims that use of the Fulton Ditch water rights is limited to the first 1.5 miles of the Fulton Ditch under the decree from Case No. 6009. FRICO argues the water rights decreed to the Fulton Ditch in Case No. 6009 were absolute, that there is no evidence of water being applied to beneficial use on any section of the Fulton Ditch past the first 1.5 miles, and that therefore, Cannon has not proved that its use of the Fulton Ditch water rights on the Fulton/Davis lands is not an expanded use.

118. Cannon claims it has demonstrated that Fulton Ditch water has been lawfully applied to the Fulton/Davis lands since at least 1905. Cannon further claims that the Referee's silence as to the length of the ditch in Case N. 6009 is due to the fact that the ditch had not been completed as of 1883; however, the Referee decreed a conditional water right for 26,928 cubic feet per minute (448.8 c.f.s.). Cannon bases this assertion on the Referee's statement, "work on the [Fulton Ditch] was not completed at the time of taking of testimony herein."

119. Colorado courts recognized the validity of conditional rights in decrees prior to the passage of a statute that permitted them in 1919. "If [an applicant] has complied with, and fully performed, the conditions imposed by the decree [awarding the priority date], and by his evidence shows that he has made a valid appropriation under the laws of this state of a certain amount of water within the limits originally claimed, he is entitled to have his decree perfected." *Waterman v. Hughes*, 80 P. 891, 893 (Colo. 1905). In *Waterman*, the court held that because the ditch had not been fully completed when the decree was entered, "the extent and character of the appropriation could not then be positively fixed." *Id.* at 892. "The decree, however, as to the date and relation of priority, was absolute." *Id.* "Whether or not a decree adjudicating water rights is conditional necessarily depends upon the terms of the decree itself." *Drach v. Isola*, 109 P. 748, 751 (Colo. 1910).

120. The Fulton Ditch water rights were adjudicated in Case No. 6009 as part of the 1883 adjudication. In his report, Referee Barnum made the following findings regarding the Fulton Ditch:

First: This ditch is entitled to priorities Nos. 8-43-51-56. The name of the ditch is the Fulton Ditch and it is claimed by The Fulton Ditch Company. It is used for the irrigation of lands and takes its water from the east side of the South Platte River. The Head Gate is located near Sec. 9 between sections 16 and 17 in Town 2 S. of R. 67 W. The original construction was begun May 1st, 1865. First enlargement No. 40 was begun July 8th 1876, 2nd enlargement No. 48 was begun Nov. 5th, 1879. 3rd Enlargement No. 53 was begun Nov. 1st, 1882. Work on the same was not completed at the time of taking of testimony herein. All of said work has been diligently prosecuted. Said original ditch was 1-1/2 miles in length 6 feet in width, 3 feet in depth, slope of banks 1-1/2 to 1. Grade 3-1/2 feet per mile. Velocity 2-53/100 feet per second. And is entitled to priority No. 78 [sic] to the amount of water that a ditch of those dimensions would carry, estimated at 4782 cubic feet per minute.

That the 1st enlargement was 6 feet in width. The other dimensions remaining the same. Velocity 3-11/100 feet per second, and is entitled on priority No. 43 to the increased amount of water that said ditch would carry by reason of said enlargement estimated at 4455 cubic feet per minute.

A second enlargement was 1 foot in depth. Other dimensions remaining the same. The velocity was thereby increased to 3-32/100 feet per second, and said ditch is entitled on priority No. 51 to the increased amount of water that said ditch would carry by reason of said enlargement Estimated at 3014 cubic feet per second.

3rd Enlargement was 12 feet in width depth of water the same, and other dimensions the same. Velocity 3-47/100 feet per second. The ditch is entitled to priority No. 56 to the increased amount of water that said ditch would carry by reason of said enlargement. Estimated at 14677 cubic feet per minute, and the estimated amount of all the water to which said ditch is at present entitled is 26928 cubic feet per minute. No more water is appropriated by the ditch than is necessary for the irrigation of the lands under the ditch.

121. The district court made the following rulings with respect to the Fulton Ditch:

That [the Fulton Ditch] is entitled to priorities Nos. 8, 43, 51, and 56, as hereinafter qualified as to said priority No. 56.

That is to say, if a claim shall have been filed in the county clerk's office as required by the statute; it is claimed by the Fulton Ditch Company, it is used for the irrigation of lands, taking its supply of water from the east side of the South Platte River; the headgate is located near Section 9, between sections 16 and 17 in T.2 S. of R. 67 W. and it is hereby-

ADJUDGED AND DECREED that there be allowed to flow into said ditch from said river, for the use aforesaid, and for the benefit of the parties lawfully entitled thereto under and by virtue of said appropriation, by construction and priority 8, so much water as will flow in said ditch, it being six feet wide on the bottom, depth of water flow three feet, slope of banks one half to one, grade three and one half feet per mile, computed at 4,782 cubic feet per minute; and that there be further allowed to flow in said ditch as aforesaid, under and by virtue of priority No. 43, so much additional water for the purposes aforesaid as will supply the increased flow thereof as enlarged six feet in width, the other dimensions remaining the same – computed at 4,455 cubic feet per minute; and that there be further allowed to flow in said ditch as aforesaid, under and by virtue of priority No. 51, so much additional water for the purposes aforesaid as will supply the increased flow thereof as enlarged one foot in depth, the other dimensions remaining the same, computed at 3,014 cubic feet per minute; and that there be further allowed to flow in said ditch as aforesaid, under and by virtue of priority No. 56, provided said claim shall have been filed as aforesaid, so much additional water for the purposes aforesaid as will supply the increased flow thereof as enlarged twelve feet in width, slope of banks one and one half to one, the other dimensions remaining the same, computed at 14,677 cubic feet per minute, and the whole amount of water to which said ditch is at present entitled is computed at 26,928 cubic feet per minute.

122. Taken together, the Report of the Referee and the Decree in Case No. 6009 demonstrate that the Fulton Ditch water rights were conditional. The Referee stated that work on the third enlargement had not been completed as of 1883 when the decree was entered. He also determined, “the increased amount of water that said ditch would carry by reason of said enlargement.” Further, the Decree provides procedures for filing a claim with the county clerk’s office to perfect the right once the construction was completed.

123. As evidence that the Fulton Ditch waters were lawfully perfected and applied to the Fulton/Davis lands, Cannon offered the Mose Davis Reservoir No. 1 Decree from Case No. 40823. FRICO does not contest the validity or finality of the Mose Davis Reservoir decrees. Cannon argues that, as a result, it has established its right to use Fulton ditch water on the Fulton/Davis lands on the basis of the decree alone. The decree lists the sources for the Mose Davis Reservoir No. 1 as the South Platte, “using an intake or feeder ditch, that ditch commonly known as the ‘Fulton Ditch’” The decree authorizes the reservoir:

[T]o take and divert from the South Platte River, water for storage purposes in the said reservoir, at such times as the said water flowing in the said South Platte River, is not needed to satisfy the demands and rights of prior appropriations from said river, and to take into and draw into the said Fulton Ditch and its extensions and the *intake or feeder* to the said Fulton Waste Reservoir, water from said South Platte River sufficient to fill the said reservoir. . . . Also, to take, store, use, and apply such seepage, waste, or surplus water as may be turned or discharged from the said Fulton Ditch, or may accrue to plaintiffs from their ownership of stock in The Fulton Irrigating Ditch Company.

This decree authorizes the use of seepage, waste, and surplus water from the Fulton Ditch on the lands served by Mose Davis Reservoir No. 1, and also acknowledges and authorizes the storage and use of Fulton Ditch shares on this land.

124. FRICO argues Cannon presented no evidence that showed when extensions of the Fulton Ditch were commenced or completed, or when and in what quantity the priorities awarded to the Fulton Ditch were placed to beneficial use on any section of the Fulton Ditch past the first 1.5 miles. Citing *Drach v. Isola*, FRICO contends that absent such showing, the court cannot conclude that the priorities awarded to the Fulton Ditch were placed to beneficial use within a reasonable time in any section of the ditch other than the first 1.5 miles. *Drach* states:

Compliance with the law in other respects—that is, the filing with the clerk and recorder of the requisite plats and notices; the commencement and construction of the ditch or canal with due diligence; and even the actual diversion of water from the natural stream—all of these acts, unaccompanied by the beneficial use of the water, constitute but an inchoate right or interest. And unless such beneficial use follows, the interest thus acquired does not ripen into an appropriation; the inchoate right terminates and the water goes to junior claimants who have complied with all the requirements of law. Moreover, it is equally well settled that in order to give the appropriation a priority dating from the commencement of the ditch or canal, the beneficial use of the water must take place within a reasonable time from such date; what shall constitute this reasonable time depending upon the facts and circumstances connected with each particular case.’

Drach, 109 P. at 751. As stated above, FRICO does not challenge the validity or finality of the Mose Davis Reservoirs and Cannon has offered the Mose Davis Reservoir No. 1 decree from Case No. 40823 as proof of Cannon’s application of the conditional Fulton Ditch water right from Case No. 6009 to beneficial use. As such, it is proof that the conditional right was perfected from the inchoate right described in *Drach* to an absolute water right by being put to beneficial use.

125. FRICO bases its argument that use of the Fulton Ditch water rights is limited to the first 1.5 miles on the Report of the Referee. While the Report of the Referee describes the new dimensions of the Fulton Ditch with each enlargement, the Referee did not state how the length changed with each enlargement. Section 1772, Colorado General Statutes (1883), did not require that the Referee make any findings concerning the length of any enlargements, but rather only required findings on the “increased carrying capacity, thereby occasioned.”

126. The fact that the Referee did not make a finding as to the increased length of ditch for each enlargement cannot be interpreted to mean the length of the ditch was not increased. Rather, the most the court can conclude is that the Referee’s ruling is silent on that question. The Referee’s silence with respect to the length of the ditch is not fatal to the decree; rather, as the court stated in *New Brantner Extension Ditch Co. v. Kramer*, the Fulton Ditch water rights are decreed “for irrigation use generally, not for any particular acres, or to any length of the ditch, or to any set of users, but to the whole ditch system.” 182, P. at 19. Accordingly, the Fulton Ditch

water rights decreed by Case No. 6009 are not limited to the first 1.5 miles of the ditch, but rather extend to the full ditch system.

3. *FRICO's Claim Concerning the Effectiveness of the Decree for Mose Davis Reservoir No. 1*

127. At trial, FRICO claimed that the Mose Davis No. 1 water rights “are relatively unadjudicated to this day, because they have never been generally adjudicated as part of the stream adjudication.” FRICO bases its argument on the fact that the 1918 supplemental adjudication for Water Division No. 2 does not include the Mose Davis Reservoir No. 1 water rights. Though FRICO does not challenge the validity or finality of the Mose Davis Reservoir decree, it claims that the Mose Davis Reservoir No. 1 water rights should be administered as junior to the water rights adjudicated in the 1918 general adjudication.

128. The Mose Davis Reservoir No. 1 water rights were decreed in 1906 in Case No. 40823. This adjudication was initiated by W.A. Davis and Mose Davis, owners of the reservoir, by the filing of a petition, complaint, and statement of claim in the District Court in the City and County of Denver. The Denver District Court entered a decree establishing the plaintiffs’ rights to store water in the “Fulton Waste Reservoir.”

129. FRICO argues that because the decree for the 1918 adjudication specifically states that the water rights adjudicated therein are lower in priority to the water rights adjudicated in the 1883 adjudication and to the Burlington Ditch and Barr and Oasis Reservoir water rights adjudicated in 1893 in an individual adjudication, all other previously decree water rights must be administered as junior to those included in the 1918 adjudication. The August 2, 1918 decree states:

Two previous adjudications have been held, fixing priorities to rights to use of water of Irrigation District No. 2 for irrigation purposes. The first terminated in the general adjudication decree of this Court entered the 28th day of April, 1883. The second terminated in the decree of this Court of the 8th day of July, 1893, fixing the rights of the Burlington Ditch and Barr and Oasis Reservoirs. No others appeared in the last named proceeding, but by lapse of more than four years since decree was entered, it has become binding upon all consumers of water of said irrigation district for irrigation purposes. Unless specifically held to the contrary in that portion of the findings and decree hereinafter, all priorities herein treated are inferior to the lowest priorities of said decrees of April 28, 1883 and July 8, 1893.

130. At the time the Fulton Waste Reservoir water storage right was decreed, Colorado statutes provided two methods for adjudicating water rights. A water user could either participate in the general adjudication for the entire water district, or he could subsequently file an individual petition with the court requesting the court to enter a decree confirming his right to a certain priority and quantity of water. *See Kibbee v. Kostelic*, 287 P. 652 (1930).

131. Sections 2399 through 2420 of the Mills Annotated Statutes, Colorado (1891), provided for general adjudications of water rights for irrigation purposes, and § 2421 provided for individual adjudications. Section 2421 permits applications for individual decrees:

No claim of priority of any person, . . . as to which he has failed or refused to offer evidence under any adjudication . . . by said act, . . . shall be regarded by any water commissioner in distributing water in times of scarcity thereof, until such time as such party shall have by application to the court having jurisdiction, obtained leave and made proof of the priority of right to which said ditch, canal or reservoir shall be justly entitled, which leave shall be granted in all cases upon terms as to notice to other parties interested, and on payment of all costs, and upon affidavits or petition sworn, to showing the rights claimed and the ditches, canals and reservoirs, with the names of the owners thereof against which such priority is claimed, nor until a decree adjudging such priority to such ditch, canal, or reservoir has been entered, and certificate shall have been issued to claimant and presented to the water commissioner.

Section 2421 did not require that a water right decreed in an individual adjudication be included in a later general adjudication to be effective, nor did it require that an applicant readjudicate a water right obtained in an individual adjudication in a subsequent general adjudication. It also did not provide for a loss of priority if an earlier adjudicated water right was not adjudicated again in a later general adjudication.

132. There are two statutes of limitations for challenging the validity of previously-entered decrees. The first is a two-year statute of limitations that provided:

The district court, or judge thereof in vacation, shall have power to order, for good cause shown, and upon terms just to all parties, and in such manner as may seem meet, a re-argument or review, with or without additional evidence, of any decree made under the provisions of this act . . . ; but no such review or re-argument shall be ordered unless applied for by petition or otherwise within two years from the time of entering the decree complained of.

§ 2424, Mills Annotated Statutes, Colorado (1891). This statute permitted the court to review a decree for good cause so long as the petitioner filed his request within two years of its entry. The second statute of limitations provided a four-year statutory period:

After the lapse of four years from the time of rendering a final decree, in any water district, all parties whose interests are thereby affected shall be deemed and held to have acquiesced in the same, except in case of suits before then brought, and thereafter all persons shall be forever barred from setting up any claim to priority of rights to water for irrigation in such water district adverse or contrary to the effect of such decree.

§ 2435, Mills Annotated Statutes, Colorado (1891). This statute barred any challenges to a water rights decree brought more than four years after the court entered the decree.

133. Both the two-year and four-year statutes of limitations applied to individual adjudications under § 2421. Moreover, the Supreme Court in *Kibbee* held that a decree awarding an individual claimant a water right priority is as final as if rendered in a general adjudication. *Kibbee*, 287 P. at 655. The Colorado Supreme has also held that a later general decree need not mention an earlier individual decree for the individual decree to be final and valid. *Stratton v. Beaver Farms Canal & Ditch Co.*, 287 P. 861 (Colo. 1930) (“In law, the decree obtained by Stratton in 1914 was subject to the decree obtained by the company in 1900. The fact that in the decree of 1914, it is stated that the award is subject to the general adjudication decree of November 21, 1895, and omits to mention the decree of 1900, cannot change the result.”)

134. Therefore, the decree for Mose Davis Reservoir No. 1 is as final and absolute as if it had been rendered in a general adjudication proceeding. Moreover, the 1918 decree is subject to the 1906 decree even though the 1918 decree omitted any mention of the 1906 individual adjudication. FRICO is barred by the statutes of limitations from asserting that the 1906 decree is invalid or ineffective, or that the priorities it awarded may not be enforced against water rights not adjudicated until 1918. The subsequent repeal of these statutes does not revive an action barred by the repealed statute of limitations. *See Kuiper v. Fischer*, 529 P.2d 641 (Colo. 1974).

4. *Historical Diversions from the South Platte River to Fill the Mose Davis Reservoirs*

135. FRICO claims that the Mose Davis Reservoirs have not historically diverted water from the South Platte River and thus do not have a continuing right to claim or call for water from the South Platte. FRICO states that Cannon has failed to sustain its burden of proving diversion of the Mose Davis rights were in priority and therefore lawful. FRICO also argues that Cannon has not provided sufficient historical record of diversion to establish season of use and rate or diversion from which terms and conditions could be fashioned to protect the vested rights of others.

136. As described above, Mose Davis Reservoir No. 1 was decreed in Case No. 40823, in the District Court for the City and County of Denver. This decree identifies the source of water for the Reservoir as the South Platte and seepage, waste, or surplus water as may be turned or discharged from the Fulton Ditch, or as may accrue from ownership of stock in the Fulton Irrigating Ditch Company.

137. Mose Davis Reservoir No. 2 was adjudicated in Case No. W-34, District Court, Water District No. 1, in 1970. The decree confirmed a water right to the Mose Davis Reservoir No. 2 for “153.53 acre-feet of water from the South Platte River through the Fulton Ditch and waste and seepage for a storage right for irrigation, stock water and recreation purposes.”

138. Mr. Cannon testified that historically there have been no measurements made of daily deliveries into the Reservoirs. Mr. Cannon explained that when he needed water to fill the Mose Davis Reservoirs, generally in April and May, he would call the ditch rider for the Fulton Ditch Company and request that the Fulton Ditch Company deliver water to him to fill his reservoirs. If water was available, then the ditch rider would deliver it to Cannon for the Mose Davis

Reservoirs. Cannon then historically used the water stored in the Mose Davis Reservoirs, generally beginning in July, in conjunction with its pro-rata share of Fulton Ditch water, to irrigate Cannon's fields located adjacent to the Fulton Ditch and the Mose Davis Reservoirs. Again, in the fall, Cannon would request that the Fulton send water to him to fill the reservoirs enough to at least cover and keep the outlet from freezing during the winter. Other than at times when the Mose Davis Reservoirs were in priority and the Fulton Ditch was sending Cannon water from the South Platte to fill the reservoirs, Cannon typically received only his pro-rata share of Fulton Ditch water.

139. Based upon his investigations, Mr. McLean concluded that the Mose Davis Reservoirs did not receive inflow when the Fulton Ditch was not diverting water. Mr. McLean's investigations found that during the Study period the Mose Davis Reservoirs stored and released an average of 450 acre-feet per year. The reservoirs were typically filled during the period April through June, and releases of water for irrigation were typically made in July through September. The average release of 450 acre-feet results in an average historical consumptive use of 289.6 acre-feet.

140. Mr. McLean acknowledged that the State Engineer has not published the diversion records for the Mose Davis Reservoirs from the South Platte. Mr. McLean testified regarding the determinations he made regarding whether the Mose Davis Reservoir water rights were in priority when Cannon stored water in those reservoirs. To make that determination, D&A compared the water rights priorities to the State's tabulation of water rights calls affecting District 2 and prepared tables showing the number of days the water rights were in priority. To determine whether the reservoirs would have been in priority at the Fulton Ditch headgate, Mr. McLean used the administrative priority, the "H" number, assigned by the State Engineer to each water right in the water rights tabulation. *See* § 37-92-401, C.R.S. (2008). Based on his examination of the tabulation, Mr. McLean determined that, on average, the first priority for Mose Davis Reservoir No. 1 was in priority 253 days per year, the second priority for Mose Davis Reservoir No. 1 was in priority 251 days per year, and the Mose Davis Lake No. 2 was in priority, on average, 224 days per year, generally during the fall, winter, and spring. Based on this information, Mr. McLean concluded that the number of days the reservoirs were historically in priority April through June and in the fall was sufficient to allow the reservoirs to divert and store in priority the average of 450 acre-feet used by Cannon. The historical occurrences of days in priority for the Mose Davis Reservoirs water rights are consistent with Mr. Cannon's testimony regarding the times when the reservoirs stored water during the Study Period.

141. Mr. Cannon testified about the diversion records he submits to the State Engineer each year regarding the water stored in the Mose Davis Reservoirs. Each year, Cannon receives pre-printed forms from the Division of Water Resources to be filled in with the dates that water from the reservoirs was put to beneficial use, the amount of water beneficially used, and the crops irrigated by the water rights. The form provided to Cannon by the Division Engineer for the Mose Davis No.1 Reservoir designates the source of water for the Reservoir to be the South Platte River.

142. Cannon testified that he has always assumed that when he requests water for the Mose Davis Reservoirs from the Fulton Ditch Company, it is diverted from the South Platte by the

Fulton Ditch, is available to the Mose Davis Reservoirs' decrees, and delivered to the Mose Davis Reservoirs.

143. There is sufficient evidence that the Mose Davis Reservoirs have, as a matter of fact, been supplied with water from the South Platte River. This finding is based on Mr. Cannon's testimony that he understood that the water delivered by the Fulton Ditch Company for storage into the Mose Davis Reservoirs was diverted from the South Platte, along with the State Engineer's forms describing the source of the Mose Davis No. 1 water right as the South Platte and Mr. McLean's testimony that there was ample opportunity for the Mose Davis Reservoirs to divert and fill in priority. The available records do not show how much of the water was diverted into the Fulton Ditch solely for the reservoirs, and how much was comprised of surplus diversions in the Fulton Ditch; however, the precise source of the water is unnecessary for the court to determine the historical use of the Mose Davis Reservoirs' water rights. Based on all of the evidence, the historical use of the Mose Davis reservoirs averaged 450 acre feet per year. Of that amount, 289.6 acre-feet was consumptively used. The use of this limitation in the future will prevent enlarged use and will prevent injury to other vested water rights.

144. In addition, during his testimony at trial, Mr. Cannon stated he would be willing to limit diversions under the water rights for the Mose Davis Reservoirs to times when the Fulton Ditch historically exercised its water rights for irrigation purposes. This limitation will ensure that the time when these reservoirs are filled from the South Platte is not extended beyond the season when it historically occurred, and thereby prevent enlarged use of the water rights. This term and condition will be included in the change of water rights decreed herein.

5. *Lawful Rate of Diversion from the South Platte River to fill the Mose Davis Reservoirs*

145. FRICO argues that there is no known historical rate of diversion for the Mose Davis Reservoir No. 1 and Mose Davis Lake No. 2 from the South Platte River. This is not a problem with the decrees for the reservoirs, but rather an issue that arises from the absence of a separate recordation of diversions from the South Platte River under the priorities of the reservoirs. The decree for Mose Davis Reservoir No. 1, in compliance with section 2403, Mills Annotated Statutes, 1891, states:

. . . . that the said reservoir takes its supply of water from the South Platte River, using as an intake or feeder ditch, that certain ditch commonly known as "The Fulton Ditch," the headgate of said feeder or intake ditch being on the east side of said river, near Section 9, between Sections 16 and 17, [T2S, R67], said ditch running thence in a generally northerly and northeasterly direction, drawing the said water through the said ditch to the end thereof thence into that certain ditch known as the Fulton Extensions Ditch to the headgate of the intake of said reservoirs, . . . ; the said Fulton Ditch, being twelve feet in width, slope of banks one and one-half to one, depth of water four feet, grade three and one-half feet to the mile and having a carrying capacity of about four hundred fifty feet of water per second of time. . .

146. The decree for Mose Davis Lake No. 2 simply states that it is filled through the Fulton Ditch. Thus, the maximum filling rate for the reservoirs is the capacity of the ditch used to supply them. The capacity of the delivery ditch leading to the Mose Davis Reservoirs and the improvements in that delivery ditch are considerably smaller than the Fulton Ditch and therefore serve as the practical limitation on the rate that water may be supplied to the reservoirs.

147. The capacity of the delivery ditch to the Cannon Fulton/Davis property, below Cannon's current farm headgate, when combined with the volumetric limits and season of diversion limitation will prevent any enlarged draft on the South Platte from the change of the Mose Davis Reservoirs. To ensure that the future rate of delivery of water to Cannon Fulton/Davis lands is not enlarged by future changes to the farm delivery ditch, within 90 days from the date of this decree, Applicant shall submit to the court a determination of the carrying capacity of said ditch in cubic feet per second, including the basis for determination of the capacity, and serve a copy thereof on all other parties. Any party that objects to the determination of the carrying capacity of the ditch shall have thirty days thereafter to file an objection. The court shall then resolve the dispute and determine the capacity of said ditch. If no objections are filed, then the Applicants' determination of the ditch capacity shall be the maximum allowed rate of delivery of water to the reservoirs measured in the delivery ditch below the farm headgate on Cannon's property. The Mose Davis Reservoir decree shall be limited to diversions from the South Platte of so much water as is necessary to delivery that quantity to Cannon's property.

IV. OPERATION OF THE CHANGE OF WATER RIGHTS

148. Mr. McLean testified regarding the proposed operation of the change of water rights and the terms and conditions necessary to prevent injury resulting from the proposed change. To make replacement water available for the purpose of off-setting the Cogen's stream depletions, Cannon has agreed to dry-up sufficient irrigated acreage from its Platteville lands and Fulton/Davis lands to result in a reduction in historical consumptive use equal to its annual contractual replacement obligation of up to 1,200 or 1,500 acre-feet. The water no longer used for irrigation will be applied to Augmentation Use. Augmentation Use means use to replace historical return flows and to replace out-of-priority depletions to the South Platte River from Cogen's water use. The quantity of water "applied to Augmentation Use" is equivalent to the surface return flow, groundwater return flow and consumptive use portion of the historical farm headgate delivery not used for irrigation.

149. Mr. McLean testified that water applied to Augmentation Use can be delivered to the South Platte River either directly, after storage in the Mose Davis Reservoirs, or after delivery to recharge structures for subsequent accretion to the South Platte River. Cannon has agreed that the quantity of water applied to irrigation and/or Augmentation Use shall be subject to volumetric limitations described below.

150. Cannon agrees that the quantity of water applied to Augmentation Use will be used as the basis for determining return flow obligations and all water applied to Augmentation Use pursuant to this change of water rights shall incur a surface return flow obligation and a groundwater return flow obligation that shall be satisfied as provided hereinafter. The historical

surface return flows and lagged groundwater return flows from the water applied to Augmentation Use (no longer used for irrigation) will be returned to the South Platte River in their historical patterns. Mr. McLean testified that the relative percentages of consumptive use, surface runoff, and groundwater return flows for the Cannon Water Rights are:

Source	Percent of Farm Headgate Delivery		
	Consumptive Use	Surface Runoff	Groundwater Return Flows
Platteville Ditch	56%	9%	35%
Fulton Ditch Shares	71%	5%	24%
Mose Davis Reservoirs	64%	9%	27%

151. The replacement water sources consist of water that is directly delivered to the South Platte River from Cannon’s 4 and 11/12th PIMC shares, the 141 Fulton shares, or the Mose Davis Reservoirs, recharge accretions from the existing recharge pond, or from future recharge ponds, or previously stored Fulton Ditch share water, Mose Davis Reservoirs water, or Cannon’s 4 and 11/12th PIMC shares.

152. Cannon will deliver water from the Platteville Ditch, Fulton Ditch, and Mose Davis Reservoirs to the South Platte River, at or above the South Platte River headgate of the Meadow Island No. 2 Ditch. Currently, Cannon can return water directly to the South Platte River at three locations on Cannon’s property. The southern-most delivery point is located in the NE¹/₄, NE¹/₄, Section 19, T2N, R66W of the 6th P.M. and is referred to as the Bangert Pipeline. The second delivery point is approximately 1,300 feet west of the southern-most delivery point. The more northerly delivery location is approximately one mile north in the NW¹/₄, NW¹/₄, Section 18, T2N, R66W of the 6th P.M. and is referred to as the “Duck House” or the “Cannon Pipeline.” Cannon can also measure and return Platteville Ditch water to the South Platte through the Central Colorado Water Conservancy District (“Central”) Augmentation Station on the Platteville Ditch just south of where the ditch crosses Weld County Road 18 in the NE¹/₄, Section 30, T2N, R66W of the 6th P.M.

153. Finally, Cannon can return Platteville Ditch water to the South Platte River through the Platteville Ditch wasteway at Weld County Road 18, also located in the NE¹/₄, Section 30, T2N, R66W of the 6th P.M. Prior to using the Platteville Ditch wasteway as an augmentation station, the wasteway shall be equipped with a measuring device and recorder. Cannon can also return water by use of the existing recharge pond (“120 Pond” described in paragraph 169), which is located in the alluvium of the South Platte, and by the use of any future additional recharge ponds that will be located in the alluvium of the South Platte, on the east side of that river, and south of the center lines of Section 12, T2N, R67W of the 6th P.M., Section 7, T2N, R66W of the 6th P.M. and Section 8, T2N, R66W of the 6th P.M. The delivery location, whether by direct delivery of water to the South Platte River or deliveries to recharge, shall be equipped with measuring devices and continuous recorders. The locations of the above-described delivery points and 120 Pond are shown on Appendix A. Cannon’s Fulton Ditch water and Mose Davis

Reservoirs' water can be delivered to the South Platte River at the Duck House, the 120 Pond, or an augmentation station in Section 3 of the Fulton Ditch approved by the Fulton Ditch Company and approved by this court pursuant to retained jurisdiction.

A. Change of Platteville Ditch Water Rights

154. Cannon has agreed to the following terms and conditions to govern the use of Cannon's 4 and 11/12 PIMC shares:

155. Cannon shall take delivery of its 4 and 11/12th shares in the PIMC at its existing farm headgates on the Platteville Ditch, at such other headgates to serve Cannon's property as approved by the PIMC, at the Central Augmentation Station, or at the Platteville Ditch Weld County Road 18 wasteway, as appropriate. Cannon shall take delivery at its farm headgates of Platteville Ditch water to be applied to irrigation, and all or a portion of the water to be applied to Augmentation Use, less 15% ditch loss. The balance of Cannon's pro rata share of diversions, less 15% ditch loss, shall be delivered to the South Platte through the Central Augmentation Station or the wasteway on the Platteville Ditch at Weld County Road 18. Deliveries of Platteville Ditch water for Augmentation Use shall be limited to the period April 1 to October 31. Cannon shall install measuring devices at the point(s) of delivery of its Platteville Ditch water from the Platteville Ditch to each open ditch used to take delivery of water, and at the outfall of each pipeline used to take delivery of water from the Platteville Ditch.

156. Cannon has agreed to dry-up irrigated acres on the basis of 125.7 acres for each PIMC share applied to Augmentation Use. By March 1 of each year, Cannon shall inform the Division Engineer of the number of Cannon PIMC shares to be applied to Augmentation Use during the subsequent April 1 through October 31 period and of the location and number of acres that will be dried up. The dry-up acreage shall not be irrigated with Platteville Ditch water or any other source of water absent a substitute water supply plan approved pursuant to Section 37-92-308, C.R.S., or successor statutes, or a decree of the court authorizing such use. Cannon shall not claim dry-up credit for Augmentation Use unless the acreage is actually dried-up, which includes reducing dry-up credits on lands on which forage, alfalfa, or other perennial crops continue to exist in accordance with the requirements of Appendix 2 of Applicants' Proposed Decree, Applicants' Exhibit 148, for demonstrating actual dry-up of such lands. Cannon shall not irrigate more than 125.7 acres on the Cannon Platteville Farm, as shown on Appendix A,¹ for each PIMC share not designated for Augmentation Use and the sum of the acres irrigated on Cannon's Platteville Farm and the acres dried up for Augmentation Use shall not exceed 618.2 acres during any year. When all of Cannon's 4 and 11/12th shares are applied to Augmentation Use, there shall be no irrigation on the Cannon Platteville Farm with Platteville Ditch water or any other source of water absent a substitute water supply plan approved pursuant to § 37-92-308, C.R.S., or successor statutes, or a decree of the court authorizing such use.

157. Mr. McLean testified that historically, surface runoff from Cannon's land returned to the South Platte River within one month of use. Surface runoff from Cannon's lands averaged 9%

¹ The lands in NE¼ of Section 8, T2N, R66W of the 6th P.M., for purposes of this change of water rights, are considered as part of Cannon's Platteville Farm.

of the amount applied for irrigation. An amount equal to 9% of the Platteville Ditch water applied to Augmentation Use shall be delivered to the South Platte River to replicate historical surface runoff. The quantity of surface run-off shall be calculated daily and returned to the South Platte River within 48 hours of the time that Cannon receives delivery of the Platteville Ditch water to be applied to Augmentation Use. Cannon shall deliver water from one or more of the Changed Cannon Water Rights to the South Platte River at or upstream of the north section line of section 7, T2N, R66W of the 6th P.M. to satisfy its surface runoff replacement obligation.

158. Mr. McLean testified that historically, groundwater return flows from Cannon’s Platteville lands averaged 35% of the water applied for irrigation and accrued to the South Platte River in a lagged manner. Cannon shall calculate its daily Platteville Ditch groundwater return flow replacement obligations by multiplying the amount of water applied to Augmentation Use by the 35% Platteville groundwater return flow factor, and by the return flow lagging factors in Table A of Appendix 1 of Applicants’ Exhibit 148. Daily lagged groundwater return flow replacement requirements from previous months shall be accumulated to determine the total daily replacement obligation based on the amount of water applied to Augmentation Use in those prior months. The daily Platteville Ditch groundwater return flow rate to be released shall be computed by converting the monthly volume into a daily flow rate. Cannon shall deliver water from one or more of the Changed Cannon Water Rights to the South Platte River to satisfy its groundwater return flow replacement obligation. Surface water deliveries for this purpose shall be made at or upstream of the north section line of section 7, T2N, R66W of the 6th P.M., and groundwater deliveries of water for this purpose shall be from accretions from recharge at the 120 Pond or such other recharge facilities as may be approved pursuant to the court’s retained jurisdiction.

159. All water available to Cannon’s 4 and 11/12th shares in the PIMC that Cannon either elects not to use or is unable to use because of operation of the volumetric limits, less 15% ditch loss, shall be returned promptly to the South Platte River through the Central Augmentation Station or the Platteville Ditch wasteway near Weld County Road 18, or through the augmentation stations on Cannon’s property. This water shall not be used by Cannon or any other Platteville Ditch shareholder.

160. The combined deliveries of water under Cannon’s 4 and 11/12th shares of PIMC at its farm headgates for irrigation and/or Augmentation Use and deliveries for Augmentation Use at either the Central Augmentation Station or the Platteville Ditch wasteway, shall be limited to not more than 2,870 acre-feet annually. (Quantities in excess of this amount shall be subject to paragraph 146.) Deliveries of this water also shall be subject to the following monthly limits in acre-feet:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	190	525	775	730	620	435	215	0	0

161. 20-Year Cumulative Annual and 20-Year Cumulative Monthly Volumetric Limits. Upon entry of the decree, the combined deliveries of water under Cannon’s 4 and 11/12th shares of PIMC water for irrigation and/or Augmentation Use shall not exceed 43,900 acre-feet in any

consecutive 20-year period and shall not exceed the following monthly limits in acre-feet in any consecutive 20-year period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	1,270	5,090	9,060	11,320	9,420	6,360	1,370	0	0

162. 10-Year Cumulative Annual and 10-Year Cumulative Monthly Volumetric Limits. Upon entry of the decree, the combined delivery of water under Cannon’s 4 and 11/12th shares of PIMC water for irrigation and/or Augmentation Use during the last ten years of the Cogen Lease (February 2009 through January 2019), shall not exceed 21,950 acre-feet, and shall not exceed the following monthly limits in acre-feet:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	635	2,545	4,530	5,660	4,710	3,180	685	0	0

B. Change of Fulton Ditch Water Rights

163. The following terms and conditions shall hereafter govern the use of Cannon’s 141 Fulton Ditch shares:

164. Deliveries. Cannon shall take delivery of its Fulton Ditch share water and Mose Davis Reservoirs water available for storage in priority through the Fulton Extension Ditch, or a Fulton Ditch augmentation station approved under the court’s retained jurisdiction. Farm headgate deliveries under Cannon’s 141 Fulton shares shall be limited to the March 1 through October 31 period of each year. Cannon shall install measuring devices at the point(s) of delivery to the Fulton/Davis lands to measure all water delivered in the Fulton Extension Ditch and to measure all water released from the reservoirs for Augmentation Use. Cannon may store its 141 Fulton ditch shares in the Mose Davis Reservoirs, subject to replacement of historical return flows as required above. Cannon may also store any inflow to the Mose Davis Reservoirs when the Mose Davis Reservoirs water rights are in priority, up to one filling per year for each reservoir for these priorities, and shall account for such storage based upon a November 1 to October 31 water year.

165. Dry-Up for Mose Davis Reservoirs. By March 1 of each year Cannon shall inform the Division Engineer of the percentage of the Mose Davis Reservoirs’ water that will be applied to irrigation use as well as the percentage that will be applied to Augmentation Use. If any of the Mose Davis Reservoirs’ water is to be applied to Augmentation Use, then Cannon shall determine the number of acres of Fulton/Davis land to be removed from irrigation by multiplying the percentage of Mose Davis Reservoir water to be applied to Augmentation Use by 264.6 acres. The historical consumptive use resulting from the dry-up of historically irrigated lands shall be subject to the requirements of Appendix 2 of Applicants’ Exhibit 148 for demonstrating actual dry-up of the lands. The sum of the acres irrigated on Cannon’s Fulton/Davis lands with the Mose Davis Reservoirs water and the acres dried up for Augmentation Use shall not exceed 264.6 acres during any year.

166. Dry-Up for Fulton Share Water. Also by March 1 of each year Cannon shall inform the Division Engineer of the number of its Fulton Ditch shares that will be applied to Augmentation Use and identify 2.0 acres of dry-up on the Fulton/Davis lands for each Fulton Ditch share designated to be applied to Augmentation Use. The historical consumptive use resulting from the dry-up of historically irrigated lands shall be subject to the requirements of Appendix 2 of Applicants' Exhibit 148 for demonstrating actual dry-up of the lands. Cannon shall not irrigate more than 2.0 acres on the Fulton/Davis Farm, as shown on Appendix A, for each Fulton Ditch share not designated for Augmentation Use and the sum of the acres irrigated on Cannon's Fulton/Davis Farm and the acres dried up for Augmentation Use shall not exceed 282.8 acres during any year.

167. When all of Cannon's 141 Fulton Ditch shares and all of the Mose Davis Reservoirs water are applied to Augmentation Use, there shall be no irrigation on the Cannon Fulton/Davis Farm with Fulton Ditch water, Mose Davis Reservoirs water or any other source of water absent a substitute water supply plan approved pursuant to § 37-92-308, C.R.S., or successor statutes, or a decree of the court authorizing such use.

168. Surface Runoff Return Flow Replacement. Historically, surface runoff from the Fulton Ditch share water is returned to the South Platte River within one month of use. Surface runoff from these sources averaged 5% of the amount applied for irrigation. An amount equal to 5% of the amount of water applied to Augmentation Use shall be delivered to the South Platte River to replicate historical surface runoff. The quantity of surface runoff shall be calculated daily and returned to the South Platte River within 48 hours of the time that Cannon receives deliveries of its Fulton Ditch shares used for Augmentation Use. Cannon shall deliver water from the Changed Cannon Water Rights to the South Platte River at or upstream of the north section line of section 7, T2N, R66W of the 6th P.M. to satisfy its surface runoff replacement obligation.

169. Groundwater Return Flow Replacement. Historically, groundwater return flows from the Fulton Ditch share water averaged 24% of the water applied for irrigation and accrued to the South Platte River in a lagged manner. Cannon shall calculate its daily groundwater return flow replacement obligations for its Fulton Ditch share water by multiplying the amount of water applied to Augmentation Use from this source by the 24% Fulton/Davis lands' groundwater return flow factor, and by the return flow factors in Table B of Appendix 1 of Applicants' Exhibit 148. Daily lagged groundwater return flow replacement requirements from previous months shall be accumulated to determine the total daily replacement obligation based on the amount of water applied to Augmentation Use from these sources in those prior months. The daily flow rate to be released shall be computed by converting the monthly volume into a daily flow rate. Cannon shall deliver water from one or more of the changed Cannon water rights to the South Platte River to satisfy its groundwater return flow replacement obligation. Surface water deliveries for this purpose shall be made at or upstream of the north section line of Section 7, T2N, R66W of the 6th P.M., and groundwater deliveries for this purpose shall be from accretions from recharge in the 120 Pond or such other recharge facilities as may be approved pursuant to this court's retained jurisdiction.

170. Maximum Annual and Maximum Monthly Volumetric Limits. The combined deliveries of water under Cannon’s 141 shares of Fulton Ditch water for irrigation and/or Augmentation Use shall be limited to no more than 570 acre-feet per year. Deliveries of Cannon’s Fulton Ditch share water for irrigation and/or Augmentation Use shall also be subject to the following monthly limits in acre-feet:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	40	80	100	125	150	135	80	55	0	0

171. 20-Year Cumulative Annual and 20-Year Cumulative Monthly Volumetric Limits. Upon entry of the decree, the combined deliveries of Cannon’s Fulton Ditch share water for irrigation and/or Augmentation Use in any consecutive 20-year period shall not exceed 8,710 acre-feet. Deliveries of Cannon’s Fulton Ditch share water for irrigation and/or Augmentation Use shall also be subject to the following cumulative monthly limits in acre-feet in any consecutive 20-year period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	150	510	1,150	1,630	2,020	1,740	1,050	460	0	0

172. 10-Year Cumulative Annual and 10 -Year Cumulative Monthly Volumetric Limits. Upon entry of the decree, the combined deliveries of Cannon’s Fulton Ditch share water for irrigation and/or Augmentation Use during February 2009 through January 2019 (the last ten years of the Cogen Lease), shall not exceed 4,355 acre-feet. Deliveries of Cannon’s Fulton Ditch share water for irrigation and/or Augmentation Use shall also be subject to the following cumulative monthly limits in acre-feet during February 2009 through January 2019:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	75	255	575	815	1,010	870	525	230	0	0

173. All Fulton Ditch share water available to Cannon that Cannon is unable to use because of operation of the volumetric limits imposed herein, shall be returned promptly to the South Platte River through either an augmentation station in Section 3 of the Fulton Ditch, the Fulton Ditch Wasteway, or by delivery from the Fulton/Davis lands. This water shall not be used by Cannon or other Fulton Irrigating Ditch Company shareholders. The Fulton Ditch has historically operated in sections on a rotational basis, and such operations are expected to continue. Cannon currently takes delivery of the water in the Fulton Extension Ditch, which is in Section 3 of the Fulton Ditch, as defined in the current Fulton Ditch Company bylaws. For purposes of this subparagraph, Fulton Ditch share water shall not be deemed to be available to Cannon when the Fulton Ditch is operating in sections and Section 3 is not in rotation.

C. Change of Mose Davis Reservoirs Water Rights

174. The decreed physical capacities of the Reservoirs and the water rights of the Mose Davis Reservoirs represent the contemplated draft on the South Platte River applicable to each of the separate water storage rights.

175. Volumetric Limits. The Mose Davis Reservoirs may continue to store water whenever the Mose Davis Reservoirs water rights are in priority, up to one filling per water year. The amount of water released from the reservoirs and applied to irrigation or Augmentation Use in any consecutive twenty-year period shall not exceed 9,000 acre-feet and the total release for these purposes during February 2009 through January 2019 shall not exceed 4,500 acre feet.

176. Surface Runoff Return Flow Replacement. Historically, water was stored in the Mose Davis Reservoirs and, on average, releases were made for irrigation use in July, August and September. Surface runoff from use of the Mose Davis Reservoirs water returned to the South Platte River within one month of use. Surface runoff from this source averaged 9% of the amount applied for irrigation. An amount equal to 9% of the Mose Davis Reservoirs water applied to Augmentation Use shall be delivered to the South Platte River to replicate historical surface runoff. Releases of Mose Davis Reservoirs water for Augmentation Use shall occur in a different monthly pattern than historical releases for irrigation use. To preserve the historical distribution of surface runoff return flows, the surface runoff return flow obligations shall be based on the total amount of Mose Davis Reservoirs' releases for Augmentation Use during the period of October through June. Surface water return flow obligations shall be determined as if those releases were made during the following July, August, and September according to the following percentages, 48% in July, 37% in August, and 15% in September. All Mose Davis Reservoirs water released for Augmentation Use during July, August or September shall incur a surface runoff return flow obligation equal to 9 percent of the amount released for such use. The quantity of surface runoff return flow replacement obligation shall be calculated daily and returned to the South Platte River within 48 hours of the time that Cannon delivers its Mose Davis Reservoir water out of the reservoirs for Augmentation Use. Cannon shall deliver water from the Changed Cannon Water Rights to the South Platte River at or upstream of the north section line of section 7, T2N, R66W of the 6th P.M. to satisfy its surface runoff replacement obligation.

177. Groundwater Return Flow Replacement. Historically, water was stored in the Mose Davis Reservoirs and, on average, releases were made for irrigation use in July, August and September. Groundwater return flows from the Mose Davis Reservoirs water averaged 27% of the water applied for irrigation and accrued to the South Platte River in a lagged manner. An amount equal to 27% of the Mose Davis Reservoirs water used for Augmentation Use shall be delivered to the South Platte River to replicate historical groundwater return flows. Releases of Mose Davis Reservoirs' water for Augmentation Use will occur in a different monthly pattern than historical releases for irrigation use. To preserve the historical distribution of groundwater return flows, the groundwater return flow obligations shall be based on the total amount of Mose Davis Reservoirs' releases for Augmentation Use during the period of October through June. Cannon's groundwater return flow obligations shall be determined as if those releases were made during the following July, August, and September according to the following percentages, 48%

in July, 37% in August, and 15% in September. All Mose Davis Reservoir water released for Augmentation Use during July, August, or September shall incur a groundwater return flow obligation for those months equal to 27 percent of the amount released for such use. The total groundwater return flow replacement obligation so determined shall be multiplied by the return flow factors in Table B of Appendix 1 of Applicants' Exhibit 148. Lagged groundwater return flow replacement requirements from previous months shall be accumulated to determine the total groundwater return flow replacement obligation for any month based on the amount of Mose Davis Reservoirs' water applied to Augmentation Use in those prior months. Replacement of lagged groundwater return flow requirements shall be made on a daily basis. The daily flow rate to be released shall be computed by converting the monthly volume into a daily flow rate. Cannon shall deliver water from one or more of the Changed Cannon Water Rights to the South Platte River at or upstream of the north section line of section 7, T2N, R66W of the 6th P.M. to satisfy its subsurface return flow replacement obligation.

178. Other Fulton Ditch Inflows to Fulton/Davis Lands. From time to time water reaches the Fulton /Davis Lands from the Fulton Ditch and Fulton Extension Ditch that is either (1) in excess of the volumetric limit, or (2) water that cannot be stored in priority in the Mose Davis Reservoirs. The source of this water is sometimes storm water run-off over which Cannon has no control. Cannon shall not use this water for irrigation or any other purpose, and shall promptly return it unconsumed to the South Platte River. Currently, the greatest practical rate at which Cannon's delivery system associated with the Fulton/Davis Lands ("Fulton/Davis Delivery System") will permit delivery of this water to the South Platte River is a maximum rate of 2.75 c.f.s. At the present time, Cannon shall not be required to increase the capacity of its Fulton/Davis Delivery System or install other delivery systems in order to return this water to the South Platte River at a greater rate. However, Cannon shall monitor and account for such water, including the rates and times at which such water is returned to the South Platte River, as part of the accounting required under this decree and the court retains perpetual jurisdiction to consider whether other means are required to ensure that such water is being delivered to the South Platte River in a timely manner and that Cannon's return flow obligations under this decree are also being met. The delivery of this water to the South Platte River through Cannon's Fulton/Davis Delivery System shall have priority over the delivery of water for Augmentation Use under this decree through the Fulton/Davis Delivery System. With the approval of the Division Engineer pursuant to C.R.S. § 37-90-120(2)-(4), Cannon may return this excess water to the South Platte River by means of exchange with any other source of substitute supply lawfully available to Cannon, including any replacements to the South Platte River from the changed Cannon Water Rights, that are in excess of Cannon's replacement obligations determined herein.

179. Post-Augmentation Return Flow Replacement Obligations. If and when Cannon chooses to discontinue applying any of its changed water rights to Augmentation Use, Cannon shall continue to provide lagged groundwater return flow replacements to the South Platte River for the Platteville Ditch, Fulton Ditch share water and Mose Davis Reservoirs' water that has been applied to Augmentation Use.

180. Platteville Ditch Post-Augmentation Return Flows. Cannon's replacement obligation for Platteville Ditch groundwater return flows in months following the termination of Augmentation Use shall be based on the amount of water applied to Augmentation Use in the months prior to

termination of that use. Those amounts will be determined from the monthly return flow factors presented in Table A of Appendix 1 of Applicants’ Exhibit 148. Replacements of Cannon’s Platteville Ditch groundwater return flows shall continue for a total of 59 months following the last month of Augmentation Use.

181. Fulton Ditch and Mose Davis Reservoirs Post-Augmentation Return Flows. Cannon’s replacement obligation for Fulton Ditch share water and Mose Davis Reservoirs groundwater return flows in months following the termination of Augmentation Use shall be based on the amount of water applied to Augmentation Use in the months prior to the termination of use, times the return flow factors presented in Table B of Appendix 1 of Applicants’ Exhibit 148. Replacement of such groundwater return flows shall continue for a total of 131 months following the last month of Augmentation Use.

182. Recharge Ponds. Cannon has an existing recharge facility located in the NW ¼ of the SW ¼ of Section 17, T2N, R66W, of the 6th P.M. (the “120 Pond”). Recharge accretions resulting from deliveries of the Changed Cannon Water Rights to the 120 Pond accrue to the South Platte River in Section 19, T2N, R66W, of the 6th P.M. Cannon owns the land under and around the 120 Pond and Cannon may expand the 120 Pond to accept additional deliveries for recharge. Cannon may construct one or more additional recharge ponds on land that is located within the alluvium of the South Platte River and would be suitable for recharge.

183. Recharge Accretion Timing. Cannon shall calculate its recharge accretion credits by multiplying the net water delivered to recharge times the recharge lagging factors in Table C of Appendix 1 of Applicants’ Exhibit 148. The recharge lagging factors for any additional recharge ponds on the Cannon lands shall be determined pursuant to this court’s retained jurisdiction.

184. Net Water Delivered to Recharge Pond. Recharge to the alluvium of the South Platte River from the 120 Pond shall be the net of the water delivered into the pond minus (1) any water that was discharged from the pond to be measured by a continuous recording measuring device, (2) the water lost to vegetative evapotranspiration from vegetation located in the recharge pond, (3) the water lost to evaporation calculated using the pond’s full maximum water surface area times monthly evaporation rates, and (4) the amount of water retained in the recharge pond that has not yet percolated into the ground. The 120 Pond shall have a staff gauge installed such that the gauge registers the lowest water level in the recharge pond. The staff gauge must be readable from a readily accessible location adjacent to the pond. Monthly evaporation rates for the 120 Pond are shown in Table D of Appendix 1 of Applicants’ Exhibit 148. The evaporation loss shall be deducted from the calculated recharge for any month in which water is contained in the 120 Pond.

185. Vegetative Evapotranspiration. Evapotranspiration losses shall be assessed for the two calendar months following any calendar month in which there is no water in the 120 Pond. The amount of recharge water that is lost to evapotranspiration from vegetation located in the recharge pond shall be determined by multiplying the pond surface area (in acres) that is covered by vegetation times the following monthly factors (in acre-feet per acre):

April	May	June	July	August	Sept.	Oct.
0.22	0.32	0.48	0.52	0.41	0.33	0.24

No calculation of evapotranspiration will be made for November through March. Cannon shall not plant, harvest, or graze any crops in the 120 Pond.

186. Additional Recharge Ponds. Any additional recharge ponds or enlargement of the 120 Pond shall be subject to the same vegetative evapotranspiration rates as shown in the table in paragraph 185 and the same evaporation rates as shown in Table D of Appendix 1 of Applicants' Exhibit 148. Prior to the use of any additional recharge ponds or enlargement of the 120 Pond, Cannon shall obtain court approval pursuant to retained jurisdiction under paragraph 43 of Applicants' Exhibit 148. In any such proceeding Cannon shall have the burden to demonstrate the timing and location of recharge accretions to the South Platte River, and shall provide revised accounting forms that include the additional ponds.

187. Measurement and Accounting. Cannon shall measure and/or account for all water used under the Changed Cannon Water Rights and shall submit monthly accounting to the Division Engineer and Water Commissioner on forms acceptable to them. Measurements shall include all farm headgate deliveries, all deliveries taken at augmentation stations or the Platteville Ditch wasteway near Weld County Road 18, water delivered to the South Platte River and/or to recharge from each of the Changed Cannon water rights, water placed in storage in the Mose Davis Reservoirs, and water delivered from the Mose Davis Reservoirs. Accounting shall include a determination of augmentation credits and return flow replacement credits. The accounting also shall show the use of the Changed Cannon Water Rights and the various volumetric limits that constrain the future use of those rights.

188. Cannon has submitted to the court its proposed accounting forms, incorporating the accounting procedure and methodology for the changes decreed herein. The specific items to be included in the accounting are set forth in Appendix 3 of Applicants' Exhibit 148. The proposed accounting forms shall not be specifically decreed in order that, based on operating experience, they may be modified without further court action, either with the permission of the Division Engineer after notice and an opportunity to comment on proposed changes is provided to objectors, or as required by the Division Engineer in accordance with this decree after notice and an opportunity to comment on proposed changes is provided to objectors. Cannon shall supply copies of its accounting forms and monthly accounting to any party upon written request.

189. Excess Replacement Credits. Cannon's operations under this change of water rights may result in the accrual to the South Platte River of historical consumptive use credit or recharge accretions in excess of the amount required to replace Cogen's then occurring stream depletions. Cannon retains the right to recapture and reuse any such excess historical consumptive use credits or excess recharge accretions in any lawful manner and otherwise to dispose of this water. If Cannon seeks to recapture the excess historical consumptive use or excess recharge accretions by exchange, it must first either notify and obtain the Division Engineer's prior approval of each such exchange, or obtain a separate decree adjudicating such exchange.

V. ORDER REGARDING CHANGE OF WATER RIGHTS

190. The court finds that these Proposed Findings of Fact, Conclusions of Law, Judgment and Decree will prevent injury from occurring as a result of the proposed change of water rights. The Applicants shall have 30 days from the date of this order to file with the court and serve on all parties a revised proposed decree consistent with this order. Opposers shall have 15 days in which to file and serve objections to the revised proposed decree. Applicants shall have 10 days to reply. The court shall then conduct such other proceedings as may be necessary to enter a final decree.

Dated: March 10, 2009

By the court:



Roger A. Klein
Water Judge
Water Division No. 1

This document was filed pursuant to C.R.C.P. 121, § 1-26. A printable version of the electronically signed order is available in the Court's electronic file.

Appendix A

