

**COLORADO WATER CONSERVATION BOARD
CONSTRUCTION FUND**

**ANNUAL REPORT
TO THE
60TH COLORADO GENERAL ASSEMBLY
SECOND REGULAR SESSION**



**Colorado Water Conservation Board
Department of Natural Resources**

December 1, 1995

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PREFACE

The CWCB Construction Fund is an important tool for providing low-interest loans to construct and repair water resources infrastructure in Colorado. The fund is primarily used to help build new dams and reservoirs and to capture lost storage through repairs and rehabilitation of existing structures.

This year, the Colorado Water Conservation Board will seek legislative authorization to provide low interest loans totaling \$5.9 million to fund eight water development projects statewide. The 1996 Construction Fund bill also includes provisions for continued CWCB funding support for computerized systems and investigations that will enable the state to better manage and evaluate options for the Colorado and South Platte rivers.

In a separate bill, SB96-124, the Board is seeking \$4.0 million from the Construction Fund for loans and grants to water users in the lower Arkansas River basin to help acquire water rights for well pumping augmentation plans.

Daries C. Lile
Director

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1.0 CWCB Overview

1.1 Mission

The Colorado Water Conservation Board was created by the Legislature in 1937 *"for the purpose of aiding in the protection and development of the waters of the state, for the benefit of the present and future inhabitants of the state."* [37-60-102, CRS]

The duty of the Colorado Water Conservation Board (CWCB) is *"to promote the conservation of the waters of the state of Colorado in order to secure the greatest utilization of such waters and the utmost prevention of floods."* [37-60-106(1), CRS]

1.2 Board Composition

The Colorado Water Conservation Board is a Type I agency within the Department of Natural Resources. The CWCB consists of fourteen members. The Governor appoints eight members from the state's major river basins and one member from the City and County of Denver. All of the appointees are subject to Senate confirmation and serve three year terms. The Executive Director of the Department of Natural Resources is an ex-officio, voting member. The Director of the CWCB, State Engineer, Attorney General, and the Director of the Division of Wildlife are ex-officio, non-voting members.

To the extent possible, appointments to the Board include persons experienced in water resource management, water project financing, engineering, planning, development of water projects, water law, and irrigated farming, or ranching. No more than five appointees can be members of the same political party.

14 CWCB Members

Eight Major River Basin Members

North Platte River	David E. Meyring
South Platte River	David L. Harrison, Chair
Arkansas River	Alan C. Hamel
Rio Grande	Raymond B. Wright
San Miguel, Dolores, Animas, and San Juan Rivers	Janice C. Sheftel
Gunnison River	Ray H. Werner
Colorado River Mainstem	Richard Eric Kuhn
Yampa and White Rivers	David H. Smith

One Member from the City and County of Denver

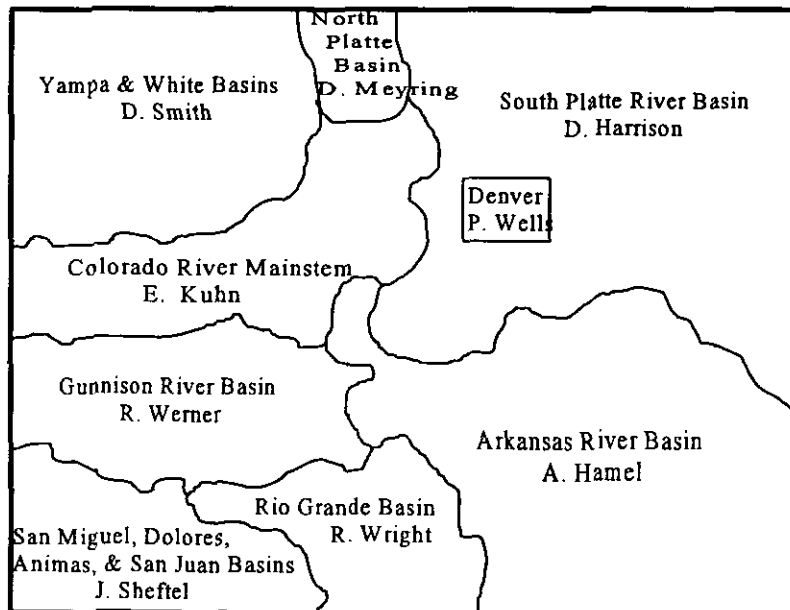
Patricia Wells

One Ex-Officio Voting Member

Executive Director, Dept. of Natural Resources James S. Lochhead

Four Ex-Officio Non-Voting Members

Director, CWCB	Daries C. Lile
State Engineer	Hal D. Simpson
State Attorney General	Gale A. Norton
Director, Division of Wildlife	John Mumma



1.3 Statutory Responsibilities

The CWCB's primary statutory duties and responsibilities are found under CRS, Title 37, Article 60, Water Conservation Board of Colorado, Sections 37-60-101 to 37-60-124, inclusive. Other statutory responsibilities are prescribed by the following:

CRS 24-65.1-202	Colorado Land Use Act - Criteria
CRS 24-65.1-302	Colorado Land Use Act - Functions
CRS 24-65.1-403	Colorado Land Use Act - Technical Assistance
CRS 25-8-104(2)	Colorado Water Quality Control Act
CRS 30-28-111	County Government - Planning and Building Codes
CRS 31-23-301	Municipal Government - Planning and Zoning
CRS 37-62-105	Upper Colorado River Compact
CRS 37-69-105	Arkansas River Compact
CRS 37-90-117	Colorado Groundwater Management Act
CRS 37-92-102(3)	Water Right Determination and Administration Act
CRS 37-95-106	Colo. Water Resources and Power Dev. Authority Act
CRS 37-95-107	Colo. Water Resources and Power Dev. Authority Act
CRS 37-96-103	State Projects Water Conservation in Landscaping Act
CRS 37-97-103	Water Metering Act

Furthermore, beginning in 1987 the Executive Director of the Department of Natural Resources (DNR) delegated to the CWCB the authority to administer his responsibilities under CRS, Title 36, Article 20, Weather Modification Act of 1972.

1.4 Customers

The Board's customers include the General Assembly, the Board members, the Board staff, other state agencies, cities and counties, water conservation and conservancy districts, water user groups, and the general public. The Board interacts with the following state agencies:

- Governor's Office
- DNR/Executive Director's Office
- DNR/Division of Water Resources
- DNR/Division of Wildlife
- DNR/Colorado Division of Parks and Outdoor Recreation
- DNR/Colorado Geologic Survey
- State Attorney General
- Colorado Department of Local Affairs
- Colorado Department of Transportation
- Colorado Department of Health

1.5 Business Services

The CWCB carries out most of its statutory responsibilities through the following major programs:

Water Project Construction Loan Program
Office of Water Conservation Demonstration Grant Program
Agricultural Efficiency Demonstration Grant Program
Interstate Streams Investigation Program
Floodplain Management Program
Instream Flow/Natural Lake Level Program

The CWCB also actively participates in the following federal programs:

Salinity Control Program
Endangered Fish and Recovery Implementation Programs
National Flood Insurance Program

1.6 Annual Report

In addition to providing information concerning the use and status of the Construction Fund, one of the purposes of this annual report is to comply with the various state statutes outlined below:

- Section 37-60-122 (1)(a), CRS, requires the Colorado Water Conservation Board (Board) to submit annually no later than December 1, a report to the General Assembly.
- Section 37-60-115 (4)(d), CRS, directs the Board to report annually on any potential reservoir sites which may be encroached upon by incompatible land uses. The initial dam site inventory required by section 37-60-115(4) was completed in 1988.
- Section 37-60-119 (3) directs the Board to report on the status of activity under the Water Management Demonstration Grants Program added in 1992 and on the results of any completed demonstrations.
- Section 37-60-121 (1)(c), CRS, directs the Board to apprise the General Assembly of steps taken to comply with criteria for making expenditures from the Construction Fund as set forth in section 37-60-121 (1)(b), CRS.
- Section 37-60-122 (1)(a), CRS, directs the Board to report on the proposed facilities which the Board recommends be constructed with moneys appropriated or otherwise credited to the Construction Fund created pursuant to section 37-60-121 (1), CRS. Section 37-60-122 (1)(a) also directs that the Board's report include suggested priorities for the funding of such proposed facilities.

2.0 Construction Fund

2.1 Fund Equity

Fund equity includes the sum of all outstanding project loans and the cash balance in the fund which has been invested by the State Treasurer. The total fund equity reported by the Colorado Financial Reporting System (COFRS) was \$174.0 million on June 30, 1995, the end of FY 94-95.

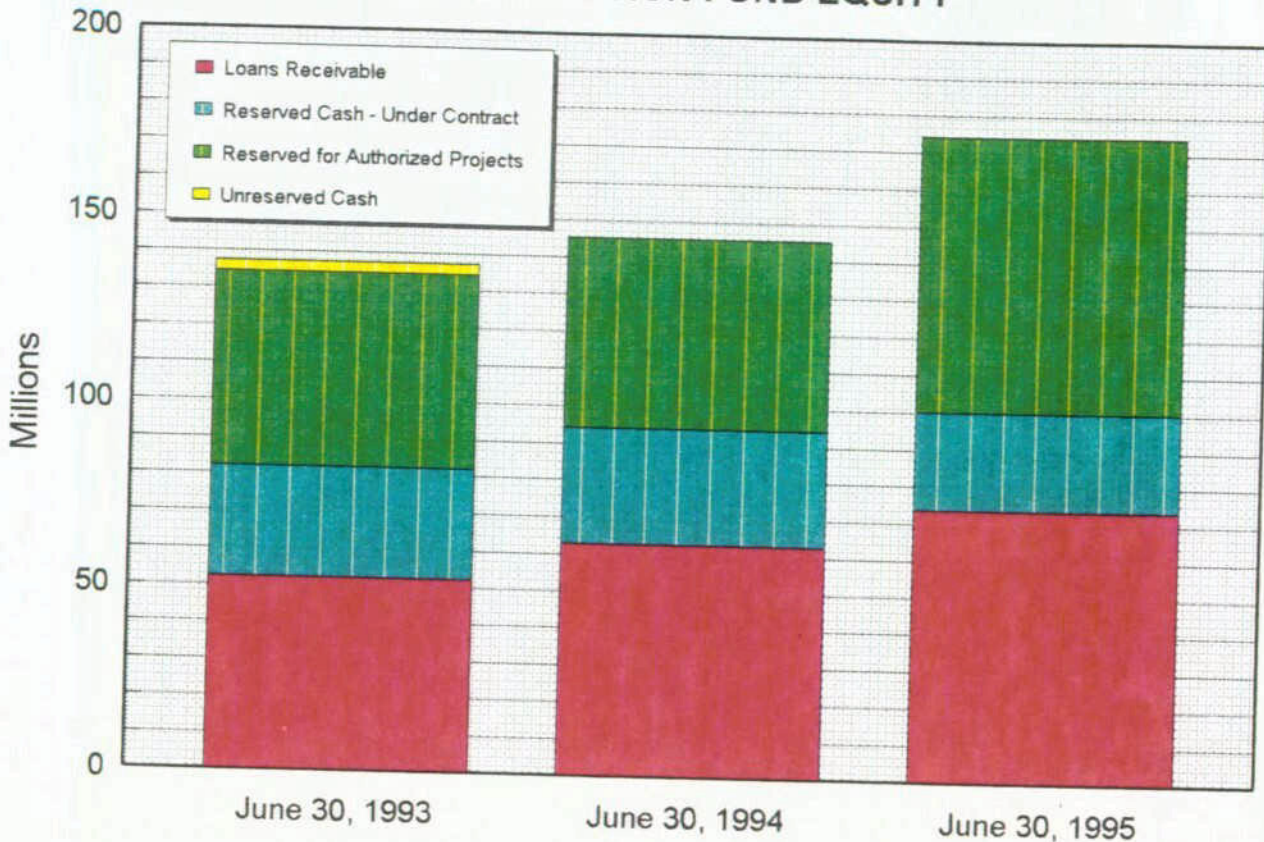
This included approximately \$73.6 million in outstanding loan principal receivable from borrowers with completed projects, \$26.6 million in cash funds reserved for projects authorized by the Legislature which are under contract or under construction, \$74.2 million in cash funds reserved in special accounts or for future projects authorized by the Legislature, and no unreserved cash. The total "cash balance" on June 30, 1995, was \$100.8 million.

TABLE 1

**Colorado Water Conservation Board
Financial Statements FY 94-95**

Fund Equity	Actual June 30, 1993	Actual June 30, 1994	Actual June 30, 1995
Outstanding Loans Receivable	\$52,201,070	62,864,672	73,642,953
Reserved for Authorized Projects - Under Contract	29,919,132	31,401,070	26,587,562
Reserved for Authorized Projects - Not Under Contract	52,274,347	51,140,622	74,215,404
Unreserved Cash or "Working Balance"	2,860,600	61,869	(490,674)
Total Fund Equity on June 30	\$137,255,149	\$145,468,233	\$173,955,245

Colorado Water Conservation Board CONSTRUCTION FUND EQUITY



2.2 Projected Cash for New Projects in 1996

As a revolving cash fund, the CWCB Construction Fund has become a reliable source of funding for about \$12 million in water resource projects and studies each year.

The total amount projected from cash sources in FY 95-96 is \$12.1 million. This includes \$5.6 million in principal and interest, \$3.4 million from Mineral Lease Fund distributions, and \$3.1 million from interest on the cash balance invested by the Colorado Treasurer.

The Board is recommending three projects for deauthorization in FY 95-96 totaling \$1.5 million and a \$0.5 million net reduction in two previous authorizations. Unreserved cash at the beginning of the year was a \$0.5 million shortfall. Administrative expenses from the fund are estimated at \$1.0 million. The unreserved cash available for new projects in 1996 is estimated to be approximately \$12.6 million.

Therefore, there are sufficient unobligated funds to finance the Board's recommendations for new projects totaling \$12.6 million. This includes \$5.9 million in new project loan authorizations, \$0.5 million reserved for new feasibility study loans, \$2.2 million in non-reimbursable projects, and \$4.0 million in a separate bill concerning the prevention of violations of interstate water compacts.

2.3 Long-Term Projected Expenditures

In December 1993 the Board prepared its first Long-Term Financial Projection for the Construction Fund. The projection allows the Board to balance recommended expenditures against the projected revenue stream.

The long-term schedule of projected expenditures from the fund is based on the list of existing authorized appropriations and new projects identified in a statewide survey of water users initiated in 1993. The list of projected future projects is updated periodically through an aggressive marketing program.

Based on these projects, expenditures from the fund are projected to be \$234.9 million over the next ten years. Of this amount, approximately \$174.0 million is for reimbursable projects and \$60.9 million for non-reimbursable projects. The total is distributed as follows:

<u>Type</u>	<u>Millions</u>
New storage projects	\$ 73.6
Dam rehabilitation	44.4
Water resources infrastructure	53.3
Water management	21.2
Fish and wildlife mitigation	11.6
Information management	18.1
Administration	<u>12.7</u>
Total	\$234.9

2.4 Long-Term Cash Sources

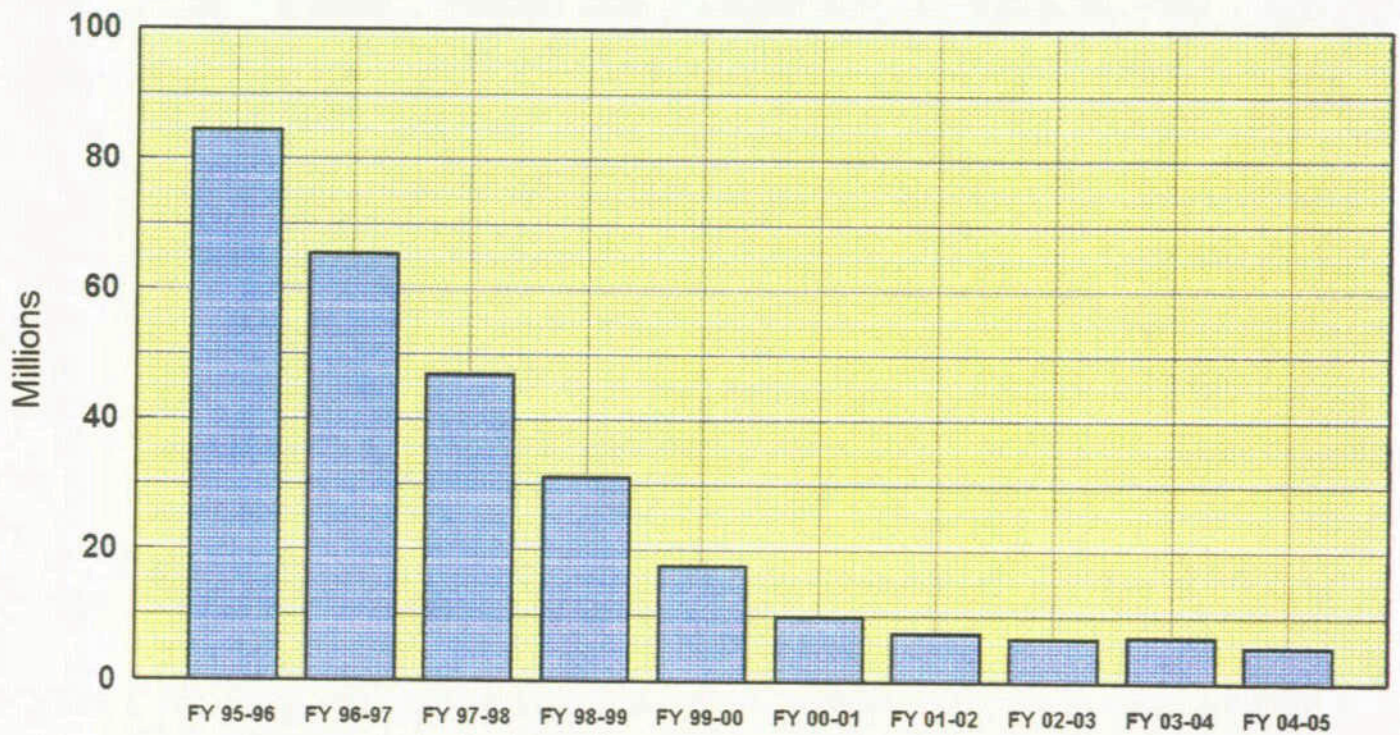
The long-term projection of cash sources is based on several conservative assumptions. New loans were assumed to be amortized at an average interest rate of 3.5-percent over 30 years. The Mineral Lease Fund cash was assumed to decrease by 5-percent per year. Interest from the State Treasurer was estimated to be 3.4-percent of the average cash balance of the Construction Fund and this reflects the effect of the 15-percent management fee pursuant to SB 92-26. Recovery on existing loans, which historically has been about 99-percent, was assumed to be 95 percent in the future. Based on the above assumptions, the existing cash sources to the fund are projected to be \$140.3 million over the next ten years.

2.5 Projected Cash Balance

With \$100.8 million in cash reserved for authorized projects, projected cash sources of \$140.3 million, and projected expenditures of \$234.9 million, the year-end cash balance of the Construction Fund is expected to level out to between \$5 and \$10 million after about the year 2001.

YEAR-END CASH BALANCE

CWCB Construction Fund Long-Term Financial Projection



2.6 Mitigation Account

In 1987, HB 87-1158 created the "Fish and Wildlife Resources Account," also known as the Mitigation Account, in the Construction Fund. Non-reimbursable expenditures totaling \$1,400,000 have been made from the Mitigation Account for mitigation plans approved by the Division of Wildlife. These disbursements are listed below. The balance in the account was \$5,799,580 on June 30, 1995.

1989	Stagecoach Reservoir	\$ 400,000
1990	Wolford Mountain Reservoir	1,000,000

2.7 Emergency Infrastructure Repair Account

In 1993 through HB 93-1273, the Legislature authorized the Board to set aside \$2.0 million of Construction Fund money in an account reserved for emergency repair of water resources infrastructure systems to avoid potential economic losses. The money in the account is continuously appropriated to the Board for immediate availability primarily for emergency repair of water storage systems or water distribution systems. The account is intended to provide flexibility for the Board to make funds available in a timely manner in situations similar to the emergency that developed at Sanchez Reservoir in 1992.

The balance in the Emergency Infrastructure Repair Account was \$1,532,500 on June 30, 1995. The following projects have been authorized by the Board and constructed through the Emergency Account.

<u>Year</u>	<u>Borrower/Emergency</u>	<u>County</u>	<u>Approved Amount</u>	<u>Contract Amount</u>
1993	Summit Reservoir and Irrigation Company - Repair a slide on the Summit Reservoir Dam and Repair a portion of the Lost Canyon Ditch	Montezuma	60,000	33,000
1994	Windsor Canal and Reservoir Co. - Poudre Valley Canal Slide Repairs	Larimer	300,000	300,000
1994	Town of Rangely - Raw Water Intake Structure Repairs	Rio Blanco	34,000	34,000
1995	Castle Pines North Metro District - Rehabilitate Well A-1	Douglas	101,500	<u>100,500</u>
			Total	467,500

2.8 Small Project Loan Account

In 1994 through SB94-029, the General Assembly created the Small Project Loan Account. A total of \$2.0 million was set aside for loans of \$100,000 or less. The CWCB was empowered to authorize these loans at any time during the year without waiting to submit these projects for General Assembly approval during the legislative session. There were no loans made from the Small Project Account in FY94-95 and the full \$2.0 million is available.

2.9 Publications Account

In 1994 through SB94-029, the General Assembly created the Publications Account within the Construction Fund. A starting balance of \$5,000 was transferred into the account. Fees were established by the Board to recover costs for disseminating data and to be able to recover costs for minor expenses such as photocopying. The balance in the account was \$5,312 on June 30, 1995.

2.10 Arkansas River Augmentation Loan Account

HB 95-1155 created the Arkansas River Augmentation Loan Account in the Construction Fund. A total of \$1.5 million was transferred into the account. Distributions have been made to the Lower Arkansas Water Management Association (LAWMA). The balance of the Arkansas River Account was \$985,667 on June 30, 1995.

2.11 Litigation Account

Under certain conditions, the Board is authorized to expend up to \$4.0 million from the Litigation Account for litigation in support of water users whose water supply yield may be diminished as a result of conditions imposed by any federal agency on permits for existing reservoirs located on federal lands. The balance of the Litigation Account was \$4,000,000 on June 30, 1995.

2.12 Construction Fund Audit Recommendations

In February 1993, the Office of the State Auditor completed its performance audit of the Colorado Water Conservation Board's Construction Fund as requested by the Department of Natural Resources. The audit was conducted pursuant to Section 2-3-103, CRS, which authorizes the State Auditor to conduct performance audits of state agencies. Seven recommendations were made in the areas of project planning, financial planning, and administration of the project approval process. A general overview of action taken in response to the audit recommendations is summarized in the following table.

TABLE 2, Audit Recommendations

Rec. No.	Recommendation Summary	Progress as of December 1, 1995
1	Develop a formal, systematic program or process which provides a long- and short-term framework for the use of the Construction Fund. This process should include developing broad policy statements, establishing goals and implementation plans and developing performance measures.	Completed. The Board agreed to implement this recommendation by 12/93. The Board identified 5 long-term goals at its January 1993 meeting. The Board attended a retreat in October 1993 to develop a draft Long Range Plan. The Board's Long Range Plan was formally adopted on September 14, 1994.
2	Develop and implement an effective process for long-term financial planning of Construction Fund monies. This process should include establishing long-term funding needs, assessing current sources of funds, and projecting future funding requirements that may be needed to meet long-term goals.	Completed. The Board agreed to implement this recommendation by 12/93. The Board staff worked with DNR accounting to set up a better method of systematically reporting revenues. All accounts have been reconciled. A water user needs survey was completed in July 1993. A Long-Term Financial Projection for the Construction Fund was completed in December 1993.
3	Establish guidelines which include setting loan interest rates to reflect market interest rates. The Guidelines should be reflected in the projects that will be authorized during the upcoming legislative session.	Completed. The Board agreed to partially implement this recommendation by 7/93. The Board approved new "standard" interest rate guidelines at 2 basis points below the then 30-year Treasury Bond rate for 30 years at its May 6-7, 1993 meeting. A project evaluation matrix is being used on new projects.
4	Charge interest on cash disbursements made to project sponsors during the construction phase of projects. Interest charges could be added to the principal amount of the loan and financed over the term of the loan.	Completed. The Board agreed to implement this recommendation by 12/93. The Board adopted this new policy at its May meeting. The Construction Fund Guidelines have been revised to reflect the new policy. Contracts for future construction projects will require interest during construction.
5	Improve Board monitoring of projects by contacting project sponsors at least annually to determine if project sponsors plan to go ahead with the projects. Responses should be documented and reported to the General Assembly on an annual basis.	Ongoing. The Board agreed to implement this recommendation by 12/93. Letters are sent in March to the sponsors for all authorized but not yet constructed CWCB projects. The staff evaluates the status of the project and determines if it should be deauthorized.
6	Develop and implement procedures which would recover the Board's share of feasibility study costs for projects that are not constructed. Alternatives should be evaluated, including payback over a period of time.	Completed. The Board agreed to implement this recommendation by 10/93. The Board adopted a new policy at its May meeting that stated the Board's participation in feasibility study costs must generally be repaid whether the project is constructed or not. The Guidelines have been revised to reflect this policy.
7	Develop methods to demonstrate Board compliance with procedures it has established, including documentation of all Board reviews and approvals.	Completed. The Board agreed to implement this recommendation by 7/93. A project checklist was prepared by staff in July 1993.

2.13 Construction Fund Criteria

In 1981 the Legislature adopted criteria for the use of the Construction Fund as set forth in section 37-60-121 (1)(b), CRS. This criteria was changed in 1992 with the passage of SB 92-87. Actions taken by the Board concerning the construction fund program have been in compliance with those criteria. In particular, the Board has taken the following steps:

1. From 1981 through 1992, about two-thirds of the Board's cost of the projects recommended were for projects which were expected to increase the beneficial consumptive use of Colorado's compact entitlement.
2. From 1981 through 1994, no applications for flood control projects were accepted by the Board.
3. No applications for domestic water treatment and distribution systems have been accepted by the Board since March, 1981.
4. All feasibility studies initiated by the Board since the adoption of the criteria have included, to the extent deemed necessary: an evaluation of water rights; an evaluation of the engineering and economic feasibility of the project; and an evaluation of the economic, social, and environmental effects.

2.14 Interest Rate Policy

At the last Board meeting of each calendar year, the Board sets a standard 30-year lending rate for Construction Fund projects which are to be recommended to the General Assembly in the following year. The standard rate is 2-percent less than the average yield for 30-year U.S. Treasury Bonds for the preceding 12 months.

Lending rates are established for municipal, agricultural, and commercial projects. For municipal projects, lending rates are established for low, medium, and high income service areas based on median household income in the project sponsor's service area. Lending rates for agricultural projects are identical to municipal low income rates. Lending rates for commercial projects are identical to municipal high income rates.

For municipal low income areas, where median household income (MHI) is less than 80-percent of the statewide MHI, the lending rate will be 20-percent below the standard rate. For municipal medium income areas, where median household income (MHI) is between 80 and 110-percent of the statewide MHI, the lending rate will be the standard rate. For municipal high income areas, where the MHI is more than 110-percent of the statewide MHI, the lending rate will be 10-percent above the standard rate.

For loans with maturities of 20 years or less, but more than 10 years, the rate may be reduced by one quarter of one percent below the 30-year rate for that category of lending. For loans with maturities of 10 years or less, the lending rate may be reduced by one half of one percent below the 30-year rate for that category.

At its November 1994 meeting, based on an average 30-year T-Bond yield of 7.00% for the preceding 12 month period, the Board adopted the following interest rate policy for loans recommended to the General Assembly in 1995.

30-Year Lending Rates for 1995

Type	Low	Medium	High
Municipal	4.00%	5.00%	5.50%
Agricultural	4.00%		
Commercial	5.50%		

At its November 1995 meeting, based on an average 30-year T-Bond yield of 7.25% for the preceding 12 month period, the Board adopted the following interest rate policy for loans recommended to the General Assembly in 1996.

30-Year Lending Rates for 1996

Type	Low	Standard	High
Municipal	4.25%	5.25%	5.75%
Agricultural	4.25%		
Commercial	5.75%		

3.0 Water Project Construction Loan Program

3.1 Completed Construction Projects

The CWCB Construction Fund was established by the General Assembly in 1971 to provide low interest, long-term loans to water users for the development of water projects. The first project was completed in 1977. By the end of FY94-95, the fund provided over \$76.6 million in financing for over 125 water projects. A list of the completed projects is shown in Appendix A.

Under authority of Section 37-60-119 and 121, CRS, the monies in the Construction Fund are to be used for new storage projects which increase the beneficial consumptive use of Colorado's compact-entitled waters and for the repair and rehabilitation of existing storage and raw water delivery systems. The CWCB may recommend funding of the following types of water projects through this program:

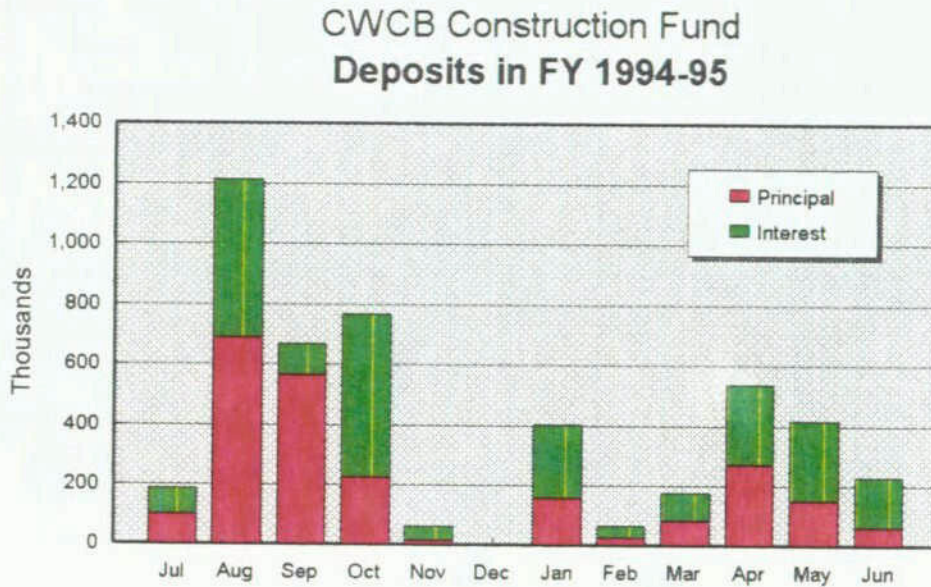
- Construction of new reservoirs or enlargement of existing dams to enhance water supplies and develop Colorado's compact entitlement.
- Rehabilitation of existing dams to meet safety standards and to recover lost storage capacity.
- Repair or construction of water resources infrastructure for agricultural or municipal raw water supply systems including such facilities as diversion structures, canals, ditches, and pipelines.
- Improvements in water management to increase water use efficiency, to maintain or increase water supplies, or to increase beneficial consumptive use.
- Mitigation of impacts on fish and wildlife due to dam construction.
- Improvements in management of information about Colorado's water.

The costs of acquisition of land and water rights is generally not eligible for CWCB funding except as part of a project. The CWCB does not currently provide funding for municipal water treatment and distribution systems. Up to 5-percent of the Board's annual revenue may now be used to finance flood control projects.

The CWCB's financial participation in any single project is generally limited to a maximum of 75-percent of the total engineering and construction cost of the project. The CWCB may loan up to 50-percent of the cost of a feasibility study for a water project. The Board's feasibility study loan must be repaid whether a project is constructed or not.

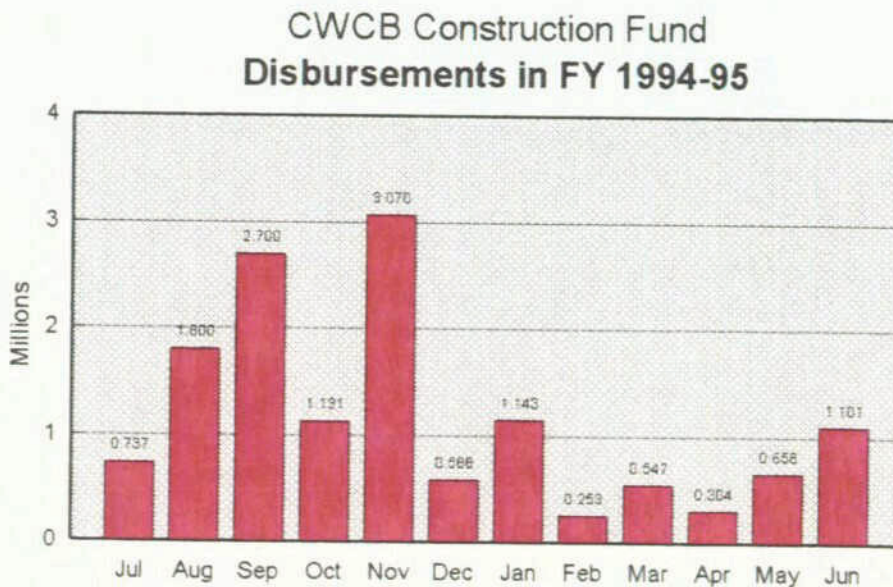
3.2 Loan Deposits

A total of \$4.71 million was received in loan deposits in FY 94-95. Of this amount, \$2.34 million was principal and \$2.38 was interest. A bar chart shows the monthly distribution of deposits.



3.3 Loan Disbursements

A total of \$14.0 million in disbursements from the Construction Fund were made for construction projects, non-reimbursable projects, and investigations in FY 94-95. The following bar chart shows disbursements on a monthly basis.



3.4 Projects Completed in FY94-95

Thirteen construction projects representing \$6.4 million in CWCB loans, as shown in the following table, were completed in FY 94-95. Additional details about these completed projects are located in Appendix B.

**TABLE 3
Projects Completed in FY 94-95**

<u>Borrower - Project</u>	<u>Authority</u>	<u>County</u>	<u>Water Div</u>	<u>Loan Amount</u>	<u>Date Completed</u>
Elmwood Lateral Ditch Company - Elmwood Lateral Ditch Rehabilitation	SB94-029	Mesa	5	\$80,000	09/01/94
Trinchera Irrigation Company - Mountain Home Reservoir Rehabilitation	SB92-87	Costilla	3	1,000,000	09/15/94
Summit Reservoir and Ditch Co. - Summit Reservoir Dam and Ditch Repair	Emergency Loan	Montezuma	7	33,000	11/01/94
Windsor Reservoir and Canal Co. - Poudre Valley Canal Slide Repair	Emergency Loan	Larimer	1	300,000	12/01/94
Town of Rangely - Rangely Raw Water Intake Rehabilitation	Emergency Loan	Rio Blanco	6	34,000	01/10/95
Town of Monument - Monument Well No. 2 Replacement	SB94-029	El Paso	2	100,000	02/01/95
Terrace Irrigation Company - Alamosa Creek Canals and Laterals	HB91-1006	Conejos	3	1,650,000	04/15/95
Town of Erie - Erie Flood Control Levee	SB81-439	Weld	1	498,512	05/01/95
New Cache La Poudre Irrig. Co. - Diversion Structure Replacement	HB93-1273	Larimer	1	700,000	05/01/95
Loloff Lateral Ditch Company - Loloff Lateral Ditch Replacement	HB93-1273	Weld	1	71,500	05/01/95
North Poudre Irrigation Company - North Poudre Res. 5 & 6 Rehabilitation	SB92-87	Larimer	1	1,800,000	06/01/95
Hay-Bretherton Ditch Company - Lower Hay-Bretherton Ditch Lining	HB95-1155	Rio Blanco	6	20,000	06/01/95
Castle Pines North Metro District - Well A-3 Rehabilitation	Emergency Loan	Douglas	2	100,500	06/30/95
			Total	\$6,387,512	

3.5 New Projects Recommended For Authorization

Pursuant to Section 37-60-122(1) (b), CRS, the Colorado Water Conservation Board has recommended legislative authorization to provide loans totaling \$5.9 million to fund eight water development projects statewide in 1996. These projects are listed in Table 4 in priority order as suggested by the Board. Each loan represents partial funding of the total cost of the projects. Additional details about these recommended projects may be found in Appendix C.

TABLE 4

**Colorado Water Conservation Board
New Projects Recommended for Authorization in FY 95-96**

<u>Priority</u>	<u>Borrower</u>	<u>Project</u>	<u>Loan</u>	<u>Years</u>
1.	Wadley Farms Home Owners Association	Wadley Dams No. 1, 2, & 3 Rehabilitation	\$ 500,000	30
2.	Town of Lyons	Diversion Dam Rehab. and Pipeline	280,500	20
3.	Town of Minturn	Bolts Lake Dam Rehab.	360,000	30
4.	Town of New Castle	Raw Water Pipeline	266,500	30
5.	Aristocrat Ranchettes	Water Shares Purchase	600,000	30
6.	Town of Georgetown	Water Rights Purchase	206,500	30
7.	City of Ft. Collins and Larimer County	Dry Creek Flood Control Project	600,000	30
8.	Eagle Park Reservoir Co.	Eagle Park Reservoir Rehabilitation	3,125,000	30
		TOTAL	<u>\$ 5,938,500</u>	

The Board also recommended a \$3,750,000 loan to the Lower Arkansas Water Management Association (LAWMA). The loan is for the purchase of land and water, or the rights to such water, to replace out-of-priority depletions to surface water rights and to prevent material depletions of usable state line flows in violation of the Arkansas River Compact. Part of this loan will be used to pay off a \$750,000 bridge loan obtained from the Board's Arkansas River Augmentation Loan Account.

3.6 Projects Recommended for Deauthorization

Authorized projects which show no activity may be deauthorized to allow new projects to proceed, especially those that may have a better chance of coming to fruition. If an appropriation has not been encumbered within two years after legislative approval, the Board staff will work with the project sponsor to determine if the project can go forward or if it should be deauthorized. After a project has been completed, the remaining unspent but still encumbered funds are deauthorized as soon as possible. At its November 1995 meeting, the Board recommended three projects totaling approximately \$1.5 million be deauthorized by the General Assembly in FY 95-96 as listed in Table 5 below.

TABLE 5

**Colorado Water Conservation Board
Projects Recommended for Deauthorization in FY 95-96**

<u>Project Name</u>	<u>Authorization Bill and Year</u>	<u>Amount Authorized</u>	<u>Amount Deauthorized</u>
Town of Elizabeth	HB95-1155	\$ 437,250	\$ 437,250
City of Salida	SB94-029	553,000	553,000
Pagosa Area Water & San. Dist.	HB93-1273	<u>500,000</u>	<u>500,000</u>
	TOTAL	\$ 1,490,250	\$ 1,490,250

3.7 Recommended Changes to Previous Authorizations

Morgan County Quality Water District

The Morgan County Quality Water District was authorized in HB95-1155 a loan in the amount of \$4,126,000 for participation in the Northern Colorado Water Conservancy District's Southern Water Supply Pipeline on the condition that their feasibility study be completed. Following a detailed analysis of alternatives, the project was changed to the purchase of the Hay Gulch well field with a CWCB loan in the amount of \$3,000,000. Recent negotiations with the owners of the well field were more favorable than in the past.

Windsor Reservoir and Canal Company

The amount of the loan to the Windsor Reservoir and Canal Company authorized in HB95-1155 is recommended to be increased by \$702,000 for a total appropriation of \$1,202,000. As a result of the feasibility study made as condition of the original \$500,000 appropriation, the company developed a 15-year staged improvement plan for its canals and six reservoirs. This first phase of the project will save losses in a section of the Poudre Valley Canal and the Cobb Lake Pipeline.

South Platte River Urban Corridor Project

The Board recommends approximately \$716,000 in residual grant funds originally authorized in 1979 and amended in 1990 for construction of the Chatfield Project Channel Improvement, Reaches I and II, be reallocated as a grant towards state participation in the restoration of the South Platte River channel through the City of Denver.

3.8 Recommended Non-Reimbursable Projects

Colorado River Compact Decision Support System

This is the fourth and final year of funding for design of the CRDSS. The Board is requesting up to \$1,400,000 to continue design of the system for the Colorado River basin, for development of the databases, and to acquire, operate, and maintain the associated hardware and software. A contractor has been hired to design the system. In addition, the Board is seeking up to \$480,000 for the equivalent of 3.5 FTEs during FY96-97 in the Division of Water Resources and the CWCB.

Satellite Monitoring System Maintenance

The Board is again seeking up to \$113,000 to continue their long-term commitment to the State Engineer's Office to rehabilitate and up-grade the existing satellite monitoring system. This request is for the fourth year of a ten year replacement program.

Water Resource Investigation in the Lower South Platte River Basin

The Board is seeking up to \$75,000 from the fund to help several water user groups contract for engineering services and collect data to identify and evaluate potential water resource management and development opportunities in the lower South Platte River basin in Colorado. A final report will be prepared that identifies possible projects that will satisfy the current and future water needs in the South Platte River Basin.

South Platte River Multi-Objective Management Plan

The Board is seeking up to \$50,000 from the fund to contract with the Corps of Engineers or a contractor to investigate problems related to recent flooding on the South Platte River and to develop a multi-objective management plan to mitigate future flood losses and improve irrigation supply. The plan will identify and evaluate potential solutions to improve channel conveyance, reduce sediment deposit, control vegetation, enhance reservoir operations, and develop a self-help program for landowners. The plan will address problems in the river reach extending from Chatfield Reservoir to the Nebraska state line. Other participants in developing the plan include the Urban Drainage and Flood Control District, Weld County, Morgan County, Logan County, and Sedgwick County.

Consolidated Water Resources Information Center

The Board is seeking up to \$15,000 from the fund to continue the operation of the consolidated Water Resources Information Center.

Economic Analysis of the Denver Basin Aquifer

The Board recommends up to \$40,000 be authorized from the Construction Fund to conduct a cooperative study of the economic life of wells pumping from the Denver basin aquifer.

Arkansas River Basin Well Pumping Data Processing

The Board recommends up to \$50,000 be authorized from the Construction Fund for the State Engineer to purchase and coordinate operations of data processing systems to facilitate handling of well pumping data by water user groups in the Arkansas River basin.

Arkansas River Channel Restoration Study

The Board recommends up to \$150,000 be authorized from the Construction Fund to contract with the Albuquerque District Corps of Engineers, or a contractor, for a study of the Arkansas River channel below John Martin Reservoir. The study will investigate problems related to recent flooding and identify and evaluate potential solutions to address channel conveyance, sediment transport, vegetative management, reservoir operations, riparian removal, and plantings. This will be a multi-objective study for the development of a management plan that will assist in mitigating future flood losses and improve irrigation supply in Colorado.

APPENDIX A

Completed Projects

Colorado Water Conservation Board
Water Project Construction Loan Program
Completed Projects

Project Name	Sponsor	County	Div	Amount Loaned	Date Completed
Allenspark Water Project	Allenspark Water & San. District	Boulder	1	200,000	10/01/77
Lake Canal	Gray Lakes Reservoir Company	Larimer	1	160,000	06/21/79
Cache La Poudre (Timnath) Res. Rehab.	Cache La Poudre Reservoir Co.	Larimer	1	880,000	07/02/79
Rico Water Supply System	Town of Rico	Dolores	7	80,000	09/14/79
Delta Water System	City of Delta	Delta	4	450,000	10/11/79
Dove Creek Water System	Town of Dove Creek	Dolores	7	400,000	02/15/80
Trinchera Canal Lining	Trinchera Irrigation Company	Costilla	3	251,689	05/28/80
Hayden Water Supply System	Town of Hayden	Routt	6	300,000	11/17/80
Irrigation System & Water Rights (1)	Beaver Park Water, Inc.	Fremont	2	1,500,000	01/07/81
Limon Water Supply System	Town of Limon	Lincoln	1	750,000	02/02/81
Ridgeway Water Supply System	Town of Ridgeway	Ouray	4	175,000	02/10/81
Rio Grande Res. Emerg. Interim Repair	San Luis Valley Irrigation District	Hinsdale	3	90,000	07/28/81
Yamcolo Dam	Upper Yampa WCD	Routt	6	1,500,000	10/09/81
Eagle Water System	Town of Eagle	Eagle	5	250,000	10/19/81
Fort Morgan Diversion Dam	Ft. Morgan Reservoir & Irrig. District	Morgan	1	19,000	11/01/81
Lower Latham Canal	Lower Latham Ditch Company	Weld	1	20,000	11/01/81
Diversion Dam and Canal	Farmers Irrig. Ditch & Reservoir Co.	Larimer	1	109,000	02/01/82
Div. Dam, Ditch, Pipeline, & Irrig. System	Big Thompson Ditch Company	Larimer	1	193,170	02/01/82
Prospect Dam Repairs	Henrylyn Irrigation District	Weld	1	653,000	07/29/82
Walden Water Supply System	Town of Walden	Jackson	6	450,000	07/29/82
Pipeline and Storage Tank	Ute Water Conservancy District	Mesa	5	985,000	08/16/82
Brush Hollow Dam Rehab. & Canals (2)	Beaver Park Water, Inc.	Fremont	2	350,000	09/04/82
Winter Park Water Supply System	Winter Park Water & San. District	Grand	5	900,000	09/10/82
Terrace Reservoir Dam Outlet Rehab.	Terrace Irrigation Company	Conejos	3	608,600	09/22/82
Highland Lake Lateral 1	Farmers Extension Ditch Company	Weld	1	150,000	10/02/82
Silt Water Supply System	Town of Silt	Garfield	5	300,000	11/18/82
Nunn Water Supply System	Town of Nunn	Weld	1	209,000	11/18/82
Morrison Water Supply System	City of Morrison	Jefferson	1	350,000	02/28/83
Hudson Water Supply System	Town of Hudson	Weld	1	217,000	03/09/83
Hotchkiss Water Supply System	Town of Hotchkiss	Delta	4	60,000	03/31/83
Rifle Water Supply System	City of Rifle	Garfield	5	300,000	03/31/83
Diversion Dam	Farmers Irrigation Ditch Company	Larimer	1	63,000	04/11/83
Horsecreek Dam Repairs	Henrylyn Irrigation District	Adams/Weld	1	260,000	06/30/83
Jackson Gulch Diversion Dam Repair	Mancos Water Conservancy District	Montezuma	7	81,362	07/01/83
Blue River Domestic Water Supply	Blue River Water District	Summit	5	1,200,000	07/26/83
Maxwell Cr. Dam & Raw Water Pipeline	Brook Forest Water District	Jefferson	1	164,500	08/09/83
Rangley Water Supply System	Town of Rangely	Rio Blanco	6	150,000	08/03/83
Trinidad Water Supply System	City of Trinidad	Las Animas	2	465,000	08/17/83
Bancroft Water Delivery System	Kelton Heights Water & San. District	Jefferson	1	441,306	08/29/83
Irrig. System, Ditch Lining, & Pipeline (3)	Beaver Park Water, Inc.	Fremont	2	276,750	09/02/83
Cedar Mesa Reservoir Dam Spillway	Cedar Mesa Ditch & Reservoir Co.	Delta	4	12,000	10/17/83
Highland Lake Lateral 2	Farmers Extension Ditch Company	Weld	1	220,000	01/24/84
Cabin Reservoir Dam Reconstruction	Town of Palisade	Mesa	5	1,000,000	03/07/84
Canon City Water System	City of Canon City	Fremont	2	231,000	03/26/84
Maxwell Creek Dam, II	Brook Forest Water District	Jefferson	1	130,500	03/29/84
Water Supply System	Ute Water Conservancy District	Mesa	5	7,987,500	04/18/84
Fruita Water Supply System, I	Town of Fruita	Mesa	5	214,700	05/03/84
Parachute Water Supply System	Town of Parachute	Garfield	5	250,000	05/03/84
Sedgwick-Sand Draws Land Acquisition	Sedgwick-Sand Draws WCD	Sedgwick	1	33,000	05/08/84
Rio Grande Reservoir Enlargement	San Luis Valley Irrigation District	Hinsdale	3	515,000	06/18/84
Basalt Water Supply System	Town of Basalt	Eagle	5	226,975	07/01/84
Starkville Water Supply System	Town of Starkville	Las Animas	2	200,000	09/06/84

Project Name	Sponsor	County	Div	Amount Loaned	Date Completed
Beeman Diversion Dam Improvement	Beeman Irrigation Company	Weld	1	92,512	09/28/84
Manitou Springs Water Supply System	Town of Manitou Springs	El Paso	2	1,200,000	10/17/84
Kern Reservoir Dam Repairs	Kern Reservoir and Ditch Company	Weld	1	123,000	10/29/84
Fruita Water Supply System, II	Town of Fruita	Mesa	5	607,864	12/02/84
Ridges Water Supply and Irrig. System	Ridges Metro District	Mesa	5	1,916,092	12/02/84
Wellington Water Supply System	Town of Wellington	Larimer	1	1,140,000	12/19/84
Fossil Creek Reservoir Dam Rehab.	North Poudre Irrigation Company	Larimer	1	1,331,704	04/17/85
Buckeye Reservoir Dam Rehabilitation	Paradox Valley Water Cons. District	Montrose	4	100,000	08/15/85
Harper Lake Dam	City of Louisville	Boulder	1	1,588,271	10/28/85
Larkspur Water System	Larkspur Homeowners Association	Douglas	1	219,000	12/10/85
Granby Water Supply System	Town of Granby	Grand	5	405,000	12/17/85
Highland Lake Lateral	Farmers Extension Ditch Company	Weld	1	177,500	06/01/86
Basalt Water Supply Storage Tank	Town of Basalt	Eagle	5	221,107	07/01/86
Hertha Reservoir Dam Enlargement	Handy Ditch Company	Larimer	1	363,450	07/01/86
Highland Lake Lateral 3	Farmers Extension Ditch Company	Weld	1	177,500	08/18/86
Highland Lake Lateral 5	Farmers Extension Ditch Company	Weld	1	230,000	09/01/86
Irrig. System, Pipeline, & Ditch Lining (4)	Beaver Park Water, Inc.	Fremont	2	125,000	03/01/87
North Poudre Dam #15 Rehabilitation	North Poudre Irrigation Company	Larimer	1	1,152,908	05/11/87
Highland Lake Lateral 6	Farmers Extension Ditch Company	Weld	1	300,000	01/06/88
Stewart Ditch	Stewart Ditch and Reservoir Co.	Delta	4	157,133	01/29/88
Buckeye Reservoir	Paradox Valley Water Cons. District	Montrose	4	150,000	03/24/88
Grandview Siphon	Grandview Irrigation Ditch Company	Fremont	2	195,279	09/22/88
Overland Reservoir Dam Rehabilitation	Overland Ditch Company	Delta	4	850,000	11/30/88
Rio Grande Reservoir Dam Outlet Rehab.	San Luis Valley Irrigation District	Hinsdale	3	526,087	12/07/88
Repurchase of USBR Loan	Grand Valley Water Users	Mesa	5	100,000	12/31/88
Cortez Water Supply Pipeline	Dolores Water Conservancy District	Montezuma	7	1,244,142	01/03/89
Repurchase of USBR Loan	Uncompahgre Valley WUA	Delta/Mont.	4	2,060,805	05/01/89
Repurchase of USBR Loan	Overland Ditch and Reservoir Co.	Delta	4	541,947	06/01/89
Repurchase of USBR Loan	North Poudre Irrigation Company	Larimer	1	164,321	06/05/89
Fuchs Dam Spillway	Fuchs Ranches	Rio Grande	3	59,120	07/28/89
Repurchase of USBR Loan	Orchard Mesa Irrigation Company	Mesa	5	762,771	08/01/89
Repurchase of USBR Loan	City of Ft. Collins	Larimer	1	2,425,343	09/01/89
Repurchase of USBR Loan	Orchard City Irrigation Company	Delta	4	48,935	09/01/89
Ish Dam Repairs	Ish Reservoir Company	Boulder	1	17,000	11/15/89
Highland Lake Lateral 7	Farmers Extension Ditch Company	Weld	1	350,000	12/06/89
Summit Dam Repairs	Summit Reservoir and Irrigation Co.	Montezuma	7	26,383	03/14/90
Clark Lake Dam Rehabilitation	North Poudre Irrigation Company	Larimer	1	404,502	05/17/90
Irrigation System & Ditch Lining (5)	Beaver Park Water, Inc.	Fremont	2	125,000	07/09/90
Juniata Pipeline	City of Grand Junction	Mesa	4	195,930	08/25/90
Stagecoach Reservoir Dam	Upper Yampa Water Cons. District	Routt	6	7,900,000	09/19/90
Irrigation Pipeline	Highline-Buzzard Ditch Company	Mesa	5	65,000	11/16/90
Meadow Creek Dam	Michigan River Conservancy District	Jackson	6	1,103,200	02/21/91
Continental Reservoir Rehabilitation	Santa Maria Reservoir Company	Hinsdale	3	96,500	04/06/91
Santa Maria Reservoir Rehabilitation	Santa Maria Reservoir Company	Mineral	3	357,500	04/06/91
Bauer Res. No. 1 Dam Improvements	Bauer Lake Water Company	Montezuma	7	80,851	05/06/91
Lone Cabin Reservoir Dam Repair	Lone Cabin Ditch and Reservoir Co.	Delta	4	92,700	06/24/91
Douglas Dam Spillway and Repairs	Windsor Reservoir Company	Larimer	1	752,000	06/25/91
Morrison Consolidated Ditch	Town of Morrison	Jefferson	1	80,000	07/10/91
Comanche Dam Rehabilitation	City of Greeley	Larimer	1	1,100,000	10/15/91
Gurley Dam Repairs	Farmers Water Development Co.	San Miguel	4	828,401	11/07/91
Onion Valley Dam Repairs	Fruitland Irrigation Company	Delta/Mt/Gu	4	168,549	12/03/91
Coon Creek Res. No. 1 & 2 Dam Repairs	Coon Creek Reservoir & Ditch Co.	Mesa	5	55,000	04/09/92
Handy (Welch) Reservoir Dam Repairs	Handy Ditch Company	Larimer	1	304,000	05/01/92
North Poudre Dam #2 Rehabilitation	North Poudre Irrigation Company	Larimer	1	340,551	05/08/92
McCall Lake Spillway and Repairs	City of Longmont	Boulder	1	214,454	05/12/92
Upper Beaver Brook No. 3A Res. Enlarg.	Lookout Mountain Water District	Clear Creek	1	600,000	07/18/92
Barnes Meadow Dam Spillway & Repairs	City of Greeley	Larimer	1	313,424	09/18/92

Project Name	Sponsor	County	Div	Amount Loaned	Date Completed
Union Avenue Boat Chute	Colorado Water Conservation Board	Arapahoe	1	1,328,000	05/21/93
Sanchez Dam Repairs, Phase 1	Sanchez Ditch and Reservoir Co.	Costilla	3	200,000	07/01/93
Clinton Reservoir (Municipal Portion)	Clinton Ditch & Reservoir Company	Summit	5	615,000	08/13/93
Clinton Reservoir (Ski Area Note)	Clinton Ditch & Reservoir Company	Summit	5	4,120,000	08/13/93
Platoro Reservoir Purchase	Conejos Water Conservancy District	Conejos	3	450,000	10/01/93
Phase II & III Flood Control Project	Sedgewick Sands Draw WCD	Sedgwick	1	130,027	11/01/93
Elmwood Lateral Ditch Rehabilitation	Elmwood Lateral Ditch Company	Mesa	5	80,000	09/01/94
Mountain Home Reservoir Rehabilitation	Trinchera Irrigation Company	Costilla	3	1,000,000	09/15/94
Summit Reservoir Dam and Ditch Repair	Summit Reservoir and Ditch Co.	Montezuma	7	33,000	11/01/94
Poudre Valley Canal Slide Repair	Windsor Reservoir and Canal Co.	Larimer	1	300,000	12/01/94
Rangely Raw Water Intake Rehab.	Town of Rangely	Rio Blanco	6	34,000	01/10/95
Monument Well No. 2 Replacement	Town of Monument	El Paso	2	100,000	02/01/95
Alamosa Creek Canals and Laterals	Terrace Irrigation Company	Conejos	3	1,650,000	04/15/95
Erie Flood Control Levee	Town of Erie	Weld	1	498,512	05/01/95
Diversion Structure Replacement	New Cache La Poudre Irrig. Co.	Larimer	1	700,000	05/01/95
Loloff Lateral Ditch Replacement	Loloff Lateral Ditch Company	Weld	1	71,500	05/01/95
North Poudre Res. 5 & 6 Rehabilitation	North Poudre Irrigation Company	Larimer	1	1,800,000	06/01/95
Lower Hay-Bretherton Ditch Lining	Hay-Bretherton Ditch Company	Rio Blanco	6	20,000	06/01/95
Well A-3 Rehabilitation	Castle Pines North Metro District	Douglas	2	100,500	06/30/95
TOTAL	125 Projects			\$76,568,328	

APPENDIX B

Data for Projects Completed in FY94-95

APPENDIX B

Data for Projects Completed in FY94-95

ELMWOOD LATERAL DITCH COMPANY - PIPELINE REPLACEMENT PROJECT



Elmwood Lateral Ditch Headgate

Project Description

The project included rehabilitating 2.2 miles of the Elmwood Lateral Ditch including the installation of PVC pipe, a concrete inlet structure and all associated appurtenances. The Ditch experienced failures in the early 1990's interrupting water flow to the Company's shareholders. The project is part of the Grand Valley Salinity Control Program partially funded by a grant from the ASCS.

Project Data

Sponsor: Elmwood Lateral Ditch Co., Inc. **County:** Mesa **River:** Colorado River

Terms of Loan: \$74,500 @ 3.0% for 20 years **Substantial Completion:** Sept. 1, 1994

Design Engineer: U.S. Natural Resource Conservation Service - Grand Junction Office

Construction Contractor: Ritter Construction Company - Fruita, Colorado

Design Criteria:
Pipe = 12,000 linear feet of 15" pvc pipe
 2,500 linear feet of 10" pvc pipe
1 Inlet structure including headgate, trash rack and cover

Annual Volume of Water Delivered by the Project: 15 acre feet

RANGELY WATER INTAKE STRUCTURE REPLACEMENT



The Rangely Raw Water Intake Pump House looking north toward the White River

Project Description

This Emergency Infrastructure Repair Loan was necessitated by the imminent failure of the Town of Rangely's raw water intake structure on the White River.

Included in the project was the re-construction of the raw water intake structure and the construction of a pump house sheltering two new 2,500 gpm pumps. Raw water from the site is pumped from the Intake Structure to the Rangely water treatment plant approximately 1/4 mile away.

Project Data

Sponsor: Town of Rangely **County:** Rio Blanco **River:** White River

Terms of Loan: \$34,000 @ 4.5% for 2 years **Annual Payment:** \$18,156

Design Engineer: Schmueser, Gordon & Meyer - Glenwood Springs, Colorado

Contractor: Town of Rangely - General Contractor
Building, Mechanical and Electrical Sub-Contractors

Design Criteria:

1 - 20'x 26' metal building 2 - 2,500 gpm self priming centrifugal Pumps
Associated pipes, fittings and appurtenances
All electrical conduits, fixtures and accessories.

Annual Volume of Water Delivered by Project: 0.5 MGD = 560 acre feet

POUDRE VALLEY CANAL SLIDE STABILIZATION PROJECT



The Poudre Valley Canal Under Construction looking south just east of U.S.287

Project Description

This Emergency Infrastructure Repair Loan was necessitated by the Poudre Valley Canal's development of severe cracking and leakage resulting in a major landslide which threatened to breach the canal as well as block traffic on U.S. Highway 287 north of Ft. Collins.

The project consisted of lining 1,000 feet of the canal with reinforced concrete and the removal of several feet of the canal bank. The work reduced the driving force of the landslide thus stabilizing the slide and eliminating the seepage which was lubricating the slide path.

Project Data

Sponsor: Windsor Reservoir & Canal Company **County:** Larimer **River:** Cache la Poudre

Terms of Loan: \$300,000 @ 4.25% for 30 years **Annual Payment:** \$17,879

Design Engineer: Smith Geotechnical Consultants - Ft. Collins, Colorado

Contractor: Barker Construction Company, Inc. - Ft. Collins, Colorado

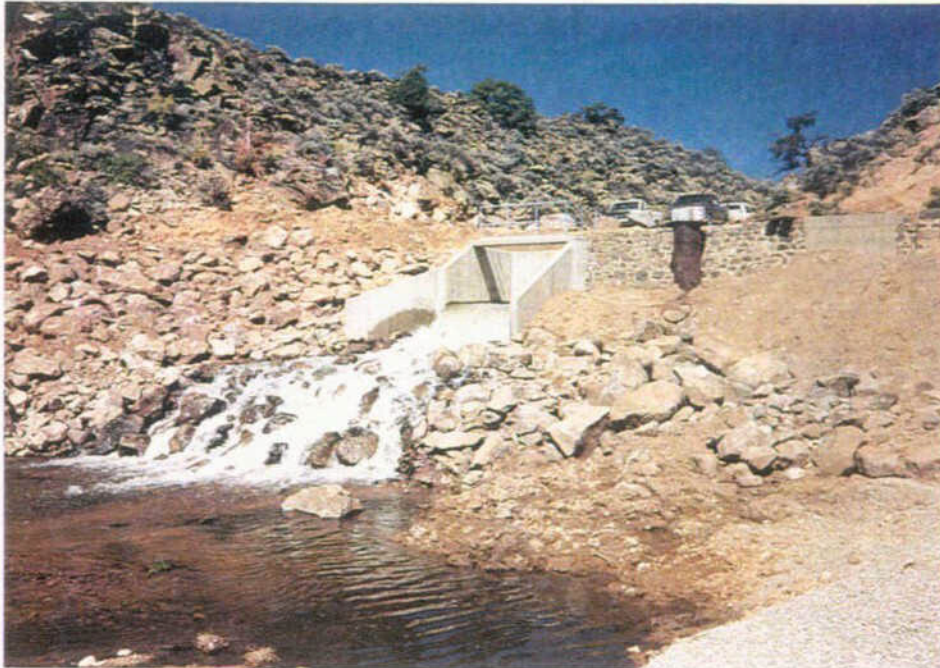
Design Criteria: Reinforced concrete lined canal - 1,000 lineal feet

U-shaped Canal - Depth: 6 feet Width: 12 feet

Design Q = 400 c.f.s.

Annual Volume of Water Delivered by Project: 23,000 acre-feet

MOUNTAIN HOME RESERVOIR SPILLWAY AND OUTLET WORKS



Mountain Home Reservoir Outlet Flume

Project Description

The project consisted of construction of a concrete spillway, raising the crest of the Mountain Home Reservoir dam, and reconstructing the downstream end of the dam's outlet structure.

Storage restrictions on the reservoir, due to an inadequately sized spillway, were removed by the construction of the new concrete spillway. The poorly consolidated upper embankment soils of the dam were repaired by raising and re-consolidating the dam crest.

The lower reaches of the outlet works were leaking badly and in poor repair. Reconstructing this portion of the outlet works relieved significant erosion downstream of the reservoir.

Project Data

Sponsor: Trinchera Irrigation Company **County:** Costilla **River:** Trinchera Creek

Terms of Loan: \$980,675 @ 1% for 40 years **Annual Payment:** \$29,871

Design Engineer: Smith Geotechnical Consultants - Ft. Collins, Colorado

Contractor: ASI-RCC, Inc. - Buena Vista, Colorado

Design Criteria:

Spillway Crest: 200 feet

Outlet Structure: 7' wide x 8' high concrete flume

Annual Volume of Water Removed from Storage Restriction by Project: 7,351 acre-feet

ALAMOSA CREEK CANAL AND LATERALS



Alamosa Creek Canal Mainline looking North

Project Description

The project consisted of concrete ditch lining 27.5 miles of mainline irrigation ditches and laterals, and installing water diversions, turnouts and measurement structures.

By lining the irrigation ditches with concrete, the water losses due to ground absorption was significantly reduced. As a result, the project will more effectively utilize the irrigation company's water rights for first-use agricultural irrigation.

Project Data

Sponsor: Terrace Irrigation Company **County:** Conejos/Rio Grande **River:** Alamosa Creek

Terms of Loan: \$1,650,000 @ 5% for 40 years **Annual Payment:** \$96,162

Design Engineer: Soil Conservation Service - Alamosa, Colorado

Contractor: VSL Construction, Inc. - Swink, Colorado

Design Criteria: Concrete lined ditches - 14 miles of Mainline, 13.5 miles of laterals
Lateral ditches - Depth: 15"-28" Side Slope: 1 Bottom Width: 1 foot Design Q = 22-81 cfs
Mainline ditches- Depth: 36" Side Slope: 1.25 Bottom Width: 2 feet Design Q = 160 cfs

Annual Volume of Water Delivered by Project: 15,000 acre-feet

TOWN OF MONUMENT - MUNICIPAL WELL #2 REPLACEMENT PROJECT



Municipal Well #2 Well Head

Project Description

The project consisted of complete redrilling and pump replacement of an existing non-gravel packed well. The existing well historically experienced sand pumping which resulted in continued failure of the pump and appurtenances.

Project Data

Sponsor: Town of Monument **County:** El Paso **Source:** Denver Formation

Terms of Loan: \$94,000 @ 4.0% for 30 years **Substantial Completion:** February 1, 1995

Design Engineer: John Halepaska & Associates, Inc. - Littleton, Colorado

Construction Contractor: Drillers: Layne Environmental Services - Denver, Colorado
Pumps: AmWest Well & Pump, Inc. - Henderson, Colorado

Design Criteria: Depth of Well = 950 feet
 Pump size = 40 hp Ave. flow = 100 gpm
 Adjudicated Capacity = 145 gpm

Annual Volume of Water Delivered by the Project: 64 acre feet

TOWN OF ERIE - COAL CREEK FLOOD CONTROL PROJECT



Cheeseman Street Low Water Crossing Looking From Top of Levee

Project Description

The project was designed to provide 100-year flood protection to the Town of Erie from runoff originating in the 75 square mile Coal Creek drainage basin southwest of Erie. The project included 4,600 feet of channel conveyance improvements, 2,400 feet of levee construction, 3 bridge replacements/extensions, storm drainage outfall drains and erosion protection.

Project Data

Sponsor: Town of Erie

County: Weld

River: Coal Creek

Terms of Loan: \$498,512 @ 2.0% for 40 years **Substantial Completion:** March 1, 1995

Design Engineer: WRC Engineering, Inc. - Denver, Colorado

Construction Contractor: Randall & Blake, Inc. - Littleton, Colorado

Design Criteria: 100-year discharge = 12,260 cfs
 Channel bottom width = 90-130 ft. Side Slopes = 3:1
 Height of Levee = 7-15 ft. Side Slopes = 3:1 Freeboard = 3 ft.

Flood Recurrence Interval Protected by the Project: 100 year

NEW CACHE LA POUVRE DIVERSION STRUCTURE



Downstream of the Diversion Structure Looking Upstream

Project Description

The complete replacement of a concrete diversion structure along the Cache la Poudre River southeast of Ft. Collins. The project includes a 104 foot concrete ogee crest spillway and two 14 foot radial steel release gates. The river diversion delivers 21,000 ac.ft. of water annually to the irrigation company customers.

Project Data

Sponsor: New Cache la Poudre Irrigation Co. **County:** Larimer **River:** Cache la Poudre

Terms of Loan: \$450,000 @ 4% for 25 years **Substantial Completion:** May 1, 1995

Design Engineer: The Engineering Company - Ft. Collins, Colorado

Contractor: Gracon Corporation - Loveland, Colorado

Design Criteria: 7 ft. high x 104 ft. wide ogee crest spillway
 2 - 14 ft. steel radial release gates
 Diversion capacity = 80 cfs = 32,000 ac.ft.

Annual Volume of Water Delivered by Project: 21,000 acre-feet

LOLOFF LATERAL DITCH REPLACEMENT



Placement of the 18 inch PVC Pipeline

Project Description

The project included the placement of over 2 miles of Poly Vinyl Chloride (PVC) Pipe, ranging in size from 15-18 inch diameter, and installing parshall flumes, turnout structures and other pipeline appurtenances.

Replacement of the existing leaking pipeline allowed the ditch company to provide a more reliable water supply to its users as well as reduce the on-going maintenance costs associated with an outdated water delivery system.

Project Data

Sponsor: Loloff Lateral Ditch Company **County:** Weld **River:** South Platte

Terms of Loan: \$81,500 @ 5% for 40 years **Substantial Completion:** May 1, 1995

Design Engineer: Natural Resource Conservation Service - Greeley, Colorado Office

Contractor: Loloff Construction, Inc. - Kersey, Colorado

Design Criteria: 18 in. PVC pipe - 3,800 ft, Design Q = 9.5 cfs
 15 in. PVC pipe - 7,200 ft, Design Q = 9.5 to 4.0 cfs
 7 Concrete turnout structures and parshall flumes

Annual Volume of Water Delivered by Project: 800 acre-feet

REHABILITATION OF NORTH POUDBRE RESERVOIRS #5 AND #6



Re-construction of the North Poudre Reservoir #5 Outlet Tower

Project Description

This dam rehabilitation project included the complete reconstruction of the outlet facilities to North Poudre Reservoirs #5 and #6, and the construction of a new Roller Compacted Concrete (RCC) emergency spillway to Reservoir #6. Storage restrictions on both reservoirs due to inadequate spillways and inoperable outlet facilities, were removed by the construction. Both reservoirs are expected to fill this summer providing an additional 6,000 acre feet to the Irrigation Company.

Project Data

Sponsor: North Poudre Irrigation Company **County:** Larimer **River:** Cache la Poudre

Terms of Loan: \$1,800,000 @ 2% for 40 years **Substantial Completion:** June 1, 1995

Design Engineer: The Engineering Company & Smith Geotechnical, Inc. - Ft. Collins, Colorado

Construction Contractor: National Construction Company, Inc. - Boulder, Colorado

Design Criteria:
Outlet Pipes = 48 in. Reinforced Concrete Pipe
Control Gates = 48 in. slope face gate at the inlet structure
 48 in. vertical lift gate in the gate house
Spillway @ #6 = 350 ft., Roller Compacted Concrete crest

Annual Volume of Water Delivered by the Project: 6,000 acre feet removed from restrictions.

LOWER HAY-BRETHERTON DITCH LINING PROJECT



Placement and Backfill of the 30 mil Impermeable Geosynthetic Membrane Ditch Liner

Project Description

The project was designed by the U.S. Natural Resource Conservation Service and consisted of the installation of 1,600 feet of impervious geosynthetic membrane ditch liner in order to eliminate ditch losses and side channel damages due to leakage. The project was delayed due to wet weather conditions and was completed in early June by the White River Sand and Gravel Company of Meeker, Colorado.

Project Data

Sponsor: Lower Hay-Bretherton Ditch Group **County:** Rio Blanco **River:** White

Terms of Loan: \$20,000 @ 4% for 20 years **Substantial Completion:** June 1, 1995

Design Engineer: U.S. Natural Resource Conservation Service

Construction Contractor: White River Sand and Gravel Company - Meeker, Colorado

Design Criteria: Channel dimensions = 3 ft. bottom width, 20 ft. top width, 2:1 side-slopes.
Channel capacity = 26 cu.ft./sec. at a velocity of 0.8 ft./sec.
Project length = 1,600 feet
Liner Material = 30 mil, impermeable PVC flexible membrane

Annual Volume of Water Delivered by the Project: 6,000 acre-feet

CASTLE PINES NORTH METRO DISTRICT WELL REHABILITATION



Placement of the Well Control Vault

Project Description

This emergency well rehabilitation project commenced in April in anticipation of the continued drought conditions at the Castle Pines North Metropolitan District in Douglas County. The project was delayed due to wet conditions, however was completed in late June. The project consisted of installing a new 500 gpm pump and resetting the pump intake 300 feet deeper to a depth of 1,780 feet in the Arapahoe Aquifer.

Project Data

Sponsor: Castle Pines North Metro Dist **County:** Douglas **Source:** Arapahoe Aquifer

Terms of Loan: \$100,500 @ 5% for 1 year **Substantial Completion:** June 30, 1995

Design Engineer: Jehn Water Consultants, Inc. - Denver, Colorado

Construction Contractor: AmWest Well & Pump, Inc. - Henderson, Colorado

Design Criteria: Depth of Pump intake = 1,780 feet
 Pump Capacity = 500 gpm with 300 HP, 2300 volt motor
 Installation of Well Control Vault

Annual Volume of Water Delivered by the Project: 287 acre-feet

APPENDIX C

Data for Projects Recommended for New Authorizations in FY95-96

Water Project Construction Loan Program - Project Data

Borrower: Wadley Farms, Filing 3, Homeowners Association (HOA)
or the "Wadley Farms Special District"

Project Name: Wadley Dams No. 1, 2 & 3 Rehabilitation

County: Adams **Drainage Basin:** Big Dry Creek, tributary to South Platte River

Total Project Cost: \$670,000 **Sources:** HOA, CWCB

Type of Borrower: Municipal **Median Household Income:** Between 80% and 110%

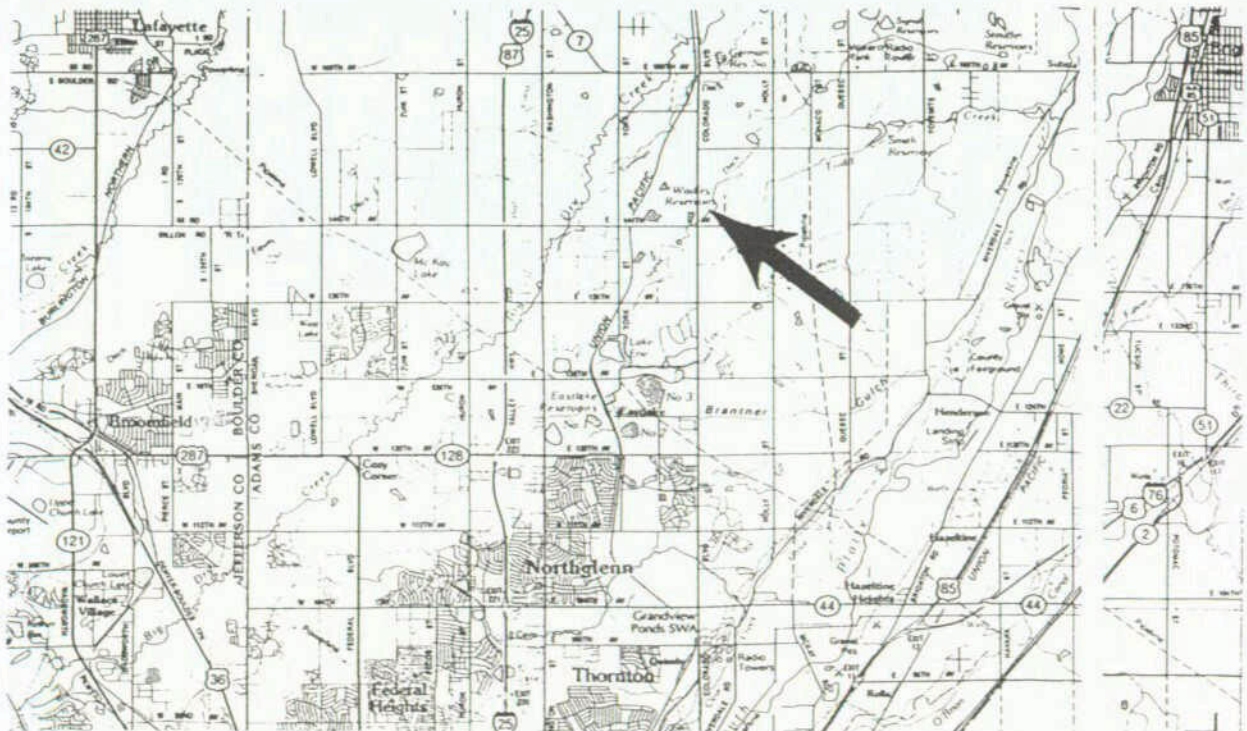
CWCB Loan: \$500,000 **Interest Rate:** 5.25% **Term:** 30 years

Proposed Collateral: Stream of revenue from water assessments

Feasibility Study: Reconnaissance level study completed April 4, 1994, revisions in progress

Engineer: Rocky Mountain Consultants and Hadley & Hollingsworth, Engineers

Annual Volume of Water Delivered by the Project: 75 acre-feet



Wadley Farms Homeowners Association - Wadley Dams No. 1, 2 & 3 Rehabilitation

The project includes rehabilitation of three reservoirs owned by the Homeowners Association (HOA) which are currently under storage restriction by the State Engineer. These reservoirs originally had a combined capacity of about 200 acre-feet, but are currently restricted to a total capacity of about 75 acre-feet. Once rehabilitated, the reservoirs will have a total capacity of about 150 acre-feet. The HOA uses the water for landscape irrigation and for watering of individual lots. Rehabilitation of these reservoirs will allow the HOA to put their water to beneficial use for outside irrigation.

A Reconnaissance Level Engineering Study has been completed by Rocky Mountain Consultants. The HOA is currently working with Hadley & Hollingsworth, Engineers, to complete the feasibility study and preliminary design work. The approximate cost per acre foot of storage reclaimed is \$9,000/AF.

The Wadley Farms subdivision is located in unincorporated Adams county, north of Thornton and Northglenn, and South of Brighton. The Wadley Farms, Filing 3, HOA is a Non-Profit Corporation in Colorado, and has the power to assess its membership for capital improvements. It is 98% built-out at this time with 100 homes. The annual payment on a \$500K CWCB loan would be approximately \$32,500, or \$325 per household per year, or \$27 per month.

The HOA has recently voted to proceed with the formation of the "Wadley Farms Special District" in 1996 to complete the rehabilitation project. The special district would also have taxing authority for repayment of the CWCB loan.

Water Project Construction Loan Program - Project Data

Borrower: Town of Lyons

Project Name: Diversion Dam Rehabilitation and Pipeline

County: Boulder **Drainage Basin:** North St.Vrain River

Total Project Cost: \$374,000 **Sources:** Town, CWR&PDA, CWCB

Type of Borrower: Municipal **Median Household Income:** Between 80% and 110%

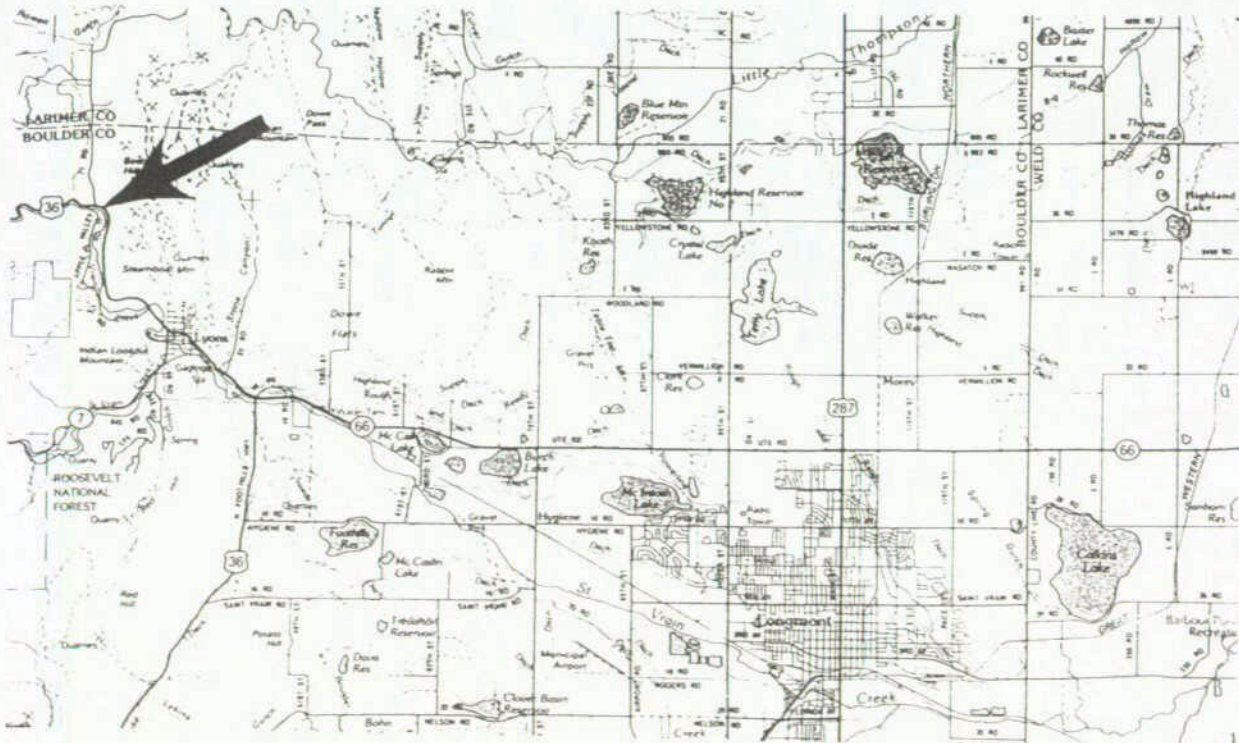
CWCB Loan: \$ 280,500 **Interest Rate:** 5.00% **Term:** 20 years

Proposed Collateral: Stream of revenue from the water enterprise

Feasibility Study: In progress

Engineer: RBD Engineering of Ft. Collins

Annual Volume of Water Delivered by the Project: 2,255 acre-feet



Town of Lyons - Diversion Dam Rehabilitation and Pipeline

The purpose of the project is to rebuild the Town's existing diversion on North St. Vrain Creek, about 3 miles above town. The Town's existing diversion was built around the turn of the century, and is nearly disintegrated. It is necessary to line the diversion with plastic sheeting during the winter months to divert low flows to the Town's drinking water supply. In this condition, the diversion is subject to being completely destroyed during floods. There is no existing raw water storage below the diversion to supply the town in an emergency.

The new intake structure, consisting of a diversion dam, presedimentation basin, inlet gate, and high water protection barrier, will be built at the location of the existing intake structure. The raw water pipeline from the diversion to the water treatment plant was installed in the last 20 years, and is in good condition. The proposed project will maintain the current capacity of 3.6 CFS, with an ability to supply up to 7 acre feet of water per day.

The residents of the town voted on November 7, 1995 to approve an Amendment #1 ballot question to enable the Town to contract for a loan with the CWCB. The Town of Lyons has a separate water enterprise which receives revenues from its water customers.

Water Project Construction Loan Program - Project Data

Borrower: City of Ft. Collins and Larimer County

Project Name: Dry Creek Flood Control Project

County: Larimer **Drainage Basin:** Dry Creek tributary to Cache La Poudre River

Total Project Cost: \$2,500,000 **Sources:** City, County, CWCB

Type of Borrower: Municipal **Median Household Income:** Below 80%

CWCB Loan: \$600,000 **Interest Rate:** 4.25% **Term:** 30 years

Proposed Collateral: Stormwater and development fees deposited in a public works fund

Feasibility Study: Completed 1984, Revised 1994

Engineer: Gingery Associates, Inc. and the Army Corps of Engineers

Volume of 100-year Flood: 2,110 acre-feet



City of Ft. Collins and Larimer County - Dry Creek Flood Control Project

The proposed Dry Creek Flood Control project is a multi-objective project to lessen the frequency and severity of flooding, decrease predicted flood damages, promote economic development, create public open space and parks for recreation, and enhance and restore natural areas. The project consists of the construction of a grass-lined earthen diversion channel from a point near the intersection of Dry Creek and Willow Lane directly south to the Cache La Poudre River. The project includes a neighborhood park along an oxbow of the Cache La Poudre River which has been identified as a significant natural resource area.

The existing 100-year flood damages and losses are estimated at \$8,712,000. The project will provide protection to approximately 828 residential and commercial structures in the 100-year floodplain. The estimated cost of the diversion channel is \$2.5 million. The benefit-cost ratio for the proposed project is 3.5.

The City of Fort Collins Stormwater Utility, a city-owned enterprise, collects stormwater fees through a monthly charge added to the utility bills for each property. The revenues from the Dry Creek basin amount to approximately \$44,000 annually. Estimated revenue from new development fees is \$11,815. The City currently has a \$351,000 positive fund balance in the Dry Creek basin for flood and stormwater improvements.

Water Project Construction Loan Program - Project Data

Borrower: Town of Minturn

Project Name: Bolts Lake Dam and Ditch Rehabilitation

County: Eagle **Drainage Basin:** Eagle River

Total Project Cost: \$470,000 **Sources:** Town and CWCB

Type of Borrower: Municipal **Median Household Income:** Between 80% and 110%

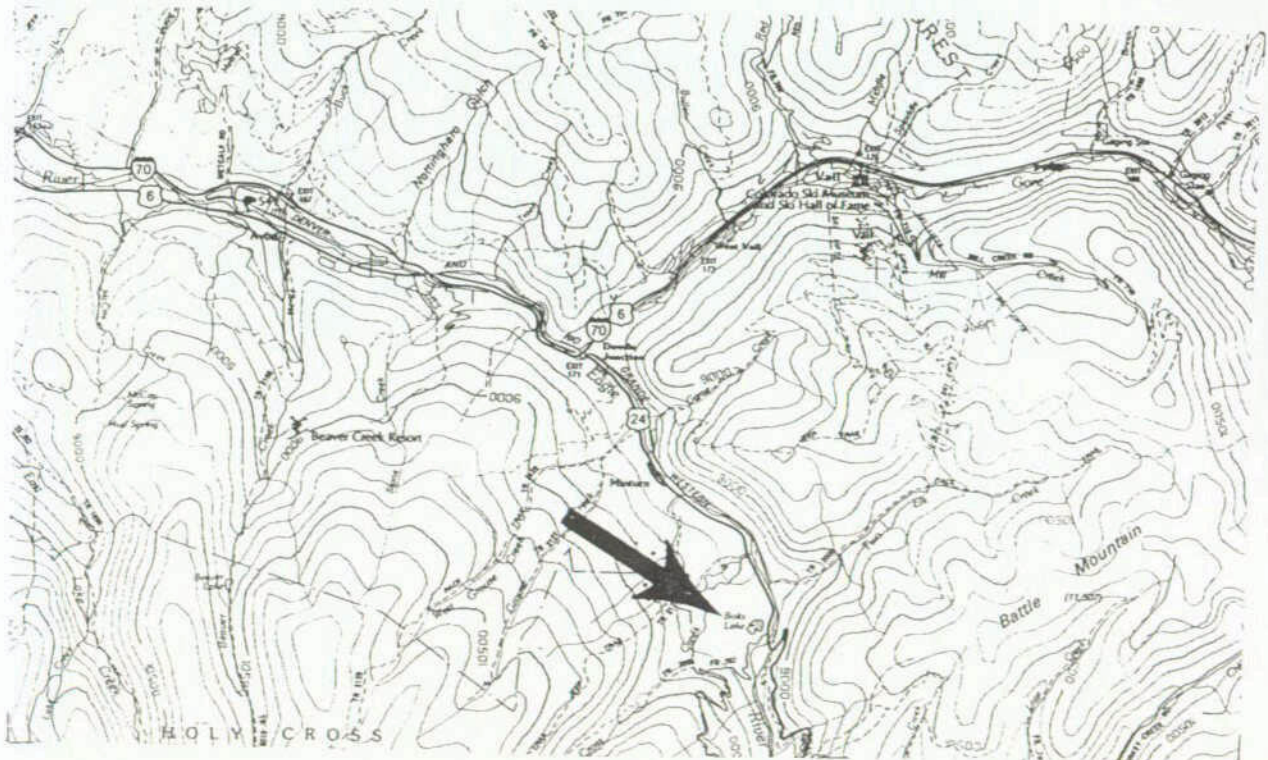
CWCB Loan: \$ 360,000 **Interest Rate:** 5.25% **Term:** 30 years

Proposed Collateral: Pledge of Water and Sanitation Fund revenues and the project itself

Feasibility Study: Completed August 28, 1995

Engineer: McLaughlin Water Engineers, Ltd. of Denver

Annual Volume of Water Delivered by the Project: 120 acre-feet in a low runoff year



Town of Minturn - Bolts Lake Dam and Ditch Rehabilitation

The project includes the purchase and rehabilitation of Bolts Lake and Bolts Ditch as a water supply and recreational facility. This acquisition would help resolve the Town's problems of insufficient raw water storage capacity and unreliable water supplies during the low-flow winter months by adding about 120 acre-feet of raw water storage capacity. The purchase includes acquisition of 150 acres of land on which the lake is located. The rehabilitation work involves minor repairs to the ditch headgate, some improvements to the ditch, raising and improving the dam embankment, and construction of a new spillway.

A water rights and hydrology report has been prepared by McLaughlin Water Engineers, Ltd., of Denver, and the Town has prepared a draft feasibility study. A 404 Permit application will be made to the Corps of Engineers, and the town does not anticipate any significant permitting problems. The town is undertaking an aggressive water conservation program to reduce per capita water demands.

The town is experiencing a significant amount of development and increasing water demands due to its proximity to the Vail and Beaver Creek resort areas. The municipal water system provides service to about 650 taps. In 1995, the Town Council twice increased water rates to generate the revenues needed to pay for the Bolts Lake project and other capital improvements. Residential water rates are expected to increase from the current \$31 per month to about \$34. Water and Sanitation Fund revenues are projected by the town to exceed operating costs and debt service over the period of CWCB debt retirement.

Water Project Construction Loan Program - Project Data

Borrower: Aristocrat Ranchettes Water Project, Inc.

Project Name: Purchase Water Shares

County: Weld **Drainage Basin:** South Platte River

Total Project Cost: \$2,550,000 **Sources:** Subdivision, RE&CD, and CWCB

Type of Borrower: Municipal **Median Household Income:** Less than 80%

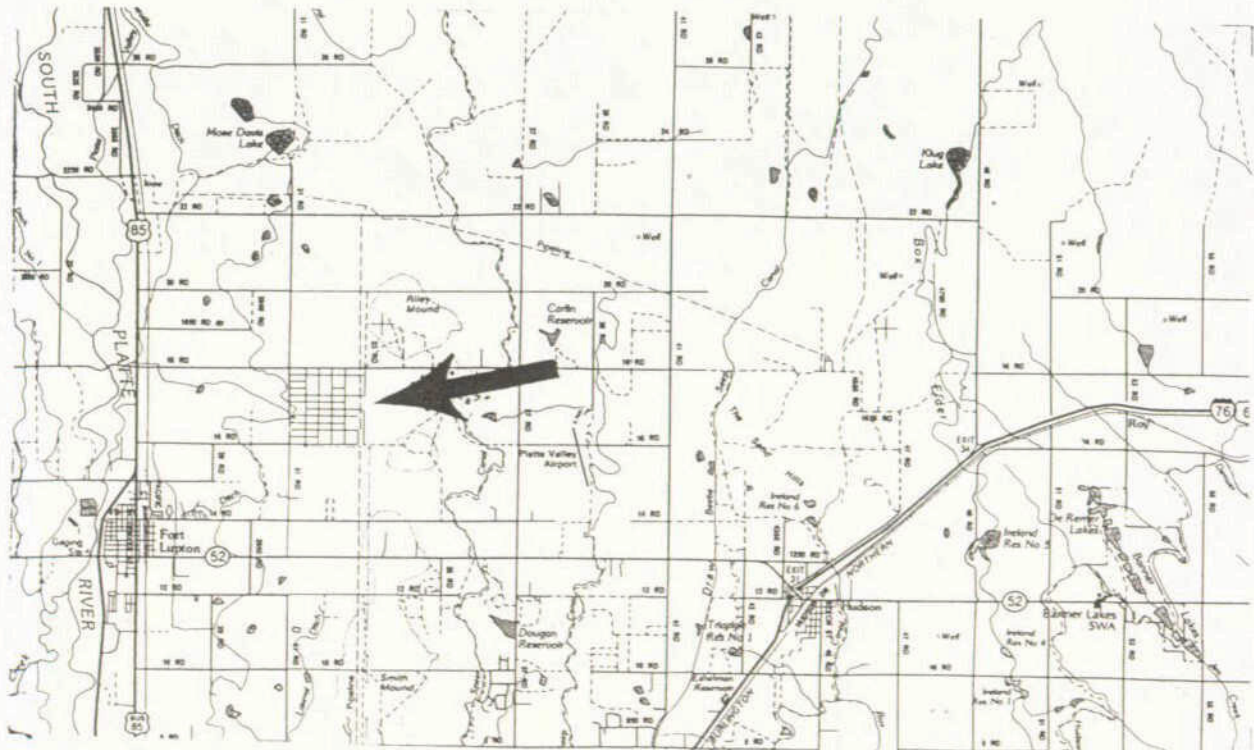
CWCB Loan: \$ 600,000 **Interest Rate:** 4.25% **Term:** 30 years

Proposed Collateral: Water shares and stream of revenue from water customers

Feasibility Study: In progress

Engineer: Williams Technologies, Inc.

Annual Volume of Water Delivered by the Project: 306 acre-feet



Aristocrat Ranchettes Water Project, Inc. - Purchase Water Shares

The Aristocrat Ranchettes Water Project, Inc., (ARWP) has requested a loan from CWCB to purchase water shares as part of a larger project to improve their domestic water supply. The existing water supply is from three wells in the Laramie/Fox Hills aquifer which is depleting rapidly, and supplies only 1/3 acre-foot per year to its 306 households. The CWCB loan will be used to buy 206 shares of the Colorado Big Thompson (CBT) Project water and 1 share of Windy Gap Project water for the 306 households. Each share of CBT provides approximately 1 acre-foot and each share of Windy Gap provides approximately 100 acre-feet. The existing three wells will serve as a backup supply when the project is completed.

A draft feasibility study has been completed by Aristocrat Ranchettes Water Project, Inc., with assistance from Williams Technologies, Inc.

The CWCB has determined that: (1) a loan for the purchase of these water shares for municipal purposes will resolve an existing water shortage, (2) the water shares are generally traded and available for municipal use, and (3) the purchase price must be reasonable and supported by an appraisal.

ARWP is a nonprofit corporation and receives revenues from its water customers. The Median Household Income (MHI) in the subdivision is less than 80% of the Statewide MHI for 1990. Residents currently pay about \$32 per month, and a \$28 increase will be required to complete the project, so the expected water rate will be in the range of \$60 per month.

Water Project Construction Loan Program - Project Data

Borrower: Town of Georgetown

Project Name: Purchase Water Rights

County: Clear Creek **Drainage Basin:** Clear Creek

Total Project Cost: \$275,000 **Sources:** Town and CWCB

Type of Borrower: Municipal **Median Household Income:** Between 80% and 110%

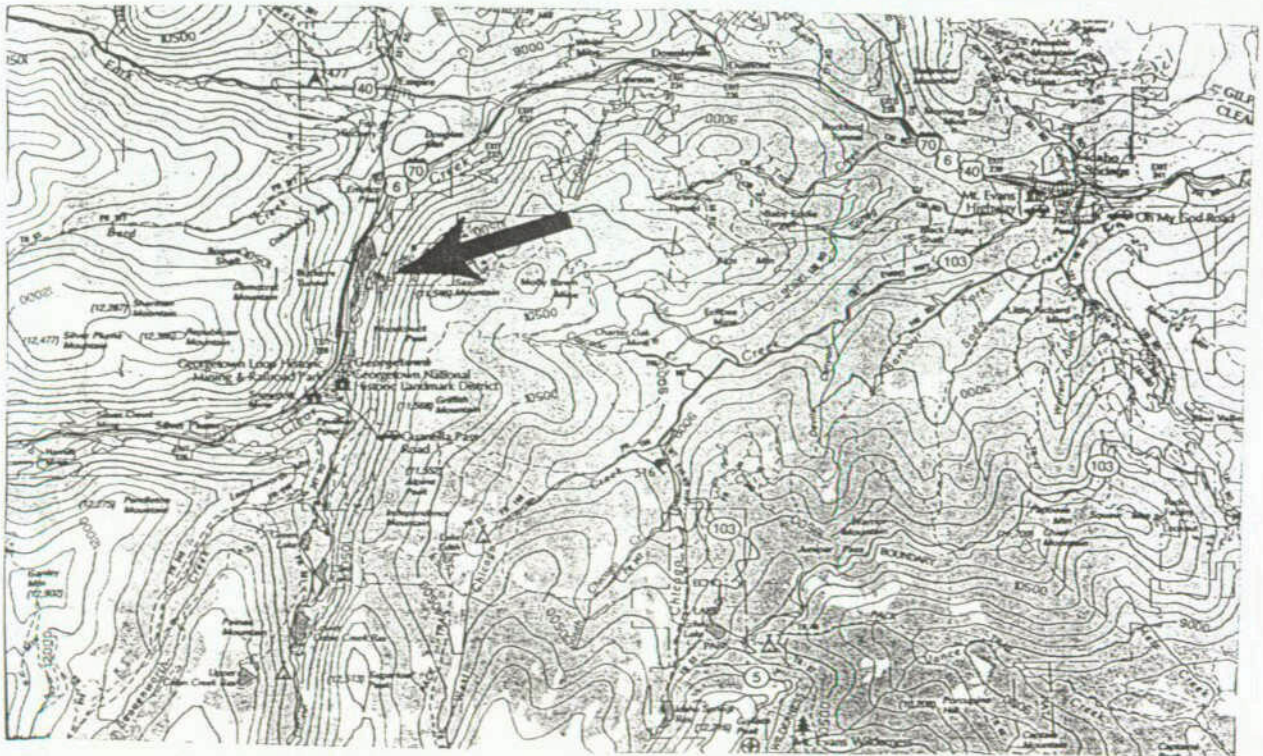
CWCB Loan: \$ 206,500 **Interest Rate:** 5.25% **Term:** 30 years

Proposed Collateral: Water shares or rights and stream of revenue from water rates

Feasibility Study: In progress

Engineer: McLaughlin Water Engineers, Ltd. of Denver

Annual Volume of Water Delivered by the Project: 35 acre-feet



Town of Georgetown - Purchase Water Rights

The Town of Georgetown, located in Clear Creek County, has requested a loan to purchase water rights or shares and to develop an augmentation plan approved by the court which will bring the town into compliance with water right administrative procedures.

During the period 1950 to 1985, there were only three years (1965, 1983, and 1984) when the Town's 1866 water right was in priority for the entire year. During the driest year, 1954, the Town's water right was out of priority for 193 days.

In their draft feasibility study, McLaughlin Water Engineers calculated the town needed 8.63 acre-feet per year in augmentation water for the existing population of approximately 1,000 people, based on the driest year (1954). 1.5 shares of Farmer's High Line would provide about 10.5 acre-foot per year.

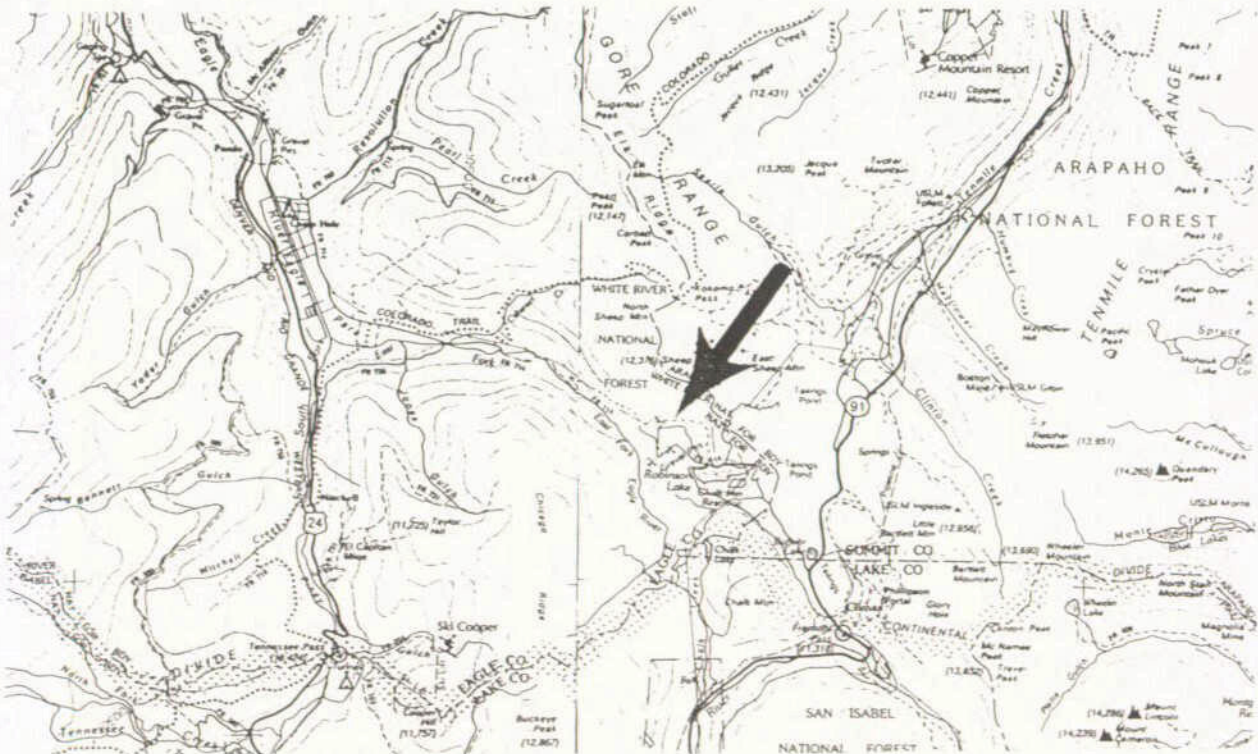
The CWCB has determined that: (1) the purchase of these water rights or shares for municipal purposes will resolve an existing water shortage, (2) these water shares or rights are generally traded and available for municipal use, and (3) the purchase price must be reasonable and supported by an appraisal.

The financial impact of the loan to acquire the water is that water rates would increase about \$3.00 per month for the existing customer base of 388 taps. Water rates are currently very low (\$14.20 per month, unmetered) compared to the statewide average of \$33.15 per month. Repayment of the CWCB loan can easily be accommodated by a small rate increase, if necessary.

Water Project Construction Loan Program - Project Data

Borrower:	Eagle Park Reservoir Company		
Project Name:	Eagle Park Reservoir Rehabilitation		
County:	Eagle	Drainage Basin:	East Fork Eagle River
Total Project Cost:	\$12,500,000	Sources:	Company and CWCB
Type of Borrower:	Com. & Mun.	Median Household Income:	Between 80% and 110%
CWCB Loan:	\$ 3,125,000	Interest Rate:	5.25%
		Term:	30 years
Proposed Collateral:	Shares in Eagle Park Reservoir Company		
Feasibility Study:	In progress		
Engineers:	Helton & Williamsen, PC (water rights) W. W. Wheeler & Associates, Inc. (facilities)		

Annual Volume of Water Delivered by the Project: 2,500 acre-feet



Eagle Park Reservoir Company - Eagle Park Reservoir Rehabilitation

The Eagle Park Reservoir Company was formed by the following public and private entities: Eagle County, the Upper Eagle Regional Water Authority (the Authority), Vail Valley Consolidated Water District (the District), and Vail Associates. Their project is the acquisition of the Eagle Park Reservoir in the headwaters of the East Fork of the Eagle River near the Climax Mine. The owner of the reservoir site, Cyprus Climax Metals Company, is in the process of removing material from the former tailings pond and rehabilitating the site as a fresh water reservoir with a potential storage capacity of about 3,000 acre-feet. The company will use the reservoir to augment winter water supplies in the area, provide additional water for snowmaking, and enhance stream flows in the upper portion of the Eagle River basin.

The water will be obtained from one or more of the following: (1) a 1992 water rights filing by the Authority, the District, Vail Associates and Climax Molybdenum Company for the reservoir in Case No. 92CW340; (2) by exchange of senior consumptive use credits owned by the Authority and the District; (3) by exchange from existing Green Mountain Reservoir contract water; (4) from snowmaking return flow credits; (5) from the Arkansas Well and Arkansas River exchanges; and (6) by purchasing certain senior water rights owned by Cyprus Climax.

The total cost of the project is estimated at \$12.5 million, but depends upon the extent to which the company can develop firm yield through new water rights and exchanges among the participants (at about \$5,000 per acre-foot) and the cost to purchase the facilities and water rights owned by Cyprus Climax (at about \$7,000 per acre-foot). The \$12.5 million cost figure is a maximum amount based upon the terms of an existing agreement between Vail Associates and Cyprus Climax. The applicant has indicated they will request funding from CWCB over the next four years.

Water Project Construction Loan Program - Project Data

Borrower: Town of New Castle

Project Name: Raw Water Pipeline Rehabilitation

County: Garfield **Drainage Basin:** East Elk Creek

Total Project Cost: \$ 355,000 **Sources:** Town, CWR&PDA, CWCB

Type of Borrower: Municipal **Median Household Income:** Between 80% and 110%

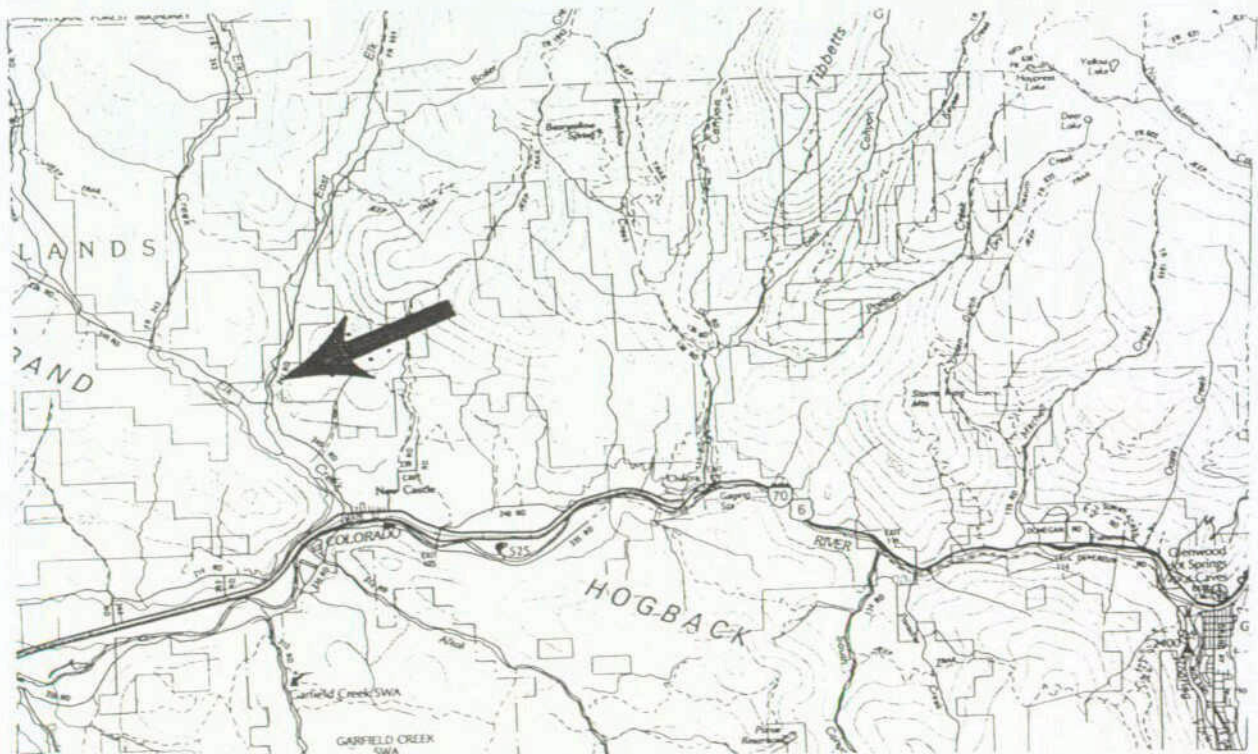
CWCB Loan: \$ 266,500 **Interest Rate:** 5.25% **Term:** 30 years

Proposed Collateral: Land and stream of revenue from water customers

Feasibility Study: In progress

Engineer: SGM Engineers & Surveyors of Glenwood Springs

Annual Volume of Water Delivered by the Project: 4,517 acre-feet



Town of New Castle - Raw Water Pipeline Rehabilitation

The Town of New Castle, located in Garfield County, is requesting a loan to rehabilitate 2,800 feet of the town's raw water pipeline. The pipeline which brings water from East Elk Creek to the water treatment plant is only 8-inch diameter and is constructed of thin-wall PVC buried at shallow depths (it is actually exposed in some locations.). The existing line is too small, and is subject to freezing and breakage. There is no other raw water pipeline to supply the town in an emergency. The new pipeline will be 16-inch diameter and installed at a depth of about five feet. The pipeline will have an ability to supply up to 5.3 acre-feet of water per day (1,931 acre-feet per year). With a capacity of 1,200 gallons per minute, it will satisfy water needs of the town based on maximum build-out, as well as water for fire protection.

A draft feasibility study and preliminary engineering design work have been completed by the New Castle Town Planner and SGM Engineers/Surveyors of Glenwood Springs. The town has already rebuilt 1,035 feet of the pipeline at a cost of \$92,000 and rehabilitated the pre-sedimentation pond at a cost of \$35,000. All work was done in accordance with plans and specifications developed by the town's engineer.

The Town of New Castle has a separate water enterprise which receives revenues from its water customers. The CWCB loan will have a payment of about \$17,900 per year, or \$2 per month, for the 736 existing customers. Plans for water metering (\$55,000) and water plant upgrades (\$486,400) in the next five years could add approximately \$540,000 in additional debt for the Town's Water Enterprise. The annual payment on this new debt would increase each customer's water rate about \$3.70 per month. Residents currently pay \$16 per month for water, and \$14 per month for sewer. Even with the additional projected debt service, water rates would be less than \$25 per month. The average monthly water rate for the State is \$33.15.

Water Project Construction Loan Program - Project Data

Borrower: Morgan County Quality Water District
Project Name: Purchase of the Hay Gulch Well Field
County: Weld/Morgan **Drainage Basin:** Hay Gulch, tributary to the South Platte River
Total Project Cost: \$6,535,925 **Sources:** Town, CWR&PDA, CWCB
Type of Borrower: Municipal **Median Household Income:** Less than 80%
CWCB Loan: \$3,000,000 **Interest Rate:** 4.0 % **Term:** 30 years
Proposed Collateral: Stream of revenue from water users
Feasibility Study: Completed September 1995
Engineer: George M. Underwood, Consulting Engineer of Greeley
Annual Volume of Water Delivered by the Project: 1,380 acre-feet



Morgan County Quality Water District - Purchase of the Hay Gulch Well Field

In HB 95-1155, the General Assembly authorized a Construction Fund loan of \$4.26 million for the Morgan County Quality Water District to participate in the Southern Water Supply Project. However, final approval of the loan was contingent upon satisfactory completion of the draft feasibility study with a detailed analysis of at least one viable alternative to the Southern Water Supply Project (SWSP).

In January 1995, the District entered into negotiations, for a second time, with the Northern Trust Company of Chicago for the purchase of the Hay Gulch Wells. The Hay Gulch Wells are the District's main existing source of supply. The District and the Northern Trust Company reached a mutually acceptable price of \$3,132,500. The purchase includes a section of land in the Hay Gulch basin, three wells currently leased by the District, and a perpetual right to water from a fourth well for a total yield of 1,380 acre-feet per year.

The District completed the revisions to the feasibility study in September 1995. A total of five alternatives were evaluated in the feasibility study. With a better offer for the well system, at least two alternatives were found to be less expensive than participation in the SWSP. The least-cost alternative was based on continued leasing of the wells with a total 30-year present worth cost of \$6,409,000. The second least expensive alternative was the purchase of the Hay Gulch Wells with a 30-year present worth cost of \$7,147,000. While the purchase of the wells is not the least-cost alternative, it would allow the District to have a much greater degree of certainty and control with regard to this source as opposed to the current leasing arrangement.

The acquisition of the Hay Gulch Wells will be one part of an overall program of improvements to and expansions of the system estimated to cost about \$6.5 million over the next 30 years. The District is now requesting a 30-year loan for \$3.0 million, or \$1.26 million less than the previous authorization.

Water Project Construction Loan Program - Project Data

Borrower: Windsor Reservoir and Canal Company

Project Name: Dam and Canal Rehabilitation Program
Phase 1 - Poudre Valley Canal and Cobb Lake Pipeline

County: Larimer/Weld **Drainage Basin:** Cache la Poudre River

Total Project Cost: \$ 1,602,380 **Sources:** CWCB

Type of Borrower: Agricultural **Median Household Income:** Between 80% and 110%

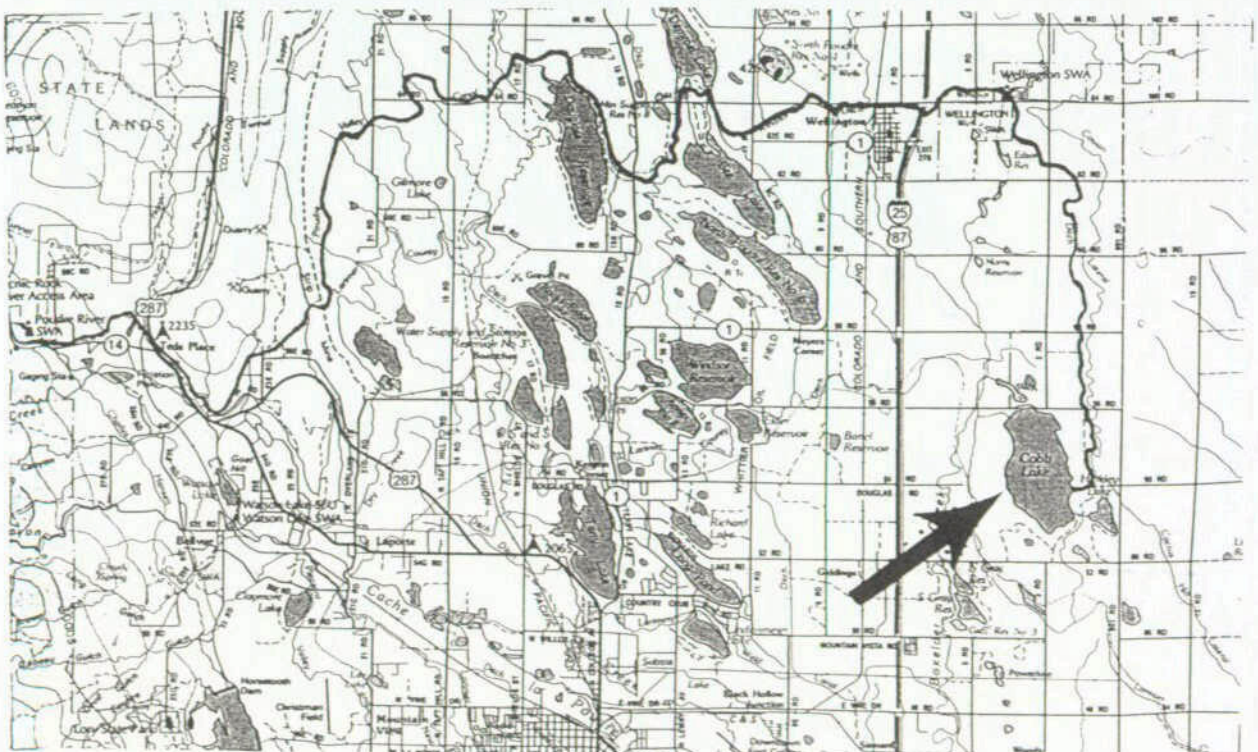
CWCB Loan: \$ 1,202,000 **Interest Rate:** 4.15% **Term:** 30 years

Proposed Collateral: Physical assets associated with the Poudre Valley Canal and Cobb Lake and the stream of revenue from water customers

Feasibility Study: Completed August 4, 1995

Engineer: Smith Geotechnical of Ft. Collins

Annual Volume of Water Delivered by the Project: 10,500 acre-feet in saved losses



Windsor Reservoir and Canal Company - Dam and Canal Rehabilitation Program
Phase 1 - Poudre Valley Canal and Cobb Lake Pipeline

The Windsor Reservoir and Canal Company of Eaton, Colorado, is a non-profit corporation established in 1890 to provide irrigation water to ditch systems owned by its members located in Larimer and Weld Counties. The Company has 1,000 shares of stock outstanding with about 350 shareholders. All water for the system is diverted from the Cache la Poudre River through the Poudre Valley Canal under a portfolio of relatively senior water rights. The Poudre Valley Canal is over 25 miles long and is used to fill all six of the Company's reservoirs. The company supplies an average of about 30,000 acre-feet of water per year for irrigation of approximately 55,000 acres in Northeast Colorado. Many components of the existing system have been in use for almost 100 years and are in need of rehabilitation.

The company has recently initiated a 15-year staged rehabilitation program. A comprehensive feasibility study prepared by Smith Geotechnical of Fort Collins estimated the cost of the program to be \$3,438,000 in 1995 dollars. The Company intends to request a series of Construction Fund loans of approximately \$2.5 million each at three- to four-year intervals over the next 10 to 15 years.

The company is requesting initial funding for two projects; lining and installation of conduits in two sections of the Poudre Valley Canal in 1996 and 1997, and replacement of the outlet pipeline from Cobb Lake in 1999 and 2000. The canal project is needed to prevent leakage from the canal and the pipeline project would replace an existing pipeline which is in very poor condition. The cost for the two initial projects is estimated at \$1,602,380. The company is therefore requesting an increase in its existing loan limit of \$500,000, authorized in the 1995 Construction Fund bill, to \$1,202,000. The CWCB loan represents 75-percent of the total costs for these two projects.