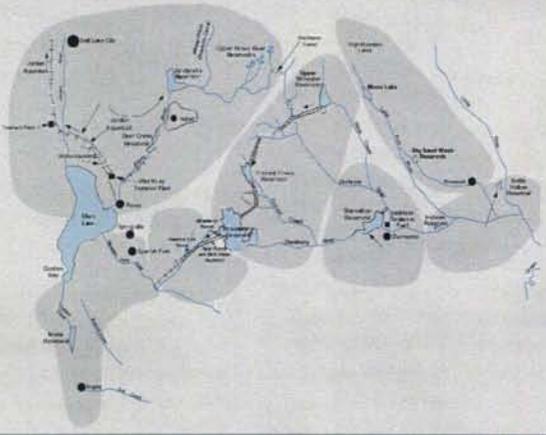


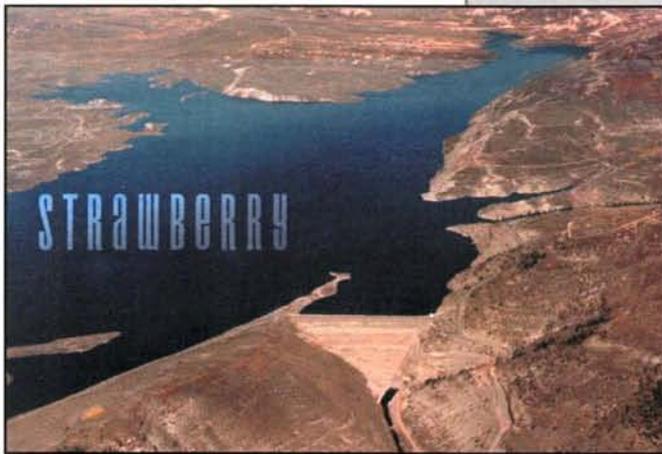
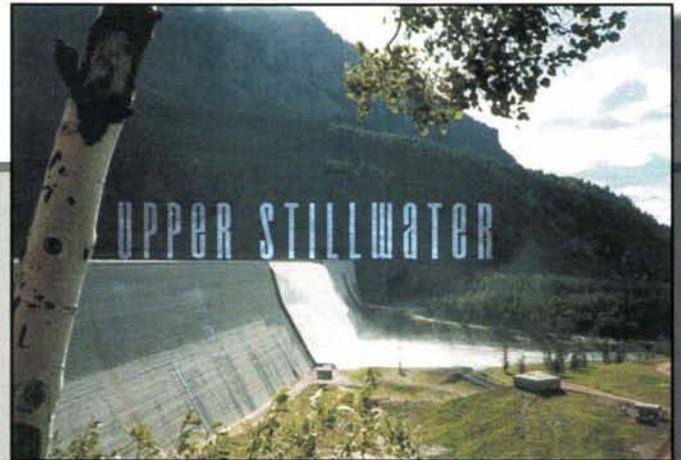
FINANCIAL AND ECONOMIC APPENDIX

Central Utah Project Completion Program

Supplement to the 1988 Definite Plan Report for the Bonneville Unit



October 2004



UTAH RECLAMATION
MITIGATION
AND CONSERVATION
COMMISSION



**SUPPLEMENT TO THE
BONNEVILLE UNIT DEFINITE PLAN REPORT**

FINANCIAL AND ECONOMIC APPENDIX



PREPARED BY:

Central Utah Water Conservancy District
355 West University Parkway
Orem, UT 84058

UNDER THE DIRECTION OF:

Mark Breitenbach, Project Manager
Central Utah Water Conservancy District
Telephone: (801) 226-7105
Facsimile: (801) 226-7150

WITH THE ASSISTANCE OF:

MWH Americas, Inc.
Mayya Group International, LLC

October 2004

TABLE OF CONTENTS

	Page No.
CHAPTER 1 – INTRODUCTION.....	1-1
Purpose and Scope of This Appendix.....	1-1
Authorizations and Previous Reports	1-2
Original Authorization in 1956.....	1-2
Central Utah Project Completion Act.....	1-2
Bonneville Unit Components	1-5
U.S. Bureau of Reclamation Costs	1-5
CUPCA Costs	1-5
Title II (CUPCA).....	1-5
Title III (CUPCA).....	1-6
Title IV (CUPCA).....	1-6
Title V (CUPCA).....	1-7
Significant Changes From Past Financial and Economic Analysis.....	1-7
Contracts and Agreements.....	1-8
 CHAPTER 2 – BONNEVILLE UNIT	 2-1
Water Supply	2-1
Irrigation Water	2-1
Municipal and Industrial Water	2-2
Starvation Collection System	2-4
Strawberry Aqueduct and Collection System.....	2-6
Diamond Fork System	2-6
Municipal and Industrial System (M&I System).....	2-7
Other CUPCA Program Components.....	2-7
Wasatch County Water Efficiency Project and Daniel Replacement Project	2-8
Conjunctive Use of Surface Water and Groundwater	2-8
Additional Studies of Utah Lake Salinity and Provo River Water Supply.....	2-8
Water Management Improvement	2-9
Local Development.....	2-9
Fish, Wildlife, and Recreation Mitigation and Enhancement.....	2-9
Ute Indian Water Rights Settlement.....	2-10
Section 203(a) Uinta Basin Replacement Project.....	2-10
 CHAPTER 3 – BONNEVILLE UNIT BENEFITS.....	 3-1
Project Purposes Served	3-1
Irrigation Benefits.....	3-3
Methodology for Updated Irrigation Benefits	3-4
M&I Water Supply Benefits.....	3-5
Power Benefits.....	3-10
Flood Control Benefits	3-11
Fish and Wildlife Benefits	3-12
Recreation Benefits.....	3-14
Water Conservation Benefits.....	3-14
Total Monetary Benefits	3-15

TABLE OF CONTENTS

CHAPTER 4 – BONNEVILLE UNIT COSTS.....	4-1
Introduction.....	4-1
Sources of Costs Used in Bonneville Unit Analysis	4-1
Construction Cost	4-5
USBR Costs.....	4-5
Section 5 Costs (USBR)	4-5
Section 8 Costs (USBR)	4-7
CUPCA Costs	4-7
Title II Costs (CUPCA)	4-9
Title III Costs (CUPCA).....	4-10
Title IV Costs (CUPCA).....	4-10
Title V Costs (CUPCA) – Ute Indian Rights Settlement	4-10
Power Losses	4-11
Interest During Construction	4-11
Operation, Maintenance, and Replacement Costs	4-14
External Items.....	4-15
Costs of Regulatory Facilities of the Colorado River Storage Project.....	4-15
Effect on Colorado River Salinity	4-15
Total Project Costs.....	4-15
 CHAPTER 5 – ECONOMIC ANALYSIS.....	 5-1
Introduction.....	5-1
Basic Analysis	5-1
Principles and Guidelines Analysis	5-2
 CHAPTER 6 – COST ALLOCATION	 6-1
Introduction.....	6-1
History of Cost Allocation on the Bonneville Unit	6-1
List of Tables	6-2
The Use of Facilities Method	6-2
Use of Facilities Method as Applied to the Bonneville Unit.....	6-4
The Use of Facilities Process.....	6-4
Use of Facilities Principles Applied in the Allocation	6-7
Description of Blocks of Water – Capacities	6-11
Description of Blocks of Water – Yields.....	6-13
Description of Features, Studies, Programs.....	6-29
Allocation of Operation, Maintenance and Replacement Costs.....	6-35
Summary of Section 5 Allocation.....	6-36
Summary of Section 8 Allocation.....	6-36
Summary of OM&R Allocation	6-36
 CHAPTER 7 – PROJECT REPAYMENT.....	 7-1
Reimbursable and Non-Reimbursable Costs.....	7-1
Calculation of CUPCA Section 204 Local Cost Share.....	7-2
Adjustments to Amounts Subject to Repayment.....	7-4

TABLE OF CONTENTS

Summary of Repayment Contracts Between the United States and the District.....	7-5
Irrigation Repayment.....	7-7
Municipal and Industrial Water Repayment.....	7-8
Hydropower Repayment.....	7-10
List of Tables.....	7-11
CHAPTER 8 – REFERENCES.....	8-1
ATTACHMENT A – Correspondence Regarding Cost Allocation Method.....	A-1
ATTACHMENT B – Memorandum on Irrigation Benefits for UBRP.....	B-1
ATTACHMENT C – USBR Construction Cost Trends and Consumer Price Index.....	C-1
ATTACHMENT D – USBR Memorandum Regarding Power Benefits.....	D-1
ATTACHMENT E – Fish and Wildlife Service Memorandum Regarding User-Day Values.....	E-1

List of Tables

2-1	Total Bonneville Unit Water Supply.....	2-1
2-2	Irrigation Water Provided by the Bonneville Unit.....	2-2
2-3	M&I Water Provided by the Bonneville Unit.....	2-3
2-4	Bonneville Unit Components.....	2-11
3-1	Types of Benefits Provided by the Bonneville Unit.....	3-1
3-2	Irrigation Benefits (Water Supply and Conservation).....	3-3
3-3	M&I Benefits (Water Supply and Conservation).....	3-6
3-4	Municipal and Industrial Water Single Purpose Alternative.....	3-7
3-5	Power Benefits.....	3-11
3-6	Flood Control Benefits.....	3-12
3-7	Fish and Wildlife.....	3-13
3-8	Recreation Benefits.....	3-14
3-9	Water Conservation Benefits.....	3-16
3-10	Annual Project Benefits for Determining Cost Benefit Ratio.....	3-16
4-1	Source of Bonneville Unit Costs.....	4-2
4-2	Section 5 Costs – Bureau of Reclamation.....	4-6
4-3	Section 8 Costs – Bureau of Reclamation.....	4-7
4-4	Section 5 Costs – CUPCA.....	4-8
4-5	Section 8 Costs – CUPCA.....	4-9
4-6	Ute Indian Rights Settlement – CUPCA Title V.....	4-10
4-7	Interest During Construction – Bureau of Reclamation.....	4-12
4-8	Interest During Construction – CUPCA Features.....	4-13

TABLE OF CONTENTS

4-9	Total Construction, IDC, and OM+R – USBR and CUPCA.....	4-16
5-1	Benefit Cost Ratio	5-3
6-1	Example of Use of Facilities Method	6-3
6-2	Bonneville Unit Project Costs (Section 5 and Section 8).....	6-37
6-3	Hydrologic Basis for Assigned Joint Costs (Section 5).....	6-39
6-4	Determination of Specific and Assigned Joint Costs (Section 5 Construction)	6-42
6-5	Determination of Specific and Assigned Joint Costs (Section 5 IDC).....	6-49
6-6	Summary of Specific and Assigned Joint Costs by Purpose (Section 5 Construction)	6-56
6-7	Summary of Specific and Assigned Joint Costs by Purpose (Section 5 IDC)...	6-57
6-8	Summary of Project Cost Allocation (Section 5 and Section 8)	6-58
6-9	Detailed Summary of Costs (Section 8)	6-59
6-10	Power Costs Calculated at Full Share of Costs (Section 5 Construction and IDC)	6-60
6-11	Power – Development of Power Marketability (Section 5 Construction and IDC)	6-61
6-12	Power Allocation Constrained by Power Marketability (Section 5 Construction and IDC).....	6-62
6-13	Operation, Maintenance, and Replacement Costs Allocated by Feature (Section 5).....	6-63
6-14	Operation, Maintenance and Replacement Cost Summary (Section 5 and Section 8).....	6-67
6-15	Distribution of 30,000 AF for South Utah County (Block Notice 7B) Between Irrigation and M&I Purposes	6-68
7-1	Adjustment of IDC Costs for Repayment (Section 5 and Section 8)	7-12
7-2	Determination of Local Cost Share and Reimbursable (Non-Reimbursable Costs (Section 5 Construction)	7-14
7-3	Determination of Local Cost Share and Reimbursable/Non-Reimbursable Costs (Section 5 IDC).....	7-19
7-4	Summary of Costs and Repayment (Section 5 Construction and IDC).....	7-24
7-5	Determination of Non-Reimbursable Irrigation Abandoned Investigations	7-25
7-6	Bonneville Unit Repayment Contracts	7-26
7-7	Repayment Obligation Associated with 1965 and 1985 Repayment Contracts	7-27
7-8	Water Supply Associated with 1965 and 1985 Repayment Contracts	7-28
7-9	Summary of Irrigation Water Supply	7-29
7-10	Repayment of Irrigation Costs.....	7-30
7-11	Summary of Municipal and Industrial Water Supply.....	7-31
7-12	Summary of Municipal and Industrial Repayment.....	7-32
7-13	Summary of Power Repayment.....	7-33

TABLE OF CONTENTS

List of Figures

1-1	Central Utah Project Units.....	1-3
2-1	Bonneville Unit Components	2-4
2-2	Distribution of Bonneville Unit Water	2-5
3-1	Relative Comparison of Benefits as a Percentage of Total Benefits.....	3-2

CENTRAL UTAH PROJECT COMPLETION PROGRAM

Chapter 1

October 2004

PURPOSE AND SCOPE OF THIS APPENDIX

The purpose of this Financial and Economic (F&E) Appendix is to document the financial and economic analysis prepared by the Central Utah Water Conservancy District (District), the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission), and the Department of the Interior (Interior) for completion of the Bonneville Unit under the Central Utah Project Completion Act (CUPCA).¹ These studies support the 2004 Supplement to the Bonneville Unit Definite Plan Report required by Section 205 of CUPCA.

The purposes of the financial and economic analysis are to present the Bonneville Unit's: (1) justification, which is measured by comparing its benefits with costs; (2) financial feasibility, which consists of allocating its costs to the purposes served and distributing the costs among sources of funding; and (3) repayment and cost sharing, which accounts for the assignment of all allocated costs.

This chapter summarizes the Bonneville Unit's Congressional Authorizations, its components, required contracts and agreements, and recent changes in the financial and economic analysis. Subsequent chapters present the analysis, organized as follows:

- Chapter 2 – Bonneville Unit
- Chapter 3 - Bonneville Unit Benefits
- Chapter 4 - Bonneville Unit Costs
- Chapter 5 – Economic Analysis
- Chapter 6 - Cost Allocation
- Chapter 7 – Project Repayment
- Chapter 8 - References

Selected references and computations are presented in the following attachments:

- Attachment A - Correspondence Regarding the Cost Allocation Method;
- Attachment B - Memorandum on Irrigation Benefits for UBRP;
- Attachment C - USBR Construction Cost Trends and Consumer Price Index;
- Attachment D - USBR memorandum regarding Power Benefits; and
- Attachment E - Fish and Wildlife Service Memorandum regarding User-Day Values.

The analysis in this appendix covers the entire Bonneville Unit, including facilities already constructed, under construction, or being planned. The analysis is an update of those in the Financial and Economic Appendix to the 1988 Bonneville Unit Definite Plan Report (1988 DPR).

¹ CUPCA consists of Titles II through VI of Public Law 102-575, the Reclamation Projects Authorization and Adjustment Act of 1992.

To the degree it was possible, all benefits and projected costs in this Financial and Economic Appendix are enumerated in October 2004 dollars.

AUTHORIZATIONS AND PREVIOUS REPORTS

Construction of the Bonneville Unit began under the 1956 Congressional authorization of the Central Utah Project included in the Colorado River Storage Project Act (Public Law 84-485) (CRSPA) and is being completed under the 1992 Central Utah Project Completion Act (Public Law 102-575) (CUPCA), as amended (particularly the amendment contained in Public Law 107-366, enacted December 19, 2002).

Original Authorization in 1956

The Central Utah Project (of which the Bonneville Unit is a key element) was originally authorized as part of the Central Utah Project (CUP) by CRSPA, which was signed on April 11, 1956. The CUP (see Figure 1-1) is a participating project of the Colorado River Storage Project (CRSP) and is intended to develop and distribute a portion of Utah's share of Colorado River water for use in the Uinta Basin and Great Basin of Utah. Construction of the Bonneville Unit began in 1965. Construction proceeded gradually, and a substantial portion of the Bonneville Unit was constructed under this original authorization.

The original authorization was based on planning reports by the USBR and has been amended from time to time by acts of Congress. A Definite Plan Report (DPR) for the Bonneville Unit was prepared in 1964. In 1988, the USBR issued a draft supplement to the 1964 DPR presenting the then-current comprehensive plan for the Bonneville Unit and describing changes since 1964. Congress regarded the 1988 draft supplement as being filed and approved by the Secretary (CUPCA, Section 205(c)); consequently it became the 1988 Bonneville Unit Definite Plan Report (1988 DPR).

Central Utah Project Completion Act

In 1992, Congress enacted CUPCA, which was signed into law on October 30, 1992. With CUPCA, Congress provided direction for the completion of the CUP and required various changes in the USBR's plan of development.

CUPCA was amended last on December 19, 2002, by PL 107-366. This amendment specifically expanded the authorization to construct features to deliver M&I water to lands in the Utah Lake drainage basin by adding features and also authorizing funding of power development on units of the CUP. In addition, PL 107-366 expanded the funds for implementing water conservation measures to include recycling of return flows from wastewater treatment plants and the use of reverse osmosis membrane technology, which is a key to using Utah Lake waters. In addition, funding for project power was authorized.

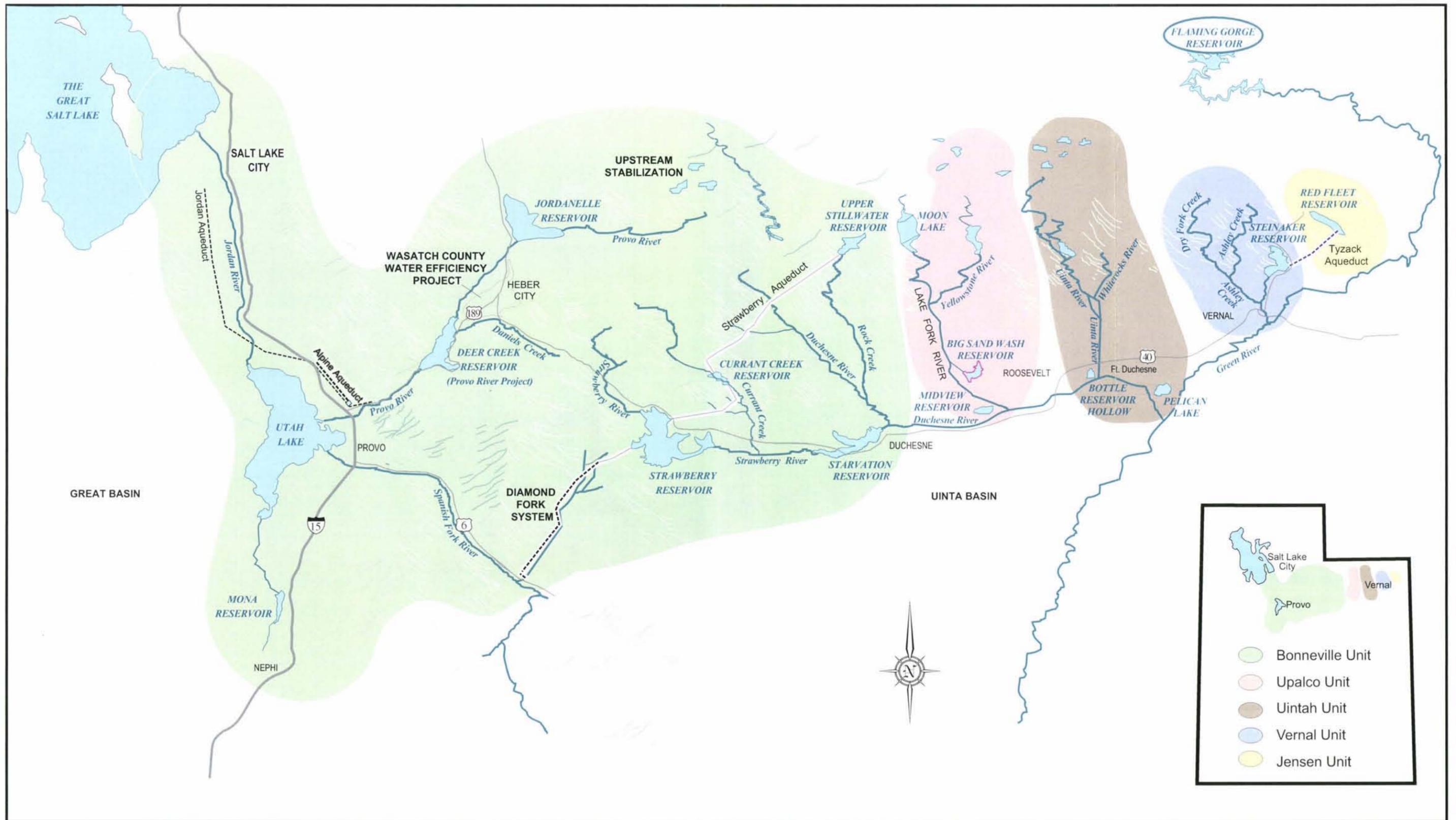


Figure 1-1
Central Utah Project Units

CUPCA requires a DPR containing a description of the Bonneville Unit with emphasis on the remaining features to be constructed. (Refer to CUPCA, Section 205). The Congressional Committee report accompanying CUPCA states that the intended requirement was for ". . . a fully updated supplement to the 1988 DPR", meaning an updated financial and economic analysis of the Bonneville Unit (House Report, 1991).

The Irrigation and Drainage System (I&D System) was reauthorized in CUPCA. The District formulated the Spanish Fork Canyon-Nephi Irrigation System (SFN System) when it was determined that the I&D System would no longer convey water to points outside the Utah Lake drainage basin. These changes in the project plan were reflected in the SFN System 1998 Draft Supplement to the 1988 Definite Plan Report for the Bonneville Unit. Changes in M&I water demands in Utah and Salt Lake Counties have resulted in further plan modifications. These modifications consist primarily of a shift from irrigation to M&I use. The water supply has been developed by Bonneville Unit facilities that are already complete and through the acquisition of the District's water rights in Utah Lake.

The Utah Lake Drainage Basin Water Delivery System (ULS) is required to deliver this water to users within the Utah Lake drainage basin in Utah and Salt Lake Counties. The District is authorized by Congress in Section 202 of the CUPCA to work with Interior to develop a plan of action to complete the Bonneville Unit by means of the ULS project. The Mitigation Commission is a joint lead with the District and Interior in the development of ULS.

The ULS is the final component of the Bonneville Unit of the Central Utah Project. Goals for this portion of the project are: (1) to develop, convey, and deliver the remaining Bonneville Unit water supply for municipal and industrial uses and temporary agricultural supply along the Wasatch Front of Utah and (2) to complete the remaining environmental commitments of the Bonneville Unit associated with previously constructed systems.

The required DPR needs to contain a financial and economic analysis of the Bonneville Unit (CUPCA, Section 205). Moreover, CUPCA originally stipulated that the regulations for the cost allocation of the analysis will be prescribed by the Comptroller General of the United States ". . . not later than one year after the enactment of this Act" (CUPCA, Section 211). The required instructions were contained in a letter from the General Accounting Office (GAO) dated January 25, 1994, and a letter to GAO dated March 22, 1994, which are reproduced in Attachment A to this Appendix. The Comptroller General administers the GAO. However, Public Law 104-316, enacted on October 19, 1996, transferred these functions from the Comptroller General to Interior's Inspector General. Therefore, also included in Attachment A is a copy of the February 7, 1997, letter to the Inspector General.

BONNEVILLE UNIT COMPONENTS

The Bonneville Unit consists of facilities to develop and more fully utilize waters tributary to the Duchesne River in the Uinta Basin of Utah, to facilitate a transbasin diversion from the Colorado River Basin to the Bonneville Basin, and to develop and distribute project water in the Bonneville Basin.

For planning and coordination purposes, the Bonneville Unit was originally divided into six systems according to location and function. These systems are: 1) the Starvation Collection System, 2) the Strawberry Aqueduct and Collection System, 3) the Ute Indian Tribal Development, 4) the Diamond Fork Power System, 5) the Municipal and Industrial (M&I) System, and 6) the Irrigation and Drainage (I&D) System, which was superseded by the Spanish Fork Canyon-Nephi Irrigation (SFN) System. As provided in section 202 of the CUPCA, if water is not delivered to the Sevier Bridge Reservoir, "\$125,000,000 shall remain authorized for the construction of alternate features to deliver irrigation water to lands in the Utah Lake drainage basin." An amendment (PL 107-366) in December 2002 expanded this authorization to include municipal and industrial purposes. Also, the Diamond Fork Power System was changed to the Diamond Fork System. CUPCA authorized eight additional project or program components.

The Bonneville Unit facilities are listed and described in Chapter 2 – Bonneville Unit Facilities.

U.S. BUREAU OF RECLAMATION COSTS

Facilities constructed by the U.S. Bureau of Reclamation (USBR) were completed under the authority given the Secretary of Interior by CRSPA. Under this act all project costs were federally-funded. Expenditures were appropriated under Section 5 or Section 8 of the CRSP Act. Section 5 costs are for water supply, water conveyance, and hydro-power facilities. Section 8 costs are for specific recreation or fish and wildlife facilities; Section 8 fish and wildlife expenditures can be for either enhancement or mitigation. Both of these cost categories are described in Chapter 4 of this F&E Appendix.

CUPCA COSTS

CUPCA costs continued to designate appropriations as Section 5 or Section 8 as described in the CRSP Act. Each section of CUPCA is designated as Section 5 or Section 8. Titles II and V of CUPCA are Section 5 and all others are Section 8. In general, CUPCA also requires a local cost share of no less than 35 percent of the reimbursable costs. The various titles under CUCPA are briefly described below. Additional, more detailed, information will be presented in Chapter 4.

Title II (CUPCA)

Title II of CUPCA contains construction authority for water supply and related facilities. The costs are Section 5 costs and consist of the following subcategories:

Section 201 - Additional funding for the Colorado River Storage Project (CRSP);
Section 202 - Bonneville Unit Water Development;
Section 203 - Uinta Basin Replacement Project (UBRP);
Section 204 - Non-Federal Contribution (Local Cost Share);
Section 205 - Definite Plan Report and Environmental Compliance;
Section 206 - Local Development in Lieu of Irrigation and Drainage;
Section 207 - Water Management Improvement Program;
Section 208 - Limitations on Hydropower Operations (later amended on December 19, 2002 to include funding for project power);
Section 209 - Operating Agreements;
Section 210 - Jordan Aqueduct Payment;
Section 211 - Audit of CUPCA Cost Allocations;
Section 212 - Surplus Crops.

Title III (CUPCA)

Title III authorizes the construction of facilities for fish, wildlife, recreation mitigation, and conservation. The costs under Title III are Section 8 expenditures and are non-reimbursable (except for a portion of the Daniel Creek Replacement Project, which is funded under Section 5).

Title IV (CUPCA)

Title IV authorizes the establishment of the Utah Reclamation Mitigation and Conservation Account and establishes the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission). The Mitigation Commission was established to develop plans and administer the mitigation and conservation program. CUPCA also established the Utah Reclamation Mitigation and Conservation Account to be funded by contributions from Interior, the State of Utah, the District, and the Western Area Power Administration. The Mitigation Commission is charged with implementing the mitigation for all of the CUP components, including the Bonneville Unit, with funds contributed to the account. The funds contributed to the account are included with the Bonneville Unit costs in Chapter 4 and are allocated in Chapter 6.

The Bonneville Unit contains numerous streamflow provisions to improve and maintain aquatic and habitat, most of which are required by CUPCA. The streamflow provisions may be grouped into the following four categories with respect to the way they affect the cost allocation in Chapter 6.

- *"Fishery Flow" of 44,400 acre-feet annually released to the Duchesne River and its tributaries.*
This requirement stemming from the 1980 Stream Flow Agreement, as amended, was implemented by CUPCA for trout fishery maintenance. These releases are made from the Strawberry Aqueduct and Collection System and a portion of the cost of that system is allocated to fish and wildlife in recognition of the water provided. These releases are termed "fishery flow" to distinguish them from the following three streamflow provisions of the Bonneville Unit.

- *Restoration of summer streamflow in Strawberry River system upstream of Strawberry Reservoir.* This flow restoration is achieved through the termination of two transbasin diversions by the Daniel Irrigation Company, which will be provided with replacement water by means of the Daniel Replacement Project, the costs of which are allocated to fish and wildlife enhancement.
- *Diamond Fork Creek flow reduction.* The high summer flow that has historically occurred in Diamond Fork Creek will be reduced by conveying a portion of the flow in the Diamond Fork System facilities. This will improve aquatic and riparian habitat. A portion of the cost of the Diamond Fork System will be allocated to fish and wildlife.
- *Minimum flow requirements in various streams.* These are minimum flow requirements to maintain aquatic habitat in Diamond Fork and Sixth Water Creeks and the lower Provo River. Most of these requirements stem from CUPCA but some originated prior to CUPCA.

In addition, water deliveries under the ULS System would be made to Utah Lake via Hobbie Creek near Springville and the lower Provo River for fish and wildlife purposes. Consequently, a portion of the costs for the pipelines constructed under the ULS System will be allocated to both Section 5 and Section 8 fish and wildlife purposes.

Title V (CUPCA)

Title V of CUPCA is the Ute Indian Rights Settlement. It compensates the Ute Tribe of the Uintah and Ouray Reservation for unfulfilled obligations in the 1965 Deferral Agreement. The Deferral Agreement was a necessary element for the transbasin diversion. Title V costs are allocated to project purposes in the same proportion as the Strawberry Aqueduct and Collection System.

SIGNIFICANT CHANGES FROM PAST FINANCIAL AND ECONOMIC ANALYSIS

The Bonneville Unit is complete except for the ULS System. With CUPCA, Congress modified the proposed plan of development contained in the 1988 DPR.

The original Congressional authorization and USBR procedures, prevailing at the time of authorization, governed the financial and economic analysis in the 1964 DPR. In the 1964 and 1988 DPRs, the general method of allocating costs was the separable cost-remaining benefit (SCRB) method. The SCRB method is based on the dollar savings that a proposed multiple-purpose project produces in satisfying those purposes, compared to the cost of developing separate single purpose projects to provide the same benefits. Bonneville Unit costs were allocated to various purposes (e.g. water supply, recreation, fish and wildlife) according to the benefits produced for those purposes. Funding for construction was primarily federal through USBR planning and construction programs.

In 1992 CUPCA changed many aspects of the financial and economic analysis and required local cost sharing to reduce the federal funds needed to complete the Bonneville Unit. The cost allocation methodology, which is fundamental to the financial analysis, was also changed. The use of benefits to distribute costs among project purposes was eliminated and the proportionate use of the facilities was substituted. Numerous other changes occurred in the Bonneville Unit's physical plan and cost structure which affected the analytical process. The most significant of these changes, and chapters in which they are addressed, are as follows:

- Local cost sharing is required - Chapter 7;
- Water conservation programs provide monetary benefits - Chapter 3;
- The costs of certain Uinta Basin facilities are included - Chapters 3 and 4;
- Ute Indian Water Rights Settlement costs were added - Chapter 4;
- A benefit-cost analysis is included based on the current project evaluation rate and an analysis based on the Water Resource Council's Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies - Chapter 5;
- The method of dividing costs among project purposes is changed - Chapter 6;
- Federal cost ceilings were imposed on project facilities - Chapter 7.

CUPCA required local cost sharing for the completion of the facilities of the Bonneville Unit, generally based on the ratio of 35 percent of reimbursable costs from local contribution and 65 percent federal financing. CUPCA also authorized an increase in the cost ceiling for various features of the CUP, and authorized federal appropriations under a cost sharing arrangement with the District.

CONTRACTS AND AGREEMENTS

Numerous contracts and agreements with federal, State, and Local agencies are needed to construct facilities, establish operational programs, provide reimbursement of federal funding, and provide for local funding.

The District has already contracted with Interior to repay reimbursable federal costs of irrigation and M&I water supply associated with the initial project water supply and the Uinta Basin Replacement Project. The District and Interior have negotiated an additional repayment contract and water service agreement for the Utah Lake System.

CENTRAL UTAH PROJECT COMPLETION PROGRAM

Chapter 2

October 2004

The Bonneville Unit is a multipurpose water project. Nearly completed, it serves a variety of water-related purposes. Bonneville Unit water purposes include: irrigation, M&I, fishery needs, power, flood control, wetlands, enhanced recreation opportunities, incidental highway improvements, water conservation, and water quality improvements in Utah Lake, the Provo River, and Diamond Fork Creek.

WATER SUPPLY

The Bonneville Unit will annually provide a total permanent water supply of 244,150 acre-feet as well as a temporary irrigation supply of 20,000 acre-feet. Table 2-1 summarizes the irrigation and M&I water provided by the Bonneville Unit through its various systems. Water for fishery flows in the Uinta Basin is included in the table to complete the summary. Other instream flows provided through Bonneville Unit operation are not included in Table 2-1 since they do not provide an exclusive water supply, but are an adaptation of the Bonneville Unit operation. The two most notable examples are flows in Hobbie Creek for the June sucker and flows in the lower Provo River for improved fishery. Water conserved by the Bonneville Unit's Water Conservation Credit Program (WCCP) is not included in Table 2-1, but is accounted for separately in the financial and economic analysis.

TABLE 2-1	
Total Bonneville Unit Water Supply	
Permanent Water Supply	
Purpose	Acre-Feet
Irrigation Water	42,000
M&I Water	157,750
Uinta Basin Instream Flow	44,400
Total	244,150
Temporary Water Supply	
Purpose	Acre-Feet
Irrigation Water	20,000

Irrigation Water

The Bonneville Unit will deliver an annual average of 62,000 acre-feet of irrigation water to agricultural areas in several counties (42,000 AF in permanent supply and 20,000 AF in temporary supply). The locations and respective amounts delivered are shown in Table 2-2. All lands to be served have been certified as arable by the Secretary of Interior.

TABLE 2-2 Irrigation Water Provided by the Bonneville Unit			
Block Notice	Area	Date Issued	AF
Bonneville Unit (Initial)			
Block Notice 1	Starvation Reservoir	June 19, 1970	21,400
Block Notice 1A	Summit County	February 1, 2001	3,000
Block Notice 1A	Wasatch County	February 1, 2001	12,100
Block Notice 1B	Starvation Reservoir	November, 2004	3,000
BU Initial Sub-Total:			39,500
Bonneville Unit (ULS)			
Temporary Irrigation Water	Utah County (ULS)	Future	20,000
BU ULS Sub-Total:			20,000
Uinta Basin Replacement Project			
Block Notice UBRP1	Big Sand Wash Reservoir	Future	2,500
UBRP Sub-Total:			2,500
Total Irrigation Water Supply			62,000

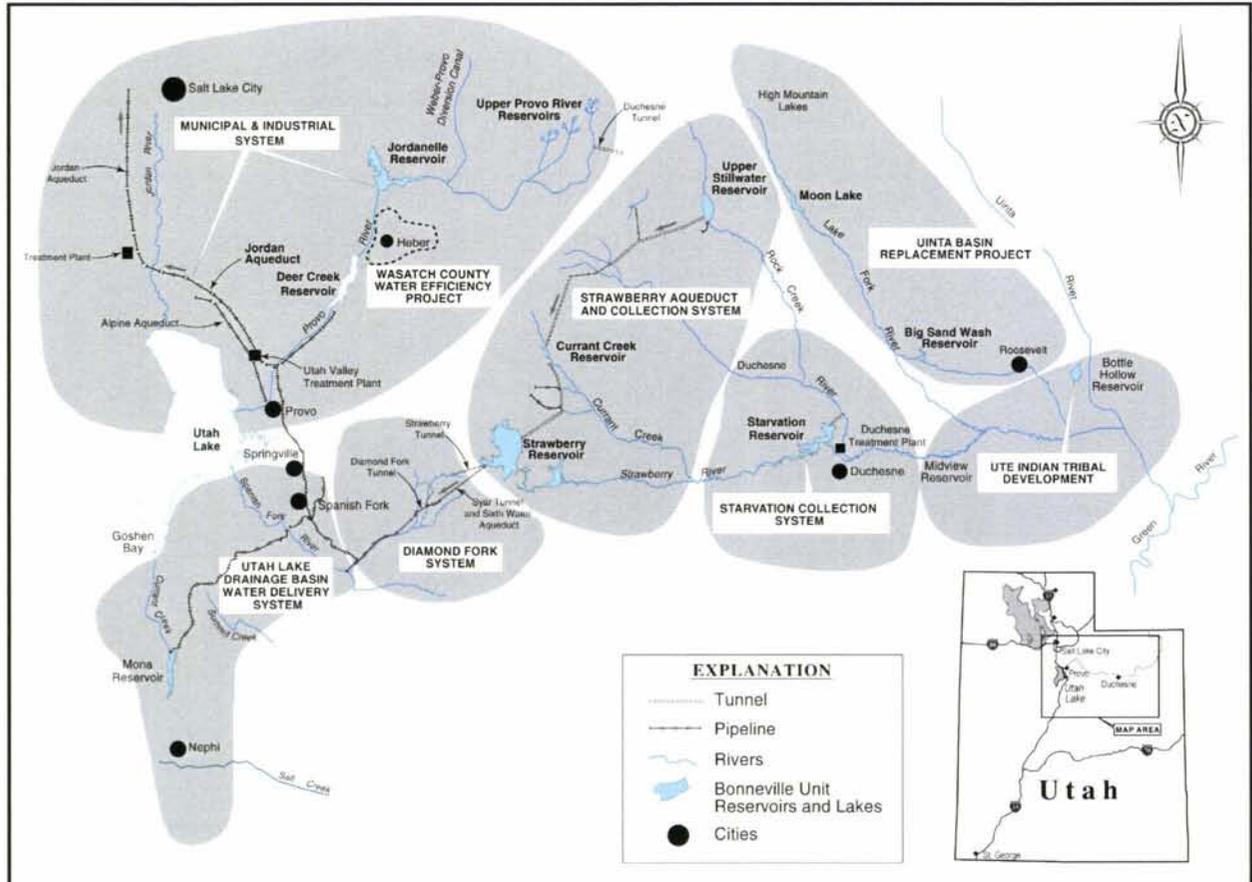
Municipal and Industrial Water

The Bonneville Unit will deliver an average of 157,750 acre-feet of M&I water annually to urbanized areas in several counties. Table 2-3 shows the locations and respective amounts delivered.

TABLE 2-3			
M&I Water Provided by the Bonneville Unit			
Block Notice	Area	Date Issued	AF
Bonneville Unit (Repayment Contracts)			
Block Notice 2A	Duchesne and Wasatch Counties	May 29, 1975	96
Block Notice 2B	Duchesne County	May 29, 1975	104
Block Notice 3	Duchesne County	December 3, 1979	300
Block Notice 4A	Salt Lake Co. and North Utah Co.	May 18, 1986	11,000
Block Notice 4B	Salt Lake Co. and North Utah Co.	May 18, 1986	9,000
Block Notice 5A	Salt Lake, North Utah, & Wasatch Counties	May 30, 1997	13,800
Block Notice 5B	Wasatch County	April 1, 2000	2,400
Block Notice 5C	Salt Lake County	September 25, 2002	7,900
Block Notice 5D	South Utah County	May 27, 2003	1,590
Block Notice 6	Salt Lake County	Future	43,300
Special Block Notice 1	Wasatch County	September 17, 1987	260
Special Block Notice 2	Salt Lake County	March 31, 1995	5,000
BU Initial Sub-Total:			94,750
Bonneville Unit (ULS)			
Block Notice 7A	Salt Lake County (ULS)	Future	30,000
Block Notice 7B	South Utah County (ULS)	Future	30,000
BU ULS Sub-Total:			60,000
Uinta Basin Replacement Project			
UBRP Water Service	Duchesne County	Future	3,000
UBRP Sub-Total:			3,000
Total M&I Water Supply			157,750

The relative locations and major features of each of the Bonneville Unit systems are shown on Figure 2-1. Figure 2-2 shows schematically the Bonneville Unit water supply.

**Figure 2-1
Bonneville Unit Components**



The following paragraphs briefly describe the major components of the Bonneville Unit. Additional information can be found in the Water Supply and Design and Estimates Appendices.

STARVATION COLLECTION SYSTEM

The Starvation Collection System was completed in 1970. The system provides water for irrigation and M&I use, flood control, recreation, and fish and wildlife benefits in the Duchesne area of the Uinta Basin. Water storage is provided by the 167,310 acre-foot Starvation Reservoir, located on the Strawberry River just above its confluence with the Duchesne River. Starvation Reservoir is filled by winter and spring flows of the Duchesne and Strawberry Rivers. Duchesne River water is diverted by Knight Diversion Dam and conveyed to the reservoir through the Starvation Feeder Conduit.

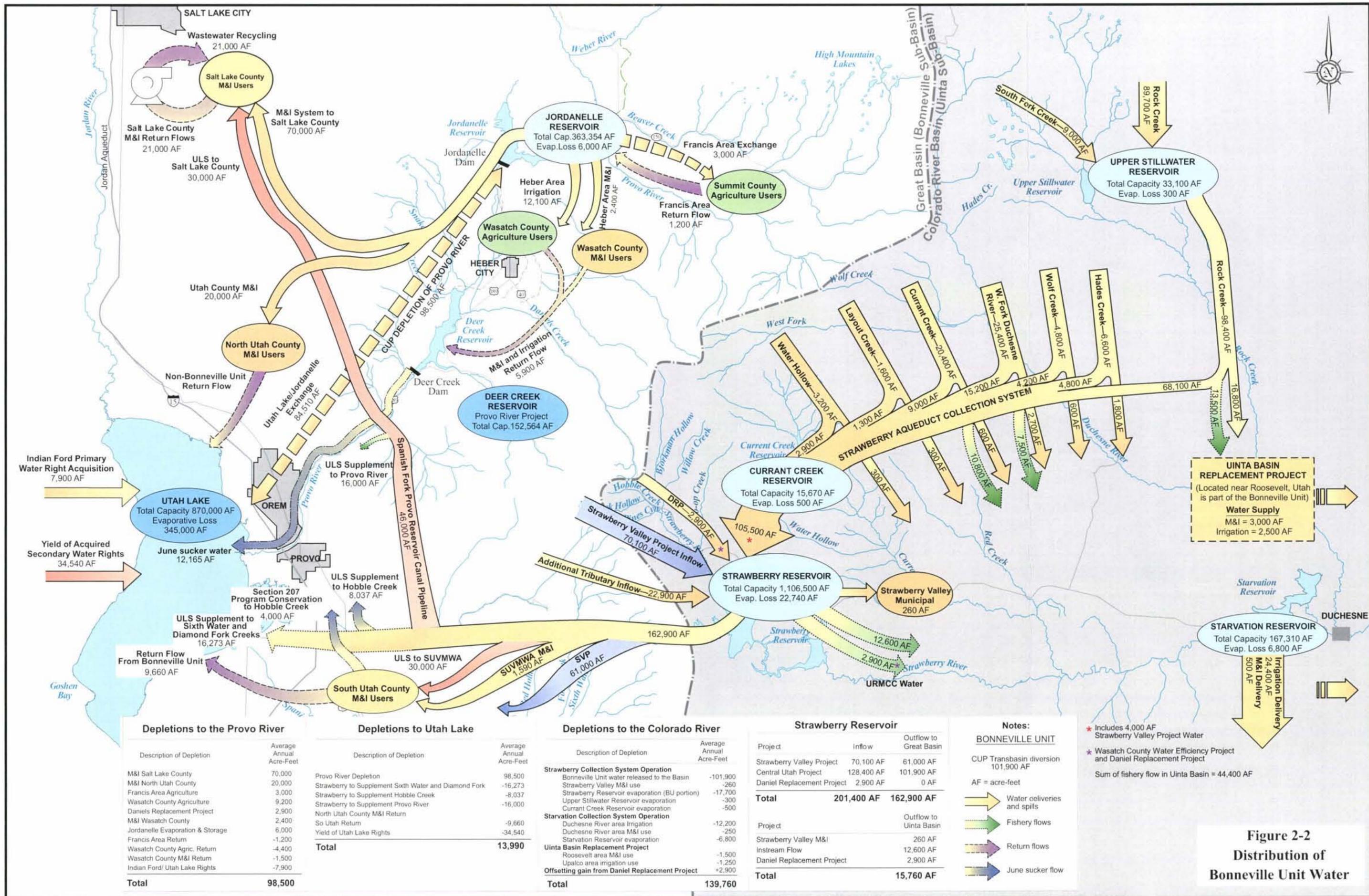


Figure 2-2
Distribution of
Bonneville Unit Water

Starvation Reservoir provides a benefit to irrigators along the Duchesne River in the form of water delivery in the late summer and fall when streamflows typically decline below the levels needed for irrigation diversion. Water accumulated in Starvation Reservoir provides 24,400 acre-feet of irrigation water and 500 acre-feet of M&I water for use in the Uinta Basin. Starvation Reservoir provides an average of approximately 43,000 acre-feet of water annually to irrigators to replace water diverted in the Strawberry Aqueduct and Collection System to Strawberry Reservoir. The reservoir also provides fishery benefits and public recreation.

STRAWBERRY AQUEDUCT AND COLLECTION SYSTEM

The Strawberry Aqueduct and Collection System (SACS), completed in the late 1980s, diverts part of the flows of Rock Creek and eight other tributaries of the Duchesne River and conveys the diverted flows through the 36.8-mile-long Strawberry Aqueduct to Strawberry Reservoir. Upper Stillwater Reservoir, with a capacity of 33,100 acre-feet, serves as a regulating reservoir at the head of the Strawberry Aqueduct to provide temporary storage during the high runoff period for later diversion to the aqueduct and storage in Strawberry Reservoir. Currant Creek Reservoir, with a total capacity of 15,670 acre-feet, diverts Currant Creek and five tributaries into the Strawberry Aqueduct. The SACS provides 44,400 acre-feet of annual instream flows for fishery mitigation purposes.

The capacity of Strawberry Reservoir was enlarged from 273,000 acre-feet to 1,106,500 acre-feet by the construction of Soldier Creek Dam on the Strawberry River. Some of the water stored in the reservoir is released to the Strawberry River to provide fishery flows, but most of the stored water is for transbasin diversion to the Bonneville Basin. In addition to water supply, the SACS provides flood control, recreation, and fish and wildlife benefits.

DIAMOND FORK SYSTEM

The Diamond Fork System will allow for the transbasin diversion of Bonneville Unit water from Strawberry Reservoir in the Colorado River drainage basin to Spanish Fork Canyon in the Bonneville Basin. The Diamond Fork System will protect Diamond Fork and Sixth Water creeks riparian area from damaging high flows. The Diamond Fork System has been constructed in three primary phases. The U.S. Bureau of Reclamation (USBR) constructed the first phase; the District constructed the second and third phases under the CUPCA. The first phase included the Syar Tunnel Inlet, Syar Tunnel, Sixth Water Aqueduct, and Sixth Water Flow Control Structure, which together form a continuous 7.3-mile conduit from Strawberry Reservoir to Sixth Water Creek and currently discharges water into Sixth Water Creek. The second phase includes the Diamond Fork Pipeline from Monks Hollow downstream to the mouth of Diamond Fork Creek. The third phase, recently completed consists of a tunnel connection to the Sixth Water Shaft and Flow Control Structure, Tanner Ridge Tunnel, Upper Diamond Fork Pipeline, Upper Diamond Fork Flow Control Structure, connection to Upper Diamond Fork Tunnel, Upper Diamond Fork Tunnel, and connection to the Diamond Fork Pipeline. Flow control structures are located at Sixth Water Creek and Upper Diamond Fork Creek. The 19.8-mile-long conduit will convey Bonneville Unit water and Strawberry Valley Project (SVP) water to the mouth of Diamond Fork Canyon. The Diamond Fork System will remove a portion of the SVP irrigation flows that were

historically conveyed down Sixth Water Creek and Diamond Fork Creek. Instream flows specified in CUPCA will be released into Sixth Water Creek and lower Diamond Fork Creek as part of an effort to enhance fisheries in these streams.

MUNICIPAL AND INDUSTRIAL SYSTEM (M&I SYSTEM)

The Bonneville Unit M&I System provides M&I water to Salt Lake, Utah, and Wasatch Counties and supplemental irrigation water to Wasatch and Summit Counties. The system also provides flood control, recreation, and fish and wildlife benefits. Jordanelle Dam is the major feature of the M&I System. The 300-foot-high dam located on the Provo River about 6 miles north of Heber City was completed in April 1994. The reservoir has a total capacity of 363,354 acre-feet. Provo River flow that historically flowed into Utah Lake is stored in the reservoir as a water supply. Utah Lake water originating from the Provo River is replaced by Bonneville Unit return flows to the lake, water rights previously acquired by the District in Utah Lake, direct releases of water from Strawberry Reservoir to Utah Lake, and flows that are surplus to Utah Lake rights. The M&I water for northern Utah County (20,000 acre-feet per year) and Salt Lake County (70,000 acre-feet per year) is released from Jordanelle Reservoir and then diverted from the Provo River at two locations: below Deer Creek Dam and the Olmsted Diversion Dam. From these two diversions, the water is conveyed to the Salt Lake County area by the 38-mile-long Jordan Aqueduct and to northern Utah County through the 14-mile-long Alpine Aqueduct. Water for use in Wasatch County is released from Jordanelle Reservoir for delivery through local irrigation and secondary M&I systems. Water for use in Summit County is provided from Washington, Trial, and Lost lakes in the headwaters of the Provo River, through exchange with storage in Jordanelle Reservoir.

OTHER CUPCA PROGRAM COMPONENTS

In addition to providing direction for the completion of the six systems of the Bonneville Unit (in some cases with additional features), CUPCA authorized the following eight additional projects or program components:

- Wasatch County Water Efficiency Project and Daniel Replacement Project – Sections 202 (a) (3) (A and B);
- Conjunctive Use of Surface Water and Groundwater – Section 202 (a) (2);
- Additional Studies of Utah Lake Salinity and Provo River Water Supply – Sections 202 (a) (4 and 5);
- Water Management Improvement – Section 207;
- Local Development – Section 206;
- Fish, Wildlife, and Recreation Mitigation and Enhancement – Title III;
- Ute Indian Water Rights Settlement – Title V; and
- Uinta Basin Replacement Project – Section 203 (a).

Descriptions of each component are provided in the following subsections and summarized on Table 2-4 at the end of this Chapter 2.

Wasatch County Water Efficiency Project and Daniel Replacement Project

The Wasatch County Water Efficiency Project and Daniel Replacement Project improve water use efficiency in Heber Valley by delivering pressurized irrigation water. Water conserved by the project is used to supplement flows of Heber Valley streams. The project provides the Daniel Irrigation Company with replacement water after its diversion from the upper Strawberry River basin was terminated as provided in Section 303 of CUPCA. Water conserved by the project from CUP agricultural supply is used to provide the replacement water. This project is described in the *Final Environmental Impact Statement Wasatch County Water Efficiency Project and Daniels Replacement Project* (CUWCD 1996a), and the *Wasatch County Water Efficiency Project Feasibility Study* (CUWCD 1997e). The Mitigation Commission signed its Record of Decision on March 12, 1997, and the Department of the Interior signed its Record of Decision on March 21, 1997, both selecting the Proposed Action for implementation. Construction has been completed and the projects are operational. During the 2002 irrigation season, the Wasatch County Water Efficiency Project reported water conservation savings of 24,492 acre-feet. The average project conservation is expected to be 23,658 annually.

The termination of the Daniel Creek Irrigation Company's trans-basin diversion and restoration of summer flow in the Strawberry River and its tributaries upstream of Strawberry Reservoir fulfilled a long-standing commitment as partial mitigation for the adverse effects of construction and operation of the SACS on riverine resources. Restoring natural flows increases the water supply to Strawberry Reservoir by an average of 2,900 acre-feet per year. In accordance with Section 303 of CUPCA, the 2,900 acre-feet would be used to increase minimum streamflows in the upper Strawberry River tributaries, the SACS streams, and/or the lower Strawberry River.

Conjunctive Use of Surface Water and Groundwater

Conjunctive use of surface water and groundwater consists of the planning and development of systems to allow groundwater recharge, management, and conjunctive use of surface water and groundwater. Section 202 (a) (2) of CUPCA authorizes the Utah Division of Water Resources to conduct this program in Salt Lake, Utah, Davis, Wasatch, and Weber counties and authorized federal funding for that purpose. This program has the following objectives: to provide greater efficiency in the use of water for federally-funded facilities as well as local sources, to prevent the further mitigation of useable groundwater into aquifers of poor quality water, to reduce groundwater pumping costs, to conserve Utah's water resources, and to facilitate maintenance of year-round streamflows for fish, wildlife, and water quality valued in streams such as the Provo River. The program is intended to build upon studies and demonstration projects that have been undertaken by local entities in those counties. This program contributed toward the construction of the Salt Lake County High Runoff Treatment and Storage Project developed and operated by the Jordan Valley Water Conservancy District.

Additional Studies of Utah Lake Salinity and Provo River Water Supply

Section 202 of CUPCA authorized several studies involving water management in the Bonneville Unit. One feasibility study documented several potential alternative plans for

reducing salinity levels of Utah Lake. Two other studies involved water supplies of the Provo River. The first consisted of an operations study including development of a model to simulate river system operation. A report on the computer model development for the Provo River was completed in January 1998. A final report on the second study, direct delivery of Colorado River Basin water from Strawberry Reservoir to the Provo River Basin, was completed in June 1997.

Water Management Improvement

Section 207 of CUPCA authorized a comprehensive program to improve water management within the CUP service area, including the establishment of water conservation goals to be achieved by year 2010. Specific purposes are to encourage water conservation and wise use, reduce the probability and duration of extraordinary water shortages, reduce water use and system costs, prevent unnecessary depletions that adversely affect environmental values or other public purposes, make effective use of available supplies before importation of water from the Bear River, and provide an objective basis for measuring achievements under this program. To achieve these purposes, the District has developed a Water Management Improvement Plan and is using its Water Conservation Credit Program (WCCP) to assist local agencies in funding measures. The Utah Water Conservation Advisory Board has been established to assist the District in establishing criteria and priorities for water conservation projects. The District's water conservation goal was originally established at 39,294 acre-feet of savings per year. However, strong local support has indicated that a greater potential exists, and the District has increased its goal to 62,100 acre-feet of water savings per year after 2016. The District has funded approximately 30 CUPCA Section 207 projects with water savings in excess of the target water conservation goal. The WCCP has contributed significantly to the recovery of the endangered June sucker by providing some additional water for a favorable spring spawning regime in the lower Provo River.

Local Development

Section 206 of CUPCA authorized the development of projects for counties electing not to participate in the CUP. Funding for the projects are provided from federal appropriations and a rebate of ad valorem tax contributions previously paid by an eligible county to the District. Counties eligible for local development include any county within the District jurisdiction, except for Salt Lake and Utah counties, in which the CUP features will not be constructed. Eligible counties under Section 206 include Sanpete, Garfield, and Piute counties. Projects have been implemented in Sanpete and Garfield counties.

Fish, Wildlife, and Recreation Mitigation and Enhancement

Under Title III of CUPCA, the Mitigation Commission was established to develop plans and administer the mitigation and conservation program authorized by Congress. It is a joint lead agency for the preparation of the ULS FEIS of September 2004 with the District and DOI. CUPCA, in Title IV, established the Utah Reclamation Mitigation and Conservation Account, which has been funded by the federal government, the State of Utah, the District, and other project beneficiaries. The Mitigation Commission is charged with administration of this account

and implementation of the mitigation measures enumerated in CUPCA, and for future fish and wildlife mitigation measures associated with the ULS, until the Commission terminates under Section 301 of CUPCA.

Ute Indian Water Rights Settlement

Title V of CUPCA, administered by DOI, contains a variety of provisions for the benefit of the Ute Indian Tribe that, together with earlier agreements, form the Ute Indian Water Rights Settlement. The associated provisions are intended to put the Tribe in the economic position envisioned at the initiation of the CUP, by quantifying the Tribe's reserved water rights, allowing increased beneficial use of such water, and providing funds for economic development through agriculture and other enterprises that would put the Tribe in the same economic position it would have enjoyed had the 1965 Deferral Agreement been fully implemented.

Section 203(a) Uinta Basin Replacement Project

The Section 203(a) Uinta Basin Replacement Project was authorized through the following features in Section 203(a) of CUPCA: 1) Pigeon Water Dam and Reservoir with an enclosed pipeline conveyance system; 2) McGuire Draw Dam and Reservoir; 3) Clay Basin Dam and Reservoir; and 4) Farnsworth Canal rehabilitation. Project replacement features were developed from the authorized features in the Section 203 legislation. These replacement features were included and evaluated in the alternatives formulation and development process described in the Final Environmental Assessment for the Section 203(a) Uinta Basin Replacement Project dated October 2001. Feasibility of a Section 203 project was discussed and evaluated in the Uinta Basin Replacement Project Final Feasibility Study dated October 2001. The Section 203(a) Uinta Basin Replacement Project provides variations of those replacement features and alternatives to meet project needs to manage the water resources within the project area to provide early- and late-season irrigation water, M&I water supplies, water conservation, and to enhance facilities for environmental purposes. Under the October 2001 plan, the Section 203(a) Uinta Basin Replacement Project includes: enlargement of Big Sand Wash Reservoir (12,000 acre-feet increased capacity); the new Big Sand Wash Feeder Diversion Structure, a new Big Sand Wash Feeder Pipeline; a new Big Sand Wash-Roosevelt Pipeline; and stabilization of thirteen high Uinta mountain lakes. The UBRP will provide 3,000 AF of M&I water and 2,500 AF of irrigation water.

**Table 2-4
Bonneville Unit Components**

Original Systems						New Components Authorized by CUPCA & Amendments								
STARVATION COLLECTION SYSTEM	STRAWBERRY COLLECTION SYSTEM	M&I SYSTEM	UTE INDIAN TRIBAL DEVELOPMENT	DIAMOND FORK POWER SYSTEM	I&D SYSTEM	SECTION 202 DIAMOND FORK SYSTEM	SECTION 202 ULS SYSTEM ¹	SECTION 202 WASATCH COUNTY WATER EFFICIENCY PROJECT & DANIEL REPLACEMENT PROJECT	SECTION 202 CONJUNCTIVE USE OF SURFACE & GROUNDWATER	SECTION 202 ADDITIONAL STUDIES	SECTION 203 UTAH BASIN REPLACEMENT PROJECT	SECTION 207 WATER MANAGEMENT IMPROVEMENT SECTION 206 LOCAL DEVELOPMENT	TITLE III FISH, WILDLIFE, & RECREATION MITIGATION & CONSERVATION	TITLE V UTE INDIAN WATER RIGHTS
<ul style="list-style-type: none"> • Knight Diversion Dam • Starvation Feeder Conduit • Starvation Reservoir • Duchesne River Canals 	<ul style="list-style-type: none"> • Soldier Creek Dam and Enlarged Strawberry Reservoir • Upper Stillwater Reservoir • Currant Creek Reservoir • Strawberry Aqueduct 	<ul style="list-style-type: none"> • Jordanelle Reservoir • Jordan Aqueduct • Alpine Aqueduct • Stabilization of High Mountain Lakes (Trial, Lost, & Washington) 	<ul style="list-style-type: none"> • Bottle Hollow Reservoir • Wildlife Habitat Development • Lower Stillwater • Midview Exchange 	<ul style="list-style-type: none"> • Syar Tunnel • Sixth Water Aqueduct • Last Chance Powerplant • Monks Hollow Reservoir • Monks Hollow Powerplant • Diamond Fork Powerplant 	<ul style="list-style-type: none"> • Wasatch Aqueduct (tunnels and pipelines) • Mona-Nephi Canal • Mona, West Mona, and Nephi Pumping Plants • Nephi-Sevier Canal • Mosida Area Canals and Pumping Plants 	<ul style="list-style-type: none"> • Sixth Water Connection to Tanner Ridge Tunnel • Tanner Ridge Tunnel • Upper Diamond Fork Pipeline • Upper Diamond Fork Control Structure • Aeration Chamber and Connection to Upper Diamond Fork Tunnel • Upper Diamond Fork Tunnel • Monks Hollow Overflow Structure • Diamond Fork Creek Outlet • Diamond Fork Pipeline Extension • Diamond Fork Pipeline 	<ul style="list-style-type: none"> • Sixth Water Power Generation • Upper Diamond Fork Power Generation • Spanish Fork Flow Control Structure • Spanish Fork Canyon Pipeline • Spanish Fork-Provo Reservoir Canal Pipeline • Spanish Fork-Santaquin Pipeline • Santaquin-Mona Reservoir Pipeline • Mapleton-Springville Lateral Pipeline 	<ul style="list-style-type: none"> • Pump Stations • River Diversions • Lateral Piping • Pipeline to Daniel Irrigation Company • Wasatch Canal Rehabilitation • Timpanogos Canal Rehabilitation • Restoration of Stream Flows in Upper Strawberry River and Tributaries 	<ul style="list-style-type: none"> • Sec. 202(a)(2)– Study and Development by Utah Division of Water Resources, in Salt Lake, Utah, Davis, Wasatch, and Weber Counties 	<ul style="list-style-type: none"> • Sec. 202(a)(4)– Study of Utah Lake Salinity Control • Sec. 202(a)(5)– Provo River Studies (i.e. Strawberry-Provo Conveyance Study) 	<ul style="list-style-type: none"> • Big Sand Wash Reservoir Enlargement • Big Sand Wash Diversion Dam • Big Sand Wash Feeder Pipeline • Big Sand Wash Roosevelt Pipeline • High Mountain Lakes Stabilization • Moon Lake Outlet Modification 	<ul style="list-style-type: none"> • Sec. 207(b)– Water Management Improvement Plan • Sec. 207(b)(5)– Water Conservation Credit Program • Sec. 207(c)– Water Conservation Pricing Study • Sec. 207(d)– Study of Coordinated Operations • Sec. 207(f)– Utah Water Conservation Advisory Board • Sec. 206– Local Development in Sanpete, Garfield, and Piute Counties 	<ul style="list-style-type: none"> • Diamond Fork Creek • Provo River and Utah Lake • Duchesne and Strawberry Rivers • Statewide Fish, Wildlife, and Recreation Enhancement • Fish, Wildlife, and Conservation 	<ul style="list-style-type: none"> • Ute Indian Water Rights Settlement

Note:
¹Alternate system to the I&D System. Authorized in CUPCA, Section 202(a)(1)(B).

CENTRAL UTAH PROJECT COMPLETION PROGRAM

Chapter 3

October 2004

This chapter presents the benefits of the Bonneville Unit. The monetary benefits developed in this chapter are used in the benefit-cost analysis in Chapter 5.

PROJECT PURPOSES SERVED

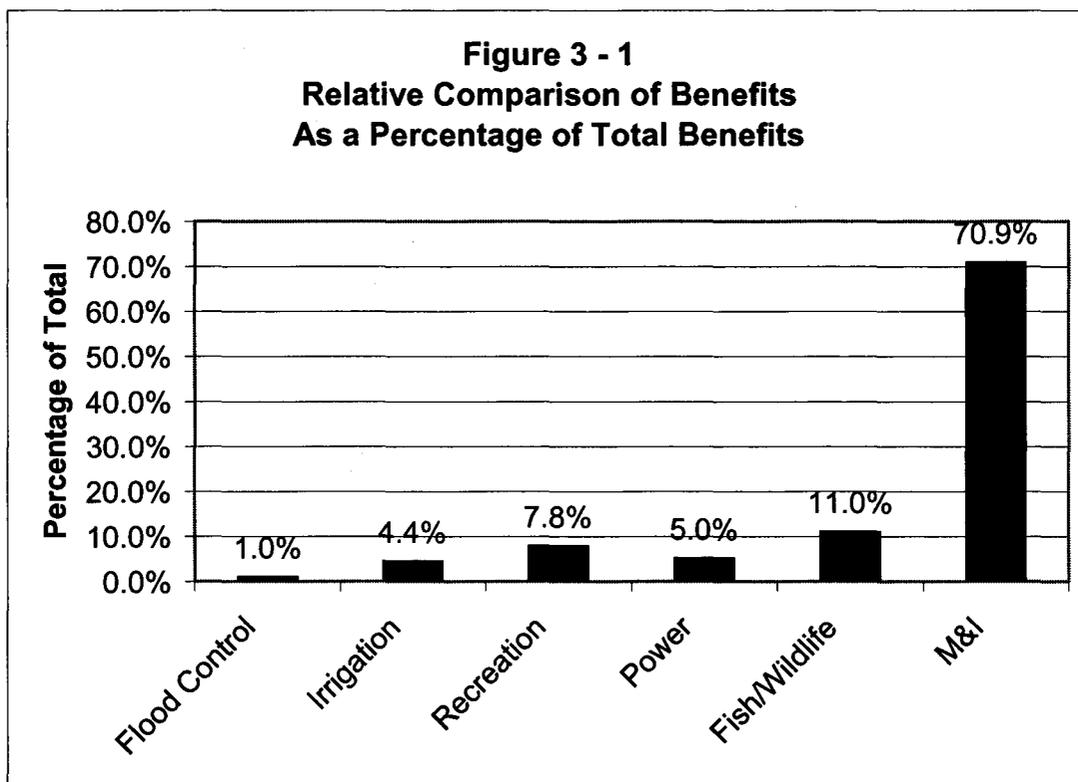
The Bonneville Unit is a multipurpose project that will provide benefits of various kinds including both monetary and non-monetary benefits. In Table 3-1: Types of Benefits Provided by the Bonneville Unit, the benefits that were estimated monetarily are indicated by the word "Yes" in the last column of the table. Only the monetary benefits are used in the economic analysis.

Benefit Category	Physical Accomplishment	Expressed Monetarily
Irrigation Water	Irrigation water developed for acreage in Utah, Wasatch, Duchesne, and Summit Counties.	Yes
M&I Water	M&I water developed for use in Salt Lake, Utah, Wasatch, and Duchesne Counties.	Yes
Fishery flow water	Water for release to various Uinta Basin streams to maintain the trout fishery.	No
Other instream flows	Minimum flows maintenance in the Provo River, Diamond Fork Creek, and Spanish Fork River	No
Flood Control	Protection of property and public safety around Utah Lake and along the Duchesne, Provo, Spanish Fork, and Jordan Rivers.	Yes
Fish and Wildlife Enhancement	Increased fishing at reservoirs and streams with improved flows.	Yes
Recreation	Increased recreation at project reservoirs.	Yes
Highway Improvement	Upgrades at project storage reservoirs.	No
Water Quality	Water quality improvement in Diamond Fork Creek.	No
Water Conservation	Conservation of irrigation and M&I water throughout the Bonneville Unit area	Yes
Power	Hydro-electric power generation at the Sixth Water and Upper Diamond Fork sites for delivery to the CRSP power system	Yes

Please note that benefits were not calculated for in-stream flows. Also, highway improvement costs are deducted from total project costs when calculating the benefit cost ratio, therefore they do not affect the benefit – cost ratio. In addition, there may be some unclaimed benefits from improved water quality in Diamond Fork Creek.

The economic analysis is based on direct benefits only. Indirect benefits (secondary or tertiary benefits) will result from sources such as added employment in the various agricultural areas, increased tax base, and other aspects of economic improvement. Tables 2-1, 2-2, and 2-3 presented previously in Chapter 2 summarizes the irrigation and M&I water provided by the Bonneville Unit through its various systems. Included in the water supply is water for fishery flows in the 1980 Stream Flow Agreement. Other in-stream flows provided through Bonneville unit operation are not included because they do not provide an exclusive water supply, but are an adaptation of Bonneville Unit operation. Water conserved by the Bonneville Unit's Section 207 Water Conservation Credit Program is not included in the project water supply, but is accounted for separately in the benefit analysis.

Most of the monetary benefits are created by the M&I water supply developed through facilities of the Bonneville Unit. Figure 3-1: Relative Comparison of benefits as a percentage of total benefits provided by the Bonneville Unit lists the benefits for the Bonneville Unit as they have been developed in this chapter.



IRRIGATION BENEFITS

In addition to irrigation water already provided in Duchesne, Wasatch, and Summit Counties, the Bonneville Unit will provide temporary irrigation water in southern Utah County. Additionally, the Bonneville Unit will, in effect, increase the irrigation water supply through water conservation in all these areas as provided in Section 207 of CUPCA. A summary of irrigation benefits for each block of delivered and conserved irrigation water is shown in Table 3-2: Irrigation Benefits (Water Supply and Conservation).

	Duchesne	Heber - Francis	Southern Utah County	UBRP	Section 207	Total
Direct Benefits						
Water Supply (AF)	24,400	15,100	14,400	2,500		56,400
Irrigation Benefit	\$62	\$82	\$115	\$62	\$50	
Direct Benefit Sub-Total:	\$1,512,800	\$1,238,200	\$1,656,000	\$155,000		\$4,562,000
Water Conservation Irrigation Benefits						
Irrigation Benefit in Water Conservation						\$50
A. WCWEP						
Water Supply		23,658				23,658
Benefit		\$1,182,900				\$1,182,900
B. UBRP						
Water Supply				5,300		5,300
Benefit				\$265,000		\$265,000
C. Section 207 (Project Wide)						
Water Supply					9,611	9,611
Benefit					\$480,550	\$480,550
Water Conservation Benefits Sub-Total:	\$0	\$1,182,900	\$0	\$265,000	\$480,550	\$1,928,450
Total Annual Irrigation Benefits (Direct + Water Conservation):	\$1,512,800	\$2,421,100	\$1,656,000	\$420,000	\$480,550	\$6,490,450
Notes						
1. Temporary irrigation benefits are based on the irrigation portion of the expected deliveries of irrigation and M&I water to Southern Utah County over 100 years under Block Notice 7B. A present value analysis of these streams of deliveries resulted in 14,400 AF of the block notice being allocated to irrigation.						
2. Per acre-foot benefits for irrigation water conserved under Section 207 are specified in the act at \$50 per acre-foot.						

Methodology for Updated Irrigation Benefits

The project plan has evolved over the years resulting in a shift from irrigation to M&I water. As a result, irrigation water makes up a relatively small part of the Bonneville Unit project water supply. Because of the comparatively minor role of irrigated agriculture in the project, conducting a farm budget analysis for the purpose of this analysis was determined not to be cost-effective.

Per-acre-foot irrigation benefits were adopted from the 1988 draft DPR and applied to irrigation water supplies of the current plan. Irrigation benefits were not indexed to current price levels because of uncertainty regarding prices for agricultural farm products which may have not kept pace with production expenses. Anything short of a full farm budget analysis, which would take into account increases in efficiency over time, would not give an accurate estimate of irrigation benefits. It was concluded that per-acre-foot irrigation benefits from the 1988 report were the best estimates available. Irrigation benefits for the Uinta Basin Replacement Project were taken from studies conducted in 1996 for the Section 203 (a) Final Feasibility Study, dated October 2001. Based upon these sources, the irrigation water supply benefits used in this study are: \$62 per acre-foot in the Uinta Basin; \$82 per acre-foot in the Heber/Francis area; and \$115 per acre-foot in southern Utah County. (See Table 3-2: Irrigation Benefits.)

In Table 3-2, the 20,000 acre-foot block of temporary irrigation water is represented by a smaller quantity (14,400 acre-feet). The following describes why the lesser amount is used here and in the cost allocation in Chapter 6 of this Appendix.

The ULS provides a block of 30,000 acre-feet to southern Utah County. This water will not be available to the cities in southern Utah County for M&I use until portions of the Spanish Fork – Santaquin Pipeline are completed. Moreover, the cities may elect to invoke a deferral of up to ten year on the delivery of water under the Water Supply Act of 1958. As a result, there will continue to be an opportunity for delivery of temporary irrigation water to southern Utah County until approximately 2025. Delivery of a portion of this temporary irrigation water to southern Utah County began in 1992.

Under this arrangement, the 30,000 acre-feet of water for M&I purposes for southern Utah County will actually serve two purposes. For nearly 35 years, it will have been delivered for irrigation and then it will be delivered for M&I purposes for at least the life of the delivery facilities. To reflect this dual use of this project water, the 30,000 acre-feet has been distributed between irrigation and M&I for purposes of the calculation of benefits and the allocation of costs.

A present value analysis is presented in Chapter 6 in Table 6-15: Distribution of 30,000 Acre-Foot for Southern Utah County (Block Notice 7B). Table 6-15 shows the expected deliveries to irrigation and M&I from 1992 to 2115 (the end of the expected 100-year life of the Spanish Fork – Santaquin Pipeline). When the streams of deliveries to irrigation and M&I are discounted (using the project interest rate of 3.222 percent), 47.97 percent of the discounted deliveries are

made to irrigation and 52.03 percent are made to M&I. These percentages allow the 30,000 acre-foot block of water to be distributed among irrigation (14,400 acre-feet) and M&I (15,600 acre-feet). As a result, for this analysis, Block Notice 7B is divided into a 14,400 acre-foot irrigation block (IRR ULS (S. Utah County)) and two M&I blocks totaling 15,600 acre-feet (M&I BN 7B (3,000 AF - S. Utah County)) and M&I BN 7B (27,000 AF – S. Utah County)). This approach appropriately weights the two uses of this single block of water.

In addition to the irrigation water supply benefit, conservation of irrigation water under Section 207 of CUPCA produces monetary benefits. The value of irrigation benefits is set under Section 207 at no greater than \$50. The benefits attributed to the conservation of irrigation water are presented in Table 3-2. The benefits attributed to the conservation of irrigation water are discussed in more detail later in this chapter under Water Conservation Benefits.

M&I WATER SUPPLY BENEFITS

M&I water is already provided from Bonneville Unit facilities. Annual water deliveries of 94,750 acre feet of Bonneville Unit M&I water are currently under contract to the District. With the completion of ULS features the Bonneville Unit will provide an additional 60,000 acre-feet of M&I water in Salt Lake County and southern Utah County. The UBRP will provide 3,000 AF to Duchesne County. The water will provide for the needs of a growing population, as estimated by the State of Utah.

M&I benefits are realized from the increase in water quantity and improvements in quality, dependability, and physical convenience to residential, commercial, and industrial water users.

M&I benefits are determined by estimating the cost of the most likely, least-cost alternate means of producing the same amount and quality of water for delivery to the same area in the absence of the proposed water supply project (in this case, the Bonneville Unit). The alternative must be a viable alternative that is both politically and financially feasible. Non-federal interest rates are used when estimating M&I alternatives. This approach is based on the recognition that M&I needs for a growing population will be met by society in the next most cost-effective manner.

The single-purpose M&I alternative for this study is based on the features in the single-purpose M&I alternative used in the 1988 Bonneville Unit DPR and 1998 SFN System reports with adjustments that reflect changes in the Bonneville Unit project plan. In addition, this study relies on water recycling/reverse osmosis plants as part of the alternative. The sizes, capacities, and amount of water were updated to match the current plan. The costs were also adjusted accordingly, and then indexed to current price levels using the USBR construction cost indices for the years involved. (See Chapter 8, Attachment C.) Table 3-3: M&I Benefits shows how the single-purpose M&I project cost was used to calculate the annual M&I water benefit used in the analysis. Table 3-4: Municipal and Industrial Water Single Purpose Alternative shows the costs for the components of this single-purpose M&I alternative.

TABLE 3-3 M+I Benefits (Water Supply and Conservation)	
Water Supply Benefits	Total
Investment Costs	
Construction of Single Purpose M&I Alternative	\$1,312,196,000
Interest During Construction	\$114,094,000
Investment Cost Sub-Total:	\$1,426,290,000
Annual Benefits	
Annual Investment Cost (Amortized for 50 Years @ 5.5 Percent)	\$84,238,756
Annual OM&R Cost	\$16,669,000
Annual Benefit from Single-Purpose Alternative	\$100,907,756
Adjustment for Temporary Use of 14,400 AF as Irrigation Water	(\$1,656,000)
Net Annual Benefit	\$99,251,756
Conservation Benefits	Total
Annual Benefits	
Conservation Water Supply (Acre-Feet)	28,832
Conservation Benefit @ \$200.00	\$5,766,400
Total Benefits	
Total (Water Supply Benefit + Conservation Benefit)	105,018,156

TABLE 3-4 Municipal and Industrial Water - Single Purpose Alternative								
Feature	Unit of Measure	Capacity or Size	Present Work Unit Costs (\$/AF)	Construction Cost	Construction Period (Years)	Interest During Construction (@ 5.5%)	Unit Annual O&M (\$AF)	Total Annual OM&R
Bonneville Unit (Single-Purpose M&I Alternative)								
M&I features for delivery of 3,500 acre-feet of M&I water to Duchesne and replacement water to irrigators whose water supply was diverted to the Wasatch Front for M&I purposes								
1. Starvation Dam ¹	Acre-Feet	66,000		\$31,263,000	4	\$2,923,000		\$126,000
M&I Features for delivery of 2,400 acre-feet of M&I water to Wasatch County, 70,000 acre-feet to Salt Lake County, and 20,000 acre-feet to northern Utah County.								
1. Rock Creek - South Fork Provo River Aqueduct ¹	CFS	250 - 280		\$202,327,000	4	\$18,918,000		\$282,000
2. Upper Stillwater Dam ¹	Acre-Feet			\$161,260,000	6	\$15,743,000		\$269,000
3. Jordanelle Dam ¹	Acre-Feet			\$429,717,000	6	\$41,951,000		\$150,000
4. Jordan Aqueduct System ¹	CFS			\$125,118,000	4	\$11,699,000		\$270,000
Sub-Total:				\$918,422,000		\$88,311,000		\$971,000
M&I features for delivery of 30,000 acre-feet to Salt Lake County								
1. Water Recycling Plant ²	Acre-Feet	15,000	\$3,500	\$52,500,000	2	\$3,609,000	\$225	\$3,375,000
2. Reverse Osmosis (RO) Plant ³								
(a) Phase 1 (8,000 Acre-Foot RO Plant)	Acre-Feet	8,000	\$3,500	\$28,000,000	2	\$1,925,000	\$185	\$1,480,000
(b) Phase 2 (7,000 Acre-Foot RO Plant)	Acre-Feet	7,000	\$5,000	\$35,000,000	2	\$2,406,000	\$241	\$1,687,000

TABLE 3-4 Municipal and Industrial Water - Single Purpose Alternative (continued)								
Feature	Unit of Measure	Capacity or Size	Present Work Unit Costs (\$/AF)	Construction Cost	Construction Period (Years)	Interest During Construction (@ 5.5%)	Unit Annual O&M (\$AF)	Total Annual OM&R
3. Secondary System for Recycled Water ⁴	Acre-Feet	15,000	N/A	\$22,000,000	2	\$1,513,000	\$50	\$750,000
Sub-Total:				\$137,500,000		\$9,453,000		\$7,292,000
M&I features for delivery of 30,000 acre-feet to southern Utah County								
Water Recycling								
(a) Purchase of Utah Lake water rights to firm up water supply ⁵	Acre-Feet	15,000	\$2,000	\$30,000,000	N/A			
(b) Regional Water Recycling Plant (including Collection Pipe Network) ⁶	Acre-Feet	30,000	\$4,400	\$132,000,000	2	\$9,075,000	\$225	\$6,750,000
(c) Secondary Water System to Distribute Recycled Water ⁷	Acre-Feet	30,000	\$1,200	\$36,000,000	2	\$2,475,000	\$50	\$1,500,000
Sub-Total:				\$198,000,000		\$11,550,000		\$8,250,000
Total Bonneville Unit:				\$1,285,185,000		\$112,237,000		\$16,639,000
Uinta Basin Replacement Project (UBRP)								
1. Enlargement of Big Sand Wash Dam and Reservoir ⁸	Acre-Feet	12,000		\$17,009,000		\$1,169,000		\$20,000
2. Big Sand Wash - Roosevelt Pipeline ⁸	Acre-Feet	6,908		\$10,002,000		\$688,000		\$10,000

**TABLE 3-4
Municipal and Industrial Water - Single Purpose Alternative
(continued)**

Feature	Unit of Measure	Capacity or Size	Present Work Unit Costs (\$/AF)	Construction Cost	Construction Period (Years)	Interest During Construction (@ 5.5%)	Unit Annual O&M (\$AF)	Total Annual OM&R
Total UBRP:				\$27,011,000		\$1,857,000		\$30,000
Total - Single Purpose Alternative (Bonneville + UBRP):				\$1,312,196,000		\$114,094,000		\$16,669,000

1. Information is contained in the Bonneville Unit, Draft Financial and Economic Appendix, dated March 1998. Indexed to current prices.
2. Information was obtained from the Jordan Valley Water Conservancy District, August 2003.
3. Rate of \$3,500 per acre-foot is based on actual construction costs for water recycling plants in the City of Phoenix. Annual O&M for these completed plants is \$225 per acre-foot.
4. Information was obtained from the Jordan Valley Water Conservancy District, September 2003.
5. Information is based on the current market value for Utah Lake water rights in Salt Lake County and Utah County.
6. Information is contained in "Wastewater Regionalization Feasibility Study" for South Utah Valley Municipal Water Association, October 2001.
7. Information is based on representative costs of other secondary water systems in Utah County.
8. Information is taken from the Section 203 (a) Uinta Basin Replacement Project Final Feasibility Study, dated October 2001.

Application of this approach to the Bonneville Unit resulted in the formulation of a single-purpose M&I water alternative project that would provide 157,750 acre feet of M&I water. The development of such a large water supply under this single-purpose M&I alternative required reliance on a variety of sources of water. The alternative utilizes a water right that Salt Lake City has in Rock Creek and includes some Bonneville Unit Features, although in different sizes. A portion of M&I water for users in Salt Lake, northern Utah County, and Wasatch Counties could be developed from Rock Creek in the Uinta Basin through an aqueduct with a tunnel to the South Fork Provo River. A reservoir similar to Upper Stillwater Reservoir would regulate diversions into the tunnel. A reservoir similar to Starvation Reservoir would provide irrigation replacement water to irrigators in the Duchesne area in exchange for water diverted to M&I use and would supply M&I water to the community of Duchesne, Utah. The remaining M&I demand in Salt Lake County would be met through recycling of the return flows from wastewater treatment plants and reverse osmosis treatment of water from Utah Lake.

M&I water for southern Utah County would be provided by the construction of a culinary water system and by exchange of water rights purchased in Utah Lake. In addition, a regional water recycling plant and a secondary delivery system would be required. The M&I water provided by UBRP could be provided by enlarging Big Sand Wash Reservoir and constructing a pipeline similar to the Roosevelt Pipeline.

As shown on Table 3-3, most of the Bonneville Unit M&I water supply benefit is represented by the single-purpose M&I water supply project. M&I water conserved under Section 207 has a value of \$200 per acre foot, which value is established in Section 207. Consequently, the total value of the water conserved in Table 3-3 is \$5.8 million. The benefits attributed to the conservation of M&I water are discussed in more detail later in this chapter under Water Conservation Benefits.

It is important to note that in developing costs for alternative facilities (used to estimate both M&I and power benefits) a market interest rate of 5.5 percent was applied. This rate reflects the rates that would be faced in commercial markets and differs from the project planning and repayment rates as well as the P&G rate.

POWER BENEFITS

Power benefits would be generated from two power plants located in the Diamond Fork drainage. The Sixth Water power generating plant would have an installed capacity of 45 megawatts and would be located between the Sixth Water Aqueduct and Tanner Ridge Tunnel. The Diamond Fork power generating station would have an installed capacity of 5 megawatts and would be located between the Upper Diamond Fork Pipeline and the Upper Diamond Fork Tunnel. Long-term average annual net energy for the two power plants is estimated at 165,157,975 kwh.

Power benefits were developed for the two project power plants by the Economics Group of the U.S. Bureau of Reclamation, located in Denver, Colorado. Power values are detailed in a memorandum dated November 7, 2003, included as Attachment D of this F&E Appendix. The

power values were developed by considering the costs of an alternative source for developing an equivalent quantity of power; the alternative source is a coal-fired base load power plant and transmission connection. In considering this alternative, it was assumed that it would be developed by the private sector (without federal funding) and that it would be financed at 5.5 percent. Capacity costs for a coal-fired plant were estimated to be \$187 per kilowatt. These plants operate about 65% of the hours in a year. Therefore, the capacity costs for coal fired plants expressed on a kilowatt-hour basis are 32.8 mils/kwh. Energy costs for operating the coal-fired plant were estimated at 12.5 mils/kwh. The composite value for both capacity and energy is 45.3 mils/kwh. Power benefits are estimated at \$7.5 million annually and are detailed in Table 3-5: Power Benefits.

	Unit of Measure	Sixth Water Power Plant	Upper Diamond Fork Power Plant	Total
Capacity				
Installed Capacity	kw	45,000	5,000	50,000
Energy				
Annual Net Energy	kwh	134,284,298	30,873,667	165,157,965
Composite Power Value	mils/kwh	45.3	45.3	
Total Power Benefits	\$	\$6,083,079	\$1,398,577	\$7,481,656

FLOOD CONTROL BENEFITS

Flood control benefits are based on estimates made by the Army Corps of Engineers (ACE) at various times for facilities of the Bonneville Unit. The benefits shown in the 1988 DPR have been indexed to the 2004 price level using Bureau of Reclamation construction cost indices. Flood control benefits include: 49,500 acre-feet of capacity in Jordanelle Reservoir that is dedicated exclusively to flood control; 10,000 acre-feet of capacity in Jordanelle that, under ACE criteria, must be evacuated for flood control based on the flood forecast; and 3,000 acre-feet of capacity in Starvation Reservoir that, also under ACE criteria, must be evacuated for flood control based on the flood forecast. Benefits from these sources of flood control are estimated to be the average cost of storage in these reservoirs. This is considered to be conservative estimate of the value of storage for flood control in that it assumes that benefits would be at least equal to costs. Table 3-6: Flood Control Benefits shows the computation of flood control benefits for the Bonneville Unit. (In Chapter 6 of this appendix, costs are allocated to flood control only in the case of the dedicated flood control capacity in Jordanelle. Costs are not allocated to the occasional evacuation of 3,000 acre-feet in Starvation and 10,000 acre-feet in Jordanelle.)

**TABLE 3-6
Flood Control Benefits**

Feature	Reservoir Capacity (Acre-Feet)	Benefit (2004)
Starvation Reservoir		
A. Flood Damage Control		\$7,201
B. Reservoir Capacity	3,000	\$16,000
Sub-Total:		\$23,201
Jordanelle Reservoir		
A. Flood Damage Control		\$705,046
B. Reservoir Capacity	10,000	\$345,000
Sub-Total:		\$1,050,046
Utah Lake		\$302,193
Jordan River		\$41,842
Total:		\$1,417,282

FISH AND WILDLIFE BENEFITS

Fish and wildlife benefits are based on visits to Bonneville Unit features for fishing, measured in angler-days (a one-day visit by one person). The angler days for fishing at Bonneville Unit facilities were developed for the 1988 Supplement to the DPR through consultation with the U.S. Fish and Wildlife Service and other professionals in the field. Table 3-7: Fish and Wildlife Benefits shows the number of angler-days for each reservoir or stream in the project, and the associated annual benefit value.

Benefit values for fish and wildlife visitations were computed from the 2001 National Survey of Fishing, Hunting, and Wildlife Associated Recreation for Utah (March 2003) prepared by the Fish and Wildlife Service, U.S. Department of the Interior, and the U.S. Department of Commerce. This publication reported an average trip expenditure of \$33.00 per angler-day spent fishing in Utah. A 2004 angler-day value of \$35.35 was computed by indexing the \$33.00 angler-day value using the October 2004 Consumer Price Index (CPI).

The number of angler days for each Bonneville Unit facility is consistent with the 1988 Supplement to the DPR. However, the 1988 Supplement's estimated angler days in Diamond Fork have been adjusted to account for the fact that Monks Hollow Dam and Reservoir will not be constructed. Angler-day estimates have been added for the UBRP project as shown in Table 3-7. Additional angler-days would be realized on the lower Provo River as a result of water conveyed through facilities of the ULS project. Angler-days are included for publicly accessible reaches of the Spanish Fork River that benefit from increased flows under the Bonneville Unit.

**TABLE 3-7
Fish and Wildlife**

Feature	Number of Angler Days			Value Per Day	Total Annual Benefit
	Without Project	With Project	Project Increase		
Bonneville Unit					
Upper Stillwater Reservoir	0	14,200	14,200	\$35.35	^a \$501,970
Midview Reservoir	3,000	21,000	18,000	\$35.35	\$636,300
Starvation Reservoir	0	26,500	26,500	\$35.35	\$936,775
Currant Creek (above Reservoir)	500	2,500	2,000	\$35.35	\$70,700
Currant Creek Reservoir	0	47,500	47,500	\$35.35	\$1,679,125
Strawberry Reservoir	207,600	300,000	92,400	\$35.35	\$3,266,340
Upper Provo Reservoirs	135,000	200,000	65,000	\$35.35	\$2,297,750
Jordanelle Reservoir		90,700	90,700	\$35.35	\$3,206,245
Sixth Water Creek	906	12,111	11,205	\$35.35	\$396,097
Diamond Fork River	1,402	20,703	19,301	\$35.35	\$682,290
Spanish Fork River (below confluence w/ Diamond Fork)	4	7,088	7,084	\$35.35	\$250,419
Lower Provo River	127,958	164,300	36,342	\$35.35	\$1,284,690
Total Fishing Benefits Bonneville Unit			430,232		\$15,208,701
Uinta Basin Replacement Project					
Stabilization of High Mountain Lakes					^b \$403,700
Instream Flows					
Moon Lake Reservoir to Big Sand Wash Feeder Diversion			7,300	\$35.35	\$258,055
Yellowstone River to the Confluence of the Lake Fork River			6,000	\$35.35	\$212,100
Big Sand Wash Reservoir Enlargement			5,000	\$35.35	\$176,750
Total Fishing Benefits UBRP			\$18,300		\$1,050,605
Project Total					\$16,259,306
^a The \$35.35 was computed from the 2001 Nation Survey of Fishing, Hunting and Wildlife Associated Recreation Utah, March 2003, published by the Department of the Interior and Department of Commerce. The amount was indexed from \$33.00 using the October 2004 CPI.					
^b Indexed from \$367,000 using the October 2004 CPI.					

When the \$35.35 value is applied to the total increase in angler-days provided by the project, the fishing benefit is \$16.3 million annually. Upland game hunting benefits have not been included in this analysis because changes in the project plan shifted project water from irrigation to M&I and, therefore, the anticipated increase in cover for upland game on irrigated lands in Juab and southern Utah Counties will not be realized.

RECREATION BENEFITS

Recreation benefits measure the value to non-fishermen and non-hunters of using project facilities for vacations, boating, water skiing, hiking, horseback riding, and other outdoor activities. The demand for this type of activity is increasing rapidly, and available facilities are becoming scarce. Benefits for these activities were indexed to a current price level from values shown in the 1988 DPR using the CPI. Table 3-8: Recreation Benefits shows the location, number of recreation days, and the value of recreation benefits at each Bonneville Unit facility that provides new recreation opportunities. The total annual recreation benefit is \$11.5 million as shown in Table 3-8.

Feature	Recreation Days	Value	Total Annual Benefit
Upper Stillwater Reservoir	40,200	\$8.27	\$332,454
Currant Creek Reservoir	41,500	\$8.27	\$343,205
Strawberry Reservoir	694,000	\$8.27	\$5,739,380
Starvation Reservoir	56,000	\$8.27	\$463,120
Jordanelle Reservoir	475,000	\$8.27	\$3,928,250
Upper Provo River Lakes (New)	16,500	\$8.27	\$136,455
Upper Provo River Lakes (Enhanced)	45,700	\$1.25	\$57,125
Diamond Fork System	60,400	\$8.27	\$499,508
Total:	1,429,300		\$11,499,497

WATER CONSERVATION BENEFITS

Section 207 of CUPCA directs the District to investigate potential means to conserve water, and to develop the measures that are found to be cost-effective. Section 207 (b) (2) (B) (i) specifies that the evaluation of water conservation benefits shall take the following factors into account:

"the value of saved water, to be determined, in the case of municipal water, on the basis of the project municipal and industrial repayment obligation of the District, but in no case less than \$200 per acre-foot, and, in the case of irrigation water, on

the basis of operation, maintenance, and replacement costs plus the 'full cost' rate for irrigation...but in no case less than \$50 per acre-foot."

In accordance with the statute, these values were used for conserved water benefits.

The water conservation goal for the District, as required by CUPCA Section 207 (b) (1) (A), is 62,100 acre-feet. Of this amount 23,658 acre-feet will be conserved by the Wasatch County Water Efficiency Project (WCWEP), and the remaining 38,442 acre-feet will be conserved by other projects. In order to calculate the benefits associated with this additional 38,442 AF, the quantity has been divided between irrigation conservation and M&I conservation in the proportions that will be expected from current and proposed future projects. (The District has received funding requests from local agencies for a variety of water conservation projects dispersed throughout the Bonneville Unit.)

The cost allocation in Chapter 6 distributes total Section 207 expenditures with 40 percent going to irrigation and 60 percent going to M&I. This allocation reflects the expected distribution of Section 207 projects after they are awarded and constructed. The Section 207 portion of WCWEP was entirely an irrigation project. As a result, when WCWEP is deducted from Section 207 projects, the remainder is skewed toward M&I. In calculating conservation benefits, the non-WCWEP projects are allocated 25 percent to irrigation and 75 percent to M&I. This distribution reflects the affect of removing such a large irrigation project from the Section 207 pool.

Applying the 25/75 distribution between irrigation and M&I to the quantity of non-WCWEP conserved water (38,442 acre-feet) results in 9,611 acre-feet allocated to irrigation benefits and 28,832 acre-feet allocated to M&I benefits. Please note that, in addition to the 62,100 acre-feet of water conservation in the Bonneville Basin, 5,300 acre-feet of irrigation water is conserved by UBRP.

A complete summary of water conservation benefits is presented in Table 3-9: Water Conservation Benefits on the next page. Please note that the benefits of conserving irrigation and M&I water are included in the irrigation and M&I water benefits categories (Tables 3-3 and 3-4).

TOTAL MONETARY BENEFITS

Table 3-10: Annual Project Benefits for Determining B/C Ratio summarizes the monetary project benefits that will be used to determine the benefit-cost ratio in Chapter 5 of this appendix. The benefits presented in this chapter are based on current estimates. The water conservation and possibly other benefits will probably change to some degree as the Bonneville Unit is fully implemented.

	Acre- Feet	Benefit (\$/AF)	Irrigation Sub-Total	M&I Sub-Total	Total
Bonneville Unit Conservation					
Wasatch County Water Efficiency Project	23,658	\$50.00	\$1,182,900		\$1,182,900
Irrigation (25 Percent of Non-WCWEP Conservation)	9,611	\$50.00	\$480,550		\$480,550
M&I (75 Percent of Non-WCWEP Conservation)	28,832	\$200.00		\$5,766,400	\$5,766,400
Total - Bonneville Unit	62,101				\$7,429,850
Uinta Basin Replacement Project Conservation					
Uinta Basin Replacement Project	5,300	\$50.00	\$265,000		\$265,000
Total - Bonneville + Uinta Basin Replacement:	67,401				\$7,694,850

	Area	Acre-Feet	Benefit/AF	Total
Irrigation				
Block Notice 1	Duchesne County	21,400	\$62.00	\$1,326,800
Block Notice 1A	Summit County	3,000	\$82.00	\$246,000
Block Notice 1A	Wasatch County	12,100	\$82.00	\$992,200
Block Notice 1B	Duchesne County	3,000	\$62.00	\$186,000
Temporary Irrigation Water	Southern Utah County	14,400	\$115.00	\$1,656,000
Block Notice UBRP 1	Duchesne County	2,500	\$62.00	\$155,000
WCWEP Water Conservation		23,658	\$50.00	\$1,182,900
UBRP Water Conservation		5,300	\$50.00	\$265,000
Other Water Conservation		9,611	\$50.00	\$480,550
Irrigation Sub-Total:				\$6,490,450
M&I				
Water Supply				\$99,251,756
Other Water Conservation				\$5,766,400
M&I Sub-Total:				\$105,018,156
Power				\$7,481,656
Fish and Wildlife				\$16,259,306
Recreation				\$11,499,497
Flood Control				\$1,417,282
Total:				\$148,166,347

CENTRAL UTAH PROJECT COMPLETION PROGRAM

Chapter 4

October 2004

INTRODUCTION

This chapter presents the Bonneville Unit costs used in the economic and financial analysis. Costs included in the economic and financial analysis consist primarily of the following:

- Construction costs
- Interest during construction (IDC)
- Operation, maintenance, and replacement (OM&R) costs
- Cost of Colorado River regulatory facilities of the CRSP.

The costs in these categories are used to determine the benefit - cost ratio (in Chapter 5), allocate costs among project purposes (in Chapter 6) and determine responsibility for repayment of reimbursable federal costs (in Chapter 7). Some of the costs may be used for one determination but not others. The cost associated with Colorado River main-stem reservoirs is used in the benefit - cost ratio, but not in the cost allocation or repayment analysis. Construction and IDC costs are considered to be investment costs. The OM&R and the CRSP regulatory facilities costs are annual costs.

Section 204 of CUPCA requires local cost sharing; the construction costs for the CUPCA portion of the project do not come entirely from the federal treasury. The costs funded through local cost sharing are considered construction costs and are included in the benefit-cost analysis. The obligation to pay local share is a responsibility of the District.

OM&R costs associated with reimbursable project purposes will, for the most part, be allocated to and paid by irrigation, M&I and power users. OM&R costs allocated to non-reimbursable purposes will be the responsibility of the operating agency or the federal agency responsible for the non-reimbursable purposes.

SOURCES OF COSTS USED IN BONNEVILLE UNIT ANALYSIS

Table 4-1: Sources of Bonneville Unit Costs lists the sources of the cost data and provides a brief explanation of items the nature of which may not be clear from their names.

TABLE 4-1		
Sources of Bonneville Unit Costs		
Feature	Description and Source of Construction Cost Estimate	Source of OM&R Cost
USBR SECTION 5 COSTS		
USBR Section 5 - Starvation Collection System		
Starvation Dam	Actual cost from USBR PF-2B dated October 14, 2004	Designs and Estimates (D&E) Appendix
Duchesne Canal Rehabilitation	Actual cost from USBR PF-2B dated October 14, 2004	NA
Taylor Canal Drains	Actual cost from USBR PF-2B dated October 14, 2004	NA
USBR Section 5 - Strawberry Collection System		
Upper Stillwater Dam	Actual cost from USBR PF-2B dated October 14, 2004	D&E Appendix
Currant Creek Dam	Actual cost from USBR PF-2B dated October 14, 2004	D&E Appendix
Soldier Creek Dam/ Strawberry Aqueduct	Actual cost from USBR PF-2B dated October 14, 2004	D&E Appendix
USBR Section 5 - M&I System		
Jordanelle Dam	Actual cost from USBR PF-2B dated October 14, 2004	D&E Appendix
Upper Provo River Reservoirs	Actual cost from USBR PF-2B dated October 14, 2004	D&E Appendix
Jordan, Alpine, and Olmsted Aqueducts	Actual cost from USBR PF-2B dated October 14, 2004	D&E Appendix
USBR Section 5 - Diamond Fork System		
Sixth Water Aqueduct & Syar Tunnel	Actual cost from USBR PF-2B dated October 14, 2004	D&E Appendix
Discontinued Power Investigations	Actual cost from USBR PF-2B dated October 14, 2004. These are power investigations that did not lead to a proposal to construct power facilities.	NA
Diamond Fork Pipeline	Actual cost from USBR PF-2B dated October 14, 2004	NA
Discontinued Investigations for Irrigation and Power Features	Actual cost from USBR PF-2B dated October 14, 2004. CUPCA specifies that discontinued investigation costs are non-reimbursable and non-returnable under Section 201(b)(2)(F)	NA
Service Facilities	Actual cost from USBR PF-2B dated October 14, 2004. These are facilities that will be used for operation of the project.	NA
Jacob Welby Water Rights	Actual cost from USBR PF-2B dated October 14, 2004. These are water rights purchased in Utah Lake to support the Jordanelle Exchange.	NA

TABLE 4-1		
Sources of Bonneville Unit Costs		
(continued)		
Feature	Description and Source of Construction Cost Estimate	Source of OM&R Cost
USBR SECTION 8 Costs		
Recreation Facilities	Actual cost from USBR PF-2B dated October 14, 2004. These are recreation facilities at Bonneville Unit reservoirs.	D&E Appendix
Fish and Wildlife Facilities	Actual cost from USBR PF-2B dated October 14, 2004. These are fish and wildlife mitigation facilities at various locations in the Bonneville Unit.	D&E Appendix
CUPCA SECTION 5 Costs		
Diamond Fork System	Cost estimate contained in CUPCA Office table, titled "Costs by Feature and Section of Act," dated November 1, 2004. This includes the Diamond Fork Pipeline, Diamond Fork Tunnel, and associated facilities.	D&E Appendix
WCWEP and DRP	Cost estimate contained in CUPCA Office table, titled "Costs by Feature and Section of Act," dated November 1, 2004. These are pumping plants and rehabilitated irrigation canals, covering the WCWEP and DRP.	D&E Appendix
UBRP	Cost estimate contained in CUPCA Office table, titled "Costs by Feature and Section of Act," dated November 1, 2004. This is the Uinta Basin Replacement Project which includes the enlarged Big Sand Wash Reservoir and associated facilities.	D&E Appendix
Water Conservation Credit Program	Cost estimate contained in CUPCA Office table, titled "Costs by Feature and Section of Act," dated November 1, 2004. These are funds provided for local water conservation projects and District costs of administering the Section 207 Water Conservation Credit Program.	NA
Special Studies	Cost estimate contained in CUPCA Office table, titled "Costs by Feature and Section of Act," dated November 1, 2004. These are studies related to conjunctive use of surface water and groundwater, Utah Lake salinity control, and Provo River studies authorized by Section 202 of CUPCA.	NA
Local Development	Cost estimate contained in CUPCA Office table, titled "Costs by Feature and Section of Act," dated November 1, 2004. These are funds for grants to eligible counties that elected not to participate in the CUP, as authorized in Sect. 206(b) of CUPCA.	NA
Title V	Cost estimate contained in CUPCA Office table, titled "Costs by Feature and Section of Act," dated November 1, 2004. These are funds for the Ute Indian Rights Settlement authorized in Title V of CUPCA.	NA

TABLE 4-1 Sources of Bonneville Unit Costs (continued)		
Feature	Description and Source of Construction Cost Estimate	Source of OM&R Cost
CUPCA Section 5 - Utah Lake System Features		
Spanish Fork River Flow Control Structure	Cost estimate is from the D&E Appendix. This is a transitional facility between the Diamond Fork System and the Spanish Fork Canyon Pipeline.	D&E Appendix
Sixth Water Power Plant and Transmission Line	Cost estimate is from the D&E Appendix. This is a 45-megawatt power plant located between the Sixth water Aqueduct and the Tanner Ridge Tunnel.	D&E Appendix
Upper Diamond Fork Power Plant and Transmission Line	Cost estimate is from the D&E Appendix. This is a 5-megawatt power plant located between the Upper Diamond Fork Pipeline and the Upper Diamond Fork Tunnel.	D&E Appendix
Spanish Fork – Provo Reservoir Canal Pipeline	Cost estimate is from the D&E Appendix. This facility will convey water from the mouth of Spanish Fork Canyon to the head of the Provo Reservoir Canal Pipeline.	D&E Appendix
Spanish – Santaquin Pipeline	Cost estimate is from the D&E Appendix. This facility will convey water from the mouth of Spanish Fork Canyon to Santaquin.	D&E Appendix
Santaquin – Mona Reservoir Pipeline	Cost estimate is from the D&E Appendix. This facility will convey water from Santaquin to Mona Reservoir for Fish and Wildlife purposes.	D&E Appendix
Mapleton Springville Lateral Pipeline	Cost estimate is from the D&E Appendix. This facility will replace the Mapleton-Springville Lateral and provide supplemental flows to Hobble Creek for the June Sucker.	D&E Appendix
North Utah County Section 207	Cost estimate is from the D&E Appendix. Features that could potentially be constructed under Section 207 funding include the Provo Reservoir Canal Enclosure, portions of the ULS, and other projects.	NA
CUPCA Section 8 Costs		
Title II	Cost estimate contained in CUPCA Office table, titled “Costs by Feature and Section of Act,” dated November 1, 2004. These costs are for miscellaneous environmental elements in Title II of CUPCA.	NA
Title III	Cost estimate contained in CUPCA Office table, titled “Costs by Feature and Section of Act,” dated November 1, 2004. These are costs of various fish and wildlife mitigation and enhancement actions authorized in Title III of CUPCA.	D&E Appendix
Title IV Mitigation and Conservation	Cost estimate contained in CUPCA Office table, titled “Costs by Feature and Section of Act,” dated November 1, 2004. These are the capitalized value of contributions to the Mitigation and Conservation Account by the State of Utah, District, and the federal government during an 8-yr period ending prior to CUP completion, required in Section 402 of CUPCA.	NA

CONSTRUCTION COST

Construction cost is defined as the cost of planning, designing, and constructing project facilities, obtaining necessary land and water rights, and other investments needed to bring a project to full operational status.

Construction of the Bonneville Unit is based on two Congressional authorizations that differ in their requirements for cost sharing and repayment. The Bureau of Reclamation (USBR) initiated construction in 1965 under the Colorado River Storage Project Act (PL 84 - 485) (CRSPA) which authorized full federal funding. In 1992, CUPCA authorized the District to complete the Bonneville Unit and added local cost sharing provisions. Consequently the Bonneville Unit construction costs are divided into two categories, which have been termed "USBR Costs" and "CUPCA Costs" for this analysis. The cost categories are defined as follows:

USBR Costs. These are federal expenditures for facilities authorized under P.L. 84-485 of 1956, as amended by P.L. 92-370 and P.L. 100-563. All of the USBR facilities are substantially complete.

CUPCA Costs. These are expenditures authorized under CUPCA for the Bonneville Unit completion program. These costs have and will continue to be funded through federal and non-federal cost sharing. The District is the lead construction agency.

USBR Costs

The USBR costs are for facilities already constructed under the authority given the Secretary of the Interior under CRSPA. Under this act all costs were one-hundred-percent federally-funded. Expenditures by USBR for previously constructed facilities are divided into two sub-categories-- Sections 5 and 8 of CRSPA under which construction of the CUP was authorized. Section 5 funds are mostly for water supply, water conveyance and hydropower facilities. Section 8 costs are for specific recreation or fish and wildlife facilities. Section 8 fish and wildlife expenditures can be classified as being for enhancement or mitigation.

Section 5 Costs (USBR)

In this cost analysis, Section 5 costs are allocated to all Bonneville Unit purposes (except recreation) that were included as Section 5 purposes in CRSPA. USBR Section 5 costs are summarized in Table 4-2: Section 5 Costs – Bureau of Reclamation. The costs are from the USBR Construction Schedule (Form PF-2B) for the Bonneville Unit, dated October 14, 2004. The PF-2B costs are based on actual costs except on features that, such as Upper Stillwater, still have expenditures remaining. The USBR Form PF-2B's are included in the current Bonneville Unit Designs and Estimates Appendix, Attachment E.

TABLE 4-2
Section 5 Costs - Bureau of Reclamation

Feature	Construction Costs	Interest During Construction (3.125 Percent)	Annual OM&R
STARVATION COLLECTION SYSTEM			
Starvation Dam	\$22,536,505	\$19,457,314	\$126,296
Duchesne Canal Rehab.	\$37,883,920		
Taylor Canal Drains	\$1,798,272		
Subtotal	\$62,218,697	\$19,457,314	\$126,296
STRAWBERRY AQUEDUCT & COLLECTION SYSTEM			
Upper Stillwater Dam	\$247,353,876	\$46,848,947	\$268,700
Current Creek Dam	\$30,303,928	\$10,227,481	\$101,678
Soldier Creek Dam	\$51,708,000	\$7,223,826	\$114,955
Strawberry Aqueduct & Collection System	\$266,036,397	\$64,959,987	\$310,608
Subtotal	\$595,402,201	\$129,260,241	\$795,941
M&I SYSTEM			
Jordanelle Dam	\$356,705,956	\$102,919,569	\$218,565
Upper Provo River Reservoirs	\$7,789,326		\$19,022
Jordan Aqueduct System	\$97,923,050	\$23,540,420	\$150,163
Jacob Welby Water Rights	\$66,865		
Subtotal	\$462,485,197	\$126,459,989	\$387,750
DIAMOND FORK SYSTEM			
Syar Tunnel	\$76,405,796	\$20,607,713	\$27,048
Sixth Water Aqueduct	\$35,664,601	\$10,117,691	\$79,834
Discontinued Power Investigations	\$12,595,512		
Diamond Fork Pipeline	\$2,117,315	\$5,791,688	
Subtotal	\$126,783,224	\$36,517,092	\$106,882
OTHER COSTS			
Irrigation Abandoned Investigations	\$31,432,520		
Service Facilities	\$7,953,111		
Utah Lake Water Rights	\$ 71,036		
O&M Not Associated with Features			\$340,487
Subtotal	\$39,456,667		\$340,487
TOTAL USBR SECTION 5 COSTS	\$1,286,345,986	\$311,694,636	\$1,757,356

Section 8 Costs (USBR)

Funds appropriated under Section 8 of CRSPA are for specific recreation and fish and wildlife facilities. Section 8 states that facilities funded under its authority must be "(1) public recreational facilities on lands withdrawn or acquired for the development of . . . projects, to conserve scenery, the natural, historic and archeological objects and the wildlife of said lands, and to provide for public use and enjoyment of the same and of the water areas created by those projects by such means as are consistent with the primary purposes of said projects; and (2) facilities to mitigate the losses of, and improve conditions for the propagation of fish and wildlife." USBR Section 8 costs are summarized in Table 4-3: Section 8 Costs – Bureau of Reclamation.

Feature	Construction Costs	Interest During Construction (3.125 Percent)	Annual OM&R
Recreation Facilities			
Starvation Reservoir	\$2,304,000		\$221,000
Strawberry Reservoir	\$27,917,700		\$2,772,000
Currant Creek Reservoir	\$3,355,400		\$316,000
Upper Stillwater Reservoir	\$2,584,200		\$193,000
Jordanelle Reservoir	\$25,401,700		\$1,600,000
Lower Stillwater Reservoir	\$1,200		
Upper Provo Reservoirs	\$200		\$96,000
Diamond Fork Recreation	-		\$260,000
Total Recreation:	\$61,564,400	\$0	\$5,458,000
Fish and Wildlife Facilities			
Bottle Hollow	\$1,234,600		
Mitigation Measures	\$22,010,900		
Lower Stillwater Reservoir	\$127,500		
Total Fish and Wildlife:	\$23,373,000	\$0	\$413,000
TOTAL USBR SECTION 8	\$84,937,400	\$0	\$5,871,000

CUPCA Costs

"CUPCA Costs" are the costs of facilities and programs authorized in CUPCA. The costs will be funded through both federal and local sources as specified in the act. Federal funding for Bonneville Unit completion is authorized under the various titles and sections of CUPCA. The federal funds will be divided between Section 5 and Section 8. The funding authorizations in CUPCA specify which costs are to be Section 8 costs.

CUPCA costs will be categorized according to various titles and sections of CUPCA in which funds for the various facilities and programs are authorized. The CUPCA titles and sections involved are explained in the following subsections. Tables 4-4: Section 5 Costs - CUPCA and 4-5: Section 8 Costs - CUPCA summarize, respectively, the CUPCA Section 5 and Section 8 costs that correspond to Titles II, III, IV and V of CUPCA.

TABLE 4-4				
Section 5 Costs - CUPCA				
Feature	Sections of CUPCA	Construction Costs	Interest During Construction (3.125%)	Annual OM&R
Title II				
Utah Lake System	201(a)(1)			
ULS Planning and NEPA (I&D, SFN, ULS)		\$32,659,121		
Spanish Fork Flow Control Structure		\$6,269,158	-	\$30,000
Spanish Fork Canyon Pipeline		\$60,003,743	\$2,343,896	\$20,000
Spanish Fork Provo Reservoir Canal Pipeline		\$91,242,507	\$4,847,258	\$70,000
Spanish Fork - Santaquin Pipeline		\$99,380,508	\$4,192,615	\$40,000
Mapleton Springville Lateral Pipeline		\$28,179,804	\$440,309	\$10,000
Santaquin - Mona Pipeline		\$18,077,632	\$282,463	\$10,000
North Utah County 207 Projects		\$60,000,000	-	-
Sixth water Power Plant		\$33,830,454	\$1,316,815	\$1,850,000
Upper Diamond Fork Power Plant		\$6,793,073	\$105,673	\$316,000
Subtotal ULS Features		\$436,436,000	\$13,529,030	\$2,346,000
Conjunctive Use	202(a)(2)	\$19,854,000	-	-
Wasatch County Efficiency Study	202(a)(3)(A)	\$1,092,000	-	-
Wasatch County Efficiency Project	202(a)(3)(B)	\$18,497,000	\$982,577	\$359,000
Utah Lake Salinity Control	202(a)(4)	\$2,130,000	-	-
Diamond Fork System	202(a)(6)	\$147,574,000	\$17,524,413	\$260,000
UBRP	203(a)	\$63,825,000	\$1,975,000	\$47,000
Local Development Options	206	\$10,943,000	-	-
Studies, Reports, Coordinated Operations	207(e)	\$6,632,000	-	-
Water Conservation Credit Program	207(e)(2)	\$180,198,000	-	-
Title II Sub-Total		\$887,181,000	\$34,011,019	\$3,012,000
Title III				
Lease of Daniels Creek Water Rights	303(b)	\$8,595,000		
Title V				
Ute Indian Water Rights Settlement	504, 505, 506	\$240,034,000		
Indian Ford Exchange		\$11,044,000		
Total CUPCA Section 5		\$1,146,854,000	\$34,011,019	\$3,012,000

TABLE 4-5				
Section 8 Costs – CUPCA				
(continued)				
Feature	Authorizing Section of CUPCA	Construction Costs	Interest During Construction (3.125%)	Annual OM&R
Fish and Wildlife				
Section 201		\$39,588,000	-	
Title II				
Spanish Fork Canyon Pipeline	302 (a)	\$7,959,106	-	
Spanish Fork PRC Pipeline	302 (a)	\$39,621,661	-	
Provo River Studies	202 (a) (5)	\$2,098,000	-	
Uinta Basin Replacement Project	203 (a)	\$15,489,000	-	
Diversion on Duchesne + Strawberry R.	203 (a) (5)	\$4,111,000	-	
Title II Sub-Total		\$69,278,767	-	
Title III				
Spanish Fork Canyon Pipeline	302(a)	\$4,657,490	-	
Spanish Fork PRC Pipeline	302(a)	\$9,041,010	-	
Other Title III		\$173,928,500	-	
Title III Sub-Total		\$187,627,000	-	\$500,000
Title IV Mitigation and Conservation		\$131,276,000	-	
Total Section 8 Fish and Wildlife		\$427,769,767	\$0	\$500,000
Recreation – Title III				
Utah Lake		\$994,000	-	
Other CUP Features		\$960,000	-	
Provo/Jordan River Parkways		\$1,321,000	-	
Provo River Corridor Development		\$1,361,000	-	
Total Recreation – Title III		\$4,626,000	\$0	
Total CUPCA Section 8		\$432,405,767	\$0	\$500,000

Title II Costs (CUPCA)

Title II of CUPCA contains construction authority for water supply and related facilities. However, Section 202 (c), as amended, authorizes Title II Section 8 costs for certain features of ULS. The Section 5 costs grouped under Title II consist of the following subcategories.

Section 202 Costs (CUPCA). Section 202 authorizes the completion of the Diamond Fork System, and features of the ULS to deliver municipal and industrial water and irrigation water to lands in the Utah Lake drainage basin. Section 202 also includes special studies of conjunctive groundwater use and salinity control in Utah Lake.

Section 203 Costs (CUPCA). Section 203 authorizes the construction of the UBRP, which includes an enlarged reservoir, diversion dam, and pipeline.

Section 206 Costs (CUPCA). Section 206 authorizes counties not receiving project water to submit proposals for federal funds for construction of local water projects.

Section 207 Costs (CUPCA). Section 207 directs the District to prepare a Water Conservation Credit Program (WCCP), including the preparation of various studies to develop its groundwork. The WCCP and related studies culminated in the development of the Water Conservation Credit Program (WCCP), which is now in operation.

Title III Costs (CUPCA)

Title III authorizes the construction of facilities for Fish, Wildlife, and Recreation Mitigation and Conservation. They are Section 8 costs and are non-reimbursable (except for a portion of the Daniel Creek Replacement Project (which is funded under Section 5)).

Title IV Costs (CUPCA)

Title IV authorizes the establishment of the Utah Reclamation Mitigation and Conservation Account. Title IV also establishes that the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission) will administer the account and develop mitigation and conservation projects. Title IV requires annual payments to the Utah Reclamation Mitigation and Conservation Account by the Department of the Interior, State of Utah, District, and the Western Area Power Administration (WAPA). These payments have been included in the analysis as an investment cost. Title IV costs are allocated as Section 8 in the allocation process.

Title V Costs (CUPCA)-Ute Indian Rights Settlement

Title V authorizes the Ute Indian Rights Settlement. This title of CUPCA is intended to put the Ute Tribe in the same economic position it would have enjoyed had the features contemplated by the September 20, 1965, Deferral Agreement been constructed. The costs authorized under the settlement are considered Section 5 expenditures and are shown in Table 4-6: Ute Indian Rights Settlement – CUPCA Title V.

Description	Section of CUPCA	Amount
Tribal Farming Operation	504	\$49,308,000
Repair of Cedarview Reservoir	505 (a)	\$6,636,000
Reservation Stream Improvements	505 (b)	\$13,450,000
Bottle Hollow Reservoir	505 (c)	\$555,000
Recreation Enhancement	505 (f)	\$11,335,000
M&I Conveyance System	505 (g)	\$4,209,000
Tribal Development	506	\$154,541,000
TOTAL CUPCA SECTION 5		\$ 240,034,000

Power Losses

Replacement power would be furnished from project power facilities to compensate for losses at hydropower plants on the Provo River adversely affected by Bonneville Unit operation.

INTEREST DURING CONSTRUCTION

The IDC for the Bonneville Unit is used for computing the benefit - cost ratio and is part of the repayment requirement for M&I water and CRSP power. Interest during construction (IDC) represents the economic cost of capital invested in a project during the time interval between the start of construction and the year in which a project is placed in service (generally the first year of operation).

Usually it is computed on an annual basis for each feature. Under the longstanding practice of the Department of the Interior, IDC is computed by adding all previous expenditures, for a feature, to one-half of the current year expenditure, for that feature, and multiplying the sum by the applicable interest rate. Each year is computed separately and the sum of all the years equals the total IDC. IDC computations are made at simple interest.

For this analysis, expenditures assigned to M&I by the USBR were used as a basis for calculating total IDC by feature. Results of this procedure are shown in Table 4-7: Interest During Construction – Bureau of Reclamation. Expenditures assigned to M&I in column 1 are divided by the percent displayed in column 2 to arrive at total IDC by feature displayed in column 3. USBR IDC is calculated at 3.222 percent, which is the rate for calculating IDC for repayment associated with the Bonneville Unit. Column 4 displays the IDC at 3.125 percent which is the rate for calculating IDC for project planning. The 3.125 percent rate is used in the Benefit Cost analysis displayed in chapter 5. The 3.125 percent interest rate, displayed in column 4, was calculated by multiplying the 3.222 percent values by 0.969894.

IDC for funds authorized by CUPCA were computed using estimated annual expenditures for those facilities where IDC is appropriate. Table 4-8: Interest During Construction – CUPCA shows the computation of IDC for CUPCA features.

TABLE 4-7
Interest During Construction - Bureau of Reclamation

Feature	IDC Assigned to M&I	Percent M&I	Interest During Construction (3.222%)	Interest During Construction (3.125%) (Factor 0.969894)
Starvation Dam and Reservoir	\$4,485,702	22.36%	\$20,061,279	\$19,457,314
Upper Stillwater Dam and Reservoir	\$17,992,928	37.25%	\$48,303,162	\$46,848,947
Currant Creek Dam and Reservoir	\$3,762,437	35.68%	\$10,544,947	\$10,227,481
Soldier Creek Dam	\$3,324,068	44.63%	\$7,448,057	\$7,223,826
Strawberry Aqueduct	\$25,497,607	38.07%	\$66,975,590	\$64,959,223
Jordanelle Dam	\$36,254,740	34.26%	\$105,822,358	\$102,636,471
Syar Tunnel	\$10,740,554	50.55%	\$21,247,387	\$20,607,713
Sixth Water Aqueduct	\$5,273,249	50.55%	\$10,431,749	\$10,117,691
Diamond Fork Pipeline	\$3,325,509	55.69%	\$5,971,465	\$5,791,688
M&I Features (Including Jordan Aqueduct)	\$24,271,127	100.00%	\$24,271,127	\$23,540,420
Total IDC - Reclamation:			\$321,077,121	\$311,410,774

TABLE 4-8					
Interest During Construction - CUPCA Features					
Project Cost	Construction Period (Years)	Annual Expenditure	Cumulative Expenditure	Interest Bearing Expenditure	Interest During Construction (3.125%)
Diamond Fork System					
\$ 147,574,000	1	\$14,757,400	\$14,757,400	\$7,378,700	\$230,584
	2	\$22,136,100	\$36,893,500	\$25,825,450	\$807,045
	3	\$29,514,800	\$66,408,300	\$51,650,900	\$1,614,091
	4	\$36,893,500	\$103,301,800	\$84,855,050	\$2,651,720
	5	\$22,136,100	\$125,437,900	\$114,369,850	\$3,574,058
	6	\$14,757,400	\$140,195,300	\$132,816,600	\$4,150,519
	7	\$7,378,700	\$147,574,000	\$143,884,650	\$4,496,395
Total:		\$147,574,000			\$17,524,413
Wasatch County Water Efficiency Project and Daniels Replacement Project					
\$ 18,496,300	1	\$1,849,000	\$1,849,000	\$924,500	\$28,891
	2	\$4,624,250	\$6,473,250	\$4,161,125	\$130,035
	3	\$7,398,800	\$13,872,050	\$10,172,650	\$317,895
	4	\$4,624,250	\$18,496,300	\$16,184,175	\$505,755
Total:		\$18,496,300			\$982,577
Uinta Basin Replacement Project					
\$ 61,806,000					\$1,975,000
Sixth Water Power Plant					
\$ 33,730,455	1	\$25,272,841	\$25,272,841	\$12,636,421	\$394,888
	2	\$8,457,614	\$33,730,455	\$29,501,648	\$921,927
Total:		\$33,730,455			\$1,316,815
Upper Diamond Fork Power Plant					
\$ 6,763,073	1	\$6,763,073	\$6,763,073	\$3,381,537	\$105,673
Total:		\$6,763,073			\$105,673
Spanish Fork Canyon Pipeline					
\$ 60,003,743	1	\$45,002,807	\$45,002,807	\$22,501,404	\$703,169
	2	\$15,000,936	\$60,003,743	\$52,503,275	\$1,640,727
Total:		\$60,003,743			\$2,343,896

TABLE 4-8					
Interest During Construction - CUPCA Features					
(continued)					
Project Cost	Construction Period (Years)	Annual Expenditure	Cumulative Expenditure	Interest Bearing Expenditure	Interest During Construction (3.125%)
Spanish Fork - Provo Reservoir Canal Pipeline					
\$ 91,242,508	1	\$9,124,251	\$9,124,251	\$4,562,126	\$142,566
	2	\$22,810,627	\$31,934,878	\$20,529,565	\$641,549
	3	\$36,497,003	\$68,431,881	\$50,183,380	\$1,568,231
	4	\$22,810,627	\$91,242,508	\$79,837,195	\$2,494,912
Total:		\$91,242,508			\$4,847,258
Spanish Fork - Santaquin Pipeline					
\$ 99,380,508	1	\$24,845,127	\$24,845,127	\$12,422,564	\$388,205
	2	\$34,783,178	\$59,628,305	\$42,236,716	\$1,319,897
	3	\$39,752,203	\$99,380,508	\$79,504,407	\$2,484,513
Total:		\$99,380,508		\$0	\$4,192,615
Santaquin - Mona Pipeline					
\$ 18,077,632	1	\$18,077,632	\$18,077,632	\$9,038,816	\$282,463
Total:		\$18,077,632		\$0	\$282,463
Mapleton - Springville Pipeline					
\$ 28,179,804	1	\$28,179,804	\$28,179,804	\$14,089,902	\$440,309
Total:		\$28,179,804		\$0	\$440,309
Total - CUPCA IDC:					\$34,011,019

OPERATION, MAINTENANCE, AND REPLACEMENT COSTS

Annual operation, maintenance, and replacement (OM&R) costs are for service, labor, materials, and replacement items necessary to operate and maintain Bonneville Unit facilities and to replace those facilities whose service life is less than 100 years. For this analysis annual OM&R costs have been estimated for all facilities. The O&M cost estimates were developed in the Designs and Estimates Appendix. The OM&R estimates from the D&E Appendix is summarized and repeated in some of the tables in this chapter.

The District has or will enter into operating agreements or conveyance agreements with various water user groups. These agreements will involve the conveyance of some non-Bonneville Unit water through Bonneville Unit facilities, as well as the conveyance of Bonneville Unit water through local facilities. These agreements need to be recognized as part of the required financial analysis of the project because some of the total OM&R will be allocated to and paid by local water agencies. The OM&R associated with non-project water deliveries will be reimbursed by the owners of the non-project water.

EXTERNAL ITEMS

The Bonneville Unit will incur two items of cost which are geographically external to the Central Utah Project-- regulatory storage on the Colorado River System and Colorado River water quality.

Costs of Regulatory Facilities of the Colorado River Storage Project

A large water-storage capacity for stream regulation is required to meet the Upper Colorado River Basin stream flow commitments to the Lower Colorado River Basin states, thus enabling the Upper Basin to use its compact apportioned share of Colorado River water. This storage capacity is provided by the CRSP units, including Glen Canyon, Flaming Gorge, Aspinall, and Navajo Reservoirs. A portion of the costs of these storage reservoirs is assignable to each participating project that will deplete the flow of the Colorado River and thereby benefit from the reservoirs. It has been determined that this cost will be appropriately accounted for through an annual charge of \$2.00 per acre foot of Colorado River depletion.

As noted in the water supply appendix, it is estimated that the Central Utah Project will deplete the Colorado River flow by an average of 139,760 acre-feet annually. This amount consists of the trans-basin diversion to the Bonneville Basin, water deliveries in the Uinta Basin, and incidental consumption such as evaporation, minus return flows from water used in the Uinta Basin. Based on the assigned cost of \$2.00 per acre-foot, the total cost of regulatory storage on the Colorado River system is a total of \$279,520 annually, which is assigned as a cost to the Bonneville Unit. This cost is used only for determining the benefit - cost ratio; it is not included in the repayment obligation.

Effect on Colorado River Salinity

The Bonneville Unit will affect the salinity of the lower Colorado River in two ways. The reduction in salt discharge to the Green River will reduce the salinity of the Colorado River at Imperial Dam by 1.2 milligrams-per-liter (mg/L). However, the removal of 139,760 acre-feet of water from the Colorado River System will tend to reduce the dilution of salt in the Colorado River System, which will increase the salinity of the river at Imperial Dam by an estimated 14.8 mg/L. The net impact at Imperial Dam will be an increase in salinity of 13.6 mg/L. This effect is not included in the benefit cost analysis since Utah's right to divert stream flows in the upper Colorado River Basin is provided by the Colorado River Basin Compact of 1922. The increase in salinity caused by this diversion is acknowledged in the Colorado River Water Quality Improvement Program.

TOTAL PROJECT COSTS

CUPCA costs, both federal and non-federal, used for the current analysis have been indexed from the January 1991 price level, shown in the CUPCA, to an October 2004 price level using USBR construction cost indices, which are in Attachment C to this appendix.

In general, CUPCA requires local cost sharing of 35 percent of the reimbursable construction costs and 50 percent of reimbursable studies costs. The dollar amount of local funding required will be determined in Chapter 7 of this appendix on project repayment. The local funding program has

been developed by District and approved by the Secretary of the Interior pursuant to the August 11, 1993 Cost Sharing Agreement. CUPCA stipulated maximum amounts of federal funding (federal authorization ceiling) available for various facilities. Consequently, costs in excess of the ceiling for each facility may become local costs and, in effect, increase the local share above 35 percent. In the case of the Diamond Fork System, the United States and the District agreed to a local cost share rate that marginally exceeds the rate required under Section 204 (Contract No. 99-07-40R-6180). (See Chapter 7.)

Total project costs (construction, IDC, and OM&R) for each feature of the Bonneville Unit are listed in Table 4-9: Total Construction, IDC, and OM&R Costs – Bureau of Reclamation and CUPCA and grouped according to whether they are USBR, CUPCA, Section 8 or Section 5 costs.

It should be noted that CUPCA costs will change as designs are prepared and construction contract amounts become known. The final cost allocation on which repayment is based will be made using actual costs and IDC computations based on the final, actual costs. The OM&R costs will vary from year-to-year and change under the influence of wage and price increases and refinements in the operating procedures.

TABLE 4-9				
Total Construction, IDC, and OM+R - USBR and CUPCA				
Feature		Construction Costs	Interest During Construction (3.125%)	Annual OM&R
USBR SECTION 5 COSTS				
Starvation Collection System				
Starvation Dam		\$22,536,505	\$19,457,314	\$126,296
Duchesne Canal Rehab.		\$37,883,920	-	-
Taylor Canal Drains		\$1,798,272	-	-
Subtotal		\$62,218,697	\$19,457,314	\$126,296
Strawberry Aqueduct & Collection System				
Upper Stillwater Dam		\$247,353,876	\$46,848,947	\$268,700
Currant Creek Dam		\$30,303,928	\$10,227,481	\$101,678
Soldier Creek Dam		\$51,708,000	\$7,223,826	\$114,955
Strawberry Aqueduct & Collection System		\$266,036,397	\$64,959,223	\$310,608
Subtotal		\$595,402,201	\$129,259,477	\$795,941
M&I System				
Jordanelle Dam		\$356,705,956	\$102,636,471	\$218,565
Upper Provo River Reservoirs		\$7,789,326	-	\$19,022
Jordan Aqueduct System		\$97,923,050	\$23,540,420	\$150,163
Jacob Welby Water Rights		\$66,865	-	-
Subtotal		\$462,485,197	\$126,176,891	\$387,750

TABLE 4-9				
Total Construction, IDC, and OM+R - USBR and CUPCA				
Feature		Construction Costs	Interest During Construction (3.125%)	Annual OM&R
Diamond Fork System				
Syar Tunnel		\$76,405,796	\$20,607,713	\$27,048
Sixth Water Aqueduct		\$35,664,601	\$10,117,691	\$79,834
Discontinued Power Investigations		\$12,595,512		
Diamond Fork Pipeline		\$2,117,315	\$5,791,688	-
Subtotal		\$126,783,224	\$36,517,092	\$106,882
Other Costs				
Irrigation Abandoned Investigations		\$31,432,520	-	-
Service Facilities		\$7,953,111	-	-
Utah Lake Water Rights		\$71,036	-	-
O&M Not Associated with Features		-	-	\$340,487
Subtotal		\$39,456,667	\$0	\$340,487
Total USBR Section 5 Costs		\$1,286,345,986	\$311,410,774	\$1,757,356
USBR Section 8 Costs				
Recreation Facilities		\$61,564,400	-	\$5,458,000
Fish and Wildlife Facilities		\$23,373,000	-	\$413,000
Total USBR Section 8 Costs		\$84,937,400	\$0	\$5,871,000
Total USBR Sections 5 & 8		\$1,371,283,386	\$311,410,774	\$7,628,356
CUPCA Section 5 Costs		Sections		
Title II				
Utah Lake System	201(a)(1)			
ULS Planning and NEPA (I&D, SFN, ULS)		\$32,659,121	-	-
Spanish Fork Flow Control Structure		\$6,269,158	-	\$30,000
Spanish Fork Canyon Pipeline		\$60,003,743	\$2,343,896	\$20,000
Spanish Fork Provo Reservoir Canal Pipeline		\$91,242,507	\$4,847,258	\$70,000
Spanish Fork - Santaquin Pipeline		\$99,380,508	\$4,192,615	\$40,000
Mapleton Springville Lateral Pipeline		\$28,179,804	\$440,309	\$10,000
Santaquin - Mona Pipeline		\$18,077,632	\$282,463	\$10,000
North Utah County 207 Projects		\$60,000,000		
Sixth water Power Plant		\$33,830,454	\$1,316,815	\$1,850,000
Upper Diamond Fork Power Plant		\$6,793,073	\$105,673	\$316,000
Subtotal ULS Features		\$436,436,000	\$13,529,030	\$2,346,000
Conjunctive Use	202(a)(2)	\$19,854,000		
Wasatch County Efficiency Study	202(a)(3)(A)	\$1,092,000		
Wasatch County Efficiency Project	202(a)(3)(B)	\$18,497,000	\$982,577	\$359,000
Utah Lake Salinity Control	202(a)(4)	\$2,130,000		
Diamond Fork System	202(a)(6)	\$147,574,000	\$17,524,413	\$260,000

TABLE 4-9				
Total Construction, IDC, and OM+R - USBR and CUPCA				
(continued)				
Feature		Construction Costs	Interest During Construction (3.125%)	Annual OM&R
UBRP	203(a)	\$63,825,000	\$1,975,000	\$47,000
Local Development Options	206	\$10,943,000	-	
Studies, Reports, Coordinated Operations	207(e)	\$6,632,000	-	
Water Conservation Credit Program	207(e)(2)	\$180,198,000	-	
Title II Sub-Total		\$887,181,000	\$34,011,019	\$3,012,000
Title III				
Lease of Daniels Creek Water Rights	303(b)	\$8,595,000	-	
Title V				
Ute Indian Water Rights Settlement	504, 505, 506	\$240,034,000	-	
Indian Ford Exchange		\$11,044,000	-	
Total CUPCA Section 5		\$1,146,854,000	\$34,011,019	\$3,012,000
CUPCA Section 8 Costs				
Fish and Wildlife				
Section 201		\$39,588,000		
Title II	202 (c)			
Spanish Canyon Fork Pipeline	302 (a)	\$7,959,106	-	
Spanish Fork PRC Pipeline	302 (a)	\$39,621,661	-	
Provo River Studies	202 (a) (5)	\$2,098,000	-	
Uinta Basin Replacement Project	203 (a)	\$15,489,000	-	
Diversion on Duchesne + Strawberry R.	203 (a) (5)	\$4,111,000	-	
Title II Sub-Total:		69,278,767	\$0	
Title III				
Spanish Fork Pipeline	302(a)	\$4,657,490	-	
Spanish Fork PRC Pipeline	302(a)	\$9,041,010	-	
Other Title III		\$173,928,500	-	
Title III Sub-Total:		\$187,627,000	\$0	\$500,000
Title IV Mitigation and Conservation		\$131,276,000		
Total Section 8 Fish and Wildlife		\$427,769,767		\$500,000
Title III Recreation		\$4,636,000		
Total CUPCA Section 8		\$432,405,767		\$500,000
Total CUPCA Sections 5 & 8		\$1,579,259,767	\$34,011,019	\$3,512,000
Total Section 5 (USBR & CUPCA)		\$2,433,199,986	\$345,421,792	\$4,769,356
Total Section 8 (USBR & CUPCA)		\$517,343,167	\$0	\$6,371,000
TOTAL BONNEVILLE UNIT		\$2,950,543,153	\$345,421,792	\$11,140,356

CENTRAL UTAH PROJECT COMPLETION PROGRAM

Chapter 5

October 2004

INTRODUCTION

This chapter presents the Bonneville Unit economic analysis, comparing benefits and costs. The benefit cost analysis is made from a national point of view; in other words, it measures (as far as practicable) all benefits and costs to whomever they accrue. The following two separate analyses were made:

- *Basic Analysis.* This analysis is an update of project benefit-cost comparisons presented in the 1964 and 1988 Definite Plan Reports, using the same guidelines as the earlier studies. Annual costs and Interest During Construction (IDC) were computed using the project planning rate of 3.125 percent, which was the rate in effect at the time Bonneville Unit construction was authorized.
- *Principles & Guidelines Analysis.* This analysis meets the requirements of section 205(e) of the Central Utah Completion Act (CUPCA). Annual costs and IDC in this analysis were computed using the interest rate of 5.625 percent, which is the current rate for evaluating federal projects.

The comparison of benefits and costs is the primary economic indicator used for project justification. In its simplest terms, it is the concept of value (or benefit) received in return for a cost expended, and is presented as a benefit-cost ratio in this chapter. The benefit-cost ratio is computed by dividing the benefits (developed in Chapter 3) by the costs (developed in Chapter 4) and expressing the result as a ratio.

When the Bonneville Unit was initially formulated by the Bureau of Reclamation (Reclamation), the procedure for evaluating a federal water resource project was based on various requirements set forth by Congress as well as policies and procedures developed by the federal government. The basic analysis utilized the federal interest rate for project evaluation in effect at the time Congress authorized construction of the project.

More recently, the Water Resources Council has developed its Principles and Guidelines¹ (P&G) which provide additional instructions for project evaluation under current national socioeconomic conditions. The P&G recommends supplemental economic analyses based on current economic perspectives including the use of the application of the current interest rate when analyzing a project, regardless of its authorization.

BASIC ANALYSIS

The economic evaluation of the Bonneville Unit is embodied in its benefit-cost ratio. The monetary benefits and costs are generally developed as in Chapters 3 and 4 respectively; however, certain adjustments were made to remove costs of studies or other actions that did not contribute to the

¹ *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies*, Water Resources Council, March 10, 1983.

completion of the Bonneville Unit. The removal of these costs has an insignificant effect on the final benefit-cost ratio. These costs include: highway improvement costs exceeding replacement in kind as provided in the section 13 of the Water Resources Development Act of 1974 (Public Law 93-251) and investigation costs spent prior to authorization. The pre-authorization investigation costs are considered sunk costs.

The basic analysis was based on an interest rate of 3.125 percent, which was the rate in effect for project evaluation in 1965 when the Bonneville Unit started construction. The computation was made with benefits and costs expressed as annual equivalent values. At the authorized project evaluation rate of 3.125 percent, the benefit-cost ratio is 1.27.

The current benefit-cost ratio of 1.27 is similar to that computed in the 1988 DPR, which was 1.33 (also at the interest rate of 3.125 percent).

Changes since 1988 that tended to increase the benefit-cost ratio were as follows:

1. Elimination of certain facilities from the project plan more than offset the increased costs due to inflation and improvements to some proposed facilities;
2. Increased supply of M&I water with its inherent higher benefits;
3. Increased numbers of angler days and valuation of fish and wildlife benefits; and
4. Increased valuation of a visitor-day of general water-based recreation.

Offsetting changes since 1988 that tended to reduce the benefit-cost ratio were as follows:

1. Addition of Title V - Ute Indian Water Rights Settlement;
2. Addition of environmental mitigation and conservation measures for facilities to be constructed under CUPCA by the Mitigation Commission (Titles III and IV);
3. Addition of special studies that are not needed for completion of Bonneville Unit facilities; and
4. Increased water allocation for fishery flows in the Uinta Basin, which reduced irrigation water supply benefits (1990 amendment of the Instream Flow Agreement).

PRINCIPLES & GUIDELINES ANALYSIS

The P&G prescribes an economic analysis using the current federal interest rate prescribed for water project evaluation and National Economic Development (NED) benefits as defined by the Water Resources Council in its publication called Principles and Guidelines (P&G). Direct benefits are

considered NED benefits in this chapter. The current interest rate is the 5.625 percent² federal rate for FY 2004. The purpose of the P&G analysis is to assist with the comparison of the Bonneville Unit with other federal water projects that are being evaluated at the current interest rate.

This analysis was performed in the same manner as the basic analysis described above except, that the higher interest rate (5.625 percent) was used to compute IDC and to convert the investment cost to an annual equivalent values. The P&G analysis produced higher project annual equivalent costs, because of the higher interest rate, but did not affect the benefits. Consequently a different benefit-cost ratio was produced, which is 0.71. Table 5-1: Benefit Cost Ratio displays the computation of the benefit-cost ratio based on the Basic and P&G Analyses.

Item	Project Planning Rate 3.125%		P&G Planning Rate 5.625%	
Investment Costs				
Project Construction Cost	\$ 2,950,543,153		\$ 2,950,543,153	
Interest During Construction	\$ 345,421,792		\$ 621,759,226	b
Total Investment Costs	\$ 3,295,964,945		\$ 3,572,302,379	
Less Nonproject Costs				
Highway Improvement	\$ 86,535,113	a	\$ 101,764,638	c
Preauthorization Investigation Cost	\$ 1,173,000		\$ 1,173,000	
Investment Costs for B/C analysis	\$ 3,208,256,833		\$ 3,469,364,741	
Annual Costs				
Annual Equivalent	\$ 105,102,152		\$ 195,975,011	
Annual OM&R	\$ 11,140,356		\$ 11,140,356	
Cost of CRSP Regulatory Facilities 139,760 AF Depletion @ \$2.00	\$ 279,520		\$ 279,520	
Total Annual Costs	\$ 116,522,028		\$ 207,394,887	
Annual Benefits	\$ 148,166,347		\$ 148,166,347	
Benefit - Cost Ratio	1.27		0.71	
Net Annual Benefits	\$ 31,644,318		\$ (59,228,540)	
a-Includes \$66,115,000 of construction cost and \$20,471,213 of interest during construction.				
b- IDC at 3.125% interest adjusted to 5.625% (Factor 1.8).				
c- Includes \$66,115,000 of construction cost and \$35,738,850 of IDC at 5.625% interest				

² The P&G recommended interest rate, 5.625 percent, is a nominal rate that includes inflationary expectations.

CENTRAL UTAH PROJECT COMPLETION PROGRAM

Chapter 6

October 2004

INTRODUCTION

The objective of cost allocation on multiple purpose projects like the Bonneville Unit is to distribute project costs in a manner that would allow all project purposes to share in savings resulting from multiple purpose development. The objective in assigning costs by purpose is to determine the amount of project costs to be borne by each authorized project purpose. Reclamation law, as amended and supplemented, specifies those costs that are reimbursable and those that are non-reimbursable. Reimbursable costs will be repaid by those benefiting from the use of irrigation water, M&I water, and project power. Repayment and cost sharing will be discussed in detail in Chapter 7 of this appendix.

All tables referenced in this chapter are found at the end of the text. Also note that several of the tables in Chapters 6 and 7 contain cells with the notation “#DIV/0!” The appearance of this notation is not an error. #DIV/0! signifies that, in that cell, the denominator is zero.

HISTORY OF COST ALLOCATION ON THE BONNEVILLE UNIT

Following the authorization of the Bonneville Unit and completion of preliminary planning studies, cost allocations for the Bonneville Unit have been included in reports prepared by the U.S. Bureau of Reclamation (Reclamation). These allocations were prepared in compliance with the Colorado River Storage Project Act of April 11, 1956 (Public Law 84-485) (CRSPA), guidelines from the Water Resources Council, and Reclamation policy governing planning activities that were in effect when the studies were made. Key reports that represent the evolution of the project plan over time are the Bonneville Unit Definite Plan Report dated August 1964 (the document used to obtain Congressional authorization) and the draft supplement to the Definite Plan Report, dated May 1988.

The draft 1988 DPR was cited in the Central Utah Project Completion Act (CUPCA) as being approved by Congress. The Separable Cost Remaining Benefits (SCRB) method of cost allocation was used in these reports.

Section 211 of the 1992 version of CUPCA directed the Comptroller General of the United States to prescribe regulations for cost allocation studies for the Central Utah Project. The required instructions were contained in a letter from the General Accounting Office (GAO) dated January 25, 1994, and a letter to GAO dated March 22, 1994, which are reproduced in Attachment A to this Appendix. The Comptroller General administers the GAO. However, Public Law 104-316, enacted on October 19, 1996, transferred these functions from the Comptroller General to Interior’s Inspector General. Therefore, also included in Attachment A is a copy of the February 7, 1997, letter to the Inspector General.

In the letters noted above, the GAO suggested that its report on the Central Valley Project in California, dated March 1992, would be helpful in allocating the costs of the Central Utah Project; in its Central Valley Project Report, the GAO recommended the Use of Facilities (UOF) cost allocation method. The reason given for recommending UOF was that required data requirements are more readily available and therefore less costly to develop. It was pointed out in the report that the use of more sophisticated methods of cost allocation, such as SCRB or the alternative justifiable expenditure method, are not reliable if high-quality data is not available at a reasonable cost.

The Central Utah Project faces similar problems to those discussed in the Central Valley Project Report: (1) it has been under construction for many years and many of the facilities are constructed and delivering water; and (2) data used in prior allocations are out of date and updating the data would be expensive and time consuming. For these reasons, UOF is a reasonable and effective approach in allocating Bonneville Unit costs. As a result, UOF has been adopted for this Financial and Economic Appendix in compliance with GAO recommendations.

Section 211 of CUPCA was amended by Public Law 104-316 to transfer the responsibility for conducting an audit of the allocation of costs from the Comptroller General (GAO) to the Inspector General of the Department of the Interior. That audit is to be performed no later than one year after the Secretary of the Interior declares the Central Utah Project to be substantially complete.

LIST OF TABLES

The tables included in this chapter are listed below. All tables are located at the end of this Chapter in consecutive order except for Table 6-1 which is located in the text.

- Table 6-1: Example of Use of Facilities Method
- Table 6-2: Bonneville Unit Project Costs (Section 5 and Section 8)
- Table 6-3: Hydrologic Basis for Assigned Joint Costs (Section 5)
- Table 6-4: Determination of Specific and Assigned Joint Costs (Section 5 Construction)
- Table 6-5: Determination of Specific and Assigned Joint Costs (Section 5 IDC)
- Table 6-6: Summary of Specific and Assigned Joint Costs by Purpose (Section 5 Construction)
- Table 6-7: Summary of Specific and Assigned Joint Costs by Purpose (Section 5 IDC)
- Table 6-8: Summary of Project Cost Allocation (Section 5 and Section 8)
- Table 6-9: Detailed Summary of Costs (Section 8)
- Table 6-10: Power Costs Calculated at Full Share of Costs (Section 5 Construction and IDC)
- Table 6-11: Power – Development of Marketability (Section 5 Construction and IDC)
- Table 6-12: Power Allocation Constrained by Power Revenues (Section 5 Construction and IDC)
- Table 6-13: Operation, Maintenance and Replacement Costs Allocated by Feature (Section 5)
- Table 6-14: Operation, Maintenance and Replacement Cost Summary (Section 5 and Section 8)
- Table 6-15: Distribution of 30,000 Acre-Feet for South Utah County between Irrigation and M&I Purposes (Block Notice 7B)

THE USE OF FACILITIES METHOD

The UOF method of cost allocation has been recognized for many years as one of the three most acceptable methods for allocating costs of water resource projects. It is described, along with the SCRB and the Alternative Justifiable Expenditure methods, in the manuals of water resource agencies as well as publications released by the Water Resources Council. This method allocates specific costs to project purposes served and assigns joint costs by facility to project purposes according to use. Remaining joint costs are assigned to project purposes in the same percentage as the total allocated specific and assigned costs. Assigned costs can be based on the capacity of a facility used or on water released (yield). A combination of approaches may also be used. Table

6-1: Example of Use of Facilities Method provides a simple example of an allocation by the UOF method.

Table 6-1 illustrates two important UOF concepts: first, allocating between specific and joint costs; and second, accounting for non-consumptive uses. The example below represents a very small reservoir with a capacity of 90 acre-feet. Of that capacity, 60 acre-feet is used exclusively for flood control. This is treated as a specific cost. The remaining 30 acre-feet of the capacity serves joint uses. The same capacity serves irrigation, flood control and power purposes. To account for this multiple use, the 30 acre-feet are applied to each of the three purposes. As a result, the total acre-feet allocated to joint use is 90 acre-feet.

The 90 acre-feet of joint use represents 60 percent of the combined 150 acre-feet of specific and joint use; specific use accounts for 40 percent. The \$10,000 cost of construction is divided into joint and specific costs in the same percentage--joint costs at \$6,000 and specific costs at \$4,000.

One-hundred percent of the specific cost is allocated to flood control. The joint costs are divided among flood control, irrigation, and power with 33 percent going to each. The resulting total allocation of costs (joint costs plus specific costs) by purpose is: \$6,000 allocated to flood control; \$2,000 allocated to irrigation; and \$2,000 allocated to power.

Division of Capacity	Capacity (Acre-Feet)	Project Purposes		
		Flood Control (Acre-Feet)	Irrigation (Acre-Feet)	Power (Acre-Feet)
Specific Use				
Exclusive Flood Control	60	60	0	0
Total - Specific Use	60	60	0	0
Percent of Specific Use	100%	100%	0%	0%
Joint Use				
Irrigation, Flood Control, Power	30	30	30	30
Total - Joint Use	90	30	30	30
Percent of Joint Use	100%	33%	33%	33%
Summary - Specific and Joint Use				
Specific Use	60 (40%)	60 (67%)	0 (0%)	0 (0%)
Joint Use	90 (60%)	30 (33%)	30 (100%)	30 (100%)
Total - Specific and Joint Use	150 (100%)	90 (100%)	30 (100%)	30 (100%)
Percent of Specific and Joint Use	100%	60%	20%	20%
Allocation of Costs				
	Total	Flood Control	Irrigation	Power
Specific Cost	\$4,000 (40%)	\$4,000 (67%)	\$0 (0%)	\$0 (0%)
Joint Cost	\$6,000 (60%)	\$2,000 (33%)	\$2,000 (100%)	\$2,000 (100%)
Total Allocation	\$10,000 (100%)	\$3,600 (100%)	\$2,000 (100%)	\$2,000 (100%)
Percent of Total Allocation	100%	60%	20%	20%

USE OF FACILITIES METHOD AS APPLIED TO THE BONNEVILLE UNIT

Costs for the Bonneville Unit have been allocated in accordance with laws governing the development of water resource projects, in general, and the Central Utah Project, in particular.

These laws include:

- A. The Reclamation Project Act of Aug. 4 1939 (53 Stat. 1187) (1939 Act) which authorized the allocation of costs to irrigation, M&I water, power, flood control and navigation.
- B. The Fish and Wildlife Coordination Act of August 12, 1958 which modified the 1939 Act to permit allocation of costs to fish and wildlife for both enhancement and mitigation.
- C. The Colorado River Storage Project act of April 11 1956 (P. L. 84-485, 70 Stat. 105). The Colorado River Basin Fund was established in Section 5 of CRSPA. Funds appropriated under Section 5 were for the purpose of building multiple use facilities. Section 6 of the act directs the Secretary of the Interior to allocate Section 5 costs to power, irrigation, M&I flood control, navigation or other purposes authorized under Reclamation Law. Section 8 of CRSPA added recreation as a purpose and declared costs spent under this section for recreation and/or fish and wildlife to be non-reimbursable.
- D. The Water Resources Development Act of 1974 (Public Law 93-251) establishes highway improvement as an authorized and non-reimbursable purpose. It also raises the standard for construction of roads that must be relocated because of a Reclamation project. Previously the standard of replacement was "replacement in kind." The Water Resources Development Act mandated that relocated roads be constructed to "current standards."
- E. The CUPCA is specific to the Central Utah Project. It authorizes funding for the completion of the Central Utah Project and delineates which project features will be completed by Reclamation and which will be completed under CUPCA. As a result, project costs are divided in to USBR and CUPCA costs throughout this cost allocation. Also, CUPCA defines the funding source for each feature or program under the project—whether each program or feature is funded under CRSPA Section 5 or Section 8.
- F. Public Law 107-366, dated December 19, 2002, amended CUPCA and authorized the use of \$300 million of unexpended budget for project purposes. This legislation is the source of the authorization under which a portion of the Utah Lake System is being constructed.

THE USE OF FACILITIES PROCESS

The following summarizes the steps undertaken in completing the Bonneville Unit cost allocation.

- A. Cataloging Project Costs by Authorization, Funding Source, and Program/Feature. Table 6-2: Bonneville Unit Project Costs (Section 5 and Section 8) summarizes actual and estimated costs by authorization (USBR or CUPCA), funding source (Section 5 or Section 8), feature/program,

and use of funds (construction, interest during construction (IDC), or operation, maintenance, and replacement (OM&R)). (Note: All Chapter 6 tables are located at the end of this chapter.) Values for construction costs and OM&R were developed in the Designs and Estimates (D&E) appendix and are restated in chapter 4 of this F&E Appendix. The IDC costs are presented in Tables 4-8 and 4-9 of this appendix.

There are no IDC costs associated with Section 8 construction in this allocation. Under Reclamation policy, no IDC is calculated for features for which the construction period is one year or less. For the purposes of this allocation, it is assumed that construction of Section 8 facilities will require, on average, one year or less.

- B. **Allocating Section 8 Costs.** Under Section 8 of CRSPA, all cost authorized under that section are specific costs and are non-reimbursable. As a result, the allocation of Section 8 costs is a simple matter. The allocation of Section 8 costs are summarized in Table 6-9: Summary of Project Cost Allocation (Section 8) and Table 6-8: Summary of Project Cost Allocation (Section 5 and Section 8).
- C. **Defining and Deducting Specific Costs.** Specific costs are defined as those costs that serve a single project purpose. All costs for a single project feature may be specific costs, if that feature serves a single project purpose. For example, the costs associated with the Upper Diamond Fork Power Plant are specific costs allocated to power because power is the only project purpose served by the power plant. On the other hand, certain costs of a multipurpose feature may be allocated as specific costs if an identifiable portion of the costs of that feature serve a single project purpose. For example, highway improvement at Jordanelle Dam and Reservoir is a specific cost because the costs associated with highway improvement can easily be differentiated from other costs and those costs serve a single project purpose.

Specific costs associated with each project feature are identified and deducted from total costs in Table 6-4: Determination of Specific and Assigned Joint Costs (Section 5 Construction) and Table 6-5: Determination of Specific and Assigned Joint Costs (Section 5 IDC). Specific costs in this study are assigned to highway improvement, irrigation, fish and wildlife, municipal and industrial, and power.

- D. **Allocating Assigned Joint Costs.** Specific costs are subtracted from the total cost of each feature to arrive at the remaining cost to be allocated. These remaining costs will be allocated either as assigned joint costs or remaining joint costs. (Remaining joint costs are discussed below.) Under UOF, assigned joint costs are allocated according to the project purposes served by the water stored in or flowing through the project feature. For pipelines and conveyance systems, this is a simple process: the quantity of water flowing through the feature is identified, the purposes that the water will serve are listed, and the costs are allocated proportionally.

For dams and reservoirs an additional complication is added; both the storage capacity and the yield of the facility must be considered. As a result, in this analysis facility capacities are used to determine assigned joint costs to be allocated to flood control and fish and wildlife inactive pools in reservoirs. This is necessary because these purposes do not use project yield. This type

of allocation is used on Starvation Dam and Reservoir, Upper Stillwater Dam and Reservoir, Currant Creek Dam and Reservoir, Soldier Creek Dam and Enlarged Strawberry Reservoir, and Jordanelle Dam and Reservoir. Average cost per acre-foot of capacity was used. After costs associated with these capacities were deducted, costs associated with the remaining capacity were divided using yield as the denominator. (This approach is complicated by blocks of water being delivered for more than one purpose. See paragraph B under "USE OF FACILITIES PRINCIPLES APPLIED IN THE ALLOCATION" below.)

Table 6-3: Hydrologic Basis for Assigned Joint Costs lists each feature to be allocated based on Use of Facilities. Under each facility, those blocks of water conveyed or stored in that facility are listed. (A complete list of Bonneville Unit water blocks is discussed under Description of Blocks of Water - Capacities and Description of Blocks of Water – Yields below.) Based solely on the quantity of water in each block that is stored or conveyed in each facility, Table 6-3 develops the allocation of assigned joint costs among project purposes. In other words, Table 6-3 traces each block of stored or delivered water through the system and, thereby, forms the basis for allocating the assigned joint costs according to UOF.

The percentage allocation of assigned joint costs (developed in Table 6-3) feeds into Table 6-4: Determination of Specific and Assigned Joint Costs (Section 5 Construction) and Table 6-5: Determination of Specific and Assigned Joint Costs (Section 5 IDC). Tables 6-4 and 6-5 summarize specific costs and deduct those costs from the total cost of construction or IDC. After deducting specific costs, the difference is the amount to be allocated to assigned joint costs and/or remaining joint costs. Tables 6-4 and 6-5 divide the total amount to be allocated to assigned joint costs based on the percentages in Table 6-3.

There is a class of features and programs that have been allocated as assigned joint costs but that allocation has not been based on water deliveries, because they are not directly related to deliveries of project water. Some of these costs are appropriately allocated to remaining joint costs (see below) or they may be allocated on some other basis. For example, the CUPCA Section 207 (e) (2) Water Management Improvement Program is allocated 40 percent to irrigation and 60 percent to M&I, reflecting the expected distribution of Section 207 funding among irrigation and M&I projects; the allocation is, at the same time, not linked to actual deliveries of project water (because of the nature of Section 207). The rationale for allocating features or programs of this type (as they appear in Tables 6-4 and 6-5) is contained in "Description of Blocks of Water - Capacities and Description of Blocks of Water – Yields" below.

- E. Identification and Allocation of Remaining Joint Costs. Some costs serve all project purposes and, therefore, should be assigned in the same proportion as the entire project. These are remaining joint costs. These costs defy allocation to any specific project purposes as specific or assigned joint costs. As a result, they are allocated to remaining joint costs. Remaining joint costs are allocated among the several project purposes at the end of Tables 6-4: Determination of Specific and Assigned Joint Costs (Section 5 Construction) and 6-5 Determination of Specific and Assigned Joint Costs (Section 5 IDC).

- F. Summarize Allocated Costs. A summary of cost allocation is displayed in Table 6-6: Summary of Specific and Assigned Joint Costs by Purpose (Section 5 Construction); Table 6-7: Summary of Specific and Assigned Joint Costs by Purpose (Section 5 IDC); and Table 6-8: Summary of Project Cost Allocation (Section 5 and Section 8). Table 6-6 combines the information developed in Tables 6-2, 6-3, 6-4, and 6-5 regarding Section 5 construction costs. Table 6-7 performs the same function for Section 5 IDC. Table 6-8 combines construction and IDC information from Tables 6-6 and 6-7 and also allocates the remaining joint costs.

USE OF FACILITIES PRINCIPLES APPLIED IN THE ALLOCATION

Most of the literature on cost allocations, including guidelines by the Department of the Interior, the Water Resources Council, and the GAO, caution that good judgment and reason be used with any cost allocation procedure. In keeping with this advice, the following principles or approaches were employed in this costs allocation. Some of these may be departures from standard procedures but justification for those departures has been included in the discussion below.

- A. Trace All Water Deliveries to Origin. This means that each block of water has been fully traced up the system from the point at which it is delivered to the initial facilities that developed it. Along that full path, each block of water picks up its appropriate proportion of the costs of each facility that developed, stored, or conveyed it. An example of this approach is the 27,000 AF block of M&I water delivered to south Utah County via the Spanish Fork – Santaquin Pipeline (M&I BN 7B (27000 AF – S. Utah County)). The other portion of the 30,000 acre-foot block is delivered through the Mapleton – Springville Pipeline (M&I BN 7B (3000 AF – S. Utah County)). The 27,000 acre-foot block is ultimately conveyed by the Spanish Fork – Santaquin Pipeline but it can be traced back through the system, being conveyed or stored in: the Spanish Fork Canyon Pipeline; the Spanish Fork Flow Control Structure; the Diamond Fork System; and the Soldier Creek Dam and Reservoir. At the beginning, this block of M&I water was developed in the Strawberry Aqueduct and Collection System (SACS) including Currant Creek and Upper Stillwater Dams and Reservoirs. Along this path, the block of south Utah County M&I water accrues its share of costs in each of these facilities. In the section on water deliveries below, the path of each block of project water is traced. Under “DESCRIPTION OF BLOCKS OF WATER – YEILDS” below, the path of each yield is described. The same path is traced through the various facilities in Table 6-3: Hydrologic Basis for Assigned Joint Costs.
- B. Multiple Counting of Water Delivered for Multiple Purposes. Because project water is delivered for non-consumptive uses (primarily in-stream flows), a single block of water may be delivered for multiple uses in the system. For example, a block of 16,273 AF of water is delivered through the Diamond Fork System for Sixth Water/Diamond Fork in-stream flows; however, that 16,273 AF will ultimately be delivered to Utah Lake as part of the Jordanelle Exchange. (In addition, the same block of water contributes to power generation at the Upper Diamond Fork and Sixth Water Power Plants.) In fact, the Diamond Fork System is delivering that single block of water for three purposes—in-stream flows, the Jordanelle Exchange, and power generation. To assure full weight is given to each of these purposes in Diamond Fork, this block of water appears three times: first, as 16,273 AF allocated to Fish and Wildlife; second, as 16,273 AF allocated to the Jordanelle Exchange (with costs being allocated in the same proportion as Jordanelle Dam and

Reservoir); and third, as 16,273 AF included in developing the allocation to power. Throughout the allocation, this principle has been applied consistently to ensure full allocation of costs to all purposes for which a block of water may be delivered. Table 6-3: Hydrologic Basis for Assigned Joint Costs displays the multiple counting of water delivered for multiple purposes under this allocation.

- C. Allocate Water That Serves Pre-Existing Rights to the Assigned Joint Costs of Associated Facilities. There were interests in water on streams and in reservoirs affected by the Bonneville Unit that existed prior to the construction of the Bonneville Unit. In order to be able to construct and operate the project, it was necessary that the project be designed to accommodate these pre-project interests in water. Those pre-existing rights to which costs have been allocated are described under “DESCRIPTION OF BLOCKS OF WATER – CAPACITIES” and “DESCRIPTION OF BLOCKS OF WATER – YIELDS” below.

Because project facilities are used in meeting or compensating for these pre-project rights, it is appropriate that costs be allocated to them under a UOF approach. The meeting of these pre-project rights is a precondition for being able to build and operate the project. From this point of view, it is appropriate that these uses of facilities be allocated to remaining joint costs. However, a more precise approach would dictate that these uses were a precondition for building and operating certain facilities. This more precise point of view is the one that has been adopted for this cost allocation. As a result, the use of facilities to meet these pre-project rights has been allocated in the same proportion as the facilities that were made possible by serving those pre-existing rights. In other words, these uses of facilities are allocated in the same proportion as the assigned joint costs for the facility that the use made possible.

For example, the 61,000 AF of yield in Soldier Creek Dam and Reservoir for the Strawberry Valley Project (SVP) is allocated in the same proportion as assigned joint costs for Soldier Creek Dam and Reservoir, because providing the 61,000 AF was a precondition for building and operating that facility.

- D. Limit Power Allocation to Power’s Marketability. If the first two principles (tracing all water deliveries back to their origin and multiple counting of water delivered for multiple purposes) were fully applied in allocating costs to power, the power allocation would exceed \$540.3 million in construction and IDC costs. See Table 6-10: Power Costs Calculated at Full Share of Costs (Section 5 Construction and IDC). Full allocation is based on the average annual flows through the power plants--over 94,000 AF annually. When this quantity of water is traced back through the system and assigned joint costs (in their full proportion) are applied to power, power is infeasible; the power would be too expensive to market.

Consequently, a modified UOF approach has been applied to the power allocation. Under this approach, the costs allocated to power have been limited to those costs that can be expected to be offset in repayment. In other words, the cost allocation will ensure that repayment generated from power will equal or exceed the cost of power.

This modified UOF approach to power is justified by the fact that inclusion of power in the project enhances the project's benefit/cost ratio, making the project more efficient. Power also shares in the allocation of joint costs. In doing so, it benefits the other project purposes. A comparative cost/benefit analysis of the project with and without power is included in Chapter 6 of the Power Appendix.

This modified UOF approach required the following steps.

1. Identification of Repayment Offsets to Power Costs. There are four offsets that may be used in developing the amount that will be allocated to power: first, revenue from power generated at Upper Diamond Fork and Sixth Water; second, revenue from the lease of power privilege (LOPP) at Jordanelle; third, local cost share associated with power facilities; and fourth, the non-reimbursability of discontinued power investigations.
 - A. Revenue from Power Generated at Upper Diamond Fork and Sixth Water. The marketability of power generated at Upper Diamond Fork and Sixth Water is based on power being sold at 45 mils/kwh. According to Reclamation estimates, approximately 13.1 mils/kwh is expected to be required for operation, maintenance, and replacement at the power plants. This leaves 31.9 mils/kwh to offset construction and IDC costs allocated to power. The annual expected revenue was calculated using 31.9 mils/kwh. The stream of expected revenues over the 50-year repayment period (provided for in CRSPA) was capitalized using the project repayment rate of 3.222 percent, resulting in a capitalized value of expected revenues of approximately \$24.3 million for Upper Diamond Fork and approximately \$105.7 million for Sixth Water.
 - B. Revenue from Lease of Power Privilege (LOPP) at Jordanelle. The expected revenue from the LOPP at Jordanelle is approximately \$115,000 per year. When this stream of payments was capitalized over the 50-year repayment period using the project repayment rate of 3.222 percent, the result was \$2.8 million.
 - C. Local Cost Share Associated with Power Facilities. The local cost share associated with the power facilities is approximately \$14.9 million for construction and \$0.6 million for IDC.
 - D. Discontinued Power Investigations. Discontinued power investigations are costs associated with planning of power generation that did not result in construction. These costs have been allocated 100 percent to power. These costs are non-reimbursable under CUPCA Section 201 (b). As a result, they are appropriately included as an offset to costs allocated to power.

The total offsets to power are approximately \$160.1 million. This is the upper limit on costs that will be allocated to power. See Table 6-11: Power – Development of Power Marketability (Section 5 Construction and IDC).

2. Division of Power Costs between Construction and IDC. If full costs were allocated to power, approximately 86 percent of total costs would be construction costs and 14 percent would be IDC. (Because the end result of this process is repayment, the IDC amounts that were used were those calculated at 3.222 percent.) As a result, the approximately \$160.1 million allocated to power has been split between construction and IDC in the same proportion with approximately \$138.7 million in costs being allocated to construction and \$22.2 million being allocated to IDC.
 3. Allocation of Specific Costs to Power. The sources of specific power costs are discontinued power investigations, the Upper Diamond Fork Power Plant, and the Sixth Water Power Plant. Specific power costs total approximately \$53.2 million in construction costs and \$1.5 million in IDC. This leaves \$85.5 million in construction costs and \$20.8 million in IDC to be allocated to assigned joint costs. See Table 6-12: Power Allocation Constrained by Power Revenues (Section 5 Construction and IDC).
 4. Allocation of Assigned Joint Costs to Power. The assigned joint costs for power have been allocated to each facility in the same percentage that the assigned joint costs would have been allocated under the unmodified UOF approach (at full allocation of costs). (See Tables 6-10 and 6-12). For example, in the unmodified UOF approach, 1.15 percent of the total construction costs allocated to assigned joint power costs were allocated to Starvation Dam and Reservoir. In the modified use of facilities approach, 1.15 percent of amount available to allocate to assigned joint power costs will be allocated to Starvation Dam and Reservoir.
- E. Allocate Costs to South Utah County Temporary Irrigation Water. The ULS provides a block of 30,000 acre-feet to south Utah County. This water will not be available to the cities in south Utah County for M&I use until portions of the Spanish Fork – Santaquin Pipeline are completed. Moreover, the cities may elect to invoke a deferral of up to ten years on the delivery of water under the Water Supply Act of 1958. As a result, there will continue to be an opportunity for delivery of temporary irrigation water to south Utah County until approximately 2025. Delivery of a portion of this temporary irrigation water to south Utah County began in 1992.

Under this arrangement, the 30,000 acre-feet of water for M&I purposes for south Utah County will actually serve two purposes. For nearly 35 years, it will have been delivered for irrigation and then it will be delivered for M&I purposes for at least the life of the delivery facilities. To reflect this dual use of this project water, the 30,000 acre-feet has been distributed in this allocation between irrigation and M&I.

A present value analysis is presented in Table 6-15: Distribution of 30,000 Acre-Feet for South Utah County (Block Notice 7B). Table 6-15 shows the expected deliveries to irrigation and M&I from 1992 to 2115 (the end of the expected 100-year life of the Spanish Fork – Santaquin Pipeline). When the streams of deliveries to irrigation and M&I are discounted (using the project interest rate of 3.222 percent), 47.97 percent of the discounted deliveries are made to irrigation and 52.03 percent are made to M&I. These percentages allow the 30,000 acre-foot block of water to be distributed among irrigation (14,400 acre-feet) and M&I (15,600 acre-feet). As a result, for this analysis, Block Notice 7B is divided into a 14,400 acre-foot irrigation block (IRR ULS (S.

Utah County)) and two M&I blocks totaling 15,600 acre-feet (M&I BN 7B (3,000 AF - S. Utah County)) and M&I BN 7B (27,000 AF – S. Utah County)).

This approach appropriately weights the two uses of this single block of water. In keeping with the other UOF principles in this allocation, both the irrigation block and the M&I blocks are traced to their origin and each block collects its proportional amount of assigned joint costs along the way. Repayment implications of this treatment of the temporary irrigation water are fully discussed in Chapter 7 of this appendix.

- F. Minimize Remaining Joint Costs. One objective of the allocation was to minimize the allocation to remaining joint costs. A proportionally large allocation to remaining joint costs may be an indication of a failure to fully dissect and analyze the actual uses of facilities. In the allocation, remaining joint costs have been kept to less than two percent of assigned joint costs. This was accomplished in two ways: first, by carefully considering the uses of facilities; and, second, allocating the uses of facilities that serve pre-project rights to the purposes served by that facility instead of allocating to remaining joint costs.

DESCRIPTION OF BLOCKS OF WATER - CAPACITIES

The following outline describes the several blocks of storage capacity in Bonneville Unit Reservoirs. In Table 6-3: Hydrologic Basis for Assigned Joint Costs (Section 5), each of these blocks of capacity is used in creating the hydrologic basis for assigning joint costs. The outline below includes: the term used to describe the block; the purpose to which the block is allocated; the size of the block (acre-feet); the path (where the block is located); and some additional information about the block and its allocation. In the allocation, storage capacities fit into three types: fish and wildlife (conservation pools); flood control; and pre-project storage rights.

A. Fish and Wildlife

1. F&W Conservation Pool (Currant Creek)
 - a. Allocated to: F&W
 - b. Acre-Feet: 210
 - c. Path: Currant Creek
 - d. Additional Information: The source for the conservation pool capacity is Reclamation's Reservoir Capacity Allocation Sheet for Currant Creek Dam and Reservoir.

2. F&W Conservation Pool (Jordanelle)
 - a. Allocated to: F&W
 - b. Acre-Feet: 3,026
 - c. Path: Jordanelle
 - d. Additional Information: The source for the conservation pool capacity is Reclamation's Reservoir Capacity Allocation Sheet for Jordanelle Dam and Reservoir.

-
3. F&W Conservation Pool (Soldier Creek)
 - a. Allocated to: F&W
 - b. Acre-Feet: 15,500
 - c. Path: Soldier Creek
 - d. Additional Information: The source for the conservation pool capacity is Reclamation's Reservoir Capacity Allocation Sheet for Soldier Creek Dam and Reservoir.

 4. F&W Conservation Pool (Starvation)
 - a. Allocated to: F&W
 - b. Acre-Feet: 12,990
 - c. Path: Starvation
 - d. Additional Information: The source for the conservation pool capacity is Reclamation's Reservoir Capacity Allocation Sheet for Starvation Dam and Reservoir.

 5. F&W Conservation Pool (Upper Stillwater)
 - a. Allocated to: F&W
 - b. Acre-Feet: 627
 - c. Path: Upper Stillwater
 - d. Additional Information: The source for the conservation pool capacity is Reclamation's Reservoir Capacity Allocation Sheet for Upper Stillwater Dam and Reservoir.

B. Flood Control

1. FLD Flood Control (Jordanelle)
 - a. Allocated to: Flood Control
 - b. Acre-Feet: 49,500
 - c. Path: Jordanelle
 - d. Additional Information: The source for the conservation pool capacity is Reclamation's Reservoir Capacity Allocation Sheet for Jordanelle Dam and Reservoir.

C. Pre-Project Rights

1. PRE Provo City Storage (Jordanelle AJC)
 - a. Allocated to: Jordanelle AJC
 - b. Acre-Feet: 10,000
 - c. Path: Jordanelle
 - d. Additional Information: In Article 6 of the agreement among the United States, the District, Provo City, and Provo MWD (dated February 9, 1987), the United States and the District agreed to provide Provo City with storage of up to 10,000 AF of storage capacity in Jordanelle Reservoir for storage of the yield of certain Provo City water rights.

2. PRE SVP Water Bank (Soldier Creek AJC)
 - a. Allocated to: Soldier Creek AJC
 - b. Acre-Feet: 50,000
 - c. Path: Soldier Creek
 - d. Additional Information: In Article 5 of the Operating Agreement for the "Enlarged Strawberry Reservoir" among the United States, the District, and the Strawberry Water Users Association, the US and the District agreed to provide SWUA with water bank in Soldier Creek—sufficient capacity in the reservoir to store up to 50,000 AF SVP carry-over water (any SVP water that remains in the reservoir at the end of the irrigation season).

DESCRIPTION OF BLOCKS OF WATER – YIELDS

The following outline describes each yield or block of water delivered under the Bonneville Unit and Uinta Basin Replacement Project. In Table 6-3: Hydrologic Basis for Assigned Joint Costs (Section 5), each of these blocks of water is used in creating the hydrologic basis for assigning joint costs. The outline below includes: the term used to describe the block; the purpose or purposes to which the block is allocated; the size of the block (acre-feet); the path the block takes from its initial development to delivery; and some additional information about the block and its allocation. Yields are divided into the following categories: irrigation; in-stream flows; M&I; pre-project rights; and Utah Lake deliveries.

A. Irrigation

1. IRR Block Notice 1 (21400 AF - Duchesne County)
 - a. Allocated to: Irrigation
 - b. Acre-Feet: 21,400
 - c. Path: Starvation
 - d. Additional Information: Block Notice 1 (issued on June 19, 1970) creates an obligation to deliver 21,400 AF for Duchesne County from Starvation reservoir.
2. IRR Block Notice 1A (1000 AF - Summit County)
 - a. Allocated to: Irrigation
 - b. Acre-Feet: 1,000 AF
 - c. Path: Jordanelle
 - d. Additional Information: Block Notice 1A (issued on February 1, 2001) creates an obligation to deliver 15,100 AF of project irrigation water to Summit County (3,000 AF) and Wasatch County (12,100 AF). Of the 3,000 AF for Summit County, 2,000 AF is delivered from the Upper Provo River Reservoirs. This block represents that portion of the remainder of the Summit County water, which is delivered from Jordanelle (1,000 AF).
3. IRR Block Notice 1A (12100 AF - Wasatch County)
 - a. Allocated to: Irrigation

-
- b. Acre-Feet: 12,100
 - c. Path: Jordanelle
 - d. Additional Information: Block Notice 1A (issued on February 1, 2001) creates an obligation to deliver 15,100 AF of project irrigation water to Summit County (3,000 AF) and Wasatch County (12,100 AF). This block is the Wasatch County portion of the obligation, which is delivered from Jordanelle.
4. IRR Block Notice 1A (2000 AF - Summit County)
 - a. Allocated to: Irrigation
 - b. Acre-Feet: 2,000
 - c. Path: Upper Provo River Reservoirs
 - d. Additional Information: Block Notice 1A (issued on February 1, 2001) creates an obligation to deliver 15,100 AF of project irrigation water to Summit County (3,000 AF) and Wasatch County (12,100 AF). Of the 3,000 AF for Summit County, 2,000 AF is delivered from the Upper Provo River Reservoirs and 1,000 AF is delivered from Jordanelle. This block is that portion of the water for Summit County delivered from the Upper Provo River Reservoirs.
 5. IRR Block Notice 1B (3000 AF - Duchesne County)
 - a. Allocated to: Irrigation
 - b. Acre-Feet: 3,000
 - c. Path: Starvation
 - d. Additional Information: Because of certain pending water right claims with filing dates that precede Starvation storage rights, Block Notice 1B was not issued at the same time as Block Notice 1. Although the water right claims are still pending, years of operation indicated that it was possible to provide the additional irrigation water and continue to meet the pending rights. As a result, Block Notice 1B was issued in November, 2004.
 6. IRR Block Notice UBRP1 (2500 AF - Duchesne County)
 - a. Allocated to: Irrigation
 - b. Acre-Feet: 2,500
 - c. Path: Uinta Basin Replacement Project
 - d. Additional Information: When UBRP is sufficiently complete that 2,500 AF of irrigation water can be delivered, Block Notice UBRP1 will be issued.
 7. IRR ULS (20000 AF - S. Utah County)
 - a. Allocated to: Irrigation
 - b. Acre-Feet: 14,400
 - c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System;
 - 6) SFC Flow Control Structure;

- d. Additional Information: As noted above, up to 20,000 acre-feet of water for south Utah County has been delivered as a temporary irrigation water supply since 1992. Future deliveries of this water are expected to continue until approximately 2025. For this allocation, the 30,000 acre-feet has been split between irrigation and M&I based on a present value analysis. (See Table 6-15). The 14,400 acre-feet in this block is irrigation's portion of the 30,000 acre-feet for cost allocation purposes.

B. In-Stream Flows

1. ISF Daniels Replacement Project

- a. Allocated to: F&W
- b. Acre-Feet: 2,900
- c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek.
- d. Additional Information: Under the authority of Section 303 (b) of CUPCA, the Utah Reclamation Mitigation and Conservation Commission, the CUPCA Office, and the District implemented the Daniels Replacement Project (DRP). The DRP restored 2,900 AF to the Strawberry River drainage to augment stream flows in the Upper Strawberry, between Soldier Creek and Starvation, and in other streams affected by the SACS. The intent is to use the flexibility provided by SACS and Soldier Creek to ensure that the 2,900 AF is put to maximum benefit. For this reason, the 2,900 AF is included in the assigned joint costs of SACS and Soldier Creek. It is not appropriate to allocate Jordanelle costs to DRP. The replacement of the 2,900 AF in Heber Valley has been accomplished through WCWEP. Deliveries from Jordanelle associated with the 2,900 acre-feet fulfill exchanges involving WCWEP water supplies.

2. ISF Hobble Creek June Sucker

- a. Allocated to: F&W
- b. Acre-Feet: 8,037
- c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System;
 - 6) SFC Flow Control Structure;
 - 7) SFC Pipeline;
 - 8) Mapleton - Springville Pipeline.
- d. Additional Information: The Jordanelle Exchange requires the delivery of 40,310 AF of transbasin diversion water to Utah Lake. The 40,310 is comprised of three separate deliveries to Utah Lake: ULD Lower Provo River--16,000; ULD Diamond Fork ISF--

- 16,273; and ULD Hobble Creek June Sucker ISF--8,037 AF. In delivering the 8,037 block to Utah Lake, it will be released into Hobble Creek for the benefit of the June Sucker. The additional use of water to be delivered to Utah Lake creates this Hobble Creek June Sucker in-stream flow.
3. ISF Lower Provo River (Section 8)
 - a. Allocated to: Section 8 F&W
 - b. Acre-Feet: 16,000
 - c. Path:
 - 1) SFC Flow Control Structure;
 - 2) SFC Pipeline;
 - 3) SF - PRC Pipeline.
 - d. Additional Information: The Jordanelle Exchange requires the delivery of 40,310 AF of transbasin diversion water to Utah Lake. The 40,310 is comprised of three separate deliveries to Utah Lake: ULD Lower Provo River--16,000; ULD Diamond Fork ISF--16,273; and ULD Hobble Creek June Sucker ISF--8,037 AF. The diversion of this block of 16,000 AF down the lower Provo River meets the objectives of CUPCA Section 302 (b) by augmenting lower Provo River flows. The authority for Section 302 (b) is CRSPA Section 8. Section 8 requires two things: first, there must be specific authorization for inclusion of Section 8 costs in that feature; and, second, all Section 8 costs must be specific costs. Because there was no planning or authorization of Section 8 funds in the construction of facilities from SACS to the Diamond Fork System, it is not possible to allocate the costs of these features to Section 8 after the fact; however, it is possible to include this Section 8 purpose in ULS features. For this reason, the block of 16,000 AF is only allocated costs in ULS facilities and is not traced up the system to SACS. Finally, because Section 8 cost must be specific costs, the costs associated with the 16,000 AF have been allocated as specific costs, but they have been allocated in approximately the same amounts in each facility as if they had been allocated as assigned joint costs.
 4. ISF Provo River (Summer)
 - a. Allocated to: F&W
 - b. Acre-Feet: 14,400
 - c. Path: Jordanelle
 - d. Additional Information: The ISF Provo River (Summer) water (14,400 AF) represents the average annual yield required to meet certain summer in-stream flow commitments (specifically associated with the Bonneville Unit) in the Provo River below Jordanelle.
 5. ISF Provo River (Winter)
 - a. Allocated to: F&W
 - b. Acre-Feet: 45,000
 - c. Path: Jordanelle
 - d. Additional Information: The ISF Provo River (Winter) water (45,000 AF) represents the average annual yield required to meet certain winter in-stream flow commitments (specifically associated with the Bonneville Unit) in the Provo River below Jordanelle.

-
6. ISF Sec 207 BN 5D (1000 AF)
 - a. Allocated to: F&W
 - b. Acre-Feet: 1,000
 - c. Path:
 - 1) SFC Flow Control Structure;
 - 2) SFC Pipeline;
 - 3) SF - PRC Pipeline.
 - d. Additional Information: Of the 1,590 AF of M&I water provided under Block Notice 5D for south Utah County, the District has agreed to turn back 1,000 AF to the Department of the Interior under the Section 207 program. Subsequent to its return, this water will be used to augment flows in Hobbie Creek for the benefit of the June Sucker. This block of water (ISF Sec 207 BN 5D (1000 AF)) represents this block of 1,000 AF and its use for Hobbie Creek in-stream flows.

 7. ISF Sec 207 BN 7B (3000 AF)
 - a. Allocated to: F&W
 - b. Acre-Feet: 3,000
 - c. Path:
 - 1) SFC Flow Control Structure;
 - 2) SFC Pipeline;
 - 3) SF - PRC Pipeline.
 - d. Additional Information: Of the 30,000 AF of M&I water to be provided under Block Notice 7B for south Utah County, the District has agreed to turn back 3,000 AF to the Department of the Interior under the Section 207 program. Subsequent to its return, this water will be used to augment flows in Hobbie Creek for the benefit of the June Sucker. This block of water (ISF Sec 207 BN 7B (3000 AF)) represents this block of 3,000 AF and its use for Hobbie Creek in-stream flows.

 8. ISF Sixth Water/Diamond Fork
 - a. Allocated to: F&W
 - b. Acre-Feet: 16,273
 - c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System.
 - d. Additional Information: The ISF Sixth Water/Diamond Fork block represents the average annual quantity required to meet in-stream flow requirement in Diamond Fork Creek and its tributaries. This water will continue in the Spanish Fork River for delivery to Utah Lake for the Jordanelle Exchange. The block of Utah Lake Delivery water that corresponds to ISF Sixth Water/Diamond Fork is ULD Sixth Water Diamond Fork ISF (see below).
-

-
9. ISF Strawberry Aqueduct and Collection System
 - a. Allocated to: F&W
 - b. Acre-Feet: 44,400
 - c. Path: SACS
 - d. Additional Information: The Amendatory Agreement among Reclamation, the State of Utah, and the District (dated September 13, 1990) established instream flow requirements from SACS at 44,400 AF. The ISF SACS block of water represents this block in the SACS. In the operation of SACS, this block is delivered for stream flows in streams affected by the SACS. As a result, a portion of this block appears in Soldier Creek Dam and Reservoir as ISF Strawberry River (1997 Allocation Study), representing the estimated average portion of the 44,400 AF that is released down the Strawberry River annually (see below). Another portion of the 44,400 appears in Starvation Dam and Reservoir as the block titled PRE SACS Replacement (see below).

 10. ISF Strawberry River (1997 Allocation Study)
 - a. Allocated to: F&W
 - b. Acre-Feet: 12,622
 - c. Path: Soldier Creek
 - d. Additional Information: The Amendatory Agreement among Reclamation, the State of Utah, and the District (dated September 13, 1990) established instream flow requirements associated with SACS at 44,400 AF annually. Also, the agreement set aside 10,500 AF of capacity in Soldier Creek Reservoir for the storage of that portion of the 44,400 instream flow water that would be delivered for flows in the Strawberry River. The actual annual deliveries into the Strawberry River are greater than the yield of the 10,500 AF capacity. The estimated average annual deliveries to the Strawberry River were estimated to be 12,662 AF (report by Elwood Clark, dated February 15, 1996).

 11. ISF Upper Provo River
 - a. Allocated to: F&W
 - b. Acre-Feet: 200
 - c. Path: Upper Provo River Reservoirs
 - d. Additional Information: The ISF Upper Provo River block of water represents the yield of the Upper Provo River Reservoirs (Trial, Lost, and Washington) that is required to meet in-stream flow commitments in the Upper Provo River (from the reservoirs to Jordanelle).

C. Municipal and Industrial

1. M&I Block Notice 2A (96 AF - Duchesne County)
 - a. Allocated to: M&I
 - b. Acre-Feet: 96
 - c. Path: Starvation
 - d. Additional Information: The Bonneville Unit (excluding the Uinta Basin Replacement Project) delivers 500 AF of M&I water from Starvation Dam and Reservoir. The 500 AF

is supplied under three block notices: Block Notice 2A for 96 AF; Block Notice 2B for 104 AF; and Block Notice 3 for 300 AF. Block Notice 2A was issued on May 29, 1975.

2. M&I Block Notice 2B (104 AF - Duchesne County)
 - a. Allocated to: M&I
 - b. Acre-Feet: 104
 - c. Path: Starvation
 - d. Additional Information: The Bonneville Unit (excluding the Uinta Basin Replacement Project) delivers 500 AF of M&I water in the Uinta Basin. The 500 AF is supplied under three block notices: Block Notice 2A for 96 AF; Block Notice 2B for 104 AF; and Block Notice 3 for 300 AF. Block Notice 2B was issued on May 29, 1975.

3. M&I Block Notice 3 (300 AF - Duchesne County)
 - a. Allocated to: M&I
 - b. Acre-Feet: 300
 - c. Path: Starvation
 - d. Additional Information: The Bonneville Unit (excluding the Uinta Basin Replacement Project) delivers 500 AF of M&I water in the Uinta Basin. The 500 AF is supplied under three block notices: Block Notice 2A for 96 AF; Block Notice 2B for 104 AF; and Block Notice 3 for 300 AF. Block Notice 3 was issued on December 3, 1979.

4. M&I Block Notice 4A (11000 AF - N. Utah, SL Counties)
 - a. Allocated to: M&I
 - b. Acre-Feet: 11,000
 - c. Path: Jordanelle
 - d. Additional Information: The 1988 Bonneville Unit Definite Plan Report called for delivery of 20,000 AF of M&I water to north Utah County. The 20,000 AF commitment was met by the issuing of Block Notice 4A for 11,000 AF and Block Notice 4B for 9,000 AF. Both Block Notices were issued on May 18, 1986.

5. M&I Block Notice 4B (9000 AF - N. Utah, SL Counties)
 - a. Allocated to: M&I
 - b. Acre-Feet: 9,000
 - c. Path: Jordanelle
 - d. Additional Information: The 1988 Bonneville Unit Definite Plan Report called for delivery of 20,000 AF of M&I water to north Utah County. The 20,000 AF commitment was met by the issuing of Block Notice 4A for 11,000 AF and Block Notice 4B for 9,000 AF. Both Block Notices were issued on May 18, 1986.

6. M&I Block Notice 5A (13800 AF - N. Utah, SL, Wasatch Counties)
 - a. Allocated to: M&I
 - b. Acre-Feet: 13,800
 - c. Path: Jordanelle
 - d. Additional Information: The 1988 Bonneville Unit Definite Plan Report called for delivery of 70,000 AF of M&I water to Salt Lake County. The 70,000 AF commitment

has been met through the issuing of the following block notices: Block Notice 5A for 13,800 AF; Block Notice 5C for 7,900 AF; Block Notice 6 for 43,300 AF; and Special Block Notice 2 for 5,000 AF. Block Notice 5A was issued on May 30, 1997.

7. M&I Block Notice 5B (2400 AF - Wasatch County)
 - a. Allocated to: M&I
 - b. Acre-Feet: 2,400
 - c. Path: Jordanelle
 - d. Additional Information: The 1988 Bonneville Unit Definite Plan Report called for delivery of 2,400 AF of M&I water to Wasatch County. The 2,400 AF commitment was met by the issuing of Block Notice 5B for the full amount. Block Notice 5B was issued on April 1, 2000.

8. M&I Block Notice 5C (7900 AF - SL County)
 - a. Allocated to: M&I
 - b. Acre-Feet: 7,900
 - c. Path: Jordanelle
 - d. Additional Information: The 1988 Bonneville Unit Definite Plan Report called for delivery of 70,000 AF of M&I water to Salt Lake County. The 70,000 AF commitment has been met through the issuing of the following block notices: Block Notice 5A for 13,800 AF; Block Notice 5C for 7,900 AF; Block Notice 6 for 43,300 AF; and Special Block Notice 2 for 5,000 AF. Block Notice 5C was issued on September 25, 2002. The 7,900 AF delivered under Block Notice 5C represents the amount of M&I water that was to have been developed by the Bonneville Unit through the Jacob Welby water rights and the construction of the Jacob Welby Pumping Plant. When Bonneville Unit participation in the pumping plan proved infeasible, Interior and the District entered into the Indian Ford Exchange Agreement under which Interior transferred to the District the indexed amount which had been set aside for the pumping plant. In exchange, the District waived associated claims against Reclamation and agreed to develop an equivalent water supply. In 2002, the District conveyed Utah Lake water rights to Interior and Block Notice 5C (7,900 AF) was issued. Because the water supply was 100 percent M&I, 100 percent of the costs are allocated to M&I purposes.

9. M&I Block Notice 5D (1000 AF - S. Utah County)
 - a. Allocated to: M&I
 - b. Acre-Feet: 1,000
 - c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System;
 - 6) SFC Flow Control Structure;
 - 7) SFC Pipeline;
 - 8) Mapleton - Springville Pipeline.

- d. Additional Information: The 1988 Bonneville Unit Definite Plan Report called for delivery of 1,590 AF of M&I water to south Utah County. The 1,590 AF commitment was met through the issuing of the Block Notice 5D for the full amount. Block Notice 5D was issued on May 27, 2003. From SACS to the SFC Pipeline, the entire 1,590 will follow the same path. At the end of the SFC Pipeline, the block bifurcates into two sub-blocks. This block (M&I Block Notice 5D (1000 AF - S. Utah County)) represents the portion that will flow into the Mapleton – Springville Pipeline. (The other portion of the block will ultimately flow into the SF – Santaquin Pipeline.) It is the intent of the District to turn this 1000 block back to Interior under Section 207. At that time, the block will be delivered to Hobble Creek for the benefit of the June Sucker. As a result, there is a corresponding block reflecting that in-stream flow use—ISF Sec 207 BN 5D (1000 AF) (see above).

10. M&I Block Notice 5D (590 AF - S. Utah County)

- a. Allocated to: M&I
- b. Acre-Feet:
- c. Path:
- 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System;
 - 6) SFC Flow Control Structure;
 - 7) SFC Pipeline;
 - 8) SF - Santaquin Pipeline.
- d. Additional Information: The 1988 Bonneville Unit Definite Plan Report called for delivery of 1,590 AF of M&I water to south Utah County. The 1,590 AF commitment was met through the issuing of the Block Notice 5D for the full amount. Block Notice 5D was issued on May 27, 2003. From SACS to the SFC Pipeline, the entire 1,590 AF will follow the same path. At the end of the SFC Pipeline, the block bifurcates into two sub-blocks. This block (M&I Block Notice 5D (590 AF - S. Utah County)) represents the portion that will ultimately flow into the SF – Santaquin Pipeline.

11. M&I Block Notice 6 (43300 AF - SL County)

- a. Allocated to: M&I
- b. Acre-Feet: 43,300
- c. Path: Jordanelle
- d. Additional Information: The 1988 Bonneville Unit Definite Plan Report called for delivery of 70,000 AF of M&I water to Salt Lake County. The 70,000 AF commitment has been met through the issuing of the following block notices: Block Notice 5A for 13,800 AF; Block Notice 5C for 7,900 AF; Block Notice 6 for 43,300 AF; and Special Block Notice 2 for 5,000 AF. Block Notice 6 was issued on June 30, 2004.

12. M&I Block Notice 7A (30000 AF - SL County)

- a. Allocated to: M&I

- b. Acre-Feet: 30,000
- c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System;
 - 6) SFC Flow Control Structure;
 - 7) SFC Pipeline;
 - 8) SF - PRC Pipeline.
- d. Additional Information: Upon its completion, the ULS will provide 60,000 AF of M&I water for delivery to Salt Lake County and south Utah County. When issued, Block Notice 7A will create the obligation to deliver 30,000 AF to Salt Lake County.

13. M&I Block Notice 7B (27000 AF - S. Utah County)

- a. Allocated to: M&I
- b. Acre-Feet: 14,040
- c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System;
 - 6) SFC Flow Control Structure;
 - 7) SFC Pipeline;
 - 8) SF - Santaquin Pipeline.
- d. Additional Information:

Upon its completion, the Utah Lake System will provide 60,000 AF of M&I water for delivery to Salt Lake County and south Utah County. When issued, Block Notice 7B will create the obligation to deliver 30,000 AF to south Utah County. From SACS to the SFC Pipeline, the entire 30,000 AF will follow the same path. At the end of the SFC Pipeline, the block bifurcates into two sub-blocks. This block (M&I Block Notice 7B (27000 AF - S. Utah County)) represents the portion that will flow into the SF – Santaquin Pipeline.

As noted above, a large portion of this block of water has been delivered for a temporary irrigation water supply for south Utah County has been delivered as a temporary irrigation water supply since 1992. Future deliveries of this water are expected to continue until approximately 2025. For this allocation, the 30,000 acre-feet has been split between irrigation and M&I based on a present value analysis. (See Table 6-15). The present value analysis sets M&I's portion of the 30,000 acre-feet for cost allocation purposes at 15,600 acre-feet. The proportion of that 15,600 acre-feet associated with the 27,000 acre-feet (that will ultimately be delivered under this sub-block) is 14,040 acre-feet.

-
14. M&I Block Notice 7B (3000 AF - S. Utah County)
- a. Allocated to: M&I
 - b. Acre-Feet: 1,560
 - c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System;
 - 6) SFC Flow Control Structure;
 - 7) SFC Pipeline;
 - 8) Mapleton - Springville Pipeline.
 - d. Additional Information: Upon its completion, the ULS will provide 60,000 AF of M&I water for delivery to Salt Lake County and south Utah County. When issued, Block Notice 7B will create the obligation to deliver 30,000 AF to south Utah County. From SACS to the SFC Pipeline, the entire 30,000 will follow the same path. At the end of the SFC Pipeline, the block bifurcates into two sub-blocks. This block (M&I Block Notice 7B (3000 AF - S. Utah County)) represents the portion that will flow into the Mapleton – Springville Pipeline. (The other portion of the block will flow into the SF – Santaquin Pipeline.) It is the intent of the District to turn this 3000 block back to Interior under Section 207. At that time, the block will be delivered to Hobble Creek for the benefit of the June Sucker. As a result, there is a corresponding block reflecting that in-stream flow use—ISF Sec 207 BN 7B (3000 AF) (see above).

As noted above, because of the long-term delivery of temporary irrigation water before Block Notice 7B water is delivered for M&I use, Block Notice 7B's 30,000 acre-feet has been split between irrigation and M&I based on a present value analysis. (See Table 6-15). The present value analysis sets M&I's portion of the 30,000 acre-feet for cost allocation purposes at 15,600 acre-feet. The proportion of that 15,600 acre-feet associated with the 3,000 acre-feet (that will ultimately be delivered under this sub-block) is 1,560 acre-feet.

15. M&I UBRP Water Service Agreement (3000 AF - Duchesne County)
- a. Allocated to: M&I
 - b. Acre-Feet: 3,000
 - c. Path: Uinta Basin Replacement Project
 - d. Additional Information: Upon its completion, the Uinta Basin Replacement Project will provide 3,000 AF of M&I water for Roosevelt City. On November 15, 2001, the District and the United States entered into a water service contract (Contract No. 14-06-400-4286) under the authority of Section 9 (c) (2) of the 1939 Act to provide for delivery and payment for this 3,000 AF block.
16. M&I Indian Ford Exchange Water Rights
- a. Allocated to: M&I
 - b. Acre-Feet: (7,900)

- c. Path: Utah Lake
 - d. Additional Information: As noted above, the 7,900 AF of M&I water provided under Block Notice 5C was developed through Utah Lake water rights that were acquired by the District and transferred to Interior under the provision of the Indian Ford Exchange agreement. The 7,900 AF block is part of the original 70,000 AF of M&I water that is to be delivered to Salt Lake County. To show the full 70,000 delivery is being met, Table 6-3: Hydrologic Basis for Assigned Joint Costs (Section 5) includes Block Notice 5C in Jordanelle Dam and Reservoir. By including it in Jordanelle, the table emphasizes that the full 70,000 AF has been accounted for; however, because the 7,900 AF is developed below Jordanelle, the block (M&I Indian Ford Exchange Water Rights) deletes 7,900 AF from Jordanelle, emphasizing that the 7,900 is developed downstream without project facilities.
17. M&I Provo River Water Rights
- a. Allocated to: M&I
 - b. Acre-Feet: (10,100)
 - c. Path: Provo River below Jordanelle
 - d. Additional Information: Part of the original 70,000 AF of M&I water that is to be delivered to Salt Lake County is developed through flow rights in the Provo River below Jordanelle Dam and Reservoir. The average annual yield of these rights is 10,100 AF. To show the full 70,000 delivery is being met, Table 6-3: Hydrologic Basis for Assigned Joint Costs (Section 5) lists all block notices under which the 70,000 AF will be developed in Jordanelle Dam and Reservoir. By including it in Jordanelle, the table emphasizes that the full 70,000 AF has been accounted for; however, because the 10,100 AF is developed below Jordanelle, the block (M&I Provo River Water Rights) deletes 10,100 AF from Jordanelle, emphasizing that the 10,100 is developed downstream and without project facilities.
18. M&I Special Block Notice 1 (260 AF - Wasatch County)
- a. Allocated to: M&I
 - b. Acre-Feet: 260
 - c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek.
 - d. Additional Information: Special Block Notice 1 provides for the delivery of 260 AF of M&I water between Soldier Creek Dam and Reservoir and Starvation Dam and Reservoir. It was issued on September 17, 1987.
19. M&I Special Block Notice 2 (5000 AF - SL County)
- a. Allocated to: M&I
 - b. Acre-Feet: 5,000
 - c. Path: Jordanelle

- d. Additional Information: The 1988 Bonneville Unit Definite Plan Report called for delivery of 70,000 AF of M&I water to Salt Lake County. The 70,000 AF commitment has been met through the issuing of the following block notices: Block Notice 5A for 13,800 AF; Block Notice 5C for 7,900 AF; Block Notice 6 for 43,300 AF; and Special Block Notice 2 for 5,000 AF. Special Block Notice 2 was issued on March 31, 1995.

D. Pre-Project Rights

1. PRE SACS Replacement ISF
 - a. Allocated to: SACS AJC
 - b. Acre-Feet: 43,700
 - c. Path: Starvation
 - d. Additional Information: Water diverted by SACS is replaced by 43,700 AF of yield from Starvation Dam and Reservoir. The provision of this water from Starvation meets pre-project obligations. Because these obligations must be met in order to operate the SACS, the costs associated with this block of water (PRE SACS Replacement ISF) are allocated in the same proportions as SACS assigned joint costs.

2. PRE SVP Irrigation Water (Mapleton - Springville)
 - a. Allocated to: Mapleton – Springville Pipeline AJC
 - b. Acre-Feet: 8,831
 - c. Path:
 - 1) SFC Pipeline;
 - 2) Mapleton - Springville Pipeline.
 - d. Additional Information: The Mapleton/Springville Pipeline replaces the Springville/Mapleton lateral, a feature of the SVP. The delivery of 8,831 AF through the Mapleton/Springville Pipeline meets the obligation to deliver that quantity of SVP water. The proportion of the cost of the Spanish Fork Canyon Pipeline and the Mapleton Springville Pipeline represented by 8,831 acre-feet will be funded under Section 207. Section 207 limits the purposes to which Section 207 expenses may be allocated to irrigation and M&I. Because the pre-existing deliveries served by this block are for irrigation purposes, this block is allocated to irrigation.

3. PRE SVP Project Yield (Soldier Creek / Diamond Fork AJC)
 - a. Allocated to: Soldier Creek AJC/Diamond Fork AJC
 - b. Acre-Feet: 61,000
 - c. Path:
 - 1) Soldier Creek Dam and Reservoir;
 - 2) Diamond Fork System.
 - d. Additional Information: The filling of the Soldier Creek Reservoir engulfed the old Strawberry Reservoir. The Operating Agreement for the "Enlarged Strawberry Reservoir" among the United States, the District, and the Strawberry Water Users Association establishes the obligation to deliver the average annual yield of the old Strawberry Reservoir to the Strawberry Water Users Association. This water is stored in Soldier Creek and conveyed through the Diamond Fork System. The storage in

Soldier Creek was required for the construction and operation of Soldier Creek; this block of water (PRE SVP Project Yield (Soldier Creek / Diamond Fork AJC)) is allocated to Soldier Creek assigned joint costs in Soldier Creek. Conveyance of this block of water through Diamond Fork is, by the same token, allocated to Diamond Fork System assigned joint costs.

4. PRE UPRL (Big Elk Lake)
 - a. Allocated to: F&W
 - b. Acre-Feet: 800
 - c. Path: Upper Provo River Reservoirs
 - d. Additional Information:

The Bonneville Unit identified fourteen small reservoirs in the Provo River drainage that were in need of rehabilitation or repair--the Upper Provo River Lakes (UPRL). These reservoirs were owned and operated by a number of irrigation companies, cities, and associations. In a series of contracts, the UPRL water rights were transferred to the United States as part of the Bonneville Unit water supply. In turn, the yield of these water rights (8900 AF annually) was replaced by deliveries from Jordanelle and the three of these reservoirs that were rebuilt as project facilities (Trial, Lost, Washington).

The UPRL can be divided into three groups for which there are corresponding water deliveries. Group one is made up of Trial Lost and Washington Dams and Reservoirs. Trial, Lost, Washington Dams have been rebuilt and are operated as part of the Bonneville Unit. The group one reservoirs are used to make the following water deliveries:

- 2,000 acre-feet of project irrigation water to Summit County (IRR BN 1A (Summit County));
- 200 acre-feet of in-stream flow water in the Upper Provo River (ISF Upper Provo River);
- 1,000 acre-feet of replacement water to fulfill the pre-project deliveries under the Deer Creek Exchange (PRE Deer Creek Exchange);
- 800 acre-feet to replace the pre-project deliveries from Big Elk Lake (PRE Upper Provo River Lakes (Big Elk Lake)); and
- 2,700 acre-feet to replace the pre-project deliveries from Crystal, Duck, Fire, Island, Long, Marjorie, Pot, Star, Teapot, and Wall Lakes (PRE Upper Provo River Lakes (Ten Remaining Lakes)).

It is important to note that the 4,400 acre-feet required to replace the pre-project deliveries from Trial, Lost, and Washington Lakes (PRE Upper Provo River Lakes (Trial, Lost, Washington)) is not delivered through the Upper Provo River Lakes. It is developed and delivered in Jordanelle.

Group two is comprised of ten of the Upper Provo River Lakes-- Crystal, Duck, Fire, Island, Long, Marjorie, Pot, Star, Teapot, and Wall Lakes. The dams at these lakes were

breached and the lakes were restored to their natural levels. The restoration of these lakes served fish and wildlife purposes by reducing O&M traffic in the wilderness area and eliminating the risk of dam failure (and the inevitable, accompanying environmental damage in the wilderness area). The 2,700 acre-feet required to replace the pre-project deliveries from these ten lakes (PRE Upper Provo River Lakes (Ten Remaining Lakes)) is developed and delivered through Trial, Lost, and Washington reservoirs as well as through Jordanelle.

Group three consists of just one of the Upper Provo River Lakes—Big Elk Lake. As with the ten remaining lakes, the dam at Big Elk Lake was breached and the lake restored to its natural level. The restoration of Big Elk Lake also served fish and wildlife purposes. Unlike the ten remaining lakes, the 800 acre-feet required to replace pre-project deliveries from Big Elk Lake (PRE Upper Provo River Lakes (Big Elk Lake)) is developed and delivered only through Trial Lost and Washington reservoirs.

5. PRE UPRL (Deer Creek Exchange)
 - a. Allocated to: F&W
 - b. Acre-Feet: 1,000
 - c. Path: Upper Provo River Reservoirs
 - d. Additional Information: The Provo River Project (PRP) has pre-project contracts with water users above Jordanelle Reservoir. In order to meet these contracts from storage, these PRP contracts were served out of the one or more of the fourteen UPRL. In exchange, certain delivery obligations of the UPRL water users below Deer Creek were served out of the PRP. This pre-project arrangement constituted the Deer Creek Exchange. The replacement of the Deer Creek Exchange from Trial, Lost, and Washington (under PRE UPRL (Deer Creek Exchange)) is allocated to fish and wildlife.

6. PRE UPRL (Ten Remaining Lakes)
 - a. Allocated to: F&W/Jordanelle AJC
 - b. Acre-Feet: 2,700
 - c. Path:
 - 1) Upper Provo River Lakes and Reservoirs;
 - 2) Jordanelle
 - d. Additional Information: The delivery of 2,700 acre-feet under PRE UPRL (Ten Remaining Lakes) replaces pre-project deliveries from the group two lakes (see additional information under PRE UPRL (Big Elk Lake) above). As noted above, the restoration of the ten remaining lakes served fish and wildlife purposes by reducing traffic in the wilderness area and eliminating the risk of dam failure and the attendant environmental damage. As a result, when this block (PRE UPRL (Ten Remaining Lakes)) appears under the Upper Provo River Lakes and Reservoirs feature, it is allocated to fish and wildlife. However, the replacement water for these lakes is delivered from Jordanelle. These deliveries meet pre-project rights that must be met to operate Trial, Lost, and Washington Lakes; therefore, when this block appears in Jordanelle, it is allocated in the same proportions as the Upper Provo River Lakes and Reservoirs' assigned joint costs.

7. PRE UPRL (Trial, Lost, Washington)
 - a. Allocated to: Upper Provo River Reservoirs AJC
 - b. Acre-Feet: 4,400
 - c. Path: Jordanelle
 - d. Additional Information: The delivery of 4,400 acre-feet under PRE UPRL (Trial, Lost, Washington) replaces pre-project deliveries from the group one lakes (see additional information under PRE UPRL (Big Elk Lake) above). The replacement for the yields of the old Trial, Lost, and Washington reservoirs is delivered from Jordanelle Reservoir (and not the rebuilt dams and reservoirs). These deliveries meet pre-project rights that must be met to operate the Upper Provo River Lakes and Reservoirs; therefore, this block is allocated in the same proportions as Upper Provo River Lakes and Reservoirs assigned joint costs.

E. Utah Lake Deliveries

1. ULD Diamond Fork ISF
 - a. Allocated to: Jordanelle AJC
 - b. Acre-Feet: 16,273
 - c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System.
 - d. Additional Information: The Jordanelle Exchange requires 84,510 AF to be delivered to Utah Lake. The sources of this water are the following: deliveries of transbasin diversion water to Utah Lake (40,310 AF); return flows from transbasin diversion water (9,660 AF); and water rights in Utah Lake (34,540). The delivery of 40,310 AF of transbasin diversion water to Utah Lake is comprised of three components. 1) ULD Diamond Fork ISF (16,273 AF); 2) ULD Hobble Creek June Sucker (8037 AF); and 3) ULD Lower Provo River ISF (16,000 AF). Because these deliveries are necessary to complete the Jordanelle Exchange, they are allocated in the same proportion as Jordanelle assigned joint costs.
2. ULD Hobble Creek June Sucker
 - a. Allocated to: Jordanelle AJC
 - b. Acre-Feet: 8,037
 - c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System;
 - 6) SFC Flow Control Structure;

-
- 7) SFC Pipeline;
 - 8) Mapleton - Springville Pipeline.
 - d. Additional Information: Because the delivery of 8,037 AF under ULD Hobbles Creek June Sucker is necessary to complete the Jordanelle Exchange, it is allocated in the same proportion as Jordanelle assigned joint costs.
3. ULD Lower Provo River ISF
 - a. Allocated to: Jordanelle AJC
 - b. Acre-Feet: 16,000
 - c. Path:
 - 1) SACS;
 - 2) Upper Stillwater;
 - 3) Currant Creek;
 - 4) Soldier Creek;
 - 5) Diamond Fork System;
 - 6) SFC Flow Control Structure;
 - 7) SFC Pipeline;
 - 8) SF - PRC Pipeline.
 - d. Additional Information: Because the delivery of 16,000 AF under ULD Lower Provo River ISF is necessary to complete the Jordanelle Exchange, it is allocated in the same proportion as Jordanelle assigned joint costs.

DESCRIPTION OF FEATURES, STUDIES, PROGRAMS

The following outline describes each line item from Table 6-2: Bonneville Unit Project Costs (Section 5 and Section 8). Most of the facilities were allocated based on water supply under the UOF approach. There are, however, some studies, programs, or facilities which have been allocated on some other basis—usually because, for that facility, study, or program, UOF was not feasible. The outline contains the source of authorization and funding as well as additional pertinent information about the allocation.

A. USBR Facilities, Studies, Programs

1. Starvation Dam and Reservoir - Starvation Dam was funded through appropriations to Reclamation. Starvation costs were allocated according to water supply under the UOF method: 7.76 percent of assigned joint costs were allocated to capacity (for the conservation pool) and the remainder was allocated to yields.
2. Duchesne Canal Rehabilitation - The rehabilitation of the Duchesne Canal was funded through Reclamation appropriations. Rehabilitation costs were allocated according to water supply under the UOF method, with 100 percent of costs being allocated to irrigation. There were no interest during construction (IDC) costs for the rehabilitation because it was completed in one year or less.

3. Taylor Canal Drains - The Taylor Canal Drains were funded through Reclamation appropriations. Costs associated with the Taylor Drains were allocated according to water supply under the UOF method, with 100 percent of costs being allocated to irrigation. There were no IDC costs for the rehabilitation because it was completed in one year or less.
4. Upper Stillwater Dam and Reservoir - Upper Stillwater Dam was funded through Reclamation appropriations. Upper Stillwater costs were allocated according to water supply under the UOF method. The allocation to reservoir capacity (for the conservation pool) was 1.96 percent of assigned joint costs and the remainder of assigned joint costs was allocated to yields. Because Upper Stillwater is part of SACS, the reservoir yield was allocated in the same proportion as the SACS assigned joint costs.
5. Currant Creek Dam and Reservoir - Currant Creek Dam was funded through Reclamation appropriations. Currant Creek costs were allocated according to water supply under the UOF method. The allocation to reservoir capacity (for the conservation pool) was 1.34 percent of assigned joint costs and the remainder of assigned joint costs was allocated to yields. Because Currant Creek is part of SACS, the reservoir yield was allocated in the same proportion as the SACS assigned joint costs.
6. Soldier Creek Dam and Reservoir - Soldier Creek Dam was funded through Reclamation appropriations. Soldier Creek costs were allocated according to water supply under the UOF method. The allocation to reservoir capacity (for the conservation pool and service of pre-project rights) was 5.92 percent of assigned joint costs and the remaining assigned joint costs were allocated to yields.
7. Strawberry Aqueduct and Collection System - The SACS was funded through Reclamation appropriations. The SACS costs were allocated according to water supply under the UOF method.
8. Jordanelle Dam and Reservoir - Jordanelle Dam was funded through Reclamation appropriations. Jordanelle costs were allocated according to water supply under the UOF method. The allocation to reservoir capacity (for the conservation pool, flood control, and service of pre-project rights) was 18.44 percent of assigned joint costs and the remaining assigned joint costs were allocated to yields.
9. Jordan Aqueduct System - The Jordan Aqueduct System was funded through Reclamation appropriations. The costs of the Jordan Aqueduct System were allocated according to water supply under the UOF method, with 100 percent of costs being allocated to M&I.
10. Jacob Welby Water Rights - The acquisition of Jacob Welby Water Rights was funded through Reclamation appropriations. Because these water rights were part of the M&I water supply, 100 percent of costs has been allocated to M&I. When the Jacob Welby Pumping Plant proved infeasible, Interior and the District entered into the Indian Ford Exchange Agreement under which Interior transferred to the District the indexed amount which had been set aside for the pumping plant. In exchange, the District waived associated claims

against Reclamation and agreed to develop an equivalent water supply. In 2002, the District conveyed Utah Lake water rights to Interior and Block Notice 5C (7,900 AF) was issued.

11. Upper Provo River Lakes - The restoration of 11 lakes to their natural levels and the rebuilding of Trial, Lost, and Washington Dams were funded through Reclamation appropriations. The yield of the 11 restored lakes is allocated to Fish and Wildlife to reflect the purposes for which the restoration was done. The yield of the rebuilt dams and reservoirs is allocated according to the UOF method, reflecting the purposes for which stored water is delivered. No portion of the rebuilt reservoirs is allocated to capacity; all costs are allocated to yields.
12. Syar Tunnel - The Syar Tunnel was funded through Reclamation appropriations. All costs were allocated according to water supply under the UOF method. Because the Syar Tunnel is part of the Diamond Fork System, its assigned joint costs are allocated in the same proportions as the Diamond Fork System assigned joint costs.
13. Sixth Water Aqueduct - The Sixth Water Aqueduct was funded through Reclamation appropriations. All costs were allocated according to water supply under the UOF method. Because the Sixth Water Aqueduct is part of the Diamond Fork System, its assigned joint costs are allocated in the same proportions as the Diamond Fork System assigned joint costs.
14. Discontinued Power Investigations - Discontinued Power Investigations were funded through Reclamation appropriations. They include costs associated with planning of power generation but not resulting in construction. These costs have been allocated 100 percent to power. Because there was no construction, there are no associated IDC costs. These costs are non-reimbursable and will be deducted from reimbursable costs for power in Chapter 7. CUPCA Section 201 (b) states "all amounts previously expended in planning and developing the projects and features described in this subsection including amounts previously expended for investigation of power features in the Bonneville Unit shall be considered non-reimbursable and non-returnable."
15. Diamond Fork Pipeline – A portion of the Diamond Fork Pipeline planning costs were funded through Reclamation appropriations. All Reclamation costs were allocated according to water supply under the UOF method. Because the Diamond Fork Pipeline is part of the Diamond Fork System, its assigned joint costs are allocated in the same proportions as the Diamond Fork System assigned joint costs.
16. Irrigation Abandoned Investigations - Irrigation Abandoned Investigations were funded through Reclamation appropriations. They include all costs associated with planning of irrigation features that did not result in construction. These costs have been allocated 100 percent to irrigation. Because there was no associated construction, there are no associated IDC costs. CUPCA Section 201 (b) states "all amounts previously expended in planning and developing the projects and features described in this subsection including amounts previously expended for investigation of power features in the Bonneville Unit shall be considered non-reimbursable and non-returnable." This provision limits non-reimbursable

abandoned irrigation investigations to “those described in this subsection.” An analysis of which irrigation abandoned investigations costs are non-reimbursable under Section 201 (b) is contained in Chapter 7 of this Appendix. The analysis concludes that, of the total costs, approximately \$9.0 million is non-reimbursable.

17. **Service Facilities** - Service Facilities are those investments in structures and equipment required for operating and maintaining the Bonneville Unit. Because these expenditures benefit the entire project, Service Facilities have been allocated 100 percent to remaining joint costs. These funds were appropriated to Reclamation.
18. **Utah Lake Water Rights** - In the early planning of the Bonneville Unit, Utah Lake water rights were to have been required in developing various aspects of the project in addition to the Jordanelle Exchange. Because of the general nature of these expenditures and the small amount expended, Utah Lake Water Rights has been allocation 100 percent to remaining joint costs. These funds were appropriated to Reclamation.

B. CUPCA Facilities, Studies, and Programs

1. **Utah Lake System Planning and NEPA** - Funding for Utah Lake System (ULS) Planning and NEPA is authorized under CUPCA Section 202 (a) (1). This line item includes expenditures for planning and NEPA work associated with the now-defunct Irrigation and Drainage (I&D) and Spanish Fork – Nephi Systems—in addition to ULS planning and NEPA costs. Because ULS is the descendant of these earlier efforts, these costs are allocated to the combined water supply of all ULS features. In other words, ULS Planning and NEPA is allocated in the same proportion as the combined assigned joint costs of the ULS facilities including: SF Flow Control Structure; SFC Pipeline; SF - PRC Pipeline; SF - Santaquin Pipeline; Mapleton - Springville Pipeline; Santaquin - Mona Pipeline; and North Utah County 207 Project.
2. **Spanish Fork Flow Control Structure** - Funding for the Spanish Fork Flow Control Structure is authorized under CUPCA Section 202 (a) (1). Its estimated costs are allocated according to water supply under the UOF method.
3. **Spanish Fork Canyon Pipeline** - Section 5 funding for the Spanish Fork Canyon Pipeline is authorized under CUPCA Sections 202 (a) (1) and 202 (c). Its estimated costs are allocated according to water supply under the UOF method. In addition to its other purposes, the Spanish Fork Canyon Pipeline will also convey water to the lower Provo River for in-stream flows (ISF Lower Provo River (Section 8)). Costs associated with this Section 8 purpose are authorized under CUPCA Sections 202 (a) (1), 202 (c) and 302 (b). An allocation for this Section 8 water under UOF has been allocated to this feature as specific costs.
4. **Spanish Fork – Provo Reservoir Canal Pipeline** - Section 5 funding for the Spanish Fork - Provo Reservoir Canal Pipeline is authorized under CUPCA Sections 202 (a) (1) and 202 (c). Its estimated costs are allocated according to water supply under the UOF method. The SF - PRC Pipeline will also convey water to the lower Provo River for in-stream flows (ISF

Lower Provo River (Section 8)). Costs associated with this Section 8 purpose are authorized under CUPCA Sections 202 (a) (1), 202 (c), and 302 (b). An allocation for this Section 8 water under UOF has been allocated to this feature as specific costs.

5. Spanish Fork – Santaquin Pipeline - Funding for the Spanish Fork - Santaquin Pipeline is authorized under CUPCA Sections 202 (a) (1) and 202 (c). Its estimated costs are allocated according to water supply under the UOF method.
6. Mapleton – Springville Pipeline - Funding for the Mapleton - Springville Pipeline is authorized under CUPCA Sections 202 (a) (1), 202 (c), and 207. Its estimated costs are allocated according to water supply under the UOF method.
7. Santaquin – Mona Pipeline - Funding for the Santaquin - Mona Pipeline is authorized under CUPCA Sections 202 (a) (1) and 202 (c). Because the pipeline is anticipated to be used solely for fish and wildlife purposes, 100 percent of the costs have been allocated to Section 5 fish and wildlife purposes.
8. North Utah County 207 Project - Funding for the North Utah County 207 Project is authorized under Section 207 of CUPCA. Section 207 (e) (2) dictates that "the Federal share [of 207 expenditures] shall be allocated between the purposes of municipal and industrial water supply and irrigation, as appropriate, and shall be repaid in the manner of repayment for each such purpose." No IDC is calculated for Section 207 projects because they do not involve construction of a project facility.
9. Sixth Water Power Plant - Funding for the Sixth Water Power Plant is authorized under Section 202 (c) of CUPCA. Because it is a power generation facility, its costs have been allocated 100 percent to power as specific costs.
10. Diamond Fork Power Plant – Funding for the Diamond Fork Power Plant is authorized under Section 202 (c) of CUPCA. Because it is a power generation facility, its costs have been allocated 100 percent to power as specific costs.
11. Conjunctive Use – Funding for Conjunctive Use is authorized under Section 202 (a) (2) of CUPCA. Like Section 207, Conjunctive Use involves both project and non-project water. Conjunctive Use is allocated 100 percent to M&I because all conjunctive use water is being treated for culinary use. Because Conjunctive Use does not fund the construction of project facilities, there is no IDC associated with it.
12. Wasatch County Water Efficiency Project – Funding for the Wasatch County Water Efficiency Project (WCWEP) is authorized under CUPCA Sections 202 (a) (3) (B), 207, and 303 (b). Because an in-depth and recent analysis of the allocation of WCWEP costs is contained in the WCWEP Feasibility Study (dated January 1997), this allocation adopts the allocation of costs contained in the feasibility study.

13. Wasatch County Water Efficiency Study - Funding for the Wasatch County Water Efficiency Study is authorized under CUPCA Section 202 (a) (3) (A). Because this study is closely associated with the Wasatch County Water Efficiency Project (WCWEP), its costs are allocated in the same proportions as the WCWEP assigned joint costs.
14. Utah Lake Salinity Control – Funding for Utah Lake Salinity Control is authorized under CUPCA Section 202 (a) (4). Because completion of the study was required by CUPCA and was not associated with any facilities, 100 percent of its costs are allocated to remaining joint costs.
15. Diamond Fork System - Funding for the Diamond Fork System is authorized under CUPCA Sections 202 (a) (6) and 202 (c). Its costs are allocated according to the water supply under the UOF method. The allocation of Diamond Fork System assigned joint costs has been adopted, appropriately, for the Syar Tunnel and Diamond Fork Pipeline allocations.
16. Uinta Basin Replacement Project - Funding for the Uinta Basin Replacement Project (UBRP) is authorized under CUPCA Section 203 (a) and 202 (c). Because an in-depth and recent analysis of the allocation of UBRP costs is contained in the UBRP Feasibility Study (dated October 2001), this allocation adopts the allocation of costs as described in the feasibility study with the following exception. Following the completion of the feasibility study, additional information revealed that project deliveries of irrigation water could be increased from 1,963 acre-feet to 2,500 acre-feet. When this change was factored into the cost allocation in the UBRP Feasibility Study, the percent of costs allocated to project uses changed as follows: irrigation - from 18.62 percent to 22.57 percent; M&I – from 28.46 percent to 27.08 percent; and fish and wildlife – from 52.92 percent to 50.35 percent.
17. Local Development – Funding for Local Development is authorized under CUPCA Section 206. Section 206 provides funds for entities within counties that are part of the District but in which no Bonneville Unit facilities will be built. As a result, Local Development is a necessary condition, imposed by CUPCA, for the completion of the Bonneville Unit. For this reason, Local Development is allocated 100 percent to remaining joint costs. Because Local Development involves short-term construction (less than one year), there are no associated IDC costs.
18. Water Conservation Credit Program – Funding for the Water Conservation Credit Program is authorized under Sections 202 (c) and 207 (e) (2) of CUPCA. Section 207 (e) (2) dictates that "the Federal share [of 207 expenditures] shall be allocated between the purposes of municipal and industrial water supply and irrigation, as appropriate, and shall be repaid in the manner of repayment for each such purpose." Because the water associated with the Section 207 projects is roughly divided between M&I and irrigation water in a 60/40 ratio, the allocation of costs applies the same ratio.
19. Studies, Reports, and Coordinated Operations – Funding for Studies, Reports, and Coordinated Operations are authorized under Section 207 (e) of CUPCA. Because these studies are part of Section 207, their costs have been allocated in the same proportion as

Water Conservation Credit Program costs. Because there is no construction involved, there are no IDC costs.

20. Lease of Daniels Creek Water Rights - Funding for the Lease of Daniels Creek Water Rights is authorized under Section 303 (b) of CUPCA. Through a public process, the Utah Reclamation Mitigation and Conservation Commission contracted with the District to construct a conveyance system to provide a permanent supply of irrigation water to the Daniels irrigators. This Daniels Replacement Project was implemented in conjunction with WCWEP. As a result, the associated costs are allocated in the same proportion as WCWEP costs.
 21. Title V Ute Indian Rights Settlement - Title V of CUPCA is the Ute Indian Rights Settlement. It compensates the Ute Tribe of the Uintah and Ouray Reservation for unfulfilled obligations in the 1965 Deferral Agreement. The Deferral Agreement was a necessary element for the transbasin diversion. In other words, Title V costs are necessary to maintain the operation of the transbasin diversion. For this reason, Title V costs have been allocated to the assigned joint cost of SACS; the SACS allocation best reflects the allocation of the transbasin diversion. There is no IDC associated with the water settlement.
- C. Indian Ford Exchange - The Bonneville Unit's participation in the Jacob Welby Pumping Plant was intended to provide 7,900 AF of project M&I water. When the Jacob Welby Pumping Plant proved infeasible, Interior and the District entered into the Indian Ford Exchange Agreement under which Interior transferred to the District the indexed amount which had been set aside for the pumping plant. In exchange, the District waived associated claims against Reclamation and agreed to develop an equivalent water supply. In 2002, the District conveyed Utah Lake water rights to Interior and Block Notice 5C (7,900 AF) was issued. Because the water supply was 100 percent M&I, 100 percent of the costs are allocated to M&I purposes.

ALLOCATION OF OPERATION, MAINTENANCE AND REPLACEMENT COSTS

Operation maintenance and replacement costs are expenditures for materials, labor, and supplies necessary to operate the project and make repairs that will insure efficient operation throughout a project's 100-year expected economic life. These costs are presented in detail in chapter 6 of the Design and Estimates Appendix and are presented by feature in Table 6-2: Bonneville Unit Project Costs (Section 5 and Section 8). OM&R costs are computed every year, and may have wide fluctuations from year to year depending on unforeseen problems that may arise. OM&R costs presented in this chapter represent what would be considered a typical year based on recent prices.

- A. Section 5 OM&R. The OM&R cost from Table 6-2: Bonneville Unit Project Costs (Section 5 and Section 8) have been allocated by facility and purpose using the proportions developed in Table 6-4: Determination of Specific and Assigned Joint Costs (Section 5 Construction). The allocation of Section 5 OM&R costs to project purposes (based on the allocation of Section 5 construction costs) is summarized in Table 6-13: Operation, Maintenance and Replacement Costs Allocated by Feature (Section 5). In Table 6-13, specific and assigned costs are added and displayed by feature and project purpose to arrive at the basis of the OM&R allocation. These

costs are shown in the Allocated Construction Costs column. The percentage of cost allocated to each purpose is calculated by dividing the cost for each purpose by the total cost for each feature as shown in the column titled "Percent". The Percent column is then multiplied by total OM&R for each feature to arrive at the OM&R cost for each purpose. Purposes to which Section 5 OM&R costs are allocated are irrigation, M&I, instream flow, fish and wildlife, and flood control; OM&R costs are not allocated to highway improvement.

Total annual Section 5 OM&R costs are \$4.8 million which is divided between USBR facilities (\$1.8 million) and CUPCA facilities (\$3.0 million). There are two components to USBR OM&R costs: costs associated directly with facilities (\$1.5 million) and administrative costs not associated with any particular project feature (\$0.3million). The administrative costs are allocated in the same percentages as the total OM&R costs associated with facilities. These costs are primarily for administration of operating agreements with other entities and compliance with the Reclamation Reform Act. Remaining joint OM&R costs are allocated in Table 6-14: Operation, Maintenance and Replacement Cost Summary (Section 5 and Section 8) by the percentage of USBR construction costs assigned to each purpose.

The Central Utah Water Conservancy District (District) will collect Section 5 OM&R from irrigation and M&I water users. OM&R associated with In-Stream Flow and Fish and Wildlife will be assessed to agencies administering these activities. Power OM&R will be assessed to the Western Area Power Administration.

- B. Section 8 OM&R Cost Allocation. Total Section 8 OM&R costs (\$6.0 million) are divided between Fish and Wildlife (\$0.5 million) and Recreation (\$5.5 million). Section 8 Fish and Wildlife costs will be paid with funds appropriated from congress by the U. S. Fish and Wildlife Service and/or the Utah Reclamation Mitigation and Conservation Commission. Section 8 Recreation OM&R will be paid by agencies operating the recreation facilities.

SUMMARY OF SECTION 5 ALLOCATION

The results of the allocation of Section 5 costs are contained in Table 6-6: Summary of Specific and Assigned Joint Costs by Purpose (Section 5 Construction), Table 6-7: Summary of Specific and Assigned Joint Costs by Purpose (IDC), and Table 6-8: Summary of Project Cost Allocation (Section 5 and Section 8).

SUMMARY OF SECTION 8 ALLOCATION

The results of the allocation of Section 8 costs are contained in Tables 6-9: Summary of Cost Allocation (Section 8) and 6-8: Summary of Project Cost Allocation (Section 5 and Section 8).

SUMMARY OF OM&R ALLOCATION

Results of the OM&R allocation are displayed in Table 6-14: Operation, Maintenance and Replacement Cost Summary (Section 5 and Section 8).

**TABLE 6-2:
Bonneville Unit Project Costs
(Section 5 and Section 8)**

FEATURE	Construction Cost	Interest During Construction (3.125 Percent)	Annual OM&R
USBR SECTION 5 COSTS			
STARVATION COLLECTION SYSTEM			
Starvation Dam	\$ 22,536,505	\$ 19,457,314	\$ 126,296
Duchesne Canal Rehab.	\$ 37,883,920	\$ -	\$ -
Taylor Canal Drains	\$ 1,798,272	\$ -	\$ -
Subtotal	\$ 62,218,697	\$ 19,457,314	\$ 126,296
STRAWBERRY AQUEDUCT & COLLECTION SYSTEM			
Upper Stillwater Dam	\$ 247,353,876	\$ 46,848,947	\$ 268,700
Current Creek Dam	\$ 30,303,928	\$ 10,227,481	\$ 101,678
Soldier Creek Dam	\$ 51,708,000	\$ 7,223,826	\$ 114,955
Strawberry Aqueduct & Collection System	\$ 266,036,397	\$ 64,959,223	\$ 310,608
Subtotal	\$ 595,402,201	\$ 129,259,477	\$ 795,941
M&I SYSTEM			
Jordanelle Dam	\$ 356,705,956	\$ 102,636,471	\$ 218,565
Upper Provo River Reservoirs	\$ 7,789,326	\$ -	\$ 19,022
Jordan Aqueduct System	\$ 97,923,050	\$ 23,540,420	\$ 150,163
Jacob Welby Water Rights	\$ 66,865	\$ -	\$ -
Subtotal	\$ 462,485,197	\$ 126,176,891	\$ 387,750
DIAMOND FORK SYSTEM			
Syar Tunnel	\$ 76,405,796	\$ 20,607,713	\$ 27,048
Sixth Water Aqueduct	\$ 35,664,601	\$ 10,117,691	\$ 79,834
Discontinued Power Investigations	\$ 12,595,512	\$ -	\$ -
Diamond Fork Pipeline	\$ 2,117,315	\$ 5,791,688	
Subtotal	\$ 126,783,224	\$ 36,517,092	\$ 106,882
OTHER COSTS			
Irrigation Abandoned Investigations	\$ 31,432,520	\$ -	\$ -
Service Facilities	\$ 7,953,111	\$ -	\$ -
Utah Lake Water Rights	\$ 71,036	\$ -	\$ -
O&M Not Associated with Features	\$ -	\$ -	\$ 340,487
Subtotal	\$ 39,456,667	\$ -	\$ 340,487
TOTAL USBR SECTION 5 COSTS	\$ 1,286,345,986	\$ 311,410,774	\$ 1,757,356
USBR SECTION 8 COSTS			
Recreation Facilities	\$ 61,564,400		\$ 5,458,000
Fish and Wildlife Facilities	\$ 23,373,000		\$ 413,000
TOTAL USBR SECTION 8	\$ 84,937,400	\$ -	\$ 5,871,000
TOTAL USBR SECTIONS 5&8	\$ 1,371,283,386	\$ 311,410,774	\$ 7,628,356
ULS SECTION 8 COSTS			
Title II	Section		
Utah Lake System	201(a)(1)		
ULS Planning and NEPA (I&D, SFN, ULS)		\$ 32,659,121	
Spanish Fork Flow Control Structure		\$ 6,269,158	\$ 30,000
Spanish Fork Canyon Pipeline		\$ 60,003,743	\$ 2,343,896
Spanish Fork Provo Reservoir Canal Pipeline		\$ 91,242,507	\$ 4,847,258
Spanish Fork - Santaquin Pipeline		\$ 99,380,508	\$ 4,192,615
Mapleton Springville Lateral Pipeline		\$ 28,179,804	\$ 440,309
Santaquin - Mona Pipeline		\$ 18,077,632	\$ 282,463
North Utah County 207 Projects		\$ 60,000,000	
Sixth water Power Plant		\$ 33,830,454	\$ 1,316,815

**TABLE 6-2:
Bonneville Unit Project Costs
(Section 5 and Section 8)**

FEATURE		Construction Costs	Interest During Construction (I/C)	Annual O&M
Upper Diamond Fork Power Plant		\$ 6,793,073	\$ 105,673	\$ 316,000
Subtotal ULS Features		\$ 436,436,000	\$ 13,529,030	\$ 2,346,000
Conjunctive Use	202(a)(2)	\$ 19,854,000		
Wasatch County Efficiency Study	202(a)(3)(A)	\$ 1,092,000		
Wasatch County Efficiency Project	202(a)(3)(B)	\$ 18,497,000	\$ 982,577	\$ 359,000
Utah Lake Salinity Control	202(a)(4)	\$ 2,130,000		
Diamond Fork System 202(a)(6)	202(a)(6)	\$ 147,574,000	\$ 17,524,413	\$ 260,000
UBRP 203	203(a)	\$ 63,825,000	\$ 1,975,000	\$ 47,000
Local Development Options 206	206	\$ 10,943,000	\$ -	\$ -
Studies, Reports, Coordinated Operations	207(e)	\$ 6,632,000		
Water Conservation Credit Program 207	207(e)(2)	\$ 180,198,000	\$ -	
Title II Sub-Total:		\$ 887,181,000	\$ 34,011,019	\$ 3,012,000
Title III				
Lease of Daniels Creek Water Rights	303(b)	\$ 8,595,000		
Title V				
Ute Indian Water Rights Settlement	504, 505, 506	\$ 240,034,000	\$ -	
Indian Ford Exchange		\$ 11,044,000		
TOTAL CUPCA SECTION 5		\$ 1,146,854,000	\$ 34,011,019	\$ 3,012,000
CUPCA SECTION 8 COSTS				
Fish and Wildlife				
Section 201		\$ 39,588,000		
Title II				
Spanish Fork Pipeline	302 (a)	\$ 7,959,106		
Spanish Fork PRC Pipeline	302 (a)	\$ 39,621,661		
Provo River Studies	202 (a) (5)	\$ 2,098,000		
Uinta Basin Replacement Project	203 (a)	\$ 15,489,000		
Diversion on Duchesne + Strawberry R.	203 (a) (5)	\$ 4,111,000		
Title II Sub-Total:		\$ 69,278,767		
Title III				
Spanish Fork Pipeline	302(a)	\$ 4,657,490		
Spanish Fork PRC Pipeline	302(a)	\$ 9,041,010		
Other Title III		\$ 173,928,500		
Title III Sub-Total:		\$ 187,627,000		\$ 500,000
Title IV Mitigation and Conservation		\$ 131,276,000		\$ -
Total Section 8 Fish and Wildlife		\$ 427,769,767	\$ -	\$ 500,000
Title III Recreation		\$ 4,636,000		\$ -
TOTAL CUPCA SECTION 8		\$ 432,405,767		\$ 500,000
TOTAL CUPCA SECTION 5 & 8		\$ 1,579,259,767	\$ 34,011,019	\$ 3,512,000
TOTAL SECTION 5 (USBR & CUPCA)		\$ 2,433,199,986	\$ 345,421,792	\$ 4,769,356
TOTAL SECTION 8 (USBR & CUPCA)		\$ 517,343,167	\$ -	\$ 6,371,000
TOTAL BONNEVILLE UNIT		\$ 2,950,543,153	\$ 345,421,792	\$ 11,140,356

TABLE 6-3
Hydrologic Basis for Assigned Joint Costs
(Section 5)

FEATURE	PROJECT PURPOSES															
	Flood Control		Fish and Wildlife				Irrigation		M&I		Remaining Joint		Totals			
	(AF)	(%)	F&W (AF)	F&W (%)	Instream Flow (AF)	Instream Flow (%)	F&W Sub-Total (AF)	F&W Sub-Total (%)	Irrigation (AF)	Irrigation (%)	M&I (AF)	M&I (%)	(AF)	(%)	(AF)	(%)
Starvation Dam and Reservoir																
F&W Conservation Pool (Starvation)			12,990	100.00%	0	0.00%	12,990	100.00%							12,990	7.76%
Remaining Capacity							0								154,320	92.24%
Capacity Sub-Totals:	0	0.00%	12,990	7.76%	0	0.00%	12,990	7.76%					0	0.00%	167,310	100.00%
Irrigation BN 1 (Duchesne County)							0	0.00%	21,400	100.00%					21,400	31.20%
Irrigation BN 1B (Duchesne County)							0	0.00%	3,000	100.00%					3,000	4.37%
M&I BN 2A (96 AF - Duchesne County)							0	0.00%			96	100.00%			96	0.14%
M&I BN 2B (104 AF - Duchesne County)							0	0.00%			104	100.00%			104	0.15%
M&I BN 3 (300 AF - Duchesne County)							0	0.00%			300	100.00%			300	0.44%
PRE SCS Replacement	0	0.00%	314	0.72%	21,933	50.19%	22,247	50.91%	4,623	10.58%	16,830	38.51%	0	0.00%	43,700	63.70%
Yield Sub-Totals:			314	0.46%	21,933	31.97%	22,247	32.43%	29,023	42.31%	17,330	25.26%	0	0.00%	68,600	100.00%
Strawberry Collection System (SCS)																
IRR ULS (S. Utah County)									14,400	100.00%					14,400	8.29%
ISF Daniels Replacement Project					2,900	100.00%	2,900	100.00%							2,900	1.67%
ISF Hobbie Creek June Sucker					8,037	100.00%	8,037	100.00%							8,037	4.63%
ISF Sixth Water/Diamond Fork					16,273	100.00%	16,273	100.00%							16,273	9.36%
ISF Strawberry Collection System					44,400	100.00%	44,400	100.00%							44,400	25.55%
M&I BN 5D (590AF - S. Utah County)										590	100.00%			590	0.34%	
M&I BN 5D (1000AF - S. Utah County)										1,000	100.00%			1,000	0.58%	
M&I BN 7A (30000 AF - Salt Lake County)							0	0.00%			30,000	100.00%			30,000	17.26%
M&I BN 7B (3000 AF - S. Utah County)							0	0.00%			1,560	100.00%			1,560	0.90%
M&I BN 7B (27000 AF - S. Utah County)							0	0.00%			14,040	100.00%			14,040	8.08%
M&I Special BN 1 (260 AF - Wasatch County)										260	100.00%			260	0.15%	
ULD Lower Provo River ISF			495	3.10%	6,193	38.71%	6,689	41.81%	1,581	9.88%	7,730	48.31%			16,000	9.21%
ULD Diamond Fork ISF			504	3.10%	6,299	38.71%	6,803	41.81%	1,608	9.88%	7,862	48.31%			16,273	9.36%
ULD Hobbie Creek June Sucker			249	3.10%	3,111	38.71%	3,360	41.81%	794	9.88%	3,883	48.31%			8,037	4.63%
Yield Sub-Totals:			1,248	0.72%	87,214	50.19%	88,462	50.91%	18,384	10.58%	66,924	38.51%	0	0.00%	173,770	100.00%
Current Creek Dam and Reservoir																
F&W Conservation Pool (Current Creek)			210	100.00%	0	0.00%	210	100.00%							210	1.34%
Remaining Capacity															15,460	98.66%
Capacity Sub-Totals:			210	1.34%	0	0.00%	210	1.34%							15,670	100.00%
All Yields (Allocated Per SCS)	0	0.00%	1,248	0.72%	87,214	50.19%	88,462	50.91%	18,384	10.58%	66,924	38.51%	0	0.00%	173,770	100.00%
Yield Sub-Totals:	0		1,248	0.72%	87,214	50.19%	88,462	50.91%	18,384	10.58%	66,924	38.51%	0	0.00%	173,770	100.00%
Upper Stillwater Dam and Reservoir																
F&W Conservation Pool (Upper Stillwater)			627	100.00%	0	0.00%	627	100.00%							627	1.96%
Remaining Capacity															31,382	98.04%
Capacity Sub-Totals:			627	1.96%	0	0.00%	627	1.96%							32,009	100.00%
All Yields (Allocated Per SCS)	0	0.00%	1,248	0.72%	87,214	50.19%	88,462	50.91%	18,384	10.58%	66,924	38.51%	0	0.00%	173,770	100.00%
Yield Sub-Totals:			1,248	0.72%	87,214	50.19%	88,462	50.91%	18,384	10.58%	66,924	38.51%	0	0.00%	173,770	100.00%
Soldier Creek Dam and Reservoir																
F&W Conservation Pool (Soldier Creek)			15,500	100.00%	0	0.00%	15,500	100.00%							15,500	1.40%
PRE SVP Water Bank (Soldier Creek AJC)			250	0.50%	17,390	34.78%	17,640	35.28%	7,345	14.69%	25,015	50.03%	0	0.00%	50,000	4.52%
Remaining Capacity															1,041,000	94.08%
Capacity Sub-Totals:	0	0.00%	15,750	1.42%	17,390	1.57%	33,140	3.00%	7,345	0.66%	25,015	2.26%	0	0.00%	1,106,500	95.48%
IRR ULS (S. Utah County)									14,400	100.00%					14,400	7.09%
ISF Daniels Replacement Project					2,900	100.00%	2,900	100.00%							2,900	1.43%
ISF Hobbie Creek June Sucker					8,037	100.00%	8,037	100.00%							8,037	3.96%
ISF Sixth Water/Diamond Fork					16,273	100.00%	16,273	100.00%							16,273	8.02%
ISF Strawberry River (1997 Allocation Study)					12,622	100.00%	12,622	100.00%							12,622	6.22%
M&I BN 5D (590AF - S. Utah County)							0	0.00%			590	100.00%			590	0.29%
M&I BN 5D (1000AF - S. Utah County)										1,000	100.00%			1,000	0.49%	

TABLE 6-3
Hydrologic Basis for Assigned Joint Costs
(Section 5)

FEATURE	PROJECT PURPOSES														Totals	
	Flood Control		Fish and Wildlife				Irrigation		M&I		Remaining Joint		Totals			
			F&W		Instream Flow		F&W Sub-Total		Irrigation							
	(AF)	(%)	(AF)	(%)	(AF)	(%)	(AF)	(%)	(AF)	(%)	(AF)	(%)	(AF)	(%)		
M&I BN 7A (30000 AF - Salt Lake County)											30,000	100.00%			30,000	14.78%
M&I BN 7B (3000 AF - S. Utah County)							0	0.00%			1,560	100.00%			1,560	0.77%
M&I BN 7B (27000 AF - S. Utah County)							0	0.00%			14,040	100.00%			14,040	6.92%
M&I Special BN 1 (260 AF - Wasatch County)											260	100.00%			260	0.13%
PRE SVP Project Yield (Soldier Creek AJC)		0.00%	536	0.88%	23,815	39.04%	24,351	39.92%	7,898	12.95%	28,751	47.13%	0	0.00%	61,000	30.05%
ULD Diamond Fork ISF			504	3.10%	6,299	38.71%	6,803	41.81%	1,608	9.88%	7,862	48.31%			16,273	8.02%
ULD Hobble Creek June Sucker			249	3.10%	3,111	38.71%	3,360	41.81%	794	9.88%	3,883	48.31%			8,037	3.96%
ULD Lower Provo River ISF			495	3.10%	6,193	38.71%	6,689	41.81%	1,581	9.88%	7,730	48.31%			16,000	7.88%
Yield Sub-Totals:			1,784	0.88%	79,251	39.04%	81,035	39.92%	26,281	12.95%	95,675	47.13%	0	0.00%	202,992	100.00%
Diamond Fork System																
IRR ULS (S. Utah County)									14,400	100.00%					14,400	7.69%
ISF Hobble Creek June Sucker					8,037	100.00%	8,037	100.00%							8,037	4.29%
ISF Sixth Water/Diamond Fork					16,273	100.00%	16,273	100.00%							16,273	8.69%
M&I BN 5D (590AF - S. Utah County)											590	100.00%			590	0.32%
M&I BN 5D (1000AF - S. Utah County)											1,000	100.00%			1,000	0.53%
M&I BN 7A (30000 AF - Salt Lake County)							0	0.00%			30,000	100.00%			30,000	16.02%
M&I BN 7B (3000 AF - S. Utah County)							0	0.00%			1,560	100.00%			1,560	0.83%
M&I BN 7B (27000 AF - S. Utah County)							0	0.00%			14,040	100.00%			14,040	7.50%
PRE SVP Project Yield (Diamond Fork AJC)		0.00%	603	0.99%	19,291	31.62%	19,894	32.61%	8,885	14.57%	32,220	52.82%	0	0.00%	61,000	32.58%
ULD Diamond Fork ISF			504	3.10%	6,299	38.71%	6,803	41.81%	1,608	9.88%	7,862	48.31%			16,273	8.69%
ULD Hobble Creek June Sucker			249	3.10%	3,111	38.71%	3,360	41.81%	794	9.88%	3,883	48.31%			8,037	4.29%
ULD Lower Provo River ISF			495	3.10%	6,193	38.71%	6,689	41.81%	1,581	9.88%	7,730	48.31%			16,000	8.55%
Yield Sub-Totals:	0	0.00%	1,851	0.99%	59,205	31.62%	61,056	32.61%	27,269	14.57%	98,885	52.82%	0	0.00%	187,210	100.00%
Spanish Fork Flow Control Structure																
IRR ULS (S. Utah County)									14,400	100.00%					14,400	14.74%
ISF Hobble Creek June Sucker					8,037	100.00%	8,037	100.00%							8,037	8.23%
ISF Sec 207 BN 5D (1000 AF)					1,000	100.00%	1,000	100.00%							1,000	1.02%
ISF Sec 207 BN 7B (3000 AF)					3,000	100.00%	3,000	100.00%							3,000	3.07%
M&I BN 5D (590AF - S. Utah County)											590	100.00%			590	0.60%
M&I BN 5D (1000AF - S. Utah County)											1,000	100.00%			1,000	1.02%
M&I BN 7A (30000 AF - Salt Lake County)							0	0.00%			30,000	100.00%			30,000	30.72%
M&I BN 7B (3000 AF - S. Utah County)							0	0.00%			1,560	100.00%			1,560	1.60%
M&I BN 7B (27000 AF - S. Utah County)							0	0.00%			14,040	100.00%			14,040	14.38%
ULD Hobble Creek June Sucker			249	3.10%	3,111	38.71%	3,360	41.81%	794	9.88%	3,883	48.31%			8,037	8.23%
ULD Lower Provo River ISF			495	3.10%	6,193	38.71%	6,689	41.81%	1,581	9.88%	7,730	48.31%			16,000	16.38%
Yield Sub-Totals:	0	0.00%	744	0.76%	21,341	21.85%	22,086	22.61%	16,776	17.18%	58,803	60.21%	0	0.00%	97,664	100.00%
Spanish Fork Canyon Pipeline																
ISF Hobble Creek June Sucker					8,037	100.00%	8,037	100.00%							8,037	8.73%
ISF Sec 207 BN 5D (1000 AF)					1,000	100.00%	1,000	100.00%							1,000	1.09%
ISF Sec 207 BN 7B (3000 AF)					3,000	100.00%	3,000	100.00%							3,000	3.26%
M&I BN 5D (590AF - S. Utah County)											590	100.00%			590	0.64%
M&I BN 5D (1000AF - S. Utah County)											1,000	100.00%			1,000	1.09%
M&I BN 7A (30000 AF - Salt Lake County)							0	0.00%			30,000	100.00%			30,000	32.58%
M&I BN 7B (3000 AF - S. Utah County)							0	0.00%			1,560	100.00%			1,560	1.69%
M&I BN 7B (27000 AF - S. Utah County)							0	0.00%			14,040	100.00%			14,040	15.25%
PRE SVP Irrigation Water (Mapleton - Springville) (207)	0	0.00%	0	0.00%	0	0.00%	0	0.00%	8,831	100.00%	0	0.00%	0	0.00%	8,831	9.59%
ULD Hobble Creek June Sucker			249	3.10%	3,111	38.71%	3,360	41.81%	794	9.88%	3,883	48.31%			8,037	8.73%
ULD Lower Provo River ISF			495	3.10%	6,193	38.71%	6,689	41.81%	1,581	9.88%	7,730	48.31%			16,000	17.37%
Yield Sub-Totals:			744	0.81%	21,341	23.17%	22,086	23.98%	11,207	12.17%	58,803	63.85%	0	0.00%	92,095	100.00%
Spanish Fork - Provo Reservoir Canal Pipeline																
M&I BN 7A (30000 AF - Salt Lake County)							0	0.00%			30,000	100.00%			30,000	65.22%

TABLE 6-3
Hydrologic Basis for Assigned Joint Costs
(Section 5)

FEATURE	PROJECT PURPOSES															
	Flood Control		Fish and Wildlife				Irrigation		M&I		Remaining Joint		Totals			
	(AF)	(%)	F&W (AF)	F&W (%)	Instream Flow (AF)	Instream Flow (%)	F&W Sub-Total (AF)	F&W Sub-Total (%)	Irrigation (AF)	Irrigation (%)	M&I (AF)	M&I (%)	(AF)	(%)	(AF)	(%)
Capacity Block																
Yield Block																
ULD Lower Provo River ISF			495	3.10%	6,193	38.71%	6,689	41.81%	1,581	9.88%	7,730	48.31%			16,000	34.78%
Yield Sub-Totals:			495	1.08%	6,193	13.46%	6,689	14.54%	1,581	3.44%	37,730	82.02%	0	0.00%	46,000	100.00%
Spanish Fork - Santaquin Pipeline																
M&I Block Notice 5D (590AF - S. Utah County)											590	100.00%			590	4.03%
M&I Block Notice 7B (27000 AF - S. Utah County)							0	0.00%			14,040	100.00%			14,040	95.97%
Yield Sub-Totals:	0		0	0.00%	0	0.00%	0	0.00%	0	0.00%	14,630	100.00%	0	0.00%	14,630	100.00%
Mapleton - Springville Pipeline																
ISF Hobbie Creek June Sucker					8,037	100.00%	8,037	100.00%							8,037	25.54%
ISF Sec 207 BN 5D (1000 AF)					1,000	100.00%	1,000	100.00%							1,000	3.18%
ISF Sec 207 BN 7B (3000 AF)					3,000	100.00%	3,000	100.00%							3,000	9.53%
M&I Block Notice 5D (1000AF - S. Utah County)							0	0.00%			1,000	100.00%			1,000	3.18%
M&I Block Notice 7B (3000 AF - S. Utah County)							0	0.00%			1,560	100.00%			1,560	4.96%
PRE SVP Irrigation Water (Mapleton - Springville) (207)			0	0.00%	0	0.00%	0	0.00%	8,831	100.00%	0	0.00%			8,831	28.07%
ULD Hobbie Creek June Sucker			249	3.10%	3,111	38.71%	3,360	41.81%	794	9.88%	3,883	48.31%			8,037	25.54%
Yield Sub-Totals:			249	0.79%	15,148	48.14%	15,397	48.93%	9,625	30.59%	6,443	20.48%	0	0.00%	31,465	100.00%
Upper Provo River Lakes and Reservoirs																
IRR BN 1A (2000 AF - Summit County)							0	0.00%	2,000	100.00%					2,000	29.85%
ISF Upper Provo River ISF					200	100.00%	200	100.00%							200	2.99%
PRE Deer Creek Exchange			1,000	100.00%			1,000	100.00%							1,000	14.93%
PRE Upper Provo River Lakes (Big Elk Lake)			800	100.00%			800	100.00%							800	11.94%
PRE Upper Provo River Lakes (Ten Remaining Lakes)			2,700	100.00%			2,700	100.00%							2,700	40.30%
Yield Sub-Totals:	0	0.00%	4,500	67.16%	200	2.99%	4,700	70.15%	2,000	29.85%	0	0.00%	0	0.00%	6,700	100.00%
Jordanelle Dam and Reservoir																
F&W Conservation Pool (Jordanelle)			3,026	100.00%	0	0.00%	3,026	100.00%							3,026	0.83%
FLD Flood Control (Jordanelle)	49,500	100.00%													49,500	13.62%
PRE Provo City Storage (Jordanelle AJC)			310	3.10%	3,871	38.71%	4,181	41.81%	988	9.88%	4,831	48.31%	0	0.00%	10,000	2.75%
Remaining Capacity															301,000	82.80%
Capacity Sub-Totals:	49,500	13.62%	3,336	0.92%	3,871	1.06%	7,207	1.98%	988	0.27%	4,831	1.33%	0	0.00%	363,526	100.00%
IRR BN 1A (1000 AF - Summit County)									1,000	100.00%					1,000	0.65%
IRR BN 1A (12,100 AF - Wasatch County)									12,100	100.00%					12,100	7.86%
ISF Provo River (Summer)					14,400	100.00%	14,400	100.00%							14,400	9.35%
ISF Provo River (Winter)					45,000	100.00%	45,000	100.00%							45,000	29.22%
M&I BN 4A (11000 N. Utah, SL Counties)											11,000	100.00%			11,000	7.14%
M&I BN 4B (9000 N. Utah, SL Counties)											9,000	100.00%			9,000	5.84%
M&I BN 5A (13800 AF - N. Utah, SL, Wasatch Counties)											13,800	100.00%			13,800	8.96%
M&I BN 5B (2400 AF - Wasatch County)											2,400	100.00%			2,400	1.56%
M&I BN 5C (7900 AF - SL County)											7,900	100.00%			7,900	5.13%
M&I BN 6 (43300 AF - SL County)											43,300	100.00%			43,300	28.12%
M&I Special BN 2 (5000 AF - SL County)											5,000	100.00%			5,000	3.25%
M&I Indian Ford Exchange Water Rights											(7,900)	100.00%			(7,900)	-5.13%
M&I Provo River Water Rights											(10,100)	100.00%			(10,100)	-6.56%
PRE Upper Provo River Lakes (Trial, Lost, Washington)		0.00%	2,955	67.16%	131	2.99%	3,087	70.15%	1,313	29.85%	0	0.00%	0	0.00%	4,400	2.86%
PRE Upper Provo River Lakes (Ten Remaining Lakes)	0	0.00%	1,813	67.16%	81	2.99%	1,894	70.15%	806	29.85%	0	0.00%	0	0.00%	2,700	1.75%
Yield Sub-Totals:			4,769	3.10%	59,612	38.71%	64,381	41.81%	15,219	9.88%	74,400	48.31%	0	0.00%	154,000	100.00%
BONNEVILLE UNIT CAPACITY TOTALS:	49,500	2.94%	32,913	1.95%	21,261	1.26%	54,174	3.22%	8,333	0.49%	29,846	1.77%	0	0.00%	1,685,015	100.00%
BONNEVILLE UNIT YIELD TOTALS:	0	0.00%	18,452	1.39%	524,524	39.59%	542,976	40.98%	177,357	13.39%	604,669	45.64%	0	0.00%	1,325,002	100.00%

TABLE 6-4
Determination of Specific and Assigned Joint Costs
(Section 5 Construction)

FEATURE	PROJECT PURPOSES														Totals			
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint				
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W (%)	Instream Flow (%)	F&W Sub-Total (%)	Irrigation (%)	Irrigation (%)	M&I (%)	M&I (%)	Remaining Joint (%)		Remaining Joint (%)		
Starvation Dam and Reservoir Total Cost																	\$22,536,505	
Specific Costs				\$1,423,000													\$1,423,000	
Remaining Costs																	\$21,113,505	
Assigned Joint Costs (Power)					100.00%	\$983,796											\$983,796	
Remaining Costs																	\$20,129,709	
Assigned Joint Costs (Capacity)	0.00%	\$0					7.76%	\$1,562,877	0.00%	\$0	7.76%	\$1,562,877	0.00%	\$0	0.00%	\$0	\$1,562,877	
Remaining Costs																	\$18,566,832	
Assigned Joint Costs (Yield)							0.46%	\$84,959	31.97%	\$5,936,147	32.43%	\$6,021,106	42.31%	\$7,855,224	25.26%	\$4,690,502	\$18,566,832	
Total Specific and Assigned Joint Costs:	0.00%	\$0	6.31%	\$1,423,000	4.37%	\$983,796	7.31%	\$1,647,836	26.34%	\$5,936,147	33.65%	\$7,583,983	34.86%	\$7,855,224	20.81%	\$4,690,502	100.00%	\$22,536,505
Duchesne Canal Rehabilitation																	\$37,883,920	
Specific Costs													\$37,883,920				\$37,883,920	
Remaining Costs																	\$0	
Assigned Joint Costs (Power)								\$0									\$0	
Remaining Costs																	\$0	
Assigned Joint Costs (Capacity)																	\$0	
Remaining Costs																	\$0	
Assigned Joint Costs (Yield)																	\$0	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$37,883,920	0.00%	\$0	100.00%	\$37,883,920
Taylor Canal Drains																	\$1,798,272	
Specific Costs													\$1,798,272				\$1,798,272	
Remaining Costs																	\$0	
Assigned Joint Costs (Power)								\$0									\$0	
Remaining Costs																	\$0	
Assigned Joint Costs (Capacity)																	\$0	
Remaining Costs																	\$0	
Assigned Joint Costs (Yield)																	\$0	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$1,798,272	0.00%	\$0	100.00%	\$1,798,272
Upper Stillwater Dam and Reservoir																	\$247,353,876	
Specific Costs																	\$0	
Remaining Costs																	\$247,353,876	
Assigned Joint Costs (Power)							100.00%	\$18,092,815									\$18,092,815	
Remaining Costs																	\$229,261,061	
Assigned Joint Costs (Capacity)								1.96%	\$4,845,227			1.96%	\$4,845,227				\$4,845,227	
Remaining Costs																	\$224,415,834	
Assigned Joint Costs (Yield)							0.72%	\$1,612,007	50.19%	\$112,632,313	50.91%	\$114,244,320	10.58%	\$23,741,726	38.51%	\$86,429,789	\$224,415,834	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	7.31%	\$18,092,815	2.61%	\$6,457,234	45.53%	\$112,632,313	48.15%	\$119,089,547	9.60%	\$23,741,726	34.94%	\$86,429,789	100.00%	\$247,353,876
Current Creek Dam and Reservoir																	\$30,303,928	
Specific Costs				\$1,481,000													\$1,481,000	
Remaining Costs																	\$28,822,928	
Assigned Joint Costs (Power)							100.00%	\$2,108,267									\$2,108,267	
Remaining Costs																	\$26,714,661	
Assigned Joint Costs (Capacity)								1.34%	\$386,268			1.34%	\$386,268				\$386,268	
Remaining Costs																	\$26,328,394	
Assigned Joint Costs (Yield)							0.72%	\$189,120	50.19%	\$13,213,987	50.91%	\$13,403,107	10.58%	\$2,785,372	38.51%	\$10,139,915	\$26,328,394	
Total Specific and Assigned Joint Costs:	0.00%	\$0	4.89%	\$1,481,000	6.96%	\$2,108,267	1.90%	\$575,388	43.60%	\$13,213,987	45.50%	\$13,789,375	9.19%	\$2,785,372	33.46%	\$10,139,915	100.00%	\$30,303,928
Soldier Creek Dam and Reservoir																	\$51,708,000	
Specific Costs				\$750,000													\$750,000	
Remaining Costs																	\$50,958,000	
Assigned Joint Costs (Power)							100.00%	\$4,227,721									\$4,227,721	
Remaining Costs																	\$46,730,279	
Assigned Joint Costs (Capacity)								1.42%	\$725,340	1.57%	\$800,867	3.00%	\$1,526,207	0.66%	\$338,262	2.26%	\$1,152,024	\$43,016,493
Remaining Costs																	\$43,713,786	
Assigned Joint Costs (Yield)							0.88%	\$384,275	39.04%	\$17,066,460	39.92%	\$17,450,736	12.95%	\$5,659,631	47.13%	\$20,603,420	\$43,713,786	
Total Specific and Assigned Joint Costs:	0.00%	\$0	1.45%	\$750,000	8.18%	\$4,227,721	2.15%	\$1,109,615	34.55%	\$17,867,327	36.70%	\$18,976,943	11.60%	\$5,997,893	42.07%	\$21,755,443	100.00%	\$51,708,000
Strawberry Aqueduct + Collection System																	\$266,036,397	
Specific Costs																	\$0	
Remaining Costs																	\$266,036,397	
Assigned Joint Costs (Power)							100.00%	\$19,459,356									\$19,459,356	
Remaining Costs																	\$246,577,041	
Assigned Joint Costs (Capacity)																	\$0	
Remaining Costs																	\$246,577,041	

TABLE 6-4
Determination of Specific and Assigned Joint Costs
(Section 5 Construction)

FEATURE	PROJECT PURPOSES																				
	Flood Control		Highway Improvement		Power		Fish and Wildlife				Irrigation		M&I		Remaining Joint		Totals				
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W (%)	F&W (\$)	Instream Flow (%)	Instream Flow (\$)	F&W Sub-Total (%)	F&W Sub-Total (\$)	Irrigation (%)	Irrigation (\$)	M&I (%)	M&I (\$)	(%)	(\$)	(%)	(\$)	
Assigned Joint Costs (Yield)							0.72%	\$1,771,193	50.19%	\$123,754,826	50.91%	\$125,526,019	10.58%	\$26,086,236	38.51%	\$94,964,785	0.00%	\$0	100.00%	\$246,577,041	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	7.31%	\$19,459,356	0.67%	\$1,771,193	46.52%	\$123,754,826	47.18%	\$125,526,019	9.81%	\$26,086,236	35.70%	\$94,964,785	0.00%	\$0	100.00%	\$266,036,397	
Jordanelle Dam and Reservoir																					
Specific Costs				\$62,461,000				\$3,748,000				\$3,748,000								\$356,705,956	
Remaining Costs																				\$66,209,000	
Assigned Joint Costs (Power)						\$0														\$0	
Remaining Costs																				\$290,496,956	
Assigned Joint Costs (Capacity)	13.62%	\$39,555,903					0.92%	\$2,665,551	1.06%	\$3,093,276	1.98%	\$5,758,827	0.27%	\$789,738	1.33%	\$3,860,631	0.00%	\$0	17.20%	\$49,965,099	
Remaining Costs																				\$240,531,857	
Assigned Joint Costs (Yield)							3.10%	\$7,448,142	38.71%	\$93,107,602	41.81%	\$100,555,744	9.88%	\$23,771,112	48.31%	\$116,205,001	0.00%	\$0	100.00%	\$240,531,857	
Total Specific and Assigned Joint Costs:	11.09%	\$39,555,903	17.51%	\$62,461,000	0.00%	\$0	3.89%	\$13,861,693	26.97%	\$96,200,878	30.86%	\$110,062,570	6.89%	\$24,560,850	33.66%	\$120,065,632	0.00%	\$0	100.00%	\$356,705,956	
Jordan Aqueduct System																\$97,923,050				\$97,923,050	
Specific Costs																\$97,923,050				\$0	
Remaining Costs																				\$0	
Assigned Joint Costs (Power)						\$0														\$0	
Remaining Costs																				\$0	
Assigned Joint Costs (Capacity)																			0.00%	\$0	
Remaining Costs																				\$0	
Assigned Joint Costs (Yield)																			0.00%	\$0	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$97,923,050	0.00%	\$0	100.00%	\$97,923,050	
Jacob Welby Water Rights																\$66,865				\$66,865	
Specific Costs																\$66,865				\$0	
Remaining Costs																				\$0	
Assigned Joint Costs (Power)						\$0														\$0	
Remaining Costs																				\$0	
Assigned Joint Costs (Capacity)																			0.00%	\$0	
Remaining Costs																				\$0	
Assigned Joint Costs (Yield)																			0.00%	\$0	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$66,865	0.00%	\$0	100.00%	\$66,865	
Upper Provo River Reservoirs																				\$7,789,326	
Specific Costs								\$5,139,000				\$5,139,000								\$5,139,000	
Remaining Costs																				\$2,650,326	
Assigned Joint Costs (Power)						\$0														\$0	
Remaining Costs																				\$2,650,326	
Assigned Joint Costs (Capacity)																			0.00%	\$0	
Remaining Costs																				\$2,650,326	
Assigned Joint Costs (Yield)							67.16%	\$1,780,070	2.99%	\$79,114	70.15%	\$1,859,184	29.85%	\$791,142	0.00%	\$0	0.00%	\$0	100.00%	\$2,650,326	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	88.83%	\$6,919,070	1.02%	\$79,114	89.84%	\$6,998,184	10.16%	\$791,142	0.00%	\$0	0.00%	\$0	100.00%	\$7,789,326	
Svar Tunnel																				\$76,405,796	
Specific Costs																				\$0	
Remaining Costs																				\$76,405,796	
Assigned Joint Costs (Power)						100.00%	\$6,791,803														\$6,791,803
Remaining Costs																				\$69,613,993	
Assigned Joint Costs (Capacity)																			0.00%	\$0	
Remaining Costs																				\$69,613,993	
Assigned Joint Costs (Yield)							0.99%	\$688,479	31.62%	\$22,015,263	32.61%	\$22,703,743	14.57%	\$10,139,963	52.82%	\$36,770,288	0.00%	\$0	100.00%	\$69,613,993	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	8.89%	\$6,791,803	0.90%	\$688,479	28.81%	\$22,015,263	29.71%	\$22,703,743	13.27%	\$10,139,963	48.12%	\$36,770,288	0.00%	\$0	100.00%	\$76,405,796	
Sixth Water Aqueduct																				\$35,664,601	
Specific Costs																				\$0	
Remaining Costs																				\$35,664,601	
Assigned Joint Costs (Power)						100.00%	\$3,170,269														\$3,170,269
Remaining Costs																				\$32,494,332	
Assigned Joint Costs (Capacity)																			0.00%	\$0	
Remaining Costs																				\$32,494,332	
Assigned Joint Costs (Yield)							0.99%	\$321,368	31.62%	\$10,276,257	32.61%	\$10,597,624	14.57%	\$4,733,119	52.82%	\$17,163,588	0.00%	\$0	100.00%	\$32,494,332	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	8.89%	\$3,170,269	0.90%	\$321,368	28.81%	\$10,276,257	29.71%	\$10,597,624	13.27%	\$4,733,119	48.12%	\$17,163,588	0.00%	\$0	100.00%	\$35,664,601	
Discontinued Power Investigations																				\$12,595,512	
Specific Costs								\$12,595,512												\$12,595,512	
Remaining Costs																				\$0	
Assigned Joint Costs (Power)								\$0												\$0	

TABLE 6-4
Determination of Specific and Assigned Joint Costs
(Section 5 Construction)

FEATURE	PROJECT PURPOSES																Totals			
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint						
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W (%)	F&W (\$)	Instream Flow (%)	Instream Flow (\$)	F&W Sub-Total (%)	F&W Sub-Total (\$)	Irrigation (%)	Irrigation (\$)	M&I (%)	M&I (\$)			(%)	(\$)
Specific Costs																			\$0	
Assigned Joint Costs																			\$0	
Remaining Costs																			\$0	
Assigned Joint Costs (Capacity)																			\$0	
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	100.00%	\$12,595,512	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$12,595,512
Diamond Fork Pipeline																				
Specific Costs																			\$2,117,315	
Assigned Joint Costs (Power)						\$0													\$0	
Assigned Joint Costs (Capacity)																			\$0	
Assigned Joint Costs (Yield)							0.99%	\$20,940	31.62%	\$669,596	32.61%	\$690,536	14.57%	\$308,408	52.82%	\$1,118,371	0.00%	\$0	100.00%	\$2,117,315
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.99%	\$20,940	31.62%	\$669,596	32.61%	\$690,536	14.57%	\$308,408	52.82%	\$1,118,371	0.00%	\$0	100.00%	\$2,117,315
Irrigation Abandoned Investigations																				
Specific Costs													\$31,432,520						\$31,432,520	
Assigned Joint Costs (Power)						\$0													\$0	
Assigned Joint Costs (Capacity)																			\$0	
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$31,432,520	0.00%	\$0	0.00%	\$0	100.00%	\$31,432,520
Service Facilities																				
Specific Costs																			\$7,953,111	
Assigned Joint Costs (Power)						\$0													\$0	
Assigned Joint Costs (Capacity)																			\$0	
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$7,953,111	100.00%	\$7,953,111
Utah Lake Water Rights																				
Specific Costs																			\$71,036	
Assigned Joint Costs (Power)						\$0													\$0	
Assigned Joint Costs (Capacity)																			\$0	
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$71,036	100.00%	\$71,036
Total USBR Sec 5 Spec Costs:	0.00%	\$0	24.97%	\$66,115,000	4.76%	\$12,595,512	3.36%	\$8,887,000	0.00%	\$0	3.36%	\$8,887,000	26.86%	\$71,114,712	37.02%	\$97,989,915	3.03%	\$8,024,147	100.00%	\$264,726,286
Sub-Total USBR Sec 5 AJC (Power):					100.00%	\$54,834,026													100.00%	\$54,834,026
Sub-Total USBR Sec 5 AJC (Capacity):	66.17%	\$39,555,903	0.00%	\$0	0.00%	\$0	17.04%	\$10,185,262	6.51%	\$3,894,143	23.55%	\$14,079,406	1.89%	\$1,128,000	8.39%	\$5,012,655	0.00%	\$0	100.00%	\$59,775,964
Sub-Total USBR Sec 5 AJC (Yield):	0.00%	\$0	0.00%	\$0	0.00%	\$0	1.58%	\$14,300,553	43.96%	\$398,751,565	45.54%	\$413,052,118	11.67%	\$105,871,933	42.79%	\$388,085,659	0.00%	\$0	100.00%	\$907,009,710
Total USBR Sec 5 AJC:	3.87%	\$39,555,903	0.00%	\$0	5.37%	\$54,834,026	2.40%	\$24,485,816	39.41%	\$402,645,708	41.81%	\$427,131,524	10.47%	\$106,999,933	38.48%	\$393,098,314	0.00%	\$0	100.00%	\$1,021,619,700
Total USBR Sec 5 Costs:	3.08%	\$39,555,903	5.14%	\$66,115,000	5.24%	\$67,429,538	2.59%	\$33,372,816	31.30%	\$402,645,708	33.90%	\$436,018,524	13.85%	\$178,114,645	38.18%	\$491,088,229	0.62%	\$8,024,147	100.00%	\$1,286,345,986
ULS Planning and NEPA																				
Specific Costs																			\$32,659,121	
Assigned Joint Costs (Power)						\$0													\$0	
Assigned Joint Costs (Capacity)																			\$0	
Assigned Joint Costs (Yield)							5.46%	\$1,782,091	11.32%	\$3,698,562	16.78%	\$5,480,653	5.54%	\$1,810,791	77.67%	\$25,367,677	0.00%	\$0	100.00%	\$32,659,121
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	5.46%	\$1,782,091	11.32%	\$3,698,562	16.78%	\$5,480,653	5.54%	\$1,810,791	77.67%	\$25,367,677	0.00%	\$0	100.00%	\$32,659,121
Spanish Fork Flow Control Structure																				
Specific Costs																			\$6,269,158	
Remaining Costs																			\$6,269,158	

TABLE 6-4
Determination of Specific and Assigned Joint Costs
(Section 5 Construction)

FEATURE	PROJECT PURPOSES																			
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint		Totals				
	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)		
Specific Costs																		\$0		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$6,269,158		
Assigned Joint Costs (Capacity)																	0.00%	\$0		
Remaining Costs																		\$6,269,158		
Assigned Joint Costs (Yield)							0.76%	\$47,778	21.85%	\$1,369,934	22.61%	\$1,417,712	17.18%	\$1,076,838	60.21%	\$3,774,608	0.00%	\$0	100.00%	\$6,269,158
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.76%	\$47,778	21.85%	\$1,369,934	22.61%	\$1,417,712	17.18%	\$1,076,838	60.21%	\$3,774,608	0.00%	\$0	100.00%	\$6,269,158
Spanish Fork Canyon Pipeline																		\$60,003,743		
Specific Costs																		\$0		
Remaining Costs																		\$60,003,743		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$60,003,743		
Assigned Joint Costs (Capacity)																	0.00%	\$0		
Remaining Costs																		\$60,003,743		
Assigned Joint Costs (Yield)							0.81%	\$484,951	23.17%	\$13,904,876	23.98%	\$14,389,827	12.17%	\$7,301,511	63.85%	\$38,312,405	0.00%	\$0	100.00%	\$60,003,743
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.81%	\$484,951	23.17%	\$13,904,876	23.98%	\$14,389,827	12.17%	\$7,301,511	63.85%	\$38,312,405	0.00%	\$0	100.00%	\$60,003,743
Spanish Fork Provo Reservoir Canal Pipe																		\$91,242,507		
Specific Costs																		\$0		
Remaining Costs																		\$91,242,507		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$91,242,507		
Assigned Joint Costs (Capacity)																	0.00%	\$0		
Remaining Costs																		\$91,242,507		
Assigned Joint Costs (Yield)							1.08%	\$982,731	13.46%	\$12,284,908	14.54%	\$13,267,639	3.44%	\$3,136,435	82.02%	\$74,838,434	0.00%	\$0	100.00%	\$91,242,507
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	1.08%	\$982,731	13.46%	\$12,284,908	14.54%	\$13,267,639	3.44%	\$3,136,435	82.02%	\$74,838,434	0.00%	\$0	100.00%	\$91,242,507
Spanish Fork Santaquin Pipeline																		\$99,380,508		
Specific Costs											\$0							\$0		
Remaining Costs																		\$99,380,508		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$99,380,508		
Assigned Joint Costs (Capacity)																	0.00%	\$0		
Remaining Costs																		\$99,380,508		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$99,380,508	0.00%	\$0	100.00%	\$99,380,508
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$99,380,508	0.00%	\$0	100.00%	\$99,380,508
Mapleton Springville Pipeline																		\$28,179,804		
Specific Costs																		\$0		
Remaining Costs																		\$28,179,804		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$28,179,804		
Assigned Joint Costs (Capacity)																	0.00%	\$0		
Remaining Costs																		\$28,179,804		
Assigned Joint Costs (Yield)							0.79%	\$222,884	48.14%	\$13,566,470	48.93%	\$13,789,354	30.59%	\$8,620,320	20.48%	\$5,770,130	0.00%	\$0	100.00%	\$28,179,804
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.79%	\$222,884	48.14%	\$13,566,470	48.93%	\$13,789,354	30.59%	\$8,620,320	20.48%	\$5,770,130	0.00%	\$0	100.00%	\$28,179,804
Santaquin Mona Pipeline																		\$18,077,632		
Specific Costs								\$18,077,632				\$18,077,632						\$18,077,632		
Remaining Costs																		\$0		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Capacity)																	0.00%	\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$18,077,632	0.00%	\$0	100.00%	\$18,077,632	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$18,077,632
North Utah County 207 Project																		\$60,000,000		
Specific Costs																		\$0		
Remaining Costs																		\$60,000,000		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$60,000,000		
Assigned Joint Costs (Capacity)																	0.00%	\$0		
Remaining Costs																		\$60,000,000		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$60,000,000	0.00%	\$0	100.00%	\$60,000,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$60,000,000	0.00%	\$0	100.00%	\$60,000,000

TABLE 6-4
Determination of Specific and Assigned Joint Costs
(Section 5 Construction)

FEATURE	PROJECT PURPOSES																Totals			
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint						
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W (%)	F&W (\$)	Instream Flow (%)	Instream Flow (\$)	F&W Sub-Total (%)	F&W Sub-Total (\$)	Irrigation (%)	Irrigation (\$)	M&I (%)	M&I (\$)		Remaining Joint (%)	Remaining Joint (\$)	
Sixth Water Power Plant																		\$33,830,454		
Specific Costs						\$33,830,454												\$33,830,454		
Remaining Costs																		\$0		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Capacity)																		\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0		
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	100.00%	\$33,830,454	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$33,830,454
Upper Diamond Fork Power Plant																		\$6,793,073		
Specific Costs						\$6,793,073												\$6,793,073		
Remaining Costs																		\$0		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Capacity)																		\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0		
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	100.00%	\$6,793,073	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$6,793,073
Conjunctive Use																		\$19,854,000		
Specific Costs																		\$0		
Remaining Costs																		\$19,854,000		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$19,854,000		
Assigned Joint Costs (Capacity)																		\$0		
Remaining Costs																		\$19,854,000		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$19,854,000	0.00%	\$0	100.00%	\$19,854,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$19,854,000	0.00%	\$0	100.00%	\$19,854,000
Wasatch County Efficiency Study																		\$1,092,000		
Specific Costs																		\$0		
Remaining Costs																		\$1,092,000		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$1,092,000		
Assigned Joint Costs (Capacity)																		\$0		
Remaining Costs																		\$1,092,000		
Assigned Joint Costs (Yield)							19.00%	\$207,480	0.00%	\$0	19.00%	\$207,480	66.00%	\$720,720	15.00%	\$163,800	0.00%	\$0	100.00%	\$1,092,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	19.00%	\$207,480	0.00%	\$0	19.00%	\$207,480	66.00%	\$720,720	15.00%	\$163,800	0.00%	\$0	100.00%	\$1,092,000
WCWEP																		\$18,497,000		
Specific Costs																		\$0		
Remaining Costs																		\$18,497,000		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$18,497,000		
Assigned Joint Costs (Capacity)																		\$0		
Remaining Costs																		\$18,497,000		
Assigned Joint Costs (Yield)							19.00%	\$3,514,430	0.00%	\$0	19.00%	\$3,514,430	66.00%	\$12,208,020	15.00%	\$2,774,550	0.00%	\$0	100.00%	\$18,497,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	19.00%	\$3,514,430	0.00%	\$0	19.00%	\$3,514,430	66.00%	\$12,208,020	15.00%	\$2,774,550	0.00%	\$0	100.00%	\$18,497,000
Utah Lake Salinity Control																		\$2,130,000		
Specific Costs																		\$0		
Remaining Costs																		\$2,130,000		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Capacity)																		\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0		
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$2,130,000	100.00%	\$2,130,000
Diamond Fork System																		\$147,574,000		
Specific Costs																		\$0		
Remaining Costs																		\$147,574,000		
Assigned Joint Costs (Power)						\$13,118,029												\$13,118,029		
Remaining Costs																		\$134,455,971		
Assigned Joint Costs (Capacity)																		\$0		
Remaining Costs																		\$0		
Total Specific and Assigned Joint Costs:																		\$147,574,000	0.00%	\$134,455,971

TABLE 6-4
Determination of Specific and Assigned Joint Costs
(Section 5 Construction)

FEATURE	PROJECT PURPOSES																Totals			
	Flood Control		Highway Improvement		Power		Fish and Wildlife				Irrigation		M&I		Remaining Joint					
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W (%)	F&W (\$)	Instream Flow (%)	Instream Flow (\$)	F&W Sub-Total (%)	F&W Sub-Total (\$)	Irrigation (%)	Irrigation (\$)	M&I (%)	M&I (\$)		Remaining Joint (%)	Remaining Joint (\$)	
Assigned Joint Costs (Yield)							0.99%	\$1,329,764	31.62%	\$42,521,388	32.61%	\$43,851,152	14.57%	\$19,584,835	52.82%	\$71,019,984	0.00%	\$0	100.00%	\$134,455,971
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	8.89%	\$13,118,029	0.90%	\$1,329,764	28.81%	\$42,521,388	29.71%	\$43,851,152	13.27%	\$19,584,835	48.12%	\$71,019,984	0.00%	\$0	100.00%	\$147,574,000
Uinta Basin Replacement Project																				
Specific Costs																				\$63,825,000
Remaining Costs																				\$63,825,000
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$63,825,000
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$63,825,000
Assigned Joint Costs (Yield)							0.00%	\$0	50.35%	\$32,135,888	50.35%	\$32,135,888	22.57%	\$14,405,303	27.08%	\$17,283,810			100.00%	\$63,825,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	50.35%	\$32,135,888	50.35%	\$32,135,888	22.57%	\$14,405,303	27.08%	\$17,283,810	0.00%	\$0	100.00%	\$63,825,000
Local Development																				
Specific Costs																				\$10,943,000
Remaining Costs																				\$10,943,000
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$10,943,000
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$10,943,000
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	40.00%	\$4,377,200	60.00%	\$6,565,800			100.00%	\$10,943,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	40.00%	\$4,377,200	60.00%	\$6,565,800	0.00%	\$0	100.00%	\$10,943,000
Studies, Reports, Coordinated Operations																				
Specific Costs																				\$6,632,000
Remaining Costs																				\$6,632,000
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$6,632,000
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$6,632,000
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	40.00%	\$2,652,800	60.00%	\$3,979,200	0.00%	\$0	100.00%	\$6,632,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	40.00%	\$2,652,800	60.00%	\$3,979,200	0.00%	\$0	100.00%	\$6,632,000
Water Conservation Credit Program																				
Specific Costs																				\$180,198,000
Remaining Costs																				\$180,198,000
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$180,198,000
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$180,198,000
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	40.00%	\$72,079,200	60.00%	\$108,118,800			100.00%	\$180,198,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	40.00%	\$72,079,200	60.00%	\$108,118,800	0.00%	\$0	100.00%	\$180,198,000
Lease of Daniels Creek Water Rights																				
Specific Costs																				\$8,595,000
Remaining Costs																				\$8,595,000
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$8,595,000
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$8,595,000
Assigned Joint Costs (Yield)							19.00%	\$1,633,050	0.00%	\$0	19.00%	\$1,633,050	66.00%	\$5,672,700	15.00%	\$1,289,250			100.00%	\$8,595,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	19.00%	\$1,633,050	0.00%	\$0	19.00%	\$1,633,050	66.00%	\$5,672,700	15.00%	\$1,289,250	0.00%	\$0	100.00%	\$8,595,000
Title V																				
Specific Costs																				\$240,034,000
Remaining Costs																				\$240,034,000
Assigned Joint Costs (Power)						\$17,557,399														\$17,557,399
Remaining Costs																				\$222,476,601
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$222,476,601
Assigned Joint Costs (Yield)							0.72%	\$1,598,077	50.19%	\$111,659,029	50.91%	\$113,257,106	10.58%	\$23,536,568	38.51%	\$85,682,927	0.00%	\$0	100.00%	\$222,476,601
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	7.31%	\$17,557,399	0.67%	\$1,598,077	46.52%	\$111,659,029	47.18%	\$113,257,106	9.81%	\$23,536,568	35.70%	\$85,682,927	0.00%	\$0	100.00%	\$240,034,000
Total CUPCA Sec 5 Spec Costs:	0.00%	\$0	0.00%	\$0	66.78%	\$40,623,527	29.72%	\$18,077,632	0.00%	\$0	29.72%	\$18,077,632	0.00%	\$0	0.00%	\$0	3.50%	\$2,130,000	100.00%	\$60,831,159
Sub-Total USBR Sec 5 AJC (Power):					100.00%	\$30,675,428													100.00%	\$30,675,428
Sub-Total CUPCA Sec 5 AJC (Capacity):	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Sub-Total CUPCA Sec 5 AJC (Yield):	0.00%	\$0	0.00%	\$0	0.00%	\$0	1.13%	\$11,803,236	22.13%	\$231,141,054	23.26%	\$242,944,291	16.97%	\$177,183,240	59.77%	\$624,175,883	0.00%	\$0	100.00%	\$1,044,303,413

TABLE 6-4
Determination of Specific and Assigned Joint Costs
(Section 5 Construction)

FEATURE	PROJECT PURPOSES																			
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint		Totals				
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W (%)	F&W (\$)	Instream Flow (%)	Instream Flow (\$)	F&W Sub-Total (%)	F&W Sub-Total (\$)	Irrigation (%)	Irrigation (\$)	M&I (%)	M&I (\$)	Remaining Joint (%)	Remaining Joint (\$)	Totals (%)	Totals (\$)
Total CUPCA Sec 5 AJC:	0.00%	\$0	0.00%	\$0	2.85%	\$30,675,428	1.10%	\$11,803,236	21.50%	\$231,141,054	22.60%	\$242,944,291	16.48%	\$177,183,240	58.06%	\$624,175,883	0.00%	\$0	100.00%	\$1,074,978,841
Total CUPCA Sec 5 Costs:	0.00%	\$0	0.00%	\$0	6.28%	\$71,298,955	2.63%	\$29,880,868	20.35%	\$231,141,054	22.98%	\$261,021,923	15.60%	\$177,183,240	54.95%	\$624,175,883	0.19%	\$2,130,000	100.00%	\$1,135,810,000
Indian Ford Exchange																				\$11,044,000
Specific Costs															\$11,044,000					\$11,044,000
Remaining Costs																				\$0
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$0
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$0
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$11,044,000	0.00%	\$0	100.00%	\$11,044,000
Total Sec 5 Spec Costs:	0.00%	\$0	19.64%	\$66,115,000	15.81%	\$53,219,039	8.01%	\$26,964,632	0.00%	\$0	8.01%	\$26,964,632	21.13%	\$71,114,712	32.39%	\$109,033,915	3.02%	\$10,154,147	100.00%	\$336,601,445
Sub-Total USBR Sec 5 AJC (Power):					100.00%	\$85,509,455													100.00%	\$85,509,455
Sub-Total Sec 5 AJC (Capacity):	66.17%	\$39,555,903	0.00%	\$0	0.00%	\$0	17.04%	\$10,185,262	6.51%	\$3,894,143	23.55%	\$14,079,406	1.89%	\$1,128,000	8.39%	\$5,012,655	0.00%	\$0	100.00%	\$59,775,964
Sub-Total Sec 5 AJC (Yield):	0	\$0	0	\$0	0	\$0	0.013378	\$26,103,790	0.3228	\$629,892,619	0.336182	\$655,996,409	0.145059	\$283,055,173	0.518759	\$1,012,261,541	0	\$0	100.00%	\$1,951,313,123
Total Sec 5 AJC:	1.89%	\$39,555,903	0.00%	\$0	4.08%	\$85,509,455	1.73%	\$36,289,052	30.23%	\$633,786,762	31.96%	\$670,075,814	13.55%	\$284,183,173	48.52%	\$1,017,274,196	0.00%	\$0	100.00%	\$2,096,598,541
Total Section 5 Costs:	1.63%	\$39,555,903	2.72%	\$66,115,000	5.70%	\$138,728,494	2.60%	\$63,253,684	26.05%	\$633,786,762	28.65%	\$697,040,446	14.60%	\$355,297,885	46.29%	\$1,126,308,111	0.42%	\$10,154,147	100.00%	\$2,433,199,986
Base for Allocating RJC:	1.78%	\$39,555,903	0.00%	\$0	0.00%	\$0	2.85%	\$63,253,684	28.57%	\$633,786,762	31.42%	\$697,040,446	16.02%	\$355,297,885	50.78%	\$1,126,308,111	0.00%	\$0	100.00%	\$2,218,202,346
Allocation RJC:	1.78%	\$181,073	0.00%	\$0	0.00%	\$0	2.85%	\$289,553	28.57%	\$2,901,252	31.42%	\$3,190,805	16.02%	\$1,626,428	50.78%	\$5,155,841	0.00%	\$0	100.00%	\$10,154,147
Total w/ RJC Allocated:	1.63%	\$39,736,976	2.72%	\$66,115,000	5.70%	\$138,728,494	2.61%	\$63,543,237	26.17%	\$636,688,014	28.78%	\$700,231,251	14.67%	\$356,924,313	46.50%	\$1,131,463,952	0.00%	\$0	100.00%	\$2,433,199,986

TABLE 6-5
Determination of Specific and Assigned Joint Costs
(Section 5 IDC)

FEATURE	PROJECT PURPOSES														Totals						
	Flood Control		Highway Improvement		Power		Fish and Wildlife				Irrigation		M&I			Remaining Joint					
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W		F&W Sub-Total		Irrigation		M&I			Remaining Joint					
Specific Costs						(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)				
Assigned Joint Costs																					
Starvation Dam and Reservoir Total Cost																		\$19,457,314			
Specific Costs				\$1,228,574			\$0											\$1,228,574			
Remaining Costs																		\$18,228,740			
Assigned Joint Costs (Power)						100.00%	\$1,241,279											\$1,241,279			
Remaining Costs																		\$16,987,462			
Assigned Joint Costs (Capacity)	0.00%	\$0						7.76%	\$1,318,912	0.00%	\$0	7.76%	\$1,318,912	0.00%	\$0	0.00%	\$0	7.76%	\$1,318,912		
Remaining Costs																		\$15,668,550			
Assigned Joint Costs (Yield)								0.46%	\$71,697	31.97%	\$5,009,514	32.43%	\$5,081,211	42.31%	\$6,629,024	25.26%	\$3,958,315	0.00%	\$0	100.00%	\$15,668,550
Total Specific and Assigned Joint Costs:	0.00%	\$0	6.31%	\$1,228,574	6.38%	\$1,241,279	7.15%	\$1,390,609	25.75%	\$5,009,514	32.89%	\$6,400,123	34.07%	\$6,629,024	20.34%	\$3,958,315	0.00%	\$0	100.00%	\$19,457,314	
Duchesne Canal Rehabilitation																			\$0		
Specific Costs														\$0					\$0		
Remaining Costs																			\$0		
Assigned Joint Costs (Power)							\$0												\$0		
Remaining Costs																			\$0		
Assigned Joint Costs (Capacity)																			0.00%	\$0	
Remaining Costs																			\$0		
Assigned Joint Costs (Yield)																			0.00%	\$0	
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	
Taylor Canal Drains																				\$0	
Specific Costs														\$0						\$0	
Remaining Costs																				\$0	
Assigned Joint Costs (Power)							\$0													\$0	
Remaining Costs																				\$0	
Assigned Joint Costs (Capacity)																				0.00%	\$0
Remaining Costs																				\$0	
Assigned Joint Costs (Yield)																				0.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	
Upper Stillwater Dam and Reservoir																				\$46,848,947	
Specific Costs																				\$0	
Remaining Costs																				\$46,848,947	
Assigned Joint Costs (Power)						100.00%	\$4,691,687													\$4,691,687	
Remaining Costs																				\$42,157,261	
Assigned Joint Costs (Capacity)								1.96%	\$917,688			1.96%	\$917,688						1.96%	\$917,688	
Remaining Costs																				\$41,239,572	
Assigned Joint Costs (Yield)								0.72%	\$296,229	50.19%	\$20,697,775	50.91%	\$20,994,004	10.58%	\$4,362,877	38.51%	\$15,882,692	0.00%	\$0	100.00%	\$41,239,572
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	10.01%	\$4,691,687	2.59%	\$1,213,917	44.18%	\$20,697,775	46.77%	\$21,911,692	9.31%	\$4,362,877	33.90%	\$15,882,692	0.00%	\$0	100.00%	\$46,848,947	
Current Creek Dam and Reservoir																				\$10,227,481	
Specific Costs				\$499,833																\$499,833	
Remaining Costs																				\$9,727,648	
Assigned Joint Costs (Power)						100.00%	\$1,024,231													\$1,024,231	
Remaining Costs																				\$8,703,417	
Assigned Joint Costs (Capacity)								1.34%	\$130,364			1.34%	\$130,364						1.34%	\$130,364	
Remaining Costs																				\$8,573,053	
Assigned Joint Costs (Yield)								0.72%	\$61,581	50.19%	\$4,302,739	50.91%	\$4,364,320	10.58%	\$906,973	38.51%	\$3,301,760	0.00%	\$0	100.00%	\$8,573,053
Total Specific and Assigned Joint Costs:	0.00%	\$0	4.89%	\$499,833	10.01%	\$1,024,231	1.88%	\$191,945	42.07%	\$4,302,739	43.95%	\$4,494,684	8.87%	\$906,973	32.28%	\$3,301,760	0.00%	\$0	100.00%	\$10,227,481	
Soldier Creek Dam and Reservoir																				\$7,223,826	
Specific Costs				\$104,778																\$104,778	
Remaining Costs																				\$7,119,048	
Assigned Joint Costs (Power)						100.00%	\$820,546													\$820,546	
Remaining Costs																				\$6,298,502	
Assigned Joint Costs (Capacity)								1.42%	\$101,333	1.57%	\$111,885	3.00%	\$213,218	0.66%	\$47,257	2.26%	\$160,943	0.00%	\$0	5.92%	\$421,417
Remaining Costs																				\$5,877,085	
Assigned Joint Costs (Yield)								0.88%	\$51,664	39.04%	\$2,294,494	39.92%	\$2,346,158	12.95%	\$760,907	47.13%	\$2,770,020	0.00%	\$0	100.00%	\$5,877,085
Total Specific and Assigned Joint Costs:	0.00%	\$0	1.45%	\$104,778	11.36%	\$820,546	2.12%	\$152,997	33.31%	\$2,406,379	35.43%	\$2,559,376	11.19%	\$808,164	40.57%	\$2,930,962	0.00%	\$0	100.00%	\$7,223,826	
Strawberry Aqueduct + Collection System																				\$64,959,223	
Specific Costs																				\$0	
Remaining Costs																				\$64,959,223	
Assigned Joint Costs (Power)						100.00%	\$6,505,340													\$6,505,340	
Remaining Costs																				\$58,453,883	
Assigned Joint Costs (Capacity)																				0.00%	\$0
Remaining Costs																				\$58,453,883	
Assigned Joint Costs (Yield)								0.72%	\$419,881	50.19%	\$29,337,484	50.91%	\$29,757,366	10.58%	\$6,184,038	38.51%	\$22,512,479	0.00%	\$0	100.00%	\$58,453,883

TABLE 6-5
Determination of Specific and Assigned Joint Costs
 (Section 5 IDC)

FEATURE Specific Costs Assigned Joint Costs	PROJECT PURPOSES																Totals					
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint								
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W (%)	F&W (\$)	Instream Flow (%)	Instream Flow (\$)	F&W Sub-Total (%)	F&W Sub-Total (\$)	Irrigation (%)	Irrigation (\$)	M&I (%)	M&I (\$)		Remaining Joint (%)	Remaining Joint (\$)			
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	10.01%	\$6,505,340	0.65%	\$419,881	45.16%	\$29,337,484	45.81%	\$29,757,366	9.52%	\$6,184,038	34.66%	\$22,512,479	0.00%	\$0	100.00%	\$64,959,223		
Jordanelle Dam and Reservoir																					\$102,636,471	
Specific Costs				\$17,972,160				\$3,988,482				\$3,988,482									\$21,960,642	
Remaining Costs																					\$80,675,828	
Assigned Joint Costs (Power)							\$0														\$0	
Remaining Costs																					\$80,675,828	
Assigned Joint Costs (Capacity)	13.62%	\$10,985,331						0.92%	\$740,268	1.06%	\$859,054	1.98%	\$1,599,322	0.27%	\$219,323	1.33%	\$1,072,161	0.00%	\$0	17.20%	\$13,876,138	
Remaining Costs																					\$66,799,691	
Assigned Joint Costs (Yield)								3.10%	\$2,068,473	38.71%	\$25,857,527	41.81%	\$27,926,000	9.88%	\$6,601,633	48.31%	\$32,272,058	0.00%	\$0	100.00%	\$66,799,691	
Total Specific and Assigned Joint Costs:	10.70%	\$10,985,331	17.51%	\$17,972,160	0.00%	\$0	6.62%	\$6,797,222	26.03%	\$26,716,581	32.65%	\$33,513,803	6.65%	\$6,820,956	32.49%	\$33,344,220	0.00%	\$0	100.00%	\$102,636,471		
Jordan Aqueduct System																\$23,540,420					\$23,540,420	
Specific Costs																\$23,540,420					\$23,540,420	
Remaining Costs																					\$0	
Assigned Joint Costs (Power)							\$0														\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Capacity)																					0.00%	
Remaining Costs																					\$0	
Assigned Joint Costs (Yield)																					0.00%	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$23,540,420	0.00%	\$0	100.00%	\$23,540,420		
Jacob Welby Water Rights																						\$0
Specific Costs																						\$0
Remaining Costs																						\$0
Assigned Joint Costs (Power)							\$0															\$0
Remaining Costs																						\$0
Assigned Joint Costs (Capacity)																						0.00%
Remaining Costs																						\$0
Assigned Joint Costs (Yield)																						0.00%
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Upper Provo River Reservoirs																						\$0
Specific Costs									\$0			\$0										\$0
Remaining Costs																						\$0
Assigned Joint Costs (Power)							\$0															\$0
Remaining Costs																						\$0
Assigned Joint Costs (Capacity)																						0.00%
Remaining Costs																						\$0
Assigned Joint Costs (Yield)								67.16%	\$0	2.99%	\$0	70.15%	\$0	29.85%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$0	
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Svar Tunnel																						\$20,607,713
Specific Costs																						\$0
Remaining Costs																						\$20,607,713
Assigned Joint Costs (Power)						100.00%	\$2,508,016															\$2,508,016
Remaining Costs																						\$18,099,697
Assigned Joint Costs (Capacity)																						0.00%
Remaining Costs																						\$18,099,697
Assigned Joint Costs (Yield)								0.99%	\$179,005	31.62%	\$5,723,987	32.61%	\$5,902,992	14.57%	\$2,636,399	52.82%	\$9,560,306	0.00%	\$0	100.00%	\$18,099,697	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	12.17%	\$2,508,016	0.87%	\$179,005	27.78%	\$5,723,987	28.64%	\$5,902,992	12.79%	\$2,636,399	46.39%	\$9,560,306	0.00%	\$0	100.00%	\$20,607,713		
Sixth Water Aqueduct																						\$10,117,691
Specific Costs																						\$0
Remaining Costs																						\$10,117,691
Assigned Joint Costs (Power)						100.00%	\$1,231,351															\$1,231,351
Remaining Costs																						\$8,886,339
Assigned Joint Costs (Capacity)																						0.00%
Remaining Costs																						\$8,886,339
Assigned Joint Costs (Yield)								0.99%	\$87,886	31.62%	\$2,810,284	32.61%	\$2,898,170	14.57%	\$1,294,383	52.82%	\$4,693,787	0.00%	\$0	100.00%	\$8,886,339	
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	12.17%	\$1,231,351	0.87%	\$87,886	27.78%	\$2,810,284	28.64%	\$2,898,170	12.79%	\$1,294,383	46.39%	\$4,693,787	0.00%	\$0	100.00%	\$10,117,691		
Discontinued Power Investigations																						\$0
Specific Costs																						\$0
Remaining Costs																						\$0
Assigned Joint Costs (Power)							\$0															\$0
Remaining Costs																						\$0
Assigned Joint Costs (Capacity)																						0.00%

TABLE 6-5
Determination of Specific and Assigned Joint Costs
(Section 5 IDC)

FEATURE	PROJECT PURPOSES																					
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint		Totals						
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W (%)	F&W (\$)	Instream Flow (%)	Instream Flow (\$)	F&W Sub-Total (%)	F&W Sub-Total (\$)	Irrigation (%)	Irrigation (\$)	M&I (%)	M&I (\$)	Remaining Joint (%)	Remaining Joint (\$)	Totals (%)	Totals (\$)		
Remaining Costs																				\$0		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Diamond Fork Pipeline																					\$5,791,688	
Specific Costs																					\$0	
Remaining Costs																					\$5,791,688	
Assigned Joint Costs (Power)						\$0															\$0	
Remaining Costs																					\$5,791,688	
Assigned Joint Costs (Capacity)																				0.00%	\$0	
Remaining Costs																					\$5,791,688	
Assigned Joint Costs (Yield)							0.99%	\$57,280	31.62%	\$1,831,608	32.61%	\$1,888,888	14.57%	\$843,616	52.82%	\$3,059,184	0.00%	\$0	100.00%	\$5,791,688		
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.99%	\$57,280	31.62%	\$1,831,608	32.61%	\$1,888,888	14.57%	\$843,616	52.82%	\$3,059,184	0.00%	\$0	100.00%	\$5,791,688		
Irrigation Abandoned Investigations																					\$0	
Specific Costs													\$0								\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Power)						\$0															\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Capacity)																				0.00%	\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Service Facilities																					\$0	
Specific Costs																					\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Power)						\$0															\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Capacity)																				0.00%	\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Utah Lake Water Rights																					\$0	
Specific Costs																					\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Power)						\$0															\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Capacity)																				0.00%	\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Total USBR Sec 5 Spec Costs:	0.00%	\$0	41.84%	\$19,805,345	0.00%	\$0	8.43%	\$3,988,482	0.00%	\$0	8.43%	\$3,988,482	0.00%	\$0	49.73%	\$23,540,420	0.00%	\$0	100.00%	\$47,334,247		
Sub-Total USBR Sec 5 AJC (Power):					100.00%	\$18,022,449														100.00%	\$18,022,449	
Sub-Total USBR Sec 5 AJC (Capacity):	65.92%	\$10,985,331	0.00%	\$0	0.00%	\$0	19.25%	\$3,208,565	5.83%	\$970,939	25.08%	\$4,179,504	1.60%	\$266,580	7.40%	\$1,233,104	0.00%	\$0	100.00%	\$16,664,519		
Sub-Total USBR Sec 5 AJC (Yield):	0.00%	\$0	0.00%	\$0	0.00%	\$0	1.44%	\$3,293,695	42.66%	\$97,865,413	44.10%	\$101,159,109	13.17%	\$30,219,849	42.73%	\$98,010,600	0.00%	\$0	100.00%	\$229,389,558		
Total USBR Sec 5 AJC:	4.16%	\$10,985,331	0.00%	\$0	6.82%	\$18,022,449	2.46%	\$6,502,260	37.43%	\$98,836,352	39.89%	\$105,338,612	11.54%	\$30,486,429	37.58%	\$99,243,704	0.00%	\$0	100.00%	\$264,076,526		
Total USBR Sec 5 Costs:	3.53%	\$10,985,331	6.36%	\$19,805,345	5.79%	\$18,022,449	3.37%	\$10,490,742	31.74%	\$98,836,352	35.11%	\$109,327,094	9.79%	\$30,486,429	39.43%	\$122,784,125	0.00%	\$0	100.00%	\$311,410,774		
ULS Planning and NEPA																					\$0	
Specific Costs																					\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Power)						\$0															\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Capacity)																				0.00%	\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Yield)							2.95%	\$0	11.63%	\$0	14.58%	\$0	4.84%	\$0	80.58%	\$0	0.00%	\$0	100.00%	\$0		
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Spanish Fork Flow Control Structure																					\$0	
Specific Costs																					\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Power)						\$0															\$0	
Remaining Costs																					\$0	
Assigned Joint Costs (Capacity)																				0.00%	\$0	

TABLE 6-5
Determination of Specific and Assigned Joint Costs
 (Section 5 IDC)

FEATURE	PROJECT PURPOSES														Totals							
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint								
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W (%)	Instream Flow (%)	F&W Sub-Total (%)	Irrigation (%)	Irrigation (%)	M&I (%)	M&I (%)	Remaining Joint (%)		Remaining Joint (%)						
Remaining Costs																	\$0					
Assigned Joint Costs (Yield)							0.76%	\$0	21.85%	\$0	22.61%	\$0	17.18%	\$0	60.21%	\$0	0.00%	\$0	100.00%	\$0		
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0		
Spanish Fork Canyon Pipeline																				\$2,343,896		
Specific Costs																				\$0		
Remaining Costs																				\$2,343,896		
Assigned Joint Costs (Power)						\$0														\$0		
Remaining Costs																				\$2,343,896		
Assigned Joint Costs (Capacity)																			0.00%	\$0		
Remaining Costs																				\$2,343,896		
Assigned Joint Costs (Yield)							0.81%	\$18,943	23.17%	\$543,159	23.98%	\$562,103	12.17%	\$285,215	63.85%	\$1,496,578	0.00%	\$0	100.00%	\$2,343,896		
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.81%	\$18,943	23.17%	\$543,159	23.98%	\$562,103	12.17%	\$285,215	63.85%	\$1,496,578	0.00%	\$0	100.00%	\$2,343,896		
Spanish Fork Provo Reservoir Canal Pipe																				\$4,847,258		
Specific Costs																				\$0		
Remaining Costs																				\$4,847,258		
Assigned Joint Costs (Power)						\$0														\$0		
Remaining Costs																				\$4,847,258		
Assigned Joint Costs (Capacity)																			0.00%	\$0		
Remaining Costs																				\$4,847,258		
Assigned Joint Costs (Yield)							1.08%	\$52,208	13.46%	\$652,636	14.54%	\$704,843	3.44%	\$166,623	82.02%	\$3,975,792	0.00%	\$0	100.00%	\$4,847,258		
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	1.08%	\$52,208	13.46%	\$652,636	14.54%	\$704,843	3.44%	\$166,623	82.02%	\$3,975,792	0.00%	\$0	100.00%	\$4,847,258		
Spanish Fork Santaquin Pipeline																				\$4,192,615		
Specific Costs											\$0									\$0		
Remaining Costs																				\$4,192,615		
Assigned Joint Costs (Power)						\$0														\$0		
Remaining Costs																				\$4,192,615		
Assigned Joint Costs (Capacity)																			0.00%	\$0		
Remaining Costs																				\$4,192,615		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$4,192,615	0.00%	\$0	100.00%	\$4,192,615		
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$4,192,615	0.00%	\$0	100.00%	\$4,192,615		
Mapleton Springville Pipeline																				\$440,309		
Specific Costs																				\$0		
Remaining Costs																				\$440,309		
Assigned Joint Costs (Power)						\$0														\$0		
Remaining Costs																				\$440,309		
Assigned Joint Costs (Capacity)																			0.00%	\$0		
Remaining Costs																				\$440,309		
Assigned Joint Costs (Yield)							0.79%	\$3,483	48.14%	\$211,976	48.93%	\$215,459	30.59%	\$134,692	20.48%	\$90,158	0.00%	\$0	100.00%	\$440,309		
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.79%	\$3,483	48.14%	\$211,976	48.93%	\$215,459	30.59%	\$134,692	20.48%	\$90,158	0.00%	\$0	100.00%	\$440,309		
Santaquin Mona Pipeline																				\$282,463		
Specific Costs								\$282,463			\$282,463									\$282,463		
Remaining Costs																				\$0		
Assigned Joint Costs (Power)						\$0														\$0		
Remaining Costs																				\$0		
Assigned Joint Costs (Capacity)																			0.00%	\$0		
Remaining Costs																				\$0		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0		
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$282,463	0.00%	\$0	100.00%	\$282,463	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$282,463
North Utah County 207 Project																				\$0		
Specific Costs																				\$0		
Remaining Costs																				\$0		
Assigned Joint Costs (Power)						\$0														\$0		
Remaining Costs																				\$0		
Assigned Joint Costs (Capacity)																			0.00%	\$0		
Remaining Costs																				\$0		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$0	0.00%	\$0	100.00%	\$0		
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Sixth Water Power Plant																				\$1,316,815		
Specific Costs								\$1,316,815												\$1,316,815		
Remaining Costs																				\$0		
Assigned Joint Costs (Power)						\$0														\$0		

TABLE 6-5
Determination of Specific and Assigned Joint Costs
(Section 5 IDC)

FEATURE	PROJECT PURPOSES														Totals					
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint						
	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)						
Specific Costs																				
Assigned Joint Costs																				
Remaining Costs																	\$1,975,000			
Assigned Joint Costs (Power)						\$0											\$0			
Remaining Costs																	\$1,975,000			
Assigned Joint Costs (Capacity)																0.00%	\$0			
Remaining Costs																	\$1,975,000			
Assigned Joint Costs (Yield)							0.00%	\$0	50.35%	\$994,413	50.35%	\$994,413	22.57%	\$445,758	27.08%	\$534,830	0.00%	\$0	100.00%	\$1,975,000
Total Specific and Assigned Joint Costs:	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	50.35%	\$994,413	50.35%	\$994,413	22.57%	\$445,758	27.08%	\$534,830	0.00%	\$0	100.00%	\$1,975,000
Local Development																				\$0
Specific Costs																				\$0
Remaining Costs																				\$0
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$0
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$0
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Studies, Reports, Coordinated Operations																				\$0
Specific Costs																				\$0
Remaining Costs																				\$0
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$0
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$0
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	40.00%	\$0	60.00%	\$0	0.00%	\$0	100.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Water Conservation Credit Program																				\$0
Specific Costs																				\$0
Remaining Costs																				\$0
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$0
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$0
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	40.00%	\$0	60.00%	\$0	0.00%	\$0	100.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Lease of Daniels Creek Water Rights																				\$0
Specific Costs																				\$0
Remaining Costs																				\$0
Assigned Joint Costs (Power)						\$0														\$0
Remaining Costs																				\$0
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$0
Assigned Joint Costs (Yield)							19.00%	\$0	0.00%	\$0	19.00%	\$0	66.00%	\$0	15.00%	\$0	0.00%	\$0	100.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Title V																				\$0
Specific Costs																				\$0
Remaining Costs																				\$0
Assigned Joint Costs (Power)						#DIV/0!	\$0													\$0
Remaining Costs																				\$0
Assigned Joint Costs (Capacity)																			0.00%	\$0
Remaining Costs																				\$0
Assigned Joint Costs (Yield)							0.72%	\$0	50.19%	\$0	50.91%	\$0	10.58%	\$0	38.51%	\$0	0.00%	\$0	100.00%	\$0
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0
Total CUPCA Sec 5 Spec Costs:	0.00%	\$0	0.00%	\$0	83.43%	\$1,422,488	16.57%	\$282,463	0.00%	\$0	16.57%	\$282,463	0.00%	\$0	0.00%	\$0	0.00%	\$0	100.00%	\$1,704,951
Sub-Total USBR Sec 5 AJC (Power):					100.00%	\$2,132,770													100.00%	\$2,132,770
Sub-Total CUPCA Sec 5 AJC (Capacity):	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0
Sub-Total CUPCA Sec 5 AJC (Yield):	0.00%	\$0	0.00%	\$0	0.00%	\$0	1.37%	\$413,546	24.09%	\$7,269,755	25.46%	\$7,683,301	13.00%	\$3,922,733	61.54%	\$18,567,265	0.00%	\$0	100.00%	\$30,173,298
Total CUPCA Sec 5 AJC:	0.00%	\$0	0.00%	\$0	6.60%	\$2,132,770	1.28%	\$413,546	22.50%	\$7,269,755	23.78%	\$7,683,301	12.14%	\$3,922,733	57.47%	\$18,567,265	0.00%	\$0	100.00%	\$32,306,068
Total CUPCA Sec 5 Costs:	0.00%	\$0	0.00%	\$0	10.45%	\$3,555,257	2.05%	\$696,009	21.37%	\$7,269,755	23.42%	\$7,965,764	11.53%	\$3,922,733	54.59%	\$18,567,265	0.00%	\$0	100.00%	\$34,011,019
Indian Ford Exchange																				\$0
Specific Costs																				\$0

TABLE 6-5
Determination of Specific and Assigned Joint Costs
(Section 5 IDC)

FEATURE	PROJECT PURPOSES																			
	Flood Control		Highway Improvement		Power		Fish and Wildlife			Irrigation		M&I		Remaining Joint		Totals				
	(%)	(\$)	(%)	(\$)	(%)	(\$)	F&W	Instream Flow	F&W Sub-Total	Irrigation	Irrigation	(%)	(\$)	(%)	(\$)	(%)	(\$)			
Remaining Costs																		\$0		
Assigned Joint Costs (Power)						\$0												\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Capacity)																		\$0		
Remaining Costs																		\$0		
Assigned Joint Costs (Yield)							0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	\$0	
Total Specific and Assigned Joint Costs:	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	#DIV/0!	\$0	\$0	
Total Sec 5 Spec Costs:	0.00%	\$0	40.39%	\$19,805,345	2.90%	\$1,422,488	8.71%	\$4,270,945	0.00%	\$0	8.71%	\$4,270,945	0.00%	\$0	48.00%	\$23,540,420	0.00%	\$0	100.00%	\$49,039,198
Sub-Total Sec 5 AJC (Power):					100.00%	\$20,155,219													100.00%	\$20,155,219
Sub-Total Sec 5 AJC (Capacity):	65.92%	\$10,985,331	0.00%	\$0	0.00%	\$0	19.25%	\$3,208,565	5.83%	\$970,939	25.08%	\$4,179,504	1.60%	\$266,580	7.40%	\$1,233,104	0.00%	\$0	100.00%	\$16,664,519
Sub-Total Sec 5 AJC (Yield):	0	\$0	0	\$0	0	\$0	0.014283	\$3,707,241	0.40505	\$105,135,168	0.41933	\$108,842,409	0.131539	\$34,142,582	0.449132	\$116,577,865	0	\$0	100.00%	\$259,562,857
Total Sec 5 AJC:	3.71%	\$10,985,331	0.00%	\$0	6.80%	\$20,155,219	2.33%	\$6,915,806	35.80%	\$106,106,107	38.13%	\$113,021,913	11.61%	\$34,409,162	39.75%	\$117,810,969	0.00%	\$0	100.00%	\$296,382,595
Total Section 5 Costs:	3.18%	\$10,985,331	5.73%	\$19,805,345	6.25%	\$21,577,707	3.24%	\$11,186,751	30.72%	\$106,106,107	33.96%	\$117,292,858	9.96%	\$34,409,162	40.92%	\$141,351,389	0.00%	\$0	100.00%	\$345,421,792
Base for Allocating RJC's	3.61%	\$10,985,331	0.00%	\$0	0.00%	\$0	3.68%	\$11,186,751	34.90%	\$106,106,107	38.58%	\$117,292,858	11.32%	\$34,409,162	46.49%	\$141,351,389	0.00%	\$0	100.00%	\$304,038,741
Allocation RJC's	3.61%	\$0	0.00%	\$0	0.00%	\$0	3.68%	\$0	34.90%	\$0	38.58%	\$0	11.32%	\$0	46.49%	\$0	0.00%	\$0	100.00%	\$0
Total w/ RJC's Allocated	3.18%	\$10,985,331	5.73%	\$19,805,345	6.25%	\$21,577,707	3.24%	\$11,186,751	30.72%	\$106,106,107	33.96%	\$117,292,858	9.96%	\$34,409,162	40.92%	\$141,351,389	0.00%	\$0	100.00%	\$345,421,792

TABLE 6-6:
Summary of Specific and Assigned Joint Costs by Purpose
(Section 5 Construction)

Purpose	Specific Costs	Assigned Joint Costs	Total Specific and Assigned Joint Costs	Remaining Joint Costs	Total Project Costs
USBR COSTS					
Irrigation	\$ 71,114,712	\$ 106,999,933	\$ 178,114,645		
M&I Water	\$ 97,989,915	\$ 393,098,314	\$ 491,088,229		
Instream Flow	\$ -	\$ 402,645,708	\$ 402,645,708		
Fish and Wildlife	\$ 8,887,000	\$ 24,485,816	\$ 33,372,816		
Flood Control	\$ -	\$ 39,555,903	\$ 39,555,903		
Highway Improvement	\$ 66,115,000	\$ -	\$ 66,115,000		
Power	\$ 12,595,512	\$ 54,834,026	\$ 67,429,538		
TOTAL USBR COSTS	\$ 256,702,139	\$ 1,021,619,700	\$ 1,278,321,839	\$ 8,024,147	\$ 1,286,345,986
CUPCA COSTS					
Irrigation	\$ -	\$ 177,183,240	\$ 177,183,240		
M&I Water	\$ -	\$ 624,175,883	\$ 624,175,883		
Instream Flow	\$ -	\$ 231,141,054	\$ 231,141,054		
Fish and Wildlife	\$ 18,077,632	\$ 11,803,236	\$ 29,880,868		
Flood Control	\$ -	\$ -	\$ -		
Highway Improvement	\$ -	\$ -	\$ -		
Power	\$ 40,623,527	\$ 30,675,428	\$ 71,298,955		
TOTAL CUPCA COSTS	\$ 58,701,159	\$ 1,074,978,841	\$ 1,133,680,000	\$ 2,130,000	\$ 1,135,810,000
INDIAN FORD EXCHANGE					
M&I Water	\$ 11,044,000	\$ -	\$ 11,044,000		
TOTAL INDIAN FORD COSTS	\$ 11,044,000	\$ -	\$ 11,044,000	\$ -	\$ 11,044,000
TOTAL PROJECT COSTS					
Irrigation	\$ 71,114,712	\$ 284,183,173	\$ 355,297,885		
M&I Water	\$ 109,033,915	\$ 1,017,274,196	\$ 1,126,308,111		
Instream Flow	\$ -	\$ 633,786,762	\$ 633,786,762		
Fish and Wildlife	\$ 26,964,632	\$ 36,289,052	\$ 63,253,684		
Flood Control	\$ -	\$ 39,555,903	\$ 39,555,903		
Highway Improvement	\$ 66,115,000	\$ -	\$ 66,115,000		
Power	\$ 53,219,039	\$ 85,509,455	\$ 138,728,494		
TOTAL PROJECT COSTS	\$ 326,447,298	\$ 2,096,598,541	\$ 2,423,045,839	\$ 10,154,147	\$ 2,433,199,986
PERCENT OF TOTAL	13.42%	86.17%	99.58%	0.42%	100.00%

TABLE 6-7
Summary of Specific and Assigned Joint Costs by Purpose
(Section 5 IDC)

Purpose	Specific Costs	Assigned Joint Costs	Total Specific and Assigned Joint Costs	Remaining Joint Costs	Total Project Costs
USBR COSTS					
Irrigation	\$ -	\$ 30,486,429	\$ 30,486,429		
M&I Water	\$ 23,540,420	\$ 99,243,704	\$ 122,784,125		
Instream Flow	\$ -	\$ 98,836,352	\$ 98,836,352		
Fish and Wildlife	\$ 3,988,482	\$ 6,502,260	\$ 10,490,742		
Flood Control	\$ -	\$ 10,985,331	\$ 10,985,331		
Highway Improvement	\$ 19,805,345	\$ -	\$ 19,805,345		
Power	\$ -	\$ 18,022,449	\$ 18,022,449		
TOTAL USBR COSTS	\$ 47,334,247	\$ 264,076,526	\$ 311,410,774	\$ -	\$ 311,410,774
CUPCA COSTS					
Irrigation	\$ -	\$ 3,922,733	\$ 3,922,733		
M&I Water	\$ -	\$ 18,567,265	\$ 18,567,265		
Instream Flow	\$ -	\$ 7,269,755	\$ 7,269,755		
Fish and Wildlife	\$ 282,463	\$ 413,546	\$ 696,009		
Flood Control	\$ -	\$ -	\$ -		
Highway Improvement	\$ -	\$ -	\$ -		
Power	\$ 1,422,488	\$ 2,132,770	\$ 3,555,257		
TOTAL CUPCA COSTS	\$ 1,704,951	\$ 32,306,068	\$ 34,011,019	\$ -	\$ 34,011,019
INDIAN FORD EXCHANGE					
M&I Water	\$ -	\$ -	\$ -		
TOTAL INDIAN FORD COSTS	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL PROJECT COSTS					
Irrigation	\$ -	\$ 34,409,162	\$ 34,409,162		
M&I Water	\$ 23,540,420	\$ 117,810,969	\$ 141,351,389		
Instream Flow	\$ -	\$ 106,106,107	\$ 106,106,107		
Fish and Wildlife	\$ 4,270,945	\$ 6,915,806	\$ 11,186,751		
Flood Control	\$ -	\$ 10,985,331	\$ 10,985,331		
Highway Improvement	\$ 19,805,345	\$ -	\$ 19,805,345		
Power	\$ 1,422,488	\$ 20,155,219	\$ 21,577,707		
TOTAL PROJECT COSTS	\$ 49,039,198	\$ 296,382,595	\$ 345,421,792	\$ -	\$ 345,421,792
PERCENT OF TOTAL	14.20%	85.80%	100.00%	0.00%	100.00%

**TABLE 6-8:
Summary of Project Cost Allocation
(Section 5 and Section 8)**

ITEM	Irrigation	M&I Water	Fish and Wildlife	Flood Control	Highway Improvement	Power	Total Section 5	Section 8 Costs	Project Total
Costs to be Allocated							\$ 2,778,621,779	\$ 517,343,167	\$ 3,295,964,945
Construction Costs							\$ 2,433,199,986	\$ 517,343,167	\$ 2,950,543,153
Interest During Construction							\$ 345,421,792	\$ -	\$ 345,421,792
Specific Costs	\$ 71,114,712	\$ 132,574,335	\$ 31,235,577	\$ -	\$ 85,920,345	\$ 54,641,527	\$ 375,486,496	\$ 517,343,167	\$ 892,829,663
Construction Costs	\$ 71,114,712	\$ 109,033,915	\$ 26,964,632	\$ -	\$ 66,115,000	\$ 53,219,039	\$ 326,447,298	\$ 517,343,167	\$ 843,790,465
Interest During Construction	\$ -	\$ 23,540,420	\$ 4,270,945	\$ -	\$ 19,805,345	\$ 1,422,488	\$ 49,039,198	0	\$ 49,039,198
Assigned Joint Costs	\$ 318,592,335	\$ 1,135,085,165	\$ 783,097,727	\$ 50,541,235	\$ -	\$ 105,664,674	\$ 2,392,981,136	\$ -	\$ 2,392,981,136
Construction Costs	\$ 284,183,173	\$ 1,017,274,196	\$ 670,075,814	\$ 39,555,903	\$ -	\$ 85,509,455	\$ 2,096,598,541	0	\$ 2,096,598,541
Interest During Construction	\$ 34,409,162	\$ 117,810,969	\$ 113,021,913	\$ 10,985,331	\$ -	\$ 20,155,219	\$ 296,382,595	0	\$ 296,382,595
Total Specific & Assigned Joint Costs	\$ 389,707,047	\$ 1,267,659,501	\$ 814,333,304	\$ 50,541,235	\$ 85,920,345	\$ 160,306,200	\$ 2,768,467,632	\$ 517,343,167	\$ 3,285,810,798
Percent of Total	11.86%	38.58%		1.54%	2.61%	4.88%	84.26%	15.74%	100.00%
Remaining Joint Costs	\$ 1,626,428	\$ 5,155,841	\$ 3,190,805	\$ 181,073	\$ -	\$ -	\$ 10,154,147	\$ -	\$ 10,154,147
Construction Costs	\$ 1,626,428	\$ 5,155,841	\$ 3,190,805	\$ 181,073	\$ -	\$ -	\$ 10,154,147	\$ -	\$ 10,154,147
Interest During Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Allocation	\$ 391,333,475	\$ 1,272,815,342	\$ 817,524,109	\$ 50,722,308	\$ 85,920,345	\$ 160,306,200	\$ 2,778,621,779	\$ 517,343,167	\$ 3,295,964,945
Construction Costs	\$ 356,924,313	\$ 1,131,463,952	\$ 700,231,251	\$ 39,736,976	\$ 66,115,000	\$ 138,728,494	\$ 2,433,199,986	\$ 517,343,167	\$ 2,950,543,153
Interest During Construction	\$ 34,409,162	\$ 141,351,389	\$ 117,292,858	\$ 10,985,331	\$ 19,805,345	\$ 21,577,707	\$ 345,421,792	\$ -	\$ 345,421,792
Percent of Total	11.87%	38.62%	24.80%	1.54%	2.61%	4.86%	84.30%	15.70%	100.00%

**TABLE 6-9:
Detailed Summary of Costs
(Section 8)**

FEATURE	CONSTRUCTION COST	OM&M
USBR		
Fish and Wildlife		
Bottle Hollow Dam	\$ 1,234,600	\$ -
Mitigation Measures	\$ 22,010,900	\$ -
Lower Stillwater Dam	\$ 127,500	\$ -
Sub-Total	\$ 23,373,000	\$ 413,000
Recreation		
Starvation Reservoir	\$ 2,304,000	\$ 221,000
Strawberry Reservoir	\$ 27,917,700	\$ 2,772,000
Current Creek Reservoir	\$ 3,355,400	\$ 316,000
Upper Stillwater Reservoir	\$ 2,584,200	\$ 193,000
Jordanelle Reservoir	\$ 25,401,700	\$ 1,600,000
Lower Stillwater Reservoir	\$ 1,200	\$ -
Upper Provo Reservoirs	\$ 200	\$ 96,000
Diamond Fork Recreation	\$ -	\$ 260,000
Sub-Total	\$ 61,564,400	\$ 5,458,000
Total Section 8: USBR	\$ 84,937,400	\$ 5,871,000
CUPCA		
Fish and Wildlife		
Section 201	\$ 39,588,000	
Title II		
Spanish Fork Pipeline	\$ 7,959,106	
Spanish Fork PRC Pipeline	\$ 39,621,661	
Provo River Studies	\$ 2,098,000	
Uinta Basin Replacement Project 203(a)	\$ 15,489,000	
Diversion on Duchesne + Strawberry River 203(a)	\$ 4,111,000	
Title II Sub-Total:	\$ 69,278,767	
Title III		
Spanish Fork Pipeline	\$ 4,657,490	
Spanish Fork Provo Reservoir Canal Pipeline	\$ 9,041,010	
Other 302(a) Expenditures	\$ 6,178,500	
Other Instream Flow Expenditures	\$ 9,851,000	
Wildlife Lands & Improvements	\$ 2,670,000	
Wetland Acq. Rehab. & Dev.	\$ 44,226,000	
Fisheries Acquisition & Restoration	\$ 63,514,000	
Watershed Improvements	\$ 8,563,000	
Stream Access & Riparian Habitat Devel.	\$ 14,258,000	
Strawberry Collection System	\$ 12,125,000	
Duchesne Canal Rehab.	\$ 216,000	
M&I System	\$ 12,327,000	
Sub-Total Title III	\$ 187,627,000	
Title IV	\$ 131,276,000	
Sub-total Fish and Wildlife	\$ 427,769,767	
Recreation Title III		
Development at Utah Lake	\$ 994,000	
Recreational Facilities at other CUP Features	\$ 960,000	
Provo/Jordan River Parkway	\$ 1,321,000	
Provo Rivr Corridor Development	\$ 1,361,000	
Sub-Total Recreation	\$ 4,636,000	\$ 500,000
TOTAL CUPCA SECTION 8	\$ 432,405,767	\$ 500,000
PROJECT TOTAL SECTION 8 COSTS (USBR & CUPCA)	\$ 517,343,167	\$ 6,371,000

**TABLE 6-10:
Power Costs Calculated at Full Share of Costs
(Section 5 Construction and IDC)**

Feature	Power - Percent of Costs	Power Construction	Percent of Power Construction Costs	Total Construction Assigned Joint Costs	Power IDC	Percent of Power IDC Costs	Total IDC @ 3.222 Percent	Total Power Costs (Construction and IDC)
Assigned Joint Costs								
Starvation Dam and Reservoir	22.47%	\$4,745,140	1.15%	\$21,113,505	\$4,508,656	6.16%	\$20,061,269	\$9,253,796
Upper Stillwater Dam and Reservoir	35.28%	\$87,267,011	21.16%	\$247,353,876	\$17,041,457	23.28%	\$48,303,139	\$104,308,468
Current Creek Dam and Reservoir	35.28%	\$10,168,795	2.47%	\$28,822,928	\$3,720,279	5.08%	\$10,544,942	\$13,889,074
Soldier Creek Dam and Reservoir	40.02%	\$20,391,552	4.94%	\$50,958,000	\$2,980,442	4.07%	\$7,448,054	\$23,371,995
Strawberry Aqueduct	35.28%	\$93,858,246	22.76%	\$266,036,397	\$23,629,129	32.28%	\$66,975,557	\$117,487,375
Syar Tunnel	42.87%	\$32,758,878	7.94%	\$76,405,796	\$9,109,783	12.44%	\$21,247,376	\$41,868,661
Sixth Water Aqueduct	42.87%	\$15,291,148	3.71%	\$35,664,601	\$4,472,595	6.11%	\$10,431,744	\$19,763,743
Diamond Fork System	42.87%	\$63,272,145	15.34%	\$147,574,000	\$7,746,788	10.58%	\$18,068,370	\$71,018,934
Title V	35.28%	\$84,684,542	20.53%	\$240,034,000	\$0	0.00%	\$0	\$84,684,542
Sub-Total AJC:		\$412,437,457	100.00%	\$1,113,963,103	\$73,209,131	100.00%	\$203,080,450	\$485,646,587
Specific Costs								
Upper Diamond Fork Power Plant	100.00%	\$6,793,073		\$6,793,073	\$108,953		\$108,953	\$6,902,026
Sixth Water Power Plant	100.00%	\$33,830,454		\$33,830,454	\$1,357,689		\$1,357,689	\$35,188,143
Discontinued Investigations	100.00%	\$12,596,000		\$12,596,000	\$0		\$0	\$12,596,000
Sub-Total: Specific Costs		\$53,219,527		\$53,219,527	\$1,466,642		\$1,466,642	\$54,686,169
Total Power Costs		\$465,656,984			\$74,675,772		\$540,332,756	
Percentage		86.18%			13.82%			

**TABLE 6-11:
Power - Development of Power Marketability
(Section 5 Construction and IDC)**

Power - Offsets to Construction and IDC Costs				Annual Generation (kwh)	Annual Revenue @ 31.9 mils 1/	Capitalized Value of Expected Power Revenues
Upper Diamond Fork Power Plant				30,873,677	\$984,870	\$24,306,101
Sixth Water Power Plant				134,284,298	\$4,283,699	\$105,718,789
Jordanelle LOPP					\$114,694	\$2,830,590
Total Power Revenues from Sales:				165,157,975		\$132,855,481
Power - Local Cost Share	Construction Costs Allocated to Power	IDC Allocated to Power	Local Cost Share (%)	Construction LCS	IDC LCS	Local Cost Share (\$)
Upper Diamond Fork Power Plant	\$6,793,073	\$108,953	35.00%	\$2,377,576	\$38,134	\$2,415,709
Sixth Water Power Plant	\$33,830,454	\$1,357,689	35.00%	\$11,840,659	\$475,191	\$12,315,850
Diamond Fork System	\$13,118,029	\$2,198,971	5.18%	\$679,514	\$113,907	\$793,421
Total Local Cost Share:				\$14,897,748	\$627,231	\$15,524,980
Power - Discontinued Investigations						
Discontinued Investigations	\$12,596,000					\$12,596,000
Total Power Marketability:						\$160,976,460
1/ Power will be marketed at 45.0 mils/kwh with 13.1 mils being allocated to operation, maintenance and replacement and 31.9 mils applied to the power allocation.						

**TABLE 6-12:
Power Allocation Constrained by Power Marketability
(Section 5 Construction and IDC)**

Feature	Percent of Costs to Power (Construct)	Costs Allocated to Power (Construct)	Percent of Costs to Power (IDC)	Costs Allocated to Power (IDC)	Total:
Percentage Construction/IDC		86.18%		13.82%	
Total Revenues to be Allocated		\$138,728,982		\$22,247,479	\$160,976,460
Specific Costs					
Discontinued Investigations	100.00%	\$12,596,000	100.00%	\$0	\$12,596,000
Upper Diamond Fork Power Plant	100.00%	\$6,793,073	100.00%	\$108,953	\$6,902,026
Sixth Water Power Plant	100.00%	\$33,830,454	100.00%	\$1,357,689	\$35,188,143
Sub-Total: Specific Costs		\$53,219,527		\$1,466,642	\$54,686,169
Available for Assigned Joint Costs		\$85,509,455		\$20,780,837	\$106,290,292
Assigned Joint Costs					
Starvation Dam and Reservoir	1.15%	\$983,796	6.16%	\$1,279,808	\$2,263,604
Upper Stillwater Dam and Reservoir	21.16%	\$18,092,815	23.28%	\$4,837,317	\$22,930,131
Current Creek Dam and Reservoir	2.47%	\$2,108,267	5.08%	\$1,056,023	\$3,164,289
Soldier Creek Dam and Reservoir	4.94%	\$4,227,721	4.07%	\$846,016	\$5,073,737
Strawberry Aqueduct	22.76%	\$19,459,356	32.28%	\$6,707,266	\$26,166,622
Syar Tunnel	7.94%	\$6,791,803	12.44%	\$2,585,865	\$9,377,667
Sixth Water Aqueduct	3.71%	\$3,170,269	6.11%	\$1,269,572	\$4,439,841
Diamond Fork System	15.34%	\$13,118,029	10.58%	\$2,198,971	\$15,317,000
Title V	20.53%	\$17,557,399	0.00%	\$0	\$17,557,399
Sub-Total AJC:	100.00%	\$85,509,455	100.00%	\$20,780,837	\$106,290,292

**TABLE 6-13:
Operation, Maintenance, and Replacement Costs Allocated by Feature
(Section 5)**

FEATURE OR SYSTEM	ALLOCATED CONSTRUCTION COST	PERCENT	ALLOCATION OF OM&R COSTS
Starvation Collection System (includes Duchesne Canal Rehab. & Taylor Canal Drains)			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ 1,423,000	N/A	N/A
Power	\$ 983,796	1.62%	\$ 2,044
Fish and Wildlife	\$ 1,647,836	2.71%	\$ 3,423
Instream Flow	\$ 5,936,147	9.76%	\$ 12,332
Irrigation	\$ 47,537,416	78.19%	\$ 98,753
M&I	\$ 4,690,502	7.72%	\$ 9,744
Sub-Total:	\$ 62,218,697	100.00%	\$ 126,296
Upper Stillwater Dam and Reservoir			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ 18,092,815	7.31%	\$ 19,654
Fish and Wildlife	\$ 6,457,234	2.61%	\$ 7,014
Instream Flow	\$ 112,632,313	45.53%	\$ 122,352
Irrigation	\$ 23,741,726	9.60%	\$ 25,791
M&I	\$ 86,429,789	34.94%	\$ 93,888
Sub-Total:	\$ 247,353,876	100.00%	\$ 268,700
Current Creek Dam and Reservoir			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ 1,481,000	N/A	N/A
Power	\$ 2,108,267	7.31%	\$ 7,437
Fish and Wildlife	\$ 575,388	2.00%	\$ 2,030
Instream Flow	\$ 13,213,987	45.85%	\$ 46,615
Irrigation	\$ 2,785,372	9.66%	\$ 9,826
M&I	\$ 10,139,915	35.18%	\$ 35,770
Sub-Total:	\$ 30,303,928	100.00%	\$ 101,678
Salt Lake Creek Dam and Reservoir			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ 750,000	N/A	N/A
Power	\$ 4,227,721	8.30%	\$ 9,537
Fish and Wildlife	\$ 1,109,615	2.18%	\$ 2,503
Instream Flow	\$ 17,867,327	35.06%	\$ 40,306
Irrigation	\$ 5,997,893	11.77%	\$ 13,531
M&I	\$ 21,755,443	42.69%	\$ 49,078
Sub-Total:	\$ 51,708,000	100.00%	\$ 114,955
Strawberry Aqueduct + Collection System			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ 19,459,356	7.31%	\$ 22,720
Fish and Wildlife	\$ 1,771,193	0.67%	\$ 2,068
Instream Flow	\$ 123,754,826	46.52%	\$ 144,489
Irrigation	\$ 26,086,236	9.81%	\$ 30,457
M&I	\$ 94,964,785	35.70%	\$ 110,875
Sub-Total:	\$ 266,036,397	100.00%	\$ 310,608
Jordan Dam and Reservoir			
Flood Control	\$ 39,555,903	13.44%	\$ 29,382
Highway Improvement	\$ 62,461,000	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ 13,861,693	4.71%	\$ 10,296
Instream Flow	\$ 96,200,878	32.69%	\$ 71,458
Irrigation	\$ 24,560,850	8.35%	\$ 18,244
M&I	\$ 120,065,632	40.80%	\$ 89,185
Sub-Total:	\$ 356,705,956	100.00%	\$ 218,565
Jordan Aqueduct System			

**TABLE 6-13:
Operation, Maintenance, and Replacement Costs Allocated by Feature
(Section 5)**

FEATURE OR SYSTEM	ALLOCATED CONSTRUCTION COSTS	PERCENT	ALLOCATION OF O&M COSTS
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ -	0.00%	\$ -
Instream Flow	\$ -	0.00%	\$ -
Irrigation	\$ -	0.00%	\$ -
M&I	\$ 97,923,050	100.00%	\$ 150,163
Sub-Total:	\$ 97,923,050	100.00%	\$ 150,163
Upper Provo River Reservoirs			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ 6,919,070	88.83%	\$ 16,897
Instream Flow	\$ 79,114	1.02%	\$ 193
Irrigation	\$ 791,142	10.16%	\$ 1,932
M&I	\$ -	0.00%	\$ -
Sub-Total:	\$ 7,789,326	100.00%	\$ 19,022
Syar Tunnel			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ 6,791,803	8.89%	\$ 2,404
Fish and Wildlife	\$ 688,479	0.90%	\$ 244
Instream Flow	\$ 22,015,263	28.81%	\$ 7,794
Irrigation	\$ 10,139,963	13.27%	\$ 3,590
M&I	\$ 36,770,288	48.12%	\$ 13,017
Sub-Total:	\$ 76,405,796	100.00%	\$ 27,048
Utah Aqueduct			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ 3,170,269	8.89%	\$ 7,097
Fish and Wildlife	\$ 321,368	0.90%	\$ 719
Instream Flow	\$ 10,276,257	28.81%	\$ 23,003
Irrigation	\$ 4,733,119	13.27%	\$ 10,595
M&I	\$ 17,163,588	48.12%	\$ 38,420
Sub-Total:	\$ 35,664,601	100.00%	\$ 79,834
Sub-Total - USBR O&M			
Flood Control	\$ -	2.07%	\$ 29,382
Highway Improvement	\$ -	N/A	\$ -
Power	\$ -	5.00%	\$ 70,893
Fish and Wildlife	\$ -	3.19%	\$ 45,195
Instream Flow	\$ -	33.07%	\$ 468,541
Irrigation	\$ -	15.01%	\$ 212,717
M&I	\$ -	41.65%	\$ 590,140
Sub-Total - USBR O&M	\$ -	100.00%	\$ 1,416,869
Spanish Fork Flow Control Structure			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ 47,778	0.76%	\$ 229
Instream Flow	\$ 1,369,934	21.85%	\$ 6,556
Irrigation	\$ 1,076,838	17.18%	\$ 5,153
M&I	\$ 3,774,608	60.21%	\$ 18,063
Sub-Total:	\$ 6,269,158	100.00%	\$ 30,000
Spanish Fork Canyon Pipeline			

**TABLE 6-13:
Operation, Maintenance, and Replacement Costs Allocated by Feature
(Section 5)**

FEATURE OR SYSTEM	ALLOCATED CONSTRUCTION COST	PERCENT	ALLOCATION OF OM&R COSTS
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ 484,951	0.81%	\$ 162
Instream Flow	\$ 13,904,876	23.17%	\$ 4,635
Irrigation	\$ 7,301,511	12.17%	\$ 2,434
M&I	\$ 38,312,405	63.85%	\$ 12,770
Sub-Total:	\$ 60,003,743	100.00%	\$ 20,000
Spanish Fork Provo Reservoir Canal Pipe			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ 982,731	1.08%	\$ 754
Instream Flow	\$ 12,284,908	13.46%	\$ 9,425
Irrigation	\$ 3,136,435	3.44%	\$ 2,406
M&I	\$ 74,838,434	82.02%	\$ 57,415
Sub-Total:	\$ 91,242,507	100.00%	\$ 70,000
Spanish Fork Santaquin Pipeline			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ -	0.00%	\$ -
Instream Flow	\$ -	0.00%	\$ -
Irrigation	\$ -	0.00%	\$ -
M&I	\$ 99,380,508	100.00%	\$ 40,000
Sub-Total:	\$ 99,380,508	100.00%	\$ 40,000
Mableton Springville Pipeline			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ 222,884	0.79%	\$ 79
Instream Flow	\$ 13,566,470	48.14%	\$ 4,814
Irrigation	\$ 8,620,320	30.59%	\$ 3,059
M&I	\$ 5,770,130	20.48%	\$ 2,048
Sub-Total:	\$ 28,179,804	100.00%	\$ 10,000
Santaquin Mona Pipeline			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ 18,077,632	100.00%	\$ 10,000
Instream Flow	\$ -	0.00%	\$ -
Irrigation	\$ -	0.00%	\$ -
M&I	\$ -	0.00%	\$ -
Sub-Total:	\$ 18,077,632	100.00%	\$ 10,000
Sixth Water Power Plant			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ 33,830,454	100.00%	\$ 1,850,000
Fish and Wildlife	\$ -	0.00%	\$ -
Instream Flow	\$ -	0.00%	\$ -
Irrigation	\$ -	0.00%	\$ -
M&I	\$ -	0.00%	\$ -
Sub-Total:	\$ 33,830,454	100.00%	\$ 1,850,000
Upper Diamond Fork Power Plant			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A

**TABLE 6-13:
Operation, Maintenance, and Replacement Costs Allocated by Feature
(Section 5)**

FEATURE OR SYSTEM	ALLOCATED CONSTRUCTION COST	PERCENT	ALLOCATION OF O&M COSTS
Power	\$ 6,793,073	100.00%	\$ 316,000
Fish and Wildlife	\$ -	0.00%	\$ -
Instream Flow	\$ -	0.00%	\$ -
Irrigation	\$ -	0.00%	\$ -
M&I	\$ -	0.00%	\$ -
Sub-Total:	\$ 6,793,073	100.00%	\$ 316,000
WCVE			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ 3,514,430	19.00%	\$ 68,210
Instream Flow	\$ -	0.00%	\$ -
Irrigation	\$ 12,208,020	66.00%	\$ 236,940
M&I	\$ 2,774,550	15.00%	\$ 53,850
Sub-Total:	\$ 18,497,000	100.00%	\$ 359,000
Diamond Fork System			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ 13,118,029	8.89%	\$ 23,112
Fish and Wildlife	\$ 1,329,764	0.90%	\$ 2,343
Instream Flow	\$ 42,521,388	28.81%	\$ 74,915
Irrigation	\$ 19,584,835	13.27%	\$ 34,505
M&I	\$ 71,019,984	48.12%	\$ 125,125
Sub-Total:	\$ 147,574,000	100.00%	\$ 260,000
San Juan Replacement Project			
Flood Control	\$ -	0.00%	\$ -
Highway Improvement	\$ -	N/A	N/A
Power	\$ -	0.00%	\$ -
Fish and Wildlife	\$ -	0.00%	\$ -
Instream Flow	\$ 32,135,888	50.35%	\$ 23,665
Irrigation	\$ 14,405,303	22.57%	\$ 10,608
M&I	\$ 17,283,810	27.08%	\$ 12,728
Sub-Total:	\$ 63,825,000	100.00%	\$ 47,000
Sub-Total CUPCA OM&R			
Flood Control		0.00%	\$ -
Highway Improvement		0.00%	\$ -
Power		72.68%	\$ 2,189,112
Fish and Wildlife		2.72%	\$ 81,776
Instream Flow		4.12%	\$ 124,009
Irrigation		9.80%	\$ 295,105
M&I		10.69%	\$ 321,998
Sub-Total:		100.00%	\$ 3,012,000
Total - USBR and CUPCA OM&R			
Flood Control		0.66%	\$ 29,382
Highway Improvement		0.00%	\$ -
Power		51.03%	\$ 2,260,005
Fish and Wildlife		2.87%	\$ 126,971
Instream Flow		13.38%	\$ 592,551
Irrigation		11.47%	\$ 507,822
M&I		20.60%	\$ 912,138
Total - USBR and CUPCA OM&R:		100.00%	\$ 4,428,869

**TABLE 6-14:
Operation, Maintenance and Replament Cost Summary
(Section 5 and Section 8)**

	Specific & Assigned Joint OM&R	Percent	Remaining Joint OM&R	Total Allocated OM&R
USBR COSTS SECTION 5				
Flood Control	\$ 29,382	2.07%	\$ 7,061	\$ 36,443
Highway Improvement	\$ -	0.00%	\$ -	\$ -
Power	\$ 70,893	5.00%	\$ 17,036	\$ 87,929
Fish and Wildlife	\$ 45,195	3.19%	\$ 10,861	\$ 56,056
Instream Flow	\$ 468,541	33.07%	\$ 112,595	\$ 581,136
Irrigation	\$ 212,717	15.01%	\$ 51,118	\$ 263,836
M&I	\$ 590,140	41.65%	\$ 141,816	\$ 731,956
Sub-Total - USBR Section 5 OM&R:	\$ 1,416,869	100.00%	\$ 340,487	\$ 1,757,356
CUPCA COSTS SECTION 5				
Flood Control	\$ -	0.00%	\$ -	\$ -
Highway Improvement	\$ -	0.00%	\$ -	\$ -
Power	\$ 2,189,112	72.68%	\$ -	\$ 2,189,112
Fish and Wildlife	\$ 81,776	2.72%	\$ -	\$ 81,776
Instream Flow	\$ 124,009	4.12%	\$ -	\$ 124,009
Irrigation	\$ 295,105	9.80%	\$ -	\$ 295,105
M&I	\$ 321,998	10.69%	\$ -	\$ 321,998
Sub-Total - CUPCA Section 5 OM&R:	\$ 3,012,000	100.00%	\$ -	\$ 3,012,000
TOTAL OM&R COSTS SECTION 5				
Flood Control	\$ 29,382		\$ 7,061	\$ 36,443
Highway Improvement	\$ -		\$ -	\$ -
Power	\$ 2,260,005		\$ 17,036	\$ 2,277,041
Fish and Wildlife	\$ 126,971		\$ 10,861	\$ 137,832
Instream Flow	\$ 592,551		\$ 112,595	\$ 705,146
Irrigation	\$ 507,822		\$ 51,118	\$ 558,941
M&I	\$ 912,138		\$ 141,816	\$ 1,053,954
Total - Sec 5 USBR and CUPCA OM&R:	\$ 4,428,869		\$ 340,487	\$ 4,769,356
USBR SECTION 8				
Fish and Wildlife	\$ 413,000		\$ -	\$ 413,000
Recreation	\$ 5,458,000		\$ -	\$ 5,458,000
Sub-Total - USBR Section 8 OM&R:	\$ 5,871,000		\$ -	\$ 5,871,000
CUPCA SECTION 8				
Fish and Wildlife				
Section 201	\$ -		\$ -	\$ -
Title II	\$ -		\$ -	\$ -
Title III	\$ 500,000		\$ -	\$ 500,000
Title IV	\$ -		\$ -	\$ -
Recreation Title III	\$ -		\$ -	\$ -
Sub-Total - CUPCA Section 8 OM&R:	\$ 500,000		\$ -	\$ 500,000
TOTAL SECTION 8 OM&R				
Fish and Wildlife	\$ 913,000		\$ -	\$ 913,000
Recreation	\$ 5,458,000		\$ -	\$ 5,458,000
Total - Section 8 OM&R:	\$ 6,371,000		\$ -	\$ 6,371,000
TOTAL SEC 5 AND SEC 8 OM&R				
Total - Sec 5 and Sec 8 OM&R:	\$ 10,799,869		\$ 340,487	\$ 11,140,356

**TABLE 6-15:
Distribution of 30,000 AF for South Utah County (Block Notice 7B)
Between Irrigation and M+I Purposes**

			Irrigation Water Supply	M+I Water Supply	Total
Present Value of Water Supply @ 3.22 Percent			293,598	318,383	611,982
Percentage of Present Value of Water Supply			47.97%	52.03%	100.00%
Distribution between Irr and M+I			14,400	15,600	30,000
Facility Age (Yrs)	Year No.	Year	Irrigation Water Supply (Acres-Foot)	M+I Water Supply (Acres-Foot)	Total (Acres-Foot)
	1	1992	18,596	0	18,596
	2	1993	9,837	0	9,837
	3	1994	14,445	0	14,445
	4	1995	15,924	0	15,924
	5	1996	11,933	0	11,933
	6	1997	9,038	0	9,038
	7	1998	2,336	0	2,336
	8	1999	2,079	0	2,079
	9	2000	2,545	0	2,545
	10	2001	3,841	0	3,841
	11	2002	8,000	0	8,000
	12	2003	12,000	0	12,000
	13	2004	12,000	0	12,000
	14	2005	20,000	0	20,000
	15	2006	20,000	0	20,000
	16	2007	20,000	0	20,000
	17	2008	20,000	0	20,000
	18	2009	20,000	0	20,000
	19	2010	20,000	0	20,000
	20	2011	20,000	0	20,000
1	21	2012	20,000	0	20,000
2	22	2013	20,000	0	20,000
3	23	2014	20,000	0	20,000
4	24	2015	20,000	0	20,000
5	25	2016	20,000	0	20,000
6	26	2017	20,000	0	20,000
7	27	2018	20,000	0	20,000
8	28	2019	20,000	0	20,000
9	29	2020	20,000	0	20,000
10	30	2021	20,000	0	20,000
11	31	2022	20,000	6,000	26,000
12	32	2023	18,000	12,000	30,000
13	33	2024	12,000	18,000	30,000
14	34	2025	6,000	24,000	30,000
15	35	2026	0	30,000	30,000
16	36	2027	0	30,000	30,000
17	37	2028	0	30,000	30,000
18	38	2029	0	30,000	30,000
19	39	2030	0	30,000	30,000
20	40	2031	0	30,000	30,000
21	41	2032	0	30,000	30,000
22	42	2033	0	30,000	30,000
23	43	2034	0	30,000	30,000
24	44	2035	0	30,000	30,000
25	45	2036	0	30,000	30,000
26	46	2037	0	30,000	30,000
27	47	2038	0	30,000	30,000
28	48	2039	0	30,000	30,000
29	49	2040	0	30,000	30,000
30	50	2041	0	30,000	30,000
31	51	2042	0	30,000	30,000
32	52	2043	0	30,000	30,000
33	53	2044	0	30,000	30,000
34	54	2045	0	30,000	30,000
35	55	2046	0	30,000	30,000
36	56	2047	0	30,000	30,000
37	57	2048	0	30,000	30,000
38	58	2049	0	30,000	30,000
39	59	2050	0	30,000	30,000

**TABLE 6-15:
Distribution of 30,000 AF for South Utah County (Block Notice 7B)
Between Irrigation and M+I Purposes**

40	60	2051	0	30,000	30,000
41	61	2052	0	30,000	30,000
42	62	2053	0	30,000	30,000
43	63	2054	0	30,000	30,000
44	64	2055	0	30,000	30,000
45	65	2056	0	30,000	30,000
46	66	2057	0	30,000	30,000
47	67	2058	0	30,000	30,000
48	68	2059	0	30,000	30,000
49	69	2060	0	30,000	30,000
50	70	2061	0	30,000	30,000
51	71	2062	0	30,000	30,000
52	72	2063	0	30,000	30,000
53	73	2064	0	30,000	30,000
54	74	2065	0	30,000	30,000
55	75	2066	0	30,000	30,000
56	76	2067	0	30,000	30,000
57	77	2068	0	30,000	30,000
58	78	2069	0	30,000	30,000
59	79	2070	0	30,000	30,000
60	80	2071	0	30,000	30,000
61	81	2072	0	30,000	30,000
62	82	2073	0	30,000	30,000
63	83	2074	0	30,000	30,000
64	84	2075	0	30,000	30,000
65	85	2076	0	30,000	30,000
66	86	2077	0	30,000	30,000
67	87	2078	0	30,000	30,000
68	88	2079	0	30,000	30,000
69	89	2080	0	30,000	30,000
70	90	2081	0	30,000	30,000
71	91	2082	0	30,000	30,000
72	92	2083	0	30,000	30,000
73	93	2084	0	30,000	30,000
74	94	2085	0	30,000	30,000
75	95	2086	0	30,000	30,000
76	96	2087	0	30,000	30,000
77	97	2088	0	30,000	30,000
78	98	2089	0	30,000	30,000
79	99	2090	0	30,000	30,000
80	100	2091	0	30,000	30,000
81	101	2092	0	30,000	30,000
82	102	2093	0	30,000	30,000
83	103	2094	0	30,000	30,000
84	104	2095	0	30,000	30,000
85	105	2096	0	30,000	30,000
86	106	2097	0	30,000	30,000
87	107	2098	0	30,000	30,000
88	108	2099	0	30,000	30,000
89	109	2100	0	30,000	30,000
90	110	2101	0	30,000	30,000
91	111	2102	0	30,000	30,000
92	112	2103	0	30,000	30,000
93	113	2104	0	30,000	30,000
94	114	2105	0	30,000	30,000
95	115	2106	0	30,000	30,000
96	116	2107	0	30,000	30,000
97	117	2108	0	30,000	30,000
98	118	2109	0	30,000	30,000
99	119	2110	0	30,000	30,000
100	120	2111	0	30,000	30,000
101	121	2112	0	24,000	24,000
102	122	2113	0	18,000	18,000
103	123	2114	0	12,000	12,000
104	124	2115	0	6,000	6,000