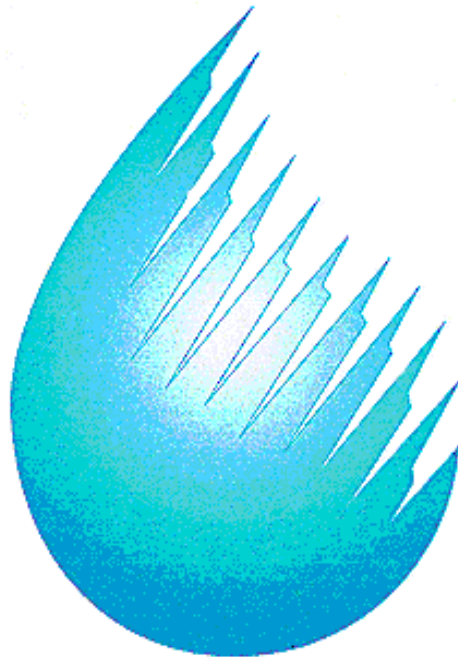


Southern Nevada Water Authority

MAJOR CONSTRUCTION AND CAPITAL PLAN



PROJECT DEFINITION AND STATUS REPORT

Amendment 10 Issued December 18, 2008

First Issued June 20, 2002

Southern Nevada Water Authority

MAJOR CONSTRUCTION AND CAPITAL PLAN

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SECTION 1

INTRODUCTION AND PLAN SUMMARY

Introduction

The Southern Nevada Water Authority was formed in 1991 by a Cooperative Agreement among the following local entities:

- Big Bend Water District
- City of Boulder City
- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Clark County Water Reclamation District
- Las Vegas Valley Water District

The Southern Nevada Water Authority was established to unite these entities in cooperative efforts to address regional water resource and facility issues. In the early 1990s Clark County's population was about 800,000 and projected to grow to about 1,000,000 by the year 2000 and to 1,800,000 by the year 2025. Clark County's current population is more than 1,900,000 and forecasts issued in 2007 project a population in 2035 of approximately 3,700,000.

The Cooperative Agreement creating the Authority, together with the adjunct Facilities and Operations Agreement, stipulate that proposed facilities and other capital initiatives of the Authority will be defined and authorized in approved capital plan documents.

The Major Construction and Capital Plan (MCCP) was developed to meet continuing water needs of the community of Southern Nevada. The MCCP defines and authorizes projects to maintain facilities in a sound and functional condition, develop water resources, reduce operating costs, maintain or improve water quality, address environmental and safety issues, provide for support facilities (including power), and meet other objectives defined by the Authority.

The MCCP was initially approved and issued on June 20, 2002 and was last amended on December 6, 2007. The character of the MCCP is dynamic and responsive to the changing needs of the Authority. The projects presented and defined in the MCCP are reviewed and revised at least annually. The status of each project is updated in each revision. Only the Authority's Board of Directors can authorize revisions to the MCCP. Additionally, all increases to the total cost of the MCCP must be approved by the governing board of each Southern Nevada Water System (SNWS) Purveyor Member.

Plan Summary

The various sections of this MCCP document define the general location, scope, estimated costs, and schedule for each active project, list candidate projects that are not yet approved but may be proposed for future implementation, list all completed projects and project cash flows for active projects.

This amendment of the MCCC provides for the establishment of 14 new projects and revision of several previously approved projects. Nineteen projects have been completed since the last amendment.

The following table summarizes the changes of this amendment to the MCCC.

	This Amendment			
	Added Projects	Deleted Projects	Completed Projects	Adjustments to Previously Approved Projects
Number	14	0	19	30
Value (\$1,000)	33,865	0	161,362	(33,865)

SECTION 3

ACTIVE PROJECTS

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Virgin and Muddy Rivers Water Resource Acquisition	Project Number: 090B <hr/> Project Status: Implementation												
Project Description: Acquisition of water rights to the Virgin River and Muddy River.													
Project Schedule: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: left;"><u>Date *</u></th> </tr> </thead> <tbody> <tr> <td>Project Approved</td> <td>Jun-1997 A</td> </tr> <tr> <td>Project Complete</td> <td>Jan-2011</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Date *</u>	Project Approved	Jun-1997 A	Project Complete	Jan-2011	Project Cost: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: right;"><u>Cost (\$1,000) *</u></th> </tr> </thead> <tbody> <tr> <td>Acquisition of Water Rights</td> <td style="text-align: right;">54,000</td> </tr> <tr> <td style="text-align: right;">Total \$</td> <td style="text-align: right;">54,000</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Cost (\$1,000) *</u>	Acquisition of Water Rights	54,000	Total \$	54,000
<u>Activity</u>	<u>Date *</u>												
Project Approved	Jun-1997 A												
Project Complete	Jan-2011												
<u>Activity</u>	<u>Cost (\$1,000) *</u>												
Acquisition of Water Rights	54,000												
Total \$	54,000												
<p>* Project Dates and Costs are projected unless indicated by an "A" for "Actual".</p>													
Remarks: As of March 2008, SNWA had acquired approximately 7,159 acre-feet of Muddy Valley Irrigation Company shares and 2,001 acre-feet of long-term leases on other Muddy River surface water rights. SNWA has also acquired approximately 3,710 acre-feet of Mesquite Irrigation Company and Bunkerville Irrigation Company water rights on the Virgin River. On April 17, 2008, the Board of Directors authorized an additional \$40,000,000 to purchase, lease, and/or otherwise acquire the right to utilize water rights from shareholders of the three irrigation companies on the Virgin and Muddy Rivers.													
Primary Funding: Regional Funding Plan													

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Interim Colorado River Supplies	Project Number: 090E
	Project Status: Implementation

Project Description:

Funding for securing interim Colorado River supplies through activities such as banking of Colorado River water in Arizona and construction of a re-regulating reservoir on the All American Canal.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Dec-2004 A
Project Complete	Dec-2018

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Arizona Groundwater Banking	340,000
Drop 2 Re-regulating Reservoir	149,000
Total \$	489,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

A December 2004 amended agreement between the SNWA, the Colorado River Commission of Nevada and the Arizona Water Banking Authority guarantees 1.25 million acre-feet of water will be banked as long-term storage credits for the SNWA, including previously established storage credits. Through an agreement with the Bureau of Reclamation, SNWA may fund all or part of the construction of a re-regulating reservoir at the Drop 2 Structure on the All American Canal in the Imperial Valley that would store water ordered by the Imperial Irrigation District, but not immediately needed, for future use, making the operation of the Colorado River reservoir system more efficient resulting in less system losses. By funding construction of the re-regulating reservoir SNWA will obtain rights to at least 400,000 acre-feet of additional Colorado River water. Participation by California and Arizona in funding construction of the reservoir reduced Nevada's portion of the cost to approximately \$149 million.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Water Resource Acquisition and Development	Project Number: 090F
	Project Status: Implementation

Project Description:

Acquire rights to and develop the water resources needed to meet the needs of the Southern Nevada community. These water resources include the Colorado River and Nevada's in-state water resources.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Oct-2003 A
Integrated Water Planning	Nov-2005 A
Planning Complete	Jul-2010
Project Complete	Jun-2020

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	10,000
Planning	4,000
Environment	5,000
Water Rights	106,000
Total \$	125,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Severe drought has reduced available supplies of Colorado River water and impart urgency to the need to acquire and develop other water resources. An Integrated Water Planning Advisory Committee presented recommendations for development of water resource options to the SNWA Board of Directors on November 17, 2005. These recommendations have supported efforts to pursue water resources through a broad range of options, including conservation and in-state groundwater and surface water development. Funding under this project has been used to purchase ranches and their associated water rights in White Pine County.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Clark, Lincoln, and White Pine Counties Groundwater Development	Project Number: 090G
	Project Status: Planning

Project Description:

Conduct engineering and hydrologic studies, drill aquifer test wells, perform preliminary facility planning, conduct environmental analyses, secure water rights, obtain land and rights-of-way, and accomplish early phases of facility design required for development of groundwater resources in Clark, Lincoln, and White Pine Counties.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Early Phase Design and ROW Activities	Mar-2010
EIS Record of Decision Issued	Mar-2010
Test Well Construction	Sep-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	6,300
Planning	48,200
Environment	31,000
ROW	4,000
Test Wells	16,500
Total \$	106,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

During 2004 and 2005, a stakeholder driven water planning process was conducted by means of an Integrated Water Planning Advisory Committee. The development of unused groundwater resources available in Clark, Lincoln, and White Pine Counties was one of several recommendations of the advisory committee. Project cost estimates were increased to account for continuing planning, environmental, test well, and early phase pre-design activities in support of the project objectives.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: PS6 - Valley View Regulating Tank Security and Offsite Improvements	Project Number: 300A
	Project Status: Construction

Project Description:

Construct security and off-site improvements, including walls, gates, sidewalks, curbs and gutters, lighting and landscaping at Pumping Station No. 6 and at the Valley View Regulating Tank.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2003 A
Design Complete-PS6	Mar-2006 A
Design Complete-VV	Jul-2008
Construction Complete	May-2009
Project Complete	Jun-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	130
Construction	1,100
Total \$	1,230

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Off-site improvements at Pumping Station No. 6 were requested by neighbors to make the facility's appearance more compatible with the community and are necessary to meet current county standards and improve site security. The construction of the PS6 off site improvements was combined with the Hacienda Pumping Station Improvements Contract 340C 02 C1 and has been completed. The Valley View Regulating Tank security fence will be constructed under a contract administered by LVVWD in conjunction with the LVVWD proposed pipeline.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Roofing Replacements	Project Number: 300D
	Project Status: Implementation

Project Description:

Replace deteriorated roofing on various buildings throughout the Southern Nevada Water System.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Sep-2005 A
Planning Complete	Nov-2005 A
Construction Complete	Sep-2008 A
Project Complete	Jan-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	15
Procurement	790
Total \$	805

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

This project initially was focused on the Chlorine Building roof at AMSWTF and the Administration area roof at RMWTF. It was subsequently determined that additional roofing at AMSWTF needs to be repaired and that the damaged roof at Lamb Pumping Station needs to be replaced.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Control System Improvements	Project Number: 300E
	Project Status: Implementation

Project Description:

Phase 1 of this project defined requirements, evaluated potential systems and developed project criteria for a new Supervisory Control and Data Acquisition System (SCADA) for the entire Southern Nevada Water System. The Phase 2 effort is for design of the recommended system components and initial implementation of the SCADA system replacement.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Planning Complete	Feb-2008 A
Design Complete	Jul-2010
Construction Complete	Aug-2013
Project Complete	Nov-2013

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	2,380
Planning	1,800
Design	4,640
Construction	12,180
Total \$	21,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The Phase 1 master plan has been completed. In this Phase 2, the recommendations of the master plan will begin to be implemented with the increased funding proposed. A later round of funding will be required to fully implement the recommended system replacement.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Stage I and II Facilities PLC Upgrades	Project Number: 300H
	Project Status: Implementation

Project Description:

Upgrade the programmable logic controllers at the pumping stations and rate-of-flow control stations on the Stage I and Stage II facilities constructed by the Bureau of Reclamation during the 1970s and 1980s.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Design Complete	Dec-2006 A
Procurement Complete	Oct-2009
Project Complete	Apr-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Procurement	2,600
Installation	2,250
Total \$	4,850

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

SNWA Operations will install the new controllers using in-house personnel.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Warm Springs ROFCS Offsite Improvements	Project Number: 300J <hr/> Project Status: Construction														
Project Description: Construct street pavement, sidewalk, curb and gutter, and street lights around the Warm Springs Rate-of-Flow Control Station.															
Project Schedule: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: left;"><u>Date *</u></th> </tr> </thead> <tbody> <tr> <td>Project Approved</td> <td>May-2007 A</td> </tr> <tr> <td>Project Complete</td> <td>Mar-2009</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Date *</u>	Project Approved	May-2007 A	Project Complete	Mar-2009	Project Cost: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: right;"><u>Cost (\$1,000) *</u></th> </tr> </thead> <tbody> <tr> <td>Design</td> <td style="text-align: right;">100</td> </tr> <tr> <td>Construction</td> <td style="text-align: right;">900</td> </tr> <tr> <td style="text-align: right;">Total \$</td> <td style="text-align: right;">1,000</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Cost (\$1,000) *</u>	Design	100	Construction	900	Total \$	1,000
<u>Activity</u>	<u>Date *</u>														
Project Approved	May-2007 A														
Project Complete	Mar-2009														
<u>Activity</u>	<u>Cost (\$1,000) *</u>														
Design	100														
Construction	900														
Total \$	1,000														
* Project Dates and Costs are projected unless indicated by an "A" for "Actual".															
Remarks: At the time the Warm Springs ROFCS was first constructed, there was no nearby development and the Clark County Building department agreed to defer the requirement for offsite improvements until warranted by adjacent development. Development in the neighborhood now justifies the construction of the improvements.															
Primary Funding: Regional Funding Plan															

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Flocculation Channel Concrete Repairs	Project Number: 300K
	Project Status: Programmed

Project Description:

Repair deteriorated concrete and access hatches in the area of the flocculation channels at the Alfred Merritt Smith Water Treatment Facility.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2007 A
Planning Complete	Mar-2009
Design Complete	Jun-2009
Construction Complete	Feb-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	5
Design	20
Construction Management	50
Construction	200
Total \$	275

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Regulating Tank 6 Onsite and Offsite Improvements	Project Number: 300L
	Project Status: Programmed

Project Description:

Connect the regulating tank overflow pipeline to the Stewart Reservoir overflow system, construct a perimeter wall, and landscape the site.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Nov-2008
Design Complete	Jan-2009
Construction Complete	Sep-2009
Project Complete	Dec-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	25
Design	100
Construction Management	75
Construction	800
Total \$	1,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The purpose of this project is to construct the offsites at Regulating Tank Six including a block wall, gates and access driveways. In addition the overflow pipeline will be connected to the storm drain system.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Miscellaneous Facilities Improvements	Project Number: 300M
	Project Status: Programmed

Project Description:

Accomplish a range of miscellaneous small improvements projects involving grading, drainage, piping, and mechanical and electrical systems.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Nov-2008
Project Complete	Sep-2013

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	25
Design	100
Construction Management	100
Construction	975
Total \$	1,200

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

This project is necessary to address some of the incomplete or non-compliant work remaining from the AMSWTF Process Improvements project and to better integrate facility components accomplished under a number of other previous improvements projects.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Three Lakes Valley Groundwater Development	Project Number: 310B
	Project Status: Design

Project Description:

Construct approximately 130,000 LF of 30-inch pipeline, up to 9 wells, required treatment facilities, a rate of flow control & hydroturbine facility, monitoring wells, power supply system and related appurtenances.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2004 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	700
Environment	1,500
ROW	200
Design	1,000
Water Rights	100
Monitoring Wells	500
Total \$	4,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

In 2005, the State Engineer granted 8,018 AFY in ground water rights from the Three Lakes North, Three Lakes South, and Tikaboo South hydrologic basins. The request to the State Engineer to change the points of diversion of the water rights to the Three Lakes South Valley was approved in part. Evaluation of how to access the remainder of the water rights is on-going and the design has been placed on-hold until that issue is resolved. Schedule and cost estimates have been set at minimal levels pending resolution of this issue.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: EBROFC Valve Replacements	Project Number: 310D
	Project Status: Construction

Project Description:

Replace three 48-inch diameter butterfly valves in the rate-of-flow control station vault of the Emergency Bypass between the discharge of Intake Pumping Station No. 2 and the inlet of the Alfred Merritt Smith Water Treatment Facility.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Sep-2005 A
Design Complete	Dec-2005 A
Construction Complete	Nov-2008
Project Complete	Jan-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	1
Design	124
Construction Management	10
Construction	2,265
Total \$	2,400

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: North I-15 Treatment and Transmission Facilities Planning	Project Number: 310E Project Status: Programmed
--	--

Project Description:

Develop facilities concept plans and initiate environmental and predesign activities for potential treatment and transmission of Colorado River surplus and augmentation water along the north I-15 corridor.

Project Schedule:

<u>Activity</u>	<u>Date</u> *
Project Approved	May-2006 A
Planning Complete	Jun-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000)</u> *
Administration	200
Planning	800
Total \$	1,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

This planning work was authorized to assure that facilities can be designed and constructed in time to deliver water resources that may become available through future agreements under discussion with the Colorado River basin states and the Bureau of Reclamation. In 2006, planning activities for this project were suspended temporarily pending exploration of other options.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: IPS-2 Test Pump Procurement and Installation	Project Number: 310F
	Project Status: Implementation

Project Description:

Procure and install up to fifteen pumping units of various types and manufacture suitable for application at Intake Pumping Station No. 2.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2007 A
Procurement Complete	Sep-2007 A
Design Complete	Mar-2008 A
Construction Complete	Sep-2009
Project Complete	Oct-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	150
Design	950
Procurement	38,000
Construction	3,200
Total \$	42,300

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Existing pumping units at IPS-2 have not demonstrated reliable performance. Although repairs are being made to the most troublesome pumping units, a testing program to explore potentially better performing pumping units will improve the prospects for more reliable delivery of the community's critical water supply. Contracts for procurement of 15 additional pumping units were approved in 2007. 12 of these pumps will have greater pumping capacity than the existing pumps. This greater capacity will provide a measure of protection in the event Intake No. 1 should be out of service.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Las Vegas Wash Flow Measurement Facility	Project Number: 310G
	Project Status: Planning

Project Description:

Develop concepts for and construct a flow measurement facility in the Las Vegas Wash downstream of Lake Las Vegas to accurately measure base and flood flows from all sources of the Las Vegas Valley.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2007 A
Planning Complete	Jul-2009
Design Complete	Jul-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	120
Planning	300
Total \$	420

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Accurate measurement of flows from the Las Vegas Valley is necessary to assure that Nevada gets full credit for water recycled to the Colorado River System. Accurate measurement of recycled water also aids in balancing water use between Colorado River water and local groundwater supplies throughout the water year. The National Park Service (NPS) is collaborating on the project to secure improved erosion protection to the North Shore Bridge in the Lake Mead National Recreation Area. The Phase 1 planning activities will allow for SNWA and NPS to define project concepts and establish an agreement for their respective responsibilities.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Remodel Former AMSWTF Laboratory Spaces	Project Number: 320B
	Project Status: Design

Project Description:

Remodel the former laboratory space at the AMSWTF. The remodeled space will house Maintenance Engineering and computer server equipment. It will also provide for a group assembly area.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jun-2002 A
Design Complete	Apr-2008 A
Construction Complete	Aug-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	10
Design	238
Construction Management	100
Construction	1,650
Total \$	1,998

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The construction of the central laboratory at the RMWTF under Project No. 320A has allowed laboratory functions at the AMSWTF to be shifted to the RMWTF. This project will remodel the resulting available spaces to provide for other necessary operations.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Filtration System Valve Repairs	Project Number: 320F
	Project Status: Implementation

Project Description:

Repair or replace valves and valve actuators in the filtration systems at the Alfred Merritt Smith Water Treatment Facility, including filter influent and effluent valves, wash water valves and air valves for filters 1 through 20.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2003 A
Design Complete	Jun-2006 A
Project Complete	Dec-2011

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	50
Procurement	1,450
Total \$	1,500

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The existing filtration system valves in filters 1 through 20 have deteriorated and all leak. A major overhaul or replacement of the valves will restore filter performance.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Alfred Merritt Smith Water Treatment Facility Pilot Plant	Project Number: 3201
	Project Status: Design

Project Description:

Construct a 10,000 square-foot, 10-gpm pilot plant for evaluation and optimization of treatment processes specific to the water quality characteristics at the AMSWTF.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2004 A
Design Complete	Jun-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	150
Design	1,170
Total \$	1,320

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The design for the pilot plant previously planned for location at the RMWTF Water Quality Lab is being adapted for this facility to be constructed at AMSWTF. The proposed funding is for the design phase of this project. A later round of funding will be required for construction of the pilot plant facility.

Primary Funding:

Regional Funding Plan and Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Disinfection By-Products Studies	Project Number: 320J
	Project Status: Implementation

Project Description:

Evaluate and define current knowledge and potential techniques for reducing formation of disinfection by-products.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Dec-2004 A
Project Complete	Dec-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	1,000
Total \$	1,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Regional Funding Plan and Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Surface Water Treatment Pilot Studies	Project Number: 320K
	Project Status: Implementation

Project Description:

Perform pilot studies of treatment processes that would be appropriate for application to surface waters such as the Virgin and Muddy Rivers and the epilimnion of Lake Mead to achieve compliance with drinking water standards.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Dec-2004 A
Project Complete	Dec-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	700
Procurement	1,000
Total \$	1,700

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The estimated costs indicated here are for initial pilot study activities, involving paper and bench scale studies. Full-scale pilot testing of target treatment processes will require additional funding.

Primary Funding:

Regional Funding Plan and Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF A and B Clearwells Slide Gate Actuators	Project Number: 320N
	Project Status: Implementation

Project Description:
Purchase and install new slide gate actuators with waterproof enclosures for the A and B Clearwells at the Alfred Merritt Smith Water Treatment Facility. Repair or replace the Stage 1 gates as necessary, particularly Forebay 2 Aqueducts A and B inlet gates.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	Sep-2005 A	Procurement	1,200
Project Complete	Dec-2008		
		Total \$	1,200

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
Original equipment was installed during the construction of the A and B clearwells at the Alfred Merritt Smith Water Treatment Facility. Repair and replacement parts for this equipment are no longer available. An inspection was performed on all of the Stage 1 gates and repairs or replacements should be made as indicated in the inspection report.

Primary Funding:
Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Filter Improvements Demonstration	Project Number: 3200
	Project Status: Planning

Project Description:

Implement recommended improvements to the media and underdrain systems of one filter basin to demonstrate the effectiveness of the recommended improvements.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Design Complete	Dec-2008
Pilot Testing Complete	Dec-2008
Preliminary Design Report Complete	Jun-2009
Construction Complete	Sep-2010
Project Complete	Oct-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	50
Design	150
Construction	600
Total \$	800

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

A study completed under Project No. 320D recommended certain improvements to the media and underdrain systems of the filters at the Alfred Merritt Smith Water Treatment Facility. This project is intended to demonstrate whether those recommendations will produce the predicted improvements.

Primary Funding:

Regional Funding Plan and Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Chlorine Building I Rehabilitation	Project Number: 320P
	Project Status: Programmed

Project Description:

Recalibrate tanker scales, test chlorine piping, and repaint the building.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Project Complete	Jun-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	10
Design	140
Construction	600
Total \$	750

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The chlorine building was constructed in 1995 and has been in use since that time. After completion of the new chlorine building the existing building needs to have the chlorine gas pipelines tested, the tanker scales recalibrated and the building needs repainting.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Process Drainage Improvements	Project Number: 320Q
	Project Status: Design

Project Description:

Incorporate improvements to allow hydraulic components and structures of the Alfred Merritt Smith Water Treatment Facility to be drained more quickly.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Planning Complete	Apr-2007 A
Design Complete	May-2008 A
Construction Complete	Mar-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	75
Environment	10
Permitting	15
Design	200
Construction Management	80
Construction	750
Total \$	1,130

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Quagga Mussel Evaluation and Control Facilities	Project Number: 320S
	Project Status: Implementation

Project Description:

Evaluate the potential impacts of quagga mussel infestation on incoming water quality and design and construct necessary facilities to mitigate these impacts.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2007 A
Planning Complete	Jun-2007 A
Design Complete	Aug-2008 A
Procurement Complete	Jun-2009
Construction Complete	Dec-2009
Project Complete	Dec-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	75
Planning	125
Permitting	50
Design	400
Procurement	400
Construction	400
Total \$	1,450

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Water Quality Testing Equipment - 7/1/2008 to 6/30/2009	Project Number: 320T Project Status: Programmed
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Project Description:
 Procure new and replacement equipment for testing water quality characteristics.

Project Schedule:	Project Cost:
<u>Activity</u>	<u>Activity</u>
<u>Date</u> *	<u>Cost (\$1,000)</u> *
Project Approved	Administration
Nov-2008	835
Project Complete	
Jun-2009	
	Total \$
	835

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
 The ability of water quality staff to detect contaminants at lower concentrations needs to be improved to assure compliance with evolving regulations and to assess emerging water quality concerns associated with disinfection by-products, microbials, and other regulated contaminants. New water quality equipment will have to be acquired and existing equipment will have to be upgraded or replaced to meet this need. Also, some existing equipment that is not cost effective to maintain or is no longer serviceable needs to be replaced.

Primary Funding:
 Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Coyote Spring Valley Well and Moapa Transmission System	Project Number: 340A
	Project Status: Design

Project Description:

Construct a 6,200 gpm pumping station with a 0.75 MG forebay, approximately 81,200LF of 24-inch pipeline, a 0.75 MG regulating tank and associated appurtenances to convey water from the MX-5 well site in Coyote Spring Valley to Moapa Valley Water District facilities in Moapa. Equip the MX-5 well to produce approximately 6,500 acre-feet per year and connect supplies from other wells to the system to produce a total of approximately 9,000 acre-feet per year in Coyote Spring Valley. An arsenic treatment facility has been added at the MX5 well site.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2002 A
Design Complete	Sep-2008 A
Construction Complete	Dec-2009
Project Complete	Dec-2011

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	1,461
Environment	4,125
Design	5,800
Construction Management	1,130
Construction	57,762
Total \$	70,278

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

This project is being accomplished in cooperation with the Moapa Valley Water District to comply with State Engineer Order No. 1169. Right of Way and environmental approvals were received in July 2007. Project completion is two years after construction completion to meet environmental mitigation requirements. Project costs have been revised to reflect new treatment requirements necessitating design revisions, environmental mitigation requirements, added power delivery costs and additional facilities required to access a second production well.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: PS 1A, 2A, 1B and 2B Pump Repairs and Flow Meter Installation	Project Number: 340B
	Project Status: Design

Project Description:

Repair or replace impellers, shafts, seal rings, bearings, and casings on up to 28 pumps and install individual flow meters at Pumping Stations 1A, 2A, 1B, and 2B.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2003 A
Design Complete	Mar-2005 A
Construction Complete	Dec-2005 A
Design Complete	Jun-2009
Construction Complete	Dec-2011

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	100
Planning	100
Design	400
Construction	1,100
Total \$	1,700

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Cavitation has worn the pumps' impellers to the point where the pumps need to be repaired. Flow meters are necessary to gather data on the pumps' performance before and after they are repaired. The flow meter portion of the project is complete. The repair of the pumps will be started after the efficiency data has been developed to prioritize the repairs.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Hacienda Pumping Station Improvements	Project Number: 340C
	Project Status: Construction

Project Description:

Repair shafts, impellers, wear rings and bearings, machine pump casings, and grout pump bases, as needed, on seven pumps. Upgrade electrical switchgear and control system. Construct blockwall and improve on-site and off-site drainage at Hacienda Pumping Station and Pumping Station No. 6.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2003 A
Planning Complete	Dec-2004 A
Design Complete	Mar-2007 A
Construction Complete	Oct-2010
Project Complete	Nov-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	100
Design	2,000
Construction	7,100
Total \$	9,200

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The existing pumps and electrical switchgear require excessive and frequent maintenance. This project includes remachining of the pumps and upgrading the electrical switchgear and control system. These improvements, along with blockwall construction, will improve the operational reliability and security of this critical facility.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: PS 1C, 2C, BPS1A, and BPS2 Variable Frequency Drive Enhancements	Project Number: 340D Project Status: Procurement
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Project Description:
 Enhance variable frequency drive backup capability by installing additional electrical gear for alternate constant speed operation in Pumping Stations 1C, 2C, BPS1A, and BPS2.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	Jul-2003 A	Administration	100
Planning Complete	Dec-2007 A	Design	400
Design Complete	Dec-2008	Construction	1,200
Construction Complete	Jan-2010		
Project Complete	Mar-2010		
		Total \$	1,700

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
 Continual failures of the variable frequency drives have reduced the capability of the pumps to meet the demands placed on them. Operations has continued to work with the manufacturer to eliminate the problems. The performance and reliability of the variable frequency drives will continue to be evaluated through December 2008. The need for additional upgrades or modifications will be reassessed then.

Primary Funding:
 Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Sleeve Valve Installation at Galleria, Simmons and Carlton ROFC Stations	Project Number: 340E <hr/> Project Status: Construction
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Project Description:
 Install sleeve valves to replace existing ball valves at the Galleria, Gibson, Simmons, and Carlton Rate-of-Flow Control Stations.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	Jul-2003 A	Installation	600
Design Complete	Sep-2006 A		
Project Complete	Dec-2010	Total \$	600

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:
 Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Pumping Plant No. 7 Upgrades	Project Number: 340H
	Project Status: Construction

Project Description:
Replace worn pumps, motors and electrical equipment in Pumping Plant No. 7 on the Boulder City Lateral.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	Sep-2005 A	Administration	10
Design Complete	Feb-2007 A	Design	100
Project Complete	Jun-2009	Installation	700
		Total \$	810

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
The pumps at Pumping Plant No. 7 are 30 years old and have lost over 10 percent efficiency at various operating points. The internal wear has made rehabilitation of the pumps more costly than replacement of the pumps.

Primary Funding:
Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: South Valley Facilities Expansion	Project Number: 3401
	Project Status: Planning

Project Description:

Prepare facilities concept plans and initiate environmental activities for a potential transmission system from the River Mountains Water Treatment Facility to the southwest area of the Las Vegas Valley, expansion of the River Mountains Water Treatment Facility and Raw Water System.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Planning Complete	Dec-2012

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	2,000
Planning	3,000
Environment	2,000
Interlocal Agreement	8,000
Total \$	15,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

This planning work is expected to lead to definition of pumping, transmission, storage, and rate-of-flow control facilities that will be evaluated in an environmental analysis. This work was previously authorized under the title, "McCulloch Lateral Planning".

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Ductile Iron Pump Inspection and Evaluation	Project Number: 340J
	Project Status: Programmed

Project Description:
Inspect and evaluate ductile iron pumps within the Southern Nevada Water System to assess corrosion effects and corrosion protection systems.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	May-2006 A	Planning	282
Project Complete	Jun-2010		
		Total \$	282

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:
Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Hemenway ROFC Improvements	Project Number: 340L
	Project Status: Construction

Project Description:

Replace the flow control valve, construct another flow train, and refurbish the electrical and control systems.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Design Complete	May-2008 A
Construction Complete	Mar-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Design	200
Construction	1,300
Total \$	1,500

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Schedule for construction will be coordinated with requirements for installation of PLC upgrades under project 300H. This coordination may affect the construction completion date.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Stage II ROFC Isolation Valve Replacements	Project Number: 340N
	Project Status: Implementation

Project Description:
Replace isolation valves in the Stage II rate-of-flow control stations.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Planning Complete	Dec-2006 A
Design Complete	Mar-2007 A
Procurement Complete	May-2009
Project Complete	Jul-2012

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	80
Design	80
Procurement	2,640
Construction	600
Total \$	3,400

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The isolation valves in the Stage II ROFC stations (total of 9 ROFCs) are 25 years old and need to be replaced since they no longer provide isolation. A total of 61 valves with diameters ranging from 10 inches to 66 inches will be purchased under two separate procurement contracts. SNWA will install the valves over a four year period. The procurement of the valves has been postponed due to the need to conduct further evaluation and determination of the type and number of valves most suitable for this application.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Pumping Station 6 Forebay Relining	Project Number: 3400
	Project Status: Design

Project Description:
Replace the membrane lining in the forebay of Pumping Station 6.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	May-2006 A	Design	130
Design Complete	Apr-2008 A	Construction	300
Construction Complete	Dec-2009		
		Total \$	430

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
The existing lining in the forebay was installed when the forebay was first constructed in 1970 and is approaching the end of its service life. An opportunity to replace the lining will occur during a planned extended outage of the pumping station.

Primary Funding:
Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Charleston Heights Lateral Repair and Valve Installation	Project Number: 340P
	Project Status: Construction

Project Description:

Install 48-inch valve(s), assess pipeline condition and repair up to 525 LF of deteriorated pipe.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Design Complete	Apr-2008 A
Construction Complete	Mar-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	114
Design	600
Construction	1,750
Total \$	2,464

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

This project will restore pipe integrity on a damaged section of the Charleston Heights Lateral and allow isolation of the Charleston Heights from the Twin Lakes Lateral.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Transmission Pipelines Discharge Modifications - Phase 1	Project Number: 340Q
	Project Status: Design

Project Description:

Modify various discharge facilities on transmission pipelines to improve pipeline drain times and reduce potential impacts from water discharges.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2007 A
Construction Complete	Jun-2011
Project Complete	Jul-2011

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	1,831
ROW	500
Design	1,700
Construction	13,500
Total \$	17,531

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The discharge facilities to be modified under this project were identified in the Transmission Pipelines Discharge Modifications Study completed under Project No. 340G as having the highest recommended priority for implementation. Other discharge facilities may be proposed for modification in later phases.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Transmission Pipelines Cathodic Corrosion Protection System Repairs - Phase 2	Project Number: 340R Project Status: Programmed
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Project Description:
 Conduct a condition assessment study of Stage I, Stage II, CRC and CIP Laterals and repair and upgrade the overall cathodic protection systems for these laterals.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	May-2007 A	Design	750
Planning Complete	Dec-2008	Construction Management	325
Design Complete	Apr-2009	Construction	2,100
Construction Complete	Apr-2010	Studies	3,500
		Contingency	1,001
		Total \$	7,676

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
 The pipelines were installed during a thirty year period with some pipelines not having any cathodic protection installed. This project will coordinate the cathodic protection and bring the entire system up to modern standards.

Primary Funding:
 Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: South Valley Lateral Isolation Valves - Phase 1	Project Number: 340S
	Project Status: Programmed

Project Description:

Construct 2 isolation valves on the South Valley Lateral proximate to the College, Black Mountain, and Horizon Ridge Rate-of-Flow Control Stations.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Nov-2008
Planning Complete	Jul-2009
Project Complete	Jan-2015

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	1,550
Design	620
Construction	8,060
Total \$	10,230

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

These valves will reduce impacts to purveyor water systems during outages of isolated portions of the South Valley Lateral, thereby increasing system reliability.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Sloan Pumping Station Foundation Repairs	Project Number: 340T
	Project Status: Programmed

Project Description:
Make repairs to address differential settlement in structural foundations.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	Nov-2008	Administration	10
Project Complete	Jun-2011	Design	20
		Construction	170
		Total \$	200

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
These repairs were recommended in a report prepared by the engineering firm Montgomery Watson Harza.

Primary Funding:
Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Valve Operator Access Upgrades	Project Number: 340U
	Project Status: Programmed

Project Description:

Modify valve vault structures, modify valve actuators, and install ladders at facilities on the South Valley Lateral and at the Foothills facilities site to improve operator access to system water valves.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Nov-2008
Project Complete	Dec-2011

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	25
Design	100
Construction Management	50
Construction	500
Total \$	675

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Some valves and valve actuators are very difficult to access as currently installed. These difficulties pose risks to personal safety and system operations

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Sleeve and Miscellaneous Valve Repairs	Project Number: 340V <hr/> Project Status: Programmed														
Project Description: Procure and install replacement valves at selected facilities.															
Project Schedule: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: left;"><u>Date *</u></th> </tr> </thead> <tbody> <tr> <td>Project Approved</td> <td>Nov-2008</td> </tr> <tr> <td>Project Complete</td> <td>Dec-2009</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Date *</u>	Project Approved	Nov-2008	Project Complete	Dec-2009	Project Cost: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: right;"><u>Cost (\$1,000) *</u></th> </tr> </thead> <tbody> <tr> <td>Procurement</td> <td style="text-align: right;">2,800</td> </tr> <tr> <td>Construction</td> <td style="text-align: right;">400</td> </tr> <tr> <td style="text-align: right;">Total \$</td> <td style="text-align: right;">3,200</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Cost (\$1,000) *</u>	Procurement	2,800	Construction	400	Total \$	3,200
<u>Activity</u>	<u>Date *</u>														
Project Approved	Nov-2008														
Project Complete	Dec-2009														
<u>Activity</u>	<u>Cost (\$1,000) *</u>														
Procurement	2,800														
Construction	400														
Total \$	3,200														
* Project Dates and Costs are projected unless indicated by an "A" for "Actual".															
Remarks: A number of sleeve valves have prematurely failed. Sloan ROFC presently has a 54" sleeve valve in need of immediate replacement. The slide gates on the clearwells at AMSWTF also have severe leakage making isolation during outages and maintenance activities extremely difficult. The sleeve valves, cone valves, and other types of valves used in the system are experiencing high failure rates.															
Primary Funding: Regional Funding Plan															

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: BIF Venturi Flow Control Valve Unit Replacements	Project Number: 340W <hr/> Project Status: Programmed
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Project Description:
 Replace 12 existing BIF venturi flow control valve units with new units.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Nov-2008
Project Complete	Jun-2011

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Procurement	2,400
Construction	300
Total \$	2,700

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The old combination BIF venturi flow meters with the built in control valve are failing and BIF no longer supports this product. Replace with new venturis. This project will coincide with the butterfly valve replacements currently being pursued under Project No. 340N.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Simmons ROFCS Pipeline Repairs	Project Number: 340X
	Project Status: Programmed

Project Description:

Evaluate and make appropriate repairs to buried pipeline couplings associated with the rate-of-flow control station at the Simmons Pumping Station.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Nov-2008
Construction Complete	Aug-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	10
Design	300
Construction Management	15
Construction	600
Total \$	925

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The dresser couplings have leaked at two locations at Simmons and also the Decatur Pumping Station.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Electric Power Transmission Facilities	Project Number: 360C
	Project Status: Programmed

Project Description:

Plan, design, and permit electric power transmission facilities to deliver electric power from generating resources and other power-purchase locations to water pumping and other identified loads.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jan-2002 A
Project Complete	Dec-2015

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	500
Planning	1,000
Permitting	3,500
Total \$	5,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The project schedule and costs are very preliminary pending determination of resource location and required transmission capacity.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Pumping Station Electrical Transformer Repairs	Project Number: 360H
	Project Status: Planning

Project Description:
Recondition or replace substation transformers at existing pumping stations.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2003 A
Project Complete	Feb-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Design	80
Construction	810
Total \$	890

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Electrical substation transformers at some pumping stations have been in operation for more than 25 years. Results of maintenance testing will be used to assess transformer degradation and the need for repair or replacement. Preventative work will reduce the risk of unplanned disruption to the pumping stations. The project schedule will be adjusted periodically to match the need for preventative work. This project will be accomplished in cooperation with the Colorado River Commission of Nevada.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: High Concentrating Solar Photovoltaic Demonstration and Research	Project Number: 360K Project Status: Programmed
---	--

Project Description:
 Install 250 kW capacity of Concentrating Solar Photovoltaic (CSP) panels at the River Mountains Water Treatment Facility.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	May-2007 A	Administration	10
Planning Complete	Aug-2007 A	Procurement	1,500
Construction Complete	Jul-2009	Construction	490
		Total \$	2,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
 This project will demonstrate the capabilities of the next generation of CSP technology and assess its potential for future applications. SNWA will partner with other alternative energy generation investigators, such as UNLV, to aid in the continued research and development of this technology. The energy produced from the system will offset the electrical energy demands for the River Mountains Treatment Facility.

Primary Funding:
 Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Arrow Canyon Energy Recovery Hydroturbine	Project Number: 360L
	Project Status: Programmed

Project Description:

Construct an energy recovery facility on the Coyote Spring Valley to Moapa Valley Transmission Pipeline along with electrical transmission conductors to convey the energy to the power grid.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Nov-2008
Project Complete	Dec-2010

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Total	4,000
Total \$	4,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Implementation of this project will require application for a license from the Federal Energy Regulatory Commission and preparation of an environmental assessment for rights-of-way grants from the Bureau of Land Management.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Renewable Energy Project Development	Project Number: 360M
	Project Status: Programmed

Project Description:
Fund feasibility studies of potential renewable energy projects.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Nov-2008
Planning Complete	Dec-2012
Project Complete	Jan-2015

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	5,000
Total \$	5,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Feasibility studies will provide guidance on whether to proceed with implementation of projects.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Solar Photovoltaic Panels at AMSWTF Filters and Flocculation Basins	Project Number: 360N <hr/> Project Status: Programmed
--	--

Project Description:
 Evaluate concepts and costs for providing structures and solar panels along with all appurtenances to cover all of the filters and flocculation basins at AMSWTF.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	Nov-2008	Administration	100
Planning Complete	Mar-2009	Planning	100
		Total \$	200

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
 Concepts for a solar installation to produce approximately 1.5 megawatts at the Alfred Merritt Smith Water Treatment Facility will be explored in collaboration with the National Park Service. If this evaluation produces favorable concepts, additional funding will be required for implementation.

Primary Funding:
 Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Production Group Satellite Facility	Project Number: 370A <hr/> Project Status: Programmed														
Project Description: Evaluate alternatives for establishing a satellite maintenance facility in the Las Vegas Valley for the SNWS Production Group.															
Project Schedule: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: left;"><u>Date *</u></th> </tr> </thead> <tbody> <tr> <td>Project Approved</td> <td>Jun-2002 A</td> </tr> <tr> <td>Planning Complete</td> <td>Feb-2009</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Date *</u>	Project Approved	Jun-2002 A	Planning Complete	Feb-2009	Project Cost: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: right;"><u>Cost (\$1,000) *</u></th> </tr> </thead> <tbody> <tr> <td>Administration</td> <td style="text-align: right;">60</td> </tr> <tr> <td>Planning</td> <td style="text-align: right;">150</td> </tr> <tr> <td style="text-align: right;">Total \$</td> <td style="text-align: right;">210</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Cost (\$1,000) *</u>	Administration	60	Planning	150	Total \$	210
<u>Activity</u>	<u>Date *</u>														
Project Approved	Jun-2002 A														
Planning Complete	Feb-2009														
<u>Activity</u>	<u>Cost (\$1,000) *</u>														
Administration	60														
Planning	150														
Total \$	210														
<p>* Project Dates and Costs are projected unless indicated by an "A" for "Actual".</p>															
Remarks: Concepts for coordinating location of this satellite facility with the overall facility planning for the Valley View Boulevard site are not currently viable. Efforts will now focus on evaluating additional alternatives, with recommendations to be presented for approval before proceeding with any construction activities.															
Primary Funding: Regional Funding Plan and Wholesale Delivery Charge															

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Security System Upgrades	Project Number: 370B
	Project Status: Construction

Project Description:

Install communications equipment and surveillance systems that are consistent with the vulnerability assessments performed by MANTEC and other related studies done on Authority facilities. Develop, install and test security software to protect the SCADA system at SNWS.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jun-2002 A
Vulnerability Assessment Complete	Sep-2003 A
Construction Complete	Apr-2009
Project Complete	May-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	20
Planning	50
Construction	3,430
Installation	800
Total \$	4,300

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Regional Funding Plan and Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: RMWTF Fleet Maintenance & Electrical Maintenance Facility	Project Number: 370C <hr/> Project Status: Construction
--	--

Project Description:
 Construct a fleet maintenance and electrical maintenance facility at the River Mountains Water Treatment Facility.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	Jun-2002 A	Administration	50
Design Complete	May-2008 A	Design	400
Construction Complete	Sep-2009	Construction Management	200
Project Complete	Dec-2009	Construction	3,000
		Total \$	3,650

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:
 Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Mechanic Maintenance Shop Addition	Project Number: 370E <hr/> Project Status: Construction																				
Project Description: Construct a new mechanic maintenance shop.																					
Project Schedule: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: left;"><u>Date *</u></th> </tr> </thead> <tbody> <tr> <td>Project Approved</td> <td>Jul-2003 A</td> </tr> <tr> <td>Design Complete</td> <td>Jun-2006 A</td> </tr> <tr> <td>Construction Complete</td> <td>Dec-2008</td> </tr> <tr> <td>Project Complete</td> <td>Dec-2008</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Date *</u>	Project Approved	Jul-2003 A	Design Complete	Jun-2006 A	Construction Complete	Dec-2008	Project Complete	Dec-2008	Project Cost: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Activity</u></th> <th style="text-align: right;"><u>Cost (\$1,000) *</u></th> </tr> </thead> <tbody> <tr> <td>Administration</td> <td style="text-align: right;">60</td> </tr> <tr> <td>Design</td> <td style="text-align: right;">1,250</td> </tr> <tr> <td>Construction</td> <td style="text-align: right;">11,005</td> </tr> <tr> <td style="text-align: right;">Total \$</td> <td style="text-align: right;">12,315</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Cost (\$1,000) *</u>	Administration	60	Design	1,250	Construction	11,005	Total \$	12,315
<u>Activity</u>	<u>Date *</u>																				
Project Approved	Jul-2003 A																				
Design Complete	Jun-2006 A																				
Construction Complete	Dec-2008																				
Project Complete	Dec-2008																				
<u>Activity</u>	<u>Cost (\$1,000) *</u>																				
Administration	60																				
Design	1,250																				
Construction	11,005																				
Total \$	12,315																				
<p>* Project Dates and Costs are projected unless indicated by an "A" for "Actual".</p>																					
Remarks: A new shop was needed with additional overhead space to accommodate an overhead crane, equipment, delivery vehicles and space for administrative and training functions. The project was nearly completed when the Clark County Building Department changed their previous policy and required that a building permit be obtained. This new requirement is delaying project completion.																					
Primary Funding: Regional Funding Plan																					

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Evaporative Cooler Upgrades	Project Number: 3701
	Project Status: Planning

Project Description:

Replace the evaporative coolers at fourteen different pumping stations with more efficient evaporative coolers.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2004 A
Procurement Complete	Jun-2010
Construction Complete	Dec-2011

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	210
Procurement	420
Construction	2,100
Total \$	2,730

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The replacement of the coolers at all 14 sites will result in a savings of over 650 acre feet of water per year.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: SCADA Communications Upgrades	Project Number: 370L
	Project Status: Programmed

Project Description:

Upgrade failsafe interlocks at 27 facilities and provide redundant timers on the fiber optic communications system.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Project Complete	Dec-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Construction	250
Total \$	250

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

This project will continue the deployment and upgrade of the failsafe interlock system and replace old telemetry equipment that is no longer available or supported by the manufacturer.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Machine Shop HVAC Unit Replacement	Project Number: 370M
	Project Status: Programmed

Project Description:

Replace the heating, ventilating, and air conditioning unit in the machine shop at the Alfred Merritt Smith Water Treatment Facility.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2007 A
Planning Complete	Jun-2007 A
Construction Complete	Jan-2009
Project Complete	Mar-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Planning	5
Procurement	95
Total \$	100

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Standby Generator Replacement	Project Number: 370N
	Project Status: Programmed

Project Description:

Replace the standby electrical generator for the Alfred Merritt Smith Water Treatment Facility.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2007 A
Construction Complete	Dec-2008

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	5
Design	10
Procurement	100
Construction	100
Total \$	215

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The existing electrical generator is in a deteriorated condition, cannot reliably maintain a 60 Hz frequency output, and does not meet current standards for environmental protection.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Utility Building Air Handler Replacement	Project Number: 3700
	Project Status: Programmed

Project Description:
Replace existing air handlers in the Utility Building at the Alfred Merritt Smith Water Treatment Facility.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	May-2007 A	Administration	5
Planning Complete	Jun-2007 A	Procurement	320
Construction Complete	Nov-2008		
Project Complete	Jan-2009	Total \$	325

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
The existing air handlers are no longer able to provide adequate cooling for the electrical gear in the Utility Building.

Primary Funding:
Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Machine Shop Equipment	Project Number: 370Q Project Status: Programmed												
Project Description: To procure special machinery, tools and equipment required to perform maintenance and repairs on the vertical turbine pumps and horizontal split case pumps within the system.													
Project Schedule: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Activity</u></th> <th style="text-align: left; border-bottom: 1px solid black;"><u>Date *</u></th> </tr> </thead> <tbody> <tr> <td>Project Approved</td> <td>Nov-2008</td> </tr> <tr> <td>Project Complete</td> <td>Mar-2010</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Date *</u>	Project Approved	Nov-2008	Project Complete	Mar-2010	Project Cost: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Activity</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>Cost (\$1,000) *</u></th> </tr> </thead> <tbody> <tr> <td>Procurement</td> <td style="text-align: right;">2,600</td> </tr> <tr> <td style="text-align: right;">Total \$</td> <td style="text-align: right;">2,600</td> </tr> </tbody> </table>	<u>Activity</u>	<u>Cost (\$1,000) *</u>	Procurement	2,600	Total \$	2,600
<u>Activity</u>	<u>Date *</u>												
Project Approved	Nov-2008												
Project Complete	Mar-2010												
<u>Activity</u>	<u>Cost (\$1,000) *</u>												
Procurement	2,600												
Total \$	2,600												
<small>* Project Dates and Costs are projected unless indicated by an "A" for "Actual".</small>													
Remarks: Additional machinery is required to perform repairs on the vertical turbine pumps and horizontal split case pumps in the SNWA water delivery system. This will also provide additional specialty tools and equipment for the mechanical personnel and machine shop. This project will also provide the necessary modifications and remodeling of the vacated shop space in order to provide an adequate shop area for the electrical/electronics personnel stationed at AMS.													
Primary Funding: Regional Funding Plan													

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: RMWTF Fire Alarm System Replacement	Project Number: 370R
	Project Status: Programmed

Project Description:

Replace the current fire detection and alarm system at the River Mountains Water Treatment Facility, along with installation of some fiber optic communication cables.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Nov-2008
Design Complete	Jan-2009
Procurement Complete	Feb-2009
Construction Complete	Apr-2009
Project Complete	Apr-2009

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	50
Procurement	200
Construction	850
Total \$	1,100

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The current Site Fire Alarm Detection System is obsolete and out of compliance due to the inability to obtain alarm panel replacement parts. Several costly FM-200 discharges and/or global detection failures have occurred impacting the Life Safety System. Project also includes some fiber optic installation.

Primary Funding:

Wholesale Delivery Charge

SECTION 4

CANDIDATE PROJECTS

Candidate Projects

The following projects are candidates for potential future approval. These candidate projects are conceptual, with uncertain schedule and cost projections that are subject to change. As more definitive information about the possible scope and benefit of these projects becomes available, they may become active projects in future amendments of the MCCP or they may be dropped from further consideration.

Candidate Project	Possible Completion Date	Order-of-Magnitude Cost Estimate (\$1,000)
Losee Rate-of-Flow Control Station	2017	\$10,000
Athens Rate-of-Flow Control Station	2014	\$ 10,000

SECTION 5

COMPLETED PROJECTS SUMMARY

COMPLETED PROJECTS SUMMARY

<u>Project No.</u>	<u>Project Title</u>	<u>Year Completed</u>	<u>Cost (\$1,000)</u>
090A	Water Resource (Coyote Spring Valley)	2000	30,299
100D	SNWS Power System Upgrades — Equipment Prepurchase	2003	6,127
100E	SNWS Power System Upgrades — Equipment Installation	2003	16,239
100F	CRC Power System Upgrades	2003	4,832
100G	SNWS Power System Upgrades — Material Prepurchase	2003	1,041
100T	SNWS Power System Upgrades — Remote Terminal Units	2003	521
300B*	Radio Communication System Upgrades	2008	365
300C*	Overhead Crane Upgrades	2008	219
300G	RMWTF Operators Video Display Upgrade	2007	210
300I*	AMSWTF Asbestos Removal	2008	35
310C*	IPS-1 Pump & Motor Replacements	2008	27,600
320A*	RMWTF Water Quality Laboratory and Pilot Plant	2008	40,600
320C	Disinfection By-Products Control Strategy	2004	181
320D	AMSWTF Filter Media and Underdrain Improvements Study	2004	194
320E*	AMSWTF Cathodic Corrosion Protection System Repairs and Upgrades	2008	1,391
320G	Lake Mead Intake No. 1 Modifications	2004	7,095

320H	Pumping Plant 6 Rechlorination Station	2004	100
320L*	AMSWTF Electrical Disconnect Switch Replacements	2008	82
320M*	Spare Filter Backwash Control Valve	2008	102
320R*	Water Quality Sampling & Testing Equipment for 7/1/07 to 6/30/08	2008	1,874
340F	Transmission Pipelines Cathodic Corrosion Protection System Repairs	2005	1,116
340G	Transmission Pipelines Discharge Modifications Study	2007	403
340K*	Reservoir Vent Modifications	2008	420
340M*	Air Vacuum and Relief Valve Piping Adjustments	2007	135
360A	Equity Purchase of Electric Power Generation Facilities – Silverhawk Project	2004	115,100
360B	Equity Purchase of Electric Power Generation Facilities	2003	53,000
360D*	Energy Supplier Conversion	2008	101
360E	Feasibility Study of Intermountain Project Unit 3	2005	525
360F*	ROFC Energy Recovery	2007	7,671
360G*	Intermountain Power Project Unit 3 – Predevelopment	2008	596
360I*	Hacienda Pumping Station Electrical Substation Upgrades	2008	1,690
360J*	AMSWTF & RMWTF Solar Photovoltaic Electrical Generation	2008	2,746
370D	Fiber-Optic Network Improvements	2007	1,715
370F	AMSWTF Utility Building Chiller Replacement	2005	85

370G	AMSWTF Computer Room HVAC Replacement	2007	95
370H	Flame Detection Equipment for High Pressure Hydraulic System	2006	204
370J*	SNWA Office Tenant Improvements	2008	40,575
370K*	AMSWTF Warehouse Storage System Improvements	2008	160
370P*	Purchase SNWA Office Space	2008	35,000
		TOTAL	400,444

* Project definition sheets for recently completed projects are appended to this section.

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Radio Communication System Upgrades	Project Number: 300B
	Project Status: Complete

Project Description:

Purchase, install, and commission new radio communication equipment to upgrade the existing radio communication system for improved routine and emergency operations.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Sep-2005 A
Planning Complete	May-2006 A
Design Complete	Jun-2006 A
Procurement Complete	Nov-2006 A
Project Complete	Aug-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	15 A
Procurement	350 A
Total \$	365

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The new system established better communications over a wider area during normal and emergency situations. This upgrade was accomplished in consultation with the Southern Nevada Area Communication Council.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Overhead Crane Upgrades	Project Number: 300C
	Project Status: Complete

Project Description:
Refurbish overhead cranes at various pumping stations.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	Sep-2005 A	Administration	10 A
Procurement Complete	May-2007 A	Procurement	209 A
Project Complete	Jan-2008 A		
		Total \$	219

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:
Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Asbestos Removal	Project Number: 3001
	Project Status: Complete

Project Description:

Remove building materials containing asbestos from various areas of the Alfred Merritt Smith Water Treatment Facility.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Planning Complete	Jul-2006 A
Procurement Complete	Feb-2007 A
Project Complete	Feb-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Asbestos Removal	35 A
Total \$	35

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: IPS-1 Pump and Motor Replacements	Project Number: 310C
	Project Status: Complete

Project Description:

Purchase and install larger motors and pumps with additional pump bowls to preserve pumping system capacity at Intake Pumping Station No. 1.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2004 A
Design Complete	Mar-2005 A
Construction Complete	Sep-2008 A
Project Complete	Sep-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	100 A
Design	1,000 A
Construction	26,500 A
Total \$	27,600

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

This project was coordinated with other projects to deal with rapidly declining Lake Mead water levels.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: River Mountains Water Treatment Facility Water Quality Laboratory and Pilot Plant	Project Number: 320A Project Status: Complete
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Project Description:

Construct a regional water quality laboratory and pilot plant to test water quality as required by drinking water regulations, to perform applied research to optimize existing treatment technologies and to evaluate new treatment technologies. The facilities to be built at the River Mountains Water Treatment Facilities include a 45,000 square-foot central water quality laboratory and support facilities and a 2,000 square-foot, 10-gpm pilot plant.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jun-2002 A
Design Complete	Oct-2004 A
Construction Complete	Mar-2007 A
Project Complete	Jul-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	40 A
Planning	860 A
Environment	107 A
Permitting	90 A
Design	5,023 A
Construction Management	2,880 A
Construction	31,600 A
Total \$	40,600

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Construction of the pilot plant at this location has been cancelled due to potential impacts from treatment of quagga mussels.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Cathodic Corrosion Protection System Repairs and Upgrades	Project Number: 320E <hr/> Project Status: Complete
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Project Description:
 Evaluate, repair, and upgrade the overall cathodic corrosion protection systems at the Alfred Merritt Smith Water Treatment Facility.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	Jul-2003 A	Administration	46 A
Design Complete	Apr-2006 A	Design	123 A
Construction Complete	Aug-2007 A	Construction	1,223 A
Project Complete	May-2008 A		
		Total \$	1,391

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:
 Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Electrical Disconnect Switch Replacements	Project Number: 320L
	Project Status: Complete

Project Description:

Replace seven worn 4160-volt electrical disconnect switches at various locations in the Alfred Merritt Smith Water Treatment Facility.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Sep-2005 A
Project Complete	Aug-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	82 A
Total \$	82

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

The worn disconnect switches were reconditioned by Operations staff without having to purchase replacement switches.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Spare Filter Backwash Control Valve	Project Number: 320M
	Project Status: Complete

Project Description:

This project will purchase a new filter backwash control valve and allow for the refurbishment of the existing valve to be maintained as a spare.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Sep-2005 A
Procurement Complete	Mar-2007 A
Project Complete	Sep-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	51 A
Procurement	51 A
Total \$	102

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Water Quality Sampling and Testing Equipment - 7/1/2007 to 6/30/2008	Project Number: 320R Project Status: Complete
--	--

Project Description:
 Upgrade existing water quality testing instrumentation to allow for detection of constituents at lower concentrations; replace equipment that is not cost effective to maintain or is no longer serviceable; implement new technologies and methodologies to allow further investigation of disinfection by-products, microbials, and other regulated contaminants and enhance the Lake Mead sampling program.

Project Schedule:	Project Cost:
<u>Activity</u>	<u>Activity</u>
<u>Date *</u>	<u>Cost (\$1,000) *</u>
Project Approved	Procurement
May-2007 A	1,874 A
Procurement Complete	
Jun-2008 A	
	Total \$
	1,874

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:
 Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Reservoir Vent Modifications	Project Number: 340K
	Project Status: Construction Complete

Project Description:

Modify the vents at the Decatur, Horizon Ridge, River Mountains, and Grand Teton Reservoirs, the South Valley Regulating Tank, Foothills Pumping Station Forebay, and River Mountains Pumping Station A Forebay to provide better security, reduce future maintenance costs and protect against contamination.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Design Complete	Aug-2007 A
Construction Complete	Jun-2008 A
Project Complete	Jul-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	5 A
Design	40 A
Construction	375 A
Total \$	420

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Air Vacuum and Relief Valve Piping Adjustments	Project Number: 340M
	Project Status: Complete

Project Description:

Adjust and upgrade air vacuum and relief valves along with the related piping at seven rate-of-flow control stations to provide for drainage outside of the facilities.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	May-2006 A
Design Complete	Dec-2006 A
Construction Complete	Nov-2007 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	15 A
Design	20 A
Construction	100 A
Total \$	135

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Energy Supplier Conversion	Project Number: 360D
	Project Status: Complete

Project Description:

Implement the changes in metering and communications required at both SNWA and purveyor facilities to meet NPC standards for energy supply from CRC through NPC's electric distribution grid.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jun-2002 A
SNWA Facilities	Aug-2004 A
Project Complete	Apr-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	52 A
Procurement	50 A
Total \$	101

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: ROFC Energy Recovery	Project Number: 360F
	Project Status: Complete

Project Description:

Retrofit three existing rate-of-flow control stations (ROFCS) with mini hydro turbines where pressure head (energy) is lost delivering water to purveyors. Mini hydro turbines potentially may recover about 2.1 MW of capacity and an initial annual energy output of 11,000 MWh. One candidate ROFC is at Horizon Ridge Reservoir and two are at Sloan Pumping Station.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Dec-2002 A
Feasibility Studies Complete	Jun-2003 A
FERC Exemption Received	Mar-2004 A
Design Complete	Nov-2006 A
Bid Opening (Installation)	Dec-2006 A
Contract Award (Installation)	Jan-2007 A
Notice to Proceed (Installation)	Feb-2007 A
Construction Complete	Dec-2007 A
Project Complete	Dec-2007 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	196 A
Permitting	10 A
Design	896 A
Construction Management	660 A
Procurement	3,575 A
Construction	2,334 A
Total \$	7,671

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Equipment installation has been completed. Notice of final completion was given December 28, 2007.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Intermountain Power Project Unit 3 - Predevelopment	Project Number: 360G
	Project Status: Complete

Project Description:

Participate with other project partners in predevelopment activities to define project scope and design criteria for the proposed 900 MW expansion of electrical generating capacity at the coal-fired Intermountain Power Project facility near Delta, Utah.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Jul-2003 A
Project Complete	May-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	596 A
Total \$	596

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Predevelopment activities for the proposed power plant began in June 2005 upon completion of the feasibility study previously authorized under Project No. 360E. In 2007, the major proponent of the project decided to discontinue support for all coal-fired electrical generation and withdrew from further participation in this project.

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Hacienda Pumping Station Electrical Substation Upgrades	Project Number: 3601 Project Status: Complete
--	--

Project Description:

Install a second 69kV transformer and new breakers and relays in the electrical substation.

Project Schedule:

<u>Activity</u>	<u>Date</u> *
Project Approved	Dec-2004 A
Design Complete	May-2006 A
Procurement Complete	May-2007 A
Construction Complete	Jun-2008 A
Project Complete	Sep-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000)</u> *
Administration	4 A
Design	72 A
Procurement	520 A
Construction	1,094 A
Total \$	1,690

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF and RMWTF Solar Photovoltaic Electrical Generation	Project Number: 360J Project Status: Complete
--	--

Project Description:
 Install solar photovoltaic panels over the parking areas at the Alfred Merritt Smith and River Mountains Water Treatment Facilities for a combined electrical power generation capacity of approximately 250 kW.

Project Schedule:		Project Cost:	
<u>Activity</u>	<u>Date *</u>	<u>Activity</u>	<u>Cost (\$1,000) *</u>
Project Approved	May-2007 A	Administration	14 A
Planning Complete	May-2007 A	Planning	0 A
Construction Complete	Apr-2008 A	Construction	2,731 A
Project Complete	Jul-2008 A		
		Total \$	2,746

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:
 This project advanced sustainable energy technology, demonstrated feasibility and supported the goal of adding renewable energy to SNWA's energy portfolio. Electricity generated from the photovoltaic panels offsets the electrical loads at the treatment facilities and provides the first step in obtaining Leadership in Energy and Environmental Design certification for SNWA facilities.

Primary Funding:
 Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: SNWA Office Tenant Improvements	Project Number: 370J
	Project Status: Complete

Project Description:

Construct improvements necessary for SNWA occupancy of leased office space in a new building planned to be finished and available in July 2007.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Sep-2005 A
Planning Complete	Dec-2005 A
Design Complete	Sep-2006 A
Construction Complete	Mar-2008 A
Project Complete	Apr-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	100 A
Planning	25 A
Permitting	75 A
Design	1,025 A
Construction	39,350 A
Total \$	40,575

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

On December 16, 2004, the Board approved a lease agreement with Parkway Center, LLC to lease office space for SNWA staff and functions. This project provided for the tenant improvements such as work space configuration, interior plumbing and electrical, floor coverings, finishes and furnishings on seven floors occupied by SNWA.

Primary Funding:

Regional Funding Plan

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: AMSWTF Warehouse Storage System Improvements	Project Number: 370K
	Project Status: Complete

Project Description:

Purchase new and modify existing storage shelves in the AMSWTF warehouse. Purchase and install required office furniture.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Sep-2005 A
Planning Complete	Apr-2006 A
Procurement Complete	Mar-2008 A
Construction Complete	Apr-2008 A
Project Complete	Apr-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Administration	148 A
Construction	12 A
Total \$	160

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Primary Funding:

Wholesale Delivery Charge

**Southern Nevada Water Authority
MAJOR CONSTRUCTION AND CAPITAL PLAN**

Project Title: Purchase SNWA Office Space	Project Number: 370P
	Project Status: Complete

Project Description:

Purchase office space currently leased at the SNWA office at 100 City Parkway, under terms previously established in the lease agreement.

Project Schedule:

<u>Activity</u>	<u>Date *</u>
Project Approved	Dec-2007 A
Project Complete	Jan-2008 A

Project Cost:

<u>Activity</u>	<u>Cost (\$1,000) *</u>
Office Space Purchase	35,000 A
Total \$	35,000

* Project Dates and Costs are projected unless indicated by an "A" for "Actual".

Remarks:

Significant cost savings over the long term were achieved by purchasing rather than continuing to lease the office space.

Primary Funding:

SECTION 6

APPENDICES

APPENDIX A

Abbreviations

AMSWTF	Alfred Merritt Smith Water Treatment Facility
CIP	Capital Improvements Plan for 900 mgd Capacity
CRC	Colorado River Commission
ESDC	Engineering Services During Construction
gpm	gallons per minute
LF	linear feet
MCCP	Major Construction and Capital Plan
MG	million gallons
mgd	million gallons per day
MVWD	Moapa Valley Water District
MW	megawatts
NPC	Nevada Power Company
NTP	Notice to Proceed
PP	Pumping Plant
PS	Pumping Station
RMWTF	River Mountains Water Treatment Facility
ROFC	Rate of Flow Control Station
ROW	Right of Way
SNWA	Southern Nevada Water Authority
SNWS	Southern Nevada Water System

Notes

Projects are grouped into general categories and assigned project numbers based on those categories. The project categories and project numbering scheme is as follows.

<u>Number</u>	<u>Category</u>
090	Water Resources
100	Power Projects transferred from CIP
300 through 309	General Projects
310 through 319	Water Supply Projects
320 through 339	Water Treatment Projects
340 through 359	Water Transmission Projects
360 through 369	Power Projects
370 through 379	Support Facility Projects

In addition to the three-digit category number, project numbers also have distinguishing alpha character designations. For example, a water supply project might have a unique project number of 315D.

APPENDIX B

**MAJOR CONSTRUCTION AND CAPITAL PLAN
ACTUAL AND PROJECTED CASH FLOW FOR ACTIVE PROJECTS
(in \$1000)**

	Prior Years	2009	2010	2011	2012	Out Years	TOTAL
090B Virgin and Muddy Rivers Water Resource Acquisition	42,993	1,550	1,550	1,550	1,550	4,807	54,000
090E Interim Colorado River Supplies	227,602	19,154	19,154	19,154	19,154	184,782	489,000
090F Water Resource Acquisition and Development	111,904	3,274	3,274	3,274	3,274	-	125,000
090G Clark, Lincoln and White Pine Counties Groundwater Development	91,165	8,500	6,335	-	-	-	106,000
300A PS6 - Valley View Regulating Tank Security and Offsite Improvements	280	950	-	-	-	-	1,230
300B** Radio Communication System Upgrades	365	-	-	-	-	-	365
300C** Overhead Crane Upgrades	219	-	-	-	-	-	219
300D Roofing Replacements	805	-	-	-	-	-	805
300E Control System Improvements	1,558	3,956	3,956	3,956	3,956	3,620	21,000
300H Stage I and II Facilities PLC Upgrades	2,148	2,038	664	-	-	-	4,850
300I** AMSWTF Asbestos Removal	35	-	-	-	-	-	35
300J Warm Springs ROFCS Offsite Improvements	261	739	-	-	-	-	1,000
300K AMSWTF Flocculation Channel Concrete Repairs	19	221	35	-	-	-	275
300L* Regulating Tank 6 Onsite and Offsite Improvements	-	261	739	-	-	-	1,000
300M* AMSWTF Miscellaneous Facilities Improvements	-	270	248	248	248	186	1,200
310B Three Lakes Valley Groundwater Development	2,538	344	344	344	344	84	4,000
310C** IPS-1 Pump and Motor Replacements	27,600	-	-	-	-	-	27,600
310D EBROFC Valve Replacements	2,400	-	-	-	-	-	2,400
310E North I-15 Treatment and Transmission Facilities Planning	834	111	55	-	-	-	1,000
310F IPS-2 Test Pump Procurement and Installation	9,314	32,986	-	-	-	-	42,300
310G Las Vegas Wash Flow Measurement Facility	54	366	-	-	-	-	420
320A** RMWTF Water Quality Laboratory and Pilot Plant	40,600	-	-	-	-	-	40,600
320B Remodel Former AMSWTF Laboratory Spaces	654	1,344	-	-	-	-	1,998
320E** AMSWTF Cathodic Corrosion Protection System Repairs and Upgrades	1,391	-	-	-	-	-	1,391
320F AMSWTF Filtration System Valve Repairs	95	469	469	467	-	-	1,500
320I AMSWTF Pilot Plant	387	534	398	-	-	-	1,320
320J Disinfection By-Products Studies	1,000	-	-	-	-	-	1,000
320K Surface Water Treatment Pilot Studies	1,700	-	-	-	-	-	1,700
320L** AMSWTF Electrical Disconnect Switch Replacements	82	-	-	-	-	-	82
320M** Spare Filter Backwash Control Valve	102	-	-	-	-	-	102
320N AMSWTF A and B Clearwells Slide Gate Actuators	1,200	-	-	-	-	-	1,200
320O AMSWTF Filter Improvements Demonstration	58	687	55	-	-	-	800
320P AMSWTF Chlorine Building I Rehabilitation	-	475	275	-	-	-	750
320Q AMSWTF Process Drainage Improvements	184	762	184	-	-	-	1,130
320R** Water Quality Sampling and Testing Equipment for 7/1/07 to 6/30/08	1,874	-	-	-	-	-	1,874
320S Quagga Mussel Evaluation and Control Facilities	229	1,221	-	-	-	-	1,450
320T* Water Quality Testing Equipment - 7/1/08 to 6/30/09	-	123	712	-	-	-	835
340A Coyote Spring Valley Well and Moapa Transmission System	25,870	14,830	14,830	14,748	-	-	70,278
340B PS 1A, 2A, 1B and 2B Pump Repairs and Flow Meter Installation	366	446	446	443	-	-	1,700
340C Hacienda Pumping Station Improvements	6,805	1,252	1,142	-	-	-	9,200
340D PS 1C, 2C, Sloan, Lamb, BPS1A, and BPS2 Variable Frequency Drive Enhancem	114	1,278	308	-	-	-	1,700
340E Sleeve Valve Installation at Galleria, Simmons and Carlton ROFC Stations	245	178	177	-	-	-	600
340H Pumping Plant No. 7 Upgrades	147	663	-	-	-	-	810
340I South Valley Facilities Expansion	12,621	595	595	595	594	-	15,000
340J Ductile Iron Pump Inspection and Evaluation	15	179	88	-	-	-	282
340K** Reservoir Vent Modifications	420	-	-	-	-	-	420
340L Hemenway ROFC Improvements	411	1,089	-	-	-	-	1,500
340M** Air Vacuum and Relief Valve Piping Adjustments	135	-	-	-	-	-	135
340N Stage II ROFC Isolation Valve Replacements	282	871	871	871	504	-	3,400
340O Pumping Station 6 Forebay Relining	213	217	-	-	-	-	430
340P Charleston Heights Lateral Repair and Valve Installation	1,137	1,327	-	-	-	-	2,464
340Q Transmission Pipelines Discharge Modifications - Phase 1	1,232	6,329	6,329	3,641	-	-	17,531
340R Transmission Pipelines Cathodic Corrosion Protection - Phase 2	1,090	4,967	1,619	-	-	-	7,676
340S* South Valley Lateral Isolation Valves - Phase 1	-	1,800	1,659	1,659	1,659	3,453	10,230
340T* Sloan Pumping Station Foundation Repairs	-	85	78	37	-	-	200
340U* Valve Operator Access Upgrades	-	238	219	218	-	-	675
340V* Sleeve and Miscellaneous Valve Repairs	-	3,200	-	-	-	-	3,200
340W* BIF Venturi Flow Control Valve Unit Replacements	-	1,136	1,048	516	-	-	2,700
340X* Simmons ROFCS Pipeline Repairs	-	575	350	-	-	-	925
360C Electric Power Transmission Facilities	240	680	680	680	680	2,039	5,000
360D** Energy Supplier Conversion	101	-	-	-	-	-	101
360F** ROFC Energy Recovery	7,671	-	-	-	-	-	7,671
360G** Intermountain Power Project Unit 3 - Predevelopment	596	-	-	-	-	-	596
360H Pumping Station Electrical Transformer Repairs	310	580	-	-	-	-	890
360I** Hacienda Pumping Station Electrical Substation Upgrades	1,690	-	-	-	-	-	1,690
360J** AMSWTF & RMWTF Solar Photovoltaic Electrical Generation	2,746	-	-	-	-	-	2,746
360K High Concentrating Solar Photovoltaic Demonstration & Research	518	1,482	-	-	-	-	2,000
360L* Arrow Canyon Energy Recovery Hydroturbine	-	2,104	1,896	-	-	-	4,000
360M* Renewable Energy Project Development	-	880	811	811	811	1,687	5,000
360N* Solar Photovoltaic Panels at AMSWTF Filters & Flocculation Basins	-	200	-	-	-	-	200
370A Production Group Satellite Facility	84	126	-	-	-	-	210
370B Security System Upgrades	3,885	415	-	-	-	-	4,300
370C RMWTF Fleet Maintenance & CRC Electrical Maintenance Facility	662	2,988	-	-	-	-	3,650
370E AMSWTF Mechanic Maintenance Shop Addition	12,315	-	-	-	-	-	12,315
370I Evaporative Cooler Upgrades	75	887	887	882	-	-	2,730
370J** SNWA Office Tenant Improvements	40,575	-	-	-	-	-	40,575
370K** AMSWTF Warehouse Storage System Improvements	160	-	-	-	-	-	160
370L SCADA Communications Upgrades	211	39	-	-	-	-	250
370M AMSWTF Machine Shop HVAC Unit Replacement	26	74	-	-	-	-	100
370N AMSWTF Standby Generator Replacement	215	-	-	-	-	-	215
370O AMSWTF Utility Building Air Handler Replacement	168	157	-	-	-	-	325
370P** Purchase SNWA Office Space	35,000	-	-	-	-	-	35,000
370Q* Machine Shop Equipment	-	2,128	472	-	-	-	2,600
370R* RMWTF Fire Alarm System Replacement	-	1,100	-	-	-	-	1,100
TOTAL	\$730,001	\$135,430	\$72,953	\$54,095	\$32,774	\$200,658	\$1,225,911

* New Projects added this amendment.

** Completed projects with final project costs subject to adjustments where work may have been performed after June 30, 2008.

**APPENDIX C
PROJECT VARIANCE REPORT
(in \$1000)**

		December 2007 MCCP	December 2008 MCCP	Adjustment to Active Projects	New Projects	Actual Costs thru Nov 30, 2008
WATER RESOURCES						
090B	Virgin and Muddy Rivers Water Resource Acquisitio	28,405	54,000	25,595	-	42,993
090E	Interim Colorado River Supplier	546,000	489,000	(57,000)	-	227,419
090F	Water Resource Acquisition and Developmen	100,000	125,000	25,000	-	111,635
090G	Clark, Lincoln and White Pine Counties Groundwater Developme	80,500	106,000	25,500	-	90,443
	Subtotal	754,905	774,000	19,095	-	472,490
GENERAL						
300A	PS6 - Valley View Regulating Tank Security and Offsite Improvemen	860	1,230	370	-	117
300B**	Radio Communication System Upgrade	365	365	-	-	365
300C**	Overhead Crane Upgrades	350	219	(131)	-	219
300D	Roofing Replacement	805	805	-	-	774
300E	Control System Improvement	2,000	21,000	19,000	-	1,435
300H	Stage I and II Facilities PLC Upgrade	4,850	4,850	-	-	1,975
300I**	AMSWTF Asbestos Remova	200	35	(165)	-	35
300J	Warm Springs ROFCS Offsite Improvement	1,000	1,000	-	-	-
300K	AMSWTF Flocculation Channel Concrete Repair	275	275	-	-	-
300L*	Regulating Tank 6 Onsite and Offsite Improvement	-	1,000	-	1,000	-
300M*	AMSWTF Miscellaneous Facilities Improvement	-	1,200	-	1,200	-
	Subtotal	10,705	31,979	19,074	2,200	4,920
WATER SUPPLY PROJECTS						
310B	Three Lakes Valley Groundwater Developer	19,000	4,000	(15,000)	-	2,528
310C**	IPS-1 Pump and Motor Replacement	26,600	27,600	1,000	-	27,600
310D	EBROFC Valve Replacements	2,400	2,400	-	-	2,258
310E	North I-15 Treatment and Transmission Facilities Plannin	1,000	1,000	-	-	836
310F	IPS-2 Test Pump Procurement and Installatio	12,800	42,300	29,500	-	9,060
310G	Las Vegas Wash Flow Measurement Facility	7,740	420	(7,320)	-	1
	Subtotal	69,540	77,720	8,180	-	42,283
WATER TREATMENT PROJECTS						
320A**	RMWTF Water Quality Laboratory and Pilot Plan	42,736	40,600	(2,136)	-	40,600
320B	Remodel Former AMSWTF Laboratory Space	1,648	1,998	350	-	481
320E**	AMSWTF Cathodic Corrosion Protection System Repairs and Upgrade	1,455	1,391	(64)	-	1,391
320F	AMSWTF Filtration System Valve Repair	1,500	1,500	-	-	55
320I	AMSWTF Pilot Plant	10,170	1,320	(8,850)	-	342
320J	Disinfection By-Products Studie	500	1,000	500	-	-
320K	Surface Water Treatment Pilot Studie	1,700	1,700	-	-	1,211
320L**	AMSWTF Electrical Disconnect Switch Replacement	265	82	(183)	-	82
320M**	Spare Filter Backwash Control Valve	150	102	(48)	-	102
320N	AMSWTF A and B Clearwells Slide Gate Actuators	1,200	1,200	-	-	-
320O	AMSWTF Filter Improvements Demonstratio	800	800	-	-	-
320P	AMSWTF Chlorine Building I Rehabilitation	750	750	-	-	-
320Q	AMSWTF Process Drainage Improvement	1,170	1,130	(40)	-	150
320R**	Water Quality Sampling and Testing Equipment for 7/1/07 to 6/30/0	1,600	1,874	274	-	1,874
320S	Quagga Mussel Evaluation and Control Facilitie	2,500	1,450	(1,050)	-	159
320T*	Water Quality Testing Equipment - 7/1/08 to 6/30/0	-	835	-	835	-
	Subtotal	68,144	57,732	(11,247)	835	46,447
WATER TRANSMISSION PROJECTS						
340A	Coyote Spring Valley Well and Moapa Transmission Syster	60,774	70,278	9,504	-	25,611
340B	PS 1A, 2A, 1B and 2B Pump Repairs and Flow Meter Installatio	2,700	1,700	(1,000)	-	328
340C	Hacienda Pumping Station Improvement	10,200	9,200	(1,000)	-	6,699
340D	PS 1C, 2C, Sloan, Lamb, BPS1A, and BPS2 Variable Frequency Drive Enhancement	2,700	1,700	(1,000)	-	7
340E	Sleeve Valve Installation at Galleria, Simmons and Carlton ROFC Station	600	600	-	-	231
340H	Pumping Plant No. 7 Upgrade	810	810	-	-	73
340I	South Valley Facilities Expansion	45,500	15,000	(30,500)	-	12,570
340J	Ductile Iron Pump Inspection and Evaluatio	782	282	(500)	-	-
340K**	Reservoir Vent Modification	1,055	420	(635)	-	420
340L	Hemenway ROFC Improvement	1,500	1,500	-	-	36
340M**	Air Vacuum and Relief Valve Piping Adjustment	135	135	-	-	135
340N	Stage II ROFC Isolation Valve Replacement	3,400	3,400	-	-	209
340O	Pumping Station 6 Forebay Relinin	400	430	30	-	109
340P	Charleston Heights Lateral Repair and Valve Installatio	3,886	2,464	(1,422)	-	1,060
340Q	Transmission Pipelines Discharge Modifications - Phase	18,800	17,531	(1,269)	-	694
340R	Transmission Pipelines Cathodic Corrosion Protection - Phase	3,035	7,676	4,641	-	740
340S*	South Valley Lateral Isolation Valves - Phase 1	-	10,230	-	10,230	-
340T*	Sloan Pumping Station Foundation Repair	-	200	-	200	-
340U*	Valve Operator Access Upgrades	-	675	-	675	-
340V*	Sleeve and Miscellaneous Valve Repair	-	3,200	-	3,200	-
340W*	BIF Venturi Flow Control Valve Unit Replacement	-	2,700	-	2,700	-
340X*	Simmons ROFCS Pipeline Repair	-	925	-	925	-
	Subtotal	156,277	151,056	(23,151)	17,930	48,922
POWER PROJECTS						
360C	Electric Power Transmission Facilitie	44,800	5,000	(39,800)	-	179
360D**	Energy Supplier Converter	1,400	101	(1,299)	-	101
360F**	ROFC Energy Recovery	7,700	7,671	(29)	-	7,671
360G**	Intermountain Power Project Unit 3 - Predevelopmer	2,800	596	(2,204)	-	596
360H	Pumping Station Electrical Transformer Repair	850	890	40	-	-
360I**	Hacienda Pumping Station Electrical Substation Upgrade	2,080	1,690	(390)	-	1,688
360J**	AMSWTF & RMWTF Solar Photovoltaic Electrical Generator	3,625	2,746	(879)	-	2,746
360K	High Concentrating Solar Photovoltaic Demonstration & Researc	2,000	2,000	-	-	301
360L*	Arrow Canyon Energy Recovery Hydrroturin	-	4,000	-	4,000	50
360M*	Renewable Energy Project Developmen	-	5,000	-	5,000	-
360N*	Solar Photovoltaic Panels at AMSWTF Filters & Flocculation Basin	-	200	-	200	98
	Subtotal	65,255	29,894	(44,561)	9,200	13,430
SUPPORT FACILITY PROJECTS						
370A	Production Group Satellite Facility	4,210	210	(4,000)	-	17
370B	Security System Upgrade	3,500	4,300	800	-	3,805
370C	RMWTF Fleet Maintenance & CRC Electrical Maintenance Facilit	2,850	3,650	800	-	457
370E	AMSWTF Mechanic Maintenance Shop Additio	11,080	12,315	1,235	-	11,790
370I	Evaporative Cooler Upgrades	2,730	2,730	-	-	-
370I**	SNWA Office Tenant Improvement	40,575	40,575	-	-	40,575
370K**	AMSWTF Warehouse Storage System Improvement	250	160	(90)	-	160
370L	SCADA Communications Upgrade	250	250	-	-	211
370M	AMSWTF Machine Shop HVAC Unit Replacemen	100	100	-	-	-
370N	AMSWTF Standby Generator Replacemen	215	215	-	-	108
370O	AMSWTF Utility Building Air Handler Replacemen	325	325	-	-	-
370P**	Purchase SNWA Office Space	35,000	35,000	-	-	35,000
370Q*	Machine Shop Equipment	-	2,600	-	2,600	-
370R*	RMWTF Fire Alarm System Replacemen	-	1,100	-	1,100	-
	Subtotal	101,085	103,530	(1,255)	3,700	92,123
	SNWA administrative costs, land acquisition, legal & miscellaneous purchase order costs	-	-	-	-	4,067
	Totals	1,225,911	1,225,911	(33,865)	33,865	724,682

* New Projects added this amendment.

** Completed projects with final project costs subject to adjustments where expenditures may have been incurred after June 30, 2008.