



2018 Las Vegas Wash Capital Improvements Plan

Southern Nevada Water Authority
May 31, 2018

Las Vegas Wash Capital Improvements Plan

May 17, 2018



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TABLE OF CONTENTS

SECTION 1: INTRODUCTION

- 1.1 Purpose Page 1
- 1.2 Background Page 1

SECTION 2: PLAN SCOPE

- 2.1 General Scope..... Page 2
- 2.2 Facility Information Page 3

SECTION 3: ORGANIZATION Page 3

SECTION 4: PLAN IMPLEMENTATION

- 4.1 Cooperative Agreement Page 4
- 4.2 Annual Plan Review Page 4
- 4.3 Funding Approval Page 5

SECTION 5: FUNDING AND EXPENDITURES

- 5.1 Funding-To-Date..... Page 5
- 5.2 Expenditures..... Page 6
 - 5.2.1 Expenditures-To-Date..... Page 6
 - 5.2.2 Future Expenditures Page 7

SECTION 6: PRIORITY ASSESSMENT Page 8

SECTION 7: 2018-19 PROJECT WORK PLAN Page 9

SECTION 8: OWNERSHIP Page 10

SECTION 9: OPERATIONS AND MAINTENANCE Page 10

LIST OF TABLES

Table 1 – Funding-to-Date	Page 6
Table 2 – Total Expenditures-to-Date	Page 7
Table 3 – Projected Expenditures	Page 8

LIST OF APPENDICES

Appendix A:	2018-19 Work Plan Budget Allocation
Appendix B:	Project Descriptions
Appendix C:	2018-19 Las Vegas Wash Construction Program Master Plan
Appendix D:	Location Map
Appendix E:	Ranking Criteria Scoring Channel Bed Stabilization
Appendix F:	2018-19 Project Prioritization Channel Bed Stabilization
Appendix G:	Sales Tax Received and Distributed
Appendix H:	Sales Tax Revenue Projection
Appendix I:	Interfund Loan Activity
Appendix J:	Completed Las Vegas Wash Weir Projects Summary

Las Vegas Wash

Capital Improvements Plan

1.0 Introduction

1.1 Purpose

The Lower Las Vegas Wash (Wash), in Clark County, Nevada, is the primary urban runoff, wastewater and floodwater outlet from the Las Vegas Valley into Lake Mead and the Colorado River. The Wash is considered a critical component in the many environmental and water resource issues facing Southern Nevada today. This Southern Nevada Water Authority Las Vegas Wash Capital Improvements Plan (Wash CIP) presents a summary of planned capital expense activities necessary to support long-term enhancement and management of the Wash.

1.2 Background

Since 1975, the Wash has undergone significant erosion and degradation due to increasing flows resulting from expanding upstream urbanization in the Las Vegas Valley. To combat the changes in the Wash, the Las Vegas Wash Coordination Committee (LVWCC), a 29-member interagency group of federal, state, and local agencies, and private interests, was formed and has developed a Comprehensive Adaptive Management Plan (CAMP). The Southern Nevada Water Authority (SNWA) Board of Directors approved the CAMP in April 2000.

Of 44 recommendations, the CAMP identifies erosion control and stream stabilization of the Wash as one of the highest recommended priority efforts. To accomplish this goal, in 2002, a Cooperative Agreement was signed between the local government agencies considered major stakeholders in the Wash. In 2012, the Cooperative Agreement was amended and retitled as the “First Amended Agreement Regarding the Las Vegas Valley Watershed Advisory Committee” (Amended Agreement). As described in the Amended Agreement, the SNWA has been designated by the members of the Las Vegas Valley Watershed Advisory Committee (LVVWAC), as the lead agency to coordinate and manage the enhancement of the Wash. Among many assigned tasks, the SNWA is responsible for maintaining this Wash CIP.

The Amended Agreement establishes the LVVWAC to provide advice and consultation to SNWA on issues regarding this Wash CIP. Local government agency members of the LVVWAC include:

- City of Las Vegas
- City of Henderson
- City of North Las Vegas
- Clark County
- Las Vegas Valley Water District
- Clark County Water Reclamation District
- Clark County Regional Flood Control District
- Southern Nevada Water Authority

2.0 Plan Scope

2.1 General Scope

This Wash CIP covers the geographical area of the Wash from the City of Las Vegas Wastewater Treatment Plant to the western boundary of the Lake Mead National Recreational Area. The Wash CIP is intended to describe all presently identified construction and construction support projects supporting the management and enhancement of the Wash. Project elements included in this Wash CIP include:

- Channel bed and bank stabilization;
- Revegetation; and
- Comprehensive programs.

The purpose of channel bed stabilization is to reduce channel bed erosion by slowing stream flow to less erosive conditions while providing a stable platform for vegetation re-establishment. Gradient control weirs or dams are planned for installation to accomplish the stabilization needs. Channel bank protection installations are planned to be completed as a part of channel bed stabilization projects, and focus on reducing the ability of Wash flows to undercut, erode and collapse channel banks. Capital expenditures for bank protection will include installation of rock or concrete riprap armor and revegetation of stream banks, where appropriate.

Revegetation of the Wash channel bed, banks, disturbed overbank locations and floodplain areas will provide surface erosion protection, aid ecosystem restoration, support water quality goals and meet environmental permitting requirements. Revegetation activities may include wetlands or dry land revegetation, installation of temporary irrigation systems and establishment of vegetation protection measures.

Comprehensive programs include design and support activities serving multiple capital projects or the Wash as a whole. Activities under this element may include acquisition of rock and concrete materials for use as riprap, installation of construction access roads, location of materials storage sites, long term dust control practices, sediment and sediment transport studies, hydraulic studies, topographic mapping, water quality monitoring, stream gauging, and other supporting capital expense activities which are necessary to support construction efforts.

2.2 Facility Information

The following information pertaining to specific facilities is presented in this Wash CIP:

- General description and location of each planned facility;
- Anticipated construction schedules;
- Estimated cost of each proposed facility;
- Proposed funding mechanism(s) for each facility in the Work Plan;
- Total projected Wash CIP cost in current and midpoint dollars;
- Cash flow forecasts by year; and
- A list of SNWA operated and maintained facilities.

3.0 Organization

General information regarding the background, scope, approval process, current revenues, anticipated expenditures, prioritization, and funded Project Work Plan are presented in this Wash CIP report. Specific details defining anticipated projects, project costs, implementation schedules, prioritization analysis, and other information are included as appendices to this Wash CIP.

All identified, individual projects requiring expenditure of capital funds are described in the Appendix A as Candidate Projects to this Wash CIP. A unique project number and

letter designation and a location name describe each project. Channel bank protection and revegetation projects are named and project numbers are assigned with a letter designation which conforms to the name of the next downstream channel bed stabilization facility to which they are associated.

4.0 Plan Implementation

4.1 Cooperative Agreement

In 2002, SNWA entered into a Cooperative Agreement pertaining to the long-term management and enhancement of the Wash with Clark County, City of Las Vegas, City of Henderson, City of North Las Vegas, Clark County Water Reclamation District, and Clark County Regional Flood Control District. The current Amended Agreement establishes roles and responsibilities for the above agencies in managing the Wash. The development, review, and update of this Wash CIP are identified in the Amended Agreement as a responsibility of the SNWA. The Amended Agreement further defines the contents of the Wash CIP as presented herein.

4.2 Annual Plan Review

The SNWA annually reviews, reaffirms, or revises the Wash CIP, as necessary to meet the goals and requirements of the Amended Agreement. In performing the annual review, the SNWA consults with the local agency stakeholders to the Wash through the Operations Study Team of the LVWCC and through the LVVWAC.

SNWA's consultation with local agency stakeholders and revisions to the Wash CIP focus upon current changes in priority, planning, design, cost, funding, and/or capital needs associated with the elements of the Wash CIP. Revisions to the Wash CIP reflect the elimination of capital items previously completed or revisions proposed by a party to the Amended Agreement and agreed to by the LVVWAC.

Upon revision by SNWA and approval by the LVVWAC, the annual Wash CIP update is submitted to the SNWA Board of Directors for review and action.

4.3 Funding Approval

As appropriate, SNWA prepares and submits Wash CIP funding agreements to the LVVWAC for review. Funding agreements prepared and submitted by SNWA may also define the process whereby entities other than the parties to the Amended Agreement may either fund or contribute to the Wash CIP.

Subsequent to the LVVWAC's review of funding agreements, SNWA submits the funding agreements to each of the local governmental agencies comprising the LVVWAC for consideration and possible approval by their respective Governing Boards as a part of the individual Party's overall budgeting process.

5.0 Funding and Expenditures

5.1 Funding-To-Date

Sales Tax and Grant Funding: The Wash CIP has been partially funded through receipt of local sales tax revenues. The Wash currently receives four percent (4%) of a ¼ cent sales tax allocated for funding water and wastewater projects in Clark County. The Wash has also received capital grant funding commitments from the Southern Nevada Public Lands Management Act (SNPLMA).

Other Local Agency Funding: In addition to local sales tax revenues and SNPLMA grants, the Wash CIP has received funding or funding commitments from other local agencies through in-kind construction activities or direct funding to SNWA.

Interfund Loans: Periodically, projected, near-term capital expenses for construction of stabilization facilities in the Wash will exceed available cash on hand generated from sales tax and grant funding. In these cases, the Wash CIP will borrow money from SNWA's New Expansion Debt Service fund account, as available.

Funding and funding sources to-date are shown in Table 1 below:

Table 1
Funding-to-Date
1999 – FY 2017/2018

Funding Source	Estimated Funding-to-Date	%
Sales Tax (Includes Actuals through December 2017 and Estimates through June 2018)	\$ 59,686,568	41.2
US Bureau of Reclamation Grants	\$ 5,979,224	4.1
SNPLMA Funding (Actuals through FY 17 and estimates for FY18)	\$ 55,467,765	38.3
Miscellaneous State and Federal Grants	\$ 445,500	0.3
Other Local Agency Funding	\$ 15,004,000	10.4
Estimated Outstanding Interfund Loan as of June 30, 2018	\$ 8,266,142	5.7
Total:	\$ 144,809,199	100.0

5.2 Expenditures

5.2.1 Expenditures-To-Date

From 1999 through June 2018, Wash CIP total expenditures have been as shown in Table 2 below. These expenditures include contributions by other stakeholder agencies for capital improvements to the Wash.

Other stakeholder agency expenditures have included: Clark County, design and construction of the Pabco Road Weir at approximately \$5,700,000; Lake Las Vegas Resort, design and construction of the Fire Station Weir at approximately \$63,000; SNWA Water CIP, design and construction of the Rainbow Gardens Weir as part of the East Valley Water Lateral crossing of the Wash, at approximately \$7,238,000; SNWA and City of Henderson construction of Demonstration Weir, at approximately 173,000; construction of Historic Lateral Weir, at approximately \$1,823,000; and US Bureau of Reclamation construction activities.

Expenditures include repayment with interest, of funds borrowed from the New Expansion Debt Service fund account.

Capital construction expenditures to-date are shown in Table 2 below:

Table 2
Total Expenditures-to-Date
1999 – FY 2017/2018

Program	Total Expenditures-to-Date	%
Channel Stabilization	\$ 130,317,317	91.1
Revegetation	\$ 2,115,873	1.5
Comprehensive Programs	\$ 8,426,100	5.9
Interfund Borrowing Interest Repayments (Actuals through FY17 and Estimate for FY18)	\$ 2,223,087	1.5
Total:	\$ 143,082,377	100.0

5.2.2 Future Expenditures

Current projections of future capital expenditures for the Wash CIP are detailed in the Construction Program Master Plan shown in Appendix C. Projected expenditures are shown in both current dollars and projected expenses, accelerated to future construction mid-point dollar cost, based upon an estimated current three percent (3%) annual growth. Funding commitments for individual projects will be based upon availability of funds at the time the commitment is made. Estimated capital expenditures are summarized in Table 3 below:

Table 3
Projected Expenditures
2017/2018-2020/2021 (Present \$)

Wash CIP Component	Projected Expenditures	%
Channel Stabilization	\$ 6,300,000	68.4
Revegetation Programs	\$ 1,469,003	15.9
Comprehensive Programs	\$ 300,000	3.3
Interest Expense	\$ 1,141,203	12.4
Total Projected Expenditures:	\$ 9,210,206	100.0

6.0 Priority Assessment

The Operations Study Team of the LVWCC has developed a methodology for prioritization of each proposed gradient control and bank protection capital expenditure in the Wash. Rating factors utilized in establishing proposed project priorities are described in Appendix E of this plan.

Unless otherwise noted, bank protection capital investments will occur during implementation of the next downstream gradient control facility. Where severe bank erosion is occurring, stabilization may precede downstream gradient control implementation. Revegetation investments normally follow channel bed and bank stabilization, where practical. Unless otherwise noted, revegetation projects are planned for implementation following channel stabilization projects and are not shown in a separate priority evaluation within this Wash CIP.

Over the long-term life of the Wash CIP, priorities may change as need, funding, and other issues arise. Therefore SNWA, acting through the Operations Study Team and the LVVWAC, will annually review the prioritization schedule, evaluation criteria, proposed candidate project list, and available funding to assess current priorities. A summary of the criteria applied to assess prioritization, as developed by the Operations Study Team, and as approved by the LVVWAC are as follows:

- Upstream Stability
- System Relationship
- Water Quality Enhancement
- Recreational Opportunity
- Public Safety
- Regulatory Permitting Requirements
- Access
- Cost Avoidance
- Availability of Other Funding

Detailed descriptions of these criteria are found in Appendix F of this plan.

Annually, the SNWA staff calculates priority values for each proposed project based upon the prioritization criteria outlined herein. These values and proposed project rankings are then reviewed, discussed, and/or modified by the Operations Study Team of the LVVWAC. Project activity is then scheduled, as much as practical, to follow priority rankings described in Appendix E. Issues such as land ownership, construction conflict, potential cost savings in grouping several projects together under a single construction contract, and similar issues may cause some projects of lower priority to be scheduled for construction in conjunction with higher priority projects.

After SNWA develops a proposed project implementation schedule, the draft priority and project rankings are submitted to the Operations Study Team of the LVWCC for further review and/or modification. SNWA then publishes those findings in annual updates of the Wash CIP and submits the update to the LVVWAC and SNWA Board of Directors for review and action.

7.0 2018-19 Project Work Plan

The Project Work Plan presented in Appendix A, represents a series of projects scheduled for activity during the next two years for which funding sources have been or are expected to be identified. The funding for individual capital projects will come from revenues generated from sales taxes. Funding commitments for individual projects will be based upon availability of funds at the time the commitment is made. The Project Work Plan is a sub-set of the Construction Program Master Plan detailed in Appendix C.

The Project Work Plan budget is based upon current estimates of present cost and projected actual cost, accelerated to anticipated midpoints of design and construction period activities. Project costs may change depending upon final design configuration, modified design criteria, or construction prices at the time of construction bidding. Where construction cost estimates or bids exceed expected revenues at the scheduled time of construction, a project may be delayed to a future time when revenues become available. Where expenditures are found to be less than available funding, with LVVWAC approval, additional candidate projects may be incorporated into the Project Work Plan for implementation.

8.0 Ownership

The planned erosion control facilities lie within the boundaries of the Clark County Wetlands Park. Consistent with the Amended Agreement, SNWA will transfer ownership to Clark County of stabilization facilities, including channel stabilization facilities, revegetated areas, and other facilities when deemed appropriate by the SNWA and Clark County.

9.0 Operations and Maintenance

In accordance with the Amended Agreement, SNWA operates and maintains Wash facilities, including channel stabilization projects and revegetated areas described in this Wash CIP and Project Work Plan until such time that ownership is transferred to Clark County.

The SNWA conducts these activities in conformance with the Operations and Maintenance Plan for the Wash. Currently, SNWA's operations and maintenance activities are financed through assessments levied to individual LVVWAC member agencies, through the utilization of Bureau of Reclamation construction grant funding or through flood control maintenance funds allocated to SNWA by Clark County.

Appendix A

2018-19 Work Plan Budget Allocation

2018/2019 Las Vegas Wash Capital Improvements Plan
2018-19 WORK PLAN BUDGET ALLOCATION

Proj. No.	Project Title	Project Start Date	Project Finish Date						Total Project Cost
				18/19	19/20	20/21	21/22	22/23	
	<u>Design</u>								
	Design, Total:								\$0
	<u>Construction</u>								
810C	Historic Lateral Weir	7/1/2017	7/30/2019	\$3,300,000					\$3,300,000
810W	Sunrise Mountain Weir	7/1/2017	7/30/2019	\$2,700,000					\$2,700,000
810S	Tropicana Weir	10/1/2016	7/31/2018	\$300,000					\$300,000
	Construction, Total:			\$6,300,000	\$0	\$0			\$6,300,000
	<u>Revegetation</u>								
880K	Three Kids Weir	9/1/2015	8/30/2020	\$92,527	\$42,527				\$135,054
880U	Silver Bowl Weir	9/1/2015	8/30/2019	\$156,984					\$156,984
880Z	Archery Weir	9/1/2015	8/30/2019	\$0					\$0
880C	Historic Lateral Weir	8/1/2019	10/1/2020		\$216,727	\$87,985			\$304,712
880W	Sunrise Mountain Weir	8/1/2019	10/1/2020		\$219,762	\$40,703			\$260,465
880S	Tropicana Weir	5/1/2018	9/30/2019	\$353,879	\$209,521				\$563,400
	Revegetation Total:			\$603,390	\$688,537	\$128,688	\$0		\$1,420,615
	<u>Comprehensive Programs</u>								
860V	BOR Materials and Equipment	1/1/2017	3/30/2019	\$300,000					\$300,000
	Comprehensive, Total:			\$300,000	\$0	\$0		\$0	\$300,000
	<u>Work Plan Cost Summary</u>								
	Design								\$0
	Construction			\$6,300,000	\$0	\$0	\$0		\$6,300,000
	Revegetation			\$603,390	\$688,537	\$128,688	\$0	\$0	\$1,420,615
	Comprehensive			\$300,000	\$0	\$0	\$0		\$300,000
	Interest Expense			\$557,322	\$395,144	\$188,737			\$1,141,203
	Total Program:			\$7,760,712	\$1,083,681	\$317,425	\$0	\$0	\$9,161,818

Appendix B

Project Descriptions

Project Descriptions

<u>Project Title:</u>	Historic Lateral Weir		<u>Project Number:</u>	810C
			<u>Project Status:</u>	Construction
<u>Project Description:</u> <p>The existing Historic Lateral Weir was constructed as SNWA Project 910AR in 2000. This facility is located at the site of the first Las Vegas Valley Water Lateral crossing of the Las Vegas Wash. This 600 foot long, 10 foot high, rock riprap structure provides channel bed stabilization upstream to the Pabco Road Weir. This project will increase hydraulic capacity and provide channel bed stabilization to the downstream C-1 Channel outfall. This Project will be funded by sales tax revenues.</p>				

<u>Project Title:</u>	Tropicana Weir		<u>Project Number:</u>	810S
			<u>Project Status:</u>	Construction
<u>Project Description:</u> <p>This facility is planned to be located immediately downstream of the Tropicana Channel and Las Vegas Wash confluence, at the Clark County Nature Preserve. The facility will be 10 feet in height and 320 feet long. This Project will be funded by sales tax revenues.</p>				

<u>Project Title:</u>	Sunrise Mountain Weir		<u>Project Number:</u>	810W
			<u>Project Status:</u>	Construction
<u>Project Description:</u> <p>This facility will be located approximately 0.4 mile upstream of the Pabco Road Weir. This 500 foot long facility will stabilize four feet of potential channel headcut erosion. This Project will be funded by sales tax revenues.</p>				

Project Descriptions

<u>Project Title:</u> Flood Repair Allocation		<u>Project Number:</u> 860P <u>Project Status:</u> Planned
<u>Project Description:</u> Large flood events may damage existing stabilization facilities or create damage elsewhere in the Las Vegas Wash. This project will allow for the construction repair of stabilization facilities following major flood events where further damage to SNWA stabilization facilities will limit the ability of the facilities to function as intended. This Project will be funded by sales tax revenues.		

<u>Project Title:</u> Historic Lateral Weir Revegetation		<u>Project Number:</u> 880C <u>Project Status:</u> Programmed
<u>Project Description:</u> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Project will be funded by sales tax revenues.		

<u>Project Title:</u> Three Kids Weir Revegetation		<u>Project Number:</u> 880K <u>Project Status:</u> Constrcution
<u>Project Description:</u> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Project is being funded by SNPLMA grants and sales tax revenues.		

Project Descriptions

<u>Project Title:</u> Tropicana Weir Revegetation		<u>Project Number:</u> 880S <u>Project Status:</u> Construction
<u>Project Description:</u> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Project will be funded by sales tax revenue.		

<u>Project Title:</u> Silver Bowl Weir Revegetation		<u>Project Number:</u> 880U <u>Project Status:</u> Construction
<u>Project Description:</u> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Project is being funded by SNPLMA grants and sales tax revenues.		

<u>Project Title:</u> Sunrise Mountain Weir Revegetation		<u>Project Number:</u> 880W <u>Project Status:</u> Programmed
<u>Project Description:</u> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Project will be funded by sales tax revenues.		

<u>Project Title:</u> Archery Weir Revegetation		<u>Project Number:</u> 880Z <u>Project Status:</u> Construction
<u>Project Description:</u> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Project will be funded by sales tax revenues.		

Appendix C
2018/2019 Las Vegas Wash
Construction Program Master Plan

Fiscal Year 2018/2019 Las Vegas Wash Construction Program Master Plan

Design	Project Name	Start	Finish	Present Value	Future Value	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	Total
TOTAL				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -

Construction	Project Name	Start	Finish	Present Value	Future Value	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	Total
810C	Historic Lateral Weir	6/1/2016	3/30/2018	\$ 3,300,000	\$ 3,300,000	\$ 3,300,000		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,300,000
810W	Sunrise Mountain Weir	6/1/2016	3/30/2018	\$ 2,700,000	\$ 2,700,000	\$ 2,700,000		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,700,000
810S	Tropicana Weir	7/1/2016	8/31/2017	\$ 300,000	\$ 300,000	\$ 300,000	\$ -			\$ -	\$ -	\$ -	\$ 300,000
TOTAL				\$ 6,300,000	\$ 6,300,000	\$ 6,300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,300,000

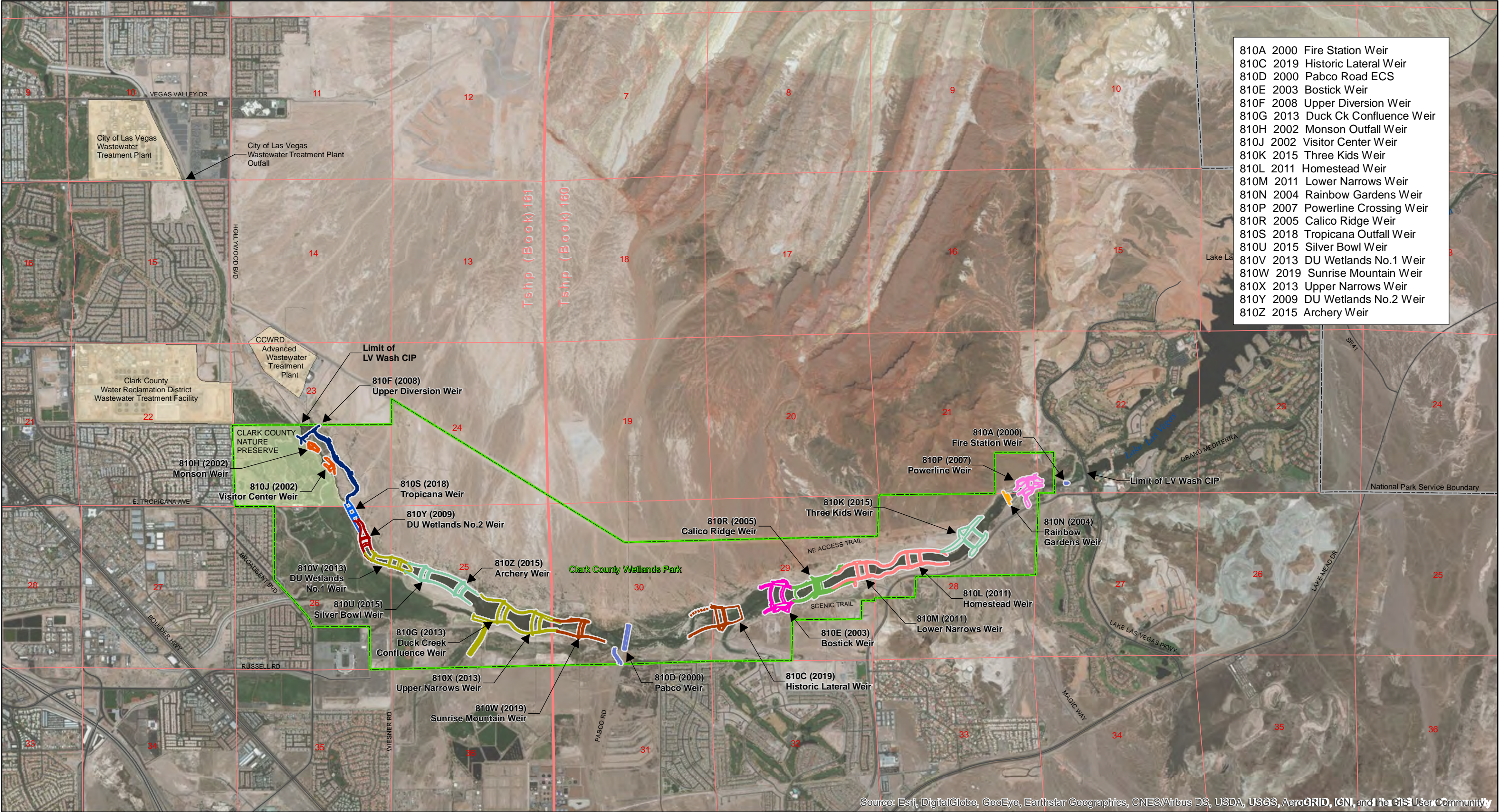
Revegetation	Project Name	Start	Finish	Present Value	Future Value	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	Total
						\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
880K	Three Kids Weir	9/1/2015	8/30/2017	\$ 242,581	\$ 242,581	\$92,527	\$42,527	\$107,527	\$ -	\$ -	\$ -	\$ -	\$ 242,581
880U	Silver Bowl Weir	9/1/2015	8/30/2017	\$ 313,968	\$ 313,968	\$156,984	\$156,984	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 313,968
880Z	Archery Weir	9/1/2015	8/30/2017	\$ 176,492	\$ 176,492	\$88,246	\$88,246	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 176,492
880C	Historic Lateral Weir	6/1/2018	8/31/2019	\$ 128,334	\$ 128,334	\$ -	\$94,112	\$34,222	\$ -	\$ -	\$ -	\$ -	\$ 128,334
880W	Sunrise Mountain Weir	6/1/2018	8/31/2019	\$ 132,474	\$ 132,474	\$ -	\$97,147	\$35,327	\$ -	\$ -	\$ -	\$ -	\$ 132,474
880S	Tropicana Weir	10/1/2018	9/30/2019	\$ 475,154	\$ 475,154	\$265,633	\$209,521	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 475,154
TOTAL				\$ 1,469,003	\$ 1,469,003	\$ 603,390	\$ 688,537	\$ 177,076	\$ -	\$ -	\$ -	\$ -	\$ 1,469,003

Comprehensive	Project Name	Start	Finish	Present Value	Future Value	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	Total
860P	Flood Repair Allocation	1/2/2015	1/1/2017						\$ -	\$ -	\$ -	\$ -	\$ -
860V	BOR Materials & Equipment	2/10/2015	3/11/2017	\$ 300,000	\$ 300,000	\$ 300,000		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 300,000
TOTAL				\$ 300,000	\$ 300,000	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 300,000


TOTAL FY 18/19 WASH CIP				\$ 8,069,003	\$ 8,069,003	\$ 7,203,390	\$ 688,537	\$ 177,076	\$ -	\$ -	\$ -	\$ -	\$ 8,069,003
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Appendix D

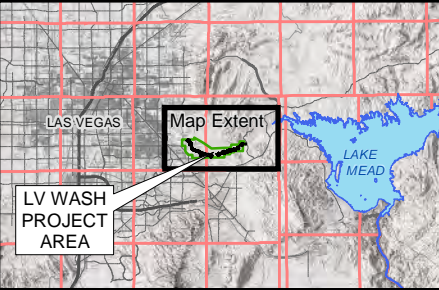
Location Map



- 810A 2000 Fire Station Weir
- 810C 2019 Historic Lateral Weir
- 810D 2000 Pabco Road ECS
- 810E 2003 Bostick Weir
- 810F 2008 Upper Diversion Weir
- 810G 2013 Duck Ck Confluence Weir
- 810H 2002 Monson Outfall Weir
- 810J 2002 Visitor Center Weir
- 810K 2015 Three Kids Weir
- 810L 2011 Homestead Weir
- 810M 2011 Lower Narrows Weir
- 810N 2004 Rainbow Gardens Weir
- 810P 2007 Powerline Crossing Weir
- 810R 2005 Calico Ridge Weir
- 810S 2018 Tropicana Outfall Weir
- 810U 2015 Silver Bowl Weir
- 810V 2013 DU Wetlands No.1 Weir
- 810W 2019 Sunrise Mountain Weir
- 810X 2013 Upper Narrows Weir
- 810Y 2009 DU Wetlands No.2 Weir
- 810Z 2015 Archery Weir



SNWA LAS VEGAS WASH CAPITAL IMPROVEMENTS PLAN GRADE CONTROL STRUCTURES 2018



Map Extent

LV WASH PROJECT AREA


Project Construction Year of Completion

2000	2004	2008	2013	2019
2002	2005	2009	2015	
2003	2007	2011	2018	

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000 Feet

SNWA Wash Facilities Engineering
Official Capital Improvements Plan map.
Board approval date: May 17, 2018.

Map produced by:
SNWA Spatial Technologies Div.,
Mapping and Analysis Team (GIS)
SPC NV-E, NAD83, US Feet.
Analyst: EN



1 Inch = 3000 Feet, or Scale = 1:36,000
(Original 11x17 map only, verify scale)

MAP-ID: WFE-CIP
DATE: 17 MAY 2018


Appendix E

Ranking Criteria Scoring

Channel Bed Stabilization

2018 - 19 Capital Improvements Plan
Ranking Criteria Scoring
Channel Bed Stabilization

Factor	Criteria	Score	Criteria Score																			
			Fire Station	Powerline Crossing	Rainbow Gardens	Three Kids Weir	Homestead	Lower Narrows	Calico Ridge	Bostick	Historic Lateral	Pabco Road	Sunrise Mountain	Upper Narrows	Duck Creek	Archery	Silverbowl	DU Wetlands 1	DU Wetlands 2	Tropicana	Visitor Center	Monson
Upstream Stability	Active headcutting risking upstream channel, structures, or banks	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5				5
	Moderate headcutting in silty or sandy channel bed, some bank stability threat	3	3										3			3				3	3	
	Slow headcutting in caliche or bedrock, little bank stability threat	1																	1			
System Relationship	Provides important foundation or stability support for other facilities	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Provides moderate foundation or stability support to other Wash features	3											3		3							
	Provides minor or no foundation or stability support to other facilities	1																				
Cost Avoidance	Will reduce capital cost of other facilities or is a low maintenance facility	5	5	5	5	5	5	5		5	5	5	5		5	5	5	5	5	5		5
	Provides minor capital cost savings for other facilities or minor annual maintenance expected	3							3					3						3	3	
	Provides no reduction in capital cost for other facilities, high maintenance expected	1																				
Water Quality	Provides large volume for sediment capture or 5 or more acres potential wetlands area	5			5	5	5	5		5	5				5							
	Provides minor volume of sediment capture or 3 or more acres potential wetlands area	3	3	3								3	3	3		3	3	3				3
	Provides little or no volume for sediment capture or less than 1 acre of potential wetlands area	1							1										1	1	1	
Ecosystem Enhancement	Provides platform for ecosystem enhancement covering greater than 5 acres	5			5	5	5	5		5	5	5			5			5				
	Provides platform for ecosystem enhancement covering greater than 3 acres	3	3	3									3	3		3	3		3			3
	Provides platform for ecosystem enhancement covering 1 acre or more	1							1											1	1	
Recreational Opportunities	Directly reduces threat to recreational features	5		5		5	5	5						5				5		5	5	5
	Provides possible threat reduction to recreational features	3			3					3	3	3		3		3	3		3			
	Provides little or no threat reduction to recreational features	1	1						1				1									
Public Safety	Is strongly beneficial to public safety associated with activities in the Wash	5				5	5	5				5							5	5	5	5
	Provides some improvement to public safety associated with activities in the Wash	3		3	3				3	3	3		3	3			3	3				
	Provides little improvement to public safety associated with activities in the Wash	1	1												1	1						
Permitting	Relatively minor permitting issues to be resolved	5	5			5	5		5	5			5	5				5	5		5	5
	Wetlands, WQ, Wildlife, or Archeological issues exist and clearance required	3		3	3			3			3			3	3				3			3
	A sensitive site requiring mitigation or high level of protection	1										1				1						
ROW & Access	Local Government Ownership, relatively easy acquisition	5		5	5		5	5		5	5	5		5	5	5	5	5	5	5	5	5
	Federal Ownership, requiring federal review and approval	3							3				3									
	Private Ownership requiring extended negotiations	1	1			1																
Other Funding	other local, state, or federal funding assistance for > 50% of project cost	5	5	5	5	5	5	5		5	5							5		5	5	5
	Identified possibility for additional local, state, federal funding assistance for > 25% of project	3											3	3		3	3					
	No additional funding assistance identified beyond local sales tax revenues or < 25% project	1								1			1		1				1			

 = In Construction or Completed

Appendix F

2018-19 Project Prioritization

Channel Bed Stabilization

2018 - 19 Project Prioritization Channel Bed Stabilization

Facility Description	Channel Station	Facility ID	Priority Factor and Weight										Priority Value	Ranking	In Construction or Complete
			Stability	Relationship	Cost Avoidance	WQ Enhancement	Ecosystem Enhancement	Recreational Benefit	Public Safety	Permitting	ROW & Access	Other Funding			
			5	5	5	3.5	3.5	3.5	3.5	2.5	2.5	2.5			
Lower Narrows	9470	810M	5 25	5 25	5 25	5 17.5	5 17.5	5 17.5	5 17.5	3 7.5	5 12.5	5 12.5	177.5		X
Homestead	6740	810L	5 25	5 25	5 25	5 17.5	5 17.5	5 17.5	5 17.5	3 7.5	5 12.5	5 12.5	177.5		X
Three Kids Weir	5150	810K	5 25	5 25	5 25	5 17.5	5 17.5	5 17.5	5 17.5	5 12.5	1 2.5	5 12.5	172.5		X
Historic Lateral	15400	810C (910AR)	5 25	5 25	5 25	5 17.5	5 17.5	3 10.5	3 10.5	3 7.5	5 12.5	5 12.5	163.5		X
Rainbow Gardens	3120	810N (170A)	5 25	5 25	5 25	5 17.5	5 17.5	3 10.5	3 10.5	3 7.5	5 12.5	5 12.5	163.5		X
Upper Diversion	35650	810F	5 25	5 25	5 25	3 10.5	3 10.5	5 17.5	5 17.5	3 7.5	5 12.5	5 12.5	163.5		X
Pabco Road	20000	810D	5 25	5 25	5 25	3 10.5	5 17.5	3 10.5	5 17.5	1 2.5	5 12.5	5 12.5	158.5		X
Bostick Weir	13300	810E	5 25.0	5 25.0	5 25.0	5 17.5	5 17.5	3 10.5	3 10.5	5 12.5	5 12.5	1 2.5	158.5		X
Powerline Crossing	1950	810P	5 25	5 25	5 25	3 10.5	3 10.5	5 17.5	3 10.5	3 7.5	5 12.5	5 12.5	156.5		X
DU Wetlands 1	29500	810V	5 25	5 25	5 25	3 10.5	3 10.5	3 10.5	3 10.5	5 12.5	5 12.5	5 12.5	154.5		X
Duck Creek Confluence	25330	810G	5 25.0	3 15.0	5 25.0	5 17.5	5 17.5	5 17.5	3 10.5	3 7.5	5 12.5	3 7.5	155.5		X
Upper Narrows	23500	810X	5 25	5 25	3 15	3 10.5	3 10.5	3 10.5	3 10.5	5 12.5	5 12.5	3 7.5	139.5		X
Visitor Center	33850	810J	3 15	5 25	3 15	1 3.5	1 3.5	5 17.5	5 17.5	5 12.5	5 12.5	5 12.5	134.5		X
Monson Weir	34950	810H	3 15	5 25	3 15	1 3.5	1 3.5	5 17.5	5 17.5	5 12.5	5 12.5	5 12.5	134.5		X
DU Wetlands 2	31100	810Y	3 15	3 15	5 25	3 10.5	5 17.5	5 17.5	3 10.5	3 7.5	3 7.5	3 7.5	133.5		X
Calico Ridge	11400	810R	5 25	5 25	5 25	1 3.5	1 3.5	1 3.5	3 10.5	5 12.5	3 7.5	5 12.5	128.5		X
Archery	26500	810Z	5 25	5 25	5 25	3 10.5	3 10.5	3 10.5	1 3.5	3 7.5	5 12.5	1 2.5	132.5		X
Silver Bowl	28190	810U	3 15	5 25	5 25	3 10.5	3 10.5	3 10.5	1 3.5	1 2.5	5 12.5	3 7.5	122.5		X
Fire Station	690	810A	3 15	5 25	5 25	3 10.5	3 10.5	1 3.5	1 3.5	5 12.5	1 2.5	5 12.5	120.5		X
Tropicana	32300	810S	1 5	5 25	5 25	1 3.5	3 10.5	3 10.5	5 17.5	3 7.5	5 12.5	1 2.5	119.5		X
Sunrise Mountain	22000	810W	3 15	3 15	5 25	3 10.5	3 10.5	1 3.5	3 10.5	5 12.5	3 7.5	1 2.5	112.5		X

= In Construction or Completed

Appendix G

Sales Tax Received and Distributed

Southern Nevada Water Authority

Sales Tax Received and Distributed

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Apr-99	07-Jul-99	3,995,539	168,120	159,822		3,667,597
May-99	27-Jul-99	4,083,781	171,833	163,351		3,748,597
Jun-99	27-Aug-99	4,466,631	187,942	178,665		4,100,023
Fiscal Year 1998-1999		12,545,951	527,896	501,838	0	11,516,217
Jul-99	24-Sep-99	3,876,062	163,093	155,042		3,557,926
Aug-99	22-Oct-99	4,056,713	170,694	162,269		3,723,750
Sep-99	29-Nov-99	4,389,790	184,709	175,592		4,029,490
Oct-99	27-Dec-99	4,081,697	171,746	163,268		3,746,683
Nov-99	25-Jan-00	4,210,101	177,148	168,404		3,864,548
Dec-99	29-Feb-00	5,077,263	213,636	203,091		4,660,537
Jan-00	24-Mar-00	4,011,032	168,772	160,441		3,681,819
Feb-00	25-Apr-00	4,056,425	170,682	162,257		3,723,485
Mar-00	26-May-00	4,718,344	198,534	188,734		4,331,076
Apr-00	28-Jun-00	4,285,442	180,319	171,418		3,933,706
May-00	21-Jul-00	4,403,289	185,277	176,132		4,041,880
Jun-00	25-Aug-00	4,816,863	202,679	192,675		4,421,510
Fiscal Year 1999-2000		51,983,020	2,187,290	2,079,321	0	47,716,410
Jul-00	22-Sep-00	4,316,705	181,634	172,668		3,962,402
Aug-00	20-Oct-00	4,470,849	188,120	178,834		4,103,895
Sep-00	29-Nov-00	4,819,576	202,793	192,783		4,424,000
Oct-00	22-Dec-00	4,363,936	183,621	174,557		4,005,757
Nov-00	22-Jan-01	4,423,627	186,133	176,945		4,060,549
Dec-00	26-Feb-01	5,353,220	225,247	214,129		4,913,843
Jan-01	23-Mar-01	4,196,777	176,588	167,871		3,852,319
Feb-01	20-Apr-01	4,238,834	178,357	169,553		3,890,923
Mar-01	25-May-01	5,122,948	215,558	204,918		4,702,472
Apr-01	22-Jun-01	4,554,600	191,644	182,184	1,588,693	2,592,078
May-01	20-Jul-01	4,811,654	202,460	192,466	1,678,357	2,738,371
Jun-01	24-Aug-01	4,913,175	206,732	196,527	1,713,768	2,796,148
Fiscal Year 2000-2001		55,585,901	2,338,888	2,223,436	4,980,818	46,042,758

Southern Nevada Water Authority

Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-01	21-Sep-01	4,573,130	192,424	182,925	1,595,157	2,602,625
Aug-01	19-Oct-01	4,769,281	200,677	190,771	1,663,576	2,714,256
Sep-01	27-Nov-01	4,281,399	180,148	171,256	1,493,398	2,436,597
Oct-01	26-Dec-01	4,694,971	197,550	187,799	1,637,656	2,671,966
Nov-01	29-Jan-02	4,472,344	188,183	178,894	1,560,002	2,545,266
Dec-01	01-Mar-02	5,232,197	220,155	209,288	1,825,046	2,977,707
Jan-02	25-Mar-02	4,326,825	182,060	173,073	1,509,243	2,462,449
Feb-02	22-Apr-02	4,349,265	183,004	173,971	1,517,070	2,475,220
Mar-02	24-May-02	5,103,196	214,727	204,128	1,780,050	2,904,291
Apr-02	26-Jun-02	4,750,192	199,874	190,008	1,656,918	2,703,393
May-02	22-Jul-02	4,821,868	202,890	192,875	1,681,919	2,744,184
Jun-02	26-Aug-02	4,970,042	209,124	198,802	1,733,604	2,828,512
Fiscal Year 2001-2002		56,344,710	2,370,816	2,253,788	19,653,640	32,066,465
Jul-02	27-Sep-02	4,749,455	199,843	189,978	1,656,661	2,702,973
Aug-02	29-Oct-02	5,022,283	211,323	200,891	1,751,826	2,858,243
Sep-02	27-Nov-02	4,874,256	205,094	194,970	1,700,193	2,773,999
Oct-02	30-Dec-02	4,823,952	202,977	192,958	1,682,646	2,745,370
Nov-02	27-Jan-03	4,774,929	200,915	190,997	1,665,546	2,717,470
Dec-02	28-Feb-03	5,797,103	243,925	231,884	2,022,092	3,299,203
Jan-03	28-Mar-03	4,691,519	197,405	187,661	1,636,452	2,670,001
Feb-03	25-Apr-03	4,578,090	192,632	183,124	1,596,887	2,605,447
Mar-03	30-May-03	5,436,587	228,755	217,463	1,896,340	3,094,028
Apr-03	27-Jun-03	5,141,704	216,347	205,668	1,793,481	2,926,207
May-03	28-Jul-03	5,209,543	219,202	208,382	1,817,145	2,964,815
Jun-03	29-Aug-03	5,479,729	230,571	219,189	1,911,388	3,118,581
Fiscal Year 2002-2003		60,579,149	2,548,989	2,423,166	21,130,658	34,476,336
Jul-03	29-Sep-03	5,289,908	222,583	211,596	1,845,177	3,010,551
Aug-03	24-Oct-03	5,567,909	234,281	222,716	1,942,146	3,168,765
Sep-03	26-Nov-03	5,593,449	235,356	223,738	1,976,128	3,158,228
Oct-03	26-Dec-03	5,504,945	166,762	220,198	1,944,834	3,173,151
Nov-03	30-Jan-04	5,255,726	159,212	210,229	1,856,788	3,029,497
Dec-03	27-Feb-04	6,274,646	190,078	250,986	2,216,761	3,616,821
Jan-04	26-Mar-04	5,611,388	169,986	224,456	1,982,440	3,234,507
Feb-04	30-Apr-04	5,373,733	162,787	214,949	1,898,479	3,097,518
Mar-04	28-May-04	6,609,509	200,222	264,380	2,335,065	3,809,842
Apr-04	25-Jun-04	5,958,389	180,498	238,336	2,105,031	3,434,525
May-04	30-Jul-04	6,248,803	189,295	249,952	2,207,631	3,601,924
Jun-04	27-Aug-04	6,435,920	194,964	257,437	2,273,737	3,709,782
Fiscal Year 2003-2004		69,724,324	2,306,023	2,788,973	24,584,217	40,045,111

Southern Nevada Water Authority

Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-04	24-Sep-04	6,376,348	193,159	255,054	2,252,691	3,675,444
Aug-04	28-Oct-04	6,277,281	190,158	251,091	2,217,692	3,618,339
Sep-04	29-Nov-04	6,646,048	201,329	265,842	2,347,973	3,830,904
Oct-04	23-Dec-04	6,403,724	193,988	256,149	2,262,363	3,691,224
Nov-04	28-Jan-05	6,306,345	191,038	252,254	2,227,960	3,635,093
Dec-04	25-Feb-05	7,757,964	235,012	310,319	2,740,801	4,471,833
Jan-05	28-Mar-05	6,057,705	183,506	242,308	2,140,118	3,491,772
Feb-05	29-Apr-05	6,093,734	184,598	243,749	2,152,847	3,512,540
Mar-05	27-May-05	7,596,622	230,125	303,865	2,683,800	4,378,832
Apr-05	24-Jun-05	6,875,146	208,269	275,006	2,428,911	3,962,960
May-05	29-Jul-05	7,140,352	216,303	285,614	2,522,605	4,115,830
Jun-05	26-Aug-05	7,494,219	227,023	299,769	2,647,622	4,319,805
Fiscal Year 2004-2005		81,025,486	2,454,508	3,241,019	28,625,384	46,704,574
Jul-05	30-Sep-05	7,024,506	212,794	280,980	2,481,678	4,049,054
Aug-05	27-Oct-05	7,060,064	213,871	282,403	2,494,240	4,069,550
Sep-05	29-Nov-05	7,338,501	222,306	293,540	2,592,609	4,230,046
Oct-05	30-Dec-05	7,016,781	212,560	280,671	2,478,949	4,044,601
Nov-05	27-Jan-06	6,888,714	208,680	275,549	2,433,704	3,970,781
Dec-05	01-Mar-06	8,587,151	260,131	343,486	3,033,743	4,949,791
Jan-06	31-Mar-06	6,743,203	204,272	269,728	2,382,297	3,886,905
Feb-06	28-Apr-06	6,815,659	488,723	272,626	2,334,259	3,720,050
Mar-06	01-Jun-06	8,081,356	441,313	323,254	2,780,380	4,536,409
Apr-06	03-Jul-06	7,394,368	233,876	295,775	2,608,593	4,256,125
May-06	28-Jul-06	7,484,835	236,737	299,393	2,640,508	4,308,197
Jun-06	30-Aug-06	7,993,628	252,830	319,745	2,820,000	4,601,053
Fiscal Year 2005-2006		88,428,765	3,188,091	3,537,151	31,080,961	50,622,562
Jul-06	02-Oct-06	7,199,840	227,723	287,994	2,539,967	4,144,157
Aug-06	31-Oct-06	7,323,145	231,623	292,926	2,583,467	4,215,130
Sep-06	29-Nov-06	7,582,818	239,836	303,313	2,675,074	4,364,595
Oct-06	29-Dec-06	7,100,583	224,584	284,023	2,504,951	4,087,025
Nov-06	27-Jan-07	7,046,861	222,884	281,874	2,485,999	4,056,103
Dec-06	28-Feb-07	8,573,457	271,169	342,938	3,024,553	4,934,797
Jan-07	30-Mar-07	6,910,453	218,570	276,418	2,437,877	3,977,588
Feb-07	27-Apr-07	6,986,205	220,966	279,448	2,464,601	4,021,191
Mar-07	31-May-07	8,161,105	258,127	326,444	2,879,083	4,697,451
Apr-07	29-Jun-07	7,153,765	226,266	286,151	2,523,712	4,117,636
May-07	30-Jul-07	7,417,299	201,355	296,692	2,629,316	4,289,936
Jun-07	31-Aug-07	7,918,593	210,795	316,744	2,808,601	4,582,454
Fiscal Year 2006-2007		89,374,124	2,753,898	3,574,965	31,557,199	51,488,062

Southern Nevada Water Authority

Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-07	28-Sep-07	7,035,191	187,279	281,408	2,495,272	4,071,233
Aug-07	31-Oct-07	7,030,120	187,144	281,205	2,493,473	4,068,298
Sep-07	30-Nov-07	7,371,728	196,238	294,869	2,614,636	4,265,985
Oct-07	31-Dec-07	7,203,147	191,750	288,126	2,554,843	4,168,428
Nov-07	30-Jan-08	7,001,344	186,378	280,054	2,483,267	4,051,646
Dec-07	29-Feb-08	8,565,788	241,384	342,632	3,033,074	4,948,699
Jan-08	28-Mar-08	6,498,944	205,938	259,958	2,292,558	3,740,490
Feb-08	30-Apr-08	6,544,565	184,426	261,783	2,317,376	3,780,981
Mar-08	30-May-08	7,683,503	216,521	307,340	2,720,664	4,438,978
Apr-08	27-Jun-08	6,927,960	195,230	277,118	2,453,132	4,002,479
May-08	31-Jul-08	7,171,987	202,107	286,879	2,539,540	4,143,461
Jun-08	29-Aug-08	7,242,215	204,086	289,689	2,564,408	4,184,033
Fiscal Year 2007-2008		86,276,491	2,398,479	3,451,060	30,562,242	49,864,710
Jul-08	29-Sep-08	6,712,162	189,149	268,486	2,376,720	3,877,807
Aug-08	30-Oct-08	7,180,618	205,186	287,225	2,541,519	4,146,688
Sep-08	25-Nov-08	6,622,651	189,242	264,906	2,344,031	3,824,472
Oct-08	28-Dec-08	6,608,538	188,839	264,342	2,339,036	3,816,322
Nov-08	30-Jan-09	6,058,233	173,114	242,329	2,144,260	3,498,530
Dec-08	27-Feb-09	6,913,934	197,566	276,557	2,447,128	3,992,683
Jan-09	30-Mar-09	5,440,196	155,454	217,608	1,925,511	3,141,624
Feb-09	30-Apr-09	5,320,986	152,047	212,839	1,883,318	3,072,781
Mar-09	29-May-09	6,589,177	188,286	263,567	2,332,183	3,805,141
Apr-09	26-Jun-09	5,838,658	166,840	233,546	2,066,543	3,371,728
May-09	30-Jul-09	5,790,455	165,462	231,618	2,049,482	3,343,892
Jun-09	28-Aug-09	5,958,459	170,263	238,338	2,108,946	3,440,912
Fiscal Year 2008-2009		75,034,067	2,141,447	3,001,363	26,558,678	43,332,579
Jul-09	29-Sep-09	5,411,301	167,577	216,452	1,910,363	3,116,908
Aug-09	29-Oct-09	5,435,528	168,327	217,421	1,918,916	3,130,863
Sep-09	30-Nov-09	5,630,829	174,376	225,233	1,987,864	3,243,357
Oct-09	30-Dec-09	5,467,931	169,331	218,717	1,930,356	3,149,527
Nov-09	29-Jan-10	5,421,077	167,880	216,843	1,913,815	3,122,540
Dec-09	26-Feb-10	6,590,956	204,109	263,638	2,326,819	3,796,390
Jan-10	31-Mar-10	5,108,796	158,209	204,352	1,803,569	2,942,666
Feb-10	30-Apr-10	5,108,584	158,203	204,343	1,803,495	2,942,544
Mar-10	28-May-10	6,069,444	187,959	242,778	2,142,709	3,495,999
Apr-10	30-Jun-10	5,998,218	185,753	239,929	2,117,564	3,454,972
May-10	2-Aug-10	5,735,351	177,612	229,414	2,024,763	3,303,561
Jun-10	31-Aug-10	5,928,143	183,583	237,126	2,092,825	3,414,610
Fiscal Year 2009-2010		67,906,159	2,102,918	2,716,246	23,973,058	39,113,937

Southern Nevada Water Authority

Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-10	30-Sep-10	5,654,890	188,891	226,196	1,991,125	3,248,678
Aug-10	28-Oct-10	5,803,042	193,840	232,122	2,043,291	3,333,790
Sep-10	30-Nov-10	5,711,560	190,784	228,462	2,011,079	3,281,234
Oct-10	30-Dec-10	5,601,461	187,106	224,058	1,972,313	3,217,984
Nov-10	31-Jan-11	5,584,548	186,541	223,382	1,966,357	3,208,267
Dec-10	28-Feb-11	6,606,719	220,685	264,269	2,326,271	3,795,494
Jan-11	31-Mar-11	5,405,921	180,575	216,237	1,903,462	3,105,648
Feb-11	29-Apr-11	5,353,999	178,840	214,160	1,885,180	3,075,819
Mar-11	31-May-11	6,697,136	223,705	267,885	2,358,107	3,847,438
Apr-11	30-Jun-11	6,063,186	202,529	242,527	2,134,889	3,483,240
May-11	1-Aug-11	6,036,786	201,647	241,471	2,125,593	3,468,073
Jun-11	31-Aug-11	6,397,099	213,683	255,884	2,252,462	3,675,070
Fiscal Year 2010-2011		70,916,346	2,368,827	2,836,654	24,970,129	40,740,737
Jul-11	3-Oct-11	5,879,272	196,386	235,171	2,134,328	3,313,388
Aug-11	31-Oct-11	5,859,385	195,722	234,375	1,998,934	3,430,354
Sep-11	29-Nov-11	6,305,007	210,607	252,200	2,220,036	3,622,164
Oct-11	29-Dec-11	6,129,515	204,745	245,181	2,158,244	3,521,346
Nov-11	31-Jan-12	6,055,230	202,264	242,209	2,132,088	3,478,670
Dec-11	29-Feb-12	7,144,138	238,636	285,766	2,515,500	4,104,236
Jan-12	30-Mar-12	5,658,196	189,001	226,328	1,992,289	3,250,577
Feb-12	30-Apr-12	5,922,925	197,844	236,917	2,085,502	3,402,662
Mar-12	31-May-12	6,790,048	226,809	271,602	2,390,822	3,900,815
Apr-12	29-Jun-12	6,212,889	207,530	248,516	2,187,601	3,569,243
May-12	30-Jul-12	6,522,232	217,863	260,889	2,296,522	3,746,957
Jun-12	31-Aug-12	6,742,691	225,227	269,708	2,374,147	3,873,609
Fiscal Year 2011-2012		75,221,529	2,512,633	3,008,861	26,486,013	43,214,022
Jul-12	28-Sep-12	6,167,979	206,030	246,719	2,171,787	3,543,443
Aug-12	31-Oct-12	6,347,611	212,030	253,904	2,235,037	3,646,640
Sep-12	30-Nov-12	6,574,756	219,617	262,990	2,315,017	3,777,132
Oct-12	31-Dec-12	6,472,579	216,204	258,903	2,279,039	3,718,432
Nov-12	31-Jan-13	6,355,187	212,283	254,207	2,237,705	3,650,992
Dec-12	1-Mar-13	7,550,851	252,222	302,034	2,658,706	4,337,889
Jan-13	29-Mar-13	6,218,961	207,733	248,758	2,189,739	3,572,731
Feb-13	30-Apr-13	6,019,983	201,086	240,799	2,119,677	3,458,421
Mar-13	31-May-13	7,289,672	243,498	291,587	2,566,743	4,187,844
Apr-13	28-Jun-13	6,577,240	219,700	263,090	2,315,891	3,778,559
May-13	31-Jul-13	6,958,034	232,420	278,321	2,449,972	3,997,321
Jun-13	30-Aug-13	6,959,568	232,471	278,383	2,450,511	3,998,203
Fiscal Year 2012-2013		79,492,423	2,655,294	3,179,697	27,989,825	45,667,607

Southern Nevada Water Authority

Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-13	30-Sep-13	6,482,578	216,538	259,303	2,282,560	3,724,177
Aug-13	31-Oct-13	6,620,714	221,152	264,829	2,331,198	3,803,534
Sep-13	27-Nov-13	7,386,823	246,743	295,473	2,600,951	4,243,656
Oct-13	30-Dec-13	6,795,439	226,989	271,818	2,392,720	3,903,912
Nov-13	31-Jan-14	6,824,227	227,950	272,969	2,402,857	3,920,451
Dec-13	28-Feb-14	7,869,507	262,866	314,780	2,770,907	4,520,954
Jan-14	31-Mar-14	6,437,277	215,025	257,491	2,266,609	3,698,152
Feb-14	30-Apr-14	6,539,509	218,440	261,580	2,302,606	3,756,883
Mar-14	30-May-14	8,009,796	267,552	320,392	2,820,304	4,601,548
Apr-14	30-Jun-14	7,023,201	234,597	280,928	2,472,917	4,034,760
May-14	31-Jul-14	7,704,199	257,344	308,168	2,712,701	4,425,986
Jun-14	29-Aug-14	7,432,478	248,268	297,299	2,617,026	4,269,885
Fiscal Year 2013-2014		85,125,747	2,843,465	3,405,030	29,973,356	48,903,896
Jul-14	30-Sep-14	7,125,008	237,997	285,000	2,508,764	4,093,246
Aug-14	30-Oct-14	7,372,269	246,257	294,891	2,595,826	4,235,295
Sep-14	26-Nov-14	7,516,962	251,090	300,678	2,646,773	4,318,420
Oct-14	31-Dec-14	7,346,330	245,390	293,853	2,586,693	4,220,394
Nov-14	30-Jan-15	7,220,317	241,181	288,813	2,542,323	4,148,000
Dec-14	27-Feb-15	8,658,396	289,217	346,336	3,048,680	4,974,162
Jan-15	31-Mar-15	6,942,624	231,905	277,705	2,444,545	3,988,469
Feb-15	30-Apr-15	7,068,251	236,102	282,730	2,488,780	4,060,640
Mar-15	29-May-15	8,338,855	278,544	333,554	2,936,168	4,790,589
Apr-15	30-Jun-15	7,577,749	253,120	303,110	2,668,177	4,353,342
May-15	31-Jul-15	7,953,792	265,681	318,152	2,800,584	4,569,375
Jun-15	31-Aug-15	7,903,402	263,998	316,136	2,782,842	4,540,426
Fiscal Year 2014-2015		91,023,954	3,040,483	3,640,958	32,050,155	52,292,358
Jul-15	30-Sep-15	7,615,944	254,396	304,638	2,681,626	4,375,284
Aug-15	29-Oct-15	7,370,222	246,188	294,809	2,595,105	4,234,119
Sep-15	30-Nov-15	7,791,472	260,259	311,659	2,743,431	4,476,123
Oct-15	31-Dec-15	7,719,746	257,864	308,790	2,718,175	4,434,917
Nov-15	30-Jan-16	7,640,067	255,202	305,603	2,690,120	4,389,143
Dec-15	27-Feb-16	9,090,136	303,639	363,605	3,200,699	5,222,193
Jan-16	31-Mar-16	7,144,279	238,641	285,771	2,515,549	4,104,317
Feb-16	29-Apr-16	7,329,879	244,841	293,195	2,580,901	4,210,943
Mar-16	31-May-16	8,568,311	286,208	342,732	3,016,961	4,922,410
Apr-16	30-Jun-16	7,738,151	258,478	309,526	2,724,656	4,445,491
May-16	29-Jul-16	7,925,935	264,751	317,037	2,790,776	4,553,371
Jun-16	31-Aug-16	8,524,710	284,752	340,988	3,001,608	4,897,361
Fiscal Year 2015-2016		94,458,852	3,155,219	3,778,354	33,259,606	54,265,673

Southern Nevada Water Authority

Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-16	30-Sep-16	7,826,866	261,442	313,075	2,755,893	4,496,457
Aug-16	28-Oct-16	7,949,572	265,540	317,983	2,799,098	4,566,950
Sep-16	30-Nov-16	8,289,925	276,909	331,597	2,918,939	4,762,479
Oct-16	30-Dec-16	7,917,066	264,455	316,683	2,787,653	4,548,276
Nov-16	31-Jan-17	7,960,048	265,890	318,402	2,802,787	4,572,968
Dec-16	28-Feb-17	9,381,188	313,361	375,248	3,303,180	5,389,399
Jan-17	31-Mar-17	7,693,802	256,997	307,752	2,709,040	4,420,013
Feb-17	28-Apr-17	7,402,524	247,267	296,101	2,606,479	4,252,676
Mar-17	31-May-17	9,256,755	309,204	370,270	3,259,367	5,317,914
Apr-17	30-Jun-17	8,062,831	269,324	322,513	2,838,978	4,632,016
May-17	31-Jul-17	8,467,039	282,825	338,682	2,981,302	4,864,230
Jun-17	31-Aug-17	8,828,866	294,912	353,155	3,108,704	5,072,096
Fiscal Year 2016-2017		99,036,481	3,308,126	3,961,459	34,871,420	56,895,475
Jul-17	29-Sep-17	8,094,287	300,732	323,771	2,838,518	4,631,266
Aug-17	31-Oct-17	8,270,086	307,264	330,803	2,900,167	4,731,852
Sep-17	30-Nov-17	8,579,965	318,777	343,199	3,008,836	4,909,153
Oct-17	29-Dec-17	8,235,502	305,979	329,420	2,888,039	4,712,064
Nov-17	31-Jan-18	8,325,334	309,316	333,013	2,919,542	4,763,463
Dec-17	28-Feb-18	9,575,549	355,766	383,022	3,357,969	5,478,792
Fiscal Year 2017-2018 through Dec-17		51,080,723	1,897,834	2,043,229	17,913,071	29,226,589
Total Actuals Through December 2017		1,441,164,200	49,101,124	57,646,568	470,220,429	864,196,079
Estimate of remainder for fiscal year 2017-2018						
Jan-18	Estimate - Mar18	8,500,000	315,806	340,000	2,980,794	4,863,400
Feb-18	Estimate - Apr18	8,500,000	315,806	340,000	2,980,794	4,863,400
Mar-18	Estimate - May18	8,500,000	315,806	340,000	2,980,794	4,863,400
Apr-18	Estimate - Jun18	8,500,000	315,806	340,000	2,980,794	4,863,400
May-18	Estimate - Jul18	8,500,000	315,806	340,000	2,980,794	4,863,400
Jun-18	Estimate - Aug18	8,500,000	315,806	340,000	2,980,794	4,863,400
Total estimate for January through June 2018		51,000,000	1,894,835	2,040,000	17,884,763	29,180,402
Total Actuals and Estimate as of June 2018		1,492,164,200	50,995,959	59,686,568	488,105,192	893,376,481

Appendix H

Sales Tax Revenue Projection

CLARK COUNTY WATER AND WASTEWATER INFRASTRUCTURE (QUARTER CENT) SALES TAX
Sales Tax Received and Distributed

Original Data in Calendar Year				Data Converted to Fiscal Year													
	Calendar	Clark Co. Population ⁽¹⁾		Clark Co. Population FY		Fiscal	Gross Sales Tax Receipts ⁽³⁾			Clark Co		Wastewater	Other SNWA				
	Year	Count	% Change	Count	% Change	Year	Per Person	Receipts	% Change	Rural Areas	LV Wash	Agencies	Capital				
Actual Sales Tax Received	1999	1,321,319		1,321,319		1998-1999	\$	12,545,951		\$	527,896	\$	501,838	\$	-	\$	11,516,217
	2000	1,428,689	8.1%	1,375,004	8.1%	1999-2000	36.39	51,983,020		2,187,290	2,079,321	-				47,716,410	
	2001	1,498,278	4.9%	1,463,484	6.5%	2000-2001	37.10	55,585,901	6.9%	2,338,888	2,223,436	4,980,818				46,042,758	
	2002	1,578,332	5.3%	1,538,305	5.1%	2001-2002	35.70	56,344,710	1.4%	2,370,816	2,253,788	19,653,640				32,066,465	
	2003	1,641,529	4.0%	1,609,931	4.7%	2002-2003	36.90	60,579,149	7.5%	2,548,989	2,423,166	21,130,658				34,476,336	
	2004	1,747,025	6.4%	1,694,277	5.2%	2003-2004	39.91	69,724,324	15.1%	2,306,023	2,788,973	24,584,217				40,045,111	
	2005	1,815,700	3.9%	1,781,363	5.2%	2004-2005	44.62	81,025,486	16.2%	2,454,508	3,241,019	28,625,384				46,704,574	
	2006	1,912,654	5.3%	1,864,177	4.6%	2005-2006	46.23	88,428,765	9.1%	3,188,091	3,537,151	31,080,961				50,622,562	
	2007	1,996,542	4.4%	1,954,598	4.9%	2006-2007	44.76	89,374,124	1.1%	2,753,898	3,574,965	31,557,199				51,488,062	
	2008	1,986,145	-0.5%	1,991,344	1.9%	2007-2008	43.44	86,276,491	-3.5%	2,398,479	3,451,060	30,562,242				49,864,710	
	2009	2,006,347	1.0%	1,996,246	0.2%	2008-2009	37.40	75,034,067	-13.0%	2,141,447	3,001,363	26,558,678				43,332,579	
	2010	1,951,269	-2.7%	1,978,808	-0.9%	2009-2010	34.80	67,906,159	-9.5%	2,102,918	2,716,246	23,973,058				39,113,937	
	2011	1,966,630	0.8%	1,958,950	-1.0%	2010-2011	36.06	70,916,346	4.4%	2,368,827	2,836,654	24,970,129				40,740,737	
	2012	2,008,654	2.1%	1,987,642	1.5%	2011-2012	37.45	75,221,529	6.1%	2,512,633	3,008,861	26,486,013				43,214,022	
	2013	2,062,253	2.7%	2,035,454	2.4%	2012-2013	38.55	79,492,423	5.7%	2,655,294	3,179,697	27,989,825				45,667,607	
	2014	2,102,238	1.9%	2,082,246	2.3%	2013-2014	40.49	85,125,747	7.1%	2,843,465	3,405,030	29,973,356				48,903,896	
	2015	2,147,641	2.2%	2,124,940	2.0%	2014-2015	42.38	91,023,954	6.9%	3,040,483	3,640,958	32,050,155				52,292,358	
	2016	2,205,207	2.7%	2,176,424	2.4%	2015-2016	42.83	94,458,852	3.8%	3,155,219	3,778,354	33,259,606				54,265,673	
2017	2,248,000	1.9%	2,226,604	2.3%	2016-2017	44.06	99,036,481	4.8%	3,308,126	3,961,459	34,871,420				56,895,475		
Projected Sales Tax ⁽²⁾	2018	2,291,000	1.9%	2,269,500	1.9%	2017-2018	44.98	102,080,723	3.1%	3,792,669	4,083,229	35,797,833				58,406,991	
	2019	2,334,000	1.9%	2,312,500	1.9%	2017-2018	46.30	107,077,431	4.9%	3,978,315	4,283,097	37,550,087				61,265,932	
	2020	2,375,000	1.8%	2,354,500	1.8%	2018-2019	47.67	112,235,109	4.8%	4,169,941	4,489,404	39,358,790				64,216,974	
	2021	2,414,000	1.6%	2,394,500	1.7%	2019-2020	49.07	117,509,455	4.7%	4,365,902	4,700,378	41,208,406				67,234,769	
	2022	2,449,000	1.4%	2,431,500	1.5%	2020-2021	50.52	122,851,423	4.5%	4,564,375	4,914,057	43,081,736				70,291,255	
	2023	2,483,000	1.4%	2,466,000	1.4%	2021-2022	52.02	128,280,348	4.4%	4,766,079	5,131,214	44,985,560				73,397,495	
	2024	2,514,000	1.2%	2,498,500	1.3%	2022-2023	53.56	133,820,015	4.3%	4,971,898	5,352,801	46,928,219				76,567,097	
	2025	2,542,000	1.1%	2,528,000	1.2%	2023-2024	34.04	86,062,019		3,197,516	3,442,481	30,180,368				49,241,654	
							\$	2,300,000,000		\$	81,009,985	\$	92,000,000	\$	771,398,357	\$	1,355,591,658

Totals may be off slightly due to rounding

(1) Source: Center for Business and Economic Research UNLV <http://cber.unlv.edu/reports/2017-CBER-Population-Forecasts.pdf>

(2) The projected sales tax receipts are calculated using the most recent fiscal year's actual sales tax received and adding the Clark County's population growth percentage and adding a 3% for inflation.

(3) The 2011 Nevada State Legislature passed legislation (NRS 377B.1(2)) allowing the June 30, 2025 (or \$2.3 billion), sunset of sales tax collection to be lifted subject to Clark County approval. At this writing, Clark County has not approved the sunset lift. If the sunset is lifted, additional construction might be allowed to be funded with the revenue source.

Appendix I

Interfund Loan Activity

**Southern Nevada Water Authority
INTERFUND LOAN ACTIVITY
Historical Through June 30, 2017
Projected From July 1, 2017 - June 2023**

HISTORICAL				SOURCES		
Fiscal Year	Beginning Balance	Borrowings	Total Payback	From Sales Tax ⁽¹⁾	From Grants	Total
2005-2006	\$ -	\$ 1,771,721	\$ 3,246	\$ 3,207,620	\$ -	\$ 3,207,620
2006-2007	1,768,475	3,043,206	243,901	3,876,451	255,000	4,131,451
2007-2008	4,567,781	8,128,593	9,997,688	3,487,927	9,322,409	12,810,336
2008-2009	2,698,686	2,145,993	2,775,949	3,107,974	2,553,086	5,661,060
2009-2010	2,068,730	4,884,051	2,194,931	2,719,663	1,063,408	3,783,071
2010-2011	4,757,850	994,459	5,123,444	2,805,838	6,256,818	9,062,656
2011-2012	628,865	2,855,066	1,887,910	2,975,620	5,888,857	8,864,477
2012-2013	1,596,021	51,453	1,647,474	3,153,590	10,831,754	13,985,344
2013-2014	-	4,894,069	144,767	3,356,267	3,593,596	6,949,863
2014-2015	4,749,302	4,939,231	778,204	3,612,138	8,287,704	11,899,841
2015-2016	8,910,329	-	5,572,917	3,754,616	3,377,201	7,131,817
2016-2017	3,337,411	-	279,761	3,927,649	37,934	3,965,583
2017-2018	3,057,650					
	<u>\$ 33,707,841</u>	<u>\$ 30,650,191</u>	<u>\$ 39,985,352</u>	<u>\$ 51,467,766</u>	<u>\$ 91,453,118</u>	

PROJECTED						
Fiscal Year	Beginning Balance	Estimated Construction To be Financed ⁽²⁾	Construction To be Financed With Sales Tax ⁽³⁾	Construction To be Paid With Grants	Interest Expense	Sales Tax Receipts
2017-2018	\$ 3,057,650	\$ 12,860,000	\$ 8,860,000	\$ 4,000,000	\$ 391,721	\$ 4,083,229
2018-2019	8,226,142	7,203,390	7,203,390	-	557,322	4,283,097
2019-2020	11,703,757	688,537	688,537	-	395,144	4,489,404
2020-2021	8,298,034	177,076	177,073	-	188,737	4,700,378
2021-2022	3,963,469	-	-	-	-	3,963,469
2022-2023	-	-	-	-	-	-
	<u>\$ 20,929,003</u>	<u>\$ 16,929,000</u>	<u>\$ 4,000,000</u>	<u>\$ 1,532,924</u>	<u>\$ 21,519,577</u>	

(1) Sales tax received during the corresponding fiscal year. Sales tax has also been used for pay-as-you-go construction costs.

(2) Estimated construction is based on cash flow projections in the Las Vegas Wash Capital Plan.

(3) The 2011 Nevada State Legislature passed legislation (NRS 377B.1(2)) allowing the June 30, 2025 (or \$2.3 billion), sunset of sales tax collection to be lifted subject to Clark County approval. At this writing, Clark County has not approved the sunset lift. If the sunset is lifted, additional construction might be allowed to be funded with the revenue source.

Appendix J

Completed Las Vegas Wash Weir Projects Summary

Completed Projects Summary

Project No.	Project Title	Year Completed	Cost (\$1,000)
	Temporary Demonstration Weir	1999	\$173
810A	Fire Station Weir	2000	\$63
810C	Historic Lateral Weir (preliminary structure installed in year 2000)	2019	\$1,823
810D	Pabco Weir	2000	\$5,700
810H	Monson Weir	2002	\$152
810J	Visitor Center Weir	2002	\$172
810E	Bostick Weir	2003	\$5,020
170-A (810N)	Rainbow Gardens Weir	2004	\$7,238
810R	Calico Ridge (previously named Landfill Weir)	2005	\$1,868
810P	Powerline Weir	2007	\$5,883
810F	Upper Diversion Weir	2008	\$12,850
810Y	DU Wetlands No. 2 Weir	2009	\$3,470
810M	Lower Narrows Weir	2011	\$3,494
810L	Homestead Weir	2011	\$6,490
810V	DU Wetlands No. 1 Weir	2012	\$4,126
810X	Upper Narrows Weir	2013	\$6,683
810G	Duck Creek Confluence Weir	2013	\$6,683
810U	Silver Bowl Weir	2015	\$5,846
810Z	Archery Weir	2015	\$5,846
810K	Three Kids Weir (prelim. Structure aka Temp. Demo. Weir installed yr, 1999)	2015	\$11,942
830C/840C	Bank Protection - Historic Lateral (5,000 lf)	2001	\$428
840J	Bank Protection South - Visitor Center (1,100 lf)	2001	\$88
840B	Bank Protection South - Demonstration (1,200 lf)	2001	\$177
840T	Bank Protection South - D-14 Extension (400 lf)	2001	\$44
830N/840N	Bank Protection - Three Kids Wash (Rainbow Gardens) (2,600 lf)	2002	\$92
830J	Bank Protection North - Visitor Center (400 lf)	2002	\$41
830H/840H	Bank Protection - Monson (400 lf)	2002	\$40
830T	Bank Protection North - D-14 Extension (300 lf)	2002	\$10
840Q	Bank Protection South - Wells (1,100 lf)	2003	\$95
830L	Bank Protection North - Homestead (1,600 lf)	2003	\$146
840V	Bank Protection South - DU Wetlands No. 1 (800 lf)	2003	\$62
830M	Bank Protection North - Lower Narrows (1,500 lf)	2003	\$129
840R	Bank Protection South - Calico Ridge (Landfill) (600 lf)	2003	\$50
840X	Bank Protection South - Upper Narrows (900 lf)	2003	\$78
830N/840N	Bank Protection - Rainbow Gardens (1,585 lf)	2005	\$74
830D	Bank Protection North - Pabco (640 lf)	2005	\$68
830E/840E	Bank Protection - Bostick (2,205 lf)	2005	\$127
830D/840D	Bank Protection - Pabco (1,725 lf)	2006	\$48
830W/840W	Bank Protection - Sunrise Mtn (1,765 lf)	2006	\$74
840S	Bank Protection South - Tropicana (575 lf)	2006	\$21
830C/840C	Bank Protection - Historic Lateral (3,075 lf)	2008	\$321
840D	Bank Protection South - Pabco (520 lf)	2008	\$40
840A	Bank Protection South - Fire Station (630 lf)	2010	\$469
840G	Bank Protection South - Duck Creek Confluence (700 lf)	2010	\$90
840D	Bank Protection South - Pabco (320 lf)	2011	\$122
830C	Bank Protection North - Historic Lateral (400 lf)	2011	\$152
830E	Bank Protection North - Bostick (155 lf)	2011	\$59
830D	Bank Protection North - Pabco (690 lf)	2012	\$65
880B	Revegetation South - Demonstration (4.23 ac)	2000	\$63
870C/880C	Revegetation - Historic Lateral (4.90 ac)	2001	\$74

Completed Projects Summary

Project No.	Project Title	Year Completed	Cost (\$1,000)
880D/870D	Revegetation - Pabco (7.40 ac)	2001	\$111
870H/880H	Revegetation - Monson (2.78 ac)	2002	\$48
870J/880J	Revegetation - Visitor Center (1.84 ac)	2002	\$32
880E	Revegetation South - Bostick (6.55 ac)	2004	\$115
870R/880R	Revegetation - Calico Ridge (Landfill) (6.80 ac)	2005	\$117
870E	Revegetation North - Bostick (7.85 ac)	2005	\$47
870D	Revegetation North - Pabco (3.40 ac)	2005	\$2
880P	Revegetation South - Powerline (14.91 ac)	2007	\$245
880F	Revegetation South - Upper Diversion (17.58 Ac)	2009	\$145
870Y/880Y	Revegetation - DU Wetlands No. 2 (0.89 Ac)	2010	\$2
870M/880M	Revegetation - Lower Narrows & Homestead (22.64 Ac)	2011	\$3
870M/880M	Revegetation - Lower Narrows & Homestead (5.14 Ac)	2012	\$23
870G/880G	Revegetation - Duck Creek Confluence (23.4 Ac)	2013	\$223
860A	2000 Materials Transportation Program	2000	\$304
860B	2001 Materials Transportation Program	2001	\$753
860C	2002 Materials Transportation Program	2002	\$866
860D	2003 Materials Transportation Program	2003	\$489
860E	2004 Materials Transportation Program	2004	\$806
860F	2005 Materials Transportation Program	2005	\$216
860G	2006 Materials Transportation Program	2006	\$590
860H	2007 Materials Transportation Program	2007	\$513
860J	2008 Materials Transportation Program	2008	\$667
860K	2009 Materials Transportation Program	2009	\$209
860Q	2010 Materials Transportation Program	2010	\$329
890A	2011 Materials Transportation Program	2011	\$178
890A	2012 Materials Transportation Program	2012	\$194
860L	2001 Topographic Mapping	2001	\$80
860M	2005 Topographic Mapping	2005	\$80
860N	2008 Topographic Mapping	2008	\$63
860S	Sediment Study I	2003	\$177
860T	Sediment Study 11	2008	\$236
	Total		\$106,732