CLARK COUNTY WATER QUALITY PROGRAM

BUSINESS PLAN

July 2013

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BACKGROUND

Historically the Las Vegas Wash only had intermittent flows from natural springs and stormwater runoff, which served as a water supply for Indians, settlers, and later the railroad. These intermittent flows in the Las Vegas Wash were spread out over a relatively wide floodplain with natural wetlands that drained to the Colorado River and later to Lake Mead after the Hoover Dam was constructed. As more and more development occurred in the Las Vegas Valley water from Lake Mead was pumped to the valley and treated for a potable water source for commercial and residential uses. Starting in 1956 wastewater from homes and businesses was treated at wastewater treatment facilities and discharged to the Las Vegas Wash. The Las Vegas Wash, which was once intermittent, now carried treated wastewater year round. Over the years as development continued the wash gradually started to erode due to the increase in water volume and velocity and instead of being spread out, the wash started to cut a deep channel that pulled water away from the natural wetlands and reduced their extents. Along with erosion from increased flow in the Las Vegas Wash, development also causes other water quality problems including but not limited to pollution from; littering, pet waste, car washing, chemical contaminates such as fertilizers, pesticides, vehicle contaminates such as oils, antifreeze, brake dust, over irrigation, septic system and perched shallow groundwater discharge to washes.

It takes individual behavior change and proper practices to control such pollution. Therefore it is important to make the public sufficiently aware and concerned about the significance of their behavior for stormwater pollution, through information and education, that they change improper behaviors.

The benefits of public education efforts cannot be understated, especially on topics such as "nonpoint source" or "stormwater" pollution. A 2005 report, by the National Environmental Education & Training Foundation found that 78 percent of the American public does not understand that runoff from cities, agricultural land, roads, and lawns, is now the most common source of water pollution; and nearly half of Americans (47 percent) believes industry still accounts for most water pollution. Because of this misconception education and outreach are the main focus of the Water Quality Program and it is emphasized in all aspects of the program.

Clark County, Nevada, currently has a population of approximately 2-million and prior to the recent economic slow-down in 2011, the Las Vegas Valley was one of the fastest growing urban areas in the nation, with approximately 5,000 new residents moving to the area every month. Las Vegas Valley also hosts over 40 million visitors per year, highlighting the importance of the hotel/casino and tourism industries to the local economy and landscape. The growth of the area and importance of the tourism industries makes water quality planning critical to the Las Vegas and Clark County. The tools for water quality planning; The Clark County 208 Area-wide Water Quality Management Plan (WQMP), the Stormwater Management Plan (SWMP), and Outreach, Education and Coordination are described in this Business Plan.

The Clark County Water Quality Planning Division was established as a result of the Clean Water Act, which requires that all activities associated with water pollution be planned and managed through an integrated, area-wide water quality management program. The Environment Protection Agency (EPA) delegates the Clean Water Act responsibilities through the process shown in the following table to the Clark County Water Reclamation District:

Water Quality Program Executive Summary

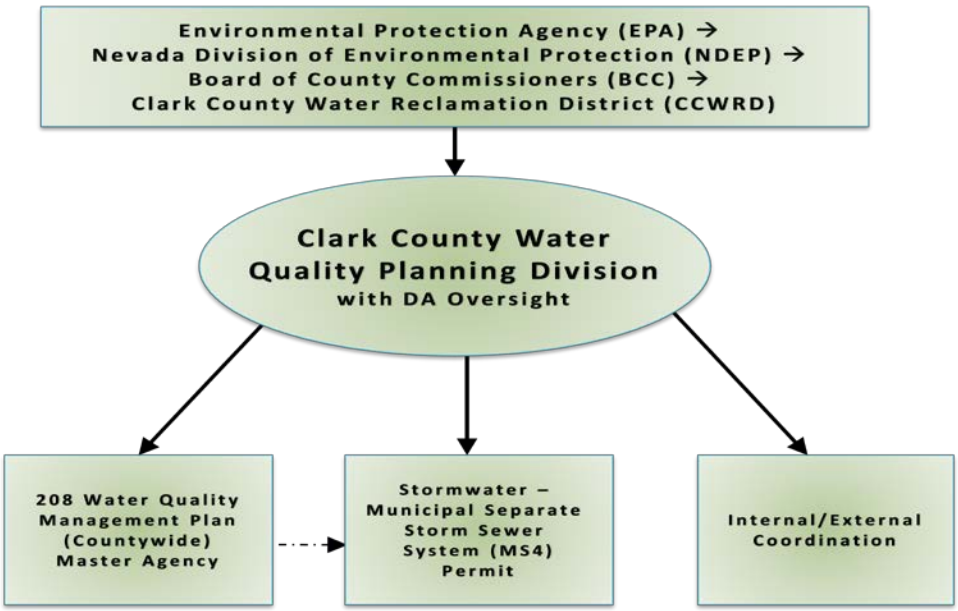

Figure 1-1: Delegation of Authority

WATER QUALITY PLANNING

The Water Quality Planning Division is responsible for two federal water quality programs, 208 Water Quality Planning and Stormwater Management related to the Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) permit, or (MS4 Permit), and works to bring water quality information and education to partner agencies, industry, and the public. These functions were delegated to the Clark County Water Reclamation District by the Board of County Commissioners on September 21, 2010, and are funded jointly by an interlocal agreement between the two agencies, which is shown in Appendix A. Based on the interlocal agreement and consensus with Clark County, work done on items related to the 208 WQMP or the MS4 Permit is billed to Clark County. Appendix B shows the 2014 fiscal year budget with billing breakdown between Clark County and Clark County Water Reclamation District of 72% and 28% respectively. The Water Quality Planning Divisions budgeting process begins in December each year with the preparation of a draft budget with stakeholder input provided through meetings and correspondence. The budget is then reviewed internally by CCWRD management and passed on to the County Finance Department for review and comment. Once comments are addressed the budget is officially submitted to Clark County no later than two months prior to the annual budget submittals as required by the interlocal agreement. Upon BCC approval the budget is officially approved. The Water Quality Planning Division is part of the Clark County Water Reclamation District's Water Quality, Research and Technical Services Department (See Organizational Chart in Appendix C) and is currently made up of 3.7 employees. Appendix F shows the Staffing Plan, Prioritized Responsibilities and Position Descriptions.

Managed under Section 208 of Clean Water Act, the integrated Clark County 208 area-wide water quality management planning requires that all sources of water pollution be planned and managed through a comprehensive

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20 year planning document, or Clark County 208 Area-wide Water Quality Management Plan (WQMP). As the water quality planning agent for the Clark County Board of County Commissioners, the Water Quality Planning Division works with municipalities, wastewater dischargers, water purveyors, affected industry, and citizens to address these federal requirements. It is a goal in the WQMP to update the plan every 5-10 years or as major changes require. The most recent WQMP was approved by the EPA in 2009 and covers the following topics:

Table 1-1: WQMP Topics

WQMP Topics	Section
Background	1
Population Projections	2
Waste Flow Projections	3
Water Quality Standards / Planning	4
Wastewater Collection, Treatment, and Disposal	5
Water Reclamation / Reuse	6
Point Sources	7
Nonpoint Sources (Stormwater)	8
Best Management Practices and Alternative Treatment Methods and Disposal	9
Wellhead Protection	10
Colorado River and Lake Mead	11
Environmental / Integrated Planning Coordination	12
Recommendations	13

STORMWATER MANAGEMENT

The Water Quality Planning Division is also responsible for the Clark County Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) permit, or (MS4 Permit), which is a joint permit shared with the following entities:

Table 1-2: Las Vegas Valley MS4 Permit Co-Permittees

Las Vegas Valley MS4 Permit Co-Permittees
Clark County
Clark County Regional Flood Control District
Henderson
Las Vegas
North Las Vegas

Water Quality Program Executive Summary

The MS4 permit is renewed every 5-years and includes a Stormwater Management Plan (SWMP) that outlines programs, practices, responsibilities, and activities adopted by the co-permittees to comply with the permit requirements. The Water Quality Planning Division is responsible for permit implementation in unincorporated Clark County within the Las Vegas Valley and all activities are reported annually to the State. In 2008, Clark County Code Chapter 24.40, Storm Sewer System Discharge, was updated.

Although the EPA has delegated authority through the State to Clark County they still perform periodic audits of NPDES Stormwater Permit Programs. The last EPA audit occurred in 2005 and resulted in major changes to subsequent permits, which are renewed approximately every 5-yerars.

ENVIRONMENTAL FACTORS

Las Vegas is located in the arid Mojave Desert, and is the driest city of over 100,000 people in the United States. The average annual rainfall in Las Vegas is 4.2 inches. The Colorado River basin has experienced sustained drought conditions over the last 12 years resulting in Lake Mead's water surface dropping more than 100 feet. Lake Mead / Colorado River supplies approximately 90% of drinking water for Las Vegas. All flows in the Las Vegas Wash drain to Lake Mead / Colorado River, which are the main source of drinking water for the Las Vegas Valley. The following table shows a summary of the types of urban runoff in Las Vegas Wash and its tributaries:

Table 1-3: Urban Runoff Summary

Urban Runoff Summary
Wastewater treatment facility effluent discharge
Storm runoff, and
Dry weather flows, which include;
Surfacing groundwater from the perched shallow groundwater table that is recharged from septic systems, landscape watering, and stormwater infiltration
Foundation, infrastructure, and construction dewatering activities
Water from overspray or excess landscape watering
Water from residential car washing
Water from other urban activities that discharge water to the curb and gutter

Only 4 percent of average annual flows in the Las Vegas Wash are due to storm runoff, 6 percent of average annual flows are due to urban dry weather contributions, and 90 percent of annual flow in the Las Vegas Wash comes from wastewater effluent from sewage treatment plants. Improvements in wastewater treatment have resulted in effluent that is at or near drinking water standards.

Stormwater runoff and dry weather flows from the Las Vegas Valley flow untreated into Lake Mead. Annual volumes of stormwater runoff and dry weather flow have increased over the past 18 years due to urbanization, however pollutant concentrations have remained within a constant range.

Because there is very little vegetation in the desert environment, high rates of erosion and sediment transport occur naturally in the Las Vegas Valley watershed. Land development in Las Vegas Valley tends to stabilize the watershed surface and reduce soil loss compared to native conditions.

Water Quality Program Executive Summary

Even though the Las Vegas Valley is in one of the driest regions of the United States, hydrogeologic factors result in a perched shallow groundwater aquifer that underlies the lower portions of the Las Vegas Valley. The shallow groundwater is of poor water quality that is not beneficially used and it is expanding due to infiltration from landscape watering, septic systems (approximately 14,100 in the Las Vegas Valley) and other development activities. One of the main reasons the shallow groundwater is of poor water quality is because infiltrated water passes through native soils and leaches naturally occurring substances out of the soil and significantly increases TDS, selenium, and boron concentrations. When the shallow groundwater then resurfaces in the lower portions of the Las Vegas Valley it is responsible for tributaries to the Las Vegas Wash being listed on the State's 303(d) list of impaired waters. Once the tributaries reach the Las Vegas Wash the high concentrations of TDS, selenium, and boron are diluted with the highly treated wastewater from wastewater treatment plants. The 219-page "Nevada 2008-10 Water Quality Integrated Report", which can be seen at; http://ndep.nv.gov/bwqp/303dlist.htm, provides detailed information about Nevada's impaired waters.

A summary of impaired waters in the Las Vegas Valley can be seen in the following table:

Table 1-4: Nevada's 2008-10 303(d) List of Impaired Waters

Waterbody Name	Location	Parameter (Contaminate)	TMDL Priority
Flamingo Wash	From its origin to Las Vegas Wash.	Boron	Low
		pH	Low
		Selenium	Low
		Total Dissolved Solids (TDS)	Low
Duck Creek	From its origin to Las Vegas Wash.	Boron	Low
		Fluoride	Low
		TDS	Low
		Selenium	Low
Las Vegas Creek	From its origin to Las Vegas Wash.	pH	Low
		Selenium	Low
Las Vegas Wash	Above treatment Plants.	TDS	Low
		Boron	Low
		Selenium	Low
Sloan Channel	From North Las Vegas Blvd to Las Vegas Wash	Boron	Low
		Fluoride	Low
		pH	Low
		Selenium	Low
Lake Mead	The entire reservoir (Nevada Portion)	Turbidity	Low
Lake Mead Inner Bay	Confluence of Las Vegas Wash to 1.2 miles into Bay	Turbidity	Low

Due to the problem that infiltration causes by transporting contaminates from resurfacing groundwater into the Las Vegas Wash and its tributaries, stormwater infiltration Best Management Practices (BMPs) recommended by the EPA are not typically used in the Las Vegas Valley because they aggravate the resurfacing groundwater problem.

Because of the environmental factors outlined above a regional approach to addressing stormwater pollution has been adopted. This regional approach includes collaborative efforts between the entities and water quality committees in the Las Vegas Valley, including but not limited to; Outreach and education programs, erosion control structures, wetlands development on the Las Vegas Wash, detention basins, channel lining, and storm drain improvement projects.

Clark County and the other entities in the Las Vegas Valley also work together jointly on their National Pollutant Discharge Elimination System (NPDES) Stormwater Permit and its Stormwater Management Plan (SWMP), which include programs such as; Outreach and Education, Street sweeping, public spill / complaint response, Illicit discharge detection elimination, Municipal Separate Storm Sewer System (MS4) maintenance, construction and industrial inspections, and New Development and Significant Redevelopment (NDSR) programs, that help protect and improve the water quality in the Las Vegas Wash and Lake Mead. Other joint efforts that help protect the unique environment in Clark County include; wastewater treatment facilities voluntarily exceeding treatment requirements and the Clark County 208 Area-Wide Water Quality Management Plan, which helps plan for future development.

OUTREACH AND EDUCATION

A key component and expansion goal of the Water Quality Planning Division's work is the outreach and education provided to the community, businesses, and local governments. These efforts focus on informing the public about important water quality issues related to stormwater runoff and 208 Water Quality Management Planning. The objective is to influence the behavior of the general public to reduce activities that have a negative impact on stormwater runoff and increase activities that have a positive impact on stormwater runoff quality.

Outreach and education are provided to Clark County and CCWRD Departments annually through training presentation and coordination meetings. Community and business outreach and education are scheduled through grant programs and on an individual need basis. Tables 4-2 and 4-4 show the types of outreach and education events that are attended and the groups provided with training, respectively. Non-point source grants, which are federal pass though grants administered by the Nevada Division of Environmental Protection, are also a vital resource for community outreach and education.

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COORDINATION

The Las Vegas Valley is made up of four jurisdictions; Clark County, Las Vegas, North Las Vegas, and Henderson, and many agencies that are all involved with water quality. The Water Quality Planning Division provides agency coordination among jurisdictions and water quality committees and works to address regional water quality concerns. The following table shows a list of services provided by the Water Quality Planning Division to external stakeholders and clients:

Table 1-5: Services Provided to External Stakeholders and Clients

External Stakeholders and Clients	Services Provided
City of Las Vegas	
City of Henderson	
City of North Las Vegas	Training and Outreach
Boulder City	Radio and magazine advertisements
City of Mesquite	208 Water Quality Management Plan (WQMP)
Clark County Regional Flood District	Administration of the 208 WQMP
Southern Nevada Health District	Industrial inspections
Southern Nevada Water Authority	Construction inspections
Las Vegas Valley Water District	Stormwater Management Plan
Clark County School District	Development of stormwater NPDES permit
Casinos	Administration of stormwater NPDES permit
Public	Booths
Businesses & Industrial Companies	Water quality websites
Construction Companies	Water quality customer email
Professional Associations	Water quality complaint line
Southern Nevada Home Builders Association	Public outreach flyers, brochures, and materials
Town Area Boards	Workshops
Citizen Advisory Committees	
Nevada Division of Environmental protection	
Las Vegas Valley Watershed Advisory Committee	
Stormwater Quality Management Committee	
Sewage and Wastewater Advisory Committee	
Las Vegas Wash Coordination Committee	
Groundwater Management Advisory Committee	
Lake Mead Water Quality Forum	

Water Quality Program Executive Summary

In order to comply with Clean Water Act requirements, set priorities, comply with permit conditions and provide measurable goals for key activities, the Water Quality Planning Division also works closely with key internal stakeholders and clients to develop and manage Clark County's water quality program. Key activities include regular meetings, training, inspections, communication, and coordination about important issues, and review of critical documents such as budgets, goals, permits, regulations, SWMP, and 208 WQMP. The following table shows a list of services provided by the Water Quality Planning Division to internal stakeholders and clients:

Table 1-6: Services Provided to Internal Stakeholders and Clients

Internal Stakeholders and Clients	Services Provided
WRD Collection	
WRD Customer Service	
WRD Accounting	
WRD Strategic services	
WRD Operations	Business Plan
Public Works	Training
Development Services	208 Water Quality Management Plan
Real Property Management	Administration of the 208 WQMP
Park and Recreation	Development of stormwater NPDES permit
Comprehensive Planning	Administration of stormwater NPDES permit
Clark County Finance	Water quality websites
Fire Department	Water Quality customer email
Clark County Aviation	Water Quality complaint line
Carolyn Campbell, Clark County Deputy DA	Public outreach flyers and brochures
Catherine Jorgensen, Clark County Deputy DA	Meetings
Randy Tarr, Assistant County Manager	Budget
Board of County Commissioners	

The following table shows the meeting frequency for key stakeholders that require regular communication and coordination:

Table 1-7: Key Stakeholder Meeting Frequency

Department / Title	Meeting Frequency
Commission & Manager / Assistant County Manager	Bi-Annual (December & June)
Legal / Deputy District Attorneys	Quarterly
Finance Budget / Sr. Financial Analyst, Principal Accountant	Bi-Annual (December & June)
Public Works / Road Maintenance & Construction Inspection Supervisors	Monthly (Last working day of the Month)
Development Services / Principal & Sr. Engineer	Monthly (1st Thursday of the Month)
Stormwater Quality Management Committee (SQMC) / Co-Permit Holders	Monthly (Second Tuesday of the Month)
Sewage Wastewater Advisory Committee (SWAC) /Wastewater Dischargers	Quarterly (Second Wednesday of third month)
Clark County Water Reclamation District / GM, AGM, Asst. Planning Manager, Sr. Financial Analyst, Financial Analyst II, & Principal Planner	Quarterly (Last Month of the Quarter)

A more detailed list of key stakeholders and contact information can be found in Appendix E. As part of the close coordination with the key stakeholders a PowerPoint presentation outlining the Water Quality Planning Divisions responsibilities along with questions and answers is usually provided annually. Appendix N contains a PowerPoint presentation outlining the water quality program. Also, the Outreach, Education, and Coordination section of this document goes into further details of this vital component of the Water Quality Program.

GOALS

The following table shows the Water Quality Program long term goals:

Table 1-8: Long Term Goals

Long Term Goals
Expand the outreach and education component of the Water Quality Program.
Expand industry and community targeted outreach and education material.
Continue to provide free water quality training to casinos, industry and the community.
Coordination with Las Vegas Valley agencies to develop a valley-wide approach to addressing dry weather flows and Selenium levels in groundwater discharging into the Las Vegas Wash.
Evaluate budget impacts of the 208 WQMP and Stormwater Permit and obtain County Management approval.
Continue to expand the industrial facility inspection inventory to meet permit requirements.
Continue work on the water quality database.

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Coordination with Las Vegas Valley agencies to develop a valley-wide approach to addressing Selenium levels in groundwater discharging into the Las Vegas Wash.
Continue to provide water quality education and outreach to the community, agencies, and county departments and develop a long term education / outreach implementation plan.
Maintain long term compliance with 208 WQMP and MS4 Permit requirements through close coordination with key stakeholders and implementation of this Business Plan.
Address 208-Areawide Water Quality Management Plan recommendations and long term planning.
Meet all Water Quality Planning Division goals through close coordination with key stakeholders and implementation of this Business Plan.
Develop inspection techniques to emphasize training and outreach
Offer free training to key facility and construction site personnel
Continue to participate in water quality committees.
Continue to evaluate budget impacts, and obtain County Management and BCC approval of any required professional service required to complete updates to the 208 WQMP.
Develop an implementation plan for the recommendations of the 208 WQMP shown in Appendix G.
Continue to update and improve the Water Quality Section of the water quality planning division website, including required grant outreach information and material in Spanish.
Continue to investigate availability of state and federal grants for storm water and water quality projects.
Work towards a valley wide solution to the Selenium issues.
Work toward the development of ways to reduce, treat, and manage dry-weather flow, and rising groundwater discharges into the Las Vegas Wash.
Long-term compliance with water quality planning requirements.
Continue research of possible methods to fund the 208 & stormwater programs.
Use TV Channels 4, 8, etc. to promote water quality and provide outreach and education.
Use grants to assist the Water Quality Planning Divisions with funds to help educate the residents and businesses in Clark County about water quality issues and what they can do to help reduce pollution.
Use grants to help fulfill recommendations in the Clark County 208 Area-Wide Water Quality Management Plan, which recommends educating the public about water quality issues.
Use grants to assist Water Quality Planning Division with funds to install water quality best management practices that provide a positive influence on water quality in Clark County.
Review major improvement projects for compliance with the 208 WQMP.
Review and comment on RISE reports and address 208 WQMP inquiries.
Keep Clark County Departments, agencies, and key stakeholders informed about water quality issues and permit requirements through regular meetings, correspondence, and coordination.
Use construction and industrial stormwater inspections as an outreach and education opportunity.
Distribute outreach and education material at local and state conference booths.
Provide outreach and education presentations at local and state conferences.
Meet Quarterly with District Attorney to discuss MS4 Permit and 208 WQMP issues
Keep Clark County Departments, agencies, and key stakeholders informed about water quality issues and permit requirements through regular meetings, correspondence, and coordination.

Water Quality Program Executive Summary

The following table shows the water quality program short term goals for fiscal year 2013-14:

Table 1-9: FY 2013-14 Short Term Goals

Fiscal Year 2013-14 Short Term Goals	Completion Date
Provide a minimum of 20 outreach and education presentations.	June 2014
- Develop a schedule for the outreach and education presentations	Sept. 2013
- Provide 2 stormwater outreach or education presentations per month to major clients including, casinos, CCWRD and County Departments	Monthly
- Customize existing presentations for the specific audience	Monthly
- Track and report education and outreach	Monthly
Update the Water Quality Program Business Plan annually.	
- Meet with District Attorneys, Public Works, and Development Services to determine the next fiscal year's goals and expectations	Nov. 2013
- Prepare draft Business Plan update	Dec. 2013
- Meet with District Attorneys, Public Works, Development Services and CCWRD Management to obtain final comments on Business Plan	Jan. 2014
- Prepare and distribute final Business Plan	Mar. 2014
Continue work on Non-point Source Pollution outreach and education grants partially funded through a grants received from the Nevada Division of Environmental Protection.	
- Schedule 12 Casino education events	August 2013
- Identify 3-6 HOAs for possible inclusion in the dog waste grant program	Dec. 2013
- Meet with HOAs and make final selection of grant participants	Jan. 2014
- Install and monitor dog waste stations	March 2014
- Complete scheduled radio and bus advertising	Oct. 2013
- Identify and schedule 8 additional outreach and education events	Nov. 2013
- Prepare NDEP quarterly grant reporting and invoicing	Quarterly
Hire and train a new Planner for the vacant Water Quality Team position.	
- Assist with planner position advertising and job description	July 2013
- Develop a list of qualifying expectations and training for planner position	Sept. 2013
- Assist with interview and hiring of planner	Oct. 2013
- Provide feedback and evaluation of planner	6-months
Work with SQMC & member agencies to fully implement the Stormwater Management Plan to meet new permit requirements by the November 1, 2013, deadline.	
- Review all Technical Memos and proposed regulations changes to the Clark County Regional Flood Control District's – Drainage Design Manual	Done
- Distribute the Stormwater Management Plan, Technical Memo, and proposed regulation changes to key stakeholders (District Attorneys, Public Works, Development Services, CCWRD Management, and Clark County Management) for review and comment	July 2013
- Brief CCWRD management on SWMP requirements.	Oct. 2013
- Brief BCC on Stormwater Management Plan	Mar. 2013

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Continue work on the Clark County Non-point Source Pollution trash boom pilot study project partially funded by a Nevada Division of Environmental Protection grant.	
- Complete boom installation details	Sept. 2013
- Meet with stakeholders (Public Works, SNWA) for final review	Oct. 2013
- Obtain final material quotes and three contractor quotes for installation of boom	Nov. 2013
- Order materials	Dec. 2013
- Hire a contractor to install boom	Jan. 2014
- Monitor and report boom performance	Monthly
- Coordinate with Public Works regarding required maintenance	Monthly
- Prepare NDEP quarterly grant reporting and invoicing	Quarterly
Hire a contractor to assist with the Water Quality Program items outlined in FY14 Budget.	
- Develop a scope of work for the contractor	June 2013
- Obtain PRC approval of contractor	July 2013
- Assist with advertising for contractor	Aug. 2013
- Hire and train Contractor	Oct. 2013
- Develop and provide a list of facilities to inspect	Oct. 2013
- Monthly contractor meeting	Monthly
- Track and report inspections and other tasks completed by contractor	Monthly/Annual
Provide oversight of 2000 construction stormwater inspections provided by Development Services and Public Works inspectors.	
- Coordinate with Development Services and Public Works Monthly regarding construction stormwater inspections	Monthly
- Track and report construction stormwater inspection data	Monthly
- Provide annual stormwater inspector training	Dec. 2013
- Meet with Development Services and Public Works to obtain the next fiscal year goals and expectations for construction inspections	Nov. 2013
- Provide annual construction inspection data for compliance with MS4 Permit and SWMP	July 2013
Provide oversight of 800 industrial stormwater inspections provided by Clark County Water Reclamation District Pretreatment Inspectors.	
- Provide industrial stormwater inspector training annually	Aug. 2013
- Conduct 8 joint inspections (2 per month)	Aug.–Nov. 2013
- Meet with Pretreatment Staff regarding industrial stormwater inspections	Monthly
- Track and report industrial stormwater inspection data	Monthly
- Provide annual industrial stormwater inspection data for compliance with MS4 Permit and SWMP	July 2013
- Meet with Pretreatment Staff to obtain the next fiscal year goals and expectations	Nov. 2013
Provide spill / complaint response up to 60 incidents based on FY13 data.	
- Review spills and complaints from NDEP Spill Reports and other sources	Monthly
- Conduct spill / complaint follow-up investigation	Monthly
- Forward spill / complaint data to Stakeholders (Public Works, SNHD, Cities, private companies, etc.)	Monthly
- Perform spill / complaint site inspections	Monthly

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- Confirm spill / complaint has been address and notify appropriate people - Track and report spills and complaints - Provide annual spill / complaint data for compliance with MS4 Permit and SWMP	Monthly Monthly July 2013
Obtain approval of a MOU between CCWRD and Public Works for construction stormwater inspections. - Prepare draft MOU between CCWRD and Public Works for construction stormwater inspections - Distribute MOU for internal CCWRD and District Attorney review - Distribute MOU for Public Works for review and comment - Obtain CCWRD and Public Works Approval	 Done July 2013 Sept. 2013 Nov. 2013
Finalize Clark County public facilities list. This SWMP requirement identifies public facilities needing a stormwater maintenance plan (MP) or Stormwater Pollution Prevention Plan. (SWPPP). - Distribute public facility list to Real Property Management, Public Works, and CCWRD for review and comment - Meet with Real property Management regarding the MP and SWPPP requirements - Meet with Public Works regarding MP and SWPPP requirements - Meet with CCWRD regarding MP and SWPPP requirements - Provide public facility list for annual NPDES Stormwater Permit reporting	 July 2013 Aug. 2013 Sept. 2013 Oct. 2013 July 2014
Coordinate NDEP Audit of stormwater program. - Prepare a NDEP Audit Action Plan - Notify CCWRD and County Management about pending NDEP audit - Discuss NDEP audit at SQMC meetings and develop additional action items - Discuss audit with NDEP and obtain more details regarding the audit, including guidance provided by EPA - Report to Management and Key Stakeholders (DA, RPM, and PW) results of Audit	Fall 2013 Done July 2013 Monthly Aug. 2013 Spring 2014
Hire two part time UNLV interns to assist the Water Quality Planning Division with database research, data entry, and training of CCWRD staff on stormwater issues. - Obtain PRC approval of interns - Hire and train intern	 Sept. 2013 Dec. 2013
Continue to participate in water quality committees. (SQMC, SWAC, TAC, LVWCC, LMWQF, and LVVWAC)	Monthly / Quarterly

Water Quality Program Executive Summary

ACCOMPLISHMENTS

The following table shows a summary of water quality program major accomplishments:

Table 1-10: Major Accomplishments

Major Accomplishments
Provided community non-point source pollution outreach and education through a competitive grant received from the Nevada Division of Environmental Protection.
Developed and implemented a Casino outreach and education program.
Developed a Water Quality Team Business Plan, which will be updated annually along with the Budget.
Worked closely with the Stormwater Management Committee in the development and approval of the Stormwater Management Plan in accordance with permit requirements.
Completed and obtained BCC approval of the Sloan revision to the 208 Water Quality Management Plan.
Oversaw construction stormwater inspections completed through an interlocal agreement by Clark County Development Services and Public Works.
Received funding for a Dog Waste / Education and Outreach grant from the Nevada Division of Environmental Protection.
Updated the RISE/PFNA water quality information submittal requirements.

The following table shows a summary of construction and industrial stormwater inspections, spill / complaint responses, and training / outreach events from 2010 through 2012.

Table 1-11: FY 2010-12 Summary of Inspections/Outreach Events

YEAR	Construction Stormwater Inspections (Development Services)	Industrial Stormwater Inspections (Water Quality Planning Division)	Spill / Complaint Responses (Water Quality Planning Division)	Training / Outreach Events (Water Quality Planning Division)
2010	2971	150	39	20
2011	2526	142	51	31
2012	1789	190	59	29

2 WATER QUALITY PLANNING

Water Quality Planning

BACKGROUND

Clark County, Nevada, has a population of 2 million, and before the economic slowdown in 2011, there were an estimated 5,000 people moving in each month, it is one of the fastest growing counties in the United States. The continuous growth highlights the need to address growing water pollution issues. With growth come other problems that impact water quality, which are in a large part due to community and individual behavior. These common individual behaviors have the potential to generate pollution from; littering, pet waste, car washing, chemical contaminates such as fertilizers, pesticides, vehicle contaminates such as oils, antifreeze, brake dust, over irrigation, septic system and perched shallow groundwater discharge to washes.

It takes individual behavior change and proper practices to control such pollution. Therefore it is important to make the public sufficiently aware and concerned about the significance of their behavior, through education and outreach, that they change improper behaviors.

The benefits of public education efforts cannot be understated, especially on topics such as "nonpoint source" or "stormwater" pollution. A 2005 report, by the National Environmental Education & Training Foundation found that 78 percent of the American public does not understand that runoff from cities, agricultural land, roads, and lawns, is now the most common source of water pollution; and nearly half of Americans (47 percent) believes industry still accounts for most water pollution. Because of this misconception education and outreach is the main focus of the Water Quality Program and it is emphasized in the stormwater management of the program.

Starting in 1978, the Clark County Board of County Commissioners (BCC) adopted the initial 208 Water Quality Management Plan (WQMP), followed by several revisions and amendments. The initial document was started because of the Federal Water Pollution Control Act, or Clean Water Act (CWA), Amendments of 1972 and 1977; Section 208 required the planning and management of activities associated with water pollution management through an area-wide water quality management program. Through the years, the amendments and revisions addressed such topics as:

Table 2-1: Clean Water Act Section 208 Amendments

Clean Water Act Section 208 Amendments
Requirement for addressing Non-Point Sources of Pollution for cities with populations greater 100,000
Requirement for addressing Non-Point Sources of Pollution for small cities with populations between 50,000 and 100,000
Requirement for Management Plans for controlling all point and nonpoint discharges to surface water and groundwater
Requirement for revising or amending plans to address the effects of recent development
Requirement for providing water quality Planning for the future
Requirement for Area-wide Planning

Water Quality Planning

The CWA Amendments of 1972 and 1977 require the control of all sources of water pollution to meet the goals of the CWA. Section 208 of the CWA requires that all activities associated with water pollution problems be planned and managed through an integrated area-wide water quality management program. It also defines the schedule and scope of area-wide wastewater treatment management plans.

After the Nevada State Legislature passed Senate Bill 468 in May 1975, area-wide water quality management planning duties and powers were vested in certain counties. The BCC was designated the area-wide water quality management planning organization within Clark County.

The BCC originally designated the Clark County Department of Comprehensive Planning (CCDCP) and then later the Department of Air Quality and Environmental Management as the agencies to manage and administer 208 planning. In 2010, the BCC designated the Clark County Water Reclamation District (CCWRD) to manage and administer 208 planning in Clark County through an interlocal agreement shown in Appendix A. Based on the interlocal agreement and consensus with Clark County, work done on items related to the 208 WQMP or the MS4 Permit is billed to Clark County. Appendix B shows the 2014 fiscal year budget with billing breakdown between Clark County and Clark County Water Reclamation District of 72% and 28% respectively. The Water Quality Planning Divisions budgeting process begins in December each year with the preparation of a draft budget with stakeholder input provided through meetings and correspondence. The budget is then reviewed internally by CCWRD management and passed on to the County Finance Department for review and comment. Once comments are addressed the budget is officially submitted to Clark County no later than two months prior to the annual budget submittals as required by the interlocal agreement. Upon BCC approval the budget is officially approved.

RESPONSIBILITIES

CCWRD's WQMP responsibilities include:

Table 2-2: CCWRD's WQMP Responsibilities

CCWRD's WQMP Responsibilities
Planning and management of the WQMP
Coordination and implementation of recommendations or goals, when feasible. See Appendix G
Preparation of required WQMP updates every 5-10 years or as major changes require. See Appendix G
Stormwater Management (National Pollutant Discharge Elimination System Stormwater Permit). See Appendix I
Outreach, education, and water quality coordination with governmental agencies, County Departments, industry and the public. See Section 4
Stay informed about Nevada's 303(d) impaired waters list for Clark County. See a summary of impaired waters in Appendix G or visit the following website to see the full 219-page "Nevada 2008-10 Water Quality Integrated Report": http://ndep.nv.gov/bwqp/303dlist.htm

The current WQMP is an extensive 579 page document that covers all aspects of water quality in Clark County.

The following table shows the main sections included in the plan:

Table 2-3: 208 WQMP Main Sections

208 WQMP Main Sections
SECTION 1 – BACKGROUND
SECTION 2 – POPULATION PROJECTIONS
SECTION 3 – WASTEWATER FLOW PROJECTIONS
SECTION 4 – WATER QUALITY STANDARDS / PLANNING
SECTION 5 – WASTEWATER COLLECTION, TREATMENT, & DISPOSAL
SECTION 6 – WATER RECLAMATION / REUSE
SECTION 7 – POINT SOURCES
SECTION 8 – NONPOINT SOURCES
SECTION 9 – BMPs AND ALTERNATIVE TREATMENT METHODS AND DISPOSAL
SECTION 10 – WELLHEAD PROTECTION
SECTION 11 – COLORADO RIVER AND LAKE MEAD
SECTION 12 – ENVIRONMENTAL / INTEGRATED PLANNING COORDINATION
SECTION 13 – RECOMMENDATIONS

In addition to the WQMP there is also an 80-page Responsiveness Summary, which provides documentation of the public participation process followed for the WQMP update process including the results of the public comment received on the Plan. The WQMP and Responsiveness Summary can be found at the following website addresses:

http://www.clarkcountynv.gov/blob/public_communications/120709_WQMP_FINAL_REVISED.pdf

http://www.clarkcountynv.gov/Depts/water_quality/Documents/2009_WQMPFinalResponsivenessSummary.pdf

STATE LEGISLATION

The legislation delegating regulatory authority through EPA to the State of Nevada and Clark County is contained in Nevada Revised Statue 244A.459, which states:

NRS 244A.459 Legislative Determinations

> *"It is hereby declared as a matter of legislative determination that: 1. It is essential to the maintenance of the public health, welfare and orderly local government that each county to which NRS 244A.455 to 244A.573, inclusive, pertain be empowered to become the master agency within its territory for the collection, disposal and treatment of sewage and wastewater. In addition, it is essential that the master agency be empowered to perform and require compliance with any and all area-wide waste management planning which may be required by the State or Federal Government in connection with the exercise or implementation of any of the powers, authorizations and responsibilities provided in NRS 244A.455 to 244A.573, inclusive.*

Water Quality Planning

As the State of Nevada's designee, the Board of County Commissioners (BCC) is responsible for county area-wide water quality management planning, which is cover in NRS "County Sewage and Wastewater Law" Sections 244A.455 to 244A.573 that are shown in Appendix G. The BCC has tasked these responsibilities to the Clark County Water Reclamation District's (CCWRD) Water Quality Planning Division through an interlocal agreement shown in Appendix A.

NRS 244A.571 Area-wide waste management plan: Development; required elements

As the division delegated to fulfill the requirements of *NRS 244A.571*, CCWRD's Water Quality Planning Division works with municipalities, wastewater dischargers, water purveyors, affected industry, and concerned citizens to fulfill our responsibilities to develop and ensure long-term compliance with area-wide waste management planning. The plan developed, called the Clark County 208 Area-Wide Water Quality Management Plan (WQMP), presents objectives, policies, programs, and an implementation schedule for managing water quality in Clark County through a 20-year planning horizon. Issues include municipal wastewater treatment, *stormwater pollution prevention*, reuse, groundwater management, wellhead protection, Las Vegas Wash, Lake Mead and the Colorado River, agriculture diffuse sources, water quality standard revisions, integrated planning coordination, and financing necessary to carry out the Plan.

NRS 244A.573 Area-wide waste management plan: Ordinances and regulations; enforcement

Under NRS 244A.573, the Clark County Board of Commissioners:

> *1. … shall adopt all necessary ordinances, regulations and policies to effectuate the adopted areawide waste management plan described in subsection 1 of NRS 244A.571.*
> *2. All ordinances, regulations and policies adopted by the county shall be enforced by all local political subdivisions in the area covered by the plan.*
> *3. The county shall police the area to insure compliance with the areawide waste management plan and adopted ordinances, regulations and policies. If it is found that the areawide waste management plan or the adopted ordinances, regulations and policies are not being enforced by all local political subdivisions, the county may bring action in a court of competent jurisdiction to insure compliance.*

208 WQMP VERIFICATION

The 208 WQMP is a 20-year planning document that assists in protecting water quality and in outlining development requirements in Clark County. The Water Quality Planning Division is responsible for verifying where interim package treatment plants and package treatment plants are allowed in Clark County per the WQMP. This is typically done by the Water Quality Planning Division at the early project development stage when Regional Infrastructure Service Evaluation (Rise) reports are complete. The Water Quality Planning Division also addresses WQMP suitability question when development plans are turned in for review at the CCWRD Engineering Planning Services Department, where other wastewater collection, treatment and disposal design requirement are reviewed and approved.

REGIONAL INFRASTRUCTURE SERVICE EVALUATION (RISE)

Another process that is used to educate and inform engineers and developers at an early stage of development about stormwater and water quality requirements in Clark County is the Water Quality Report section of the Clark County Comprehensive Planning Current Planning Divisions "REGIONAL INFRASTRUCTURE SERVICE EVALUATION" (RISE) Report, which is required for nonconforming zone changes, high impact projects, text amendments to amend mixed use overlay districts, and major projects. The Water Quality Report section of the RISE Report, which is shown in Appendix L, requires information about the project be provided and Links are shown with additional information about water quality, method of wastewater treatment, stormwater regulations, and NPDES permit requirements.

GOALS

Table 2-4: Water Quality Planning Long Term Goals

Water Quality Planning Long Term Goals
Continue to participate in water quality committees.
Continues to evaluate budget impacts, and obtain County Management and BCC approval of any required professional service required to complete updates to the 208 WQMP.
Develop an implementation plan for the recommendations of the 208 WQMP shown in Appendix G.
Continue to update and improve the Water Quality Section of the water quality planning division website, including required grant outreach information and material in Spanish.
Continue to investigate availability of state and federal grants for storm water and water quality projects.
Work towards a valley wide solution to the Selenium issues.
Work toward the development of ways to reduce, treat, and manage dry-weather flow, and rising groundwater discharges into the Las Vegas Wash.
Long-term compliance with water quality planning requirements.
Continue research of possible methods to fund the 208 & stormwater programs.

Water Quality Planning

Table 2-5: Water Quality Planning Short Term Goals

Water Quality Planning Short Term Goals	Completion Date
Continue Work on County Non-point Source Pollution outreach and education grants partially funded through a grants received from the Nevada Division of Environmental Protection.	
- Schedule 12 Casino education events	August 2013
- Identify 3-6 HOAs for possible inclusion in the dog waste grant program	Dec. 2013
- Meet with HOAs and make final selection of grant participants	Jan. 2014
- Install and monitor dog waste stations	March 2014
- Complete scheduled radio advertising	Oct. 2013
- Identify and schedule 8 additional Outreach and Education events	Nov. 2013
- Prepare quarterly reporting and invoicing	Quarterly
Continue Work on the Clark County Non-point Source Pollution trash boom pilot study project partially funded by a Nevada Division of Environmental Protection grant.	
- Complete boom installation details	Sept. 2013
- Meet with stake holders (Public Works and SNWA) for final review	Oct. 2013
- Obtain final material quotes and three contractor quotes for installation of boom	Nov. 2013
- Order materials	Dec. 2013
- Hire a contractor to install boom	Jan. 2014
- Monitor and report boom performance	Monthly
- Coordination with Public Works regarding required maintenance	Monthly
- Prepare NDEP quarterly reporting and invoicing	Quarterly
Hire and train a new Planner for the vacant Water Quality Team position.	
- Assist with advertising and job description	July 2013
- Develop a list of qualifying expectations and training	Sept. 2013
- Assist with interview and hiring	Oct. 2013
- Provided feedback and evaluation	6-months
Provide a minimum of 20 outreach and education presentations.	June 2014
- Develop a schedule for the outreach and education presentations	Sept. 2013
- Provide 2 stormwater outreach or education presentations per month to major clients including, casinos, CCWRD and County Departments	Monthly
- Customize existing presentations for the specific audience	Monthly
- Track and report education and outreach	Monthly

Water Quality Planning

ACCOMPLISHMENTS

The following is a summary of water quality program major accomplishments:

Table 2-6: Water Quality Planning Accomplishments

Water Quality Planning Accomplishments
Provided community non-point source pollution outreach and education through a competitive grant received from the Nevada Division of Environmental Protection.
Developed and began implementation of a Casino outreach and education program.
Developed a Water Quality Planning Division Business Plan, which will be updated annually along with the Budget.
Completed and obtained BCC approval of the Sloan revision to the 208 Water Quality Management Plan.
Received funding for a Dog Waste / Education and Outreach grant from the Nevada Division of Environmental Protection.
Updated the RISE/PFNA water quality information submittal requirements.
The Clark County Board of County Commissioners and Clark County Water Reclamation District (CCWRD) Board of Trustees approved the transfer of the water quality planning activities and three staff members from Clark County to the CCWRD.
Provided support and worked with Stakeholders in the water quality planning process. A full list of stakeholders can be found in Appendix E.
Continued to participate and represented Clark County in various valley-wide water quality committees, such as the Sewage and Wastewater Advisory Committee, Stormwater Quality Management Committee, Las Vegas Valley Watershed Advisory Committee, Lake Mead Water Quality Forum, and the Las Vegas Wash Coordinating Committee.
Received the U.S. Department of Interior "Partners in Conservation" Award for Clark County's participation in the restoration of the Las Vegas Wash through the Las Vegas Wash Coordination Committee.
Over the past four years, staff has obtained five competitive grants from the NDEP for education and public outreach.

The following table shows a summary of training and outreach events completed since 2010.

Table 2-7: Summary of Completed Training/Outreach Events

Year	Training / Outreach Events
Total 2010	20
Total 2011	31
Total 2012	29

CLARK COUNTY COMMUNICATION / COORDINATION

In order to comply with Clean Water Act requirements, set priorities, comply with permit conditions, and provide measurable goals for key activities, the Water Quality Planning Division works closely with County departments and key stakeholders to develop and manage Clark County's water quality program. Key activities include regular meetings, communication, and coordination about important issues, and review of critical documents such as budgets, annual goals, permits, regulations, SWMP, and 208 WQMP. Appendix E of this document shows a list of key contacts and stakeholders for water quality planning activities.

3 STORMWATER MANAGEMENT

Stormwater Management

BACKGROUND

The Clean Water Act states that if a source discharges effluent to waters of the US, a National Pollutant Discharge Elimination System (NPDES) stormwater permit is required. Stormwater runoff in the Las Vegas Valley discharges into Lake Mead, requiring a NPDES stormwater permit from the EPA. In compliance with these regulations, the Environmental Protection Agency (EPA), through the Nevada Division of Environmental Protection (NDEP), issued a NPDES Stormwater Permit jointly to Clark County Regional Flood Control District (RFCD), the City of Las Vegas (CLV), the City of North Las Vegas (CNLV), the City of Henderson (COH), and Clark County (CC). The NPDES Stormwater Permit or MS4 Permit is renewed approximately every 5-years with the latest renewal being issued February 9, 2010. A copy of the NPDES Stormwater Permit is shown in Appendix I.

Because stormwater runoff is generated from dispersed land surfaces—pavements, yards, driveways, and roofs—efforts to control stormwater pollution must consider individual, household, and public behaviors and activities that can generate pollution from these surfaces. These common individual behaviors have the potential to generate stormwater pollution from; littering, pet waste, car washing, chemical contaminates such as fertilizers, pesticides, vehicle contaminates such as oils, antifreeze, brake dust, over irrigation, septic system and perched shallow groundwater discharge to washes.

It takes individual behavior change and proper practices to control such pollution. Therefore it is important to make the public sufficiently aware and concerned about the significance of their behavior for stormwater pollution, through information and education, that they change improper behaviors.

The benefits of public education efforts cannot be understated, especially on topics such as "nonpoint source" or "stormwater" pollution. A 2005 report, by the National Environmental Education & Training Foundation found that 78 percent of the American public does not understand that runoff from cities, agricultural land, roads, and lawns, is now the most common source of water pollution; and nearly half of Americans (47 percent) believes industry still accounts for most water pollution. Because of this misconception, education and outreach is the main focus of the Water Quality Program and it is emphasized in the stormwater management program.

STORMWATER QUALITY MANAGEMENT COMMITTEE (SQMC)

Stormwater in the Las Vegas Valley is managed through the Stormwater Quality Management Committee (SQMC), which is a community partnership of co-permittees that include Clark County, Clark County Regional Flood Control District, and the cities of Henderson, Las Vegas and North Las Vegas. The interlocal agreement between the co-permittees forming SQMC is shown in Appendix H. The Clark County Regional Flood Control District is the lead agency with responsibility for administration, monitoring, reporting and coordination. The other co-permittees are responsible for the enforcement of the regulations within their jurisdictions and the items outlined the Stormwater Management Plan section below. In the case of Clark County these responsibility falls to the Clark County Water Reclamations District's Water Quality Planning Division through and interlocal agreement shown in Appendix A. Based on the interlocal agreement and consensus with Clark County, work done on items related to the MS4 Permit are billed to Clark County. Appendix B shows the 2014 fiscal year budget with billing breakdown between Clark County

and Clark County Water Reclamation District of 72% and 28% respectively. The Water Quality Planning Divisions budgeting process begins in December each year with the preparation of a draft budget with stakeholder input provided through meetings and correspondence. The budget is then reviewed internally by CCWRD management and passed on to the County Finance Department for review and comment. Once comments are addressed the budget is officially submitted to Clark County no later than two months prior to the annual budget submittals as required by the interlocal agreement. Upon BCC approval the budget is officially approved.

The SQMC was formed to manage program development and compliance activities under the State issued National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit. The permit authorizes discharge of storm water to the Las Vegas Wash from storm sewer systems owned and operated by the cities of Las Vegas, North Las Vegas, Henderson and Clark County in return for implementation of certain stormwater pollution reducing activities by the permittees.

SQMC Working Groups were formed to address details of the MS4 Permit and SWMP. Working groups are made up of SQMC members, agency staff, and stakeholders from the engineering and construction community. The following Working Groups have been organized:

Table 3-1: SQMC Working Groups

SQMC Working Groups
Development Guidelines Working Group
Detention Basin Working Group
Stakeholder Working Group

SQMC Meetings

SQMC meetings are held on the second Tuesday of each month at 10:00 AM in Room 108, at the RTC/RFCD Administrative Building, 600 S. Grand Central Parkway. SQMC Working Groups typically meet before or after the SQMC meeting when needed.

STORMWATER MANAGEMENT PLAN (SWMP)

In order to comply with the NPDES stormwater permit conditions, the co-permittees developed a Stormwater Management Plan (SWMP), which can be seen at the following website addresses:

http://gustfront.ccrfcd.org/pdf_arch1/NPDES/LVV_MS4_Permit_SWMP_Vol%20I.pdf
http://gustfront.ccrfcd.org/pdf_arch1/NPDES/LVV_MS4_Permit_SWMP_Vol%20II.pdf

The current SWMP must be fully implemented by November 1, 2013. The purpose of the SWMP is to describe the programs, practices and responsibilities adopted by the co-permittees to implement the current NPDES Permit. The SWMP describes the activities or municipal Best Management Practices or BMPs that will be performed to comply with the NPDES permit conditions, provides measurable goals for key activities, and outlines the responsibilities of the co-permittees. Annual updates of the SWMP are done

as necessary as part of the required annual reports to NDEP and EPA to address changes in proposed program elements or in conditions in the permit area.

The main requirements of the SWMP and NPDES Stormwater Permit that are provided by the Water Quality Planning Division are shown in the following table:

Table 3-2: SWMP and NPDES Stormwater Permit Responsibilities

SWMP and NPDES Stormwater Permit Responsibilities
Develop/Implement/Manage – Joint National Pollution Discharge Elimination System (NPDES), Municipal Separate Storm Sewer System (MS4) Permit in the Las Vegas Valley.
SWMP administration within unincorporated Clark County.
Renew and revisions to Joint MS4 permit and SWMP on a 5-year cycle.
Stormwater regulations enforcement through Clark County Code Chapter 24.40 Sewer System Discharge, shown in Appendix J.
Construction site inspection management. (Construction site inspections are currently being done by inspectors from Clark County Development Services via a Memorandum of Understanding (MOU) and Clark County Public Works via direction of County Manager.)
Industrial site inspection management. (Inspections are currently being done by a combination of CCWRD staff.)
Construction and industrial site inspector training.
Assist with training for construction site contractors/operators.
Annual tracking and reporting including; inspections, training & outreach, spill/complaints, new development & significant redevelopment BMPs and Inspections,
All co-permittees must maintain records of all monitoring information, including all calibration and maintenance records.
Outreach and education of the public, businesses, and industry of Clark County on stormwater issues.
Education of Clark County and CCWRD Departments and local agencies regarding stormwater issues.
Management of NDEP and EPA program audits.
Post-construction - New Development and Significant Redevelopment (NDSR) program management. (NDSR design requirements will be shown in the Clark County Regional Flood Control District's "Drainage Design Manual")
Coordination with Clark County Public Works staff that is responsible for street sweeping, road maintenance, and MS4 maintenance.
Coordination with Clark County Public Works regarding the illicit discharge detection and elimination program (bi-annual wash walks).
Coordination with the Development Services grading permit review staff regarding the Las Vegas Valley Stormwater Quality Management Programs Construction Permit Submittal Checklist items and Standard Note requirements.

The Board has tasked these stormwater responsibilities to the CCWRD's water quality team through an interlocal agreement, which is shown in Appendix A.

MONITORING PROGRAMS

Beginning in 1991, the SQMC has administered several stormwater monitoring programs that are delegated to the local municipalities. These programs include an Illegal/Illicit Connection Detection and Elimination Program, a "Wet Weather" sampling program, and a "Dry Weather" sampling program. These programs are intended to assess and characterize stormwater quality conditions in key washes and storm channels of the municipal storm sewer system. They also provide knowledge and feedback which can be used to determine the overall effectiveness of adopted municipal BMPs to manage our storm sewer system and maximize stormwater quality conditions. The SWMP describes the municipal BMPs that will be performed to comply with the NPDES permit conditions, provides measurable goals for key activities, and outlines the responsibilities of the co-permittees. The current SWMP can be seen at the following website addresses:

http://gustfront.ccrfcd.org/pdf_arch1/NPDES/LVV_MS4_Permit_SWMP_Vol%20I.pdf

http://gustfront.ccrfcd.org/pdf_arch1/NPDES/LVV_MS4_Permit_SWMP_Vol%20II.pdf

Cooperative Efforts

In an effort to coordinate and characterize stormwater quality conditions in the storm system and the Las Vegas Wash, the SQMC has consolidated its municipal stormwater permit monitoring program with several local agencies. These agencies include the U.S. Bureau of Reclamation, US Geological Survey, Nevada Division of Environmental Protection, City of Henderson, City of Las Vegas, Clark County Sanitation District, Southern Nevada Water Authority and Las Vegas Wash Coordination Committee.

This coordination will allow resources and data to be shared between the agencies, thereby improving efficiency, increasing effectiveness, and reducing the overall cost of the monitoring programs.

To learn more about the coordinated efforts to monitor water quality visit Las Vegas Wash Coordination Committee's website at: http://www.lvwash.org/

Illicit Discharge Detection and Elimination Program

Table 3-3: Illicit Discharge Detection and Elimination Program

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM PRIMARY OBJECTIVES
Bi-Annual field investigations (wash walks) designed to identify potential illegal discharges, illicit connections, or illegal dumping of wastes into the municipal storm sewer system.
Industrial stormwater inspections, designed to identify potential illegal discharges, illicit connections, or illegal dumping of wastes into the municipal storm sewer system.
Spill/Complaint investigations designed to identify potential illegal discharges, illicit connections, or illegal dumping of wastes into the municipal storm sewer system.
Follow-up activities with dischargers or dumpers to educate and assure that the practice is eliminated.

For the most part, these field inspection and enforcement activities are performed by industrial pretreatment program staffs of the individual municipalities, which are Co-Permittees to the NPDES permit. They have the responsibility to educate property and business owners, respond to citizen complaints, conduct inspections, and take enforcement action when necessary. Standard inspection reports and forms used by the Clark County Water Reclamation District's Water Quality Planning Division are shown in Appendix K.

During the first nine years, the Illegal/Illicit Connection Detection and Elimination Program has found very few instances of prohibited or illegal activity. It has found that illegal connections and discharges are a minor problem in Las Vegas Valley, and those that are found are eliminated quickly. In the case of Clark County, no egregious violations requiring a notice of violation have been found and business have been very receptive to the County's educational/outreach efforts about stormwater BMPs.

Wet Weather Monitoring Sites are located at the locations shown below:

Wet Weather Monitoring Sites

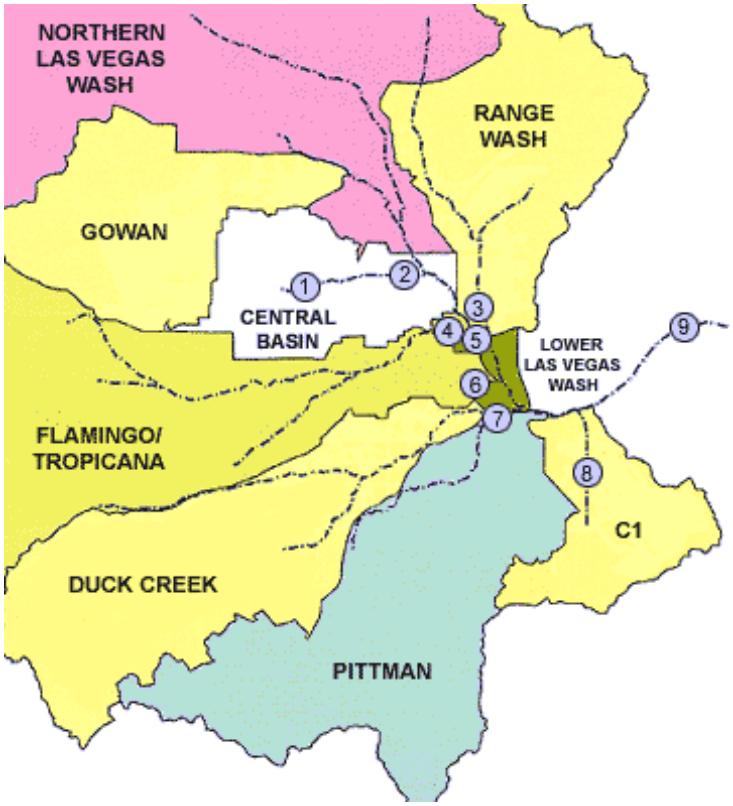

Figure 3-1: Wet Weather Monitoring Sites
The greater Las Vegas area showing key drainages and washes. Wet weather samples are taken near the major outfalls to the Las Vegas Wash using automatic sampling machines and grab samples.

Table 3-4: Wet Weather Monitoring Sites

Wet Weather Monitoring Sites
1. Meadows Detention Basin (Grab Sample)
2. Las Vegas Creek (Automatic Sample Site)
3. Sloan Channel (Automatic Sample Site)
4. Flamingo Wash (Automatic Sample Site)
5. Las Vegas Wash (Automatic Sample Site)
6. Monson Channel (Grab Sample)
7. Duck Creek (Automatic Sample Site)
8. C-1 Channel (Automatic Sample Site)
9. Lake Las Vegas (Automatic Sample Site)

Wet Weather Monitoring

The goal of the wet weather monitoring program is to sample for pollutants in the municipal storm sewer system during a rain storm. When it rains, pollutants such as oil, pesticides, sediment, and bacteria are picked up from streets, parking lots, and lawns and carried into the storm drain system. These pollutants then flow straight to the Las Vegas Wash and ultimately to Lake Mead. When the flow in the channel rises to a predetermined level, an automated sampler activates and pumps a small amount of water from the channel into a small jar. A new jar is filled every 7 minutes. Within the first three hours of runoff, the samples are picked up and delivered to a laboratory for analysis.

The baseline stormwater quality data obtained during rain storm events will help provide us with a better understanding of the types and amount of pollutants carried by stormwater and aid us in developing improved municipal BMPs to improve stormwater quality in the Las Vegas Valley.

Despite frequent inspections and maintenance, automated samplers occasionally malfunction due to vandalism or battery failure. In addition, many storms do not generate sufficient flow depth to activate the pump in the automated sampler. When sampling equipment is not functioning properly or not effective, samples are taken by hand from the channels. These samples are then composited in the laboratory for analysis. The objective is to sample 2 storms per year at each site.

Dry Weather Monitoring

In addition, water samples are taken at the major outfalls to the Las Vegas Wash once per year during a time of dry weather. Dry weather surface runoff is the result of water entering the municipal storm sewer from everyday activities such as lawn watering, car washing, and ground water seepage. The goal of the dry weather monitoring program has two primary objectives:

Table 3-5: Dry Weather Monitoring Program Objectives

DRY WEATHER MONITORING PROGRAM PRIMARY OBJECTIVES
To target potential illegal or illicit discharges to the municipal storm sewer system (e.g., from industrial activity).
To develop a baseline of dry weather surface water quality data against which future changes can be measured and which can be used to compute urban pollutant concentrations in the Las Vegas Wash.

Dry weather sampling is an effort to isolate potential illegal discharges. Occasionally, people knowingly or unknowingly discharge hazardous waste or other non-storm related waste into the municipal storm sewer system. If excessive amounts of hazardous pollutants are detected, code enforcement officers from the individual municipalities can trace the source of the activities and make corrective or enforcement actions if necessary.

Measuring and characterizing urban pollutants as they enter the municipal storm sewer over time is also important. Based on the sampling results and qualitative factors, the Committee can determine the overall effectiveness of Best Management Practices as well as develop improvements. The ongoing monitoring programs continue to be an effective tool in understanding the impact of urban runoff on downstream water quality. More information about illegal or illicit discharges can be found at the following SQMC website; http://www.lvstormwater.com/reporting.htm

Sampling Parameters

Samples collected during Wet and Dry Weather monitoring are analyzed using identical methodologies in the Laboratory. These samples are tested for specific pollutants generally associated with urban activity such as oil, bacteria, and pesticides. Detailed testing parameters can be found in the 219-page "Nevada 2008-10 Water Quality Integrated Report With EPA Overlisting" at the following website:

http://ndep.nv.gov/bwqp/303dlist.htm

This document also contains Nevada's 303(d) list of impaired waters. A summary of impaired waters in the Las Vegas Valley can be seen in Appendix G.

Levels of these pollutants tend to increase with the level of urban development in the Las Vegas Valley. The following pollutants are associated with urban development and activities, and are frequently found in stormwater:

Table 3-6: Pollutants Analyzed

Pollutants Analyzed	
Ammonia - Nitrogen	Oil and Grease
Boron	Pesticides
Copper	Nitrite
Fecal Coliforms	TKN
Fecal Streptococcus	Total Dissolved Solids
Herbicides	Total Nitrogen
Dissolved Copper	Total Phosphorus
Dissolved Lead	Total Suspended Solids
Dissolved Zinc	Zinc
Lead	Volatile Organic Compounds (VOC)
Nitrate	Semi-Volatile Organic Compounds (SOC)

MS4 PERMIT RENEWAL PROCESS

Clark County along with the other co-permit holders renew the MS4 Permit approximately every 5-years. This program began in 1991 and the current MS4 permit in the Las Vegas Valley is for the period of 2010-2015. Permit negotiations with NDEP for the next permit typically begin before the expiration of the current permit and last until the co-permittees obtain approval of the permit from NDEP and the EPA. Typically each permit cycle adds more requirements to the permit as the EPA strengthens their stormwater requirements and responds to program audits. County stakeholders, management and the Board of County Commissioners are kept informed of any changes, including any additional resources that would be required.

REGIONAL INFRASTRUCTURE SERVICE EVALUATION (RISE)

Another process that is used to educate and inform engineers and developers at an early stage of development about stormwater and water quality requirements in Clark County is the Water Quality Report section of the Clark County Comprehensive Planning Current Planning Divisions "REGIONAL INFRASTRUCTURE SERVICE EVALUATION" (RISE) Report, which is required for nonconforming zone changes, high impact projects, text amendments to amend mixed use overlay districts, and major projects. The Water Quality Report section of the RISE Report, which is shown in Exhibit K, requires information about the project be provided and Links are shown with additional information about water quality, stormwater regulations, and NPDES permit requirements.

GOALS

The following are goals for fiscal year 2013-14:

Table 3-7: Long Term Goals

Long Term Goals
Expand the outreach and education component of the Water Quality Program.
Expand industry and community targeted outreach and education material.
Continue to Provided free water quality training to casinos, industry and the community.
Continue to evaluate budget impacts of the Stormwater Permit & obtain County Management approval.
Coordination with Las Vegas Valley agencies to develop a valley-wide approach to addressing dry weather flow and Selenium levels in groundwater discharging into the Las Vegas Wash.
Continue to provide water quality education and outreach to the community, agencies, and county departments.
Continue to expand the industrial facility inspection inventory to meet permit requirements.
Maintain long term compliance with MS4 Permit requirements through close coordination with key stakeholders and implementation of this Business Plan.
Meet all Water Quality Planning Division goals through close coordination with key stakeholders and implementation of this Business Plan.
Develop inspection techniques to emphasize training and outreach
Offer free training to key facility and construction site personnel

Table 3-8: FY 2013-14 Short Term Goals

Fiscal year 2013-14 Short Term Goals:	Completion Date
Provide oversight of 800 industrial stormwater inspections provided by Clark County Water Reclamation District Pretreatment Inspectors.	
- Provide industrial stormwater inspector training annually	Aug. 2013
- Conduct 8 joint inspections (2 per month)	Aug.–Nov. 2013
- Meet with Pretreatment Staff regarding industrial stormwater inspections	Monthly
- Track and report industrial stormwater inspection data	Monthly
- Provide annual industrial stormwater inspection data for compliance with MS4 Permit and SWMP	July 2013
- Meet with Pretreatment Staff to obtain the next fiscal year goals and expectations	Nov. 2013
Provide spill / complaint response up to 60 incidents based on FY13 data.	
- Review spills and complaints from NDEP Spill Reports and other sources	Monthly
- Conduct spill / complaint follow-up investigation	Monthly
- Forward spill / complaint data to Stakeholders (Public Works, SNHD, Cities, private companies, etc.)	Monthly
- Perform spill / complaint site inspections	Monthly
- Confirm spill / complaint has been address and notify appropriate people	Monthly
- Track and report spills and complaints	Monthly
- Provide annual spill / complaint data for compliance with MS4 Permit and SWMP	July 2013
Obtain approval of a MOU between CCWRD and Public Works for construction stormwater inspections.	
- Prepare draft MOU between CCWRD and Public Works for construction stormwater inspections	Done
- Distribute MOU for internal CCWRD and District Attorney review	July 2013
- Distribute MOU for Public Works for review and comment	Sept. 2013
- Obtain CCWRD and Public Works Approval	Nov. 2013
Provide oversight of 2000 construction stormwater inspections provided by Development Services and Public Works inspectors.	
- Coordinate with Development Services and Public Works Monthly regarding construction stormwater inspections	Monthly
- Track and report construction stormwater inspection data	Monthly
- Provide annual stormwater inspector training	Dec. 2013
- Meet with Development Services and Public Works to obtain the next fiscal year goals and expectations for construction inspections	Nov. 2013
- Provide annual construction inspection data for compliance with MS4 Permit and SWMP	July 2013

Stormwater Management

Work with SQMC & member agencies to fully implement the Stormwater Management Plan to meet new permit requirements by the November 1, 2013, deadline.	
- Review all Technical Memos and proposed regulations changes to the Clark County Regional Flood Control District's – Drainage Design Manual	Done
- Distribute the Stormwater Management Plan, Technical Memo, and proposed regulation changes to key stakeholders (District Attorneys, Public Works, Development Services, CCWRD Management, and Clark County Management) for review and comment	July 2013
- Brief CCWRD management on SWMP requirements.	Oct. 2013
- Brief BCC on Stormwater Management Plan	Mar. 2013

ACCOMPLISHMENTS

The following is a summary of water quality program major accomplishments:

Table 3-9: FY 2012-13 Accomplishments

Fiscal Year 2012 - 2013 Accomplishments
Provided community non-point source pollution outreach and education through a competitive grant received from the Nevada Division of Environmental Protection.
Developed and implemented a Casino outreach and education program.
Worked closely with the Stormwater Management Committee in the development and approval of the Stormwater Management Plan in accordance with permit requirements. The deadline for full implementation of the SWMP is November 1, 2013.
Obtained agreement from Public Works construction management groups to do stormwater inspection on Public Works projects greater than 1-acre beginning in 2013.
Provided construction stormwater inspection training to Development Services and Public Works staff.
Oversaw construction stormwater inspections completed through an interlocal agreement by Clark County Development Services and Public Works.
Received funding for a Dog Waste / Education and Outreach grant from the Nevada Division of Environmental Protection.
Updated the RISE/PFNA water quality information submittal requirements.
Coordinated with the inter-agency working group to address stormwater issues. The working group includes representatives from Clark County, Southern Nevada Health District, Southern Nevada Water Authority, and the Las Vegas Valley Water District.
Coordinated with the inter-departmental working groups to address stormwater issues. The working group includes representatives from Clark County Development Services, Public Works, Parks and Recreation, Department of Aviation, Fire Department, Department of Air Quality and Real Property Management.
Continued work on the Clark County Non-point Source Pollution Outreach and Education Program funded through a competitive grant received from the Nevada Division of Environmental Protection.

The following table shows a summary of construction and industrial stormwater inspections, spill / complaint responses, and training / outreach events completed since 2010.

Table 3-10: FY 2010-12 Summary of Inspections/Outreach Events

Year	Construction Stormwater Inspections (Development Services)	Industrial Stormwater Inspections (Water Quality Planning Division)	Spill / Complaint Responses (Water Quality Planning Division)	Training / Outreach Events (Water Quality Planning Division)
2010	2971	150	39	20
2011	2526	142	51	31
2012	1789	190	59	29

CLARK COUNTY COMMUNICATION / COORDINATION

In order to comply with permit conditions, set priorities, and provide measurable goals for key activities, the Water Quality Planning Division works closely with County departments and key stakeholders to develop and manage Clark County's stormwater program. Key activities include regular meetings, communication, and coordination about important issues, and review of critical documents such as budgets, annual goals, permits, regulations, SWMP, and 208 WQMP.

The following is a list of the County departments and key stakeholders that require regular meetings, communication and coordination:

Table 3-11: Clark County Communication/Coordination

Department / Title	Meeting Frequency
Commission & Manager / Assistant County Manager	Bi-Annual (December & June)
Legal / Deputy District Attorneys	Bi-Annual (December & June)
Finance Budget / Sr. Financial Analyst, Principal Accountant	Bi-Annual (December & June)
Public Works / Road Maintenance & Construction Inspection Supervisors	Monthly (Last working day of the Month)
Development Services / Principal & Sr. Engineer	Monthly (1st Thursday of the Month)
Stormwater Quality Management Committee (SQMC) / Co-Permit Holders	Monthly (Second Tuesday of the Month)
Sewage Wastewater Advisory Committee (SWAC) /Wastewater Dischargers	Quarterly (Second Wednesday of third month)
Clark County Water Reclamation District / GM, AGM, Asst. Planning Manager, Sr. Financial Analyst, Financial Analyst II, & Principal Planner	Quarterly (Last Month of the Quarter)

A more detailed list of key stakeholders and contact information can be found in Appendix E.

4	OUTREACH EDUCATION COORDINATION
4-1	BACKGROUND
4-1	OUTREACH
4-3	EDUCATION
4-6	OUTREACH AND EDUCATION GOALS
4-7	OUTREACH AND EDUCATION ACCOMPLISHMENTS
4-8	GRANTS
4-9	GRANT PROGRAM GOALS
4-10	COORDINATION
4-11	COORDINATION GOALS
4-11	CLARK COUNTY COMMUNICATION / COORDINATION

Outreach, Education, and Coordination

BACKGROUND

The multi-jurisdictional makeup and critical water quality issues of Clark County and the Las Vegas Valley, including but not limited to the requirements for the 208 Area-wide Water Quality Management Plan, and NPDES Stormwater Permit require outreach, education, and coordination between jurisdictions, governmental agencies, County Departments, industry and the public to address water quality issues.

Clark County, Nevada, has a population of 2 million, and before the economic slowdown in 2011, there were an estimated 5,000 people moving in each month, it is one of the fastest growing counties in the United States. The continuous growth highlights the need to address growing water pollution issues. With this growth come other problems that impact water quality, which are in a large part due to community and individual behavior. These common individual behaviors have the potential to generate pollution from; littering, pet waste, car washing, chemical contaminates such as fertilizers, pesticides, vehicle contaminates such as oils, antifreeze, brake dust, over irrigation, septic system and perched shallow groundwater discharge to washes.

It takes individual behavior change and proper practices to control such pollution. Therefore it is important to make the public sufficiently aware and concerned about the significance of their behavior, through education and outreach, that they change improper behaviors.

The benefits of public education efforts cannot be understated, especially on topics such as "nonpoint source" or "stormwater" pollution. A 2005 report, by the National Environmental Education & Training Foundation found that 78 percent of the American public does not understand that runoff from cities, agricultural land, roads, and lawns, is now the most common source of water pollution; and nearly half of Americans (47 percent) believes industry still accounts for most water pollution. Because of this misconception and the multi-jurisdictional makeup of the Las Vegas Valley education and outreach is the main focus of the Water Quality Program.

OUTREACH

The Environmental Protection Agency (EPA) considers stormwater pollution the number one source of contaminates impacting the waters of the United States. Many residents, businesses, industry, county departments, and government agencies don’t realize the impact stormwater pollution has on water quality and that stormwater drains to Lake Mead untreated. Outreach is an integral part of the Water Quality Program and provides a way to inform residents of Clark County about stormwater and other water quality issues. Outreach is also a recommendation in the 208 WQMP and a requirement of NPDES Stormwater Permit.

Outreach, Education, and Coordination

The permit's overall objectives of the Public Outreach Program are shown in the following table:

Table 4-1: Public Outreach Objectives

Public Outreach Objectives
Inform the general public about important water quality issues related to stormwater runoff;
Influence behavior of the general public to reduce activities that have a negative impact on stormwater runoff quality and increase activities that have a positive impact on stormwater runoff quality.

A significant portion of the Outreach provided by the Water Quality Program is funded by NDEP grants. Outreach is typically provided to Clark County residents through the following methods:

Table 4-2: Types of Outreach Events

Outreach Events
Open House Events
Casino Green Fairs
School Events
Club Events
Town Advisory Boards
Zone Change advisory meetings
Radio Advertising (grants)
Bus Advertising (grants)
"Only Rain in the Storm Drain" program (grants)
Magazine Advertising (grants)
Television Advertising (through SQMC)
Water Quality Planning Division Website www.clarkcountynv.gov key word "water quality"
SQMC website www.lvstormwater.com
School Poster Contests (through SQMC)
Drop inlet marking program (through SQMC & RTC design requirements)
High School Career Days
UNLV Career Days
HOA Events
Community Association Events
Clark County Events
Industry Events
Professional Association Events

Outreach, Education, and Coordination

EDUCATION

The Environmental Protection Agency (EPA) considers stormwater pollution the number one source of contaminates impacting the waters of the United States. Many residents, businesses, industry, county departments, and government agencies don't realize the impact stormwater pollution has on water quality and that stormwater drains to Lake Mead untreated. Education is a critical part of the Water Quality Program and provides a way to inform and educate residents, businesses, industry, county departments, and government agencies about water quality issues. The education provided explains the County's responsibility for the 208 WQMP and the NPDES stormwater permit, water quality issues, and what the listener can do to help. A portion of the Education provided by the Water Quality Program is funded by NDEP grants.

Education is also a recommendation in the 208 WQMP and a requirement of NPDES Stormwater Permit. The overall objectives of the permit's Education Program are shown in the following table:

Table 4-3: Education Program Objectives

Education Program Objectives
Inform the general public about important water quality issues related to stormwater runoff;
Influence behavior of the general public to reduce activities that have a negative impact on stormwater runoff quality and increase activities that have a positive impact on stormwater runoff quality.

Outreach, Education, and Coordination

The following is a list of various groups that are provided with training:

Table 4-4: Groups Provided with Training

Groups Provided with Training
Residents - When requested or warranted, training is provided to residents such as, clubs, HOAs, professional associations, conferences, etc.
Industry & Businesses – When requested or warranted, training is provided to industry such as, construction contractors, landscape companies, casinos, etc. Examples include:
Caesar's Casinos
MGM Casinos
BMI companies
Par-3 Landscaping
Nevada Ready Mix
Annual Contractor Stormwater Training
County Departments and Agencies – Water Quality Training is typically provided annually to the following county departments:
Clark County Public Works - Engineering
Clark County Public Works – Maintenance
Department of Air Quality
Department of Aviation
Development Services
Fire Department
Parks and Recreation
Real Property Management
Las Vegas Valley Water District
Southern Nevada Health District
Southern Nevada Water Authority
Clark County Water Reclamation District

In addition to the education provided to specific groups at the departments and agencies outlined above, Interdepartmental and Interagency Working Groups made up of representatives from each department and agency meet twice a year to discuss water quality issues that may influence them.

The following tables list the Interdepartmental and Interagency representatives, department or agency, and their email addresses:

Table 4-5: Interdepartmental Stormwater Working Group

NAME	DEPARTMENT	E-MAIL
Anita Gutierrez	Air Quality	AnitaG@ClarkCountyNV.gov
Art Alvarez	Public Works	amalioa@ClarkCountyNV.gov
Chris Streuber	Public Works	streuber@ClarkCountyNV.gov
David Durkee	Development Services	dld@ClarkCountyNV.gov
Ebrahim Juma	Clark County	EJuma@cleanwaterteam.com
Jack Bingham	Air Quality	Bingham@ClarkCountyNV.gov
Jim Foreman	Parks & Recreation	JMF@ClarkCountyNV.gov
Joe Leedy	Clark County	JLeedy@cleanwaterteam.com
Kelly Blackmon	Fire Department	KJB@ClarkCountyNV.gov
Ken Larson	Real Property Management	KHL@ClarkCountyNV.gov
Kevin Parker	Parks and Recreation	KJP@ClarkCountyNV.gov
Michael Houghtaling	Development Services	MHoughta@ClarkCountyNV.gov
Robert G. Williams	Fire Department	RWilliams@ClarkCountyNV.gov
Sydney Elkins	Aviation	Sydneye@Mccarran.com
Tim Gibson	Clark County Water Rec. District	TGibson@cleanwaterteam.com

Table 4-6: Interagency Stormwater Working Group

NAME	AGENCY	E-MAIL
Carolyn Johnson	Las Vegas Valley Water District	Carolyn.Johnson@lvvwd.com
Dennis Campbell	Southern Nevada Health District	Campbell@snhdmail.org
Dianja Duran	Southern Nevada Water District	dianja.duran@snwa.com
Ebrahim Juma	Clark County	EJuma@cleanwaterteam.com
Joe Leedy	Clark County	JLeedy@cleanwaterteam.com
Tim Gibson	Clark County Water Rec. District	TGibson@cleanwaterteam.com
Ed Carrasco	Clark County Water Rec. District	ECarrasco@cleanwaterteam.com

Annual inspector training is also provided to Clark County and Clark County Water Reclamation District personnel that perform stormwater inspections at construction sites and businesses within unincorporated Clark County.

Outreach, Education, and Coordination

OUTREACH AND EDUCATION GOALS

The following tables shows the short and long term outreach and education goals for fiscal year 2013-14:

Table 4-7: Outreach and Education Long Term Goals

Outreach and Education Long Term Goals
Expand the outreach and education component of the Water Quality Program, including the use of TV Channel 4 and 8.
Expand industry and community targeted outreach and education material.
Coordination with Las Vegas Valley agencies to develop a valley-wide approach to addressing Selenium levels in groundwater discharging into the Las Vegas Wash.
Continue to apply for Non-point Source Pollution outreach and education grant funding from the Nevada Division of Environmental Protection.
Continue to provide free water quality education and outreach to the community, agencies, and county departments.

Table 4-8: FY 2013-14 Outreach and Education Short Term Goals

Fiscal Year 2013-14 Outreach and Education Short Term Goals	Completion Date
Provide a minimum of 20 outreach and education presentations. - Develop a schedule for the outreach and education presentations - Provide 2 stormwater outreach or education presentations per month to major clients including, casinos, CCWRD and County Departments - Customize existing presentations for the specific audience - Track and report education and outreach	June 2014 Sept. 2013 Monthly Monthly Monthly
Continue work on Non-point Source Pollution outreach and education grants partially funded through a grants received from the Nevada Division of Environmental Protection. - Schedule 12 Casino education events - Identify 3-6 HOAs for possible inclusion in the dog waste grant program - Meet with HOAs and make final selection of grant participants - Install and monitor dog waste stations - Complete scheduled radio and bus advertising - Identify and schedule 8 additional outreach and education events - Prepare NDEP quarterly grant reporting and invoicing	 August 2013 Dec. 2013 Jan. 2014 March 2014 Oct. 2013 Nov. 2013 Quarterly

OUTREACH AND EDUCATION ACCOMPLISHMENTS

The following table shows a summary of the water quality program outreach and education accomplishments:

Table 4-9: Outreach and Education Accomplishments

Outreach and Education Accomplishments
Provided community non-point source pollution outreach and education through a competitive grant received from the Nevada Division of Environmental Protection.
Developed and implemented a Casino outreach and education program.
Received funding for a Dog Waste / Education and Outreach grant from the Nevada Division of Environmental Protection.
Updated the RISE/PFNA water quality information submittal requirements.

The following table shows a summary of **training / outreach events**, provided since 2010:

Table 4-10: Summary of Completed Training/Outreach Events

YEAR	Training / Outreach Events (Water Quality Team)
2010	20
2011	31
2012	29

Outreach, Education, and Coordination

GRANTS

The Water Quality Program currently is managing the following CWA 319(h) Non Point Source, and CWA 604(b) Grants:

Table 4-11: List of Current Grant Funding

Grant	Description	Amount NDEP / County-Match	Reimbursement Invoiced to Date	Reimbursement Received to Date	Grant Balance
FY 10-13 Funded Grants					
Water Quality Program Development (CWA 604(b))	Development of the Clark County Water Quality Program. Non-competitive grant awarded ± every 4-years with no match requirements. The grant money can be used for anything stormwater related.	$40,000 / No Match	$34,394	$34,394	$5,606
Non-point Source Pollution Outreach and Education (CWA 319(h))	Educate the public and businesses within Clark County on management of non-point source pollution. ± 808 staff-hours and $14,000 cash match for outreach material	$54,027 / $54,399	$54,027	$54,027	$0
Non-point Source Pollution Outreach and Education (CWA 319(h))	Educate the casino industry within Clark County on management of non-point source pollution. ± 400 staff-hours	$20,000 / $20,000	$12,216	$12,216	$7,784
FY 12-14 Funded Grants					
Non-point Source Pollution Outreach and Education (CWA 319(h))	Educate the public and businesses within Clark County on management of non-point source pollution. ± 1044 staff-hours	$52,189 / $52,189	$8,562	$8,562	$43,627
Non-point Source Pollution Load Reduction, Outreach, and Education (CWA 319(h))	Reduce floatable trash in the Las Vegas Wash and Lake Mead through the installation and maintenance of a trash-boom. ±1478 staff-hours	$72,500 / $73,879	$0	$0	$72,500
Non-point Source Pollution Load Reduction, Outreach, and Education (CWA 319(h))	Educate the public and reduce dog waste that is left on the ground, which impacts the water quality of Lake Mead. ±781 staff-hours	$39,063 / $39,064	$0	$0	$39,063

The CWA 319(h) grants are competitive and require a 50% match, which is provided through staff salaries and benefit costs. Each $1,000 of grant funding requires approximately 20 hours of staff time to create the match. The grants are federally funded, but are managed by the Nevada Division of Environmental Protection through a pass through sub-grant agreement. Requests for grant proposals are usually sent out in July and proposals are due back by September each year. The term of the grant is typically 2-years but 1-year grant periods are also allowed.

The CWA 604(b) grant is non-competitive and requires no match. This grant is also federally funded and managed by the Nevada Division of Environmental Protection. This grant is automatically awarded to the Clark County Water Quality Program every ±4 years, depending on what other counties in Nevada are receiving it. This money can be used for anything that benefits the Clark County Water Quality Program.

Prior to submitting grant applications to the State the Clark County Water Reclamation District and Board of County Commissioner approval process shown in Appendix O must be followed:

GRANT PROGRAM GOALS

The grant program long term goals are shown in the following table:

Table 4-12: Grant Program Long Term Goals

Grant Program Long Term Goals
Use grants to assist the Water Quality Planning Divisions with funds to help educate the residents and businesses in Clark County about water quality issues and what they can do to help reduce pollution.
Use grants to help fulfill recommendations in the Clark County 208 Area-Wide Water Quality Management Plan, which recommends educating the public about water quality issues.
Use grants to assist Water Quality Planning Division with funds to install water quality best management practices that provide a positive influence on water quality in Clark County.

COORDINATION

The multi-jurisdictional makeup of the Las Vegas Valley requires interaction between the jurisdictions, governmental agencies, County Departments, industry and the public to address water quality issues. Over the years several water quality committees have been organized to address specific water quality issues in the Las Vegas Valley. The following is a list of committees that the water quality team is a member of, or attends to stay informed about water quality issues. These committees involve stakeholders from the public and private sectors and all meetings are open to the public.

Water Quality Committees and Agency Involvement:

The following table shows the major committees that the Water Quality Planning Division and other agencies are involved with:

Table 4-13: Committee and Agency Involvement

AGENCY	Stormwater Quality Management Committee	Las Vegas Valley Water Advisory Committee	Las Vegas Wash Coordination Committee	Lake Mead Water Quality Forum	Sewage and Wastewater Advisory Committee	Regional Flood Control Technical Advisory Committee
Clark County	•	•	•	•	•	•
Clark County Water Reclamation District		•	•	•	•	
City of Las Vegas	•	•	•	•	•	•
City of Henderson	•	•	•	•	•	•
City of North Las Vegas	•	•	•	•	•	•
SNWA		•	•	•		
Regional Flood Control District	•	•	•	•		•
Las Vegas Valley Water District					•	
NDEP and/or EPA	•		•	•		

Appendix M contains details on the various water quality committees including their purposes, members, interlocal agreements, and agenda items that created the committees.

COORDINATION GOALS

The following table shows coordination goals for the Water Quality Planning Division:

Table 4-14: Coordination Long Term Goals

Coordination Long Term Goals
Long term compliance with 208 WQMP and NPDES Stormwater Permit requirements
Keep informed about issues impacting Clark County, other Jurisdictions, Agencies, stakeholders, and the public
Keep Clark County Departments, agencies, business and the public informed about water quality issues and permit requirements
Improve water quality through committee involvement
Continue to participate in water quality committees.

CLARK COUNTY COMMUNICATION / COORDINATION

In order to comply with permit conditions, set priorities, and provide measurable goals for key activities, the Water Quality Planning Division works closely with County departments and key stakeholders to develop and manage Clark County's water quality program. Key activities include regular meetings, communication, and coordination about important issues, and review of critical documents such as budgets, annual goals, permits, regulations, SWMP, and 208 WQMP. Appendix E of this document shows a list of key contacts and stakeholders for water quality planning activities.

5	APPENDICES
A.	Interlocal Agreement
B.	Budget and Related Backup Documents
C.	Organization
D.	Business Feedback Action Plan
E.	Stakeholders & Important Contacts
F.	Staffing Plan/Prioritized Responsibilities/Position Descriptions
G.	208 WQMP – Recommendations / Renewal Process / County Sewage & Wastewater Law / 303(d) List of Impaired Waters
H.	SQMC Interlocal Agreement
I.	NPDES Stormwater Permit
J.	Clark County Code Chapter 24.40 (Storm Sewer System Discharge)
K.	Stormwater Inspection Reports and Forms
L.	Regional Infrastructure Service Evaluation (RISE) Report
M.	Water Quality Committees
N.	Water Quality Program PowerPoint Presentation
O.	Clark County Water Reclamation District and BCC Approval Process