



CLEAR CREEK STORMWATER MANAGEMENT PLAN

FINAL

**Prepared by
Douglas County Public Works
P.O. Box 218
Minden, NV. 89423**

January 2012

Introduction

The Clear Creek Stormwater Management Plan (CCSWMP) was developed to meet the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (NVS04000), effective July 5, 2010. The 2010 MS4 permit required that a revised CCSWMP be developed to meet the new permit conditions. 40 CFR §122.34 requires that owners operators of MS4 stormwater systems reduce the discharge of pollutants to the maximum extent practicable (MEP). The regulations further define elements in a stormwater management program that are required to meet the MEP goal. The Douglas County CCSWMP includes each of the minimum control measures defined the CFR and therefore meets the MEP as defined in the regulations. Additionally "Implementation of best management practices consistent with the provisions of the stormwater management program required pursuant to this section and the provisions of the permit required pursuant to §122.33 constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable". This plan includes an implementation schedule that was outlined in the 2003 Notice of Intent (NOI) (Attachment A) for each of the BMP's outlined in the MS4 permit. No changes to the original NOI were made and all of the minimum control measures in the original NOI have been met and it is attached for reference.

The Carson River has been identified as an impaired water by Nevada Department of Environmental Protection (NDEP) and has had a Total Maximum Daily Load (TMDL) in place since 1980. NDEP Water Quality Planning Branch developed and EPA adopted new TMDL's for Total Suspended Solids (TSS), Turbidity, and Total Phosphorous (TP) in 2005 and 2007 respectively. There are no Waste Load Allocations in the TMDL's for point sources or non-point sources or tributaries. The management strategy for non-point sources outlined in the TMDL's is to implement the minimum control measures (MCM's) in this permit. Douglas County is implementing the MCM's to the Maximum Extent Practicable (MEP). Management strategies and projects above and beyond the scope of the MS4 permit have been identified in the "Carson River Watershed, Our Lifeline in the Desert, Adaptive Stewardship Plan, Carson Water Subconservancy District (CWSCD), May 2007.

The CCSWMP monitoring plan is modified herein to include all the pertinent parameters with regard to the 303(d) lists. Water quality standards for Carson River at Mexican Ditch Gage can be found at NAC 445A.154. The CCSWMP includes responses to the permit Section II Discharges to Water Quality Impaired Waters. MS4 permit section numbers for the six minimum control measures required by the permit have been added so that it is easier for the reader to follow.

II. Discharges to Water Quality Impaired Waters

II.A.1 Determine whether stormwater discharge from any part of the MS4 significantly contributes directly or indirectly to a 303(d) listed waterbody.

Stormwater from the Douglas County portion of the Carson Urbanized Area discharges to Clear Creek. This section of Clear Creek is designated as a Class B water. Class B waters include waters or portions of waters which are located in areas of light or moderate human habitation, little industrial development, light-to-moderate agricultural development and where the watershed is only moderately influenced by man's activity. The water quality standards for Class B waters are listed below:

Item	Specifications
Floating solids, settleable solids or sludge deposits.	Only such amounts attributable to man's activities which will not make the waters unsafe or unsuitable as a drinking water source or injurious to fish or wildlife, or will not impair the waters for any other beneficial use established for this class.
Sewage, industrial wastes or other wastes.	None which are not effectively treated to the satisfaction of the Department.
Odor-producing substances.	Only such amounts which will not impair the palatability of drinking water or fish or have a deleterious effect upon fish, wildlife or any beneficial uses established for waters of this class.
Toxic materials, oil, deleterious substances, colored or other wastes, or heated or cooled liquids.	Only such amounts as will not render the receiving waters injurious to fish or wildlife or impair the receiving waters for any beneficial uses established for this class.
pH.	6.5 to 9.0 SU.
Dissolved oxygen: Trout waters. ^a All other waters.	≥6.0 mg/l. ≥5.0 mg/l.
Temperature: Maximum: Trout waters. ^a All other waters. ΔT.	≤20°C. ≤24°C. =0°C.
Fecal coliform (No./100ml).	≤200/400. ^b
Total phosphorus (as P).	≤0.10 mg/l.
Total dissolved solids.	≤500 mg/l or one-third above that characteristic of natural conditions (whichever is less).

Clear Creek is listed on the 303(d) list as an impaired waterbody. The 2006 303(d) list includes iron, fecal coliform, dissolved oxygen, temperature and zinc. Water Quality data for Clear Creek shows that TSS, turbidity and TP do not meet the standards so they are included in the monitoring program as well.

II.B The permittee must determine whether a TMDL has been developed and approved by NDEP. If there is a TMDL, the permittee must comply with both parts II.B.2

In September 2005, NDEP developed and EPA adopted a TMDL for Total Phosphorus (TP) and in 2007 EPA adopted the TMDL for TSS and turbidity for the Carson River. Douglas County discharges to Clear Creek which does not have a TMDL but meets the intent of the TMDL by implementing the MCM's in the MS4 permit.

II.B 2.a. Determine whether the approved TMDL is for a pollutant likely to be found in stormwater discharges from the permittee's MS4.

TSS, TP and turbidity are naturally occurring and are likely to be in the stormwater discharge. The effect of Douglas County stormwater discharges to the TP, TSS and turbidity water quality in Clear Creek has been evaluated since 2006 and will continue to be evaluated as a part of CCSWMP monitoring program. The data collected thus far indicates that the outfall discharge is generally of better water quality than Clear Creek during the sampling events. The outfall is sampled after stormwater runoff is treated in a Vortech sand oil treatment vault in Vista Grande and grab samples are taken in Clear Creek upstream and downstream of the outfall. The CCSWMP includes BMP's to minimize the discharge of these parameters to the MEP as required by the permit.

II.B.2.b. Determine whether the TMDL includes a pollutant wasteload allocation (WLA) or other performance requirements specifically for stormwater discharge from the permittee's MS4.

There are no WLA's for non-point sources for TP, TSS and turbidity.

II.B.2.b. Determine whether the TMDL addresses a flow regime likely to occur during periods of stormwater discharge.

Stormwater is unlikely to reach the river during the low flow events such as rainfall events below the seven day 10 year low flow event (7Q10). However, in the development of the Carson River TMDL's NDEP used all flow regimes, so it is likely that storm events occur when the TMDL is applicable.

II.B.2.c. Assess whether the WLA's are being met through implementation of existing stormwater control measures or if additional control measures are necessary.

TMDL's adopted for the Carson River do not have WLA's for stormwater. The

2005 208 plan indicates that the BMP's and minimum control measures required in the MS4 permits will adequately address non-point source pollutant loading. Douglas County implements the minimum control measures to reduce the pollutants to the maximum extent practicable (MEP).

II.B.2.e. Document all control measures currently being implemented or planned to be implemented and are consistent with the WLA. These measures shall be reported in the annual report. A schedule of implementation for all planned controls shall be included in the Stormwater Management Plan as described in Sections IV and V.

A WLA for stormwater has not been developed for stormwater discharges to the Carson River, or Clear Creek. Douglas County reduces the discharge of pollutants to the maximum extent practicable (MEP) by implementing the MCM's in this permit.

II.B.2.f. Estimate reductions of pollutants through established and accepted BMP performance studies, calculations, models or other evidence that shows that the WLA will be addressed through the implementation of the approved SWMP, and reported in the Annual Report.

The implementation of the BMP's and other elements of this plan reduce the discharge of pollutants to the maximum extent practicable (MEP). There is no WLA for stormwater discharges in the adopted TMDL's.

II.B.2.g Describe a monitoring program to determine whether the stormwater controls are adequate to meet the WLA to the MEP.

A WLA for stormwater has not been developed. However, the Douglas County monitoring program will be modified to include fecal coliform, dissolved oxygen, temperature, zinc, total suspended solids and total phosphorus as these are the current constituents of concern in Clear Creek and the Carson River. Samples are taken at the main outfall in the outlet from the Vortech treatment vault on Vista Grande and upstream and downstream of the outfall in Clear Creek, annually during a rainfall event. There are two other areas in the Douglas County portion of Clear Creek CAMPO watershed. One is the privately owned commercial area near Topsy Lane that discharges to the NDOT right-of way. This area is operated and maintained by the property owner and periodically inspected by the County for maintenance and housekeeping. The other discharge is in the area north and south of Jacks Valley Road from non-point sources such as one acre rural residential urban development. The roads have dirt roadside ditches which carry stormwater to undeveloped land to the north.

II.B.2.h If no WLA exists, but is developed during the term of this permit, then the BMP's outlined in the SWMP are expected to be sufficient for the duration of the permit.

OK.

II.B.2.i If Douglas County determines that additional control measures are needed, then Douglas County will revise the SWMP accordingly.

II.B.3. Douglas County has determined that Clear Creek has been listed on the 303 (d) list for fecal coliform, dissolved oxygen, zinc, iron, and temperature.

These parameters will be added to the monitoring program to determine if any additional BMP's are needed in the Douglas County Clear Creek watershed or at the outfall to Clear Creek.

The CCSWMP has been designed to implement the six minimum control measures identified in the MS4 permit to control stormwater discharges to Clear Creek to the MEP.

VI.A Minimum Control Measures

VI.A. Public Education and Outreach

VI.A.1. Public Education and Outreach: The permittee must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff.

The Douglas County website includes a link to the EPA website where educational materials can be found on steps the public can take to reduce pollutants in stormwater runoff. This is the minimum control measure. The Carson Water Subconservancy District (CWSCD) was formed under Nevada Revised Statutes (NRS) 621 and has as one of its primary functions public education and outreach. Douglas County Commissioners sit on the Board of the CWSCD and direct the public education and outreach. The activities conducted by CWSCD are above and beyond the minimum control measure and are included in the annual report each year for informational purposes and not permit compliance purposes.

Educational materials are available from a variety of sources including the Truckee Meadows Regional Stormwater Quality Management Program Best Management Practices (BMP's) to prevent stormwater pollution. Best Management Practices at a minimum include silt fence and/or vegetative buffer strips at all down slope boundaries.

VI.A.2. Decision Process The permittee must document the permittee's decision

process for the development of a stormwater public education and outreach program. The permittee's rationale statement must address both the overall public education program and the individual BMP's, measurable goals and responsible persons for the program. The rationale statement must include the following information, at a minimum:

The Douglas County minimum control measure for informing the public is to public notice the CCSWMP at a public meeting, place the draft plans on the County website and accept and respond to public comments. In addition to the MCM Douglas County supports organizations such as the CWSCD who regularly work in the Carson Valley to educate the public with river clean-up days, WET projects for school children, workshops for contractors and developers, education for the small rancher to manage stormwater, agriculture stormwater management and the development of watershed plans with a comprehensive approach to watershed health and management. Douglas County commissioners sit on various agencies, committees and attend workshops public television spots etc. to inform the public about the protection of stormwater.

VI.A.2.a The plan to inform individuals and households about the available steps to reduce stormwater pollution.

The County meets the MCM by informing individual households and commercial or retail businesses about stormwater pollution prevention through the County website and the link to the EPA website for Stormwater Pollution Prevention Educational materials are found. The County may also include information regarding stormwater pollution prevention at the public counter.

VI.A.2.b. The plan to inform individuals and groups on how to become involved in the stormwater program.

The Douglas County MCM will inform individuals and groups through the County website. Various organizations such as CWSCD involved with water quality in the valley and events sponsored by these groups or Douglas County are above and beyond the MCM for this permit. Educational materials may also be handed out at various events or shown on public television.

VI.A.2.c. The target audiences for the permittee's education program who are likely to have significant stormwater impacts (including commercial, industrial and institutional entities) and why those target audiences were selected.

The target audience for the Carson Urbanized Area covered by the CCSWMP is generally commercial and retail businesses in the North Valley area. Construction sites are also targeted and will be reached by the CCSWMP education program. The web site link is the MCM. Outreach such as the workshops, special events, group events etc. put on by the CWSCD are above and beyond the MCM required by the permit are also expected to reach the

target audience.

VI.A.2.d The target pollutants sources that the permittee's public education program is designed to address.

The target pollutant sources in the public outreach program are erosion from construction activities, discharge from parking lots and illegal dumping into storm drains. The target pollutants for the CCSWMP are the constituents, which are typical of discharges from parking lots. Those constituents are total suspended solids (TSS), total petroleum hydrocarbons (TPH), total phosphorous (TP) and turbidity. The new parameters of concern identified in the 2006 303(d) list include fecal coliform, dissolved oxygen, zinc, iron, and temperature. These pollutants will be targeted in the monitoring program for the next few years to determine if additional educational material should be developed for these constituents.

VI.A.2.e What is the permittee's outreach strategy, including the mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) you will use to reach your target audiences, and how many people are expected to be reached by your outreach strategy over a period of time.

The CCSWMP is taken to a public hearing and public comment is accepted at that hearing, the draft plan was posted on the County website to solicit comments. This is the MCM. The BOCC then will either adopt, modify or deny the CCSWMP. Information and activities performed by the CWSCD such as brochures, workshops, public television spots, education workshops for middle school children, river work days are some of the targeted strategies is above and beyond the MCM required by this permit. If 10% of the target audience is reached each year then 50% of the target audience can be reached over the permit life.

VI.A.2.f The person responsible for overall management and implementation of the permittee's stormwater public education and outreach program and if different, who is responsible for each of the BMP's identified for this program.

The Douglas County Public Works Department is ultimately responsible for the stormwater public education program.

VI.A.2.g The measures used to evaluate the success of this minimum measure, including the permittee selected measurable goals for each of the BMP's

Success in the public outreach control measure will be measured by implementation of the web site. Activities such as cooperation on workshops for contractors, students and developers, educational materials development and distribution, and public television programs are above and beyond the MCM. At least one of these public outreach activities occurring per year will be considered

a success.

VI.B. Public Involvement/Participation

VI.B.1 The permittee must at a minimum, comply with State and local public notice requirements when implementing a public involvement/participation program.

The CCSWMP is brought before the BOCC at a public hearing for review, comment and adoption, this is the MCM. The public noticing requirements are met for this public hearing and public comment is accepted at this meeting. The BOCC is required to adopt the CCSWMP for it to be in effect in Douglas County.

VI.B.2. Decision process. The permittee must document the decision process for the development of a stormwater public involvement /participation program. The permittee's rationale statement must address both the overall public involvement program and the individual BMP's measureable goals, and responsible persons for the program. The rationale statement must include the following information at a minimum:

VI.B.2.a The steps taken to involve the public in the implementation of the stormwater management plan.

At a minimum, State and local public notice requirements will be complied with when the CCSWMP was reviewed by the BOCC at a public meeting held December 15, 2011. The draft plan was posted on the County website and public comment was received and responses are provided with this plan as Attachment B. A second public meeting was held on January 5th, 2012 to present the Final CCSWMP and provide responses to the public comments received. The CCSWMP is presented to the County Board of Commissioners is placed on the respective agenda, which is properly public noticed.

VI.B.2.b The plan to actively involve the public in the development and implementation of your program.

The County actively involved the public by taking the CCSWMP as a draft tot eh BOCC on December 15. 2011 and placing the draft plan on the County website for public comment. This is the MCM. The public comments and responses are included as Attachment B. The Final CCSWMP was again public noticed and presented at the January 5, 2012 BOCC meeting where public comments were solicited.

VI.B.2.c The target audiences for the permittee's public involvement program, including a description of the types of ethnic and economic groups engaged. The permittee is encouraged to actively involve all potentially affected stakeholder

groups, including commercial and industrial businesses, trade associates, environmental groups, homeowners associations and educational organizations.

The target audience for the public involvement program include contractors developers, commercial businesses, industry, agriculture, the Clear Creek Watershed Group and residential homeowners. No specific ethnic or economic group will be targeted.

VI.B.2.d The types of public involvement activities included in the permittee's program. May include:

VI.B.2..d.i Citizen representatives on stormwater management panel;

This will be considered should the opportunity arise for a stormwater management panel.

VI.B.2.d.ii. Public hearings,

Douglas County held public hearings at the December 15, 2011 and the January 5, 2012 BOCC meetings on the adoption and content of the CCSWMPs as well as the response to public comment on the plans.

VI.B.2.d.iii Citizen volunteers willing to educate others about the program, volunteer monitoring or stream clean-up activities.

The MCM for this permit condition is for the County to support citizen volunteers in their endeavors. The Carson Water Subconservancy District, the Carson Valley Watershed plan working group, Douglas County Builders Association, UNR Cooperative Extension are a few of the organizations that are attended by Douglas County staff and supported in their efforts with stormwater pollution prevention and education and are above and beyond the MCM for this permit.

VI.B.2.d.iv Volunteer monitoring for stream or lake clean-up activities.

Douglas County supports Volunteer monitoring efforts as a MCM. Activities managed by the CWSCD in cooperation with Douglas County are above and beyond the MCM for this permit.

VI.B.2.e The person(s) responsible for the overall management and implementation of the permittee's stormwater public involvement/participation program and, if different, who is responsible for each of the BMP's identified for this program.

The Douglas County Public Works Department is responsible for implementing the public involvement and participation program. Staff are involved with other

agencies to promote stormwater issues whenever possible.

VI.B.2.f Metrics the permittee will use to evaluate the success of this minimum measure, including how you selected the measurable goals for each of the BMP's?

Success will be measured by the presentation of the CCSWMP to the public at a Commissioners meeting. The CCSWMP was presented at the December 15th 2011 and January 5, 2012 Board of Commissioners meetings.

VI.C. Illicit Discharge Detection and Elimination

VI.C.1 The permittee must:

VI.C.1.a Develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 40 CFR§122.26(b)(2) into the Permittee's MS4.

County staff will be advised about Title 8 and impacts of non-stormwater discharges. County staff will be trained to detect and address these discharges during annual maintenance of stormwater systems and during routine maintenance around the County. Any illicit discharges will be dealt with through the District Attorneys office to prosecute offenders.

VI.C.1.b Develop a storm sewer map showing the location of all outfalls and the names and location of all waters of the United States that receive discharge from those Outfalls.

The County has developed a map of stormwater systems in the Douglas County portion of the CAMPO watershed area that discharges to Clear Creek. The map shows the location of the outfalls and Clear Creek as the receiving water. The map will be used in the County's program to detect and eliminate illicit discharges.

The map of storm sewers in the Carson Urbanized Area was developed by the Douglas County GIS department using as-built's of all the projects in the Clear Creek watershed in Douglas County. The storm system map will be updated with as-built's of all new projects in the Carson Urbanized Area, annually as appropriate. This map of the storm sewers has been given to the Roads Department who is responsible for the annual maintenance program. The annual maintenance program includes hydrovacuuming all the drop inlets in the public right of way and the oil/water separator on Vista Grande. The activity is usually contracted out to an outside vendor.

VI.C.1.c. To the extent allowable under State, or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into the permittee's storm sewer system and implement appropriate enforcement

procedures and actions.

Title 8 Section 14.030 Unlawful dumping of garbage, rubbish and waste matter, of the Douglas County Code in summary makes it unlawful to discharge any deleterious or offensive matter into any water or stream. Chapter 1.08 General Penalty of the Douglas County code makes it unlawful to violate any provision of the Code. These regulations prohibit non-stormwater discharges into Clear Creek and provide an enforcement system to fine or otherwise punish offenders.

VI.C.1.d Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the permittee's system.

County staff will be advised about Title 8 and impacts of non-stormwater discharges. County staff will be trained to detect and address these discharges during annual maintenance of stormwater systems and during routine maintenance around the County. Any illicit discharges will be dealt with through the District Attorney's office to prosecute offenders.

The plan to detect illicit discharges is to inspect the existing outfall under County management. The outfall is from a sand/oil/water separator, which will be inspected during a storm event, and annually during the annual sediment removal activity. Any unusual odors or monitoring data will be investigated and reported to management for further action.

The second existing outfall is the NDOT culvert on US 395. A discharge from a privately maintained stormwater system discharges to the NDOT culvert, which in turn discharges to a dirt channel which eventually reaches Clear Creek. The privately owned and maintained detention pond and storm drainage facilities including flow restrictors and oil pollution control devices are covered under the conditions of approval for the development of the Carson Valley Plaza, which requires the owner to maintain the storm drain system permanently. If an illicit discharge is encountered, sampling the discharge is considered and tracing the illicit discharge back to the source is a likely activity. If a source can be determined, the case can be referred to the District Attorney for prosecution under Douglas County code.

VI.C.1.e. Inform public employees, business and general public about the hazards associated with illegal discharges and improper disposal of waste.

The Douglas County website contains a link to the EPA website which contains information about the hazards associated with illegal discharges and improper disposal of waste. This will educate the general public as an MCM. County newsletters may include articles about stormwater pollution prevention from time to time.

VI.C.1.f and g Address illicit discharges, if the permittee identify them as significant contributors of pollutants to the permittee's small MS4:

Illicit discharges in the Clear Creek Watershed have not been detected to the point that they are considered significant contributors. However, it was determined that issues have arisen with Site Improvement Permits which expired before the permittee was able to install permanent BMP's. The District Attorney's office is working on new County Codes which will require the property owner to return the property to pre-developed conditions should this situation occur in the future.

VI.C.1.g The permittee may also develop a list of other occasional incidental non-stormwater discharges (e.g. non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges.

If occasional non-stormwater discharges are found to merit control conditions, then Douglas County will develop such requirements.

VI.C.2. The permittee must document the decision process for the development of a stormwater illicit discharge detection and elimination program. The permittee's rationale statement must address both the overall illicit discharge detection and elimination program and the individual BMP's, measurable goals, and responsible persons for the program. The rationale statement must include the following information:

VI.C.2.a. The plan the permittee will use to develop a stormwater sewer map showing the location of all outfalls and the names and location of all receiving waters. Describe the sources of information the permittee used for the maps and how the permittee plans to verify the outfall locations with field surveys. If already completed describe how the map was developed. Also, describe how the map will be regularly updated.

The map of storm sewers in the Carson Urbanized Area was developed using as-built's of all the projects in the Clear Creek watershed in Douglas County. The storm system map will be updated with as-built's of all new projects in the Carson Urbanized Area , annually as appropriate. This map of the storm sewers has been given to the Roads Department who is responsible for the annual maintenance program. The annual maintenance program includes hydrovacuuming all the drop inlets in the public right of way and the oil/water separator on Vista Grande. The activity is usually contracted out to an outside vendor.

VI.C.2.b The mechanism (ordinance or other regulatory mechanism) the permittee will use to effectively prohibit illicit discharges into the MS4 and why the mechanism was chosen. If the permittee's ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with the program.

Title 8 Section 14.030 Unlawful dumping of garbage, rubbish and waste matter, of the Douglas County Code in summary makes it unlawful to discharge any deleterious or offensive matter into any water or stream. Chapter 1.08 General Penalty of the Douglas County code makes it unlawful to violate any provision of the Code. These regulations prohibit non-stormwater discharges into Clear Creek and provide an enforcement system to fine or otherwise punish offenders.

The Douglas County Public Works Department is ultimately responsible for the overall management and implementation of the stormwater illicit discharge detection and elimination program. Success will be determined as an ongoing effort to detect and eliminate any illicit discharges.

VI.C.2.c The permittee's plan to ensure through appropriate enforcement procedures and actions that the illicit discharge ordinance (or other regulatory mechanism) is implemented.

Title 1 and 8 are available on the County website. A link has been set up to the EPA stormwater website, and the CCSWMP is available on the website. In this way, the public can be informed of the stormwater program and the County code. The District Attorney's office regularly enforces the County Code.

VI.C.2.d Describe your plan to detect and address illicit discharges to your system, including discharges from illegal dumping and spills

The Douglas County transfer station accepts hazardous waste at no fee to the public and in this way Douglas County has reduced the need for the public to illegally discharge hazardous materials, possibly into the stormwater system. The County staff including, inspectors, technicians and Code Enforcement are all trained to watch for any illegal dumping or discharges. During the annual maintenance program any unusual odors or substances noticed by the Road Department are reported to Public Works staff. If suspicious circumstances are found, an investigation is started and followed up to and including a referral to the District Attorney's office where violators can be prosecuted.

VI.C.2.d.i. Procedures for locating priority areas which include areas with a higher likelihood of illicit connections (e.g. areas with older sanitary sewer lines, for example) or ambient sampling to locate impacted reaches.

The CCSWMP covers such a small area and the facilities are all new (e.g. less than 10 years old, that a plan for prioritizing areas for illicit discharge detection is not necessary at this time. Should conditions change in the future, Douglas County will develop a prioritization plan.

VI.C.2.d.ii Procedures for tracing the source of an illicit discharge, including the specific techniques that will be used to detect the location of the source.

The area encompassed by this permit is so small that the source of any illicit discharge will be located by opening manholes and moving back upstream until the discharger can be located. If this is not successful, it is likely that a contractor with a video camera capable of taking pictures of the inside of storm sewer lines will be enlisted to help determine the location of the discharge.

VI.C.2.d.iii Procedures for removing the source of the illicit discharge.

Illicit discharger sources will be removed by action by the District Attorney's office.

VI.C.2.d.iv Procedures for program evaluation and assessment:

The Public Works department will evaluate the systems annually during the maintenance program to determine if any illicit discharges have been encountered or missed.

VI.C.2.d.v The plan the permittee will use to inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste. Discuss how this plan will coordinate with the public education minimum measure and the pollution prevention/good housekeeping minimum measure programs.

Public employees will be informed through the use of the County newsletter and website including articles about stormwater pollution prevention and what to do if an illegal discharge is found. The public will be informed through the use of the County website and public hearings on the CCSWMP. Public education will be coordinated through the working groups including the CWSCD for all different levels of the public including contractors, school children, developers and volunteers.

VI.C.2.d.vi The person(s) responsible for overall management and implementation of your stormwater illicit discharge detection and elimination program and if different, who is responsible for each of the BMP's identified for this program.

The Public Works Department and the Community Development Departments are ultimately responsible for the overall management of this program.

VI.C.2.d.vii How will the permittee evaluate success of this minimum measure including the measurable goals for each of the BMP's were selected.

Success will be determined with follow-up and elimination of all illicit discharges detected; a current storm sewer map being developed and kept current; the web site being operational; at least one article for public employees.

VI.D Construction Site Storm Water Runoff Control

VI.D.1 The permittee must develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the permittee's small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the NPDES permitting authority waives requirements for stormwater discharges associated with small construction activity in accordance with 122.26(b)(15)(1), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites. The permittee's program must include the development and implementation of at a minimum:

VI.D.1.a An ordinance or other mechanism to require erosion and sediment controls, as well as sanction to ensure compliance, to the extent allowable under State, or local law;

Douglas County Design Criteria and Improvement Standards Manual (DCDCIS), Division 7, Erosion Control Design Criteria requires all construction sites requiring a Site Improvement Permit (SIP) to include erosion control as appropriate. The Design Manual requires construction sites to utilize erosion control techniques in the Nevada "Best Management Practice Manual". Reference is also made to the Truckee Meadows Regional Stormwater Quality Program where updated BMP's can be found. County engineering staff reviews and approves all SIP's. This review includes a review of the proposed erosion control measures. SIP's are public information and can be reviewed at the County offices in Minden. Building Permit and SIP applications require that the applicant indicate whether they have submitted an NOI to the State of Nevada to be included on the General Permit for Stormwater Associated with Construction Activity, or Small Construction Activity (NVR100000) if the project will disturb one acre or greater. The DCDCIS is available on the County Website.

VI.D.1.b Requirements for construction site operators to implement appropriate erosion and sediment control best management practices.

The County currently has an SIP tracking system and will utilize it to track erosion control measures. County staff inspects all construction projects to ensure that erosion control measures are installed per the approved SIP. If the County inspector determines that the erosion control BMP's have not been installed per the SIP a Red Tag-Stop Work order can be issued to the contractor. Work is not allowed to resume until the issues are resolved.

VI.D.1.c Requirements for construction site operators to control waste such as discharged building materials, concrete truck washout, chemicals, litter, and

sanitary waste at the construction site that may cause adverse impacts to water quality.

The Design Manual requires the use of BMP's and the construction permits as well as Title 8 requirements that the construction site be managed to control any waste or runoff.

VI.D.1.d Procedures for site plan review which incorporate consideration of potential water quality impacts.

All plans for construction in Douglas County are reviewed by County engineers and inspectors for erosion control BMP's.

VI.D.1.e Procedures for receipt and consideration of information submitted by the public; and

All complaints are submitted to the Code Enforcement Branch or the District Attorney and investigated for potential violations of County Code.

VI.D.1.f Procedures for site inspection and enforcement of control measures.

County staff inspects all construction projects to ensure that erosion control measures are installed per the approved SIP. If the County inspector determines that the erosion control BMP's have not been installed per the SIP a Red Tag-Stop Work order can be issued to the contractor. Work is not allowed to resume until the issues are resolved.

VI.D.2 The permittee must document the decision process for the development of a construction site stormwater control program. The permittee's rationale statement must address both the overall construction site stormwater control program and the individual BMP's, measurable goals, and responsible persons for the program. The rationale statement must include the following at a minimum:

VI.D.2.a The mechanism (ordinance or other regulatory mechanism) the permittee will use to require erosion and sediment controls at construction sites and why that mechanism was chosen.

Douglas County Code, Title 20.800 requires that all construction projects obtain a Site Improvement Permit. The DCDCIS requires that all projects include erosion controls and utilize the Nevada BMP manual. Those sites are inspected by County inspectors to ensure that BMP's are installed and maintained. Title 20 can be found on the County website.

VI.D.2.b The permittee's plan to ensure compliance with the erosion and sediment control regulatory mechanism, including the sanctions and enforcement

mechanisms that will be used to ensure compliance. Describe the permittee's procedures for when the permittee will use certain sanctions. Possible sanctions include non-monetary penalties (such as stop work orders), fines, bonding requirements, and/or permit denials for non-compliance.

County staff inspects all construction projects to ensure that erosion control measures are installed per the approved SIP. If the County inspector determines that the erosion control BMP's have not been installed per the SIP a Red Tag-Stop Work order can be issued to the contractor. Work is not allowed to resume until the issues are resolved. Additional sanctions include prosecution under Title 8.

VI.D.2.c The permittee's requirements for construction operators to implement appropriate erosion and sediment control BMP's and control waste at construction sites that may cause adverse impacts to water quality. Such wastes include discharged building materials, concrete truck washouts, chemicals, litter and sanitary wastes.

Douglas County Design Criteria and Improvement Standards Manual, Division 7, Erosion Control Design Criteria requires all construction requiring a Site Improvement Permit (SIP) to include erosion control as appropriate. The Design Manual requires construction sites to utilize erosion control techniques in the Nevada "Best Management Practice Manual". County engineering staff reviews all SIP's. This review includes the erosion control measures. SIP's are public information and can be reviewed at the County offices in Minden. Building Permit and SIP applications require that the applicant indicate whether they have submitted an NOI the State of Nevada to be included on the General Permit for Stormwater Associated with Construction Activity, or Small Construction Activity (NVR100000) if the project will disturb one acre or greater.

VI.d.2.d The permittee's procedures for site plan review, including the review of reconstruction site plans, which incorporate consideration of potential water quality impacts. Describe the permittee's procedures and the rationale for how the permittee will identify certain sites for site plan review, if not all plans are reviewed. Describe the estimated number and percentage of sites that will have pre-construction site plans reviewed.

All site plans are reviewed and inspected for erosion control BMP's for compliance with the Design Manual which requires the use of erosion control measures during construction.

VI.2.D.e The permittee's procedure for receipt and consideration of information submitted by the public. Consider coordinating this requirement with the public education program.

Complaints are registered and sent to the Code Enforcement Branch or the

District Attorney for follow up. The public may register complaints by phone or by coming in to the public counter.

VI.2.D.f The permittee's procedures for site inspection and enforcement of control measures, including how the permittee will prioritize sites for inspection.

All construction sites are inspected. A Notice of Completion is issued at the end of the project. All stormwater and drainage improvements are required to be maintained by the private property owner or for public improvements by the County or other public agency. The County has a similar process for Building Permits including a tracking system, inspections and a Certificate of Occupancy at the end of the project.

VI.D.2.g The person(s) responsible for the overall management and implementation of the construction site stormwater control program and, if different, the person(s) responsible for each of the BMP's identified in this program

The Douglas County Community Development Department is responsible for the overall management and implementation of the construction site stormwater control program. The County Commissioners adopted the Design Manual in 1998 and the CCSWMP in 2011.

VI.D.2.h. Describe how the Permittee will evaluate the success of this minimum measure, including how the Permittee selected the measurable goals for each of the BMP's.

Success of the Construction Site Stormwater Run-off Control will be determined by completed plan reviews, site inspections and installation of BMP's at each site.

VI.E Post-Construction Stormwater Management in New Development and Redevelopment

VI.E.1 The Permittee must develop a post-construction stormwater management BMP program for new development and significant redevelopment projects that is suited for the unique hydrologic, hydrogeologic and regional conditions of the Permittee's locality. The program shall focus on planning procedures consistent with the goals identified in Part VI.E.2.

All development in Douglas County goes through a design review process at Community Development where Conditions of Approval are established and are enforceable. One of the conditions of approval on all development is that they maintain all drainage facilities on their property. The Douglas County engineers and inspectors ensure the site installs permanent BMP's per the civil plans and conditions of approval on all development require maintenance of these facilities.

VI.E.2 The post-construction stormwater management program shall have the following goals:

VI.E.2.a To prevent stormwater discharges from post-construction projects from causing or contributing to downstream violations of water quality standards of any pollutant of concern to the MEP; and

VI.E.2.b To promote the improvement of ambient water quality by reducing the discharge of pollutants in stormwater.

The DCDCIS Division 6 Storm Drainage specifically requires that drainage leaving a development may not be of a quality that will adversely affect downstream uses. The DCDCIS has design standards for treatment facilities and the volume and flow of stormwater leaving developments.

VI.E.3 The post-construction stormwater management program shall address at a minimum the following elements:

VI.E.3.a.i Describe how the Permittee will develop, implement and enforce a program to address post-construction urban run-off from projects that disturb greater than one acre and less than one acre that are part of a larger common plan of development or sale, that discharge into the permittee's MS4. The permittee's program must ensure that controls are in place that would prevent or minimize water quality impacts;

New development and redevelopment projects are required to go through a County Development Review process. The Development Review process includes mitigation measures for stormwater runoff from development pursuant to the DCDCIS, Division 6 Drainage (County website). Conditions of approval for projects include landscaping, stormwater mitigation measures, and erosion control measures and long-term maintenance of stormwater, drainage mitigation, erosion control improvements throughout the life of the project.

Title 20.100.060 Drainage Facilities (County website) requires that any development include drainage facilities "capable of conveying...stormwater runoff ...without resulting in erosion, sedimentation or flooding of the receiving water. A Building permit (BP) or Site Improvement permit (SIP) is required prior to starting construction. During permit application review erosion control measures are reviewed and the use of the State of Nevada "Best Management Practices" is reviewed. The SIP inspectors or BP inspectors ensure that the BMP's are in place during construction.

VI.E.3.a.ii Describe how the Permittee will develop low- impact development (LID) measures that will remain in effect after construction is complete and that are effective and appropriate for the Permittee's locality and it's environment.

The DCDCIS Division 6, Drainage, includes a section on Low Impact Design and although it is small, it opens the door for projects to include this concept in their design. Specifically, the Truckee Meadows Regional Stormwater Quality Management Program Low Impact Development Handbook is referenced as it was developed for the region and has been found to be appropriate for projects in Douglas County.

VI.E.3.a.iii Describe how the Permittee will develop any additional structural and non-structural BMP's that will remain in effect after construction is complete and are effective and appropriate for the Permittee's locality and its environment.

Any additional stormwater facilities the County would develop would be designed per the DCDCIS. Should the opportunity for this to occur arise, the County will include the plan in a CCSWMP revision, however, none are anticipated at this time.

VI.E.3.a.iv Describe procedures to assure that future regional flood management projects assess the impacts on the water quality of receiving water bodies;

There are no regional flood projects planned at this time. If in the future, a regional flood management project is designed, it would be required to meet the standards in the DCDCIS which include assessing impacts to water quality.

VI.E.3.a.v Describe how the Permittee will develop and implement an ordinance or other regulatory mechanism to address urban stormwater runoff from development projects;

New development and redevelopment projects are currently required to go through the County Development Review process. The Development Review process includes mitigation measures for stormwater runoff from development pursuant to the DCDCIS, Division 6, Drainage (County website). Conditions of approval for all projects include landscaping, stormwater mitigation measures, and erosion control measures and long-term maintenance of stormwater, drainage mitigation, erosion control improvements throughout the life of the project.

Title 20.100.060 Drainage Facilities (County website) requires that any development include drainage facilities "capable of conveying...stormwater runoff ...without resulting in erosion, sedimentation or flooding of the receiving water. A Building permit (BP) or Site Improvement permit (SIP) is required prior to starting construction. During permit application review erosion control measures are reviewed and the use of the State of Nevada "Best Management Practices" is reviewed. The SIP inspectors or BP inspectors ensure that the BMP's are in place during construction and that permanent facilities are constructed per the approved plans.

VI.E.3.a.vi Describe how the Permittee will provide verification of maintenance provisions for structural BMP's located on private property that are subject to post-construction structural BMP requirements.

Douglas County uses existing staff to verify operation and maintenance of drainage systems. Periodic inspections are conducted to verify adequate maintenance. An unsuccessful attempt at creating a Stormwater Utility last year would have provided resources for a more structured program. This proposal may be submitted to the BOCC at some point in the future.

VI.E.3.a.vii Describe how the Permittee will develop and implement an inventory and tracking system for post construction structural stormwater BMP's. The inventory and tracking system shall use at a minimum the following items; project or property owners name, project location, project acreage, BMP type and description, inspection or contact date and summary of recommendations or any necessary corrective actions undertaken.

At the present time, Douglas County has a total of three structural BMP systems in the CCSWMP. They are Clear Creek Plaza, Carson Valley Center, LLC, and the Douglas County facilities in Vista Grande. A stormwater maintenance file is maintained by the Public Works Department and updated as appropriate. As time permits, the information above may be put into a database, it is all accessible as needed in the form of GIS and as-builts.

VI.E.3.a.viii Describe how the Permittee will inspect and enforce the proper installation and long-term maintenance of post-construction structural BMP's

Douglas County construction inspectors inspect the proper installation of post-construction BMP's. Annual inspections of the stormwater facilities owned and operated by the County are conducted and annual maintenance is performed as required. Periodic inspections of the privately owned and operated BMP's are conducted by Public Works staff. Results of the inspections will be reported in the annual reports. The conditions of approval on each project in the County require the perpetual maintenance of all drainage facilities so any enforcement that is required will be turned over to the District Attorney for prosecution if necessary.

VI.E.3.a.ix Describe how the Permittee will update it's MS4 maps to show areas of new development or significant redevelopment (NDSR), including any new stormwater major infrastructure that was constructed to serve these areas.

Douglas County will periodically update the stormwater infrastructure maps when new projects are completed. As-builts are now scanned into the County computer system where they can be accessed by Public Works staff.

VI.E.3.b All NDSR projects submitted to the Permittee shall be subject to one or

more of the SWMP design standards developed in accordance with Part VI.E.4.

VI.E.3.b.i-vii Residential subdivisions greater than 5 acres, hillside development, commercial and industrial development, automotive repair shops, retail gasoline outlets, restaurants, parking lots, any other developments where review by Douglas County is deemed appropriate.

Douglas County reviews all NDSR and does not place restrictions on which new developments or redevelopments are required to obtain reviews. The County review includes requirements that the development must meet to protect stormwater and mitigate drainage impacts.

VI.E.4 Design Standards

Douglas County has adopted the DCDCIS which includes design standards for development. Division 6, Storm Drainage and Division 7, Improvement Plans include the design standards required by the County. The DCDCIS was developed to implement Title 20 code requirements and Master Plan Goals as outlined above.

VI.E.4.a Peak-Urban Runoff Discharge Rates

DCDCIS, Division 6.1.5 Peak discharge rates for the 2 year, 24 hour storm, the 10 year 24 hour storm and the 25 year 24 hour storm are restricted to pre-developed flows.

VI.E.4.b Site Design BMP's

Post construction BMP's are required for all NDSR in Douglas County and site plan design criteria are included in the DCDCIS. Site plan design are reviewed by County Engineering staff, while construction inspections are conducted by County construction inspectors.

VI.E.4.c Source Control BMP's

VI.E.4.c.i Slope and channel design or protection to minimize erosion

DCDCIS design standards for slopes and channel design are included at 6.1.4.5.6 and 7, Section 6.6.5.16 Outlet Protection and 6.6.7 Drainage Channels and Section 7.2.11 Erosion Control Design.

VI.E.4.c.ii Outdoor material storage areas designed to minimize the risk of stormwater runoff contacting pollutants.

Douglas County reviews all developments in accordance with the International Code which requires secondary containment equal to or greater than the volume

stored this minimizes the risk of pollutants entering stormwater.

VI.E.4.c.iii Trash storage areas designed to minimize the risk of stormwater runoff contacting and carrying away pollutants to the MS4.

Douglas County requires that Trash Enclosures be designed per the DCDCIS Appendix A. The design standards require the floor be sloped to a drain that discharges to the sewer system. The drain can be closed by the owners. This allows the owners to clean the trash enclosure and not discharge to the stormdrain system.

VI.E.4.d Structural Treatment Control BMP's

The DCDCIS Division 6, Storm Drainage, includes the design and sizing criteria for stormwater detention, treatment and retention facilities.

VI.E.4.d.i.3 Volumetric Treatment Control BMP design criteria

Douglas County uses an alternative design standard for sizing treatment facilities. The design storm for treatment facilities in Douglas County is the 25 year 24 hour storm event and the volume for any treatment facility is the difference between the pre-developed flow calculated using, rational method, HEC-HMS, HEC-RAS, TR-20, TR-55 or another approved method and the post-developed flow. Retention facilities must be sized for 150 percent of the post developed flow and only used when no downstream conveyance exists. See Division 6 Storm Drainage for a complete description of design criteria for treatment facilities.

VI.E.4.d.ii Flow based BMP design criteria

Douglas County uses synthetic rainfall data developed by the Soil Conservation Service for a Type II 24 hour storm. This method has been found to produce very conservative designs in determining the maximum flow rate of runoff from rainfall per hour, for each hour of a storm event from a development. A developer may request to use NOAA Atlas 14 site specific data as per Division 6.6.2 of the DCDCIS.

VI.E.4.f Effect of the Post-Construction Stormwater Management Program on Water Quality Standards and Drinking Water Supply

The criteria developed and used to design post-construction stormwater management facilities should not allow increases in the discharges of constituents of concern in the CCSWMP.

VI.F. Pollution Prevention/Good Housekeeping for Municipal Operations

VI.F.1.a Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

There are no municipal operations in the Clear Creek Watershed. Should any municipal operations be permitted in the Clear Creek Watershed, this plan will be modified, however, at a minimum the following operations are conducted.

The operation and maintenance program in place for the portion of the Carson Urbanized Area of Douglas County is to pump the sand/oil/water separator and the drop inlets in the public right-of-way on Vista Grande and Topsy Lane annually. This good housekeeping/pollution prevention program was determined to be adequate based on manufacturer's recommendations. The Roads Department is in charge of this part of the stormwater program and receives a complete report on what the contractor finds at each drop inlet including pictures.

VI.F.1.b Using training materials that are available from EPA, the Division, Tribe or other organizations, the permittee's program must include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

Douglas County has training programs for road maintenance operators, utility operators and maintenance workers which includes pollution prevention through good housekeeping in County projects. Parks and Recreation employees keep parks clean as part of their everyday duties, good housekeeping is a part of their training. Specific activities Parks conducts to reduce stormwater pollutants is to apply mulch to planting areas to reduce erosion and applies soil stabilizers to walking paths to reduce pollutants to stormwater. The County newsletter will include information in pollution prevention and good housekeeping on an annual basis.

The Clear Creek area is a new area for development and the projects have been developed in accordance with the Design Manual, therefore, all of the stormwater runoff has some type of BMP prior to discharge into Clear Creek. The majority of the paved area is treated in detention ponds. Portions of the pavement runoff go directly to the sand/oil/water separator on Vista Grande. The side slopes in that area are covered with an erosion control mat and are required to be maintained by the property owner. Construction activities are covered under the erosion control requirements on the site improvement permit.

No fleet maintenance or park or open space is included in the Clear Creek area.

VI.F.2 Decision process. The permittee must document the decision process for the development of a pollution prevention/good housekeeping program for municipal operations. The rationale statement must address both the overall

pollution prevention/good housekeeping program and the individual BMP's, measurable goal, and responsible persons for the program. The rational statement must include at a minimum:

VI.F.2.a The permittee's operation and maintenance program to prevent or reduce pollutant runoff from the permittee's municipal operations. The permittee's program must specifically list the municipal operations that are impacted by this operation and maintenance program, The permittee must also include a list of industrial facilities the permittee own or operate that are subject to the Divisions Multi-Sector General Permit (MSGP) or individual MPDES permits for discharges of stormwater associated with industrial activity that ultimately discharge to the permittee's MS4. Include the Division permit number or a copy of the Industrial NOI form for each facility.

The decision process for the development of a pollution prevention/good housekeeping program for municipal operations has been ongoing through the years of maintaining the stormwater facilities in Douglas County. County staff are trained in the various areas that they work. Good housekeeping is a part of general training for County employees. Utility operators receive ongoing training on safety and certification self-training which includes good housekeeping/pollution prevention as a part of the certification process. Water service purveyors are inspected annually for sanitary surveys on each water system and good housekeeping is one of the elements of the survey. Housekeeping is an inspection element of the potable water systems and sewer system preventative maintenance program performed by the utility department on an ongoing weekly, monthly, quarterly, semi-annual and annual basis.

During repair of County facilities, the employees are aware that erosion control measures are needed in certain repair situations and use BMP's while maintaining County systems. Inhouse training is ongoing with regards to erosion control measures on each site specific project. Each site is evaluated with regards to sensitivity to erosion.

The Douglas County Road department has an annual inspection and maintenance contract for all of the drop inlets and stormdrain facilities in the public right-of-way. All inlets are inspected and hydrovaccuumed if needed. A report including pictures of each drop inlet is submitted to the County after each maintenance event. So for the annual maintenance has been sufficient and more often maintenance has not been necessary. The contractor also pumps the sludge from the sand/oil/water separator on Vista Grande.

VI.F.2.b. Any employee training program the permittee will use to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances and stormwater system maintenance. Describe any existing, available materials the permittee plans to use. Describe how this training program will be coordinated with the outreach programs developed for the public

information minimum measure and the illicit discharge measure.

Douglas County employees involved with maintenance and repair of County parks, utilities and roads are trained and inspected on their good housekeeping procedures as a part of their job performance. Good housekeeping is a goal of management and a safe workforce and is included in job descriptions for employees involved in these activities. The County newsletter will include articles on good housekeeping and pollution prevention. Links to the EPA website will be included in the newsletter so that employees can get more information as needed for their jobs.

No fleet maintenance occurs in the CCSWMP area and there are no parks in this area.

VI.F.2.c The permittee's program description must specifically address the following areas:

VI.F.2.c.i Maintenance activities, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the permittee's MS4. Controls for mitigating the discharge of pollutants from roads

The measurable goal for this element of the plan is to continue to follow the existing erosion control measures and permitting program existing in the Douglas County Design Manual, Master Plan and Title 20. Floatables can be reduced by good housekeeping on construction sites and after development by good housekeeping.

Douglas County maintains roads in the CCSWMP by road sweeping, drop inlet and culvert cleaning on an annual basis. No other municipal operations such as salt storage, fuel stations, vehicle maintenance etc. occur in the CCSWMP area.

VI.F.2.c.ii Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yard, waste transfer stations, fleet maintenance shops with outdoor storage areas, and salt/sand/storage locations and snow disposal areas the permittee operates

The Road Department is responsible for maintaining roads in Douglas County. This includes the annual stormwater drainage facility inspection and maintenance, including road sweeping as necessary. The Road Department either contracts this activity out to a company with hydrovacuum trucks or borrows equipment and performs the maintenance in house. The Douglas County Public Works Department is ultimately responsible for this element.

VI.F.2.c.ii.5 Procedures to ensure that proper disposal of waste removed from the permittee's MS4 and the permittee's municipal operations, including dredging spoil, accumulated sediments, floatables, and other debris.

The contractor responsible for maintaining the drop inlets and oil/water separator is required by contract to dispose of the waste collected during the maintenance in a proper approved waste disposal facility.

VI.F.2.c.ii.6 The person responsible for the overall management and implementation of the pollution and prevention/good housekeeping program.

The Public Works Department and particularly the Road Department is responsible for the overall management and implementation of the pollution prevention/good housekeeping program..

VI.F.2.c.ii.7 Douglas County will determine success as maintaining the roads in the CCSWMP area at least annually in a proper manner.

VI.G. Carson City UA Discharges to Clear Creek

V.G.1 Permittee's with the Carson City UA shall develop a separate Clear Creek Master Stormwater Management Program (CCSWMP). The CCSWMP must be developed, implemented, and enforced to reduce the discharge of pollutants to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of a construction area, unless a sediment basin providing storage for a calculated volume of runoff from a 2 year 24 hour storm or 3600 cubic feet of storage per acre drained, shall be provided. The CCSWMP shall include the following:

IV.G.1.a. A detailed description of BMP's that have been or will be implemented on construction projects located in the Clear Creek watershed;

Specifically, Douglas County uses the Nevada "Best Management Practice Manual" developed by the State of Nevada, Department of Conservation and Natural Resources for erosion control techniques. The use of the State BMP manual is required in the Douglas County Design Criteria and Improvement Manual (DCDCIS Design Manual) for each and every development project in Douglas County. Additionally, the Truckee Meadows Regional Stormwater Quality Management Program is referenced and may be used as a guide to BMP plan development. Erosion control measures, and drainage studies demonstrating the applicant has mitigated flows to pre-developed flows and that downstream water quality will not be impacted for the design storm must be submitted and approved by Douglas County Community Development engineers. The Design Manual is the guidance used by County Engineers in reviewing all Civil plans, drainage reports, temporary and permanent erosion control plans for all development in Douglas County. During construction, construction inspectors

ensure that the temporary and permanent BMP's shown on the Civil plans are properly installed, maintained and operational. After construction of permanent erosion control measures, the individual property owners are responsible for maintaining BMP's installed on private property. In cases where projects are not completed and work is abandoned prior to installation of permanent BMP's, the District Attorney's office is working on nuisance regulations to require that the property is brought back to pre-developed conditions.

VI.G.1.b A detailed description of sediment controls for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) that have been, or will be, used on construction areas located in the Clear Creek watershed;

The County Design Criteria and Improvement Standards (DCDCIS), adopted by the Board of County Commissioners (BOCC) includes requirements for construction projects to provide erosion and sediment controls complying with the CCSWMP. The one specific requirement for detention basin design in the Clear Creek watershed that can be found only in the CCSWMP is the requirement for construction sites to use a minimum sediment storage volume of 3,600 ft³ or the calculated volume of run-off from a 2 yr 24 hour storm event. All other requirements are already included in the DCDCIS. The DCDCIS is available on the Douglas county website at http://www.douglascountynv.gov/sites/CDAdmin/administration/design_manual/Design_Criteria-Imp_Std_6-10-09.pdf and has not been attached to this plan.

The CCSWMP identifies that construction projects will be reviewed against the Design Manual, Title 20 and the Nevada BMP manual. Stormwater discharges are required to be controlled and mitigation measures include collection, detention, and in some cases treatment. Each new development in the Clear Creek watershed is reviewed against these strict guidelines. The Douglas County development review process using these documents ensures that stormwater discharges are managed to the MEP.

VI.G.1.b. A detailed description of sediment controls for all down-slope boundaries) and those side-slope boundaries deemed appropriate as dictated by individual site conditions) that have been, or will be used on construction areas located in the Clear Creek watershed;

Each new development project which comes to Douglas County is reviewed against the Design Manual, Title 20 and the Nevada BMP manual and during this rigorous review process, stormwater mitigation and treatment methods are determined on a site specific basis. Each new development is required to submit a Technical Drainage Report stamped by a Nevada Professional Engineer which is a site specific design of the stormwater management system. Construction Inspectors ensure that the site is constructed per the stamped civil drawings and that during construction temporary and permanent BMP's are installed and

maintained.

Specifically, for the outfall on Vista Grande an oil/water separator has been installed and is maintained and inspected by the County. The civil drawings for this oil/water separator have previously been submitted to the NDEP. Detention ponds have been installed on the commercial developments and are privately held and maintained.

VI.G.1.c and d. A detailed description of control techniques, system design and/or engineering methods the Permittee has used, or plans to use, to protect Clear Creek from illicit discharges of pollutants;

Douglas County has adopted the DCDCIS and implements the design elements in that manual on all projects in the Clear Creek watershed. Illicit discharges are turned over to the District Attorney's office as described in later sections on Illicit Discharges.

VI.G.1.e. A schedule of implementation, for all future short term and long activities describing program development, implementation and maintenance.

The Notice of Intent submitted by Douglas County on March 11, 2003 contains a schedule of implementation for each requirement in the MS4 permit. Douglas County has met all of the implementation dates from the original NOI and no new implementation dates have been developed for this permit. Annual reports submitted to your agency detail how the NOI implementation has been met each year for each task in the permit, including maintenance and inspection activities. The NOI is also included in the Clear Creek SWMP as Attachment A. Maintenance and inspection is conducted annually by the Road Department on stormwater systems in the public right-of-way. On-going education and public participation is also included in the annual report. Implementation of the CCSWMP to the MEP is reported on annually.

VI.G.1.f An annual monitoring program to ensure the overall quality and health of Clear Creek;

The monitoring plan has been revised below to incorporate new parameters in Clear Creek that were added to the 303 (d) list in 2006.

- 1) Sample the discharge of the oil/water separator in Vista Grande.
- 2) Sample upstream of the discharge from the oil/water separator in Clear Creek
- 3) Sample downstream of the discharge from the oil/water separator in Clear Creek.

The parameters of concern are Total Suspended Solids, total petroleum hydrocarbons, zinc, fecal coliform, dissolved oxygen, temperature and total phosphorus.

The County Road Department conducts an annual inspection and maintenance program on all drop inlets and manholes in the stormdrain systems in the public right-of-way through a contract with outside companies. The County also has been sharing equipment with Indian Hills GID and using their Vac Truck to do DI cleaning. The oil/water separator on Vista Grande is pumped at least annually and depending on inspection results may be pumped more than annually. Any unusual substances observed in the inspection are reported to the road department for a follow up inspection.

VI.G.1.g. A detailed description of a listing a tracking program for all maintenance yards that have potential to discharge into Clear Creek.

There are no Industrial Facilities or maintenance yards with the potential to discharge to Clear Creek, so no tracking program has been developed at this time. The zoning in the Clear Creek watershed does not include Industrial uses so no Industrial facilities are planned for this area. Should a facility obtain a zoning variance from the Douglas County Planning Commission and County Commissioners, and construct an Industrial Facility in the Clear Creek watershed, a tracking program will be developed.

VI.G.1.h. The Permittee's inspection program on it's MS4 or construction sites to ensure that no illicit discharges of pollutants enter Clear Creek;

Construction inspectors schedule inspections at each site under construction each day. However, with the current work load a construction site is visited at least once per week. The outfall in the Clear Creek watershed is inspected on an annual basis and after large storm events. Monitoring, inspection and maintenance occur annually. Title 8 Section 14.030 of the County code currently prohibits unlawful dumping of garbage, rubbish and waste matter into any water or stream. Title 20.100.060-080 also has requirements for the control of stormwater and the requirement to install appropriate BMP's, therefore no additional code or ordinances are needed at this time. Any illicit discharge into the stormdrain system found during inspections is reported to the District Attorney's office and possible legal action is pursued to eliminate the discharge. The CCSWMP along with the existing County codes and the current level of review, inspection, maintenance and permitting requirements at the County were determined to be sufficient for the enforcement of an illicit discharge detection and elimination program.

VI.G.1.i The Permittee may partner with other MS4's to develop and implement the CCSWMP.

The County does work with other regulated entities and other agencies to implement the CCSWMP. Equipment is traded with Indian Hills staff to allow the County to pump the DI's and not pay a contractor. This is a money saving

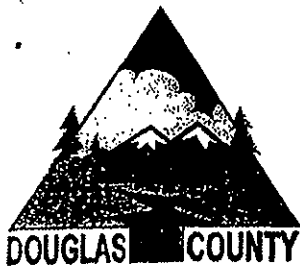
program and not a permit requirement.

Monitoring

There is an approved TMDL for the Carson River for total phosphorus, total suspended solids and turbidity so the monitoring program will be structured around these constituents. Also, constituents that are expected from parking lot runoff including Total Petroleum Hydrocarbons, and additional constituents that were on the 303(d) 2006 list for Clear Creek including temperature, Dissolved Oxygen, Fecal Coliform, Iron and Zinc will be taken. Samples will be taken annually from the discharge of the sand/oil/water separator during a storm event and upstream and downstream of the discharge in Clear Creek. The samples will be representative of the discharge, analyzed by procedures set forth in 40 CFR Part 136 and submitted with the annual report on a Discharge Monitoring Report.

Attachment A

Notice of Intent



COMMUNITY DEVELOPMENT

1594 Esmeralda Avenue, Minden, Nevada 89423

Bob Nunes
DIRECTOR

775-782-9005
775-782-9010
FAX: 775-782-9007

Planning Division
Engineering Division
Building Division
Regional Transportation
Water/Sewer Utility
Road Maintenance
Code Enforcement

March 11, 2003

Clifford M. Lawson
Staff II Associate Engineer
Nevada Division of Environmental Protection
333 W. Nye Lane
West Building, Room 129
Carson City, NV 89706-0866

RE: Douglas County Notice of Intent -- Phase II NPDES Storm Water Permit

Dear Mr. Lawson:

Enclosed is Douglas County's Notice of Intent and description of our proposed storm water management program for the NPDES Phase II Storm Water Permit.

Please contact me at 782-6239 if you have any questions.

Sincerely,

Ronald J. Roman, P.E.
Associate Engineer

Enclosure

C: Carl Ruschmeyer, Engineering Manager/County Engineer
Bob Nunes, Director Community Development

Notice of Intent (NOI)

For

**Storm Water Discharges from Small Municipal Separate Storm Sewer Systems
under a National Pollutant Discharge Elimination System (NPDES) General Permit**

Submission of this Notice of Intent constitutes notice that the party identified in Section I of this form intends to be authorized by a NPDES permit issued for storm water discharges from Small Municipal Separate Storm Sewer Systems in Nevada. Submission of this Notice of Intent also constitutes notice that the party identified in Section I of this form meets the eligibility requirements in the Nevada General Permit NVS040000, understands that continued authorization to discharge is contingent on maintaining permit eligibility, and that implementation of the Storm Water Management Program required under Section 4 of the general permit will begin at the time the Nevada Division of Environmental Protection receives the NOI and Filing Fee.

The Notice(s) of Intent must be signed in accordance with Part 6.7 of General Permit NVS040000 and must include the following information:

Section I Information on the Permittee:

Name of the permittees municipal entity/tribe/state agency/federal agency:
Douglas County

Mailing Address
P.O. Box 218
Minden, NV 89423

Street 1594 Esmeralda Avenue

City Minden State NV Zip Code 89423

Contact Name Carl Ruschmeyer, Engineering Manager/County Engineer

Telephone Number 775-782-6227

Permittee type:

Federal -
State -
Other - County

Section 2 Information on the Municipal Separate Storm Sewer System:

List the Urbanized Area or Core Municipality (if the permittees are not located in an Urbanized Area) where the permittees' system is located.

Portion of Carson Area Metropolitan Planning Organization - see attached Figure.

List the name of the permittees' organization, or county (ies) where the permittees MS4 is located.

Douglas County, Nevada

List the latitude and longitude of an approximate center of the permittees MS4.

Clear Creek Area: latitude 39° 07' north, longitude 119° 47' west

Johnson Lane Area: latitude 39° 02' 30" north, longitude 119° 44' west

List the name of the major receiving water(s).

Carson River

Are any of the permittees receiving waters are on the latest CWA §303(d) list of impaired waters.

Yes - Carson River

No -

If the permittee have discharges to 303(d) waters, provide a certification that the permittees SWMP complies with the requirements of Part 3.1 of General Permit NVS040000.

Storm water runoff discharges to the Carson River. The Carson River is listed on the State of Nevada 2002 303(d) Impaired Waters List. The Carson River reach from Cradlebaugh Bridge to Mexican Ditch Gage (NV08-CR-08) is in the vicinity of the stormwater management area. The 303(d) list for this reach includes total iron,

temperature, total phosphorus, total suspended solids, and turbidity. The Storm Water Management Plan (SWMP) described in Section 4 will describe the best management practices that will be implemented to control the discharge of the 2002 303(d) list pollutants.

Is any portion of the MS4 located on Indian Country lands?

Yes -
No - No

If the permittees are relying on another governmental entity regulated under the storm water regulations (40 CFR 122.26 & 122.32) to satisfy one or more of the permittees' permit obligations (see Part 4.4), list the identity of that entity (ies) and the element(s) they will be implementing.

Carson City will be implementing all elements for areas within the Carson City limits. Indian Hills General Improvement District will be implementing all elements for areas within the boundaries of the Improvement District.

Provide a summary of the information on the permittees' chosen best management practices (BMPs).

The SWMP will identify structural and non-structural BMPs that are appropriate for the County to minimize water quality impacts.

Provide a summary of the anticipated measurable goals for each of the storm water minimum control measures in Part 4.2 of the permit.

See Attached

List the permittees estimated timeframe for implementing each of the BMPs.

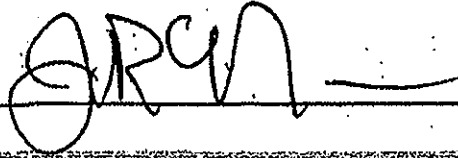
See Attached

List person or persons responsible for implementing or coordinating the permittees' SWMP.

Bob Nunes, Director Community Development

Carl Ruschmeyer, Engineering Manager/County Engineer

Signature: _____



Date: _____

3/10/03

The applicants are to submit the NOI, signed in accordance with the signatory requirements of Section 6.7 of the permit, to the Division at the following address:

Stormwater Coordinator
Bureau of Water Pollution Control
Nevada Division of Environmental Protection
333 West Nye Lane
Carson City, NV 89706-0851

Public Education and Outreach

Description: The NPDES Phase II Final Rule requires the operator to implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce storm water pollution. The operator also establishes measurable goals.

Key Public Education and Outreach Components

1. **Evaluate Partnerships**
Evaluate partnerships with northern Nevada governmental entities to utilize existing programs.
2. **Utilize Existing or Develop New Educational Materials**
Identify materials relevant to Douglas County.
3. **Web Site**
Develop a web site that is part of the Douglas County web site.

Component	Measurable Goal	Implementation Date
1. Evaluate Partnerships		2004
2. Web Site	Operational Web Site	2005

Public Involvement and Participation

Key Public Involvement and Participation Components

Description: The NPDES Phase II Final Rule requires that the operator document the decision process for the development of a public involvement and participation program.

1. **Planning Commission Hearing**
Present the County's SWMP to the Douglas County Planning Commission and solicit input.
2. **Report Results**
Present the County's SWMP to the Board of County Commissioners and solicit input.

Component	Measurable Goal	Implementation Date
1. Planning Commission Hearing	Commission Hearing	2004
2. Board of County Commission Hearing	Board Hearing	2005

Illicit Discharge Detection and Elimination

Illicit Discharge Detection and Elimination Key Components

Description: The NPDES Phase II Final Rule requires the operator to prepare the following:

- Storm sewer system map.
- Ordinances or other regulatory mechanism to prohibit non-storm water discharges into the system and develop enforcement procedures.
- A plan to detect illegal dumping.
- A plan to educate public employees and the general public about the hazards of improper disposal of wastes.

1. **Mapping**
Complete storm drain mapping.
2. **Regulatory**
Adopt ordinances for regulation of illicit discharge detection and elimination program.
3. **Training**
Provide training for staff on illicit discharge detection and elimination policies and procedures.
4. **Education and Public Outreach**
Develop information for the public and industries on proper use, storage and disposal of materials.

Component	Measurable Goal	Implementation Date
1. Mapping	Complete System Map	2004
2. Regulatory	Adopt Ordinance	2005
3. Training	Train Staff	2006
4. Education & Outreach	Develop Information	2006

Construction Site Runoff Control

Description: The NPDES Phase II Final Rule requires the operator to prepare the following:

- Ordinance requiring the implementation of erosion and sediment control on applicable construction sites.
- Procedures for site plan review of construction plans.
- Procedures for site inspection and enforcement of control measures.
- Sanctions to ensure compliance.

Construction Site Runoff Control Key Components

- 1. Regulatory**
 Review County Code and if needed update Code to require proper erosion and sediment controls.
- 2. Site Plan Review**
 Review County procedure for construction site plan review and permits.
- 3. Site Inspections**
 Review County permit inspection procedures and update if needed.
- 4. Penalties**
 Review County Code and if needed adopt ordinance or other regulatory mechanism to enforce construction site control measures.

Component	Measurable Goal	Implementation Date
1. Regulatory	Adopt Ordinance	2005
2. Site Plan Review	Incorporate in Permit Review Process	2005
3. Site Inspections	Site Inspections at Start of Construction	2006
4. Penalties	Adopt Ordinance	2006

Post-Construction Runoff Control

Post Construction Runoff Control Key Components

Description: The NPDES Phase II Final Rule requires the operator adopt an ordinance that requires the implementation of post-construction runoff controls and ensure adequate long-term operation and maintenance of controls.

1. **Identify Best Management Practices**
Identify structural and non-structural best management practices that are appropriate for the County plan area to minimize water quality impacts.
2. **Develop Ordinance**
Develop policies and ordinances to ensure long-term maintenance and operation of BMP's.

Component	Measurable Goal	Implementation Date
1. Identify BMP's	List of BMP's	2005
2. Ordinance	Adopt Ordinance	2006

Pollution Prevention/Good Housekeeping for Municipal Operations

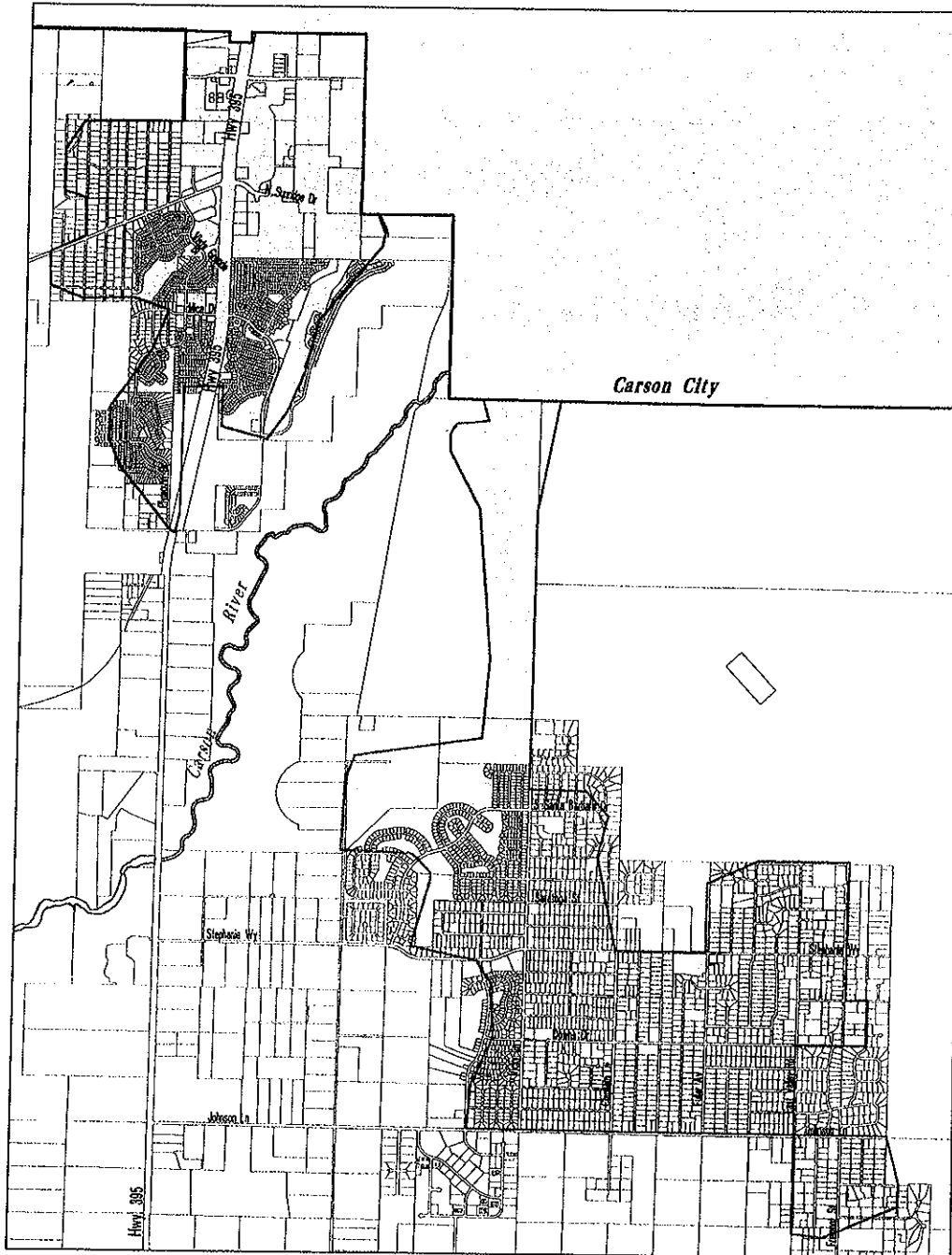
Pollution Prevention/Good Housekeeping Key Components

Description: The NPDES Phase II Final Rule requires the operator to develop and implement an operation and maintenance program with the goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system.




1. **Develop Maintenance Activities**
Identify maintenance activities for catch basin cleaning, ditch cleaning, drain line cleaning and cleaning of storm water treatment structures.
2. **Develop Maintenance Schedules**
Prepare maintenance schedules for catch basin cleaning, ditch cleaning, drain line cleaning and cleaning of storm water treatment structures.
3. **Train Staff**
Provide training to County staff on maintenance activities and schedules.

Component	Measurable Goal	Implementation Date
1. Maintenance Activities	Document Maintenance	2004
2. Maintenance Schedule	Prepare Schedule	2004
3. Training	Train Staff	2005

DOUGLAS COUNTY STORMWATER MANAGEMENT AREA



DOUGLAS COUNTY
Multi-Agency Geographic Information Center
Scale: 1" = 5,000'
Date: 05/05/10
RR21233

-  Carson City MPO
-  Indian Hills GID
-  Sierra Estates GID

The data contained herein has been compiled on a geographic information system for the use of Douglas County. The data does not represent survey delineation and should not be construed as a replacement for the authoritative source, plat maps, deeds, resurveys, etc. No liability is assumed by Douglas County or MAGIC as to the sufficiency or accuracy of the data.

Attachment B

Response to Public Comment



Public Works Department

MEMORANDUM

To: Board of County Commissioners

From: Cathe Pool, PE

Subject: Response to Public Comment on the Clear Creek and Johnson Lane Stormwater Management Plans

Date: December 20, 2011

Public comments and responses are included in Attachment B to the above plans. Responses are provided as per direction provided by management. New maps will be provided at the meeting.

Douglas County Commissioners

Comments from the Carson Valley Conservation District -- Clear Creek Stormwater Management Plan and the Johnson Lane Stormwater Management Plan

- 1> CAMPO? Plans show the Carson Area Metropolitan Policy Organization as a co-sponsor of the Plans. We note that CAMPO has not approved the plans, does not have the plans on its agenda and the Plans have not fulfilled the CAMPO Public Participation Plan.

We wish it did. The CAMPO Public Participation Plan calls for Solicited Input as follows: "Solicit the participation of citizens and interested parties in the planning process and provide a reasonable opportunity to comment on proposed planning documents and projects. CAMPO staff will create Advisory Workgroups specific to the adoption of ... planning documents..."

We believe this is a more appropriate approach to engaging the public in these plans.

Response: The DRAFT SWMP was placed on the County website for review and comment by the public. Public comment was accepted at the 12/15/2011 Board of County Commissioners' meeting. The plan is no longer identified as the CAMPO plan but rather as the Carson Urbanized Area Plan as referenced in the MS4 permit.

- 2> Relative to the Clear Creek Stormwater Management Plan, we request the area of the plan incorporate the Clear Creek Watershed in Douglas County (as the Carson City portion has been included in the Carson City Clear Creek Stormwater Management Plan).

This would specifically incorporate the Clear Creek Tahoe development within the scope of the plan.

Response: The mapped area remains the same as required by the MS4 Permit. The SWMP does identify that Site Improvement Permits which are abandoned are a County wide issue that the District Attorney's office is working on. This issue is best dealt with on a Countywide basis and not in this plan.

- 3> Each plan should have its own plan map and reflect Clear Creek and the Carson River. Each plan's map should trace the storm water drainage from origination to its discharge in Clear Creek and/or the Carson River.

The Clear Creek Plan map should clearly recognize the planning area responsibilities of Douglas County, Indian Hills Improvement District and the Sierra Estates GID.

Response: The map has been changed to add the Blue line stream for Clear Creek.

- 4> The plans need to incorporate consideration of "demonstrating not to adversely impact downstream properties" (Division 6.1.4).

Standards which address drainage requirements may not be adequate to protect downstream channels, particularly from channel erosion whether evident prior to development or not.

"Downstream properties shall not be unreasonably burdened with increased flow rates, negative impacts, or unreasonable changes in manner of flow from upstream properties" (6.1.4). The plan needs to acknowledge that the county has a responsibility to maintain storm water drainage that will not burden downstream properties in consideration of the downstream properties not blocking natural drainages or existing runoff through their site and their acceptance of runoff from upstream properties.

Response: Implementation of the Design Manual and Title 20 for drainage are part of the County process and are done to the Maximum Extent Practicable on every project.

**Douglas County Clear Creek SWMP
Comments or Revisions from NDEP, Bureau of Water Quality Planning
12/5/11**

1. Introduction, page 1, starting in the middle of the 2nd paragraph:

- a. "TSS, turbidity and TP are ~~not on the list~~ delisted because ~~as they have~~ TMDL's have been adopted for the section of the Carson River pertinent to Clear Creek discharges, specifically from Cradlebaugh Bridge to Mexican Dam Gage." However, according to Attachment 2 (delisted waters) of the 2006 303(d) List, the standards for TP and turbidity between Cradlebaugh Bridge and the Mexican Ditch Gage are not being met.

Response: Wording changed to add clarity.

- b. "Water quality standards for the Carson River at Mexican Ditch Gage ~~and Clear Creek~~ can be found at NAC 445A.154.

Response: Wording changed to add clarity.

2. Section II, page 2, sentence before table

"The water quality standards for Class B waters are found in NAC 445A.125 and are listed below:"

Response: Comment Noted.

3. Page 3, end of 1st paragraph

"TSS, TP and turbidity have TMDL's established which is supposed to bring the river into compliance with the water quality standards."

Would replace this sentence with the following:

The TMDL's established for TSS, TP and turbidity are designed to ensure that the total suspended solids, water quality improvement projects and BMP's are implemented to reduce nonpoint source pollutant loads discharged into the river.

Response: Wording changed to add clarity.

4. Page 3, under item II.B

Remove the statement: "Douglas County is in compliance with the TMDL's."

TMDL's apply to the Carson River and not Clear Creek.

Response: Wording changed to add clarity. TMDL's apply to the discharges in the Carson River watershed including tributaries as identified in the MS4 permit.

5. Sections VI.A and VI.B, page 5 through the top of p. 10

Funds received from CWA 319 funds cannot be used to implement NPDES permit requirements. Therefore the Minimum Control Measures (MCMs) identified by Douglas County cannot be activities implemented by the Carson Water Subconservancy District (CWSD) that are funded through NDEP by the 319 program.

Once the MCMs have been clearly identified, the County can cite CWSO 319 activities as above and beyond the minimum requirements.


Response: This comment is sincerely appreciated. The SWMP has been rewritten to make sure that the minimum control measures are clearly identified as being completed by Douglas County and anything that is done by the Carson Water Subconservancy is above and beyond the minimum and is not required by the MS4 permit.



Public Works Department

MEMORANDUM

To: Board of County Commissioners

From: Cathe Pool, PE 

Subject: Revised Maps for the Clear Creek and Johnson Lane Stormwater Management Plans – Item 3h.

Date: December 29, 2011

The attached maps were revised to accommodate public comments received from the Board meeting on December 15, 2011. The maps were revised by GIS and were completed after the packets were distributed. Full size copies are available for review also.

84:3:116 63:3:116

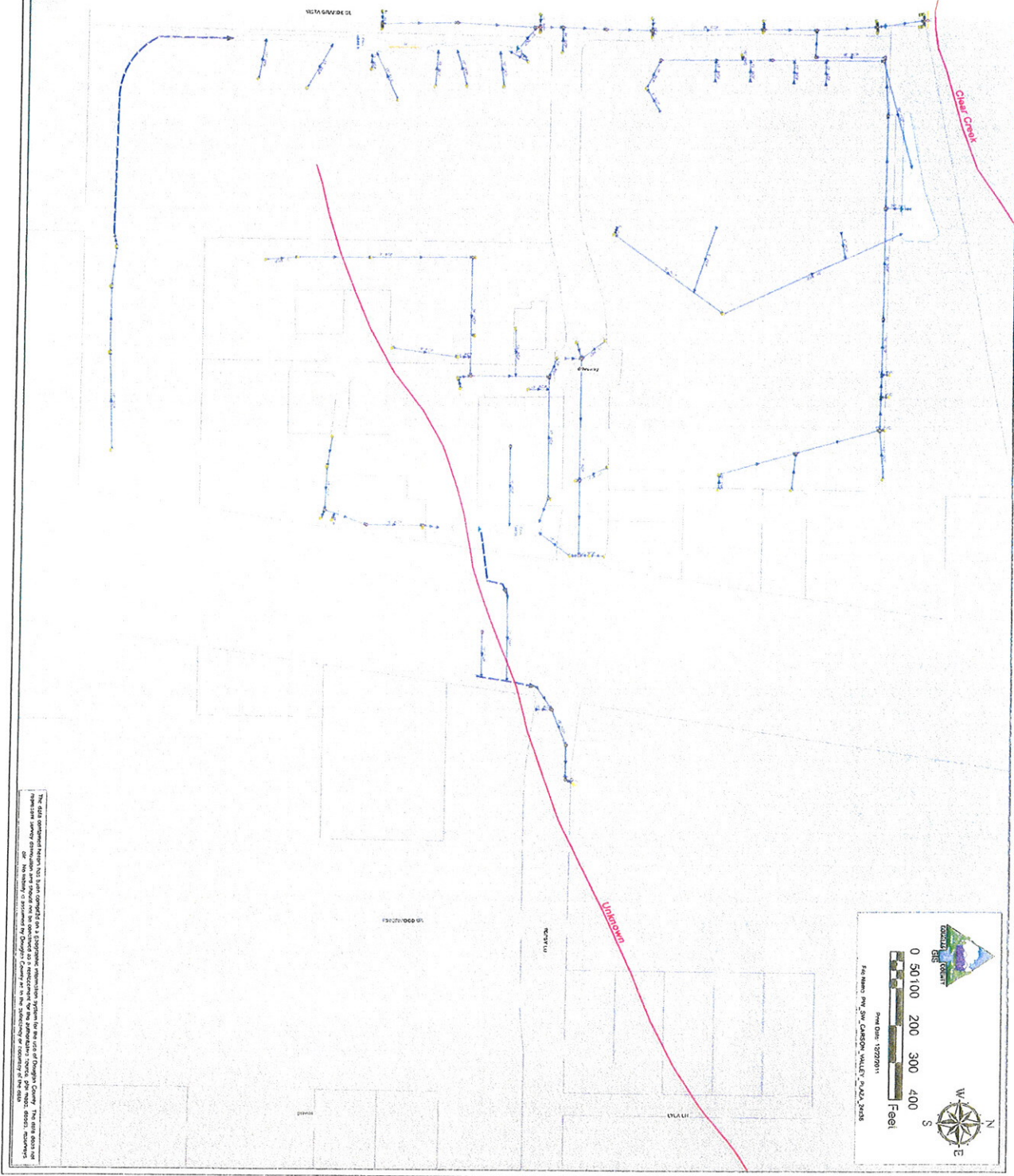
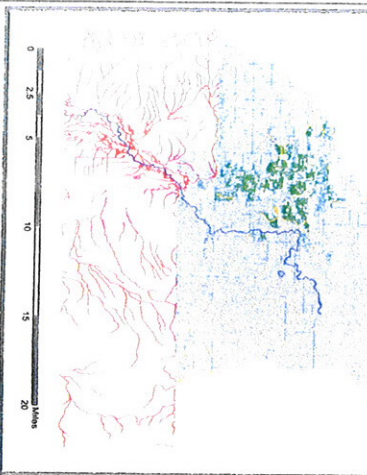
Carson Valley Plaza Storm Drain Facilities

Legend

- Catch Basin
- Energy Dissipator
- Flow Restrictor
- Manhole
- Stormwater Treatment System
- USGS Silt Line Streams
- Channel
- Culvert
- Pipe
- Storm Drain/Retention Basins & Ponds
- Carson Urbanized Area

Legend

- Carson River
- Blue Streams
- USGS Blue Line Streams
- Carson City
- Douglas County
- Carson Urbanized Area



Scale: 0 50 100 200 300 400 Feet

North Arrow

The data contained herein was compiled as a computer-generated map. The data is not intended to be used for any purpose other than that for which it was collected. The user shall be responsible for determining the accuracy and reliability of the data. No warranty is made by the City of Carson for the accuracy or reliability of the data.

Johnson Lane Storm Drain Facilities


 Carson City, Nevada
 City of Carson
 Planning Department
 1000 N. Carson Avenue, Carson City, NV 89401
 Phone: (775) 335-2200
 Fax: (775) 335-2201
 Website: www.carsoncity.com

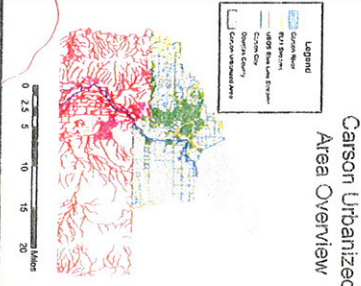
Project Name: Johnson Lane, Carson City, NV
 Date: 10/20/2010
 Scale: 0 25000 1,000 1,500 2,000 Feet


 N
 E
 S
 W











Carson Urbanized Area Overview

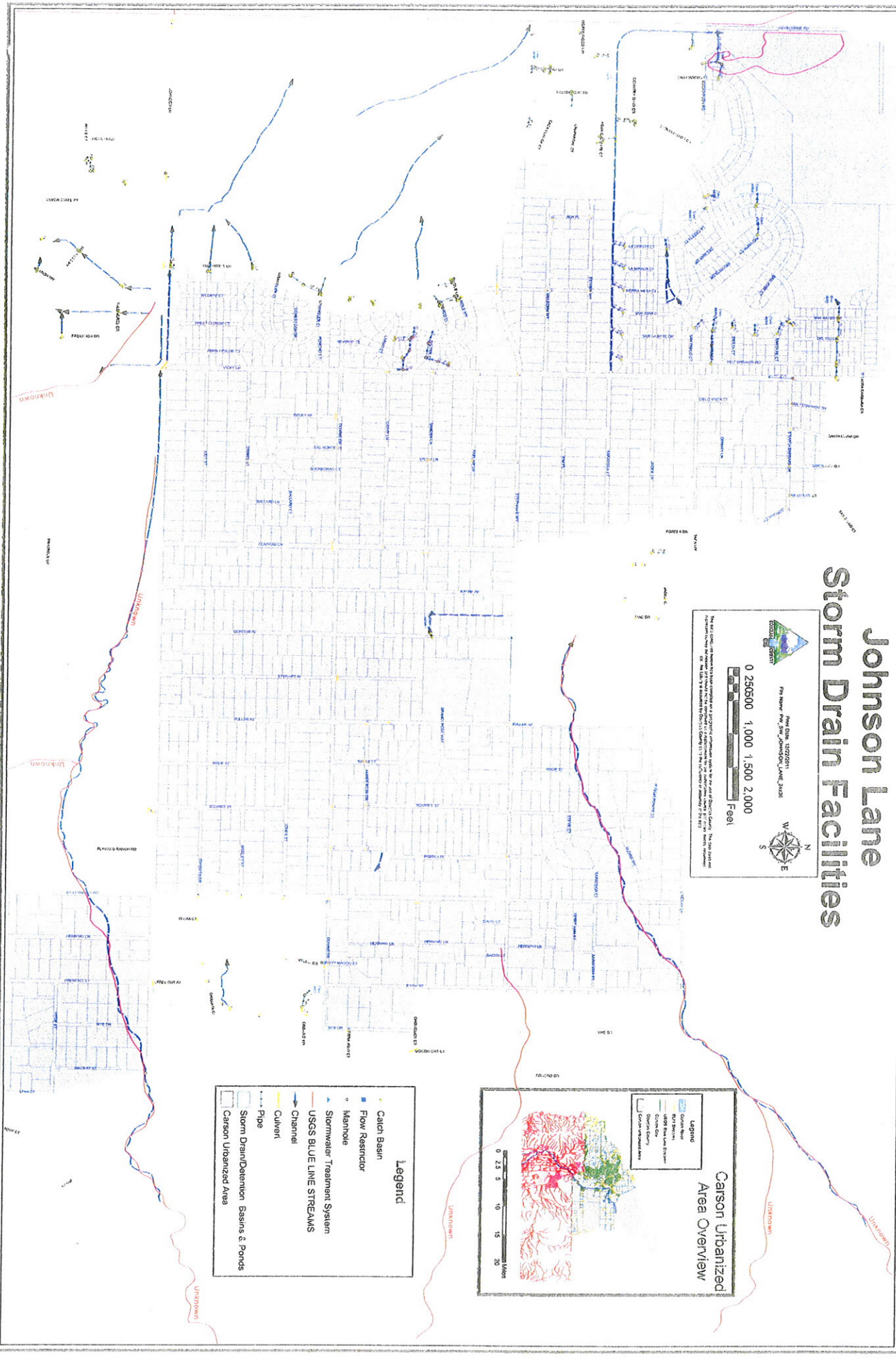
Legend:
 - Light Blue: Carson Urbanized Area
 - Dark Blue: USGS Blue Line Streams
 - Green: Stormwater Treatment System
 - Yellow: Stormwater Treatment System

Scale: 0 2.5 5 10 15 20 Miles



Legend

-  Catch Basin
-  Flow Restrictor
-  Manhole
-  Stormwater Treatment System
-  USGS BLUE LINE STREAMS
-  Channel
-  Culvert
-  Pipe
-  Storm Drain/Retention Basins & Ponds
-  Carson Urbanized Area





Public Works Department

MEMORANDUM

To: Board of County Commissioners

From: Cathe Pool, PE

Subject: Response to Comments from the Clear Creek Watershed Council-
Item 3H

Date: January 4, 2012

Comments from the Clear Creek Watershed Council were received on December 30, 2011. Staff responses are attached. Upon approval by the Board of County Commissioners, the Storm Water Management Plans and these comments and responses will be submitted to Nevada Division of Environmental Protection as required by the MS4 permit.



777 East William Street, Suite 110A
Carson City, NV 89701
775/887-7450, fax 775/887-7457

MEMO TO DOUGLAS COUNTY BOARD OF COMMISSIONERS
12/30/2011
CONTACT BRENDA HUNT, CLEAR CREEK WATERSHED COORDINATOR
CLEAR CREEK WATERSHED COUNCIL
775.887.9005

The Clear Creek Watershed Council (the Council) respectfully submits these comments in relation to the Douglas County Board of Commissioners Consent Agenda Item 3.h. These comments are in addition to the comments/concerns already presented to the Commission and Douglas County staff from Jean Stone, NDEP dated 12/5/2011.

The Clear Creek Watershed Council's mission is to protect, conserve, and restore the unique and valuable resource of Clear Creek and its watershed through collaboration, education, planning, and project implementation. The Clear Creek Watershed Council is comprised of landowners, concerned citizens, local, state, and tribal government staff, and natural resource managing agencies that share a common interest and responsibility to maintain the quality and health of the Clear Creek watershed. The goals of the council are to maintain a high level of water quality, protect healthy native fisheries and wildlife, minimize impacts of development and erosion, protect the riparian corridor, promote cultural and historical integrity, and encourage responsible access to public lands for passive recreation.

The Clear Creek Watershed Council has concerns with the currently proposed Storm Water Management Plan (SWMP) that is scheduled to be adopted January 5, 2012. These concerns relate to the six minimum control measures required to meet the reduction of pollutant discharge to the maximum extent practicable and suggestions outlined in the General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) and within the SWMP itself. The Council is in a unique position to help Douglas County to more effectively meet the General Permit conditions specifically related to, several minimum control measures (MCM), and other suggested items, as outlined in the NDEP Fact Sheet (revised June 2010) for the permit (Attachment A) and the draft Clear Creek SWMP, as suggested below:

Response:

Douglas County participates in the Clear Creek Watershed Council (CCWC) and appreciates the intent of the Council to provide measures above and beyond the Minimum Control Measures required by the MS4 General Permit. In order to ensure that 319 funds are available for the CCWC Douglas County would like to make it clear that no activity performed by the CCWC is required by the MS4 permit.

1. Public Education and Outreach:

The Council and its association with the Carson Water Subconservancy District (CWSD) have conducted outreach events, funded erosion control projects, and created outreach materials that have been and continue to be helpful to Douglas County in meeting the goals outlined in the permit regarding this MCM. Jean Stone's comments cautioned that the items that are

funded through 319 grants are ineligible to be used as efforts to meet the minimum permit requirements. However, the Council and CWSD are willing to work with Douglas County to develop public education and outreach efforts on this MCM of the SWMP that are over and above the requirements of the permit.

Response:

Douglas County appreciates this comment and is in complete agreement with the comment.

2. *Public Participation/Involvement:*

The Council is interested in providing input into the planning and monitoring of stormwater that is eventually discharged into Clear Creek. In light of that, the Council requests that the Commissioners:

- a. amend the proposed SWMP to form a "storm water management panel" as suggested by the plan in VI.B.2.d. This panel is suggested by the NDEP as a way to meet the MCM for Public Participation/Involvement outlined in the permit. The panel could formally review SWMP's and any proposed amendments, discuss stormwater management issue generally, and meet periodically with interested local parties, including the Watershed Council. The Council's membership, specifically the leadership committee, is currently made up of representatives from Carson City, NDEP, the Washoe Tribe, CWSD, and private citizens. Representatives from Nevada Division of Transportation (NDOT) have provided updates to the committee and over all Council membership regularly. Douglas County's representation on the committee has been sporadic and the Council welcomes more active staff representation. Given this membership, the Council leadership committee is happy to assist by providing representation on a stormwater management panel.

Response:

While the permit includes a stormwater panel as one potential way a permittee can meet the public participation MCM, it is not a requirement. Douglas County is not proposing the formation of a panel as a way to meet the MCM. Should NDEP form a stormwater management panel it would be considered above and beyond the MCM.

- b. include the Clear Creek Watershed Council as a target audience in the SWMP and to formally present and gather comments on the SWMP from the Council.

Response:

This was amended in the Final CCSWMP.

- c. provide direction to staff to allow their participation in the Council's leadership committee which would provide a communication link to the watershed activities as a whole.

Response:

The County Engineer was the staff person assigned to the CCWC.

3. *Post-Construction Runoff Control*

It has come to the attention of the Council that a natural drainage off Topsy Lane that flows to Clear Creek is receiving stormwater from the Carson Valley Plaza, and the NDOT 395 culvert (see attached Topsy Drainage Map in Attachment B). This outfall is discussed on page 11 of the SWMP under the MCM for illicit discharges. A recent site visit and historical aerial photos show that the natural drainage channel is eroding severely since the development has occurred and

the stormwater outfall was connected to the drainage. Three different BMPs have been added to the channel in various locations by various parties as a means to limit the erosion and ensure the sediment and associated pollution does not enter Clear Creek. These attempts include rocking of the outfall, a rock wall midway to Clear Creek, and infiltration/retention basin on the Washoe lands adjacent to Clear Creek. These efforts are appreciated; however, the erosion is still occurring, so much so that the rock wall BMP is completely filled with sediment and is now causing additional erosion downstream (See Attachment B). Additionally, the retention basin on tribal lands is partially filled with sediment. These later structures have all been placed within the last three to five years and are now in need of maintenance. The Council requests the following in relation to this natural drainage to Clear Creek:

- a. Only the outfall of Topsy Lane is currently within the mapped portion of the SWMP. It is the Council's position that the entire drainage to Clear Creek, or at a minimum, that which is located within Douglas County, be mapped and incorporated into this SWMP because it is part of the Clear Creek stormwater system. The increased volume of water from the stormwater being discharged into this natural drainage has and continues to cause severe erosion and degradation.

Response:

The map has been expanded to include the unnamed tributary that crosses Topsy Lane. This is the tributary where the Carson Plaza development occurred. The Douglas County Design Manual requires that the peak run-off from a 25 year, 24 hour event is mitigated by development to pre-developed flows. The Carson Plaza development met the design criteria as required by the Design Manual. Typically, it is the flow rate, not the volume that affects erosion where downstream capacity is not an issue as in the case with Topsy, therefore, the erosion seen in the tributary may be from the combination of unfinished construction sites such as Riverwood and disturbances such as the work on US395 rather than the Carson Plaza development. Future plans for the Riverwood project were to add a detention pond with retention of the 2 year, 24 hour storm a sand oil interceptor and to have all of the discharge from Topsy routed through a 30 in RCP to an energy dissipater at Lyla Lane. However, since this project has lost funding, much of the drainage improvements proposed for the project were not installed. Douglas County is currently in litigation regarding the Riverwood project.

- b. The Council has concerns that the current BMPs are not adequately preventing erosion as required under this MCM, and that if there were to be a large storm event, the sediment plugs currently located within the BMPs will be washed into Clear Creek, potentially exceeding the pollution standards for Clear Creek and the Carson River. The current BMPs need to be maintained, as well as new BMPs implemented to further limit/eliminate erosion from occurring.

Douglas County is currently in litigation regarding the Riverwood project.

4. Regional Approach:

The NDEP fact sheet identifies implementation options for small MS4 operators that promote a regional approach to stormwater management coordination on a watershed basis. The Council supports this idea as several different types of regulatory authority boundaries cross the Clear Creek Watershed including Douglas County, Carson City, Nevada Department of Transportation and Indian Hills General Improvement District, as well as the Washoe Tribe. Representatives of many of these entities regularly attend Clear Creek Watershed leadership meetings. The Council requests that Douglas County work with the other entities that fall under the MS4, and within the watershed as a whole, to address impacts to Clear Creek and develop a comprehensive Clear Creek SWMP. A regional approach may also allow the County to take advantage of other local and state programs that may otherwise not be available.

Response:

Douglas County intends to continue to participate in the CCWC. However, the development of a single Clear Creek SWMP for several agencies with differing management techniques, budgets, authorities and facilities may prove problematic.

5. Expansion of the SWMP Boundaries:

The Council requests that the Clear Creek Tahoe development be included within the boundaries of the SWMP. The Council understands that the boundaries of the SWMP can be expanded to include other areas of concern within the watershed. Having this development fall within the Clear Creek SWMP would ensure a comprehensive management approach and will foster increased collaboration between all government agencies and stakeholder groups as suggested in Item 4.

Response:

Douglas County manages the Clear Creek Tahoe Golf Site Improvement Project the same as all development projects in the County: BMP's and erosion controls are required as well as mitigation measures for water quality and flow rates. The development would essentially be managed the same if it were included in the MS4. Staff recommends that the maps be maintained as presented by the federal EPA for the Carson Urbanized area. This project got caught in the financial downturn and had some unfortunate stormwater issues as a result of not having the stormwater management system built as per the approved plans.

The Clear Creek Watershed Council thanks the Douglas County Commissioners and Douglas County staff for the opportunity to comment on the Clear Creek SWMP. We are hopeful that you will take our comments, concerns, and solutions into consideration when finalizing the SWMP. If you have any questions, please contact me at Brenda@cwsd.org or on 775.887.9005.

Sincerely,

Brenda Hunt

Clear Creek Watershed Coordinator/ Clear Creek Watershed Council
Carson River Watershed Coordinator/Carson Water Subconservancy District



777 East William Street, Suite 110A
Carson City, NV 89701
775/887-7450, fax 775/887-7457

MEMO TO DOUGLAS COUNTY BOARD OF COMMISSIONERS
1/3/2012
CONTACT BRENDA HUNT, CLEAR CREEK WATERSHED COORDINATOR
CLEAR CREEK WATERSHED COUNCIL
775.887.9005

The Clear Creek Watershed Council (the Council) respectfully submits these comments in relation to the Douglas County Board of Commissioners Consent Agenda Item 3.h. These comments are in addition to the comments/concerns already presented to the Commission and Douglas County staff from Jean Stone, NDEP dated 12/5/2011.

The Clear Creek Watershed Council's mission is to protect, conserve, and restore the unique and valuable resource of Clear Creek and its watershed through collaboration, education, planning, and project implementation. The Clear Creek Watershed Council is comprised of landowners, concerned citizens, local, state, and tribal government staff, and natural resource managing agencies that share a common interest and responsibility to maintain the quality and health of the Clear Creek watershed. The goals of the council are to maintain a high level of water quality, protect healthy native fisheries and wildlife, minimize impacts of development and erosion, protect the riparian corridor, promote cultural and historical integrity, and encourage responsible access to public lands for passive recreation.

The Clear Creek Watershed Council has concerns with the currently proposed Storm Water Management Plan (SWMP) that is scheduled to be adopted January 5, 2012. These concerns relate to the six minimum control measures required to meet the reduction of pollutant discharge to the maximum extent practicable and suggestions outlined in the General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) and within the SWMP itself. The Council is in a unique position to help Douglas County to more effectively meet the General Permit conditions specifically related to several minimum control measures (MCM) and other suggested items, as outlined in the NDEP Fact Sheet (revised June 2010) for the permit (Attachment A) and the draft Clear Creek SWMP, as suggested below:

1. Public Education and Outreach:

The Council and its association with the Carson Water Subconservancy District (CWSD) have conducted outreach events, funded erosion control projects, and created outreach materials that have been and continue to be helpful to Douglas County in meeting the goals outlined in the permit regarding this MCM. Jean Stone's comments cautioned that the items funded through 319 grants are ineligible to be used as efforts to meet the minimum permit requirements. However, the Council and CWSD are willing to work with Douglas County to develop public education and outreach efforts on this MCM of the SWMP that are over and above the requirements of the permit.

2. *Public Participation/Involvement:*

The Council is interested in providing input into the planning and monitoring of stormwater that is eventually discharged into Clear Creek. The Council's membership, specifically the leadership committee, is currently made up of representatives from Carson City, NDEP, the Washoe Tribe, CWSD, and private citizens. Representatives from Nevada Division of Transportation (NDOT) have provided updates to the committee and overall Council membership regularly. Douglas County's representation on the committee has been sporadic and the Council welcomes more active staff representation. In light of that, the Council suggests that the Commissioners:

- a. Amend the proposed SWMP to create a formal "storm water management panel" as suggested by the plan in VI.B.2.d. This panel is recommended by the NDEP as a way to meet the MCM for Public Participation/Involvement outlined in the permit. The panel could formally review SWMP's and any proposed amendments, discuss stormwater management issues generally, and meet periodically with interested local parties, including the Watershed Council. The Council respectfully suggests that a citizen representative (Douglas County resident) of the Council's leadership committee be appointed to the panel.
- b. Include the Clear Creek Watershed Council as a target audience in the SWMP and to formally present and gather comments on the SWMP from the Council.
- c. Provide direction to staff to allow their participation in the Council's leadership committee which would provide a communication link between Douglas County and the Council on watershed activities as a whole.

3. *Post-Construction Runoff Control*

It has come to the attention of the Council that a natural drainage off Topsy Lane that flows to Clear Creek is receiving stormwater from the Carson Valley Plaza, and the NDOT 395 culvert (see attached Topsy Drainage Map in Attachment B). This outfall is discussed on page 11 of the SWMP under the MCM for illicit discharges. A recent site visit and historical aerial photos show that the natural drainage channel is eroding severely since the development has occurred and the stormwater outfall was connected to the drainage. Three different BMPs have been added to the channel in various locations by various parties as a means to limit the erosion and ensure the sediment and associated pollution does not enter Clear Creek. These attempts include rocking of the outfall, a rock wall midway to Clear Creek, and infiltration/retention basin on the Washoe lands adjacent to Clear Creek. These efforts are appreciated; however, the erosion is still occurring, so much so that the rock wall BMP is completely filled with sediment and is now causing additional erosion downstream (See Attachment B). Additionally, the retention basin on tribal lands is partially filled with sediment. These later structures have all been placed within the last three to five years and are now in need of maintenance. The Council suggests the following in relation to this natural drainage to Clear Creek:

- a. Only the outfall of Topsy Lane is currently within the mapped portion of the SWMP. It is the Council's position that the entire drainage to Clear Creek, or at a minimum, that which is located within Douglas County, be mapped and incorporated into this SWMP because it is part of the Clear Creek stormwater system. The increased volume of water from the stormwater being discharged into this natural drainage has and continues to cause severe erosion and degradation.
- b. The Council has concerns that the current BMPs are not adequately preventing erosion as required under this MCM, and that if there were to be a large storm event, the sediment plugs currently located within the BMPs will be washed into

Clear Creek, potentially exceeding the pollution standards for Clear Creek and the Carson River. The current BMPs need to be maintained, as well as new BMPs implemented to further limit/eliminate erosion from occurring.

4. *Regional Approach:*

The NDEP fact sheet identifies implementation options for small MS4 operators that promote a regional approach to stormwater management coordination on a watershed basis. The Council supports this idea as several different types of regulatory authority boundaries cross the Clear Creek Watershed including Douglas County, Carson City, Nevada Department of Transportation and Indian Hills General Improvement District, as well as the Washoe Tribe. Representatives of many of these entities regularly attend Clear Creek Watershed leadership meetings. The Council suggests that Douglas County work with the other entities that fall under the MS4, and within the watershed as a whole, to address impacts to Clear Creek and develop a comprehensive Clear Creek SWMP. A regional approach may also allow the County to take advantage of other local and state programs that may otherwise not be available.

5. *Expansion of the SWMP Boundaries:*

The Council suggests that the Clear Creek Tahoe development be included within the boundaries of the SWMP. The Council understands that the boundaries of the SWMP can be expanded to include other areas of concern within the watershed. Having this development fall within the Clear Creek SWMP would ensure a comprehensive management approach and will foster increased collaboration between all government agencies and stakeholder groups as suggested in Item 4.

The Clear Creek Watershed Council thanks the Douglas County Commissioners and Douglas County staff for the opportunity to comment on the Clear Creek SWMP. We are hopeful that you will take our comments, concerns, and solutions into consideration when finalizing the SWMP. If you have any questions, please contact me at Brenda@cwsd.org or on 775.887.9005.

Sincerely,

Brenda Hunt
Clear Creek Watershed Coordinator/ Clear Creek Watershed Council
Carson River Watershed Coordinator/Carson Water Subconservancy District



Public Works Department

MEMORANDUM

To: Board of County Commissioners

From: Cathe Pool, PE

Subject: Response to Comments from the Carson Valley Conservation District-Item 3H

Date: January 5, 2012

Comments from the Clear Creek Watershed Council were received on January 4, 2011. Staff responses are attached. Upon approval by the Board of County Commissioners, the Storm Water Management Plans, any revisions and these comments and responses will be submitted to Nevada Division of Environmental Protection as required by the MS4 permit.

CARSON VALLEY CONSERVATION DISTRICT

USDA Service Center
1702 County Road, Minden NV 89423



MEMO TO DOUGLAS COUNTY BOARD OF COMMISSIONERS
Re: Final Clear Creek Stormwater Management Plan and Final Johnson Lane Stormwater Management Plan, presenting for approval January 5, 2012, item 3h.

Paul Pugsley, Watershed Coordinator
(775) 721.0280

The Conservation District thanks the Board of Commissioners for the opportunity for public comment on the Stormwater Management Plans for Clear Creek and Johnson Lane on December 15th and the responses as provided with the Final Plans.

We believe the Final Plans continue to be incomplete and present the following:

The term "discharge of a pollutant(s)" ... means any addition of any pollutant to navigable waters from any point source. The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

(Clean Water Act Section 502 Definitions)

Per the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems Permit No. NVS040000, the ... Permittee shall revise, implement, and enforce a Storm Water Management Plan designed to reduce the discharge of pollutants...to the Maximum Extent Practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. (Permit V.A.)

The Final Plans as presented do not map the complete stormwater infrastructure to include the "discrete conveyance by pipe, ditch, or channel" of stormwater to their respective outfalls at Clear Creek or the Carson River.

Failing to map the complete stormwater infrastructure, the County fails to enforce the Stormwater Management Plans and its own Development Code – specifically Title 20.160.060 Drainage Facilities requiring “that any development include drainage facilities “capable of conveying ... stormwater runoff ... without resulting in erosion, sedimentation or flooding of the receiving water.” Building structural BMP systems within a development site to a design specification does not alleviate the requirement to inspect and verify maintenance of structural BMP’s which exist or a determination that perhaps additional structural BMP’s need to be placed to assure the stormwater infrastructure is capable of conveying ... stormwater runoff ... without resulting in erosion, sedimentation or flooding of the receiving water.


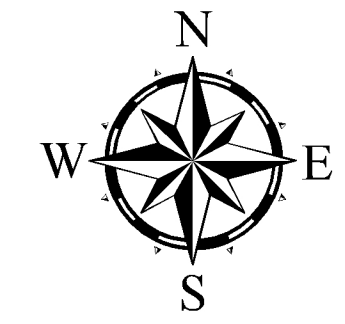
Failing to map the complete stormwater infrastructure, the County fails to implement the Plans’ requirement to inspect and monitor the complete stormwater infrastructure system to provide a complete annual report.

Response:

Staff added the “blueline stream” shown as the unnamed tributary as well as an insert which shows the path of Clear Creek and the unnamed tributary to the Carson River as per the earlier comments and discussions with commenter’s. Improvements in the Topsy area which are installed but not completed are not shown as the final design is completely different than existing conditions. Temporary BMP’s have not been mapped.

Once the projects in the Topsy area are complete, the stormwater infrastructure will be added to the maps. The County is currently in litigation with developers in this area for failure to complete the projects including stormwater facilities.

Carson Valley Plaza Storm Drain Facilities

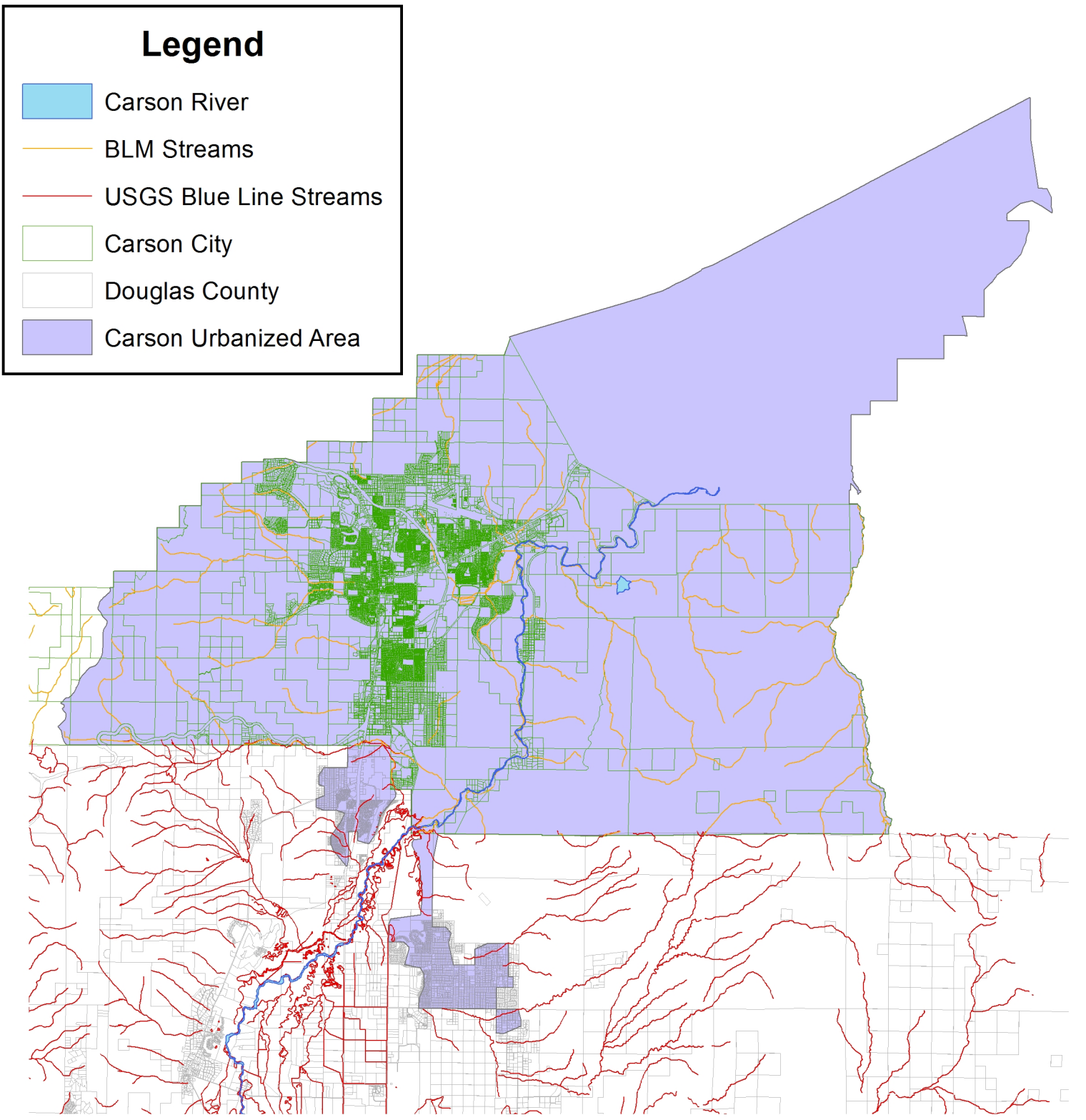
0 50 100 200 300 400 Feet

Print Date: 2/16/2012
File Name: PW_SW_CARSON_VALLEY_PLAZA_24x36

Legend

- Catch Basin
- Energy Dissipater
- Flow Restrictor
- Manhole
- ▲ Stormwater Treatment System
- USGS Blue Line Streams
- Channel
- Culvert
- Pipe
- Storm Drain/Detention Basins & Ponds
- Carson Urbanized Area

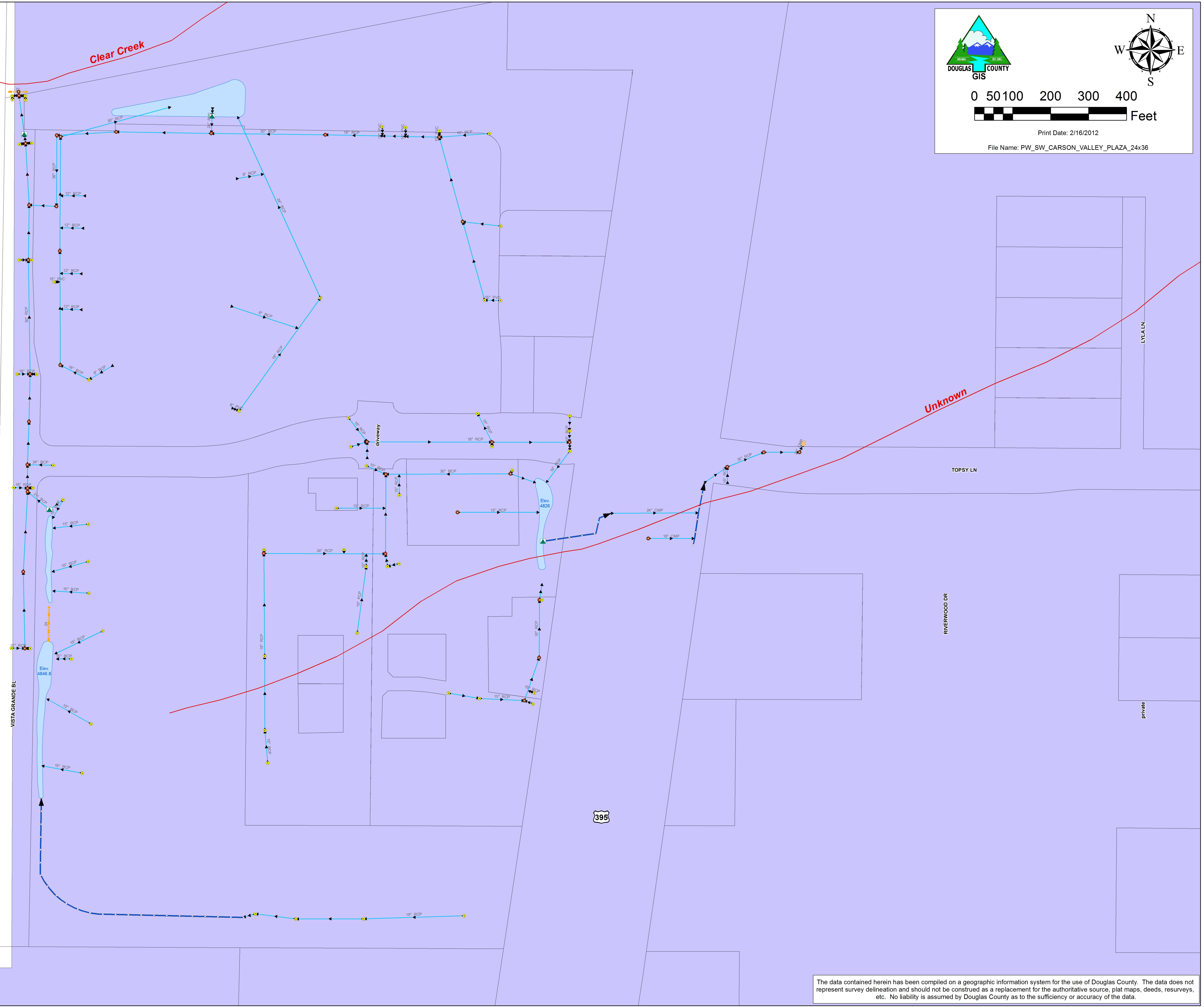
Carson Urbanized Area Overview



Legend

- Carson River
- BLM Streams
- USGS Blue Line Streams
- Carson City
- Douglas County
- Carson Urbanized Area

0 2.5 5 10 15 20 Miles



The data contained herein has been compiled on a geographic information system for the use of Douglas County. The data does not represent survey delineation and should not be construed as a replacement for the authoritative source, plat maps, deeds, resurveys, etc. No liability is assumed by Douglas County as to the sufficiency or accuracy of the data.