Appendix A
Storm Water Management Plan: Comments from NDEP and Co-Permittee Response

Storm Water Management Plan: Comments from NDEP and Co-Permittee Response

NDEP Comments from October 21, 2003 Letter	Co-Permittee Response
For each section with respect to each MS4 permittee, provide the location of where the documentation will be housed and maintained.	March 16, 2004 letter: Not addressed. 2003-2004 Annual Report: Addressed as a comment to be incorporated in the revised SWMP.
Are the measurable goals to be performed by each co-permittee or the group as a whole?	March 16, 2004 letter: The co-permittees plan to revise the tables of measurable goals to identify who will be performing each goal. 2003-2004 Annual Report: Clarification will be provided in a revised SWMP.
Detention basins can be used as part of [a] sequential system for the MS4 but cannot be the sole source of structural control.	March 16, 2004 letter: The SWMP includes many *source control* measures in addition to the detention basins, which will remain the only *structural controls*.
Describe the formal process that is followed once the MS4 receives a report of illegal/illicit discharge.	March 16, 2004 letter: Not addressed. 2003-2004 Annual Report: The process for handling illegal/illicit discharges will be described in the revised SWMP.
The training program and implementation time frame for municipal maintenance staff and field inspections are not acceptable. With both the input from Clark and Washoe Counties, NDEP committed on September 5, 2002, to EPA a time frame of two years for implementation of an inspection and enforcement program.	March 16, 2004 letter: Not addressed. 2003-2004 Annual Report: An acceptable time table for municipal maintenance staff training and field inspection will be presented in the revised SWMP.
It appears that part of the text is missing from the last paragraph in Section 8 - Industrial Facility Monitoring and Control Program.	March 16, 2004 letter: Not addressed. 2003-2004 Annual Report: Not addressed.
The Industrial Facility Monitoring and Control Program and the Construction Site BMP program are required for the MS4 to develop, implement, and maintain, and are not in place to assist NDEP with its programs.	2003-2004 Annual Report: The language will be changed in the revised SWMP.
An acceptable Construction Site BMP Program must include elements that address construction activity while in process.	2003-2004 Annual Report: A local construction site inspection program will be described in the revised SWMP.

Appendix B
Clark County

Appendix B.1
Documentation of Findings

3.1 Adequate Legal Authority (Permit Section 4.2)

The Clark County Storm Water System Discharge Code Title 24.40 states:

> "It shall be unlawful for any person to discharge or cause to be discharged any wastewater in any form... It shall be unlawful for any person to discharge or cause to be discharged any pollutant, as defined in Nevada Revised Statute (NRS) 445A.400 into the storm water system, storm water facilities, or storm sewer, or, onto the curb, gutter, highway, or other area which may drain to the storm water system within the county, without first obtaining a discharge permit from the state of Nevada.
>
> It shall be unlawful for any person to discharge or cause to be discharged any solid or viscous material which could cause an obstruction to the flow, or cause an interference to the operation of the storm water system, storm water facilities, or storm sewer; or any waste which is capable of damage or hazard to the storm water facilities, including structures, equipment; or personnel of the County."

Clark County enforcement is conducted by Clark County Code Enforcement. At present, all violations have been resolved through Code Enforcement documenting the violation, meeting with the site representative, verbally requiring resolution of the violation, and issuing a follow up Notice of Violation (NOV). An NOV requires correction of the violation within 15 days. Code Enforcement reinspects the site to ensure the violation is corrected. Clark County has not escalated enforcement to issuance of a citation for collection of a fine or request for prosecution as is possible.

Code Enforcement has six staff whose duties include enforcement of residential building code violations, swimming pools, graffiti, housing occupancy, illegal dumping, rubbish debris (yard maintenance), illegal signs, shopping carts, zoning, abandoned refrigerators, and industrial and construction storm water. Clark County staff stated that the number of storm water enforcement actions conducted during the previous eight months required approximately 100 man hours. It appears Code Enforcement may be understaffed and unable to adequately and aggressively enforce storm water violations.

3.2 Public Outreach and Education, and Intergovernmental Coordination (Permit Section 4.5)

Clark County has developed and/or distributed storm water-related brochures and a Quick Reference (i.e., public hotline telephone numbers). The brochures are provided in self-service display racks in County buildings and are distributed at environmental events. Packets have been provided to teachers that include a video and children's coloring and fun books. Clark County operates a booth at the Environmental Days event and hands out brochures, doody bags, teacher packets, coloring books, and fun books.

Clark County has developed and distributed two Power Point presentations (Storm Water Regulatory Training for Enforcement Personnel, and Storm Water Quality Management In Las

Vegas Valley [for contractors and construction staff]). The Clark County Planning Manager, stated that training has been provided to approximately 400 persons including the public and inspectors.

3.3 Best Management Practices (Permit Section 4.6)

Clark County Real Property Management staff stated that Real Property Management conducts contract management for all county departments and is responsible for all public-owned property that is not in a street right-of-way. While in general Clark County does not have a plan to reduce discharges for new development and significant redevelopment as required in Permit Section 4.6.1.2, Clark County Development Services does set standards for public and private development and requires a drainage plan. Development Services must review and approve the drainage plan prior to site construction. It does not appear that Clark County follows up to ensure the construction sites adhere to the drainage plan.

Clark County Public Works sweeps all streets at least monthly, but generally does not sweep public parking lots. Public Works does not have BMPs for street and pot hole repairs, but Clark County staff stated that road work is typically not conducted during a rain event. Sand used for deicing roads at higher elevations is removed by street sweeping at the end of the winter season. Nationally, many MS4s track the volume of material removed from catch basins and collected from street sweeping and annually evaluate the effectiveness of the programs. Clark County tracks the number of catch basins and inlets cleaned and the number of street sweeper loads, but not the volumes of materials. Clark County does not evaluate the effectiveness of the programs.

The audit team inspected the Lower Duck Creek Detention Basin and observed severe erosion into the detention basin that had not been repaired for several months. BMPs (e.g., stabilization, riprap) had not been implemented to reduce or eliminate erosion of the detention basin walls. The general public apparently has free access to the detention basin. The Clark County Maintenance Management staff was not aware that a utility company had parked heavy equipment inside the fence and a private developer had recently installed an approximately 36-inch pipe for storm water discharge to the detention basin (see Appendix B.3).

Clark County uses pesticides for mosquito larvae control and contracts the removal or eradication of bees. Clark County Health District rather than Public Works conducts outdoor pesticide application. Public Works has four state-certified pesticide applicators for control of vectors within county buildings. Vector Control was observed to conduct poor management practices for handling of used pesticide (larvicide) containers (see Appendix A.1). The Clark County Public Works and Parks and Recreation Departments respectively apply herbicides to detention basins and channels and public park areas for noxious weed control. Parks and Recreation has Standard Operating Procedures (SOPs) for herbicide use and fertilizer application.

Clark County Parks and Recreation staff and many Public Works staff have not received formal storm water training. Clark County does not appear to have a program to evaluate and as

necessary reduce pollutants in discharges from MS4s associated with application of pesticides, herbicides, and fertilizers.

3.4 Illicit Discharge and Detection (Permit Section 4.7)

Clark County uses CCRFCD Master Plan mapping for flood control infrastructure reference. The Master Plan mapping includes public and private detention basins and major discharge points. Clark County has mapped its MS4 (using GIS) to include regional piping, drop inlets, and catch basins, but not local piping. Clark County cannot determine the pathway of storm water and potential pollutants at the local piping level. Clark County staff stated that local piping will be mapped if funding becomes available.

When Clark County staff inspect the detention basins and channels for Clark County, they do not take the piping maps because they do not provide the ability to determine the source of a discharge observed in a channel.

Clark County Public Works personnel appeared to lack general storm water knowledge. For example, a blue discharge to a county wash was tracked back to a golf course that was using an EPA-approved herbicide. Since it was an EPA-approved herbicide, Clark County did not follow up, and apparently did not understand that approval for use as a herbicide does not constitute approval to discharge to U.S. waters. Clark County appeared to lack internal storm water program knowledge and coordination between various county departments. For example, Clark County Maintenance Management staff stated that he is to be notified if a spill occurs at a Public Works location; Clark County Environmental Safety Officer, stated that all spills are reported to him; and the Public Works Fuel Point signage directs spills be reported by calling 911.

Clark County staff observe detention basins and walk the channels and washes that have discharges at least twice annually. Clark County previously maintained a list of every discharge point ("orifice") to the channels, but stopped documenting the orifices because "sources tend to be irrigation." This was inconsistent with a previous statement by the same Clark County staff who indicated that the sources tended to be swimming pools.

The Clark County Health Department has targeted some commercial industries (e.g., dry cleaners) for control of illicit discharges, and CCRFCD and the municipal entities have developed and distributed publications related to the reduction of illicit discharges.

3.5 Industrial Facility Monitoring and Control (Permit Section 4.8)

The Clark County industrial facility program includes twelve SARA Title III Section 313 facilities that were identified through the EPA Envirofacts Toxics Release Inventory (TRI) web site. Clark County anticipates they will inspect all twelve industries annually, while in the 2003-2004 Annual Report they commit to inspecting 50% of the total number of identified facilities per year.

Clark County has contracted the CCWRD to implement the industrial facility program. The CCWRD staff provide comprehensive industrial inspections that include directives to correct potential storm water concerns. The CCWRD staff document the inspections with detailed narrative reports in addition to a completed checklist. The audit team observed a pretreatment inspector a conduct storm water inspection of the Sparkletts bottle water plant. Detailed observations associated with the inspection are presented in Appendix B.4.

Clark County does not include its municipal operations (e.g., Public Works Fleet Management, Traffic, Vector Control, Automotive) in the industrial program. Clark County does not have municipal operations SWPPPs, has not developed or implemented storm water management plans for the facilities, and does not inspect the sites for storm water. Public Works was generally unable to provide staff to conduct inspections of the municipal operations during the audit or to discuss management practices for storm water. The audit team observed the following municipal operations sites: the primary and secondary yards of the Fleet Facility, Vector Control Facility, and a small area of the Traffic Facility; the Automotive Repair and Fuel Point Facilities; and the East Facility. Most sites had significant storm water issues (e.g., multiple, large areas of petroleum-stained pavement; uncontained, opened, and exposed five-gallon pails of petroleum products; uncontained, exposed five-gallon pails of other products; 55-gallon drums and fiber barrels; spillage of bacteriological larvicide to an exposed and uncontained pavement area; uncontained, exposed used automotive batteries; and diesel and gasoline spillage) (see
Appendix B.2).

3.6 Construction Site BMP Program (Permit Section 4.9)

CCDAQEM requires a dust permit before a building permit is approved. Application for the dust permit requires submittal of a Dust Mitigation Plan with selected BMPs including at a minimum BMP 10 (disturbed soil) and BMP 20 (trackout control). BMP 10 requires the permittee to limit vehicle traffic and disturbance of soils where possible and record soil conditions and dust control actions in daily project records. BMP 20 requires a gravel trackout pad, wheel shakers, or a power washer. While they are on construction sites conducting air quality inspections, CCDAQEM inspectors also conduct storm water BMP inspections based on the *Construction Site SWPPP Inspection* form. The form does not include questions related to whether the construction site has a NPDES permit. The CCDAQEM inspectors gain access to the construction sites under their authority to inspect for compliance with the dust permit. The CCDAQEM inspectors do not have the authority to enforce storm water regulations, unless they overlap with the requirements of the dust permit (e.g., trackout control requirements).

The CCDAQEM, supervision stated that when a “potential problem” is identified on site, CCDAQEM tries to contact the site supervisor, but does not go to any “great length” to actually speak to the site supervisor about the potential issues. The CCDAQEM inspectors use their discretion to determine if a follow up inspection will be conducted to verify that a compliance issue has been corrected.

While accompanying a CCDAQEM inspector to the construction inspection sites, the audit team observed that the Spanish View Towers site, which was previously inspected by CCDAQEM, did not comply with BMP 20.

NDEP provides formal storm water training for construction developers and contractors. Clark County does not provide formal training for construction site operators, or direct them to the NDEP training, but has distributed a presentation titled “Storm Water Quality Management in Las Vegas Valley.”

Appendix B.2
Municipal Facilities
Inspections and Photographs

Municipal Facilities (Public Works Fleet, Vector Control, and Traffic)
Inspection and Photographs

9/22/05 10:20 AM - 11:20 AM Weather: sunny and hot

Mr. Jerry Whittum, SAIC, Ms. Ellen Blake, EPA Region 9, and Mr. David Lloyd, NDEP, observed the Clark County Public Works Fleet (primary and secondary yards), Vector Control, and Traffic facilities for storm water concerns. The audit team was accompanied by Mr. Don Ficklin, Maintenance Supervisor, Public Works, and Mr. Mark Silverstein, Environmental Planning Division, Clark County.

The purpose for a field visit of a municipal facility is to observe an industrial storm water inspection. Clark County does not inspect its municipal facilities for storm water. Mr. Ficklin and Mr. Silverstein accompanied the audit team to answer questions, but were unable to lead the inspections.

Observations

1. The Fleet, Vector Control, and Traffic facilities did not appear to have storm water controls.
2. The facilities did not have Storm Water Pollution Prevention Plans (SWPPPs).
3. The Fleet, Vector Control, and Traffic facilities did not appear to have site representatives responsible for storm water. Mr. Ficklin and Mr. Silverstein had no knowledge of such individuals.
4. The facilities did not have storm water self-inspection reports.
5. The Fleet facility had several opened five-gallon pails of petroleum product at various locations in the yards.
6. The Fleet facility had other containers of chemicals at locations in the yards.
7. The Fleet facility (primary) had a truck wash that was outside, uncovered, and uncontained.
8. The Fleet facility had numerous locations with pavement staining due to petroleum product spills/leakage from parked vehicles.
9. The Vector Control facility had cut open 55-gallon drums of biological larvicide and spilled residue to the pavement.

Findings

1. The five-gallon pails of petroleum product at the Fleet facility were unprotected, uncontained, and uncovered and would potentially be filled by rain water and overflow. Some containers also had a high potential to be accidentally tipped over.
2. The other containers of chemicals at the Fleet facility had the potential for contamination of storm water during a rain event.
3. The primary Fleet facility truck wash had the potential for wash waters to run off to adjacent property.
4. The primary Fleet facility parking lot petroleum product pavement staining was upslope from the unprotected storm water inlets at the north edge of the parking area. Petroleum product would be carried in storm water runoff from the pavement.

5. The secondary Fleet facility parking lot petroleum product pavement staining was upslope from offsite locations at the southern property boundary. The petroleum product would be carried in storm water runoff from the pavement.
6. The spilled residue biological larvicide was in a uncontained, uncovered area of pavement at the Vector Control facility. Storm water runoff would potentially carry the larvicide off site.
7. The Traffic facility had chemical containers that were uncontained and exposed to rain and rupture from vehicle accident. Storm water would carry any spillage that might occur.

Photo 1. Fleet (primary) facility: Unprotected storm water inlets at north edge of parking area.

Photo 2. Fleet (primary) facility: Two uncovered 55-gallon drums of solvent.

Photo 3. Fleet (primary) facility: Four uncovered and uncontained 5-gallon pails of truck wash chemical.

Photo 4. Fleet (primary) facility: Power washer for trucks.

Photo 5. Fleet (primary) facility: Truck wash area is outside, uncontained, uncovered.

Photo 6. Fleet (primary) facility: Four 5-gallon pails stored outside. One, without a lid, is 50% full of used petroleum product.

Photo 7. Fleet (primary) facility: Truck parking area with spills/leakage staining on pavement.

Photo 8. Fleet (primary) facility: Truck parking area with spills/leakage staining on pavement.

Photo 9. Fleet (primary) facility: Truck parking area with spills/leakage staining on pavement.

Photo 10. Fleet (primary) facility: Truck parking area with spills/leakage staining on pavement.

Photo 11. Fleet (secondary) facility: Truck and paving equipment parking area with spills/leakage staining on pavement.

Photo 12. Fleet (secondary) facility: Open 5-gallon pail of oily water in truck and paving equipment parking area.

Photo 13. Fleet (secondary) facility: Truck and paving equipment parking area with spills/leakage staining on pavement.

Photo 14. Fleet (secondary) facility: Front loader with an active leak.

Photo 15. Fleet (secondary) facility: Full and partially full 5-gallon pails of stucco and form oil.

Photo 16. Fleet (secondary) facility: Abandoned asphalt washout area.

Photo 17. Vector Control facility: Empty drums of larvicide had been cut open in an uncontained location and residue spilled to the pavement.

Photo 18. Vector Control facility: Empty drums of larvicide had been cut open in an uncontained location and residue spilled to the pavement.

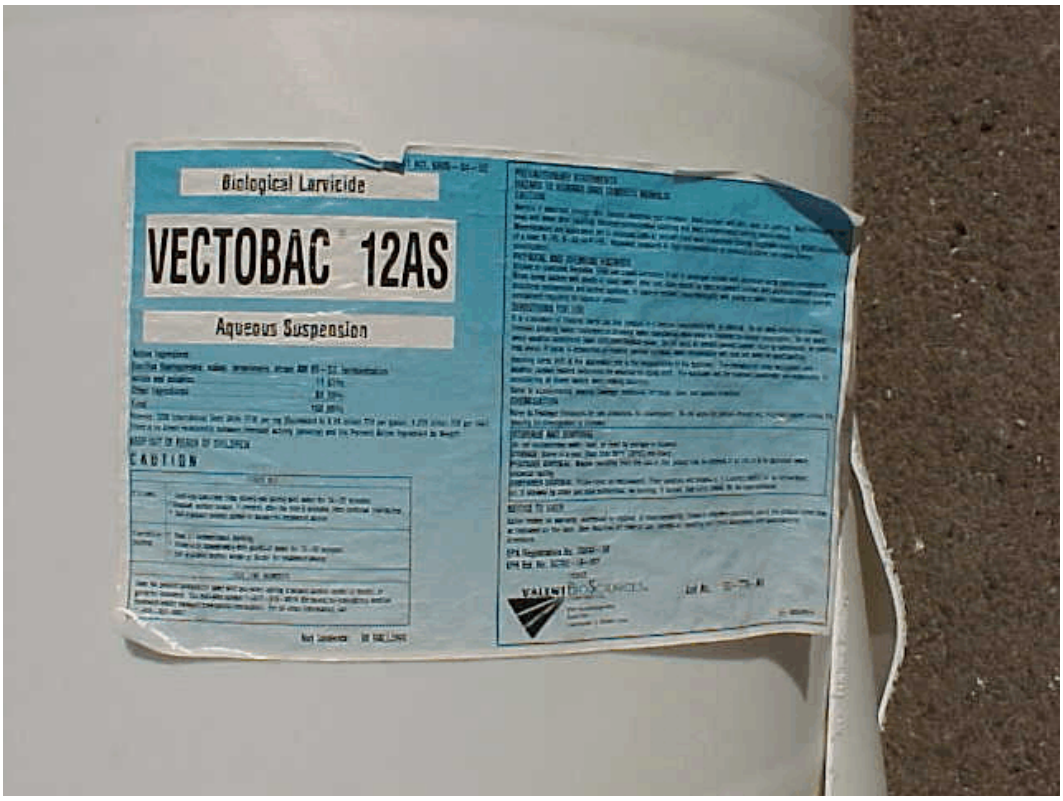


Photo 19. Vector Control facility: Empty drums of larvicide had been cut open in an uncontained location and residue spilled to the pavement.

Photo 20. Vector Control facility: Empty drums of larvicide had been cut open in an uncontained location and residue spilled to the pavement.

Photo 21. Traffic facility: One 55-gallon drum of flammable contents and three fiber drums of unknown contents were uncovered and uncontained.

Municipal Facility (East Facility)
Inspection and Photographs

9/22/05 11:25 AM - 11:35 AM Weather: sunny and hot

Mr. Jerry Whittum, SAIC, Ms. Ellen Blake, EPA Region 9, and Mr. David Lloyd, NDEP, observed the Clark County East Facility for storm water concerns. The audit team was accompanied by Mr. Don Ficklin, Public Works, Maintenance Supervisor, and Mr. Mark Silverstein, Environmental Planning Division, Clark County.

The purpose for a field visit of a municipal facility is to observe an industrial storm water inspection. Clark County does not inspect its municipal facilities for storm water. Mr. Ficklin and Mr. Silverstein accompanied the audit team to answer questions, but were unable to lead the inspection.

Observations

The East Facility is used for dumping and drainage of street sweepings. The facility had sediment traps followed by treatment prior to discharge to the sanitary sewer. The facility was well maintained.

Findings

None.

Photo 1. Street sweeper unloading and sweeping facility area.

Photo 2. Street sweeper being washed out.

Photo 3. Sediment traps to collect soil and debris from street sweeper unloading.

Photo 4. Treatment basin for materials escaping the sediment traps.

Municipal Facility (Clark County Automotive Repair and Fuel Point)
Inspection and Photographs

9/22/05 11:40 AM - 12:10 PM Weather: sunny and hot

Mr. Jerry Whittum, SAIC, and Ms. Ellen Blake, EPA Region 9, observed the Clark County Automotive Repair and Fuel Point facilities for storm water concerns. No Clark County representatives accompanied the audit team.

The purpose for a field visit of a municipal facility is to observe an industrial storm water inspection. Clark County does not inspect its municipal facilities for storm water.

Observations

1. The Automotive Repair facility had minimal staining of pavement from petroleum spills/leakage. The facility had used batteries located outside, uncontained, and uncovered.
2. The Fuel Point area had several fresh spills. The audit team did not observe a spill kit or emergency shutoff at the fuel island. Signage directed calling 911 in case of a fuel spill.

Findings

1. Exposed and uncontained used batteries at the Automotive Repair facility had the potential to lose acid to storm water runoff.
2. The spillage at the Fuel Point area was under the canopy, but had the potential to be tracked out of the canopy area and be carried to the adjacent street by storm water.

Photo 1. Two used exposed and uncontained batteries located outside the Automotive Repair facility.

Photo 2. Three used exposed and uncontained batteries located outside the Automotive Repair facility.

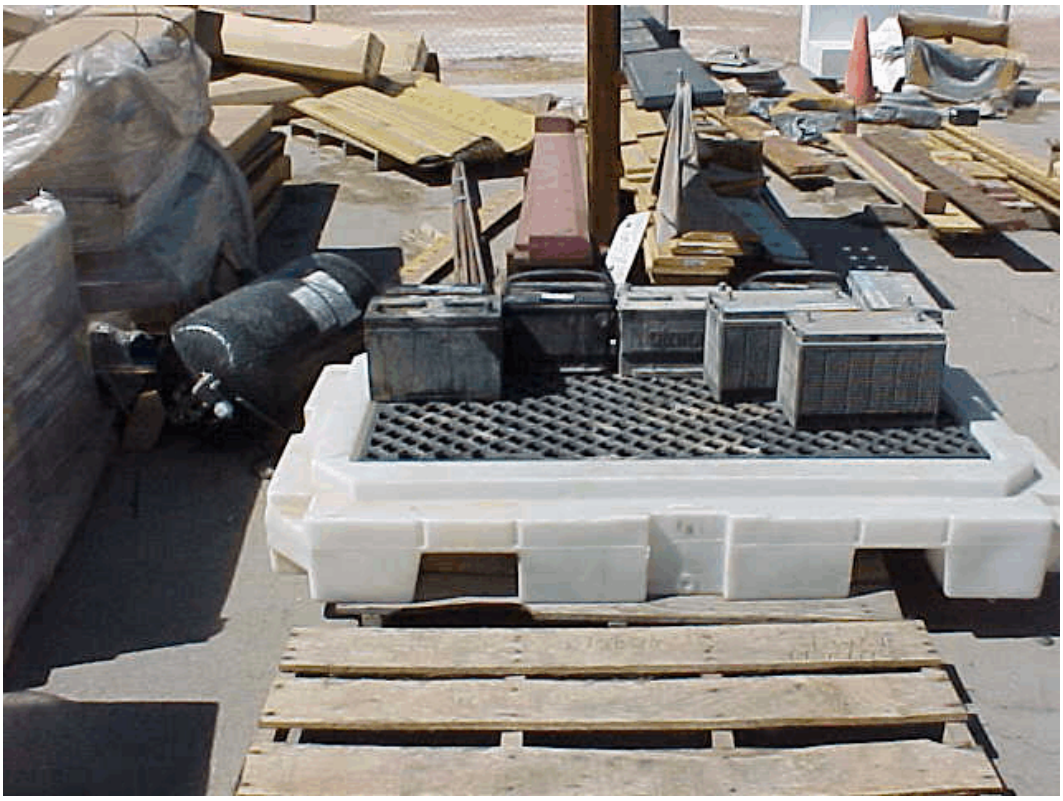


Photo 3. Exposed, but contained used batteries located outside the Automotive Repair facility.

Photo 4. Waste oil pit and multiple 55-gallon drums that are full, partially full, and empty at the Automotive Repair facility.

Photo 5. View of fuel island.

Photo 6. Spillage at fuel island.

Photo 7. Spillage at fuel island.

Appendix B.3
Municipal Structure
Inspection and Photographs

Municipal Structure (Lower Duck Creek Detention Basin)
Inspection and Photographs

9/21/05 4:10 PM - 5:15 PM Weather: sunny and hot

Mr. Jerry Whittum, SAIC, Ms. Kathi Moore and Ms. Ellen Blake, EPA Region 9, and Mr. Cliff Lawson, NDEP, conducted an inspection of the Lower Duck Creek Detention Basin municipal storm water control structure. Mr. Gill Suckow and Mr. Mark Silverstein, Clark County, accompanied the audit team. Mr. Suckow is the Clark County representative for the detention basin.

Observations

1. Erosion into the detention basin was observed at several locations. Some erosion channels in the west wall of the detention basin were at least four feet deep and six feet wide. Mr. Suckow stated that the erosion in the west wall had occurred several months ago.
2. Utility work was ongoing outside the east fence of the detention basin. The heavy equipment was parked inside a locked gate to the detention basin area. Mr. Suckow was unaware of the ongoing work.
3. An approximately 36-inch pipe for storm water discharge to the detention basin had recently been installed at the northwest corner of the detention basin. The pipe appeared to have been installed by the developer of an adjacent subdivision. Mr. Suckow was unaware of the installation.

Findings

1. Clark County is not actively repairing erosion into the detention basin and has not implemented Best Management Practices (BMPs) such as stabilization and/or riprap of the basin walls. Loose soils eroded into the basin will potentially be carried by storm water to the Duck Creek Channel when a rain event occurs.
2. It appears Clark County does not require that access to the detention basin area can only occur after the site representative (i.e., Mr. Suckow) is notified and has opportunity to assess the impact, provide comment, and direct requirement of storm water BMPs. BMP issues included the following:
- Parking of heavy equipment inside the detention basin fence could potentially result in disturbance of the detention basin walls and increase erosion. Heavy equipment refueling spills and petroleum fluid leaks to the soil are not uncommon. Loss of petroleum product in the detention basin area may result in petroleum product entering the Duck Creek Channel.
- Installation of discharge pipes to the detention basin may result in erosion where the pipe enters the basin and may cause scouring of the basin floor at the discharge point. Loose soils will potentially be carried by storm water to Duck Creek Channel when a rain event occurs.

3. It appears that Clark County is not tracking all new contribution of storm water (i.e., the unknown 36-inch discharge pipe) to the detention basin to ensure the basin capacity is not exceeded.

Photo 1. Erosion to the detention basin at the northeast corner.

Photo 2. Southwest view of the detention basin from the east fence.

Photo 3. West view of the detention basin from the east fence.

Photo 4. Northwest view of the detention basin from the east fence.

Photo 5. View of the wash passing under the street to the detention basin.

Photo 6. Inlet to detention basin at southwest corner.

Photo 7. East view of detention basin.

Photo 8. Erosion on west wall of detention basin.

Photo 9. Erosion on west wall of detention basin.

Appendix B.4
Industrial Facility
Inspection and Photographs

Industrial Facility (Sparkletts)
Inspection and Photographs

9/21/05 12:45 PM - 1:10 PM Weather: sunny and hot

Mr. Jerry Whittum, SAIC, and Mr. Cliff Lawson, NDEP, observed Mr. Mark Palsgrove, Clark County Pretreatment Inspector, conduct an inspection of the Sparkletts bottle water plant. The Sparkletts facility includes process areas, vehicle maintenance, outside storage, truck parking, and truck fueling areas. Mr. Mark Silverstein, Clark County Environmental Planning Division, joined the inspection. Mr. Henry Jones, Plant Supervisor, represented Sparkletts. Mr. Palsgrove was directed by the audit team to conduct a typical inspection of the site.

Observations

1. Mr. Palsgrove conducted a thorough storm water inspection of the site.
2. He identified 55-gallon drums with loose or missing bungs and directed that they be properly sealed. He directed the facility to train employees in the proper sealing of drums.
3. He discussed vehicle maintenance activities, equipment, and handling of spent fluids.
4. He inspected the loading dock and storm water sump, and handling of collected storm water.
5. He discussed street sweeping of the truck parking area.
6. He inspected under vehicles parked outside for spillage/leakage and observed where parking lot runoff would leave the site. He directed the site staff to formulate a plan for handling parking lot runoff.
7. He directed the removal of the salvage drum materials within 30 days.
8. He inspected a truck stored outside that was under repair and directed the truck engine area be covered with a tarp to avoid contamination of storm water.
9. He stated that he would return within one week to evaluate compliance with his directives.

Findings

Mr. Palsgrove was unsure who should be notified if he encountered an industrial site discharging pollutants to the street.

Photo 1. Mr. Palsgrove inspecting containers located on containment in the used equipment storage area.

Photo 2. Mr. Palsgrove inspecting used oil containment tank.

Photo 3. Mr. Palsgrove inspecting used oil filter disposal.

Photo 4. Mr. Palsgrove inspecting loading dock and dead sump for collection of storm water.

Photo 5. Salvage material drum at propane fueling point.

Photo 6. Mr. Palsgrove inspecting a truck that was being repaired. A drip pan was being used under the engine.

Appendix B.5
Construction Sites
Inspections and Photographs

Municipal Construction (Nellis Boulevard)
Inspection and Photographs

9/21/05 3:00 PM - 3:45 PM Weather: sunny and hot

Mr. Jerry Whittum, SAIC, Ms. Kathi Moore and Ms. Ellen Blake, EPA Region 9, and Mr. Cliff Lawson, NDEP, observed the Nellis Boulevard (Hacienda Avenue to Russell Road) Duck Creek Channel construction site for storm water concerns. The audit team was accompanied by Mr. Gill Suckow and Mr. Mark Silverstein, Clark County. Mr. James Robinson, Project Representative, Black & Veatch, was the on-site representative.

The purpose for a field visit of a municipal facility is to observe an industrial storm water inspection. Clark County staff were unsure as to who was responsible for construction inspections of municipal sites. Mr. Suckow and Mr. Silverstein accompanied the audit team to answer questions, but were unable to lead the inspection.

Observations

1. Clark County staff and Mr. Robinson discussed who was responsible for construction site inspections. Following the discussion, Mr. Robinson stated that he conducted site inspections. Mr. Robinson stated that "to his knowledge" the Clark County Regional Flood Control District also inspected the site Best Management Practices (BMPs).
2. The NPDES Storm Water Construction Permit and Storm Water Pollution Prevention Plan (SWPPP) were not kept on site and were not available for review.
3. Self-inspections of the site were not documented.
4. Concrete washout had occurred on the face of the earthen dam upslope from the sump located at the toe of the dam slope. The sump pumped seepage water and potentially concrete runoff to the diversion inlet which passed the water downstream to the Duck Creek Channel.
5. The only storm water BMP observed on site was a straw bale filter at the downstream end of the construction project.
6. Several 5-gallon pails of concrete chemicals were randomly placed along a retaining wall where construction vehicle traffic occurred. An uncontained 5-gallon gas can was located in the staging area.
7. Mr. Robinson stated the site was 2.5 acres and that the site did not include the staging areas. The staging areas occupied over one acre of disturbed soil.

Findings

1. It appeared that Clark County had not formally determined who was responsible for the site self-inspections required by the NPDES permit.
2. Because of the lack of required paperwork on site (i.e., NPDES Permit, SWPPP, and self-inspection reports), the audit team could not verify whether the site had an NPDES permit; whether a SWPPP had been developed and implemented; and whether self-inspections were occurring.
3. The site did not have BMPs (e.g., silt fence, riprap, stabilization) along the Duck Creek Channel to reduce the runoff of sediment to the channel.

4. Concrete washout had occurred above the sump and likely concrete washout runoff was pumped to the diversion and entered the Duck Creek Channel waters below the project area.
5. Chemicals (e.g., concrete chemicals, gasoline) were not contained and/or located to minimize the potential for accidental spillage and loss to the soil or Duck Creek Channel.
6. The staging areas included disturbed soils that are part of the project and must be protected and inspected for storm water.

Photo 1. Diversion inlet (photo left) and earthen dam.

Photo 2. Downstream side of earthen dam. Note concrete runoff on face of dam. Note 5-gallon pails of chemicals along the retaining wall.

Photo 3. Closeup view of concrete washout on downstream face of earthen dam. A sump is located at the toe of the dam face (photo left).

Photo 4. View downstream from earthen dam of Duck Creek Channel (photo center) and retaining walls (photo left and right).

Photo 5. View of straw bale filter in Duck Creek Channel downstream from the construction area.

Photo 6. Staging area. Note the soil disturbance and no BMPs.

Photo 7. Additional staging area. Note uncontained five-gallon gas can (photo center).

Private Construction (Mountain Edge)
Inspection and Photographs

9/22/05 1:00 PM - 4:45 PM Weather: sunny and hot

Mr. Jerry Whittum, SAIC, Ms. Ellen Blake, EPA Region 9, and Mr. David Lloyd, NDEP, observed Mr. Richard Nielsen, Air Quality Specialist, Clark County Department of Air Quality and Environmental Management (CCDAQEM), conduct a construction inspection of Mountain Edge utilities and developments. The Mountain Edge development occupies several thousand acres and involves multiple developers. The inspection evaluated the storm water management of (1) Landtec LLC., the developer of site streets and utilities and (2) Pardee Homes, the developer of Mirador, a single family residential development located in Mountain Edge. Mr. Mark Silverstein, Environmental Planning Division, Clark County accompanied the audit team. Mr. Nielsen was directed by the audit team to conduct a typical, but somewhat abbreviated inspection of the Mountain Edge site.

The audit team also observed Mr. Nielsen conduct an unplanned interview at a KB Home site while en route to Mountain Edge. Mr. Nielsen and the audit team observed work occurring in a wash, and Mr. Nielsen stopped to investigate. Mr. Nielsen interviewed site personnel to identify the responsible party and ensure the site had a dust permit. The site belonged to KB Home, who had a dust permit for the site and was required to clean up the wash prior to release from a bond.

Observations

1. CCDAQEM dust inspectors conduct storm water inspections for Clark County.
2. Mr. Nielsen described his normal inspection procedure and handling of noncompliance activities.
3. He appeared to conduct a thorough storm water inspection of construction sites, but was uncertain whether he was adequately evaluating storm water issues.
4. He checked to see if the site has an NPDES construction permit and a Storm Water Pollution Prevention Plan (SWPPP). If a site is unpermitted and over one acre, he informs the site contact of the requirement to be permitted by NDEP and provides a brochure related to NPDES permitting to the site contact.
5. He drove slowly through the sites and stopped to inspect inlet best management practice (BMP) controls and to observe trackout.
6. He considered the Mountain Edge sites to have non-grievous concerns and overall considered the sites to be in compliance. The audit team would not consider the sites to be in compliance.
7. Clark County protocol requires the Air Quality Specialist to determine the gravity of the site noncompliance. If noncompliance is determined to be non-grievous, the report is filed internally. If grievous, the report is forwarded to Clark County Regional Flood Control District. Concerns are verbally provided to the site contact. However, if contact is not made with a site representative, it appears the Clark County policy directs that the inspection report of non-grievous concerns be filed internally, and no followup action or notification occurs.

Findings

1. Mr. Nielsen's uncertainty that he was adequately evaluating storm water issues indicates a need for formal inspector training by an experienced storm water inspector trainer.
2. Clark County protocol for determining followup activities for grievous storm water issues and limited or no action for non-grievous issues appears to allow noncompliance to continue without enforcement.

Photo 1. Street inlet protection that is poorly maintained by Landtec LLC.

Photo 2. Street inlet protection that is poorly maintained by Landtec LLC.

Photo 3. Street inlet protection that is poorly maintained by Landtec LLC.

Photo 4. KB Home hand cleaning of culverts in wash.

Appendix C
City of Las Vegas

Appendix C.1
Documentation of Findings

4.1 Adequate Legal Authority (Permit Section 4.2)

Chapter 14.17 (Wastewater Collection and Treatment) of the Las Vegas Municipal Code includes the following provisions related to prohibition of illicit discharges:

- Section 14.17.110 prohibits discharge of any septic tank, holding tank or cesspool or any trucked wastewater to the storm drain system or to waters of the State.
- Section 14.17.120 (B)(1) prohibits "Solid or viscous material which could cause an obstruction to the flow or cause an interference to the operation of the system or the City's storm drain system, including without limitation grease, garbage with particles that are greater than one-half of an inch in any dimension, animal guts or tissues, paunch manure, bones, hair, hides or fleshing, entrails, feathers, ashes, cinders, sand, spent lime, stone marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, gas tar, asphalt residues, residues from the refining or processing of fuel, lubricating oil, mud, glass grinding or polishing wastes, any wastewater that has a pH of less than 5.0 or more than 11.0 or any wastewater that has any other corrosive property that is capable of causing damage or hazard to the structures, equipment, or personnel of the City."
- Section 14.17.120 (D) states that "it is unlawful for any person to discharge wastewater in any form, other than storm water, into the storm drains of the City of Las Vegas."
- Section 14.17.120 (E) states that "it is unlawful for any person to discharge any pollutant, as defined in the Act, into surface waters within the City of Las Vegas without first obtaining an NPDES permit from the State of Nevada or the U.S. Environmental Protection Agency."
- Section 14.17.025 (66) defines a storm drain as "a conveyance structure for carrying storm and surface waters and drainage water excluding wastewater."
- Section 14.17.025 (67) defines storm water as "uncontaminated water resulting from precipitation; irrigation with drinking water; or clean groundwater."

Because Chapter 14.17 is Las Vegas' pretreatment ordinance, many provisions specifically refer to industrial users, which the ordinance defines as (a) Any user who discharges industrial wastewater into the system; or (b) Any user who is subject to regulations promulgated in accordance with Section 307(b), (c), (d) of the Clean Water Act. Las Vegas' ability to require compliance with conditions in ordinances, permits, contracts or orders, and to carry out the inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with the prohibition of illicit discharges appears to be restricted to facilities that meet the definition of industrial users, or who are otherwise permitted under this ordinance. This would exclude many facilities, such as construction sites, that have the potential to discharge storm water but are not industrial users.

4.2 Public Outreach and Education, and Intergovernmental Coordination (Permit Section 4.5)

In May 2004, Las Vegas participated in the Earth Day event at Nellis Air Force Base. Las Vegas has also placed about 5,000 plaques on drop inlets.

4.3 Best Management Practices (Permit Section 4.6)

Las Vegas uses only three herbicide products, all of which are available over-the-counter. The products are used only as needed and are generally used only on traffic islands. Chemicals may be used adjacent to the Las Vegas Wash, but are not used in the Las Vegas Wash. The two crew foremen were certified as applicators in February 2005.

Las Vegas does not currently use an asset management database to schedule or track its cleaning of storm drain structures; however, a system is used to maintain a record of service calls and complaints. Structures are cleaned based on historical problems and as needed, based on complaints.

Detention basins are inspected twice a year as part of the Wash Walk program and are also inspected after each major storm event. The basins are cleaned and maintained as needed after each inspection by Las Vegas' annual maintenance contractor.

The audit team inspected three detention basins: Gowan, Angel Park South, and Meadows (see Appendix B.2). Gowan is an example of a multi-use basin; it has a playing field inside. In the event of a storm, the trash cans located in the field would not be removed and could contribute to the pollutants leaving the MS4. Fertilizers applied to the field could also contaminate storm water. The Meadows Detention Basin is being modified to incorporate a meandering waterway, and will become part of a regional park.

As described in Section 3.6, the co-permittees have recently begun an effort to evaluate how the basins perform with regard to pollutant control, but have not proposed any other structural controls.

4.4 Illicit Discharge and Detection (Permit Section 4.7)

The primary means of detecting illicit discharges to the visible areas of the storm drain system is through the twice annual Wash Walks, which are documented in the 2003-2004 Annual Report. The audit team observed a Las Vegas inspector on a simulated Wash Walk (documented in Appendix B.2). In conducting the Wash Walks, the inspector looks for dry weather flow, heavy sediment loads, and any significant obstructions in the wash. When the Wash Walk crew finds a potential illicit discharge, they notify appropriate Las Vegas or other agency staff who can investigate the situation. The Wash Walk crew refers flows thought to be from construction sites to NDEP and flows from permitted industrial users to Las Vegas' Industrial Waste Section. The Wash Walk crew does not note the location using a global positioning system (GPS) device and

relies on visual observations rather than field analyses to evaluate the quality of any observed flows. See Section 3.6 for a discussion of the co-permittees' field screening program.

Illicit discharges include SSOs. Las Vegas has 1,450 miles of sanitary sewer. With the exception of 24-inch and 36-inch lines, which constitute less than 5% of the sewer mains, all sewers are cleaned once every two years. In FY2004, crews cleaned a total of 746 miles of sanitary sewer mains. Crews also televised 329,654 feet of sewer mains. Las Vegas plans to begin addressing the larger mains not currently in the cleaning program beginning in early 2006. Las Vegas has evaluated sanitary sewers and storm sewers for cross-connections.

SSOs are reported quarterly to the state. In FY2004, Las Vegas had 74 'reportable' SSOs. Las Vegas provided a list of SSOs reported during January through March of 2005. Grease (nine spills), solids accumulation (eleven spills), and external debris (nine spills) were the major causes of overflows during this quarter. Altogether, 9 of the 23 spills during this quarter entered storm drains or channels. All SSOs during this quarter were due to blockages. In general, blockages can be reduced by more frequent cleaning or by targeting increased cleaning to areas prone to such problems.

Las Vegas has a full Hazmat team to respond to spills and can also call in a contractor if a large spill occurs. The Industrial Waste Section may also respond to smaller spills if requested. If the Hazmat team determines that there is a danger from fumes during a spill, they will flush the material to a storm drain. Las Vegas typically learns about spills from the 911 system but does not maintain a master list of these calls. Individual Fire Stations respond to those located in their areas; no city-wide log is maintained of call-outs.

Las Vegas' building code requires all restaurants and any non-domestic kitchens to have a grease trap. However, restaurants are not required to have pretreatment permits and are not typically inspected by Industrial Waste Section staff. Thus, Las Vegas has no means of knowing whether the grease traps are properly operated and maintained. Las Vegas staff stated that additional personnel would be needed to inspect all restaurants periodically. Sewer maintenance staff notify the Industrial Waste Section when grease appears to have caused a blockage or SSO. The Industrial Waste Section has issued NOVs due to grease problems in the collection system.

4.5 Industrial Facility Monitoring and Control (Permit Section 4.8)

Prior to issuance of the Permit, the co-permittees discussed their responsibilities with NDEP. They decided not to overlap with any state programs. Las Vegas does not receive lists of facilities from the state that have been issued storm water permits. They also do not provide any information to the state.

Based on a list dated September 13, 2005, that Las Vegas submitted to the audit team, facilities within Las Vegas that have been identified under Permit Section 4.8 include Anderson Dairy, Las Vegas Finishing, Nevada Ready Mix, Southern Nevada Paving Beltway, and Sparkletts Water Systems (noted as being out-of-business). These facilities met the criteria used to identify

industrial facilities subject to Section 313 of SARA Title III, municipal landfills, hazardous waste treatment and disposal facilities, and other industrial facilities determined by the co-permittees to be potential sources of substantial pollutant loading. According to staff, Las Vegas' Industrial Waste Section inspects these facilities for compliance with storm water regulations.

Las Vegas has issued permits to nine Significant Industrial Users (SIUs), also known as Class I facilities, and about one thousand Class II facilities (such as photo processors, dry cleaners, dentists and others). The city yards are also permitted Class II facilities. The Industrial Waste Section also inspects these facilities for compliance with the parts of the Las Vegas ordinance that pertain to storm water. Industrial Waste Section staff received training in inspecting industrial facilities for storm water compliance in September 2005.

Appendix C.2
Municipal Facility
Inspection and Photographs

Municipal Facility (East Yard)
Inspection and Photographs

9/21/05 2:00 PM - 2:45 PM Weather: sunny and hot

Ms. Dianne Stewart, SAIC, and Mr. John Tinger, EPA Region 9, observed Mr. Mark Montoya of Las Vegas conduct a storm water inspection of the East Yard facilities. Mr. Daniel Fischer and Ms. Lori Wholetz of Las Vegas were also present. A Notice of Intent (NOI) was submitted about seven years ago. The facility does not have a Storm Water Pollution Prevention Plan (SWPPP).

Observations

1. Mr. Montoya always starts this inspection at the single outfall from the site to the MS4. This consists of a grate covered with filter fabric. The filter fabric is checked only twice per year during the semi-annual inspections.
2. The transfer station has a drain that discharges through a sand/oil interceptor to the sanitary sewer.
3. The facility has a satellite accumulation area primarily for paint storage. Wastes were placed near this facility outside its storage pad. Ms. Wholetz is responsible for this facility. She immediately called to determine who abandoned the wastes. Before the audit team left the Yard, a Parks Department truck arrived to remove the wastes.
4. The Fire Department uses an area of the Yard for storage of various parts and equipment, including used batteries.
5. A mobile car wash was operating in a parking lot. Las Vegas staff requested that the operation be relocated to an area that drains to a sand/oil interceptor and the sanitary sewer.

Findings

1. The filter fabric over the storm drain grate should be checked more often than twice per year. There are piles of sand, gravel, and soil nearby, and the filter fabric is the only barrier to storm water that could contain these materials.
2. The gate of the satellite accumulation area was not locked.
3. Acid appeared to have leaked from exposed and uncontained used batteries onto the concrete surface and thence to the MS4.
4. During rain events, oil, grease, and metals could leach from equipment stored in the open.
5. An NOI should be submitted under the current MS4 permit.

Photo 1. Transfer station.

Photo 2. Inside transfer station.

Photo 3. Waste materials abandoned by Parks Department.

Photo 4. Waste materials abandoned by Parks Department.

Photo 5. Satellite accumulation area.

Photo 6. Batteries waiting to be recycled.

Photo 7. Materials stored on gravel pad.

Photo 8. Parks Department vehicle removing wastes.

Photo 9. Mobile car wash in parking lot of East Yard.

Photo 10. Grate over sand/oil interceptor.

Appendix C.3
Municipal Structures
Inspection and Photographs

Municipal Structure (Las Vegas Wash)
Inspection and Photographs

9/21/05 1:00 PM - 1:45 PM Weather: sunny and hot

Ms. Dianne Stewart, SAIC, and Mr. John Tinger, EPA Region 9, observed Ms. Lori Wholetz and Mr. Mark Montoya of Las Vegas conduct an inspection of the Las Vegas Wash from Stewart Avenue to Cedar Creek. Mr. Daniel Fischer of Las Vegas was also present.

Observations

1. When the audit team arrived on site, a concrete truck owned by Nevada Ready Mix had just dumped waste concrete onto the ground next to the Las Vegas Wash. The driver was using a hose to wash out the equipment.
2. Las Vegas staff identified themselves to the driver and discussed the situation with him. Las Vegas staff obtained photographs of the discharge. The truck drove off.
3. Las Vegas staff made notes regarding their observations as they walked along the Wash. The presence of suds and brown water was noted as being normal for the location.

Findings

1. Las Vegas staff did not use a global positioning system (GPS) device to precisely identify the locations of their observations. A map based on SAIC's GPS information is attached.
2. In a letter dated September 26, 2005, Las Vegas issued a Notice of Violation (NOV) with an administrative penalty fee of $500. The NOV cited Sections 14.17.120(D) and (E) of the Las Vegas Municipal Code.

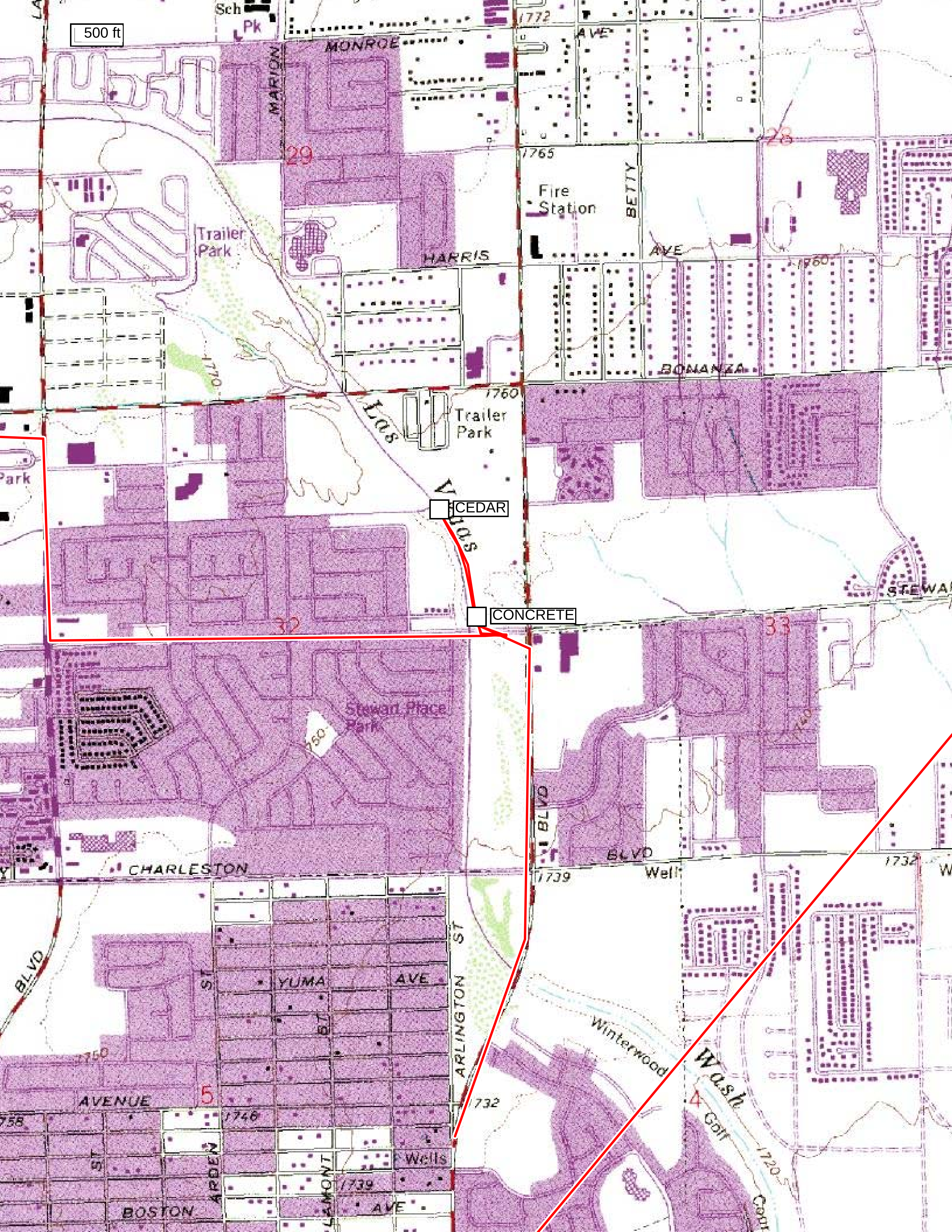
Photo 1. Concrete truck that just completed wash-out.

Photo 2. Wash-out material left by concrete truck.

Photo 3. View of Las Vegas Wash near intersection of Stewart Avenue and Nellis Boulevard.

Photo 4. Las Vegas Wash - Appearance is brown with suds.

Photo 5. Cedar Creek inflow to Las Vegas Wash.



500 ft
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CHARLESTON
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AVENUE
5
1758
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ARDEN
LAMONT
Wells
1739
AVE
BOSTON
1732
Winterwood
Wash
4
Golf
1720

Municipal Structure (Gowan, Angel Park South, and Meadows Detention Basins) Inspection and Photographs

9/22/05 10:30 am - 12:00 pm Weather: sunny and hot

Ms. Dianne Stewart, SAIC, and Ms. Kathi Moore and Mr. John Tinger, EPA Region 9, conducted an inspection of the Gowan, Angel Park South, and Meadows Detention Basins. Dan Fischer, Mark Montoya, and John Solvie of Las Vegas accompanied the audit team.

Observations

1. Gowan is an example of a multi-use basin; it has a playing field inside. In the event of a storm, the trash cans located in the field would not be removed.
2. The Meadows Detention Basin is being modified to incorporate a meandering waterway, and will become part of a regional park.
3. A contractor is conducting sampling of influent and effluent in the Meadows Detention Basin during storm events.

Findings

Trash cans left in Gowan Detention Basin could contribute to the pollutants leaving the MS4. Fertilizers applied to the field could also contaminate storm water.

Photo 1. Gowan Detention Basin - inlet.

Photo 2. Gowan Detention Basin - outlet.

Photo 3. Gowan Detention Basin - signage.

Photo 4. Angel Park South Detention Basin.

Photo 5. Angel Park South Detention Basin.

Photo 6. Angel Park South Detention Basin.

Photo 7. Meadows Detention Basin.

Photo 8. Meadows Detention Basin - inlet area.

Photo 9. Meadows Detention Basin - outlet area.

Photo 10. Meadows Detention Basin - influent sample probe about six inches from bottom of channel.

Photo 11. Meadows Detention Basin - flow in influent channel.

Photo 12. Meadows Detention Basin - marine battery in sampler.

Photo 13. Meadows Detention Basin - effluent sampler and outfall.

Photo 14. Meadows Detention Basin - effluent sample probe.

Photo 15. Meadows Detention Basin - grate at effluent from basin.

Appendix C.4
Industrial Facility
Inspection and Photographs

Industrial Facility (Anderson Dairy)
Inspection and Photographs

9/21/05 3:25 PM - 4:10 PM Weather: sunny and hot

Ms. Dianne Stewart, SAIC, and Mr. John Tinger, EPA Region 9, observed Mr. Mark Montoya of Las Vegas conduct a storm water inspection of Anderson Dairy. Anderson Dairy is a significant industrial user. Mr. Daniel Fischer of Las Vegas was also present. Mr. Montoya was directed by the audit team to conduct a typical inspection of the site.

Observations

1. When the audit team arrived on site, a roll-off container in the process of being prepared for hauling off site was leaking. An Anderson Dairy staff person was hosing down the leaked material into a drain to the street. Las Vegas staff indicated that similar activities had been observed in the past.
2. Las Vegas staff told facility representatives that discharging the material to the street was unacceptable. An Anderson Dairy staff member began placing absorbent material at the facility's drain.
3. The audit team observed dried milk solids in the street gutter outside the facility.
4. Dried milk solids were also present on asphalt inside the facility.
5. A leaking tank also appeared to be a source of discharge to the street.
6. Detergent leaking from a wash rack could enter a gutter that flowed to the street.

Findings

In a letter dated September 29, 2005, Las Vegas issued a Notice of Violation (NOV) with an administrative penalty fee of $500. The NOV contained a requirement for Anderson Dairy to submit a written plan on or before October 21, 2005, to prevent overfills, leaks, spills, clogs, etc. from entering the Las Vegas storm drains. The plan must be acceptable to Las Vegas.

Photo 1. Roll-off container is leaking.

Photo 2. Roll-off container is leaking.

Photo 3. Roll-off container is leaking.

Photo 4. Worker spreading absorbent material.

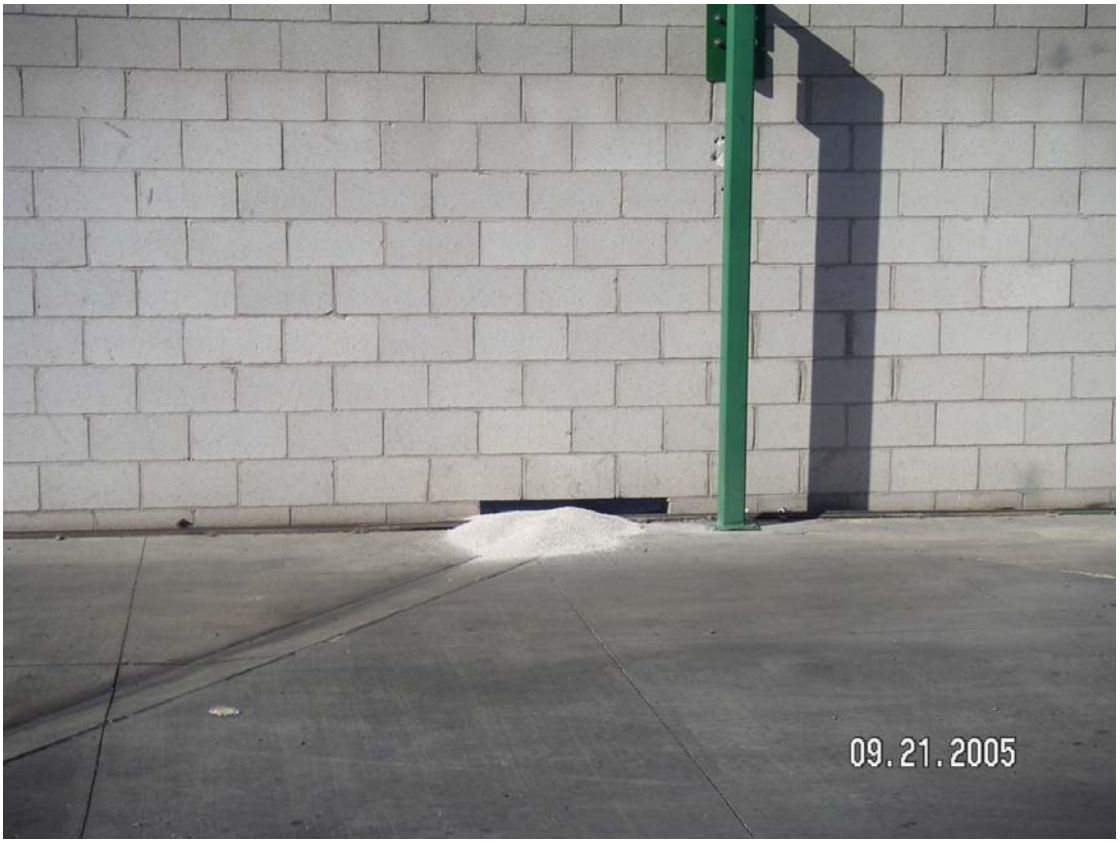

Photo 5. Absorbent material at point of outflow from yard.

Photo 6. Tank truck off loading area.

Photo 7. Dried milk solids in street gutter outside facility.

Photo 8. Dried milk solids entered street gutter from facility drain.

Photo 9. Discharge to street from leaking tank.

Photo 10. Dried milk solids on asphalt inside facility.

Photo 11. Dried milk solids spilled next to drain to street seen in Photo 8.

Photo 12. Dried milk solids spilled next to drain to street seen in Photo 8.

Photo 13. Detergent leaking from wash rack; drain to street in right foreground.

Appendix D
City of North Las Vegas

Appendix D.1
Documentation of Findings

5.1 Adequate Legal Authority (Permit Section 4.2)

The North Las Vegas Municipal Code Section 13.28.120 D. states: "It is unlawful for any person to discharge any waste water in any form, other than storm water, into the storm drains of the City."

Municipal Code Section 13.28.025 defines storm water as: "uncontaminated water resulting from precipitation; irrigation with drinking water; or clean groundwater." Uncontaminated water is defined as "any water that is suitable for discharge into the City's storm drain system."

The discharges allowed to the MS4 under the Permit include "water line flushing, air conditioning condensate, individual residential car washing, dechlorinated swimming pool discharges, street wash water, and discharges from fire fighting activities." While these discharges may be considered to be uncontaminated, presumably they could not be discharged to the MS4 since they do not result from "precipitation, irrigation with drinking water, or clean groundwater."

Violations of the above ordinances are considered misdemeanors. Upon conviction, misdemeanors can result in a fine not to exceed $1,000, imprisonment in the city jail for a period not to exceed six months, or both fine and imprisonment.

5.2 Public Outreach and Education, and Intergovernmental Coordination (Permit Section 4.5)

North Las Vegas distributes outreach materials developed by CCRFCD relating to used oil disposal at civic events sponsored by North Las Vegas. North Las Vegas completed a project to place medallions on all storm sewer inlets. The medallions identify that the inlet goes to Lake Mead and feature a public outreach character (a fish named Skip) with the words "Don't Pollute." North Las Vegas considered using volunteers to place the medallions, but had safety concerns because of the need to be in close proximity to traffic. As a result, North Las Vegas staff placed all of the medallions.

North Las Vegas distributed brochures to advise residential users not to discharge cooking grease down sink drains, prior to the Thanksgiving day holiday. North Las Vegas also worked with local Albertson's supermarkets to establish a program where cooking oil purchased to deep fry turkeys on Thanksgiving could be returned to the store for proper disposal.

5.3 Best Management Practices (Permit Section 4.6)

North Las Vegas has a street sweeping program for streets, municipal parking areas, and parks. The goal is to sweep all streets every two weeks, but the goal is currently not being met. North Las Vegas owns six misting type street sweepers. Two new dry sweepers arrived during the week the audit was conducted. Four additional dry sweepers are on order. North Las Vegas is currently hiring six new sweeper operators to operate the new equipment. Current practice is to

sweep around parked cars. North Las Vegas plans to pilot test a program to put no parking signs on targeted streets. North Las Vegas will then measure citizen compliance. In some areas, trees obstruct sweeper access. When the trees are on private property, they ask the owners to trim them, or North Las Vegas trims the trees and can bill the property owners. North Las Vegas trims trees on public property and will not seek reimbursement for trimming trees in low income areas. North Las Vegas tracks, lane miles, curb miles, and water used in street sweeping.

North Las Vegas requires its street milling contractors to use a sweeper to remove dust from milling operations.

As of June 2005, North Las Vegas had 1,250 catch basins. North Las Vegas tracks catch basin cleaning by date, location, basin dimensions, depth before and after cleaning, and the quantity of debris removed. Reportedly, 35 basins were cleaned in the past eight months. A new vacuum truck is on order. When the new vacuum truck is received, North Las Vegas will develop a formal cleaning schedule. A review of records indicate that the quantity of debris removed varies from nearly full to nearly empty.

The North Las Vegas Parks Department has written procedures that cover the use of pesticides, herbicides, and fertilizers (PHF). All applicators are state certified. Procedures require that all broadcast materials that fall on paved areas must be blown back onto the grass. The Parks Maintenance Supervisor, reported that through the use of these procedures, the use of PHF has decreased over time. Since June 2005, herbicides have been applied to about 50 acres of park area. The Parks Department tracks the chemical used, area applied, temperature, and wind speed and direction.

The North Las Vegas Public Works Department is responsible for PHF use on North Las Vegas streets. The Acting Manager of Roadway Operations reported that only a minimal amount of herbicides are used. Vegetation control is normally accomplished through lack of irrigation, rather than herbicide use.

5.4 Illicit Discharge and Detection (Permit Section 4.7)

North Las Vegas does most maintenance on the channels but may contract out some maintenance work. As part of the wash inspection, the inspector looks for buckets, containers, drums, pallets, and other materials in the wash right-of-way that may be a source of contamination.

Illicit discharge complaints from citizens most commonly go to the County Health Department through a phone number provided in public outreach materials. The North Las Vegas Utilities Department conducted 68 illicit discharge investigations last year, and seven investigations since July 1, 2005. The Utilities Department keeps excellent records, including photographs, of the investigations where it has the lead role. The Fire Department keeps separate records where it is the lead organization, and presumably Municipal Code Enforcement does the same. North Las

Vegas does not consolidate the reports into a city-wide record. Illicit discharge investigations are not reported to the CCRFCD.

If cleanup is required as part of an illicit discharge response, North Las Vegas will try to convince the responsible party to directly hire a cleanup firm and submit receipts as proof of proper cleanup. If the responsible party refuses, or North Las Vegas will hire a cleanup firm and bill the responsible party for the cost plus the cost of supervising the cleanup. If no responsible party can be found (e.g., if a drum containing chemicals is discovered), North Las Vegas will pay a cleanup firm to remove and dispose the material as needed.

5.5 Industrial Facility Monitoring and Control (Permit Section 4.8)

North Las Vegas issues permits to all non-residential facilities that discharge wastewater to the North Las Vegas wastewater collection system. These permits fall into three categories:

- Category I facilities generally include facilities subject to Categorical Pretreatment Standards and facilities that discharge more than 25,000 gallons per day. These facilities are inspected at least twice per year.
- Class II facilities generally include all other industrial or commercial facilities required to have a permit to discharge to the North Las Vegas wastewater collection system, except for facilities required to have a Fats, Oil, and Grease (FOG) Permit. North Las Vegas tries to inspect Class II facilities at least once per year.
- FOG Permits are issued to food service facilities that are required to provide a trap for sand, grease, and oil. North Las Vegas tries to inspect each of these facilities at least once per year.

5.6 Construction Site BMP Program (Permit Section 4.9)

When North Las Vegas contracts for a capital improvement project (CIP), it requires the contractor to obtain permit coverage from the State, but does not have any other storm water requirements. Copies of all permits obtained, including a NDEP Permit, are required to be submitted before work can begin.

Appendix D.2
Municipal Facility
Inspection

Municipal Facility (Municipal Yard)
Inspection

9/21/05 1:30 PM - 2:00 PM Weather: warm and sunny

Mr. Bill Hahn, SAIC, and Mr. Chad Schoop, NDEP, observed Mr. Thomas Rura, North Las Vegas Pretreatment Supervisor, conduct an inspection of the North Las Vegas Municipal Yard at the Ft. Sumpter Street Annex. The Municipal Yard consists of a large building where all vehicle maintenance is done and includes the municipal building for the Public Works Department. The Municipal Yard is divided into separate areas for maintenance, the police impound yard, the Roads Department, Street Lighting Department, and Parks Department. Smaller storage and office buildings are located in the Parks and Street Lighting areas. Mr. Rura was directed by the audit team to conduct a typical inspection of the site.

Due to a problem with the audit team's camera, no photographs were taken during this inspection.

Observations

1. The Municipal Yard is considered to be an industrial facility by North Las Vegas and is inspected similar to any other industrial facility.
2. Mr. Rura inspected the interior of the maintenance building and the vehicle storage area behind the building.
3. He inspected 55-gallon drums and other storage containers and tanks to determine if they had secondary containment.
4. He walked through the remaining areas of the yard looking for evidence of leaks or discharges.
5. He advised the supervisors of the various areas of his findings as the inspection proceeded.
6. Mr. Rura noted that all drums and tanks had proper secondary containment.
7. He noted that the external vehicle storage area behind the maintenance building was clean with no evidence of oil drips or spills.
8. He noted that some leakage was occurring from a truck-mounted tank parked in the Street Lighting area. A drip pan which had been placed under the drip was full. Staining on the pavement indicated that the pan may have overflowed in the past.
9. He noted an oil leak under a truck parked outside the Parks Department office. He called the leak to the attention of the Mr. Brett Miller, Parks Maintenance Supervisor. Some workers were sent to spread sand on the spill and dry sweep the adsorbed oil.

Findings

Mr. Rura took notes, but did not take photographs during the inspection.

Appendix D.3
Municipal Structure
Inspection and Photographs

Municipal Structure (Channel A Wash)
Inspection and Photographs

9/20/05 1:30 PM - 2:30 PM Weather: warm and sunny

Mr. Bill Hahn, SAIC; Mr. Andrew Sallach, EPA Region 9; and Mr. Chad Schoop, NDEP, observed Mr. Thomas Rura, North Las Vegas Pretreatment Supervisor, conduct a partial inspection of the Channel A Wash located between I-15 and Losse Road in North Las Vegas. This portion of the wash is in a commercial area. A paved apron along the wash passes behind a number of commercial activities. The wash is fenced, and access is obtained through a gate in the fence. Mr. Rura was directed by the audit team to conduct a typical inspection of the wash. He advised the audit team that he normally conducts the inspection from his City-provided utility truck.

Observations

1. Mr. Rura does the following: looks for any debris or materials in the wash that could cause an obstruction to flow in the wash; looks for drums or other containers along the area adjacent to the wash that could be a source of contamination; and checks the yards of the commercial facilities along the wash for materials that could be discharged into the wash.
2. Mr. Rura pointed out that homeless people live under an overpass across the wash. He noted that sometimes furniture and other large items they accumulate must be removed by the City to prevent obstruction of the wash. The City does not normally attempt to compel the homeless people to leave.
3. He pointed out several channels with riprap where storm water enters the channel. Although the riprap seemed to be clogged with sediment, Mr. Rura indicated they only do investigations of the channels if there appears to be evidence of chemical contamination.

Findings

Mr. Rura did not note several areas where soil erosion appears to be entering the wash. In response to a question, he stated that soil erosion was not identified or addressed as part of the wash walks.

Photo 1. View across Channel A wash.

Photo 2. Losse Road overpass across the wash. Las Vegas Cogeneration facility is in the background.

Photo 3. Homeless individuals living between Losse overpass roadway and upper apron of the wash. Bicycles, shopping carts, and debris in the wash are likely from these individuals.

Photo 4. Riprap channel between commercial properties. Note lower end of channel appears to be clogged with sediment.

Photo 5. Portion of wash adjacent to the channel in Photo 4 where sediment appears to have entered the wash from the channel.

Photo 6. Area where soil erosion on the bank to the left of the wash appears to have entered the wash.

Appendix D.4
Industrial Facilities
Inspections and Photographs

Industrial Facility (Las Vegas Cogeneration)
Inspection and Photographs

9/20/05 2:40 PM - 3:15 PM Weather: warm and sunny

Mr. Bill Hahn, SAIC; Mr. Andrew Sallach, EPA Region 9; and Mr. Chad Schoop, NDEP, observed Mr. Thomas Rura, North Las Vegas Pretreatment Supervisor, conduct an inspection of the Las Vegas Cogeneration facility. Las Vegas Cogeneration is a Class 1 facility, and thus is inspected four times per year. Mr. Jeff Pangle, Operations and Maintenance Specialist for Las Vegas Cogeneration, represented the facility. Mr. Rura was directed by the audit team to conduct a typical inspection of the site.

Observations

1. Upon arrival, Mr. Rura identified himself and advised the facility he was conducting a quarterly inspection.
2. Mr. Rura inspected 55-gallon drums and other storage containers and tanks to determine if they had secondary containment.
3. He walked through the facility looking for evidence of leaks or discharges.
4. He verified that valves from containment around larger tanks were closed.
5. He advised the plant representative of his findings as the inspection proceeded.
6. Mr. Rura noted that all drums and tanks had proper secondary containment.
7. He noted that during a turbine change-out the previous weekend, some oil had dripped on the pavement. Absorbent had been applied to the spilled oil. He advised the facility to clean up the oil/adsorbent material.
8. He observed oil stains on the rock landscaping and on the side of an electrical cabinet located outside the secondary containment of turbine number one. He advised the facility to remove the rock landscaping and clean up the oil on the side of the cabinet.

Findings

1. Mr. Rura did not note an area next to a building where a roof downspout was causing soil erosion that appeared to be going directly to a yard drain.

Photo 1. Inspector did not note evidence of soil erosion at roof drain discharge (to the right of the doorway) that appeared to be going directly to the area storm inlet.

Photo 2. The inspector did note that all containers five gallons or larger have been provided with secondary containment as required by local ordinance.

Photo 3. The inspector noted the presence of oil stains (center photo) on the rock landscaping and an electrical cabinet next to turbine number one.

Photo 4. The inspector did note some oil spills on the pavement where adsorbent had been applied. He advised the facility to sweep up the adsorbent.

Industrial Facility (McCandless International)
Inspection and Photographs

9/20/05 3:30 PM - 4:30 PM Weather: warm and sunny

Mr. Bill Hahn, SAIC; Mr. Andrew Sallach, EPA Region 9; Mr. Chad Schoop, NDEP; and Mr. Thomas Rura, North Las Vegas Pretreatment Supervisor, observed Mr. Robert Shipton, a North Las Vegas inspector conduct an inspection of the McCandless International facility. McCandless International does maintenance on trucks and busses. They also paint vehicles at the site. Vehicle maintenance and painting are done in enclosed areas. Vehicles are stored outside the buildings on a large, paved parking area. Mr. Frank Kusunic, Secretary-Treasurer, and Mr. Chris McCandless represented McCandless International. Mr. Shipton was directed by the audit team to conduct a typical inspection of the site.

Observations

1. Mr. Shipton entered the facility, identified himself, and discussed the purpose of his inspection. The inspection addressed pretreatment, hazardous waste storage and disposal, and storm water requirements.
2. He reviewed and obtained copies of invoices for the disposal of used oil, used anti-freeze, oil/water separator pumping, and waste paint materials.
3. He conducted a walk through of all portions of the facility including paved parking areas.
4. He observed a runoff channel at the rear of the property that conveys storm water runoff to the adjacent wash.
5. Mr. Shipton observed some maintenance activities were being conducted outside of the maintenance building. He advised the facility staff that outside maintenance was not permitted.
6. He observed the oil/water separator inside the garage and had it opened for inspection. It appeared satisfactory. It is reportedly pumped bi-monthly.
7. He noted some oil spills on the exterior paved area underneath vehicles being stored. He advised the facility to immediately take action to clean up the spilled oil and place drip pans under the vehicles after completing the cleanup.
8. He noted most drums at the site had secondary containment, but noted two drums that did not. He advised the facility staff of the secondary containment requirement.
9. He learned that the facility planned to extend the enclosed painting area on the east side of the painting building. He advised the facility staff they would have to extend the concrete apron on that side of the building and extend the curbing.
10. He indicated that he would do a re-inspection of the facility in one week to make sure all required actions were completed.

Findings

None.

Photo 1. Oil leaking from truck stored in the parking area.

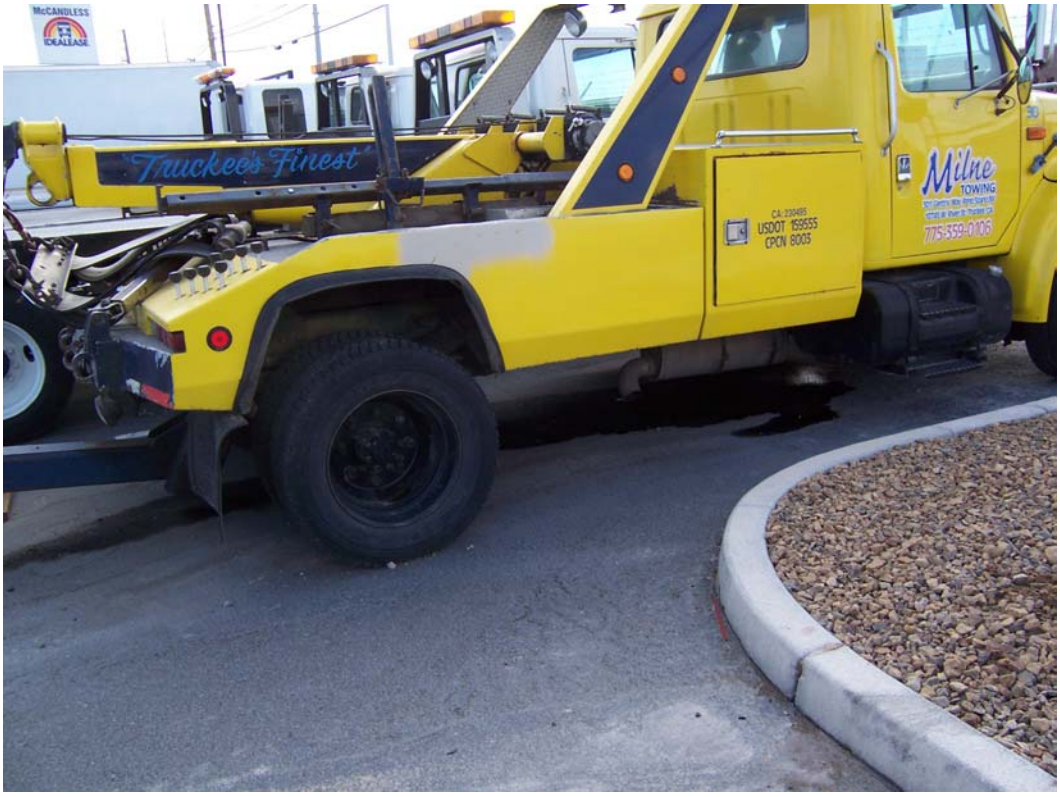

Photo 2. Oil leaking under tow truck stored in the parking area.

Photo 3. Apparent leakage under bus being maintained outside of shop area.

Appendix D.5
Construction Sites
Inspections and Photographs

Private Construction (Northstar)
Inspection and Photographs

9/22/05 1:00 PM - 2:00 PM Weather: warm and sunny

Mr. Bill Hahn, SAIC, and Mr. Andrew Sallach, EPA Region 9, observed Mr. Chris Melo, Clark County Department of Air Quality and Environmental Management (CCDAQEM) inspector conduct an inspection of the Northstar construction site. In addition to construction site inspections, Mr. Melo also inspects dry cleaners, gas stations, and paint spray facilities.

Prior to the inspection, Mr Melo was asked how sites are selected for inspection. He responded that each day on his arrival at the office, he checks current air monitoring data. He tends to do inspections in certain "hot spots" where there have been air quality problems in the past. Priority is also given to sites where there have been citizen complaints. He did not recall ever having received a citizen complaint regarding a storm water issue. Mr. Melo was directed by the audit team to conduct a typical inspection of the site.

Observations

1. Upon arriving near the site, Mr. Melo observed operations for several minutes before actually entering the site and identifying himself.
2. In driving across the site, Mr. Melo observed the condition of the trackout barrier between the paved and unpaved areas of the site. Little evidence of trackout was observed.
3. Mr. Melo looked across the disturbed areas to determine if sufficient water spraying is being done to suppress dust.
4. Mr. Melo parked his vehicle next to the wash and observed both the wash and the construction area adjacent to the wash.
5. Mr. Melo advised the site superintendent of his observations.
6. Mr. Melo gave the site superintendent a copy of a brochure that describes the Nevada General Permit Program, the Las Vegas Valley Municipal Separate Storm Sewer Protection Program, and some general information on Best Management Practices (BMPs) for construction sites.
7. Mr. Melo noticed an area adjacent to the wash in which dirt was mounded next to the wash. The area also had some plastic bottles and other debris. He advised the site superintendent that additional housekeeping was needed in the area. When asked by the audit team if he was concerned about the possibility of soil from the pile being washed into the concrete wash, he replied "that was what he meant by housekeeping." The site superintendent agreed to install some silt fence in the area the following day.
8. The site superintendent indicted that a Storm Water Pollution Prevention Plan (SWPPP) had been prepared for the site and asked if Mr. Melo wanted to review it. Mr. Melo replied that he did not review SWPPPs as part of his inspections.
9. Mr. Melo noted the presence of storm water controls on the inlets of the paved streets and that a sweeper was in use at the time of the inspection.

Findings

1. Mr. Melo did not comment on the presence of sediment in the wash next to the construction site.
2. Mr. Melo did not comment on the placement of a portable toilet next to a paved roadway. If knocked over by a construction vehicle, it would flow directly to a storm inlet.
3. The inspection form used asks if BMPs are in place. It is Mr. Melo's practice to check the "yes" box if any BMPs are in place, even if they are incomplete or do not cover all areas. Thus, he appears to be answering the question: Are any BMPs in place?
4. Mr. Melo indicated that he had received four hours of training in storm water control and that the subject had come up in at least two inspector meetings.
5. The audit team reviewed the SWPPP prepared for the site. It appeared complete, current, and well organized.

Photo 1. Dirt and debris piled adjacent to wash at the construction site.

Photo 2. Wash adjacent to the construction site. Wash appears to contain sediment that may have come from the site.

Photo 3. Note portable toilet (blue) in photo right center located immediately adjacent to the paved road upslope of inlets. Note also crush rock for trackout control located in front of pickup truck at photo right.

Private Construction (Commerce Village)
Inspection and Photographs

9/22/05 2:15 PM - 3:00 PM Weather: warm and sunny

Mr. Bill Hahn, SAIC; Mr. Andrew Sallach, EPA Region 9; and Mr. Chad Schoop, NDEP, observed Mr. Chris Melo, Clark County Department of Air Quality and Environmental Management (CCDAQEM) inspector, conduct an inspection of the Commerce Village construction site.

The Commerce Village site had been inspected by another CCDAQEM inspector on September 8, 2005. Significant problems were found at the time. Mr. Melo provided the audit team with copies of the inspection report prepared for that inspection and the photos taken at that time. The headings on the inspection report were filled out, but no check marks were printed on the checklist. Mr. Melo could not explain why the boxes were not checked. He indicated that the inspector who did the previous inspection no longer worked for CCDAQEM. He said that the photographs from the inspection had been forwarded to Mr. Kevin Eubanks at the Clark County Flood Control District. Mr. Melo was directed by the audit team to conduct a typical inspection of the site.

Observations

1. Upon arriving near the site, Mr. Melo observed the wash.
2. He checked the storm water inlets installed in the paved streets of the project and inspected the entrance to the site.
3. He gave the site superintendent a copy of the storm water brochure for construction sites and advised the site superintendent that he should take a course to become more familiar with the requirements of the construction general storm water permit.
4. He noted that water and sediment were entering the wash from the storm drain that serves the paved roads of the site.
5. He noted that piles of dirt along the curb line were extended into the street. The street had recently been washed down, and sediment was entering a storm inlet through the sand bags intended for inlet protection. Sediment could also be observed entering a manhole on the street side of the inlet through the pick hole in the manhole cover.
6. He advised the site superintendent that the site was a mess and not in compliance with the storm water requirements. He indicated the dirt that extended past the curb had to be removed.
7. He noted that another inlet at the site was choked with sediment and was ineffective.
8. He noted the absence of trackout controls at one site entrance.
9. Mr. Melo repeatedly told the site superintendent that the streets needed to be swept with a dry sweeper. The site superintendent stated several times that he was trying to comply with the requirements and thought he had made significant improvements since the September 8th inspection. He repeatedly stated the before the end of the day "he would get a fire hose and clean dirt from the streets." It appeared to the audit team that the site superintendent simply did not understand the difference between dust control and sediment control, despite the best efforts of Mr. Melo. It seemed clear that the sediment entering the wash was the result of earlier efforts at street washing that day, and that the superintendent believed additional street washing (presumably to the storm inlets) was appropriate.

Findings

1. Mr. Melo did not note the presence of a portable toilet in the street not far from an inlet. If knocked over by a construction vehicle, it would flow directly to the storm inlet.
2. He did not note that several sand bags, which were placed at regular intervals along the curb apparently to catch sediment, were moved back several inches from the curb providing a gap for water to pass through, making them ineffective.

Photo 1. Water and sediment from the construction site entering the wash.

Photo 2. Storm inlet at the site. Sediment is also entering the storm sewer through the pick hole in the manhole in front of the inlet. Hose in the photo is the fire hose the site had been using to clean the street. Note poor condition of sand bags used for inlet protection and dirt extending past curb line.

Photo 3. Different storm inlet at the site. Separation between sand bag at the right and curb allows sediment to enter the inlet.

Photo 4. Portable toilet placed where spillage would go directly to storm inlet. Storm inlet is left center photo, at the end of the sidewalk to the cul-de-sac.

Photo 5. Sediment in the street. Moisture indicates street was washed earlier in the day. Note sand bag, center rear of photo, pulled back from the curb.

Photo 6. Absence of trackout controls at a site entrance. Note dirt extended past curb line into the street.

Appendix D.6
Illicit Discharge Response
Inspection and Photographs

Response to Illicit Discharge Complaint
Inspection and Photographs

9/21/05 11:30 AM - 12:30 PM Weather: warm and sunny

Mr. Bill Hahn, SAIC, and Mr. Chad Schoop, NDEP, accompanied Mr. Thomas Rura, North Las Vegas Pretreatment Supervisor, to observe the City's response to an illicit discharge complaint received from a citizen. The complaint reported an open air spray painting operation taking place in a parking lot on Delhi Avenue in North Las Vegas, owned by the Las Vegas Paving Company. Mr. Chris Jackson, North Las Vegas Fire Department, also responded. Mr. Robert Shipton, North Las Vegas Utilities Department inspector who reports to Mr. Rura, arrived at the site approximately 20 minutes later.

Open air spray painting is not permitted by North Las Vegas. The complaint was received from a neighboring business. Upon arrival at the site, it was determined that five individuals were conducting cleaning and spray painting of several pieces of road paving equipment in an unpaved parking area adjacent to a concrete ready-mix yard.

Observations

1. Upon arrival at the site, Mr. Rura and Mr. Jackson immediately directed that all activities be halted.
2. Discussions with the individuals revealed that they worked for a Texas company that had been hired by Las Vegas Paving to do maintenance on the equipment. The activity had been going on for the previous two weeks.
3. Mr. Rura determined that the individuals did not have a business license to do work in North Las Vegas.
4. Mr. Rura called Las Vegas Paving and advised them he had found an illegal activity on the property and ordered them to send a representative to the site.
5. When the Las Vegas Paving environmental coordinator arrived, Mr. Rura advised him and the senior person from the subcontractor, that both companies would be cited for storm water violations. In addition, the subcontractor would be cited for failing to have a business license.
6. Prior to leaving the site, Las Vegas Paving had arranged to have a waste hauler immediately come to the site to pump out the wash water pit. Las Vegas Paving also arranged for a waste remediation firm to come to the site the following day and remove all contaminated soil. All contaminated soil was to be taken to a hazardous waste treatment operation.
7. Mr. Rura left Mr. Shipton in charge at the site to observe the cleanup operations.

Findings

1. The North Las Vegas Fire Department initially received the citizen complaint. Mr. Jackson immediately contacted Mr. Rura. Both responded to the site. Their interactions were coordinated and indicated they had both responded to this type of complaint before.
2. A construction roller at the site had been masked in preparation for painting. The trailers at the site contained paint, spray painting equipment, and paint solvents.
3. Although it was evident that spray painting operations had be going on at the site, there was no actual spray painting occurring when the inspectors arrived. Because of this, Mr. Rura

became the lead responder for the City. If active spray painting had been observed, the Fire Department would have also cited the individuals for violation of the City Fire Code.
4. A backhoe at the site was being sand blasted when the inspectors arrived. There was sand blasting grit on the ground in the area and several pallets of sand blasting grit.
5. A pit had been dug at the site to receive wash water from an equipment cleaning operation that had been set up. The pit contained contaminated, oily water from the cleaning operation. Although a plastic liner had been placed in the pit, the area where equipment was being cleaned was not lined. The soil in this area was heavily stained with oil.
6. Contaminated water from the site was entering an inlet at the site. The discharge from this inlet went to Dehli Avenue, where it entered a storm sewer inlet.

Photo 1. Open air sand blasting activity at the site. Dark material around the backhoe being sand blasted is spent sand blast grit. White bags on pallets at photo right are additional unused grit. No containment was provided around the area.

Photo 2. Roller masked for open air spray painting operation.

Photo 3. Temporary pit dug to contain wash water from equipment cleaning operation. Note floating oil on the surface of the water.

Photo 4. Paving machine being cleaned with wash water discharged to the pit shown in Photo 3. Note oil stains on the ground in front of and around the machine.

Photo 5. Storm inlet located behind the pile of dirt shown in Photos 3 and 4. Note contaminated runoff from the site entering the inlet.

Appendix E
City of Henderson

Appendix E.1
Documentation of Findings

6.1 Adequate Legal Authority (Permit Section 4.2)

In addition to prohibiting specific wastes from being discharged into the wastewater system, Henderson Municipal Code Section 13.16.020.A. (the pretreatment ordinance) was modified to also prohibit the same wastes from being discharged into the storm water system or the waters of the state.

Henderson Municipal Code Section 13.16.020.B. states "No discharge shall be made to the storm drain system or the waters of the state that would cause a violation of the NPDES stormwater permit."

Henderson Municipal Code Section 5.16.050 states the following:

> "It is unlawful for any person to throw or deposit, or cause to be thrown or deposited, in any street, alley, gutter, highway, drainage channel, or wash within the limits of the city any dirt, rubbish, garbage, or dead animal.
>
> No person shall throw or cause to be thrown or deposited any rubbish, garbage, dirt, ashes or other matter whatsoever upon the lot or premises of another, within the limits of the city; nor shall any person place or deposit or cause to be placed or deposited any rubbish, garbage, dirt, ashes or other matter whatsoever in such a manner or permit to remain in such condition on his premises so that the same may be blown or carried over to other public or private property by any means whatsoever."

Henderson Municipal Code Section 7.04.130.B. requires pet owners or guardians to promptly and voluntarily remove animal waste from any sidewalk of any public street or public park, any real property under the control of or in the possession of any other person, or any place to which the public has normal access or right of ingress or egress. Several piles of pet waste were observed during the channel inspection of Upper Pittman Wash, including Project Green.

Violations of the above ordinances are considered misdemeanors. Upon conviction, misdemeanors can result in a fine not to exceed $1,000, imprisonment in the City jail for a period not to exceed six months, or both fine and imprisonment.

Henderson does not have an ordinance that authorizes inspectors to conduct storm water inspections at construction sites. Although Henderson Municipal Code Section 13.60.040 provides the pretreatment inspectors with "ready access at all reasonable times to all parts of the premises for the purposes of inspection, sampling, record review and copying where performance data would be found, spill prevention, or any other duties needed to complete compliance monitoring," it only applies to "premises where wastewater is created, treated or discharged."

6.2 Public Outreach and Education, and Intergovernmental Coordination (Permit Section 4.5)

Project Green was organized by a private steering committee with grant funding and advice from Henderson. Volunteers, including Boy Scouts and church groups, removed invasive tamarisk, cleaned up trash, planted cottonwood and mesquite trees, and installed an irrigation system which will be used temporarily until the trees become established. A sign next to the wash indicates that "help in keeping the wash clean and natural is requested and appreciated." Photos of Project Green are presented in Appendix E.3.

6.4 Illicit Discharge and Detection (Permit Section 4.7)

The audit team accompanied Henderson staff on a channel inspection of Project Green, located in the Upper Pittman Wash; additional sections of the Upper Pittman Wash; and Gibson Channel. Detailed observations and photographs are presented in Appendix E.3.

6.5 Industrial Facility Monitoring and Control (Permit Section 4.8)

The audit team visited a maintenance facility and a parks and recreations facility. The sites were generally well-maintained and only one storm water issue was observed (see Appendix E.2).

6.6 Construction Site BMP Program (Permit Section 4.9)

Henderson will receive $3,000 from CCRFCD to conduct 300 construction site inspections. Although Henderson receives funding from CCRFCD for its construction site inspection program, Henderson inspectors do not need to report their findings to CCRFCD before enforcement actions can be taken.

The audit team observed inspections of a Henderson road repair project and a residential subdivision construction site. Detailed observations associated with these site visits are presented in Appendix E.5.

Appendix E.2
Municipal Facilities
Inspections and Photographs

Municipal Facility (Gibson Road Maintenance Facility)
Inspection and Photographs

9/22/2005 1:25 PM - 1:45 PM Weather: sunny and hot

Ms. Jennifer Legge, SAIC, visited the Gibson Road Maintenance Facility. Henderson does not conduct regular inspections of its municipal facilities. Mr. Al Forbragd, Mr. Albert Jankowiak, Mr. Joe Rajchel, and Mr. Scott Wade accompanied Ms. Legge.

Observations

1. Two 55-gallon drums full of used gasoline and two smaller buckets were observed outside of the garage. The containers did not have any secondary containment.
2. Mr. Rajchel noted the area where cars are washed has a drain that flows to the sanitary sewer.
3. The parking lot was fairly clean. Mr. Forbragd said that it is swept regularly.
4. The parking lot's drain to the street was protected with sandbags that had prevented debris and sediment from leaving the site.

Findings

1. Self-inspections of the municipal facilities are not occurring.
2. Containers of used oil were observed outside without secondary containment.
3. The site was clean and well-maintained.

Photo 1. Two 55-gallon drums of used gasoline and two smaller buckets located outside the garage and without secondary containment.

Photo 2. Car wash area. Drain flows to sanitary sewer.

Photo 3. Drain to street in corner of parking lot.

Municipal Facility (Parks and Recreation Facility)
Inspection and Photographs

9/22/2005 2:00 PM - 2:15 PM Weather: sunny and hot

Ms. Jennifer Legge, SAIC, visited the Parks and Recreations Facility on Van Wagenen Street. Henderson does not conduct regular inspections of its municipal facilities. Mr. Albert Jankowiak and Mr. Joe Novoselek accompanied Ms. Legge.

Observations

1. Fertilizer was stored outdoors. One package was torn.
2. Mr. Novoselek noted the area where equipment is washed. The area is equipped with a water recycler.
3. A Parks and Recreations staff person was observed rinsing a vehicle in the yard. Mr. Novoselek noted that the water recycler is easily clogged with debris, so equipment needs to be rinsed before washing it in the designated area. The vehicle was washed in a level area. Puddling, but no runoff, was observed.
4. The two sediment stockpiles were located upgrade of the street. Evidence of sediment runoff was seen in the gravel lot.

Findings

1. Self-inspections of the municipal facilities are not occurring.
2. The site was clean and well-maintained.

Photo 1. Fertilizer, note tear in package.

Photo 2. Equipment wash area with water recycling unit.

Photo 3. Vehicle that was being rinsed during the site visit. Note puddles of water.

Photo 4. Sediment stockpiles. Grade is downhill toward the street.

Appendix E.3
Municipal Structures
Inspection and Photographs

Municipal Structures (Project Green, Upper Pittman Wash, and Gibson Channel) Inspection and Photographs

9/21/2005 11:10 AM - 12:45 PM Weather: sunny and hot

Ms. Jennifer Legge, SAIC, and Mr. Andrew Sallach, EPA Region 9, observed Mr. Al Forbragd, Maintenance Coordinator, Henderson Public Works Support Services, and Mr. Albert Jankowiak, Project Engineer II, Henderson Public Works Land Development, conduct a channel inspection of Project Green, Upper Pittman Wash, and Gibson Channel. The audit team directed Mr. Forbragd and Mr. Jankowiak to conduct a typical inspection of the channels.

Observations

1. The channel inspection began at Project Green, where volunteers removed the invasive tamarisk, cleaned up trash, planted cottonwood and mesquite trees, and installed an irrigation system which will be used temporarily until the trees become established. Most of the trees planted were becoming established.
2. Debris and piles of tamarisk were observed within Project Green. Mr. Forbragd noted that his staff would soon be collecting the piles of tamarisk, which Henderson will mulch and use for landscaping.
3. Several piles of pet waste were observed within Project Green. The "Do your doody!" bag holder located on the Project Green trail was empty.
4. Mr. Forbragd noted that during the channel inspection, he typically checks to ensure that the outfalls are not blocked. He noted that the vegetation at the outfall was acceptable and would prevent erosion.
5. The Henderson Parks and Recreation Department dirt pile was observed on the street adjacent to Project Green. Trackout was visible to the inlet, which flows to the outlet that discharges into Project Green.
6. The channel inspection continued downstream of Project Green in the Upper Pittman Wash.
7. The riprap along Upper Pittman Wash marks the location of a recent sewer line break caused by erosion. Henderson has conducted a hazard study to identify sewer lines susceptible to break. Repairs are planned for the next fiscal year.
8. Mr. Forbragd and Mr. Jankowiak said that the minor discharge visible from an outfall across the Upper Pittman Wash was nuisance flow.
9. Mr. Forbragd and Mr. Jankowiak noticed the palm fronds that had been dumped into the wash. Houses with palm trees are visible behind the wall.
10. The confluence of Sandwedge Channel, Union Pacific Railroad Channel, and Pittman Wash was observed next. Flow, thought to be from groundwater, was observed at the confluence. Mr. Forbragd and Mr. Jankowiak pointed out the debris in the wash. During a complete channel inspection, Mr. Forbragd and Mr. Jankowiak would drive along the Sandwedge Channel. The concrete-lined channels are occasionally swept with a street sweeper.
11. The channel inspection continued downstream to the area near the Arroyo Grande Bridge where sediment is known to deposit. Mr. Forbragd noted the two areas where sediment is deposited. His staff collected the sediment into a pile which is scheduled to be hauled from the channel.
12. Mr. Forbragd noted another outfall which discharges groundwater.
13. The channel is adjacent to a baseball field which is also used as a detention basin.

14. Mr. Jankowiak continued to drive down the Upper Pittman Wash concrete-lined channel. The constant flow was said to be groundwater. Mr. Forbragd said that the maintenance staff sweeps the channel every other month. Debris and moss are hand-swept to the channel sides and removed with a bobcat.
15. Pet waste was observed in the channel. It appeared that the waste was thrown over the wall from a residential property. Mr. Jankowiak said that he would call the Clark County Health District because a letter from the Health District seems to be more effective in gaining compliance than the letters from Henderson's Code Enforcement Department.
16. Mr. Jankowiak noted that a box was dumped in the channel.
17. The channel inspectors then traveled to Gibson Channel. An industrial storage area and a residential construction site were adjacent to the channel. The construction site had no controls along the channel to prevent the dirt from washing into the channel.
18. After leaving the Gibson Channel, Mr. Sallach observed discharge from B. Witt parking lot and other industrial and commercial properties in the area. Mr. Jankowiak and Mr. Forbragd may not have noticed or investigated these discharges without prompting from Mr. Sallach. Mr. Forbragd also asked if it was acceptable for a local landscaping company to wash its sweeper into the street. Mr. Jankowiak said that it was not acceptable and that enforcement actions would be taken.

Findings

1. Several piles of pet waste were observed within Project Green, and the "Do your doody!" bag holder located on the Project Green trail was empty.
2. Trackout was visible from the Henderson Parks and Recreation Department dirt pile on the street adjacent to Project Green to an inlet that flows to the outlet that discharges into Project Green.
3. The inspectors noted a few incidents of illegal dumping and debris in the channel, but assumed that flow in the channel was nuisance or groundwater flow. Flow is not sampled to verify that it is not polluted. Outfalls are primarily inspected for blockages, not illicit discharges.
4. An industrial storage area and a residential construction site adjacent to Gibson Channel were not using Best Management Practices (BMPs) to minimize the potential for pollution to runoff into the channel.
5. Mr. Forbragd did not seem to be aware of what constituted an illicit discharge.

Photo 1. Sign along Project Green.

Photo 2. Project Green.

Photo 3. Project Green, elevated manhole in photo center.

Photo 4. Invasive tamarisk.

Photo 5. Tamarisk and debris in Project Green area of Pittman Wash.

Photo 6. Pet waste (photo center towards the bottom) in Project Green area of Pittman Wash.

Photo 7. Cottonwood and mesquite trees with tamarisk stumps (photo right); outfall to wash (photo left).

Photo 8. Parks and Recreation Department dirt storage. Trackout visible to inlet, which flows to outfall in Photo 7.

Photo 9. Upper Pitman Wash downstream of Project Green (flows left). Minor flow was visible from the outfall (right, center).

Photo 10. Riprap along Upper Pittman Wash.

Photo 11. Palm fronds dumped in Upper Pittman Wash (photo center).

Photo 12. Bottom of Union Pacific Railroad Channel.

Photo 13. Confluence of Sandwedge Channel, Union Pacific Railroad Channel, and Upper Pittman Wash.

Photo 14. Sediment pile in Pittman Wash.

Photo 15. Location of first sediment deposit.

Photo 16. Location of second sediment deposit.

Photo 17. Outfall that discharges groundwater.

Photo 18. Detention basin/baseball field.

Photo 19. Bottom of channel.

Photo 20. Bottom of channel.

Photo 21. Empty box dumped in channel.

Photo 22. Gibson Channel.

Photo 23. Culvert to Gibson Channel.

Photo 24. Exposed box.

Photo 25. Outfall with flow.

Photo 26. Construction and sediment piles (photo right) adjacent to Gibson Channel (photo left).

Photo 27. Flow from outfall in Photo 25.

Photo 28. Storage along Gibson Channel.

Photo 29. Discharge coming from B.Witt parking lot.

Photo 30. Parking lot source of discharge in Photo 29.

Appendix E.4
Industrial Facilities
Inspections and Photographs

Industrial Facility (Good Humor)
Inspection

9/21/2005 2:20 PM - 2:50 PM Weather: sunny and hot

Ms. Jennifer Legge, SAIC, and Mr. Andrew Sallach, EPA Region 9, observed Mr. Matt Thomas and Mr. John Massicotte, Pretreatment Inspectors in the Henderson Department of Utility Services, conduct an industrial storm water inspection of Good Humor. Good Humor is an ice cream confectioner on Henderson's list of SARA Title III Section 313 industries. Mr. Albert Jankowiak, Public Works Land Development, accompanied the audit team. Mr. Scott Bates, Mr. Keith Berta, Mr. Glen Conrad, and Mr. Gary Davis represented Good Humor. The audit team directed Mr. Thomas and Mr. Massicotte to conduct a typical inspection of the site. The inspectors noted that they would typically also conduct a pretreatment inspection. The audit team directed the inspectors to conduct only the storm water portion of the inspection. The audit team did not take any photographs.

Observations

1. Mr. Thomas and Mr. Massicotte conducted an opening conference. They asked if the facility had any spills to the storm system, reviewed the facility's Spill Prevention Control and Countermeasures Plan, and asked for a facility site map that would show the flow of storm water on the site. The site representatives said that storm water would flow overland to the C1 Channel.
2. The inspectors walked around the facility. They looked at 55-gallon drums, which were empty, and noted minor staining on the ground.

Findings

1. The inspectors conducted a thorough storm water inspection of the Good Humor facility. No significant storm water issues were observed.

Industrial Facility (A-1 Plating)
Inspection and Photographs

9/21/2005 3:10 PM - 3:40 PM Weather: sunny and hot

Ms. Jennifer Legge, SAIC, and Mr. Andrew Sallach, EPA Region 9, observed Mr. Matt Thomas and Mr. John Massicotte, Pretreatment Inspectors in the Henderson Department of Utility Services, conduct an industrial storm water inspection of A-1 Plating. A-1 Plating is a metal plating facility inspected under the Pretreatment Program. Mr. Albert Jankowiak, Public Works Land Development, accompanied the audit team. Mr. Joe Roth was the representative for A-1 Plating. The audit team directed Mr. Thomas and Mr. Massicotte to conduct a typical inspection of the site. The inspectors noted that they would typically also conduct a pretreatment inspection. The audit team directed the inspectors to conduct only the storm water portion of the inspection.

Observations

1. The inspectors walked through the shop on their way outside. The shop floors were sloped to a drain in the center of the shop that flows to a pit.
2. Mr. Thomas noted the crack in the secondary containment. The facility representative said that the wall was cracked recently and would be repaired.
3. Mr. Massicotte said that a 55-gallon drum on a dolly in the outside work area should be moved. 4. The inspectors noted that the bermed area for storage of chemicals was added after one of their inspections.
5. Mr. Thomas observed an open container and some containers without secondary containment.
6. The inspectors noted that the dumpsters and surrounding area were well-kept.
7. The inspectors asked the facility representative to address the problems noted above. They noted that they prefer to work with owners and do not issue citations unless the owners are non-responsive.

Findings

The inspectors did not note any issues with the fine metal shavings on site.

Photo 1. Crack in secondary containment.

Photo 2. Bermed area for chemical storage.

Appendix E.5
Construction Site Facilities
Inspections and Photographs

Municipal Construction (Water Street Road Construction)
Inspection

9/22/2005 11:50 AM - 11:55 AM Weather: sunny and hot

Ms. Jennifer Legge, SAIC, observed Mr. Ryland Ogle, Technical Analyst, conduct a storm water construction site inspection of Water Street Road Construction. The audit team directed Mr. Ogle to conduct a typical inspection of the site. The audit team did not take any photographs.

Observations

1. The first phase of construction at the site was completed, and the second phase was not yet started.
2. Mr. Ogle noted minor debris on the site and said that he would contact the superintendent to tell him that the site needs a final sweeping.

Findings

None.

Private Construction (Preserve at Boulder Creek II, Woodside Homes)
Inspection and Photographs

9/22/2005 12:05 PM - 12:30 PM Weather: sunny and hot

Ms. Jennifer Legge, SAIC, observed Mr. Ryland Ogle, Technical Analyst, conduct a storm water construction site inspection of Preserve at Boulder Creek II, a residential subdivision constructed by Woodside Homes. The audit team directed Mr. Ogle to conduct a typical inspection of the site.

Observations

1. Mr. Ogle noted the debris at the construction site entrance.
2. Mr. Ogle noted that the soil stockpiles had the potential to runoff to the road. He said that he would ask the site superintendent to install a berm.
3. Mr. Ogle noted other construction debris throughout the site.
4. Mr. Ogle said that the site would be failed and a Notice of Violation (NOV) sent to the developer to install the berm and clean up the debris.

Findings

1. Mr. Ogle walked the entire site and noted minor storm water issues.

Photo 1. Debris at construction site entrance.

Photo 2. Sediment stockpiles. Note the ground slopes towards the road in the background.

Photo 3. Construction debris.