City of Santa Rosa
Municipal Separate Storm Sewer System (MS4)
Inspection Report

Background

PG Environmental, LLC, a USEPA Region IX contractor, with assistance from the California Regional Water Quality Control Board, North Coast Region (Regional Board), conducted an inspection of the City of Santa Rosa's Municipal Separate Storm Sewer System (MS4) program from November 7, 2007 through November 8, 2007. Discharges from the City's MS4 are regulated by Regional Board Order No. R1-2003-0062 (NPDES Permit No. CA0025054) issued June 26, 2003.

The purpose of the inspection was to determine the City's compliance with requirements contained within Regional Board Order No. R1-2003-0062. Additionally, the inspectors assessed the City's current implementation status with respect to their Storm Water Management Plan. The inspection focused specifically on the following sections of the Order: (1) Program Management; (2) Private Construction Element; (3) Industrial/Commercial Program; (4) Municipal Operations Program (including Public Construction Activities Management, Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management, Landscape and Recreational Facilities Management, Storm Drain Operation and Maintenance, and Streets and Road Maintenance); (5) Illicit Discharge Detection and Elimination Program; (6) Monitoring Plan; and (7) Santa Rosa Area-Standard Urban Storm Water Mitigation Plan requirements. The inspectors did not evaluate or assess compliance with the following Provisions: Legal Authority, Public Education and Outreach, Effectiveness Evaluation, or Fiscal Analysis. As such, the inspection was not intended to be a comprehensive evaluation of all components and requirements associated with the entire MS4 program.

The primary MS4 Program representatives on November 7, 2007 were Rita Miller (Associate Civil Engineer), Steve Brady (Environmental Specialist), Randy Everson (Plan Check Engineer), Lee Taylor (Associate Civil Engineer), Al Musetti (Development Review Coordinator), Douglas Williams (Civil Engineer Tech), and Linnea Tennison (Quality Control Associate). The weather on this day was sunny and dry.

The primary MS4 Program representatives on November 8, 2007 were Rita Miller (Associate Civil Engineer), Mark Powell (Deputy Director), Tom LaCoco (Supervisor), Ron Simi (Crew Supervisor), Dale Tressler (Quality Control Associate), and Lori Urbanek (Associate Engineer). The weather on this day ranged from overcast to light drizzle to dry conditions.

Mr. Wesley Ganter and Mr. Scott Coulson of PG Environmental, LLC led the inspection on both days. The inspection schedule was as follows:

Wednesday, November 7	**Thursday, November 8**
9:00 AM – Office discussion on Program Management, Monitoring Plan, and Program Goals and Objectives 10:00 AM – Office discussion on SRA-SUSMP 1:00 PM – Office discussion on Private Construction 1:30 PM – *Team 1 and 2* field visits to Private Construction and SRA-SUSMP sites 4:30 PM – Conclude for the day	8:00 AM – Brief office discussion outlining inspection objectives and logistics 8:30 AM – *Team 1* Municipal Operations field visits (Landscape and Recreational Facilities, Storm Drain Operation and Maintenance, Streets and Road Maintenance, and Public Construction). – *Team 2* Municipal Operations field visits (Corporate Yard, Public Construction, and SRA-SUSMP) 1:00 PM – Office discussion on Industrial/Commercial and Illicit Discharge Detection and Elimination Programs 2:00 PM – Focus group discussion on Private and Public Construction issues 4:00 PM – Closing conference and presentation of preliminary findings

Findings

Program Management

There were no findings or deficiencies identified with respect to this program element. The City appeared to be effectively providing overall MS4 program oversight and also facilitating communication and coordination among all three copermittees, the Regional Board, and other stakeholder entities.

Private Construction Element

1. The Santa Rosa City Code, Chapter 17-12, Article II. Section 17.12.170 Reduction of pollutants in storm water, states that "all activities that do actually, or *may potentially*, result in the deposit of pollutants in or on the City's storm sewer system, …and *all land which drains to either this system or any of its tributaries* shall be construed as activities which may result in pollutants entering the City's stormwater system [emphasis added]." Furthermore, the City of Santa Rosa Storm Water Management Plan dated June 3, 2005 (hereafter, Management Plan), Section 2.3 states that City inspection staff inspect Best Management Practices (BMPs) for implementation in accordance with local ordinances, overall adequacy of storm water quality control measures, and maintenance of the BMPs. In contrast to the Santa Rosa City Code and Management Plan language, the City's dedicated erosion and sediment control inspectors explained that it was not their practice to determine that construction site BMPs were inadequate based on the potential to discharge pollutants or fail. As provided by the City inspection staff, they also do not determine adequacy based on conformance to the specifications and design criteria outlined in the BMP standards manual referenced by the City, the *California Storm Water BMP Handbook for Construction Activity*. Furthermore, the City inspection staff does not ensure compliance with either: (a) erosion and sediment control plans submitted in concert with a project's grading permit application, or (b) the project's Stormwater Pollution Prevention Plan, a required element of the State Construction General permit. Rather, the inspectors used their best professional judgment to evaluate the adequacy of BMPs and to suggest and/or require the deployment or modification of BMPs. It is recommended that the City formally designate and require the implementation of a minimum set of specifications and design criteria for construction site BMPs. Formal adoption of such minimum BMP standards would provide a more enforceable basis to the City staff in making inspection determinations and may deliver a clear message to the development community on the City's expectations for BMP implementation.

2. Regional Board Order No. R1-2003-0062, Provision 14.d. requires the City to "use its legal authority to promptly and effectively enforce its storm water ordinance(s) to correct any noncompliance observed during inspections." The Santa Rosa City Code, Chapter 17-12, Article II. Section 17.12.170 Reduction of pollutants in storm water, states that "all activities that do actually, or *may potentially*, result in the deposit of pollutants in or on the City's storm sewer system, …and *all land which drains to either this system or any of its tributaries* shall be construed as activities which may

result in pollutants entering the City's stormwater system [emphasis added]" in violation of the City's storm water ordinance. It was observed during the inspection that BMPs were not adequately installed, inspected, or maintained to prevent the discharge of pollutants from the Dauenhauer Ranch and Park and Varenna at Fountaingrove construction sites (see specifically Findings 3, 4, and 5 below). As a result, the City exhibited a lack of adequate private construction oversight to prevent the discharge of pollutants from these locations. Moreover, the City staff did not demonstrate prompt and effective enforcement while on-site at these locations for noncompliance with Santa Rosa City Code, Chapter 17-12, Article II. Section 17.12.170, as stated above.

Site: Dauenhauer Ranch and Park located at 1600 Aston Ave in Santa Rosa, CA 95404

3. Regional Board Order No. R1-2003-0062, Provision 14.a.i. requires the City to ensure adequate source control and/or structural BMPs to control sediments generated at project sites. It was observed during the inspection that adequate BMPs were not implemented to prevent the discharge of sediment from a large expanse of disturbed soil exposed throughout the project site. The project site (see attached Photograph 1) was entirely unstabilized and temporary BMPs in the center portion of the site were limited to a series of sediment traps/basins (see attached Photograph 2). As provided by Douglas Williams (Civil Engineer Tech), the site had been idle in its current state for some time. In addition, well drilling fluids from recent drilling activity had been applied to the site, increasing the erosion potential and amount of unconsolidated material. As a result, the disturbed area had contributed sediment to the curb and gutter flow-line along an adjacent street (see attached Photograph 3). Furthermore, there was a potential for the discharge of sediment from the large expanse of disturbed soil to a down-gradient structural control (see attached Photograph 4). The City must ensure adequate source control and/or structural BMPs to control sediments generated at the Dauenhauer Ranch and Park project site.

Site: Varenna at Fountaingrove located at 1525 Fountaingrove Parkway in Santa Rosa, CA 95403

4. Regional Board Order No. R1-2003-0062, Provision 14.a.i. requires the City to ensure adequate source control and/or structural BMPs to control sediments generated at project sites. It was observed during the inspection that BMPs were not adequately maintained to prevent the discharge of sediment from disturbed areas of the project site undergoing building construction (see attached Photograph 5). Specifically, a length of silt fence had been run over or otherwise compromised by track equipment (see attached Photograph 6). As a result, there was a potential for the discharge of sediment from the active building construction site to a slope leading down-gradient toward a roadway and adjacent waterbody. The City must ensure adequate source control and/or structural BMPs to control sediments generated at the Varenna at Fountaingrove project site.

5. Regional Board Order No. R1-2003-0062, Provision 14.a.ii. requires the City to ensure adequate control of construction-related materials, wastes, spills, or residues at project sites. It was observed during the inspection that a pallet of lime (see attached Photograph 7) located adjacent to the active building construction area was stored without adequate protection to prevent and contain potential spills from contributing pollutants to storm water runoff. Specifically, several pounds of lime spillage were observed at this location (see attached Photograph 8). In addition, spillage of a grout or concrete material was observed where it could be exposed to storm water contact (see attached Photograph 9). As a result, there was a potential for contributing pollutants to storm water and overall housekeeping at the site was judged to be extremely poor. Adequate BMPs for pollution prevention, housekeeping, and spill prevention and response must be implemented to prevent any contribution of pollutants to storm water. Moreover, the City must ensure adequate control of construction-related materials, wastes, spills, or residues at the Varenna at Fountaingrove project site.

Industrial/Commercial Program

There were no findings or deficiencies identified with respect to this program element. Based on an office discussion, the City appeared to be effectively regulating industrial and commercial activity with the goal of reducing pollutant contact with storm water.

Municipal Operations Program

a. Public Construction Activities Management

Site: Proctor Heights Water Storage Tank located at 2521 Del Rosa Avenue in Santa Rosa, CA

6. Regional Board Order No. R1-2003-0062, Provision 16.a.i. requires the City "to implement the Construction Site BMPs at Permittee-owned construction sites." Pursuant to this provision, the City of Santa Rosa Management Plan, Section 4.1.3 states that "City construction inspectors are responsible to ensure that public improvement projects…are constructed in accordance with approved plans and specifications….the specifications and plans require the contractor to implement BMPs to protect water quality during construction activities." It was observed during the inspection that BMPs were not adequately installed, inspected and maintained to prevent the discharge of sediment from the site. Examples included a soil stockpile and area of unconsolidated material located on the down-gradient perimeter of the project site (see attached Photograph 10). Specifically, unconsolidated material had overtopped the perimeter control silt fence and had been pushed beyond the construction site boundary (see attached Photographs 11 and 12). As a result, there was a discharge of sediment from the soil stockpile area offsite to a slope leading down-gradient. Sediment was also observed beyond an adjacent section of silt fence (see attached Photograph 13). Straw wattles deployed near the eastern construction entrance were crushed and needed to be replaced. The sand bags placed within the

brow ditch required maintenance and in their current condition appeared to be ineffective (see attached Photograph 14). The City must ensure that BMPs are adequately installed, inspected and maintained at the Proctor Heights Water Storage Tank project site.

7. Regional Board Order No. R1-2003-0062, Provision 2.b., states that the City shall, at a minimum, pursue the implementation of reasonable BMPs for the elimination or reduction of pollutants from the categories of conditionally exempted discharges, which includes water line flushing. It was observed during the inspection that water line flushing activities were actively causing a non-storm water and sediment discharge to a drainage inlet located at the terminus of a concrete-lined brow ditch. An actively leaking fire hose, which was connected to a nearby fire hydrant, was placed in the concrete-lined brow ditch (see attached Photograph 15). It was unclear whether the leaking fire hose was carrying chlorinated or dechlorinated potable water. However, the flow originating from the leaking fire hose had conveyed sediment and debris from the brow ditch and associated sediment controls into the down-gradient drainage inlet (see attached Photographs 16 and 17). As a result, there was a non-storm water and sediment discharge to the drainage inlet. The City must ensure that reasonable BMPs are implemented for the elimination or reduction of pollutants from water line flushing and the additional categories of non-storm water discharges listed in Provision 2.b. of the Order.

Site: McDonald Avenue Sewer and Water Improvements

8. The City of Santa Rosa Management Plan, Section 4.1.3 states that "City construction inspectors are responsible to ensure that public improvement projects…are constructed in accordance with approved plans and specifications….the specifications and plans require the contractor to implement BMPs to protect water quality during construction activities." It was observed during the inspection that adequate BMPs were not implemented to prevent the discharge of sediment from a number of material stockpiles at the project site. Specifically, placement of the stockpiles was inadequate as they were located in the curb and gutter flow-line, a primary drainage pathway (see attached Photograph 18). BMPs were not implemented to prevent erosion and transport of the stockpile materials, perimeter control BMPs were not installed, and the inlet protection installed at the receiving inlet was inadequate (see attached Photograph 19). As a result, there was a potential for the discharge of sediment to the street and subsequent storm drain system. The City must ensure that BMPs are adequately implemented at the McDonald Avenue Sewer and Water Improvements project site.

   Additionally, the City inspector expressed frustration in not knowing when stockpiles needed to be covered and the extent of BMPs that were needed to protect downstream storm drain inlets and/or receiving water. During the inspection the City inspector sought this information from the EPA audit team. The frustration regarding the lack of guidance in the application of BMPs indicates that the City itself should develop and deploy effective guidance regarding BMP installation, maintenance and

expectations for its City inspection staff. This lack of overarching guidance was also evident during the review of the private construction activities mentioned previously in this report (see specifically Finding 1 above).

b. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

Site: Municipal Services Center located at 55 Stony Point Road in Santa Rosa, CA 95401

9. Regional Board Order No. R1-2003-0062, Provision 16.b.i. requires the City "to implement BMPs to minimize pollutant discharges in storm water" in association with corporation yards management. It was observed during the inspection that adequate BMPs were not implemented to prevent the discharge of sediment and other pollutants from a vactor truck dump site located northwest of the main corporate yard. As provided by Mark Powell (Deputy Director), the City uses self contained hydro excavation trucks for a variety of excavation needs including sanitary sewer and water main breaks. The saturated soils resulting from hydro excavation, which may be contaminated with sanitary waste, are placed at the dump site (see attached Photograph 20). Flow was observed leading from the dump site and a stockpile of partially dewatered soils was placed in the flow-line (see attached Photographs 21 and 22). Furthermore, adequate BMPs were not implemented to prevent the discharge of potentially contaminated sediment from the dump site and adjacent stockpile to a nearby storm drain inlet. The inlet protection BMPs were clogged with potentially contaminated sediment (see attached Photograph 23) and turbid water was observed in the storm drain inlet (see attached Photograph 24). As provided by Mr. Powell, the inlet is connected to a detention basin located west of the dump site. As a result, there was a discharge of potentially contaminated sediment to the inlet and subsequent detention basin. The City must ensure that BMPs are adequately implemented to prevent the discharge of potentially contaminated sediment to the inlet and subsequent detention basin.

   In addition, this area was outside of the City-established boundary for their current SWPPP, was not represented on the SWPPP site map and had not been designated as a potential pollutant source location. The SWPPP must be updated to include this area (associated pollutant sources, BMPs, etc.) and must reflect current facility conditions on-site.

   Aside from Finding 9 above, the City appeared to be effectively reducing pollutants in runoff associated with the Municipal Services Center. Site conditions generally indicated that exceptional housekeeping and pollution prevention principles were being utilized at the Municipal Services Center.

c. Landscape and Recreational Facilities Management, Storm Drain Operation and Maintenance, and Streets and Road Maintenance

There were no findings or deficiencies identified with respect to these components of the Municipal Operations program element. Based on field exercises and discussion, the City appeared to be effectively reducing pollutants in runoff associated with these activities.

Illicit Discharge Detection and Elimination Program

There were no findings or deficiencies identified with respect to this program element. Based on an office discussion, the City appeared to be effectively seeking and eliminating illicit discharges and connections to the storm drain system.

Monitoring Plan

There were no findings or deficiencies identified with respect to this program element. Based on an office discussion, the City appeared to be effectively monitoring storm water discharge and receiving water quality.

Santa Rosa Area-Standard Urban Storm Water Mitigation Plan

10. Regional Board Order No. R1-2003-0062, Provision 30. requires that the Santa Rosa Area-Standard Urban Storm Water Mitigation Plan (hereafter SRA-SUSMP) include consideration of pollutants of concern (POCs) in the selection of appropriate BMPs for new development or significant redevelopment projects. The Guidelines for the Standard Urban Storm Water Mitigation Plan dated June 3, 2005 (hereafter, SRA-SUSMP Manual), Attachment 2-4 Pollutants of Concern Worksheet requires the identification of POCs by project proponents. However, the SRA-SUSMP Manual itself does not subsequently provide adequate guidance on the selection of specific BMPs which are effective for the POCs identified through the process.

11. The City lacks a strong communication feedback mechanism connecting the Community Development Department plan approver to the infrastructure, maintenance, and construction personnel tasked with implementation of the approved SRA-SUSMP BMPs. Previous audits have indicated that the most successful MS4 programs have developed strong communication between these parties. As discussed on-site, the City should develop a mechanism to ensure that field constraints are fully communicated to the plan approver for self learning purposes and to ensure that proposed changes remain consistent with the SRA-SUSMP requirements.

12. Regional Board Order No. R1-2003-0062, Provision 25. requires the City to develop measures to ensure that approved SRA-SUSMP BMPs are implemented, operated, and maintained. The City lacks a fully developed and interdepartmental system to track deployment, ownership, and maintenance history of SRA-SUSMP BMPs and therefore cannot verify compliance with the SUSMP requirements for all Priority Development Projects. Specifically, two separate databases are used to track SUSMP

information; one for private projects and one for public projects. As a result, SUSMP information is not captured in a centralized location. Moreover, the public project database only maintains relevant and prudent BMP information for projects located within special tax districts. As discussed on-site, the City should develop a coordinated interdepartmental and expanded tracking system which is inclusive of all project types and categories. Ultimately, the City must develop measures to ensure that approved SRA-SUSMP BMPs are implemented, operated, and maintained.

Conclusion

All findings made in this inspection report are subject to enforcement action by the Regional Board. The information gathered during the inspection indicates that the City of Santa Rosa's MS4 program is being implemented, but that program element improvements are needed to ensure compliance. Based on the results of this inspection, additional routine inspections focusing on the Private Construction Element, Public Construction Activities Management, and SRA-SUSMP appear warranted.

City of Santa Rosa - Municipal Separate Storm Sewer System (MS4)
(Order No. R1-2003-0062)
Photograph Log
Inspected by: Wes Ganter and Scott Coulson (PG Environmental, LLC)

Photograph 1: View of location and area of disturbed soils

Photograph 2: Large expanse of unstabilized soil including the area where well drilling fluids had been applied

Photograph 3: Sediment transported to the curb and gutter flow-line

Photograph 4: Structural control located down-gradient from the site

Photograph 5: View depicting location of compromised silt fence and down-gradient waterbody

Photograph 6: Length of silt fence compromised by track equipment

Photograph 7: Close-up view showing type of stockpiled materials

Photograph 8: Lime spillage was present where it could be exposed to storm water contact

Photograph 9: Spillage of a grout or concrete material was observed in the active building construction area

Photograph 10: Soil stockpile and area of unconsolidated material located on the down-gradient perimeter of the project site

Photograph 11: View showing down-gradient area located offsite

Photograph 12: Unconsolidated material had overtopped the perimeter control silt fence and had been pushed beyond the construction site boundary

Photograph 13: Sediment transported beyond a section of silt fence located adjacent to the area shown in Photograph 12

Photograph 14: View of sand bags in the concrete-lined brow ditch which were in need of maintenance

Photograph 15: An actively leaking fire hose, which was connected to a nearby fire hydrant, was placed in the concrete-lined brow ditch

Photograph 16: View of sediment and debris in the brow ditch prior to the flow caused by the leaking fire hose

Photograph 17: Sediment and debris conveyed from the ditch and associated sediment controls into the down-gradient inlet

Photograph 18: Placement of material stockpiles in the curb and gutter flow-line and without BMPs

Photograph 19: Inlet protection BMPs were not adequately implemented at the receiving inlet located down-gradient of the material stockpiles shown in the previous photograph

Photograph 20: Stockpile of saturated soils resulting from hydro excavation, which may be contaminated with sanitary waste

Photograph 21: Partially dewatered soils placed in the flow-line of the dump site

Photograph 22: Close-up view of turbid water flowing from the dump site and partially dewatered stockpile

Photograph 23: Receiving inlet located down-gradient of the dump site and adjacent stockpile

Photograph 24: Turbid water present in the storm drain inlet shown in the previous photograph